



Full wwPDB EM Validation Report ⓘ

Nov 20, 2022 – 04:54 PM EST

PDB ID : 4V6S
EMDB ID : EMD-5360
Title : Structural characterization of mRNA-tRNA translocation intermediates (class 3 of the six classes)
Authors : Agirrezabala, X.; Liao, H.; Schreiner, E.; Fu, J.; Ortiz-Meoz, R.F.; Schulten, K.; Green, R.; Frank, J.
Deposited on : 2011-12-09
Resolution : 13.10 Å (reported)
Based on initial model : 2I2V

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

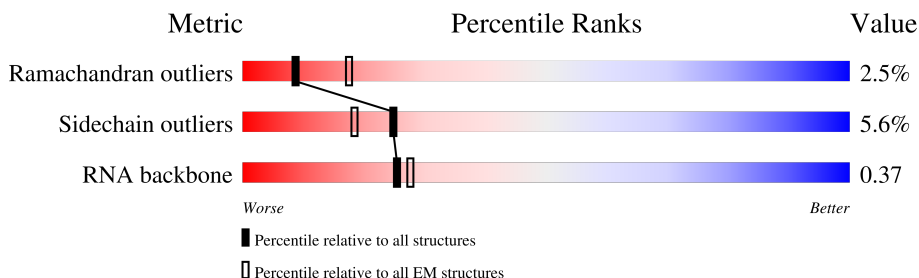
EMDB validation analysis : 0.0.1.dev43
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.31.3

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 13.10 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



| Metric | Whole archive (#Entries) | EM structures (#Entries) |
|-----------------------|-----------------------------|-----------------------------|
| Ramachandran outliers | 154571 | 4023 |
| Sidechain outliers | 154315 | 3826 |
| RNA backbone | 4643 | 859 |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1 | AA | 120 | |
| 2 | AB | 2904 | |
| 3 | AC | 234 | |
| 4 | AD | 272 | |
| 5 | AE | 209 | |
| 6 | AF | 201 | |
| 7 | AG | 178 | |
| 8 | AH | 176 | |



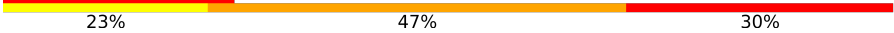









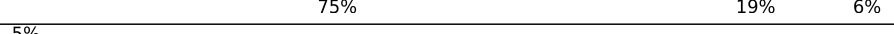
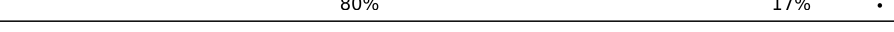

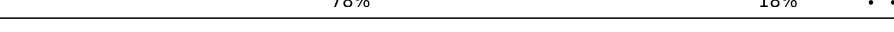



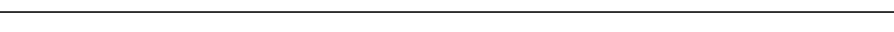




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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 9 | AI | 149 | |
| 10 | AJ | 164 | |
| 11 | AK | 141 | |
| 12 | AL | 142 | |
| 13 | AM | 123 | |
| 14 | AN | 144 | |
| 15 | AO | 136 | |
| 16 | AP | 127 | |
| 17 | AQ | 117 | |
| 18 | AR | 114 | |
| 19 | AS | 117 | |
| 20 | AT | 103 | |
| 21 | AU | 110 | |
| 22 | AV | 100 | |
| 23 | AW | 103 | |
| 24 | AX | 94 | |
| 25 | AY | 84 | |
| 26 | AZ | 77 | |
| 27 | A0 | 63 | |
| 28 | A1 | 58 | |
| 29 | A2 | 70 | |
| 30 | A3 | 56 | |
| 31 | A4 | 54 | |
| 32 | A5 | 46 | |
| 33 | A6 | 64 | |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 34 | A7 | 38 |  |
| 35 | BA | 1542 |  |
| 36 | BB | 47 |  |
| 37 | BC | 77 |  |
| 38 | BD | 240 |  |
| 39 | BE | 232 |  |
| 40 | BF | 205 |  |
| 41 | BG | 166 |  |
| 42 | BH | 135 |  |
| 43 | BI | 178 |  |
| 44 | BJ | 129 |  |
| 45 | BK | 129 |  |
| 46 | BL | 103 |  |
| 47 | BM | 128 |  |
| 48 | BN | 123 |  |
| 49 | BO | 117 |  |
| 50 | BP | 100 |  |
| 51 | BQ | 88 |  |
| 52 | BR | 82 |  |
| 53 | BS | 83 |  |
| 54 | BT | 74 |  |
| 55 | BU | 91 |  |
| 56 | BV | 86 |  |
| 57 | BW | 70 |  |

2 Entry composition

There are 57 unique types of molecules in this entry. The entry contains 150700 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a RNA chain called 5S ribosomal RNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|-----|---------|-------|
| 1 | AA | 120 | Total | C | N | O | P | 0 | 0 |
| | | | 2566 | 1144 | 468 | 835 | 119 | | |

- Molecule 2 is a RNA chain called 23S ribosomal RNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-------|-------|-------|------|---------|-------|
| 2 | AB | 2904 | Total | C | N | O | P | 0 | 0 |
| | | | 62351 | 27824 | 11469 | 20155 | 2903 | | |

- Molecule 3 is a protein called 50S ribosomal protein L1.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 3 | AC | 234 | Total | C | N | O | S | 0 | 0 |
| | | | 1733 | 1081 | 315 | 330 | 7 | | |

- Molecule 4 is a protein called 50S ribosomal protein L2.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 4 | AD | 272 | Total | C | N | O | S | 0 | 0 |
| | | | 2092 | 1294 | 425 | 366 | 7 | | |

- Molecule 5 is a protein called 50S ribosomal protein L3.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 5 | AE | 209 | Total | C | N | O | S | 0 | 0 |
| | | | 1565 | 979 | 288 | 294 | 4 | | |

- Molecule 6 is a protein called 50S ribosomal protein L4.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 6 | AF | 201 | Total | C | N | O | S | 0 | 0 |
| | | | 1552 | 974 | 283 | 290 | 5 | | |

- Molecule 7 is a protein called 50S ribosomal protein L5.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 7 | AG | 178 | Total | C | N | O | S | 0 | 0 |
| | | | 1420 | 905 | 251 | 258 | 6 | | |

- Molecule 8 is a protein called 50S ribosomal protein L6.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 8 | AH | 176 | Total | C | N | O | S | 0 | 0 |
| | | | 1323 | 832 | 243 | 246 | 2 | | |

- Molecule 9 is a protein called 50S ribosomal protein L9.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 9 | AI | 149 | Total | C | N | O | S | 0 | 0 |
| | | | 1111 | 699 | 197 | 214 | 1 | | |

- Molecule 10 is a protein called 50S ribosomal protein L10.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 10 | AJ | 164 | Total | C | N | O | S | 0 | 0 |
| | | | 1233 | 776 | 220 | 231 | 6 | | |

- Molecule 11 is a protein called 50S ribosomal protein L11.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 11 | AK | 141 | Total | C | N | O | S | 0 | 0 |
| | | | 1032 | 651 | 179 | 196 | 6 | | |

- Molecule 12 is a protein called 50S ribosomal protein L13.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 12 | AL | 142 | Total | C | N | O | S | 0 | 0 |
| | | | 1129 | 714 | 212 | 199 | 4 | | |

- Molecule 13 is a protein called 50S ribosomal protein L14.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 13 | AM | 123 | Total | C | N | O | S | 0 | 0 |
| | | | 947 | 593 | 181 | 167 | 6 | | |

- Molecule 14 is a protein called 50S ribosomal protein L15.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 14 | AN | 144 | Total | C | N | O | S | 0 | 0 |
| | | | 1053 | 654 | 207 | 190 | 2 | | |

- Molecule 15 is a protein called 50S ribosomal protein L16.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 15 | AO | 136 | Total | C | N | O | S | 0 | 0 |
| | | | 1074 | 686 | 205 | 177 | 6 | | |

- Molecule 16 is a protein called 50S ribosomal protein L17.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 16 | AP | 127 | Total | C | N | O | S | 0 | 0 |
| | | | 1008 | 621 | 204 | 178 | 5 | | |

- Molecule 17 is a protein called 50S ribosomal protein L18.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 17 | AQ | 117 | Total | C | N | O | S | 0 | 0 |
| | | | 900 | 557 | 179 | 163 | 1 | | |

- Molecule 18 is a protein called 50S ribosomal protein L19.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 18 | AR | 114 | Total | C | N | O | S | 0 | 0 |
| | | | 917 | 574 | 179 | 163 | 1 | | |

- Molecule 19 is a protein called 50S ribosomal protein L20.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 19 | AS | 117 | Total | C | N | O | S | 0 | 0 |
| | | | 947 | 604 | 192 | 151 | | | |

- Molecule 20 is a protein called 50S ribosomal protein L21.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 20 | AT | 103 | Total | C | N | O | S | 0 | 0 |
| | | | 816 | 516 | 153 | 145 | 2 | | |

- Molecule 21 is a protein called 50S ribosomal protein L22.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 21 | AU | 110 | Total | C | N | O | S | 0 | 0 |
| | | | 857 | 532 | 166 | 156 | 3 | | |

- Molecule 22 is a protein called 50S ribosomal protein L23.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 22 | AV | 100 | Total | C | N | O | S | 0 | 0 |
| | | | 787 | 496 | 146 | 143 | 2 | | |

- Molecule 23 is a protein called 50S ribosomal protein L24.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 23 | AW | 103 | Total | C | N | O | 0 | 0 |
| | | | 789 | 498 | 148 | 143 | | |

- Molecule 24 is a protein called 50S ribosomal protein L25.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 24 | AX | 94 | Total | C | N | O | S | 0 | 0 |
| | | | 753 | 479 | 137 | 134 | 3 | | |

- Molecule 25 is a protein called 50S ribosomal protein L27.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 25 | AY | 84 | Total | C | N | O | S | 0 | 0 |
| | | | 634 | 391 | 129 | 113 | 1 | | |

- Molecule 26 is a protein called 50S ribosomal protein L28.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 26 | AZ | 77 | Total | C | N | O | S | 0 | 0 |
| | | | 625 | 388 | 129 | 106 | 2 | | |

- Molecule 27 is a protein called 50S ribosomal protein L29.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 27 | A0 | 63 | Total | C | N | O | S | 0 | 0 |
| | | | 509 | 313 | 99 | 95 | 2 | | |

- Molecule 28 is a protein called 50S ribosomal protein L30.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 28 | A1 | 58 | Total | C | N | O | S | 0 | 0 |
| | | | 449 | 281 | 87 | 79 | 2 | | |

- Molecule 29 is a protein called 50S ribosomal protein L31.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 29 | A2 | 70 | Total | C | N | O | S | 0 | 0 |
| | | | 549 | 339 | 104 | 100 | 6 | | |

- Molecule 30 is a protein called 50S ribosomal protein L32.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 30 | A3 | 56 | Total | C | N | O | S | 0 | 0 |
| | | | 444 | 269 | 94 | 80 | 1 | | |

- Molecule 31 is a protein called 50S ribosomal protein L33.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|--|---------|-------|
| 31 | A4 | 54 | Total | C | N | O | | 0 | 0 |
| | | | 441 | 284 | 81 | 76 | | | |

- Molecule 32 is a protein called 50S ribosomal protein L34.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 32 | A5 | 46 | Total | C | N | O | S | 0 | 0 |
| | | | 377 | 228 | 90 | 57 | 2 | | |

- Molecule 33 is a protein called 50S ribosomal protein L35.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---|---------|-------|
| 33 | A6 | 64 | Total | C | N | O | S | 0 | 0 |
| | | | 504 | 323 | 105 | 74 | 2 | | |

- Molecule 34 is a protein called 50S ribosomal protein L36.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 34 | A7 | 38 | Total | C | N | O | S | 0 | 0 |
| | | | 302 | 185 | 65 | 48 | 4 | | |

- Molecule 35 is a RNA chain called 16S ribosomal RNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-------|------|-------|------|---------|-------|
| 35 | BA | 1542 | Total | C | N | O | P | 0 | 0 |
| | | | 33089 | 14767 | 6064 | 10717 | 1541 | | |

- Molecule 36 is a RNA chain called mRNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| 36 | BB | 47 | Total | C | N | O | P | 0 | 0 |
| | | | 993 | 445 | 167 | 335 | 46 | | |

- Molecule 37 is a RNA chain called P site tRNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace | |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|---|
| 37 | BC | 77 | Total | C | N | O | P | S | 0 | 0 |
| | | | 1641 | 734 | 297 | 533 | 76 | 1 | | |

- Molecule 38 is a protein called 30S ribosomal protein S2.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 38 | BD | 240 | Total | C | N | O | S | 0 | 0 |
| | | | 1872 | 1180 | 332 | 352 | 8 | | |

- Molecule 39 is a protein called 30S ribosomal protein S3.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 39 | BE | 232 | Total | C | N | O | S | 0 | 0 |
| | | | 1822 | 1149 | 346 | 323 | 4 | | |

- Molecule 40 is a protein called 30S ribosomal protein S4.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 40 | BF | 205 | Total | C | N | O | S | 0 | 0 |
| | | | 1643 | 1026 | 315 | 298 | 4 | | |

- Molecule 41 is a protein called 30S ribosomal protein S5.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 41 | BG | 166 | Total | C | N | O | S | 0 | 0 |
| | | | 1225 | 761 | 232 | 226 | 6 | | |

- Molecule 42 is a protein called 30S ribosomal protein S6.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 42 | BH | 135 | Total | C | N | O | S | 0 | 0 |
| | | | 1101 | 677 | 198 | 219 | 7 | | |

- Molecule 43 is a protein called 30S ribosomal protein S7.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 43 | BI | 178 | Total | C | N | O | S | 0 | 0 |
| | | | 1400 | 874 | 269 | 253 | 4 | | |

- Molecule 44 is a protein called 30S ribosomal protein S8.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 44 | BJ | 129 | Total | C | N | O | S | 0 | 0 |
| | | | 979 | 616 | 173 | 184 | 6 | | |

- Molecule 45 is a protein called 30S ribosomal protein S9.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 45 | BK | 129 | Total | C | N | O | S | 0 | 0 |
| | | | 1036 | 642 | 208 | 183 | 3 | | |

- Molecule 46 is a protein called 30S ribosomal protein S10.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 46 | BL | 103 | Total | C | N | O | S | 0 | 0 |
| | | | 825 | 514 | 158 | 151 | 2 | | |

- Molecule 47 is a protein called 30S ribosomal protein S11.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 47 | BM | 128 | Total | C | N | O | S | 0 | 0 |
| | | | 965 | 595 | 196 | 171 | 3 | | |

- Molecule 48 is a protein called 30S ribosomal protein S12.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 48 | BN | 123 | Total | C | N | O | S | 0 | 0 |
| | | | 955 | 590 | 196 | 165 | 4 | | |

- Molecule 49 is a protein called 30S ribosomal protein S13.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 49 | BO | 117 | Total | C | N | O | S | 0 | 0 |
| | | | 910 | 564 | 183 | 160 | 3 | | |

- Molecule 50 is a protein called 30S ribosomal protein S14.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 50 | BP | 100 | Total | C | N | O | S | 0 | 0 |
| | | | 805 | 499 | 164 | 139 | 3 | | |

- Molecule 51 is a protein called 30S ribosomal protein S15.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 51 | BQ | 88 | Total | C | N | O | S | 0 | 0 |
| | | | 716 | 440 | 146 | 129 | 1 | | |

- Molecule 52 is a protein called 30S ribosomal protein S16.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 52 | BR | 82 | Total | C | N | O | S | 0 | 0 |
| | | | 649 | 406 | 128 | 114 | 1 | | |

- Molecule 53 is a protein called 30S ribosomal protein S17.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 53 | BS | 83 | Total | C | N | O | S | 0 | 0 |
| | | | 672 | 425 | 124 | 120 | 3 | | |

- Molecule 54 is a protein called 30S ribosomal protein S18.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 54 | BT | 74 | Total | C | N | O | S | 0 | 0 |
| | | | 626 | 395 | 123 | 107 | 1 | | |

- Molecule 55 is a protein called 30S ribosomal protein S19.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 55 | BU | 91 | Total | C | N | O | S | 0 | 0 |
| | | | 727 | 464 | 139 | 122 | 2 | | |

- Molecule 56 is a protein called 30S ribosomal protein S20.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 56 | BV | 86 | Total | C | N | O | S | 0 | 0 |
| | | | 670 | 414 | 138 | 115 | 3 | | |

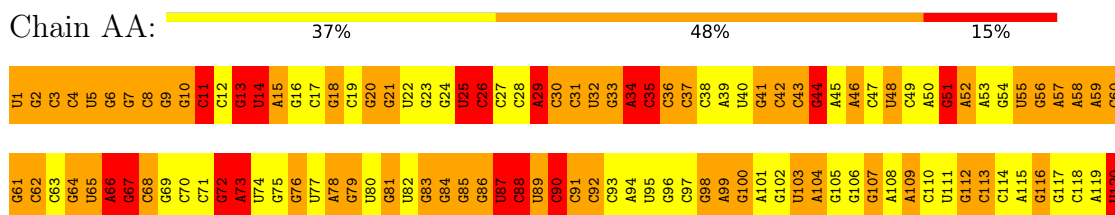
- Molecule 57 is a protein called 30S ribosomal protein S21.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---|---------|-------|
| 57 | BW | 70 | Total | C | N | O | S | 0 | 0 |
| | | | 590 | 366 | 125 | 98 | 1 | | |

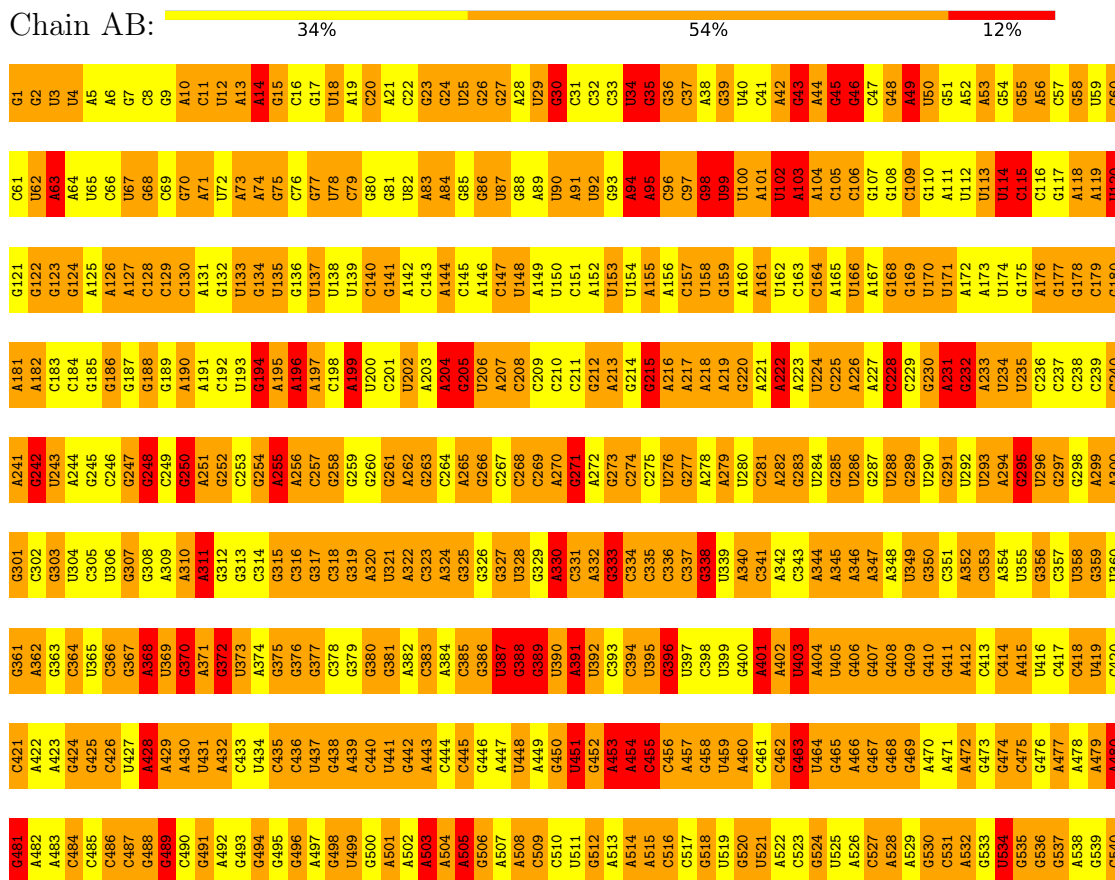
3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

• Molecule 1: 5S ribosomal RNA



• Molecule 2: 23S ribosomal RNA

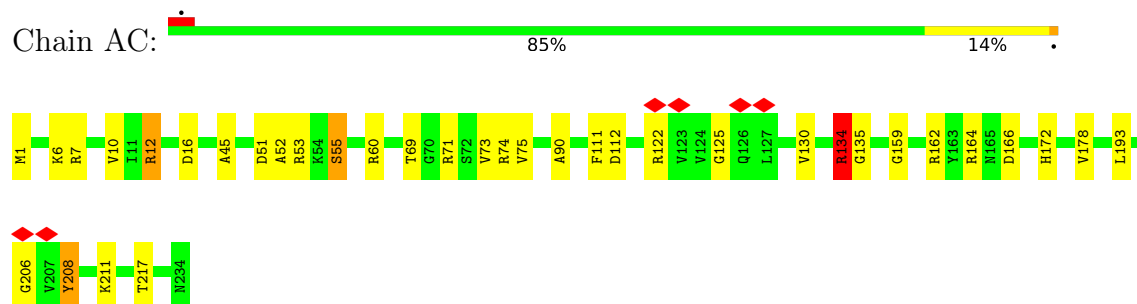


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| A1563 | U1443 | A1383 | C1323 | U1263 | U1203 | A1143 | U1083 | U1023 | C963 | C903 | C843 | A783 | C723 | G663 | A603 | G543 |
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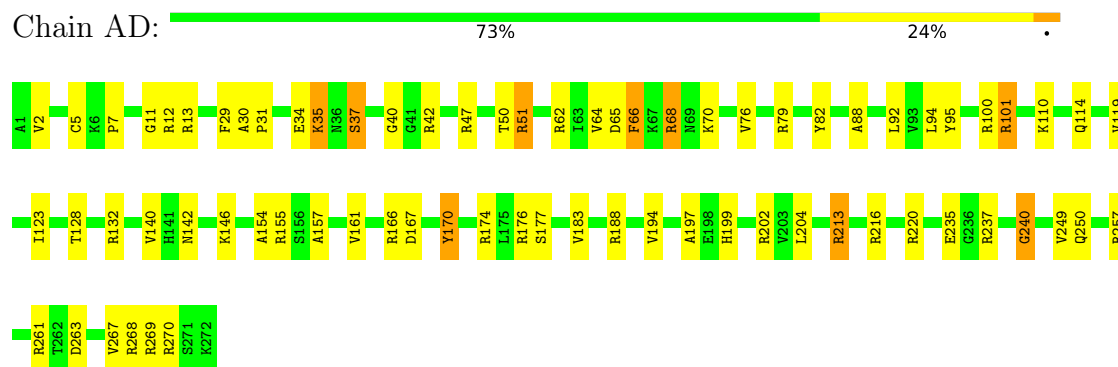
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| C1741 | C1742 | C1743 | C1744 | C1745 | C1746 | C1747 | C1748 | C1749 | C1750 | C1751 | C1752 | C1753 | C1754 | C1755 | C1756 | C1757 | C1758 | C1759 | C1760 | C1761 | C1762 | C1763 | C1764 | C1765 | C1766 | C1767 | C1768 | C1769 | C1770 | C1771 | C1772 | C1773 | C1774 | C1775 | C1776 | C1777 | C1778 | C1779 | C1780 | C1781 | C1782 | C1783 | C1784 | C1785 | C1786 | C1787 | C1788 | C1789 | C1790 | C1791 | C1792 | C1793 | C1794 | C1795 | C1796 | C1797 | C1798 | C1799 | C1800 |
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| A1621 | A1622 | A1623 | A1624 | A1625 | A1626 | A1627 | A1628 | A1629 | A1630 | A1631 | A1632 | A1633 | A1634 | A1635 | A1636 | A1637 | A1638 | A1639 | A1640 | A1641 | A1642 | A1643 | A1644 | A1645 | A1646 | A1647 | A1648 | A1649 | A1650 | A1651 | A1652 | A1653 | A1654 | A1655 | A1656 | A1657 | A1658 | A1659 | A1660 | A1661 | A1662 | A1663 | A1664 | A1665 | A1666 | A1667 | A1668 | A1669 | A1670 | A1671 | A1672 | A1673 | A1674 | A1675 | A1676 | A1677 | A1678 | A1679 | A1680 |

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| G2641 | G2642 | G2643 | G2644 | G2645 | G2646 | G2647 | G2648 | G2649 | G2650 | G2651 | G2652 | G2653 | G2654 | G2655 | G2656 | G2657 | G2658 | G2659 | G2660 | G2661 | G2662 | G2663 | G2664 | G2665 | G2666 | G2667 | G2668 | G2669 | G2670 | G2671 | G2672 | G2673 | G2674 | G2675 | G2676 | G2677 | G2678 | G2679 | G2680 | G2681 | G2682 | G2683 | G2684 | G2685 | G2686 | G2687 | G2688 | G2689 | G2690 | G2691 | G2692 | G2693 | G2694 | G2695 | G2696 | G2697 | G2698 | G2699 | A2700 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| U2701 | G2702 | G2703 | G2704 | G2705 | G2706 | G2707 | G2708 | G2709 | G2710 | G2711 | G2712 | G2713 | G2714 | G2715 | G2716 | G2717 | G2718 | G2719 | G2720 | G2721 | G2722 | G2723 | G2724 | G2725 | G2726 | G2727 | G2728 | G2729 | G2730 | G2731 | G2732 | G2733 | G2734 | G2735 | G2736 | G2737 | G2738 | G2739 | G2740 | G2741 | G2742 | G2743 | G2744 | G2745 | G2746 | G2747 | G2748 | G2749 | G2750 | G2751 | G2752 | G2753 | G2754 | G2755 | G2756 | G2757 | G2758 | G2759 | G2760 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A2761 | G2762 | G2763 | A2764 | G2765 | G2766 | G2767 | G2768 | G2769 | G2770 | G2771 | G2772 | G2773 | G2774 | G2775 | G2776 | G2777 | G2778 | G2779 | G2780 | G2781 | G2782 | G2783 | G2784 | G2785 | G2786 | G2787 | G2788 | G2789 | G2790 | G2791 | G2792 | G2793 | G2794 | G2795 | G2796 | G2797 | G2798 | G2799 | A2800 | G2801 | G2802 | G2803 | G2804 | G2805 | G2806 | G2807 | G2808 | G2809 | G2810 | G2811 | G2812 | G2813 | G2814 | G2815 | G2816 | G2817 | G2818 | G2819 | G2820 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A2821 | G2822 | A2823 | G2824 | G2825 | A2826 | G2827 | G2828 | A2829 | G2830 | G2831 | G2832 | G2833 | G2834 | G2835 | G2836 | G2837 | G2838 | G2839 | G2840 | G2841 | G2842 | G2843 | G2844 | G2845 | G2846 | G2847 | G2848 | G2849 | A2850 | G2851 | G2852 | G2853 | G2854 | G2855 | A2856 | G2857 | G2858 | G2859 | A2860 | G2861 | G2862 | G2863 | G2864 | G2865 | G2866 | G2867 | A2868 | G2869 | G2870 | G2871 | G2872 | G2873 | G2874 | G2875 | G2876 | G2877 | G2878 | G2879 | G2880 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| U2881 | A2882 | A2883 | U2884 | G2885 | A2886 | A2887 | G2888 | G2889 | G2890 | U2891 | G2892 | A2893 | G2894 | G2895 | G2896 | U2897 | U2898 | A2899 | U2900 | C2901 | C2902 | U2903 | U2904 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

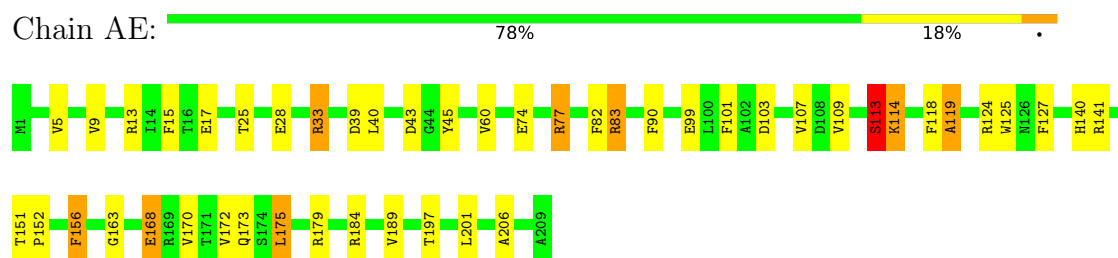
• Molecule 3: 50S ribosomal protein L1




• Molecule 4: 50S ribosomal protein L2

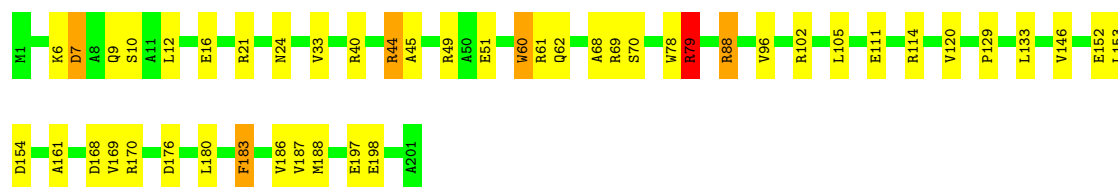


• Molecule 5: 50S ribosomal protein L3



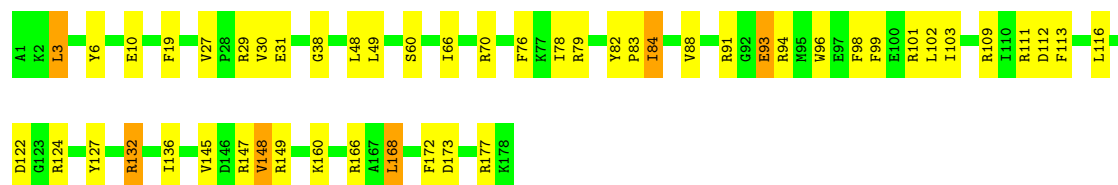
• Molecule 6: 50S ribosomal protein L4

Chain AF:  77% 20% .




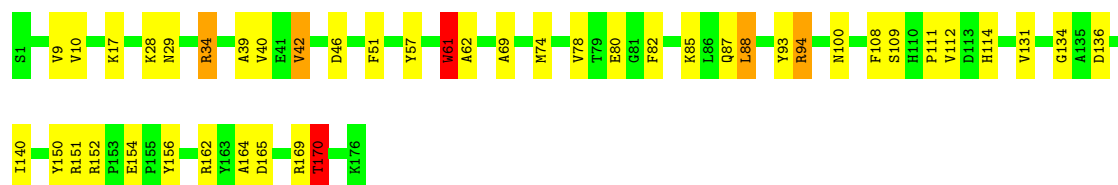
- Molecule 7: 50S ribosomal protein L5

Chain AG:  72% 25% .




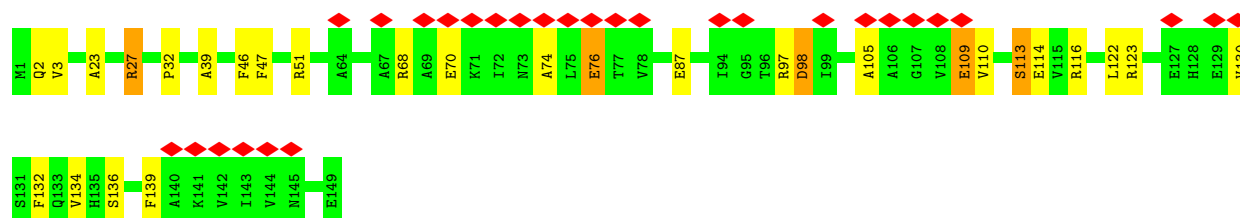
- Molecule 8: 50S ribosomal protein L6

Chain AH:  75% 22% ..




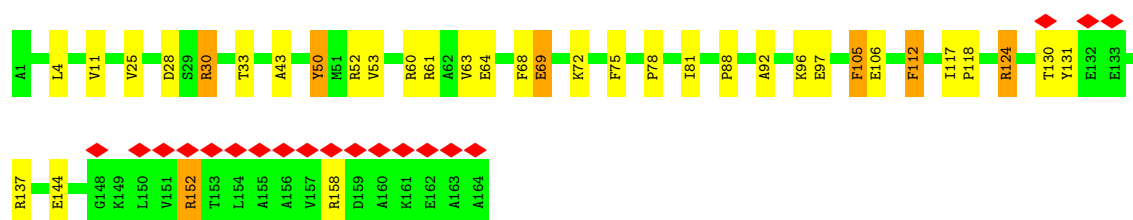
- Molecule 9: 50S ribosomal protein L9

Chain AI:  19% 81% 16% .




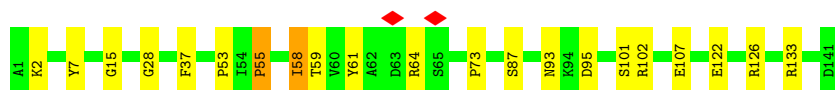
- Molecule 10: 50S ribosomal protein L10

Chain AJ:  12% 78% 18% .




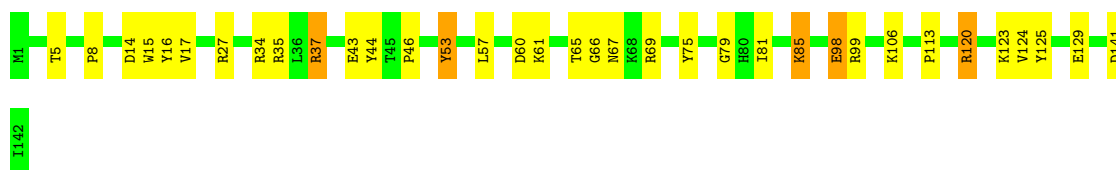
- Molecule 11: 50S ribosomal protein L11

Chain AK:  85% 13%




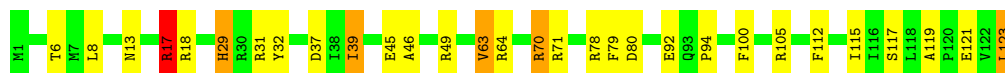
- Molecule 12: 50S ribosomal protein L13

Chain AL:  75% 21%




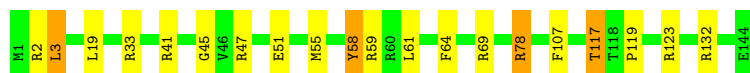
- Molecule 13: 50S ribosomal protein L14

Chain AM:  76% 20%




- Molecule 14: 50S ribosomal protein L15

Chain AN:  86% 11%




- Molecule 15: 50S ribosomal protein L16

Chain AO:  79% 17%




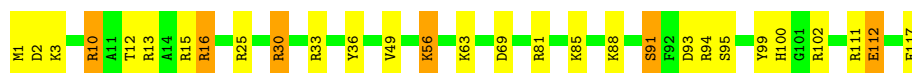
- Molecule 16: 50S ribosomal protein L17

Chain AP:  78% 19%

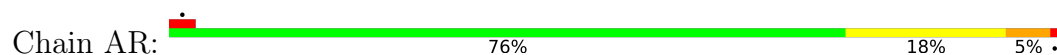


- Molecule 17: 50S ribosomal protein L18

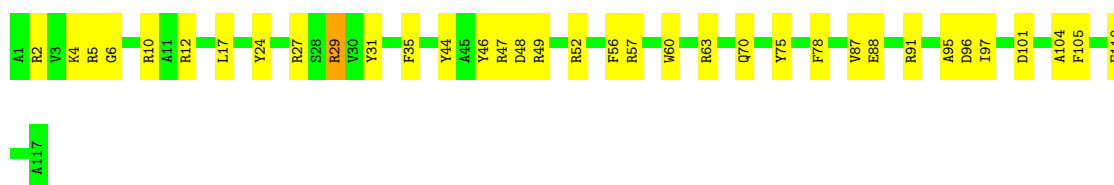
Chain AQ:  75% 20% 5%



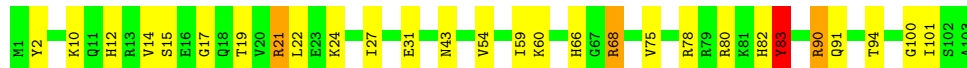
- Molecule 18: 50S ribosomal protein L19



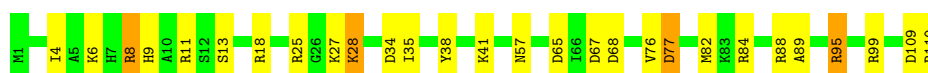
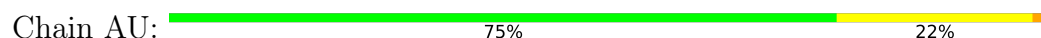
- Molecule 19: 50S ribosomal protein L20



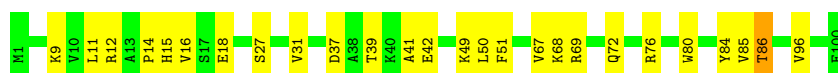
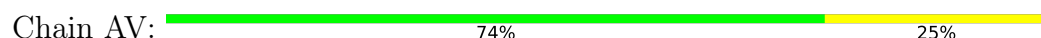
- Molecule 20: 50S ribosomal protein L21



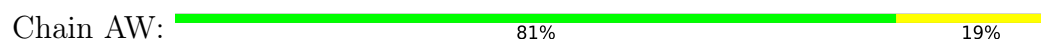
- Molecule 21: 50S ribosomal protein L22



- Molecule 22: 50S ribosomal protein L23



- Molecule 23: 50S ribosomal protein L24




- Molecule 24: 50S ribosomal protein L25

Chain AX:  71% 27% .



- Molecule 25: 50S ribosomal protein L27

Chain AY:  73% 24% .




- Molecule 26: 50S ribosomal protein L28

Chain AZ:  60% 36% .



- Molecule 27: 50S ribosomal protein L29

Chain A0:  79% 14% 6% .




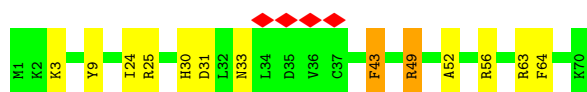
- Molecule 28: 50S ribosomal protein L30

Chain A1:  74% 19% 7% .




- Molecule 29: 50S ribosomal protein L31

Chain A2:  6% 81% 16% .




- Molecule 30: 50S ribosomal protein L32

Chain A3:  77% 18% . .



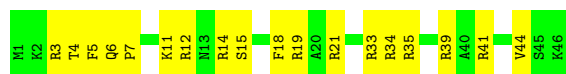
- Molecule 31: 50S ribosomal protein L33

Chain A4:  80% 17% .




- Molecule 32: 50S ribosomal protein L34

Chain A5:  61% 39%



- Molecule 33: 50S ribosomal protein L35

Chain A6:  83% 12% 5%



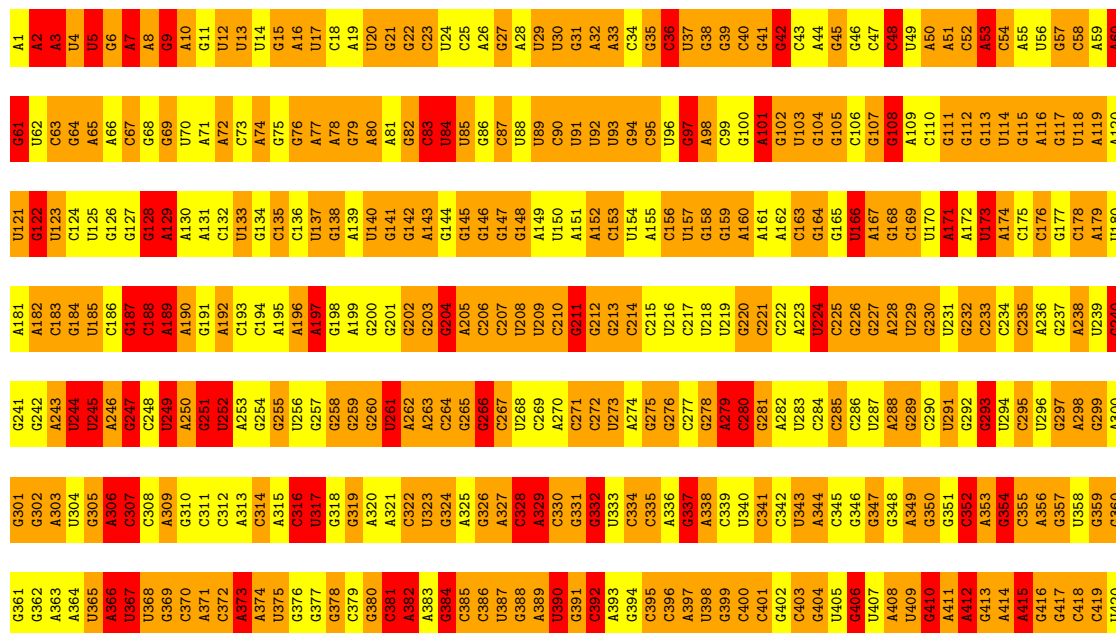
- Molecule 34: 50S ribosomal protein L36

Chain A7:  68% 29% .



- Molecule 35: 16S ribosomal RNA

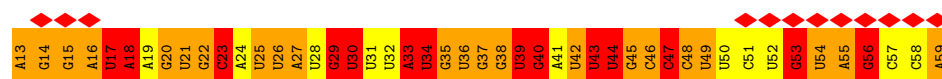
Chain BA:  33% 54% 13%



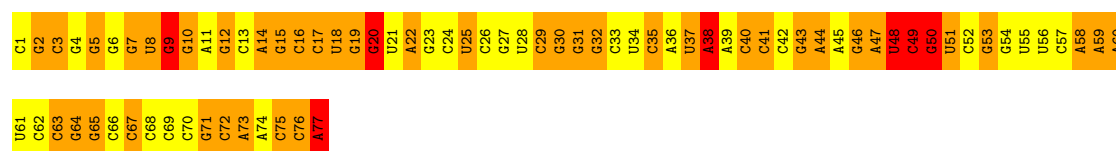
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|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|
| A1441 | U1381 | C1321 | A1261 | A1201 | C1141 | A1081 | A1021 | U961 | A901 | C841 | A781 | G721 | G661 | G601 | G541 | G481 | U421 |
| G1442 | C1382 | G1322 | C1262 | U1202 | G1142 | A1082 | A1022 | C962 | G902 | U842 | A782 | G722 | U662 | A602 | G542 | A482 | C422 |
| C1443 | C1383 | G1323 | U1263 | C1203 | G1143 | U1083 | A1023 | G963 | G903 | U843 | C783 | U723 | A663 | U603 | G543 | C483 | G423 |
| U1444 | C1384 | A1324 | U1264 | A1204 | G1144 | G1084 | G1024 | A964 | G904 | G844 | A784 | G724 | G664 | G604 | G544 | C484 | G424 |
| A1445 | G1385 | C1325 | C1265 | U1205 | A1145 | U1085 | U1025 | U965 | U905 | A845 | G785 | G725 | G665 | U605 | C545 | U485 | G425 |
| U1446 | G1386 | U1326 | G1266 | G1206 | A1146 | U1086 | G1026 | G966 | A906 | G846 | G786 | G726 | G666 | G606 | A546 | U486 | U426 |
| A1447 | G1387 | C1327 | C1267 | U1207 | C1147 | G1087 | C1027 | C967 | A907 | G847 | A787 | G727 | G667 | A607 | A547 | A487 | U427 |
| C1448 | C1388 | C1328 | G1268 | C1208 | U1148 | G1088 | C1028 | A968 | A908 | C848 | U788 | A728 | G668 | A608 | C548 | C488 | G428 |
| U1449 | C1389 | A1329 | A1269 | C1209 | C1149 | U1089 | U1029 | A969 | A909 | G849 | U789 | A729 | G669 | A609 | C549 | C489 | U429 |
| A1450 | U1390 | G1330 | G1270 | C1210 | A1150 | U1090 | C1030 | C970 | C910 | U850 | G790 | G730 | G670 | U610 | G550 | A430 | A430 |
| U1451 | U1391 | U1331 | A1271 | C1211 | A1151 | U1091 | C1031 | G971 | U911 | G851 | G791 | G731 | G671 | C611 | U551 | A431 | A431 |
| C1452 | G1392 | A1332 | C1272 | U1212 | A1152 | A1092 | G1032 | G972 | C912 | G852 | A792 | G732 | U672 | C612 | U552 | A432 | A432 |
| G1453 | U1393 | C1333 | C1273 | A1213 | G1153 | A1093 | G1033 | G973 | A913 | C853 | U793 | G733 | G673 | C613 | A553 | G433 | G433 |
| U1454 | A1394 | G1334 | A1274 | C1214 | G1154 | G1094 | G1034 | A974 | A914 | U854 | A794 | G734 | G674 | C614 | A554 | U434 | U434 |
| G1455 | C1395 | U1335 | A1275 | G1215 | A1155 | U1095 | A1035 | A975 | A915 | U855 | C795 | G735 | A675 | G615 | U555 | A435 | A435 |
| A1456 | A1396 | C1336 | G1276 | A1216 | G1156 | C1096 | A1036 | G976 | U916 | C856 | G796 | G736 | A676 | C616 | C556 | A436 | A436 |
| G1457 | C1397 | G1337 | C1277 | C1217 | A1157 | C1097 | C1037 | A977 | A917 | C857 | U797 | G737 | U677 | G617 | G557 | U437 | U437 |
| U1458 | A1398 | G1338 | G1278 | C1218 | C1158 | C1098 | C1038 | A978 | A918 | C858 | U798 | G738 | U678 | C618 | G558 | U438 | U438 |
| G1459 | C1399 | A1339 | G1279 | A1219 | U1159 | G1099 | G1039 | C979 | A919 | C859 | G799 | C739 | C679 | U619 | A559 | U439 | U439 |
| A1460 | C1400 | A1340 | A1280 | G1220 | G1160 | C1100 | U1040 | C980 | U920 | A860 | G800 | U740 | C680 | C620 | A560 | C440 | C440 |
| G1461 | C1281 | U1341 | C1281 | G1221 | C1161 | A1101 | G1041 | C981 | U921 | G861 | U801 | G741 | C681 | A621 | U561 | C501 | A441 |
| C1462 | C1402 | C1342 | C1282 | G1222 | C1162 | A1102 | A1042 | U982 | G922 | C862 | A802 | G742 | C682 | C622 | U562 | A502 | G442 |
| U1463 | C1403 | G1343 | C1283 | C1223 | A1163 | C1103 | G1043 | A983 | A923 | U863 | G803 | A743 | C683 | C623 | A563 | C503 | C443 |
| A1464 | G1404 | U1344 | A1284 | U1224 | G1164 | G1104 | A1044 | C984 | C924 | A864 | U804 | C744 | U684 | C624 | C564 | C504 | G444 |
| U1465 | A1405 | C1345 | A1285 | A1225 | U1165 | A1105 | U1045 | C985 | G925 | A865 | C805 | G745 | G685 | U625 | U565 | G505 | G445 |
| C1466 | U1406 | A1346 | U1286 | C1226 | G1166 | G1106 | A1046 | U986 | G926 | C866 | C806 | A746 | U686 | G626 | C566 | G506 | G446 |
| G1467 | C1407 | U1347 | A1287 | A1227 | U1167 | C1107 | G1047 | G987 | G927 | C867 | A807 | A747 | A687 | G627 | G567 | C507 | G447 |
| A1468 | A1408 | G1348 | U1288 | C1228 | U1168 | G1108 | G1048 | C988 | G928 | C868 | C808 | G748 | C688 | G628 | C568 | U508 | A448 |
| C1469 | C1409 | A1349 | A1289 | A1229 | G1169 | C1109 | U1049 | U989 | G929 | C869 | G809 | A749 | C689 | A629 | C569 | A509 | G449 |
| U1470 | A1410 | A1350 | G1290 | C1230 | A1170 | A1110 | G1050 | C990 | C930 | U870 | C810 | C750 | C690 | A630 | G570 | A510 | G450 |
| A1471 | C1411 | U1351 | C1291 | G1231 | A1171 | A1111 | U1051 | A991 | C931 | U871 | C811 | U751 | G691 | C631 | U571 | C511 | A451 |
| U1472 | C1412 | C1352 | C1292 | U1232 | C1172 | C1112 | U1052 | U992 | C932 | A872 | G812 | G752 | U692 | C632 | A572 | U512 | A452 |
| G1473 | A1413 | G1353 | C1293 | C1233 | U1173 | C1113 | G1053 | G993 | G933 | A873 | U813 | G753 | C693 | C633 | A573 | C513 | G453 |
| U1474 | U1414 | U1354 | G1294 | C1234 | G1174 | C1114 | A1054 | A994 | C934 | C874 | A814 | C754 | A694 | A635 | A574 | C514 | G454 |
| G1475 | G1415 | U1355 | U1295 | U1235 | A1175 | U1115 | A1055 | C995 | A935 | U875 | A815 | G755 | A695 | A635 | G575 | C515 | G455 |
| A1476 | C1416 | G1356 | C1296 | A1236 | A1176 | U1116 | U1056 | A996 | C936 | C876 | A816 | C756 | A696 | U636 | C576 | U516 | A456 |
| U1477 | G1417 | C1357 | G1297 | C1237 | G1177 | A1117 | G1057 | U997 | A937 | G877 | C817 | U757 | U697 | C637 | G577 | G517 | G457 |
| U1478 | A1418 | U1358 | U1298 | A1238 | G1178 | U1118 | G1058 | C998 | A938 | A878 | G818 | C758 | C698 | U638 | C578 | C518 | U458 |
| C1479 | U1419 | C1359 | A1299 | A1239 | A1179 | C1119 | U1059 | C999 | G939 | C879 | A819 | G759 | C699 | G639 | A579 | C519 | A459 |
| A1480 | U1420 | U1360 | G1300 | U1240 | A1180 | C1120 | U1060 | A1000 | C940 | C880 | U820 | G760 | G700 | A640 | C580 | A520 | A460 |
| U1481 | G1421 | G1361 | C1301 | G1241 | G1181 | U1121 | G1061 | C1001 | G941 | G881 | C821 | U761 | U701 | U641 | G581 | G521 | A461 |
| G1482 | G1422 | A1362 | C1302 | G1242 | G1182 | U1122 | U1062 | G1002 | G942 | C882 | U822 | U762 | C702 | A642 | C582 | C522 | G462 |
| A1483 | G1423 | C1363 | C1303 | C1243 | U1183 | U1123 | G1063 | G1003 | U943 | C883 | C823 | G763 | G703 | C643 | A583 | A523 | U463 |
| U1484 | U1424 | U1364 | G1304 | G1244 | G1184 | G1124 | G1064 | A1004 | C944 | U884 | G824 | C764 | A704 | U644 | G584 | G524 | U464 |
| U1485 | U1425 | G1365 | G1305 | C1245 | G1185 | U1125 | U1065 | A1005 | G945 | C885 | A825 | G765 | G705 | G645 | G585 | C525 | A465 |
| G1486 | A1426 | A1366 | A1246 | A1246 | G1186 | U1126 | C1066 | G1006 | A946 | C886 | C826 | A766 | U706 | G646 | C586 | C526 | A466 |
| U1487 | C1427 | C1367 | U1307 | U1247 | G1187 | G1127 | A1067 | U1007 | G947 | G887 | U827 | A767 | U707 | C647 | G587 | G527 | U467 |
| G1488 | A1428 | A1368 | U1308 | A1248 | A1188 | C1128 | G1068 | U1008 | C948 | C888 | U828 | A768 | C708 | A648 | G588 | C528 | A468 |
| U1489 | A1429 | C1369 | G1309 | C1249 | U1189 | G1129 | C1069 | U1009 | A949 | A889 | G829 | G769 | U709 | A649 | U589 | G529 | C469 |
| A1490 | A1430 | G1370 | G1310 | A1250 | G1190 | A1130 | U1070 | U1010 | U950 | C890 | G830 | C770 | G710 | G650 | U590 | G530 | C470 |
| G1491 | A1431 | G1371 | A1311 | A1251 | A1191 | G1131 | C1071 | C1011 | G951 | U891 | A831 | G771 | G711 | C651 | U591 | U531 | U471 |
| A1492 | G1432 | U1372 | G1312 | A1252 | C1192 | C1132 | G1072 | A1012 | U952 | A892 | G832 | U772 | A712 | G652 | G592 | A532 | U472 |
| U1493 | A1433 | G1373 | C1313 | G1253 | G1193 | G1133 | U1073 | G1013 | G953 | C893 | G833 | G773 | G713 | U653 | C593 | A533 | U473 |
| G1494 | A1434 | A1374 | A1254 | A1254 | U1194 | G1134 | G1074 | A1014 | G954 | G894 | U834 | G774 | G714 | G654 | U594 | U534 | G474 |
| U1495 | G1435 | A1375 | U1315 | G1255 | C1195 | U1135 | U1075 | G1015 | U955 | G895 | A835 | G775 | A715 | A655 | A595 | A535 | U475 |
| C1496 | A1436 | U1376 | A1316 | A1256 | A1196 | C1136 | U1076 | A1016 | U956 | C896 | G836 | G776 | A716 | G656 | A596 | C536 | C476 |
| G1497 | A1437 | G1377 | G1317 | A1257 | A1197 | C1137 | G1077 | U1017 | U957 | C897 | U837 | A777 | U717 | U657 | G597 | G537 | C477 |
| U1498 | G1438 | C1378 | A1318 | G1258 | G1198 | G1138 | U1078 | G1018 | A958 | G898 | G838 | G778 | A718 | C658 | U598 | G538 | A478 |
| A1499 | A1439 | G1379 | A1319 | C1259 | U1199 | G1139 | U1079 | A1019 | A959 | C899 | G839 | C779 | A719 | U659 | C599 | U539 | U479 |
| A1500 | U1440 | U1380 | C1320 | G1260 | C1200 | C1140 | A1080 | G1020 | U960 | A900 | C840 | A780 | C720 | C660 | A600 | G540 | U480 |



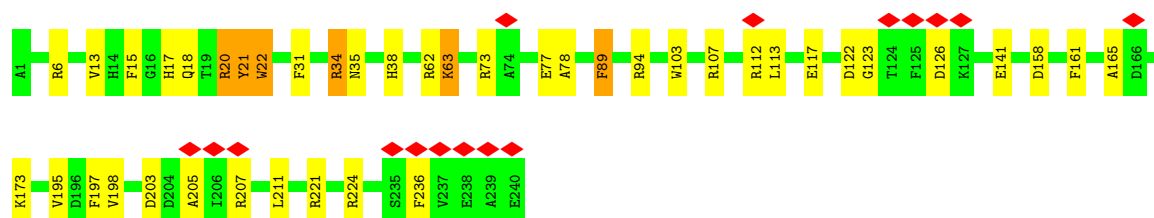
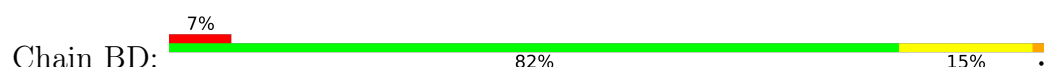
• Molecule 36: mRNA



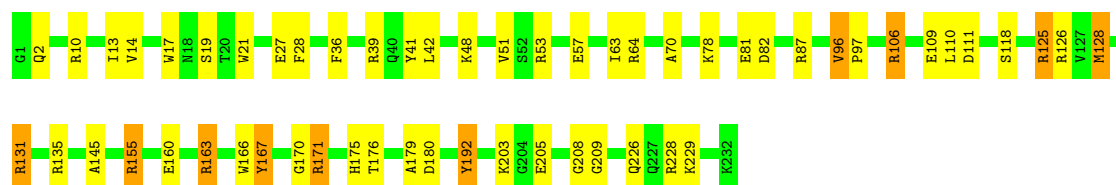
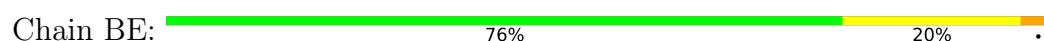
• Molecule 37: P site tRNA



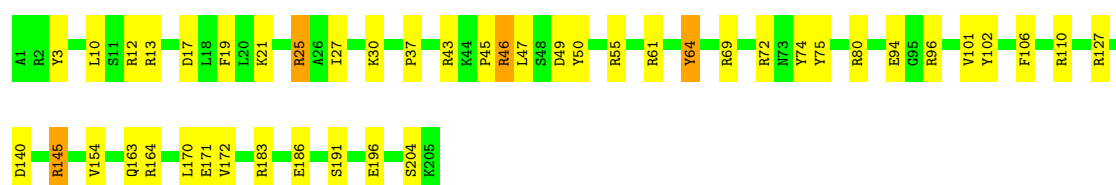
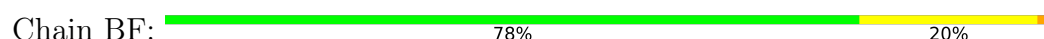
• Molecule 38: 30S ribosomal protein S2



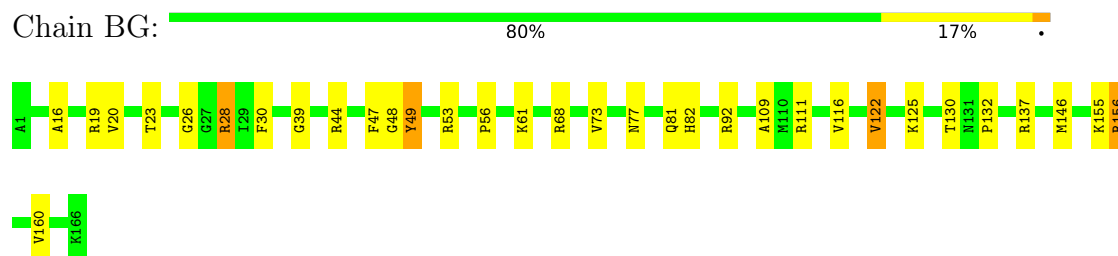
• Molecule 39: 30S ribosomal protein S3



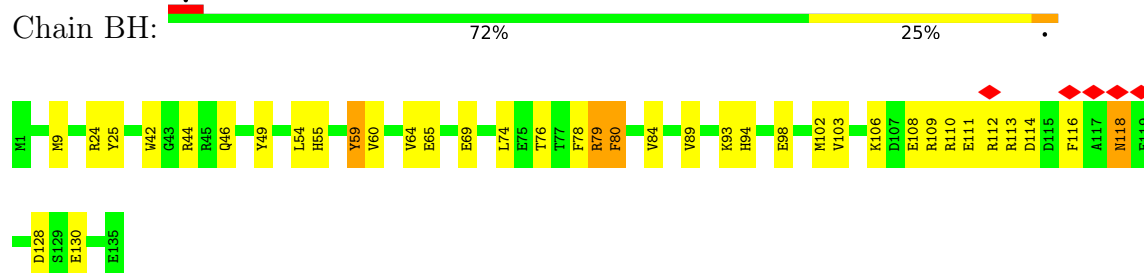
• Molecule 40: 30S ribosomal protein S4



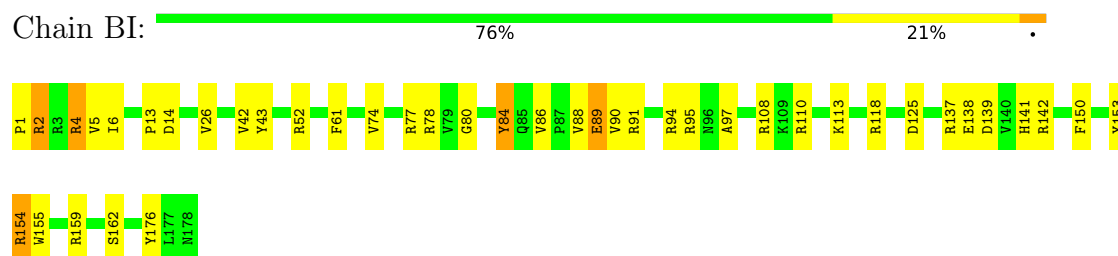
- Molecule 41: 30S ribosomal protein S5



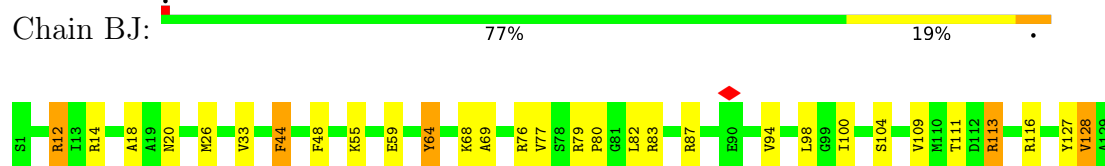
- Molecule 42: 30S ribosomal protein S6



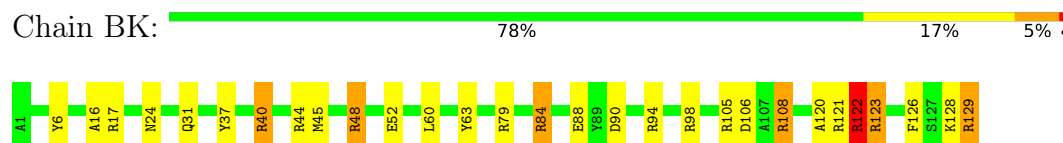
- Molecule 43: 30S ribosomal protein S7



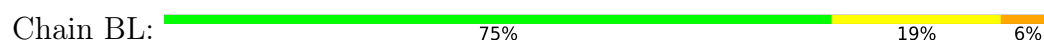
- Molecule 44: 30S ribosomal protein S8



- Molecule 45: 30S ribosomal protein S9

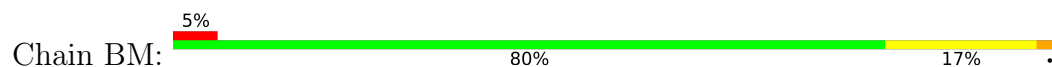


- Molecule 46: 30S ribosomal protein S10

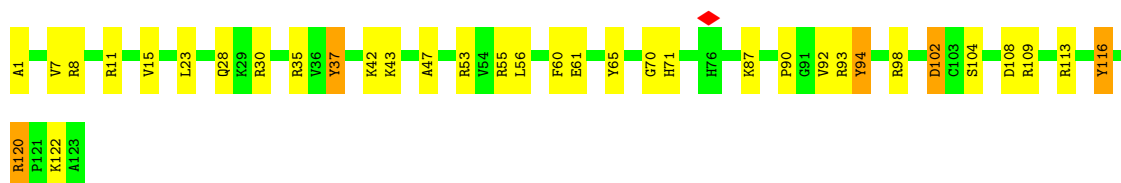
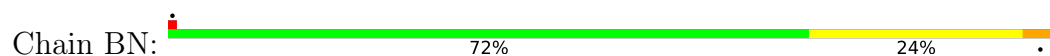




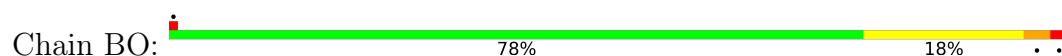
- Molecule 47: 30S ribosomal protein S11



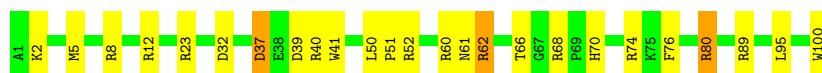
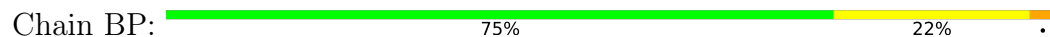
- Molecule 48: 30S ribosomal protein S12



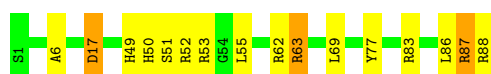
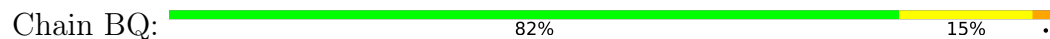
- Molecule 49: 30S ribosomal protein S13



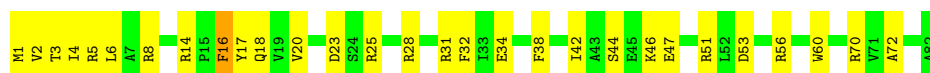
- Molecule 50: 30S ribosomal protein S14




- Molecule 51: 30S ribosomal protein S15

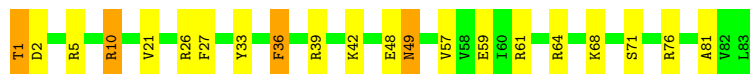


- Molecule 52: 30S ribosomal protein S16



- Molecule 53: 30S ribosomal protein S17

Chain BS:  75% 20% 5%



- Molecule 54: 30S ribosomal protein S18

Chain BT:  74% 20% 5%




- Molecule 55: 30S ribosomal protein S19

Chain BU:  70% 27% 3%



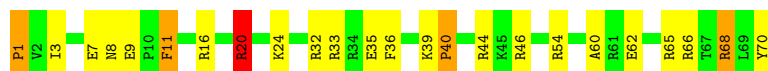
- Molecule 56: 30S ribosomal protein S20

Chain BV:  86% 13% 1%



- Molecule 57: 30S ribosomal protein S21

Chain BW:  66% 27% 6%



4 Experimental information

| Property | Value | Source |
|--------------------------------------|--|-----------|
| EM reconstruction method | SINGLE PARTICLE | Depositor |
| Imposed symmetry | POINT, C1 | Depositor |
| Number of particles used | 21000 | Depositor |
| Resolution determination method | FSC 0.5 CUT-OFF | Depositor |
| CTF correction method | Volumes were CTF-corrected in defocus groups | Depositor |
| Microscope | FEI TECNAI F30 | Depositor |
| Voltage (kV) | 300 | Depositor |
| Electron dose ($e^-/\text{\AA}^2$) | 25 | Depositor |
| Minimum defocus (nm) | 1200 | Depositor |
| Maximum defocus (nm) | 4000 | Depositor |
| Magnification | 58269 | Depositor |
| Image detector | TVIPS TEMCAM-F415 (4k x 4k) | Depositor |
| Maximum map value | 1.443 | Depositor |
| Minimum map value | -0.456 | Depositor |
| Average map value | 0.028 | Depositor |
| Map value standard deviation | 0.182 | Depositor |
| Recommended contour level | 0.1 | Depositor |
| Map size (Å) | 375.0, 375.0, 375.0 | wwPDB |
| Map dimensions | 250, 250, 250 | wwPDB |
| Map angles (°) | 90.0, 90.0, 90.0 | wwPDB |
| Pixel spacing (Å) | 1.5, 1.5, 1.5 | Depositor |

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: OMC, 4SU, UR3, H2U, CH, 4OC, PSU, 2MG, 3TD, OMU, 6MZ, 5MU, 5MC, 7MG, 1MG, OMG, MA6, 2MA

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|--------------------|-------------|----------------------|
| | | RMSZ | # $ Z > 5$ | RMSZ | # $ Z > 5$ |
| 1 | AA | 3.07 | 298/2869 (10.4%) | 3.56 | 669/4474 (15.0%) |
| 2 | AB | 3.08 | 7422/69257 (10.7%) | 3.52 | 15483/108040 (14.3%) |
| 3 | AC | 1.42 | 3/1748 (0.2%) | 1.86 | 30/2355 (1.3%) |
| 4 | AD | 1.56 | 11/2131 (0.5%) | 2.03 | 60/2863 (2.1%) |
| 5 | AE | 1.49 | 5/1586 (0.3%) | 1.92 | 39/2134 (1.8%) |
| 6 | AF | 1.52 | 7/1571 (0.4%) | 1.92 | 42/2113 (2.0%) |
| 7 | AG | 1.53 | 3/1444 (0.2%) | 2.02 | 45/1937 (2.3%) |
| 8 | AH | 1.53 | 6/1343 (0.4%) | 1.96 | 35/1816 (1.9%) |
| 9 | AI | 1.45 | 3/1122 (0.3%) | 1.94 | 25/1515 (1.7%) |
| 10 | AJ | 1.52 | 5/1247 (0.4%) | 1.94 | 27/1679 (1.6%) |
| 11 | AK | 1.44 | 5/1046 (0.5%) | 1.86 | 18/1410 (1.3%) |
| 12 | AL | 1.50 | 6/1152 (0.5%) | 2.08 | 30/1551 (1.9%) |
| 13 | AM | 1.53 | 5/956 (0.5%) | 1.95 | 25/1279 (2.0%) |
| 14 | AN | 1.52 | 5/1062 (0.5%) | 1.89 | 20/1413 (1.4%) |
| 15 | AO | 1.49 | 3/1093 (0.3%) | 2.07 | 38/1460 (2.6%) |
| 16 | AP | 1.48 | 5/1021 (0.5%) | 2.09 | 28/1364 (2.1%) |
| 17 | AQ | 1.57 | 4/910 (0.4%) | 1.90 | 27/1219 (2.2%) |
| 18 | AR | 1.54 | 2/929 (0.2%) | 1.95 | 26/1242 (2.1%) |
| 19 | AS | 1.52 | 6/960 (0.6%) | 2.20 | 39/1278 (3.1%) |
| 20 | AT | 1.60 | 5/829 (0.6%) | 1.89 | 18/1107 (1.6%) |
| 21 | AU | 1.49 | 1/864 (0.1%) | 1.96 | 21/1156 (1.8%) |
| 22 | AV | 1.54 | 3/794 (0.4%) | 1.90 | 17/1060 (1.6%) |
| 23 | AW | 1.44 | 2/797 (0.3%) | 1.90 | 13/1062 (1.2%) |
| 24 | AX | 1.49 | 5/766 (0.7%) | 1.79 | 15/1025 (1.5%) |
| 25 | AY | 1.48 | 2/642 (0.3%) | 1.92 | 14/848 (1.7%) |
| 26 | AZ | 1.50 | 3/635 (0.5%) | 2.21 | 25/848 (2.9%) |
| 27 | A0 | 1.37 | 1/510 (0.2%) | 1.90 | 12/677 (1.8%) |
| 28 | A1 | 1.52 | 2/453 (0.4%) | 2.11 | 13/605 (2.1%) |
| 29 | A2 | 1.55 | 3/559 (0.5%) | 1.96 | 12/745 (1.6%) |
| 30 | A3 | 1.49 | 1/450 (0.2%) | 2.05 | 15/599 (2.5%) |
| 31 | A4 | 1.46 | 1/448 (0.2%) | 1.82 | 7/594 (1.2%) |

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|---------------------|-------------|----------------------|
| | | RMSZ | # Z >5 | RMSZ | # Z >5 |
| 32 | A5 | 1.53 | 1/380 (0.3%) | 2.15 | 14/498 (2.8%) |
| 33 | A6 | 1.55 | 4/513 (0.8%) | 1.80 | 7/676 (1.0%) |
| 34 | A7 | 1.57 | 2/303 (0.7%) | 1.98 | 6/397 (1.5%) |
| 35 | BA | 3.07 | 3871/36769 (10.5%) | 3.53 | 8462/57354 (14.8%) |
| 36 | BB | 3.23 | 131/1108 (11.8%) | 3.61 | 262/1724 (15.2%) |
| 37 | BC | 3.09 | 176/1721 (10.2%) | 3.61 | 392/2683 (14.6%) |
| 38 | BD | 1.43 | 2/1904 (0.1%) | 1.86 | 32/2565 (1.2%) |
| 39 | BE | 1.55 | 11/1852 (0.6%) | 1.94 | 38/2490 (1.5%) |
| 40 | BF | 1.51 | 8/1665 (0.5%) | 1.96 | 51/2227 (2.3%) |
| 41 | BG | 1.54 | 5/1239 (0.4%) | 2.01 | 27/1664 (1.6%) |
| 42 | BH | 1.50 | 3/1121 (0.3%) | 1.92 | 27/1509 (1.8%) |
| 43 | BI | 1.54 | 5/1422 (0.4%) | 2.05 | 48/1908 (2.5%) |
| 44 | BJ | 1.49 | 3/989 (0.3%) | 2.00 | 23/1326 (1.7%) |
| 45 | BK | 1.55 | 5/1048 (0.5%) | 2.08 | 34/1394 (2.4%) |
| 46 | BL | 1.47 | 1/835 (0.1%) | 2.19 | 25/1127 (2.2%) |
| 47 | BM | 1.52 | 7/982 (0.7%) | 2.02 | 28/1323 (2.1%) |
| 48 | BN | 1.52 | 4/969 (0.4%) | 2.10 | 39/1300 (3.0%) |
| 49 | BO | 1.51 | 8/919 (0.9%) | 1.98 | 30/1226 (2.4%) |
| 50 | BP | 1.53 | 1/817 (0.1%) | 2.02 | 23/1088 (2.1%) |
| 51 | BQ | 1.43 | 1/724 (0.1%) | 1.93 | 16/966 (1.7%) |
| 52 | BR | 1.53 | 2/659 (0.3%) | 2.14 | 25/884 (2.8%) |
| 53 | BS | 1.55 | 6/681 (0.9%) | 1.99 | 18/913 (2.0%) |
| 54 | BT | 1.60 | 6/637 (0.9%) | 2.07 | 18/851 (2.1%) |
| 55 | BU | 1.53 | 3/744 (0.4%) | 1.84 | 16/995 (1.6%) |
| 56 | BV | 1.39 | 1/676 (0.1%) | 1.86 | 14/895 (1.6%) |
| 57 | BW | 1.46 | 5/598 (0.8%) | 2.19 | 23/792 (2.9%) |
| All | All | 2.69 | 12105/162469 (7.5%) | 3.17 | 26586/242243 (11.0%) |

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 1 | AA | 0 | 69 |
| 2 | AB | 0 | 1654 |
| 3 | AC | 0 | 3 |
| 4 | AD | 0 | 11 |
| 5 | AE | 0 | 7 |
| 6 | AF | 0 | 2 |
| 7 | AG | 0 | 1 |
| 8 | AH | 0 | 2 |

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| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 9 | AI | 0 | 3 |
| 10 | AJ | 0 | 8 |
| 11 | AK | 0 | 1 |
| 12 | AL | 0 | 3 |
| 13 | AM | 0 | 3 |
| 14 | AN | 0 | 2 |
| 15 | AO | 0 | 3 |
| 16 | AP | 0 | 5 |
| 17 | AQ | 0 | 4 |
| 18 | AR | 0 | 6 |
| 19 | AS | 0 | 3 |
| 20 | AT | 0 | 5 |
| 21 | AU | 0 | 5 |
| 22 | AV | 0 | 1 |
| 24 | AX | 0 | 5 |
| 25 | AY | 0 | 4 |
| 26 | AZ | 0 | 2 |
| 27 | A0 | 0 | 4 |
| 28 | A1 | 0 | 4 |
| 29 | A2 | 0 | 3 |
| 30 | A3 | 0 | 1 |
| 31 | A4 | 0 | 2 |
| 32 | A5 | 0 | 2 |
| 33 | A6 | 0 | 2 |
| 34 | A7 | 0 | 2 |
| 35 | BA | 0 | 882 |
| 36 | BB | 0 | 30 |
| 37 | BC | 0 | 41 |
| 38 | BD | 0 | 4 |
| 39 | BE | 0 | 9 |
| 40 | BF | 0 | 3 |
| 41 | BG | 0 | 3 |
| 42 | BH | 0 | 9 |
| 43 | BI | 0 | 3 |
| 44 | BJ | 0 | 7 |
| 45 | BK | 0 | 5 |
| 46 | BL | 0 | 2 |
| 47 | BM | 0 | 1 |
| 48 | BN | 0 | 6 |
| 49 | BO | 0 | 4 |
| 50 | BP | 0 | 1 |
| 51 | BQ | 0 | 2 |

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| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 52 | BR | 0 | 2 |
| 53 | BS | 0 | 1 |
| 54 | BT | 0 | 2 |
| 55 | BU | 0 | 4 |
| 57 | BW | 0 | 4 |
| All | All | 0 | 2857 |

All (12105) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|--------|-------------|----------|
| 2 | AB | 504 | A | N3-C4 | 18.22 | 1.45 | 1.34 |
| 2 | AB | 2682 | A | N3-C4 | 18.21 | 1.45 | 1.34 |
| 2 | AB | 744 | U | C2-N3 | 17.97 | 1.50 | 1.37 |
| 35 | BA | 1484 | C | N1-C6 | 16.21 | 1.46 | 1.37 |
| 2 | AB | 2829 | A | P-O5' | 15.96 | 1.75 | 1.59 |
| 2 | AB | 2521 | C | N1-C6 | 15.72 | 1.46 | 1.37 |
| 35 | BA | 116 | A | N3-C4 | 15.56 | 1.44 | 1.34 |
| 2 | AB | 501 | A | N3-C4 | 15.50 | 1.44 | 1.34 |
| 2 | AB | 2096 | C | P-O5' | 15.41 | 1.75 | 1.59 |
| 2 | AB | 2661 | G | N7-C5 | -15.38 | 1.30 | 1.39 |
| 2 | AB | 693 | A | N3-C4 | 15.24 | 1.44 | 1.34 |
| 37 | BC | 77 | A | N3-C4 | 14.72 | 1.43 | 1.34 |
| 2 | AB | 616 | A | N9-C4 | 14.64 | 1.46 | 1.37 |
| 35 | BA | 562 | U | P-O5' | 14.60 | 1.74 | 1.59 |
| 2 | AB | 1214 | A | N7-C5 | -14.53 | 1.30 | 1.39 |
| 2 | AB | 2474 | U | C2-N3 | 14.53 | 1.48 | 1.37 |
| 2 | AB | 2525 | G | C6-N1 | 14.49 | 1.49 | 1.39 |
| 2 | AB | 366 | C | N1-C6 | 14.46 | 1.45 | 1.37 |
| 2 | AB | 1576 | U | C2-N3 | 14.45 | 1.47 | 1.37 |
| 35 | BA | 968 | A | N3-C4 | 14.29 | 1.43 | 1.34 |
| 35 | BA | 1411 | C | N1-C6 | 14.27 | 1.45 | 1.37 |
| 2 | AB | 2308 | G | P-O5' | 14.20 | 1.74 | 1.59 |
| 36 | BB | 37 | G | N7-C5 | 14.19 | 1.47 | 1.39 |
| 2 | AB | 1567 | G | N7-C5 | -14.08 | 1.30 | 1.39 |
| 2 | AB | 472 | A | N3-C4 | 14.07 | 1.43 | 1.34 |
| 2 | AB | 156 | A | N3-C4 | 14.05 | 1.43 | 1.34 |
| 2 | AB | 770 | G | N7-C5 | 14.05 | 1.47 | 1.39 |
| 35 | BA | 1147 | C | N1-C6 | 13.97 | 1.45 | 1.37 |
| 35 | BA | 298 | A | N7-C5 | 13.92 | 1.47 | 1.39 |
| 35 | BA | 437 | U | P-O5' | 13.91 | 1.73 | 1.59 |
| 2 | AB | 1392 | A | N3-C4 | 13.89 | 1.43 | 1.34 |
| 2 | AB | 1664 | A | N3-C4 | 13.85 | 1.43 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|--------|-------------|----------|
| 2 | AB | 170 | U | C2-N3 | 13.83 | 1.47 | 1.37 |
| 2 | AB | 1300 | G | C8-N7 | 13.83 | 1.39 | 1.30 |
| 35 | BA | 350 | G | C2-N3 | 13.81 | 1.43 | 1.32 |
| 2 | AB | 1787 | A | N7-C5 | 13.76 | 1.47 | 1.39 |
| 35 | BA | 1047 | G | C2-N3 | 13.72 | 1.43 | 1.32 |
| 2 | AB | 705 | A | N3-C4 | 13.71 | 1.43 | 1.34 |
| 2 | AB | 689 | A | N7-C5 | 13.71 | 1.47 | 1.39 |
| 2 | AB | 160 | A | N3-C4 | 13.63 | 1.43 | 1.34 |
| 2 | AB | 172 | A | C8-N7 | -13.55 | 1.22 | 1.31 |
| 35 | BA | 901 | A | N3-C4 | 13.53 | 1.43 | 1.34 |
| 2 | AB | 1290 | C | N1-C6 | 13.50 | 1.45 | 1.37 |
| 35 | BA | 366 | A | N3-C4 | 13.36 | 1.42 | 1.34 |
| 2 | AB | 448 | U | C2-N3 | 13.30 | 1.47 | 1.37 |
| 2 | AB | 1495 | A | N7-C5 | 13.26 | 1.47 | 1.39 |
| 35 | BA | 900 | A | N7-C5 | 13.25 | 1.47 | 1.39 |
| 2 | AB | 1707 | G | N7-C5 | 13.24 | 1.47 | 1.39 |
| 35 | BA | 666 | G | C8-N7 | -13.18 | 1.23 | 1.30 |
| 35 | BA | 217 | C | N1-C6 | 13.16 | 1.45 | 1.37 |
| 2 | AB | 1734 | G | N7-C5 | -13.16 | 1.31 | 1.39 |
| 35 | BA | 1293 | C | N3-C4 | 13.14 | 1.43 | 1.33 |
| 35 | BA | 493 | A | N3-C4 | 13.09 | 1.42 | 1.34 |
| 2 | AB | 1925 | C | N1-C6 | 13.08 | 1.45 | 1.37 |
| 2 | AB | 2313 | C | N1-C6 | 13.04 | 1.45 | 1.37 |
| 2 | AB | 5 | A | N9-C4 | 13.04 | 1.45 | 1.37 |
| 35 | BA | 867 | G | C8-N7 | -12.99 | 1.23 | 1.30 |
| 35 | BA | 344 | A | N9-C4 | -12.97 | 1.30 | 1.37 |
| 35 | BA | 1368 | A | N3-C4 | 12.92 | 1.42 | 1.34 |
| 2 | AB | 460 | A | P-O5' | 12.90 | 1.72 | 1.59 |
| 35 | BA | 263 | A | N7-C5 | -12.85 | 1.31 | 1.39 |
| 2 | AB | 1522 | A | N3-C4 | 12.85 | 1.42 | 1.34 |
| 2 | AB | 2367 | G | N7-C5 | 12.79 | 1.47 | 1.39 |
| 2 | AB | 1583 | A | N7-C5 | -12.79 | 1.31 | 1.39 |
| 37 | BC | 2 | G | C6-N1 | 12.77 | 1.48 | 1.39 |
| 2 | AB | 1231 | U | C2-N3 | 12.75 | 1.46 | 1.37 |
| 2 | AB | 2831 | G | O3'-P | 12.74 | 1.76 | 1.61 |
| 2 | AB | 1188 | U | P-O5' | 12.72 | 1.72 | 1.59 |
| 2 | AB | 2273 | A | N3-C4 | 12.69 | 1.42 | 1.34 |
| 35 | BA | 849 | G | N7-C5 | 12.69 | 1.46 | 1.39 |
| 2 | AB | 1491 | G | N3-C4 | 12.68 | 1.44 | 1.35 |
| 36 | BB | 17 | U | C4-C5 | 12.67 | 1.54 | 1.43 |
| 2 | AB | 2826 | A | N7-C5 | -12.63 | 1.31 | 1.39 |
| 2 | AB | 244 | A | N3-C4 | 12.63 | 1.42 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|--------|-------------|----------|
| 2 | AB | 122 | G | N3-C4 | 12.62 | 1.44 | 1.35 |
| 2 | AB | 2543 | G | P-O5' | 12.57 | 1.72 | 1.59 |
| 1 | AA | 59 | A | N3-C4 | 12.57 | 1.42 | 1.34 |
| 2 | AB | 2812 | G | P-O5' | 12.56 | 1.72 | 1.59 |
| 2 | AB | 1934 | C | N1-C6 | 12.55 | 1.44 | 1.37 |
| 35 | BA | 758 | C | P-O5' | 12.55 | 1.72 | 1.59 |
| 1 | AA | 15 | A | N3-C4 | 12.54 | 1.42 | 1.34 |
| 2 | AB | 323 | C | N1-C6 | 12.53 | 1.44 | 1.37 |
| 2 | AB | 251 | A | N9-C4 | -12.52 | 1.30 | 1.37 |
| 35 | BA | 306 | A | N7-C5 | -12.49 | 1.31 | 1.39 |
| 2 | AB | 1754 | A | N3-C4 | 12.48 | 1.42 | 1.34 |
| 35 | BA | 1177 | G | N7-C5 | -12.46 | 1.31 | 1.39 |
| 2 | AB | 1499 | C | P-O5' | 12.45 | 1.72 | 1.59 |
| 2 | AB | 1317 | G | N1-C2 | 12.45 | 1.47 | 1.37 |
| 2 | AB | 947 | A | N7-C5 | 12.44 | 1.46 | 1.39 |
| 35 | BA | 128 | G | N7-C5 | -12.42 | 1.31 | 1.39 |
| 36 | BB | 38 | G | P-O5' | 12.41 | 1.72 | 1.59 |
| 35 | BA | 107 | G | C4'-C3' | 12.39 | 1.66 | 1.53 |
| 2 | AB | 10 | A | N7-C5 | -12.38 | 1.31 | 1.39 |
| 2 | AB | 2594 | C | N1-C6 | 12.37 | 1.44 | 1.37 |
| 2 | AB | 470 | A | N3-C4 | 12.36 | 1.42 | 1.34 |
| 2 | AB | 1430 | G | C6-N1 | 12.34 | 1.48 | 1.39 |
| 35 | BA | 1248 | A | N3-C4 | 12.31 | 1.42 | 1.34 |
| 2 | AB | 1735 | A | N3-C4 | 12.28 | 1.42 | 1.34 |
| 2 | AB | 2098 | U | C2-N3 | 12.27 | 1.46 | 1.37 |
| 2 | AB | 1080 | A | N3-C4 | 12.25 | 1.42 | 1.34 |
| 2 | AB | 965 | C | P-O5' | 12.18 | 1.72 | 1.59 |
| 2 | AB | 340 | A | N3-C4 | 12.17 | 1.42 | 1.34 |
| 2 | AB | 2837 | A | N3-C4 | 12.16 | 1.42 | 1.34 |
| 35 | BA | 1085 | U | C4-C5 | 12.16 | 1.54 | 1.43 |
| 2 | AB | 976 | G | P-O5' | 12.10 | 1.71 | 1.59 |
| 2 | AB | 570 | G | N3-C4 | 12.09 | 1.44 | 1.35 |
| 35 | BA | 1300 | G | N7-C5 | 12.09 | 1.46 | 1.39 |
| 35 | BA | 195 | A | N3-C4 | 12.08 | 1.42 | 1.34 |
| 2 | AB | 1047 | G | N7-C5 | 12.08 | 1.46 | 1.39 |
| 1 | AA | 55 | U | C2-N3 | -12.07 | 1.29 | 1.37 |
| 2 | AB | 378 | C | N1-C6 | 12.06 | 1.44 | 1.37 |
| 35 | BA | 675 | A | P-O5' | 12.06 | 1.71 | 1.59 |
| 35 | BA | 1072 | G | N3-C4 | 12.04 | 1.43 | 1.35 |
| 35 | BA | 215 | C | N1-C6 | 12.04 | 1.44 | 1.37 |
| 35 | BA | 349 | A | N9-C4 | 12.04 | 1.45 | 1.37 |
| 35 | BA | 1082 | A | N3-C4 | 12.03 | 1.42 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|--------|-------------|----------|
| 35 | BA | 1465 | A | N3-C4 | 12.03 | 1.42 | 1.34 |
| 2 | AB | 1396 | U | P-O5' | 12.02 | 1.71 | 1.59 |
| 2 | AB | 951 | C | N1-C6 | 11.99 | 1.44 | 1.37 |
| 35 | BA | 338 | A | N3-C4 | 11.98 | 1.42 | 1.34 |
| 2 | AB | 2181 | U | P-O5' | 11.95 | 1.71 | 1.59 |
| 2 | AB | 1919 | A | N7-C5 | 11.94 | 1.46 | 1.39 |
| 35 | BA | 481 | G | N7-C5 | 11.93 | 1.46 | 1.39 |
| 35 | BA | 1084 | G | C6-N1 | -11.93 | 1.31 | 1.39 |
| 35 | BA | 279 | A | N3-C4 | 11.89 | 1.42 | 1.34 |
| 2 | AB | 805 | G | P-O5' | 11.88 | 1.71 | 1.59 |
| 2 | AB | 68 | G | P-O5' | 11.88 | 1.71 | 1.59 |
| 2 | AB | 1926 | U | C2-N3 | 11.87 | 1.46 | 1.37 |
| 2 | AB | 1327 | A | N7-C5 | 11.85 | 1.46 | 1.39 |
| 2 | AB | 1385 | A | N3-C4 | 11.81 | 1.42 | 1.34 |
| 2 | AB | 1247 | A | N9-C4 | 11.79 | 1.45 | 1.37 |
| 2 | AB | 2159 | G | C8-N7 | -11.78 | 1.23 | 1.30 |
| 1 | AA | 52 | A | C5-C4 | -11.74 | 1.30 | 1.38 |
| 35 | BA | 566 | G | P-O5' | 11.74 | 1.71 | 1.59 |
| 35 | BA | 700 | G | N7-C5 | -11.73 | 1.32 | 1.39 |
| 2 | AB | 2119 | A | C8-N7 | -11.72 | 1.23 | 1.31 |
| 2 | AB | 1388 | G | P-O5' | 11.72 | 1.71 | 1.59 |
| 35 | BA | 150 | U | C2-N3 | 11.71 | 1.46 | 1.37 |
| 2 | AB | 1575 | C | P-O5' | 11.70 | 1.71 | 1.59 |
| 35 | BA | 33 | A | C6-N1 | 11.70 | 1.43 | 1.35 |
| 2 | AB | 1644 | C | P-O5' | 11.69 | 1.71 | 1.59 |
| 35 | BA | 1096 | C | C2-N3 | 11.69 | 1.45 | 1.35 |
| 2 | AB | 1546 | G | C2-N3 | 11.68 | 1.42 | 1.32 |
| 35 | BA | 11 | G | C2-N3 | 11.68 | 1.42 | 1.32 |
| 2 | AB | 981 | A | N3-C4 | 11.67 | 1.41 | 1.34 |
| 2 | AB | 1666 | G | P-O5' | 11.66 | 1.71 | 1.59 |
| 2 | AB | 2220 | U | C5-C6 | 11.66 | 1.44 | 1.34 |
| 2 | AB | 1813 | G | P-O5' | 11.65 | 1.71 | 1.59 |
| 35 | BA | 475 | C | P-O5' | 11.65 | 1.71 | 1.59 |
| 2 | AB | 138 | U | C4-C5 | 11.65 | 1.54 | 1.43 |
| 2 | AB | 1491 | G | C6-N1 | 11.64 | 1.47 | 1.39 |
| 2 | AB | 1995 | U | C2-N3 | 11.63 | 1.45 | 1.37 |
| 2 | AB | 2053 | G | P-O5' | 11.63 | 1.71 | 1.59 |
| 2 | AB | 2161 | C | C4'-C3' | 11.63 | 1.66 | 1.53 |
| 2 | AB | 921 | C | P-O5' | 11.62 | 1.71 | 1.59 |
| 2 | AB | 1765 | U | C2-N3 | 11.62 | 1.45 | 1.37 |
| 35 | BA | 596 | A | N9-C4 | 11.62 | 1.44 | 1.37 |
| 35 | BA | 1458 | G | N7-C5 | 11.62 | 1.46 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|--------|-------------|----------|
| 35 | BA | 539 | A | N7-C5 | 11.59 | 1.46 | 1.39 |
| 35 | BA | 913 | A | N3-C4 | 11.59 | 1.41 | 1.34 |
| 2 | AB | 2581 | G | C8-N7 | -11.58 | 1.24 | 1.30 |
| 2 | AB | 1372 | U | C2-N3 | 11.58 | 1.45 | 1.37 |
| 35 | BA | 670 | G | C8-N7 | -11.57 | 1.24 | 1.30 |
| 35 | BA | 316 | C | P-O5' | 11.55 | 1.71 | 1.59 |
| 2 | AB | 513 | A | N3-C4 | 11.55 | 1.41 | 1.34 |
| 2 | AB | 1135 | C | P-O5' | 11.54 | 1.71 | 1.59 |
| 35 | BA | 1067 | A | N7-C5 | 11.54 | 1.46 | 1.39 |
| 1 | AA | 31 | C | N1-C6 | 11.54 | 1.44 | 1.37 |
| 2 | AB | 222 | A | N9-C4 | 11.53 | 1.44 | 1.37 |
| 35 | BA | 630 | A | P-O5' | 11.53 | 1.71 | 1.59 |
| 35 | BA | 215 | C | P-O5' | 11.52 | 1.71 | 1.59 |
| 2 | AB | 1806 | C | C2-N3 | 11.51 | 1.45 | 1.35 |
| 2 | AB | 782 | A | N3-C4 | 11.51 | 1.41 | 1.34 |
| 2 | AB | 2478 | A | N7-C5 | -11.51 | 1.32 | 1.39 |
| 2 | AB | 2587 | A | N3-C4 | 11.50 | 1.41 | 1.34 |
| 2 | AB | 2811 | G | C2-N3 | 11.49 | 1.42 | 1.32 |
| 35 | BA | 425 | G | C2-N3 | 11.48 | 1.42 | 1.32 |
| 2 | AB | 2021 | C | N1-C6 | 11.47 | 1.44 | 1.37 |
| 35 | BA | 590 | U | C2-N3 | 11.46 | 1.45 | 1.37 |
| 2 | AB | 2077 | A | N3-C4 | 11.45 | 1.41 | 1.34 |
| 2 | AB | 2099 | U | O3'-P | 11.44 | 1.74 | 1.61 |
| 2 | AB | 332 | A | N7-C5 | -11.44 | 1.32 | 1.39 |
| 35 | BA | 1263 | C | N1-C6 | 11.43 | 1.44 | 1.37 |
| 2 | AB | 892 | A | C6-N1 | -11.43 | 1.27 | 1.35 |
| 2 | AB | 467 | G | C2-N3 | 11.40 | 1.41 | 1.32 |
| 2 | AB | 2260 | C | N1-C6 | 11.39 | 1.44 | 1.37 |
| 35 | BA | 496 | A | P-O5' | 11.38 | 1.71 | 1.59 |
| 2 | AB | 2076 | U | P-O5' | 11.38 | 1.71 | 1.59 |
| 2 | AB | 121 | G | C6-N1 | 11.33 | 1.47 | 1.39 |
| 2 | AB | 2347 | C | P-O5' | 11.33 | 1.71 | 1.59 |
| 1 | AA | 31 | C | P-O5' | 11.33 | 1.71 | 1.59 |
| 1 | AA | 94 | A | N7-C5 | 11.33 | 1.46 | 1.39 |
| 35 | BA | 1174 | G | N3-C4 | 11.30 | 1.43 | 1.35 |
| 2 | AB | 1002 | G | N3-C4 | 11.30 | 1.43 | 1.35 |
| 35 | BA | 6 | G | N7-C5 | 11.29 | 1.46 | 1.39 |
| 2 | AB | 2706 | A | N7-C5 | 11.28 | 1.46 | 1.39 |
| 35 | BA | 1370 | G | C3'-C2' | 11.28 | 1.65 | 1.52 |
| 35 | BA | 178 | C | N3-C4 | 11.27 | 1.41 | 1.33 |
| 2 | AB | 2802 | G | N7-C5 | 11.26 | 1.46 | 1.39 |
| 2 | AB | 1199 | U | O3'-P | 11.24 | 1.74 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|--------|-------------|----------|
| 2 | AB | 1133 | A | N9-C4 | -11.22 | 1.31 | 1.37 |
| 2 | AB | 1339 | G | C5-C4 | 11.21 | 1.46 | 1.38 |
| 35 | BA | 1436 | U | C2-N3 | 11.21 | 1.45 | 1.37 |
| 1 | AA | 2 | G | C5-C4 | 11.21 | 1.46 | 1.38 |
| 2 | AB | 2380 | C | P-O5' | 11.20 | 1.71 | 1.59 |
| 35 | BA | 1456 | A | N3-C4 | 11.20 | 1.41 | 1.34 |
| 36 | BB | 52 | U | C2-N3 | 11.20 | 1.45 | 1.37 |
| 2 | AB | 2447 | G | N3-C4 | 11.20 | 1.43 | 1.35 |
| 35 | BA | 311 | C | C2-N3 | 11.20 | 1.44 | 1.35 |
| 2 | AB | 2143 | C | N1-C6 | 11.19 | 1.43 | 1.37 |
| 2 | AB | 2074 | U | C2-N3 | 11.19 | 1.45 | 1.37 |
| 2 | AB | 2219 | U | N1-C2 | 11.19 | 1.48 | 1.38 |
| 2 | AB | 869 | G | P-O5' | 11.18 | 1.71 | 1.59 |
| 2 | AB | 2883 | A | N3-C4 | 11.16 | 1.41 | 1.34 |
| 2 | AB | 876 | C | N3-C4 | 11.16 | 1.41 | 1.33 |
| 35 | BA | 78 | A | N3-C4 | 11.14 | 1.41 | 1.34 |
| 35 | BA | 303 | A | N7-C5 | -11.14 | 1.32 | 1.39 |
| 2 | AB | 1477 | A | N9-C4 | 11.13 | 1.44 | 1.37 |
| 2 | AB | 118 | A | N3-C4 | 11.13 | 1.41 | 1.34 |
| 2 | AB | 669 | G | N7-C5 | 11.12 | 1.46 | 1.39 |
| 2 | AB | 1122 | G | P-O5' | 11.12 | 1.70 | 1.59 |
| 2 | AB | 1368 | G | N7-C5 | 11.12 | 1.46 | 1.39 |
| 35 | BA | 596 | A | N3-C4 | 11.11 | 1.41 | 1.34 |
| 2 | AB | 910 | A | N7-C5 | 11.11 | 1.46 | 1.39 |
| 2 | AB | 2010 | G | N7-C5 | 11.10 | 1.46 | 1.39 |
| 2 | AB | 661 | A | C8-N7 | -11.09 | 1.23 | 1.31 |
| 2 | AB | 1894 | C | P-O5' | 11.09 | 1.70 | 1.59 |
| 2 | AB | 2105 | U | P-O5' | 11.09 | 1.70 | 1.59 |
| 2 | AB | 2740 | A | N9-C4 | 11.08 | 1.44 | 1.37 |
| 2 | AB | 2775 | G | N7-C5 | -11.08 | 1.32 | 1.39 |
| 2 | AB | 1071 | G | N3-C4 | 11.08 | 1.43 | 1.35 |
| 2 | AB | 2543 | G | N3-C4 | 11.07 | 1.43 | 1.35 |
| 35 | BA | 545 | C | O3'-P | 11.07 | 1.74 | 1.61 |
| 2 | AB | 550 | C | P-O5' | 11.06 | 1.70 | 1.59 |
| 2 | AB | 2106 | U | C2-N3 | 11.05 | 1.45 | 1.37 |
| 35 | BA | 1067 | A | N3-C4 | 11.04 | 1.41 | 1.34 |
| 2 | AB | 461 | C | O3'-P | 11.03 | 1.74 | 1.61 |
| 2 | AB | 1533 | C | N1-C6 | 11.01 | 1.43 | 1.37 |
| 2 | AB | 1111 | A | N3-C4 | 11.00 | 1.41 | 1.34 |
| 2 | AB | 732 | C | N3-C4 | 11.00 | 1.41 | 1.33 |
| 35 | BA | 98 | A | N9-C4 | 10.99 | 1.44 | 1.37 |
| 35 | BA | 570 | G | C6-N1 | 10.99 | 1.47 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|--------|-------------|----------|
| 35 | BA | 185 | U | C2-N3 | 10.99 | 1.45 | 1.37 |
| 2 | AB | 2534 | A | N3-C4 | 10.98 | 1.41 | 1.34 |
| 2 | AB | 2748 | A | N3-C4 | 10.97 | 1.41 | 1.34 |
| 2 | AB | 2090 | A | N3-C4 | 10.97 | 1.41 | 1.34 |
| 2 | AB | 2253 | G | C8-N7 | 10.95 | 1.37 | 1.30 |
| 2 | AB | 2376 | A | C5-C6 | 10.95 | 1.50 | 1.41 |
| 2 | AB | 463 | G | C5'-C4' | 10.94 | 1.64 | 1.51 |
| 35 | BA | 759 | A | N9-C4 | -10.94 | 1.31 | 1.37 |
| 36 | BB | 14 | G | C5'-C4' | 10.91 | 1.64 | 1.51 |
| 35 | BA | 454 | G | N7-C5 | -10.91 | 1.32 | 1.39 |
| 35 | BA | 753 | A | P-O5' | 10.91 | 1.70 | 1.59 |
| 2 | AB | 173 | A | N3-C4 | 10.90 | 1.41 | 1.34 |
| 2 | AB | 1810 | A | N3-C4 | 10.90 | 1.41 | 1.34 |
| 2 | AB | 2777 | G | C6-N1 | 10.89 | 1.47 | 1.39 |
| 2 | AB | 2790 | U | P-O5' | 10.88 | 1.70 | 1.59 |
| 2 | AB | 2794 | C | N1-C6 | 10.87 | 1.43 | 1.37 |
| 2 | AB | 1432 | G | N7-C5 | 10.86 | 1.45 | 1.39 |
| 2 | AB | 1775 | U | P-O5' | 10.86 | 1.70 | 1.59 |
| 2 | AB | 945 | A | N3-C4 | 10.85 | 1.41 | 1.34 |
| 2 | AB | 2857 | G | N3-C4 | 10.85 | 1.43 | 1.35 |
| 37 | BC | 25 | U | C2-N3 | 10.85 | 1.45 | 1.37 |
| 35 | BA | 1199 | U | C5-C6 | 10.84 | 1.44 | 1.34 |
| 35 | BA | 54 | C | N1-C6 | 10.83 | 1.43 | 1.37 |
| 35 | BA | 862 | C | N1-C6 | 10.83 | 1.43 | 1.37 |
| 2 | AB | 903 | C | P-O5' | 10.81 | 1.70 | 1.59 |
| 2 | AB | 1505 | A | N3-C4 | 10.81 | 1.41 | 1.34 |
| 2 | AB | 1572 | A | P-O5' | 10.81 | 1.70 | 1.59 |
| 2 | AB | 2119 | A | N7-C5 | -10.81 | 1.32 | 1.39 |
| 2 | AB | 2507 | C | C5-C6 | 10.80 | 1.43 | 1.34 |
| 35 | BA | 520 | A | N9-C4 | -10.80 | 1.31 | 1.37 |
| 2 | AB | 356 | G | P-O5' | 10.79 | 1.70 | 1.59 |
| 2 | AB | 1378 | A | C5-C4 | -10.78 | 1.31 | 1.38 |
| 2 | AB | 1482 | G | N9-C8 | 10.78 | 1.45 | 1.37 |
| 2 | AB | 1405 | U | N3-C4 | 10.77 | 1.48 | 1.38 |
| 1 | AA | 7 | G | N1-C2 | 10.77 | 1.46 | 1.37 |
| 35 | BA | 1441 | A | C5-C4 | -10.77 | 1.31 | 1.38 |
| 2 | AB | 71 | A | N9-C4 | -10.76 | 1.31 | 1.37 |
| 2 | AB | 2753 | A | N7-C5 | -10.76 | 1.32 | 1.39 |
| 2 | AB | 333 | G | P-O5' | 10.76 | 1.70 | 1.59 |
| 2 | AB | 824 | U | C2-N3 | 10.75 | 1.45 | 1.37 |
| 2 | AB | 1848 | A | C5-C6 | 10.75 | 1.50 | 1.41 |
| 2 | AB | 1382 | G | C6-N1 | 10.74 | 1.47 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|--------|-------------|----------|
| 2 | AB | 909 | A | N7-C5 | 10.73 | 1.45 | 1.39 |
| 2 | AB | 1667 | G | C8-N7 | 10.73 | 1.37 | 1.30 |
| 35 | BA | 927 | G | C5-C4 | -10.72 | 1.30 | 1.38 |
| 2 | AB | 2003 | A | N3-C4 | 10.71 | 1.41 | 1.34 |
| 2 | AB | 1949 | G | N1-C2 | 10.70 | 1.46 | 1.37 |
| 35 | BA | 597 | G | N7-C5 | -10.70 | 1.32 | 1.39 |
| 35 | BA | 1337 | G | N3-C4 | 10.70 | 1.43 | 1.35 |
| 35 | BA | 1324 | A | N9-C4 | -10.70 | 1.31 | 1.37 |
| 35 | BA | 1258 | G | N7-C5 | 10.69 | 1.45 | 1.39 |
| 1 | AA | 109 | A | N7-C5 | -10.68 | 1.32 | 1.39 |
| 35 | BA | 1517 | G | N3-C4 | 10.68 | 1.43 | 1.35 |
| 1 | AA | 28 | C | N3-C4 | 10.66 | 1.41 | 1.33 |
| 35 | BA | 1514 | G | C8-N7 | -10.66 | 1.24 | 1.30 |
| 2 | AB | 2448 | A | N7-C5 | 10.66 | 1.45 | 1.39 |
| 2 | AB | 2655 | G | C8-N7 | -10.66 | 1.24 | 1.30 |
| 2 | AB | 2009 | A | N3-C4 | 10.64 | 1.41 | 1.34 |
| 2 | AB | 1128 | G | N7-C5 | -10.64 | 1.32 | 1.39 |
| 35 | BA | 1059 | C | C4-C5 | 10.63 | 1.51 | 1.43 |
| 2 | AB | 1734 | G | N3-C4 | 10.62 | 1.42 | 1.35 |
| 2 | AB | 2089 | C | N3-C4 | 10.62 | 1.41 | 1.33 |
| 2 | AB | 1285 | A | N3-C4 | 10.60 | 1.41 | 1.34 |
| 2 | AB | 206 | U | O3'-P | 10.59 | 1.73 | 1.61 |
| 1 | AA | 35 | C | N3-C4 | 10.59 | 1.41 | 1.33 |
| 2 | AB | 445 | C | C5-C6 | 10.58 | 1.42 | 1.34 |
| 35 | BA | 1285 | A | N3-C4 | 10.58 | 1.41 | 1.34 |
| 2 | AB | 590 | A | N9-C4 | 10.56 | 1.44 | 1.37 |
| 2 | AB | 1203 | U | C2-N3 | 10.56 | 1.45 | 1.37 |
| 2 | AB | 2287 | A | N3-C4 | 10.56 | 1.41 | 1.34 |
| 35 | BA | 399 | G | N3-C4 | 10.55 | 1.42 | 1.35 |
| 2 | AB | 410 | G | N7-C5 | 10.54 | 1.45 | 1.39 |
| 2 | AB | 2042 | A | N3-C4 | 10.54 | 1.41 | 1.34 |
| 2 | AB | 891 | G | N9-C4 | 10.54 | 1.46 | 1.38 |
| 2 | AB | 2463 | C | N1-C6 | 10.53 | 1.43 | 1.37 |
| 35 | BA | 261 | U | C2-N3 | 10.53 | 1.45 | 1.37 |
| 2 | AB | 233 | A | C5-C4 | -10.53 | 1.31 | 1.38 |
| 2 | AB | 238 | C | N1-C6 | 10.52 | 1.43 | 1.37 |
| 35 | BA | 744 | C | P-O5' | 10.52 | 1.70 | 1.59 |
| 35 | BA | 970 | C | N1-C6 | 10.52 | 1.43 | 1.37 |
| 2 | AB | 1853 | A | C5-C4 | -10.51 | 1.31 | 1.38 |
| 2 | AB | 71 | A | N7-C5 | 10.51 | 1.45 | 1.39 |
| 35 | BA | 1366 | C | P-O5' | 10.50 | 1.70 | 1.59 |
| 35 | BA | 1479 | C | N1-C6 | 10.50 | 1.43 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|--------|-------------|----------|
| 35 | BA | 673 | A | N9-C4 | 10.49 | 1.44 | 1.37 |
| 2 | AB | 579 | G | C6-N1 | 10.49 | 1.46 | 1.39 |
| 2 | AB | 1112 | G | N7-C5 | -10.48 | 1.32 | 1.39 |
| 35 | BA | 1464 | U | N3-C4 | 10.48 | 1.47 | 1.38 |
| 2 | AB | 2490 | G | N1-C2 | 10.48 | 1.46 | 1.37 |
| 1 | AA | 105 | G | N1-C2 | 10.47 | 1.46 | 1.37 |
| 2 | AB | 144 | A | N3-C4 | 10.47 | 1.41 | 1.34 |
| 35 | BA | 1328 | C | C4-N4 | 10.47 | 1.43 | 1.33 |
| 2 | AB | 687 | C | C5-C6 | 10.47 | 1.42 | 1.34 |
| 2 | AB | 790 | U | P-O5' | 10.46 | 1.70 | 1.59 |
| 2 | AB | 1359 | A | N3-C4 | 10.45 | 1.41 | 1.34 |
| 2 | AB | 1495 | A | N3-C4 | 10.45 | 1.41 | 1.34 |
| 2 | AB | 937 | C | N1-C6 | 10.45 | 1.43 | 1.37 |
| 35 | BA | 66 | A | P-O5' | 10.44 | 1.70 | 1.59 |
| 2 | AB | 1432 | G | N3-C4 | 10.44 | 1.42 | 1.35 |
| 35 | BA | 1172 | C | C3'-C2' | -10.44 | 1.41 | 1.52 |
| 35 | BA | 1221 | G | N7-C5 | 10.43 | 1.45 | 1.39 |
| 2 | AB | 21 | A | N7-C5 | -10.43 | 1.32 | 1.39 |
| 35 | BA | 1210 | C | N1-C6 | 10.43 | 1.43 | 1.37 |
| 35 | BA | 454 | G | N3-C4 | 10.43 | 1.42 | 1.35 |
| 35 | BA | 804 | U | P-O5' | 10.43 | 1.70 | 1.59 |
| 35 | BA | 1015 | G | N7-C5 | -10.43 | 1.32 | 1.39 |
| 35 | BA | 1273 | C | C4'-C3' | 10.43 | 1.64 | 1.53 |
| 2 | AB | 2327 | A | C8-N7 | -10.42 | 1.24 | 1.31 |
| 2 | AB | 2417 | C | N1-C6 | 10.42 | 1.43 | 1.37 |
| 35 | BA | 290 | C | P-O5' | 10.41 | 1.70 | 1.59 |
| 35 | BA | 147 | G | N7-C5 | -10.40 | 1.33 | 1.39 |
| 2 | AB | 767 | U | C4-C5 | 10.40 | 1.52 | 1.43 |
| 35 | BA | 563 | A | C6-N1 | 10.40 | 1.42 | 1.35 |
| 2 | AB | 1098 | A | N9-C4 | 10.39 | 1.44 | 1.37 |
| 2 | AB | 2566 | A | N3-C4 | 10.39 | 1.41 | 1.34 |
| 2 | AB | 1450 | G | N1-C2 | 10.39 | 1.46 | 1.37 |
| 35 | BA | 1311 | A | N3-C4 | 10.38 | 1.41 | 1.34 |
| 1 | AA | 112 | G | N3-C4 | 10.38 | 1.42 | 1.35 |
| 2 | AB | 1810 | A | N1-C2 | -10.38 | 1.25 | 1.34 |
| 2 | AB | 60 | G | N3-C4 | -10.37 | 1.28 | 1.35 |
| 2 | AB | 1681 | G | C8-N7 | -10.37 | 1.24 | 1.30 |
| 2 | AB | 2505 | G | N7-C5 | 10.35 | 1.45 | 1.39 |
| 2 | AB | 320 | A | C8-N7 | -10.35 | 1.24 | 1.31 |
| 2 | AB | 1860 | G | N1-C2 | -10.35 | 1.29 | 1.37 |
| 2 | AB | 298 | G | C6-N1 | 10.33 | 1.46 | 1.39 |
| 2 | AB | 1980 | G | C2-N3 | 10.33 | 1.41 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|--------|-------------|----------|
| 2 | AB | 1396 | U | C2-N3 | 10.32 | 1.45 | 1.37 |
| 2 | AB | 2872 | A | N7-C5 | 10.32 | 1.45 | 1.39 |
| 2 | AB | 2725 | A | N7-C5 | 10.31 | 1.45 | 1.39 |
| 2 | AB | 2143 | C | C5-C6 | 10.31 | 1.42 | 1.34 |
| 35 | BA | 416 | G | N7-C5 | 10.31 | 1.45 | 1.39 |
| 2 | AB | 1164 | C | C4-C5 | 10.31 | 1.51 | 1.43 |
| 35 | BA | 242 | G | C8-N7 | -10.31 | 1.24 | 1.30 |
| 2 | AB | 2522 | U | C2-N3 | 10.30 | 1.45 | 1.37 |
| 37 | BC | 67 | C | C2-N3 | 10.30 | 1.44 | 1.35 |
| 2 | AB | 1128 | G | P-O5' | 10.30 | 1.70 | 1.59 |
| 2 | AB | 205 | G | C8-N7 | 10.29 | 1.37 | 1.30 |
| 2 | AB | 409 | G | C2-N3 | 10.28 | 1.41 | 1.32 |
| 2 | AB | 1486 | U | C2-N3 | -10.28 | 1.30 | 1.37 |
| 2 | AB | 2677 | G | C5-C4 | -10.27 | 1.31 | 1.38 |
| 36 | BB | 20 | G | N3-C4 | 10.27 | 1.42 | 1.35 |
| 35 | BA | 1319 | A | N7-C5 | 10.27 | 1.45 | 1.39 |
| 2 | AB | 576 | U | C4-C5 | 10.26 | 1.52 | 1.43 |
| 35 | BA | 1268 | G | N1-C2 | 10.25 | 1.46 | 1.37 |
| 2 | AB | 1711 | A | P-O5' | 10.24 | 1.70 | 1.59 |
| 2 | AB | 1807 | G | C6-N1 | 10.24 | 1.46 | 1.39 |
| 2 | AB | 2263 | C | C4-C5 | 10.23 | 1.51 | 1.43 |
| 2 | AB | 2473 | U | C2-N3 | 10.22 | 1.45 | 1.37 |
| 2 | AB | 788 | A | N3-C4 | 10.22 | 1.41 | 1.34 |
| 35 | BA | 588 | G | C6-N1 | -10.22 | 1.32 | 1.39 |
| 35 | BA | 1507 | A | N9-C4 | 10.22 | 1.44 | 1.37 |
| 35 | BA | 15 | G | P-O5' | 10.22 | 1.70 | 1.59 |
| 2 | AB | 1226 | A | N3-C4 | 10.21 | 1.41 | 1.34 |
| 2 | AB | 2813 | A | N3-C4 | 10.21 | 1.41 | 1.34 |
| 35 | BA | 749 | A | N9-C4 | 10.21 | 1.44 | 1.37 |
| 35 | BA | 1216 | A | N1-C2 | -10.21 | 1.25 | 1.34 |
| 2 | AB | 1368 | G | C2-N3 | 10.20 | 1.41 | 1.32 |
| 2 | AB | 896 | A | N9-C4 | -10.20 | 1.31 | 1.37 |
| 2 | AB | 2719 | G | N7-C5 | -10.20 | 1.33 | 1.39 |
| 2 | AB | 617 | G | P-O5' | 10.20 | 1.70 | 1.59 |
| 35 | BA | 348 | G | N7-C5 | 10.19 | 1.45 | 1.39 |
| 35 | BA | 143 | A | N3-C4 | 10.18 | 1.41 | 1.34 |
| 2 | AB | 2370 | G | C8-N7 | 10.17 | 1.37 | 1.30 |
| 2 | AB | 383 | C | O3'-P | 10.17 | 1.73 | 1.61 |
| 35 | BA | 667 | G | C6-N1 | 10.17 | 1.46 | 1.39 |
| 2 | AB | 1469 | A | N3-C4 | 10.15 | 1.41 | 1.34 |
| 2 | AB | 1811 | G | C6-N1 | -10.15 | 1.32 | 1.39 |
| 2 | AB | 1362 | C | C4-C5 | 10.14 | 1.51 | 1.43 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|--------|-------------|----------|
| 2 | AB | 1622 | G | N7-C5 | 10.13 | 1.45 | 1.39 |
| 35 | BA | 1180 | A | N3-C4 | 10.13 | 1.41 | 1.34 |
| 35 | BA | 782 | A | N7-C5 | -10.13 | 1.33 | 1.39 |
| 2 | AB | 1988 | G | N3-C4 | 10.13 | 1.42 | 1.35 |
| 2 | AB | 170 | U | P-O5' | 10.12 | 1.69 | 1.59 |
| 2 | AB | 1078 | U | C2-O2 | 10.13 | 1.31 | 1.22 |
| 35 | BA | 156 | C | C2-N3 | 10.12 | 1.43 | 1.35 |
| 35 | BA | 712 | A | N3-C4 | -10.12 | 1.28 | 1.34 |
| 2 | AB | 2740 | A | N3-C4 | 10.12 | 1.41 | 1.34 |
| 2 | AB | 2167 | U | N1-C2 | 10.11 | 1.47 | 1.38 |
| 2 | AB | 800 | A | N7-C5 | -10.11 | 1.33 | 1.39 |
| 35 | BA | 831 | A | C6-N6 | 10.11 | 1.42 | 1.33 |
| 35 | BA | 633 | G | N3-C4 | 10.10 | 1.42 | 1.35 |
| 2 | AB | 2609 | U | P-O5' | 10.10 | 1.69 | 1.59 |
| 37 | BC | 39 | A | N3-C4 | 10.10 | 1.41 | 1.34 |
| 35 | BA | 929 | G | N1-C2 | 10.09 | 1.45 | 1.37 |
| 2 | AB | 2102 | G | N9-C8 | 10.09 | 1.45 | 1.37 |
| 2 | AB | 1814 | G | N1-C2 | 10.08 | 1.45 | 1.37 |
| 2 | AB | 2888 | C | N1-C6 | 10.08 | 1.43 | 1.37 |
| 35 | BA | 679 | C | N1-C6 | 10.08 | 1.43 | 1.37 |
| 35 | BA | 698 | G | N7-C5 | 10.08 | 1.45 | 1.39 |
| 35 | BA | 939 | G | C6-N1 | 10.07 | 1.46 | 1.39 |
| 2 | AB | 542 | C | N1-C6 | -10.06 | 1.31 | 1.37 |
| 2 | AB | 2644 | G | P-O5' | 10.06 | 1.69 | 1.59 |
| 35 | BA | 1280 | A | P-O5' | 10.06 | 1.69 | 1.59 |
| 2 | AB | 2301 | C | N1-C6 | 10.06 | 1.43 | 1.37 |
| 35 | BA | 113 | G | C2-N3 | 10.06 | 1.40 | 1.32 |
| 2 | AB | 1780 | A | P-O5' | 10.04 | 1.69 | 1.59 |
| 2 | AB | 716 | A | N9-C4 | -10.04 | 1.31 | 1.37 |
| 2 | AB | 1449 | G | C6-N1 | 10.04 | 1.46 | 1.39 |
| 35 | BA | 1403 | C | N1-C6 | 10.03 | 1.43 | 1.37 |
| 2 | AB | 2309 | A | N9-C4 | 10.03 | 1.43 | 1.37 |
| 35 | BA | 1285 | A | N9-C4 | -10.03 | 1.31 | 1.37 |
| 35 | BA | 875 | U | C4'-C3' | -10.03 | 1.42 | 1.53 |
| 35 | BA | 1361 | G | C2-N3 | 10.02 | 1.40 | 1.32 |
| 2 | AB | 27 | G | C3'-C2' | 10.02 | 1.64 | 1.52 |
| 2 | AB | 668 | A | N9-C4 | -10.02 | 1.31 | 1.37 |
| 35 | BA | 53 | A | P-O5' | 10.02 | 1.69 | 1.59 |
| 2 | AB | 247 | G | C2-N3 | 10.01 | 1.40 | 1.32 |
| 35 | BA | 1015 | G | C5-C6 | 10.01 | 1.52 | 1.42 |
| 35 | BA | 1310 | G | O3'-P | 10.01 | 1.73 | 1.61 |
| 2 | AB | 1042 | G | C8-N7 | -10.01 | 1.25 | 1.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1507 | C | P-O5' | 10.01 | 1.69 | 1.59 |
| 2 | AB | 357 | C | N1-C6 | 10.01 | 1.43 | 1.37 |
| 2 | AB | 1520 | U | C2-N3 | 10.01 | 1.44 | 1.37 |
| 2 | AB | 1274 | A | P-O5' | 10.00 | 1.69 | 1.59 |
| 35 | BA | 441 | A | P-O5' | 10.00 | 1.69 | 1.59 |
| 2 | AB | 606 | U | P-O5' | 9.99 | 1.69 | 1.59 |
| 37 | BC | 24 | C | N1-C6 | 9.99 | 1.43 | 1.37 |
| 2 | AB | 301 | G | N9-C8 | 9.99 | 1.44 | 1.37 |
| 35 | BA | 241 | G | N7-C5 | -9.99 | 1.33 | 1.39 |
| 2 | AB | 998 | C | N1-C6 | 9.98 | 1.43 | 1.37 |
| 35 | BA | 908 | A | N9-C4 | 9.98 | 1.43 | 1.37 |
| 2 | AB | 2398 | U | N3-C4 | 9.98 | 1.47 | 1.38 |
| 36 | BB | 26 | U | C4-C5 | 9.97 | 1.52 | 1.43 |
| 1 | AA | 84 | G | P-O5' | 9.97 | 1.69 | 1.59 |
| 2 | AB | 2319 | G | C6-N1 | 9.97 | 1.46 | 1.39 |
| 35 | BA | 1264 | U | C2-N3 | 9.97 | 1.44 | 1.37 |
| 2 | AB | 2376 | A | P-O5' | 9.96 | 1.69 | 1.59 |
| 2 | AB | 234 | U | C4-C5 | 9.96 | 1.52 | 1.43 |
| 2 | AB | 2837 | A | C8-N7 | -9.95 | 1.24 | 1.31 |
| 2 | AB | 1489 | C | C4'-O4' | -9.95 | 1.32 | 1.45 |
| 2 | AB | 1541 | C | N1-C6 | -9.95 | 1.31 | 1.37 |
| 2 | AB | 2760 | C | N1-C6 | -9.95 | 1.31 | 1.37 |
| 2 | AB | 1265 | A | C8-N7 | 9.94 | 1.38 | 1.31 |
| 2 | AB | 613 | A | N3-C4 | 9.93 | 1.40 | 1.34 |
| 2 | AB | 2844 | G | N1-C2 | 9.93 | 1.45 | 1.37 |
| 2 | AB | 2874 | C | N1-C6 | 9.93 | 1.43 | 1.37 |
| 35 | BA | 216 | U | P-O5' | 9.93 | 1.69 | 1.59 |
| 2 | AB | 324 | A | P-O5' | 9.93 | 1.69 | 1.59 |
| 35 | BA | 1069 | C | P-O5' | 9.92 | 1.69 | 1.59 |
| 2 | AB | 446 | G | N3-C4 | 9.92 | 1.42 | 1.35 |
| 2 | AB | 1044 | C | C2-N3 | 9.91 | 1.43 | 1.35 |
| 35 | BA | 932 | C | N3-C4 | 9.91 | 1.40 | 1.33 |
| 37 | BC | 52 | C | N1-C6 | 9.91 | 1.43 | 1.37 |
| 2 | AB | 1491 | G | C8-N7 | 9.91 | 1.36 | 1.30 |
| 35 | BA | 61 | G | N7-C5 | -9.91 | 1.33 | 1.39 |
| 2 | AB | 87 | U | N1-C2 | 9.90 | 1.47 | 1.38 |
| 2 | AB | 1556 | C | N3-C4 | -9.90 | 1.27 | 1.33 |
| 2 | AB | 83 | A | N3-C4 | 9.89 | 1.40 | 1.34 |
| 2 | AB | 2178 | C | N1-C2 | 9.89 | 1.50 | 1.40 |
| 35 | BA | 1234 | C | C4'-O4' | -9.89 | 1.32 | 1.45 |
| 35 | BA | 1345 | U | N3-C4 | 9.89 | 1.47 | 1.38 |
| 2 | AB | 110 | G | P-O5' | 9.89 | 1.69 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2393 | U | C2-N3 | 9.89 | 1.44 | 1.37 |
| 2 | AB | 1700 | A | C6-N1 | 9.88 | 1.42 | 1.35 |
| 35 | BA | 1514 | G | P-O5' | 9.88 | 1.69 | 1.59 |
| 2 | AB | 2020 | A | N3-C4 | 9.88 | 1.40 | 1.34 |
| 35 | BA | 104 | G | C6-N1 | 9.88 | 1.46 | 1.39 |
| 2 | AB | 2662 | A | N7-C5 | -9.88 | 1.33 | 1.39 |
| 35 | BA | 937 | A | N7-C5 | -9.88 | 1.33 | 1.39 |
| 35 | BA | 1480 | A | N9-C4 | 9.87 | 1.43 | 1.37 |
| 2 | AB | 803 | U | N1-C2 | 9.87 | 1.47 | 1.38 |
| 2 | AB | 2880 | C | C4'-C3' | 9.86 | 1.64 | 1.53 |
| 35 | BA | 1374 | A | N3-C4 | 9.87 | 1.40 | 1.34 |
| 35 | BA | 1346 | A | N3-C4 | 9.86 | 1.40 | 1.34 |
| 2 | AB | 1189 | A | N9-C8 | -9.85 | 1.29 | 1.37 |
| 1 | AA | 47 | C | P-O5' | 9.85 | 1.69 | 1.59 |
| 2 | AB | 1127 | A | N3-C4 | 9.85 | 1.40 | 1.34 |
| 2 | AB | 1516 | G | N7-C5 | -9.85 | 1.33 | 1.39 |
| 2 | AB | 2443 | C | C5-C6 | 9.84 | 1.42 | 1.34 |
| 2 | AB | 118 | A | P-O5' | 9.84 | 1.69 | 1.59 |
| 2 | AB | 2062 | A | C4'-C3' | 9.83 | 1.64 | 1.53 |
| 2 | AB | 495 | G | N1-C2 | 9.83 | 1.45 | 1.37 |
| 35 | BA | 1177 | G | P-O5' | 9.83 | 1.69 | 1.59 |
| 2 | AB | 207 | A | C5-C4 | -9.82 | 1.31 | 1.38 |
| 2 | AB | 1947 | C | N1-C2 | 9.82 | 1.50 | 1.40 |
| 35 | BA | 659 | U | C2-N3 | 9.82 | 1.44 | 1.37 |
| 35 | BA | 819 | A | N9-C4 | 9.82 | 1.43 | 1.37 |
| 2 | AB | 719 | C | C2-N3 | 9.82 | 1.43 | 1.35 |
| 2 | AB | 2047 | C | P-O5' | 9.82 | 1.69 | 1.59 |
| 2 | AB | 2711 | A | P-O5' | 9.82 | 1.69 | 1.59 |
| 2 | AB | 1702 | G | C2-N3 | 9.81 | 1.40 | 1.32 |
| 2 | AB | 356 | G | N7-C5 | 9.81 | 1.45 | 1.39 |
| 35 | BA | 443 | C | C4-C5 | 9.81 | 1.50 | 1.43 |
| 35 | BA | 1332 | A | C5'-C4' | 9.80 | 1.63 | 1.51 |
| 2 | AB | 1786 | A | P-O5' | 9.80 | 1.69 | 1.59 |
| 35 | BA | 1039 | G | P-O5' | 9.80 | 1.69 | 1.59 |
| 2 | AB | 2651 | C | C5-C6 | 9.80 | 1.42 | 1.34 |
| 2 | AB | 2456 | C | N1-C6 | 9.79 | 1.43 | 1.37 |
| 2 | AB | 2465 | C | C2-N3 | 9.78 | 1.43 | 1.35 |
| 2 | AB | 1667 | G | N3-C4 | 9.78 | 1.42 | 1.35 |
| 2 | AB | 1571 | A | N9-C4 | 9.78 | 1.43 | 1.37 |
| 2 | AB | 2497 | A | N3-C4 | 9.77 | 1.40 | 1.34 |
| 2 | AB | 2019 | A | N7-C5 | 9.77 | 1.45 | 1.39 |
| 2 | AB | 142 | A | N7-C5 | -9.77 | 1.33 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 714 | G | C2-N3 | 9.77 | 1.40 | 1.32 |
| 35 | BA | 807 | A | N7-C5 | 9.77 | 1.45 | 1.39 |
| 2 | AB | 2831 | G | N7-C5 | -9.77 | 1.33 | 1.39 |
| 35 | BA | 258 | G | N7-C5 | -9.77 | 1.33 | 1.39 |
| 35 | BA | 303 | A | P-O5' | 9.76 | 1.69 | 1.59 |
| 35 | BA | 461 | A | N9-C8 | -9.76 | 1.29 | 1.37 |
| 2 | AB | 2539 | C | N1-C6 | 9.76 | 1.43 | 1.37 |
| 37 | BC | 19 | G | N7-C5 | -9.76 | 1.33 | 1.39 |
| 1 | AA | 34 | A | N3-C4 | 9.76 | 1.40 | 1.34 |
| 2 | AB | 636 | G | C2-N3 | 9.76 | 1.40 | 1.32 |
| 2 | AB | 1954 | G | C8-N7 | -9.76 | 1.25 | 1.30 |
| 35 | BA | 636 | U | C2-N3 | 9.76 | 1.44 | 1.37 |
| 35 | BA | 395 | C | N3-C4 | 9.75 | 1.40 | 1.33 |
| 2 | AB | 311 | A | N9-C4 | 9.75 | 1.43 | 1.37 |
| 2 | AB | 1948 | G | N7-C5 | -9.75 | 1.33 | 1.39 |
| 2 | AB | 400 | G | N7-C5 | -9.75 | 1.33 | 1.39 |
| 2 | AB | 691 | C | C4-C5 | 9.75 | 1.50 | 1.43 |
| 35 | BA | 419 | C | P-O5' | 9.75 | 1.69 | 1.59 |
| 2 | AB | 1790 | C | N3-C4 | 9.74 | 1.40 | 1.33 |
| 2 | AB | 760 | G | N3-C4 | 9.74 | 1.42 | 1.35 |
| 2 | AB | 979 | A | N9-C4 | -9.74 | 1.32 | 1.37 |
| 35 | BA | 654 | G | C2-N3 | 9.74 | 1.40 | 1.32 |
| 2 | AB | 39 | G | N1-C2 | 9.74 | 1.45 | 1.37 |
| 2 | AB | 290 | U | C2-N3 | 9.74 | 1.44 | 1.37 |
| 35 | BA | 1507 | A | N7-C5 | -9.74 | 1.33 | 1.39 |
| 35 | BA | 674 | G | C8-N7 | 9.74 | 1.36 | 1.30 |
| 2 | AB | 850 | U | C2-N3 | 9.73 | 1.44 | 1.37 |
| 2 | AB | 2792 | A | N9-C4 | 9.73 | 1.43 | 1.37 |
| 2 | AB | 2732 | G | N3-C4 | 9.73 | 1.42 | 1.35 |
| 2 | AB | 2274 | A | C5-C4 | -9.72 | 1.31 | 1.38 |
| 2 | AB | 2728 | U | C2-N3 | 9.72 | 1.44 | 1.37 |
| 1 | AA | 3 | C | C5'-C4' | 9.72 | 1.63 | 1.51 |
| 2 | AB | 284 | U | P-O5' | 9.72 | 1.69 | 1.59 |
| 2 | AB | 1989 | G | C6-N1 | -9.72 | 1.32 | 1.39 |
| 35 | BA | 231 | U | C4-C5 | 9.72 | 1.52 | 1.43 |
| 35 | BA | 510 | A | N7-C5 | 9.71 | 1.45 | 1.39 |
| 35 | BA | 1314 | C | N3-C4 | 9.71 | 1.40 | 1.33 |
| 35 | BA | 1404 | C | N1-C6 | 9.70 | 1.43 | 1.37 |
| 2 | AB | 910 | A | N3-C4 | 9.70 | 1.40 | 1.34 |
| 1 | AA | 5 | U | P-O5' | 9.69 | 1.69 | 1.59 |
| 2 | AB | 979 | A | P-O5' | 9.68 | 1.69 | 1.59 |
| 2 | AB | 1717 | A | N7-C5 | 9.68 | 1.45 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1724 | G | P-O5' | 9.68 | 1.69 | 1.59 |
| 2 | AB | 1922 | G | C2-N3 | 9.68 | 1.40 | 1.32 |
| 2 | AB | 2108 | A | N3-C4 | 9.68 | 1.40 | 1.34 |
| 36 | BB | 19 | A | N9-C4 | 9.68 | 1.43 | 1.37 |
| 2 | AB | 2789 | C | P-O5' | 9.67 | 1.69 | 1.59 |
| 35 | BA | 1201 | A | P-O5' | -9.67 | 1.50 | 1.59 |
| 2 | AB | 1630 | A | N9-C4 | 9.67 | 1.43 | 1.37 |
| 35 | BA | 392 | C | N3-C4 | 9.66 | 1.40 | 1.33 |
| 2 | AB | 1757 | A | C5-C4 | -9.66 | 1.31 | 1.38 |
| 35 | BA | 1215 | G | N1-C2 | 9.66 | 1.45 | 1.37 |
| 2 | AB | 1535 | A | N9-C4 | 9.66 | 1.43 | 1.37 |
| 35 | BA | 177 | G | N3-C4 | 9.66 | 1.42 | 1.35 |
| 2 | AB | 1963 | U | N1-C2 | 9.64 | 1.47 | 1.38 |
| 35 | BA | 1251 | A | C8-N7 | -9.64 | 1.24 | 1.31 |
| 2 | AB | 195 | A | N3-C4 | 9.64 | 1.40 | 1.34 |
| 2 | AB | 2365 | G | O3'-P | 9.64 | 1.72 | 1.61 |
| 35 | BA | 397 | A | N3-C4 | 9.64 | 1.40 | 1.34 |
| 2 | AB | 971 | G | N1-C2 | 9.63 | 1.45 | 1.37 |
| 2 | AB | 1361 | G | C5-C4 | 9.63 | 1.45 | 1.38 |
| 2 | AB | 1526 | C | C2'-C1' | 9.63 | 1.64 | 1.53 |
| 2 | AB | 2608 | G | P-O5' | 9.63 | 1.69 | 1.59 |
| 2 | AB | 2468 | A | P-O5' | 9.63 | 1.69 | 1.59 |
| 2 | AB | 625 | G | N7-C5 | -9.63 | 1.33 | 1.39 |
| 35 | BA | 978 | A | P-O5' | 9.63 | 1.69 | 1.59 |
| 35 | BA | 739 | C | N1-C6 | 9.62 | 1.43 | 1.37 |
| 35 | BA | 763 | G | C4'-O4' | -9.62 | 1.33 | 1.45 |
| 35 | BA | 1232 | U | C2-N3 | 9.61 | 1.44 | 1.37 |
| 35 | BA | 573 | A | N7-C5 | -9.60 | 1.33 | 1.39 |
| 2 | AB | 695 | G | O3'-P | 9.60 | 1.72 | 1.61 |
| 37 | BC | 9 | G | N1-C2 | 9.60 | 1.45 | 1.37 |
| 35 | BA | 537 | G | C5-C4 | 9.60 | 1.45 | 1.38 |
| 35 | BA | 934 | C | C2-N3 | 9.60 | 1.43 | 1.35 |
| 2 | AB | 995 | C | P-O5' | 9.60 | 1.69 | 1.59 |
| 2 | AB | 965 | C | N1-C6 | -9.59 | 1.31 | 1.37 |
| 2 | AB | 809 | G | C6-N1 | 9.59 | 1.46 | 1.39 |
| 2 | AB | 2135 | A | N7-C5 | 9.59 | 1.45 | 1.39 |
| 35 | BA | 509 | A | P-O5' | 9.59 | 1.69 | 1.59 |
| 2 | AB | 1269 | A | N3-C4 | 9.57 | 1.40 | 1.34 |
| 2 | AB | 2002 | G | N7-C5 | 9.57 | 1.45 | 1.39 |
| 2 | AB | 595 | C | N1-C6 | 9.56 | 1.42 | 1.37 |
| 2 | AB | 797 | G | P-O5' | 9.56 | 1.69 | 1.59 |
| 2 | AB | 65 | U | C2-N3 | 9.56 | 1.44 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 912 | C | P-O5' | 9.56 | 1.69 | 1.59 |
| 2 | AB | 353 | C | N3-C4 | 9.56 | 1.40 | 1.33 |
| 2 | AB | 1806 | C | C4-C5 | 9.56 | 1.50 | 1.43 |
| 35 | BA | 185 | U | C4-C5 | 9.55 | 1.52 | 1.43 |
| 2 | AB | 1884 | G | C8-N7 | 9.55 | 1.36 | 1.30 |
| 35 | BA | 509 | A | N3-C4 | 9.55 | 1.40 | 1.34 |
| 35 | BA | 155 | A | N3-C4 | 9.55 | 1.40 | 1.34 |
| 35 | BA | 491 | G | C8-N7 | 9.55 | 1.36 | 1.30 |
| 36 | BB | 40 | G | N1-C2 | 9.55 | 1.45 | 1.37 |
| 35 | BA | 899 | C | N1-C6 | 9.54 | 1.42 | 1.37 |
| 2 | AB | 2409 | G | C2-N3 | 9.54 | 1.40 | 1.32 |
| 2 | AB | 2090 | A | N9-C4 | 9.54 | 1.43 | 1.37 |
| 37 | BC | 27 | G | N7-C5 | -9.54 | 1.33 | 1.39 |
| 2 | AB | 1638 | C | O3'-P | 9.53 | 1.72 | 1.61 |
| 35 | BA | 485 | U | C2-N3 | 9.53 | 1.44 | 1.37 |
| 35 | BA | 320 | A | C5-C4 | -9.53 | 1.32 | 1.38 |
| 35 | BA | 138 | G | C6-N1 | 9.52 | 1.46 | 1.39 |
| 2 | AB | 2859 | G | C6-N1 | 9.52 | 1.46 | 1.39 |
| 35 | BA | 448 | A | C5-C4 | -9.52 | 1.32 | 1.38 |
| 2 | AB | 1815 | A | P-O5' | 9.52 | 1.69 | 1.59 |
| 2 | AB | 2850 | A | P-O5' | 9.51 | 1.69 | 1.59 |
| 35 | BA | 572 | A | N9-C4 | -9.51 | 1.32 | 1.37 |
| 35 | BA | 944 | G | C5-C4 | -9.51 | 1.31 | 1.38 |
| 35 | BA | 515 | G | N3-C4 | 9.51 | 1.42 | 1.35 |
| 35 | BA | 236 | A | N9-C4 | -9.51 | 1.32 | 1.37 |
| 2 | AB | 262 | A | C8-N7 | -9.50 | 1.25 | 1.31 |
| 2 | AB | 311 | A | C8-N7 | 9.50 | 1.38 | 1.31 |
| 2 | AB | 2742 | G | N7-C5 | -9.50 | 1.33 | 1.39 |
| 2 | AB | 152 | A | P-O5' | 9.49 | 1.69 | 1.59 |
| 2 | AB | 541 | A | N9-C4 | 9.49 | 1.43 | 1.37 |
| 2 | AB | 2771 | C | C2-N3 | 9.49 | 1.43 | 1.35 |
| 2 | AB | 147 | C | N1-C6 | 9.49 | 1.42 | 1.37 |
| 2 | AB | 358 | U | C2-N3 | 9.49 | 1.44 | 1.37 |
| 2 | AB | 1024 | G | N7-C5 | -9.49 | 1.33 | 1.39 |
| 2 | AB | 2663 | G | N1-C2 | 9.49 | 1.45 | 1.37 |
| 35 | BA | 817 | C | N1-C6 | 9.49 | 1.42 | 1.37 |
| 2 | AB | 1603 | A | N9-C4 | 9.49 | 1.43 | 1.37 |
| 2 | AB | 1842 | G | C5'-C4' | 9.49 | 1.62 | 1.51 |
| 2 | AB | 2422 | C | N1-C6 | 9.49 | 1.42 | 1.37 |
| 2 | AB | 2256 | G | N3-C4 | 9.48 | 1.42 | 1.35 |
| 35 | BA | 388 | G | C2-N3 | 9.48 | 1.40 | 1.32 |
| 35 | BA | 1074 | G | N3-C4 | 9.48 | 1.42 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 962 | G | C6-N1 | -9.47 | 1.32 | 1.39 |
| 2 | AB | 61 | C | O3'-P | 9.47 | 1.72 | 1.61 |
| 2 | AB | 742 | A | N9-C4 | 9.47 | 1.43 | 1.37 |
| 2 | AB | 2115 | G | C2-N3 | 9.47 | 1.40 | 1.32 |
| 35 | BA | 165 | G | N7-C5 | 9.47 | 1.45 | 1.39 |
| 2 | AB | 629 | G | N1-C2 | 9.47 | 1.45 | 1.37 |
| 2 | AB | 1985 | C | N1-C6 | 9.47 | 1.42 | 1.37 |
| 35 | BA | 337 | G | N7-C5 | 9.47 | 1.45 | 1.39 |
| 2 | AB | 2059 | A | N7-C5 | 9.46 | 1.45 | 1.39 |
| 2 | AB | 190 | A | N3-C4 | 9.46 | 1.40 | 1.34 |
| 2 | AB | 1250 | G | N3-C4 | 9.46 | 1.42 | 1.35 |
| 2 | AB | 2116 | G | P-O5' | 9.46 | 1.69 | 1.59 |
| 35 | BA | 238 | A | C5'-C4' | 9.46 | 1.62 | 1.51 |
| 2 | AB | 2835 | A | N3-C4 | 9.45 | 1.40 | 1.34 |
| 2 | AB | 884 | U | C4-C5 | 9.45 | 1.52 | 1.43 |
| 2 | AB | 1586 | A | N7-C5 | 9.45 | 1.45 | 1.39 |
| 2 | AB | 2119 | A | N3-C4 | 9.45 | 1.40 | 1.34 |
| 37 | BC | 2 | G | N1-C2 | 9.45 | 1.45 | 1.37 |
| 2 | AB | 2120 | G | N9-C4 | 9.45 | 1.45 | 1.38 |
| 2 | AB | 1037 | G | N9-C8 | -9.45 | 1.31 | 1.37 |
| 2 | AB | 1346 | G | N1-C2 | 9.44 | 1.45 | 1.37 |
| 1 | AA | 120 | U | C4-C5 | 9.44 | 1.52 | 1.43 |
| 35 | BA | 90 | C | C2'-C1' | 9.44 | 1.63 | 1.53 |
| 2 | AB | 910 | A | C8-N7 | -9.44 | 1.25 | 1.31 |
| 2 | AB | 1385 | A | C8-N7 | -9.44 | 1.25 | 1.31 |
| 2 | AB | 1568 | G | N3-C4 | 9.44 | 1.42 | 1.35 |
| 35 | BA | 19 | A | N3-C4 | 9.44 | 1.40 | 1.34 |
| 2 | AB | 1537 | G | N7-C5 | -9.43 | 1.33 | 1.39 |
| 35 | BA | 677 | U | P-O5' | 9.43 | 1.69 | 1.59 |
| 35 | BA | 1508 | A | N3-C4 | 9.43 | 1.40 | 1.34 |
| 2 | AB | 2173 | A | N7-C5 | 9.43 | 1.45 | 1.39 |
| 1 | AA | 9 | G | C2-N3 | 9.43 | 1.40 | 1.32 |
| 2 | AB | 2408 | U | C2-N3 | 9.43 | 1.44 | 1.37 |
| 2 | AB | 2459 | A | N3-C4 | 9.42 | 1.40 | 1.34 |
| 2 | AB | 723 | C | C4-C5 | 9.42 | 1.50 | 1.43 |
| 2 | AB | 1196 | C | N3-C4 | 9.42 | 1.40 | 1.33 |
| 2 | AB | 728 | G | C2-N3 | 9.42 | 1.40 | 1.32 |
| 35 | BA | 1167 | A | N3-C4 | 9.42 | 1.40 | 1.34 |
| 2 | AB | 1031 | G | N1-C2 | 9.42 | 1.45 | 1.37 |
| 2 | AB | 614 | A | N3-C4 | 9.41 | 1.40 | 1.34 |
| 37 | BC | 1 | C | C4'-C3' | -9.41 | 1.42 | 1.53 |
| 2 | AB | 1690 | A | O3'-P | 9.41 | 1.72 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2365 | G | N1-C2 | 9.40 | 1.45 | 1.37 |
| 35 | BA | 908 | A | C5'-C4' | 9.40 | 1.62 | 1.51 |
| 2 | AB | 880 | G | C8-N7 | 9.40 | 1.36 | 1.30 |
| 2 | AB | 1787 | A | N9-C4 | 9.40 | 1.43 | 1.37 |
| 35 | BA | 741 | G | C6-N1 | 9.40 | 1.46 | 1.39 |
| 35 | BA | 143 | A | N9-C4 | 9.40 | 1.43 | 1.37 |
| 2 | AB | 1106 | G | C5'-C4' | -9.40 | 1.40 | 1.51 |
| 37 | BC | 10 | G | C5'-C4' | 9.40 | 1.62 | 1.51 |
| 2 | AB | 2095 | A | P-O5' | 9.40 | 1.69 | 1.59 |
| 35 | BA | 1130 | A | N9-C8 | 9.40 | 1.45 | 1.37 |
| 35 | BA | 1329 | A | N3-C4 | 9.40 | 1.40 | 1.34 |
| 2 | AB | 483 | A | N3-C4 | 9.39 | 1.40 | 1.34 |
| 2 | AB | 891 | G | C6-N1 | 9.39 | 1.46 | 1.39 |
| 2 | AB | 1265 | A | N9-C4 | 9.39 | 1.43 | 1.37 |
| 35 | BA | 1525 | G | C2-N3 | 9.39 | 1.40 | 1.32 |
| 2 | AB | 1912 | A | C5-C4 | -9.39 | 1.32 | 1.38 |
| 2 | AB | 2472 | G | P-O5' | 9.39 | 1.69 | 1.59 |
| 35 | BA | 275 | G | N7-C5 | -9.39 | 1.33 | 1.39 |
| 35 | BA | 570 | G | N3-C4 | 9.39 | 1.42 | 1.35 |
| 35 | BA | 1475 | G | C8-N7 | -9.38 | 1.25 | 1.30 |
| 2 | AB | 1428 | C | P-O5' | 9.38 | 1.69 | 1.59 |
| 2 | AB | 1119 | U | P-O5' | 9.38 | 1.69 | 1.59 |
| 2 | AB | 1226 | A | C6-N1 | -9.38 | 1.28 | 1.35 |
| 2 | AB | 2883 | A | O3'-P | 9.38 | 1.72 | 1.61 |
| 35 | BA | 735 | C | C5-C6 | 9.38 | 1.41 | 1.34 |
| 2 | AB | 1303 | G | C5-C4 | -9.37 | 1.31 | 1.38 |
| 2 | AB | 1620 | G | C5-C4 | -9.37 | 1.31 | 1.38 |
| 2 | AB | 2464 | G | P-O5' | 9.37 | 1.69 | 1.59 |
| 2 | AB | 2046 | G | N7-C5 | -9.37 | 1.33 | 1.39 |
| 2 | AB | 195 | A | C5'-C4' | 9.37 | 1.62 | 1.51 |
| 35 | BA | 530 | G | C6-N1 | 9.37 | 1.46 | 1.39 |
| 2 | AB | 1773 | A | N9-C8 | -9.36 | 1.30 | 1.37 |
| 2 | AB | 1956 | U | C2-N3 | 9.36 | 1.44 | 1.37 |
| 35 | BA | 381 | C | N1-C6 | 9.36 | 1.42 | 1.37 |
| 2 | AB | 1927 | A | P-O5' | 9.36 | 1.69 | 1.59 |
| 35 | BA | 1146 | A | N3-C4 | 9.36 | 1.40 | 1.34 |
| 35 | BA | 230 | G | C8-N7 | -9.36 | 1.25 | 1.30 |
| 35 | BA | 755 | G | C2-N3 | 9.36 | 1.40 | 1.32 |
| 2 | AB | 1604 | C | N1-C6 | 9.35 | 1.42 | 1.37 |
| 2 | AB | 1095 | A | N9-C4 | 9.35 | 1.43 | 1.37 |
| 2 | AB | 1953 | A | N9-C4 | 9.35 | 1.43 | 1.37 |
| 35 | BA | 706 | A | N3-C4 | 9.35 | 1.40 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 978 | G | N7-C5 | 9.34 | 1.44 | 1.39 |
| 2 | AB | 2141 | G | C4'-C3' | 9.34 | 1.63 | 1.53 |
| 2 | AB | 2702 | G | C8-N7 | -9.34 | 1.25 | 1.30 |
| 35 | BA | 535 | A | C2'-C1' | -9.34 | 1.43 | 1.53 |
| 35 | BA | 1254 | A | N3-C4 | 9.34 | 1.40 | 1.34 |
| 2 | AB | 1258 | U | C4-C5 | 9.33 | 1.51 | 1.43 |
| 2 | AB | 1726 | C | P-O5' | 9.33 | 1.69 | 1.59 |
| 35 | BA | 403 | C | C4-C5 | 9.33 | 1.50 | 1.43 |
| 2 | AB | 481 | G | C6-N1 | -9.33 | 1.33 | 1.39 |
| 35 | BA | 351 | G | C2-N3 | 9.32 | 1.40 | 1.32 |
| 35 | BA | 1219 | A | N3-C4 | 9.32 | 1.40 | 1.34 |
| 2 | AB | 631 | A | N3-C4 | 9.32 | 1.40 | 1.34 |
| 35 | BA | 912 | C | N1-C6 | 9.32 | 1.42 | 1.37 |
| 35 | BA | 1087 | G | P-O5' | 9.32 | 1.69 | 1.59 |
| 2 | AB | 637 | A | N7-C5 | 9.32 | 1.44 | 1.39 |
| 2 | AB | 2111 | U | C4-C5 | 9.32 | 1.51 | 1.43 |
| 2 | AB | 134 | G | N1-C2 | 9.31 | 1.45 | 1.37 |
| 2 | AB | 2110 | G | N3-C4 | 9.31 | 1.42 | 1.35 |
| 2 | AB | 1502 | A | N3-C4 | 9.31 | 1.40 | 1.34 |
| 35 | BA | 693 | G | P-O5' | 9.31 | 1.69 | 1.59 |
| 2 | AB | 1139 | G | N1-C2 | 9.31 | 1.45 | 1.37 |
| 2 | AB | 536 | G | C6-N1 | -9.30 | 1.33 | 1.39 |
| 37 | BC | 44 | A | N3-C4 | 9.30 | 1.40 | 1.34 |
| 2 | AB | 1978 | A | N3-C4 | 9.30 | 1.40 | 1.34 |
| 2 | AB | 1655 | A | N7-C5 | -9.30 | 1.33 | 1.39 |
| 35 | BA | 4 | U | N1-C2 | 9.30 | 1.47 | 1.38 |
| 35 | BA | 1012 | A | C4'-O4' | -9.30 | 1.33 | 1.45 |
| 2 | AB | 2448 | A | N3-C4 | 9.30 | 1.40 | 1.34 |
| 2 | AB | 107 | G | P-O5' | 9.29 | 1.69 | 1.59 |
| 2 | AB | 1314 | C | C5-C6 | 9.29 | 1.41 | 1.34 |
| 35 | BA | 2 | A | N3-C4 | 9.29 | 1.40 | 1.34 |
| 2 | AB | 1082 | U | N1-C2 | 9.29 | 1.47 | 1.38 |
| 2 | AB | 1222 | U | C2-N3 | 9.29 | 1.44 | 1.37 |
| 2 | AB | 1405 | U | C3'-C2' | 9.29 | 1.63 | 1.52 |
| 35 | BA | 270 | A | N3-C4 | 9.29 | 1.40 | 1.34 |
| 35 | BA | 620 | C | N1-C6 | 9.29 | 1.42 | 1.37 |
| 2 | AB | 155 | A | P-O5' | 9.29 | 1.69 | 1.59 |
| 2 | AB | 1361 | G | P-O5' | 9.28 | 1.69 | 1.59 |
| 2 | AB | 2136 | G | C5-C6 | 9.28 | 1.51 | 1.42 |
| 2 | AB | 2448 | A | C5-C4 | 9.28 | 1.45 | 1.38 |
| 35 | BA | 25 | C | N1-C6 | 9.28 | 1.42 | 1.37 |
| 2 | AB | 180 | G | C2-N3 | 9.28 | 1.40 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 829 | G | C6-N1 | 9.28 | 1.46 | 1.39 |
| 35 | BA | 924 | C | N1-C6 | 9.27 | 1.42 | 1.37 |
| 36 | BB | 51 | C | N1-C6 | 9.27 | 1.42 | 1.37 |
| 2 | AB | 2415 | G | N7-C5 | -9.27 | 1.33 | 1.39 |
| 1 | AA | 67 | G | C8-N7 | -9.27 | 1.25 | 1.30 |
| 2 | AB | 1548 | A | C5'-C4' | 9.27 | 1.62 | 1.51 |
| 2 | AB | 1953 | A | N7-C5 | -9.27 | 1.33 | 1.39 |
| 2 | AB | 1626 | A | N3-C4 | 9.26 | 1.40 | 1.34 |
| 2 | AB | 1643 | G | P-O5' | 9.26 | 1.69 | 1.59 |
| 35 | BA | 979 | C | C4-C5 | 9.26 | 1.50 | 1.43 |
| 35 | BA | 622 | A | P-O5' | 9.26 | 1.69 | 1.59 |
| 2 | AB | 1229 | C | N1-C6 | 9.25 | 1.42 | 1.37 |
| 35 | BA | 1311 | A | N9-C4 | 9.25 | 1.43 | 1.37 |
| 2 | AB | 210 | C | C4-C5 | 9.25 | 1.50 | 1.43 |
| 35 | BA | 45 | G | C6-N1 | 9.25 | 1.46 | 1.39 |
| 2 | AB | 2432 | A | N3-C4 | 9.24 | 1.40 | 1.34 |
| 2 | AB | 2470 | G | N1-C2 | 9.24 | 1.45 | 1.37 |
| 35 | BA | 610 | U | C2-N3 | 9.24 | 1.44 | 1.37 |
| 2 | AB | 981 | A | N7-C5 | 9.24 | 1.44 | 1.39 |
| 2 | AB | 2699 | C | N1-C6 | 9.24 | 1.42 | 1.37 |
| 35 | BA | 572 | A | N7-C5 | -9.24 | 1.33 | 1.39 |
| 2 | AB | 194 | G | C2-N3 | 9.23 | 1.40 | 1.32 |
| 2 | AB | 103 | A | N3-C4 | 9.23 | 1.40 | 1.34 |
| 2 | AB | 2224 | G | C2-N3 | 9.23 | 1.40 | 1.32 |
| 2 | AB | 819 | A | P-O5' | 9.23 | 1.69 | 1.59 |
| 2 | AB | 2627 | G | P-O5' | 9.23 | 1.69 | 1.59 |
| 2 | AB | 1244 | A | P-O5' | 9.23 | 1.69 | 1.59 |
| 2 | AB | 2303 | G | N9-C4 | -9.23 | 1.30 | 1.38 |
| 35 | BA | 1018 | G | C5-C4 | 9.22 | 1.44 | 1.38 |
| 2 | AB | 836 | G | N1-C2 | 9.22 | 1.45 | 1.37 |
| 2 | AB | 2518 | A | N7-C5 | 9.22 | 1.44 | 1.39 |
| 2 | AB | 2755 | C | C4-C5 | 9.22 | 1.50 | 1.43 |
| 35 | BA | 474 | G | C2-N3 | 9.22 | 1.40 | 1.32 |
| 35 | BA | 1410 | A | N7-C5 | 9.22 | 1.44 | 1.39 |
| 35 | BA | 222 | C | N1-C6 | 9.22 | 1.42 | 1.37 |
| 2 | AB | 2407 | A | N3-C4 | 9.22 | 1.40 | 1.34 |
| 36 | BB | 26 | U | C2-N3 | 9.21 | 1.44 | 1.37 |
| 2 | AB | 2109 | U | C2-N3 | 9.21 | 1.44 | 1.37 |
| 35 | BA | 1127 | G | C3'-C2' | 9.21 | 1.63 | 1.52 |
| 35 | BA | 1177 | G | C5-C4 | -9.21 | 1.31 | 1.38 |
| 2 | AB | 830 | G | C6-N1 | -9.21 | 1.33 | 1.39 |
| 35 | BA | 253 | A | P-O5' | 9.20 | 1.69 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2478 | A | N9-C4 | -9.20 | 1.32 | 1.37 |
| 2 | AB | 1065 | U | P-O5' | 9.20 | 1.69 | 1.59 |
| 2 | AB | 2556 | C | C2-N3 | 9.20 | 1.43 | 1.35 |
| 35 | BA | 61 | G | C6-N1 | 9.20 | 1.46 | 1.39 |
| 2 | AB | 5 | A | P-O5' | 9.19 | 1.69 | 1.59 |
| 35 | BA | 151 | A | C6-N1 | 9.19 | 1.42 | 1.35 |
| 2 | AB | 1536 | C | P-O5' | 9.19 | 1.69 | 1.59 |
| 2 | AB | 906 | U | O3'-P | 9.18 | 1.72 | 1.61 |
| 2 | AB | 2757 | A | N3-C4 | 9.18 | 1.40 | 1.34 |
| 2 | AB | 2848 | G | C2-N3 | 9.18 | 1.40 | 1.32 |
| 35 | BA | 402 | G | N9-C4 | 9.18 | 1.45 | 1.38 |
| 2 | AB | 1182 | G | C8-N7 | 9.18 | 1.36 | 1.30 |
| 2 | AB | 2037 | A | N3-C4 | 9.18 | 1.40 | 1.34 |
| 35 | BA | 1275 | A | N3-C4 | 9.17 | 1.40 | 1.34 |
| 2 | AB | 1913 | A | N7-C5 | 9.17 | 1.44 | 1.39 |
| 2 | AB | 1555 | G | N3-C4 | 9.17 | 1.41 | 1.35 |
| 2 | AB | 1664 | A | C6-N1 | -9.17 | 1.29 | 1.35 |
| 35 | BA | 886 | G | C4'-O4' | -9.17 | 1.33 | 1.45 |
| 35 | BA | 111 | G | N9-C8 | -9.16 | 1.31 | 1.37 |
| 35 | BA | 336 | A | N3-C4 | 9.16 | 1.40 | 1.34 |
| 2 | AB | 1810 | A | P-O5' | 9.16 | 1.69 | 1.59 |
| 2 | AB | 868 | U | C5-C6 | 9.16 | 1.42 | 1.34 |
| 35 | BA | 242 | G | N7-C5 | -9.16 | 1.33 | 1.39 |
| 2 | AB | 2775 | G | C8-N7 | 9.16 | 1.36 | 1.30 |
| 35 | BA | 1411 | C | C4-C5 | 9.16 | 1.50 | 1.43 |
| 35 | BA | 1422 | G | C8-N7 | -9.16 | 1.25 | 1.30 |
| 2 | AB | 849 | A | C2-N3 | 9.15 | 1.41 | 1.33 |
| 35 | BA | 12 | U | C2-N3 | 9.15 | 1.44 | 1.37 |
| 2 | AB | 1741 | C | P-O5' | 9.15 | 1.69 | 1.59 |
| 35 | BA | 1178 | G | N3-C4 | 9.15 | 1.41 | 1.35 |
| 35 | BA | 447 | G | O4'-C1' | 9.15 | 1.53 | 1.41 |
| 35 | BA | 1227 | A | N9-C4 | -9.15 | 1.32 | 1.37 |
| 2 | AB | 320 | A | C6-N1 | 9.15 | 1.42 | 1.35 |
| 2 | AB | 903 | C | C5-C6 | 9.14 | 1.41 | 1.34 |
| 2 | AB | 300 | A | N9-C4 | 9.14 | 1.43 | 1.37 |
| 2 | AB | 1014 | A | N9-C4 | 9.14 | 1.43 | 1.37 |
| 2 | AB | 2312 | U | C4-O4 | -9.14 | 1.16 | 1.23 |
| 35 | BA | 1334 | G | C2-N3 | 9.14 | 1.40 | 1.32 |
| 2 | AB | 2764 | A | N9-C4 | 9.14 | 1.43 | 1.37 |
| 2 | AB | 2884 | U | N3-C4 | -9.14 | 1.30 | 1.38 |
| 35 | BA | 1351 | U | P-O5' | 9.14 | 1.68 | 1.59 |
| 35 | BA | 286 | C | C2'-C1' | 9.13 | 1.63 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1099 | G | C2-N3 | 9.13 | 1.40 | 1.32 |
| 35 | BA | 1482 | G | N1-C2 | 9.13 | 1.45 | 1.37 |
| 2 | AB | 1584 | U | C2-N3 | 9.13 | 1.44 | 1.37 |
| 2 | AB | 804 | A | O3'-P | -9.13 | 1.50 | 1.61 |
| 2 | AB | 1273 | U | C4'-O4' | -9.13 | 1.33 | 1.45 |
| 2 | AB | 2737 | G | N7-C5 | 9.13 | 1.44 | 1.39 |
| 2 | AB | 1216 | G | C3'-C2' | 9.12 | 1.62 | 1.52 |
| 2 | AB | 1265 | A | C6-N1 | -9.12 | 1.29 | 1.35 |
| 2 | AB | 1277 | G | C8-N7 | 9.12 | 1.36 | 1.30 |
| 2 | AB | 2652 | C | N3-C4 | 9.11 | 1.40 | 1.33 |
| 2 | AB | 590 | A | N3-C4 | 9.11 | 1.40 | 1.34 |
| 35 | BA | 815 | A | C2-N3 | 9.11 | 1.41 | 1.33 |
| 2 | AB | 2120 | G | C2-N3 | 9.10 | 1.40 | 1.32 |
| 36 | BB | 21 | U | P-O5' | 9.10 | 1.68 | 1.59 |
| 35 | BA | 829 | G | N7-C5 | 9.10 | 1.44 | 1.39 |
| 35 | BA | 1353 | G | P-O5' | 9.10 | 1.68 | 1.59 |
| 35 | BA | 947 | G | P-O5' | 9.10 | 1.68 | 1.59 |
| 2 | AB | 2144 | G | N3-C4 | 9.09 | 1.41 | 1.35 |
| 35 | BA | 1270 | G | N3-C4 | 9.09 | 1.41 | 1.35 |
| 2 | AB | 2807 | U | C2-N3 | 9.09 | 1.44 | 1.37 |
| 35 | BA | 1453 | G | N7-C5 | 9.09 | 1.44 | 1.39 |
| 2 | AB | 2415 | G | C5-C4 | 9.09 | 1.44 | 1.38 |
| 2 | AB | 285 | G | N7-C5 | 9.08 | 1.44 | 1.39 |
| 35 | BA | 263 | A | N3-C4 | 9.08 | 1.40 | 1.34 |
| 35 | BA | 127 | G | N9-C8 | 9.08 | 1.44 | 1.37 |
| 35 | BA | 784 | A | P-O5' | 9.08 | 1.68 | 1.59 |
| 2 | AB | 140 | C | N3-C4 | -9.08 | 1.27 | 1.33 |
| 2 | AB | 841 | G | N3-C4 | 9.08 | 1.41 | 1.35 |
| 2 | AB | 990 | A | N9-C4 | 9.08 | 1.43 | 1.37 |
| 35 | BA | 1238 | A | N9-C4 | -9.07 | 1.32 | 1.37 |
| 2 | AB | 864 | G | N3-C4 | -9.07 | 1.29 | 1.35 |
| 2 | AB | 1445 | G | N3-C4 | 9.07 | 1.41 | 1.35 |
| 2 | AB | 802 | A | C2'-C1' | 9.07 | 1.63 | 1.53 |
| 2 | AB | 774 | G | C6-N1 | 9.06 | 1.45 | 1.39 |
| 35 | BA | 720 | C | P-O5' | 9.06 | 1.68 | 1.59 |
| 35 | BA | 746 | A | N9-C8 | -9.06 | 1.30 | 1.37 |
| 2 | AB | 505 | A | N9-C4 | -9.06 | 1.32 | 1.37 |
| 2 | AB | 630 | G | N1-C2 | 9.06 | 1.45 | 1.37 |
| 2 | AB | 1407 | G | C8-N7 | 9.06 | 1.36 | 1.30 |
| 37 | BC | 9 | G | C8-N7 | 9.06 | 1.36 | 1.30 |
| 2 | AB | 2461 | A | N3-C4 | 9.05 | 1.40 | 1.34 |
| 35 | BA | 1144 | G | O3'-P | 9.05 | 1.72 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 481 | G | N3-C4 | 9.04 | 1.41 | 1.35 |
| 2 | AB | 616 | A | P-O5' | 9.04 | 1.68 | 1.59 |
| 2 | AB | 1003 | G | C2-N2 | -9.04 | 1.25 | 1.34 |
| 2 | AB | 1857 | G | P-O5' | 9.04 | 1.68 | 1.59 |
| 35 | BA | 499 | A | C8-N7 | -9.04 | 1.25 | 1.31 |
| 2 | AB | 1531 | C | C5-C6 | 9.04 | 1.41 | 1.34 |
| 2 | AB | 2142 | A | C5-C4 | -9.04 | 1.32 | 1.38 |
| 35 | BA | 118 | U | P-O5' | 9.04 | 1.68 | 1.59 |
| 2 | AB | 1542 | U | C2-N3 | 9.03 | 1.44 | 1.37 |
| 2 | AB | 2761 | A | C5-C6 | 9.03 | 1.49 | 1.41 |
| 2 | AB | 1895 | C | P-O5' | 9.03 | 1.68 | 1.59 |
| 2 | AB | 2687 | U | N3-C4 | 9.03 | 1.46 | 1.38 |
| 2 | AB | 1935 | G | N7-C5 | 9.03 | 1.44 | 1.39 |
| 35 | BA | 1241 | G | C5-C4 | 9.03 | 1.44 | 1.38 |
| 35 | BA | 251 | G | C5-C6 | 9.02 | 1.51 | 1.42 |
| 2 | AB | 1365 | A | C5'-C4' | 9.02 | 1.62 | 1.51 |
| 2 | AB | 2165 | C | P-O5' | 9.02 | 1.68 | 1.59 |
| 35 | BA | 199 | A | N7-C5 | -9.02 | 1.33 | 1.39 |
| 35 | BA | 240 | G | C2-N3 | 9.02 | 1.40 | 1.32 |
| 35 | BA | 497 | G | C5-C4 | -9.02 | 1.32 | 1.38 |
| 2 | AB | 438 | G | N3-C4 | 9.01 | 1.41 | 1.35 |
| 2 | AB | 1637 | A | C5-C4 | -9.01 | 1.32 | 1.38 |
| 35 | BA | 229 | U | O3'-P | 9.01 | 1.72 | 1.61 |
| 2 | AB | 81 | G | C8-N7 | 9.01 | 1.36 | 1.30 |
| 35 | BA | 1134 | G | P-O5' | 9.01 | 1.68 | 1.59 |
| 2 | AB | 1814 | G | C6-N1 | 9.00 | 1.45 | 1.39 |
| 2 | AB | 2388 | A | N9-C4 | -9.00 | 1.32 | 1.37 |
| 2 | AB | 2722 | G | N7-C5 | -9.00 | 1.33 | 1.39 |
| 35 | BA | 1068 | G | P-O5' | 9.00 | 1.68 | 1.59 |
| 2 | AB | 1578 | U | C2-O2 | 9.00 | 1.30 | 1.22 |
| 2 | AB | 371 | A | C6-N1 | -8.99 | 1.29 | 1.35 |
| 2 | AB | 776 | G | N7-C5 | 8.99 | 1.44 | 1.39 |
| 2 | AB | 1160 | G | N7-C5 | 8.99 | 1.44 | 1.39 |
| 35 | BA | 4 | U | P-O5' | 8.99 | 1.68 | 1.59 |
| 2 | AB | 1088 | A | N3-C4 | 8.99 | 1.40 | 1.34 |
| 2 | AB | 2892 | G | C8-N7 | 8.99 | 1.36 | 1.30 |
| 2 | AB | 1269 | A | N9-C4 | 8.99 | 1.43 | 1.37 |
| 35 | BA | 1050 | G | N3-C4 | 8.99 | 1.41 | 1.35 |
| 35 | BA | 1431 | A | N7-C5 | 8.99 | 1.44 | 1.39 |
| 2 | AB | 2334 | U | C2'-C1' | -8.99 | 1.43 | 1.53 |
| 35 | BA | 1024 | G | O3'-P | 8.98 | 1.72 | 1.61 |
| 2 | AB | 1214 | A | N3-C4 | 8.98 | 1.40 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 104 | G | N7-C5 | 8.98 | 1.44 | 1.39 |
| 35 | BA | 561 | U | O3'-P | -8.98 | 1.50 | 1.61 |
| 35 | BA | 1477 | U | N1-C2 | 8.98 | 1.46 | 1.38 |
| 35 | BA | 145 | G | C8-N7 | 8.97 | 1.36 | 1.30 |
| 35 | BA | 1327 | C | C3'-C2' | 8.97 | 1.62 | 1.52 |
| 2 | AB | 1451 | C | P-O5' | 8.97 | 1.68 | 1.59 |
| 2 | AB | 2134 | A | C2-N3 | -8.97 | 1.25 | 1.33 |
| 35 | BA | 1184 | G | C4'-O4' | -8.97 | 1.33 | 1.45 |
| 35 | BA | 1206 | G | N1-C2 | 8.97 | 1.45 | 1.37 |
| 2 | AB | 506 | G | N7-C5 | 8.97 | 1.44 | 1.39 |
| 2 | AB | 2595 | G | C5-C4 | -8.97 | 1.32 | 1.38 |
| 35 | BA | 658 | C | N1-C6 | 8.97 | 1.42 | 1.37 |
| 35 | BA | 665 | A | N3-C4 | 8.97 | 1.40 | 1.34 |
| 2 | AB | 902 | C | C2-N3 | 8.97 | 1.43 | 1.35 |
| 2 | AB | 1307 | A | N3-C4 | 8.96 | 1.40 | 1.34 |
| 2 | AB | 2277 | G | C8-N7 | -8.96 | 1.25 | 1.30 |
| 35 | BA | 1277 | C | N1-C6 | 8.96 | 1.42 | 1.37 |
| 2 | AB | 1695 | G | C2-N3 | 8.96 | 1.40 | 1.32 |
| 2 | AB | 1287 | A | N3-C4 | -8.96 | 1.29 | 1.34 |
| 2 | AB | 1398 | C | N3-C4 | 8.96 | 1.40 | 1.33 |
| 35 | BA | 1455 | G | C6-N1 | 8.96 | 1.45 | 1.39 |
| 35 | BA | 641 | U | C5-C6 | 8.96 | 1.42 | 1.34 |
| 35 | BA | 1529 | G | C5'-C4' | 8.96 | 1.62 | 1.51 |
| 35 | BA | 265 | G | P-O5' | -8.96 | 1.50 | 1.59 |
| 2 | AB | 248 | G | C6-N1 | 8.95 | 1.45 | 1.39 |
| 2 | AB | 1138 | G | C2-N3 | 8.95 | 1.40 | 1.32 |
| 2 | AB | 2567 | G | P-O5' | 8.96 | 1.68 | 1.59 |
| 2 | AB | 183 | C | P-O5' | 8.95 | 1.68 | 1.59 |
| 2 | AB | 591 | U | C2-N3 | 8.95 | 1.44 | 1.37 |
| 2 | AB | 1695 | G | N3-C4 | 8.95 | 1.41 | 1.35 |
| 35 | BA | 571 | U | C2-N3 | 8.95 | 1.44 | 1.37 |
| 2 | AB | 146 | A | N3-C4 | 8.95 | 1.40 | 1.34 |
| 2 | AB | 2799 | A | C6-N1 | -8.95 | 1.29 | 1.35 |
| 2 | AB | 2433 | A | N3-C4 | 8.95 | 1.40 | 1.34 |
| 1 | AA | 7 | G | P-O5' | 8.94 | 1.68 | 1.59 |
| 2 | AB | 1192 | G | C6-N1 | 8.94 | 1.45 | 1.39 |
| 35 | BA | 883 | C | C4-C5 | 8.94 | 1.50 | 1.43 |
| 35 | BA | 807 | A | N3-C4 | 8.94 | 1.40 | 1.34 |
| 2 | AB | 386 | G | C2-N3 | 8.94 | 1.40 | 1.32 |
| 2 | AB | 2194 | U | N1-C2 | 8.94 | 1.46 | 1.38 |
| 35 | BA | 808 | C | C5'-C4' | 8.94 | 1.62 | 1.51 |
| 2 | AB | 1971 | U | C4-C5 | 8.94 | 1.51 | 1.43 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2343 | U | C4'-C3' | -8.94 | 1.43 | 1.53 |
| 35 | BA | 1334 | G | N3-C4 | 8.94 | 1.41 | 1.35 |
| 2 | AB | 2119 | A | N9-C8 | 8.93 | 1.44 | 1.37 |
| 35 | BA | 289 | G | C2-N3 | 8.93 | 1.39 | 1.32 |
| 35 | BA | 408 | A | N3-C4 | 8.93 | 1.40 | 1.34 |
| 2 | AB | 1363 | C | C5-C6 | 8.93 | 1.41 | 1.34 |
| 35 | BA | 239 | U | C2-N3 | 8.93 | 1.44 | 1.37 |
| 2 | AB | 2470 | G | N3-C4 | 8.92 | 1.41 | 1.35 |
| 2 | AB | 1799 | G | N7-C5 | 8.92 | 1.44 | 1.39 |
| 1 | AA | 17 | C | C4-C5 | 8.92 | 1.50 | 1.43 |
| 2 | AB | 951 | C | N3-C4 | 8.91 | 1.40 | 1.33 |
| 37 | BC | 74 | A | C2-N3 | 8.91 | 1.41 | 1.33 |
| 2 | AB | 623 | C | C2'-C1' | 8.91 | 1.63 | 1.53 |
| 35 | BA | 348 | G | O3'-P | 8.91 | 1.71 | 1.61 |
| 35 | BA | 1423 | G | N1-C2 | 8.91 | 1.44 | 1.37 |
| 35 | BA | 1525 | G | P-O5' | 8.91 | 1.68 | 1.59 |
| 2 | AB | 688 | U | N3-C4 | 8.91 | 1.46 | 1.38 |
| 2 | AB | 475 | C | C5-C6 | 8.91 | 1.41 | 1.34 |
| 2 | AB | 2150 | C | P-O5' | 8.90 | 1.68 | 1.59 |
| 35 | BA | 712 | A | O3'-P | 8.90 | 1.71 | 1.61 |
| 35 | BA | 111 | G | N7-C5 | -8.90 | 1.33 | 1.39 |
| 35 | BA | 1105 | A | P-O5' | 8.90 | 1.68 | 1.59 |
| 2 | AB | 2462 | C | C4-C5 | 8.90 | 1.50 | 1.43 |
| 2 | AB | 2690 | U | C5'-C4' | 8.90 | 1.62 | 1.51 |
| 2 | AB | 2212 | A | C5-C4 | 8.90 | 1.45 | 1.38 |
| 1 | AA | 106 | G | N9-C8 | 8.89 | 1.44 | 1.37 |
| 2 | AB | 640 | C | C4-C5 | 8.89 | 1.50 | 1.43 |
| 2 | AB | 2718 | G | N7-C5 | 8.89 | 1.44 | 1.39 |
| 35 | BA | 570 | G | N1-C2 | 8.89 | 1.44 | 1.37 |
| 35 | BA | 70 | U | N3-C4 | 8.89 | 1.46 | 1.38 |
| 2 | AB | 1187 | G | N7-C5 | -8.89 | 1.33 | 1.39 |
| 35 | BA | 1538 | C | N1-C6 | 8.89 | 1.42 | 1.37 |
| 2 | AB | 182 | A | C5-C6 | 8.89 | 1.49 | 1.41 |
| 2 | AB | 791 | C | C4-C5 | -8.89 | 1.35 | 1.43 |
| 35 | BA | 529 | G | N1-C2 | 8.88 | 1.44 | 1.37 |
| 35 | BA | 1460 | C | C5'-C4' | 8.88 | 1.62 | 1.51 |
| 35 | BA | 819 | A | N7-C5 | 8.88 | 1.44 | 1.39 |
| 2 | AB | 1473 | G | N7-C5 | -8.88 | 1.33 | 1.39 |
| 2 | AB | 2115 | G | N3-C4 | 8.88 | 1.41 | 1.35 |
| 35 | BA | 284 | C | C4-C5 | 8.87 | 1.50 | 1.43 |
| 2 | AB | 1792 | G | C6-N1 | 8.87 | 1.45 | 1.39 |
| 2 | AB | 2079 | U | N1-C2 | 8.87 | 1.46 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 106 | C | C2-N3 | 8.87 | 1.42 | 1.35 |
| 35 | BA | 898 | G | C2'-C1' | 8.87 | 1.63 | 1.53 |
| 2 | AB | 783 | A | N9-C4 | 8.87 | 1.43 | 1.37 |
| 35 | BA | 1061 | G | C2-N3 | 8.87 | 1.39 | 1.32 |
| 2 | AB | 168 | G | N1-C2 | 8.87 | 1.44 | 1.37 |
| 35 | BA | 1140 | C | P-O5' | 8.86 | 1.68 | 1.59 |
| 35 | BA | 1159 | U | C4'-C3' | 8.86 | 1.62 | 1.53 |
| 2 | AB | 363 | G | C6-N1 | -8.86 | 1.33 | 1.39 |
| 2 | AB | 2343 | U | C3'-C2' | 8.86 | 1.62 | 1.52 |
| 1 | AA | 100 | G | N7-C5 | -8.86 | 1.33 | 1.39 |
| 2 | AB | 185 | G | N1-C2 | 8.86 | 1.44 | 1.37 |
| 2 | AB | 1751 | U | C2-N3 | 8.86 | 1.44 | 1.37 |
| 2 | AB | 1449 | G | N1-C2 | 8.86 | 1.44 | 1.37 |
| 2 | AB | 1166 | G | N3-C4 | 8.85 | 1.41 | 1.35 |
| 2 | AB | 2707 | U | P-O5' | 8.85 | 1.68 | 1.59 |
| 2 | AB | 2823 | A | C4'-O4' | -8.85 | 1.34 | 1.45 |
| 2 | AB | 1672 | A | P-O5' | 8.85 | 1.68 | 1.59 |
| 35 | BA | 115 | G | N9-C8 | 8.85 | 1.44 | 1.37 |
| 35 | BA | 299 | G | C3'-C2' | -8.85 | 1.43 | 1.52 |
| 35 | BA | 777 | A | N9-C4 | 8.85 | 1.43 | 1.37 |
| 35 | BA | 164 | G | N7-C5 | 8.85 | 1.44 | 1.39 |
| 2 | AB | 1535 | A | N9-C8 | 8.84 | 1.44 | 1.37 |
| 35 | BA | 985 | C | P-O5' | 8.84 | 1.68 | 1.59 |
| 1 | AA | 74 | U | C4-C5 | 8.84 | 1.51 | 1.43 |
| 2 | AB | 45 | G | N7-C5 | 8.84 | 1.44 | 1.39 |
| 2 | AB | 2528 | U | P-O5' | 8.84 | 1.68 | 1.59 |
| 35 | BA | 816 | A | N3-C4 | 8.84 | 1.40 | 1.34 |
| 35 | BA | 1398 | A | C6-N6 | -8.84 | 1.26 | 1.33 |
| 2 | AB | 2534 | A | C8-N7 | -8.84 | 1.25 | 1.31 |
| 2 | AB | 2835 | A | C4'-O4' | -8.84 | 1.34 | 1.45 |
| 35 | BA | 77 | A | C6-N1 | 8.84 | 1.41 | 1.35 |
| 37 | BC | 42 | C | C5-C6 | 8.84 | 1.41 | 1.34 |
| 35 | BA | 439 | U | P-O5' | 8.83 | 1.68 | 1.59 |
| 2 | AB | 1568 | G | C6-N1 | 8.83 | 1.45 | 1.39 |
| 35 | BA | 326 | G | N9-C8 | 8.83 | 1.44 | 1.37 |
| 35 | BA | 1106 | G | N9-C8 | -8.83 | 1.31 | 1.37 |
| 2 | AB | 1912 | A | P-O5' | -8.83 | 1.50 | 1.59 |
| 35 | BA | 666 | G | N1-C2 | 8.83 | 1.44 | 1.37 |
| 35 | BA | 481 | G | C5-C4 | 8.83 | 1.44 | 1.38 |
| 35 | BA | 804 | U | C2-N3 | 8.83 | 1.44 | 1.37 |
| 2 | AB | 980 | A | N3-C4 | 8.82 | 1.40 | 1.34 |
| 35 | BA | 386 | C | N3-C4 | 8.82 | 1.40 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 384 | A | C2-N3 | -8.82 | 1.25 | 1.33 |
| 2 | AB | 1088 | A | C8-N7 | -8.82 | 1.25 | 1.31 |
| 2 | AB | 1545 | A | N3-C4 | 8.82 | 1.40 | 1.34 |
| 2 | AB | 1601 | G | N9-C8 | -8.82 | 1.31 | 1.37 |
| 2 | AB | 539 | G | C3'-C2' | 8.82 | 1.62 | 1.52 |
| 36 | BB | 29 | G | C5'-C4' | 8.82 | 1.61 | 1.51 |
| 2 | AB | 1840 | G | C6-N1 | 8.81 | 1.45 | 1.39 |
| 2 | AB | 1157 | G | N7-C5 | 8.81 | 1.44 | 1.39 |
| 2 | AB | 55 | G | P-O5' | 8.81 | 1.68 | 1.59 |
| 2 | AB | 219 | A | N3-C4 | 8.81 | 1.40 | 1.34 |
| 35 | BA | 1300 | G | C3'-C2' | 8.81 | 1.62 | 1.52 |
| 35 | BA | 1459 | G | C8-N7 | 8.81 | 1.36 | 1.30 |
| 35 | BA | 747 | A | P-O5' | -8.81 | 1.50 | 1.59 |
| 35 | BA | 1056 | U | C2-N3 | 8.81 | 1.44 | 1.37 |
| 2 | AB | 2048 | G | N3-C4 | 8.80 | 1.41 | 1.35 |
| 35 | BA | 273 | U | P-O5' | 8.80 | 1.68 | 1.59 |
| 35 | BA | 696 | A | C6-N6 | -8.80 | 1.26 | 1.33 |
| 35 | BA | 996 | A | C6-N6 | 8.80 | 1.41 | 1.33 |
| 1 | AA | 4 | C | N3-C4 | 8.80 | 1.40 | 1.33 |
| 35 | BA | 953 | G | C2-N3 | 8.80 | 1.39 | 1.32 |
| 35 | BA | 20 | U | O3'-P | -8.80 | 1.50 | 1.61 |
| 35 | BA | 431 | A | C6-N1 | -8.80 | 1.29 | 1.35 |
| 35 | BA | 1454 | G | N3-C4 | 8.80 | 1.41 | 1.35 |
| 2 | AB | 1813 | G | N7-C5 | 8.79 | 1.44 | 1.39 |
| 2 | AB | 1819 | A | C6-N1 | -8.79 | 1.29 | 1.35 |
| 2 | AB | 30 | G | C5'-C4' | 8.79 | 1.61 | 1.51 |
| 2 | AB | 869 | G | N7-C5 | 8.79 | 1.44 | 1.39 |
| 35 | BA | 867 | G | C2-N3 | 8.79 | 1.39 | 1.32 |
| 2 | AB | 2144 | G | N9-C8 | 8.79 | 1.44 | 1.37 |
| 35 | BA | 874 | G | C8-N7 | 8.79 | 1.36 | 1.30 |
| 35 | BA | 488 | C | O3'-P | 8.78 | 1.71 | 1.61 |
| 2 | AB | 1108 | U | C4-O4 | 8.78 | 1.30 | 1.23 |
| 2 | AB | 343 | C | C4'-O4' | -8.78 | 1.34 | 1.45 |
| 2 | AB | 216 | A | N7-C5 | 8.78 | 1.44 | 1.39 |
| 2 | AB | 2378 | A | C5-C4 | 8.78 | 1.44 | 1.38 |
| 2 | AB | 1385 | A | N7-C5 | 8.77 | 1.44 | 1.39 |
| 2 | AB | 851 | C | N3-C4 | -8.77 | 1.27 | 1.33 |
| 2 | AB | 2392 | A | N9-C4 | 8.77 | 1.43 | 1.37 |
| 35 | BA | 1199 | U | N1-C2 | 8.77 | 1.46 | 1.38 |
| 35 | BA | 1154 | G | C5'-C4' | 8.77 | 1.61 | 1.51 |
| 2 | AB | 304 | U | C5'-C4' | 8.76 | 1.61 | 1.51 |
| 2 | AB | 1559 | U | C2-N3 | 8.76 | 1.43 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2267 | A | O3'-P | -8.76 | 1.50 | 1.61 |
| 2 | AB | 918 | A | N7-C5 | 8.76 | 1.44 | 1.39 |
| 2 | AB | 2542 | A | N7-C5 | -8.76 | 1.33 | 1.39 |
| 35 | BA | 1333 | A | C5'-C4' | 8.76 | 1.61 | 1.51 |
| 2 | AB | 1541 | C | P-O5' | 8.75 | 1.68 | 1.59 |
| 35 | BA | 401 | C | C4-C5 | 8.75 | 1.50 | 1.43 |
| 2 | AB | 9 | G | C6-N1 | 8.75 | 1.45 | 1.39 |
| 2 | AB | 1086 | A | N9-C8 | -8.75 | 1.30 | 1.37 |
| 2 | AB | 2759 | G | N9-C8 | -8.75 | 1.31 | 1.37 |
| 35 | BA | 395 | C | C3'-C2' | 8.75 | 1.62 | 1.52 |
| 35 | BA | 1480 | A | C6-N6 | 8.75 | 1.41 | 1.33 |
| 1 | AA | 75 | G | N9-C8 | 8.74 | 1.44 | 1.37 |
| 36 | BB | 33 | A | N3-C4 | 8.74 | 1.40 | 1.34 |
| 2 | AB | 2802 | G | C6-N1 | 8.74 | 1.45 | 1.39 |
| 2 | AB | 1115 | G | C2-N3 | 8.74 | 1.39 | 1.32 |
| 35 | BA | 1041 | G | N1-C2 | 8.73 | 1.44 | 1.37 |
| 2 | AB | 840 | C | C2-N3 | 8.73 | 1.42 | 1.35 |
| 35 | BA | 1119 | C | N3-C4 | 8.73 | 1.40 | 1.33 |
| 35 | BA | 579 | A | N3-C4 | 8.73 | 1.40 | 1.34 |
| 35 | BA | 899 | C | N1-C2 | -8.73 | 1.31 | 1.40 |
| 35 | BA | 66 | A | N9-C4 | 8.73 | 1.43 | 1.37 |
| 35 | BA | 403 | C | N1-C6 | 8.73 | 1.42 | 1.37 |
| 35 | BA | 1349 | A | P-O5' | 8.73 | 1.68 | 1.59 |
| 35 | BA | 1218 | C | P-O5' | 8.73 | 1.68 | 1.59 |
| 2 | AB | 101 | A | C5-C4 | -8.72 | 1.32 | 1.38 |
| 2 | AB | 1024 | G | N9-C8 | -8.72 | 1.31 | 1.37 |
| 2 | AB | 1738 | G | N7-C5 | -8.72 | 1.34 | 1.39 |
| 35 | BA | 11 | G | C3'-C2' | 8.72 | 1.62 | 1.52 |
| 1 | AA | 117 | G | N3-C4 | 8.72 | 1.41 | 1.35 |
| 2 | AB | 1589 | U | O3'-P | 8.72 | 1.71 | 1.61 |
| 2 | AB | 49 | A | P-O5' | 8.72 | 1.68 | 1.59 |
| 1 | AA | 69 | G | N9-C8 | 8.72 | 1.44 | 1.37 |
| 2 | AB | 754 | U | C2-N3 | 8.72 | 1.43 | 1.37 |
| 1 | AA | 10 | G | C5-C4 | 8.71 | 1.44 | 1.38 |
| 2 | AB | 64 | A | N7-C5 | -8.71 | 1.34 | 1.39 |
| 35 | BA | 302 | G | P-O5' | 8.71 | 1.68 | 1.59 |
| 35 | BA | 1513 | A | N9-C4 | -8.71 | 1.32 | 1.37 |
| 2 | AB | 605 | G | N7-C5 | -8.71 | 1.34 | 1.39 |
| 2 | AB | 1209 | U | C5'-C4' | 8.71 | 1.61 | 1.51 |
| 2 | AB | 2608 | G | C6-N1 | 8.71 | 1.45 | 1.39 |
| 2 | AB | 1224 | U | C4'-C3' | 8.70 | 1.62 | 1.53 |
| 2 | AB | 1914 | C | N1-C6 | 8.70 | 1.42 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2093 | G | P-O5' | -8.70 | 1.51 | 1.59 |
| 37 | BC | 66 | C | P-O5' | 8.70 | 1.68 | 1.59 |
| 2 | AB | 1245 | G | N1-C2 | 8.70 | 1.44 | 1.37 |
| 35 | BA | 432 | A | N7-C5 | 8.70 | 1.44 | 1.39 |
| 36 | BB | 43 | U | C2-O2 | 8.70 | 1.30 | 1.22 |
| 2 | AB | 1395 | A | C8-N7 | 8.69 | 1.37 | 1.31 |
| 35 | BA | 255 | G | C4'-O4' | -8.69 | 1.34 | 1.45 |
| 35 | BA | 685 | G | C2'-O2' | 8.69 | 1.52 | 1.41 |
| 2 | AB | 204 | A | P-O5' | 8.69 | 1.68 | 1.59 |
| 1 | AA | 99 | A | N3-C4 | 8.69 | 1.40 | 1.34 |
| 2 | AB | 1262 | A | N7-C5 | 8.69 | 1.44 | 1.39 |
| 36 | BB | 54 | U | O3'-P | 8.69 | 1.71 | 1.61 |
| 2 | AB | 617 | G | N9-C8 | -8.68 | 1.31 | 1.37 |
| 2 | AB | 1695 | G | N1-C2 | 8.68 | 1.44 | 1.37 |
| 2 | AB | 1856 | U | C4'-O4' | -8.68 | 1.34 | 1.45 |
| 2 | AB | 231 | A | N3-C4 | 8.68 | 1.40 | 1.34 |
| 2 | AB | 2591 | C | C4-C5 | 8.68 | 1.49 | 1.43 |
| 35 | BA | 158 | G | P-O5' | 8.68 | 1.68 | 1.59 |
| 35 | BA | 455 | G | N3-C4 | 8.68 | 1.41 | 1.35 |
| 35 | BA | 540 | G | C2-N3 | 8.68 | 1.39 | 1.32 |
| 2 | AB | 972 | A | C4'-O4' | -8.68 | 1.34 | 1.45 |
| 1 | AA | 93 | C | C4-C5 | 8.67 | 1.49 | 1.43 |
| 2 | AB | 2763 | G | N3-C4 | 8.67 | 1.41 | 1.35 |
| 35 | BA | 703 | G | N3-C4 | 8.67 | 1.41 | 1.35 |
| 35 | BA | 913 | A | C6-N6 | 8.67 | 1.40 | 1.33 |
| 35 | BA | 1082 | A | N7-C5 | 8.67 | 1.44 | 1.39 |
| 2 | AB | 155 | A | C4'-O4' | -8.67 | 1.34 | 1.45 |
| 35 | BA | 337 | G | P-O5' | 8.67 | 1.68 | 1.59 |
| 35 | BA | 543 | U | C2-N3 | 8.67 | 1.43 | 1.37 |
| 2 | AB | 246 | C | C4-C5 | 8.67 | 1.49 | 1.43 |
| 35 | BA | 1357 | A | N3-C4 | 8.67 | 1.40 | 1.34 |
| 35 | BA | 1104 | G | N9-C8 | 8.66 | 1.44 | 1.37 |
| 35 | BA | 1129 | C | C2-O2 | -8.66 | 1.16 | 1.24 |
| 2 | AB | 508 | A | P-O5' | 8.66 | 1.68 | 1.59 |
| 35 | BA | 1514 | G | C2-N3 | 8.66 | 1.39 | 1.32 |
| 35 | BA | 356 | A | C5-C6 | 8.66 | 1.48 | 1.41 |
| 35 | BA | 501 | C | N3-C4 | 8.66 | 1.40 | 1.33 |
| 2 | AB | 69 | C | P-O5' | 8.65 | 1.68 | 1.59 |
| 2 | AB | 122 | G | N7-C5 | -8.65 | 1.34 | 1.39 |
| 2 | AB | 463 | G | C6-N1 | 8.65 | 1.45 | 1.39 |
| 35 | BA | 371 | A | C8-N7 | -8.65 | 1.25 | 1.31 |
| 2 | AB | 1958 | C | P-O5' | 8.65 | 1.68 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1077 | A | N3-C4 | 8.65 | 1.40 | 1.34 |
| 2 | AB | 515 | A | N7-C5 | 8.64 | 1.44 | 1.39 |
| 35 | BA | 1311 | A | N7-C5 | -8.64 | 1.34 | 1.39 |
| 37 | BC | 14 | A | N3-C4 | 8.64 | 1.40 | 1.34 |
| 2 | AB | 1400 | U | C4-C5 | 8.64 | 1.51 | 1.43 |
| 2 | AB | 1791 | A | C6-N1 | -8.64 | 1.29 | 1.35 |
| 35 | BA | 20 | U | C2-N3 | 8.64 | 1.43 | 1.37 |
| 2 | AB | 1387 | A | N9-C4 | 8.64 | 1.43 | 1.37 |
| 2 | AB | 1428 | C | C5-C6 | 8.64 | 1.41 | 1.34 |
| 35 | BA | 163 | C | P-O5' | 8.64 | 1.68 | 1.59 |
| 35 | BA | 1118 | U | N1-C6 | 8.64 | 1.45 | 1.38 |
| 2 | AB | 1085 | A | P-O5' | 8.63 | 1.68 | 1.59 |
| 35 | BA | 1008 | U | O3'-P | 8.63 | 1.71 | 1.61 |
| 2 | AB | 932 | U | N1-C2 | 8.63 | 1.46 | 1.38 |
| 35 | BA | 325 | A | C8-N7 | -8.63 | 1.25 | 1.31 |
| 2 | AB | 1867 | G | C5-C4 | 8.63 | 1.44 | 1.38 |
| 35 | BA | 1496 | C | N1-C6 | 8.63 | 1.42 | 1.37 |
| 2 | AB | 2375 | G | O3'-P | 8.62 | 1.71 | 1.61 |
| 2 | AB | 724 | U | C4-O4 | -8.62 | 1.16 | 1.23 |
| 2 | AB | 835 | C | N1-C6 | 8.62 | 1.42 | 1.37 |
| 2 | AB | 350 | G | N1-C2 | 8.62 | 1.44 | 1.37 |
| 35 | BA | 1215 | G | C5'-C4' | 8.62 | 1.61 | 1.51 |
| 35 | BA | 39 | G | C4'-O4' | -8.62 | 1.34 | 1.45 |
| 2 | AB | 1436 | G | C2-N3 | 8.61 | 1.39 | 1.32 |
| 2 | AB | 615 | U | C2-N3 | 8.61 | 1.43 | 1.37 |
| 2 | AB | 617 | G | N7-C5 | -8.61 | 1.34 | 1.39 |
| 2 | AB | 2174 | C | N1-C6 | 8.61 | 1.42 | 1.37 |
| 35 | BA | 55 | A | N9-C4 | 8.61 | 1.43 | 1.37 |
| 35 | BA | 100 | G | P-O5' | 8.61 | 1.68 | 1.59 |
| 2 | AB | 1413 | A | C5-C4 | 8.61 | 1.44 | 1.38 |
| 2 | AB | 2223 | G | N3-C4 | 8.61 | 1.41 | 1.35 |
| 37 | BC | 43 | G | N3-C4 | 8.61 | 1.41 | 1.35 |
| 2 | AB | 886 | A | C6-N1 | 8.60 | 1.41 | 1.35 |
| 2 | AB | 1303 | G | N7-C5 | 8.60 | 1.44 | 1.39 |
| 1 | AA | 60 | C | N1-C6 | 8.60 | 1.42 | 1.37 |
| 2 | AB | 1426 | G | N9-C8 | 8.60 | 1.43 | 1.37 |
| 2 | AB | 1953 | A | N9-C8 | -8.60 | 1.30 | 1.37 |
| 2 | AB | 2722 | G | C6-N1 | 8.60 | 1.45 | 1.39 |
| 2 | AB | 1587 | G | C2-N3 | 8.60 | 1.39 | 1.32 |
| 35 | BA | 233 | C | N1-C6 | 8.60 | 1.42 | 1.37 |
| 35 | BA | 925 | G | C8-N7 | -8.60 | 1.25 | 1.30 |
| 2 | AB | 553 | G | C2-N3 | 8.59 | 1.39 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 374 | A | C4'-C3' | -8.59 | 1.43 | 1.53 |
| 35 | BA | 569 | C | C2-N3 | 8.59 | 1.42 | 1.35 |
| 35 | BA | 697 | U | P-O5' | 8.59 | 1.68 | 1.59 |
| 35 | BA | 1027 | C | C4-C5 | 8.59 | 1.49 | 1.43 |
| 2 | AB | 2389 | G | N1-C2 | 8.59 | 1.44 | 1.37 |
| 35 | BA | 759 | A | N3-C4 | 8.59 | 1.40 | 1.34 |
| 2 | AB | 874 | G | C2-N3 | 8.58 | 1.39 | 1.32 |
| 2 | AB | 1108 | U | C4'-O4' | -8.58 | 1.34 | 1.45 |
| 2 | AB | 686 | U | N1-C2 | 8.58 | 1.46 | 1.38 |
| 2 | AB | 765 | C | N3-C4 | 8.58 | 1.40 | 1.33 |
| 2 | AB | 2147 | A | C5'-C4' | 8.58 | 1.61 | 1.51 |
| 35 | BA | 473 | U | P-O5' | 8.58 | 1.68 | 1.59 |
| 35 | BA | 1520 | C | C2-N3 | 8.57 | 1.42 | 1.35 |
| 2 | AB | 1628 | G | C6-N1 | 8.57 | 1.45 | 1.39 |
| 35 | BA | 1400 | C | C2-N3 | 8.57 | 1.42 | 1.35 |
| 2 | AB | 1097 | U | P-O5' | 8.57 | 1.68 | 1.59 |
| 35 | BA | 1153 | G | N7-C5 | 8.57 | 1.44 | 1.39 |
| 2 | AB | 1082 | U | P-O5' | 8.57 | 1.68 | 1.59 |
| 2 | AB | 1545 | A | P-O5' | 8.56 | 1.68 | 1.59 |
| 2 | AB | 1002 | G | N9-C8 | 8.56 | 1.43 | 1.37 |
| 35 | BA | 218 | U | N1-C6 | 8.56 | 1.45 | 1.38 |
| 35 | BA | 343 | U | C5'-C4' | 8.56 | 1.61 | 1.51 |
| 35 | BA | 1302 | C | N3-C4 | 8.56 | 1.40 | 1.33 |
| 2 | AB | 1336 | A | C4'-C3' | 8.56 | 1.62 | 1.53 |
| 2 | AB | 2211 | A | N3-C4 | 8.56 | 1.40 | 1.34 |
| 2 | AB | 2410 | G | C8-N7 | -8.56 | 1.25 | 1.30 |
| 2 | AB | 868 | U | N1-C2 | 8.55 | 1.46 | 1.38 |
| 35 | BA | 205 | A | P-O5' | 8.55 | 1.68 | 1.59 |
| 2 | AB | 1914 | C | C4'-O4' | -8.55 | 1.34 | 1.45 |
| 2 | AB | 664 | G | O3'-P | 8.55 | 1.71 | 1.61 |
| 2 | AB | 958 | U | C2-N3 | 8.55 | 1.43 | 1.37 |
| 35 | BA | 1210 | C | P-O5' | 8.55 | 1.68 | 1.59 |
| 2 | AB | 1655 | A | C6-N1 | 8.55 | 1.41 | 1.35 |
| 2 | AB | 2311 | A | C6-N6 | -8.55 | 1.27 | 1.33 |
| 2 | AB | 2836 | U | C5'-C4' | 8.55 | 1.61 | 1.51 |
| 35 | BA | 384 | G | C2-N3 | 8.55 | 1.39 | 1.32 |
| 2 | AB | 742 | A | N7-C5 | 8.54 | 1.44 | 1.39 |
| 2 | AB | 2186 | G | C2-N3 | 8.54 | 1.39 | 1.32 |
| 35 | BA | 128 | G | N1-C2 | 8.54 | 1.44 | 1.37 |
| 35 | BA | 552 | U | C2-N3 | 8.54 | 1.43 | 1.37 |
| 2 | AB | 529 | A | N7-C5 | 8.54 | 1.44 | 1.39 |
| 35 | BA | 1394 | A | C8-N7 | -8.54 | 1.25 | 1.31 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2816 | G | C2-N3 | 8.54 | 1.39 | 1.32 |
| 35 | BA | 379 | C | C4-C5 | 8.54 | 1.49 | 1.43 |
| 37 | BC | 40 | C | N1-C6 | -8.54 | 1.32 | 1.37 |
| 2 | AB | 1165 | A | C5-C4 | -8.53 | 1.32 | 1.38 |
| 2 | AB | 1744 | A | C4'-O4' | -8.53 | 1.34 | 1.45 |
| 2 | AB | 1892 | C | N1-C6 | -8.53 | 1.32 | 1.37 |
| 2 | AB | 1898 | U | C2-N3 | 8.53 | 1.43 | 1.37 |
| 2 | AB | 1945 | G | N1-C2 | 8.53 | 1.44 | 1.37 |
| 2 | AB | 2082 | A | P-O5' | 8.53 | 1.68 | 1.59 |
| 2 | AB | 2538 | C | N1-C6 | 8.53 | 1.42 | 1.37 |
| 35 | BA | 614 | C | P-O5' | 8.53 | 1.68 | 1.59 |
| 2 | AB | 122 | G | N9-C8 | 8.52 | 1.43 | 1.37 |
| 2 | AB | 1784 | A | N3-C4 | 8.52 | 1.40 | 1.34 |
| 2 | AB | 934 | U | P-O5' | 8.52 | 1.68 | 1.59 |
| 2 | AB | 2753 | A | C4'-O4' | -8.52 | 1.34 | 1.45 |
| 2 | AB | 1139 | G | C5-C4 | 8.52 | 1.44 | 1.38 |
| 2 | AB | 395 | U | P-O5' | 8.52 | 1.68 | 1.59 |
| 2 | AB | 2319 | G | C2-N3 | 8.52 | 1.39 | 1.32 |
| 35 | BA | 977 | A | N9-C4 | 8.52 | 1.43 | 1.37 |
| 35 | BA | 8 | A | N7-C5 | -8.51 | 1.34 | 1.39 |
| 36 | BB | 25 | U | N1-C2 | 8.51 | 1.46 | 1.38 |
| 2 | AB | 570 | G | C6-N1 | 8.51 | 1.45 | 1.39 |
| 2 | AB | 1237 | A | C4'-O4' | -8.51 | 1.34 | 1.45 |
| 2 | AB | 1545 | A | C5-C4 | -8.51 | 1.32 | 1.38 |
| 2 | AB | 889 | C | N1-C6 | 8.51 | 1.42 | 1.37 |
| 2 | AB | 1676 | A | P-O5' | 8.51 | 1.68 | 1.59 |
| 1 | AA | 53 | A | N9-C8 | 8.51 | 1.44 | 1.37 |
| 2 | AB | 1027 | A | N7-C5 | 8.50 | 1.44 | 1.39 |
| 2 | AB | 2189 | U | O3'-P | 8.50 | 1.71 | 1.61 |
| 2 | AB | 1672 | A | N7-C5 | 8.50 | 1.44 | 1.39 |
| 35 | BA | 51 | A | N9-C8 | 8.50 | 1.44 | 1.37 |
| 35 | BA | 400 | C | C2-N3 | 8.50 | 1.42 | 1.35 |
| 37 | BC | 66 | C | N3-C4 | 8.50 | 1.39 | 1.33 |
| 2 | AB | 644 | A | P-O5' | 8.50 | 1.68 | 1.59 |
| 2 | AB | 750 | A | N9-C4 | 8.50 | 1.43 | 1.37 |
| 35 | BA | 1309 | G | P-O5' | 8.49 | 1.68 | 1.59 |
| 2 | AB | 874 | G | N1-C2 | 8.49 | 1.44 | 1.37 |
| 2 | AB | 2424 | C | C2'-C1' | 8.49 | 1.62 | 1.53 |
| 2 | AB | 693 | A | C2'-C1' | -8.49 | 1.44 | 1.53 |
| 2 | AB | 1281 | G | P-O5' | 8.48 | 1.68 | 1.59 |
| 35 | BA | 202 | G | N3-C4 | 8.48 | 1.41 | 1.35 |
| 2 | AB | 1813 | G | C4'-O4' | -8.48 | 1.34 | 1.45 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1017 | G | C8-N7 | 8.48 | 1.36 | 1.30 |
| 2 | AB | 2712 | C | N1-C6 | 8.48 | 1.42 | 1.37 |
| 2 | AB | 1886 | U | C3'-C2' | 8.48 | 1.62 | 1.52 |
| 35 | BA | 1144 | G | N9-C8 | -8.48 | 1.31 | 1.37 |
| 35 | BA | 1187 | G | C5'-C4' | 8.48 | 1.61 | 1.51 |
| 2 | AB | 2193 | G | P-O5' | 8.47 | 1.68 | 1.59 |
| 2 | AB | 533 | G | C6-N1 | 8.47 | 1.45 | 1.39 |
| 2 | AB | 1521 | G | C2-N3 | 8.47 | 1.39 | 1.32 |
| 2 | AB | 1603 | A | N3-C4 | 8.47 | 1.40 | 1.34 |
| 35 | BA | 624 | C | N3-C4 | 8.47 | 1.39 | 1.33 |
| 35 | BA | 766 | A | N7-C5 | -8.47 | 1.34 | 1.39 |
| 1 | AA | 61 | G | P-O5' | 8.47 | 1.68 | 1.59 |
| 2 | AB | 204 | A | N7-C5 | -8.47 | 1.34 | 1.39 |
| 2 | AB | 333 | G | C8-N7 | 8.47 | 1.36 | 1.30 |
| 2 | AB | 467 | G | N3-C4 | 8.47 | 1.41 | 1.35 |
| 2 | AB | 1017 | G | N9-C8 | 8.47 | 1.43 | 1.37 |
| 35 | BA | 1160 | G | N7-C5 | -8.47 | 1.34 | 1.39 |
| 2 | AB | 2650 | U | C2-N3 | 8.47 | 1.43 | 1.37 |
| 2 | AB | 292 | U | C2-O2 | 8.47 | 1.29 | 1.22 |
| 2 | AB | 551 | G | N3-C4 | 8.47 | 1.41 | 1.35 |
| 2 | AB | 719 | C | C5-C6 | 8.46 | 1.41 | 1.34 |
| 2 | AB | 2458 | G | C5'-C4' | 8.46 | 1.61 | 1.51 |
| 35 | BA | 1100 | C | C2-N3 | 8.46 | 1.42 | 1.35 |
| 35 | BA | 1462 | C | C2-N3 | 8.46 | 1.42 | 1.35 |
| 2 | AB | 363 | G | C2-N3 | 8.46 | 1.39 | 1.32 |
| 35 | BA | 138 | G | C4'-O4' | -8.46 | 1.34 | 1.45 |
| 35 | BA | 1432 | G | N1-C2 | 8.46 | 1.44 | 1.37 |
| 2 | AB | 1027 | A | C5'-C4' | 8.46 | 1.61 | 1.51 |
| 2 | AB | 1586 | A | C5'-C4' | 8.46 | 1.61 | 1.51 |
| 2 | AB | 212 | G | C5-C4 | 8.46 | 1.44 | 1.38 |
| 2 | AB | 1490 | A | P-O5' | 8.46 | 1.68 | 1.59 |
| 2 | AB | 1765 | U | C2-O2 | 8.46 | 1.29 | 1.22 |
| 2 | AB | 1891 | G | N3-C4 | 8.45 | 1.41 | 1.35 |
| 2 | AB | 1904 | G | N9-C8 | -8.46 | 1.31 | 1.37 |
| 2 | AB | 2589 | A | N3-C4 | 8.46 | 1.40 | 1.34 |
| 2 | AB | 138 | U | C2-N3 | 8.45 | 1.43 | 1.37 |
| 2 | AB | 2568 | U | C5'-C4' | 8.45 | 1.61 | 1.51 |
| 2 | AB | 142 | A | N3-C4 | 8.45 | 1.40 | 1.34 |
| 2 | AB | 1674 | G | C2-N3 | 8.45 | 1.39 | 1.32 |
| 2 | AB | 2157 | G | C5'-C4' | 8.45 | 1.61 | 1.51 |
| 2 | AB | 2781 | A | C5-C4 | -8.45 | 1.32 | 1.38 |
| 2 | AB | 1967 | C | P-O5' | 8.45 | 1.68 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 761 | G | N1-C2 | 8.44 | 1.44 | 1.37 |
| 2 | AB | 936 | A | P-O5' | 8.44 | 1.68 | 1.59 |
| 2 | AB | 2448 | A | P-O5' | 8.44 | 1.68 | 1.59 |
| 35 | BA | 751 | U | C5-C6 | 8.44 | 1.41 | 1.34 |
| 35 | BA | 956 | U | C2-O2 | 8.44 | 1.29 | 1.22 |
| 35 | BA | 1287 | A | N3-C4 | 8.44 | 1.40 | 1.34 |
| 2 | AB | 599 | A | C5'-C4' | 8.44 | 1.61 | 1.51 |
| 2 | AB | 981 | A | P-O5' | 8.44 | 1.68 | 1.59 |
| 35 | BA | 22 | G | C5-C4 | 8.44 | 1.44 | 1.38 |
| 2 | AB | 333 | G | N3-C4 | 8.44 | 1.41 | 1.35 |
| 2 | AB | 2688 | G | P-O5' | 8.44 | 1.68 | 1.59 |
| 35 | BA | 1540 | U | C5'-C4' | 8.44 | 1.61 | 1.51 |
| 2 | AB | 1805 | A | N3-C4 | 8.43 | 1.40 | 1.34 |
| 2 | AB | 2051 | A | P-O5' | 8.43 | 1.68 | 1.59 |
| 2 | AB | 2400 | G | P-O5' | 8.43 | 1.68 | 1.59 |
| 2 | AB | 2369 | A | N3-C4 | 8.43 | 1.40 | 1.34 |
| 2 | AB | 2127 | G | C6-N1 | 8.43 | 1.45 | 1.39 |
| 2 | AB | 2312 | U | P-O5' | 8.43 | 1.68 | 1.59 |
| 35 | BA | 169 | C | P-O5' | -8.43 | 1.51 | 1.59 |
| 1 | AA | 45 | A | C5-C4 | -8.42 | 1.32 | 1.38 |
| 35 | BA | 216 | U | N1-C2 | 8.42 | 1.46 | 1.38 |
| 2 | AB | 2104 | C | C4-C5 | 8.42 | 1.49 | 1.43 |
| 35 | BA | 649 | A | C4'-O4' | -8.42 | 1.34 | 1.45 |
| 2 | AB | 1422 | G | C4'-O4' | -8.42 | 1.34 | 1.45 |
| 2 | AB | 2092 | U | N1-C2 | 8.42 | 1.46 | 1.38 |
| 35 | BA | 985 | C | N1-C6 | 8.42 | 1.42 | 1.37 |
| 2 | AB | 100 | U | N3-C4 | -8.42 | 1.30 | 1.38 |
| 2 | AB | 284 | U | C5'-C4' | 8.42 | 1.61 | 1.51 |
| 2 | AB | 2631 | G | C4'-O4' | -8.42 | 1.34 | 1.45 |
| 35 | BA | 390 | U | C2-N3 | 8.42 | 1.43 | 1.37 |
| 2 | AB | 2721 | A | N3-C4 | 8.42 | 1.39 | 1.34 |
| 35 | BA | 872 | A | N3-C4 | 8.42 | 1.40 | 1.34 |
| 35 | BA | 885 | G | N9-C4 | -8.42 | 1.31 | 1.38 |
| 2 | AB | 48 | G | N9-C8 | -8.41 | 1.31 | 1.37 |
| 2 | AB | 1242 | U | C2-N3 | -8.41 | 1.31 | 1.37 |
| 2 | AB | 381 | G | C2-N3 | 8.41 | 1.39 | 1.32 |
| 2 | AB | 1400 | U | C2-N3 | 8.41 | 1.43 | 1.37 |
| 2 | AB | 2355 | G | C8-N7 | -8.41 | 1.25 | 1.30 |
| 35 | BA | 713 | G | P-O5' | 8.41 | 1.68 | 1.59 |
| 2 | AB | 2015 | A | C8-N7 | -8.41 | 1.25 | 1.31 |
| 2 | AB | 2765 | A | N3-C4 | 8.41 | 1.39 | 1.34 |
| 35 | BA | 164 | G | P-O5' | 8.41 | 1.68 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 843 | G | N7-C5 | 8.41 | 1.44 | 1.39 |
| 35 | BA | 627 | G | N3-C4 | 8.41 | 1.41 | 1.35 |
| 35 | BA | 1274 | A | N7-C5 | -8.41 | 1.34 | 1.39 |
| 2 | AB | 1936 | A | N7-C5 | -8.41 | 1.34 | 1.39 |
| 35 | BA | 1399 | C | C5-C6 | 8.41 | 1.41 | 1.34 |
| 2 | AB | 646 | U | C5'-C4' | 8.40 | 1.61 | 1.51 |
| 35 | BA | 383 | A | N9-C4 | 8.40 | 1.42 | 1.37 |
| 2 | AB | 1652 | A | N3-C4 | 8.40 | 1.39 | 1.34 |
| 2 | AB | 2098 | U | C5'-C4' | 8.40 | 1.61 | 1.51 |
| 2 | AB | 1 | G | C2-N3 | 8.40 | 1.39 | 1.32 |
| 2 | AB | 286 | U | O3'-P | 8.40 | 1.71 | 1.61 |
| 2 | AB | 661 | A | N3-C4 | 8.40 | 1.39 | 1.34 |
| 2 | AB | 2586 | U | O3'-P | 8.40 | 1.71 | 1.61 |
| 2 | AB | 2868 | A | C4'-C3' | 8.40 | 1.62 | 1.53 |
| 35 | BA | 1060 | U | C5'-C4' | 8.40 | 1.61 | 1.51 |
| 2 | AB | 484 | C | O3'-P | 8.39 | 1.71 | 1.61 |
| 35 | BA | 83 | C | N1-C6 | 8.39 | 1.42 | 1.37 |
| 35 | BA | 1530 | G | N3-C4 | 8.39 | 1.41 | 1.35 |
| 2 | AB | 2648 | G | C4'-O4' | -8.39 | 1.34 | 1.45 |
| 2 | AB | 48 | G | N7-C5 | -8.39 | 1.34 | 1.39 |
| 2 | AB | 926 | G | C5'-C4' | 8.39 | 1.61 | 1.51 |
| 2 | AB | 519 | U | C4-C5 | 8.38 | 1.51 | 1.43 |
| 2 | AB | 1501 | G | N3-C4 | -8.39 | 1.29 | 1.35 |
| 2 | AB | 2186 | G | N7-C5 | 8.38 | 1.44 | 1.39 |
| 35 | BA | 132 | C | N1-C6 | 8.39 | 1.42 | 1.37 |
| 2 | AB | 2654 | A | P-O5' | 8.38 | 1.68 | 1.59 |
| 2 | AB | 1325 | U | O3'-P | 8.38 | 1.71 | 1.61 |
| 2 | AB | 1381 | G | P-O5' | 8.38 | 1.68 | 1.59 |
| 35 | BA | 1342 | C | C4-C5 | 8.38 | 1.49 | 1.43 |
| 35 | BA | 1485 | U | P-O5' | 8.38 | 1.68 | 1.59 |
| 35 | BA | 329 | A | C5'-C4' | 8.38 | 1.61 | 1.51 |
| 2 | AB | 442 | G | N3-C4 | 8.38 | 1.41 | 1.35 |
| 2 | AB | 1525 | A | N9-C8 | 8.38 | 1.44 | 1.37 |
| 35 | BA | 777 | A | P-O5' | 8.38 | 1.68 | 1.59 |
| 2 | AB | 792 | A | O3'-P | 8.38 | 1.71 | 1.61 |
| 2 | AB | 2731 | G | C2-N3 | 8.38 | 1.39 | 1.32 |
| 35 | BA | 428 | G | C5-C6 | 8.38 | 1.50 | 1.42 |
| 1 | AA | 25 | U | C3'-C2' | -8.37 | 1.43 | 1.52 |
| 2 | AB | 385 | C | C5-C6 | 8.37 | 1.41 | 1.34 |
| 2 | AB | 2692 | G | N3-C4 | -8.37 | 1.29 | 1.35 |
| 35 | BA | 102 | G | C2-N3 | 8.37 | 1.39 | 1.32 |
| 35 | BA | 1487 | G | C5-C6 | 8.37 | 1.50 | 1.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 671 | G | P-O5' | 8.37 | 1.68 | 1.59 |
| 35 | BA | 40 | C | P-O5' | -8.37 | 1.51 | 1.59 |
| 35 | BA | 640 | A | N3-C4 | 8.37 | 1.39 | 1.34 |
| 35 | BA | 1302 | C | N1-C6 | 8.37 | 1.42 | 1.37 |
| 35 | BA | 651 | C | P-O5' | 8.37 | 1.68 | 1.59 |
| 35 | BA | 1496 | C | P-O5' | 8.37 | 1.68 | 1.59 |
| 2 | AB | 513 | A | P-O5' | 8.36 | 1.68 | 1.59 |
| 2 | AB | 535 | G | N9-C8 | 8.37 | 1.43 | 1.37 |
| 35 | BA | 408 | A | N7-C5 | 8.37 | 1.44 | 1.39 |
| 2 | AB | 2327 | A | N9-C4 | 8.36 | 1.42 | 1.37 |
| 35 | BA | 1375 | A | N9-C4 | 8.36 | 1.42 | 1.37 |
| 2 | AB | 185 | G | C8-N7 | -8.36 | 1.25 | 1.30 |
| 2 | AB | 360 | U | C5'-C4' | 8.36 | 1.61 | 1.51 |
| 2 | AB | 592 | A | C2'-C1' | 8.36 | 1.62 | 1.53 |
| 2 | AB | 981 | A | N9-C8 | 8.36 | 1.44 | 1.37 |
| 2 | AB | 1084 | A | C5'-C4' | 8.36 | 1.61 | 1.51 |
| 2 | AB | 1675 | C | N1-C6 | 8.36 | 1.42 | 1.37 |
| 2 | AB | 1907 | G | C5-C4 | -8.36 | 1.32 | 1.38 |
| 2 | AB | 2579 | C | C4-C5 | 8.36 | 1.49 | 1.43 |
| 35 | BA | 189 | A | N3-C4 | 8.36 | 1.39 | 1.34 |
| 35 | BA | 900 | A | P-O5' | 8.36 | 1.68 | 1.59 |
| 2 | AB | 1577 | C | C4-C5 | 8.36 | 1.49 | 1.43 |
| 2 | AB | 119 | A | N3-C4 | 8.36 | 1.39 | 1.34 |
| 35 | BA | 874 | G | N9-C4 | 8.36 | 1.44 | 1.38 |
| 2 | AB | 911 | A | C5-C4 | 8.35 | 1.44 | 1.38 |
| 2 | AB | 558 | U | O3'-P | 8.35 | 1.71 | 1.61 |
| 2 | AB | 2400 | G | C6-N1 | 8.35 | 1.45 | 1.39 |
| 2 | AB | 2484 | G | C6-N1 | -8.35 | 1.33 | 1.39 |
| 1 | AA | 20 | G | C4'-O4' | -8.35 | 1.34 | 1.45 |
| 2 | AB | 1769 | U | N3-C4 | 8.35 | 1.46 | 1.38 |
| 2 | AB | 2383 | G | C2-N3 | 8.35 | 1.39 | 1.32 |
| 2 | AB | 2513 | A | N7-C5 | 8.35 | 1.44 | 1.39 |
| 2 | AB | 119 | A | P-O5' | 8.35 | 1.68 | 1.59 |
| 2 | AB | 2162 | G | N7-C5 | 8.35 | 1.44 | 1.39 |
| 35 | BA | 401 | C | N1-C6 | -8.35 | 1.32 | 1.37 |
| 2 | AB | 313 | G | C8-N7 | -8.34 | 1.25 | 1.30 |
| 2 | AB | 2228 | G | N9-C4 | 8.34 | 1.44 | 1.38 |
| 35 | BA | 1261 | A | P-O5' | 8.34 | 1.68 | 1.59 |
| 35 | BA | 50 | A | N9-C4 | 8.34 | 1.42 | 1.37 |
| 2 | AB | 286 | U | C2'-C1' | 8.34 | 1.62 | 1.53 |
| 2 | AB | 1543 | G | N7-C5 | -8.34 | 1.34 | 1.39 |
| 2 | AB | 2008 | C | N1-C6 | -8.34 | 1.32 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1507 | A | C6-N1 | 8.34 | 1.41 | 1.35 |
| 2 | AB | 1476 | U | C2-N3 | 8.34 | 1.43 | 1.37 |
| 2 | AB | 2541 | A | N3-C4 | 8.34 | 1.39 | 1.34 |
| 35 | BA | 1018 | G | N7-C5 | -8.34 | 1.34 | 1.39 |
| 2 | AB | 583 | G | O3'-P | -8.33 | 1.51 | 1.61 |
| 35 | BA | 393 | A | C5-C4 | 8.33 | 1.44 | 1.38 |
| 35 | BA | 791 | G | N3-C4 | 8.33 | 1.41 | 1.35 |
| 2 | AB | 123 | G | C6-N1 | -8.33 | 1.33 | 1.39 |
| 2 | AB | 700 | G | P-O5' | 8.33 | 1.68 | 1.59 |
| 2 | AB | 721 | A | C8-N7 | -8.33 | 1.25 | 1.31 |
| 35 | BA | 108 | G | C4'-O4' | -8.33 | 1.34 | 1.45 |
| 2 | AB | 1793 | C | C4-C5 | 8.32 | 1.49 | 1.43 |
| 2 | AB | 2571 | U | C4-C5 | 8.32 | 1.51 | 1.43 |
| 2 | AB | 2705 | A | N7-C5 | -8.32 | 1.34 | 1.39 |
| 2 | AB | 39 | G | O3'-P | 8.32 | 1.71 | 1.61 |
| 2 | AB | 1211 | C | C4-N4 | 8.32 | 1.41 | 1.33 |
| 2 | AB | 1552 | A | N7-C5 | -8.32 | 1.34 | 1.39 |
| 2 | AB | 424 | G | C2-N3 | 8.32 | 1.39 | 1.32 |
| 35 | BA | 1488 | G | C3'-C2' | 8.32 | 1.62 | 1.52 |
| 2 | AB | 2900 | A | N9-C8 | -8.31 | 1.31 | 1.37 |
| 35 | BA | 1107 | C | N3-C4 | 8.31 | 1.39 | 1.33 |
| 35 | BA | 1332 | A | C8-N7 | -8.31 | 1.25 | 1.31 |
| 2 | AB | 124 | G | C4'-O4' | -8.31 | 1.34 | 1.45 |
| 2 | AB | 464 | U | C2-N3 | 8.31 | 1.43 | 1.37 |
| 2 | AB | 1237 | A | C5-C6 | -8.31 | 1.33 | 1.41 |
| 2 | AB | 1318 | U | P-O5' | 8.31 | 1.68 | 1.59 |
| 2 | AB | 2299 | U | P-O5' | 8.31 | 1.68 | 1.59 |
| 35 | BA | 1034 | G | C6-N1 | -8.31 | 1.33 | 1.39 |
| 2 | AB | 621 | A | C5-C4 | -8.30 | 1.32 | 1.38 |
| 2 | AB | 1620 | G | N9-C4 | 8.30 | 1.44 | 1.38 |
| 2 | AB | 2599 | G | C8-N7 | 8.30 | 1.35 | 1.30 |
| 2 | AB | 301 | G | C8-N7 | -8.30 | 1.25 | 1.30 |
| 2 | AB | 1506 | U | C2-N3 | 8.30 | 1.43 | 1.37 |
| 2 | AB | 727 | A | P-O5' | 8.30 | 1.68 | 1.59 |
| 2 | AB | 245 | G | N7-C5 | -8.30 | 1.34 | 1.39 |
| 2 | AB | 1046 | A | O3'-P | 8.30 | 1.71 | 1.61 |
| 2 | AB | 1668 | A | C5'-C4' | 8.30 | 1.61 | 1.51 |
| 1 | AA | 89 | U | P-O5' | 8.29 | 1.68 | 1.59 |
| 2 | AB | 629 | G | C8-N7 | -8.29 | 1.25 | 1.30 |
| 2 | AB | 781 | A | N7-C5 | 8.29 | 1.44 | 1.39 |
| 2 | AB | 875 | G | C4'-O4' | -8.29 | 1.34 | 1.45 |
| 2 | AB | 245 | G | C5-C4 | -8.29 | 1.32 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 1 | AA | 16 | G | N3-C4 | 8.29 | 1.41 | 1.35 |
| 2 | AB | 67 | U | P-O5' | 8.29 | 1.68 | 1.59 |
| 2 | AB | 1097 | U | C2-N3 | 8.29 | 1.43 | 1.37 |
| 2 | AB | 1224 | U | N1-C2 | 8.29 | 1.46 | 1.38 |
| 2 | AB | 682 | G | C6-O6 | -8.29 | 1.16 | 1.24 |
| 2 | AB | 1639 | C | O3'-P | 8.29 | 1.71 | 1.61 |
| 35 | BA | 322 | C | N1-C6 | 8.29 | 1.42 | 1.37 |
| 2 | AB | 984 | A | O3'-P | 8.28 | 1.71 | 1.61 |
| 2 | AB | 320 | A | N3-C4 | 8.28 | 1.39 | 1.34 |
| 2 | AB | 1504 | A | N3-C4 | 8.28 | 1.39 | 1.34 |
| 2 | AB | 1952 | A | C2'-C1' | -8.28 | 1.44 | 1.53 |
| 2 | AB | 2724 | U | C2-N3 | -8.28 | 1.31 | 1.37 |
| 35 | BA | 260 | G | C8-N7 | 8.28 | 1.35 | 1.30 |
| 35 | BA | 118 | U | N3-C4 | -8.28 | 1.31 | 1.38 |
| 35 | BA | 382 | A | C5'-C4' | 8.28 | 1.61 | 1.51 |
| 35 | BA | 400 | C | C5-C6 | 8.28 | 1.41 | 1.34 |
| 2 | AB | 1395 | A | N7-C5 | -8.27 | 1.34 | 1.39 |
| 2 | AB | 1494 | A | N7-C5 | 8.27 | 1.44 | 1.39 |
| 2 | AB | 1772 | A | C6-N6 | 8.27 | 1.40 | 1.33 |
| 2 | AB | 2250 | G | N3-C4 | -8.27 | 1.29 | 1.35 |
| 2 | AB | 2358 | A | C4'-O4' | -8.27 | 1.34 | 1.45 |
| 2 | AB | 2697 | G | C4'-O4' | -8.27 | 1.34 | 1.45 |
| 2 | AB | 2877 | G | P-O5' | 8.27 | 1.68 | 1.59 |
| 2 | AB | 969 | G | C8-N7 | -8.27 | 1.25 | 1.30 |
| 35 | BA | 900 | A | C6-N6 | 8.27 | 1.40 | 1.33 |
| 2 | AB | 1644 | C | N3-C4 | 8.27 | 1.39 | 1.33 |
| 2 | AB | 637 | A | N3-C4 | 8.27 | 1.39 | 1.34 |
| 2 | AB | 2722 | G | O3'-P | 8.27 | 1.71 | 1.61 |
| 37 | BC | 48 | U | C5-C6 | 8.27 | 1.41 | 1.34 |
| 2 | AB | 553 | G | N1-C2 | 8.26 | 1.44 | 1.37 |
| 2 | AB | 789 | A | C5'-C4' | 8.26 | 1.61 | 1.51 |
| 2 | AB | 1239 | G | N9-C4 | 8.26 | 1.44 | 1.38 |
| 35 | BA | 984 | C | C4-C5 | 8.26 | 1.49 | 1.43 |
| 2 | AB | 648 | G | C2-N3 | 8.26 | 1.39 | 1.32 |
| 2 | AB | 849 | A | C2'-C1' | -8.26 | 1.44 | 1.53 |
| 2 | AB | 1171 | G | N7-C5 | -8.26 | 1.34 | 1.39 |
| 2 | AB | 387 | U | C2'-O2' | 8.26 | 1.52 | 1.41 |
| 35 | BA | 23 | C | N1-C6 | 8.26 | 1.42 | 1.37 |
| 1 | AA | 21 | G | C6-N1 | 8.26 | 1.45 | 1.39 |
| 2 | AB | 149 | A | N3-C4 | 8.26 | 1.39 | 1.34 |
| 2 | AB | 1954 | G | C2-N3 | 8.26 | 1.39 | 1.32 |
| 2 | AB | 2393 | U | N3-C4 | 8.26 | 1.45 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1439 | A | N3-C4 | 8.26 | 1.39 | 1.34 |
| 2 | AB | 2100 | G | N9-C4 | 8.26 | 1.44 | 1.38 |
| 2 | AB | 223 | A | C6-N1 | 8.25 | 1.41 | 1.35 |
| 2 | AB | 759 | G | N1-C2 | 8.25 | 1.44 | 1.37 |
| 2 | AB | 915 | C | P-O5' | 8.25 | 1.68 | 1.59 |
| 2 | AB | 1784 | A | P-O5' | 8.25 | 1.68 | 1.59 |
| 2 | AB | 409 | G | N1-C2 | 8.25 | 1.44 | 1.37 |
| 2 | AB | 1203 | U | C5'-C4' | 8.25 | 1.61 | 1.51 |
| 2 | AB | 572 | A | N3-C4 | 8.25 | 1.39 | 1.34 |
| 2 | AB | 1293 | C | C4-C5 | 8.25 | 1.49 | 1.43 |
| 2 | AB | 2778 | A | C5'-C4' | 8.25 | 1.61 | 1.51 |
| 35 | BA | 743 | A | N3-C4 | 8.25 | 1.39 | 1.34 |
| 2 | AB | 1963 | U | P-O5' | 8.25 | 1.68 | 1.59 |
| 2 | AB | 2083 | G | N3-C4 | 8.25 | 1.41 | 1.35 |
| 2 | AB | 2506 | U | N1-C2 | 8.25 | 1.46 | 1.38 |
| 2 | AB | 170 | U | O3'-P | 8.24 | 1.71 | 1.61 |
| 2 | AB | 2139 | U | P-O5' | 8.24 | 1.68 | 1.59 |
| 35 | BA | 819 | A | N9-C8 | -8.24 | 1.31 | 1.37 |
| 35 | BA | 1082 | A | C6-N6 | 8.24 | 1.40 | 1.33 |
| 35 | BA | 1513 | A | N3-C4 | 8.24 | 1.39 | 1.34 |
| 2 | AB | 2072 | C | N3-C4 | 8.24 | 1.39 | 1.33 |
| 2 | AB | 2033 | A | N3-C4 | 8.24 | 1.39 | 1.34 |
| 35 | BA | 17 | U | N3-C4 | 8.24 | 1.45 | 1.38 |
| 2 | AB | 1150 | C | N1-C6 | 8.24 | 1.42 | 1.37 |
| 2 | AB | 2088 | A | N3-C4 | 8.24 | 1.39 | 1.34 |
| 35 | BA | 1422 | G | N9-C4 | 8.24 | 1.44 | 1.38 |
| 2 | AB | 2818 | U | P-O5' | 8.24 | 1.68 | 1.59 |
| 2 | AB | 265 | A | P-O5' | 8.23 | 1.68 | 1.59 |
| 2 | AB | 513 | A | N9-C4 | 8.23 | 1.42 | 1.37 |
| 2 | AB | 1521 | G | N1-C2 | 8.23 | 1.44 | 1.37 |
| 35 | BA | 695 | A | N7-C5 | -8.23 | 1.34 | 1.39 |
| 35 | BA | 71 | A | P-O5' | 8.23 | 1.68 | 1.59 |
| 35 | BA | 409 | U | C2-N3 | 8.23 | 1.43 | 1.37 |
| 35 | BA | 533 | A | N7-C5 | -8.23 | 1.34 | 1.39 |
| 35 | BA | 821 | G | N3-C4 | 8.23 | 1.41 | 1.35 |
| 2 | AB | 1271 | G | C2-N3 | 8.23 | 1.39 | 1.32 |
| 35 | BA | 219 | U | C2-N3 | 8.23 | 1.43 | 1.37 |
| 35 | BA | 617 | G | N7-C5 | 8.23 | 1.44 | 1.39 |
| 2 | AB | 680 | C | P-O5' | 8.23 | 1.68 | 1.59 |
| 2 | AB | 2057 | G | N7-C5 | -8.23 | 1.34 | 1.39 |
| 2 | AB | 2241 | A | N7-C5 | -8.23 | 1.34 | 1.39 |
| 35 | BA | 1354 | U | C4-O4 | -8.23 | 1.17 | 1.23 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 658 | U | P-O5' | 8.22 | 1.68 | 1.59 |
| 2 | AB | 1299 | G | N7-C5 | -8.22 | 1.34 | 1.39 |
| 2 | AB | 2325 | G | C5-C4 | 8.22 | 1.44 | 1.38 |
| 36 | BB | 26 | U | C5-C6 | 8.22 | 1.41 | 1.34 |
| 35 | BA | 405 | U | C2-N3 | 8.22 | 1.43 | 1.37 |
| 2 | AB | 2000 | C | P-O5' | 8.22 | 1.68 | 1.59 |
| 35 | BA | 1213 | A | N9-C4 | -8.22 | 1.32 | 1.37 |
| 36 | BB | 34 | U | N3-C4 | 8.22 | 1.45 | 1.38 |
| 2 | AB | 117 | G | N1-C2 | 8.21 | 1.44 | 1.37 |
| 2 | AB | 392 | U | N1-C2 | 8.22 | 1.46 | 1.38 |
| 2 | AB | 1262 | A | P-O5' | 8.22 | 1.68 | 1.59 |
| 35 | BA | 510 | A | N9-C4 | 8.22 | 1.42 | 1.37 |
| 2 | AB | 812 | C | N3-C4 | 8.21 | 1.39 | 1.33 |
| 35 | BA | 723 | U | C2-N3 | 8.21 | 1.43 | 1.37 |
| 35 | BA | 306 | A | P-O5' | 8.21 | 1.68 | 1.59 |
| 2 | AB | 1389 | G | C2-N3 | 8.21 | 1.39 | 1.32 |
| 2 | AB | 1931 | U | P-O5' | 8.21 | 1.68 | 1.59 |
| 2 | AB | 2737 | G | C6-N1 | 8.21 | 1.45 | 1.39 |
| 35 | BA | 947 | G | C8-N7 | 8.21 | 1.35 | 1.30 |
| 35 | BA | 1338 | G | C3'-C2' | -8.21 | 1.43 | 1.52 |
| 36 | BB | 35 | G | N1-C2 | 8.21 | 1.44 | 1.37 |
| 2 | AB | 1746 | A | N3-C4 | 8.21 | 1.39 | 1.34 |
| 2 | AB | 133 | U | C2-N3 | 8.20 | 1.43 | 1.37 |
| 2 | AB | 873 | C | O3'-P | 8.20 | 1.71 | 1.61 |
| 2 | AB | 1107 | G | C8-N7 | 8.21 | 1.35 | 1.30 |
| 35 | BA | 280 | C | P-O5' | 8.20 | 1.68 | 1.59 |
| 35 | BA | 1424 | U | C4-O4 | -8.21 | 1.17 | 1.23 |
| 2 | AB | 1302 | A | C4'-O4' | -8.20 | 1.34 | 1.45 |
| 35 | BA | 844 | G | N9-C8 | -8.20 | 1.32 | 1.37 |
| 2 | AB | 1078 | U | C5'-C4' | 8.20 | 1.61 | 1.51 |
| 2 | AB | 2120 | G | O3'-P | 8.20 | 1.71 | 1.61 |
| 35 | BA | 345 | C | P-O5' | 8.20 | 1.68 | 1.59 |
| 2 | AB | 351 | C | N1-C6 | -8.20 | 1.32 | 1.37 |
| 2 | AB | 1979 | U | C4-O4 | 8.20 | 1.30 | 1.23 |
| 1 | AA | 26 | C | C4-N4 | 8.19 | 1.41 | 1.33 |
| 35 | BA | 1038 | C | C4-C5 | 8.19 | 1.49 | 1.43 |
| 2 | AB | 1259 | G | P-O5' | 8.19 | 1.68 | 1.59 |
| 35 | BA | 19 | A | C8-N7 | -8.19 | 1.25 | 1.31 |
| 37 | BC | 57 | C | C3'-C2' | 8.19 | 1.61 | 1.52 |
| 36 | BB | 14 | G | N9-C4 | 8.19 | 1.44 | 1.38 |
| 2 | AB | 504 | A | C6-N6 | 8.19 | 1.40 | 1.33 |
| 35 | BA | 385 | C | C4-C5 | 8.19 | 1.49 | 1.43 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 894 | U | C2-N3 | 8.18 | 1.43 | 1.37 |
| 2 | AB | 2750 | A | N9-C8 | 8.18 | 1.44 | 1.37 |
| 2 | AB | 2758 | A | C5'-C4' | 8.18 | 1.61 | 1.51 |
| 35 | BA | 177 | G | N7-C5 | -8.18 | 1.34 | 1.39 |
| 2 | AB | 675 | A | N7-C5 | -8.18 | 1.34 | 1.39 |
| 2 | AB | 1745 | A | C6-N6 | 8.18 | 1.40 | 1.33 |
| 35 | BA | 1159 | U | N1-C2 | 8.18 | 1.46 | 1.38 |
| 35 | BA | 1460 | C | P-O5' | 8.18 | 1.68 | 1.59 |
| 2 | AB | 1292 | G | N3-C4 | 8.18 | 1.41 | 1.35 |
| 2 | AB | 1549 | A | P-O5' | 8.18 | 1.68 | 1.59 |
| 35 | BA | 187 | G | C5'-C4' | 8.18 | 1.61 | 1.51 |
| 35 | BA | 1539 | C | C2-N3 | 8.18 | 1.42 | 1.35 |
| 2 | AB | 1946 | U | C2-N3 | 8.17 | 1.43 | 1.37 |
| 2 | AB | 1268 | A | N9-C4 | -8.17 | 1.32 | 1.37 |
| 2 | AB | 1253 | A | C8-N7 | -8.17 | 1.25 | 1.31 |
| 2 | AB | 2053 | G | C4'-C3' | -8.17 | 1.44 | 1.53 |
| 35 | BA | 270 | A | C5'-C4' | 8.17 | 1.61 | 1.51 |
| 35 | BA | 1139 | G | C5'-C4' | 8.17 | 1.61 | 1.51 |
| 35 | BA | 138 | G | N9-C8 | 8.16 | 1.43 | 1.37 |
| 2 | AB | 266 | G | C2-N3 | 8.16 | 1.39 | 1.32 |
| 2 | AB | 1266 | G | C6-N1 | 8.16 | 1.45 | 1.39 |
| 35 | BA | 3 | A | N9-C4 | 8.16 | 1.42 | 1.37 |
| 35 | BA | 249 | U | P-O5' | 8.16 | 1.68 | 1.59 |
| 2 | AB | 1130 | U | C2-N3 | 8.16 | 1.43 | 1.37 |
| 35 | BA | 1027 | C | P-O5' | 8.16 | 1.68 | 1.59 |
| 1 | AA | 102 | G | N3-C4 | 8.16 | 1.41 | 1.35 |
| 2 | AB | 1013 | C | N3-C4 | 8.16 | 1.39 | 1.33 |
| 2 | AB | 186 | G | N1-C2 | 8.15 | 1.44 | 1.37 |
| 2 | AB | 482 | A | C5-C4 | 8.15 | 1.44 | 1.38 |
| 2 | AB | 738 | G | N9-C8 | -8.15 | 1.32 | 1.37 |
| 2 | AB | 1107 | G | C5'-C4' | 8.15 | 1.61 | 1.51 |
| 35 | BA | 1117 | A | C2-N3 | -8.15 | 1.26 | 1.33 |
| 35 | BA | 1361 | G | O3'-P | 8.15 | 1.71 | 1.61 |
| 2 | AB | 762 | U | C5-C6 | 8.15 | 1.41 | 1.34 |
| 2 | AB | 803 | U | P-O5' | 8.15 | 1.68 | 1.59 |
| 2 | AB | 1940 | U | P-O5' | 8.15 | 1.68 | 1.59 |
| 2 | AB | 1350 | C | N1-C6 | 8.15 | 1.42 | 1.37 |
| 35 | BA | 165 | G | N3-C4 | 8.15 | 1.41 | 1.35 |
| 2 | AB | 992 | C | C2'-C1' | 8.15 | 1.62 | 1.53 |
| 2 | AB | 2127 | G | N3-C4 | 8.15 | 1.41 | 1.35 |
| 35 | BA | 957 | U | O4'-C1' | 8.15 | 1.52 | 1.41 |
| 2 | AB | 2775 | G | N9-C8 | -8.14 | 1.32 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 415 | A | O3'-P | 8.14 | 1.71 | 1.61 |
| 35 | BA | 772 | U | C4-C5 | 8.14 | 1.50 | 1.43 |
| 2 | AB | 1600 | C | N1-C6 | 8.14 | 1.42 | 1.37 |
| 2 | AB | 2681 | C | P-O5' | 8.14 | 1.67 | 1.59 |
| 35 | BA | 242 | G | O3'-P | -8.14 | 1.51 | 1.61 |
| 35 | BA | 268 | U | C5-C6 | 8.14 | 1.41 | 1.34 |
| 2 | AB | 1282 | U | N3-C4 | 8.13 | 1.45 | 1.38 |
| 2 | AB | 1433 | A | C5-C4 | -8.13 | 1.33 | 1.38 |
| 2 | AB | 1595 | C | N1-C6 | 8.13 | 1.42 | 1.37 |
| 35 | BA | 243 | A | C4'-O4' | -8.13 | 1.34 | 1.45 |
| 35 | BA | 377 | G | C8-N7 | 8.13 | 1.35 | 1.30 |
| 35 | BA | 1038 | C | P-O5' | 8.13 | 1.67 | 1.59 |
| 2 | AB | 536 | G | C5'-C4' | 8.13 | 1.61 | 1.51 |
| 2 | AB | 1314 | C | C2-N3 | 8.13 | 1.42 | 1.35 |
| 37 | BC | 54 | G | C6-N1 | 8.13 | 1.45 | 1.39 |
| 2 | AB | 2269 | G | N3-C4 | 8.13 | 1.41 | 1.35 |
| 2 | AB | 152 | A | N9-C8 | -8.13 | 1.31 | 1.37 |
| 2 | AB | 2133 | G | P-O5' | 8.13 | 1.67 | 1.59 |
| 2 | AB | 2295 | C | C5-C6 | 8.13 | 1.40 | 1.34 |
| 35 | BA | 752 | G | C2-N3 | 8.13 | 1.39 | 1.32 |
| 2 | AB | 1753 | G | C5-C4 | -8.13 | 1.32 | 1.38 |
| 35 | BA | 586 | C | N1-C6 | 8.12 | 1.42 | 1.37 |
| 2 | AB | 639 | U | C2-N3 | 8.12 | 1.43 | 1.37 |
| 2 | AB | 771 | G | N7-C5 | 8.12 | 1.44 | 1.39 |
| 2 | AB | 2025 | C | C5'-C4' | 8.12 | 1.61 | 1.51 |
| 35 | BA | 10 | A | C5-C4 | 8.12 | 1.44 | 1.38 |
| 35 | BA | 240 | G | N7-C5 | -8.12 | 1.34 | 1.39 |
| 2 | AB | 197 | A | C3'-C2' | 8.12 | 1.61 | 1.52 |
| 35 | BA | 216 | U | C5-C6 | 8.12 | 1.41 | 1.34 |
| 35 | BA | 800 | G | C5'-C4' | 8.12 | 1.61 | 1.51 |
| 35 | BA | 803 | G | C5-C4 | -8.12 | 1.32 | 1.38 |
| 2 | AB | 1983 | G | C2'-C1' | 8.12 | 1.62 | 1.53 |
| 1 | AA | 30 | C | C4-N4 | 8.11 | 1.41 | 1.33 |
| 1 | AA | 41 | G | O3'-P | 8.11 | 1.70 | 1.61 |
| 2 | AB | 1500 | G | N7-C5 | -8.11 | 1.34 | 1.39 |
| 35 | BA | 104 | G | C5'-C4' | 8.11 | 1.61 | 1.51 |
| 2 | AB | 1366 | A | N3-C4 | 8.11 | 1.39 | 1.34 |
| 2 | AB | 2271 | G | C8-N7 | 8.11 | 1.35 | 1.30 |
| 2 | AB | 85 | G | C5-C4 | -8.11 | 1.32 | 1.38 |
| 2 | AB | 2271 | G | N7-C5 | 8.11 | 1.44 | 1.39 |
| 35 | BA | 722 | G | C5'-C4' | 8.11 | 1.61 | 1.51 |
| 35 | BA | 219 | U | N1-C6 | 8.11 | 1.45 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 530 | G | C6-N1 | 8.11 | 1.45 | 1.39 |
| 2 | AB | 2734 | A | C8-N7 | -8.11 | 1.25 | 1.31 |
| 36 | BB | 20 | G | N9-C8 | 8.11 | 1.43 | 1.37 |
| 1 | AA | 88 | C | P-O5' | 8.10 | 1.67 | 1.59 |
| 35 | BA | 148 | G | P-O5' | 8.10 | 1.67 | 1.59 |
| 2 | AB | 1042 | G | N7-C5 | 8.10 | 1.44 | 1.39 |
| 2 | AB | 2462 | C | C3'-C2' | 8.10 | 1.61 | 1.52 |
| 35 | BA | 1430 | A | C2-N3 | -8.10 | 1.26 | 1.33 |
| 2 | AB | 1127 | A | C6-N1 | -8.10 | 1.29 | 1.35 |
| 2 | AB | 571 | U | C2-N3 | 8.10 | 1.43 | 1.37 |
| 35 | BA | 71 | A | N9-C4 | 8.10 | 1.42 | 1.37 |
| 1 | AA | 109 | A | C4'-O4' | -8.09 | 1.35 | 1.45 |
| 2 | AB | 1838 | C | C2'-C1' | -8.09 | 1.44 | 1.53 |
| 2 | AB | 1914 | C | C4-N4 | 8.09 | 1.41 | 1.33 |
| 35 | BA | 446 | G | P-O5' | 8.09 | 1.67 | 1.59 |
| 35 | BA | 749 | A | C8-N7 | -8.09 | 1.25 | 1.31 |
| 35 | BA | 982 | U | P-O5' | 8.09 | 1.67 | 1.59 |
| 2 | AB | 1894 | C | C4-C5 | 8.09 | 1.49 | 1.43 |
| 35 | BA | 1178 | G | N7-C5 | 8.09 | 1.44 | 1.39 |
| 2 | AB | 170 | U | C4-C5 | 8.09 | 1.50 | 1.43 |
| 35 | BA | 328 | C | O3'-P | 8.09 | 1.70 | 1.61 |
| 2 | AB | 2393 | U | N1-C2 | 8.09 | 1.45 | 1.38 |
| 36 | BB | 50 | U | P-O5' | 8.09 | 1.67 | 1.59 |
| 2 | AB | 1103 | A | C6-N6 | 8.09 | 1.40 | 1.33 |
| 2 | AB | 1456 | G | C5-C4 | -8.09 | 1.32 | 1.38 |
| 2 | AB | 1475 | G | O4'-C1' | -8.09 | 1.31 | 1.41 |
| 35 | BA | 1392 | G | C2-N3 | 8.09 | 1.39 | 1.32 |
| 35 | BA | 1395 | C | P-O5' | 8.09 | 1.67 | 1.59 |
| 37 | BC | 61 | U | C2-N3 | 8.09 | 1.43 | 1.37 |
| 2 | AB | 1800 | C | N3-C4 | 8.08 | 1.39 | 1.33 |
| 35 | BA | 1255 | G | N9-C8 | 8.08 | 1.43 | 1.37 |
| 35 | BA | 1271 | A | N9-C8 | 8.08 | 1.44 | 1.37 |
| 2 | AB | 83 | A | P-O5' | 8.08 | 1.67 | 1.59 |
| 35 | BA | 245 | U | N1-C2 | 8.08 | 1.45 | 1.38 |
| 2 | AB | 1769 | U | O3'-P | 8.08 | 1.70 | 1.61 |
| 2 | AB | 1772 | A | O3'-P | 8.08 | 1.70 | 1.61 |
| 2 | AB | 2138 | G | C4'-O4' | -8.08 | 1.35 | 1.45 |
| 35 | BA | 1003 | G | N1-C2 | 8.08 | 1.44 | 1.37 |
| 1 | AA | 8 | C | N1-C6 | 8.08 | 1.42 | 1.37 |
| 2 | AB | 404 | A | N3-C4 | 8.08 | 1.39 | 1.34 |
| 35 | BA | 502 | A | C5-C4 | -8.08 | 1.33 | 1.38 |
| 2 | AB | 963 | U | C4'-C3' | 8.08 | 1.62 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2505 | G | C2-N3 | 8.08 | 1.39 | 1.32 |
| 35 | BA | 1152 | A | N9-C4 | 8.08 | 1.42 | 1.37 |
| 35 | BA | 563 | A | C5-C4 | -8.07 | 1.33 | 1.38 |
| 2 | AB | 638 | G | N1-C2 | 8.07 | 1.44 | 1.37 |
| 2 | AB | 1270 | C | P-O5' | 8.07 | 1.67 | 1.59 |
| 35 | BA | 1048 | G | C4'-O4' | -8.07 | 1.35 | 1.45 |
| 35 | BA | 9 | G | P-O5' | 8.07 | 1.67 | 1.59 |
| 2 | AB | 27 | G | P-O5' | 8.07 | 1.67 | 1.59 |
| 35 | BA | 83 | C | C2-N3 | -8.07 | 1.29 | 1.35 |
| 35 | BA | 1066 | C | N1-C6 | 8.07 | 1.42 | 1.37 |
| 2 | AB | 246 | C | C2-N3 | 8.07 | 1.42 | 1.35 |
| 2 | AB | 550 | C | N1-C6 | 8.07 | 1.42 | 1.37 |
| 2 | AB | 2161 | C | C4-C5 | 8.07 | 1.49 | 1.43 |
| 37 | BC | 58 | A | C4'-C3' | 8.07 | 1.62 | 1.53 |
| 2 | AB | 217 | A | C6-N1 | -8.06 | 1.29 | 1.35 |
| 2 | AB | 338 | G | N3-C4 | 8.06 | 1.41 | 1.35 |
| 2 | AB | 1607 | C | P-O5' | 8.06 | 1.67 | 1.59 |
| 35 | BA | 578 | C | N1-C6 | 8.06 | 1.42 | 1.37 |
| 35 | BA | 1391 | U | C2-N3 | 8.06 | 1.43 | 1.37 |
| 35 | BA | 506 | G | N9-C8 | -8.06 | 1.32 | 1.37 |
| 2 | AB | 1582 | C | N1-C6 | 8.06 | 1.42 | 1.37 |
| 2 | AB | 1876 | A | N9-C8 | 8.06 | 1.44 | 1.37 |
| 2 | AB | 2494 | G | C8-N7 | 8.06 | 1.35 | 1.30 |
| 2 | AB | 316 | C | N1-C6 | -8.06 | 1.32 | 1.37 |
| 2 | AB | 422 | A | N9-C4 | 8.06 | 1.42 | 1.37 |
| 35 | BA | 238 | A | N3-C4 | 8.06 | 1.39 | 1.34 |
| 2 | AB | 200 | U | N1-C2 | 8.05 | 1.45 | 1.38 |
| 2 | AB | 2375 | G | N3-C4 | 8.05 | 1.41 | 1.35 |
| 2 | AB | 2447 | G | P-O5' | 8.05 | 1.67 | 1.59 |
| 35 | BA | 126 | G | C5'-C4' | 8.05 | 1.61 | 1.51 |
| 2 | AB | 63 | A | C5'-C4' | 8.05 | 1.61 | 1.51 |
| 2 | AB | 1269 | A | N9-C8 | -8.05 | 1.31 | 1.37 |
| 1 | AA | 46 | A | N7-C5 | 8.05 | 1.44 | 1.39 |
| 2 | AB | 472 | A | N7-C5 | 8.05 | 1.44 | 1.39 |
| 2 | AB | 1540 | G | C2-N3 | 8.05 | 1.39 | 1.32 |
| 2 | AB | 2116 | G | C6-N1 | 8.05 | 1.45 | 1.39 |
| 2 | AB | 1082 | U | C4-C5 | 8.04 | 1.50 | 1.43 |
| 35 | BA | 8 | A | C4'-O4' | -8.04 | 1.35 | 1.45 |
| 2 | AB | 985 | C | C5-C6 | 8.04 | 1.40 | 1.34 |
| 2 | AB | 1195 | G | N1-C2 | 8.04 | 1.44 | 1.37 |
| 35 | BA | 849 | G | N9-C4 | 8.04 | 1.44 | 1.38 |
| 35 | BA | 927 | G | P-O5' | 8.04 | 1.67 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1532 | U | C2-N3 | 8.04 | 1.43 | 1.37 |
| 2 | AB | 665 | U | C2-N3 | 8.04 | 1.43 | 1.37 |
| 35 | BA | 1403 | C | C2-N3 | 8.04 | 1.42 | 1.35 |
| 2 | AB | 147 | C | C4-C5 | 8.04 | 1.49 | 1.43 |
| 36 | BB | 21 | U | C4-O4 | -8.04 | 1.17 | 1.23 |
| 1 | AA | 73 | A | C5-C4 | -8.03 | 1.33 | 1.38 |
| 2 | AB | 151 | C | C4'-O4' | -8.03 | 1.35 | 1.45 |
| 2 | AB | 1271 | G | C6-O6 | -8.03 | 1.17 | 1.24 |
| 2 | AB | 2709 | G | C2-N3 | 8.04 | 1.39 | 1.32 |
| 35 | BA | 553 | A | C6-N1 | 8.04 | 1.41 | 1.35 |
| 36 | BB | 49 | U | P-O5' | 8.04 | 1.67 | 1.59 |
| 2 | AB | 738 | G | C5-C6 | 8.03 | 1.50 | 1.42 |
| 2 | AB | 1450 | G | C8-N7 | 8.03 | 1.35 | 1.30 |
| 2 | AB | 1872 | A | C5-C4 | -8.03 | 1.33 | 1.38 |
| 2 | AB | 902 | C | O4'-C1' | 8.03 | 1.52 | 1.41 |
| 2 | AB | 347 | A | N3-C4 | 8.03 | 1.39 | 1.34 |
| 2 | AB | 1293 | C | N3-C4 | -8.03 | 1.28 | 1.33 |
| 2 | AB | 2581 | G | C4'-C3' | 8.03 | 1.61 | 1.53 |
| 2 | AB | 1256 | G | C2-N3 | 8.03 | 1.39 | 1.32 |
| 2 | AB | 2264 | C | N1-C6 | 8.03 | 1.42 | 1.37 |
| 2 | AB | 2451 | A | N3-C4 | 8.03 | 1.39 | 1.34 |
| 35 | BA | 528 | C | C2-N3 | 8.03 | 1.42 | 1.35 |
| 2 | AB | 455 | C | P-O5' | 8.02 | 1.67 | 1.59 |
| 2 | AB | 2838 | G | C2-N3 | 8.02 | 1.39 | 1.32 |
| 2 | AB | 2890 | G | C5'-C4' | 8.02 | 1.60 | 1.51 |
| 35 | BA | 1317 | C | C5-C6 | 8.02 | 1.40 | 1.34 |
| 2 | AB | 1258 | U | C5-C6 | 8.02 | 1.41 | 1.34 |
| 2 | AB | 1641 | A | P-O5' | 8.02 | 1.67 | 1.59 |
| 35 | BA | 649 | A | N9-C4 | 8.02 | 1.42 | 1.37 |
| 35 | BA | 254 | G | O3'-P | 8.02 | 1.70 | 1.61 |
| 2 | AB | 1977 | A | P-O5' | 8.02 | 1.67 | 1.59 |
| 2 | AB | 2662 | A | N3-C4 | 8.02 | 1.39 | 1.34 |
| 35 | BA | 816 | A | N9-C4 | -8.02 | 1.33 | 1.37 |
| 2 | AB | 153 | U | N1-C2 | 8.01 | 1.45 | 1.38 |
| 35 | BA | 1527 | U | C4'-O4' | -8.01 | 1.35 | 1.45 |
| 2 | AB | 618 | G | C6-O6 | -8.01 | 1.17 | 1.24 |
| 2 | AB | 2872 | A | C5-C4 | -8.01 | 1.33 | 1.38 |
| 35 | BA | 81 | A | C8-N7 | -8.01 | 1.25 | 1.31 |
| 35 | BA | 642 | A | N7-C5 | 8.01 | 1.44 | 1.39 |
| 35 | BA | 1368 | A | C6-N6 | 8.01 | 1.40 | 1.33 |
| 2 | AB | 482 | A | C4'-O4' | -8.01 | 1.35 | 1.45 |
| 2 | AB | 802 | A | C5-C6 | 8.01 | 1.48 | 1.41 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 918 | A | N3-C4 | 8.01 | 1.39 | 1.34 |
| 2 | AB | 1836 | C | N1-C6 | 8.01 | 1.42 | 1.37 |
| 35 | BA | 384 | G | C8-N7 | -8.01 | 1.26 | 1.30 |
| 35 | BA | 1398 | A | N3-C4 | 8.01 | 1.39 | 1.34 |
| 35 | BA | 432 | A | C8-N7 | -8.01 | 1.25 | 1.31 |
| 2 | AB | 39 | G | C2-N3 | 8.00 | 1.39 | 1.32 |
| 2 | AB | 632 | A | N3-C4 | 8.00 | 1.39 | 1.34 |
| 2 | AB | 2549 | G | N1-C2 | 8.00 | 1.44 | 1.37 |
| 35 | BA | 579 | A | N9-C4 | 8.00 | 1.42 | 1.37 |
| 1 | AA | 80 | U | C5-C6 | 8.00 | 1.41 | 1.34 |
| 35 | BA | 868 | C | N3-C4 | 8.00 | 1.39 | 1.33 |
| 2 | AB | 1030 | C | N1-C6 | 8.00 | 1.42 | 1.37 |
| 35 | BA | 467 | U | N1-C6 | 8.00 | 1.45 | 1.38 |
| 35 | BA | 887 | G | N9-C8 | -8.00 | 1.32 | 1.37 |
| 2 | AB | 2058 | A | C3'-C2' | -7.99 | 1.44 | 1.52 |
| 35 | BA | 794 | A | O4'-C1' | 7.99 | 1.52 | 1.41 |
| 2 | AB | 488 | G | N1-C2 | 7.99 | 1.44 | 1.37 |
| 2 | AB | 1902 | C | C4-N4 | -7.99 | 1.26 | 1.33 |
| 2 | AB | 987 | C | C5'-C4' | 7.99 | 1.60 | 1.51 |
| 2 | AB | 619 | G | N1-C2 | 7.99 | 1.44 | 1.37 |
| 35 | BA | 56 | U | C2-N3 | 7.99 | 1.43 | 1.37 |
| 2 | AB | 1657 | U | O3'-P | 7.99 | 1.70 | 1.61 |
| 2 | AB | 1759 | A | C3'-C2' | 7.99 | 1.61 | 1.52 |
| 35 | BA | 414 | A | N3-C4 | 7.99 | 1.39 | 1.34 |
| 35 | BA | 1504 | G | N7-C5 | 7.99 | 1.44 | 1.39 |
| 2 | AB | 2181 | U | C4-O4 | -7.98 | 1.17 | 1.23 |
| 35 | BA | 51 | A | N7-C5 | -7.98 | 1.34 | 1.39 |
| 1 | AA | 106 | G | C2-N3 | 7.98 | 1.39 | 1.32 |
| 2 | AB | 1297 | C | N3-C4 | 7.98 | 1.39 | 1.33 |
| 2 | AB | 2522 | U | P-O5' | 7.98 | 1.67 | 1.59 |
| 2 | AB | 1030 | C | N3-C4 | 7.98 | 1.39 | 1.33 |
| 37 | BC | 9 | G | N9-C4 | 7.98 | 1.44 | 1.38 |
| 2 | AB | 769 | U | C2-N3 | 7.97 | 1.43 | 1.37 |
| 2 | AB | 1163 | G | O3'-P | 7.97 | 1.70 | 1.61 |
| 2 | AB | 1387 | A | C6-N6 | 7.97 | 1.40 | 1.33 |
| 2 | AB | 2207 | C | N3-C4 | -7.97 | 1.28 | 1.33 |
| 35 | BA | 439 | U | N1-C2 | 7.97 | 1.45 | 1.38 |
| 35 | BA | 1455 | G | C5-C4 | -7.97 | 1.32 | 1.38 |
| 35 | BA | 972 | C | N3-C4 | 7.97 | 1.39 | 1.33 |
| 2 | AB | 1769 | U | C5-C6 | 7.97 | 1.41 | 1.34 |
| 35 | BA | 8 | A | P-O5' | 7.97 | 1.67 | 1.59 |
| 2 | AB | 408 | G | N9-C8 | 7.97 | 1.43 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1115 | G | N1-C2 | 7.97 | 1.44 | 1.37 |
| 2 | AB | 1692 | U | C2-N3 | 7.96 | 1.43 | 1.37 |
| 2 | AB | 1164 | C | P-O5' | 7.96 | 1.67 | 1.59 |
| 2 | AB | 1191 | G | P-O5' | 7.96 | 1.67 | 1.59 |
| 2 | AB | 2630 | G | C5'-C4' | -7.96 | 1.41 | 1.51 |
| 35 | BA | 1014 | A | N3-C4 | 7.96 | 1.39 | 1.34 |
| 2 | AB | 2050 | C | C4-C5 | 7.96 | 1.49 | 1.43 |
| 2 | AB | 2355 | G | N9-C4 | 7.96 | 1.44 | 1.38 |
| 35 | BA | 1144 | G | C2-N3 | 7.96 | 1.39 | 1.32 |
| 2 | AB | 2493 | U | C4-C5 | 7.96 | 1.50 | 1.43 |
| 35 | BA | 134 | G | C4'-O4' | -7.96 | 1.35 | 1.45 |
| 35 | BA | 1300 | G | O3'-P | 7.96 | 1.70 | 1.61 |
| 1 | AA | 46 | A | C8-N7 | -7.96 | 1.25 | 1.31 |
| 2 | AB | 2555 | U | N1-C2 | 7.96 | 1.45 | 1.38 |
| 2 | AB | 824 | U | C2'-C1' | 7.96 | 1.62 | 1.53 |
| 2 | AB | 2588 | G | P-O5' | 7.96 | 1.67 | 1.59 |
| 2 | AB | 1458 | U | N1-C2 | 7.95 | 1.45 | 1.38 |
| 2 | AB | 2862 | G | P-O5' | 7.95 | 1.67 | 1.59 |
| 35 | BA | 1144 | G | N1-C2 | 7.95 | 1.44 | 1.37 |
| 35 | BA | 53 | A | N9-C4 | 7.95 | 1.42 | 1.37 |
| 35 | BA | 238 | A | C2-N3 | 7.95 | 1.40 | 1.33 |
| 2 | AB | 1800 | C | C2-O2 | -7.95 | 1.17 | 1.24 |
| 35 | BA | 1182 | G | N3-C4 | 7.95 | 1.41 | 1.35 |
| 2 | AB | 1187 | G | C2-N3 | 7.95 | 1.39 | 1.32 |
| 2 | AB | 1202 | G | C6-O6 | -7.95 | 1.17 | 1.24 |
| 2 | AB | 2193 | G | N1-C2 | 7.95 | 1.44 | 1.37 |
| 2 | AB | 1651 | G | N3-C4 | 7.95 | 1.41 | 1.35 |
| 35 | BA | 28 | A | C6-N1 | 7.95 | 1.41 | 1.35 |
| 2 | AB | 822 | G | P-O5' | 7.94 | 1.67 | 1.59 |
| 2 | AB | 461 | C | C4-C5 | 7.94 | 1.49 | 1.43 |
| 2 | AB | 1922 | G | C8-N7 | 7.94 | 1.35 | 1.30 |
| 35 | BA | 35 | G | C8-N7 | -7.94 | 1.26 | 1.30 |
| 35 | BA | 718 | A | N3-C4 | 7.94 | 1.39 | 1.34 |
| 35 | BA | 1159 | U | C4'-O4' | -7.94 | 1.35 | 1.45 |
| 2 | AB | 104 | A | N3-C4 | 7.94 | 1.39 | 1.34 |
| 2 | AB | 170 | U | C5'-C4' | 7.94 | 1.60 | 1.51 |
| 35 | BA | 242 | G | N3-C4 | 7.94 | 1.41 | 1.35 |
| 35 | BA | 1109 | C | C4-C5 | 7.94 | 1.49 | 1.43 |
| 2 | AB | 190 | A | P-O5' | 7.94 | 1.67 | 1.59 |
| 2 | AB | 278 | A | C5'-C4' | 7.94 | 1.60 | 1.51 |
| 2 | AB | 2060 | A | N9-C4 | -7.94 | 1.33 | 1.37 |
| 35 | BA | 446 | G | C8-N7 | -7.94 | 1.26 | 1.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 1 | AA | 52 | A | N3-C4 | -7.94 | 1.30 | 1.34 |
| 2 | AB | 1134 | A | N3-C4 | 7.94 | 1.39 | 1.34 |
| 35 | BA | 1515 | G | N9-C8 | 7.94 | 1.43 | 1.37 |
| 2 | AB | 2618 | G | N7-C5 | 7.94 | 1.44 | 1.39 |
| 35 | BA | 64 | G | C2-N3 | 7.94 | 1.39 | 1.32 |
| 2 | AB | 226 | A | N9-C4 | 7.93 | 1.42 | 1.37 |
| 2 | AB | 191 | A | N3-C4 | 7.93 | 1.39 | 1.34 |
| 37 | BC | 12 | G | C2-N3 | 7.93 | 1.39 | 1.32 |
| 35 | BA | 1286 | U | C5'-C4' | 7.93 | 1.60 | 1.51 |
| 35 | BA | 370 | C | C4'-C3' | 7.93 | 1.61 | 1.53 |
| 35 | BA | 1496 | C | C2-O2 | -7.93 | 1.17 | 1.24 |
| 35 | BA | 698 | G | C5'-C4' | 7.92 | 1.60 | 1.51 |
| 2 | AB | 654 | A | N9-C8 | 7.92 | 1.44 | 1.37 |
| 35 | BA | 694 | A | N7-C5 | 7.92 | 1.44 | 1.39 |
| 2 | AB | 1112 | G | C2-N3 | 7.92 | 1.39 | 1.32 |
| 35 | BA | 466 | A | C5-C6 | 7.92 | 1.48 | 1.41 |
| 35 | BA | 789 | U | C4-C5 | 7.92 | 1.50 | 1.43 |
| 37 | BC | 24 | C | C2-N3 | 7.92 | 1.42 | 1.35 |
| 37 | BC | 5 | G | N9-C8 | 7.91 | 1.43 | 1.37 |
| 2 | AB | 876 | C | C3'-C2' | -7.91 | 1.44 | 1.52 |
| 2 | AB | 2016 | U | N3-C4 | 7.91 | 1.45 | 1.38 |
| 35 | BA | 371 | A | O3'-P | 7.91 | 1.70 | 1.61 |
| 35 | BA | 803 | G | P-O5' | 7.91 | 1.67 | 1.59 |
| 35 | BA | 818 | G | C2-N3 | 7.91 | 1.39 | 1.32 |
| 35 | BA | 1260 | G | N7-C5 | -7.91 | 1.34 | 1.39 |
| 36 | BB | 36 | U | C2-N3 | 7.91 | 1.43 | 1.37 |
| 2 | AB | 453 | A | N3-C4 | 7.91 | 1.39 | 1.34 |
| 2 | AB | 923 | G | C8-N7 | -7.91 | 1.26 | 1.30 |
| 35 | BA | 370 | C | C4'-O4' | -7.91 | 1.35 | 1.45 |
| 2 | AB | 2279 | G | N7-C5 | -7.91 | 1.34 | 1.39 |
| 35 | BA | 1297 | G | N3-C4 | 7.91 | 1.41 | 1.35 |
| 2 | AB | 1235 | G | C4'-O4' | -7.90 | 1.35 | 1.45 |
| 2 | AB | 472 | A | C8-N7 | 7.90 | 1.37 | 1.31 |
| 2 | AB | 744 | U | P-O5' | 7.90 | 1.67 | 1.59 |
| 2 | AB | 1193 | G | N3-C4 | 7.90 | 1.41 | 1.35 |
| 35 | BA | 557 | G | N9-C8 | -7.90 | 1.32 | 1.37 |
| 2 | AB | 100 | U | O3'-P | 7.90 | 1.70 | 1.61 |
| 2 | AB | 1542 | U | N1-C2 | 7.90 | 1.45 | 1.38 |
| 2 | AB | 2063 | C | P-O5' | 7.90 | 1.67 | 1.59 |
| 2 | AB | 2893 | A | N9-C4 | 7.90 | 1.42 | 1.37 |
| 35 | BA | 760 | G | P-O5' | 7.90 | 1.67 | 1.59 |
| 35 | BA | 1202 | U | C4-C5 | 7.90 | 1.50 | 1.43 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2112 | G | C5-C6 | 7.90 | 1.50 | 1.42 |
| 2 | AB | 2253 | G | N1-C2 | 7.90 | 1.44 | 1.37 |
| 2 | AB | 731 | C | C2-N3 | 7.89 | 1.42 | 1.35 |
| 2 | AB | 1086 | A | N9-C4 | 7.89 | 1.42 | 1.37 |
| 2 | AB | 2644 | G | C8-N7 | 7.89 | 1.35 | 1.30 |
| 35 | BA | 129 | A | N3-C4 | 7.89 | 1.39 | 1.34 |
| 2 | AB | 227 | A | C5'-C4' | 7.89 | 1.60 | 1.51 |
| 2 | AB | 245 | G | P-O5' | 7.89 | 1.67 | 1.59 |
| 1 | AA | 53 | A | C2-N3 | 7.89 | 1.40 | 1.33 |
| 2 | AB | 1440 | U | P-O5' | 7.89 | 1.67 | 1.59 |
| 2 | AB | 2599 | G | C6-N1 | 7.89 | 1.45 | 1.39 |
| 35 | BA | 838 | G | O3'-P | 7.89 | 1.70 | 1.61 |
| 2 | AB | 2058 | A | N7-C5 | 7.89 | 1.44 | 1.39 |
| 35 | BA | 329 | A | C5-C4 | 7.89 | 1.44 | 1.38 |
| 35 | BA | 923 | A | N3-C4 | 7.89 | 1.39 | 1.34 |
| 2 | AB | 502 | A | N3-C4 | 7.89 | 1.39 | 1.34 |
| 2 | AB | 2330 | G | P-O5' | 7.89 | 1.67 | 1.59 |
| 2 | AB | 14 | A | N1-C2 | -7.88 | 1.27 | 1.34 |
| 2 | AB | 91 | A | N3-C4 | 7.88 | 1.39 | 1.34 |
| 35 | BA | 113 | G | C3'-C2' | 7.88 | 1.61 | 1.52 |
| 35 | BA | 1058 | G | N7-C5 | -7.88 | 1.34 | 1.39 |
| 2 | AB | 386 | G | C8-N7 | -7.88 | 1.26 | 1.30 |
| 35 | BA | 36 | C | N1-C6 | 7.88 | 1.41 | 1.37 |
| 35 | BA | 403 | C | O3'-P | 7.88 | 1.70 | 1.61 |
| 2 | AB | 276 | U | C5'-C4' | 7.88 | 1.60 | 1.51 |
| 2 | AB | 1547 | C | O3'-P | 7.88 | 1.70 | 1.61 |
| 2 | AB | 2475 | C | C4-C5 | 7.88 | 1.49 | 1.43 |
| 35 | BA | 894 | G | C2-N2 | 7.88 | 1.42 | 1.34 |
| 35 | BA | 1119 | C | C2-N3 | 7.88 | 1.42 | 1.35 |
| 35 | BA | 879 | C | C4-C5 | 7.88 | 1.49 | 1.43 |
| 1 | AA | 85 | G | C2-N3 | 7.88 | 1.39 | 1.32 |
| 2 | AB | 2297 | A | N9-C4 | 7.87 | 1.42 | 1.37 |
| 2 | AB | 998 | C | P-O5' | 7.87 | 1.67 | 1.59 |
| 2 | AB | 297 | G | C8-N7 | -7.87 | 1.26 | 1.30 |
| 35 | BA | 1496 | C | C2-N3 | 7.87 | 1.42 | 1.35 |
| 2 | AB | 332 | A | C5-C4 | -7.87 | 1.33 | 1.38 |
| 35 | BA | 216 | U | C2-N3 | 7.87 | 1.43 | 1.37 |
| 35 | BA | 763 | G | N3-C4 | 7.87 | 1.41 | 1.35 |
| 35 | BA | 1020 | G | C5-C4 | -7.87 | 1.32 | 1.38 |
| 36 | BB | 25 | U | O3'-P | 7.87 | 1.70 | 1.61 |
| 2 | AB | 809 | G | C2-N3 | 7.87 | 1.39 | 1.32 |
| 2 | AB | 2152 | G | C2-N2 | -7.87 | 1.26 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2319 | G | N7-C5 | -7.87 | 1.34 | 1.39 |
| 35 | BA | 371 | A | C6-N1 | 7.87 | 1.41 | 1.35 |
| 2 | AB | 1114 | C | P-O5' | 7.86 | 1.67 | 1.59 |
| 2 | AB | 1505 | A | C8-N7 | -7.86 | 1.26 | 1.31 |
| 2 | AB | 2535 | G | C4'-C3' | 7.86 | 1.61 | 1.53 |
| 35 | BA | 761 | G | C2-N3 | 7.86 | 1.39 | 1.32 |
| 2 | AB | 295 | G | C4'-C3' | 7.86 | 1.61 | 1.53 |
| 35 | BA | 354 | G | N1-C2 | 7.86 | 1.44 | 1.37 |
| 2 | AB | 1308 | A | N9-C4 | -7.86 | 1.33 | 1.37 |
| 35 | BA | 888 | G | N3-C4 | 7.86 | 1.41 | 1.35 |
| 2 | AB | 730 | A | N3-C4 | 7.86 | 1.39 | 1.34 |
| 36 | BB | 59 | A | C5'-C4' | 7.86 | 1.60 | 1.51 |
| 2 | AB | 1531 | C | P-O5' | 7.86 | 1.67 | 1.59 |
| 35 | BA | 646 | G | N3-C4 | 7.86 | 1.41 | 1.35 |
| 2 | AB | 69 | C | N1-C6 | 7.86 | 1.41 | 1.37 |
| 2 | AB | 397 | U | N1-C6 | 7.86 | 1.45 | 1.38 |
| 2 | AB | 452 | G | N9-C8 | -7.86 | 1.32 | 1.37 |
| 35 | BA | 463 | U | C4'-O4' | -7.86 | 1.35 | 1.45 |
| 35 | BA | 798 | U | N1-C6 | -7.86 | 1.30 | 1.38 |
| 2 | AB | 320 | A | N1-C2 | -7.85 | 1.27 | 1.34 |
| 35 | BA | 430 | A | N3-C4 | 7.85 | 1.39 | 1.34 |
| 35 | BA | 1196 | A | P-O5' | 7.85 | 1.67 | 1.59 |
| 35 | BA | 1269 | A | C4'-O4' | -7.85 | 1.35 | 1.45 |
| 2 | AB | 1369 | G | C5-C4 | -7.85 | 1.32 | 1.38 |
| 35 | BA | 634 | C | C4'-O4' | -7.85 | 1.35 | 1.45 |
| 35 | BA | 1432 | G | C5-C4 | -7.85 | 1.32 | 1.38 |
| 2 | AB | 1718 | G | C4'-O4' | -7.85 | 1.35 | 1.45 |
| 2 | AB | 1764 | C | N1-C6 | 7.85 | 1.41 | 1.37 |
| 2 | AB | 236 | C | C5'-C4' | 7.85 | 1.60 | 1.51 |
| 2 | AB | 487 | C | C4-C5 | 7.85 | 1.49 | 1.43 |
| 35 | BA | 1033 | G | N1-C2 | 7.85 | 1.44 | 1.37 |
| 35 | BA | 1096 | C | C4'-C3' | -7.85 | 1.44 | 1.53 |
| 35 | BA | 895 | G | O3'-P | 7.85 | 1.70 | 1.61 |
| 35 | BA | 1420 | U | N1-C2 | 7.85 | 1.45 | 1.38 |
| 2 | AB | 760 | G | N9-C8 | -7.84 | 1.32 | 1.37 |
| 35 | BA | 374 | A | C6-N6 | 7.84 | 1.40 | 1.33 |
| 35 | BA | 962 | C | C4-C5 | 7.84 | 1.49 | 1.43 |
| 35 | BA | 1019 | A | N3-C4 | 7.84 | 1.39 | 1.34 |
| 2 | AB | 2402 | U | C3'-O3' | 7.84 | 1.53 | 1.42 |
| 2 | AB | 2347 | C | C2'-C1' | -7.84 | 1.44 | 1.53 |
| 1 | AA | 104 | A | C6-N1 | 7.84 | 1.41 | 1.35 |
| 2 | AB | 1933 | G | N7-C5 | 7.84 | 1.44 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2467 | C | N1-C6 | 7.84 | 1.41 | 1.37 |
| 2 | AB | 2501 | C | C4-C5 | -7.84 | 1.36 | 1.43 |
| 35 | BA | 1 | A | N9-C4 | 7.84 | 1.42 | 1.37 |
| 35 | BA | 781 | A | N7-C5 | -7.84 | 1.34 | 1.39 |
| 2 | AB | 1351 | C | O3'-P | 7.83 | 1.70 | 1.61 |
| 35 | BA | 391 | G | C8-N7 | 7.83 | 1.35 | 1.30 |
| 1 | AA | 23 | G | N9-C8 | 7.83 | 1.43 | 1.37 |
| 2 | AB | 399 | U | C4-O4 | -7.83 | 1.17 | 1.23 |
| 2 | AB | 1097 | U | N1-C6 | -7.83 | 1.30 | 1.38 |
| 2 | AB | 2103 | C | N1-C6 | 7.83 | 1.41 | 1.37 |
| 2 | AB | 2277 | G | N3-C4 | 7.83 | 1.41 | 1.35 |
| 35 | BA | 1405 | G | C6-N1 | 7.83 | 1.45 | 1.39 |
| 2 | AB | 1177 | G | C6-N1 | 7.83 | 1.45 | 1.39 |
| 2 | AB | 1200 | C | C5'-C4' | 7.83 | 1.60 | 1.51 |
| 2 | AB | 1317 | G | C2-N3 | 7.83 | 1.39 | 1.32 |
| 35 | BA | 963 | G | C8-N7 | -7.83 | 1.26 | 1.30 |
| 35 | BA | 606 | G | C5-C6 | 7.83 | 1.50 | 1.42 |
| 35 | BA | 839 | C | P-O5' | 7.83 | 1.67 | 1.59 |
| 2 | AB | 2385 | C | C5-C6 | 7.83 | 1.40 | 1.34 |
| 2 | AB | 516 | C | C5-C6 | 7.83 | 1.40 | 1.34 |
| 2 | AB | 466 | A | N3-C4 | 7.83 | 1.39 | 1.34 |
| 2 | AB | 2845 | U | C4'-C3' | 7.83 | 1.61 | 1.53 |
| 2 | AB | 90 | U | N3-C4 | 7.82 | 1.45 | 1.38 |
| 2 | AB | 853 | C | C2-N3 | 7.82 | 1.42 | 1.35 |
| 2 | AB | 2670 | A | N9-C4 | 7.82 | 1.42 | 1.37 |
| 2 | AB | 2813 | A | N7-C5 | 7.82 | 1.44 | 1.39 |
| 2 | AB | 606 | U | C4-C5 | 7.82 | 1.50 | 1.43 |
| 2 | AB | 1098 | A | C6-N6 | 7.82 | 1.40 | 1.33 |
| 2 | AB | 471 | A | N9-C4 | 7.82 | 1.42 | 1.37 |
| 2 | AB | 1506 | U | C2-O2 | 7.82 | 1.29 | 1.22 |
| 2 | AB | 2194 | U | O3'-P | 7.82 | 1.70 | 1.61 |
| 2 | AB | 2732 | G | C6-N1 | 7.82 | 1.45 | 1.39 |
| 2 | AB | 575 | A | N1-C2 | -7.82 | 1.27 | 1.34 |
| 2 | AB | 1511 | G | N1-C2 | 7.82 | 1.44 | 1.37 |
| 2 | AB | 2087 | G | N1-C2 | 7.82 | 1.44 | 1.37 |
| 35 | BA | 3 | A | N3-C4 | 7.82 | 1.39 | 1.34 |
| 35 | BA | 565 | U | P-O5' | 7.82 | 1.67 | 1.59 |
| 2 | AB | 156 | A | C5-C4 | -7.81 | 1.33 | 1.38 |
| 2 | AB | 1291 | C | C5'-C4' | 7.81 | 1.60 | 1.51 |
| 2 | AB | 2297 | A | C4'-O4' | -7.81 | 1.35 | 1.45 |
| 35 | BA | 1236 | A | N3-C4 | 7.81 | 1.39 | 1.34 |
| 2 | AB | 1495 | A | C5-C4 | -7.81 | 1.33 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1954 | G | N1-C2 | 7.81 | 1.44 | 1.37 |
| 2 | AB | 2872 | A | N9-C4 | 7.81 | 1.42 | 1.37 |
| 2 | AB | 237 | C | C2'-C1' | -7.81 | 1.44 | 1.53 |
| 2 | AB | 609 | A | P-O5' | 7.81 | 1.67 | 1.59 |
| 2 | AB | 794 | A | C8-N7 | 7.81 | 1.37 | 1.31 |
| 2 | AB | 2074 | U | C2'-C1' | 7.81 | 1.61 | 1.53 |
| 2 | AB | 2550 | G | N7-C5 | 7.81 | 1.44 | 1.39 |
| 35 | BA | 903 | G | N3-C4 | 7.81 | 1.41 | 1.35 |
| 35 | BA | 1343 | G | P-O5' | 7.81 | 1.67 | 1.59 |
| 35 | BA | 1481 | U | N1-C2 | 7.81 | 1.45 | 1.38 |
| 2 | AB | 222 | A | C6-N1 | 7.81 | 1.41 | 1.35 |
| 2 | AB | 44 | A | P-O5' | 7.81 | 1.67 | 1.59 |
| 35 | BA | 1434 | A | N3-C4 | 7.81 | 1.39 | 1.34 |
| 2 | AB | 979 | A | C4'-C3' | 7.80 | 1.61 | 1.53 |
| 2 | AB | 1928 | A | C5'-C4' | 7.80 | 1.60 | 1.51 |
| 2 | AB | 337 | C | C5-C6 | 7.80 | 1.40 | 1.34 |
| 2 | AB | 1205 | A | C5-C4 | -7.80 | 1.33 | 1.38 |
| 2 | AB | 39 | G | C5'-C4' | 7.80 | 1.60 | 1.51 |
| 2 | AB | 1828 | G | N9-C4 | 7.80 | 1.44 | 1.38 |
| 2 | AB | 2625 | G | N7-C5 | -7.80 | 1.34 | 1.39 |
| 35 | BA | 1485 | U | C2-O2 | 7.80 | 1.29 | 1.22 |
| 2 | AB | 378 | C | C5-C6 | 7.80 | 1.40 | 1.34 |
| 2 | AB | 2076 | U | C5-C6 | 7.80 | 1.41 | 1.34 |
| 2 | AB | 387 | U | C4-O4 | -7.80 | 1.17 | 1.23 |
| 2 | AB | 2863 | C | C5-C6 | 7.80 | 1.40 | 1.34 |
| 2 | AB | 1217 | U | C2-O2 | 7.80 | 1.29 | 1.22 |
| 2 | AB | 1666 | G | C2-N3 | 7.80 | 1.39 | 1.32 |
| 35 | BA | 1508 | A | C5-C4 | -7.80 | 1.33 | 1.38 |
| 2 | AB | 794 | A | N9-C4 | 7.79 | 1.42 | 1.37 |
| 2 | AB | 1710 | G | C6-N1 | 7.79 | 1.45 | 1.39 |
| 1 | AA | 116 | G | N1-C2 | 7.79 | 1.44 | 1.37 |
| 2 | AB | 964 | C | P-O5' | 7.79 | 1.67 | 1.59 |
| 35 | BA | 29 | U | C2-N3 | 7.79 | 1.43 | 1.37 |
| 35 | BA | 1137 | C | C2-N3 | 7.79 | 1.42 | 1.35 |
| 2 | AB | 159 | G | N3-C4 | 7.79 | 1.41 | 1.35 |
| 2 | AB | 1508 | A | C2'-O2' | 7.79 | 1.51 | 1.41 |
| 35 | BA | 867 | G | N7-C5 | -7.79 | 1.34 | 1.39 |
| 2 | AB | 343 | C | C5-C6 | 7.79 | 1.40 | 1.34 |
| 2 | AB | 620 | G | N9-C8 | 7.79 | 1.43 | 1.37 |
| 2 | AB | 993 | G | N9-C4 | 7.79 | 1.44 | 1.38 |
| 2 | AB | 2519 | U | C4'-C3' | 7.79 | 1.61 | 1.53 |
| 2 | AB | 2522 | U | N1-C2 | 7.79 | 1.45 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 58 | C | N3-C4 | 7.79 | 1.39 | 1.33 |
| 35 | BA | 201 | G | N7-C5 | -7.79 | 1.34 | 1.39 |
| 2 | AB | 476 | G | N9-C8 | 7.79 | 1.43 | 1.37 |
| 35 | BA | 52 | C | P-O5' | 7.79 | 1.67 | 1.59 |
| 2 | AB | 1349 | C | O3'-P | 7.79 | 1.70 | 1.61 |
| 2 | AB | 2409 | G | N3-C4 | -7.79 | 1.29 | 1.35 |
| 36 | BB | 17 | U | O3'-P | -7.79 | 1.51 | 1.61 |
| 1 | AA | 36 | C | C4'-C3' | 7.78 | 1.61 | 1.53 |
| 2 | AB | 1642 | G | N1-C2 | 7.78 | 1.44 | 1.37 |
| 2 | AB | 2198 | A | C6-N1 | -7.78 | 1.30 | 1.35 |
| 35 | BA | 389 | A | P-O5' | 7.78 | 1.67 | 1.59 |
| 2 | AB | 1050 | A | C8-N7 | -7.78 | 1.26 | 1.31 |
| 2 | AB | 2831 | G | C4'-C3' | -7.78 | 1.44 | 1.53 |
| 35 | BA | 507 | C | C5-C6 | 7.78 | 1.40 | 1.34 |
| 2 | AB | 460 | A | C4'-C3' | -7.78 | 1.44 | 1.53 |
| 2 | AB | 232 | G | N3-C4 | 7.78 | 1.40 | 1.35 |
| 2 | AB | 1016 | G | C5'-C4' | 7.78 | 1.60 | 1.51 |
| 35 | BA | 64 | G | C8-N7 | 7.78 | 1.35 | 1.30 |
| 35 | BA | 123 | U | C5-C6 | 7.78 | 1.41 | 1.34 |
| 35 | BA | 1517 | G | C8-N7 | -7.78 | 1.26 | 1.30 |
| 2 | AB | 2016 | U | P-O5' | 7.78 | 1.67 | 1.59 |
| 35 | BA | 1068 | G | O3'-P | -7.78 | 1.51 | 1.61 |
| 2 | AB | 2732 | G | N7-C5 | 7.77 | 1.44 | 1.39 |
| 2 | AB | 1134 | A | N9-C4 | 7.77 | 1.42 | 1.37 |
| 35 | BA | 1003 | G | N9-C8 | 7.77 | 1.43 | 1.37 |
| 2 | AB | 2696 | U | C4-C5 | 7.77 | 1.50 | 1.43 |
| 35 | BA | 1533 | C | C4-C5 | 7.77 | 1.49 | 1.43 |
| 2 | AB | 1566 | A | N9-C4 | 7.77 | 1.42 | 1.37 |
| 2 | AB | 933 | A | C6-N6 | -7.76 | 1.27 | 1.33 |
| 2 | AB | 1478 | G | C2-N3 | 7.76 | 1.39 | 1.32 |
| 2 | AB | 1821 | A | C8-N7 | -7.76 | 1.26 | 1.31 |
| 35 | BA | 725 | G | N9-C8 | -7.76 | 1.32 | 1.37 |
| 1 | AA | 1 | U | C3'-C2' | 7.76 | 1.61 | 1.52 |
| 2 | AB | 2112 | G | P-O5' | 7.76 | 1.67 | 1.59 |
| 2 | AB | 2405 | G | P-O5' | 7.76 | 1.67 | 1.59 |
| 2 | AB | 2803 | G | P-O5' | 7.76 | 1.67 | 1.59 |
| 35 | BA | 184 | G | O3'-P | 7.76 | 1.70 | 1.61 |
| 1 | AA | 67 | G | C6-N1 | 7.76 | 1.45 | 1.39 |
| 35 | BA | 217 | C | P-O5' | 7.76 | 1.67 | 1.59 |
| 2 | AB | 1646 | C | N1-C6 | 7.76 | 1.41 | 1.37 |
| 2 | AB | 2144 | G | C6-N1 | 7.76 | 1.45 | 1.39 |
| 2 | AB | 2444 | G | N9-C8 | 7.76 | 1.43 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 655 | A | N3-C4 | 7.75 | 1.39 | 1.34 |
| 2 | AB | 808 | G | N7-C5 | -7.75 | 1.34 | 1.39 |
| 2 | AB | 883 | G | C6-N1 | 7.75 | 1.45 | 1.39 |
| 2 | AB | 2352 | A | C5'-C4' | 7.75 | 1.60 | 1.51 |
| 35 | BA | 72 | A | P-O5' | 7.75 | 1.67 | 1.59 |
| 35 | BA | 172 | A | O3'-P | 7.75 | 1.70 | 1.61 |
| 35 | BA | 399 | G | C2-N3 | 7.75 | 1.39 | 1.32 |
| 35 | BA | 473 | U | C5'-C4' | 7.75 | 1.60 | 1.51 |
| 2 | AB | 2370 | G | O3'-P | 7.75 | 1.70 | 1.61 |
| 2 | AB | 13 | A | N9-C4 | 7.75 | 1.42 | 1.37 |
| 2 | AB | 1001 | A | C6-N1 | -7.75 | 1.30 | 1.35 |
| 2 | AB | 2546 | U | N1-C2 | 7.75 | 1.45 | 1.38 |
| 35 | BA | 1216 | A | N7-C5 | 7.75 | 1.43 | 1.39 |
| 2 | AB | 1525 | A | P-O5' | 7.75 | 1.67 | 1.59 |
| 2 | AB | 2382 | G | O3'-P | 7.75 | 1.70 | 1.61 |
| 2 | AB | 2400 | G | O3'-P | 7.75 | 1.70 | 1.61 |
| 2 | AB | 290 | U | C4-C5 | 7.75 | 1.50 | 1.43 |
| 2 | AB | 497 | A | C8-N7 | -7.75 | 1.26 | 1.31 |
| 2 | AB | 2253 | G | C4'-O4' | -7.75 | 1.35 | 1.45 |
| 35 | BA | 750 | C | C5'-C4' | 7.75 | 1.60 | 1.51 |
| 2 | AB | 1173 | U | C4-C5 | 7.74 | 1.50 | 1.43 |
| 35 | BA | 262 | A | C5'-C4' | 7.74 | 1.60 | 1.51 |
| 35 | BA | 1388 | C | N1-C6 | 7.74 | 1.41 | 1.37 |
| 2 | AB | 1736 | U | C2-N3 | -7.74 | 1.32 | 1.37 |
| 2 | AB | 2001 | C | C4-C5 | 7.74 | 1.49 | 1.43 |
| 2 | AB | 1329 | U | C4-C5 | 7.74 | 1.50 | 1.43 |
| 2 | AB | 2579 | C | N1-C6 | 7.74 | 1.41 | 1.37 |
| 2 | AB | 572 | A | C5'-C4' | 7.74 | 1.60 | 1.51 |
| 35 | BA | 124 | C | N1-C6 | -7.74 | 1.32 | 1.37 |
| 35 | BA | 139 | A | N7-C5 | -7.74 | 1.34 | 1.39 |
| 35 | BA | 539 | A | N3-C4 | 7.74 | 1.39 | 1.34 |
| 35 | BA | 1142 | G | N7-C5 | -7.73 | 1.34 | 1.39 |
| 2 | AB | 1510 | G | N3-C4 | 7.73 | 1.40 | 1.35 |
| 35 | BA | 157 | U | C4'-C3' | 7.73 | 1.61 | 1.53 |
| 35 | BA | 181 | A | N9-C4 | 7.73 | 1.42 | 1.37 |
| 35 | BA | 1437 | A | N3-C4 | 7.73 | 1.39 | 1.34 |
| 35 | BA | 1533 | C | O4'-C1' | 7.73 | 1.51 | 1.41 |
| 2 | AB | 118 | A | N9-C4 | -7.73 | 1.33 | 1.37 |
| 35 | BA | 1086 | U | O3'-P | -7.73 | 1.51 | 1.61 |
| 1 | AA | 80 | U | C2-N3 | 7.72 | 1.43 | 1.37 |
| 2 | AB | 1347 | A | N3-C4 | 7.72 | 1.39 | 1.34 |
| 2 | AB | 1216 | G | C2'-C1' | -7.72 | 1.44 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1309 | G | C2-N3 | 7.72 | 1.39 | 1.32 |
| 2 | AB | 1504 | A | C5-C6 | 7.72 | 1.48 | 1.41 |
| 2 | AB | 1631 | G | O3'-P | 7.72 | 1.70 | 1.61 |
| 35 | BA | 880 | C | C2-N3 | 7.72 | 1.42 | 1.35 |
| 35 | BA | 1150 | A | N7-C5 | -7.72 | 1.34 | 1.39 |
| 35 | BA | 1333 | A | P-O5' | 7.72 | 1.67 | 1.59 |
| 37 | BC | 65 | G | C8-N7 | 7.72 | 1.35 | 1.30 |
| 2 | AB | 2138 | G | C6-N1 | 7.72 | 1.45 | 1.39 |
| 35 | BA | 519 | C | O3'-P | 7.72 | 1.70 | 1.61 |
| 2 | AB | 47 | C | C4'-O4' | -7.72 | 1.35 | 1.45 |
| 2 | AB | 614 | A | N9-C4 | 7.72 | 1.42 | 1.37 |
| 37 | BC | 35 | C | C2-N3 | 7.72 | 1.42 | 1.35 |
| 2 | AB | 560 | C | C2-N3 | 7.71 | 1.42 | 1.35 |
| 2 | AB | 954 | G | C8-N7 | -7.71 | 1.26 | 1.30 |
| 2 | AB | 1106 | G | N3-C4 | -7.71 | 1.30 | 1.35 |
| 2 | AB | 339 | U | C2-N3 | 7.71 | 1.43 | 1.37 |
| 2 | AB | 492 | A | P-O5' | 7.71 | 1.67 | 1.59 |
| 35 | BA | 1329 | A | C5-C6 | 7.71 | 1.48 | 1.41 |
| 2 | AB | 163 | C | N1-C6 | 7.71 | 1.41 | 1.37 |
| 2 | AB | 2234 | G | N7-C5 | -7.71 | 1.34 | 1.39 |
| 2 | AB | 1036 | G | N3-C4 | 7.71 | 1.40 | 1.35 |
| 2 | AB | 1089 | A | N7-C5 | 7.71 | 1.43 | 1.39 |
| 35 | BA | 31 | G | C5'-C4' | 7.71 | 1.60 | 1.51 |
| 36 | BB | 30 | U | N1-C2 | 7.71 | 1.45 | 1.38 |
| 2 | AB | 739 | A | N7-C5 | 7.71 | 1.43 | 1.39 |
| 2 | AB | 1311 | G | P-O5' | 7.71 | 1.67 | 1.59 |
| 2 | AB | 2858 | C | C4-C5 | 7.71 | 1.49 | 1.43 |
| 2 | AB | 1192 | G | O3'-P | 7.70 | 1.70 | 1.61 |
| 35 | BA | 577 | G | N1-C2 | 7.70 | 1.44 | 1.37 |
| 37 | BC | 14 | A | C6-N1 | 7.70 | 1.41 | 1.35 |
| 2 | AB | 968 | C | N1-C6 | 7.70 | 1.41 | 1.37 |
| 2 | AB | 1152 | C | C4-C5 | 7.70 | 1.49 | 1.43 |
| 2 | AB | 1359 | A | C6-N1 | -7.70 | 1.30 | 1.35 |
| 37 | BC | 71 | G | N3-C4 | -7.70 | 1.30 | 1.35 |
| 2 | AB | 1511 | G | C4'-O4' | -7.70 | 1.35 | 1.45 |
| 35 | BA | 1160 | G | C2-N3 | 7.70 | 1.39 | 1.32 |
| 2 | AB | 2053 | G | C6-N1 | -7.70 | 1.34 | 1.39 |
| 2 | AB | 592 | A | C3'-C2' | -7.70 | 1.44 | 1.52 |
| 2 | AB | 2862 | G | N3-C4 | 7.70 | 1.40 | 1.35 |
| 2 | AB | 1674 | G | C5-C6 | 7.69 | 1.50 | 1.42 |
| 2 | AB | 1771 | C | C5'-C4' | 7.69 | 1.60 | 1.51 |
| 2 | AB | 2896 | C | C2-N3 | 7.69 | 1.42 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2245 | U | C4-C5 | 7.69 | 1.50 | 1.43 |
| 35 | BA | 21 | G | P-O5' | 7.69 | 1.67 | 1.59 |
| 1 | AA | 65 | U | C2-N3 | 7.69 | 1.43 | 1.37 |
| 2 | AB | 1733 | G | C8-N7 | 7.69 | 1.35 | 1.30 |
| 2 | AB | 1801 | A | N9-C8 | 7.69 | 1.44 | 1.37 |
| 1 | AA | 106 | G | C8-N7 | -7.69 | 1.26 | 1.30 |
| 2 | AB | 1122 | G | C6-N1 | 7.69 | 1.45 | 1.39 |
| 2 | AB | 1893 | C | P-O5' | 7.69 | 1.67 | 1.59 |
| 35 | BA | 1121 | U | N1-C2 | 7.69 | 1.45 | 1.38 |
| 35 | BA | 1526 | G | N7-C5 | 7.69 | 1.43 | 1.39 |
| 1 | AA | 94 | A | C4'-C3' | 7.69 | 1.61 | 1.53 |
| 35 | BA | 35 | G | N9-C8 | -7.69 | 1.32 | 1.37 |
| 35 | BA | 1542 | A | N3-C4 | 7.69 | 1.39 | 1.34 |
| 2 | AB | 1709 | U | C4'-O4' | -7.68 | 1.35 | 1.45 |
| 2 | AB | 2800 | A | N3-C4 | 7.68 | 1.39 | 1.34 |
| 35 | BA | 215 | C | C4'-O4' | -7.68 | 1.35 | 1.45 |
| 35 | BA | 729 | A | C5-C6 | 7.68 | 1.48 | 1.41 |
| 2 | AB | 66 | C | N3-C4 | 7.68 | 1.39 | 1.33 |
| 2 | AB | 631 | A | O3'-P | 7.68 | 1.70 | 1.61 |
| 35 | BA | 654 | G | N1-C2 | 7.68 | 1.43 | 1.37 |
| 2 | AB | 2499 | C | C4-N4 | 7.68 | 1.40 | 1.33 |
| 2 | AB | 2724 | U | C5'-C4' | 7.68 | 1.60 | 1.51 |
| 2 | AB | 231 | A | P-O5' | 7.68 | 1.67 | 1.59 |
| 2 | AB | 934 | U | C4-C5 | 7.68 | 1.50 | 1.43 |
| 2 | AB | 2639 | A | N9-C4 | 7.68 | 1.42 | 1.37 |
| 2 | AB | 631 | A | N9-C4 | 7.68 | 1.42 | 1.37 |
| 2 | AB | 2063 | C | C2'-C1' | 7.68 | 1.61 | 1.53 |
| 2 | AB | 2364 | C | N3-C4 | 7.68 | 1.39 | 1.33 |
| 35 | BA | 461 | A | C2'-C1' | 7.68 | 1.61 | 1.53 |
| 2 | AB | 950 | G | N9-C8 | 7.67 | 1.43 | 1.37 |
| 2 | AB | 1776 | G | C5-C4 | 7.67 | 1.43 | 1.38 |
| 2 | AB | 239 | C | P-O5' | 7.67 | 1.67 | 1.59 |
| 2 | AB | 990 | A | N7-C5 | -7.67 | 1.34 | 1.39 |
| 35 | BA | 204 | G | C5'-C4' | 7.67 | 1.60 | 1.51 |
| 35 | BA | 1371 | G | C5-C4 | -7.67 | 1.32 | 1.38 |
| 37 | BC | 40 | C | P-O5' | 7.67 | 1.67 | 1.59 |
| 2 | AB | 22 | C | C5'-C4' | 7.67 | 1.60 | 1.51 |
| 2 | AB | 2101 | A | C8-N7 | -7.67 | 1.26 | 1.31 |
| 35 | BA | 530 | G | N7-C5 | 7.67 | 1.43 | 1.39 |
| 35 | BA | 687 | A | C6-N6 | 7.67 | 1.40 | 1.33 |
| 35 | BA | 1315 | U | C4-C5 | 7.67 | 1.50 | 1.43 |
| 35 | BA | 332 | G | N1-C2 | 7.67 | 1.43 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 509 | C | N1-C6 | 7.66 | 1.41 | 1.37 |
| 2 | AB | 2538 | C | C4'-O4' | -7.66 | 1.35 | 1.45 |
| 2 | AB | 1534 | U | C4-C5 | 7.66 | 1.50 | 1.43 |
| 35 | BA | 369 | G | C2-N2 | 7.66 | 1.42 | 1.34 |
| 2 | AB | 49 | A | N3-C4 | 7.66 | 1.39 | 1.34 |
| 2 | AB | 647 | G | C4'-C3' | -7.66 | 1.44 | 1.53 |
| 2 | AB | 2621 | G | C6-N1 | -7.66 | 1.34 | 1.39 |
| 35 | BA | 1059 | C | C4'-O4' | -7.66 | 1.35 | 1.45 |
| 2 | AB | 114 | U | C4-O4 | 7.66 | 1.29 | 1.23 |
| 2 | AB | 2250 | G | C2-N2 | -7.66 | 1.26 | 1.34 |
| 2 | AB | 2466 | C | N1-C2 | 7.65 | 1.47 | 1.40 |
| 2 | AB | 1624 | U | C4-O4 | 7.65 | 1.29 | 1.23 |
| 2 | AB | 1970 | A | N3-C4 | 7.65 | 1.39 | 1.34 |
| 37 | BC | 18 | U | C4'-O4' | -7.65 | 1.35 | 1.45 |
| 2 | AB | 1094 | U | C2-N3 | 7.65 | 1.43 | 1.37 |
| 2 | AB | 1762 | A | C8-N7 | 7.65 | 1.36 | 1.31 |
| 2 | AB | 1988 | G | C2'-C1' | 7.65 | 1.61 | 1.53 |
| 35 | BA | 1049 | U | C2-N3 | 7.65 | 1.43 | 1.37 |
| 2 | AB | 1496 | A | N9-C8 | 7.65 | 1.43 | 1.37 |
| 35 | BA | 703 | G | C5'-C4' | 7.65 | 1.60 | 1.51 |
| 35 | BA | 685 | G | N9-C4 | -7.65 | 1.31 | 1.38 |
| 36 | BB | 22 | G | C8-N7 | 7.64 | 1.35 | 1.30 |
| 2 | AB | 463 | G | P-O5' | 7.64 | 1.67 | 1.59 |
| 2 | AB | 924 | G | P-O5' | 7.64 | 1.67 | 1.59 |
| 35 | BA | 1477 | U | C2-N3 | -7.64 | 1.32 | 1.37 |
| 2 | AB | 764 | A | N7-C5 | -7.64 | 1.34 | 1.39 |
| 2 | AB | 1253 | A | N3-C4 | 7.64 | 1.39 | 1.34 |
| 2 | AB | 1548 | A | N3-C4 | 7.64 | 1.39 | 1.34 |
| 2 | AB | 2439 | A | N9-C4 | 7.64 | 1.42 | 1.37 |
| 22 | AV | 84 | TYR | CE2-CZ | 7.64 | 1.48 | 1.38 |
| 35 | BA | 902 | G | P-O5' | 7.64 | 1.67 | 1.59 |
| 35 | BA | 994 | A | N9-C4 | 7.64 | 1.42 | 1.37 |
| 35 | BA | 1382 | C | C5'-C4' | 7.64 | 1.60 | 1.51 |
| 2 | AB | 663 | G | N7-C5 | 7.64 | 1.43 | 1.39 |
| 35 | BA | 461 | A | C4'-O4' | -7.64 | 1.35 | 1.45 |
| 2 | AB | 921 | C | N1-C6 | 7.64 | 1.41 | 1.37 |
| 35 | BA | 935 | A | N3-C4 | 7.64 | 1.39 | 1.34 |
| 2 | AB | 160 | A | C5-C4 | -7.63 | 1.33 | 1.38 |
| 2 | AB | 388 | G | C2-N3 | 7.63 | 1.38 | 1.32 |
| 35 | BA | 729 | A | N9-C4 | 7.63 | 1.42 | 1.37 |
| 35 | BA | 1081 | A | N9-C8 | -7.63 | 1.31 | 1.37 |
| 2 | AB | 128 | C | O3'-P | 7.63 | 1.70 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1110 | A | N3-C4 | -7.63 | 1.30 | 1.34 |
| 2 | AB | 112 | U | C2'-C1' | -7.63 | 1.45 | 1.53 |
| 35 | BA | 1534 | A | N3-C4 | -7.63 | 1.30 | 1.34 |
| 35 | BA | 631 | C | C4'-C3' | -7.63 | 1.44 | 1.53 |
| 2 | AB | 1614 | A | C6-N1 | 7.63 | 1.40 | 1.35 |
| 35 | BA | 666 | G | N3-C4 | 7.63 | 1.40 | 1.35 |
| 35 | BA | 887 | G | C6-O6 | -7.63 | 1.17 | 1.24 |
| 2 | AB | 134 | G | C5-C4 | -7.63 | 1.33 | 1.38 |
| 2 | AB | 2235 | G | N3-C4 | 7.63 | 1.40 | 1.35 |
| 2 | AB | 2386 | A | P-O5' | 7.63 | 1.67 | 1.59 |
| 35 | BA | 623 | C | P-O5' | 7.63 | 1.67 | 1.59 |
| 35 | BA | 1174 | G | P-O5' | 7.63 | 1.67 | 1.59 |
| 2 | AB | 2657 | A | N3-C4 | 7.62 | 1.39 | 1.34 |
| 35 | BA | 794 | A | N7-C5 | 7.62 | 1.43 | 1.39 |
| 35 | BA | 1097 | C | C4'-O4' | -7.62 | 1.35 | 1.45 |
| 35 | BA | 1373 | G | C2'-C1' | -7.62 | 1.45 | 1.53 |
| 37 | BC | 7 | G | C4'-C3' | 7.62 | 1.61 | 1.53 |
| 2 | AB | 932 | U | C2'-C1' | 7.62 | 1.61 | 1.53 |
| 2 | AB | 2879 | A | N7-C5 | 7.62 | 1.43 | 1.39 |
| 35 | BA | 227 | G | P-O5' | 7.62 | 1.67 | 1.59 |
| 35 | BA | 405 | U | C2-O2 | 7.62 | 1.29 | 1.22 |
| 35 | BA | 513 | C | P-O5' | 7.62 | 1.67 | 1.59 |
| 35 | BA | 1483 | A | N9-C4 | -7.62 | 1.33 | 1.37 |
| 35 | BA | 84 | U | N1-C2 | 7.62 | 1.45 | 1.38 |
| 35 | BA | 1110 | A | N7-C5 | -7.62 | 1.34 | 1.39 |
| 2 | AB | 482 | A | C8-N7 | -7.62 | 1.26 | 1.31 |
| 37 | BC | 7 | G | P-O5' | 7.62 | 1.67 | 1.59 |
| 2 | AB | 740 | C | C4'-O4' | -7.62 | 1.35 | 1.45 |
| 2 | AB | 633 | A | N3-C4 | 7.61 | 1.39 | 1.34 |
| 2 | AB | 2332 | C | C4-C5 | 7.61 | 1.49 | 1.43 |
| 2 | AB | 2439 | A | C5'-C4' | 7.61 | 1.60 | 1.51 |
| 2 | AB | 2896 | C | C5-C6 | 7.61 | 1.40 | 1.34 |
| 35 | BA | 498 | A | N9-C8 | -7.61 | 1.31 | 1.37 |
| 2 | AB | 349 | U | P-O5' | 7.61 | 1.67 | 1.59 |
| 2 | AB | 2767 | C | N1-C6 | -7.61 | 1.32 | 1.37 |
| 2 | AB | 2850 | A | N3-C4 | 7.61 | 1.39 | 1.34 |
| 35 | BA | 453 | G | N3-C4 | 7.61 | 1.40 | 1.35 |
| 2 | AB | 436 | C | C4-C5 | 7.61 | 1.49 | 1.43 |
| 2 | AB | 1031 | G | C8-N7 | -7.61 | 1.26 | 1.30 |
| 2 | AB | 1078 | U | C5-C6 | 7.61 | 1.41 | 1.34 |
| 2 | AB | 2052 | A | C5-C4 | -7.61 | 1.33 | 1.38 |
| 35 | BA | 183 | C | P-O5' | 7.61 | 1.67 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 124 | G | P-O5' | -7.61 | 1.52 | 1.59 |
| 2 | AB | 1655 | A | C8-N7 | -7.61 | 1.26 | 1.31 |
| 2 | AB | 2646 | C | P-O5' | 7.61 | 1.67 | 1.59 |
| 36 | BB | 55 | A | C5-C4 | -7.61 | 1.33 | 1.38 |
| 2 | AB | 85 | G | N3-C4 | 7.61 | 1.40 | 1.35 |
| 35 | BA | 228 | A | C4'-O4' | -7.61 | 1.35 | 1.45 |
| 35 | BA | 1367 | C | P-O5' | 7.61 | 1.67 | 1.59 |
| 2 | AB | 2017 | U | C2'-C1' | 7.61 | 1.61 | 1.53 |
| 35 | BA | 711 | G | C4'-O4' | -7.61 | 1.35 | 1.45 |
| 2 | AB | 132 | G | N3-C4 | 7.60 | 1.40 | 1.35 |
| 2 | AB | 403 | U | N1-C6 | 7.60 | 1.44 | 1.38 |
| 2 | AB | 989 | G | P-O5' | 7.60 | 1.67 | 1.59 |
| 2 | AB | 743 | A | P-O5' | 7.60 | 1.67 | 1.59 |
| 2 | AB | 1086 | A | N3-C4 | 7.60 | 1.39 | 1.34 |
| 2 | AB | 1444 | G | C3'-C2' | 7.60 | 1.61 | 1.52 |
| 2 | AB | 2033 | A | C6-N6 | 7.60 | 1.40 | 1.33 |
| 35 | BA | 895 | G | C2-N3 | 7.60 | 1.38 | 1.32 |
| 2 | AB | 2582 | G | P-O5' | -7.60 | 1.52 | 1.59 |
| 35 | BA | 919 | A | N7-C5 | -7.60 | 1.34 | 1.39 |
| 35 | BA | 1052 | U | C2-N3 | 7.60 | 1.43 | 1.37 |
| 2 | AB | 350 | G | C2-N3 | 7.60 | 1.38 | 1.32 |
| 2 | AB | 1975 | G | P-O5' | 7.60 | 1.67 | 1.59 |
| 2 | AB | 2344 | U | N1-C2 | 7.60 | 1.45 | 1.38 |
| 2 | AB | 2779 | U | N3-C4 | 7.60 | 1.45 | 1.38 |
| 35 | BA | 877 | G | C4'-C3' | -7.60 | 1.44 | 1.53 |
| 35 | BA | 1170 | A | N7-C5 | -7.60 | 1.34 | 1.39 |
| 2 | AB | 1006 | C | C4-C5 | 7.59 | 1.49 | 1.43 |
| 2 | AB | 1186 | G | C2-N3 | 7.59 | 1.38 | 1.32 |
| 1 | AA | 80 | U | N3-C4 | 7.59 | 1.45 | 1.38 |
| 35 | BA | 385 | C | P-O5' | 7.59 | 1.67 | 1.59 |
| 2 | AB | 1313 | U | C2-N3 | 7.59 | 1.43 | 1.37 |
| 2 | AB | 1401 | G | N3-C4 | 7.59 | 1.40 | 1.35 |
| 35 | BA | 180 | U | C2-N3 | 7.59 | 1.43 | 1.37 |
| 35 | BA | 1057 | G | C8-N7 | 7.59 | 1.35 | 1.30 |
| 2 | AB | 964 | C | C2-N3 | 7.59 | 1.41 | 1.35 |
| 2 | AB | 2564 | A | N3-C4 | 7.59 | 1.39 | 1.34 |
| 35 | BA | 914 | A | P-O5' | 7.59 | 1.67 | 1.59 |
| 35 | BA | 1113 | C | P-O5' | 7.59 | 1.67 | 1.59 |
| 2 | AB | 267 | C | P-O5' | 7.59 | 1.67 | 1.59 |
| 2 | AB | 2020 | A | N7-C5 | 7.59 | 1.43 | 1.39 |
| 2 | AB | 2699 | C | P-O5' | 7.59 | 1.67 | 1.59 |
| 1 | AA | 19 | C | N1-C6 | 7.59 | 1.41 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1829 | A | N9-C4 | 7.59 | 1.42 | 1.37 |
| 2 | AB | 2583 | G | C2-N3 | 7.59 | 1.38 | 1.32 |
| 2 | AB | 2614 | A | P-O5' | 7.58 | 1.67 | 1.59 |
| 2 | AB | 232 | G | N7-C5 | 7.58 | 1.43 | 1.39 |
| 2 | AB | 280 | U | P-O5' | 7.58 | 1.67 | 1.59 |
| 2 | AB | 2259 | U | O4'-C1' | 7.58 | 1.51 | 1.41 |
| 2 | AB | 2478 | A | N3-C4 | 7.58 | 1.39 | 1.34 |
| 35 | BA | 4 | U | C2-N3 | 7.58 | 1.43 | 1.37 |
| 35 | BA | 1310 | G | C8-N7 | -7.58 | 1.26 | 1.30 |
| 2 | AB | 570 | G | C4'-O4' | -7.58 | 1.35 | 1.45 |
| 2 | AB | 1847 | A | N1-C2 | 7.58 | 1.41 | 1.34 |
| 35 | BA | 96 | U | C5-C6 | 7.58 | 1.41 | 1.34 |
| 35 | BA | 1258 | G | N1-C2 | -7.58 | 1.31 | 1.37 |
| 2 | AB | 1944 | U | C2-N3 | 7.58 | 1.43 | 1.37 |
| 35 | BA | 1033 | G | C8-N7 | -7.58 | 1.26 | 1.30 |
| 2 | AB | 293 | U | N1-C2 | 7.58 | 1.45 | 1.38 |
| 35 | BA | 174 | A | O3'-P | 7.58 | 1.70 | 1.61 |
| 35 | BA | 1507 | A | C8-N7 | 7.58 | 1.36 | 1.31 |
| 37 | BC | 70 | C | C2-N3 | 7.58 | 1.41 | 1.35 |
| 2 | AB | 891 | G | O3'-P | 7.57 | 1.70 | 1.61 |
| 2 | AB | 1916 | A | N7-C5 | -7.57 | 1.34 | 1.39 |
| 2 | AB | 124 | G | C2-N3 | 7.57 | 1.38 | 1.32 |
| 35 | BA | 126 | G | N7-C5 | 7.57 | 1.43 | 1.39 |
| 35 | BA | 860 | A | P-O5' | 7.57 | 1.67 | 1.59 |
| 35 | BA | 1114 | C | P-O5' | 7.57 | 1.67 | 1.59 |
| 2 | AB | 200 | U | O3'-P | 7.57 | 1.70 | 1.61 |
| 2 | AB | 339 | U | C2'-C1' | 7.57 | 1.61 | 1.53 |
| 2 | AB | 485 | C | P-O5' | 7.57 | 1.67 | 1.59 |
| 2 | AB | 795 | C | C2'-C1' | 7.57 | 1.61 | 1.53 |
| 37 | BC | 61 | U | C4-C5 | 7.57 | 1.50 | 1.43 |
| 1 | AA | 34 | A | C3'-C2' | 7.57 | 1.61 | 1.52 |
| 2 | AB | 1654 | A | N3-C4 | 7.57 | 1.39 | 1.34 |
| 36 | BB | 33 | A | N7-C5 | -7.57 | 1.34 | 1.39 |
| 2 | AB | 1037 | G | N3-C4 | 7.56 | 1.40 | 1.35 |
| 2 | AB | 1093 | G | C2-N3 | 7.56 | 1.38 | 1.32 |
| 35 | BA | 1370 | G | C5'-C4' | 7.56 | 1.60 | 1.51 |
| 2 | AB | 118 | A | C8-N7 | -7.56 | 1.26 | 1.31 |
| 2 | AB | 1643 | G | N9-C8 | -7.56 | 1.32 | 1.37 |
| 2 | AB | 2849 | U | C4-O4 | 7.56 | 1.29 | 1.23 |
| 35 | BA | 1133 | G | C5-C4 | 7.56 | 1.43 | 1.38 |
| 2 | AB | 1261 | C | N3-C4 | 7.56 | 1.39 | 1.33 |
| 2 | AB | 2538 | C | C5-C6 | 7.56 | 1.40 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 407 | U | N1-C2 | 7.56 | 1.45 | 1.38 |
| 35 | BA | 476 | U | N1-C6 | 7.56 | 1.44 | 1.38 |
| 35 | BA | 824 | G | C3'-C2' | 7.56 | 1.61 | 1.52 |
| 2 | AB | 1523 | U | P-O5' | 7.56 | 1.67 | 1.59 |
| 2 | AB | 1052 | C | C1'-N1 | 7.55 | 1.60 | 1.48 |
| 2 | AB | 59 | U | C2-N3 | 7.55 | 1.43 | 1.37 |
| 2 | AB | 559 | G | N3-C4 | 7.55 | 1.40 | 1.35 |
| 2 | AB | 728 | G | C5'-C4' | 7.55 | 1.60 | 1.51 |
| 2 | AB | 740 | C | N1-C6 | 7.55 | 1.41 | 1.37 |
| 2 | AB | 2071 | A | C6-N1 | 7.55 | 1.40 | 1.35 |
| 35 | BA | 1030 | U | O3'-P | 7.55 | 1.70 | 1.61 |
| 35 | BA | 1136 | C | C4'-O4' | -7.55 | 1.35 | 1.45 |
| 37 | BC | 32 | G | N3-C4 | 7.55 | 1.40 | 1.35 |
| 2 | AB | 141 | G | C4'-O4' | -7.55 | 1.35 | 1.45 |
| 2 | AB | 2246 | G | N7-C5 | -7.55 | 1.34 | 1.39 |
| 2 | AB | 2426 | A | N9-C8 | -7.55 | 1.31 | 1.37 |
| 2 | AB | 2543 | G | C6-N1 | -7.55 | 1.34 | 1.39 |
| 2 | AB | 2572 | A | N7-C5 | 7.55 | 1.43 | 1.39 |
| 2 | AB | 2678 | C | C5'-C4' | 7.55 | 1.60 | 1.51 |
| 2 | AB | 2804 | U | O4'-C1' | 7.55 | 1.51 | 1.41 |
| 35 | BA | 841 | C | C2-N3 | 7.55 | 1.41 | 1.35 |
| 2 | AB | 935 | C | N1-C6 | -7.55 | 1.32 | 1.37 |
| 35 | BA | 739 | C | P-O5' | 7.55 | 1.67 | 1.59 |
| 2 | AB | 360 | U | P-O5' | 7.54 | 1.67 | 1.59 |
| 2 | AB | 1147 | A | N7-C5 | 7.54 | 1.43 | 1.39 |
| 2 | AB | 2195 | U | O3'-P | 7.54 | 1.70 | 1.61 |
| 2 | AB | 2282 | G | N7-C5 | -7.54 | 1.34 | 1.39 |
| 2 | AB | 2314 | A | C3'-C2' | 7.54 | 1.61 | 1.52 |
| 2 | AB | 663 | G | N9-C4 | -7.54 | 1.31 | 1.38 |
| 2 | AB | 1994 | C | O3'-P | 7.54 | 1.70 | 1.61 |
| 2 | AB | 2360 | G | C6-N1 | 7.54 | 1.44 | 1.39 |
| 2 | AB | 2452 | C | P-O5' | 7.54 | 1.67 | 1.59 |
| 35 | BA | 675 | A | N3-C4 | 7.54 | 1.39 | 1.34 |
| 35 | BA | 911 | U | C5-C6 | 7.54 | 1.41 | 1.34 |
| 2 | AB | 1557 | C | P-O5' | 7.54 | 1.67 | 1.59 |
| 2 | AB | 14 | A | N7-C5 | 7.54 | 1.43 | 1.39 |
| 2 | AB | 920 | A | N3-C4 | 7.54 | 1.39 | 1.34 |
| 2 | AB | 2226 | C | P-O5' | 7.54 | 1.67 | 1.59 |
| 37 | BC | 65 | G | C2-N3 | 7.54 | 1.38 | 1.32 |
| 2 | AB | 497 | A | N3-C4 | 7.53 | 1.39 | 1.34 |
| 35 | BA | 213 | G | N1-C2 | 7.53 | 1.43 | 1.37 |
| 1 | AA | 112 | G | N7-C5 | 7.53 | 1.43 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2048 | G | C2-N3 | 7.53 | 1.38 | 1.32 |
| 1 | AA | 1 | U | N1-C2 | 7.53 | 1.45 | 1.38 |
| 36 | BB | 39 | U | C4-C5 | 7.53 | 1.50 | 1.43 |
| 2 | AB | 407 | G | C2-N3 | 7.52 | 1.38 | 1.32 |
| 2 | AB | 1310 | G | P-O5' | 7.52 | 1.67 | 1.59 |
| 2 | AB | 430 | A | C6-N1 | -7.52 | 1.30 | 1.35 |
| 2 | AB | 1602 | U | O3'-P | 7.52 | 1.70 | 1.61 |
| 2 | AB | 2358 | A | C8-N7 | 7.52 | 1.36 | 1.31 |
| 37 | BC | 5 | G | C2'-C1' | -7.52 | 1.45 | 1.53 |
| 2 | AB | 529 | A | N3-C4 | 7.52 | 1.39 | 1.34 |
| 2 | AB | 1208 | C | N3-C4 | 7.52 | 1.39 | 1.33 |
| 2 | AB | 2016 | U | C4-C5 | 7.52 | 1.50 | 1.43 |
| 2 | AB | 2428 | G | P-O5' | 7.52 | 1.67 | 1.59 |
| 2 | AB | 2799 | A | C8-N7 | -7.52 | 1.26 | 1.31 |
| 35 | BA | 719 | C | C4-C5 | 7.52 | 1.49 | 1.43 |
| 2 | AB | 949 | G | N9-C4 | -7.52 | 1.31 | 1.38 |
| 2 | AB | 2325 | G | C6-N1 | 7.52 | 1.44 | 1.39 |
| 2 | AB | 2582 | G | C2-N3 | 7.52 | 1.38 | 1.32 |
| 35 | BA | 250 | A | N7-C5 | -7.52 | 1.34 | 1.39 |
| 35 | BA | 1155 | A | N3-C4 | 7.52 | 1.39 | 1.34 |
| 2 | AB | 1216 | G | N3-C4 | -7.52 | 1.30 | 1.35 |
| 2 | AB | 1860 | G | C2-N3 | 7.52 | 1.38 | 1.32 |
| 2 | AB | 2054 | A | N3-C4 | -7.51 | 1.30 | 1.34 |
| 35 | BA | 482 | A | C5-C6 | 7.51 | 1.47 | 1.41 |
| 35 | BA | 1381 | U | N1-C2 | 7.51 | 1.45 | 1.38 |
| 2 | AB | 271 | G | N9-C4 | -7.51 | 1.31 | 1.38 |
| 2 | AB | 1055 | G | C6-N1 | 7.51 | 1.44 | 1.39 |
| 2 | AB | 1592 | C | C4'-C3' | 7.51 | 1.61 | 1.53 |
| 35 | BA | 160 | A | N3-C4 | 7.51 | 1.39 | 1.34 |
| 35 | BA | 1086 | U | C4-C5 | 7.51 | 1.50 | 1.43 |
| 35 | BA | 1313 | U | N3-C4 | 7.51 | 1.45 | 1.38 |
| 2 | AB | 1555 | G | C6-N1 | 7.51 | 1.44 | 1.39 |
| 35 | BA | 1336 | C | C2'-C1' | -7.51 | 1.45 | 1.53 |
| 2 | AB | 2494 | G | C4'-O4' | -7.51 | 1.35 | 1.45 |
| 35 | BA | 888 | G | C6-N1 | -7.51 | 1.34 | 1.39 |
| 35 | BA | 1184 | G | N9-C4 | -7.51 | 1.31 | 1.38 |
| 35 | BA | 359 | G | N3-C4 | 7.50 | 1.40 | 1.35 |
| 35 | BA | 1313 | U | C2-O2 | 7.50 | 1.29 | 1.22 |
| 1 | AA | 105 | G | N9-C8 | -7.50 | 1.32 | 1.37 |
| 2 | AB | 1884 | G | N1-C2 | -7.50 | 1.31 | 1.37 |
| 2 | AB | 2102 | G | N3-C4 | 7.50 | 1.40 | 1.35 |
| 2 | AB | 2276 | G | C8-N7 | 7.50 | 1.35 | 1.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1599 | U | N3-C4 | 7.50 | 1.45 | 1.38 |
| 2 | AB | 1831 | G | C2-N3 | 7.50 | 1.38 | 1.32 |
| 2 | AB | 2395 | C | P-O5' | -7.50 | 1.52 | 1.59 |
| 2 | AB | 2673 | G | O4'-C1' | 7.50 | 1.51 | 1.41 |
| 35 | BA | 189 | A | P-O5' | 7.50 | 1.67 | 1.59 |
| 2 | AB | 1977 | A | N3-C4 | 7.50 | 1.39 | 1.34 |
| 2 | AB | 2616 | C | N3-C4 | 7.50 | 1.39 | 1.33 |
| 35 | BA | 1374 | A | C5-C4 | -7.50 | 1.33 | 1.38 |
| 2 | AB | 784 | G | N9-C8 | 7.50 | 1.43 | 1.37 |
| 2 | AB | 1115 | G | C4'-O4' | -7.50 | 1.35 | 1.45 |
| 2 | AB | 291 | G | C2-N3 | 7.49 | 1.38 | 1.32 |
| 2 | AB | 696 | G | N3-C4 | 7.49 | 1.40 | 1.35 |
| 2 | AB | 862 | G | C6-N1 | -7.49 | 1.34 | 1.39 |
| 2 | AB | 1181 | U | C2-N3 | 7.49 | 1.43 | 1.37 |
| 2 | AB | 1976 | U | N3-C4 | 7.49 | 1.45 | 1.38 |
| 2 | AB | 810 | U | O3'-P | 7.49 | 1.70 | 1.61 |
| 2 | AB | 2056 | G | C2-N3 | 7.49 | 1.38 | 1.32 |
| 35 | BA | 1084 | G | N1-C2 | 7.49 | 1.43 | 1.37 |
| 2 | AB | 1492 | G | O3'-P | 7.49 | 1.70 | 1.61 |
| 2 | AB | 2546 | U | C2-N3 | 7.49 | 1.43 | 1.37 |
| 35 | BA | 1005 | A | N3-C4 | 7.49 | 1.39 | 1.34 |
| 35 | BA | 849 | G | N3-C4 | 7.48 | 1.40 | 1.35 |
| 2 | AB | 1856 | U | C2'-O2' | 7.48 | 1.51 | 1.41 |
| 2 | AB | 181 | A | N9-C4 | 7.48 | 1.42 | 1.37 |
| 35 | BA | 790 | A | C5'-C4' | 7.48 | 1.60 | 1.51 |
| 35 | BA | 1014 | A | N7-C5 | -7.48 | 1.34 | 1.39 |
| 2 | AB | 1362 | C | C5-C6 | 7.48 | 1.40 | 1.34 |
| 2 | AB | 1524 | G | C5'-C4' | 7.48 | 1.60 | 1.51 |
| 2 | AB | 1817 | G | P-O5' | 7.48 | 1.67 | 1.59 |
| 2 | AB | 2108 | A | P-O5' | 7.48 | 1.67 | 1.59 |
| 2 | AB | 2809 | A | N1-C2 | -7.48 | 1.27 | 1.34 |
| 34 | A7 | 28 | SER | CB-OG | 7.48 | 1.51 | 1.42 |
| 1 | AA | 43 | C | O3'-P | 7.48 | 1.70 | 1.61 |
| 35 | BA | 641 | U | C3'-C2' | 7.48 | 1.61 | 1.52 |
| 2 | AB | 2613 | U | P-O5' | 7.47 | 1.67 | 1.59 |
| 35 | BA | 135 | C | C2-N3 | 7.47 | 1.41 | 1.35 |
| 35 | BA | 1172 | C | C5'-C4' | 7.47 | 1.60 | 1.51 |
| 2 | AB | 2490 | G | C6-N1 | 7.47 | 1.44 | 1.39 |
| 2 | AB | 2582 | G | O3'-P | 7.47 | 1.70 | 1.61 |
| 35 | BA | 93 | U | N3-C4 | 7.47 | 1.45 | 1.38 |
| 35 | BA | 246 | A | P-O5' | 7.47 | 1.67 | 1.59 |
| 35 | BA | 1535 | C | C5'-C4' | 7.47 | 1.60 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1308 | A | C5-C6 | 7.47 | 1.47 | 1.41 |
| 35 | BA | 920 | U | C4-O4 | -7.47 | 1.17 | 1.23 |
| 35 | BA | 1239 | A | N9-C8 | -7.47 | 1.31 | 1.37 |
| 1 | AA | 12 | C | O3'-P | 7.47 | 1.70 | 1.61 |
| 2 | AB | 2819 | G | C5-C4 | 7.47 | 1.43 | 1.38 |
| 35 | BA | 763 | G | C2-N3 | 7.47 | 1.38 | 1.32 |
| 2 | AB | 1853 | A | N9-C4 | 7.47 | 1.42 | 1.37 |
| 35 | BA | 609 | A | C5-C4 | -7.47 | 1.33 | 1.38 |
| 35 | BA | 964 | A | N3-C4 | 7.47 | 1.39 | 1.34 |
| 2 | AB | 870 | U | C5-C6 | 7.47 | 1.40 | 1.34 |
| 2 | AB | 1582 | C | C4'-C3' | 7.47 | 1.61 | 1.53 |
| 2 | AB | 859 | G | C8-N7 | -7.46 | 1.26 | 1.30 |
| 35 | BA | 544 | G | N7-C5 | 7.46 | 1.43 | 1.39 |
| 35 | BA | 605 | U | O3'-P | 7.46 | 1.70 | 1.61 |
| 35 | BA | 803 | G | N3-C4 | 7.46 | 1.40 | 1.35 |
| 2 | AB | 510 | C | C2-N3 | 7.46 | 1.41 | 1.35 |
| 35 | BA | 336 | A | N9-C4 | -7.46 | 1.33 | 1.37 |
| 35 | BA | 1311 | A | C5-C4 | -7.46 | 1.33 | 1.38 |
| 35 | BA | 1436 | U | C4-C5 | 7.46 | 1.50 | 1.43 |
| 2 | AB | 2867 | G | P-O5' | 7.46 | 1.67 | 1.59 |
| 2 | AB | 1726 | C | C2-O2 | -7.46 | 1.17 | 1.24 |
| 2 | AB | 2084 | C | N3-C4 | 7.46 | 1.39 | 1.33 |
| 2 | AB | 2140 | G | P-O5' | 7.46 | 1.67 | 1.59 |
| 2 | AB | 2530 | A | C4'-O4' | -7.46 | 1.35 | 1.45 |
| 2 | AB | 2223 | G | C3'-C2' | 7.46 | 1.61 | 1.52 |
| 2 | AB | 2694 | G | N3-C4 | 7.46 | 1.40 | 1.35 |
| 35 | BA | 127 | G | N9-C4 | 7.46 | 1.44 | 1.38 |
| 2 | AB | 98 | G | C6-N1 | 7.45 | 1.44 | 1.39 |
| 2 | AB | 1115 | G | N9-C4 | 7.45 | 1.44 | 1.38 |
| 2 | AB | 1525 | A | N3-C4 | 7.45 | 1.39 | 1.34 |
| 2 | AB | 2043 | C | N1-C6 | 7.45 | 1.41 | 1.37 |
| 2 | AB | 2201 | G | N7-C5 | -7.45 | 1.34 | 1.39 |
| 35 | BA | 127 | G | C5-C4 | 7.45 | 1.43 | 1.38 |
| 2 | AB | 96 | C | N3-C4 | 7.45 | 1.39 | 1.33 |
| 2 | AB | 329 | G | C2-N3 | 7.45 | 1.38 | 1.32 |
| 2 | AB | 1564 | C | C4'-O4' | -7.45 | 1.35 | 1.45 |
| 35 | BA | 503 | C | N3-C4 | 7.45 | 1.39 | 1.33 |
| 35 | BA | 927 | G | C8-N7 | -7.45 | 1.26 | 1.30 |
| 2 | AB | 863 | A | C5-C4 | 7.45 | 1.44 | 1.38 |
| 2 | AB | 1497 | U | C2-O2 | 7.45 | 1.29 | 1.22 |
| 8 | AH | 134 | GLY | CA-C | 7.45 | 1.63 | 1.51 |
| 9 | AI | 76 | GLU | CG-CD | 7.45 | 1.63 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1252 | G | C8-N7 | 7.45 | 1.35 | 1.30 |
| 2 | AB | 2701 | U | P-O5' | 7.45 | 1.67 | 1.59 |
| 35 | BA | 584 | G | N9-C8 | -7.45 | 1.32 | 1.37 |
| 35 | BA | 1160 | G | N3-C4 | 7.45 | 1.40 | 1.35 |
| 35 | BA | 1313 | U | C4-C5 | 7.45 | 1.50 | 1.43 |
| 2 | AB | 2124 | G | N3-C4 | 7.44 | 1.40 | 1.35 |
| 35 | BA | 1293 | C | C5'-C4' | 7.44 | 1.60 | 1.51 |
| 1 | AA | 38 | C | C5'-C4' | 7.44 | 1.60 | 1.51 |
| 2 | AB | 694 | U | P-O5' | 7.44 | 1.67 | 1.59 |
| 2 | AB | 948 | C | N1-C6 | 7.44 | 1.41 | 1.37 |
| 2 | AB | 1189 | A | C8-N7 | 7.44 | 1.36 | 1.31 |
| 2 | AB | 1718 | G | N9-C8 | -7.44 | 1.32 | 1.37 |
| 35 | BA | 841 | C | P-O5' | 7.44 | 1.67 | 1.59 |
| 2 | AB | 893 | C | C5-C6 | 7.44 | 1.40 | 1.34 |
| 2 | AB | 2354 | C | N3-C4 | 7.44 | 1.39 | 1.33 |
| 35 | BA | 227 | G | C4'-O4' | -7.44 | 1.35 | 1.45 |
| 2 | AB | 154 | U | C4-C5 | -7.44 | 1.36 | 1.43 |
| 2 | AB | 214 | G | N1-C2 | 7.44 | 1.43 | 1.37 |
| 2 | AB | 1654 | A | C4'-O4' | -7.44 | 1.35 | 1.45 |
| 35 | BA | 77 | A | N1-C2 | -7.44 | 1.27 | 1.34 |
| 35 | BA | 497 | G | N7-C5 | 7.44 | 1.43 | 1.39 |
| 35 | BA | 1224 | U | P-O5' | 7.44 | 1.67 | 1.59 |
| 36 | BB | 22 | G | C5'-C4' | 7.44 | 1.60 | 1.51 |
| 2 | AB | 1389 | G | C5-C4 | 7.44 | 1.43 | 1.38 |
| 35 | BA | 598 | U | C2-N3 | 7.44 | 1.43 | 1.37 |
| 37 | BC | 15 | G | N1-C2 | 7.44 | 1.43 | 1.37 |
| 35 | BA | 243 | A | N7-C5 | 7.44 | 1.43 | 1.39 |
| 2 | AB | 1951 | U | O4'-C1' | 7.43 | 1.51 | 1.41 |
| 2 | AB | 2036 | C | C2-N3 | 7.43 | 1.41 | 1.35 |
| 2 | AB | 2568 | U | N3-C4 | 7.43 | 1.45 | 1.38 |
| 2 | AB | 1334 | G | P-O5' | 7.43 | 1.67 | 1.59 |
| 2 | AB | 131 | A | P-O5' | 7.43 | 1.67 | 1.59 |
| 2 | AB | 1401 | G | C2-N3 | 7.43 | 1.38 | 1.32 |
| 2 | AB | 1679 | A | C5-C4 | -7.43 | 1.33 | 1.38 |
| 35 | BA | 572 | A | C8-N7 | -7.43 | 1.26 | 1.31 |
| 2 | AB | 1497 | U | N3-C4 | 7.43 | 1.45 | 1.38 |
| 2 | AB | 1792 | G | N9-C8 | 7.43 | 1.43 | 1.37 |
| 2 | AB | 28 | A | N3-C4 | 7.43 | 1.39 | 1.34 |
| 2 | AB | 1205 | A | N3-C4 | 7.42 | 1.39 | 1.34 |
| 2 | AB | 2123 | G | C2-N3 | 7.42 | 1.38 | 1.32 |
| 35 | BA | 168 | G | N9-C8 | -7.42 | 1.32 | 1.37 |
| 2 | AB | 1058 | U | C4-O4 | -7.42 | 1.17 | 1.23 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1302 | A | N1-C2 | -7.42 | 1.27 | 1.34 |
| 2 | AB | 1360 | G | C2-N3 | 7.42 | 1.38 | 1.32 |
| 35 | BA | 362 | G | P-O5' | 7.42 | 1.67 | 1.59 |
| 2 | AB | 1456 | G | N7-C5 | -7.42 | 1.34 | 1.39 |
| 2 | AB | 2081 | U | O3'-P | 7.42 | 1.70 | 1.61 |
| 2 | AB | 1520 | U | N3-C4 | 7.42 | 1.45 | 1.38 |
| 2 | AB | 1734 | G | C6-N1 | 7.42 | 1.44 | 1.39 |
| 2 | AB | 2364 | C | C4'-O4' | -7.42 | 1.35 | 1.45 |
| 2 | AB | 2413 | G | N1-C2 | 7.42 | 1.43 | 1.37 |
| 2 | AB | 804 | A | N9-C8 | 7.42 | 1.43 | 1.37 |
| 2 | AB | 1252 | G | C4'-O4' | -7.42 | 1.35 | 1.45 |
| 2 | AB | 2898 | U | C5-C6 | 7.42 | 1.40 | 1.34 |
| 35 | BA | 19 | A | C4'-O4' | -7.42 | 1.35 | 1.45 |
| 2 | AB | 176 | A | O3'-P | 7.41 | 1.70 | 1.61 |
| 2 | AB | 2640 | G | N1-C2 | 7.41 | 1.43 | 1.37 |
| 2 | AB | 2886 | A | C3'-C2' | -7.41 | 1.44 | 1.52 |
| 35 | BA | 1323 | G | P-O5' | 7.41 | 1.67 | 1.59 |
| 2 | AB | 656 | G | C5-C4 | -7.41 | 1.33 | 1.38 |
| 2 | AB | 1108 | U | N1-C2 | 7.41 | 1.45 | 1.38 |
| 2 | AB | 2823 | A | O4'-C1' | 7.41 | 1.51 | 1.41 |
| 2 | AB | 261 | G | N7-C5 | -7.41 | 1.34 | 1.39 |
| 2 | AB | 2293 | G | N9-C8 | 7.41 | 1.43 | 1.37 |
| 35 | BA | 99 | C | O3'-P | 7.41 | 1.70 | 1.61 |
| 2 | AB | 752 | A | C5'-C4' | 7.41 | 1.60 | 1.51 |
| 2 | AB | 979 | A | C3'-C2' | 7.41 | 1.61 | 1.52 |
| 2 | AB | 1012 | U | N1-C2 | 7.41 | 1.45 | 1.38 |
| 2 | AB | 1982 | U | O3'-P | 7.41 | 1.70 | 1.61 |
| 2 | AB | 1328 | A | C6-N6 | 7.41 | 1.39 | 1.33 |
| 35 | BA | 260 | G | C6-N1 | 7.41 | 1.44 | 1.39 |
| 35 | BA | 428 | G | C5'-C4' | 7.41 | 1.60 | 1.51 |
| 2 | AB | 74 | A | O3'-P | -7.41 | 1.52 | 1.61 |
| 2 | AB | 1034 | G | C6-N1 | 7.41 | 1.44 | 1.39 |
| 2 | AB | 2127 | G | C8-N7 | 7.41 | 1.35 | 1.30 |
| 2 | AB | 2803 | G | C5-C4 | -7.41 | 1.33 | 1.38 |
| 35 | BA | 388 | G | N9-C8 | 7.41 | 1.43 | 1.37 |
| 35 | BA | 536 | C | C2-N3 | 7.41 | 1.41 | 1.35 |
| 35 | BA | 1054 | C | C4'-O4' | -7.41 | 1.35 | 1.45 |
| 2 | AB | 41 | C | P-O5' | 7.40 | 1.67 | 1.59 |
| 35 | BA | 785 | G | C6-O6 | 7.40 | 1.30 | 1.24 |
| 35 | BA | 1299 | A | C6-N1 | -7.40 | 1.30 | 1.35 |
| 1 | AA | 9 | G | P-O5' | -7.40 | 1.52 | 1.59 |
| 2 | AB | 1238 | G | P-O5' | 7.40 | 1.67 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2638 | G | N7-C5 | 7.40 | 1.43 | 1.39 |
| 35 | BA | 104 | G | C8-N7 | -7.40 | 1.26 | 1.30 |
| 35 | BA | 546 | A | N1-C2 | -7.40 | 1.27 | 1.34 |
| 2 | AB | 2882 | A | N3-C4 | 7.40 | 1.39 | 1.34 |
| 1 | AA | 53 | A | C5'-C4' | 7.40 | 1.60 | 1.51 |
| 35 | BA | 342 | C | C4-C5 | 7.40 | 1.48 | 1.43 |
| 35 | BA | 519 | C | P-O5' | 7.40 | 1.67 | 1.59 |
| 2 | AB | 39 | G | C8-N7 | 7.39 | 1.35 | 1.30 |
| 35 | BA | 1119 | C | C2-O2 | 7.39 | 1.31 | 1.24 |
| 2 | AB | 1335 | C | C5-C6 | 7.39 | 1.40 | 1.34 |
| 2 | AB | 2595 | G | C2'-C1' | 7.39 | 1.61 | 1.53 |
| 35 | BA | 770 | C | P-O5' | 7.39 | 1.67 | 1.59 |
| 2 | AB | 807 | U | C4-O4 | -7.39 | 1.17 | 1.23 |
| 2 | AB | 961 | C | N3-C4 | -7.39 | 1.28 | 1.33 |
| 2 | AB | 1310 | G | N3-C4 | 7.39 | 1.40 | 1.35 |
| 2 | AB | 1547 | C | C2-N3 | 7.39 | 1.41 | 1.35 |
| 35 | BA | 86 | G | N1-C2 | 7.39 | 1.43 | 1.37 |
| 35 | BA | 637 | C | C2-N3 | 7.39 | 1.41 | 1.35 |
| 35 | BA | 1485 | U | C3'-C2' | 7.39 | 1.61 | 1.52 |
| 2 | AB | 177 | G | C5'-C4' | 7.39 | 1.60 | 1.51 |
| 2 | AB | 230 | G | C2-N3 | 7.39 | 1.38 | 1.32 |
| 2 | AB | 475 | C | C4'-O4' | -7.39 | 1.35 | 1.45 |
| 2 | AB | 2273 | A | N7-C5 | 7.39 | 1.43 | 1.39 |
| 2 | AB | 2893 | A | C6-N1 | 7.39 | 1.40 | 1.35 |
| 35 | BA | 739 | C | N3-C4 | 7.39 | 1.39 | 1.33 |
| 2 | AB | 2840 | C | O3'-P | 7.38 | 1.70 | 1.61 |
| 2 | AB | 2903 | U | C2-N3 | 7.38 | 1.43 | 1.37 |
| 35 | BA | 728 | A | C8-N7 | -7.38 | 1.26 | 1.31 |
| 35 | BA | 1178 | G | P-O5' | 7.38 | 1.67 | 1.59 |
| 2 | AB | 770 | G | C2-N3 | 7.38 | 1.38 | 1.32 |
| 2 | AB | 1796 | U | C2-N3 | 7.38 | 1.43 | 1.37 |
| 35 | BA | 525 | C | P-O5' | 7.38 | 1.67 | 1.59 |
| 2 | AB | 150 | U | C2-N3 | 7.38 | 1.43 | 1.37 |
| 2 | AB | 325 | G | C8-N7 | -7.38 | 1.26 | 1.30 |
| 35 | BA | 563 | A | C6-N6 | -7.38 | 1.28 | 1.33 |
| 35 | BA | 873 | A | N3-C4 | 7.38 | 1.39 | 1.34 |
| 36 | BB | 40 | G | P-O5' | 7.38 | 1.67 | 1.59 |
| 2 | AB | 662 | G | C2-N3 | 7.38 | 1.38 | 1.32 |
| 2 | AB | 1609 | A | N7-C5 | 7.38 | 1.43 | 1.39 |
| 2 | AB | 2154 | A | P-O5' | 7.38 | 1.67 | 1.59 |
| 2 | AB | 886 | A | C2-N3 | -7.37 | 1.26 | 1.33 |
| 2 | AB | 2034 | U | C2-N3 | 7.37 | 1.43 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2073 | C | N1-C6 | 7.37 | 1.41 | 1.37 |
| 2 | AB | 2464 | G | C4'-O4' | -7.37 | 1.35 | 1.45 |
| 2 | AB | 2474 | U | N1-C2 | 7.37 | 1.45 | 1.38 |
| 2 | AB | 92 | U | P-O5' | 7.37 | 1.67 | 1.59 |
| 37 | BC | 76 | C | C5-C6 | 7.37 | 1.40 | 1.34 |
| 35 | BA | 526 | C | P-O5' | 7.37 | 1.67 | 1.59 |
| 35 | BA | 1485 | U | C4-C5 | 7.37 | 1.50 | 1.43 |
| 2 | AB | 645 | C | N3-C4 | 7.37 | 1.39 | 1.33 |
| 2 | AB | 1632 | A | N1-C2 | -7.37 | 1.27 | 1.34 |
| 35 | BA | 809 | G | N9-C8 | 7.37 | 1.43 | 1.37 |
| 35 | BA | 1357 | A | C6-N1 | -7.37 | 1.30 | 1.35 |
| 2 | AB | 367 | G | N7-C5 | -7.36 | 1.34 | 1.39 |
| 2 | AB | 445 | C | O3'-P | 7.36 | 1.70 | 1.61 |
| 2 | AB | 1360 | G | N1-C2 | 7.36 | 1.43 | 1.37 |
| 2 | AB | 2298 | A | C2'-C1' | 7.36 | 1.61 | 1.53 |
| 2 | AB | 490 | C | C2'-O2' | 7.36 | 1.51 | 1.41 |
| 2 | AB | 678 | C | P-O5' | 7.36 | 1.67 | 1.59 |
| 2 | AB | 862 | G | C5-C4 | 7.36 | 1.43 | 1.38 |
| 35 | BA | 6 | G | C6-N1 | 7.36 | 1.44 | 1.39 |
| 35 | BA | 428 | G | N1-C2 | 7.36 | 1.43 | 1.37 |
| 2 | AB | 1215 | G | P-O5' | 7.36 | 1.67 | 1.59 |
| 35 | BA | 649 | A | N3-C4 | 7.36 | 1.39 | 1.34 |
| 1 | AA | 63 | C | C2-N3 | 7.36 | 1.41 | 1.35 |
| 2 | AB | 1208 | C | N1-C6 | -7.36 | 1.32 | 1.37 |
| 2 | AB | 166 | U | P-O5' | 7.36 | 1.67 | 1.59 |
| 2 | AB | 340 | A | C5'-C4' | 7.36 | 1.60 | 1.51 |
| 2 | AB | 358 | U | P-O5' | 7.36 | 1.67 | 1.59 |
| 2 | AB | 2429 | G | N3-C4 | 7.36 | 1.40 | 1.35 |
| 2 | AB | 2583 | G | O3'-P | -7.36 | 1.52 | 1.61 |
| 35 | BA | 903 | G | N9-C8 | 7.36 | 1.43 | 1.37 |
| 35 | BA | 1488 | G | N3-C4 | 7.36 | 1.40 | 1.35 |
| 2 | AB | 1735 | A | P-O5' | -7.35 | 1.52 | 1.59 |
| 35 | BA | 1138 | G | C8-N7 | 7.35 | 1.35 | 1.30 |
| 35 | BA | 1278 | G | C6-N1 | 7.35 | 1.44 | 1.39 |
| 35 | BA | 1354 | U | C2-O2 | 7.35 | 1.28 | 1.22 |
| 2 | AB | 866 | A | N3-C4 | 7.35 | 1.39 | 1.34 |
| 2 | AB | 1624 | U | C2-O2 | 7.35 | 1.28 | 1.22 |
| 2 | AB | 1804 | C | P-O5' | 7.35 | 1.67 | 1.59 |
| 35 | BA | 791 | G | C8-N7 | 7.35 | 1.35 | 1.30 |
| 2 | AB | 583 | G | C2-N2 | -7.35 | 1.27 | 1.34 |
| 35 | BA | 129 | A | C5-C4 | -7.35 | 1.33 | 1.38 |
| 35 | BA | 305 | G | N9-C8 | -7.35 | 1.32 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 726 | C | N1-C6 | 7.35 | 1.41 | 1.37 |
| 35 | BA | 1396 | A | C5-C4 | -7.35 | 1.33 | 1.38 |
| 2 | AB | 2689 | U | C2-N3 | 7.35 | 1.42 | 1.37 |
| 2 | AB | 327 | G | C6-N1 | -7.34 | 1.34 | 1.39 |
| 2 | AB | 1861 | G | N7-C5 | 7.34 | 1.43 | 1.39 |
| 2 | AB | 2578 | G | N3-C4 | 7.34 | 1.40 | 1.35 |
| 35 | BA | 510 | A | C5'-C4' | 7.34 | 1.60 | 1.51 |
| 35 | BA | 882 | C | N1-C6 | 7.34 | 1.41 | 1.37 |
| 35 | BA | 1510 | C | C2-N3 | 7.34 | 1.41 | 1.35 |
| 2 | AB | 130 | C | N1-C6 | 7.34 | 1.41 | 1.37 |
| 2 | AB | 338 | G | C2-N3 | 7.34 | 1.38 | 1.32 |
| 2 | AB | 674 | G | N1-C2 | 7.34 | 1.43 | 1.37 |
| 2 | AB | 1332 | G | N1-C2 | 7.34 | 1.43 | 1.37 |
| 2 | AB | 1466 | U | C4-C5 | 7.34 | 1.50 | 1.43 |
| 2 | AB | 1550 | C | N1-C2 | 7.34 | 1.47 | 1.40 |
| 2 | AB | 2282 | G | N3-C4 | -7.34 | 1.30 | 1.35 |
| 35 | BA | 173 | U | C2-N3 | 7.34 | 1.42 | 1.37 |
| 37 | BC | 57 | C | N3-C4 | 7.34 | 1.39 | 1.33 |
| 2 | AB | 2690 | U | C2-N3 | 7.34 | 1.42 | 1.37 |
| 2 | AB | 2637 | U | C2-N3 | 7.34 | 1.42 | 1.37 |
| 2 | AB | 1133 | A | P-O5' | 7.33 | 1.67 | 1.59 |
| 2 | AB | 1994 | C | C5-C6 | 7.33 | 1.40 | 1.34 |
| 35 | BA | 858 | G | C6-N1 | 7.33 | 1.44 | 1.39 |
| 2 | AB | 329 | G | O3'-P | -7.33 | 1.52 | 1.61 |
| 2 | AB | 988 | A | C5-C4 | -7.33 | 1.33 | 1.38 |
| 2 | AB | 1880 | U | C2-N3 | 7.33 | 1.42 | 1.37 |
| 2 | AB | 2806 | C | N1-C2 | 7.33 | 1.47 | 1.40 |
| 35 | BA | 376 | G | C5'-C4' | -7.33 | 1.42 | 1.51 |
| 37 | BC | 50 | G | N9-C8 | 7.33 | 1.43 | 1.37 |
| 2 | AB | 882 | G | O3'-P | 7.33 | 1.70 | 1.61 |
| 2 | AB | 177 | G | N9-C8 | 7.33 | 1.43 | 1.37 |
| 2 | AB | 1608 | A | N9-C8 | 7.33 | 1.43 | 1.37 |
| 2 | AB | 2061 | G | N3-C4 | 7.33 | 1.40 | 1.35 |
| 2 | AB | 2215 | C | C2-N3 | 7.33 | 1.41 | 1.35 |
| 2 | AB | 126 | A | N7-C5 | 7.33 | 1.43 | 1.39 |
| 2 | AB | 815 | C | N1-C6 | -7.33 | 1.32 | 1.37 |
| 2 | AB | 1805 | A | C8-N7 | -7.33 | 1.26 | 1.31 |
| 35 | BA | 1415 | G | P-O5' | 7.33 | 1.67 | 1.59 |
| 2 | AB | 129 | C | N3-C4 | 7.32 | 1.39 | 1.33 |
| 2 | AB | 594 | U | P-O5' | 7.32 | 1.67 | 1.59 |
| 2 | AB | 916 | G | C8-N7 | 7.32 | 1.35 | 1.30 |
| 2 | AB | 1299 | G | C5'-C4' | 7.32 | 1.60 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1653 | G | C2'-O2' | 7.32 | 1.51 | 1.41 |
| 2 | AB | 2222 | C | C2-N3 | 7.32 | 1.41 | 1.35 |
| 35 | BA | 285 | C | O3'-P | 7.32 | 1.70 | 1.61 |
| 35 | BA | 451 | A | N9-C4 | 7.32 | 1.42 | 1.37 |
| 2 | AB | 1121 | C | O3'-P | 7.32 | 1.70 | 1.61 |
| 36 | BB | 41 | A | C3'-C2' | 7.32 | 1.61 | 1.52 |
| 2 | AB | 1045 | C | N1-C6 | 7.32 | 1.41 | 1.37 |
| 36 | BB | 37 | G | N1-C2 | 7.32 | 1.43 | 1.37 |
| 2 | AB | 2267 | A | N7-C5 | 7.32 | 1.43 | 1.39 |
| 2 | AB | 2862 | G | C2-N3 | 7.32 | 1.38 | 1.32 |
| 35 | BA | 686 | U | N1-C2 | 7.32 | 1.45 | 1.38 |
| 35 | BA | 1444 | U | C2-O2 | -7.32 | 1.15 | 1.22 |
| 2 | AB | 2824 | C | N1-C6 | 7.32 | 1.41 | 1.37 |
| 35 | BA | 996 | A | N3-C4 | 7.32 | 1.39 | 1.34 |
| 2 | AB | 178 | G | N7-C5 | 7.31 | 1.43 | 1.39 |
| 2 | AB | 1905 | C | N3-C4 | -7.31 | 1.28 | 1.33 |
| 2 | AB | 2431 | U | N3-C4 | 7.31 | 1.45 | 1.38 |
| 35 | BA | 842 | U | P-O5' | 7.31 | 1.67 | 1.59 |
| 2 | AB | 899 | A | N7-C5 | 7.31 | 1.43 | 1.39 |
| 35 | BA | 508 | U | C5'-C4' | 7.31 | 1.60 | 1.51 |
| 35 | BA | 1006 | G | N3-C4 | 7.31 | 1.40 | 1.35 |
| 35 | BA | 1473 | G | O3'-P | 7.31 | 1.70 | 1.61 |
| 2 | AB | 1479 | G | N7-C5 | 7.31 | 1.43 | 1.39 |
| 2 | AB | 1743 | G | P-O5' | 7.31 | 1.67 | 1.59 |
| 2 | AB | 1840 | G | C8-N7 | -7.31 | 1.26 | 1.30 |
| 2 | AB | 2040 | G | C8-N7 | 7.31 | 1.35 | 1.30 |
| 35 | BA | 976 | G | N3-C4 | 7.31 | 1.40 | 1.35 |
| 2 | AB | 797 | G | N9-C8 | -7.30 | 1.32 | 1.37 |
| 2 | AB | 2276 | G | C6-N1 | -7.30 | 1.34 | 1.39 |
| 2 | AB | 2786 | U | P-O5' | 7.30 | 1.67 | 1.59 |
| 35 | BA | 1420 | U | C4-C5 | 7.30 | 1.50 | 1.43 |
| 2 | AB | 114 | U | C2-N3 | 7.30 | 1.42 | 1.37 |
| 2 | AB | 1024 | G | C6-O6 | -7.30 | 1.17 | 1.24 |
| 2 | AB | 1219 | U | C4-C5 | 7.30 | 1.50 | 1.43 |
| 2 | AB | 2663 | G | P-O5' | 7.30 | 1.67 | 1.59 |
| 35 | BA | 183 | C | C4-C5 | 7.30 | 1.48 | 1.43 |
| 35 | BA | 275 | G | C5-C4 | -7.30 | 1.33 | 1.38 |
| 35 | BA | 740 | U | C5-C6 | 7.30 | 1.40 | 1.34 |
| 35 | BA | 530 | G | N9-C4 | 7.30 | 1.43 | 1.38 |
| 2 | AB | 1080 | A | C5-C6 | 7.30 | 1.47 | 1.41 |
| 2 | AB | 2084 | C | C4-N4 | -7.30 | 1.27 | 1.33 |
| 35 | BA | 70 | U | C3'-O3' | 7.30 | 1.52 | 1.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 586 | C | N3-C4 | 7.30 | 1.39 | 1.33 |
| 35 | BA | 711 | G | C5-C4 | -7.30 | 1.33 | 1.38 |
| 35 | BA | 1419 | G | N7-C5 | -7.30 | 1.34 | 1.39 |
| 1 | AA | 14 | U | P-O5' | 7.29 | 1.67 | 1.59 |
| 2 | AB | 11 | C | N3-C4 | -7.29 | 1.28 | 1.33 |
| 2 | AB | 1218 | G | C6-N1 | 7.29 | 1.44 | 1.39 |
| 2 | AB | 1613 | G | O3'-P | 7.29 | 1.70 | 1.61 |
| 2 | AB | 1927 | A | N9-C4 | -7.29 | 1.33 | 1.37 |
| 2 | AB | 2817 | U | P-O5' | 7.29 | 1.67 | 1.59 |
| 35 | BA | 439 | U | C2'-C1' | 7.29 | 1.61 | 1.53 |
| 35 | BA | 973 | G | N7-C5 | -7.29 | 1.34 | 1.39 |
| 35 | BA | 1448 | C | N1-C6 | 7.29 | 1.41 | 1.37 |
| 2 | AB | 836 | G | C8-N7 | 7.29 | 1.35 | 1.30 |
| 2 | AB | 53 | A | N7-C5 | 7.29 | 1.43 | 1.39 |
| 2 | AB | 469 | G | N7-C5 | 7.29 | 1.43 | 1.39 |
| 35 | BA | 63 | C | N1-C6 | 7.29 | 1.41 | 1.37 |
| 2 | AB | 383 | C | N3-C4 | 7.29 | 1.39 | 1.33 |
| 35 | BA | 466 | A | N1-C2 | -7.29 | 1.27 | 1.34 |
| 35 | BA | 922 | G | C6-N1 | 7.29 | 1.44 | 1.39 |
| 36 | BB | 39 | U | C4-O4 | -7.29 | 1.17 | 1.23 |
| 2 | AB | 734 | A | N3-C4 | 7.28 | 1.39 | 1.34 |
| 2 | AB | 1168 | G | C5-C4 | -7.28 | 1.33 | 1.38 |
| 2 | AB | 1699 | G | N9-C4 | 7.28 | 1.43 | 1.38 |
| 2 | AB | 600 | G | N1-C2 | -7.28 | 1.31 | 1.37 |
| 2 | AB | 626 | A | P-O5' | 7.28 | 1.67 | 1.59 |
| 36 | BB | 38 | G | C5'-C4' | 7.28 | 1.60 | 1.51 |
| 35 | BA | 1217 | C | P-O5' | 7.28 | 1.67 | 1.59 |
| 2 | AB | 925 | A | N3-C4 | 7.28 | 1.39 | 1.34 |
| 2 | AB | 1758 | U | C2-N3 | 7.28 | 1.42 | 1.37 |
| 2 | AB | 1789 | A | C8-N7 | -7.28 | 1.26 | 1.31 |
| 2 | AB | 1978 | A | C2-N3 | -7.28 | 1.26 | 1.33 |
| 2 | AB | 2581 | G | N7-C5 | 7.28 | 1.43 | 1.39 |
| 2 | AB | 2893 | A | N3-C4 | 7.28 | 1.39 | 1.34 |
| 35 | BA | 228 | A | N7-C5 | -7.28 | 1.34 | 1.39 |
| 35 | BA | 721 | G | C8-N7 | -7.28 | 1.26 | 1.30 |
| 35 | BA | 941 | G | N1-C2 | 7.28 | 1.43 | 1.37 |
| 35 | BA | 993 | G | C5'-C4' | 7.28 | 1.60 | 1.51 |
| 2 | AB | 972 | A | C2'-C1' | 7.28 | 1.61 | 1.53 |
| 2 | AB | 2653 | U | P-O5' | 7.28 | 1.67 | 1.59 |
| 35 | BA | 1158 | C | C2'-O2' | -7.28 | 1.32 | 1.41 |
| 2 | AB | 2295 | C | C4-C5 | 7.27 | 1.48 | 1.43 |
| 37 | BC | 2 | G | P-O5' | 7.27 | 1.67 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 430 | A | N3-C4 | 7.27 | 1.39 | 1.34 |
| 2 | AB | 2769 | U | C5-C6 | 7.27 | 1.40 | 1.34 |
| 2 | AB | 368 | A | N3-C4 | 7.27 | 1.39 | 1.34 |
| 2 | AB | 651 | G | O3'-P | -7.27 | 1.52 | 1.61 |
| 2 | AB | 1371 | G | P-O5' | 7.27 | 1.67 | 1.59 |
| 2 | AB | 1390 | U | C5'-C4' | 7.27 | 1.60 | 1.51 |
| 35 | BA | 38 | G | C4'-C3' | -7.27 | 1.45 | 1.53 |
| 35 | BA | 410 | G | C5-C4 | -7.27 | 1.33 | 1.38 |
| 35 | BA | 864 | A | C6-N1 | -7.27 | 1.30 | 1.35 |
| 2 | AB | 1292 | G | N1-C2 | 7.27 | 1.43 | 1.37 |
| 35 | BA | 204 | G | N1-C2 | 7.27 | 1.43 | 1.37 |
| 55 | BU | 75 | PRO | N-CD | -7.27 | 1.37 | 1.47 |
| 2 | AB | 2813 | A | P-O5' | 7.27 | 1.67 | 1.59 |
| 2 | AB | 1252 | G | N9-C8 | 7.26 | 1.43 | 1.37 |
| 35 | BA | 572 | A | N3-C4 | 7.26 | 1.39 | 1.34 |
| 35 | BA | 1101 | A | C6-N1 | 7.26 | 1.40 | 1.35 |
| 35 | BA | 1427 | C | C5-C6 | 7.26 | 1.40 | 1.34 |
| 2 | AB | 6 | A | N9-C4 | 7.26 | 1.42 | 1.37 |
| 2 | AB | 627 | A | P-O5' | -7.26 | 1.52 | 1.59 |
| 2 | AB | 1119 | U | C2-N3 | 7.26 | 1.42 | 1.37 |
| 2 | AB | 1318 | U | C2-N3 | 7.26 | 1.42 | 1.37 |
| 35 | BA | 323 | U | C4-C5 | 7.26 | 1.50 | 1.43 |
| 35 | BA | 1379 | G | P-O5' | 7.26 | 1.67 | 1.59 |
| 1 | AA | 13 | G | C2-N3 | 7.26 | 1.38 | 1.32 |
| 2 | AB | 1043 | C | N1-C6 | 7.26 | 1.41 | 1.37 |
| 2 | AB | 1128 | G | O4'-C1' | -7.26 | 1.32 | 1.41 |
| 2 | AB | 1961 | C | C4'-O4' | -7.26 | 1.36 | 1.45 |
| 2 | AB | 2343 | U | P-O5' | 7.26 | 1.67 | 1.59 |
| 35 | BA | 1240 | U | C2-N3 | 7.26 | 1.42 | 1.37 |
| 1 | AA | 26 | C | N1-C6 | 7.26 | 1.41 | 1.37 |
| 2 | AB | 199 | A | N3-C4 | 7.26 | 1.39 | 1.34 |
| 2 | AB | 816 | C | C5-C6 | 7.26 | 1.40 | 1.34 |
| 2 | AB | 1333 | G | N3-C4 | 7.26 | 1.40 | 1.35 |
| 2 | AB | 1508 | A | N3-C4 | 7.26 | 1.39 | 1.34 |
| 2 | AB | 2317 | A | C6-N6 | -7.26 | 1.28 | 1.33 |
| 2 | AB | 2253 | G | P-O5' | 7.25 | 1.67 | 1.59 |
| 2 | AB | 2125 | G | N7-C5 | 7.25 | 1.43 | 1.39 |
| 35 | BA | 75 | G | C4'-O4' | -7.25 | 1.36 | 1.45 |
| 35 | BA | 297 | G | C4'-C3' | 7.25 | 1.61 | 1.53 |
| 2 | AB | 111 | A | N3-C4 | 7.25 | 1.39 | 1.34 |
| 2 | AB | 1054 | A | N7-C5 | 7.25 | 1.43 | 1.39 |
| 2 | AB | 1126 | A | N3-C4 | 7.25 | 1.39 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1286 | A | N3-C4 | 7.25 | 1.39 | 1.34 |
| 2 | AB | 2590 | A | N3-C4 | 7.25 | 1.39 | 1.34 |
| 35 | BA | 192 | A | N9-C8 | 7.25 | 1.43 | 1.37 |
| 35 | BA | 1385 | G | N3-C4 | 7.25 | 1.40 | 1.35 |
| 35 | BA | 1527 | U | C5'-C4' | 7.25 | 1.60 | 1.51 |
| 1 | AA | 111 | U | C2-N3 | 7.25 | 1.42 | 1.37 |
| 2 | AB | 237 | C | C4-C5 | 7.25 | 1.48 | 1.43 |
| 2 | AB | 1280 | G | P-O5' | 7.25 | 1.67 | 1.59 |
| 2 | AB | 697 | G | C6-N1 | 7.25 | 1.44 | 1.39 |
| 2 | AB | 2577 | A | N3-C4 | 7.25 | 1.39 | 1.34 |
| 2 | AB | 305 | C | C5-C6 | 7.25 | 1.40 | 1.34 |
| 2 | AB | 1055 | G | O3'-P | 7.25 | 1.69 | 1.61 |
| 2 | AB | 2434 | A | C8-N7 | -7.25 | 1.26 | 1.31 |
| 2 | AB | 2753 | A | N1-C2 | -7.25 | 1.27 | 1.34 |
| 2 | AB | 242 | G | N9-C8 | -7.25 | 1.32 | 1.37 |
| 2 | AB | 1551 | A | P-O5' | 7.24 | 1.67 | 1.59 |
| 35 | BA | 372 | C | C2-N3 | 7.24 | 1.41 | 1.35 |
| 35 | BA | 464 | U | C5'-C4' | 7.24 | 1.60 | 1.51 |
| 35 | BA | 927 | G | C5'-C4' | 7.24 | 1.60 | 1.51 |
| 2 | AB | 85 | G | N9-C8 | -7.24 | 1.32 | 1.37 |
| 35 | BA | 540 | G | N1-C2 | 7.24 | 1.43 | 1.37 |
| 2 | AB | 433 | C | N1-C6 | 7.24 | 1.41 | 1.37 |
| 2 | AB | 706 | A | C6-N1 | -7.24 | 1.30 | 1.35 |
| 2 | AB | 1044 | C | C5'-C4' | 7.24 | 1.60 | 1.51 |
| 2 | AB | 1485 | U | N1-C2 | 7.24 | 1.45 | 1.38 |
| 35 | BA | 999 | C | N1-C6 | 7.24 | 1.41 | 1.37 |
| 35 | BA | 1043 | G | N9-C4 | 7.24 | 1.43 | 1.38 |
| 36 | BB | 35 | G | C5-C6 | 7.24 | 1.49 | 1.42 |
| 2 | AB | 342 | A | N3-C4 | 7.24 | 1.39 | 1.34 |
| 2 | AB | 2213 | U | C5'-C4' | 7.24 | 1.60 | 1.51 |
| 35 | BA | 868 | C | C2-N3 | 7.24 | 1.41 | 1.35 |
| 2 | AB | 857 | G | N7-C5 | 7.24 | 1.43 | 1.39 |
| 2 | AB | 829 | A | C2'-C1' | 7.24 | 1.61 | 1.53 |
| 35 | BA | 65 | A | C5'-C4' | 7.24 | 1.60 | 1.51 |
| 35 | BA | 1172 | C | N1-C2 | 7.24 | 1.47 | 1.40 |
| 2 | AB | 447 | A | O4'-C1' | 7.23 | 1.51 | 1.41 |
| 35 | BA | 322 | C | C5'-C4' | 7.23 | 1.60 | 1.51 |
| 35 | BA | 1467 | C | N1-C6 | 7.23 | 1.41 | 1.37 |
| 2 | AB | 563 | A | P-O5' | 7.23 | 1.67 | 1.59 |
| 2 | AB | 1025 | G | C3'-C2' | 7.23 | 1.60 | 1.52 |
| 2 | AB | 1464 | G | C5'-C4' | 7.23 | 1.60 | 1.51 |
| 2 | AB | 1697 | G | C3'-C2' | 7.23 | 1.60 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 158 | G | C6-N1 | 7.23 | 1.44 | 1.39 |
| 2 | AB | 795 | C | O4'-C1' | 7.23 | 1.51 | 1.41 |
| 2 | AB | 1508 | A | C5-C4 | 7.23 | 1.43 | 1.38 |
| 2 | AB | 2487 | G | P-O5' | 7.23 | 1.67 | 1.59 |
| 2 | AB | 2509 | G | N1-C2 | 7.23 | 1.43 | 1.37 |
| 2 | AB | 2757 | A | C6-N1 | 7.23 | 1.40 | 1.35 |
| 35 | BA | 169 | C | C4-N4 | 7.23 | 1.40 | 1.33 |
| 35 | BA | 630 | A | N7-C5 | 7.23 | 1.43 | 1.39 |
| 2 | AB | 1170 | C | C2-O2 | -7.23 | 1.18 | 1.24 |
| 2 | AB | 1819 | A | C5'-C4' | 7.23 | 1.60 | 1.51 |
| 35 | BA | 1459 | G | N3-C4 | 7.23 | 1.40 | 1.35 |
| 2 | AB | 1998 | A | N9-C4 | 7.23 | 1.42 | 1.37 |
| 37 | BC | 38 | A | C2'-C1' | 7.23 | 1.61 | 1.53 |
| 2 | AB | 2292 | U | C2-O2 | 7.23 | 1.28 | 1.22 |
| 2 | AB | 2358 | A | P-O5' | 7.23 | 1.67 | 1.59 |
| 2 | AB | 366 | C | C2-N3 | 7.22 | 1.41 | 1.35 |
| 2 | AB | 1521 | G | C4'-O4' | -7.22 | 1.36 | 1.45 |
| 2 | AB | 166 | U | C2-N3 | 7.22 | 1.42 | 1.37 |
| 2 | AB | 1211 | C | P-O5' | -7.22 | 1.52 | 1.59 |
| 2 | AB | 1599 | U | N1-C2 | 7.22 | 1.45 | 1.38 |
| 35 | BA | 812 | G | C5'-C4' | 7.22 | 1.60 | 1.51 |
| 35 | BA | 1229 | A | N7-C5 | 7.22 | 1.43 | 1.39 |
| 35 | BA | 1324 | A | N3-C4 | 7.22 | 1.39 | 1.34 |
| 2 | AB | 2841 | C | N3-C4 | 7.22 | 1.39 | 1.33 |
| 2 | AB | 1247 | A | N9-C8 | 7.22 | 1.43 | 1.37 |
| 35 | BA | 662 | U | C4'-O4' | -7.22 | 1.36 | 1.45 |
| 2 | AB | 135 | U | C2'-C1' | 7.22 | 1.61 | 1.53 |
| 2 | AB | 2692 | G | C5'-C4' | 7.22 | 1.60 | 1.51 |
| 35 | BA | 287 | U | C4-C5 | 7.22 | 1.50 | 1.43 |
| 37 | BC | 16 | C | C4'-C3' | 7.22 | 1.61 | 1.53 |
| 54 | BT | 50 | TYR | CG-CD1 | 7.22 | 1.48 | 1.39 |
| 1 | AA | 104 | A | N3-C4 | 7.22 | 1.39 | 1.34 |
| 2 | AB | 1250 | G | C4'-C3' | 7.22 | 1.61 | 1.53 |
| 2 | AB | 1444 | G | C2-N3 | 7.22 | 1.38 | 1.32 |
| 2 | AB | 1626 | A | C8-N7 | 7.22 | 1.36 | 1.31 |
| 35 | BA | 581 | G | C6-N1 | 7.22 | 1.44 | 1.39 |
| 35 | BA | 857 | C | C4-C5 | 7.22 | 1.48 | 1.43 |
| 35 | BA | 1292 | G | C6-N1 | 7.22 | 1.44 | 1.39 |
| 1 | AA | 79 | G | N9-C4 | 7.21 | 1.43 | 1.38 |
| 2 | AB | 1477 | A | C5'-C4' | 7.21 | 1.60 | 1.51 |
| 35 | BA | 215 | C | N3-C4 | 7.21 | 1.39 | 1.33 |
| 35 | BA | 904 | U | N1-C2 | 7.21 | 1.45 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 662 | G | O3'-P | 7.21 | 1.69 | 1.61 |
| 2 | AB | 692 | C | C4'-O4' | -7.21 | 1.36 | 1.45 |
| 2 | AB | 2318 | G | N1-C2 | 7.21 | 1.43 | 1.37 |
| 2 | AB | 2381 | A | C6-N1 | -7.21 | 1.30 | 1.35 |
| 11 | AK | 15 | GLY | CA-C | 7.21 | 1.63 | 1.51 |
| 35 | BA | 122 | G | C2-N3 | 7.21 | 1.38 | 1.32 |
| 35 | BA | 1026 | G | C8-N7 | 7.21 | 1.35 | 1.30 |
| 2 | AB | 685 | A | N9-C4 | -7.21 | 1.33 | 1.37 |
| 2 | AB | 1057 | A | N3-C4 | 7.21 | 1.39 | 1.34 |
| 2 | AB | 2272 | U | C2'-C1' | 7.21 | 1.61 | 1.53 |
| 35 | BA | 30 | U | C4'-O4' | -7.21 | 1.36 | 1.45 |
| 35 | BA | 1048 | G | C2-N3 | 7.21 | 1.38 | 1.32 |
| 1 | AA | 50 | A | O3'-P | 7.21 | 1.69 | 1.61 |
| 2 | AB | 286 | U | C4'-O4' | -7.21 | 1.36 | 1.45 |
| 2 | AB | 487 | C | C2-N3 | 7.21 | 1.41 | 1.35 |
| 2 | AB | 708 | G | C8-N7 | -7.21 | 1.26 | 1.30 |
| 2 | AB | 716 | A | C4'-O4' | -7.21 | 1.36 | 1.45 |
| 2 | AB | 769 | U | N1-C2 | 7.21 | 1.45 | 1.38 |
| 2 | AB | 1292 | G | C8-N7 | -7.21 | 1.26 | 1.30 |
| 2 | AB | 1450 | G | N3-C4 | 7.21 | 1.40 | 1.35 |
| 2 | AB | 1761 | C | C2-N3 | 7.21 | 1.41 | 1.35 |
| 2 | AB | 1916 | A | C8-N7 | -7.21 | 1.26 | 1.31 |
| 35 | BA | 596 | A | N1-C2 | -7.21 | 1.27 | 1.34 |
| 2 | AB | 18 | U | C4-C5 | 7.21 | 1.50 | 1.43 |
| 2 | AB | 1397 | U | N3-C4 | 7.21 | 1.45 | 1.38 |
| 35 | BA | 512 | U | N1-C2 | 7.21 | 1.45 | 1.38 |
| 36 | BB | 56 | G | C5-C6 | 7.21 | 1.49 | 1.42 |
| 1 | AA | 76 | G | C5-C6 | 7.20 | 1.49 | 1.42 |
| 2 | AB | 602 | A | P-O5' | 7.20 | 1.67 | 1.59 |
| 2 | AB | 1410 | G | N1-C2 | 7.20 | 1.43 | 1.37 |
| 35 | BA | 686 | U | C4-O4 | -7.20 | 1.17 | 1.23 |
| 2 | AB | 1326 | U | P-O5' | 7.20 | 1.67 | 1.59 |
| 2 | AB | 844 | A | N7-C5 | 7.20 | 1.43 | 1.39 |
| 2 | AB | 1162 | G | C5-C4 | -7.20 | 1.33 | 1.38 |
| 2 | AB | 1257 | C | N1-C6 | -7.20 | 1.32 | 1.37 |
| 2 | AB | 2724 | U | P-O5' | 7.20 | 1.67 | 1.59 |
| 35 | BA | 1496 | C | O5'-C5' | -7.20 | 1.31 | 1.42 |
| 2 | AB | 807 | U | C2-N3 | 7.20 | 1.42 | 1.37 |
| 2 | AB | 921 | C | C2-N3 | 7.20 | 1.41 | 1.35 |
| 2 | AB | 1146 | C | C2-N3 | 7.20 | 1.41 | 1.35 |
| 2 | AB | 1797 | G | C2-N3 | 7.20 | 1.38 | 1.32 |
| 2 | AB | 1964 | G | N1-C2 | 7.20 | 1.43 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2437 | G | N1-C2 | 7.20 | 1.43 | 1.37 |
| 2 | AB | 2751 | G | N7-C5 | -7.20 | 1.34 | 1.39 |
| 2 | AB | 1331 | G | C2-N3 | 7.20 | 1.38 | 1.32 |
| 1 | AA | 41 | G | N1-C2 | 7.20 | 1.43 | 1.37 |
| 35 | BA | 990 | C | N3-C4 | 7.20 | 1.39 | 1.33 |
| 35 | BA | 603 | U | N1-C2 | 7.19 | 1.45 | 1.38 |
| 2 | AB | 380 | G | C5'-C4' | 7.19 | 1.59 | 1.51 |
| 2 | AB | 1254 | A | C8-N7 | 7.19 | 1.36 | 1.31 |
| 2 | AB | 1628 | G | C5-C4 | 7.19 | 1.43 | 1.38 |
| 2 | AB | 2133 | G | N3-C4 | 7.19 | 1.40 | 1.35 |
| 2 | AB | 2323 | G | C8-N7 | -7.19 | 1.26 | 1.30 |
| 35 | BA | 975 | A | N9-C8 | -7.19 | 1.31 | 1.37 |
| 35 | BA | 1371 | G | N9-C4 | -7.19 | 1.32 | 1.38 |
| 2 | AB | 1693 | U | C3'-C2' | -7.19 | 1.44 | 1.52 |
| 35 | BA | 1457 | G | N7-C5 | 7.19 | 1.43 | 1.39 |
| 2 | AB | 299 | A | N1-C2 | -7.19 | 1.27 | 1.34 |
| 2 | AB | 2887 | A | N7-C5 | 7.19 | 1.43 | 1.39 |
| 2 | AB | 817 | C | N1-C6 | 7.19 | 1.41 | 1.37 |
| 2 | AB | 1095 | A | C5-C6 | 7.19 | 1.47 | 1.41 |
| 2 | AB | 1664 | A | N9-C4 | 7.19 | 1.42 | 1.37 |
| 2 | AB | 2784 | U | N3-C4 | -7.19 | 1.31 | 1.38 |
| 35 | BA | 277 | C | C5'-C4' | 7.19 | 1.59 | 1.51 |
| 35 | BA | 415 | A | N7-C5 | 7.19 | 1.43 | 1.39 |
| 2 | AB | 677 | A | N9-C8 | -7.19 | 1.32 | 1.37 |
| 2 | AB | 1400 | U | C4'-C3' | 7.19 | 1.61 | 1.53 |
| 2 | AB | 2442 | C | C4-C5 | 7.19 | 1.48 | 1.43 |
| 35 | BA | 993 | G | P-O5' | 7.19 | 1.67 | 1.59 |
| 2 | AB | 259 | G | N9-C8 | -7.18 | 1.32 | 1.37 |
| 2 | AB | 352 | A | C2-N3 | 7.18 | 1.40 | 1.33 |
| 2 | AB | 892 | A | N9-C4 | 7.18 | 1.42 | 1.37 |
| 2 | AB | 2278 | A | N7-C5 | 7.18 | 1.43 | 1.39 |
| 2 | AB | 559 | G | C6-O6 | -7.18 | 1.17 | 1.24 |
| 35 | BA | 993 | G | C2'-C1' | -7.18 | 1.45 | 1.53 |
| 2 | AB | 1941 | C | C2-O2 | -7.18 | 1.18 | 1.24 |
| 2 | AB | 2618 | G | N9-C8 | -7.18 | 1.32 | 1.37 |
| 2 | AB | 1952 | A | N3-C4 | 7.18 | 1.39 | 1.34 |
| 35 | BA | 944 | G | C2'-C1' | 7.18 | 1.61 | 1.53 |
| 1 | AA | 51 | G | N1-C2 | 7.18 | 1.43 | 1.37 |
| 2 | AB | 2505 | G | C8-N7 | -7.18 | 1.26 | 1.30 |
| 35 | BA | 1420 | U | C2-N3 | 7.18 | 1.42 | 1.37 |
| 2 | AB | 562 | U | N3-C4 | 7.17 | 1.45 | 1.38 |
| 2 | AB | 584 | C | P-O5' | 7.17 | 1.67 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 771 | G | C4'-O4' | -7.17 | 1.36 | 1.45 |
| 2 | AB | 1722 | A | N7-C5 | -7.17 | 1.34 | 1.39 |
| 35 | BA | 321 | A | N3-C4 | 7.17 | 1.39 | 1.34 |
| 35 | BA | 568 | G | N7-C5 | 7.17 | 1.43 | 1.39 |
| 2 | AB | 156 | A | N7-C5 | 7.17 | 1.43 | 1.39 |
| 2 | AB | 336 | C | N1-C6 | 7.17 | 1.41 | 1.37 |
| 2 | AB | 925 | A | C2-N3 | -7.17 | 1.27 | 1.33 |
| 2 | AB | 1003 | G | P-O5' | 7.17 | 1.67 | 1.59 |
| 2 | AB | 1400 | U | C4-O4 | -7.17 | 1.18 | 1.23 |
| 35 | BA | 509 | A | C5'-C4' | 7.17 | 1.59 | 1.51 |
| 2 | AB | 864 | G | C2-N3 | 7.17 | 1.38 | 1.32 |
| 37 | BC | 47 | A | P-O5' | -7.17 | 1.52 | 1.59 |
| 35 | BA | 786 | G | P-O5' | 7.17 | 1.67 | 1.59 |
| 36 | BB | 26 | U | N1-C6 | 7.17 | 1.44 | 1.38 |
| 2 | AB | 491 | G | N7-C5 | 7.17 | 1.43 | 1.39 |
| 2 | AB | 532 | A | N3-C4 | 7.17 | 1.39 | 1.34 |
| 2 | AB | 1545 | A | N9-C4 | -7.17 | 1.33 | 1.37 |
| 2 | AB | 1977 | A | N9-C4 | 7.17 | 1.42 | 1.37 |
| 2 | AB | 2663 | G | N7-C5 | -7.17 | 1.34 | 1.39 |
| 2 | AB | 75 | G | O3'-P | 7.17 | 1.69 | 1.61 |
| 2 | AB | 2520 | C | C5'-C4' | 7.17 | 1.59 | 1.51 |
| 2 | AB | 2781 | A | N9-C8 | -7.17 | 1.32 | 1.37 |
| 35 | BA | 730 | G | O4'-C1' | 7.17 | 1.50 | 1.41 |
| 35 | BA | 1301 | U | C2-O2 | 7.17 | 1.28 | 1.22 |
| 2 | AB | 1205 | A | N7-C5 | 7.17 | 1.43 | 1.39 |
| 35 | BA | 1401 | G | N7-C5 | 7.17 | 1.43 | 1.39 |
| 2 | AB | 255 | A | C8-N7 | -7.16 | 1.26 | 1.31 |
| 2 | AB | 705 | A | C4'-O4' | -7.16 | 1.36 | 1.45 |
| 2 | AB | 2829 | A | C8-N7 | -7.16 | 1.26 | 1.31 |
| 35 | BA | 899 | C | C2'-C1' | 7.16 | 1.61 | 1.53 |
| 35 | BA | 993 | G | C4'-O4' | -7.16 | 1.36 | 1.45 |
| 35 | BA | 1346 | A | N9-C4 | 7.16 | 1.42 | 1.37 |
| 2 | AB | 969 | G | C6-N1 | 7.16 | 1.44 | 1.39 |
| 2 | AB | 1542 | U | C4-O4 | -7.16 | 1.18 | 1.23 |
| 2 | AB | 1727 | C | N1-C6 | 7.16 | 1.41 | 1.37 |
| 2 | AB | 2092 | U | P-O5' | 7.16 | 1.67 | 1.59 |
| 35 | BA | 1170 | A | N3-C4 | 7.16 | 1.39 | 1.34 |
| 37 | BC | 10 | G | C6-N1 | 7.16 | 1.44 | 1.39 |
| 35 | BA | 16 | A | C6-N6 | -7.16 | 1.28 | 1.33 |
| 2 | AB | 280 | U | C5-C6 | 7.16 | 1.40 | 1.34 |
| 2 | AB | 289 | G | C5'-C4' | 7.16 | 1.59 | 1.51 |
| 2 | AB | 1149 | G | C8-N7 | 7.16 | 1.35 | 1.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2434 | A | N3-C4 | 7.16 | 1.39 | 1.34 |
| 35 | BA | 321 | A | N9-C8 | -7.16 | 1.32 | 1.37 |
| 2 | AB | 63 | A | C6-N6 | 7.15 | 1.39 | 1.33 |
| 2 | AB | 755 | U | C4-O4 | -7.15 | 1.18 | 1.23 |
| 2 | AB | 2312 | U | C2-N3 | 7.15 | 1.42 | 1.37 |
| 37 | BC | 27 | G | C3'-C2' | 7.15 | 1.60 | 1.52 |
| 2 | AB | 512 | G | N3-C4 | 7.15 | 1.40 | 1.35 |
| 35 | BA | 169 | C | C4-C5 | 7.15 | 1.48 | 1.43 |
| 35 | BA | 1031 | C | C4-C5 | -7.15 | 1.37 | 1.43 |
| 1 | AA | 58 | A | N7-C5 | -7.15 | 1.34 | 1.39 |
| 2 | AB | 361 | G | C5-C4 | 7.15 | 1.43 | 1.38 |
| 2 | AB | 2702 | G | C6-N1 | 7.15 | 1.44 | 1.39 |
| 35 | BA | 75 | G | C6-N1 | 7.15 | 1.44 | 1.39 |
| 2 | AB | 2899 | A | N3-C4 | 7.15 | 1.39 | 1.34 |
| 2 | AB | 1691 | C | C4-C5 | 7.14 | 1.48 | 1.43 |
| 2 | AB | 2509 | G | C2'-C1' | 7.14 | 1.61 | 1.53 |
| 35 | BA | 1016 | A | N3-C4 | -7.14 | 1.30 | 1.34 |
| 2 | AB | 836 | G | N3-C4 | 7.14 | 1.40 | 1.35 |
| 2 | AB | 856 | G | C8-N7 | -7.14 | 1.26 | 1.30 |
| 2 | AB | 1802 | A | O3'-P | 7.14 | 1.69 | 1.61 |
| 2 | AB | 2776 | A | C6-N6 | 7.14 | 1.39 | 1.33 |
| 2 | AB | 2116 | G | C4'-C3' | -7.14 | 1.45 | 1.53 |
| 2 | AB | 2553 | G | N3-C4 | 7.14 | 1.40 | 1.35 |
| 35 | BA | 297 | G | C2-N3 | 7.14 | 1.38 | 1.32 |
| 2 | AB | 176 | A | O4'-C1' | 7.14 | 1.50 | 1.41 |
| 2 | AB | 243 | U | C4-O4 | -7.14 | 1.18 | 1.23 |
| 2 | AB | 1102 | C | N3-C4 | 7.14 | 1.39 | 1.33 |
| 35 | BA | 553 | A | P-O5' | 7.14 | 1.66 | 1.59 |
| 35 | BA | 1365 | G | C5-C6 | 7.14 | 1.49 | 1.42 |
| 35 | BA | 622 | A | N9-C4 | 7.14 | 1.42 | 1.37 |
| 2 | AB | 1425 | G | P-O5' | 7.14 | 1.66 | 1.59 |
| 2 | AB | 2822 | G | N7-C5 | 7.14 | 1.43 | 1.39 |
| 4 | AD | 170 | TYR | CE1-CZ | 7.14 | 1.47 | 1.38 |
| 35 | BA | 127 | G | C6-N1 | 7.14 | 1.44 | 1.39 |
| 35 | BA | 264 | C | O3'-P | 7.14 | 1.69 | 1.61 |
| 35 | BA | 1068 | G | C5-C4 | -7.14 | 1.33 | 1.38 |
| 2 | AB | 31 | C | C5-C6 | 7.13 | 1.40 | 1.34 |
| 2 | AB | 197 | A | N3-C4 | 7.13 | 1.39 | 1.34 |
| 2 | AB | 771 | G | C2-N3 | 7.13 | 1.38 | 1.32 |
| 35 | BA | 292 | G | P-O5' | 7.13 | 1.66 | 1.59 |
| 2 | AB | 1441 | G | N1-C2 | 7.13 | 1.43 | 1.37 |
| 2 | AB | 1288 | G | C2-N3 | 7.13 | 1.38 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1349 | C | N1-C6 | 7.13 | 1.41 | 1.37 |
| 2 | AB | 1447 | C | C4'-C3' | -7.13 | 1.45 | 1.53 |
| 2 | AB | 463 | G | C4'-O4' | -7.13 | 1.36 | 1.45 |
| 2 | AB | 742 | A | C8-N7 | -7.13 | 1.26 | 1.31 |
| 35 | BA | 1101 | A | P-O5' | 7.13 | 1.66 | 1.59 |
| 2 | AB | 403 | U | C4-C5 | 7.13 | 1.50 | 1.43 |
| 2 | AB | 437 | U | P-O5' | 7.13 | 1.66 | 1.59 |
| 2 | AB | 1176 | U | C2-N3 | 7.13 | 1.42 | 1.37 |
| 2 | AB | 2052 | A | P-O5' | 7.13 | 1.66 | 1.59 |
| 2 | AB | 2599 | G | P-O5' | -7.13 | 1.52 | 1.59 |
| 2 | AB | 2864 | G | N3-C4 | 7.13 | 1.40 | 1.35 |
| 35 | BA | 79 | G | C5-C4 | 7.13 | 1.43 | 1.38 |
| 2 | AB | 394 | C | P-O5' | 7.13 | 1.66 | 1.59 |
| 2 | AB | 1295 | C | N3-C4 | -7.13 | 1.28 | 1.33 |
| 2 | AB | 1950 | G | P-O5' | 7.13 | 1.66 | 1.59 |
| 35 | BA | 510 | A | P-O5' | 7.13 | 1.66 | 1.59 |
| 2 | AB | 1704 | C | C2'-O2' | -7.12 | 1.32 | 1.41 |
| 2 | AB | 2639 | A | P-O5' | 7.12 | 1.66 | 1.59 |
| 35 | BA | 888 | G | C5-C4 | -7.12 | 1.33 | 1.38 |
| 2 | AB | 20 | C | C2-O2 | -7.12 | 1.18 | 1.24 |
| 2 | AB | 963 | U | C2-N3 | 7.12 | 1.42 | 1.37 |
| 2 | AB | 1143 | A | O3'-P | -7.12 | 1.52 | 1.61 |
| 2 | AB | 1281 | G | N1-C2 | 7.12 | 1.43 | 1.37 |
| 2 | AB | 1884 | G | C6-N1 | 7.12 | 1.44 | 1.39 |
| 35 | BA | 237 | G | N7-C5 | -7.12 | 1.34 | 1.39 |
| 35 | BA | 460 | A | N3-C4 | 7.12 | 1.39 | 1.34 |
| 35 | BA | 1003 | G | C2'-C1' | 7.12 | 1.61 | 1.53 |
| 36 | BB | 17 | U | C5'-C4' | 7.12 | 1.59 | 1.51 |
| 2 | AB | 5 | A | C5-C6 | 7.12 | 1.47 | 1.41 |
| 2 | AB | 123 | G | C5-C4 | -7.12 | 1.33 | 1.38 |
| 2 | AB | 1194 | A | N9-C4 | -7.12 | 1.33 | 1.37 |
| 2 | AB | 1332 | G | P-O5' | 7.12 | 1.66 | 1.59 |
| 2 | AB | 2097 | A | N3-C4 | 7.12 | 1.39 | 1.34 |
| 2 | AB | 1459 | G | C8-N7 | -7.12 | 1.26 | 1.30 |
| 2 | AB | 1715 | G | C5-C6 | 7.12 | 1.49 | 1.42 |
| 36 | BB | 17 | U | N1-C2 | 7.12 | 1.45 | 1.38 |
| 2 | AB | 821 | A | N9-C4 | -7.12 | 1.33 | 1.37 |
| 2 | AB | 1433 | A | C8-N7 | -7.12 | 1.26 | 1.31 |
| 2 | AB | 1872 | A | O3'-P | 7.12 | 1.69 | 1.61 |
| 2 | AB | 2114 | A | N1-C2 | -7.12 | 1.27 | 1.34 |
| 2 | AB | 2116 | G | C2'-C1' | -7.12 | 1.45 | 1.53 |
| 2 | AB | 2643 | G | C5-C4 | 7.12 | 1.43 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 36 | BB | 29 | G | C8-N7 | -7.12 | 1.26 | 1.30 |
| 2 | AB | 676 | A | C4'-O4' | -7.12 | 1.36 | 1.45 |
| 35 | BA | 259 | G | N7-C5 | -7.12 | 1.34 | 1.39 |
| 35 | BA | 1339 | A | N3-C4 | 7.12 | 1.39 | 1.34 |
| 2 | AB | 1141 | U | C2-N3 | 7.11 | 1.42 | 1.37 |
| 2 | AB | 2305 | U | N1-C2 | 7.11 | 1.45 | 1.38 |
| 2 | AB | 2639 | A | C4'-C3' | 7.11 | 1.60 | 1.53 |
| 2 | AB | 2877 | G | C4'-C3' | -7.11 | 1.45 | 1.53 |
| 35 | BA | 33 | A | N3-C4 | 7.11 | 1.39 | 1.34 |
| 1 | AA | 115 | A | N3-C4 | 7.11 | 1.39 | 1.34 |
| 35 | BA | 204 | G | C5-C6 | 7.11 | 1.49 | 1.42 |
| 35 | BA | 281 | G | N1-C2 | 7.11 | 1.43 | 1.37 |
| 2 | AB | 1904 | G | C6-N1 | -7.11 | 1.34 | 1.39 |
| 35 | BA | 199 | A | N9-C8 | 7.11 | 1.43 | 1.37 |
| 35 | BA | 639 | G | N3-C4 | 7.11 | 1.40 | 1.35 |
| 35 | BA | 1429 | A | N7-C5 | -7.11 | 1.34 | 1.39 |
| 2 | AB | 1367 | A | P-O5' | 7.11 | 1.66 | 1.59 |
| 35 | BA | 1050 | G | C8-N7 | 7.11 | 1.35 | 1.30 |
| 2 | AB | 99 | U | C5-C6 | 7.11 | 1.40 | 1.34 |
| 2 | AB | 1338 | G | C5'-C4' | 7.11 | 1.59 | 1.51 |
| 2 | AB | 1571 | A | P-O5' | 7.11 | 1.66 | 1.59 |
| 35 | BA | 553 | A | N3-C4 | 7.11 | 1.39 | 1.34 |
| 1 | AA | 108 | A | N7-C5 | -7.11 | 1.34 | 1.39 |
| 2 | AB | 156 | A | C4'-O4' | -7.11 | 1.36 | 1.45 |
| 2 | AB | 462 | C | C2-N3 | 7.11 | 1.41 | 1.35 |
| 2 | AB | 1442 | U | C5-C6 | 7.11 | 1.40 | 1.34 |
| 2 | AB | 1800 | C | C4-C5 | -7.11 | 1.37 | 1.43 |
| 2 | AB | 1834 | U | C2-N3 | 7.11 | 1.42 | 1.37 |
| 2 | AB | 2211 | A | C5-C6 | 7.11 | 1.47 | 1.41 |
| 12 | AL | 66 | GLY | N-CA | -7.11 | 1.35 | 1.46 |
| 35 | BA | 321 | A | C6-N1 | 7.11 | 1.40 | 1.35 |
| 2 | AB | 508 | A | N3-C4 | 7.10 | 1.39 | 1.34 |
| 35 | BA | 792 | A | C5-C6 | 7.10 | 1.47 | 1.41 |
| 35 | BA | 1236 | A | N7-C5 | 7.10 | 1.43 | 1.39 |
| 2 | AB | 790 | U | N3-C4 | 7.10 | 1.44 | 1.38 |
| 36 | BB | 27 | A | O3'-P | 7.10 | 1.69 | 1.61 |
| 2 | AB | 177 | G | C8-N7 | 7.10 | 1.35 | 1.30 |
| 2 | AB | 267 | C | N1-C6 | 7.10 | 1.41 | 1.37 |
| 2 | AB | 917 | A | N9-C4 | -7.10 | 1.33 | 1.37 |
| 35 | BA | 105 | G | N7-C5 | 7.10 | 1.43 | 1.39 |
| 35 | BA | 219 | U | C4'-C3' | 7.10 | 1.60 | 1.53 |
| 35 | BA | 1401 | G | C2-N3 | 7.10 | 1.38 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 37 | BC | 15 | G | N7-C5 | 7.10 | 1.43 | 1.39 |
| 2 | AB | 51 | G | N7-C5 | 7.10 | 1.43 | 1.39 |
| 2 | AB | 307 | G | C2-N2 | -7.10 | 1.27 | 1.34 |
| 2 | AB | 1033 | U | C4'-O4' | -7.10 | 1.36 | 1.45 |
| 35 | BA | 1409 | C | N1-C6 | 7.10 | 1.41 | 1.37 |
| 35 | BA | 467 | U | N3-C4 | 7.10 | 1.44 | 1.38 |
| 2 | AB | 366 | C | C4-C5 | 7.09 | 1.48 | 1.43 |
| 2 | AB | 522 | A | C6-N1 | 7.09 | 1.40 | 1.35 |
| 2 | AB | 854 | C | N1-C6 | 7.09 | 1.41 | 1.37 |
| 2 | AB | 2273 | A | N9-C4 | -7.09 | 1.33 | 1.37 |
| 35 | BA | 918 | A | N3-C4 | 7.09 | 1.39 | 1.34 |
| 35 | BA | 644 | U | P-O5' | 7.09 | 1.66 | 1.59 |
| 35 | BA | 1018 | G | N9-C4 | -7.09 | 1.32 | 1.38 |
| 2 | AB | 273 | G | C8-N7 | -7.09 | 1.26 | 1.30 |
| 2 | AB | 2221 | G | N1-C2 | 7.09 | 1.43 | 1.37 |
| 2 | AB | 2425 | A | C5-C4 | -7.09 | 1.33 | 1.38 |
| 2 | AB | 2705 | A | P-O5' | 7.09 | 1.66 | 1.59 |
| 35 | BA | 906 | A | C6-N1 | 7.09 | 1.40 | 1.35 |
| 1 | AA | 80 | U | C3'-C2' | 7.09 | 1.60 | 1.52 |
| 2 | AB | 659 | G | P-O5' | 7.09 | 1.66 | 1.59 |
| 2 | AB | 880 | G | C5'-C4' | 7.09 | 1.59 | 1.51 |
| 2 | AB | 925 | A | P-O5' | 7.09 | 1.66 | 1.59 |
| 2 | AB | 1918 | A | C6-N1 | 7.09 | 1.40 | 1.35 |
| 2 | AB | 561 | G | P-O5' | 7.09 | 1.66 | 1.59 |
| 2 | AB | 1587 | G | N9-C8 | 7.09 | 1.42 | 1.37 |
| 2 | AB | 2780 | G | C8-N7 | 7.09 | 1.35 | 1.30 |
| 35 | BA | 1110 | A | C2-N3 | 7.08 | 1.40 | 1.33 |
| 2 | AB | 113 | U | N1-C2 | 7.08 | 1.45 | 1.38 |
| 2 | AB | 1044 | C | N1-C6 | 7.08 | 1.41 | 1.37 |
| 2 | AB | 1941 | C | C4'-O4' | -7.08 | 1.36 | 1.45 |
| 2 | AB | 2707 | U | C5-C6 | 7.08 | 1.40 | 1.34 |
| 2 | AB | 2810 | A | C5-C6 | 7.08 | 1.47 | 1.41 |
| 35 | BA | 1145 | A | N7-C5 | 7.08 | 1.43 | 1.39 |
| 2 | AB | 46 | G | P-O5' | 7.08 | 1.66 | 1.59 |
| 2 | AB | 2155 | U | C4-C5 | 7.08 | 1.50 | 1.43 |
| 35 | BA | 722 | G | N9-C4 | 7.08 | 1.43 | 1.38 |
| 35 | BA | 1204 | A | C6-N1 | -7.08 | 1.30 | 1.35 |
| 37 | BC | 72 | C | C3'-C2' | 7.08 | 1.60 | 1.52 |
| 2 | AB | 13 | A | C3'-C2' | 7.08 | 1.60 | 1.52 |
| 35 | BA | 1059 | C | N1-C6 | 7.08 | 1.41 | 1.37 |
| 2 | AB | 902 | C | N3-C4 | 7.08 | 1.39 | 1.33 |
| 2 | AB | 1065 | U | C5-C6 | 7.08 | 1.40 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1379 | U | N1-C2 | 7.08 | 1.45 | 1.38 |
| 35 | BA | 359 | G | N9-C8 | -7.08 | 1.32 | 1.37 |
| 35 | BA | 420 | U | C4-C5 | 7.08 | 1.50 | 1.43 |
| 2 | AB | 11 | C | C5'-C4' | 7.08 | 1.59 | 1.51 |
| 2 | AB | 802 | A | C8-N7 | -7.08 | 1.26 | 1.31 |
| 2 | AB | 1584 | U | C5-C6 | 7.08 | 1.40 | 1.34 |
| 2 | AB | 2803 | G | N7-C5 | 7.08 | 1.43 | 1.39 |
| 35 | BA | 1336 | C | C5'-C4' | 7.08 | 1.59 | 1.51 |
| 2 | AB | 295 | G | C2-N3 | 7.07 | 1.38 | 1.32 |
| 2 | AB | 328 | U | C4'-O4' | -7.07 | 1.36 | 1.45 |
| 2 | AB | 497 | A | O3'-P | -7.07 | 1.52 | 1.61 |
| 2 | AB | 2147 | A | N7-C5 | 7.07 | 1.43 | 1.39 |
| 35 | BA | 348 | G | C6-N1 | 7.07 | 1.44 | 1.39 |
| 35 | BA | 1013 | G | C6-N1 | 7.07 | 1.44 | 1.39 |
| 35 | BA | 1339 | A | C8-N7 | -7.07 | 1.26 | 1.31 |
| 1 | AA | 111 | U | C4-C5 | -7.07 | 1.37 | 1.43 |
| 2 | AB | 2 | G | N9-C4 | 7.07 | 1.43 | 1.38 |
| 2 | AB | 1187 | G | P-O5' | 7.07 | 1.66 | 1.59 |
| 2 | AB | 1312 | U | C5-C6 | 7.07 | 1.40 | 1.34 |
| 35 | BA | 769 | G | C6-N1 | 7.07 | 1.44 | 1.39 |
| 2 | AB | 271 | G | C2-N3 | 7.07 | 1.38 | 1.32 |
| 35 | BA | 435 | A | N9-C4 | 7.07 | 1.42 | 1.37 |
| 2 | AB | 104 | A | N7-C5 | -7.07 | 1.35 | 1.39 |
| 2 | AB | 2312 | U | N1-C2 | 7.07 | 1.45 | 1.38 |
| 35 | BA | 1180 | A | C2'-C1' | 7.07 | 1.61 | 1.53 |
| 2 | AB | 2067 | G | C6-N1 | 7.07 | 1.44 | 1.39 |
| 35 | BA | 1022 | A | N7-C5 | 7.07 | 1.43 | 1.39 |
| 35 | BA | 1541 | U | C4-C5 | 7.07 | 1.50 | 1.43 |
| 35 | BA | 69 | G | P-O5' | 7.06 | 1.66 | 1.59 |
| 1 | AA | 99 | A | C3'-C2' | 7.06 | 1.60 | 1.52 |
| 1 | AA | 110 | C | P-O5' | 7.06 | 1.66 | 1.59 |
| 2 | AB | 1280 | G | N9-C4 | 7.06 | 1.43 | 1.38 |
| 2 | AB | 2265 | U | C2-N3 | 7.06 | 1.42 | 1.37 |
| 2 | AB | 2328 | A | O4'-C1' | 7.06 | 1.50 | 1.41 |
| 35 | BA | 498 | A | N7-C5 | 7.06 | 1.43 | 1.39 |
| 35 | BA | 1265 | C | C2-O2 | -7.06 | 1.18 | 1.24 |
| 35 | BA | 1411 | C | C5-C6 | 7.06 | 1.40 | 1.34 |
| 2 | AB | 1654 | A | N9-C4 | -7.06 | 1.33 | 1.37 |
| 35 | BA | 926 | G | P-O5' | 7.06 | 1.66 | 1.59 |
| 2 | AB | 1252 | G | C5-C4 | 7.06 | 1.43 | 1.38 |
| 35 | BA | 1165 | U | C4-C5 | 7.06 | 1.50 | 1.43 |
| 2 | AB | 799 | G | N9-C4 | -7.06 | 1.32 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2109 | U | P-O5' | 7.06 | 1.66 | 1.59 |
| 2 | AB | 2729 | G | C8-N7 | -7.06 | 1.26 | 1.30 |
| 2 | AB | 2798 | U | N1-C2 | 7.06 | 1.45 | 1.38 |
| 35 | BA | 854 | U | C4-C5 | 7.06 | 1.50 | 1.43 |
| 2 | AB | 306 | U | C4'-O4' | -7.06 | 1.36 | 1.45 |
| 2 | AB | 1935 | G | N1-C2 | 7.06 | 1.43 | 1.37 |
| 2 | AB | 284 | U | C2-N3 | 7.05 | 1.42 | 1.37 |
| 2 | AB | 1288 | G | N3-C4 | 7.05 | 1.40 | 1.35 |
| 1 | AA | 57 | A | P-O5' | 7.05 | 1.66 | 1.59 |
| 35 | BA | 74 | A | P-O5' | 7.05 | 1.66 | 1.59 |
| 35 | BA | 990 | C | N1-C6 | 7.05 | 1.41 | 1.37 |
| 2 | AB | 675 | A | C5-C6 | 7.05 | 1.47 | 1.41 |
| 2 | AB | 901 | C | C4'-C3' | 7.05 | 1.60 | 1.53 |
| 2 | AB | 1315 | C | N1-C6 | 7.05 | 1.41 | 1.37 |
| 35 | BA | 428 | G | N9-C8 | 7.05 | 1.42 | 1.37 |
| 35 | BA | 591 | U | C4-C5 | -7.05 | 1.37 | 1.43 |
| 35 | BA | 1159 | U | C4-C5 | 7.05 | 1.49 | 1.43 |
| 2 | AB | 12 | U | C5-C6 | 7.05 | 1.40 | 1.34 |
| 2 | AB | 2630 | G | C8-N7 | -7.05 | 1.26 | 1.30 |
| 35 | BA | 1406 | U | C2-N3 | 7.05 | 1.42 | 1.37 |
| 35 | BA | 1472 | U | N1-C6 | 7.05 | 1.44 | 1.38 |
| 2 | AB | 1880 | U | C5-C6 | 7.05 | 1.40 | 1.34 |
| 2 | AB | 1453 | A | C4'-O4' | -7.05 | 1.36 | 1.45 |
| 2 | AB | 1510 | G | N9-C8 | 7.05 | 1.42 | 1.37 |
| 2 | AB | 1619 | G | N3-C4 | 7.05 | 1.40 | 1.35 |
| 2 | AB | 2684 | U | C4'-O4' | -7.05 | 1.36 | 1.45 |
| 35 | BA | 396 | C | C2-N3 | 7.05 | 1.41 | 1.35 |
| 2 | AB | 428 | A | P-O5' | 7.04 | 1.66 | 1.59 |
| 2 | AB | 559 | G | O3'-P | 7.04 | 1.69 | 1.61 |
| 2 | AB | 1442 | U | N1-C6 | 7.04 | 1.44 | 1.38 |
| 2 | AB | 2697 | G | P-O5' | 7.04 | 1.66 | 1.59 |
| 2 | AB | 173 | A | N7-C5 | -7.04 | 1.35 | 1.39 |
| 2 | AB | 728 | G | C5-C4 | -7.04 | 1.33 | 1.38 |
| 2 | AB | 952 | G | N9-C8 | 7.04 | 1.42 | 1.37 |
| 2 | AB | 1334 | G | C2-N3 | 7.04 | 1.38 | 1.32 |
| 2 | AB | 1787 | A | C6-N6 | 7.04 | 1.39 | 1.33 |
| 35 | BA | 760 | G | C2'-C1' | 7.04 | 1.61 | 1.53 |
| 35 | BA | 910 | C | N1-C6 | 7.04 | 1.41 | 1.37 |
| 2 | AB | 795 | C | N1-C6 | 7.04 | 1.41 | 1.37 |
| 2 | AB | 2056 | G | N7-C5 | -7.04 | 1.35 | 1.39 |
| 35 | BA | 1164 | G | C5'-C4' | 7.04 | 1.59 | 1.51 |
| 2 | AB | 1232 | G | C5-C4 | -7.04 | 1.33 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1380 | G | C2-N3 | 7.04 | 1.38 | 1.32 |
| 35 | BA | 414 | A | P-O5' | 7.04 | 1.66 | 1.59 |
| 35 | BA | 1194 | U | P-O5' | 7.04 | 1.66 | 1.59 |
| 35 | BA | 1200 | C | C5'-C4' | 7.04 | 1.59 | 1.51 |
| 35 | BA | 1465 | A | C4'-C3' | 7.04 | 1.60 | 1.53 |
| 37 | BC | 59 | A | C5-C6 | -7.04 | 1.34 | 1.41 |
| 2 | AB | 483 | A | C5'-C4' | 7.04 | 1.59 | 1.51 |
| 2 | AB | 1180 | U | C4-O4 | 7.04 | 1.29 | 1.23 |
| 2 | AB | 623 | C | N1-C6 | 7.04 | 1.41 | 1.37 |
| 2 | AB | 698 | C | C5'-C4' | 7.04 | 1.59 | 1.51 |
| 2 | AB | 943 | A | N7-C5 | 7.04 | 1.43 | 1.39 |
| 2 | AB | 1324 | G | C6-N1 | 7.04 | 1.44 | 1.39 |
| 2 | AB | 1378 | A | N9-C8 | -7.04 | 1.32 | 1.37 |
| 35 | BA | 142 | G | P-O5' | 7.04 | 1.66 | 1.59 |
| 35 | BA | 1208 | C | C5'-C4' | 7.04 | 1.59 | 1.51 |
| 35 | BA | 1447 | A | C5-C4 | -7.04 | 1.33 | 1.38 |
| 2 | AB | 2361 | G | N3-C4 | 7.03 | 1.40 | 1.35 |
| 35 | BA | 610 | U | C4-O4 | 7.03 | 1.29 | 1.23 |
| 35 | BA | 788 | U | N1-C6 | -7.03 | 1.31 | 1.38 |
| 2 | AB | 324 | A | N3-C4 | 7.03 | 1.39 | 1.34 |
| 2 | AB | 521 | U | C5-C6 | 7.03 | 1.40 | 1.34 |
| 35 | BA | 472 | U | C5'-C4' | 7.03 | 1.59 | 1.51 |
| 35 | BA | 1101 | A | C5'-C4' | 7.03 | 1.59 | 1.51 |
| 2 | AB | 28 | A | C6-N1 | -7.03 | 1.30 | 1.35 |
| 2 | AB | 213 | A | O3'-P | 7.03 | 1.69 | 1.61 |
| 2 | AB | 1635 | A | N9-C4 | -7.03 | 1.33 | 1.37 |
| 2 | AB | 2864 | G | P-O5' | 7.03 | 1.66 | 1.59 |
| 35 | BA | 354 | G | N7-C5 | -7.03 | 1.35 | 1.39 |
| 35 | BA | 645 | G | O3'-P | 7.03 | 1.69 | 1.61 |
| 2 | AB | 945 | A | P-O5' | 7.03 | 1.66 | 1.59 |
| 1 | AA | 14 | U | C5-C6 | 7.03 | 1.40 | 1.34 |
| 2 | AB | 712 | G | C8-N7 | -7.03 | 1.26 | 1.30 |
| 2 | AB | 2435 | A | C6-N1 | 7.03 | 1.40 | 1.35 |
| 2 | AB | 2571 | U | O3'-P | 7.03 | 1.69 | 1.61 |
| 35 | BA | 1188 | A | N9-C8 | -7.03 | 1.32 | 1.37 |
| 2 | AB | 1025 | G | C4'-O4' | -7.03 | 1.36 | 1.45 |
| 35 | BA | 18 | C | N1-C6 | 7.03 | 1.41 | 1.37 |
| 35 | BA | 166 | U | C2-O2 | 7.03 | 1.28 | 1.22 |
| 35 | BA | 450 | G | C6-N1 | 7.03 | 1.44 | 1.39 |
| 2 | AB | 562 | U | C2-N3 | 7.02 | 1.42 | 1.37 |
| 2 | AB | 587 | C | O3'-P | 7.02 | 1.69 | 1.61 |
| 2 | AB | 79 | C | N1-C6 | 7.02 | 1.41 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1057 | A | C5-C6 | 7.02 | 1.47 | 1.41 |
| 35 | BA | 978 | A | C5-C4 | 7.02 | 1.43 | 1.38 |
| 2 | AB | 841 | G | C5'-C4' | 7.02 | 1.59 | 1.51 |
| 2 | AB | 1459 | G | C5'-C4' | 7.02 | 1.59 | 1.51 |
| 2 | AB | 1499 | C | C5-C6 | 7.02 | 1.40 | 1.34 |
| 2 | AB | 2334 | U | C2-N3 | 7.02 | 1.42 | 1.37 |
| 2 | AB | 1335 | C | C2-N3 | 7.02 | 1.41 | 1.35 |
| 35 | BA | 858 | G | N7-C5 | 7.02 | 1.43 | 1.39 |
| 35 | BA | 1286 | U | N1-C2 | 7.02 | 1.44 | 1.38 |
| 2 | AB | 1127 | A | P-O5' | 7.01 | 1.66 | 1.59 |
| 2 | AB | 1984 | G | C2-N3 | 7.01 | 1.38 | 1.32 |
| 2 | AB | 2154 | A | C5-C6 | 7.01 | 1.47 | 1.41 |
| 35 | BA | 1055 | A | C2'-O2' | 7.01 | 1.50 | 1.41 |
| 2 | AB | 895 | U | P-O5' | 7.01 | 1.66 | 1.59 |
| 2 | AB | 2626 | C | P-O5' | 7.01 | 1.66 | 1.59 |
| 2 | AB | 285 | G | C2-N3 | 7.01 | 1.38 | 1.32 |
| 2 | AB | 2778 | A | C6-N6 | -7.01 | 1.28 | 1.33 |
| 2 | AB | 2839 | G | P-O5' | 7.01 | 1.66 | 1.59 |
| 35 | BA | 759 | A | C5'-C4' | 7.01 | 1.59 | 1.51 |
| 35 | BA | 893 | C | C4'-O4' | -7.01 | 1.36 | 1.45 |
| 35 | BA | 1075 | U | C5-C6 | 7.01 | 1.40 | 1.34 |
| 2 | AB | 435 | C | C4'-O4' | -7.01 | 1.36 | 1.45 |
| 2 | AB | 1142 | A | C3'-O3' | 7.01 | 1.51 | 1.42 |
| 2 | AB | 1191 | G | N9-C8 | 7.01 | 1.42 | 1.37 |
| 35 | BA | 68 | G | C6-N1 | -7.01 | 1.34 | 1.39 |
| 35 | BA | 723 | U | C4'-O4' | -7.01 | 1.36 | 1.45 |
| 2 | AB | 710 | U | C2-O2 | -7.01 | 1.16 | 1.22 |
| 35 | BA | 1316 | G | N9-C4 | -7.01 | 1.32 | 1.38 |
| 2 | AB | 1700 | A | C5-C4 | 7.01 | 1.43 | 1.38 |
| 2 | AB | 1959 | G | C5'-C4' | 7.01 | 1.59 | 1.51 |
| 2 | AB | 2569 | G | C4'-O4' | -7.01 | 1.36 | 1.45 |
| 35 | BA | 1092 | A | C5'-C4' | 7.01 | 1.59 | 1.51 |
| 2 | AB | 620 | G | C5-C4 | 7.00 | 1.43 | 1.38 |
| 35 | BA | 667 | G | N9-C8 | 7.00 | 1.42 | 1.37 |
| 2 | AB | 128 | C | N1-C6 | -7.00 | 1.32 | 1.37 |
| 2 | AB | 1098 | A | P-O5' | 7.00 | 1.66 | 1.59 |
| 2 | AB | 1490 | A | C4'-C3' | 7.00 | 1.60 | 1.53 |
| 35 | BA | 453 | G | C5-C4 | 7.00 | 1.43 | 1.38 |
| 35 | BA | 1186 | G | C4'-O4' | -7.00 | 1.36 | 1.45 |
| 2 | AB | 1175 | A | N9-C8 | 7.00 | 1.43 | 1.37 |
| 2 | AB | 1664 | A | C4'-O4' | -7.00 | 1.36 | 1.45 |
| 2 | AB | 822 | G | N9-C8 | 7.00 | 1.42 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2497 | A | C5-C4 | -7.00 | 1.33 | 1.38 |
| 35 | BA | 1509 | C | C4-N4 | 7.00 | 1.40 | 1.33 |
| 2 | AB | 77 | G | N7-C5 | -7.00 | 1.35 | 1.39 |
| 2 | AB | 2852 | G | C5-C4 | -7.00 | 1.33 | 1.38 |
| 35 | BA | 697 | U | C5-C6 | 7.00 | 1.40 | 1.34 |
| 35 | BA | 1068 | G | C6-O6 | -7.00 | 1.17 | 1.24 |
| 35 | BA | 1075 | U | C5'-C4' | 7.00 | 1.59 | 1.51 |
| 2 | AB | 673 | C | N3-C4 | 7.00 | 1.38 | 1.33 |
| 2 | AB | 2063 | C | N3-C4 | 7.00 | 1.38 | 1.33 |
| 35 | BA | 149 | A | C4'-C3' | 7.00 | 1.60 | 1.53 |
| 35 | BA | 331 | G | C5-C6 | 7.00 | 1.49 | 1.42 |
| 35 | BA | 457 | G | C3'-C2' | 7.00 | 1.60 | 1.52 |
| 35 | BA | 909 | A | C8-N7 | -7.00 | 1.26 | 1.31 |
| 35 | BA | 1086 | U | C2-N3 | 7.00 | 1.42 | 1.37 |
| 2 | AB | 1386 | C | N1-C6 | 7.00 | 1.41 | 1.37 |
| 2 | AB | 2533 | U | C3'-C2' | -7.00 | 1.45 | 1.52 |
| 35 | BA | 1225 | A | N7-C5 | 7.00 | 1.43 | 1.39 |
| 2 | AB | 187 | G | C2'-C1' | 6.99 | 1.61 | 1.53 |
| 2 | AB | 1066 | U | N3-C4 | 6.99 | 1.44 | 1.38 |
| 37 | BC | 71 | G | C6-N1 | 6.99 | 1.44 | 1.39 |
| 2 | AB | 360 | U | N1-C6 | 6.99 | 1.44 | 1.38 |
| 2 | AB | 1062 | G | C2-N3 | 6.99 | 1.38 | 1.32 |
| 2 | AB | 1861 | G | C8-N7 | 6.99 | 1.35 | 1.30 |
| 35 | BA | 229 | U | P-O5' | 6.99 | 1.66 | 1.59 |
| 35 | BA | 713 | G | N7-C5 | -6.99 | 1.35 | 1.39 |
| 35 | BA | 1053 | G | C6-O6 | -6.99 | 1.17 | 1.24 |
| 35 | BA | 1208 | C | N1-C6 | 6.99 | 1.41 | 1.37 |
| 2 | AB | 198 | C | C3'-C2' | 6.99 | 1.60 | 1.52 |
| 2 | AB | 650 | C | N3-C4 | 6.99 | 1.38 | 1.33 |
| 2 | AB | 1010 | A | P-O5' | -6.99 | 1.52 | 1.59 |
| 2 | AB | 1254 | A | C3'-O3' | 6.99 | 1.51 | 1.42 |
| 2 | AB | 2842 | G | N3-C4 | 6.99 | 1.40 | 1.35 |
| 35 | BA | 65 | A | C8-N7 | -6.99 | 1.26 | 1.31 |
| 2 | AB | 572 | A | P-O5' | 6.99 | 1.66 | 1.59 |
| 35 | BA | 356 | A | N3-C4 | 6.99 | 1.39 | 1.34 |
| 35 | BA | 616 | G | N9-C4 | 6.99 | 1.43 | 1.38 |
| 2 | AB | 254 | G | N1-C2 | 6.99 | 1.43 | 1.37 |
| 2 | AB | 406 | G | C2-N3 | 6.99 | 1.38 | 1.32 |
| 2 | AB | 855 | G | C3'-C2' | -6.99 | 1.45 | 1.52 |
| 2 | AB | 863 | A | N9-C4 | 6.99 | 1.42 | 1.37 |
| 2 | AB | 1454 | C | N1-C6 | 6.99 | 1.41 | 1.37 |
| 35 | BA | 619 | U | P-O5' | 6.99 | 1.66 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 367 | G | C6-N1 | 6.98 | 1.44 | 1.39 |
| 2 | AB | 2632 | A | C6-N1 | -6.98 | 1.30 | 1.35 |
| 2 | AB | 2798 | U | N3-C4 | -6.98 | 1.32 | 1.38 |
| 35 | BA | 1304 | G | C8-N7 | -6.98 | 1.26 | 1.30 |
| 2 | AB | 246 | C | C4-N4 | -6.98 | 1.27 | 1.33 |
| 2 | AB | 1424 | G | N9-C8 | -6.98 | 1.32 | 1.37 |
| 2 | AB | 1710 | G | C6-O6 | -6.98 | 1.17 | 1.24 |
| 2 | AB | 1723 | G | C6-N1 | -6.98 | 1.34 | 1.39 |
| 35 | BA | 21 | G | N3-C4 | 6.98 | 1.40 | 1.35 |
| 35 | BA | 796 | C | P-O5' | 6.98 | 1.66 | 1.59 |
| 35 | BA | 1209 | C | N1-C6 | 6.98 | 1.41 | 1.37 |
| 2 | AB | 2264 | C | O4'-C1' | -6.98 | 1.32 | 1.41 |
| 35 | BA | 43 | C | C2'-C1' | 6.98 | 1.61 | 1.53 |
| 35 | BA | 875 | U | C4-C5 | 6.98 | 1.49 | 1.43 |
| 2 | AB | 1838 | C | C5-C6 | 6.98 | 1.40 | 1.34 |
| 2 | AB | 1857 | G | C4'-C3' | 6.98 | 1.60 | 1.53 |
| 2 | AB | 2158 | A | C5'-C4' | 6.98 | 1.59 | 1.51 |
| 2 | AB | 278 | A | C5-C4 | -6.98 | 1.33 | 1.38 |
| 2 | AB | 559 | G | N9-C8 | 6.98 | 1.42 | 1.37 |
| 2 | AB | 603 | A | N9-C4 | 6.98 | 1.42 | 1.37 |
| 2 | AB | 1089 | A | P-O5' | 6.98 | 1.66 | 1.59 |
| 2 | AB | 1423 | G | O3'-P | 6.98 | 1.69 | 1.61 |
| 2 | AB | 2154 | A | N3-C4 | 6.98 | 1.39 | 1.34 |
| 34 | A7 | 31 | PRO | N-CD | -6.98 | 1.38 | 1.47 |
| 35 | BA | 229 | U | N1-C6 | 6.98 | 1.44 | 1.38 |
| 1 | AA | 114 | C | O3'-P | 6.98 | 1.69 | 1.61 |
| 2 | AB | 1743 | G | C4'-O4' | -6.98 | 1.36 | 1.45 |
| 35 | BA | 1234 | C | C2-N3 | 6.98 | 1.41 | 1.35 |
| 2 | AB | 161 | A | C4'-O4' | -6.97 | 1.36 | 1.45 |
| 2 | AB | 384 | A | C5-C4 | -6.97 | 1.33 | 1.38 |
| 2 | AB | 388 | G | C5-C6 | 6.97 | 1.49 | 1.42 |
| 2 | AB | 555 | G | O3'-P | 6.97 | 1.69 | 1.61 |
| 35 | BA | 1225 | A | P-O5' | 6.97 | 1.66 | 1.59 |
| 35 | BA | 1276 | G | P-O5' | 6.97 | 1.66 | 1.59 |
| 35 | BA | 1480 | A | O3'-P | 6.97 | 1.69 | 1.61 |
| 2 | AB | 1248 | G | C5-C4 | -6.97 | 1.33 | 1.38 |
| 2 | AB | 1393 | A | C4'-C3' | 6.97 | 1.60 | 1.53 |
| 2 | AB | 2294 | G | C8-N7 | -6.97 | 1.26 | 1.30 |
| 35 | BA | 305 | G | C5'-C4' | 6.97 | 1.59 | 1.51 |
| 36 | BB | 13 | A | O4'-C1' | 6.97 | 1.50 | 1.41 |
| 2 | AB | 945 | A | C5'-C4' | 6.97 | 1.59 | 1.51 |
| 2 | AB | 308 | G | N1-C2 | 6.97 | 1.43 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1092 | C | C4-C5 | 6.97 | 1.48 | 1.43 |
| 2 | AB | 2148 | G | N7-C5 | -6.97 | 1.35 | 1.39 |
| 2 | AB | 2323 | G | C2-N3 | 6.97 | 1.38 | 1.32 |
| 35 | BA | 378 | G | N3-C4 | 6.97 | 1.40 | 1.35 |
| 2 | AB | 734 | A | C6-N1 | 6.97 | 1.40 | 1.35 |
| 2 | AB | 2257 | U | C4-C5 | 6.97 | 1.49 | 1.43 |
| 2 | AB | 2369 | A | N7-C5 | -6.97 | 1.35 | 1.39 |
| 2 | AB | 2499 | C | C4-C5 | 6.97 | 1.48 | 1.43 |
| 2 | AB | 64 | A | C2'-C1' | 6.97 | 1.61 | 1.53 |
| 2 | AB | 1090 | A | C4'-C3' | 6.97 | 1.60 | 1.53 |
| 2 | AB | 1173 | U | C4-O4 | -6.97 | 1.18 | 1.23 |
| 2 | AB | 1978 | A | C6-N1 | 6.97 | 1.40 | 1.35 |
| 2 | AB | 2275 | C | N3-C4 | 6.97 | 1.38 | 1.33 |
| 2 | AB | 2420 | C | N1-C6 | -6.97 | 1.32 | 1.37 |
| 35 | BA | 618 | C | C4-N4 | 6.97 | 1.40 | 1.33 |
| 35 | BA | 1098 | C | C4-C5 | 6.97 | 1.48 | 1.43 |
| 2 | AB | 674 | G | C2-N3 | 6.96 | 1.38 | 1.32 |
| 35 | BA | 241 | G | O3'-P | 6.96 | 1.69 | 1.61 |
| 35 | BA | 1164 | G | C4'-C3' | 6.96 | 1.60 | 1.53 |
| 2 | AB | 2018 | G | O4'-C1' | 6.96 | 1.50 | 1.41 |
| 1 | AA | 120 | U | C2'-O2' | 6.96 | 1.50 | 1.41 |
| 2 | AB | 288 | U | N3-C4 | 6.96 | 1.44 | 1.38 |
| 2 | AB | 1124 | G | N7-C5 | 6.96 | 1.43 | 1.39 |
| 2 | AB | 2104 | C | N1-C6 | 6.96 | 1.41 | 1.37 |
| 35 | BA | 230 | G | C5-C6 | -6.96 | 1.35 | 1.42 |
| 35 | BA | 956 | U | C4-O4 | 6.96 | 1.29 | 1.23 |
| 35 | BA | 1371 | G | N7-C5 | -6.96 | 1.35 | 1.39 |
| 36 | BB | 38 | G | N7-C5 | 6.96 | 1.43 | 1.39 |
| 2 | AB | 46 | G | N9-C8 | 6.96 | 1.42 | 1.37 |
| 2 | AB | 294 | A | C2'-C1' | 6.96 | 1.61 | 1.53 |
| 2 | AB | 718 | A | C4'-O4' | -6.96 | 1.36 | 1.45 |
| 2 | AB | 2824 | C | P-O5' | 6.96 | 1.66 | 1.59 |
| 35 | BA | 3 | A | C5'-C4' | 6.96 | 1.59 | 1.51 |
| 2 | AB | 86 | G | C3'-C2' | 6.96 | 1.60 | 1.52 |
| 2 | AB | 1780 | A | C6-N1 | -6.96 | 1.30 | 1.35 |
| 2 | AB | 2734 | A | C2'-C1' | 6.96 | 1.61 | 1.53 |
| 35 | BA | 1340 | A | P-O5' | 6.96 | 1.66 | 1.59 |
| 1 | AA | 34 | A | C5'-C4' | 6.96 | 1.59 | 1.51 |
| 2 | AB | 2259 | U | O3'-P | -6.96 | 1.52 | 1.61 |
| 35 | BA | 598 | U | C2'-C1' | -6.96 | 1.45 | 1.53 |
| 2 | AB | 19 | A | N1-C2 | 6.95 | 1.40 | 1.34 |
| 2 | AB | 544 | C | N1-C6 | -6.95 | 1.32 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1256 | G | P-O5' | 6.95 | 1.66 | 1.59 |
| 2 | AB | 2755 | C | C2-O2 | -6.95 | 1.18 | 1.24 |
| 12 | AL | 53 | TYR | CE2-CZ | 6.95 | 1.47 | 1.38 |
| 35 | BA | 429 | U | N3-C4 | -6.95 | 1.32 | 1.38 |
| 2 | AB | 278 | A | N3-C4 | 6.95 | 1.39 | 1.34 |
| 2 | AB | 1304 | A | O3'-P | 6.95 | 1.69 | 1.61 |
| 2 | AB | 2241 | A | C5-C6 | -6.95 | 1.34 | 1.41 |
| 2 | AB | 2716 | C | N1-C6 | 6.95 | 1.41 | 1.37 |
| 35 | BA | 743 | A | C5'-C4' | 6.95 | 1.59 | 1.51 |
| 2 | AB | 779 | U | C4'-O4' | -6.95 | 1.36 | 1.45 |
| 2 | AB | 943 | A | N9-C4 | -6.95 | 1.33 | 1.37 |
| 2 | AB | 1679 | A | P-O5' | 6.95 | 1.66 | 1.59 |
| 2 | AB | 2889 | C | C5-C6 | 6.95 | 1.40 | 1.34 |
| 35 | BA | 436 | C | C4-C5 | 6.95 | 1.48 | 1.43 |
| 35 | BA | 536 | C | C5-C6 | 6.95 | 1.40 | 1.34 |
| 2 | AB | 1057 | A | C8-N7 | 6.95 | 1.36 | 1.31 |
| 2 | AB | 1446 | C | C2'-C1' | -6.95 | 1.45 | 1.53 |
| 35 | BA | 227 | G | C3'-C2' | 6.95 | 1.60 | 1.52 |
| 35 | BA | 1048 | G | C8-N7 | -6.95 | 1.26 | 1.30 |
| 35 | BA | 165 | G | C5-C4 | -6.95 | 1.33 | 1.38 |
| 2 | AB | 369 | U | C5'-C4' | 6.95 | 1.59 | 1.51 |
| 2 | AB | 944 | C | C4-N4 | 6.95 | 1.40 | 1.33 |
| 2 | AB | 1235 | G | N7-C5 | 6.95 | 1.43 | 1.39 |
| 2 | AB | 1343 | G | C2'-O2' | 6.95 | 1.50 | 1.41 |
| 2 | AB | 1514 | G | C2-N2 | 6.95 | 1.41 | 1.34 |
| 35 | BA | 700 | G | C2-N3 | -6.95 | 1.27 | 1.32 |
| 35 | BA | 1100 | C | C5'-C4' | 6.95 | 1.59 | 1.51 |
| 2 | AB | 1454 | C | C3'-C2' | 6.94 | 1.60 | 1.52 |
| 2 | AB | 2695 | U | C4-C5 | 6.94 | 1.49 | 1.43 |
| 36 | BB | 17 | U | C4'-C3' | 6.94 | 1.60 | 1.53 |
| 2 | AB | 1743 | G | N7-C5 | -6.94 | 1.35 | 1.39 |
| 35 | BA | 1180 | A | C6-N6 | 6.94 | 1.39 | 1.33 |
| 2 | AB | 359 | G | N9-C4 | 6.94 | 1.43 | 1.38 |
| 2 | AB | 1132 | U | C5-C6 | 6.94 | 1.40 | 1.34 |
| 2 | AB | 2127 | G | C5'-C4' | 6.94 | 1.59 | 1.51 |
| 2 | AB | 2533 | U | C2-N3 | 6.94 | 1.42 | 1.37 |
| 35 | BA | 304 | U | O3'-P | 6.94 | 1.69 | 1.61 |
| 35 | BA | 503 | C | C4'-O4' | -6.94 | 1.36 | 1.45 |
| 35 | BA | 1129 | C | N1-C6 | 6.94 | 1.41 | 1.37 |
| 2 | AB | 135 | U | P-O5' | 6.94 | 1.66 | 1.59 |
| 2 | AB | 388 | G | O3'-P | 6.94 | 1.69 | 1.61 |
| 2 | AB | 1361 | G | C2-N2 | 6.94 | 1.41 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1645 | G | N9-C8 | -6.94 | 1.32 | 1.37 |
| 2 | AB | 136 | G | P-O5' | 6.93 | 1.66 | 1.59 |
| 2 | AB | 917 | A | C5-C4 | 6.93 | 1.43 | 1.38 |
| 2 | AB | 1029 | A | C8-N7 | -6.93 | 1.26 | 1.31 |
| 2 | AB | 1211 | C | O3'-P | 6.93 | 1.69 | 1.61 |
| 2 | AB | 1790 | C | C5'-C4' | 6.93 | 1.59 | 1.51 |
| 2 | AB | 2488 | G | C5'-C4' | 6.93 | 1.59 | 1.51 |
| 35 | BA | 184 | G | N1-C2 | 6.93 | 1.43 | 1.37 |
| 35 | BA | 815 | A | N7-C5 | -6.93 | 1.35 | 1.39 |
| 36 | BB | 57 | C | C4-C5 | 6.93 | 1.48 | 1.43 |
| 2 | AB | 205 | G | C5-C4 | 6.93 | 1.43 | 1.38 |
| 2 | AB | 1470 | A | N9-C8 | 6.93 | 1.43 | 1.37 |
| 2 | AB | 1950 | G | N7-C5 | -6.93 | 1.35 | 1.39 |
| 35 | BA | 996 | A | C5-C4 | -6.93 | 1.33 | 1.38 |
| 35 | BA | 1007 | U | N1-C6 | 6.93 | 1.44 | 1.38 |
| 2 | AB | 82 | U | P-O5' | 6.93 | 1.66 | 1.59 |
| 2 | AB | 1133 | A | C4'-O4' | -6.93 | 1.36 | 1.45 |
| 35 | BA | 741 | G | N9-C4 | -6.93 | 1.32 | 1.38 |
| 35 | BA | 1300 | G | C4'-O4' | -6.93 | 1.36 | 1.45 |
| 2 | AB | 460 | A | N3-C4 | 6.93 | 1.39 | 1.34 |
| 2 | AB | 129 | C | P-O5' | 6.93 | 1.66 | 1.59 |
| 35 | BA | 102 | G | N9-C8 | -6.93 | 1.33 | 1.37 |
| 35 | BA | 243 | A | C5-C4 | -6.93 | 1.33 | 1.38 |
| 1 | AA | 59 | A | N7-C5 | -6.92 | 1.35 | 1.39 |
| 2 | AB | 67 | U | C2-O2 | 6.92 | 1.28 | 1.22 |
| 2 | AB | 479 | A | N9-C4 | -6.92 | 1.33 | 1.37 |
| 2 | AB | 1298 | C | N3-C4 | -6.92 | 1.29 | 1.33 |
| 2 | AB | 1437 | C | C4'-C3' | -6.92 | 1.45 | 1.53 |
| 2 | AB | 1809 | A | C3'-C2' | 6.92 | 1.60 | 1.52 |
| 2 | AB | 1856 | U | O4'-C1' | 6.92 | 1.50 | 1.41 |
| 2 | AB | 1952 | A | C5'-C4' | 6.92 | 1.59 | 1.51 |
| 35 | BA | 146 | G | C6-N1 | 6.92 | 1.44 | 1.39 |
| 1 | AA | 13 | G | C6-N1 | 6.92 | 1.44 | 1.39 |
| 2 | AB | 279 | A | N9-C8 | 6.92 | 1.43 | 1.37 |
| 2 | AB | 363 | G | N9-C8 | -6.92 | 1.33 | 1.37 |
| 2 | AB | 861 | A | C5-C4 | -6.92 | 1.33 | 1.38 |
| 2 | AB | 2547 | A | P-O5' | 6.92 | 1.66 | 1.59 |
| 35 | BA | 427 | U | N1-C6 | 6.92 | 1.44 | 1.38 |
| 1 | AA | 105 | G | C2-N3 | 6.92 | 1.38 | 1.32 |
| 2 | AB | 1830 | C | N3-C4 | -6.92 | 1.29 | 1.33 |
| 2 | AB | 2778 | A | N9-C8 | -6.92 | 1.32 | 1.37 |
| 2 | AB | 938 | G | C5-C4 | -6.92 | 1.33 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1709 | U | C4-O4 | -6.92 | 1.18 | 1.23 |
| 2 | AB | 2874 | C | C2-N3 | 6.92 | 1.41 | 1.35 |
| 35 | BA | 1079 | G | C6-N1 | 6.92 | 1.44 | 1.39 |
| 35 | BA | 1115 | U | C4-C5 | 6.92 | 1.49 | 1.43 |
| 2 | AB | 227 | A | N9-C8 | -6.92 | 1.32 | 1.37 |
| 2 | AB | 2049 | G | N7-C5 | 6.92 | 1.43 | 1.39 |
| 2 | AB | 2137 | U | P-O5' | 6.92 | 1.66 | 1.59 |
| 35 | BA | 1019 | A | C4'-C3' | 6.92 | 1.60 | 1.53 |
| 35 | BA | 3 | A | C5-C6 | 6.92 | 1.47 | 1.41 |
| 2 | AB | 183 | C | O4'-C1' | 6.91 | 1.50 | 1.41 |
| 2 | AB | 711 | G | C5-C4 | 6.91 | 1.43 | 1.38 |
| 2 | AB | 1268 | A | N3-C4 | 6.91 | 1.39 | 1.34 |
| 2 | AB | 1552 | A | C2'-C1' | -6.91 | 1.45 | 1.53 |
| 2 | AB | 2262 | U | N1-C2 | 6.91 | 1.44 | 1.38 |
| 35 | BA | 48 | C | C4'-O4' | -6.91 | 1.36 | 1.45 |
| 35 | BA | 976 | G | N9-C4 | 6.91 | 1.43 | 1.38 |
| 35 | BA | 1087 | G | O3'-P | 6.91 | 1.69 | 1.61 |
| 35 | BA | 1145 | A | C8-N7 | 6.91 | 1.36 | 1.31 |
| 2 | AB | 42 | A | N3-C4 | 6.91 | 1.39 | 1.34 |
| 2 | AB | 2564 | A | C6-N6 | -6.91 | 1.28 | 1.33 |
| 2 | AB | 2760 | C | C4-C5 | 6.91 | 1.48 | 1.43 |
| 2 | AB | 754 | U | P-O5' | -6.91 | 1.52 | 1.59 |
| 2 | AB | 924 | G | N3-C4 | 6.91 | 1.40 | 1.35 |
| 2 | AB | 925 | A | C5'-C4' | 6.91 | 1.59 | 1.51 |
| 2 | AB | 1552 | A | C5'-C4' | 6.91 | 1.59 | 1.51 |
| 2 | AB | 2424 | C | C4-C5 | 6.91 | 1.48 | 1.43 |
| 35 | BA | 265 | G | C2-N3 | 6.91 | 1.38 | 1.32 |
| 35 | BA | 965 | U | P-O5' | 6.91 | 1.66 | 1.59 |
| 35 | BA | 1279 | G | N9-C4 | 6.91 | 1.43 | 1.38 |
| 2 | AB | 385 | C | C4'-O4' | -6.91 | 1.36 | 1.45 |
| 2 | AB | 554 | U | C5-C6 | 6.91 | 1.40 | 1.34 |
| 2 | AB | 989 | G | C8-N7 | -6.91 | 1.26 | 1.30 |
| 2 | AB | 1448 | G | C2-N3 | 6.91 | 1.38 | 1.32 |
| 2 | AB | 2318 | G | C2'-C1' | 6.91 | 1.60 | 1.53 |
| 2 | AB | 2866 | U | C2-N3 | 6.91 | 1.42 | 1.37 |
| 35 | BA | 923 | A | N7-C5 | 6.91 | 1.43 | 1.39 |
| 35 | BA | 1506 | U | P-O5' | 6.91 | 1.66 | 1.59 |
| 2 | AB | 254 | G | C5-C6 | 6.91 | 1.49 | 1.42 |
| 2 | AB | 1587 | G | C5-C4 | 6.91 | 1.43 | 1.38 |
| 35 | BA | 826 | C | C2-N3 | 6.91 | 1.41 | 1.35 |
| 2 | AB | 371 | A | P-O5' | 6.91 | 1.66 | 1.59 |
| 2 | AB | 435 | C | N1-C6 | 6.91 | 1.41 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1277 | G | C2-N3 | 6.91 | 1.38 | 1.32 |
| 2 | AB | 1838 | C | C4-C5 | -6.91 | 1.37 | 1.43 |
| 35 | BA | 1031 | C | C2-N3 | 6.91 | 1.41 | 1.35 |
| 35 | BA | 1370 | G | P-O5' | 6.91 | 1.66 | 1.59 |
| 2 | AB | 1730 | C | P-O5' | 6.90 | 1.66 | 1.59 |
| 35 | BA | 800 | G | N7-C5 | 6.90 | 1.43 | 1.39 |
| 35 | BA | 1278 | G | C2'-C1' | -6.90 | 1.45 | 1.53 |
| 37 | BC | 27 | G | C5'-C4' | 6.90 | 1.59 | 1.51 |
| 2 | AB | 459 | U | P-O5' | 6.90 | 1.66 | 1.59 |
| 2 | AB | 611 | C | C2-O2 | -6.90 | 1.18 | 1.24 |
| 2 | AB | 1730 | C | C5-C6 | 6.90 | 1.39 | 1.34 |
| 2 | AB | 2119 | A | P-O5' | 6.90 | 1.66 | 1.59 |
| 2 | AB | 2646 | C | N1-C6 | 6.90 | 1.41 | 1.37 |
| 35 | BA | 951 | G | C2-N2 | -6.90 | 1.27 | 1.34 |
| 35 | BA | 1022 | A | N3-C4 | 6.90 | 1.39 | 1.34 |
| 35 | BA | 1299 | A | N7-C5 | -6.90 | 1.35 | 1.39 |
| 2 | AB | 291 | G | N3-C4 | 6.90 | 1.40 | 1.35 |
| 2 | AB | 2092 | U | C2-N3 | 6.90 | 1.42 | 1.37 |
| 2 | AB | 2894 | G | N7-C5 | -6.90 | 1.35 | 1.39 |
| 35 | BA | 1 | A | C2'-C1' | 6.90 | 1.60 | 1.53 |
| 35 | BA | 1341 | U | C4'-O4' | -6.90 | 1.36 | 1.45 |
| 2 | AB | 2770 | G | C3'-C2' | 6.90 | 1.60 | 1.52 |
| 35 | BA | 719 | C | N1-C6 | 6.90 | 1.41 | 1.37 |
| 1 | AA | 80 | U | C4'-C3' | -6.90 | 1.45 | 1.53 |
| 2 | AB | 118 | A | C2'-C1' | 6.90 | 1.60 | 1.53 |
| 2 | AB | 2341 | G | N7-C5 | -6.90 | 1.35 | 1.39 |
| 2 | AB | 2860 | A | N3-C4 | 6.90 | 1.39 | 1.34 |
| 35 | BA | 49 | U | P-O5' | 6.90 | 1.66 | 1.59 |
| 2 | AB | 900 | A | N1-C2 | -6.90 | 1.28 | 1.34 |
| 2 | AB | 1443 | U | O4'-C1' | 6.89 | 1.50 | 1.41 |
| 2 | AB | 2425 | A | C4'-O4' | -6.89 | 1.36 | 1.45 |
| 35 | BA | 600 | A | O4'-C1' | 6.89 | 1.50 | 1.41 |
| 35 | BA | 1361 | G | N3-C4 | 6.89 | 1.40 | 1.35 |
| 2 | AB | 2550 | G | N9-C8 | 6.89 | 1.42 | 1.37 |
| 2 | AB | 823 | C | P-O5' | 6.89 | 1.66 | 1.59 |
| 2 | AB | 2508 | G | P-O5' | 6.89 | 1.66 | 1.59 |
| 2 | AB | 2667 | C | O3'-P | 6.89 | 1.69 | 1.61 |
| 35 | BA | 1246 | A | N7-C5 | 6.89 | 1.43 | 1.39 |
| 2 | AB | 579 | G | N7-C5 | -6.89 | 1.35 | 1.39 |
| 2 | AB | 582 | A | N7-C5 | -6.89 | 1.35 | 1.39 |
| 2 | AB | 2510 | C | C5-C6 | 6.89 | 1.39 | 1.34 |
| 2 | AB | 2737 | G | C2-N3 | 6.89 | 1.38 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2834 | G | N7-C5 | 6.89 | 1.43 | 1.39 |
| 35 | BA | 120 | A | N9-C8 | -6.89 | 1.32 | 1.37 |
| 35 | BA | 139 | A | C2-N3 | 6.89 | 1.39 | 1.33 |
| 35 | BA | 924 | C | N3-C4 | 6.89 | 1.38 | 1.33 |
| 2 | AB | 406 | G | C5'-C4' | 6.89 | 1.59 | 1.51 |
| 2 | AB | 2027 | G | P-O5' | 6.89 | 1.66 | 1.59 |
| 2 | AB | 909 | A | N3-C4 | 6.89 | 1.39 | 1.34 |
| 2 | AB | 2138 | G | C5-C6 | 6.89 | 1.49 | 1.42 |
| 2 | AB | 2267 | A | C4'-O4' | -6.89 | 1.36 | 1.45 |
| 35 | BA | 1211 | U | C4'-C3' | 6.89 | 1.60 | 1.53 |
| 37 | BC | 30 | G | C2'-C1' | -6.89 | 1.45 | 1.53 |
| 2 | AB | 600 | G | C2-N3 | 6.88 | 1.38 | 1.32 |
| 2 | AB | 2225 | A | C5'-C4' | 6.88 | 1.59 | 1.51 |
| 2 | AB | 2547 | A | N7-C5 | -6.88 | 1.35 | 1.39 |
| 35 | BA | 746 | A | C2'-O2' | -6.88 | 1.32 | 1.41 |
| 2 | AB | 1937 | A | N9-C4 | -6.88 | 1.33 | 1.37 |
| 1 | AA | 74 | U | O3'-P | 6.88 | 1.69 | 1.61 |
| 2 | AB | 1103 | A | N3-C4 | 6.88 | 1.39 | 1.34 |
| 2 | AB | 2869 | G | C8-N7 | -6.88 | 1.26 | 1.30 |
| 37 | BC | 39 | A | N1-C2 | 6.88 | 1.40 | 1.34 |
| 2 | AB | 831 | G | N9-C4 | -6.88 | 1.32 | 1.38 |
| 2 | AB | 1651 | G | C8-N7 | 6.88 | 1.35 | 1.30 |
| 2 | AB | 2076 | U | C4-C5 | 6.88 | 1.49 | 1.43 |
| 35 | BA | 888 | G | N7-C5 | -6.88 | 1.35 | 1.39 |
| 2 | AB | 1179 | G | P-O5' | 6.88 | 1.66 | 1.59 |
| 2 | AB | 2517 | C | N1-C6 | 6.88 | 1.41 | 1.37 |
| 35 | BA | 283 | U | P-O5' | 6.88 | 1.66 | 1.59 |
| 35 | BA | 837 | U | P-O5' | 6.88 | 1.66 | 1.59 |
| 35 | BA | 971 | G | N3-C4 | 6.88 | 1.40 | 1.35 |
| 1 | AA | 28 | C | C5-C6 | 6.88 | 1.39 | 1.34 |
| 2 | AB | 345 | A | N3-C4 | 6.88 | 1.39 | 1.34 |
| 2 | AB | 647 | G | C2-N3 | 6.88 | 1.38 | 1.32 |
| 2 | AB | 405 | U | P-O5' | 6.87 | 1.66 | 1.59 |
| 2 | AB | 825 | A | C4'-C3' | 6.87 | 1.60 | 1.53 |
| 2 | AB | 1266 | G | N9-C4 | 6.87 | 1.43 | 1.38 |
| 35 | BA | 1235 | U | C2'-C1' | 6.87 | 1.60 | 1.53 |
| 37 | BC | 43 | G | C4'-O4' | -6.87 | 1.36 | 1.45 |
| 2 | AB | 2752 | C | C1'-N1 | 6.87 | 1.59 | 1.48 |
| 35 | BA | 460 | A | C3'-C2' | 6.87 | 1.60 | 1.52 |
| 37 | BC | 57 | C | C4-C5 | 6.87 | 1.48 | 1.43 |
| 2 | AB | 1815 | A | N3-C4 | 6.87 | 1.39 | 1.34 |
| 2 | AB | 2744 | G | N9-C8 | -6.87 | 1.33 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 30 | A3 | 49 | ARG | CZ-NH2 | 6.87 | 1.42 | 1.33 |
| 35 | BA | 885 | G | P-O5' | 6.87 | 1.66 | 1.59 |
| 35 | BA | 1032 | G | N9-C8 | 6.87 | 1.42 | 1.37 |
| 2 | AB | 2893 | A | N7-C5 | -6.87 | 1.35 | 1.39 |
| 35 | BA | 444 | G | C3'-C2' | 6.87 | 1.60 | 1.52 |
| 2 | AB | 792 | A | C8-N7 | -6.87 | 1.26 | 1.31 |
| 2 | AB | 1418 | G | C6-N1 | 6.87 | 1.44 | 1.39 |
| 2 | AB | 1441 | G | C8-N7 | -6.87 | 1.26 | 1.30 |
| 2 | AB | 1919 | A | N9-C8 | 6.87 | 1.43 | 1.37 |
| 35 | BA | 592 | G | C8-N7 | 6.87 | 1.35 | 1.30 |
| 2 | AB | 156 | A | C4'-C3' | 6.87 | 1.60 | 1.53 |
| 2 | AB | 685 | A | N1-C2 | -6.87 | 1.28 | 1.34 |
| 2 | AB | 1363 | C | C4'-O4' | -6.87 | 1.36 | 1.45 |
| 35 | BA | 954 | G | P-O5' | 6.87 | 1.66 | 1.59 |
| 35 | BA | 1422 | G | P-O5' | 6.87 | 1.66 | 1.59 |
| 35 | BA | 346 | G | N9-C4 | -6.86 | 1.32 | 1.38 |
| 35 | BA | 1486 | G | P-O5' | 6.86 | 1.66 | 1.59 |
| 2 | AB | 752 | A | C4'-O4' | -6.86 | 1.36 | 1.45 |
| 2 | AB | 794 | A | N9-C8 | 6.86 | 1.43 | 1.37 |
| 2 | AB | 1800 | C | P-O5' | 6.86 | 1.66 | 1.59 |
| 2 | AB | 1968 | G | O3'-P | 6.86 | 1.69 | 1.61 |
| 35 | BA | 677 | U | C5-C6 | 6.86 | 1.40 | 1.34 |
| 35 | BA | 1526 | G | O4'-C1' | 6.86 | 1.50 | 1.41 |
| 2 | AB | 903 | C | C2-N3 | 6.86 | 1.41 | 1.35 |
| 2 | AB | 1455 | G | N9-C8 | -6.86 | 1.33 | 1.37 |
| 2 | AB | 8 | C | C2'-O2' | 6.86 | 1.50 | 1.41 |
| 2 | AB | 1216 | G | C2-N3 | 6.86 | 1.38 | 1.32 |
| 2 | AB | 1327 | A | P-O5' | 6.86 | 1.66 | 1.59 |
| 2 | AB | 1539 | U | C2-N3 | 6.86 | 1.42 | 1.37 |
| 2 | AB | 2340 | A | N9-C8 | -6.86 | 1.32 | 1.37 |
| 35 | BA | 1293 | C | C4'-O4' | -6.86 | 1.36 | 1.45 |
| 2 | AB | 1056 | G | P-O5' | 6.86 | 1.66 | 1.59 |
| 2 | AB | 1985 | C | N3-C4 | 6.86 | 1.38 | 1.33 |
| 2 | AB | 2430 | A | N9-C4 | -6.86 | 1.33 | 1.37 |
| 35 | BA | 1331 | G | P-O5' | 6.86 | 1.66 | 1.59 |
| 35 | BA | 1504 | G | C4'-O4' | -6.86 | 1.36 | 1.45 |
| 2 | AB | 98 | G | N9-C8 | 6.85 | 1.42 | 1.37 |
| 35 | BA | 448 | A | C5'-C4' | 6.85 | 1.59 | 1.51 |
| 2 | AB | 847 | U | C2-N3 | 6.85 | 1.42 | 1.37 |
| 2 | AB | 1555 | G | C2-N3 | 6.85 | 1.38 | 1.32 |
| 2 | AB | 2460 | U | C4-C5 | 6.85 | 1.49 | 1.43 |
| 35 | BA | 94 | G | C5-C6 | 6.85 | 1.49 | 1.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 335 | C | C4-C5 | 6.85 | 1.48 | 1.43 |
| 2 | AB | 1497 | U | N1-C2 | 6.85 | 1.44 | 1.38 |
| 2 | AB | 2478 | A | P-O5' | 6.85 | 1.66 | 1.59 |
| 35 | BA | 162 | A | P-O5' | 6.85 | 1.66 | 1.59 |
| 2 | AB | 1932 | A | N9-C8 | 6.85 | 1.43 | 1.37 |
| 35 | BA | 1237 | C | C4-C5 | 6.85 | 1.48 | 1.43 |
| 35 | BA | 1243 | C | C4-N4 | 6.85 | 1.40 | 1.33 |
| 2 | AB | 294 | A | O3'-P | 6.85 | 1.69 | 1.61 |
| 2 | AB | 382 | A | C8-N7 | -6.85 | 1.26 | 1.31 |
| 2 | AB | 488 | G | C8-N7 | -6.85 | 1.26 | 1.30 |
| 2 | AB | 1589 | U | C4'-O4' | -6.85 | 1.36 | 1.45 |
| 2 | AB | 2656 | U | C4'-O4' | -6.84 | 1.36 | 1.45 |
| 35 | BA | 1057 | G | C2-N3 | 6.84 | 1.38 | 1.32 |
| 35 | BA | 1454 | G | P-O5' | 6.84 | 1.66 | 1.59 |
| 2 | AB | 1402 | U | O4'-C1' | 6.84 | 1.50 | 1.41 |
| 2 | AB | 1559 | U | C4'-C3' | 6.84 | 1.60 | 1.53 |
| 2 | AB | 1577 | C | N1-C6 | 6.84 | 1.41 | 1.37 |
| 2 | AB | 98 | G | O4'-C1' | 6.84 | 1.50 | 1.41 |
| 2 | AB | 279 | A | P-O5' | 6.84 | 1.66 | 1.59 |
| 35 | BA | 714 | G | C6-N1 | -6.84 | 1.34 | 1.39 |
| 35 | BA | 988 | G | N1-C2 | 6.84 | 1.43 | 1.37 |
| 35 | BA | 1375 | A | C6-N1 | 6.84 | 1.40 | 1.35 |
| 2 | AB | 412 | A | N9-C8 | 6.84 | 1.43 | 1.37 |
| 2 | AB | 654 | A | C5-C4 | 6.84 | 1.43 | 1.38 |
| 2 | AB | 2649 | C | N3-C4 | 6.84 | 1.38 | 1.33 |
| 35 | BA | 95 | C | C4'-C3' | -6.84 | 1.45 | 1.53 |
| 35 | BA | 1245 | C | N1-C6 | 6.84 | 1.41 | 1.37 |
| 2 | AB | 412 | A | P-O5' | 6.83 | 1.66 | 1.59 |
| 35 | BA | 59 | A | N7-C5 | -6.83 | 1.35 | 1.39 |
| 35 | BA | 674 | G | C4'-C3' | 6.83 | 1.60 | 1.53 |
| 2 | AB | 424 | G | C6-N1 | 6.83 | 1.44 | 1.39 |
| 35 | BA | 194 | C | C4'-O4' | -6.83 | 1.36 | 1.45 |
| 35 | BA | 568 | G | C6-N1 | -6.83 | 1.34 | 1.39 |
| 35 | BA | 881 | G | C4'-O4' | -6.83 | 1.36 | 1.45 |
| 37 | BC | 72 | C | C5'-C4' | 6.83 | 1.59 | 1.51 |
| 2 | AB | 142 | A | N9-C8 | -6.83 | 1.32 | 1.37 |
| 2 | AB | 506 | G | N3-C4 | 6.83 | 1.40 | 1.35 |
| 2 | AB | 787 | C | N3-C4 | 6.83 | 1.38 | 1.33 |
| 2 | AB | 1583 | A | C8-N7 | -6.83 | 1.26 | 1.31 |
| 35 | BA | 127 | G | C2-N3 | 6.83 | 1.38 | 1.32 |
| 35 | BA | 296 | U | C4-C5 | 6.83 | 1.49 | 1.43 |
| 35 | BA | 342 | C | C3'-C2' | 6.83 | 1.60 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 930 | C | N3-C4 | 6.83 | 1.38 | 1.33 |
| 2 | AB | 2001 | C | C3'-C2' | -6.83 | 1.45 | 1.52 |
| 35 | BA | 1513 | A | P-O5' | 6.83 | 1.66 | 1.59 |
| 1 | AA | 31 | C | C5-C6 | 6.83 | 1.39 | 1.34 |
| 2 | AB | 199 | A | C8-N7 | -6.83 | 1.26 | 1.31 |
| 2 | AB | 272 | A | N3-C4 | 6.83 | 1.39 | 1.34 |
| 2 | AB | 684 | G | C2'-C1' | -6.83 | 1.45 | 1.53 |
| 2 | AB | 1332 | G | N7-C5 | 6.83 | 1.43 | 1.39 |
| 2 | AB | 1672 | A | N3-C4 | 6.83 | 1.39 | 1.34 |
| 2 | AB | 1831 | G | C3'-C2' | 6.83 | 1.60 | 1.52 |
| 2 | AB | 1845 | G | C6-O6 | -6.83 | 1.18 | 1.24 |
| 35 | BA | 336 | A | O3'-P | 6.83 | 1.69 | 1.61 |
| 35 | BA | 1351 | U | C2-N3 | 6.83 | 1.42 | 1.37 |
| 2 | AB | 95 | A | N7-C5 | 6.83 | 1.43 | 1.39 |
| 2 | AB | 2892 | G | N9-C8 | -6.83 | 1.33 | 1.37 |
| 35 | BA | 944 | G | N3-C4 | 6.83 | 1.40 | 1.35 |
| 2 | AB | 197 | A | C8-N7 | -6.82 | 1.26 | 1.31 |
| 2 | AB | 2745 | C | C4'-O4' | -6.82 | 1.36 | 1.45 |
| 35 | BA | 1280 | A | N9-C4 | -6.82 | 1.33 | 1.37 |
| 2 | AB | 1610 | A | C5'-C4' | 6.82 | 1.59 | 1.51 |
| 2 | AB | 2831 | G | C8-N7 | -6.82 | 1.26 | 1.30 |
| 35 | BA | 1303 | C | P-O5' | -6.82 | 1.52 | 1.59 |
| 35 | BA | 925 | G | C5-C6 | 6.82 | 1.49 | 1.42 |
| 2 | AB | 690 | G | C4'-O4' | -6.82 | 1.36 | 1.45 |
| 2 | AB | 744 | U | C5-C6 | 6.82 | 1.40 | 1.34 |
| 2 | AB | 751 | A | N9-C4 | 6.82 | 1.42 | 1.37 |
| 2 | AB | 2505 | G | O4'-C1' | 6.82 | 1.50 | 1.41 |
| 2 | AB | 989 | G | N7-C5 | 6.82 | 1.43 | 1.39 |
| 2 | AB | 1427 | A | C4'-O4' | -6.82 | 1.36 | 1.45 |
| 2 | AB | 2049 | G | C4'-O4' | -6.82 | 1.36 | 1.45 |
| 2 | AB | 2868 | A | O3'-P | 6.82 | 1.69 | 1.61 |
| 35 | BA | 672 | U | C4'-O4' | -6.82 | 1.36 | 1.45 |
| 35 | BA | 929 | G | C2-N3 | 6.82 | 1.38 | 1.32 |
| 37 | BC | 22 | A | N9-C4 | 6.82 | 1.42 | 1.37 |
| 2 | AB | 2739 | U | P-O5' | 6.82 | 1.66 | 1.59 |
| 2 | AB | 242 | G | C6-N1 | 6.81 | 1.44 | 1.39 |
| 2 | AB | 1689 | A | N3-C4 | 6.81 | 1.39 | 1.34 |
| 35 | BA | 1453 | G | P-O5' | 6.81 | 1.66 | 1.59 |
| 35 | BA | 1503 | A | N9-C8 | 6.81 | 1.43 | 1.37 |
| 2 | AB | 613 | A | N7-C5 | -6.81 | 1.35 | 1.39 |
| 2 | AB | 852 | U | C2-O2 | 6.81 | 1.28 | 1.22 |
| 2 | AB | 2162 | G | N1-C2 | 6.81 | 1.43 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 484 | G | C5-C4 | -6.81 | 1.33 | 1.38 |
| 2 | AB | 961 | C | C4-N4 | 6.81 | 1.40 | 1.33 |
| 2 | AB | 1873 | G | P-O5' | 6.81 | 1.66 | 1.59 |
| 2 | AB | 2202 | U | C3'-C2' | 6.81 | 1.60 | 1.52 |
| 2 | AB | 2883 | A | C6-N1 | -6.81 | 1.30 | 1.35 |
| 35 | BA | 1388 | C | C2'-C1' | -6.81 | 1.45 | 1.53 |
| 1 | AA | 36 | C | C4'-O4' | -6.81 | 1.36 | 1.45 |
| 2 | AB | 576 | U | C5-C6 | 6.81 | 1.40 | 1.34 |
| 2 | AB | 2718 | G | N9-C4 | 6.81 | 1.43 | 1.38 |
| 2 | AB | 2774 | C | P-O5' | 6.81 | 1.66 | 1.59 |
| 35 | BA | 371 | A | N9-C8 | 6.81 | 1.43 | 1.37 |
| 2 | AB | 405 | U | C4'-O4' | -6.81 | 1.36 | 1.45 |
| 2 | AB | 285 | G | N3-C4 | 6.80 | 1.40 | 1.35 |
| 2 | AB | 300 | A | C6-N1 | -6.80 | 1.30 | 1.35 |
| 2 | AB | 887 | U | O4'-C1' | 6.80 | 1.50 | 1.41 |
| 2 | AB | 1733 | G | P-O5' | 6.80 | 1.66 | 1.59 |
| 2 | AB | 2587 | A | C5-C4 | -6.80 | 1.33 | 1.38 |
| 35 | BA | 116 | A | N7-C5 | -6.80 | 1.35 | 1.39 |
| 35 | BA | 1463 | U | C2'-C1' | -6.80 | 1.45 | 1.53 |
| 37 | BC | 63 | C | C2-O2 | -6.80 | 1.18 | 1.24 |
| 2 | AB | 1215 | G | C5'-C4' | 6.80 | 1.59 | 1.51 |
| 2 | AB | 2900 | A | C5'-C4' | 6.80 | 1.59 | 1.51 |
| 2 | AB | 919 | U | C4-C5 | 6.80 | 1.49 | 1.43 |
| 2 | AB | 1450 | G | P-O5' | 6.80 | 1.66 | 1.59 |
| 2 | AB | 1815 | A | O3'-P | 6.80 | 1.69 | 1.61 |
| 35 | BA | 775 | G | C2-N3 | 6.80 | 1.38 | 1.32 |
| 35 | BA | 1054 | C | C2'-C1' | 6.80 | 1.60 | 1.53 |
| 2 | AB | 15 | G | C2'-C1' | -6.80 | 1.45 | 1.53 |
| 2 | AB | 351 | C | C4'-C3' | 6.80 | 1.60 | 1.53 |
| 2 | AB | 948 | C | C4-N4 | 6.80 | 1.40 | 1.33 |
| 2 | AB | 2415 | G | N1-C2 | 6.80 | 1.43 | 1.37 |
| 35 | BA | 347 | G | N3-C4 | 6.80 | 1.40 | 1.35 |
| 35 | BA | 645 | G | C2-N3 | 6.80 | 1.38 | 1.32 |
| 2 | AB | 31 | C | C3'-C2' | -6.80 | 1.45 | 1.52 |
| 2 | AB | 218 | A | P-O5' | 6.80 | 1.66 | 1.59 |
| 2 | AB | 380 | G | C1'-N9 | 6.80 | 1.58 | 1.48 |
| 2 | AB | 1092 | C | C4'-O4' | -6.80 | 1.36 | 1.45 |
| 2 | AB | 1126 | A | N9-C4 | -6.80 | 1.33 | 1.37 |
| 2 | AB | 2785 | C | C5-C6 | 6.80 | 1.39 | 1.34 |
| 2 | AB | 2810 | A | N7-C5 | 6.80 | 1.43 | 1.39 |
| 35 | BA | 107 | G | C6-N1 | -6.80 | 1.34 | 1.39 |
| 1 | AA | 20 | G | C6-N1 | 6.79 | 1.44 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 113 | U | C5-C6 | 6.79 | 1.40 | 1.34 |
| 2 | AB | 1026 | G | C6-O6 | -6.79 | 1.18 | 1.24 |
| 2 | AB | 2088 | A | P-O5' | 6.79 | 1.66 | 1.59 |
| 2 | AB | 2202 | U | N1-C2 | 6.79 | 1.44 | 1.38 |
| 35 | BA | 1064 | G | C4'-O4' | -6.79 | 1.36 | 1.45 |
| 35 | BA | 1394 | A | C4'-C3' | 6.79 | 1.60 | 1.53 |
| 2 | AB | 403 | U | P-O5' | 6.79 | 1.66 | 1.59 |
| 2 | AB | 585 | G | P-O5' | 6.79 | 1.66 | 1.59 |
| 35 | BA | 1157 | A | N3-C4 | 6.79 | 1.39 | 1.34 |
| 35 | BA | 1329 | A | P-O5' | 6.79 | 1.66 | 1.59 |
| 35 | BA | 39 | G | C2-N3 | 6.79 | 1.38 | 1.32 |
| 35 | BA | 329 | A | C5-C6 | 6.79 | 1.47 | 1.41 |
| 2 | AB | 1077 | A | C5-C4 | -6.79 | 1.33 | 1.38 |
| 2 | AB | 1821 | A | C5'-C4' | 6.79 | 1.59 | 1.51 |
| 35 | BA | 257 | G | N7-C5 | 6.79 | 1.43 | 1.39 |
| 35 | BA | 565 | U | O3'-P | 6.79 | 1.69 | 1.61 |
| 35 | BA | 900 | A | C2'-C1' | -6.79 | 1.45 | 1.53 |
| 2 | AB | 1878 | G | N7-C5 | -6.79 | 1.35 | 1.39 |
| 35 | BA | 788 | U | C5'-C4' | 6.79 | 1.59 | 1.51 |
| 2 | AB | 2894 | G | C6-N1 | 6.79 | 1.44 | 1.39 |
| 1 | AA | 26 | C | C5-C6 | 6.78 | 1.39 | 1.34 |
| 2 | AB | 1668 | A | C6-N6 | 6.78 | 1.39 | 1.33 |
| 35 | BA | 110 | C | N3-C4 | -6.78 | 1.29 | 1.33 |
| 35 | BA | 914 | A | N7-C5 | 6.78 | 1.43 | 1.39 |
| 35 | BA | 1389 | C | N3-C4 | 6.78 | 1.38 | 1.33 |
| 2 | AB | 1620 | G | N1-C2 | 6.78 | 1.43 | 1.37 |
| 2 | AB | 2607 | G | N3-C4 | 6.78 | 1.40 | 1.35 |
| 35 | BA | 184 | G | C5-C4 | -6.78 | 1.33 | 1.38 |
| 2 | AB | 513 | A | N7-C5 | 6.78 | 1.43 | 1.39 |
| 2 | AB | 669 | G | C6-N1 | 6.78 | 1.44 | 1.39 |
| 2 | AB | 1474 | U | C2-N3 | 6.78 | 1.42 | 1.37 |
| 2 | AB | 1839 | G | N3-C4 | 6.78 | 1.40 | 1.35 |
| 36 | BB | 28 | U | P-O5' | 6.78 | 1.66 | 1.59 |
| 2 | AB | 1585 | C | C4-C5 | -6.78 | 1.37 | 1.43 |
| 2 | AB | 2717 | C | C2'-C1' | 6.78 | 1.60 | 1.53 |
| 35 | BA | 1285 | A | C5-C4 | 6.78 | 1.43 | 1.38 |
| 2 | AB | 1737 | G | C6-O6 | -6.78 | 1.18 | 1.24 |
| 2 | AB | 2866 | U | P-O5' | 6.78 | 1.66 | 1.59 |
| 2 | AB | 1344 | U | N3-C4 | 6.78 | 1.44 | 1.38 |
| 2 | AB | 1553 | A | C2'-C1' | 6.78 | 1.60 | 1.53 |
| 2 | AB | 2324 | U | C5-C6 | 6.78 | 1.40 | 1.34 |
| 35 | BA | 524 | G | N1-C2 | 6.78 | 1.43 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 74 | A | C8-N7 | -6.77 | 1.26 | 1.31 |
| 2 | AB | 771 | G | C5'-C4' | 6.77 | 1.59 | 1.51 |
| 2 | AB | 942 | G | N3-C4 | 6.77 | 1.40 | 1.35 |
| 2 | AB | 1705 | A | C4'-O4' | -6.77 | 1.36 | 1.45 |
| 35 | BA | 410 | G | C2-N2 | -6.77 | 1.27 | 1.34 |
| 35 | BA | 453 | G | N1-C2 | 6.77 | 1.43 | 1.37 |
| 2 | AB | 628 | G | C2-N3 | 6.77 | 1.38 | 1.32 |
| 2 | AB | 844 | A | P-O5' | 6.77 | 1.66 | 1.59 |
| 2 | AB | 1843 | C | P-O5' | 6.77 | 1.66 | 1.59 |
| 35 | BA | 1098 | C | C4'-O4' | -6.77 | 1.36 | 1.45 |
| 2 | AB | 791 | C | C4'-C3' | -6.77 | 1.45 | 1.53 |
| 2 | AB | 1252 | G | P-O5' | 6.77 | 1.66 | 1.59 |
| 2 | AB | 2286 | G | C2-N3 | 6.77 | 1.38 | 1.32 |
| 2 | AB | 2446 | G | N9-C8 | 6.77 | 1.42 | 1.37 |
| 35 | BA | 220 | G | C2-N3 | 6.77 | 1.38 | 1.32 |
| 35 | BA | 256 | U | C4-O4 | -6.77 | 1.18 | 1.23 |
| 35 | BA | 606 | G | O3'-P | 6.77 | 1.69 | 1.61 |
| 35 | BA | 997 | U | C2-N3 | 6.77 | 1.42 | 1.37 |
| 35 | BA | 834 | U | C4-C5 | 6.77 | 1.49 | 1.43 |
| 35 | BA | 1349 | A | O3'-P | 6.77 | 1.69 | 1.61 |
| 2 | AB | 700 | G | N7-C5 | -6.77 | 1.35 | 1.39 |
| 35 | BA | 1429 | A | N3-C4 | 6.77 | 1.39 | 1.34 |
| 2 | AB | 1518 | C | O3'-P | 6.76 | 1.69 | 1.61 |
| 2 | AB | 1688 | U | P-O5' | 6.76 | 1.66 | 1.59 |
| 2 | AB | 387 | U | O3'-P | 6.76 | 1.69 | 1.61 |
| 2 | AB | 1755 | A | N3-C4 | 6.76 | 1.39 | 1.34 |
| 2 | AB | 2136 | G | N1-C2 | 6.76 | 1.43 | 1.37 |
| 2 | AB | 92 | U | C2-N3 | 6.76 | 1.42 | 1.37 |
| 2 | AB | 654 | A | C4'-O4' | -6.76 | 1.36 | 1.45 |
| 35 | BA | 85 | U | C5-C6 | 6.76 | 1.40 | 1.34 |
| 1 | AA | 51 | G | N3-C4 | 6.76 | 1.40 | 1.35 |
| 2 | AB | 2512 | C | N1-C6 | 6.76 | 1.41 | 1.37 |
| 35 | BA | 476 | U | N1-C2 | 6.76 | 1.44 | 1.38 |
| 35 | BA | 507 | C | N1-C6 | -6.76 | 1.33 | 1.37 |
| 2 | AB | 151 | C | N3-C4 | 6.76 | 1.38 | 1.33 |
| 2 | AB | 218 | A | C4'-O4' | -6.76 | 1.36 | 1.45 |
| 2 | AB | 2262 | U | C5-C6 | 6.76 | 1.40 | 1.34 |
| 35 | BA | 932 | C | C5'-C4' | 6.76 | 1.59 | 1.51 |
| 2 | AB | 10 | A | C2-N3 | 6.76 | 1.39 | 1.33 |
| 2 | AB | 1256 | G | N9-C4 | 6.76 | 1.43 | 1.38 |
| 2 | AB | 1322 | A | C8-N7 | -6.76 | 1.26 | 1.31 |
| 2 | AB | 2654 | A | N9-C8 | -6.76 | 1.32 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 566 | G | C6-O6 | -6.76 | 1.18 | 1.24 |
| 2 | AB | 280 | U | C2-N3 | 6.75 | 1.42 | 1.37 |
| 1 | AA | 27 | C | C4-N4 | -6.75 | 1.27 | 1.33 |
| 1 | AA | 59 | A | N9-C8 | 6.75 | 1.43 | 1.37 |
| 2 | AB | 145 | C | C5'-C4' | -6.75 | 1.43 | 1.51 |
| 2 | AB | 2588 | G | N7-C5 | -6.75 | 1.35 | 1.39 |
| 2 | AB | 2680 | U | C4-C5 | 6.75 | 1.49 | 1.43 |
| 2 | AB | 2821 | A | C8-N7 | -6.75 | 1.26 | 1.31 |
| 35 | BA | 1163 | A | N3-C4 | 6.75 | 1.39 | 1.34 |
| 35 | BA | 1219 | A | N7-C5 | -6.75 | 1.35 | 1.39 |
| 2 | AB | 427 | U | N1-C2 | 6.75 | 1.44 | 1.38 |
| 2 | AB | 790 | U | C2-O2 | 6.75 | 1.28 | 1.22 |
| 2 | AB | 944 | C | C4-C5 | 6.75 | 1.48 | 1.43 |
| 2 | AB | 1990 | C | N3-C4 | 6.75 | 1.38 | 1.33 |
| 2 | AB | 2487 | G | O3'-P | 6.75 | 1.69 | 1.61 |
| 2 | AB | 2596 | U | C2-N3 | -6.75 | 1.33 | 1.37 |
| 35 | BA | 946 | A | C4'-O4' | -6.75 | 1.36 | 1.45 |
| 35 | BA | 1001 | C | C4-C5 | 6.75 | 1.48 | 1.43 |
| 35 | BA | 1226 | C | P-O5' | 6.75 | 1.66 | 1.59 |
| 36 | BB | 15 | G | C2-N3 | 6.75 | 1.38 | 1.32 |
| 2 | AB | 1156 | A | C6-N6 | -6.75 | 1.28 | 1.33 |
| 2 | AB | 1185 | G | C6-O6 | -6.75 | 1.18 | 1.24 |
| 2 | AB | 2165 | C | N1-C6 | 6.75 | 1.41 | 1.37 |
| 35 | BA | 903 | G | C6-N1 | 6.75 | 1.44 | 1.39 |
| 35 | BA | 1088 | G | C4'-O4' | -6.75 | 1.36 | 1.45 |
| 2 | AB | 90 | U | C2-N3 | -6.75 | 1.33 | 1.37 |
| 2 | AB | 670 | A | N7-C5 | 6.75 | 1.43 | 1.39 |
| 2 | AB | 634 | C | C5'-C4' | 6.74 | 1.59 | 1.51 |
| 2 | AB | 1279 | G | C5-C6 | 6.74 | 1.49 | 1.42 |
| 35 | BA | 54 | C | C5'-C4' | 6.74 | 1.59 | 1.51 |
| 35 | BA | 687 | A | N9-C4 | -6.74 | 1.33 | 1.37 |
| 2 | AB | 2031 | A | C4'-O4' | -6.74 | 1.36 | 1.45 |
| 37 | BC | 14 | A | P-O5' | 6.74 | 1.66 | 1.59 |
| 2 | AB | 248 | G | N7-C5 | 6.74 | 1.43 | 1.39 |
| 2 | AB | 2331 | G | N9-C8 | -6.74 | 1.33 | 1.37 |
| 2 | AB | 2675 | A | N7-C5 | -6.74 | 1.35 | 1.39 |
| 35 | BA | 940 | C | N1-C6 | 6.74 | 1.41 | 1.37 |
| 2 | AB | 381 | G | N9-C8 | -6.74 | 1.33 | 1.37 |
| 2 | AB | 1328 | A | O4'-C1' | -6.74 | 1.32 | 1.41 |
| 2 | AB | 1780 | A | N3-C4 | 6.74 | 1.38 | 1.34 |
| 2 | AB | 1889 | A | P-O5' | 6.74 | 1.66 | 1.59 |
| 2 | AB | 2802 | G | C2-N3 | 6.74 | 1.38 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 688 | G | C5-C6 | 6.74 | 1.49 | 1.42 |
| 35 | BA | 962 | C | N3-C4 | -6.74 | 1.29 | 1.33 |
| 35 | BA | 1433 | A | C8-N7 | -6.74 | 1.26 | 1.31 |
| 2 | AB | 2617 | U | N1-C6 | -6.74 | 1.31 | 1.38 |
| 2 | AB | 2777 | G | C2-N3 | 6.74 | 1.38 | 1.32 |
| 2 | AB | 2418 | A | C5'-C4' | 6.74 | 1.59 | 1.51 |
| 35 | BA | 916 | U | N1-C6 | -6.74 | 1.31 | 1.38 |
| 2 | AB | 2117 | A | N9-C8 | -6.73 | 1.32 | 1.37 |
| 2 | AB | 611 | C | O3'-P | 6.73 | 1.69 | 1.61 |
| 2 | AB | 1266 | G | C8-N7 | 6.73 | 1.34 | 1.30 |
| 2 | AB | 1468 | U | P-O5' | 6.73 | 1.66 | 1.59 |
| 2 | AB | 2374 | C | N1-C6 | 6.73 | 1.41 | 1.37 |
| 2 | AB | 2725 | A | N1-C2 | -6.73 | 1.28 | 1.34 |
| 35 | BA | 366 | A | C5'-C4' | 6.73 | 1.59 | 1.51 |
| 35 | BA | 1426 | G | N1-C2 | 6.73 | 1.43 | 1.37 |
| 35 | BA | 1468 | A | O3'-P | 6.73 | 1.69 | 1.61 |
| 2 | AB | 20 | C | P-O5' | 6.73 | 1.66 | 1.59 |
| 2 | AB | 548 | G | C5'-C4' | 6.73 | 1.59 | 1.51 |
| 2 | AB | 578 | G | C2-N3 | 6.73 | 1.38 | 1.32 |
| 2 | AB | 2107 | G | N1-C2 | 6.73 | 1.43 | 1.37 |
| 2 | AB | 2168 | G | N3-C4 | 6.73 | 1.40 | 1.35 |
| 2 | AB | 2513 | A | P-O5' | 6.73 | 1.66 | 1.59 |
| 35 | BA | 173 | U | P-O5' | 6.73 | 1.66 | 1.59 |
| 2 | AB | 548 | G | N1-C2 | 6.73 | 1.43 | 1.37 |
| 2 | AB | 619 | G | C2-N2 | 6.73 | 1.41 | 1.34 |
| 2 | AB | 802 | A | N7-C5 | 6.73 | 1.43 | 1.39 |
| 2 | AB | 1925 | C | P-O5' | 6.73 | 1.66 | 1.59 |
| 35 | BA | 389 | A | N7-C5 | -6.73 | 1.35 | 1.39 |
| 35 | BA | 531 | U | P-O5' | 6.73 | 1.66 | 1.59 |
| 35 | BA | 731 | G | N9-C4 | 6.73 | 1.43 | 1.38 |
| 35 | BA | 832 | G | O3'-P | 6.73 | 1.69 | 1.61 |
| 2 | AB | 39 | G | N7-C5 | -6.73 | 1.35 | 1.39 |
| 35 | BA | 578 | C | N3-C4 | 6.73 | 1.38 | 1.33 |
| 2 | AB | 337 | C | N3-C4 | 6.72 | 1.38 | 1.33 |
| 2 | AB | 439 | A | P-O5' | 6.72 | 1.66 | 1.59 |
| 2 | AB | 923 | G | N3-C4 | 6.72 | 1.40 | 1.35 |
| 2 | AB | 1774 | C | P-O5' | 6.72 | 1.66 | 1.59 |
| 2 | AB | 1819 | A | N9-C8 | 6.72 | 1.43 | 1.37 |
| 35 | BA | 944 | G | P-O5' | 6.72 | 1.66 | 1.59 |
| 35 | BA | 54 | C | C4'-O4' | -6.72 | 1.36 | 1.45 |
| 35 | BA | 591 | U | N1-C2 | 6.72 | 1.44 | 1.38 |
| 35 | BA | 1006 | G | N9-C4 | 6.72 | 1.43 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1427 | C | C2-O2 | -6.72 | 1.18 | 1.24 |
| 35 | BA | 1457 | G | C4'-O4' | -6.72 | 1.36 | 1.45 |
| 2 | AB | 2726 | A | C2'-C1' | -6.72 | 1.46 | 1.53 |
| 35 | BA | 299 | G | O3'-P | -6.72 | 1.53 | 1.61 |
| 2 | AB | 105 | C | C4'-C3' | 6.72 | 1.60 | 1.53 |
| 2 | AB | 259 | G | N7-C5 | 6.72 | 1.43 | 1.39 |
| 2 | AB | 765 | C | N1-C6 | 6.72 | 1.41 | 1.37 |
| 2 | AB | 2353 | G | C8-N7 | 6.72 | 1.34 | 1.30 |
| 2 | AB | 2525 | G | O3'-P | 6.72 | 1.69 | 1.61 |
| 2 | AB | 2624 | G | C2-N3 | 6.72 | 1.38 | 1.32 |
| 35 | BA | 902 | G | C8-N7 | 6.72 | 1.34 | 1.30 |
| 35 | BA | 1155 | A | C4'-O4' | -6.72 | 1.36 | 1.45 |
| 37 | BC | 46 | G | C2'-C1' | 6.72 | 1.60 | 1.53 |
| 2 | AB | 711 | G | C6-O6 | -6.72 | 1.18 | 1.24 |
| 2 | AB | 1279 | G | O3'-P | 6.72 | 1.69 | 1.61 |
| 35 | BA | 33 | A | N9-C4 | -6.72 | 1.33 | 1.37 |
| 35 | BA | 108 | G | C6-N1 | 6.72 | 1.44 | 1.39 |
| 35 | BA | 223 | A | N3-C4 | 6.72 | 1.38 | 1.34 |
| 35 | BA | 324 | G | C4'-O4' | -6.72 | 1.36 | 1.45 |
| 36 | BB | 37 | G | C6-N1 | -6.72 | 1.34 | 1.39 |
| 2 | AB | 499 | U | C4-C5 | 6.71 | 1.49 | 1.43 |
| 2 | AB | 1793 | C | C5'-C4' | 6.71 | 1.59 | 1.51 |
| 2 | AB | 2664 | G | C4'-O4' | -6.71 | 1.36 | 1.45 |
| 35 | BA | 108 | G | C8-N7 | 6.71 | 1.34 | 1.30 |
| 2 | AB | 169 | G | C2-N3 | 6.71 | 1.38 | 1.32 |
| 2 | AB | 605 | G | C8-N7 | -6.71 | 1.26 | 1.30 |
| 2 | AB | 1646 | C | C5-C6 | 6.71 | 1.39 | 1.34 |
| 2 | AB | 1850 | G | N1-C2 | 6.71 | 1.43 | 1.37 |
| 2 | AB | 2548 | U | C3'-O3' | 6.71 | 1.51 | 1.42 |
| 35 | BA | 68 | G | C6-O6 | -6.71 | 1.18 | 1.24 |
| 2 | AB | 2353 | G | O3'-P | 6.71 | 1.69 | 1.61 |
| 2 | AB | 2627 | G | C2-N3 | 6.71 | 1.38 | 1.32 |
| 35 | BA | 178 | C | N1-C6 | 6.71 | 1.41 | 1.37 |
| 35 | BA | 844 | G | C3'-C2' | 6.71 | 1.60 | 1.52 |
| 37 | BC | 42 | C | P-O5' | -6.71 | 1.53 | 1.59 |
| 2 | AB | 1304 | A | C8-N7 | -6.71 | 1.26 | 1.31 |
| 35 | BA | 557 | G | C6-N1 | -6.71 | 1.34 | 1.39 |
| 35 | BA | 953 | G | O4'-C1' | 6.71 | 1.50 | 1.41 |
| 2 | AB | 29 | U | C3'-O3' | 6.71 | 1.51 | 1.42 |
| 2 | AB | 1946 | U | N3-C4 | -6.71 | 1.32 | 1.38 |
| 35 | BA | 466 | A | P-O5' | 6.71 | 1.66 | 1.59 |
| 35 | BA | 792 | A | N3-C4 | 6.71 | 1.38 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 895 | G | P-O5' | 6.71 | 1.66 | 1.59 |
| 35 | BA | 923 | A | C6-N1 | -6.71 | 1.30 | 1.35 |
| 2 | AB | 660 | C | C2-N3 | 6.71 | 1.41 | 1.35 |
| 35 | BA | 825 | A | C4'-C3' | 6.71 | 1.60 | 1.53 |
| 35 | BA | 1053 | G | N3-C4 | 6.71 | 1.40 | 1.35 |
| 2 | AB | 1663 | G | C3'-C2' | 6.71 | 1.60 | 1.52 |
| 35 | BA | 1457 | G | C3'-C2' | 6.71 | 1.60 | 1.52 |
| 35 | BA | 276 | G | C2'-C1' | 6.70 | 1.60 | 1.53 |
| 35 | BA | 1310 | G | P-O5' | 6.70 | 1.66 | 1.59 |
| 1 | AA | 30 | C | C2-O2 | -6.70 | 1.18 | 1.24 |
| 2 | AB | 1789 | A | N3-C4 | 6.70 | 1.38 | 1.34 |
| 35 | BA | 1075 | U | C4'-O4' | -6.70 | 1.36 | 1.45 |
| 2 | AB | 20 | C | N1-C2 | 6.70 | 1.46 | 1.40 |
| 2 | AB | 202 | U | N1-C6 | 6.70 | 1.44 | 1.38 |
| 2 | AB | 1368 | G | C6-O6 | -6.70 | 1.18 | 1.24 |
| 2 | AB | 1623 | G | P-O5' | 6.70 | 1.66 | 1.59 |
| 2 | AB | 1875 | G | C2-N2 | 6.70 | 1.41 | 1.34 |
| 2 | AB | 1968 | G | C8-N7 | -6.70 | 1.26 | 1.30 |
| 2 | AB | 2102 | G | N1-C2 | 6.70 | 1.43 | 1.37 |
| 2 | AB | 751 | A | N1-C2 | -6.70 | 1.28 | 1.34 |
| 2 | AB | 1789 | A | N7-C5 | 6.70 | 1.43 | 1.39 |
| 2 | AB | 2247 | A | C4'-O4' | -6.70 | 1.36 | 1.45 |
| 2 | AB | 2303 | G | N7-C5 | -6.70 | 1.35 | 1.39 |
| 2 | AB | 2472 | G | C6-N1 | 6.70 | 1.44 | 1.39 |
| 35 | BA | 343 | U | O3'-P | 6.70 | 1.69 | 1.61 |
| 35 | BA | 1488 | G | C8-N7 | -6.70 | 1.26 | 1.30 |
| 35 | BA | 1244 | G | N9-C8 | 6.70 | 1.42 | 1.37 |
| 2 | AB | 599 | A | C6-N6 | -6.70 | 1.28 | 1.33 |
| 35 | BA | 41 | G | N3-C4 | 6.70 | 1.40 | 1.35 |
| 35 | BA | 1237 | C | O3'-P | 6.70 | 1.69 | 1.61 |
| 37 | BC | 73 | A | C5-C6 | 6.70 | 1.47 | 1.41 |
| 2 | AB | 177 | G | C5-C4 | 6.69 | 1.43 | 1.38 |
| 2 | AB | 2798 | U | C2-N3 | 6.69 | 1.42 | 1.37 |
| 2 | AB | 75 | G | C5-C4 | -6.69 | 1.33 | 1.38 |
| 2 | AB | 631 | A | C4'-O4' | -6.69 | 1.36 | 1.45 |
| 2 | AB | 1446 | C | P-O5' | 6.69 | 1.66 | 1.59 |
| 2 | AB | 2334 | U | O3'-P | 6.69 | 1.69 | 1.61 |
| 35 | BA | 163 | C | C4-C5 | 6.69 | 1.48 | 1.43 |
| 2 | AB | 587 | C | C2-N3 | 6.69 | 1.41 | 1.35 |
| 2 | AB | 2512 | C | C2-N3 | 6.69 | 1.41 | 1.35 |
| 2 | AB | 140 | C | N1-C6 | 6.69 | 1.41 | 1.37 |
| 2 | AB | 1288 | G | N7-C5 | 6.69 | 1.43 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1401 | G | N1-C2 | 6.69 | 1.43 | 1.37 |
| 2 | AB | 2243 | U | P-O5' | 6.69 | 1.66 | 1.59 |
| 2 | AB | 2481 | G | C2-N3 | 6.69 | 1.38 | 1.32 |
| 35 | BA | 956 | U | C2-N3 | 6.69 | 1.42 | 1.37 |
| 2 | AB | 1364 | G | C6-N1 | -6.69 | 1.34 | 1.39 |
| 35 | BA | 1167 | A | P-O5' | 6.69 | 1.66 | 1.59 |
| 2 | AB | 172 | A | C4'-O4' | -6.68 | 1.36 | 1.45 |
| 2 | AB | 198 | C | C4-C5 | 6.68 | 1.48 | 1.43 |
| 2 | AB | 1548 | A | C5-C6 | 6.68 | 1.47 | 1.41 |
| 35 | BA | 858 | G | C2-N3 | 6.68 | 1.38 | 1.32 |
| 36 | BB | 15 | G | C3'-C2' | 6.68 | 1.60 | 1.52 |
| 2 | AB | 1554 | U | C2'-C1' | 6.68 | 1.60 | 1.53 |
| 2 | AB | 2100 | G | N3-C4 | 6.68 | 1.40 | 1.35 |
| 2 | AB | 1373 | A | N7-C5 | 6.68 | 1.43 | 1.39 |
| 2 | AB | 2876 | G | N9-C8 | 6.68 | 1.42 | 1.37 |
| 35 | BA | 399 | G | N9-C8 | 6.68 | 1.42 | 1.37 |
| 2 | AB | 511 | U | N3-C4 | 6.68 | 1.44 | 1.38 |
| 2 | AB | 533 | G | N9-C8 | 6.68 | 1.42 | 1.37 |
| 2 | AB | 662 | G | N9-C8 | 6.68 | 1.42 | 1.37 |
| 2 | AB | 2098 | U | P-O5' | 6.68 | 1.66 | 1.59 |
| 35 | BA | 1251 | A | C2-N3 | 6.68 | 1.39 | 1.33 |
| 1 | AA | 22 | U | C5-C6 | 6.68 | 1.40 | 1.34 |
| 35 | BA | 376 | G | C4'-O4' | -6.68 | 1.36 | 1.45 |
| 2 | AB | 167 | A | C5'-C4' | 6.68 | 1.59 | 1.51 |
| 2 | AB | 541 | A | N3-C4 | 6.68 | 1.38 | 1.34 |
| 2 | AB | 1696 | G | N7-C5 | 6.68 | 1.43 | 1.39 |
| 2 | AB | 2018 | G | N7-C5 | -6.68 | 1.35 | 1.39 |
| 2 | AB | 149 | A | C4'-O4' | -6.67 | 1.36 | 1.45 |
| 2 | AB | 986 | C | O3'-P | 6.67 | 1.69 | 1.61 |
| 2 | AB | 1161 | C | P-O5' | 6.67 | 1.66 | 1.59 |
| 2 | AB | 2032 | G | N7-C5 | 6.67 | 1.43 | 1.39 |
| 35 | BA | 375 | U | C4-C5 | 6.67 | 1.49 | 1.43 |
| 35 | BA | 1062 | U | C2-N3 | 6.67 | 1.42 | 1.37 |
| 35 | BA | 111 | G | O3'-P | 6.67 | 1.69 | 1.61 |
| 35 | BA | 409 | U | C5-C6 | 6.67 | 1.40 | 1.34 |
| 2 | AB | 1763 | G | N3-C4 | 6.67 | 1.40 | 1.35 |
| 2 | AB | 2095 | A | N9-C4 | 6.67 | 1.41 | 1.37 |
| 2 | AB | 2876 | G | C8-N7 | -6.67 | 1.26 | 1.30 |
| 35 | BA | 684 | U | P-O5' | 6.67 | 1.66 | 1.59 |
| 2 | AB | 1235 | G | N1-C2 | 6.67 | 1.43 | 1.37 |
| 2 | AB | 2536 | G | C5'-C4' | 6.67 | 1.59 | 1.51 |
| 2 | AB | 2646 | C | C4'-O4' | -6.67 | 1.36 | 1.45 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1217 | C | N3-C4 | 6.67 | 1.38 | 1.33 |
| 2 | AB | 207 | A | C2'-C1' | -6.67 | 1.46 | 1.53 |
| 2 | AB | 1726 | C | C4-N4 | 6.67 | 1.40 | 1.33 |
| 37 | BC | 39 | A | C6-N1 | 6.67 | 1.40 | 1.35 |
| 2 | AB | 1673 | G | N9-C8 | 6.67 | 1.42 | 1.37 |
| 35 | BA | 323 | U | C2'-C1' | -6.67 | 1.46 | 1.53 |
| 35 | BA | 416 | G | N1-C2 | 6.67 | 1.43 | 1.37 |
| 35 | BA | 695 | A | P-O5' | 6.67 | 1.66 | 1.59 |
| 2 | AB | 1494 | A | C5-C4 | -6.67 | 1.34 | 1.38 |
| 2 | AB | 1902 | C | N3-C4 | -6.67 | 1.29 | 1.33 |
| 2 | AB | 2238 | G | C8-N7 | -6.67 | 1.26 | 1.30 |
| 2 | AB | 1162 | G | C2-N3 | 6.66 | 1.38 | 1.32 |
| 2 | AB | 2727 | A | C4'-O4' | -6.66 | 1.36 | 1.45 |
| 35 | BA | 339 | C | P-O5' | 6.66 | 1.66 | 1.59 |
| 35 | BA | 503 | C | C2'-C1' | 6.66 | 1.60 | 1.53 |
| 35 | BA | 1522 | U | C2'-O2' | 6.66 | 1.50 | 1.41 |
| 2 | AB | 516 | C | C4-C5 | 6.66 | 1.48 | 1.43 |
| 2 | AB | 1634 | A | O3'-P | 6.66 | 1.69 | 1.61 |
| 2 | AB | 530 | G | P-O5' | 6.66 | 1.66 | 1.59 |
| 2 | AB | 1092 | C | O3'-P | 6.66 | 1.69 | 1.61 |
| 35 | BA | 312 | C | P-O5' | 6.66 | 1.66 | 1.59 |
| 35 | BA | 410 | G | N3-C4 | 6.66 | 1.40 | 1.35 |
| 35 | BA | 417 | G | N7-C5 | -6.66 | 1.35 | 1.39 |
| 35 | BA | 1514 | G | N9-C8 | -6.66 | 1.33 | 1.37 |
| 36 | BB | 31 | U | P-O5' | 6.66 | 1.66 | 1.59 |
| 2 | AB | 1502 | A | C8-N7 | -6.66 | 1.26 | 1.31 |
| 2 | AB | 1544 | A | N9-C4 | -6.66 | 1.33 | 1.37 |
| 2 | AB | 2269 | G | C3'-C2' | -6.66 | 1.45 | 1.52 |
| 2 | AB | 2607 | G | P-O5' | 6.66 | 1.66 | 1.59 |
| 2 | AB | 384 | A | C4'-O4' | -6.66 | 1.36 | 1.45 |
| 35 | BA | 524 | G | C8-N7 | 6.66 | 1.34 | 1.30 |
| 1 | AA | 76 | G | N3-C4 | 6.66 | 1.40 | 1.35 |
| 2 | AB | 186 | G | N3-C4 | 6.66 | 1.40 | 1.35 |
| 2 | AB | 410 | G | P-O5' | 6.66 | 1.66 | 1.59 |
| 2 | AB | 650 | C | C4-N4 | 6.66 | 1.40 | 1.33 |
| 2 | AB | 1964 | G | N9-C4 | 6.66 | 1.43 | 1.38 |
| 2 | AB | 2199 | A | C5-C4 | -6.66 | 1.34 | 1.38 |
| 35 | BA | 1325 | C | C5'-C4' | 6.66 | 1.59 | 1.51 |
| 2 | AB | 1692 | U | C4'-O4' | -6.65 | 1.36 | 1.45 |
| 35 | BA | 309 | A | O3'-P | 6.65 | 1.69 | 1.61 |
| 1 | AA | 52 | A | C6-N1 | 6.65 | 1.40 | 1.35 |
| 2 | AB | 182 | A | N9-C4 | 6.65 | 1.41 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 815 | C | C1'-N1 | 6.65 | 1.58 | 1.48 |
| 2 | AB | 966 | G | N9-C8 | -6.65 | 1.33 | 1.37 |
| 2 | AB | 1329 | U | C5'-C4' | 6.65 | 1.59 | 1.51 |
| 35 | BA | 83 | C | C4'-O4' | -6.65 | 1.36 | 1.45 |
| 35 | BA | 523 | A | C4'-C3' | 6.65 | 1.60 | 1.53 |
| 35 | BA | 785 | G | N7-C5 | -6.65 | 1.35 | 1.39 |
| 35 | BA | 1273 | C | P-O5' | 6.65 | 1.66 | 1.59 |
| 1 | AA | 13 | G | C8-N7 | -6.65 | 1.26 | 1.30 |
| 2 | AB | 84 | A | N3-C4 | 6.65 | 1.38 | 1.34 |
| 2 | AB | 307 | G | N3-C4 | 6.65 | 1.40 | 1.35 |
| 2 | AB | 450 | G | C3'-C2' | 6.65 | 1.60 | 1.52 |
| 2 | AB | 2782 | G | N7-C5 | -6.65 | 1.35 | 1.39 |
| 35 | BA | 50 | A | N7-C5 | -6.65 | 1.35 | 1.39 |
| 35 | BA | 223 | A | N9-C4 | 6.65 | 1.41 | 1.37 |
| 35 | BA | 857 | C | N1-C6 | 6.65 | 1.41 | 1.37 |
| 1 | AA | 88 | C | N1-C6 | 6.65 | 1.41 | 1.37 |
| 35 | BA | 909 | A | C5'-C4' | 6.65 | 1.59 | 1.51 |
| 2 | AB | 1324 | G | C2-N3 | 6.65 | 1.38 | 1.32 |
| 2 | AB | 1811 | G | C2'-C1' | -6.65 | 1.46 | 1.53 |
| 2 | AB | 2230 | G | N1-C2 | 6.65 | 1.43 | 1.37 |
| 2 | AB | 2441 | U | C4'-C3' | 6.65 | 1.60 | 1.53 |
| 35 | BA | 275 | G | C2-N3 | 6.65 | 1.38 | 1.32 |
| 35 | BA | 425 | G | O3'-P | -6.65 | 1.53 | 1.61 |
| 35 | BA | 773 | G | C2-N3 | 6.65 | 1.38 | 1.32 |
| 2 | AB | 561 | G | N7-C5 | -6.65 | 1.35 | 1.39 |
| 2 | AB | 968 | C | C4'-C3' | 6.65 | 1.60 | 1.53 |
| 2 | AB | 1781 | U | C4-O4 | -6.65 | 1.18 | 1.23 |
| 24 | AX | 58 | SER | CB-OG | -6.65 | 1.33 | 1.42 |
| 2 | AB | 625 | G | P-O5' | 6.64 | 1.66 | 1.59 |
| 35 | BA | 131 | A | N7-C5 | -6.64 | 1.35 | 1.39 |
| 35 | BA | 1104 | G | C2-N3 | 6.64 | 1.38 | 1.32 |
| 35 | BA | 1274 | A | N3-C4 | 6.64 | 1.38 | 1.34 |
| 2 | AB | 608 | A | N3-C4 | 6.64 | 1.38 | 1.34 |
| 2 | AB | 741 | U | C5'-C4' | 6.64 | 1.59 | 1.51 |
| 2 | AB | 891 | G | C2-N3 | 6.64 | 1.38 | 1.32 |
| 2 | AB | 2286 | G | O3'-P | 6.64 | 1.69 | 1.61 |
| 2 | AB | 384 | A | N7-C5 | 6.64 | 1.43 | 1.39 |
| 35 | BA | 83 | C | C3'-C2' | -6.64 | 1.45 | 1.52 |
| 35 | BA | 770 | C | N1-C2 | 6.64 | 1.46 | 1.40 |
| 2 | AB | 1611 | C | C4-C5 | 6.64 | 1.48 | 1.43 |
| 2 | AB | 1988 | G | N9-C8 | -6.64 | 1.33 | 1.37 |
| 2 | AB | 2129 | C | P-O5' | 6.64 | 1.66 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 729 | A | C5'-C4' | 6.64 | 1.59 | 1.51 |
| 2 | AB | 265 | A | C6-N6 | -6.64 | 1.28 | 1.33 |
| 2 | AB | 1251 | C | P-O5' | 6.64 | 1.66 | 1.59 |
| 2 | AB | 1550 | C | C2-N3 | 6.64 | 1.41 | 1.35 |
| 2 | AB | 1850 | G | N7-C5 | -6.64 | 1.35 | 1.39 |
| 2 | AB | 2582 | G | C5-C4 | -6.64 | 1.33 | 1.38 |
| 35 | BA | 389 | A | C8-N7 | -6.64 | 1.26 | 1.31 |
| 35 | BA | 852 | G | N9-C8 | -6.64 | 1.33 | 1.37 |
| 35 | BA | 1163 | A | C2'-C1' | -6.64 | 1.46 | 1.53 |
| 35 | BA | 1367 | C | N3-C4 | 6.64 | 1.38 | 1.33 |
| 2 | AB | 359 | G | N3-C4 | 6.63 | 1.40 | 1.35 |
| 2 | AB | 990 | A | C6-N6 | 6.63 | 1.39 | 1.33 |
| 2 | AB | 2352 | A | P-O5' | 6.63 | 1.66 | 1.59 |
| 2 | AB | 1234 | U | C4-C5 | 6.63 | 1.49 | 1.43 |
| 35 | BA | 105 | G | C5-C6 | 6.63 | 1.49 | 1.42 |
| 35 | BA | 673 | A | N7-C5 | 6.63 | 1.43 | 1.39 |
| 35 | BA | 990 | C | O3'-P | 6.63 | 1.69 | 1.61 |
| 2 | AB | 2633 | G | C5-C4 | 6.63 | 1.43 | 1.38 |
| 2 | AB | 2677 | G | C5-C6 | 6.63 | 1.49 | 1.42 |
| 35 | BA | 61 | G | N3-C4 | 6.63 | 1.40 | 1.35 |
| 2 | AB | 590 | A | N1-C2 | -6.63 | 1.28 | 1.34 |
| 2 | AB | 1250 | G | C8-N7 | -6.63 | 1.26 | 1.30 |
| 2 | AB | 2189 | U | C5-C6 | 6.63 | 1.40 | 1.34 |
| 2 | AB | 2369 | A | C3'-C2' | 6.63 | 1.60 | 1.52 |
| 35 | BA | 349 | A | C5-C4 | 6.63 | 1.43 | 1.38 |
| 2 | AB | 877 | A | C6-N6 | 6.62 | 1.39 | 1.33 |
| 2 | AB | 1373 | A | N3-C4 | 6.62 | 1.38 | 1.34 |
| 2 | AB | 1683 | U | C2-N3 | 6.62 | 1.42 | 1.37 |
| 2 | AB | 1999 | C | C4'-C3' | 6.62 | 1.60 | 1.53 |
| 35 | BA | 610 | U | C5'-C4' | 6.62 | 1.59 | 1.51 |
| 35 | BA | 1055 | A | N3-C4 | 6.62 | 1.38 | 1.34 |
| 1 | AA | 35 | C | C2-N3 | 6.62 | 1.41 | 1.35 |
| 2 | AB | 773 | U | C2-O2 | 6.62 | 1.28 | 1.22 |
| 2 | AB | 1053 | C | C2-N3 | -6.62 | 1.30 | 1.35 |
| 2 | AB | 1381 | G | C5'-C4' | 6.62 | 1.59 | 1.51 |
| 35 | BA | 21 | G | C8-N7 | 6.62 | 1.34 | 1.30 |
| 35 | BA | 204 | G | C6-N1 | 6.62 | 1.44 | 1.39 |
| 35 | BA | 884 | U | C2-O2 | 6.62 | 1.28 | 1.22 |
| 2 | AB | 489 | G | P-O5' | 6.62 | 1.66 | 1.59 |
| 35 | BA | 126 | G | N1-C2 | 6.62 | 1.43 | 1.37 |
| 2 | AB | 225 | C | N3-C4 | 6.62 | 1.38 | 1.33 |
| 2 | AB | 705 | A | N7-C5 | 6.62 | 1.43 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1021 | A | N3-C4 | 6.62 | 1.38 | 1.34 |
| 2 | AB | 2094 | A | N9-C4 | 6.62 | 1.41 | 1.37 |
| 2 | AB | 2107 | G | C4'-C3' | 6.62 | 1.60 | 1.53 |
| 2 | AB | 2122 | U | N1-C2 | 6.62 | 1.44 | 1.38 |
| 2 | AB | 2155 | U | C4-O4 | -6.62 | 1.18 | 1.23 |
| 2 | AB | 2485 | G | N1-C2 | 6.62 | 1.43 | 1.37 |
| 35 | BA | 604 | G | N9-C8 | 6.62 | 1.42 | 1.37 |
| 35 | BA | 760 | G | C6-O6 | -6.62 | 1.18 | 1.24 |
| 35 | BA | 944 | G | C2-N3 | 6.62 | 1.38 | 1.32 |
| 35 | BA | 1318 | A | C5'-C4' | 6.62 | 1.59 | 1.51 |
| 2 | AB | 264 | C | C5-C6 | 6.62 | 1.39 | 1.34 |
| 2 | AB | 2135 | A | N9-C4 | -6.62 | 1.33 | 1.37 |
| 2 | AB | 988 | A | N7-C5 | 6.62 | 1.43 | 1.39 |
| 35 | BA | 987 | G | C6-N1 | 6.62 | 1.44 | 1.39 |
| 1 | AA | 109 | A | C8-N7 | -6.61 | 1.26 | 1.31 |
| 2 | AB | 1772 | A | C5-C4 | -6.61 | 1.34 | 1.38 |
| 35 | BA | 3 | A | N9-C8 | 6.61 | 1.43 | 1.37 |
| 35 | BA | 302 | G | N9-C8 | 6.61 | 1.42 | 1.37 |
| 35 | BA | 609 | A | N3-C4 | 6.61 | 1.38 | 1.34 |
| 35 | BA | 889 | A | N3-C4 | 6.61 | 1.38 | 1.34 |
| 35 | BA | 1116 | U | P-O5' | -6.61 | 1.53 | 1.59 |
| 36 | BB | 18 | A | C8-N7 | -6.61 | 1.26 | 1.31 |
| 2 | AB | 31 | C | C2'-O2' | 6.61 | 1.50 | 1.41 |
| 2 | AB | 455 | C | N1-C6 | -6.61 | 1.33 | 1.37 |
| 2 | AB | 699 | A | N3-C4 | 6.61 | 1.38 | 1.34 |
| 2 | AB | 848 | C | C2'-C1' | -6.61 | 1.46 | 1.53 |
| 2 | AB | 1235 | G | O4'-C1' | 6.61 | 1.50 | 1.41 |
| 2 | AB | 1602 | U | N3-C4 | 6.61 | 1.44 | 1.38 |
| 2 | AB | 2867 | G | N1-C2 | 6.61 | 1.43 | 1.37 |
| 35 | BA | 415 | A | N3-C4 | -6.61 | 1.30 | 1.34 |
| 35 | BA | 998 | C | N3-C4 | 6.61 | 1.38 | 1.33 |
| 35 | BA | 85 | U | N3-C4 | 6.61 | 1.44 | 1.38 |
| 35 | BA | 1496 | C | C4'-O4' | -6.61 | 1.36 | 1.45 |
| 2 | AB | 246 | C | C4'-O4' | -6.61 | 1.36 | 1.45 |
| 2 | AB | 650 | C | N1-C6 | 6.61 | 1.41 | 1.37 |
| 35 | BA | 1028 | C | C4-C5 | 6.61 | 1.48 | 1.43 |
| 35 | BA | 43 | C | C4-C5 | -6.60 | 1.37 | 1.43 |
| 35 | BA | 334 | C | C2-O2 | -6.60 | 1.18 | 1.24 |
| 35 | BA | 348 | G | C4'-C3' | -6.60 | 1.45 | 1.53 |
| 2 | AB | 2280 | G | C4'-C3' | 6.60 | 1.60 | 1.53 |
| 2 | AB | 2844 | G | C5-C4 | -6.60 | 1.33 | 1.38 |
| 35 | BA | 211 | G | N1-C2 | 6.60 | 1.43 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1535 | C | C4'-O4' | -6.60 | 1.36 | 1.45 |
| 2 | AB | 2902 | C | N1-C6 | 6.60 | 1.41 | 1.37 |
| 35 | BA | 96 | U | C4'-O4' | -6.60 | 1.36 | 1.45 |
| 35 | BA | 404 | G | C8-N7 | -6.60 | 1.26 | 1.30 |
| 35 | BA | 412 | A | C8-N7 | -6.60 | 1.26 | 1.31 |
| 2 | AB | 131 | A | C6-N6 | 6.60 | 1.39 | 1.33 |
| 2 | AB | 1408 | G | O3'-P | 6.60 | 1.69 | 1.61 |
| 1 | AA | 60 | C | P-O5' | 6.60 | 1.66 | 1.59 |
| 2 | AB | 589 | U | P-O5' | 6.60 | 1.66 | 1.59 |
| 2 | AB | 899 | A | C8-N7 | -6.60 | 1.26 | 1.31 |
| 2 | AB | 2148 | G | C5'-C4' | 6.60 | 1.59 | 1.51 |
| 35 | BA | 1093 | A | O3'-P | 6.60 | 1.69 | 1.61 |
| 2 | AB | 1262 | A | C5'-C4' | 6.60 | 1.59 | 1.51 |
| 2 | AB | 1781 | U | C2-N3 | 6.60 | 1.42 | 1.37 |
| 2 | AB | 2400 | G | C4'-O4' | -6.60 | 1.36 | 1.45 |
| 37 | BC | 30 | G | C2-N3 | 6.60 | 1.38 | 1.32 |
| 2 | AB | 640 | C | C5-C6 | 6.59 | 1.39 | 1.34 |
| 2 | AB | 1029 | A | N7-C5 | 6.59 | 1.43 | 1.39 |
| 2 | AB | 1113 | U | P-O5' | 6.59 | 1.66 | 1.59 |
| 2 | AB | 1693 | U | O3'-P | 6.59 | 1.69 | 1.61 |
| 2 | AB | 2168 | G | C5'-C4' | 6.59 | 1.59 | 1.51 |
| 2 | AB | 2216 | G | C4'-C3' | -6.59 | 1.45 | 1.53 |
| 2 | AB | 2901 | C | O3'-P | 6.59 | 1.69 | 1.61 |
| 35 | BA | 320 | A | N7-C5 | -6.59 | 1.35 | 1.39 |
| 35 | BA | 654 | G | P-O5' | 6.59 | 1.66 | 1.59 |
| 35 | BA | 917 | G | C2-N3 | 6.59 | 1.38 | 1.32 |
| 36 | BB | 52 | U | N1-C2 | 6.59 | 1.44 | 1.38 |
| 2 | AB | 1237 | A | C6-N6 | 6.59 | 1.39 | 1.33 |
| 2 | AB | 2189 | U | N1-C2 | 6.59 | 1.44 | 1.38 |
| 35 | BA | 483 | C | N1-C6 | 6.59 | 1.41 | 1.37 |
| 2 | AB | 711 | G | P-O5' | 6.59 | 1.66 | 1.59 |
| 2 | AB | 1625 | C | C3'-C2' | 6.59 | 1.60 | 1.52 |
| 2 | AB | 1747 | U | C5'-C4' | 6.59 | 1.59 | 1.51 |
| 2 | AB | 2168 | G | P-O5' | 6.59 | 1.66 | 1.59 |
| 2 | AB | 2525 | G | C4'-O4' | -6.59 | 1.36 | 1.45 |
| 35 | BA | 576 | C | C5-C6 | 6.59 | 1.39 | 1.34 |
| 35 | BA | 964 | A | N7-C5 | -6.59 | 1.35 | 1.39 |
| 37 | BC | 59 | A | N3-C4 | 6.59 | 1.38 | 1.34 |
| 2 | AB | 30 | G | C3'-C2' | 6.59 | 1.60 | 1.52 |
| 2 | AB | 67 | U | C2-N3 | 6.59 | 1.42 | 1.37 |
| 2 | AB | 570 | G | C2-N3 | 6.59 | 1.38 | 1.32 |
| 2 | AB | 1133 | A | N3-C4 | 6.59 | 1.38 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2666 | C | C2-N3 | 6.59 | 1.41 | 1.35 |
| 35 | BA | 197 | A | N3-C4 | 6.59 | 1.38 | 1.34 |
| 35 | BA | 280 | C | C5'-C4' | 6.59 | 1.59 | 1.51 |
| 35 | BA | 1288 | A | N3-C4 | 6.59 | 1.38 | 1.34 |
| 2 | AB | 1922 | G | C6-O6 | -6.59 | 1.18 | 1.24 |
| 2 | AB | 2072 | C | C4'-C3' | 6.59 | 1.60 | 1.53 |
| 2 | AB | 2758 | A | N3-C4 | 6.59 | 1.38 | 1.34 |
| 2 | AB | 2855 | C | C2-N3 | 6.59 | 1.41 | 1.35 |
| 35 | BA | 236 | A | C5'-C4' | 6.59 | 1.59 | 1.51 |
| 35 | BA | 1497 | G | C8-N7 | 6.59 | 1.34 | 1.30 |
| 2 | AB | 661 | A | O3'-P | 6.59 | 1.69 | 1.61 |
| 2 | AB | 932 | U | C3'-C2' | 6.59 | 1.60 | 1.52 |
| 2 | AB | 989 | G | C2'-C1' | -6.59 | 1.46 | 1.53 |
| 2 | AB | 1429 | G | C5-C4 | 6.59 | 1.43 | 1.38 |
| 2 | AB | 1919 | A | C6-N6 | 6.59 | 1.39 | 1.33 |
| 2 | AB | 2741 | A | N9-C4 | 6.59 | 1.41 | 1.37 |
| 2 | AB | 2768 | U | C2-N3 | 6.59 | 1.42 | 1.37 |
| 35 | BA | 358 | U | O4'-C1' | 6.59 | 1.50 | 1.41 |
| 37 | BC | 30 | G | C4'-O4' | -6.59 | 1.36 | 1.45 |
| 2 | AB | 1343 | G | C5-C4 | -6.58 | 1.33 | 1.38 |
| 2 | AB | 1687 | G | C8-N7 | -6.58 | 1.26 | 1.30 |
| 2 | AB | 2366 | A | N7-C5 | -6.58 | 1.35 | 1.39 |
| 35 | BA | 1470 | U | C2-N3 | 6.58 | 1.42 | 1.37 |
| 36 | BB | 57 | C | P-O5' | 6.58 | 1.66 | 1.59 |
| 2 | AB | 278 | A | P-O5' | 6.58 | 1.66 | 1.59 |
| 2 | AB | 373 | U | N1-C2 | 6.58 | 1.44 | 1.38 |
| 2 | AB | 1162 | G | C8-N7 | 6.58 | 1.34 | 1.30 |
| 35 | BA | 64 | G | P-O5' | 6.58 | 1.66 | 1.59 |
| 35 | BA | 727 | G | N3-C4 | -6.58 | 1.30 | 1.35 |
| 35 | BA | 1370 | G | C8-N7 | 6.58 | 1.34 | 1.30 |
| 2 | AB | 1577 | C | C2-N3 | 6.58 | 1.41 | 1.35 |
| 2 | AB | 1684 | G | C5-C6 | 6.58 | 1.49 | 1.42 |
| 2 | AB | 1934 | C | P-O5' | 6.58 | 1.66 | 1.59 |
| 35 | BA | 1539 | C | N1-C6 | 6.58 | 1.41 | 1.37 |
| 2 | AB | 929 | U | C4-C5 | 6.58 | 1.49 | 1.43 |
| 2 | AB | 1443 | U | N1-C2 | 6.58 | 1.44 | 1.38 |
| 2 | AB | 1585 | C | N3-C4 | 6.58 | 1.38 | 1.33 |
| 2 | AB | 1693 | U | C4'-O4' | -6.58 | 1.36 | 1.45 |
| 2 | AB | 2647 | U | C2-N3 | -6.58 | 1.33 | 1.37 |
| 2 | AB | 2687 | U | N1-C2 | 6.58 | 1.44 | 1.38 |
| 35 | BA | 203 | G | C2-N3 | 6.58 | 1.38 | 1.32 |
| 2 | AB | 1349 | C | P-O5' | 6.58 | 1.66 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1644 | C | C3'-C2' | 6.58 | 1.60 | 1.52 |
| 2 | AB | 2482 | A | C8-N7 | -6.58 | 1.26 | 1.31 |
| 35 | BA | 562 | U | O3'-P | 6.58 | 1.69 | 1.61 |
| 35 | BA | 1010 | U | O3'-P | 6.58 | 1.69 | 1.61 |
| 2 | AB | 2712 | C | C5-C6 | 6.58 | 1.39 | 1.34 |
| 35 | BA | 22 | G | N7-C5 | 6.58 | 1.43 | 1.39 |
| 35 | BA | 362 | G | N3-C4 | 6.58 | 1.40 | 1.35 |
| 35 | BA | 1048 | G | P-O5' | 6.58 | 1.66 | 1.59 |
| 2 | AB | 503 | A | C2'-C1' | 6.57 | 1.60 | 1.53 |
| 2 | AB | 991 | C | C5-C6 | 6.57 | 1.39 | 1.34 |
| 2 | AB | 1433 | A | P-O5' | 6.57 | 1.66 | 1.59 |
| 35 | BA | 559 | A | C6-N1 | 6.57 | 1.40 | 1.35 |
| 35 | BA | 1141 | C | C2-N3 | 6.57 | 1.41 | 1.35 |
| 35 | BA | 1143 | G | P-O5' | 6.57 | 1.66 | 1.59 |
| 2 | AB | 829 | A | C8-N7 | -6.57 | 1.26 | 1.31 |
| 2 | AB | 1890 | A | N7-C5 | 6.57 | 1.43 | 1.39 |
| 35 | BA | 764 | C | C4'-C3' | -6.57 | 1.46 | 1.53 |
| 2 | AB | 636 | G | P-O5' | 6.57 | 1.66 | 1.59 |
| 2 | AB | 664 | G | C8-N7 | 6.57 | 1.34 | 1.30 |
| 2 | AB | 1689 | A | C6-N1 | -6.57 | 1.30 | 1.35 |
| 2 | AB | 2035 | G | C5-C4 | -6.57 | 1.33 | 1.38 |
| 2 | AB | 2844 | G | N7-C5 | 6.57 | 1.43 | 1.39 |
| 37 | BC | 64 | G | C8-N7 | -6.57 | 1.27 | 1.30 |
| 39 | BE | 209 | GLY | CA-C | 6.57 | 1.62 | 1.51 |
| 35 | BA | 550 | G | C4'-C3' | -6.57 | 1.46 | 1.53 |
| 35 | BA | 1071 | C | C4-C5 | 6.57 | 1.48 | 1.43 |
| 35 | BA | 1204 | A | C4'-C3' | 6.57 | 1.60 | 1.53 |
| 2 | AB | 406 | G | C8-N7 | -6.57 | 1.27 | 1.30 |
| 2 | AB | 626 | A | C6-N1 | 6.57 | 1.40 | 1.35 |
| 2 | AB | 1138 | G | N7-C5 | 6.57 | 1.43 | 1.39 |
| 2 | AB | 1200 | C | C5-C6 | 6.57 | 1.39 | 1.34 |
| 2 | AB | 2393 | U | C4-O4 | -6.57 | 1.18 | 1.23 |
| 2 | AB | 2492 | U | N1-C2 | 6.57 | 1.44 | 1.38 |
| 2 | AB | 632 | A | N1-C2 | -6.57 | 1.28 | 1.34 |
| 2 | AB | 1728 | C | C3'-C2' | 6.57 | 1.60 | 1.52 |
| 2 | AB | 2655 | G | N3-C4 | 6.57 | 1.40 | 1.35 |
| 2 | AB | 194 | G | N7-C5 | -6.56 | 1.35 | 1.39 |
| 2 | AB | 810 | U | P-O5' | 6.56 | 1.66 | 1.59 |
| 2 | AB | 2641 | G | P-O5' | 6.56 | 1.66 | 1.59 |
| 35 | BA | 379 | C | C5'-C4' | 6.56 | 1.59 | 1.51 |
| 35 | BA | 435 | A | C5-C4 | -6.56 | 1.34 | 1.38 |
| 2 | AB | 206 | U | C3'-C2' | -6.56 | 1.45 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2635 | A | P-O5' | 6.56 | 1.66 | 1.59 |
| 35 | BA | 575 | G | C2-N3 | 6.56 | 1.38 | 1.32 |
| 35 | BA | 588 | G | N9-C4 | -6.56 | 1.32 | 1.38 |
| 35 | BA | 1107 | C | C2'-O2' | -6.56 | 1.33 | 1.41 |
| 35 | BA | 1031 | C | C3'-C2' | 6.56 | 1.60 | 1.52 |
| 35 | BA | 1203 | C | C4'-O4' | -6.56 | 1.37 | 1.45 |
| 2 | AB | 561 | G | O3'-P | 6.56 | 1.69 | 1.61 |
| 2 | AB | 1321 | A | N7-C5 | 6.56 | 1.43 | 1.39 |
| 2 | AB | 1434 | A | C5-C4 | -6.56 | 1.34 | 1.38 |
| 2 | AB | 1957 | C | C4-N4 | 6.56 | 1.39 | 1.33 |
| 2 | AB | 2062 | A | P-O5' | -6.56 | 1.53 | 1.59 |
| 2 | AB | 2266 | A | N3-C4 | 6.56 | 1.38 | 1.34 |
| 2 | AB | 2616 | C | N1-C2 | 6.56 | 1.46 | 1.40 |
| 2 | AB | 2693 | G | C2-N3 | 6.56 | 1.38 | 1.32 |
| 35 | BA | 717 | U | P-O5' | 6.56 | 1.66 | 1.59 |
| 1 | AA | 61 | G | O3'-P | 6.56 | 1.69 | 1.61 |
| 2 | AB | 2899 | A | N9-C4 | 6.56 | 1.41 | 1.37 |
| 35 | BA | 781 | A | C4'-O4' | -6.56 | 1.37 | 1.45 |
| 35 | BA | 889 | A | C4'-O4' | -6.56 | 1.37 | 1.45 |
| 2 | AB | 115 | C | O3'-P | 6.55 | 1.69 | 1.61 |
| 35 | BA | 884 | U | C3'-C2' | 6.55 | 1.60 | 1.52 |
| 36 | BB | 58 | C | N3-C4 | 6.55 | 1.38 | 1.33 |
| 2 | AB | 318 | C | N3-C4 | 6.55 | 1.38 | 1.33 |
| 2 | AB | 1129 | A | C5'-C4' | 6.55 | 1.59 | 1.51 |
| 2 | AB | 2843 | G | P-O5' | 6.55 | 1.66 | 1.59 |
| 2 | AB | 2266 | A | N9-C4 | -6.55 | 1.33 | 1.37 |
| 2 | AB | 2612 | C | P-O5' | 6.55 | 1.66 | 1.59 |
| 35 | BA | 473 | U | C2-N3 | 6.55 | 1.42 | 1.37 |
| 35 | BA | 761 | G | C6-N1 | 6.55 | 1.44 | 1.39 |
| 35 | BA | 775 | G | N9-C4 | 6.55 | 1.43 | 1.38 |
| 35 | BA | 858 | G | C6-O6 | -6.55 | 1.18 | 1.24 |
| 35 | BA | 1442 | G | P-O5' | 6.55 | 1.66 | 1.59 |
| 2 | AB | 54 | G | N1-C2 | 6.55 | 1.43 | 1.37 |
| 2 | AB | 1165 | A | N3-C4 | 6.55 | 1.38 | 1.34 |
| 2 | AB | 1218 | G | C2-N2 | 6.55 | 1.41 | 1.34 |
| 2 | AB | 2270 | A | C5'-C4' | 6.55 | 1.59 | 1.51 |
| 2 | AB | 2304 | G | N9-C4 | 6.55 | 1.43 | 1.38 |
| 35 | BA | 73 | C | O3'-P | 6.55 | 1.69 | 1.61 |
| 35 | BA | 83 | C | P-O5' | 6.55 | 1.66 | 1.59 |
| 35 | BA | 179 | A | N9-C8 | -6.55 | 1.32 | 1.37 |
| 35 | BA | 952 | U | C5-C6 | 6.55 | 1.40 | 1.34 |
| 35 | BA | 1151 | A | C5-C4 | -6.55 | 1.34 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 953 | G | C6-N1 | 6.55 | 1.44 | 1.39 |
| 2 | AB | 1847 | A | N3-C4 | 6.55 | 1.38 | 1.34 |
| 2 | AB | 2286 | G | C4'-O4' | -6.55 | 1.37 | 1.45 |
| 37 | BC | 33 | OMC | O3'-P | -6.55 | 1.53 | 1.61 |
| 2 | AB | 124 | G | C4'-C3' | -6.54 | 1.46 | 1.53 |
| 2 | AB | 1673 | G | P-O5' | 6.54 | 1.66 | 1.59 |
| 2 | AB | 2219 | U | C4-O4 | 6.54 | 1.28 | 1.23 |
| 8 | AH | 82 | PHE | CG-CD2 | 6.54 | 1.48 | 1.38 |
| 35 | BA | 10 | A | N9-C4 | -6.54 | 1.33 | 1.37 |
| 2 | AB | 1681 | G | N1-C2 | 6.54 | 1.43 | 1.37 |
| 2 | AB | 1812 | U | N1-C2 | 6.54 | 1.44 | 1.38 |
| 36 | BB | 15 | G | C6-O6 | -6.54 | 1.18 | 1.24 |
| 2 | AB | 265 | A | C2'-C1' | 6.54 | 1.60 | 1.53 |
| 2 | AB | 842 | U | C4'-O4' | -6.54 | 1.37 | 1.45 |
| 2 | AB | 1053 | C | C4-N4 | -6.54 | 1.28 | 1.33 |
| 2 | AB | 1327 | A | C8-N7 | -6.54 | 1.26 | 1.31 |
| 2 | AB | 1855 | U | C4'-O4' | -6.54 | 1.37 | 1.45 |
| 2 | AB | 2308 | G | C2-N3 | 6.54 | 1.38 | 1.32 |
| 2 | AB | 2379 | G | C8-N7 | -6.54 | 1.27 | 1.30 |
| 2 | AB | 2869 | G | N9-C8 | 6.54 | 1.42 | 1.37 |
| 35 | BA | 737 | C | N3-C4 | 6.54 | 1.38 | 1.33 |
| 35 | BA | 864 | A | C8-N7 | -6.54 | 1.26 | 1.31 |
| 2 | AB | 327 | G | C2'-C1' | -6.54 | 1.46 | 1.53 |
| 2 | AB | 405 | U | C2-N3 | 6.54 | 1.42 | 1.37 |
| 2 | AB | 979 | A | N3-C4 | 6.54 | 1.38 | 1.34 |
| 2 | AB | 983 | A | C5-C6 | 6.54 | 1.47 | 1.41 |
| 2 | AB | 1625 | C | N1-C2 | 6.54 | 1.46 | 1.40 |
| 2 | AB | 1763 | G | C5'-C4' | 6.54 | 1.59 | 1.51 |
| 35 | BA | 383 | A | N3-C4 | 6.54 | 1.38 | 1.34 |
| 35 | BA | 898 | G | C6-N1 | 6.54 | 1.44 | 1.39 |
| 35 | BA | 1169 | A | C5-C6 | 6.54 | 1.47 | 1.41 |
| 2 | AB | 994 | C | C4-C5 | 6.54 | 1.48 | 1.43 |
| 2 | AB | 1771 | C | N1-C2 | 6.54 | 1.46 | 1.40 |
| 2 | AB | 2404 | U | P-O5' | 6.54 | 1.66 | 1.59 |
| 35 | BA | 598 | U | O4'-C1' | 6.54 | 1.50 | 1.41 |
| 35 | BA | 1530 | G | C6-N1 | -6.54 | 1.34 | 1.39 |
| 2 | AB | 1977 | A | N7-C5 | 6.53 | 1.43 | 1.39 |
| 35 | BA | 32 | A | O3'-P | 6.53 | 1.69 | 1.61 |
| 35 | BA | 364 | A | N9-C4 | -6.53 | 1.33 | 1.37 |
| 2 | AB | 123 | G | C6-O6 | -6.53 | 1.18 | 1.24 |
| 2 | AB | 411 | G | C3'-C2' | 6.53 | 1.60 | 1.52 |
| 2 | AB | 468 | G | P-O5' | 6.53 | 1.66 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1456 | G | C2'-O2' | 6.53 | 1.50 | 1.41 |
| 35 | BA | 483 | C | C2-N3 | 6.53 | 1.41 | 1.35 |
| 35 | BA | 1091 | U | C4'-O4' | -6.53 | 1.37 | 1.45 |
| 37 | BC | 6 | G | C5'-C4' | 6.53 | 1.59 | 1.51 |
| 37 | BC | 50 | G | C8-N7 | -6.53 | 1.27 | 1.30 |
| 2 | AB | 1645 | G | C5-C6 | 6.53 | 1.48 | 1.42 |
| 35 | BA | 627 | G | O4'-C1' | 6.53 | 1.50 | 1.41 |
| 2 | AB | 674 | G | C4'-O4' | -6.53 | 1.37 | 1.45 |
| 2 | AB | 1794 | A | C8-N7 | -6.53 | 1.26 | 1.31 |
| 2 | AB | 2409 | G | N9-C4 | -6.53 | 1.32 | 1.38 |
| 35 | BA | 412 | A | C4'-C3' | 6.53 | 1.60 | 1.53 |
| 35 | BA | 446 | G | N1-C2 | 6.53 | 1.43 | 1.37 |
| 35 | BA | 769 | G | N9-C4 | -6.53 | 1.32 | 1.38 |
| 35 | BA | 799 | G | C5-C4 | 6.53 | 1.43 | 1.38 |
| 35 | BA | 1286 | U | C5-C6 | 6.53 | 1.40 | 1.34 |
| 2 | AB | 1263 | U | C2-N3 | 6.53 | 1.42 | 1.37 |
| 2 | AB | 2726 | A | N9-C4 | 6.53 | 1.41 | 1.37 |
| 2 | AB | 2775 | G | C2-N3 | 6.53 | 1.38 | 1.32 |
| 35 | BA | 1198 | G | C5'-C4' | 6.53 | 1.59 | 1.51 |
| 35 | BA | 1219 | A | C6-N1 | -6.53 | 1.30 | 1.35 |
| 35 | BA | 1320 | C | C5-C6 | 6.53 | 1.39 | 1.34 |
| 2 | AB | 31 | C | C4'-O4' | -6.52 | 1.37 | 1.45 |
| 35 | BA | 437 | U | N1-C2 | 6.52 | 1.44 | 1.38 |
| 2 | AB | 2 | G | N3-C4 | 6.52 | 1.40 | 1.35 |
| 2 | AB | 156 | A | O3'-P | 6.52 | 1.69 | 1.61 |
| 2 | AB | 396 | G | N7-C5 | 6.52 | 1.43 | 1.39 |
| 2 | AB | 422 | A | C3'-C2' | 6.52 | 1.60 | 1.52 |
| 2 | AB | 1930 | G | C6-O6 | -6.52 | 1.18 | 1.24 |
| 35 | BA | 1226 | C | C2-O2 | -6.52 | 1.18 | 1.24 |
| 35 | BA | 1526 | G | N3-C4 | 6.52 | 1.40 | 1.35 |
| 2 | AB | 2569 | G | C6-N1 | 6.52 | 1.44 | 1.39 |
| 35 | BA | 1397 | C | N3-C4 | 6.52 | 1.38 | 1.33 |
| 2 | AB | 615 | U | C5-C6 | 6.52 | 1.40 | 1.34 |
| 2 | AB | 1524 | G | P-O5' | 6.52 | 1.66 | 1.59 |
| 2 | AB | 2213 | U | C2'-C1' | 6.52 | 1.60 | 1.53 |
| 2 | AB | 2843 | G | N9-C8 | 6.52 | 1.42 | 1.37 |
| 2 | AB | 196 | A | C4'-O4' | -6.52 | 1.37 | 1.45 |
| 2 | AB | 351 | C | C2'-C1' | 6.52 | 1.60 | 1.53 |
| 2 | AB | 404 | A | C6-N6 | -6.52 | 1.28 | 1.33 |
| 2 | AB | 2010 | G | C6-N1 | 6.52 | 1.44 | 1.39 |
| 2 | AB | 2879 | A | N3-C4 | 6.52 | 1.38 | 1.34 |
| 35 | BA | 934 | C | C5'-C4' | 6.52 | 1.59 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2477 | U | C2-N3 | 6.52 | 1.42 | 1.37 |
| 35 | BA | 1332 | A | N1-C2 | 6.52 | 1.40 | 1.34 |
| 35 | BA | 1333 | A | N9-C4 | -6.52 | 1.33 | 1.37 |
| 2 | AB | 502 | A | N9-C4 | -6.51 | 1.33 | 1.37 |
| 2 | AB | 716 | A | N7-C5 | -6.51 | 1.35 | 1.39 |
| 2 | AB | 1142 | A | N3-C4 | 6.51 | 1.38 | 1.34 |
| 2 | AB | 1279 | G | C8-N7 | -6.51 | 1.27 | 1.30 |
| 2 | AB | 2312 | U | C5'-C4' | 6.51 | 1.59 | 1.51 |
| 35 | BA | 60 | A | N3-C4 | 6.51 | 1.38 | 1.34 |
| 35 | BA | 161 | A | N9-C8 | -6.51 | 1.32 | 1.37 |
| 35 | BA | 174 | A | N3-C4 | 6.51 | 1.38 | 1.34 |
| 35 | BA | 755 | G | N1-C2 | 6.51 | 1.43 | 1.37 |
| 2 | AB | 984 | A | N3-C4 | 6.51 | 1.38 | 1.34 |
| 2 | AB | 1717 | A | P-O5' | 6.51 | 1.66 | 1.59 |
| 2 | AB | 2295 | C | N1-C2 | 6.51 | 1.46 | 1.40 |
| 1 | AA | 94 | A | N9-C4 | -6.51 | 1.33 | 1.37 |
| 2 | AB | 602 | A | C3'-C2' | 6.51 | 1.60 | 1.52 |
| 37 | BC | 43 | G | C8-N7 | 6.51 | 1.34 | 1.30 |
| 2 | AB | 715 | A | N7-C5 | 6.51 | 1.43 | 1.39 |
| 2 | AB | 1600 | C | C4-C5 | 6.51 | 1.48 | 1.43 |
| 2 | AB | 1838 | C | C4-N4 | 6.51 | 1.39 | 1.33 |
| 2 | AB | 2322 | A | N9-C4 | -6.51 | 1.33 | 1.37 |
| 2 | AB | 2762 | C | P-O5' | 6.51 | 1.66 | 1.59 |
| 35 | BA | 45 | G | N9-C4 | -6.51 | 1.32 | 1.38 |
| 35 | BA | 220 | G | C6-N1 | 6.51 | 1.44 | 1.39 |
| 35 | BA | 1009 | U | C4-C5 | 6.51 | 1.49 | 1.43 |
| 35 | BA | 1345 | U | N1-C2 | 6.51 | 1.44 | 1.38 |
| 2 | AB | 1224 | U | C4-C5 | 6.51 | 1.49 | 1.43 |
| 2 | AB | 1365 | A | N9-C4 | 6.51 | 1.41 | 1.37 |
| 35 | BA | 318 | G | O4'-C1' | 6.51 | 1.50 | 1.41 |
| 35 | BA | 1083 | U | C4'-O4' | -6.51 | 1.37 | 1.45 |
| 2 | AB | 1142 | A | C4'-O4' | -6.51 | 1.37 | 1.45 |
| 2 | AB | 1158 | C | C4'-C3' | 6.51 | 1.60 | 1.53 |
| 2 | AB | 1416 | G | O3'-P | 6.51 | 1.69 | 1.61 |
| 2 | AB | 2307 | G | N7-C5 | -6.51 | 1.35 | 1.39 |
| 2 | AB | 2490 | G | C2-N3 | 6.51 | 1.38 | 1.32 |
| 2 | AB | 2499 | C | P-O5' | 6.51 | 1.66 | 1.59 |
| 2 | AB | 2617 | U | P-O5' | -6.51 | 1.53 | 1.59 |
| 35 | BA | 724 | G | O4'-C1' | -6.51 | 1.33 | 1.41 |
| 35 | BA | 842 | U | C5'-C4' | 6.51 | 1.59 | 1.51 |
| 35 | BA | 1234 | C | C5-C6 | -6.51 | 1.29 | 1.34 |
| 37 | BC | 46 | G | C2-N2 | 6.51 | 1.41 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2008 | C | P-O5' | -6.50 | 1.53 | 1.59 |
| 1 | AA | 111 | U | C4-O4 | 6.50 | 1.28 | 1.23 |
| 2 | AB | 210 | C | N3-C4 | -6.50 | 1.29 | 1.33 |
| 2 | AB | 265 | A | N3-C4 | 6.50 | 1.38 | 1.34 |
| 2 | AB | 352 | A | C6-N1 | 6.50 | 1.40 | 1.35 |
| 2 | AB | 460 | A | C8-N7 | -6.50 | 1.26 | 1.31 |
| 35 | BA | 628 | G | C2-N3 | 6.50 | 1.38 | 1.32 |
| 35 | BA | 859 | G | P-O5' | 6.50 | 1.66 | 1.59 |
| 35 | BA | 963 | G | C6-N1 | 6.50 | 1.44 | 1.39 |
| 35 | BA | 1390 | U | O3'-P | 6.50 | 1.69 | 1.61 |
| 1 | AA | 62 | C | C5'-C4' | 6.50 | 1.59 | 1.51 |
| 2 | AB | 248 | G | P-O5' | 6.50 | 1.66 | 1.59 |
| 2 | AB | 609 | A | N1-C2 | 6.50 | 1.40 | 1.34 |
| 2 | AB | 1518 | C | C5'-C4' | 6.50 | 1.59 | 1.51 |
| 2 | AB | 2011 | U | C5'-C4' | 6.50 | 1.59 | 1.51 |
| 35 | BA | 344 | A | C6-N6 | 6.50 | 1.39 | 1.33 |
| 35 | BA | 1400 | C | C5'-C4' | 6.50 | 1.59 | 1.51 |
| 2 | AB | 30 | G | C8-N7 | 6.50 | 1.34 | 1.30 |
| 2 | AB | 2782 | G | N1-C2 | 6.50 | 1.43 | 1.37 |
| 2 | AB | 1584 | U | C2-O2 | 6.50 | 1.28 | 1.22 |
| 2 | AB | 1610 | A | C6-N1 | 6.50 | 1.40 | 1.35 |
| 2 | AB | 1881 | C | C5'-C4' | 6.50 | 1.59 | 1.51 |
| 2 | AB | 2166 | U | P-O5' | 6.50 | 1.66 | 1.59 |
| 2 | AB | 96 | C | P-O5' | 6.50 | 1.66 | 1.59 |
| 2 | AB | 242 | G | O5'-C5' | -6.50 | 1.32 | 1.42 |
| 2 | AB | 867 | C | N1-C6 | 6.50 | 1.41 | 1.37 |
| 2 | AB | 1083 | U | C2'-C1' | -6.50 | 1.46 | 1.53 |
| 2 | AB | 1596 | A | C5-C6 | 6.50 | 1.46 | 1.41 |
| 2 | AB | 2546 | U | P-O5' | 6.50 | 1.66 | 1.59 |
| 35 | BA | 630 | A | C8-N7 | 6.50 | 1.36 | 1.31 |
| 35 | BA | 1110 | A | N9-C4 | 6.50 | 1.41 | 1.37 |
| 35 | BA | 1158 | C | N1-C2 | 6.50 | 1.46 | 1.40 |
| 35 | BA | 1326 | U | O3'-P | 6.50 | 1.69 | 1.61 |
| 2 | AB | 741 | U | C3'-C2' | 6.50 | 1.60 | 1.52 |
| 35 | BA | 522 | C | N3-C4 | 6.50 | 1.38 | 1.33 |
| 35 | BA | 610 | U | C4'-O4' | -6.50 | 1.37 | 1.45 |
| 2 | AB | 1155 | A | O3'-P | 6.49 | 1.69 | 1.61 |
| 35 | BA | 171 | A | N3-C4 | 6.49 | 1.38 | 1.34 |
| 37 | BC | 38 | A | N3-C4 | 6.49 | 1.38 | 1.34 |
| 2 | AB | 1631 | G | C2-N3 | 6.49 | 1.38 | 1.32 |
| 2 | AB | 2473 | U | C4-O4 | -6.49 | 1.18 | 1.23 |
| 2 | AB | 2554 | U | C4'-O4' | -6.49 | 1.37 | 1.45 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 37 | BC | 51 | U | C5'-C4' | 6.49 | 1.59 | 1.51 |
| 2 | AB | 2243 | U | O3'-P | 6.49 | 1.69 | 1.61 |
| 35 | BA | 40 | C | C4'-C3' | -6.49 | 1.46 | 1.53 |
| 35 | BA | 424 | G | C8-N7 | -6.49 | 1.27 | 1.30 |
| 35 | BA | 754 | C | C3'-C2' | 6.49 | 1.60 | 1.52 |
| 35 | BA | 840 | C | N3-C4 | 6.49 | 1.38 | 1.33 |
| 35 | BA | 991 | U | C4-O4 | -6.49 | 1.18 | 1.23 |
| 39 | BE | 41 | TYR | CG-CD1 | 6.49 | 1.47 | 1.39 |
| 2 | AB | 309 | A | C2-N3 | -6.49 | 1.27 | 1.33 |
| 2 | AB | 849 | A | C5-C4 | 6.49 | 1.43 | 1.38 |
| 2 | AB | 1074 | G | C4'-O4' | -6.49 | 1.37 | 1.45 |
| 2 | AB | 1090 | A | N9-C8 | -6.49 | 1.32 | 1.37 |
| 2 | AB | 1992 | G | C2'-C1' | 6.49 | 1.60 | 1.53 |
| 35 | BA | 281 | G | N9-C8 | -6.49 | 1.33 | 1.37 |
| 35 | BA | 327 | A | N3-C4 | 6.49 | 1.38 | 1.34 |
| 35 | BA | 1036 | A | N9-C8 | -6.49 | 1.32 | 1.37 |
| 1 | AA | 83 | G | C3'-C2' | 6.49 | 1.60 | 1.52 |
| 2 | AB | 1452 | G | C2-N3 | 6.49 | 1.38 | 1.32 |
| 35 | BA | 1166 | G | C8-N7 | -6.49 | 1.27 | 1.30 |
| 2 | AB | 315 | G | N9-C8 | -6.49 | 1.33 | 1.37 |
| 2 | AB | 736 | C | N3-C4 | 6.49 | 1.38 | 1.33 |
| 2 | AB | 777 | G | C2-N3 | 6.49 | 1.38 | 1.32 |
| 2 | AB | 1357 | C | C4-C5 | 6.49 | 1.48 | 1.43 |
| 35 | BA | 181 | A | C6-N1 | 6.49 | 1.40 | 1.35 |
| 2 | AB | 1257 | C | C5-C6 | 6.48 | 1.39 | 1.34 |
| 2 | AB | 2596 | U | C2'-O2' | -6.48 | 1.33 | 1.41 |
| 2 | AB | 529 | A | C4'-O4' | -6.48 | 1.37 | 1.45 |
| 2 | AB | 1004 | U | C2-N3 | 6.48 | 1.42 | 1.37 |
| 2 | AB | 1838 | C | P-O5' | 6.48 | 1.66 | 1.59 |
| 35 | BA | 119 | A | C2'-C1' | 6.48 | 1.60 | 1.53 |
| 35 | BA | 337 | G | C5-C4 | -6.48 | 1.33 | 1.38 |
| 35 | BA | 1237 | C | C2-N3 | 6.48 | 1.41 | 1.35 |
| 37 | BC | 30 | G | P-O5' | 6.48 | 1.66 | 1.59 |
| 2 | AB | 56 | A | P-O5' | 6.48 | 1.66 | 1.59 |
| 2 | AB | 603 | A | P-O5' | 6.48 | 1.66 | 1.59 |
| 2 | AB | 1157 | G | C2-N3 | 6.48 | 1.38 | 1.32 |
| 35 | BA | 418 | C | C2-N3 | 6.48 | 1.41 | 1.35 |
| 35 | BA | 989 | U | C2'-C1' | 6.48 | 1.60 | 1.53 |
| 36 | BB | 37 | G | C2-N3 | 6.48 | 1.38 | 1.32 |
| 2 | AB | 502 | A | C2'-C1' | 6.48 | 1.60 | 1.53 |
| 2 | AB | 2839 | G | C6-O6 | -6.48 | 1.18 | 1.24 |
| 2 | AB | 1520 | U | P-O5' | 6.48 | 1.66 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1565 | C | N1-C6 | -6.48 | 1.33 | 1.37 |
| 35 | BA | 450 | G | C4'-O4' | -6.48 | 1.37 | 1.45 |
| 1 | AA | 112 | G | C5-C4 | -6.48 | 1.33 | 1.38 |
| 35 | BA | 151 | A | N3-C4 | 6.48 | 1.38 | 1.34 |
| 2 | AB | 1171 | G | N9-C4 | 6.47 | 1.43 | 1.38 |
| 2 | AB | 1629 | U | P-O5' | -6.47 | 1.53 | 1.59 |
| 2 | AB | 2024 | G | C6-N1 | 6.47 | 1.44 | 1.39 |
| 35 | BA | 15 | G | N9-C8 | 6.47 | 1.42 | 1.37 |
| 35 | BA | 100 | G | C6-N1 | -6.47 | 1.35 | 1.39 |
| 35 | BA | 674 | G | C2-N3 | 6.47 | 1.38 | 1.32 |
| 41 | BG | 156 | ARG | NE-CZ | 6.47 | 1.41 | 1.33 |
| 1 | AA | 87 | U | N1-C2 | 6.47 | 1.44 | 1.38 |
| 2 | AB | 2 | G | O4'-C1' | 6.47 | 1.50 | 1.41 |
| 2 | AB | 408 | G | C5'-C4' | 6.47 | 1.59 | 1.51 |
| 2 | AB | 503 | A | C4'-C3' | 6.47 | 1.60 | 1.53 |
| 2 | AB | 643 | A | C8-N7 | -6.47 | 1.27 | 1.31 |
| 2 | AB | 2702 | G | N7-C5 | -6.47 | 1.35 | 1.39 |
| 2 | AB | 2844 | G | N3-C4 | 6.47 | 1.40 | 1.35 |
| 35 | BA | 367 | U | C5'-C4' | 6.47 | 1.59 | 1.51 |
| 1 | AA | 45 | A | N3-C4 | 6.47 | 1.38 | 1.34 |
| 2 | AB | 107 | G | C2'-C1' | 6.47 | 1.60 | 1.53 |
| 2 | AB | 421 | C | N1-C6 | 6.47 | 1.41 | 1.37 |
| 2 | AB | 1390 | U | C2-N3 | 6.47 | 1.42 | 1.37 |
| 35 | BA | 2 | A | C8-N7 | -6.47 | 1.27 | 1.31 |
| 35 | BA | 474 | G | C3'-C2' | 6.47 | 1.60 | 1.52 |
| 35 | BA | 828 | U | O3'-P | 6.47 | 1.69 | 1.61 |
| 35 | BA | 1241 | G | C6-N1 | -6.47 | 1.35 | 1.39 |
| 2 | AB | 1678 | A | O3'-P | -6.47 | 1.53 | 1.61 |
| 2 | AB | 2410 | G | C6-N1 | -6.47 | 1.35 | 1.39 |
| 35 | BA | 350 | G | C2-N2 | -6.47 | 1.28 | 1.34 |
| 35 | BA | 1031 | C | C4'-C3' | 6.47 | 1.60 | 1.53 |
| 35 | BA | 1236 | A | C6-N1 | -6.47 | 1.31 | 1.35 |
| 2 | AB | 1952 | A | C6-N6 | 6.47 | 1.39 | 1.33 |
| 2 | AB | 2260 | C | C5'-C4' | 6.47 | 1.59 | 1.51 |
| 35 | BA | 402 | G | N7-C5 | -6.47 | 1.35 | 1.39 |
| 35 | BA | 790 | A | O3'-P | 6.47 | 1.69 | 1.61 |
| 36 | BB | 48 | C | O3'-P | 6.47 | 1.69 | 1.61 |
| 2 | AB | 118 | A | N7-C5 | 6.47 | 1.43 | 1.39 |
| 2 | AB | 996 | A | C2'-C1' | 6.47 | 1.60 | 1.53 |
| 2 | AB | 1217 | U | C4-O4 | -6.47 | 1.18 | 1.23 |
| 2 | AB | 1724 | G | N1-C2 | 6.47 | 1.43 | 1.37 |
| 2 | AB | 428 | A | C3'-C2' | 6.46 | 1.60 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 762 | U | C3'-C2' | 6.46 | 1.60 | 1.52 |
| 2 | AB | 1299 | G | C5-C4 | -6.46 | 1.33 | 1.38 |
| 2 | AB | 1496 | A | N7-C5 | -6.46 | 1.35 | 1.39 |
| 2 | AB | 1995 | U | N1-C2 | 6.46 | 1.44 | 1.38 |
| 2 | AB | 2298 | A | C6-N6 | 6.46 | 1.39 | 1.33 |
| 2 | AB | 2632 | A | C2-N3 | 6.46 | 1.39 | 1.33 |
| 2 | AB | 2871 | U | C5-C6 | 6.46 | 1.40 | 1.34 |
| 35 | BA | 664 | G | C6-N1 | 6.46 | 1.44 | 1.39 |
| 35 | BA | 911 | U | C4-C5 | 6.46 | 1.49 | 1.43 |
| 35 | BA | 1105 | A | N9-C4 | 6.46 | 1.41 | 1.37 |
| 2 | AB | 303 | G | N9-C4 | -6.46 | 1.32 | 1.38 |
| 2 | AB | 64 | A | N9-C4 | 6.46 | 1.41 | 1.37 |
| 2 | AB | 1108 | U | C3'-C2' | 6.46 | 1.60 | 1.52 |
| 2 | AB | 2555 | U | N3-C4 | -6.46 | 1.32 | 1.38 |
| 2 | AB | 2817 | U | N1-C2 | 6.46 | 1.44 | 1.38 |
| 35 | BA | 186 | C | C2'-C1' | 6.46 | 1.60 | 1.53 |
| 35 | BA | 396 | C | N3-C4 | 6.46 | 1.38 | 1.33 |
| 35 | BA | 473 | U | C4-O4 | -6.46 | 1.18 | 1.23 |
| 35 | BA | 894 | G | N9-C8 | -6.46 | 1.33 | 1.37 |
| 1 | AA | 17 | C | O4'-C1' | 6.46 | 1.50 | 1.41 |
| 2 | AB | 487 | C | N1-C2 | 6.46 | 1.46 | 1.40 |
| 2 | AB | 1487 | U | C2-N3 | 6.46 | 1.42 | 1.37 |
| 2 | AB | 2291 | U | C4-C5 | 6.46 | 1.49 | 1.43 |
| 6 | AF | 16 | GLU | CD-OE2 | -6.46 | 1.18 | 1.25 |
| 35 | BA | 95 | C | C3'-C2' | 6.46 | 1.60 | 1.52 |
| 2 | AB | 499 | U | C4'-O4' | -6.46 | 1.37 | 1.45 |
| 2 | AB | 1292 | G | C5-C4 | 6.46 | 1.42 | 1.38 |
| 2 | AB | 1403 | A | C5'-C4' | 6.46 | 1.59 | 1.51 |
| 2 | AB | 2218 | G | C2'-C1' | 6.46 | 1.60 | 1.53 |
| 2 | AB | 2603 | G | C2-N3 | 6.46 | 1.38 | 1.32 |
| 35 | BA | 172 | A | C4'-O4' | -6.46 | 1.37 | 1.45 |
| 35 | BA | 479 | U | P-O5' | -6.46 | 1.53 | 1.59 |
| 35 | BA | 1283 | U | P-O5' | 6.46 | 1.66 | 1.59 |
| 35 | BA | 1317 | C | O3'-P | -6.46 | 1.53 | 1.61 |
| 35 | BA | 1320 | C | C4-C5 | -6.46 | 1.37 | 1.43 |
| 2 | AB | 612 | G | C4'-O4' | -6.46 | 1.37 | 1.45 |
| 2 | AB | 626 | A | C8-N7 | -6.46 | 1.27 | 1.31 |
| 35 | BA | 38 | G | N3-C4 | -6.46 | 1.30 | 1.35 |
| 35 | BA | 541 | G | C2'-C1' | 6.46 | 1.60 | 1.53 |
| 2 | AB | 106 | C | N1-C6 | 6.46 | 1.41 | 1.37 |
| 35 | BA | 175 | C | N1-C6 | -6.46 | 1.33 | 1.37 |
| 2 | AB | 72 | U | C5'-C4' | 6.45 | 1.59 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1520 | U | N1-C6 | 6.45 | 1.43 | 1.38 |
| 2 | AB | 2163 | A | C5'-C4' | 6.45 | 1.59 | 1.51 |
| 2 | AB | 2628 | C | N3-C4 | 6.45 | 1.38 | 1.33 |
| 2 | AB | 2843 | G | N1-C2 | 6.45 | 1.43 | 1.37 |
| 35 | BA | 824 | G | C2-N3 | 6.45 | 1.38 | 1.32 |
| 35 | BA | 1290 | G | N3-C4 | 6.45 | 1.40 | 1.35 |
| 35 | BA | 1297 | G | C3'-C2' | 6.45 | 1.60 | 1.52 |
| 36 | BB | 13 | A | N7-C5 | 6.45 | 1.43 | 1.39 |
| 2 | AB | 537 | G | C2-N3 | 6.45 | 1.38 | 1.32 |
| 2 | AB | 2211 | A | C4'-C3' | -6.45 | 1.46 | 1.53 |
| 2 | AB | 2447 | G | C6-N1 | -6.45 | 1.35 | 1.39 |
| 2 | AB | 2881 | U | N3-C4 | 6.45 | 1.44 | 1.38 |
| 35 | BA | 233 | C | N3-C4 | 6.45 | 1.38 | 1.33 |
| 35 | BA | 1304 | G | C5-C4 | -6.45 | 1.33 | 1.38 |
| 1 | AA | 114 | C | N1-C6 | -6.45 | 1.33 | 1.37 |
| 2 | AB | 376 | G | C4'-O4' | -6.45 | 1.37 | 1.45 |
| 2 | AB | 1812 | U | C2-N3 | 6.45 | 1.42 | 1.37 |
| 2 | AB | 2107 | G | O3'-P | 6.45 | 1.68 | 1.61 |
| 2 | AB | 2136 | G | C3'-O3' | -6.45 | 1.33 | 1.42 |
| 35 | BA | 713 | G | N9-C4 | -6.45 | 1.32 | 1.38 |
| 35 | BA | 973 | G | C5-C4 | -6.45 | 1.33 | 1.38 |
| 35 | BA | 1379 | G | N7-C5 | 6.45 | 1.43 | 1.39 |
| 2 | AB | 1000 | A | C5-C4 | -6.45 | 1.34 | 1.38 |
| 2 | AB | 1707 | G | N3-C4 | 6.45 | 1.40 | 1.35 |
| 2 | AB | 2578 | G | C2-N3 | 6.45 | 1.38 | 1.32 |
| 35 | BA | 1214 | C | C5'-C4' | 6.45 | 1.59 | 1.51 |
| 35 | BA | 1322 | C | P-O5' | 6.45 | 1.66 | 1.59 |
| 35 | BA | 678 | U | O3'-P | 6.44 | 1.68 | 1.61 |
| 2 | AB | 323 | C | C5'-C4' | 6.44 | 1.59 | 1.51 |
| 2 | AB | 2409 | G | N1-C2 | 6.44 | 1.43 | 1.37 |
| 35 | BA | 270 | A | P-O5' | 6.44 | 1.66 | 1.59 |
| 35 | BA | 1116 | U | C2-N3 | 6.44 | 1.42 | 1.37 |
| 35 | BA | 1415 | G | N9-C4 | 6.44 | 1.43 | 1.38 |
| 2 | AB | 230 | G | N9-C4 | -6.44 | 1.32 | 1.38 |
| 2 | AB | 408 | G | P-O5' | 6.44 | 1.66 | 1.59 |
| 2 | AB | 649 | G | C4'-C3' | 6.44 | 1.60 | 1.53 |
| 2 | AB | 1438 | U | O3'-P | 6.44 | 1.68 | 1.61 |
| 2 | AB | 1504 | A | P-O5' | 6.44 | 1.66 | 1.59 |
| 2 | AB | 2875 | C | C2'-C1' | -6.44 | 1.46 | 1.53 |
| 35 | BA | 253 | A | C4'-O4' | -6.44 | 1.37 | 1.45 |
| 35 | BA | 634 | C | O3'-P | 6.44 | 1.68 | 1.61 |
| 35 | BA | 331 | G | P-O5' | 6.44 | 1.66 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1086 | A | P-O5' | 6.44 | 1.66 | 1.59 |
| 2 | AB | 1325 | U | C4-C5 | 6.44 | 1.49 | 1.43 |
| 2 | AB | 1722 | A | P-O5' | -6.44 | 1.53 | 1.59 |
| 2 | AB | 2687 | U | C2-O2 | 6.44 | 1.28 | 1.22 |
| 35 | BA | 247 | G | C2-N3 | 6.44 | 1.37 | 1.32 |
| 35 | BA | 409 | U | N3-C4 | 6.44 | 1.44 | 1.38 |
| 35 | BA | 600 | A | N3-C4 | 6.44 | 1.38 | 1.34 |
| 35 | BA | 1179 | A | N1-C2 | -6.44 | 1.28 | 1.34 |
| 2 | AB | 131 | A | C5-C4 | 6.44 | 1.43 | 1.38 |
| 2 | AB | 361 | G | C5-C6 | 6.44 | 1.48 | 1.42 |
| 2 | AB | 980 | A | C5'-C4' | 6.44 | 1.59 | 1.51 |
| 2 | AB | 2339 | C | C4'-O4' | -6.44 | 1.37 | 1.45 |
| 35 | BA | 876 | C | C2'-C1' | -6.44 | 1.46 | 1.53 |
| 2 | AB | 342 | A | C8-N7 | -6.43 | 1.27 | 1.31 |
| 2 | AB | 1365 | A | P-O5' | 6.43 | 1.66 | 1.59 |
| 2 | AB | 2169 | A | C6-N1 | -6.43 | 1.31 | 1.35 |
| 2 | AB | 2872 | A | O3'-P | 6.43 | 1.68 | 1.61 |
| 35 | BA | 903 | G | C2'-C1' | 6.43 | 1.60 | 1.53 |
| 37 | BC | 10 | G | C4'-O4' | -6.43 | 1.37 | 1.45 |
| 1 | AA | 59 | A | P-O5' | 6.43 | 1.66 | 1.59 |
| 2 | AB | 1193 | G | C2'-C1' | 6.43 | 1.60 | 1.53 |
| 2 | AB | 1755 | A | N7-C5 | -6.43 | 1.35 | 1.39 |
| 2 | AB | 1992 | G | C8-N7 | -6.43 | 1.27 | 1.30 |
| 2 | AB | 2626 | C | C5-C6 | 6.43 | 1.39 | 1.34 |
| 2 | AB | 2716 | C | P-O5' | 6.43 | 1.66 | 1.59 |
| 35 | BA | 837 | U | C2'-C1' | -6.43 | 1.46 | 1.53 |
| 35 | BA | 1021 | A | C6-N1 | -6.43 | 1.31 | 1.35 |
| 35 | BA | 1111 | A | P-O5' | 6.43 | 1.66 | 1.59 |
| 1 | AA | 38 | C | C4'-O4' | -6.43 | 1.37 | 1.45 |
| 2 | AB | 979 | A | C6-N6 | -6.43 | 1.28 | 1.33 |
| 35 | BA | 823 | C | C2-N3 | 6.43 | 1.40 | 1.35 |
| 35 | BA | 933 | G | C2-N3 | 6.43 | 1.37 | 1.32 |
| 35 | BA | 1500 | A | N9-C4 | -6.43 | 1.33 | 1.37 |
| 2 | AB | 62 | U | C4'-O4' | -6.43 | 1.37 | 1.45 |
| 2 | AB | 1114 | C | O4'-C1' | -6.43 | 1.33 | 1.41 |
| 2 | AB | 1471 | G | C2-N3 | 6.43 | 1.37 | 1.32 |
| 35 | BA | 268 | U | C2'-C1' | 6.43 | 1.60 | 1.53 |
| 2 | AB | 340 | A | C3'-O3' | 6.43 | 1.51 | 1.42 |
| 2 | AB | 546 | U | C4'-O4' | -6.43 | 1.37 | 1.45 |
| 2 | AB | 691 | C | N3-C4 | 6.43 | 1.38 | 1.33 |
| 2 | AB | 1495 | A | O3'-P | -6.43 | 1.53 | 1.61 |
| 2 | AB | 2041 | U | O3'-P | 6.43 | 1.68 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 10 | A | C4'-O4' | -6.43 | 1.37 | 1.45 |
| 35 | BA | 190 | A | N7-C5 | -6.43 | 1.35 | 1.39 |
| 2 | AB | 1000 | A | P-O5' | 6.42 | 1.66 | 1.59 |
| 2 | AB | 1151 | A | C4'-O4' | -6.42 | 1.37 | 1.45 |
| 2 | AB | 1268 | A | O4'-C1' | 6.42 | 1.50 | 1.41 |
| 2 | AB | 1426 | G | P-O5' | 6.42 | 1.66 | 1.59 |
| 2 | AB | 1739 | A | C3'-O3' | 6.42 | 1.51 | 1.42 |
| 2 | AB | 2157 | G | C4'-C3' | -6.42 | 1.46 | 1.53 |
| 2 | AB | 2865 | U | C4-C5 | 6.42 | 1.49 | 1.43 |
| 35 | BA | 784 | A | C4'-C3' | -6.42 | 1.46 | 1.53 |
| 35 | BA | 1290 | G | C6-N1 | 6.42 | 1.44 | 1.39 |
| 2 | AB | 175 | G | N3-C4 | 6.42 | 1.40 | 1.35 |
| 2 | AB | 710 | U | C2-N3 | 6.42 | 1.42 | 1.37 |
| 2 | AB | 847 | U | P-O5' | 6.42 | 1.66 | 1.59 |
| 2 | AB | 1896 | G | N7-C5 | -6.42 | 1.35 | 1.39 |
| 35 | BA | 48 | C | N1-C6 | 6.42 | 1.41 | 1.37 |
| 35 | BA | 106 | C | N1-C6 | 6.42 | 1.41 | 1.37 |
| 35 | BA | 1509 | C | C5-C6 | 6.42 | 1.39 | 1.34 |
| 37 | BC | 58 | A | P-O5' | 6.42 | 1.66 | 1.59 |
| 2 | AB | 2528 | U | O4'-C1' | 6.42 | 1.50 | 1.41 |
| 35 | BA | 1087 | G | C5'-C4' | 6.42 | 1.59 | 1.51 |
| 2 | AB | 458 | G | O3'-P | 6.42 | 1.68 | 1.61 |
| 2 | AB | 558 | U | C2-N3 | 6.42 | 1.42 | 1.37 |
| 2 | AB | 754 | U | N3-C4 | 6.42 | 1.44 | 1.38 |
| 2 | AB | 1524 | G | C2-N3 | 6.42 | 1.37 | 1.32 |
| 2 | AB | 1961 | C | N1-C6 | 6.42 | 1.41 | 1.37 |
| 2 | AB | 2055 | C | C4-C5 | 6.42 | 1.48 | 1.43 |
| 2 | AB | 2643 | G | C6-N1 | 6.42 | 1.44 | 1.39 |
| 35 | BA | 187 | G | N7-C5 | 6.42 | 1.43 | 1.39 |
| 35 | BA | 1240 | U | C3'-O3' | 6.42 | 1.51 | 1.42 |
| 35 | BA | 1312 | G | N9-C8 | -6.42 | 1.33 | 1.37 |
| 1 | AA | 11 | C | C5-C6 | 6.42 | 1.39 | 1.34 |
| 1 | AA | 31 | C | N3-C4 | 6.42 | 1.38 | 1.33 |
| 2 | AB | 391 | A | C5-C6 | -6.42 | 1.35 | 1.41 |
| 2 | AB | 485 | C | C5'-C4' | 6.42 | 1.59 | 1.51 |
| 2 | AB | 1413 | A | N3-C4 | 6.42 | 1.38 | 1.34 |
| 2 | AB | 1629 | U | C4-O4 | 6.42 | 1.28 | 1.23 |
| 2 | AB | 2611 | C | C4'-C3' | 6.42 | 1.60 | 1.53 |
| 35 | BA | 487 | A | N7-C5 | 6.42 | 1.43 | 1.39 |
| 35 | BA | 651 | C | N1-C2 | -6.42 | 1.33 | 1.40 |
| 2 | AB | 927 | A | O3'-P | -6.42 | 1.53 | 1.61 |
| 2 | AB | 968 | C | C1'-N1 | 6.41 | 1.58 | 1.48 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2398 | U | N1-C2 | 6.41 | 1.44 | 1.38 |
| 2 | AB | 2402 | U | C4'-O4' | -6.41 | 1.37 | 1.45 |
| 2 | AB | 1653 | G | N1-C2 | 6.41 | 1.42 | 1.37 |
| 1 | AA | 112 | G | C8-N7 | 6.41 | 1.34 | 1.30 |
| 2 | AB | 36 | G | C3'-C2' | -6.41 | 1.45 | 1.52 |
| 2 | AB | 758 | C | O3'-P | -6.41 | 1.53 | 1.61 |
| 2 | AB | 1764 | C | N1-C2 | -6.41 | 1.33 | 1.40 |
| 2 | AB | 2418 | A | C8-N7 | 6.41 | 1.36 | 1.31 |
| 35 | BA | 509 | A | C4'-O4' | -6.41 | 1.37 | 1.45 |
| 35 | BA | 1365 | G | N7-C5 | -6.41 | 1.35 | 1.39 |
| 2 | AB | 107 | G | C8-N7 | -6.41 | 1.27 | 1.30 |
| 2 | AB | 129 | C | C4'-C3' | -6.41 | 1.46 | 1.53 |
| 2 | AB | 802 | A | C5'-C4' | 6.41 | 1.59 | 1.51 |
| 2 | AB | 1546 | G | C5-C4 | -6.41 | 1.33 | 1.38 |
| 2 | AB | 2197 | U | N1-C6 | 6.41 | 1.43 | 1.38 |
| 2 | AB | 2246 | G | P-O5' | 6.41 | 1.66 | 1.59 |
| 35 | BA | 781 | A | N9-C8 | 6.41 | 1.42 | 1.37 |
| 2 | AB | 650 | C | C2'-O2' | 6.41 | 1.50 | 1.41 |
| 2 | AB | 341 | C | N1-C6 | -6.41 | 1.33 | 1.37 |
| 2 | AB | 2047 | C | C5-C6 | 6.41 | 1.39 | 1.34 |
| 2 | AB | 2390 | U | C5'-C4' | 6.41 | 1.59 | 1.51 |
| 2 | AB | 2746 | U | N3-C4 | 6.41 | 1.44 | 1.38 |
| 2 | AB | 2827 | C | N1-C6 | 6.41 | 1.41 | 1.37 |
| 35 | BA | 449 | G | C4'-C3' | 6.41 | 1.60 | 1.53 |
| 2 | AB | 903 | C | C3'-C2' | -6.40 | 1.45 | 1.52 |
| 2 | AB | 1333 | G | C6-N1 | 6.40 | 1.44 | 1.39 |
| 2 | AB | 1503 | A | N3-C4 | 6.40 | 1.38 | 1.34 |
| 2 | AB | 2741 | A | C6-N1 | -6.40 | 1.31 | 1.35 |
| 35 | BA | 525 | C | C5-C6 | 6.40 | 1.39 | 1.34 |
| 2 | AB | 1697 | G | N3-C4 | 6.40 | 1.40 | 1.35 |
| 2 | AB | 2010 | G | N9-C4 | 6.40 | 1.43 | 1.38 |
| 2 | AB | 2436 | G | N3-C4 | 6.40 | 1.40 | 1.35 |
| 2 | AB | 1362 | C | O3'-P | 6.40 | 1.68 | 1.61 |
| 2 | AB | 2271 | G | C5'-C4' | -6.40 | 1.43 | 1.51 |
| 2 | AB | 2469 | A | O3'-P | 6.40 | 1.68 | 1.61 |
| 35 | BA | 761 | G | C4'-O4' | -6.40 | 1.37 | 1.45 |
| 1 | AA | 56 | G | C3'-C2' | -6.40 | 1.45 | 1.52 |
| 35 | BA | 243 | A | C6-N6 | 6.40 | 1.39 | 1.33 |
| 35 | BA | 266 | G | O3'-P | 6.40 | 1.68 | 1.61 |
| 35 | BA | 882 | C | C2-N3 | 6.40 | 1.40 | 1.35 |
| 35 | BA | 976 | G | C3'-C2' | 6.40 | 1.59 | 1.52 |
| 2 | AB | 68 | G | N7-C5 | 6.40 | 1.43 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1279 | G | C2-N3 | 6.40 | 1.37 | 1.32 |
| 1 | AA | 12 | C | C4'-O4' | -6.39 | 1.37 | 1.45 |
| 2 | AB | 344 | A | N9-C4 | 6.39 | 1.41 | 1.37 |
| 2 | AB | 2342 | C | C3'-C2' | 6.39 | 1.59 | 1.52 |
| 2 | AB | 2534 | A | P-O5' | 6.39 | 1.66 | 1.59 |
| 35 | BA | 421 | U | C4'-O4' | -6.39 | 1.37 | 1.45 |
| 35 | BA | 1193 | G | P-O5' | 6.39 | 1.66 | 1.59 |
| 2 | AB | 810 | U | C5-C6 | 6.39 | 1.40 | 1.34 |
| 2 | AB | 2368 | C | C4'-C3' | 6.39 | 1.60 | 1.53 |
| 1 | AA | 85 | G | N9-C8 | -6.39 | 1.33 | 1.37 |
| 2 | AB | 2543 | G | C4'-O4' | -6.39 | 1.37 | 1.45 |
| 35 | BA | 933 | G | C6-N1 | 6.39 | 1.44 | 1.39 |
| 35 | BA | 1378 | C | N3-C4 | 6.39 | 1.38 | 1.33 |
| 2 | AB | 165 | A | C8-N7 | -6.39 | 1.27 | 1.31 |
| 2 | AB | 693 | A | C5-C4 | -6.39 | 1.34 | 1.38 |
| 2 | AB | 929 | U | C2-N3 | 6.39 | 1.42 | 1.37 |
| 2 | AB | 1426 | G | C5'-C4' | 6.39 | 1.59 | 1.51 |
| 2 | AB | 2112 | G | C6-N1 | 6.39 | 1.44 | 1.39 |
| 2 | AB | 2535 | G | C5-C4 | -6.39 | 1.33 | 1.38 |
| 35 | BA | 223 | A | C8-N7 | -6.39 | 1.27 | 1.31 |
| 35 | BA | 876 | C | N1-C6 | 6.39 | 1.41 | 1.37 |
| 37 | BC | 10 | G | C6-O6 | -6.39 | 1.18 | 1.24 |
| 2 | AB | 1634 | A | C4'-O4' | -6.39 | 1.37 | 1.45 |
| 35 | BA | 396 | C | C2'-O2' | 6.39 | 1.50 | 1.41 |
| 35 | BA | 1398 | A | N9-C4 | 6.39 | 1.41 | 1.37 |
| 2 | AB | 1301 | A | O3'-P | 6.39 | 1.68 | 1.61 |
| 2 | AB | 1485 | U | C2-N3 | 6.39 | 1.42 | 1.37 |
| 2 | AB | 1928 | A | C4'-C3' | 6.39 | 1.60 | 1.53 |
| 2 | AB | 2368 | C | C2-O2 | -6.39 | 1.18 | 1.24 |
| 2 | AB | 2671 | G | N1-C2 | 6.39 | 1.42 | 1.37 |
| 2 | AB | 2804 | U | C4-C5 | 6.39 | 1.49 | 1.43 |
| 2 | AB | 2835 | A | C5-C6 | 6.39 | 1.46 | 1.41 |
| 2 | AB | 610 | C | C4'-C3' | -6.38 | 1.46 | 1.53 |
| 2 | AB | 675 | A | P-O5' | 6.38 | 1.66 | 1.59 |
| 2 | AB | 695 | G | N9-C8 | 6.38 | 1.42 | 1.37 |
| 2 | AB | 762 | U | C4'-O4' | -6.38 | 1.37 | 1.45 |
| 2 | AB | 1597 | A | P-O5' | 6.38 | 1.66 | 1.59 |
| 2 | AB | 2129 | C | C4-C5 | 6.38 | 1.48 | 1.43 |
| 2 | AB | 2647 | U | P-O5' | 6.38 | 1.66 | 1.59 |
| 35 | BA | 775 | G | C5'-C4' | 6.38 | 1.59 | 1.51 |
| 35 | BA | 921 | U | C2'-C1' | 6.38 | 1.60 | 1.53 |
| 35 | BA | 1096 | C | N1-C6 | 6.38 | 1.41 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 949 | G | O3'-P | 6.38 | 1.68 | 1.61 |
| 2 | AB | 1094 | U | C4-C5 | 6.38 | 1.49 | 1.43 |
| 2 | AB | 1713 | A | N1-C2 | 6.38 | 1.40 | 1.34 |
| 2 | AB | 1722 | A | C6-N6 | 6.38 | 1.39 | 1.33 |
| 2 | AB | 1954 | G | C3'-C2' | 6.38 | 1.59 | 1.52 |
| 2 | AB | 2005 | A | N1-C2 | -6.38 | 1.28 | 1.34 |
| 35 | BA | 745 | G | C6-O6 | -6.38 | 1.18 | 1.24 |
| 35 | BA | 850 | U | P-O5' | 6.38 | 1.66 | 1.59 |
| 2 | AB | 480 | A | C3'-O3' | -6.38 | 1.33 | 1.42 |
| 2 | AB | 1628 | G | N3-C4 | 6.38 | 1.40 | 1.35 |
| 35 | BA | 29 | U | N1-C2 | 6.38 | 1.44 | 1.38 |
| 35 | BA | 108 | G | C6-O6 | -6.38 | 1.18 | 1.24 |
| 2 | AB | 2354 | C | C4'-O4' | -6.38 | 1.37 | 1.45 |
| 2 | AB | 2470 | G | O4'-C1' | 6.38 | 1.50 | 1.41 |
| 37 | BC | 38 | A | C6-N1 | -6.38 | 1.31 | 1.35 |
| 37 | BC | 53 | G | P-O5' | 6.38 | 1.66 | 1.59 |
| 2 | AB | 763 | G | C6-N1 | 6.38 | 1.44 | 1.39 |
| 2 | AB | 1871 | A | N9-C8 | -6.38 | 1.32 | 1.37 |
| 2 | AB | 1897 | G | N9-C8 | -6.38 | 1.33 | 1.37 |
| 35 | BA | 899 | C | P-O5' | 6.38 | 1.66 | 1.59 |
| 2 | AB | 1038 | G | N7-C5 | 6.38 | 1.43 | 1.39 |
| 2 | AB | 1442 | U | P-O5' | 6.38 | 1.66 | 1.59 |
| 2 | AB | 1772 | A | N3-C4 | 6.38 | 1.38 | 1.34 |
| 2 | AB | 2052 | A | C5-C6 | 6.38 | 1.46 | 1.41 |
| 35 | BA | 1440 | U | N1-C2 | 6.38 | 1.44 | 1.38 |
| 2 | AB | 1805 | A | O4'-C1' | 6.37 | 1.50 | 1.41 |
| 2 | AB | 2348 | U | C4'-C3' | 6.37 | 1.60 | 1.53 |
| 2 | AB | 2729 | G | C5'-C4' | 6.37 | 1.58 | 1.51 |
| 35 | BA | 1137 | C | C5-C6 | 6.37 | 1.39 | 1.34 |
| 1 | AA | 37 | C | N1-C6 | 6.37 | 1.41 | 1.37 |
| 2 | AB | 259 | G | O3'-P | 6.37 | 1.68 | 1.61 |
| 2 | AB | 645 | C | C5-C6 | 6.37 | 1.39 | 1.34 |
| 2 | AB | 911 | A | C4'-O4' | -6.37 | 1.37 | 1.45 |
| 2 | AB | 1297 | C | C2-N3 | 6.37 | 1.40 | 1.35 |
| 2 | AB | 2533 | U | C4-C5 | 6.37 | 1.49 | 1.43 |
| 35 | BA | 64 | G | N3-C4 | 6.37 | 1.40 | 1.35 |
| 35 | BA | 250 | A | N9-C8 | 6.37 | 1.42 | 1.37 |
| 35 | BA | 252 | U | O3'-P | 6.37 | 1.68 | 1.61 |
| 35 | BA | 774 | G | N1-C2 | 6.37 | 1.42 | 1.37 |
| 2 | AB | 2455 | G | C6-N1 | 6.37 | 1.44 | 1.39 |
| 2 | AB | 267 | C | C4-C5 | -6.37 | 1.37 | 1.43 |
| 2 | AB | 1516 | G | C4'-O4' | -6.37 | 1.37 | 1.45 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1723 | G | C8-N7 | -6.37 | 1.27 | 1.30 |
| 2 | AB | 2390 | U | N1-C2 | 6.37 | 1.44 | 1.38 |
| 2 | AB | 2583 | G | P-O5' | 6.37 | 1.66 | 1.59 |
| 2 | AB | 277 | G | N9-C8 | -6.37 | 1.33 | 1.37 |
| 2 | AB | 2722 | G | N1-C2 | 6.37 | 1.42 | 1.37 |
| 35 | BA | 547 | A | N9-C8 | -6.37 | 1.32 | 1.37 |
| 35 | BA | 1221 | G | N3-C4 | 6.37 | 1.40 | 1.35 |
| 2 | AB | 344 | A | C5-C6 | 6.37 | 1.46 | 1.41 |
| 2 | AB | 2537 | U | C5'-C4' | 6.37 | 1.58 | 1.51 |
| 35 | BA | 279 | A | C2'-O2' | -6.37 | 1.33 | 1.41 |
| 2 | AB | 1540 | G | C2-N2 | -6.36 | 1.28 | 1.34 |
| 2 | AB | 2223 | G | N9-C8 | 6.36 | 1.42 | 1.37 |
| 2 | AB | 2584 | U | N1-C6 | -6.36 | 1.32 | 1.38 |
| 35 | BA | 235 | C | C2-N3 | -6.36 | 1.30 | 1.35 |
| 2 | AB | 582 | A | C3'-C2' | 6.36 | 1.59 | 1.52 |
| 2 | AB | 2211 | A | P-O5' | 6.36 | 1.66 | 1.59 |
| 2 | AB | 16 | C | C4'-O4' | -6.36 | 1.37 | 1.45 |
| 2 | AB | 346 | A | N3-C4 | 6.36 | 1.38 | 1.34 |
| 2 | AB | 2711 | A | C5'-C4' | 6.36 | 1.58 | 1.51 |
| 35 | BA | 134 | G | C2'-C1' | -6.36 | 1.46 | 1.53 |
| 35 | BA | 750 | C | P-O5' | 6.36 | 1.66 | 1.59 |
| 35 | BA | 889 | A | C6-N1 | -6.36 | 1.31 | 1.35 |
| 35 | BA | 1139 | G | O5'-C5' | -6.36 | 1.32 | 1.42 |
| 2 | AB | 1038 | G | C8-N7 | 6.36 | 1.34 | 1.30 |
| 2 | AB | 1360 | G | P-O5' | 6.36 | 1.66 | 1.59 |
| 2 | AB | 1803 | A | N3-C4 | 6.36 | 1.38 | 1.34 |
| 2 | AB | 2736 | A | O3'-P | 6.36 | 1.68 | 1.61 |
| 35 | BA | 541 | G | C5-C4 | -6.36 | 1.33 | 1.38 |
| 2 | AB | 870 | U | P-O5' | 6.36 | 1.66 | 1.59 |
| 2 | AB | 1935 | G | C3'-C2' | 6.36 | 1.59 | 1.52 |
| 2 | AB | 2748 | A | N7-C5 | 6.36 | 1.43 | 1.39 |
| 35 | BA | 836 | G | C6-N1 | 6.36 | 1.44 | 1.39 |
| 35 | BA | 1383 | C | C4-C5 | 6.36 | 1.48 | 1.43 |
| 2 | AB | 2400 | G | N9-C8 | -6.36 | 1.33 | 1.37 |
| 35 | BA | 219 | U | O3'-P | 6.36 | 1.68 | 1.61 |
| 35 | BA | 630 | A | C2'-C1' | 6.36 | 1.60 | 1.53 |
| 1 | AA | 50 | A | C2-N3 | 6.35 | 1.39 | 1.33 |
| 2 | AB | 946 | C | O4'-C1' | -6.35 | 1.33 | 1.41 |
| 2 | AB | 1273 | U | C2'-O2' | 6.35 | 1.50 | 1.41 |
| 2 | AB | 2698 | U | N3-C4 | 6.35 | 1.44 | 1.38 |
| 2 | AB | 2793 | C | P-O5' | 6.35 | 1.66 | 1.59 |
| 2 | AB | 2852 | G | N3-C4 | 6.35 | 1.39 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 107 | G | C4'-O4' | -6.35 | 1.37 | 1.45 |
| 2 | AB | 251 | A | C6-N1 | -6.35 | 1.31 | 1.35 |
| 2 | AB | 251 | A | N7-C5 | -6.35 | 1.35 | 1.39 |
| 2 | AB | 1172 | C | N1-C6 | 6.35 | 1.41 | 1.37 |
| 17 | AQ | 111 | ARG | CD-NE | 6.35 | 1.57 | 1.46 |
| 2 | AB | 1141 | U | C4-C5 | 6.35 | 1.49 | 1.43 |
| 2 | AB | 1372 | U | P-O5' | 6.35 | 1.66 | 1.59 |
| 2 | AB | 1799 | G | C2-N3 | 6.35 | 1.37 | 1.32 |
| 2 | AB | 2217 | G | C6-N1 | 6.35 | 1.44 | 1.39 |
| 2 | AB | 2708 | G | N9-C4 | -6.35 | 1.32 | 1.38 |
| 35 | BA | 704 | A | N9-C8 | 6.35 | 1.42 | 1.37 |
| 2 | AB | 739 | A | O3'-P | 6.35 | 1.68 | 1.61 |
| 2 | AB | 1431 | A | N9-C4 | 6.35 | 1.41 | 1.37 |
| 2 | AB | 1877 | A | C5'-C4' | 6.35 | 1.58 | 1.51 |
| 35 | BA | 962 | C | C2-O2 | -6.35 | 1.18 | 1.24 |
| 2 | AB | 1008 | A | C4'-C3' | 6.35 | 1.60 | 1.53 |
| 2 | AB | 2434 | A | C3'-C2' | 6.35 | 1.59 | 1.52 |
| 2 | AB | 828 | U | C4'-O4' | -6.35 | 1.37 | 1.45 |
| 2 | AB | 854 | C | C5'-C4' | 6.35 | 1.58 | 1.51 |
| 2 | AB | 1069 | A | O3'-P | -6.35 | 1.53 | 1.61 |
| 35 | BA | 1504 | G | C5-C6 | 6.35 | 1.48 | 1.42 |
| 2 | AB | 182 | A | O3'-P | 6.34 | 1.68 | 1.61 |
| 2 | AB | 396 | G | O3'-P | -6.34 | 1.53 | 1.61 |
| 2 | AB | 442 | G | C2-N3 | 6.34 | 1.37 | 1.32 |
| 2 | AB | 1169 | A | P-O5' | 6.34 | 1.66 | 1.59 |
| 2 | AB | 1768 | C | O3'-P | -6.34 | 1.53 | 1.61 |
| 35 | BA | 203 | G | C4'-O4' | -6.34 | 1.37 | 1.45 |
| 2 | AB | 897 | C | O3'-P | 6.34 | 1.68 | 1.61 |
| 2 | AB | 986 | C | N1-C2 | 6.34 | 1.46 | 1.40 |
| 2 | AB | 1745 | A | N3-C4 | 6.34 | 1.38 | 1.34 |
| 2 | AB | 2769 | U | O3'-P | 6.34 | 1.68 | 1.61 |
| 35 | BA | 666 | G | C6-O6 | -6.34 | 1.18 | 1.24 |
| 35 | BA | 1538 | C | N3-C4 | 6.34 | 1.38 | 1.33 |
| 2 | AB | 385 | C | N3-C4 | 6.34 | 1.38 | 1.33 |
| 2 | AB | 532 | A | N7-C5 | 6.34 | 1.43 | 1.39 |
| 2 | AB | 1588 | G | C5-C4 | 6.34 | 1.42 | 1.38 |
| 2 | AB | 1928 | A | C4'-O4' | -6.34 | 1.37 | 1.45 |
| 35 | BA | 33 | A | C8-N7 | -6.34 | 1.27 | 1.31 |
| 35 | BA | 50 | A | C8-N7 | -6.34 | 1.27 | 1.31 |
| 35 | BA | 559 | A | P-O5' | 6.34 | 1.66 | 1.59 |
| 35 | BA | 902 | G | N7-C5 | -6.34 | 1.35 | 1.39 |
| 2 | AB | 523 | C | C2-N3 | 6.34 | 1.40 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 577 | G | N9-C8 | 6.34 | 1.42 | 1.37 |
| 2 | AB | 2283 | C | P-O5' | 6.34 | 1.66 | 1.59 |
| 35 | BA | 357 | G | C2-N3 | 6.34 | 1.37 | 1.32 |
| 36 | BB | 27 | A | P-O5' | 6.34 | 1.66 | 1.59 |
| 2 | AB | 79 | C | C4'-O4' | -6.34 | 1.37 | 1.45 |
| 2 | AB | 636 | G | C5-C6 | 6.34 | 1.48 | 1.42 |
| 2 | AB | 889 | C | C3'-O3' | -6.34 | 1.33 | 1.42 |
| 2 | AB | 1285 | A | C8-N7 | -6.34 | 1.27 | 1.31 |
| 2 | AB | 1616 | A | O5'-C5' | -6.34 | 1.32 | 1.42 |
| 2 | AB | 2706 | A | C2'-C1' | -6.34 | 1.46 | 1.53 |
| 35 | BA | 852 | G | C6-N1 | -6.34 | 1.35 | 1.39 |
| 35 | BA | 1027 | C | C2-N3 | 6.34 | 1.40 | 1.35 |
| 35 | BA | 1133 | G | N7-C5 | -6.34 | 1.35 | 1.39 |
| 37 | BC | 17 | C | C5-C6 | 6.34 | 1.39 | 1.34 |
| 35 | BA | 1128 | C | C5'-C4' | 6.33 | 1.58 | 1.51 |
| 35 | BA | 1508 | A | C4'-O4' | -6.33 | 1.37 | 1.45 |
| 35 | BA | 1525 | G | N9-C4 | 6.33 | 1.43 | 1.38 |
| 2 | AB | 43 | G | C3'-C2' | 6.33 | 1.59 | 1.52 |
| 2 | AB | 435 | C | O3'-P | 6.33 | 1.68 | 1.61 |
| 2 | AB | 2399 | G | C4'-C3' | -6.33 | 1.46 | 1.53 |
| 2 | AB | 2651 | C | N1-C6 | 6.33 | 1.41 | 1.37 |
| 2 | AB | 2782 | G | N9-C8 | -6.33 | 1.33 | 1.37 |
| 35 | BA | 414 | A | C5'-C4' | 6.33 | 1.58 | 1.51 |
| 35 | BA | 846 | G | P-O5' | -6.33 | 1.53 | 1.59 |
| 35 | BA | 1534 | A | N9-C4 | 6.33 | 1.41 | 1.37 |
| 2 | AB | 563 | A | C6-N6 | -6.33 | 1.28 | 1.33 |
| 2 | AB | 1585 | C | C3'-O3' | 6.33 | 1.51 | 1.42 |
| 2 | AB | 2714 | G | C6-N1 | -6.33 | 1.35 | 1.39 |
| 35 | BA | 175 | C | C4-N4 | -6.33 | 1.28 | 1.33 |
| 35 | BA | 827 | U | N1-C2 | 6.33 | 1.44 | 1.38 |
| 35 | BA | 1014 | A | N9-C4 | 6.33 | 1.41 | 1.37 |
| 1 | AA | 98 | G | N9-C8 | -6.33 | 1.33 | 1.37 |
| 2 | AB | 141 | G | C8-N7 | -6.33 | 1.27 | 1.30 |
| 1 | AA | 115 | A | N7-C5 | 6.33 | 1.43 | 1.39 |
| 2 | AB | 204 | A | C4'-C3' | 6.33 | 1.60 | 1.53 |
| 2 | AB | 1179 | G | C3'-O3' | 6.33 | 1.51 | 1.42 |
| 2 | AB | 1273 | U | C5-C6 | 6.33 | 1.39 | 1.34 |
| 2 | AB | 1757 | A | N1-C2 | -6.33 | 1.28 | 1.34 |
| 2 | AB | 2308 | G | C4'-O4' | -6.33 | 1.37 | 1.45 |
| 2 | AB | 2407 | A | P-O5' | 6.33 | 1.66 | 1.59 |
| 35 | BA | 398 | U | N3-C4 | 6.33 | 1.44 | 1.38 |
| 35 | BA | 456 | A | C5'-C4' | 6.33 | 1.58 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 152 | A | N3-C4 | -6.32 | 1.31 | 1.34 |
| 2 | AB | 663 | G | P-O5' | 6.32 | 1.66 | 1.59 |
| 2 | AB | 1506 | U | N1-C2 | 6.32 | 1.44 | 1.38 |
| 2 | AB | 2822 | G | C2-N3 | 6.32 | 1.37 | 1.32 |
| 35 | BA | 359 | G | C5-C4 | -6.32 | 1.33 | 1.38 |
| 35 | BA | 624 | C | C5'-C4' | 6.32 | 1.58 | 1.51 |
| 38 | BD | 73 | ARG | CZ-NH2 | 6.32 | 1.41 | 1.33 |
| 2 | AB | 202 | U | C3'-O3' | 6.32 | 1.50 | 1.42 |
| 2 | AB | 602 | A | N9-C4 | -6.32 | 1.34 | 1.37 |
| 2 | AB | 1937 | A | C4'-C3' | 6.32 | 1.60 | 1.53 |
| 2 | AB | 2140 | G | N9-C4 | 6.32 | 1.43 | 1.38 |
| 2 | AB | 2321 | U | N1-C2 | 6.32 | 1.44 | 1.38 |
| 35 | BA | 367 | U | C4-C5 | 6.32 | 1.49 | 1.43 |
| 35 | BA | 458 | U | N1-C2 | 6.32 | 1.44 | 1.38 |
| 35 | BA | 1055 | A | N9-C4 | -6.32 | 1.34 | 1.37 |
| 2 | AB | 1045 | C | C5-C6 | 6.32 | 1.39 | 1.34 |
| 35 | BA | 1129 | C | N3-C4 | 6.32 | 1.38 | 1.33 |
| 2 | AB | 1541 | C | N3-C4 | 6.32 | 1.38 | 1.33 |
| 35 | BA | 117 | G | C8-N7 | 6.32 | 1.34 | 1.30 |
| 35 | BA | 158 | G | N9-C8 | -6.32 | 1.33 | 1.37 |
| 35 | BA | 439 | U | C4'-O4' | -6.32 | 1.37 | 1.45 |
| 35 | BA | 445 | G | C2'-C1' | 6.32 | 1.60 | 1.53 |
| 35 | BA | 688 | G | C5-C4 | -6.32 | 1.33 | 1.38 |
| 35 | BA | 887 | G | P-O5' | -6.32 | 1.53 | 1.59 |
| 2 | AB | 514 | A | C2-N3 | -6.31 | 1.27 | 1.33 |
| 2 | AB | 539 | G | C8-N7 | 6.31 | 1.34 | 1.30 |
| 2 | AB | 1674 | G | N1-C2 | 6.31 | 1.42 | 1.37 |
| 2 | AB | 2764 | A | C5-C4 | -6.31 | 1.34 | 1.38 |
| 35 | BA | 728 | A | C3'-C2' | 6.31 | 1.59 | 1.52 |
| 35 | BA | 874 | G | P-O5' | 6.31 | 1.66 | 1.59 |
| 35 | BA | 877 | G | C2-N2 | -6.31 | 1.28 | 1.34 |
| 36 | BB | 16 | A | N9-C4 | 6.31 | 1.41 | 1.37 |
| 2 | AB | 1154 | G | C2-N3 | 6.31 | 1.37 | 1.32 |
| 2 | AB | 2289 | G | C8-N7 | -6.31 | 1.27 | 1.30 |
| 2 | AB | 337 | C | C2-N3 | 6.31 | 1.40 | 1.35 |
| 2 | AB | 1444 | G | N1-C2 | 6.31 | 1.42 | 1.37 |
| 2 | AB | 2227 | A | C4'-O4' | -6.31 | 1.37 | 1.45 |
| 2 | AB | 2278 | A | N9-C4 | 6.31 | 1.41 | 1.37 |
| 35 | BA | 621 | A | C6-N1 | -6.31 | 1.31 | 1.35 |
| 37 | BC | 64 | G | C4'-O4' | -6.31 | 1.37 | 1.45 |
| 1 | AA | 81 | G | N7-C5 | -6.31 | 1.35 | 1.39 |
| 2 | AB | 2856 | A | C2-N3 | 6.31 | 1.39 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 244 | U | C3'-C2' | 6.31 | 1.59 | 1.52 |
| 35 | BA | 704 | A | N9-C4 | -6.31 | 1.34 | 1.37 |
| 35 | BA | 1419 | G | C2-N3 | 6.31 | 1.37 | 1.32 |
| 2 | AB | 269 | C | O4'-C1' | 6.31 | 1.49 | 1.41 |
| 2 | AB | 614 | A | P-O5' | 6.31 | 1.66 | 1.59 |
| 35 | BA | 1381 | U | N3-C4 | -6.31 | 1.32 | 1.38 |
| 2 | AB | 990 | A | N9-C8 | -6.30 | 1.32 | 1.37 |
| 2 | AB | 1251 | C | C4'-O4' | -6.30 | 1.37 | 1.45 |
| 2 | AB | 2122 | U | N1-C6 | 6.30 | 1.43 | 1.38 |
| 35 | BA | 630 | A | C2-N3 | 6.30 | 1.39 | 1.33 |
| 35 | BA | 1529 | G | N9-C4 | 6.30 | 1.43 | 1.38 |
| 2 | AB | 2516 | A | N3-C4 | 6.30 | 1.38 | 1.34 |
| 2 | AB | 2853 | C | C4-C5 | 6.30 | 1.48 | 1.43 |
| 1 | AA | 2 | G | N3-C4 | 6.30 | 1.39 | 1.35 |
| 2 | AB | 1552 | A | P-O5' | 6.30 | 1.66 | 1.59 |
| 2 | AB | 1819 | A | N7-C5 | 6.30 | 1.43 | 1.39 |
| 35 | BA | 69 | G | N7-C5 | -6.30 | 1.35 | 1.39 |
| 35 | BA | 330 | C | C2'-C1' | 6.30 | 1.60 | 1.53 |
| 35 | BA | 1031 | C | C5'-C4' | 6.30 | 1.58 | 1.51 |
| 2 | AB | 2772 | C | C2-O2 | -6.30 | 1.18 | 1.24 |
| 35 | BA | 119 | A | N7-C5 | -6.30 | 1.35 | 1.39 |
| 35 | BA | 524 | G | N9-C8 | 6.30 | 1.42 | 1.37 |
| 35 | BA | 815 | A | C2'-C1' | -6.30 | 1.46 | 1.53 |
| 35 | BA | 1070 | U | C5-C6 | 6.30 | 1.39 | 1.34 |
| 35 | BA | 1514 | G | N1-C2 | 6.30 | 1.42 | 1.37 |
| 2 | AB | 250 | G | C5-C6 | 6.30 | 1.48 | 1.42 |
| 2 | AB | 252 | G | P-O5' | 6.30 | 1.66 | 1.59 |
| 2 | AB | 498 | G | C2-N3 | 6.30 | 1.37 | 1.32 |
| 2 | AB | 2562 | U | P-O5' | -6.30 | 1.53 | 1.59 |
| 2 | AB | 2732 | G | C4'-O4' | -6.30 | 1.37 | 1.45 |
| 45 | BK | 48 | ARG | CZ-NH1 | 6.30 | 1.41 | 1.33 |
| 2 | AB | 1839 | G | P-O5' | 6.30 | 1.66 | 1.59 |
| 2 | AB | 1930 | G | N9-C8 | -6.30 | 1.33 | 1.37 |
| 2 | AB | 2002 | G | C8-N7 | -6.30 | 1.27 | 1.30 |
| 2 | AB | 2728 | U | P-O5' | 6.30 | 1.66 | 1.59 |
| 25 | AY | 40 | ARG | NE-CZ | 6.30 | 1.41 | 1.33 |
| 35 | BA | 223 | A | C5-C6 | 6.30 | 1.46 | 1.41 |
| 35 | BA | 505 | G | O5'-C5' | -6.30 | 1.32 | 1.42 |
| 2 | AB | 1083 | U | C5-C6 | 6.29 | 1.39 | 1.34 |
| 2 | AB | 1415 | U | C2-N3 | 6.29 | 1.42 | 1.37 |
| 2 | AB | 1742 | U | C4-C5 | 6.29 | 1.49 | 1.43 |
| 35 | BA | 778 | G | N3-C4 | 6.29 | 1.39 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1107 | C | N1-C6 | 6.29 | 1.41 | 1.37 |
| 35 | BA | 1169 | A | P-O5' | -6.29 | 1.53 | 1.59 |
| 2 | AB | 295 | G | C8-N7 | 6.29 | 1.34 | 1.30 |
| 2 | AB | 1338 | G | N7-C5 | 6.29 | 1.43 | 1.39 |
| 35 | BA | 658 | C | C2-N3 | 6.29 | 1.40 | 1.35 |
| 35 | BA | 864 | A | N3-C4 | 6.29 | 1.38 | 1.34 |
| 35 | BA | 1041 | G | C3'-C2' | -6.29 | 1.45 | 1.52 |
| 1 | AA | 73 | A | C2-N3 | 6.29 | 1.39 | 1.33 |
| 2 | AB | 728 | G | C3'-C2' | 6.29 | 1.59 | 1.52 |
| 2 | AB | 778 | G | N9-C8 | 6.29 | 1.42 | 1.37 |
| 2 | AB | 1250 | G | N7-C5 | -6.29 | 1.35 | 1.39 |
| 2 | AB | 2366 | A | P-O5' | 6.29 | 1.66 | 1.59 |
| 35 | BA | 188 | C | C4'-O4' | -6.29 | 1.37 | 1.45 |
| 35 | BA | 369 | G | C6-N1 | 6.29 | 1.44 | 1.39 |
| 35 | BA | 837 | U | N1-C2 | 6.29 | 1.44 | 1.38 |
| 35 | BA | 1256 | A | P-O5' | 6.29 | 1.66 | 1.59 |
| 2 | AB | 2733 | A | N3-C4 | 6.29 | 1.38 | 1.34 |
| 35 | BA | 203 | G | C6-N1 | -6.29 | 1.35 | 1.39 |
| 2 | AB | 650 | C | C4-C5 | -6.29 | 1.38 | 1.43 |
| 2 | AB | 1628 | G | P-O5' | 6.29 | 1.66 | 1.59 |
| 35 | BA | 80 | A | O3'-P | 6.29 | 1.68 | 1.61 |
| 35 | BA | 129 | A | N9-C4 | -6.29 | 1.34 | 1.37 |
| 37 | BC | 57 | C | C2'-O2' | 6.29 | 1.49 | 1.41 |
| 1 | AA | 41 | G | C4'-O4' | -6.29 | 1.37 | 1.45 |
| 2 | AB | 823 | C | N1-C6 | 6.29 | 1.41 | 1.37 |
| 25 | AY | 8 | SER | CA-CB | 6.29 | 1.62 | 1.52 |
| 2 | AB | 397 | U | C5'-C4' | 6.29 | 1.58 | 1.51 |
| 2 | AB | 1214 | A | C5'-C4' | 6.29 | 1.58 | 1.51 |
| 2 | AB | 1808 | A | C6-N1 | 6.29 | 1.40 | 1.35 |
| 2 | AB | 2293 | G | C8-N7 | -6.29 | 1.27 | 1.30 |
| 2 | AB | 2822 | G | N9-C8 | 6.29 | 1.42 | 1.37 |
| 2 | AB | 2872 | A | P-O5' | 6.29 | 1.66 | 1.59 |
| 35 | BA | 583 | A | N9-C4 | -6.29 | 1.34 | 1.37 |
| 37 | BC | 72 | C | C5-C6 | 6.29 | 1.39 | 1.34 |
| 1 | AA | 37 | C | C3'-C2' | 6.28 | 1.59 | 1.52 |
| 2 | AB | 856 | G | N1-C2 | 6.28 | 1.42 | 1.37 |
| 2 | AB | 1430 | G | C2'-C1' | 6.28 | 1.60 | 1.53 |
| 2 | AB | 1922 | G | N3-C4 | 6.28 | 1.39 | 1.35 |
| 33 | A6 | 23 | HIS | CB-CG | 6.28 | 1.61 | 1.50 |
| 35 | BA | 99 | C | C5'-C4' | 6.28 | 1.58 | 1.51 |
| 35 | BA | 214 | C | C2-O2 | -6.28 | 1.18 | 1.24 |
| 35 | BA | 402 | G | C6-N1 | 6.28 | 1.44 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1329 | A | N9-C4 | 6.28 | 1.41 | 1.37 |
| 2 | AB | 110 | G | C5-C6 | 6.28 | 1.48 | 1.42 |
| 2 | AB | 363 | G | C8-N7 | 6.28 | 1.34 | 1.30 |
| 2 | AB | 927 | A | P-O5' | 6.28 | 1.66 | 1.59 |
| 2 | AB | 960 | A | C2'-O2' | -6.28 | 1.33 | 1.41 |
| 2 | AB | 2353 | G | C6-O6 | -6.28 | 1.18 | 1.24 |
| 2 | AB | 2400 | G | C8-N7 | -6.28 | 1.27 | 1.30 |
| 35 | BA | 57 | G | N3-C4 | 6.28 | 1.39 | 1.35 |
| 35 | BA | 758 | C | C2-N3 | -6.28 | 1.30 | 1.35 |
| 35 | BA | 1080 | A | N9-C4 | -6.28 | 1.34 | 1.37 |
| 2 | AB | 2868 | A | N3-C4 | 6.28 | 1.38 | 1.34 |
| 2 | AB | 2882 | A | C2-N3 | 6.28 | 1.39 | 1.33 |
| 2 | AB | 953 | G | C2'-C1' | -6.28 | 1.46 | 1.53 |
| 2 | AB | 1272 | A | C6-N1 | -6.28 | 1.31 | 1.35 |
| 2 | AB | 1810 | A | C2'-C1' | -6.28 | 1.46 | 1.53 |
| 2 | AB | 1823 | G | C4'-C3' | 6.28 | 1.60 | 1.53 |
| 2 | AB | 2615 | U | N1-C2 | 6.28 | 1.44 | 1.38 |
| 2 | AB | 2718 | G | C4'-O4' | -6.28 | 1.37 | 1.45 |
| 35 | BA | 620 | C | C2-O2 | -6.28 | 1.18 | 1.24 |
| 35 | BA | 702 | A | C5-C4 | -6.28 | 1.34 | 1.38 |
| 35 | BA | 836 | G | C5'-C4' | 6.28 | 1.58 | 1.51 |
| 35 | BA | 981 | U | C4'-O4' | -6.28 | 1.37 | 1.45 |
| 2 | AB | 19 | A | N7-C5 | 6.28 | 1.43 | 1.39 |
| 2 | AB | 687 | C | N3-C4 | 6.28 | 1.38 | 1.33 |
| 2 | AB | 2217 | G | C2-N3 | 6.28 | 1.37 | 1.32 |
| 39 | BE | 27 | GLU | CD-OE1 | -6.28 | 1.18 | 1.25 |
| 2 | AB | 723 | C | N3-C4 | 6.27 | 1.38 | 1.33 |
| 2 | AB | 101 | A | N3-C4 | 6.27 | 1.38 | 1.34 |
| 2 | AB | 1421 | G | C2-N3 | 6.27 | 1.37 | 1.32 |
| 2 | AB | 1643 | G | N1-C2 | 6.27 | 1.42 | 1.37 |
| 2 | AB | 2138 | G | O4'-C1' | -6.27 | 1.33 | 1.41 |
| 2 | AB | 2140 | G | C5'-C4' | 6.27 | 1.58 | 1.51 |
| 2 | AB | 2736 | A | C8-N7 | -6.27 | 1.27 | 1.31 |
| 35 | BA | 112 | G | N7-C5 | -6.27 | 1.35 | 1.39 |
| 35 | BA | 207 | C | O3'-P | 6.27 | 1.68 | 1.61 |
| 35 | BA | 222 | C | C4-N4 | 6.27 | 1.39 | 1.33 |
| 35 | BA | 1119 | C | P-O5' | 6.27 | 1.66 | 1.59 |
| 2 | AB | 1796 | U | N1-C6 | -6.27 | 1.32 | 1.38 |
| 2 | AB | 436 | C | C2-N3 | 6.27 | 1.40 | 1.35 |
| 2 | AB | 852 | U | C3'-C2' | 6.27 | 1.59 | 1.52 |
| 2 | AB | 1361 | G | N7-C5 | 6.27 | 1.43 | 1.39 |
| 2 | AB | 2460 | U | N1-C2 | 6.27 | 1.44 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 19 | AS | 47 | ARG | CZ-NH1 | 6.27 | 1.41 | 1.33 |
| 35 | BA | 797 | C | C4'-O4' | -6.27 | 1.37 | 1.45 |
| 35 | BA | 1318 | A | C6-N1 | -6.27 | 1.31 | 1.35 |
| 2 | AB | 522 | A | O3'-P | 6.27 | 1.68 | 1.61 |
| 2 | AB | 994 | C | C2'-O2' | 6.27 | 1.49 | 1.41 |
| 2 | AB | 1900 | A | N3-C4 | 6.27 | 1.38 | 1.34 |
| 2 | AB | 1912 | A | N3-C4 | 6.27 | 1.38 | 1.34 |
| 2 | AB | 2259 | U | C5-C6 | 6.27 | 1.39 | 1.34 |
| 2 | AB | 2357 | G | N7-C5 | -6.27 | 1.35 | 1.39 |
| 35 | BA | 276 | G | C2'-O2' | -6.27 | 1.33 | 1.41 |
| 35 | BA | 1258 | G | C2-N3 | 6.27 | 1.37 | 1.32 |
| 2 | AB | 905 | A | O3'-P | 6.27 | 1.68 | 1.61 |
| 2 | AB | 2042 | A | P-O5' | 6.27 | 1.66 | 1.59 |
| 37 | BC | 17 | C | N1-C6 | 6.27 | 1.41 | 1.37 |
| 2 | AB | 426 | C | O3'-P | -6.26 | 1.53 | 1.61 |
| 2 | AB | 478 | A | C6-N1 | 6.26 | 1.40 | 1.35 |
| 2 | AB | 920 | A | C3'-C2' | 6.26 | 1.59 | 1.52 |
| 2 | AB | 1079 | C | O3'-P | 6.26 | 1.68 | 1.61 |
| 2 | AB | 1289 | C | O3'-P | 6.26 | 1.68 | 1.61 |
| 2 | AB | 2860 | A | C4'-C3' | 6.26 | 1.60 | 1.53 |
| 35 | BA | 577 | G | N9-C4 | 6.26 | 1.43 | 1.38 |
| 35 | BA | 643 | C | N1-C2 | 6.26 | 1.46 | 1.40 |
| 35 | BA | 915 | A | C8-N7 | -6.26 | 1.27 | 1.31 |
| 37 | BC | 38 | A | N9-C4 | -6.26 | 1.34 | 1.37 |
| 2 | AB | 1426 | G | N3-C4 | 6.26 | 1.39 | 1.35 |
| 2 | AB | 2131 | U | N3-C4 | 6.26 | 1.44 | 1.38 |
| 2 | AB | 2565 | A | N3-C4 | 6.26 | 1.38 | 1.34 |
| 35 | BA | 388 | G | N7-C5 | 6.26 | 1.43 | 1.39 |
| 1 | AA | 67 | G | N3-C4 | 6.26 | 1.39 | 1.35 |
| 2 | AB | 447 | A | C6-N1 | -6.26 | 1.31 | 1.35 |
| 2 | AB | 525 | U | O3'-P | -6.26 | 1.53 | 1.61 |
| 2 | AB | 725 | G | O3'-P | 6.26 | 1.68 | 1.61 |
| 2 | AB | 1087 | G | N1-C2 | 6.26 | 1.42 | 1.37 |
| 2 | AB | 1282 | U | N1-C2 | 6.26 | 1.44 | 1.38 |
| 35 | BA | 1137 | C | P-O5' | -6.26 | 1.53 | 1.59 |
| 35 | BA | 1463 | U | C4-C5 | 6.26 | 1.49 | 1.43 |
| 1 | AA | 97 | C | C4'-O4' | -6.26 | 1.37 | 1.45 |
| 2 | AB | 2312 | U | C4'-O4' | -6.26 | 1.37 | 1.45 |
| 2 | AB | 160 | A | N9-C8 | 6.26 | 1.42 | 1.37 |
| 2 | AB | 1401 | G | C3'-C2' | -6.26 | 1.45 | 1.52 |
| 2 | AB | 1907 | G | C8-N7 | -6.26 | 1.27 | 1.30 |
| 35 | BA | 361 | G | C5-C6 | 6.26 | 1.48 | 1.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1033 | G | P-O5' | 6.26 | 1.66 | 1.59 |
| 35 | BA | 1300 | G | P-O5' | -6.26 | 1.53 | 1.59 |
| 46 | BL | 43 | PRO | N-CD | -6.26 | 1.39 | 1.47 |
| 1 | AA | 82 | U | N1-C6 | 6.26 | 1.43 | 1.38 |
| 2 | AB | 450 | G | C5'-C4' | -6.26 | 1.43 | 1.51 |
| 2 | AB | 633 | A | O3'-P | 6.26 | 1.68 | 1.61 |
| 2 | AB | 1546 | G | C3'-C2' | 6.26 | 1.59 | 1.52 |
| 2 | AB | 1961 | C | N3-C4 | 6.26 | 1.38 | 1.33 |
| 35 | BA | 415 | A | C4'-O4' | -6.26 | 1.37 | 1.45 |
| 35 | BA | 1453 | G | C2-N3 | 6.26 | 1.37 | 1.32 |
| 2 | AB | 31 | C | N1-C6 | 6.25 | 1.41 | 1.37 |
| 2 | AB | 146 | A | C5'-C4' | 6.25 | 1.58 | 1.51 |
| 2 | AB | 210 | C | O3'-P | 6.25 | 1.68 | 1.61 |
| 2 | AB | 826 | U | P-O5' | 6.25 | 1.66 | 1.59 |
| 35 | BA | 519 | C | C4-N4 | 6.25 | 1.39 | 1.33 |
| 2 | AB | 317 | G | N9-C8 | 6.25 | 1.42 | 1.37 |
| 2 | AB | 441 | U | C2-N3 | 6.25 | 1.42 | 1.37 |
| 2 | AB | 673 | C | C2-O2 | -6.25 | 1.18 | 1.24 |
| 2 | AB | 1471 | G | C5-C4 | -6.25 | 1.33 | 1.38 |
| 2 | AB | 1608 | A | N3-C4 | 6.25 | 1.38 | 1.34 |
| 2 | AB | 2207 | C | P-O5' | 6.25 | 1.66 | 1.59 |
| 35 | BA | 218 | U | P-O5' | 6.25 | 1.66 | 1.59 |
| 35 | BA | 321 | A | N9-C4 | -6.25 | 1.34 | 1.37 |
| 40 | BF | 94 | GLU | CG-CD | 6.25 | 1.61 | 1.51 |
| 2 | AB | 2688 | G | C2'-O2' | -6.25 | 1.33 | 1.41 |
| 35 | BA | 335 | C | N3-C4 | 6.25 | 1.38 | 1.33 |
| 35 | BA | 850 | U | C4-C5 | -6.25 | 1.38 | 1.43 |
| 35 | BA | 1359 | C | C2-O2 | -6.25 | 1.18 | 1.24 |
| 2 | AB | 279 | A | C8-N7 | -6.25 | 1.27 | 1.31 |
| 2 | AB | 448 | U | C5'-C4' | 6.25 | 1.58 | 1.51 |
| 2 | AB | 1172 | C | P-O5' | 6.25 | 1.66 | 1.59 |
| 2 | AB | 1862 | G | C6-O6 | 6.25 | 1.29 | 1.24 |
| 2 | AB | 2050 | C | N3-C4 | 6.25 | 1.38 | 1.33 |
| 2 | AB | 2121 | G | C3'-C2' | 6.25 | 1.59 | 1.52 |
| 2 | AB | 2184 | A | C4'-O4' | -6.25 | 1.37 | 1.45 |
| 2 | AB | 2694 | G | C6-O6 | -6.25 | 1.18 | 1.24 |
| 2 | AB | 2709 | G | N9-C4 | 6.25 | 1.43 | 1.38 |
| 35 | BA | 342 | C | C2-N3 | 6.25 | 1.40 | 1.35 |
| 35 | BA | 1058 | G | C6-O6 | -6.25 | 1.18 | 1.24 |
| 35 | BA | 1154 | G | N9-C4 | 6.25 | 1.43 | 1.38 |
| 37 | BC | 15 | G | C2-N3 | 6.25 | 1.37 | 1.32 |
| 2 | AB | 88 | G | C5'-C4' | 6.25 | 1.58 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 825 | A | C5'-C4' | 6.25 | 1.58 | 1.51 |
| 2 | AB | 2095 | A | C2'-C1' | 6.25 | 1.60 | 1.53 |
| 2 | AB | 2200 | C | O3'-P | 6.25 | 1.68 | 1.61 |
| 2 | AB | 2521 | C | C5'-C4' | 6.25 | 1.58 | 1.51 |
| 33 | A6 | 19 | GLY | CA-C | 6.25 | 1.61 | 1.51 |
| 35 | BA | 955 | U | N1-C2 | 6.25 | 1.44 | 1.38 |
| 2 | AB | 1309 | G | C5'-C4' | -6.25 | 1.43 | 1.51 |
| 35 | BA | 26 | A | O3'-P | -6.25 | 1.53 | 1.61 |
| 2 | AB | 429 | A | N9-C4 | -6.24 | 1.34 | 1.37 |
| 2 | AB | 2731 | G | N7-C5 | -6.24 | 1.35 | 1.39 |
| 35 | BA | 291 | U | P-O5' | 6.24 | 1.66 | 1.59 |
| 35 | BA | 1251 | A | P-O5' | 6.24 | 1.66 | 1.59 |
| 35 | BA | 1300 | G | N9-C8 | 6.24 | 1.42 | 1.37 |
| 35 | BA | 1425 | U | C3'-C2' | 6.24 | 1.59 | 1.52 |
| 35 | BA | 1540 | U | N1-C2 | 6.24 | 1.44 | 1.38 |
| 2 | AB | 965 | C | C2'-C1' | 6.24 | 1.60 | 1.53 |
| 2 | AB | 1161 | C | C4-C5 | 6.24 | 1.48 | 1.43 |
| 2 | AB | 2566 | A | C6-N6 | 6.24 | 1.39 | 1.33 |
| 35 | BA | 618 | C | N1-C6 | -6.24 | 1.33 | 1.37 |
| 2 | AB | 644 | A | C5-C4 | 6.24 | 1.43 | 1.38 |
| 2 | AB | 1083 | U | C4'-O4' | -6.24 | 1.37 | 1.45 |
| 2 | AB | 1351 | C | C4'-O4' | -6.24 | 1.37 | 1.45 |
| 2 | AB | 2085 | U | P-O5' | 6.24 | 1.66 | 1.59 |
| 2 | AB | 2883 | A | P-O5' | 6.24 | 1.66 | 1.59 |
| 2 | AB | 2890 | G | N7-C5 | 6.24 | 1.43 | 1.39 |
| 35 | BA | 785 | G | C6-N1 | -6.24 | 1.35 | 1.39 |
| 35 | BA | 1135 | U | C5-C6 | 6.24 | 1.39 | 1.34 |
| 36 | BB | 43 | U | N1-C6 | 6.24 | 1.43 | 1.38 |
| 2 | AB | 932 | U | P-O5' | 6.24 | 1.66 | 1.59 |
| 2 | AB | 1367 | A | C2-N3 | -6.24 | 1.27 | 1.33 |
| 2 | AB | 1846 | G | C5'-C4' | 6.24 | 1.58 | 1.51 |
| 35 | BA | 319 | G | O4'-C1' | 6.24 | 1.49 | 1.41 |
| 35 | BA | 476 | U | C2-N3 | 6.24 | 1.42 | 1.37 |
| 35 | BA | 533 | A | N9-C4 | 6.24 | 1.41 | 1.37 |
| 35 | BA | 556 | C | N1-C2 | 6.24 | 1.46 | 1.40 |
| 35 | BA | 983 | A | C5-C4 | -6.24 | 1.34 | 1.38 |
| 2 | AB | 983 | A | P-O5' | 6.24 | 1.66 | 1.59 |
| 2 | AB | 2131 | U | C2-N3 | 6.24 | 1.42 | 1.37 |
| 2 | AB | 2716 | C | C4-C5 | 6.24 | 1.48 | 1.43 |
| 2 | AB | 1314 | C | C5'-C4' | 6.24 | 1.58 | 1.51 |
| 2 | AB | 1562 | U | C5-C6 | 6.24 | 1.39 | 1.34 |
| 2 | AB | 2036 | C | O4'-C1' | 6.24 | 1.49 | 1.41 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2565 | A | N9-C4 | -6.24 | 1.34 | 1.37 |
| 2 | AB | 2714 | G | P-O5' | 6.24 | 1.66 | 1.59 |
| 35 | BA | 21 | G | C6-N1 | -6.24 | 1.35 | 1.39 |
| 2 | AB | 2397 | G | O4'-C1' | 6.23 | 1.49 | 1.41 |
| 2 | AB | 2599 | G | C3'-C2' | 6.23 | 1.59 | 1.52 |
| 2 | AB | 2819 | G | N1-C2 | 6.23 | 1.42 | 1.37 |
| 35 | BA | 322 | C | O4'-C1' | 6.23 | 1.49 | 1.41 |
| 35 | BA | 736 | C | C2-N3 | 6.23 | 1.40 | 1.35 |
| 35 | BA | 1027 | C | C2'-C1' | -6.23 | 1.46 | 1.53 |
| 35 | BA | 1280 | A | C5-C4 | -6.23 | 1.34 | 1.38 |
| 2 | AB | 58 | G | P-O5' | 6.23 | 1.66 | 1.59 |
| 2 | AB | 605 | G | N9-C8 | 6.23 | 1.42 | 1.37 |
| 2 | AB | 1227 | G | N7-C5 | -6.23 | 1.35 | 1.39 |
| 2 | AB | 2609 | U | C2-O2 | 6.23 | 1.27 | 1.22 |
| 11 | AK | 28 | GLY | CA-C | 6.23 | 1.61 | 1.51 |
| 35 | BA | 624 | C | C2-N3 | 6.23 | 1.40 | 1.35 |
| 35 | BA | 1104 | G | C2'-C1' | 6.23 | 1.60 | 1.53 |
| 2 | AB | 928 | A | P-O5' | 6.23 | 1.66 | 1.59 |
| 2 | AB | 1131 | G | O4'-C1' | 6.23 | 1.49 | 1.41 |
| 2 | AB | 1412 | U | N3-C4 | -6.23 | 1.32 | 1.38 |
| 5 | AE | 101 | PHE | CG-CD2 | 6.23 | 1.48 | 1.38 |
| 35 | BA | 513 | C | C4'-O4' | -6.23 | 1.37 | 1.45 |
| 35 | BA | 671 | G | C6-N1 | -6.23 | 1.35 | 1.39 |
| 37 | BC | 73 | A | C6-N1 | -6.23 | 1.31 | 1.35 |
| 2 | AB | 473 | G | C2-N2 | 6.23 | 1.40 | 1.34 |
| 2 | AB | 1273 | U | C4-C5 | 6.23 | 1.49 | 1.43 |
| 2 | AB | 2618 | G | C5'-C4' | 6.23 | 1.58 | 1.51 |
| 2 | AB | 21 | A | C3'-C2' | -6.23 | 1.46 | 1.52 |
| 2 | AB | 703 | U | N3-C4 | 6.23 | 1.44 | 1.38 |
| 35 | BA | 116 | A | C2'-C1' | 6.23 | 1.60 | 1.53 |
| 35 | BA | 457 | G | C8-N7 | -6.23 | 1.27 | 1.30 |
| 35 | BA | 134 | G | N3-C4 | 6.23 | 1.39 | 1.35 |
| 35 | BA | 1437 | A | C4'-C3' | 6.23 | 1.59 | 1.53 |
| 2 | AB | 521 | U | C2-N3 | 6.22 | 1.42 | 1.37 |
| 2 | AB | 956 | G | C5'-C4' | 6.22 | 1.58 | 1.51 |
| 2 | AB | 1085 | A | N9-C4 | -6.22 | 1.34 | 1.37 |
| 2 | AB | 2130 | U | C4-C5 | 6.22 | 1.49 | 1.43 |
| 2 | AB | 2523 | G | O3'-P | 6.22 | 1.68 | 1.61 |
| 2 | AB | 2538 | C | N1-C2 | -6.22 | 1.33 | 1.40 |
| 35 | BA | 224 | U | N3-C4 | -6.22 | 1.32 | 1.38 |
| 35 | BA | 619 | U | C3'-C2' | 6.22 | 1.59 | 1.52 |
| 35 | BA | 994 | A | N9-C8 | -6.22 | 1.32 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 52 | BR | 34 | GLU | CG-CD | 6.22 | 1.61 | 1.51 |
| 2 | AB | 1069 | A | N3-C4 | 6.22 | 1.38 | 1.34 |
| 2 | AB | 2281 | A | C8-N7 | -6.22 | 1.27 | 1.31 |
| 2 | AB | 2703 | C | C4-C5 | 6.22 | 1.48 | 1.43 |
| 2 | AB | 2759 | G | C5-C4 | 6.22 | 1.42 | 1.38 |
| 2 | AB | 357 | C | C5-C6 | 6.22 | 1.39 | 1.34 |
| 2 | AB | 602 | A | N3-C4 | 6.22 | 1.38 | 1.34 |
| 2 | AB | 1540 | G | P-O5' | 6.22 | 1.66 | 1.59 |
| 35 | BA | 627 | G | C5-C6 | -6.22 | 1.36 | 1.42 |
| 35 | BA | 1020 | G | C4'-O4' | -6.22 | 1.37 | 1.45 |
| 35 | BA | 1358 | U | C2'-O2' | -6.22 | 1.33 | 1.41 |
| 2 | AB | 194 | G | C5-C4 | -6.22 | 1.33 | 1.38 |
| 2 | AB | 668 | A | N7-C5 | 6.22 | 1.43 | 1.39 |
| 2 | AB | 1044 | C | N3-C4 | -6.22 | 1.29 | 1.33 |
| 2 | AB | 1187 | G | N3-C4 | 6.22 | 1.39 | 1.35 |
| 2 | AB | 1273 | U | C2-O2 | 6.22 | 1.27 | 1.22 |
| 2 | AB | 1396 | U | C4'-O4' | -6.22 | 1.37 | 1.45 |
| 2 | AB | 1882 | U | P-O5' | 6.22 | 1.66 | 1.59 |
| 2 | AB | 2658 | C | N1-C6 | 6.22 | 1.40 | 1.37 |
| 35 | BA | 40 | C | C2-N3 | 6.22 | 1.40 | 1.35 |
| 35 | BA | 452 | A | C6-N6 | 6.22 | 1.39 | 1.33 |
| 35 | BA | 459 | A | C5'-C4' | 6.22 | 1.58 | 1.51 |
| 35 | BA | 623 | C | C4'-C3' | 6.22 | 1.59 | 1.53 |
| 35 | BA | 1331 | G | N7-C5 | 6.22 | 1.43 | 1.39 |
| 36 | BB | 38 | G | N3-C4 | 6.22 | 1.39 | 1.35 |
| 2 | AB | 198 | C | P-O5' | 6.22 | 1.66 | 1.59 |
| 16 | AP | 119 | SER | CA-CB | 6.22 | 1.62 | 1.52 |
| 2 | AB | 419 | U | C5'-C4' | 6.22 | 1.58 | 1.51 |
| 2 | AB | 962 | G | N3-C4 | 6.22 | 1.39 | 1.35 |
| 2 | AB | 2070 | A | N9-C4 | 6.22 | 1.41 | 1.37 |
| 2 | AB | 2116 | G | C8-N7 | 6.22 | 1.34 | 1.30 |
| 35 | BA | 1439 | G | C2'-C1' | 6.22 | 1.60 | 1.53 |
| 2 | AB | 561 | G | C4'-C3' | -6.21 | 1.46 | 1.53 |
| 2 | AB | 1416 | G | C6-N1 | 6.21 | 1.43 | 1.39 |
| 2 | AB | 2517 | C | C4'-C3' | 6.21 | 1.59 | 1.53 |
| 2 | AB | 2732 | G | P-O5' | 6.21 | 1.66 | 1.59 |
| 2 | AB | 456 | C | C5-C6 | 6.21 | 1.39 | 1.34 |
| 2 | AB | 761 | A | N9-C8 | 6.21 | 1.42 | 1.37 |
| 35 | BA | 314 | C | O4'-C1' | 6.21 | 1.49 | 1.41 |
| 2 | AB | 155 | A | C6-N1 | 6.21 | 1.39 | 1.35 |
| 2 | AB | 2023 | C | C2-N3 | 6.21 | 1.40 | 1.35 |
| 2 | AB | 2328 | A | C5'-C4' | 6.21 | 1.58 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2607 | G | C3'-C2' | 6.21 | 1.59 | 1.52 |
| 2 | AB | 982 | C | O4'-C1' | 6.21 | 1.49 | 1.41 |
| 2 | AB | 1907 | G | N9-C8 | 6.21 | 1.42 | 1.37 |
| 2 | AB | 623 | C | C5'-C4' | 6.21 | 1.58 | 1.51 |
| 2 | AB | 1259 | G | N7-C5 | 6.21 | 1.43 | 1.39 |
| 35 | BA | 153 | C | C4-C5 | 6.21 | 1.48 | 1.43 |
| 35 | BA | 232 | G | C5-C6 | 6.21 | 1.48 | 1.42 |
| 35 | BA | 733 | G | C5'-C4' | 6.21 | 1.58 | 1.51 |
| 35 | BA | 1343 | G | C4'-C3' | -6.21 | 1.46 | 1.53 |
| 2 | AB | 647 | G | C8-N7 | -6.21 | 1.27 | 1.30 |
| 2 | AB | 1351 | C | C3'-C2' | -6.21 | 1.46 | 1.52 |
| 35 | BA | 670 | G | C2'-C1' | -6.21 | 1.46 | 1.53 |
| 37 | BC | 18 | U | N1-C2 | 6.21 | 1.44 | 1.38 |
| 2 | AB | 2823 | A | N3-C4 | 6.21 | 1.38 | 1.34 |
| 35 | BA | 986 | U | O3'-P | 6.21 | 1.68 | 1.61 |
| 35 | BA | 1426 | G | N7-C5 | 6.21 | 1.43 | 1.39 |
| 2 | AB | 447 | A | N1-C2 | -6.20 | 1.28 | 1.34 |
| 2 | AB | 544 | C | P-O5' | 6.20 | 1.66 | 1.59 |
| 2 | AB | 774 | G | P-O5' | 6.20 | 1.66 | 1.59 |
| 2 | AB | 1164 | C | N1-C6 | 6.20 | 1.40 | 1.37 |
| 2 | AB | 1198 | U | C3'-C2' | 6.20 | 1.59 | 1.52 |
| 2 | AB | 2332 | C | N1-C6 | 6.20 | 1.40 | 1.37 |
| 35 | BA | 75 | G | N1-C2 | -6.20 | 1.32 | 1.37 |
| 35 | BA | 101 | A | C6-N1 | -6.20 | 1.31 | 1.35 |
| 35 | BA | 127 | G | C6-O6 | -6.20 | 1.18 | 1.24 |
| 35 | BA | 171 | A | C2'-C1' | 6.20 | 1.60 | 1.53 |
| 35 | BA | 757 | U | C4'-O4' | -6.20 | 1.37 | 1.45 |
| 35 | BA | 1227 | A | N3-C4 | 6.20 | 1.38 | 1.34 |
| 2 | AB | 1081 | U | O3'-P | 6.20 | 1.68 | 1.61 |
| 2 | AB | 2232 | C | O3'-P | -6.20 | 1.53 | 1.61 |
| 2 | AB | 2487 | G | C8-N7 | 6.20 | 1.34 | 1.30 |
| 2 | AB | 452 | G | N7-C5 | 6.20 | 1.43 | 1.39 |
| 2 | AB | 1241 | A | O3'-P | 6.20 | 1.68 | 1.61 |
| 2 | AB | 1571 | A | C5'-C4' | 6.20 | 1.58 | 1.51 |
| 2 | AB | 2341 | G | C3'-C2' | -6.20 | 1.46 | 1.52 |
| 35 | BA | 239 | U | P-O5' | 6.20 | 1.66 | 1.59 |
| 35 | BA | 952 | U | C2-N3 | 6.20 | 1.42 | 1.37 |
| 35 | BA | 1494 | G | C2'-C1' | -6.20 | 1.46 | 1.53 |
| 2 | AB | 1296 | G | N9-C8 | 6.20 | 1.42 | 1.37 |
| 2 | AB | 1403 | A | O3'-P | 6.20 | 1.68 | 1.61 |
| 2 | AB | 2660 | A | C2-N3 | -6.20 | 1.27 | 1.33 |
| 35 | BA | 646 | G | C8-N7 | -6.20 | 1.27 | 1.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1034 | G | N7-C5 | -6.20 | 1.35 | 1.39 |
| 35 | BA | 1139 | G | N7-C5 | -6.20 | 1.35 | 1.39 |
| 35 | BA | 1442 | G | O3'-P | 6.20 | 1.68 | 1.61 |
| 36 | BB | 21 | U | C2-N3 | 6.20 | 1.42 | 1.37 |
| 37 | BC | 26 | C | N1-C6 | 6.20 | 1.40 | 1.37 |
| 37 | BC | 54 | G | C8-N7 | 6.20 | 1.34 | 1.30 |
| 2 | AB | 265 | A | C5-C6 | -6.20 | 1.35 | 1.41 |
| 2 | AB | 1852 | U | C2-N3 | 6.20 | 1.42 | 1.37 |
| 2 | AB | 2429 | G | O5'-C5' | -6.20 | 1.32 | 1.42 |
| 35 | BA | 417 | G | P-O5' | 6.20 | 1.66 | 1.59 |
| 35 | BA | 741 | G | N7-C5 | -6.20 | 1.35 | 1.39 |
| 35 | BA | 855 | U | C4-C5 | 6.20 | 1.49 | 1.43 |
| 35 | BA | 1201 | A | C4'-O4' | -6.20 | 1.37 | 1.45 |
| 2 | AB | 1284 | A | P-O5' | 6.20 | 1.66 | 1.59 |
| 2 | AB | 2183 | A | C8-N7 | -6.20 | 1.27 | 1.31 |
| 2 | AB | 2545 | G | N9-C4 | 6.20 | 1.43 | 1.38 |
| 2 | AB | 2859 | G | P-O5' | 6.20 | 1.66 | 1.59 |
| 10 | AJ | 78 | PRO | N-CD | -6.20 | 1.39 | 1.47 |
| 35 | BA | 115 | G | C5-C4 | 6.20 | 1.42 | 1.38 |
| 35 | BA | 194 | C | N1-C6 | 6.20 | 1.40 | 1.37 |
| 35 | BA | 280 | C | C2-N3 | 6.20 | 1.40 | 1.35 |
| 2 | AB | 159 | G | N7-C5 | 6.19 | 1.43 | 1.39 |
| 2 | AB | 561 | G | C2'-O2' | -6.19 | 1.33 | 1.41 |
| 2 | AB | 1043 | C | C2'-C1' | 6.19 | 1.60 | 1.53 |
| 2 | AB | 1235 | G | C5-C4 | -6.19 | 1.34 | 1.38 |
| 35 | BA | 544 | G | C8-N7 | 6.19 | 1.34 | 1.30 |
| 35 | BA | 1381 | U | N1-C6 | 6.19 | 1.43 | 1.38 |
| 2 | AB | 1002 | G | C6-N1 | 6.19 | 1.43 | 1.39 |
| 2 | AB | 1015 | U | C2-O2 | 6.19 | 1.27 | 1.22 |
| 2 | AB | 1572 | A | O3'-P | 6.19 | 1.68 | 1.61 |
| 2 | AB | 1598 | A | C8-N7 | -6.19 | 1.27 | 1.31 |
| 2 | AB | 1753 | G | C2-N3 | 6.19 | 1.37 | 1.32 |
| 2 | AB | 1853 | A | C6-N6 | 6.19 | 1.39 | 1.33 |
| 2 | AB | 2061 | G | C3'-O3' | -6.19 | 1.33 | 1.42 |
| 2 | AB | 2403 | C | N1-C6 | 6.19 | 1.40 | 1.37 |
| 35 | BA | 68 | G | C2-N2 | -6.19 | 1.28 | 1.34 |
| 35 | BA | 240 | G | N9-C8 | -6.19 | 1.33 | 1.37 |
| 35 | BA | 502 | A | C2'-C1' | -6.19 | 1.46 | 1.53 |
| 35 | BA | 538 | G | N3-C4 | 6.19 | 1.39 | 1.35 |
| 35 | BA | 1510 | C | O4'-C1' | 6.19 | 1.49 | 1.41 |
| 35 | BA | 1524 | C | C2-N3 | 6.19 | 1.40 | 1.35 |
| 2 | AB | 1697 | G | P-O5' | 6.19 | 1.66 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 95 | C | N1-C2 | 6.19 | 1.46 | 1.40 |
| 35 | BA | 627 | G | O3'-P | 6.19 | 1.68 | 1.61 |
| 35 | BA | 820 | U | C3'-C2' | 6.19 | 1.59 | 1.52 |
| 35 | BA | 949 | A | O4'-C1' | 6.19 | 1.49 | 1.41 |
| 35 | BA | 1083 | U | C5'-C4' | 6.19 | 1.58 | 1.51 |
| 2 | AB | 139 | U | P-O5' | 6.19 | 1.66 | 1.59 |
| 2 | AB | 370 | G | N9-C8 | 6.19 | 1.42 | 1.37 |
| 2 | AB | 1064 | C | P-O5' | 6.19 | 1.66 | 1.59 |
| 2 | AB | 2517 | C | P-O5' | 6.19 | 1.66 | 1.59 |
| 35 | BA | 1208 | C | C2-N3 | -6.19 | 1.30 | 1.35 |
| 2 | AB | 179 | C | P-O5' | 6.19 | 1.66 | 1.59 |
| 2 | AB | 706 | A | C6-N6 | -6.19 | 1.29 | 1.33 |
| 2 | AB | 893 | C | C4'-O4' | -6.19 | 1.37 | 1.45 |
| 2 | AB | 2282 | G | N9-C4 | 6.19 | 1.42 | 1.38 |
| 2 | AB | 2423 | U | P-O5' | 6.19 | 1.66 | 1.59 |
| 35 | BA | 747 | A | N7-C5 | 6.19 | 1.43 | 1.39 |
| 35 | BA | 750 | C | O3'-P | 6.19 | 1.68 | 1.61 |
| 35 | BA | 1010 | U | C2-N3 | 6.19 | 1.42 | 1.37 |
| 35 | BA | 1081 | A | N7-C5 | -6.19 | 1.35 | 1.39 |
| 2 | AB | 1035 | U | C2-O2 | 6.19 | 1.27 | 1.22 |
| 2 | AB | 1051 | G | C8-N7 | -6.19 | 1.27 | 1.30 |
| 35 | BA | 663 | A | C8-N7 | 6.19 | 1.35 | 1.31 |
| 35 | BA | 722 | G | C5-C4 | -6.19 | 1.34 | 1.38 |
| 37 | BC | 60 | A | P-O5' | 6.19 | 1.66 | 1.59 |
| 2 | AB | 5 | A | N3-C4 | 6.18 | 1.38 | 1.34 |
| 2 | AB | 305 | C | C2-N3 | 6.18 | 1.40 | 1.35 |
| 2 | AB | 607 | U | C3'-C2' | 6.18 | 1.59 | 1.52 |
| 2 | AB | 1165 | A | C6-N1 | -6.18 | 1.31 | 1.35 |
| 2 | AB | 1177 | G | C2-N3 | 6.18 | 1.37 | 1.32 |
| 2 | AB | 2110 | G | C5-C4 | -6.18 | 1.34 | 1.38 |
| 2 | AB | 2399 | G | C6-O6 | -6.18 | 1.18 | 1.24 |
| 2 | AB | 2677 | G | C1'-N9 | -6.18 | 1.38 | 1.46 |
| 35 | BA | 319 | G | P-O5' | 6.18 | 1.66 | 1.59 |
| 35 | BA | 1107 | C | P-O5' | -6.18 | 1.53 | 1.59 |
| 35 | BA | 1227 | A | O3'-P | 6.18 | 1.68 | 1.61 |
| 1 | AA | 91 | C | N3-C4 | 6.18 | 1.38 | 1.33 |
| 2 | AB | 489 | G | O3'-P | 6.18 | 1.68 | 1.61 |
| 2 | AB | 717 | C | N3-C4 | 6.18 | 1.38 | 1.33 |
| 2 | AB | 1499 | C | N3-C4 | 6.18 | 1.38 | 1.33 |
| 2 | AB | 1983 | G | N3-C4 | 6.18 | 1.39 | 1.35 |
| 2 | AB | 2717 | C | N1-C2 | 6.18 | 1.46 | 1.40 |
| 35 | BA | 474 | G | C3'-O3' | 6.18 | 1.50 | 1.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 494 | G | C5-C4 | -6.18 | 1.34 | 1.38 |
| 2 | AB | 754 | U | C4'-O4' | -6.18 | 1.37 | 1.45 |
| 36 | BB | 20 | G | P-O5' | 6.18 | 1.66 | 1.59 |
| 2 | AB | 502 | A | P-O5' | 6.18 | 1.66 | 1.59 |
| 2 | AB | 507 | A | N9-C4 | 6.18 | 1.41 | 1.37 |
| 2 | AB | 2092 | U | C5-C6 | 6.18 | 1.39 | 1.34 |
| 35 | BA | 88 | U | C4-C5 | 6.18 | 1.49 | 1.43 |
| 35 | BA | 517 | G | N7-C5 | 6.18 | 1.43 | 1.39 |
| 37 | BC | 28 | U | C4-O4 | 6.18 | 1.28 | 1.23 |
| 2 | AB | 161 | A | P-O5' | 6.18 | 1.66 | 1.59 |
| 2 | AB | 1363 | C | P-O5' | 6.18 | 1.66 | 1.59 |
| 2 | AB | 2523 | G | C6-O6 | 6.18 | 1.29 | 1.24 |
| 35 | BA | 1322 | C | C2'-O2' | 6.18 | 1.49 | 1.41 |
| 2 | AB | 199 | A | C5'-C4' | 6.18 | 1.58 | 1.51 |
| 35 | BA | 236 | A | C5-C6 | 6.18 | 1.46 | 1.41 |
| 35 | BA | 558 | G | C2-N3 | 6.18 | 1.37 | 1.32 |
| 35 | BA | 582 | C | C1'-N1 | 6.18 | 1.58 | 1.48 |
| 35 | BA | 828 | U | N3-C4 | 6.18 | 1.44 | 1.38 |
| 35 | BA | 1535 | C | C2'-O2' | -6.18 | 1.33 | 1.41 |
| 2 | AB | 496 | G | P-O5' | 6.17 | 1.66 | 1.59 |
| 2 | AB | 966 | G | C2'-C1' | 6.17 | 1.60 | 1.53 |
| 2 | AB | 1115 | G | N7-C5 | 6.17 | 1.43 | 1.39 |
| 2 | AB | 2223 | G | N7-C5 | 6.17 | 1.43 | 1.39 |
| 35 | BA | 918 | A | C4'-C3' | -6.17 | 1.46 | 1.53 |
| 35 | BA | 972 | C | C4'-C3' | 6.17 | 1.59 | 1.53 |
| 2 | AB | 384 | A | P-O5' | 6.17 | 1.66 | 1.59 |
| 2 | AB | 448 | U | C4-C5 | 6.17 | 1.49 | 1.43 |
| 2 | AB | 1443 | U | C2-O2 | 6.17 | 1.27 | 1.22 |
| 35 | BA | 1318 | A | C2-N3 | 6.17 | 1.39 | 1.33 |
| 2 | AB | 338 | G | C4'-O4' | -6.17 | 1.37 | 1.45 |
| 2 | AB | 427 | U | P-O5' | 6.17 | 1.66 | 1.59 |
| 2 | AB | 2003 | A | C2-N3 | -6.17 | 1.27 | 1.33 |
| 2 | AB | 2224 | G | C5'-C4' | 6.17 | 1.58 | 1.51 |
| 2 | AB | 2853 | C | N3-C4 | 6.17 | 1.38 | 1.33 |
| 35 | BA | 398 | U | C2-N3 | 6.17 | 1.42 | 1.37 |
| 35 | BA | 1239 | A | N9-C4 | -6.17 | 1.34 | 1.37 |
| 35 | BA | 1340 | A | C3'-C2' | 6.17 | 1.59 | 1.52 |
| 35 | BA | 1427 | C | C4'-O4' | -6.17 | 1.37 | 1.45 |
| 37 | BC | 9 | G | N9-C8 | 6.17 | 1.42 | 1.37 |
| 36 | BB | 30 | U | C3'-C2' | 6.17 | 1.59 | 1.52 |
| 2 | AB | 53 | A | O3'-P | 6.17 | 1.68 | 1.61 |
| 2 | AB | 1445 | G | C4'-O4' | -6.17 | 1.37 | 1.45 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1011 | C | C4'-O4' | -6.17 | 1.37 | 1.45 |
| 2 | AB | 418 | C | C4'-C3' | -6.17 | 1.46 | 1.53 |
| 2 | AB | 487 | C | C3'-C2' | -6.17 | 1.46 | 1.52 |
| 2 | AB | 1295 | C | C4'-O4' | -6.17 | 1.37 | 1.45 |
| 2 | AB | 1472 | C | N3-C4 | 6.17 | 1.38 | 1.33 |
| 2 | AB | 1678 | A | C3'-C2' | 6.17 | 1.59 | 1.52 |
| 2 | AB | 2109 | U | C4'-O4' | -6.17 | 1.37 | 1.45 |
| 2 | AB | 2192 | U | C4-O4 | -6.17 | 1.18 | 1.23 |
| 2 | AB | 2209 | G | N9-C8 | -6.17 | 1.33 | 1.37 |
| 35 | BA | 218 | U | C2-N3 | 6.17 | 1.42 | 1.37 |
| 35 | BA | 644 | U | C2'-O2' | 6.17 | 1.49 | 1.41 |
| 35 | BA | 787 | A | N7-C5 | -6.17 | 1.35 | 1.39 |
| 2 | AB | 1115 | G | N9-C8 | 6.17 | 1.42 | 1.37 |
| 2 | AB | 1571 | A | N1-C2 | -6.17 | 1.28 | 1.34 |
| 35 | BA | 410 | G | N9-C8 | -6.17 | 1.33 | 1.37 |
| 35 | BA | 888 | G | C5'-C4' | 6.17 | 1.58 | 1.51 |
| 35 | BA | 1324 | A | C5'-C4' | 6.17 | 1.58 | 1.51 |
| 2 | AB | 219 | A | O3'-P | 6.16 | 1.68 | 1.61 |
| 2 | AB | 912 | C | N3-C4 | 6.16 | 1.38 | 1.33 |
| 2 | AB | 2499 | C | O4'-C1' | 6.16 | 1.49 | 1.41 |
| 2 | AB | 2630 | G | C5-C6 | 6.16 | 1.48 | 1.42 |
| 35 | BA | 492 | C | N1-C6 | 6.16 | 1.40 | 1.37 |
| 35 | BA | 503 | C | C2-N3 | -6.16 | 1.30 | 1.35 |
| 35 | BA | 744 | C | C4'-O4' | -6.16 | 1.37 | 1.45 |
| 35 | BA | 906 | A | N3-C4 | 6.16 | 1.38 | 1.34 |
| 35 | BA | 1261 | A | N3-C4 | 6.16 | 1.38 | 1.34 |
| 2 | AB | 2560 | A | C6-N6 | -6.16 | 1.29 | 1.33 |
| 1 | AA | 43 | C | C2-N3 | 6.16 | 1.40 | 1.35 |
| 2 | AB | 426 | C | C4'-O4' | -6.16 | 1.37 | 1.45 |
| 2 | AB | 784 | G | C4'-C3' | -6.16 | 1.46 | 1.53 |
| 2 | AB | 878 | A | N3-C4 | 6.16 | 1.38 | 1.34 |
| 2 | AB | 1154 | G | N9-C4 | 6.16 | 1.42 | 1.38 |
| 2 | AB | 1155 | A | C5'-C4' | 6.16 | 1.58 | 1.51 |
| 2 | AB | 2268 | A | C5-C6 | 6.16 | 1.46 | 1.41 |
| 2 | AB | 2752 | C | C2-N3 | -6.16 | 1.30 | 1.35 |
| 35 | BA | 219 | U | N1-C2 | 6.16 | 1.44 | 1.38 |
| 35 | BA | 570 | G | C2-N3 | 6.16 | 1.37 | 1.32 |
| 2 | AB | 528 | A | N7-C5 | -6.16 | 1.35 | 1.39 |
| 2 | AB | 550 | C | N3-C4 | 6.16 | 1.38 | 1.33 |
| 2 | AB | 733 | G | P-O5' | -6.16 | 1.53 | 1.59 |
| 35 | BA | 866 | C | C2-N3 | 6.16 | 1.40 | 1.35 |
| 35 | BA | 1137 | C | C3'-O3' | 6.16 | 1.50 | 1.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1701 | A | O3'-P | 6.16 | 1.68 | 1.61 |
| 2 | AB | 2332 | C | O3'-P | 6.16 | 1.68 | 1.61 |
| 2 | AB | 2897 | U | N1-C2 | 6.16 | 1.44 | 1.38 |
| 37 | BC | 71 | G | C8-N7 | 6.16 | 1.34 | 1.30 |
| 2 | AB | 459 | U | C2-N3 | 6.16 | 1.42 | 1.37 |
| 2 | AB | 1358 | G | C2'-O2' | -6.16 | 1.33 | 1.41 |
| 2 | AB | 1399 | C | P-O5' | 6.16 | 1.66 | 1.59 |
| 35 | BA | 250 | A | N9-C4 | -6.16 | 1.34 | 1.37 |
| 35 | BA | 561 | U | N1-C2 | 6.16 | 1.44 | 1.38 |
| 35 | BA | 588 | G | C8-N7 | -6.16 | 1.27 | 1.30 |
| 35 | BA | 647 | C | N3-C4 | 6.16 | 1.38 | 1.33 |
| 35 | BA | 769 | G | C5-C6 | 6.16 | 1.48 | 1.42 |
| 2 | AB | 31 | C | P-O5' | -6.15 | 1.53 | 1.59 |
| 2 | AB | 861 | A | C6-N6 | -6.15 | 1.29 | 1.33 |
| 2 | AB | 1415 | U | C4-O4 | -6.15 | 1.18 | 1.23 |
| 2 | AB | 2423 | U | O3'-P | 6.15 | 1.68 | 1.61 |
| 35 | BA | 83 | C | C2'-C1' | 6.15 | 1.60 | 1.53 |
| 35 | BA | 1483 | A | N3-C4 | 6.15 | 1.38 | 1.34 |
| 2 | AB | 1824 | G | C8-N7 | -6.15 | 1.27 | 1.30 |
| 2 | AB | 2484 | G | C3'-C2' | 6.15 | 1.59 | 1.52 |
| 2 | AB | 2577 | A | N9-C4 | 6.15 | 1.41 | 1.37 |
| 2 | AB | 2810 | A | C5'-C4' | 6.15 | 1.58 | 1.51 |
| 35 | BA | 1330 | U | O3'-P | 6.15 | 1.68 | 1.61 |
| 2 | AB | 257 | C | N1-C6 | -6.15 | 1.33 | 1.37 |
| 2 | AB | 553 | G | C2-N2 | 6.15 | 1.40 | 1.34 |
| 2 | AB | 2531 | A | C6-N6 | 6.15 | 1.38 | 1.33 |
| 2 | AB | 2602 | A | N9-C4 | 6.15 | 1.41 | 1.37 |
| 2 | AB | 229 | C | C4-C5 | 6.15 | 1.47 | 1.43 |
| 2 | AB | 646 | U | N1-C2 | 6.15 | 1.44 | 1.38 |
| 2 | AB | 1102 | C | C4-C5 | 6.15 | 1.47 | 1.43 |
| 2 | AB | 2318 | G | C2-N3 | 6.15 | 1.37 | 1.32 |
| 35 | BA | 743 | A | C2-N3 | -6.15 | 1.28 | 1.33 |
| 2 | AB | 859 | G | C2'-C1' | 6.15 | 1.60 | 1.53 |
| 2 | AB | 977 | G | O3'-P | 6.15 | 1.68 | 1.61 |
| 2 | AB | 1171 | G | C2'-C1' | 6.15 | 1.60 | 1.53 |
| 2 | AB | 1958 | C | C5'-C4' | 6.15 | 1.58 | 1.51 |
| 2 | AB | 2091 | C | C2'-O2' | 6.15 | 1.49 | 1.41 |
| 2 | AB | 2586 | U | C4-O4 | -6.15 | 1.18 | 1.23 |
| 14 | AN | 58 | TYR | CE1-CZ | 6.15 | 1.46 | 1.38 |
| 35 | BA | 371 | A | P-O5' | 6.15 | 1.65 | 1.59 |
| 35 | BA | 802 | A | O3'-P | -6.15 | 1.53 | 1.61 |
| 35 | BA | 1254 | A | N9-C8 | -6.15 | 1.32 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1204 | A | N7-C5 | 6.15 | 1.43 | 1.39 |
| 2 | AB | 2014 | A | N9-C4 | -6.15 | 1.34 | 1.37 |
| 2 | AB | 2742 | G | C6-N1 | 6.15 | 1.43 | 1.39 |
| 35 | BA | 853 | C | O3'-P | 6.15 | 1.68 | 1.61 |
| 2 | AB | 1997 | C | C5'-C4' | 6.14 | 1.58 | 1.51 |
| 35 | BA | 526 | C | C5-C6 | 6.14 | 1.39 | 1.34 |
| 35 | BA | 659 | U | C2'-O2' | 6.14 | 1.49 | 1.41 |
| 2 | AB | 141 | G | P-O5' | 6.14 | 1.65 | 1.59 |
| 2 | AB | 144 | A | C5-C4 | -6.14 | 1.34 | 1.38 |
| 2 | AB | 770 | G | N3-C4 | 6.14 | 1.39 | 1.35 |
| 2 | AB | 1093 | G | N9-C8 | -6.14 | 1.33 | 1.37 |
| 2 | AB | 1485 | U | C3'-C2' | -6.14 | 1.46 | 1.52 |
| 2 | AB | 1471 | G | N9-C8 | -6.14 | 1.33 | 1.37 |
| 2 | AB | 1593 | A | N3-C4 | -6.14 | 1.31 | 1.34 |
| 2 | AB | 2228 | G | C8-N7 | 6.14 | 1.34 | 1.30 |
| 2 | AB | 2607 | G | N9-C8 | -6.14 | 1.33 | 1.37 |
| 2 | AB | 2722 | G | N9-C4 | -6.14 | 1.33 | 1.38 |
| 2 | AB | 1315 | C | C2-N3 | 6.14 | 1.40 | 1.35 |
| 2 | AB | 1960 | A | N9-C8 | 6.14 | 1.42 | 1.37 |
| 2 | AB | 2666 | C | N3-C4 | -6.14 | 1.29 | 1.33 |
| 35 | BA | 1482 | G | C6-N1 | 6.14 | 1.43 | 1.39 |
| 35 | BA | 1540 | U | C5-C6 | 6.14 | 1.39 | 1.34 |
| 35 | BA | 65 | A | C3'-O3' | 6.14 | 1.50 | 1.42 |
| 35 | BA | 308 | C | N1-C6 | 6.14 | 1.40 | 1.37 |
| 35 | BA | 1094 | G | C2-N3 | 6.14 | 1.37 | 1.32 |
| 2 | AB | 43 | G | N7-C5 | 6.14 | 1.43 | 1.39 |
| 2 | AB | 215 | G | N9-C4 | 6.14 | 1.42 | 1.38 |
| 2 | AB | 263 | G | N3-C4 | 6.14 | 1.39 | 1.35 |
| 2 | AB | 620 | G | C5'-C4' | 6.14 | 1.58 | 1.51 |
| 2 | AB | 1155 | A | C2'-O2' | -6.14 | 1.33 | 1.41 |
| 2 | AB | 1167 | C | N1-C6 | -6.14 | 1.33 | 1.37 |
| 2 | AB | 2262 | U | C5'-C4' | 6.14 | 1.58 | 1.51 |
| 35 | BA | 807 | A | N9-C4 | 6.14 | 1.41 | 1.37 |
| 35 | BA | 1025 | U | C5'-C4' | 6.14 | 1.58 | 1.51 |
| 1 | AA | 81 | G | C6-N1 | 6.13 | 1.43 | 1.39 |
| 2 | AB | 309 | A | C6-N6 | 6.13 | 1.38 | 1.33 |
| 2 | AB | 2708 | G | P-O5' | 6.13 | 1.65 | 1.59 |
| 35 | BA | 130 | A | N3-C4 | 6.13 | 1.38 | 1.34 |
| 35 | BA | 156 | C | C4-C5 | -6.13 | 1.38 | 1.43 |
| 35 | BA | 555 | U | P-O5' | 6.13 | 1.65 | 1.59 |
| 35 | BA | 1144 | G | N3-C4 | 6.13 | 1.39 | 1.35 |
| 2 | AB | 575 | A | C5-C6 | 6.13 | 1.46 | 1.41 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2396 | G | C8-N7 | -6.13 | 1.27 | 1.30 |
| 2 | AB | 2583 | G | N9-C8 | -6.13 | 1.33 | 1.37 |
| 35 | BA | 1092 | A | N3-C4 | 6.13 | 1.38 | 1.34 |
| 1 | AA | 11 | C | C4'-C3' | 6.13 | 1.59 | 1.53 |
| 1 | AA | 56 | G | N7-C5 | 6.13 | 1.43 | 1.39 |
| 2 | AB | 229 | C | C5-C6 | 6.13 | 1.39 | 1.34 |
| 2 | AB | 506 | G | C6-N1 | 6.13 | 1.43 | 1.39 |
| 2 | AB | 561 | G | C5'-C4' | -6.13 | 1.44 | 1.51 |
| 2 | AB | 2289 | G | C6-N1 | 6.13 | 1.43 | 1.39 |
| 35 | BA | 1515 | G | N1-C2 | 6.13 | 1.42 | 1.37 |
| 2 | AB | 2694 | G | C5-C4 | 6.13 | 1.42 | 1.38 |
| 2 | AB | 2841 | C | C2-N3 | -6.13 | 1.30 | 1.35 |
| 35 | BA | 1456 | A | C5-C4 | -6.13 | 1.34 | 1.38 |
| 2 | AB | 243 | U | P-O5' | 6.13 | 1.65 | 1.59 |
| 2 | AB | 2544 | G | N9-C4 | -6.13 | 1.33 | 1.38 |
| 35 | BA | 710 | G | C3'-C2' | 6.13 | 1.59 | 1.52 |
| 2 | AB | 48 | G | C3'-C2' | -6.13 | 1.46 | 1.52 |
| 2 | AB | 110 | G | C4'-O4' | -6.13 | 1.37 | 1.45 |
| 2 | AB | 629 | G | N9-C8 | -6.13 | 1.33 | 1.37 |
| 2 | AB | 713 | G | C8-N7 | 6.13 | 1.34 | 1.30 |
| 2 | AB | 1154 | G | N9-C8 | -6.13 | 1.33 | 1.37 |
| 2 | AB | 1338 | G | C4'-O4' | -6.13 | 1.37 | 1.45 |
| 2 | AB | 1750 | G | C4'-O4' | -6.13 | 1.37 | 1.45 |
| 2 | AB | 2396 | G | P-O5' | 6.13 | 1.65 | 1.59 |
| 2 | AB | 2809 | A | O3'-P | 6.13 | 1.68 | 1.61 |
| 35 | BA | 17 | U | N1-C2 | 6.13 | 1.44 | 1.38 |
| 35 | BA | 206 | C | C4'-C3' | 6.13 | 1.59 | 1.53 |
| 35 | BA | 749 | A | N3-C4 | 6.13 | 1.38 | 1.34 |
| 35 | BA | 804 | U | N3-C4 | 6.13 | 1.44 | 1.38 |
| 35 | BA | 1122 | U | N3-C4 | 6.13 | 1.44 | 1.38 |
| 2 | AB | 330 | A | C5-C6 | 6.12 | 1.46 | 1.41 |
| 2 | AB | 1272 | A | C4'-C3' | 6.12 | 1.59 | 1.53 |
| 2 | AB | 2141 | G | N3-C4 | 6.12 | 1.39 | 1.35 |
| 2 | AB | 2695 | U | C4'-C3' | 6.12 | 1.59 | 1.53 |
| 35 | BA | 335 | C | C4-N4 | -6.12 | 1.28 | 1.33 |
| 35 | BA | 1154 | G | C6-N1 | 6.12 | 1.43 | 1.39 |
| 2 | AB | 91 | A | C6-N6 | 6.12 | 1.38 | 1.33 |
| 2 | AB | 438 | G | C2-N3 | 6.12 | 1.37 | 1.32 |
| 2 | AB | 1246 | A | C5'-C4' | 6.12 | 1.58 | 1.51 |
| 2 | AB | 2669 | G | O3'-P | 6.12 | 1.68 | 1.61 |
| 2 | AB | 2793 | C | N1-C6 | -6.12 | 1.33 | 1.37 |
| 2 | AB | 2885 | G | N1-C2 | 6.12 | 1.42 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 549 | G | C5-C6 | 6.12 | 1.48 | 1.42 |
| 2 | AB | 656 | G | N7-C5 | -6.12 | 1.35 | 1.39 |
| 2 | AB | 1960 | A | P-O5' | 6.12 | 1.65 | 1.59 |
| 2 | AB | 2212 | A | N1-C2 | -6.12 | 1.28 | 1.34 |
| 2 | AB | 2510 | C | C2'-C1' | -6.12 | 1.46 | 1.53 |
| 2 | AB | 2731 | G | O3'-P | 6.12 | 1.68 | 1.61 |
| 2 | AB | 583 | G | C6-N1 | -6.12 | 1.35 | 1.39 |
| 2 | AB | 2319 | G | C6-O6 | -6.12 | 1.18 | 1.24 |
| 35 | BA | 1095 | U | C5-C6 | 6.12 | 1.39 | 1.34 |
| 2 | AB | 29 | U | N1-C2 | 6.12 | 1.44 | 1.38 |
| 2 | AB | 310 | A | N1-C2 | -6.12 | 1.28 | 1.34 |
| 2 | AB | 1037 | G | P-O5' | 6.12 | 1.65 | 1.59 |
| 2 | AB | 1802 | A | N9-C8 | 6.12 | 1.42 | 1.37 |
| 2 | AB | 2721 | A | N9-C8 | -6.12 | 1.32 | 1.37 |
| 35 | BA | 130 | A | N9-C8 | 6.12 | 1.42 | 1.37 |
| 35 | BA | 549 | C | N1-C6 | -6.12 | 1.33 | 1.37 |
| 2 | AB | 1160 | G | C5-C6 | 6.12 | 1.48 | 1.42 |
| 2 | AB | 1472 | C | C5'-C4' | 6.12 | 1.58 | 1.51 |
| 2 | AB | 2358 | A | C6-N1 | 6.12 | 1.39 | 1.35 |
| 35 | BA | 273 | U | N1-C2 | 6.12 | 1.44 | 1.38 |
| 2 | AB | 668 | A | C4'-O4' | -6.12 | 1.37 | 1.45 |
| 2 | AB | 947 | A | C4'-O4' | -6.12 | 1.37 | 1.45 |
| 2 | AB | 1638 | C | N1-C6 | 6.12 | 1.40 | 1.37 |
| 2 | AB | 1743 | G | C8-N7 | -6.12 | 1.27 | 1.30 |
| 35 | BA | 189 | A | C6-N1 | 6.12 | 1.39 | 1.35 |
| 35 | BA | 851 | G | C2-N3 | 6.12 | 1.37 | 1.32 |
| 2 | AB | 1294 | U | C2-N3 | 6.11 | 1.42 | 1.37 |
| 2 | AB | 2657 | A | C8-N7 | -6.11 | 1.27 | 1.31 |
| 2 | AB | 2662 | A | N9-C4 | 6.11 | 1.41 | 1.37 |
| 35 | BA | 684 | U | C4-O4 | 6.11 | 1.28 | 1.23 |
| 35 | BA | 1026 | G | C5'-C4' | 6.11 | 1.58 | 1.51 |
| 2 | AB | 2190 | G | P-O5' | 6.11 | 1.65 | 1.59 |
| 2 | AB | 2723 | C | C4-C5 | 6.11 | 1.47 | 1.43 |
| 2 | AB | 2763 | G | P-O5' | 6.11 | 1.65 | 1.59 |
| 36 | BB | 27 | A | N9-C4 | -6.11 | 1.34 | 1.37 |
| 43 | BI | 141 | HIS | CB-CG | 6.11 | 1.61 | 1.50 |
| 2 | AB | 17 | G | C2-N3 | 6.11 | 1.37 | 1.32 |
| 2 | AB | 34 | U | N1-C2 | 6.11 | 1.44 | 1.38 |
| 2 | AB | 1514 | G | C8-N7 | -6.11 | 1.27 | 1.30 |
| 2 | AB | 2072 | C | C2'-C1' | 6.11 | 1.60 | 1.53 |
| 35 | BA | 347 | G | C4'-O4' | -6.11 | 1.37 | 1.45 |
| 35 | BA | 638 | U | C5'-C4' | 6.11 | 1.58 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 530 | G | N9-C4 | -6.11 | 1.33 | 1.38 |
| 2 | AB | 568 | U | C2-O2 | 6.11 | 1.27 | 1.22 |
| 2 | AB | 568 | U | C4-C5 | 6.11 | 1.49 | 1.43 |
| 2 | AB | 646 | U | C4'-O4' | -6.11 | 1.37 | 1.45 |
| 2 | AB | 1598 | A | P-O5' | 6.11 | 1.65 | 1.59 |
| 2 | AB | 1896 | G | C2-N3 | 6.11 | 1.37 | 1.32 |
| 2 | AB | 1938 | A | C6-N1 | 6.11 | 1.39 | 1.35 |
| 2 | AB | 2834 | G | C2-N3 | 6.11 | 1.37 | 1.32 |
| 2 | AB | 19 | A | C4'-O4' | -6.11 | 1.37 | 1.45 |
| 2 | AB | 1135 | C | C5-C6 | 6.11 | 1.39 | 1.34 |
| 2 | AB | 1688 | U | C5-C6 | 6.11 | 1.39 | 1.34 |
| 2 | AB | 2156 | G | N1-C2 | 6.11 | 1.42 | 1.37 |
| 2 | AB | 2252 | G | C4'-O4' | -6.11 | 1.37 | 1.45 |
| 4 | AD | 174 | ARG | NE-CZ | 6.11 | 1.41 | 1.33 |
| 35 | BA | 32 | A | C6-N6 | 6.11 | 1.38 | 1.33 |
| 35 | BA | 58 | C | P-O5' | 6.11 | 1.65 | 1.59 |
| 35 | BA | 408 | A | C6-N1 | 6.11 | 1.39 | 1.35 |
| 40 | BF | 46 | ARG | CD-NE | 6.11 | 1.56 | 1.46 |
| 2 | AB | 602 | A | O3'-P | 6.11 | 1.68 | 1.61 |
| 2 | AB | 722 | A | N3-C4 | 6.11 | 1.38 | 1.34 |
| 2 | AB | 1913 | A | N9-C8 | -6.11 | 1.32 | 1.37 |
| 2 | AB | 2060 | A | N9-C8 | 6.11 | 1.42 | 1.37 |
| 35 | BA | 1347 | G | N7-C5 | 6.11 | 1.43 | 1.39 |
| 2 | AB | 214 | G | C4'-C3' | 6.10 | 1.59 | 1.53 |
| 2 | AB | 606 | U | N3-C4 | 6.10 | 1.44 | 1.38 |
| 2 | AB | 890 | C | N1-C2 | 6.10 | 1.46 | 1.40 |
| 2 | AB | 1814 | G | N3-C4 | 6.10 | 1.39 | 1.35 |
| 2 | AB | 1885 | A | C4'-C3' | 6.10 | 1.59 | 1.53 |
| 2 | AB | 1986 | C | O3'-P | 6.10 | 1.68 | 1.61 |
| 2 | AB | 2165 | C | C2-N3 | 6.10 | 1.40 | 1.35 |
| 2 | AB | 2344 | U | P-O5' | 6.10 | 1.65 | 1.59 |
| 2 | AB | 2428 | G | N3-C4 | 6.10 | 1.39 | 1.35 |
| 2 | AB | 2803 | G | C3'-C2' | 6.10 | 1.59 | 1.52 |
| 35 | BA | 580 | C | C4'-O4' | -6.10 | 1.37 | 1.45 |
| 35 | BA | 767 | A | C2'-C1' | 6.10 | 1.60 | 1.53 |
| 35 | BA | 1182 | G | O4'-C1' | 6.10 | 1.49 | 1.41 |
| 2 | AB | 1038 | G | P-O5' | 6.10 | 1.65 | 1.59 |
| 7 | AG | 31 | GLU | CD-OE2 | -6.10 | 1.19 | 1.25 |
| 2 | AB | 271 | G | N7-C5 | 6.10 | 1.43 | 1.39 |
| 2 | AB | 366 | C | O3'-P | 6.10 | 1.68 | 1.61 |
| 2 | AB | 1334 | G | O3'-P | 6.10 | 1.68 | 1.61 |
| 2 | AB | 1727 | C | N3-C4 | 6.10 | 1.38 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2012 | G | P-O5' | 6.10 | 1.65 | 1.59 |
| 35 | BA | 223 | A | C3'-C2' | 6.10 | 1.59 | 1.52 |
| 2 | AB | 405 | U | N1-C2 | 6.10 | 1.44 | 1.38 |
| 2 | AB | 652 | U | C2-N3 | 6.10 | 1.42 | 1.37 |
| 2 | AB | 714 | U | P-O5' | 6.10 | 1.65 | 1.59 |
| 2 | AB | 1994 | C | C2-N3 | 6.10 | 1.40 | 1.35 |
| 35 | BA | 707 | U | O3'-P | 6.10 | 1.68 | 1.61 |
| 35 | BA | 1272 | G | P-O5' | 6.10 | 1.65 | 1.59 |
| 35 | BA | 1341 | U | C4-C5 | 6.10 | 1.49 | 1.43 |
| 35 | BA | 575 | G | C2-N2 | 6.10 | 1.40 | 1.34 |
| 35 | BA | 1467 | C | C4'-O4' | -6.10 | 1.37 | 1.45 |
| 2 | AB | 355 | U | C2-N3 | 6.09 | 1.42 | 1.37 |
| 2 | AB | 454 | A | C4'-C3' | 6.09 | 1.59 | 1.53 |
| 2 | AB | 776 | G | C5'-C4' | 6.09 | 1.58 | 1.51 |
| 2 | AB | 784 | G | N7-C5 | 6.09 | 1.43 | 1.39 |
| 2 | AB | 818 | G | C2-N3 | 6.09 | 1.37 | 1.32 |
| 2 | AB | 1573 | G | C4'-C3' | 6.09 | 1.59 | 1.53 |
| 2 | AB | 1684 | G | P-O5' | 6.09 | 1.65 | 1.59 |
| 2 | AB | 2118 | U | C4-C5 | 6.09 | 1.49 | 1.43 |
| 2 | AB | 2700 | A | C6-N1 | -6.09 | 1.31 | 1.35 |
| 35 | BA | 1034 | G | C2-N3 | 6.09 | 1.37 | 1.32 |
| 2 | AB | 345 | A | N7-C5 | 6.09 | 1.43 | 1.39 |
| 2 | AB | 2140 | G | N3-C4 | 6.09 | 1.39 | 1.35 |
| 35 | BA | 85 | U | C4'-C3' | 6.09 | 1.59 | 1.53 |
| 2 | AB | 1828 | G | C2-N3 | 6.09 | 1.37 | 1.32 |
| 2 | AB | 2448 | A | O4'-C1' | 6.09 | 1.49 | 1.41 |
| 2 | AB | 2572 | A | C2-N3 | 6.09 | 1.39 | 1.33 |
| 2 | AB | 2852 | G | C3'-C2' | -6.09 | 1.46 | 1.52 |
| 35 | BA | 832 | G | P-O5' | 6.09 | 1.65 | 1.59 |
| 35 | BA | 1048 | G | N7-C5 | 6.09 | 1.43 | 1.39 |
| 35 | BA | 1537 | U | C4-O4 | -6.09 | 1.18 | 1.23 |
| 2 | AB | 1149 | G | P-O5' | 6.09 | 1.65 | 1.59 |
| 2 | AB | 2818 | U | O4'-C1' | 6.09 | 1.49 | 1.41 |
| 35 | BA | 808 | C | N1-C6 | 6.09 | 1.40 | 1.37 |
| 35 | BA | 812 | G | N1-C2 | 6.09 | 1.42 | 1.37 |
| 2 | AB | 555 | G | N7-C5 | 6.09 | 1.43 | 1.39 |
| 2 | AB | 718 | A | C3'-C2' | 6.09 | 1.59 | 1.52 |
| 2 | AB | 1017 | G | C5'-C4' | 6.09 | 1.58 | 1.51 |
| 2 | AB | 1103 | A | C6-N1 | 6.09 | 1.39 | 1.35 |
| 2 | AB | 2304 | G | P-O5' | 6.09 | 1.65 | 1.59 |
| 2 | AB | 2411 | A | N7-C5 | 6.09 | 1.43 | 1.39 |
| 2 | AB | 2843 | G | C2'-C1' | -6.09 | 1.46 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 73 | C | N1-C6 | 6.09 | 1.40 | 1.37 |
| 35 | BA | 239 | U | C4'-O4' | -6.09 | 1.37 | 1.45 |
| 35 | BA | 569 | C | C5'-C4' | 6.09 | 1.58 | 1.51 |
| 35 | BA | 631 | C | O3'-P | 6.09 | 1.68 | 1.61 |
| 35 | BA | 695 | A | C2-N3 | -6.09 | 1.28 | 1.33 |
| 35 | BA | 791 | G | C5'-C4' | 6.09 | 1.58 | 1.51 |
| 35 | BA | 912 | C | N3-C4 | 6.09 | 1.38 | 1.33 |
| 2 | AB | 937 | C | P-O5' | 6.08 | 1.65 | 1.59 |
| 2 | AB | 947 | A | C5'-C4' | 6.08 | 1.58 | 1.51 |
| 2 | AB | 2276 | G | N7-C5 | 6.08 | 1.43 | 1.39 |
| 1 | AA | 14 | U | C2-N3 | 6.08 | 1.42 | 1.37 |
| 2 | AB | 96 | C | N1-C6 | 6.08 | 1.40 | 1.37 |
| 2 | AB | 851 | C | C4-N4 | -6.08 | 1.28 | 1.33 |
| 2 | AB | 1287 | A | C5'-C4' | 6.08 | 1.58 | 1.51 |
| 35 | BA | 563 | A | N3-C4 | 6.08 | 1.38 | 1.34 |
| 35 | BA | 869 | G | C5-C6 | 6.08 | 1.48 | 1.42 |
| 36 | BB | 59 | A | C6-N6 | 6.08 | 1.38 | 1.33 |
| 2 | AB | 935 | C | C4-C5 | 6.08 | 1.47 | 1.43 |
| 2 | AB | 1124 | G | O3'-P | 6.08 | 1.68 | 1.61 |
| 2 | AB | 1477 | A | N3-C4 | 6.08 | 1.38 | 1.34 |
| 2 | AB | 1877 | A | P-O5' | 6.08 | 1.65 | 1.59 |
| 2 | AB | 2565 | A | C5-C4 | -6.08 | 1.34 | 1.38 |
| 2 | AB | 2632 | A | O3'-P | 6.08 | 1.68 | 1.61 |
| 26 | AZ | 77 | TYR | CG-CD1 | 6.08 | 1.47 | 1.39 |
| 35 | BA | 851 | G | N1-C2 | 6.08 | 1.42 | 1.37 |
| 35 | BA | 1073 | U | C3'-C2' | -6.08 | 1.46 | 1.52 |
| 35 | BA | 1370 | G | N9-C4 | 6.08 | 1.42 | 1.38 |
| 2 | AB | 775 | G | C2-N3 | 6.08 | 1.37 | 1.32 |
| 2 | AB | 1593 | A | C8-N7 | -6.08 | 1.27 | 1.31 |
| 2 | AB | 2388 | A | O4'-C1' | 6.08 | 1.49 | 1.41 |
| 35 | BA | 451 | A | P-O5' | 6.08 | 1.65 | 1.59 |
| 35 | BA | 1151 | A | C2-N3 | 6.08 | 1.39 | 1.33 |
| 2 | AB | 171 | U | N3-C4 | 6.08 | 1.44 | 1.38 |
| 2 | AB | 551 | G | P-O5' | 6.08 | 1.65 | 1.59 |
| 2 | AB | 2557 | G | C2-N3 | 6.08 | 1.37 | 1.32 |
| 2 | AB | 2640 | G | C2-N2 | -6.08 | 1.28 | 1.34 |
| 35 | BA | 720 | C | N1-C2 | 6.08 | 1.46 | 1.40 |
| 35 | BA | 1086 | U | C2'-O2' | -6.08 | 1.33 | 1.41 |
| 35 | BA | 1107 | C | C2-N3 | 6.08 | 1.40 | 1.35 |
| 36 | BB | 56 | G | N7-C5 | -6.08 | 1.35 | 1.39 |
| 1 | AA | 84 | G | N9-C4 | -6.08 | 1.33 | 1.38 |
| 2 | AB | 151 | C | C2-N3 | 6.08 | 1.40 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 461 | C | C2-N3 | -6.08 | 1.30 | 1.35 |
| 2 | AB | 1080 | A | P-O5' | 6.08 | 1.65 | 1.59 |
| 4 | AD | 177 | SER | CA-CB | 6.08 | 1.62 | 1.52 |
| 2 | AB | 1556 | C | C1'-N1 | 6.08 | 1.57 | 1.48 |
| 2 | AB | 1758 | U | N1-C6 | 6.08 | 1.43 | 1.38 |
| 2 | AB | 2177 | C | N1-C6 | 6.08 | 1.40 | 1.37 |
| 35 | BA | 363 | A | C2'-C1' | 6.08 | 1.60 | 1.53 |
| 35 | BA | 650 | G | N9-C8 | 6.08 | 1.42 | 1.37 |
| 2 | AB | 452 | G | C5-C4 | 6.07 | 1.42 | 1.38 |
| 2 | AB | 515 | A | C5'-C4' | -6.07 | 1.44 | 1.51 |
| 2 | AB | 995 | C | N1-C2 | 6.07 | 1.46 | 1.40 |
| 2 | AB | 1236 | G | C6-O6 | -6.07 | 1.18 | 1.24 |
| 2 | AB | 1339 | G | C5'-C4' | 6.07 | 1.58 | 1.51 |
| 2 | AB | 1653 | G | C4'-O4' | -6.07 | 1.37 | 1.45 |
| 35 | BA | 2 | A | N7-C5 | 6.07 | 1.42 | 1.39 |
| 35 | BA | 347 | G | O3'-P | 6.07 | 1.68 | 1.61 |
| 35 | BA | 411 | A | P-O5' | -6.07 | 1.53 | 1.59 |
| 35 | BA | 624 | C | O3'-P | -6.07 | 1.53 | 1.61 |
| 2 | AB | 1299 | G | P-O5' | 6.07 | 1.65 | 1.59 |
| 2 | AB | 126 | A | C5-C4 | -6.07 | 1.34 | 1.38 |
| 2 | AB | 1114 | C | C4'-O4' | -6.07 | 1.37 | 1.45 |
| 2 | AB | 1158 | C | C5'-C4' | 6.07 | 1.58 | 1.51 |
| 2 | AB | 2452 | C | N1-C6 | 6.07 | 1.40 | 1.37 |
| 2 | AB | 2839 | G | C2-N3 | 6.07 | 1.37 | 1.32 |
| 35 | BA | 900 | A | N3-C4 | 6.07 | 1.38 | 1.34 |
| 35 | BA | 1529 | G | P-O5' | 6.07 | 1.65 | 1.59 |
| 2 | AB | 1395 | A | N1-C2 | -6.07 | 1.28 | 1.34 |
| 2 | AB | 1453 | A | C4'-C3' | -6.07 | 1.46 | 1.53 |
| 2 | AB | 1607 | C | C4'-O4' | -6.07 | 1.37 | 1.45 |
| 2 | AB | 53 | A | C4'-C3' | -6.07 | 1.46 | 1.53 |
| 2 | AB | 1856 | U | C3'-C2' | 6.07 | 1.59 | 1.52 |
| 2 | AB | 1976 | U | C4-C5 | 6.07 | 1.49 | 1.43 |
| 2 | AB | 2783 | U | O3'-P | 6.07 | 1.68 | 1.61 |
| 6 | AF | 186 | VAL | CB-CG1 | 6.07 | 1.65 | 1.52 |
| 35 | BA | 159 | G | P-O5' | 6.07 | 1.65 | 1.59 |
| 35 | BA | 190 | A | N3-C4 | 6.07 | 1.38 | 1.34 |
| 35 | BA | 902 | G | C2-N3 | 6.07 | 1.37 | 1.32 |
| 36 | BB | 42 | U | N1-C6 | -6.07 | 1.32 | 1.38 |
| 2 | AB | 632 | A | C6-N1 | -6.07 | 1.31 | 1.35 |
| 2 | AB | 711 | G | C2-N3 | 6.07 | 1.37 | 1.32 |
| 2 | AB | 2008 | C | O4'-C1' | 6.07 | 1.49 | 1.41 |
| 2 | AB | 2380 | C | N1-C6 | -6.07 | 1.33 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 153 | U | C2-N3 | 6.06 | 1.42 | 1.37 |
| 2 | AB | 2272 | U | C3'-C2' | 6.06 | 1.59 | 1.52 |
| 35 | BA | 125 | U | C5-C6 | 6.06 | 1.39 | 1.34 |
| 35 | BA | 1409 | C | N3-C4 | 6.06 | 1.38 | 1.33 |
| 2 | AB | 105 | C | C2-N3 | 6.06 | 1.40 | 1.35 |
| 2 | AB | 277 | G | N7-C5 | -6.06 | 1.35 | 1.39 |
| 2 | AB | 822 | G | N9-C4 | 6.06 | 1.42 | 1.38 |
| 2 | AB | 1021 | A | C5-C6 | 6.06 | 1.46 | 1.41 |
| 2 | AB | 1235 | G | O3'-P | -6.06 | 1.53 | 1.61 |
| 2 | AB | 1430 | G | N9-C4 | -6.06 | 1.33 | 1.38 |
| 2 | AB | 1698 | A | N1-C2 | -6.06 | 1.28 | 1.34 |
| 2 | AB | 2061 | G | C4'-C3' | 6.06 | 1.59 | 1.53 |
| 2 | AB | 2593 | U | C2-N3 | 6.06 | 1.42 | 1.37 |
| 2 | AB | 2664 | G | C2-N3 | 6.06 | 1.37 | 1.32 |
| 2 | AB | 2846 | G | C5-C6 | 6.06 | 1.48 | 1.42 |
| 35 | BA | 492 | C | P-O5' | 6.06 | 1.65 | 1.59 |
| 35 | BA | 1169 | A | O4'-C1' | -6.06 | 1.33 | 1.41 |
| 2 | AB | 2487 | G | C6-O6 | -6.06 | 1.18 | 1.24 |
| 35 | BA | 213 | G | C6-N1 | 6.06 | 1.43 | 1.39 |
| 35 | BA | 288 | A | C5-C6 | 6.06 | 1.46 | 1.41 |
| 35 | BA | 1011 | C | C5'-C4' | 6.06 | 1.58 | 1.51 |
| 1 | AA | 108 | A | N1-C2 | -6.06 | 1.28 | 1.34 |
| 2 | AB | 248 | G | C5-C4 | -6.06 | 1.34 | 1.38 |
| 2 | AB | 939 | G | C5'-C4' | 6.06 | 1.58 | 1.51 |
| 2 | AB | 1118 | C | N3-C4 | 6.06 | 1.38 | 1.33 |
| 2 | AB | 2331 | G | C2'-C1' | 6.06 | 1.60 | 1.53 |
| 2 | AB | 2737 | G | C5'-C4' | 6.06 | 1.58 | 1.51 |
| 2 | AB | 2875 | C | N3-C4 | 6.06 | 1.38 | 1.33 |
| 35 | BA | 1252 | A | N3-C4 | 6.06 | 1.38 | 1.34 |
| 35 | BA | 1272 | G | C5-C4 | 6.06 | 1.42 | 1.38 |
| 35 | BA | 1529 | G | C2-N3 | 6.06 | 1.37 | 1.32 |
| 2 | AB | 847 | U | C5-C6 | 6.06 | 1.39 | 1.34 |
| 2 | AB | 1216 | G | C6-N1 | 6.06 | 1.43 | 1.39 |
| 2 | AB | 1426 | G | C2-N3 | 6.06 | 1.37 | 1.32 |
| 2 | AB | 2680 | U | P-O5' | 6.06 | 1.65 | 1.59 |
| 35 | BA | 51 | A | O3'-P | 6.06 | 1.68 | 1.61 |
| 35 | BA | 1290 | G | C8-N7 | 6.06 | 1.34 | 1.30 |
| 2 | AB | 54 | G | O4'-C1' | 6.05 | 1.49 | 1.41 |
| 2 | AB | 94 | A | P-O5' | 6.05 | 1.65 | 1.59 |
| 2 | AB | 144 | A | C6-N6 | 6.05 | 1.38 | 1.33 |
| 2 | AB | 634 | C | P-O5' | 6.05 | 1.65 | 1.59 |
| 2 | AB | 828 | U | C3'-C2' | 6.05 | 1.59 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1184 | U | C2-N3 | 6.05 | 1.42 | 1.37 |
| 2 | AB | 1924 | C | N3-C4 | 6.05 | 1.38 | 1.33 |
| 2 | AB | 2162 | G | O5'-C5' | -6.05 | 1.33 | 1.42 |
| 2 | AB | 2178 | C | N3-C4 | 6.05 | 1.38 | 1.33 |
| 2 | AB | 2306 | C | C2-N3 | 6.05 | 1.40 | 1.35 |
| 2 | AB | 2456 | C | C4-N4 | 6.05 | 1.39 | 1.33 |
| 2 | AB | 2814 | A | N9-C4 | -6.05 | 1.34 | 1.37 |
| 35 | BA | 120 | A | C4'-O4' | -6.05 | 1.37 | 1.45 |
| 35 | BA | 1075 | U | C3'-C2' | 6.05 | 1.59 | 1.52 |
| 36 | BB | 40 | G | C1'-N9 | 6.05 | 1.57 | 1.48 |
| 2 | AB | 481 | G | P-O5' | 6.05 | 1.65 | 1.59 |
| 2 | AB | 1827 | U | N3-C4 | 6.05 | 1.43 | 1.38 |
| 2 | AB | 2788 | C | P-O5' | 6.05 | 1.65 | 1.59 |
| 35 | BA | 811 | C | O3'-P | 6.05 | 1.68 | 1.61 |
| 2 | AB | 54 | G | C4'-C3' | 6.05 | 1.59 | 1.53 |
| 2 | AB | 1383 | A | C5-C4 | -6.05 | 1.34 | 1.38 |
| 2 | AB | 1988 | G | O5'-C5' | -6.05 | 1.33 | 1.42 |
| 35 | BA | 35 | G | C6-N1 | 6.05 | 1.43 | 1.39 |
| 35 | BA | 227 | G | N1-C2 | 6.05 | 1.42 | 1.37 |
| 35 | BA | 500 | G | C6-O6 | -6.05 | 1.18 | 1.24 |
| 2 | AB | 971 | G | C6-N1 | -6.05 | 1.35 | 1.39 |
| 2 | AB | 1665 | A | O4'-C1' | 6.05 | 1.49 | 1.41 |
| 35 | BA | 768 | A | P-O5' | 6.05 | 1.65 | 1.59 |
| 35 | BA | 1337 | G | N1-C2 | 6.05 | 1.42 | 1.37 |
| 35 | BA | 1404 | C | C4-N4 | -6.05 | 1.28 | 1.33 |
| 35 | BA | 230 | G | C2-N3 | 6.05 | 1.37 | 1.32 |
| 35 | BA | 651 | C | O3'-P | -6.05 | 1.53 | 1.61 |
| 35 | BA | 785 | G | C2-N3 | 6.05 | 1.37 | 1.32 |
| 35 | BA | 1031 | C | O3'-P | 6.05 | 1.68 | 1.61 |
| 35 | BA | 1111 | A | N9-C4 | 6.05 | 1.41 | 1.37 |
| 2 | AB | 517 | C | C2'-O2' | -6.05 | 1.33 | 1.41 |
| 2 | AB | 1174 | U | N1-C2 | -6.05 | 1.33 | 1.38 |
| 2 | AB | 2490 | G | N3-C4 | 6.05 | 1.39 | 1.35 |
| 2 | AB | 2891 | U | C5'-C4' | 6.05 | 1.58 | 1.51 |
| 4 | AD | 29 | PHE | CG-CD2 | 6.05 | 1.47 | 1.38 |
| 35 | BA | 82 | G | C2-N3 | 6.05 | 1.37 | 1.32 |
| 35 | BA | 522 | C | C2'-C1' | 6.05 | 1.60 | 1.53 |
| 35 | BA | 560 | A | C6-N6 | 6.05 | 1.38 | 1.33 |
| 35 | BA | 1243 | C | C5-C6 | 6.05 | 1.39 | 1.34 |
| 37 | BC | 75 | C | C4'-O4' | -6.05 | 1.37 | 1.45 |
| 2 | AB | 13 | A | C4'-O4' | -6.04 | 1.37 | 1.45 |
| 2 | AB | 1996 | C | C5'-C4' | 6.04 | 1.58 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2727 | A | N3-C4 | 6.04 | 1.38 | 1.34 |
| 35 | BA | 1155 | A | O4'-C1' | 6.04 | 1.49 | 1.41 |
| 2 | AB | 355 | U | P-O5' | 6.04 | 1.65 | 1.59 |
| 2 | AB | 533 | G | C2-N3 | 6.04 | 1.37 | 1.32 |
| 2 | AB | 1157 | G | C4'-O4' | -6.04 | 1.37 | 1.45 |
| 2 | AB | 2241 | A | N9-C8 | -6.04 | 1.32 | 1.37 |
| 2 | AB | 2300 | C | P-O5' | 6.04 | 1.65 | 1.59 |
| 35 | BA | 204 | G | C2'-C1' | 6.04 | 1.59 | 1.53 |
| 2 | AB | 125 | A | C5-C4 | 6.04 | 1.43 | 1.38 |
| 2 | AB | 470 | A | N7-C5 | 6.04 | 1.42 | 1.39 |
| 2 | AB | 1572 | A | N3-C4 | 6.04 | 1.38 | 1.34 |
| 2 | AB | 1665 | A | C6-N6 | 6.04 | 1.38 | 1.33 |
| 35 | BA | 122 | G | N3-C4 | 6.04 | 1.39 | 1.35 |
| 35 | BA | 391 | G | N9-C8 | 6.04 | 1.42 | 1.37 |
| 35 | BA | 1048 | G | C5-C4 | -6.04 | 1.34 | 1.38 |
| 2 | AB | 96 | C | C4-N4 | -6.04 | 1.28 | 1.33 |
| 2 | AB | 728 | G | N3-C4 | 6.04 | 1.39 | 1.35 |
| 2 | AB | 1876 | A | C8-N7 | -6.04 | 1.27 | 1.31 |
| 2 | AB | 2035 | G | C5'-C4' | 6.04 | 1.58 | 1.51 |
| 2 | AB | 334 | C | P-O5' | 6.04 | 1.65 | 1.59 |
| 2 | AB | 1033 | U | C4-C5 | 6.04 | 1.49 | 1.43 |
| 2 | AB | 1594 | U | P-O5' | 6.04 | 1.65 | 1.59 |
| 2 | AB | 2557 | G | N7-C5 | 6.04 | 1.42 | 1.39 |
| 35 | BA | 656 | G | C5'-C4' | 6.04 | 1.58 | 1.51 |
| 35 | BA | 658 | C | C5'-C4' | 6.04 | 1.58 | 1.51 |
| 35 | BA | 681 | A | C2'-O2' | 6.04 | 1.49 | 1.41 |
| 35 | BA | 828 | U | C2'-C1' | 6.04 | 1.59 | 1.53 |
| 2 | AB | 782 | A | C5-C6 | -6.04 | 1.35 | 1.41 |
| 2 | AB | 835 | C | C5-C6 | 6.04 | 1.39 | 1.34 |
| 2 | AB | 2852 | G | C5'-C4' | 6.04 | 1.58 | 1.51 |
| 4 | AD | 170 | TYR | CG-CD2 | 6.04 | 1.47 | 1.39 |
| 35 | BA | 330 | C | N1-C6 | -6.04 | 1.33 | 1.37 |
| 35 | BA | 1308 | U | N3-C4 | 6.04 | 1.43 | 1.38 |
| 2 | AB | 54 | G | C3'-C2' | -6.04 | 1.46 | 1.52 |
| 2 | AB | 1158 | C | C4'-O4' | -6.04 | 1.37 | 1.45 |
| 2 | AB | 1328 | A | N9-C4 | 6.04 | 1.41 | 1.37 |
| 2 | AB | 1888 | G | N3-C4 | 6.04 | 1.39 | 1.35 |
| 2 | AB | 2371 | G | N3-C4 | 6.04 | 1.39 | 1.35 |
| 2 | AB | 2660 | A | C4'-C3' | 6.04 | 1.59 | 1.53 |
| 35 | BA | 21 | G | N9-C4 | 6.04 | 1.42 | 1.38 |
| 35 | BA | 200 | G | C6-N1 | 6.04 | 1.43 | 1.39 |
| 35 | BA | 1274 | A | C2-N3 | 6.04 | 1.39 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1347 | G | N1-C2 | 6.04 | 1.42 | 1.37 |
| 2 | AB | 382 | A | P-O5' | 6.03 | 1.65 | 1.59 |
| 2 | AB | 859 | G | N9-C8 | -6.03 | 1.33 | 1.37 |
| 2 | AB | 1207 | C | C4-N4 | -6.03 | 1.28 | 1.33 |
| 2 | AB | 1234 | U | N1-C2 | 6.03 | 1.44 | 1.38 |
| 2 | AB | 2117 | A | C8-N7 | -6.03 | 1.27 | 1.31 |
| 2 | AB | 2145 | C | C2-N3 | 6.03 | 1.40 | 1.35 |
| 2 | AB | 2728 | U | C3'-C2' | 6.03 | 1.59 | 1.52 |
| 2 | AB | 2867 | G | N3-C4 | 6.03 | 1.39 | 1.35 |
| 35 | BA | 140 | U | P-O5' | 6.03 | 1.65 | 1.59 |
| 2 | AB | 772 | C | C2'-O2' | -6.03 | 1.33 | 1.41 |
| 2 | AB | 828 | U | N3-C4 | 6.03 | 1.43 | 1.38 |
| 2 | AB | 2096 | C | N3-C4 | 6.03 | 1.38 | 1.33 |
| 35 | BA | 86 | G | C2-N3 | 6.03 | 1.37 | 1.32 |
| 1 | AA | 87 | U | C4'-O4' | -6.03 | 1.37 | 1.45 |
| 2 | AB | 728 | G | P-O5' | 6.03 | 1.65 | 1.59 |
| 2 | AB | 778 | G | C8-N7 | 6.03 | 1.34 | 1.30 |
| 2 | AB | 805 | G | N3-C4 | 6.03 | 1.39 | 1.35 |
| 2 | AB | 1888 | G | C2-N3 | 6.03 | 1.37 | 1.32 |
| 2 | AB | 1956 | U | C4-C5 | 6.03 | 1.49 | 1.43 |
| 2 | AB | 2095 | A | O5'-C5' | 6.03 | 1.54 | 1.44 |
| 2 | AB | 2162 | G | O3'-P | 6.03 | 1.68 | 1.61 |
| 35 | BA | 382 | A | N9-C4 | -6.03 | 1.34 | 1.37 |
| 35 | BA | 411 | A | N3-C4 | 6.03 | 1.38 | 1.34 |
| 35 | BA | 448 | A | N7-C5 | 6.03 | 1.42 | 1.39 |
| 35 | BA | 1059 | C | N3-C4 | 6.03 | 1.38 | 1.33 |
| 35 | BA | 1230 | C | C3'-C2' | 6.03 | 1.59 | 1.52 |
| 35 | BA | 1350 | A | C5'-C4' | 6.03 | 1.58 | 1.51 |
| 2 | AB | 1397 | U | C4'-O4' | -6.03 | 1.37 | 1.45 |
| 2 | AB | 1583 | A | C3'-O3' | 6.03 | 1.50 | 1.42 |
| 2 | AB | 2289 | G | N3-C4 | 6.03 | 1.39 | 1.35 |
| 35 | BA | 514 | C | C4-C5 | 6.03 | 1.47 | 1.43 |
| 35 | BA | 909 | A | C2'-O2' | 6.03 | 1.49 | 1.41 |
| 2 | AB | 561 | G | N1-C2 | -6.03 | 1.32 | 1.37 |
| 2 | AB | 681 | G | N3-C4 | -6.03 | 1.31 | 1.35 |
| 2 | AB | 1496 | A | C8-N7 | -6.03 | 1.27 | 1.31 |
| 2 | AB | 2374 | C | C4'-C3' | 6.03 | 1.59 | 1.53 |
| 35 | BA | 846 | G | C2-N3 | 6.03 | 1.37 | 1.32 |
| 35 | BA | 1043 | G | C5'-C4' | 6.03 | 1.58 | 1.51 |
| 37 | BC | 50 | G | C2-N3 | 6.03 | 1.37 | 1.32 |
| 2 | AB | 840 | C | C2'-O2' | 6.03 | 1.49 | 1.41 |
| 2 | AB | 1211 | C | C4'-C3' | 6.03 | 1.59 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1485 | U | O3'-P | -6.03 | 1.53 | 1.61 |
| 2 | AB | 1554 | U | C4'-O4' | -6.03 | 1.37 | 1.45 |
| 2 | AB | 2454 | G | N7-C5 | -6.03 | 1.35 | 1.39 |
| 2 | AB | 2729 | G | C2'-C1' | 6.03 | 1.59 | 1.53 |
| 5 | AE | 125 | TRP | CD2-CE2 | 6.03 | 1.48 | 1.41 |
| 35 | BA | 113 | G | N1-C2 | 6.03 | 1.42 | 1.37 |
| 35 | BA | 120 | A | C2'-O2' | 6.03 | 1.49 | 1.41 |
| 35 | BA | 794 | A | N3-C4 | -6.03 | 1.31 | 1.34 |
| 2 | AB | 986 | C | C2-N3 | 6.02 | 1.40 | 1.35 |
| 2 | AB | 2117 | A | N3-C4 | 6.02 | 1.38 | 1.34 |
| 35 | BA | 192 | A | C5-C6 | 6.02 | 1.46 | 1.41 |
| 35 | BA | 713 | G | N1-C2 | 6.02 | 1.42 | 1.37 |
| 36 | BB | 29 | G | N7-C5 | 6.02 | 1.42 | 1.39 |
| 2 | AB | 52 | A | C2-N3 | 6.02 | 1.39 | 1.33 |
| 2 | AB | 1041 | G | N3-C4 | 6.02 | 1.39 | 1.35 |
| 2 | AB | 1087 | G | N9-C8 | 6.02 | 1.42 | 1.37 |
| 2 | AB | 1451 | C | O3'-P | 6.02 | 1.68 | 1.61 |
| 2 | AB | 2260 | C | C4-C5 | 6.02 | 1.47 | 1.43 |
| 2 | AB | 2394 | C | C4-C5 | -6.02 | 1.38 | 1.43 |
| 35 | BA | 778 | G | P-O5' | 6.02 | 1.65 | 1.59 |
| 1 | AA | 38 | C | C3'-C2' | 6.02 | 1.59 | 1.52 |
| 2 | AB | 43 | G | C4'-C3' | -6.02 | 1.46 | 1.53 |
| 2 | AB | 1570 | A | N9-C4 | 6.02 | 1.41 | 1.37 |
| 2 | AB | 190 | A | C2'-C1' | 6.02 | 1.59 | 1.53 |
| 2 | AB | 1166 | G | O3'-P | 6.02 | 1.68 | 1.61 |
| 2 | AB | 1764 | C | C3'-O3' | 6.02 | 1.50 | 1.42 |
| 35 | BA | 35 | G | N3-C4 | 6.02 | 1.39 | 1.35 |
| 35 | BA | 226 | G | N7-C5 | 6.02 | 1.42 | 1.39 |
| 35 | BA | 923 | A | C4'-O4' | -6.02 | 1.37 | 1.45 |
| 35 | BA | 1258 | G | C8-N7 | 6.02 | 1.34 | 1.30 |
| 37 | BC | 32 | G | C2-N3 | 6.02 | 1.37 | 1.32 |
| 37 | BC | 51 | U | P-O5' | 6.02 | 1.65 | 1.59 |
| 2 | AB | 162 | U | N1-C2 | 6.02 | 1.44 | 1.38 |
| 2 | AB | 589 | U | C2-N3 | 6.02 | 1.42 | 1.37 |
| 2 | AB | 775 | G | N7-C5 | -6.02 | 1.35 | 1.39 |
| 2 | AB | 1024 | G | C2-N3 | 6.02 | 1.37 | 1.32 |
| 2 | AB | 1037 | G | C3'-C2' | -6.02 | 1.46 | 1.52 |
| 2 | AB | 1112 | G | C4'-C3' | 6.02 | 1.59 | 1.53 |
| 2 | AB | 1501 | G | C6-N1 | 6.02 | 1.43 | 1.39 |
| 35 | BA | 168 | G | O3'-P | 6.02 | 1.68 | 1.61 |
| 35 | BA | 334 | C | C2-N3 | 6.02 | 1.40 | 1.35 |
| 35 | BA | 799 | G | N1-C2 | 6.02 | 1.42 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1421 | G | C2-N3 | 6.02 | 1.37 | 1.32 |
| 37 | BC | 60 | A | N3-C4 | 6.02 | 1.38 | 1.34 |
| 2 | AB | 2442 | C | C4'-O4' | -6.02 | 1.37 | 1.45 |
| 35 | BA | 755 | G | C5-C4 | 6.02 | 1.42 | 1.38 |
| 35 | BA | 996 | A | C5-C6 | 6.02 | 1.46 | 1.41 |
| 35 | BA | 1195 | C | C4'-O4' | -6.02 | 1.37 | 1.45 |
| 2 | AB | 43 | G | N9-C4 | -6.01 | 1.33 | 1.38 |
| 2 | AB | 1066 | U | C4-O4 | -6.01 | 1.18 | 1.23 |
| 2 | AB | 1143 | A | C4'-O4' | -6.01 | 1.37 | 1.45 |
| 2 | AB | 2323 | G | N3-C4 | 6.01 | 1.39 | 1.35 |
| 2 | AB | 2705 | A | N1-C2 | -6.01 | 1.28 | 1.34 |
| 14 | AN | 51 | GLU | CD-OE2 | -6.01 | 1.19 | 1.25 |
| 32 | A5 | 34 | ARG | CZ-NH1 | 6.01 | 1.40 | 1.33 |
| 35 | BA | 358 | U | C2-N3 | 6.01 | 1.42 | 1.37 |
| 35 | BA | 1000 | A | C4'-O4' | -6.01 | 1.37 | 1.45 |
| 35 | BA | 1466 | C | C4'-C3' | 6.01 | 1.59 | 1.53 |
| 2 | AB | 386 | G | N9-C8 | 6.01 | 1.42 | 1.37 |
| 2 | AB | 2564 | A | P-O5' | -6.01 | 1.53 | 1.59 |
| 2 | AB | 2904 | U | C5'-C4' | 6.01 | 1.58 | 1.51 |
| 35 | BA | 817 | C | N3-C4 | 6.01 | 1.38 | 1.33 |
| 35 | BA | 1198 | G | C4'-O4' | -6.01 | 1.37 | 1.45 |
| 35 | BA | 1234 | C | C4-N4 | 6.01 | 1.39 | 1.33 |
| 35 | BA | 1506 | U | N1-C2 | 6.01 | 1.44 | 1.38 |
| 2 | AB | 1439 | A | N7-C5 | -6.01 | 1.35 | 1.39 |
| 2 | AB | 2000 | C | C4-C5 | -6.01 | 1.38 | 1.43 |
| 2 | AB | 2162 | G | C8-N7 | -6.01 | 1.27 | 1.30 |
| 2 | AB | 2521 | C | C4-N4 | 6.01 | 1.39 | 1.33 |
| 2 | AB | 2863 | C | C4-C5 | 6.01 | 1.47 | 1.43 |
| 2 | AB | 466 | A | N7-C5 | 6.01 | 1.42 | 1.39 |
| 2 | AB | 1306 | C | O3'-P | 6.01 | 1.68 | 1.61 |
| 2 | AB | 1492 | G | N7-C5 | 6.01 | 1.42 | 1.39 |
| 2 | AB | 1513 | U | C4'-C3' | 6.01 | 1.59 | 1.53 |
| 2 | AB | 1802 | A | C8-N7 | -6.01 | 1.27 | 1.31 |
| 2 | AB | 2336 | A | C6-N6 | -6.01 | 1.29 | 1.33 |
| 20 | AT | 14 | VAL | CA-CB | 6.01 | 1.67 | 1.54 |
| 35 | BA | 76 | G | C6-N1 | 6.01 | 1.43 | 1.39 |
| 35 | BA | 212 | G | N3-C4 | 6.01 | 1.39 | 1.35 |
| 35 | BA | 1197 | A | N7-C5 | 6.01 | 1.42 | 1.39 |
| 35 | BA | 1350 | A | N3-C4 | 6.01 | 1.38 | 1.34 |
| 35 | BA | 1368 | A | C5'-C4' | 6.01 | 1.58 | 1.51 |
| 37 | BC | 54 | G | P-O5' | 6.01 | 1.65 | 1.59 |
| 2 | AB | 2152 | G | P-O5' | 6.01 | 1.65 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 108 | G | C2-N3 | 6.01 | 1.37 | 1.32 |
| 35 | BA | 658 | C | P-O5' | 6.01 | 1.65 | 1.59 |
| 35 | BA | 839 | C | N1-C6 | 6.01 | 1.40 | 1.37 |
| 35 | BA | 1165 | U | C2-N3 | 6.01 | 1.42 | 1.37 |
| 35 | BA | 1506 | U | N3-C4 | 6.01 | 1.43 | 1.38 |
| 2 | AB | 1284 | A | C2'-C1' | 6.01 | 1.59 | 1.53 |
| 2 | AB | 1660 | G | C6-N1 | 6.01 | 1.43 | 1.39 |
| 2 | AB | 1875 | G | N9-C8 | -6.01 | 1.33 | 1.37 |
| 2 | AB | 2170 | A | C4'-O4' | -6.01 | 1.37 | 1.45 |
| 35 | BA | 163 | C | C2-N3 | 6.01 | 1.40 | 1.35 |
| 35 | BA | 774 | G | C5-C6 | 6.01 | 1.48 | 1.42 |
| 35 | BA | 1042 | A | N9-C4 | 6.01 | 1.41 | 1.37 |
| 2 | AB | 409 | G | N7-C5 | 6.00 | 1.42 | 1.39 |
| 2 | AB | 2124 | G | C4'-O4' | -6.00 | 1.37 | 1.45 |
| 2 | AB | 2566 | A | C4'-C3' | 6.00 | 1.59 | 1.53 |
| 2 | AB | 301 | G | C2-N2 | 6.00 | 1.40 | 1.34 |
| 2 | AB | 1240 | U | O3'-P | 6.00 | 1.68 | 1.61 |
| 2 | AB | 2228 | G | N9-C8 | -6.00 | 1.33 | 1.37 |
| 35 | BA | 564 | C | C2-N3 | 6.00 | 1.40 | 1.35 |
| 2 | AB | 570 | G | C4'-C3' | -6.00 | 1.46 | 1.53 |
| 2 | AB | 1225 | G | C5-C4 | 6.00 | 1.42 | 1.38 |
| 2 | AB | 1459 | G | O3'-P | 6.00 | 1.68 | 1.61 |
| 2 | AB | 2466 | C | C5'-C4' | 6.00 | 1.58 | 1.51 |
| 2 | AB | 2901 | C | C5-C6 | 6.00 | 1.39 | 1.34 |
| 35 | BA | 86 | G | C4'-O4' | -6.00 | 1.37 | 1.45 |
| 35 | BA | 184 | G | C3'-C2' | 6.00 | 1.59 | 1.52 |
| 35 | BA | 767 | A | N7-C5 | 6.00 | 1.42 | 1.39 |
| 35 | BA | 1243 | C | N1-C6 | 6.00 | 1.40 | 1.37 |
| 2 | AB | 97 | C | C2'-C1' | -6.00 | 1.46 | 1.53 |
| 6 | AF | 44 | ARG | CZ-NH1 | 6.00 | 1.40 | 1.33 |
| 35 | BA | 174 | A | C6-N6 | 6.00 | 1.38 | 1.33 |
| 35 | BA | 383 | A | N7-C5 | -6.00 | 1.35 | 1.39 |
| 35 | BA | 874 | G | C2-N3 | 6.00 | 1.37 | 1.32 |
| 1 | AA | 44 | G | C5'-C4' | 6.00 | 1.58 | 1.51 |
| 2 | AB | 1323 | C | C5'-C4' | 6.00 | 1.58 | 1.51 |
| 2 | AB | 2330 | G | C4'-C3' | 6.00 | 1.59 | 1.53 |
| 35 | BA | 219 | U | P-O5' | 6.00 | 1.65 | 1.59 |
| 35 | BA | 987 | G | C2-N3 | 6.00 | 1.37 | 1.32 |
| 2 | AB | 347 | A | C2'-C1' | -6.00 | 1.46 | 1.53 |
| 2 | AB | 867 | C | P-O5' | 6.00 | 1.65 | 1.59 |
| 2 | AB | 2105 | U | C2-N3 | 6.00 | 1.42 | 1.37 |
| 2 | AB | 2739 | U | O3'-P | 6.00 | 1.68 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2768 | U | C2'-C1' | -6.00 | 1.46 | 1.53 |
| 2 | AB | 2849 | U | C2'-C1' | 6.00 | 1.59 | 1.53 |
| 35 | BA | 1007 | U | C2-N3 | 6.00 | 1.42 | 1.37 |
| 35 | BA | 1234 | C | O4'-C1' | 6.00 | 1.49 | 1.41 |
| 36 | BB | 44 | U | O3'-P | 6.00 | 1.68 | 1.61 |
| 2 | AB | 684 | G | N7-C5 | 6.00 | 1.42 | 1.39 |
| 2 | AB | 1254 | A | C3'-C2' | 6.00 | 1.59 | 1.52 |
| 2 | AB | 1763 | G | C2-N3 | 6.00 | 1.37 | 1.32 |
| 35 | BA | 45 | G | P-O5' | 6.00 | 1.65 | 1.59 |
| 35 | BA | 188 | C | N3-C4 | 6.00 | 1.38 | 1.33 |
| 2 | AB | 619 | G | C6-N1 | -5.99 | 1.35 | 1.39 |
| 2 | AB | 1351 | C | P-O5' | 5.99 | 1.65 | 1.59 |
| 2 | AB | 1842 | G | N9-C8 | 5.99 | 1.42 | 1.37 |
| 2 | AB | 1919 | A | N9-C4 | 5.99 | 1.41 | 1.37 |
| 35 | BA | 292 | G | C5-C4 | -5.99 | 1.34 | 1.38 |
| 35 | BA | 642 | A | N9-C8 | 5.99 | 1.42 | 1.37 |
| 35 | BA | 697 | U | C5'-C4' | 5.99 | 1.58 | 1.51 |
| 35 | BA | 1508 | A | N9-C8 | -5.99 | 1.32 | 1.37 |
| 2 | AB | 1980 | G | C4'-O4' | -5.99 | 1.37 | 1.45 |
| 35 | BA | 152 | A | C5-C4 | -5.99 | 1.34 | 1.38 |
| 35 | BA | 1073 | U | C5'-C4' | 5.99 | 1.58 | 1.51 |
| 35 | BA | 1276 | G | N3-C4 | 5.99 | 1.39 | 1.35 |
| 2 | AB | 925 | A | O3'-P | 5.99 | 1.68 | 1.61 |
| 2 | AB | 1667 | G | C2-N3 | 5.99 | 1.37 | 1.32 |
| 2 | AB | 1985 | C | P-O5' | 5.99 | 1.65 | 1.59 |
| 2 | AB | 2875 | C | C5-C6 | 5.99 | 1.39 | 1.34 |
| 2 | AB | 2895 | G | N3-C4 | 5.99 | 1.39 | 1.35 |
| 35 | BA | 748 | G | N7-C5 | 5.99 | 1.42 | 1.39 |
| 35 | BA | 921 | U | P-O5' | 5.99 | 1.65 | 1.59 |
| 35 | BA | 1466 | C | P-O5' | 5.99 | 1.65 | 1.59 |
| 36 | BB | 40 | G | C5-C4 | 5.99 | 1.42 | 1.38 |
| 37 | BC | 3 | C | N3-C4 | -5.99 | 1.29 | 1.33 |
| 1 | AA | 109 | A | C2-N3 | 5.99 | 1.39 | 1.33 |
| 2 | AB | 292 | U | C4-C5 | 5.99 | 1.49 | 1.43 |
| 2 | AB | 1189 | A | C4'-O4' | -5.99 | 1.37 | 1.45 |
| 2 | AB | 1323 | C | N1-C6 | 5.99 | 1.40 | 1.37 |
| 2 | AB | 1731 | G | N9-C4 | 5.99 | 1.42 | 1.38 |
| 2 | AB | 1749 | A | C6-N1 | -5.99 | 1.31 | 1.35 |
| 2 | AB | 1995 | U | C5-C6 | 5.99 | 1.39 | 1.34 |
| 2 | AB | 2771 | C | P-O5' | 5.99 | 1.65 | 1.59 |
| 35 | BA | 474 | G | C6-N1 | -5.99 | 1.35 | 1.39 |
| 35 | BA | 837 | U | C4-O4 | -5.99 | 1.18 | 1.23 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2594 | C | C2-N3 | 5.99 | 1.40 | 1.35 |
| 35 | BA | 168 | G | C5-C4 | -5.99 | 1.34 | 1.38 |
| 2 | AB | 223 | A | C4'-C3' | -5.99 | 1.46 | 1.52 |
| 2 | AB | 585 | G | C6-N1 | -5.99 | 1.35 | 1.39 |
| 2 | AB | 848 | C | C5-C6 | 5.99 | 1.39 | 1.34 |
| 2 | AB | 1048 | A | C8-N7 | -5.99 | 1.27 | 1.31 |
| 2 | AB | 1347 | A | N7-C5 | -5.99 | 1.35 | 1.39 |
| 2 | AB | 1932 | A | C2-N3 | -5.99 | 1.28 | 1.33 |
| 35 | BA | 402 | G | C4'-O4' | -5.99 | 1.37 | 1.45 |
| 37 | BC | 23 | G | C6-O6 | -5.99 | 1.18 | 1.24 |
| 37 | BC | 5 | G | N1-C2 | 5.98 | 1.42 | 1.37 |
| 37 | BC | 11 | A | C4'-O4' | -5.98 | 1.37 | 1.45 |
| 2 | AB | 1174 | U | N1-C6 | 5.98 | 1.43 | 1.38 |
| 2 | AB | 1261 | C | C2-N3 | -5.98 | 1.30 | 1.35 |
| 2 | AB | 1992 | G | C6-O6 | -5.98 | 1.18 | 1.24 |
| 2 | AB | 2183 | A | C4'-O4' | -5.98 | 1.37 | 1.45 |
| 2 | AB | 2335 | A | C5-C6 | 5.98 | 1.46 | 1.41 |
| 35 | BA | 409 | U | C5'-C4' | 5.98 | 1.58 | 1.51 |
| 35 | BA | 570 | G | C4'-O4' | -5.98 | 1.37 | 1.45 |
| 35 | BA | 899 | C | C3'-C2' | 5.98 | 1.59 | 1.52 |
| 35 | BA | 1152 | A | C2'-C1' | 5.98 | 1.59 | 1.53 |
| 35 | BA | 1255 | G | N1-C2 | 5.98 | 1.42 | 1.37 |
| 2 | AB | 597 | G | C8-N7 | -5.98 | 1.27 | 1.30 |
| 2 | AB | 1889 | A | C5-C6 | 5.98 | 1.46 | 1.41 |
| 2 | AB | 2281 | A | C3'-C2' | -5.98 | 1.46 | 1.52 |
| 2 | AB | 2431 | U | C5-C6 | 5.98 | 1.39 | 1.34 |
| 35 | BA | 144 | G | C6-O6 | -5.98 | 1.18 | 1.24 |
| 35 | BA | 413 | G | C4'-C3' | 5.98 | 1.59 | 1.53 |
| 35 | BA | 1360 | A | C6-N1 | -5.98 | 1.31 | 1.35 |
| 37 | BC | 60 | A | C6-N1 | -5.98 | 1.31 | 1.35 |
| 2 | AB | 1396 | U | C2-O2 | 5.98 | 1.27 | 1.22 |
| 2 | AB | 1943 | U | C5-C6 | 5.98 | 1.39 | 1.34 |
| 2 | AB | 883 | G | C2-N3 | 5.98 | 1.37 | 1.32 |
| 2 | AB | 1755 | A | C4'-O4' | -5.98 | 1.37 | 1.45 |
| 2 | AB | 2738 | A | N3-C4 | 5.98 | 1.38 | 1.34 |
| 35 | BA | 18 | C | N3-C4 | 5.98 | 1.38 | 1.33 |
| 35 | BA | 729 | A | N3-C4 | -5.98 | 1.31 | 1.34 |
| 2 | AB | 30 | G | C4'-O4' | -5.98 | 1.37 | 1.45 |
| 2 | AB | 566 | U | C5'-C4' | 5.98 | 1.58 | 1.51 |
| 2 | AB | 2797 | U | P-O5' | 5.98 | 1.65 | 1.59 |
| 35 | BA | 1187 | G | C6-N1 | -5.98 | 1.35 | 1.39 |
| 35 | BA | 1469 | C | C4'-O4' | -5.98 | 1.37 | 1.45 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 201 | C | N3-C4 | 5.97 | 1.38 | 1.33 |
| 2 | AB | 259 | G | P-O5' | 5.97 | 1.65 | 1.59 |
| 2 | AB | 925 | A | C5-C4 | -5.97 | 1.34 | 1.38 |
| 2 | AB | 1083 | U | C4'-C3' | 5.97 | 1.59 | 1.53 |
| 2 | AB | 1177 | G | C4'-O4' | -5.97 | 1.37 | 1.45 |
| 2 | AB | 1478 | G | N1-C2 | -5.97 | 1.32 | 1.37 |
| 35 | BA | 458 | U | C5-C6 | 5.97 | 1.39 | 1.34 |
| 35 | BA | 849 | G | P-O5' | 5.97 | 1.65 | 1.59 |
| 35 | BA | 1280 | A | N7-C5 | 5.97 | 1.42 | 1.39 |
| 2 | AB | 75 | G | C6-N1 | 5.97 | 1.43 | 1.39 |
| 2 | AB | 649 | G | P-O5' | 5.97 | 1.65 | 1.59 |
| 2 | AB | 1464 | G | N3-C4 | 5.97 | 1.39 | 1.35 |
| 2 | AB | 1814 | G | N9-C4 | -5.97 | 1.33 | 1.38 |
| 2 | AB | 2452 | C | N3-C4 | 5.97 | 1.38 | 1.33 |
| 2 | AB | 2772 | C | C4-N4 | 5.97 | 1.39 | 1.33 |
| 2 | AB | 2868 | A | N7-C5 | -5.97 | 1.35 | 1.39 |
| 35 | BA | 651 | C | N3-C4 | 5.97 | 1.38 | 1.33 |
| 35 | BA | 1049 | U | C4-C5 | 5.97 | 1.49 | 1.43 |
| 2 | AB | 1899 | A | N9-C8 | 5.97 | 1.42 | 1.37 |
| 35 | BA | 1161 | C | C2-N3 | 5.97 | 1.40 | 1.35 |
| 2 | AB | 217 | A | C2'-O2' | -5.97 | 1.33 | 1.41 |
| 2 | AB | 1192 | G | C4'-O4' | -5.97 | 1.37 | 1.45 |
| 2 | AB | 1214 | A | C8-N7 | -5.97 | 1.27 | 1.31 |
| 2 | AB | 1414 | C | N1-C2 | 5.97 | 1.46 | 1.40 |
| 2 | AB | 2072 | C | N1-C6 | 5.97 | 1.40 | 1.37 |
| 2 | AB | 2191 | A | P-O5' | 5.97 | 1.65 | 1.59 |
| 2 | AB | 2613 | U | C5'-C4' | 5.97 | 1.58 | 1.51 |
| 2 | AB | 2740 | A | C8-N7 | -5.97 | 1.27 | 1.31 |
| 35 | BA | 298 | A | P-O5' | 5.97 | 1.65 | 1.59 |
| 2 | AB | 1699 | G | N7-C5 | -5.97 | 1.35 | 1.39 |
| 2 | AB | 1848 | A | C5-C4 | -5.97 | 1.34 | 1.38 |
| 37 | BC | 7 | G | C2-N2 | 5.97 | 1.40 | 1.34 |
| 42 | BH | 25 | TYR | CE2-CZ | 5.97 | 1.46 | 1.38 |
| 2 | AB | 358 | U | C5'-C4' | 5.97 | 1.58 | 1.51 |
| 2 | AB | 475 | C | C2-N3 | 5.97 | 1.40 | 1.35 |
| 2 | AB | 479 | A | C6-N1 | 5.97 | 1.39 | 1.35 |
| 2 | AB | 606 | U | C4'-O4' | -5.97 | 1.37 | 1.45 |
| 2 | AB | 1189 | A | N3-C4 | 5.97 | 1.38 | 1.34 |
| 2 | AB | 1797 | G | N1-C2 | -5.97 | 1.32 | 1.37 |
| 2 | AB | 2733 | A | C2'-C1' | 5.97 | 1.59 | 1.53 |
| 35 | BA | 514 | C | P-O5' | 5.97 | 1.65 | 1.59 |
| 35 | BA | 605 | U | C2-O2 | 5.97 | 1.27 | 1.22 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1205 | A | N9-C4 | -5.96 | 1.34 | 1.37 |
| 2 | AB | 1441 | G | N3-C4 | 5.96 | 1.39 | 1.35 |
| 2 | AB | 1552 | A | O3'-P | -5.96 | 1.53 | 1.61 |
| 2 | AB | 1664 | A | C2-N3 | -5.96 | 1.28 | 1.33 |
| 2 | AB | 2881 | U | C3'-C2' | -5.96 | 1.46 | 1.52 |
| 35 | BA | 98 | A | P-O5' | 5.96 | 1.65 | 1.59 |
| 35 | BA | 420 | U | C2'-O2' | 5.96 | 1.49 | 1.41 |
| 35 | BA | 1146 | A | N9-C4 | -5.96 | 1.34 | 1.37 |
| 35 | BA | 1410 | A | N3-C4 | 5.96 | 1.38 | 1.34 |
| 1 | AA | 102 | G | O4'-C1' | 5.96 | 1.49 | 1.41 |
| 2 | AB | 551 | G | C5-C6 | 5.96 | 1.48 | 1.42 |
| 2 | AB | 1343 | G | C4'-C3' | -5.96 | 1.46 | 1.52 |
| 2 | AB | 1471 | G | O3'-P | 5.96 | 1.68 | 1.61 |
| 2 | AB | 2242 | G | C5'-C4' | 5.96 | 1.58 | 1.51 |
| 2 | AB | 2496 | C | P-O5' | 5.96 | 1.65 | 1.59 |
| 2 | AB | 2686 | G | N9-C8 | -5.96 | 1.33 | 1.37 |
| 2 | AB | 2903 | U | P-O5' | 5.96 | 1.65 | 1.59 |
| 35 | BA | 73 | C | C1'-N1 | 5.96 | 1.57 | 1.48 |
| 35 | BA | 669 | G | C6-O6 | 5.96 | 1.29 | 1.24 |
| 35 | BA | 1294 | G | C6-N1 | -5.96 | 1.35 | 1.39 |
| 36 | BB | 54 | U | C2-N3 | -5.96 | 1.33 | 1.37 |
| 37 | BC | 23 | G | N7-C5 | 5.96 | 1.42 | 1.39 |
| 2 | AB | 1127 | A | C2-N3 | -5.96 | 1.28 | 1.33 |
| 35 | BA | 925 | G | N7-C5 | -5.96 | 1.35 | 1.39 |
| 35 | BA | 1290 | G | C5'-C4' | 5.96 | 1.58 | 1.51 |
| 2 | AB | 955 | PSU | O3'-P | 5.96 | 1.68 | 1.61 |
| 2 | AB | 1851 | U | C5-C6 | 5.96 | 1.39 | 1.34 |
| 2 | AB | 2351 | G | N1-C2 | -5.96 | 1.32 | 1.37 |
| 35 | BA | 957 | U | N1-C6 | -5.96 | 1.32 | 1.38 |
| 35 | BA | 1119 | C | C2'-C1' | 5.96 | 1.59 | 1.53 |
| 35 | BA | 1192 | C | C2'-O2' | 5.96 | 1.49 | 1.41 |
| 35 | BA | 1219 | A | C8-N7 | -5.96 | 1.27 | 1.31 |
| 35 | BA | 1311 | A | C5-C6 | 5.96 | 1.46 | 1.41 |
| 2 | AB | 44 | A | C6-N6 | 5.96 | 1.38 | 1.33 |
| 2 | AB | 74 | A | C2'-C1' | -5.96 | 1.46 | 1.53 |
| 2 | AB | 1255 | U | N1-C6 | -5.96 | 1.32 | 1.38 |
| 2 | AB | 1581 | G | C2-N3 | 5.96 | 1.37 | 1.32 |
| 2 | AB | 2238 | G | C6-N1 | 5.96 | 1.43 | 1.39 |
| 35 | BA | 208 | U | N1-C2 | 5.96 | 1.44 | 1.38 |
| 35 | BA | 1031 | C | N1-C2 | -5.96 | 1.34 | 1.40 |
| 35 | BA | 1163 | A | C3'-C2' | 5.96 | 1.59 | 1.52 |
| 2 | AB | 84 | A | C6-N6 | 5.96 | 1.38 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1750 | G | C5-C4 | 5.96 | 1.42 | 1.38 |
| 35 | BA | 826 | C | C2-O2 | -5.96 | 1.19 | 1.24 |
| 35 | BA | 1389 | C | N1-C6 | 5.96 | 1.40 | 1.37 |
| 2 | AB | 349 | U | C2-N3 | 5.95 | 1.42 | 1.37 |
| 2 | AB | 572 | A | C5-C4 | -5.95 | 1.34 | 1.38 |
| 2 | AB | 1445 | G | C5-C4 | -5.95 | 1.34 | 1.38 |
| 2 | AB | 2367 | G | N9-C4 | 5.95 | 1.42 | 1.38 |
| 35 | BA | 726 | C | N3-C4 | 5.95 | 1.38 | 1.33 |
| 35 | BA | 773 | G | C5-C6 | 5.95 | 1.48 | 1.42 |
| 35 | BA | 1067 | A | O3'-P | 5.95 | 1.68 | 1.61 |
| 36 | BB | 20 | G | O3'-P | 5.95 | 1.68 | 1.61 |
| 2 | AB | 699 | A | C6-N6 | 5.95 | 1.38 | 1.33 |
| 2 | AB | 1448 | G | C8-N7 | -5.95 | 1.27 | 1.30 |
| 2 | AB | 2007 | U | C4-C5 | 5.95 | 1.49 | 1.43 |
| 2 | AB | 2535 | G | N7-C5 | -5.95 | 1.35 | 1.39 |
| 35 | BA | 435 | A | C6-N1 | -5.95 | 1.31 | 1.35 |
| 35 | BA | 1254 | A | C6-N6 | 5.95 | 1.38 | 1.33 |
| 2 | AB | 105 | C | N3-C4 | 5.95 | 1.38 | 1.33 |
| 2 | AB | 196 | A | C6-N6 | 5.95 | 1.38 | 1.33 |
| 2 | AB | 225 | C | C4-C5 | 5.95 | 1.47 | 1.43 |
| 2 | AB | 233 | A | C8-N7 | -5.95 | 1.27 | 1.31 |
| 2 | AB | 1207 | C | N3-C4 | 5.95 | 1.38 | 1.33 |
| 2 | AB | 1216 | G | C2'-O2' | 5.95 | 1.49 | 1.41 |
| 2 | AB | 1778 | U | C2'-C1' | -5.95 | 1.46 | 1.53 |
| 2 | AB | 1927 | A | N7-C5 | 5.95 | 1.42 | 1.39 |
| 35 | BA | 338 | A | O3'-P | -5.95 | 1.54 | 1.61 |
| 35 | BA | 1221 | G | C8-N7 | 5.95 | 1.34 | 1.30 |
| 2 | AB | 40 | U | C5'-C4' | 5.95 | 1.58 | 1.51 |
| 2 | AB | 1061 | U | C4'-C3' | -5.95 | 1.46 | 1.52 |
| 2 | AB | 1742 | U | N1-C2 | 5.95 | 1.44 | 1.38 |
| 2 | AB | 2192 | U | O5'-C5' | -5.95 | 1.33 | 1.42 |
| 35 | BA | 1040 | U | N1-C6 | 5.95 | 1.43 | 1.38 |
| 35 | BA | 1235 | U | P-O5' | 5.95 | 1.65 | 1.59 |
| 2 | AB | 1535 | A | N3-C4 | 5.95 | 1.38 | 1.34 |
| 2 | AB | 2809 | A | C6-N1 | -5.95 | 1.31 | 1.35 |
| 35 | BA | 705 | G | N9-C4 | -5.95 | 1.33 | 1.38 |
| 36 | BB | 59 | A | C4'-O4' | -5.95 | 1.37 | 1.45 |
| 2 | AB | 1363 | C | C3'-C2' | -5.95 | 1.46 | 1.52 |
| 2 | AB | 1535 | A | N1-C2 | 5.95 | 1.39 | 1.34 |
| 2 | AB | 2220 | U | C4'-C3' | 5.95 | 1.59 | 1.53 |
| 2 | AB | 2348 | U | C4-O4 | -5.95 | 1.18 | 1.23 |
| 2 | AB | 2367 | G | O3'-P | 5.95 | 1.68 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 701 | U | C4-C5 | 5.95 | 1.49 | 1.43 |
| 39 | BE | 170 | GLY | CA-C | 5.95 | 1.61 | 1.51 |
| 2 | AB | 1569 | A | N9-C4 | 5.94 | 1.41 | 1.37 |
| 35 | BA | 858 | G | N9-C8 | -5.94 | 1.33 | 1.37 |
| 35 | BA | 1458 | G | C2-N3 | 5.94 | 1.37 | 1.32 |
| 2 | AB | 80 | G | N1-C2 | 5.94 | 1.42 | 1.37 |
| 2 | AB | 694 | U | C2-N3 | 5.94 | 1.42 | 1.37 |
| 2 | AB | 2211 | A | C5-C4 | -5.94 | 1.34 | 1.38 |
| 2 | AB | 2242 | G | O3'-P | 5.94 | 1.68 | 1.61 |
| 2 | AB | 2455 | G | O3'-P | 5.94 | 1.68 | 1.61 |
| 2 | AB | 2513 | A | C3'-C2' | 5.94 | 1.59 | 1.52 |
| 35 | BA | 1472 | U | P-O5' | 5.94 | 1.65 | 1.59 |
| 2 | AB | 635 | C | C2'-C1' | 5.94 | 1.59 | 1.53 |
| 2 | AB | 775 | G | O3'-P | 5.94 | 1.68 | 1.61 |
| 2 | AB | 1408 | G | N9-C8 | -5.94 | 1.33 | 1.37 |
| 2 | AB | 1899 | A | N3-C4 | -5.94 | 1.31 | 1.34 |
| 35 | BA | 723 | U | C4-O4 | -5.94 | 1.18 | 1.23 |
| 35 | BA | 803 | G | N7-C5 | 5.94 | 1.42 | 1.39 |
| 35 | BA | 1333 | A | C6-N1 | -5.94 | 1.31 | 1.35 |
| 35 | BA | 1524 | C | N1-C6 | 5.94 | 1.40 | 1.37 |
| 2 | AB | 177 | G | O4'-C1' | -5.94 | 1.33 | 1.41 |
| 2 | AB | 1272 | A | N9-C8 | 5.94 | 1.42 | 1.37 |
| 2 | AB | 1978 | A | O3'-P | -5.94 | 1.54 | 1.61 |
| 35 | BA | 474 | G | P-O5' | 5.94 | 1.65 | 1.59 |
| 35 | BA | 1177 | G | N1-C2 | 5.94 | 1.42 | 1.37 |
| 2 | AB | 189 | G | O3'-P | 5.94 | 1.68 | 1.61 |
| 2 | AB | 203 | A | N1-C2 | -5.94 | 1.29 | 1.34 |
| 2 | AB | 292 | U | N3-C4 | 5.94 | 1.43 | 1.38 |
| 2 | AB | 496 | G | N9-C8 | 5.94 | 1.42 | 1.37 |
| 2 | AB | 514 | A | N9-C4 | -5.94 | 1.34 | 1.37 |
| 2 | AB | 1093 | G | C5'-C4' | 5.94 | 1.58 | 1.51 |
| 2 | AB | 1432 | G | C8-N7 | -5.94 | 1.27 | 1.30 |
| 35 | BA | 548 | G | N3-C4 | 5.94 | 1.39 | 1.35 |
| 35 | BA | 746 | A | N1-C2 | -5.94 | 1.29 | 1.34 |
| 35 | BA | 1056 | U | C3'-C2' | 5.94 | 1.59 | 1.52 |
| 35 | BA | 1233 | G | N7-C5 | 5.94 | 1.42 | 1.39 |
| 2 | AB | 1611 | C | N1-C6 | 5.94 | 1.40 | 1.37 |
| 2 | AB | 2148 | G | N1-C2 | -5.94 | 1.33 | 1.37 |
| 2 | AB | 249 | C | C5-C6 | 5.93 | 1.39 | 1.34 |
| 2 | AB | 549 | G | C2-N2 | -5.93 | 1.28 | 1.34 |
| 2 | AB | 840 | C | C4-C5 | 5.93 | 1.47 | 1.43 |
| 2 | AB | 2201 | G | O3'-P | -5.93 | 1.54 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2306 | C | C5'-C4' | 5.93 | 1.58 | 1.51 |
| 2 | AB | 2700 | A | P-O5' | 5.93 | 1.65 | 1.59 |
| 2 | AB | 2712 | C | C2'-O2' | -5.93 | 1.33 | 1.41 |
| 2 | AB | 2721 | A | N7-C5 | 5.93 | 1.42 | 1.39 |
| 35 | BA | 128 | G | C2'-C1' | 5.93 | 1.59 | 1.53 |
| 35 | BA | 574 | A | N7-C5 | -5.93 | 1.35 | 1.39 |
| 2 | AB | 243 | U | N1-C6 | 5.93 | 1.43 | 1.38 |
| 2 | AB | 705 | A | C8-N7 | -5.93 | 1.27 | 1.31 |
| 2 | AB | 765 | C | C3'-C2' | 5.93 | 1.59 | 1.52 |
| 2 | AB | 1027 | A | C8-N7 | 5.93 | 1.35 | 1.31 |
| 2 | AB | 1147 | A | C2-N3 | 5.93 | 1.38 | 1.33 |
| 2 | AB | 1702 | G | C8-N7 | 5.93 | 1.34 | 1.30 |
| 2 | AB | 2290 | G | C5'-C4' | 5.93 | 1.58 | 1.51 |
| 2 | AB | 2673 | G | C8-N7 | 5.93 | 1.34 | 1.30 |
| 2 | AB | 2747 | G | C5'-C4' | 5.93 | 1.58 | 1.51 |
| 35 | BA | 762 | U | P-O5' | 5.93 | 1.65 | 1.59 |
| 35 | BA | 1274 | A | N9-C8 | 5.93 | 1.42 | 1.37 |
| 1 | AA | 88 | C | C5'-C4' | 5.93 | 1.58 | 1.51 |
| 35 | BA | 168 | G | P-O5' | 5.93 | 1.65 | 1.59 |
| 1 | AA | 90 | C | C4'-O4' | -5.93 | 1.37 | 1.45 |
| 2 | AB | 638 | G | P-O5' | 5.93 | 1.65 | 1.59 |
| 35 | BA | 905 | U | C4-C5 | 5.93 | 1.48 | 1.43 |
| 2 | AB | 301 | G | C4'-C3' | 5.93 | 1.59 | 1.53 |
| 2 | AB | 977 | G | N7-C5 | -5.93 | 1.35 | 1.39 |
| 2 | AB | 1362 | C | C2'-C1' | 5.93 | 1.59 | 1.53 |
| 35 | BA | 808 | C | P-O5' | 5.93 | 1.65 | 1.59 |
| 35 | BA | 1211 | U | N1-C2 | 5.93 | 1.43 | 1.38 |
| 2 | AB | 644 | A | N9-C8 | 5.93 | 1.42 | 1.37 |
| 2 | AB | 692 | C | C4'-C3' | 5.93 | 1.59 | 1.53 |
| 2 | AB | 748 | G | C6-N1 | -5.93 | 1.35 | 1.39 |
| 2 | AB | 1029 | A | C6-N1 | -5.93 | 1.31 | 1.35 |
| 2 | AB | 1707 | G | C2'-C1' | -5.93 | 1.46 | 1.53 |
| 35 | BA | 532 | A | N3-C4 | -5.93 | 1.31 | 1.34 |
| 35 | BA | 786 | G | C5'-C4' | 5.93 | 1.58 | 1.51 |
| 35 | BA | 1004 | A | N3-C4 | 5.93 | 1.38 | 1.34 |
| 35 | BA | 1028 | C | P-O5' | 5.93 | 1.65 | 1.59 |
| 35 | BA | 1212 | U | C2-N3 | 5.93 | 1.41 | 1.37 |
| 35 | BA | 1227 | A | C8-N7 | -5.93 | 1.27 | 1.31 |
| 2 | AB | 247 | G | N7-C5 | 5.92 | 1.42 | 1.39 |
| 2 | AB | 315 | G | C8-N7 | 5.92 | 1.34 | 1.30 |
| 2 | AB | 386 | G | C4'-O4' | -5.92 | 1.37 | 1.45 |
| 2 | AB | 458 | G | N7-C5 | 5.92 | 1.42 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1737 | G | O3'-P | 5.92 | 1.68 | 1.61 |
| 2 | AB | 1996 | C | C2-N3 | 5.92 | 1.40 | 1.35 |
| 2 | AB | 2545 | G | C5-C6 | 5.92 | 1.48 | 1.42 |
| 35 | BA | 277 | C | C4-N4 | 5.92 | 1.39 | 1.33 |
| 35 | BA | 344 | A | C5-C6 | 5.92 | 1.46 | 1.41 |
| 35 | BA | 1229 | A | C6-N1 | 5.92 | 1.39 | 1.35 |
| 2 | AB | 529 | A | N9-C4 | 5.92 | 1.41 | 1.37 |
| 2 | AB | 770 | G | N1-C2 | 5.92 | 1.42 | 1.37 |
| 2 | AB | 793 | A | N9-C8 | 5.92 | 1.42 | 1.37 |
| 2 | AB | 1044 | C | C4'-O4' | -5.92 | 1.37 | 1.45 |
| 2 | AB | 1289 | C | N1-C6 | 5.92 | 1.40 | 1.37 |
| 2 | AB | 2060 | A | N7-C5 | 5.92 | 1.42 | 1.39 |
| 2 | AB | 2260 | C | C2-N3 | -5.92 | 1.31 | 1.35 |
| 2 | AB | 2338 | C | C4'-O4' | -5.92 | 1.37 | 1.45 |
| 35 | BA | 209 | U | C5'-C4' | 5.92 | 1.58 | 1.51 |
| 35 | BA | 1319 | A | C6-N6 | 5.92 | 1.38 | 1.33 |
| 2 | AB | 440 | C | C2-N3 | 5.92 | 1.40 | 1.35 |
| 2 | AB | 619 | G | N7-C5 | 5.92 | 1.42 | 1.39 |
| 2 | AB | 2091 | C | C3'-C2' | 5.92 | 1.59 | 1.52 |
| 2 | AB | 2505 | G | N3-C4 | 5.92 | 1.39 | 1.35 |
| 35 | BA | 315 | A | C5-C4 | -5.92 | 1.34 | 1.38 |
| 35 | BA | 1039 | G | N9-C8 | -5.92 | 1.33 | 1.37 |
| 35 | BA | 1253 | G | C5-C6 | 5.92 | 1.48 | 1.42 |
| 1 | AA | 22 | U | O4'-C1' | 5.92 | 1.49 | 1.41 |
| 2 | AB | 343 | C | P-O5' | 5.92 | 1.65 | 1.59 |
| 2 | AB | 1360 | G | N3-C4 | 5.92 | 1.39 | 1.35 |
| 2 | AB | 2494 | G | P-O5' | 5.92 | 1.65 | 1.59 |
| 35 | BA | 228 | A | C5-C4 | -5.92 | 1.34 | 1.38 |
| 35 | BA | 1480 | A | N7-C5 | 5.92 | 1.42 | 1.39 |
| 2 | AB | 1383 | A | N3-C4 | 5.92 | 1.38 | 1.34 |
| 2 | AB | 1490 | A | C6-N1 | 5.92 | 1.39 | 1.35 |
| 2 | AB | 1657 | U | C2'-C1' | 5.92 | 1.59 | 1.53 |
| 17 | AQ | 36 | TYR | CG-CD1 | 5.92 | 1.46 | 1.39 |
| 35 | BA | 33 | A | P-O5' | 5.92 | 1.65 | 1.59 |
| 35 | BA | 324 | G | O3'-P | 5.92 | 1.68 | 1.61 |
| 35 | BA | 573 | A | N3-C4 | 5.92 | 1.38 | 1.34 |
| 35 | BA | 581 | G | P-O5' | 5.92 | 1.65 | 1.59 |
| 35 | BA | 755 | G | C3'-C2' | 5.92 | 1.59 | 1.52 |
| 35 | BA | 1224 | U | C4-C5 | 5.92 | 1.48 | 1.43 |
| 35 | BA | 1426 | G | C2-N3 | 5.92 | 1.37 | 1.32 |
| 2 | AB | 669 | G | C8-N7 | 5.92 | 1.34 | 1.30 |
| 2 | AB | 848 | C | C3'-C2' | -5.92 | 1.46 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 854 | C | P-O5' | 5.92 | 1.65 | 1.59 |
| 2 | AB | 1084 | A | C6-N1 | -5.92 | 1.31 | 1.35 |
| 2 | AB | 1204 | A | O3'-P | 5.92 | 1.68 | 1.61 |
| 35 | BA | 102 | G | C6-N1 | 5.92 | 1.43 | 1.39 |
| 35 | BA | 141 | G | C4'-O4' | -5.92 | 1.37 | 1.45 |
| 35 | BA | 275 | G | C3'-C2' | 5.92 | 1.59 | 1.52 |
| 36 | BB | 30 | U | C5'-C4' | 5.92 | 1.58 | 1.51 |
| 37 | BC | 37 | U | C3'-C2' | 5.92 | 1.59 | 1.52 |
| 2 | AB | 178 | G | N1-C2 | 5.92 | 1.42 | 1.37 |
| 2 | AB | 333 | G | N7-C5 | -5.92 | 1.35 | 1.39 |
| 2 | AB | 338 | G | C5-C4 | -5.92 | 1.34 | 1.38 |
| 35 | BA | 986 | U | P-O5' | 5.92 | 1.65 | 1.59 |
| 35 | BA | 1076 | U | C3'-O3' | -5.92 | 1.33 | 1.42 |
| 1 | AA | 50 | A | P-O5' | -5.91 | 1.53 | 1.59 |
| 1 | AA | 93 | C | O3'-P | 5.91 | 1.68 | 1.61 |
| 2 | AB | 201 | C | C5-C6 | 5.91 | 1.39 | 1.34 |
| 2 | AB | 1419 | A | O3'-P | -5.91 | 1.54 | 1.61 |
| 2 | AB | 1891 | G | N7-C5 | -5.91 | 1.35 | 1.39 |
| 2 | AB | 2419 | U | C4-C5 | 5.91 | 1.48 | 1.43 |
| 2 | AB | 2619 | C | C3'-O3' | 5.91 | 1.50 | 1.42 |
| 35 | BA | 454 | G | C5'-C4' | 5.91 | 1.58 | 1.51 |
| 35 | BA | 490 | C | C4-N4 | -5.91 | 1.28 | 1.33 |
| 35 | BA | 497 | G | C2'-O2' | -5.91 | 1.33 | 1.41 |
| 35 | BA | 1430 | A | C3'-C2' | 5.91 | 1.59 | 1.52 |
| 2 | AB | 1689 | A | P-O5' | 5.91 | 1.65 | 1.59 |
| 2 | AB | 2144 | G | O3'-P | 5.91 | 1.68 | 1.61 |
| 2 | AB | 2144 | G | N9-C4 | -5.91 | 1.33 | 1.38 |
| 2 | AB | 582 | A | N3-C4 | -5.91 | 1.31 | 1.34 |
| 2 | AB | 665 | U | C4-C5 | 5.91 | 1.48 | 1.43 |
| 2 | AB | 1368 | G | N9-C8 | -5.91 | 1.33 | 1.37 |
| 2 | AB | 1729 | U | C4'-O4' | -5.91 | 1.37 | 1.45 |
| 2 | AB | 1755 | A | C8-N7 | -5.91 | 1.27 | 1.31 |
| 2 | AB | 2418 | A | C6-N6 | -5.91 | 1.29 | 1.33 |
| 2 | AB | 2569 | G | N9-C4 | -5.91 | 1.33 | 1.38 |
| 2 | AB | 2598 | A | C8-N7 | 5.91 | 1.35 | 1.31 |
| 35 | BA | 515 | G | C4'-O4' | -5.91 | 1.37 | 1.45 |
| 2 | AB | 356 | G | O4'-C1' | 5.91 | 1.49 | 1.41 |
| 2 | AB | 2302 | U | C2-N3 | 5.91 | 1.41 | 1.37 |
| 2 | AB | 2531 | A | C8-N7 | 5.91 | 1.35 | 1.31 |
| 2 | AB | 2856 | A | C6-N1 | 5.91 | 1.39 | 1.35 |
| 49 | BO | 106 | ARG | CZ-NH2 | 5.91 | 1.40 | 1.33 |
| 2 | AB | 1903 | G | N1-C2 | 5.91 | 1.42 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2280 | G | P-O5' | 5.91 | 1.65 | 1.59 |
| 2 | AB | 2562 | U | C3'-C2' | 5.91 | 1.59 | 1.52 |
| 37 | BC | 37 | U | C4'-C3' | 5.91 | 1.59 | 1.53 |
| 42 | BH | 118 | ASN | C-O | -5.91 | 1.12 | 1.23 |
| 2 | AB | 665 | U | P-O5' | 5.91 | 1.65 | 1.59 |
| 2 | AB | 1361 | G | N9-C4 | 5.91 | 1.42 | 1.38 |
| 2 | AB | 2349 | G | C4'-C3' | 5.91 | 1.59 | 1.53 |
| 35 | BA | 13 | U | C2-N3 | 5.91 | 1.41 | 1.37 |
| 35 | BA | 802 | A | C4'-C3' | -5.91 | 1.46 | 1.52 |
| 35 | BA | 822 | U | N1-C2 | 5.91 | 1.43 | 1.38 |
| 35 | BA | 1137 | C | C5'-C4' | 5.91 | 1.58 | 1.51 |
| 1 | AA | 102 | G | C6-N1 | -5.90 | 1.35 | 1.39 |
| 2 | AB | 593 | U | N3-C4 | 5.90 | 1.43 | 1.38 |
| 2 | AB | 2091 | C | N3-C4 | 5.90 | 1.38 | 1.33 |
| 2 | AB | 2400 | G | C2-N2 | 5.90 | 1.40 | 1.34 |
| 2 | AB | 2869 | G | C3'-C2' | 5.90 | 1.59 | 1.52 |
| 35 | BA | 608 | A | C8-N7 | -5.90 | 1.27 | 1.31 |
| 35 | BA | 899 | C | C4'-C3' | -5.90 | 1.46 | 1.52 |
| 1 | AA | 14 | U | C4'-C3' | 5.90 | 1.59 | 1.53 |
| 2 | AB | 486 | C | O3'-P | -5.90 | 1.54 | 1.61 |
| 2 | AB | 1236 | G | N3-C4 | 5.90 | 1.39 | 1.35 |
| 2 | AB | 1793 | C | C4'-O4' | -5.90 | 1.37 | 1.45 |
| 2 | AB | 2138 | G | C5'-C4' | 5.90 | 1.58 | 1.51 |
| 2 | AB | 2833 | U | N1-C6 | -5.90 | 1.32 | 1.38 |
| 35 | BA | 468 | A | O3'-P | 5.90 | 1.68 | 1.61 |
| 35 | BA | 478 | A | C2'-C1' | 5.90 | 1.59 | 1.53 |
| 35 | BA | 761 | G | C3'-O3' | 5.90 | 1.50 | 1.42 |
| 35 | BA | 1161 | C | P-O5' | -5.90 | 1.53 | 1.59 |
| 2 | AB | 105 | C | C4'-O4' | -5.90 | 1.37 | 1.45 |
| 2 | AB | 528 | A | N9-C4 | 5.90 | 1.41 | 1.37 |
| 2 | AB | 1369 | G | N7-C5 | 5.90 | 1.42 | 1.39 |
| 2 | AB | 1538 | G | N7-C5 | 5.90 | 1.42 | 1.39 |
| 2 | AB | 1839 | G | C8-N7 | -5.90 | 1.27 | 1.30 |
| 2 | AB | 2401 | U | O4'-C1' | 5.90 | 1.49 | 1.41 |
| 2 | AB | 2768 | U | C3'-C2' | -5.90 | 1.46 | 1.52 |
| 35 | BA | 674 | G | C3'-C2' | -5.90 | 1.46 | 1.52 |
| 36 | BB | 29 | G | C2-N3 | 5.90 | 1.37 | 1.32 |
| 1 | AA | 29 | A | N1-C2 | -5.90 | 1.29 | 1.34 |
| 2 | AB | 232 | G | C8-N7 | -5.90 | 1.27 | 1.30 |
| 2 | AB | 675 | A | C5'-C4' | 5.90 | 1.58 | 1.51 |
| 2 | AB | 839 | U | N1-C2 | 5.90 | 1.43 | 1.38 |
| 2 | AB | 1317 | G | P-O5' | -5.90 | 1.53 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1391 | U | C4'-O4' | -5.90 | 1.37 | 1.45 |
| 35 | BA | 63 | C | C2-N3 | 5.90 | 1.40 | 1.35 |
| 35 | BA | 242 | G | C6-N1 | 5.90 | 1.43 | 1.39 |
| 35 | BA | 825 | A | N9-C8 | -5.90 | 1.33 | 1.37 |
| 35 | BA | 976 | G | C5-C6 | 5.90 | 1.48 | 1.42 |
| 2 | AB | 1249 | U | C4-C5 | 5.90 | 1.48 | 1.43 |
| 2 | AB | 2493 | U | C5'-C4' | 5.90 | 1.58 | 1.51 |
| 35 | BA | 615 | G | C2-N3 | 5.90 | 1.37 | 1.32 |
| 35 | BA | 1361 | G | C5'-C4' | 5.90 | 1.58 | 1.51 |
| 2 | AB | 928 | A | N7-C5 | -5.89 | 1.35 | 1.39 |
| 2 | AB | 1038 | G | C4'-O4' | -5.89 | 1.37 | 1.45 |
| 2 | AB | 1996 | C | N1-C6 | 5.89 | 1.40 | 1.37 |
| 2 | AB | 2832 | U | P-O5' | 5.89 | 1.65 | 1.59 |
| 2 | AB | 2877 | G | C2-N2 | -5.89 | 1.28 | 1.34 |
| 35 | BA | 650 | G | C5'-C4' | 5.89 | 1.58 | 1.51 |
| 35 | BA | 711 | G | C5'-C4' | 5.89 | 1.58 | 1.51 |
| 2 | AB | 93 | G | C2'-C1' | 5.89 | 1.59 | 1.53 |
| 2 | AB | 189 | G | N9-C4 | 5.89 | 1.42 | 1.38 |
| 2 | AB | 354 | A | C6-N6 | 5.89 | 1.38 | 1.33 |
| 2 | AB | 549 | G | C2-N3 | 5.89 | 1.37 | 1.32 |
| 2 | AB | 1144 | A | O3'-P | 5.89 | 1.68 | 1.61 |
| 2 | AB | 1186 | G | O3'-P | 5.89 | 1.68 | 1.61 |
| 2 | AB | 1401 | G | N9-C8 | 5.89 | 1.42 | 1.37 |
| 2 | AB | 1776 | G | N9-C4 | 5.89 | 1.42 | 1.38 |
| 2 | AB | 2056 | G | C5-C6 | 5.89 | 1.48 | 1.42 |
| 35 | BA | 122 | G | N7-C5 | 5.89 | 1.42 | 1.39 |
| 35 | BA | 529 | G | C5'-C4' | 5.89 | 1.58 | 1.51 |
| 35 | BA | 679 | C | C4-C5 | 5.89 | 1.47 | 1.43 |
| 35 | BA | 1012 | A | C5'-C4' | 5.89 | 1.58 | 1.51 |
| 35 | BA | 558 | G | C4'-O4' | -5.89 | 1.37 | 1.45 |
| 35 | BA | 1310 | G | C2'-C1' | 5.89 | 1.59 | 1.53 |
| 2 | AB | 68 | G | C8-N7 | 5.89 | 1.34 | 1.30 |
| 2 | AB | 294 | A | C4'-O4' | -5.89 | 1.37 | 1.45 |
| 2 | AB | 483 | A | C6-N1 | -5.89 | 1.31 | 1.35 |
| 2 | AB | 794 | A | C4'-C3' | -5.89 | 1.46 | 1.52 |
| 2 | AB | 1043 | C | C2-O2 | -5.89 | 1.19 | 1.24 |
| 2 | AB | 1354 | A | C4'-O4' | -5.89 | 1.37 | 1.45 |
| 2 | AB | 1866 | A | C5-C4 | -5.89 | 1.34 | 1.38 |
| 2 | AB | 2133 | G | C6-N1 | 5.89 | 1.43 | 1.39 |
| 35 | BA | 92 | U | C5'-C4' | 5.89 | 1.58 | 1.51 |
| 35 | BA | 870 | U | N1-C2 | 5.89 | 1.43 | 1.38 |
| 35 | BA | 1297 | G | P-O5' | 5.89 | 1.65 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1486 | G | N3-C4 | 5.89 | 1.39 | 1.35 |
| 2 | AB | 429 | A | N3-C4 | 5.89 | 1.38 | 1.34 |
| 2 | AB | 1873 | G | C3'-C2' | -5.89 | 1.46 | 1.52 |
| 2 | AB | 2064 | C | O3'-P | 5.89 | 1.68 | 1.61 |
| 2 | AB | 332 | A | N9-C8 | -5.89 | 1.33 | 1.37 |
| 2 | AB | 2068 | U | C4'-O4' | -5.89 | 1.37 | 1.45 |
| 2 | AB | 2240 | U | P-O5' | 5.89 | 1.65 | 1.59 |
| 35 | BA | 721 | G | O4'-C1' | 5.89 | 1.49 | 1.41 |
| 2 | AB | 169 | G | C6-O6 | -5.88 | 1.18 | 1.24 |
| 2 | AB | 284 | U | N1-C2 | 5.88 | 1.43 | 1.38 |
| 2 | AB | 711 | G | N7-C5 | 5.88 | 1.42 | 1.39 |
| 2 | AB | 1012 | U | P-O5' | -5.88 | 1.53 | 1.59 |
| 2 | AB | 1525 | A | N7-C5 | -5.88 | 1.35 | 1.39 |
| 2 | AB | 2289 | G | P-OP1 | 5.88 | 1.58 | 1.49 |
| 35 | BA | 612 | C | P-O5' | 5.88 | 1.65 | 1.59 |
| 35 | BA | 713 | G | O3'-P | 5.88 | 1.68 | 1.61 |
| 2 | AB | 12 | U | O4'-C1' | 5.88 | 1.49 | 1.41 |
| 2 | AB | 48 | G | O3'-P | 5.88 | 1.68 | 1.61 |
| 2 | AB | 320 | A | N9-C8 | 5.88 | 1.42 | 1.37 |
| 2 | AB | 510 | C | O3'-P | 5.88 | 1.68 | 1.61 |
| 2 | AB | 1069 | A | P-O5' | 5.88 | 1.65 | 1.59 |
| 2 | AB | 147 | C | P-O5' | 5.88 | 1.65 | 1.59 |
| 2 | AB | 696 | G | N1-C2 | 5.88 | 1.42 | 1.37 |
| 2 | AB | 1522 | A | C8-N7 | -5.88 | 1.27 | 1.31 |
| 2 | AB | 1940 | U | C2-N3 | 5.88 | 1.41 | 1.37 |
| 2 | AB | 2883 | A | C4'-O4' | -5.88 | 1.38 | 1.45 |
| 35 | BA | 1005 | A | C6-N1 | 5.88 | 1.39 | 1.35 |
| 37 | BC | 9 | G | N7-C5 | -5.88 | 1.35 | 1.39 |
| 2 | AB | 1254 | A | N3-C4 | -5.88 | 1.31 | 1.34 |
| 2 | AB | 1719 | G | C8-N7 | -5.88 | 1.27 | 1.30 |
| 2 | AB | 2450 | A | O4'-C1' | 5.88 | 1.49 | 1.41 |
| 35 | BA | 72 | A | O4'-C1' | 5.88 | 1.49 | 1.41 |
| 35 | BA | 1439 | G | C5-C4 | 5.88 | 1.42 | 1.38 |
| 2 | AB | 192 | C | C4-N4 | -5.88 | 1.28 | 1.33 |
| 2 | AB | 690 | G | N9-C8 | 5.88 | 1.42 | 1.37 |
| 2 | AB | 1036 | G | P-O5' | 5.88 | 1.65 | 1.59 |
| 2 | AB | 1045 | C | C4'-O4' | -5.88 | 1.38 | 1.45 |
| 2 | AB | 1232 | G | N3-C4 | 5.88 | 1.39 | 1.35 |
| 35 | BA | 490 | C | N3-C4 | 5.88 | 1.38 | 1.33 |
| 35 | BA | 544 | G | C3'-C2' | 5.88 | 1.59 | 1.52 |
| 35 | BA | 608 | A | P-O5' | 5.88 | 1.65 | 1.59 |
| 35 | BA | 878 | A | P-O5' | 5.88 | 1.65 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1302 | C | C5'-C4' | 5.88 | 1.58 | 1.51 |
| 35 | BA | 1304 | G | N3-C4 | -5.88 | 1.31 | 1.35 |
| 49 | BO | 2 | ARG | CZ-NH1 | 5.88 | 1.40 | 1.33 |
| 2 | AB | 1160 | G | C8-N7 | 5.88 | 1.34 | 1.30 |
| 2 | AB | 1760 | C | N1-C6 | 5.88 | 1.40 | 1.37 |
| 2 | AB | 2279 | G | C5-C4 | -5.88 | 1.34 | 1.38 |
| 2 | AB | 2776 | A | C4'-O4' | -5.88 | 1.38 | 1.45 |
| 2 | AB | 2871 | U | C4-C5 | 5.88 | 1.48 | 1.43 |
| 35 | BA | 1337 | G | P-O5' | 5.88 | 1.65 | 1.59 |
| 2 | AB | 1692 | U | C5-C6 | 5.88 | 1.39 | 1.34 |
| 2 | AB | 2413 | G | N3-C4 | 5.88 | 1.39 | 1.35 |
| 35 | BA | 61 | G | N9-C4 | -5.88 | 1.33 | 1.38 |
| 35 | BA | 1054 | C | C3'-C2' | 5.88 | 1.59 | 1.52 |
| 1 | AA | 34 | A | C5-C6 | 5.87 | 1.46 | 1.41 |
| 2 | AB | 282 | A | C6-N1 | -5.87 | 1.31 | 1.35 |
| 2 | AB | 807 | U | C2'-C1' | 5.87 | 1.59 | 1.53 |
| 35 | BA | 496 | A | N3-C4 | 5.87 | 1.38 | 1.34 |
| 35 | BA | 1189 | U | C4-C5 | 5.87 | 1.48 | 1.43 |
| 2 | AB | 213 | A | N9-C8 | -5.87 | 1.33 | 1.37 |
| 2 | AB | 1123 | C | N1-C6 | 5.87 | 1.40 | 1.37 |
| 2 | AB | 1219 | U | C5-C6 | 5.87 | 1.39 | 1.34 |
| 2 | AB | 1582 | C | C2-O2 | -5.87 | 1.19 | 1.24 |
| 2 | AB | 2754 | U | C5'-C4' | 5.87 | 1.58 | 1.51 |
| 2 | AB | 2826 | A | P-O5' | 5.87 | 1.65 | 1.59 |
| 2 | AB | 2903 | U | N1-C6 | 5.87 | 1.43 | 1.38 |
| 35 | BA | 403 | C | N1-C2 | -5.87 | 1.34 | 1.40 |
| 35 | BA | 682 | G | C5-C6 | 5.87 | 1.48 | 1.42 |
| 35 | BA | 1161 | C | C2'-O2' | -5.87 | 1.34 | 1.41 |
| 53 | BS | 59 | GLU | CB-CG | 5.87 | 1.63 | 1.52 |
| 53 | BS | 76 | ARG | NE-CZ | 5.87 | 1.40 | 1.33 |
| 2 | AB | 1919 | A | C2'-C1' | 5.87 | 1.59 | 1.53 |
| 2 | AB | 1943 | U | C2-N3 | 5.87 | 1.41 | 1.37 |
| 2 | AB | 2135 | A | N3-C4 | 5.87 | 1.38 | 1.34 |
| 35 | BA | 266 | G | N1-C2 | 5.87 | 1.42 | 1.37 |
| 1 | AA | 58 | A | N9-C4 | -5.87 | 1.34 | 1.37 |
| 2 | AB | 1574 | C | C4-C5 | 5.87 | 1.47 | 1.43 |
| 2 | AB | 1621 | U | C5-C6 | 5.87 | 1.39 | 1.34 |
| 35 | BA | 171 | A | C4'-O4' | -5.87 | 1.38 | 1.45 |
| 35 | BA | 700 | G | N1-C2 | 5.87 | 1.42 | 1.37 |
| 35 | BA | 1094 | G | N3-C4 | 5.87 | 1.39 | 1.35 |
| 2 | AB | 1115 | G | P-O5' | 5.87 | 1.65 | 1.59 |
| 2 | AB | 1930 | G | P-O5' | 5.87 | 1.65 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2054 | A | O3'-P | 5.87 | 1.68 | 1.61 |
| 35 | BA | 780 | A | P-O5' | 5.87 | 1.65 | 1.59 |
| 35 | BA | 1483 | A | C5-C4 | -5.87 | 1.34 | 1.38 |
| 2 | AB | 21 | A | C2-N3 | 5.87 | 1.38 | 1.33 |
| 2 | AB | 1395 | A | C6-N6 | 5.87 | 1.38 | 1.33 |
| 2 | AB | 1571 | A | N7-C5 | -5.87 | 1.35 | 1.39 |
| 2 | AB | 2038 | G | N3-C4 | 5.87 | 1.39 | 1.35 |
| 2 | AB | 2306 | C | C4'-O4' | -5.87 | 1.38 | 1.45 |
| 35 | BA | 65 | A | P-O5' | 5.87 | 1.65 | 1.59 |
| 35 | BA | 608 | A | N3-C4 | 5.87 | 1.38 | 1.34 |
| 35 | BA | 1127 | G | C4'-O4' | -5.87 | 1.38 | 1.45 |
| 1 | AA | 71 | C | C2-O2 | -5.86 | 1.19 | 1.24 |
| 2 | AB | 237 | C | C2-N3 | 5.86 | 1.40 | 1.35 |
| 2 | AB | 347 | A | C4'-O4' | -5.86 | 1.38 | 1.45 |
| 2 | AB | 1320 | C | N1-C6 | 5.86 | 1.40 | 1.37 |
| 2 | AB | 1596 | A | C2-N3 | 5.86 | 1.38 | 1.33 |
| 2 | AB | 1661 | G | C5-C6 | 5.86 | 1.48 | 1.42 |
| 2 | AB | 2060 | A | N3-C4 | 5.86 | 1.38 | 1.34 |
| 2 | AB | 2542 | A | C3'-O3' | 5.86 | 1.50 | 1.42 |
| 35 | BA | 280 | C | C2'-C1' | -5.86 | 1.47 | 1.53 |
| 35 | BA | 359 | G | C5'-C4' | 5.86 | 1.58 | 1.51 |
| 35 | BA | 659 | U | C5-C6 | 5.86 | 1.39 | 1.34 |
| 35 | BA | 1457 | G | C8-N7 | -5.86 | 1.27 | 1.30 |
| 2 | AB | 1640 | A | O3'-P | 5.86 | 1.68 | 1.61 |
| 2 | AB | 1997 | C | C5-C6 | -5.86 | 1.29 | 1.34 |
| 2 | AB | 2020 | A | N9-C4 | 5.86 | 1.41 | 1.37 |
| 2 | AB | 93 | G | N9-C4 | -5.86 | 1.33 | 1.38 |
| 2 | AB | 528 | A | P-O5' | 5.86 | 1.65 | 1.59 |
| 2 | AB | 1562 | U | C2'-C1' | 5.86 | 1.59 | 1.53 |
| 2 | AB | 1784 | A | C5-C4 | -5.86 | 1.34 | 1.38 |
| 20 | AT | 2 | TYR | CE2-CZ | 5.86 | 1.46 | 1.38 |
| 27 | A0 | 23 | ARG | CD-NE | 5.86 | 1.56 | 1.46 |
| 35 | BA | 8 | A | N9-C4 | 5.86 | 1.41 | 1.37 |
| 35 | BA | 243 | A | C6-N1 | 5.86 | 1.39 | 1.35 |
| 35 | BA | 254 | G | N3-C4 | 5.86 | 1.39 | 1.35 |
| 35 | BA | 871 | U | C2-N3 | -5.86 | 1.33 | 1.37 |
| 35 | BA | 1116 | U | N1-C6 | 5.86 | 1.43 | 1.38 |
| 35 | BA | 1258 | G | C5-C4 | 5.86 | 1.42 | 1.38 |
| 2 | AB | 708 | G | N3-C4 | 5.86 | 1.39 | 1.35 |
| 2 | AB | 849 | A | C3'-C2' | 5.86 | 1.59 | 1.52 |
| 2 | AB | 1173 | U | N1-C2 | 5.86 | 1.43 | 1.38 |
| 35 | BA | 383 | A | C5'-C4' | 5.86 | 1.58 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2011 | U | C2-N3 | 5.86 | 1.41 | 1.37 |
| 2 | AB | 2081 | U | P-O5' | 5.86 | 1.65 | 1.59 |
| 2 | AB | 2655 | G | O3'-P | 5.86 | 1.68 | 1.61 |
| 2 | AB | 2762 | C | C5'-C4' | 5.86 | 1.58 | 1.51 |
| 35 | BA | 21 | G | C5-C6 | -5.86 | 1.36 | 1.42 |
| 35 | BA | 802 | A | C5'-C4' | 5.86 | 1.58 | 1.51 |
| 35 | BA | 1100 | C | C4'-C3' | -5.86 | 1.46 | 1.52 |
| 54 | BT | 22 | TYR | CE2-CZ | 5.86 | 1.46 | 1.38 |
| 2 | AB | 168 | G | N9-C4 | -5.86 | 1.33 | 1.38 |
| 2 | AB | 244 | A | N7-C5 | 5.86 | 1.42 | 1.39 |
| 2 | AB | 377 | G | C3'-C2' | 5.86 | 1.59 | 1.52 |
| 2 | AB | 1104 | C | C2-N3 | 5.86 | 1.40 | 1.35 |
| 2 | AB | 1255 | U | N1-C2 | 5.86 | 1.43 | 1.38 |
| 2 | AB | 1377 | G | C5'-C4' | 5.86 | 1.58 | 1.51 |
| 2 | AB | 1512 | C | P-O5' | 5.86 | 1.65 | 1.59 |
| 31 | A4 | 38 | PHE | CG-CD2 | 5.86 | 1.47 | 1.38 |
| 35 | BA | 1371 | G | N9-C8 | -5.86 | 1.33 | 1.37 |
| 35 | BA | 1478 | U | C4'-O4' | -5.86 | 1.38 | 1.45 |
| 2 | AB | 274 | C | C4-C5 | 5.85 | 1.47 | 1.43 |
| 2 | AB | 775 | G | C6-N1 | 5.85 | 1.43 | 1.39 |
| 2 | AB | 1967 | C | C5'-C4' | 5.85 | 1.58 | 1.51 |
| 2 | AB | 2487 | G | N9-C8 | 5.85 | 1.42 | 1.37 |
| 35 | BA | 1360 | A | P-O5' | 5.85 | 1.65 | 1.59 |
| 2 | AB | 381 | G | C6-N1 | 5.85 | 1.43 | 1.39 |
| 2 | AB | 494 | G | N1-C2 | 5.85 | 1.42 | 1.37 |
| 2 | AB | 2071 | A | O3'-P | 5.85 | 1.68 | 1.61 |
| 2 | AB | 2465 | C | O3'-P | 5.85 | 1.68 | 1.61 |
| 2 | AB | 2465 | C | N3-C4 | 5.85 | 1.38 | 1.33 |
| 35 | BA | 173 | U | C2'-C1' | 5.85 | 1.59 | 1.53 |
| 35 | BA | 1440 | U | C4'-O4' | -5.85 | 1.38 | 1.45 |
| 2 | AB | 1058 | U | C2-O2 | 5.85 | 1.27 | 1.22 |
| 2 | AB | 1830 | C | C4'-O4' | -5.85 | 1.38 | 1.45 |
| 2 | AB | 2633 | G | N9-C8 | -5.85 | 1.33 | 1.37 |
| 35 | BA | 140 | U | C2-N3 | 5.85 | 1.41 | 1.37 |
| 1 | AA | 106 | G | P-O5' | 5.85 | 1.65 | 1.59 |
| 2 | AB | 51 | G | C5-C6 | -5.85 | 1.36 | 1.42 |
| 2 | AB | 740 | C | C5'-C4' | 5.85 | 1.58 | 1.51 |
| 2 | AB | 1162 | G | C4'-O4' | -5.85 | 1.38 | 1.45 |
| 2 | AB | 1486 | U | C4'-C3' | 5.85 | 1.59 | 1.53 |
| 2 | AB | 1689 | A | N9-C8 | -5.85 | 1.33 | 1.37 |
| 2 | AB | 1901 | A | N3-C4 | 5.85 | 1.38 | 1.34 |
| 2 | AB | 2000 | C | C4'-C3' | 5.85 | 1.59 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2188 | U | C4-O4 | 5.85 | 1.28 | 1.23 |
| 2 | AB | 2336 | A | C4'-O4' | -5.85 | 1.38 | 1.45 |
| 2 | AB | 2699 | C | C5'-C4' | 5.85 | 1.58 | 1.51 |
| 2 | AB | 2802 | G | C5'-C4' | 5.85 | 1.58 | 1.51 |
| 2 | AB | 2864 | G | C2-N3 | 5.85 | 1.37 | 1.32 |
| 35 | BA | 1360 | A | C5-C4 | -5.85 | 1.34 | 1.38 |
| 35 | BA | 1432 | G | P-O5' | 5.85 | 1.65 | 1.59 |
| 2 | AB | 1056 | G | C2-N3 | 5.85 | 1.37 | 1.32 |
| 2 | AB | 2549 | G | O3'-P | 5.85 | 1.68 | 1.61 |
| 2 | AB | 2837 | A | N7-C5 | 5.85 | 1.42 | 1.39 |
| 35 | BA | 676 | A | C4'-O4' | -5.85 | 1.38 | 1.45 |
| 35 | BA | 1066 | C | N3-C4 | 5.85 | 1.38 | 1.33 |
| 35 | BA | 1072 | G | N7-C5 | 5.85 | 1.42 | 1.39 |
| 35 | BA | 1408 | A | C5'-C4' | 5.85 | 1.58 | 1.51 |
| 35 | BA | 188 | C | N1-C6 | 5.85 | 1.40 | 1.37 |
| 35 | BA | 1352 | C | N3-C4 | 5.85 | 1.38 | 1.33 |
| 36 | BB | 58 | C | C4'-O4' | -5.85 | 1.38 | 1.45 |
| 2 | AB | 326 | G | C8-N7 | -5.84 | 1.27 | 1.30 |
| 2 | AB | 1430 | G | N3-C4 | 5.84 | 1.39 | 1.35 |
| 2 | AB | 1778 | U | O3'-P | -5.84 | 1.54 | 1.61 |
| 35 | BA | 306 | A | C5'-C4' | 5.84 | 1.58 | 1.51 |
| 35 | BA | 585 | G | N3-C4 | 5.84 | 1.39 | 1.35 |
| 1 | AA | 10 | G | N3-C4 | -5.84 | 1.31 | 1.35 |
| 2 | AB | 915 | C | C5-C6 | 5.84 | 1.39 | 1.34 |
| 2 | AB | 1645 | G | N9-C4 | 5.84 | 1.42 | 1.38 |
| 2 | AB | 1945 | G | C8-N7 | 5.84 | 1.34 | 1.30 |
| 2 | AB | 2262 | U | C4'-C3' | -5.84 | 1.46 | 1.52 |
| 2 | AB | 330 | A | N9-C4 | 5.84 | 1.41 | 1.37 |
| 2 | AB | 1509 | A | C6-N1 | -5.84 | 1.31 | 1.35 |
| 2 | AB | 1544 | A | N3-C4 | -5.84 | 1.31 | 1.34 |
| 2 | AB | 2209 | G | C4'-C3' | -5.84 | 1.46 | 1.52 |
| 2 | AB | 2213 | U | N1-C6 | -5.84 | 1.32 | 1.38 |
| 2 | AB | 2827 | C | C2-O2 | -5.84 | 1.19 | 1.24 |
| 2 | AB | 2829 | A | C5-C4 | -5.84 | 1.34 | 1.38 |
| 35 | BA | 1364 | U | O3'-P | 5.84 | 1.68 | 1.61 |
| 35 | BA | 1403 | C | C2'-C1' | 5.84 | 1.59 | 1.53 |
| 1 | AA | 26 | C | C4'-C3' | -5.84 | 1.46 | 1.52 |
| 2 | AB | 526 | A | N3-C4 | 5.84 | 1.38 | 1.34 |
| 2 | AB | 727 | A | C4'-O4' | -5.84 | 1.38 | 1.45 |
| 2 | AB | 848 | C | N3-C4 | 5.84 | 1.38 | 1.33 |
| 2 | AB | 1030 | C | C2-O2 | -5.84 | 1.19 | 1.24 |
| 2 | AB | 1067 | A | N3-C4 | 5.84 | 1.38 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2245 | U | C5-C6 | 5.84 | 1.39 | 1.34 |
| 2 | AB | 2252 | G | C6-N1 | 5.84 | 1.43 | 1.39 |
| 2 | AB | 2302 | U | C4'-O4' | -5.84 | 1.38 | 1.45 |
| 2 | AB | 2332 | C | C5'-C4' | 5.84 | 1.58 | 1.51 |
| 2 | AB | 2722 | G | N3-C4 | 5.84 | 1.39 | 1.35 |
| 2 | AB | 147 | C | O3'-P | 5.84 | 1.68 | 1.61 |
| 2 | AB | 730 | A | C8-N7 | -5.84 | 1.27 | 1.31 |
| 2 | AB | 1819 | A | N9-C4 | -5.84 | 1.34 | 1.37 |
| 2 | AB | 1928 | A | C3'-C2' | 5.84 | 1.59 | 1.52 |
| 35 | BA | 752 | G | C2'-C1' | -5.84 | 1.47 | 1.53 |
| 2 | AB | 1115 | G | C4'-C3' | 5.84 | 1.59 | 1.53 |
| 2 | AB | 2563 | U | O3'-P | 5.84 | 1.68 | 1.61 |
| 35 | BA | 175 | C | N3-C4 | -5.84 | 1.29 | 1.33 |
| 35 | BA | 906 | A | C2-N3 | 5.84 | 1.38 | 1.33 |
| 37 | BC | 60 | A | N9-C4 | 5.84 | 1.41 | 1.37 |
| 2 | AB | 1699 | G | N3-C4 | 5.83 | 1.39 | 1.35 |
| 2 | AB | 2812 | G | C8-N7 | -5.83 | 1.27 | 1.30 |
| 35 | BA | 688 | G | N9-C8 | 5.83 | 1.42 | 1.37 |
| 2 | AB | 688 | U | N1-C6 | 5.83 | 1.43 | 1.38 |
| 2 | AB | 1014 | A | O3'-P | 5.83 | 1.68 | 1.61 |
| 2 | AB | 1147 | A | P-O5' | -5.83 | 1.53 | 1.59 |
| 2 | AB | 1898 | U | C4'-O4' | -5.83 | 1.38 | 1.45 |
| 2 | AB | 2295 | C | N3-C4 | -5.83 | 1.29 | 1.33 |
| 2 | AB | 2588 | G | C4'-C3' | 5.83 | 1.59 | 1.53 |
| 35 | BA | 394 | G | N9-C4 | -5.83 | 1.33 | 1.38 |
| 35 | BA | 403 | C | N3-C4 | 5.83 | 1.38 | 1.33 |
| 35 | BA | 1018 | G | C2-N3 | 5.83 | 1.37 | 1.32 |
| 35 | BA | 1150 | A | C6-N1 | -5.83 | 1.31 | 1.35 |
| 2 | AB | 105 | C | C4-C5 | 5.83 | 1.47 | 1.43 |
| 2 | AB | 444 | C | C3'-C2' | 5.83 | 1.59 | 1.52 |
| 2 | AB | 1106 | G | C2'-C1' | -5.83 | 1.47 | 1.53 |
| 2 | AB | 1398 | C | N1-C6 | 5.83 | 1.40 | 1.37 |
| 2 | AB | 1771 | C | N1-C6 | 5.83 | 1.40 | 1.37 |
| 2 | AB | 2086 | U | C2'-O2' | -5.83 | 1.34 | 1.41 |
| 2 | AB | 2088 | A | N1-C2 | 5.83 | 1.39 | 1.34 |
| 2 | AB | 2112 | G | N7-C5 | 5.83 | 1.42 | 1.39 |
| 2 | AB | 2877 | G | C8-N7 | 5.83 | 1.34 | 1.30 |
| 35 | BA | 832 | G | N9-C4 | -5.83 | 1.33 | 1.38 |
| 2 | AB | 310 | A | C4'-O4' | -5.83 | 1.38 | 1.45 |
| 2 | AB | 889 | C | C3'-C2' | 5.83 | 1.59 | 1.52 |
| 2 | AB | 1318 | U | C5'-C4' | 5.83 | 1.58 | 1.51 |
| 35 | BA | 1092 | A | C6-N6 | 5.83 | 1.38 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 570 | G | N7-C5 | 5.83 | 1.42 | 1.39 |
| 2 | AB | 2213 | U | C2-N3 | 5.83 | 1.41 | 1.37 |
| 2 | AB | 2434 | A | P-O5' | 5.83 | 1.65 | 1.59 |
| 2 | AB | 2841 | C | P-O5' | 5.83 | 1.65 | 1.59 |
| 35 | BA | 243 | A | C4'-C3' | 5.83 | 1.59 | 1.53 |
| 35 | BA | 489 | C | C4-C5 | 5.83 | 1.47 | 1.43 |
| 35 | BA | 700 | G | C6-O6 | 5.83 | 1.29 | 1.24 |
| 2 | AB | 227 | A | C4'-O4' | -5.83 | 1.38 | 1.45 |
| 2 | AB | 348 | A | C6-N1 | 5.83 | 1.39 | 1.35 |
| 2 | AB | 2293 | G | N1-C2 | 5.83 | 1.42 | 1.37 |
| 35 | BA | 750 | C | C4-C5 | 5.83 | 1.47 | 1.43 |
| 35 | BA | 797 | C | C4-C5 | 5.83 | 1.47 | 1.43 |
| 35 | BA | 921 | U | C2-N3 | 5.83 | 1.41 | 1.37 |
| 2 | AB | 329 | G | P-O5' | 5.83 | 1.65 | 1.59 |
| 2 | AB | 451 | U | N3-C4 | 5.83 | 1.43 | 1.38 |
| 2 | AB | 1536 | C | O3'-P | 5.83 | 1.68 | 1.61 |
| 2 | AB | 1715 | G | C5'-C4' | 5.83 | 1.58 | 1.51 |
| 2 | AB | 1786 | A | N3-C4 | 5.83 | 1.38 | 1.34 |
| 2 | AB | 2156 | G | C8-N7 | -5.83 | 1.27 | 1.30 |
| 2 | AB | 2387 | U | C5-C6 | -5.83 | 1.28 | 1.34 |
| 35 | BA | 487 | A | N3-C4 | 5.83 | 1.38 | 1.34 |
| 35 | BA | 1102 | A | P-O5' | 5.83 | 1.65 | 1.59 |
| 2 | AB | 165 | A | C4'-O4' | -5.82 | 1.38 | 1.45 |
| 2 | AB | 499 | U | O3'-P | 5.82 | 1.68 | 1.61 |
| 2 | AB | 1051 | G | P-O5' | 5.82 | 1.65 | 1.59 |
| 2 | AB | 2160 | C | O3'-P | 5.82 | 1.68 | 1.61 |
| 35 | BA | 654 | G | C5-C6 | 5.82 | 1.48 | 1.42 |
| 35 | BA | 667 | G | C4'-C3' | 5.82 | 1.59 | 1.53 |
| 35 | BA | 809 | G | C5-C4 | -5.82 | 1.34 | 1.38 |
| 35 | BA | 1281 | C | N1-C6 | 5.82 | 1.40 | 1.37 |
| 36 | BB | 14 | G | C6-N1 | -5.82 | 1.35 | 1.39 |
| 35 | BA | 1131 | G | C6-O6 | -5.82 | 1.19 | 1.24 |
| 1 | AA | 85 | G | N7-C5 | 5.82 | 1.42 | 1.39 |
| 2 | AB | 1524 | G | O4'-C1' | 5.82 | 1.49 | 1.41 |
| 2 | AB | 2539 | C | C4-N4 | -5.82 | 1.28 | 1.33 |
| 2 | AB | 2567 | G | N3-C4 | 5.82 | 1.39 | 1.35 |
| 35 | BA | 709 | U | C5'-C4' | 5.82 | 1.58 | 1.51 |
| 35 | BA | 910 | C | C4'-O4' | -5.82 | 1.38 | 1.45 |
| 2 | AB | 536 | G | N1-C2 | 5.82 | 1.42 | 1.37 |
| 2 | AB | 1129 | A | C6-N1 | -5.82 | 1.31 | 1.35 |
| 2 | AB | 2882 | A | C6-N1 | 5.82 | 1.39 | 1.35 |
| 35 | BA | 1153 | G | N9-C8 | -5.82 | 1.33 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1305 | G | O4'-C1' | 5.82 | 1.49 | 1.41 |
| 35 | BA | 1499 | A | C4'-C3' | -5.82 | 1.46 | 1.52 |
| 1 | AA | 29 | A | N3-C4 | 5.82 | 1.38 | 1.34 |
| 2 | AB | 71 | A | N3-C4 | 5.82 | 1.38 | 1.34 |
| 2 | AB | 362 | A | C3'-C2' | 5.82 | 1.59 | 1.52 |
| 2 | AB | 418 | C | O3'-P | 5.82 | 1.68 | 1.61 |
| 2 | AB | 803 | U | C2-N3 | 5.82 | 1.41 | 1.37 |
| 2 | AB | 1052 | C | N3-C4 | 5.82 | 1.38 | 1.33 |
| 2 | AB | 1293 | C | N1-C2 | 5.82 | 1.46 | 1.40 |
| 2 | AB | 1509 | A | C6-N6 | 5.82 | 1.38 | 1.33 |
| 2 | AB | 2359 | C | N1-C6 | 5.82 | 1.40 | 1.37 |
| 2 | AB | 2719 | G | C2'-C1' | -5.82 | 1.47 | 1.53 |
| 18 | AR | 43 | GLU | CD-OE1 | -5.82 | 1.19 | 1.25 |
| 35 | BA | 339 | C | C5-C6 | 5.82 | 1.39 | 1.34 |
| 35 | BA | 581 | G | N7-C5 | 5.82 | 1.42 | 1.39 |
| 35 | BA | 583 | A | C4'-O4' | -5.82 | 1.38 | 1.45 |
| 35 | BA | 1271 | A | C5'-C4' | 5.82 | 1.58 | 1.51 |
| 36 | BB | 18 | A | P-O5' | 5.82 | 1.65 | 1.59 |
| 2 | AB | 16 | C | C2-O2 | 5.82 | 1.29 | 1.24 |
| 2 | AB | 1026 | G | C2'-C1' | -5.82 | 1.47 | 1.53 |
| 2 | AB | 1119 | U | O3'-P | 5.82 | 1.68 | 1.61 |
| 2 | AB | 1290 | C | C4'-C3' | 5.82 | 1.59 | 1.53 |
| 2 | AB | 2193 | G | N3-C4 | 5.82 | 1.39 | 1.35 |
| 35 | BA | 655 | A | P-O5' | 5.82 | 1.65 | 1.59 |
| 35 | BA | 863 | U | C4-C5 | 5.82 | 1.48 | 1.43 |
| 49 | BO | 56 | ARG | CD-NE | 5.82 | 1.56 | 1.46 |
| 2 | AB | 560 | C | C5'-C4' | 5.81 | 1.58 | 1.51 |
| 2 | AB | 2210 | U | C5-C6 | 5.81 | 1.39 | 1.34 |
| 2 | AB | 2336 | A | N3-C4 | 5.81 | 1.38 | 1.34 |
| 2 | AB | 2875 | C | C4'-O4' | -5.81 | 1.38 | 1.45 |
| 35 | BA | 748 | G | C2-N3 | 5.81 | 1.37 | 1.32 |
| 2 | AB | 280 | U | C4-C5 | 5.81 | 1.48 | 1.43 |
| 2 | AB | 1017 | G | C2-N3 | 5.81 | 1.37 | 1.32 |
| 2 | AB | 1356 | G | C8-N7 | 5.81 | 1.34 | 1.30 |
| 2 | AB | 1814 | G | N7-C5 | -5.81 | 1.35 | 1.39 |
| 2 | AB | 1892 | C | C4'-C3' | -5.81 | 1.46 | 1.52 |
| 2 | AB | 2406 | A | O3'-P | 5.81 | 1.68 | 1.61 |
| 2 | AB | 2553 | G | P-O5' | 5.81 | 1.65 | 1.59 |
| 35 | BA | 662 | U | C4'-C3' | 5.81 | 1.59 | 1.53 |
| 35 | BA | 955 | U | C2'-C1' | 5.81 | 1.59 | 1.53 |
| 40 | BF | 75 | TYR | CE2-CZ | 5.81 | 1.46 | 1.38 |
| 35 | BA | 322 | C | C4-C5 | -5.81 | 1.38 | 1.43 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 1 | AA | 101 | A | C5-C4 | 5.81 | 1.42 | 1.38 |
| 2 | AB | 73 | A | P-O5' | 5.81 | 1.65 | 1.59 |
| 2 | AB | 615 | U | C5'-C4' | 5.81 | 1.58 | 1.51 |
| 2 | AB | 1227 | G | C5'-C4' | 5.81 | 1.58 | 1.51 |
| 2 | AB | 1733 | G | N7-C5 | -5.81 | 1.35 | 1.39 |
| 35 | BA | 131 | A | N9-C4 | -5.81 | 1.34 | 1.37 |
| 35 | BA | 776 | G | O3'-P | 5.81 | 1.68 | 1.61 |
| 35 | BA | 1275 | A | C5-C4 | 5.81 | 1.42 | 1.38 |
| 35 | BA | 1359 | C | C4'-C3' | -5.81 | 1.46 | 1.52 |
| 2 | AB | 620 | G | C8-N7 | -5.81 | 1.27 | 1.30 |
| 2 | AB | 1805 | A | C6-N1 | -5.81 | 1.31 | 1.35 |
| 2 | AB | 2364 | C | C3'-C2' | 5.81 | 1.59 | 1.52 |
| 2 | AB | 2506 | U | C2-N3 | 5.81 | 1.41 | 1.37 |
| 35 | BA | 931 | C | C5'-C4' | 5.81 | 1.58 | 1.51 |
| 35 | BA | 1253 | G | C3'-O3' | 5.81 | 1.50 | 1.42 |
| 2 | AB | 89 | A | C6-N6 | 5.81 | 1.38 | 1.33 |
| 2 | AB | 2095 | A | O3'-P | -5.81 | 1.54 | 1.61 |
| 2 | AB | 2493 | U | P-O5' | 5.81 | 1.65 | 1.59 |
| 35 | BA | 375 | U | C4'-C3' | 5.81 | 1.59 | 1.53 |
| 2 | AB | 344 | A | N9-C8 | 5.80 | 1.42 | 1.37 |
| 2 | AB | 410 | G | C5'-C4' | 5.80 | 1.58 | 1.51 |
| 2 | AB | 977 | G | C5-C6 | -5.80 | 1.36 | 1.42 |
| 2 | AB | 1127 | A | C8-N7 | -5.80 | 1.27 | 1.31 |
| 2 | AB | 1129 | A | C6-N6 | -5.80 | 1.29 | 1.33 |
| 2 | AB | 1385 | A | C4'-C3' | 5.80 | 1.59 | 1.53 |
| 2 | AB | 1911 | PSU | O3'-P | 5.80 | 1.68 | 1.61 |
| 2 | AB | 2388 | A | N9-C8 | 5.80 | 1.42 | 1.37 |
| 35 | BA | 445 | G | C6-N1 | -5.80 | 1.35 | 1.39 |
| 35 | BA | 839 | C | C2'-C1' | 5.80 | 1.59 | 1.53 |
| 35 | BA | 1189 | U | C4'-O4' | -5.80 | 1.38 | 1.45 |
| 35 | BA | 1270 | G | N7-C5 | 5.80 | 1.42 | 1.39 |
| 1 | AA | 12 | C | N1-C6 | 5.80 | 1.40 | 1.37 |
| 2 | AB | 588 | U | C2-N3 | 5.80 | 1.41 | 1.37 |
| 2 | AB | 883 | G | C4'-O4' | -5.80 | 1.38 | 1.45 |
| 2 | AB | 310 | A | N9-C4 | -5.80 | 1.34 | 1.37 |
| 2 | AB | 493 | G | N9-C4 | 5.80 | 1.42 | 1.38 |
| 2 | AB | 979 | A | C5'-C4' | 5.80 | 1.58 | 1.51 |
| 2 | AB | 1626 | A | P-O5' | 5.80 | 1.65 | 1.59 |
| 2 | AB | 1767 | G | N1-C2 | 5.80 | 1.42 | 1.37 |
| 35 | BA | 1097 | C | N1-C6 | 5.80 | 1.40 | 1.37 |
| 2 | AB | 534 | U | C2-N3 | 5.80 | 1.41 | 1.37 |
| 2 | AB | 1113 | U | C2-O2 | -5.80 | 1.17 | 1.22 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1937 | A | N9-C8 | -5.80 | 1.33 | 1.37 |
| 2 | AB | 1996 | C | C4-C5 | 5.80 | 1.47 | 1.43 |
| 2 | AB | 2051 | A | C4'-O4' | -5.80 | 1.38 | 1.45 |
| 2 | AB | 2759 | G | C2-N3 | 5.80 | 1.37 | 1.32 |
| 35 | BA | 1274 | A | C2'-O2' | 5.80 | 1.49 | 1.41 |
| 36 | BB | 46 | C | C2-N3 | 5.80 | 1.40 | 1.35 |
| 2 | AB | 1173 | U | C2-N3 | 5.80 | 1.41 | 1.37 |
| 35 | BA | 841 | C | C4-C5 | 5.80 | 1.47 | 1.43 |
| 35 | BA | 1542 | A | N9-C4 | 5.80 | 1.41 | 1.37 |
| 36 | BB | 55 | A | N9-C4 | 5.80 | 1.41 | 1.37 |
| 2 | AB | 685 | A | C6-N1 | 5.80 | 1.39 | 1.35 |
| 2 | AB | 695 | G | C2'-C1' | -5.80 | 1.47 | 1.53 |
| 2 | AB | 1119 | U | N1-C2 | 5.80 | 1.43 | 1.38 |
| 2 | AB | 1705 | A | C5'-C4' | 5.80 | 1.58 | 1.51 |
| 2 | AB | 1899 | A | N7-C5 | -5.80 | 1.35 | 1.39 |
| 2 | AB | 2012 | G | C8-N7 | -5.80 | 1.27 | 1.30 |
| 35 | BA | 1398 | A | N7-C5 | 5.80 | 1.42 | 1.39 |
| 2 | AB | 277 | G | N1-C2 | 5.79 | 1.42 | 1.37 |
| 2 | AB | 1129 | A | N9-C4 | -5.79 | 1.34 | 1.37 |
| 35 | BA | 814 | A | C3'-C2' | 5.79 | 1.59 | 1.52 |
| 35 | BA | 1272 | G | N9-C8 | -5.79 | 1.33 | 1.37 |
| 1 | AA | 36 | C | C2-O2 | -5.79 | 1.19 | 1.24 |
| 1 | AA | 60 | C | C4-C5 | 5.79 | 1.47 | 1.43 |
| 1 | AA | 118 | C | N1-C6 | 5.79 | 1.40 | 1.37 |
| 2 | AB | 715 | A | C6-N1 | 5.79 | 1.39 | 1.35 |
| 2 | AB | 1228 | G | C4'-O4' | -5.79 | 1.38 | 1.45 |
| 2 | AB | 2483 | C | O3'-P | 5.79 | 1.68 | 1.61 |
| 2 | AB | 2530 | A | N3-C4 | 5.79 | 1.38 | 1.34 |
| 35 | BA | 401 | C | C5'-C4' | 5.79 | 1.58 | 1.51 |
| 35 | BA | 778 | G | C6-O6 | -5.79 | 1.19 | 1.24 |
| 35 | BA | 1008 | U | C5-C6 | 5.79 | 1.39 | 1.34 |
| 35 | BA | 1241 | G | N3-C4 | 5.79 | 1.39 | 1.35 |
| 2 | AB | 437 | U | N1-C6 | 5.79 | 1.43 | 1.38 |
| 2 | AB | 1446 | C | C2-N3 | 5.79 | 1.40 | 1.35 |
| 2 | AB | 1578 | U | N1-C6 | 5.79 | 1.43 | 1.38 |
| 2 | AB | 2373 | G | C4'-O4' | -5.79 | 1.38 | 1.45 |
| 2 | AB | 2396 | G | N3-C4 | 5.79 | 1.39 | 1.35 |
| 2 | AB | 2630 | G | N7-C5 | 5.79 | 1.42 | 1.39 |
| 2 | AB | 2784 | U | C2-N3 | 5.79 | 1.41 | 1.37 |
| 2 | AB | 2820 | A | O3'-P | 5.79 | 1.68 | 1.61 |
| 35 | BA | 281 | G | C6-O6 | -5.79 | 1.19 | 1.24 |
| 35 | BA | 300 | A | N9-C4 | -5.79 | 1.34 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 732 | C | C2-O2 | -5.79 | 1.19 | 1.24 |
| 35 | BA | 768 | A | N7-C5 | 5.79 | 1.42 | 1.39 |
| 35 | BA | 1432 | G | C2'-C1' | 5.79 | 1.59 | 1.53 |
| 39 | BE | 17 | TRP | CE3-CZ3 | 5.79 | 1.48 | 1.38 |
| 2 | AB | 364 | C | C2-N3 | 5.79 | 1.40 | 1.35 |
| 2 | AB | 1307 | A | C5'-C4' | 5.79 | 1.58 | 1.51 |
| 35 | BA | 346 | G | C5'-C4' | -5.79 | 1.44 | 1.51 |
| 35 | BA | 425 | G | C5-C6 | 5.79 | 1.48 | 1.42 |
| 35 | BA | 968 | A | C4'-O4' | -5.79 | 1.38 | 1.45 |
| 2 | AB | 117 | G | O3'-P | 5.79 | 1.68 | 1.61 |
| 2 | AB | 159 | G | C6-N1 | -5.79 | 1.35 | 1.39 |
| 2 | AB | 370 | G | C8-N7 | -5.79 | 1.27 | 1.30 |
| 2 | AB | 721 | A | P-O5' | 5.79 | 1.65 | 1.59 |
| 2 | AB | 1320 | C | N3-C4 | 5.79 | 1.38 | 1.33 |
| 2 | AB | 1454 | C | C5'-C4' | 5.79 | 1.58 | 1.51 |
| 2 | AB | 1593 | A | C5'-C4' | 5.79 | 1.58 | 1.51 |
| 2 | AB | 1667 | G | N7-C5 | -5.79 | 1.35 | 1.39 |
| 2 | AB | 1945 | G | C6-N1 | -5.79 | 1.35 | 1.39 |
| 2 | AB | 2733 | A | N9-C4 | 5.79 | 1.41 | 1.37 |
| 35 | BA | 567 | G | N7-C5 | 5.79 | 1.42 | 1.39 |
| 35 | BA | 948 | C | C4'-C3' | 5.79 | 1.59 | 1.53 |
| 35 | BA | 1287 | A | C5-C6 | 5.79 | 1.46 | 1.41 |
| 2 | AB | 1180 | U | C4-C5 | 5.79 | 1.48 | 1.43 |
| 2 | AB | 1693 | U | N1-C2 | 5.79 | 1.43 | 1.38 |
| 2 | AB | 1857 | G | N7-C5 | -5.79 | 1.35 | 1.39 |
| 2 | AB | 1970 | A | C5-C4 | -5.79 | 1.34 | 1.38 |
| 35 | BA | 855 | U | C2-N3 | -5.79 | 1.33 | 1.37 |
| 37 | BC | 51 | U | N1-C6 | 5.79 | 1.43 | 1.38 |
| 2 | AB | 149 | A | C3'-C2' | 5.79 | 1.59 | 1.52 |
| 2 | AB | 209 | C | N1-C6 | 5.79 | 1.40 | 1.37 |
| 2 | AB | 455 | C | C4'-C3' | 5.79 | 1.59 | 1.53 |
| 2 | AB | 743 | A | C6-N6 | -5.79 | 1.29 | 1.33 |
| 2 | AB | 1031 | G | N7-C5 | 5.79 | 1.42 | 1.39 |
| 2 | AB | 1399 | C | C3'-C2' | 5.79 | 1.59 | 1.52 |
| 2 | AB | 1928 | A | C5-C4 | 5.79 | 1.42 | 1.38 |
| 2 | AB | 2278 | A | P-O5' | 5.79 | 1.65 | 1.59 |
| 35 | BA | 212 | G | C4'-O4' | -5.79 | 1.38 | 1.45 |
| 35 | BA | 467 | U | N1-C2 | 5.79 | 1.43 | 1.38 |
| 35 | BA | 1085 | U | C3'-C2' | 5.79 | 1.59 | 1.52 |
| 35 | BA | 1239 | A | P-O5' | 5.79 | 1.65 | 1.59 |
| 2 | AB | 663 | G | C2-N3 | 5.78 | 1.37 | 1.32 |
| 2 | AB | 1020 | A | N3-C4 | 5.78 | 1.38 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1322 | A | N9-C4 | -5.78 | 1.34 | 1.37 |
| 2 | AB | 1937 | A | C2'-O2' | -5.78 | 1.34 | 1.41 |
| 2 | AB | 2831 | G | C2-N3 | 5.78 | 1.37 | 1.32 |
| 35 | BA | 50 | A | N1-C2 | -5.78 | 1.29 | 1.34 |
| 35 | BA | 349 | A | C2-N3 | -5.78 | 1.28 | 1.33 |
| 35 | BA | 951 | G | O4'-C1' | 5.78 | 1.49 | 1.41 |
| 35 | BA | 1434 | A | C5'-C4' | 5.78 | 1.58 | 1.51 |
| 2 | AB | 403 | U | O3'-P | 5.78 | 1.68 | 1.61 |
| 2 | AB | 437 | U | C4-O4 | -5.78 | 1.19 | 1.23 |
| 2 | AB | 1101 | U | O3'-P | 5.78 | 1.68 | 1.61 |
| 2 | AB | 1397 | U | C4-C5 | 5.78 | 1.48 | 1.43 |
| 2 | AB | 2029 | G | N1-C2 | 5.78 | 1.42 | 1.37 |
| 2 | AB | 2612 | C | C2-N3 | 5.78 | 1.40 | 1.35 |
| 36 | BB | 28 | U | C4'-O4' | -5.78 | 1.38 | 1.45 |
| 1 | AA | 87 | U | C2-N3 | 5.78 | 1.41 | 1.37 |
| 2 | AB | 215 | G | C5-C6 | 5.78 | 1.48 | 1.42 |
| 2 | AB | 336 | C | C5-C6 | 5.78 | 1.39 | 1.34 |
| 2 | AB | 802 | A | C6-N1 | 5.78 | 1.39 | 1.35 |
| 2 | AB | 1023 | U | C2'-C1' | 5.78 | 1.59 | 1.53 |
| 2 | AB | 1481 | U | C5'-C4' | 5.78 | 1.58 | 1.51 |
| 2 | AB | 2233 | U | N3-C4 | -5.78 | 1.33 | 1.38 |
| 2 | AB | 2478 | A | N9-C8 | 5.78 | 1.42 | 1.37 |
| 2 | AB | 2761 | A | C6-N6 | 5.78 | 1.38 | 1.33 |
| 2 | AB | 1739 | A | N9-C4 | 5.78 | 1.41 | 1.37 |
| 22 | AV | 15 | HIS | CB-CG | 5.78 | 1.60 | 1.50 |
| 35 | BA | 1258 | G | N3-C4 | 5.78 | 1.39 | 1.35 |
| 2 | AB | 25 | U | C2'-C1' | -5.78 | 1.47 | 1.53 |
| 2 | AB | 173 | A | C3'-C2' | 5.78 | 1.59 | 1.52 |
| 2 | AB | 228 | C | C2-O2 | -5.78 | 1.19 | 1.24 |
| 2 | AB | 999 | U | O3'-P | 5.78 | 1.68 | 1.61 |
| 2 | AB | 2211 | A | C6-N1 | -5.78 | 1.31 | 1.35 |
| 2 | AB | 2307 | G | C2-N2 | 5.78 | 1.40 | 1.34 |
| 35 | BA | 456 | A | C3'-C2' | 5.78 | 1.59 | 1.52 |
| 2 | AB | 1109 | C | C5'-C4' | 5.78 | 1.58 | 1.51 |
| 2 | AB | 1307 | A | N9-C4 | 5.78 | 1.41 | 1.37 |
| 2 | AB | 1392 | A | C5-C4 | -5.78 | 1.34 | 1.38 |
| 2 | AB | 1717 | A | C5-C4 | -5.78 | 1.34 | 1.38 |
| 2 | AB | 2597 | G | C2-N3 | 5.78 | 1.37 | 1.32 |
| 2 | AB | 2858 | C | N1-C6 | 5.78 | 1.40 | 1.37 |
| 35 | BA | 608 | A | N7-C5 | 5.78 | 1.42 | 1.39 |
| 35 | BA | 806 | C | C4-C5 | 5.78 | 1.47 | 1.43 |
| 35 | BA | 1118 | U | C4'-C3' | -5.78 | 1.46 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 951 | C | C2-N3 | 5.77 | 1.40 | 1.35 |
| 2 | AB | 1411 | U | O4'-C1' | 5.77 | 1.49 | 1.41 |
| 35 | BA | 1238 | A | N3-C4 | 5.77 | 1.38 | 1.34 |
| 2 | AB | 2318 | G | C3'-C2' | -5.77 | 1.46 | 1.52 |
| 35 | BA | 212 | G | P-O5' | 5.77 | 1.65 | 1.59 |
| 35 | BA | 524 | G | C4'-C3' | 5.77 | 1.59 | 1.53 |
| 2 | AB | 41 | C | C5-C6 | 5.77 | 1.39 | 1.34 |
| 2 | AB | 2553 | G | C6-N1 | -5.77 | 1.35 | 1.39 |
| 35 | BA | 187 | G | C8-N7 | -5.77 | 1.27 | 1.30 |
| 35 | BA | 196 | A | N9-C4 | 5.77 | 1.41 | 1.37 |
| 2 | AB | 761 | A | C5-C6 | 5.77 | 1.46 | 1.41 |
| 2 | AB | 1254 | A | C6-N6 | -5.77 | 1.29 | 1.33 |
| 2 | AB | 1487 | U | C2-O2 | 5.77 | 1.27 | 1.22 |
| 2 | AB | 2210 | U | C5'-C4' | 5.77 | 1.58 | 1.51 |
| 2 | AB | 2608 | G | C4'-O4' | -5.77 | 1.38 | 1.45 |
| 2 | AB | 2825 | G | N7-C5 | 5.77 | 1.42 | 1.39 |
| 35 | BA | 68 | G | C2-N3 | 5.77 | 1.37 | 1.32 |
| 35 | BA | 235 | C | C4'-C3' | 5.77 | 1.59 | 1.53 |
| 35 | BA | 709 | U | C2'-O2' | 5.77 | 1.49 | 1.41 |
| 35 | BA | 1483 | A | O3'-P | 5.77 | 1.68 | 1.61 |
| 2 | AB | 143 | C | P-O5' | 5.77 | 1.65 | 1.59 |
| 2 | AB | 473 | G | N9-C4 | 5.77 | 1.42 | 1.38 |
| 2 | AB | 1054 | A | N3-C4 | 5.77 | 1.38 | 1.34 |
| 2 | AB | 2209 | G | C6-O6 | -5.77 | 1.19 | 1.24 |
| 2 | AB | 2233 | U | C3'-C2' | 5.77 | 1.59 | 1.52 |
| 2 | AB | 2820 | A | P-O5' | 5.77 | 1.65 | 1.59 |
| 35 | BA | 235 | C | C5-C6 | 5.77 | 1.39 | 1.34 |
| 35 | BA | 499 | A | C5'-C4' | 5.77 | 1.58 | 1.51 |
| 35 | BA | 579 | A | O3'-P | 5.77 | 1.68 | 1.61 |
| 2 | AB | 275 | C | C4'-O4' | -5.77 | 1.38 | 1.45 |
| 2 | AB | 1453 | A | N1-C2 | 5.77 | 1.39 | 1.34 |
| 2 | AB | 1753 | G | C4'-O4' | -5.77 | 1.38 | 1.45 |
| 8 | AH | 111 | PRO | N-CA | -5.77 | 1.37 | 1.47 |
| 35 | BA | 678 | U | C4'-C3' | -5.77 | 1.46 | 1.52 |
| 35 | BA | 812 | G | C2-N3 | 5.77 | 1.37 | 1.32 |
| 2 | AB | 911 | A | N1-C2 | -5.76 | 1.29 | 1.34 |
| 2 | AB | 939 | G | P-O5' | 5.76 | 1.65 | 1.59 |
| 2 | AB | 1166 | G | N9-C8 | -5.76 | 1.33 | 1.37 |
| 2 | AB | 1346 | G | C2-N3 | -5.76 | 1.28 | 1.32 |
| 35 | BA | 72 | A | C6-N1 | 5.76 | 1.39 | 1.35 |
| 35 | BA | 331 | G | C3'-C2' | -5.76 | 1.46 | 1.52 |
| 35 | BA | 779 | C | C3'-O3' | 5.76 | 1.50 | 1.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 950 | U | C4'-C3' | 5.76 | 1.59 | 1.53 |
| 36 | BB | 52 | U | P-O5' | 5.76 | 1.65 | 1.59 |
| 2 | AB | 216 | A | C5-C4 | -5.76 | 1.34 | 1.38 |
| 2 | AB | 1377 | G | C4'-O4' | -5.76 | 1.38 | 1.45 |
| 35 | BA | 1094 | G | N7-C5 | -5.76 | 1.35 | 1.39 |
| 2 | AB | 1378 | A | C8-N7 | -5.76 | 1.27 | 1.31 |
| 2 | AB | 2156 | G | N7-C5 | -5.76 | 1.35 | 1.39 |
| 2 | AB | 2815 | C | C2-N3 | 5.76 | 1.40 | 1.35 |
| 14 | AN | 41 | ARG | CZ-NH1 | 5.76 | 1.40 | 1.33 |
| 35 | BA | 410 | G | C3'-C2' | 5.76 | 1.59 | 1.52 |
| 35 | BA | 470 | C | N3-C4 | 5.76 | 1.38 | 1.33 |
| 35 | BA | 593 | U | C5'-C4' | 5.76 | 1.58 | 1.51 |
| 35 | BA | 842 | U | C4-C5 | 5.76 | 1.48 | 1.43 |
| 35 | BA | 1291 | U | C4'-C3' | 5.76 | 1.59 | 1.53 |
| 35 | BA | 1398 | A | C2'-O2' | -5.76 | 1.34 | 1.41 |
| 35 | BA | 1469 | C | N3-C4 | 5.76 | 1.38 | 1.33 |
| 36 | BB | 32 | U | C4'-O4' | -5.76 | 1.38 | 1.45 |
| 2 | AB | 39 | G | P-O5' | 5.76 | 1.65 | 1.59 |
| 2 | AB | 240 | C | P-O5' | 5.76 | 1.65 | 1.59 |
| 2 | AB | 1598 | A | C4'-C3' | 5.76 | 1.59 | 1.53 |
| 2 | AB | 1654 | A | C5-C6 | 5.76 | 1.46 | 1.41 |
| 2 | AB | 2151 | U | C2-N3 | 5.76 | 1.41 | 1.37 |
| 2 | AB | 2255 | G | C2-N3 | 5.76 | 1.37 | 1.32 |
| 2 | AB | 2646 | C | O4'-C1' | 5.76 | 1.49 | 1.41 |
| 2 | AB | 2803 | G | C2-N3 | 5.76 | 1.37 | 1.32 |
| 35 | BA | 1217 | C | N1-C6 | 5.76 | 1.40 | 1.37 |
| 35 | BA | 1366 | C | C3'-O3' | -5.76 | 1.34 | 1.42 |
| 35 | BA | 1480 | A | C4'-O4' | -5.76 | 1.38 | 1.45 |
| 2 | AB | 1534 | U | N1-C6 | 5.76 | 1.43 | 1.38 |
| 2 | AB | 1775 | U | C4-O4 | -5.76 | 1.19 | 1.23 |
| 2 | AB | 1969 | A | N7-C5 | 5.76 | 1.42 | 1.39 |
| 35 | BA | 1403 | C | C3'-C2' | -5.76 | 1.46 | 1.52 |
| 2 | AB | 904 | G | C4'-O4' | -5.76 | 1.38 | 1.45 |
| 2 | AB | 1153 | C | N3-C4 | 5.76 | 1.38 | 1.33 |
| 2 | AB | 1159 | U | C5'-C4' | 5.76 | 1.58 | 1.51 |
| 2 | AB | 1435 | G | O3'-P | 5.76 | 1.68 | 1.61 |
| 2 | AB | 1456 | G | N3-C4 | 5.76 | 1.39 | 1.35 |
| 2 | AB | 1629 | U | C2-N3 | 5.76 | 1.41 | 1.37 |
| 2 | AB | 2013 | A | O3'-P | 5.76 | 1.68 | 1.61 |
| 2 | AB | 2228 | G | C5'-C4' | 5.76 | 1.58 | 1.51 |
| 35 | BA | 357 | G | C3'-O3' | 5.76 | 1.50 | 1.42 |
| 35 | BA | 946 | A | N7-C5 | 5.76 | 1.42 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 174 | U | C5'-C4' | 5.75 | 1.58 | 1.51 |
| 2 | AB | 393 | C | P-O5' | -5.75 | 1.53 | 1.59 |
| 2 | AB | 851 | C | P-O5' | 5.75 | 1.65 | 1.59 |
| 2 | AB | 1625 | C | C2-N3 | 5.75 | 1.40 | 1.35 |
| 2 | AB | 1690 | A | C5-C6 | 5.75 | 1.46 | 1.41 |
| 2 | AB | 2610 | C | C5'-C4' | 5.75 | 1.58 | 1.51 |
| 35 | BA | 626 | G | C4'-O4' | -5.75 | 1.38 | 1.45 |
| 35 | BA | 630 | A | N3-C4 | 5.75 | 1.38 | 1.34 |
| 35 | BA | 664 | G | C4'-C3' | -5.75 | 1.46 | 1.52 |
| 35 | BA | 1271 | A | P-O5' | 5.75 | 1.65 | 1.59 |
| 2 | AB | 789 | A | N7-C5 | 5.75 | 1.42 | 1.39 |
| 2 | AB | 913 | U | O3'-P | 5.75 | 1.68 | 1.61 |
| 2 | AB | 1077 | A | P-O5' | 5.75 | 1.65 | 1.59 |
| 2 | AB | 2028 | U | C2'-O2' | -5.75 | 1.34 | 1.41 |
| 2 | AB | 2295 | C | N1-C6 | 5.75 | 1.40 | 1.37 |
| 2 | AB | 2409 | G | C4'-O4' | -5.75 | 1.38 | 1.45 |
| 2 | AB | 2689 | U | P-O5' | 5.75 | 1.65 | 1.59 |
| 35 | BA | 104 | G | N9-C8 | -5.75 | 1.33 | 1.37 |
| 35 | BA | 340 | U | C2'-C1' | -5.75 | 1.47 | 1.53 |
| 35 | BA | 1488 | G | N1-C2 | 5.75 | 1.42 | 1.37 |
| 44 | BJ | 44 | PHE | CE1-CZ | 5.75 | 1.48 | 1.37 |
| 1 | AA | 35 | C | N1-C6 | 5.75 | 1.40 | 1.37 |
| 2 | AB | 35 | G | N9-C4 | -5.75 | 1.33 | 1.38 |
| 2 | AB | 451 | U | N1-C2 | 5.75 | 1.43 | 1.38 |
| 2 | AB | 479 | A | C2'-O2' | -5.75 | 1.34 | 1.41 |
| 2 | AB | 598 | U | C5'-C4' | 5.75 | 1.58 | 1.51 |
| 2 | AB | 769 | U | C5'-C4' | 5.75 | 1.58 | 1.51 |
| 2 | AB | 989 | G | C6-O6 | -5.75 | 1.19 | 1.24 |
| 2 | AB | 1315 | C | P-O5' | 5.75 | 1.65 | 1.59 |
| 2 | AB | 1442 | U | C2-N3 | 5.75 | 1.41 | 1.37 |
| 2 | AB | 2007 | U | O3'-P | 5.75 | 1.68 | 1.61 |
| 2 | AB | 2616 | C | C4-C5 | 5.75 | 1.47 | 1.43 |
| 35 | BA | 96 | U | C2'-C1' | 5.75 | 1.59 | 1.53 |
| 35 | BA | 348 | G | N1-C2 | 5.75 | 1.42 | 1.37 |
| 35 | BA | 725 | G | N1-C2 | 5.75 | 1.42 | 1.37 |
| 35 | BA | 1352 | C | C2-O2 | -5.75 | 1.19 | 1.24 |
| 35 | BA | 1478 | U | O3'-P | 5.75 | 1.68 | 1.61 |
| 2 | AB | 1606 | C | C5-C6 | 5.75 | 1.39 | 1.34 |
| 2 | AB | 2882 | A | C5'-C4' | 5.75 | 1.58 | 1.51 |
| 35 | BA | 532 | A | N7-C5 | -5.75 | 1.35 | 1.39 |
| 35 | BA | 535 | A | N3-C4 | 5.75 | 1.38 | 1.34 |
| 35 | BA | 938 | A | C5-C6 | -5.75 | 1.35 | 1.41 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1139 | G | C2-N3 | 5.75 | 1.37 | 1.32 |
| 1 | AA | 18 | G | N7-C5 | -5.75 | 1.35 | 1.39 |
| 2 | AB | 60 | G | N7-C5 | 5.75 | 1.42 | 1.39 |
| 2 | AB | 313 | G | C5'-C4' | 5.75 | 1.58 | 1.51 |
| 2 | AB | 454 | A | N9-C4 | -5.75 | 1.34 | 1.37 |
| 2 | AB | 1229 | C | C2'-C1' | 5.75 | 1.59 | 1.53 |
| 2 | AB | 1586 | A | N9-C4 | 5.75 | 1.41 | 1.37 |
| 2 | AB | 1897 | G | C2'-C1' | -5.75 | 1.47 | 1.53 |
| 2 | AB | 2053 | G | C5'-C4' | 5.75 | 1.58 | 1.51 |
| 2 | AB | 2181 | U | O3'-P | 5.75 | 1.68 | 1.61 |
| 2 | AB | 2363 | G | P-O5' | -5.75 | 1.54 | 1.59 |
| 2 | AB | 2635 | A | O4'-C1' | 5.75 | 1.49 | 1.41 |
| 2 | AB | 2710 | C | C5-C6 | 5.75 | 1.39 | 1.34 |
| 35 | BA | 809 | G | C4'-C3' | 5.75 | 1.59 | 1.53 |
| 35 | BA | 970 | C | P-O5' | 5.75 | 1.65 | 1.59 |
| 2 | AB | 923 | G | C5-C4 | -5.75 | 1.34 | 1.38 |
| 2 | AB | 972 | A | P-O5' | 5.75 | 1.65 | 1.59 |
| 2 | AB | 1191 | G | N7-C5 | 5.75 | 1.42 | 1.39 |
| 2 | AB | 1256 | G | C6-N1 | 5.75 | 1.43 | 1.39 |
| 2 | AB | 1436 | G | N9-C8 | 5.75 | 1.41 | 1.37 |
| 2 | AB | 1645 | G | C2-N3 | 5.75 | 1.37 | 1.32 |
| 2 | AB | 1975 | G | N3-C4 | 5.75 | 1.39 | 1.35 |
| 2 | AB | 2014 | A | P-O5' | -5.75 | 1.54 | 1.59 |
| 2 | AB | 2123 | G | O3'-P | 5.75 | 1.68 | 1.61 |
| 2 | AB | 2149 | U | C2-N3 | 5.75 | 1.41 | 1.37 |
| 2 | AB | 2569 | G | N7-C5 | -5.75 | 1.35 | 1.39 |
| 2 | AB | 2819 | G | C3'-C2' | 5.75 | 1.59 | 1.52 |
| 35 | BA | 451 | A | C4'-O4' | -5.75 | 1.38 | 1.45 |
| 35 | BA | 1003 | G | C5-C6 | 5.75 | 1.48 | 1.42 |
| 35 | BA | 1262 | C | C2'-O2' | 5.75 | 1.49 | 1.41 |
| 35 | BA | 1362 | A | O3'-P | 5.75 | 1.68 | 1.61 |
| 2 | AB | 491 | G | C8-N7 | -5.75 | 1.27 | 1.30 |
| 2 | AB | 854 | C | C4-C5 | 5.75 | 1.47 | 1.43 |
| 2 | AB | 1876 | A | N9-C4 | 5.75 | 1.41 | 1.37 |
| 2 | AB | 1932 | A | C5'-C4' | 5.75 | 1.58 | 1.51 |
| 2 | AB | 2055 | C | P-O5' | 5.75 | 1.65 | 1.59 |
| 35 | BA | 282 | A | N9-C4 | 5.75 | 1.41 | 1.37 |
| 35 | BA | 688 | G | N9-C4 | 5.75 | 1.42 | 1.38 |
| 2 | AB | 321 | U | P-O5' | 5.74 | 1.65 | 1.59 |
| 2 | AB | 333 | G | C3'-C2' | 5.74 | 1.59 | 1.52 |
| 2 | AB | 372 | G | N7-C5 | 5.74 | 1.42 | 1.39 |
| 2 | AB | 1062 | G | N7-C5 | -5.74 | 1.35 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1473 | G | N1-C2 | -5.74 | 1.33 | 1.37 |
| 2 | AB | 1681 | G | N7-C5 | -5.74 | 1.35 | 1.39 |
| 2 | AB | 1840 | G | N7-C5 | 5.74 | 1.42 | 1.39 |
| 2 | AB | 2398 | U | C5'-C4' | 5.74 | 1.58 | 1.51 |
| 35 | BA | 272 | C | N1-C6 | 5.74 | 1.40 | 1.37 |
| 35 | BA | 1304 | G | N7-C5 | -5.74 | 1.35 | 1.39 |
| 1 | AA | 96 | G | N1-C2 | 5.74 | 1.42 | 1.37 |
| 2 | AB | 437 | U | C5'-C4' | 5.74 | 1.58 | 1.51 |
| 2 | AB | 1349 | C | C2-N3 | 5.74 | 1.40 | 1.35 |
| 2 | AB | 1984 | G | C8-N7 | -5.74 | 1.27 | 1.30 |
| 35 | BA | 503 | C | O3'-P | -5.74 | 1.54 | 1.61 |
| 35 | BA | 1000 | A | P-O5' | 5.74 | 1.65 | 1.59 |
| 2 | AB | 158 | U | C5-C6 | 5.74 | 1.39 | 1.34 |
| 2 | AB | 719 | C | N1-C6 | 5.74 | 1.40 | 1.37 |
| 2 | AB | 891 | G | N3-C4 | 5.74 | 1.39 | 1.35 |
| 2 | AB | 1033 | U | O4'-C1' | -5.74 | 1.34 | 1.41 |
| 2 | AB | 2269 | G | C2-N2 | 5.74 | 1.40 | 1.34 |
| 2 | AB | 2325 | G | P-O5' | 5.74 | 1.65 | 1.59 |
| 2 | AB | 2365 | G | N7-C5 | 5.74 | 1.42 | 1.39 |
| 35 | BA | 1010 | U | C4-C5 | 5.74 | 1.48 | 1.43 |
| 37 | BC | 17 | C | C4'-C3' | -5.74 | 1.46 | 1.52 |
| 2 | AB | 647 | G | C2'-O2' | -5.74 | 1.34 | 1.41 |
| 2 | AB | 1067 | A | C5-C6 | 5.74 | 1.46 | 1.41 |
| 2 | AB | 1432 | G | N9-C8 | 5.74 | 1.41 | 1.37 |
| 2 | AB | 1841 | U | P-OP1 | 5.74 | 1.58 | 1.49 |
| 2 | AB | 1953 | A | C5'-C4' | 5.74 | 1.58 | 1.51 |
| 2 | AB | 2039 | U | C4'-C3' | -5.74 | 1.46 | 1.52 |
| 6 | AF | 51 | GLU | CG-CD | 5.74 | 1.60 | 1.51 |
| 35 | BA | 156 | C | O3'-P | 5.74 | 1.68 | 1.61 |
| 35 | BA | 424 | G | O3'-P | 5.74 | 1.68 | 1.61 |
| 35 | BA | 793 | U | C2-N3 | 5.74 | 1.41 | 1.37 |
| 35 | BA | 1379 | G | C5-C6 | 5.74 | 1.48 | 1.42 |
| 2 | AB | 611 | C | N1-C2 | 5.74 | 1.45 | 1.40 |
| 2 | AB | 2414 | G | P-O5' | 5.74 | 1.65 | 1.59 |
| 35 | BA | 1197 | A | N3-C4 | 5.74 | 1.38 | 1.34 |
| 2 | AB | 1716 | U | O3'-P | 5.74 | 1.68 | 1.61 |
| 2 | AB | 1846 | G | C6-O6 | 5.74 | 1.29 | 1.24 |
| 2 | AB | 1934 | C | C4-C5 | 5.74 | 1.47 | 1.43 |
| 2 | AB | 2026 | U | C4-O4 | -5.74 | 1.19 | 1.23 |
| 2 | AB | 2153 | C | N1-C6 | 5.74 | 1.40 | 1.37 |
| 2 | AB | 2469 | A | C3'-C2' | 5.74 | 1.59 | 1.52 |
| 2 | AB | 2551 | C | P-O5' | 5.74 | 1.65 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 128 | G | C5-C4 | -5.74 | 1.34 | 1.38 |
| 35 | BA | 186 | C | C2-N3 | 5.74 | 1.40 | 1.35 |
| 35 | BA | 563 | A | N7-C5 | -5.74 | 1.35 | 1.39 |
| 37 | BC | 46 | G | N3-C4 | 5.74 | 1.39 | 1.35 |
| 2 | AB | 2 | G | N7-C5 | -5.73 | 1.35 | 1.39 |
| 2 | AB | 1935 | G | N9-C8 | 5.73 | 1.41 | 1.37 |
| 2 | AB | 2047 | C | C2-N3 | 5.73 | 1.40 | 1.35 |
| 2 | AB | 2834 | G | C6-O6 | -5.73 | 1.19 | 1.24 |
| 35 | BA | 973 | G | C5'-C4' | 5.73 | 1.58 | 1.51 |
| 1 | AA | 56 | G | C2-N3 | 5.73 | 1.37 | 1.32 |
| 2 | AB | 645 | C | C4-C5 | -5.73 | 1.38 | 1.43 |
| 2 | AB | 739 | A | C6-N6 | 5.73 | 1.38 | 1.33 |
| 2 | AB | 808 | G | O4'-C1' | -5.73 | 1.34 | 1.41 |
| 2 | AB | 889 | C | N3-C4 | 5.73 | 1.38 | 1.33 |
| 2 | AB | 1329 | U | C3'-O3' | 5.73 | 1.50 | 1.42 |
| 2 | AB | 2373 | G | N1-C2 | 5.73 | 1.42 | 1.37 |
| 2 | AB | 2674 | G | N3-C4 | 5.73 | 1.39 | 1.35 |
| 16 | AP | 63 | ARG | CZ-NH1 | 5.73 | 1.40 | 1.33 |
| 35 | BA | 362 | G | C2-N3 | 5.73 | 1.37 | 1.32 |
| 35 | BA | 1513 | A | C5'-C4' | 5.73 | 1.58 | 1.51 |
| 2 | AB | 228 | C | C2'-C1' | 5.73 | 1.59 | 1.53 |
| 2 | AB | 789 | A | C5-C4 | -5.73 | 1.34 | 1.38 |
| 2 | AB | 1156 | A | P-O5' | 5.73 | 1.65 | 1.59 |
| 2 | AB | 1493 | C | C2'-C1' | 5.73 | 1.59 | 1.53 |
| 2 | AB | 1919 | A | C5'-C4' | 5.73 | 1.58 | 1.51 |
| 2 | AB | 2202 | U | C2-O2 | -5.73 | 1.17 | 1.22 |
| 2 | AB | 2533 | U | C4'-O4' | -5.73 | 1.38 | 1.45 |
| 33 | A6 | 50 | SER | CA-CB | 5.73 | 1.61 | 1.52 |
| 35 | BA | 326 | G | C6-N1 | 5.73 | 1.43 | 1.39 |
| 35 | BA | 1034 | G | C5-C4 | -5.73 | 1.34 | 1.38 |
| 2 | AB | 2014 | A | N7-C5 | 5.73 | 1.42 | 1.39 |
| 2 | AB | 2344 | U | C2'-C1' | -5.73 | 1.47 | 1.53 |
| 2 | AB | 2464 | G | N9-C8 | -5.73 | 1.33 | 1.37 |
| 2 | AB | 564 | C | C5'-C4' | 5.73 | 1.58 | 1.51 |
| 35 | BA | 917 | G | N1-C2 | 5.73 | 1.42 | 1.37 |
| 36 | BB | 42 | U | C4'-O4' | -5.73 | 1.38 | 1.45 |
| 2 | AB | 470 | A | C4'-O4' | -5.73 | 1.38 | 1.45 |
| 2 | AB | 881 | G | N7-C5 | 5.73 | 1.42 | 1.39 |
| 2 | AB | 1139 | G | C8-N7 | -5.73 | 1.27 | 1.30 |
| 2 | AB | 1512 | C | C3'-C2' | 5.73 | 1.59 | 1.52 |
| 35 | BA | 49 | U | C4-C5 | 5.73 | 1.48 | 1.43 |
| 35 | BA | 911 | U | N1-C2 | 5.73 | 1.43 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 914 | G | C6-N1 | -5.72 | 1.35 | 1.39 |
| 2 | AB | 1264 | A | C6-N6 | 5.72 | 1.38 | 1.33 |
| 2 | AB | 1510 | G | N7-C5 | -5.72 | 1.35 | 1.39 |
| 2 | AB | 1854 | A | C2-N3 | -5.72 | 1.28 | 1.33 |
| 2 | AB | 2136 | G | C2-N3 | 5.72 | 1.37 | 1.32 |
| 2 | AB | 2139 | U | C5'-C4' | 5.72 | 1.58 | 1.51 |
| 2 | AB | 2184 | A | C8-N7 | 5.72 | 1.35 | 1.31 |
| 2 | AB | 2407 | A | C5-C4 | 5.72 | 1.42 | 1.38 |
| 6 | AF | 129 | PRO | N-CD | -5.72 | 1.39 | 1.47 |
| 35 | BA | 538 | G | C6-N1 | 5.72 | 1.43 | 1.39 |
| 35 | BA | 546 | A | N3-C4 | 5.72 | 1.38 | 1.34 |
| 35 | BA | 547 | A | N3-C4 | -5.72 | 1.31 | 1.34 |
| 2 | AB | 46 | G | N7-C5 | -5.72 | 1.35 | 1.39 |
| 2 | AB | 121 | G | O4'-C1' | 5.72 | 1.49 | 1.41 |
| 2 | AB | 703 | U | P-O5' | 5.72 | 1.65 | 1.59 |
| 2 | AB | 1063 | G | C5-C6 | 5.72 | 1.48 | 1.42 |
| 2 | AB | 1301 | A | C2'-C1' | 5.72 | 1.59 | 1.53 |
| 2 | AB | 1857 | G | C5-C6 | -5.72 | 1.36 | 1.42 |
| 2 | AB | 2376 | A | N7-C5 | -5.72 | 1.35 | 1.39 |
| 2 | AB | 2867 | G | N9-C4 | 5.72 | 1.42 | 1.38 |
| 35 | BA | 79 | G | P-O5' | -5.72 | 1.54 | 1.59 |
| 51 | BQ | 51 | SER | CA-CB | 5.72 | 1.61 | 1.52 |
| 2 | AB | 127 | A | P-O5' | 5.72 | 1.65 | 1.59 |
| 2 | AB | 363 | G | C5-C6 | -5.72 | 1.36 | 1.42 |
| 2 | AB | 586 | A | N7-C5 | -5.72 | 1.35 | 1.39 |
| 2 | AB | 602 | A | C4'-C3' | 5.72 | 1.59 | 1.53 |
| 2 | AB | 714 | U | C1'-N1 | 5.72 | 1.57 | 1.48 |
| 2 | AB | 833 | A | N9-C8 | 5.72 | 1.42 | 1.37 |
| 2 | AB | 963 | U | C3'-C2' | 5.72 | 1.59 | 1.52 |
| 2 | AB | 1121 | C | N1-C6 | 5.72 | 1.40 | 1.37 |
| 2 | AB | 1194 | A | P-O5' | -5.72 | 1.54 | 1.59 |
| 2 | AB | 1676 | A | C5-C6 | 5.72 | 1.46 | 1.41 |
| 2 | AB | 2462 | C | N3-C4 | 5.72 | 1.38 | 1.33 |
| 2 | AB | 2637 | U | O4'-C1' | 5.72 | 1.49 | 1.41 |
| 35 | BA | 377 | G | C6-O6 | -5.72 | 1.19 | 1.24 |
| 35 | BA | 630 | A | C5'-C4' | 5.72 | 1.58 | 1.51 |
| 35 | BA | 798 | U | C3'-C2' | -5.72 | 1.46 | 1.52 |
| 35 | BA | 944 | G | C4'-C3' | 5.72 | 1.59 | 1.53 |
| 35 | BA | 1320 | C | C2-O2 | -5.72 | 1.19 | 1.24 |
| 35 | BA | 181 | A | P-O5' | 5.72 | 1.65 | 1.59 |
| 35 | BA | 1172 | C | N1-C6 | 5.72 | 1.40 | 1.37 |
| 35 | BA | 1401 | G | O4'-C1' | 5.72 | 1.49 | 1.41 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 159 | G | C2'-C1' | 5.72 | 1.59 | 1.53 |
| 2 | AB | 223 | A | N3-C4 | 5.72 | 1.38 | 1.34 |
| 2 | AB | 1527 | G | C8-N7 | -5.72 | 1.27 | 1.30 |
| 2 | AB | 2003 | A | C4'-O4' | -5.72 | 1.38 | 1.45 |
| 35 | BA | 510 | A | C8-N7 | -5.72 | 1.27 | 1.31 |
| 35 | BA | 557 | G | C6-O6 | -5.72 | 1.19 | 1.24 |
| 35 | BA | 905 | U | C4'-C3' | -5.72 | 1.46 | 1.52 |
| 35 | BA | 1396 | A | N9-C4 | 5.72 | 1.41 | 1.37 |
| 1 | AA | 69 | G | C2-N3 | 5.71 | 1.37 | 1.32 |
| 2 | AB | 90 | U | P-O5' | 5.71 | 1.65 | 1.59 |
| 2 | AB | 1465 | G | C6-O6 | -5.71 | 1.19 | 1.24 |
| 2 | AB | 1849 | G | C5'-C4' | 5.71 | 1.58 | 1.51 |
| 2 | AB | 2288 | A | N3-C4 | 5.71 | 1.38 | 1.34 |
| 8 | AH | 150 | TYR | CE1-CZ | 5.71 | 1.46 | 1.38 |
| 35 | BA | 351 | G | N7-C5 | 5.71 | 1.42 | 1.39 |
| 35 | BA | 397 | A | N9-C4 | 5.71 | 1.41 | 1.37 |
| 35 | BA | 430 | A | C6-N6 | 5.71 | 1.38 | 1.33 |
| 35 | BA | 591 | U | C5-C6 | 5.71 | 1.39 | 1.34 |
| 35 | BA | 826 | C | P-O5' | 5.71 | 1.65 | 1.59 |
| 35 | BA | 1441 | A | N7-C5 | 5.71 | 1.42 | 1.39 |
| 37 | BC | 73 | A | C2-N3 | -5.71 | 1.28 | 1.33 |
| 2 | AB | 29 | U | C2-O2 | 5.71 | 1.27 | 1.22 |
| 2 | AB | 2017 | U | N1-C2 | 5.71 | 1.43 | 1.38 |
| 2 | AB | 2507 | C | N3-C4 | 5.71 | 1.38 | 1.33 |
| 35 | BA | 629 | A | N3-C4 | 5.71 | 1.38 | 1.34 |
| 2 | AB | 547 | A | N9-C4 | 5.71 | 1.41 | 1.37 |
| 2 | AB | 793 | A | C5-C4 | 5.71 | 1.42 | 1.38 |
| 2 | AB | 1329 | U | P-O5' | 5.71 | 1.65 | 1.59 |
| 2 | AB | 1417 | C | C5-C6 | 5.71 | 1.39 | 1.34 |
| 2 | AB | 1543 | G | C5-C6 | 5.71 | 1.48 | 1.42 |
| 2 | AB | 2330 | G | N9-C8 | -5.71 | 1.33 | 1.37 |
| 35 | BA | 328 | C | N3-C4 | 5.71 | 1.38 | 1.33 |
| 35 | BA | 449 | G | N9-C4 | 5.71 | 1.42 | 1.38 |
| 35 | BA | 1427 | C | C5'-C4' | 5.71 | 1.58 | 1.51 |
| 40 | BF | 102 | TYR | CE2-CZ | 5.71 | 1.46 | 1.38 |
| 2 | AB | 377 | G | N9-C4 | -5.71 | 1.33 | 1.38 |
| 2 | AB | 558 | U | C4'-O4' | -5.71 | 1.38 | 1.45 |
| 35 | BA | 429 | U | C2-O2 | 5.71 | 1.27 | 1.22 |
| 35 | BA | 1009 | U | C4'-O4' | -5.71 | 1.38 | 1.45 |
| 2 | AB | 2701 | U | C2-N3 | 5.71 | 1.41 | 1.37 |
| 2 | AB | 2744 | G | C2'-O2' | 5.71 | 1.49 | 1.41 |
| 35 | BA | 16 | A | C5'-C4' | 5.71 | 1.58 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 137 | U | C5'-C4' | 5.71 | 1.58 | 1.51 |
| 35 | BA | 660 | C | C2-N3 | 5.71 | 1.40 | 1.35 |
| 35 | BA | 845 | A | C2'-O2' | 5.71 | 1.49 | 1.41 |
| 35 | BA | 1068 | G | C4'-O4' | -5.71 | 1.38 | 1.45 |
| 2 | AB | 382 | A | C3'-O3' | 5.71 | 1.50 | 1.42 |
| 2 | AB | 953 | G | C3'-C2' | -5.71 | 1.46 | 1.52 |
| 2 | AB | 1416 | G | N3-C4 | 5.71 | 1.39 | 1.35 |
| 2 | AB | 1821 | A | N7-C5 | -5.71 | 1.35 | 1.39 |
| 2 | AB | 2349 | G | C6-N1 | 5.71 | 1.43 | 1.39 |
| 35 | BA | 74 | A | C5'-C4' | 5.71 | 1.58 | 1.51 |
| 35 | BA | 315 | A | N7-C5 | -5.71 | 1.35 | 1.39 |
| 35 | BA | 589 | U | N1-C6 | 5.71 | 1.43 | 1.38 |
| 36 | BB | 41 | A | C5-C4 | -5.71 | 1.34 | 1.38 |
| 43 | BI | 176 | TYR | CB-CG | 5.71 | 1.60 | 1.51 |
| 2 | AB | 1382 | G | C5'-C4' | 5.71 | 1.58 | 1.51 |
| 35 | BA | 522 | C | C5'-C4' | 5.71 | 1.58 | 1.51 |
| 35 | BA | 1346 | A | C5-C4 | -5.71 | 1.34 | 1.38 |
| 35 | BA | 1471 | U | O5'-C5' | -5.71 | 1.33 | 1.42 |
| 2 | AB | 426 | C | N3-C4 | 5.70 | 1.38 | 1.33 |
| 2 | AB | 1087 | G | C5'-C4' | 5.70 | 1.58 | 1.51 |
| 2 | AB | 1347 | A | P-O5' | 5.70 | 1.65 | 1.59 |
| 35 | BA | 196 | A | C4'-O4' | -5.70 | 1.38 | 1.45 |
| 35 | BA | 239 | U | N3-C4 | 5.70 | 1.43 | 1.38 |
| 35 | BA | 648 | A | C5-C4 | -5.70 | 1.34 | 1.38 |
| 35 | BA | 1110 | A | C6-N1 | 5.70 | 1.39 | 1.35 |
| 1 | AA | 75 | G | C6-O6 | -5.70 | 1.19 | 1.24 |
| 2 | AB | 61 | C | N3-C4 | 5.70 | 1.38 | 1.33 |
| 2 | AB | 1511 | G | C6-N1 | 5.70 | 1.43 | 1.39 |
| 2 | AB | 2138 | G | N7-C5 | -5.70 | 1.35 | 1.39 |
| 35 | BA | 1532 | U | N1-C2 | 5.70 | 1.43 | 1.38 |
| 2 | AB | 68 | G | C2-N3 | 5.70 | 1.37 | 1.32 |
| 2 | AB | 409 | G | C6-O6 | -5.70 | 1.19 | 1.24 |
| 2 | AB | 552 | U | C2-N3 | 5.70 | 1.41 | 1.37 |
| 2 | AB | 780 | G | C3'-C2' | 5.70 | 1.59 | 1.52 |
| 2 | AB | 900 | A | P-O5' | 5.70 | 1.65 | 1.59 |
| 2 | AB | 1210 | G | C5'-C4' | -5.70 | 1.44 | 1.51 |
| 2 | AB | 1452 | G | C6-N1 | 5.70 | 1.43 | 1.39 |
| 2 | AB | 1914 | C | C3'-C2' | 5.70 | 1.59 | 1.52 |
| 2 | AB | 2032 | G | C2'-C1' | -5.70 | 1.47 | 1.53 |
| 35 | BA | 360 | G | P-O5' | 5.70 | 1.65 | 1.59 |
| 35 | BA | 758 | C | C5-C6 | 5.70 | 1.39 | 1.34 |
| 35 | BA | 1382 | C | C2-N3 | -5.70 | 1.31 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 294 | A | C4'-C3' | -5.70 | 1.46 | 1.52 |
| 2 | AB | 786 | C | O3'-P | 5.70 | 1.68 | 1.61 |
| 2 | AB | 838 | C | C2-N3 | 5.70 | 1.40 | 1.35 |
| 2 | AB | 1308 | A | C4'-C3' | 5.70 | 1.59 | 1.53 |
| 35 | BA | 1520 | C | C4-C5 | -5.70 | 1.38 | 1.43 |
| 1 | AA | 47 | C | C5'-C4' | 5.70 | 1.58 | 1.51 |
| 2 | AB | 2113 | U | N1-C2 | 5.70 | 1.43 | 1.38 |
| 2 | AB | 2237 | G | N9-C4 | 5.70 | 1.42 | 1.38 |
| 2 | AB | 617 | G | C2'-C1' | -5.70 | 1.47 | 1.53 |
| 2 | AB | 1865 | U | P-O5' | 5.70 | 1.65 | 1.59 |
| 35 | BA | 884 | U | C4'-O4' | -5.70 | 1.38 | 1.45 |
| 35 | BA | 1539 | C | P-O5' | 5.70 | 1.65 | 1.59 |
| 2 | AB | 487 | C | O4'-C1' | 5.69 | 1.49 | 1.41 |
| 2 | AB | 1739 | A | O3'-P | 5.69 | 1.68 | 1.61 |
| 1 | AA | 9 | G | N3-C4 | 5.69 | 1.39 | 1.35 |
| 2 | AB | 17 | G | C8-N7 | -5.69 | 1.27 | 1.30 |
| 2 | AB | 41 | C | O3'-P | 5.69 | 1.68 | 1.61 |
| 2 | AB | 212 | G | N9-C4 | 5.69 | 1.42 | 1.38 |
| 2 | AB | 694 | U | N1-C2 | 5.69 | 1.43 | 1.38 |
| 2 | AB | 1111 | A | O4'-C1' | 5.69 | 1.49 | 1.41 |
| 2 | AB | 2464 | G | O3'-P | -5.69 | 1.54 | 1.61 |
| 35 | BA | 353 | A | O4'-C1' | -5.69 | 1.34 | 1.41 |
| 35 | BA | 383 | A | C3'-O3' | 5.69 | 1.50 | 1.42 |
| 35 | BA | 972 | C | N1-C6 | 5.69 | 1.40 | 1.37 |
| 35 | BA | 1015 | G | N3-C4 | 5.69 | 1.39 | 1.35 |
| 35 | BA | 1143 | G | C2'-C1' | 5.69 | 1.59 | 1.53 |
| 35 | BA | 1143 | G | N9-C8 | -5.69 | 1.33 | 1.37 |
| 2 | AB | 972 | A | N7-C5 | 5.69 | 1.42 | 1.39 |
| 2 | AB | 1193 | G | C6-O6 | -5.69 | 1.19 | 1.24 |
| 2 | AB | 1973 | G | C3'-C2' | 5.69 | 1.59 | 1.52 |
| 2 | AB | 1973 | G | N7-C5 | 5.69 | 1.42 | 1.39 |
| 35 | BA | 879 | C | C5-C6 | 5.69 | 1.39 | 1.34 |
| 35 | BA | 1044 | A | N9-C4 | 5.69 | 1.41 | 1.37 |
| 2 | AB | 574 | A | C3'-C2' | -5.69 | 1.46 | 1.52 |
| 2 | AB | 1010 | A | C5'-C4' | 5.69 | 1.58 | 1.51 |
| 2 | AB | 2568 | U | C2-O2 | -5.69 | 1.17 | 1.22 |
| 2 | AB | 1695 | G | N7-C5 | 5.69 | 1.42 | 1.39 |
| 2 | AB | 2090 | A | C4'-O4' | -5.69 | 1.38 | 1.45 |
| 2 | AB | 2879 | A | C6-N1 | 5.69 | 1.39 | 1.35 |
| 35 | BA | 453 | G | N9-C4 | 5.69 | 1.42 | 1.38 |
| 2 | AB | 1211 | C | C5'-C4' | 5.69 | 1.58 | 1.51 |
| 2 | AB | 1950 | G | O3'-P | 5.69 | 1.68 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2053 | G | N9-C8 | -5.69 | 1.33 | 1.37 |
| 21 | AU | 88 | ARG | NE-CZ | 5.69 | 1.40 | 1.33 |
| 35 | BA | 118 | U | C2-N3 | 5.69 | 1.41 | 1.37 |
| 35 | BA | 566 | G | O3'-P | 5.69 | 1.68 | 1.61 |
| 2 | AB | 1745 | A | C5-C4 | -5.68 | 1.34 | 1.38 |
| 2 | AB | 1830 | C | C5'-C4' | 5.68 | 1.58 | 1.51 |
| 35 | BA | 502 | A | C4'-O4' | -5.68 | 1.38 | 1.45 |
| 35 | BA | 643 | C | C4'-C3' | 5.68 | 1.59 | 1.53 |
| 35 | BA | 952 | U | N1-C2 | 5.68 | 1.43 | 1.38 |
| 2 | AB | 574 | A | P-O5' | 5.68 | 1.65 | 1.59 |
| 2 | AB | 1460 | U | C5'-C4' | 5.68 | 1.58 | 1.51 |
| 2 | AB | 1717 | A | N1-C2 | 5.68 | 1.39 | 1.34 |
| 2 | AB | 2660 | A | C5'-C4' | 5.68 | 1.58 | 1.51 |
| 2 | AB | 2751 | G | N3-C4 | 5.68 | 1.39 | 1.35 |
| 35 | BA | 568 | G | P-O5' | -5.68 | 1.54 | 1.59 |
| 35 | BA | 1216 | A | C4'-O4' | -5.68 | 1.38 | 1.45 |
| 35 | BA | 1346 | A | C2'-C1' | 5.68 | 1.59 | 1.53 |
| 37 | BC | 41 | C | C4'-C3' | -5.68 | 1.46 | 1.52 |
| 39 | BE | 126 | ARG | CZ-NH1 | 5.68 | 1.40 | 1.33 |
| 2 | AB | 1201 | U | C2'-C1' | 5.68 | 1.59 | 1.53 |
| 2 | AB | 1358 | G | N9-C4 | 5.68 | 1.42 | 1.38 |
| 2 | AB | 1537 | G | O3'-P | 5.68 | 1.68 | 1.61 |
| 2 | AB | 1721 | G | C8-N7 | 5.68 | 1.34 | 1.30 |
| 2 | AB | 2286 | G | C6-O6 | -5.68 | 1.19 | 1.24 |
| 2 | AB | 2892 | G | C6-O6 | -5.68 | 1.19 | 1.24 |
| 23 | AW | 61 | GLU | CB-CG | 5.68 | 1.62 | 1.52 |
| 35 | BA | 1012 | A | C8-N7 | -5.68 | 1.27 | 1.31 |
| 36 | BB | 40 | G | C5-C6 | 5.68 | 1.48 | 1.42 |
| 2 | AB | 173 | A | C5-C4 | 5.68 | 1.42 | 1.38 |
| 2 | AB | 709 | U | C5'-C4' | 5.68 | 1.58 | 1.51 |
| 2 | AB | 1107 | G | C6-N1 | 5.68 | 1.43 | 1.39 |
| 2 | AB | 2234 | G | C2-N3 | 5.68 | 1.37 | 1.32 |
| 2 | AB | 2426 | A | N7-C5 | -5.68 | 1.35 | 1.39 |
| 2 | AB | 2725 | A | C4'-O4' | -5.68 | 1.38 | 1.45 |
| 35 | BA | 310 | G | C6-N1 | 5.68 | 1.43 | 1.39 |
| 35 | BA | 710 | G | N7-C5 | 5.68 | 1.42 | 1.39 |
| 35 | BA | 1058 | G | C4'-O4' | -5.68 | 1.38 | 1.45 |
| 2 | AB | 538 | A | C5-C4 | 5.68 | 1.42 | 1.38 |
| 2 | AB | 818 | G | C6-N1 | -5.68 | 1.35 | 1.39 |
| 2 | AB | 2509 | G | N7-C5 | -5.68 | 1.35 | 1.39 |
| 2 | AB | 2628 | C | C5'-C4' | 5.68 | 1.58 | 1.51 |
| 2 | AB | 2725 | A | C6-N6 | -5.68 | 1.29 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 891 | U | C5'-C4' | 5.68 | 1.58 | 1.51 |
| 1 | AA | 86 | G | N3-C4 | 5.68 | 1.39 | 1.35 |
| 2 | AB | 101 | A | C3'-C2' | 5.68 | 1.59 | 1.52 |
| 2 | AB | 453 | A | C3'-O3' | 5.68 | 1.50 | 1.42 |
| 2 | AB | 917 | A | P-O5' | 5.68 | 1.65 | 1.59 |
| 2 | AB | 2164 | C | N3-C4 | 5.68 | 1.38 | 1.33 |
| 2 | AB | 2263 | C | O4'-C1' | 5.68 | 1.49 | 1.41 |
| 2 | AB | 2310 | C | O3'-P | -5.68 | 1.54 | 1.61 |
| 2 | AB | 2329 | U | C4-C5 | 5.68 | 1.48 | 1.43 |
| 2 | AB | 2375 | G | C2'-C1' | 5.68 | 1.59 | 1.53 |
| 2 | AB | 2549 | G | C6-O6 | -5.68 | 1.19 | 1.24 |
| 2 | AB | 2670 | A | C5-C6 | -5.68 | 1.35 | 1.41 |
| 35 | BA | 304 | U | C2-O2 | 5.68 | 1.27 | 1.22 |
| 35 | BA | 373 | A | C6-N1 | 5.68 | 1.39 | 1.35 |
| 35 | BA | 1124 | G | C4'-C3' | -5.68 | 1.46 | 1.52 |
| 2 | AB | 27 | G | O3'-P | 5.67 | 1.68 | 1.61 |
| 2 | AB | 75 | G | N9-C8 | 5.67 | 1.41 | 1.37 |
| 2 | AB | 241 | A | N3-C4 | 5.67 | 1.38 | 1.34 |
| 2 | AB | 426 | C | N1-C6 | 5.67 | 1.40 | 1.37 |
| 2 | AB | 518 | G | C2'-C1' | 5.67 | 1.59 | 1.53 |
| 2 | AB | 736 | C | P-O5' | 5.67 | 1.65 | 1.59 |
| 2 | AB | 1311 | G | C5-C4 | 5.67 | 1.42 | 1.38 |
| 2 | AB | 2555 | U | C4-C5 | 5.67 | 1.48 | 1.43 |
| 35 | BA | 104 | G | C6-O6 | 5.67 | 1.29 | 1.24 |
| 35 | BA | 111 | G | C2-N3 | 5.67 | 1.37 | 1.32 |
| 35 | BA | 137 | U | C2-N3 | 5.67 | 1.41 | 1.37 |
| 35 | BA | 147 | G | C5'-C4' | 5.67 | 1.58 | 1.51 |
| 2 | AB | 35 | G | N9-C8 | -5.67 | 1.33 | 1.37 |
| 2 | AB | 36 | G | N7-C5 | 5.67 | 1.42 | 1.39 |
| 2 | AB | 66 | C | N1-C6 | 5.67 | 1.40 | 1.37 |
| 2 | AB | 466 | A | N9-C4 | 5.67 | 1.41 | 1.37 |
| 35 | BA | 709 | U | P-O5' | 5.67 | 1.65 | 1.59 |
| 37 | BC | 44 | A | C5-C6 | 5.67 | 1.46 | 1.41 |
| 1 | AA | 88 | C | C4-C5 | 5.67 | 1.47 | 1.43 |
| 2 | AB | 331 | C | C5'-C4' | 5.67 | 1.58 | 1.51 |
| 2 | AB | 920 | A | C5-C6 | 5.67 | 1.46 | 1.41 |
| 2 | AB | 1578 | U | C4'-O4' | -5.67 | 1.38 | 1.45 |
| 2 | AB | 1886 | U | C4-C5 | 5.67 | 1.48 | 1.43 |
| 2 | AB | 1977 | A | O3'-P | -5.67 | 1.54 | 1.61 |
| 2 | AB | 2406 | A | N7-C5 | 5.67 | 1.42 | 1.39 |
| 2 | AB | 2724 | U | O3'-P | 5.67 | 1.68 | 1.61 |
| 2 | AB | 2852 | G | N1-C2 | 5.67 | 1.42 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 859 | G | C6-O6 | -5.67 | 1.19 | 1.24 |
| 37 | BC | 65 | G | C6-N1 | -5.67 | 1.35 | 1.39 |
| 2 | AB | 258 | G | N7-C5 | 5.67 | 1.42 | 1.39 |
| 2 | AB | 1291 | C | C4-C5 | 5.67 | 1.47 | 1.43 |
| 2 | AB | 2323 | G | C2'-C1' | -5.67 | 1.47 | 1.53 |
| 2 | AB | 2375 | G | C2-N3 | 5.67 | 1.37 | 1.32 |
| 2 | AB | 2453 | A | C5'-C4' | 5.67 | 1.58 | 1.51 |
| 2 | AB | 2602 | A | C4'-O4' | -5.67 | 1.38 | 1.45 |
| 35 | BA | 181 | A | N7-C5 | 5.67 | 1.42 | 1.39 |
| 35 | BA | 805 | C | C4-C5 | 5.67 | 1.47 | 1.43 |
| 1 | AA | 19 | C | C2-N3 | 5.67 | 1.40 | 1.35 |
| 2 | AB | 306 | U | C4-C5 | 5.67 | 1.48 | 1.43 |
| 2 | AB | 600 | G | O4'-C1' | 5.67 | 1.49 | 1.41 |
| 35 | BA | 495 | A | P-O5' | 5.67 | 1.65 | 1.59 |
| 35 | BA | 514 | C | C4-N4 | -5.67 | 1.28 | 1.33 |
| 35 | BA | 869 | G | N7-C5 | -5.67 | 1.35 | 1.39 |
| 2 | AB | 304 | U | C2'-C1' | 5.67 | 1.59 | 1.53 |
| 2 | AB | 1167 | C | P-O5' | 5.67 | 1.65 | 1.59 |
| 35 | BA | 809 | G | C2-N3 | 5.67 | 1.37 | 1.32 |
| 35 | BA | 822 | U | C2'-C1' | -5.67 | 1.47 | 1.53 |
| 1 | AA | 105 | G | C5-C4 | -5.66 | 1.34 | 1.38 |
| 2 | AB | 118 | A | C6-N6 | -5.66 | 1.29 | 1.33 |
| 2 | AB | 263 | G | C2'-C1' | -5.66 | 1.47 | 1.53 |
| 2 | AB | 801 | G | N7-C5 | 5.66 | 1.42 | 1.39 |
| 2 | AB | 801 | G | N9-C4 | 5.66 | 1.42 | 1.38 |
| 2 | AB | 1029 | A | C5-C4 | -5.66 | 1.34 | 1.38 |
| 2 | AB | 2153 | C | C2-N3 | 5.66 | 1.40 | 1.35 |
| 2 | AB | 2218 | G | C4'-O4' | -5.66 | 1.38 | 1.45 |
| 2 | AB | 2881 | U | O4'-C1' | 5.66 | 1.49 | 1.41 |
| 35 | BA | 94 | G | N9-C8 | 5.66 | 1.41 | 1.37 |
| 35 | BA | 1130 | A | C6-N6 | 5.66 | 1.38 | 1.33 |
| 2 | AB | 795 | C | C4'-O4' | -5.66 | 1.38 | 1.45 |
| 2 | AB | 2187 | U | N1-C2 | 5.66 | 1.43 | 1.38 |
| 2 | AB | 2437 | G | O3'-P | 5.66 | 1.68 | 1.61 |
| 39 | BE | 57 | GLU | CG-CD | 5.66 | 1.60 | 1.51 |
| 2 | AB | 1003 | G | C5-C4 | 5.66 | 1.42 | 1.38 |
| 2 | AB | 2304 | G | N7-C5 | 5.66 | 1.42 | 1.39 |
| 2 | AB | 2488 | G | P-O5' | 5.66 | 1.65 | 1.59 |
| 2 | AB | 2765 | A | P-O5' | 5.66 | 1.65 | 1.59 |
| 5 | AE | 45 | TYR | CE1-CZ | 5.66 | 1.46 | 1.38 |
| 35 | BA | 508 | U | C2-N3 | 5.66 | 1.41 | 1.37 |
| 35 | BA | 885 | G | N7-C5 | -5.66 | 1.35 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1538 | C | C5-C6 | 5.66 | 1.38 | 1.34 |
| 2 | AB | 492 | A | C5-C4 | 5.66 | 1.42 | 1.38 |
| 2 | AB | 1579 | A | C5-C6 | 5.66 | 1.46 | 1.41 |
| 2 | AB | 1658 | C | N1-C6 | 5.66 | 1.40 | 1.37 |
| 2 | AB | 1733 | G | C2'-C1' | -5.66 | 1.47 | 1.53 |
| 2 | AB | 2020 | A | C2'-C1' | 5.66 | 1.59 | 1.53 |
| 2 | AB | 2450 | A | C4'-O4' | -5.66 | 1.38 | 1.45 |
| 35 | BA | 71 | A | N7-C5 | 5.66 | 1.42 | 1.39 |
| 35 | BA | 398 | U | C4'-O4' | -5.66 | 1.38 | 1.45 |
| 35 | BA | 1380 | U | C5-C6 | 5.66 | 1.39 | 1.34 |
| 35 | BA | 1491 | G | N3-C4 | 5.66 | 1.39 | 1.35 |
| 2 | AB | 1340 | U | N1-C2 | 5.66 | 1.43 | 1.38 |
| 2 | AB | 1770 | G | C5'-C4' | 5.66 | 1.58 | 1.51 |
| 2 | AB | 2482 | A | C4'-O4' | -5.66 | 1.38 | 1.45 |
| 2 | AB | 2748 | A | N9-C8 | 5.66 | 1.42 | 1.37 |
| 35 | BA | 266 | G | N9-C8 | 5.66 | 1.41 | 1.37 |
| 2 | AB | 868 | U | C4'-O4' | -5.66 | 1.38 | 1.45 |
| 2 | AB | 1425 | G | N7-C5 | -5.66 | 1.35 | 1.39 |
| 2 | AB | 1488 | C | P-O5' | 5.66 | 1.65 | 1.59 |
| 35 | BA | 405 | U | C5'-C4' | 5.66 | 1.58 | 1.51 |
| 35 | BA | 682 | G | N3-C4 | 5.66 | 1.39 | 1.35 |
| 35 | BA | 688 | G | N1-C2 | 5.66 | 1.42 | 1.37 |
| 2 | AB | 742 | A | C5-C6 | -5.65 | 1.35 | 1.41 |
| 2 | AB | 2002 | G | C2'-C1' | 5.65 | 1.59 | 1.53 |
| 2 | AB | 2826 | A | N3-C4 | 5.65 | 1.38 | 1.34 |
| 35 | BA | 525 | C | C4-N4 | -5.65 | 1.28 | 1.33 |
| 35 | BA | 1260 | G | P-O5' | 5.65 | 1.65 | 1.59 |
| 2 | AB | 91 | A | N9-C4 | 5.65 | 1.41 | 1.37 |
| 2 | AB | 1633 | G | P-O5' | 5.65 | 1.65 | 1.59 |
| 2 | AB | 2136 | G | N7-C5 | -5.65 | 1.35 | 1.39 |
| 2 | AB | 2210 | U | N1-C2 | 5.65 | 1.43 | 1.38 |
| 2 | AB | 2657 | A | O4'-C1' | 5.65 | 1.49 | 1.41 |
| 2 | AB | 2882 | A | C4'-C3' | 5.65 | 1.59 | 1.53 |
| 35 | BA | 543 | U | P-O5' | 5.65 | 1.65 | 1.59 |
| 35 | BA | 1045 | C | C5'-C4' | 5.65 | 1.58 | 1.51 |
| 35 | BA | 1105 | A | O4'-C1' | 5.65 | 1.49 | 1.41 |
| 35 | BA | 1432 | G | C5'-C4' | 5.65 | 1.58 | 1.51 |
| 1 | AA | 34 | A | C5-C4 | 5.65 | 1.42 | 1.38 |
| 2 | AB | 956 | G | C6-N1 | -5.65 | 1.35 | 1.39 |
| 2 | AB | 1105 | U | O4'-C1' | 5.65 | 1.49 | 1.41 |
| 2 | AB | 1284 | A | N3-C4 | 5.65 | 1.38 | 1.34 |
| 2 | AB | 2172 | U | C2-O2 | 5.65 | 1.27 | 1.22 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 502 | A | C4'-C3' | -5.65 | 1.47 | 1.52 |
| 35 | BA | 668 | G | C6-O6 | 5.65 | 1.29 | 1.24 |
| 35 | BA | 866 | C | C4'-O4' | -5.65 | 1.38 | 1.45 |
| 35 | BA | 1108 | G | C4'-O4' | -5.65 | 1.38 | 1.45 |
| 35 | BA | 1298 | U | C4-C5 | 5.65 | 1.48 | 1.43 |
| 1 | AA | 45 | A | N9-C4 | 5.65 | 1.41 | 1.37 |
| 2 | AB | 1965 | C | C2-N3 | 5.65 | 1.40 | 1.35 |
| 35 | BA | 210 | C | C5'-C4' | 5.65 | 1.58 | 1.51 |
| 35 | BA | 230 | G | N7-C5 | -5.65 | 1.35 | 1.39 |
| 35 | BA | 444 | G | N1-C2 | 5.65 | 1.42 | 1.37 |
| 2 | AB | 538 | A | N3-C4 | 5.65 | 1.38 | 1.34 |
| 2 | AB | 545 | U | C2-N3 | 5.65 | 1.41 | 1.37 |
| 2 | AB | 1230 | A | C2'-C1' | -5.65 | 1.47 | 1.53 |
| 2 | AB | 1636 | U | C5-C6 | 5.65 | 1.39 | 1.34 |
| 2 | AB | 1638 | C | C3'-C2' | -5.65 | 1.46 | 1.52 |
| 2 | AB | 1804 | C | C5'-C4' | 5.65 | 1.58 | 1.51 |
| 2 | AB | 2223 | G | C6-N1 | 5.65 | 1.43 | 1.39 |
| 2 | AB | 2366 | A | C5'-C4' | 5.65 | 1.58 | 1.51 |
| 2 | AB | 2473 | U | C2-O2 | -5.65 | 1.17 | 1.22 |
| 2 | AB | 2530 | A | N7-C5 | 5.65 | 1.42 | 1.39 |
| 35 | BA | 692 | U | C3'-C2' | 5.65 | 1.59 | 1.52 |
| 2 | AB | 457 | A | P-O5' | 5.65 | 1.65 | 1.59 |
| 2 | AB | 1152 | C | C5'-C4' | 5.65 | 1.58 | 1.51 |
| 2 | AB | 1734 | G | C2-N3 | 5.65 | 1.37 | 1.32 |
| 29 | A2 | 63 | ARG | CZ-NH1 | 5.65 | 1.40 | 1.33 |
| 35 | BA | 426 | U | C4-C5 | 5.65 | 1.48 | 1.43 |
| 2 | AB | 865 | C | N3-C4 | 5.64 | 1.38 | 1.33 |
| 2 | AB | 2238 | G | C2-N3 | 5.64 | 1.37 | 1.32 |
| 2 | AB | 2832 | U | N1-C6 | 5.64 | 1.43 | 1.38 |
| 35 | BA | 427 | U | O3'-P | 5.64 | 1.68 | 1.61 |
| 35 | BA | 916 | U | N1-C2 | 5.64 | 1.43 | 1.38 |
| 2 | AB | 804 | A | C8-N7 | -5.64 | 1.27 | 1.31 |
| 2 | AB | 837 | C | C2'-C1' | 5.64 | 1.59 | 1.53 |
| 2 | AB | 1124 | G | C8-N7 | 5.64 | 1.34 | 1.30 |
| 2 | AB | 1629 | U | C4-C5 | -5.64 | 1.38 | 1.43 |
| 2 | AB | 2388 | A | C6-N6 | -5.64 | 1.29 | 1.33 |
| 2 | AB | 2488 | G | N7-C5 | -5.64 | 1.35 | 1.39 |
| 2 | AB | 2698 | U | C2-N3 | 5.64 | 1.41 | 1.37 |
| 35 | BA | 208 | U | C4-C5 | 5.64 | 1.48 | 1.43 |
| 35 | BA | 1015 | G | N1-C2 | 5.64 | 1.42 | 1.37 |
| 35 | BA | 1358 | U | C2-N3 | 5.64 | 1.41 | 1.37 |
| 2 | AB | 216 | A | C5-C6 | 5.64 | 1.46 | 1.41 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 618 | G | C4'-O4' | -5.64 | 1.38 | 1.45 |
| 2 | AB | 621 | A | C4'-O4' | -5.64 | 1.38 | 1.45 |
| 2 | AB | 2584 | U | N1-C2 | 5.64 | 1.43 | 1.38 |
| 2 | AB | 2668 | G | C8-N7 | -5.64 | 1.27 | 1.30 |
| 35 | BA | 188 | C | C4'-C3' | 5.64 | 1.59 | 1.53 |
| 35 | BA | 1277 | C | P-O5' | 5.64 | 1.65 | 1.59 |
| 35 | BA | 1387 | G | C2-N2 | -5.64 | 1.28 | 1.34 |
| 1 | AA | 69 | G | N3-C4 | 5.64 | 1.39 | 1.35 |
| 2 | AB | 139 | U | C2-N3 | 5.64 | 1.41 | 1.37 |
| 2 | AB | 607 | U | O4'-C1' | 5.64 | 1.49 | 1.41 |
| 2 | AB | 717 | C | O4'-C1' | 5.64 | 1.49 | 1.41 |
| 2 | AB | 1128 | G | C6-N1 | 5.64 | 1.43 | 1.39 |
| 2 | AB | 2058 | A | P-O5' | 5.64 | 1.65 | 1.59 |
| 2 | AB | 2372 | U | O5'-C5' | -5.64 | 1.33 | 1.42 |
| 2 | AB | 2390 | U | C4-O4 | 5.64 | 1.28 | 1.23 |
| 2 | AB | 2888 | C | C4-N4 | 5.64 | 1.39 | 1.33 |
| 35 | BA | 938 | A | C5'-C4' | 5.64 | 1.58 | 1.51 |
| 35 | BA | 1077 | G | C2-N3 | 5.64 | 1.37 | 1.32 |
| 35 | BA | 1171 | A | C5'-C4' | 5.64 | 1.58 | 1.51 |
| 1 | AA | 34 | A | P-O5' | 5.64 | 1.65 | 1.59 |
| 2 | AB | 349 | U | N1-C6 | 5.64 | 1.43 | 1.38 |
| 2 | AB | 1034 | G | C2-N3 | 5.64 | 1.37 | 1.32 |
| 35 | BA | 44 | A | C6-N1 | -5.64 | 1.31 | 1.35 |
| 2 | AB | 372 | G | C2'-C1' | -5.64 | 1.47 | 1.53 |
| 2 | AB | 1641 | A | C5'-C4' | 5.64 | 1.58 | 1.51 |
| 2 | AB | 1660 | G | C4'-O4' | -5.64 | 1.38 | 1.45 |
| 35 | BA | 718 | A | C6-N1 | -5.64 | 1.31 | 1.35 |
| 35 | BA | 763 | G | P-O5' | 5.64 | 1.65 | 1.59 |
| 35 | BA | 877 | G | C2'-O2' | 5.64 | 1.49 | 1.41 |
| 35 | BA | 1385 | G | N7-C5 | 5.64 | 1.42 | 1.39 |
| 2 | AB | 181 | A | N9-C8 | 5.63 | 1.42 | 1.37 |
| 2 | AB | 566 | U | N3-C4 | -5.63 | 1.33 | 1.38 |
| 2 | AB | 1058 | U | N1-C2 | 5.63 | 1.43 | 1.38 |
| 2 | AB | 2307 | G | C6-N1 | 5.63 | 1.43 | 1.39 |
| 2 | AB | 2319 | G | P-O5' | 5.63 | 1.65 | 1.59 |
| 2 | AB | 2613 | U | O3'-P | 5.63 | 1.68 | 1.61 |
| 35 | BA | 177 | G | C8-N7 | 5.63 | 1.34 | 1.30 |
| 35 | BA | 1199 | U | C2-N3 | 5.63 | 1.41 | 1.37 |
| 35 | BA | 1532 | U | N3-C4 | 5.63 | 1.43 | 1.38 |
| 35 | BA | 418 | C | O4'-C1' | 5.63 | 1.49 | 1.41 |
| 35 | BA | 587 | G | O4'-C1' | -5.63 | 1.34 | 1.41 |
| 35 | BA | 1018 | G | C3'-C2' | 5.63 | 1.59 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1761 | C | C4'-O4' | -5.63 | 1.38 | 1.45 |
| 2 | AB | 1798 | U | C4-C5 | -5.63 | 1.38 | 1.43 |
| 20 | AT | 100 | GLY | N-CA | -5.63 | 1.37 | 1.46 |
| 35 | BA | 447 | G | C4'-O4' | -5.63 | 1.38 | 1.45 |
| 35 | BA | 861 | G | C4'-C3' | 5.63 | 1.59 | 1.53 |
| 2 | AB | 327 | G | C1'-N9 | 5.63 | 1.57 | 1.48 |
| 2 | AB | 778 | G | C4'-O4' | -5.63 | 1.38 | 1.45 |
| 2 | AB | 1280 | G | C3'-C2' | 5.63 | 1.59 | 1.52 |
| 35 | BA | 665 | A | O3'-P | 5.63 | 1.68 | 1.61 |
| 37 | BC | 48 | U | P-O5' | 5.63 | 1.65 | 1.59 |
| 2 | AB | 287 | G | C6-N1 | -5.63 | 1.35 | 1.39 |
| 2 | AB | 1369 | G | C4'-C3' | 5.63 | 1.59 | 1.53 |
| 2 | AB | 1399 | C | O5'-C5' | -5.63 | 1.33 | 1.42 |
| 2 | AB | 1651 | G | C2-N2 | -5.63 | 1.28 | 1.34 |
| 2 | AB | 1773 | A | C6-N6 | 5.63 | 1.38 | 1.33 |
| 2 | AB | 1825 | U | C5-C6 | 5.63 | 1.39 | 1.34 |
| 2 | AB | 2143 | C | C3'-O3' | 5.63 | 1.50 | 1.42 |
| 2 | AB | 2515 | C | C2'-O2' | -5.63 | 1.34 | 1.41 |
| 2 | AB | 2612 | C | C4-C5 | 5.63 | 1.47 | 1.43 |
| 35 | BA | 351 | G | C8-N7 | 5.63 | 1.34 | 1.30 |
| 35 | BA | 604 | G | N9-C4 | -5.63 | 1.33 | 1.38 |
| 35 | BA | 950 | U | N1-C6 | 5.63 | 1.43 | 1.38 |
| 35 | BA | 1373 | G | C5-C4 | -5.63 | 1.34 | 1.38 |
| 35 | BA | 1393 | U | C2-N3 | 5.63 | 1.41 | 1.37 |
| 35 | BA | 1395 | C | O3'-P | -5.63 | 1.54 | 1.61 |
| 36 | BB | 58 | C | P-O5' | 5.63 | 1.65 | 1.59 |
| 2 | AB | 314 | C | C5-C6 | 5.63 | 1.38 | 1.34 |
| 2 | AB | 376 | G | C2'-C1' | -5.63 | 1.47 | 1.53 |
| 2 | AB | 798 | G | C2-N3 | 5.63 | 1.37 | 1.32 |
| 2 | AB | 1028 | A | C6-N1 | -5.63 | 1.31 | 1.35 |
| 2 | AB | 1195 | G | C2-N3 | -5.63 | 1.28 | 1.32 |
| 2 | AB | 1265 | A | C6-N6 | 5.63 | 1.38 | 1.33 |
| 2 | AB | 1718 | G | C2-N3 | 5.63 | 1.37 | 1.32 |
| 2 | AB | 2058 | A | C5-C6 | 5.63 | 1.46 | 1.41 |
| 2 | AB | 2602 | A | C8-N7 | -5.63 | 1.27 | 1.31 |
| 7 | AG | 173 | ASP | CB-CG | 5.63 | 1.63 | 1.51 |
| 35 | BA | 475 | C | C2-N3 | 5.63 | 1.40 | 1.35 |
| 35 | BA | 949 | A | N7-C5 | -5.63 | 1.35 | 1.39 |
| 35 | BA | 1033 | G | C2'-O2' | -5.63 | 1.34 | 1.41 |
| 35 | BA | 1038 | C | C2'-C1' | 5.63 | 1.59 | 1.53 |
| 40 | BF | 154 | VAL | CA-CB | 5.63 | 1.66 | 1.54 |
| 2 | AB | 240 | C | N1-C6 | -5.62 | 1.33 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1023 | U | C2-N3 | 5.62 | 1.41 | 1.37 |
| 2 | AB | 2595 | G | N3-C4 | 5.62 | 1.39 | 1.35 |
| 2 | AB | 2832 | U | O4'-C1' | 5.62 | 1.49 | 1.41 |
| 35 | BA | 115 | G | P-O5' | 5.62 | 1.65 | 1.59 |
| 35 | BA | 544 | G | N1-C2 | 5.62 | 1.42 | 1.37 |
| 35 | BA | 1273 | C | O4'-C1' | 5.62 | 1.49 | 1.41 |
| 35 | BA | 1466 | C | C2-O2 | -5.62 | 1.19 | 1.24 |
| 2 | AB | 234 | U | C4'-O4' | -5.62 | 1.38 | 1.45 |
| 2 | AB | 1348 | C | N1-C6 | -5.62 | 1.33 | 1.37 |
| 2 | AB | 1800 | C | N1-C6 | 5.62 | 1.40 | 1.37 |
| 2 | AB | 2667 | C | P-O5' | 5.62 | 1.65 | 1.59 |
| 2 | AB | 2686 | G | C6-N1 | 5.62 | 1.43 | 1.39 |
| 35 | BA | 173 | U | N1-C2 | 5.62 | 1.43 | 1.38 |
| 35 | BA | 874 | G | C5'-C4' | 5.62 | 1.58 | 1.51 |
| 35 | BA | 876 | C | C3'-C2' | 5.62 | 1.59 | 1.52 |
| 2 | AB | 207 | A | C6-N6 | -5.62 | 1.29 | 1.33 |
| 2 | AB | 377 | G | C4'-C3' | 5.62 | 1.59 | 1.53 |
| 2 | AB | 477 | A | C4'-O4' | -5.62 | 1.38 | 1.45 |
| 2 | AB | 719 | C | P-O5' | 5.62 | 1.65 | 1.59 |
| 2 | AB | 2528 | U | N1-C6 | 5.62 | 1.43 | 1.38 |
| 35 | BA | 116 | A | N9-C8 | 5.62 | 1.42 | 1.37 |
| 2 | AB | 953 | G | C8-N7 | -5.62 | 1.27 | 1.30 |
| 35 | BA | 350 | G | C2'-O2' | -5.62 | 1.34 | 1.41 |
| 2 | AB | 958 | U | C4-O4 | -5.62 | 1.19 | 1.23 |
| 2 | AB | 1655 | A | N9-C8 | -5.62 | 1.33 | 1.37 |
| 2 | AB | 1766 | G | N7-C5 | -5.62 | 1.35 | 1.39 |
| 2 | AB | 1995 | U | C2'-O2' | 5.62 | 1.49 | 1.41 |
| 2 | AB | 2389 | G | C3'-C2' | 5.62 | 1.59 | 1.52 |
| 2 | AB | 2779 | U | P-O5' | 5.62 | 1.65 | 1.59 |
| 35 | BA | 365 | U | C4-C5 | -5.62 | 1.38 | 1.43 |
| 35 | BA | 836 | G | N9-C8 | 5.62 | 1.41 | 1.37 |
| 2 | AB | 312 | G | N7-C5 | 5.62 | 1.42 | 1.39 |
| 2 | AB | 338 | G | P-O5' | 5.62 | 1.65 | 1.59 |
| 2 | AB | 791 | C | N3-C4 | 5.62 | 1.37 | 1.33 |
| 2 | AB | 912 | C | C2-N3 | 5.62 | 1.40 | 1.35 |
| 2 | AB | 972 | A | C5'-C4' | 5.62 | 1.58 | 1.51 |
| 2 | AB | 2258 | C | C4'-O4' | -5.62 | 1.38 | 1.45 |
| 2 | AB | 2429 | G | N9-C4 | -5.62 | 1.33 | 1.38 |
| 35 | BA | 245 | U | C4'-O4' | -5.62 | 1.38 | 1.45 |
| 35 | BA | 330 | C | C4-C5 | 5.62 | 1.47 | 1.43 |
| 35 | BA | 413 | G | C8-N7 | -5.62 | 1.27 | 1.30 |
| 35 | BA | 436 | C | N1-C6 | 5.62 | 1.40 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 689 | C | C2'-C1' | -5.62 | 1.47 | 1.53 |
| 35 | BA | 1458 | G | P-O5' | 5.62 | 1.65 | 1.59 |
| 1 | AA | 74 | U | C4-O4 | 5.62 | 1.28 | 1.23 |
| 2 | AB | 821 | A | N3-C4 | 5.62 | 1.38 | 1.34 |
| 2 | AB | 996 | A | C5-C4 | -5.62 | 1.34 | 1.38 |
| 2 | AB | 1024 | G | C4'-O4' | -5.62 | 1.38 | 1.45 |
| 2 | AB | 1682 | G | C2'-C1' | 5.62 | 1.59 | 1.53 |
| 2 | AB | 2362 | C | C2'-C1' | 5.62 | 1.59 | 1.53 |
| 2 | AB | 2844 | G | C4'-O4' | -5.62 | 1.38 | 1.45 |
| 35 | BA | 14 | U | C4'-C3' | 5.62 | 1.59 | 1.53 |
| 35 | BA | 179 | A | C8-N7 | -5.62 | 1.27 | 1.31 |
| 35 | BA | 1044 | A | N7-C5 | 5.62 | 1.42 | 1.39 |
| 35 | BA | 1256 | A | C3'-C2' | 5.62 | 1.59 | 1.52 |
| 35 | BA | 1272 | G | N7-C5 | 5.62 | 1.42 | 1.39 |
| 37 | BC | 35 | C | O4'-C1' | 5.62 | 1.49 | 1.41 |
| 2 | AB | 518 | G | N1-C2 | 5.61 | 1.42 | 1.37 |
| 2 | AB | 1576 | U | C5-C6 | 5.61 | 1.39 | 1.34 |
| 2 | AB | 1774 | C | N1-C6 | 5.61 | 1.40 | 1.37 |
| 2 | AB | 1913 | A | C6-N1 | -5.61 | 1.31 | 1.35 |
| 2 | AB | 1973 | G | C5'-C4' | 5.61 | 1.58 | 1.51 |
| 2 | AB | 2128 | G | C2-N3 | 5.61 | 1.37 | 1.32 |
| 2 | AB | 2216 | G | C6-N1 | 5.61 | 1.43 | 1.39 |
| 2 | AB | 2482 | A | N7-C5 | -5.61 | 1.35 | 1.39 |
| 2 | AB | 1715 | G | P-O5' | 5.61 | 1.65 | 1.59 |
| 35 | BA | 117 | G | C5-C6 | 5.61 | 1.48 | 1.42 |
| 35 | BA | 158 | G | C2-N3 | 5.61 | 1.37 | 1.32 |
| 35 | BA | 1020 | G | N9-C4 | -5.61 | 1.33 | 1.38 |
| 2 | AB | 338 | G | C6-O6 | -5.61 | 1.19 | 1.24 |
| 2 | AB | 1311 | G | C5'-C4' | 5.61 | 1.58 | 1.51 |
| 2 | AB | 2323 | G | P-O5' | 5.61 | 1.65 | 1.59 |
| 2 | AB | 2657 | A | C6-N1 | -5.61 | 1.31 | 1.35 |
| 35 | BA | 151 | A | C5-C4 | 5.61 | 1.42 | 1.38 |
| 35 | BA | 182 | A | C5-C6 | -5.61 | 1.36 | 1.41 |
| 35 | BA | 229 | U | N3-C4 | 5.61 | 1.43 | 1.38 |
| 35 | BA | 400 | C | C4-C5 | 5.61 | 1.47 | 1.43 |
| 35 | BA | 586 | C | P-O5' | 5.61 | 1.65 | 1.59 |
| 35 | BA | 1041 | G | C2-N2 | -5.61 | 1.28 | 1.34 |
| 2 | AB | 52 | A | C6-N6 | 5.61 | 1.38 | 1.33 |
| 2 | AB | 2185 | U | C2-N3 | 5.61 | 1.41 | 1.37 |
| 2 | AB | 2876 | G | N3-C4 | 5.61 | 1.39 | 1.35 |
| 35 | BA | 336 | A | C6-N6 | -5.61 | 1.29 | 1.33 |
| 35 | BA | 346 | G | C4'-C3' | 5.61 | 1.59 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 97 | C | N1-C2 | 5.61 | 1.45 | 1.40 |
| 2 | AB | 493 | G | C4'-O4' | -5.61 | 1.38 | 1.45 |
| 2 | AB | 756 | A | C5'-C4' | 5.61 | 1.58 | 1.51 |
| 2 | AB | 777 | G | C4'-O4' | -5.61 | 1.38 | 1.45 |
| 2 | AB | 1516 | G | C6-N1 | -5.61 | 1.35 | 1.39 |
| 2 | AB | 1612 | C | N1-C6 | 5.61 | 1.40 | 1.37 |
| 2 | AB | 2006 | C | N3-C4 | 5.61 | 1.37 | 1.33 |
| 2 | AB | 2039 | U | O3'-P | 5.61 | 1.67 | 1.61 |
| 2 | AB | 2355 | G | C2-N3 | 5.61 | 1.37 | 1.32 |
| 35 | BA | 208 | U | P-O5' | 5.61 | 1.65 | 1.59 |
| 35 | BA | 1260 | G | C5'-C4' | 5.61 | 1.58 | 1.51 |
| 2 | AB | 1591 | A | N3-C4 | 5.61 | 1.38 | 1.34 |
| 2 | AB | 1623 | G | N1-C2 | 5.61 | 1.42 | 1.37 |
| 2 | AB | 1720 | U | C2-N3 | 5.61 | 1.41 | 1.37 |
| 2 | AB | 2133 | G | C4'-C3' | 5.61 | 1.59 | 1.53 |
| 2 | AB | 2496 | C | C4'-O4' | -5.61 | 1.38 | 1.45 |
| 2 | AB | 2569 | G | O3'-P | 5.61 | 1.67 | 1.61 |
| 35 | BA | 148 | G | N9-C8 | 5.61 | 1.41 | 1.37 |
| 35 | BA | 233 | C | C4-C5 | 5.61 | 1.47 | 1.43 |
| 35 | BA | 693 | G | C2-N3 | 5.61 | 1.37 | 1.32 |
| 35 | BA | 1446 | A | N3-C4 | 5.61 | 1.38 | 1.34 |
| 2 | AB | 1557 | C | C5'-C4' | 5.60 | 1.58 | 1.51 |
| 2 | AB | 2681 | C | C2-O2 | -5.60 | 1.19 | 1.24 |
| 2 | AB | 2803 | G | N1-C2 | 5.60 | 1.42 | 1.37 |
| 35 | BA | 278 | G | N3-C4 | -5.60 | 1.31 | 1.35 |
| 35 | BA | 607 | A | N9-C8 | -5.60 | 1.33 | 1.37 |
| 35 | BA | 1122 | U | C4'-O4' | -5.60 | 1.38 | 1.45 |
| 35 | BA | 1424 | U | C4'-C3' | -5.60 | 1.47 | 1.52 |
| 2 | AB | 401 | A | C5-C4 | -5.60 | 1.34 | 1.38 |
| 2 | AB | 521 | U | N3-C4 | 5.60 | 1.43 | 1.38 |
| 2 | AB | 572 | A | N7-C5 | -5.60 | 1.35 | 1.39 |
| 2 | AB | 588 | U | N1-C2 | 5.60 | 1.43 | 1.38 |
| 2 | AB | 1074 | G | O3'-P | 5.60 | 1.67 | 1.61 |
| 2 | AB | 1621 | U | C2-N3 | 5.60 | 1.41 | 1.37 |
| 35 | BA | 49 | U | C5'-C4' | 5.60 | 1.58 | 1.51 |
| 35 | BA | 306 | A | C6-N6 | 5.60 | 1.38 | 1.33 |
| 35 | BA | 403 | C | C5-C6 | 5.60 | 1.38 | 1.34 |
| 35 | BA | 453 | G | C6-N1 | 5.60 | 1.43 | 1.39 |
| 35 | BA | 716 | A | N9-C4 | 5.60 | 1.41 | 1.37 |
| 35 | BA | 1296 | C | O3'-P | 5.60 | 1.67 | 1.61 |
| 35 | BA | 1372 | U | O4'-C1' | 5.60 | 1.49 | 1.41 |
| 37 | BC | 64 | G | P-O5' | 5.60 | 1.65 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 54 | BT | 63 | TYR | CG-CD2 | 5.60 | 1.46 | 1.39 |
| 2 | AB | 380 | G | C3'-O3' | -5.60 | 1.34 | 1.42 |
| 2 | AB | 501 | A | C4'-O4' | -5.60 | 1.38 | 1.45 |
| 2 | AB | 112 | U | P-O5' | 5.60 | 1.65 | 1.59 |
| 2 | AB | 261 | G | P-O5' | 5.60 | 1.65 | 1.59 |
| 2 | AB | 715 | A | N9-C4 | -5.60 | 1.34 | 1.37 |
| 2 | AB | 931 | U | O3'-P | -5.60 | 1.54 | 1.61 |
| 2 | AB | 1017 | G | C3'-C2' | 5.60 | 1.59 | 1.52 |
| 2 | AB | 1020 | A | C3'-C2' | 5.60 | 1.59 | 1.52 |
| 2 | AB | 1182 | G | N1-C2 | 5.60 | 1.42 | 1.37 |
| 2 | AB | 1770 | G | O3'-P | 5.60 | 1.67 | 1.61 |
| 2 | AB | 1971 | U | C3'-C2' | -5.60 | 1.46 | 1.52 |
| 2 | AB | 2033 | A | C8-N7 | -5.60 | 1.27 | 1.31 |
| 35 | BA | 512 | U | C4-O4 | -5.60 | 1.19 | 1.23 |
| 2 | AB | 112 | U | C2-N3 | -5.60 | 1.33 | 1.37 |
| 2 | AB | 1928 | A | N3-C4 | 5.60 | 1.38 | 1.34 |
| 2 | AB | 2048 | G | N1-C2 | 5.60 | 1.42 | 1.37 |
| 2 | AB | 2094 | A | C2-N3 | 5.60 | 1.38 | 1.33 |
| 2 | AB | 2767 | C | C5'-C4' | 5.60 | 1.58 | 1.51 |
| 2 | AB | 2879 | A | N1-C2 | -5.60 | 1.29 | 1.34 |
| 35 | BA | 1149 | C | O3'-P | -5.60 | 1.54 | 1.61 |
| 35 | BA | 1276 | G | N9-C8 | -5.60 | 1.33 | 1.37 |
| 2 | AB | 684 | G | C2-N3 | 5.60 | 1.37 | 1.32 |
| 2 | AB | 741 | U | C2-O2 | 5.60 | 1.27 | 1.22 |
| 2 | AB | 2773 | C | O4'-C1' | 5.60 | 1.49 | 1.41 |
| 2 | AB | 2889 | C | N3-C4 | 5.60 | 1.37 | 1.33 |
| 35 | BA | 30 | U | C5-C6 | 5.60 | 1.39 | 1.34 |
| 35 | BA | 1132 | C | C4-C5 | 5.60 | 1.47 | 1.43 |
| 35 | BA | 1231 | G | N9-C8 | -5.60 | 1.33 | 1.37 |
| 2 | AB | 973 | A | N7-C5 | -5.59 | 1.35 | 1.39 |
| 2 | AB | 1071 | G | C2-N3 | 5.59 | 1.37 | 1.32 |
| 2 | AB | 1965 | C | N3-C4 | -5.59 | 1.30 | 1.33 |
| 2 | AB | 1969 | A | C4'-O4' | -5.59 | 1.38 | 1.45 |
| 2 | AB | 2113 | U | C4'-C3' | 5.59 | 1.59 | 1.53 |
| 2 | AB | 2252 | G | C2'-O2' | -5.59 | 1.34 | 1.41 |
| 2 | AB | 2754 | U | N1-C2 | 5.59 | 1.43 | 1.38 |
| 3 | AC | 135 | GLY | CA-C | 5.59 | 1.60 | 1.51 |
| 35 | BA | 439 | U | C2-O2 | 5.59 | 1.27 | 1.22 |
| 35 | BA | 919 | A | C6-N1 | 5.59 | 1.39 | 1.35 |
| 35 | BA | 1398 | A | C3'-C2' | 5.59 | 1.59 | 1.52 |
| 35 | BA | 1513 | A | O5'-C5' | -5.59 | 1.33 | 1.42 |
| 2 | AB | 396 | G | N9-C4 | -5.59 | 1.33 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 530 | G | C8-N7 | 5.59 | 1.34 | 1.30 |
| 2 | AB | 1294 | U | C3'-C2' | 5.59 | 1.59 | 1.52 |
| 35 | BA | 106 | C | O3'-P | 5.59 | 1.67 | 1.61 |
| 35 | BA | 1063 | C | N1-C6 | -5.59 | 1.33 | 1.37 |
| 35 | BA | 1272 | G | C2-N3 | -5.59 | 1.28 | 1.32 |
| 35 | BA | 1377 | A | C4'-C3' | 5.59 | 1.59 | 1.53 |
| 1 | AA | 91 | C | C2'-O2' | 5.59 | 1.49 | 1.41 |
| 1 | AA | 100 | G | O3'-P | 5.59 | 1.67 | 1.61 |
| 2 | AB | 318 | C | C4-N4 | 5.59 | 1.39 | 1.33 |
| 2 | AB | 948 | C | C2-N3 | 5.59 | 1.40 | 1.35 |
| 2 | AB | 1134 | A | N1-C2 | -5.59 | 1.29 | 1.34 |
| 2 | AB | 1837 | C | O3'-P | 5.59 | 1.67 | 1.61 |
| 2 | AB | 2022 | U | P-O5' | 5.59 | 1.65 | 1.59 |
| 2 | AB | 2205 | A | N9-C4 | 5.59 | 1.41 | 1.37 |
| 2 | AB | 2328 | A | N7-C5 | -5.59 | 1.35 | 1.39 |
| 35 | BA | 708 | C | C5'-C4' | 5.59 | 1.58 | 1.51 |
| 2 | AB | 609 | A | N3-C4 | 5.59 | 1.38 | 1.34 |
| 2 | AB | 933 | A | N9-C4 | 5.59 | 1.41 | 1.37 |
| 2 | AB | 1751 | U | O4'-C1' | 5.59 | 1.49 | 1.41 |
| 2 | AB | 1835 | 2MG | O3'-P | 5.59 | 1.67 | 1.61 |
| 2 | AB | 2470 | G | C8-N7 | -5.59 | 1.27 | 1.30 |
| 2 | AB | 273 | G | N1-C2 | 5.59 | 1.42 | 1.37 |
| 2 | AB | 1265 | A | C3'-O3' | 5.59 | 1.50 | 1.42 |
| 2 | AB | 1308 | A | N9-C8 | -5.59 | 1.33 | 1.37 |
| 2 | AB | 1733 | G | N9-C8 | 5.59 | 1.41 | 1.37 |
| 2 | AB | 2414 | G | N7-C5 | 5.59 | 1.42 | 1.39 |
| 2 | AB | 2463 | C | P-O5' | 5.59 | 1.65 | 1.59 |
| 2 | AB | 126 | A | C4'-O4' | -5.59 | 1.38 | 1.45 |
| 2 | AB | 207 | A | N9-C4 | -5.59 | 1.34 | 1.37 |
| 2 | AB | 1666 | G | C6-O6 | -5.59 | 1.19 | 1.24 |
| 2 | AB | 2145 | C | C4'-O4' | -5.59 | 1.38 | 1.45 |
| 2 | AB | 2218 | G | N1-C2 | 5.59 | 1.42 | 1.37 |
| 2 | AB | 2400 | G | N9-C4 | 5.59 | 1.42 | 1.38 |
| 2 | AB | 2675 | A | P-O5' | 5.59 | 1.65 | 1.59 |
| 35 | BA | 990 | C | O4'-C1' | 5.59 | 1.49 | 1.41 |
| 35 | BA | 1075 | U | O3'-P | 5.59 | 1.67 | 1.61 |
| 35 | BA | 1426 | G | P-O5' | 5.59 | 1.65 | 1.59 |
| 1 | AA | 64 | G | C6-O6 | -5.58 | 1.19 | 1.24 |
| 2 | AB | 350 | G | C2-N2 | 5.58 | 1.40 | 1.34 |
| 2 | AB | 1373 | A | C6-N1 | -5.58 | 1.31 | 1.35 |
| 35 | BA | 1152 | A | C5-C6 | 5.58 | 1.46 | 1.41 |
| 35 | BA | 1374 | A | N7-C5 | -5.58 | 1.35 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 1 | AA | 100 | G | C6-O6 | -5.58 | 1.19 | 1.24 |
| 2 | AB | 1883 | U | C4-O4 | 5.58 | 1.28 | 1.23 |
| 2 | AB | 2889 | C | O3'-P | 5.58 | 1.67 | 1.61 |
| 24 | AX | 69 | GLU | CG-CD | -5.58 | 1.43 | 1.51 |
| 35 | BA | 122 | G | P-O5' | 5.58 | 1.65 | 1.59 |
| 35 | BA | 493 | A | C2'-O2' | 5.58 | 1.49 | 1.41 |
| 35 | BA | 565 | U | C5'-C4' | 5.58 | 1.58 | 1.51 |
| 2 | AB | 377 | G | C5-C4 | -5.58 | 1.34 | 1.38 |
| 2 | AB | 1048 | A | N9-C8 | -5.58 | 1.33 | 1.37 |
| 2 | AB | 1149 | G | C4'-C3' | -5.58 | 1.47 | 1.52 |
| 2 | AB | 1466 | U | C5-C6 | 5.58 | 1.39 | 1.34 |
| 2 | AB | 1499 | C | C2'-C1' | 5.58 | 1.59 | 1.53 |
| 2 | AB | 1898 | U | O3'-P | 5.58 | 1.67 | 1.61 |
| 2 | AB | 2107 | G | P-O5' | 5.58 | 1.65 | 1.59 |
| 2 | AB | 2110 | G | C6-O6 | -5.58 | 1.19 | 1.24 |
| 2 | AB | 2681 | C | C5-C6 | 5.58 | 1.38 | 1.34 |
| 35 | BA | 138 | G | O4'-C1' | 5.58 | 1.49 | 1.41 |
| 35 | BA | 969 | A | O3'-P | -5.58 | 1.54 | 1.61 |
| 2 | AB | 48 | G | C4'-O4' | -5.58 | 1.38 | 1.45 |
| 2 | AB | 143 | C | N3-C4 | 5.58 | 1.37 | 1.33 |
| 2 | AB | 1119 | U | C2-O2 | 5.58 | 1.27 | 1.22 |
| 2 | AB | 1413 | A | C4'-O4' | -5.58 | 1.38 | 1.45 |
| 2 | AB | 2463 | C | O4'-C1' | 5.58 | 1.49 | 1.41 |
| 35 | BA | 628 | G | C4'-O4' | -5.58 | 1.38 | 1.45 |
| 35 | BA | 834 | U | N1-C2 | 5.58 | 1.43 | 1.38 |
| 35 | BA | 945 | G | N7-C5 | 5.58 | 1.42 | 1.39 |
| 35 | BA | 1404 | C | C4-C5 | 5.58 | 1.47 | 1.43 |
| 37 | BC | 65 | G | P-O5' | 5.58 | 1.65 | 1.59 |
| 2 | AB | 507 | A | C3'-C2' | 5.58 | 1.59 | 1.52 |
| 2 | AB | 549 | G | N9-C8 | -5.58 | 1.33 | 1.37 |
| 2 | AB | 2131 | U | C3'-C2' | 5.58 | 1.59 | 1.52 |
| 2 | AB | 2615 | U | C2-N3 | 5.58 | 1.41 | 1.37 |
| 2 | AB | 2762 | C | N1-C2 | 5.58 | 1.45 | 1.40 |
| 2 | AB | 2872 | A | N1-C2 | -5.58 | 1.29 | 1.34 |
| 35 | BA | 303 | A | N1-C2 | 5.58 | 1.39 | 1.34 |
| 36 | BB | 36 | U | C4-C5 | 5.58 | 1.48 | 1.43 |
| 2 | AB | 353 | C | C5'-C4' | 5.58 | 1.58 | 1.51 |
| 2 | AB | 771 | G | C6-N1 | 5.58 | 1.43 | 1.39 |
| 2 | AB | 2343 | U | C4-O4 | -5.58 | 1.19 | 1.23 |
| 2 | AB | 2354 | C | O4'-C1' | 5.58 | 1.48 | 1.41 |
| 35 | BA | 42 | G | C5-C4 | 5.58 | 1.42 | 1.38 |
| 35 | BA | 46 | G | P-O5' | 5.58 | 1.65 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1015 | G | P-O5' | 5.58 | 1.65 | 1.59 |
| 35 | BA | 1529 | G | C2'-O2' | 5.58 | 1.48 | 1.41 |
| 2 | AB | 516 | C | O3'-P | 5.57 | 1.67 | 1.61 |
| 2 | AB | 704 | G | C5'-C4' | 5.57 | 1.58 | 1.51 |
| 2 | AB | 1098 | A | N3-C4 | 5.57 | 1.38 | 1.34 |
| 2 | AB | 1782 | U | C4-C5 | 5.57 | 1.48 | 1.43 |
| 2 | AB | 2473 | U | C4'-O4' | -5.57 | 1.38 | 1.45 |
| 16 | AP | 106 | ASP | CB-CG | 5.57 | 1.63 | 1.51 |
| 35 | BA | 821 | G | C8-N7 | -5.57 | 1.27 | 1.30 |
| 35 | BA | 827 | U | O4'-C1' | 5.57 | 1.48 | 1.41 |
| 35 | BA | 911 | U | C4'-O4' | -5.57 | 1.38 | 1.45 |
| 35 | BA | 1279 | G | C5'-C4' | 5.57 | 1.58 | 1.51 |
| 35 | BA | 1336 | C | C4'-O4' | -5.57 | 1.38 | 1.45 |
| 37 | BC | 35 | C | C2'-C1' | -5.57 | 1.47 | 1.53 |
| 2 | AB | 732 | C | P-O5' | 5.57 | 1.65 | 1.59 |
| 2 | AB | 1697 | G | C4'-C3' | 5.57 | 1.59 | 1.53 |
| 35 | BA | 493 | A | C6-N1 | 5.57 | 1.39 | 1.35 |
| 2 | AB | 356 | G | C4'-C3' | 5.57 | 1.59 | 1.53 |
| 2 | AB | 1800 | C | C4-N4 | 5.57 | 1.39 | 1.33 |
| 2 | AB | 2209 | G | C2'-C1' | 5.57 | 1.59 | 1.53 |
| 35 | BA | 178 | C | C2'-O2' | 5.57 | 1.48 | 1.41 |
| 35 | BA | 1343 | G | C2-N2 | -5.57 | 1.28 | 1.34 |
| 35 | BA | 1440 | U | C4-O4 | -5.57 | 1.19 | 1.23 |
| 2 | AB | 87 | U | C3'-O3' | -5.57 | 1.34 | 1.42 |
| 2 | AB | 841 | G | N1-C2 | 5.57 | 1.42 | 1.37 |
| 2 | AB | 1791 | A | C8-N7 | -5.57 | 1.27 | 1.31 |
| 2 | AB | 2543 | G | C2'-C1' | -5.57 | 1.47 | 1.53 |
| 35 | BA | 892 | A | N1-C2 | -5.57 | 1.29 | 1.34 |
| 35 | BA | 1015 | G | C2-N3 | 5.57 | 1.37 | 1.32 |
| 35 | BA | 1115 | U | C3'-C2' | -5.57 | 1.46 | 1.52 |
| 2 | AB | 162 | U | C2-O2 | 5.57 | 1.27 | 1.22 |
| 2 | AB | 486 | C | N3-C4 | -5.57 | 1.30 | 1.33 |
| 2 | AB | 858 | G | N9-C4 | 5.57 | 1.42 | 1.38 |
| 2 | AB | 877 | A | N7-C5 | 5.57 | 1.42 | 1.39 |
| 2 | AB | 891 | G | C2-N2 | -5.57 | 1.28 | 1.34 |
| 2 | AB | 1166 | G | C5'-C4' | 5.57 | 1.58 | 1.51 |
| 2 | AB | 1240 | U | C4-C5 | 5.57 | 1.48 | 1.43 |
| 2 | AB | 1475 | G | C2-N2 | -5.57 | 1.28 | 1.34 |
| 2 | AB | 1601 | G | C2-N2 | -5.57 | 1.28 | 1.34 |
| 2 | AB | 1999 | C | N3-C4 | 5.57 | 1.37 | 1.33 |
| 2 | AB | 2677 | G | N3-C4 | 5.57 | 1.39 | 1.35 |
| 35 | BA | 27 | G | C5-C6 | 5.57 | 1.48 | 1.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 104 | G | O3'-P | -5.57 | 1.54 | 1.61 |
| 35 | BA | 161 | A | N7-C5 | -5.57 | 1.35 | 1.39 |
| 35 | BA | 268 | U | C4-C5 | 5.57 | 1.48 | 1.43 |
| 35 | BA | 392 | C | C5'-C4' | 5.57 | 1.58 | 1.51 |
| 2 | AB | 1178 | C | C2'-C1' | 5.57 | 1.59 | 1.53 |
| 2 | AB | 1221 | C | C5'-C4' | 5.57 | 1.58 | 1.51 |
| 2 | AB | 1349 | C | C3'-C2' | 5.57 | 1.59 | 1.52 |
| 35 | BA | 449 | G | N7-C5 | -5.57 | 1.35 | 1.39 |
| 35 | BA | 1445 | U | C4'-O4' | -5.57 | 1.38 | 1.45 |
| 36 | BB | 33 | A | C6-N1 | -5.57 | 1.31 | 1.35 |
| 2 | AB | 250 | G | C4'-O4' | -5.56 | 1.38 | 1.45 |
| 2 | AB | 2397 | G | N9-C8 | -5.56 | 1.33 | 1.37 |
| 2 | AB | 2426 | A | P-O5' | 5.56 | 1.65 | 1.59 |
| 35 | BA | 206 | C | O4'-C1' | 5.56 | 1.48 | 1.41 |
| 35 | BA | 447 | G | C2'-C1' | 5.56 | 1.59 | 1.53 |
| 35 | BA | 538 | G | P-O5' | 5.56 | 1.65 | 1.59 |
| 2 | AB | 212 | G | C3'-O3' | 5.56 | 1.50 | 1.42 |
| 2 | AB | 364 | C | C5'-C4' | -5.56 | 1.44 | 1.51 |
| 2 | AB | 632 | A | C2'-C1' | 5.56 | 1.59 | 1.53 |
| 2 | AB | 802 | A | C4'-O4' | -5.56 | 1.38 | 1.45 |
| 2 | AB | 959 | A | N3-C4 | 5.56 | 1.38 | 1.34 |
| 2 | AB | 1377 | G | O3'-P | 5.56 | 1.67 | 1.61 |
| 2 | AB | 1930 | G | C2-N3 | 5.56 | 1.37 | 1.32 |
| 2 | AB | 1994 | C | C3'-C2' | 5.56 | 1.59 | 1.52 |
| 2 | AB | 2061 | G | N7-C5 | 5.56 | 1.42 | 1.39 |
| 2 | AB | 2120 | G | C3'-C2' | 5.56 | 1.59 | 1.52 |
| 2 | AB | 2825 | G | N3-C4 | 5.56 | 1.39 | 1.35 |
| 35 | BA | 122 | G | C8-N7 | -5.56 | 1.27 | 1.30 |
| 35 | BA | 606 | G | N7-C5 | -5.56 | 1.35 | 1.39 |
| 2 | AB | 64 | A | C3'-C2' | -5.56 | 1.46 | 1.52 |
| 2 | AB | 811 | U | O3'-P | 5.56 | 1.67 | 1.61 |
| 2 | AB | 967 | U | C4'-O4' | -5.56 | 1.38 | 1.45 |
| 2 | AB | 1363 | C | O3'-P | 5.56 | 1.67 | 1.61 |
| 2 | AB | 1820 | U | N1-C6 | -5.56 | 1.32 | 1.38 |
| 2 | AB | 1852 | U | C2'-C1' | 5.56 | 1.59 | 1.53 |
| 35 | BA | 686 | U | C5-C6 | 5.56 | 1.39 | 1.34 |
| 35 | BA | 1068 | G | N1-C2 | 5.56 | 1.42 | 1.37 |
| 2 | AB | 138 | U | P-O5' | 5.56 | 1.65 | 1.59 |
| 2 | AB | 1182 | G | C6-N1 | 5.56 | 1.43 | 1.39 |
| 2 | AB | 1331 | G | C6-O6 | -5.56 | 1.19 | 1.24 |
| 2 | AB | 1708 | C | O4'-C1' | 5.56 | 1.48 | 1.41 |
| 2 | AB | 2049 | G | C6-N1 | 5.56 | 1.43 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 323 | U | C2-O2 | -5.56 | 1.17 | 1.22 |
| 53 | BS | 36 | PHE | CG-CD1 | 5.56 | 1.47 | 1.38 |
| 2 | AB | 585 | G | N7-C5 | -5.56 | 1.35 | 1.39 |
| 2 | AB | 930 | G | C2-N3 | 5.56 | 1.37 | 1.32 |
| 2 | AB | 1145 | C | N3-C4 | 5.56 | 1.37 | 1.33 |
| 2 | AB | 1183 | U | P-O5' | 5.56 | 1.65 | 1.59 |
| 2 | AB | 1706 | C | N3-C4 | 5.56 | 1.37 | 1.33 |
| 2 | AB | 1796 | U | N1-C2 | 5.56 | 1.43 | 1.38 |
| 2 | AB | 1910 | G | N3-C4 | 5.56 | 1.39 | 1.35 |
| 2 | AB | 2724 | U | N1-C2 | 5.56 | 1.43 | 1.38 |
| 35 | BA | 625 | U | C2-N3 | -5.56 | 1.33 | 1.37 |
| 35 | BA | 765 | G | C2-N3 | 5.56 | 1.37 | 1.32 |
| 35 | BA | 824 | G | C2'-C1' | -5.56 | 1.47 | 1.53 |
| 35 | BA | 1088 | G | C8-N7 | 5.56 | 1.34 | 1.30 |
| 35 | BA | 1181 | G | C2-N3 | 5.56 | 1.37 | 1.32 |
| 44 | BJ | 44 | PHE | CG-CD2 | 5.56 | 1.47 | 1.38 |
| 57 | BW | 70 | TYR | CB-CG | -5.56 | 1.43 | 1.51 |
| 2 | AB | 728 | G | C2'-C1' | 5.56 | 1.59 | 1.53 |
| 2 | AB | 959 | A | C5-C4 | -5.56 | 1.34 | 1.38 |
| 2 | AB | 2779 | U | N1-C2 | 5.56 | 1.43 | 1.38 |
| 2 | AB | 263 | G | C2'-O2' | 5.55 | 1.48 | 1.41 |
| 2 | AB | 515 | A | C5-C4 | -5.55 | 1.34 | 1.38 |
| 2 | AB | 1047 | G | C2-N2 | -5.55 | 1.28 | 1.34 |
| 2 | AB | 1175 | A | C3'-C2' | -5.55 | 1.46 | 1.52 |
| 2 | AB | 1536 | C | N1-C6 | -5.55 | 1.33 | 1.37 |
| 2 | AB | 1546 | G | N7-C5 | 5.55 | 1.42 | 1.39 |
| 2 | AB | 1937 | A | P-O5' | -5.55 | 1.54 | 1.59 |
| 35 | BA | 840 | C | C3'-O3' | 5.55 | 1.50 | 1.42 |
| 35 | BA | 1064 | G | N1-C2 | 5.55 | 1.42 | 1.37 |
| 2 | AB | 1454 | C | N3-C4 | 5.55 | 1.37 | 1.33 |
| 2 | AB | 2508 | G | N9-C8 | 5.55 | 1.41 | 1.37 |
| 2 | AB | 780 | G | C4'-C3' | -5.55 | 1.47 | 1.52 |
| 2 | AB | 846 | U | O3'-P | 5.55 | 1.67 | 1.61 |
| 2 | AB | 1318 | U | C4-O4 | -5.55 | 1.19 | 1.23 |
| 2 | AB | 1523 | U | C4-C5 | 5.55 | 1.48 | 1.43 |
| 2 | AB | 2083 | G | C5'-C4' | 5.55 | 1.58 | 1.51 |
| 2 | AB | 2102 | G | P-O5' | 5.55 | 1.65 | 1.59 |
| 2 | AB | 2689 | U | C4-C5 | 5.55 | 1.48 | 1.43 |
| 35 | BA | 362 | G | C8-N7 | -5.55 | 1.27 | 1.30 |
| 35 | BA | 413 | G | P-O5' | 5.55 | 1.65 | 1.59 |
| 35 | BA | 996 | A | N7-C5 | 5.55 | 1.42 | 1.39 |
| 37 | BC | 14 | A | C6-N6 | -5.55 | 1.29 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 77 | G | C6-N1 | 5.55 | 1.43 | 1.39 |
| 2 | AB | 377 | G | C2-N3 | 5.55 | 1.37 | 1.32 |
| 2 | AB | 952 | G | C8-N7 | 5.55 | 1.34 | 1.30 |
| 2 | AB | 1205 | A | C4'-O4' | -5.55 | 1.38 | 1.45 |
| 2 | AB | 2351 | G | N9-C8 | 5.55 | 1.41 | 1.37 |
| 35 | BA | 193 | C | C4-C5 | 5.55 | 1.47 | 1.43 |
| 35 | BA | 666 | G | C2-N3 | 5.55 | 1.37 | 1.32 |
| 35 | BA | 939 | G | N1-C2 | 5.55 | 1.42 | 1.37 |
| 37 | BC | 32 | G | N1-C2 | 5.55 | 1.42 | 1.37 |
| 1 | AA | 29 | A | C5'-C4' | 5.55 | 1.58 | 1.51 |
| 2 | AB | 727 | A | N9-C4 | 5.55 | 1.41 | 1.37 |
| 2 | AB | 954 | G | N1-C2 | 5.55 | 1.42 | 1.37 |
| 2 | AB | 2220 | U | C5'-C4' | 5.55 | 1.58 | 1.51 |
| 35 | BA | 652 | U | O3'-P | -5.55 | 1.54 | 1.61 |
| 35 | BA | 748 | G | O3'-P | 5.55 | 1.67 | 1.61 |
| 35 | BA | 1522 | U | C3'-C2' | 5.55 | 1.59 | 1.52 |
| 36 | BB | 54 | U | P-O5' | 5.55 | 1.65 | 1.59 |
| 2 | AB | 54 | G | O5'-C5' | -5.55 | 1.33 | 1.42 |
| 2 | AB | 1524 | G | N3-C4 | 5.55 | 1.39 | 1.35 |
| 2 | AB | 2174 | C | C4'-O4' | -5.55 | 1.38 | 1.45 |
| 2 | AB | 2249 | U | N3-C4 | 5.55 | 1.43 | 1.38 |
| 2 | AB | 2278 | A | C8-N7 | -5.55 | 1.27 | 1.31 |
| 2 | AB | 2337 | G | C5-C4 | -5.55 | 1.34 | 1.38 |
| 35 | BA | 88 | U | N1-C2 | 5.55 | 1.43 | 1.38 |
| 35 | BA | 181 | A | C2-N3 | -5.55 | 1.28 | 1.33 |
| 35 | BA | 725 | G | C2'-C1' | 5.55 | 1.59 | 1.53 |
| 35 | BA | 736 | C | P-O5' | 5.55 | 1.65 | 1.59 |
| 35 | BA | 934 | C | C4'-C3' | 5.55 | 1.59 | 1.53 |
| 36 | BB | 58 | C | N1-C6 | 5.55 | 1.40 | 1.37 |
| 2 | AB | 1232 | G | C5'-C4' | 5.54 | 1.58 | 1.51 |
| 2 | AB | 2175 | C | C4-C5 | -5.54 | 1.38 | 1.43 |
| 2 | AB | 2788 | C | O3'-P | 5.54 | 1.67 | 1.61 |
| 2 | AB | 2870 | C | N1-C6 | 5.54 | 1.40 | 1.37 |
| 35 | BA | 50 | A | N3-C4 | 5.54 | 1.38 | 1.34 |
| 35 | BA | 983 | A | P-O5' | 5.54 | 1.65 | 1.59 |
| 2 | AB | 292 | U | C2-N3 | 5.54 | 1.41 | 1.37 |
| 2 | AB | 1948 | G | C2'-O2' | 5.54 | 1.48 | 1.41 |
| 2 | AB | 2335 | A | N7-C5 | 5.54 | 1.42 | 1.39 |
| 35 | BA | 199 | A | C2'-O2' | -5.54 | 1.34 | 1.41 |
| 35 | BA | 342 | C | P-O5' | 5.54 | 1.65 | 1.59 |
| 35 | BA | 583 | A | N3-C4 | 5.54 | 1.38 | 1.34 |
| 35 | BA | 891 | U | C4'-C3' | -5.54 | 1.47 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 37 | BC | 76 | C | C4-N4 | 5.54 | 1.39 | 1.33 |
| 2 | AB | 713 | G | P-O5' | 5.54 | 1.65 | 1.59 |
| 2 | AB | 1354 | A | C6-N6 | 5.54 | 1.38 | 1.33 |
| 2 | AB | 1696 | G | C3'-C2' | 5.54 | 1.59 | 1.52 |
| 2 | AB | 2321 | U | C2'-C1' | -5.54 | 1.47 | 1.53 |
| 2 | AB | 2572 | A | N3-C4 | 5.54 | 1.38 | 1.34 |
| 35 | BA | 328 | C | C2'-C1' | 5.54 | 1.59 | 1.53 |
| 35 | BA | 943 | U | C4-C5 | 5.54 | 1.48 | 1.43 |
| 35 | BA | 946 | A | C2'-C1' | 5.54 | 1.59 | 1.53 |
| 2 | AB | 2160 | C | C4'-O4' | -5.54 | 1.38 | 1.45 |
| 2 | AB | 2642 | G | N7-C5 | -5.54 | 1.35 | 1.39 |
| 36 | BB | 25 | U | C4-O4 | -5.54 | 1.19 | 1.23 |
| 2 | AB | 1264 | A | N7-C5 | -5.54 | 1.35 | 1.39 |
| 2 | AB | 1332 | G | N3-C4 | 5.54 | 1.39 | 1.35 |
| 2 | AB | 2065 | C | O3'-P | 5.54 | 1.67 | 1.61 |
| 2 | AB | 2183 | A | N3-C4 | 5.54 | 1.38 | 1.34 |
| 2 | AB | 2691 | C | C2-O2 | -5.54 | 1.19 | 1.24 |
| 19 | AS | 6 | GLY | CA-C | -5.54 | 1.43 | 1.51 |
| 35 | BA | 571 | U | N3-C4 | -5.54 | 1.33 | 1.38 |
| 35 | BA | 651 | C | C4'-O4' | -5.54 | 1.38 | 1.45 |
| 35 | BA | 872 | A | C2'-O2' | -5.54 | 1.34 | 1.41 |
| 35 | BA | 1162 | C | C3'-O3' | 5.54 | 1.50 | 1.42 |
| 35 | BA | 1302 | C | C5-C6 | 5.54 | 1.38 | 1.34 |
| 2 | AB | 126 | A | O3'-P | 5.54 | 1.67 | 1.61 |
| 2 | AB | 878 | A | N7-C5 | 5.54 | 1.42 | 1.39 |
| 2 | AB | 2636 | C | C5'-C4' | 5.54 | 1.57 | 1.51 |
| 35 | BA | 67 | C | O3'-P | 5.54 | 1.67 | 1.61 |
| 35 | BA | 1298 | U | C2'-C1' | -5.54 | 1.47 | 1.53 |
| 35 | BA | 1371 | G | C6-N1 | 5.54 | 1.43 | 1.39 |
| 1 | AA | 62 | C | N1-C6 | 5.54 | 1.40 | 1.37 |
| 2 | AB | 350 | G | C1'-N9 | 5.54 | 1.57 | 1.48 |
| 2 | AB | 813 | U | C4'-C3' | -5.54 | 1.47 | 1.52 |
| 2 | AB | 906 | U | C2'-C1' | 5.54 | 1.59 | 1.53 |
| 2 | AB | 1279 | G | P-O5' | 5.54 | 1.65 | 1.59 |
| 2 | AB | 2395 | C | C5-C6 | 5.54 | 1.38 | 1.34 |
| 35 | BA | 843 | U | N1-C2 | 5.54 | 1.43 | 1.38 |
| 35 | BA | 980 | C | C5-C6 | 5.54 | 1.38 | 1.34 |
| 42 | BH | 113 | ARG | NE-CZ | 5.54 | 1.40 | 1.33 |
| 2 | AB | 9 | G | C2-N3 | 5.53 | 1.37 | 1.32 |
| 2 | AB | 114 | U | C3'-C2' | -5.53 | 1.46 | 1.52 |
| 2 | AB | 446 | G | C8-N7 | -5.53 | 1.27 | 1.30 |
| 2 | AB | 1451 | C | C5-C6 | 5.53 | 1.38 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1877 | A | C2'-O2' | 5.53 | 1.48 | 1.41 |
| 2 | AB | 2221 | G | N7-C5 | -5.53 | 1.35 | 1.39 |
| 2 | AB | 2420 | C | C4'-O4' | -5.53 | 1.38 | 1.45 |
| 2 | AB | 2692 | G | C4'-O4' | -5.53 | 1.38 | 1.45 |
| 35 | BA | 143 | A | N9-C8 | -5.53 | 1.33 | 1.37 |
| 35 | BA | 277 | C | C4'-O4' | -5.53 | 1.38 | 1.45 |
| 35 | BA | 329 | A | C6-N6 | 5.53 | 1.38 | 1.33 |
| 35 | BA | 1538 | C | P-O5' | 5.53 | 1.65 | 1.59 |
| 2 | AB | 1435 | G | C5'-C4' | 5.53 | 1.57 | 1.51 |
| 2 | AB | 1519 | G | C5'-C4' | 5.53 | 1.57 | 1.51 |
| 2 | AB | 2158 | A | C4'-C3' | 5.53 | 1.59 | 1.53 |
| 35 | BA | 282 | A | N7-C5 | 5.53 | 1.42 | 1.39 |
| 2 | AB | 72 | U | N1-C2 | 5.53 | 1.43 | 1.38 |
| 2 | AB | 1131 | G | N9-C8 | -5.53 | 1.33 | 1.37 |
| 2 | AB | 1575 | C | O3'-P | 5.53 | 1.67 | 1.61 |
| 2 | AB | 2481 | G | N7-C5 | -5.53 | 1.35 | 1.39 |
| 2 | AB | 2732 | G | C5'-C4' | 5.53 | 1.57 | 1.51 |
| 2 | AB | 2830 | C | N1-C6 | 5.53 | 1.40 | 1.37 |
| 16 | AP | 112 | TYR | CE1-CZ | 5.53 | 1.45 | 1.38 |
| 35 | BA | 89 | U | N3-C4 | -5.53 | 1.33 | 1.38 |
| 35 | BA | 733 | G | C2-N3 | 5.53 | 1.37 | 1.32 |
| 35 | BA | 890 | G | C4'-C3' | -5.53 | 1.47 | 1.52 |
| 2 | AB | 876 | C | N1-C6 | 5.53 | 1.40 | 1.37 |
| 2 | AB | 2103 | C | C4-C5 | 5.53 | 1.47 | 1.43 |
| 2 | AB | 400 | G | C5-C6 | 5.53 | 1.47 | 1.42 |
| 2 | AB | 929 | U | C2'-C1' | 5.53 | 1.59 | 1.53 |
| 2 | AB | 1003 | G | N3-C4 | 5.53 | 1.39 | 1.35 |
| 2 | AB | 1193 | G | O4'-C1' | 5.53 | 1.48 | 1.41 |
| 2 | AB | 1436 | G | C6-N1 | 5.53 | 1.43 | 1.39 |
| 35 | BA | 56 | U | C5'-C4' | 5.53 | 1.57 | 1.51 |
| 35 | BA | 781 | A | C6-N1 | 5.53 | 1.39 | 1.35 |
| 35 | BA | 826 | C | N3-C4 | 5.53 | 1.37 | 1.33 |
| 37 | BC | 54 | G | N9-C8 | -5.53 | 1.33 | 1.37 |
| 2 | AB | 9 | G | C8-N7 | -5.53 | 1.27 | 1.30 |
| 2 | AB | 243 | U | C4'-O4' | -5.53 | 1.38 | 1.45 |
| 2 | AB | 531 | C | C4'-O4' | -5.53 | 1.38 | 1.45 |
| 2 | AB | 997 | G | C4'-O4' | -5.53 | 1.38 | 1.45 |
| 2 | AB | 1646 | C | C2'-O2' | 5.53 | 1.48 | 1.41 |
| 2 | AB | 1822 | C | C2'-C1' | 5.53 | 1.59 | 1.53 |
| 2 | AB | 2325 | G | O3'-P | 5.53 | 1.67 | 1.61 |
| 2 | AB | 2469 | A | C6-N6 | -5.53 | 1.29 | 1.33 |
| 2 | AB | 2886 | A | C4'-O4' | -5.53 | 1.38 | 1.45 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 377 | G | N9-C4 | 5.53 | 1.42 | 1.38 |
| 35 | BA | 624 | C | C4-C5 | 5.53 | 1.47 | 1.43 |
| 35 | BA | 723 | U | N3-C4 | 5.53 | 1.43 | 1.38 |
| 35 | BA | 848 | C | O3'-P | 5.53 | 1.67 | 1.61 |
| 2 | AB | 217 | A | N9-C4 | 5.52 | 1.41 | 1.37 |
| 35 | BA | 469 | C | C2-N3 | 5.52 | 1.40 | 1.35 |
| 35 | BA | 736 | C | C3'-C2' | 5.52 | 1.59 | 1.52 |
| 35 | BA | 920 | U | C3'-O3' | 5.52 | 1.49 | 1.42 |
| 35 | BA | 1289 | A | C6-N6 | 5.52 | 1.38 | 1.33 |
| 1 | AA | 103 | U | N3-C4 | 5.52 | 1.43 | 1.38 |
| 2 | AB | 93 | G | N7-C5 | 5.52 | 1.42 | 1.39 |
| 2 | AB | 573 | U | N1-C2 | 5.52 | 1.43 | 1.38 |
| 2 | AB | 760 | G | C6-O6 | -5.52 | 1.19 | 1.24 |
| 2 | AB | 1312 | U | C3'-C2' | 5.52 | 1.59 | 1.52 |
| 2 | AB | 1678 | A | P-O5' | 5.52 | 1.65 | 1.59 |
| 2 | AB | 2074 | U | C4'-O4' | -5.52 | 1.38 | 1.45 |
| 2 | AB | 2760 | C | C2-N3 | 5.52 | 1.40 | 1.35 |
| 35 | BA | 299 | G | N7-C5 | 5.52 | 1.42 | 1.39 |
| 35 | BA | 624 | C | C5-C6 | 5.52 | 1.38 | 1.34 |
| 37 | BC | 1 | C | C2'-C1' | 5.52 | 1.59 | 1.53 |
| 2 | AB | 1252 | G | C6-O6 | -5.52 | 1.19 | 1.24 |
| 2 | AB | 1584 | U | C4-C5 | 5.52 | 1.48 | 1.43 |
| 2 | AB | 2828 | G | C4'-O4' | -5.52 | 1.38 | 1.45 |
| 4 | AD | 79 | ARG | CD-NE | 5.52 | 1.55 | 1.46 |
| 35 | BA | 428 | G | C5-C4 | 5.52 | 1.42 | 1.38 |
| 35 | BA | 950 | U | C5-C6 | 5.52 | 1.39 | 1.34 |
| 1 | AA | 86 | G | N9-C8 | -5.52 | 1.33 | 1.37 |
| 2 | AB | 768 | G | C8-N7 | -5.52 | 1.27 | 1.30 |
| 2 | AB | 1045 | C | C1'-N1 | 5.52 | 1.57 | 1.48 |
| 2 | AB | 1787 | A | C8-N7 | -5.52 | 1.27 | 1.31 |
| 2 | AB | 2200 | C | C2'-C1' | -5.52 | 1.47 | 1.53 |
| 2 | AB | 2602 | A | C4'-C3' | 5.52 | 1.59 | 1.53 |
| 2 | AB | 2740 | A | O4'-C1' | 5.52 | 1.48 | 1.41 |
| 35 | BA | 399 | G | C2'-C1' | -5.52 | 1.47 | 1.53 |
| 35 | BA | 432 | A | N3-C4 | 5.52 | 1.38 | 1.34 |
| 35 | BA | 1112 | C | N3-C4 | 5.52 | 1.37 | 1.33 |
| 2 | AB | 238 | C | C3'-C2' | -5.52 | 1.46 | 1.52 |
| 2 | AB | 1181 | U | C5'-C4' | 5.52 | 1.57 | 1.51 |
| 2 | AB | 1760 | C | C4'-C3' | -5.52 | 1.47 | 1.52 |
| 2 | AB | 1766 | G | P-O5' | 5.52 | 1.65 | 1.59 |
| 2 | AB | 1798 | U | N1-C2 | 5.52 | 1.43 | 1.38 |
| 2 | AB | 2477 | U | N1-C2 | 5.52 | 1.43 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2730 | C | C3'-C2' | 5.52 | 1.59 | 1.52 |
| 35 | BA | 125 | U | C2'-C1' | -5.52 | 1.47 | 1.53 |
| 35 | BA | 791 | G | P-O5' | -5.52 | 1.54 | 1.59 |
| 35 | BA | 1305 | G | P-O5' | 5.52 | 1.65 | 1.59 |
| 47 | BM | 42 | GLY | CA-C | 5.52 | 1.60 | 1.51 |
| 2 | AB | 557 | C | N1-C6 | 5.52 | 1.40 | 1.37 |
| 2 | AB | 847 | U | C2'-C1' | 5.52 | 1.59 | 1.53 |
| 2 | AB | 1981 | A | N3-C4 | 5.52 | 1.38 | 1.34 |
| 2 | AB | 2420 | C | C4-N4 | -5.52 | 1.28 | 1.33 |
| 37 | BC | 13 | C | C2-N3 | 5.52 | 1.40 | 1.35 |
| 2 | AB | 574 | A | C5'-C4' | 5.51 | 1.57 | 1.51 |
| 2 | AB | 1230 | A | O3'-P | -5.51 | 1.54 | 1.61 |
| 2 | AB | 1665 | A | C5'-C4' | 5.51 | 1.57 | 1.51 |
| 2 | AB | 1706 | C | N1-C6 | -5.51 | 1.33 | 1.37 |
| 2 | AB | 1770 | G | N9-C8 | -5.51 | 1.33 | 1.37 |
| 2 | AB | 2315 | G | C8-N7 | 5.51 | 1.34 | 1.30 |
| 2 | AB | 2365 | G | C2-N3 | 5.51 | 1.37 | 1.32 |
| 2 | AB | 2682 | A | C5-C4 | -5.51 | 1.34 | 1.38 |
| 35 | BA | 88 | U | P-O5' | 5.51 | 1.65 | 1.59 |
| 35 | BA | 466 | A | N3-C4 | 5.51 | 1.38 | 1.34 |
| 35 | BA | 485 | U | O4'-C1' | 5.51 | 1.48 | 1.41 |
| 35 | BA | 1288 | A | C2-N3 | -5.51 | 1.28 | 1.33 |
| 37 | BC | 50 | G | C5'-C4' | 5.51 | 1.57 | 1.51 |
| 9 | AI | 32 | PRO | N-CD | -5.51 | 1.40 | 1.47 |
| 35 | BA | 717 | U | C2-N3 | 5.51 | 1.41 | 1.37 |
| 35 | BA | 1145 | A | N3-C4 | 5.51 | 1.38 | 1.34 |
| 35 | BA | 1465 | A | O4'-C1' | 5.51 | 1.48 | 1.41 |
| 2 | AB | 628 | G | C4'-O4' | -5.51 | 1.38 | 1.45 |
| 2 | AB | 885 | C | C5-C6 | 5.51 | 1.38 | 1.34 |
| 2 | AB | 2482 | A | C5-C6 | 5.51 | 1.46 | 1.41 |
| 35 | BA | 119 | A | N9-C4 | -5.51 | 1.34 | 1.37 |
| 35 | BA | 205 | A | C2-N3 | 5.51 | 1.38 | 1.33 |
| 35 | BA | 479 | U | O3'-P | 5.51 | 1.67 | 1.61 |
| 35 | BA | 481 | G | C6-N1 | 5.51 | 1.43 | 1.39 |
| 35 | BA | 655 | A | C6-N6 | 5.51 | 1.38 | 1.33 |
| 35 | BA | 704 | A | C6-N1 | -5.51 | 1.31 | 1.35 |
| 35 | BA | 1359 | C | N3-C4 | 5.51 | 1.37 | 1.33 |
| 1 | AA | 11 | C | C3'-C2' | 5.51 | 1.59 | 1.52 |
| 1 | AA | 56 | G | C4'-O4' | -5.51 | 1.38 | 1.45 |
| 2 | AB | 203 | A | C2'-C1' | 5.51 | 1.59 | 1.53 |
| 2 | AB | 372 | G | N1-C2 | -5.51 | 1.33 | 1.37 |
| 2 | AB | 663 | G | C3'-C2' | 5.51 | 1.59 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 695 | G | C4'-O4' | -5.51 | 1.38 | 1.45 |
| 2 | AB | 1054 | A | C4'-C3' | -5.51 | 1.47 | 1.52 |
| 2 | AB | 2162 | G | P-O5' | -5.51 | 1.54 | 1.59 |
| 2 | AB | 2328 | A | O3'-P | 5.51 | 1.67 | 1.61 |
| 2 | AB | 2774 | C | N1-C6 | -5.51 | 1.33 | 1.37 |
| 35 | BA | 337 | G | C8-N7 | 5.51 | 1.34 | 1.30 |
| 35 | BA | 505 | G | C4'-O4' | -5.51 | 1.38 | 1.45 |
| 35 | BA | 544 | G | C2-N3 | 5.51 | 1.37 | 1.32 |
| 35 | BA | 650 | G | C5-C4 | 5.51 | 1.42 | 1.38 |
| 35 | BA | 1056 | U | C4-O4 | -5.51 | 1.19 | 1.23 |
| 35 | BA | 1057 | G | C5-C4 | -5.51 | 1.34 | 1.38 |
| 35 | BA | 1132 | C | N1-C6 | -5.51 | 1.33 | 1.37 |
| 35 | BA | 1180 | A | C5-C6 | -5.51 | 1.36 | 1.41 |
| 37 | BC | 47 | A | C6-N1 | -5.51 | 1.31 | 1.35 |
| 2 | AB | 1323 | C | C2-N3 | 5.51 | 1.40 | 1.35 |
| 2 | AB | 1953 | A | C6-N1 | -5.51 | 1.31 | 1.35 |
| 55 | BU | 7 | GLY | N-CA | -5.51 | 1.37 | 1.46 |
| 2 | AB | 577 | G | C8-N7 | 5.51 | 1.34 | 1.30 |
| 2 | AB | 662 | G | P-O5' | 5.51 | 1.65 | 1.59 |
| 2 | AB | 1050 | A | C6-N6 | -5.51 | 1.29 | 1.33 |
| 2 | AB | 1380 | G | N7-C5 | 5.51 | 1.42 | 1.39 |
| 2 | AB | 1491 | G | C5'-C4' | 5.51 | 1.57 | 1.51 |
| 2 | AB | 2612 | C | N1-C6 | 5.51 | 1.40 | 1.37 |
| 28 | A1 | 45 | GLY | CA-C | 5.51 | 1.60 | 1.51 |
| 35 | BA | 333 | U | C4-C5 | 5.51 | 1.48 | 1.43 |
| 35 | BA | 353 | A | N7-C5 | 5.51 | 1.42 | 1.39 |
| 35 | BA | 683 | G | C2-N3 | 5.51 | 1.37 | 1.32 |
| 35 | BA | 1026 | G | N1-C2 | 5.51 | 1.42 | 1.37 |
| 35 | BA | 1058 | G | C2'-O2' | 5.51 | 1.48 | 1.41 |
| 35 | BA | 1499 | A | P-O5' | 5.51 | 1.65 | 1.59 |
| 37 | BC | 73 | A | C4'-O4' | -5.51 | 1.38 | 1.45 |
| 2 | AB | 513 | A | N9-C8 | -5.50 | 1.33 | 1.37 |
| 2 | AB | 1282 | U | C2-N3 | 5.50 | 1.41 | 1.37 |
| 2 | AB | 1602 | U | P-O5' | 5.50 | 1.65 | 1.59 |
| 2 | AB | 2554 | U | C2-N3 | 5.50 | 1.41 | 1.37 |
| 2 | AB | 2682 | A | C2-N3 | -5.50 | 1.28 | 1.33 |
| 35 | BA | 386 | C | C4'-O4' | -5.50 | 1.38 | 1.45 |
| 35 | BA | 590 | U | P-O5' | 5.50 | 1.65 | 1.59 |
| 35 | BA | 994 | A | N3-C4 | -5.50 | 1.31 | 1.34 |
| 35 | BA | 1490 | U | C2-N3 | 5.50 | 1.41 | 1.37 |
| 39 | BE | 19 | SER | CB-OG | -5.50 | 1.35 | 1.42 |
| 49 | BO | 104 | ASN | CB-CG | 5.50 | 1.63 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 599 | A | C3'-O3' | 5.50 | 1.49 | 1.42 |
| 2 | AB | 794 | A | C1'-N9 | 5.50 | 1.57 | 1.48 |
| 2 | AB | 2513 | A | C6-N6 | 5.50 | 1.38 | 1.33 |
| 35 | BA | 397 | A | P-O5' | 5.50 | 1.65 | 1.59 |
| 35 | BA | 423 | G | C2'-C1' | 5.50 | 1.59 | 1.53 |
| 35 | BA | 646 | G | N9-C8 | -5.50 | 1.33 | 1.37 |
| 35 | BA | 724 | G | C6-O6 | -5.50 | 1.19 | 1.24 |
| 35 | BA | 1044 | A | N9-C8 | 5.50 | 1.42 | 1.37 |
| 52 | BR | 8 | ARG | NE-CZ | 5.50 | 1.40 | 1.33 |
| 2 | AB | 29 | U | P-O5' | 5.50 | 1.65 | 1.59 |
| 2 | AB | 544 | C | C5-C6 | 5.50 | 1.38 | 1.34 |
| 2 | AB | 657 | U | C2-N3 | 5.50 | 1.41 | 1.37 |
| 2 | AB | 690 | G | P-O5' | 5.50 | 1.65 | 1.59 |
| 2 | AB | 1438 | U | C5-C6 | 5.50 | 1.39 | 1.34 |
| 2 | AB | 1538 | G | C2-N3 | 5.50 | 1.37 | 1.32 |
| 2 | AB | 1606 | C | C4-N4 | 5.50 | 1.39 | 1.33 |
| 2 | AB | 2275 | C | C5-C6 | 5.50 | 1.38 | 1.34 |
| 36 | BB | 29 | G | C6-O6 | -5.50 | 1.19 | 1.24 |
| 36 | BB | 56 | G | P-O5' | -5.50 | 1.54 | 1.59 |
| 2 | AB | 1508 | A | C3'-C2' | 5.50 | 1.59 | 1.52 |
| 2 | AB | 1552 | A | N3-C4 | 5.50 | 1.38 | 1.34 |
| 35 | BA | 187 | G | C3'-C2' | 5.50 | 1.59 | 1.52 |
| 35 | BA | 1051 | C | O3'-P | 5.50 | 1.67 | 1.61 |
| 1 | AA | 28 | C | C4-C5 | 5.50 | 1.47 | 1.43 |
| 2 | AB | 256 | A | N9-C8 | -5.50 | 1.33 | 1.37 |
| 2 | AB | 264 | C | C2'-O2' | -5.50 | 1.34 | 1.41 |
| 2 | AB | 608 | A | C5-C4 | -5.50 | 1.34 | 1.38 |
| 2 | AB | 1605 | C | C2-N3 | 5.50 | 1.40 | 1.35 |
| 2 | AB | 1922 | G | C4'-O4' | -5.50 | 1.38 | 1.45 |
| 2 | AB | 2440 | C | C1'-N1 | 5.50 | 1.56 | 1.48 |
| 2 | AB | 2778 | A | P-O5' | -5.50 | 1.54 | 1.59 |
| 35 | BA | 211 | G | C8-N7 | -5.50 | 1.27 | 1.30 |
| 35 | BA | 372 | C | N1-C6 | 5.50 | 1.40 | 1.37 |
| 35 | BA | 627 | G | N7-C5 | 5.50 | 1.42 | 1.39 |
| 35 | BA | 1204 | A | C2'-O2' | 5.50 | 1.48 | 1.41 |
| 35 | BA | 1246 | A | N9-C4 | 5.50 | 1.41 | 1.37 |
| 35 | BA | 1413 | A | C4'-O4' | -5.50 | 1.38 | 1.45 |
| 2 | AB | 362 | A | C8-N7 | -5.50 | 1.27 | 1.31 |
| 2 | AB | 635 | C | P-O5' | 5.50 | 1.65 | 1.59 |
| 2 | AB | 642 | U | C2-N3 | 5.50 | 1.41 | 1.37 |
| 2 | AB | 1362 | C | C2'-O2' | -5.50 | 1.34 | 1.41 |
| 2 | AB | 1436 | G | C5'-C4' | 5.50 | 1.57 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1855 | U | C3'-C2' | 5.50 | 1.58 | 1.52 |
| 2 | AB | 2433 | A | C2-N3 | -5.50 | 1.28 | 1.33 |
| 2 | AB | 2610 | C | C2-N3 | 5.50 | 1.40 | 1.35 |
| 2 | AB | 2697 | G | N9-C8 | -5.50 | 1.34 | 1.37 |
| 35 | BA | 187 | G | O3'-P | 5.50 | 1.67 | 1.61 |
| 35 | BA | 270 | A | C4'-C3' | -5.50 | 1.47 | 1.52 |
| 35 | BA | 498 | A | C8-N7 | -5.50 | 1.27 | 1.31 |
| 35 | BA | 704 | A | N3-C4 | 5.50 | 1.38 | 1.34 |
| 35 | BA | 1146 | A | C4'-C3' | 5.50 | 1.59 | 1.53 |
| 35 | BA | 1363 | A | C2'-O2' | -5.50 | 1.34 | 1.41 |
| 37 | BC | 4 | G | N7-C5 | -5.50 | 1.35 | 1.39 |
| 37 | BC | 25 | U | O3'-P | 5.50 | 1.67 | 1.61 |
| 47 | BM | 60 | PHE | CE2-CZ | 5.50 | 1.47 | 1.37 |
| 1 | AA | 39 | A | C5-C6 | 5.49 | 1.46 | 1.41 |
| 2 | AB | 198 | C | C2'-C1' | -5.49 | 1.47 | 1.53 |
| 2 | AB | 785 | G | N1-C2 | -5.49 | 1.33 | 1.37 |
| 2 | AB | 1035 | U | C4'-O4' | -5.49 | 1.38 | 1.45 |
| 2 | AB | 1958 | C | C2-N3 | 5.49 | 1.40 | 1.35 |
| 2 | AB | 2551 | C | N1-C6 | -5.49 | 1.33 | 1.37 |
| 2 | AB | 2863 | C | N1-C6 | -5.49 | 1.33 | 1.37 |
| 35 | BA | 1271 | A | C6-N1 | 5.49 | 1.39 | 1.35 |
| 35 | BA | 1395 | C | N1-C2 | 5.49 | 1.45 | 1.40 |
| 35 | BA | 1476 | A | N9-C8 | 5.49 | 1.42 | 1.37 |
| 35 | BA | 1539 | C | C2-O2 | -5.49 | 1.19 | 1.24 |
| 53 | BS | 26 | ARG | CD-NE | 5.49 | 1.55 | 1.46 |
| 2 | AB | 166 | U | O4'-C1' | 5.49 | 1.48 | 1.41 |
| 2 | AB | 880 | G | N7-C5 | 5.49 | 1.42 | 1.39 |
| 2 | AB | 1067 | A | P-O5' | -5.49 | 1.54 | 1.59 |
| 2 | AB | 2144 | G | C2-N3 | 5.49 | 1.37 | 1.32 |
| 2 | AB | 2289 | G | C3'-C2' | -5.49 | 1.46 | 1.52 |
| 2 | AB | 2476 | A | C6-N6 | 5.49 | 1.38 | 1.33 |
| 2 | AB | 2867 | G | C5-C6 | 5.49 | 1.47 | 1.42 |
| 35 | BA | 139 | A | C4'-O4' | -5.49 | 1.38 | 1.45 |
| 35 | BA | 321 | A | C2'-C1' | -5.49 | 1.47 | 1.53 |
| 35 | BA | 441 | A | O4'-C1' | -5.49 | 1.34 | 1.41 |
| 2 | AB | 987 | C | C4-N4 | 5.49 | 1.38 | 1.33 |
| 2 | AB | 1337 | G | C5-C6 | 5.49 | 1.47 | 1.42 |
| 2 | AB | 1947 | C | C3'-C2' | 5.49 | 1.58 | 1.52 |
| 2 | AB | 1968 | G | O4'-C1' | 5.49 | 1.48 | 1.41 |
| 2 | AB | 2187 | U | C3'-C2' | -5.49 | 1.46 | 1.52 |
| 35 | BA | 669 | G | N3-C4 | 5.49 | 1.39 | 1.35 |
| 35 | BA | 830 | G | N1-C2 | 5.49 | 1.42 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1184 | G | C6-O6 | -5.49 | 1.19 | 1.24 |
| 35 | BA | 1190 | G | C5-C4 | 5.49 | 1.42 | 1.38 |
| 35 | BA | 1232 | U | O3'-P | 5.49 | 1.67 | 1.61 |
| 37 | BC | 53 | G | N3-C4 | 5.49 | 1.39 | 1.35 |
| 2 | AB | 976 | G | N1-C2 | 5.49 | 1.42 | 1.37 |
| 2 | AB | 1384 | A | C5-C4 | -5.49 | 1.34 | 1.38 |
| 2 | AB | 1498 | C | C3'-C2' | 5.49 | 1.58 | 1.52 |
| 2 | AB | 1526 | C | C2-N3 | 5.49 | 1.40 | 1.35 |
| 2 | AB | 1665 | A | C2'-C1' | 5.49 | 1.59 | 1.53 |
| 2 | AB | 1668 | A | N9-C8 | 5.49 | 1.42 | 1.37 |
| 2 | AB | 2276 | G | N3-C4 | -5.49 | 1.31 | 1.35 |
| 35 | BA | 81 | A | N1-C2 | -5.49 | 1.29 | 1.34 |
| 35 | BA | 147 | G | C3'-C2' | 5.49 | 1.58 | 1.52 |
| 35 | BA | 430 | A | C8-N7 | -5.49 | 1.27 | 1.31 |
| 35 | BA | 448 | A | C4'-O4' | -5.49 | 1.38 | 1.45 |
| 35 | BA | 497 | G | C6-O6 | -5.49 | 1.19 | 1.24 |
| 36 | BB | 17 | U | N3-C4 | 5.49 | 1.43 | 1.38 |
| 36 | BB | 22 | G | N9-C4 | -5.49 | 1.33 | 1.38 |
| 2 | AB | 184 | C | C4-C5 | 5.49 | 1.47 | 1.43 |
| 2 | AB | 795 | C | C5-C6 | 5.49 | 1.38 | 1.34 |
| 35 | BA | 339 | C | C2-O2 | -5.49 | 1.19 | 1.24 |
| 2 | AB | 8 | C | C5-C6 | 5.49 | 1.38 | 1.34 |
| 2 | AB | 419 | U | C2'-C1' | 5.49 | 1.59 | 1.53 |
| 2 | AB | 990 | A | C3'-C2' | 5.49 | 1.58 | 1.52 |
| 2 | AB | 1419 | A | N7-C5 | -5.49 | 1.35 | 1.39 |
| 2 | AB | 1563 | U | C5-C6 | 5.49 | 1.39 | 1.34 |
| 2 | AB | 1675 | C | C5'-C4' | 5.49 | 1.57 | 1.51 |
| 2 | AB | 1682 | G | N9-C4 | -5.49 | 1.33 | 1.38 |
| 2 | AB | 1798 | U | C3'-O3' | -5.49 | 1.34 | 1.42 |
| 2 | AB | 2143 | C | N1-C2 | -5.49 | 1.34 | 1.40 |
| 2 | AB | 2345 | G | C4'-O4' | -5.49 | 1.38 | 1.45 |
| 37 | BC | 64 | G | N9-C4 | -5.49 | 1.33 | 1.38 |
| 47 | BM | 121 | ARG | NE-CZ | 5.49 | 1.40 | 1.33 |
| 2 | AB | 1127 | A | C3'-C2' | -5.48 | 1.46 | 1.52 |
| 35 | BA | 309 | A | C5-C6 | 5.48 | 1.46 | 1.41 |
| 35 | BA | 1004 | A | C6-N6 | 5.48 | 1.38 | 1.33 |
| 2 | AB | 388 | G | N1-C2 | 5.48 | 1.42 | 1.37 |
| 2 | AB | 436 | C | C5'-C4' | 5.48 | 1.57 | 1.51 |
| 2 | AB | 597 | G | C5-C4 | 5.48 | 1.42 | 1.38 |
| 2 | AB | 1485 | U | C4-O4 | -5.48 | 1.19 | 1.23 |
| 2 | AB | 2756 | U | C4'-C3' | 5.48 | 1.59 | 1.53 |
| 35 | BA | 139 | A | O3'-P | 5.48 | 1.67 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 378 | G | O3'-P | 5.48 | 1.67 | 1.61 |
| 35 | BA | 421 | U | C5-C6 | 5.48 | 1.39 | 1.34 |
| 35 | BA | 462 | G | C2-N3 | 5.48 | 1.37 | 1.32 |
| 35 | BA | 685 | G | C4'-O4' | -5.48 | 1.38 | 1.45 |
| 35 | BA | 928 | G | N3-C4 | 5.48 | 1.39 | 1.35 |
| 35 | BA | 1306 | A | C2'-C1' | -5.48 | 1.47 | 1.53 |
| 1 | AA | 87 | U | O4'-C1' | 5.48 | 1.48 | 1.41 |
| 2 | AB | 137 | U | C4-C5 | 5.48 | 1.48 | 1.43 |
| 2 | AB | 1019 | U | C2-N3 | 5.48 | 1.41 | 1.37 |
| 2 | AB | 1063 | G | N1-C2 | 5.48 | 1.42 | 1.37 |
| 2 | AB | 2777 | G | C4'-O4' | -5.48 | 1.38 | 1.45 |
| 2 | AB | 2777 | G | N3-C4 | -5.48 | 1.31 | 1.35 |
| 35 | BA | 146 | G | N3-C4 | 5.48 | 1.39 | 1.35 |
| 2 | AB | 68 | G | C3'-O3' | -5.48 | 1.34 | 1.42 |
| 2 | AB | 1208 | C | C1'-N1 | 5.48 | 1.56 | 1.48 |
| 2 | AB | 1485 | U | P-O5' | -5.48 | 1.54 | 1.59 |
| 2 | AB | 1798 | U | C2-O2 | 5.48 | 1.27 | 1.22 |
| 2 | AB | 2611 | C | C4'-O4' | -5.48 | 1.38 | 1.45 |
| 2 | AB | 2642 | G | N3-C4 | 5.48 | 1.39 | 1.35 |
| 2 | AB | 2679 | A | N9-C4 | 5.48 | 1.41 | 1.37 |
| 2 | AB | 2766 | A | C5-C4 | 5.48 | 1.42 | 1.38 |
| 35 | BA | 562 | U | C4'-O4' | -5.48 | 1.38 | 1.45 |
| 2 | AB | 124 | G | C6-N1 | 5.48 | 1.43 | 1.39 |
| 2 | AB | 339 | U | N1-C2 | 5.48 | 1.43 | 1.38 |
| 2 | AB | 370 | G | C6-N1 | 5.48 | 1.43 | 1.39 |
| 2 | AB | 2249 | U | C4-O4 | 5.48 | 1.28 | 1.23 |
| 2 | AB | 2476 | A | N9-C8 | -5.48 | 1.33 | 1.37 |
| 2 | AB | 2541 | A | N9-C4 | 5.48 | 1.41 | 1.37 |
| 35 | BA | 621 | A | C5-C4 | -5.48 | 1.34 | 1.38 |
| 35 | BA | 716 | A | N3-C4 | 5.48 | 1.38 | 1.34 |
| 35 | BA | 1199 | U | C4'-O4' | -5.48 | 1.38 | 1.45 |
| 35 | BA | 1248 | A | C3'-C2' | 5.48 | 1.58 | 1.52 |
| 35 | BA | 1526 | G | C8-N7 | 5.48 | 1.34 | 1.30 |
| 2 | AB | 1427 | A | N9-C8 | -5.48 | 1.33 | 1.37 |
| 2 | AB | 1957 | C | P-O5' | 5.48 | 1.65 | 1.59 |
| 2 | AB | 2229 | U | N1-C2 | 5.48 | 1.43 | 1.38 |
| 35 | BA | 643 | C | P-O5' | 5.48 | 1.65 | 1.59 |
| 35 | BA | 1186 | G | N1-C2 | 5.48 | 1.42 | 1.37 |
| 35 | BA | 1479 | C | N3-C4 | 5.48 | 1.37 | 1.33 |
| 1 | AA | 6 | G | P-O5' | 5.47 | 1.65 | 1.59 |
| 2 | AB | 251 | A | C3'-C2' | -5.47 | 1.46 | 1.52 |
| 2 | AB | 479 | A | C5-C6 | 5.47 | 1.46 | 1.41 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 776 | G | N1-C2 | -5.47 | 1.33 | 1.37 |
| 2 | AB | 790 | U | C4-O4 | 5.47 | 1.28 | 1.23 |
| 2 | AB | 1286 | A | O4'-C1' | -5.47 | 1.34 | 1.41 |
| 2 | AB | 1393 | A | N3-C4 | 5.47 | 1.38 | 1.34 |
| 2 | AB | 1706 | C | C2-O2 | -5.47 | 1.19 | 1.24 |
| 2 | AB | 2052 | A | C2'-O2' | -5.47 | 1.34 | 1.41 |
| 2 | AB | 2146 | C | N1-C6 | 5.47 | 1.40 | 1.37 |
| 2 | AB | 2285 | C | C5'-C4' | -5.47 | 1.44 | 1.51 |
| 2 | AB | 2429 | G | C5-C6 | 5.47 | 1.47 | 1.42 |
| 35 | BA | 703 | G | C2-N2 | -5.47 | 1.29 | 1.34 |
| 35 | BA | 1500 | A | C8-N7 | -5.47 | 1.27 | 1.31 |
| 2 | AB | 56 | A | C6-N1 | 5.47 | 1.39 | 1.35 |
| 2 | AB | 447 | A | C6-N6 | -5.47 | 1.29 | 1.33 |
| 2 | AB | 453 | A | C6-N6 | 5.47 | 1.38 | 1.33 |
| 2 | AB | 1236 | G | C4'-O4' | -5.47 | 1.38 | 1.45 |
| 2 | AB | 1373 | A | C5-C6 | 5.47 | 1.46 | 1.41 |
| 2 | AB | 1406 | U | C2-O2 | 5.47 | 1.27 | 1.22 |
| 2 | AB | 1493 | C | C4-C5 | 5.47 | 1.47 | 1.43 |
| 2 | AB | 1758 | U | C4-C5 | 5.47 | 1.48 | 1.43 |
| 2 | AB | 2474 | U | N3-C4 | 5.47 | 1.43 | 1.38 |
| 2 | AB | 2625 | G | C5'-C4' | 5.47 | 1.57 | 1.51 |
| 35 | BA | 861 | G | C5-C4 | -5.47 | 1.34 | 1.38 |
| 35 | BA | 1064 | G | C5-C4 | -5.47 | 1.34 | 1.38 |
| 1 | AA | 67 | G | N9-C4 | 5.47 | 1.42 | 1.38 |
| 2 | AB | 699 | A | N7-C5 | 5.47 | 1.42 | 1.39 |
| 2 | AB | 775 | G | C5-C6 | 5.47 | 1.47 | 1.42 |
| 2 | AB | 2390 | U | C2-N3 | 5.47 | 1.41 | 1.37 |
| 35 | BA | 39 | G | N3-C4 | -5.47 | 1.31 | 1.35 |
| 35 | BA | 327 | A | C6-N6 | 5.47 | 1.38 | 1.33 |
| 2 | AB | 85 | G | C4'-O4' | -5.47 | 1.38 | 1.45 |
| 2 | AB | 370 | G | P-O5' | 5.47 | 1.65 | 1.59 |
| 2 | AB | 918 | A | C8-N7 | -5.47 | 1.27 | 1.31 |
| 2 | AB | 957 | C | C2-N3 | 5.47 | 1.40 | 1.35 |
| 2 | AB | 1390 | U | C4-C5 | 5.47 | 1.48 | 1.43 |
| 2 | AB | 1745 | A | C2-N3 | 5.47 | 1.38 | 1.33 |
| 2 | AB | 1801 | A | O4'-C1' | 5.47 | 1.48 | 1.41 |
| 2 | AB | 2068 | U | C4-C5 | 5.47 | 1.48 | 1.43 |
| 2 | AB | 2158 | A | C2-N3 | -5.47 | 1.28 | 1.33 |
| 2 | AB | 2348 | U | N1-C2 | 5.47 | 1.43 | 1.38 |
| 35 | BA | 773 | G | N9-C8 | -5.47 | 1.34 | 1.37 |
| 35 | BA | 865 | A | N3-C4 | 5.47 | 1.38 | 1.34 |
| 35 | BA | 1027 | C | N1-C2 | 5.47 | 1.45 | 1.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1405 | G | N9-C8 | -5.47 | 1.34 | 1.37 |
| 2 | AB | 156 | A | C2'-O2' | -5.47 | 1.34 | 1.41 |
| 2 | AB | 1210 | G | C8-N7 | -5.47 | 1.27 | 1.30 |
| 2 | AB | 2007 | U | N1-C2 | 5.47 | 1.43 | 1.38 |
| 2 | AB | 2314 | A | N3-C4 | 5.47 | 1.38 | 1.34 |
| 35 | BA | 169 | C | N3-C4 | 5.47 | 1.37 | 1.33 |
| 35 | BA | 1134 | G | C4'-C3' | 5.47 | 1.59 | 1.53 |
| 2 | AB | 165 | A | P-O5' | 5.47 | 1.65 | 1.59 |
| 2 | AB | 168 | G | P-O5' | 5.47 | 1.65 | 1.59 |
| 2 | AB | 425 | G | C2-N3 | 5.47 | 1.37 | 1.32 |
| 2 | AB | 499 | U | C2-N3 | 5.47 | 1.41 | 1.37 |
| 2 | AB | 1237 | A | N9-C8 | 5.47 | 1.42 | 1.37 |
| 2 | AB | 2136 | G | C6-N1 | -5.47 | 1.35 | 1.39 |
| 2 | AB | 2213 | U | C3'-C2' | 5.47 | 1.58 | 1.52 |
| 2 | AB | 2217 | G | N9-C8 | 5.47 | 1.41 | 1.37 |
| 2 | AB | 2855 | C | C4-C5 | 5.47 | 1.47 | 1.43 |
| 2 | AB | 2887 | A | C6-N1 | 5.47 | 1.39 | 1.35 |
| 35 | BA | 504 | C | O3'-P | 5.47 | 1.67 | 1.61 |
| 35 | BA | 930 | C | C3'-C2' | 5.47 | 1.58 | 1.52 |
| 35 | BA | 954 | G | C2-N2 | -5.47 | 1.29 | 1.34 |
| 35 | BA | 1051 | C | C2-N3 | 5.47 | 1.40 | 1.35 |
| 35 | BA | 1125 | U | C2-N3 | 5.47 | 1.41 | 1.37 |
| 2 | AB | 108 | G | N3-C4 | 5.46 | 1.39 | 1.35 |
| 2 | AB | 1244 | A | O3'-P | 5.46 | 1.67 | 1.61 |
| 2 | AB | 1505 | A | C5-C6 | -5.46 | 1.36 | 1.41 |
| 2 | AB | 2309 | A | P-O5' | 5.46 | 1.65 | 1.59 |
| 2 | AB | 2743 | U | N1-C2 | 5.46 | 1.43 | 1.38 |
| 35 | BA | 284 | C | C4'-C3' | 5.46 | 1.59 | 1.53 |
| 35 | BA | 341 | C | P-O5' | 5.46 | 1.65 | 1.59 |
| 35 | BA | 523 | A | P-O5' | 5.46 | 1.65 | 1.59 |
| 35 | BA | 739 | C | C4-N4 | 5.46 | 1.38 | 1.33 |
| 2 | AB | 2464 | G | C8-N7 | 5.46 | 1.34 | 1.30 |
| 2 | AB | 2636 | C | C4'-O4' | -5.46 | 1.38 | 1.45 |
| 35 | BA | 520 | A | O3'-P | 5.46 | 1.67 | 1.61 |
| 35 | BA | 901 | A | C4'-C3' | 5.46 | 1.59 | 1.53 |
| 40 | BF | 55 | ARG | CZ-NH2 | 5.46 | 1.40 | 1.33 |
| 54 | BT | 17 | VAL | CB-CG2 | 5.46 | 1.64 | 1.52 |
| 2 | AB | 23 | G | C5-C4 | 5.46 | 1.42 | 1.38 |
| 2 | AB | 1248 | G | O4'-C1' | 5.46 | 1.48 | 1.41 |
| 2 | AB | 1695 | G | C5'-C4' | 5.46 | 1.57 | 1.51 |
| 2 | AB | 2042 | A | C5'-C4' | 5.46 | 1.57 | 1.51 |
| 2 | AB | 2349 | G | N1-C2 | -5.46 | 1.33 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2491 | U | C2-N3 | 5.46 | 1.41 | 1.37 |
| 2 | AB | 2804 | U | N1-C6 | 5.46 | 1.42 | 1.38 |
| 4 | AD | 37 | SER | N-CA | 5.46 | 1.57 | 1.46 |
| 35 | BA | 442 | G | N3-C4 | 5.46 | 1.39 | 1.35 |
| 35 | BA | 777 | A | C6-N1 | 5.46 | 1.39 | 1.35 |
| 2 | AB | 327 | G | C5-C6 | 5.46 | 1.47 | 1.42 |
| 2 | AB | 916 | G | O4'-C1' | 5.46 | 1.48 | 1.41 |
| 2 | AB | 1048 | A | N7-C5 | -5.46 | 1.35 | 1.39 |
| 2 | AB | 2042 | A | O3'-P | 5.46 | 1.67 | 1.61 |
| 2 | AB | 2772 | C | O3'-P | 5.46 | 1.67 | 1.61 |
| 35 | BA | 626 | G | N7-C5 | 5.46 | 1.42 | 1.39 |
| 35 | BA | 1042 | A | N7-C5 | 5.46 | 1.42 | 1.39 |
| 1 | AA | 33 | G | N1-C2 | 5.46 | 1.42 | 1.37 |
| 2 | AB | 375 | G | C5-C4 | -5.46 | 1.34 | 1.38 |
| 2 | AB | 1345 | C | C2-N3 | 5.46 | 1.40 | 1.35 |
| 2 | AB | 1723 | G | C2-N3 | 5.46 | 1.37 | 1.32 |
| 2 | AB | 2162 | G | C5'-C4' | 5.46 | 1.57 | 1.51 |
| 2 | AB | 2392 | A | N7-C5 | 5.46 | 1.42 | 1.39 |
| 2 | AB | 2574 | G | N3-C4 | 5.46 | 1.39 | 1.35 |
| 2 | AB | 2697 | G | N1-C2 | 5.46 | 1.42 | 1.37 |
| 29 | A2 | 43 | PHE | CG-CD2 | 5.46 | 1.47 | 1.38 |
| 35 | BA | 472 | U | C2-N3 | 5.46 | 1.41 | 1.37 |
| 35 | BA | 789 | U | C4'-O4' | -5.46 | 1.38 | 1.45 |
| 2 | AB | 726 | G | N9-C4 | -5.46 | 1.33 | 1.38 |
| 2 | AB | 975 | A | C5'-C4' | 5.46 | 1.57 | 1.51 |
| 2 | AB | 1041 | G | N9-C8 | -5.46 | 1.34 | 1.37 |
| 2 | AB | 1321 | A | N3-C4 | 5.46 | 1.38 | 1.34 |
| 2 | AB | 1868 | C | C2-N3 | 5.46 | 1.40 | 1.35 |
| 2 | AB | 2003 | A | N9-C4 | 5.46 | 1.41 | 1.37 |
| 2 | AB | 2248 | C | C4-N4 | -5.46 | 1.29 | 1.33 |
| 35 | BA | 115 | G | C2-N3 | 5.46 | 1.37 | 1.32 |
| 35 | BA | 280 | C | C4'-C3' | -5.46 | 1.47 | 1.52 |
| 2 | AB | 1685 | C | C4'-O4' | -5.46 | 1.38 | 1.45 |
| 2 | AB | 1958 | C | O3'-P | -5.46 | 1.54 | 1.61 |
| 2 | AB | 2485 | G | C5-C4 | -5.46 | 1.34 | 1.38 |
| 2 | AB | 2801 | G | N9-C4 | 5.46 | 1.42 | 1.38 |
| 35 | BA | 979 | C | C3'-O3' | -5.46 | 1.34 | 1.42 |
| 35 | BA | 1153 | G | C3'-C2' | 5.46 | 1.58 | 1.52 |
| 35 | BA | 1324 | A | N9-C8 | 5.46 | 1.42 | 1.37 |
| 2 | AB | 24 | G | N1-C2 | 5.45 | 1.42 | 1.37 |
| 2 | AB | 155 | A | N1-C2 | 5.45 | 1.39 | 1.34 |
| 2 | AB | 277 | G | C3'-C2' | -5.45 | 1.46 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 643 | A | C6-N6 | 5.45 | 1.38 | 1.33 |
| 2 | AB | 1487 | U | C4-C5 | 5.45 | 1.48 | 1.43 |
| 2 | AB | 2381 | A | C5-C4 | -5.45 | 1.34 | 1.38 |
| 2 | AB | 2594 | C | C4'-C3' | 5.45 | 1.59 | 1.53 |
| 2 | AB | 2665 | A | C6-N1 | -5.45 | 1.31 | 1.35 |
| 2 | AB | 2889 | C | N1-C6 | -5.45 | 1.33 | 1.37 |
| 35 | BA | 505 | G | P-O5' | 5.45 | 1.65 | 1.59 |
| 35 | BA | 699 | C | C5'-C4' | -5.45 | 1.44 | 1.51 |
| 35 | BA | 1284 | C | C5-C6 | 5.45 | 1.38 | 1.34 |
| 1 | AA | 29 | A | C8-N7 | -5.45 | 1.27 | 1.31 |
| 2 | AB | 836 | G | N9-C8 | 5.45 | 1.41 | 1.37 |
| 2 | AB | 2048 | G | C4'-C3' | -5.45 | 1.47 | 1.52 |
| 35 | BA | 800 | G | N9-C8 | 5.45 | 1.41 | 1.37 |
| 35 | BA | 896 | C | C4-N4 | 5.45 | 1.38 | 1.33 |
| 2 | AB | 37 | C | C5'-C4' | 5.45 | 1.57 | 1.51 |
| 2 | AB | 796 | C | O3'-P | 5.45 | 1.67 | 1.61 |
| 2 | AB | 977 | G | P-O5' | 5.45 | 1.65 | 1.59 |
| 2 | AB | 1303 | G | C5'-C4' | 5.45 | 1.57 | 1.51 |
| 2 | AB | 1353 | A | N1-C2 | -5.45 | 1.29 | 1.34 |
| 2 | AB | 1530 | G | C2'-C1' | -5.45 | 1.47 | 1.53 |
| 2 | AB | 1733 | G | C5-C6 | 5.45 | 1.47 | 1.42 |
| 2 | AB | 2094 | A | C6-N6 | 5.45 | 1.38 | 1.33 |
| 2 | AB | 2261 | C | O3'-P | -5.45 | 1.54 | 1.61 |
| 2 | AB | 2458 | G | C4'-O4' | -5.45 | 1.38 | 1.45 |
| 35 | BA | 52 | C | C5-C6 | 5.45 | 1.38 | 1.34 |
| 35 | BA | 103 | U | C5-C6 | 5.45 | 1.39 | 1.34 |
| 50 | BP | 41 | TRP | CZ2-CH2 | 5.45 | 1.47 | 1.37 |
| 2 | AB | 24 | G | C1'-N9 | 5.45 | 1.56 | 1.48 |
| 2 | AB | 249 | C | N1-C6 | 5.45 | 1.40 | 1.37 |
| 2 | AB | 500 | G | C8-N7 | -5.45 | 1.27 | 1.30 |
| 2 | AB | 805 | G | N7-C5 | -5.45 | 1.35 | 1.39 |
| 2 | AB | 1013 | C | C2-N3 | 5.45 | 1.40 | 1.35 |
| 2 | AB | 1258 | U | C2'-O2' | 5.45 | 1.48 | 1.41 |
| 2 | AB | 1645 | G | C6-N1 | 5.45 | 1.43 | 1.39 |
| 2 | AB | 1661 | G | C2-N2 | -5.45 | 1.29 | 1.34 |
| 2 | AB | 1908 | C | C4'-C3' | 5.45 | 1.59 | 1.53 |
| 2 | AB | 2227 | A | P-O5' | 5.45 | 1.65 | 1.59 |
| 2 | AB | 2270 | A | N9-C4 | -5.45 | 1.34 | 1.37 |
| 2 | AB | 2525 | G | C8-N7 | -5.45 | 1.27 | 1.30 |
| 2 | AB | 2570 | G | C2'-C1' | 5.45 | 1.59 | 1.53 |
| 2 | AB | 2662 | A | N9-C8 | 5.45 | 1.42 | 1.37 |
| 35 | BA | 195 | A | N9-C4 | 5.45 | 1.41 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1236 | A | C2-N3 | 5.45 | 1.38 | 1.33 |
| 1 | AA | 27 | C | C4'-C3' | 5.45 | 1.59 | 1.53 |
| 2 | AB | 1674 | G | C3'-C2' | 5.45 | 1.58 | 1.52 |
| 35 | BA | 740 | U | C4'-O4' | -5.45 | 1.38 | 1.45 |
| 35 | BA | 818 | G | C6-O6 | -5.45 | 1.19 | 1.24 |
| 36 | BB | 54 | U | N1-C2 | 5.45 | 1.43 | 1.38 |
| 2 | AB | 102 | U | C2'-C1' | -5.45 | 1.47 | 1.53 |
| 2 | AB | 194 | G | N9-C8 | -5.45 | 1.34 | 1.37 |
| 2 | AB | 662 | G | C3'-C2' | -5.45 | 1.46 | 1.52 |
| 2 | AB | 936 | A | C8-N7 | -5.45 | 1.27 | 1.31 |
| 2 | AB | 979 | A | N7-C5 | -5.45 | 1.35 | 1.39 |
| 2 | AB | 1301 | A | C6-N1 | 5.45 | 1.39 | 1.35 |
| 2 | AB | 1404 | C | C5-C6 | 5.45 | 1.38 | 1.34 |
| 2 | AB | 1637 | A | C6-N1 | -5.45 | 1.31 | 1.35 |
| 2 | AB | 1919 | A | C5-C6 | 5.45 | 1.46 | 1.41 |
| 2 | AB | 2303 | G | C2-N3 | 5.45 | 1.37 | 1.32 |
| 2 | AB | 2397 | G | C5-C6 | 5.45 | 1.47 | 1.42 |
| 2 | AB | 2618 | G | O3'-P | -5.45 | 1.54 | 1.61 |
| 10 | AJ | 75 | PHE | CG-CD1 | 5.45 | 1.47 | 1.38 |
| 35 | BA | 534 | U | N1-C6 | -5.45 | 1.33 | 1.38 |
| 35 | BA | 1502 | A | C5'-C4' | 5.45 | 1.57 | 1.51 |
| 2 | AB | 2496 | C | C5-C6 | 5.44 | 1.38 | 1.34 |
| 35 | BA | 545 | C | C4-C5 | 5.44 | 1.47 | 1.43 |
| 1 | AA | 80 | U | O5'-C5' | -5.44 | 1.34 | 1.42 |
| 2 | AB | 593 | U | O3'-P | 5.44 | 1.67 | 1.61 |
| 2 | AB | 634 | C | C2'-C1' | 5.44 | 1.59 | 1.53 |
| 2 | AB | 1447 | C | C4-N4 | 5.44 | 1.38 | 1.33 |
| 2 | AB | 1906 | G | N3-C4 | -5.44 | 1.31 | 1.35 |
| 2 | AB | 2290 | G | N3-C4 | 5.44 | 1.39 | 1.35 |
| 2 | AB | 2583 | G | N3-C4 | -5.44 | 1.31 | 1.35 |
| 15 | AO | 91 | TYR | CE1-CZ | 5.44 | 1.45 | 1.38 |
| 35 | BA | 289 | G | C6-O6 | -5.44 | 1.19 | 1.24 |
| 35 | BA | 431 | A | C6-N6 | 5.44 | 1.38 | 1.33 |
| 35 | BA | 668 | G | C6-N1 | 5.44 | 1.43 | 1.39 |
| 35 | BA | 1440 | U | C4-C5 | 5.44 | 1.48 | 1.43 |
| 2 | AB | 802 | A | C3'-C2' | 5.44 | 1.58 | 1.52 |
| 2 | AB | 1004 | U | O4'-C1' | 5.44 | 1.48 | 1.41 |
| 2 | AB | 1400 | U | N1-C6 | 5.44 | 1.42 | 1.38 |
| 2 | AB | 2298 | A | C5-C4 | -5.44 | 1.34 | 1.38 |
| 2 | AB | 2311 | A | C8-N7 | -5.44 | 1.27 | 1.31 |
| 2 | AB | 2332 | C | C2'-C1' | -5.44 | 1.47 | 1.53 |
| 2 | AB | 2613 | U | N1-C2 | 5.44 | 1.43 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 217 | C | N3-C4 | 5.44 | 1.37 | 1.33 |
| 35 | BA | 706 | A | N9-C4 | 5.44 | 1.41 | 1.37 |
| 35 | BA | 1316 | G | N7-C5 | -5.44 | 1.35 | 1.39 |
| 2 | AB | 449 | A | N9-C4 | -5.44 | 1.34 | 1.37 |
| 2 | AB | 830 | G | C3'-C2' | -5.44 | 1.46 | 1.52 |
| 2 | AB | 2494 | G | N3-C4 | 5.44 | 1.39 | 1.35 |
| 2 | AB | 41 | C | C2-N3 | 5.44 | 1.40 | 1.35 |
| 2 | AB | 1080 | A | C2'-C1' | 5.44 | 1.59 | 1.53 |
| 35 | BA | 708 | C | C4-C5 | 5.44 | 1.47 | 1.43 |
| 35 | BA | 839 | C | C4'-O4' | -5.44 | 1.38 | 1.45 |
| 35 | BA | 1077 | G | N9-C8 | -5.44 | 1.34 | 1.37 |
| 35 | BA | 1174 | G | C4'-O4' | -5.44 | 1.38 | 1.45 |
| 2 | AB | 353 | C | C5-C6 | 5.44 | 1.38 | 1.34 |
| 2 | AB | 376 | G | C8-N7 | 5.44 | 1.34 | 1.30 |
| 2 | AB | 449 | A | C4'-C3' | 5.44 | 1.59 | 1.53 |
| 2 | AB | 470 | A | P-O5' | 5.44 | 1.65 | 1.59 |
| 2 | AB | 480 | A | P-O5' | 5.44 | 1.65 | 1.59 |
| 2 | AB | 604 | G | N1-C2 | 5.44 | 1.42 | 1.37 |
| 2 | AB | 816 | C | C4-C5 | 5.44 | 1.47 | 1.43 |
| 2 | AB | 994 | C | O4'-C1' | 5.44 | 1.48 | 1.41 |
| 2 | AB | 2417 | C | N1-C2 | 5.44 | 1.45 | 1.40 |
| 35 | BA | 502 | A | C6-N6 | 5.44 | 1.38 | 1.33 |
| 2 | AB | 121 | G | C4'-C3' | 5.43 | 1.59 | 1.53 |
| 2 | AB | 192 | C | C4-C5 | 5.43 | 1.47 | 1.43 |
| 2 | AB | 1199 | U | C4'-C3' | 5.43 | 1.59 | 1.53 |
| 2 | AB | 1532 | A | P-O5' | 5.43 | 1.65 | 1.59 |
| 2 | AB | 2429 | G | C5-C4 | 5.43 | 1.42 | 1.38 |
| 35 | BA | 46 | G | C2-N3 | 5.43 | 1.37 | 1.32 |
| 35 | BA | 249 | U | O4'-C1' | 5.43 | 1.48 | 1.41 |
| 35 | BA | 393 | A | C4'-C3' | 5.43 | 1.59 | 1.53 |
| 35 | BA | 1220 | G | C2'-O2' | -5.43 | 1.34 | 1.41 |
| 41 | BG | 39 | GLY | N-CA | -5.43 | 1.37 | 1.46 |
| 1 | AA | 57 | A | O4'-C1' | 5.43 | 1.48 | 1.41 |
| 2 | AB | 15 | G | C5'-C4' | 5.43 | 1.57 | 1.51 |
| 2 | AB | 533 | G | C4'-O4' | -5.43 | 1.38 | 1.45 |
| 2 | AB | 2023 | C | C3'-O3' | 5.43 | 1.49 | 1.42 |
| 2 | AB | 2296 | U | C5-C6 | 5.43 | 1.39 | 1.34 |
| 2 | AB | 2335 | A | N1-C2 | -5.43 | 1.29 | 1.34 |
| 2 | AB | 2567 | G | C2'-C1' | 5.43 | 1.59 | 1.53 |
| 26 | AZ | 42 | GLU | CD-OE2 | -5.43 | 1.19 | 1.25 |
| 36 | BB | 56 | G | N9-C8 | -5.43 | 1.34 | 1.37 |
| 2 | AB | 16 | C | C4'-C3' | 5.43 | 1.59 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 543 | G | P-O5' | 5.43 | 1.65 | 1.59 |
| 2 | AB | 624 | C | C3'-O3' | 5.43 | 1.49 | 1.42 |
| 2 | AB | 1221 | C | C2'-O2' | 5.43 | 1.48 | 1.41 |
| 2 | AB | 1257 | C | C2-O2 | -5.43 | 1.19 | 1.24 |
| 2 | AB | 2428 | G | N1-C2 | 5.43 | 1.42 | 1.37 |
| 35 | BA | 622 | A | C6-N1 | -5.43 | 1.31 | 1.35 |
| 2 | AB | 127 | A | O4'-C1' | -5.43 | 1.34 | 1.41 |
| 2 | AB | 357 | C | C4-C5 | 5.43 | 1.47 | 1.43 |
| 2 | AB | 601 | C | C4-C5 | 5.43 | 1.47 | 1.43 |
| 2 | AB | 1046 | A | C3'-C2' | 5.43 | 1.58 | 1.52 |
| 2 | AB | 1253 | A | C4'-C3' | -5.43 | 1.47 | 1.52 |
| 2 | AB | 1712 | U | O4'-C1' | 5.43 | 1.48 | 1.41 |
| 2 | AB | 1928 | A | N7-C5 | -5.43 | 1.35 | 1.39 |
| 2 | AB | 1992 | G | C6-N1 | 5.43 | 1.43 | 1.39 |
| 2 | AB | 2012 | G | C5-C4 | -5.43 | 1.34 | 1.38 |
| 2 | AB | 2331 | G | N1-C2 | 5.43 | 1.42 | 1.37 |
| 2 | AB | 2488 | G | C5-C6 | 5.43 | 1.47 | 1.42 |
| 2 | AB | 2570 | G | N7-C5 | 5.43 | 1.42 | 1.39 |
| 35 | BA | 267 | C | P-O5' | 5.43 | 1.65 | 1.59 |
| 35 | BA | 654 | G | C6-N1 | 5.43 | 1.43 | 1.39 |
| 35 | BA | 1109 | C | C2-N3 | -5.43 | 1.31 | 1.35 |
| 2 | AB | 2252 | G | N1-C2 | 5.43 | 1.42 | 1.37 |
| 2 | AB | 2386 | A | N1-C2 | 5.43 | 1.39 | 1.34 |
| 35 | BA | 807 | A | N9-C8 | 5.43 | 1.42 | 1.37 |
| 35 | BA | 1053 | G | C2-N3 | 5.43 | 1.37 | 1.32 |
| 36 | BB | 48 | C | C4-C5 | 5.43 | 1.47 | 1.43 |
| 2 | AB | 38 | A | C6-N6 | 5.43 | 1.38 | 1.33 |
| 2 | AB | 443 | A | N9-C4 | 5.43 | 1.41 | 1.37 |
| 2 | AB | 539 | G | C5'-C4' | 5.43 | 1.57 | 1.51 |
| 2 | AB | 614 | A | C6-N1 | 5.43 | 1.39 | 1.35 |
| 2 | AB | 1209 | U | N3-C4 | 5.43 | 1.43 | 1.38 |
| 2 | AB | 1475 | G | N1-C2 | 5.43 | 1.42 | 1.37 |
| 35 | BA | 227 | G | N3-C4 | 5.43 | 1.39 | 1.35 |
| 35 | BA | 517 | G | C5'-C4' | 5.43 | 1.57 | 1.51 |
| 35 | BA | 571 | U | C2'-C1' | -5.43 | 1.47 | 1.53 |
| 35 | BA | 600 | A | C2'-C1' | -5.43 | 1.47 | 1.53 |
| 35 | BA | 1186 | G | N9-C8 | 5.43 | 1.41 | 1.37 |
| 35 | BA | 1191 | A | C5-C6 | 5.43 | 1.46 | 1.41 |
| 2 | AB | 177 | G | N3-C4 | 5.42 | 1.39 | 1.35 |
| 2 | AB | 630 | G | N3-C4 | 5.42 | 1.39 | 1.35 |
| 2 | AB | 926 | G | N9-C4 | 5.42 | 1.42 | 1.38 |
| 2 | AB | 1515 | A | C4'-O4' | -5.42 | 1.38 | 1.45 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1592 | C | C5'-C4' | 5.42 | 1.57 | 1.51 |
| 2 | AB | 1696 | G | P-O5' | 5.42 | 1.65 | 1.59 |
| 2 | AB | 1715 | G | C2'-C1' | 5.42 | 1.59 | 1.53 |
| 2 | AB | 1948 | G | P-O5' | 5.42 | 1.65 | 1.59 |
| 2 | AB | 2058 | A | C3'-O3' | 5.42 | 1.49 | 1.42 |
| 2 | AB | 2499 | C | N3-C4 | -5.42 | 1.30 | 1.33 |
| 13 | AM | 18 | ARG | NE-CZ | 5.42 | 1.40 | 1.33 |
| 35 | BA | 177 | G | C2'-C1' | 5.42 | 1.59 | 1.53 |
| 35 | BA | 380 | G | C5-C4 | -5.42 | 1.34 | 1.38 |
| 35 | BA | 975 | A | C2'-O2' | -5.42 | 1.34 | 1.41 |
| 2 | AB | 936 | A | C3'-C2' | 5.42 | 1.58 | 1.52 |
| 2 | AB | 1061 | U | C5'-C4' | 5.42 | 1.57 | 1.51 |
| 2 | AB | 1435 | G | N1-C2 | 5.42 | 1.42 | 1.37 |
| 2 | AB | 1446 | C | C1'-N1 | 5.42 | 1.56 | 1.48 |
| 2 | AB | 1569 | A | P-O5' | 5.42 | 1.65 | 1.59 |
| 2 | AB | 1573 | G | N9-C8 | -5.42 | 1.34 | 1.37 |
| 2 | AB | 1845 | G | C2'-O2' | -5.42 | 1.34 | 1.41 |
| 2 | AB | 2448 | A | C6-N6 | -5.42 | 1.29 | 1.33 |
| 35 | BA | 1384 | C | C5-C6 | -5.42 | 1.30 | 1.34 |
| 2 | AB | 1807 | G | C4'-O4' | -5.42 | 1.38 | 1.45 |
| 2 | AB | 2438 | U | C2-N3 | 5.42 | 1.41 | 1.37 |
| 2 | AB | 2884 | U | C4'-O4' | -5.42 | 1.38 | 1.45 |
| 35 | BA | 803 | G | C2'-C1' | -5.42 | 1.47 | 1.53 |
| 35 | BA | 1277 | C | C4'-C3' | 5.42 | 1.59 | 1.53 |
| 2 | AB | 571 | U | C3'-C2' | 5.42 | 1.58 | 1.52 |
| 2 | AB | 1064 | C | N3-C4 | 5.42 | 1.37 | 1.33 |
| 2 | AB | 2791 | G | C6-O6 | -5.42 | 1.19 | 1.24 |
| 35 | BA | 334 | C | C2'-C1' | -5.42 | 1.47 | 1.53 |
| 35 | BA | 908 | A | O3'-P | 5.42 | 1.67 | 1.61 |
| 1 | AA | 84 | G | C2-N3 | 5.42 | 1.37 | 1.32 |
| 2 | AB | 1072 | C | C4-C5 | 5.42 | 1.47 | 1.43 |
| 2 | AB | 1262 | A | N9-C4 | -5.42 | 1.34 | 1.37 |
| 2 | AB | 1619 | G | N9-C8 | -5.42 | 1.34 | 1.37 |
| 2 | AB | 2062 | A | C6-N6 | -5.42 | 1.29 | 1.33 |
| 2 | AB | 2114 | A | C5-C4 | -5.42 | 1.34 | 1.38 |
| 2 | AB | 2148 | G | C8-N7 | 5.42 | 1.34 | 1.30 |
| 2 | AB | 2656 | U | O3'-P | -5.42 | 1.54 | 1.61 |
| 2 | AB | 2781 | A | N3-C4 | 5.42 | 1.38 | 1.34 |
| 35 | BA | 465 | A | C5'-C4' | 5.42 | 1.57 | 1.51 |
| 35 | BA | 570 | G | O3'-P | 5.42 | 1.67 | 1.61 |
| 35 | BA | 984 | C | N3-C4 | -5.42 | 1.30 | 1.33 |
| 36 | BB | 36 | U | C4'-O4' | -5.42 | 1.38 | 1.45 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 294 | A | P-O5' | 5.42 | 1.65 | 1.59 |
| 2 | AB | 524 | G | C6-N1 | 5.42 | 1.43 | 1.39 |
| 2 | AB | 562 | U | C4'-O4' | -5.42 | 1.38 | 1.45 |
| 2 | AB | 749 | A | N9-C8 | -5.42 | 1.33 | 1.37 |
| 2 | AB | 825 | A | C4'-O4' | -5.42 | 1.38 | 1.45 |
| 2 | AB | 1809 | A | C5-C4 | -5.42 | 1.34 | 1.38 |
| 2 | AB | 1890 | A | C2'-O2' | 5.42 | 1.48 | 1.41 |
| 2 | AB | 2077 | A | C5-C6 | 5.42 | 1.46 | 1.41 |
| 2 | AB | 2679 | A | C8-N7 | 5.42 | 1.35 | 1.31 |
| 35 | BA | 934 | C | N1-C6 | 5.42 | 1.40 | 1.37 |
| 35 | BA | 1108 | G | C2-N2 | -5.42 | 1.29 | 1.34 |
| 35 | BA | 1135 | U | O3'-P | 5.42 | 1.67 | 1.61 |
| 35 | BA | 1389 | C | P-O5' | -5.42 | 1.54 | 1.59 |
| 2 | AB | 1609 | A | N3-C4 | 5.42 | 1.38 | 1.34 |
| 2 | AB | 2291 | U | C5-C6 | 5.42 | 1.39 | 1.34 |
| 2 | AB | 2698 | U | O3'-P | 5.42 | 1.67 | 1.61 |
| 35 | BA | 1042 | A | C6-N6 | 5.42 | 1.38 | 1.33 |
| 2 | AB | 126 | A | N3-C4 | 5.41 | 1.38 | 1.34 |
| 2 | AB | 375 | G | O3'-P | 5.41 | 1.67 | 1.61 |
| 2 | AB | 571 | U | C2'-O2' | 5.41 | 1.48 | 1.41 |
| 2 | AB | 612 | G | C6-N1 | -5.41 | 1.35 | 1.39 |
| 2 | AB | 620 | G | C2'-C1' | -5.41 | 1.47 | 1.53 |
| 2 | AB | 826 | U | O4'-C1' | 5.41 | 1.48 | 1.41 |
| 2 | AB | 1484 | U | O3'-P | 5.41 | 1.67 | 1.61 |
| 2 | AB | 1878 | G | C6-O6 | -5.41 | 1.19 | 1.24 |
| 2 | AB | 2049 | G | C5-C4 | -5.41 | 1.34 | 1.38 |
| 2 | AB | 2492 | U | C4'-O4' | -5.41 | 1.38 | 1.45 |
| 35 | BA | 751 | U | N3-C4 | 5.41 | 1.43 | 1.38 |
| 35 | BA | 818 | G | N9-C8 | -5.41 | 1.34 | 1.37 |
| 35 | BA | 1001 | C | C3'-C2' | 5.41 | 1.58 | 1.52 |
| 2 | AB | 1095 | A | C3'-C2' | 5.41 | 1.58 | 1.52 |
| 2 | AB | 1988 | G | C2-N3 | 5.41 | 1.37 | 1.32 |
| 2 | AB | 2476 | A | C3'-C2' | 5.41 | 1.58 | 1.52 |
| 2 | AB | 2590 | A | C4'-O4' | -5.41 | 1.38 | 1.45 |
| 2 | AB | 2665 | A | N9-C4 | -5.41 | 1.34 | 1.37 |
| 35 | BA | 129 | A | N7-C5 | 5.41 | 1.42 | 1.39 |
| 2 | AB | 38 | A | N7-C5 | 5.41 | 1.42 | 1.39 |
| 2 | AB | 86 | G | C5'-C4' | 5.41 | 1.57 | 1.51 |
| 2 | AB | 656 | G | C6-N1 | 5.41 | 1.43 | 1.39 |
| 2 | AB | 1144 | A | C4'-C3' | 5.41 | 1.59 | 1.53 |
| 2 | AB | 1186 | G | C5'-C4' | 5.41 | 1.57 | 1.51 |
| 2 | AB | 1566 | A | N9-C8 | 5.41 | 1.42 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2023 | C | N1-C6 | 5.41 | 1.40 | 1.37 |
| 2 | AB | 2471 | A | C4'-C3' | 5.41 | 1.59 | 1.53 |
| 35 | BA | 830 | G | P-O5' | 5.41 | 1.65 | 1.59 |
| 35 | BA | 1310 | G | N9-C8 | 5.41 | 1.41 | 1.37 |
| 35 | BA | 1417 | G | C5-C4 | -5.41 | 1.34 | 1.38 |
| 37 | BC | 38 | A | C6-N6 | 5.41 | 1.38 | 1.33 |
| 1 | AA | 85 | G | C4'-C3' | 5.41 | 1.59 | 1.53 |
| 2 | AB | 677 | A | C6-N1 | 5.41 | 1.39 | 1.35 |
| 2 | AB | 722 | A | O3'-P | 5.41 | 1.67 | 1.61 |
| 2 | AB | 829 | A | O3'-P | 5.41 | 1.67 | 1.61 |
| 2 | AB | 852 | U | C5'-C4' | 5.41 | 1.57 | 1.51 |
| 2 | AB | 928 | A | O4'-C1' | 5.41 | 1.48 | 1.41 |
| 2 | AB | 1114 | C | N3-C4 | 5.41 | 1.37 | 1.33 |
| 2 | AB | 1757 | A | N9-C4 | 5.41 | 1.41 | 1.37 |
| 2 | AB | 1984 | G | N1-C2 | -5.41 | 1.33 | 1.37 |
| 2 | AB | 2043 | C | N3-C4 | 5.41 | 1.37 | 1.33 |
| 2 | AB | 2186 | G | P-O5' | 5.41 | 1.65 | 1.59 |
| 12 | AL | 75 | TYR | CE1-CZ | 5.41 | 1.45 | 1.38 |
| 35 | BA | 100 | G | N1-C2 | 5.41 | 1.42 | 1.37 |
| 35 | BA | 124 | C | C5'-C4' | 5.41 | 1.57 | 1.51 |
| 35 | BA | 971 | G | P-O5' | 5.41 | 1.65 | 1.59 |
| 35 | BA | 1408 | A | N9-C8 | 5.41 | 1.42 | 1.37 |
| 2 | AB | 303 | G | O3'-P | -5.41 | 1.54 | 1.61 |
| 2 | AB | 457 | A | C5-C6 | 5.41 | 1.46 | 1.41 |
| 2 | AB | 2481 | G | N9-C8 | 5.41 | 1.41 | 1.37 |
| 2 | AB | 2524 | G | C8-N7 | -5.41 | 1.27 | 1.30 |
| 35 | BA | 618 | C | N1-C2 | 5.41 | 1.45 | 1.40 |
| 35 | BA | 968 | A | P-O5' | -5.41 | 1.54 | 1.59 |
| 2 | AB | 287 | G | C2'-O2' | 5.41 | 1.48 | 1.41 |
| 2 | AB | 906 | U | C5-C6 | 5.41 | 1.39 | 1.34 |
| 2 | AB | 1707 | G | N9-C4 | 5.41 | 1.42 | 1.38 |
| 2 | AB | 1716 | U | N1-C6 | 5.41 | 1.42 | 1.38 |
| 2 | AB | 1955 | U | N1-C6 | 5.41 | 1.42 | 1.38 |
| 2 | AB | 2267 | A | C5-C4 | -5.41 | 1.34 | 1.38 |
| 2 | AB | 2817 | U | C4-C5 | 5.41 | 1.48 | 1.43 |
| 35 | BA | 247 | G | C3'-C2' | 5.41 | 1.58 | 1.52 |
| 35 | BA | 839 | C | C2'-O2' | -5.41 | 1.34 | 1.41 |
| 35 | BA | 1145 | A | C5-C6 | 5.41 | 1.46 | 1.41 |
| 36 | BB | 26 | U | N3-C4 | 5.41 | 1.43 | 1.38 |
| 49 | BO | 5 | GLY | N-CA | -5.41 | 1.38 | 1.46 |
| 2 | AB | 72 | U | C4'-C3' | 5.40 | 1.59 | 1.53 |
| 2 | AB | 575 | A | C6-N1 | 5.40 | 1.39 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2425 | A | C2-N3 | -5.40 | 1.28 | 1.33 |
| 2 | AB | 93 | G | C5-C6 | 5.40 | 1.47 | 1.42 |
| 2 | AB | 281 | C | N3-C4 | 5.40 | 1.37 | 1.33 |
| 2 | AB | 294 | A | N9-C4 | 5.40 | 1.41 | 1.37 |
| 2 | AB | 380 | G | P-O5' | 5.40 | 1.65 | 1.59 |
| 2 | AB | 698 | C | C5-C6 | 5.40 | 1.38 | 1.34 |
| 2 | AB | 816 | C | C4'-C3' | 5.40 | 1.59 | 1.53 |
| 2 | AB | 1245 | G | C5-C6 | 5.40 | 1.47 | 1.42 |
| 2 | AB | 1495 | A | O4'-C1' | 5.40 | 1.48 | 1.41 |
| 2 | AB | 1846 | G | C2-N3 | 5.40 | 1.37 | 1.32 |
| 2 | AB | 2015 | A | P-O5' | 5.40 | 1.65 | 1.59 |
| 2 | AB | 2067 | G | N9-C4 | 5.40 | 1.42 | 1.38 |
| 2 | AB | 2390 | U | C2'-C1' | 5.40 | 1.59 | 1.53 |
| 2 | AB | 2476 | A | C4'-O4' | -5.40 | 1.38 | 1.45 |
| 2 | AB | 2541 | A | C4'-O4' | -5.40 | 1.38 | 1.45 |
| 35 | BA | 38 | G | N7-C5 | -5.40 | 1.36 | 1.39 |
| 35 | BA | 290 | C | C5'-C4' | 5.40 | 1.57 | 1.51 |
| 35 | BA | 748 | G | C6-O6 | -5.40 | 1.19 | 1.24 |
| 35 | BA | 750 | C | C2-N3 | 5.40 | 1.40 | 1.35 |
| 35 | BA | 1168 | U | C4-C5 | -5.40 | 1.38 | 1.43 |
| 35 | BA | 1335 | U | O3'-P | 5.40 | 1.67 | 1.61 |
| 2 | AB | 375 | G | P-O5' | -5.40 | 1.54 | 1.59 |
| 2 | AB | 593 | U | C4-O4 | -5.40 | 1.19 | 1.23 |
| 2 | AB | 654 | A | N9-C4 | 5.40 | 1.41 | 1.37 |
| 2 | AB | 899 | A | N3-C4 | 5.40 | 1.38 | 1.34 |
| 2 | AB | 935 | C | C1'-N1 | 5.40 | 1.56 | 1.48 |
| 2 | AB | 937 | C | O3'-P | 5.40 | 1.67 | 1.61 |
| 2 | AB | 1941 | C | N1-C6 | 5.40 | 1.40 | 1.37 |
| 2 | AB | 2185 | U | C5'-C4' | 5.40 | 1.57 | 1.51 |
| 2 | AB | 2809 | A | C5-C4 | 5.40 | 1.42 | 1.38 |
| 2 | AB | 2835 | A | C2'-O2' | -5.40 | 1.34 | 1.41 |
| 13 | AM | 92 | GLU | CD-OE2 | 5.40 | 1.31 | 1.25 |
| 35 | BA | 1204 | A | O3'-P | 5.40 | 1.67 | 1.61 |
| 35 | BA | 1355 | G | C4'-C3' | -5.40 | 1.47 | 1.52 |
| 2 | AB | 1155 | A | C2'-C1' | -5.40 | 1.47 | 1.53 |
| 35 | BA | 359 | G | C2'-O2' | 5.40 | 1.48 | 1.41 |
| 35 | BA | 608 | A | C6-N1 | -5.40 | 1.31 | 1.35 |
| 35 | BA | 844 | G | N7-C5 | 5.40 | 1.42 | 1.39 |
| 35 | BA | 964 | A | C3'-C2' | -5.40 | 1.46 | 1.52 |
| 1 | AA | 15 | A | C6-N6 | 5.40 | 1.38 | 1.33 |
| 2 | AB | 24 | G | C2'-C1' | -5.40 | 1.47 | 1.53 |
| 2 | AB | 132 | G | C8-N7 | -5.40 | 1.27 | 1.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 189 | G | C4'-O4' | -5.40 | 1.38 | 1.45 |
| 2 | AB | 270 | A | N9-C4 | -5.40 | 1.34 | 1.37 |
| 2 | AB | 424 | G | N3-C4 | 5.40 | 1.39 | 1.35 |
| 2 | AB | 1256 | G | C4'-O4' | -5.40 | 1.38 | 1.45 |
| 2 | AB | 1274 | A | N9-C4 | -5.40 | 1.34 | 1.37 |
| 2 | AB | 1582 | C | C2'-C1' | 5.40 | 1.59 | 1.53 |
| 2 | AB | 2110 | G | N7-C5 | -5.40 | 1.36 | 1.39 |
| 2 | AB | 2145 | C | C2-O2 | -5.40 | 1.19 | 1.24 |
| 2 | AB | 2391 | G | N3-C4 | 5.40 | 1.39 | 1.35 |
| 35 | BA | 446 | G | C5-C6 | 5.40 | 1.47 | 1.42 |
| 35 | BA | 581 | G | C5-C4 | -5.40 | 1.34 | 1.38 |
| 35 | BA | 797 | C | C4-N4 | 5.40 | 1.38 | 1.33 |
| 35 | BA | 1475 | G | C4'-O4' | -5.40 | 1.38 | 1.45 |
| 35 | BA | 161 | A | C5'-C4' | 5.40 | 1.57 | 1.51 |
| 35 | BA | 1318 | A | N7-C5 | 5.40 | 1.42 | 1.39 |
| 2 | AB | 263 | G | C8-N7 | -5.39 | 1.27 | 1.30 |
| 2 | AB | 2390 | U | N1-C6 | -5.39 | 1.33 | 1.38 |
| 2 | AB | 2668 | G | N1-C2 | 5.39 | 1.42 | 1.37 |
| 35 | BA | 763 | G | C4'-C3' | 5.39 | 1.59 | 1.53 |
| 35 | BA | 840 | C | C4'-C3' | 5.39 | 1.59 | 1.53 |
| 35 | BA | 952 | U | C4-C5 | 5.39 | 1.48 | 1.43 |
| 35 | BA | 1142 | G | C2'-O2' | -5.39 | 1.34 | 1.41 |
| 35 | BA | 1175 | G | N9-C8 | -5.39 | 1.34 | 1.37 |
| 1 | AA | 47 | C | O4'-C1' | 5.39 | 1.48 | 1.41 |
| 2 | AB | 492 | A | N3-C4 | 5.39 | 1.38 | 1.34 |
| 2 | AB | 730 | A | P-O5' | 5.39 | 1.65 | 1.59 |
| 2 | AB | 976 | G | C4'-O4' | -5.39 | 1.38 | 1.45 |
| 2 | AB | 1156 | A | N3-C4 | 5.39 | 1.38 | 1.34 |
| 2 | AB | 1178 | C | O3'-P | 5.39 | 1.67 | 1.61 |
| 2 | AB | 1217 | U | N1-C6 | 5.39 | 1.42 | 1.38 |
| 2 | AB | 1269 | A | C5'-C4' | 5.39 | 1.57 | 1.51 |
| 2 | AB | 1404 | C | C2'-O2' | 5.39 | 1.48 | 1.41 |
| 2 | AB | 1612 | C | C4-N4 | -5.39 | 1.29 | 1.33 |
| 2 | AB | 2014 | A | C5-C4 | -5.39 | 1.34 | 1.38 |
| 2 | AB | 2066 | C | C3'-C2' | 5.39 | 1.58 | 1.52 |
| 2 | AB | 2204 | G | C2-N2 | -5.39 | 1.29 | 1.34 |
| 2 | AB | 2397 | G | P-O5' | 5.39 | 1.65 | 1.59 |
| 2 | AB | 2461 | A | N1-C2 | 5.39 | 1.39 | 1.34 |
| 2 | AB | 2481 | G | C5'-C4' | 5.39 | 1.57 | 1.51 |
| 35 | BA | 250 | A | C6-N6 | -5.39 | 1.29 | 1.33 |
| 35 | BA | 602 | A | N9-C4 | 5.39 | 1.41 | 1.37 |
| 35 | BA | 1292 | G | C2-N2 | -5.39 | 1.29 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 8 | C | C5'-C4' | 5.39 | 1.57 | 1.51 |
| 2 | AB | 126 | A | P-O5' | 5.39 | 1.65 | 1.59 |
| 2 | AB | 903 | C | C2'-C1' | 5.39 | 1.59 | 1.53 |
| 35 | BA | 1123 | U | N1-C2 | 5.39 | 1.43 | 1.38 |
| 2 | AB | 833 | A | O4'-C1' | 5.39 | 1.48 | 1.41 |
| 2 | AB | 1669 | A | P-O5' | 5.39 | 1.65 | 1.59 |
| 2 | AB | 2096 | C | N1-C6 | 5.39 | 1.40 | 1.37 |
| 35 | BA | 720 | C | C5-C6 | 5.39 | 1.38 | 1.34 |
| 35 | BA | 1408 | A | N7-C5 | -5.39 | 1.36 | 1.39 |
| 35 | BA | 1463 | U | N1-C6 | 5.39 | 1.42 | 1.38 |
| 2 | AB | 412 | A | C2-N3 | -5.39 | 1.28 | 1.33 |
| 2 | AB | 1403 | A | C5-C6 | 5.39 | 1.45 | 1.41 |
| 2 | AB | 162 | U | C5-C6 | 5.39 | 1.39 | 1.34 |
| 2 | AB | 178 | G | C6-N1 | 5.39 | 1.43 | 1.39 |
| 2 | AB | 403 | U | C2-N3 | -5.39 | 1.33 | 1.37 |
| 2 | AB | 554 | U | N3-C4 | 5.39 | 1.43 | 1.38 |
| 2 | AB | 629 | G | N3-C4 | 5.39 | 1.39 | 1.35 |
| 2 | AB | 1270 | C | C2'-C1' | 5.39 | 1.59 | 1.53 |
| 2 | AB | 1861 | G | O4'-C1' | 5.39 | 1.48 | 1.41 |
| 2 | AB | 2017 | U | C2-N3 | 5.39 | 1.41 | 1.37 |
| 2 | AB | 2630 | G | N9-C8 | 5.39 | 1.41 | 1.37 |
| 2 | AB | 2778 | A | C4'-O4' | -5.39 | 1.38 | 1.45 |
| 2 | AB | 2784 | U | C2-O2 | 5.39 | 1.27 | 1.22 |
| 4 | AD | 95 | TYR | CZ-OH | -5.39 | 1.28 | 1.37 |
| 35 | BA | 7 | A | C4'-O4' | -5.39 | 1.38 | 1.45 |
| 35 | BA | 302 | G | C6-O6 | -5.39 | 1.19 | 1.24 |
| 35 | BA | 522 | C | O3'-P | 5.39 | 1.67 | 1.61 |
| 36 | BB | 46 | C | C2'-C1' | -5.39 | 1.47 | 1.53 |
| 2 | AB | 70 | G | P-O5' | 5.38 | 1.65 | 1.59 |
| 2 | AB | 528 | A | C2'-O2' | 5.38 | 1.48 | 1.41 |
| 2 | AB | 533 | G | N9-C4 | 5.38 | 1.42 | 1.38 |
| 2 | AB | 672 | C | C2-N3 | -5.38 | 1.31 | 1.35 |
| 2 | AB | 1265 | A | C4'-C3' | 5.38 | 1.59 | 1.53 |
| 2 | AB | 1284 | A | O3'-P | 5.38 | 1.67 | 1.61 |
| 2 | AB | 1436 | G | N7-C5 | 5.38 | 1.42 | 1.39 |
| 2 | AB | 1518 | C | C4-N4 | 5.38 | 1.38 | 1.33 |
| 2 | AB | 1819 | A | C5-C4 | -5.38 | 1.34 | 1.38 |
| 2 | AB | 1963 | U | O4'-C1' | 5.38 | 1.48 | 1.41 |
| 2 | AB | 2053 | G | C2-N3 | 5.38 | 1.37 | 1.32 |
| 2 | AB | 2274 | A | N3-C4 | 5.38 | 1.38 | 1.34 |
| 2 | AB | 2428 | G | C6-N1 | 5.38 | 1.43 | 1.39 |
| 35 | BA | 799 | G | C3'-C2' | 5.38 | 1.58 | 1.52 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1451 | U | P-O5' | -5.38 | 1.54 | 1.59 |
| 2 | AB | 1459 | G | C2'-C1' | -5.38 | 1.47 | 1.53 |
| 2 | AB | 2624 | G | N7-C5 | -5.38 | 1.36 | 1.39 |
| 2 | AB | 2643 | G | N9-C8 | -5.38 | 1.34 | 1.37 |
| 35 | BA | 454 | G | N9-C8 | 5.38 | 1.41 | 1.37 |
| 35 | BA | 540 | G | O4'-C1' | 5.38 | 1.48 | 1.41 |
| 35 | BA | 1107 | C | C5'-C4' | -5.38 | 1.44 | 1.51 |
| 35 | BA | 1308 | U | C4'-C3' | 5.38 | 1.59 | 1.53 |
| 2 | AB | 394 | C | O4'-C1' | 5.38 | 1.48 | 1.41 |
| 2 | AB | 539 | G | C2-N2 | 5.38 | 1.40 | 1.34 |
| 2 | AB | 1195 | G | N9-C4 | 5.38 | 1.42 | 1.38 |
| 2 | AB | 1682 | G | C2-N2 | 5.38 | 1.40 | 1.34 |
| 2 | AB | 2152 | G | C4'-O4' | -5.38 | 1.38 | 1.45 |
| 35 | BA | 176 | C | C5-C6 | 5.38 | 1.38 | 1.34 |
| 35 | BA | 838 | G | C1'-N9 | 5.38 | 1.56 | 1.48 |
| 35 | BA | 863 | U | C5-C6 | 5.38 | 1.39 | 1.34 |
| 35 | BA | 969 | A | C4'-C3' | 5.38 | 1.59 | 1.53 |
| 37 | BC | 39 | A | C5-C4 | 5.38 | 1.42 | 1.38 |
| 2 | AB | 214 | G | N3-C4 | 5.38 | 1.39 | 1.35 |
| 2 | AB | 2368 | C | C4-C5 | 5.38 | 1.47 | 1.43 |
| 2 | AB | 2654 | A | N9-C4 | 5.38 | 1.41 | 1.37 |
| 35 | BA | 262 | A | O4'-C1' | 5.38 | 1.48 | 1.41 |
| 2 | AB | 501 | A | C5-C4 | -5.38 | 1.34 | 1.38 |
| 2 | AB | 605 | G | P-O5' | 5.38 | 1.65 | 1.59 |
| 2 | AB | 796 | C | N1-C2 | 5.38 | 1.45 | 1.40 |
| 2 | AB | 923 | G | C5'-C4' | 5.38 | 1.57 | 1.51 |
| 2 | AB | 1327 | A | N9-C4 | 5.38 | 1.41 | 1.37 |
| 2 | AB | 1406 | U | C3'-O3' | 5.38 | 1.49 | 1.42 |
| 2 | AB | 1608 | A | C4'-O4' | -5.38 | 1.38 | 1.45 |
| 2 | AB | 1885 | A | C8-N7 | -5.38 | 1.27 | 1.31 |
| 2 | AB | 1927 | A | N3-C4 | 5.38 | 1.38 | 1.34 |
| 2 | AB | 2403 | C | O3'-P | 5.38 | 1.67 | 1.61 |
| 2 | AB | 2621 | G | O3'-P | 5.38 | 1.67 | 1.61 |
| 2 | AB | 2623 | G | P-O5' | 5.38 | 1.65 | 1.59 |
| 35 | BA | 108 | G | N3-C4 | 5.38 | 1.39 | 1.35 |
| 35 | BA | 468 | A | N9-C4 | 5.38 | 1.41 | 1.37 |
| 35 | BA | 1270 | G | C2-N2 | 5.38 | 1.40 | 1.34 |
| 2 | AB | 460 | A | O4'-C1' | 5.38 | 1.48 | 1.41 |
| 2 | AB | 586 | A | N9-C4 | 5.38 | 1.41 | 1.37 |
| 2 | AB | 603 | A | C6-N1 | -5.38 | 1.31 | 1.35 |
| 2 | AB | 661 | A | C5-C4 | 5.38 | 1.42 | 1.38 |
| 2 | AB | 1104 | C | C5-C6 | 5.38 | 1.38 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1201 | U | C2-N3 | 5.38 | 1.41 | 1.37 |
| 2 | AB | 1426 | G | N7-C5 | -5.38 | 1.36 | 1.39 |
| 2 | AB | 2151 | U | C4'-C3' | 5.38 | 1.59 | 1.53 |
| 2 | AB | 2745 | C | P-O5' | 5.38 | 1.65 | 1.59 |
| 35 | BA | 128 | G | C2-N3 | 5.38 | 1.37 | 1.32 |
| 38 | BD | 15 | PHE | CG-CD1 | 5.38 | 1.46 | 1.38 |
| 2 | AB | 58 | G | C4'-C3' | -5.38 | 1.47 | 1.52 |
| 2 | AB | 230 | G | P-O5' | 5.38 | 1.65 | 1.59 |
| 2 | AB | 506 | G | C2-N3 | 5.38 | 1.37 | 1.32 |
| 13 | AM | 45 | GLU | CD-OE1 | 5.38 | 1.31 | 1.25 |
| 2 | AB | 363 | G | N3-C4 | 5.37 | 1.39 | 1.35 |
| 2 | AB | 504 | A | C6-N1 | 5.37 | 1.39 | 1.35 |
| 2 | AB | 1093 | G | O3'-P | -5.37 | 1.54 | 1.61 |
| 2 | AB | 1626 | A | C2-N3 | 5.37 | 1.38 | 1.33 |
| 2 | AB | 2161 | C | O3'-P | 5.37 | 1.67 | 1.61 |
| 2 | AB | 2185 | U | N1-C6 | 5.37 | 1.42 | 1.38 |
| 2 | AB | 2267 | A | N9-C8 | 5.37 | 1.42 | 1.37 |
| 2 | AB | 2408 | U | N3-C4 | 5.37 | 1.43 | 1.38 |
| 2 | AB | 2566 | A | C1'-N9 | 5.37 | 1.56 | 1.48 |
| 2 | AB | 2878 | U | C2'-O2' | 5.37 | 1.48 | 1.41 |
| 35 | BA | 42 | G | C4'-O4' | -5.37 | 1.38 | 1.45 |
| 35 | BA | 242 | G | C3'-C2' | 5.37 | 1.58 | 1.52 |
| 35 | BA | 543 | U | N1-C2 | 5.37 | 1.43 | 1.38 |
| 35 | BA | 652 | U | C2-N3 | 5.37 | 1.41 | 1.37 |
| 35 | BA | 1055 | A | C5'-C4' | 5.37 | 1.57 | 1.51 |
| 35 | BA | 1419 | G | C2'-C1' | -5.37 | 1.47 | 1.53 |
| 2 | AB | 956 | G | C5-C4 | -5.37 | 1.34 | 1.38 |
| 2 | AB | 1885 | A | O3'-P | -5.37 | 1.54 | 1.61 |
| 2 | AB | 2044 | C | C2-N3 | 5.37 | 1.40 | 1.35 |
| 2 | AB | 2412 | A | N9-C8 | -5.37 | 1.33 | 1.37 |
| 35 | BA | 325 | A | N3-C4 | 5.37 | 1.38 | 1.34 |
| 35 | BA | 356 | A | C4'-C3' | 5.37 | 1.59 | 1.53 |
| 35 | BA | 570 | G | P-O5' | 5.37 | 1.65 | 1.59 |
| 35 | BA | 753 | A | C2-N3 | -5.37 | 1.28 | 1.33 |
| 35 | BA | 852 | G | C2-N3 | 5.37 | 1.37 | 1.32 |
| 35 | BA | 1045 | C | C2'-O2' | 5.37 | 1.48 | 1.41 |
| 35 | BA | 1084 | G | O3'-P | -5.37 | 1.54 | 1.61 |
| 35 | BA | 1416 | G | O3'-P | -5.37 | 1.54 | 1.61 |
| 37 | BC | 17 | C | N3-C4 | 5.37 | 1.37 | 1.33 |
| 2 | AB | 349 | U | C3'-C2' | -5.37 | 1.46 | 1.52 |
| 2 | AB | 554 | U | O5'-C5' | -5.37 | 1.34 | 1.42 |
| 2 | AB | 667 | U | N1-C2 | 5.37 | 1.43 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 809 | G | C4'-O4' | -5.37 | 1.38 | 1.45 |
| 2 | AB | 1018 | U | P-O5' | 5.37 | 1.65 | 1.59 |
| 2 | AB | 1038 | G | O4'-C1' | 5.37 | 1.48 | 1.41 |
| 2 | AB | 1372 | U | O5'-C5' | -5.37 | 1.34 | 1.42 |
| 2 | AB | 1968 | G | N9-C8 | -5.37 | 1.34 | 1.37 |
| 2 | AB | 2839 | G | C5'-C4' | 5.37 | 1.57 | 1.51 |
| 35 | BA | 531 | U | C5'-C4' | 5.37 | 1.57 | 1.51 |
| 2 | AB | 1045 | C | C2-N3 | 5.37 | 1.40 | 1.35 |
| 2 | AB | 1689 | A | N9-C4 | 5.37 | 1.41 | 1.37 |
| 35 | BA | 310 | G | C5-C4 | 5.37 | 1.42 | 1.38 |
| 35 | BA | 450 | G | C5-C4 | 5.37 | 1.42 | 1.38 |
| 2 | AB | 1393 | A | C6-N6 | 5.37 | 1.38 | 1.33 |
| 2 | AB | 2010 | G | P-O5' | 5.37 | 1.65 | 1.59 |
| 2 | AB | 2046 | G | C4'-O4' | -5.37 | 1.38 | 1.45 |
| 35 | BA | 217 | C | C4'-C3' | -5.37 | 1.47 | 1.52 |
| 35 | BA | 264 | C | N1-C6 | -5.37 | 1.33 | 1.37 |
| 35 | BA | 357 | G | C6-N1 | 5.37 | 1.43 | 1.39 |
| 35 | BA | 915 | A | C3'-C2' | 5.37 | 1.58 | 1.52 |
| 35 | BA | 1158 | C | C2'-C1' | 5.37 | 1.59 | 1.53 |
| 35 | BA | 1478 | U | C2'-C1' | -5.37 | 1.47 | 1.53 |
| 37 | BC | 68 | C | C4'-O4' | -5.37 | 1.38 | 1.45 |
| 2 | AB | 953 | G | P-O5' | 5.36 | 1.65 | 1.59 |
| 2 | AB | 1568 | G | P-O5' | 5.36 | 1.65 | 1.59 |
| 2 | AB | 1943 | U | C4-C5 | 5.36 | 1.48 | 1.43 |
| 2 | AB | 2035 | G | C5-C6 | 5.36 | 1.47 | 1.42 |
| 2 | AB | 2592 | G | N9-C8 | 5.36 | 1.41 | 1.37 |
| 35 | BA | 1295 | U | C2-O2 | 5.36 | 1.27 | 1.22 |
| 35 | BA | 1374 | A | P-O5' | 5.36 | 1.65 | 1.59 |
| 2 | AB | 2294 | G | N1-C2 | 5.36 | 1.42 | 1.37 |
| 2 | AB | 2296 | U | N3-C4 | 5.36 | 1.43 | 1.38 |
| 2 | AB | 2339 | C | N1-C2 | 5.36 | 1.45 | 1.40 |
| 35 | BA | 483 | C | N3-C4 | 5.36 | 1.37 | 1.33 |
| 35 | BA | 654 | G | C4'-O4' | -5.36 | 1.38 | 1.45 |
| 2 | AB | 569 | U | C4'-C3' | 5.36 | 1.59 | 1.53 |
| 2 | AB | 1319 | C | C4'-O4' | -5.36 | 1.38 | 1.45 |
| 2 | AB | 1677 | A | N7-C5 | 5.36 | 1.42 | 1.39 |
| 2 | AB | 1814 | G | C4'-O4' | -5.36 | 1.38 | 1.45 |
| 2 | AB | 2079 | U | C4-O4 | -5.36 | 1.19 | 1.23 |
| 2 | AB | 2083 | G | C5-C4 | 5.36 | 1.42 | 1.38 |
| 2 | AB | 2490 | G | N9-C4 | -5.36 | 1.33 | 1.38 |
| 35 | BA | 595 | A | C8-N7 | -5.36 | 1.27 | 1.31 |
| 35 | BA | 1277 | C | O3'-P | 5.36 | 1.67 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1307 | U | N3-C4 | -5.36 | 1.33 | 1.38 |
| 37 | BC | 27 | G | P-O5' | 5.36 | 1.65 | 1.59 |
| 2 | AB | 1376 | C | C4-C5 | -5.36 | 1.38 | 1.43 |
| 2 | AB | 2486 | C | O4'-C1' | 5.36 | 1.48 | 1.41 |
| 35 | BA | 288 | A | N7-C5 | 5.36 | 1.42 | 1.39 |
| 2 | AB | 200 | U | C2'-C1' | 5.36 | 1.59 | 1.53 |
| 2 | AB | 279 | A | N9-C4 | -5.36 | 1.34 | 1.37 |
| 2 | AB | 283 | G | C2'-O2' | -5.36 | 1.34 | 1.41 |
| 2 | AB | 392 | U | C4'-O4' | -5.36 | 1.38 | 1.45 |
| 2 | AB | 427 | U | C2-N3 | 5.36 | 1.41 | 1.37 |
| 2 | AB | 853 | C | C2'-O2' | 5.36 | 1.48 | 1.41 |
| 2 | AB | 932 | U | N1-C6 | 5.36 | 1.42 | 1.38 |
| 2 | AB | 1558 | C | N1-C6 | 5.36 | 1.40 | 1.37 |
| 2 | AB | 1778 | U | C5-C6 | 5.36 | 1.39 | 1.34 |
| 35 | BA | 96 | U | C2-N3 | -5.36 | 1.33 | 1.37 |
| 35 | BA | 773 | G | N3-C4 | -5.36 | 1.31 | 1.35 |
| 35 | BA | 982 | U | N3-C4 | 5.36 | 1.43 | 1.38 |
| 35 | BA | 1275 | A | C6-N6 | -5.36 | 1.29 | 1.33 |
| 2 | AB | 99 | U | O3'-P | 5.36 | 1.67 | 1.61 |
| 2 | AB | 621 | A | N1-C2 | -5.36 | 1.29 | 1.34 |
| 2 | AB | 1223 | G | N9-C4 | 5.36 | 1.42 | 1.38 |
| 2 | AB | 1227 | G | C3'-O3' | 5.36 | 1.49 | 1.42 |
| 2 | AB | 1310 | G | C4'-O4' | -5.36 | 1.38 | 1.45 |
| 2 | AB | 1430 | G | C4'-O4' | -5.36 | 1.38 | 1.45 |
| 2 | AB | 1493 | C | C3'-O3' | 5.36 | 1.49 | 1.42 |
| 2 | AB | 1532 | A | N9-C4 | -5.36 | 1.34 | 1.37 |
| 2 | AB | 1786 | A | C6-N6 | 5.36 | 1.38 | 1.33 |
| 2 | AB | 2325 | G | N3-C4 | 5.36 | 1.39 | 1.35 |
| 2 | AB | 2452 | C | C2'-C1' | 5.36 | 1.59 | 1.53 |
| 2 | AB | 2587 | A | C4'-C3' | -5.36 | 1.47 | 1.52 |
| 20 | AT | 17 | GLY | CA-C | 5.36 | 1.60 | 1.51 |
| 35 | BA | 375 | U | C2-N3 | 5.36 | 1.41 | 1.37 |
| 35 | BA | 1201 | A | C5'-C4' | 5.36 | 1.57 | 1.51 |
| 35 | BA | 1486 | G | C5'-C4' | 5.36 | 1.57 | 1.51 |
| 36 | BB | 23 | C | C2-O2 | -5.36 | 1.19 | 1.24 |
| 1 | AA | 51 | G | C5-C6 | 5.35 | 1.47 | 1.42 |
| 2 | AB | 1494 | A | N1-C2 | -5.35 | 1.29 | 1.34 |
| 2 | AB | 1588 | G | C3'-C2' | 5.35 | 1.58 | 1.52 |
| 2 | AB | 1678 | A | C4'-O4' | -5.35 | 1.38 | 1.45 |
| 2 | AB | 1777 | U | C1'-N1 | 5.35 | 1.56 | 1.48 |
| 2 | AB | 2518 | A | N9-C4 | -5.35 | 1.34 | 1.37 |
| 35 | BA | 1333 | A | C6-N6 | -5.35 | 1.29 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 48 | BN | 55 | ARG | CZ-NH2 | 5.35 | 1.40 | 1.33 |
| 1 | AA | 38 | C | P-O5' | 5.35 | 1.65 | 1.59 |
| 2 | AB | 53 | A | C8-N7 | -5.35 | 1.27 | 1.31 |
| 2 | AB | 379 | G | N7-C5 | 5.35 | 1.42 | 1.39 |
| 2 | AB | 681 | G | N1-C2 | 5.35 | 1.42 | 1.37 |
| 2 | AB | 976 | G | C2-N3 | 5.35 | 1.37 | 1.32 |
| 2 | AB | 1026 | G | N9-C8 | -5.35 | 1.34 | 1.37 |
| 35 | BA | 1087 | G | C6-N1 | 5.35 | 1.43 | 1.39 |
| 35 | BA | 1094 | G | P-O5' | -5.35 | 1.54 | 1.59 |
| 35 | BA | 1206 | G | N7-C5 | 5.35 | 1.42 | 1.39 |
| 2 | AB | 2035 | G | N3-C4 | 5.35 | 1.39 | 1.35 |
| 35 | BA | 821 | G | C5'-C4' | 5.35 | 1.57 | 1.51 |
| 39 | BE | 87 | ARG | NE-CZ | 5.35 | 1.40 | 1.33 |
| 2 | AB | 801 | G | C2-N3 | -5.35 | 1.28 | 1.32 |
| 2 | AB | 1074 | G | C3'-O3' | 5.35 | 1.49 | 1.42 |
| 2 | AB | 2374 | C | O4'-C1' | 5.35 | 1.48 | 1.41 |
| 2 | AB | 2400 | G | C2-N3 | -5.35 | 1.28 | 1.32 |
| 2 | AB | 2474 | U | C5-C6 | 5.35 | 1.39 | 1.34 |
| 2 | AB | 2785 | C | N3-C4 | 5.35 | 1.37 | 1.33 |
| 2 | AB | 2877 | G | N9-C8 | 5.35 | 1.41 | 1.37 |
| 19 | AS | 52 | ARG | CZ-NH1 | 5.35 | 1.40 | 1.33 |
| 35 | BA | 189 | A | N9-C4 | 5.35 | 1.41 | 1.37 |
| 35 | BA | 256 | U | N3-C4 | 5.35 | 1.43 | 1.38 |
| 35 | BA | 1282 | C | C2-N3 | 5.35 | 1.40 | 1.35 |
| 36 | BB | 25 | U | C3'-O3' | 5.35 | 1.49 | 1.42 |
| 2 | AB | 612 | G | N9-C8 | -5.35 | 1.34 | 1.37 |
| 2 | AB | 1248 | G | C6-N1 | -5.35 | 1.35 | 1.39 |
| 2 | AB | 1406 | U | C5'-C4' | 5.35 | 1.57 | 1.51 |
| 2 | AB | 1433 | A | N9-C4 | 5.35 | 1.41 | 1.37 |
| 2 | AB | 1585 | C | P-O5' | 5.35 | 1.65 | 1.59 |
| 2 | AB | 2279 | G | C5'-C4' | 5.35 | 1.57 | 1.51 |
| 2 | AB | 2322 | A | N3-C4 | 5.35 | 1.38 | 1.34 |
| 2 | AB | 2421 | G | N9-C8 | -5.35 | 1.34 | 1.37 |
| 2 | AB | 2572 | A | C4'-C3' | -5.35 | 1.47 | 1.52 |
| 35 | BA | 33 | A | N7-C5 | 5.35 | 1.42 | 1.39 |
| 35 | BA | 75 | G | O3'-P | 5.35 | 1.67 | 1.61 |
| 35 | BA | 434 | U | C2-O2 | 5.35 | 1.27 | 1.22 |
| 35 | BA | 488 | C | P-O5' | 5.35 | 1.65 | 1.59 |
| 35 | BA | 740 | U | C4-C5 | 5.35 | 1.48 | 1.43 |
| 40 | BF | 164 | ARG | NE-CZ | 5.35 | 1.40 | 1.33 |
| 2 | AB | 96 | C | C4'-O4' | -5.35 | 1.38 | 1.45 |
| 2 | AB | 411 | G | C4'-O4' | -5.35 | 1.38 | 1.45 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 424 | G | O3'-P | 5.35 | 1.67 | 1.61 |
| 2 | AB | 800 | A | C5'-C4' | 5.35 | 1.57 | 1.51 |
| 35 | BA | 762 | U | C4-O4 | -5.35 | 1.19 | 1.23 |
| 2 | AB | 345 | A | N9-C8 | 5.34 | 1.42 | 1.37 |
| 2 | AB | 491 | G | C5-C4 | -5.34 | 1.34 | 1.38 |
| 2 | AB | 808 | G | P-O5' | -5.34 | 1.54 | 1.59 |
| 2 | AB | 959 | A | C6-N6 | 5.34 | 1.38 | 1.33 |
| 2 | AB | 1115 | G | C5-C6 | 5.34 | 1.47 | 1.42 |
| 2 | AB | 1518 | C | C4-C5 | 5.34 | 1.47 | 1.43 |
| 2 | AB | 1823 | G | C2-N3 | 5.34 | 1.37 | 1.32 |
| 2 | AB | 2036 | C | P-O5' | 5.34 | 1.65 | 1.59 |
| 2 | AB | 2064 | C | C5'-C4' | 5.34 | 1.57 | 1.51 |
| 35 | BA | 15 | G | C2-N2 | -5.34 | 1.29 | 1.34 |
| 35 | BA | 823 | C | C4-C5 | 5.34 | 1.47 | 1.43 |
| 35 | BA | 955 | U | C3'-C2' | -5.34 | 1.46 | 1.52 |
| 35 | BA | 1110 | A | C2'-O2' | -5.34 | 1.34 | 1.41 |
| 1 | AA | 108 | A | C5-C6 | 5.34 | 1.45 | 1.41 |
| 2 | AB | 1412 | U | C2-N3 | 5.34 | 1.41 | 1.37 |
| 35 | BA | 270 | A | C2'-C1' | -5.34 | 1.47 | 1.53 |
| 35 | BA | 789 | U | C2-N3 | 5.34 | 1.41 | 1.37 |
| 35 | BA | 1047 | G | C4'-C3' | -5.34 | 1.47 | 1.52 |
| 35 | BA | 1170 | A | C4'-O4' | -5.34 | 1.38 | 1.45 |
| 35 | BA | 1268 | G | C5-C6 | 5.34 | 1.47 | 1.42 |
| 35 | BA | 1299 | A | P-O5' | 5.34 | 1.65 | 1.59 |
| 2 | AB | 105 | C | C2'-C1' | -5.34 | 1.47 | 1.53 |
| 2 | AB | 927 | A | C4'-O4' | -5.34 | 1.38 | 1.45 |
| 2 | AB | 1004 | U | N1-C6 | 5.34 | 1.42 | 1.38 |
| 2 | AB | 1523 | U | C3'-O3' | 5.34 | 1.49 | 1.42 |
| 2 | AB | 1579 | A | C6-N6 | 5.34 | 1.38 | 1.33 |
| 2 | AB | 1831 | G | C2'-C1' | -5.34 | 1.47 | 1.53 |
| 2 | AB | 2582 | G | C5-C6 | 5.34 | 1.47 | 1.42 |
| 2 | AB | 2643 | G | N1-C2 | 5.34 | 1.42 | 1.37 |
| 2 | AB | 2694 | G | C5-C6 | 5.34 | 1.47 | 1.42 |
| 2 | AB | 2873 | A | C6-N1 | -5.34 | 1.31 | 1.35 |
| 17 | AQ | 49 | VAL | CA-CB | 5.34 | 1.66 | 1.54 |
| 35 | BA | 532 | A | C6-N1 | 5.34 | 1.39 | 1.35 |
| 35 | BA | 865 | A | N9-C8 | -5.34 | 1.33 | 1.37 |
| 35 | BA | 1045 | C | C2-N3 | 5.34 | 1.40 | 1.35 |
| 1 | AA | 44 | G | N9-C8 | -5.34 | 1.34 | 1.37 |
| 2 | AB | 162 | U | C4-O4 | -5.34 | 1.19 | 1.23 |
| 2 | AB | 270 | A | C5'-C4' | 5.34 | 1.57 | 1.51 |
| 2 | AB | 565 | C | C5-C6 | -5.34 | 1.30 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 834 | G | C2-N3 | 5.34 | 1.37 | 1.32 |
| 2 | AB | 1204 | A | C4'-C3' | 5.34 | 1.59 | 1.53 |
| 2 | AB | 1285 | A | C5-C4 | -5.34 | 1.35 | 1.38 |
| 2 | AB | 1394 | U | C2'-C1' | 5.34 | 1.59 | 1.53 |
| 2 | AB | 1443 | U | P-O5' | 5.34 | 1.65 | 1.59 |
| 2 | AB | 2236 | U | P-O5' | 5.34 | 1.65 | 1.59 |
| 2 | AB | 2739 | U | C2-O2 | 5.34 | 1.27 | 1.22 |
| 3 | AC | 122 | ARG | CD-NE | 5.34 | 1.55 | 1.46 |
| 36 | BB | 33 | A | N9-C8 | -5.34 | 1.33 | 1.37 |
| 1 | AA | 41 | G | C5-C4 | 5.34 | 1.42 | 1.38 |
| 2 | AB | 83 | A | O3'-P | 5.34 | 1.67 | 1.61 |
| 2 | AB | 2309 | A | C3'-C2' | 5.34 | 1.58 | 1.52 |
| 2 | AB | 2461 | A | C4'-O4' | -5.34 | 1.38 | 1.45 |
| 2 | AB | 2764 | A | N3-C4 | 5.34 | 1.38 | 1.34 |
| 2 | AB | 440 | C | O3'-P | -5.34 | 1.54 | 1.61 |
| 2 | AB | 441 | U | C3'-C2' | 5.34 | 1.58 | 1.52 |
| 2 | AB | 1060 | U | C5-C6 | 5.34 | 1.39 | 1.34 |
| 2 | AB | 1493 | C | C5-C6 | 5.34 | 1.38 | 1.34 |
| 2 | AB | 1831 | G | N1-C2 | 5.34 | 1.42 | 1.37 |
| 2 | AB | 1883 | U | C2-N3 | 5.34 | 1.41 | 1.37 |
| 2 | AB | 1997 | C | P-O5' | 5.34 | 1.65 | 1.59 |
| 2 | AB | 2231 | U | P-O5' | 5.34 | 1.65 | 1.59 |
| 2 | AB | 2794 | C | N1-C2 | 5.34 | 1.45 | 1.40 |
| 2 | AB | 2835 | A | C4'-C3' | -5.34 | 1.47 | 1.52 |
| 35 | BA | 81 | A | C4'-O4' | -5.34 | 1.38 | 1.45 |
| 35 | BA | 890 | G | C6-N1 | 5.34 | 1.43 | 1.39 |
| 37 | BC | 74 | A | N3-C4 | 5.34 | 1.38 | 1.34 |
| 2 | AB | 469 | G | C3'-C2' | 5.33 | 1.58 | 1.52 |
| 2 | AB | 1336 | A | N3-C4 | 5.33 | 1.38 | 1.34 |
| 2 | AB | 1709 | U | P-O5' | 5.33 | 1.65 | 1.59 |
| 35 | BA | 391 | G | N9-C4 | 5.33 | 1.42 | 1.38 |
| 35 | BA | 1064 | G | C8-N7 | -5.33 | 1.27 | 1.30 |
| 36 | BB | 46 | C | N1-C6 | 5.33 | 1.40 | 1.37 |
| 2 | AB | 12 | U | C4-O4 | 5.33 | 1.27 | 1.23 |
| 2 | AB | 1313 | U | C4'-C3' | -5.33 | 1.47 | 1.52 |
| 2 | AB | 1491 | G | C3'-C2' | 5.33 | 1.58 | 1.52 |
| 2 | AB | 2053 | G | N3-C4 | 5.33 | 1.39 | 1.35 |
| 2 | AB | 2123 | G | N7-C5 | -5.33 | 1.36 | 1.39 |
| 2 | AB | 2464 | G | O4'-C1' | 5.33 | 1.48 | 1.41 |
| 19 | AS | 46 | TYR | CG-CD2 | 5.33 | 1.46 | 1.39 |
| 35 | BA | 145 | G | N1-C2 | -5.33 | 1.33 | 1.37 |
| 35 | BA | 453 | G | N9-C8 | 5.33 | 1.41 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1462 | C | C5-C6 | 5.33 | 1.38 | 1.34 |
| 1 | AA | 100 | G | C4'-O4' | -5.33 | 1.38 | 1.45 |
| 2 | AB | 381 | G | C5-C4 | 5.33 | 1.42 | 1.38 |
| 2 | AB | 469 | G | C2-N3 | 5.33 | 1.37 | 1.32 |
| 2 | AB | 674 | G | C8-N7 | -5.33 | 1.27 | 1.30 |
| 2 | AB | 1258 | U | C4'-O4' | -5.33 | 1.38 | 1.45 |
| 2 | AB | 1342 | A | C4'-C3' | 5.33 | 1.59 | 1.53 |
| 2 | AB | 1595 | C | O3'-P | 5.33 | 1.67 | 1.61 |
| 2 | AB | 1697 | G | C5'-C4' | 5.33 | 1.57 | 1.51 |
| 2 | AB | 2851 | A | C4'-O4' | -5.33 | 1.38 | 1.45 |
| 35 | BA | 9 | G | N1-C2 | 5.33 | 1.42 | 1.37 |
| 35 | BA | 573 | A | C6-N1 | 5.33 | 1.39 | 1.35 |
| 35 | BA | 895 | G | N3-C4 | 5.33 | 1.39 | 1.35 |
| 37 | BC | 50 | G | N7-C5 | 5.33 | 1.42 | 1.39 |
| 2 | AB | 2 | G | C4'-O4' | -5.33 | 1.38 | 1.45 |
| 2 | AB | 145 | C | C4'-C3' | -5.33 | 1.47 | 1.52 |
| 2 | AB | 537 | G | O4'-C1' | 5.33 | 1.48 | 1.41 |
| 2 | AB | 927 | A | C5-C4 | -5.33 | 1.35 | 1.38 |
| 35 | BA | 268 | U | O3'-P | 5.33 | 1.67 | 1.61 |
| 35 | BA | 923 | A | C3'-C2' | -5.33 | 1.46 | 1.52 |
| 1 | AA | 92 | C | C4-C5 | 5.33 | 1.47 | 1.43 |
| 2 | AB | 489 | G | N1-C2 | 5.33 | 1.42 | 1.37 |
| 2 | AB | 498 | G | C8-N7 | 5.33 | 1.34 | 1.30 |
| 2 | AB | 644 | A | O4'-C1' | -5.33 | 1.34 | 1.41 |
| 2 | AB | 1072 | C | C3'-C2' | 5.33 | 1.58 | 1.52 |
| 2 | AB | 1779 | U | C5-C6 | 5.33 | 1.39 | 1.34 |
| 2 | AB | 1837 | C | C2-O2 | -5.33 | 1.19 | 1.24 |
| 2 | AB | 2218 | G | N9-C8 | 5.33 | 1.41 | 1.37 |
| 35 | BA | 294 | U | C2-N3 | 5.33 | 1.41 | 1.37 |
| 35 | BA | 500 | G | C5'-C4' | 5.33 | 1.57 | 1.51 |
| 35 | BA | 632 | U | C2-N3 | 5.33 | 1.41 | 1.37 |
| 35 | BA | 796 | C | C4-C5 | 5.33 | 1.47 | 1.43 |
| 35 | BA | 819 | A | P-O5' | 5.33 | 1.65 | 1.59 |
| 35 | BA | 1320 | C | N1-C2 | 5.33 | 1.45 | 1.40 |
| 35 | BA | 1439 | G | N9-C4 | 5.33 | 1.42 | 1.38 |
| 35 | BA | 1497 | G | C2'-C1' | 5.33 | 1.59 | 1.53 |
| 47 | BM | 105 | ARG | CZ-NH2 | 5.33 | 1.40 | 1.33 |
| 2 | AB | 83 | A | C5'-C4' | 5.33 | 1.57 | 1.51 |
| 2 | AB | 1540 | G | C2'-C1' | -5.33 | 1.47 | 1.53 |
| 35 | BA | 498 | A | C5-C4 | -5.33 | 1.35 | 1.38 |
| 35 | BA | 1150 | A | P-O5' | 5.33 | 1.65 | 1.59 |
| 35 | BA | 1189 | U | N1-C6 | 5.33 | 1.42 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1320 | C | C2-N3 | 5.33 | 1.40 | 1.35 |
| 2 | AB | 13 | A | C4'-C3' | 5.33 | 1.59 | 1.53 |
| 2 | AB | 276 | U | O4'-C1' | 5.33 | 1.48 | 1.41 |
| 2 | AB | 1406 | U | N1-C2 | 5.33 | 1.43 | 1.38 |
| 2 | AB | 1634 | A | N9-C4 | 5.33 | 1.41 | 1.37 |
| 2 | AB | 2065 | C | N1-C6 | 5.33 | 1.40 | 1.37 |
| 2 | AB | 2510 | C | N1-C6 | 5.33 | 1.40 | 1.37 |
| 2 | AB | 2512 | C | O3'-P | 5.33 | 1.67 | 1.61 |
| 35 | BA | 13 | U | O3'-P | -5.33 | 1.54 | 1.61 |
| 35 | BA | 201 | G | N9-C8 | 5.33 | 1.41 | 1.37 |
| 35 | BA | 621 | A | C6-N6 | 5.33 | 1.38 | 1.33 |
| 35 | BA | 1046 | A | C6-N6 | 5.33 | 1.38 | 1.33 |
| 37 | BC | 73 | A | P-O5' | 5.33 | 1.65 | 1.59 |
| 2 | AB | 339 | U | O3'-P | 5.32 | 1.67 | 1.61 |
| 2 | AB | 536 | G | P-O5' | 5.32 | 1.65 | 1.59 |
| 2 | AB | 871 | U | P-O5' | 5.32 | 1.65 | 1.59 |
| 2 | AB | 1212 | G | C4'-O4' | -5.32 | 1.38 | 1.45 |
| 2 | AB | 1260 | A | C6-N6 | 5.32 | 1.38 | 1.33 |
| 2 | AB | 1296 | G | C5-C4 | -5.32 | 1.34 | 1.38 |
| 2 | AB | 1344 | U | C4-O4 | -5.32 | 1.19 | 1.23 |
| 2 | AB | 1353 | A | C2-N3 | -5.32 | 1.28 | 1.33 |
| 2 | AB | 1547 | C | C4-C5 | 5.32 | 1.47 | 1.43 |
| 2 | AB | 1567 | G | C2-N3 | 5.32 | 1.37 | 1.32 |
| 2 | AB | 1658 | C | O4'-C1' | 5.32 | 1.48 | 1.41 |
| 2 | AB | 1972 | G | C3'-C2' | 5.32 | 1.58 | 1.52 |
| 2 | AB | 2589 | A | P-O5' | 5.32 | 1.65 | 1.59 |
| 35 | BA | 393 | A | N7-C5 | -5.32 | 1.36 | 1.39 |
| 35 | BA | 491 | G | N9-C4 | 5.32 | 1.42 | 1.38 |
| 35 | BA | 560 | A | C5'-C4' | 5.32 | 1.57 | 1.51 |
| 35 | BA | 917 | G | C2'-C1' | 5.32 | 1.59 | 1.53 |
| 35 | BA | 1261 | A | C5-C4 | -5.32 | 1.35 | 1.38 |
| 2 | AB | 50 | U | C2'-C1' | -5.32 | 1.47 | 1.53 |
| 2 | AB | 258 | G | N1-C2 | -5.32 | 1.33 | 1.37 |
| 2 | AB | 447 | A | C5-C4 | -5.32 | 1.35 | 1.38 |
| 35 | BA | 791 | G | N9-C8 | -5.32 | 1.34 | 1.37 |
| 2 | AB | 397 | U | O5'-C5' | -5.32 | 1.34 | 1.42 |
| 2 | AB | 403 | U | C4-O4 | 5.32 | 1.27 | 1.23 |
| 2 | AB | 799 | G | N7-C5 | -5.32 | 1.36 | 1.39 |
| 2 | AB | 1366 | A | P-O5' | -5.32 | 1.54 | 1.59 |
| 2 | AB | 1862 | G | C5-C4 | -5.32 | 1.34 | 1.38 |
| 2 | AB | 2099 | U | N1-C6 | 5.32 | 1.42 | 1.38 |
| 35 | BA | 664 | G | N3-C4 | -5.32 | 1.31 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1000 | A | C3'-C2' | -5.32 | 1.46 | 1.52 |
| 37 | BC | 54 | G | N3-C4 | 5.32 | 1.39 | 1.35 |
| 37 | BC | 74 | A | C5-C4 | -5.32 | 1.35 | 1.38 |
| 53 | BS | 42 | LYS | CA-CB | 5.32 | 1.65 | 1.53 |
| 2 | AB | 72 | U | P-O5' | -5.32 | 1.54 | 1.59 |
| 2 | AB | 841 | G | C8-N7 | 5.32 | 1.34 | 1.30 |
| 2 | AB | 1098 | A | C3'-C2' | 5.32 | 1.58 | 1.52 |
| 2 | AB | 1416 | G | C3'-C2' | 5.32 | 1.58 | 1.52 |
| 2 | AB | 1633 | G | C4'-O4' | -5.32 | 1.38 | 1.45 |
| 2 | AB | 2160 | C | C3'-O3' | 5.32 | 1.49 | 1.42 |
| 37 | BC | 74 | A | C4'-O4' | -5.32 | 1.38 | 1.45 |
| 1 | AA | 3 | C | C4'-O4' | -5.32 | 1.38 | 1.45 |
| 2 | AB | 676 | A | C4'-C3' | 5.32 | 1.58 | 1.53 |
| 2 | AB | 769 | U | O3'-P | 5.32 | 1.67 | 1.61 |
| 2 | AB | 2373 | G | N7-C5 | 5.32 | 1.42 | 1.39 |
| 2 | AB | 2737 | G | C2'-O2' | 5.32 | 1.48 | 1.41 |
| 2 | AB | 2888 | C | O3'-P | 5.32 | 1.67 | 1.61 |
| 35 | BA | 376 | G | C8-N7 | -5.32 | 1.27 | 1.30 |
| 35 | BA | 519 | C | N3-C4 | -5.32 | 1.30 | 1.33 |
| 35 | BA | 1429 | A | C6-N1 | 5.32 | 1.39 | 1.35 |
| 1 | AA | 32 | U | N3-C4 | 5.32 | 1.43 | 1.38 |
| 2 | AB | 1285 | A | N9-C4 | 5.32 | 1.41 | 1.37 |
| 2 | AB | 1379 | U | C4-C5 | 5.32 | 1.48 | 1.43 |
| 2 | AB | 1955 | U | O5'-C5' | -5.32 | 1.34 | 1.42 |
| 2 | AB | 2298 | A | C5'-C4' | 5.32 | 1.57 | 1.51 |
| 2 | AB | 2631 | G | C5-C4 | -5.32 | 1.34 | 1.38 |
| 2 | AB | 2773 | C | C3'-C2' | 5.32 | 1.58 | 1.52 |
| 2 | AB | 2855 | C | N3-C4 | 5.32 | 1.37 | 1.33 |
| 18 | AR | 108 | ARG | NE-CZ | 5.32 | 1.40 | 1.33 |
| 35 | BA | 262 | A | N9-C8 | -5.32 | 1.33 | 1.37 |
| 35 | BA | 630 | A | P-OP2 | -5.32 | 1.40 | 1.49 |
| 35 | BA | 1318 | A | C5-C6 | 5.32 | 1.45 | 1.41 |
| 2 | AB | 1500 | G | C2'-C1' | 5.31 | 1.59 | 1.53 |
| 35 | BA | 133 | U | N1-C2 | 5.31 | 1.43 | 1.38 |
| 1 | AA | 37 | C | C2'-C1' | 5.31 | 1.59 | 1.53 |
| 1 | AA | 85 | G | P-O5' | 5.31 | 1.65 | 1.59 |
| 2 | AB | 443 | A | N3-C4 | 5.31 | 1.38 | 1.34 |
| 2 | AB | 466 | A | C5'-C4' | 5.31 | 1.57 | 1.51 |
| 2 | AB | 633 | A | P-O5' | 5.31 | 1.65 | 1.59 |
| 2 | AB | 792 | A | C5-C4 | -5.31 | 1.35 | 1.38 |
| 2 | AB | 846 | U | P-O5' | 5.31 | 1.65 | 1.59 |
| 2 | AB | 934 | U | C2'-C1' | 5.31 | 1.59 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1574 | C | C2'-C1' | -5.31 | 1.47 | 1.53 |
| 2 | AB | 1595 | C | C4-C5 | 5.31 | 1.47 | 1.43 |
| 2 | AB | 1612 | C | C2-N3 | 5.31 | 1.40 | 1.35 |
| 2 | AB | 2008 | C | C4-C5 | -5.31 | 1.38 | 1.43 |
| 35 | BA | 307 | C | O3'-P | -5.31 | 1.54 | 1.61 |
| 35 | BA | 315 | A | O3'-P | -5.31 | 1.54 | 1.61 |
| 35 | BA | 354 | G | C4'-C3' | 5.31 | 1.58 | 1.53 |
| 2 | AB | 627 | A | N7-C5 | -5.31 | 1.36 | 1.39 |
| 2 | AB | 2355 | G | C4'-O4' | -5.31 | 1.38 | 1.45 |
| 2 | AB | 2887 | A | N9-C8 | -5.31 | 1.33 | 1.37 |
| 36 | BB | 24 | A | O3'-P | -5.31 | 1.54 | 1.61 |
| 2 | AB | 390 | U | C2-N3 | 5.31 | 1.41 | 1.37 |
| 2 | AB | 409 | G | C2'-C1' | -5.31 | 1.47 | 1.53 |
| 2 | AB | 1356 | G | C2'-O2' | 5.31 | 1.48 | 1.41 |
| 2 | AB | 1527 | G | C6-N1 | -5.31 | 1.35 | 1.39 |
| 2 | AB | 1931 | U | C4-C5 | 5.31 | 1.48 | 1.43 |
| 2 | AB | 2145 | C | C5'-C4' | 5.31 | 1.57 | 1.51 |
| 2 | AB | 2303 | G | N3-C4 | 5.31 | 1.39 | 1.35 |
| 35 | BA | 44 | A | N3-C4 | 5.31 | 1.38 | 1.34 |
| 35 | BA | 145 | G | C6-N1 | -5.31 | 1.35 | 1.39 |
| 35 | BA | 237 | G | C5-C6 | 5.31 | 1.47 | 1.42 |
| 35 | BA | 551 | U | C2-O2 | -5.31 | 1.17 | 1.22 |
| 35 | BA | 782 | A | C2'-C1' | 5.31 | 1.59 | 1.53 |
| 35 | BA | 1330 | U | N1-C2 | 5.31 | 1.43 | 1.38 |
| 35 | BA | 1352 | C | C4-C5 | -5.31 | 1.38 | 1.43 |
| 35 | BA | 1454 | G | N1-C2 | 5.31 | 1.42 | 1.37 |
| 2 | AB | 1622 | G | C3'-O3' | 5.31 | 1.49 | 1.42 |
| 2 | AB | 1872 | A | C4'-C3' | -5.31 | 1.47 | 1.52 |
| 2 | AB | 2043 | C | C4'-O4' | -5.31 | 1.38 | 1.45 |
| 2 | AB | 2280 | G | C6-O6 | -5.31 | 1.19 | 1.24 |
| 35 | BA | 546 | A | C4'-C3' | 5.31 | 1.58 | 1.53 |
| 35 | BA | 668 | G | C2'-C1' | -5.31 | 1.47 | 1.53 |
| 35 | BA | 1446 | A | C8-N7 | 5.31 | 1.35 | 1.31 |
| 35 | BA | 1485 | U | C5-C6 | 5.31 | 1.39 | 1.34 |
| 2 | AB | 471 | A | C5'-C4' | 5.31 | 1.57 | 1.51 |
| 2 | AB | 1457 | U | P-O5' | 5.31 | 1.65 | 1.59 |
| 2 | AB | 1851 | U | C4'-C3' | -5.31 | 1.47 | 1.52 |
| 2 | AB | 2151 | U | P-O5' | 5.31 | 1.65 | 1.59 |
| 2 | AB | 2170 | A | C5-C6 | 5.31 | 1.45 | 1.41 |
| 2 | AB | 2659 | G | N7-C5 | 5.31 | 1.42 | 1.39 |
| 2 | AB | 2705 | A | C8-N7 | -5.31 | 1.27 | 1.31 |
| 2 | AB | 2808 | G | C6-O6 | -5.31 | 1.19 | 1.24 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 180 | G | C8-N7 | -5.30 | 1.27 | 1.30 |
| 2 | AB | 285 | G | N9-C8 | -5.30 | 1.34 | 1.37 |
| 2 | AB | 870 | U | C4'-O4' | -5.30 | 1.38 | 1.45 |
| 2 | AB | 1475 | G | N3-C4 | 5.30 | 1.39 | 1.35 |
| 2 | AB | 1582 | C | N3-C4 | 5.30 | 1.37 | 1.33 |
| 2 | AB | 1644 | C | C4'-O4' | -5.30 | 1.38 | 1.45 |
| 2 | AB | 1661 | G | C2-N3 | 5.30 | 1.36 | 1.32 |
| 2 | AB | 1893 | C | C2'-O2' | 5.30 | 1.48 | 1.41 |
| 2 | AB | 1945 | G | C2-N3 | 5.30 | 1.36 | 1.32 |
| 2 | AB | 2666 | C | C4-N4 | -5.30 | 1.29 | 1.33 |
| 2 | AB | 2702 | G | O5'-C5' | -5.30 | 1.34 | 1.42 |
| 35 | BA | 769 | G | N7-C5 | 5.30 | 1.42 | 1.39 |
| 35 | BA | 1126 | U | P-O5' | 5.30 | 1.65 | 1.59 |
| 35 | BA | 1185 | G | N3-C4 | 5.30 | 1.39 | 1.35 |
| 35 | BA | 1502 | A | C8-N7 | -5.30 | 1.27 | 1.31 |
| 35 | BA | 1527 | U | P-O5' | 5.30 | 1.65 | 1.59 |
| 2 | AB | 253 | C | N1-C6 | -5.30 | 1.33 | 1.37 |
| 2 | AB | 378 | C | C5'-C4' | 5.30 | 1.57 | 1.51 |
| 2 | AB | 585 | G | N3-C4 | 5.30 | 1.39 | 1.35 |
| 2 | AB | 2761 | A | C6-N1 | -5.30 | 1.31 | 1.35 |
| 35 | BA | 736 | C | O3'-P | 5.30 | 1.67 | 1.61 |
| 35 | BA | 955 | U | N3-C4 | -5.30 | 1.33 | 1.38 |
| 2 | AB | 507 | A | C4'-O4' | -5.30 | 1.38 | 1.45 |
| 2 | AB | 1419 | A | C5-C4 | -5.30 | 1.35 | 1.38 |
| 2 | AB | 2297 | A | C2'-C1' | 5.30 | 1.59 | 1.53 |
| 2 | AB | 2821 | A | N3-C4 | 5.30 | 1.38 | 1.34 |
| 35 | BA | 609 | A | O4'-C1' | 5.30 | 1.48 | 1.41 |
| 35 | BA | 799 | G | C2-N3 | 5.30 | 1.36 | 1.32 |
| 35 | BA | 810 | C | C5'-C4' | 5.30 | 1.57 | 1.51 |
| 35 | BA | 1145 | A | C2'-C1' | -5.30 | 1.47 | 1.53 |
| 35 | BA | 1241 | G | C5'-C4' | 5.30 | 1.57 | 1.51 |
| 35 | BA | 1326 | U | C5-C6 | 5.30 | 1.39 | 1.34 |
| 2 | AB | 77 | G | C5-C4 | -5.30 | 1.34 | 1.38 |
| 2 | AB | 316 | C | C5-C6 | 5.30 | 1.38 | 1.34 |
| 2 | AB | 346 | A | N9-C4 | 5.30 | 1.41 | 1.37 |
| 2 | AB | 531 | C | P-O5' | 5.30 | 1.65 | 1.59 |
| 2 | AB | 1252 | G | N7-C5 | 5.30 | 1.42 | 1.39 |
| 2 | AB | 1261 | C | N1-C6 | -5.30 | 1.33 | 1.37 |
| 2 | AB | 1964 | G | C4'-C3' | 5.30 | 1.58 | 1.53 |
| 2 | AB | 2579 | C | C5'-C4' | 5.30 | 1.57 | 1.51 |
| 35 | BA | 155 | A | N7-C5 | 5.30 | 1.42 | 1.39 |
| 35 | BA | 934 | C | C4'-O4' | -5.30 | 1.38 | 1.45 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1145 | A | P-O5' | 5.30 | 1.65 | 1.59 |
| 2 | AB | 869 | G | C5'-C4' | 5.30 | 1.57 | 1.51 |
| 2 | AB | 1177 | G | C5'-C4' | 5.30 | 1.57 | 1.51 |
| 2 | AB | 1237 | A | N9-C4 | 5.30 | 1.41 | 1.37 |
| 2 | AB | 2286 | G | N9-C4 | 5.30 | 1.42 | 1.38 |
| 35 | BA | 358 | U | C4-C5 | -5.30 | 1.38 | 1.43 |
| 2 | AB | 975 | A | N3-C4 | 5.30 | 1.38 | 1.34 |
| 2 | AB | 1120 | G | N9-C4 | -5.30 | 1.33 | 1.38 |
| 2 | AB | 1505 | A | P-O5' | -5.30 | 1.54 | 1.59 |
| 2 | AB | 1690 | A | C5-C4 | -5.30 | 1.35 | 1.38 |
| 2 | AB | 2440 | C | C3'-C2' | 5.30 | 1.58 | 1.52 |
| 2 | AB | 2453 | A | P-O5' | 5.30 | 1.65 | 1.59 |
| 2 | AB | 2627 | G | C4'-O4' | -5.30 | 1.38 | 1.45 |
| 35 | BA | 912 | C | O3'-P | -5.30 | 1.54 | 1.61 |
| 2 | AB | 145 | C | C2'-O2' | 5.29 | 1.48 | 1.41 |
| 2 | AB | 479 | A | C5-C4 | 5.29 | 1.42 | 1.38 |
| 2 | AB | 1247 | A | C3'-C2' | 5.29 | 1.58 | 1.52 |
| 2 | AB | 2347 | C | N1-C6 | 5.29 | 1.40 | 1.37 |
| 2 | AB | 2573 | C | O4'-C1' | 5.29 | 1.48 | 1.41 |
| 35 | BA | 32 | A | N3-C4 | 5.29 | 1.38 | 1.34 |
| 35 | BA | 89 | U | P-O5' | 5.29 | 1.65 | 1.59 |
| 35 | BA | 490 | C | C5'-C4' | 5.29 | 1.57 | 1.51 |
| 35 | BA | 883 | C | C2-O2 | -5.29 | 1.19 | 1.24 |
| 2 | AB | 654 | A | C8-N7 | -5.29 | 1.27 | 1.31 |
| 2 | AB | 1285 | A | N7-C5 | 5.29 | 1.42 | 1.39 |
| 2 | AB | 1560 | G | C2-N3 | 5.29 | 1.36 | 1.32 |
| 2 | AB | 1600 | C | C2'-C1' | -5.29 | 1.47 | 1.53 |
| 2 | AB | 1664 | A | O4'-C1' | 5.29 | 1.48 | 1.41 |
| 2 | AB | 2723 | C | O4'-C1' | 5.29 | 1.48 | 1.41 |
| 35 | BA | 642 | A | C5-C4 | -5.29 | 1.35 | 1.38 |
| 35 | BA | 1541 | U | O3'-P | 5.29 | 1.67 | 1.61 |
| 37 | BC | 27 | G | O3'-P | 5.29 | 1.67 | 1.61 |
| 2 | AB | 121 | G | C2-N3 | -5.29 | 1.28 | 1.32 |
| 2 | AB | 244 | A | N9-C8 | -5.29 | 1.33 | 1.37 |
| 2 | AB | 1245 | G | P-O5' | -5.29 | 1.54 | 1.59 |
| 2 | AB | 1537 | G | N9-C4 | 5.29 | 1.42 | 1.38 |
| 2 | AB | 2835 | A | P-O5' | 5.29 | 1.65 | 1.59 |
| 35 | BA | 61 | G | O4'-C1' | 5.29 | 1.48 | 1.41 |
| 35 | BA | 103 | U | C4-O4 | -5.29 | 1.19 | 1.23 |
| 35 | BA | 596 | A | C8-N7 | -5.29 | 1.27 | 1.31 |
| 2 | AB | 212 | G | C5-C6 | 5.29 | 1.47 | 1.42 |
| 2 | AB | 621 | A | P-O5' | 5.29 | 1.65 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1491 | G | P-O5' | 5.29 | 1.65 | 1.59 |
| 35 | BA | 97 | G | O4'-C1' | 5.29 | 1.48 | 1.41 |
| 35 | BA | 378 | G | C2-N3 | 5.29 | 1.36 | 1.32 |
| 35 | BA | 762 | U | C4'-O4' | -5.29 | 1.38 | 1.45 |
| 2 | AB | 571 | U | P-O5' | 5.29 | 1.65 | 1.59 |
| 2 | AB | 825 | A | C2-N3 | 5.29 | 1.38 | 1.33 |
| 2 | AB | 2128 | G | P-O5' | 5.29 | 1.65 | 1.59 |
| 2 | AB | 2526 | G | N3-C4 | 5.29 | 1.39 | 1.35 |
| 2 | AB | 2857 | G | C5-C4 | -5.29 | 1.34 | 1.38 |
| 35 | BA | 104 | G | C5-C6 | 5.29 | 1.47 | 1.42 |
| 35 | BA | 297 | G | P-O5' | 5.29 | 1.65 | 1.59 |
| 35 | BA | 472 | U | N3-C4 | 5.29 | 1.43 | 1.38 |
| 35 | BA | 490 | C | O3'-P | 5.29 | 1.67 | 1.61 |
| 35 | BA | 681 | A | C6-N6 | -5.29 | 1.29 | 1.33 |
| 41 | BG | 20 | VAL | CB-CG2 | 5.29 | 1.64 | 1.52 |
| 2 | AB | 1278 | C | C2-O2 | -5.29 | 1.19 | 1.24 |
| 2 | AB | 1499 | C | O4'-C1' | 5.29 | 1.48 | 1.41 |
| 2 | AB | 1637 | A | N9-C4 | 5.29 | 1.41 | 1.37 |
| 2 | AB | 2426 | A | C8-N7 | -5.29 | 1.27 | 1.31 |
| 2 | AB | 2783 | U | C4-O4 | -5.29 | 1.19 | 1.23 |
| 2 | AB | 2812 | G | N9-C8 | -5.29 | 1.34 | 1.37 |
| 11 | AK | 87 | SER | CA-CB | 5.29 | 1.60 | 1.52 |
| 35 | BA | 12 | U | C5-C6 | 5.29 | 1.39 | 1.34 |
| 35 | BA | 371 | A | N3-C4 | -5.29 | 1.31 | 1.34 |
| 35 | BA | 491 | G | N3-C4 | 5.29 | 1.39 | 1.35 |
| 2 | AB | 192 | C | O3'-P | 5.29 | 1.67 | 1.61 |
| 2 | AB | 927 | A | C6-N6 | 5.29 | 1.38 | 1.33 |
| 2 | AB | 1179 | G | C4'-O4' | -5.29 | 1.38 | 1.45 |
| 2 | AB | 1271 | G | P-O5' | 5.29 | 1.65 | 1.59 |
| 2 | AB | 1310 | G | N1-C2 | 5.29 | 1.42 | 1.37 |
| 2 | AB | 1366 | A | C6-N6 | 5.29 | 1.38 | 1.33 |
| 2 | AB | 1462 | C | C3'-C2' | -5.29 | 1.47 | 1.52 |
| 2 | AB | 1498 | C | O4'-C1' | 5.29 | 1.48 | 1.41 |
| 2 | AB | 1687 | G | C4'-O4' | -5.29 | 1.38 | 1.45 |
| 2 | AB | 2226 | C | C2-O2 | -5.29 | 1.19 | 1.24 |
| 35 | BA | 255 | G | N9-C8 | 5.29 | 1.41 | 1.37 |
| 35 | BA | 399 | G | N1-C2 | 5.29 | 1.42 | 1.37 |
| 35 | BA | 1031 | C | C4-N4 | 5.29 | 1.38 | 1.33 |
| 35 | BA | 1298 | U | N3-C4 | -5.29 | 1.33 | 1.38 |
| 35 | BA | 1378 | C | O3'-P | 5.29 | 1.67 | 1.61 |
| 35 | BA | 1472 | U | C2-N3 | 5.29 | 1.41 | 1.37 |
| 2 | AB | 1021 | A | N7-C5 | -5.28 | 1.36 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2292 | U | N3-C4 | 5.28 | 1.43 | 1.38 |
| 2 | AB | 2562 | U | N3-C4 | 5.28 | 1.43 | 1.38 |
| 35 | BA | 604 | G | C8-N7 | 5.28 | 1.34 | 1.30 |
| 35 | BA | 687 | A | N7-C5 | 5.28 | 1.42 | 1.39 |
| 35 | BA | 706 | A | C5-C4 | -5.28 | 1.35 | 1.38 |
| 35 | BA | 971 | G | C8-N7 | -5.28 | 1.27 | 1.30 |
| 35 | BA | 1014 | A | C4'-O4' | -5.28 | 1.38 | 1.45 |
| 35 | BA | 1103 | C | C2'-C1' | 5.28 | 1.59 | 1.53 |
| 35 | BA | 1349 | A | C2'-C1' | 5.28 | 1.59 | 1.53 |
| 35 | BA | 1390 | U | P-O5' | 5.28 | 1.65 | 1.59 |
| 37 | BC | 6 | G | C6-O6 | -5.28 | 1.19 | 1.24 |
| 2 | AB | 251 | A | N9-C8 | -5.28 | 1.33 | 1.37 |
| 2 | AB | 1457 | U | O3'-P | -5.28 | 1.54 | 1.61 |
| 35 | BA | 592 | G | C6-N1 | 5.28 | 1.43 | 1.39 |
| 35 | BA | 1324 | A | N7-C5 | 5.28 | 1.42 | 1.39 |
| 2 | AB | 66 | C | C4'-O4' | -5.28 | 1.38 | 1.45 |
| 2 | AB | 381 | G | N9-C4 | 5.28 | 1.42 | 1.38 |
| 2 | AB | 1494 | A | N3-C4 | 5.28 | 1.38 | 1.34 |
| 2 | AB | 1543 | G | C2'-O2' | -5.28 | 1.34 | 1.41 |
| 2 | AB | 1886 | U | C5-C6 | 5.28 | 1.39 | 1.34 |
| 2 | AB | 2534 | A | N7-C5 | -5.28 | 1.36 | 1.39 |
| 2 | AB | 2789 | C | N3-C4 | 5.28 | 1.37 | 1.33 |
| 2 | AB | 2882 | A | N1-C2 | -5.28 | 1.29 | 1.34 |
| 35 | BA | 53 | A | N9-C8 | 5.28 | 1.42 | 1.37 |
| 35 | BA | 97 | G | N1-C2 | 5.28 | 1.42 | 1.37 |
| 35 | BA | 246 | A | N1-C2 | -5.28 | 1.29 | 1.34 |
| 35 | BA | 452 | A | O3'-P | -5.28 | 1.54 | 1.61 |
| 35 | BA | 719 | C | P-O5' | 5.28 | 1.65 | 1.59 |
| 35 | BA | 1165 | U | P-OP1 | -5.28 | 1.40 | 1.49 |
| 2 | AB | 215 | G | C5-C4 | -5.28 | 1.34 | 1.38 |
| 2 | AB | 520 | G | P-O5' | 5.28 | 1.65 | 1.59 |
| 2 | AB | 1402 | U | C5'-C4' | 5.28 | 1.57 | 1.51 |
| 2 | AB | 1693 | U | C4-C5 | 5.28 | 1.48 | 1.43 |
| 2 | AB | 2519 | U | C3'-C2' | -5.28 | 1.47 | 1.52 |
| 2 | AB | 2707 | U | C4'-C3' | 5.28 | 1.58 | 1.53 |
| 2 | AB | 1534 | U | N3-C4 | 5.28 | 1.43 | 1.38 |
| 35 | BA | 129 | A | C5'-C4' | 5.28 | 1.57 | 1.51 |
| 36 | BB | 31 | U | C4'-O4' | -5.28 | 1.38 | 1.45 |
| 2 | AB | 43 | G | P-O5' | 5.28 | 1.65 | 1.59 |
| 2 | AB | 272 | A | C8-N7 | -5.28 | 1.27 | 1.31 |
| 2 | AB | 1480 | C | C4-C5 | 5.28 | 1.47 | 1.43 |
| 2 | AB | 2262 | U | N3-C4 | 5.28 | 1.43 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2462 | C | C4-N4 | -5.28 | 1.29 | 1.33 |
| 2 | AB | 2570 | G | C6-N1 | -5.28 | 1.35 | 1.39 |
| 35 | BA | 433 | G | N1-C2 | 5.28 | 1.42 | 1.37 |
| 35 | BA | 453 | G | C5-C6 | 5.28 | 1.47 | 1.42 |
| 35 | BA | 477 | C | P-O5' | 5.28 | 1.65 | 1.59 |
| 35 | BA | 991 | U | C3'-O3' | 5.28 | 1.49 | 1.42 |
| 35 | BA | 1015 | G | C6-N1 | 5.28 | 1.43 | 1.39 |
| 35 | BA | 1504 | G | N1-C2 | 5.28 | 1.42 | 1.37 |
| 1 | AA | 110 | C | C4'-O4' | -5.27 | 1.38 | 1.45 |
| 2 | AB | 1364 | G | N9-C4 | -5.27 | 1.33 | 1.38 |
| 2 | AB | 1732 | C | N1-C6 | 5.27 | 1.40 | 1.37 |
| 2 | AB | 1973 | G | C8-N7 | 5.27 | 1.34 | 1.30 |
| 2 | AB | 2056 | G | N9-C8 | 5.27 | 1.41 | 1.37 |
| 2 | AB | 2675 | A | C6-N1 | 5.27 | 1.39 | 1.35 |
| 2 | AB | 528 | A | C6-N6 | 5.27 | 1.38 | 1.33 |
| 2 | AB | 595 | C | N3-C4 | 5.27 | 1.37 | 1.33 |
| 2 | AB | 602 | A | C8-N7 | -5.27 | 1.27 | 1.31 |
| 2 | AB | 1681 | G | O3'-P | 5.27 | 1.67 | 1.61 |
| 2 | AB | 2024 | G | P-O5' | 5.27 | 1.65 | 1.59 |
| 2 | AB | 2389 | G | N9-C8 | 5.27 | 1.41 | 1.37 |
| 2 | AB | 2588 | G | C5-C4 | 5.27 | 1.42 | 1.38 |
| 35 | BA | 544 | G | C6-N1 | -5.27 | 1.35 | 1.39 |
| 35 | BA | 1140 | C | N3-C4 | -5.27 | 1.30 | 1.33 |
| 35 | BA | 1242 | G | N9-C4 | 5.27 | 1.42 | 1.38 |
| 2 | AB | 220 | G | C5'-C4' | 5.27 | 1.57 | 1.51 |
| 2 | AB | 323 | C | C4-C5 | 5.27 | 1.47 | 1.43 |
| 2 | AB | 968 | C | C4'-O4' | -5.27 | 1.38 | 1.45 |
| 2 | AB | 1050 | A | N1-C2 | -5.27 | 1.29 | 1.34 |
| 2 | AB | 1194 | A | C5-C6 | 5.27 | 1.45 | 1.41 |
| 2 | AB | 2319 | G | N9-C8 | -5.27 | 1.34 | 1.37 |
| 2 | AB | 2353 | G | C6-N1 | 5.27 | 1.43 | 1.39 |
| 2 | AB | 2584 | U | C1'-N1 | 5.27 | 1.56 | 1.48 |
| 35 | BA | 956 | U | C2'-O2' | -5.27 | 1.34 | 1.41 |
| 35 | BA | 1053 | G | C6-N1 | -5.27 | 1.35 | 1.39 |
| 2 | AB | 140 | C | P-O5' | 5.27 | 1.65 | 1.59 |
| 2 | AB | 892 | A | C5-C6 | 5.27 | 1.45 | 1.41 |
| 2 | AB | 1175 | A | P-O5' | 5.27 | 1.65 | 1.59 |
| 2 | AB | 1725 | U | C5'-C4' | 5.27 | 1.57 | 1.51 |
| 2 | AB | 2120 | G | C4'-O4' | -5.27 | 1.38 | 1.45 |
| 2 | AB | 2486 | C | C4'-O4' | -5.27 | 1.38 | 1.45 |
| 2 | AB | 2843 | G | C2-N3 | 5.27 | 1.36 | 1.32 |
| 2 | AB | 2902 | C | C4-C5 | 5.27 | 1.47 | 1.43 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 202 | G | C2-N3 | 5.27 | 1.36 | 1.32 |
| 35 | BA | 423 | G | C4'-O4' | -5.27 | 1.38 | 1.45 |
| 35 | BA | 1214 | C | C5-C6 | -5.27 | 1.30 | 1.34 |
| 47 | BM | 76 | TYR | CE1-CZ | 5.27 | 1.45 | 1.38 |
| 48 | BN | 60 | PHE | CG-CD2 | 5.27 | 1.46 | 1.38 |
| 2 | AB | 945 | A | C4'-O4' | -5.27 | 1.38 | 1.45 |
| 2 | AB | 1424 | G | C2-N3 | 5.27 | 1.36 | 1.32 |
| 2 | AB | 1483 | G | C2-N3 | 5.27 | 1.36 | 1.32 |
| 2 | AB | 1753 | G | C5-C6 | -5.27 | 1.37 | 1.42 |
| 2 | AB | 2827 | C | C3'-O3' | -5.27 | 1.34 | 1.42 |
| 35 | BA | 647 | C | C5'-C4' | 5.27 | 1.57 | 1.51 |
| 35 | BA | 1031 | C | C5-C6 | 5.27 | 1.38 | 1.34 |
| 35 | BA | 1277 | C | C4-C5 | 5.27 | 1.47 | 1.43 |
| 35 | BA | 1282 | C | N3-C4 | 5.27 | 1.37 | 1.33 |
| 35 | BA | 1382 | C | C4-C5 | 5.27 | 1.47 | 1.43 |
| 2 | AB | 641 | U | P-O5' | 5.27 | 1.65 | 1.59 |
| 2 | AB | 701 | G | C4'-C3' | -5.27 | 1.47 | 1.52 |
| 2 | AB | 1635 | A | C2'-O2' | 5.27 | 1.48 | 1.41 |
| 2 | AB | 2296 | U | C4-C5 | -5.27 | 1.38 | 1.43 |
| 2 | AB | 2459 | A | N7-C5 | 5.27 | 1.42 | 1.39 |
| 35 | BA | 205 | A | C2'-C1' | 5.27 | 1.59 | 1.53 |
| 35 | BA | 552 | U | P-O5' | 5.27 | 1.65 | 1.59 |
| 35 | BA | 900 | A | C4'-O4' | -5.27 | 1.38 | 1.45 |
| 1 | AA | 8 | C | C2-N3 | 5.26 | 1.40 | 1.35 |
| 1 | AA | 25 | U | C5-C6 | 5.26 | 1.38 | 1.34 |
| 2 | AB | 111 | A | N9-C8 | -5.26 | 1.33 | 1.37 |
| 2 | AB | 222 | A | C5'-C4' | 5.26 | 1.57 | 1.51 |
| 2 | AB | 259 | G | C5'-C4' | 5.26 | 1.57 | 1.51 |
| 2 | AB | 466 | A | O3'-P | -5.26 | 1.54 | 1.61 |
| 2 | AB | 694 | U | C4'-O4' | -5.26 | 1.38 | 1.45 |
| 2 | AB | 936 | A | C3'-O3' | -5.26 | 1.34 | 1.42 |
| 2 | AB | 1174 | U | C3'-O3' | 5.26 | 1.49 | 1.42 |
| 2 | AB | 1437 | C | C4-C5 | 5.26 | 1.47 | 1.43 |
| 2 | AB | 1553 | A | C2'-O2' | 5.26 | 1.48 | 1.41 |
| 2 | AB | 2285 | C | N3-C4 | 5.26 | 1.37 | 1.33 |
| 2 | AB | 2632 | A | C5-C6 | 5.26 | 1.45 | 1.41 |
| 2 | AB | 2747 | G | C4'-C3' | 5.26 | 1.58 | 1.53 |
| 2 | AB | 2780 | G | C5-C4 | -5.26 | 1.34 | 1.38 |
| 2 | AB | 2835 | A | N7-C5 | 5.26 | 1.42 | 1.39 |
| 2 | AB | 2878 | U | C4'-O4' | -5.26 | 1.38 | 1.45 |
| 35 | BA | 219 | U | O4'-C1' | 5.26 | 1.48 | 1.41 |
| 35 | BA | 934 | C | P-O5' | 5.26 | 1.65 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2705 | A | C5-C4 | -5.26 | 1.35 | 1.38 |
| 35 | BA | 648 | A | C1'-N9 | -5.26 | 1.39 | 1.46 |
| 35 | BA | 772 | U | C3'-O3' | 5.26 | 1.49 | 1.42 |
| 2 | AB | 55 | G | C5-C6 | 5.26 | 1.47 | 1.42 |
| 2 | AB | 922 | C | C4-N4 | 5.26 | 1.38 | 1.33 |
| 2 | AB | 1031 | G | P-O5' | 5.26 | 1.65 | 1.59 |
| 2 | AB | 1475 | G | C4'-O4' | -5.26 | 1.38 | 1.45 |
| 2 | AB | 1972 | G | C2-N3 | 5.26 | 1.36 | 1.32 |
| 2 | AB | 2378 | A | C8-N7 | 5.26 | 1.35 | 1.31 |
| 2 | AB | 2875 | C | N1-C6 | 5.26 | 1.40 | 1.37 |
| 35 | BA | 1330 | U | O4'-C1' | -5.26 | 1.34 | 1.41 |
| 1 | AA | 113 | C | N1-C6 | 5.26 | 1.40 | 1.37 |
| 2 | AB | 486 | C | P-O5' | 5.26 | 1.65 | 1.59 |
| 2 | AB | 916 | G | O3'-P | 5.26 | 1.67 | 1.61 |
| 2 | AB | 1018 | U | C4'-O4' | -5.26 | 1.38 | 1.45 |
| 2 | AB | 2025 | C | C2'-O2' | 5.26 | 1.48 | 1.41 |
| 2 | AB | 2199 | A | C2-N3 | 5.26 | 1.38 | 1.33 |
| 2 | AB | 2261 | C | C2-N3 | 5.26 | 1.40 | 1.35 |
| 2 | AB | 2595 | G | C8-N7 | -5.26 | 1.27 | 1.30 |
| 35 | BA | 143 | A | C8-N7 | -5.26 | 1.27 | 1.31 |
| 35 | BA | 585 | G | C6-O6 | 5.26 | 1.28 | 1.24 |
| 35 | BA | 1079 | G | C5-C4 | 5.26 | 1.42 | 1.38 |
| 35 | BA | 1257 | A | N9-C4 | 5.26 | 1.41 | 1.37 |
| 37 | BC | 26 | C | C4'-C3' | -5.26 | 1.47 | 1.52 |
| 1 | AA | 78 | A | P-O5' | 5.26 | 1.65 | 1.59 |
| 2 | AB | 484 | C | P-O5' | 5.26 | 1.65 | 1.59 |
| 2 | AB | 886 | A | C5'-C4' | 5.26 | 1.57 | 1.51 |
| 2 | AB | 2094 | A | C4'-O4' | -5.26 | 1.38 | 1.45 |
| 2 | AB | 2820 | A | C8-N7 | -5.26 | 1.27 | 1.31 |
| 35 | BA | 1104 | G | C8-N7 | 5.26 | 1.34 | 1.30 |
| 45 | BK | 121 | ARG | NE-CZ | 5.26 | 1.39 | 1.33 |
| 1 | AA | 88 | C | C4-N4 | 5.26 | 1.38 | 1.33 |
| 2 | AB | 23 | G | P-O5' | -5.26 | 1.54 | 1.59 |
| 2 | AB | 275 | C | C4'-C3' | 5.26 | 1.58 | 1.53 |
| 2 | AB | 904 | G | N9-C8 | -5.26 | 1.34 | 1.37 |
| 2 | AB | 1131 | G | C5-C4 | 5.26 | 1.42 | 1.38 |
| 2 | AB | 2079 | U | C2-N3 | 5.26 | 1.41 | 1.37 |
| 2 | AB | 2218 | G | C3'-O3' | -5.26 | 1.34 | 1.42 |
| 2 | AB | 2225 | A | N9-C4 | 5.26 | 1.41 | 1.37 |
| 2 | AB | 2331 | G | P-O5' | 5.26 | 1.65 | 1.59 |
| 35 | BA | 117 | G | N3-C4 | 5.26 | 1.39 | 1.35 |
| 35 | BA | 389 | A | N3-C4 | 5.26 | 1.38 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 636 | U | C4-C5 | 5.26 | 1.48 | 1.43 |
| 35 | BA | 970 | C | C5'-C4' | 5.26 | 1.57 | 1.51 |
| 35 | BA | 1031 | C | C3'-O3' | -5.26 | 1.34 | 1.42 |
| 37 | BC | 19 | G | C5'-C4' | 5.26 | 1.57 | 1.51 |
| 37 | BC | 45 | A | N7-C5 | -5.26 | 1.36 | 1.39 |
| 2 | AB | 837 | C | C2-O2 | -5.25 | 1.19 | 1.24 |
| 2 | AB | 1500 | G | O3'-P | 5.25 | 1.67 | 1.61 |
| 2 | AB | 2667 | C | C4'-C3' | 5.25 | 1.58 | 1.53 |
| 13 | AM | 70 | ARG | NE-CZ | 5.25 | 1.39 | 1.33 |
| 2 | AB | 240 | C | C2-N3 | -5.25 | 1.31 | 1.35 |
| 2 | AB | 851 | C | O3'-P | 5.25 | 1.67 | 1.61 |
| 2 | AB | 873 | C | C2-N3 | 5.25 | 1.40 | 1.35 |
| 2 | AB | 930 | G | C6-O6 | -5.25 | 1.19 | 1.24 |
| 2 | AB | 1293 | C | C1'-N1 | 5.25 | 1.56 | 1.48 |
| 2 | AB | 1294 | U | C5-C6 | 5.25 | 1.38 | 1.34 |
| 2 | AB | 1631 | G | C2'-O2' | -5.25 | 1.34 | 1.41 |
| 35 | BA | 195 | A | C4'-O4' | -5.25 | 1.38 | 1.45 |
| 35 | BA | 567 | G | N1-C2 | -5.25 | 1.33 | 1.37 |
| 35 | BA | 578 | C | C4-C5 | 5.25 | 1.47 | 1.43 |
| 35 | BA | 677 | U | O4'-C1' | 5.25 | 1.48 | 1.41 |
| 35 | BA | 850 | U | N3-C4 | 5.25 | 1.43 | 1.38 |
| 35 | BA | 1355 | G | N9-C8 | -5.25 | 1.34 | 1.37 |
| 1 | AA | 17 | C | N1-C6 | 5.25 | 1.40 | 1.37 |
| 2 | AB | 498 | G | C6-N1 | -5.25 | 1.35 | 1.39 |
| 2 | AB | 801 | G | N1-C2 | 5.25 | 1.42 | 1.37 |
| 2 | AB | 819 | A | C6-N6 | -5.25 | 1.29 | 1.33 |
| 2 | AB | 1485 | U | C2'-C1' | 5.25 | 1.59 | 1.53 |
| 2 | AB | 1658 | C | C2-N3 | 5.25 | 1.40 | 1.35 |
| 2 | AB | 1961 | C | C4'-C3' | -5.25 | 1.47 | 1.52 |
| 2 | AB | 2204 | G | C4'-C3' | -5.25 | 1.47 | 1.52 |
| 2 | AB | 2363 | G | C4'-O4' | -5.25 | 1.38 | 1.45 |
| 35 | BA | 78 | A | C4'-O4' | -5.25 | 1.38 | 1.45 |
| 35 | BA | 612 | C | C5'-C4' | 5.25 | 1.57 | 1.51 |
| 35 | BA | 629 | A | C5'-C4' | -5.25 | 1.45 | 1.51 |
| 35 | BA | 775 | G | C6-O6 | -5.25 | 1.19 | 1.24 |
| 35 | BA | 1018 | G | C5-C6 | 5.25 | 1.47 | 1.42 |
| 35 | BA | 1054 | C | N1-C6 | 5.25 | 1.40 | 1.37 |
| 35 | BA | 1177 | G | C2-N3 | 5.25 | 1.36 | 1.32 |
| 35 | BA | 1329 | A | C6-N6 | -5.25 | 1.29 | 1.33 |
| 41 | BG | 47 | PHE | CE1-CZ | 5.25 | 1.47 | 1.37 |
| 2 | AB | 116 | C | C4'-O4' | -5.25 | 1.38 | 1.45 |
| 2 | AB | 785 | G | C5-C4 | 5.25 | 1.42 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2167 | U | P-O5' | 5.25 | 1.65 | 1.59 |
| 2 | AB | 2693 | G | P-O5' | 5.25 | 1.65 | 1.59 |
| 35 | BA | 718 | A | C4'-C3' | 5.25 | 1.58 | 1.53 |
| 35 | BA | 789 | U | C3'-C2' | 5.25 | 1.58 | 1.52 |
| 35 | BA | 980 | C | O4'-C1' | 5.25 | 1.48 | 1.41 |
| 2 | AB | 1160 | G | C5'-C4' | 5.25 | 1.57 | 1.51 |
| 2 | AB | 2157 | G | C4'-O4' | -5.25 | 1.38 | 1.45 |
| 2 | AB | 2318 | G | C4'-O4' | -5.25 | 1.38 | 1.45 |
| 2 | AB | 2483 | C | C4'-C3' | -5.25 | 1.47 | 1.52 |
| 35 | BA | 1459 | G | C4'-O4' | -5.25 | 1.38 | 1.45 |
| 35 | BA | 1500 | A | C6-N1 | 5.25 | 1.39 | 1.35 |
| 2 | AB | 47 | C | P-O5' | 5.25 | 1.65 | 1.59 |
| 2 | AB | 299 | A | N9-C8 | 5.25 | 1.42 | 1.37 |
| 2 | AB | 1592 | C | P-O5' | 5.25 | 1.65 | 1.59 |
| 2 | AB | 1664 | A | N7-C5 | 5.25 | 1.42 | 1.39 |
| 2 | AB | 1793 | C | C1'-N1 | 5.25 | 1.56 | 1.48 |
| 2 | AB | 1865 | U | N1-C2 | 5.25 | 1.43 | 1.38 |
| 2 | AB | 2633 | G | N1-C2 | 5.25 | 1.42 | 1.37 |
| 2 | AB | 2643 | G | N7-C5 | 5.25 | 1.42 | 1.39 |
| 35 | BA | 212 | G | C8-N7 | -5.25 | 1.27 | 1.30 |
| 35 | BA | 268 | U | C4'-O4' | -5.25 | 1.38 | 1.45 |
| 35 | BA | 875 | U | N1-C6 | 5.25 | 1.42 | 1.38 |
| 2 | AB | 272 | A | C6-N1 | 5.25 | 1.39 | 1.35 |
| 2 | AB | 1403 | A | N3-C4 | 5.25 | 1.38 | 1.34 |
| 2 | AB | 1489 | C | C2'-C1' | -5.25 | 1.47 | 1.53 |
| 2 | AB | 2000 | C | C2'-O2' | 5.25 | 1.48 | 1.41 |
| 11 | AK | 15 | GLY | C-O | -5.25 | 1.15 | 1.23 |
| 35 | BA | 177 | G | C5'-C4' | 5.25 | 1.57 | 1.51 |
| 1 | AA | 30 | C | P-O5' | 5.24 | 1.65 | 1.59 |
| 2 | AB | 366 | C | N3-C4 | 5.24 | 1.37 | 1.33 |
| 2 | AB | 794 | A | C6-N6 | 5.24 | 1.38 | 1.33 |
| 2 | AB | 1197 | G | C2'-C1' | -5.24 | 1.47 | 1.53 |
| 2 | AB | 1452 | G | C4'-O4' | -5.24 | 1.38 | 1.45 |
| 2 | AB | 1863 | G | P-O5' | 5.24 | 1.65 | 1.59 |
| 35 | BA | 648 | A | C3'-O3' | 5.24 | 1.49 | 1.42 |
| 35 | BA | 727 | G | C5-C4 | 5.24 | 1.42 | 1.38 |
| 35 | BA | 1211 | U | C2-N3 | 5.24 | 1.41 | 1.37 |
| 1 | AA | 76 | G | P-O5' | 5.24 | 1.65 | 1.59 |
| 2 | AB | 161 | A | C2'-O2' | 5.24 | 1.48 | 1.41 |
| 2 | AB | 935 | C | N3-C4 | 5.24 | 1.37 | 1.33 |
| 2 | AB | 1456 | G | C2-N3 | 5.24 | 1.36 | 1.32 |
| 2 | AB | 2865 | U | C4-O4 | 5.24 | 1.27 | 1.23 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 49 | U | C4'-O4' | -5.24 | 1.38 | 1.45 |
| 35 | BA | 1493 | A | P-O5' | 5.24 | 1.65 | 1.59 |
| 37 | BC | 23 | G | P-O5' | 5.24 | 1.65 | 1.59 |
| 2 | AB | 387 | U | C3'-O3' | 5.24 | 1.49 | 1.42 |
| 2 | AB | 556 | A | C8-N7 | -5.24 | 1.27 | 1.31 |
| 2 | AB | 716 | A | C6-N6 | 5.24 | 1.38 | 1.33 |
| 2 | AB | 958 | U | C3'-O3' | 5.24 | 1.49 | 1.42 |
| 2 | AB | 1212 | G | C2-N2 | 5.24 | 1.39 | 1.34 |
| 2 | AB | 1252 | G | C3'-C2' | -5.24 | 1.47 | 1.52 |
| 2 | AB | 2335 | A | C3'-C2' | -5.24 | 1.47 | 1.52 |
| 2 | AB | 2862 | G | C3'-C2' | 5.24 | 1.58 | 1.52 |
| 35 | BA | 705 | G | N3-C4 | 5.24 | 1.39 | 1.35 |
| 35 | BA | 1186 | G | O4'-C1' | 5.24 | 1.48 | 1.41 |
| 2 | AB | 341 | C | O3'-P | -5.24 | 1.54 | 1.61 |
| 2 | AB | 434 | U | N1-C6 | -5.24 | 1.33 | 1.38 |
| 2 | AB | 498 | G | C3'-C2' | 5.24 | 1.58 | 1.52 |
| 2 | AB | 520 | G | C2-N3 | 5.24 | 1.36 | 1.32 |
| 2 | AB | 1059 | G | N1-C2 | 5.24 | 1.42 | 1.37 |
| 2 | AB | 1787 | A | N9-C8 | 5.24 | 1.42 | 1.37 |
| 2 | AB | 1932 | A | P-O5' | 5.24 | 1.65 | 1.59 |
| 29 | A2 | 9 | TYR | CE1-CZ | 5.24 | 1.45 | 1.38 |
| 35 | BA | 86 | G | O3'-P | 5.24 | 1.67 | 1.61 |
| 35 | BA | 319 | G | N1-C2 | 5.24 | 1.42 | 1.37 |
| 35 | BA | 583 | A | C8-N7 | -5.24 | 1.27 | 1.31 |
| 35 | BA | 636 | U | C4-O4 | 5.24 | 1.27 | 1.23 |
| 35 | BA | 1306 | A | P-O5' | 5.24 | 1.65 | 1.59 |
| 36 | BB | 48 | C | C3'-C2' | 5.24 | 1.58 | 1.52 |
| 2 | AB | 375 | G | C8-N7 | -5.24 | 1.27 | 1.30 |
| 2 | AB | 707 | G | N9-C8 | -5.24 | 1.34 | 1.37 |
| 2 | AB | 1640 | A | C4'-O4' | -5.24 | 1.38 | 1.45 |
| 2 | AB | 1878 | G | C5'-C4' | 5.24 | 1.57 | 1.51 |
| 35 | BA | 107 | G | O5'-C5' | -5.24 | 1.34 | 1.42 |
| 35 | BA | 642 | A | C1'-N9 | 5.24 | 1.56 | 1.48 |
| 2 | AB | 69 | C | C5-C6 | 5.24 | 1.38 | 1.34 |
| 2 | AB | 218 | A | C4'-C3' | -5.24 | 1.47 | 1.52 |
| 2 | AB | 251 | A | C5-C4 | -5.24 | 1.35 | 1.38 |
| 2 | AB | 337 | C | C4'-O4' | -5.24 | 1.38 | 1.45 |
| 2 | AB | 843 | G | C5-C4 | -5.24 | 1.34 | 1.38 |
| 2 | AB | 1307 | A | C5-C4 | 5.24 | 1.42 | 1.38 |
| 2 | AB | 1522 | A | C5'-C4' | 5.24 | 1.57 | 1.51 |
| 2 | AB | 2512 | C | C4'-O4' | -5.24 | 1.38 | 1.45 |
| 4 | AD | 261 | ARG | CZ-NH2 | 5.24 | 1.39 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 5 | AE | 163 | GLY | N-CA | 5.24 | 1.53 | 1.46 |
| 2 | AB | 1325 | U | C4'-C3' | 5.23 | 1.58 | 1.53 |
| 2 | AB | 2143 | C | P-O5' | 5.23 | 1.65 | 1.59 |
| 2 | AB | 2312 | U | C2'-O2' | -5.23 | 1.34 | 1.41 |
| 17 | AQ | 10 | ARG | CZ-NH2 | 5.23 | 1.39 | 1.33 |
| 35 | BA | 26 | A | N3-C4 | 5.23 | 1.38 | 1.34 |
| 35 | BA | 1154 | G | N3-C4 | 5.23 | 1.39 | 1.35 |
| 1 | AA | 7 | G | N3-C4 | 5.23 | 1.39 | 1.35 |
| 2 | AB | 1 | G | C5'-C4' | 5.23 | 1.57 | 1.51 |
| 2 | AB | 8 | C | C2-N3 | 5.23 | 1.40 | 1.35 |
| 2 | AB | 82 | U | C4-C5 | 5.23 | 1.48 | 1.43 |
| 2 | AB | 822 | G | C6-N1 | 5.23 | 1.43 | 1.39 |
| 2 | AB | 1533 | C | C5'-C4' | 5.23 | 1.57 | 1.51 |
| 2 | AB | 2294 | G | O5'-C5' | -5.23 | 1.34 | 1.42 |
| 2 | AB | 2570 | G | N9-C4 | -5.23 | 1.33 | 1.38 |
| 2 | AB | 2579 | C | N3-C4 | 5.23 | 1.37 | 1.33 |
| 35 | BA | 155 | A | P-O5' | 5.23 | 1.65 | 1.59 |
| 35 | BA | 636 | U | C2-O2 | 5.23 | 1.27 | 1.22 |
| 35 | BA | 772 | U | C2-O2 | 5.23 | 1.27 | 1.22 |
| 35 | BA | 822 | U | C1'-N1 | 5.23 | 1.56 | 1.48 |
| 35 | BA | 1379 | G | C4'-C3' | 5.23 | 1.58 | 1.53 |
| 37 | BC | 16 | C | N1-C6 | -5.23 | 1.34 | 1.37 |
| 1 | AA | 32 | U | C4'-O4' | -5.23 | 1.38 | 1.45 |
| 2 | AB | 181 | A | N7-C5 | 5.23 | 1.42 | 1.39 |
| 2 | AB | 503 | A | C8-N7 | -5.23 | 1.27 | 1.31 |
| 2 | AB | 511 | U | C4'-O4' | -5.23 | 1.38 | 1.45 |
| 2 | AB | 812 | C | P-O5' | 5.23 | 1.65 | 1.59 |
| 2 | AB | 1340 | U | C2-N3 | 5.23 | 1.41 | 1.37 |
| 2 | AB | 1353 | A | O3'-P | 5.23 | 1.67 | 1.61 |
| 2 | AB | 1655 | A | C5-C4 | -5.23 | 1.35 | 1.38 |
| 2 | AB | 1772 | A | C8-N7 | -5.23 | 1.27 | 1.31 |
| 2 | AB | 2090 | A | N7-C5 | 5.23 | 1.42 | 1.39 |
| 2 | AB | 2098 | U | C4'-C3' | 5.23 | 1.58 | 1.53 |
| 2 | AB | 2596 | U | C4'-C3' | 5.23 | 1.58 | 1.53 |
| 35 | BA | 406 | G | P-O5' | -5.23 | 1.54 | 1.59 |
| 35 | BA | 1247 | U | N1-C2 | 5.23 | 1.43 | 1.38 |
| 37 | BC | 74 | A | C8-N7 | 5.23 | 1.35 | 1.31 |
| 2 | AB | 648 | G | P-O5' | 5.23 | 1.65 | 1.59 |
| 2 | AB | 1444 | G | C2'-C1' | -5.23 | 1.47 | 1.53 |
| 2 | AB | 1456 | G | C5-C6 | 5.23 | 1.47 | 1.42 |
| 2 | AB | 1959 | G | C2-N3 | 5.23 | 1.36 | 1.32 |
| 35 | BA | 289 | G | N1-C2 | 5.23 | 1.42 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1344 | C | C2'-C1' | -5.23 | 1.47 | 1.53 |
| 2 | AB | 695 | G | C5-C6 | 5.23 | 1.47 | 1.42 |
| 2 | AB | 930 | G | N9-C8 | 5.23 | 1.41 | 1.37 |
| 2 | AB | 982 | C | C4-C5 | 5.23 | 1.47 | 1.43 |
| 2 | AB | 1365 | A | C2-N3 | 5.23 | 1.38 | 1.33 |
| 2 | AB | 1520 | U | N1-C2 | 5.23 | 1.43 | 1.38 |
| 2 | AB | 2083 | G | C4'-O4' | -5.23 | 1.38 | 1.45 |
| 2 | AB | 2088 | A | C4'-O4' | -5.23 | 1.38 | 1.45 |
| 2 | AB | 2671 | G | N7-C5 | 5.23 | 1.42 | 1.39 |
| 35 | BA | 10 | A | C3'-C2' | -5.23 | 1.47 | 1.52 |
| 35 | BA | 69 | G | C2-N3 | 5.23 | 1.36 | 1.32 |
| 35 | BA | 106 | C | P-O5' | 5.23 | 1.65 | 1.59 |
| 35 | BA | 1301 | U | O3'-P | -5.23 | 1.54 | 1.61 |
| 35 | BA | 1456 | A | P-O5' | 5.23 | 1.65 | 1.59 |
| 2 | AB | 1017 | G | C3'-O3' | -5.23 | 1.34 | 1.42 |
| 2 | AB | 1502 | A | O4'-C1' | 5.23 | 1.48 | 1.41 |
| 2 | AB | 2270 | A | O3'-P | 5.23 | 1.67 | 1.61 |
| 35 | BA | 261 | U | N1-C2 | 5.23 | 1.43 | 1.38 |
| 2 | AB | 62 | U | C5'-C4' | 5.22 | 1.57 | 1.51 |
| 2 | AB | 514 | A | C4'-O4' | -5.22 | 1.38 | 1.45 |
| 2 | AB | 722 | A | C6-N1 | 5.22 | 1.39 | 1.35 |
| 2 | AB | 1628 | G | O5'-C5' | -5.22 | 1.34 | 1.42 |
| 2 | AB | 1913 | A | C5-C4 | 5.22 | 1.42 | 1.38 |
| 2 | AB | 2284 | A | C6-N6 | 5.22 | 1.38 | 1.33 |
| 2 | AB | 2458 | G | C5-C6 | 5.22 | 1.47 | 1.42 |
| 2 | AB | 2627 | G | C4'-C3' | -5.22 | 1.47 | 1.52 |
| 2 | AB | 2781 | A | N9-C4 | -5.22 | 1.34 | 1.37 |
| 35 | BA | 249 | U | O3'-P | 5.22 | 1.67 | 1.61 |
| 57 | BW | 40 | PRO | N-CD | -5.22 | 1.40 | 1.47 |
| 2 | AB | 21 | A | C6-N1 | -5.22 | 1.31 | 1.35 |
| 2 | AB | 865 | C | C5'-C4' | 5.22 | 1.57 | 1.51 |
| 2 | AB | 903 | C | O3'-P | 5.22 | 1.67 | 1.61 |
| 2 | AB | 1069 | A | C6-N1 | 5.22 | 1.39 | 1.35 |
| 2 | AB | 1156 | A | O3'-P | 5.22 | 1.67 | 1.61 |
| 2 | AB | 1629 | U | C2'-O2' | 5.22 | 1.48 | 1.41 |
| 2 | AB | 1847 | A | N7-C5 | 5.22 | 1.42 | 1.39 |
| 2 | AB | 2013 | A | N9-C4 | -5.22 | 1.34 | 1.37 |
| 2 | AB | 2189 | U | P-O5' | 5.22 | 1.65 | 1.59 |
| 2 | AB | 2270 | A | C2'-C1' | -5.22 | 1.47 | 1.53 |
| 2 | AB | 2437 | G | C6-O6 | -5.22 | 1.19 | 1.24 |
| 2 | AB | 2483 | C | C4-C5 | 5.22 | 1.47 | 1.43 |
| 2 | AB | 2641 | G | N1-C2 | 5.22 | 1.42 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2729 | G | P-O5' | -5.22 | 1.54 | 1.59 |
| 35 | BA | 328 | C | N1-C6 | 5.22 | 1.40 | 1.37 |
| 35 | BA | 610 | U | C5-C6 | 5.22 | 1.38 | 1.34 |
| 35 | BA | 718 | A | C5-C4 | -5.22 | 1.35 | 1.38 |
| 35 | BA | 747 | A | O3'-P | 5.22 | 1.67 | 1.61 |
| 35 | BA | 1102 | A | C6-N6 | 5.22 | 1.38 | 1.33 |
| 2 | AB | 40 | U | C4'-C3' | 5.22 | 1.58 | 1.53 |
| 2 | AB | 136 | G | N1-C2 | 5.22 | 1.42 | 1.37 |
| 2 | AB | 1424 | G | C2'-O2' | 5.22 | 1.48 | 1.41 |
| 2 | AB | 1569 | A | C6-N1 | 5.22 | 1.39 | 1.35 |
| 2 | AB | 1976 | U | O3'-P | 5.22 | 1.67 | 1.61 |
| 2 | AB | 2209 | G | C2-N2 | 5.22 | 1.39 | 1.34 |
| 35 | BA | 1163 | A | C4'-O4' | -5.22 | 1.38 | 1.45 |
| 35 | BA | 1219 | A | C3'-O3' | 5.22 | 1.49 | 1.42 |
| 48 | BN | 70 | GLY | CA-C | 5.22 | 1.60 | 1.51 |
| 2 | AB | 256 | A | C6-N1 | -5.22 | 1.31 | 1.35 |
| 2 | AB | 665 | U | C4'-C3' | 5.22 | 1.58 | 1.53 |
| 2 | AB | 665 | U | C4'-O4' | -5.22 | 1.38 | 1.45 |
| 2 | AB | 862 | G | C3'-C2' | -5.22 | 1.47 | 1.52 |
| 2 | AB | 1254 | A | N1-C2 | -5.22 | 1.29 | 1.34 |
| 2 | AB | 1303 | G | C2'-O2' | -5.22 | 1.34 | 1.41 |
| 2 | AB | 1334 | G | C2'-C1' | 5.22 | 1.59 | 1.53 |
| 2 | AB | 1350 | C | C5-C6 | 5.22 | 1.38 | 1.34 |
| 2 | AB | 1676 | A | C4'-O4' | -5.22 | 1.38 | 1.45 |
| 2 | AB | 2164 | C | C5'-C4' | 5.22 | 1.57 | 1.51 |
| 2 | AB | 2187 | U | C5'-C4' | 5.22 | 1.57 | 1.51 |
| 2 | AB | 2546 | U | C5'-C4' | 5.22 | 1.57 | 1.51 |
| 2 | AB | 2670 | A | N7-C5 | 5.22 | 1.42 | 1.39 |
| 2 | AB | 2681 | C | C3'-C2' | -5.22 | 1.47 | 1.52 |
| 2 | AB | 2836 | U | C2-N3 | 5.22 | 1.41 | 1.37 |
| 35 | BA | 136 | C | O3'-P | 5.22 | 1.67 | 1.61 |
| 35 | BA | 514 | C | C2'-C1' | 5.22 | 1.59 | 1.53 |
| 35 | BA | 667 | G | C5-C4 | 5.22 | 1.42 | 1.38 |
| 35 | BA | 791 | G | C5-C4 | -5.22 | 1.34 | 1.38 |
| 35 | BA | 861 | G | N1-C2 | -5.22 | 1.33 | 1.37 |
| 35 | BA | 865 | A | O4'-C1' | 5.22 | 1.48 | 1.41 |
| 35 | BA | 1068 | G | O4'-C1' | 5.22 | 1.48 | 1.41 |
| 35 | BA | 1088 | G | C4'-C3' | 5.22 | 1.58 | 1.53 |
| 35 | BA | 1353 | G | N1-C2 | -5.22 | 1.33 | 1.37 |
| 2 | AB | 220 | G | N1-C2 | 5.22 | 1.42 | 1.37 |
| 2 | AB | 593 | U | C4-C5 | 5.22 | 1.48 | 1.43 |
| 2 | AB | 651 | G | C2-N3 | 5.22 | 1.36 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1600 | C | C5-C6 | 5.22 | 1.38 | 1.34 |
| 2 | AB | 1749 | A | C2-N3 | 5.22 | 1.38 | 1.33 |
| 2 | AB | 2067 | G | C5-C4 | 5.22 | 1.42 | 1.38 |
| 35 | BA | 1121 | U | C4'-O4' | -5.22 | 1.38 | 1.45 |
| 2 | AB | 190 | A | C2'-O2' | 5.22 | 1.48 | 1.41 |
| 2 | AB | 1537 | G | N3-C4 | 5.22 | 1.39 | 1.35 |
| 2 | AB | 1705 | A | C6-N6 | 5.22 | 1.38 | 1.33 |
| 2 | AB | 1860 | G | C3'-O3' | 5.22 | 1.49 | 1.42 |
| 2 | AB | 2032 | G | C6-N1 | 5.22 | 1.43 | 1.39 |
| 2 | AB | 2625 | G | C5-C6 | 5.22 | 1.47 | 1.42 |
| 2 | AB | 2775 | G | N1-C2 | 5.22 | 1.42 | 1.37 |
| 35 | BA | 11 | G | C6-N1 | 5.22 | 1.43 | 1.39 |
| 35 | BA | 461 | A | N3-C4 | 5.22 | 1.38 | 1.34 |
| 35 | BA | 686 | U | O3'-P | 5.22 | 1.67 | 1.61 |
| 35 | BA | 1198 | G | N9-C4 | 5.22 | 1.42 | 1.38 |
| 35 | BA | 1517 | G | C5'-C4' | 5.22 | 1.57 | 1.51 |
| 2 | AB | 132 | G | O3'-P | 5.21 | 1.67 | 1.61 |
| 2 | AB | 1159 | U | N1-C6 | 5.21 | 1.42 | 1.38 |
| 2 | AB | 1202 | G | C3'-C2' | -5.21 | 1.47 | 1.52 |
| 2 | AB | 1355 | G | C5-C4 | 5.21 | 1.42 | 1.38 |
| 2 | AB | 1367 | A | O3'-P | 5.21 | 1.67 | 1.61 |
| 2 | AB | 1462 | C | C4-C5 | -5.21 | 1.38 | 1.43 |
| 2 | AB | 1617 | C | N1-C2 | 5.21 | 1.45 | 1.40 |
| 2 | AB | 2197 | U | C5-C6 | 5.21 | 1.38 | 1.34 |
| 2 | AB | 2308 | G | N3-C4 | 5.21 | 1.39 | 1.35 |
| 2 | AB | 2766 | A | N9-C4 | 5.21 | 1.41 | 1.37 |
| 2 | AB | 2768 | U | C4-C5 | 5.21 | 1.48 | 1.43 |
| 2 | AB | 2777 | G | C4'-C3' | -5.21 | 1.47 | 1.52 |
| 19 | AS | 52 | ARG | NE-CZ | 5.21 | 1.39 | 1.33 |
| 35 | BA | 231 | U | C2-N3 | 5.21 | 1.41 | 1.37 |
| 1 | AA | 9 | G | C5-C6 | -5.21 | 1.37 | 1.42 |
| 2 | AB | 136 | G | C2'-O2' | -5.21 | 1.34 | 1.41 |
| 2 | AB | 316 | C | C2-N3 | 5.21 | 1.40 | 1.35 |
| 2 | AB | 1545 | A | C6-N1 | -5.21 | 1.31 | 1.35 |
| 2 | AB | 2057 | G | C4'-O4' | -5.21 | 1.38 | 1.45 |
| 35 | BA | 434 | U | O3'-P | 5.21 | 1.67 | 1.61 |
| 35 | BA | 829 | G | C5-C6 | 5.21 | 1.47 | 1.42 |
| 2 | AB | 244 | A | C2'-C1' | -5.21 | 1.47 | 1.53 |
| 2 | AB | 1267 | U | C4'-O4' | -5.21 | 1.38 | 1.45 |
| 2 | AB | 1324 | G | N1-C2 | 5.21 | 1.42 | 1.37 |
| 2 | AB | 2041 | U | C4'-C3' | 5.21 | 1.58 | 1.53 |
| 2 | AB | 2149 | U | N3-C4 | -5.21 | 1.33 | 1.38 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2213 | U | C4'-O4' | -5.21 | 1.38 | 1.45 |
| 2 | AB | 2278 | A | C5-C4 | -5.21 | 1.35 | 1.38 |
| 2 | AB | 2409 | G | P-O5' | 5.21 | 1.65 | 1.59 |
| 35 | BA | 499 | A | C2-N3 | 5.21 | 1.38 | 1.33 |
| 1 | AA | 81 | G | C2-N3 | 5.21 | 1.36 | 1.32 |
| 2 | AB | 296 | U | N3-C4 | 5.21 | 1.43 | 1.38 |
| 2 | AB | 888 | C | C2'-C1' | 5.21 | 1.59 | 1.53 |
| 2 | AB | 1530 | G | O4'-C1' | -5.21 | 1.34 | 1.41 |
| 35 | BA | 427 | U | C4-C5 | 5.21 | 1.48 | 1.43 |
| 35 | BA | 589 | U | C2-N3 | 5.21 | 1.41 | 1.37 |
| 1 | AA | 39 | A | N1-C2 | 5.21 | 1.39 | 1.34 |
| 2 | AB | 195 | A | N1-C2 | -5.21 | 1.29 | 1.34 |
| 2 | AB | 761 | A | P-O5' | 5.21 | 1.65 | 1.59 |
| 2 | AB | 908 | C | N1-C6 | 5.21 | 1.40 | 1.37 |
| 2 | AB | 1112 | G | N1-C2 | 5.21 | 1.42 | 1.37 |
| 2 | AB | 2056 | G | C2-N2 | -5.21 | 1.29 | 1.34 |
| 2 | AB | 2335 | A | C6-N1 | -5.21 | 1.31 | 1.35 |
| 2 | AB | 2421 | G | C2-N3 | 5.21 | 1.36 | 1.32 |
| 2 | AB | 2516 | A | C6-N1 | 5.21 | 1.39 | 1.35 |
| 2 | AB | 2869 | G | C6-N1 | -5.21 | 1.35 | 1.39 |
| 4 | AD | 176 | ARG | CZ-NH1 | 5.21 | 1.39 | 1.33 |
| 35 | BA | 294 | U | P-O5' | 5.21 | 1.65 | 1.59 |
| 35 | BA | 298 | A | N9-C4 | 5.21 | 1.41 | 1.37 |
| 35 | BA | 925 | G | N1-C2 | 5.21 | 1.42 | 1.37 |
| 35 | BA | 1450 | U | C4-C5 | 5.21 | 1.48 | 1.43 |
| 36 | BB | 20 | G | C8-N7 | 5.21 | 1.34 | 1.30 |
| 2 | AB | 83 | A | C3'-C2' | -5.21 | 1.47 | 1.52 |
| 2 | AB | 161 | A | O5'-C5' | -5.21 | 1.34 | 1.42 |
| 2 | AB | 478 | A | N3-C4 | 5.21 | 1.38 | 1.34 |
| 2 | AB | 1200 | C | C4'-O4' | -5.21 | 1.38 | 1.45 |
| 2 | AB | 1493 | C | C2'-O2' | -5.21 | 1.34 | 1.41 |
| 2 | AB | 1534 | U | C2-N3 | -5.21 | 1.34 | 1.37 |
| 2 | AB | 2411 | A | C1'-N9 | 5.21 | 1.56 | 1.48 |
| 2 | AB | 2818 | U | C5'-C4' | 5.21 | 1.57 | 1.51 |
| 35 | BA | 1027 | C | N1-C6 | 5.21 | 1.40 | 1.37 |
| 1 | AA | 43 | C | C2-O2 | -5.21 | 1.19 | 1.24 |
| 2 | AB | 1271 | G | C4'-O4' | -5.21 | 1.38 | 1.45 |
| 2 | AB | 1883 | U | N3-C4 | 5.21 | 1.43 | 1.38 |
| 2 | AB | 2202 | U | C4'-O4' | -5.21 | 1.38 | 1.45 |
| 2 | AB | 2691 | C | O3'-P | 5.21 | 1.67 | 1.61 |
| 35 | BA | 627 | G | C5-C4 | 5.21 | 1.42 | 1.38 |
| 35 | BA | 664 | G | C2'-C1' | -5.21 | 1.47 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 876 | C | N3-C4 | 5.21 | 1.37 | 1.33 |
| 35 | BA | 1110 | A | C6-N6 | 5.21 | 1.38 | 1.33 |
| 35 | BA | 1295 | U | N1-C2 | 5.21 | 1.43 | 1.38 |
| 2 | AB | 731 | C | C2'-C1' | 5.20 | 1.59 | 1.53 |
| 2 | AB | 937 | C | C4'-C3' | 5.20 | 1.58 | 1.53 |
| 2 | AB | 940 | G | O3'-P | 5.20 | 1.67 | 1.61 |
| 2 | AB | 1078 | U | N1-C2 | 5.20 | 1.43 | 1.38 |
| 2 | AB | 1279 | G | C6-O6 | 5.20 | 1.28 | 1.24 |
| 2 | AB | 1653 | G | C5-C4 | -5.20 | 1.34 | 1.38 |
| 2 | AB | 2238 | G | P-O5' | 5.20 | 1.65 | 1.59 |
| 2 | AB | 2434 | A | O3'-P | -5.20 | 1.54 | 1.61 |
| 2 | AB | 2590 | A | C5-C6 | -5.20 | 1.36 | 1.41 |
| 2 | AB | 2869 | G | C2-N2 | -5.20 | 1.29 | 1.34 |
| 14 | AN | 59 | ARG | CZ-NH1 | 5.20 | 1.39 | 1.33 |
| 35 | BA | 383 | A | C5-C4 | 5.20 | 1.42 | 1.38 |
| 35 | BA | 779 | C | O3'-P | -5.20 | 1.54 | 1.61 |
| 35 | BA | 960 | U | C2-N3 | -5.20 | 1.34 | 1.37 |
| 35 | BA | 1182 | G | C2-N3 | 5.20 | 1.36 | 1.32 |
| 35 | BA | 1352 | C | C2-N3 | -5.20 | 1.31 | 1.35 |
| 2 | AB | 1216 | G | C4'-O4' | -5.20 | 1.38 | 1.45 |
| 2 | AB | 1288 | G | C5'-C4' | 5.20 | 1.57 | 1.51 |
| 2 | AB | 1353 | A | N9-C4 | -5.20 | 1.34 | 1.37 |
| 2 | AB | 1519 | G | C6-N1 | 5.20 | 1.43 | 1.39 |
| 2 | AB | 1530 | G | C6-N1 | 5.20 | 1.43 | 1.39 |
| 2 | AB | 1760 | C | C2-N3 | 5.20 | 1.40 | 1.35 |
| 2 | AB | 2472 | G | C2'-C1' | 5.20 | 1.59 | 1.53 |
| 2 | AB | 2739 | U | C4'-O4' | -5.20 | 1.38 | 1.45 |
| 35 | BA | 761 | G | C5-C4 | 5.20 | 1.42 | 1.38 |
| 35 | BA | 1262 | C | C2-N3 | 5.20 | 1.40 | 1.35 |
| 54 | BT | 50 | TYR | CG-CD2 | 5.20 | 1.46 | 1.39 |
| 2 | AB | 1173 | U | O3'-P | 5.20 | 1.67 | 1.61 |
| 2 | AB | 1426 | G | C3'-C2' | 5.20 | 1.58 | 1.52 |
| 2 | AB | 2080 | A | C3'-C2' | 5.20 | 1.58 | 1.52 |
| 2 | AB | 2234 | G | C2'-C1' | -5.20 | 1.47 | 1.53 |
| 2 | AB | 2678 | C | C4-C5 | 5.20 | 1.47 | 1.43 |
| 2 | AB | 2897 | U | N3-C4 | 5.20 | 1.43 | 1.38 |
| 35 | BA | 301 | G | P-O5' | 5.20 | 1.65 | 1.59 |
| 35 | BA | 838 | G | N7-C5 | -5.20 | 1.36 | 1.39 |
| 37 | BC | 10 | G | N7-C5 | -5.20 | 1.36 | 1.39 |
| 1 | AA | 3 | C | P-O5' | -5.20 | 1.54 | 1.59 |
| 2 | AB | 214 | G | O3'-P | 5.20 | 1.67 | 1.61 |
| 2 | AB | 1283 | G | C5'-C4' | 5.20 | 1.57 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1310 | G | C6-N1 | -5.20 | 1.35 | 1.39 |
| 2 | AB | 2492 | U | C3'-C2' | -5.20 | 1.47 | 1.52 |
| 35 | BA | 1037 | C | C5'-C4' | 5.20 | 1.57 | 1.51 |
| 35 | BA | 1109 | C | C5-C6 | 5.20 | 1.38 | 1.34 |
| 2 | AB | 1752 | C | O3'-P | 5.20 | 1.67 | 1.61 |
| 2 | AB | 2181 | U | C2-N3 | 5.20 | 1.41 | 1.37 |
| 2 | AB | 2284 | A | O4'-C1' | 5.20 | 1.48 | 1.41 |
| 35 | BA | 116 | A | C5-C6 | -5.20 | 1.36 | 1.41 |
| 35 | BA | 183 | C | C3'-C2' | 5.20 | 1.58 | 1.52 |
| 35 | BA | 644 | U | N1-C2 | 5.20 | 1.43 | 1.38 |
| 35 | BA | 998 | C | C4-C5 | 5.20 | 1.47 | 1.43 |
| 35 | BA | 1198 | G | N3-C4 | 5.20 | 1.39 | 1.35 |
| 35 | BA | 1496 | C | C2'-O2' | -5.20 | 1.34 | 1.41 |
| 36 | BB | 27 | A | C2'-C1' | 5.20 | 1.59 | 1.53 |
| 1 | AA | 37 | C | C5-C6 | 5.20 | 1.38 | 1.34 |
| 2 | AB | 436 | C | O4'-C1' | 5.20 | 1.48 | 1.41 |
| 2 | AB | 529 | A | C5'-C4' | 5.20 | 1.57 | 1.51 |
| 2 | AB | 1322 | A | N7-C5 | 5.20 | 1.42 | 1.39 |
| 2 | AB | 1656 | C | P-O5' | 5.20 | 1.65 | 1.59 |
| 2 | AB | 2036 | C | C4'-O4' | -5.20 | 1.38 | 1.45 |
| 2 | AB | 2107 | G | C4'-O4' | -5.20 | 1.38 | 1.45 |
| 2 | AB | 2701 | U | C5'-C4' | 5.20 | 1.57 | 1.51 |
| 2 | AB | 2771 | C | O3'-P | 5.20 | 1.67 | 1.61 |
| 35 | BA | 436 | C | C2-O2 | -5.20 | 1.19 | 1.24 |
| 35 | BA | 649 | A | C8-N7 | 5.20 | 1.35 | 1.31 |
| 2 | AB | 673 | C | N1-C6 | 5.19 | 1.40 | 1.37 |
| 2 | AB | 1613 | G | C6-O6 | -5.19 | 1.19 | 1.24 |
| 2 | AB | 2295 | C | C2'-C1' | 5.19 | 1.59 | 1.53 |
| 2 | AB | 2834 | G | N3-C4 | -5.19 | 1.31 | 1.35 |
| 36 | BB | 24 | A | N7-C5 | -5.19 | 1.36 | 1.39 |
| 2 | AB | 31 | C | N3-C4 | 5.19 | 1.37 | 1.33 |
| 2 | AB | 1529 | G | C4'-C3' | 5.19 | 1.58 | 1.53 |
| 2 | AB | 1627 | G | N3-C4 | 5.19 | 1.39 | 1.35 |
| 2 | AB | 1875 | G | C2'-O2' | 5.19 | 1.48 | 1.41 |
| 2 | AB | 2024 | G | N7-C5 | 5.19 | 1.42 | 1.39 |
| 2 | AB | 2154 | A | C6-N6 | 5.19 | 1.38 | 1.33 |
| 2 | AB | 2230 | G | C2-N3 | 5.19 | 1.36 | 1.32 |
| 2 | AB | 2351 | G | C2'-C1' | -5.19 | 1.47 | 1.53 |
| 35 | BA | 101 | A | N9-C4 | 5.19 | 1.41 | 1.37 |
| 35 | BA | 507 | C | P-O5' | 5.19 | 1.65 | 1.59 |
| 35 | BA | 1505 | G | C6-O6 | -5.19 | 1.19 | 1.24 |
| 2 | AB | 356 | G | C2-N3 | 5.19 | 1.36 | 1.32 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1559 | U | C2'-O2' | -5.19 | 1.34 | 1.41 |
| 2 | AB | 2085 | U | N1-C2 | -5.19 | 1.33 | 1.38 |
| 2 | AB | 2185 | U | N1-C2 | 5.19 | 1.43 | 1.38 |
| 35 | BA | 455 | G | N7-C5 | -5.19 | 1.36 | 1.39 |
| 35 | BA | 864 | A | C5'-C4' | 5.19 | 1.57 | 1.51 |
| 35 | BA | 959 | A | C6-N1 | 5.19 | 1.39 | 1.35 |
| 35 | BA | 1171 | A | C2-N3 | 5.19 | 1.38 | 1.33 |
| 36 | BB | 59 | A | C6-N1 | -5.19 | 1.31 | 1.35 |
| 2 | AB | 40 | U | C4-C5 | 5.19 | 1.48 | 1.43 |
| 2 | AB | 52 | A | N9-C8 | -5.19 | 1.33 | 1.37 |
| 2 | AB | 741 | U | C4'-O4' | -5.19 | 1.38 | 1.45 |
| 2 | AB | 1652 | A | C2-N3 | 5.19 | 1.38 | 1.33 |
| 2 | AB | 2745 | C | N1-C6 | 5.19 | 1.40 | 1.37 |
| 35 | BA | 801 | U | N1-C2 | 5.19 | 1.43 | 1.38 |
| 35 | BA | 1330 | U | N1-C6 | 5.19 | 1.42 | 1.38 |
| 2 | AB | 529 | A | C2'-O2' | 5.19 | 1.48 | 1.41 |
| 2 | AB | 591 | U | C5-C6 | 5.19 | 1.38 | 1.34 |
| 2 | AB | 1392 | A | N7-C5 | 5.19 | 1.42 | 1.39 |
| 2 | AB | 1397 | U | C3'-C2' | 5.19 | 1.58 | 1.52 |
| 2 | AB | 1989 | G | N7-C5 | 5.19 | 1.42 | 1.39 |
| 2 | AB | 2016 | U | O4'-C1' | 5.19 | 1.48 | 1.41 |
| 2 | AB | 2112 | G | C5'-C4' | 5.19 | 1.57 | 1.51 |
| 2 | AB | 2214 | C | C5'-C4' | 5.19 | 1.57 | 1.51 |
| 2 | AB | 2486 | C | N1-C6 | -5.19 | 1.34 | 1.37 |
| 35 | BA | 101 | A | O4'-C1' | 5.19 | 1.48 | 1.41 |
| 35 | BA | 347 | G | N9-C4 | 5.19 | 1.42 | 1.38 |
| 35 | BA | 666 | G | C6-N1 | 5.19 | 1.43 | 1.39 |
| 35 | BA | 1484 | C | C2-O2 | -5.19 | 1.19 | 1.24 |
| 2 | AB | 174 | U | C5-C6 | 5.19 | 1.38 | 1.34 |
| 2 | AB | 1096 | A | C3'-C2' | -5.19 | 1.47 | 1.52 |
| 35 | BA | 198 | G | P-O5' | 5.19 | 1.65 | 1.59 |
| 2 | AB | 143 | C | O4'-C1' | 5.18 | 1.48 | 1.41 |
| 2 | AB | 296 | U | N1-C2 | 5.18 | 1.43 | 1.38 |
| 2 | AB | 537 | G | C8-N7 | 5.18 | 1.34 | 1.30 |
| 2 | AB | 805 | G | C6-N1 | -5.18 | 1.35 | 1.39 |
| 2 | AB | 1205 | A | C8-N7 | -5.18 | 1.27 | 1.31 |
| 2 | AB | 1546 | G | N9-C4 | 5.18 | 1.42 | 1.38 |
| 2 | AB | 1964 | G | C6-N1 | 5.18 | 1.43 | 1.39 |
| 3 | AC | 125 | GLY | N-CA | 5.18 | 1.53 | 1.46 |
| 12 | AL | 66 | GLY | CA-C | 5.18 | 1.60 | 1.51 |
| 35 | BA | 286 | C | C4'-C3' | 5.18 | 1.58 | 1.53 |
| 35 | BA | 948 | C | C5-C6 | 5.18 | 1.38 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 1 | AA | 109 | A | C2'-O2' | 5.18 | 1.48 | 1.41 |
| 2 | AB | 196 | A | C5-C6 | 5.18 | 1.45 | 1.41 |
| 2 | AB | 553 | G | N9-C4 | 5.18 | 1.42 | 1.38 |
| 2 | AB | 785 | G | N9-C8 | 5.18 | 1.41 | 1.37 |
| 2 | AB | 1288 | G | N9-C4 | 5.18 | 1.42 | 1.38 |
| 2 | AB | 1821 | A | C5-C4 | -5.18 | 1.35 | 1.38 |
| 2 | AB | 2271 | G | C6-N1 | -5.18 | 1.35 | 1.39 |
| 2 | AB | 2384 | U | O3'-P | -5.18 | 1.54 | 1.61 |
| 2 | AB | 2391 | G | N9-C8 | 5.18 | 1.41 | 1.37 |
| 4 | AD | 11 | GLY | N-CA | 5.18 | 1.53 | 1.46 |
| 7 | AG | 60 | SER | N-CA | 5.18 | 1.56 | 1.46 |
| 35 | BA | 138 | G | N7-C5 | 5.18 | 1.42 | 1.39 |
| 35 | BA | 491 | G | N1-C2 | 5.18 | 1.41 | 1.37 |
| 35 | BA | 1127 | G | C8-N7 | -5.18 | 1.27 | 1.30 |
| 35 | BA | 1447 | A | P-O5' | -5.18 | 1.54 | 1.59 |
| 36 | BB | 36 | U | O3'-P | 5.18 | 1.67 | 1.61 |
| 1 | AA | 103 | U | C4-C5 | 5.18 | 1.48 | 1.43 |
| 2 | AB | 1891 | G | C5-C4 | 5.18 | 1.42 | 1.38 |
| 2 | AB | 2633 | G | C2-N3 | 5.18 | 1.36 | 1.32 |
| 2 | AB | 2715 | C | O3'-P | 5.18 | 1.67 | 1.61 |
| 35 | BA | 330 | C | C1'-N1 | 5.18 | 1.56 | 1.48 |
| 35 | BA | 349 | A | C5'-C4' | 5.18 | 1.57 | 1.51 |
| 35 | BA | 876 | C | O3'-P | 5.18 | 1.67 | 1.61 |
| 37 | BC | 36 | A | N3-C4 | 5.18 | 1.38 | 1.34 |
| 2 | AB | 103 | A | C8-N7 | -5.18 | 1.27 | 1.31 |
| 2 | AB | 246 | C | N1-C6 | 5.18 | 1.40 | 1.37 |
| 2 | AB | 446 | G | C4'-C3' | 5.18 | 1.58 | 1.53 |
| 2 | AB | 461 | C | N3-C4 | 5.18 | 1.37 | 1.33 |
| 2 | AB | 1116 | G | C6-N1 | 5.18 | 1.43 | 1.39 |
| 2 | AB | 1368 | G | P-O5' | 5.18 | 1.65 | 1.59 |
| 2 | AB | 1781 | U | C5'-C4' | 5.18 | 1.57 | 1.51 |
| 2 | AB | 1965 | C | O3'-P | 5.18 | 1.67 | 1.61 |
| 2 | AB | 2430 | A | O3'-P | 5.18 | 1.67 | 1.61 |
| 2 | AB | 2725 | A | N3-C4 | 5.18 | 1.38 | 1.34 |
| 35 | BA | 172 | A | N3-C4 | 5.18 | 1.38 | 1.34 |
| 35 | BA | 392 | C | C4-N4 | 5.18 | 1.38 | 1.33 |
| 35 | BA | 494 | G | C8-N7 | 5.18 | 1.34 | 1.30 |
| 35 | BA | 665 | A | N9-C8 | 5.18 | 1.41 | 1.37 |
| 35 | BA | 901 | A | O3'-P | 5.18 | 1.67 | 1.61 |
| 35 | BA | 1136 | C | C4-N4 | 5.18 | 1.38 | 1.33 |
| 35 | BA | 1364 | U | N1-C2 | 5.18 | 1.43 | 1.38 |
| 35 | BA | 1521 | C | C4-N4 | 5.18 | 1.38 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 146 | A | C4'-O4' | -5.18 | 1.38 | 1.45 |
| 2 | AB | 217 | A | N9-C8 | -5.18 | 1.33 | 1.37 |
| 2 | AB | 612 | G | O4'-C1' | 5.18 | 1.48 | 1.41 |
| 2 | AB | 980 | A | P-O5' | 5.18 | 1.65 | 1.59 |
| 2 | AB | 1126 | A | N1-C2 | -5.18 | 1.29 | 1.34 |
| 2 | AB | 1197 | G | C5'-C4' | 5.18 | 1.57 | 1.51 |
| 2 | AB | 1635 | A | N7-C5 | -5.18 | 1.36 | 1.39 |
| 2 | AB | 2180 | U | N1-C6 | -5.18 | 1.33 | 1.38 |
| 2 | AB | 2847 | U | C3'-C2' | 5.18 | 1.58 | 1.52 |
| 35 | BA | 159 | G | N3-C4 | 5.18 | 1.39 | 1.35 |
| 35 | BA | 958 | A | C5'-C4' | 5.18 | 1.57 | 1.51 |
| 2 | AB | 375 | G | C3'-C2' | 5.18 | 1.58 | 1.52 |
| 2 | AB | 607 | U | C5'-C4' | 5.18 | 1.57 | 1.51 |
| 2 | AB | 800 | A | C8-N7 | -5.18 | 1.27 | 1.31 |
| 2 | AB | 1097 | U | N1-C2 | 5.18 | 1.43 | 1.38 |
| 2 | AB | 1397 | U | C2-N3 | 5.18 | 1.41 | 1.37 |
| 2 | AB | 2253 | G | O3'-P | 5.18 | 1.67 | 1.61 |
| 2 | AB | 2500 | U | C2'-O2' | 5.18 | 1.48 | 1.41 |
| 2 | AB | 2623 | G | N7-C5 | 5.18 | 1.42 | 1.39 |
| 2 | AB | 2665 | A | N3-C4 | 5.18 | 1.38 | 1.34 |
| 14 | AN | 41 | ARG | NE-CZ | 5.18 | 1.39 | 1.33 |
| 16 | AP | 64 | ARG | CZ-NH1 | 5.18 | 1.39 | 1.33 |
| 35 | BA | 324 | G | O5'-C5' | -5.18 | 1.34 | 1.42 |
| 35 | BA | 481 | G | N9-C4 | 5.18 | 1.42 | 1.38 |
| 35 | BA | 499 | A | N7-C5 | 5.18 | 1.42 | 1.39 |
| 35 | BA | 929 | G | O3'-P | 5.18 | 1.67 | 1.61 |
| 35 | BA | 1055 | A | C4'-O4' | -5.18 | 1.38 | 1.45 |
| 35 | BA | 1283 | U | N1-C2 | -5.18 | 1.33 | 1.38 |
| 39 | BE | 160 | GLU | CB-CG | 5.18 | 1.61 | 1.52 |
| 2 | AB | 594 | U | C5'-C4' | 5.17 | 1.57 | 1.51 |
| 2 | AB | 1376 | C | P-O5' | 5.17 | 1.65 | 1.59 |
| 2 | AB | 1717 | A | C5'-C4' | 5.17 | 1.57 | 1.51 |
| 2 | AB | 2156 | G | N3-C4 | 5.17 | 1.39 | 1.35 |
| 2 | AB | 2190 | G | N3-C4 | 5.17 | 1.39 | 1.35 |
| 2 | AB | 2202 | U | C5-C6 | 5.17 | 1.38 | 1.34 |
| 2 | AB | 2383 | G | N9-C4 | -5.17 | 1.33 | 1.38 |
| 2 | AB | 2472 | G | N7-C5 | 5.17 | 1.42 | 1.39 |
| 2 | AB | 2497 | A | C8-N7 | 5.17 | 1.35 | 1.31 |
| 2 | AB | 2644 | G | N9-C8 | 5.17 | 1.41 | 1.37 |
| 2 | AB | 2716 | C | O4'-C1' | 5.17 | 1.48 | 1.41 |
| 8 | AH | 162 | ARG | CD-NE | 5.17 | 1.55 | 1.46 |
| 35 | BA | 181 | A | C3'-O3' | -5.17 | 1.34 | 1.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 593 | U | C1'-N1 | 5.17 | 1.56 | 1.48 |
| 35 | BA | 669 | G | O3'-P | 5.17 | 1.67 | 1.61 |
| 35 | BA | 1143 | G | C1'-N9 | 5.17 | 1.56 | 1.48 |
| 35 | BA | 1443 | C | C4'-C3' | 5.17 | 1.58 | 1.53 |
| 35 | BA | 1474 | U | N1-C6 | 5.17 | 1.42 | 1.38 |
| 35 | BA | 1477 | U | C4'-C3' | 5.17 | 1.58 | 1.53 |
| 2 | AB | 47 | C | C2-N3 | 5.17 | 1.39 | 1.35 |
| 2 | AB | 2420 | C | O4'-C1' | 5.17 | 1.48 | 1.41 |
| 2 | AB | 2751 | G | C2'-C1' | 5.17 | 1.59 | 1.53 |
| 6 | AF | 180 | LEU | CA-C | 5.17 | 1.66 | 1.52 |
| 35 | BA | 1175 | G | C5'-C4' | 5.17 | 1.57 | 1.51 |
| 35 | BA | 1315 | U | C2-N3 | 5.17 | 1.41 | 1.37 |
| 2 | AB | 111 | A | C2'-O2' | 5.17 | 1.48 | 1.41 |
| 2 | AB | 887 | U | N1-C2 | 5.17 | 1.43 | 1.38 |
| 2 | AB | 2129 | C | C2'-C1' | -5.17 | 1.47 | 1.53 |
| 2 | AB | 2169 | A | C2-N3 | -5.17 | 1.28 | 1.33 |
| 2 | AB | 2253 | G | N9-C4 | -5.17 | 1.33 | 1.38 |
| 2 | AB | 2546 | U | O3'-P | -5.17 | 1.54 | 1.61 |
| 23 | AW | 12 | VAL | CB-CG1 | 5.17 | 1.63 | 1.52 |
| 35 | BA | 665 | A | C2-N3 | -5.17 | 1.28 | 1.33 |
| 35 | BA | 774 | G | C2-N3 | 5.17 | 1.36 | 1.32 |
| 35 | BA | 1106 | G | C5'-C4' | 5.17 | 1.57 | 1.51 |
| 45 | BK | 84 | ARG | NE-CZ | 5.17 | 1.39 | 1.33 |
| 48 | BN | 104 | SER | CA-CB | 5.17 | 1.60 | 1.52 |
| 2 | AB | 1517 | G | C8-N7 | -5.17 | 1.27 | 1.30 |
| 2 | AB | 1870 | C | C2-O2 | -5.17 | 1.19 | 1.24 |
| 2 | AB | 2295 | C | C4'-O4' | -5.17 | 1.38 | 1.45 |
| 2 | AB | 2500 | U | C5-C6 | 5.17 | 1.38 | 1.34 |
| 2 | AB | 2736 | A | N3-C4 | 5.17 | 1.38 | 1.34 |
| 35 | BA | 338 | A | N9-C4 | 5.17 | 1.41 | 1.37 |
| 2 | AB | 491 | G | C6-N1 | 5.17 | 1.43 | 1.39 |
| 2 | AB | 550 | C | O4'-C1' | 5.17 | 1.48 | 1.41 |
| 2 | AB | 774 | G | N9-C8 | 5.17 | 1.41 | 1.37 |
| 2 | AB | 907 | G | N7-C5 | -5.17 | 1.36 | 1.39 |
| 2 | AB | 972 | A | O3'-P | 5.17 | 1.67 | 1.61 |
| 2 | AB | 1204 | A | P-O5' | 5.17 | 1.65 | 1.59 |
| 2 | AB | 1349 | C | C4-C5 | -5.17 | 1.38 | 1.43 |
| 2 | AB | 1571 | A | N3-C4 | 5.17 | 1.38 | 1.34 |
| 2 | AB | 1809 | A | N1-C2 | -5.17 | 1.29 | 1.34 |
| 2 | AB | 2516 | A | C4'-O4' | -5.17 | 1.38 | 1.45 |
| 2 | AB | 2582 | G | N1-C2 | 5.17 | 1.41 | 1.37 |
| 2 | AB | 2869 | G | P-O5' | -5.17 | 1.54 | 1.59 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 267 | C | C3'-C2' | -5.17 | 1.47 | 1.52 |
| 35 | BA | 477 | C | C4'-C3' | 5.17 | 1.58 | 1.53 |
| 35 | BA | 698 | G | N3-C4 | 5.17 | 1.39 | 1.35 |
| 1 | AA | 99 | A | N9-C4 | 5.17 | 1.41 | 1.37 |
| 2 | AB | 54 | G | C3'-O3' | -5.17 | 1.34 | 1.42 |
| 2 | AB | 120 | U | N1-C2 | 5.17 | 1.43 | 1.38 |
| 2 | AB | 1182 | G | C4'-O4' | -5.17 | 1.38 | 1.45 |
| 2 | AB | 1202 | G | C4'-O4' | -5.17 | 1.38 | 1.45 |
| 2 | AB | 1321 | A | O3'-P | 5.17 | 1.67 | 1.61 |
| 2 | AB | 1371 | G | C5-C6 | 5.17 | 1.47 | 1.42 |
| 2 | AB | 1759 | A | C8-N7 | -5.17 | 1.27 | 1.31 |
| 2 | AB | 1977 | A | C3'-O3' | -5.17 | 1.34 | 1.42 |
| 2 | AB | 2041 | U | C2-O2 | 5.17 | 1.27 | 1.22 |
| 2 | AB | 2140 | G | C2'-O2' | 5.17 | 1.48 | 1.41 |
| 2 | AB | 2321 | U | P-O5' | 5.17 | 1.65 | 1.59 |
| 2 | AB | 2551 | C | C4'-O4' | -5.17 | 1.38 | 1.45 |
| 2 | AB | 2723 | C | C5'-C4' | 5.17 | 1.57 | 1.51 |
| 35 | BA | 1347 | G | N9-C8 | 5.17 | 1.41 | 1.37 |
| 2 | AB | 1163 | G | C6-N1 | 5.17 | 1.43 | 1.39 |
| 2 | AB | 2086 | U | P-O5' | 5.17 | 1.65 | 1.59 |
| 35 | BA | 144 | G | N9-C4 | 5.17 | 1.42 | 1.38 |
| 35 | BA | 628 | G | C8-N7 | -5.17 | 1.27 | 1.30 |
| 2 | AB | 455 | C | N3-C4 | 5.16 | 1.37 | 1.33 |
| 2 | AB | 1679 | A | C2-N3 | 5.16 | 1.38 | 1.33 |
| 2 | AB | 2257 | U | P-O5' | 5.16 | 1.65 | 1.59 |
| 2 | AB | 2505 | G | N9-C8 | -5.16 | 1.34 | 1.37 |
| 2 | AB | 2719 | G | P-O5' | 5.16 | 1.65 | 1.59 |
| 10 | AJ | 11 | VAL | CA-CB | -5.16 | 1.44 | 1.54 |
| 35 | BA | 190 | A | C4'-C3' | 5.16 | 1.58 | 1.53 |
| 35 | BA | 636 | U | C3'-C2' | 5.16 | 1.58 | 1.52 |
| 35 | BA | 665 | A | N1-C2 | -5.16 | 1.29 | 1.34 |
| 35 | BA | 722 | G | N9-C8 | -5.16 | 1.34 | 1.37 |
| 35 | BA | 906 | A | C2'-C1' | 5.16 | 1.59 | 1.53 |
| 35 | BA | 1070 | U | C2-N3 | -5.16 | 1.34 | 1.37 |
| 35 | BA | 1071 | C | P-O5' | 5.16 | 1.65 | 1.59 |
| 35 | BA | 1140 | C | C5-C6 | -5.16 | 1.30 | 1.34 |
| 2 | AB | 793 | A | C4'-O4' | -5.16 | 1.38 | 1.45 |
| 2 | AB | 2310 | C | C5-C6 | 5.16 | 1.38 | 1.34 |
| 2 | AB | 2824 | C | C5'-C4' | 5.16 | 1.57 | 1.51 |
| 10 | AJ | 106 | GLU | CD-OE2 | 5.16 | 1.31 | 1.25 |
| 37 | BC | 43 | G | C3'-C2' | 5.16 | 1.58 | 1.52 |
| 2 | AB | 727 | A | C2-N3 | 5.16 | 1.38 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 824 | U | C4-O4 | 5.16 | 1.27 | 1.23 |
| 2 | AB | 1402 | U | N3-C4 | 5.16 | 1.43 | 1.38 |
| 2 | AB | 1718 | G | C6-O6 | -5.16 | 1.19 | 1.24 |
| 2 | AB | 1814 | G | C8-N7 | -5.16 | 1.27 | 1.30 |
| 2 | AB | 1935 | G | N3-C4 | -5.16 | 1.31 | 1.35 |
| 2 | AB | 2049 | G | O3'-P | 5.16 | 1.67 | 1.61 |
| 35 | BA | 15 | G | N7-C5 | 5.16 | 1.42 | 1.39 |
| 35 | BA | 508 | U | C5-C6 | 5.16 | 1.38 | 1.34 |
| 1 | AA | 54 | G | C8-N7 | 5.16 | 1.34 | 1.30 |
| 1 | AA | 97 | C | C4-N4 | 5.16 | 1.38 | 1.33 |
| 2 | AB | 808 | G | N1-C2 | 5.16 | 1.41 | 1.37 |
| 2 | AB | 1280 | G | C4'-O4' | -5.16 | 1.38 | 1.45 |
| 2 | AB | 1311 | G | C1'-N9 | 5.16 | 1.56 | 1.48 |
| 2 | AB | 1343 | G | N7-C5 | -5.16 | 1.36 | 1.39 |
| 2 | AB | 1375 | U | C3'-O3' | 5.16 | 1.49 | 1.42 |
| 2 | AB | 2706 | A | C5-C6 | 5.16 | 1.45 | 1.41 |
| 35 | BA | 357 | G | N1-C2 | 5.16 | 1.41 | 1.37 |
| 35 | BA | 500 | G | C8-N7 | -5.16 | 1.27 | 1.30 |
| 35 | BA | 614 | C | C3'-O3' | 5.16 | 1.49 | 1.42 |
| 35 | BA | 648 | A | C4'-O4' | -5.16 | 1.38 | 1.45 |
| 35 | BA | 940 | C | C5'-C4' | 5.16 | 1.57 | 1.51 |
| 35 | BA | 1132 | C | C2'-C1' | 5.16 | 1.59 | 1.53 |
| 35 | BA | 1280 | A | C4'-O4' | -5.16 | 1.38 | 1.45 |
| 57 | BW | 68 | ARG | CZ-NH2 | 5.16 | 1.39 | 1.33 |
| 2 | AB | 752 | A | C3'-O3' | 5.16 | 1.49 | 1.42 |
| 2 | AB | 1070 | A | C2'-C1' | 5.16 | 1.59 | 1.53 |
| 2 | AB | 2007 | U | C5'-C4' | 5.16 | 1.57 | 1.51 |
| 2 | AB | 2454 | G | N1-C2 | 5.16 | 1.41 | 1.37 |
| 2 | AB | 2786 | U | C3'-C2' | -5.16 | 1.47 | 1.52 |
| 35 | BA | 810 | C | N1-C2 | 5.16 | 1.45 | 1.40 |
| 35 | BA | 1509 | C | O3'-P | 5.16 | 1.67 | 1.61 |
| 1 | AA | 69 | G | N9-C4 | 5.16 | 1.42 | 1.38 |
| 2 | AB | 306 | U | C2-O2 | 5.16 | 1.26 | 1.22 |
| 2 | AB | 763 | G | N9-C8 | -5.16 | 1.34 | 1.37 |
| 2 | AB | 1220 | G | N9-C4 | -5.16 | 1.33 | 1.38 |
| 2 | AB | 1393 | A | C2'-C1' | 5.16 | 1.59 | 1.53 |
| 2 | AB | 1455 | G | C2-N3 | 5.16 | 1.36 | 1.32 |
| 2 | AB | 1879 | C | C3'-C2' | -5.16 | 1.47 | 1.52 |
| 2 | AB | 2315 | G | C3'-O3' | 5.16 | 1.49 | 1.42 |
| 2 | AB | 2677 | G | C6-N1 | 5.16 | 1.43 | 1.39 |
| 2 | AB | 2775 | G | O4'-C1' | 5.16 | 1.48 | 1.41 |
| 2 | AB | 2780 | G | N7-C5 | -5.16 | 1.36 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 115 | G | C8-N7 | 5.16 | 1.34 | 1.30 |
| 35 | BA | 392 | C | N1-C6 | 5.16 | 1.40 | 1.37 |
| 35 | BA | 427 | U | C2-O2 | 5.16 | 1.26 | 1.22 |
| 35 | BA | 502 | A | C5'-C4' | 5.16 | 1.57 | 1.51 |
| 35 | BA | 514 | C | N3-C4 | 5.16 | 1.37 | 1.33 |
| 35 | BA | 1151 | A | N3-C4 | 5.16 | 1.38 | 1.34 |
| 35 | BA | 1499 | A | O4'-C1' | 5.16 | 1.48 | 1.41 |
| 2 | AB | 235 | U | C5'-C4' | 5.15 | 1.57 | 1.51 |
| 2 | AB | 571 | U | N1-C6 | 5.15 | 1.42 | 1.38 |
| 2 | AB | 1615 | C | C4-N4 | 5.15 | 1.38 | 1.33 |
| 2 | AB | 2540 | C | C5'-C4' | 5.15 | 1.57 | 1.51 |
| 35 | BA | 1013 | G | C3'-C2' | 5.15 | 1.58 | 1.52 |
| 2 | AB | 98 | G | C4'-C3' | 5.15 | 1.58 | 1.53 |
| 2 | AB | 271 | G | C5-C4 | 5.15 | 1.42 | 1.38 |
| 2 | AB | 430 | A | C2'-C1' | -5.15 | 1.47 | 1.53 |
| 2 | AB | 1105 | U | N1-C2 | 5.15 | 1.43 | 1.38 |
| 2 | AB | 1222 | U | C4'-O4' | -5.15 | 1.38 | 1.45 |
| 2 | AB | 2122 | U | C2'-C1' | -5.15 | 1.47 | 1.53 |
| 2 | AB | 2647 | U | C1'-N1 | 5.15 | 1.56 | 1.48 |
| 35 | BA | 67 | C | N3-C4 | 5.15 | 1.37 | 1.33 |
| 35 | BA | 269 | C | C2-N3 | 5.15 | 1.39 | 1.35 |
| 35 | BA | 375 | U | N1-C2 | 5.15 | 1.43 | 1.38 |
| 35 | BA | 568 | G | C2-N2 | -5.15 | 1.29 | 1.34 |
| 1 | AA | 44 | G | N1-C2 | 5.15 | 1.41 | 1.37 |
| 2 | AB | 331 | C | C2-O2 | -5.15 | 1.19 | 1.24 |
| 2 | AB | 517 | C | C4'-C3' | -5.15 | 1.47 | 1.52 |
| 2 | AB | 1540 | G | C5'-C4' | 5.15 | 1.57 | 1.51 |
| 2 | AB | 1687 | G | N3-C4 | 5.15 | 1.39 | 1.35 |
| 35 | BA | 151 | A | P-O5' | 5.15 | 1.65 | 1.59 |
| 35 | BA | 566 | G | C2-N2 | -5.15 | 1.29 | 1.34 |
| 35 | BA | 703 | G | C2'-O2' | 5.15 | 1.48 | 1.41 |
| 35 | BA | 769 | G | O4'-C1' | 5.15 | 1.48 | 1.41 |
| 35 | BA | 788 | U | C1'-N1 | 5.15 | 1.56 | 1.48 |
| 35 | BA | 1137 | C | N1-C6 | 5.15 | 1.40 | 1.37 |
| 35 | BA | 1427 | C | C4-N4 | 5.15 | 1.38 | 1.33 |
| 35 | BA | 1502 | A | N9-C4 | -5.15 | 1.34 | 1.37 |
| 2 | AB | 150 | U | C3'-O3' | -5.15 | 1.34 | 1.42 |
| 2 | AB | 621 | A | O3'-P | -5.15 | 1.54 | 1.61 |
| 2 | AB | 2540 | C | C4'-C3' | -5.15 | 1.47 | 1.52 |
| 35 | BA | 232 | G | C2-N2 | -5.15 | 1.29 | 1.34 |
| 35 | BA | 512 | U | C2-N3 | 5.15 | 1.41 | 1.37 |
| 35 | BA | 1345 | U | C5-C6 | 5.15 | 1.38 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 37 | BC | 28 | U | C2-N3 | 5.15 | 1.41 | 1.37 |
| 1 | AA | 19 | C | P-O5' | 5.15 | 1.64 | 1.59 |
| 1 | AA | 109 | A | P-O5' | 5.15 | 1.64 | 1.59 |
| 2 | AB | 1241 | A | N1-C2 | -5.15 | 1.29 | 1.34 |
| 2 | AB | 2530 | A | C3'-O3' | -5.15 | 1.34 | 1.42 |
| 35 | BA | 152 | A | P-O5' | 5.15 | 1.64 | 1.59 |
| 35 | BA | 165 | G | N1-C2 | -5.15 | 1.33 | 1.37 |
| 35 | BA | 1153 | G | N1-C2 | 5.15 | 1.41 | 1.37 |
| 37 | BC | 67 | C | C2-O2 | -5.15 | 1.19 | 1.24 |
| 2 | AB | 356 | G | C4'-O4' | -5.15 | 1.38 | 1.45 |
| 2 | AB | 832 | U | C2-O2 | 5.15 | 1.26 | 1.22 |
| 2 | AB | 1022 | G | C2-N3 | 5.15 | 1.36 | 1.32 |
| 2 | AB | 2791 | G | C4'-O4' | -5.15 | 1.38 | 1.45 |
| 2 | AB | 2825 | G | C5-C6 | 5.15 | 1.47 | 1.42 |
| 35 | BA | 827 | U | N3-C4 | 5.15 | 1.43 | 1.38 |
| 1 | AA | 56 | G | C2'-C1' | 5.14 | 1.59 | 1.53 |
| 2 | AB | 48 | G | C5'-C4' | 5.14 | 1.57 | 1.51 |
| 2 | AB | 183 | C | C4'-C3' | -5.14 | 1.47 | 1.52 |
| 2 | AB | 208 | C | O3'-P | 5.14 | 1.67 | 1.61 |
| 2 | AB | 365 | U | N1-C2 | 5.14 | 1.43 | 1.38 |
| 2 | AB | 393 | C | N1-C6 | 5.14 | 1.40 | 1.37 |
| 2 | AB | 502 | A | C6-N6 | 5.14 | 1.38 | 1.33 |
| 2 | AB | 1182 | G | C6-O6 | 5.14 | 1.28 | 1.24 |
| 2 | AB | 1465 | G | C5-C6 | 5.14 | 1.47 | 1.42 |
| 2 | AB | 1685 | C | P-O5' | -5.14 | 1.54 | 1.59 |
| 2 | AB | 1786 | A | N9-C4 | 5.14 | 1.41 | 1.37 |
| 35 | BA | 1165 | U | N1-C2 | 5.14 | 1.43 | 1.38 |
| 40 | BF | 127 | ARG | NE-CZ | 5.14 | 1.39 | 1.33 |
| 2 | AB | 15 | G | C2'-O2' | 5.14 | 1.48 | 1.41 |
| 2 | AB | 207 | A | N3-C4 | -5.14 | 1.31 | 1.34 |
| 2 | AB | 1009 | A | N3-C4 | -5.14 | 1.31 | 1.34 |
| 2 | AB | 2141 | G | N7-C5 | 5.14 | 1.42 | 1.39 |
| 2 | AB | 2390 | U | C2-O2 | 5.14 | 1.26 | 1.22 |
| 2 | AB | 2700 | A | C8-N7 | -5.14 | 1.27 | 1.31 |
| 2 | AB | 2700 | A | N1-C2 | -5.14 | 1.29 | 1.34 |
| 2 | AB | 2741 | A | C4'-O4' | -5.14 | 1.38 | 1.45 |
| 35 | BA | 90 | C | C3'-C2' | -5.14 | 1.47 | 1.52 |
| 35 | BA | 766 | A | N9-C8 | -5.14 | 1.33 | 1.37 |
| 35 | BA | 1034 | G | C2'-C1' | -5.14 | 1.47 | 1.53 |
| 35 | BA | 1093 | A | C4'-O4' | -5.14 | 1.38 | 1.45 |
| 2 | AB | 1631 | G | C2'-C1' | 5.14 | 1.59 | 1.53 |
| 2 | AB | 2766 | A | C5'-C4' | 5.14 | 1.57 | 1.51 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 266 | G | C2'-C1' | 5.14 | 1.59 | 1.53 |
| 2 | AB | 67 | U | C4-C5 | 5.14 | 1.48 | 1.43 |
| 2 | AB | 330 | A | C3'-O3' | 5.14 | 1.49 | 1.42 |
| 2 | AB | 1140 | C | C4-C5 | 5.14 | 1.47 | 1.43 |
| 2 | AB | 1208 | C | P-O5' | -5.14 | 1.54 | 1.59 |
| 2 | AB | 1532 | A | O4'-C1' | 5.14 | 1.48 | 1.41 |
| 2 | AB | 2545 | G | C4'-O4' | -5.14 | 1.38 | 1.45 |
| 2 | AB | 2783 | U | N1-C2 | 5.14 | 1.43 | 1.38 |
| 35 | BA | 327 | A | C2'-C1' | 5.14 | 1.59 | 1.53 |
| 35 | BA | 684 | U | C4'-C3' | -5.14 | 1.47 | 1.52 |
| 35 | BA | 886 | G | P-O5' | -5.14 | 1.54 | 1.59 |
| 35 | BA | 889 | A | C8-N7 | 5.14 | 1.35 | 1.31 |
| 35 | BA | 1001 | C | C3'-O3' | -5.14 | 1.34 | 1.42 |
| 35 | BA | 1045 | C | O3'-P | 5.14 | 1.67 | 1.61 |
| 35 | BA | 1292 | G | N9-C4 | -5.14 | 1.33 | 1.38 |
| 37 | BC | 12 | G | N1-C2 | -5.14 | 1.33 | 1.37 |
| 2 | AB | 1154 | G | N7-C5 | 5.14 | 1.42 | 1.39 |
| 2 | AB | 1197 | G | C2-N2 | 5.14 | 1.39 | 1.34 |
| 2 | AB | 1368 | G | C4'-C3' | -5.14 | 1.47 | 1.52 |
| 35 | BA | 300 | A | C6-N1 | -5.14 | 1.31 | 1.35 |
| 35 | BA | 550 | G | C8-N7 | 5.14 | 1.34 | 1.30 |
| 35 | BA | 735 | C | C4-N4 | -5.14 | 1.29 | 1.33 |
| 35 | BA | 780 | A | C8-N7 | 5.14 | 1.35 | 1.31 |
| 39 | BE | 109 | GLU | CB-CG | 5.14 | 1.61 | 1.52 |
| 1 | AA | 50 | A | N1-C2 | -5.14 | 1.29 | 1.34 |
| 2 | AB | 585 | G | C2-N3 | 5.14 | 1.36 | 1.32 |
| 2 | AB | 1318 | U | C2'-C1' | -5.14 | 1.47 | 1.53 |
| 2 | AB | 1565 | C | C3'-C2' | 5.14 | 1.58 | 1.52 |
| 2 | AB | 1611 | C | C4-N4 | 5.14 | 1.38 | 1.33 |
| 2 | AB | 2651 | C | C4-C5 | -5.14 | 1.38 | 1.43 |
| 2 | AB | 2724 | U | C5-C6 | 5.14 | 1.38 | 1.34 |
| 2 | AB | 2878 | U | C5-C6 | 5.14 | 1.38 | 1.34 |
| 35 | BA | 60 | A | C4'-O4' | -5.14 | 1.38 | 1.45 |
| 35 | BA | 259 | G | C8-N7 | 5.14 | 1.34 | 1.30 |
| 35 | BA | 1111 | A | C6-N6 | -5.14 | 1.29 | 1.33 |
| 35 | BA | 1294 | G | N1-C2 | 5.14 | 1.41 | 1.37 |
| 1 | AA | 28 | C | N1-C6 | 5.13 | 1.40 | 1.37 |
| 1 | AA | 57 | A | C4'-O4' | -5.13 | 1.38 | 1.45 |
| 2 | AB | 941 | A | C4'-O4' | -5.13 | 1.38 | 1.45 |
| 2 | AB | 1845 | G | C5'-C4' | 5.13 | 1.57 | 1.51 |
| 2 | AB | 1904 | G | C5-C4 | -5.13 | 1.34 | 1.38 |
| 2 | AB | 2645 | G | N7-C5 | 5.13 | 1.42 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 70 | U | O3'-P | 5.13 | 1.67 | 1.61 |
| 35 | BA | 456 | A | C8-N7 | -5.13 | 1.27 | 1.31 |
| 35 | BA | 699 | C | O3'-P | 5.13 | 1.67 | 1.61 |
| 35 | BA | 1144 | G | P-O5' | 5.13 | 1.64 | 1.59 |
| 35 | BA | 1192 | C | C4-C5 | 5.13 | 1.47 | 1.43 |
| 35 | BA | 1480 | A | N1-C2 | -5.13 | 1.29 | 1.34 |
| 2 | AB | 2713 | U | C2-N3 | 5.13 | 1.41 | 1.37 |
| 35 | BA | 469 | C | C3'-C2' | -5.13 | 1.47 | 1.52 |
| 35 | BA | 484 | G | C4'-O4' | -5.13 | 1.38 | 1.45 |
| 2 | AB | 300 | A | N3-C4 | 5.13 | 1.38 | 1.34 |
| 2 | AB | 929 | U | N1-C2 | 5.13 | 1.43 | 1.38 |
| 2 | AB | 1191 | G | C5'-C4' | 5.13 | 1.57 | 1.51 |
| 2 | AB | 1385 | A | C5'-C4' | 5.13 | 1.57 | 1.51 |
| 2 | AB | 1601 | G | C3'-C2' | -5.13 | 1.47 | 1.52 |
| 2 | AB | 1688 | U | C3'-C2' | 5.13 | 1.58 | 1.52 |
| 2 | AB | 2223 | G | P-O5' | 5.13 | 1.64 | 1.59 |
| 2 | AB | 2313 | C | C3'-C2' | 5.13 | 1.58 | 1.52 |
| 2 | AB | 2427 | C | C5'-C4' | 5.13 | 1.57 | 1.51 |
| 2 | AB | 2623 | G | C5'-C4' | 5.13 | 1.57 | 1.51 |
| 35 | BA | 271 | C | C5'-C4' | 5.13 | 1.57 | 1.51 |
| 35 | BA | 718 | A | C3'-C2' | -5.13 | 1.47 | 1.52 |
| 35 | BA | 774 | G | C8-N7 | -5.13 | 1.27 | 1.30 |
| 35 | BA | 843 | U | P-O5' | 5.13 | 1.64 | 1.59 |
| 35 | BA | 1214 | C | O3'-P | 5.13 | 1.67 | 1.61 |
| 35 | BA | 1425 | U | C2-O2 | 5.13 | 1.26 | 1.22 |
| 49 | BO | 22 | TYR | CG-CD1 | 5.13 | 1.45 | 1.39 |
| 2 | AB | 500 | G | C2-N2 | 5.13 | 1.39 | 1.34 |
| 2 | AB | 1481 | U | P-O5' | 5.13 | 1.64 | 1.59 |
| 35 | BA | 1006 | G | N7-C5 | 5.13 | 1.42 | 1.39 |
| 35 | BA | 1089 | G | P-O5' | -5.13 | 1.54 | 1.59 |
| 35 | BA | 1177 | G | O3'-P | 5.13 | 1.67 | 1.61 |
| 37 | BC | 12 | G | C5-C4 | 5.13 | 1.42 | 1.38 |
| 2 | AB | 11 | C | C4'-C3' | 5.13 | 1.58 | 1.53 |
| 2 | AB | 68 | G | N3-C4 | -5.13 | 1.31 | 1.35 |
| 2 | AB | 265 | A | O3'-P | 5.13 | 1.67 | 1.61 |
| 2 | AB | 369 | U | C4'-C3' | -5.13 | 1.47 | 1.52 |
| 2 | AB | 523 | C | C5'-C4' | 5.13 | 1.57 | 1.51 |
| 2 | AB | 899 | A | N1-C2 | -5.13 | 1.29 | 1.34 |
| 2 | AB | 1705 | A | C3'-O3' | 5.13 | 1.49 | 1.42 |
| 2 | AB | 1720 | U | N1-C2 | 5.13 | 1.43 | 1.38 |
| 2 | AB | 2243 | U | C2-N3 | 5.13 | 1.41 | 1.37 |
| 2 | AB | 2600 | A | C8-N7 | 5.13 | 1.35 | 1.31 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 61 | G | N9-C8 | 5.13 | 1.41 | 1.37 |
| 35 | BA | 262 | A | C4'-O4' | -5.13 | 1.38 | 1.45 |
| 35 | BA | 408 | A | P-O5' | 5.13 | 1.64 | 1.59 |
| 35 | BA | 605 | U | P-O5' | 5.13 | 1.64 | 1.59 |
| 35 | BA | 635 | A | C2'-C1' | -5.13 | 1.47 | 1.53 |
| 35 | BA | 1184 | G | N1-C2 | 5.13 | 1.41 | 1.37 |
| 35 | BA | 1251 | A | C2'-O2' | -5.13 | 1.34 | 1.41 |
| 2 | AB | 478 | A | C3'-O3' | 5.13 | 1.49 | 1.42 |
| 2 | AB | 804 | A | C4'-O4' | -5.13 | 1.38 | 1.45 |
| 2 | AB | 1103 | A | N9-C4 | -5.13 | 1.34 | 1.37 |
| 2 | AB | 1759 | A | C4'-O4' | -5.13 | 1.38 | 1.45 |
| 2 | AB | 2844 | G | O4'-C1' | 5.13 | 1.48 | 1.41 |
| 10 | AJ | 144 | GLU | CG-CD | 5.13 | 1.59 | 1.51 |
| 35 | BA | 369 | G | O4'-C1' | -5.13 | 1.34 | 1.41 |
| 35 | BA | 907 | A | P-O5' | 5.13 | 1.64 | 1.59 |
| 35 | BA | 1287 | A | N1-C2 | -5.13 | 1.29 | 1.34 |
| 35 | BA | 1321 | U | C4'-C3' | 5.13 | 1.58 | 1.53 |
| 2 | AB | 658 | U | C4'-O4' | -5.12 | 1.38 | 1.45 |
| 2 | AB | 889 | C | C4-C5 | -5.12 | 1.38 | 1.43 |
| 2 | AB | 1498 | C | C4-N4 | 5.12 | 1.38 | 1.33 |
| 35 | BA | 209 | U | O4'-C1' | 5.12 | 1.48 | 1.41 |
| 35 | BA | 329 | A | C6-N1 | -5.12 | 1.31 | 1.35 |
| 35 | BA | 1526 | G | C4'-O4' | -5.12 | 1.38 | 1.45 |
| 2 | AB | 289 | G | N7-C5 | 5.12 | 1.42 | 1.39 |
| 2 | AB | 939 | G | N3-C4 | 5.12 | 1.39 | 1.35 |
| 2 | AB | 1130 | U | C2'-C1' | 5.12 | 1.58 | 1.53 |
| 2 | AB | 1854 | A | C4'-O4' | -5.12 | 1.38 | 1.45 |
| 2 | AB | 2056 | G | C6-O6 | -5.12 | 1.19 | 1.24 |
| 2 | AB | 2080 | A | C5-C4 | 5.12 | 1.42 | 1.38 |
| 2 | AB | 2608 | G | C2-N3 | 5.12 | 1.36 | 1.32 |
| 35 | BA | 164 | G | N1-C2 | 5.12 | 1.41 | 1.37 |
| 35 | BA | 402 | G | N1-C2 | 5.12 | 1.41 | 1.37 |
| 35 | BA | 860 | A | C3'-O3' | -5.12 | 1.34 | 1.42 |
| 35 | BA | 992 | U | C4'-C3' | 5.12 | 1.58 | 1.53 |
| 35 | BA | 1026 | G | C2-N3 | 5.12 | 1.36 | 1.32 |
| 35 | BA | 1042 | A | N3-C4 | 5.12 | 1.38 | 1.34 |
| 45 | BK | 63 | TYR | CG-CD2 | 5.12 | 1.45 | 1.39 |
| 2 | AB | 171 | U | N1-C6 | 5.12 | 1.42 | 1.38 |
| 2 | AB | 666 | A | C3'-C2' | 5.12 | 1.58 | 1.52 |
| 2 | AB | 1054 | A | N9-C4 | 5.12 | 1.41 | 1.37 |
| 2 | AB | 1155 | A | C6-N6 | 5.12 | 1.38 | 1.33 |
| 2 | AB | 2051 | A | C2-N3 | 5.12 | 1.38 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2238 | G | N9-C8 | -5.12 | 1.34 | 1.37 |
| 2 | AB | 2702 | G | N3-C4 | 5.12 | 1.39 | 1.35 |
| 2 | AB | 2722 | G | C4'-C3' | -5.12 | 1.47 | 1.52 |
| 35 | BA | 936 | C | P-O5' | -5.12 | 1.54 | 1.59 |
| 2 | AB | 98 | G | N1-C2 | 5.12 | 1.41 | 1.37 |
| 2 | AB | 1588 | G | N9-C4 | -5.12 | 1.33 | 1.38 |
| 2 | AB | 2155 | U | N3-C4 | -5.12 | 1.33 | 1.38 |
| 2 | AB | 2167 | U | N1-C6 | 5.12 | 1.42 | 1.38 |
| 35 | BA | 293 | G | C6-O6 | -5.12 | 1.19 | 1.24 |
| 35 | BA | 328 | C | C4-C5 | 5.12 | 1.47 | 1.43 |
| 35 | BA | 1138 | G | N1-C2 | 5.12 | 1.41 | 1.37 |
| 35 | BA | 1204 | A | N3-C4 | 5.12 | 1.38 | 1.34 |
| 35 | BA | 1400 | C | N3-C4 | 5.12 | 1.37 | 1.33 |
| 1 | AA | 13 | G | N7-C5 | -5.12 | 1.36 | 1.39 |
| 1 | AA | 100 | G | C5-C4 | 5.12 | 1.42 | 1.38 |
| 2 | AB | 74 | A | C4'-C3' | -5.12 | 1.47 | 1.52 |
| 2 | AB | 583 | G | C4'-O4' | -5.12 | 1.38 | 1.45 |
| 2 | AB | 948 | C | C5'-C4' | 5.12 | 1.57 | 1.51 |
| 2 | AB | 1481 | U | C2-O2 | 5.12 | 1.26 | 1.22 |
| 2 | AB | 2138 | G | C8-N7 | 5.12 | 1.34 | 1.30 |
| 2 | AB | 2191 | A | C5-C4 | -5.12 | 1.35 | 1.38 |
| 15 | AO | 50 | ARG | CZ-NH2 | 5.12 | 1.39 | 1.33 |
| 35 | BA | 323 | U | P-O5' | 5.12 | 1.64 | 1.59 |
| 35 | BA | 395 | C | N1-C6 | 5.12 | 1.40 | 1.37 |
| 35 | BA | 705 | G | P-O5' | 5.12 | 1.64 | 1.59 |
| 35 | BA | 923 | A | N1-C2 | 5.12 | 1.39 | 1.34 |
| 35 | BA | 1320 | C | C4-N4 | -5.12 | 1.29 | 1.33 |
| 35 | BA | 1502 | A | N3-C4 | 5.12 | 1.38 | 1.34 |
| 2 | AB | 1453 | A | P-O5' | 5.12 | 1.64 | 1.59 |
| 35 | BA | 371 | A | N9-C4 | 5.12 | 1.41 | 1.37 |
| 35 | BA | 903 | G | N1-C2 | 5.12 | 1.41 | 1.37 |
| 35 | BA | 1263 | C | C2-N3 | 5.12 | 1.39 | 1.35 |
| 35 | BA | 1384 | C | C4-N4 | -5.12 | 1.29 | 1.33 |
| 2 | AB | 147 | C | C4'-O4' | -5.12 | 1.38 | 1.45 |
| 2 | AB | 898 | C | C2-N3 | 5.12 | 1.39 | 1.35 |
| 2 | AB | 929 | U | C4-O4 | -5.12 | 1.19 | 1.23 |
| 2 | AB | 990 | A | C5-C6 | 5.12 | 1.45 | 1.41 |
| 2 | AB | 1486 | U | N1-C6 | -5.12 | 1.33 | 1.38 |
| 2 | AB | 1490 | A | C8-N7 | -5.12 | 1.27 | 1.31 |
| 2 | AB | 1814 | G | C5-C4 | 5.12 | 1.42 | 1.38 |
| 2 | AB | 2047 | C | C4'-O4' | -5.12 | 1.39 | 1.45 |
| 2 | AB | 2183 | A | N7-C5 | 5.12 | 1.42 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2225 | A | C3'-C2' | 5.12 | 1.58 | 1.52 |
| 2 | AB | 2365 | G | N3-C4 | 5.12 | 1.39 | 1.35 |
| 2 | AB | 2648 | G | N1-C2 | 5.12 | 1.41 | 1.37 |
| 12 | AL | 27 | ARG | NE-CZ | 5.12 | 1.39 | 1.33 |
| 35 | BA | 46 | G | C5-C4 | -5.12 | 1.34 | 1.38 |
| 35 | BA | 546 | A | O3'-P | 5.12 | 1.67 | 1.61 |
| 35 | BA | 681 | A | C4'-O4' | -5.12 | 1.38 | 1.45 |
| 35 | BA | 731 | G | N9-C8 | 5.12 | 1.41 | 1.37 |
| 35 | BA | 777 | A | C2'-O2' | -5.12 | 1.35 | 1.41 |
| 2 | AB | 10 | A | O3'-P | 5.11 | 1.67 | 1.61 |
| 2 | AB | 45 | G | C2-N3 | 5.11 | 1.36 | 1.32 |
| 2 | AB | 143 | C | O3'-P | 5.11 | 1.67 | 1.61 |
| 2 | AB | 206 | U | C4'-O4' | -5.11 | 1.39 | 1.45 |
| 2 | AB | 542 | C | C3'-C2' | 5.11 | 1.58 | 1.52 |
| 2 | AB | 615 | U | C3'-C2' | 5.11 | 1.58 | 1.52 |
| 2 | AB | 779 | U | C2-O2 | 5.11 | 1.26 | 1.22 |
| 2 | AB | 1395 | A | C4'-O4' | -5.11 | 1.39 | 1.45 |
| 2 | AB | 2613 | U | N3-C4 | 5.11 | 1.43 | 1.38 |
| 28 | A1 | 56 | VAL | CB-CG1 | 5.11 | 1.63 | 1.52 |
| 35 | BA | 346 | G | C8-N7 | 5.11 | 1.34 | 1.30 |
| 35 | BA | 546 | A | C2'-O2' | 5.11 | 1.48 | 1.41 |
| 35 | BA | 613 | C | C4-N4 | -5.11 | 1.29 | 1.33 |
| 35 | BA | 1042 | A | C5-C6 | 5.11 | 1.45 | 1.41 |
| 35 | BA | 1200 | C | C3'-C2' | 5.11 | 1.58 | 1.52 |
| 35 | BA | 1507 | A | C4'-O4' | -5.11 | 1.39 | 1.45 |
| 2 | AB | 368 | A | C6-N6 | -5.11 | 1.29 | 1.33 |
| 2 | AB | 377 | G | C6-N1 | -5.11 | 1.35 | 1.39 |
| 35 | BA | 327 | A | C5-C4 | -5.11 | 1.35 | 1.38 |
| 37 | BC | 57 | C | O3'-P | 5.11 | 1.67 | 1.61 |
| 2 | AB | 408 | G | C2-N2 | 5.11 | 1.39 | 1.34 |
| 2 | AB | 561 | G | C2'-C1' | -5.11 | 1.47 | 1.53 |
| 2 | AB | 1082 | U | C4'-O4' | -5.11 | 1.39 | 1.45 |
| 2 | AB | 1192 | G | N3-C4 | -5.11 | 1.31 | 1.35 |
| 2 | AB | 2412 | A | C8-N7 | 5.11 | 1.35 | 1.31 |
| 35 | BA | 632 | U | P-O5' | 5.11 | 1.64 | 1.59 |
| 35 | BA | 1255 | G | P-O5' | 5.11 | 1.64 | 1.59 |
| 35 | BA | 1285 | A | N9-C8 | -5.11 | 1.33 | 1.37 |
| 35 | BA | 1378 | C | C2-O2 | -5.11 | 1.19 | 1.24 |
| 1 | AA | 94 | A | C6-N6 | 5.11 | 1.38 | 1.33 |
| 2 | AB | 582 | A | C6-N1 | -5.11 | 1.31 | 1.35 |
| 2 | AB | 1269 | A | N7-C5 | -5.11 | 1.36 | 1.39 |
| 35 | BA | 726 | C | C2'-O2' | -5.11 | 1.35 | 1.41 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 1 | AA | 49 | C | P-O5' | 5.11 | 1.64 | 1.59 |
| 1 | AA | 53 | A | N3-C4 | 5.11 | 1.38 | 1.34 |
| 2 | AB | 953 | G | C5-C6 | 5.11 | 1.47 | 1.42 |
| 2 | AB | 1598 | A | N7-C5 | -5.11 | 1.36 | 1.39 |
| 2 | AB | 1964 | G | C3'-C2' | 5.11 | 1.58 | 1.52 |
| 2 | AB | 2515 | C | O4'-C1' | 5.11 | 1.48 | 1.41 |
| 24 | AX | 82 | TYR | CE2-CZ | 5.11 | 1.45 | 1.38 |
| 35 | BA | 15 | G | N3-C4 | 5.11 | 1.39 | 1.35 |
| 35 | BA | 60 | A | N9-C8 | 5.11 | 1.41 | 1.37 |
| 35 | BA | 187 | G | C2-N3 | 5.11 | 1.36 | 1.32 |
| 35 | BA | 279 | A | O3'-P | 5.11 | 1.67 | 1.61 |
| 35 | BA | 803 | G | O3'-P | 5.11 | 1.67 | 1.61 |
| 49 | BO | 2 | ARG | CZ-NH2 | 5.11 | 1.39 | 1.33 |
| 2 | AB | 23 | G | C3'-O3' | 5.11 | 1.49 | 1.42 |
| 2 | AB | 588 | U | C4-C5 | 5.11 | 1.48 | 1.43 |
| 2 | AB | 653 | U | C1'-N1 | 5.11 | 1.56 | 1.48 |
| 2 | AB | 757 | G | C3'-C2' | 5.11 | 1.58 | 1.52 |
| 2 | AB | 883 | G | N3-C4 | 5.11 | 1.39 | 1.35 |
| 2 | AB | 1143 | A | C2-N3 | -5.11 | 1.28 | 1.33 |
| 2 | AB | 1468 | U | C5-C6 | 5.11 | 1.38 | 1.34 |
| 2 | AB | 1523 | U | N1-C2 | 5.11 | 1.43 | 1.38 |
| 2 | AB | 2619 | C | C4'-C3' | 5.11 | 1.58 | 1.53 |
| 2 | AB | 2768 | U | C2-O2 | 5.11 | 1.26 | 1.22 |
| 35 | BA | 1428 | A | C3'-O3' | -5.11 | 1.35 | 1.42 |
| 35 | BA | 1505 | G | C2-N3 | 5.11 | 1.36 | 1.32 |
| 35 | BA | 1515 | G | N7-C5 | 5.11 | 1.42 | 1.39 |
| 2 | AB | 19 | A | N3-C4 | 5.10 | 1.38 | 1.34 |
| 2 | AB | 1026 | G | N9-C4 | 5.10 | 1.42 | 1.38 |
| 2 | AB | 1288 | G | O4'-C1' | 5.10 | 1.48 | 1.41 |
| 2 | AB | 1397 | U | O4'-C1' | 5.10 | 1.48 | 1.41 |
| 2 | AB | 2636 | C | C3'-C2' | 5.10 | 1.58 | 1.52 |
| 2 | AB | 2776 | A | C2-N3 | -5.10 | 1.28 | 1.33 |
| 2 | AB | 14 | A | C2'-O2' | 5.10 | 1.48 | 1.41 |
| 2 | AB | 301 | G | C5'-C4' | 5.10 | 1.57 | 1.51 |
| 2 | AB | 852 | U | C5-C6 | 5.10 | 1.38 | 1.34 |
| 2 | AB | 860 | U | O3'-P | 5.10 | 1.67 | 1.61 |
| 2 | AB | 1038 | G | C5-C4 | -5.10 | 1.34 | 1.38 |
| 2 | AB | 1428 | C | C4'-O4' | -5.10 | 1.39 | 1.45 |
| 2 | AB | 1702 | G | N9-C8 | 5.10 | 1.41 | 1.37 |
| 2 | AB | 2154 | A | N7-C5 | 5.10 | 1.42 | 1.39 |
| 2 | AB | 2510 | C | C2-N3 | 5.10 | 1.39 | 1.35 |
| 2 | AB | 2757 | A | C8-N7 | -5.10 | 1.27 | 1.31 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2876 | G | N1-C2 | 5.10 | 1.41 | 1.37 |
| 35 | BA | 252 | U | C5'-C4' | -5.10 | 1.45 | 1.51 |
| 35 | BA | 504 | C | O4'-C1' | 5.10 | 1.48 | 1.41 |
| 35 | BA | 567 | G | N9-C8 | -5.10 | 1.34 | 1.37 |
| 35 | BA | 1212 | U | N1-C2 | 5.10 | 1.43 | 1.38 |
| 35 | BA | 1455 | G | N3-C4 | 5.10 | 1.39 | 1.35 |
| 2 | AB | 867 | C | C4-N4 | 5.10 | 1.38 | 1.33 |
| 2 | AB | 1388 | G | N9-C4 | -5.10 | 1.33 | 1.38 |
| 2 | AB | 2093 | G | C2'-C1' | -5.10 | 1.47 | 1.53 |
| 2 | AB | 2756 | U | C2-N3 | 5.10 | 1.41 | 1.37 |
| 2 | AB | 308 | G | C5'-C4' | 5.10 | 1.57 | 1.51 |
| 2 | AB | 888 | C | C2-N3 | 5.10 | 1.39 | 1.35 |
| 2 | AB | 989 | G | C4'-O4' | -5.10 | 1.39 | 1.45 |
| 2 | AB | 1196 | C | P-O5' | 5.10 | 1.64 | 1.59 |
| 2 | AB | 1298 | C | C4-C5 | 5.10 | 1.47 | 1.43 |
| 2 | AB | 1346 | G | N3-C4 | -5.10 | 1.31 | 1.35 |
| 2 | AB | 1840 | G | P-O5' | 5.10 | 1.64 | 1.59 |
| 35 | BA | 446 | G | C6-N1 | 5.10 | 1.43 | 1.39 |
| 35 | BA | 1293 | C | C4-N4 | 5.10 | 1.38 | 1.33 |
| 35 | BA | 1487 | G | C4'-O4' | -5.10 | 1.39 | 1.45 |
| 1 | AA | 19 | C | C5-C6 | 5.10 | 1.38 | 1.34 |
| 1 | AA | 59 | A | C8-N7 | -5.10 | 1.27 | 1.31 |
| 2 | AB | 534 | U | N3-C4 | 5.10 | 1.43 | 1.38 |
| 2 | AB | 1017 | G | C6-O6 | -5.10 | 1.19 | 1.24 |
| 2 | AB | 2172 | U | O3'-P | 5.10 | 1.67 | 1.61 |
| 2 | AB | 2239 | G | N3-C4 | 5.10 | 1.39 | 1.35 |
| 2 | AB | 2464 | G | C5'-C4' | 5.10 | 1.57 | 1.51 |
| 2 | AB | 2810 | A | C6-N1 | 5.10 | 1.39 | 1.35 |
| 22 | AV | 27 | SER | CB-OG | -5.10 | 1.35 | 1.42 |
| 35 | BA | 650 | G | N3-C4 | 5.10 | 1.39 | 1.35 |
| 35 | BA | 753 | A | C5-C4 | -5.10 | 1.35 | 1.38 |
| 35 | BA | 782 | A | C2-N3 | -5.10 | 1.28 | 1.33 |
| 35 | BA | 1376 | U | C4-C5 | -5.10 | 1.39 | 1.43 |
| 2 | AB | 2124 | G | C2-N3 | 5.10 | 1.36 | 1.32 |
| 2 | AB | 2358 | A | O3'-P | 5.10 | 1.67 | 1.61 |
| 35 | BA | 78 | A | C4'-C3' | 5.10 | 1.58 | 1.53 |
| 1 | AA | 99 | A | N7-C5 | -5.09 | 1.36 | 1.39 |
| 2 | AB | 14 | A | N9-C8 | 5.09 | 1.41 | 1.37 |
| 2 | AB | 175 | G | P-O5' | 5.09 | 1.64 | 1.59 |
| 2 | AB | 344 | A | N3-C4 | 5.09 | 1.38 | 1.34 |
| 2 | AB | 539 | G | O3'-P | -5.09 | 1.55 | 1.61 |
| 2 | AB | 563 | A | C2'-C1' | 5.09 | 1.58 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2702 | G | P-O5' | 5.09 | 1.64 | 1.59 |
| 2 | AB | 2778 | A | C2'-O2' | -5.09 | 1.35 | 1.41 |
| 2 | AB | 2804 | U | C1'-N1 | 5.09 | 1.56 | 1.48 |
| 35 | BA | 66 | A | C5'-C4' | 5.09 | 1.57 | 1.51 |
| 35 | BA | 305 | G | C2-N3 | -5.09 | 1.28 | 1.32 |
| 35 | BA | 557 | G | N7-C5 | -5.09 | 1.36 | 1.39 |
| 35 | BA | 558 | G | C5-C6 | 5.09 | 1.47 | 1.42 |
| 35 | BA | 968 | A | C5-C4 | -5.09 | 1.35 | 1.38 |
| 35 | BA | 1134 | G | N9-C8 | -5.09 | 1.34 | 1.37 |
| 35 | BA | 1231 | G | C2'-C1' | 5.09 | 1.58 | 1.53 |
| 1 | AA | 51 | G | C2-N3 | 5.09 | 1.36 | 1.32 |
| 1 | AA | 66 | A | O3'-P | 5.09 | 1.67 | 1.61 |
| 1 | AA | 98 | G | C5'-C4' | 5.09 | 1.57 | 1.51 |
| 2 | AB | 311 | A | N1-C2 | -5.09 | 1.29 | 1.34 |
| 2 | AB | 921 | C | C2'-C1' | 5.09 | 1.58 | 1.53 |
| 35 | BA | 249 | U | C2-N3 | 5.09 | 1.41 | 1.37 |
| 35 | BA | 1127 | G | C1'-N9 | 5.09 | 1.56 | 1.48 |
| 2 | AB | 119 | A | C5-C6 | 5.09 | 1.45 | 1.41 |
| 2 | AB | 347 | A | C6-N1 | -5.09 | 1.31 | 1.35 |
| 2 | AB | 491 | G | C5-C6 | 5.09 | 1.47 | 1.42 |
| 2 | AB | 2141 | G | C5'-C4' | 5.09 | 1.57 | 1.51 |
| 2 | AB | 2502 | G | P-O5' | 5.09 | 1.64 | 1.59 |
| 2 | AB | 2526 | G | C5-C4 | -5.09 | 1.34 | 1.38 |
| 2 | AB | 2634 | A | C3'-O3' | 5.09 | 1.49 | 1.42 |
| 2 | AB | 2749 | A | C8-N7 | -5.09 | 1.27 | 1.31 |
| 2 | AB | 2756 | U | P-O5' | 5.09 | 1.64 | 1.59 |
| 2 | AB | 2774 | C | C4-C5 | -5.09 | 1.38 | 1.43 |
| 19 | AS | 35 | PHE | CE1-CZ | 5.09 | 1.47 | 1.37 |
| 35 | BA | 26 | A | C4'-C3' | 5.09 | 1.58 | 1.53 |
| 35 | BA | 217 | C | C2-O2 | -5.09 | 1.19 | 1.24 |
| 35 | BA | 285 | C | N3-C4 | 5.09 | 1.37 | 1.33 |
| 35 | BA | 469 | C | C4-C5 | 5.09 | 1.47 | 1.43 |
| 35 | BA | 921 | U | N1-C6 | 5.09 | 1.42 | 1.38 |
| 54 | BT | 12 | PHE | CG-CD1 | 5.09 | 1.46 | 1.38 |
| 2 | AB | 303 | G | C4'-O4' | -5.09 | 1.39 | 1.45 |
| 2 | AB | 332 | A | P-O5' | 5.09 | 1.64 | 1.59 |
| 2 | AB | 1184 | U | P-O5' | 5.09 | 1.64 | 1.59 |
| 2 | AB | 1536 | C | C4'-C3' | 5.09 | 1.58 | 1.53 |
| 2 | AB | 1641 | A | N3-C4 | 5.09 | 1.38 | 1.34 |
| 2 | AB | 2535 | G | C2-N2 | 5.09 | 1.39 | 1.34 |
| 2 | AB | 2786 | U | C5'-C4' | 5.09 | 1.57 | 1.51 |
| 15 | AO | 38 | ARG | CZ-NH1 | 5.09 | 1.39 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 261 | U | C3'-C2' | 5.09 | 1.58 | 1.52 |
| 35 | BA | 399 | G | C5'-C4' | 5.09 | 1.57 | 1.51 |
| 35 | BA | 439 | U | O4'-C1' | 5.09 | 1.48 | 1.41 |
| 35 | BA | 522 | C | C3'-O3' | 5.09 | 1.49 | 1.42 |
| 35 | BA | 1362 | A | C5'-C4' | 5.09 | 1.57 | 1.51 |
| 36 | BB | 41 | A | C2-N3 | 5.09 | 1.38 | 1.33 |
| 2 | AB | 218 | A | C6-N6 | 5.09 | 1.38 | 1.33 |
| 2 | AB | 616 | A | C6-N1 | 5.09 | 1.39 | 1.35 |
| 2 | AB | 1596 | A | C6-N6 | -5.09 | 1.29 | 1.33 |
| 2 | AB | 2431 | U | C4'-C3' | 5.09 | 1.58 | 1.53 |
| 35 | BA | 495 | A | N9-C4 | 5.09 | 1.41 | 1.37 |
| 35 | BA | 616 | G | N9-C8 | 5.09 | 1.41 | 1.37 |
| 35 | BA | 1452 | C | P-O5' | -5.09 | 1.54 | 1.59 |
| 36 | BB | 14 | G | C5-C6 | 5.09 | 1.47 | 1.42 |
| 2 | AB | 86 | G | C2-N3 | 5.09 | 1.36 | 1.32 |
| 2 | AB | 253 | C | C5'-C4' | 5.09 | 1.57 | 1.51 |
| 2 | AB | 740 | C | C2-N3 | 5.09 | 1.39 | 1.35 |
| 2 | AB | 749 | A | P-O5' | 5.09 | 1.64 | 1.59 |
| 2 | AB | 1175 | A | C4'-O4' | -5.09 | 1.39 | 1.45 |
| 2 | AB | 1864 | U | C4-C5 | 5.09 | 1.48 | 1.43 |
| 2 | AB | 2355 | G | N9-C8 | -5.09 | 1.34 | 1.37 |
| 2 | AB | 2535 | G | C2-N3 | 5.09 | 1.36 | 1.32 |
| 2 | AB | 2706 | A | N3-C4 | 5.09 | 1.38 | 1.34 |
| 2 | AB | 2903 | U | C5-C6 | 5.09 | 1.38 | 1.34 |
| 35 | BA | 513 | C | C4-N4 | 5.09 | 1.38 | 1.33 |
| 35 | BA | 683 | G | C2-N2 | 5.09 | 1.39 | 1.34 |
| 2 | AB | 774 | G | C5'-C4' | 5.08 | 1.57 | 1.51 |
| 2 | AB | 2703 | C | C2'-O2' | -5.08 | 1.35 | 1.41 |
| 35 | BA | 368 | U | C4'-O4' | -5.08 | 1.39 | 1.45 |
| 35 | BA | 579 | A | C3'-O3' | 5.08 | 1.49 | 1.42 |
| 35 | BA | 1356 | G | N1-C2 | 5.08 | 1.41 | 1.37 |
| 37 | BC | 60 | A | C3'-C2' | -5.08 | 1.47 | 1.52 |
| 45 | BK | 40 | ARG | CZ-NH1 | 5.08 | 1.39 | 1.33 |
| 57 | BW | 36 | PHE | CG-CD1 | 5.08 | 1.46 | 1.38 |
| 1 | AA | 81 | G | P-O5' | 5.08 | 1.64 | 1.59 |
| 2 | AB | 289 | G | P-O5' | 5.08 | 1.64 | 1.59 |
| 2 | AB | 748 | G | C5-C6 | 5.08 | 1.47 | 1.42 |
| 2 | AB | 886 | A | C4'-O4' | -5.08 | 1.39 | 1.45 |
| 2 | AB | 1175 | A | C2'-C1' | 5.08 | 1.58 | 1.53 |
| 2 | AB | 1268 | A | O5'-C5' | -5.08 | 1.34 | 1.42 |
| 2 | AB | 1278 | C | N1-C2 | 5.08 | 1.45 | 1.40 |
| 2 | AB | 1844 | C | C2-O2 | -5.08 | 1.19 | 1.24 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1862 | G | C8-N7 | -5.08 | 1.27 | 1.30 |
| 2 | AB | 1959 | G | C5-C4 | -5.08 | 1.34 | 1.38 |
| 2 | AB | 2163 | A | C6-N1 | 5.08 | 1.39 | 1.35 |
| 2 | AB | 2619 | C | N3-C4 | 5.08 | 1.37 | 1.33 |
| 2 | AB | 2777 | G | N1-C2 | 5.08 | 1.41 | 1.37 |
| 35 | BA | 223 | A | O4'-C1' | 5.08 | 1.48 | 1.41 |
| 35 | BA | 276 | G | O4'-C1' | 5.08 | 1.48 | 1.41 |
| 35 | BA | 504 | C | N3-C4 | 5.08 | 1.37 | 1.33 |
| 35 | BA | 918 | A | C4'-O4' | -5.08 | 1.39 | 1.45 |
| 35 | BA | 1132 | C | C2-N3 | 5.08 | 1.39 | 1.35 |
| 35 | BA | 1267 | C | C4'-O4' | -5.08 | 1.39 | 1.45 |
| 55 | BU | 68 | HIS | CB-CG | 5.08 | 1.59 | 1.50 |
| 2 | AB | 47 | C | N1-C2 | -5.08 | 1.35 | 1.40 |
| 2 | AB | 489 | G | C5'-C4' | -5.08 | 1.45 | 1.51 |
| 2 | AB | 1480 | C | C4-N4 | -5.08 | 1.29 | 1.33 |
| 2 | AB | 1605 | C | N1-C6 | -5.08 | 1.34 | 1.37 |
| 2 | AB | 1715 | G | N9-C8 | -5.08 | 1.34 | 1.37 |
| 2 | AB | 2031 | A | P-O5' | 5.08 | 1.64 | 1.59 |
| 2 | AB | 2111 | U | N1-C6 | -5.08 | 1.33 | 1.38 |
| 2 | AB | 2185 | U | C5-C6 | 5.08 | 1.38 | 1.34 |
| 2 | AB | 2297 | A | N3-C4 | 5.08 | 1.37 | 1.34 |
| 2 | AB | 2407 | A | C6-N1 | 5.08 | 1.39 | 1.35 |
| 2 | AB | 2475 | C | C4'-C3' | 5.08 | 1.58 | 1.53 |
| 2 | AB | 2537 | U | N1-C2 | 5.08 | 1.43 | 1.38 |
| 35 | BA | 316 | C | O3'-P | -5.08 | 1.55 | 1.61 |
| 35 | BA | 760 | G | N3-C4 | 5.08 | 1.39 | 1.35 |
| 35 | BA | 961 | U | C4'-O4' | -5.08 | 1.39 | 1.45 |
| 35 | BA | 1000 | A | C5-C4 | -5.08 | 1.35 | 1.38 |
| 35 | BA | 1186 | G | N3-C4 | -5.08 | 1.31 | 1.35 |
| 35 | BA | 1395 | C | C4-N4 | 5.08 | 1.38 | 1.33 |
| 2 | AB | 555 | G | N1-C2 | -5.08 | 1.33 | 1.37 |
| 2 | AB | 1998 | A | C5-C6 | 5.08 | 1.45 | 1.41 |
| 2 | AB | 2465 | C | C3'-O3' | -5.08 | 1.35 | 1.42 |
| 12 | AL | 16 | TYR | CE1-CZ | 5.08 | 1.45 | 1.38 |
| 35 | BA | 1063 | C | C1'-N1 | 5.08 | 1.56 | 1.48 |
| 1 | AA | 18 | G | N9-C8 | -5.08 | 1.34 | 1.37 |
| 1 | AA | 117 | G | C5'-C4' | 5.08 | 1.57 | 1.51 |
| 2 | AB | 20 | C | O3'-P | 5.08 | 1.67 | 1.61 |
| 2 | AB | 335 | C | N1-C6 | 5.08 | 1.40 | 1.37 |
| 2 | AB | 415 | A | C2-N3 | 5.08 | 1.38 | 1.33 |
| 2 | AB | 493 | G | N1-C2 | 5.08 | 1.41 | 1.37 |
| 2 | AB | 1098 | A | O4'-C1' | -5.08 | 1.35 | 1.41 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1209 | U | O4'-C1' | 5.08 | 1.48 | 1.41 |
| 2 | AB | 1371 | G | N9-C4 | 5.08 | 1.42 | 1.38 |
| 2 | AB | 1382 | G | C2-N3 | 5.08 | 1.36 | 1.32 |
| 2 | AB | 1471 | G | N7-C5 | -5.08 | 1.36 | 1.39 |
| 2 | AB | 2589 | A | C5-C6 | 5.08 | 1.45 | 1.41 |
| 35 | BA | 170 | U | P-O5' | 5.08 | 1.64 | 1.59 |
| 35 | BA | 212 | G | O3'-P | 5.08 | 1.67 | 1.61 |
| 35 | BA | 573 | A | C8-N7 | -5.08 | 1.27 | 1.31 |
| 35 | BA | 655 | A | C2-N3 | -5.08 | 1.28 | 1.33 |
| 35 | BA | 839 | C | C3'-C2' | 5.08 | 1.58 | 1.52 |
| 35 | BA | 1414 | U | C4'-O4' | -5.08 | 1.39 | 1.45 |
| 2 | AB | 47 | C | O4'-C1' | 5.08 | 1.48 | 1.41 |
| 2 | AB | 442 | G | C5-C6 | 5.08 | 1.47 | 1.42 |
| 2 | AB | 457 | A | C6-N6 | 5.08 | 1.38 | 1.33 |
| 2 | AB | 1111 | A | N1-C2 | -5.08 | 1.29 | 1.34 |
| 35 | BA | 443 | C | C2-N3 | 5.08 | 1.39 | 1.35 |
| 35 | BA | 801 | U | C2-O2 | 5.08 | 1.26 | 1.22 |
| 35 | BA | 816 | A | C5-C4 | -5.08 | 1.35 | 1.38 |
| 35 | BA | 1006 | G | O5'-C5' | -5.08 | 1.34 | 1.42 |
| 2 | AB | 785 | G | C3'-C2' | 5.08 | 1.58 | 1.52 |
| 2 | AB | 1365 | A | C2'-O2' | -5.08 | 1.35 | 1.41 |
| 2 | AB | 1446 | C | C3'-O3' | -5.08 | 1.35 | 1.42 |
| 2 | AB | 1641 | A | N7-C5 | 5.08 | 1.42 | 1.39 |
| 2 | AB | 1988 | G | C6-N1 | 5.08 | 1.43 | 1.39 |
| 2 | AB | 1990 | C | C2-N3 | -5.08 | 1.31 | 1.35 |
| 26 | AZ | 54 | GLY | CA-C | 5.08 | 1.59 | 1.51 |
| 35 | BA | 126 | G | C5-C4 | -5.08 | 1.34 | 1.38 |
| 35 | BA | 156 | C | C5'-C4' | 5.08 | 1.57 | 1.51 |
| 35 | BA | 885 | G | C8-N7 | 5.08 | 1.33 | 1.30 |
| 35 | BA | 900 | A | C2'-O2' | 5.08 | 1.48 | 1.41 |
| 2 | AB | 153 | U | C5'-C4' | 5.07 | 1.57 | 1.51 |
| 2 | AB | 555 | G | N9-C8 | 5.07 | 1.41 | 1.37 |
| 2 | AB | 753 | A | P-O5' | 5.07 | 1.64 | 1.59 |
| 2 | AB | 945 | A | C4'-C3' | 5.07 | 1.58 | 1.53 |
| 2 | AB | 1010 | A | N7-C5 | -5.07 | 1.36 | 1.39 |
| 2 | AB | 1624 | U | C5'-C4' | 5.07 | 1.57 | 1.51 |
| 2 | AB | 2315 | G | P-O5' | 5.07 | 1.64 | 1.59 |
| 2 | AB | 2407 | A | O3'-P | 5.07 | 1.67 | 1.61 |
| 2 | AB | 2426 | A | N3-C4 | 5.07 | 1.37 | 1.34 |
| 2 | AB | 2509 | G | N9-C4 | 5.07 | 1.42 | 1.38 |
| 20 | AT | 31 | GLU | CD-OE1 | 5.07 | 1.31 | 1.25 |
| 35 | BA | 55 | A | C8-N7 | -5.07 | 1.27 | 1.31 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 493 | A | C6-N6 | 5.07 | 1.38 | 1.33 |
| 35 | BA | 495 | A | C6-N1 | 5.07 | 1.39 | 1.35 |
| 35 | BA | 922 | G | N7-C5 | 5.07 | 1.42 | 1.39 |
| 35 | BA | 1306 | A | O4'-C1' | 5.07 | 1.48 | 1.41 |
| 35 | BA | 1312 | G | C6-N1 | -5.07 | 1.35 | 1.39 |
| 36 | BB | 25 | U | C2-N3 | 5.07 | 1.41 | 1.37 |
| 2 | AB | 1568 | G | C5'-C4' | 5.07 | 1.57 | 1.51 |
| 2 | AB | 1605 | C | C2-O2 | -5.07 | 1.19 | 1.24 |
| 2 | AB | 2412 | A | O3'-P | 5.07 | 1.67 | 1.61 |
| 35 | BA | 717 | U | N3-C4 | 5.07 | 1.43 | 1.38 |
| 35 | BA | 778 | G | C5-C4 | -5.07 | 1.34 | 1.38 |
| 43 | BI | 154 | ARG | CZ-NH1 | 5.07 | 1.39 | 1.33 |
| 1 | AA | 88 | C | C2-O2 | -5.07 | 1.19 | 1.24 |
| 2 | AB | 51 | G | P-O5' | 5.07 | 1.64 | 1.59 |
| 2 | AB | 76 | C | C4-N4 | -5.07 | 1.29 | 1.33 |
| 2 | AB | 448 | U | C4'-O4' | -5.07 | 1.39 | 1.45 |
| 2 | AB | 665 | U | C3'-C2' | 5.07 | 1.58 | 1.52 |
| 2 | AB | 928 | A | C6-N1 | 5.07 | 1.39 | 1.35 |
| 2 | AB | 1355 | G | C2'-O2' | -5.07 | 1.35 | 1.41 |
| 2 | AB | 1375 | U | N1-C6 | 5.07 | 1.42 | 1.38 |
| 2 | AB | 1416 | G | N7-C5 | -5.07 | 1.36 | 1.39 |
| 2 | AB | 1527 | G | P-O5' | 5.07 | 1.64 | 1.59 |
| 2 | AB | 1795 | C | C4'-O4' | -5.07 | 1.39 | 1.45 |
| 2 | AB | 1872 | A | C8-N7 | -5.07 | 1.28 | 1.31 |
| 2 | AB | 2380 | C | C5'-C4' | 5.07 | 1.57 | 1.51 |
| 2 | AB | 2518 | A | N1-C2 | 5.07 | 1.39 | 1.34 |
| 2 | AB | 2632 | A | N9-C8 | 5.07 | 1.41 | 1.37 |
| 2 | AB | 2664 | G | C6-O6 | -5.07 | 1.19 | 1.24 |
| 35 | BA | 349 | A | P-O5' | 5.07 | 1.64 | 1.59 |
| 35 | BA | 353 | A | C4'-C3' | -5.07 | 1.47 | 1.52 |
| 35 | BA | 965 | U | C4'-O4' | -5.07 | 1.39 | 1.45 |
| 35 | BA | 1481 | U | C5'-C4' | 5.07 | 1.57 | 1.51 |
| 36 | BB | 42 | U | P-O5' | 5.07 | 1.64 | 1.59 |
| 2 | AB | 1600 | C | P-O5' | 5.07 | 1.64 | 1.59 |
| 2 | AB | 2458 | G | N9-C4 | 5.07 | 1.42 | 1.38 |
| 37 | BC | 39 | A | N9-C4 | 5.07 | 1.40 | 1.37 |
| 1 | AA | 1 | U | C2'-O2' | 5.07 | 1.48 | 1.41 |
| 2 | AB | 129 | C | C5-C6 | 5.07 | 1.38 | 1.34 |
| 2 | AB | 722 | A | C2'-O2' | 5.07 | 1.48 | 1.41 |
| 2 | AB | 1404 | C | N3-C4 | 5.07 | 1.37 | 1.33 |
| 2 | AB | 1487 | U | N3-C4 | 5.07 | 1.43 | 1.38 |
| 35 | BA | 1132 | C | C5-C6 | 5.07 | 1.38 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 151 | C | C5'-C4' | 5.07 | 1.57 | 1.51 |
| 2 | AB | 228 | C | P-O5' | 5.07 | 1.64 | 1.59 |
| 2 | AB | 621 | A | N9-C8 | 5.07 | 1.41 | 1.37 |
| 2 | AB | 882 | G | O4'-C1' | -5.07 | 1.35 | 1.41 |
| 2 | AB | 1513 | U | O3'-P | -5.07 | 1.55 | 1.61 |
| 2 | AB | 1576 | U | C3'-O3' | -5.07 | 1.35 | 1.42 |
| 2 | AB | 1634 | A | C5-C4 | -5.07 | 1.35 | 1.38 |
| 2 | AB | 2293 | G | C4'-O4' | -5.07 | 1.39 | 1.45 |
| 2 | AB | 2311 | A | C4'-C3' | 5.07 | 1.58 | 1.53 |
| 33 | A6 | 63 | TYR | CE2-CZ | 5.07 | 1.45 | 1.38 |
| 35 | BA | 982 | U | C2-O2 | 5.07 | 1.26 | 1.22 |
| 35 | BA | 1468 | A | C2-N3 | -5.07 | 1.28 | 1.33 |
| 2 | AB | 600 | G | N3-C4 | -5.06 | 1.31 | 1.35 |
| 2 | AB | 811 | U | O5'-C5' | -5.06 | 1.34 | 1.42 |
| 2 | AB | 953 | G | N1-C2 | 5.06 | 1.41 | 1.37 |
| 2 | AB | 1395 | A | O4'-C1' | -5.06 | 1.35 | 1.41 |
| 2 | AB | 2518 | A | O3'-P | 5.06 | 1.67 | 1.61 |
| 2 | AB | 2774 | C | C2-O2 | -5.06 | 1.19 | 1.24 |
| 2 | AB | 2808 | G | C5'-C4' | 5.06 | 1.57 | 1.51 |
| 35 | BA | 177 | G | C4'-O4' | -5.06 | 1.39 | 1.45 |
| 35 | BA | 579 | A | C5-C6 | 5.06 | 1.45 | 1.41 |
| 35 | BA | 776 | G | C4'-O4' | -5.06 | 1.39 | 1.45 |
| 35 | BA | 1513 | A | C8-N7 | 5.06 | 1.35 | 1.31 |
| 37 | BC | 10 | G | C8-N7 | 5.06 | 1.33 | 1.30 |
| 2 | AB | 277 | G | C4'-O4' | -5.06 | 1.39 | 1.45 |
| 2 | AB | 287 | G | N7-C5 | -5.06 | 1.36 | 1.39 |
| 2 | AB | 287 | G | N9-C8 | 5.06 | 1.41 | 1.37 |
| 2 | AB | 329 | G | N1-C2 | -5.06 | 1.33 | 1.37 |
| 2 | AB | 1157 | G | N9-C8 | 5.06 | 1.41 | 1.37 |
| 2 | AB | 1238 | G | N7-C5 | -5.06 | 1.36 | 1.39 |
| 2 | AB | 1289 | C | C4-C5 | 5.06 | 1.47 | 1.43 |
| 2 | AB | 1377 | G | C8-N7 | 5.06 | 1.33 | 1.30 |
| 2 | AB | 1666 | G | N1-C2 | 5.06 | 1.41 | 1.37 |
| 2 | AB | 2026 | U | C4'-O4' | -5.06 | 1.39 | 1.45 |
| 2 | AB | 2458 | G | N9-C8 | -5.06 | 1.34 | 1.37 |
| 2 | AB | 2542 | A | P-O5' | 5.06 | 1.64 | 1.59 |
| 35 | BA | 82 | G | N3-C4 | 5.06 | 1.39 | 1.35 |
| 35 | BA | 203 | G | C5-C4 | 5.06 | 1.41 | 1.38 |
| 35 | BA | 274 | A | C6-N6 | 5.06 | 1.38 | 1.33 |
| 35 | BA | 585 | G | C2-N2 | -5.06 | 1.29 | 1.34 |
| 35 | BA | 604 | G | P-O5' | 5.06 | 1.64 | 1.59 |
| 35 | BA | 833 | G | N9-C8 | -5.06 | 1.34 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1266 | G | N1-C2 | 5.06 | 1.41 | 1.37 |
| 35 | BA | 1311 | A | C2'-C1' | -5.06 | 1.47 | 1.53 |
| 35 | BA | 1419 | G | C4'-O4' | -5.06 | 1.39 | 1.45 |
| 1 | AA | 25 | U | O4'-C1' | -5.06 | 1.35 | 1.41 |
| 2 | AB | 588 | U | C5-C6 | 5.06 | 1.38 | 1.34 |
| 2 | AB | 663 | G | C4'-O4' | -5.06 | 1.39 | 1.45 |
| 2 | AB | 664 | G | C5'-C4' | 5.06 | 1.57 | 1.51 |
| 2 | AB | 748 | G | C2-N3 | 5.06 | 1.36 | 1.32 |
| 35 | BA | 394 | G | C4'-O4' | -5.06 | 1.39 | 1.45 |
| 35 | BA | 626 | G | N3-C4 | -5.06 | 1.31 | 1.35 |
| 35 | BA | 866 | C | C5-C6 | -5.06 | 1.30 | 1.34 |
| 2 | AB | 381 | G | C5'-C4' | 5.06 | 1.57 | 1.51 |
| 2 | AB | 863 | A | C5'-C4' | 5.06 | 1.57 | 1.51 |
| 2 | AB | 891 | G | N7-C5 | 5.06 | 1.42 | 1.39 |
| 2 | AB | 984 | A | C3'-C2' | 5.06 | 1.58 | 1.52 |
| 2 | AB | 1177 | G | O3'-P | 5.06 | 1.67 | 1.61 |
| 2 | AB | 1317 | G | C5-C4 | -5.06 | 1.34 | 1.38 |
| 2 | AB | 1436 | G | C2-N2 | -5.06 | 1.29 | 1.34 |
| 2 | AB | 1890 | A | C5-C4 | 5.06 | 1.42 | 1.38 |
| 2 | AB | 2037 | A | C2-N3 | 5.06 | 1.38 | 1.33 |
| 2 | AB | 2578 | G | C4'-O4' | -5.06 | 1.39 | 1.45 |
| 2 | AB | 2870 | C | P-O5' | 5.06 | 1.64 | 1.59 |
| 24 | AX | 82 | TYR | CE1-CZ | 5.06 | 1.45 | 1.38 |
| 35 | BA | 30 | U | C4-C5 | 5.06 | 1.48 | 1.43 |
| 35 | BA | 124 | C | C4'-C3' | 5.06 | 1.58 | 1.53 |
| 35 | BA | 226 | G | N1-C2 | -5.06 | 1.33 | 1.37 |
| 35 | BA | 244 | U | C4-C5 | 5.06 | 1.48 | 1.43 |
| 35 | BA | 366 | A | P-OP1 | 5.06 | 1.57 | 1.49 |
| 2 | AB | 44 | A | C2-N3 | -5.06 | 1.28 | 1.33 |
| 2 | AB | 65 | U | C4'-C3' | -5.06 | 1.47 | 1.52 |
| 2 | AB | 395 | U | O3'-P | 5.06 | 1.67 | 1.61 |
| 2 | AB | 517 | C | N1-C6 | -5.06 | 1.34 | 1.37 |
| 2 | AB | 523 | C | C4-N4 | 5.06 | 1.38 | 1.33 |
| 2 | AB | 981 | A | C6-N1 | 5.06 | 1.39 | 1.35 |
| 2 | AB | 1845 | G | P-O5' | 5.06 | 1.64 | 1.59 |
| 2 | AB | 2073 | C | C4'-O4' | -5.06 | 1.39 | 1.45 |
| 2 | AB | 2366 | A | C4'-O4' | -5.06 | 1.39 | 1.45 |
| 35 | BA | 3 | A | C4'-O4' | -5.06 | 1.39 | 1.45 |
| 35 | BA | 71 | A | N9-C8 | 5.06 | 1.41 | 1.37 |
| 35 | BA | 195 | A | C6-N6 | -5.06 | 1.29 | 1.33 |
| 35 | BA | 710 | G | C5-C6 | 5.06 | 1.47 | 1.42 |
| 35 | BA | 1511 | G | C6-N1 | 5.06 | 1.43 | 1.39 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 124 | G | C5-C4 | 5.06 | 1.41 | 1.38 |
| 35 | BA | 398 | U | P-O5' | 5.06 | 1.64 | 1.59 |
| 35 | BA | 715 | A | N7-C5 | -5.06 | 1.36 | 1.39 |
| 35 | BA | 1211 | U | C5-C6 | 5.06 | 1.38 | 1.34 |
| 1 | AA | 27 | C | N1-C6 | 5.05 | 1.40 | 1.37 |
| 1 | AA | 73 | A | P-O5' | 5.05 | 1.64 | 1.59 |
| 2 | AB | 158 | U | O4'-C1' | -5.05 | 1.35 | 1.41 |
| 2 | AB | 700 | G | C5-C6 | 5.05 | 1.47 | 1.42 |
| 2 | AB | 850 | U | C5-C6 | 5.05 | 1.38 | 1.34 |
| 2 | AB | 1441 | G | C3'-C2' | 5.05 | 1.58 | 1.52 |
| 2 | AB | 1468 | U | C2-N3 | 5.05 | 1.41 | 1.37 |
| 2 | AB | 2205 | A | N3-C4 | 5.05 | 1.37 | 1.34 |
| 2 | AB | 2285 | C | C2-N3 | 5.05 | 1.39 | 1.35 |
| 2 | AB | 2406 | A | C2'-C1' | -5.05 | 1.47 | 1.53 |
| 2 | AB | 2606 | C | C1'-N1 | 5.05 | 1.56 | 1.48 |
| 2 | AB | 2816 | G | O3'-P | 5.05 | 1.67 | 1.61 |
| 11 | AK | 73 | PRO | N-CD | -5.05 | 1.40 | 1.47 |
| 35 | BA | 327 | A | N9-C4 | -5.05 | 1.34 | 1.37 |
| 35 | BA | 647 | C | O3'-P | -5.05 | 1.55 | 1.61 |
| 35 | BA | 1002 | G | N1-C2 | -5.05 | 1.33 | 1.37 |
| 35 | BA | 1387 | G | C4'-C3' | -5.05 | 1.47 | 1.52 |
| 49 | BO | 111 | PRO | N-CD | -5.05 | 1.40 | 1.47 |
| 1 | AA | 58 | A | P-O5' | 5.05 | 1.64 | 1.59 |
| 1 | AA | 98 | G | N3-C4 | 5.05 | 1.39 | 1.35 |
| 2 | AB | 2 | G | C5-C6 | 5.05 | 1.47 | 1.42 |
| 2 | AB | 443 | A | P-O5' | 5.05 | 1.64 | 1.59 |
| 2 | AB | 638 | G | C3'-C2' | -5.05 | 1.47 | 1.52 |
| 2 | AB | 1777 | U | C2-O2 | 5.05 | 1.26 | 1.22 |
| 35 | BA | 413 | G | C3'-C2' | -5.05 | 1.47 | 1.52 |
| 35 | BA | 1152 | A | P-O5' | 5.05 | 1.64 | 1.59 |
| 35 | BA | 1214 | C | N3-C4 | 5.05 | 1.37 | 1.33 |
| 44 | BJ | 87 | ARG | CZ-NH1 | 5.05 | 1.39 | 1.33 |
| 2 | AB | 572 | A | O3'-P | 5.05 | 1.67 | 1.61 |
| 2 | AB | 708 | G | C2-N2 | 5.05 | 1.39 | 1.34 |
| 2 | AB | 954 | G | N3-C4 | 5.05 | 1.39 | 1.35 |
| 2 | AB | 1354 | A | P-O5' | 5.05 | 1.64 | 1.59 |
| 2 | AB | 1560 | G | C5-C6 | 5.05 | 1.47 | 1.42 |
| 2 | AB | 2123 | G | C5-C6 | 5.05 | 1.47 | 1.42 |
| 2 | AB | 2130 | U | C5-C6 | 5.05 | 1.38 | 1.34 |
| 2 | AB | 2346 | A | O3'-P | 5.05 | 1.67 | 1.61 |
| 2 | AB | 2509 | G | C4'-C3' | -5.05 | 1.47 | 1.52 |
| 2 | AB | 2590 | A | O3'-P | 5.05 | 1.67 | 1.61 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2637 | U | C4-O4 | 5.05 | 1.27 | 1.23 |
| 35 | BA | 792 | A | C4'-O4' | -5.05 | 1.39 | 1.45 |
| 36 | BB | 33 | A | C2'-O2' | 5.05 | 1.48 | 1.41 |
| 37 | BC | 4 | G | P-O5' | 5.05 | 1.64 | 1.59 |
| 2 | AB | 9 | G | N7-C5 | 5.05 | 1.42 | 1.39 |
| 2 | AB | 211 | C | C4'-O4' | -5.05 | 1.39 | 1.45 |
| 2 | AB | 450 | G | N9-C8 | 5.05 | 1.41 | 1.37 |
| 2 | AB | 1358 | G | C8-N7 | -5.05 | 1.27 | 1.30 |
| 2 | AB | 1695 | G | C8-N7 | 5.05 | 1.33 | 1.30 |
| 2 | AB | 1794 | A | N3-C4 | -5.05 | 1.31 | 1.34 |
| 2 | AB | 1926 | U | N1-C6 | 5.05 | 1.42 | 1.38 |
| 2 | AB | 2128 | G | C2'-C1' | 5.05 | 1.58 | 1.53 |
| 35 | BA | 735 | C | N1-C6 | -5.05 | 1.34 | 1.37 |
| 35 | BA | 1030 | U | C4-C5 | 5.05 | 1.48 | 1.43 |
| 35 | BA | 1101 | A | C8-N7 | -5.05 | 1.28 | 1.31 |
| 35 | BA | 1292 | G | C2'-C1' | 5.05 | 1.58 | 1.53 |
| 35 | BA | 1389 | C | C4'-O4' | -5.05 | 1.39 | 1.45 |
| 36 | BB | 25 | U | C2'-C1' | 5.05 | 1.58 | 1.53 |
| 1 | AA | 28 | C | C4'-O4' | -5.05 | 1.39 | 1.45 |
| 2 | AB | 413 | C | P-O5' | 5.05 | 1.64 | 1.59 |
| 2 | AB | 416 | U | C2'-O2' | -5.05 | 1.35 | 1.41 |
| 2 | AB | 655 | A | C4'-C3' | 5.05 | 1.58 | 1.53 |
| 2 | AB | 1597 | A | C8-N7 | -5.05 | 1.28 | 1.31 |
| 2 | AB | 2227 | A | C6-N1 | 5.05 | 1.39 | 1.35 |
| 2 | AB | 2904 | U | C4-C5 | 5.05 | 1.48 | 1.43 |
| 35 | BA | 1239 | A | C2'-O2' | 5.05 | 1.48 | 1.41 |
| 35 | BA | 1453 | G | O3'-P | 5.05 | 1.67 | 1.61 |
| 2 | AB | 157 | C | C4'-C3' | 5.05 | 1.58 | 1.53 |
| 2 | AB | 673 | C | C2'-C1' | -5.05 | 1.47 | 1.53 |
| 2 | AB | 1149 | G | N7-C5 | 5.05 | 1.42 | 1.39 |
| 2 | AB | 1169 | A | C2-N3 | 5.05 | 1.38 | 1.33 |
| 2 | AB | 1557 | C | O4'-C1' | 5.05 | 1.48 | 1.41 |
| 2 | AB | 1933 | G | O3'-P | -5.05 | 1.55 | 1.61 |
| 2 | AB | 2059 | A | P-O5' | 5.05 | 1.64 | 1.59 |
| 2 | AB | 2123 | G | C2'-C1' | 5.05 | 1.58 | 1.53 |
| 2 | AB | 2175 | C | C1'-N1 | 5.05 | 1.56 | 1.48 |
| 2 | AB | 2293 | G | N3-C4 | 5.05 | 1.39 | 1.35 |
| 2 | AB | 2459 | A | O3'-P | 5.05 | 1.67 | 1.61 |
| 2 | AB | 2692 | G | C3'-O3' | 5.05 | 1.49 | 1.42 |
| 35 | BA | 99 | C | C4-C5 | 5.05 | 1.47 | 1.43 |
| 35 | BA | 907 | A | C8-N7 | -5.05 | 1.28 | 1.31 |
| 35 | BA | 1084 | G | N3-C4 | 5.05 | 1.39 | 1.35 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1350 | A | N1-C2 | -5.05 | 1.29 | 1.34 |
| 2 | AB | 389 | G | N1-C2 | 5.04 | 1.41 | 1.37 |
| 2 | AB | 431 | U | C5-C6 | 5.04 | 1.38 | 1.34 |
| 2 | AB | 788 | A | N9-C4 | 5.04 | 1.40 | 1.37 |
| 2 | AB | 1770 | G | N9-C4 | 5.04 | 1.42 | 1.38 |
| 2 | AB | 2242 | G | C3'-O3' | -5.04 | 1.35 | 1.42 |
| 35 | BA | 1194 | U | C2-N3 | 5.04 | 1.41 | 1.37 |
| 35 | BA | 1285 | A | C3'-O3' | -5.04 | 1.35 | 1.42 |
| 35 | BA | 1526 | G | N1-C2 | 5.04 | 1.41 | 1.37 |
| 2 | AB | 415 | A | O3'-P | 5.04 | 1.67 | 1.61 |
| 2 | AB | 466 | A | C2'-O2' | 5.04 | 1.48 | 1.41 |
| 2 | AB | 577 | G | N9-C4 | -5.04 | 1.33 | 1.38 |
| 2 | AB | 953 | G | N7-C5 | -5.04 | 1.36 | 1.39 |
| 2 | AB | 968 | C | O3'-P | 5.04 | 1.67 | 1.61 |
| 2 | AB | 1300 | G | C6-O6 | -5.04 | 1.19 | 1.24 |
| 2 | AB | 1841 | U | N3-C4 | 5.04 | 1.43 | 1.38 |
| 2 | AB | 1937 | A | C2'-C1' | 5.04 | 1.58 | 1.53 |
| 2 | AB | 2653 | U | C3'-C2' | 5.04 | 1.58 | 1.52 |
| 35 | BA | 90 | C | N1-C2 | 5.04 | 1.45 | 1.40 |
| 35 | BA | 466 | A | C2-N3 | 5.04 | 1.38 | 1.33 |
| 35 | BA | 669 | G | O4'-C1' | 5.04 | 1.48 | 1.41 |
| 35 | BA | 1080 | A | C3'-C2' | 5.04 | 1.58 | 1.52 |
| 35 | BA | 1369 | C | C2'-C1' | 5.04 | 1.58 | 1.53 |
| 35 | BA | 1387 | G | C4'-O4' | -5.04 | 1.39 | 1.45 |
| 35 | BA | 1515 | G | C5-C6 | 5.04 | 1.47 | 1.42 |
| 1 | AA | 120 | U | C5'-C4' | 5.04 | 1.57 | 1.51 |
| 2 | AB | 715 | A | C5'-C4' | 5.04 | 1.57 | 1.51 |
| 2 | AB | 865 | C | C4'-C3' | 5.04 | 1.58 | 1.53 |
| 2 | AB | 941 | A | C5-C4 | -5.04 | 1.35 | 1.38 |
| 2 | AB | 1196 | C | C2'-C1' | -5.04 | 1.47 | 1.53 |
| 2 | AB | 1233 | C | C5'-C4' | 5.04 | 1.57 | 1.51 |
| 2 | AB | 1339 | G | N9-C4 | 5.04 | 1.42 | 1.38 |
| 2 | AB | 2357 | G | N3-C4 | 5.04 | 1.39 | 1.35 |
| 2 | AB | 2524 | G | C2-N3 | 5.04 | 1.36 | 1.32 |
| 2 | AB | 2702 | G | C5'-C4' | 5.04 | 1.57 | 1.51 |
| 35 | BA | 191 | G | C8-N7 | -5.04 | 1.27 | 1.30 |
| 35 | BA | 192 | A | N7-C5 | 5.04 | 1.42 | 1.39 |
| 35 | BA | 1104 | G | C3'-O3' | 5.04 | 1.49 | 1.42 |
| 35 | BA | 1231 | G | C2-N3 | 5.04 | 1.36 | 1.32 |
| 35 | BA | 1248 | A | N7-C5 | -5.04 | 1.36 | 1.39 |
| 53 | BS | 71 | SER | CA-CB | 5.04 | 1.60 | 1.52 |
| 2 | AB | 519 | U | C2-O2 | 5.04 | 1.26 | 1.22 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 639 | U | C4'-O4' | -5.04 | 1.39 | 1.45 |
| 2 | AB | 1653 | G | N7-C5 | 5.04 | 1.42 | 1.39 |
| 2 | AB | 2154 | A | N9-C4 | -5.04 | 1.34 | 1.37 |
| 1 | AA | 111 | U | P-O5' | 5.04 | 1.64 | 1.59 |
| 2 | AB | 278 | A | C5-C6 | 5.04 | 1.45 | 1.41 |
| 2 | AB | 510 | C | N3-C4 | -5.04 | 1.30 | 1.33 |
| 2 | AB | 629 | G | C5-C4 | -5.04 | 1.34 | 1.38 |
| 2 | AB | 768 | G | C2-N3 | 5.04 | 1.36 | 1.32 |
| 2 | AB | 997 | G | C4'-C3' | -5.04 | 1.47 | 1.52 |
| 2 | AB | 1517 | G | C3'-O3' | -5.04 | 1.35 | 1.42 |
| 2 | AB | 1973 | G | N9-C8 | 5.04 | 1.41 | 1.37 |
| 2 | AB | 2204 | G | C3'-O3' | 5.04 | 1.49 | 1.42 |
| 2 | AB | 2236 | U | N1-C2 | 5.04 | 1.43 | 1.38 |
| 2 | AB | 2795 | C | P-O5' | 5.04 | 1.64 | 1.59 |
| 2 | AB | 2838 | G | N3-C4 | 5.04 | 1.39 | 1.35 |
| 35 | BA | 468 | A | N3-C4 | 5.04 | 1.37 | 1.34 |
| 35 | BA | 1049 | U | O5'-C5' | -5.04 | 1.34 | 1.42 |
| 35 | BA | 1131 | G | C2-N3 | 5.04 | 1.36 | 1.32 |
| 35 | BA | 1157 | A | C2'-C1' | 5.04 | 1.58 | 1.53 |
| 35 | BA | 1416 | G | P-O5' | -5.04 | 1.54 | 1.59 |
| 35 | BA | 1433 | A | C4'-C3' | 5.04 | 1.58 | 1.53 |
| 35 | BA | 1510 | C | C5'-C4' | 5.04 | 1.57 | 1.51 |
| 2 | AB | 556 | A | C3'-C2' | -5.04 | 1.47 | 1.52 |
| 2 | AB | 589 | U | C3'-C2' | -5.04 | 1.47 | 1.52 |
| 2 | AB | 1395 | A | P-O5' | 5.04 | 1.64 | 1.59 |
| 2 | AB | 1981 | A | C5-C4 | -5.04 | 1.35 | 1.38 |
| 35 | BA | 1260 | G | C6-N1 | 5.04 | 1.43 | 1.39 |
| 2 | AB | 146 | A | N9-C8 | -5.04 | 1.33 | 1.37 |
| 2 | AB | 233 | A | C4'-C3' | 5.04 | 1.58 | 1.53 |
| 2 | AB | 620 | G | C6-O6 | -5.04 | 1.19 | 1.24 |
| 2 | AB | 1920 | C | C2-N3 | 5.04 | 1.39 | 1.35 |
| 13 | AM | 37 | ASP | CB-CG | 5.04 | 1.62 | 1.51 |
| 35 | BA | 99 | C | O4'-C1' | 5.04 | 1.48 | 1.41 |
| 35 | BA | 278 | G | N1-C2 | 5.04 | 1.41 | 1.37 |
| 35 | BA | 926 | G | C2'-C1' | 5.04 | 1.58 | 1.53 |
| 35 | BA | 1184 | G | C4'-C3' | 5.04 | 1.58 | 1.53 |
| 41 | BG | 56 | PRO | N-CD | -5.04 | 1.40 | 1.47 |
| 57 | BW | 1 | PRO | N-CD | 5.04 | 1.54 | 1.47 |
| 1 | AA | 73 | A | C5-C6 | 5.03 | 1.45 | 1.41 |
| 2 | AB | 397 | U | C2-N3 | 5.03 | 1.41 | 1.37 |
| 2 | AB | 1041 | G | P-O5' | 5.03 | 1.64 | 1.59 |
| 2 | AB | 1073 | A | N1-C2 | 5.03 | 1.38 | 1.34 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 1118 | C | O4'-C1' | 5.03 | 1.48 | 1.41 |
| 2 | AB | 1216 | G | C8-N7 | -5.03 | 1.27 | 1.30 |
| 2 | AB | 1608 | A | N1-C2 | -5.03 | 1.29 | 1.34 |
| 2 | AB | 2015 | A | C3'-C2' | 5.03 | 1.58 | 1.52 |
| 2 | AB | 2469 | A | O4'-C1' | 5.03 | 1.48 | 1.41 |
| 2 | AB | 2800 | A | C1'-N9 | 5.03 | 1.56 | 1.48 |
| 2 | AB | 2851 | A | N3-C4 | 5.03 | 1.37 | 1.34 |
| 9 | AI | 136 | SER | CB-OG | -5.03 | 1.35 | 1.42 |
| 35 | BA | 406 | G | N3-C4 | -5.03 | 1.31 | 1.35 |
| 35 | BA | 811 | C | C4-C5 | 5.03 | 1.47 | 1.43 |
| 35 | BA | 866 | C | N3-C4 | -5.03 | 1.30 | 1.33 |
| 2 | AB | 424 | G | C3'-C2' | 5.03 | 1.58 | 1.52 |
| 2 | AB | 1981 | A | N7-C5 | -5.03 | 1.36 | 1.39 |
| 2 | AB | 2562 | U | O4'-C1' | 5.03 | 1.48 | 1.41 |
| 35 | BA | 839 | C | N3-C4 | 5.03 | 1.37 | 1.33 |
| 35 | BA | 1304 | G | N9-C4 | -5.03 | 1.33 | 1.38 |
| 2 | AB | 107 | G | N3-C4 | 5.03 | 1.39 | 1.35 |
| 2 | AB | 249 | C | P-O5' | 5.03 | 1.64 | 1.59 |
| 2 | AB | 417 | C | C4-C5 | 5.03 | 1.47 | 1.43 |
| 2 | AB | 524 | G | C4'-O4' | -5.03 | 1.39 | 1.45 |
| 2 | AB | 1025 | G | C5-C4 | 5.03 | 1.41 | 1.38 |
| 2 | AB | 1161 | C | O3'-P | 5.03 | 1.67 | 1.61 |
| 2 | AB | 1811 | G | C4'-O4' | -5.03 | 1.39 | 1.45 |
| 2 | AB | 2033 | A | N7-C5 | 5.03 | 1.42 | 1.39 |
| 2 | AB | 2181 | U | C4'-O4' | -5.03 | 1.39 | 1.45 |
| 2 | AB | 2675 | A | C5'-C4' | 5.03 | 1.57 | 1.51 |
| 35 | BA | 111 | G | C3'-C2' | -5.03 | 1.47 | 1.52 |
| 35 | BA | 314 | C | C3'-C2' | -5.03 | 1.47 | 1.52 |
| 2 | AB | 56 | A | N9-C8 | -5.03 | 1.33 | 1.37 |
| 2 | AB | 462 | C | C4'-O4' | -5.03 | 1.39 | 1.45 |
| 2 | AB | 2186 | G | N3-C4 | 5.03 | 1.39 | 1.35 |
| 2 | AB | 2744 | G | C5-C4 | 5.03 | 1.41 | 1.38 |
| 2 | AB | 600 | G | C2'-C1' | 5.03 | 1.58 | 1.53 |
| 2 | AB | 1185 | G | O3'-P | 5.03 | 1.67 | 1.61 |
| 2 | AB | 1640 | A | P-O5' | 5.03 | 1.64 | 1.59 |
| 2 | AB | 1669 | A | N7-C5 | 5.03 | 1.42 | 1.39 |
| 2 | AB | 2208 | C | N3-C4 | 5.03 | 1.37 | 1.33 |
| 2 | AB | 2259 | U | N3-C4 | 5.03 | 1.43 | 1.38 |
| 2 | AB | 2394 | C | C4'-O4' | -5.03 | 1.39 | 1.45 |
| 2 | AB | 2635 | A | C4'-O4' | -5.03 | 1.39 | 1.45 |
| 5 | AE | 45 | TYR | CG-CD2 | 5.03 | 1.45 | 1.39 |
| 35 | BA | 98 | A | C3'-O3' | 5.03 | 1.49 | 1.42 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 384 | G | N7-C5 | 5.03 | 1.42 | 1.39 |
| 35 | BA | 1043 | G | C6-N1 | 5.03 | 1.43 | 1.39 |
| 35 | BA | 1281 | C | P-O5' | 5.03 | 1.64 | 1.59 |
| 35 | BA | 1323 | G | O3'-P | 5.03 | 1.67 | 1.61 |
| 35 | BA | 1505 | G | N3-C4 | 5.03 | 1.39 | 1.35 |
| 2 | AB | 493 | G | C8-N7 | 5.03 | 1.33 | 1.30 |
| 2 | AB | 821 | A | N7-C5 | -5.03 | 1.36 | 1.39 |
| 2 | AB | 1060 | U | N1-C2 | 5.03 | 1.43 | 1.38 |
| 2 | AB | 1882 | U | O3'-P | 5.03 | 1.67 | 1.61 |
| 2 | AB | 2004 | G | N3-C4 | 5.03 | 1.39 | 1.35 |
| 2 | AB | 2320 | U | C2-N3 | -5.03 | 1.34 | 1.37 |
| 6 | AF | 10 | SER | CA-CB | 5.03 | 1.60 | 1.52 |
| 35 | BA | 783 | C | C5-C6 | 5.03 | 1.38 | 1.34 |
| 35 | BA | 900 | A | N9-C8 | 5.03 | 1.41 | 1.37 |
| 35 | BA | 1023 | U | C4'-C3' | 5.03 | 1.58 | 1.53 |
| 35 | BA | 1132 | C | P-O5' | 5.03 | 1.64 | 1.59 |
| 35 | BA | 1199 | U | C2-O2 | 5.03 | 1.26 | 1.22 |
| 2 | AB | 219 | A | C8-N7 | -5.02 | 1.28 | 1.31 |
| 2 | AB | 663 | G | C6-O6 | 5.02 | 1.28 | 1.24 |
| 2 | AB | 845 | A | N3-C4 | 5.02 | 1.37 | 1.34 |
| 2 | AB | 973 | A | N1-C2 | -5.02 | 1.29 | 1.34 |
| 2 | AB | 1169 | A | C6-N1 | 5.02 | 1.39 | 1.35 |
| 2 | AB | 2230 | G | N3-C4 | 5.02 | 1.39 | 1.35 |
| 2 | AB | 2894 | G | C5-C6 | 5.02 | 1.47 | 1.42 |
| 35 | BA | 115 | G | C2'-O2' | -5.02 | 1.35 | 1.41 |
| 35 | BA | 979 | C | C4-N4 | 5.02 | 1.38 | 1.33 |
| 56 | BV | 25 | SER | CB-OG | -5.02 | 1.35 | 1.42 |
| 2 | AB | 268 | C | N1-C6 | -5.02 | 1.34 | 1.37 |
| 2 | AB | 1276 | A | C4'-O4' | -5.02 | 1.39 | 1.45 |
| 2 | AB | 1692 | U | C4-C5 | 5.02 | 1.48 | 1.43 |
| 2 | AB | 1945 | G | C4'-O4' | -5.02 | 1.39 | 1.45 |
| 2 | AB | 2010 | G | O4'-C1' | 5.02 | 1.48 | 1.41 |
| 2 | AB | 2135 | A | C5-C4 | 5.02 | 1.42 | 1.38 |
| 2 | AB | 2567 | G | C5'-C4' | 5.02 | 1.57 | 1.51 |
| 2 | AB | 2747 | G | P-O5' | -5.02 | 1.54 | 1.59 |
| 2 | AB | 2800 | A | N9-C8 | 5.02 | 1.41 | 1.37 |
| 2 | AB | 578 | G | C6-N1 | -5.02 | 1.36 | 1.39 |
| 2 | AB | 1017 | G | N3-C4 | 5.02 | 1.39 | 1.35 |
| 2 | AB | 2591 | C | N1-C6 | 5.02 | 1.40 | 1.37 |
| 35 | BA | 376 | G | C5-C4 | 5.02 | 1.41 | 1.38 |
| 35 | BA | 450 | G | N1-C2 | -5.02 | 1.33 | 1.37 |
| 2 | AB | 304 | U | C1'-N1 | 5.02 | 1.56 | 1.48 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 319 | G | C8-N7 | -5.02 | 1.27 | 1.30 |
| 2 | AB | 478 | A | O3'-P | 5.02 | 1.67 | 1.61 |
| 2 | AB | 628 | G | C2'-C1' | 5.02 | 1.58 | 1.53 |
| 2 | AB | 1275 | A | C8-N7 | 5.02 | 1.35 | 1.31 |
| 2 | AB | 1374 | G | C6-N1 | -5.02 | 1.36 | 1.39 |
| 2 | AB | 1478 | G | C5-C6 | 5.02 | 1.47 | 1.42 |
| 2 | AB | 1534 | U | P-O5' | 5.02 | 1.64 | 1.59 |
| 2 | AB | 1620 | G | O3'-P | -5.02 | 1.55 | 1.61 |
| 2 | AB | 1642 | G | C2'-C1' | 5.02 | 1.58 | 1.53 |
| 2 | AB | 2178 | C | O3'-P | 5.02 | 1.67 | 1.61 |
| 2 | AB | 2276 | G | C5'-C4' | 5.02 | 1.57 | 1.51 |
| 2 | AB | 2450 | A | N3-C4 | 5.02 | 1.37 | 1.34 |
| 2 | AB | 2767 | C | C4-C5 | 5.02 | 1.47 | 1.43 |
| 2 | AB | 2838 | G | C5-C4 | -5.02 | 1.34 | 1.38 |
| 35 | BA | 241 | G | C6-N1 | 5.02 | 1.43 | 1.39 |
| 35 | BA | 957 | U | C2-N3 | 5.02 | 1.41 | 1.37 |
| 35 | BA | 1065 | U | C4-O4 | -5.02 | 1.19 | 1.23 |
| 35 | BA | 1501 | C | N1-C6 | 5.02 | 1.40 | 1.37 |
| 2 | AB | 566 | U | C3'-O3' | 5.02 | 1.49 | 1.42 |
| 2 | AB | 907 | G | C2-N3 | 5.02 | 1.36 | 1.32 |
| 2 | AB | 1478 | G | C2'-C1' | -5.02 | 1.47 | 1.53 |
| 2 | AB | 1555 | G | P-O5' | 5.02 | 1.64 | 1.59 |
| 2 | AB | 1604 | C | C4'-C3' | -5.02 | 1.47 | 1.52 |
| 2 | AB | 2436 | G | C2'-O2' | -5.02 | 1.35 | 1.41 |
| 2 | AB | 2663 | G | C3'-C2' | 5.02 | 1.58 | 1.52 |
| 35 | BA | 529 | G | N7-C5 | 5.02 | 1.42 | 1.39 |
| 35 | BA | 582 | C | N1-C2 | -5.02 | 1.35 | 1.40 |
| 35 | BA | 630 | A | C4'-O4' | -5.02 | 1.39 | 1.45 |
| 2 | AB | 386 | G | C2'-O2' | 5.02 | 1.48 | 1.41 |
| 2 | AB | 562 | U | C4-O4 | -5.02 | 1.19 | 1.23 |
| 2 | AB | 1172 | C | C4-C5 | -5.02 | 1.39 | 1.43 |
| 2 | AB | 1649 | G | C2-N2 | -5.02 | 1.29 | 1.34 |
| 2 | AB | 1651 | G | C5-C4 | 5.02 | 1.41 | 1.38 |
| 2 | AB | 2091 | C | C4-C5 | 5.02 | 1.47 | 1.43 |
| 2 | AB | 2696 | U | C2'-C1' | 5.02 | 1.58 | 1.53 |
| 35 | BA | 327 | A | C3'-O3' | -5.02 | 1.35 | 1.42 |
| 35 | BA | 408 | A | C2-N3 | 5.02 | 1.38 | 1.33 |
| 35 | BA | 971 | G | N9-C8 | 5.02 | 1.41 | 1.37 |
| 35 | BA | 1199 | U | C2'-C1' | 5.02 | 1.58 | 1.53 |
| 35 | BA | 1214 | C | C2-N3 | 5.02 | 1.39 | 1.35 |
| 35 | BA | 1285 | A | N7-C5 | -5.02 | 1.36 | 1.39 |
| 35 | BA | 1354 | U | C2-N3 | 5.02 | 1.41 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1476 | A | N7-C5 | 5.02 | 1.42 | 1.39 |
| 43 | BI | 153 | TYR | CE1-CZ | 5.02 | 1.45 | 1.38 |
| 2 | AB | 95 | A | C6-N1 | -5.01 | 1.32 | 1.35 |
| 2 | AB | 740 | C | N3-C4 | 5.01 | 1.37 | 1.33 |
| 2 | AB | 774 | G | C2'-O2' | 5.01 | 1.48 | 1.41 |
| 2 | AB | 1603 | A | P-O5' | -5.01 | 1.54 | 1.59 |
| 2 | AB | 2377 | A | C2-N3 | -5.01 | 1.29 | 1.33 |
| 2 | AB | 2696 | U | C2-N3 | 5.01 | 1.41 | 1.37 |
| 24 | AX | 33 | GLY | CA-C | 5.01 | 1.59 | 1.51 |
| 35 | BA | 908 | A | N3-C4 | 5.01 | 1.37 | 1.34 |
| 2 | AB | 843 | G | C6-N1 | 5.01 | 1.43 | 1.39 |
| 2 | AB | 1311 | G | C4'-C3' | 5.01 | 1.58 | 1.53 |
| 2 | AB | 1335 | C | C1'-N1 | 5.01 | 1.56 | 1.48 |
| 2 | AB | 1783 | A | O5'-C5' | -5.01 | 1.34 | 1.42 |
| 2 | AB | 1792 | G | N9-C4 | -5.01 | 1.33 | 1.38 |
| 35 | BA | 279 | A | N9-C8 | 5.01 | 1.41 | 1.37 |
| 36 | BB | 27 | A | N7-C5 | -5.01 | 1.36 | 1.39 |
| 2 | AB | 57 | C | C4-C5 | 5.01 | 1.47 | 1.43 |
| 2 | AB | 593 | U | P-O5' | 5.01 | 1.64 | 1.59 |
| 2 | AB | 1090 | A | C4'-O4' | -5.01 | 1.39 | 1.45 |
| 2 | AB | 1534 | U | C4-O4 | -5.01 | 1.19 | 1.23 |
| 2 | AB | 1793 | C | O4'-C1' | 5.01 | 1.48 | 1.41 |
| 2 | AB | 1817 | G | N7-C5 | -5.01 | 1.36 | 1.39 |
| 2 | AB | 2230 | G | N9-C8 | -5.01 | 1.34 | 1.37 |
| 35 | BA | 23 | C | C5'-C4' | 5.01 | 1.57 | 1.51 |
| 35 | BA | 231 | U | C4-O4 | 5.01 | 1.27 | 1.23 |
| 35 | BA | 302 | G | N7-C5 | 5.01 | 1.42 | 1.39 |
| 35 | BA | 479 | U | C4-C5 | 5.01 | 1.48 | 1.43 |
| 35 | BA | 573 | A | N9-C4 | -5.01 | 1.34 | 1.37 |
| 35 | BA | 818 | G | P-O5' | 5.01 | 1.64 | 1.59 |
| 35 | BA | 1272 | G | N1-C2 | 5.01 | 1.41 | 1.37 |
| 47 | BM | 121 | ARG | CZ-NH1 | 5.01 | 1.39 | 1.33 |
| 1 | AA | 48 | U | C5'-C4' | 5.01 | 1.57 | 1.51 |
| 1 | AA | 98 | G | C5-C6 | 5.01 | 1.47 | 1.42 |
| 2 | AB | 266 | G | C4'-O4' | -5.01 | 1.39 | 1.45 |
| 2 | AB | 832 | U | P-O5' | 5.01 | 1.64 | 1.59 |
| 2 | AB | 1262 | A | C5-C6 | -5.01 | 1.36 | 1.41 |
| 2 | AB | 1574 | C | C4-N4 | 5.01 | 1.38 | 1.33 |
| 2 | AB | 2025 | C | C5-C6 | 5.01 | 1.38 | 1.34 |
| 2 | AB | 2186 | G | C2'-O2' | 5.01 | 1.48 | 1.41 |
| 35 | BA | 96 | U | C3'-C2' | 5.01 | 1.58 | 1.52 |
| 35 | BA | 156 | C | N3-C4 | 5.01 | 1.37 | 1.33 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 613 | C | C4'-O4' | -5.01 | 1.39 | 1.45 |
| 35 | BA | 657 | U | C2-O2 | 5.01 | 1.26 | 1.22 |
| 35 | BA | 707 | U | C5-C6 | 5.01 | 1.38 | 1.34 |
| 35 | BA | 778 | G | C2-N3 | 5.01 | 1.36 | 1.32 |
| 35 | BA | 993 | G | C8-N7 | -5.01 | 1.27 | 1.30 |
| 43 | BI | 162 | SER | CA-CB | -5.01 | 1.45 | 1.52 |
| 2 | AB | 291 | G | O4'-C1' | 5.01 | 1.48 | 1.41 |
| 2 | AB | 307 | G | O4'-C1' | 5.01 | 1.48 | 1.41 |
| 2 | AB | 389 | G | C2-N3 | 5.01 | 1.36 | 1.32 |
| 2 | AB | 475 | C | P-O5' | 5.01 | 1.64 | 1.59 |
| 2 | AB | 673 | C | C2-N3 | -5.01 | 1.31 | 1.35 |
| 2 | AB | 2335 | A | C2-N3 | 5.01 | 1.38 | 1.33 |
| 35 | BA | 1529 | G | C5-C6 | 5.01 | 1.47 | 1.42 |
| 2 | AB | 14 | A | C6-N1 | 5.01 | 1.39 | 1.35 |
| 2 | AB | 434 | U | N1-C2 | 5.01 | 1.43 | 1.38 |
| 2 | AB | 628 | G | N7-C5 | 5.01 | 1.42 | 1.39 |
| 2 | AB | 673 | C | C4'-O4' | -5.01 | 1.39 | 1.45 |
| 2 | AB | 1077 | A | O3'-P | 5.01 | 1.67 | 1.61 |
| 2 | AB | 1239 | G | C2-N3 | 5.01 | 1.36 | 1.32 |
| 2 | AB | 1337 | G | N1-C2 | -5.01 | 1.33 | 1.37 |
| 2 | AB | 1959 | G | N3-C4 | 5.01 | 1.39 | 1.35 |
| 2 | AB | 2067 | G | C2'-O2' | -5.01 | 1.35 | 1.41 |
| 8 | AH | 112 | VAL | CB-CG2 | 5.01 | 1.63 | 1.52 |
| 35 | BA | 509 | A | C6-N1 | -5.01 | 1.32 | 1.35 |
| 35 | BA | 1073 | U | C4-C5 | 5.01 | 1.48 | 1.43 |
| 36 | BB | 18 | A | N7-C5 | 5.01 | 1.42 | 1.39 |
| 2 | AB | 53 | A | C5-C6 | 5.00 | 1.45 | 1.41 |
| 2 | AB | 432 | A | C4'-O4' | -5.00 | 1.39 | 1.45 |
| 2 | AB | 2633 | G | N9-C4 | 5.00 | 1.42 | 1.38 |
| 35 | BA | 241 | G | N9-C4 | -5.00 | 1.33 | 1.38 |
| 35 | BA | 436 | C | C4-N4 | -5.00 | 1.29 | 1.33 |
| 35 | BA | 1013 | G | C4'-C3' | -5.00 | 1.47 | 1.52 |
| 2 | AB | 423 | A | C5-C4 | -5.00 | 1.35 | 1.38 |
| 2 | AB | 557 | C | P-O5' | 5.00 | 1.64 | 1.59 |
| 2 | AB | 1039 | A | C5-C6 | 5.00 | 1.45 | 1.41 |
| 2 | AB | 1164 | C | C2-O2 | 5.00 | 1.28 | 1.24 |
| 2 | AB | 2149 | U | C4-C5 | 5.00 | 1.48 | 1.43 |
| 2 | AB | 2528 | U | C2'-C1' | -5.00 | 1.47 | 1.53 |
| 2 | AB | 2657 | A | C4'-O4' | -5.00 | 1.39 | 1.45 |
| 2 | AB | 2857 | G | C4'-O4' | -5.00 | 1.39 | 1.45 |
| 2 | AB | 2896 | C | N1-C2 | 5.00 | 1.45 | 1.40 |
| 35 | BA | 254 | G | N1-C2 | 5.00 | 1.41 | 1.37 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1334 | G | N1-C2 | 5.00 | 1.41 | 1.37 |
| 35 | BA | 1360 | A | C3'-C2' | 5.00 | 1.58 | 1.52 |
| 2 | AB | 259 | G | C8-N7 | -5.00 | 1.27 | 1.30 |
| 2 | AB | 323 | C | N3-C4 | 5.00 | 1.37 | 1.33 |
| 2 | AB | 526 | A | O3'-P | 5.00 | 1.67 | 1.61 |
| 2 | AB | 560 | C | P-O5' | -5.00 | 1.54 | 1.59 |
| 2 | AB | 794 | A | C3'-O3' | 5.00 | 1.49 | 1.42 |
| 2 | AB | 1015 | U | P-O5' | 5.00 | 1.64 | 1.59 |
| 2 | AB | 1196 | C | C5-C6 | 5.00 | 1.38 | 1.34 |
| 2 | AB | 1369 | G | C2-N3 | 5.00 | 1.36 | 1.32 |
| 2 | AB | 1463 | C | N1-C6 | 5.00 | 1.40 | 1.37 |
| 2 | AB | 1574 | C | N1-C2 | 5.00 | 1.45 | 1.40 |
| 2 | AB | 2040 | G | O3'-P | -5.00 | 1.55 | 1.61 |
| 2 | AB | 2074 | U | C4-C5 | 5.00 | 1.48 | 1.43 |
| 2 | AB | 2203 | U | N3-C4 | 5.00 | 1.43 | 1.38 |
| 2 | AB | 2719 | G | N3-C4 | 5.00 | 1.39 | 1.35 |
| 35 | BA | 741 | G | C8-N7 | 5.00 | 1.33 | 1.30 |
| 35 | BA | 1104 | G | P-O5' | -5.00 | 1.54 | 1.59 |
| 47 | BM | 76 | TYR | CB-CG | 5.00 | 1.59 | 1.51 |

All (26586) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 12 | AL | 120 | ARG | NE-CZ-NH2 | 24.50 | 132.55 | 120.30 |
| 2 | AB | 1193 | G | C8-N9-C4 | -23.95 | 96.82 | 106.40 |
| 35 | BA | 581 | G | N9-C4-C5 | 22.36 | 114.35 | 105.40 |
| 46 | BL | 45 | ARG | NE-CZ-NH1 | 21.76 | 131.18 | 120.30 |
| 44 | BJ | 116 | ARG | NE-CZ-NH2 | -21.74 | 109.43 | 120.30 |
| 41 | BG | 19 | ARG | NE-CZ-NH2 | -21.63 | 109.49 | 120.30 |
| 46 | BL | 89 | ARG | NE-CZ-NH1 | 21.59 | 131.09 | 120.30 |
| 2 | AB | 2396 | G | C8-N9-C4 | -21.40 | 97.84 | 106.40 |
| 2 | AB | 2057 | G | N9-C4-C5 | -20.91 | 97.03 | 105.40 |
| 2 | AB | 1099 | G | C8-N9-C4 | -20.34 | 98.26 | 106.40 |
| 2 | AB | 2396 | G | N7-C8-N9 | 19.64 | 122.92 | 113.10 |
| 16 | AP | 45 | ARG | NE-CZ-NH2 | -19.61 | 110.50 | 120.30 |
| 2 | AB | 116 | C | O4'-C1'-N1 | 19.56 | 123.85 | 108.20 |
| 2 | AB | 1294 | U | O4'-C1'-N1 | 19.54 | 123.83 | 108.20 |
| 2 | AB | 2524 | G | C8-N9-C4 | -19.52 | 98.59 | 106.40 |
| 2 | AB | 1469 | A | N1-C2-N3 | 19.38 | 138.99 | 129.30 |
| 2 | AB | 320 | A | N9-C4-C5 | -19.23 | 98.11 | 105.80 |
| 35 | BA | 22 | G | N7-C8-N9 | 18.95 | 122.57 | 113.10 |
| 4 | AD | 261 | ARG | NE-CZ-NH2 | -18.92 | 110.84 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 2 | AB | 2524 | G | N9-C4-C5 | 18.83 | 112.93 | 105.40 |
| 2 | AB | 1595 | C | O4'-C1'-N1 | 18.76 | 123.21 | 108.20 |
| 2 | AB | 2752 | C | C4-C5-C6 | -18.55 | 108.13 | 117.40 |
| 35 | BA | 1175 | G | C4-C5-N7 | -18.43 | 103.43 | 110.80 |
| 21 | AU | 95 | ARG | NE-CZ-NH1 | 18.36 | 129.48 | 120.30 |
| 2 | AB | 585 | G | C8-N9-C4 | -18.33 | 99.07 | 106.40 |
| 2 | AB | 1537 | G | C8-N9-C4 | -18.31 | 99.08 | 106.40 |
| 35 | BA | 79 | G | C5-C6-O6 | -18.25 | 117.65 | 128.60 |
| 2 | AB | 2752 | C | N3-C4-C5 | 18.18 | 129.17 | 121.90 |
| 37 | BC | 13 | C | N3-C4-C5 | -18.14 | 114.64 | 121.90 |
| 35 | BA | 193 | C | O4'-C1'-N1 | 18.13 | 122.71 | 108.20 |
| 2 | AB | 318 | C | N3-C4-C5 | -18.10 | 114.66 | 121.90 |
| 2 | AB | 285 | G | C4-C5-N7 | -18.06 | 103.58 | 110.80 |
| 2 | AB | 2597 | G | N9-C4-C5 | 18.03 | 112.61 | 105.40 |
| 2 | AB | 1315 | C | O4'-C1'-N1 | 17.99 | 122.59 | 108.20 |
| 2 | AB | 177 | G | N3-C4-C5 | -17.87 | 119.67 | 128.60 |
| 2 | AB | 335 | C | O4'-C1'-N1 | 17.75 | 122.40 | 108.20 |
| 2 | AB | 2448 | A | O4'-C1'-N9 | 17.74 | 122.39 | 108.20 |
| 2 | AB | 942 | G | N9-C4-C5 | 17.73 | 112.49 | 105.40 |
| 2 | AB | 2422 | C | C2-N3-C4 | 17.67 | 128.74 | 119.90 |
| 35 | BA | 902 | G | C8-N9-C4 | -17.56 | 99.38 | 106.40 |
| 2 | AB | 1149 | G | O4'-C1'-N9 | 17.55 | 122.24 | 108.20 |
| 35 | BA | 1491 | G | C8-N9-C4 | -17.54 | 99.38 | 106.40 |
| 35 | BA | 212 | G | C8-N9-C4 | -17.52 | 99.39 | 106.40 |
| 2 | AB | 2597 | G | C8-N9-C4 | -17.43 | 99.43 | 106.40 |
| 35 | BA | 725 | G | C2-N3-C4 | 17.43 | 120.61 | 111.90 |
| 2 | AB | 264 | C | N3-C4-C5 | -17.36 | 114.95 | 121.90 |
| 2 | AB | 700 | G | C8-N9-C4 | -17.35 | 99.46 | 106.40 |
| 2 | AB | 1610 | A | C2-N3-C4 | 17.33 | 119.26 | 110.60 |
| 35 | BA | 242 | G | C8-N9-C4 | -17.29 | 99.48 | 106.40 |
| 35 | BA | 154 | U | O4'-C1'-N1 | 17.23 | 121.98 | 108.20 |
| 46 | BL | 89 | ARG | NE-CZ-NH2 | -17.16 | 111.72 | 120.30 |
| 2 | AB | 1299 | G | C8-N9-C4 | -17.14 | 99.55 | 106.40 |
| 2 | AB | 2301 | C | C2-N3-C4 | 17.11 | 128.46 | 119.90 |
| 35 | BA | 406 | G | C8-N9-C4 | -17.11 | 99.56 | 106.40 |
| 2 | AB | 1473 | G | C8-N9-C4 | -17.08 | 99.57 | 106.40 |
| 2 | AB | 1479 | G | C8-N9-C4 | -17.08 | 99.57 | 106.40 |
| 2 | AB | 2432 | A | C8-N9-C4 | -17.08 | 98.97 | 105.80 |
| 2 | AB | 621 | A | N9-C4-C5 | 17.07 | 112.63 | 105.80 |
| 2 | AB | 321 | U | O4'-C1'-N1 | 16.97 | 121.77 | 108.20 |
| 2 | AB | 1238 | G | N1-C2-N2 | 16.95 | 131.46 | 116.20 |
| 35 | BA | 17 | U | O4'-C1'-N1 | 16.90 | 121.72 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 2 | AB | 460 | A | C8-N9-C4 | -16.90 | 99.04 | 105.80 |
| 2 | AB | 122 | G | C8-N9-C4 | -16.80 | 99.68 | 106.40 |
| 2 | AB | 1300 | G | N9-C4-C5 | 16.79 | 112.12 | 105.40 |
| 35 | BA | 1101 | A | C8-N9-C4 | -16.75 | 99.10 | 105.80 |
| 2 | AB | 2872 | A | N9-C4-C5 | 16.73 | 112.49 | 105.80 |
| 2 | AB | 2094 | A | O4'-C1'-N9 | 16.71 | 121.56 | 108.20 |
| 1 | AA | 96 | G | C5-C6-O6 | -16.71 | 118.58 | 128.60 |
| 2 | AB | 1193 | G | N9-C4-C5 | 16.69 | 112.08 | 105.40 |
| 2 | AB | 1483 | G | C8-N9-C4 | -16.69 | 99.72 | 106.40 |
| 2 | AB | 2844 | G | C6-C5-N7 | -16.68 | 120.39 | 130.40 |
| 4 | AD | 188 | ARG | NE-CZ-NH2 | 16.67 | 128.63 | 120.30 |
| 35 | BA | 317 | U | O4'-C1'-N1 | 16.66 | 121.53 | 108.20 |
| 35 | BA | 612 | C | N3-C4-C5 | -16.62 | 115.25 | 121.90 |
| 37 | BC | 29 | C | O4'-C1'-N1 | 16.60 | 121.48 | 108.20 |
| 2 | AB | 1988 | G | N9-C4-C5 | 16.56 | 112.02 | 105.40 |
| 2 | AB | 2258 | C | C6-N1-C2 | -16.56 | 113.67 | 120.30 |
| 35 | BA | 1265 | C | N3-C4-C5 | -16.53 | 115.29 | 121.90 |
| 2 | AB | 2057 | G | C8-N9-C4 | 16.51 | 113.00 | 106.40 |
| 2 | AB | 533 | G | C8-N9-C4 | -16.50 | 99.80 | 106.40 |
| 2 | AB | 2792 | A | O4'-C1'-N9 | 16.49 | 121.39 | 108.20 |
| 2 | AB | 301 | G | C8-N9-C4 | -16.48 | 99.81 | 106.40 |
| 35 | BA | 581 | G | C4-C5-N7 | -16.45 | 104.22 | 110.80 |
| 2 | AB | 2062 | A | C8-N9-C4 | -16.41 | 99.24 | 105.80 |
| 2 | AB | 978 | G | N3-C4-C5 | -16.39 | 120.41 | 128.60 |
| 35 | BA | 646 | G | C4-C5-N7 | -16.36 | 104.26 | 110.80 |
| 2 | AB | 472 | A | N9-C4-C5 | 16.30 | 112.32 | 105.80 |
| 2 | AB | 2625 | G | C8-N9-C4 | -16.29 | 99.88 | 106.40 |
| 1 | AA | 93 | C | N3-C4-C5 | -16.23 | 115.41 | 121.90 |
| 35 | BA | 63 | C | C6-N1-C2 | 16.22 | 126.79 | 120.30 |
| 37 | BC | 50 | G | O4'-C1'-N9 | 16.21 | 121.17 | 108.20 |
| 35 | BA | 247 | G | C8-N9-C4 | -16.17 | 99.93 | 106.40 |
| 1 | AA | 59 | A | O4'-C1'-N9 | 16.14 | 121.11 | 108.20 |
| 2 | AB | 408 | G | C4-C5-N7 | 16.14 | 117.25 | 110.80 |
| 35 | BA | 1397 | C | O4'-C1'-N1 | 16.11 | 121.09 | 108.20 |
| 2 | AB | 2165 | C | O4'-C1'-N1 | 15.99 | 120.99 | 108.20 |
| 54 | BT | 52 | ARG | NE-CZ-NH2 | -15.98 | 112.31 | 120.30 |
| 2 | AB | 2524 | G | N3-C2-N2 | 15.97 | 131.08 | 119.90 |
| 1 | AA | 81 | G | C8-N9-C4 | -15.96 | 100.02 | 106.40 |
| 2 | AB | 490 | C | N3-C4-C5 | -15.95 | 115.52 | 121.90 |
| 35 | BA | 657 | U | O4'-C1'-N1 | 15.93 | 120.94 | 108.20 |
| 2 | AB | 176 | A | C2-N3-C4 | 15.92 | 118.56 | 110.60 |
| 2 | AB | 1767 | G | C8-N9-C4 | -15.90 | 100.04 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 15 | AO | 51 | ARG | NE-CZ-NH1 | 15.89 | 128.24 | 120.30 |
| 2 | AB | 575 | A | N1-C6-N6 | 15.89 | 128.13 | 118.60 |
| 2 | AB | 512 | G | C8-N9-C4 | -15.89 | 100.05 | 106.40 |
| 2 | AB | 1406 | U | O4'-C1'-N1 | 15.87 | 120.90 | 108.20 |
| 1 | AA | 41 | G | O4'-C1'-N9 | 15.86 | 120.89 | 108.20 |
| 16 | AP | 45 | ARG | NE-CZ-NH1 | 15.85 | 128.22 | 120.30 |
| 2 | AB | 1164 | C | O4'-C1'-N1 | 15.84 | 120.87 | 108.20 |
| 2 | AB | 2234 | G | C8-N9-C4 | -15.83 | 100.07 | 106.40 |
| 2 | AB | 720 | U | O4'-C1'-N1 | 15.82 | 120.86 | 108.20 |
| 35 | BA | 742 | G | C8-N9-C4 | -15.81 | 100.08 | 106.40 |
| 2 | AB | 512 | G | N3-C4-C5 | -15.81 | 120.70 | 128.60 |
| 2 | AB | 1449 | G | O4'-C1'-N9 | 15.80 | 120.84 | 108.20 |
| 2 | AB | 2112 | G | C2-N3-C4 | 15.76 | 119.78 | 111.90 |
| 35 | BA | 761 | G | C4-C5-N7 | -15.76 | 104.50 | 110.80 |
| 2 | AB | 2528 | U | O4'-C1'-N1 | 15.71 | 120.77 | 108.20 |
| 2 | AB | 1356 | G | O4'-C1'-N9 | 15.67 | 120.74 | 108.20 |
| 19 | AS | 10 | ARG | NE-CZ-NH1 | 15.67 | 128.13 | 120.30 |
| 19 | AS | 57 | ARG | NE-CZ-NH1 | 15.67 | 128.13 | 120.30 |
| 2 | AB | 1753 | G | C6-C5-N7 | -15.65 | 121.01 | 130.40 |
| 2 | AB | 2466 | C | O4'-C1'-N1 | 15.65 | 120.72 | 108.20 |
| 35 | BA | 120 | A | N1-C6-N6 | -15.64 | 109.22 | 118.60 |
| 2 | AB | 160 | A | N1-C6-N6 | -15.63 | 109.22 | 118.60 |
| 35 | BA | 1310 | G | N3-C4-C5 | -15.63 | 120.79 | 128.60 |
| 2 | AB | 1238 | G | N3-C2-N2 | -15.62 | 108.97 | 119.90 |
| 2 | AB | 2190 | G | O4'-C1'-N9 | 15.61 | 120.69 | 108.20 |
| 35 | BA | 345 | C | N3-C4-C5 | -15.59 | 115.67 | 121.90 |
| 41 | BG | 28 | ARG | NE-CZ-NH1 | 15.58 | 128.09 | 120.30 |
| 2 | AB | 2845 | U | O4'-C1'-N1 | 15.57 | 120.66 | 108.20 |
| 2 | AB | 327 | G | C8-N9-C4 | -15.56 | 100.18 | 106.40 |
| 35 | BA | 109 | A | O4'-C1'-N9 | 15.56 | 120.65 | 108.20 |
| 1 | AA | 86 | G | N7-C8-N9 | 15.54 | 120.87 | 113.10 |
| 2 | AB | 1074 | G | C4-C5-N7 | -15.54 | 104.58 | 110.80 |
| 2 | AB | 861 | A | O4'-C1'-N9 | 15.54 | 120.63 | 108.20 |
| 2 | AB | 1726 | C | C6-N1-C2 | 15.54 | 126.51 | 120.30 |
| 2 | AB | 2442 | C | N3-C4-C5 | -15.53 | 115.69 | 121.90 |
| 2 | AB | 584 | C | N1-C2-O2 | 15.53 | 128.22 | 118.90 |
| 2 | AB | 261 | G | C8-N9-C4 | -15.51 | 100.20 | 106.40 |
| 36 | BB | 53 | G | O4'-C1'-N9 | 15.51 | 120.61 | 108.20 |
| 2 | AB | 942 | G | C4-C5-N7 | -15.50 | 104.60 | 110.80 |
| 35 | BA | 581 | G | N3-C4-C5 | -15.48 | 120.86 | 128.60 |
| 2 | AB | 1193 | G | N7-C8-N9 | 15.47 | 120.84 | 113.10 |
| 35 | BA | 1306 | A | C5-N7-C8 | -15.47 | 96.17 | 103.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 35 | BA | 1272 | G | C4-C5-N7 | -15.46 | 104.62 | 110.80 |
| 35 | BA | 626 | G | N7-C8-N9 | 15.45 | 120.82 | 113.10 |
| 2 | AB | 1444 | G | O4'-C1'-N9 | 15.45 | 120.56 | 108.20 |
| 2 | AB | 515 | A | C2-N3-C4 | 15.44 | 118.32 | 110.60 |
| 2 | AB | 1074 | G | C5-N7-C8 | 15.43 | 112.02 | 104.30 |
| 2 | AB | 2376 | A | C8-N9-C4 | -15.42 | 99.63 | 105.80 |
| 2 | AB | 1358 | G | C8-N9-C4 | -15.42 | 100.23 | 106.40 |
| 2 | AB | 1918 | A | N1-C6-N6 | 15.41 | 127.85 | 118.60 |
| 2 | AB | 1428 | C | N3-C2-O2 | -15.40 | 111.12 | 121.90 |
| 35 | BA | 46 | G | C8-N9-C4 | -15.40 | 100.24 | 106.40 |
| 2 | AB | 135 | U | N3-C4-O4 | 15.39 | 130.18 | 119.40 |
| 2 | AB | 334 | C | C5-C4-N4 | -15.39 | 109.42 | 120.20 |
| 2 | AB | 1057 | A | O4'-C1'-N9 | 15.38 | 120.51 | 108.20 |
| 35 | BA | 544 | G | N9-C4-C5 | 15.38 | 111.55 | 105.40 |
| 37 | BC | 39 | A | C5-N7-C8 | 15.37 | 111.58 | 103.90 |
| 2 | AB | 798 | G | N3-C4-C5 | -15.37 | 120.92 | 128.60 |
| 2 | AB | 1820 | U | O4'-C1'-N1 | 15.37 | 120.50 | 108.20 |
| 2 | AB | 2316 | G | N1-C6-O6 | -15.37 | 110.68 | 119.90 |
| 2 | AB | 2638 | G | O4'-C1'-N9 | 15.36 | 120.49 | 108.20 |
| 35 | BA | 1491 | G | N9-C4-C5 | 15.35 | 111.54 | 105.40 |
| 2 | AB | 2039 | U | O4'-C1'-N1 | 15.33 | 120.47 | 108.20 |
| 35 | BA | 476 | U | O4'-C1'-N1 | 15.31 | 120.45 | 108.20 |
| 37 | BC | 16 | C | C4-C5-C6 | -15.31 | 109.74 | 117.40 |
| 35 | BA | 1400 | C | O4'-C1'-N1 | 15.30 | 120.44 | 108.20 |
| 2 | AB | 1404 | C | N3-C4-C5 | -15.29 | 115.79 | 121.90 |
| 2 | AB | 1761 | C | O4'-C1'-N1 | 15.28 | 120.43 | 108.20 |
| 2 | AB | 1404 | C | O4'-C1'-N1 | 15.26 | 120.41 | 108.20 |
| 35 | BA | 447 | G | C8-N9-C4 | -15.25 | 100.30 | 106.40 |
| 2 | AB | 2402 | U | O4'-C1'-N1 | 15.24 | 120.39 | 108.20 |
| 35 | BA | 307 | C | O4'-C1'-N1 | 15.24 | 120.39 | 108.20 |
| 44 | BJ | 116 | ARG | NE-CZ-NH1 | 15.24 | 127.92 | 120.30 |
| 2 | AB | 2867 | G | N3-C4-C5 | -15.21 | 120.99 | 128.60 |
| 2 | AB | 70 | G | C4-C5-N7 | -15.21 | 104.72 | 110.80 |
| 2 | AB | 834 | G | C8-N9-C4 | -15.21 | 100.32 | 106.40 |
| 2 | AB | 83 | A | C8-N9-C4 | -15.21 | 99.72 | 105.80 |
| 2 | AB | 1988 | G | C4-C5-N7 | -15.21 | 104.72 | 110.80 |
| 2 | AB | 2171 | A | C8-N9-C4 | -15.21 | 99.72 | 105.80 |
| 2 | AB | 2260 | C | O4'-C1'-N1 | 15.20 | 120.36 | 108.20 |
| 35 | BA | 567 | G | N7-C8-N9 | 15.20 | 120.70 | 113.10 |
| 2 | AB | 318 | C | C6-N1-C2 | -15.20 | 114.22 | 120.30 |
| 2 | AB | 1655 | A | N7-C8-N9 | 15.20 | 121.40 | 113.80 |
| 2 | AB | 2084 | C | C5-C6-N1 | 15.20 | 128.60 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 35 | BA | 1309 | G | N3-C4-C5 | -15.19 | 121.00 | 128.60 |
| 35 | BA | 836 | G | N1-C6-O6 | 15.17 | 129.00 | 119.90 |
| 2 | AB | 1070 | A | C8-N9-C4 | -15.15 | 99.74 | 105.80 |
| 2 | AB | 1852 | U | N3-C2-O2 | -15.15 | 111.60 | 122.20 |
| 35 | BA | 1525 | G | N3-C4-C5 | -15.14 | 121.03 | 128.60 |
| 35 | BA | 163 | C | N3-C4-C5 | -15.13 | 115.85 | 121.90 |
| 35 | BA | 829 | G | C2-N3-C4 | 15.11 | 119.46 | 111.90 |
| 2 | AB | 2567 | G | C8-N9-C4 | -15.11 | 100.36 | 106.40 |
| 2 | AB | 1797 | G | C8-N9-C4 | -15.10 | 100.36 | 106.40 |
| 43 | BI | 94 | ARG | NE-CZ-NH2 | -15.10 | 112.75 | 120.30 |
| 2 | AB | 229 | C | N3-C4-C5 | 15.07 | 127.93 | 121.90 |
| 36 | BB | 55 | A | C8-N9-C4 | -15.07 | 99.77 | 105.80 |
| 2 | AB | 264 | C | C6-N1-C2 | -15.07 | 114.27 | 120.30 |
| 35 | BA | 128 | G | C8-N9-C4 | -15.06 | 100.38 | 106.40 |
| 2 | AB | 1243 | C | N3-C2-O2 | -15.05 | 111.36 | 121.90 |
| 2 | AB | 1469 | A | C6-N1-C2 | -15.04 | 109.57 | 118.60 |
| 4 | AD | 170 | TYR | CB-CG-CD1 | -15.03 | 111.98 | 121.00 |
| 2 | AB | 2238 | G | N1-C6-O6 | -14.99 | 110.90 | 119.90 |
| 2 | AB | 375 | G | N1-C6-O6 | 14.99 | 128.89 | 119.90 |
| 2 | AB | 2433 | A | N1-C2-N3 | 14.98 | 136.79 | 129.30 |
| 2 | AB | 977 | G | C8-N9-C4 | -14.97 | 100.41 | 106.40 |
| 35 | BA | 107 | G | C8-N9-C4 | -14.96 | 100.41 | 106.40 |
| 2 | AB | 2524 | G | N3-C4-C5 | -14.96 | 121.12 | 128.60 |
| 2 | AB | 2793 | C | C5-C6-N1 | 14.95 | 128.48 | 121.00 |
| 35 | BA | 403 | C | N3-C4-C5 | -14.94 | 115.92 | 121.90 |
| 2 | AB | 1115 | G | C8-N9-C4 | -14.94 | 100.42 | 106.40 |
| 9 | AI | 27 | ARG | NE-CZ-NH2 | 14.93 | 127.77 | 120.30 |
| 2 | AB | 2655 | G | C2-N3-C4 | 14.93 | 119.36 | 111.90 |
| 2 | AB | 2877 | G | C8-N9-C4 | -14.92 | 100.43 | 106.40 |
| 2 | AB | 2507 | C | O4'-C1'-N1 | 14.92 | 120.14 | 108.20 |
| 36 | BB | 14 | G | C8-N9-C4 | -14.91 | 100.44 | 106.40 |
| 2 | AB | 1630 | A | C5-N7-C8 | 14.89 | 111.34 | 103.90 |
| 2 | AB | 2684 | U | C5-C6-N1 | -14.89 | 115.26 | 122.70 |
| 35 | BA | 631 | C | N3-C4-C5 | -14.88 | 115.95 | 121.90 |
| 37 | BC | 9 | G | C8-N9-C4 | -14.88 | 100.45 | 106.40 |
| 35 | BA | 232 | G | N1-C6-O6 | 14.88 | 128.83 | 119.90 |
| 2 | AB | 1866 | A | O4'-C1'-N9 | 14.87 | 120.09 | 108.20 |
| 2 | AB | 232 | G | C8-N9-C4 | 14.86 | 112.34 | 106.40 |
| 2 | AB | 242 | G | C4-C5-N7 | -14.86 | 104.86 | 110.80 |
| 35 | BA | 742 | G | N9-C4-C5 | 14.85 | 111.34 | 105.40 |
| 2 | AB | 1863 | G | N9-C4-C5 | 14.84 | 111.34 | 105.40 |
| 2 | AB | 2565 | A | O4'-C1'-N9 | 14.84 | 120.07 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 2 | AB | 2164 | C | N3-C4-C5 | -14.83 | 115.97 | 121.90 |
| 35 | BA | 305 | G | O4'-C1'-N9 | 14.83 | 120.06 | 108.20 |
| 2 | AB | 2713 | U | O4'-C1'-N1 | 14.82 | 120.06 | 108.20 |
| 1 | AA | 13 | G | C8-N9-C4 | -14.82 | 100.47 | 106.40 |
| 2 | AB | 2717 | C | C6-N1-C2 | -14.82 | 114.37 | 120.30 |
| 2 | AB | 1675 | C | C6-N1-C2 | -14.82 | 114.37 | 120.30 |
| 2 | AB | 1479 | G | N7-C8-N9 | 14.79 | 120.50 | 113.10 |
| 2 | AB | 1998 | A | O4'-C1'-N9 | 14.79 | 120.03 | 108.20 |
| 2 | AB | 2763 | G | N3-C2-N2 | 14.79 | 130.26 | 119.90 |
| 2 | AB | 2867 | G | C2-N3-C4 | 14.79 | 119.30 | 111.90 |
| 2 | AB | 849 | A | N1-C2-N3 | -14.79 | 121.91 | 129.30 |
| 19 | AS | 63 | ARG | NE-CZ-NH2 | -14.79 | 112.91 | 120.30 |
| 2 | AB | 132 | G | C8-N9-C4 | -14.78 | 100.49 | 106.40 |
| 37 | BC | 20 | G | C2-N3-C4 | 14.77 | 119.29 | 111.90 |
| 2 | AB | 879 | G | C8-N9-C4 | -14.77 | 100.49 | 106.40 |
| 1 | AA | 86 | G | C8-N9-C4 | -14.76 | 100.49 | 106.40 |
| 1 | AA | 32 | U | C4-C5-C6 | 14.76 | 128.56 | 119.70 |
| 35 | BA | 1482 | G | N9-C4-C5 | 14.76 | 111.30 | 105.40 |
| 35 | BA | 254 | G | C2-N3-C4 | 14.75 | 119.27 | 111.90 |
| 35 | BA | 1216 | A | O4'-C1'-N9 | 14.75 | 120.00 | 108.20 |
| 35 | BA | 96 | U | O4'-C1'-N1 | 14.75 | 120.00 | 108.20 |
| 35 | BA | 1336 | C | N1-C2-O2 | 14.75 | 127.75 | 118.90 |
| 35 | BA | 698 | G | C2-N3-C4 | 14.74 | 119.27 | 111.90 |
| 2 | AB | 1413 | A | O4'-C1'-N9 | 14.74 | 119.99 | 108.20 |
| 35 | BA | 537 | G | O4'-C1'-N9 | 14.73 | 119.99 | 108.20 |
| 35 | BA | 1381 | U | C5-C4-O4 | -14.73 | 117.06 | 125.90 |
| 2 | AB | 633 | A | O4'-C1'-N9 | 14.72 | 119.98 | 108.20 |
| 35 | BA | 344 | A | C2-N3-C4 | 14.72 | 117.96 | 110.60 |
| 2 | AB | 341 | C | N1-C2-O2 | 14.70 | 127.72 | 118.90 |
| 35 | BA | 433 | G | C6-N1-C2 | -14.70 | 116.28 | 125.10 |
| 2 | AB | 1675 | C | O4'-C1'-N1 | 14.70 | 119.96 | 108.20 |
| 28 | A1 | 10 | ARG | NE-CZ-NH1 | -14.70 | 112.95 | 120.30 |
| 35 | BA | 1015 | G | C8-N9-C4 | -14.70 | 100.52 | 106.40 |
| 37 | BC | 45 | A | N7-C8-N9 | -14.70 | 106.45 | 113.80 |
| 35 | BA | 1164 | G | C2-N3-C4 | 14.69 | 119.25 | 111.90 |
| 2 | AB | 605 | G | O4'-C1'-N9 | 14.69 | 119.95 | 108.20 |
| 2 | AB | 1566 | A | O4'-C1'-N9 | 14.68 | 119.94 | 108.20 |
| 35 | BA | 949 | A | C8-N9-C4 | -14.67 | 99.93 | 105.80 |
| 2 | AB | 816 | C | N3-C4-N4 | 14.66 | 128.26 | 118.00 |
| 35 | BA | 22 | G | C8-N9-C4 | -14.66 | 100.53 | 106.40 |
| 2 | AB | 1259 | G | C2-N3-C4 | 14.66 | 119.23 | 111.90 |
| 2 | AB | 2474 | U | O4'-C1'-N1 | 14.65 | 119.92 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 2 | AB | 264 | C | C2-N3-C4 | 14.64 | 127.22 | 119.90 |
| 35 | BA | 97 | G | C8-N9-C4 | -14.64 | 100.55 | 106.40 |
| 35 | BA | 1253 | G | C8-N9-C4 | -14.64 | 100.55 | 106.40 |
| 2 | AB | 323 | C | O4'-C1'-N1 | 14.63 | 119.91 | 108.20 |
| 12 | AL | 69 | ARG | NE-CZ-NH1 | 14.63 | 127.61 | 120.30 |
| 2 | AB | 2573 | C | N3-C2-O2 | -14.63 | 111.66 | 121.90 |
| 2 | AB | 1707 | G | N7-C8-N9 | 14.62 | 120.41 | 113.10 |
| 57 | BW | 16 | ARG | NE-CZ-NH2 | -14.62 | 112.99 | 120.30 |
| 2 | AB | 763 | G | C5-N7-C8 | -14.62 | 96.99 | 104.30 |
| 2 | AB | 406 | G | C8-N9-C4 | -14.61 | 100.56 | 106.40 |
| 1 | AA | 108 | A | N9-C4-C5 | 14.60 | 111.64 | 105.80 |
| 2 | AB | 2490 | G | N1-C2-N3 | -14.60 | 115.14 | 123.90 |
| 2 | AB | 1086 | A | N7-C8-N9 | 14.59 | 121.10 | 113.80 |
| 2 | AB | 1751 | U | N3-C2-O2 | -14.57 | 112.00 | 122.20 |
| 2 | AB | 2443 | C | N3-C2-O2 | -14.57 | 111.70 | 121.90 |
| 2 | AB | 2421 | G | C6-N1-C2 | -14.56 | 116.36 | 125.10 |
| 2 | AB | 1121 | C | N3-C4-C5 | -14.55 | 116.08 | 121.90 |
| 35 | BA | 639 | G | O4'-C1'-N9 | 14.55 | 119.84 | 108.20 |
| 2 | AB | 573 | U | C5-C4-O4 | -14.53 | 117.18 | 125.90 |
| 2 | AB | 2047 | C | O4'-C1'-N1 | 14.53 | 119.82 | 108.20 |
| 2 | AB | 2003 | A | C5-C6-N1 | 14.52 | 124.96 | 117.70 |
| 2 | AB | 895 | U | C4-C5-C6 | 14.52 | 128.41 | 119.70 |
| 2 | AB | 794 | A | N7-C8-N9 | -14.51 | 106.54 | 113.80 |
| 35 | BA | 461 | A | N7-C8-N9 | 14.49 | 121.04 | 113.80 |
| 2 | AB | 898 | C | N1-C2-O2 | 14.48 | 127.59 | 118.90 |
| 35 | BA | 406 | G | N7-C8-N9 | 14.47 | 120.33 | 113.10 |
| 2 | AB | 341 | C | N3-C2-O2 | -14.46 | 111.78 | 121.90 |
| 2 | AB | 2740 | A | C8-N9-C4 | -14.45 | 100.02 | 105.80 |
| 2 | AB | 1536 | C | C6-N1-C2 | 14.44 | 126.07 | 120.30 |
| 2 | AB | 76 | C | N3-C4-C5 | -14.43 | 116.13 | 121.90 |
| 2 | AB | 460 | A | N7-C8-N9 | 14.43 | 121.01 | 113.80 |
| 2 | AB | 2783 | U | O4'-C1'-N1 | 14.42 | 119.74 | 108.20 |
| 2 | AB | 1934 | C | O4'-C1'-N1 | 14.42 | 119.73 | 108.20 |
| 2 | AB | 2686 | G | C4-C5-N7 | -14.41 | 105.03 | 110.80 |
| 2 | AB | 546 | U | O4'-C1'-N1 | 14.40 | 119.72 | 108.20 |
| 2 | AB | 1135 | C | O4'-C1'-N1 | 14.40 | 119.72 | 108.20 |
| 35 | BA | 725 | G | N1-C2-N3 | -14.39 | 115.27 | 123.90 |
| 35 | BA | 99 | C | O4'-C1'-N1 | 14.38 | 119.71 | 108.20 |
| 35 | BA | 115 | G | N3-C2-N2 | -14.37 | 109.84 | 119.90 |
| 2 | AB | 1847 | A | O4'-C1'-N9 | 14.37 | 119.70 | 108.20 |
| 2 | AB | 621 | A | C8-N9-C4 | -14.36 | 100.06 | 105.80 |
| 2 | AB | 1963 | U | O4'-C1'-N1 | 14.34 | 119.67 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 16 | AP | 118 | ARG | NE-CZ-NH2 | -14.34 | 113.13 | 120.30 |
| 2 | AB | 2195 | U | C4-C5-C6 | 14.32 | 128.29 | 119.70 |
| 2 | AB | 858 | G | C8-N9-C4 | -14.32 | 100.67 | 106.40 |
| 35 | BA | 277 | C | O4'-C1'-N1 | 14.32 | 119.65 | 108.20 |
| 35 | BA | 1101 | A | N7-C8-N9 | 14.31 | 120.96 | 113.80 |
| 35 | BA | 757 | U | N3-C2-O2 | -14.30 | 112.19 | 122.20 |
| 37 | BC | 70 | C | O4'-C1'-N1 | 14.28 | 119.63 | 108.20 |
| 35 | BA | 1456 | A | N9-C4-C5 | 14.28 | 111.51 | 105.80 |
| 1 | AA | 96 | G | C6-N1-C2 | -14.26 | 116.54 | 125.10 |
| 26 | AZ | 2 | ARG | NE-CZ-NH2 | 14.26 | 127.43 | 120.30 |
| 2 | AB | 1099 | G | N3-C4-C5 | -14.26 | 121.47 | 128.60 |
| 35 | BA | 1164 | G | N3-C4-C5 | -14.25 | 121.47 | 128.60 |
| 35 | BA | 452 | A | O4'-C1'-N9 | 14.24 | 119.59 | 108.20 |
| 37 | BC | 45 | A | C8-N9-C4 | 14.23 | 111.49 | 105.80 |
| 1 | AA | 27 | C | O4'-C1'-N1 | 14.22 | 119.58 | 108.20 |
| 35 | BA | 49 | U | C5-C6-N1 | -14.21 | 115.59 | 122.70 |
| 2 | AB | 1292 | G | C4-C5-N7 | -14.20 | 105.12 | 110.80 |
| 2 | AB | 285 | G | O4'-C1'-N9 | 14.20 | 119.56 | 108.20 |
| 13 | AM | 18 | ARG | NE-CZ-NH1 | 14.19 | 127.39 | 120.30 |
| 44 | BJ | 76 | ARG | NE-CZ-NH2 | -14.19 | 113.20 | 120.30 |
| 2 | AB | 940 | G | C8-N9-C4 | -14.19 | 100.73 | 106.40 |
| 12 | AL | 44 | TYR | CB-CG-CD1 | 14.19 | 129.51 | 121.00 |
| 2 | AB | 1397 | U | N3-C2-O2 | -14.18 | 112.27 | 122.20 |
| 35 | BA | 1456 | A | C8-N9-C4 | -14.18 | 100.13 | 105.80 |
| 3 | AC | 74 | ARG | NE-CZ-NH2 | -14.18 | 113.21 | 120.30 |
| 2 | AB | 528 | A | C8-N9-C4 | -14.17 | 100.13 | 105.80 |
| 2 | AB | 1495 | A | C8-N9-C4 | 14.17 | 111.47 | 105.80 |
| 2 | AB | 2520 | C | O4'-C1'-N1 | 14.17 | 119.54 | 108.20 |
| 2 | AB | 2413 | G | C8-N9-C4 | -14.17 | 100.73 | 106.40 |
| 2 | AB | 1747 | U | O4'-C1'-N1 | 14.16 | 119.53 | 108.20 |
| 2 | AB | 804 | A | N1-C6-N6 | -14.15 | 110.11 | 118.60 |
| 35 | BA | 1337 | G | N3-C4-C5 | -14.14 | 121.53 | 128.60 |
| 2 | AB | 1929 | G | N9-C4-C5 | 14.14 | 111.06 | 105.40 |
| 2 | AB | 2357 | G | C8-N9-C4 | -14.14 | 100.74 | 106.40 |
| 35 | BA | 1066 | C | C6-N1-C2 | -14.14 | 114.64 | 120.30 |
| 2 | AB | 2614 | A | O4'-C1'-N9 | 14.13 | 119.51 | 108.20 |
| 35 | BA | 9 | G | C8-N9-C4 | -14.13 | 100.75 | 106.40 |
| 35 | BA | 186 | C | N3-C4-C5 | -14.12 | 116.25 | 121.90 |
| 2 | AB | 2337 | G | C2-N3-C4 | 14.12 | 118.96 | 111.90 |
| 2 | AB | 1532 | A | N9-C4-C5 | 14.11 | 111.44 | 105.80 |
| 2 | AB | 2061 | G | N3-C4-C5 | -14.11 | 121.55 | 128.60 |
| 2 | AB | 554 | U | O4'-C1'-N1 | 14.10 | 119.48 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 35 | BA | 230 | G | C8-N9-C4 | -14.08 | 100.77 | 106.40 |
| 4 | AD | 261 | ARG | NE-CZ-NH1 | 14.07 | 127.34 | 120.30 |
| 35 | BA | 489 | C | O4'-C1'-N1 | 14.07 | 119.46 | 108.20 |
| 2 | AB | 2282 | G | C8-N9-C4 | -14.05 | 100.78 | 106.40 |
| 2 | AB | 245 | G | C8-N9-C4 | -14.05 | 100.78 | 106.40 |
| 35 | BA | 743 | A | C8-N9-C4 | -14.04 | 100.18 | 105.80 |
| 2 | AB | 1437 | C | C3'-C2'-C1' | 14.03 | 112.72 | 101.50 |
| 35 | BA | 694 | A | N1-C2-N3 | -14.03 | 122.29 | 129.30 |
| 35 | BA | 1132 | C | N1-C2-O2 | 14.02 | 127.31 | 118.90 |
| 2 | AB | 1234 | U | O4'-C1'-N1 | 14.02 | 119.42 | 108.20 |
| 10 | AJ | 124 | ARG | NE-CZ-NH2 | -14.02 | 113.29 | 120.30 |
| 35 | BA | 742 | G | C2-N3-C4 | 14.02 | 118.91 | 111.90 |
| 2 | AB | 2193 | G | C8-N9-C4 | -14.01 | 100.80 | 106.40 |
| 35 | BA | 424 | G | C8-N9-C4 | -14.00 | 100.80 | 106.40 |
| 2 | AB | 75 | G | O4'-C1'-N9 | 14.00 | 119.40 | 108.20 |
| 2 | AB | 2872 | A | C4-C5-N7 | -13.99 | 103.70 | 110.70 |
| 2 | AB | 2848 | G | O4'-C1'-N9 | 13.99 | 119.39 | 108.20 |
| 2 | AB | 476 | G | N9-C4-C5 | 13.98 | 110.99 | 105.40 |
| 2 | AB | 2893 | A | N9-C4-C5 | -13.98 | 100.21 | 105.80 |
| 1 | AA | 44 | G | C1'-O4'-C4' | -13.97 | 98.72 | 109.90 |
| 35 | BA | 603 | U | C5-C4-O4 | -13.97 | 117.52 | 125.90 |
| 2 | AB | 228 | C | N3-C4-C5 | -13.96 | 116.31 | 121.90 |
| 2 | AB | 1003 | G | C8-N9-C4 | -13.93 | 100.83 | 106.40 |
| 3 | AC | 53 | ARG | NE-CZ-NH1 | 13.93 | 127.26 | 120.30 |
| 35 | BA | 1110 | A | C8-N9-C4 | -13.93 | 100.23 | 105.80 |
| 2 | AB | 1455 | G | C4-C5-N7 | -13.93 | 105.23 | 110.80 |
| 2 | AB | 103 | A | O4'-C1'-N9 | 13.92 | 119.34 | 108.20 |
| 35 | BA | 581 | G | C8-N9-C4 | -13.92 | 100.83 | 106.40 |
| 35 | BA | 434 | U | O4'-C1'-N1 | 13.92 | 119.34 | 108.20 |
| 2 | AB | 1238 | G | C8-N9-C4 | -13.91 | 100.83 | 106.40 |
| 47 | BM | 97 | ARG | NE-CZ-NH2 | 13.91 | 127.26 | 120.30 |
| 2 | AB | 631 | A | C8-N9-C4 | -13.90 | 100.24 | 105.80 |
| 2 | AB | 898 | C | C2-N3-C4 | 13.90 | 126.85 | 119.90 |
| 35 | BA | 1115 | U | O4'-C1'-N1 | 13.90 | 119.32 | 108.20 |
| 2 | AB | 1706 | C | O4'-C1'-N1 | 13.90 | 119.32 | 108.20 |
| 2 | AB | 2113 | U | O4'-C1'-N1 | 13.90 | 119.32 | 108.20 |
| 35 | BA | 364 | A | C4-C5-C6 | -13.90 | 110.05 | 117.00 |
| 2 | AB | 1394 | U | N3-C2-O2 | -13.89 | 112.48 | 122.20 |
| 2 | AB | 287 | G | C8-N9-C4 | -13.89 | 100.84 | 106.40 |
| 2 | AB | 553 | G | C5-N7-C8 | 13.89 | 111.24 | 104.30 |
| 35 | BA | 985 | C | N1-C2-O2 | 13.89 | 127.23 | 118.90 |
| 2 | AB | 379 | G | O4'-C1'-N9 | 13.89 | 119.31 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 2 | AB | 2488 | G | C8-N9-C4 | -13.88 | 100.85 | 106.40 |
| 1 | AA | 33 | G | N1-C6-O6 | -13.88 | 111.57 | 119.90 |
| 51 | BQ | 63 | ARG | NE-CZ-NH1 | 13.87 | 127.24 | 120.30 |
| 2 | AB | 2707 | U | C5-C6-N1 | -13.86 | 115.77 | 122.70 |
| 2 | AB | 1882 | U | O4'-C1'-N1 | 13.85 | 119.28 | 108.20 |
| 2 | AB | 2851 | A | C8-N9-C4 | 13.85 | 111.34 | 105.80 |
| 2 | AB | 2176 | A | C5-C6-N1 | 13.85 | 124.62 | 117.70 |
| 35 | BA | 240 | G | C8-N9-C4 | -13.85 | 100.86 | 106.40 |
| 2 | AB | 1154 | G | N7-C8-N9 | 13.84 | 120.02 | 113.10 |
| 2 | AB | 2061 | G | C2-N3-C4 | 13.84 | 118.82 | 111.90 |
| 35 | BA | 359 | G | N9-C4-C5 | 13.84 | 110.94 | 105.40 |
| 35 | BA | 666 | G | N7-C8-N9 | 13.84 | 120.02 | 113.10 |
| 35 | BA | 1169 | A | N7-C8-N9 | -13.83 | 106.88 | 113.80 |
| 2 | AB | 2582 | G | C8-N9-C4 | -13.82 | 100.87 | 106.40 |
| 2 | AB | 2615 | U | O4'-C1'-N1 | 13.82 | 119.25 | 108.20 |
| 2 | AB | 795 | C | O4'-C1'-N1 | 13.80 | 119.24 | 108.20 |
| 35 | BA | 389 | A | C8-N9-C4 | -13.80 | 100.28 | 105.80 |
| 2 | AB | 1602 | U | O4'-C1'-N1 | 13.80 | 119.24 | 108.20 |
| 2 | AB | 1738 | G | C8-N9-C4 | -13.79 | 100.88 | 106.40 |
| 2 | AB | 228 | C | C2-N3-C4 | 13.79 | 126.79 | 119.90 |
| 2 | AB | 2276 | G | N3-C4-C5 | -13.79 | 121.71 | 128.60 |
| 8 | AH | 151 | ARG | NE-CZ-NH1 | 13.78 | 127.19 | 120.30 |
| 2 | AB | 1964 | G | C2-N3-C4 | 13.77 | 118.78 | 111.90 |
| 2 | AB | 469 | G | N3-C4-C5 | -13.77 | 121.72 | 128.60 |
| 35 | BA | 638 | U | C5-C6-N1 | 13.76 | 129.58 | 122.70 |
| 2 | AB | 298 | G | C2-N3-C4 | 13.75 | 118.78 | 111.90 |
| 35 | BA | 1487 | G | C2-N3-C4 | 13.75 | 118.77 | 111.90 |
| 2 | AB | 36 | G | C2-N3-C4 | 13.74 | 118.77 | 111.90 |
| 2 | AB | 2218 | G | N1-C6-O6 | -13.74 | 111.66 | 119.90 |
| 39 | BE | 131 | ARG | NE-CZ-NH1 | 13.74 | 127.17 | 120.30 |
| 54 | BT | 52 | ARG | NE-CZ-NH1 | 13.73 | 127.17 | 120.30 |
| 2 | AB | 1519 | G | C2-N3-C4 | 13.73 | 118.76 | 111.90 |
| 35 | BA | 1031 | C | O4'-C1'-N1 | 13.72 | 119.18 | 108.20 |
| 2 | AB | 1922 | G | C5-C6-N1 | 13.72 | 118.36 | 111.50 |
| 19 | AS | 2 | ARG | NE-CZ-NH2 | 13.72 | 127.16 | 120.30 |
| 35 | BA | 812 | G | C2-N3-C4 | 13.72 | 118.76 | 111.90 |
| 2 | AB | 1069 | A | C8-N9-C4 | -13.71 | 100.31 | 105.80 |
| 2 | AB | 31 | C | N3-C4-C5 | 13.71 | 127.38 | 121.90 |
| 2 | AB | 2182 | U | C4-C5-C6 | 13.71 | 127.92 | 119.70 |
| 1 | AA | 51 | G | C6-C5-N7 | -13.70 | 122.18 | 130.40 |
| 35 | BA | 891 | U | O4'-C1'-N1 | 13.70 | 119.16 | 108.20 |
| 2 | AB | 1157 | G | C8-N9-C4 | -13.69 | 100.92 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 35 | BA | 595 | A | C5-C6-N6 | -13.68 | 112.75 | 123.70 |
| 2 | AB | 2647 | U | N3-C2-O2 | -13.68 | 112.62 | 122.20 |
| 2 | AB | 1023 | U | C5-C6-N1 | -13.68 | 115.86 | 122.70 |
| 2 | AB | 528 | A | C3'-C2'-C1' | -13.67 | 90.56 | 101.50 |
| 2 | AB | 1728 | C | C6-N1-C2 | -13.67 | 114.83 | 120.30 |
| 19 | AS | 27 | ARG | NE-CZ-NH1 | 13.66 | 127.13 | 120.30 |
| 2 | AB | 1313 | U | C5-C6-N1 | 13.66 | 129.53 | 122.70 |
| 2 | AB | 565 | C | N1-C2-O2 | 13.65 | 127.09 | 118.90 |
| 35 | BA | 1114 | C | N3-C4-C5 | -13.65 | 116.44 | 121.90 |
| 2 | AB | 2835 | A | O4'-C1'-N9 | 13.65 | 119.12 | 108.20 |
| 2 | AB | 281 | C | O4'-C1'-N1 | 13.64 | 119.11 | 108.20 |
| 2 | AB | 2502 | G | N7-C8-N9 | 13.63 | 119.92 | 113.10 |
| 3 | AC | 164 | ARG | NE-CZ-NH2 | -13.63 | 113.48 | 120.30 |
| 35 | BA | 995 | C | O4'-C1'-N1 | 13.63 | 119.10 | 108.20 |
| 35 | BA | 241 | G | C2-N3-C4 | 13.62 | 118.71 | 111.90 |
| 35 | BA | 464 | U | C5-C4-O4 | -13.62 | 117.73 | 125.90 |
| 2 | AB | 2351 | G | C3'-C2'-C1' | 13.61 | 112.39 | 101.50 |
| 2 | AB | 2006 | C | N3-C4-C5 | -13.61 | 116.46 | 121.90 |
| 35 | BA | 1089 | G | C4-C5-C6 | 13.61 | 126.97 | 118.80 |
| 2 | AB | 2282 | G | C2-N3-C4 | 13.61 | 118.70 | 111.90 |
| 2 | AB | 2215 | C | C5-C6-N1 | 13.61 | 127.80 | 121.00 |
| 2 | AB | 2361 | G | O4'-C1'-N9 | 13.60 | 119.08 | 108.20 |
| 2 | AB | 2549 | G | O4'-C1'-N9 | 13.60 | 119.08 | 108.20 |
| 35 | BA | 1085 | U | O4'-C1'-N1 | 13.59 | 119.07 | 108.20 |
| 2 | AB | 1300 | G | C8-N9-C4 | -13.59 | 100.97 | 106.40 |
| 2 | AB | 2220 | U | C5-C6-N1 | -13.58 | 115.91 | 122.70 |
| 2 | AB | 1924 | C | O4'-C1'-N1 | 13.57 | 119.06 | 108.20 |
| 2 | AB | 2110 | G | C8-N9-C4 | -13.57 | 100.97 | 106.40 |
| 35 | BA | 1355 | G | N3-C4-C5 | -13.56 | 121.82 | 128.60 |
| 2 | AB | 2277 | G | N1-C6-O6 | 13.55 | 128.03 | 119.90 |
| 35 | BA | 481 | G | N3-C4-C5 | -13.55 | 121.83 | 128.60 |
| 2 | AB | 1437 | C | O4'-C1'-N1 | 13.55 | 119.04 | 108.20 |
| 2 | AB | 1857 | G | C8-N9-C4 | -13.55 | 100.98 | 106.40 |
| 36 | BB | 22 | G | O4'-C1'-N9 | 13.55 | 119.04 | 108.20 |
| 2 | AB | 2003 | A | C4-C5-C6 | -13.55 | 110.23 | 117.00 |
| 2 | AB | 744 | U | O4'-C1'-N1 | 13.54 | 119.04 | 108.20 |
| 35 | BA | 1160 | G | C8-N9-C4 | -13.54 | 100.98 | 106.40 |
| 2 | AB | 840 | C | N1-C2-O2 | 13.54 | 127.02 | 118.90 |
| 35 | BA | 985 | C | N3-C2-O2 | -13.54 | 112.42 | 121.90 |
| 35 | BA | 1255 | G | C2-N3-C4 | 13.53 | 118.67 | 111.90 |
| 2 | AB | 1863 | G | C4-C5-N7 | -13.53 | 105.39 | 110.80 |
| 36 | BB | 56 | G | O4'-C1'-N9 | 13.52 | 119.02 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 2 | AB | 412 | A | C2-N3-C4 | 13.52 | 117.36 | 110.60 |
| 2 | AB | 2442 | C | C2-N3-C4 | 13.52 | 126.66 | 119.90 |
| 2 | AB | 406 | G | N9-C4-C5 | 13.51 | 110.81 | 105.40 |
| 35 | BA | 706 | A | C8-N9-C4 | -13.51 | 100.39 | 105.80 |
| 2 | AB | 1552 | A | O4'-C1'-N9 | 13.50 | 119.00 | 108.20 |
| 2 | AB | 2241 | A | N1-C6-N6 | -13.50 | 110.50 | 118.60 |
| 35 | BA | 1114 | C | C2-N3-C4 | 13.50 | 126.65 | 119.90 |
| 2 | AB | 308 | G | C8-N9-C4 | -13.50 | 101.00 | 106.40 |
| 35 | BA | 665 | A | C8-N9-C4 | -13.49 | 100.40 | 105.80 |
| 2 | AB | 397 | U | C4-C5-C6 | 13.49 | 127.79 | 119.70 |
| 35 | BA | 97 | G | N7-C8-N9 | 13.49 | 119.84 | 113.10 |
| 2 | AB | 1099 | G | N7-C8-N9 | 13.48 | 119.84 | 113.10 |
| 35 | BA | 544 | G | C6-N1-C2 | -13.48 | 117.01 | 125.10 |
| 35 | BA | 1456 | A | N1-C2-N3 | 13.47 | 136.04 | 129.30 |
| 2 | AB | 1589 | U | O4'-C1'-N1 | 13.47 | 118.97 | 108.20 |
| 2 | AB | 242 | G | N9-C4-C5 | 13.46 | 110.78 | 105.40 |
| 6 | AF | 69 | ARG | NE-CZ-NH2 | -13.46 | 113.57 | 120.30 |
| 2 | AB | 1502 | A | C4-C5-C6 | -13.46 | 110.27 | 117.00 |
| 2 | AB | 2137 | U | O4'-C1'-N1 | 13.46 | 118.96 | 108.20 |
| 2 | AB | 1358 | G | N3-C4-C5 | -13.45 | 121.88 | 128.60 |
| 2 | AB | 2688 | G | N7-C8-N9 | 13.44 | 119.82 | 113.10 |
| 2 | AB | 2410 | G | N3-C4-C5 | -13.43 | 121.89 | 128.60 |
| 35 | BA | 494 | G | N3-C4-C5 | -13.43 | 121.89 | 128.60 |
| 2 | AB | 1997 | C | O4'-C1'-N1 | 13.43 | 118.94 | 108.20 |
| 2 | AB | 1099 | G | N9-C4-C5 | 13.42 | 110.77 | 105.40 |
| 2 | AB | 1610 | A | N1-C2-N3 | -13.42 | 122.59 | 129.30 |
| 2 | AB | 2306 | C | N3-C4-C5 | -13.41 | 116.53 | 121.90 |
| 2 | AB | 2083 | G | O4'-C1'-N9 | 13.41 | 118.93 | 108.20 |
| 2 | AB | 1628 | G | O4'-C1'-N9 | 13.41 | 118.93 | 108.20 |
| 35 | BA | 391 | G | C4-C5-N7 | 13.41 | 116.16 | 110.80 |
| 2 | AB | 2237 | G | C2-N3-C4 | 13.41 | 118.60 | 111.90 |
| 2 | AB | 1011 | G | O4'-C1'-N9 | 13.40 | 118.92 | 108.20 |
| 35 | BA | 775 | G | C8-N9-C4 | -13.39 | 101.04 | 106.40 |
| 2 | AB | 2391 | G | N9-C4-C5 | 13.39 | 110.76 | 105.40 |
| 35 | BA | 42 | G | O4'-C1'-N9 | 13.39 | 118.91 | 108.20 |
| 35 | BA | 1276 | G | O4'-C1'-N9 | 13.39 | 118.91 | 108.20 |
| 2 | AB | 2655 | G | C5-C6-N1 | 13.38 | 118.19 | 111.50 |
| 2 | AB | 1290 | C | N3-C2-O2 | -13.38 | 112.53 | 121.90 |
| 2 | AB | 707 | G | C4-C5-N7 | -13.38 | 105.45 | 110.80 |
| 1 | AA | 68 | C | C2-N3-C4 | 13.37 | 126.59 | 119.90 |
| 2 | AB | 2492 | U | O4'-C1'-N1 | 13.36 | 118.89 | 108.20 |
| 35 | BA | 674 | G | O4'-C1'-N9 | 13.36 | 118.89 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 2 | AB | 2425 | A | C8-N9-C4 | -13.36 | 100.46 | 105.80 |
| 35 | BA | 519 | C | C2-N3-C4 | 13.36 | 126.58 | 119.90 |
| 35 | BA | 454 | G | C8-N9-C4 | -13.35 | 101.06 | 106.40 |
| 2 | AB | 1384 | A | N1-C2-N3 | -13.35 | 122.62 | 129.30 |
| 2 | AB | 2040 | G | N9-C4-C5 | 13.35 | 110.74 | 105.40 |
| 2 | AB | 1348 | C | O4'-C1'-N1 | 13.34 | 118.87 | 108.20 |
| 35 | BA | 417 | G | C8-N9-C4 | -13.34 | 101.07 | 106.40 |
| 35 | BA | 1353 | G | C8-N9-C4 | -13.33 | 101.07 | 106.40 |
| 35 | BA | 530 | G | N3-C4-C5 | -13.33 | 121.94 | 128.60 |
| 2 | AB | 240 | C | N3-C4-C5 | -13.33 | 116.57 | 121.90 |
| 2 | AB | 1753 | G | O4'-C1'-N9 | 13.33 | 118.86 | 108.20 |
| 2 | AB | 221 | A | N9-C4-C5 | -13.32 | 100.47 | 105.80 |
| 2 | AB | 2120 | G | N1-C2-N3 | -13.32 | 115.91 | 123.90 |
| 2 | AB | 1158 | C | N3-C4-C5 | -13.31 | 116.57 | 121.90 |
| 35 | BA | 567 | G | C8-N9-C4 | -13.31 | 101.07 | 106.40 |
| 35 | BA | 742 | G | N3-C4-C5 | -13.31 | 121.94 | 128.60 |
| 35 | BA | 1338 | G | O4'-C1'-N9 | 13.31 | 118.85 | 108.20 |
| 2 | AB | 1695 | G | O4'-C1'-N9 | 13.31 | 118.85 | 108.20 |
| 35 | BA | 287 | U | C5-C6-N1 | -13.30 | 116.05 | 122.70 |
| 10 | AJ | 60 | ARG | NE-CZ-NH2 | -13.30 | 113.65 | 120.30 |
| 35 | BA | 1169 | A | C5-N7-C8 | 13.30 | 110.55 | 103.90 |
| 2 | AB | 397 | U | C5-C6-N1 | -13.30 | 116.05 | 122.70 |
| 2 | AB | 1910 | G | C8-N9-C4 | -13.29 | 101.08 | 106.40 |
| 2 | AB | 2169 | A | N3-C4-C5 | -13.29 | 117.50 | 126.80 |
| 50 | BP | 62 | ARG | NE-CZ-NH2 | -13.29 | 113.65 | 120.30 |
| 35 | BA | 651 | C | N3-C4-C5 | -13.29 | 116.58 | 121.90 |
| 2 | AB | 1529 | G | C8-N9-C4 | -13.29 | 101.09 | 106.40 |
| 1 | AA | 68 | C | N3-C4-C5 | -13.28 | 116.59 | 121.90 |
| 2 | AB | 2255 | G | C8-N9-C4 | -13.28 | 101.09 | 106.40 |
| 2 | AB | 1897 | G | C8-N9-C4 | -13.27 | 101.09 | 106.40 |
| 1 | AA | 20 | G | O4'-C1'-N9 | 13.27 | 118.81 | 108.20 |
| 2 | AB | 35 | G | N3-C4-C5 | -13.27 | 121.97 | 128.60 |
| 2 | AB | 672 | C | C5-C4-N4 | -13.27 | 110.91 | 120.20 |
| 50 | BP | 60 | ARG | NE-CZ-NH2 | -13.27 | 113.67 | 120.30 |
| 2 | AB | 957 | C | N3-C4-C5 | -13.26 | 116.59 | 121.90 |
| 2 | AB | 2053 | G | N3-C4-C5 | -13.26 | 121.97 | 128.60 |
| 2 | AB | 81 | G | C5-C6-O6 | -13.26 | 120.64 | 128.60 |
| 2 | AB | 2851 | A | C6-N1-C2 | 13.26 | 126.55 | 118.60 |
| 2 | AB | 271 | G | N9-C4-C5 | 13.25 | 110.70 | 105.40 |
| 35 | BA | 1361 | G | C8-N9-C4 | -13.25 | 101.10 | 106.40 |
| 2 | AB | 264 | C | O4'-C1'-N1 | 13.25 | 118.80 | 108.20 |
| 2 | AB | 1630 | A | C4-C5-N7 | -13.25 | 104.08 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 35 | BA | 1033 | G | O4'-C1'-N9 | 13.25 | 118.80 | 108.20 |
| 30 | A3 | 9 | ARG | NE-CZ-NH1 | -13.25 | 113.68 | 120.30 |
| 1 | AA | 18 | G | C5-N7-C8 | -13.24 | 97.68 | 104.30 |
| 2 | AB | 16 | C | O4'-C1'-N1 | 13.24 | 118.79 | 108.20 |
| 41 | BG | 19 | ARG | NE-CZ-NH1 | 13.24 | 126.92 | 120.30 |
| 35 | BA | 821 | G | N3-C4-C5 | -13.24 | 121.98 | 128.60 |
| 2 | AB | 1181 | U | O4'-C1'-N1 | 13.23 | 118.78 | 108.20 |
| 2 | AB | 308 | G | N9-C4-C5 | 13.22 | 110.69 | 105.40 |
| 35 | BA | 1181 | G | O4'-C1'-N9 | 13.21 | 118.77 | 108.20 |
| 36 | BB | 33 | A | C2-N3-C4 | 13.21 | 117.20 | 110.60 |
| 2 | AB | 1822 | C | C2-N3-C4 | 13.20 | 126.50 | 119.90 |
| 2 | AB | 5 | A | C5-C6-N1 | -13.20 | 111.10 | 117.70 |
| 2 | AB | 229 | C | O4'-C1'-N1 | 13.20 | 118.76 | 108.20 |
| 2 | AB | 1250 | G | C8-N9-C4 | -13.20 | 101.12 | 106.40 |
| 2 | AB | 1380 | G | N3-C4-C5 | -13.20 | 122.00 | 128.60 |
| 49 | BO | 86 | ARG | NE-CZ-NH2 | -13.20 | 113.70 | 120.30 |
| 2 | AB | 2428 | G | C8-N9-C4 | -13.20 | 101.12 | 106.40 |
| 2 | AB | 194 | G | C6-C5-N7 | -13.19 | 122.48 | 130.40 |
| 2 | AB | 264 | C | C5-C6-N1 | 13.19 | 127.59 | 121.00 |
| 2 | AB | 1168 | G | N9-C4-C5 | 13.19 | 110.67 | 105.40 |
| 2 | AB | 2524 | G | C4-C5-N7 | -13.19 | 105.53 | 110.80 |
| 2 | AB | 2407 | A | N7-C8-N9 | 13.19 | 120.39 | 113.80 |
| 2 | AB | 1544 | A | C8-N9-C4 | 13.17 | 111.07 | 105.80 |
| 2 | AB | 804 | A | C5-C6-N1 | 13.16 | 124.28 | 117.70 |
| 2 | AB | 1339 | G | N9-C4-C5 | -13.16 | 100.13 | 105.40 |
| 2 | AB | 1345 | C | N3-C4-C5 | 13.16 | 127.17 | 121.90 |
| 2 | AB | 1158 | C | C4-C5-C6 | 13.16 | 123.98 | 117.40 |
| 35 | BA | 479 | U | C2-N3-C4 | -13.15 | 119.11 | 127.00 |
| 35 | BA | 274 | A | N9-C4-C5 | 13.14 | 111.06 | 105.80 |
| 2 | AB | 1741 | C | O4'-C1'-N1 | 13.14 | 118.71 | 108.20 |
| 2 | AB | 963 | U | C5-C6-N1 | -13.14 | 116.13 | 122.70 |
| 2 | AB | 1518 | C | C2-N3-C4 | 13.13 | 126.47 | 119.90 |
| 35 | BA | 1240 | U | C5-C6-N1 | -13.13 | 116.14 | 122.70 |
| 23 | AW | 21 | ARG | NE-CZ-NH2 | 13.12 | 126.86 | 120.30 |
| 35 | BA | 927 | G | C8-N9-C4 | -13.13 | 101.15 | 106.40 |
| 37 | BC | 13 | C | N3-C4-N4 | 13.13 | 127.19 | 118.00 |
| 2 | AB | 798 | G | C2-N3-C4 | 13.12 | 118.46 | 111.90 |
| 2 | AB | 1771 | C | C6-N1-C2 | -13.12 | 115.05 | 120.30 |
| 35 | BA | 1129 | C | N3-C4-C5 | -13.12 | 116.65 | 121.90 |
| 35 | BA | 1253 | G | N3-C4-C5 | -13.12 | 122.04 | 128.60 |
| 2 | AB | 2902 | C | N3-C2-O2 | -13.11 | 112.72 | 121.90 |
| 2 | AB | 2710 | C | C6-N1-C2 | -13.11 | 115.06 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 1072 | C | C4-C5-C6 | -13.11 | 110.85 | 117.40 |
| 2 | AB | 2255 | G | N3-C2-N2 | -13.11 | 110.73 | 119.90 |
| 2 | AB | 132 | G | N3-C4-C5 | -13.10 | 122.05 | 128.60 |
| 2 | AB | 1822 | C | O4'-C1'-N1 | 13.10 | 118.68 | 108.20 |
| 2 | AB | 2614 | A | C2-N3-C4 | 13.10 | 117.15 | 110.60 |
| 2 | AB | 2819 | G | C2-N3-C4 | 13.10 | 118.45 | 111.90 |
| 35 | BA | 163 | C | N1-C2-O2 | 13.10 | 126.76 | 118.90 |
| 35 | BA | 679 | C | O4'-C1'-N1 | 13.10 | 118.68 | 108.20 |
| 35 | BA | 662 | U | C5-C6-N1 | -13.09 | 116.15 | 122.70 |
| 37 | BC | 48 | U | N3-C2-O2 | -13.09 | 113.04 | 122.20 |
| 2 | AB | 2205 | A | C2-N3-C4 | -13.09 | 104.06 | 110.60 |
| 2 | AB | 2867 | G | C4-C5-N7 | -13.08 | 105.57 | 110.80 |
| 2 | AB | 1485 | U | O4'-C1'-N1 | 13.08 | 118.66 | 108.20 |
| 2 | AB | 1165 | A | N1-C6-N6 | -13.07 | 110.76 | 118.60 |
| 2 | AB | 2796 | U | O4'-C1'-N1 | 13.07 | 118.66 | 108.20 |
| 35 | BA | 94 | G | N7-C8-N9 | -13.07 | 106.56 | 113.10 |
| 2 | AB | 879 | G | N7-C8-N9 | 13.07 | 119.63 | 113.10 |
| 2 | AB | 1861 | G | C8-N9-C4 | 13.06 | 111.62 | 106.40 |
| 15 | AO | 59 | ARG | NE-CZ-NH1 | -13.06 | 113.77 | 120.30 |
| 35 | BA | 530 | G | C8-N9-C4 | -13.06 | 101.17 | 106.40 |
| 2 | AB | 1349 | C | C5'-C4'-O4' | 13.06 | 124.77 | 109.10 |
| 35 | BA | 1034 | G | N3-C4-C5 | -13.06 | 122.07 | 128.60 |
| 2 | AB | 2253 | G | N9-C4-C5 | 13.06 | 110.62 | 105.40 |
| 2 | AB | 515 | A | N9-C4-C5 | 13.05 | 111.02 | 105.80 |
| 2 | AB | 725 | G | N3-C4-C5 | -13.05 | 122.08 | 128.60 |
| 2 | AB | 1250 | G | N3-C4-C5 | -13.05 | 122.08 | 128.60 |
| 2 | AB | 2177 | C | N3-C4-C5 | 13.04 | 127.12 | 121.90 |
| 35 | BA | 1415 | G | C8-N9-C4 | -13.04 | 101.18 | 106.40 |
| 2 | AB | 461 | C | C4-C5-C6 | -13.04 | 110.88 | 117.40 |
| 2 | AB | 2704 | C | C5-C4-N4 | -13.04 | 111.07 | 120.20 |
| 35 | BA | 1076 | U | C6-N1-C2 | -13.04 | 113.17 | 121.00 |
| 2 | AB | 877 | A | O4'-C1'-N9 | 13.04 | 118.63 | 108.20 |
| 2 | AB | 1233 | C | N1-C2-O2 | 13.04 | 126.72 | 118.90 |
| 35 | BA | 380 | G | O4'-C1'-N9 | 13.04 | 118.63 | 108.20 |
| 2 | AB | 69 | C | C6-N1-C2 | -13.03 | 115.09 | 120.30 |
| 35 | BA | 974 | A | C8-N9-C4 | -13.03 | 100.59 | 105.80 |
| 2 | AB | 597 | G | N1-C6-O6 | -13.01 | 112.09 | 119.90 |
| 2 | AB | 1456 | G | C8-N9-C4 | -13.01 | 101.19 | 106.40 |
| 35 | BA | 751 | U | O4'-C1'-N1 | 13.01 | 118.61 | 108.20 |
| 2 | AB | 1650 | A | N1-C2-N3 | -13.01 | 122.79 | 129.30 |
| 35 | BA | 1195 | C | O4'-C1'-N1 | 13.01 | 118.61 | 108.20 |
| 37 | BC | 71 | G | C5-N7-C8 | -13.01 | 97.80 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 22 | AV | 69 | ARG | NE-CZ-NH2 | 13.01 | 126.80 | 120.30 |
| 2 | AB | 1382 | G | C5-C6-O6 | 13.00 | 136.40 | 128.60 |
| 35 | BA | 1063 | C | N1-C2-O2 | 13.00 | 126.70 | 118.90 |
| 2 | AB | 1858 | A | C8-N9-C4 | -13.00 | 100.60 | 105.80 |
| 2 | AB | 1837 | C | O4'-C1'-N1 | 13.00 | 118.60 | 108.20 |
| 2 | AB | 901 | C | O4'-C1'-N1 | 13.00 | 118.60 | 108.20 |
| 2 | AB | 1697 | G | N3-C4-C5 | -12.99 | 122.10 | 128.60 |
| 2 | AB | 2051 | A | O4'-C1'-N9 | 12.99 | 118.59 | 108.20 |
| 1 | AA | 108 | A | C8-N9-C4 | -12.99 | 100.60 | 105.80 |
| 2 | AB | 481 | G | O4'-C1'-N9 | 12.99 | 118.59 | 108.20 |
| 2 | AB | 269 | C | N3-C4-C5 | 12.98 | 127.09 | 121.90 |
| 35 | BA | 991 | U | O4'-C1'-N1 | 12.98 | 118.58 | 108.20 |
| 35 | BA | 161 | A | O4'-C1'-N9 | 12.98 | 118.58 | 108.20 |
| 2 | AB | 2581 | G | C8-N9-C4 | -12.97 | 101.21 | 106.40 |
| 2 | AB | 549 | G | C4-C5-N7 | -12.97 | 105.61 | 110.80 |
| 2 | AB | 810 | U | C5-C6-N1 | -12.97 | 116.22 | 122.70 |
| 2 | AB | 2159 | G | C2-N3-C4 | 12.97 | 118.39 | 111.90 |
| 2 | AB | 2405 | G | O4'-C1'-N9 | 12.97 | 118.58 | 108.20 |
| 2 | AB | 522 | A | C6-N1-C2 | -12.97 | 110.82 | 118.60 |
| 2 | AB | 1463 | C | C2-N3-C4 | 12.97 | 126.38 | 119.90 |
| 2 | AB | 189 | G | O4'-C1'-N9 | 12.96 | 118.57 | 108.20 |
| 2 | AB | 31 | C | C4-C5-C6 | -12.96 | 110.92 | 117.40 |
| 2 | AB | 1508 | A | N7-C8-N9 | 12.96 | 120.28 | 113.80 |
| 2 | AB | 271 | G | C4-C5-N7 | -12.96 | 105.62 | 110.80 |
| 2 | AB | 2208 | C | C4-C5-C6 | -12.96 | 110.92 | 117.40 |
| 35 | BA | 399 | G | C4-C5-N7 | 12.96 | 115.98 | 110.80 |
| 1 | AA | 91 | C | O4'-C1'-N1 | 12.95 | 118.56 | 108.20 |
| 2 | AB | 602 | A | N1-C6-N6 | -12.95 | 110.83 | 118.60 |
| 2 | AB | 1131 | G | C4-C5-N7 | -12.95 | 105.62 | 110.80 |
| 2 | AB | 473 | G | N3-C4-C5 | -12.94 | 122.13 | 128.60 |
| 2 | AB | 257 | C | N3-C4-C5 | -12.94 | 116.72 | 121.90 |
| 2 | AB | 2656 | U | O4'-C1'-N1 | 12.94 | 118.55 | 108.20 |
| 35 | BA | 847 | G | C8-N9-C4 | -12.93 | 101.23 | 106.40 |
| 2 | AB | 2726 | A | C8-N9-C4 | -12.93 | 100.63 | 105.80 |
| 35 | BA | 459 | A | O4'-C1'-N9 | 12.93 | 118.54 | 108.20 |
| 2 | AB | 1382 | G | N1-C6-O6 | -12.92 | 112.15 | 119.90 |
| 2 | AB | 855 | G | N1-C6-O6 | 12.92 | 127.65 | 119.90 |
| 2 | AB | 1950 | G | C8-N9-C4 | -12.92 | 101.23 | 106.40 |
| 2 | AB | 849 | A | C8-N9-C4 | 12.91 | 110.97 | 105.80 |
| 35 | BA | 1160 | G | N9-C4-C5 | 12.91 | 110.56 | 105.40 |
| 2 | AB | 1742 | U | N3-C2-O2 | -12.91 | 113.16 | 122.20 |
| 35 | BA | 22 | G | C5-N7-C8 | -12.91 | 97.84 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 35 | BA | 1525 | G | C4-C5-N7 | -12.90 | 105.64 | 110.80 |
| 2 | AB | 232 | G | N9-C4-C5 | -12.90 | 100.24 | 105.40 |
| 7 | AG | 177 | ARG | NE-CZ-NH2 | -12.90 | 113.85 | 120.30 |
| 48 | BN | 30 | ARG | NE-CZ-NH2 | -12.90 | 113.85 | 120.30 |
| 35 | BA | 1052 | U | C2-N3-C4 | -12.89 | 119.27 | 127.00 |
| 2 | AB | 1250 | G | N7-C8-N9 | 12.89 | 119.55 | 113.10 |
| 2 | AB | 2411 | A | C8-N9-C4 | 12.89 | 110.95 | 105.80 |
| 35 | BA | 1262 | C | N3-C4-N4 | 12.88 | 127.02 | 118.00 |
| 2 | AB | 1710 | G | C8-N9-C4 | -12.87 | 101.25 | 106.40 |
| 35 | BA | 258 | G | C4-C5-N7 | 12.87 | 115.95 | 110.80 |
| 1 | AA | 51 | G | N7-C8-N9 | 12.86 | 119.53 | 113.10 |
| 45 | BK | 123 | ARG | NE-CZ-NH1 | -12.86 | 113.87 | 120.30 |
| 2 | AB | 1689 | A | C2-N3-C4 | -12.86 | 104.17 | 110.60 |
| 2 | AB | 2863 | C | C4-C5-C6 | -12.86 | 110.97 | 117.40 |
| 35 | BA | 257 | G | N9-C4-C5 | 12.85 | 110.54 | 105.40 |
| 36 | BB | 41 | A | N1-C6-N6 | -12.84 | 110.90 | 118.60 |
| 39 | BE | 106 | ARG | NE-CZ-NH2 | -12.84 | 113.88 | 120.30 |
| 2 | AB | 846 | U | N3-C4-O4 | 12.83 | 128.38 | 119.40 |
| 37 | BC | 13 | C | O4'-C1'-N1 | 12.83 | 118.47 | 108.20 |
| 2 | AB | 2169 | A | C2-N3-C4 | 12.83 | 117.01 | 110.60 |
| 35 | BA | 1517 | G | N7-C8-N9 | 12.83 | 119.51 | 113.10 |
| 2 | AB | 813 | U | O4'-C1'-N1 | 12.82 | 118.46 | 108.20 |
| 37 | BC | 32 | G | O4'-C1'-N9 | 12.81 | 118.45 | 108.20 |
| 1 | AA | 51 | G | C5-N7-C8 | -12.81 | 97.89 | 104.30 |
| 35 | BA | 793 | U | O4'-C1'-N1 | 12.81 | 118.45 | 108.20 |
| 2 | AB | 1360 | G | O4'-C1'-N9 | 12.81 | 118.45 | 108.20 |
| 2 | AB | 1569 | A | C4-C5-C6 | -12.81 | 110.60 | 117.00 |
| 35 | BA | 1015 | G | C6-N1-C2 | -12.81 | 117.42 | 125.10 |
| 2 | AB | 70 | G | N9-C4-C5 | 12.81 | 110.52 | 105.40 |
| 2 | AB | 1032 | A | C4-C5-C6 | -12.80 | 110.60 | 117.00 |
| 2 | AB | 979 | A | C5-N7-C8 | -12.80 | 97.50 | 103.90 |
| 53 | BS | 10 | ARG | NE-CZ-NH2 | -12.80 | 113.90 | 120.30 |
| 2 | AB | 1187 | G | C8-N9-C4 | -12.80 | 101.28 | 106.40 |
| 2 | AB | 1888 | G | O4'-C1'-N9 | 12.80 | 118.44 | 108.20 |
| 2 | AB | 2623 | G | N3-C2-N2 | -12.80 | 110.94 | 119.90 |
| 2 | AB | 114 | U | C2-N3-C4 | -12.79 | 119.32 | 127.00 |
| 2 | AB | 2141 | G | O4'-C1'-N9 | 12.79 | 118.43 | 108.20 |
| 2 | AB | 1157 | G | N9-C4-C5 | 12.78 | 110.51 | 105.40 |
| 2 | AB | 1251 | C | C4-C5-C6 | -12.78 | 111.01 | 117.40 |
| 2 | AB | 1968 | G | C4-C5-N7 | -12.78 | 105.69 | 110.80 |
| 35 | BA | 361 | G | C2-N3-C4 | 12.78 | 118.29 | 111.90 |
| 2 | AB | 658 | U | O4'-C1'-N1 | 12.78 | 118.42 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 35 | BA | 1270 | G | C8-N9-C4 | -12.78 | 101.29 | 106.40 |
| 35 | BA | 1164 | G | C8-N9-C4 | -12.77 | 101.29 | 106.40 |
| 35 | BA | 102 | G | N3-C4-C5 | -12.77 | 122.22 | 128.60 |
| 35 | BA | 1073 | U | O4'-C1'-N1 | 12.77 | 118.41 | 108.20 |
| 2 | AB | 837 | C | C2-N3-C4 | 12.77 | 126.28 | 119.90 |
| 2 | AB | 1864 | U | O4'-C1'-N1 | 12.77 | 118.41 | 108.20 |
| 2 | AB | 259 | G | N7-C8-N9 | 12.76 | 119.48 | 113.10 |
| 2 | AB | 523 | C | O4'-C1'-N1 | 12.76 | 118.41 | 108.20 |
| 2 | AB | 2863 | C | O4'-C1'-N1 | 12.76 | 118.41 | 108.20 |
| 2 | AB | 1178 | C | O4'-C1'-N1 | 12.76 | 118.41 | 108.20 |
| 2 | AB | 1364 | G | C4-C5-N7 | -12.76 | 105.69 | 110.80 |
| 35 | BA | 469 | C | N1-C2-O2 | 12.76 | 126.56 | 118.90 |
| 2 | AB | 893 | C | O4'-C1'-N1 | 12.75 | 118.40 | 108.20 |
| 35 | BA | 1353 | G | N3-C4-C5 | -12.75 | 122.22 | 128.60 |
| 1 | AA | 4 | C | O4'-C1'-N1 | 12.75 | 118.40 | 108.20 |
| 2 | AB | 2792 | A | C8-N9-C4 | -12.75 | 100.70 | 105.80 |
| 2 | AB | 721 | A | O4'-C1'-N9 | 12.74 | 118.39 | 108.20 |
| 26 | AZ | 71 | ARG | NE-CZ-NH2 | 12.74 | 126.67 | 120.30 |
| 2 | AB | 1001 | A | C2-N3-C4 | 12.74 | 116.97 | 110.60 |
| 2 | AB | 76 | C | C2-N3-C4 | 12.74 | 126.27 | 119.90 |
| 2 | AB | 1624 | U | C4-C5-C6 | 12.74 | 127.34 | 119.70 |
| 35 | BA | 817 | C | C4-C5-C6 | -12.74 | 111.03 | 117.40 |
| 2 | AB | 2093 | G | C8-N9-C4 | -12.73 | 101.31 | 106.40 |
| 2 | AB | 2003 | A | N1-C6-N6 | -12.73 | 110.96 | 118.60 |
| 35 | BA | 1188 | A | N9-C4-C5 | 12.73 | 110.89 | 105.80 |
| 2 | AB | 2407 | A | C5-N7-C8 | -12.72 | 97.54 | 103.90 |
| 35 | BA | 104 | G | C6-N1-C2 | -12.72 | 117.47 | 125.10 |
| 35 | BA | 836 | G | C5-C6-N1 | -12.72 | 105.14 | 111.50 |
| 2 | AB | 1667 | G | C8-N9-C4 | -12.72 | 101.31 | 106.40 |
| 2 | AB | 769 | U | C5-C4-O4 | -12.72 | 118.27 | 125.90 |
| 2 | AB | 1669 | A | C2-N3-C4 | 12.72 | 116.96 | 110.60 |
| 35 | BA | 1097 | C | N1-C2-O2 | 12.71 | 126.53 | 118.90 |
| 2 | AB | 2868 | A | N1-C6-N6 | -12.71 | 110.98 | 118.60 |
| 35 | BA | 1037 | C | O4'-C1'-N1 | 12.71 | 118.37 | 108.20 |
| 35 | BA | 1182 | G | N3-C4-C5 | -12.71 | 122.25 | 128.60 |
| 35 | BA | 1314 | C | O4'-C1'-N1 | 12.71 | 118.36 | 108.20 |
| 35 | BA | 1349 | A | C5-C6-N1 | 12.70 | 124.05 | 117.70 |
| 35 | BA | 122 | G | N3-C4-C5 | -12.70 | 122.25 | 128.60 |
| 52 | BR | 14 | ARG | NE-CZ-NH2 | -12.69 | 113.95 | 120.30 |
| 2 | AB | 1455 | G | C8-N9-C4 | -12.69 | 101.32 | 106.40 |
| 2 | AB | 969 | G | C8-N9-C4 | -12.69 | 101.33 | 106.40 |
| 2 | AB | 1194 | A | N9-C4-C5 | 12.69 | 110.88 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 4 | AD | 170 | TYR | CB-CG-CD2 | 12.67 | 128.60 | 121.00 |
| 35 | BA | 491 | G | C5-C6-N1 | 12.67 | 117.84 | 111.50 |
| 35 | BA | 1034 | G | C8-N9-C4 | -12.67 | 101.33 | 106.40 |
| 35 | BA | 1280 | A | N9-C4-C5 | 12.67 | 110.87 | 105.80 |
| 37 | BC | 46 | G | N3-C4-C5 | -12.67 | 122.26 | 128.60 |
| 1 | AA | 96 | G | C5-C6-N1 | 12.67 | 117.83 | 111.50 |
| 2 | AB | 2205 | A | N1-C6-N6 | 12.67 | 126.20 | 118.60 |
| 35 | BA | 460 | A | O4'-C1'-N9 | 12.67 | 118.33 | 108.20 |
| 35 | BA | 1175 | G | C5-N7-C8 | 12.67 | 110.63 | 104.30 |
| 2 | AB | 511 | U | N3-C2-O2 | -12.66 | 113.33 | 122.20 |
| 35 | BA | 398 | U | C5-C6-N1 | -12.66 | 116.37 | 122.70 |
| 37 | BC | 59 | A | N9-C4-C5 | 12.66 | 110.86 | 105.80 |
| 35 | BA | 1188 | A | C8-N9-C4 | -12.66 | 100.74 | 105.80 |
| 2 | AB | 2567 | G | N7-C8-N9 | 12.65 | 119.43 | 113.10 |
| 2 | AB | 2890 | G | N7-C8-N9 | 12.65 | 119.42 | 113.10 |
| 35 | BA | 1511 | G | C2-N3-C4 | 12.64 | 118.22 | 111.90 |
| 43 | BI | 4 | ARG | NE-CZ-NH1 | 12.64 | 126.62 | 120.30 |
| 35 | BA | 710 | G | C5-C6-N1 | 12.64 | 117.82 | 111.50 |
| 2 | AB | 2453 | A | N1-C6-N6 | -12.64 | 111.02 | 118.60 |
| 2 | AB | 1337 | G | C8-N9-C4 | -12.64 | 101.35 | 106.40 |
| 2 | AB | 2084 | C | C6-N1-C2 | -12.63 | 115.25 | 120.30 |
| 35 | BA | 1041 | G | C4-C5-N7 | -12.63 | 105.75 | 110.80 |
| 2 | AB | 1095 | A | O4'-C1'-N9 | 12.63 | 118.30 | 108.20 |
| 2 | AB | 2567 | G | O4'-C1'-N9 | 12.62 | 118.30 | 108.20 |
| 38 | BD | 221 | ARG | NE-CZ-NH2 | -12.62 | 113.99 | 120.30 |
| 2 | AB | 1075 | C | C5-C4-N4 | -12.61 | 111.38 | 120.20 |
| 2 | AB | 98 | G | N9-C4-C5 | 12.60 | 110.44 | 105.40 |
| 14 | AN | 69 | ARG | NE-CZ-NH2 | -12.59 | 114.00 | 120.30 |
| 2 | AB | 553 | G | C4-C5-N7 | -12.59 | 105.76 | 110.80 |
| 2 | AB | 538 | A | N9-C4-C5 | -12.59 | 100.77 | 105.80 |
| 35 | BA | 910 | C | C5-C4-N4 | -12.58 | 111.39 | 120.20 |
| 2 | AB | 1190 | G | C2-N3-C4 | 12.58 | 118.19 | 111.90 |
| 2 | AB | 511 | U | N1-C2-N3 | 12.57 | 122.44 | 114.90 |
| 2 | AB | 940 | G | C2-N3-C4 | 12.57 | 118.19 | 111.90 |
| 35 | BA | 667 | G | N3-C4-C5 | -12.57 | 122.32 | 128.60 |
| 2 | AB | 1032 | A | C5-C6-N1 | 12.56 | 123.98 | 117.70 |
| 2 | AB | 2581 | G | N7-C8-N9 | 12.56 | 119.38 | 113.10 |
| 35 | BA | 807 | A | N1-C2-N3 | -12.56 | 123.02 | 129.30 |
| 35 | BA | 813 | U | N3-C4-C5 | -12.56 | 107.07 | 114.60 |
| 2 | AB | 1025 | G | C1'-O4'-C4' | 12.55 | 119.94 | 109.90 |
| 2 | AB | 2648 | G | C8-N9-C4 | -12.55 | 101.38 | 106.40 |
| 2 | AB | 1707 | G | C5-N7-C8 | -12.55 | 98.03 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 1620 | G | C6-C5-N7 | -12.54 | 122.88 | 130.40 |
| 2 | AB | 2851 | A | N9-C4-C5 | -12.54 | 100.79 | 105.80 |
| 35 | BA | 609 | A | N7-C8-N9 | -12.53 | 107.53 | 113.80 |
| 2 | AB | 2261 | C | O4'-C1'-N1 | 12.53 | 118.22 | 108.20 |
| 2 | AB | 86 | G | N1-C6-O6 | -12.52 | 112.39 | 119.90 |
| 2 | AB | 1493 | C | O4'-C1'-N1 | 12.52 | 118.22 | 108.20 |
| 35 | BA | 479 | U | N1-C2-N3 | 12.52 | 122.41 | 114.90 |
| 2 | AB | 930 | G | N9-C4-C5 | 12.52 | 110.41 | 105.40 |
| 2 | AB | 1905 | C | C6-N1-C2 | -12.52 | 115.29 | 120.30 |
| 2 | AB | 585 | G | N9-C4-C5 | 12.52 | 110.41 | 105.40 |
| 35 | BA | 620 | C | O4'-C1'-N1 | 12.52 | 118.21 | 108.20 |
| 2 | AB | 1836 | C | C5-C6-N1 | -12.51 | 114.74 | 121.00 |
| 2 | AB | 2238 | G | N3-C4-C5 | -12.51 | 122.34 | 128.60 |
| 35 | BA | 703 | G | O4'-C1'-N9 | 12.51 | 118.21 | 108.20 |
| 2 | AB | 2595 | G | C4-C5-N7 | 12.51 | 115.80 | 110.80 |
| 2 | AB | 978 | G | C2-N3-C4 | 12.50 | 118.15 | 111.90 |
| 35 | BA | 264 | C | N1-C2-O2 | 12.50 | 126.40 | 118.90 |
| 2 | AB | 1945 | G | C5-C6-N1 | 12.49 | 117.75 | 111.50 |
| 2 | AB | 1070 | A | N7-C8-N9 | 12.49 | 120.05 | 113.80 |
| 2 | AB | 1836 | C | C4-C5-C6 | 12.49 | 123.65 | 117.40 |
| 2 | AB | 2401 | U | O4'-C1'-N1 | 12.49 | 118.19 | 108.20 |
| 35 | BA | 23 | C | C6-N1-C2 | -12.49 | 115.30 | 120.30 |
| 35 | BA | 842 | U | O4'-C1'-N1 | 12.49 | 118.19 | 108.20 |
| 2 | AB | 1217 | U | O4'-C1'-N1 | 12.48 | 118.19 | 108.20 |
| 35 | BA | 1538 | C | N1-C2-O2 | 12.48 | 126.39 | 118.90 |
| 2 | AB | 546 | U | N3-C2-O2 | -12.48 | 113.46 | 122.20 |
| 2 | AB | 2366 | A | N1-C2-N3 | -12.48 | 123.06 | 129.30 |
| 2 | AB | 228 | C | N1-C2-O2 | 12.47 | 126.38 | 118.90 |
| 2 | AB | 1364 | G | N9-C4-C5 | 12.47 | 110.39 | 105.40 |
| 2 | AB | 2005 | A | N9-C4-C5 | -12.47 | 100.81 | 105.80 |
| 37 | BC | 20 | G | N1-C6-O6 | -12.47 | 112.42 | 119.90 |
| 2 | AB | 178 | G | O4'-C1'-N9 | 12.46 | 118.17 | 108.20 |
| 2 | AB | 258 | G | C8-N9-C4 | -12.46 | 101.42 | 106.40 |
| 2 | AB | 1153 | C | C5-C4-N4 | -12.46 | 111.48 | 120.20 |
| 25 | AY | 38 | ARG | NE-CZ-NH2 | -12.46 | 114.07 | 120.30 |
| 2 | AB | 287 | G | N9-C4-C5 | 12.46 | 110.38 | 105.40 |
| 2 | AB | 1074 | G | N7-C8-N9 | -12.46 | 106.87 | 113.10 |
| 35 | BA | 1138 | G | O4'-C1'-N9 | 12.46 | 118.17 | 108.20 |
| 44 | BJ | 79 | ARG | NE-CZ-NH1 | 12.46 | 126.53 | 120.30 |
| 2 | AB | 1795 | C | N3-C4-C5 | -12.45 | 116.92 | 121.90 |
| 2 | AB | 2090 | A | C8-N9-C4 | -12.45 | 100.82 | 105.80 |
| 35 | BA | 455 | G | C1'-O4'-C4' | -12.45 | 99.94 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 2 | AB | 1832 | C | C6-N1-C2 | -12.44 | 115.32 | 120.30 |
| 36 | BB | 22 | G | C5-N7-C8 | -12.44 | 98.08 | 104.30 |
| 2 | AB | 843 | G | N9-C4-C5 | 12.44 | 110.38 | 105.40 |
| 2 | AB | 2413 | G | N7-C8-N9 | 12.44 | 119.32 | 113.10 |
| 2 | AB | 2870 | C | O4'-C1'-N1 | 12.43 | 118.15 | 108.20 |
| 2 | AB | 979 | A | N7-C8-N9 | 12.43 | 120.02 | 113.80 |
| 35 | BA | 115 | G | N3-C4-C5 | -12.43 | 122.39 | 128.60 |
| 35 | BA | 855 | U | C5-C6-N1 | -12.43 | 116.49 | 122.70 |
| 35 | BA | 413 | G | N1-C2-N3 | -12.43 | 116.44 | 123.90 |
| 35 | BA | 1453 | G | O4'-C1'-N9 | 12.42 | 118.14 | 108.20 |
| 37 | BC | 77 | A | N1-C2-N3 | -12.42 | 123.09 | 129.30 |
| 2 | AB | 2735 | G | N3-C4-C5 | -12.41 | 122.39 | 128.60 |
| 2 | AB | 2481 | G | O4'-C1'-N9 | 12.41 | 118.13 | 108.20 |
| 35 | BA | 1484 | C | O4'-C1'-N1 | 12.41 | 118.13 | 108.20 |
| 2 | AB | 986 | C | N1-C2-O2 | 12.41 | 126.34 | 118.90 |
| 35 | BA | 311 | C | C5-C6-N1 | 12.41 | 127.20 | 121.00 |
| 35 | BA | 544 | G | C5-C6-N1 | 12.41 | 117.70 | 111.50 |
| 2 | AB | 2171 | A | N7-C8-N9 | 12.40 | 120.00 | 113.80 |
| 43 | BI | 176 | TYR | CB-CG-CD1 | -12.40 | 113.56 | 121.00 |
| 35 | BA | 219 | U | C4-C5-C6 | 12.40 | 127.14 | 119.70 |
| 35 | BA | 544 | G | C5-C6-O6 | -12.40 | 121.16 | 128.60 |
| 35 | BA | 951 | G | O4'-C1'-N9 | 12.40 | 118.12 | 108.20 |
| 2 | AB | 1929 | G | C4-C5-N7 | -12.40 | 105.84 | 110.80 |
| 2 | AB | 1988 | G | N3-C4-C5 | -12.39 | 122.41 | 128.60 |
| 35 | BA | 1468 | A | N9-C4-C5 | 12.39 | 110.76 | 105.80 |
| 2 | AB | 1858 | A | C5-C6-N1 | 12.39 | 123.89 | 117.70 |
| 2 | AB | 2502 | G | C8-N9-C4 | -12.39 | 101.44 | 106.40 |
| 2 | AB | 1655 | A | C5-N7-C8 | -12.39 | 97.71 | 103.90 |
| 36 | BB | 45 | G | O4'-C1'-N9 | 12.38 | 118.10 | 108.20 |
| 2 | AB | 1056 | G | C5-C6-N1 | 12.38 | 117.69 | 111.50 |
| 2 | AB | 930 | G | C8-N9-C4 | -12.37 | 101.45 | 106.40 |
| 35 | BA | 247 | G | N7-C8-N9 | 12.37 | 119.28 | 113.10 |
| 2 | AB | 1384 | A | C2-N3-C4 | 12.37 | 116.78 | 110.60 |
| 35 | BA | 1101 | A | C5-N7-C8 | -12.37 | 97.72 | 103.90 |
| 2 | AB | 585 | G | C5-C6-N1 | 12.37 | 117.68 | 111.50 |
| 2 | AB | 2839 | G | N1-C6-O6 | -12.36 | 112.48 | 119.90 |
| 2 | AB | 1757 | A | C8-N9-C4 | -12.36 | 100.86 | 105.80 |
| 36 | BB | 23 | C | C5-C6-N1 | -12.36 | 114.82 | 121.00 |
| 2 | AB | 1527 | G | N3-C2-N2 | -12.36 | 111.25 | 119.90 |
| 2 | AB | 514 | A | N1-C2-N3 | 12.35 | 135.48 | 129.30 |
| 37 | BC | 63 | C | O4'-C1'-N1 | 12.35 | 118.08 | 108.20 |
| 2 | AB | 1262 | A | O4'-C1'-N9 | 12.35 | 118.08 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 1754 | A | N1-C2-N3 | 12.35 | 135.47 | 129.30 |
| 35 | BA | 267 | C | C4-C5-C6 | 12.35 | 123.58 | 117.40 |
| 2 | AB | 2040 | G | N3-C4-C5 | -12.35 | 122.43 | 128.60 |
| 2 | AB | 2176 | A | C6-N1-C2 | -12.35 | 111.19 | 118.60 |
| 35 | BA | 867 | G | C4'-C3'-C2' | -12.34 | 90.26 | 102.60 |
| 1 | AA | 35 | C | O4'-C1'-N1 | 12.34 | 118.07 | 108.20 |
| 35 | BA | 858 | G | C4-C5-N7 | -12.34 | 105.86 | 110.80 |
| 2 | AB | 361 | G | N3-C4-C5 | -12.34 | 122.43 | 128.60 |
| 2 | AB | 487 | C | O4'-C1'-N1 | 12.34 | 118.07 | 108.20 |
| 2 | AB | 1433 | A | N9-C4-C5 | 12.33 | 110.73 | 105.80 |
| 35 | BA | 644 | U | O4'-C1'-N1 | 12.33 | 118.07 | 108.20 |
| 2 | AB | 1519 | G | O4'-C1'-N9 | 12.33 | 118.06 | 108.20 |
| 2 | AB | 1893 | C | O4'-C1'-N1 | 12.33 | 118.06 | 108.20 |
| 2 | AB | 2524 | G | C2-N3-C4 | 12.32 | 118.06 | 111.90 |
| 35 | BA | 584 | G | C2-N3-C4 | 12.32 | 118.06 | 111.90 |
| 2 | AB | 304 | U | O4'-C1'-N1 | 12.32 | 118.06 | 108.20 |
| 2 | AB | 136 | G | C4-C5-N7 | -12.32 | 105.87 | 110.80 |
| 35 | BA | 1412 | C | O4'-C1'-N1 | 12.32 | 118.06 | 108.20 |
| 2 | AB | 1498 | C | N1-C2-O2 | 12.32 | 126.29 | 118.90 |
| 35 | BA | 1141 | C | O4'-C1'-N1 | 12.32 | 118.06 | 108.20 |
| 2 | AB | 1318 | U | O4'-C1'-N1 | 12.31 | 118.05 | 108.20 |
| 2 | AB | 147 | C | N3-C4-N4 | 12.30 | 126.61 | 118.00 |
| 35 | BA | 1130 | A | N9-C4-C5 | 12.30 | 110.72 | 105.80 |
| 35 | BA | 115 | G | C8-N9-C4 | -12.30 | 101.48 | 106.40 |
| 35 | BA | 1362 | A | C6-N1-C2 | 12.30 | 125.98 | 118.60 |
| 2 | AB | 928 | A | O4'-C1'-N9 | 12.30 | 118.04 | 108.20 |
| 35 | BA | 106 | C | C1'-O4'-C4' | 12.30 | 119.74 | 109.90 |
| 35 | BA | 971 | G | C4-C5-N7 | -12.30 | 105.88 | 110.80 |
| 2 | AB | 836 | G | N1-C6-O6 | -12.29 | 112.52 | 119.90 |
| 2 | AB | 1491 | G | N3-C2-N2 | -12.29 | 111.30 | 119.90 |
| 2 | AB | 1228 | G | N3-C4-C5 | -12.29 | 122.46 | 128.60 |
| 2 | AB | 2859 | G | C8-N9-C4 | -12.29 | 101.48 | 106.40 |
| 2 | AB | 2890 | G | C8-N9-C4 | -12.29 | 101.48 | 106.40 |
| 2 | AB | 357 | C | N3-C2-O2 | -12.29 | 113.30 | 121.90 |
| 2 | AB | 233 | A | N1-C6-N6 | 12.28 | 125.97 | 118.60 |
| 28 | A1 | 30 | ARG | NE-CZ-NH1 | 12.28 | 126.44 | 120.30 |
| 2 | AB | 498 | G | O4'-C1'-N9 | 12.28 | 118.02 | 108.20 |
| 2 | AB | 328 | U | O4'-C1'-N1 | 12.27 | 118.02 | 108.20 |
| 2 | AB | 198 | C | C2-N3-C4 | -12.27 | 113.77 | 119.90 |
| 35 | BA | 475 | C | O4'-C1'-N1 | 12.27 | 118.02 | 108.20 |
| 35 | BA | 1166 | G | C2-N3-C4 | 12.27 | 118.03 | 111.90 |
| 2 | AB | 2530 | A | O4'-C1'-N9 | 12.27 | 118.01 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 37 | BC | 71 | G | N7-C8-N9 | 12.26 | 119.23 | 113.10 |
| 2 | AB | 1395 | A | N1-C2-N3 | 12.26 | 135.43 | 129.30 |
| 35 | BA | 691 | G | C3'-C2'-C1' | -12.26 | 91.69 | 101.50 |
| 2 | AB | 404 | A | C8-N9-C4 | -12.25 | 100.90 | 105.80 |
| 2 | AB | 995 | C | C4-C5-C6 | 12.25 | 123.52 | 117.40 |
| 2 | AB | 2638 | G | N3-C4-C5 | -12.25 | 122.48 | 128.60 |
| 35 | BA | 1315 | U | C2-N3-C4 | -12.25 | 119.65 | 127.00 |
| 35 | BA | 96 | U | C5-C6-N1 | -12.24 | 116.58 | 122.70 |
| 35 | BA | 231 | U | O4'-C1'-N1 | 12.24 | 118.00 | 108.20 |
| 35 | BA | 413 | G | C2-N3-C4 | 12.24 | 118.02 | 111.90 |
| 35 | BA | 1048 | G | N3-C2-N2 | -12.24 | 111.33 | 119.90 |
| 2 | AB | 1780 | A | C8-N9-C4 | -12.24 | 100.90 | 105.80 |
| 2 | AB | 643 | A | C8-N9-C4 | -12.23 | 100.91 | 105.80 |
| 2 | AB | 670 | A | N1-C6-N6 | 12.23 | 125.94 | 118.60 |
| 35 | BA | 1010 | U | C6-N1-C2 | -12.23 | 113.66 | 121.00 |
| 35 | BA | 1244 | G | C6-N1-C2 | -12.23 | 117.76 | 125.10 |
| 35 | BA | 1523 | G | C8-N9-C4 | -12.23 | 101.51 | 106.40 |
| 36 | BB | 35 | G | C6-N1-C2 | -12.23 | 117.76 | 125.10 |
| 53 | BS | 61 | ARG | NE-CZ-NH1 | 12.23 | 126.42 | 120.30 |
| 2 | AB | 2531 | A | N1-C6-N6 | 12.23 | 125.94 | 118.60 |
| 1 | AA | 52 | A | C1'-O4'-C4' | -12.23 | 100.12 | 109.90 |
| 2 | AB | 248 | G | C2-N3-C4 | 12.23 | 118.01 | 111.90 |
| 2 | AB | 1196 | C | N1-C2-O2 | 12.23 | 126.24 | 118.90 |
| 2 | AB | 2306 | C | C4-C5-C6 | 12.23 | 123.51 | 117.40 |
| 2 | AB | 2740 | A | C5-N7-C8 | 12.23 | 110.01 | 103.90 |
| 2 | AB | 2114 | A | C5-C6-N1 | 12.22 | 123.81 | 117.70 |
| 37 | BC | 42 | C | O4'-C1'-N1 | 12.22 | 117.98 | 108.20 |
| 2 | AB | 1529 | G | C3'-C2'-C1' | 12.22 | 111.27 | 101.50 |
| 2 | AB | 1660 | G | O4'-C1'-N9 | 12.22 | 117.97 | 108.20 |
| 35 | BA | 38 | G | C8-N9-C4 | -12.21 | 101.51 | 106.40 |
| 32 | A5 | 35 | ARG | NE-CZ-NH1 | 12.21 | 126.41 | 120.30 |
| 2 | AB | 1943 | U | O4'-C1'-N1 | 12.21 | 117.97 | 108.20 |
| 2 | AB | 2778 | A | N7-C8-N9 | 12.21 | 119.91 | 113.80 |
| 35 | BA | 1525 | G | C2-N3-C4 | 12.21 | 118.00 | 111.90 |
| 2 | AB | 2088 | A | N9-C4-C5 | -12.20 | 100.92 | 105.80 |
| 2 | AB | 2432 | A | N9-C4-C5 | 12.20 | 110.68 | 105.80 |
| 2 | AB | 388 | G | O4'-C1'-N9 | 12.20 | 117.96 | 108.20 |
| 2 | AB | 684 | G | C4-C5-N7 | -12.20 | 105.92 | 110.80 |
| 2 | AB | 2764 | A | C8-N9-C4 | -12.20 | 100.92 | 105.80 |
| 35 | BA | 627 | G | N3-C4-C5 | -12.20 | 122.50 | 128.60 |
| 35 | BA | 557 | G | N3-C4-C5 | -12.19 | 122.50 | 128.60 |
| 1 | AA | 7 | G | C5-C6-O6 | -12.19 | 121.28 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 35 | BA | 743 | A | N1-C6-N6 | 12.19 | 125.91 | 118.60 |
| 2 | AB | 2601 | C | C6-N1-C2 | -12.19 | 115.42 | 120.30 |
| 35 | BA | 710 | G | C6-C5-N7 | 12.19 | 137.71 | 130.40 |
| 35 | BA | 1288 | A | C5-N7-C8 | -12.19 | 97.81 | 103.90 |
| 2 | AB | 1086 | A | O4'-C1'-N9 | 12.18 | 117.94 | 108.20 |
| 2 | AB | 470 | A | O4'-C1'-N9 | 12.17 | 117.94 | 108.20 |
| 2 | AB | 1232 | G | O4'-C1'-N9 | 12.17 | 117.94 | 108.20 |
| 2 | AB | 1502 | A | C5-C6-N1 | 12.17 | 123.79 | 117.70 |
| 2 | AB | 2411 | A | N9-C4-C5 | -12.17 | 100.93 | 105.80 |
| 39 | BE | 64 | ARG | NE-CZ-NH2 | -12.17 | 114.21 | 120.30 |
| 2 | AB | 1879 | C | N3-C4-C5 | -12.17 | 117.03 | 121.90 |
| 2 | AB | 2740 | A | N9-C4-C5 | 12.17 | 110.67 | 105.80 |
| 2 | AB | 215 | G | O4'-C1'-N9 | 12.17 | 117.94 | 108.20 |
| 2 | AB | 534 | U | C6-N1-C2 | -12.17 | 113.70 | 121.00 |
| 1 | AA | 59 | A | C8-N9-C4 | -12.16 | 100.93 | 105.80 |
| 2 | AB | 1899 | A | N1-C6-N6 | -12.16 | 111.30 | 118.60 |
| 2 | AB | 2380 | C | C6-N1-C2 | 12.15 | 125.16 | 120.30 |
| 2 | AB | 1845 | G | N3-C4-C5 | -12.15 | 122.52 | 128.60 |
| 37 | BC | 43 | G | C5-C6-O6 | -12.15 | 121.31 | 128.60 |
| 2 | AB | 1829 | A | N9-C4-C5 | -12.14 | 100.94 | 105.80 |
| 35 | BA | 212 | G | N9-C4-C5 | 12.13 | 110.25 | 105.40 |
| 2 | AB | 2391 | G | C1'-O4'-C4' | 12.13 | 119.61 | 109.90 |
| 2 | AB | 1455 | G | N9-C4-C5 | 12.13 | 110.25 | 105.40 |
| 35 | BA | 738 | C | O4'-C1'-N1 | 12.13 | 117.90 | 108.20 |
| 2 | AB | 1872 | A | C8-N9-C4 | -12.12 | 100.95 | 105.80 |
| 1 | AA | 7 | G | C8-N9-C4 | -12.12 | 101.55 | 106.40 |
| 2 | AB | 798 | G | O4'-C1'-N9 | 12.12 | 117.90 | 108.20 |
| 35 | BA | 399 | G | N3-C4-N9 | 12.12 | 133.27 | 126.00 |
| 2 | AB | 2829 | A | N1-C6-N6 | 12.12 | 125.87 | 118.60 |
| 35 | BA | 202 | G | C5-C6-N1 | 12.12 | 117.56 | 111.50 |
| 2 | AB | 2276 | G | C2-N3-C4 | 12.11 | 117.96 | 111.90 |
| 2 | AB | 2708 | G | N3-C2-N2 | -12.11 | 111.42 | 119.90 |
| 2 | AB | 510 | C | O4'-C1'-N1 | 12.11 | 117.89 | 108.20 |
| 2 | AB | 1092 | C | O4'-C1'-N1 | 12.11 | 117.89 | 108.20 |
| 35 | BA | 506 | G | C5-C6-N1 | 12.11 | 117.55 | 111.50 |
| 1 | AA | 33 | G | C6-N1-C2 | -12.11 | 117.84 | 125.10 |
| 2 | AB | 403 | U | O4'-C1'-N1 | 12.11 | 117.89 | 108.20 |
| 2 | AB | 2895 | G | O4'-C1'-N9 | 12.11 | 117.88 | 108.20 |
| 35 | BA | 444 | G | C5-C6-O6 | -12.11 | 121.34 | 128.60 |
| 35 | BA | 792 | A | C2-N3-C4 | 12.11 | 116.65 | 110.60 |
| 35 | BA | 753 | A | N9-C4-C5 | 12.10 | 110.64 | 105.80 |
| 2 | AB | 2122 | U | N3-C2-O2 | -12.10 | 113.73 | 122.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 2281 | A | N1-C6-N6 | 12.10 | 125.86 | 118.60 |
| 35 | BA | 34 | C | C6-N1-C2 | -12.10 | 115.46 | 120.30 |
| 35 | BA | 433 | G | N3-C4-C5 | -12.10 | 122.55 | 128.60 |
| 2 | AB | 1023 | U | O4'-C1'-N1 | 12.10 | 117.88 | 108.20 |
| 2 | AB | 2597 | G | C2-N3-C4 | 12.10 | 117.95 | 111.90 |
| 35 | BA | 228 | A | O4'-C1'-N9 | 12.10 | 117.88 | 108.20 |
| 35 | BA | 812 | G | N3-C4-C5 | -12.09 | 122.55 | 128.60 |
| 2 | AB | 801 | G | N7-C8-N9 | 12.09 | 119.14 | 113.10 |
| 2 | AB | 2652 | C | C2-N3-C4 | 12.09 | 125.94 | 119.90 |
| 2 | AB | 1668 | A | N7-C8-N9 | -12.09 | 107.76 | 113.80 |
| 2 | AB | 2176 | A | N1-C6-N6 | -12.09 | 111.35 | 118.60 |
| 35 | BA | 306 | A | C5-C6-N1 | 12.09 | 123.74 | 117.70 |
| 2 | AB | 1537 | G | N3-C4-C5 | -12.08 | 122.56 | 128.60 |
| 35 | BA | 691 | G | C4-C5-N7 | -12.08 | 105.97 | 110.80 |
| 2 | AB | 1904 | G | C5-C6-N1 | 12.08 | 117.54 | 111.50 |
| 35 | BA | 647 | C | O4'-C1'-N1 | 12.08 | 117.86 | 108.20 |
| 1 | AA | 58 | A | C2-N3-C4 | 12.08 | 116.64 | 110.60 |
| 2 | AB | 932 | U | C4'-C3'-C2' | -12.08 | 90.52 | 102.60 |
| 2 | AB | 2677 | G | N9-C4-C5 | 12.08 | 110.23 | 105.40 |
| 35 | BA | 68 | G | C8-N9-C4 | -12.07 | 101.57 | 106.40 |
| 1 | AA | 85 | G | C5-N7-C8 | -12.07 | 98.27 | 104.30 |
| 2 | AB | 383 | C | N3-C4-C5 | -12.07 | 117.07 | 121.90 |
| 2 | AB | 1516 | G | C8-N9-C4 | -12.07 | 101.57 | 106.40 |
| 2 | AB | 1929 | G | C8-N9-C4 | -12.07 | 101.57 | 106.40 |
| 2 | AB | 1433 | A | C8-N9-C4 | -12.07 | 100.97 | 105.80 |
| 2 | AB | 584 | C | N3-C2-O2 | -12.06 | 113.46 | 121.90 |
| 38 | BD | 73 | ARG | NE-CZ-NH1 | 12.06 | 126.33 | 120.30 |
| 1 | AA | 15 | A | O4'-C1'-N9 | 12.05 | 117.84 | 108.20 |
| 2 | AB | 2287 | A | C2-N3-C4 | 12.05 | 116.63 | 110.60 |
| 2 | AB | 219 | A | C8-N9-C4 | -12.04 | 100.98 | 105.80 |
| 35 | BA | 1074 | G | N3-C4-C5 | -12.04 | 122.58 | 128.60 |
| 35 | BA | 1156 | G | C8-N9-C4 | -12.04 | 101.58 | 106.40 |
| 35 | BA | 410 | G | O4'-C1'-N9 | 12.04 | 117.83 | 108.20 |
| 2 | AB | 365 | U | O4'-C1'-N1 | 12.04 | 117.83 | 108.20 |
| 2 | AB | 1675 | C | N3-C4-C5 | -12.03 | 117.09 | 121.90 |
| 4 | AD | 100 | ARG | NE-CZ-NH1 | 12.03 | 126.31 | 120.30 |
| 35 | BA | 184 | G | N9-C4-C5 | 12.03 | 110.21 | 105.40 |
| 2 | AB | 2057 | G | N3-C4-N9 | 12.03 | 133.22 | 126.00 |
| 35 | BA | 705 | G | C2-N3-C4 | 12.03 | 117.91 | 111.90 |
| 35 | BA | 1004 | A | O4'-C1'-N9 | -12.03 | 98.58 | 108.20 |
| 2 | AB | 2412 | A | C8-N9-C4 | -12.03 | 100.99 | 105.80 |
| 35 | BA | 1405 | G | C6-N1-C2 | -12.02 | 117.89 | 125.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 35 | BA | 1162 | C | N1-C2-O2 | 12.02 | 126.11 | 118.90 |
| 2 | AB | 645 | C | C2-N3-C4 | 12.02 | 125.91 | 119.90 |
| 2 | AB | 2761 | A | N7-C8-N9 | 12.02 | 119.81 | 113.80 |
| 35 | BA | 1089 | G | C4-C5-N7 | -12.02 | 105.99 | 110.80 |
| 37 | BC | 59 | A | C4-C5-N7 | -12.02 | 104.69 | 110.70 |
| 2 | AB | 2671 | G | C2-N3-C4 | 12.01 | 117.91 | 111.90 |
| 35 | BA | 559 | A | O4'-C1'-N9 | 12.01 | 117.81 | 108.20 |
| 2 | AB | 118 | A | N7-C8-N9 | 12.01 | 119.81 | 113.80 |
| 35 | BA | 1187 | G | C4-C5-N7 | -12.01 | 106.00 | 110.80 |
| 35 | BA | 625 | U | O4'-C1'-N1 | 12.01 | 117.80 | 108.20 |
| 2 | AB | 1004 | U | O4'-C1'-N1 | 12.00 | 117.80 | 108.20 |
| 35 | BA | 765 | G | O4'-C1'-N9 | 12.00 | 117.80 | 108.20 |
| 2 | AB | 32 | C | C3'-C2'-C1' | 12.00 | 111.10 | 101.50 |
| 2 | AB | 2803 | G | N9-C4-C5 | 12.00 | 110.20 | 105.40 |
| 2 | AB | 2429 | G | C4-C5-N7 | -12.00 | 106.00 | 110.80 |
| 2 | AB | 2106 | U | C5-C4-O4 | -11.98 | 118.71 | 125.90 |
| 2 | AB | 621 | A | N9-C1'-C2' | -11.98 | 98.43 | 114.00 |
| 2 | AB | 1126 | A | C2-N3-C4 | 11.98 | 116.59 | 110.60 |
| 2 | AB | 326 | G | C8-N9-C4 | -11.97 | 101.61 | 106.40 |
| 2 | AB | 1673 | G | N7-C8-N9 | -11.97 | 107.11 | 113.10 |
| 2 | AB | 2573 | C | N1-C2-O2 | 11.97 | 126.08 | 118.90 |
| 35 | BA | 165 | G | N9-C4-C5 | 11.97 | 110.19 | 105.40 |
| 2 | AB | 372 | G | N3-C4-C5 | -11.97 | 122.62 | 128.60 |
| 2 | AB | 1988 | G | C8-N9-C4 | -11.97 | 101.61 | 106.40 |
| 35 | BA | 1089 | G | N3-C4-C5 | -11.97 | 122.62 | 128.60 |
| 2 | AB | 1212 | G | O4'-C1'-N9 | 11.96 | 117.77 | 108.20 |
| 2 | AB | 1532 | A | C5-C6-N1 | -11.96 | 111.72 | 117.70 |
| 2 | AB | 2269 | G | C5-C6-O6 | -11.96 | 121.42 | 128.60 |
| 35 | BA | 64 | G | C8-N9-C4 | -11.96 | 101.62 | 106.40 |
| 2 | AB | 406 | G | C4-C5-N7 | -11.96 | 106.02 | 110.80 |
| 35 | BA | 563 | A | C8-N9-C4 | -11.96 | 101.02 | 105.80 |
| 2 | AB | 1651 | G | C8-N9-C4 | -11.95 | 101.62 | 106.40 |
| 2 | AB | 2193 | G | N7-C8-N9 | 11.95 | 119.08 | 113.10 |
| 35 | BA | 161 | A | N1-C2-N3 | -11.95 | 123.32 | 129.30 |
| 2 | AB | 784 | G | O4'-C1'-N9 | 11.95 | 117.76 | 108.20 |
| 2 | AB | 2667 | C | N3-C4-C5 | -11.95 | 117.12 | 121.90 |
| 16 | AP | 8 | ARG | NE-CZ-NH2 | 11.95 | 126.27 | 120.30 |
| 2 | AB | 1422 | G | C2-N3-C4 | 11.94 | 117.87 | 111.90 |
| 2 | AB | 1992 | G | O4'-C1'-N9 | 11.94 | 117.75 | 108.20 |
| 2 | AB | 1985 | C | N3-C4-N4 | 11.94 | 126.36 | 118.00 |
| 2 | AB | 332 | A | C5-C6-N1 | 11.94 | 123.67 | 117.70 |
| 35 | BA | 610 | U | O4'-C1'-N1 | 11.93 | 117.75 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 2 | AB | 1102 | C | O4'-C1'-N1 | 11.93 | 117.75 | 108.20 |
| 2 | AB | 2168 | G | N3-C2-N2 | -11.93 | 111.55 | 119.90 |
| 35 | BA | 769 | G | C5-N7-C8 | -11.93 | 98.33 | 104.30 |
| 35 | BA | 21 | G | N3-C4-C5 | -11.93 | 122.64 | 128.60 |
| 35 | BA | 1354 | U | C5-C6-N1 | -11.93 | 116.74 | 122.70 |
| 2 | AB | 2801 | G | C8-N9-C4 | -11.93 | 101.63 | 106.40 |
| 35 | BA | 584 | G | C4-C5-N7 | -11.93 | 106.03 | 110.80 |
| 35 | BA | 497 | G | C5-C6-O6 | 11.92 | 135.75 | 128.60 |
| 35 | BA | 1504 | G | O4'-C1'-N9 | 11.92 | 117.73 | 108.20 |
| 45 | BK | 94 | ARG | NE-CZ-NH1 | 11.92 | 126.26 | 120.30 |
| 35 | BA | 445 | G | C8-N9-C4 | -11.91 | 101.64 | 106.40 |
| 35 | BA | 1397 | C | N1-C2-O2 | 11.91 | 126.05 | 118.90 |
| 2 | AB | 1525 | A | C5-N7-C8 | 11.91 | 109.85 | 103.90 |
| 2 | AB | 1782 | U | O4'-C1'-N1 | 11.90 | 117.72 | 108.20 |
| 2 | AB | 2396 | G | O4'-C1'-N9 | 11.90 | 117.72 | 108.20 |
| 35 | BA | 849 | G | C4-C5-N7 | -11.90 | 106.04 | 110.80 |
| 35 | BA | 1351 | U | C5-C6-N1 | -11.90 | 116.75 | 122.70 |
| 2 | AB | 662 | G | O4'-C1'-N9 | 11.90 | 117.72 | 108.20 |
| 2 | AB | 2536 | G | C4-C5-N7 | 11.90 | 115.56 | 110.80 |
| 35 | BA | 764 | C | N3-C4-C5 | -11.90 | 117.14 | 121.90 |
| 2 | AB | 522 | A | N1-C6-N6 | -11.89 | 111.47 | 118.60 |
| 2 | AB | 1284 | A | N9-C4-C5 | 11.89 | 110.56 | 105.80 |
| 2 | AB | 1560 | G | C8-N9-C4 | -11.89 | 101.64 | 106.40 |
| 2 | AB | 2107 | G | O4'-C1'-N9 | 11.89 | 117.71 | 108.20 |
| 2 | AB | 989 | G | N7-C8-N9 | 11.89 | 119.04 | 113.10 |
| 37 | BC | 1 | C | C6-N1-C2 | 11.89 | 125.06 | 120.30 |
| 2 | AB | 1473 | G | N9-C4-C5 | 11.88 | 110.15 | 105.40 |
| 35 | BA | 723 | U | N3-C4-O4 | 11.88 | 127.72 | 119.40 |
| 2 | AB | 2806 | C | O4'-C1'-N1 | 11.88 | 117.70 | 108.20 |
| 2 | AB | 283 | G | C2-N3-C4 | 11.88 | 117.84 | 111.90 |
| 2 | AB | 1232 | G | C8-N9-C4 | -11.88 | 101.65 | 106.40 |
| 2 | AB | 409 | G | N9-C4-C5 | 11.88 | 110.15 | 105.40 |
| 35 | BA | 388 | G | O4'-C1'-N9 | 11.88 | 117.70 | 108.20 |
| 35 | BA | 1491 | G | C2-N3-C4 | 11.87 | 117.83 | 111.90 |
| 2 | AB | 794 | A | C5-N7-C8 | 11.86 | 109.83 | 103.90 |
| 2 | AB | 2340 | A | C4-C5-N7 | -11.86 | 104.77 | 110.70 |
| 35 | BA | 541 | G | O4'-C1'-N9 | 11.86 | 117.69 | 108.20 |
| 2 | AB | 2048 | G | N3-C4-C5 | -11.86 | 122.67 | 128.60 |
| 40 | BF | 69 | ARG | NE-CZ-NH1 | 11.86 | 126.23 | 120.30 |
| 2 | AB | 2246 | G | C2-N3-C4 | 11.85 | 117.83 | 111.90 |
| 2 | AB | 2416 | C | C6-N1-C2 | -11.85 | 115.56 | 120.30 |
| 2 | AB | 2714 | G | C8-N9-C4 | -11.85 | 101.66 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 2237 | G | C5-C6-O6 | -11.85 | 121.49 | 128.60 |
| 35 | BA | 258 | G | C4'-C3'-C2' | -11.85 | 90.75 | 102.60 |
| 2 | AB | 254 | G | N3-C4-C5 | -11.85 | 122.68 | 128.60 |
| 2 | AB | 912 | C | N3-C2-O2 | -11.85 | 113.61 | 121.90 |
| 2 | AB | 1995 | U | N1-C2-O2 | 11.85 | 131.09 | 122.80 |
| 2 | AB | 1581 | G | N9-C4-C5 | 11.84 | 110.14 | 105.40 |
| 2 | AB | 1228 | G | N1-C6-O6 | -11.84 | 112.80 | 119.90 |
| 2 | AB | 2422 | C | N1-C2-O2 | 11.84 | 126.00 | 118.90 |
| 35 | BA | 822 | U | N3-C2-O2 | -11.84 | 113.91 | 122.20 |
| 35 | BA | 1000 | A | N1-C2-N3 | -11.84 | 123.38 | 129.30 |
| 2 | AB | 2719 | G | C8-N9-C4 | -11.84 | 101.67 | 106.40 |
| 35 | BA | 1526 | G | C4-C5-N7 | -11.84 | 106.07 | 110.80 |
| 2 | AB | 5 | A | C5-N7-C8 | 11.83 | 109.82 | 103.90 |
| 2 | AB | 183 | C | C5-C6-N1 | 11.83 | 126.92 | 121.00 |
| 2 | AB | 2349 | G | N3-C4-C5 | -11.83 | 122.68 | 128.60 |
| 35 | BA | 17 | U | N3-C2-O2 | -11.82 | 113.92 | 122.20 |
| 35 | BA | 471 | U | O4'-C1'-N1 | 11.82 | 117.66 | 108.20 |
| 35 | BA | 41 | G | N3-C4-C5 | -11.82 | 122.69 | 128.60 |
| 35 | BA | 1406 | U | O4'-C1'-N1 | 11.82 | 117.66 | 108.20 |
| 2 | AB | 1056 | G | C2-N3-C4 | 11.82 | 117.81 | 111.90 |
| 2 | AB | 1303 | G | N3-C4-C5 | -11.82 | 122.69 | 128.60 |
| 44 | BJ | 113 | ARG | NE-CZ-NH2 | 11.81 | 126.21 | 120.30 |
| 1 | AA | 18 | G | C6-C5-N7 | -11.81 | 123.31 | 130.40 |
| 2 | AB | 1458 | U | C6-N1-C2 | -11.81 | 113.91 | 121.00 |
| 2 | AB | 2435 | A | C5-C6-N1 | -11.81 | 111.80 | 117.70 |
| 2 | AB | 878 | A | N1-C6-N6 | 11.80 | 125.68 | 118.60 |
| 2 | AB | 1368 | G | N9-C4-C5 | 11.81 | 110.12 | 105.40 |
| 35 | BA | 1092 | A | N1-C2-N3 | -11.81 | 123.40 | 129.30 |
| 37 | BC | 16 | C | C5-C6-N1 | 11.80 | 126.90 | 121.00 |
| 2 | AB | 1388 | G | N3-C4-C5 | -11.80 | 122.70 | 128.60 |
| 2 | AB | 2544 | G | C5-C6-O6 | -11.80 | 121.52 | 128.60 |
| 35 | BA | 9 | G | O4'-C1'-N9 | 11.80 | 117.64 | 108.20 |
| 35 | BA | 436 | C | C6-N1-C2 | -11.80 | 115.58 | 120.30 |
| 35 | BA | 1228 | C | O4'-C1'-N1 | 11.80 | 117.64 | 108.20 |
| 2 | AB | 1023 | U | C2-N3-C4 | -11.80 | 119.92 | 127.00 |
| 35 | BA | 880 | C | N1-C2-O2 | 11.79 | 125.98 | 118.90 |
| 35 | BA | 700 | G | N3-C4-C5 | -11.79 | 122.70 | 128.60 |
| 2 | AB | 1277 | G | N1-C6-O6 | -11.79 | 112.83 | 119.90 |
| 35 | BA | 742 | G | N7-C8-N9 | 11.79 | 118.99 | 113.10 |
| 35 | BA | 1171 | A | O4'-C1'-N9 | 11.79 | 117.63 | 108.20 |
| 2 | AB | 1655 | A | C8-N9-C4 | -11.79 | 101.09 | 105.80 |
| 2 | AB | 2195 | U | O4'-C1'-N1 | 11.78 | 117.63 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 35 | BA | 113 | G | C8-N9-C4 | -11.79 | 101.69 | 106.40 |
| 35 | BA | 623 | C | C4-C5-C6 | -11.79 | 111.51 | 117.40 |
| 35 | BA | 1191 | A | C4-C5-C6 | -11.79 | 111.11 | 117.00 |
| 2 | AB | 1101 | U | O4'-C1'-N1 | 11.78 | 117.62 | 108.20 |
| 2 | AB | 1533 | C | C5-C6-N1 | 11.78 | 126.89 | 121.00 |
| 2 | AB | 2177 | C | N3-C2-O2 | -11.78 | 113.65 | 121.90 |
| 35 | BA | 668 | G | C6-C5-N7 | -11.78 | 123.33 | 130.40 |
| 35 | BA | 869 | G | C8-N9-C4 | -11.78 | 101.69 | 106.40 |
| 35 | BA | 584 | G | N3-C4-C5 | -11.78 | 122.71 | 128.60 |
| 2 | AB | 700 | G | O4'-C1'-N9 | 11.77 | 117.62 | 108.20 |
| 35 | BA | 97 | G | N3-C4-C5 | -11.77 | 122.71 | 128.60 |
| 2 | AB | 1028 | A | N9-C4-C5 | -11.77 | 101.09 | 105.80 |
| 2 | AB | 2080 | A | N1-C2-N3 | -11.77 | 123.42 | 129.30 |
| 2 | AB | 235 | U | O4'-C1'-N1 | 11.77 | 117.61 | 108.20 |
| 2 | AB | 2755 | C | N3-C4-C5 | -11.77 | 117.19 | 121.90 |
| 2 | AB | 2844 | G | C4-C5-N7 | 11.77 | 115.51 | 110.80 |
| 35 | BA | 19 | A | C3'-C2'-C1' | -11.76 | 92.09 | 101.50 |
| 35 | BA | 43 | C | N3-C2-O2 | -11.76 | 113.67 | 121.90 |
| 35 | BA | 901 | A | N1-C2-N3 | -11.76 | 123.42 | 129.30 |
| 35 | BA | 1382 | C | N3-C4-C5 | -11.76 | 117.19 | 121.90 |
| 2 | AB | 727 | A | O4'-C1'-N9 | 11.76 | 117.61 | 108.20 |
| 2 | AB | 1268 | A | O4'-C1'-N9 | 11.76 | 117.61 | 108.20 |
| 2 | AB | 121 | G | C6-N1-C2 | -11.76 | 118.04 | 125.10 |
| 2 | AB | 2391 | G | C8-N9-C4 | -11.76 | 101.70 | 106.40 |
| 2 | AB | 2559 | C | N1-C2-O2 | 11.76 | 125.95 | 118.90 |
| 2 | AB | 2 | G | N3-C4-N9 | 11.75 | 133.05 | 126.00 |
| 35 | BA | 410 | G | C8-N9-C4 | -11.75 | 101.70 | 106.40 |
| 2 | AB | 1567 | G | C8-N9-C4 | -11.75 | 101.70 | 106.40 |
| 2 | AB | 2819 | G | N3-C4-C5 | -11.75 | 122.72 | 128.60 |
| 2 | AB | 2893 | A | C4-C5-N7 | 11.75 | 116.58 | 110.70 |
| 35 | BA | 1240 | U | C4-C5-C6 | 11.75 | 126.75 | 119.70 |
| 2 | AB | 2217 | G | C8-N9-C4 | -11.75 | 101.70 | 106.40 |
| 35 | BA | 894 | G | N9-C4-C5 | 11.75 | 110.10 | 105.40 |
| 2 | AB | 418 | C | O4'-C1'-N1 | 11.74 | 117.59 | 108.20 |
| 2 | AB | 1303 | G | C2-N3-C4 | 11.74 | 117.77 | 111.90 |
| 2 | AB | 514 | A | C5-C6-N1 | -11.74 | 111.83 | 117.70 |
| 2 | AB | 923 | G | C8-N9-C4 | -11.74 | 101.70 | 106.40 |
| 2 | AB | 423 | A | C2-N3-C4 | 11.74 | 116.47 | 110.60 |
| 2 | AB | 689 | A | N1-C2-N3 | -11.74 | 123.43 | 129.30 |
| 8 | AH | 93 | TYR | CB-CG-CD1 | -11.74 | 113.96 | 121.00 |
| 35 | BA | 568 | G | N3-C4-C5 | -11.73 | 122.73 | 128.60 |
| 40 | BF | 75 | TYR | CB-CG-CD2 | -11.73 | 113.96 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 35 | BA | 974 | A | N9-C4-C5 | 11.73 | 110.49 | 105.80 |
| 2 | AB | 1967 | C | O4'-C1'-N1 | 11.72 | 117.58 | 108.20 |
| 35 | BA | 199 | A | C8-N9-C4 | -11.72 | 101.11 | 105.80 |
| 35 | BA | 1059 | C | O4'-C1'-N1 | 11.72 | 117.58 | 108.20 |
| 35 | BA | 1094 | G | N1-C2-N3 | -11.72 | 116.86 | 123.90 |
| 2 | AB | 1422 | G | N1-C2-N3 | -11.72 | 116.87 | 123.90 |
| 2 | AB | 2341 | G | C8-N9-C4 | -11.72 | 101.71 | 106.40 |
| 2 | AB | 622 | G | C5-C6-O6 | -11.72 | 121.57 | 128.60 |
| 35 | BA | 506 | G | N1-C6-O6 | -11.72 | 112.87 | 119.90 |
| 2 | AB | 759 | G | C5-N7-C8 | -11.72 | 98.44 | 104.30 |
| 2 | AB | 2234 | G | C2-N3-C4 | 11.71 | 117.76 | 111.90 |
| 2 | AB | 2153 | C | N3-C4-C5 | -11.71 | 117.22 | 121.90 |
| 35 | BA | 1048 | G | C2-N3-C4 | 11.71 | 117.76 | 111.90 |
| 2 | AB | 1476 | U | O4'-C1'-N1 | 11.71 | 117.57 | 108.20 |
| 2 | AB | 1479 | G | N9-C4-C5 | 11.71 | 110.08 | 105.40 |
| 35 | BA | 989 | U | O4'-C1'-N1 | 11.71 | 117.56 | 108.20 |
| 35 | BA | 1169 | A | C4'-C3'-C2' | -11.71 | 90.89 | 102.60 |
| 2 | AB | 126 | A | O4'-C1'-N9 | 11.70 | 117.56 | 108.20 |
| 35 | BA | 1048 | G | N3-C4-C5 | -11.70 | 122.75 | 128.60 |
| 35 | BA | 779 | C | N3-C4-C5 | 11.70 | 126.58 | 121.90 |
| 2 | AB | 340 | A | N1-C2-N3 | -11.70 | 123.45 | 129.30 |
| 35 | BA | 1397 | C | C3'-C2'-C1' | 11.70 | 110.86 | 101.50 |
| 2 | AB | 370 | G | O4'-C1'-N9 | 11.69 | 117.56 | 108.20 |
| 2 | AB | 2735 | G | C4-C5-C6 | 11.70 | 125.82 | 118.80 |
| 35 | BA | 1373 | G | C5-C6-O6 | -11.70 | 121.58 | 128.60 |
| 2 | AB | 726 | G | O4'-C1'-N9 | 11.69 | 117.55 | 108.20 |
| 35 | BA | 1164 | G | N7-C8-N9 | 11.69 | 118.94 | 113.10 |
| 2 | AB | 2773 | C | C4'-C3'-C2' | -11.69 | 90.91 | 102.60 |
| 35 | BA | 951 | G | N1-C6-O6 | -11.68 | 112.89 | 119.90 |
| 2 | AB | 146 | A | O4'-C1'-N9 | 11.68 | 117.54 | 108.20 |
| 2 | AB | 22 | C | O4'-C1'-N1 | 11.68 | 117.54 | 108.20 |
| 2 | AB | 493 | G | C8-N9-C4 | -11.67 | 101.73 | 106.40 |
| 2 | AB | 876 | C | C6-N1-C2 | 11.67 | 124.97 | 120.30 |
| 2 | AB | 2871 | U | C1'-O4'-C4' | -11.67 | 100.56 | 109.90 |
| 35 | BA | 865 | A | C4-C5-C6 | 11.67 | 122.83 | 117.00 |
| 35 | BA | 1490 | U | O4'-C1'-N1 | 11.67 | 117.53 | 108.20 |
| 42 | BH | 112 | ARG | NE-CZ-NH2 | -11.66 | 114.47 | 120.30 |
| 35 | BA | 415 | A | N1-C2-N3 | -11.66 | 123.47 | 129.30 |
| 2 | AB | 1390 | U | C4-C5-C6 | 11.66 | 126.69 | 119.70 |
| 2 | AB | 361 | G | C2-N3-C4 | 11.65 | 117.72 | 111.90 |
| 2 | AB | 1428 | C | N1-C2-O2 | 11.65 | 125.89 | 118.90 |
| 2 | AB | 2663 | G | O4'-C1'-N9 | 11.65 | 117.52 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 804 | A | O4'-C1'-N9 | 11.64 | 117.52 | 108.20 |
| 2 | AB | 2094 | A | C2-N3-C4 | -11.64 | 104.78 | 110.60 |
| 2 | AB | 2582 | G | C6-N1-C2 | -11.64 | 118.11 | 125.10 |
| 52 | BR | 32 | PHE | CB-CG-CD1 | -11.64 | 112.65 | 120.80 |
| 2 | AB | 269 | C | N3-C4-N4 | -11.64 | 109.85 | 118.00 |
| 35 | BA | 1260 | G | C8-N9-C4 | -11.64 | 101.74 | 106.40 |
| 35 | BA | 880 | C | C6-N1-C2 | 11.64 | 124.95 | 120.30 |
| 35 | BA | 973 | G | C8-N9-C4 | -11.64 | 101.75 | 106.40 |
| 35 | BA | 778 | G | C5-C6-O6 | -11.64 | 121.62 | 128.60 |
| 35 | BA | 802 | A | O4'-C1'-N9 | 11.64 | 117.51 | 108.20 |
| 2 | AB | 2131 | U | O4'-C1'-N1 | 11.63 | 117.51 | 108.20 |
| 2 | AB | 1897 | G | N9-C4-C5 | 11.63 | 110.05 | 105.40 |
| 2 | AB | 2708 | G | O4'-C1'-N9 | 11.63 | 117.50 | 108.20 |
| 2 | AB | 134 | G | C1'-O4'-C4' | -11.63 | 100.60 | 109.90 |
| 2 | AB | 1972 | G | N1-C6-O6 | -11.63 | 112.92 | 119.90 |
| 2 | AB | 2697 | G | N3-C4-C5 | -11.63 | 122.79 | 128.60 |
| 2 | AB | 1077 | A | C8-N9-C4 | -11.63 | 101.15 | 105.80 |
| 2 | AB | 1226 | A | N1-C6-N6 | -11.62 | 111.63 | 118.60 |
| 35 | BA | 758 | C | O4'-C1'-N1 | 11.62 | 117.50 | 108.20 |
| 35 | BA | 1048 | G | N9-C4-C5 | 11.62 | 110.05 | 105.40 |
| 2 | AB | 969 | G | N3-C4-C5 | -11.62 | 122.79 | 128.60 |
| 35 | BA | 601 | G | C6-N1-C2 | -11.62 | 118.13 | 125.10 |
| 48 | BN | 37 | TYR | CB-CG-CD1 | 11.62 | 127.97 | 121.00 |
| 39 | BE | 39 | ARG | NE-CZ-NH1 | 11.62 | 126.11 | 120.30 |
| 2 | AB | 512 | G | C2-N3-C4 | 11.61 | 117.71 | 111.90 |
| 35 | BA | 453 | G | N9-C4-C5 | -11.62 | 100.75 | 105.40 |
| 16 | AP | 118 | ARG | NE-CZ-NH1 | 11.61 | 126.11 | 120.30 |
| 35 | BA | 902 | G | N9-C4-C5 | 11.61 | 110.05 | 105.40 |
| 35 | BA | 209 | U | C5-C6-N1 | -11.61 | 116.89 | 122.70 |
| 2 | AB | 1743 | G | N7-C8-N9 | 11.61 | 118.90 | 113.10 |
| 2 | AB | 1606 | C | C4-C5-C6 | -11.61 | 111.60 | 117.40 |
| 35 | BA | 1401 | G | O4'-C1'-N9 | 11.61 | 117.48 | 108.20 |
| 35 | BA | 1403 | C | O4'-C1'-N1 | 11.61 | 117.48 | 108.20 |
| 2 | AB | 1236 | G | N3-C4-C5 | -11.60 | 122.80 | 128.60 |
| 35 | BA | 530 | G | N3-C2-N2 | -11.60 | 111.78 | 119.90 |
| 35 | BA | 1288 | A | N7-C8-N9 | 11.60 | 119.60 | 113.80 |
| 2 | AB | 1129 | A | C5-C6-N1 | 11.60 | 123.50 | 117.70 |
| 2 | AB | 1685 | C | N1-C2-O2 | 11.59 | 125.86 | 118.90 |
| 2 | AB | 1095 | A | C2-N3-C4 | 11.59 | 116.40 | 110.60 |
| 2 | AB | 1279 | G | N3-C4-N9 | 11.59 | 132.96 | 126.00 |
| 2 | AB | 2271 | G | C5-N7-C8 | -11.59 | 98.50 | 104.30 |
| 2 | AB | 1948 | G | N1-C2-N3 | 11.59 | 130.85 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 2 | AB | 1247 | A | C8-N9-C4 | -11.59 | 101.17 | 105.80 |
| 2 | AB | 859 | G | C2-N3-C4 | 11.59 | 117.69 | 111.90 |
| 2 | AB | 1555 | G | C8-N9-C4 | -11.59 | 101.77 | 106.40 |
| 2 | AB | 177 | G | C2-N3-C4 | 11.58 | 117.69 | 111.90 |
| 2 | AB | 1748 | C | O4'-C1'-N1 | 11.58 | 117.47 | 108.20 |
| 2 | AB | 2035 | G | O4'-C1'-N9 | 11.58 | 117.47 | 108.20 |
| 2 | AB | 1332 | G | C5-N7-C8 | -11.58 | 98.51 | 104.30 |
| 15 | AO | 38 | ARG | NE-CZ-NH1 | 11.58 | 126.09 | 120.30 |
| 2 | AB | 2315 | G | C8-N9-C4 | -11.58 | 101.77 | 106.40 |
| 35 | BA | 178 | C | C4-C5-C6 | -11.57 | 111.61 | 117.40 |
| 2 | AB | 2753 | A | O4'-C1'-N9 | 11.57 | 117.46 | 108.20 |
| 2 | AB | 1055 | G | C4-C5-N7 | -11.57 | 106.17 | 110.80 |
| 35 | BA | 461 | A | C8-N9-C4 | -11.57 | 101.17 | 105.80 |
| 2 | AB | 236 | C | N1-C2-O2 | 11.57 | 125.84 | 118.90 |
| 35 | BA | 41 | G | C2-N3-C4 | 11.57 | 117.68 | 111.90 |
| 2 | AB | 1121 | C | C4-C5-C6 | 11.57 | 123.18 | 117.40 |
| 35 | BA | 288 | A | N7-C8-N9 | 11.57 | 119.58 | 113.80 |
| 35 | BA | 873 | A | C8-N9-C4 | -11.57 | 101.17 | 105.80 |
| 2 | AB | 969 | G | N3-C2-N2 | -11.56 | 111.80 | 119.90 |
| 2 | AB | 2886 | A | C5-C6-N1 | 11.56 | 123.48 | 117.70 |
| 2 | AB | 2708 | G | C5-C6-O6 | -11.56 | 121.66 | 128.60 |
| 43 | BI | 118 | ARG | NE-CZ-NH1 | 11.56 | 126.08 | 120.30 |
| 32 | A5 | 3 | ARG | NE-CZ-NH1 | -11.56 | 114.52 | 120.30 |
| 35 | BA | 340 | U | C5-C6-N1 | -11.56 | 116.92 | 122.70 |
| 35 | BA | 971 | G | C5-N7-C8 | 11.56 | 110.08 | 104.30 |
| 35 | BA | 1328 | C | C5-C4-N4 | -11.56 | 112.11 | 120.20 |
| 2 | AB | 11 | C | C6-N1-C2 | -11.55 | 115.68 | 120.30 |
| 2 | AB | 375 | G | C5-C6-O6 | -11.55 | 121.67 | 128.60 |
| 2 | AB | 684 | G | C5-C6-O6 | -11.55 | 121.67 | 128.60 |
| 2 | AB | 758 | C | O4'-C1'-N1 | 11.55 | 117.44 | 108.20 |
| 26 | AZ | 2 | ARG | NE-CZ-NH1 | -11.55 | 114.52 | 120.30 |
| 35 | BA | 245 | U | C4-C5-C6 | 11.55 | 126.63 | 119.70 |
| 35 | BA | 1066 | C | N3-C4-C5 | -11.55 | 117.28 | 121.90 |
| 1 | AA | 87 | U | C5-C4-O4 | 11.55 | 132.83 | 125.90 |
| 2 | AB | 482 | A | N7-C8-N9 | 11.55 | 119.58 | 113.80 |
| 37 | BC | 41 | C | O4'-C1'-N1 | 11.55 | 117.44 | 108.20 |
| 35 | BA | 861 | G | O4'-C1'-N9 | 11.55 | 117.44 | 108.20 |
| 2 | AB | 67 | U | N1-C2-N3 | 11.55 | 121.83 | 114.90 |
| 2 | AB | 363 | G | N3-C4-C5 | -11.54 | 122.83 | 128.60 |
| 2 | AB | 570 | G | N3-C4-N9 | 11.54 | 132.93 | 126.00 |
| 2 | AB | 1772 | A | C2-N3-C4 | 11.54 | 116.37 | 110.60 |
| 2 | AB | 1862 | G | C6-N1-C2 | -11.54 | 118.18 | 125.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 35 | BA | 286 | C | C2-N3-C4 | 11.54 | 125.67 | 119.90 |
| 2 | AB | 2186 | G | C4-C5-N7 | -11.53 | 106.19 | 110.80 |
| 35 | BA | 361 | G | C8-N9-C4 | -11.53 | 101.79 | 106.40 |
| 2 | AB | 991 | C | N3-C4-C5 | -11.53 | 117.29 | 121.90 |
| 2 | AB | 1980 | G | C1'-O4'-C4' | 11.53 | 119.12 | 109.90 |
| 35 | BA | 508 | U | C5'-C4'-O4' | 11.53 | 122.93 | 109.10 |
| 2 | AB | 588 | U | C5-C6-N1 | -11.52 | 116.94 | 122.70 |
| 2 | AB | 1170 | C | N3-C4-C5 | -11.52 | 117.29 | 121.90 |
| 2 | AB | 1975 | G | C5-C6-N1 | 11.52 | 117.26 | 111.50 |
| 35 | BA | 757 | U | O4'-C1'-N1 | 11.52 | 117.42 | 108.20 |
| 2 | AB | 108 | G | O4'-C1'-N9 | 11.52 | 117.42 | 108.20 |
| 2 | AB | 2447 | G | N1-C6-O6 | -11.52 | 112.99 | 119.90 |
| 35 | BA | 711 | G | C4-C5-C6 | 11.52 | 125.71 | 118.80 |
| 8 | AH | 151 | ARG | NE-CZ-NH2 | -11.51 | 114.54 | 120.30 |
| 2 | AB | 2063 | C | N3-C4-C5 | -11.51 | 117.30 | 121.90 |
| 2 | AB | 2114 | A | C4-C5-C6 | -11.51 | 111.25 | 117.00 |
| 2 | AB | 1246 | A | O4'-C1'-N9 | 11.51 | 117.41 | 108.20 |
| 2 | AB | 2479 | U | C5-C6-N1 | -11.51 | 116.95 | 122.70 |
| 35 | BA | 196 | A | N1-C2-N3 | -11.51 | 123.55 | 129.30 |
| 35 | BA | 1253 | G | N9-C4-C5 | 11.51 | 110.00 | 105.40 |
| 2 | AB | 1566 | A | C3'-C2'-C1' | 11.50 | 110.70 | 101.50 |
| 7 | AG | 94 | ARG | NE-CZ-NH2 | 11.50 | 126.05 | 120.30 |
| 2 | AB | 2341 | G | N9-C4-C5 | 11.50 | 110.00 | 105.40 |
| 1 | AA | 4 | C | N3-C4-C5 | -11.50 | 117.30 | 121.90 |
| 2 | AB | 1780 | A | N9-C4-C5 | 11.50 | 110.40 | 105.80 |
| 2 | AB | 455 | C | C5-C6-N1 | 11.49 | 126.75 | 121.00 |
| 2 | AB | 1630 | A | C2-N3-C4 | 11.49 | 116.35 | 110.60 |
| 35 | BA | 217 | C | N3-C4-C5 | 11.49 | 126.50 | 121.90 |
| 2 | AB | 1663 | G | N1-C6-O6 | 11.49 | 126.79 | 119.90 |
| 6 | AF | 170 | ARG | NE-CZ-NH1 | 11.49 | 126.05 | 120.30 |
| 2 | AB | 332 | A | N1-C6-N6 | -11.49 | 111.71 | 118.60 |
| 2 | AB | 2419 | U | O4'-C1'-N1 | 11.49 | 117.39 | 108.20 |
| 2 | AB | 427 | U | N3-C2-O2 | -11.49 | 114.16 | 122.20 |
| 2 | AB | 927 | A | N1-C6-N6 | -11.49 | 111.71 | 118.60 |
| 2 | AB | 2315 | G | N7-C8-N9 | 11.49 | 118.84 | 113.10 |
| 2 | AB | 1124 | G | N1-C6-O6 | -11.48 | 113.01 | 119.90 |
| 2 | AB | 2234 | G | N9-C4-C5 | 11.48 | 109.99 | 105.40 |
| 35 | BA | 190 | A | C8-N9-C4 | -11.48 | 101.21 | 105.80 |
| 2 | AB | 1806 | C | N3-C4-C5 | -11.48 | 117.31 | 121.90 |
| 2 | AB | 2801 | G | C5-C6-N1 | 11.48 | 117.24 | 111.50 |
| 35 | BA | 1365 | G | C8-N9-C4 | -11.48 | 101.81 | 106.40 |
| 2 | AB | 1017 | G | O4'-C1'-N9 | 11.48 | 117.38 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 326 | G | N7-C8-N9 | 11.48 | 118.84 | 113.10 |
| 2 | AB | 1042 | G | C5-N7-C8 | -11.48 | 98.56 | 104.30 |
| 35 | BA | 972 | C | C5-C6-N1 | -11.48 | 115.26 | 121.00 |
| 2 | AB | 241 | A | O4'-C1'-N9 | 11.47 | 117.38 | 108.20 |
| 2 | AB | 2855 | C | C5-C4-N4 | -11.47 | 112.17 | 120.20 |
| 35 | BA | 107 | G | N7-C8-N9 | 11.47 | 118.84 | 113.10 |
| 53 | BS | 10 | ARG | NE-CZ-NH1 | 11.47 | 126.04 | 120.30 |
| 2 | AB | 583 | G | N3-C4-C5 | -11.47 | 122.86 | 128.60 |
| 35 | BA | 499 | A | O4'-C1'-N9 | 11.47 | 117.38 | 108.20 |
| 2 | AB | 52 | A | N9-C4-C5 | -11.47 | 101.21 | 105.80 |
| 2 | AB | 459 | U | O4'-C1'-N1 | 11.47 | 117.38 | 108.20 |
| 2 | AB | 1483 | G | N9-C4-C5 | 11.47 | 109.99 | 105.40 |
| 2 | AB | 855 | G | C5-C6-O6 | -11.47 | 121.72 | 128.60 |
| 2 | AB | 2056 | G | C4-C5-N7 | 11.47 | 115.39 | 110.80 |
| 35 | BA | 272 | C | C1'-O4'-C4' | -11.47 | 100.73 | 109.90 |
| 1 | AA | 56 | G | C3'-C2'-C1' | 11.47 | 110.67 | 101.50 |
| 2 | AB | 1459 | G | N7-C8-N9 | 11.46 | 118.83 | 113.10 |
| 2 | AB | 2270 | A | N9-C4-C5 | 11.46 | 110.39 | 105.80 |
| 2 | AB | 448 | U | C5-C6-N1 | 11.46 | 128.43 | 122.70 |
| 2 | AB | 42 | A | C2-N3-C4 | 11.46 | 116.33 | 110.60 |
| 2 | AB | 1259 | G | N3-C4-C5 | -11.46 | 122.87 | 128.60 |
| 2 | AB | 2021 | C | C6-N1-C2 | -11.46 | 115.72 | 120.30 |
| 35 | BA | 264 | C | C4-C5-C6 | -11.45 | 111.67 | 117.40 |
| 2 | AB | 1055 | G | C1'-O4'-C4' | -11.45 | 100.74 | 109.90 |
| 2 | AB | 2164 | C | C4-C5-C6 | 11.45 | 123.12 | 117.40 |
| 35 | BA | 1351 | U | O4'-C1'-N1 | 11.45 | 117.36 | 108.20 |
| 2 | AB | 283 | G | N1-C2-N3 | -11.45 | 117.03 | 123.90 |
| 35 | BA | 1154 | G | C4-C5-N7 | 11.45 | 115.38 | 110.80 |
| 2 | AB | 881 | G | N7-C8-N9 | 11.44 | 118.82 | 113.10 |
| 2 | AB | 1226 | A | C5-C6-N1 | 11.44 | 123.42 | 117.70 |
| 2 | AB | 2395 | C | C6-N1-C2 | -11.44 | 115.72 | 120.30 |
| 2 | AB | 2823 | A | N9-C4-C5 | 11.44 | 110.38 | 105.80 |
| 35 | BA | 1531 | A | N9-C4-C5 | 11.44 | 110.38 | 105.80 |
| 35 | BA | 585 | G | N7-C8-N9 | 11.43 | 118.82 | 113.10 |
| 2 | AB | 99 | U | O4'-C1'-N1 | 11.43 | 117.34 | 108.20 |
| 2 | AB | 315 | G | N3-C4-C5 | -11.43 | 122.89 | 128.60 |
| 35 | BA | 245 | U | C5-C6-N1 | -11.43 | 116.99 | 122.70 |
| 35 | BA | 1046 | A | C2-N3-C4 | 11.43 | 116.31 | 110.60 |
| 35 | BA | 1208 | C | N1-C2-O2 | 11.42 | 125.75 | 118.90 |
| 2 | AB | 46 | G | C5-N7-C8 | 11.42 | 110.01 | 104.30 |
| 2 | AB | 490 | C | C4-C5-C6 | 11.42 | 123.11 | 117.40 |
| 35 | BA | 108 | G | N9-C4-C5 | 11.42 | 109.97 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 35 | BA | 544 | G | C8-N9-C4 | -11.42 | 101.83 | 106.40 |
| 2 | AB | 594 | U | C5-C6-N1 | -11.42 | 116.99 | 122.70 |
| 2 | AB | 1992 | G | N3-C4-C5 | -11.42 | 122.89 | 128.60 |
| 2 | AB | 1274 | A | C3'-C2'-C1' | -11.42 | 92.37 | 101.50 |
| 2 | AB | 2116 | G | C2-N3-C4 | 11.41 | 117.61 | 111.90 |
| 35 | BA | 375 | U | N3-C2-O2 | -11.41 | 114.21 | 122.20 |
| 2 | AB | 1401 | G | C5-C6-N1 | 11.41 | 117.20 | 111.50 |
| 35 | BA | 520 | A | C5-N7-C8 | -11.41 | 98.19 | 103.90 |
| 35 | BA | 1069 | C | C3'-C2'-C1' | 11.41 | 110.63 | 101.50 |
| 35 | BA | 1533 | C | N1-C2-O2 | 11.41 | 125.75 | 118.90 |
| 2 | AB | 605 | G | C8-N9-C4 | -11.41 | 101.84 | 106.40 |
| 2 | AB | 1542 | U | C2-N3-C4 | -11.41 | 120.16 | 127.00 |
| 2 | AB | 2026 | U | O4'-C1'-N1 | 11.41 | 117.33 | 108.20 |
| 2 | AB | 2218 | G | C5-C6-O6 | 11.41 | 135.44 | 128.60 |
| 2 | AB | 728 | G | O4'-C1'-N9 | 11.40 | 117.32 | 108.20 |
| 2 | AB | 1925 | C | N3-C4-C5 | 11.40 | 126.46 | 121.90 |
| 35 | BA | 1479 | C | O4'-C1'-N1 | 11.40 | 117.32 | 108.20 |
| 2 | AB | 2800 | A | C2-N3-C4 | -11.40 | 104.90 | 110.60 |
| 35 | BA | 1166 | G | C8-N9-C4 | -11.40 | 101.84 | 106.40 |
| 2 | AB | 356 | G | N3-C4-C5 | -11.40 | 122.90 | 128.60 |
| 2 | AB | 1623 | G | C8-N9-C4 | -11.40 | 101.84 | 106.40 |
| 2 | AB | 1843 | C | O4'-C1'-N1 | 11.40 | 117.32 | 108.20 |
| 35 | BA | 1108 | G | C4-C5-N7 | -11.40 | 106.24 | 110.80 |
| 37 | BC | 50 | G | C8-N9-C4 | -11.40 | 101.84 | 106.40 |
| 35 | BA | 47 | C | C2-N3-C4 | 11.39 | 125.60 | 119.90 |
| 35 | BA | 84 | U | O4'-C1'-N1 | 11.39 | 117.32 | 108.20 |
| 2 | AB | 712 | G | N1-C2-N3 | -11.39 | 117.06 | 123.90 |
| 35 | BA | 589 | U | C5-C4-O4 | -11.39 | 119.06 | 125.90 |
| 2 | AB | 1082 | U | O4'-C1'-N1 | 11.39 | 117.31 | 108.20 |
| 2 | AB | 1918 | A | C5-C6-N6 | -11.39 | 114.59 | 123.70 |
| 35 | BA | 1367 | C | O4'-C1'-N1 | 11.39 | 117.31 | 108.20 |
| 2 | AB | 1888 | G | N3-C4-C5 | -11.38 | 122.91 | 128.60 |
| 35 | BA | 585 | G | N3-C4-C5 | -11.39 | 122.91 | 128.60 |
| 2 | AB | 1040 | A | C3'-C2'-C1' | -11.38 | 92.39 | 101.50 |
| 29 | A2 | 63 | ARG | NE-CZ-NH2 | -11.38 | 114.61 | 120.30 |
| 2 | AB | 1148 | U | C5-C6-N1 | -11.38 | 117.01 | 122.70 |
| 35 | BA | 1216 | A | N9-C4-C5 | 11.38 | 110.35 | 105.80 |
| 2 | AB | 2348 | U | N1-C2-N3 | 11.38 | 121.73 | 114.90 |
| 35 | BA | 812 | G | C5-C6-N1 | 11.38 | 117.19 | 111.50 |
| 35 | BA | 545 | C | C5-C6-N1 | 11.38 | 126.69 | 121.00 |
| 2 | AB | 1228 | G | C5-C6-O6 | 11.37 | 135.43 | 128.60 |
| 2 | AB | 1112 | G | C8-N9-C4 | -11.37 | 101.85 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 2 | AB | 2788 | C | N3-C2-O2 | -11.37 | 113.94 | 121.90 |
| 35 | BA | 1014 | A | C8-N9-C4 | -11.37 | 101.25 | 105.80 |
| 2 | AB | 1243 | C | C6-N1-C2 | -11.37 | 115.75 | 120.30 |
| 2 | AB | 1429 | G | N3-C4-N9 | 11.37 | 132.82 | 126.00 |
| 2 | AB | 2619 | C | C6-N1-C2 | 11.37 | 124.85 | 120.30 |
| 35 | BA | 190 | A | N9-C4-C5 | 11.37 | 110.35 | 105.80 |
| 2 | AB | 1071 | G | N3-C4-C5 | -11.37 | 122.92 | 128.60 |
| 2 | AB | 2688 | G | C8-N9-C4 | -11.37 | 101.85 | 106.40 |
| 2 | AB | 229 | C | C4-C5-C6 | -11.36 | 111.72 | 117.40 |
| 2 | AB | 1689 | A | N1-C2-N3 | 11.36 | 134.98 | 129.30 |
| 2 | AB | 2533 | U | O4'-C1'-N1 | 11.36 | 117.29 | 108.20 |
| 36 | BB | 18 | A | N7-C8-N9 | 11.36 | 119.48 | 113.80 |
| 2 | AB | 50 | U | N3-C2-O2 | -11.36 | 114.25 | 122.20 |
| 2 | AB | 1639 | C | C2-N3-C4 | 11.36 | 125.58 | 119.90 |
| 35 | BA | 965 | U | O4'-C1'-N1 | 11.36 | 117.29 | 108.20 |
| 37 | BC | 67 | C | C5-C6-N1 | 11.36 | 126.68 | 121.00 |
| 35 | BA | 675 | A | C6-C5-N7 | -11.36 | 124.35 | 132.30 |
| 2 | AB | 786 | C | O4'-C1'-N1 | 11.35 | 117.28 | 108.20 |
| 35 | BA | 1155 | A | N1-C2-N3 | 11.35 | 134.98 | 129.30 |
| 2 | AB | 1276 | A | C2-N3-C4 | 11.35 | 116.28 | 110.60 |
| 2 | AB | 1491 | G | N9-C4-C5 | 11.35 | 109.94 | 105.40 |
| 2 | AB | 1588 | G | N3-C4-C5 | -11.35 | 122.92 | 128.60 |
| 35 | BA | 215 | C | O4'-C1'-N1 | 11.35 | 117.28 | 108.20 |
| 2 | AB | 1411 | U | O4'-C1'-N1 | 11.35 | 117.28 | 108.20 |
| 2 | AB | 2297 | A | C5-C6-N1 | -11.35 | 112.03 | 117.70 |
| 2 | AB | 2875 | C | N1-C2-O2 | 11.35 | 125.71 | 118.90 |
| 35 | BA | 1510 | C | C6-N1-C2 | -11.35 | 115.76 | 120.30 |
| 35 | BA | 1104 | G | N3-C4-C5 | -11.34 | 122.93 | 128.60 |
| 2 | AB | 1870 | C | N3-C4-C5 | -11.34 | 117.36 | 121.90 |
| 2 | AB | 2788 | C | N1-C2-O2 | 11.34 | 125.70 | 118.90 |
| 35 | BA | 113 | G | N9-C4-C5 | 11.34 | 109.94 | 105.40 |
| 35 | BA | 591 | U | C5-C6-N1 | -11.34 | 117.03 | 122.70 |
| 2 | AB | 864 | G | C5-C6-N1 | -11.34 | 105.83 | 111.50 |
| 2 | AB | 563 | A | O4'-C1'-N9 | 11.33 | 117.27 | 108.20 |
| 2 | AB | 834 | G | C5-N7-C8 | -11.33 | 98.63 | 104.30 |
| 2 | AB | 2324 | U | C5-C4-O4 | -11.33 | 119.10 | 125.90 |
| 2 | AB | 2508 | G | N3-C4-C5 | -11.33 | 122.93 | 128.60 |
| 8 | AH | 162 | ARG | NE-CZ-NH1 | -11.33 | 114.64 | 120.30 |
| 35 | BA | 1349 | A | C4-C5-C6 | -11.33 | 111.33 | 117.00 |
| 47 | BM | 36 | ARG | NE-CZ-NH1 | 11.33 | 125.96 | 120.30 |
| 35 | BA | 396 | C | N3-C4-C5 | -11.33 | 117.37 | 121.90 |
| 2 | AB | 1749 | A | N9-C4-C5 | 11.32 | 110.33 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 2495 | G | N3-C4-N9 | 11.32 | 132.79 | 126.00 |
| 2 | AB | 2752 | C | N1-C2-O2 | 11.32 | 125.69 | 118.90 |
| 2 | AB | 1823 | G | C6-C5-N7 | -11.32 | 123.61 | 130.40 |
| 2 | AB | 1238 | G | N7-C8-N9 | 11.32 | 118.76 | 113.10 |
| 2 | AB | 27 | G | C3'-C2'-C1' | 11.31 | 110.55 | 101.50 |
| 2 | AB | 1828 | G | O4'-C1'-N9 | 11.31 | 117.25 | 108.20 |
| 2 | AB | 2465 | C | C5-C6-N1 | 11.31 | 126.66 | 121.00 |
| 35 | BA | 1311 | A | C4-C5-N7 | 11.31 | 116.36 | 110.70 |
| 1 | AA | 47 | C | O4'-C1'-N1 | 11.31 | 117.25 | 108.20 |
| 2 | AB | 45 | G | O4'-C1'-N9 | 11.31 | 117.25 | 108.20 |
| 2 | AB | 490 | C | C6-N1-C2 | -11.31 | 115.78 | 120.30 |
| 2 | AB | 889 | C | O4'-C1'-N1 | 11.31 | 117.25 | 108.20 |
| 2 | AB | 1654 | A | C4-C5-C6 | -11.31 | 111.35 | 117.00 |
| 2 | AB | 2551 | C | C5-C4-N4 | -11.31 | 112.28 | 120.20 |
| 2 | AB | 2740 | A | C4-C5-N7 | -11.30 | 105.05 | 110.70 |
| 39 | BE | 64 | ARG | NE-CZ-NH1 | 11.30 | 125.95 | 120.30 |
| 2 | AB | 2101 | A | C4-C5-C6 | -11.30 | 111.35 | 117.00 |
| 2 | AB | 36 | G | N3-C4-C5 | -11.30 | 122.95 | 128.60 |
| 35 | BA | 79 | G | N3-C4-C5 | -11.29 | 122.95 | 128.60 |
| 2 | AB | 202 | U | C5-C6-N1 | -11.29 | 117.05 | 122.70 |
| 2 | AB | 481 | G | N3-C4-C5 | -11.29 | 122.95 | 128.60 |
| 35 | BA | 1181 | G | C8-N9-C4 | -11.29 | 101.88 | 106.40 |
| 2 | AB | 1191 | G | O4'-C1'-N9 | 11.29 | 117.23 | 108.20 |
| 2 | AB | 1898 | U | O4'-C1'-N1 | 11.29 | 117.23 | 108.20 |
| 2 | AB | 2062 | A | C5-C6-N1 | 11.29 | 123.34 | 117.70 |
| 35 | BA | 378 | G | C5-N7-C8 | -11.29 | 98.66 | 104.30 |
| 2 | AB | 1018 | U | O4'-C1'-N1 | 11.29 | 117.23 | 108.20 |
| 27 | A0 | 26 | PHE | CB-CG-CD2 | 11.29 | 128.70 | 120.80 |
| 35 | BA | 1057 | G | N9-C4-C5 | 11.29 | 109.92 | 105.40 |
| 35 | BA | 1076 | U | C5-C6-N1 | 11.29 | 128.34 | 122.70 |
| 2 | AB | 1272 | A | O4'-C1'-N9 | 11.28 | 117.23 | 108.20 |
| 2 | AB | 2323 | G | C5-C6-N1 | 11.28 | 117.14 | 111.50 |
| 35 | BA | 947 | G | C5-N7-C8 | -11.28 | 98.66 | 104.30 |
| 35 | BA | 1235 | U | O4'-C1'-N1 | 11.28 | 117.23 | 108.20 |
| 36 | BB | 15 | G | C2-N3-C4 | 11.28 | 117.54 | 111.90 |
| 2 | AB | 518 | G | C8-N9-C4 | -11.28 | 101.89 | 106.40 |
| 2 | AB | 1425 | G | N3-C4-C5 | -11.28 | 122.96 | 128.60 |
| 2 | AB | 320 | A | C4-C5-N7 | 11.28 | 116.34 | 110.70 |
| 35 | BA | 743 | A | C5-C6-N1 | -11.28 | 112.06 | 117.70 |
| 35 | BA | 786 | G | C2-N3-C4 | 11.28 | 117.54 | 111.90 |
| 2 | AB | 2752 | C | O4'-C1'-N1 | 11.27 | 117.22 | 108.20 |
| 35 | BA | 1362 | A | N7-C8-N9 | 11.27 | 119.44 | 113.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 35 | BA | 1448 | C | C6-N1-C2 | -11.27 | 115.79 | 120.30 |
| 2 | AB | 1935 | G | O4'-C1'-N9 | 11.27 | 117.22 | 108.20 |
| 2 | AB | 73 | A | C1'-O4'-C4' | -11.27 | 100.88 | 109.90 |
| 2 | AB | 1622 | G | C8-N9-C4 | 11.27 | 110.91 | 106.40 |
| 35 | BA | 94 | G | C5-N7-C8 | 11.27 | 109.94 | 104.30 |
| 2 | AB | 1344 | U | N3-C2-O2 | -11.27 | 114.31 | 122.20 |
| 2 | AB | 556 | A | C1'-O4'-C4' | -11.26 | 100.89 | 109.90 |
| 2 | AB | 1982 | U | O4'-C1'-N1 | 11.26 | 117.21 | 108.20 |
| 35 | BA | 43 | C | C5-C4-N4 | -11.26 | 112.32 | 120.20 |
| 35 | BA | 1514 | G | N7-C8-N9 | 11.26 | 118.73 | 113.10 |
| 2 | AB | 518 | G | C5-C6-O6 | -11.26 | 121.84 | 128.60 |
| 2 | AB | 248 | G | N1-C6-O6 | -11.26 | 113.14 | 119.90 |
| 2 | AB | 461 | C | N3-C4-C5 | 11.26 | 126.40 | 121.90 |
| 35 | BA | 27 | G | C4-C5-N7 | -11.26 | 106.30 | 110.80 |
| 35 | BA | 1041 | G | C6-N1-C2 | -11.26 | 118.34 | 125.10 |
| 1 | AA | 99 | A | C8-N9-C4 | -11.26 | 101.30 | 105.80 |
| 2 | AB | 1010 | A | C8-N9-C4 | -11.26 | 101.30 | 105.80 |
| 2 | AB | 1423 | G | O4'-C1'-N9 | 11.26 | 117.21 | 108.20 |
| 35 | BA | 581 | G | C4-C5-C6 | 11.25 | 125.55 | 118.80 |
| 2 | AB | 647 | G | N3-C4-N9 | 11.25 | 132.75 | 126.00 |
| 2 | AB | 1525 | A | N7-C8-N9 | -11.25 | 108.17 | 113.80 |
| 2 | AB | 683 | U | C2-N3-C4 | -11.25 | 120.25 | 127.00 |
| 2 | AB | 2673 | G | C5-C6-N1 | 11.25 | 117.12 | 111.50 |
| 2 | AB | 700 | G | C2-N3-C4 | 11.25 | 117.52 | 111.90 |
| 2 | AB | 966 | G | C6-N1-C2 | -11.25 | 118.35 | 125.10 |
| 35 | BA | 230 | G | C4-C5-N7 | -11.25 | 106.30 | 110.80 |
| 37 | BC | 77 | A | C2-N3-C4 | 11.24 | 116.22 | 110.60 |
| 2 | AB | 1840 | G | C2-N3-C4 | 11.24 | 117.52 | 111.90 |
| 2 | AB | 1515 | A | O4'-C1'-N9 | 11.24 | 117.19 | 108.20 |
| 35 | BA | 84 | U | N3-C2-O2 | -11.24 | 114.33 | 122.20 |
| 2 | AB | 2357 | G | N9-C4-C5 | 11.24 | 109.89 | 105.40 |
| 35 | BA | 1065 | U | N3-C2-O2 | -11.24 | 114.33 | 122.20 |
| 35 | BA | 1152 | A | C4-C5-C6 | -11.24 | 111.38 | 117.00 |
| 35 | BA | 1360 | A | N9-C4-C5 | 11.24 | 110.29 | 105.80 |
| 2 | AB | 2243 | U | O4'-C1'-N1 | 11.23 | 117.19 | 108.20 |
| 2 | AB | 2101 | A | C5-C6-N1 | 11.23 | 123.32 | 117.70 |
| 2 | AB | 1601 | G | C5-C6-N1 | 11.23 | 117.11 | 111.50 |
| 2 | AB | 2412 | A | N9-C4-C5 | 11.23 | 110.29 | 105.80 |
| 2 | AB | 944 | C | N1-C2-O2 | 11.23 | 125.64 | 118.90 |
| 43 | BI | 91 | ARG | NE-CZ-NH2 | 11.23 | 125.91 | 120.30 |
| 2 | AB | 2057 | G | C4-C5-N7 | 11.22 | 115.29 | 110.80 |
| 23 | AW | 6 | ARG | NE-CZ-NH2 | 11.22 | 125.91 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 35 | BA | 386 | C | N1-C2-O2 | 11.22 | 125.63 | 118.90 |
| 35 | BA | 394 | G | C2-N3-C4 | 11.22 | 117.51 | 111.90 |
| 35 | BA | 711 | G | C8-N9-C4 | -11.22 | 101.91 | 106.40 |
| 2 | AB | 1743 | G | C8-N9-C4 | -11.22 | 101.91 | 106.40 |
| 35 | BA | 1331 | G | C2-N3-C4 | 11.22 | 117.51 | 111.90 |
| 35 | BA | 631 | C | N1-C2-O2 | 11.22 | 125.63 | 118.90 |
| 2 | AB | 1735 | A | C6-C5-N7 | 11.22 | 140.15 | 132.30 |
| 52 | BR | 51 | ARG | NE-CZ-NH2 | -11.22 | 114.69 | 120.30 |
| 2 | AB | 1864 | U | C3'-C2'-C1' | 11.21 | 110.47 | 101.50 |
| 1 | AA | 13 | G | N9-C4-C5 | 11.21 | 109.88 | 105.40 |
| 2 | AB | 2301 | C | N3-C4-C5 | -11.21 | 117.42 | 121.90 |
| 35 | BA | 1482 | G | C8-N9-C4 | -11.21 | 101.92 | 106.40 |
| 2 | AB | 2200 | C | O4'-C1'-N1 | 11.21 | 117.17 | 108.20 |
| 35 | BA | 534 | U | O4'-C1'-N1 | 11.21 | 117.17 | 108.20 |
| 2 | AB | 318 | C | O4'-C1'-N1 | 11.21 | 117.17 | 108.20 |
| 2 | AB | 584 | C | O4'-C1'-N1 | 11.21 | 117.17 | 108.20 |
| 2 | AB | 2515 | C | O4'-C1'-N1 | 11.21 | 117.16 | 108.20 |
| 35 | BA | 1053 | G | C8-N9-C4 | -11.21 | 101.92 | 106.40 |
| 2 | AB | 1003 | G | N3-C4-C5 | -11.20 | 123.00 | 128.60 |
| 2 | AB | 1177 | G | N3-C2-N2 | -11.20 | 112.06 | 119.90 |
| 2 | AB | 1776 | G | C8-N9-C4 | -11.20 | 101.92 | 106.40 |
| 2 | AB | 362 | A | N9-C4-C5 | -11.19 | 101.32 | 105.80 |
| 2 | AB | 514 | A | C2-N3-C4 | -11.19 | 105.00 | 110.60 |
| 35 | BA | 18 | C | C3'-C2'-C1' | -11.20 | 92.54 | 101.50 |
| 2 | AB | 484 | C | C4-C5-C6 | -11.19 | 111.80 | 117.40 |
| 2 | AB | 707 | G | C8-N9-C4 | -11.19 | 101.92 | 106.40 |
| 2 | AB | 859 | G | N1-C2-N3 | -11.19 | 117.19 | 123.90 |
| 2 | AB | 1358 | G | C4-C5-N7 | -11.19 | 106.32 | 110.80 |
| 35 | BA | 776 | G | C2-N3-C4 | 11.19 | 117.50 | 111.90 |
| 2 | AB | 1320 | C | N1-C2-O2 | 11.19 | 125.61 | 118.90 |
| 2 | AB | 1630 | A | C4-C5-C6 | 11.19 | 122.59 | 117.00 |
| 35 | BA | 27 | G | C6-C5-N7 | 11.19 | 137.11 | 130.40 |
| 2 | AB | 308 | G | C4-C5-N7 | -11.19 | 106.33 | 110.80 |
| 2 | AB | 2738 | A | C8-N9-C4 | -11.19 | 101.33 | 105.80 |
| 2 | AB | 1095 | A | N1-C2-N3 | -11.18 | 123.71 | 129.30 |
| 2 | AB | 737 | C | O4'-C1'-N1 | 11.18 | 117.14 | 108.20 |
| 2 | AB | 2026 | U | N3-C2-O2 | -11.18 | 114.37 | 122.20 |
| 2 | AB | 54 | G | C2-N3-C4 | 11.18 | 117.49 | 111.90 |
| 2 | AB | 1345 | C | O4'-C1'-N1 | 11.18 | 117.14 | 108.20 |
| 2 | AB | 2425 | A | N9-C4-C5 | 11.18 | 110.27 | 105.80 |
| 2 | AB | 2581 | G | C4-C5-N7 | -11.18 | 106.33 | 110.80 |
| 2 | AB | 2096 | C | N1-C2-O2 | 11.18 | 125.61 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 1072 | C | C5-C6-N1 | 11.17 | 126.59 | 121.00 |
| 2 | AB | 846 | U | C1'-O4'-C4' | -11.17 | 100.96 | 109.90 |
| 2 | AB | 1848 | A | C8-N9-C4 | -11.17 | 101.33 | 105.80 |
| 35 | BA | 670 | G | C6-N1-C2 | -11.17 | 118.40 | 125.10 |
| 2 | AB | 185 | G | C6-N1-C2 | -11.17 | 118.40 | 125.10 |
| 2 | AB | 212 | G | N9-C1'-C2' | -11.17 | 99.48 | 114.00 |
| 2 | AB | 431 | U | C4'-C3'-C2' | -11.17 | 91.43 | 102.60 |
| 2 | AB | 1037 | G | N7-C8-N9 | 11.17 | 118.68 | 113.10 |
| 2 | AB | 629 | G | C8-N9-C4 | -11.16 | 101.93 | 106.40 |
| 35 | BA | 468 | A | C5'-C4'-O4' | 11.16 | 122.50 | 109.10 |
| 35 | BA | 1361 | G | N7-C8-N9 | 11.16 | 118.68 | 113.10 |
| 2 | AB | 872 | U | C3'-C2'-C1' | 11.16 | 110.43 | 101.50 |
| 37 | BC | 6 | G | C5-C6-N1 | 11.16 | 117.08 | 111.50 |
| 2 | AB | 1733 | G | C5-C6-O6 | -11.16 | 121.90 | 128.60 |
| 2 | AB | 2358 | A | C5-N7-C8 | -11.16 | 98.32 | 103.90 |
| 35 | BA | 739 | C | N3-C4-N4 | 11.16 | 125.81 | 118.00 |
| 2 | AB | 812 | C | N3-C4-C5 | -11.16 | 117.44 | 121.90 |
| 2 | AB | 588 | U | C2-N3-C4 | -11.15 | 120.31 | 127.00 |
| 2 | AB | 748 | G | O4'-C1'-N9 | 11.15 | 117.12 | 108.20 |
| 2 | AB | 2462 | C | C4-C5-C6 | -11.15 | 111.82 | 117.40 |
| 2 | AB | 2847 | U | C4-C5-C6 | 11.15 | 126.39 | 119.70 |
| 2 | AB | 2357 | G | N3-C4-C5 | -11.15 | 123.02 | 128.60 |
| 2 | AB | 2437 | G | C2-N3-C4 | 11.15 | 117.47 | 111.90 |
| 2 | AB | 152 | A | N7-C8-N9 | 11.15 | 119.37 | 113.80 |
| 2 | AB | 634 | C | C6-N1-C2 | -11.15 | 115.84 | 120.30 |
| 35 | BA | 964 | A | C6-C5-N7 | 11.15 | 140.10 | 132.30 |
| 35 | BA | 918 | A | C8-N9-C4 | 11.15 | 110.26 | 105.80 |
| 2 | AB | 2050 | C | N3-C4-C5 | -11.14 | 117.44 | 121.90 |
| 2 | AB | 1569 | A | C5-C6-N1 | 11.14 | 123.27 | 117.70 |
| 2 | AB | 2654 | A | C6-C5-N7 | 11.14 | 140.10 | 132.30 |
| 35 | BA | 475 | C | N3-C4-C5 | -11.14 | 117.44 | 121.90 |
| 2 | AB | 2532 | G | C8-N9-C4 | -11.14 | 101.94 | 106.40 |
| 2 | AB | 2615 | U | C5-C4-O4 | -11.14 | 119.22 | 125.90 |
| 35 | BA | 800 | G | C5-N7-C8 | -11.14 | 98.73 | 104.30 |
| 35 | BA | 486 | U | O4'-C1'-N1 | 11.14 | 117.11 | 108.20 |
| 35 | BA | 1085 | U | N3-C2-O2 | -11.14 | 114.40 | 122.20 |
| 35 | BA | 1126 | U | N3-C2-O2 | -11.13 | 114.41 | 122.20 |
| 35 | BA | 766 | A | C6-C5-N7 | 11.13 | 140.09 | 132.30 |
| 2 | AB | 1296 | G | C8-N9-C4 | -11.13 | 101.95 | 106.40 |
| 2 | AB | 2127 | G | C2-N3-C4 | 11.13 | 117.46 | 111.90 |
| 35 | BA | 110 | C | C1'-O4'-C4' | -11.13 | 101.00 | 109.90 |
| 2 | AB | 546 | U | C5-C6-N1 | -11.12 | 117.14 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 35 | BA | 1016 | A | N7-C8-N9 | 11.12 | 119.36 | 113.80 |
| 2 | AB | 132 | G | N9-C4-C5 | 11.12 | 109.85 | 105.40 |
| 2 | AB | 517 | C | O4'-C1'-N1 | 11.12 | 117.10 | 108.20 |
| 35 | BA | 573 | A | C4-C5-C6 | -11.12 | 111.44 | 117.00 |
| 35 | BA | 1349 | A | N1-C6-N6 | -11.12 | 111.93 | 118.60 |
| 2 | AB | 1138 | G | C5-C6-O6 | -11.12 | 121.93 | 128.60 |
| 2 | AB | 1273 | U | O4'-C1'-N1 | 11.11 | 117.09 | 108.20 |
| 35 | BA | 674 | G | N9-C4-C5 | 11.12 | 109.85 | 105.40 |
| 35 | BA | 1155 | A | C2-N3-C4 | -11.12 | 105.04 | 110.60 |
| 1 | AA | 67 | G | C5-C6-O6 | -11.11 | 121.93 | 128.60 |
| 35 | BA | 210 | C | N3-C4-C5 | -11.11 | 117.46 | 121.90 |
| 2 | AB | 642 | U | O4'-C1'-N1 | 11.11 | 117.09 | 108.20 |
| 2 | AB | 795 | C | C2-N3-C4 | 11.11 | 125.45 | 119.90 |
| 2 | AB | 1580 | A | N7-C8-N9 | 11.11 | 119.36 | 113.80 |
| 2 | AB | 83 | A | N9-C4-C5 | 11.11 | 110.24 | 105.80 |
| 2 | AB | 758 | C | C4-C5-C6 | 11.11 | 122.95 | 117.40 |
| 2 | AB | 768 | G | C8-N9-C4 | -11.10 | 101.96 | 106.40 |
| 2 | AB | 2025 | C | C6-N1-C2 | -11.10 | 115.86 | 120.30 |
| 2 | AB | 1000 | A | C5'-C4'-O4' | 11.10 | 122.42 | 109.10 |
| 2 | AB | 983 | A | O4'-C1'-N9 | 11.10 | 117.08 | 108.20 |
| 2 | AB | 2443 | C | N1-C2-O2 | 11.10 | 125.56 | 118.90 |
| 2 | AB | 2825 | G | N9-C4-C5 | 11.10 | 109.84 | 105.40 |
| 10 | AJ | 152 | ARG | NE-CZ-NH1 | 11.10 | 125.85 | 120.30 |
| 35 | BA | 160 | A | C8-N9-C4 | -11.10 | 101.36 | 105.80 |
| 1 | AA | 111 | U | O4'-C1'-N1 | 11.09 | 117.08 | 108.20 |
| 35 | BA | 1023 | U | C5-C6-N1 | -11.09 | 117.16 | 122.70 |
| 35 | BA | 766 | A | C5-C6-N1 | 11.09 | 123.24 | 117.70 |
| 2 | AB | 2638 | G | N3-C4-N9 | 11.09 | 132.65 | 126.00 |
| 2 | AB | 2407 | A | C8-N9-C4 | -11.08 | 101.37 | 105.80 |
| 35 | BA | 626 | G | C5-N7-C8 | -11.08 | 98.76 | 104.30 |
| 35 | BA | 706 | A | N9-C4-C5 | 11.08 | 110.23 | 105.80 |
| 37 | BC | 48 | U | O4'-C1'-N1 | 11.08 | 117.06 | 108.20 |
| 35 | BA | 1510 | C | C5-C6-N1 | 11.08 | 126.54 | 121.00 |
| 2 | AB | 339 | U | O4'-C1'-N1 | 11.08 | 117.06 | 108.20 |
| 2 | AB | 1520 | U | C2-N3-C4 | -11.08 | 120.35 | 127.00 |
| 2 | AB | 2846 | G | O4'-C1'-N9 | 11.08 | 117.06 | 108.20 |
| 2 | AB | 971 | G | N9-C4-C5 | 11.07 | 109.83 | 105.40 |
| 35 | BA | 639 | G | N9-C4-C5 | 11.07 | 109.83 | 105.40 |
| 39 | BE | 228 | ARG | NE-CZ-NH1 | 11.07 | 125.84 | 120.30 |
| 2 | AB | 364 | C | N1-C2-O2 | 11.07 | 125.54 | 118.90 |
| 2 | AB | 1275 | A | O4'-C1'-N9 | 11.07 | 117.06 | 108.20 |
| 2 | AB | 1945 | G | C5-N7-C8 | -11.07 | 98.76 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 35 | BA | 223 | A | N7-C8-N9 | 11.07 | 119.33 | 113.80 |
| 35 | BA | 606 | G | O4'-C1'-N9 | -11.07 | 99.34 | 108.20 |
| 1 | AA | 8 | C | N3-C4-C5 | 11.07 | 126.33 | 121.90 |
| 35 | BA | 1000 | A | C4-C5-C6 | -11.07 | 111.47 | 117.00 |
| 2 | AB | 531 | C | N3-C4-C5 | -11.07 | 117.47 | 121.90 |
| 35 | BA | 273 | U | C4-C5-C6 | 11.06 | 126.34 | 119.70 |
| 9 | AI | 68 | ARG | NE-CZ-NH1 | 11.06 | 125.83 | 120.30 |
| 35 | BA | 956 | U | C2-N3-C4 | -11.06 | 120.36 | 127.00 |
| 35 | BA | 1157 | A | N1-C2-N3 | -11.06 | 123.77 | 129.30 |
| 36 | BB | 36 | U | O4'-C1'-N1 | 11.06 | 117.05 | 108.20 |
| 45 | BK | 37 | TYR | CB-CG-CD1 | -11.06 | 114.36 | 121.00 |
| 2 | AB | 2466 | C | N3-C4-N4 | 11.06 | 125.74 | 118.00 |
| 2 | AB | 2812 | G | N3-C4-C5 | -11.06 | 123.07 | 128.60 |
| 35 | BA | 755 | G | C4-C5-N7 | -11.06 | 106.38 | 110.80 |
| 35 | BA | 993 | G | C6-C5-N7 | -11.06 | 123.77 | 130.40 |
| 45 | BK | 129 | ARG | NE-CZ-NH2 | -11.06 | 114.77 | 120.30 |
| 2 | AB | 2181 | U | O4'-C1'-N1 | 11.06 | 117.05 | 108.20 |
| 2 | AB | 2585 | U | O4'-C1'-N1 | 11.05 | 117.04 | 108.20 |
| 1 | AA | 106 | G | O4'-C1'-N9 | 11.05 | 117.04 | 108.20 |
| 35 | BA | 374 | A | N7-C8-N9 | 11.05 | 119.33 | 113.80 |
| 35 | BA | 1437 | A | N1-C2-N3 | 11.05 | 134.82 | 129.30 |
| 2 | AB | 257 | C | N3-C2-O2 | -11.04 | 114.17 | 121.90 |
| 2 | AB | 1284 | A | O4'-C1'-N9 | 11.04 | 117.03 | 108.20 |
| 2 | AB | 2127 | G | N3-C4-C5 | -11.04 | 123.08 | 128.60 |
| 2 | AB | 2321 | U | C5-C4-O4 | 11.04 | 132.52 | 125.90 |
| 35 | BA | 214 | C | N1-C2-O2 | 11.04 | 125.52 | 118.90 |
| 35 | BA | 884 | U | O4'-C1'-N1 | 11.04 | 117.03 | 108.20 |
| 1 | AA | 34 | A | N9-C4-C5 | -11.04 | 101.39 | 105.80 |
| 2 | AB | 80 | G | O4'-C1'-N9 | 11.03 | 117.03 | 108.20 |
| 35 | BA | 53 | A | C8-N9-C4 | -11.03 | 101.39 | 105.80 |
| 35 | BA | 518 | C | O4'-C1'-N1 | 11.03 | 117.03 | 108.20 |
| 2 | AB | 1620 | G | N1-C2-N2 | 11.03 | 126.12 | 116.20 |
| 35 | BA | 769 | G | C4-C5-N7 | 11.03 | 115.21 | 110.80 |
| 35 | BA | 1517 | G | C8-N9-C4 | -11.03 | 101.99 | 106.40 |
| 2 | AB | 1290 | C | C5-C6-N1 | -11.02 | 115.49 | 121.00 |
| 2 | AB | 1968 | G | O4'-C1'-N9 | 11.02 | 117.02 | 108.20 |
| 2 | AB | 467 | G | C4-C5-N7 | -11.02 | 106.39 | 110.80 |
| 2 | AB | 1747 | U | N3-C2-O2 | -11.02 | 114.48 | 122.20 |
| 36 | BB | 28 | U | C1'-O4'-C4' | -11.02 | 101.08 | 109.90 |
| 1 | AA | 110 | C | N3-C4-N4 | 11.02 | 125.71 | 118.00 |
| 2 | AB | 890 | C | N3-C4-N4 | 11.02 | 125.71 | 118.00 |
| 2 | AB | 2487 | G | C8-N9-C4 | -11.02 | 101.99 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 35 | BA | 885 | G | C8-N9-C4 | -11.02 | 101.99 | 106.40 |
| 35 | BA | 895 | G | N3-C2-N2 | 11.02 | 127.61 | 119.90 |
| 35 | BA | 1100 | C | N3-C4-C5 | -11.02 | 117.49 | 121.90 |
| 2 | AB | 164 | C | O4'-C1'-N1 | 11.02 | 117.01 | 108.20 |
| 2 | AB | 2777 | G | C2-N3-C4 | 11.02 | 117.41 | 111.90 |
| 35 | BA | 1252 | A | C2-N3-C4 | -11.02 | 105.09 | 110.60 |
| 2 | AB | 763 | G | N7-C8-N9 | 11.02 | 118.61 | 113.10 |
| 2 | AB | 1928 | A | N1-C6-N6 | -11.02 | 111.99 | 118.60 |
| 2 | AB | 2670 | A | C5'-C4'-O4' | 11.02 | 122.32 | 109.10 |
| 35 | BA | 539 | A | C8-N9-C4 | 11.02 | 110.21 | 105.80 |
| 35 | BA | 1048 | G | N1-C2-N2 | 11.02 | 126.11 | 116.20 |
| 2 | AB | 526 | A | O4'-C1'-N9 | -11.01 | 99.39 | 108.20 |
| 2 | AB | 2237 | G | C1'-O4'-C4' | -11.01 | 101.09 | 109.90 |
| 18 | AR | 98 | TYR | CB-CG-CD2 | -11.01 | 114.39 | 121.00 |
| 35 | BA | 826 | C | O4'-C1'-N1 | 11.01 | 117.01 | 108.20 |
| 35 | BA | 930 | C | C5-C4-N4 | -11.01 | 112.49 | 120.20 |
| 57 | BW | 68 | ARG | NE-CZ-NH2 | -11.01 | 114.79 | 120.30 |
| 2 | AB | 612 | G | C4-C5-N7 | -11.01 | 106.40 | 110.80 |
| 33 | A6 | 12 | ARG | NE-CZ-NH1 | 11.01 | 125.80 | 120.30 |
| 2 | AB | 1585 | C | O4'-C1'-N1 | 11.01 | 117.01 | 108.20 |
| 2 | AB | 1153 | C | N3-C4-N4 | 11.01 | 125.70 | 118.00 |
| 2 | AB | 1798 | U | N1-C1'-C2' | -11.01 | 99.69 | 114.00 |
| 2 | AB | 1386 | C | C4-C5-C6 | -11.00 | 111.90 | 117.40 |
| 35 | BA | 1355 | G | N3-C4-N9 | 11.00 | 132.60 | 126.00 |
| 2 | AB | 1179 | G | C8-N9-C4 | -11.00 | 102.00 | 106.40 |
| 2 | AB | 1811 | G | N3-C4-C5 | -11.00 | 123.10 | 128.60 |
| 57 | BW | 65 | ARG | NE-CZ-NH2 | -11.00 | 114.80 | 120.30 |
| 2 | AB | 8 | C | C1'-O4'-C4' | 11.00 | 118.70 | 109.90 |
| 2 | AB | 2518 | A | N1-C2-N3 | -11.00 | 123.80 | 129.30 |
| 26 | AZ | 28 | PHE | CB-CG-CD1 | -11.00 | 113.10 | 120.80 |
| 35 | BA | 1048 | G | C8-N9-C4 | -11.00 | 102.00 | 106.40 |
| 35 | BA | 1198 | G | O4'-C1'-N9 | 11.00 | 117.00 | 108.20 |
| 50 | BP | 74 | ARG | NE-CZ-NH2 | -11.00 | 114.80 | 120.30 |
| 2 | AB | 738 | G | N3-C4-C5 | -10.99 | 123.10 | 128.60 |
| 2 | AB | 2789 | C | N3-C4-N4 | 10.99 | 125.70 | 118.00 |
| 2 | AB | 1358 | G | C2-N3-C4 | 10.99 | 117.40 | 111.90 |
| 35 | BA | 766 | A | N1-C6-N6 | -10.99 | 112.00 | 118.60 |
| 35 | BA | 819 | A | N7-C8-N9 | 10.99 | 119.30 | 113.80 |
| 2 | AB | 152 | A | C5-C6-N1 | -10.99 | 112.21 | 117.70 |
| 2 | AB | 723 | C | N3-C4-C5 | -10.99 | 117.50 | 121.90 |
| 35 | BA | 758 | C | C2-N3-C4 | 10.99 | 125.39 | 119.90 |
| 40 | BF | 19 | PHE | CB-CG-CD1 | 10.99 | 128.49 | 120.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 2 | AB | 1001 | A | C6-C5-N7 | 10.99 | 139.99 | 132.30 |
| 2 | AB | 2490 | G | C2-N3-C4 | 10.99 | 117.39 | 111.90 |
| 35 | BA | 777 | A | C8-N9-C4 | -10.99 | 101.41 | 105.80 |
| 2 | AB | 759 | G | N7-C8-N9 | 10.98 | 118.59 | 113.10 |
| 35 | BA | 1065 | U | N1-C2-O2 | 10.98 | 130.49 | 122.80 |
| 2 | AB | 1640 | A | C8-N9-C4 | -10.98 | 101.41 | 105.80 |
| 2 | AB | 1737 | G | C2-N3-C4 | 10.98 | 117.39 | 111.90 |
| 35 | BA | 1009 | U | O4'-C1'-N1 | 10.98 | 116.98 | 108.20 |
| 35 | BA | 865 | A | C5-N7-C8 | 10.97 | 109.39 | 103.90 |
| 2 | AB | 1872 | A | N9-C4-C5 | 10.97 | 110.19 | 105.80 |
| 35 | BA | 1147 | C | C6-N1-C2 | -10.97 | 115.91 | 120.30 |
| 2 | AB | 864 | G | C6-C5-N7 | -10.97 | 123.82 | 130.40 |
| 35 | BA | 574 | A | C2-N3-C4 | 10.97 | 116.09 | 110.60 |
| 37 | BC | 4 | G | O4'-C1'-N9 | 10.97 | 116.98 | 108.20 |
| 2 | AB | 1910 | G | N7-C8-N9 | 10.97 | 118.58 | 113.10 |
| 2 | AB | 647 | G | N9-C4-C5 | -10.97 | 101.01 | 105.40 |
| 2 | AB | 2029 | G | N3-C2-N2 | 10.97 | 127.58 | 119.90 |
| 2 | AB | 866 | A | N1-C6-N6 | 10.96 | 125.18 | 118.60 |
| 2 | AB | 2391 | G | O4'-C1'-N9 | 10.96 | 116.97 | 108.20 |
| 35 | BA | 530 | G | C4-C5-C6 | 10.96 | 125.38 | 118.80 |
| 37 | BC | 50 | G | N9-C4-C5 | 10.96 | 109.78 | 105.40 |
| 47 | BM | 10 | ARG | NE-CZ-NH1 | -10.96 | 114.82 | 120.30 |
| 35 | BA | 877 | G | N9-C1'-C2' | -10.96 | 99.76 | 114.00 |
| 2 | AB | 1703 | G | N3-C4-C5 | -10.95 | 123.12 | 128.60 |
| 2 | AB | 2102 | G | C4-C5-N7 | 10.95 | 115.18 | 110.80 |
| 35 | BA | 603 | U | N3-C4-O4 | 10.95 | 127.07 | 119.40 |
| 41 | BG | 53 | ARG | NE-CZ-NH1 | 10.95 | 125.78 | 120.30 |
| 2 | AB | 350 | G | C8-N9-C4 | -10.95 | 102.02 | 106.40 |
| 2 | AB | 1075 | C | N3-C4-C5 | 10.95 | 126.28 | 121.90 |
| 2 | AB | 1897 | G | N3-C4-C5 | -10.95 | 123.12 | 128.60 |
| 35 | BA | 630 | A | O4'-C1'-N9 | 10.95 | 116.96 | 108.20 |
| 37 | BC | 42 | C | N3-C4-N4 | 10.95 | 125.66 | 118.00 |
| 2 | AB | 2751 | G | C5-C6-N1 | 10.95 | 116.97 | 111.50 |
| 35 | BA | 1313 | U | O4'-C1'-N1 | 10.95 | 116.96 | 108.20 |
| 37 | BC | 64 | G | N3-C4-C5 | -10.95 | 123.13 | 128.60 |
| 2 | AB | 1532 | A | C4-C5-N7 | -10.94 | 105.23 | 110.70 |
| 2 | AB | 810 | U | C2-N3-C4 | -10.94 | 120.44 | 127.00 |
| 2 | AB | 1569 | A | N1-C6-N6 | -10.94 | 112.04 | 118.60 |
| 2 | AB | 2009 | A | N1-C6-N6 | -10.94 | 112.04 | 118.60 |
| 2 | AB | 2070 | A | N9-C4-C5 | -10.94 | 101.42 | 105.80 |
| 35 | BA | 2 | A | C4-C5-N7 | -10.94 | 105.23 | 110.70 |
| 35 | BA | 940 | C | C6-N1-C2 | -10.94 | 115.93 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 671 | C | O4'-C1'-N1 | 10.93 | 116.95 | 108.20 |
| 35 | BA | 564 | C | O4'-C1'-N1 | 10.93 | 116.95 | 108.20 |
| 35 | BA | 273 | U | N3-C4-C5 | -10.93 | 108.04 | 114.60 |
| 35 | BA | 1280 | A | C8-N9-C4 | -10.93 | 101.43 | 105.80 |
| 2 | AB | 637 | A | N1-C6-N6 | -10.93 | 112.04 | 118.60 |
| 2 | AB | 1599 | U | O4'-C1'-N1 | 10.93 | 116.94 | 108.20 |
| 2 | AB | 1980 | G | N7-C8-N9 | 10.93 | 118.56 | 113.10 |
| 2 | AB | 2662 | A | C8-N9-C4 | -10.93 | 101.43 | 105.80 |
| 2 | AB | 2864 | G | N7-C8-N9 | 10.93 | 118.56 | 113.10 |
| 35 | BA | 800 | G | N7-C8-N9 | 10.93 | 118.56 | 113.10 |
| 2 | AB | 498 | G | C5-C6-N1 | 10.93 | 116.96 | 111.50 |
| 2 | AB | 2529 | G | C2-N3-C4 | 10.93 | 117.36 | 111.90 |
| 2 | AB | 97 | C | N1-C2-O2 | 10.92 | 125.45 | 118.90 |
| 2 | AB | 2324 | U | N3-C4-O4 | 10.92 | 127.05 | 119.40 |
| 35 | BA | 595 | A | N1-C6-N6 | 10.92 | 125.15 | 118.60 |
| 2 | AB | 98 | G | C4-C5-C6 | 10.92 | 125.35 | 118.80 |
| 2 | AB | 1663 | G | C5-C6-O6 | -10.92 | 122.05 | 128.60 |
| 35 | BA | 274 | A | C4-C5-N7 | -10.92 | 105.24 | 110.70 |
| 35 | BA | 1033 | G | C2-N3-C4 | 10.92 | 117.36 | 111.90 |
| 35 | BA | 1269 | A | C2-N3-C4 | 10.92 | 116.06 | 110.60 |
| 2 | AB | 31 | C | C5'-C4'-O4' | 10.91 | 122.20 | 109.10 |
| 2 | AB | 370 | G | N3-C4-C5 | -10.91 | 123.14 | 128.60 |
| 2 | AB | 763 | G | C4-C5-N7 | 10.91 | 115.17 | 110.80 |
| 2 | AB | 2421 | G | N3-C4-C5 | -10.91 | 123.14 | 128.60 |
| 2 | AB | 2623 | G | N1-C2-N3 | 10.91 | 130.45 | 123.90 |
| 35 | BA | 1291 | U | N3-C2-O2 | -10.91 | 114.56 | 122.20 |
| 2 | AB | 532 | A | N7-C8-N9 | 10.91 | 119.25 | 113.80 |
| 35 | BA | 998 | C | C5-C6-N1 | 10.91 | 126.46 | 121.00 |
| 2 | AB | 1351 | C | O4'-C1'-N1 | 10.91 | 116.93 | 108.20 |
| 35 | BA | 936 | C | C4-C5-C6 | -10.91 | 111.94 | 117.40 |
| 35 | BA | 816 | A | C5-N7-C8 | -10.91 | 98.45 | 103.90 |
| 2 | AB | 759 | G | C8-N9-C4 | -10.91 | 102.04 | 106.40 |
| 49 | BO | 91 | ARG | NE-CZ-NH2 | -10.91 | 114.85 | 120.30 |
| 2 | AB | 1905 | C | C1'-O4'-C4' | -10.90 | 101.18 | 109.90 |
| 35 | BA | 79 | G | N1-C6-O6 | 10.90 | 126.44 | 119.90 |
| 35 | BA | 809 | G | C4'-C3'-C2' | -10.90 | 91.70 | 102.60 |
| 35 | BA | 1275 | A | N7-C8-N9 | 10.90 | 119.25 | 113.80 |
| 2 | AB | 2261 | C | C5-C4-N4 | -10.90 | 112.57 | 120.20 |
| 35 | BA | 1381 | U | N3-C4-C5 | 10.90 | 121.14 | 114.60 |
| 2 | AB | 2655 | G | N1-C6-O6 | -10.90 | 113.36 | 119.90 |
| 27 | A0 | 47 | ARG | NE-CZ-NH1 | -10.90 | 114.85 | 120.30 |
| 35 | BA | 101 | A | N1-C2-N3 | -10.90 | 123.85 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 35 | BA | 573 | A | N1-C6-N6 | -10.90 | 112.06 | 118.60 |
| 35 | BA | 816 | A | C8-N9-C4 | -10.90 | 101.44 | 105.80 |
| 35 | BA | 352 | C | N3-C4-C5 | -10.90 | 117.54 | 121.90 |
| 2 | AB | 261 | G | C6-N1-C2 | -10.89 | 118.56 | 125.10 |
| 2 | AB | 2539 | C | C6-N1-C2 | -10.89 | 115.94 | 120.30 |
| 2 | AB | 2737 | G | N3-C4-C5 | -10.89 | 123.15 | 128.60 |
| 48 | BN | 120 | ARG | NE-CZ-NH1 | 10.89 | 125.75 | 120.30 |
| 2 | AB | 1337 | G | N9-C4-C5 | 10.89 | 109.76 | 105.40 |
| 35 | BA | 1365 | G | O4'-C1'-N9 | 10.89 | 116.91 | 108.20 |
| 2 | AB | 265 | A | N1-C2-N3 | -10.88 | 123.86 | 129.30 |
| 2 | AB | 1085 | A | C4-C5-C6 | -10.88 | 111.56 | 117.00 |
| 2 | AB | 1495 | A | N7-C8-N9 | -10.88 | 108.36 | 113.80 |
| 2 | AB | 1601 | G | C2-N3-C4 | 10.88 | 117.34 | 111.90 |
| 2 | AB | 1986 | C | O4'-C1'-N1 | 10.89 | 116.91 | 108.20 |
| 35 | BA | 301 | G | N9-C4-C5 | 10.88 | 109.75 | 105.40 |
| 35 | BA | 831 | A | C4-C5-N7 | -10.88 | 105.26 | 110.70 |
| 35 | BA | 917 | G | N7-C8-N9 | 10.88 | 118.54 | 113.10 |
| 2 | AB | 154 | U | C2-N3-C4 | -10.88 | 120.47 | 127.00 |
| 35 | BA | 221 | C | O4'-C1'-N1 | 10.88 | 116.91 | 108.20 |
| 35 | BA | 305 | G | C5-N7-C8 | -10.88 | 98.86 | 104.30 |
| 35 | BA | 690 | G | N1-C2-N3 | 10.88 | 130.43 | 123.90 |
| 35 | BA | 1370 | G | C2-N3-C4 | 10.88 | 117.34 | 111.90 |
| 2 | AB | 892 | A | C2-N3-C4 | -10.88 | 105.16 | 110.60 |
| 2 | AB | 1841 | U | O4'-C1'-N1 | 10.88 | 116.90 | 108.20 |
| 35 | BA | 667 | G | C2-N3-C4 | 10.88 | 117.34 | 111.90 |
| 35 | BA | 1475 | G | O4'-C1'-N9 | 10.88 | 116.90 | 108.20 |
| 37 | BC | 51 | U | O4'-C1'-N1 | 10.88 | 116.90 | 108.20 |
| 52 | BR | 28 | ARG | NE-CZ-NH2 | 10.87 | 125.74 | 120.30 |
| 2 | AB | 2 | G | N3-C4-C5 | -10.87 | 123.16 | 128.60 |
| 2 | AB | 985 | C | N3-C4-C5 | -10.87 | 117.55 | 121.90 |
| 2 | AB | 1248 | G | N7-C8-N9 | -10.87 | 107.67 | 113.10 |
| 2 | AB | 2076 | U | O4'-C1'-N1 | 10.87 | 116.90 | 108.20 |
| 9 | AI | 123 | ARG | NE-CZ-NH1 | 10.87 | 125.74 | 120.30 |
| 2 | AB | 1574 | C | N1-C2-O2 | -10.87 | 112.38 | 118.90 |
| 35 | BA | 1435 | G | C8-N9-C4 | 10.87 | 110.75 | 106.40 |
| 2 | AB | 2362 | C | C2-N3-C4 | 10.87 | 125.33 | 119.90 |
| 2 | AB | 2775 | G | O4'-C1'-N9 | 10.87 | 116.89 | 108.20 |
| 35 | BA | 1466 | C | C6-N1-C2 | -10.87 | 115.95 | 120.30 |
| 2 | AB | 2859 | G | N7-C8-N9 | 10.86 | 118.53 | 113.10 |
| 35 | BA | 1306 | A | C4-C5-N7 | 10.86 | 116.13 | 110.70 |
| 2 | AB | 420 | C | C5-C6-N1 | 10.86 | 126.43 | 121.00 |
| 2 | AB | 834 | G | N7-C8-N9 | 10.86 | 118.53 | 113.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 43 | BI | 142 | ARG | NE-CZ-NH1 | 10.86 | 125.73 | 120.30 |
| 2 | AB | 1016 | G | C5-N7-C8 | 10.86 | 109.73 | 104.30 |
| 35 | BA | 201 | G | C4-C5-N7 | 10.86 | 115.14 | 110.80 |
| 37 | BC | 36 | A | C5-C6-N1 | 10.86 | 123.13 | 117.70 |
| 2 | AB | 2250 | G | C5-N7-C8 | -10.85 | 98.87 | 104.30 |
| 2 | AB | 2453 | A | C2-N3-C4 | 10.85 | 116.03 | 110.60 |
| 2 | AB | 2237 | G | N3-C4-N9 | 10.85 | 132.51 | 126.00 |
| 2 | AB | 2650 | U | O4'-C1'-N1 | 10.85 | 116.88 | 108.20 |
| 35 | BA | 690 | G | O4'-C1'-N9 | 10.85 | 116.88 | 108.20 |
| 57 | BW | 33 | ARG | NE-CZ-NH2 | -10.85 | 114.87 | 120.30 |
| 2 | AB | 412 | A | N3-C4-C5 | -10.85 | 119.21 | 126.80 |
| 2 | AB | 552 | U | O4'-C1'-N1 | 10.84 | 116.87 | 108.20 |
| 35 | BA | 404 | G | N7-C8-N9 | 10.84 | 118.52 | 113.10 |
| 2 | AB | 782 | A | C1'-O4'-C4' | -10.84 | 101.23 | 109.90 |
| 2 | AB | 1537 | G | N7-C8-N9 | 10.84 | 118.52 | 113.10 |
| 35 | BA | 558 | G | C5'-C4'-O4' | 10.84 | 122.11 | 109.10 |
| 2 | AB | 1623 | G | N9-C4-C5 | 10.84 | 109.74 | 105.40 |
| 2 | AB | 2545 | G | C2-N3-C4 | 10.84 | 117.32 | 111.90 |
| 5 | AE | 184 | ARG | NE-CZ-NH2 | 10.84 | 125.72 | 120.30 |
| 35 | BA | 691 | G | C5-N7-C8 | 10.84 | 109.72 | 104.30 |
| 2 | AB | 804 | A | C6-N1-C2 | -10.84 | 112.10 | 118.60 |
| 2 | AB | 2277 | G | O4'-C1'-N9 | 10.84 | 116.87 | 108.20 |
| 35 | BA | 1308 | U | O4'-C1'-N1 | 10.84 | 116.87 | 108.20 |
| 2 | AB | 471 | A | N7-C8-N9 | 10.83 | 119.21 | 113.80 |
| 2 | AB | 2774 | C | C5-C4-N4 | -10.83 | 112.62 | 120.20 |
| 35 | BA | 698 | G | N3-C4-C5 | -10.83 | 123.19 | 128.60 |
| 35 | BA | 1312 | G | C4-C5-N7 | -10.83 | 106.47 | 110.80 |
| 2 | AB | 1425 | G | C6-C5-N7 | -10.83 | 123.90 | 130.40 |
| 35 | BA | 386 | C | C6-N1-C2 | 10.83 | 124.63 | 120.30 |
| 35 | BA | 1444 | U | N1-C2-O2 | -10.83 | 115.22 | 122.80 |
| 2 | AB | 1554 | U | O4'-C1'-N1 | 10.82 | 116.86 | 108.20 |
| 2 | AB | 2473 | U | N3-C2-O2 | -10.82 | 114.62 | 122.20 |
| 35 | BA | 129 | A | N1-C6-N6 | -10.82 | 112.11 | 118.60 |
| 35 | BA | 987 | G | O4'-C1'-N9 | 10.82 | 116.86 | 108.20 |
| 2 | AB | 168 | G | N1-C6-O6 | 10.82 | 126.39 | 119.90 |
| 2 | AB | 1870 | C | C2-N3-C4 | 10.82 | 125.31 | 119.90 |
| 2 | AB | 1874 | C | O4'-C1'-N1 | 10.82 | 116.86 | 108.20 |
| 35 | BA | 330 | C | N1-C2-O2 | 10.82 | 125.39 | 118.90 |
| 37 | BC | 36 | A | N1-C6-N6 | -10.82 | 112.11 | 118.60 |
| 2 | AB | 211 | C | O4'-C1'-N1 | 10.82 | 116.85 | 108.20 |
| 2 | AB | 322 | A | N9-C4-C5 | -10.82 | 101.47 | 105.80 |
| 35 | BA | 254 | G | N1-C2-N3 | -10.82 | 117.41 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 35 | BA | 1248 | A | O4'-C1'-N9 | 10.82 | 116.85 | 108.20 |
| 2 | AB | 685 | A | N1-C2-N3 | -10.81 | 123.89 | 129.30 |
| 7 | AG | 124 | ARG | NE-CZ-NH2 | -10.81 | 114.89 | 120.30 |
| 2 | AB | 888 | C | N3-C4-C5 | -10.81 | 117.58 | 121.90 |
| 2 | AB | 1325 | U | C5-C4-O4 | -10.81 | 119.41 | 125.90 |
| 2 | AB | 1546 | G | C2-N3-C4 | 10.81 | 117.31 | 111.90 |
| 35 | BA | 316 | C | C6-N1-C2 | -10.81 | 115.98 | 120.30 |
| 35 | BA | 350 | G | N7-C8-N9 | 10.81 | 118.50 | 113.10 |
| 35 | BA | 450 | G | N3-C4-C5 | -10.81 | 123.19 | 128.60 |
| 2 | AB | 1459 | G | C5-C6-N1 | 10.81 | 116.90 | 111.50 |
| 2 | AB | 2588 | G | N1-C6-O6 | 10.81 | 126.39 | 119.90 |
| 23 | AW | 6 | ARG | NE-CZ-NH1 | -10.81 | 114.89 | 120.30 |
| 1 | AA | 50 | A | N1-C6-N6 | 10.81 | 125.08 | 118.60 |
| 2 | AB | 1250 | G | C2-N3-C4 | 10.81 | 117.30 | 111.90 |
| 2 | AB | 1620 | G | C2-N3-C4 | 10.81 | 117.30 | 111.90 |
| 2 | AB | 2249 | U | N3-C2-O2 | -10.81 | 114.64 | 122.20 |
| 35 | BA | 1361 | G | O4'-C1'-N9 | 10.81 | 116.84 | 108.20 |
| 2 | AB | 2098 | U | N1-C2-N3 | 10.80 | 121.38 | 114.90 |
| 2 | AB | 2361 | G | N7-C8-N9 | 10.80 | 118.50 | 113.10 |
| 2 | AB | 2719 | G | N3-C4-C5 | -10.80 | 123.20 | 128.60 |
| 35 | BA | 545 | C | C4-C5-C6 | -10.80 | 112.00 | 117.40 |
| 37 | BC | 17 | C | O4'-C1'-N1 | 10.80 | 116.84 | 108.20 |
| 2 | AB | 1210 | G | C6-C5-N7 | 10.80 | 136.88 | 130.40 |
| 36 | BB | 26 | U | N3-C2-O2 | -10.80 | 114.64 | 122.20 |
| 2 | AB | 2814 | A | N1-C2-N3 | -10.80 | 123.90 | 129.30 |
| 2 | AB | 2087 | G | C2-N3-C4 | 10.79 | 117.30 | 111.90 |
| 35 | BA | 33 | A | C5-N7-C8 | -10.79 | 98.50 | 103.90 |
| 35 | BA | 1065 | U | C1'-O4'-C4' | -10.79 | 101.27 | 109.90 |
| 35 | BA | 164 | G | C5-C6-N1 | 10.79 | 116.90 | 111.50 |
| 35 | BA | 1526 | G | N3-C4-C5 | -10.79 | 123.20 | 128.60 |
| 2 | AB | 1034 | G | N3-C4-C5 | -10.79 | 123.21 | 128.60 |
| 2 | AB | 2094 | A | N3-C4-N9 | -10.79 | 118.77 | 127.40 |
| 35 | BA | 558 | G | N9-C1'-C2' | -10.79 | 99.97 | 114.00 |
| 2 | AB | 732 | C | O4'-C1'-N1 | 10.79 | 116.83 | 108.20 |
| 2 | AB | 1373 | A | N1-C2-N3 | -10.79 | 123.91 | 129.30 |
| 2 | AB | 2333 | A | C6-C5-N7 | 10.79 | 139.85 | 132.30 |
| 2 | AB | 2684 | U | N3-C2-O2 | -10.79 | 114.65 | 122.20 |
| 35 | BA | 530 | G | O4'-C1'-N9 | -10.79 | 99.57 | 108.20 |
| 2 | AB | 873 | C | N3-C4-C5 | -10.78 | 117.59 | 121.90 |
| 2 | AB | 1824 | G | O4'-C1'-N9 | 10.78 | 116.83 | 108.20 |
| 35 | BA | 481 | G | N3-C4-N9 | 10.78 | 132.47 | 126.00 |
| 2 | AB | 156 | A | N1-C2-N3 | 10.78 | 134.69 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|--------|-------------|----------|
| 2 | AB | 2664 | G | C4-C5-N7 | -10.78 | 106.49 | 110.80 |
| 2 | AB | 2048 | G | C8-N9-C4 | -10.78 | 102.09 | 106.40 |
| 2 | AB | 2453 | A | N1-C2-N3 | -10.78 | 123.91 | 129.30 |
| 35 | BA | 345 | C | N3-C4-N4 | 10.78 | 125.55 | 118.00 |
| 1 | AA | 54 | G | C2-N3-C4 | 10.78 | 117.29 | 111.90 |
| 2 | AB | 829 | A | O4'-C1'-N9 | 10.78 | 116.82 | 108.20 |
| 35 | BA | 530 | G | C6-N1-C2 | -10.78 | 118.64 | 125.10 |
| 37 | BC | 40 | C | C5-C6-N1 | 10.78 | 126.39 | 121.00 |
| 2 | AB | 2292 | U | C4-C5-C6 | 10.77 | 126.17 | 119.70 |
| 2 | AB | 2678 | C | N1-C2-O2 | 10.77 | 125.36 | 118.90 |
| 35 | BA | 764 | C | C6-N1-C2 | -10.77 | 115.99 | 120.30 |
| 37 | BC | 4 | G | C8-N9-C4 | -10.77 | 102.09 | 106.40 |
| 2 | AB | 1176 | U | O4'-C1'-N1 | 10.77 | 116.82 | 108.20 |
| 35 | BA | 816 | A | N7-C8-N9 | 10.77 | 119.19 | 113.80 |
| 2 | AB | 1418 | G | C2-N3-C4 | 10.77 | 117.28 | 111.90 |
| 2 | AB | 1250 | G | C5-C6-N1 | 10.77 | 116.88 | 111.50 |
| 35 | BA | 956 | U | N3-C2-O2 | -10.76 | 114.67 | 122.20 |
| 2 | AB | 2199 | A | C8-N9-C4 | -10.76 | 101.50 | 105.80 |
| 35 | BA | 494 | G | N3-C4-N9 | 10.76 | 132.46 | 126.00 |
| 2 | AB | 546 | U | N1-C2-O2 | 10.76 | 130.33 | 122.80 |
| 2 | AB | 1307 | A | N7-C8-N9 | 10.76 | 119.18 | 113.80 |
| 2 | AB | 2785 | C | C5-C4-N4 | -10.76 | 112.67 | 120.20 |
| 20 | AT | 2 | TYR | CB-CG-CD1 | -10.76 | 114.55 | 121.00 |
| 35 | BA | 1511 | G | C5-C6-N1 | 10.76 | 116.88 | 111.50 |
| 2 | AB | 135 | U | N3-C4-C5 | -10.75 | 108.15 | 114.60 |
| 2 | AB | 563 | A | N1-C2-N3 | -10.75 | 123.92 | 129.30 |
| 35 | BA | 46 | G | N9-C4-C5 | 10.75 | 109.70 | 105.40 |
| 2 | AB | 2624 | G | N3-C2-N2 | -10.75 | 112.37 | 119.90 |
| 2 | AB | 1773 | A | N1-C6-N6 | 10.75 | 125.05 | 118.60 |
| 35 | BA | 1175 | G | C6-C5-N7 | 10.75 | 136.85 | 130.40 |
| 2 | AB | 2191 | A | N1-C2-N3 | -10.75 | 123.92 | 129.30 |
| 35 | BA | 949 | A | N9-C4-C5 | 10.75 | 110.10 | 105.80 |
| 1 | AA | 44 | G | N3-C4-N9 | 10.75 | 132.45 | 126.00 |
| 2 | AB | 1203 | U | O4'-C1'-N1 | 10.75 | 116.80 | 108.20 |
| 37 | BC | 59 | A | C8-N9-C4 | -10.75 | 101.50 | 105.80 |
| 2 | AB | 1837 | C | C6-N1-C2 | -10.74 | 116.00 | 120.30 |
| 2 | AB | 1999 | C | O4'-C1'-N1 | 10.74 | 116.79 | 108.20 |
| 2 | AB | 2273 | A | N1-C6-N6 | -10.74 | 112.16 | 118.60 |
| 35 | BA | 791 | G | C4-C5-N7 | 10.74 | 115.10 | 110.80 |
| 2 | AB | 1374 | G | C2-N3-C4 | 10.74 | 117.27 | 111.90 |
| 2 | AB | 1276 | A | O4'-C1'-N9 | 10.74 | 116.79 | 108.20 |
| 2 | AB | 1150 | C | O4'-C1'-N1 | 10.73 | 116.79 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 1897 | G | N7-C8-N9 | 10.73 | 118.47 | 113.10 |
| 35 | BA | 1247 | U | O4'-C1'-N1 | 10.73 | 116.79 | 108.20 |
| 35 | BA | 344 | A | N9-C4-C5 | 10.73 | 110.09 | 105.80 |
| 2 | AB | 1266 | G | C6-C5-N7 | -10.73 | 123.96 | 130.40 |
| 2 | AB | 1621 | U | C5-C4-O4 | 10.73 | 132.34 | 125.90 |
| 35 | BA | 865 | A | C4-C5-N7 | -10.73 | 105.34 | 110.70 |
| 2 | AB | 2254 | C | N3-C4-C5 | -10.73 | 117.61 | 121.90 |
| 35 | BA | 502 | A | C4'-C3'-C2' | -10.73 | 91.87 | 102.60 |
| 2 | AB | 76 | C | C5-C4-N4 | 10.72 | 127.71 | 120.20 |
| 2 | AB | 1580 | A | C5-N7-C8 | -10.72 | 98.54 | 103.90 |
| 2 | AB | 2597 | G | C3'-C2'-C1' | 10.72 | 110.08 | 101.50 |
| 35 | BA | 85 | U | O4'-C1'-N1 | 10.72 | 116.78 | 108.20 |
| 35 | BA | 502 | A | N9-C4-C5 | 10.72 | 110.09 | 105.80 |
| 2 | AB | 1049 | C | C6-N1-C2 | -10.72 | 116.01 | 120.30 |
| 35 | BA | 1074 | G | C4-C5-C6 | 10.72 | 125.23 | 118.80 |
| 2 | AB | 468 | G | O4'-C1'-N9 | 10.71 | 116.77 | 108.20 |
| 35 | BA | 1376 | U | O4'-C1'-N1 | 10.71 | 116.77 | 108.20 |
| 37 | BC | 43 | G | C5-C6-N1 | 10.71 | 116.86 | 111.50 |
| 2 | AB | 796 | C | C6-N1-C2 | -10.71 | 116.02 | 120.30 |
| 35 | BA | 565 | U | O4'-C1'-N1 | 10.71 | 116.77 | 108.20 |
| 35 | BA | 998 | C | C6-N1-C2 | -10.71 | 116.02 | 120.30 |
| 56 | BV | 9 | ARG | NE-CZ-NH1 | 10.71 | 125.65 | 120.30 |
| 2 | AB | 217 | A | N3-C4-C5 | -10.71 | 119.31 | 126.80 |
| 35 | BA | 51 | A | O4'-C1'-N9 | 10.71 | 116.76 | 108.20 |
| 2 | AB | 1965 | C | N1-C2-O2 | 10.70 | 125.32 | 118.90 |
| 2 | AB | 741 | U | C2-N3-C4 | -10.70 | 120.58 | 127.00 |
| 2 | AB | 1585 | C | N3-C4-C5 | -10.70 | 117.62 | 121.90 |
| 2 | AB | 2054 | A | N7-C8-N9 | 10.69 | 119.15 | 113.80 |
| 2 | AB | 739 | A | O4'-C1'-N9 | 10.69 | 116.75 | 108.20 |
| 2 | AB | 1086 | A | C8-N9-C4 | -10.69 | 101.52 | 105.80 |
| 2 | AB | 1849 | G | N3-C4-C5 | -10.69 | 123.26 | 128.60 |
| 2 | AB | 2070 | A | C4-C5-N7 | 10.69 | 116.05 | 110.70 |
| 35 | BA | 254 | G | N1-C2-N2 | 10.69 | 125.82 | 116.20 |
| 37 | BC | 44 | A | O4'-C1'-N9 | 10.69 | 116.75 | 108.20 |
| 2 | AB | 2113 | U | C3'-C2'-C1' | 10.69 | 110.05 | 101.50 |
| 2 | AB | 2388 | A | C2-N3-C4 | 10.69 | 115.94 | 110.60 |
| 35 | BA | 465 | A | C5-C6-N6 | -10.69 | 115.15 | 123.70 |
| 2 | AB | 2444 | G | C4-C5-N7 | 10.68 | 115.07 | 110.80 |
| 35 | BA | 69 | G | C2-N3-C4 | 10.68 | 117.24 | 111.90 |
| 2 | AB | 515 | A | C4-C5-N7 | -10.68 | 105.36 | 110.70 |
| 2 | AB | 2707 | U | C4-C5-C6 | 10.68 | 126.11 | 119.70 |
| 35 | BA | 1270 | G | N7-C8-N9 | 10.68 | 118.44 | 113.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 35 | BA | 1321 | U | C4-C5-C6 | 10.68 | 126.11 | 119.70 |
| 46 | BL | 72 | ARG | NE-CZ-NH2 | -10.68 | 114.96 | 120.30 |
| 2 | AB | 366 | C | C3'-C2'-C1' | 10.68 | 110.04 | 101.50 |
| 2 | AB | 1776 | G | C4-C5-N7 | -10.68 | 106.53 | 110.80 |
| 1 | AA | 33 | G | C5-C6-N1 | 10.68 | 116.84 | 111.50 |
| 2 | AB | 1482 | G | C5-C6-O6 | -10.68 | 122.19 | 128.60 |
| 2 | AB | 2545 | G | C8-N9-C4 | -10.68 | 102.13 | 106.40 |
| 35 | BA | 278 | G | C8-N9-C4 | -10.68 | 102.13 | 106.40 |
| 35 | BA | 1167 | A | O4'-C1'-N9 | 10.68 | 116.74 | 108.20 |
| 2 | AB | 632 | A | C6-N1-C2 | 10.67 | 125.00 | 118.60 |
| 2 | AB | 2521 | C | C2-N3-C4 | 10.67 | 125.23 | 119.90 |
| 35 | BA | 1081 | A | O4'-C1'-N9 | 10.67 | 116.74 | 108.20 |
| 2 | AB | 1252 | G | C4-C5-N7 | -10.67 | 106.53 | 110.80 |
| 2 | AB | 2515 | C | C6-N1-C2 | -10.67 | 116.03 | 120.30 |
| 2 | AB | 792 | A | C8-N9-C4 | -10.66 | 101.53 | 105.80 |
| 2 | AB | 577 | G | N3-C4-C5 | -10.66 | 123.27 | 128.60 |
| 2 | AB | 1716 | U | O4'-C1'-N1 | 10.66 | 116.73 | 108.20 |
| 2 | AB | 1730 | C | C6-N1-C2 | -10.66 | 116.03 | 120.30 |
| 2 | AB | 1860 | G | O4'-C1'-N9 | 10.66 | 116.73 | 108.20 |
| 2 | AB | 2237 | G | N3-C4-C5 | -10.66 | 123.27 | 128.60 |
| 35 | BA | 35 | G | N7-C8-N9 | 10.66 | 118.43 | 113.10 |
| 2 | AB | 64 | A | C8-N9-C4 | -10.66 | 101.54 | 105.80 |
| 2 | AB | 2048 | G | N9-C4-C5 | 10.66 | 109.66 | 105.40 |
| 2 | AB | 1248 | G | C5-N7-C8 | 10.66 | 109.63 | 104.30 |
| 43 | BI | 78 | ARG | NE-CZ-NH2 | -10.66 | 114.97 | 120.30 |
| 2 | AB | 1922 | G | N1-C6-O6 | -10.66 | 113.51 | 119.90 |
| 2 | AB | 2764 | A | N9-C4-C5 | 10.66 | 110.06 | 105.80 |
| 2 | AB | 953 | G | C8-N9-C4 | -10.65 | 102.14 | 106.40 |
| 2 | AB | 1754 | A | C5-N7-C8 | -10.65 | 98.57 | 103.90 |
| 2 | AB | 1857 | G | N3-C4-C5 | -10.65 | 123.27 | 128.60 |
| 2 | AB | 1736 | U | N1-C2-N3 | 10.65 | 121.29 | 114.90 |
| 35 | BA | 1158 | C | N1-C2-O2 | 10.65 | 125.29 | 118.90 |
| 35 | BA | 222 | C | O4'-C1'-N1 | 10.65 | 116.72 | 108.20 |
| 35 | BA | 844 | G | C4-C5-N7 | -10.65 | 106.54 | 110.80 |
| 2 | AB | 704 | G | C5-C6-N1 | 10.65 | 116.82 | 111.50 |
| 2 | AB | 1110 | G | O4'-C1'-N9 | 10.65 | 116.72 | 108.20 |
| 2 | AB | 1784 | A | C8-N9-C4 | -10.65 | 101.54 | 105.80 |
| 35 | BA | 208 | U | N3-C4-O4 | 10.65 | 126.85 | 119.40 |
| 35 | BA | 866 | C | C5-C6-N1 | 10.65 | 126.32 | 121.00 |
| 37 | BC | 19 | G | C4-C5-N7 | 10.65 | 115.06 | 110.80 |
| 2 | AB | 1552 | A | N7-C8-N9 | -10.64 | 108.48 | 113.80 |
| 35 | BA | 694 | A | C2-N3-C4 | 10.64 | 115.92 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 37 | BC | 37 | U | C5-C6-N1 | -10.64 | 117.38 | 122.70 |
| 1 | AA | 86 | G | C5-N7-C8 | -10.64 | 98.98 | 104.30 |
| 2 | AB | 1767 | G | N9-C4-C5 | 10.64 | 109.66 | 105.40 |
| 35 | BA | 1327 | C | N3-C4-C5 | -10.64 | 117.64 | 121.90 |
| 35 | BA | 1332 | A | C6-N1-C2 | -10.64 | 112.22 | 118.60 |
| 2 | AB | 629 | G | C4-C5-N7 | -10.64 | 106.55 | 110.80 |
| 2 | AB | 1122 | G | C2-N3-C4 | 10.64 | 117.22 | 111.90 |
| 2 | AB | 1807 | G | C8-N9-C4 | -10.64 | 102.14 | 106.40 |
| 35 | BA | 66 | A | C8-N9-C4 | -10.63 | 101.55 | 105.80 |
| 35 | BA | 1160 | G | C4-C5-N7 | -10.63 | 106.55 | 110.80 |
| 1 | AA | 61 | G | C8-N9-C4 | -10.63 | 102.15 | 106.40 |
| 2 | AB | 2869 | G | N1-C2-N3 | -10.63 | 117.52 | 123.90 |
| 35 | BA | 447 | G | N7-C8-N9 | 10.63 | 118.42 | 113.10 |
| 35 | BA | 711 | G | N9-C4-C5 | 10.63 | 109.65 | 105.40 |
| 35 | BA | 926 | G | O4'-C1'-N9 | 10.63 | 116.70 | 108.20 |
| 35 | BA | 305 | G | N7-C8-N9 | 10.63 | 118.42 | 113.10 |
| 2 | AB | 1652 | A | O4'-C1'-N9 | 10.63 | 116.70 | 108.20 |
| 35 | BA | 700 | G | C8-N9-C4 | -10.63 | 102.15 | 106.40 |
| 35 | BA | 706 | A | C5-C6-N1 | 10.63 | 123.01 | 117.70 |
| 35 | BA | 1454 | G | C4-C5-N7 | -10.63 | 106.55 | 110.80 |
| 2 | AB | 314 | C | O4'-C1'-N1 | 10.62 | 116.70 | 108.20 |
| 2 | AB | 1393 | A | O4'-C1'-N9 | -10.62 | 99.70 | 108.20 |
| 2 | AB | 2791 | G | N3-C4-C5 | -10.62 | 123.29 | 128.60 |
| 6 | AF | 49 | ARG | NE-CZ-NH2 | 10.62 | 125.61 | 120.30 |
| 2 | AB | 315 | G | C4-C5-N7 | -10.62 | 106.55 | 110.80 |
| 2 | AB | 473 | G | C6-N1-C2 | -10.62 | 118.73 | 125.10 |
| 2 | AB | 1091 | G | O4'-C1'-N9 | 10.62 | 116.69 | 108.20 |
| 2 | AB | 2394 | C | O4'-C1'-N1 | 10.62 | 116.69 | 108.20 |
| 35 | BA | 1269 | A | N1-C2-N3 | -10.62 | 123.99 | 129.30 |
| 2 | AB | 916 | G | C4-C5-N7 | -10.61 | 106.56 | 110.80 |
| 35 | BA | 65 | A | O4'-C1'-N9 | 10.61 | 116.69 | 108.20 |
| 35 | BA | 127 | G | N3-C4-N9 | 10.61 | 132.37 | 126.00 |
| 2 | AB | 1360 | G | N3-C4-C5 | -10.61 | 123.30 | 128.60 |
| 35 | BA | 593 | U | C3'-C2'-C1' | 10.61 | 109.99 | 101.50 |
| 35 | BA | 1459 | G | N3-C4-C5 | -10.61 | 123.30 | 128.60 |
| 2 | AB | 25 | U | C4-C5-C6 | 10.61 | 126.06 | 119.70 |
| 2 | AB | 2545 | G | C4-C5-N7 | -10.61 | 106.56 | 110.80 |
| 35 | BA | 1500 | A | C5-C6-N1 | 10.61 | 123.00 | 117.70 |
| 2 | AB | 1971 | U | C5'-C4'-O4' | 10.60 | 121.82 | 109.10 |
| 2 | AB | 2895 | G | C2-N3-C4 | 10.60 | 117.20 | 111.90 |
| 2 | AB | 789 | A | C4-C5-C6 | 10.60 | 122.30 | 117.00 |
| 35 | BA | 574 | A | N1-C2-N3 | -10.60 | 124.00 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 35 | BA | 817 | C | C3'-C2'-C1' | -10.60 | 93.02 | 101.50 |
| 35 | BA | 916 | U | N3-C2-O2 | -10.60 | 114.78 | 122.20 |
| 2 | AB | 740 | C | O4'-C1'-N1 | 10.60 | 116.68 | 108.20 |
| 2 | AB | 2027 | G | C5-N7-C8 | -10.60 | 99.00 | 104.30 |
| 2 | AB | 1303 | G | C4-C5-C6 | 10.59 | 125.16 | 118.80 |
| 2 | AB | 2228 | G | C8-N9-C4 | -10.59 | 102.16 | 106.40 |
| 35 | BA | 942 | G | C2-N3-C4 | 10.59 | 117.20 | 111.90 |
| 35 | BA | 1021 | A | N1-C6-N6 | -10.59 | 112.24 | 118.60 |
| 35 | BA | 1283 | U | O4'-C1'-N1 | 10.59 | 116.67 | 108.20 |
| 35 | BA | 1479 | C | C2-N3-C4 | -10.59 | 114.60 | 119.90 |
| 2 | AB | 540 | C | O4'-C1'-N1 | 10.59 | 116.67 | 108.20 |
| 2 | AB | 1360 | G | N1-C6-O6 | -10.59 | 113.55 | 119.90 |
| 35 | BA | 288 | A | C5-N7-C8 | -10.59 | 98.61 | 103.90 |
| 35 | BA | 465 | A | N1-C6-N6 | 10.59 | 124.95 | 118.60 |
| 2 | AB | 108 | G | C8-N9-C4 | -10.59 | 102.17 | 106.40 |
| 2 | AB | 1021 | A | C8-N9-C4 | -10.59 | 101.57 | 105.80 |
| 35 | BA | 192 | A | C4-C5-C6 | -10.59 | 111.71 | 117.00 |
| 2 | AB | 1413 | A | C4-C5-N7 | -10.59 | 105.41 | 110.70 |
| 2 | AB | 1669 | A | N1-C2-N3 | -10.59 | 124.01 | 129.30 |
| 2 | AB | 2522 | U | O4'-C1'-N1 | 10.59 | 116.67 | 108.20 |
| 35 | BA | 1166 | G | N3-C4-C5 | -10.59 | 123.31 | 128.60 |
| 35 | BA | 521 | G | C5-N7-C8 | 10.58 | 109.59 | 104.30 |
| 35 | BA | 232 | G | C3'-C2'-C1' | 10.58 | 109.97 | 101.50 |
| 2 | AB | 2337 | G | C6-N1-C2 | -10.58 | 118.75 | 125.10 |
| 2 | AB | 424 | G | N9-C4-C5 | 10.58 | 109.63 | 105.40 |
| 35 | BA | 344 | A | N1-C2-N3 | -10.58 | 124.01 | 129.30 |
| 35 | BA | 1084 | G | C5-C6-O6 | -10.58 | 122.25 | 128.60 |
| 2 | AB | 2738 | A | N9-C4-C5 | 10.57 | 110.03 | 105.80 |
| 35 | BA | 139 | A | C5-C6-N1 | 10.57 | 122.99 | 117.70 |
| 35 | BA | 1177 | G | C8-N9-C4 | -10.57 | 102.17 | 106.40 |
| 2 | AB | 2585 | U | C5-C4-O4 | 10.57 | 132.24 | 125.90 |
| 2 | AB | 1531 | C | N1-C2-O2 | 10.57 | 125.24 | 118.90 |
| 2 | AB | 2661 | G | C8-N9-C4 | -10.57 | 102.17 | 106.40 |
| 35 | BA | 38 | G | C2-N3-C4 | 10.57 | 117.18 | 111.90 |
| 2 | AB | 31 | C | N3-C2-O2 | -10.56 | 114.50 | 121.90 |
| 2 | AB | 830 | G | N3-C4-C5 | -10.56 | 123.32 | 128.60 |
| 2 | AB | 1496 | A | C8-N9-C4 | -10.56 | 101.57 | 105.80 |
| 35 | BA | 128 | G | C4-C5-N7 | 10.56 | 115.03 | 110.80 |
| 35 | BA | 258 | G | C6-C5-N7 | -10.56 | 124.06 | 130.40 |
| 2 | AB | 1171 | G | C8-N9-C4 | -10.56 | 102.18 | 106.40 |
| 2 | AB | 2277 | G | C5-C6-O6 | -10.56 | 122.26 | 128.60 |
| 2 | AB | 2744 | G | C4-C5-N7 | -10.56 | 106.58 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 1362 | C | C4-C5-C6 | -10.56 | 112.12 | 117.40 |
| 1 | AA | 86 | G | N9-C4-C5 | 10.56 | 109.62 | 105.40 |
| 2 | AB | 796 | C | O4'-C1'-N1 | 10.56 | 116.65 | 108.20 |
| 2 | AB | 2009 | A | C6-N1-C2 | -10.56 | 112.27 | 118.60 |
| 2 | AB | 63 | A | C1'-O4'-C4' | -10.55 | 101.46 | 109.90 |
| 28 | A1 | 15 | ARG | NE-CZ-NH1 | 10.55 | 125.58 | 120.30 |
| 35 | BA | 328 | C | C2-N3-C4 | 10.55 | 125.18 | 119.90 |
| 35 | BA | 584 | G | C8-N9-C4 | -10.55 | 102.18 | 106.40 |
| 35 | BA | 1321 | U | C5-C6-N1 | -10.55 | 117.42 | 122.70 |
| 2 | AB | 1508 | A | O4'-C1'-N9 | 10.55 | 116.64 | 108.20 |
| 2 | AB | 1927 | A | N1-C2-N3 | -10.55 | 124.03 | 129.30 |
| 2 | AB | 2534 | A | C5-C6-N1 | -10.55 | 112.43 | 117.70 |
| 35 | BA | 257 | G | N3-C4-C5 | -10.55 | 123.33 | 128.60 |
| 35 | BA | 1159 | U | O4'-C1'-N1 | 10.55 | 116.64 | 108.20 |
| 2 | AB | 1506 | U | C2-N3-C4 | -10.55 | 120.67 | 127.00 |
| 2 | AB | 68 | G | N3-C4-C5 | 10.54 | 133.87 | 128.60 |
| 35 | BA | 289 | G | O4'-C1'-N9 | 10.54 | 116.64 | 108.20 |
| 35 | BA | 332 | G | N3-C4-N9 | -10.54 | 119.67 | 126.00 |
| 35 | BA | 787 | A | C1'-O4'-C4' | -10.54 | 101.46 | 109.90 |
| 35 | BA | 1099 | G | C5-N7-C8 | -10.54 | 99.03 | 104.30 |
| 35 | BA | 1332 | A | N1-C2-N3 | 10.54 | 134.57 | 129.30 |
| 2 | AB | 1488 | C | O4'-C1'-N1 | 10.54 | 116.63 | 108.20 |
| 2 | AB | 1723 | G | O4'-C1'-N9 | 10.54 | 116.63 | 108.20 |
| 1 | AA | 51 | G | C8-N9-C4 | -10.54 | 102.19 | 106.40 |
| 35 | BA | 848 | C | C6-N1-C2 | -10.54 | 116.09 | 120.30 |
| 35 | BA | 972 | C | O4'-C1'-N1 | 10.54 | 116.63 | 108.20 |
| 37 | BC | 22 | A | N9-C4-C5 | -10.54 | 101.59 | 105.80 |
| 1 | AA | 33 | G | O4'-C1'-N9 | 10.53 | 116.63 | 108.20 |
| 2 | AB | 2056 | G | C6-C5-N7 | -10.53 | 124.08 | 130.40 |
| 2 | AB | 2825 | G | N3-C4-C5 | -10.53 | 123.33 | 128.60 |
| 2 | AB | 320 | A | C8-N9-C4 | 10.53 | 110.01 | 105.80 |
| 2 | AB | 1822 | C | N3-C2-O2 | 10.53 | 129.27 | 121.90 |
| 2 | AB | 2720 | U | C4-C5-C6 | 10.53 | 126.02 | 119.70 |
| 2 | AB | 2602 | A | C8-N9-C4 | -10.53 | 101.59 | 105.80 |
| 2 | AB | 2630 | G | N1-C6-O6 | 10.53 | 126.22 | 119.90 |
| 2 | AB | 2864 | G | C8-N9-C4 | -10.53 | 102.19 | 106.40 |
| 35 | BA | 691 | G | C2-N3-C4 | 10.53 | 117.17 | 111.90 |
| 2 | AB | 1610 | A | C4-C5-C6 | -10.53 | 111.74 | 117.00 |
| 2 | AB | 1612 | C | N1-C2-O2 | 10.53 | 125.22 | 118.90 |
| 2 | AB | 2527 | C | C6-N1-C2 | -10.53 | 116.09 | 120.30 |
| 2 | AB | 2679 | A | C8-N9-C4 | -10.53 | 101.59 | 105.80 |
| 2 | AB | 225 | C | C6-N1-C2 | 10.53 | 124.51 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 254 | G | N3-C4-N9 | 10.53 | 132.32 | 126.00 |
| 2 | AB | 2081 | U | O4'-C1'-N1 | 10.53 | 116.62 | 108.20 |
| 35 | BA | 899 | C | N3-C2-O2 | -10.53 | 114.53 | 121.90 |
| 28 | A1 | 29 | ARG | NE-CZ-NH2 | 10.53 | 125.56 | 120.30 |
| 35 | BA | 1052 | U | N1-C2-N3 | 10.53 | 121.22 | 114.90 |
| 35 | BA | 1326 | U | N1-C2-N3 | 10.53 | 121.22 | 114.90 |
| 45 | BK | 44 | ARG | NE-CZ-NH1 | 10.53 | 125.56 | 120.30 |
| 2 | AB | 2586 | U | O4'-C4'-C3' | 10.52 | 114.52 | 104.00 |
| 2 | AB | 258 | G | N9-C4-C5 | 10.52 | 109.61 | 105.40 |
| 35 | BA | 156 | C | C4-C5-C6 | 10.52 | 122.66 | 117.40 |
| 35 | BA | 1063 | C | N3-C4-C5 | -10.52 | 117.69 | 121.90 |
| 35 | BA | 1334 | G | C6-C5-N7 | -10.52 | 124.09 | 130.40 |
| 35 | BA | 1254 | A | N1-C6-N6 | 10.52 | 124.91 | 118.60 |
| 2 | AB | 1927 | A | C2-N3-C4 | 10.52 | 115.86 | 110.60 |
| 2 | AB | 1952 | A | C5-C6-N1 | 10.52 | 122.96 | 117.70 |
| 2 | AB | 751 | A | C4-C5-C6 | -10.52 | 111.74 | 117.00 |
| 2 | AB | 993 | G | C5-C6-O6 | -10.52 | 122.29 | 128.60 |
| 2 | AB | 1006 | C | O4'-C1'-N1 | 10.52 | 116.61 | 108.20 |
| 35 | BA | 743 | A | C6-N1-C2 | 10.52 | 124.91 | 118.60 |
| 50 | BP | 52 | ARG | NE-CZ-NH1 | 10.52 | 125.56 | 120.30 |
| 2 | AB | 518 | G | N1-C6-O6 | 10.51 | 126.21 | 119.90 |
| 2 | AB | 185 | G | N3-C4-C5 | -10.51 | 123.35 | 128.60 |
| 35 | BA | 742 | G | N1-C6-O6 | -10.51 | 113.60 | 119.90 |
| 1 | AA | 120 | U | O4'-C1'-N1 | 10.51 | 116.60 | 108.20 |
| 2 | AB | 1037 | G | O4'-C1'-N9 | 10.51 | 116.61 | 108.20 |
| 35 | BA | 519 | C | C4-C5-C6 | -10.51 | 112.15 | 117.40 |
| 2 | AB | 2441 | U | C5-C6-N1 | -10.50 | 117.45 | 122.70 |
| 35 | BA | 282 | A | N1-C6-N6 | -10.50 | 112.30 | 118.60 |
| 36 | BB | 29 | G | N3-C4-C5 | -10.50 | 123.35 | 128.60 |
| 2 | AB | 1980 | G | C8-N9-C4 | -10.50 | 102.20 | 106.40 |
| 35 | BA | 266 | G | N3-C4-C5 | -10.50 | 123.35 | 128.60 |
| 35 | BA | 1512 | U | C4-C5-C6 | 10.50 | 126.00 | 119.70 |
| 2 | AB | 297 | G | N3-C4-N9 | 10.50 | 132.30 | 126.00 |
| 2 | AB | 409 | G | C8-N9-C4 | -10.50 | 102.20 | 106.40 |
| 2 | AB | 570 | G | N1-C2-N3 | -10.50 | 117.60 | 123.90 |
| 2 | AB | 2134 | A | O4'-C1'-N9 | 10.50 | 116.60 | 108.20 |
| 27 | A0 | 47 | ARG | NE-CZ-NH2 | 10.50 | 125.55 | 120.30 |
| 2 | AB | 2177 | C | N1-C2-O2 | 10.49 | 125.20 | 118.90 |
| 2 | AB | 2269 | G | N9-C4-C5 | -10.49 | 101.20 | 105.40 |
| 2 | AB | 2882 | A | N7-C8-N9 | -10.49 | 108.55 | 113.80 |
| 35 | BA | 776 | G | C5-C6-N1 | 10.49 | 116.75 | 111.50 |
| 35 | BA | 955 | U | O4'-C1'-N1 | 10.49 | 116.59 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 334 | C | N3-C4-N4 | 10.49 | 125.34 | 118.00 |
| 2 | AB | 436 | C | N1-C2-O2 | 10.49 | 125.19 | 118.90 |
| 35 | BA | 1217 | C | N1-C2-O2 | 10.49 | 125.19 | 118.90 |
| 2 | AB | 2126 | A | C5-N7-C8 | -10.49 | 98.66 | 103.90 |
| 35 | BA | 306 | A | C8-N9-C4 | -10.48 | 101.61 | 105.80 |
| 2 | AB | 1003 | G | O4'-C1'-N9 | 10.48 | 116.58 | 108.20 |
| 35 | BA | 220 | G | C2-N3-C4 | 10.48 | 117.14 | 111.90 |
| 35 | BA | 402 | G | C5-N7-C8 | 10.48 | 109.54 | 104.30 |
| 51 | BQ | 52 | ARG | NE-CZ-NH1 | 10.48 | 125.54 | 120.30 |
| 2 | AB | 198 | C | N1-C2-N3 | 10.48 | 126.53 | 119.20 |
| 2 | AB | 338 | G | C4-C5-N7 | 10.48 | 114.99 | 110.80 |
| 2 | AB | 1040 | A | O4'-C1'-C2' | 10.48 | 117.03 | 107.60 |
| 35 | BA | 799 | G | C2-N3-C4 | 10.48 | 117.14 | 111.90 |
| 2 | AB | 1091 | G | C8-N9-C4 | -10.47 | 102.21 | 106.40 |
| 35 | BA | 530 | G | N9-C4-C5 | 10.47 | 109.59 | 105.40 |
| 7 | AG | 113 | PHE | CB-CG-CD2 | -10.47 | 113.47 | 120.80 |
| 2 | AB | 2398 | U | O4'-C1'-N1 | 10.46 | 116.57 | 108.20 |
| 35 | BA | 799 | G | C5-C6-O6 | -10.46 | 122.32 | 128.60 |
| 2 | AB | 175 | G | C5-C6-N1 | 10.46 | 116.73 | 111.50 |
| 2 | AB | 2051 | A | N9-C4-C5 | 10.46 | 109.98 | 105.80 |
| 35 | BA | 1162 | C | N3-C2-O2 | -10.46 | 114.58 | 121.90 |
| 35 | BA | 286 | C | N1-C2-O2 | 10.46 | 125.18 | 118.90 |
| 35 | BA | 539 | A | C2-N3-C4 | -10.46 | 105.37 | 110.60 |
| 2 | AB | 2659 | G | N3-C4-C5 | -10.46 | 123.37 | 128.60 |
| 35 | BA | 767 | A | N9-C4-C5 | 10.46 | 109.98 | 105.80 |
| 2 | AB | 320 | A | C4-C5-C6 | -10.46 | 111.77 | 117.00 |
| 2 | AB | 73 | A | N7-C8-N9 | -10.46 | 108.57 | 113.80 |
| 2 | AB | 464 | U | C5-C4-O4 | -10.46 | 119.63 | 125.90 |
| 2 | AB | 556 | A | O4'-C4'-C3' | 10.45 | 114.46 | 106.10 |
| 2 | AB | 2375 | G | N3-C4-C5 | -10.45 | 123.37 | 128.60 |
| 2 | AB | 713 | G | N3-C4-C5 | -10.45 | 123.37 | 128.60 |
| 35 | BA | 1512 | U | N3-C2-O2 | -10.45 | 114.88 | 122.20 |
| 2 | AB | 738 | G | C6-N1-C2 | -10.45 | 118.83 | 125.10 |
| 2 | AB | 1177 | G | N3-C4-C5 | -10.45 | 123.38 | 128.60 |
| 35 | BA | 771 | G | N3-C4-C5 | -10.45 | 123.38 | 128.60 |
| 2 | AB | 2389 | G | C2-N3-C4 | 10.45 | 117.12 | 111.90 |
| 35 | BA | 383 | A | C8-N9-C4 | -10.45 | 101.62 | 105.80 |
| 2 | AB | 562 | U | C2-N3-C4 | -10.44 | 120.73 | 127.00 |
| 2 | AB | 1620 | G | C4-C5-C6 | 10.44 | 125.06 | 118.80 |
| 35 | BA | 479 | U | C5-C4-O4 | -10.44 | 119.64 | 125.90 |
| 35 | BA | 1191 | A | N9-C4-C5 | -10.44 | 101.62 | 105.80 |
| 35 | BA | 411 | A | C1'-O4'-C4' | 10.44 | 118.25 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 1624 | U | N3-C2-O2 | -10.44 | 114.89 | 122.20 |
| 2 | AB | 1845 | G | N1-C2-N3 | 10.44 | 130.16 | 123.90 |
| 7 | AG | 109 | ARG | NE-CZ-NH2 | -10.43 | 115.08 | 120.30 |
| 35 | BA | 1450 | U | C5-C4-O4 | -10.43 | 119.64 | 125.90 |
| 2 | AB | 274 | C | N1-C2-O2 | 10.43 | 125.16 | 118.90 |
| 2 | AB | 2617 | U | C4-C5-C6 | 10.43 | 125.96 | 119.70 |
| 8 | AH | 57 | TYR | CB-CG-CD2 | -10.43 | 114.74 | 121.00 |
| 35 | BA | 364 | A | O4'-C1'-N9 | 10.43 | 116.55 | 108.20 |
| 2 | AB | 1657 | U | C5-C6-N1 | -10.43 | 117.49 | 122.70 |
| 2 | AB | 2603 | G | C2-N3-C4 | 10.43 | 117.11 | 111.90 |
| 35 | BA | 10 | A | N9-C4-C5 | 10.43 | 109.97 | 105.80 |
| 35 | BA | 357 | G | C8-N9-C4 | -10.43 | 102.23 | 106.40 |
| 35 | BA | 746 | A | O4'-C1'-N9 | 10.43 | 116.54 | 108.20 |
| 35 | BA | 1310 | G | C2-N3-C4 | 10.43 | 117.11 | 111.90 |
| 2 | AB | 1671 | U | C6-N1-C2 | -10.43 | 114.74 | 121.00 |
| 2 | AB | 2319 | G | C2-N3-C4 | 10.43 | 117.11 | 111.90 |
| 2 | AB | 2114 | A | N9-C4-C5 | -10.43 | 101.63 | 105.80 |
| 35 | BA | 191 | G | O4'-C1'-N9 | 10.43 | 116.54 | 108.20 |
| 35 | BA | 612 | C | C4-C5-C6 | 10.43 | 122.61 | 117.40 |
| 35 | BA | 1431 | A | C4-C5-C6 | -10.43 | 111.79 | 117.00 |
| 2 | AB | 370 | G | C2-N3-C4 | 10.42 | 117.11 | 111.90 |
| 2 | AB | 914 | G | N3-C4-C5 | -10.42 | 123.39 | 128.60 |
| 35 | BA | 867 | G | C6-C5-N7 | -10.42 | 124.15 | 130.40 |
| 35 | BA | 602 | A | C5-N7-C8 | 10.42 | 109.11 | 103.90 |
| 2 | AB | 1659 | G | C6-N1-C2 | -10.42 | 118.85 | 125.10 |
| 35 | BA | 1089 | G | N9-C4-C5 | 10.42 | 109.57 | 105.40 |
| 35 | BA | 1146 | A | N9-C4-C5 | 10.42 | 109.97 | 105.80 |
| 37 | BC | 39 | A | N7-C8-N9 | -10.42 | 108.59 | 113.80 |
| 2 | AB | 1128 | G | N3-C4-C5 | -10.42 | 123.39 | 128.60 |
| 2 | AB | 2169 | A | C4-C5-C6 | 10.42 | 122.21 | 117.00 |
| 2 | AB | 98 | G | C5-C6-N1 | -10.41 | 106.29 | 111.50 |
| 2 | AB | 2102 | G | O4'-C1'-N9 | 10.41 | 116.53 | 108.20 |
| 35 | BA | 740 | U | O4'-C1'-N1 | 10.41 | 116.53 | 108.20 |
| 2 | AB | 916 | G | N3-C4-C5 | -10.41 | 123.39 | 128.60 |
| 35 | BA | 1456 | A | C6-N1-C2 | -10.41 | 112.35 | 118.60 |
| 48 | BN | 109 | ARG | NE-CZ-NH1 | 10.41 | 125.51 | 120.30 |
| 2 | AB | 2566 | A | O4'-C1'-N9 | 10.41 | 116.53 | 108.20 |
| 2 | AB | 1420 | A | N3-C4-C5 | -10.41 | 119.52 | 126.80 |
| 2 | AB | 1698 | A | C8-N9-C4 | -10.41 | 101.64 | 105.80 |
| 2 | AB | 2384 | U | C1'-O4'-C4' | 10.41 | 118.23 | 109.90 |
| 35 | BA | 815 | A | C1'-O4'-C4' | -10.41 | 101.57 | 109.90 |
| 2 | AB | 1661 | G | N9-C4-C5 | 10.40 | 109.56 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 1852 | U | N1-C2-N3 | 10.40 | 121.14 | 114.90 |
| 35 | BA | 844 | G | N3-C4-C5 | -10.40 | 123.40 | 128.60 |
| 35 | BA | 1502 | A | C2-N3-C4 | 10.40 | 115.80 | 110.60 |
| 35 | BA | 264 | C | N3-C2-O2 | -10.40 | 114.62 | 121.90 |
| 35 | BA | 1347 | G | N9-C4-C5 | 10.40 | 109.56 | 105.40 |
| 2 | AB | 838 | C | O4'-C1'-N1 | 10.40 | 116.52 | 108.20 |
| 2 | AB | 1953 | A | C5-N7-C8 | 10.40 | 109.10 | 103.90 |
| 37 | BC | 12 | G | N3-C4-C5 | -10.40 | 123.40 | 128.60 |
| 2 | AB | 712 | G | O4'-C1'-N9 | 10.39 | 116.51 | 108.20 |
| 35 | BA | 786 | G | C8-N9-C4 | -10.39 | 102.24 | 106.40 |
| 2 | AB | 1687 | G | N1-C6-O6 | -10.38 | 113.67 | 119.90 |
| 2 | AB | 748 | G | C3'-C2'-C1' | 10.38 | 109.81 | 101.50 |
| 2 | AB | 159 | G | O4'-C1'-N9 | 10.38 | 116.50 | 108.20 |
| 2 | AB | 1020 | A | C8-N9-C4 | -10.38 | 101.65 | 105.80 |
| 2 | AB | 2536 | G | O4'-C1'-N9 | 10.38 | 116.51 | 108.20 |
| 35 | BA | 34 | C | C5-C6-N1 | 10.38 | 126.19 | 121.00 |
| 35 | BA | 421 | U | C5-C6-N1 | -10.38 | 117.51 | 122.70 |
| 35 | BA | 1222 | G | C3'-C2'-C1' | 10.38 | 109.81 | 101.50 |
| 35 | BA | 477 | C | C5-C6-N1 | 10.38 | 126.19 | 121.00 |
| 35 | BA | 1500 | A | C2-N3-C4 | 10.38 | 115.79 | 110.60 |
| 2 | AB | 68 | G | C5-N7-C8 | -10.38 | 99.11 | 104.30 |
| 2 | AB | 625 | G | C5-C6-O6 | -10.38 | 122.37 | 128.60 |
| 2 | AB | 1545 | A | C5-N7-C8 | -10.38 | 98.71 | 103.90 |
| 2 | AB | 2502 | G | C5-N7-C8 | -10.38 | 99.11 | 104.30 |
| 35 | BA | 1188 | A | C4-C5-N7 | -10.38 | 105.51 | 110.70 |
| 2 | AB | 624 | C | N3-C4-N4 | 10.38 | 125.26 | 118.00 |
| 2 | AB | 1042 | G | N7-C8-N9 | 10.37 | 118.29 | 113.10 |
| 1 | AA | 32 | U | C5-C6-N1 | -10.37 | 117.51 | 122.70 |
| 35 | BA | 750 | C | N3-C4-N4 | 10.37 | 125.26 | 118.00 |
| 2 | AB | 252 | G | C5-C6-O6 | -10.37 | 122.38 | 128.60 |
| 2 | AB | 2159 | G | C4-C5-N7 | -10.37 | 106.65 | 110.80 |
| 35 | BA | 1469 | C | N3-C4-C5 | -10.37 | 117.75 | 121.90 |
| 54 | BT | 6 | ARG | NE-CZ-NH2 | -10.37 | 115.12 | 120.30 |
| 2 | AB | 1206 | G | C5-N7-C8 | -10.37 | 99.12 | 104.30 |
| 35 | BA | 1520 | C | O4'-C1'-N1 | 10.36 | 116.49 | 108.20 |
| 2 | AB | 1544 | A | C5'-C4'-O4' | 10.36 | 121.53 | 109.10 |
| 2 | AB | 2314 | A | N9-C4-C5 | -10.36 | 101.66 | 105.80 |
| 2 | AB | 2770 | G | N1-C6-O6 | -10.36 | 113.68 | 119.90 |
| 2 | AB | 2880 | C | C6-N1-C2 | -10.36 | 116.16 | 120.30 |
| 35 | BA | 207 | C | O4'-C1'-N1 | 10.36 | 116.49 | 108.20 |
| 35 | BA | 1069 | C | C6-N1-C2 | -10.36 | 116.16 | 120.30 |
| 2 | AB | 1576 | U | O4'-C1'-N1 | 10.36 | 116.49 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 2645 | G | C2-N3-C4 | 10.36 | 117.08 | 111.90 |
| 35 | BA | 343 | U | N3-C4-O4 | 10.36 | 126.65 | 119.40 |
| 2 | AB | 2139 | U | C5-C4-O4 | -10.36 | 119.69 | 125.90 |
| 2 | AB | 700 | G | N9-C4-C5 | 10.36 | 109.54 | 105.40 |
| 2 | AB | 1938 | A | N1-C2-N3 | 10.36 | 134.48 | 129.30 |
| 35 | BA | 609 | A | N1-C2-N3 | -10.36 | 124.12 | 129.30 |
| 35 | BA | 846 | G | N7-C8-N9 | 10.36 | 118.28 | 113.10 |
| 35 | BA | 922 | G | C5-C6-O6 | -10.36 | 122.39 | 128.60 |
| 35 | BA | 1278 | G | N7-C8-N9 | 10.36 | 118.28 | 113.10 |
| 35 | BA | 621 | A | N1-C2-N3 | -10.35 | 124.12 | 129.30 |
| 35 | BA | 1395 | C | C1'-O4'-C4' | -10.35 | 101.62 | 109.90 |
| 2 | AB | 1949 | G | C5-C6-N1 | 10.35 | 116.67 | 111.50 |
| 2 | AB | 2496 | C | N1-C2-O2 | 10.35 | 125.11 | 118.90 |
| 35 | BA | 618 | C | C5-C4-N4 | -10.35 | 112.95 | 120.20 |
| 35 | BA | 1255 | G | N1-C2-N3 | -10.35 | 117.69 | 123.90 |
| 35 | BA | 1526 | G | C4-C5-C6 | 10.35 | 125.01 | 118.80 |
| 2 | AB | 304 | U | C2-N3-C4 | -10.35 | 120.79 | 127.00 |
| 35 | BA | 591 | U | C4-C5-C6 | 10.35 | 125.91 | 119.70 |
| 35 | BA | 1015 | G | P-O3'-C3' | 10.35 | 132.12 | 119.70 |
| 2 | AB | 526 | A | N1-C2-N3 | -10.35 | 124.13 | 129.30 |
| 35 | BA | 473 | U | O4'-C1'-N1 | 10.35 | 116.48 | 108.20 |
| 35 | BA | 415 | A | C2-N3-C4 | 10.35 | 115.77 | 110.60 |
| 2 | AB | 1518 | C | O4'-C1'-N1 | 10.35 | 116.48 | 108.20 |
| 35 | BA | 422 | C | N3-C4-C5 | 10.35 | 126.04 | 121.90 |
| 35 | BA | 685 | G | N3-C2-N2 | 10.35 | 127.14 | 119.90 |
| 1 | AA | 95 | U | O4'-C1'-N1 | 10.34 | 116.48 | 108.20 |
| 2 | AB | 554 | U | N1-C2-N3 | 10.34 | 121.11 | 114.90 |
| 2 | AB | 889 | C | C6-N1-C2 | -10.34 | 116.16 | 120.30 |
| 2 | AB | 2844 | G | C5-N7-C8 | -10.34 | 99.13 | 104.30 |
| 2 | AB | 869 | G | C5-C6-O6 | -10.34 | 122.39 | 128.60 |
| 35 | BA | 132 | C | C3'-C2'-C1' | 10.34 | 109.77 | 101.50 |
| 35 | BA | 551 | U | O4'-C1'-N1 | 10.34 | 116.47 | 108.20 |
| 35 | BA | 804 | U | O4'-C1'-N1 | 10.34 | 116.47 | 108.20 |
| 35 | BA | 609 | A | C2-N3-C4 | 10.34 | 115.77 | 110.60 |
| 35 | BA | 405 | U | C5'-C4'-O4' | 10.34 | 121.51 | 109.10 |
| 2 | AB | 467 | G | N9-C4-C5 | 10.34 | 109.53 | 105.40 |
| 2 | AB | 730 | A | N7-C8-N9 | 10.34 | 118.97 | 113.80 |
| 2 | AB | 858 | G | N7-C8-N9 | 10.34 | 118.27 | 113.10 |
| 2 | AB | 2098 | U | N3-C2-O2 | -10.34 | 114.97 | 122.20 |
| 35 | BA | 634 | C | C5-C4-N4 | 10.34 | 127.44 | 120.20 |
| 35 | BA | 505 | G | N9-C4-C5 | 10.33 | 109.53 | 105.40 |
| 1 | AA | 79 | G | C6-N1-C2 | -10.33 | 118.90 | 125.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 1837 | C | C5-C4-N4 | -10.33 | 112.97 | 120.20 |
| 35 | BA | 649 | A | C8-N9-C4 | -10.33 | 101.67 | 105.80 |
| 35 | BA | 1160 | G | N3-C4-C5 | -10.33 | 123.43 | 128.60 |
| 2 | AB | 1323 | C | O4'-C1'-N1 | 10.33 | 116.46 | 108.20 |
| 2 | AB | 2009 | A | C5-C6-N1 | 10.33 | 122.86 | 117.70 |
| 2 | AB | 2234 | G | N1-C2-N3 | -10.33 | 117.70 | 123.90 |
| 35 | BA | 972 | C | N3-C2-O2 | -10.33 | 114.67 | 121.90 |
| 35 | BA | 1250 | A | O4'-C1'-N9 | 10.33 | 116.46 | 108.20 |
| 1 | AA | 101 | A | C4-C5-C6 | 10.32 | 122.16 | 117.00 |
| 35 | BA | 227 | G | N1-C2-N3 | -10.32 | 117.70 | 123.90 |
| 1 | AA | 116 | G | N1-C6-O6 | -10.32 | 113.71 | 119.90 |
| 2 | AB | 413 | C | N1-C1'-C2' | -10.32 | 100.58 | 114.00 |
| 2 | AB | 2475 | C | C2-N3-C4 | 10.32 | 125.06 | 119.90 |
| 35 | BA | 376 | G | N9-C1'-C2' | -10.32 | 100.58 | 114.00 |
| 35 | BA | 675 | A | O4'-C1'-N9 | -10.32 | 99.94 | 108.20 |
| 37 | BC | 76 | C | C5'-C4'-O4' | 10.32 | 121.49 | 109.10 |
| 2 | AB | 966 | G | C5-C6-N1 | 10.32 | 116.66 | 111.50 |
| 35 | BA | 1342 | C | O4'-C1'-N1 | 10.32 | 116.45 | 108.20 |
| 35 | BA | 1401 | G | N3-C4-C5 | -10.32 | 123.44 | 128.60 |
| 2 | AB | 315 | G | N9-C4-C5 | 10.32 | 109.53 | 105.40 |
| 2 | AB | 788 | A | C8-N9-C4 | -10.32 | 101.67 | 105.80 |
| 35 | BA | 308 | C | C2-N3-C4 | -10.32 | 114.74 | 119.90 |
| 37 | BC | 64 | G | C2-N3-C4 | 10.32 | 117.06 | 111.90 |
| 35 | BA | 606 | G | N9-C4-C5 | 10.32 | 109.53 | 105.40 |
| 1 | AA | 14 | U | O4'-C1'-N1 | 10.31 | 116.45 | 108.20 |
| 2 | AB | 1273 | U | N3-C2-O2 | -10.31 | 114.98 | 122.20 |
| 2 | AB | 35 | G | C4-C5-N7 | -10.31 | 106.67 | 110.80 |
| 2 | AB | 1210 | G | P-O3'-C3' | 10.31 | 132.08 | 119.70 |
| 35 | BA | 143 | A | O4'-C1'-N9 | 10.31 | 116.45 | 108.20 |
| 2 | AB | 253 | C | N3-C4-C5 | 10.31 | 126.03 | 121.90 |
| 35 | BA | 117 | G | C2-N3-C4 | 10.31 | 117.06 | 111.90 |
| 35 | BA | 548 | G | C2-N3-C4 | 10.31 | 117.06 | 111.90 |
| 35 | BA | 725 | G | C5-C6-O6 | -10.31 | 122.41 | 128.60 |
| 34 | A7 | 24 | ARG | NE-CZ-NH1 | 10.31 | 125.45 | 120.30 |
| 2 | AB | 426 | C | N3-C4-C5 | -10.31 | 117.78 | 121.90 |
| 2 | AB | 811 | U | O4'-C4'-C3' | 10.31 | 114.35 | 106.10 |
| 2 | AB | 1510 | G | C8-N9-C4 | -10.31 | 102.28 | 106.40 |
| 2 | AB | 1647 | U | O4'-C1'-N1 | 10.31 | 116.45 | 108.20 |
| 1 | AA | 53 | A | N7-C8-N9 | -10.30 | 108.65 | 113.80 |
| 2 | AB | 141 | G | N7-C8-N9 | 10.30 | 118.25 | 113.10 |
| 2 | AB | 833 | A | C8-N9-C4 | -10.30 | 101.68 | 105.80 |
| 2 | AB | 1128 | G | C8-N9-C4 | -10.30 | 102.28 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 1566 | A | C8-N9-C4 | -10.30 | 101.68 | 105.80 |
| 2 | AB | 2281 | A | C5-C6-N6 | -10.30 | 115.46 | 123.70 |
| 2 | AB | 816 | C | N1-C2-O2 | 10.30 | 125.08 | 118.90 |
| 2 | AB | 859 | G | C4-C5-N7 | -10.30 | 106.68 | 110.80 |
| 35 | BA | 979 | C | O4'-C1'-N1 | 10.30 | 116.44 | 108.20 |
| 35 | BA | 1077 | G | C8-N9-C4 | -10.30 | 102.28 | 106.40 |
| 2 | AB | 1479 | G | N3-C4-C5 | -10.30 | 123.45 | 128.60 |
| 2 | AB | 2002 | G | C8-N9-C4 | 10.30 | 110.52 | 106.40 |
| 41 | BG | 68 | ARG | NE-CZ-NH1 | 10.30 | 125.45 | 120.30 |
| 45 | BK | 105 | ARG | NE-CZ-NH2 | -10.30 | 115.15 | 120.30 |
| 2 | AB | 608 | A | N1-C6-N6 | -10.29 | 112.42 | 118.60 |
| 2 | AB | 725 | G | C2-N3-C4 | 10.29 | 117.05 | 111.90 |
| 35 | BA | 436 | C | N3-C4-C5 | -10.29 | 117.78 | 121.90 |
| 36 | BB | 55 | A | N7-C8-N9 | 10.29 | 118.95 | 113.80 |
| 1 | AA | 91 | C | N3-C4-C5 | -10.29 | 117.78 | 121.90 |
| 2 | AB | 1168 | G | C8-N9-C4 | -10.29 | 102.28 | 106.40 |
| 35 | BA | 1272 | G | N9-C4-C5 | 10.29 | 109.52 | 105.40 |
| 2 | AB | 1377 | G | C5-N7-C8 | -10.29 | 99.15 | 104.30 |
| 2 | AB | 2113 | U | C4'-C3'-C2' | -10.29 | 92.31 | 102.60 |
| 35 | BA | 96 | U | N1-C2-N3 | 10.29 | 121.08 | 114.90 |
| 2 | AB | 1192 | G | N3-C2-N2 | -10.29 | 112.70 | 119.90 |
| 2 | AB | 2263 | C | N3-C4-C5 | -10.29 | 117.78 | 121.90 |
| 2 | AB | 981 | A | C8-N9-C4 | -10.29 | 101.69 | 105.80 |
| 2 | AB | 1380 | G | C5-N7-C8 | -10.29 | 99.16 | 104.30 |
| 2 | AB | 1854 | A | O4'-C1'-N9 | 10.28 | 116.43 | 108.20 |
| 35 | BA | 684 | U | C5-C6-N1 | -10.28 | 117.56 | 122.70 |
| 2 | AB | 1789 | A | C8-N9-C4 | -10.28 | 101.69 | 105.80 |
| 35 | BA | 434 | U | N3-C2-O2 | -10.28 | 115.00 | 122.20 |
| 35 | BA | 972 | C | N1-C2-O2 | 10.28 | 125.07 | 118.90 |
| 36 | BB | 59 | A | N1-C6-N6 | 10.28 | 124.77 | 118.60 |
| 2 | AB | 261 | G | N9-C4-C5 | 10.28 | 109.51 | 105.40 |
| 35 | BA | 101 | A | C6-N1-C2 | 10.28 | 124.77 | 118.60 |
| 2 | AB | 2021 | C | O4'-C1'-N1 | 10.28 | 116.42 | 108.20 |
| 35 | BA | 28 | A | N1-C6-N6 | 10.28 | 124.77 | 118.60 |
| 2 | AB | 42 | A | O4'-C1'-N9 | 10.28 | 116.42 | 108.20 |
| 2 | AB | 1128 | G | C5-C6-O6 | 10.28 | 134.77 | 128.60 |
| 36 | BB | 32 | U | N3-C2-O2 | -10.28 | 115.01 | 122.20 |
| 53 | BS | 27 | PHE | CB-CG-CD1 | 10.28 | 127.99 | 120.80 |
| 2 | AB | 1243 | C | N1-C2-O2 | 10.28 | 125.06 | 118.90 |
| 35 | BA | 1469 | C | C6-N1-C2 | -10.28 | 116.19 | 120.30 |
| 2 | AB | 399 | U | O4'-C1'-N1 | 10.27 | 116.42 | 108.20 |
| 2 | AB | 753 | A | O4'-C1'-N9 | 10.27 | 116.42 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 1793 | C | O4'-C1'-N1 | 10.27 | 116.42 | 108.20 |
| 35 | BA | 551 | U | C5-C6-N1 | 10.27 | 127.84 | 122.70 |
| 35 | BA | 1382 | C | C5-C6-N1 | -10.27 | 115.86 | 121.00 |
| 2 | AB | 791 | C | O4'-C1'-N1 | 10.27 | 116.42 | 108.20 |
| 35 | BA | 52 | C | O4'-C1'-N1 | 10.27 | 116.42 | 108.20 |
| 35 | BA | 364 | A | C5-C6-N1 | 10.27 | 122.83 | 117.70 |
| 35 | BA | 819 | A | C8-N9-C4 | -10.27 | 101.69 | 105.80 |
| 35 | BA | 1311 | A | C4-C5-C6 | -10.27 | 111.87 | 117.00 |
| 2 | AB | 816 | C | C5-C4-N4 | -10.27 | 113.01 | 120.20 |
| 2 | AB | 971 | G | N3-C4-C5 | -10.27 | 123.47 | 128.60 |
| 35 | BA | 292 | G | C6-N1-C2 | -10.27 | 118.94 | 125.10 |
| 2 | AB | 1933 | G | N1-C2-N3 | -10.27 | 117.74 | 123.90 |
| 35 | BA | 1104 | G | C2-N3-C4 | 10.27 | 117.03 | 111.90 |
| 2 | AB | 1441 | G | C5-C6-O6 | -10.26 | 122.44 | 128.60 |
| 2 | AB | 1673 | G | C5-N7-C8 | 10.26 | 109.43 | 104.30 |
| 2 | AB | 2894 | G | C6-N1-C2 | -10.26 | 118.94 | 125.10 |
| 35 | BA | 1482 | G | C6-N1-C2 | -10.26 | 118.94 | 125.10 |
| 2 | AB | 219 | A | N7-C8-N9 | 10.26 | 118.93 | 113.80 |
| 2 | AB | 1546 | G | N1-C2-N3 | -10.26 | 117.74 | 123.90 |
| 35 | BA | 480 | U | O4'-C1'-N1 | 10.26 | 116.41 | 108.20 |
| 2 | AB | 1934 | C | C4-C5-C6 | -10.26 | 112.27 | 117.40 |
| 2 | AB | 2536 | G | C6-C5-N7 | -10.26 | 124.25 | 130.40 |
| 35 | BA | 32 | A | O4'-C1'-N9 | 10.26 | 116.40 | 108.20 |
| 35 | BA | 1352 | C | C4'-C3'-C2' | -10.26 | 92.34 | 102.60 |
| 2 | AB | 2697 | G | C4-C5-C6 | 10.25 | 124.95 | 118.80 |
| 35 | BA | 973 | G | C6-N1-C2 | -10.25 | 118.95 | 125.10 |
| 37 | BC | 28 | U | C4-C5-C6 | 10.25 | 125.85 | 119.70 |
| 2 | AB | 351 | C | N3-C4-C5 | -10.25 | 117.80 | 121.90 |
| 2 | AB | 742 | A | C5-C6-N6 | -10.25 | 115.50 | 123.70 |
| 2 | AB | 2073 | C | C2-N3-C4 | 10.25 | 125.03 | 119.90 |
| 35 | BA | 1394 | A | N7-C8-N9 | 10.25 | 118.93 | 113.80 |
| 35 | BA | 1015 | G | N3-C2-N2 | -10.25 | 112.73 | 119.90 |
| 2 | AB | 2524 | G | C4-C5-C6 | 10.25 | 124.95 | 118.80 |
| 2 | AB | 2825 | G | C4-C5-C6 | 10.25 | 124.95 | 118.80 |
| 35 | BA | 1422 | G | C8-N9-C4 | -10.25 | 102.30 | 106.40 |
| 2 | AB | 1047 | G | C2-N3-C4 | 10.24 | 117.02 | 111.90 |
| 35 | BA | 212 | G | C4-C5-N7 | -10.24 | 106.70 | 110.80 |
| 35 | BA | 379 | C | C6-N1-C2 | 10.24 | 124.40 | 120.30 |
| 2 | AB | 268 | C | C5-C4-N4 | -10.24 | 113.03 | 120.20 |
| 2 | AB | 898 | C | C5-C6-N1 | 10.24 | 126.12 | 121.00 |
| 2 | AB | 1003 | G | N7-C8-N9 | 10.24 | 118.22 | 113.10 |
| 2 | AB | 1233 | C | N3-C4-C5 | 10.24 | 126.00 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 2509 | G | C8-N9-C4 | -10.24 | 102.30 | 106.40 |
| 2 | AB | 2761 | A | C5-N7-C8 | -10.24 | 98.78 | 103.90 |
| 2 | AB | 1491 | G | C8-N9-C4 | -10.24 | 102.31 | 106.40 |
| 2 | AB | 2854 | G | N3-C4-C5 | -10.24 | 123.48 | 128.60 |
| 35 | BA | 1541 | U | N3-C4-O4 | 10.24 | 126.57 | 119.40 |
| 2 | AB | 1555 | G | O4'-C1'-N9 | 10.24 | 116.39 | 108.20 |
| 2 | AB | 1636 | U | O4'-C1'-N1 | 10.24 | 116.39 | 108.20 |
| 2 | AB | 1844 | C | N1-C2-O2 | 10.24 | 125.04 | 118.90 |
| 2 | AB | 660 | C | O4'-C1'-N1 | 10.24 | 116.39 | 108.20 |
| 2 | AB | 50 | U | N1-C2-O2 | 10.23 | 129.96 | 122.80 |
| 2 | AB | 1254 | A | N1-C6-N6 | 10.23 | 124.74 | 118.60 |
| 2 | AB | 1847 | A | C4-C5-C6 | 10.23 | 122.12 | 117.00 |
| 2 | AB | 1862 | G | O4'-C1'-N9 | 10.23 | 116.39 | 108.20 |
| 35 | BA | 49 | U | C6-N1-C2 | 10.23 | 127.14 | 121.00 |
| 35 | BA | 134 | G | C4-C5-N7 | -10.23 | 106.71 | 110.80 |
| 35 | BA | 1190 | G | N3-C4-C5 | -10.23 | 123.48 | 128.60 |
| 35 | BA | 1408 | A | C1'-O4'-C4' | -10.23 | 101.72 | 109.90 |
| 2 | AB | 848 | C | C5-C4-N4 | 10.23 | 127.36 | 120.20 |
| 2 | AB | 1105 | U | O4'-C1'-N1 | 10.23 | 116.38 | 108.20 |
| 2 | AB | 211 | C | C1'-O4'-C4' | 10.23 | 118.08 | 109.90 |
| 35 | BA | 2 | A | C8-N9-C4 | -10.23 | 101.71 | 105.80 |
| 35 | BA | 46 | G | C5-C6-N1 | 10.23 | 116.61 | 111.50 |
| 35 | BA | 737 | C | C2-N3-C4 | 10.23 | 125.01 | 119.90 |
| 35 | BA | 666 | G | C6-C5-N7 | -10.22 | 124.27 | 130.40 |
| 2 | AB | 773 | U | N3-C2-O2 | -10.22 | 115.04 | 122.20 |
| 2 | AB | 1280 | G | N3-C4-C5 | -10.22 | 123.49 | 128.60 |
| 2 | AB | 1380 | G | O4'-C1'-N9 | 10.22 | 116.38 | 108.20 |
| 2 | AB | 2430 | A | N7-C8-N9 | -10.22 | 108.69 | 113.80 |
| 2 | AB | 267 | C | C3'-C2'-C1' | 10.22 | 109.68 | 101.50 |
| 2 | AB | 467 | G | C5-C6-N1 | 10.22 | 116.61 | 111.50 |
| 2 | AB | 802 | A | C2-N3-C4 | 10.22 | 115.71 | 110.60 |
| 2 | AB | 1624 | U | N1-C2-N3 | 10.22 | 121.03 | 114.90 |
| 35 | BA | 107 | G | C5-C6-N1 | 10.22 | 116.61 | 111.50 |
| 35 | BA | 463 | U | N1-C2-N3 | 10.22 | 121.03 | 114.90 |
| 35 | BA | 517 | G | O4'-C1'-N9 | 10.22 | 116.37 | 108.20 |
| 35 | BA | 810 | C | O4'-C1'-N1 | 10.22 | 116.37 | 108.20 |
| 35 | BA | 1444 | U | C4-C5-C6 | 10.21 | 125.83 | 119.70 |
| 2 | AB | 1185 | G | C5-C6-O6 | -10.21 | 122.47 | 128.60 |
| 2 | AB | 1453 | A | N9-C4-C5 | 10.21 | 109.89 | 105.80 |
| 2 | AB | 1913 | A | N1-C6-N6 | -10.21 | 112.47 | 118.60 |
| 35 | BA | 73 | C | O4'-C1'-N1 | 10.21 | 116.37 | 108.20 |
| 2 | AB | 1024 | G | N3-C4-C5 | 10.21 | 133.70 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 2745 | C | N1-C1'-C2' | -10.21 | 100.73 | 114.00 |
| 35 | BA | 803 | G | C5-C6-N1 | 10.21 | 116.60 | 111.50 |
| 2 | AB | 2825 | G | C5-C6-N1 | -10.21 | 106.40 | 111.50 |
| 2 | AB | 1472 | C | O4'-C1'-N1 | 10.20 | 116.36 | 108.20 |
| 2 | AB | 2170 | A | N7-C8-N9 | 10.20 | 118.90 | 113.80 |
| 2 | AB | 2177 | C | C2-N3-C4 | -10.20 | 114.80 | 119.90 |
| 39 | BE | 125 | ARG | NE-CZ-NH1 | 10.20 | 125.40 | 120.30 |
| 2 | AB | 856 | G | N3-C2-N2 | -10.20 | 112.76 | 119.90 |
| 35 | BA | 866 | C | N3-C4-N4 | 10.20 | 125.14 | 118.00 |
| 2 | AB | 1374 | G | N3-C4-N9 | 10.20 | 132.12 | 126.00 |
| 2 | AB | 2623 | G | N3-C4-C5 | -10.20 | 123.50 | 128.60 |
| 35 | BA | 882 | C | O4'-C1'-N1 | 10.19 | 116.36 | 108.20 |
| 2 | AB | 1940 | U | O4'-C1'-N1 | 10.19 | 116.35 | 108.20 |
| 2 | AB | 2221 | G | C8-N9-C4 | -10.19 | 102.32 | 106.40 |
| 2 | AB | 1690 | A | O4'-C1'-N9 | 10.19 | 116.35 | 108.20 |
| 35 | BA | 1288 | A | C8-N9-C4 | -10.19 | 101.72 | 105.80 |
| 49 | BO | 89 | ARG | NE-CZ-NH2 | -10.19 | 115.20 | 120.30 |
| 2 | AB | 1210 | G | C5-C6-N1 | 10.19 | 116.59 | 111.50 |
| 2 | AB | 1645 | G | C8-N9-C4 | -10.19 | 102.32 | 106.40 |
| 2 | AB | 778 | G | C2-N3-C4 | 10.19 | 116.99 | 111.90 |
| 35 | BA | 126 | G | C5-N7-C8 | -10.19 | 99.20 | 104.30 |
| 35 | BA | 280 | C | C4-C5-C6 | -10.19 | 112.31 | 117.40 |
| 35 | BA | 489 | C | N3-C4-N4 | 10.19 | 125.13 | 118.00 |
| 2 | AB | 312 | G | O4'-C1'-N9 | 10.19 | 116.35 | 108.20 |
| 2 | AB | 1032 | A | N1-C6-N6 | -10.19 | 112.49 | 118.60 |
| 35 | BA | 9 | G | N9-C4-C5 | 10.19 | 109.47 | 105.40 |
| 35 | BA | 61 | G | C5-C6-O6 | 10.19 | 134.71 | 128.60 |
| 35 | BA | 496 | A | N7-C8-N9 | 10.19 | 118.89 | 113.80 |
| 2 | AB | 1248 | G | C4-C5-N7 | -10.18 | 106.73 | 110.80 |
| 2 | AB | 1444 | G | C2-N3-C4 | -10.18 | 106.81 | 111.90 |
| 2 | AB | 2011 | U | O4'-C1'-N1 | 10.18 | 116.35 | 108.20 |
| 2 | AB | 2016 | U | C5-C4-O4 | 10.18 | 132.01 | 125.90 |
| 2 | AB | 2331 | G | N9-C4-C5 | -10.18 | 101.33 | 105.40 |
| 35 | BA | 849 | G | C8-N9-C4 | -10.18 | 102.33 | 106.40 |
| 35 | BA | 159 | G | C3'-C2'-C1' | -10.18 | 93.36 | 101.50 |
| 2 | AB | 233 | A | C8-N9-C4 | -10.18 | 101.73 | 105.80 |
| 2 | AB | 285 | G | N3-C4-C5 | -10.18 | 123.51 | 128.60 |
| 6 | AF | 79 | ARG | NE-CZ-NH1 | 10.18 | 125.39 | 120.30 |
| 35 | BA | 1175 | G | N7-C8-N9 | -10.18 | 108.01 | 113.10 |
| 37 | BC | 39 | A | C4-C5-N7 | -10.18 | 105.61 | 110.70 |
| 2 | AB | 331 | C | C6-N1-C2 | -10.18 | 116.23 | 120.30 |
| 2 | AB | 929 | U | C5-C6-N1 | -10.18 | 117.61 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 35 | BA | 863 | U | O4'-C1'-N1 | 10.18 | 116.34 | 108.20 |
| 35 | BA | 799 | G | C5-C6-N1 | 10.17 | 116.59 | 111.50 |
| 35 | BA | 1311 | A | N9-C4-C5 | -10.17 | 101.73 | 105.80 |
| 40 | BF | 13 | ARG | NE-CZ-NH1 | -10.17 | 115.21 | 120.30 |
| 2 | AB | 1001 | A | N1-C2-N3 | -10.17 | 124.22 | 129.30 |
| 35 | BA | 165 | G | C8-N9-C4 | -10.17 | 102.33 | 106.40 |
| 35 | BA | 387 | U | O4'-C1'-N1 | 10.17 | 116.33 | 108.20 |
| 35 | BA | 1156 | G | O4'-C1'-N9 | 10.17 | 116.34 | 108.20 |
| 2 | AB | 720 | U | C5-C6-N1 | -10.17 | 117.62 | 122.70 |
| 2 | AB | 287 | G | N3-C4-C5 | -10.17 | 123.52 | 128.60 |
| 2 | AB | 1701 | A | N1-C6-N6 | 10.16 | 124.70 | 118.60 |
| 2 | AB | 2691 | C | C5-C6-N1 | 10.16 | 126.08 | 121.00 |
| 2 | AB | 2376 | A | N9-C4-C5 | 10.16 | 109.86 | 105.80 |
| 2 | AB | 1397 | U | N1-C2-O2 | 10.16 | 129.91 | 122.80 |
| 35 | BA | 505 | G | C8-N9-C4 | -10.16 | 102.33 | 106.40 |
| 35 | BA | 791 | G | C5-C6-N1 | 10.16 | 116.58 | 111.50 |
| 35 | BA | 809 | G | C1'-O4'-C4' | -10.16 | 101.77 | 109.90 |
| 35 | BA | 1222 | G | O4'-C1'-N9 | 10.16 | 116.33 | 108.20 |
| 35 | BA | 1005 | A | O4'-C1'-N9 | 10.16 | 116.33 | 108.20 |
| 35 | BA | 1209 | C | O4'-C1'-N1 | 10.16 | 116.33 | 108.20 |
| 35 | BA | 1343 | G | N1-C2-N2 | 10.16 | 125.34 | 116.20 |
| 2 | AB | 223 | A | N1-C2-N3 | 10.15 | 134.38 | 129.30 |
| 2 | AB | 1480 | C | C4-C5-C6 | -10.15 | 112.32 | 117.40 |
| 2 | AB | 1941 | C | N1-C2-O2 | 10.15 | 124.99 | 118.90 |
| 2 | AB | 2614 | A | N1-C2-N3 | -10.15 | 124.22 | 129.30 |
| 35 | BA | 463 | U | O4'-C1'-N1 | 10.15 | 116.32 | 108.20 |
| 2 | AB | 2679 | A | N1-C2-N3 | -10.15 | 124.22 | 129.30 |
| 35 | BA | 50 | A | C8-N9-C4 | -10.15 | 101.74 | 105.80 |
| 35 | BA | 301 | G | C8-N9-C4 | -10.15 | 102.34 | 106.40 |
| 2 | AB | 2078 | C | C5'-C4'-O4' | 10.15 | 121.28 | 109.10 |
| 18 | AR | 102 | ARG | NE-CZ-NH2 | -10.15 | 115.23 | 120.30 |
| 35 | BA | 1463 | U | O4'-C1'-N1 | 10.15 | 116.32 | 108.20 |
| 2 | AB | 1879 | C | C4-C5-C6 | 10.15 | 122.47 | 117.40 |
| 2 | AB | 2092 | U | O4'-C1'-N1 | 10.15 | 116.32 | 108.20 |
| 35 | BA | 356 | A | N1-C6-N6 | 10.15 | 124.69 | 118.60 |
| 35 | BA | 781 | A | O4'-C1'-N9 | 10.14 | 116.31 | 108.20 |
| 35 | BA | 836 | G | C6-N1-C2 | 10.14 | 131.19 | 125.10 |
| 35 | BA | 1449 | C | C5-C4-N4 | -10.14 | 113.10 | 120.20 |
| 2 | AB | 2346 | A | C1'-O4'-C4' | -10.14 | 101.79 | 109.90 |
| 36 | BB | 38 | G | O4'-C1'-N9 | 10.14 | 116.31 | 108.20 |
| 2 | AB | 1352 | U | O4'-C1'-N1 | 10.14 | 116.31 | 108.20 |
| 2 | AB | 19 | A | C4-C5-N7 | -10.14 | 105.63 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 1533 | C | N1-C2-O2 | 10.14 | 124.98 | 118.90 |
| 1 | AA | 44 | G | C4-C5-N7 | 10.14 | 114.86 | 110.80 |
| 2 | AB | 722 | A | C8-N9-C4 | -10.14 | 101.75 | 105.80 |
| 2 | AB | 1206 | G | N7-C8-N9 | 10.14 | 118.17 | 113.10 |
| 2 | AB | 2863 | C | C5-C6-N1 | 10.14 | 126.07 | 121.00 |
| 36 | BB | 15 | G | N3-C4-C5 | -10.14 | 123.53 | 128.60 |
| 2 | AB | 2270 | A | C6-N1-C2 | -10.13 | 112.52 | 118.60 |
| 35 | BA | 168 | G | N7-C8-N9 | 10.14 | 118.17 | 113.10 |
| 46 | BL | 13 | PHE | CB-CG-CD1 | 10.13 | 127.89 | 120.80 |
| 2 | AB | 663 | G | C4-C5-N7 | -10.13 | 106.75 | 110.80 |
| 2 | AB | 2825 | G | C8-N9-C4 | -10.13 | 102.35 | 106.40 |
| 2 | AB | 1006 | C | C5-C4-N4 | -10.13 | 113.11 | 120.20 |
| 35 | BA | 2 | A | N9-C4-C5 | 10.13 | 109.85 | 105.80 |
| 2 | AB | 2761 | A | C4-C5-C6 | -10.13 | 111.94 | 117.00 |
| 35 | BA | 534 | U | O4'-C4'-C3' | -10.13 | 93.87 | 104.00 |
| 35 | BA | 1289 | A | C8-N9-C4 | -10.13 | 101.75 | 105.80 |
| 2 | AB | 578 | G | C5-C6-O6 | -10.13 | 122.52 | 128.60 |
| 2 | AB | 412 | A | O4'-C1'-N9 | 10.13 | 116.30 | 108.20 |
| 2 | AB | 419 | U | N1-C2-O2 | -10.13 | 115.71 | 122.80 |
| 35 | BA | 393 | A | C2-N3-C4 | 10.13 | 115.66 | 110.60 |
| 2 | AB | 540 | C | C6-N1-C2 | -10.12 | 116.25 | 120.30 |
| 2 | AB | 700 | G | N7-C8-N9 | 10.12 | 118.16 | 113.10 |
| 35 | BA | 1055 | A | N1-C2-N3 | -10.12 | 124.24 | 129.30 |
| 2 | AB | 439 | A | C5-C6-N1 | 10.12 | 122.76 | 117.70 |
| 2 | AB | 2269 | G | N1-C6-O6 | 10.12 | 125.97 | 119.90 |
| 2 | AB | 2399 | G | N3-C4-C5 | -10.12 | 123.54 | 128.60 |
| 2 | AB | 2488 | G | N7-C8-N9 | 10.12 | 118.16 | 113.10 |
| 35 | BA | 208 | U | C5-C4-O4 | -10.12 | 119.83 | 125.90 |
| 35 | BA | 612 | C | C3'-C2'-C1' | 10.12 | 109.60 | 101.50 |
| 2 | AB | 2473 | U | O4'-C1'-N1 | 10.12 | 116.30 | 108.20 |
| 35 | BA | 513 | C | O4'-C1'-N1 | 10.12 | 116.29 | 108.20 |
| 2 | AB | 1134 | A | O4'-C4'-C3' | 10.12 | 114.19 | 106.10 |
| 2 | AB | 1129 | A | C4-C5-C6 | -10.11 | 111.94 | 117.00 |
| 35 | BA | 245 | U | N3-C4-O4 | 10.11 | 126.48 | 119.40 |
| 35 | BA | 659 | U | O4'-C1'-N1 | 10.11 | 116.29 | 108.20 |
| 2 | AB | 2041 | U | O4'-C1'-N1 | 10.11 | 116.29 | 108.20 |
| 35 | BA | 700 | G | N9-C4-C5 | 10.11 | 109.44 | 105.40 |
| 35 | BA | 1137 | C | O4'-C1'-N1 | 10.11 | 116.29 | 108.20 |
| 2 | AB | 42 | A | C8-N9-C4 | -10.11 | 101.76 | 105.80 |
| 2 | AB | 1668 | A | C5-N7-C8 | 10.11 | 108.95 | 103.90 |
| 35 | BA | 1082 | A | C3'-C2'-C1' | 10.11 | 109.59 | 101.50 |
| 2 | AB | 2340 | A | N1-C2-N3 | -10.11 | 124.25 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 35 | BA | 460 | A | C5-C6-N1 | 10.11 | 122.75 | 117.70 |
| 35 | BA | 681 | A | N9-C4-C5 | 10.11 | 109.84 | 105.80 |
| 36 | BB | 59 | A | C8-N9-C4 | -10.11 | 101.76 | 105.80 |
| 2 | AB | 693 | A | C5-C6-N1 | 10.11 | 122.75 | 117.70 |
| 2 | AB | 1771 | C | C5-C6-N1 | 10.11 | 126.05 | 121.00 |
| 2 | AB | 624 | C | C5-C4-N4 | -10.10 | 113.13 | 120.20 |
| 2 | AB | 1630 | A | N3-C4-C5 | -10.10 | 119.73 | 126.80 |
| 2 | AB | 2507 | C | N3-C2-O2 | -10.10 | 114.83 | 121.90 |
| 36 | BB | 53 | G | C6-N1-C2 | -10.10 | 119.04 | 125.10 |
| 2 | AB | 62 | U | C4-C5-C6 | 10.10 | 125.76 | 119.70 |
| 35 | BA | 1053 | G | C4-C5-N7 | -10.10 | 106.76 | 110.80 |
| 4 | AD | 213 | ARG | NE-CZ-NH2 | -10.10 | 115.25 | 120.30 |
| 2 | AB | 886 | A | C5-N7-C8 | -10.10 | 98.85 | 103.90 |
| 35 | BA | 597 | G | C8-N9-C4 | -10.10 | 102.36 | 106.40 |
| 2 | AB | 952 | G | O4'-C1'-N9 | 10.10 | 116.28 | 108.20 |
| 38 | BD | 89 | PHE | CB-CG-CD2 | -10.10 | 113.73 | 120.80 |
| 2 | AB | 916 | G | N9-C4-C5 | 10.09 | 109.44 | 105.40 |
| 2 | AB | 1112 | G | C6-N1-C2 | -10.09 | 119.04 | 125.10 |
| 2 | AB | 1983 | G | O4'-C1'-N9 | 10.09 | 116.28 | 108.20 |
| 2 | AB | 2676 | C | C6-N1-C2 | 10.09 | 124.34 | 120.30 |
| 35 | BA | 1156 | G | N7-C8-N9 | 10.09 | 118.15 | 113.10 |
| 35 | BA | 1480 | A | N1-C6-N6 | 10.09 | 124.66 | 118.60 |
| 2 | AB | 427 | U | C2-N3-C4 | -10.09 | 120.95 | 127.00 |
| 2 | AB | 2036 | C | C6-N1-C2 | -10.09 | 116.26 | 120.30 |
| 2 | AB | 2208 | C | C5-C6-N1 | 10.09 | 126.05 | 121.00 |
| 2 | AB | 2609 | U | N3-C2-O2 | -10.09 | 115.14 | 122.20 |
| 35 | BA | 326 | G | C8-N9-C4 | -10.09 | 102.36 | 106.40 |
| 2 | AB | 96 | C | N3-C4-C5 | -10.09 | 117.86 | 121.90 |
| 2 | AB | 1882 | U | N1-C2-N3 | -10.09 | 108.85 | 114.90 |
| 2 | AB | 2035 | G | C8-N9-C4 | -10.09 | 102.36 | 106.40 |
| 35 | BA | 1315 | U | C5-C6-N1 | -10.09 | 117.66 | 122.70 |
| 2 | AB | 2186 | G | N9-C4-C5 | 10.09 | 109.43 | 105.40 |
| 29 | A2 | 25 | ARG | NE-CZ-NH2 | -10.09 | 115.26 | 120.30 |
| 2 | AB | 675 | A | C4'-C3'-C2' | -10.08 | 92.52 | 102.60 |
| 2 | AB | 756 | A | O4'-C1'-N9 | 10.08 | 116.27 | 108.20 |
| 2 | AB | 1445 | G | O4'-C1'-N9 | 10.08 | 116.27 | 108.20 |
| 2 | AB | 1828 | G | C3'-C2'-C1' | -10.08 | 93.43 | 101.50 |
| 2 | AB | 1425 | G | N3-C4-N9 | 10.08 | 132.05 | 126.00 |
| 4 | AD | 269 | ARG | NE-CZ-NH2 | 10.08 | 125.34 | 120.30 |
| 35 | BA | 1082 | A | N9-C4-C5 | 10.08 | 109.83 | 105.80 |
| 2 | AB | 1266 | G | C6-N1-C2 | -10.08 | 119.05 | 125.10 |
| 2 | AB | 2220 | U | N1-C1'-C2' | -10.08 | 100.90 | 114.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 35 | BA | 666 | G | C5-N7-C8 | -10.08 | 99.26 | 104.30 |
| 35 | BA | 783 | C | O4'-C1'-N1 | 10.08 | 116.26 | 108.20 |
| 2 | AB | 327 | G | N7-C8-N9 | 10.08 | 118.14 | 113.10 |
| 2 | AB | 1971 | U | O4'-C1'-N1 | 10.08 | 116.26 | 108.20 |
| 2 | AB | 2156 | G | C4-C5-N7 | 10.08 | 114.83 | 110.80 |
| 35 | BA | 1440 | U | C5-C6-N1 | -10.08 | 117.66 | 122.70 |
| 2 | AB | 468 | G | N3-C2-N2 | 10.07 | 126.95 | 119.90 |
| 2 | AB | 2753 | A | C8-N9-C4 | -10.07 | 101.77 | 105.80 |
| 2 | AB | 2735 | G | N1-C6-O6 | 10.07 | 125.94 | 119.90 |
| 35 | BA | 1041 | G | N3-C4-C5 | -10.07 | 123.56 | 128.60 |
| 2 | AB | 1146 | C | C5-C6-N1 | 10.07 | 126.03 | 121.00 |
| 2 | AB | 1512 | C | O4'-C1'-N1 | 10.07 | 116.26 | 108.20 |
| 2 | AB | 2144 | G | N7-C8-N9 | -10.07 | 108.06 | 113.10 |
| 4 | AD | 220 | ARG | NE-CZ-NH1 | 10.07 | 125.34 | 120.30 |
| 2 | AB | 1251 | C | C5-C6-N1 | 10.07 | 126.03 | 121.00 |
| 2 | AB | 1936 | A | N9-C4-C5 | -10.07 | 101.77 | 105.80 |
| 2 | AB | 2343 | U | N3-C2-O2 | -10.07 | 115.15 | 122.20 |
| 35 | BA | 41 | G | N3-C4-N9 | 10.07 | 132.04 | 126.00 |
| 2 | AB | 2009 | A | N9-C1'-C2' | -10.07 | 100.91 | 114.00 |
| 35 | BA | 758 | C | C4'-C3'-C2' | -10.07 | 92.53 | 102.60 |
| 2 | AB | 1437 | C | O4'-C1'-C2' | -10.07 | 95.73 | 105.80 |
| 2 | AB | 85 | G | C4-C5-N7 | -10.06 | 106.77 | 110.80 |
| 2 | AB | 1091 | G | C2-N3-C4 | 10.06 | 116.93 | 111.90 |
| 2 | AB | 2126 | A | C4-C5-N7 | 10.06 | 115.73 | 110.70 |
| 35 | BA | 618 | C | C1'-O4'-C4' | -10.06 | 101.85 | 109.90 |
| 35 | BA | 1077 | G | N9-C4-C5 | 10.06 | 109.43 | 105.40 |
| 2 | AB | 288 | U | O4'-C1'-N1 | 10.06 | 116.25 | 108.20 |
| 2 | AB | 177 | G | N9-C4-C5 | 10.06 | 109.42 | 105.40 |
| 2 | AB | 475 | C | N3-C4-N4 | 10.06 | 125.04 | 118.00 |
| 2 | AB | 1640 | A | N1-C6-N6 | -10.06 | 112.56 | 118.60 |
| 35 | BA | 807 | A | C2-N3-C4 | 10.06 | 115.63 | 110.60 |
| 36 | BB | 44 | U | C5'-C4'-O4' | 10.06 | 121.17 | 109.10 |
| 2 | AB | 2237 | G | C4'-C3'-C2' | -10.06 | 92.54 | 102.60 |
| 2 | AB | 2353 | G | C8-N9-C4 | -10.06 | 102.38 | 106.40 |
| 35 | BA | 381 | C | C3'-C2'-C1' | 10.06 | 109.55 | 101.50 |
| 35 | BA | 704 | A | C8-N9-C4 | -10.06 | 101.78 | 105.80 |
| 2 | AB | 227 | A | N7-C8-N9 | 10.05 | 118.83 | 113.80 |
| 35 | BA | 421 | U | C4-C5-C6 | 10.06 | 125.73 | 119.70 |
| 2 | AB | 480 | A | P-O3'-C3' | 10.05 | 131.76 | 119.70 |
| 2 | AB | 577 | G | N9-C4-C5 | 10.05 | 109.42 | 105.40 |
| 2 | AB | 1228 | G | N3-C4-N9 | 10.05 | 132.03 | 126.00 |
| 2 | AB | 2594 | C | C6-N1-C2 | -10.05 | 116.28 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 35 | BA | 639 | G | N3-C4-C5 | -10.05 | 123.57 | 128.60 |
| 35 | BA | 128 | G | C3'-C2'-C1' | -10.05 | 93.46 | 101.50 |
| 35 | BA | 202 | G | C6-C5-N7 | 10.05 | 136.43 | 130.40 |
| 2 | AB | 1282 | U | C1'-O4'-C4' | -10.05 | 101.86 | 109.90 |
| 2 | AB | 1481 | U | O4'-C1'-N1 | 10.05 | 116.24 | 108.20 |
| 2 | AB | 2302 | U | C5-C4-O4 | -10.04 | 119.87 | 125.90 |
| 2 | AB | 591 | U | C4-C5-C6 | 10.04 | 125.72 | 119.70 |
| 2 | AB | 1175 | A | N1-C6-N6 | 10.04 | 124.63 | 118.60 |
| 2 | AB | 1313 | U | C6-N1-C2 | -10.04 | 114.97 | 121.00 |
| 2 | AB | 763 | G | C8-N9-C4 | -10.04 | 102.38 | 106.40 |
| 2 | AB | 1794 | A | N1-C2-N3 | 10.04 | 134.32 | 129.30 |
| 2 | AB | 316 | C | O4'-C1'-N1 | 10.04 | 116.23 | 108.20 |
| 2 | AB | 348 | A | C4-C5-C6 | -10.04 | 111.98 | 117.00 |
| 2 | AB | 596 | U | N3-C2-O2 | -10.04 | 115.17 | 122.20 |
| 2 | AB | 857 | G | C4-C5-N7 | -10.04 | 106.78 | 110.80 |
| 2 | AB | 1989 | G | C4-C5-N7 | -10.04 | 106.78 | 110.80 |
| 2 | AB | 2133 | G | C2-N3-C4 | 10.04 | 116.92 | 111.90 |
| 2 | AB | 2273 | A | C1'-O4'-C4' | 10.04 | 117.93 | 109.90 |
| 2 | AB | 2505 | G | O4'-C1'-N9 | 10.04 | 116.23 | 108.20 |
| 35 | BA | 274 | A | O4'-C1'-N9 | 10.04 | 116.23 | 108.20 |
| 35 | BA | 393 | A | N3-C4-C5 | -10.04 | 119.77 | 126.80 |
| 35 | BA | 1355 | G | C2-N3-C4 | 10.04 | 116.92 | 111.90 |
| 2 | AB | 482 | A | N9-C4-C5 | -10.04 | 101.79 | 105.80 |
| 2 | AB | 899 | A | O4'-C1'-N9 | 10.04 | 116.23 | 108.20 |
| 35 | BA | 142 | G | N3-C4-C5 | -10.04 | 123.58 | 128.60 |
| 2 | AB | 1050 | A | C5-N7-C8 | 10.03 | 108.92 | 103.90 |
| 35 | BA | 394 | G | N3-C4-C5 | -10.04 | 123.58 | 128.60 |
| 2 | AB | 1844 | C | N3-C2-O2 | -10.03 | 114.88 | 121.90 |
| 35 | BA | 1 | A | N7-C8-N9 | 10.03 | 118.82 | 113.80 |
| 35 | BA | 102 | G | C4-C5-C6 | 10.03 | 124.82 | 118.80 |
| 35 | BA | 1095 | U | C5-C6-N1 | -10.03 | 117.68 | 122.70 |
| 2 | AB | 2859 | G | O4'-C1'-N9 | 10.03 | 116.22 | 108.20 |
| 35 | BA | 921 | U | O4'-C1'-N1 | 10.03 | 116.23 | 108.20 |
| 35 | BA | 1449 | C | C6-N1-C2 | -10.03 | 116.29 | 120.30 |
| 1 | AA | 79 | G | C5-C6-N1 | 10.03 | 116.52 | 111.50 |
| 2 | AB | 2813 | A | N7-C8-N9 | 10.03 | 118.81 | 113.80 |
| 2 | AB | 2829 | A | C5-C6-N6 | -10.03 | 115.68 | 123.70 |
| 8 | AH | 34 | ARG | NE-CZ-NH1 | 10.03 | 125.31 | 120.30 |
| 35 | BA | 287 | U | C6-N1-C2 | 10.03 | 127.02 | 121.00 |
| 35 | BA | 766 | A | C4-C5-C6 | -10.03 | 111.99 | 117.00 |
| 35 | BA | 86 | G | N7-C8-N9 | 10.03 | 118.11 | 113.10 |
| 2 | AB | 515 | A | N1-C2-N3 | -10.03 | 124.29 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 2 | AB | 1074 | G | C6-N1-C2 | -10.03 | 119.08 | 125.10 |
| 2 | AB | 1695 | G | N1-C2-N3 | -10.03 | 117.88 | 123.90 |
| 2 | AB | 2049 | G | C1'-O4'-C4' | -10.03 | 101.88 | 109.90 |
| 35 | BA | 822 | U | N1-C2-O2 | 10.03 | 129.82 | 122.80 |
| 20 | AT | 68 | ARG | NE-CZ-NH2 | 10.03 | 125.31 | 120.30 |
| 35 | BA | 672 | U | O4'-C1'-N1 | 10.03 | 116.22 | 108.20 |
| 2 | AB | 385 | C | N1-C2-O2 | 10.02 | 124.91 | 118.90 |
| 2 | AB | 2508 | G | C8-N9-C4 | -10.02 | 102.39 | 106.40 |
| 35 | BA | 584 | G | N9-C4-C5 | 10.02 | 109.41 | 105.40 |
| 35 | BA | 606 | G | C5-C6-N1 | -10.02 | 106.49 | 111.50 |
| 2 | AB | 436 | C | N3-C4-C5 | -10.02 | 117.89 | 121.90 |
| 2 | AB | 2499 | C | O4'-C1'-N1 | 10.02 | 116.22 | 108.20 |
| 2 | AB | 2708 | G | N3-C4-C5 | -10.02 | 123.59 | 128.60 |
| 35 | BA | 544 | G | N3-C4-C5 | -10.02 | 123.59 | 128.60 |
| 37 | BC | 73 | A | O4'-C1'-N9 | 10.02 | 116.22 | 108.20 |
| 2 | AB | 118 | A | C5-N7-C8 | -10.02 | 98.89 | 103.90 |
| 2 | AB | 1046 | A | O4'-C1'-N9 | 10.02 | 116.21 | 108.20 |
| 2 | AB | 2595 | G | C5-N7-C8 | -10.02 | 99.29 | 104.30 |
| 35 | BA | 581 | G | C2-N3-C4 | 10.02 | 116.91 | 111.90 |
| 35 | BA | 188 | C | N3-C4-C5 | -10.02 | 117.89 | 121.90 |
| 2 | AB | 1087 | G | N9-C4-C5 | 10.01 | 109.41 | 105.40 |
| 35 | BA | 919 | A | C4-C5-C6 | -10.01 | 111.99 | 117.00 |
| 2 | AB | 217 | A | C8-N9-C4 | -10.01 | 101.80 | 105.80 |
| 35 | BA | 1451 | U | N1-C2-N3 | 10.01 | 120.91 | 114.90 |
| 2 | AB | 1750 | G | C5-N7-C8 | 10.01 | 109.30 | 104.30 |
| 2 | AB | 1852 | U | C4-C5-C6 | 10.01 | 125.71 | 119.70 |
| 35 | BA | 178 | C | N3-C4-C5 | 10.01 | 125.90 | 121.90 |
| 2 | AB | 732 | C | N3-C2-O2 | -10.01 | 114.89 | 121.90 |
| 41 | BG | 111 | ARG | NE-CZ-NH2 | -10.01 | 115.30 | 120.30 |
| 2 | AB | 867 | C | C5-C4-N4 | -10.01 | 113.20 | 120.20 |
| 2 | AB | 921 | C | C5-C4-N4 | -10.01 | 113.20 | 120.20 |
| 2 | AB | 2259 | U | N3-C4-O4 | 10.01 | 126.40 | 119.40 |
| 2 | AB | 2476 | A | N7-C8-N9 | 10.01 | 118.80 | 113.80 |
| 2 | AB | 2877 | G | N9-C4-C5 | 10.01 | 109.40 | 105.40 |
| 35 | BA | 1168 | U | C5'-C4'-O4' | 10.01 | 121.11 | 109.10 |
| 2 | AB | 1745 | A | O4'-C1'-N9 | 10.00 | 116.20 | 108.20 |
| 35 | BA | 462 | G | C8-N9-C4 | -10.00 | 102.40 | 106.40 |
| 35 | BA | 1174 | G | N9-C4-C5 | -10.00 | 101.40 | 105.40 |
| 1 | AA | 98 | G | N3-C4-C5 | -10.00 | 123.60 | 128.60 |
| 2 | AB | 79 | C | N3-C2-O2 | -10.00 | 114.90 | 121.90 |
| 4 | AD | 237 | ARG | NE-CZ-NH1 | 10.00 | 125.30 | 120.30 |
| 35 | BA | 1019 | A | N9-C4-C5 | -10.00 | 101.80 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|--------|-------------|----------|
| 37 | BC | 31 | G | O4'-C1'-N9 | 10.00 | 116.20 | 108.20 |
| 2 | AB | 895 | U | C5-C6-N1 | -10.00 | 117.70 | 122.70 |
| 35 | BA | 196 | A | C8-N9-C4 | -10.00 | 101.80 | 105.80 |
| 2 | AB | 1072 | C | O4'-C1'-N1 | 9.99 | 116.19 | 108.20 |
| 2 | AB | 422 | A | C5-C6-N1 | 9.99 | 122.70 | 117.70 |
| 2 | AB | 1236 | G | C2-N3-C4 | 9.99 | 116.90 | 111.90 |
| 2 | AB | 2331 | G | C5-N7-C8 | -9.99 | 99.30 | 104.30 |
| 35 | BA | 667 | G | N3-C4-N9 | 9.99 | 132.00 | 126.00 |
| 35 | BA | 1182 | G | C4-C5-N7 | -9.99 | 106.80 | 110.80 |
| 2 | AB | 1754 | A | N7-C8-N9 | 9.99 | 118.80 | 113.80 |
| 35 | BA | 268 | U | C4-C5-C6 | -9.99 | 113.71 | 119.70 |
| 35 | BA | 410 | G | N7-C8-N9 | 9.99 | 118.09 | 113.10 |
| 35 | BA | 752 | G | C4-C5-N7 | -9.99 | 106.80 | 110.80 |
| 35 | BA | 1249 | C | C5-C6-N1 | 9.99 | 125.99 | 121.00 |
| 2 | AB | 538 | A | C8-N9-C4 | 9.99 | 109.80 | 105.80 |
| 2 | AB | 1369 | G | O4'-C1'-N9 | 9.99 | 116.19 | 108.20 |
| 2 | AB | 471 | A | C8-N9-C4 | -9.99 | 101.81 | 105.80 |
| 2 | AB | 1581 | G | C8-N9-C4 | -9.99 | 102.41 | 106.40 |
| 2 | AB | 2677 | G | C2-N3-C4 | 9.99 | 116.89 | 111.90 |
| 35 | BA | 161 | A | C2-N3-C4 | 9.99 | 115.59 | 110.60 |
| 35 | BA | 1411 | C | O4'-C1'-N1 | 9.99 | 116.19 | 108.20 |
| 37 | BC | 23 | G | C5-N7-C8 | -9.99 | 99.31 | 104.30 |
| 45 | BK | 122 | ARG | NE-CZ-NH2 | -9.99 | 115.31 | 120.30 |
| 2 | AB | 2727 | A | C8-N9-C4 | -9.98 | 101.81 | 105.80 |
| 2 | AB | 1857 | G | N3-C2-N2 | 9.98 | 126.89 | 119.90 |
| 35 | BA | 1239 | A | N1-C2-N3 | -9.98 | 124.31 | 129.30 |
| 2 | AB | 451 | U | O4'-C1'-N1 | 9.98 | 116.19 | 108.20 |
| 35 | BA | 983 | A | N1-C2-N3 | -9.98 | 124.31 | 129.30 |
| 2 | AB | 1038 | G | O4'-C1'-N9 | 9.98 | 116.18 | 108.20 |
| 2 | AB | 1840 | G | N3-C4-C5 | -9.98 | 123.61 | 128.60 |
| 35 | BA | 370 | C | O4'-C1'-N1 | 9.98 | 116.18 | 108.20 |
| 2 | AB | 262 | A | C8-N9-C4 | -9.97 | 101.81 | 105.80 |
| 2 | AB | 1644 | C | O4'-C1'-N1 | 9.97 | 116.18 | 108.20 |
| 2 | AB | 2280 | G | C4'-C3'-C2' | -9.97 | 92.63 | 102.60 |
| 4 | AD | 13 | ARG | NE-CZ-NH1 | 9.97 | 125.29 | 120.30 |
| 2 | AB | 511 | U | C2-N3-C4 | -9.97 | 121.02 | 127.00 |
| 35 | BA | 123 | U | O4'-C1'-N1 | 9.97 | 116.18 | 108.20 |
| 2 | AB | 49 | A | C5-C6-N1 | -9.97 | 112.72 | 117.70 |
| 2 | AB | 69 | C | C2-N3-C4 | 9.97 | 124.88 | 119.90 |
| 35 | BA | 449 | G | O4'-C1'-N9 | 9.97 | 116.17 | 108.20 |
| 35 | BA | 760 | G | C5-C6-N1 | 9.97 | 116.48 | 111.50 |
| 2 | AB | 816 | C | C2-N3-C4 | 9.96 | 124.88 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 48 | BN | 8 | ARG | NE-CZ-NH1 | 9.97 | 125.28 | 120.30 |
| 2 | AB | 583 | G | C2-N3-C4 | 9.96 | 116.88 | 111.90 |
| 2 | AB | 2455 | G | C6-N1-C2 | -9.96 | 119.12 | 125.10 |
| 35 | BA | 169 | C | O4'-C1'-N1 | 9.96 | 116.17 | 108.20 |
| 2 | AB | 912 | C | C2-N3-C4 | -9.96 | 114.92 | 119.90 |
| 2 | AB | 1712 | U | O4'-C1'-N1 | 9.96 | 116.17 | 108.20 |
| 2 | AB | 1918 | A | O4'-C1'-N9 | 9.96 | 116.17 | 108.20 |
| 2 | AB | 2524 | G | N7-C8-N9 | 9.96 | 118.08 | 113.10 |
| 2 | AB | 2554 | U | O4'-C1'-N1 | 9.96 | 116.17 | 108.20 |
| 2 | AB | 2735 | G | C5-C6-N1 | -9.96 | 106.52 | 111.50 |
| 2 | AB | 2814 | A | C2-N3-C4 | 9.96 | 115.58 | 110.60 |
| 35 | BA | 501 | C | C5-C6-N1 | 9.96 | 125.98 | 121.00 |
| 35 | BA | 917 | G | C5-N7-C8 | -9.96 | 99.32 | 104.30 |
| 35 | BA | 1077 | G | N3-C4-C5 | -9.96 | 123.62 | 128.60 |
| 2 | AB | 843 | G | C4-C5-N7 | -9.96 | 106.82 | 110.80 |
| 2 | AB | 2337 | G | C5-C6-O6 | -9.96 | 122.62 | 128.60 |
| 35 | BA | 707 | U | N1-C2-N3 | 9.96 | 120.88 | 114.90 |
| 1 | AA | 1 | U | C5-C6-N1 | -9.96 | 117.72 | 122.70 |
| 2 | AB | 191 | A | O4'-C1'-N9 | 9.96 | 116.17 | 108.20 |
| 2 | AB | 261 | G | C4-C5-N7 | -9.96 | 106.82 | 110.80 |
| 2 | AB | 1472 | C | N1-C2-O2 | 9.96 | 124.87 | 118.90 |
| 2 | AB | 1619 | G | C4-C5-N7 | -9.96 | 106.82 | 110.80 |
| 35 | BA | 569 | C | O4'-C1'-N1 | 9.96 | 116.16 | 108.20 |
| 2 | AB | 2741 | A | C1'-O4'-C4' | 9.95 | 117.86 | 109.90 |
| 35 | BA | 810 | C | C1'-O4'-C4' | 9.96 | 117.86 | 109.90 |
| 2 | AB | 599 | A | C4'-C3'-C2' | -9.95 | 92.65 | 102.60 |
| 2 | AB | 1061 | U | C3'-C2'-C1' | 9.95 | 109.46 | 101.50 |
| 2 | AB | 1088 | A | C8-N9-C4 | -9.95 | 101.82 | 105.80 |
| 35 | BA | 1403 | C | N3-C4-N4 | -9.95 | 111.03 | 118.00 |
| 2 | AB | 1638 | C | C2-N3-C4 | 9.95 | 124.88 | 119.90 |
| 35 | BA | 673 | A | C8-N9-C4 | -9.95 | 101.82 | 105.80 |
| 36 | BB | 34 | U | O4'-C4'-C3' | 9.95 | 114.06 | 106.10 |
| 37 | BC | 38 | A | O4'-C1'-N9 | 9.95 | 116.16 | 108.20 |
| 2 | AB | 2255 | G | N1-C2-N3 | 9.95 | 129.87 | 123.90 |
| 35 | BA | 497 | G | C2-N3-C4 | 9.95 | 116.87 | 111.90 |
| 2 | AB | 1511 | G | C6-N1-C2 | -9.95 | 119.13 | 125.10 |
| 2 | AB | 1839 | G | C2-N3-C4 | 9.95 | 116.87 | 111.90 |
| 2 | AB | 2282 | G | N3-C4-C5 | -9.94 | 123.63 | 128.60 |
| 35 | BA | 84 | U | C3'-C2'-C1' | 9.95 | 109.46 | 101.50 |
| 35 | BA | 1049 | U | C3'-C2'-C1' | 9.95 | 109.46 | 101.50 |
| 35 | BA | 1411 | C | N1-C1'-C2' | -9.95 | 101.06 | 112.00 |
| 1 | AA | 41 | G | N3-C4-C5 | -9.94 | 123.63 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 818 | G | C8-N9-C4 | -9.94 | 102.42 | 106.40 |
| 2 | AB | 952 | G | C5-C6-O6 | -9.94 | 122.64 | 128.60 |
| 2 | AB | 1390 | U | C5-C6-N1 | -9.94 | 117.73 | 122.70 |
| 2 | AB | 1475 | G | C6-N1-C2 | -9.94 | 119.14 | 125.10 |
| 2 | AB | 1869 | G | C8-N9-C4 | -9.94 | 102.42 | 106.40 |
| 2 | AB | 1878 | G | C2-N3-C4 | -9.94 | 106.93 | 111.90 |
| 2 | AB | 1961 | C | N1-C2-O2 | 9.94 | 124.86 | 118.90 |
| 2 | AB | 2535 | G | P-O3'-C3' | 9.94 | 131.63 | 119.70 |
| 2 | AB | 1324 | G | N1-C6-O6 | -9.94 | 113.94 | 119.90 |
| 2 | AB | 2172 | U | N1-C2-O2 | -9.94 | 115.84 | 122.80 |
| 2 | AB | 2872 | A | C5-C6-N1 | -9.94 | 112.73 | 117.70 |
| 35 | BA | 85 | U | N3-C4-C5 | -9.94 | 108.64 | 114.60 |
| 35 | BA | 177 | G | N7-C8-N9 | -9.94 | 108.13 | 113.10 |
| 35 | BA | 817 | C | C5-C6-N1 | 9.94 | 125.97 | 121.00 |
| 35 | BA | 1431 | A | N7-C8-N9 | 9.94 | 118.77 | 113.80 |
| 2 | AB | 629 | G | N9-C4-C5 | 9.94 | 109.38 | 105.40 |
| 2 | AB | 1420 | A | C2-N3-C4 | 9.94 | 115.57 | 110.60 |
| 2 | AB | 1733 | G | C8-N9-C4 | -9.94 | 102.43 | 106.40 |
| 2 | AB | 2195 | U | N1-C2-N3 | 9.94 | 120.86 | 114.90 |
| 35 | BA | 1267 | C | N3-C4-C5 | -9.94 | 117.93 | 121.90 |
| 37 | BC | 62 | C | O4'-C1'-N1 | 9.94 | 116.15 | 108.20 |
| 37 | BC | 71 | G | C8-N9-C4 | -9.94 | 102.43 | 106.40 |
| 2 | AB | 15 | G | O4'-C1'-N9 | 9.93 | 116.15 | 108.20 |
| 2 | AB | 1620 | G | N3-C2-N2 | -9.93 | 112.95 | 119.90 |
| 2 | AB | 1659 | G | N9-C4-C5 | 9.93 | 109.37 | 105.40 |
| 2 | AB | 2354 | C | O4'-C1'-N1 | 9.93 | 116.15 | 108.20 |
| 2 | AB | 2388 | A | N1-C2-N3 | -9.93 | 124.33 | 129.30 |
| 2 | AB | 2449 | H2U | P-O3'-C3' | 9.93 | 131.62 | 119.70 |
| 2 | AB | 2768 | U | C5-C6-N1 | 9.93 | 127.67 | 122.70 |
| 2 | AB | 85 | G | N3-C2-N2 | -9.93 | 112.95 | 119.90 |
| 2 | AB | 253 | C | C5-C6-N1 | 9.93 | 125.97 | 121.00 |
| 2 | AB | 575 | A | C5-C6-N6 | -9.93 | 115.75 | 123.70 |
| 2 | AB | 2238 | G | C5-C6-O6 | 9.93 | 134.56 | 128.60 |
| 35 | BA | 312 | C | N3-C4-C5 | 9.93 | 125.87 | 121.90 |
| 2 | AB | 147 | C | C5-C4-N4 | -9.93 | 113.25 | 120.20 |
| 16 | AP | 67 | PHE | CB-CG-CD1 | -9.93 | 113.85 | 120.80 |
| 35 | BA | 74 | A | N9-C4-C5 | -9.93 | 101.83 | 105.80 |
| 35 | BA | 307 | C | C2-N3-C4 | 9.92 | 124.86 | 119.90 |
| 2 | AB | 71 | A | O4'-C1'-N9 | 9.92 | 116.14 | 108.20 |
| 2 | AB | 1262 | A | O4'-C4'-C3' | 9.92 | 114.03 | 106.10 |
| 2 | AB | 1637 | A | N7-C8-N9 | -9.92 | 108.84 | 113.80 |
| 2 | AB | 1861 | G | O4'-C1'-N9 | 9.92 | 116.14 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2567 | G | N3-C4-C5 | -9.92 | 123.64 | 128.60 |
| 2 | AB | 2675 | A | C6-N1-C2 | -9.92 | 112.65 | 118.60 |
| 35 | BA | 1486 | G | C5-C6-N1 | 9.92 | 116.46 | 111.50 |
| 2 | AB | 811 | U | C3'-C2'-C1' | 9.92 | 109.43 | 101.50 |
| 2 | AB | 2391 | G | N3-C4-C5 | -9.92 | 123.64 | 128.60 |
| 2 | AB | 2901 | C | C6-N1-C2 | -9.92 | 116.33 | 120.30 |
| 48 | BN | 93 | ARG | NE-CZ-NH1 | 9.92 | 125.26 | 120.30 |
| 2 | AB | 2043 | C | N3-C2-O2 | -9.91 | 114.96 | 121.90 |
| 2 | AB | 2421 | G | C8-N9-C4 | -9.91 | 102.43 | 106.40 |
| 2 | AB | 2431 | U | O4'-C1'-N1 | 9.91 | 116.13 | 108.20 |
| 35 | BA | 1044 | A | C5-C6-N1 | -9.91 | 112.74 | 117.70 |
| 2 | AB | 1262 | A | C4'-C3'-C2' | -9.91 | 92.69 | 102.60 |
| 2 | AB | 1811 | G | C5-C6-N1 | 9.91 | 116.46 | 111.50 |
| 2 | AB | 2321 | U | C5-C6-N1 | -9.91 | 117.75 | 122.70 |
| 2 | AB | 1299 | G | N9-C4-C5 | 9.91 | 109.36 | 105.40 |
| 35 | BA | 328 | C | O4'-C1'-N1 | 9.91 | 116.13 | 108.20 |
| 45 | BK | 123 | ARG | NE-CZ-NH2 | 9.91 | 125.25 | 120.30 |
| 2 | AB | 611 | C | N3-C2-O2 | -9.91 | 114.97 | 121.90 |
| 2 | AB | 1016 | G | N1-C6-O6 | 9.90 | 125.84 | 119.90 |
| 2 | AB | 1313 | U | C4-C5-C6 | -9.90 | 113.76 | 119.70 |
| 36 | BB | 31 | U | C4-C5-C6 | 9.90 | 125.64 | 119.70 |
| 2 | AB | 1749 | A | C4-C5-N7 | -9.90 | 105.75 | 110.70 |
| 35 | BA | 364 | A | C5-N7-C8 | -9.90 | 98.95 | 103.90 |
| 2 | AB | 2588 | G | C5-C6-O6 | -9.90 | 122.66 | 128.60 |
| 47 | BM | 52 | ARG | NE-CZ-NH2 | -9.90 | 115.35 | 120.30 |
| 2 | AB | 244 | A | C5-C6-N1 | 9.90 | 122.65 | 117.70 |
| 2 | AB | 571 | U | C4-C5-C6 | 9.90 | 125.64 | 119.70 |
| 2 | AB | 629 | G | N1-C2-N3 | -9.90 | 117.96 | 123.90 |
| 2 | AB | 1013 | C | N1-C2-O2 | 9.90 | 124.84 | 118.90 |
| 2 | AB | 1974 | C | O4'-C1'-N1 | 9.90 | 116.12 | 108.20 |
| 2 | AB | 1600 | C | N3-C2-O2 | -9.90 | 114.97 | 121.90 |
| 2 | AB | 202 | U | N3-C2-O2 | -9.89 | 115.27 | 122.20 |
| 35 | BA | 483 | C | N1-C2-O2 | 9.89 | 124.84 | 118.90 |
| 35 | BA | 847 | G | C5-C6-O6 | -9.89 | 122.66 | 128.60 |
| 35 | BA | 1034 | G | C6-N1-C2 | -9.89 | 119.16 | 125.10 |
| 2 | AB | 1146 | C | C5-C4-N4 | 9.89 | 127.12 | 120.20 |
| 29 | A2 | 25 | ARG | NE-CZ-NH1 | 9.89 | 125.25 | 120.30 |
| 35 | BA | 371 | A | C8-N9-C4 | -9.89 | 101.84 | 105.80 |
| 2 | AB | 111 | A | N7-C8-N9 | 9.89 | 118.74 | 113.80 |
| 2 | AB | 943 | A | C5-N7-C8 | -9.88 | 98.96 | 103.90 |
| 2 | AB | 2289 | G | C5-C6-N1 | 9.88 | 116.44 | 111.50 |
| 2 | AB | 2654 | A | C4-C5-N7 | -9.89 | 105.76 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 975 | A | C5-C6-N1 | -9.88 | 112.76 | 117.70 |
| 2 | AB | 1828 | G | C4-C5-N7 | -9.88 | 106.85 | 110.80 |
| 35 | BA | 491 | G | C2-N3-C4 | 9.88 | 116.84 | 111.90 |
| 2 | AB | 1005 | C | N1-C2-O2 | 9.88 | 124.83 | 118.90 |
| 2 | AB | 1433 | A | C4-C5-C6 | 9.88 | 121.94 | 117.00 |
| 2 | AB | 2182 | U | N1-C2-N3 | 9.88 | 120.83 | 114.90 |
| 35 | BA | 602 | A | N7-C8-N9 | -9.88 | 108.86 | 113.80 |
| 35 | BA | 1018 | G | C5-C6-N1 | 9.88 | 116.44 | 111.50 |
| 36 | BB | 59 | A | O4'-C1'-N9 | 9.88 | 116.11 | 108.20 |
| 51 | BQ | 63 | ARG | NE-CZ-NH2 | -9.88 | 115.36 | 120.30 |
| 2 | AB | 846 | U | O4'-C1'-N1 | 9.88 | 116.10 | 108.20 |
| 2 | AB | 1757 | A | N9-C4-C5 | 9.88 | 109.75 | 105.80 |
| 2 | AB | 2220 | U | O4'-C1'-N1 | 9.88 | 116.10 | 108.20 |
| 35 | BA | 8 | A | N1-C2-N3 | -9.88 | 124.36 | 129.30 |
| 35 | BA | 1294 | G | O4'-C1'-N9 | 9.88 | 116.10 | 108.20 |
| 2 | AB | 257 | C | C6-N1-C2 | -9.88 | 116.35 | 120.30 |
| 35 | BA | 36 | C | C1'-O4'-C4' | -9.88 | 102.00 | 109.90 |
| 2 | AB | 357 | C | N1-C2-N3 | 9.87 | 126.11 | 119.20 |
| 2 | AB | 2554 | U | N3-C2-O2 | -9.88 | 115.29 | 122.20 |
| 2 | AB | 2799 | A | C5-N7-C8 | -9.88 | 98.96 | 103.90 |
| 35 | BA | 151 | A | O4'-C1'-N9 | 9.88 | 116.10 | 108.20 |
| 35 | BA | 907 | A | N1-C6-N6 | -9.88 | 112.67 | 118.60 |
| 35 | BA | 329 | A | O4'-C1'-N9 | 9.87 | 116.10 | 108.20 |
| 2 | AB | 1560 | G | C5'-C4'-O4' | 9.87 | 120.94 | 109.10 |
| 35 | BA | 1103 | C | N1-C2-O2 | 9.87 | 124.82 | 118.90 |
| 41 | BG | 44 | ARG | NE-CZ-NH2 | -9.87 | 115.36 | 120.30 |
| 7 | AG | 147 | ARG | NE-CZ-NH2 | -9.87 | 115.36 | 120.30 |
| 8 | AH | 93 | TYR | CB-CG-CD2 | 9.87 | 126.92 | 121.00 |
| 2 | AB | 1904 | G | C4-C5-N7 | -9.87 | 106.85 | 110.80 |
| 37 | BC | 58 | A | N9-C4-C5 | 9.87 | 109.75 | 105.80 |
| 2 | AB | 97 | C | C2-N3-C4 | 9.87 | 124.83 | 119.90 |
| 2 | AB | 633 | A | C8-N9-C4 | 9.87 | 109.75 | 105.80 |
| 2 | AB | 1111 | A | C8-N9-C4 | -9.86 | 101.85 | 105.80 |
| 2 | AB | 2057 | G | N7-C8-N9 | -9.86 | 108.17 | 113.10 |
| 35 | BA | 881 | G | N7-C8-N9 | 9.87 | 118.03 | 113.10 |
| 35 | BA | 972 | C | C2-N3-C4 | -9.87 | 114.97 | 119.90 |
| 37 | BC | 20 | G | N3-C4-C5 | -9.86 | 123.67 | 128.60 |
| 2 | AB | 716 | A | N9-C4-C5 | 9.86 | 109.75 | 105.80 |
| 2 | AB | 931 | U | O4'-C1'-N1 | 9.86 | 116.09 | 108.20 |
| 35 | BA | 13 | U | N3-C4-O4 | 9.86 | 126.30 | 119.40 |
| 35 | BA | 359 | G | C4-C5-N7 | -9.86 | 106.86 | 110.80 |
| 2 | AB | 251 | A | N1-C2-N3 | 9.86 | 134.23 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1054 | A | O4'-C1'-N9 | 9.86 | 116.09 | 108.20 |
| 2 | AB | 2061 | G | N3-C4-N9 | 9.86 | 131.91 | 126.00 |
| 2 | AB | 2083 | G | N3-C2-N2 | -9.86 | 113.00 | 119.90 |
| 1 | AA | 54 | G | N3-C4-C5 | -9.86 | 123.67 | 128.60 |
| 2 | AB | 770 | G | C5-N7-C8 | -9.86 | 99.37 | 104.30 |
| 2 | AB | 2286 | G | O4'-C4'-C3' | 9.86 | 113.99 | 106.10 |
| 2 | AB | 803 | U | C4-C5-C6 | 9.86 | 125.61 | 119.70 |
| 2 | AB | 2006 | C | N1-C2-O2 | 9.86 | 124.81 | 118.90 |
| 36 | BB | 34 | U | N3-C4-C5 | -9.86 | 108.69 | 114.60 |
| 2 | AB | 105 | C | N3-C4-C5 | -9.85 | 117.96 | 121.90 |
| 2 | AB | 2112 | G | C5-N7-C8 | 9.85 | 109.23 | 104.30 |
| 2 | AB | 2118 | U | N3-C2-O2 | -9.85 | 115.30 | 122.20 |
| 2 | AB | 2363 | G | N3-C4-C5 | -9.85 | 123.67 | 128.60 |
| 2 | AB | 2853 | C | O4'-C1'-N1 | 9.85 | 116.08 | 108.20 |
| 40 | BF | 3 | TYR | CB-CG-CD1 | -9.85 | 115.09 | 121.00 |
| 1 | AA | 79 | G | C8-N9-C4 | -9.85 | 102.46 | 106.40 |
| 2 | AB | 40 | U | C2-N3-C4 | -9.85 | 121.09 | 127.00 |
| 2 | AB | 2286 | G | C4-C5-N7 | -9.85 | 106.86 | 110.80 |
| 2 | AB | 2739 | U | O4'-C1'-N1 | 9.85 | 116.08 | 108.20 |
| 35 | BA | 874 | G | C5-N7-C8 | 9.85 | 109.22 | 104.30 |
| 37 | BC | 2 | G | C6-N1-C2 | -9.85 | 119.19 | 125.10 |
| 35 | BA | 1219 | A | N3-C4-N9 | 9.85 | 135.28 | 127.40 |
| 2 | AB | 2198 | A | C8-N9-C4 | -9.85 | 101.86 | 105.80 |
| 12 | AL | 99 | ARG | NE-CZ-NH1 | 9.85 | 125.22 | 120.30 |
| 35 | BA | 1099 | G | N7-C8-N9 | 9.85 | 118.02 | 113.10 |
| 35 | BA | 302 | G | C8-N9-C4 | -9.85 | 102.46 | 106.40 |
| 2 | AB | 576 | U | C5-C4-O4 | -9.84 | 119.99 | 125.90 |
| 2 | AB | 789 | A | C3'-C2'-C1' | 9.84 | 109.38 | 101.50 |
| 2 | AB | 2681 | C | N3-C2-O2 | -9.84 | 115.01 | 121.90 |
| 2 | AB | 1325 | U | O4'-C1'-N1 | 9.84 | 116.07 | 108.20 |
| 2 | AB | 2700 | A | C2-N3-C4 | 9.84 | 115.52 | 110.60 |
| 2 | AB | 2 | G | C5-N7-C8 | 9.84 | 109.22 | 104.30 |
| 2 | AB | 142 | A | N1-C2-N3 | -9.84 | 124.38 | 129.30 |
| 35 | BA | 1395 | C | C4-C5-C6 | 9.84 | 122.32 | 117.40 |
| 2 | AB | 193 | U | C5-C4-O4 | -9.84 | 120.00 | 125.90 |
| 35 | BA | 964 | A | C4-C5-C6 | -9.84 | 112.08 | 117.00 |
| 35 | BA | 1278 | G | C4-C5-N7 | 9.84 | 114.74 | 110.80 |
| 2 | AB | 1639 | C | C3'-C2'-C1' | 9.84 | 109.37 | 101.50 |
| 35 | BA | 574 | A | C8-N9-C4 | -9.84 | 101.86 | 105.80 |
| 2 | AB | 284 | U | O4'-C1'-N1 | 9.84 | 116.07 | 108.20 |
| 35 | BA | 821 | G | N3-C4-N9 | 9.84 | 131.90 | 126.00 |
| 2 | AB | 151 | C | O4'-C1'-N1 | 9.83 | 116.07 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 295 | G | O4'-C1'-N9 | 9.83 | 116.07 | 108.20 |
| 2 | AB | 2535 | G | N9-C4-C5 | 9.83 | 109.33 | 105.40 |
| 2 | AB | 2891 | U | O4'-C1'-N1 | 9.83 | 116.07 | 108.20 |
| 35 | BA | 1272 | G | N3-C4-C5 | -9.83 | 123.68 | 128.60 |
| 35 | BA | 1347 | G | C8-N9-C4 | -9.83 | 102.47 | 106.40 |
| 2 | AB | 1461 | C | O4'-C1'-N1 | 9.83 | 116.06 | 108.20 |
| 2 | AB | 2070 | A | O4'-C1'-N9 | 9.83 | 116.06 | 108.20 |
| 35 | BA | 847 | G | C5-N7-C8 | -9.83 | 99.39 | 104.30 |
| 2 | AB | 2652 | C | O4'-C1'-N1 | 9.83 | 116.06 | 108.20 |
| 35 | BA | 163 | C | C2-N3-C4 | 9.83 | 124.81 | 119.90 |
| 35 | BA | 668 | G | C4-C5-N7 | 9.83 | 114.73 | 110.80 |
| 35 | BA | 1152 | A | N1-C6-N6 | -9.83 | 112.70 | 118.60 |
| 2 | AB | 612 | G | N9-C4-C5 | 9.82 | 109.33 | 105.40 |
| 2 | AB | 853 | C | N1-C2-O2 | 9.82 | 124.80 | 118.90 |
| 2 | AB | 860 | U | O4'-C1'-N1 | 9.82 | 116.06 | 108.20 |
| 2 | AB | 1920 | C | N3-C4-C5 | -9.82 | 117.97 | 121.90 |
| 2 | AB | 2067 | G | O4'-C1'-N9 | 9.82 | 116.06 | 108.20 |
| 2 | AB | 2480 | C | O4'-C1'-N1 | 9.82 | 116.06 | 108.20 |
| 1 | AA | 117 | G | C8-N9-C4 | 9.82 | 110.33 | 106.40 |
| 2 | AB | 239 | C | O4'-C1'-N1 | 9.82 | 116.06 | 108.20 |
| 2 | AB | 533 | G | N7-C8-N9 | 9.82 | 118.01 | 113.10 |
| 2 | AB | 2217 | G | N9-C4-C5 | 9.82 | 109.33 | 105.40 |
| 2 | AB | 2621 | G | O4'-C1'-N9 | 9.82 | 116.06 | 108.20 |
| 2 | AB | 2838 | G | C8-N9-C4 | -9.82 | 102.47 | 106.40 |
| 35 | BA | 528 | C | C5'-C4'-O4' | 9.82 | 120.89 | 109.10 |
| 35 | BA | 729 | A | C8-N9-C4 | -9.82 | 101.87 | 105.80 |
| 37 | BC | 40 | C | O4'-C1'-N1 | 9.82 | 116.06 | 108.20 |
| 2 | AB | 1761 | C | C3'-C2'-C1' | 9.82 | 109.36 | 101.50 |
| 2 | AB | 2120 | G | O4'-C1'-N9 | 9.82 | 116.06 | 108.20 |
| 35 | BA | 122 | G | C2-N3-C4 | 9.82 | 116.81 | 111.90 |
| 35 | BA | 168 | G | C5-C6-O6 | -9.82 | 122.71 | 128.60 |
| 35 | BA | 1278 | G | C5-N7-C8 | -9.82 | 99.39 | 104.30 |
| 2 | AB | 100 | U | N3-C2-O2 | -9.82 | 115.33 | 122.20 |
| 2 | AB | 399 | U | C5'-C4'-O4' | 9.82 | 120.88 | 109.10 |
| 2 | AB | 930 | G | C4-C5-N7 | -9.82 | 106.87 | 110.80 |
| 2 | AB | 1382 | G | C2-N3-C4 | 9.82 | 116.81 | 111.90 |
| 35 | BA | 1353 | G | N9-C4-C5 | 9.82 | 109.33 | 105.40 |
| 1 | AA | 110 | C | O4'-C1'-N1 | 9.81 | 116.05 | 108.20 |
| 35 | BA | 1053 | G | N9-C4-C5 | 9.81 | 109.33 | 105.40 |
| 1 | AA | 85 | G | N7-C8-N9 | 9.81 | 118.00 | 113.10 |
| 2 | AB | 211 | C | C6-N1-C2 | -9.81 | 116.38 | 120.30 |
| 2 | AB | 1360 | G | C2-N3-C4 | 9.81 | 116.81 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2848 | G | N3-C4-C5 | -9.81 | 123.69 | 128.60 |
| 35 | BA | 1080 | A | O4'-C1'-N9 | 9.81 | 116.05 | 108.20 |
| 2 | AB | 518 | G | N3-C4-N9 | -9.81 | 120.11 | 126.00 |
| 35 | BA | 761 | G | C5-N7-C8 | 9.81 | 109.20 | 104.30 |
| 2 | AB | 106 | C | N1-C2-O2 | 9.80 | 124.78 | 118.90 |
| 2 | AB | 1776 | G | N9-C4-C5 | 9.80 | 109.32 | 105.40 |
| 35 | BA | 162 | A | C5-N7-C8 | -9.81 | 99.00 | 103.90 |
| 2 | AB | 212 | G | N1-C2-N3 | -9.80 | 118.02 | 123.90 |
| 2 | AB | 383 | C | C2-N3-C4 | 9.80 | 124.80 | 119.90 |
| 2 | AB | 2126 | A | O4'-C1'-N9 | -9.80 | 100.36 | 108.20 |
| 35 | BA | 357 | G | N7-C8-N9 | 9.80 | 118.00 | 113.10 |
| 2 | AB | 2560 | A | C5'-C4'-O4' | 9.80 | 120.86 | 109.10 |
| 2 | AB | 1533 | C | C4-C5-C6 | -9.80 | 112.50 | 117.40 |
| 35 | BA | 115 | G | C6-N1-C2 | -9.80 | 119.22 | 125.10 |
| 35 | BA | 361 | G | N7-C8-N9 | 9.80 | 118.00 | 113.10 |
| 2 | AB | 683 | U | C5-C4-O4 | -9.79 | 120.02 | 125.90 |
| 35 | BA | 714 | G | N1-C2-N3 | -9.80 | 118.02 | 123.90 |
| 35 | BA | 755 | G | N3-C2-N2 | 9.79 | 126.76 | 119.90 |
| 2 | AB | 1151 | A | C8-N9-C4 | 9.79 | 109.72 | 105.80 |
| 35 | BA | 63 | C | N1-C2-N3 | -9.79 | 112.34 | 119.20 |
| 2 | AB | 716 | A | C8-N9-C4 | -9.79 | 101.88 | 105.80 |
| 2 | AB | 636 | G | C5-N7-C8 | -9.79 | 99.41 | 104.30 |
| 2 | AB | 2422 | C | N3-C4-C5 | -9.79 | 117.98 | 121.90 |
| 18 | AR | 50 | ARG | NE-CZ-NH2 | 9.79 | 125.19 | 120.30 |
| 22 | AV | 12 | ARG | NE-CZ-NH1 | 9.79 | 125.19 | 120.30 |
| 2 | AB | 377 | G | C5-C6-N1 | 9.79 | 116.39 | 111.50 |
| 2 | AB | 749 | A | N1-C6-N6 | 9.79 | 124.47 | 118.60 |
| 2 | AB | 2115 | G | C5-C6-N1 | 9.79 | 116.39 | 111.50 |
| 2 | AB | 1845 | G | N3-C2-N2 | -9.78 | 113.05 | 119.90 |
| 11 | AK | 64 | ARG | NE-CZ-NH1 | -9.78 | 115.41 | 120.30 |
| 35 | BA | 304 | U | N3-C2-O2 | -9.79 | 115.35 | 122.20 |
| 35 | BA | 666 | G | C8-N9-C4 | -9.78 | 102.49 | 106.40 |
| 35 | BA | 1414 | U | N3-C2-O2 | -9.78 | 115.35 | 122.20 |
| 35 | BA | 1404 | C | C2-N3-C4 | 9.78 | 124.79 | 119.90 |
| 2 | AB | 124 | G | C4-C5-N7 | -9.78 | 106.89 | 110.80 |
| 2 | AB | 778 | G | C5-C6-N1 | 9.78 | 116.39 | 111.50 |
| 35 | BA | 291 | U | C5-C6-N1 | -9.78 | 117.81 | 122.70 |
| 2 | AB | 1426 | G | C2-N3-C4 | -9.78 | 107.01 | 111.90 |
| 2 | AB | 2693 | G | N7-C8-N9 | -9.78 | 108.21 | 113.10 |
| 35 | BA | 684 | U | O4'-C1'-N1 | 9.78 | 116.02 | 108.20 |
| 35 | BA | 960 | U | P-O3'-C3' | 9.78 | 131.44 | 119.70 |
| 2 | AB | 2126 | A | N9-C4-C5 | -9.78 | 101.89 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1407 | G | C5-N7-C8 | -9.78 | 99.41 | 104.30 |
| 2 | AB | 2208 | C | O4'-C1'-N1 | 9.78 | 116.02 | 108.20 |
| 2 | AB | 422 | A | N1-C2-N3 | -9.77 | 124.41 | 129.30 |
| 2 | AB | 2073 | C | O4'-C1'-N1 | 9.77 | 116.02 | 108.20 |
| 2 | AB | 2259 | U | C5-C4-O4 | -9.77 | 120.03 | 125.90 |
| 2 | AB | 2597 | G | C5-C6-O6 | -9.77 | 122.73 | 128.60 |
| 35 | BA | 1373 | G | N3-C4-N9 | 9.77 | 131.86 | 126.00 |
| 2 | AB | 1127 | A | O4'-C1'-N9 | -9.77 | 100.38 | 108.20 |
| 2 | AB | 2204 | G | C5-C6-N1 | 9.77 | 116.39 | 111.50 |
| 36 | BB | 23 | C | N3-C4-C5 | -9.77 | 117.99 | 121.90 |
| 35 | BA | 361 | G | O4'-C1'-N9 | 9.77 | 116.02 | 108.20 |
| 37 | BC | 61 | U | C2-N3-C4 | -9.77 | 121.14 | 127.00 |
| 1 | AA | 27 | C | N3-C4-C5 | -9.77 | 117.99 | 121.90 |
| 2 | AB | 1045 | C | C5-C4-N4 | 9.77 | 127.04 | 120.20 |
| 2 | AB | 1904 | G | N9-C1'-C2' | -9.77 | 101.25 | 112.00 |
| 35 | BA | 1240 | U | O4'-C1'-N1 | 9.77 | 116.02 | 108.20 |
| 2 | AB | 1074 | G | O4'-C1'-N9 | 9.77 | 116.01 | 108.20 |
| 2 | AB | 1346 | G | C4'-C3'-C2' | -9.77 | 92.83 | 102.60 |
| 2 | AB | 1424 | G | N7-C8-N9 | 9.77 | 117.98 | 113.10 |
| 2 | AB | 1427 | A | C3'-C2'-C1' | -9.77 | 93.69 | 101.50 |
| 2 | AB | 725 | G | N3-C4-N9 | 9.76 | 131.86 | 126.00 |
| 2 | AB | 1999 | C | N3-C2-O2 | -9.76 | 115.06 | 121.90 |
| 2 | AB | 1757 | A | O4'-C1'-N9 | 9.76 | 116.01 | 108.20 |
| 1 | AA | 97 | C | O4'-C1'-N1 | 9.76 | 116.01 | 108.20 |
| 2 | AB | 1056 | G | N1-C6-O6 | -9.76 | 114.05 | 119.90 |
| 2 | AB | 2603 | G | N3-C4-C5 | -9.76 | 123.72 | 128.60 |
| 35 | BA | 805 | C | N3-C4-C5 | -9.76 | 118.00 | 121.90 |
| 2 | AB | 258 | G | N7-C8-N9 | 9.76 | 117.98 | 113.10 |
| 2 | AB | 476 | G | C8-N9-C4 | -9.76 | 102.50 | 106.40 |
| 2 | AB | 1529 | G | C4'-C3'-C2' | -9.76 | 92.84 | 102.60 |
| 2 | AB | 2747 | G | N9-C1'-C2' | -9.76 | 101.27 | 112.00 |
| 35 | BA | 1471 | U | O4'-C1'-N1 | 9.76 | 116.01 | 108.20 |
| 2 | AB | 2181 | U | N3-C2-O2 | -9.76 | 115.37 | 122.20 |
| 2 | AB | 2667 | C | N3-C2-O2 | -9.76 | 115.07 | 121.90 |
| 35 | BA | 376 | G | C8-N9-C4 | -9.76 | 102.50 | 106.40 |
| 35 | BA | 1039 | G | O4'-C1'-N9 | 9.76 | 116.00 | 108.20 |
| 37 | BC | 50 | G | N3-C4-C5 | -9.76 | 123.72 | 128.60 |
| 2 | AB | 275 | C | C6-N1-C2 | -9.75 | 116.40 | 120.30 |
| 2 | AB | 1557 | C | N1-C2-O2 | 9.75 | 124.75 | 118.90 |
| 2 | AB | 1564 | C | N3-C4-C5 | -9.75 | 118.00 | 121.90 |
| 2 | AB | 1828 | G | C8-N9-C4 | -9.75 | 102.50 | 106.40 |
| 35 | BA | 10 | A | O4'-C1'-N9 | 9.75 | 116.00 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2176 | A | C4-C5-C6 | -9.75 | 112.12 | 117.00 |
| 35 | BA | 1034 | G | C2-N3-C4 | 9.75 | 116.78 | 111.90 |
| 35 | BA | 299 | G | C6-N1-C2 | -9.75 | 119.25 | 125.10 |
| 2 | AB | 1450 | G | C5-C6-N1 | 9.75 | 116.37 | 111.50 |
| 2 | AB | 1970 | A | N9-C4-C5 | 9.75 | 109.70 | 105.80 |
| 2 | AB | 2129 | C | O4'-C1'-N1 | 9.75 | 116.00 | 108.20 |
| 2 | AB | 2551 | C | N3-C4-N4 | 9.75 | 124.82 | 118.00 |
| 35 | BA | 1398 | A | C5-C6-N1 | 9.75 | 122.57 | 117.70 |
| 36 | BB | 44 | U | C4-C5-C6 | 9.75 | 125.55 | 119.70 |
| 1 | AA | 7 | G | C5-C6-N1 | 9.74 | 116.37 | 111.50 |
| 2 | AB | 869 | G | C5-C6-N1 | 9.74 | 116.37 | 111.50 |
| 2 | AB | 926 | G | N3-C2-N2 | -9.74 | 113.08 | 119.90 |
| 2 | AB | 2308 | G | C8-N9-C4 | -9.74 | 102.50 | 106.40 |
| 35 | BA | 441 | A | C4'-C3'-C2' | -9.74 | 92.86 | 102.60 |
| 35 | BA | 606 | G | C4-C5-N7 | -9.74 | 106.90 | 110.80 |
| 35 | BA | 623 | C | C5-C6-N1 | 9.74 | 125.87 | 121.00 |
| 2 | AB | 293 | U | O4'-C1'-N1 | 9.74 | 115.99 | 108.20 |
| 35 | BA | 125 | U | N1-C2-N3 | 9.74 | 120.75 | 114.90 |
| 35 | BA | 1092 | A | C2-N3-C4 | 9.74 | 115.47 | 110.60 |
| 2 | AB | 2668 | G | C5-C6-O6 | -9.74 | 122.75 | 128.60 |
| 2 | AB | 2698 | U | O4'-C1'-N1 | 9.74 | 115.99 | 108.20 |
| 35 | BA | 447 | G | N9-C4-C5 | 9.74 | 109.30 | 105.40 |
| 35 | BA | 705 | G | N3-C4-C5 | -9.74 | 123.73 | 128.60 |
| 35 | BA | 1015 | G | C5-C6-N1 | 9.74 | 116.37 | 111.50 |
| 36 | BB | 13 | A | C4-C5-N7 | -9.74 | 105.83 | 110.70 |
| 2 | AB | 170 | U | N3-C4-O4 | 9.74 | 126.22 | 119.40 |
| 2 | AB | 214 | G | C1'-O4'-C4' | 9.74 | 117.69 | 109.90 |
| 2 | AB | 1285 | A | N1-C6-N6 | -9.74 | 112.76 | 118.60 |
| 2 | AB | 2333 | A | N9-C4-C5 | 9.74 | 109.69 | 105.80 |
| 2 | AB | 2675 | A | C5-N7-C8 | 9.74 | 108.77 | 103.90 |
| 35 | BA | 1130 | A | C8-N9-C4 | -9.74 | 101.91 | 105.80 |
| 2 | AB | 970 | U | C6-N1-C2 | -9.73 | 115.16 | 121.00 |
| 2 | AB | 1260 | A | C4-C5-N7 | -9.73 | 105.83 | 110.70 |
| 2 | AB | 1574 | C | C3'-C2'-C1' | 9.73 | 109.29 | 101.50 |
| 2 | AB | 2111 | U | N3-C2-O2 | -9.73 | 115.39 | 122.20 |
| 35 | BA | 752 | G | C8-N9-C4 | -9.73 | 102.51 | 106.40 |
| 2 | AB | 742 | A | C8-N9-C4 | -9.73 | 101.91 | 105.80 |
| 2 | AB | 1501 | G | C8-N9-C4 | -9.73 | 102.51 | 106.40 |
| 2 | AB | 1515 | A | N1-C2-N3 | -9.73 | 124.44 | 129.30 |
| 2 | AB | 1626 | A | O4'-C1'-N9 | 9.73 | 115.98 | 108.20 |
| 35 | BA | 833 | G | N1-C6-O6 | -9.73 | 114.06 | 119.90 |
| 2 | AB | 2514 | U | O4'-C1'-N1 | 9.73 | 115.98 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 194 | G | C4-C5-N7 | 9.73 | 114.69 | 110.80 |
| 2 | AB | 1674 | G | N1-C2-N3 | -9.73 | 118.06 | 123.90 |
| 35 | BA | 321 | A | O4'-C1'-N9 | 9.73 | 115.98 | 108.20 |
| 35 | BA | 1042 | A | N1-C2-N3 | 9.73 | 134.16 | 129.30 |
| 2 | AB | 1586 | A | C1'-O4'-C4' | -9.72 | 102.12 | 109.90 |
| 2 | AB | 2785 | C | C2-N3-C4 | 9.72 | 124.76 | 119.90 |
| 35 | BA | 375 | U | N1-C2-O2 | 9.72 | 129.61 | 122.80 |
| 35 | BA | 1270 | G | C2-N3-C4 | 9.72 | 116.76 | 111.90 |
| 2 | AB | 314 | C | C6-N1-C2 | -9.72 | 116.41 | 120.30 |
| 2 | AB | 994 | C | O4'-C1'-N1 | 9.72 | 115.98 | 108.20 |
| 35 | BA | 111 | G | N3-C4-C5 | -9.72 | 123.74 | 128.60 |
| 37 | BC | 42 | C | C5-C4-N4 | -9.72 | 113.40 | 120.20 |
| 1 | AA | 117 | G | N3-C2-N2 | -9.72 | 113.10 | 119.90 |
| 26 | AZ | 17 | ARG | NE-CZ-NH1 | 9.72 | 125.16 | 120.30 |
| 2 | AB | 540 | C | N1-C2-O2 | -9.72 | 113.07 | 118.90 |
| 35 | BA | 678 | U | O4'-C1'-N1 | 9.72 | 115.97 | 108.20 |
| 35 | BA | 856 | C | N1-C2-O2 | 9.72 | 124.73 | 118.90 |
| 35 | BA | 1385 | G | C5-C6-N1 | 9.72 | 116.36 | 111.50 |
| 2 | AB | 539 | G | N9-C4-C5 | 9.72 | 109.29 | 105.40 |
| 2 | AB | 2000 | C | C6-N1-C2 | -9.72 | 116.41 | 120.30 |
| 1 | AA | 81 | G | N7-C8-N9 | 9.71 | 117.96 | 113.10 |
| 2 | AB | 2256 | G | N1-C6-O6 | -9.71 | 114.07 | 119.90 |
| 2 | AB | 2607 | G | C5-C6-N1 | 9.72 | 116.36 | 111.50 |
| 2 | AB | 2360 | G | C2-N3-C4 | 9.71 | 116.76 | 111.90 |
| 35 | BA | 805 | C | N3-C2-O2 | -9.71 | 115.10 | 121.90 |
| 35 | BA | 1491 | G | N3-C4-C5 | -9.71 | 123.74 | 128.60 |
| 2 | AB | 45 | G | C4-C5-N7 | -9.71 | 106.92 | 110.80 |
| 2 | AB | 882 | G | C8-N9-C4 | -9.71 | 102.52 | 106.40 |
| 2 | AB | 1119 | U | C4-C5-C6 | 9.71 | 125.53 | 119.70 |
| 2 | AB | 1563 | U | O4'-C1'-N1 | 9.71 | 115.97 | 108.20 |
| 2 | AB | 2246 | G | N1-C2-N3 | -9.71 | 118.07 | 123.90 |
| 2 | AB | 575 | A | N9-C1'-C2' | -9.71 | 101.32 | 112.00 |
| 2 | AB | 874 | G | N1-C6-O6 | 9.71 | 125.73 | 119.90 |
| 2 | AB | 1336 | A | O4'-C1'-N9 | 9.71 | 115.97 | 108.20 |
| 2 | AB | 133 | U | C4-C5-C6 | 9.71 | 125.53 | 119.70 |
| 35 | BA | 58 | C | O4'-C1'-N1 | 9.71 | 115.97 | 108.20 |
| 2 | AB | 89 | A | N1-C2-N3 | 9.71 | 134.15 | 129.30 |
| 2 | AB | 1508 | A | C8-N9-C4 | -9.71 | 101.92 | 105.80 |
| 35 | BA | 169 | C | C6-N1-C2 | 9.71 | 124.18 | 120.30 |
| 35 | BA | 257 | G | C2-N3-C4 | 9.71 | 116.75 | 111.90 |
| 35 | BA | 855 | U | O4'-C1'-N1 | 9.71 | 115.97 | 108.20 |
| 35 | BA | 1262 | C | C5-C4-N4 | -9.71 | 113.41 | 120.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 553 | G | C1'-O4'-C4' | -9.71 | 102.14 | 109.90 |
| 2 | AB | 1317 | G | C4-C5-N7 | -9.71 | 106.92 | 110.80 |
| 2 | AB | 1590 | A | N1-C2-N3 | -9.71 | 124.45 | 129.30 |
| 2 | AB | 1874 | C | N1-C2-O2 | 9.70 | 124.72 | 118.90 |
| 2 | AB | 2721 | A | C8-N9-C4 | 9.70 | 109.68 | 105.80 |
| 2 | AB | 2727 | A | C4-C5-N7 | -9.70 | 105.85 | 110.70 |
| 1 | AA | 52 | A | O4'-C1'-C2' | 9.70 | 116.33 | 107.60 |
| 2 | AB | 418 | C | C2-N3-C4 | 9.70 | 124.75 | 119.90 |
| 2 | AB | 1168 | G | C4-C5-N7 | -9.70 | 106.92 | 110.80 |
| 2 | AB | 2287 | A | C5-C6-N1 | 9.70 | 122.55 | 117.70 |
| 35 | BA | 247 | G | O4'-C1'-N9 | -9.70 | 100.44 | 108.20 |
| 35 | BA | 393 | A | C4-C5-N7 | -9.70 | 105.85 | 110.70 |
| 35 | BA | 916 | U | N1-C2-N3 | 9.70 | 120.72 | 114.90 |
| 2 | AB | 206 | U | N3-C4-C5 | -9.70 | 108.78 | 114.60 |
| 2 | AB | 287 | G | C2-N3-C4 | 9.70 | 116.75 | 111.90 |
| 2 | AB | 1797 | G | N9-C4-C5 | 9.70 | 109.28 | 105.40 |
| 2 | AB | 2297 | A | C2-N3-C4 | -9.70 | 105.75 | 110.60 |
| 35 | BA | 573 | A | N1-C2-N3 | -9.70 | 124.45 | 129.30 |
| 35 | BA | 1489 | G | C5-C6-O6 | 9.70 | 134.42 | 128.60 |
| 2 | AB | 965 | C | C5-C6-N1 | 9.69 | 125.85 | 121.00 |
| 2 | AB | 2221 | G | N9-C1'-C2' | -9.69 | 101.34 | 112.00 |
| 5 | AE | 33 | ARG | NE-CZ-NH1 | -9.69 | 115.45 | 120.30 |
| 35 | BA | 606 | G | C8-N9-C4 | -9.69 | 102.52 | 106.40 |
| 35 | BA | 691 | G | N9-C4-C5 | 9.70 | 109.28 | 105.40 |
| 35 | BA | 700 | G | C5'-C4'-O4' | 9.70 | 120.73 | 109.10 |
| 37 | BC | 48 | U | N1-C2-O2 | 9.70 | 129.59 | 122.80 |
| 48 | BN | 30 | ARG | NE-CZ-NH1 | 9.69 | 125.15 | 120.30 |
| 2 | AB | 420 | C | C6-N1-C2 | -9.69 | 116.42 | 120.30 |
| 35 | BA | 843 | U | C4-C5-C6 | 9.69 | 125.52 | 119.70 |
| 2 | AB | 2628 | C | C6-N1-C2 | 9.69 | 124.18 | 120.30 |
| 2 | AB | 2717 | C | N3-C4-C5 | -9.69 | 118.02 | 121.90 |
| 2 | AB | 2846 | G | C8-N9-C4 | -9.69 | 102.52 | 106.40 |
| 35 | BA | 1204 | A | C2-N3-C4 | 9.69 | 115.45 | 110.60 |
| 2 | AB | 2903 | U | C4-C5-C6 | -9.69 | 113.89 | 119.70 |
| 2 | AB | 816 | C | C4'-C3'-C2' | -9.69 | 92.91 | 102.60 |
| 15 | AO | 55 | ARG | NE-CZ-NH1 | 9.69 | 125.14 | 120.30 |
| 35 | BA | 771 | G | N3-C4-N9 | 9.69 | 131.81 | 126.00 |
| 35 | BA | 229 | U | N1-C2-N3 | 9.69 | 120.71 | 114.90 |
| 2 | AB | 336 | C | N1-C2-O2 | 9.68 | 124.71 | 118.90 |
| 2 | AB | 1317 | G | C2-N3-C4 | 9.68 | 116.74 | 111.90 |
| 2 | AB | 1433 | A | C5-N7-C8 | 9.68 | 108.74 | 103.90 |
| 2 | AB | 882 | G | N3-C4-C5 | -9.68 | 123.76 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1850 | G | C5-N7-C8 | 9.68 | 109.14 | 104.30 |
| 2 | AB | 130 | C | O4'-C1'-N1 | 9.68 | 115.94 | 108.20 |
| 2 | AB | 1026 | G | C2-N3-C4 | 9.68 | 116.74 | 111.90 |
| 2 | AB | 1052 | C | C6-N1-C2 | -9.68 | 116.43 | 120.30 |
| 2 | AB | 1529 | G | N7-C8-N9 | 9.68 | 117.94 | 113.10 |
| 2 | AB | 1986 | C | C5'-C4'-O4' | 9.68 | 120.72 | 109.10 |
| 2 | AB | 2238 | G | C2-N3-C4 | 9.68 | 116.74 | 111.90 |
| 35 | BA | 219 | U | C5-C6-N1 | -9.68 | 117.86 | 122.70 |
| 35 | BA | 869 | G | N7-C8-N9 | 9.68 | 117.94 | 113.10 |
| 35 | BA | 1374 | A | C5-C6-N1 | 9.68 | 122.54 | 117.70 |
| 36 | BB | 39 | U | P-O3'-C3' | 9.68 | 131.31 | 119.70 |
| 2 | AB | 2110 | G | C4-C5-N7 | 9.68 | 114.67 | 110.80 |
| 2 | AB | 2774 | C | N3-C4-C5 | 9.68 | 125.77 | 121.90 |
| 35 | BA | 108 | G | C5-C6-N1 | 9.68 | 116.34 | 111.50 |
| 2 | AB | 40 | U | O4'-C1'-N1 | 9.67 | 115.94 | 108.20 |
| 2 | AB | 836 | G | C5-C6-O6 | 9.67 | 134.40 | 128.60 |
| 2 | AB | 1075 | C | C4-C5-C6 | -9.67 | 112.56 | 117.40 |
| 2 | AB | 1858 | A | N1-C6-N6 | -9.67 | 112.80 | 118.60 |
| 2 | AB | 2337 | G | N3-C4-C5 | -9.67 | 123.76 | 128.60 |
| 2 | AB | 2785 | C | C4-C5-C6 | -9.67 | 112.56 | 117.40 |
| 2 | AB | 382 | A | N9-C4-C5 | -9.67 | 101.93 | 105.80 |
| 2 | AB | 1084 | A | C2-N3-C4 | 9.67 | 115.44 | 110.60 |
| 2 | AB | 1582 | C | N1-C2-O2 | 9.67 | 124.70 | 118.90 |
| 2 | AB | 2719 | G | N9-C4-C5 | 9.67 | 109.27 | 105.40 |
| 35 | BA | 822 | U | O4'-C1'-N1 | 9.67 | 115.94 | 108.20 |
| 35 | BA | 876 | C | C5'-C4'-O4' | 9.67 | 120.70 | 109.10 |
| 1 | AA | 26 | C | C2-N3-C4 | 9.67 | 124.73 | 119.90 |
| 2 | AB | 752 | A | N1-C6-N6 | -9.67 | 112.80 | 118.60 |
| 2 | AB | 900 | A | P-O3'-C3' | 9.67 | 131.30 | 119.70 |
| 2 | AB | 997 | G | C8-N9-C4 | -9.67 | 102.53 | 106.40 |
| 35 | BA | 711 | G | C3'-C2'-C1' | -9.67 | 93.77 | 101.50 |
| 35 | BA | 1184 | G | C8-N9-C4 | 9.66 | 110.27 | 106.40 |
| 2 | AB | 473 | G | C4-C5-C6 | 9.66 | 124.60 | 118.80 |
| 2 | AB | 2795 | C | O4'-C1'-N1 | 9.66 | 115.93 | 108.20 |
| 2 | AB | 1576 | U | C5-C4-O4 | -9.66 | 120.11 | 125.90 |
| 2 | AB | 1720 | U | O5'-P-OP2 | -9.66 | 97.01 | 105.70 |
| 51 | BQ | 53 | ARG | NE-CZ-NH2 | 9.66 | 125.13 | 120.30 |
| 1 | AA | 79 | G | N7-C8-N9 | 9.66 | 117.93 | 113.10 |
| 2 | AB | 2695 | U | C5-C4-O4 | 9.65 | 131.69 | 125.90 |
| 2 | AB | 1704 | C | N3-C4-C5 | -9.65 | 118.04 | 121.90 |
| 2 | AB | 1943 | U | N1-C2-O2 | 9.65 | 129.56 | 122.80 |
| 35 | BA | 1072 | G | O4'-C1'-N9 | 9.65 | 115.92 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1412 | U | C5-C4-O4 | -9.65 | 120.11 | 125.90 |
| 2 | AB | 1615 | C | N3-C4-C5 | -9.65 | 118.04 | 121.90 |
| 2 | AB | 1728 | C | C1'-O4'-C4' | 9.65 | 117.62 | 109.90 |
| 2 | AB | 1985 | C | C5-C4-N4 | -9.65 | 113.44 | 120.20 |
| 2 | AB | 2221 | G | C5'-C4'-O4' | 9.65 | 120.68 | 109.10 |
| 35 | BA | 1015 | G | N9-C4-C5 | 9.65 | 109.26 | 105.40 |
| 2 | AB | 1118 | C | N1-C2-O2 | 9.65 | 124.69 | 118.90 |
| 2 | AB | 1684 | G | C2-N3-C4 | 9.65 | 116.72 | 111.90 |
| 2 | AB | 2043 | C | O4'-C1'-N1 | 9.65 | 115.92 | 108.20 |
| 2 | AB | 2343 | U | N1-C2-O2 | 9.65 | 129.55 | 122.80 |
| 37 | BC | 16 | C | O4'-C1'-N1 | 9.64 | 115.92 | 108.20 |
| 2 | AB | 1536 | C | N1-C2-O2 | 9.64 | 124.69 | 118.90 |
| 2 | AB | 2643 | G | N7-C8-N9 | 9.64 | 117.92 | 113.10 |
| 2 | AB | 1883 | U | O4'-C1'-N1 | 9.64 | 115.91 | 108.20 |
| 2 | AB | 2183 | A | C5-C6-N1 | 9.64 | 122.52 | 117.70 |
| 2 | AB | 2334 | U | O4'-C1'-N1 | 9.64 | 115.91 | 108.20 |
| 2 | AB | 6 | A | C2-N3-C4 | 9.64 | 115.42 | 110.60 |
| 2 | AB | 633 | A | N1-C6-N6 | 9.64 | 124.38 | 118.60 |
| 2 | AB | 1566 | A | C4'-C3'-C2' | -9.64 | 92.96 | 102.60 |
| 2 | AB | 1821 | A | C6-N1-C2 | -9.64 | 112.82 | 118.60 |
| 2 | AB | 2839 | G | C5-C6-N1 | 9.64 | 116.32 | 111.50 |
| 35 | BA | 1182 | G | C2-N3-C4 | 9.64 | 116.72 | 111.90 |
| 2 | AB | 2465 | C | N3-C4-C5 | 9.64 | 125.75 | 121.90 |
| 2 | AB | 480 | A | C5'-C4'-O4' | 9.63 | 120.66 | 109.10 |
| 2 | AB | 1555 | G | C5'-C4'-O4' | 9.63 | 120.66 | 109.10 |
| 35 | BA | 316 | C | N3-C2-O2 | -9.63 | 115.16 | 121.90 |
| 35 | BA | 1220 | G | C8-N9-C4 | -9.63 | 102.55 | 106.40 |
| 35 | BA | 509 | A | C8-N9-C4 | -9.63 | 101.95 | 105.80 |
| 2 | AB | 2877 | G | N7-C8-N9 | 9.63 | 117.91 | 113.10 |
| 49 | BO | 2 | ARG | NE-CZ-NH1 | -9.63 | 115.48 | 120.30 |
| 35 | BA | 866 | C | C6-N1-C2 | -9.63 | 116.45 | 120.30 |
| 35 | BA | 949 | A | O4'-C1'-N9 | 9.63 | 115.90 | 108.20 |
| 36 | BB | 32 | U | C4'-C3'-C2' | -9.63 | 92.97 | 102.60 |
| 2 | AB | 1185 | G | C5-C6-N1 | 9.62 | 116.31 | 111.50 |
| 35 | BA | 847 | G | C5-C6-N1 | 9.63 | 116.31 | 111.50 |
| 2 | AB | 1065 | U | C5-C6-N1 | -9.62 | 117.89 | 122.70 |
| 2 | AB | 1349 | C | O4'-C1'-N1 | 9.62 | 115.90 | 108.20 |
| 35 | BA | 155 | A | C4-C5-N7 | -9.62 | 105.89 | 110.70 |
| 35 | BA | 1373 | G | C2-N3-C4 | 9.62 | 116.71 | 111.90 |
| 35 | BA | 1395 | C | O4'-C1'-C2' | 9.62 | 116.26 | 107.60 |
| 35 | BA | 1457 | G | C5-C6-N1 | 9.62 | 116.31 | 111.50 |
| 1 | AA | 29 | A | C5'-C4'-C3' | -9.62 | 100.61 | 116.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2321 | U | C4-C5-C6 | 9.62 | 125.47 | 119.70 |
| 2 | AB | 1292 | G | N3-C4-C5 | -9.62 | 123.79 | 128.60 |
| 2 | AB | 2472 | G | C3'-C2'-C1' | 9.62 | 109.19 | 101.50 |
| 2 | AB | 772 | C | N3-C4-C5 | -9.62 | 118.05 | 121.90 |
| 2 | AB | 2472 | G | C4'-C3'-C2' | -9.62 | 92.98 | 102.60 |
| 35 | BA | 240 | G | N7-C8-N9 | 9.62 | 117.91 | 113.10 |
| 35 | BA | 1034 | G | C5-C6-N1 | 9.62 | 116.31 | 111.50 |
| 2 | AB | 1509 | A | C2-N3-C4 | 9.61 | 115.41 | 110.60 |
| 35 | BA | 410 | G | C5-N7-C8 | -9.61 | 99.49 | 104.30 |
| 35 | BA | 921 | U | C5-C6-N1 | -9.62 | 117.89 | 122.70 |
| 35 | BA | 1202 | U | C1'-O4'-C4' | 9.61 | 117.59 | 109.90 |
| 35 | BA | 856 | C | C6-N1-C2 | 9.61 | 124.14 | 120.30 |
| 35 | BA | 1024 | G | N9-C4-C5 | -9.61 | 101.56 | 105.40 |
| 35 | BA | 1175 | G | N9-C4-C5 | 9.61 | 109.24 | 105.40 |
| 35 | BA | 1221 | G | N1-C2-N3 | -9.61 | 118.13 | 123.90 |
| 35 | BA | 1435 | G | N3-C4-N9 | 9.61 | 131.77 | 126.00 |
| 1 | AA | 98 | G | C4-C5-N7 | -9.61 | 106.96 | 110.80 |
| 2 | AB | 1953 | A | C4-C5-N7 | -9.61 | 105.89 | 110.70 |
| 2 | AB | 266 | G | N1-C2-N3 | -9.61 | 118.14 | 123.90 |
| 2 | AB | 1223 | G | N3-C4-C5 | -9.61 | 123.80 | 128.60 |
| 2 | AB | 1750 | G | C4-C5-N7 | -9.61 | 106.96 | 110.80 |
| 2 | AB | 2198 | A | N9-C4-C5 | 9.61 | 109.64 | 105.80 |
| 38 | BD | 203 | ASP | CB-CG-OD1 | -9.61 | 109.65 | 118.30 |
| 35 | BA | 232 | G | C4'-C3'-C2' | -9.61 | 92.99 | 102.60 |
| 2 | AB | 898 | C | N1-C2-N3 | -9.61 | 112.48 | 119.20 |
| 2 | AB | 2442 | C | C5-C4-N4 | 9.61 | 126.92 | 120.20 |
| 35 | BA | 266 | G | N3-C4-N9 | 9.61 | 131.76 | 126.00 |
| 35 | BA | 410 | G | N3-C4-N9 | -9.61 | 120.24 | 126.00 |
| 35 | BA | 1272 | G | C6-C5-N7 | 9.61 | 136.16 | 130.40 |
| 35 | BA | 1487 | G | C1'-O4'-C4' | 9.61 | 117.59 | 109.90 |
| 2 | AB | 940 | G | N3-C4-C5 | -9.60 | 123.80 | 128.60 |
| 2 | AB | 1897 | G | C4-C5-C6 | 9.60 | 124.56 | 118.80 |
| 2 | AB | 2167 | U | C5-C6-N1 | -9.60 | 117.90 | 122.70 |
| 2 | AB | 2671 | G | C5-N7-C8 | -9.60 | 99.50 | 104.30 |
| 35 | BA | 183 | C | O4'-C1'-N1 | 9.60 | 115.88 | 108.20 |
| 35 | BA | 1188 | A | O4'-C1'-N9 | 9.60 | 115.88 | 108.20 |
| 35 | BA | 1380 | U | N3-C2-O2 | -9.60 | 115.48 | 122.20 |
| 1 | AA | 55 | U | O4'-C1'-N1 | 9.60 | 115.88 | 108.20 |
| 2 | AB | 1905 | C | N3-C4-C5 | -9.60 | 118.06 | 121.90 |
| 1 | AA | 23 | G | C2-N3-C4 | -9.60 | 107.10 | 111.90 |
| 2 | AB | 1266 | G | N3-C4-N9 | 9.60 | 131.76 | 126.00 |
| 2 | AB | 2429 | G | N9-C4-C5 | 9.60 | 109.24 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 917 | A | N9-C4-C5 | -9.60 | 101.96 | 105.80 |
| 2 | AB | 1395 | A | N7-C8-N9 | -9.60 | 109.00 | 113.80 |
| 2 | AB | 1121 | C | N3-C4-N4 | 9.60 | 124.72 | 118.00 |
| 2 | AB | 1674 | G | C2-N3-C4 | 9.60 | 116.70 | 111.90 |
| 2 | AB | 2785 | C | N1-C2-O2 | 9.60 | 124.66 | 118.90 |
| 2 | AB | 351 | C | N3-C4-N4 | 9.59 | 124.72 | 118.00 |
| 2 | AB | 1211 | C | C5-C6-N1 | 9.59 | 125.80 | 121.00 |
| 2 | AB | 2579 | C | O4'-C1'-N1 | 9.59 | 115.88 | 108.20 |
| 2 | AB | 194 | G | C5-N7-C8 | -9.59 | 99.50 | 104.30 |
| 2 | AB | 1014 | A | N9-C4-C5 | -9.59 | 101.96 | 105.80 |
| 1 | AA | 39 | A | N9-C4-C5 | 9.59 | 109.64 | 105.80 |
| 2 | AB | 2345 | G | C6-N1-C2 | -9.59 | 119.35 | 125.10 |
| 35 | BA | 662 | U | C4'-C3'-C2' | -9.59 | 93.01 | 102.60 |
| 35 | BA | 812 | G | C6-N1-C2 | -9.59 | 119.35 | 125.10 |
| 35 | BA | 1220 | G | N7-C8-N9 | 9.59 | 117.89 | 113.10 |
| 2 | AB | 734 | A | N1-C2-N3 | 9.59 | 134.09 | 129.30 |
| 2 | AB | 1753 | G | C4-C5-C6 | 9.59 | 124.55 | 118.80 |
| 35 | BA | 322 | C | C4-C5-C6 | 9.59 | 122.19 | 117.40 |
| 2 | AB | 74 | A | N9-C4-C5 | -9.59 | 101.97 | 105.80 |
| 2 | AB | 585 | G | C2-N3-C4 | 9.59 | 116.69 | 111.90 |
| 2 | AB | 1857 | G | O4'-C1'-N9 | 9.59 | 115.87 | 108.20 |
| 2 | AB | 2094 | A | N3-C4-C5 | 9.59 | 133.51 | 126.80 |
| 2 | AB | 2171 | A | N9-C4-C5 | 9.59 | 109.63 | 105.80 |
| 35 | BA | 812 | G | N3-C4-N9 | 9.59 | 131.75 | 126.00 |
| 1 | AA | 21 | G | C2-N3-C4 | 9.58 | 116.69 | 111.90 |
| 2 | AB | 315 | G | O4'-C1'-N9 | 9.58 | 115.87 | 108.20 |
| 2 | AB | 1520 | U | O4'-C1'-N1 | 9.58 | 115.87 | 108.20 |
| 2 | AB | 1676 | A | C8-N9-C4 | -9.58 | 101.97 | 105.80 |
| 2 | AB | 2446 | G | C8-N9-C4 | -9.58 | 102.57 | 106.40 |
| 2 | AB | 421 | C | N3-C4-C5 | -9.58 | 118.07 | 121.90 |
| 2 | AB | 826 | U | O4'-C1'-N1 | 9.58 | 115.86 | 108.20 |
| 2 | AB | 1469 | A | O4'-C1'-N9 | 9.58 | 115.86 | 108.20 |
| 2 | AB | 1783 | A | C8-N9-C4 | -9.58 | 101.97 | 105.80 |
| 2 | AB | 1902 | C | O4'-C1'-N1 | 9.58 | 115.86 | 108.20 |
| 35 | BA | 895 | G | C5'-C4'-O4' | 9.58 | 120.59 | 109.10 |
| 2 | AB | 2265 | U | N3-C2-O2 | -9.58 | 115.50 | 122.20 |
| 35 | BA | 521 | G | C4-C5-N7 | -9.58 | 106.97 | 110.80 |
| 35 | BA | 1278 | G | C8-N9-C4 | -9.58 | 102.57 | 106.40 |
| 2 | AB | 980 | A | C3'-C2'-C1' | 9.57 | 109.16 | 101.50 |
| 35 | BA | 1070 | U | N1-C2-N3 | 9.57 | 120.64 | 114.90 |
| 2 | AB | 2052 | A | N1-C6-N6 | -9.57 | 112.86 | 118.60 |
| 35 | BA | 427 | U | O4'-C1'-N1 | 9.57 | 115.86 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 921 | U | C4-C5-C6 | 9.57 | 125.44 | 119.70 |
| 35 | BA | 935 | A | N7-C8-N9 | 9.57 | 118.59 | 113.80 |
| 35 | BA | 1019 | A | N9-C1'-C2' | -9.57 | 101.47 | 112.00 |
| 35 | BA | 1286 | U | C2-N1-C1' | 9.57 | 129.19 | 117.70 |
| 2 | AB | 961 | C | C4-C5-C6 | 9.57 | 122.19 | 117.40 |
| 2 | AB | 2292 | U | N3-C4-C5 | -9.57 | 108.86 | 114.60 |
| 35 | BA | 820 | U | C5-C4-O4 | -9.57 | 120.16 | 125.90 |
| 35 | BA | 1090 | U | N3-C4-O4 | 9.57 | 126.10 | 119.40 |
| 2 | AB | 154 | U | C5-C6-N1 | -9.57 | 117.92 | 122.70 |
| 2 | AB | 629 | G | C5-C6-O6 | -9.57 | 122.86 | 128.60 |
| 2 | AB | 742 | A | N1-C6-N6 | 9.57 | 124.34 | 118.60 |
| 2 | AB | 1005 | C | N3-C2-O2 | -9.57 | 115.20 | 121.90 |
| 2 | AB | 2816 | G | C5-N7-C8 | -9.57 | 99.52 | 104.30 |
| 35 | BA | 229 | U | C6-N1-C2 | -9.57 | 115.26 | 121.00 |
| 35 | BA | 1435 | G | N7-C8-N9 | -9.57 | 108.31 | 113.10 |
| 2 | AB | 1796 | U | C4-C5-C6 | 9.57 | 125.44 | 119.70 |
| 2 | AB | 295 | G | C2-N3-C4 | 9.57 | 116.68 | 111.90 |
| 2 | AB | 1156 | A | N1-C2-N3 | -9.57 | 124.52 | 129.30 |
| 2 | AB | 1620 | G | N3-C4-C5 | -9.57 | 123.82 | 128.60 |
| 2 | AB | 2070 | A | C4-C5-C6 | -9.57 | 112.22 | 117.00 |
| 35 | BA | 453 | G | O4'-C1'-N9 | 9.57 | 115.85 | 108.20 |
| 2 | AB | 202 | U | C4-C5-C6 | 9.56 | 125.44 | 119.70 |
| 2 | AB | 693 | A | N1-C6-N6 | -9.56 | 112.86 | 118.60 |
| 2 | AB | 2880 | C | C5'-C4'-O4' | 9.56 | 120.58 | 109.10 |
| 35 | BA | 1078 | U | N3-C4-O4 | 9.56 | 126.10 | 119.40 |
| 2 | AB | 202 | U | N1-C2-N3 | 9.56 | 120.64 | 114.90 |
| 2 | AB | 1681 | G | C2-N3-C4 | 9.56 | 116.68 | 111.90 |
| 2 | AB | 2093 | G | N3-C4-C5 | -9.56 | 123.82 | 128.60 |
| 2 | AB | 2734 | A | N9-C4-C5 | -9.56 | 101.98 | 105.80 |
| 35 | BA | 1470 | U | O4'-C1'-N1 | 9.56 | 115.85 | 108.20 |
| 2 | AB | 798 | G | C8-N9-C4 | -9.56 | 102.58 | 106.40 |
| 35 | BA | 572 | A | C4-C5-N7 | 9.56 | 115.48 | 110.70 |
| 2 | AB | 478 | A | N1-C2-N3 | -9.56 | 124.52 | 129.30 |
| 2 | AB | 623 | C | N1-C2-O2 | 9.56 | 124.63 | 118.90 |
| 35 | BA | 681 | A | C8-N9-C4 | -9.56 | 101.98 | 105.80 |
| 2 | AB | 383 | C | C5-C4-N4 | 9.55 | 126.89 | 120.20 |
| 2 | AB | 1245 | G | O4'-C1'-N9 | 9.55 | 115.84 | 108.20 |
| 2 | AB | 2461 | A | C2-N3-C4 | -9.55 | 105.82 | 110.60 |
| 2 | AB | 2737 | G | C2-N3-C4 | 9.55 | 116.68 | 111.90 |
| 2 | AB | 137 | U | N3-C4-C5 | 9.55 | 120.33 | 114.60 |
| 2 | AB | 1404 | C | C4-C5-C6 | 9.55 | 122.18 | 117.40 |
| 35 | BA | 468 | A | N9-C4-C5 | -9.55 | 101.98 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2169 | A | N9-C4-C5 | 9.55 | 109.62 | 105.80 |
| 35 | BA | 1236 | A | N9-C4-C5 | 9.55 | 109.62 | 105.80 |
| 2 | AB | 2448 | A | N1-C2-N3 | 9.55 | 134.07 | 129.30 |
| 1 | AA | 98 | G | C2-N3-C4 | 9.54 | 116.67 | 111.90 |
| 2 | AB | 612 | G | C8-N9-C4 | -9.54 | 102.58 | 106.40 |
| 2 | AB | 995 | C | C5-C6-N1 | -9.54 | 116.23 | 121.00 |
| 2 | AB | 1639 | C | N1-C2-N3 | -9.54 | 112.52 | 119.20 |
| 35 | BA | 1030 | U | O4'-C1'-N1 | 9.55 | 115.84 | 108.20 |
| 2 | AB | 147 | C | N3-C4-C5 | -9.54 | 118.08 | 121.90 |
| 2 | AB | 423 | A | O4'-C1'-N9 | 9.54 | 115.83 | 108.20 |
| 2 | AB | 460 | A | N9-C4-C5 | 9.54 | 109.62 | 105.80 |
| 2 | AB | 1852 | U | C6-N1-C2 | -9.54 | 115.28 | 121.00 |
| 2 | AB | 2412 | A | C5'-C4'-O4' | 9.54 | 120.55 | 109.10 |
| 2 | AB | 2792 | A | N7-C8-N9 | 9.54 | 118.57 | 113.80 |
| 37 | BC | 74 | A | O4'-C1'-N9 | 9.54 | 115.83 | 108.20 |
| 39 | BE | 167 | TYR | CB-CG-CD1 | -9.54 | 115.27 | 121.00 |
| 35 | BA | 520 | A | N1-C2-N3 | -9.54 | 124.53 | 129.30 |
| 2 | AB | 384 | A | C2-N3-C4 | 9.54 | 115.37 | 110.60 |
| 2 | AB | 818 | G | N1-C2-N3 | -9.54 | 118.18 | 123.90 |
| 2 | AB | 2172 | U | O4'-C1'-N1 | 9.54 | 115.83 | 108.20 |
| 2 | AB | 952 | G | C5-C6-N1 | 9.54 | 116.27 | 111.50 |
| 2 | AB | 2439 | A | C5-C6-N1 | 9.54 | 122.47 | 117.70 |
| 35 | BA | 977 | A | O4'-C1'-N9 | 9.54 | 115.83 | 108.20 |
| 2 | AB | 1128 | G | C4-C5-C6 | 9.53 | 124.52 | 118.80 |
| 35 | BA | 463 | U | C4'-C3'-C2' | -9.53 | 93.07 | 102.60 |
| 35 | BA | 1486 | G | C5-N7-C8 | -9.53 | 99.53 | 104.30 |
| 35 | BA | 1503 | A | O4'-C1'-N9 | 9.53 | 115.83 | 108.20 |
| 37 | BC | 30 | G | N3-C2-N2 | 9.53 | 126.57 | 119.90 |
| 2 | AB | 2894 | G | O4'-C1'-N9 | 9.53 | 115.83 | 108.20 |
| 35 | BA | 184 | G | N3-C4-N9 | -9.53 | 120.28 | 126.00 |
| 35 | BA | 1222 | G | P-O3'-C3' | 9.53 | 131.14 | 119.70 |
| 36 | BB | 18 | A | C8-N9-C4 | -9.53 | 101.99 | 105.80 |
| 2 | AB | 11 | C | C4-C5-C6 | -9.53 | 112.64 | 117.40 |
| 2 | AB | 212 | G | O4'-C1'-N9 | 9.53 | 115.82 | 108.20 |
| 2 | AB | 672 | C | N3-C4-N4 | 9.53 | 124.67 | 118.00 |
| 35 | BA | 777 | A | C3'-C2'-C1' | 9.53 | 109.12 | 101.50 |
| 2 | AB | 1491 | G | N3-C4-C5 | -9.53 | 123.84 | 128.60 |
| 2 | AB | 2838 | G | N1-C6-O6 | 9.53 | 125.62 | 119.90 |
| 35 | BA | 391 | G | N1-C2-N3 | -9.53 | 118.18 | 123.90 |
| 35 | BA | 711 | G | C6-C5-N7 | -9.53 | 124.68 | 130.40 |
| 2 | AB | 2157 | G | C4-C5-N7 | -9.53 | 106.99 | 110.80 |
| 2 | AB | 2451 | A | C5'-C4'-O4' | 9.53 | 120.53 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 691 | G | C4'-C3'-C2' | 9.53 | 112.12 | 102.60 |
| 2 | AB | 69 | C | N3-C4-C5 | -9.52 | 118.09 | 121.90 |
| 2 | AB | 1302 | A | C6-N1-C2 | 9.52 | 124.31 | 118.60 |
| 2 | AB | 1391 | U | O4'-C1'-N1 | 9.52 | 115.82 | 108.20 |
| 1 | AA | 18 | G | C4-C5-N7 | 9.52 | 114.61 | 110.80 |
| 2 | AB | 2187 | U | O4'-C1'-N1 | 9.52 | 115.82 | 108.20 |
| 35 | BA | 1465 | A | O4'-C1'-N9 | 9.52 | 115.82 | 108.20 |
| 2 | AB | 733 | G | C2-N3-C4 | 9.52 | 116.66 | 111.90 |
| 2 | AB | 1563 | U | C4-C5-C6 | -9.52 | 113.99 | 119.70 |
| 1 | AA | 18 | G | N7-C8-N9 | 9.52 | 117.86 | 113.10 |
| 2 | AB | 1070 | A | C5-N7-C8 | -9.52 | 99.14 | 103.90 |
| 2 | AB | 2322 | A | N9-C4-C5 | 9.52 | 109.61 | 105.80 |
| 2 | AB | 2245 | U | N1-C2-N3 | 9.52 | 120.61 | 114.90 |
| 13 | AM | 31 | ARG | NE-CZ-NH2 | 9.52 | 125.06 | 120.30 |
| 35 | BA | 340 | U | O4'-C1'-N1 | 9.52 | 115.81 | 108.20 |
| 39 | BE | 106 | ARG | NE-CZ-NH1 | 9.52 | 125.06 | 120.30 |
| 49 | BO | 2 | ARG | NE-CZ-NH2 | 9.52 | 125.06 | 120.30 |
| 35 | BA | 649 | A | N1-C6-N6 | 9.51 | 124.31 | 118.60 |
| 35 | BA | 690 | G | C6-N1-C2 | -9.51 | 119.39 | 125.10 |
| 2 | AB | 1003 | G | C5'-C4'-O4' | 9.51 | 120.52 | 109.10 |
| 35 | BA | 176 | C | O4'-C1'-N1 | 9.51 | 115.81 | 108.20 |
| 35 | BA | 797 | C | N3-C4-C5 | -9.51 | 118.09 | 121.90 |
| 35 | BA | 818 | G | O4'-C1'-N9 | 9.51 | 115.81 | 108.20 |
| 2 | AB | 1288 | G | C2-N3-C4 | -9.51 | 107.14 | 111.90 |
| 2 | AB | 1532 | A | N3-C4-N9 | -9.51 | 119.79 | 127.40 |
| 2 | AB | 2326 | C | C5-C4-N4 | -9.51 | 113.54 | 120.20 |
| 35 | BA | 731 | G | N1-C2-N3 | -9.51 | 118.19 | 123.90 |
| 2 | AB | 66 | C | C2-N3-C4 | 9.51 | 124.65 | 119.90 |
| 2 | AB | 968 | C | C4-C5-C6 | 9.51 | 122.15 | 117.40 |
| 37 | BC | 50 | G | C4-C5-N7 | -9.51 | 107.00 | 110.80 |
| 2 | AB | 312 | G | N3-C4-N9 | 9.51 | 131.70 | 126.00 |
| 2 | AB | 1498 | C | C5-C4-N4 | -9.51 | 113.55 | 120.20 |
| 2 | AB | 464 | U | N3-C2-O2 | -9.51 | 115.55 | 122.20 |
| 2 | AB | 1083 | U | C3'-C2'-C1' | 9.51 | 109.10 | 101.50 |
| 2 | AB | 2119 | A | C5-C6-N1 | 9.51 | 122.45 | 117.70 |
| 2 | AB | 2180 | U | C3'-C2'-C1' | 9.51 | 109.10 | 101.50 |
| 2 | AB | 2607 | G | N3-C4-C5 | -9.51 | 123.85 | 128.60 |
| 2 | AB | 2642 | G | C8-N9-C4 | -9.51 | 102.60 | 106.40 |
| 36 | BB | 30 | U | C4'-C3'-C2' | -9.51 | 93.09 | 102.60 |
| 2 | AB | 2447 | G | N3-C4-N9 | 9.50 | 131.70 | 126.00 |
| 2 | AB | 864 | G | N3-C2-N2 | -9.50 | 113.25 | 119.90 |
| 2 | AB | 1374 | G | C5-C6-N1 | 9.50 | 116.25 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1914 | C | O4'-C1'-N1 | 9.50 | 115.80 | 108.20 |
| 35 | BA | 485 | U | O4'-C1'-N1 | 9.50 | 115.80 | 108.20 |
| 2 | AB | 2396 | G | C5-N7-C8 | -9.50 | 99.55 | 104.30 |
| 2 | AB | 1190 | G | C5-C6-N1 | 9.50 | 116.25 | 111.50 |
| 2 | AB | 2422 | C | N3-C4-N4 | 9.50 | 124.65 | 118.00 |
| 35 | BA | 1067 | A | N1-C6-N6 | 9.50 | 124.30 | 118.60 |
| 2 | AB | 2535 | G | C8-N9-C4 | -9.50 | 102.60 | 106.40 |
| 35 | BA | 1148 | U | C2-N3-C4 | -9.50 | 121.30 | 127.00 |
| 1 | AA | 101 | A | C5-C6-N6 | 9.49 | 131.29 | 123.70 |
| 2 | AB | 867 | C | N3-C4-C5 | 9.49 | 125.70 | 121.90 |
| 2 | AB | 979 | A | C8-N9-C4 | -9.49 | 102.00 | 105.80 |
| 2 | AB | 1056 | G | C8-N9-C4 | -9.49 | 102.60 | 106.40 |
| 2 | AB | 1248 | G | N3-C2-N2 | -9.49 | 113.25 | 119.90 |
| 2 | AB | 2465 | C | C4-C5-C6 | -9.49 | 112.65 | 117.40 |
| 2 | AB | 205 | G | O4'-C1'-N9 | 9.49 | 115.79 | 108.20 |
| 2 | AB | 536 | G | N3-C4-C5 | -9.49 | 123.85 | 128.60 |
| 2 | AB | 2735 | G | N9-C4-C5 | 9.49 | 109.20 | 105.40 |
| 2 | AB | 1443 | U | O4'-C1'-N1 | 9.49 | 115.79 | 108.20 |
| 2 | AB | 1484 | U | C5-C6-N1 | -9.49 | 117.95 | 122.70 |
| 2 | AB | 1355 | G | C8-N9-C4 | -9.49 | 102.61 | 106.40 |
| 35 | BA | 347 | G | C5-C6-O6 | -9.49 | 122.91 | 128.60 |
| 50 | BP | 23 | ARG | NE-CZ-NH1 | 9.49 | 125.05 | 120.30 |
| 2 | AB | 2786 | U | N3-C2-O2 | -9.49 | 115.56 | 122.20 |
| 35 | BA | 763 | G | N1-C2-N3 | -9.49 | 118.21 | 123.90 |
| 2 | AB | 1450 | G | N3-C4-C5 | -9.49 | 123.86 | 128.60 |
| 2 | AB | 2832 | U | N3-C2-O2 | -9.49 | 115.56 | 122.20 |
| 35 | BA | 1312 | G | C2-N3-C4 | 9.49 | 116.64 | 111.90 |
| 35 | BA | 1482 | G | C4-C5-C6 | 9.49 | 124.49 | 118.80 |
| 1 | AA | 13 | G | C4-C5-C6 | 9.48 | 124.49 | 118.80 |
| 2 | AB | 1796 | U | C2-N3-C4 | -9.48 | 121.31 | 127.00 |
| 2 | AB | 2159 | G | C5-C6-N1 | 9.48 | 116.24 | 111.50 |
| 2 | AB | 2246 | G | N1-C6-O6 | -9.48 | 114.21 | 119.90 |
| 35 | BA | 293 | G | C4'-C3'-C2' | -9.48 | 93.12 | 102.60 |
| 35 | BA | 296 | U | O4'-C1'-N1 | 9.48 | 115.79 | 108.20 |
| 35 | BA | 519 | C | C5-C6-N1 | 9.48 | 125.74 | 121.00 |
| 35 | BA | 1324 | A | C4'-C3'-C2' | -9.48 | 93.12 | 102.60 |
| 2 | AB | 878 | A | O4'-C1'-N9 | 9.48 | 115.78 | 108.20 |
| 35 | BA | 82 | G | C3'-C2'-C1' | -9.48 | 93.91 | 101.50 |
| 1 | AA | 44 | G | C6-C5-N7 | -9.48 | 124.71 | 130.40 |
| 2 | AB | 2597 | G | N3-C4-C5 | -9.48 | 123.86 | 128.60 |
| 35 | BA | 89 | U | C5-C6-N1 | -9.48 | 117.96 | 122.70 |
| 35 | BA | 567 | G | C3'-C2'-C1' | 9.48 | 109.08 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 36 | BB | 45 | G | C5-C6-N1 | 9.48 | 116.24 | 111.50 |
| 2 | AB | 254 | G | C6-C5-N7 | -9.48 | 124.71 | 130.40 |
| 35 | BA | 289 | G | C2-N3-C4 | 9.48 | 116.64 | 111.90 |
| 35 | BA | 381 | C | O4'-C1'-N1 | 9.48 | 115.78 | 108.20 |
| 35 | BA | 1061 | G | N3-C4-N9 | -9.48 | 120.31 | 126.00 |
| 2 | AB | 2078 | C | N1-C2-O2 | 9.48 | 124.58 | 118.90 |
| 35 | BA | 352 | C | C6-N1-C2 | -9.48 | 116.51 | 120.30 |
| 35 | BA | 1166 | G | C5-C6-N1 | 9.48 | 116.24 | 111.50 |
| 35 | BA | 1484 | C | C5-C4-N4 | -9.47 | 113.57 | 120.20 |
| 2 | AB | 2823 | A | C4-C5-N7 | -9.47 | 105.96 | 110.70 |
| 35 | BA | 628 | G | N3-C2-N2 | -9.47 | 113.27 | 119.90 |
| 2 | AB | 242 | G | O4'-C1'-N9 | 9.47 | 115.78 | 108.20 |
| 2 | AB | 770 | G | N1-C2-N3 | -9.47 | 118.22 | 123.90 |
| 2 | AB | 966 | G | C8-N9-C4 | -9.47 | 102.61 | 106.40 |
| 2 | AB | 2527 | C | N3-C4-C5 | -9.47 | 118.11 | 121.90 |
| 2 | AB | 2632 | A | C2-N3-C4 | 9.47 | 115.34 | 110.60 |
| 2 | AB | 2597 | G | O4'-C1'-N9 | 9.47 | 115.78 | 108.20 |
| 2 | AB | 1410 | G | N3-C4-C5 | -9.47 | 123.86 | 128.60 |
| 2 | AB | 11 | C | C5-C6-N1 | 9.47 | 125.73 | 121.00 |
| 2 | AB | 934 | U | O4'-C1'-N1 | 9.47 | 115.77 | 108.20 |
| 2 | AB | 1129 | A | N1-C6-N6 | -9.47 | 112.92 | 118.60 |
| 2 | AB | 2031 | A | O4'-C1'-N9 | 9.47 | 115.77 | 108.20 |
| 2 | AB | 2346 | A | O4'-C4'-C3' | 9.47 | 113.67 | 106.10 |
| 35 | BA | 849 | G | N9-C4-C5 | 9.47 | 109.19 | 105.40 |
| 2 | AB | 1418 | G | N3-C4-C5 | -9.46 | 123.87 | 128.60 |
| 2 | AB | 1858 | A | C6-N1-C2 | -9.47 | 112.92 | 118.60 |
| 2 | AB | 2206 | C | O4'-C1'-N1 | 9.46 | 115.77 | 108.20 |
| 35 | BA | 690 | G | N3-C4-C5 | -9.47 | 123.87 | 128.60 |
| 35 | BA | 736 | C | C5-C6-N1 | 9.47 | 125.73 | 121.00 |
| 35 | BA | 1103 | C | O4'-C1'-N1 | 9.47 | 115.77 | 108.20 |
| 35 | BA | 1174 | G | N3-C4-N9 | 9.46 | 131.68 | 126.00 |
| 36 | BB | 49 | U | N1-C1'-C2' | -9.46 | 101.59 | 112.00 |
| 2 | AB | 1112 | G | O4'-C1'-N9 | -9.46 | 100.63 | 108.20 |
| 2 | AB | 2025 | C | C5'-C4'-O4' | 9.46 | 120.45 | 109.10 |
| 2 | AB | 2682 | A | C2-N3-C4 | 9.46 | 115.33 | 110.60 |
| 35 | BA | 1094 | G | N3-C2-N2 | 9.46 | 126.52 | 119.90 |
| 2 | AB | 495 | G | C5-C6-O6 | -9.46 | 122.93 | 128.60 |
| 2 | AB | 2840 | C | N1-C2-O2 | 9.46 | 124.57 | 118.90 |
| 2 | AB | 2639 | A | C5-N7-C8 | 9.46 | 108.63 | 103.90 |
| 2 | AB | 222 | A | O4'-C1'-N9 | 9.45 | 115.76 | 108.20 |
| 2 | AB | 1159 | U | C3'-C2'-C1' | 9.46 | 109.06 | 101.50 |
| 2 | AB | 1677 | A | C4-C5-N7 | -9.45 | 105.97 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 168 | G | C8-N9-C4 | -9.46 | 102.62 | 106.40 |
| 35 | BA | 1524 | C | C2-N3-C4 | 9.46 | 124.63 | 119.90 |
| 2 | AB | 787 | C | O4'-C1'-N1 | 9.45 | 115.76 | 108.20 |
| 2 | AB | 1381 | G | O4'-C1'-N9 | 9.45 | 115.76 | 108.20 |
| 2 | AB | 1807 | G | N3-C4-N9 | -9.45 | 120.33 | 126.00 |
| 2 | AB | 12 | U | N3-C4-O4 | 9.45 | 126.02 | 119.40 |
| 2 | AB | 743 | A | C4-C5-C6 | 9.45 | 121.72 | 117.00 |
| 2 | AB | 557 | C | C5-C4-N4 | -9.45 | 113.59 | 120.20 |
| 2 | AB | 645 | C | O4'-C1'-N1 | 9.45 | 115.76 | 108.20 |
| 2 | AB | 1736 | U | N1-C2-O2 | -9.45 | 116.19 | 122.80 |
| 2 | AB | 1961 | C | N3-C4-C5 | -9.45 | 118.12 | 121.90 |
| 41 | BG | 92 | ARG | NE-CZ-NH2 | 9.45 | 125.02 | 120.30 |
| 2 | AB | 2584 | U | C3'-C2'-C1' | 9.45 | 109.06 | 101.50 |
| 2 | AB | 2895 | G | C5-C6-O6 | -9.45 | 122.93 | 128.60 |
| 35 | BA | 402 | G | C5'-C4'-O4' | 9.45 | 120.44 | 109.10 |
| 35 | BA | 942 | G | N3-C4-C5 | -9.45 | 123.88 | 128.60 |
| 35 | BA | 1417 | G | C5'-C4'-O4' | 9.44 | 120.43 | 109.10 |
| 2 | AB | 1657 | U | C2-N3-C4 | -9.44 | 121.33 | 127.00 |
| 2 | AB | 981 | A | C2-N3-C4 | 9.44 | 115.32 | 110.60 |
| 2 | AB | 1174 | U | C5-C6-N1 | -9.44 | 117.98 | 122.70 |
| 2 | AB | 1308 | A | N9-C4-C5 | 9.44 | 109.58 | 105.80 |
| 2 | AB | 1317 | G | N1-C2-N3 | -9.44 | 118.23 | 123.90 |
| 2 | AB | 1606 | C | C2-N3-C4 | 9.44 | 124.62 | 119.90 |
| 2 | AB | 2373 | G | C5-C6-N1 | 9.44 | 116.22 | 111.50 |
| 2 | AB | 2855 | C | N3-C4-N4 | 9.44 | 124.61 | 118.00 |
| 35 | BA | 394 | G | C5-C6-N1 | 9.44 | 116.22 | 111.50 |
| 35 | BA | 1193 | G | O4'-C1'-N9 | 9.44 | 115.75 | 108.20 |
| 35 | BA | 1525 | G | N9-C4-C5 | 9.44 | 109.18 | 105.40 |
| 35 | BA | 89 | U | O4'-C1'-N1 | 9.44 | 115.75 | 108.20 |
| 35 | BA | 311 | C | N1-C2-O2 | 9.44 | 124.56 | 118.90 |
| 36 | BB | 34 | U | C4-C5-C6 | 9.44 | 125.36 | 119.70 |
| 2 | AB | 231 | A | N1-C2-N3 | -9.44 | 124.58 | 129.30 |
| 2 | AB | 267 | C | N1-C2-O2 | 9.44 | 124.56 | 118.90 |
| 2 | AB | 543 | G | C8-N9-C4 | -9.44 | 102.62 | 106.40 |
| 2 | AB | 2486 | C | N3-C4-C5 | -9.44 | 118.12 | 121.90 |
| 2 | AB | 2902 | C | N1-C2-O2 | 9.44 | 124.56 | 118.90 |
| 35 | BA | 598 | U | N3-C2-O2 | -9.44 | 115.59 | 122.20 |
| 2 | AB | 1429 | G | N9-C4-C5 | -9.44 | 101.63 | 105.40 |
| 2 | AB | 1740 | G | N3-C4-N9 | 9.44 | 131.66 | 126.00 |
| 2 | AB | 2706 | A | C6-N1-C2 | -9.44 | 112.94 | 118.60 |
| 35 | BA | 1336 | C | N3-C2-O2 | -9.44 | 115.30 | 121.90 |
| 35 | BA | 1512 | U | N1-C2-N3 | 9.44 | 120.56 | 114.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1547 | C | O4'-C1'-N1 | 9.43 | 115.75 | 108.20 |
| 2 | AB | 2671 | G | C4-C5-N7 | 9.43 | 114.57 | 110.80 |
| 2 | AB | 1732 | C | N3-C2-O2 | -9.43 | 115.30 | 121.90 |
| 2 | AB | 98 | G | C8-N9-C4 | -9.43 | 102.63 | 106.40 |
| 2 | AB | 195 | A | C5-N7-C8 | -9.43 | 99.19 | 103.90 |
| 2 | AB | 1735 | A | C4-C5-N7 | -9.43 | 105.99 | 110.70 |
| 2 | AB | 2673 | G | C4-C5-C6 | -9.43 | 113.14 | 118.80 |
| 35 | BA | 225 | C | N3-C4-C5 | -9.43 | 118.13 | 121.90 |
| 35 | BA | 946 | A | N1-C6-N6 | -9.43 | 112.94 | 118.60 |
| 2 | AB | 546 | U | C2-N3-C4 | -9.43 | 121.34 | 127.00 |
| 2 | AB | 2160 | C | N1-C2-O2 | 9.43 | 124.56 | 118.90 |
| 35 | BA | 505 | G | O4'-C4'-C3' | 9.43 | 113.64 | 106.10 |
| 2 | AB | 2204 | G | C2-N3-C4 | 9.43 | 116.61 | 111.90 |
| 35 | BA | 1287 | A | O4'-C1'-N9 | 9.43 | 115.74 | 108.20 |
| 2 | AB | 1824 | G | P-O3'-C3' | 9.42 | 131.01 | 119.70 |
| 35 | BA | 524 | G | C5-N7-C8 | -9.42 | 99.59 | 104.30 |
| 35 | BA | 991 | U | C2-N3-C4 | -9.42 | 121.34 | 127.00 |
| 2 | AB | 4 | U | C5-C6-N1 | -9.42 | 117.99 | 122.70 |
| 2 | AB | 48 | G | C5'-C4'-O4' | 9.42 | 120.41 | 109.10 |
| 35 | BA | 1505 | G | N3-C2-N2 | -9.42 | 113.31 | 119.90 |
| 2 | AB | 1228 | G | C2-N3-C4 | 9.42 | 116.61 | 111.90 |
| 35 | BA | 506 | G | N3-C2-N2 | -9.42 | 113.31 | 119.90 |
| 35 | BA | 652 | U | O4'-C1'-N1 | 9.42 | 115.74 | 108.20 |
| 2 | AB | 1581 | G | N3-C4-C5 | -9.42 | 123.89 | 128.60 |
| 2 | AB | 2063 | C | C2-N3-C4 | 9.42 | 124.61 | 119.90 |
| 2 | AB | 2261 | C | C5-C6-N1 | 9.42 | 125.71 | 121.00 |
| 45 | BK | 84 | ARG | NE-CZ-NH1 | 9.42 | 125.01 | 120.30 |
| 37 | BC | 30 | G | O4'-C1'-N9 | 9.42 | 115.73 | 108.20 |
| 52 | BR | 51 | ARG | NE-CZ-NH1 | 9.42 | 125.01 | 120.30 |
| 2 | AB | 446 | G | C5-C6-O6 | -9.41 | 122.95 | 128.60 |
| 2 | AB | 2581 | G | N9-C4-C5 | 9.41 | 109.17 | 105.40 |
| 35 | BA | 475 | C | C2-N3-C4 | 9.41 | 124.61 | 119.90 |
| 2 | AB | 2 | G | N1-C6-O6 | -9.41 | 114.25 | 119.90 |
| 2 | AB | 864 | G | C4-C5-C6 | 9.41 | 124.45 | 118.80 |
| 2 | AB | 1610 | A | C5-C6-N1 | 9.41 | 122.41 | 117.70 |
| 2 | AB | 1783 | A | N1-C6-N6 | 9.41 | 124.25 | 118.60 |
| 2 | AB | 2016 | U | N3-C2-O2 | -9.41 | 115.61 | 122.20 |
| 2 | AB | 2400 | G | N3-C2-N2 | -9.41 | 113.31 | 119.90 |
| 42 | BH | 110 | ARG | NE-CZ-NH1 | 9.41 | 125.00 | 120.30 |
| 2 | AB | 46 | G | C4-C5-N7 | -9.41 | 107.04 | 110.80 |
| 35 | BA | 326 | G | N9-C4-C5 | 9.41 | 109.16 | 105.40 |
| 2 | AB | 2834 | G | C6-C5-N7 | -9.40 | 124.76 | 130.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 608 | A | C6-C5-N7 | -9.40 | 125.72 | 132.30 |
| 2 | AB | 1154 | G | C5-N7-C8 | -9.40 | 99.60 | 104.30 |
| 2 | AB | 1404 | C | C2-N3-C4 | 9.40 | 124.60 | 119.90 |
| 2 | AB | 2116 | G | N1-C2-N3 | -9.40 | 118.26 | 123.90 |
| 2 | AB | 2213 | U | O4'-C1'-N1 | 9.40 | 115.72 | 108.20 |
| 2 | AB | 2527 | C | N1-C2-O2 | -9.40 | 113.26 | 118.90 |
| 35 | BA | 466 | A | N1-C2-N3 | -9.40 | 124.60 | 129.30 |
| 35 | BA | 899 | C | N3-C4-C5 | -9.40 | 118.14 | 121.90 |
| 35 | BA | 1152 | A | O4'-C1'-N9 | 9.40 | 115.72 | 108.20 |
| 35 | BA | 1408 | A | C5-N7-C8 | 9.40 | 108.60 | 103.90 |
| 2 | AB | 2123 | G | C8-N9-C4 | -9.40 | 102.64 | 106.40 |
| 2 | AB | 2644 | G | C3'-C2'-C1' | -9.40 | 93.98 | 101.50 |
| 35 | BA | 824 | G | C5-C6-N1 | 9.40 | 116.20 | 111.50 |
| 35 | BA | 1157 | A | C2-N3-C4 | 9.40 | 115.30 | 110.60 |
| 2 | AB | 116 | C | C6-N1-C2 | 9.39 | 124.06 | 120.30 |
| 2 | AB | 386 | G | O4'-C1'-N9 | 9.39 | 115.71 | 108.20 |
| 2 | AB | 2462 | C | O4'-C1'-N1 | 9.39 | 115.71 | 108.20 |
| 36 | BB | 25 | U | C1'-O4'-C4' | -9.39 | 102.39 | 109.90 |
| 35 | BA | 111 | G | C4-C5-N7 | -9.39 | 107.04 | 110.80 |
| 35 | BA | 670 | G | C5-C6-N1 | 9.39 | 116.20 | 111.50 |
| 2 | AB | 326 | G | C5-N7-C8 | -9.39 | 99.61 | 104.30 |
| 35 | BA | 439 | U | C4-C5-C6 | 9.39 | 125.33 | 119.70 |
| 2 | AB | 2880 | C | N3-C4-N4 | 9.39 | 124.57 | 118.00 |
| 35 | BA | 1058 | G | N1-C6-O6 | -9.39 | 114.27 | 119.90 |
| 2 | AB | 665 | U | N1-C2-N3 | 9.38 | 120.53 | 114.90 |
| 2 | AB | 1482 | G | O4'-C1'-N9 | 9.39 | 115.71 | 108.20 |
| 2 | AB | 1699 | G | C4-C5-N7 | 9.38 | 114.55 | 110.80 |
| 2 | AB | 1890 | A | N7-C8-N9 | 9.38 | 118.49 | 113.80 |
| 2 | AB | 1893 | C | C6-N1-C2 | -9.38 | 116.55 | 120.30 |
| 2 | AB | 2549 | G | C6-N1-C2 | -9.38 | 119.47 | 125.10 |
| 2 | AB | 2250 | G | O4'-C1'-N9 | 9.38 | 115.71 | 108.20 |
| 2 | AB | 2396 | G | N9-C4-C5 | 9.38 | 109.15 | 105.40 |
| 35 | BA | 1399 | C | N3-C4-C5 | -9.38 | 118.15 | 121.90 |
| 2 | AB | 2561 | U | O4'-C1'-N1 | 9.38 | 115.70 | 108.20 |
| 2 | AB | 1789 | A | C5'-C4'-C3' | -9.38 | 101.00 | 116.00 |
| 2 | AB | 2053 | G | C2-N3-C4 | 9.38 | 116.59 | 111.90 |
| 2 | AB | 2100 | G | C8-N9-C4 | -9.38 | 102.65 | 106.40 |
| 2 | AB | 2684 | U | C4-C5-C6 | 9.38 | 125.33 | 119.70 |
| 35 | BA | 951 | G | C5-C6-O6 | 9.38 | 134.23 | 128.60 |
| 35 | BA | 1144 | G | C4-C5-C6 | 9.38 | 124.43 | 118.80 |
| 35 | BA | 1232 | U | O4'-C1'-N1 | 9.38 | 115.70 | 108.20 |
| 2 | AB | 846 | U | N3-C4-C5 | -9.38 | 108.97 | 114.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1846 | G | C5-C6-N1 | 9.38 | 116.19 | 111.50 |
| 2 | AB | 2365 | G | N3-C4-C5 | -9.38 | 123.91 | 128.60 |
| 35 | BA | 391 | G | C6-C5-N7 | -9.38 | 124.78 | 130.40 |
| 35 | BA | 703 | G | N9-C4-C5 | 9.38 | 109.15 | 105.40 |
| 2 | AB | 462 | C | N1-C2-O2 | 9.37 | 124.52 | 118.90 |
| 2 | AB | 758 | C | C5-C6-N1 | -9.37 | 116.31 | 121.00 |
| 2 | AB | 2691 | C | C2-N3-C4 | 9.37 | 124.59 | 119.90 |
| 35 | BA | 35 | G | C8-N9-C4 | -9.37 | 102.65 | 106.40 |
| 35 | BA | 1134 | G | N3-C4-C5 | -9.37 | 123.91 | 128.60 |
| 35 | BA | 1309 | G | N7-C8-N9 | 9.37 | 117.79 | 113.10 |
| 2 | AB | 2724 | U | N3-C4-O4 | -9.37 | 112.84 | 119.40 |
| 45 | BK | 122 | ARG | NE-CZ-NH1 | 9.37 | 124.98 | 120.30 |
| 1 | AA | 9 | G | C4-C5-C6 | 9.37 | 124.42 | 118.80 |
| 2 | AB | 110 | G | C3'-C2'-C1' | -9.36 | 94.01 | 101.50 |
| 2 | AB | 1357 | C | N1-C2-O2 | 9.37 | 124.52 | 118.90 |
| 2 | AB | 2421 | G | N9-C4-C5 | 9.37 | 109.15 | 105.40 |
| 2 | AB | 2683 | C | O4'-C1'-N1 | 9.36 | 115.69 | 108.20 |
| 35 | BA | 766 | A | C8-N9-C4 | -9.36 | 102.05 | 105.80 |
| 35 | BA | 964 | A | C5-N7-C8 | 9.36 | 108.58 | 103.90 |
| 35 | BA | 92 | U | O4'-C1'-N1 | 9.36 | 115.69 | 108.20 |
| 35 | BA | 866 | C | N3-C4-C5 | -9.36 | 118.16 | 121.90 |
| 2 | AB | 72 | U | O4'-C1'-N1 | 9.36 | 115.69 | 108.20 |
| 2 | AB | 1754 | A | C2-N3-C4 | -9.36 | 105.92 | 110.60 |
| 35 | BA | 520 | A | C2-N3-C4 | 9.36 | 115.28 | 110.60 |
| 35 | BA | 1047 | G | C8-N9-C4 | -9.36 | 102.66 | 106.40 |
| 2 | AB | 472 | A | C8-N9-C4 | -9.36 | 102.06 | 105.80 |
| 2 | AB | 1961 | C | N3-C4-N4 | 9.36 | 124.55 | 118.00 |
| 35 | BA | 1228 | C | N3-C4-N4 | 9.36 | 124.55 | 118.00 |
| 2 | AB | 678 | C | N3-C4-C5 | -9.36 | 118.16 | 121.90 |
| 2 | AB | 1681 | G | C8-N9-C4 | -9.36 | 102.66 | 106.40 |
| 2 | AB | 1761 | C | N1-C2-O2 | 9.36 | 124.52 | 118.90 |
| 2 | AB | 2757 | A | N7-C8-N9 | -9.36 | 109.12 | 113.80 |
| 35 | BA | 468 | A | C5-N7-C8 | -9.36 | 99.22 | 103.90 |
| 35 | BA | 1275 | A | C8-N9-C4 | -9.36 | 102.06 | 105.80 |
| 2 | AB | 597 | G | N7-C8-N9 | 9.36 | 117.78 | 113.10 |
| 2 | AB | 653 | U | C6-N1-C2 | -9.36 | 115.39 | 121.00 |
| 2 | AB | 969 | G | N7-C8-N9 | 9.36 | 117.78 | 113.10 |
| 35 | BA | 290 | C | C5'-C4'-O4' | 9.36 | 120.33 | 109.10 |
| 35 | BA | 1052 | U | N3-C2-O2 | -9.36 | 115.65 | 122.20 |
| 2 | AB | 2799 | A | N7-C8-N9 | 9.36 | 118.48 | 113.80 |
| 35 | BA | 1099 | G | C4-C5-N7 | 9.36 | 114.54 | 110.80 |
| 2 | AB | 166 | U | C1'-O4'-C4' | -9.35 | 102.42 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 577 | G | C5-C6-O6 | -9.35 | 122.99 | 128.60 |
| 2 | AB | 2411 | A | N1-C6-N6 | 9.35 | 124.21 | 118.60 |
| 2 | AB | 2578 | G | C4-C5-N7 | -9.35 | 107.06 | 110.80 |
| 2 | AB | 254 | G | C5-C6-N1 | -9.35 | 106.83 | 111.50 |
| 2 | AB | 446 | G | N7-C8-N9 | 9.35 | 117.78 | 113.10 |
| 2 | AB | 1235 | G | C5-C6-O6 | -9.35 | 122.99 | 128.60 |
| 2 | AB | 1717 | A | C2-N3-C4 | 9.35 | 115.28 | 110.60 |
| 2 | AB | 2706 | A | N1-C2-N3 | 9.35 | 133.98 | 129.30 |
| 2 | AB | 2882 | A | C8-N9-C4 | 9.35 | 109.54 | 105.80 |
| 35 | BA | 746 | A | N1-C6-N6 | 9.35 | 124.21 | 118.60 |
| 35 | BA | 815 | A | C5-N7-C8 | 9.35 | 108.58 | 103.90 |
| 2 | AB | 305 | C | N3-C2-O2 | -9.35 | 115.36 | 121.90 |
| 2 | AB | 732 | C | C2-N3-C4 | -9.35 | 115.22 | 119.90 |
| 2 | AB | 2434 | A | C1'-O4'-C4' | -9.35 | 102.42 | 109.90 |
| 2 | AB | 1604 | C | C6-N1-C2 | 9.35 | 124.04 | 120.30 |
| 7 | AG | 149 | ARG | NE-CZ-NH1 | 9.35 | 124.97 | 120.30 |
| 35 | BA | 690 | G | C4-C5-C6 | 9.35 | 124.41 | 118.80 |
| 35 | BA | 786 | G | C5-C6-N1 | 9.35 | 116.17 | 111.50 |
| 35 | BA | 1496 | C | N1-C2-O2 | 9.35 | 124.51 | 118.90 |
| 2 | AB | 1529 | G | N9-C4-C5 | 9.34 | 109.14 | 105.40 |
| 2 | AB | 1717 | A | N1-C2-N3 | -9.34 | 124.63 | 129.30 |
| 2 | AB | 2088 | A | C8-N9-C4 | 9.34 | 109.54 | 105.80 |
| 2 | AB | 2142 | A | O4'-C1'-N9 | 9.34 | 115.67 | 108.20 |
| 2 | AB | 2403 | C | O4'-C1'-N1 | 9.34 | 115.67 | 108.20 |
| 2 | AB | 301 | G | N7-C8-N9 | 9.34 | 117.77 | 113.10 |
| 2 | AB | 2630 | G | C2-N3-C4 | 9.34 | 116.57 | 111.90 |
| 35 | BA | 1214 | C | C5-C6-N1 | 9.34 | 125.67 | 121.00 |
| 2 | AB | 289 | G | N9-C1'-C2' | -9.34 | 101.73 | 112.00 |
| 2 | AB | 428 | A | C1'-O4'-C4' | -9.34 | 102.43 | 109.90 |
| 2 | AB | 866 | A | C5-C6-N6 | -9.34 | 116.23 | 123.70 |
| 2 | AB | 2785 | C | N3-C4-N4 | 9.34 | 124.54 | 118.00 |
| 35 | BA | 688 | G | C2-N3-C4 | 9.34 | 116.57 | 111.90 |
| 35 | BA | 1445 | U | N1-C2-O2 | 9.34 | 129.34 | 122.80 |
| 2 | AB | 724 | U | C5-C4-O4 | -9.34 | 120.30 | 125.90 |
| 2 | AB | 2381 | A | C5-C6-N1 | 9.34 | 122.37 | 117.70 |
| 2 | AB | 2636 | C | O4'-C1'-N1 | 9.34 | 115.67 | 108.20 |
| 36 | BB | 34 | U | N3-C4-O4 | 9.34 | 125.94 | 119.40 |
| 2 | AB | 73 | A | C8-N9-C4 | 9.33 | 109.53 | 105.80 |
| 2 | AB | 1730 | C | N3-C2-O2 | -9.33 | 115.37 | 121.90 |
| 35 | BA | 159 | G | C4-C5-N7 | 9.33 | 114.53 | 110.80 |
| 47 | BM | 26 | PHE | CB-CG-CD1 | -9.33 | 114.27 | 120.80 |
| 35 | BA | 1068 | G | C6-N1-C2 | -9.33 | 119.50 | 125.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 17 | G | C8-N9-C4 | -9.33 | 102.67 | 106.40 |
| 2 | AB | 242 | G | N3-C4-C5 | -9.33 | 123.94 | 128.60 |
| 2 | AB | 544 | C | O4'-C1'-N1 | 9.33 | 115.67 | 108.20 |
| 2 | AB | 1347 | A | C5-C6-N1 | 9.33 | 122.37 | 117.70 |
| 2 | AB | 1676 | A | O4'-C1'-N9 | 9.33 | 115.66 | 108.20 |
| 2 | AB | 12 | U | C5-C4-O4 | -9.33 | 120.30 | 125.90 |
| 2 | AB | 1087 | G | C8-N9-C4 | -9.33 | 102.67 | 106.40 |
| 2 | AB | 1850 | G | C4-C5-N7 | -9.33 | 107.07 | 110.80 |
| 35 | BA | 1257 | A | C8-N9-C4 | -9.33 | 102.07 | 105.80 |
| 2 | AB | 1482 | G | N1-C6-O6 | 9.33 | 125.50 | 119.90 |
| 2 | AB | 2126 | A | N1-C2-N3 | 9.33 | 133.96 | 129.30 |
| 2 | AB | 200 | U | O4'-C1'-N1 | 9.32 | 115.66 | 108.20 |
| 2 | AB | 1383 | A | C6-C5-N7 | -9.32 | 125.77 | 132.30 |
| 2 | AB | 1102 | C | N3-C4-C5 | -9.32 | 118.17 | 121.90 |
| 2 | AB | 2617 | U | N1-C2-N3 | 9.32 | 120.50 | 114.90 |
| 2 | AB | 2644 | G | O4'-C4'-C3' | -9.32 | 94.67 | 104.00 |
| 35 | BA | 388 | G | C5-C6-N1 | 9.32 | 116.16 | 111.50 |
| 35 | BA | 898 | G | C4-C5-N7 | 9.32 | 114.53 | 110.80 |
| 40 | BF | 140 | ASP | CB-CG-OD1 | -9.32 | 109.91 | 118.30 |
| 35 | BA | 898 | G | N9-C4-C5 | -9.32 | 101.67 | 105.40 |
| 35 | BA | 1041 | G | O4'-C1'-N9 | 9.32 | 115.66 | 108.20 |
| 2 | AB | 106 | C | C1'-O4'-C4' | -9.32 | 102.44 | 109.90 |
| 2 | AB | 1152 | C | O4'-C1'-N1 | 9.32 | 115.66 | 108.20 |
| 35 | BA | 743 | A | N7-C8-N9 | 9.32 | 118.46 | 113.80 |
| 2 | AB | 1012 | U | N3-C2-O2 | -9.32 | 115.68 | 122.20 |
| 2 | AB | 2677 | G | N3-C4-C5 | -9.32 | 123.94 | 128.60 |
| 35 | BA | 410 | G | N9-C4-C5 | 9.32 | 109.13 | 105.40 |
| 36 | BB | 21 | U | P-O3'-C3' | 9.32 | 130.88 | 119.70 |
| 2 | AB | 292 | U | O4'-C1'-N1 | 9.32 | 115.65 | 108.20 |
| 2 | AB | 410 | G | N3-C4-C5 | -9.32 | 123.94 | 128.60 |
| 2 | AB | 912 | C | N1-C2-O2 | 9.32 | 124.49 | 118.90 |
| 2 | AB | 968 | C | N3-C4-C5 | -9.32 | 118.17 | 121.90 |
| 2 | AB | 974 | G | C4-C5-N7 | -9.32 | 107.07 | 110.80 |
| 2 | AB | 1585 | C | N1-C2-O2 | 9.32 | 124.49 | 118.90 |
| 35 | BA | 251 | G | C1'-O4'-C4' | -9.32 | 102.45 | 109.90 |
| 35 | BA | 690 | G | C4-C5-N7 | -9.32 | 107.07 | 110.80 |
| 1 | AA | 1 | U | C5-C4-O4 | -9.31 | 120.31 | 125.90 |
| 35 | BA | 1517 | G | C5-N7-C8 | -9.31 | 99.64 | 104.30 |
| 2 | AB | 2230 | G | C5-C6-N1 | 9.31 | 116.16 | 111.50 |
| 1 | AA | 44 | G | N9-C4-C5 | -9.31 | 101.67 | 105.40 |
| 2 | AB | 937 | C | C4'-C3'-C2' | -9.31 | 93.29 | 102.60 |
| 2 | AB | 46 | G | N9-C4-C5 | 9.31 | 109.12 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1115 | G | N9-C4-C5 | 9.31 | 109.12 | 105.40 |
| 2 | AB | 2623 | G | C4-C5-N7 | -9.31 | 107.08 | 110.80 |
| 2 | AB | 1364 | G | N3-C4-N9 | -9.31 | 120.41 | 126.00 |
| 2 | AB | 2056 | G | N3-C2-N2 | -9.31 | 113.38 | 119.90 |
| 2 | AB | 2086 | U | C4'-C3'-C2' | -9.31 | 93.29 | 102.60 |
| 35 | BA | 172 | A | C8-N9-C4 | -9.31 | 102.08 | 105.80 |
| 35 | BA | 1537 | U | C5-C6-N1 | -9.31 | 118.05 | 122.70 |
| 2 | AB | 802 | A | N1-C6-N6 | 9.31 | 124.19 | 118.60 |
| 2 | AB | 1233 | C | C5-C4-N4 | -9.31 | 113.68 | 120.20 |
| 2 | AB | 1309 | G | N3-C4-C5 | -9.31 | 123.94 | 128.60 |
| 32 | A5 | 12 | ARG | NE-CZ-NH1 | 9.31 | 124.95 | 120.30 |
| 35 | BA | 1323 | G | N1-C6-O6 | -9.31 | 114.32 | 119.90 |
| 35 | BA | 1439 | G | N3-C4-N9 | 9.31 | 131.58 | 126.00 |
| 2 | AB | 130 | C | C5-C4-N4 | -9.30 | 113.69 | 120.20 |
| 2 | AB | 389 | G | P-O3'-C3' | 9.31 | 130.87 | 119.70 |
| 2 | AB | 1151 | A | N7-C8-N9 | -9.30 | 109.15 | 113.80 |
| 2 | AB | 1415 | U | O4'-C1'-N1 | 9.30 | 115.64 | 108.20 |
| 2 | AB | 1900 | A | C8-N9-C4 | 9.30 | 109.52 | 105.80 |
| 35 | BA | 864 | A | C8-N9-C4 | -9.30 | 102.08 | 105.80 |
| 2 | AB | 1359 | A | C6-N1-C2 | 9.30 | 124.18 | 118.60 |
| 14 | AN | 59 | ARG | NE-CZ-NH1 | 9.30 | 124.95 | 120.30 |
| 1 | AA | 77 | U | O4'-C1'-N1 | 9.30 | 115.64 | 108.20 |
| 2 | AB | 401 | A | C5'-C4'-O4' | 9.30 | 120.26 | 109.10 |
| 2 | AB | 1788 | C | O4'-C1'-N1 | 9.30 | 115.64 | 108.20 |
| 2 | AB | 2774 | C | C2-N3-C4 | -9.30 | 115.25 | 119.90 |
| 35 | BA | 601 | G | C5-C6-N1 | 9.30 | 116.15 | 111.50 |
| 35 | BA | 618 | C | N1-C2-O2 | 9.30 | 124.48 | 118.90 |
| 35 | BA | 665 | A | N9-C4-C5 | 9.30 | 109.52 | 105.80 |
| 35 | BA | 1061 | G | C8-N9-C4 | -9.30 | 102.68 | 106.40 |
| 35 | BA | 1218 | C | C5-C6-N1 | -9.30 | 116.35 | 121.00 |
| 2 | AB | 939 | G | O4'-C1'-N9 | 9.30 | 115.64 | 108.20 |
| 2 | AB | 1104 | C | C6-N1-C2 | -9.30 | 116.58 | 120.30 |
| 2 | AB | 221 | A | C4-C5-N7 | 9.29 | 115.35 | 110.70 |
| 2 | AB | 799 | G | N3-C4-C5 | -9.29 | 123.95 | 128.60 |
| 35 | BA | 521 | G | N3-C4-C5 | -9.29 | 123.95 | 128.60 |
| 35 | BA | 611 | C | C4'-C3'-C2' | -9.29 | 93.31 | 102.60 |
| 35 | BA | 1117 | A | O4'-C1'-N9 | 9.30 | 115.64 | 108.20 |
| 1 | AA | 7 | G | O4'-C1'-N9 | 9.29 | 115.63 | 108.20 |
| 1 | AA | 105 | G | N1-C6-O6 | -9.29 | 114.33 | 119.90 |
| 2 | AB | 940 | G | N9-C4-C5 | 9.29 | 109.12 | 105.40 |
| 2 | AB | 1345 | C | C2-N3-C4 | -9.29 | 115.25 | 119.90 |
| 2 | AB | 2849 | U | C3'-C2'-C1' | -9.29 | 94.06 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2433 | A | C6-N1-C2 | -9.29 | 113.03 | 118.60 |
| 2 | AB | 2607 | G | C5-C6-O6 | -9.29 | 123.03 | 128.60 |
| 35 | BA | 463 | U | C2-N3-C4 | -9.29 | 121.42 | 127.00 |
| 35 | BA | 572 | A | C5-N7-C8 | -9.29 | 99.25 | 103.90 |
| 2 | AB | 413 | C | N3-C4-C5 | -9.29 | 118.18 | 121.90 |
| 2 | AB | 2255 | G | C2-N3-C4 | -9.29 | 107.25 | 111.90 |
| 23 | AW | 85 | ARG | NE-CZ-NH1 | 9.29 | 124.94 | 120.30 |
| 35 | BA | 10 | A | C4-C5-N7 | -9.29 | 106.06 | 110.70 |
| 37 | BC | 22 | A | C5-C6-N1 | 9.29 | 122.34 | 117.70 |
| 2 | AB | 66 | C | N1-C2-O2 | 9.29 | 124.47 | 118.90 |
| 2 | AB | 1849 | G | C2-N3-C4 | 9.29 | 116.54 | 111.90 |
| 2 | AB | 370 | G | C8-N9-C4 | -9.29 | 102.69 | 106.40 |
| 35 | BA | 904 | U | O4'-C1'-N1 | 9.29 | 115.63 | 108.20 |
| 2 | AB | 183 | C | C4-C5-C6 | -9.28 | 112.76 | 117.40 |
| 35 | BA | 212 | G | C5-C6-O6 | -9.28 | 123.03 | 128.60 |
| 35 | BA | 360 | G | C4-C5-N7 | -9.29 | 107.09 | 110.80 |
| 35 | BA | 1147 | C | N3-C2-O2 | -9.29 | 115.40 | 121.90 |
| 35 | BA | 1486 | G | C4-C5-N7 | 9.29 | 114.51 | 110.80 |
| 2 | AB | 1610 | A | O4'-C1'-N9 | 9.28 | 115.63 | 108.20 |
| 35 | BA | 357 | G | C6-N1-C2 | -9.28 | 119.53 | 125.10 |
| 2 | AB | 1157 | G | N7-C8-N9 | 9.28 | 117.74 | 113.10 |
| 2 | AB | 1235 | G | P-O3'-C3' | 9.28 | 130.84 | 119.70 |
| 2 | AB | 2205 | A | C4'-C3'-C2' | -9.28 | 93.32 | 102.60 |
| 2 | AB | 2617 | U | C5-C6-N1 | -9.28 | 118.06 | 122.70 |
| 35 | BA | 178 | C | C5-C6-N1 | 9.28 | 125.64 | 121.00 |
| 35 | BA | 665 | A | P-O3'-C3' | 9.28 | 130.84 | 119.70 |
| 2 | AB | 1172 | C | O4'-C1'-N1 | 9.28 | 115.62 | 108.20 |
| 35 | BA | 1078 | U | O4'-C1'-N1 | 9.27 | 115.62 | 108.20 |
| 35 | BA | 970 | C | C1'-O4'-C4' | -9.27 | 102.48 | 109.90 |
| 35 | BA | 1067 | A | O4'-C1'-N9 | 9.27 | 115.62 | 108.20 |
| 35 | BA | 1485 | U | C5-C6-N1 | -9.27 | 118.06 | 122.70 |
| 35 | BA | 976 | G | N3-C4-N9 | 9.27 | 131.56 | 126.00 |
| 35 | BA | 1254 | A | C5-C6-N6 | -9.27 | 116.28 | 123.70 |
| 2 | AB | 728 | G | N1-C6-O6 | -9.27 | 114.34 | 119.90 |
| 2 | AB | 1045 | C | C6-N1-C2 | -9.27 | 116.59 | 120.30 |
| 35 | BA | 584 | G | C5-C6-O6 | -9.27 | 123.04 | 128.60 |
| 2 | AB | 404 | A | C2-N3-C4 | 9.27 | 115.23 | 110.60 |
| 2 | AB | 2368 | C | O4'-C1'-N1 | 9.27 | 115.61 | 108.20 |
| 2 | AB | 2186 | G | C8-N9-C4 | -9.27 | 102.69 | 106.40 |
| 2 | AB | 2410 | G | C8-N9-C4 | -9.27 | 102.69 | 106.40 |
| 2 | AB | 2877 | G | C5-N7-C8 | -9.27 | 99.67 | 104.30 |
| 35 | BA | 782 | A | N1-C6-N6 | 9.27 | 124.16 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2867 | G | N9-C4-C5 | 9.27 | 109.11 | 105.40 |
| 35 | BA | 509 | A | N9-C4-C5 | 9.27 | 109.51 | 105.80 |
| 37 | BC | 47 | A | C5-C6-N1 | 9.27 | 122.33 | 117.70 |
| 2 | AB | 84 | A | C6-N1-C2 | -9.26 | 113.04 | 118.60 |
| 2 | AB | 144 | A | N1-C2-N3 | -9.26 | 124.67 | 129.30 |
| 2 | AB | 424 | G | C6-N1-C2 | -9.26 | 119.54 | 125.10 |
| 2 | AB | 1601 | G | C5-N7-C8 | -9.26 | 99.67 | 104.30 |
| 35 | BA | 184 | G | C8-N9-C4 | -9.26 | 102.69 | 106.40 |
| 35 | BA | 936 | C | N3-C4-C5 | 9.26 | 125.61 | 121.90 |
| 35 | BA | 1536 | C | O4'-C4'-C3' | 9.26 | 113.51 | 106.10 |
| 2 | AB | 1420 | A | N3-C4-N9 | 9.26 | 134.81 | 127.40 |
| 2 | AB | 1439 | A | N9-C4-C5 | 9.26 | 109.50 | 105.80 |
| 35 | BA | 209 | U | C4-C5-C6 | 9.26 | 125.26 | 119.70 |
| 35 | BA | 1489 | G | C4-C5-N7 | -9.26 | 107.10 | 110.80 |
| 2 | AB | 721 | A | C8-N9-C4 | -9.26 | 102.10 | 105.80 |
| 35 | BA | 1334 | G | C4-C5-C6 | 9.26 | 124.36 | 118.80 |
| 1 | AA | 119 | A | C5-C6-N6 | -9.26 | 116.30 | 123.70 |
| 2 | AB | 1127 | A | N9-C4-C5 | 9.26 | 109.50 | 105.80 |
| 2 | AB | 1292 | G | O4'-C4'-C3' | 9.26 | 113.50 | 106.10 |
| 2 | AB | 1314 | C | C6-N1-C2 | -9.26 | 116.60 | 120.30 |
| 2 | AB | 2339 | C | O4'-C1'-N1 | 9.26 | 115.61 | 108.20 |
| 35 | BA | 168 | G | C5'-C4'-C3' | -9.26 | 101.19 | 116.00 |
| 35 | BA | 498 | A | O5'-P-OP2 | -9.26 | 97.37 | 105.70 |
| 35 | BA | 1026 | G | C2-N3-C4 | 9.26 | 116.53 | 111.90 |
| 57 | BW | 46 | ARG | NE-CZ-NH1 | 9.26 | 124.93 | 120.30 |
| 2 | AB | 269 | C | C2-N3-C4 | -9.25 | 115.27 | 119.90 |
| 2 | AB | 904 | G | C2-N3-C4 | 9.25 | 116.53 | 111.90 |
| 2 | AB | 905 | A | C5-C6-N6 | -9.25 | 116.30 | 123.70 |
| 2 | AB | 1434 | A | C8-N9-C4 | -9.25 | 102.10 | 105.80 |
| 2 | AB | 1998 | A | C3'-C2'-C1' | -9.25 | 94.10 | 101.50 |
| 2 | AB | 635 | C | N3-C4-N4 | -9.25 | 111.52 | 118.00 |
| 2 | AB | 759 | G | C6-C5-N7 | -9.25 | 124.85 | 130.40 |
| 35 | BA | 18 | C | C5-C4-N4 | -9.25 | 113.73 | 120.20 |
| 35 | BA | 491 | G | C6-N1-C2 | -9.25 | 119.55 | 125.10 |
| 2 | AB | 1380 | G | C6-C5-N7 | -9.25 | 124.85 | 130.40 |
| 2 | AB | 1740 | G | C4-C5-N7 | 9.25 | 114.50 | 110.80 |
| 2 | AB | 1921 | G | C5-C6-O6 | -9.25 | 123.05 | 128.60 |
| 2 | AB | 2119 | A | C4-C5-C6 | -9.25 | 112.38 | 117.00 |
| 2 | AB | 2676 | C | O4'-C1'-N1 | 9.24 | 115.60 | 108.20 |
| 2 | AB | 2842 | G | C5'-C4'-O4' | 9.24 | 120.19 | 109.10 |
| 2 | AB | 826 | U | P-O3'-C3' | 9.24 | 130.79 | 119.70 |
| 35 | BA | 187 | G | P-O3'-C3' | 9.24 | 130.79 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 692 | U | N3-C2-O2 | -9.24 | 115.73 | 122.20 |
| 2 | AB | 1659 | G | C4-C5-N7 | -9.24 | 107.10 | 110.80 |
| 2 | AB | 1054 | A | N9-C1'-C2' | -9.24 | 101.83 | 112.00 |
| 2 | AB | 2481 | G | C8-N9-C4 | -9.24 | 102.70 | 106.40 |
| 35 | BA | 1451 | U | C2-N3-C4 | -9.24 | 121.45 | 127.00 |
| 2 | AB | 303 | G | N7-C8-N9 | 9.24 | 117.72 | 113.10 |
| 2 | AB | 2582 | G | N9-C4-C5 | 9.24 | 109.10 | 105.40 |
| 35 | BA | 1251 | A | C8-N9-C4 | -9.24 | 102.10 | 105.80 |
| 2 | AB | 618 | G | C8-N9-C4 | -9.24 | 102.70 | 106.40 |
| 2 | AB | 1337 | G | N3-C2-N2 | -9.24 | 113.43 | 119.90 |
| 2 | AB | 1188 | U | N3-C2-O2 | -9.24 | 115.73 | 122.20 |
| 2 | AB | 156 | A | C5-N7-C8 | 9.23 | 108.52 | 103.90 |
| 2 | AB | 2060 | A | P-O3'-C3' | 9.23 | 130.78 | 119.70 |
| 2 | AB | 2421 | G | C5-C6-N1 | 9.23 | 116.12 | 111.50 |
| 2 | AB | 1665 | A | C4'-C3'-C2' | -9.23 | 93.37 | 102.60 |
| 2 | AB | 2063 | C | O4'-C1'-N1 | 9.23 | 115.58 | 108.20 |
| 2 | AB | 2450 | A | C8-N9-C4 | -9.23 | 102.11 | 105.80 |
| 35 | BA | 399 | G | N1-C2-N3 | -9.23 | 118.36 | 123.90 |
| 35 | BA | 1105 | A | O4'-C1'-N9 | 9.23 | 115.58 | 108.20 |
| 35 | BA | 1221 | G | C2-N3-C4 | 9.23 | 116.52 | 111.90 |
| 37 | BC | 22 | A | N1-C2-N3 | -9.23 | 124.68 | 129.30 |
| 1 | AA | 46 | A | C4-C5-N7 | -9.23 | 106.09 | 110.70 |
| 2 | AB | 599 | A | C2-N3-C4 | 9.23 | 115.21 | 110.60 |
| 2 | AB | 599 | A | N1-C6-N6 | -9.23 | 113.06 | 118.60 |
| 2 | AB | 907 | G | C8-N9-C4 | -9.23 | 102.71 | 106.40 |
| 2 | AB | 2276 | G | C5-C6-N1 | 9.23 | 116.11 | 111.50 |
| 35 | BA | 895 | G | C8-N9-C4 | -9.23 | 102.71 | 106.40 |
| 2 | AB | 1082 | U | C5-C6-N1 | -9.23 | 118.09 | 122.70 |
| 2 | AB | 1346 | G | C2-N3-C4 | 9.23 | 116.51 | 111.90 |
| 2 | AB | 2626 | C | N1-C1'-C2' | -9.23 | 101.85 | 112.00 |
| 35 | BA | 156 | C | O4'-C1'-N1 | 9.23 | 115.58 | 108.20 |
| 35 | BA | 1300 | G | C6-C5-N7 | -9.23 | 124.86 | 130.40 |
| 52 | BR | 5 | ARG | NE-CZ-NH2 | -9.23 | 115.69 | 120.30 |
| 2 | AB | 1099 | G | C2-N3-C4 | 9.22 | 116.51 | 111.90 |
| 2 | AB | 1306 | C | O4'-C1'-N1 | 9.22 | 115.58 | 108.20 |
| 2 | AB | 2297 | A | C5'-C4'-O4' | 9.22 | 120.17 | 109.10 |
| 2 | AB | 450 | G | N9-C4-C5 | 9.22 | 109.09 | 105.40 |
| 2 | AB | 714 | U | C5'-C4'-O4' | 9.22 | 120.17 | 109.10 |
| 2 | AB | 2258 | C | C5-C6-N1 | 9.22 | 125.61 | 121.00 |
| 2 | AB | 2415 | G | C5-C6-N1 | 9.22 | 116.11 | 111.50 |
| 35 | BA | 287 | U | C2-N3-C4 | -9.22 | 121.47 | 127.00 |
| 2 | AB | 239 | C | N3-C4-C5 | -9.22 | 118.21 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 367 | G | C5-N7-C8 | 9.22 | 108.91 | 104.30 |
| 2 | AB | 1263 | U | C5-C4-O4 | -9.22 | 120.37 | 125.90 |
| 35 | BA | 230 | G | N9-C4-C5 | 9.22 | 109.09 | 105.40 |
| 47 | BM | 114 | PRO | N-CA-CB | 9.22 | 114.36 | 103.30 |
| 2 | AB | 843 | G | N1-C6-O6 | 9.22 | 125.43 | 119.90 |
| 2 | AB | 1269 | A | N1-C2-N3 | -9.21 | 124.69 | 129.30 |
| 35 | BA | 7 | A | C8-N9-C4 | -9.22 | 102.11 | 105.80 |
| 35 | BA | 1186 | G | C3'-C2'-C1' | -9.22 | 94.13 | 101.50 |
| 2 | AB | 1578 | U | O4'-C1'-N1 | 9.21 | 115.57 | 108.20 |
| 2 | AB | 524 | G | O4'-C1'-N9 | 9.21 | 115.57 | 108.20 |
| 2 | AB | 2567 | G | N9-C4-C5 | 9.21 | 109.08 | 105.40 |
| 2 | AB | 2743 | U | N1-C2-N3 | 9.21 | 120.43 | 114.90 |
| 37 | BC | 43 | G | C6-N1-C2 | -9.21 | 119.57 | 125.10 |
| 2 | AB | 432 | A | O4'-C1'-N9 | 9.21 | 115.57 | 108.20 |
| 1 | AA | 51 | G | C4-C5-N7 | 9.21 | 114.48 | 110.80 |
| 2 | AB | 485 | C | O4'-C1'-N1 | 9.21 | 115.57 | 108.20 |
| 2 | AB | 914 | G | N9-C1'-C2' | -9.21 | 101.87 | 112.00 |
| 2 | AB | 1397 | U | C2-N3-C4 | -9.21 | 121.47 | 127.00 |
| 2 | AB | 1966 | A | C5-C6-N6 | 9.21 | 131.07 | 123.70 |
| 35 | BA | 609 | A | C5-N7-C8 | 9.21 | 108.50 | 103.90 |
| 2 | AB | 2319 | G | N3-C4-C5 | -9.21 | 124.00 | 128.60 |
| 35 | BA | 98 | A | C8-N9-C4 | -9.21 | 102.12 | 105.80 |
| 2 | AB | 1381 | G | C8-N9-C4 | -9.21 | 102.72 | 106.40 |
| 2 | AB | 1883 | U | C2-N3-C4 | -9.21 | 121.48 | 127.00 |
| 49 | BO | 106 | ARG | NE-CZ-NH1 | 9.21 | 124.90 | 120.30 |
| 2 | AB | 2466 | C | C5-C4-N4 | -9.20 | 113.76 | 120.20 |
| 2 | AB | 2471 | A | C3'-C2'-C1' | -9.21 | 94.14 | 101.50 |
| 35 | BA | 359 | G | C8-N9-C4 | -9.20 | 102.72 | 106.40 |
| 35 | BA | 598 | U | C4-C5-C6 | 9.21 | 125.22 | 119.70 |
| 35 | BA | 1231 | G | C4-C5-N7 | -9.20 | 107.12 | 110.80 |
| 2 | AB | 428 | A | O4'-C1'-N9 | 9.20 | 115.56 | 108.20 |
| 2 | AB | 1410 | G | C2-N3-C4 | 9.20 | 116.50 | 111.90 |
| 35 | BA | 637 | C | P-O3'-C3' | 9.20 | 130.74 | 119.70 |
| 35 | BA | 708 | C | C4-C5-C6 | -9.20 | 112.80 | 117.40 |
| 35 | BA | 770 | C | C5-C6-N1 | 9.20 | 125.60 | 121.00 |
| 1 | AA | 67 | G | N9-C4-C5 | -9.20 | 101.72 | 105.40 |
| 35 | BA | 38 | G | C3'-C2'-C1' | -9.20 | 94.14 | 101.50 |
| 35 | BA | 388 | G | N1-C6-O6 | -9.20 | 114.38 | 119.90 |
| 35 | BA | 398 | U | C4-C5-C6 | 9.20 | 125.22 | 119.70 |
| 2 | AB | 1358 | G | N9-C4-C5 | 9.20 | 109.08 | 105.40 |
| 35 | BA | 1444 | U | N3-C4-C5 | -9.20 | 109.08 | 114.60 |
| 1 | AA | 109 | A | O4'-C1'-N9 | -9.20 | 100.84 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 55 | G | C8-N9-C4 | -9.20 | 102.72 | 106.40 |
| 2 | AB | 629 | G | C2-N3-C4 | 9.20 | 116.50 | 111.90 |
| 2 | AB | 673 | C | C4-C5-C6 | -9.19 | 112.80 | 117.40 |
| 2 | AB | 2098 | U | C2-N3-C4 | -9.20 | 121.48 | 127.00 |
| 2 | AB | 2428 | G | N3-C4-C5 | -9.19 | 124.00 | 128.60 |
| 35 | BA | 392 | C | C6-N1-C2 | -9.19 | 116.62 | 120.30 |
| 35 | BA | 663 | A | C5-N7-C8 | -9.20 | 99.30 | 103.90 |
| 35 | BA | 1265 | C | C4-C5-C6 | 9.20 | 122.00 | 117.40 |
| 2 | AB | 157 | C | C4-C5-C6 | -9.19 | 112.80 | 117.40 |
| 2 | AB | 2268 | A | C5'-C4'-O4' | 9.19 | 120.13 | 109.10 |
| 37 | BC | 51 | U | C4-C5-C6 | 9.19 | 125.22 | 119.70 |
| 2 | AB | 1829 | A | C8-N9-C4 | 9.19 | 109.48 | 105.80 |
| 2 | AB | 2623 | G | C4-C5-C6 | 9.19 | 124.31 | 118.80 |
| 35 | BA | 679 | C | C5-C6-N1 | -9.19 | 116.41 | 121.00 |
| 35 | BA | 1315 | U | N3-C4-C5 | 9.19 | 120.11 | 114.60 |
| 37 | BC | 64 | G | C6-N1-C2 | -9.19 | 119.58 | 125.10 |
| 1 | AA | 57 | A | N1-C6-N6 | -9.19 | 113.09 | 118.60 |
| 2 | AB | 678 | C | C4-C5-C6 | 9.19 | 122.00 | 117.40 |
| 2 | AB | 1665 | A | C8-N9-C4 | -9.19 | 102.12 | 105.80 |
| 2 | AB | 2164 | C | O4'-C1'-N1 | 9.19 | 115.55 | 108.20 |
| 2 | AB | 549 | G | N9-C4-C5 | 9.19 | 109.08 | 105.40 |
| 35 | BA | 894 | G | C4-C5-N7 | -9.19 | 107.12 | 110.80 |
| 2 | AB | 765 | C | N1-C2-O2 | 9.19 | 124.41 | 118.90 |
| 2 | AB | 1452 | G | N9-C4-C5 | 9.19 | 109.07 | 105.40 |
| 2 | AB | 2157 | G | N3-C4-C5 | -9.19 | 124.01 | 128.60 |
| 2 | AB | 820 | A | C2-N3-C4 | 9.18 | 115.19 | 110.60 |
| 2 | AB | 1966 | A | N1-C6-N6 | -9.18 | 113.09 | 118.60 |
| 1 | AA | 2 | G | N3-C4-N9 | 9.18 | 131.51 | 126.00 |
| 2 | AB | 988 | A | N7-C8-N9 | -9.18 | 109.21 | 113.80 |
| 2 | AB | 2567 | G | C5-C6-N1 | 9.18 | 116.09 | 111.50 |
| 2 | AB | 1619 | G | N9-C4-C5 | 9.18 | 109.07 | 105.40 |
| 2 | AB | 2387 | U | C2-N3-C4 | -9.18 | 121.49 | 127.00 |
| 2 | AB | 2866 | U | N3-C2-O2 | -9.18 | 115.78 | 122.20 |
| 35 | BA | 909 | A | O4'-C1'-N9 | 9.18 | 115.54 | 108.20 |
| 35 | BA | 1539 | C | N1-C2-O2 | 9.18 | 124.41 | 118.90 |
| 38 | BD | 62 | ARG | NE-CZ-NH2 | -9.18 | 115.71 | 120.30 |
| 2 | AB | 212 | G | C6-N1-C2 | 9.18 | 130.60 | 125.10 |
| 2 | AB | 519 | U | N1-C2-N3 | 9.18 | 120.41 | 114.90 |
| 35 | BA | 92 | U | C5-C6-N1 | -9.18 | 118.11 | 122.70 |
| 35 | BA | 1084 | G | C5-C6-N1 | 9.18 | 116.09 | 111.50 |
| 2 | AB | 1735 | A | N1-C2-N3 | -9.18 | 124.71 | 129.30 |
| 2 | AB | 1759 | A | O4'-C1'-N9 | 9.18 | 115.54 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2247 | A | O4'-C1'-N9 | 9.18 | 115.54 | 108.20 |
| 35 | BA | 168 | G | C5'-C4'-O4' | 9.18 | 120.11 | 109.10 |
| 35 | BA | 824 | G | C2-N3-C4 | 9.18 | 116.49 | 111.90 |
| 35 | BA | 866 | C | O4'-C1'-N1 | 9.18 | 115.54 | 108.20 |
| 35 | BA | 1505 | G | O4'-C1'-N9 | -9.18 | 100.86 | 108.20 |
| 35 | BA | 1381 | U | N1-C2-N3 | 9.18 | 120.41 | 114.90 |
| 2 | AB | 1737 | G | N1-C2-N3 | -9.17 | 118.39 | 123.90 |
| 2 | AB | 2686 | G | C2-N3-C4 | 9.17 | 116.49 | 111.90 |
| 2 | AB | 2766 | A | C4'-C3'-C2' | -9.17 | 93.43 | 102.60 |
| 2 | AB | 2834 | G | C4-C5-C6 | 9.17 | 124.30 | 118.80 |
| 35 | BA | 907 | A | O4'-C1'-N9 | 9.17 | 115.54 | 108.20 |
| 35 | BA | 672 | U | C2-N3-C4 | -9.17 | 121.50 | 127.00 |
| 35 | BA | 1159 | U | C4'-C3'-C2' | -9.17 | 93.43 | 102.60 |
| 36 | BB | 59 | A | C5-C6-N6 | -9.17 | 116.36 | 123.70 |
| 35 | BA | 1450 | U | C2-N3-C4 | -9.17 | 121.50 | 127.00 |
| 2 | AB | 1892 | C | O4'-C1'-N1 | 9.17 | 115.53 | 108.20 |
| 2 | AB | 2115 | G | C8-N9-C4 | -9.17 | 102.73 | 106.40 |
| 2 | AB | 2674 | G | C5-C6-N1 | 9.17 | 116.08 | 111.50 |
| 35 | BA | 441 | A | O4'-C1'-N9 | 9.17 | 115.54 | 108.20 |
| 2 | AB | 802 | A | C5-N7-C8 | 9.17 | 108.48 | 103.90 |
| 2 | AB | 1515 | A | C2-N3-C4 | 9.17 | 115.18 | 110.60 |
| 2 | AB | 134 | G | C6-C5-N7 | -9.16 | 124.90 | 130.40 |
| 2 | AB | 474 | G | C2-N3-C4 | 9.16 | 116.48 | 111.90 |
| 2 | AB | 1024 | G | N3-C4-N9 | -9.16 | 120.50 | 126.00 |
| 13 | AM | 112 | PHE | CB-CG-CD1 | -9.16 | 114.39 | 120.80 |
| 35 | BA | 1186 | G | N7-C8-N9 | -9.16 | 108.52 | 113.10 |
| 2 | AB | 1127 | A | C8-N9-C4 | -9.16 | 102.14 | 105.80 |
| 35 | BA | 1435 | G | N9-C4-C5 | -9.16 | 101.73 | 105.40 |
| 2 | AB | 1813 | G | C4-C5-N7 | -9.16 | 107.14 | 110.80 |
| 1 | AA | 42 | C | C5-C4-N4 | 9.16 | 126.61 | 120.20 |
| 2 | AB | 527 | C | N1-C2-O2 | 9.16 | 124.40 | 118.90 |
| 2 | AB | 1186 | G | N3-C4-N9 | 9.16 | 131.50 | 126.00 |
| 35 | BA | 1015 | G | C8-N9-C1' | 9.16 | 138.91 | 127.00 |
| 2 | AB | 1190 | G | C1'-O4'-C4' | -9.16 | 102.57 | 109.90 |
| 2 | AB | 1968 | G | C5-N7-C8 | 9.16 | 108.88 | 104.30 |
| 2 | AB | 2027 | G | N7-C8-N9 | 9.16 | 117.68 | 113.10 |
| 2 | AB | 512 | G | N7-C8-N9 | 9.16 | 117.68 | 113.10 |
| 2 | AB | 2664 | G | C5-C6-N1 | 9.16 | 116.08 | 111.50 |
| 35 | BA | 1065 | U | O4'-C4'-C3' | 9.16 | 113.42 | 106.10 |
| 35 | BA | 1210 | C | C6-N1-C2 | -9.16 | 116.64 | 120.30 |
| 2 | AB | 668 | A | C8-N9-C4 | 9.15 | 109.46 | 105.80 |
| 2 | AB | 1443 | U | C2-N3-C4 | -9.15 | 121.51 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1575 | C | N1-C2-O2 | 9.15 | 124.39 | 118.90 |
| 2 | AB | 2463 | C | C2-N3-C4 | 9.15 | 124.48 | 119.90 |
| 35 | BA | 731 | G | C2-N3-C4 | 9.15 | 116.48 | 111.90 |
| 2 | AB | 1191 | G | C3'-C2'-C1' | 9.15 | 108.82 | 101.50 |
| 2 | AB | 1496 | A | N1-C6-N6 | 9.15 | 124.09 | 118.60 |
| 35 | BA | 378 | G | N3-C4-N9 | 9.15 | 131.49 | 126.00 |
| 2 | AB | 2040 | G | C4-C5-C6 | 9.15 | 124.29 | 118.80 |
| 35 | BA | 97 | G | N9-C4-C5 | 9.15 | 109.06 | 105.40 |
| 35 | BA | 565 | U | C5-C4-O4 | 9.15 | 131.39 | 125.90 |
| 35 | BA | 650 | G | C1'-O4'-C4' | -9.15 | 102.58 | 109.90 |
| 35 | BA | 929 | G | N1-C2-N3 | -9.15 | 118.41 | 123.90 |
| 35 | BA | 1215 | G | N9-C4-C5 | 9.15 | 109.06 | 105.40 |
| 39 | BE | 51 | VAL | CA-CB-CG1 | 9.15 | 124.62 | 110.90 |
| 1 | AA | 109 | A | C5-N7-C8 | 9.15 | 108.47 | 103.90 |
| 2 | AB | 1251 | C | C5-C4-N4 | -9.15 | 113.80 | 120.20 |
| 2 | AB | 1342 | A | N9-C4-C5 | 9.15 | 109.46 | 105.80 |
| 2 | AB | 2185 | U | C5-C6-N1 | -9.15 | 118.12 | 122.70 |
| 2 | AB | 1114 | C | C4'-C3'-C2' | -9.15 | 93.45 | 102.60 |
| 2 | AB | 1147 | A | C5-C6-N1 | 9.15 | 122.27 | 117.70 |
| 2 | AB | 2238 | G | N3-C4-N9 | 9.15 | 131.49 | 126.00 |
| 35 | BA | 626 | G | C2-N3-C4 | 9.15 | 116.47 | 111.90 |
| 35 | BA | 922 | G | N1-C6-O6 | 9.15 | 125.39 | 119.90 |
| 36 | BB | 29 | G | C4-C5-N7 | -9.14 | 107.14 | 110.80 |
| 2 | AB | 39 | G | C8-N9-C4 | -9.14 | 102.74 | 106.40 |
| 2 | AB | 2389 | G | N3-C4-C5 | -9.14 | 124.03 | 128.60 |
| 2 | AB | 709 | U | C1'-O4'-C4' | 9.14 | 117.21 | 109.90 |
| 2 | AB | 43 | G | N9-C4-C5 | 9.14 | 109.06 | 105.40 |
| 2 | AB | 429 | A | N1-C2-N3 | 9.14 | 133.87 | 129.30 |
| 2 | AB | 627 | A | N9-C4-C5 | 9.14 | 109.46 | 105.80 |
| 2 | AB | 1914 | C | C4'-C3'-C2' | -9.14 | 93.46 | 102.60 |
| 35 | BA | 1134 | G | C2-N3-C4 | 9.14 | 116.47 | 111.90 |
| 35 | BA | 1524 | C | N3-C4-N4 | 9.14 | 124.40 | 118.00 |
| 2 | AB | 1483 | G | N7-C8-N9 | 9.14 | 117.67 | 113.10 |
| 2 | AB | 1722 | A | C6-C5-N7 | -9.14 | 125.90 | 132.30 |
| 2 | AB | 2342 | C | N1-C2-O2 | 9.14 | 124.38 | 118.90 |
| 2 | AB | 2460 | U | O4'-C1'-N1 | 9.14 | 115.51 | 108.20 |
| 2 | AB | 436 | C | O4'-C1'-N1 | 9.13 | 115.51 | 108.20 |
| 2 | AB | 997 | G | C3'-C2'-C1' | -9.13 | 94.19 | 101.50 |
| 2 | AB | 2705 | A | C8-N9-C4 | -9.13 | 102.15 | 105.80 |
| 35 | BA | 328 | C | N3-C4-C5 | -9.13 | 118.25 | 121.90 |
| 35 | BA | 609 | A | O4'-C1'-N9 | 9.13 | 115.51 | 108.20 |
| 35 | BA | 1272 | G | C4'-C3'-C2' | -9.13 | 93.47 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1741 | C | N3-C2-O2 | -9.13 | 115.51 | 121.90 |
| 2 | AB | 2599 | G | C6-N1-C2 | -9.13 | 119.62 | 125.10 |
| 35 | BA | 956 | U | C4-C5-C6 | 9.13 | 125.18 | 119.70 |
| 2 | AB | 1831 | G | C5'-C4'-O4' | 9.13 | 120.06 | 109.10 |
| 35 | BA | 93 | U | N3-C2-O2 | -9.13 | 115.81 | 122.20 |
| 35 | BA | 529 | G | N3-C2-N2 | 9.13 | 126.29 | 119.90 |
| 2 | AB | 1020 | A | N9-C4-C5 | 9.13 | 109.45 | 105.80 |
| 2 | AB | 1048 | A | C4-C5-C6 | 9.13 | 121.56 | 117.00 |
| 2 | AB | 2688 | G | C5-N7-C8 | -9.13 | 99.74 | 104.30 |
| 2 | AB | 36 | G | O4'-C1'-N9 | 9.13 | 115.50 | 108.20 |
| 35 | BA | 1146 | A | C8-N9-C4 | -9.13 | 102.15 | 105.80 |
| 2 | AB | 1817 | G | C8-N9-C4 | -9.12 | 102.75 | 106.40 |
| 35 | BA | 682 | G | C5'-C4'-O4' | 9.12 | 120.05 | 109.10 |
| 2 | AB | 18 | U | O4'-C1'-N1 | 9.12 | 115.50 | 108.20 |
| 2 | AB | 623 | C | O4'-C1'-N1 | 9.12 | 115.50 | 108.20 |
| 35 | BA | 971 | G | C6-C5-N7 | 9.12 | 135.87 | 130.40 |
| 35 | BA | 1203 | C | C6-N1-C2 | -9.12 | 116.65 | 120.30 |
| 35 | BA | 824 | G | N1-C6-O6 | -9.12 | 114.43 | 119.90 |
| 2 | AB | 259 | G | C8-N9-C4 | -9.12 | 102.75 | 106.40 |
| 2 | AB | 1163 | G | O4'-C1'-N9 | 9.12 | 115.50 | 108.20 |
| 35 | BA | 860 | A | O4'-C1'-N9 | 9.12 | 115.50 | 108.20 |
| 2 | AB | 789 | A | O4'-C1'-N9 | 9.12 | 115.49 | 108.20 |
| 2 | AB | 1206 | G | C8-N9-C4 | -9.12 | 102.75 | 106.40 |
| 2 | AB | 1465 | G | N7-C8-N9 | 9.12 | 117.66 | 113.10 |
| 2 | AB | 2040 | G | C4-C5-N7 | -9.12 | 107.15 | 110.80 |
| 2 | AB | 2337 | G | C5-C6-N1 | 9.12 | 116.06 | 111.50 |
| 35 | BA | 791 | G | C5-N7-C8 | -9.12 | 99.74 | 104.30 |
| 1 | AA | 7 | G | C2-N3-C4 | 9.12 | 116.46 | 111.90 |
| 2 | AB | 91 | A | C5-N7-C8 | 9.12 | 108.46 | 103.90 |
| 2 | AB | 1378 | A | C2-N3-C4 | 9.11 | 115.16 | 110.60 |
| 2 | AB | 1383 | A | N7-C8-N9 | -9.12 | 109.24 | 113.80 |
| 2 | AB | 1762 | A | P-O3'-C3' | 9.12 | 130.64 | 119.70 |
| 2 | AB | 2668 | G | N1-C6-O6 | 9.12 | 125.37 | 119.90 |
| 35 | BA | 376 | G | N7-C8-N9 | 9.12 | 117.66 | 113.10 |
| 35 | BA | 1312 | G | N3-C4-C5 | -9.11 | 124.04 | 128.60 |
| 35 | BA | 56 | U | N3-C2-O2 | -9.11 | 115.82 | 122.20 |
| 2 | AB | 1130 | U | N3-C2-O2 | -9.11 | 115.82 | 122.20 |
| 2 | AB | 1639 | C | C6-N1-C2 | 9.11 | 123.94 | 120.30 |
| 35 | BA | 684 | U | N1-C2-O2 | -9.11 | 116.42 | 122.80 |
| 35 | BA | 1521 | C | C6-N1-C2 | -9.11 | 116.66 | 120.30 |
| 2 | AB | 2465 | C | O4'-C1'-N1 | 9.11 | 115.49 | 108.20 |
| 35 | BA | 569 | C | C4-C5-C6 | 9.11 | 121.95 | 117.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1500 | G | C2-N3-C4 | 9.11 | 116.45 | 111.90 |
| 2 | AB | 1537 | G | C2-N3-C4 | 9.11 | 116.45 | 111.90 |
| 2 | AB | 2035 | G | N9-C4-C5 | 9.11 | 109.04 | 105.40 |
| 35 | BA | 835 | U | N1-C2-N3 | 9.11 | 120.36 | 114.90 |
| 37 | BC | 46 | G | N9-C4-C5 | 9.11 | 109.04 | 105.40 |
| 2 | AB | 2025 | C | N3-C4-C5 | -9.11 | 118.26 | 121.90 |
| 2 | AB | 2413 | G | C5'-C4'-O4' | 9.11 | 120.03 | 109.10 |
| 2 | AB | 140 | C | C6-N1-C2 | -9.10 | 116.66 | 120.30 |
| 2 | AB | 698 | C | N3-C4-C5 | -9.10 | 118.26 | 121.90 |
| 2 | AB | 326 | G | C5'-C4'-O4' | 9.10 | 120.02 | 109.10 |
| 2 | AB | 495 | G | N3-C2-N2 | 9.10 | 126.27 | 119.90 |
| 35 | BA | 1242 | G | C6-C5-N7 | -9.10 | 124.94 | 130.40 |
| 2 | AB | 689 | A | C5'-C4'-O4' | 9.10 | 120.02 | 109.10 |
| 2 | AB | 947 | A | C2-N3-C4 | 9.10 | 115.15 | 110.60 |
| 2 | AB | 1099 | G | N1-C6-O6 | -9.10 | 114.44 | 119.90 |
| 2 | AB | 2590 | A | C4-C5-C6 | 9.10 | 121.55 | 117.00 |
| 35 | BA | 25 | C | C2-N3-C4 | 9.10 | 124.45 | 119.90 |
| 35 | BA | 261 | U | C4-C5-C6 | 9.10 | 125.16 | 119.70 |
| 35 | BA | 993 | G | C4-C5-N7 | 9.10 | 114.44 | 110.80 |
| 43 | BI | 2 | ARG | NE-CZ-NH1 | 9.10 | 124.85 | 120.30 |
| 2 | AB | 1433 | A | C4-C5-N7 | -9.10 | 106.15 | 110.70 |
| 2 | AB | 1682 | G | O4'-C1'-N9 | 9.10 | 115.48 | 108.20 |
| 35 | BA | 168 | G | C5-N7-C8 | -9.10 | 99.75 | 104.30 |
| 2 | AB | 2157 | G | O4'-C4'-C3' | 9.10 | 113.38 | 106.10 |
| 2 | AB | 2315 | G | C2-N3-C4 | 9.10 | 116.45 | 111.90 |
| 35 | BA | 795 | C | C6-N1-C2 | -9.10 | 116.66 | 120.30 |
| 2 | AB | 312 | G | C2-N3-C4 | 9.10 | 116.45 | 111.90 |
| 2 | AB | 2137 | U | C5-C4-O4 | -9.10 | 120.44 | 125.90 |
| 35 | BA | 521 | G | N7-C8-N9 | -9.10 | 108.55 | 113.10 |
| 2 | AB | 498 | G | N1-C6-O6 | -9.10 | 114.44 | 119.90 |
| 2 | AB | 2361 | G | C8-N9-C4 | -9.10 | 102.76 | 106.40 |
| 2 | AB | 2363 | G | C5-C6-O6 | -9.10 | 123.14 | 128.60 |
| 2 | AB | 2641 | G | O4'-C1'-N9 | 9.10 | 115.48 | 108.20 |
| 20 | AT | 83 | TYR | CB-CG-CD1 | -9.10 | 115.54 | 121.00 |
| 35 | BA | 230 | G | N3-C4-C5 | -9.10 | 124.05 | 128.60 |
| 35 | BA | 376 | G | C4-C5-N7 | -9.10 | 107.16 | 110.80 |
| 35 | BA | 724 | G | C4-C5-N7 | 9.10 | 114.44 | 110.80 |
| 2 | AB | 723 | C | O4'-C1'-N1 | 9.09 | 115.47 | 108.20 |
| 11 | AK | 133 | ARG | NE-CZ-NH2 | -9.09 | 115.75 | 120.30 |
| 35 | BA | 91 | U | N3-C4-C5 | -9.09 | 109.14 | 114.60 |
| 35 | BA | 399 | G | C6-C5-N7 | -9.09 | 124.94 | 130.40 |
| 35 | BA | 973 | G | C5-C6-N1 | 9.09 | 116.05 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1193 | G | C5-C6-O6 | -9.09 | 123.14 | 128.60 |
| 37 | BC | 57 | C | C5-C6-N1 | 9.09 | 125.55 | 121.00 |
| 2 | AB | 420 | C | N1-C2-O2 | 9.09 | 124.35 | 118.90 |
| 2 | AB | 582 | A | N1-C2-N3 | -9.09 | 124.75 | 129.30 |
| 35 | BA | 823 | C | O4'-C1'-N1 | 9.09 | 115.47 | 108.20 |
| 1 | AA | 23 | G | C5-C6-N1 | -9.09 | 106.96 | 111.50 |
| 2 | AB | 280 | U | N3-C2-O2 | -9.09 | 115.84 | 122.20 |
| 2 | AB | 424 | G | C4-C5-N7 | -9.09 | 107.17 | 110.80 |
| 2 | AB | 1376 | C | C5'-C4'-C3' | 9.09 | 130.54 | 116.00 |
| 2 | AB | 1389 | G | C4-C5-N7 | -9.09 | 107.17 | 110.80 |
| 2 | AB | 1805 | A | N1-C2-N3 | -9.09 | 124.76 | 129.30 |
| 2 | AB | 1933 | G | O4'-C1'-N9 | 9.09 | 115.47 | 108.20 |
| 35 | BA | 465 | A | C1'-O4'-C4' | -9.09 | 102.63 | 109.90 |
| 38 | BD | 236 | PHE | CB-CG-CD2 | -9.09 | 114.44 | 120.80 |
| 2 | AB | 280 | U | N1-C2-N3 | 9.08 | 120.35 | 114.90 |
| 2 | AB | 1754 | A | N9-C4-C5 | -9.08 | 102.17 | 105.80 |
| 2 | AB | 1992 | G | N3-C2-N2 | -9.08 | 113.54 | 119.90 |
| 35 | BA | 705 | G | O4'-C1'-N9 | 9.08 | 115.47 | 108.20 |
| 2 | AB | 589 | U | N3-C2-O2 | -9.08 | 115.84 | 122.20 |
| 2 | AB | 631 | A | N9-C4-C5 | 9.08 | 109.43 | 105.80 |
| 36 | BB | 26 | U | O4'-C1'-N1 | 9.08 | 115.47 | 108.20 |
| 2 | AB | 968 | C | N1-C2-O2 | 9.08 | 124.35 | 118.90 |
| 2 | AB | 2043 | C | N1-C2-O2 | 9.08 | 124.35 | 118.90 |
| 35 | BA | 65 | A | N7-C8-N9 | 9.08 | 118.34 | 113.80 |
| 2 | AB | 1237 | A | N1-C6-N6 | -9.08 | 113.15 | 118.60 |
| 2 | AB | 1815 | A | N9-C4-C5 | 9.08 | 109.43 | 105.80 |
| 2 | AB | 1846 | G | C6-N1-C2 | -9.08 | 119.65 | 125.10 |
| 2 | AB | 1994 | C | N1-C2-O2 | 9.08 | 124.35 | 118.90 |
| 2 | AB | 2373 | G | C6-N1-C2 | -9.08 | 119.65 | 125.10 |
| 2 | AB | 106 | C | C4-C5-C6 | -9.07 | 112.86 | 117.40 |
| 2 | AB | 199 | A | C5'-C4'-O4' | 9.07 | 119.99 | 109.10 |
| 2 | AB | 1975 | G | C8-N9-C4 | -9.07 | 102.77 | 106.40 |
| 2 | AB | 2171 | A | O5'-P-OP2 | -9.07 | 97.53 | 105.70 |
| 2 | AB | 1275 | A | C5-N7-C8 | -9.07 | 99.36 | 103.90 |
| 35 | BA | 780 | A | N1-C6-N6 | -9.07 | 113.16 | 118.60 |
| 2 | AB | 993 | G | C8-N9-C4 | -9.07 | 102.77 | 106.40 |
| 2 | AB | 2362 | C | N1-C2-O2 | 9.07 | 124.34 | 118.90 |
| 36 | BB | 44 | U | C5-C6-N1 | -9.07 | 118.17 | 122.70 |
| 2 | AB | 1111 | A | O4'-C1'-N9 | 9.07 | 115.45 | 108.20 |
| 2 | AB | 1186 | G | N3-C4-C5 | -9.07 | 124.07 | 128.60 |
| 2 | AB | 1220 | G | C3'-C2'-C1' | -9.07 | 94.25 | 101.50 |
| 2 | AB | 2485 | G | C8-N9-C4 | -9.07 | 102.77 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 624 | C | O4'-C1'-N1 | 9.07 | 115.45 | 108.20 |
| 2 | AB | 1374 | G | N3-C4-C5 | -9.06 | 124.07 | 128.60 |
| 2 | AB | 1393 | A | C5-C6-N1 | -9.06 | 113.17 | 117.70 |
| 2 | AB | 1091 | G | N9-C4-C5 | 9.06 | 109.03 | 105.40 |
| 2 | AB | 1128 | G | N9-C4-C5 | 9.06 | 109.03 | 105.40 |
| 2 | AB | 2304 | G | O4'-C1'-N9 | 9.06 | 115.45 | 108.20 |
| 35 | BA | 986 | U | O4'-C1'-N1 | 9.06 | 115.45 | 108.20 |
| 2 | AB | 873 | C | C6-N1-C2 | -9.06 | 116.68 | 120.30 |
| 2 | AB | 904 | G | N3-C4-C5 | -9.06 | 124.07 | 128.60 |
| 2 | AB | 1994 | C | N3-C2-O2 | -9.06 | 115.56 | 121.90 |
| 54 | BT | 60 | ARG | NE-CZ-NH1 | 9.06 | 124.83 | 120.30 |
| 43 | BI | 4 | ARG | NE-CZ-NH2 | -9.06 | 115.77 | 120.30 |
| 2 | AB | 2056 | G | N9-C4-C5 | -9.06 | 101.78 | 105.40 |
| 35 | BA | 1397 | C | N3-C4-N4 | 9.06 | 124.34 | 118.00 |
| 2 | AB | 91 | A | C4-C5-N7 | -9.06 | 106.17 | 110.70 |
| 2 | AB | 1293 | C | O4'-C1'-N1 | 9.05 | 115.44 | 108.20 |
| 2 | AB | 2888 | C | C6-N1-C2 | -9.06 | 116.68 | 120.30 |
| 35 | BA | 223 | A | N9-C4-C5 | -9.06 | 102.18 | 105.80 |
| 35 | BA | 551 | U | N3-C2-O2 | -9.06 | 115.86 | 122.20 |
| 35 | BA | 681 | A | C5'-C4'-O4' | 9.05 | 119.97 | 109.10 |
| 2 | AB | 1606 | C | N1-C2-N3 | -9.05 | 112.86 | 119.20 |
| 35 | BA | 687 | A | C4-C5-N7 | -9.05 | 106.17 | 110.70 |
| 2 | AB | 701 | G | C8-N9-C4 | -9.05 | 102.78 | 106.40 |
| 2 | AB | 1694 | C | N3-C4-C5 | -9.05 | 118.28 | 121.90 |
| 2 | AB | 2093 | G | C4-C5-C6 | 9.05 | 124.23 | 118.80 |
| 2 | AB | 2878 | U | O4'-C1'-N1 | 9.05 | 115.44 | 108.20 |
| 35 | BA | 102 | G | C4-C5-N7 | -9.05 | 107.18 | 110.80 |
| 2 | AB | 1524 | G | N7-C8-N9 | -9.05 | 108.58 | 113.10 |
| 2 | AB | 2801 | G | N1-C6-O6 | -9.05 | 114.47 | 119.90 |
| 2 | AB | 1879 | C | O4'-C1'-N1 | 9.05 | 115.44 | 108.20 |
| 2 | AB | 2319 | G | C6-C5-N7 | -9.05 | 124.97 | 130.40 |
| 35 | BA | 543 | U | C5'-C4'-O4' | 9.05 | 119.96 | 109.10 |
| 1 | AA | 5 | U | O4'-C1'-N1 | 9.05 | 115.44 | 108.20 |
| 2 | AB | 467 | G | C8-N9-C4 | -9.05 | 102.78 | 106.40 |
| 2 | AB | 1050 | A | C6-C5-N7 | 9.05 | 138.63 | 132.30 |
| 2 | AB | 514 | A | O4'-C1'-N9 | 9.04 | 115.44 | 108.20 |
| 2 | AB | 971 | G | C8-N9-C4 | -9.04 | 102.78 | 106.40 |
| 2 | AB | 989 | G | C5-N7-C8 | -9.05 | 99.78 | 104.30 |
| 2 | AB | 2583 | G | N3-C4-C5 | -9.04 | 124.08 | 128.60 |
| 9 | AI | 27 | ARG | NE-CZ-NH1 | -9.04 | 115.78 | 120.30 |
| 35 | BA | 479 | U | N1-C2-O2 | -9.04 | 116.47 | 122.80 |
| 35 | BA | 1532 | U | C4'-C3'-C2' | -9.04 | 93.56 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 262 | A | O4'-C1'-N9 | 9.04 | 115.43 | 108.20 |
| 2 | AB | 1205 | A | C2-N3-C4 | -9.04 | 106.08 | 110.60 |
| 2 | AB | 2770 | G | C6-N1-C2 | -9.04 | 119.67 | 125.10 |
| 35 | BA | 1362 | A | C5-C6-N1 | -9.04 | 113.18 | 117.70 |
| 2 | AB | 1615 | C | O4'-C1'-N1 | 9.04 | 115.43 | 108.20 |
| 35 | BA | 885 | G | N7-C8-N9 | 9.04 | 117.62 | 113.10 |
| 2 | AB | 128 | C | C6-N1-C2 | -9.04 | 116.69 | 120.30 |
| 2 | AB | 591 | U | N3-C4-C5 | -9.04 | 109.18 | 114.60 |
| 2 | AB | 1784 | A | C1'-O4'-C4' | -9.04 | 102.67 | 109.90 |
| 2 | AB | 2236 | U | P-O3'-C3' | 9.04 | 130.55 | 119.70 |
| 35 | BA | 1338 | G | C5-N7-C8 | -9.04 | 99.78 | 104.30 |
| 35 | BA | 1369 | C | C6-N1-C2 | -9.04 | 116.68 | 120.30 |
| 35 | BA | 393 | A | C5-N7-C8 | 9.04 | 108.42 | 103.90 |
| 35 | BA | 1538 | C | C6-N1-C2 | 9.04 | 123.92 | 120.30 |
| 2 | AB | 112 | U | N1-C2-N3 | 9.04 | 120.32 | 114.90 |
| 2 | AB | 402 | A | O4'-C1'-N9 | 9.04 | 115.43 | 108.20 |
| 2 | AB | 1545 | A | C4-C5-N7 | 9.04 | 115.22 | 110.70 |
| 2 | AB | 1608 | A | N1-C2-N3 | 9.04 | 133.82 | 129.30 |
| 2 | AB | 1703 | G | C4-C5-N7 | -9.04 | 107.19 | 110.80 |
| 2 | AB | 2729 | G | N9-C4-C5 | -9.04 | 101.79 | 105.40 |
| 35 | BA | 445 | G | N9-C4-C5 | 9.04 | 109.01 | 105.40 |
| 2 | AB | 563 | A | C4'-C3'-C2' | -9.03 | 93.57 | 102.60 |
| 2 | AB | 1869 | G | N9-C4-C5 | 9.03 | 109.01 | 105.40 |
| 35 | BA | 626 | G | C8-N9-C4 | -9.03 | 102.79 | 106.40 |
| 35 | BA | 1328 | C | N3-C4-C5 | 9.03 | 125.51 | 121.90 |
| 2 | AB | 68 | G | C4'-C3'-C2' | -9.03 | 93.57 | 102.60 |
| 2 | AB | 336 | C | O4'-C1'-N1 | 9.03 | 115.42 | 108.20 |
| 2 | AB | 1069 | A | C3'-C2'-C1' | 9.03 | 108.72 | 101.50 |
| 2 | AB | 1344 | U | N1-C2-N3 | 9.03 | 120.32 | 114.90 |
| 2 | AB | 1867 | G | N3-C4-C5 | -9.03 | 124.08 | 128.60 |
| 2 | AB | 2269 | G | C4-C5-N7 | 9.03 | 114.41 | 110.80 |
| 2 | AB | 2754 | U | C2-N3-C4 | -9.03 | 121.58 | 127.00 |
| 2 | AB | 2816 | G | N7-C8-N9 | 9.03 | 117.61 | 113.10 |
| 2 | AB | 2875 | C | O4'-C1'-N1 | 9.03 | 115.42 | 108.20 |
| 35 | BA | 300 | A | C3'-C2'-C1' | 9.03 | 108.72 | 101.50 |
| 35 | BA | 337 | G | C4'-C3'-C2' | -9.03 | 93.57 | 102.60 |
| 35 | BA | 102 | G | N9-C4-C5 | 9.03 | 109.01 | 105.40 |
| 35 | BA | 1252 | A | N1-C2-N3 | 9.03 | 133.81 | 129.30 |
| 35 | BA | 1386 | G | C1'-O4'-C4' | 9.03 | 117.12 | 109.90 |
| 36 | BB | 23 | C | C4-C5-C6 | 9.03 | 121.91 | 117.40 |
| 44 | BJ | 12 | ARG | NE-CZ-NH1 | -9.03 | 115.79 | 120.30 |
| 2 | AB | 363 | G | O4'-C1'-N9 | 9.03 | 115.42 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 991 | C | C2-N3-C4 | 9.03 | 124.41 | 119.90 |
| 2 | AB | 1904 | G | C5-N7-C8 | 9.03 | 108.81 | 104.30 |
| 2 | AB | 1948 | G | C2-N3-C4 | -9.03 | 107.39 | 111.90 |
| 21 | AU | 95 | ARG | NE-CZ-NH2 | -9.03 | 115.79 | 120.30 |
| 35 | BA | 805 | C | O4'-C1'-N1 | 9.03 | 115.42 | 108.20 |
| 38 | BD | 207 | ARG | NE-CZ-NH2 | 9.03 | 124.81 | 120.30 |
| 35 | BA | 570 | G | C5'-C4'-C3' | -9.03 | 101.56 | 116.00 |
| 2 | AB | 1098 | A | C5'-C4'-O4' | 9.02 | 119.93 | 109.10 |
| 2 | AB | 1866 | A | N9-C4-C5 | 9.02 | 109.41 | 105.80 |
| 2 | AB | 2729 | G | N3-C4-N9 | 9.02 | 131.41 | 126.00 |
| 35 | BA | 689 | C | O4'-C1'-N1 | 9.02 | 115.42 | 108.20 |
| 35 | BA | 1388 | C | N3-C4-C5 | -9.02 | 118.29 | 121.90 |
| 35 | BA | 273 | U | O4'-C1'-N1 | 9.02 | 115.42 | 108.20 |
| 2 | AB | 1608 | A | N7-C8-N9 | -9.02 | 109.29 | 113.80 |
| 35 | BA | 1159 | U | O4'-C4'-C3' | 9.02 | 113.31 | 106.10 |
| 2 | AB | 212 | G | C2-N3-C4 | 9.02 | 116.41 | 111.90 |
| 2 | AB | 628 | G | N1-C6-O6 | -9.02 | 114.49 | 119.90 |
| 2 | AB | 2331 | G | N3-C4-N9 | 9.02 | 131.41 | 126.00 |
| 2 | AB | 2851 | A | N7-C8-N9 | -9.02 | 109.29 | 113.80 |
| 35 | BA | 519 | C | N1-C2-O2 | 9.02 | 124.31 | 118.90 |
| 35 | BA | 750 | C | C5-C4-N4 | -9.02 | 113.89 | 120.20 |
| 2 | AB | 1815 | A | N1-C6-N6 | -9.01 | 113.19 | 118.60 |
| 2 | AB | 2205 | A | N1-C2-N3 | 9.01 | 133.81 | 129.30 |
| 35 | BA | 240 | G | N9-C4-C5 | 9.01 | 109.00 | 105.40 |
| 35 | BA | 482 | A | C5'-C4'-O4' | 9.01 | 119.92 | 109.10 |
| 36 | BB | 48 | C | C6-N1-C2 | 9.01 | 123.91 | 120.30 |
| 2 | AB | 1697 | G | C2-N3-C4 | 9.01 | 116.41 | 111.90 |
| 2 | AB | 773 | U | C3'-C2'-C1' | 9.01 | 108.71 | 101.50 |
| 2 | AB | 1403 | A | C2-N3-C4 | -9.01 | 106.09 | 110.60 |
| 35 | BA | 1320 | C | C6-N1-C2 | -9.01 | 116.70 | 120.30 |
| 37 | BC | 41 | C | N3-C4-N4 | 9.01 | 124.31 | 118.00 |
| 2 | AB | 54 | G | N3-C4-C5 | -9.01 | 124.10 | 128.60 |
| 2 | AB | 259 | G | C5-C6-O6 | -9.01 | 123.20 | 128.60 |
| 2 | AB | 1426 | G | N3-C2-N2 | -9.01 | 113.59 | 119.90 |
| 2 | AB | 1606 | C | N1-C2-O2 | 9.01 | 124.30 | 118.90 |
| 2 | AB | 2308 | G | N9-C4-C5 | 9.01 | 109.00 | 105.40 |
| 2 | AB | 2625 | G | N3-C4-N9 | -9.01 | 120.60 | 126.00 |
| 35 | BA | 1208 | C | C2-N3-C4 | 9.01 | 124.40 | 119.90 |
| 2 | AB | 1099 | G | C4-C5-C6 | 9.01 | 124.20 | 118.80 |
| 2 | AB | 1805 | A | C5-N7-C8 | 9.01 | 108.40 | 103.90 |
| 18 | AR | 103 | THR | CA-CB-CG2 | 9.01 | 125.01 | 112.40 |
| 35 | BA | 1240 | U | C2-N3-C4 | -9.01 | 121.60 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 38 | A | C5-N7-C8 | -9.00 | 99.40 | 103.90 |
| 2 | AB | 61 | C | O4'-C1'-N1 | 9.00 | 115.40 | 108.20 |
| 35 | BA | 491 | G | C5-C6-O6 | -9.00 | 123.20 | 128.60 |
| 2 | AB | 2157 | G | N9-C4-C5 | 9.00 | 109.00 | 105.40 |
| 2 | AB | 2308 | G | N3-C4-C5 | -9.00 | 124.10 | 128.60 |
| 2 | AB | 2481 | G | N9-C4-C5 | 9.00 | 109.00 | 105.40 |
| 35 | BA | 998 | C | N3-C4-C5 | -9.00 | 118.30 | 121.90 |
| 35 | BA | 1541 | U | C5-C4-O4 | -9.00 | 120.50 | 125.90 |
| 1 | AA | 59 | A | O4'-C1'-C2' | -9.00 | 96.80 | 105.80 |
| 2 | AB | 575 | A | C8-N9-C4 | -9.00 | 102.20 | 105.80 |
| 2 | AB | 1155 | A | C5'-C4'-O4' | 9.00 | 119.90 | 109.10 |
| 2 | AB | 904 | G | C4'-C3'-C2' | -9.00 | 93.60 | 102.60 |
| 2 | AB | 1818 | U | C5'-C4'-O4' | 9.00 | 119.90 | 109.10 |
| 2 | AB | 2045 | C | N3-C4-C5 | 9.00 | 125.50 | 121.90 |
| 2 | AB | 2464 | G | N9-C1'-C2' | -9.00 | 102.10 | 112.00 |
| 2 | AB | 2038 | G | N9-C4-C5 | -9.00 | 101.80 | 105.40 |
| 2 | AB | 2087 | G | C8-N9-C4 | -9.00 | 102.80 | 106.40 |
| 35 | BA | 871 | U | N3-C2-O2 | -9.00 | 115.90 | 122.20 |
| 35 | BA | 990 | C | N1-C2-O2 | 9.00 | 124.30 | 118.90 |
| 2 | AB | 1310 | G | C8-N9-C4 | -8.99 | 102.80 | 106.40 |
| 2 | AB | 1500 | G | N3-C4-C5 | -8.99 | 124.10 | 128.60 |
| 35 | BA | 1487 | G | N3-C4-C5 | -8.99 | 124.10 | 128.60 |
| 1 | AA | 55 | U | C5-C6-N1 | -8.99 | 118.20 | 122.70 |
| 2 | AB | 70 | G | C6-C5-N7 | 8.99 | 135.80 | 130.40 |
| 2 | AB | 462 | C | N3-C4-N4 | 8.99 | 124.30 | 118.00 |
| 2 | AB | 476 | G | O4'-C1'-N9 | 8.99 | 115.39 | 108.20 |
| 2 | AB | 731 | C | C4-C5-C6 | 8.99 | 121.90 | 117.40 |
| 2 | AB | 1878 | G | O4'-C1'-N9 | 8.99 | 115.39 | 108.20 |
| 2 | AB | 2058 | A | C5-N7-C8 | -8.99 | 99.40 | 103.90 |
| 2 | AB | 2641 | G | N9-C4-C5 | 8.99 | 109.00 | 105.40 |
| 2 | AB | 2867 | G | C8-N9-C4 | -8.99 | 102.80 | 106.40 |
| 35 | BA | 469 | C | C6-N1-C2 | -8.99 | 116.70 | 120.30 |
| 35 | BA | 1511 | G | N3-C4-C5 | -8.99 | 124.10 | 128.60 |
| 2 | AB | 1885 | A | N9-C4-C5 | -8.99 | 102.20 | 105.80 |
| 35 | BA | 1351 | U | C4-C5-C6 | 8.99 | 125.09 | 119.70 |
| 2 | AB | 583 | G | C8-N9-C4 | -8.99 | 102.80 | 106.40 |
| 2 | AB | 755 | U | N1-C2-O2 | -8.99 | 116.51 | 122.80 |
| 2 | AB | 1077 | A | N9-C4-C5 | 8.99 | 109.40 | 105.80 |
| 2 | AB | 1368 | G | N7-C8-N9 | 8.99 | 117.59 | 113.10 |
| 35 | BA | 864 | A | N7-C8-N9 | 8.99 | 118.30 | 113.80 |
| 2 | AB | 588 | U | O4'-C1'-N1 | 8.99 | 115.39 | 108.20 |
| 2 | AB | 2112 | G | N7-C8-N9 | -8.99 | 108.61 | 113.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2195 | U | C5-C6-N1 | -8.99 | 118.20 | 122.70 |
| 2 | AB | 2725 | A | N3-C4-C5 | -8.99 | 120.51 | 126.80 |
| 35 | BA | 675 | A | C5-N7-C8 | -8.99 | 99.41 | 103.90 |
| 2 | AB | 1934 | C | C5-C4-N4 | -8.99 | 113.91 | 120.20 |
| 2 | AB | 2070 | A | C3'-C2'-C1' | 8.99 | 108.69 | 101.50 |
| 35 | BA | 602 | A | N1-C2-N3 | -8.99 | 124.81 | 129.30 |
| 39 | BE | 53 | ARG | NE-CZ-NH2 | -8.99 | 115.81 | 120.30 |
| 2 | AB | 578 | G | N1-C6-O6 | 8.98 | 125.29 | 119.90 |
| 2 | AB | 2500 | U | C3'-C2'-C1' | 8.98 | 108.69 | 101.50 |
| 36 | BB | 59 | A | N7-C8-N9 | 8.98 | 118.29 | 113.80 |
| 2 | AB | 981 | A | O4'-C1'-N9 | 8.98 | 115.39 | 108.20 |
| 2 | AB | 1421 | G | N1-C2-N3 | -8.98 | 118.51 | 123.90 |
| 2 | AB | 2132 | U | C5'-C4'-O4' | 8.98 | 119.88 | 109.10 |
| 2 | AB | 2789 | C | P-O3'-C3' | 8.98 | 130.48 | 119.70 |
| 21 | AU | 110 | ARG | NE-CZ-NH1 | 8.98 | 124.79 | 120.30 |
| 35 | BA | 342 | C | N1-C2-O2 | 8.98 | 124.29 | 118.90 |
| 37 | BC | 28 | U | O4'-C1'-N1 | 8.98 | 115.39 | 108.20 |
| 2 | AB | 840 | C | C5-C4-N4 | -8.98 | 113.91 | 120.20 |
| 35 | BA | 335 | C | O4'-C1'-N1 | 8.98 | 115.39 | 108.20 |
| 35 | BA | 835 | U | C4-C5-C6 | 8.98 | 125.09 | 119.70 |
| 1 | AA | 105 | G | C6-N1-C2 | -8.98 | 119.71 | 125.10 |
| 2 | AB | 137 | U | C2-N3-C4 | -8.98 | 121.61 | 127.00 |
| 2 | AB | 1287 | A | O4'-C1'-N9 | 8.98 | 115.38 | 108.20 |
| 1 | AA | 93 | C | C2-N3-C4 | 8.98 | 124.39 | 119.90 |
| 2 | AB | 851 | C | C2-N3-C4 | 8.98 | 124.39 | 119.90 |
| 2 | AB | 1210 | G | O4'-C1'-C2' | 8.98 | 115.68 | 107.60 |
| 35 | BA | 460 | A | C6-N1-C2 | -8.98 | 113.21 | 118.60 |
| 2 | AB | 372 | G | N7-C8-N9 | 8.97 | 117.59 | 113.10 |
| 2 | AB | 1659 | G | N1-C6-O6 | -8.97 | 114.52 | 119.90 |
| 1 | AA | 91 | C | N1-C2-O2 | 8.97 | 124.28 | 118.90 |
| 2 | AB | 626 | A | C3'-C2'-C1' | -8.97 | 94.32 | 101.50 |
| 2 | AB | 2025 | C | C2-N3-C4 | 8.97 | 124.39 | 119.90 |
| 6 | AF | 88 | ARG | NE-CZ-NH2 | 8.97 | 124.79 | 120.30 |
| 35 | BA | 629 | A | O4'-C1'-N9 | 8.97 | 115.38 | 108.20 |
| 35 | BA | 668 | G | C8-N9-C4 | 8.97 | 109.99 | 106.40 |
| 35 | BA | 1143 | G | N3-C2-N2 | -8.97 | 113.62 | 119.90 |
| 2 | AB | 1233 | C | N3-C2-O2 | -8.97 | 115.62 | 121.90 |
| 21 | AU | 11 | ARG | NE-CZ-NH2 | -8.97 | 115.81 | 120.30 |
| 35 | BA | 1120 | C | O4'-C1'-N1 | 8.97 | 115.38 | 108.20 |
| 35 | BA | 232 | G | C8-N9-C4 | -8.97 | 102.81 | 106.40 |
| 35 | BA | 454 | G | C3'-C2'-C1' | 8.97 | 108.68 | 101.50 |
| 2 | AB | 3 | U | C2-N3-C4 | -8.97 | 121.62 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 716 | A | O4'-C1'-N9 | 8.97 | 115.38 | 108.20 |
| 2 | AB | 1319 | C | N3-C4-C5 | -8.97 | 118.31 | 121.90 |
| 2 | AB | 2239 | G | N3-C4-C5 | -8.97 | 124.12 | 128.60 |
| 2 | AB | 2669 | G | C4-C5-N7 | 8.97 | 114.39 | 110.80 |
| 35 | BA | 43 | C | N1-C2-O2 | 8.97 | 124.28 | 118.90 |
| 35 | BA | 660 | C | N1-C2-O2 | 8.97 | 124.28 | 118.90 |
| 35 | BA | 662 | U | C4-C5-C6 | 8.97 | 125.08 | 119.70 |
| 35 | BA | 727 | G | O4'-C1'-N9 | 8.97 | 115.37 | 108.20 |
| 35 | BA | 759 | A | C2-N3-C4 | 8.97 | 115.08 | 110.60 |
| 45 | BK | 98 | ARG | NE-CZ-NH1 | 8.97 | 124.78 | 120.30 |
| 2 | AB | 133 | U | N1-C2-N3 | 8.96 | 120.28 | 114.90 |
| 2 | AB | 1403 | A | N1-C2-N3 | 8.97 | 133.78 | 129.30 |
| 2 | AB | 1772 | A | N1-C2-N3 | -8.96 | 124.82 | 129.30 |
| 2 | AB | 2280 | G | C4-C5-N7 | -8.97 | 107.21 | 110.80 |
| 35 | BA | 258 | G | N3-C4-N9 | 8.97 | 131.38 | 126.00 |
| 2 | AB | 2606 | C | O4'-C1'-N1 | 8.96 | 115.37 | 108.20 |
| 35 | BA | 1358 | U | P-O3'-C3' | 8.96 | 130.46 | 119.70 |
| 1 | AA | 20 | G | C5-C6-N1 | 8.96 | 115.98 | 111.50 |
| 2 | AB | 73 | A | C2-N3-C4 | -8.96 | 106.12 | 110.60 |
| 2 | AB | 1337 | G | N3-C4-C5 | -8.96 | 124.12 | 128.60 |
| 2 | AB | 1633 | G | C2-N3-C4 | 8.96 | 116.38 | 111.90 |
| 2 | AB | 2228 | G | C4-C5-N7 | -8.96 | 107.22 | 110.80 |
| 2 | AB | 2865 | U | N3-C4-O4 | 8.96 | 125.67 | 119.40 |
| 11 | AK | 64 | ARG | NE-CZ-NH2 | 8.96 | 124.78 | 120.30 |
| 35 | BA | 1 | A | C8-N9-C4 | -8.96 | 102.22 | 105.80 |
| 35 | BA | 1048 | G | C6-N1-C2 | -8.96 | 119.72 | 125.10 |
| 2 | AB | 268 | C | O4'-C1'-N1 | 8.96 | 115.37 | 108.20 |
| 2 | AB | 1728 | C | O4'-C1'-N1 | 8.96 | 115.37 | 108.20 |
| 2 | AB | 531 | C | N3-C4-N4 | 8.96 | 124.27 | 118.00 |
| 2 | AB | 1332 | G | N7-C8-N9 | 8.96 | 117.58 | 113.10 |
| 35 | BA | 618 | C | N3-C4-N4 | 8.96 | 124.27 | 118.00 |
| 35 | BA | 1490 | U | C2-N3-C4 | -8.96 | 121.62 | 127.00 |
| 2 | AB | 776 | G | O4'-C1'-N9 | 8.96 | 115.36 | 108.20 |
| 2 | AB | 1154 | G | C8-N9-C4 | -8.96 | 102.82 | 106.40 |
| 2 | AB | 2190 | G | C2-N3-C4 | 8.96 | 116.38 | 111.90 |
| 2 | AB | 2707 | U | O4'-C1'-N1 | 8.96 | 115.37 | 108.20 |
| 35 | BA | 668 | G | N9-C4-C5 | -8.96 | 101.82 | 105.40 |
| 2 | AB | 71 | A | C5'-C4'-O4' | -8.96 | 98.35 | 109.10 |
| 2 | AB | 270 | A | N9-C1'-C2' | -8.96 | 102.15 | 112.00 |
| 2 | AB | 964 | C | C6-N1-C2 | -8.96 | 116.72 | 120.30 |
| 2 | AB | 2227 | A | N1-C6-N6 | 8.95 | 123.97 | 118.60 |
| 2 | AB | 321 | U | C3'-C2'-C1' | 8.95 | 108.66 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 361 | G | N3-C4-N9 | 8.95 | 131.37 | 126.00 |
| 2 | AB | 1858 | A | C5-N7-C8 | -8.95 | 99.42 | 103.90 |
| 2 | AB | 2508 | G | N9-C4-C5 | 8.95 | 108.98 | 105.40 |
| 32 | A5 | 35 | ARG | NE-CZ-NH2 | -8.95 | 115.82 | 120.30 |
| 35 | BA | 976 | G | P-O3'-C3' | 8.95 | 130.44 | 119.70 |
| 45 | BK | 98 | ARG | NE-CZ-NH2 | 8.95 | 124.78 | 120.30 |
| 2 | AB | 259 | G | N1-C6-O6 | 8.95 | 125.27 | 119.90 |
| 2 | AB | 757 | G | C5-C6-O6 | -8.95 | 123.23 | 128.60 |
| 2 | AB | 2315 | G | C5-N7-C8 | -8.95 | 99.83 | 104.30 |
| 2 | AB | 2369 | A | C5-N7-C8 | 8.95 | 108.38 | 103.90 |
| 2 | AB | 2524 | G | N1-C2-N2 | -8.95 | 108.15 | 116.20 |
| 35 | BA | 947 | G | C5-C6-O6 | -8.95 | 123.23 | 128.60 |
| 35 | BA | 1081 | A | C8-N9-C4 | -8.95 | 102.22 | 105.80 |
| 35 | BA | 1365 | G | C3'-C2'-C1' | 8.95 | 108.66 | 101.50 |
| 2 | AB | 171 | U | N3-C2-O2 | -8.95 | 115.94 | 122.20 |
| 2 | AB | 486 | C | O4'-C1'-N1 | 8.95 | 115.36 | 108.20 |
| 2 | AB | 1080 | A | O4'-C1'-N9 | 8.95 | 115.36 | 108.20 |
| 2 | AB | 1175 | A | C5-C6-N6 | -8.95 | 116.54 | 123.70 |
| 2 | AB | 2464 | G | O4'-C1'-N9 | 8.95 | 115.36 | 108.20 |
| 2 | AB | 2757 | A | C5-C6-N1 | 8.95 | 122.17 | 117.70 |
| 35 | BA | 443 | C | O4'-C1'-N1 | 8.95 | 115.36 | 108.20 |
| 35 | BA | 1439 | G | N7-C8-N9 | 8.95 | 117.57 | 113.10 |
| 2 | AB | 1403 | A | C4-C5-C6 | -8.94 | 112.53 | 117.00 |
| 2 | AB | 2349 | G | N7-C8-N9 | 8.94 | 117.57 | 113.10 |
| 35 | BA | 447 | G | N1-C6-O6 | -8.95 | 114.53 | 119.90 |
| 35 | BA | 654 | G | O4'-C1'-N9 | 8.95 | 115.36 | 108.20 |
| 35 | BA | 1324 | A | C4-C5-C6 | 8.95 | 121.47 | 117.00 |
| 35 | BA | 17 | U | N3-C4-C5 | -8.94 | 109.23 | 114.60 |
| 2 | AB | 2520 | C | C2-N3-C4 | 8.94 | 124.37 | 119.90 |
| 2 | AB | 204 | A | N1-C2-N3 | -8.94 | 124.83 | 129.30 |
| 2 | AB | 1178 | C | N3-C4-C5 | -8.94 | 118.32 | 121.90 |
| 2 | AB | 233 | A | C4'-C3'-C2' | -8.94 | 93.66 | 102.60 |
| 2 | AB | 372 | G | C2-N3-C4 | 8.94 | 116.37 | 111.90 |
| 2 | AB | 2592 | G | N9-C4-C5 | 8.94 | 108.98 | 105.40 |
| 35 | BA | 54 | C | N1-C2-O2 | 8.94 | 124.26 | 118.90 |
| 35 | BA | 488 | C | C2-N3-C4 | 8.94 | 124.37 | 119.90 |
| 35 | BA | 854 | U | O4'-C1'-N1 | 8.94 | 115.35 | 108.20 |
| 2 | AB | 762 | U | N3-C4-O4 | 8.94 | 125.66 | 119.40 |
| 35 | BA | 364 | A | N1-C6-N6 | -8.94 | 113.24 | 118.60 |
| 2 | AB | 89 | A | N1-C6-N6 | -8.94 | 113.24 | 118.60 |
| 2 | AB | 120 | U | C5-C6-N1 | -8.94 | 118.23 | 122.70 |
| 2 | AB | 432 | A | C3'-C2'-C1' | 8.94 | 108.65 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 531 | C | C4'-C3'-C2' | -8.94 | 93.67 | 102.60 |
| 2 | AB | 1134 | A | N7-C8-N9 | 8.94 | 118.27 | 113.80 |
| 2 | AB | 2717 | C | C2-N3-C4 | 8.94 | 124.37 | 119.90 |
| 35 | BA | 43 | C | C2-N3-C4 | -8.94 | 115.43 | 119.90 |
| 35 | BA | 945 | G | O4'-C1'-N9 | 8.94 | 115.35 | 108.20 |
| 2 | AB | 2041 | U | C2-N3-C4 | -8.93 | 121.64 | 127.00 |
| 2 | AB | 2068 | U | C5'-C4'-O4' | 8.93 | 119.82 | 109.10 |
| 2 | AB | 2488 | G | C1'-O4'-C4' | -8.93 | 102.75 | 109.90 |
| 35 | BA | 437 | U | C5-C4-O4 | 8.93 | 131.26 | 125.90 |
| 35 | BA | 620 | C | N1-C1'-C2' | -8.93 | 102.17 | 112.00 |
| 35 | BA | 1063 | C | C5-C6-N1 | 8.93 | 125.47 | 121.00 |
| 56 | BV | 28 | ARG | NE-CZ-NH1 | 8.93 | 124.77 | 120.30 |
| 2 | AB | 597 | G | C5-C6-N1 | 8.93 | 115.96 | 111.50 |
| 2 | AB | 763 | G | C6-C5-N7 | -8.93 | 125.04 | 130.40 |
| 2 | AB | 2319 | G | N1-C2-N3 | -8.93 | 118.54 | 123.90 |
| 2 | AB | 2664 | G | C6-N1-C2 | -8.93 | 119.74 | 125.10 |
| 35 | BA | 1309 | G | C4-C5-C6 | 8.93 | 124.16 | 118.80 |
| 2 | AB | 1346 | G | O4'-C1'-N9 | 8.93 | 115.34 | 108.20 |
| 16 | AP | 90 | ARG | NE-CZ-NH1 | 8.93 | 124.76 | 120.30 |
| 35 | BA | 925 | G | C2-N3-C4 | 8.93 | 116.36 | 111.90 |
| 35 | BA | 1096 | C | N3-C4-C5 | -8.93 | 118.33 | 121.90 |
| 2 | AB | 684 | G | N9-C4-C5 | 8.93 | 108.97 | 105.40 |
| 2 | AB | 1271 | G | C5-N7-C8 | -8.93 | 99.84 | 104.30 |
| 2 | AB | 1484 | U | O4'-C1'-N1 | 8.93 | 115.34 | 108.20 |
| 35 | BA | 49 | U | C4-C5-C6 | 8.93 | 125.06 | 119.70 |
| 35 | BA | 772 | U | O4'-C1'-N1 | 8.93 | 115.34 | 108.20 |
| 2 | AB | 1070 | A | N9-C4-C5 | 8.92 | 109.37 | 105.80 |
| 2 | AB | 1530 | G | C8-N9-C4 | -8.92 | 102.83 | 106.40 |
| 35 | BA | 768 | A | C8-N9-C4 | -8.92 | 102.23 | 105.80 |
| 2 | AB | 2087 | G | C4-C5-N7 | 8.92 | 114.37 | 110.80 |
| 2 | AB | 2123 | G | N9-C4-C5 | 8.92 | 108.97 | 105.40 |
| 2 | AB | 2623 | G | N9-C4-C5 | 8.92 | 108.97 | 105.40 |
| 35 | BA | 55 | A | C6-N1-C2 | 8.92 | 123.95 | 118.60 |
| 2 | AB | 761 | A | C8-N9-C4 | -8.92 | 102.23 | 105.80 |
| 2 | AB | 1506 | U | C5-C6-N1 | -8.92 | 118.24 | 122.70 |
| 2 | AB | 2333 | A | C4-C5-N7 | -8.92 | 106.24 | 110.70 |
| 2 | AB | 168 | G | C5-C6-O6 | -8.92 | 123.25 | 128.60 |
| 2 | AB | 2501 | C | O4'-C1'-N1 | 8.92 | 115.34 | 108.20 |
| 2 | AB | 2774 | C | C6-N1-C2 | -8.92 | 116.73 | 120.30 |
| 35 | BA | 651 | C | C5-C6-N1 | 8.92 | 125.46 | 121.00 |
| 35 | BA | 481 | G | C4-C5-N7 | -8.92 | 107.23 | 110.80 |
| 2 | AB | 1803 | A | N9-C4-C5 | 8.92 | 109.37 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 473 | U | C5-C4-O4 | -8.92 | 120.55 | 125.90 |
| 2 | AB | 885 | C | N3-C4-C5 | -8.92 | 118.33 | 121.90 |
| 2 | AB | 1824 | G | C5-C6-O6 | -8.92 | 123.25 | 128.60 |
| 2 | AB | 1946 | U | O4'-C1'-N1 | 8.92 | 115.33 | 108.20 |
| 35 | BA | 559 | A | N1-C2-N3 | -8.92 | 124.84 | 129.30 |
| 43 | BI | 2 | ARG | NE-CZ-NH2 | -8.92 | 115.84 | 120.30 |
| 2 | AB | 1277 | G | C5-C6-O6 | 8.91 | 133.95 | 128.60 |
| 35 | BA | 130 | A | C5-C6-N1 | -8.91 | 113.24 | 117.70 |
| 35 | BA | 451 | A | O4'-C1'-N9 | 8.91 | 115.33 | 108.20 |
| 2 | AB | 803 | U | O4'-C1'-N1 | 8.91 | 115.33 | 108.20 |
| 35 | BA | 256 | U | N1-C2-N3 | 8.91 | 120.25 | 114.90 |
| 35 | BA | 441 | A | N1-C6-N6 | -8.91 | 113.25 | 118.60 |
| 35 | BA | 529 | G | N1-C6-O6 | -8.91 | 114.55 | 119.90 |
| 35 | BA | 755 | G | C5-N7-C8 | 8.91 | 108.76 | 104.30 |
| 35 | BA | 820 | U | C5-C6-N1 | -8.91 | 118.24 | 122.70 |
| 2 | AB | 87 | U | O4'-C1'-N1 | 8.91 | 115.33 | 108.20 |
| 2 | AB | 318 | C | N3-C4-N4 | 8.91 | 124.24 | 118.00 |
| 2 | AB | 447 | A | N9-C4-C5 | -8.91 | 102.24 | 105.80 |
| 2 | AB | 789 | A | C6-C5-N7 | -8.91 | 126.06 | 132.30 |
| 2 | AB | 1456 | G | O4'-C1'-N9 | 8.91 | 115.33 | 108.20 |
| 2 | AB | 1849 | G | N3-C4-N9 | 8.91 | 131.35 | 126.00 |
| 2 | AB | 2584 | U | O4'-C1'-N1 | 8.91 | 115.33 | 108.20 |
| 26 | AZ | 73 | ARG | NE-CZ-NH2 | 8.91 | 124.75 | 120.30 |
| 35 | BA | 40 | C | C4-C5-C6 | 8.91 | 121.86 | 117.40 |
| 35 | BA | 145 | G | C5-N7-C8 | -8.91 | 99.84 | 104.30 |
| 35 | BA | 300 | A | N3-C4-C5 | -8.91 | 120.56 | 126.80 |
| 37 | BC | 1 | C | C5-C6-N1 | -8.91 | 116.55 | 121.00 |
| 2 | AB | 1665 | A | C3'-C2'-C1' | 8.91 | 108.63 | 101.50 |
| 2 | AB | 2304 | G | C2-N3-C4 | 8.91 | 116.35 | 111.90 |
| 2 | AB | 2317 | A | C5'-C4'-O4' | 8.91 | 119.79 | 109.10 |
| 2 | AB | 2545 | G | O4'-C1'-N9 | 8.91 | 115.33 | 108.20 |
| 35 | BA | 935 | A | C3'-C2'-C1' | 8.91 | 108.62 | 101.50 |
| 35 | BA | 1118 | U | O4'-C4'-C3' | 8.91 | 113.22 | 106.10 |
| 35 | BA | 1195 | C | C3'-C2'-C1' | 8.91 | 108.63 | 101.50 |
| 1 | AA | 110 | C | C5-C4-N4 | -8.90 | 113.97 | 120.20 |
| 2 | AB | 2238 | G | C6-N1-C2 | -8.90 | 119.76 | 125.10 |
| 35 | BA | 33 | A | C8-N9-C4 | -8.90 | 102.24 | 105.80 |
| 37 | BC | 73 | A | C2-N3-C4 | 8.90 | 115.05 | 110.60 |
| 2 | AB | 1767 | G | N7-C8-N9 | 8.90 | 117.55 | 113.10 |
| 2 | AB | 1840 | G | C8-N9-C4 | -8.90 | 102.84 | 106.40 |
| 2 | AB | 2475 | C | C3'-C2'-C1' | -8.90 | 94.38 | 101.50 |
| 35 | BA | 831 | A | N9-C4-C5 | 8.90 | 109.36 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1638 | C | N3-C4-N4 | 8.90 | 124.23 | 118.00 |
| 2 | AB | 2116 | G | C1'-O4'-C4' | -8.90 | 102.78 | 109.90 |
| 2 | AB | 2502 | G | N1-C6-O6 | -8.90 | 114.56 | 119.90 |
| 2 | AB | 2569 | G | N7-C8-N9 | -8.90 | 108.65 | 113.10 |
| 2 | AB | 1157 | G | C5-C6-O6 | -8.90 | 123.26 | 128.60 |
| 35 | BA | 98 | A | C6-C5-N7 | 8.90 | 138.53 | 132.30 |
| 35 | BA | 289 | G | P-O3'-C3' | 8.90 | 130.38 | 119.70 |
| 35 | BA | 310 | G | N1-C2-N3 | 8.90 | 129.24 | 123.90 |
| 35 | BA | 352 | C | C5-C4-N4 | 8.90 | 126.43 | 120.20 |
| 2 | AB | 934 | U | N3-C2-O2 | -8.90 | 115.97 | 122.20 |
| 2 | AB | 1182 | G | C5-N7-C8 | -8.90 | 99.85 | 104.30 |
| 35 | BA | 454 | G | C5-C6-N1 | 8.90 | 115.95 | 111.50 |
| 35 | BA | 1007 | U | C5'-C4'-O4' | 8.90 | 119.78 | 109.10 |
| 43 | BI | 118 | ARG | NE-CZ-NH2 | -8.90 | 115.85 | 120.30 |
| 35 | BA | 365 | U | C4-C5-C6 | 8.89 | 125.04 | 119.70 |
| 1 | AA | 119 | A | N7-C8-N9 | 8.89 | 118.25 | 113.80 |
| 2 | AB | 568 | U | O4'-C1'-N1 | 8.89 | 115.31 | 108.20 |
| 2 | AB | 1895 | C | O4'-C1'-N1 | 8.89 | 115.31 | 108.20 |
| 2 | AB | 2052 | A | C2-N3-C4 | 8.89 | 115.05 | 110.60 |
| 2 | AB | 224 | U | O4'-C1'-N1 | 8.89 | 115.31 | 108.20 |
| 2 | AB | 897 | C | O4'-C1'-N1 | 8.89 | 115.31 | 108.20 |
| 35 | BA | 389 | A | N9-C4-C5 | 8.89 | 109.36 | 105.80 |
| 2 | AB | 1388 | G | C6-N1-C2 | -8.89 | 119.77 | 125.10 |
| 2 | AB | 2625 | G | C5-C6-O6 | 8.89 | 133.93 | 128.60 |
| 35 | BA | 666 | G | N1-C6-O6 | -8.89 | 114.57 | 119.90 |
| 35 | BA | 1153 | G | O4'-C1'-N9 | 8.89 | 115.31 | 108.20 |
| 1 | AA | 86 | G | N3-C4-C5 | -8.89 | 124.16 | 128.60 |
| 2 | AB | 156 | A | C4-C5-C6 | 8.89 | 121.44 | 117.00 |
| 2 | AB | 2098 | U | O4'-C1'-N1 | 8.89 | 115.31 | 108.20 |
| 35 | BA | 969 | A | N3-C4-N9 | -8.89 | 120.29 | 127.40 |
| 35 | BA | 993 | G | C5-N7-C8 | -8.89 | 99.86 | 104.30 |
| 2 | AB | 1502 | A | C6-C5-N7 | 8.89 | 138.52 | 132.30 |
| 2 | AB | 356 | G | C5-N7-C8 | -8.88 | 99.86 | 104.30 |
| 2 | AB | 484 | C | N1-C2-O2 | 8.88 | 124.23 | 118.90 |
| 2 | AB | 1047 | G | N1-C6-O6 | -8.88 | 114.57 | 119.90 |
| 2 | AB | 2300 | C | C5'-C4'-O4' | 8.88 | 119.76 | 109.10 |
| 35 | BA | 65 | A | C5-C6-N1 | 8.88 | 122.14 | 117.70 |
| 35 | BA | 1094 | G | C2-N3-C4 | 8.88 | 116.34 | 111.90 |
| 2 | AB | 929 | U | C2-N3-C4 | -8.88 | 121.67 | 127.00 |
| 2 | AB | 1581 | G | C4-C5-N7 | -8.88 | 107.25 | 110.80 |
| 17 | AQ | 69 | ASP | CB-CG-OD1 | -8.88 | 110.31 | 118.30 |
| 44 | BJ | 83 | ARG | NE-CZ-NH1 | 8.88 | 124.74 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 119 | A | C2-N3-C4 | 8.88 | 115.04 | 110.60 |
| 2 | AB | 447 | A | N1-C6-N6 | -8.88 | 113.27 | 118.60 |
| 2 | AB | 1395 | A | C6-N1-C2 | -8.88 | 113.27 | 118.60 |
| 2 | AB | 2685 | G | N3-C2-N2 | -8.88 | 113.69 | 119.90 |
| 2 | AB | 2870 | C | C3'-C2'-C1' | -8.88 | 94.40 | 101.50 |
| 2 | AB | 760 | G | N3-C4-N9 | 8.88 | 131.32 | 126.00 |
| 2 | AB | 994 | C | N3-C4-N4 | 8.88 | 124.21 | 118.00 |
| 2 | AB | 1307 | A | C5-N7-C8 | -8.88 | 99.46 | 103.90 |
| 2 | AB | 1068 | G | C2-N3-C4 | 8.87 | 116.34 | 111.90 |
| 35 | BA | 255 | G | C4-C5-N7 | -8.87 | 107.25 | 110.80 |
| 2 | AB | 1148 | U | C6-N1-C2 | 8.87 | 126.32 | 121.00 |
| 2 | AB | 2327 | A | C1'-O4'-C4' | 8.87 | 117.00 | 109.90 |
| 35 | BA | 272 | C | C4'-C3'-C2' | -8.87 | 93.73 | 102.60 |
| 37 | BC | 47 | A | C3'-C2'-C1' | -8.87 | 94.40 | 101.50 |
| 2 | AB | 1526 | C | C6-N1-C2 | -8.87 | 116.75 | 120.30 |
| 2 | AB | 2062 | A | C5-N7-C8 | -8.87 | 99.47 | 103.90 |
| 2 | AB | 2588 | G | C5'-C4'-C3' | 8.87 | 130.19 | 116.00 |
| 35 | BA | 56 | U | C4-C5-C6 | 8.87 | 125.02 | 119.70 |
| 35 | BA | 847 | G | N7-C8-N9 | 8.87 | 117.53 | 113.10 |
| 35 | BA | 1365 | G | C5-C6-O6 | -8.87 | 123.28 | 128.60 |
| 2 | AB | 726 | G | C5-N7-C8 | -8.87 | 99.87 | 104.30 |
| 2 | AB | 1552 | A | C5-N7-C8 | 8.87 | 108.33 | 103.90 |
| 2 | AB | 1694 | C | N1-C2-O2 | 8.87 | 124.22 | 118.90 |
| 2 | AB | 173 | A | N1-C2-N3 | -8.86 | 124.87 | 129.30 |
| 2 | AB | 217 | A | C2-N3-C4 | 8.86 | 115.03 | 110.60 |
| 2 | AB | 380 | G | N3-C4-C5 | -8.87 | 124.17 | 128.60 |
| 2 | AB | 553 | G | N3-C2-N2 | 8.86 | 126.11 | 119.90 |
| 2 | AB | 1069 | A | N9-C4-C5 | 8.87 | 109.35 | 105.80 |
| 2 | AB | 1292 | G | C2-N3-C4 | 8.86 | 116.33 | 111.90 |
| 35 | BA | 883 | C | O4'-C1'-N1 | 8.87 | 115.29 | 108.20 |
| 35 | BA | 1368 | A | O4'-C1'-N9 | 8.86 | 115.29 | 108.20 |
| 35 | BA | 1426 | G | C6-C5-N7 | -8.87 | 125.08 | 130.40 |
| 2 | AB | 259 | G | C5-N7-C8 | -8.86 | 99.87 | 104.30 |
| 2 | AB | 528 | A | O4'-C1'-N9 | 8.86 | 115.29 | 108.20 |
| 2 | AB | 2008 | C | N1-C2-O2 | 8.86 | 124.22 | 118.90 |
| 35 | BA | 795 | C | C5-C4-N4 | 8.86 | 126.40 | 120.20 |
| 2 | AB | 2892 | G | N9-C4-C5 | 8.86 | 108.94 | 105.40 |
| 35 | BA | 260 | G | N3-C4-C5 | -8.86 | 124.17 | 128.60 |
| 36 | BB | 24 | A | C8-N9-C4 | -8.86 | 102.25 | 105.80 |
| 1 | AA | 29 | A | C5-N7-C8 | -8.86 | 99.47 | 103.90 |
| 2 | AB | 2323 | G | C5-C6-O6 | -8.86 | 123.28 | 128.60 |
| 2 | AB | 2323 | G | O4'-C1'-N9 | -8.86 | 101.11 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 768 | A | O4'-C1'-N9 | 8.86 | 115.29 | 108.20 |
| 35 | BA | 925 | G | N9-C4-C5 | -8.86 | 101.86 | 105.40 |
| 35 | BA | 1151 | A | N9-C4-C5 | 8.86 | 109.34 | 105.80 |
| 2 | AB | 2479 | U | C4-C5-C6 | 8.86 | 125.01 | 119.70 |
| 2 | AB | 2813 | A | N1-C2-N3 | -8.86 | 124.87 | 129.30 |
| 2 | AB | 971 | G | C4-C5-N7 | -8.86 | 107.26 | 110.80 |
| 2 | AB | 2627 | G | N3-C4-C5 | -8.86 | 124.17 | 128.60 |
| 35 | BA | 190 | A | C4-C5-N7 | -8.86 | 106.27 | 110.70 |
| 35 | BA | 888 | G | C3'-C2'-C1' | -8.86 | 94.42 | 101.50 |
| 35 | BA | 1322 | C | C2-N3-C4 | 8.86 | 124.33 | 119.90 |
| 2 | AB | 1185 | G | C6-N1-C2 | -8.85 | 119.79 | 125.10 |
| 2 | AB | 2623 | G | C5-C6-O6 | 8.85 | 133.91 | 128.60 |
| 35 | BA | 235 | C | C4'-C3'-C2' | -8.85 | 93.75 | 102.60 |
| 2 | AB | 760 | G | N3-C4-C5 | -8.85 | 124.17 | 128.60 |
| 2 | AB | 1545 | A | C6-C5-N7 | -8.85 | 126.10 | 132.30 |
| 2 | AB | 1569 | A | C6-C5-N7 | 8.85 | 138.50 | 132.30 |
| 35 | BA | 1538 | C | N1-C2-N3 | -8.85 | 113.00 | 119.20 |
| 2 | AB | 1753 | G | C4-C5-N7 | 8.85 | 114.34 | 110.80 |
| 2 | AB | 1888 | G | C8-N9-C4 | -8.85 | 102.86 | 106.40 |
| 2 | AB | 2016 | U | N1-C2-N3 | 8.85 | 120.21 | 114.90 |
| 35 | BA | 166 | U | O4'-C1'-N1 | 8.85 | 115.28 | 108.20 |
| 35 | BA | 639 | G | C8-N9-C4 | -8.85 | 102.86 | 106.40 |
| 12 | AL | 16 | TYR | CB-CG-CD2 | -8.85 | 115.69 | 121.00 |
| 35 | BA | 1053 | G | N3-C4-C5 | -8.85 | 124.17 | 128.60 |
| 1 | AA | 50 | A | C6-N1-C2 | 8.85 | 123.91 | 118.60 |
| 2 | AB | 2845 | U | C5'-C4'-O4' | 8.85 | 119.72 | 109.10 |
| 2 | AB | 322 | A | C5-C6-N6 | -8.85 | 116.62 | 123.70 |
| 2 | AB | 663 | G | C2-N3-C4 | 8.85 | 116.32 | 111.90 |
| 2 | AB | 1400 | U | C5-C4-O4 | -8.85 | 120.59 | 125.90 |
| 2 | AB | 2821 | A | C8-N9-C4 | -8.85 | 102.26 | 105.80 |
| 2 | AB | 2890 | G | C5-N7-C8 | -8.85 | 99.88 | 104.30 |
| 2 | AB | 67 | U | C6-N1-C2 | -8.85 | 115.69 | 121.00 |
| 2 | AB | 923 | G | C2-N3-C4 | 8.85 | 116.32 | 111.90 |
| 2 | AB | 1446 | C | C6-N1-C2 | -8.85 | 116.76 | 120.30 |
| 2 | AB | 2125 | G | C2-N3-C4 | 8.85 | 116.32 | 111.90 |
| 2 | AB | 2261 | C | N1-C2-O2 | 8.85 | 124.21 | 118.90 |
| 36 | BB | 15 | G | C4-C5-N7 | -8.85 | 107.26 | 110.80 |
| 1 | AA | 48 | U | O4'-C1'-N1 | 8.84 | 115.28 | 108.20 |
| 1 | AA | 8 | C | N3-C2-O2 | -8.84 | 115.71 | 121.90 |
| 2 | AB | 2182 | U | C5-C4-O4 | 8.84 | 131.21 | 125.90 |
| 2 | AB | 2638 | G | C2-N3-C4 | 8.84 | 116.32 | 111.90 |
| 35 | BA | 1439 | G | N3-C4-C5 | -8.84 | 124.18 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 37 | BC | 23 | G | C2-N3-C4 | 8.84 | 116.32 | 111.90 |
| 37 | BC | 62 | C | N3-C2-O2 | -8.84 | 115.71 | 121.90 |
| 2 | AB | 68 | G | C4-C5-N7 | 8.84 | 114.34 | 110.80 |
| 2 | AB | 253 | C | C4-C5-C6 | -8.84 | 112.98 | 117.40 |
| 2 | AB | 663 | G | N9-C4-C5 | 8.84 | 108.94 | 105.40 |
| 2 | AB | 2713 | U | N3-C2-O2 | -8.84 | 116.01 | 122.20 |
| 35 | BA | 646 | G | C5-N7-C8 | 8.84 | 108.72 | 104.30 |
| 2 | AB | 876 | C | O4'-C1'-N1 | 8.84 | 115.27 | 108.20 |
| 2 | AB | 940 | G | C5-C6-N1 | 8.84 | 115.92 | 111.50 |
| 2 | AB | 1367 | A | C2-N3-C4 | 8.84 | 115.02 | 110.60 |
| 2 | AB | 2212 | A | N3-C4-N9 | 8.84 | 134.47 | 127.40 |
| 35 | BA | 303 | A | C8-N9-C4 | -8.84 | 102.27 | 105.80 |
| 35 | BA | 1414 | U | O4'-C1'-N1 | 8.84 | 115.27 | 108.20 |
| 35 | BA | 63 | C | C2-N3-C4 | 8.84 | 124.32 | 119.90 |
| 35 | BA | 1468 | A | C8-N9-C4 | -8.84 | 102.27 | 105.80 |
| 37 | BC | 67 | C | N3-C4-C5 | -8.84 | 118.37 | 121.90 |
| 2 | AB | 2856 | A | N1-C6-N6 | 8.83 | 123.90 | 118.60 |
| 35 | BA | 161 | A | O4'-C1'-C2' | -8.83 | 96.97 | 105.80 |
| 35 | BA | 1525 | G | C5-N7-C8 | 8.83 | 108.72 | 104.30 |
| 35 | BA | 223 | A | C4-C5-N7 | 8.83 | 115.12 | 110.70 |
| 35 | BA | 1018 | G | C5-C6-O6 | -8.83 | 123.30 | 128.60 |
| 1 | AA | 105 | G | C4-C5-N7 | -8.83 | 107.27 | 110.80 |
| 19 | AS | 31 | TYR | CB-CG-CD1 | -8.83 | 115.70 | 121.00 |
| 2 | AB | 84 | A | C5-C6-N1 | 8.83 | 122.11 | 117.70 |
| 2 | AB | 312 | G | C5-C6-O6 | -8.83 | 123.30 | 128.60 |
| 2 | AB | 419 | U | O4'-C1'-N1 | 8.83 | 115.26 | 108.20 |
| 2 | AB | 1042 | G | C6-C5-N7 | -8.83 | 125.10 | 130.40 |
| 2 | AB | 1078 | U | N1-C2-N3 | 8.83 | 120.20 | 114.90 |
| 2 | AB | 2687 | U | C6-N1-C2 | -8.83 | 115.70 | 121.00 |
| 2 | AB | 1340 | U | C6-N1-C2 | -8.83 | 115.70 | 121.00 |
| 35 | BA | 267 | C | O4'-C1'-N1 | 8.83 | 115.26 | 108.20 |
| 35 | BA | 1309 | G | C8-N9-C4 | -8.83 | 102.87 | 106.40 |
| 2 | AB | 797 | G | C4-C5-N7 | -8.83 | 107.27 | 110.80 |
| 2 | AB | 1131 | G | O4'-C1'-N9 | 8.83 | 115.26 | 108.20 |
| 2 | AB | 2176 | A | C5-N7-C8 | -8.83 | 99.49 | 103.90 |
| 2 | AB | 2487 | G | N9-C4-C5 | 8.83 | 108.93 | 105.40 |
| 35 | BA | 567 | G | C4'-C3'-C2' | -8.83 | 93.77 | 102.60 |
| 35 | BA | 623 | C | N3-C4-C5 | 8.83 | 125.43 | 121.90 |
| 35 | BA | 1414 | U | C4'-C3'-C2' | -8.83 | 93.77 | 102.60 |
| 37 | BC | 22 | A | C3'-C2'-C1' | 8.83 | 108.56 | 101.50 |
| 2 | AB | 606 | U | N1-C2-O2 | -8.82 | 116.62 | 122.80 |
| 2 | AB | 1304 | A | C1'-O4'-C4' | -8.82 | 102.84 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1280 | G | C4'-C3'-C2' | -8.82 | 93.78 | 102.60 |
| 2 | AB | 1467 | U | N1-C2-N3 | 8.82 | 120.19 | 114.90 |
| 2 | AB | 2203 | U | C5-C4-O4 | -8.82 | 120.61 | 125.90 |
| 32 | A5 | 39 | ARG | NE-CZ-NH2 | -8.82 | 115.89 | 120.30 |
| 2 | AB | 2527 | C | C5'-C4'-O4' | 8.82 | 119.69 | 109.10 |
| 2 | AB | 2741 | A | C3'-C2'-C1' | 8.82 | 108.56 | 101.50 |
| 35 | BA | 39 | G | O4'-C1'-N9 | 8.82 | 115.26 | 108.20 |
| 2 | AB | 837 | C | N3-C4-C5 | -8.82 | 118.37 | 121.90 |
| 2 | AB | 932 | U | C6-N1-C2 | -8.82 | 115.71 | 121.00 |
| 2 | AB | 1881 | C | C3'-C2'-C1' | 8.82 | 108.56 | 101.50 |
| 2 | AB | 2479 | U | O4'-C1'-N1 | 8.82 | 115.26 | 108.20 |
| 35 | BA | 614 | C | N1-C2-O2 | 8.82 | 124.19 | 118.90 |
| 2 | AB | 178 | G | N1-C6-O6 | 8.82 | 125.19 | 119.90 |
| 2 | AB | 940 | G | N7-C8-N9 | 8.82 | 117.51 | 113.10 |
| 2 | AB | 2118 | U | N1-C2-N3 | 8.82 | 120.19 | 114.90 |
| 48 | BN | 8 | ARG | NE-CZ-NH2 | -8.82 | 115.89 | 120.30 |
| 2 | AB | 35 | G | O4'-C1'-N9 | 8.82 | 115.25 | 108.20 |
| 2 | AB | 1472 | C | C6-N1-C2 | 8.82 | 123.83 | 120.30 |
| 2 | AB | 2733 | A | C8-N9-C4 | -8.82 | 102.27 | 105.80 |
| 2 | AB | 152 | A | N1-C6-N6 | 8.82 | 123.89 | 118.60 |
| 2 | AB | 481 | G | C8-N9-C4 | -8.82 | 102.87 | 106.40 |
| 2 | AB | 844 | A | N7-C8-N9 | 8.82 | 118.21 | 113.80 |
| 35 | BA | 112 | G | C6-C5-N7 | -8.82 | 125.11 | 130.40 |
| 35 | BA | 898 | G | C5-N7-C8 | -8.82 | 99.89 | 104.30 |
| 2 | AB | 100 | U | N1-C2-N3 | 8.81 | 120.19 | 114.90 |
| 2 | AB | 908 | C | C2-N3-C4 | 8.81 | 124.31 | 119.90 |
| 2 | AB | 1399 | C | N3-C4-C5 | -8.81 | 118.38 | 121.90 |
| 2 | AB | 1636 | U | N1-C1'-C2' | -8.81 | 102.31 | 112.00 |
| 2 | AB | 1923 | U | C5-C6-N1 | -8.81 | 118.29 | 122.70 |
| 2 | AB | 1945 | G | N7-C8-N9 | 8.81 | 117.51 | 113.10 |
| 2 | AB | 2046 | G | C8-N9-C4 | -8.81 | 102.88 | 106.40 |
| 2 | AB | 2276 | G | N3-C4-N9 | 8.81 | 131.29 | 126.00 |
| 37 | BC | 46 | G | O4'-C1'-N9 | 8.81 | 115.25 | 108.20 |
| 35 | BA | 22 | G | C1'-O4'-C4' | 8.81 | 116.95 | 109.90 |
| 35 | BA | 240 | G | N3-C4-C5 | -8.81 | 124.19 | 128.60 |
| 2 | AB | 622 | G | C2-N3-C4 | 8.81 | 116.31 | 111.90 |
| 2 | AB | 873 | C | N3-C4-N4 | 8.81 | 124.17 | 118.00 |
| 2 | AB | 2013 | A | N9-C4-C5 | 8.81 | 109.32 | 105.80 |
| 2 | AB | 2455 | G | C5-C6-O6 | -8.81 | 123.31 | 128.60 |
| 2 | AB | 2768 | U | N3-C2-O2 | -8.81 | 116.03 | 122.20 |
| 35 | BA | 993 | G | O4'-C1'-C2' | -8.81 | 96.99 | 105.80 |
| 35 | BA | 413 | G | C4-C5-C6 | -8.81 | 113.51 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1018 | G | C4-C5-N7 | 8.81 | 114.32 | 110.80 |
| 2 | AB | 611 | C | C6-N1-C2 | -8.81 | 116.78 | 120.30 |
| 2 | AB | 1197 | G | C4-C5-N7 | -8.81 | 107.28 | 110.80 |
| 35 | BA | 1148 | U | C1'-O4'-C4' | 8.81 | 116.94 | 109.90 |
| 2 | AB | 718 | A | N7-C8-N9 | 8.80 | 118.20 | 113.80 |
| 2 | AB | 2348 | U | C6-N1-C2 | -8.80 | 115.72 | 121.00 |
| 2 | AB | 15 | G | N7-C8-N9 | 8.80 | 117.50 | 113.10 |
| 2 | AB | 1189 | A | N1-C2-N3 | 8.80 | 133.70 | 129.30 |
| 2 | AB | 337 | C | N3-C4-N4 | 8.80 | 124.16 | 118.00 |
| 2 | AB | 2892 | G | N3-C4-C5 | -8.80 | 124.20 | 128.60 |
| 35 | BA | 15 | G | O4'-C1'-N9 | 8.80 | 115.24 | 108.20 |
| 35 | BA | 265 | G | C5-C6-O6 | -8.80 | 123.32 | 128.60 |
| 2 | AB | 1630 | A | N9-C4-C5 | 8.80 | 109.32 | 105.80 |
| 2 | AB | 2249 | U | C3'-C2'-C1' | 8.80 | 108.54 | 101.50 |
| 2 | AB | 2289 | G | C6-N1-C2 | -8.80 | 119.82 | 125.10 |
| 2 | AB | 941 | A | N9-C4-C5 | 8.80 | 109.32 | 105.80 |
| 35 | BA | 654 | G | C5-C6-O6 | 8.80 | 133.88 | 128.60 |
| 35 | BA | 1365 | G | N1-C6-O6 | 8.80 | 125.18 | 119.90 |
| 35 | BA | 1476 | A | C5-C6-N1 | 8.80 | 122.10 | 117.70 |
| 2 | AB | 573 | U | N3-C4-O4 | 8.79 | 125.56 | 119.40 |
| 2 | AB | 1625 | C | N1-C2-N3 | -8.79 | 113.04 | 119.20 |
| 2 | AB | 2310 | C | C5-C4-N4 | 8.79 | 126.36 | 120.20 |
| 35 | BA | 890 | G | C8-N9-C4 | -8.79 | 102.88 | 106.40 |
| 35 | BA | 912 | C | O4'-C1'-N1 | 8.79 | 115.23 | 108.20 |
| 2 | AB | 2062 | A | N9-C4-C5 | 8.79 | 109.32 | 105.80 |
| 2 | AB | 2859 | G | C5-C6-O6 | 8.79 | 133.88 | 128.60 |
| 2 | AB | 1286 | A | O4'-C1'-N9 | 8.79 | 115.23 | 108.20 |
| 35 | BA | 553 | A | C8-N9-C4 | -8.79 | 102.28 | 105.80 |
| 35 | BA | 895 | G | N9-C4-C5 | 8.79 | 108.92 | 105.40 |
| 35 | BA | 1072 | G | N9-C4-C5 | 8.79 | 108.92 | 105.40 |
| 35 | BA | 1482 | G | C4-C5-N7 | -8.79 | 107.28 | 110.80 |
| 2 | AB | 236 | C | C2-N3-C4 | 8.79 | 124.30 | 119.90 |
| 2 | AB | 577 | G | C6-N1-C2 | -8.79 | 119.83 | 125.10 |
| 2 | AB | 1213 | A | C4'-C3'-C2' | -8.79 | 93.81 | 102.60 |
| 2 | AB | 53 | A | N1-C6-N6 | 8.79 | 123.87 | 118.60 |
| 2 | AB | 273 | G | N1-C6-O6 | -8.79 | 114.63 | 119.90 |
| 2 | AB | 2330 | G | N9-C4-C5 | 8.79 | 108.92 | 105.40 |
| 4 | AD | 270 | ARG | NE-CZ-NH2 | 8.79 | 124.69 | 120.30 |
| 18 | AR | 112 | ARG | NE-CZ-NH2 | 8.79 | 124.69 | 120.30 |
| 35 | BA | 258 | G | N9-C4-C5 | -8.79 | 101.88 | 105.40 |
| 2 | AB | 363 | G | C4-C5-N7 | -8.79 | 107.29 | 110.80 |
| 2 | AB | 2122 | U | C6-N1-C2 | -8.78 | 115.73 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2376 | A | N7-C8-N9 | 8.79 | 118.19 | 113.80 |
| 35 | BA | 1312 | G | O4'-C1'-N9 | 8.79 | 115.23 | 108.20 |
| 2 | AB | 844 | A | C5-N7-C8 | -8.78 | 99.51 | 103.90 |
| 2 | AB | 2045 | C | N1-C2-O2 | 8.78 | 124.17 | 118.90 |
| 35 | BA | 1019 | A | C4-C5-C6 | -8.78 | 112.61 | 117.00 |
| 2 | AB | 1536 | C | C5-C6-N1 | -8.78 | 116.61 | 121.00 |
| 2 | AB | 2592 | G | N1-C6-O6 | -8.78 | 114.63 | 119.90 |
| 2 | AB | 242 | G | C8-N9-C4 | -8.78 | 102.89 | 106.40 |
| 35 | BA | 1110 | A | C4-C5-C6 | 8.78 | 121.39 | 117.00 |
| 2 | AB | 35 | G | N9-C4-C5 | 8.78 | 108.91 | 105.40 |
| 2 | AB | 117 | G | C6-C5-N7 | -8.78 | 125.13 | 130.40 |
| 2 | AB | 2854 | G | O4'-C1'-N9 | 8.78 | 115.22 | 108.20 |
| 36 | BB | 39 | U | C5-C4-O4 | -8.78 | 120.63 | 125.90 |
| 2 | AB | 20 | C | C1'-O4'-C4' | 8.77 | 116.92 | 109.90 |
| 2 | AB | 35 | G | C2-N3-C4 | 8.77 | 116.29 | 111.90 |
| 2 | AB | 134 | G | N3-C2-N2 | 8.77 | 126.04 | 119.90 |
| 2 | AB | 407 | G | C5-C6-N1 | 8.77 | 115.89 | 111.50 |
| 2 | AB | 1019 | U | C6-N1-C2 | -8.77 | 115.74 | 121.00 |
| 2 | AB | 1450 | G | N9-C4-C5 | 8.77 | 108.91 | 105.40 |
| 2 | AB | 2374 | C | C5'-C4'-O4' | 8.77 | 119.63 | 109.10 |
| 2 | AB | 2675 | A | N1-C2-N3 | 8.77 | 133.69 | 129.30 |
| 35 | BA | 702 | A | C5-N7-C8 | 8.77 | 108.29 | 103.90 |
| 35 | BA | 1051 | C | C3'-C2'-C1' | 8.77 | 108.52 | 101.50 |
| 36 | BB | 55 | A | C5-N7-C8 | -8.77 | 99.51 | 103.90 |
| 1 | AA | 54 | G | C8-N9-C4 | -8.77 | 102.89 | 106.40 |
| 2 | AB | 1386 | C | C5-C4-N4 | -8.77 | 114.06 | 120.20 |
| 35 | BA | 375 | U | C5-C4-O4 | -8.77 | 120.64 | 125.90 |
| 35 | BA | 506 | G | N1-C2-N2 | 8.77 | 124.09 | 116.20 |
| 35 | BA | 719 | C | C5-C4-N4 | 8.77 | 126.34 | 120.20 |
| 35 | BA | 748 | G | C2-N3-C4 | 8.77 | 116.28 | 111.90 |
| 35 | BA | 1166 | G | N7-C8-N9 | 8.77 | 117.49 | 113.10 |
| 35 | BA | 1425 | U | C5-C4-O4 | -8.77 | 120.64 | 125.90 |
| 35 | BA | 1431 | A | C5-N7-C8 | -8.77 | 99.51 | 103.90 |
| 38 | BD | 107 | ARG | NE-CZ-NH1 | 8.77 | 124.69 | 120.30 |
| 2 | AB | 96 | C | C4'-C3'-C2' | -8.77 | 93.83 | 102.60 |
| 2 | AB | 212 | G | N3-C2-N2 | 8.77 | 126.04 | 119.90 |
| 2 | AB | 1649 | G | C5'-C4'-O4' | 8.77 | 119.62 | 109.10 |
| 2 | AB | 2199 | A | C5-C6-N6 | -8.77 | 116.69 | 123.70 |
| 2 | AB | 2532 | G | N7-C8-N9 | 8.77 | 117.48 | 113.10 |
| 30 | A3 | 47 | TYR | CB-CG-CD2 | -8.77 | 115.74 | 121.00 |
| 35 | BA | 251 | G | O4'-C1'-C2' | -8.77 | 97.03 | 105.80 |
| 35 | BA | 468 | A | C4-C5-C6 | -8.77 | 112.61 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 595 | A | C2-N3-C4 | 8.77 | 114.98 | 110.60 |
| 35 | BA | 595 | A | O4'-C1'-N9 | 8.77 | 115.22 | 108.20 |
| 35 | BA | 1309 | G | N3-C4-N9 | 8.77 | 131.26 | 126.00 |
| 36 | BB | 20 | G | C4-C5-N7 | 8.77 | 114.31 | 110.80 |
| 36 | BB | 49 | U | O4'-C1'-N1 | 8.77 | 115.22 | 108.20 |
| 2 | AB | 120 | U | C2-N3-C4 | -8.77 | 121.74 | 127.00 |
| 2 | AB | 1529 | G | N1-C2-N3 | 8.77 | 129.16 | 123.90 |
| 2 | AB | 1845 | G | C6-N1-C2 | -8.77 | 119.84 | 125.10 |
| 2 | AB | 2759 | G | N7-C8-N9 | 8.77 | 117.48 | 113.10 |
| 35 | BA | 1173 | U | N1-C2-N3 | 8.77 | 120.16 | 114.90 |
| 49 | BO | 108 | ARG | NE-CZ-NH2 | -8.77 | 115.92 | 120.30 |
| 2 | AB | 315 | G | N3-C2-N2 | -8.76 | 113.77 | 119.90 |
| 2 | AB | 598 | U | C4-C5-C6 | 8.76 | 124.96 | 119.70 |
| 2 | AB | 855 | G | N3-C4-C5 | -8.76 | 124.22 | 128.60 |
| 2 | AB | 1301 | A | O4'-C1'-C2' | -8.76 | 97.04 | 105.80 |
| 2 | AB | 2419 | U | C5-C6-N1 | -8.76 | 118.32 | 122.70 |
| 26 | AZ | 49 | ARG | NE-CZ-NH2 | -8.76 | 115.92 | 120.30 |
| 35 | BA | 42 | G | N1-C6-O6 | -8.76 | 114.64 | 119.90 |
| 35 | BA | 84 | U | N1-C2-O2 | 8.76 | 128.93 | 122.80 |
| 35 | BA | 606 | G | C1'-O4'-C4' | -8.76 | 102.89 | 109.90 |
| 35 | BA | 1385 | G | O4'-C4'-C3' | -8.76 | 95.24 | 104.00 |
| 37 | BC | 20 | G | C8-N9-C4 | -8.76 | 102.89 | 106.40 |
| 2 | AB | 590 | A | C5-N7-C8 | 8.76 | 108.28 | 103.90 |
| 2 | AB | 1667 | G | N7-C8-N9 | 8.76 | 117.48 | 113.10 |
| 2 | AB | 2439 | A | P-O3'-C3' | 8.76 | 130.21 | 119.70 |
| 2 | AB | 2679 | A | C2-N3-C4 | 8.76 | 114.98 | 110.60 |
| 2 | AB | 2798 | U | N3-C4-O4 | 8.76 | 125.53 | 119.40 |
| 35 | BA | 149 | A | C4'-C3'-C2' | -8.76 | 93.84 | 102.60 |
| 35 | BA | 525 | C | N1-C2-O2 | 8.76 | 124.16 | 118.90 |
| 35 | BA | 1013 | G | C5-C6-O6 | 8.76 | 133.85 | 128.60 |
| 2 | AB | 496 | G | C6-C5-N7 | -8.76 | 125.14 | 130.40 |
| 2 | AB | 542 | C | N3-C2-O2 | -8.76 | 115.77 | 121.90 |
| 2 | AB | 875 | G | C4'-C3'-C2' | -8.76 | 93.84 | 102.60 |
| 2 | AB | 1042 | G | N9-C1'-C2' | -8.76 | 102.37 | 112.00 |
| 2 | AB | 2720 | U | N3-C4-C5 | -8.76 | 109.35 | 114.60 |
| 35 | BA | 1368 | A | C5-C6-N1 | 8.76 | 122.08 | 117.70 |
| 35 | BA | 227 | G | N1-C2-N2 | 8.75 | 124.08 | 116.20 |
| 2 | AB | 636 | G | N7-C8-N9 | 8.75 | 117.48 | 113.10 |
| 2 | AB | 1420 | A | C4-C5-C6 | 8.75 | 121.38 | 117.00 |
| 2 | AB | 1467 | U | C5-C6-N1 | -8.75 | 118.32 | 122.70 |
| 2 | AB | 2120 | G | C2-N3-C4 | 8.75 | 116.28 | 111.90 |
| 2 | AB | 2197 | U | N3-C2-O2 | -8.75 | 116.07 | 122.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 202 | G | C5-C6-O6 | -8.75 | 123.35 | 128.60 |
| 2 | AB | 225 | C | O4'-C1'-N1 | 8.75 | 115.20 | 108.20 |
| 2 | AB | 2446 | G | N3-C4-N9 | -8.75 | 120.75 | 126.00 |
| 2 | AB | 2851 | A | C5-C6-N1 | -8.75 | 113.33 | 117.70 |
| 35 | BA | 1276 | G | C4-C5-N7 | -8.75 | 107.30 | 110.80 |
| 2 | AB | 771 | G | N7-C8-N9 | 8.75 | 117.47 | 113.10 |
| 2 | AB | 2307 | G | O4'-C1'-N9 | 8.75 | 115.20 | 108.20 |
| 5 | AE | 45 | TYR | CB-CG-CD1 | -8.75 | 115.75 | 121.00 |
| 35 | BA | 49 | U | O4'-C1'-N1 | 8.75 | 115.20 | 108.20 |
| 35 | BA | 184 | G | C4-C5-N7 | -8.75 | 107.30 | 110.80 |
| 35 | BA | 988 | G | N7-C8-N9 | 8.75 | 117.47 | 113.10 |
| 35 | BA | 917 | G | C8-N9-C4 | -8.75 | 102.90 | 106.40 |
| 2 | AB | 2182 | U | C5-C6-N1 | -8.74 | 118.33 | 122.70 |
| 35 | BA | 797 | C | O4'-C1'-N1 | 8.74 | 115.20 | 108.20 |
| 35 | BA | 1062 | U | C4'-C3'-C2' | -8.74 | 93.86 | 102.60 |
| 2 | AB | 1415 | U | C5-C6-N1 | -8.74 | 118.33 | 122.70 |
| 2 | AB | 1968 | G | C6-C5-N7 | 8.74 | 135.65 | 130.40 |
| 2 | AB | 2595 | G | C6-C5-N7 | -8.74 | 125.15 | 130.40 |
| 2 | AB | 2654 | A | N1-C2-N3 | -8.74 | 124.93 | 129.30 |
| 35 | BA | 376 | G | C5-C6-O6 | -8.74 | 123.35 | 128.60 |
| 35 | BA | 557 | G | N3-C4-N9 | 8.74 | 131.25 | 126.00 |
| 35 | BA | 700 | G | C4-C5-N7 | -8.74 | 107.30 | 110.80 |
| 35 | BA | 1395 | C | N3-C4-C5 | -8.74 | 118.40 | 121.90 |
| 35 | BA | 916 | U | O4'-C1'-N1 | 8.74 | 115.19 | 108.20 |
| 35 | BA | 1267 | C | O4'-C1'-N1 | 8.74 | 115.19 | 108.20 |
| 2 | AB | 833 | A | N7-C8-N9 | 8.74 | 118.17 | 113.80 |
| 2 | AB | 2625 | G | C1'-O4'-C4' | -8.74 | 102.91 | 109.90 |
| 2 | AB | 839 | U | O4'-C1'-N1 | 8.74 | 115.19 | 108.20 |
| 2 | AB | 951 | C | N3-C4-C5 | 8.74 | 125.40 | 121.90 |
| 2 | AB | 977 | G | N7-C8-N9 | 8.74 | 117.47 | 113.10 |
| 35 | BA | 468 | A | N7-C8-N9 | 8.74 | 118.17 | 113.80 |
| 2 | AB | 2250 | G | C6-N1-C2 | -8.74 | 119.86 | 125.10 |
| 2 | AB | 2879 | A | N1-C6-N6 | -8.74 | 113.36 | 118.60 |
| 2 | AB | 327 | G | N9-C4-C5 | 8.74 | 108.89 | 105.40 |
| 2 | AB | 912 | C | C3'-C2'-C1' | -8.74 | 94.51 | 101.50 |
| 2 | AB | 1507 | C | O4'-C4'-C3' | 8.74 | 113.09 | 106.10 |
| 2 | AB | 2316 | G | C5-C6-N1 | 8.74 | 115.87 | 111.50 |
| 2 | AB | 2271 | G | N7-C8-N9 | 8.74 | 117.47 | 113.10 |
| 2 | AB | 2621 | G | C5-C6-O6 | -8.74 | 123.36 | 128.60 |
| 35 | BA | 50 | A | O4'-C1'-N9 | 8.74 | 115.19 | 108.20 |
| 35 | BA | 1381 | U | C1'-O4'-C4' | 8.74 | 116.89 | 109.90 |
| 38 | BD | 161 | PHE | CB-CG-CD2 | -8.74 | 114.68 | 120.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 979 | C | O4'-C1'-C2' | -8.74 | 97.06 | 105.80 |
| 35 | BA | 1457 | G | C5-C6-O6 | -8.74 | 123.36 | 128.60 |
| 2 | AB | 947 | A | N1-C2-N3 | -8.73 | 124.93 | 129.30 |
| 2 | AB | 1368 | G | C8-N9-C4 | -8.73 | 102.91 | 106.40 |
| 2 | AB | 2240 | U | C2-N3-C4 | -8.73 | 121.76 | 127.00 |
| 35 | BA | 892 | A | C1'-O4'-C4' | -8.73 | 102.91 | 109.90 |
| 35 | BA | 1020 | G | C4-C5-N7 | 8.73 | 114.29 | 110.80 |
| 2 | AB | 1250 | G | N1-C6-O6 | -8.73 | 114.66 | 119.90 |
| 2 | AB | 1773 | A | C4-C5-C6 | 8.73 | 121.37 | 117.00 |
| 2 | AB | 2772 | C | C6-N1-C2 | -8.73 | 116.81 | 120.30 |
| 2 | AB | 2784 | U | N3-C4-C5 | 8.73 | 119.84 | 114.60 |
| 35 | BA | 1076 | U | O4'-C1'-N1 | 8.73 | 115.19 | 108.20 |
| 35 | BA | 1120 | C | C6-N1-C2 | -8.73 | 116.81 | 120.30 |
| 43 | BI | 137 | ARG | NE-CZ-NH2 | 8.73 | 124.67 | 120.30 |
| 35 | BA | 1239 | A | C8-N9-C4 | 8.73 | 109.29 | 105.80 |
| 1 | AA | 94 | A | C4-C5-N7 | -8.73 | 106.34 | 110.70 |
| 2 | AB | 89 | A | C6-N1-C2 | -8.73 | 113.36 | 118.60 |
| 2 | AB | 1785 | A | N1-C2-N3 | -8.73 | 124.94 | 129.30 |
| 2 | AB | 690 | G | N9-C4-C5 | 8.73 | 108.89 | 105.40 |
| 2 | AB | 1623 | G | C5-C6-N1 | 8.73 | 115.86 | 111.50 |
| 2 | AB | 1997 | C | N1-C2-O2 | 8.73 | 124.14 | 118.90 |
| 2 | AB | 2648 | G | N9-C4-C5 | 8.73 | 108.89 | 105.40 |
| 35 | BA | 155 | A | C5-N7-C8 | 8.73 | 108.27 | 103.90 |
| 35 | BA | 469 | C | N3-C4-C5 | -8.73 | 118.41 | 121.90 |
| 35 | BA | 1173 | U | O4'-C1'-N1 | 8.73 | 115.18 | 108.20 |
| 2 | AB | 1340 | U | N3-C2-O2 | -8.73 | 116.09 | 122.20 |
| 2 | AB | 1524 | G | C5'-C4'-O4' | 8.73 | 119.57 | 109.10 |
| 2 | AB | 1795 | C | C2-N3-C4 | 8.73 | 124.26 | 119.90 |
| 2 | AB | 1805 | A | C6-N1-C2 | 8.73 | 123.84 | 118.60 |
| 2 | AB | 2289 | G | C8-N9-C4 | -8.73 | 102.91 | 106.40 |
| 2 | AB | 2853 | C | C5-C4-N4 | -8.73 | 114.09 | 120.20 |
| 33 | A6 | 39 | ARG | NE-CZ-NH2 | 8.73 | 124.66 | 120.30 |
| 35 | BA | 880 | C | N1-C2-N3 | -8.73 | 113.09 | 119.20 |
| 2 | AB | 167 | A | C5-C6-N1 | -8.72 | 113.34 | 117.70 |
| 2 | AB | 433 | C | N3-C4-C5 | 8.72 | 125.39 | 121.90 |
| 2 | AB | 665 | U | C2-N3-C4 | -8.72 | 121.77 | 127.00 |
| 2 | AB | 1482 | G | C2-N3-C4 | 8.72 | 116.26 | 111.90 |
| 2 | AB | 1502 | A | O4'-C1'-N9 | 8.72 | 115.18 | 108.20 |
| 2 | AB | 2621 | G | C5-C6-N1 | 8.72 | 115.86 | 111.50 |
| 35 | BA | 894 | G | C8-N9-C4 | -8.72 | 102.91 | 106.40 |
| 2 | AB | 486 | C | C5'-C4'-O4' | 8.72 | 119.57 | 109.10 |
| 2 | AB | 1009 | A | C5-N7-C8 | 8.72 | 108.26 | 103.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1305 | C | C6-N1-C2 | -8.72 | 116.81 | 120.30 |
| 2 | AB | 1629 | U | C5-C4-O4 | -8.72 | 120.67 | 125.90 |
| 2 | AB | 2817 | U | N3-C4-O4 | 8.72 | 125.50 | 119.40 |
| 2 | AB | 2157 | G | C8-N9-C4 | -8.72 | 102.91 | 106.40 |
| 7 | AG | 168 | LEU | CB-CG-CD1 | 8.72 | 125.83 | 111.00 |
| 35 | BA | 1181 | G | N3-C4-C5 | -8.72 | 124.24 | 128.60 |
| 2 | AB | 1521 | G | N7-C8-N9 | -8.72 | 108.74 | 113.10 |
| 2 | AB | 2349 | G | C4-C5-C6 | 8.72 | 124.03 | 118.80 |
| 2 | AB | 2441 | U | N3-C2-O2 | -8.72 | 116.10 | 122.20 |
| 2 | AB | 2495 | G | N3-C4-C5 | -8.72 | 124.24 | 128.60 |
| 29 | A2 | 9 | TYR | CB-CG-CD1 | -8.72 | 115.77 | 121.00 |
| 35 | BA | 192 | A | C1'-O4'-C4' | -8.72 | 102.93 | 109.90 |
| 35 | BA | 664 | G | N9-C4-C5 | 8.72 | 108.89 | 105.40 |
| 35 | BA | 1024 | G | C5'-C4'-O4' | 8.72 | 119.56 | 109.10 |
| 35 | BA | 1375 | A | C8-N9-C4 | -8.72 | 102.31 | 105.80 |
| 1 | AA | 115 | A | C8-N9-C4 | 8.71 | 109.29 | 105.80 |
| 2 | AB | 776 | G | C5-C6-N1 | 8.72 | 115.86 | 111.50 |
| 2 | AB | 929 | U | N3-C2-O2 | -8.72 | 116.10 | 122.20 |
| 2 | AB | 484 | C | N3-C4-C5 | 8.71 | 125.39 | 121.90 |
| 2 | AB | 520 | G | N3-C4-C5 | -8.71 | 124.24 | 128.60 |
| 2 | AB | 2284 | A | N7-C8-N9 | 8.71 | 118.16 | 113.80 |
| 2 | AB | 2867 | G | C3'-C2'-C1' | 8.72 | 108.47 | 101.50 |
| 18 | AR | 88 | ARG | NE-CZ-NH1 | -8.71 | 115.94 | 120.30 |
| 35 | BA | 65 | A | N1-C6-N6 | -8.71 | 113.37 | 118.60 |
| 35 | BA | 89 | U | C2-N3-C4 | -8.71 | 121.77 | 127.00 |
| 35 | BA | 377 | G | C5-C6-N1 | 8.71 | 115.86 | 111.50 |
| 36 | BB | 55 | A | N9-C4-C5 | 8.71 | 109.29 | 105.80 |
| 2 | AB | 489 | G | O4'-C1'-N9 | 8.71 | 115.17 | 108.20 |
| 18 | AR | 92 | ARG | NE-CZ-NH1 | 8.71 | 124.66 | 120.30 |
| 35 | BA | 177 | G | C5-N7-C8 | 8.71 | 108.66 | 104.30 |
| 35 | BA | 348 | G | C4-C5-N7 | -8.71 | 107.31 | 110.80 |
| 35 | BA | 760 | G | N1-C6-O6 | -8.71 | 114.67 | 119.90 |
| 2 | AB | 2399 | G | C4-C5-C6 | 8.71 | 124.03 | 118.80 |
| 35 | BA | 255 | G | C5-C6-O6 | -8.71 | 123.37 | 128.60 |
| 35 | BA | 969 | A | N3-C4-C5 | 8.71 | 132.90 | 126.80 |
| 35 | BA | 786 | G | N1-C2-N3 | -8.71 | 118.67 | 123.90 |
| 2 | AB | 992 | C | C5-C6-N1 | -8.71 | 116.65 | 121.00 |
| 2 | AB | 1824 | G | N1-C6-O6 | 8.71 | 125.12 | 119.90 |
| 35 | BA | 796 | C | N3-C4-C5 | -8.71 | 118.42 | 121.90 |
| 35 | BA | 1226 | C | O4'-C1'-N1 | 8.71 | 115.17 | 108.20 |
| 2 | AB | 1191 | G | N3-C4-C5 | -8.70 | 124.25 | 128.60 |
| 2 | AB | 1222 | U | C2-N3-C4 | -8.71 | 121.78 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1358 | G | N1-C6-O6 | -8.70 | 114.68 | 119.90 |
| 2 | AB | 1922 | G | C2-N3-C4 | 8.70 | 116.25 | 111.90 |
| 2 | AB | 2100 | G | N3-C4-C5 | -8.71 | 124.25 | 128.60 |
| 2 | AB | 2362 | C | O4'-C1'-N1 | 8.71 | 115.17 | 108.20 |
| 35 | BA | 317 | U | C2-N3-C4 | -8.70 | 121.78 | 127.00 |
| 2 | AB | 141 | G | N3-C4-C5 | -8.70 | 124.25 | 128.60 |
| 2 | AB | 534 | U | N3-C2-O2 | -8.70 | 116.11 | 122.20 |
| 2 | AB | 733 | G | C6-C5-N7 | -8.70 | 125.18 | 130.40 |
| 2 | AB | 192 | C | C6-N1-C2 | -8.70 | 116.82 | 120.30 |
| 2 | AB | 481 | G | N3-C4-N9 | 8.70 | 131.22 | 126.00 |
| 2 | AB | 1081 | U | C5-C4-O4 | -8.70 | 120.68 | 125.90 |
| 2 | AB | 1853 | A | C6-C5-N7 | -8.70 | 126.21 | 132.30 |
| 2 | AB | 2159 | G | C6-C5-N7 | 8.70 | 135.62 | 130.40 |
| 35 | BA | 1495 | U | C5-C6-N1 | 8.70 | 127.05 | 122.70 |
| 2 | AB | 798 | G | N9-C4-C5 | 8.70 | 108.88 | 105.40 |
| 2 | AB | 2110 | G | C6-C5-N7 | -8.70 | 125.18 | 130.40 |
| 37 | BC | 52 | C | N1-C2-O2 | 8.70 | 124.12 | 118.90 |
| 2 | AB | 360 | U | C5-C6-N1 | -8.70 | 118.35 | 122.70 |
| 43 | BI | 78 | ARG | NE-CZ-NH1 | 8.70 | 124.65 | 120.30 |
| 2 | AB | 13 | A | N9-C4-C5 | -8.70 | 102.32 | 105.80 |
| 2 | AB | 427 | U | N1-C2-N3 | 8.70 | 120.12 | 114.90 |
| 2 | AB | 609 | A | C3'-C2'-C1' | 8.70 | 108.46 | 101.50 |
| 2 | AB | 1044 | C | C6-N1-C2 | -8.70 | 116.82 | 120.30 |
| 2 | AB | 2032 | G | C2-N3-C4 | 8.70 | 116.25 | 111.90 |
| 2 | AB | 2382 | G | C5-C6-N1 | 8.70 | 115.85 | 111.50 |
| 35 | BA | 519 | C | N1-C2-N3 | -8.70 | 113.11 | 119.20 |
| 35 | BA | 863 | U | C4'-C3'-C2' | -8.70 | 93.90 | 102.60 |
| 2 | AB | 1494 | A | N9-C1'-C2' | -8.69 | 102.44 | 112.00 |
| 2 | AB | 2050 | C | N3-C4-N4 | 8.70 | 124.09 | 118.00 |
| 17 | AQ | 94 | ARG | NE-CZ-NH1 | 8.69 | 124.65 | 120.30 |
| 35 | BA | 1036 | A | N1-C2-N3 | -8.69 | 124.95 | 129.30 |
| 35 | BA | 1168 | U | C2-N3-C4 | -8.69 | 121.78 | 127.00 |
| 35 | BA | 1469 | C | N3-C4-N4 | 8.69 | 124.09 | 118.00 |
| 37 | BC | 6 | G | C6-N1-C2 | -8.70 | 119.88 | 125.10 |
| 37 | BC | 66 | C | O4'-C1'-N1 | 8.69 | 115.15 | 108.20 |
| 42 | BH | 109 | ARG | NE-CZ-NH1 | 8.69 | 124.65 | 120.30 |
| 54 | BT | 24 | ASP | CB-CG-OD1 | -8.69 | 110.48 | 118.30 |
| 2 | AB | 154 | U | C5-C4-O4 | -8.69 | 120.69 | 125.90 |
| 2 | AB | 194 | G | N1-C6-O6 | 8.69 | 125.11 | 119.90 |
| 2 | AB | 1216 | G | C2-N3-C4 | 8.69 | 116.25 | 111.90 |
| 2 | AB | 2276 | G | C6-N1-C2 | -8.69 | 119.89 | 125.10 |
| 35 | BA | 378 | G | C2-N3-C4 | 8.69 | 116.24 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 753 | A | C6-C5-N7 | 8.69 | 138.38 | 132.30 |
| 35 | BA | 1381 | U | C2-N3-C4 | -8.69 | 121.79 | 127.00 |
| 35 | BA | 1355 | G | C5-C6-N1 | 8.69 | 115.84 | 111.50 |
| 35 | BA | 1401 | G | C4-C5-C6 | 8.69 | 124.01 | 118.80 |
| 36 | BB | 29 | G | C2-N3-C4 | 8.69 | 116.24 | 111.90 |
| 2 | AB | 251 | A | C8-N9-C4 | 8.69 | 109.28 | 105.80 |
| 2 | AB | 2696 | U | C5'-C4'-O4' | 8.69 | 119.53 | 109.10 |
| 35 | BA | 374 | A | C8-N9-C4 | -8.69 | 102.33 | 105.80 |
| 37 | BC | 20 | G | N1-C2-N3 | -8.69 | 118.69 | 123.90 |
| 2 | AB | 96 | C | C3'-C2'-C1' | 8.68 | 108.45 | 101.50 |
| 2 | AB | 1290 | C | N1-C2-O2 | 8.68 | 124.11 | 118.90 |
| 2 | AB | 2065 | C | N3-C4-N4 | 8.68 | 124.08 | 118.00 |
| 2 | AB | 2413 | G | C5-N7-C8 | -8.68 | 99.96 | 104.30 |
| 2 | AB | 2862 | G | C4-C5-N7 | -8.68 | 107.33 | 110.80 |
| 35 | BA | 251 | G | N3-C4-N9 | 8.68 | 131.21 | 126.00 |
| 35 | BA | 1493 | A | O4'-C1'-N9 | 8.68 | 115.15 | 108.20 |
| 35 | BA | 561 | U | P-O3'-C3' | 8.68 | 130.12 | 119.70 |
| 1 | AA | 17 | C | O4'-C1'-N1 | 8.68 | 115.14 | 108.20 |
| 2 | AB | 158 | U | C6-N1-C2 | -8.68 | 115.79 | 121.00 |
| 2 | AB | 881 | G | C8-N9-C4 | -8.68 | 102.93 | 106.40 |
| 2 | AB | 1605 | C | C3'-C2'-C1' | 8.68 | 108.44 | 101.50 |
| 2 | AB | 1969 | A | C5-C6-N1 | 8.68 | 122.04 | 117.70 |
| 2 | AB | 2618 | G | C5'-C4'-O4' | 8.68 | 119.51 | 109.10 |
| 4 | AD | 237 | ARG | NE-CZ-NH2 | -8.68 | 115.96 | 120.30 |
| 37 | BC | 19 | G | C5-N7-C8 | -8.68 | 99.96 | 104.30 |
| 40 | BF | 106 | PHE | CB-CG-CD2 | -8.68 | 114.73 | 120.80 |
| 2 | AB | 1325 | U | C4'-C3'-C2' | -8.68 | 93.92 | 102.60 |
| 2 | AB | 1824 | G | C8-N9-C4 | -8.68 | 102.93 | 106.40 |
| 40 | BF | 46 | ARG | NE-CZ-NH1 | 8.68 | 124.64 | 120.30 |
| 2 | AB | 895 | U | N3-C4-C5 | -8.67 | 109.40 | 114.60 |
| 2 | AB | 1263 | U | C2-N3-C4 | -8.67 | 121.80 | 127.00 |
| 2 | AB | 1807 | G | O4'-C1'-N9 | 8.67 | 115.14 | 108.20 |
| 35 | BA | 947 | G | C2-N3-C4 | 8.67 | 116.24 | 111.90 |
| 35 | BA | 983 | A | C4-C5-C6 | -8.67 | 112.66 | 117.00 |
| 2 | AB | 134 | G | O4'-C1'-C2' | 8.67 | 115.41 | 107.60 |
| 35 | BA | 370 | C | C6-N1-C2 | -8.67 | 116.83 | 120.30 |
| 2 | AB | 1869 | G | C4-C5-C6 | 8.67 | 124.00 | 118.80 |
| 2 | AB | 2065 | C | N3-C4-C5 | -8.67 | 118.43 | 121.90 |
| 2 | AB | 948 | C | P-O3'-C3' | 8.67 | 130.10 | 119.70 |
| 2 | AB | 2055 | C | O4'-C1'-N1 | 8.67 | 115.14 | 108.20 |
| 35 | BA | 160 | A | N9-C4-C5 | 8.67 | 109.27 | 105.80 |
| 35 | BA | 259 | G | C8-N9-C4 | -8.67 | 102.93 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2314 | A | C2-N3-C4 | -8.67 | 106.27 | 110.60 |
| 2 | AB | 644 | A | C4'-C3'-C2' | -8.67 | 93.93 | 102.60 |
| 2 | AB | 945 | A | C1'-O4'-C4' | -8.67 | 102.97 | 109.90 |
| 2 | AB | 2762 | C | N1-C2-O2 | 8.67 | 124.10 | 118.90 |
| 37 | BC | 6 | G | C4-C5-N7 | 8.67 | 114.27 | 110.80 |
| 2 | AB | 575 | A | N7-C8-N9 | 8.66 | 118.13 | 113.80 |
| 2 | AB | 620 | G | N3-C4-N9 | 8.66 | 131.20 | 126.00 |
| 2 | AB | 2091 | C | N3-C4-C5 | -8.66 | 118.43 | 121.90 |
| 2 | AB | 2294 | G | C5-N7-C8 | 8.66 | 108.63 | 104.30 |
| 34 | A7 | 24 | ARG | NE-CZ-NH2 | -8.66 | 115.97 | 120.30 |
| 2 | AB | 926 | G | C6-N1-C2 | -8.66 | 119.90 | 125.10 |
| 35 | BA | 673 | A | N9-C4-C5 | 8.66 | 109.27 | 105.80 |
| 39 | BE | 53 | ARG | NE-CZ-NH1 | 8.66 | 124.63 | 120.30 |
| 2 | AB | 1068 | G | C4-C5-N7 | -8.66 | 107.33 | 110.80 |
| 2 | AB | 1665 | A | O4'-C1'-C2' | -8.66 | 97.14 | 105.80 |
| 2 | AB | 1910 | G | O4'-C1'-N9 | 8.66 | 115.13 | 108.20 |
| 2 | AB | 2459 | A | C2-N3-C4 | -8.66 | 106.27 | 110.60 |
| 35 | BA | 792 | A | N1-C2-N3 | -8.66 | 124.97 | 129.30 |
| 35 | BA | 819 | A | N9-C4-C5 | 8.66 | 109.27 | 105.80 |
| 36 | BB | 20 | G | N3-C4-N9 | 8.66 | 131.20 | 126.00 |
| 2 | AB | 443 | A | C8-N9-C4 | -8.66 | 102.34 | 105.80 |
| 2 | AB | 2258 | C | O4'-C1'-N1 | 8.66 | 115.13 | 108.20 |
| 2 | AB | 1467 | U | C2-N3-C4 | -8.66 | 121.80 | 127.00 |
| 35 | BA | 368 | U | N3-C2-O2 | -8.66 | 116.14 | 122.20 |
| 35 | BA | 500 | G | N7-C8-N9 | 8.66 | 117.43 | 113.10 |
| 35 | BA | 1135 | U | C2-N3-C4 | -8.66 | 121.80 | 127.00 |
| 2 | AB | 498 | G | C6-N1-C2 | -8.66 | 119.91 | 125.10 |
| 2 | AB | 1723 | G | C2-N3-C4 | -8.66 | 107.57 | 111.90 |
| 2 | AB | 1980 | G | C3'-C2'-C1' | 8.66 | 108.43 | 101.50 |
| 2 | AB | 2804 | U | O4'-C1'-N1 | 8.66 | 115.13 | 108.20 |
| 2 | AB | 2071 | A | C5-N7-C8 | 8.66 | 108.23 | 103.90 |
| 35 | BA | 70 | U | N1-C2-N3 | 8.66 | 120.09 | 114.90 |
| 35 | BA | 646 | G | N3-C4-C5 | -8.66 | 124.27 | 128.60 |
| 35 | BA | 847 | G | N9-C4-C5 | 8.66 | 108.86 | 105.40 |
| 35 | BA | 895 | G | N3-C4-C5 | -8.66 | 124.27 | 128.60 |
| 35 | BA | 1310 | G | N3-C4-N9 | 8.66 | 131.19 | 126.00 |
| 2 | AB | 325 | G | C6-N1-C2 | -8.65 | 119.91 | 125.10 |
| 2 | AB | 1906 | G | C2-N3-C4 | 8.65 | 116.23 | 111.90 |
| 1 | AA | 98 | G | C5-C6-O6 | -8.65 | 123.41 | 128.60 |
| 2 | AB | 1878 | G | C6-C5-N7 | -8.65 | 125.21 | 130.40 |
| 2 | AB | 2316 | G | N3-C2-N2 | -8.65 | 113.84 | 119.90 |
| 35 | BA | 145 | G | C8-N9-C4 | -8.65 | 102.94 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 769 | G | N1-C2-N2 | -8.65 | 108.41 | 116.20 |
| 35 | BA | 1131 | G | C2-N3-C4 | 8.65 | 116.23 | 111.90 |
| 35 | BA | 1361 | G | N3-C4-C5 | -8.65 | 124.27 | 128.60 |
| 2 | AB | 721 | A | N9-C4-C5 | -8.65 | 102.34 | 105.80 |
| 2 | AB | 1628 | G | N3-C4-C5 | -8.65 | 124.28 | 128.60 |
| 2 | AB | 2901 | C | O4'-C1'-N1 | 8.65 | 115.12 | 108.20 |
| 35 | BA | 215 | C | C5-C4-N4 | 8.65 | 126.26 | 120.20 |
| 2 | AB | 1010 | A | N1-C2-N3 | -8.65 | 124.98 | 129.30 |
| 2 | AB | 2195 | U | N3-C4-C5 | -8.65 | 109.41 | 114.60 |
| 2 | AB | 2675 | A | N7-C8-N9 | -8.65 | 109.48 | 113.80 |
| 2 | AB | 2758 | A | C4'-C3'-C2' | -8.65 | 93.95 | 102.60 |
| 2 | AB | 2846 | G | N1-C6-O6 | 8.65 | 125.09 | 119.90 |
| 35 | BA | 1158 | C | C6-N1-C2 | -8.65 | 116.84 | 120.30 |
| 2 | AB | 271 | G | N3-C4-C5 | -8.65 | 124.28 | 128.60 |
| 16 | AP | 17 | ARG | NE-CZ-NH1 | 8.65 | 124.62 | 120.30 |
| 35 | BA | 551 | U | N1-C2-N3 | 8.65 | 120.09 | 114.90 |
| 35 | BA | 1214 | C | N3-C4-C5 | -8.65 | 118.44 | 121.90 |
| 35 | BA | 1426 | G | C2-N3-C4 | -8.65 | 107.58 | 111.90 |
| 35 | BA | 1533 | C | O4'-C1'-N1 | 8.65 | 115.12 | 108.20 |
| 1 | AA | 91 | C | C2-N3-C4 | 8.64 | 124.22 | 119.90 |
| 2 | AB | 417 | C | N3-C4-C5 | -8.64 | 118.44 | 121.90 |
| 2 | AB | 2223 | G | P-O3'-C3' | 8.64 | 130.07 | 119.70 |
| 2 | AB | 2562 | U | C5'-C4'-O4' | 8.64 | 119.47 | 109.10 |
| 2 | AB | 2692 | G | C6-C5-N7 | -8.64 | 125.21 | 130.40 |
| 35 | BA | 888 | G | C5-C6-O6 | -8.64 | 123.41 | 128.60 |
| 35 | BA | 710 | G | C4-C5-C6 | -8.64 | 113.61 | 118.80 |
| 2 | AB | 252 | G | N3-C4-C5 | -8.64 | 124.28 | 128.60 |
| 2 | AB | 341 | C | C5-C6-N1 | 8.64 | 125.32 | 121.00 |
| 2 | AB | 2626 | C | C6-N1-C2 | -8.64 | 116.84 | 120.30 |
| 35 | BA | 595 | A | C5-C6-N1 | 8.64 | 122.02 | 117.70 |
| 2 | AB | 2717 | C | C5-C6-N1 | 8.64 | 125.32 | 121.00 |
| 35 | BA | 948 | C | C5-C4-N4 | -8.64 | 114.15 | 120.20 |
| 35 | BA | 1062 | U | C5-C6-N1 | -8.64 | 118.38 | 122.70 |
| 35 | BA | 1204 | A | N1-C2-N3 | -8.64 | 124.98 | 129.30 |
| 2 | AB | 1368 | G | C4-C5-N7 | -8.64 | 107.34 | 110.80 |
| 2 | AB | 1773 | A | C4-C5-N7 | -8.64 | 106.38 | 110.70 |
| 35 | BA | 648 | A | C2-N3-C4 | -8.64 | 106.28 | 110.60 |
| 35 | BA | 693 | G | C4-C5-N7 | -8.64 | 107.34 | 110.80 |
| 55 | BU | 35 | ARG | CD-NE-CZ | 8.64 | 135.69 | 123.60 |
| 1 | AA | 35 | C | C1'-O4'-C4' | -8.63 | 102.99 | 109.90 |
| 35 | BA | 1370 | G | C4'-C3'-C2' | -8.64 | 93.96 | 102.60 |
| 40 | BF | 80 | ARG | NE-CZ-NH2 | -8.64 | 115.98 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 141 | G | C8-N9-C4 | -8.63 | 102.95 | 106.40 |
| 2 | AB | 1327 | A | C6-C5-N7 | 8.63 | 138.34 | 132.30 |
| 2 | AB | 2185 | U | C1'-O4'-C4' | -8.63 | 102.99 | 109.90 |
| 35 | BA | 247 | G | N9-C4-C5 | 8.63 | 108.85 | 105.40 |
| 35 | BA | 725 | G | N3-C2-N2 | 8.63 | 125.94 | 119.90 |
| 51 | BQ | 62 | ARG | NE-CZ-NH1 | 8.63 | 124.62 | 120.30 |
| 2 | AB | 357 | C | C6-N1-C2 | -8.63 | 116.85 | 120.30 |
| 2 | AB | 1253 | A | O4'-C1'-N9 | 8.63 | 115.11 | 108.20 |
| 2 | AB | 1558 | C | C5-C4-N4 | 8.63 | 126.24 | 120.20 |
| 2 | AB | 2012 | G | N3-C2-N2 | 8.63 | 125.94 | 119.90 |
| 2 | AB | 2542 | A | C5-N7-C8 | 8.63 | 108.22 | 103.90 |
| 2 | AB | 2818 | U | C2-N3-C4 | -8.63 | 121.82 | 127.00 |
| 35 | BA | 656 | G | C2-N3-C4 | 8.63 | 116.22 | 111.90 |
| 35 | BA | 942 | G | C8-N9-C4 | -8.63 | 102.95 | 106.40 |
| 2 | AB | 303 | G | N9-C4-C5 | 8.63 | 108.85 | 105.40 |
| 35 | BA | 469 | C | C2-N3-C4 | 8.63 | 124.22 | 119.90 |
| 35 | BA | 500 | G | C6-C5-N7 | -8.63 | 125.22 | 130.40 |
| 35 | BA | 1215 | G | C4-C5-N7 | -8.63 | 107.35 | 110.80 |
| 2 | AB | 570 | G | C2-N3-C4 | 8.63 | 116.21 | 111.90 |
| 2 | AB | 886 | A | C4-C5-N7 | 8.63 | 115.01 | 110.70 |
| 2 | AB | 1023 | U | C6-N1-C2 | 8.63 | 126.18 | 121.00 |
| 2 | AB | 1465 | G | C5-N7-C8 | -8.63 | 99.99 | 104.30 |
| 35 | BA | 947 | G | C4-C5-N7 | 8.63 | 114.25 | 110.80 |
| 36 | BB | 28 | U | C5'-C4'-C3' | -8.63 | 102.19 | 116.00 |
| 2 | AB | 2391 | G | C4-C5-N7 | -8.63 | 107.35 | 110.80 |
| 2 | AB | 593 | U | C2-N3-C4 | -8.62 | 121.83 | 127.00 |
| 2 | AB | 1220 | G | O4'-C1'-N9 | 8.62 | 115.10 | 108.20 |
| 2 | AB | 1320 | C | N3-C2-O2 | -8.62 | 115.86 | 121.90 |
| 2 | AB | 2617 | U | C2-N3-C4 | -8.62 | 121.83 | 127.00 |
| 35 | BA | 464 | U | C2-N3-C4 | -8.62 | 121.83 | 127.00 |
| 2 | AB | 190 | A | C4-C5-C6 | -8.62 | 112.69 | 117.00 |
| 2 | AB | 738 | G | N1-C2-N3 | 8.62 | 129.07 | 123.90 |
| 2 | AB | 845 | A | C8-N9-C4 | -8.62 | 102.35 | 105.80 |
| 2 | AB | 900 | A | O4'-C1'-N9 | 8.62 | 115.10 | 108.20 |
| 2 | AB | 2746 | U | O4'-C1'-N1 | 8.62 | 115.10 | 108.20 |
| 35 | BA | 399 | G | N9-C4-C5 | -8.62 | 101.95 | 105.40 |
| 2 | AB | 278 | A | N1-C6-N6 | 8.62 | 123.77 | 118.60 |
| 2 | AB | 1176 | U | C5'-C4'-O4' | 8.62 | 119.44 | 109.10 |
| 2 | AB | 2678 | C | N3-C2-O2 | -8.62 | 115.87 | 121.90 |
| 35 | BA | 1055 | A | O4'-C1'-N9 | 8.62 | 115.10 | 108.20 |
| 35 | BA | 1235 | U | N3-C4-O4 | 8.62 | 125.43 | 119.40 |
| 2 | AB | 1098 | A | C5-N7-C8 | 8.62 | 108.21 | 103.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2064 | C | C1'-O4'-C4' | -8.62 | 103.01 | 109.90 |
| 2 | AB | 2413 | G | N3-C4-N9 | -8.62 | 120.83 | 126.00 |
| 2 | AB | 2802 | G | C4-C5-N7 | -8.62 | 107.35 | 110.80 |
| 35 | BA | 128 | G | C6-C5-N7 | -8.62 | 125.23 | 130.40 |
| 35 | BA | 776 | G | C6-C5-N7 | 8.62 | 135.57 | 130.40 |
| 35 | BA | 1025 | U | C5-C6-N1 | 8.62 | 127.01 | 122.70 |
| 2 | AB | 134 | G | C2-N3-C4 | 8.62 | 116.21 | 111.90 |
| 2 | AB | 2154 | A | C4-C5-C6 | -8.62 | 112.69 | 117.00 |
| 2 | AB | 1066 | U | N1-C2-O2 | 8.61 | 128.83 | 122.80 |
| 2 | AB | 1475 | G | C5-C6-N1 | 8.62 | 115.81 | 111.50 |
| 2 | AB | 1820 | U | C3'-C2'-C1' | 8.62 | 108.39 | 101.50 |
| 2 | AB | 1821 | A | C5-C6-N1 | 8.62 | 122.01 | 117.70 |
| 2 | AB | 1622 | G | N7-C8-N9 | -8.61 | 108.79 | 113.10 |
| 2 | AB | 1632 | A | N9-C4-C5 | 8.61 | 109.25 | 105.80 |
| 2 | AB | 2241 | A | C8-N9-C4 | -8.62 | 102.35 | 105.80 |
| 2 | AB | 2784 | U | C5-C4-O4 | -8.62 | 120.73 | 125.90 |
| 2 | AB | 2824 | C | C5-C6-N1 | -8.61 | 116.69 | 121.00 |
| 35 | BA | 378 | G | C5-C6-N1 | 8.61 | 115.81 | 111.50 |
| 37 | BC | 5 | G | C5-C6-O6 | -8.61 | 123.43 | 128.60 |
| 37 | BC | 50 | G | C4-C5-C6 | 8.61 | 123.97 | 118.80 |
| 2 | AB | 537 | G | N3-C2-N2 | 8.61 | 125.93 | 119.90 |
| 2 | AB | 1787 | A | C6-N1-C2 | -8.61 | 113.43 | 118.60 |
| 19 | AS | 10 | ARG | NH1-CZ-NH2 | -8.61 | 109.93 | 119.40 |
| 35 | BA | 313 | A | C8-N9-C4 | 8.61 | 109.24 | 105.80 |
| 35 | BA | 466 | A | C6-N1-C2 | 8.61 | 123.77 | 118.60 |
| 2 | AB | 577 | G | C5-C6-N1 | 8.61 | 115.80 | 111.50 |
| 2 | AB | 1604 | C | C5-C6-N1 | -8.61 | 116.70 | 121.00 |
| 2 | AB | 2194 | U | C6-N1-C2 | -8.61 | 115.83 | 121.00 |
| 35 | BA | 741 | G | N3-C4-N9 | -8.61 | 120.83 | 126.00 |
| 35 | BA | 930 | C | N3-C4-N4 | 8.61 | 124.03 | 118.00 |
| 37 | BC | 27 | G | C8-N9-C4 | -8.61 | 102.96 | 106.40 |
| 1 | AA | 37 | C | C2-N3-C4 | 8.61 | 124.20 | 119.90 |
| 2 | AB | 1266 | G | N3-C4-C5 | -8.61 | 124.30 | 128.60 |
| 2 | AB | 2525 | G | C5-C6-O6 | -8.61 | 123.44 | 128.60 |
| 35 | BA | 1447 | A | C4-C5-C6 | 8.61 | 121.30 | 117.00 |
| 2 | AB | 800 | A | C5'-C4'-O4' | 8.61 | 119.43 | 109.10 |
| 2 | AB | 1008 | A | C2-N3-C4 | 8.61 | 114.90 | 110.60 |
| 2 | AB | 1382 | G | P-O3'-C3' | 8.61 | 130.03 | 119.70 |
| 2 | AB | 1840 | G | C4-C5-N7 | -8.61 | 107.36 | 110.80 |
| 2 | AB | 1896 | G | N9-C4-C5 | -8.61 | 101.96 | 105.40 |
| 35 | BA | 252 | U | N3-C4-O4 | 8.61 | 125.42 | 119.40 |
| 35 | BA | 975 | A | C5-C6-N6 | 8.61 | 130.59 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1409 | C | O4'-C1'-N1 | 8.61 | 115.09 | 108.20 |
| 35 | BA | 1015 | G | N7-C8-N9 | 8.61 | 117.40 | 113.10 |
| 2 | AB | 516 | C | N1-C1'-C2' | -8.60 | 102.54 | 112.00 |
| 2 | AB | 646 | U | O4'-C1'-N1 | 8.60 | 115.08 | 108.20 |
| 2 | AB | 2206 | C | N3-C4-C5 | 8.60 | 125.34 | 121.90 |
| 2 | AB | 2757 | A | C5'-C4'-O4' | 8.60 | 119.42 | 109.10 |
| 2 | AB | 2773 | C | O4'-C1'-N1 | 8.60 | 115.08 | 108.20 |
| 35 | BA | 399 | G | N1-C2-N2 | 8.60 | 123.94 | 116.20 |
| 35 | BA | 108 | G | N3-C4-C5 | -8.60 | 124.30 | 128.60 |
| 35 | BA | 1374 | A | O4'-C1'-N9 | 8.60 | 115.08 | 108.20 |
| 2 | AB | 912 | C | O4'-C1'-N1 | 8.60 | 115.08 | 108.20 |
| 2 | AB | 74 | A | N7-C8-N9 | -8.60 | 109.50 | 113.80 |
| 2 | AB | 1787 | A | N1-C6-N6 | -8.60 | 113.44 | 118.60 |
| 2 | AB | 2004 | G | N3-C4-N9 | 8.60 | 131.16 | 126.00 |
| 2 | AB | 2838 | G | C5-C6-O6 | -8.60 | 123.44 | 128.60 |
| 2 | AB | 2902 | C | C6-N1-C2 | -8.60 | 116.86 | 120.30 |
| 9 | AI | 51 | ARG | CD-NE-CZ | 8.60 | 135.64 | 123.60 |
| 35 | BA | 445 | G | N1-C6-O6 | -8.60 | 114.74 | 119.90 |
| 35 | BA | 532 | A | O4'-C1'-N9 | 8.60 | 115.08 | 108.20 |
| 35 | BA | 1106 | G | C5-N7-C8 | -8.60 | 100.00 | 104.30 |
| 35 | BA | 1388 | C | O4'-C1'-N1 | 8.60 | 115.08 | 108.20 |
| 2 | AB | 752 | A | N3-C4-C5 | -8.60 | 120.78 | 126.80 |
| 35 | BA | 115 | G | N7-C8-N9 | 8.60 | 117.40 | 113.10 |
| 2 | AB | 1609 | A | N9-C4-C5 | -8.60 | 102.36 | 105.80 |
| 2 | AB | 2046 | G | N1-C2-N2 | -8.60 | 108.46 | 116.20 |
| 35 | BA | 40 | C | N3-C2-O2 | -8.60 | 115.88 | 121.90 |
| 2 | AB | 618 | G | C2-N3-C4 | 8.59 | 116.20 | 111.90 |
| 2 | AB | 966 | G | N7-C8-N9 | 8.59 | 117.40 | 113.10 |
| 2 | AB | 2465 | C | N1-C2-O2 | 8.59 | 124.06 | 118.90 |
| 35 | BA | 108 | G | C6-N1-C2 | -8.59 | 119.94 | 125.10 |
| 2 | AB | 20 | C | C3'-C2'-C1' | 8.59 | 108.37 | 101.50 |
| 2 | AB | 487 | C | N1-C2-O2 | 8.59 | 124.05 | 118.90 |
| 2 | AB | 591 | U | N3-C4-O4 | 8.59 | 125.41 | 119.40 |
| 2 | AB | 690 | G | C2-N3-C4 | 8.59 | 116.20 | 111.90 |
| 2 | AB | 1751 | U | N1-C2-O2 | 8.59 | 128.81 | 122.80 |
| 2 | AB | 1789 | A | N1-C6-N6 | -8.59 | 113.45 | 118.60 |
| 2 | AB | 1972 | G | C5-C6-N1 | 8.59 | 115.80 | 111.50 |
| 2 | AB | 2062 | A | C4-C5-C6 | -8.59 | 112.70 | 117.00 |
| 35 | BA | 491 | G | N3-C4-C5 | -8.59 | 124.31 | 128.60 |
| 2 | AB | 2761 | A | O4'-C1'-N9 | 8.59 | 115.07 | 108.20 |
| 35 | BA | 124 | C | C5-C4-N4 | -8.59 | 114.19 | 120.20 |
| 35 | BA | 317 | U | C5-C4-O4 | -8.59 | 120.75 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 739 | C | C5-C4-N4 | -8.59 | 114.19 | 120.20 |
| 37 | BC | 16 | C | N3-C4-C5 | 8.59 | 125.34 | 121.90 |
| 35 | BA | 679 | C | C5'-C4'-O4' | 8.59 | 119.41 | 109.10 |
| 35 | BA | 885 | G | N9-C4-C5 | 8.59 | 108.84 | 105.40 |
| 35 | BA | 1055 | A | C6-N1-C2 | 8.59 | 123.75 | 118.60 |
| 2 | AB | 2415 | G | C8-N9-C4 | -8.59 | 102.97 | 106.40 |
| 2 | AB | 2446 | G | N9-C4-C5 | 8.59 | 108.83 | 105.40 |
| 2 | AB | 2839 | G | C2-N3-C4 | 8.59 | 116.19 | 111.90 |
| 2 | AB | 130 | C | P-O3'-C3' | 8.59 | 130.00 | 119.70 |
| 2 | AB | 608 | A | C4-C5-N7 | 8.59 | 114.99 | 110.70 |
| 2 | AB | 649 | G | C4'-C3'-C2' | -8.59 | 94.02 | 102.60 |
| 2 | AB | 837 | C | C5-C6-N1 | 8.59 | 125.29 | 121.00 |
| 2 | AB | 1426 | G | N3-C4-C5 | 8.59 | 132.89 | 128.60 |
| 2 | AB | 1465 | G | O4'-C1'-N9 | 8.59 | 115.07 | 108.20 |
| 2 | AB | 1548 | A | C8-N9-C4 | -8.59 | 102.36 | 105.80 |
| 2 | AB | 1631 | G | C8-N9-C4 | 8.59 | 109.83 | 106.40 |
| 2 | AB | 2512 | C | N3-C4-C5 | -8.59 | 118.47 | 121.90 |
| 2 | AB | 2898 | U | C5-C4-O4 | -8.59 | 120.75 | 125.90 |
| 35 | BA | 424 | G | N7-C8-N9 | 8.59 | 117.39 | 113.10 |
| 36 | BB | 33 | A | N3-C4-C5 | -8.59 | 120.79 | 126.80 |
| 2 | AB | 602 | A | C8-N9-C4 | 8.58 | 109.23 | 105.80 |
| 2 | AB | 659 | G | N3-C2-N2 | -8.58 | 113.89 | 119.90 |
| 2 | AB | 905 | A | C2-N3-C4 | 8.58 | 114.89 | 110.60 |
| 2 | AB | 2882 | A | C5-N7-C8 | 8.58 | 108.19 | 103.90 |
| 35 | BA | 588 | G | N1-C6-O6 | -8.58 | 114.75 | 119.90 |
| 2 | AB | 1533 | C | N3-C4-N4 | -8.58 | 111.99 | 118.00 |
| 2 | AB | 1664 | A | C6-N1-C2 | 8.58 | 123.75 | 118.60 |
| 35 | BA | 144 | G | O4'-C1'-N9 | 8.58 | 115.06 | 108.20 |
| 35 | BA | 287 | U | C4'-C3'-C2' | -8.58 | 94.02 | 102.60 |
| 35 | BA | 1163 | A | C6-N1-C2 | 8.58 | 123.75 | 118.60 |
| 1 | AA | 87 | U | C4-C5-C6 | 8.58 | 124.85 | 119.70 |
| 2 | AB | 81 | G | O4'-C1'-N9 | 8.58 | 115.06 | 108.20 |
| 2 | AB | 421 | C | C4-C5-C6 | 8.58 | 121.69 | 117.40 |
| 2 | AB | 831 | G | N9-C4-C5 | 8.58 | 108.83 | 105.40 |
| 2 | AB | 1157 | G | N1-C6-O6 | 8.58 | 125.05 | 119.90 |
| 2 | AB | 2410 | G | C4-C5-N7 | -8.58 | 107.37 | 110.80 |
| 2 | AB | 2427 | C | O4'-C1'-N1 | 8.58 | 115.06 | 108.20 |
| 2 | AB | 2686 | G | C5-C6-N1 | -8.58 | 107.21 | 111.50 |
| 2 | AB | 2821 | A | C4-C5-N7 | -8.58 | 106.41 | 110.70 |
| 35 | BA | 108 | G | C8-N9-C4 | -8.58 | 102.97 | 106.40 |
| 35 | BA | 232 | G | C5-C6-O6 | -8.58 | 123.45 | 128.60 |
| 35 | BA | 505 | G | N3-C4-C5 | -8.58 | 124.31 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1336 | C | C4-C5-C6 | 8.58 | 121.69 | 117.40 |
| 2 | AB | 28 | A | N9-C4-C5 | 8.57 | 109.23 | 105.80 |
| 2 | AB | 140 | C | O4'-C1'-N1 | 8.57 | 115.06 | 108.20 |
| 2 | AB | 2680 | U | O4'-C1'-N1 | 8.57 | 115.06 | 108.20 |
| 1 | AA | 74 | U | C5-C6-N1 | -8.57 | 118.41 | 122.70 |
| 2 | AB | 1196 | C | C5'-C4'-O4' | 8.57 | 119.39 | 109.10 |
| 2 | AB | 1513 | U | C6-N1-C2 | -8.57 | 115.86 | 121.00 |
| 2 | AB | 1830 | C | O4'-C1'-N1 | 8.57 | 115.06 | 108.20 |
| 2 | AB | 1892 | C | N1-C1'-C2' | -8.57 | 102.57 | 112.00 |
| 37 | BC | 41 | C | C5-C4-N4 | -8.57 | 114.20 | 120.20 |
| 2 | AB | 2333 | A | C8-N9-C4 | -8.57 | 102.37 | 105.80 |
| 2 | AB | 353 | C | C6-N1-C2 | 8.57 | 123.73 | 120.30 |
| 2 | AB | 942 | G | C8-N9-C4 | -8.57 | 102.97 | 106.40 |
| 37 | BC | 12 | G | C5-C6-O6 | -8.57 | 123.46 | 128.60 |
| 2 | AB | 751 | A | C3'-C2'-C1' | 8.57 | 108.36 | 101.50 |
| 2 | AB | 1631 | G | N3-C4-N9 | 8.57 | 131.14 | 126.00 |
| 2 | AB | 2084 | C | C4'-C3'-C2' | -8.57 | 94.03 | 102.60 |
| 2 | AB | 2849 | U | C2-N3-C4 | -8.57 | 121.86 | 127.00 |
| 2 | AB | 1162 | G | C1'-O4'-C4' | 8.57 | 116.75 | 109.90 |
| 2 | AB | 1765 | U | O4'-C1'-N1 | 8.57 | 115.06 | 108.20 |
| 2 | AB | 2437 | G | N3-C4-C5 | -8.57 | 124.32 | 128.60 |
| 35 | BA | 664 | G | C8-N9-C4 | -8.57 | 102.97 | 106.40 |
| 2 | AB | 1765 | U | C5-C4-O4 | -8.57 | 120.76 | 125.90 |
| 2 | AB | 2894 | G | C6-C5-N7 | 8.57 | 135.54 | 130.40 |
| 35 | BA | 71 | A | C4-C5-N7 | 8.57 | 114.98 | 110.70 |
| 35 | BA | 84 | U | O4'-C1'-C2' | -8.57 | 97.23 | 105.80 |
| 35 | BA | 926 | G | C5-N7-C8 | -8.56 | 100.02 | 104.30 |
| 2 | AB | 1999 | C | N3-C4-N4 | 8.56 | 123.99 | 118.00 |
| 2 | AB | 2711 | A | N1-C2-N3 | -8.56 | 125.02 | 129.30 |
| 35 | BA | 1042 | A | N7-C8-N9 | 8.56 | 118.08 | 113.80 |
| 2 | AB | 674 | G | N3-C4-C5 | -8.56 | 124.32 | 128.60 |
| 35 | BA | 385 | C | N1-C2-O2 | 8.56 | 124.04 | 118.90 |
| 35 | BA | 493 | A | C1'-O4'-C4' | -8.56 | 103.05 | 109.90 |
| 2 | AB | 2467 | C | N3-C4-N4 | -8.56 | 112.01 | 118.00 |
| 2 | AB | 2658 | C | N3-C4-C5 | 8.56 | 125.32 | 121.90 |
| 2 | AB | 2714 | G | N3-C4-C5 | -8.56 | 124.32 | 128.60 |
| 35 | BA | 236 | A | N3-C4-C5 | -8.56 | 120.81 | 126.80 |
| 35 | BA | 1080 | A | N1-C6-N6 | 8.56 | 123.74 | 118.60 |
| 2 | AB | 176 | A | N3-C4-C5 | -8.56 | 120.81 | 126.80 |
| 2 | AB | 481 | G | N7-C8-N9 | 8.56 | 117.38 | 113.10 |
| 2 | AB | 2490 | G | N1-C2-N2 | 8.56 | 123.90 | 116.20 |
| 35 | BA | 814 | A | N1-C2-N3 | -8.56 | 125.02 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 918 | A | N9-C4-C5 | -8.56 | 102.38 | 105.80 |
| 35 | BA | 1016 | A | C8-N9-C4 | -8.56 | 102.38 | 105.80 |
| 36 | BB | 44 | U | O4'-C1'-N1 | 8.56 | 115.05 | 108.20 |
| 36 | BB | 47 | C | N1-C2-O2 | 8.56 | 124.03 | 118.90 |
| 2 | AB | 70 | G | C2-N3-C4 | 8.56 | 116.18 | 111.90 |
| 2 | AB | 978 | G | O4'-C1'-N9 | 8.55 | 115.04 | 108.20 |
| 2 | AB | 1904 | G | N7-C8-N9 | -8.56 | 108.82 | 113.10 |
| 2 | AB | 2455 | G | N9-C1'-C2' | -8.56 | 102.59 | 112.00 |
| 2 | AB | 2573 | C | C6-N1-C2 | -8.56 | 116.88 | 120.30 |
| 2 | AB | 2686 | G | N3-C4-C5 | -8.55 | 124.32 | 128.60 |
| 35 | BA | 47 | C | N1-C2-O2 | 8.56 | 124.03 | 118.90 |
| 35 | BA | 125 | U | O4'-C1'-N1 | 8.56 | 115.05 | 108.20 |
| 2 | AB | 2006 | C | C2-N3-C4 | 8.55 | 124.18 | 119.90 |
| 2 | AB | 2532 | G | O4'-C1'-N9 | 8.55 | 115.04 | 108.20 |
| 35 | BA | 980 | C | N3-C2-O2 | -8.55 | 115.91 | 121.90 |
| 35 | BA | 991 | U | N1-C2-N3 | 8.55 | 120.03 | 114.90 |
| 2 | AB | 707 | G | O4'-C1'-N9 | 8.55 | 115.04 | 108.20 |
| 2 | AB | 1837 | C | N3-C4-N4 | 8.55 | 123.99 | 118.00 |
| 2 | AB | 2199 | A | C2-N3-C4 | 8.55 | 114.88 | 110.60 |
| 35 | BA | 1484 | C | N3-C4-N4 | 8.55 | 123.99 | 118.00 |
| 2 | AB | 1037 | G | C8-N9-C4 | -8.55 | 102.98 | 106.40 |
| 2 | AB | 1232 | G | C5-C6-N1 | 8.55 | 115.78 | 111.50 |
| 2 | AB | 2862 | G | N3-C4-C5 | -8.55 | 124.32 | 128.60 |
| 35 | BA | 83 | C | C5-C4-N4 | -8.55 | 114.21 | 120.20 |
| 35 | BA | 1501 | C | C6-N1-C2 | -8.55 | 116.88 | 120.30 |
| 2 | AB | 242 | G | P-O3'-C3' | 8.55 | 129.96 | 119.70 |
| 2 | AB | 450 | G | C8-N9-C4 | -8.55 | 102.98 | 106.40 |
| 2 | AB | 917 | A | C8-N9-C4 | 8.55 | 109.22 | 105.80 |
| 2 | AB | 2459 | A | N1-C2-N3 | 8.55 | 133.57 | 129.30 |
| 2 | AB | 2295 | C | O4'-C1'-N1 | 8.55 | 115.04 | 108.20 |
| 2 | AB | 2716 | C | N3-C2-O2 | -8.55 | 115.92 | 121.90 |
| 2 | AB | 2456 | C | N1-C2-O2 | -8.55 | 113.77 | 118.90 |
| 2 | AB | 215 | G | C8-N9-C4 | -8.54 | 102.98 | 106.40 |
| 2 | AB | 724 | U | N3-C4-O4 | 8.54 | 125.38 | 119.40 |
| 2 | AB | 1507 | C | C4'-C3'-C2' | -8.54 | 94.06 | 102.60 |
| 21 | AU | 84 | ARG | NE-CZ-NH2 | 8.54 | 124.57 | 120.30 |
| 2 | AB | 158 | U | C5-C4-O4 | 8.54 | 131.03 | 125.90 |
| 2 | AB | 1934 | C | N3-C4-C5 | 8.54 | 125.32 | 121.90 |
| 2 | AB | 2676 | C | C5-C6-N1 | -8.54 | 116.73 | 121.00 |
| 35 | BA | 183 | C | C6-N1-C2 | -8.54 | 116.88 | 120.30 |
| 35 | BA | 246 | A | N1-C2-N3 | -8.54 | 125.03 | 129.30 |
| 35 | BA | 499 | A | C3'-C2'-C1' | -8.54 | 94.67 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 52 | BR | 5 | ARG | NE-CZ-NH1 | 8.54 | 124.57 | 120.30 |
| 35 | BA | 586 | C | N3-C2-O2 | -8.54 | 115.92 | 121.90 |
| 35 | BA | 810 | C | C5'-C4'-O4' | 8.54 | 119.35 | 109.10 |
| 35 | BA | 1243 | C | C1'-O4'-C4' | 8.54 | 116.73 | 109.90 |
| 2 | AB | 1244 | A | N9-C1'-C2' | -8.54 | 102.61 | 112.00 |
| 2 | AB | 1875 | G | N9-C1'-C2' | -8.54 | 102.61 | 112.00 |
| 2 | AB | 1305 | C | O4'-C1'-N1 | 8.54 | 115.03 | 108.20 |
| 2 | AB | 1874 | C | C6-N1-C2 | 8.54 | 123.72 | 120.30 |
| 2 | AB | 2814 | A | C1'-O4'-C4' | -8.54 | 103.07 | 109.90 |
| 35 | BA | 280 | C | C3'-C2'-C1' | 8.54 | 108.33 | 101.50 |
| 35 | BA | 328 | C | N1-C2-O2 | 8.54 | 124.02 | 118.90 |
| 35 | BA | 391 | G | C2-N3-C4 | 8.54 | 116.17 | 111.90 |
| 35 | BA | 840 | C | N3-C2-O2 | -8.54 | 115.92 | 121.90 |
| 35 | BA | 972 | C | C6-N1-C2 | 8.54 | 123.72 | 120.30 |
| 2 | AB | 284 | U | C5-C4-O4 | 8.54 | 131.02 | 125.90 |
| 2 | AB | 1099 | G | C5-C6-O6 | 8.54 | 133.72 | 128.60 |
| 2 | AB | 1327 | A | C4-C5-N7 | -8.54 | 106.43 | 110.70 |
| 2 | AB | 48 | G | N3-C4-C5 | -8.53 | 124.33 | 128.60 |
| 2 | AB | 156 | A | C4-C5-N7 | -8.54 | 106.43 | 110.70 |
| 2 | AB | 358 | U | C2-N3-C4 | -8.54 | 121.88 | 127.00 |
| 2 | AB | 1175 | A | C1'-O4'-C4' | -8.54 | 103.07 | 109.90 |
| 2 | AB | 1328 | A | O4'-C1'-N9 | 8.54 | 115.03 | 108.20 |
| 2 | AB | 1928 | A | C4'-C3'-C2' | -8.54 | 94.06 | 102.60 |
| 2 | AB | 1628 | G | N3-C4-N9 | 8.53 | 131.12 | 126.00 |
| 2 | AB | 2294 | G | N9-C1'-C2' | -8.54 | 102.61 | 112.00 |
| 35 | BA | 783 | C | N1-C2-O2 | 8.54 | 124.02 | 118.90 |
| 2 | AB | 2614 | A | C8-N9-C4 | -8.53 | 102.39 | 105.80 |
| 1 | AA | 24 | G | C6-C5-N7 | 8.53 | 135.52 | 130.40 |
| 35 | BA | 861 | G | C3'-C2'-C1' | 8.53 | 108.33 | 101.50 |
| 35 | BA | 1010 | U | C5-C6-N1 | 8.53 | 126.97 | 122.70 |
| 2 | AB | 512 | G | N3-C4-N9 | 8.53 | 131.12 | 126.00 |
| 2 | AB | 1159 | U | C5-C6-N1 | -8.53 | 118.43 | 122.70 |
| 2 | AB | 1228 | G | C3'-C2'-C1' | 8.53 | 108.33 | 101.50 |
| 2 | AB | 1385 | A | O4'-C1'-N9 | 8.53 | 115.03 | 108.20 |
| 35 | BA | 1038 | C | N3-C4-C5 | -8.53 | 118.49 | 121.90 |
| 2 | AB | 2894 | G | C5-C6-N1 | 8.53 | 115.77 | 111.50 |
| 2 | AB | 757 | G | N3-C4-C5 | -8.53 | 124.33 | 128.60 |
| 35 | BA | 505 | G | C6-N1-C2 | -8.53 | 119.98 | 125.10 |
| 2 | AB | 1040 | A | N9-C4-C5 | 8.53 | 109.21 | 105.80 |
| 2 | AB | 2045 | C | O4'-C1'-N1 | 8.53 | 115.02 | 108.20 |
| 2 | AB | 2255 | G | N9-C4-C5 | 8.53 | 108.81 | 105.40 |
| 16 | AP | 86 | ARG | NE-CZ-NH1 | 8.53 | 124.56 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 134 | G | O4'-C1'-N9 | 8.53 | 115.02 | 108.20 |
| 35 | BA | 638 | U | C4-C5-C6 | -8.53 | 114.58 | 119.70 |
| 2 | AB | 482 | A | C5-N7-C8 | -8.53 | 99.64 | 103.90 |
| 2 | AB | 1470 | A | C2-N3-C4 | -8.53 | 106.34 | 110.60 |
| 2 | AB | 2370 | G | O4'-C1'-N9 | 8.53 | 115.02 | 108.20 |
| 2 | AB | 2579 | C | C4-C5-C6 | -8.53 | 113.14 | 117.40 |
| 35 | BA | 887 | G | C4-C5-N7 | -8.52 | 107.39 | 110.80 |
| 1 | AA | 22 | U | N1-C2-N3 | 8.52 | 120.01 | 114.90 |
| 2 | AB | 1684 | G | C5-N7-C8 | -8.52 | 100.04 | 104.30 |
| 2 | AB | 2004 | G | C5-C6-O6 | -8.52 | 123.49 | 128.60 |
| 35 | BA | 252 | U | N1-C2-O2 | 8.52 | 128.76 | 122.80 |
| 35 | BA | 639 | G | N3-C2-N2 | -8.52 | 113.93 | 119.90 |
| 35 | BA | 461 | A | N9-C4-C5 | 8.52 | 109.21 | 105.80 |
| 2 | AB | 325 | G | N1-C2-N3 | 8.52 | 129.01 | 123.90 |
| 2 | AB | 753 | A | N1-C2-N3 | -8.52 | 125.04 | 129.30 |
| 2 | AB | 2696 | U | O4'-C1'-N1 | 8.52 | 115.02 | 108.20 |
| 2 | AB | 2852 | G | C6-N1-C2 | -8.52 | 119.99 | 125.10 |
| 2 | AB | 1164 | C | N3-C2-O2 | -8.52 | 115.94 | 121.90 |
| 2 | AB | 2391 | G | N1-C6-O6 | -8.52 | 114.79 | 119.90 |
| 35 | BA | 805 | C | C4-C5-C6 | 8.52 | 121.66 | 117.40 |
| 2 | AB | 398 | C | N1-C2-O2 | 8.52 | 124.01 | 118.90 |
| 2 | AB | 1111 | A | N9-C4-C5 | 8.52 | 109.21 | 105.80 |
| 2 | AB | 1366 | A | N9-C4-C5 | 8.52 | 109.21 | 105.80 |
| 2 | AB | 1456 | G | N9-C4-C5 | 8.52 | 108.81 | 105.40 |
| 19 | AS | 105 | PHE | CB-CG-CD1 | -8.52 | 114.84 | 120.80 |
| 45 | BK | 79 | ARG | NE-CZ-NH2 | -8.52 | 116.04 | 120.30 |
| 2 | AB | 701 | G | O4'-C1'-N9 | 8.51 | 115.01 | 108.20 |
| 2 | AB | 1115 | G | C4'-C3'-C2' | -8.51 | 94.09 | 102.60 |
| 3 | AC | 111 | PHE | CB-CG-CD1 | -8.51 | 114.84 | 120.80 |
| 35 | BA | 446 | G | C6-N1-C2 | -8.51 | 119.99 | 125.10 |
| 35 | BA | 900 | A | N9-C4-C5 | 8.51 | 109.21 | 105.80 |
| 2 | AB | 849 | A | N9-C4-C5 | -8.51 | 102.40 | 105.80 |
| 2 | AB | 472 | A | C4-C5-C6 | 8.51 | 121.25 | 117.00 |
| 2 | AB | 540 | C | O4'-C4'-C3' | 8.51 | 112.91 | 106.10 |
| 2 | AB | 1271 | G | O4'-C1'-N9 | 8.51 | 115.01 | 108.20 |
| 2 | AB | 1361 | G | N3-C4-N9 | 8.51 | 131.11 | 126.00 |
| 2 | AB | 1922 | G | N1-C2-N2 | 8.51 | 123.86 | 116.20 |
| 2 | AB | 2806 | C | N1-C2-O2 | 8.51 | 124.01 | 118.90 |
| 2 | AB | 2115 | G | N7-C8-N9 | 8.51 | 117.36 | 113.10 |
| 2 | AB | 2704 | C | O5'-P-OP2 | -8.51 | 98.04 | 105.70 |
| 35 | BA | 389 | A | C2-N3-C4 | 8.51 | 114.86 | 110.60 |
| 35 | BA | 912 | C | N3-C4-C5 | 8.51 | 125.30 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1707 | G | C8-N9-C4 | -8.51 | 103.00 | 106.40 |
| 35 | BA | 1317 | C | N1-C2-O2 | 8.51 | 124.00 | 118.90 |
| 35 | BA | 1533 | C | N3-C2-O2 | -8.51 | 115.94 | 121.90 |
| 2 | AB | 117 | G | O4'-C1'-N9 | 8.51 | 115.00 | 108.20 |
| 2 | AB | 216 | A | O4'-C1'-N9 | 8.51 | 115.00 | 108.20 |
| 2 | AB | 2027 | G | C4-C5-N7 | 8.51 | 114.20 | 110.80 |
| 2 | AB | 2133 | G | C5-C6-O6 | -8.51 | 123.50 | 128.60 |
| 2 | AB | 2560 | A | C8-N9-C4 | -8.51 | 102.40 | 105.80 |
| 2 | AB | 2793 | C | C3'-C2'-C1' | 8.51 | 108.31 | 101.50 |
| 2 | AB | 2793 | C | C6-N1-C2 | -8.51 | 116.90 | 120.30 |
| 35 | BA | 588 | G | C4-C5-N7 | -8.51 | 107.40 | 110.80 |
| 1 | AA | 119 | A | C5-C6-N1 | 8.50 | 121.95 | 117.70 |
| 2 | AB | 205 | G | N3-C4-N9 | 8.50 | 131.10 | 126.00 |
| 2 | AB | 625 | G | C5-C6-N1 | 8.50 | 115.75 | 111.50 |
| 2 | AB | 1106 | G | O4'-C1'-N9 | 8.50 | 115.00 | 108.20 |
| 2 | AB | 386 | G | C1'-O4'-C4' | 8.50 | 116.70 | 109.90 |
| 2 | AB | 459 | U | N3-C4-C5 | -8.50 | 109.50 | 114.60 |
| 2 | AB | 1511 | G | N1-C6-O6 | -8.50 | 114.80 | 119.90 |
| 35 | BA | 90 | C | N1-C2-O2 | 8.50 | 124.00 | 118.90 |
| 35 | BA | 766 | A | N9-C4-C5 | 8.50 | 109.20 | 105.80 |
| 52 | BR | 20 | VAL | CA-CB-CG2 | 8.50 | 123.65 | 110.90 |
| 2 | AB | 1238 | G | C8-N9-C1' | 8.50 | 138.05 | 127.00 |
| 35 | BA | 833 | G | C3'-C2'-C1' | 8.50 | 108.30 | 101.50 |
| 2 | AB | 1316 | U | C3'-C2'-C1' | -8.50 | 94.70 | 101.50 |
| 2 | AB | 1401 | G | O4'-C1'-N9 | 8.50 | 115.00 | 108.20 |
| 2 | AB | 1457 | U | O4'-C1'-N1 | 8.50 | 115.00 | 108.20 |
| 2 | AB | 1593 | A | O4'-C1'-N9 | 8.50 | 115.00 | 108.20 |
| 2 | AB | 1665 | A | O4'-C4'-C3' | 8.50 | 112.90 | 106.10 |
| 2 | AB | 1673 | G | C2-N3-C4 | -8.50 | 107.65 | 111.90 |
| 2 | AB | 1711 | A | N1-C2-N3 | -8.50 | 125.05 | 129.30 |
| 2 | AB | 2388 | A | C5'-C4'-O4' | 8.50 | 119.30 | 109.10 |
| 2 | AB | 1009 | A | P-O3'-C3' | 8.50 | 129.90 | 119.70 |
| 2 | AB | 2164 | C | C5-C6-N1 | -8.50 | 116.75 | 121.00 |
| 2 | AB | 2652 | C | N3-C4-C5 | -8.50 | 118.50 | 121.90 |
| 35 | BA | 404 | G | C5-C6-N1 | 8.50 | 115.75 | 111.50 |
| 36 | BB | 39 | U | N3-C4-O4 | 8.50 | 125.35 | 119.40 |
| 2 | AB | 7 | G | C5-C6-N1 | 8.49 | 115.75 | 111.50 |
| 2 | AB | 1628 | G | C2-N3-C4 | 8.49 | 116.15 | 111.90 |
| 35 | BA | 559 | A | N1-C6-N6 | 8.49 | 123.70 | 118.60 |
| 35 | BA | 1161 | C | O4'-C1'-N1 | 8.49 | 115.00 | 108.20 |
| 37 | BC | 64 | G | C5-C6-N1 | 8.49 | 115.75 | 111.50 |
| 2 | AB | 949 | G | O4'-C4'-C3' | 8.49 | 112.89 | 106.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2555 | U | C5-C6-N1 | -8.49 | 118.45 | 122.70 |
| 14 | AN | 41 | ARG | NE-CZ-NH2 | -8.49 | 116.05 | 120.30 |
| 2 | AB | 67 | U | C4-C5-C6 | 8.49 | 124.79 | 119.70 |
| 2 | AB | 337 | C | C5-C4-N4 | -8.49 | 114.26 | 120.20 |
| 2 | AB | 683 | U | C5-C6-N1 | -8.49 | 118.45 | 122.70 |
| 35 | BA | 108 | G | C2-N3-C4 | 8.49 | 116.15 | 111.90 |
| 2 | AB | 1459 | G | C8-N9-C4 | -8.49 | 103.00 | 106.40 |
| 2 | AB | 2036 | C | N3-C4-N4 | 8.49 | 123.94 | 118.00 |
| 12 | AL | 125 | TYR | CB-CG-CD1 | -8.49 | 115.91 | 121.00 |
| 36 | BB | 57 | C | C4-C5-C6 | -8.49 | 113.16 | 117.40 |
| 1 | AA | 17 | C | N1-C2-O2 | 8.49 | 123.99 | 118.90 |
| 2 | AB | 2003 | A | N9-C4-C5 | -8.49 | 102.41 | 105.80 |
| 2 | AB | 622 | G | N3-C4-C5 | -8.49 | 124.36 | 128.60 |
| 2 | AB | 1190 | G | C5'-C4'-C3' | -8.49 | 102.42 | 116.00 |
| 2 | AB | 1399 | C | N3-C4-N4 | 8.49 | 123.94 | 118.00 |
| 2 | AB | 2389 | G | C8-N9-C4 | -8.49 | 103.01 | 106.40 |
| 2 | AB | 2888 | C | C5-C6-N1 | 8.49 | 125.24 | 121.00 |
| 35 | BA | 101 | A | C5-C6-N1 | -8.49 | 113.46 | 117.70 |
| 35 | BA | 1233 | G | C5-C6-O6 | -8.49 | 123.51 | 128.60 |
| 2 | AB | 264 | C | P-O3'-C3' | 8.48 | 129.88 | 119.70 |
| 2 | AB | 1757 | A | C3'-C2'-C1' | 8.48 | 108.29 | 101.50 |
| 2 | AB | 2263 | C | C5'-C4'-O4' | 8.48 | 119.28 | 109.10 |
| 2 | AB | 2874 | C | N3-C4-N4 | 8.48 | 123.94 | 118.00 |
| 35 | BA | 257 | G | C4-C5-N7 | -8.48 | 107.41 | 110.80 |
| 35 | BA | 757 | U | N1-C2-N3 | 8.48 | 119.99 | 114.90 |
| 35 | BA | 1344 | C | C2-N3-C4 | 8.48 | 124.14 | 119.90 |
| 2 | AB | 1239 | G | P-O3'-C3' | 8.48 | 129.88 | 119.70 |
| 2 | AB | 1523 | U | O4'-C1'-C2' | -8.48 | 97.32 | 105.80 |
| 35 | BA | 168 | G | C5-C6-N1 | 8.48 | 115.74 | 111.50 |
| 35 | BA | 334 | C | C4'-C3'-C2' | -8.48 | 94.12 | 102.60 |
| 35 | BA | 482 | A | C4-C5-C6 | -8.48 | 112.76 | 117.00 |
| 2 | AB | 2787 | C | O4'-C1'-N1 | 8.48 | 114.98 | 108.20 |
| 2 | AB | 77 | G | C8-N9-C4 | -8.48 | 103.01 | 106.40 |
| 2 | AB | 1066 | U | C3'-C2'-C1' | 8.48 | 108.28 | 101.50 |
| 2 | AB | 1345 | C | C4-C5-C6 | -8.48 | 113.16 | 117.40 |
| 2 | AB | 1880 | U | O4'-C1'-N1 | 8.48 | 114.98 | 108.20 |
| 2 | AB | 2674 | G | C5-C6-O6 | -8.48 | 123.51 | 128.60 |
| 35 | BA | 728 | A | C4'-C3'-C2' | -8.48 | 94.12 | 102.60 |
| 35 | BA | 1442 | G | C5-C6-N1 | 8.48 | 115.74 | 111.50 |
| 37 | BC | 3 | C | N3-C4-C5 | 8.48 | 125.29 | 121.90 |
| 35 | BA | 287 | U | C3'-C2'-C1' | 8.48 | 108.28 | 101.50 |
| 1 | AA | 45 | A | C1'-O4'-C4' | 8.47 | 116.68 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2316 | G | C6-N1-C2 | -8.47 | 120.02 | 125.10 |
| 1 | AA | 50 | A | C5-C6-N1 | -8.47 | 113.46 | 117.70 |
| 2 | AB | 105 | C | N1-C1'-C2' | -8.47 | 102.68 | 112.00 |
| 2 | AB | 1190 | G | N3-C4-C5 | -8.47 | 124.36 | 128.60 |
| 2 | AB | 1834 | U | O4'-C1'-N1 | 8.47 | 114.98 | 108.20 |
| 2 | AB | 2239 | G | C6-C5-N7 | -8.47 | 125.32 | 130.40 |
| 2 | AB | 2903 | U | O4'-C1'-N1 | 8.47 | 114.98 | 108.20 |
| 35 | BA | 439 | U | O4'-C1'-N1 | 8.47 | 114.98 | 108.20 |
| 35 | BA | 550 | G | O4'-C1'-N9 | 8.47 | 114.98 | 108.20 |
| 35 | BA | 698 | G | N1-C6-O6 | -8.47 | 114.82 | 119.90 |
| 35 | BA | 1268 | G | C6-N1-C2 | -8.47 | 120.02 | 125.10 |
| 35 | BA | 1293 | C | O4'-C1'-N1 | 8.47 | 114.98 | 108.20 |
| 35 | BA | 1343 | G | O4'-C1'-N9 | 8.47 | 114.98 | 108.20 |
| 35 | BA | 1445 | U | C5-C4-O4 | -8.47 | 120.82 | 125.90 |
| 2 | AB | 446 | G | C8-N9-C4 | -8.47 | 103.01 | 106.40 |
| 2 | AB | 469 | G | C6-N1-C2 | -8.47 | 120.02 | 125.10 |
| 2 | AB | 711 | G | N1-C2-N2 | 8.47 | 123.82 | 116.20 |
| 2 | AB | 1171 | G | N1-C6-O6 | -8.47 | 114.82 | 119.90 |
| 2 | AB | 2106 | U | O4'-C1'-N1 | 8.47 | 114.98 | 108.20 |
| 2 | AB | 2550 | G | C5'-C4'-O4' | 8.47 | 119.27 | 109.10 |
| 35 | BA | 954 | G | N7-C8-N9 | 8.47 | 117.34 | 113.10 |
| 35 | BA | 1030 | U | C4-C5-C6 | -8.47 | 114.62 | 119.70 |
| 2 | AB | 658 | U | C4'-C3'-C2' | -8.47 | 94.13 | 102.60 |
| 2 | AB | 856 | G | C6-N1-C2 | -8.47 | 120.02 | 125.10 |
| 2 | AB | 2464 | G | C8-N9-C4 | 8.47 | 109.79 | 106.40 |
| 35 | BA | 1028 | C | N3-C4-C5 | -8.47 | 118.51 | 121.90 |
| 35 | BA | 1093 | A | N9-C4-C5 | -8.47 | 102.41 | 105.80 |
| 2 | AB | 1088 | A | O4'-C1'-N9 | 8.47 | 114.97 | 108.20 |
| 2 | AB | 1699 | G | C6-C5-N7 | -8.47 | 125.32 | 130.40 |
| 2 | AB | 1757 | A | C4'-C3'-C2' | -8.46 | 94.14 | 102.60 |
| 2 | AB | 1961 | C | C2-N3-C4 | 8.47 | 124.13 | 119.90 |
| 2 | AB | 2267 | A | C2-N3-C4 | 8.47 | 114.83 | 110.60 |
| 2 | AB | 2592 | G | C5-C6-N1 | 8.46 | 115.73 | 111.50 |
| 35 | BA | 79 | G | C5-C6-N1 | 8.46 | 115.73 | 111.50 |
| 35 | BA | 428 | G | C8-N9-C4 | -8.47 | 103.01 | 106.40 |
| 2 | AB | 642 | U | C5-C4-O4 | -8.46 | 120.82 | 125.90 |
| 2 | AB | 2838 | G | O4'-C1'-N9 | 8.46 | 114.97 | 108.20 |
| 35 | BA | 40 | C | N3-C4-C5 | -8.46 | 118.52 | 121.90 |
| 2 | AB | 689 | A | C2-N3-C4 | 8.46 | 114.83 | 110.60 |
| 2 | AB | 1310 | G | C1'-O4'-C4' | 8.46 | 116.67 | 109.90 |
| 2 | AB | 2076 | U | N3-C2-O2 | -8.46 | 116.28 | 122.20 |
| 2 | AB | 2287 | A | C4'-C3'-C2' | 8.46 | 111.06 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2412 | A | C1'-O4'-C4' | -8.46 | 103.13 | 109.90 |
| 2 | AB | 2604 | U | C2-N3-C4 | -8.46 | 121.92 | 127.00 |
| 17 | AQ | 16 | ARG | NE-CZ-NH2 | -8.46 | 116.07 | 120.30 |
| 22 | AV | 76 | ARG | NE-CZ-NH1 | 8.46 | 124.53 | 120.30 |
| 35 | BA | 78 | A | C6-C5-N7 | -8.46 | 126.38 | 132.30 |
| 35 | BA | 644 | U | C3'-C2'-C1' | 8.46 | 108.27 | 101.50 |
| 35 | BA | 669 | G | O4'-C1'-N9 | 8.46 | 114.97 | 108.20 |
| 35 | BA | 722 | G | C5-C6-O6 | -8.46 | 123.52 | 128.60 |
| 2 | AB | 241 | A | P-O3'-C3' | 8.46 | 129.85 | 119.70 |
| 2 | AB | 153 | U | N1-C2-O2 | 8.46 | 128.72 | 122.80 |
| 2 | AB | 630 | G | C8-N9-C4 | -8.46 | 103.02 | 106.40 |
| 2 | AB | 1046 | A | C5-N7-C8 | -8.46 | 99.67 | 103.90 |
| 2 | AB | 2047 | C | N3-C2-O2 | -8.46 | 115.98 | 121.90 |
| 2 | AB | 2348 | U | C2-N3-C4 | -8.46 | 121.92 | 127.00 |
| 35 | BA | 812 | G | O4'-C1'-C2' | -8.46 | 97.34 | 105.80 |
| 26 | AZ | 36 | ARG | NE-CZ-NH2 | 8.46 | 124.53 | 120.30 |
| 2 | AB | 1001 | A | C5-C6-N6 | -8.45 | 116.94 | 123.70 |
| 2 | AB | 1467 | U | C4-C5-C6 | 8.46 | 124.77 | 119.70 |
| 2 | AB | 1946 | U | N1-C1'-C2' | -8.46 | 102.70 | 112.00 |
| 2 | AB | 1573 | G | N3-C2-N2 | 8.45 | 125.82 | 119.90 |
| 2 | AB | 1740 | G | C6-C5-N7 | -8.45 | 125.33 | 130.40 |
| 2 | AB | 2064 | C | O4'-C1'-N1 | 8.46 | 114.96 | 108.20 |
| 2 | AB | 2325 | G | N3-C4-C5 | -8.46 | 124.37 | 128.60 |
| 2 | AB | 2425 | A | N1-C2-N3 | -8.46 | 125.07 | 129.30 |
| 2 | AB | 195 | A | C2-N3-C4 | -8.45 | 106.37 | 110.60 |
| 2 | AB | 1475 | G | N3-C4-C5 | -8.45 | 124.37 | 128.60 |
| 2 | AB | 2763 | G | N1-C2-N2 | -8.45 | 108.59 | 116.20 |
| 35 | BA | 267 | C | C3'-C2'-C1' | 8.45 | 108.26 | 101.50 |
| 35 | BA | 809 | G | O4'-C1'-N9 | 8.45 | 114.96 | 108.20 |
| 35 | BA | 904 | U | O4'-C4'-C3' | 8.45 | 112.86 | 106.10 |
| 35 | BA | 1511 | G | C6-N1-C2 | -8.45 | 120.03 | 125.10 |
| 2 | AB | 1794 | A | C8-N9-C4 | -8.45 | 102.42 | 105.80 |
| 2 | AB | 455 | C | O4'-C1'-N1 | 8.45 | 114.96 | 108.20 |
| 2 | AB | 2059 | A | C1'-O4'-C4' | -8.45 | 103.14 | 109.90 |
| 2 | AB | 2106 | U | P-O3'-C3' | 8.45 | 129.84 | 119.70 |
| 2 | AB | 2391 | G | C5-C6-N1 | 8.45 | 115.72 | 111.50 |
| 35 | BA | 226 | G | N7-C8-N9 | 8.45 | 117.33 | 113.10 |
| 35 | BA | 829 | G | N3-C4-C5 | -8.45 | 124.38 | 128.60 |
| 35 | BA | 1212 | U | N3-C2-O2 | -8.45 | 116.29 | 122.20 |
| 36 | BB | 32 | U | N1-C2-N3 | 8.45 | 119.97 | 114.90 |
| 2 | AB | 1329 | U | N1-C2-N3 | 8.45 | 119.97 | 114.90 |
| 2 | AB | 1491 | G | N1-C2-N2 | 8.45 | 123.80 | 116.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1958 | C | C5-C4-N4 | 8.45 | 126.11 | 120.20 |
| 1 | AA | 86 | G | C6-N1-C2 | -8.45 | 120.03 | 125.10 |
| 35 | BA | 177 | G | C3'-C2'-C1' | 8.45 | 108.26 | 101.50 |
| 35 | BA | 346 | G | C5-N7-C8 | -8.45 | 100.08 | 104.30 |
| 35 | BA | 406 | G | C3'-C2'-C1' | -8.45 | 94.74 | 101.50 |
| 35 | BA | 1024 | G | C4-C5-N7 | 8.44 | 114.18 | 110.80 |
| 35 | BA | 1427 | C | N3-C4-C5 | -8.44 | 118.52 | 121.90 |
| 2 | AB | 111 | A | N1-C2-N3 | -8.44 | 125.08 | 129.30 |
| 2 | AB | 511 | U | C6-N1-C2 | -8.44 | 115.94 | 121.00 |
| 2 | AB | 1164 | C | P-O3'-C3' | 8.44 | 129.83 | 119.70 |
| 2 | AB | 2199 | A | N1-C2-N3 | -8.44 | 125.08 | 129.30 |
| 12 | AL | 120 | ARG | NE-CZ-NH1 | -8.44 | 116.08 | 120.30 |
| 2 | AB | 1863 | G | C6-N1-C2 | -8.44 | 120.04 | 125.10 |
| 2 | AB | 1244 | A | C8-N9-C4 | -8.44 | 102.42 | 105.80 |
| 2 | AB | 2161 | C | N3-C2-O2 | -8.44 | 115.99 | 121.90 |
| 2 | AB | 2426 | A | O4'-C1'-N9 | 8.44 | 114.95 | 108.20 |
| 2 | AB | 2625 | G | N9-C4-C5 | 8.44 | 108.78 | 105.40 |
| 2 | AB | 2633 | G | N9-C4-C5 | -8.44 | 102.03 | 105.40 |
| 1 | AA | 9 | G | C6-C5-N7 | -8.44 | 125.34 | 130.40 |
| 1 | AA | 73 | A | N9-C1'-C2' | -8.44 | 102.72 | 112.00 |
| 2 | AB | 585 | G | N3-C4-C5 | -8.44 | 124.38 | 128.60 |
| 2 | AB | 834 | G | C6-C5-N7 | -8.44 | 125.34 | 130.40 |
| 2 | AB | 924 | G | C5-C6-N1 | 8.44 | 115.72 | 111.50 |
| 2 | AB | 1644 | C | N1-C2-O2 | 8.44 | 123.96 | 118.90 |
| 2 | AB | 765 | C | N3-C4-C5 | -8.44 | 118.53 | 121.90 |
| 2 | AB | 1710 | G | O4'-C1'-N9 | 8.44 | 114.95 | 108.20 |
| 35 | BA | 453 | G | C8-N9-C4 | 8.44 | 109.78 | 106.40 |
| 2 | AB | 1783 | A | N7-C8-N9 | 8.44 | 118.02 | 113.80 |
| 2 | AB | 1946 | U | N3-C4-O4 | 8.44 | 125.31 | 119.40 |
| 2 | AB | 2087 | G | N7-C8-N9 | 8.44 | 117.32 | 113.10 |
| 35 | BA | 776 | G | C6-N1-C2 | -8.44 | 120.04 | 125.10 |
| 2 | AB | 295 | G | C5'-C4'-O4' | 8.43 | 119.22 | 109.10 |
| 2 | AB | 622 | G | O4'-C1'-N9 | 8.43 | 114.95 | 108.20 |
| 2 | AB | 1093 | G | C5-C6-O6 | -8.43 | 123.54 | 128.60 |
| 2 | AB | 2769 | U | N3-C4-O4 | 8.43 | 125.30 | 119.40 |
| 2 | AB | 637 | A | O4'-C1'-N9 | 8.43 | 114.94 | 108.20 |
| 2 | AB | 756 | A | C4'-C3'-C2' | -8.43 | 94.17 | 102.60 |
| 2 | AB | 944 | C | C4-C5-C6 | -8.43 | 113.18 | 117.40 |
| 2 | AB | 1767 | G | C4-C5-C6 | 8.43 | 123.86 | 118.80 |
| 2 | AB | 2328 | A | C8-N9-C4 | -8.43 | 102.43 | 105.80 |
| 35 | BA | 211 | G | C5'-C4'-O4' | 8.43 | 119.22 | 109.10 |
| 35 | BA | 678 | U | C5'-C4'-O4' | 8.43 | 119.22 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 741 | G | C8-N9-C4 | -8.43 | 103.03 | 106.40 |
| 35 | BA | 924 | C | N3-C4-C5 | 8.43 | 125.27 | 121.90 |
| 35 | BA | 1005 | A | O4'-C4'-C3' | 8.43 | 112.84 | 106.10 |
| 2 | AB | 1931 | U | O4'-C1'-N1 | 8.43 | 114.94 | 108.20 |
| 2 | AB | 2497 | A | N1-C2-N3 | -8.43 | 125.09 | 129.30 |
| 35 | BA | 391 | G | N9-C4-C5 | -8.43 | 102.03 | 105.40 |
| 35 | BA | 561 | U | N3-C2-O2 | -8.43 | 116.30 | 122.20 |
| 35 | BA | 1158 | C | N3-C2-O2 | -8.43 | 116.00 | 121.90 |
| 2 | AB | 416 | U | C4-C5-C6 | 8.43 | 124.76 | 119.70 |
| 2 | AB | 653 | U | N3-C2-O2 | -8.43 | 116.30 | 122.20 |
| 2 | AB | 685 | A | N9-C4-C5 | 8.43 | 109.17 | 105.80 |
| 35 | BA | 528 | C | C6-N1-C2 | -8.43 | 116.93 | 120.30 |
| 2 | AB | 520 | G | C2-N3-C4 | 8.43 | 116.11 | 111.90 |
| 2 | AB | 611 | C | C4-C5-C6 | 8.43 | 121.61 | 117.40 |
| 2 | AB | 1034 | G | N3-C4-N9 | 8.43 | 131.06 | 126.00 |
| 2 | AB | 2166 | U | O4'-C1'-N1 | 8.43 | 114.94 | 108.20 |
| 2 | AB | 2566 | A | C8-N9-C4 | -8.43 | 102.43 | 105.80 |
| 35 | BA | 951 | G | N3-C2-N2 | -8.43 | 114.00 | 119.90 |
| 35 | BA | 1058 | G | C5-N7-C8 | 8.43 | 108.51 | 104.30 |
| 35 | BA | 1257 | A | N1-C2-N3 | -8.43 | 125.09 | 129.30 |
| 57 | BW | 70 | TYR | CG-CD1-CE1 | -8.43 | 114.56 | 121.30 |
| 1 | AA | 44 | G | C5-N7-C8 | -8.42 | 100.09 | 104.30 |
| 35 | BA | 1028 | C | C4'-C3'-C2' | -8.42 | 94.18 | 102.60 |
| 2 | AB | 197 | A | N1-C2-N3 | -8.42 | 125.09 | 129.30 |
| 2 | AB | 385 | C | C4-C5-C6 | -8.42 | 113.19 | 117.40 |
| 2 | AB | 1007 | C | O4'-C1'-N1 | 8.42 | 114.94 | 108.20 |
| 35 | BA | 124 | C | C4-C5-C6 | -8.42 | 113.19 | 117.40 |
| 35 | BA | 348 | G | O4'-C1'-N9 | 8.42 | 114.94 | 108.20 |
| 4 | AD | 269 | ARG | NE-CZ-NH1 | -8.42 | 116.09 | 120.30 |
| 35 | BA | 1405 | G | C5-C6-O6 | -8.42 | 123.55 | 128.60 |
| 35 | BA | 1417 | G | N1-C6-O6 | -8.42 | 114.85 | 119.90 |
| 2 | AB | 1930 | G | C4-C5-N7 | -8.42 | 107.43 | 110.80 |
| 2 | AB | 2875 | C | N3-C2-O2 | -8.42 | 116.01 | 121.90 |
| 35 | BA | 929 | G | O4'-C1'-N9 | 8.42 | 114.94 | 108.20 |
| 11 | AK | 122 | GLU | OE1-CD-OE2 | 8.42 | 133.40 | 123.30 |
| 35 | BA | 1092 | A | C6-N1-C2 | 8.42 | 123.65 | 118.60 |
| 35 | BA | 1261 | A | N9-C4-C5 | 8.42 | 109.17 | 105.80 |
| 47 | BM | 6 | ARG | NE-CZ-NH2 | 8.42 | 124.51 | 120.30 |
| 1 | AA | 67 | G | N7-C8-N9 | 8.42 | 117.31 | 113.10 |
| 2 | AB | 1448 | G | C8-N9-C4 | -8.42 | 103.03 | 106.40 |
| 2 | AB | 1467 | U | C5-C4-O4 | 8.42 | 130.95 | 125.90 |
| 2 | AB | 1661 | G | C4-C5-N7 | -8.42 | 107.43 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 296 | U | C5-C6-N1 | -8.42 | 118.49 | 122.70 |
| 35 | BA | 486 | U | N1-C2-N3 | 8.42 | 119.95 | 114.90 |
| 35 | BA | 547 | A | O4'-C1'-N9 | 8.42 | 114.93 | 108.20 |
| 35 | BA | 1370 | G | N1-C6-O6 | -8.42 | 114.85 | 119.90 |
| 40 | BF | 12 | ARG | NE-CZ-NH1 | 8.42 | 124.51 | 120.30 |
| 1 | AA | 90 | C | O4'-C1'-N1 | 8.41 | 114.93 | 108.20 |
| 2 | AB | 2090 | A | N9-C4-C5 | 8.41 | 109.17 | 105.80 |
| 35 | BA | 273 | U | C5-C4-O4 | 8.41 | 130.95 | 125.90 |
| 2 | AB | 1262 | A | N9-C4-C5 | 8.41 | 109.17 | 105.80 |
| 2 | AB | 1327 | A | C3'-C2'-C1' | 8.41 | 108.23 | 101.50 |
| 35 | BA | 262 | A | N9-C4-C5 | 8.41 | 109.17 | 105.80 |
| 35 | BA | 881 | G | C8-N9-C4 | -8.41 | 103.03 | 106.40 |
| 2 | AB | 1846 | G | O4'-C1'-N9 | 8.41 | 114.93 | 108.20 |
| 2 | AB | 2664 | G | N3-C4-C5 | -8.41 | 124.39 | 128.60 |
| 2 | AB | 2699 | C | O4'-C1'-N1 | 8.41 | 114.93 | 108.20 |
| 6 | AF | 69 | ARG | NE-CZ-NH1 | 8.41 | 124.51 | 120.30 |
| 35 | BA | 236 | A | C4-C5-C6 | 8.41 | 121.21 | 117.00 |
| 35 | BA | 670 | G | N3-C2-N2 | -8.41 | 114.01 | 119.90 |
| 2 | AB | 982 | C | O4'-C1'-N1 | 8.41 | 114.93 | 108.20 |
| 2 | AB | 1916 | A | C5-C6-N1 | 8.41 | 121.91 | 117.70 |
| 2 | AB | 2666 | C | C3'-C2'-C1' | 8.41 | 108.23 | 101.50 |
| 35 | BA | 1019 | A | C5-C6-N1 | 8.41 | 121.91 | 117.70 |
| 35 | BA | 1075 | U | N3-C4-O4 | 8.41 | 125.29 | 119.40 |
| 2 | AB | 407 | G | C6-N1-C2 | -8.41 | 120.06 | 125.10 |
| 2 | AB | 1111 | A | N3-C4-C5 | -8.41 | 120.92 | 126.80 |
| 35 | BA | 218 | U | N3-C4-C5 | -8.41 | 109.56 | 114.60 |
| 35 | BA | 1129 | C | C2-N3-C4 | 8.41 | 124.10 | 119.90 |
| 2 | AB | 407 | G | N9-C4-C5 | 8.40 | 108.76 | 105.40 |
| 2 | AB | 1075 | C | O4'-C1'-N1 | 8.40 | 114.92 | 108.20 |
| 2 | AB | 1100 | C | O4'-C1'-N1 | 8.40 | 114.92 | 108.20 |
| 2 | AB | 1190 | G | C6-N1-C2 | -8.40 | 120.06 | 125.10 |
| 2 | AB | 1210 | G | O4'-C4'-C3' | 8.40 | 112.82 | 106.10 |
| 2 | AB | 2289 | G | C5-C6-O6 | -8.40 | 123.56 | 128.60 |
| 2 | AB | 2530 | A | C8-N9-C4 | -8.40 | 102.44 | 105.80 |
| 2 | AB | 2540 | C | C5'-C4'-O4' | 8.40 | 119.19 | 109.10 |
| 35 | BA | 1526 | G | N1-C2-N3 | 8.40 | 128.94 | 123.90 |
| 2 | AB | 2576 | G | C4-C5-N7 | -8.40 | 107.44 | 110.80 |
| 35 | BA | 17 | U | C4-C5-C6 | 8.40 | 124.74 | 119.70 |
| 35 | BA | 69 | G | N3-C4-C5 | -8.40 | 124.40 | 128.60 |
| 35 | BA | 752 | G | N3-C4-C5 | -8.40 | 124.40 | 128.60 |
| 35 | BA | 824 | G | C4'-C3'-C2' | -8.40 | 94.20 | 102.60 |
| 35 | BA | 1088 | G | C2-N3-C4 | 8.40 | 116.10 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 55 | BU | 2 | ARG | NE-CZ-NH2 | 8.40 | 124.50 | 120.30 |
| 2 | AB | 965 | C | O4'-C1'-N1 | 8.40 | 114.92 | 108.20 |
| 2 | AB | 1349 | C | C4-C5-C6 | 8.40 | 121.60 | 117.40 |
| 2 | AB | 1896 | G | N3-C4-N9 | 8.40 | 131.04 | 126.00 |
| 2 | AB | 1914 | C | N1-C2-O2 | 8.40 | 123.94 | 118.90 |
| 2 | AB | 2446 | G | C3'-C2'-C1' | -8.40 | 94.78 | 101.50 |
| 2 | AB | 2645 | G | C5-C6-N1 | 8.40 | 115.70 | 111.50 |
| 35 | BA | 61 | G | N1-C6-O6 | -8.40 | 114.86 | 119.90 |
| 35 | BA | 1338 | G | N7-C8-N9 | 8.40 | 117.30 | 113.10 |
| 1 | AA | 41 | G | O4'-C4'-C3' | 8.40 | 112.82 | 106.10 |
| 2 | AB | 1365 | A | C5-N7-C8 | 8.40 | 108.10 | 103.90 |
| 2 | AB | 1401 | G | N9-C4-C5 | 8.40 | 108.76 | 105.40 |
| 1 | AA | 18 | G | C8-N9-C4 | -8.40 | 103.04 | 106.40 |
| 2 | AB | 315 | G | C6-N1-C2 | -8.40 | 120.06 | 125.10 |
| 2 | AB | 363 | G | C4-C5-C6 | 8.40 | 123.84 | 118.80 |
| 2 | AB | 1210 | G | C1'-O4'-C4' | -8.40 | 103.18 | 109.90 |
| 2 | AB | 2370 | G | C5-N7-C8 | -8.40 | 100.10 | 104.30 |
| 2 | AB | 2619 | C | C2-N3-C4 | 8.40 | 124.10 | 119.90 |
| 35 | BA | 2 | A | N7-C8-N9 | 8.40 | 118.00 | 113.80 |
| 35 | BA | 444 | G | N1-C6-O6 | 8.40 | 124.94 | 119.90 |
| 35 | BA | 994 | A | O4'-C1'-N9 | 8.40 | 114.92 | 108.20 |
| 2 | AB | 187 | G | N7-C8-N9 | 8.39 | 117.30 | 113.10 |
| 2 | AB | 785 | G | C4-C5-C6 | -8.39 | 113.76 | 118.80 |
| 2 | AB | 2409 | G | C5-C6-N1 | 8.39 | 115.70 | 111.50 |
| 2 | AB | 247 | G | O4'-C1'-N9 | 8.39 | 114.92 | 108.20 |
| 2 | AB | 404 | A | N9-C4-C5 | 8.39 | 109.16 | 105.80 |
| 2 | AB | 750 | A | C4-C5-C6 | -8.39 | 112.80 | 117.00 |
| 2 | AB | 1055 | G | N9-C4-C5 | 8.39 | 108.76 | 105.40 |
| 2 | AB | 2391 | G | C6-N1-C2 | -8.39 | 120.06 | 125.10 |
| 35 | BA | 264 | C | O4'-C4'-C3' | -8.39 | 95.61 | 104.00 |
| 35 | BA | 345 | C | C6-N1-C2 | -8.39 | 116.94 | 120.30 |
| 35 | BA | 705 | G | C4-C5-N7 | -8.39 | 107.44 | 110.80 |
| 37 | BC | 67 | C | O4'-C1'-N1 | 8.39 | 114.92 | 108.20 |
| 2 | AB | 123 | G | C5-C6-N1 | 8.39 | 115.69 | 111.50 |
| 2 | AB | 2517 | C | O4'-C1'-N1 | 8.39 | 114.91 | 108.20 |
| 2 | AB | 2429 | G | C6-C5-N7 | 8.39 | 135.43 | 130.40 |
| 35 | BA | 78 | A | C4-C5-C6 | 8.39 | 121.19 | 117.00 |
| 35 | BA | 729 | A | C5'-C4'-O4' | 8.39 | 119.17 | 109.10 |
| 35 | BA | 747 | A | C5-N7-C8 | -8.39 | 99.70 | 103.90 |
| 35 | BA | 1112 | C | N3-C4-C5 | -8.39 | 118.54 | 121.90 |
| 2 | AB | 183 | C | C2-N3-C4 | 8.39 | 124.09 | 119.90 |
| 35 | BA | 446 | G | N9-C1'-C2' | -8.39 | 102.77 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1498 | C | C6-N1-C2 | 8.39 | 123.66 | 120.30 |
| 2 | AB | 2015 | A | N1-C2-N3 | -8.39 | 125.11 | 129.30 |
| 2 | AB | 2892 | G | N1-C6-O6 | -8.39 | 114.87 | 119.90 |
| 35 | BA | 775 | G | N9-C4-C5 | 8.39 | 108.75 | 105.40 |
| 35 | BA | 1332 | A | C4-C5-C6 | 8.39 | 121.19 | 117.00 |
| 1 | AA | 56 | G | N1-C2-N2 | 8.39 | 123.75 | 116.20 |
| 2 | AB | 29 | U | O4'-C1'-N1 | 8.38 | 114.91 | 108.20 |
| 2 | AB | 474 | G | N7-C8-N9 | 8.39 | 117.29 | 113.10 |
| 2 | AB | 1744 | A | C4'-C3'-C2' | -8.39 | 94.21 | 102.60 |
| 35 | BA | 1232 | U | C5'-C4'-O4' | 8.39 | 119.16 | 109.10 |
| 2 | AB | 421 | C | C5-C6-N1 | -8.38 | 116.81 | 121.00 |
| 35 | BA | 423 | G | C5-C6-O6 | -8.38 | 123.57 | 128.60 |
| 35 | BA | 1184 | G | C1'-O4'-C4' | 8.39 | 116.61 | 109.90 |
| 2 | AB | 1760 | C | N1-C2-O2 | 8.38 | 123.93 | 118.90 |
| 35 | BA | 213 | G | C4-C5-C6 | 8.38 | 123.83 | 118.80 |
| 2 | AB | 852 | U | C5'-C4'-O4' | 8.38 | 119.16 | 109.10 |
| 2 | AB | 1066 | U | O4'-C1'-N1 | 8.38 | 114.91 | 108.20 |
| 2 | AB | 1941 | C | O4'-C1'-N1 | 8.38 | 114.91 | 108.20 |
| 35 | BA | 214 | C | N1-C2-N3 | -8.38 | 113.33 | 119.20 |
| 35 | BA | 1038 | C | N1-C2-O2 | 8.38 | 123.93 | 118.90 |
| 35 | BA | 1336 | C | N3-C4-C5 | -8.38 | 118.55 | 121.90 |
| 1 | AA | 112 | G | O4'-C1'-N9 | 8.38 | 114.90 | 108.20 |
| 2 | AB | 1386 | C | N1-C2-O2 | 8.38 | 123.93 | 118.90 |
| 35 | BA | 1282 | C | C5-C6-N1 | 8.38 | 125.19 | 121.00 |
| 2 | AB | 69 | C | C5-C6-N1 | 8.38 | 125.19 | 121.00 |
| 2 | AB | 848 | C | N3-C4-C5 | -8.38 | 118.55 | 121.90 |
| 2 | AB | 2205 | A | C1'-O4'-C4' | -8.38 | 103.20 | 109.90 |
| 2 | AB | 934 | U | N1-C2-N3 | 8.38 | 119.93 | 114.90 |
| 35 | BA | 130 | A | C6-N1-C2 | 8.38 | 123.63 | 118.60 |
| 35 | BA | 598 | U | N1-C2-O2 | 8.38 | 128.66 | 122.80 |
| 35 | BA | 1509 | C | N1-C2-O2 | 8.38 | 123.93 | 118.90 |
| 2 | AB | 784 | G | C5-C6-N1 | 8.38 | 115.69 | 111.50 |
| 2 | AB | 1810 | A | C6-C5-N7 | 8.38 | 138.16 | 132.30 |
| 35 | BA | 1001 | C | C6-N1-C2 | 8.38 | 123.65 | 120.30 |
| 1 | AA | 57 | A | O4'-C1'-N9 | 8.37 | 114.90 | 108.20 |
| 2 | AB | 156 | A | N7-C8-N9 | -8.38 | 109.61 | 113.80 |
| 2 | AB | 1108 | U | C4'-C3'-C2' | -8.37 | 94.23 | 102.60 |
| 2 | AB | 1802 | A | O4'-C1'-N9 | 8.38 | 114.90 | 108.20 |
| 35 | BA | 68 | G | N7-C8-N9 | 8.38 | 117.29 | 113.10 |
| 35 | BA | 351 | G | C5-C6-O6 | -8.38 | 123.58 | 128.60 |
| 2 | AB | 27 | G | C1'-O4'-C4' | 8.37 | 116.60 | 109.90 |
| 2 | AB | 1945 | G | C6-N1-C2 | -8.37 | 120.08 | 125.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 138 | U | N3-C4-O4 | 8.37 | 125.26 | 119.40 |
| 2 | AB | 1322 | A | C1'-O4'-C4' | 8.37 | 116.60 | 109.90 |
| 2 | AB | 1755 | A | N9-C1'-C2' | -8.37 | 102.79 | 112.00 |
| 35 | BA | 182 | A | C4-C5-C6 | 8.37 | 121.19 | 117.00 |
| 35 | BA | 1255 | G | N1-C2-N2 | 8.37 | 123.74 | 116.20 |
| 35 | BA | 147 | G | O4'-C1'-N9 | 8.37 | 114.90 | 108.20 |
| 35 | BA | 868 | C | N3-C2-O2 | -8.37 | 116.04 | 121.90 |
| 2 | AB | 147 | C | C6-N1-C2 | -8.37 | 116.95 | 120.30 |
| 2 | AB | 2881 | U | O4'-C1'-N1 | 8.37 | 114.90 | 108.20 |
| 37 | BC | 9 | G | C3'-C2'-C1' | 8.37 | 108.19 | 101.50 |
| 2 | AB | 1094 | U | O4'-C1'-N1 | 8.37 | 114.89 | 108.20 |
| 2 | AB | 2421 | G | C4-C5-N7 | -8.37 | 107.45 | 110.80 |
| 2 | AB | 2856 | A | C5-C6-N6 | -8.37 | 117.01 | 123.70 |
| 35 | BA | 255 | G | N9-C4-C5 | 8.37 | 108.75 | 105.40 |
| 35 | BA | 923 | A | N9-C4-C5 | -8.37 | 102.45 | 105.80 |
| 35 | BA | 989 | U | N1-C2-O2 | -8.37 | 116.94 | 122.80 |
| 2 | AB | 553 | G | N7-C8-N9 | -8.37 | 108.92 | 113.10 |
| 2 | AB | 1797 | G | N3-C4-C5 | -8.37 | 124.42 | 128.60 |
| 2 | AB | 1800 | C | C5-C6-N1 | 8.37 | 125.18 | 121.00 |
| 2 | AB | 2051 | A | N1-C2-N3 | -8.37 | 125.12 | 129.30 |
| 3 | AC | 134 | ARG | NE-CZ-NH1 | 8.37 | 124.48 | 120.30 |
| 35 | BA | 673 | A | N1-C2-N3 | -8.37 | 125.12 | 129.30 |
| 35 | BA | 1017 | U | N3-C4-O4 | -8.36 | 113.55 | 119.40 |
| 35 | BA | 1052 | U | C5-C4-O4 | -8.36 | 120.88 | 125.90 |
| 35 | BA | 1371 | G | N7-C8-N9 | -8.36 | 108.92 | 113.10 |
| 2 | AB | 1027 | A | C5-C6-N6 | -8.36 | 117.01 | 123.70 |
| 2 | AB | 1617 | C | C2-N3-C4 | -8.36 | 115.72 | 119.90 |
| 2 | AB | 1751 | U | C5-C4-O4 | -8.36 | 120.88 | 125.90 |
| 2 | AB | 2755 | C | O4'-C1'-N1 | 8.36 | 114.89 | 108.20 |
| 35 | BA | 863 | U | C3'-C2'-C1' | 8.36 | 108.19 | 101.50 |
| 2 | AB | 2226 | C | N3-C4-N4 | 8.36 | 123.85 | 118.00 |
| 2 | AB | 2265 | U | C6-N1-C2 | -8.36 | 115.98 | 121.00 |
| 2 | AB | 2324 | U | O4'-C1'-N1 | 8.36 | 114.89 | 108.20 |
| 2 | AB | 2803 | G | N3-C2-N2 | 8.36 | 125.75 | 119.90 |
| 35 | BA | 222 | C | C5-C4-N4 | -8.36 | 114.35 | 120.20 |
| 35 | BA | 651 | C | N3-C4-N4 | 8.36 | 123.85 | 118.00 |
| 35 | BA | 1034 | G | N9-C4-C5 | 8.36 | 108.75 | 105.40 |
| 35 | BA | 1219 | A | N3-C4-C5 | -8.36 | 120.95 | 126.80 |
| 37 | BC | 37 | U | N3-C2-O2 | -8.36 | 116.35 | 122.20 |
| 2 | AB | 947 | A | O4'-C1'-N9 | 8.36 | 114.89 | 108.20 |
| 2 | AB | 1255 | U | C5-C6-N1 | 8.36 | 126.88 | 122.70 |
| 35 | BA | 39 | G | C2-N3-C4 | 8.36 | 116.08 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 53 | BS | 39 | ARG | NE-CZ-NH2 | -8.36 | 116.12 | 120.30 |
| 2 | AB | 149 | A | C2-N3-C4 | -8.36 | 106.42 | 110.60 |
| 2 | AB | 726 | G | C5-C6-O6 | -8.36 | 123.58 | 128.60 |
| 2 | AB | 1895 | C | C5'-C4'-O4' | -8.36 | 99.07 | 109.10 |
| 35 | BA | 833 | G | C5-C6-N1 | 8.36 | 115.68 | 111.50 |
| 35 | BA | 1355 | G | C6-N1-C2 | -8.36 | 120.08 | 125.10 |
| 1 | AA | 57 | A | P-O3'-C3' | 8.36 | 129.73 | 119.70 |
| 2 | AB | 405 | U | C4'-C3'-C2' | -8.36 | 94.24 | 102.60 |
| 2 | AB | 114 | U | N3-C2-O2 | -8.36 | 116.35 | 122.20 |
| 2 | AB | 1085 | A | C6-C5-N7 | 8.36 | 138.15 | 132.30 |
| 2 | AB | 2597 | G | N7-C8-N9 | 8.36 | 117.28 | 113.10 |
| 2 | AB | 2814 | A | C4'-C3'-C2' | -8.36 | 94.24 | 102.60 |
| 35 | BA | 614 | C | N3-C2-O2 | -8.36 | 116.05 | 121.90 |
| 35 | BA | 737 | C | N1-C2-O2 | 8.36 | 123.91 | 118.90 |
| 35 | BA | 730 | G | O4'-C1'-N9 | 8.35 | 114.88 | 108.20 |
| 35 | BA | 761 | G | N9-C4-C5 | 8.35 | 108.74 | 105.40 |
| 35 | BA | 1523 | G | N7-C8-N9 | 8.35 | 117.28 | 113.10 |
| 1 | AA | 47 | C | N3-C2-O2 | -8.35 | 116.05 | 121.90 |
| 2 | AB | 286 | U | N3-C4-O4 | 8.35 | 125.25 | 119.40 |
| 2 | AB | 581 | C | C6-N1-C2 | -8.35 | 116.96 | 120.30 |
| 2 | AB | 891 | G | C5'-C4'-O4' | 8.35 | 119.12 | 109.10 |
| 35 | BA | 305 | G | C4-C5-N7 | 8.35 | 114.14 | 110.80 |
| 35 | BA | 541 | G | P-O3'-C3' | 8.35 | 129.72 | 119.70 |
| 35 | BA | 830 | G | C4-C5-N7 | -8.35 | 107.46 | 110.80 |
| 35 | BA | 1197 | A | C8-N9-C4 | -8.35 | 102.46 | 105.80 |
| 2 | AB | 316 | C | C6-N1-C2 | 8.35 | 123.64 | 120.30 |
| 2 | AB | 883 | G | O4'-C1'-N9 | 8.35 | 114.88 | 108.20 |
| 2 | AB | 2045 | C | C5-C4-N4 | -8.35 | 114.36 | 120.20 |
| 2 | AB | 469 | G | N3-C4-N9 | 8.35 | 131.01 | 126.00 |
| 2 | AB | 1401 | G | C6-N1-C2 | -8.35 | 120.09 | 125.10 |
| 2 | AB | 2674 | G | N3-C2-N2 | -8.35 | 114.06 | 119.90 |
| 35 | BA | 1215 | G | C1'-O4'-C4' | -8.35 | 103.22 | 109.90 |
| 2 | AB | 883 | G | C2-N3-C4 | 8.35 | 116.07 | 111.90 |
| 2 | AB | 2087 | G | C5-N7-C8 | -8.35 | 100.13 | 104.30 |
| 35 | BA | 1100 | C | C6-N1-C2 | -8.35 | 116.96 | 120.30 |
| 35 | BA | 1385 | G | C4-C5-C6 | -8.35 | 113.79 | 118.80 |
| 2 | AB | 2280 | G | C8-N9-C4 | -8.35 | 103.06 | 106.40 |
| 2 | AB | 2319 | G | C4-C5-C6 | 8.35 | 123.81 | 118.80 |
| 35 | BA | 1504 | G | C4-C5-N7 | -8.35 | 107.46 | 110.80 |
| 35 | BA | 696 | A | C1'-O4'-C4' | -8.34 | 103.22 | 109.90 |
| 2 | AB | 4 | U | O4'-C1'-N1 | 8.34 | 114.87 | 108.20 |
| 2 | AB | 228 | C | N3-C2-O2 | -8.34 | 116.06 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2049 | G | C4-C5-N7 | -8.34 | 107.46 | 110.80 |
| 2 | AB | 2725 | A | N9-C4-C5 | 8.34 | 109.14 | 105.80 |
| 2 | AB | 433 | C | O4'-C1'-N1 | 8.34 | 114.87 | 108.20 |
| 2 | AB | 1391 | U | C2-N3-C4 | -8.34 | 122.00 | 127.00 |
| 2 | AB | 1922 | G | C4-C5-N7 | 8.34 | 114.14 | 110.80 |
| 2 | AB | 2127 | G | N9-C4-C5 | 8.34 | 108.74 | 105.40 |
| 35 | BA | 1121 | U | C5'-C4'-C3' | -8.34 | 102.65 | 116.00 |
| 35 | BA | 1316 | G | N9-C4-C5 | 8.34 | 108.74 | 105.40 |
| 2 | AB | 1535 | A | O4'-C1'-N9 | 8.34 | 114.87 | 108.20 |
| 35 | BA | 551 | U | C6-N1-C2 | -8.34 | 116.00 | 121.00 |
| 2 | AB | 542 | C | N1-C2-O2 | 8.34 | 123.90 | 118.90 |
| 2 | AB | 2223 | G | C5-C6-O6 | -8.34 | 123.60 | 128.60 |
| 2 | AB | 2428 | G | N7-C8-N9 | 8.34 | 117.27 | 113.10 |
| 35 | BA | 326 | G | C2-N3-C4 | 8.34 | 116.07 | 111.90 |
| 35 | BA | 1257 | A | C6-N1-C2 | 8.34 | 123.60 | 118.60 |
| 35 | BA | 1352 | C | C2-N3-C4 | -8.34 | 115.73 | 119.90 |
| 2 | AB | 896 | A | O4'-C4'-C3' | 8.34 | 112.77 | 106.10 |
| 2 | AB | 924 | G | C6-N1-C2 | -8.34 | 120.10 | 125.10 |
| 2 | AB | 2349 | G | C5-N7-C8 | -8.34 | 100.13 | 104.30 |
| 18 | AR | 100 | ARG | NE-CZ-NH2 | 8.34 | 124.47 | 120.30 |
| 35 | BA | 9 | G | N7-C8-N9 | 8.34 | 117.27 | 113.10 |
| 35 | BA | 610 | U | C3'-C2'-C1' | -8.34 | 94.83 | 101.50 |
| 35 | BA | 774 | G | O4'-C1'-N9 | 8.34 | 114.87 | 108.20 |
| 2 | AB | 1194 | A | N9-C1'-C2' | -8.34 | 102.83 | 112.00 |
| 2 | AB | 1843 | C | P-O3'-C3' | 8.34 | 129.70 | 119.70 |
| 35 | BA | 1254 | A | N9-C4-C5 | 8.34 | 109.14 | 105.80 |
| 35 | BA | 1390 | U | O4'-C1'-N1 | 8.34 | 114.87 | 108.20 |
| 2 | AB | 2024 | G | C5-C6-O6 | -8.34 | 123.60 | 128.60 |
| 2 | AB | 2745 | C | N1-C2-O2 | 8.34 | 123.90 | 118.90 |
| 35 | BA | 156 | C | C3'-C2'-C1' | 8.34 | 108.17 | 101.50 |
| 42 | BH | 128 | ASP | CB-CG-OD2 | -8.34 | 110.80 | 118.30 |
| 2 | AB | 285 | G | C5-N7-C8 | 8.33 | 108.47 | 104.30 |
| 2 | AB | 381 | G | C4-C5-N7 | -8.33 | 107.47 | 110.80 |
| 2 | AB | 946 | C | C6-N1-C2 | 8.33 | 123.63 | 120.30 |
| 2 | AB | 1952 | A | C3'-C2'-C1' | 8.33 | 108.17 | 101.50 |
| 2 | AB | 948 | C | O4'-C1'-N1 | 8.33 | 114.86 | 108.20 |
| 2 | AB | 1728 | C | O4'-C1'-C2' | -8.33 | 97.47 | 105.80 |
| 2 | AB | 1823 | G | N3-C4-N9 | 8.33 | 131.00 | 126.00 |
| 2 | AB | 2133 | G | C8-N9-C4 | -8.33 | 103.07 | 106.40 |
| 2 | AB | 2352 | A | C2-N3-C4 | 8.33 | 114.77 | 110.60 |
| 2 | AB | 2707 | U | C5-C4-O4 | 8.33 | 130.90 | 125.90 |
| 2 | AB | 2745 | C | O4'-C1'-N1 | 8.33 | 114.87 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 3 | A | C8-N9-C4 | -8.33 | 102.47 | 105.80 |
| 35 | BA | 565 | U | C4-C5-C6 | 8.33 | 124.70 | 119.70 |
| 35 | BA | 232 | G | C5-C6-N1 | -8.33 | 107.33 | 111.50 |
| 2 | AB | 240 | C | C4-C5-C6 | 8.33 | 121.57 | 117.40 |
| 2 | AB | 447 | A | C4-C5-C6 | -8.33 | 112.83 | 117.00 |
| 2 | AB | 1126 | A | N1-C2-N3 | -8.33 | 125.14 | 129.30 |
| 2 | AB | 2087 | G | C5-C6-N1 | 8.33 | 115.66 | 111.50 |
| 2 | AB | 2160 | C | C5-C6-N1 | 8.33 | 125.17 | 121.00 |
| 35 | BA | 1205 | U | O4'-C1'-N1 | 8.33 | 114.86 | 108.20 |
| 2 | AB | 608 | A | O4'-C1'-N9 | 8.33 | 114.86 | 108.20 |
| 2 | AB | 644 | A | P-O3'-C3' | 8.33 | 129.69 | 119.70 |
| 2 | AB | 890 | C | N3-C4-C5 | -8.33 | 118.57 | 121.90 |
| 2 | AB | 2141 | G | N3-C4-C5 | -8.33 | 124.44 | 128.60 |
| 2 | AB | 1441 | G | N1-C2-N3 | -8.33 | 118.90 | 123.90 |
| 35 | BA | 578 | C | N3-C4-C5 | -8.33 | 118.57 | 121.90 |
| 35 | BA | 1031 | C | N1-C2-O2 | 8.33 | 123.90 | 118.90 |
| 1 | AA | 101 | A | C5-C6-N1 | -8.32 | 113.54 | 117.70 |
| 2 | AB | 493 | G | N3-C4-C5 | -8.32 | 124.44 | 128.60 |
| 2 | AB | 660 | C | C5-C4-N4 | 8.32 | 126.03 | 120.20 |
| 2 | AB | 1469 | A | C2-N3-C4 | -8.32 | 106.44 | 110.60 |
| 35 | BA | 1180 | A | C5-C6-N1 | 8.32 | 121.86 | 117.70 |
| 2 | AB | 717 | C | O4'-C1'-N1 | 8.32 | 114.86 | 108.20 |
| 2 | AB | 2334 | U | N3-C2-O2 | -8.32 | 116.37 | 122.20 |
| 8 | AH | 169 | ARG | NE-CZ-NH1 | -8.32 | 116.14 | 120.30 |
| 35 | BA | 311 | C | C6-N1-C2 | -8.32 | 116.97 | 120.30 |
| 35 | BA | 951 | G | N9-C4-C5 | -8.32 | 102.07 | 105.40 |
| 35 | BA | 143 | A | N7-C8-N9 | 8.32 | 117.96 | 113.80 |
| 35 | BA | 665 | A | O4'-C1'-N9 | 8.32 | 114.86 | 108.20 |
| 35 | BA | 1455 | G | C6-N1-C2 | -8.32 | 120.11 | 125.10 |
| 35 | BA | 1510 | C | C5-C4-N4 | 8.32 | 126.03 | 120.20 |
| 2 | AB | 80 | G | C1'-O4'-C4' | -8.32 | 103.24 | 109.90 |
| 35 | BA | 1171 | A | C3'-C2'-C1' | 8.32 | 108.16 | 101.50 |
| 2 | AB | 132 | G | N1-C6-O6 | 8.32 | 124.89 | 119.90 |
| 2 | AB | 209 | C | C2-N3-C4 | 8.32 | 124.06 | 119.90 |
| 2 | AB | 954 | G | N1-C2-N3 | -8.32 | 118.91 | 123.90 |
| 2 | AB | 1424 | G | O4'-C1'-N9 | 8.32 | 114.86 | 108.20 |
| 2 | AB | 1557 | C | N3-C2-O2 | -8.32 | 116.08 | 121.90 |
| 35 | BA | 633 | G | N9-C4-C5 | 8.32 | 108.73 | 105.40 |
| 2 | AB | 31 | C | O4'-C1'-N1 | 8.32 | 114.85 | 108.20 |
| 2 | AB | 1441 | G | C2-N3-C4 | 8.32 | 116.06 | 111.90 |
| 2 | AB | 25 | U | O4'-C1'-N1 | 8.32 | 114.85 | 108.20 |
| 2 | AB | 404 | A | O4'-C1'-N9 | 8.32 | 114.85 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1380 | G | C2-N3-C4 | 8.32 | 116.06 | 111.90 |
| 2 | AB | 1434 | A | C5-C6-N1 | 8.32 | 121.86 | 117.70 |
| 2 | AB | 1651 | G | P-O3'-C3' | 8.32 | 129.68 | 119.70 |
| 2 | AB | 1607 | C | N3-C4-C5 | -8.32 | 118.57 | 121.90 |
| 2 | AB | 2061 | G | N1-C6-O6 | -8.32 | 114.91 | 119.90 |
| 2 | AB | 2194 | U | N1-C2-N3 | 8.32 | 119.89 | 114.90 |
| 2 | AB | 2490 | G | C6-N1-C2 | 8.32 | 130.09 | 125.10 |
| 2 | AB | 2748 | A | C5'-C4'-C3' | -8.32 | 102.69 | 116.00 |
| 35 | BA | 60 | A | N9-C4-C5 | 8.32 | 109.13 | 105.80 |
| 35 | BA | 161 | A | C8-N9-C4 | -8.32 | 102.47 | 105.80 |
| 35 | BA | 321 | A | C5-N7-C8 | -8.32 | 99.74 | 103.90 |
| 35 | BA | 600 | A | N1-C6-N6 | -8.32 | 113.61 | 118.60 |
| 35 | BA | 816 | A | C3'-C2'-C1' | 8.32 | 108.15 | 101.50 |
| 35 | BA | 973 | G | N3-C4-C5 | -8.32 | 124.44 | 128.60 |
| 35 | BA | 1212 | U | N1-C2-O2 | 8.32 | 128.62 | 122.80 |
| 40 | BF | 72 | ARG | NE-CZ-NH2 | -8.32 | 116.14 | 120.30 |
| 44 | BJ | 14 | ARG | NE-CZ-NH2 | 8.32 | 124.46 | 120.30 |
| 2 | AB | 175 | G | C4-C5-N7 | 8.31 | 114.12 | 110.80 |
| 2 | AB | 504 | A | C2-N3-C4 | -8.31 | 106.44 | 110.60 |
| 2 | AB | 1086 | A | C5-N7-C8 | -8.31 | 99.74 | 103.90 |
| 2 | AB | 555 | G | N1-C6-O6 | -8.31 | 114.91 | 119.90 |
| 2 | AB | 1455 | G | C6-C5-N7 | 8.31 | 135.39 | 130.40 |
| 2 | AB | 1863 | G | C8-N9-C4 | -8.31 | 103.08 | 106.40 |
| 2 | AB | 2695 | U | C4'-C3'-C2' | -8.31 | 94.29 | 102.60 |
| 3 | AC | 71 | ARG | NE-CZ-NH1 | 8.31 | 124.46 | 120.30 |
| 35 | BA | 1067 | A | C5-C6-N6 | -8.31 | 117.05 | 123.70 |
| 2 | AB | 275 | C | C5'-C4'-O4' | 8.31 | 119.07 | 109.10 |
| 2 | AB | 851 | C | O4'-C1'-N1 | 8.31 | 114.85 | 108.20 |
| 2 | AB | 2087 | G | N1-C2-N3 | -8.31 | 118.91 | 123.90 |
| 2 | AB | 2888 | C | C4'-C3'-C2' | -8.31 | 94.29 | 102.60 |
| 35 | BA | 669 | G | N3-C4-N9 | 8.31 | 130.99 | 126.00 |
| 35 | BA | 821 | G | O4'-C1'-N9 | 8.31 | 114.85 | 108.20 |
| 4 | AD | 42 | ARG | NE-CZ-NH2 | -8.31 | 116.14 | 120.30 |
| 15 | AO | 50 | ARG | NE-CZ-NH2 | 8.31 | 124.45 | 120.30 |
| 35 | BA | 313 | A | N7-C8-N9 | -8.31 | 109.64 | 113.80 |
| 35 | BA | 1132 | C | N3-C2-O2 | -8.31 | 116.08 | 121.90 |
| 2 | AB | 977 | G | N3-C4-C5 | -8.31 | 124.45 | 128.60 |
| 2 | AB | 1281 | G | C8-N9-C4 | -8.31 | 103.08 | 106.40 |
| 2 | AB | 1194 | A | C4-C5-N7 | -8.31 | 106.55 | 110.70 |
| 2 | AB | 1210 | G | C4-C5-N7 | -8.31 | 107.48 | 110.80 |
| 2 | AB | 1223 | G | C4-C5-N7 | -8.31 | 107.48 | 110.80 |
| 2 | AB | 1684 | G | C4-C5-N7 | 8.31 | 114.12 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1340 | A | C8-N9-C4 | 8.31 | 109.12 | 105.80 |
| 2 | AB | 2315 | G | C1'-O4'-C4' | -8.31 | 103.25 | 109.90 |
| 2 | AB | 2712 | C | C1'-O4'-C4' | 8.31 | 116.55 | 109.90 |
| 35 | BA | 674 | G | N3-C4-C5 | -8.31 | 124.45 | 128.60 |
| 35 | BA | 1077 | G | N7-C8-N9 | 8.31 | 117.25 | 113.10 |
| 35 | BA | 1282 | C | C6-N1-C2 | -8.31 | 116.98 | 120.30 |
| 35 | BA | 1492 | A | C5-N7-C8 | -8.31 | 99.75 | 103.90 |
| 2 | AB | 608 | A | C5-N7-C8 | -8.31 | 99.75 | 103.90 |
| 35 | BA | 129 | A | C2-N3-C4 | 8.31 | 114.75 | 110.60 |
| 2 | AB | 198 | C | N1-C2-O2 | -8.30 | 113.92 | 118.90 |
| 2 | AB | 629 | G | N3-C2-N2 | 8.30 | 125.71 | 119.90 |
| 2 | AB | 2318 | G | O4'-C4'-C3' | 8.30 | 112.74 | 106.10 |
| 2 | AB | 2758 | A | C4-C5-N7 | -8.30 | 106.55 | 110.70 |
| 35 | BA | 650 | G | O4'-C1'-N9 | -8.30 | 101.56 | 108.20 |
| 35 | BA | 1206 | G | C6-C5-N7 | -8.31 | 125.42 | 130.40 |
| 35 | BA | 12 | U | O4'-C1'-N1 | 8.30 | 114.84 | 108.20 |
| 35 | BA | 581 | G | C6-N1-C2 | -8.30 | 120.12 | 125.10 |
| 35 | BA | 874 | G | C4-C5-N7 | -8.30 | 107.48 | 110.80 |
| 1 | AA | 61 | G | N7-C8-N9 | 8.30 | 117.25 | 113.10 |
| 2 | AB | 941 | A | C6-N1-C2 | -8.30 | 113.62 | 118.60 |
| 2 | AB | 2016 | U | N3-C4-C5 | -8.30 | 109.62 | 114.60 |
| 2 | AB | 1278 | C | O4'-C1'-N1 | 8.30 | 114.84 | 108.20 |
| 2 | AB | 1538 | G | C8-N9-C4 | -8.30 | 103.08 | 106.40 |
| 2 | AB | 1606 | C | C5-C6-N1 | 8.30 | 125.15 | 121.00 |
| 35 | BA | 61 | G | C8-N9-C4 | -8.30 | 103.08 | 106.40 |
| 35 | BA | 696 | A | N9-C4-C5 | 8.30 | 109.12 | 105.80 |
| 2 | AB | 223 | A | O4'-C1'-N9 | 8.30 | 114.84 | 108.20 |
| 2 | AB | 963 | U | O4'-C1'-N1 | 8.30 | 114.84 | 108.20 |
| 35 | BA | 236 | A | N1-C6-N6 | 8.30 | 123.58 | 118.60 |
| 2 | AB | 97 | C | N1-C2-N3 | -8.30 | 113.39 | 119.20 |
| 2 | AB | 2668 | G | N3-C2-N2 | -8.30 | 114.09 | 119.90 |
| 35 | BA | 1053 | G | C5-C6-O6 | -8.30 | 123.62 | 128.60 |
| 2 | AB | 550 | C | O4'-C1'-N1 | 8.30 | 114.84 | 108.20 |
| 2 | AB | 1789 | A | C4-C5-C6 | 8.30 | 121.15 | 117.00 |
| 2 | AB | 1811 | G | N3-C2-N2 | -8.30 | 114.09 | 119.90 |
| 35 | BA | 42 | G | P-O3'-C3' | 8.29 | 129.65 | 119.70 |
| 35 | BA | 558 | G | N1-C6-O6 | -8.29 | 114.92 | 119.90 |
| 35 | BA | 1334 | G | N1-C6-O6 | 8.29 | 124.88 | 119.90 |
| 35 | BA | 1489 | G | O4'-C4'-C3' | 8.29 | 112.73 | 106.10 |
| 2 | AB | 464 | U | N1-C2-N3 | 8.29 | 119.88 | 114.90 |
| 2 | AB | 1027 | A | C5-N7-C8 | -8.29 | 99.75 | 103.90 |
| 2 | AB | 2001 | C | N3-C4-C5 | -8.29 | 118.58 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 785 | G | C5-C6-N1 | 8.29 | 115.65 | 111.50 |
| 2 | AB | 1400 | U | N1-C2-O2 | -8.29 | 117.00 | 122.80 |
| 2 | AB | 1560 | G | N7-C8-N9 | 8.29 | 117.25 | 113.10 |
| 2 | AB | 2731 | G | N3-C4-C5 | -8.29 | 124.45 | 128.60 |
| 2 | AB | 2851 | A | C5-C6-N6 | 8.29 | 130.33 | 123.70 |
| 2 | AB | 312 | G | C5-C6-N1 | 8.29 | 115.64 | 111.50 |
| 2 | AB | 2253 | G | C8-N9-C4 | -8.29 | 103.08 | 106.40 |
| 2 | AB | 2528 | U | C5-C6-N1 | -8.29 | 118.56 | 122.70 |
| 2 | AB | 2611 | C | N3-C4-N4 | 8.29 | 123.80 | 118.00 |
| 2 | AB | 2868 | A | C5-C6-N6 | 8.29 | 130.33 | 123.70 |
| 35 | BA | 378 | G | N7-C8-N9 | 8.29 | 117.25 | 113.10 |
| 35 | BA | 1491 | G | N7-C8-N9 | 8.29 | 117.25 | 113.10 |
| 35 | BA | 725 | G | N3-C4-C5 | -8.29 | 124.46 | 128.60 |
| 2 | AB | 756 | A | N3-C4-C5 | 8.29 | 132.60 | 126.80 |
| 35 | BA | 1465 | A | C4'-C3'-C2' | -8.29 | 94.31 | 102.60 |
| 2 | AB | 2800 | A | C5-N7-C8 | 8.28 | 108.04 | 103.90 |
| 35 | BA | 199 | A | C5-C6-N6 | -8.28 | 117.07 | 123.70 |
| 35 | BA | 1500 | A | C5-C6-N6 | -8.28 | 117.07 | 123.70 |
| 2 | AB | 264 | C | C3'-C2'-C1' | 8.28 | 108.13 | 101.50 |
| 2 | AB | 1655 | A | C4-C5-N7 | 8.28 | 114.84 | 110.70 |
| 2 | AB | 2476 | A | C8-N9-C4 | -8.28 | 102.49 | 105.80 |
| 2 | AB | 2812 | G | N3-C2-N2 | -8.28 | 114.10 | 119.90 |
| 35 | BA | 1496 | C | O4'-C4'-C3' | -8.28 | 95.72 | 104.00 |
| 2 | AB | 1001 | A | C5-N7-C8 | 8.28 | 108.04 | 103.90 |
| 2 | AB | 1356 | G | N7-C8-N9 | 8.28 | 117.24 | 113.10 |
| 2 | AB | 1423 | G | C5-C6-O6 | -8.28 | 123.63 | 128.60 |
| 2 | AB | 1467 | U | O4'-C1'-N1 | 8.28 | 114.83 | 108.20 |
| 2 | AB | 1672 | A | N1-C2-N3 | 8.28 | 133.44 | 129.30 |
| 2 | AB | 2769 | U | C5-C6-N1 | -8.28 | 118.56 | 122.70 |
| 35 | BA | 134 | G | N3-C2-N2 | -8.28 | 114.10 | 119.90 |
| 35 | BA | 459 | A | C4-C5-C6 | -8.28 | 112.86 | 117.00 |
| 35 | BA | 1063 | C | C2-N3-C4 | 8.28 | 124.04 | 119.90 |
| 35 | BA | 1488 | G | C6-C5-N7 | -8.28 | 125.43 | 130.40 |
| 2 | AB | 437 | U | C5-C6-N1 | -8.28 | 118.56 | 122.70 |
| 2 | AB | 1637 | A | C5-N7-C8 | 8.28 | 108.04 | 103.90 |
| 2 | AB | 667 | U | C1'-O4'-C4' | 8.28 | 116.52 | 109.90 |
| 2 | AB | 2274 | A | N1-C2-N3 | -8.28 | 125.16 | 129.30 |
| 2 | AB | 2737 | G | N3-C2-N2 | 8.28 | 125.69 | 119.90 |
| 28 | A1 | 56 | VAL | CA-CB-CG1 | -8.28 | 98.48 | 110.90 |
| 35 | BA | 359 | G | N3-C4-C5 | -8.28 | 124.46 | 128.60 |
| 35 | BA | 844 | G | O4'-C1'-N9 | 8.28 | 114.82 | 108.20 |
| 35 | BA | 399 | G | C5-C6-N1 | 8.28 | 115.64 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 431 | A | C1'-O4'-C4' | -8.28 | 103.28 | 109.90 |
| 35 | BA | 753 | A | C4-C5-N7 | -8.28 | 106.56 | 110.70 |
| 2 | AB | 1049 | C | N3-C4-C5 | -8.28 | 118.59 | 121.90 |
| 35 | BA | 556 | C | O4'-C1'-N1 | 8.28 | 114.82 | 108.20 |
| 36 | BB | 48 | C | N3-C4-N4 | 8.28 | 123.79 | 118.00 |
| 35 | BA | 1210 | C | C5-C6-N1 | 8.28 | 125.14 | 121.00 |
| 37 | BC | 4 | G | N7-C8-N9 | 8.28 | 117.24 | 113.10 |
| 2 | AB | 1127 | A | C1'-O4'-C4' | -8.27 | 103.28 | 109.90 |
| 2 | AB | 1210 | G | C6-N1-C2 | -8.27 | 120.14 | 125.10 |
| 2 | AB | 1250 | G | O4'-C1'-N9 | 8.27 | 114.82 | 108.20 |
| 2 | AB | 1509 | A | N3-C4-C5 | -8.27 | 121.01 | 126.80 |
| 2 | AB | 1834 | U | N3-C4-O4 | 8.27 | 125.19 | 119.40 |
| 2 | AB | 2009 | A | N9-C4-C5 | 8.27 | 109.11 | 105.80 |
| 2 | AB | 2294 | G | C5'-C4'-O4' | 8.27 | 119.03 | 109.10 |
| 35 | BA | 275 | G | C8-N9-C4 | -8.27 | 103.09 | 106.40 |
| 2 | AB | 2253 | G | N1-C6-O6 | 8.27 | 124.86 | 119.90 |
| 2 | AB | 2302 | U | O4'-C1'-N1 | 8.27 | 114.82 | 108.20 |
| 35 | BA | 137 | U | O4'-C1'-N1 | 8.27 | 114.82 | 108.20 |
| 35 | BA | 243 | A | C2-N3-C4 | 8.27 | 114.74 | 110.60 |
| 35 | BA | 907 | A | C5'-C4'-O4' | 8.27 | 119.03 | 109.10 |
| 36 | BB | 16 | A | C8-N9-C4 | -8.27 | 102.49 | 105.80 |
| 37 | BC | 54 | G | C6-C5-N7 | 8.27 | 135.36 | 130.40 |
| 2 | AB | 443 | A | N9-C4-C5 | 8.27 | 109.11 | 105.80 |
| 2 | AB | 707 | G | N3-C4-C5 | -8.27 | 124.47 | 128.60 |
| 2 | AB | 1025 | G | C3'-C2'-C1' | -8.27 | 94.88 | 101.50 |
| 2 | AB | 1056 | G | N1-C2-N3 | -8.27 | 118.94 | 123.90 |
| 2 | AB | 1480 | C | O4'-C1'-N1 | 8.27 | 114.82 | 108.20 |
| 2 | AB | 1439 | A | C8-N9-C4 | -8.27 | 102.49 | 105.80 |
| 2 | AB | 1947 | C | C4'-C3'-C2' | -8.27 | 94.33 | 102.60 |
| 2 | AB | 2516 | A | N1-C2-N3 | 8.27 | 133.43 | 129.30 |
| 35 | BA | 330 | C | C6-N1-C2 | 8.27 | 123.61 | 120.30 |
| 35 | BA | 789 | U | P-O3'-C3' | 8.27 | 129.62 | 119.70 |
| 35 | BA | 1529 | G | C8-N9-C4 | -8.27 | 103.09 | 106.40 |
| 35 | BA | 1068 | G | C8-N9-C4 | -8.27 | 103.09 | 106.40 |
| 2 | AB | 446 | G | N1-C2-N3 | -8.27 | 118.94 | 123.90 |
| 2 | AB | 464 | U | N3-C4-O4 | 8.27 | 125.19 | 119.40 |
| 2 | AB | 1552 | A | N9-C4-C5 | -8.27 | 102.49 | 105.80 |
| 30 | A3 | 51 | ARG | NE-CZ-NH2 | 8.27 | 124.43 | 120.30 |
| 2 | AB | 291 | G | C4-C5-N7 | -8.26 | 107.50 | 110.80 |
| 2 | AB | 763 | G | C6-N1-C2 | -8.26 | 120.14 | 125.10 |
| 2 | AB | 973 | A | C5-C6-N1 | 8.26 | 121.83 | 117.70 |
| 2 | AB | 2714 | G | N7-C8-N9 | 8.26 | 117.23 | 113.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2 | G | O4'-C1'-N9 | 8.26 | 114.81 | 108.20 |
| 2 | AB | 177 | G | C8-N9-C4 | -8.26 | 103.10 | 106.40 |
| 2 | AB | 258 | G | N1-C6-O6 | -8.26 | 114.94 | 119.90 |
| 2 | AB | 640 | C | O4'-C1'-N1 | 8.26 | 114.81 | 108.20 |
| 2 | AB | 974 | G | N3-C4-C5 | -8.26 | 124.47 | 128.60 |
| 2 | AB | 1001 | A | N9-C4-C5 | 8.26 | 109.10 | 105.80 |
| 2 | AB | 1662 | U | O4'-C1'-N1 | 8.26 | 114.81 | 108.20 |
| 2 | AB | 1879 | C | C3'-C2'-C1' | 8.26 | 108.11 | 101.50 |
| 2 | AB | 2283 | C | C5-C4-N4 | -8.26 | 114.42 | 120.20 |
| 2 | AB | 2389 | G | C5-C6-O6 | -8.26 | 123.64 | 128.60 |
| 35 | BA | 72 | A | C5'-C4'-O4' | 8.26 | 119.01 | 109.10 |
| 35 | BA | 252 | U | N3-C2-O2 | -8.26 | 116.42 | 122.20 |
| 35 | BA | 1002 | G | C8-N9-C4 | -8.26 | 103.09 | 106.40 |
| 35 | BA | 76 | G | C2-N3-C4 | 8.26 | 116.03 | 111.90 |
| 35 | BA | 1175 | G | C2-N3-C4 | 8.26 | 116.03 | 111.90 |
| 1 | AA | 41 | G | C5-C6-O6 | 8.26 | 133.55 | 128.60 |
| 2 | AB | 2731 | G | N1-C6-O6 | 8.26 | 124.85 | 119.90 |
| 35 | BA | 350 | G | C8-N9-C4 | -8.26 | 103.10 | 106.40 |
| 1 | AA | 111 | U | N1-C1'-C2' | -8.26 | 102.92 | 112.00 |
| 2 | AB | 78 | U | N3-C2-O2 | -8.26 | 116.42 | 122.20 |
| 2 | AB | 789 | A | C5-N7-C8 | -8.26 | 99.77 | 103.90 |
| 2 | AB | 1433 | A | N3-C4-C5 | -8.26 | 121.02 | 126.80 |
| 2 | AB | 2890 | G | N9-C4-C5 | 8.26 | 108.70 | 105.40 |
| 35 | BA | 1227 | A | C4'-C3'-C2' | -8.26 | 94.34 | 102.60 |
| 2 | AB | 1017 | G | N3-C4-C5 | -8.25 | 124.47 | 128.60 |
| 35 | BA | 77 | A | C5-N7-C8 | 8.25 | 108.03 | 103.90 |
| 35 | BA | 231 | U | C5-C6-N1 | -8.25 | 118.57 | 122.70 |
| 35 | BA | 502 | A | O4'-C1'-N9 | 8.25 | 114.80 | 108.20 |
| 2 | AB | 188 | G | N9-C4-C5 | 8.25 | 108.70 | 105.40 |
| 2 | AB | 1149 | G | C5-C6-N1 | 8.25 | 115.63 | 111.50 |
| 2 | AB | 1279 | G | N9-C4-C5 | -8.25 | 102.10 | 105.40 |
| 2 | AB | 1465 | G | C6-C5-N7 | -8.25 | 125.45 | 130.40 |
| 2 | AB | 1763 | G | N3-C4-C5 | -8.25 | 124.47 | 128.60 |
| 35 | BA | 299 | G | N3-C2-N2 | -8.25 | 114.12 | 119.90 |
| 2 | AB | 994 | C | C6-N1-C2 | 8.25 | 123.60 | 120.30 |
| 35 | BA | 1315 | U | C6-N1-C2 | 8.25 | 125.95 | 121.00 |
| 45 | BK | 84 | ARG | NE-CZ-NH2 | -8.25 | 116.18 | 120.30 |
| 53 | BS | 61 | ARG | NE-CZ-NH2 | -8.25 | 116.17 | 120.30 |
| 56 | BV | 73 | ARG | NE-CZ-NH1 | 8.25 | 124.42 | 120.30 |
| 2 | AB | 101 | A | N9-C4-C5 | 8.25 | 109.10 | 105.80 |
| 2 | AB | 718 | A | C8-N9-C4 | -8.25 | 102.50 | 105.80 |
| 2 | AB | 1657 | U | N1-C2-N3 | 8.25 | 119.85 | 114.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1671 | U | C5-C6-N1 | 8.25 | 126.82 | 122.70 |
| 2 | AB | 2741 | A | O4'-C1'-C2' | -8.25 | 97.55 | 105.80 |
| 35 | BA | 223 | A | N1-C2-N3 | 8.25 | 133.42 | 129.30 |
| 35 | BA | 1354 | U | O4'-C1'-N1 | 8.25 | 114.80 | 108.20 |
| 36 | BB | 47 | C | N3-C2-O2 | -8.25 | 116.13 | 121.90 |
| 2 | AB | 314 | C | C2-N3-C4 | 8.24 | 124.02 | 119.90 |
| 2 | AB | 845 | A | C5-C6-N1 | -8.24 | 113.58 | 117.70 |
| 2 | AB | 2133 | G | N3-C4-C5 | -8.24 | 124.48 | 128.60 |
| 1 | AA | 73 | A | C4-C5-C6 | 8.24 | 121.12 | 117.00 |
| 2 | AB | 2358 | A | O4'-C1'-N9 | 8.24 | 114.80 | 108.20 |
| 2 | AB | 2618 | G | N7-C8-N9 | 8.24 | 117.22 | 113.10 |
| 3 | AC | 74 | ARG | NE-CZ-NH1 | 8.24 | 124.42 | 120.30 |
| 35 | BA | 810 | C | N1-C2-O2 | 8.24 | 123.85 | 118.90 |
| 43 | BI | 137 | ARG | CD-NE-CZ | 8.24 | 135.14 | 123.60 |
| 2 | AB | 811 | U | C5-C6-N1 | -8.24 | 118.58 | 122.70 |
| 2 | AB | 841 | G | C8-N9-C4 | -8.24 | 103.10 | 106.40 |
| 2 | AB | 1864 | U | N3-C2-O2 | -8.24 | 116.43 | 122.20 |
| 2 | AB | 2216 | G | C6-N1-C2 | -8.24 | 120.15 | 125.10 |
| 35 | BA | 36 | C | N3-C4-C5 | -8.24 | 118.60 | 121.90 |
| 35 | BA | 339 | C | N3-C4-C5 | -8.24 | 118.60 | 121.90 |
| 1 | AA | 58 | A | C8-N9-C4 | -8.24 | 102.50 | 105.80 |
| 2 | AB | 653 | U | N1-C2-N3 | 8.24 | 119.84 | 114.90 |
| 2 | AB | 1531 | C | N3-C2-O2 | -8.24 | 116.13 | 121.90 |
| 2 | AB | 1847 | A | C5-C6-N1 | -8.24 | 113.58 | 117.70 |
| 35 | BA | 115 | G | N1-C2-N3 | 8.24 | 128.84 | 123.90 |
| 35 | BA | 1433 | A | C8-N9-C4 | -8.24 | 102.50 | 105.80 |
| 2 | AB | 1022 | G | C5-C6-N1 | 8.24 | 115.62 | 111.50 |
| 35 | BA | 27 | G | C5-C6-O6 | -8.24 | 123.66 | 128.60 |
| 35 | BA | 332 | G | C8-N9-C4 | -8.24 | 103.11 | 106.40 |
| 2 | AB | 1659 | G | N3-C4-C5 | -8.24 | 124.48 | 128.60 |
| 2 | AB | 2485 | G | P-O3'-C3' | 8.24 | 129.58 | 119.70 |
| 35 | BA | 505 | G | C4-C5-C6 | 8.24 | 123.74 | 118.80 |
| 35 | BA | 761 | G | N3-C2-N2 | -8.24 | 114.14 | 119.90 |
| 36 | BB | 27 | A | N9-C4-C5 | 8.24 | 109.09 | 105.80 |
| 2 | AB | 136 | G | C5-N7-C8 | 8.23 | 108.42 | 104.30 |
| 2 | AB | 146 | A | N1-C2-N3 | -8.23 | 125.18 | 129.30 |
| 2 | AB | 637 | A | C5-C6-N6 | 8.23 | 130.29 | 123.70 |
| 2 | AB | 2167 | U | C3'-C2'-C1' | 8.23 | 108.09 | 101.50 |
| 2 | AB | 2253 | G | C5-C6-O6 | -8.23 | 123.66 | 128.60 |
| 35 | BA | 193 | C | N1-C2-O2 | 8.23 | 123.84 | 118.90 |
| 35 | BA | 213 | G | N3-C2-N2 | 8.23 | 125.66 | 119.90 |
| 35 | BA | 1048 | G | C4-C5-N7 | -8.23 | 107.51 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 419 | U | N1-C2-N3 | 8.23 | 119.84 | 114.90 |
| 2 | AB | 486 | C | N3-C4-C5 | 8.23 | 125.19 | 121.90 |
| 2 | AB | 2319 | G | N3-C4-N9 | 8.23 | 130.94 | 126.00 |
| 2 | AB | 2400 | G | C8-N9-C4 | -8.23 | 103.11 | 106.40 |
| 15 | AO | 40 | ARG | NE-CZ-NH2 | 8.23 | 124.42 | 120.30 |
| 40 | BF | 69 | ARG | NE-CZ-NH2 | -8.23 | 116.19 | 120.30 |
| 2 | AB | 1789 | A | C6-N1-C2 | -8.23 | 113.66 | 118.60 |
| 2 | AB | 2198 | A | C6-C5-N7 | 8.23 | 138.06 | 132.30 |
| 2 | AB | 2367 | G | C2-N3-C4 | 8.23 | 116.01 | 111.90 |
| 35 | BA | 83 | C | O4'-C1'-N1 | 8.23 | 114.78 | 108.20 |
| 35 | BA | 891 | U | C5-C6-N1 | -8.23 | 118.59 | 122.70 |
| 36 | BB | 46 | C | N3-C4-C5 | -8.23 | 118.61 | 121.90 |
| 55 | BU | 36 | ARG | NE-CZ-NH1 | 8.23 | 124.41 | 120.30 |
| 1 | AA | 13 | G | N3-C4-N9 | -8.23 | 121.06 | 126.00 |
| 2 | AB | 1424 | G | C4-C5-N7 | -8.23 | 107.51 | 110.80 |
| 35 | BA | 1121 | U | C5'-C4'-O4' | 8.23 | 118.97 | 109.10 |
| 2 | AB | 328 | U | P-O3'-C3' | 8.22 | 129.57 | 119.70 |
| 2 | AB | 2638 | G | C5-N7-C8 | -8.22 | 100.19 | 104.30 |
| 35 | BA | 1304 | G | C8-N9-C4 | -8.22 | 103.11 | 106.40 |
| 2 | AB | 388 | G | C5-C6-N1 | 8.22 | 115.61 | 111.50 |
| 35 | BA | 1416 | G | C6-N1-C2 | -8.22 | 120.17 | 125.10 |
| 35 | BA | 1431 | A | C5'-C4'-O4' | 8.22 | 118.97 | 109.10 |
| 2 | AB | 849 | A | N7-C8-N9 | -8.22 | 109.69 | 113.80 |
| 2 | AB | 967 | U | N3-C2-O2 | 8.22 | 127.95 | 122.20 |
| 2 | AB | 1444 | G | C4'-C3'-C2' | -8.22 | 94.38 | 102.60 |
| 2 | AB | 2323 | G | N3-C2-N2 | -8.22 | 114.15 | 119.90 |
| 35 | BA | 579 | A | O4'-C1'-N9 | 8.22 | 114.78 | 108.20 |
| 35 | BA | 741 | G | N9-C4-C5 | 8.22 | 108.69 | 105.40 |
| 2 | AB | 740 | C | C1'-O4'-C4' | 8.22 | 116.47 | 109.90 |
| 2 | AB | 2800 | A | N1-C2-N3 | 8.22 | 133.41 | 129.30 |
| 35 | BA | 876 | C | N3-C2-O2 | 8.22 | 127.65 | 121.90 |
| 2 | AB | 1574 | C | O4'-C1'-C2' | -8.22 | 97.58 | 105.80 |
| 2 | AB | 1904 | G | C6-C5-N7 | 8.22 | 135.33 | 130.40 |
| 2 | AB | 2428 | G | C6-N1-C2 | -8.22 | 120.17 | 125.10 |
| 35 | BA | 41 | G | O4'-C1'-N9 | 8.22 | 114.77 | 108.20 |
| 35 | BA | 566 | G | O4'-C4'-C3' | 8.22 | 112.67 | 106.10 |
| 35 | BA | 838 | G | C4-C5-N7 | 8.22 | 114.09 | 110.80 |
| 35 | BA | 923 | A | C8-N9-C4 | 8.22 | 109.09 | 105.80 |
| 1 | AA | 68 | C | N1-C2-O2 | 8.22 | 123.83 | 118.90 |
| 2 | AB | 247 | G | N1-C6-O6 | -8.21 | 114.97 | 119.90 |
| 2 | AB | 1179 | G | N7-C8-N9 | 8.21 | 117.21 | 113.10 |
| 2 | AB | 1704 | C | O4'-C4'-C3' | 8.22 | 112.67 | 106.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1434 | A | N9-C4-C5 | 8.21 | 109.09 | 105.80 |
| 2 | AB | 1632 | A | N1-C6-N6 | -8.21 | 113.67 | 118.60 |
| 2 | AB | 1684 | G | C5-C6-O6 | -8.21 | 123.67 | 128.60 |
| 2 | AB | 2360 | G | C5-C6-O6 | -8.21 | 123.67 | 128.60 |
| 2 | AB | 2452 | C | N1-C2-O2 | 8.21 | 123.83 | 118.90 |
| 35 | BA | 919 | A | O4'-C1'-N9 | 8.21 | 114.77 | 108.20 |
| 35 | BA | 947 | G | N7-C8-N9 | 8.21 | 117.21 | 113.10 |
| 35 | BA | 1239 | A | C6-N1-C2 | 8.21 | 123.53 | 118.60 |
| 35 | BA | 1249 | C | C1'-O4'-C4' | -8.21 | 103.33 | 109.90 |
| 2 | AB | 1922 | G | N3-C4-C5 | -8.21 | 124.49 | 128.60 |
| 2 | AB | 58 | G | C8-N9-C4 | -8.21 | 103.12 | 106.40 |
| 35 | BA | 289 | G | N3-C4-C5 | -8.21 | 124.49 | 128.60 |
| 35 | BA | 557 | G | C4-C5-C6 | 8.21 | 123.73 | 118.80 |
| 35 | BA | 406 | G | N9-C4-C5 | 8.21 | 108.68 | 105.40 |
| 35 | BA | 441 | A | N9-C4-C5 | 8.21 | 109.08 | 105.80 |
| 35 | BA | 1018 | G | N3-C2-N2 | -8.21 | 114.15 | 119.90 |
| 35 | BA | 1497 | G | O4'-C4'-C3' | 8.21 | 112.67 | 106.10 |
| 37 | BC | 43 | G | N9-C4-C5 | 8.21 | 108.69 | 105.40 |
| 37 | BC | 47 | A | C4-C5-C6 | -8.21 | 112.89 | 117.00 |
| 1 | AA | 105 | G | N7-C8-N9 | -8.21 | 109.00 | 113.10 |
| 2 | AB | 125 | A | C3'-C2'-C1' | 8.21 | 108.07 | 101.50 |
| 2 | AB | 1677 | A | N9-C4-C5 | 8.21 | 109.08 | 105.80 |
| 35 | BA | 311 | C | O4'-C1'-N1 | 8.21 | 114.77 | 108.20 |
| 35 | BA | 351 | G | C5-C6-N1 | 8.21 | 115.61 | 111.50 |
| 35 | BA | 1343 | G | N3-C2-N2 | -8.21 | 114.15 | 119.90 |
| 2 | AB | 132 | G | N7-C8-N9 | 8.21 | 117.20 | 113.10 |
| 2 | AB | 2751 | G | C3'-C2'-C1' | -8.21 | 94.94 | 101.50 |
| 35 | BA | 502 | A | C5-N7-C8 | 8.21 | 108.00 | 103.90 |
| 2 | AB | 1361 | G | C3'-C2'-C1' | 8.21 | 108.06 | 101.50 |
| 2 | AB | 1848 | A | N9-C4-C5 | 8.21 | 109.08 | 105.80 |
| 11 | AK | 7 | TYR | CB-CG-CD1 | -8.21 | 116.08 | 121.00 |
| 35 | BA | 907 | A | C5-N7-C8 | 8.21 | 108.00 | 103.90 |
| 2 | AB | 1721 | G | C8-N9-C4 | -8.20 | 103.12 | 106.40 |
| 35 | BA | 263 | A | C8-N9-C4 | -8.21 | 102.52 | 105.80 |
| 35 | BA | 897 | C | P-O3'-C3' | 8.20 | 129.54 | 119.70 |
| 35 | BA | 941 | G | C5-C6-N1 | 8.20 | 115.60 | 111.50 |
| 35 | BA | 1359 | C | C1'-O4'-C4' | -8.21 | 103.34 | 109.90 |
| 2 | AB | 130 | C | N3-C4-N4 | 8.20 | 123.74 | 118.00 |
| 2 | AB | 303 | G | C8-N9-C4 | -8.20 | 103.12 | 106.40 |
| 2 | AB | 978 | G | N9-C4-C5 | 8.20 | 108.68 | 105.40 |
| 2 | AB | 2049 | G | C4'-C3'-C2' | -8.20 | 94.40 | 102.60 |
| 2 | AB | 2118 | U | C2-N3-C4 | -8.20 | 122.08 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2238 | G | N3-C2-N2 | -8.20 | 114.16 | 119.90 |
| 4 | AD | 188 | ARG | NE-CZ-NH1 | -8.20 | 116.20 | 120.30 |
| 35 | BA | 63 | C | C5-C6-N1 | -8.20 | 116.90 | 121.00 |
| 35 | BA | 162 | A | O4'-C1'-N9 | 8.20 | 114.76 | 108.20 |
| 35 | BA | 631 | C | C2-N3-C4 | 8.20 | 124.00 | 119.90 |
| 35 | BA | 1076 | U | N3-C2-O2 | -8.20 | 116.46 | 122.20 |
| 35 | BA | 1447 | A | C5-C6-N1 | -8.20 | 113.60 | 117.70 |
| 1 | AA | 5 | U | C5'-C4'-O4' | 8.20 | 118.94 | 109.10 |
| 2 | AB | 334 | C | C4-C5-C6 | -8.20 | 113.30 | 117.40 |
| 2 | AB | 1651 | G | N9-C4-C5 | 8.20 | 108.68 | 105.40 |
| 35 | BA | 817 | C | N1-C2-N3 | -8.20 | 113.46 | 119.20 |
| 2 | AB | 211 | C | C5-C6-N1 | 8.20 | 125.10 | 121.00 |
| 2 | AB | 673 | C | C5-C6-N1 | 8.20 | 125.10 | 121.00 |
| 2 | AB | 1256 | G | C4'-C3'-C2' | -8.20 | 94.40 | 102.60 |
| 2 | AB | 1701 | A | C5-C6-N6 | -8.20 | 117.14 | 123.70 |
| 35 | BA | 264 | C | C5-C6-N1 | 8.20 | 125.10 | 121.00 |
| 35 | BA | 952 | U | N1-C2-O2 | 8.20 | 128.54 | 122.80 |
| 36 | BB | 53 | G | N3-C4-C5 | -8.20 | 124.50 | 128.60 |
| 37 | BC | 10 | G | N9-C4-C5 | 8.20 | 108.68 | 105.40 |
| 2 | AB | 431 | U | N3-C2-O2 | -8.20 | 116.46 | 122.20 |
| 2 | AB | 2062 | A | C6-N1-C2 | -8.20 | 113.68 | 118.60 |
| 2 | AB | 1023 | U | C3'-C2'-C1' | -8.20 | 94.94 | 101.50 |
| 2 | AB | 2691 | C | N3-C4-N4 | -8.20 | 112.26 | 118.00 |
| 35 | BA | 144 | G | C6-C5-N7 | -8.20 | 125.48 | 130.40 |
| 2 | AB | 2114 | A | C6-N1-C2 | -8.19 | 113.68 | 118.60 |
| 2 | AB | 2170 | A | C8-N9-C4 | -8.20 | 102.52 | 105.80 |
| 35 | BA | 262 | A | C8-N9-C4 | -8.20 | 102.52 | 105.80 |
| 35 | BA | 43 | C | N3-C4-N4 | 8.19 | 123.74 | 118.00 |
| 35 | BA | 565 | U | C5-C6-N1 | -8.20 | 118.60 | 122.70 |
| 2 | AB | 349 | U | O4'-C1'-N1 | 8.19 | 114.75 | 108.20 |
| 2 | AB | 644 | A | O4'-C1'-N9 | 8.19 | 114.75 | 108.20 |
| 2 | AB | 654 | A | C5-N7-C8 | 8.19 | 108.00 | 103.90 |
| 2 | AB | 2101 | A | N9-C4-C5 | -8.19 | 102.52 | 105.80 |
| 35 | BA | 654 | G | N3-C2-N2 | -8.19 | 114.17 | 119.90 |
| 35 | BA | 707 | U | C4'-C3'-C2' | -8.19 | 94.41 | 102.60 |
| 37 | BC | 19 | G | C5-C6-O6 | 8.19 | 133.52 | 128.60 |
| 2 | AB | 1063 | G | C5'-C4'-O4' | 8.19 | 118.93 | 109.10 |
| 2 | AB | 1428 | C | C5-C4-N4 | -8.19 | 114.47 | 120.20 |
| 2 | AB | 727 | A | C1'-O4'-C4' | 8.19 | 116.45 | 109.90 |
| 2 | AB | 730 | A | N1-C2-N3 | -8.19 | 125.20 | 129.30 |
| 2 | AB | 1223 | G | O4'-C1'-N9 | 8.19 | 114.75 | 108.20 |
| 2 | AB | 1428 | C | O4'-C1'-N1 | 8.19 | 114.75 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1822 | C | C5-C6-N1 | 8.19 | 125.09 | 121.00 |
| 35 | BA | 325 | A | C6-C5-N7 | 8.19 | 138.03 | 132.30 |
| 35 | BA | 432 | A | O4'-C1'-N9 | 8.19 | 114.75 | 108.20 |
| 35 | BA | 874 | G | N7-C8-N9 | -8.19 | 109.00 | 113.10 |
| 35 | BA | 1306 | A | N7-C8-N9 | 8.19 | 117.89 | 113.80 |
| 35 | BA | 192 | A | O4'-C1'-N9 | 8.19 | 114.75 | 108.20 |
| 40 | BF | 75 | TYR | CG-CD2-CE2 | -8.19 | 114.75 | 121.30 |
| 2 | AB | 197 | A | C8-N9-C4 | -8.19 | 102.53 | 105.80 |
| 2 | AB | 1358 | G | C5-N7-C8 | 8.19 | 108.39 | 104.30 |
| 2 | AB | 2573 | C | C4'-C3'-C2' | 8.19 | 110.79 | 102.60 |
| 35 | BA | 52 | C | C5-C4-N4 | 8.19 | 125.93 | 120.20 |
| 2 | AB | 2266 | A | C5-N7-C8 | -8.19 | 99.81 | 103.90 |
| 35 | BA | 219 | U | N1-C1'-C2' | -8.19 | 103.00 | 112.00 |
| 35 | BA | 1233 | G | C8-N9-C4 | -8.19 | 103.13 | 106.40 |
| 1 | AA | 10 | G | C6-N1-C2 | -8.18 | 120.19 | 125.10 |
| 2 | AB | 783 | A | O4'-C1'-N9 | 8.18 | 114.75 | 108.20 |
| 2 | AB | 1047 | G | N3-C4-N9 | 8.18 | 130.91 | 126.00 |
| 35 | BA | 33 | A | N7-C8-N9 | 8.18 | 117.89 | 113.80 |
| 36 | BB | 54 | U | C5-C4-O4 | -8.18 | 120.99 | 125.90 |
| 2 | AB | 1610 | A | N1-C6-N6 | -8.18 | 113.69 | 118.60 |
| 2 | AB | 1632 | A | C5-N7-C8 | 8.18 | 107.99 | 103.90 |
| 2 | AB | 1858 | A | N7-C8-N9 | 8.18 | 117.89 | 113.80 |
| 2 | AB | 2529 | G | N3-C4-C5 | -8.18 | 124.51 | 128.60 |
| 35 | BA | 85 | U | N3-C4-O4 | 8.18 | 125.13 | 119.40 |
| 2 | AB | 2647 | U | N1-C2-O2 | 8.18 | 128.53 | 122.80 |
| 35 | BA | 488 | C | N3-C4-C5 | -8.18 | 118.63 | 121.90 |
| 2 | AB | 1323 | C | C5'-C4'-C3' | -8.18 | 102.91 | 116.00 |
| 2 | AB | 1876 | A | C3'-C2'-C1' | 8.18 | 108.05 | 101.50 |
| 35 | BA | 81 | A | O4'-C1'-N9 | 8.18 | 114.75 | 108.20 |
| 35 | BA | 1336 | C | O4'-C1'-N1 | 8.18 | 114.75 | 108.20 |
| 2 | AB | 1380 | G | N7-C8-N9 | 8.18 | 117.19 | 113.10 |
| 2 | AB | 2823 | A | C8-N9-C4 | -8.18 | 102.53 | 105.80 |
| 2 | AB | 2859 | G | C6-C5-N7 | -8.18 | 125.49 | 130.40 |
| 31 | A4 | 5 | ARG | NE-CZ-NH1 | 8.18 | 124.39 | 120.30 |
| 35 | BA | 1171 | A | C4-C5-N7 | 8.18 | 114.79 | 110.70 |
| 35 | BA | 1242 | G | O4'-C1'-N9 | 8.18 | 114.74 | 108.20 |
| 2 | AB | 85 | G | C5-C6-O6 | -8.18 | 123.69 | 128.60 |
| 2 | AB | 300 | A | N1-C2-N3 | -8.18 | 125.21 | 129.30 |
| 1 | AA | 83 | G | C4-C5-N7 | -8.18 | 107.53 | 110.80 |
| 2 | AB | 878 | A | C5-C6-N6 | -8.18 | 117.16 | 123.70 |
| 35 | BA | 932 | C | O4'-C1'-N1 | 8.18 | 114.74 | 108.20 |
| 36 | BB | 28 | U | N3-C4-O4 | 8.18 | 125.12 | 119.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 672 | C | C4-C5-C6 | -8.17 | 113.31 | 117.40 |
| 2 | AB | 1678 | A | O4'-C4'-C3' | -8.17 | 95.83 | 104.00 |
| 2 | AB | 2038 | G | N3-C4-N9 | 8.17 | 130.91 | 126.00 |
| 35 | BA | 685 | G | N1-C2-N3 | -8.17 | 119.00 | 123.90 |
| 2 | AB | 529 | A | O4'-C1'-N9 | 8.17 | 114.74 | 108.20 |
| 2 | AB | 2267 | A | C5-C6-N1 | 8.17 | 121.79 | 117.70 |
| 2 | AB | 2800 | A | O4'-C1'-N9 | 8.17 | 114.74 | 108.20 |
| 6 | AF | 114 | ARG | NE-CZ-NH2 | 8.17 | 124.39 | 120.30 |
| 35 | BA | 127 | G | C2-N3-C4 | 8.17 | 115.99 | 111.90 |
| 35 | BA | 256 | U | C6-N1-C2 | -8.17 | 116.10 | 121.00 |
| 35 | BA | 389 | A | N3-C4-C5 | -8.17 | 121.08 | 126.80 |
| 45 | BK | 98 | ARG | NH1-CZ-NH2 | -8.17 | 110.41 | 119.40 |
| 1 | AA | 1 | U | N3-C4-O4 | 8.17 | 125.12 | 119.40 |
| 1 | AA | 10 | G | C5-C6-O6 | -8.17 | 123.70 | 128.60 |
| 2 | AB | 69 | C | O4'-C1'-N1 | 8.17 | 114.73 | 108.20 |
| 2 | AB | 420 | C | C4-C5-C6 | -8.17 | 113.31 | 117.40 |
| 2 | AB | 1057 | A | C3'-C2'-C1' | -8.17 | 94.96 | 101.50 |
| 2 | AB | 2295 | C | C2-N3-C4 | 8.17 | 123.98 | 119.90 |
| 2 | AB | 2708 | G | N1-C2-N2 | 8.17 | 123.55 | 116.20 |
| 35 | BA | 936 | C | C5-C6-N1 | 8.17 | 125.08 | 121.00 |
| 2 | AB | 2578 | G | C5'-C4'-O4' | 8.17 | 118.90 | 109.10 |
| 35 | BA | 302 | G | N7-C8-N9 | 8.17 | 117.18 | 113.10 |
| 35 | BA | 968 | A | C8-N9-C4 | -8.17 | 102.53 | 105.80 |
| 35 | BA | 1026 | G | N1-C2-N3 | -8.17 | 119.00 | 123.90 |
| 35 | BA | 972 | C | C4'-C3'-C2' | -8.17 | 94.43 | 102.60 |
| 2 | AB | 868 | U | C5-C6-N1 | -8.17 | 118.62 | 122.70 |
| 2 | AB | 1394 | U | O4'-C1'-N1 | 8.17 | 114.73 | 108.20 |
| 2 | AB | 1943 | U | N3-C2-O2 | -8.17 | 116.48 | 122.20 |
| 35 | BA | 327 | A | N1-C2-N3 | -8.17 | 125.22 | 129.30 |
| 2 | AB | 755 | U | N1-C2-N3 | 8.16 | 119.80 | 114.90 |
| 2 | AB | 1031 | G | N3-C2-N2 | -8.16 | 114.18 | 119.90 |
| 2 | AB | 1078 | U | N3-C2-O2 | -8.16 | 116.48 | 122.20 |
| 2 | AB | 2390 | U | N1-C1'-C2' | -8.16 | 103.02 | 112.00 |
| 2 | AB | 1003 | G | C2-N3-C4 | 8.16 | 115.98 | 111.90 |
| 2 | AB | 1313 | U | P-O3'-C3' | 8.16 | 129.50 | 119.70 |
| 2 | AB | 2475 | C | C5-C6-N1 | 8.16 | 125.08 | 121.00 |
| 35 | BA | 618 | C | P-O3'-C3' | 8.16 | 129.50 | 119.70 |
| 35 | BA | 675 | A | C4-C5-C6 | 8.16 | 121.08 | 117.00 |
| 35 | BA | 1193 | G | N3-C4-C5 | -8.16 | 124.52 | 128.60 |
| 2 | AB | 1879 | C | C6-N1-C2 | -8.16 | 117.03 | 120.30 |
| 2 | AB | 1821 | A | O4'-C1'-N9 | 8.16 | 114.73 | 108.20 |
| 2 | AB | 2353 | G | N9-C4-C5 | 8.16 | 108.66 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2619 | C | N1-C2-N3 | -8.16 | 113.49 | 119.20 |
| 2 | AB | 2740 | A | C6-C5-N7 | 8.16 | 138.01 | 132.30 |
| 35 | BA | 319 | G | C5-N7-C8 | 8.16 | 108.38 | 104.30 |
| 36 | BB | 33 | A | N1-C2-N3 | -8.16 | 125.22 | 129.30 |
| 1 | AA | 60 | C | O4'-C1'-N1 | 8.16 | 114.73 | 108.20 |
| 2 | AB | 405 | U | C2-N3-C4 | -8.16 | 122.11 | 127.00 |
| 35 | BA | 4 | U | P-O3'-C3' | 8.16 | 129.49 | 119.70 |
| 2 | AB | 630 | G | N3-C4-N9 | -8.16 | 121.11 | 126.00 |
| 2 | AB | 1460 | U | C4-C5-C6 | 8.16 | 124.59 | 119.70 |
| 2 | AB | 2218 | G | C5-N7-C8 | -8.16 | 100.22 | 104.30 |
| 35 | BA | 339 | C | C2-N3-C4 | 8.16 | 123.98 | 119.90 |
| 35 | BA | 190 | A | C5'-C4'-O4' | 8.15 | 118.89 | 109.10 |
| 35 | BA | 237 | G | C4-C5-N7 | 8.15 | 114.06 | 110.80 |
| 35 | BA | 862 | C | C4'-C3'-C2' | -8.15 | 94.44 | 102.60 |
| 35 | BA | 1093 | A | O4'-C1'-N9 | 8.15 | 114.72 | 108.20 |
| 2 | AB | 2652 | C | N1-C2-N3 | -8.15 | 113.49 | 119.20 |
| 2 | AB | 2752 | C | C5-C4-N4 | -8.15 | 114.49 | 120.20 |
| 35 | BA | 86 | G | C5-N7-C8 | -8.15 | 100.22 | 104.30 |
| 1 | AA | 88 | C | N3-C4-C5 | 8.15 | 125.16 | 121.90 |
| 2 | AB | 149 | A | C4'-C3'-C2' | -8.15 | 94.45 | 102.60 |
| 2 | AB | 418 | C | N3-C4-C5 | -8.15 | 118.64 | 121.90 |
| 2 | AB | 1279 | G | N3-C4-C5 | -8.15 | 124.53 | 128.60 |
| 3 | AC | 51 | ASP | CB-CG-OD1 | -8.15 | 110.96 | 118.30 |
| 30 | A3 | 30 | ASP | CB-CG-OD1 | -8.15 | 110.96 | 118.30 |
| 35 | BA | 204 | G | C6-N1-C2 | -8.15 | 120.21 | 125.10 |
| 35 | BA | 926 | G | C4-C5-N7 | 8.15 | 114.06 | 110.80 |
| 35 | BA | 1257 | A | C5-C6-N1 | -8.15 | 113.62 | 117.70 |
| 35 | BA | 1513 | A | C5-N7-C8 | -8.15 | 99.82 | 103.90 |
| 35 | BA | 211 | G | C6-C5-N7 | -8.15 | 125.51 | 130.40 |
| 35 | BA | 494 | G | C2-N3-C4 | 8.15 | 115.97 | 111.90 |
| 35 | BA | 889 | A | C3'-C2'-C1' | 8.15 | 108.02 | 101.50 |
| 35 | BA | 1005 | A | N1-C2-N3 | -8.15 | 125.22 | 129.30 |
| 35 | BA | 1422 | G | O4'-C1'-N9 | 8.15 | 114.72 | 108.20 |
| 40 | BF | 13 | ARG | NE-CZ-NH2 | 8.15 | 124.38 | 120.30 |
| 2 | AB | 884 | U | C2-N3-C4 | -8.15 | 122.11 | 127.00 |
| 2 | AB | 1020 | A | O4'-C1'-N9 | 8.15 | 114.72 | 108.20 |
| 2 | AB | 1687 | G | N3-C4-N9 | 8.15 | 130.89 | 126.00 |
| 2 | AB | 1841 | U | N1-C2-O2 | 8.15 | 128.50 | 122.80 |
| 2 | AB | 2478 | A | N1-C2-N3 | -8.15 | 125.23 | 129.30 |
| 2 | AB | 2699 | C | C4'-C3'-C2' | -8.15 | 94.45 | 102.60 |
| 2 | AB | 2814 | A | O4'-C4'-C3' | 8.15 | 112.62 | 106.10 |
| 2 | AB | 333 | G | N3-C4-C5 | -8.15 | 124.53 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 533 | G | C6-N1-C2 | -8.15 | 120.21 | 125.10 |
| 35 | BA | 653 | U | C1'-O4'-C4' | -8.15 | 103.38 | 109.90 |
| 2 | AB | 775 | G | C2-N3-C4 | 8.15 | 115.97 | 111.90 |
| 35 | BA | 546 | A | C5-C6-N1 | 8.15 | 121.77 | 117.70 |
| 2 | AB | 186 | G | N1-C6-O6 | -8.14 | 115.01 | 119.90 |
| 35 | BA | 771 | G | O4'-C1'-N9 | 8.14 | 114.72 | 108.20 |
| 2 | AB | 939 | G | N1-C2-N3 | -8.14 | 119.01 | 123.90 |
| 2 | AB | 1102 | C | N3-C2-O2 | -8.14 | 116.20 | 121.90 |
| 2 | AB | 1444 | G | N3-C4-C5 | 8.14 | 132.67 | 128.60 |
| 2 | AB | 1816 | C | N3-C4-N4 | 8.14 | 123.70 | 118.00 |
| 2 | AB | 2725 | A | C4-C5-N7 | -8.14 | 106.63 | 110.70 |
| 35 | BA | 260 | G | C2-N3-C4 | 8.14 | 115.97 | 111.90 |
| 35 | BA | 1016 | A | N1-C6-N6 | -8.14 | 113.71 | 118.60 |
| 1 | AA | 1 | U | C4-C5-C6 | 8.14 | 124.58 | 119.70 |
| 2 | AB | 945 | A | O4'-C1'-C2' | -8.14 | 97.66 | 105.80 |
| 2 | AB | 1242 | U | C4-C5-C6 | 8.14 | 124.58 | 119.70 |
| 2 | AB | 1872 | A | N9-C1'-C2' | -8.14 | 103.04 | 112.00 |
| 1 | AA | 20 | G | N7-C8-N9 | 8.14 | 117.17 | 113.10 |
| 2 | AB | 248 | G | N3-C4-C5 | -8.14 | 124.53 | 128.60 |
| 2 | AB | 1224 | U | C4-C5-C6 | 8.14 | 124.58 | 119.70 |
| 35 | BA | 288 | A | C8-N9-C4 | -8.14 | 102.54 | 105.80 |
| 35 | BA | 1025 | U | C6-N1-C2 | -8.14 | 116.11 | 121.00 |
| 1 | AA | 41 | G | C2-N3-C4 | 8.14 | 115.97 | 111.90 |
| 2 | AB | 1292 | G | C8-N9-C4 | -8.14 | 103.14 | 106.40 |
| 2 | AB | 2756 | U | P-O3'-C3' | 8.14 | 129.47 | 119.70 |
| 2 | AB | 1304 | A | N1-C6-N6 | -8.14 | 113.72 | 118.60 |
| 2 | AB | 1864 | U | N1-C2-O2 | 8.14 | 128.50 | 122.80 |
| 35 | BA | 162 | A | N1-C2-N3 | -8.14 | 125.23 | 129.30 |
| 35 | BA | 605 | U | C4'-C3'-C2' | -8.14 | 94.46 | 102.60 |
| 35 | BA | 1384 | C | C5'-C4'-O4' | 8.14 | 118.87 | 109.10 |
| 35 | BA | 826 | C | N1-C2-O2 | 8.14 | 123.78 | 118.90 |
| 35 | BA | 889 | A | O4'-C1'-N9 | 8.14 | 114.71 | 108.20 |
| 2 | AB | 565 | C | N3-C2-O2 | -8.13 | 116.21 | 121.90 |
| 2 | AB | 1238 | G | C2-N3-C4 | 8.13 | 115.97 | 111.90 |
| 35 | BA | 469 | C | N3-C2-O2 | -8.14 | 116.20 | 121.90 |
| 46 | BL | 96 | VAL | CA-CB-CG1 | 8.14 | 123.10 | 110.90 |
| 2 | AB | 2048 | G | C2-N3-C4 | 8.13 | 115.97 | 111.90 |
| 2 | AB | 2475 | C | N3-C4-C5 | -8.13 | 118.65 | 121.90 |
| 2 | AB | 2903 | U | C5-C4-O4 | -8.13 | 121.02 | 125.90 |
| 30 | A3 | 9 | ARG | NE-CZ-NH2 | 8.13 | 124.37 | 120.30 |
| 35 | BA | 664 | G | C5-C6-O6 | -8.13 | 123.72 | 128.60 |
| 35 | BA | 1283 | U | C3'-C2'-C1' | 8.13 | 108.01 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | AA | 48 | U | C4'-C3'-C2' | -8.13 | 94.47 | 102.60 |
| 2 | AB | 44 | A | C6-C5-N7 | 8.13 | 137.99 | 132.30 |
| 2 | AB | 192 | C | C5-C6-N1 | 8.13 | 125.07 | 121.00 |
| 2 | AB | 297 | G | N3-C4-C5 | -8.13 | 124.53 | 128.60 |
| 2 | AB | 2583 | G | N7-C8-N9 | 8.13 | 117.17 | 113.10 |
| 37 | BC | 22 | A | C4-C5-C6 | -8.13 | 112.93 | 117.00 |
| 2 | AB | 673 | C | O4'-C1'-N1 | 8.13 | 114.70 | 108.20 |
| 37 | BC | 22 | A | N1-C6-N6 | -8.13 | 113.72 | 118.60 |
| 2 | AB | 2689 | U | O4'-C1'-N1 | 8.13 | 114.70 | 108.20 |
| 2 | AB | 2750 | A | C1'-O4'-C4' | -8.13 | 103.40 | 109.90 |
| 35 | BA | 107 | G | C5-N7-C8 | -8.13 | 100.23 | 104.30 |
| 37 | BC | 32 | G | C5-C6-N1 | 8.13 | 115.57 | 111.50 |
| 46 | BL | 63 | ASP | CB-CG-OD1 | -8.13 | 110.98 | 118.30 |
| 27 | A0 | 7 | ARG | NE-CZ-NH2 | 8.13 | 124.36 | 120.30 |
| 35 | BA | 295 | C | C6-N1-C2 | 8.13 | 123.55 | 120.30 |
| 35 | BA | 396 | C | O4'-C1'-N1 | 8.13 | 114.70 | 108.20 |
| 37 | BC | 30 | G | C4-C5-N7 | -8.13 | 107.55 | 110.80 |
| 1 | AA | 39 | A | C8-N9-C4 | -8.13 | 102.55 | 105.80 |
| 2 | AB | 245 | G | C6-C5-N7 | -8.13 | 125.52 | 130.40 |
| 2 | AB | 599 | A | C3'-C2'-C1' | 8.13 | 108.00 | 101.50 |
| 2 | AB | 759 | G | C5'-C4'-O4' | 8.13 | 118.86 | 109.10 |
| 2 | AB | 1209 | U | C4-C5-C6 | 8.13 | 124.58 | 119.70 |
| 35 | BA | 132 | C | C2-N3-C4 | 8.13 | 123.96 | 119.90 |
| 35 | BA | 730 | G | N9-C4-C5 | 8.13 | 108.65 | 105.40 |
| 35 | BA | 795 | C | N1-C1'-C2' | -8.13 | 103.06 | 112.00 |
| 35 | BA | 858 | G | C3'-C2'-C1' | 8.13 | 108.00 | 101.50 |
| 35 | BA | 1331 | G | C3'-C2'-C1' | -8.13 | 95.00 | 101.50 |
| 1 | AA | 96 | G | O4'-C1'-N9 | 8.13 | 114.70 | 108.20 |
| 2 | AB | 1236 | G | N3-C2-N2 | 8.12 | 125.59 | 119.90 |
| 35 | BA | 558 | G | O4'-C1'-N9 | 8.13 | 114.70 | 108.20 |
| 2 | AB | 1574 | C | C6-N1-C2 | -8.12 | 117.05 | 120.30 |
| 2 | AB | 1821 | A | C4-C5-N7 | -8.12 | 106.64 | 110.70 |
| 2 | AB | 2209 | G | C8-N9-C4 | -8.12 | 103.15 | 106.40 |
| 2 | AB | 2824 | C | C1'-O4'-C4' | -8.12 | 103.40 | 109.90 |
| 25 | AY | 78 | PHE | CB-CG-CD2 | -8.12 | 115.11 | 120.80 |
| 35 | BA | 5 | U | O4'-C1'-N1 | 8.12 | 114.70 | 108.20 |
| 35 | BA | 221 | C | C4'-C3'-C2' | -8.12 | 94.47 | 102.60 |
| 35 | BA | 1017 | U | O4'-C1'-N1 | 8.13 | 114.70 | 108.20 |
| 35 | BA | 747 | A | N7-C8-N9 | 8.12 | 117.86 | 113.80 |
| 2 | AB | 1733 | G | C6-N1-C2 | -8.12 | 120.23 | 125.10 |
| 2 | AB | 533 | G | C5-C6-N1 | 8.12 | 115.56 | 111.50 |
| 2 | AB | 1511 | G | C4-C5-N7 | -8.12 | 107.55 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1817 | G | N1-C2-N3 | -8.12 | 119.03 | 123.90 |
| 2 | AB | 2091 | C | O4'-C4'-C3' | 8.12 | 112.60 | 106.10 |
| 2 | AB | 2346 | A | C6-C5-N7 | 8.12 | 137.99 | 132.30 |
| 2 | AB | 2411 | A | C5-C6-N6 | -8.12 | 117.20 | 123.70 |
| 2 | AB | 2805 | C | N3-C4-C5 | -8.12 | 118.65 | 121.90 |
| 35 | BA | 969 | A | O4'-C1'-N9 | 8.12 | 114.70 | 108.20 |
| 2 | AB | 1617 | C | C5-C6-N1 | -8.12 | 116.94 | 121.00 |
| 2 | AB | 1666 | G | C2-N3-C4 | -8.12 | 107.84 | 111.90 |
| 2 | AB | 1704 | C | C3'-C2'-C1' | 8.12 | 108.00 | 101.50 |
| 2 | AB | 1732 | C | O4'-C1'-N1 | 8.12 | 114.70 | 108.20 |
| 2 | AB | 2319 | G | C1'-O4'-C4' | -8.12 | 103.40 | 109.90 |
| 35 | BA | 204 | G | N3-C2-N2 | -8.12 | 114.22 | 119.90 |
| 2 | AB | 1992 | G | C8-N9-C4 | -8.12 | 103.15 | 106.40 |
| 2 | AB | 2447 | G | C5-C6-N1 | 8.12 | 115.56 | 111.50 |
| 35 | BA | 1144 | G | C4-C5-N7 | -8.12 | 107.55 | 110.80 |
| 35 | BA | 156 | C | N3-C4-C5 | -8.12 | 118.65 | 121.90 |
| 35 | BA | 210 | C | C1'-O4'-C4' | 8.12 | 116.39 | 109.90 |
| 35 | BA | 721 | G | C5-C6-N1 | -8.12 | 107.44 | 111.50 |
| 35 | BA | 767 | A | C5-C6-N6 | -8.12 | 117.21 | 123.70 |
| 35 | BA | 915 | A | N9-C4-C5 | -8.12 | 102.55 | 105.80 |
| 35 | BA | 1087 | G | N3-C4-C5 | -8.12 | 124.54 | 128.60 |
| 36 | BB | 32 | U | C3'-C2'-C1' | 8.11 | 107.99 | 101.50 |
| 2 | AB | 82 | U | C3'-C2'-C1' | -8.11 | 95.01 | 101.50 |
| 2 | AB | 268 | C | N3-C4-N4 | 8.11 | 123.68 | 118.00 |
| 2 | AB | 1758 | U | C3'-C2'-C1' | 8.11 | 107.99 | 101.50 |
| 2 | AB | 1846 | G | C5'-C4'-O4' | 8.11 | 118.84 | 109.10 |
| 2 | AB | 2792 | A | C2-N3-C4 | 8.11 | 114.66 | 110.60 |
| 35 | BA | 211 | G | C4'-C3'-C2' | -8.11 | 94.49 | 102.60 |
| 2 | AB | 377 | G | C2-N3-C4 | 8.11 | 115.96 | 111.90 |
| 35 | BA | 1403 | C | N3-C4-C5 | 8.11 | 125.14 | 121.90 |
| 2 | AB | 592 | A | N1-C2-N3 | -8.11 | 125.25 | 129.30 |
| 2 | AB | 834 | G | C2-N3-C4 | 8.11 | 115.95 | 111.90 |
| 2 | AB | 1001 | A | C5-C6-N1 | 8.11 | 121.75 | 117.70 |
| 2 | AB | 1177 | G | C4-C5-N7 | -8.11 | 107.56 | 110.80 |
| 35 | BA | 813 | U | C5-C4-O4 | 8.11 | 130.77 | 125.90 |
| 37 | BC | 51 | U | C5-C6-N1 | -8.11 | 118.65 | 122.70 |
| 2 | AB | 163 | C | O4'-C1'-N1 | 8.11 | 114.68 | 108.20 |
| 2 | AB | 1168 | G | N3-C4-N9 | -8.11 | 121.14 | 126.00 |
| 2 | AB | 2643 | G | C1'-O4'-C4' | 8.11 | 116.39 | 109.90 |
| 2 | AB | 2779 | U | C3'-C2'-C1' | -8.11 | 95.01 | 101.50 |
| 35 | BA | 433 | G | C5-C6-N1 | 8.11 | 115.55 | 111.50 |
| 35 | BA | 1037 | C | C6-N1-C2 | -8.11 | 117.06 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 794 | A | N1-C6-N6 | 8.11 | 123.46 | 118.60 |
| 35 | BA | 418 | C | C6-N1-C2 | -8.11 | 117.06 | 120.30 |
| 35 | BA | 740 | U | C5-C6-N1 | -8.11 | 118.65 | 122.70 |
| 35 | BA | 890 | G | C2-N3-C4 | 8.11 | 115.95 | 111.90 |
| 35 | BA | 1183 | U | C4'-C3'-C2' | -8.11 | 94.50 | 102.60 |
| 2 | AB | 2212 | A | C5-C6-N1 | 8.10 | 121.75 | 117.70 |
| 2 | AB | 2266 | A | C4-C5-N7 | 8.10 | 114.75 | 110.70 |
| 2 | AB | 2329 | U | O4'-C1'-N1 | 8.10 | 114.68 | 108.20 |
| 1 | AA | 112 | G | C3'-C2'-C1' | -8.10 | 95.02 | 101.50 |
| 2 | AB | 1254 | A | C5-C6-N6 | -8.10 | 117.22 | 123.70 |
| 2 | AB | 1922 | G | C5-N7-C8 | -8.10 | 100.25 | 104.30 |
| 2 | AB | 2464 | G | C6-C5-N7 | 8.10 | 135.26 | 130.40 |
| 5 | AE | 151 | THR | CA-CB-CG2 | 8.10 | 123.74 | 112.40 |
| 19 | AS | 52 | ARG | NE-CZ-NH1 | 8.10 | 124.35 | 120.30 |
| 35 | BA | 1332 | A | N1-C6-N6 | 8.10 | 123.46 | 118.60 |
| 35 | BA | 1462 | C | C1'-O4'-C4' | -8.10 | 103.42 | 109.90 |
| 2 | AB | 277 | G | C5'-C4'-O4' | 8.10 | 118.82 | 109.10 |
| 2 | AB | 1271 | G | N3-C4-C5 | 8.10 | 132.65 | 128.60 |
| 1 | AA | 32 | U | N3-C4-O4 | 8.10 | 125.07 | 119.40 |
| 2 | AB | 811 | U | C4'-C3'-C2' | -8.10 | 94.50 | 102.60 |
| 2 | AB | 2286 | G | C8-N9-C4 | -8.10 | 103.16 | 106.40 |
| 2 | AB | 2762 | C | O4'-C1'-N1 | 8.10 | 114.68 | 108.20 |
| 2 | AB | 2792 | A | N1-C2-N3 | -8.10 | 125.25 | 129.30 |
| 2 | AB | 2883 | A | C8-N9-C4 | -8.10 | 102.56 | 105.80 |
| 35 | BA | 859 | G | C3'-C2'-C1' | 8.10 | 107.98 | 101.50 |
| 57 | BW | 54 | ARG | NE-CZ-NH2 | 8.10 | 124.35 | 120.30 |
| 2 | AB | 823 | C | C5'-C4'-O4' | 8.10 | 118.82 | 109.10 |
| 2 | AB | 888 | C | N3-C4-N4 | 8.10 | 123.67 | 118.00 |
| 2 | AB | 1853 | A | C2-N3-C4 | 8.10 | 114.65 | 110.60 |
| 35 | BA | 714 | G | C2-N3-C4 | 8.10 | 115.95 | 111.90 |
| 2 | AB | 81 | G | C8-N9-C4 | -8.10 | 103.16 | 106.40 |
| 2 | AB | 1570 | A | C5-C6-N1 | 8.10 | 121.75 | 117.70 |
| 2 | AB | 2791 | G | C2-N3-C4 | 8.10 | 115.95 | 111.90 |
| 35 | BA | 1316 | G | C8-N9-C4 | -8.10 | 103.16 | 106.40 |
| 43 | BI | 91 | ARG | NH1-CZ-NH2 | -8.10 | 110.49 | 119.40 |
| 2 | AB | 81 | G | N1-C6-O6 | 8.09 | 124.76 | 119.90 |
| 2 | AB | 223 | A | C6-N1-C2 | -8.09 | 113.74 | 118.60 |
| 2 | AB | 1157 | G | N3-C4-C5 | -8.09 | 124.55 | 128.60 |
| 2 | AB | 2413 | G | O4'-C1'-N9 | 8.09 | 114.67 | 108.20 |
| 35 | BA | 106 | C | O4'-C1'-N1 | 8.09 | 114.67 | 108.20 |
| 35 | BA | 1286 | U | O4'-C1'-N1 | 8.09 | 114.67 | 108.20 |
| 37 | BC | 25 | U | C5-C4-O4 | 8.09 | 130.75 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 37 | BC | 40 | C | C6-N1-C2 | -8.09 | 117.06 | 120.30 |
| 1 | AA | 94 | A | N9-C4-C5 | 8.09 | 109.04 | 105.80 |
| 1 | AA | 97 | C | N3-C2-O2 | -8.09 | 116.24 | 121.90 |
| 2 | AB | 375 | G | N3-C2-N2 | -8.09 | 114.24 | 119.90 |
| 2 | AB | 1299 | G | N7-C8-N9 | 8.09 | 117.14 | 113.10 |
| 2 | AB | 1378 | A | N1-C2-N3 | -8.09 | 125.26 | 129.30 |
| 2 | AB | 1776 | G | O4'-C1'-N9 | 8.09 | 114.67 | 108.20 |
| 2 | AB | 2293 | G | C6-C5-N7 | -8.09 | 125.55 | 130.40 |
| 35 | BA | 252 | U | C5-C4-O4 | -8.09 | 121.05 | 125.90 |
| 35 | BA | 1302 | C | N1-C2-O2 | 8.09 | 123.75 | 118.90 |
| 35 | BA | 1527 | U | O4'-C1'-N1 | 8.09 | 114.67 | 108.20 |
| 1 | AA | 47 | C | N3-C4-N4 | 8.09 | 123.66 | 118.00 |
| 2 | AB | 754 | U | C2-N3-C4 | -8.09 | 122.15 | 127.00 |
| 2 | AB | 181 | A | C5'-C4'-O4' | 8.09 | 118.80 | 109.10 |
| 2 | AB | 217 | A | C4-C5-C6 | 8.09 | 121.04 | 117.00 |
| 2 | AB | 405 | U | C4-C5-C6 | 8.09 | 124.55 | 119.70 |
| 2 | AB | 1158 | C | C6-N1-C2 | -8.09 | 117.06 | 120.30 |
| 2 | AB | 1451 | C | C2-N3-C4 | 8.09 | 123.94 | 119.90 |
| 35 | BA | 971 | G | N7-C8-N9 | -8.09 | 109.06 | 113.10 |
| 2 | AB | 816 | C | N3-C4-C5 | -8.09 | 118.67 | 121.90 |
| 2 | AB | 886 | A | O4'-C1'-N9 | 8.09 | 114.67 | 108.20 |
| 2 | AB | 1216 | G | N1-C2-N3 | -8.09 | 119.05 | 123.90 |
| 2 | AB | 2655 | G | N3-C4-C5 | -8.09 | 124.56 | 128.60 |
| 35 | BA | 980 | C | N1-C2-O2 | 8.08 | 123.75 | 118.90 |
| 1 | AA | 69 | G | C4-C5-N7 | 8.08 | 114.03 | 110.80 |
| 2 | AB | 307 | G | N1-C2-N3 | -8.08 | 119.05 | 123.90 |
| 2 | AB | 351 | C | O4'-C1'-N1 | 8.08 | 114.67 | 108.20 |
| 2 | AB | 685 | A | C2-N3-C4 | 8.08 | 114.64 | 110.60 |
| 2 | AB | 1524 | G | C5-N7-C8 | 8.08 | 108.34 | 104.30 |
| 2 | AB | 1775 | U | O4'-C1'-N1 | 8.08 | 114.67 | 108.20 |
| 2 | AB | 1813 | G | N3-C2-N2 | -8.08 | 114.24 | 119.90 |
| 2 | AB | 2240 | U | N1-C2-N3 | 8.08 | 119.75 | 114.90 |
| 35 | BA | 155 | A | N9-C4-C5 | 8.08 | 109.03 | 105.80 |
| 2 | AB | 2253 | G | N1-C2-N3 | -8.08 | 119.05 | 123.90 |
| 2 | AB | 377 | G | N1-C2-N3 | -8.08 | 119.05 | 123.90 |
| 2 | AB | 1246 | A | N1-C2-N3 | -8.08 | 125.26 | 129.30 |
| 35 | BA | 162 | A | C8-N9-C4 | -8.08 | 102.57 | 105.80 |
| 35 | BA | 1531 | A | C4-C5-N7 | -8.08 | 106.66 | 110.70 |
| 2 | AB | 1355 | G | O4'-C1'-N9 | 8.08 | 114.66 | 108.20 |
| 2 | AB | 2190 | G | N3-C4-C5 | -8.08 | 124.56 | 128.60 |
| 2 | AB | 2632 | A | C5-C6-N1 | 8.08 | 121.74 | 117.70 |
| 2 | AB | 2895 | G | N3-C4-N9 | 8.08 | 130.85 | 126.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|------------|-------|-------------|----------|
| 35 | BA | 189 | A | C8-N9-C4 | -8.08 | 102.57 | 105.80 |
| 35 | BA | 399 | G | C5-N7-C8 | -8.08 | 100.26 | 104.30 |
| 35 | BA | 406 | G | C5-N7-C8 | -8.08 | 100.26 | 104.30 |
| 35 | BA | 460 | A | C5-N7-C8 | -8.08 | 99.86 | 103.90 |
| 35 | BA | 669 | G | N3-C4-C5 | -8.08 | 124.56 | 128.60 |
| 2 | AB | 398 | C | C6-N1-C2 | 8.08 | 123.53 | 120.30 |
| 2 | AB | 572 | A | C8-N9-C4 | -8.08 | 102.57 | 105.80 |
| 2 | AB | 716 | A | C2-N3-C4 | 8.08 | 114.64 | 110.60 |
| 35 | BA | 1471 | U | C2-N3-C4 | -8.08 | 122.15 | 127.00 |
| 2 | AB | 1001 | A | C4-C5-N7 | -8.08 | 106.66 | 110.70 |
| 2 | AB | 1948 | G | N3-C2-N2 | -8.08 | 114.25 | 119.90 |
| 2 | AB | 2454 | G | C6-N1-C2 | -8.08 | 120.25 | 125.10 |
| 2 | AB | 2674 | G | C6-N1-C2 | -8.08 | 120.25 | 125.10 |
| 35 | BA | 46 | G | C6-N1-C2 | -8.08 | 120.25 | 125.10 |
| 35 | BA | 752 | G | N9-C4-C5 | 8.08 | 108.63 | 105.40 |
| 56 | BV | 59 | ARG | NE-CZ-NH2 | 8.08 | 124.34 | 120.30 |
| 35 | BA | 980 | C | O4'-C1'-N1 | 8.08 | 114.66 | 108.20 |
| 2 | AB | 29 | U | P-O3'-C3' | 8.07 | 129.39 | 119.70 |
| 2 | AB | 507 | A | O4'-C1'-N9 | 8.07 | 114.66 | 108.20 |
| 2 | AB | 2438 | U | C2-N3-C4 | -8.07 | 122.16 | 127.00 |
| 2 | AB | 2523 | G | C4-C5-N7 | 8.07 | 114.03 | 110.80 |
| 35 | BA | 47 | C | C5-C6-N1 | 8.07 | 125.04 | 121.00 |
| 2 | AB | 706 | A | N7-C8-N9 | 8.07 | 117.84 | 113.80 |
| 2 | AB | 2707 | U | N1-C2-N3 | 8.07 | 119.74 | 114.90 |
| 35 | BA | 1036 | A | N9-C4-C5 | -8.07 | 102.57 | 105.80 |
| 35 | BA | 1094 | G | N1-C6-O6 | -8.07 | 115.06 | 119.90 |
| 35 | BA | 1201 | A | P-O3'-C3' | 8.07 | 129.39 | 119.70 |
| 35 | BA | 1182 | G | N1-C6-O6 | -8.07 | 115.06 | 119.90 |
| 35 | BA | 1260 | G | N7-C8-N9 | 8.07 | 117.14 | 113.10 |
| 35 | BA | 1459 | G | C2-N3-C4 | 8.07 | 115.94 | 111.90 |
| 2 | AB | 957 | C | N3-C4-N4 | 8.07 | 123.65 | 118.00 |
| 2 | AB | 2199 | A | N7-C8-N9 | 8.07 | 117.84 | 113.80 |
| 2 | AB | 2584 | U | C2-N3-C4 | -8.07 | 122.16 | 127.00 |
| 2 | AB | 701 | G | N7-C8-N9 | 8.07 | 117.14 | 113.10 |
| 2 | AB | 903 | C | N3-C2-O2 | -8.07 | 116.25 | 121.90 |
| 2 | AB | 1585 | C | N3-C4-N4 | 8.07 | 123.65 | 118.00 |
| 2 | AB | 1642 | G | C6-N1-C2 | -8.07 | 120.26 | 125.10 |
| 2 | AB | 2813 | A | C8-N9-C4 | -8.07 | 102.57 | 105.80 |
| 2 | AB | 1424 | G | C8-N9-C4 | -8.07 | 103.17 | 106.40 |
| 2 | AB | 1741 | C | N1-C1'-C2' | -8.07 | 103.12 | 112.00 |
| 2 | AB | 1927 | A | O4'-C1'-N9 | 8.07 | 114.66 | 108.20 |
| 2 | AB | 2843 | G | C6-C5-N7 | -8.07 | 125.56 | 130.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 7 | AG | 94 | ARG | NE-CZ-NH1 | -8.07 | 116.27 | 120.30 |
| 35 | BA | 856 | C | O4'-C1'-N1 | 8.07 | 114.66 | 108.20 |
| 35 | BA | 865 | A | C3'-C2'-C1' | 8.07 | 107.96 | 101.50 |
| 2 | AB | 512 | G | C5-C6-N1 | 8.07 | 115.53 | 111.50 |
| 2 | AB | 818 | G | N7-C8-N9 | 8.07 | 117.13 | 113.10 |
| 35 | BA | 895 | G | O4'-C1'-N9 | 8.07 | 114.66 | 108.20 |
| 35 | BA | 906 | A | P-O3'-C3' | 8.07 | 129.38 | 119.70 |
| 2 | AB | 1980 | G | O4'-C1'-N9 | 8.07 | 114.65 | 108.20 |
| 2 | AB | 2475 | C | C6-N1-C2 | -8.07 | 117.07 | 120.30 |
| 35 | BA | 898 | G | C6-N1-C2 | -8.07 | 120.26 | 125.10 |
| 35 | BA | 1472 | U | N3-C2-O2 | -8.07 | 116.55 | 122.20 |
| 38 | BD | 211 | LEU | CB-CG-CD2 | 8.07 | 124.71 | 111.00 |
| 47 | BM | 68 | ARG | NE-CZ-NH1 | 8.07 | 124.33 | 120.30 |
| 2 | AB | 829 | A | C4-C5-C6 | -8.06 | 112.97 | 117.00 |
| 2 | AB | 1300 | G | C5'-C4'-O4' | 8.06 | 118.78 | 109.10 |
| 2 | AB | 2124 | G | N3-C4-C5 | -8.06 | 124.57 | 128.60 |
| 2 | AB | 975 | A | O4'-C1'-N9 | 8.06 | 114.65 | 108.20 |
| 2 | AB | 271 | G | P-O3'-C3' | 8.06 | 129.37 | 119.70 |
| 2 | AB | 1830 | C | C2-N3-C4 | 8.06 | 123.93 | 119.90 |
| 2 | AB | 2399 | G | N3-C2-N2 | -8.06 | 114.26 | 119.90 |
| 2 | AB | 2539 | C | N1-C2-O2 | -8.06 | 114.06 | 118.90 |
| 2 | AB | 2630 | G | N3-C4-N9 | 8.06 | 130.84 | 126.00 |
| 35 | BA | 1103 | C | C5'-C4'-O4' | 8.06 | 118.77 | 109.10 |
| 2 | AB | 1071 | G | O4'-C1'-N9 | 8.06 | 114.65 | 108.20 |
| 2 | AB | 2321 | U | N3-C4-O4 | -8.06 | 113.76 | 119.40 |
| 1 | AA | 40 | U | O4'-C1'-N1 | 8.06 | 114.65 | 108.20 |
| 2 | AB | 1675 | C | N3-C2-O2 | -8.06 | 116.26 | 121.90 |
| 35 | BA | 12 | U | C4-C5-C6 | 8.06 | 124.53 | 119.70 |
| 35 | BA | 45 | G | N1-C2-N3 | 8.06 | 128.74 | 123.90 |
| 35 | BA | 183 | C | N1-C2-O2 | -8.06 | 114.06 | 118.90 |
| 35 | BA | 259 | G | N3-C4-C5 | -8.06 | 124.57 | 128.60 |
| 35 | BA | 262 | A | C2-N3-C4 | 8.06 | 114.63 | 110.60 |
| 35 | BA | 280 | C | C5-C6-N1 | 8.06 | 125.03 | 121.00 |
| 35 | BA | 508 | U | N3-C2-O2 | -8.06 | 116.56 | 122.20 |
| 35 | BA | 1538 | C | C4-C5-C6 | -8.06 | 113.37 | 117.40 |
| 2 | AB | 378 | C | O4'-C1'-N1 | 8.06 | 114.64 | 108.20 |
| 2 | AB | 2418 | A | C4-C5-C6 | -8.06 | 112.97 | 117.00 |
| 1 | AA | 29 | A | N1-C2-N3 | -8.05 | 125.27 | 129.30 |
| 2 | AB | 758 | C | C1'-O4'-C4' | 8.05 | 116.34 | 109.90 |
| 2 | AB | 901 | C | C6-N1-C2 | -8.05 | 117.08 | 120.30 |
| 2 | AB | 2603 | G | C5-C6-N1 | 8.06 | 115.53 | 111.50 |
| 2 | AB | 2867 | G | C5-N7-C8 | 8.05 | 108.33 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 918 | A | N7-C8-N9 | -8.06 | 109.77 | 113.80 |
| 35 | BA | 1079 | G | N3-C4-C5 | -8.06 | 124.57 | 128.60 |
| 35 | BA | 1208 | C | O4'-C1'-N1 | 8.05 | 114.64 | 108.20 |
| 35 | BA | 1488 | G | N1-C6-O6 | 8.05 | 124.73 | 119.90 |
| 45 | BK | 90 | ASP | CB-CG-OD2 | -8.06 | 111.05 | 118.30 |
| 2 | AB | 1137 | G | N3-C4-C5 | -8.05 | 124.57 | 128.60 |
| 2 | AB | 1746 | A | C5-C6-N6 | 8.05 | 130.14 | 123.70 |
| 2 | AB | 2832 | U | O4'-C1'-N1 | 8.05 | 114.64 | 108.20 |
| 35 | BA | 27 | G | N3-C2-N2 | -8.05 | 114.26 | 119.90 |
| 35 | BA | 914 | A | N7-C8-N9 | 8.05 | 117.83 | 113.80 |
| 35 | BA | 1271 | A | C2-N3-C4 | 8.05 | 114.63 | 110.60 |
| 2 | AB | 973 | A | C4-C5-C6 | -8.05 | 112.97 | 117.00 |
| 2 | AB | 1188 | U | C4'-C3'-C2' | -8.05 | 94.55 | 102.60 |
| 2 | AB | 1315 | C | C4-C5-C6 | 8.05 | 121.43 | 117.40 |
| 2 | AB | 1400 | U | N3-C4-O4 | 8.05 | 125.04 | 119.40 |
| 2 | AB | 1809 | A | N1-C2-N3 | -8.05 | 125.27 | 129.30 |
| 2 | AB | 1882 | U | C6-N1-C2 | 8.05 | 125.83 | 121.00 |
| 35 | BA | 1245 | C | C2-N3-C4 | 8.05 | 123.93 | 119.90 |
| 2 | AB | 1964 | G | N3-C4-C5 | -8.05 | 124.58 | 128.60 |
| 35 | BA | 585 | G | C5-N7-C8 | -8.05 | 100.28 | 104.30 |
| 35 | BA | 765 | G | O4'-C1'-C2' | -8.05 | 97.75 | 105.80 |
| 35 | BA | 1156 | G | C5'-C4'-O4' | 8.05 | 118.76 | 109.10 |
| 35 | BA | 1436 | U | C2-N3-C4 | -8.05 | 122.17 | 127.00 |
| 2 | AB | 407 | G | N9-C1'-C2' | -8.05 | 103.15 | 112.00 |
| 2 | AB | 881 | G | C5-N7-C8 | -8.05 | 100.28 | 104.30 |
| 2 | AB | 1878 | G | N1-C2-N3 | 8.05 | 128.73 | 123.90 |
| 2 | AB | 1974 | C | N3-C4-N4 | 8.05 | 123.63 | 118.00 |
| 2 | AB | 2386 | A | N1-C2-N3 | -8.05 | 125.28 | 129.30 |
| 35 | BA | 911 | U | C5-C6-N1 | -8.05 | 118.67 | 122.70 |
| 2 | AB | 1042 | G | N3-C4-C5 | -8.04 | 124.58 | 128.60 |
| 2 | AB | 1337 | G | N1-C2-N3 | 8.04 | 128.73 | 123.90 |
| 2 | AB | 1702 | G | C8-N9-C4 | -8.05 | 103.18 | 106.40 |
| 2 | AB | 1806 | C | C5-C6-N1 | 8.04 | 125.02 | 121.00 |
| 2 | AB | 1929 | G | C2-N3-C4 | 8.04 | 115.92 | 111.90 |
| 2 | AB | 2053 | G | C4-C5-N7 | -8.04 | 107.58 | 110.80 |
| 2 | AB | 2269 | G | N3-C4-N9 | 8.04 | 130.83 | 126.00 |
| 1 | AA | 45 | A | C8-N9-C4 | -8.04 | 102.58 | 105.80 |
| 2 | AB | 298 | G | N3-C4-C5 | -8.04 | 124.58 | 128.60 |
| 2 | AB | 949 | G | C1'-O4'-C4' | -8.04 | 103.47 | 109.90 |
| 2 | AB | 2459 | A | O4'-C1'-N9 | 8.04 | 114.63 | 108.20 |
| 2 | AB | 2564 | A | N1-C2-N3 | -8.04 | 125.28 | 129.30 |
| 35 | BA | 867 | G | N9-C4-C5 | -8.04 | 102.18 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 241 | G | N3-C4-C5 | -8.04 | 124.58 | 128.60 |
| 35 | BA | 970 | C | N3-C2-O2 | -8.04 | 116.27 | 121.90 |
| 2 | AB | 350 | G | C4-C5-C6 | 8.04 | 123.62 | 118.80 |
| 2 | AB | 744 | U | C2-N3-C4 | -8.04 | 122.18 | 127.00 |
| 2 | AB | 1804 | C | C5'-C4'-O4' | 8.04 | 118.75 | 109.10 |
| 2 | AB | 2193 | G | N3-C4-C5 | -8.04 | 124.58 | 128.60 |
| 2 | AB | 2901 | C | N3-C4-N4 | 8.04 | 123.63 | 118.00 |
| 11 | AK | 61 | TYR | CG-CD1-CE1 | -8.04 | 114.87 | 121.30 |
| 35 | BA | 865 | A | N9-C4-C5 | 8.04 | 109.02 | 105.80 |
| 2 | AB | 940 | G | C4'-C3'-C2' | -8.04 | 94.56 | 102.60 |
| 2 | AB | 1270 | C | O4'-C1'-N1 | -8.04 | 101.77 | 108.20 |
| 35 | BA | 110 | C | C4'-C3'-C2' | -8.04 | 94.56 | 102.60 |
| 2 | AB | 1607 | C | C4-C5-C6 | 8.04 | 121.42 | 117.40 |
| 2 | AB | 1653 | G | N3-C4-N9 | -8.04 | 121.18 | 126.00 |
| 35 | BA | 82 | G | C5-C6-O6 | -8.04 | 123.78 | 128.60 |
| 35 | BA | 341 | C | O4'-C1'-N1 | 8.04 | 114.63 | 108.20 |
| 35 | BA | 889 | A | N9-C4-C5 | 8.04 | 109.02 | 105.80 |
| 35 | BA | 1184 | G | O4'-C1'-N9 | 8.04 | 114.63 | 108.20 |
| 35 | BA | 1190 | G | C1'-O4'-C4' | -8.04 | 103.47 | 109.90 |
| 35 | BA | 1370 | G | O4'-C1'-N9 | 8.04 | 114.63 | 108.20 |
| 2 | AB | 1446 | C | O4'-C4'-C3' | -8.04 | 95.96 | 104.00 |
| 2 | AB | 87 | U | C5-C6-N1 | -8.03 | 118.68 | 122.70 |
| 2 | AB | 871 | U | O4'-C1'-N1 | 8.04 | 114.63 | 108.20 |
| 2 | AB | 1492 | G | C5-C6-O6 | -8.04 | 123.78 | 128.60 |
| 35 | BA | 404 | G | C8-N9-C4 | -8.04 | 103.19 | 106.40 |
| 35 | BA | 997 | U | N3-C4-O4 | 8.04 | 125.03 | 119.40 |
| 35 | BA | 1272 | G | N1-C6-O6 | -8.04 | 115.08 | 119.90 |
| 1 | AA | 9 | G | N3-C4-C5 | -8.03 | 124.58 | 128.60 |
| 2 | AB | 1435 | G | N3-C4-N9 | 8.03 | 130.82 | 126.00 |
| 2 | AB | 1470 | A | C3'-C2'-C1' | 8.03 | 107.93 | 101.50 |
| 2 | AB | 1555 | G | N3-C2-N2 | -8.03 | 114.28 | 119.90 |
| 2 | AB | 1582 | C | N3-C2-O2 | -8.03 | 116.28 | 121.90 |
| 2 | AB | 1884 | G | C4-C5-N7 | 8.03 | 114.01 | 110.80 |
| 2 | AB | 2058 | A | C1'-O4'-C4' | -8.03 | 103.47 | 109.90 |
| 2 | AB | 2417 | C | N3-C2-O2 | -8.03 | 116.28 | 121.90 |
| 35 | BA | 258 | G | O4'-C4'-C3' | 8.03 | 112.53 | 106.10 |
| 35 | BA | 308 | C | C5-C6-N1 | -8.03 | 116.98 | 121.00 |
| 35 | BA | 548 | G | N1-C2-N3 | -8.03 | 119.08 | 123.90 |
| 35 | BA | 933 | G | C6-N1-C2 | -8.03 | 120.28 | 125.10 |
| 35 | BA | 1322 | C | N3-C4-C5 | -8.03 | 118.69 | 121.90 |
| 35 | BA | 1528 | U | C5-C4-O4 | -8.03 | 121.08 | 125.90 |
| 37 | BC | 46 | G | C8-N9-C4 | -8.03 | 103.19 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 100 | U | C5-C6-N1 | -8.03 | 118.69 | 122.70 |
| 2 | AB | 605 | G | N9-C1'-C2' | -8.03 | 103.17 | 112.00 |
| 2 | AB | 2204 | G | C4-C5-N7 | 8.03 | 114.01 | 110.80 |
| 2 | AB | 1568 | G | C5-N7-C8 | 8.03 | 108.31 | 104.30 |
| 2 | AB | 1883 | U | N1-C1'-C2' | -8.03 | 103.17 | 112.00 |
| 2 | AB | 2250 | G | C6-C5-N7 | -8.03 | 125.58 | 130.40 |
| 35 | BA | 20 | U | O4'-C1'-N1 | 8.03 | 114.62 | 108.20 |
| 35 | BA | 55 | A | N1-C2-N3 | -8.03 | 125.28 | 129.30 |
| 35 | BA | 1125 | U | N1-C2-O2 | -8.03 | 117.18 | 122.80 |
| 1 | AA | 24 | G | N1-C6-O6 | -8.03 | 115.08 | 119.90 |
| 2 | AB | 469 | G | C2-N3-C4 | 8.03 | 115.91 | 111.90 |
| 2 | AB | 1040 | A | C1'-O4'-C4' | -8.03 | 103.48 | 109.90 |
| 2 | AB | 1230 | A | N1-C2-N3 | -8.03 | 125.29 | 129.30 |
| 2 | AB | 2880 | C | C5-C6-N1 | 8.03 | 125.01 | 121.00 |
| 35 | BA | 368 | U | C5-C6-N1 | -8.03 | 118.69 | 122.70 |
| 2 | AB | 2841 | C | O4'-C1'-N1 | 8.03 | 114.62 | 108.20 |
| 35 | BA | 1152 | A | C1'-O4'-C4' | -8.03 | 103.48 | 109.90 |
| 35 | BA | 1360 | A | C5'-C4'-O4' | 8.03 | 118.73 | 109.10 |
| 2 | AB | 166 | U | C3'-C2'-C1' | -8.02 | 95.08 | 101.50 |
| 2 | AB | 710 | U | N3-C2-O2 | -8.02 | 116.58 | 122.20 |
| 2 | AB | 1767 | G | N3-C4-C5 | -8.02 | 124.59 | 128.60 |
| 2 | AB | 1872 | A | C3'-C2'-C1' | 8.02 | 107.92 | 101.50 |
| 2 | AB | 2115 | G | C6-N1-C2 | -8.02 | 120.29 | 125.10 |
| 2 | AB | 2237 | G | N1-C6-O6 | 8.02 | 124.71 | 119.90 |
| 2 | AB | 2694 | G | N3-C4-N9 | 8.02 | 130.81 | 126.00 |
| 35 | BA | 262 | A | C4-C5-N7 | -8.02 | 106.69 | 110.70 |
| 35 | BA | 659 | U | C5-C4-O4 | -8.02 | 121.09 | 125.90 |
| 35 | BA | 1045 | C | O4'-C1'-N1 | 8.02 | 114.62 | 108.20 |
| 2 | AB | 2777 | G | O4'-C4'-C3' | 8.02 | 112.52 | 106.10 |
| 2 | AB | 2883 | A | N3-C4-C5 | -8.02 | 121.19 | 126.80 |
| 35 | BA | 456 | A | N9-C4-C5 | -8.02 | 102.59 | 105.80 |
| 2 | AB | 81 | G | C5'-C4'-O4' | 8.02 | 118.72 | 109.10 |
| 2 | AB | 1128 | G | C5-C6-N1 | -8.02 | 107.49 | 111.50 |
| 2 | AB | 1343 | G | C2-N3-C4 | 8.02 | 115.91 | 111.90 |
| 2 | AB | 1784 | A | N9-C4-C5 | 8.02 | 109.01 | 105.80 |
| 2 | AB | 2195 | U | N3-C2-O2 | -8.02 | 116.59 | 122.20 |
| 2 | AB | 2832 | U | N1-C2-O2 | 8.02 | 128.41 | 122.80 |
| 4 | AD | 42 | ARG | NE-CZ-NH1 | 8.02 | 124.31 | 120.30 |
| 35 | BA | 325 | A | C4-C5-N7 | -8.02 | 106.69 | 110.70 |
| 35 | BA | 1142 | G | N1-C2-N2 | -8.02 | 108.98 | 116.20 |
| 2 | AB | 311 | A | C3'-C2'-C1' | 8.02 | 107.91 | 101.50 |
| 43 | BI | 77 | ARG | NE-CZ-NH1 | 8.02 | 124.31 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 118 | A | C2-N3-C4 | -8.02 | 106.59 | 110.60 |
| 2 | AB | 467 | G | O4'-C1'-N9 | 8.02 | 114.61 | 108.20 |
| 2 | AB | 483 | A | N1-C2-N3 | -8.02 | 125.29 | 129.30 |
| 2 | AB | 2350 | C | C5-C4-N4 | -8.02 | 114.59 | 120.20 |
| 35 | BA | 857 | C | C3'-C2'-C1' | 8.02 | 107.91 | 101.50 |
| 35 | BA | 1106 | G | C2-N3-C4 | 8.02 | 115.91 | 111.90 |
| 2 | AB | 670 | A | C5-C6-N6 | -8.01 | 117.29 | 123.70 |
| 2 | AB | 367 | G | C4-C5-N7 | -8.01 | 107.59 | 110.80 |
| 2 | AB | 515 | A | C6-C5-N7 | 8.01 | 137.91 | 132.30 |
| 2 | AB | 827 | U | O4'-C1'-N1 | 8.01 | 114.61 | 108.20 |
| 2 | AB | 1292 | G | C6-C5-N7 | 8.01 | 135.21 | 130.40 |
| 2 | AB | 1453 | A | C5-C6-N6 | -8.01 | 117.29 | 123.70 |
| 2 | AB | 1351 | C | N1-C1'-C2' | -8.01 | 103.19 | 112.00 |
| 2 | AB | 2010 | G | N1-C6-O6 | -8.01 | 115.09 | 119.90 |
| 2 | AB | 2048 | G | C5-C6-O6 | -8.01 | 123.79 | 128.60 |
| 2 | AB | 2886 | A | C4-C5-C6 | -8.01 | 112.99 | 117.00 |
| 35 | BA | 1423 | G | C5-C6-O6 | -8.01 | 123.79 | 128.60 |
| 2 | AB | 32 | C | C4'-C3'-C2' | -8.01 | 94.59 | 102.60 |
| 2 | AB | 381 | G | P-O3'-C3' | 8.01 | 129.31 | 119.70 |
| 2 | AB | 977 | G | C2-N3-C4 | 8.01 | 115.90 | 111.90 |
| 2 | AB | 997 | G | N7-C8-N9 | 8.01 | 117.11 | 113.10 |
| 2 | AB | 2268 | A | C6-N1-C2 | -8.01 | 113.79 | 118.60 |
| 2 | AB | 2793 | C | C4-C5-C6 | -8.01 | 113.39 | 117.40 |
| 35 | BA | 262 | A | C6-C5-N7 | 8.01 | 137.91 | 132.30 |
| 2 | AB | 563 | A | N7-C8-N9 | 8.01 | 117.80 | 113.80 |
| 2 | AB | 1042 | G | C8-N9-C4 | -8.01 | 103.20 | 106.40 |
| 2 | AB | 1316 | U | N3-C2-O2 | -8.01 | 116.59 | 122.20 |
| 2 | AB | 1376 | C | O4'-C1'-N1 | 8.01 | 114.61 | 108.20 |
| 2 | AB | 1497 | U | O4'-C4'-C3' | 8.01 | 112.51 | 106.10 |
| 2 | AB | 111 | A | C5-N7-C8 | -8.01 | 99.90 | 103.90 |
| 2 | AB | 1768 | C | O4'-C1'-N1 | 8.01 | 114.61 | 108.20 |
| 29 | A2 | 56 | ARG | NE-CZ-NH2 | 8.01 | 124.30 | 120.30 |
| 2 | AB | 2382 | G | C5-C6-O6 | -8.01 | 123.80 | 128.60 |
| 2 | AB | 2627 | G | N3-C4-N9 | 8.01 | 130.80 | 126.00 |
| 2 | AB | 2643 | G | C4-C5-N7 | -8.01 | 107.60 | 110.80 |
| 35 | BA | 619 | U | N1-C2-O2 | -8.01 | 117.20 | 122.80 |
| 35 | BA | 1330 | U | C4'-C3'-C2' | -8.01 | 94.59 | 102.60 |
| 2 | AB | 120 | U | C4-C5-C6 | 8.00 | 124.50 | 119.70 |
| 2 | AB | 1206 | G | C6-N1-C2 | -8.00 | 120.30 | 125.10 |
| 2 | AB | 1341 | G | C4-C5-N7 | 8.00 | 114.00 | 110.80 |
| 2 | AB | 2119 | A | C4-C5-N7 | 8.00 | 114.70 | 110.70 |
| 2 | AB | 2009 | A | N1-C2-N3 | 8.00 | 133.30 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 899 | C | O4'-C4'-C3' | 8.00 | 112.50 | 106.10 |
| 2 | AB | 395 | U | O4'-C1'-N1 | 8.00 | 114.60 | 108.20 |
| 2 | AB | 561 | G | P-O3'-C3' | 8.00 | 129.30 | 119.70 |
| 2 | AB | 1356 | G | C8-N9-C4 | -8.00 | 103.20 | 106.40 |
| 2 | AB | 1843 | C | C5'-C4'-O4' | 8.00 | 118.70 | 109.10 |
| 2 | AB | 1863 | G | N3-C4-C5 | -8.00 | 124.60 | 128.60 |
| 2 | AB | 2685 | G | N1-C2-N2 | 8.00 | 123.40 | 116.20 |
| 35 | BA | 82 | G | N1-C6-O6 | 8.00 | 124.70 | 119.90 |
| 35 | BA | 187 | G | N1-C2-N3 | -8.00 | 119.10 | 123.90 |
| 35 | BA | 687 | A | N9-C4-C5 | 8.00 | 109.00 | 105.80 |
| 35 | BA | 1121 | U | O4'-C1'-N1 | 8.00 | 114.60 | 108.20 |
| 35 | BA | 1252 | A | C1'-O4'-C4' | -8.00 | 103.50 | 109.90 |
| 35 | BA | 1484 | C | N3-C2-O2 | -8.00 | 116.30 | 121.90 |
| 37 | BC | 76 | C | O4'-C4'-C3' | -8.00 | 96.00 | 104.00 |
| 2 | AB | 327 | G | O4'-C1'-N9 | 8.00 | 114.60 | 108.20 |
| 2 | AB | 513 | A | C4-C5-C6 | 8.00 | 121.00 | 117.00 |
| 2 | AB | 792 | A | N9-C4-C5 | 8.00 | 109.00 | 105.80 |
| 2 | AB | 1249 | U | O4'-C1'-N1 | 8.00 | 114.60 | 108.20 |
| 2 | AB | 1255 | U | O4'-C1'-N1 | 8.00 | 114.60 | 108.20 |
| 2 | AB | 1354 | A | C8-N9-C4 | 8.00 | 109.00 | 105.80 |
| 2 | AB | 1437 | C | C5-C4-N4 | -8.00 | 114.60 | 120.20 |
| 2 | AB | 1442 | U | O4'-C1'-N1 | 8.00 | 114.60 | 108.20 |
| 2 | AB | 2776 | A | N9-C4-C5 | -8.00 | 102.60 | 105.80 |
| 35 | BA | 1008 | U | O4'-C1'-N1 | 8.00 | 114.60 | 108.20 |
| 2 | AB | 495 | G | C5-C6-N1 | 8.00 | 115.50 | 111.50 |
| 2 | AB | 1540 | G | N3-C4-C5 | -8.00 | 124.60 | 128.60 |
| 2 | AB | 2170 | A | O4'-C1'-N9 | 8.00 | 114.60 | 108.20 |
| 35 | BA | 2 | A | C3'-C2'-C1' | 8.00 | 107.90 | 101.50 |
| 35 | BA | 106 | C | O4'-C4'-C3' | -8.00 | 96.00 | 104.00 |
| 35 | BA | 268 | U | C5-C6-N1 | 8.00 | 126.70 | 122.70 |
| 35 | BA | 534 | U | C3'-C2'-C1' | -8.00 | 95.10 | 101.50 |
| 2 | AB | 879 | G | O4'-C1'-N9 | 8.00 | 114.60 | 108.20 |
| 2 | AB | 2779 | U | C4-C5-C6 | 8.00 | 124.50 | 119.70 |
| 3 | AC | 7 | ARG | NE-CZ-NH2 | -8.00 | 116.30 | 120.30 |
| 35 | BA | 1360 | A | C8-N9-C4 | -8.00 | 102.60 | 105.80 |
| 36 | BB | 24 | A | C3'-C2'-C1' | 8.00 | 107.90 | 101.50 |
| 1 | AA | 66 | A | N9-C4-C5 | 7.99 | 109.00 | 105.80 |
| 1 | AA | 84 | G | C2-N3-C4 | 7.99 | 115.90 | 111.90 |
| 2 | AB | 2141 | G | N7-C8-N9 | 7.99 | 117.10 | 113.10 |
| 2 | AB | 2163 | A | C6-N1-C2 | -7.99 | 113.80 | 118.60 |
| 2 | AB | 2302 | U | C2-N3-C4 | -7.99 | 122.20 | 127.00 |
| 2 | AB | 2343 | U | O4'-C1'-N1 | 7.99 | 114.59 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2851 | A | O4'-C1'-N9 | 7.99 | 114.59 | 108.20 |
| 35 | BA | 36 | C | N3-C4-N4 | 7.99 | 123.60 | 118.00 |
| 35 | BA | 707 | U | C1'-O4'-C4' | -7.99 | 103.51 | 109.90 |
| 35 | BA | 1105 | A | C4'-C3'-C2' | -7.99 | 94.61 | 102.60 |
| 35 | BA | 1354 | U | C4-C5-C6 | 7.99 | 124.50 | 119.70 |
| 35 | BA | 1394 | A | N9-C4-C5 | -7.99 | 102.60 | 105.80 |
| 2 | AB | 160 | A | O4'-C1'-N9 | 7.99 | 114.59 | 108.20 |
| 2 | AB | 239 | C | C4-C5-C6 | 7.99 | 121.40 | 117.40 |
| 2 | AB | 676 | A | C5-N7-C8 | 7.99 | 107.90 | 103.90 |
| 2 | AB | 1301 | A | N1-C2-N3 | -7.99 | 125.30 | 129.30 |
| 2 | AB | 2035 | G | N3-C2-N2 | -7.99 | 114.31 | 119.90 |
| 2 | AB | 231 | A | C3'-C2'-C1' | -7.99 | 95.11 | 101.50 |
| 2 | AB | 2834 | G | N1-C6-O6 | 7.99 | 124.69 | 119.90 |
| 26 | AZ | 71 | ARG | NE-CZ-NH1 | -7.99 | 116.31 | 120.30 |
| 36 | BB | 13 | A | N9-C4-C5 | 7.99 | 109.00 | 105.80 |
| 2 | AB | 937 | C | C6-N1-C2 | -7.99 | 117.10 | 120.30 |
| 2 | AB | 1576 | U | N3-C4-O4 | 7.99 | 124.99 | 119.40 |
| 2 | AB | 2665 | A | C5-N7-C8 | -7.99 | 99.91 | 103.90 |
| 35 | BA | 307 | C | N1-C2-O2 | 7.99 | 123.69 | 118.90 |
| 35 | BA | 542 | G | C4'-C3'-C2' | -7.99 | 94.61 | 102.60 |
| 35 | BA | 1275 | A | C5-N7-C8 | -7.99 | 99.91 | 103.90 |
| 2 | AB | 1645 | G | N7-C8-N9 | 7.99 | 117.09 | 113.10 |
| 18 | AR | 88 | ARG | NE-CZ-NH2 | 7.99 | 124.29 | 120.30 |
| 35 | BA | 1165 | U | O4'-C1'-N1 | 7.99 | 114.59 | 108.20 |
| 2 | AB | 941 | A | C5-N7-C8 | 7.99 | 107.89 | 103.90 |
| 2 | AB | 1723 | G | N3-C2-N2 | -7.99 | 114.31 | 119.90 |
| 2 | AB | 2282 | G | N9-C4-C5 | 7.99 | 108.59 | 105.40 |
| 2 | AB | 2328 | A | N1-C6-N6 | -7.99 | 113.81 | 118.60 |
| 2 | AB | 2524 | G | C3'-C2'-C1' | 7.99 | 107.89 | 101.50 |
| 35 | BA | 6 | G | C6-C5-N7 | -7.99 | 125.61 | 130.40 |
| 35 | BA | 944 | G | C8-N9-C4 | -7.99 | 103.21 | 106.40 |
| 35 | BA | 1253 | G | N7-C8-N9 | 7.99 | 117.09 | 113.10 |
| 2 | AB | 40 | U | N1-C2-N3 | 7.98 | 119.69 | 114.90 |
| 2 | AB | 768 | G | N7-C8-N9 | 7.98 | 117.09 | 113.10 |
| 2 | AB | 849 | A | C6-N1-C2 | 7.98 | 123.39 | 118.60 |
| 35 | BA | 67 | C | C2-N3-C4 | -7.98 | 115.91 | 119.90 |
| 35 | BA | 862 | C | N3-C4-C5 | 7.98 | 125.09 | 121.90 |
| 2 | AB | 2 | G | C2-N3-C4 | 7.98 | 115.89 | 111.90 |
| 2 | AB | 2261 | C | N3-C4-C5 | 7.98 | 125.09 | 121.90 |
| 2 | AB | 2450 | A | N7-C8-N9 | 7.98 | 117.79 | 113.80 |
| 2 | AB | 2774 | C | O4'-C1'-N1 | 7.98 | 114.58 | 108.20 |
| 35 | BA | 196 | A | C6-N1-C2 | 7.98 | 123.39 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 489 | C | C5-C4-N4 | -7.98 | 114.61 | 120.20 |
| 35 | BA | 599 | C | C4-C5-C6 | -7.98 | 113.41 | 117.40 |
| 35 | BA | 999 | C | N3-C2-O2 | -7.98 | 116.31 | 121.90 |
| 2 | AB | 772 | C | O4'-C1'-N1 | 7.98 | 114.58 | 108.20 |
| 2 | AB | 831 | G | C4-C5-N7 | -7.98 | 107.61 | 110.80 |
| 2 | AB | 1742 | U | C5-C6-N1 | -7.98 | 118.71 | 122.70 |
| 2 | AB | 254 | G | C4-C5-C6 | 7.98 | 123.59 | 118.80 |
| 2 | AB | 1454 | C | O4'-C1'-N1 | 7.98 | 114.58 | 108.20 |
| 2 | AB | 1852 | U | C1'-O4'-C4' | -7.98 | 103.52 | 109.90 |
| 2 | AB | 741 | U | N3-C4-C5 | 7.98 | 119.39 | 114.60 |
| 2 | AB | 1067 | A | C6-N1-C2 | 7.98 | 123.39 | 118.60 |
| 35 | BA | 1014 | A | P-O3'-C3' | 7.98 | 129.27 | 119.70 |
| 35 | BA | 1400 | C | N1-C2-O2 | 7.98 | 123.69 | 118.90 |
| 2 | AB | 1028 | A | C4-C5-N7 | 7.97 | 114.69 | 110.70 |
| 2 | AB | 1142 | A | C8-N9-C4 | 7.97 | 108.99 | 105.80 |
| 2 | AB | 1816 | C | C5-C4-N4 | -7.97 | 114.62 | 120.20 |
| 2 | AB | 1964 | G | N3-C4-N9 | 7.97 | 130.78 | 126.00 |
| 2 | AB | 2100 | G | N3-C4-N9 | 7.97 | 130.78 | 126.00 |
| 2 | AB | 2634 | A | O4'-C1'-N9 | 7.97 | 114.58 | 108.20 |
| 35 | BA | 261 | U | C5-C6-N1 | -7.97 | 118.71 | 122.70 |
| 35 | BA | 1123 | U | C5-C4-O4 | -7.97 | 121.11 | 125.90 |
| 57 | BW | 66 | ARG | NE-CZ-NH2 | 7.97 | 124.29 | 120.30 |
| 2 | AB | 5 | A | N7-C8-N9 | -7.97 | 109.81 | 113.80 |
| 2 | AB | 886 | A | N1-C6-N6 | -7.97 | 113.82 | 118.60 |
| 2 | AB | 1006 | C | N3-C4-C5 | 7.97 | 125.09 | 121.90 |
| 2 | AB | 1518 | C | N1-C2-N3 | -7.97 | 113.62 | 119.20 |
| 2 | AB | 2254 | C | N3-C2-O2 | -7.97 | 116.32 | 121.90 |
| 2 | AB | 2534 | A | C8-N9-C4 | -7.97 | 102.61 | 105.80 |
| 2 | AB | 2681 | C | N3-C4-C5 | -7.97 | 118.71 | 121.90 |
| 2 | AB | 2827 | C | N3-C2-O2 | -7.97 | 116.32 | 121.90 |
| 35 | BA | 885 | G | C5-N7-C8 | -7.97 | 100.31 | 104.30 |
| 35 | BA | 1346 | A | N9-C4-C5 | 7.97 | 108.99 | 105.80 |
| 2 | AB | 2432 | A | N7-C8-N9 | 7.97 | 117.79 | 113.80 |
| 35 | BA | 322 | C | C1'-O4'-C4' | -7.97 | 103.52 | 109.90 |
| 35 | BA | 937 | A | N1-C6-N6 | -7.97 | 113.82 | 118.60 |
| 35 | BA | 962 | C | C6-N1-C2 | -7.97 | 117.11 | 120.30 |
| 2 | AB | 254 | G | C2-N3-C4 | 7.97 | 115.89 | 111.90 |
| 2 | AB | 634 | C | N3-C4-C5 | -7.97 | 118.71 | 121.90 |
| 2 | AB | 1188 | U | O4'-C1'-N1 | 7.97 | 114.58 | 108.20 |
| 2 | AB | 1319 | C | N1-C2-O2 | 7.97 | 123.68 | 118.90 |
| 2 | AB | 1705 | A | N1-C2-N3 | -7.97 | 125.31 | 129.30 |
| 2 | AB | 2026 | U | C5-C4-O4 | -7.97 | 121.12 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 916 | U | C4-C5-C6 | 7.97 | 124.48 | 119.70 |
| 35 | BA | 975 | A | N7-C8-N9 | 7.97 | 117.78 | 113.80 |
| 35 | BA | 1131 | G | N3-C4-C5 | -7.97 | 124.61 | 128.60 |
| 2 | AB | 1087 | G | O4'-C1'-N9 | 7.97 | 114.57 | 108.20 |
| 2 | AB | 2065 | C | O4'-C1'-N1 | 7.97 | 114.58 | 108.20 |
| 2 | AB | 2316 | G | N3-C4-N9 | 7.97 | 130.78 | 126.00 |
| 2 | AB | 267 | C | C5'-C4'-C3' | -7.97 | 103.25 | 116.00 |
| 2 | AB | 1356 | G | C1'-O4'-C4' | 7.97 | 116.27 | 109.90 |
| 2 | AB | 1493 | C | N3-C2-O2 | -7.97 | 116.32 | 121.90 |
| 2 | AB | 1781 | U | O4'-C1'-N1 | 7.97 | 114.57 | 108.20 |
| 2 | AB | 2335 | A | C4-C5-N7 | -7.97 | 106.72 | 110.70 |
| 35 | BA | 333 | U | N3-C2-O2 | -7.97 | 116.62 | 122.20 |
| 35 | BA | 1044 | A | C8-N9-C4 | -7.97 | 102.61 | 105.80 |
| 35 | BA | 1160 | G | C5'-C4'-O4' | 7.97 | 118.66 | 109.10 |
| 35 | BA | 1405 | G | N3-C4-C5 | -7.97 | 124.62 | 128.60 |
| 36 | BB | 32 | U | C5'-C4'-C3' | -7.97 | 103.25 | 116.00 |
| 2 | AB | 711 | G | N3-C4-C5 | -7.96 | 124.62 | 128.60 |
| 2 | AB | 853 | C | O4'-C1'-N1 | 7.96 | 114.57 | 108.20 |
| 2 | AB | 949 | G | C4'-C3'-C2' | -7.96 | 94.64 | 102.60 |
| 2 | AB | 969 | G | O4'-C1'-N9 | 7.96 | 114.57 | 108.20 |
| 2 | AB | 1803 | A | O4'-C1'-N9 | 7.96 | 114.57 | 108.20 |
| 2 | AB | 1977 | A | C4-C5-C6 | -7.96 | 113.02 | 117.00 |
| 2 | AB | 2223 | G | N9-C1'-C2' | -7.96 | 103.24 | 112.00 |
| 2 | AB | 2334 | U | N1-C2-N3 | 7.96 | 119.68 | 114.90 |
| 35 | BA | 769 | G | C6-C5-N7 | -7.96 | 125.62 | 130.40 |
| 2 | AB | 1508 | A | C5-N7-C8 | -7.96 | 99.92 | 103.90 |
| 2 | AB | 2102 | G | O4'-C4'-C3' | 7.96 | 112.47 | 106.10 |
| 2 | AB | 2815 | C | C3'-C2'-C1' | 7.96 | 107.87 | 101.50 |
| 35 | BA | 904 | U | C1'-O4'-C4' | -7.96 | 103.53 | 109.90 |
| 1 | AA | 47 | C | N1-C2-O2 | 7.96 | 123.68 | 118.90 |
| 2 | AB | 48 | G | N3-C4-N9 | 7.96 | 130.78 | 126.00 |
| 2 | AB | 794 | A | C5-C6-N6 | -7.96 | 117.33 | 123.70 |
| 2 | AB | 1425 | G | O4'-C1'-N9 | 7.96 | 114.57 | 108.20 |
| 2 | AB | 1462 | C | O4'-C1'-N1 | 7.96 | 114.57 | 108.20 |
| 2 | AB | 2895 | G | C5-C6-N1 | 7.96 | 115.48 | 111.50 |
| 35 | BA | 344 | A | C3'-C2'-C1' | 7.96 | 107.87 | 101.50 |
| 35 | BA | 684 | U | C4-C5-C6 | 7.96 | 124.48 | 119.70 |
| 35 | BA | 1340 | A | O4'-C1'-N9 | 7.96 | 114.57 | 108.20 |
| 35 | BA | 1359 | C | N3-C4-C5 | -7.96 | 118.72 | 121.90 |
| 2 | AB | 877 | A | N9-C4-C5 | -7.96 | 102.62 | 105.80 |
| 2 | AB | 1638 | C | N3-C4-C5 | -7.96 | 118.72 | 121.90 |
| 2 | AB | 2741 | A | C8-N9-C4 | -7.96 | 102.62 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 52 | A | C4-C5-N7 | 7.96 | 114.68 | 110.70 |
| 2 | AB | 220 | G | C5-C6-N1 | 7.96 | 115.48 | 111.50 |
| 2 | AB | 1357 | C | C4-C5-C6 | -7.96 | 113.42 | 117.40 |
| 2 | AB | 1869 | G | C5-C6-N1 | -7.96 | 107.52 | 111.50 |
| 2 | AB | 2846 | G | N9-C4-C5 | 7.96 | 108.58 | 105.40 |
| 2 | AB | 2895 | G | N3-C4-C5 | -7.96 | 124.62 | 128.60 |
| 35 | BA | 453 | G | N7-C8-N9 | -7.96 | 109.12 | 113.10 |
| 35 | BA | 802 | A | C5-N7-C8 | 7.96 | 107.88 | 103.90 |
| 35 | BA | 1439 | G | O4'-C1'-N9 | 7.96 | 114.57 | 108.20 |
| 35 | BA | 1506 | U | O4'-C1'-N1 | 7.96 | 114.57 | 108.20 |
| 2 | AB | 785 | G | C8-N9-C4 | -7.96 | 103.22 | 106.40 |
| 2 | AB | 1505 | A | C4'-C3'-C2' | -7.96 | 94.64 | 102.60 |
| 2 | AB | 1965 | C | C2-N3-C4 | 7.96 | 123.88 | 119.90 |
| 35 | BA | 1162 | C | N3-C4-N4 | 7.96 | 123.57 | 118.00 |
| 36 | BB | 58 | C | N3-C2-O2 | -7.96 | 116.33 | 121.90 |
| 1 | AA | 83 | G | N9-C4-C5 | 7.96 | 108.58 | 105.40 |
| 2 | AB | 805 | G | C4-C5-N7 | -7.96 | 107.62 | 110.80 |
| 2 | AB | 2194 | U | C4-C5-C6 | 7.96 | 124.47 | 119.70 |
| 2 | AB | 2258 | C | O4'-C4'-C3' | 7.96 | 112.46 | 106.10 |
| 2 | AB | 2316 | G | C5-C6-O6 | 7.96 | 133.37 | 128.60 |
| 35 | BA | 155 | A | C6-C5-N7 | 7.96 | 137.87 | 132.30 |
| 2 | AB | 1177 | G | C6-N1-C2 | -7.95 | 120.33 | 125.10 |
| 2 | AB | 2599 | G | N9-C4-C5 | 7.95 | 108.58 | 105.40 |
| 35 | BA | 1033 | G | N7-C8-N9 | 7.95 | 117.08 | 113.10 |
| 35 | BA | 1486 | G | C5'-C4'-O4' | 7.95 | 118.64 | 109.10 |
| 2 | AB | 161 | A | C5'-C4'-O4' | 7.95 | 118.64 | 109.10 |
| 2 | AB | 2435 | A | C8-N9-C4 | -7.95 | 102.62 | 105.80 |
| 2 | AB | 2820 | A | C5-C6-N1 | 7.95 | 121.68 | 117.70 |
| 35 | BA | 718 | A | C8-N9-C4 | -7.95 | 102.62 | 105.80 |
| 35 | BA | 1069 | C | N3-C4-N4 | 7.95 | 123.57 | 118.00 |
| 2 | AB | 279 | A | C4'-C3'-C2' | -7.95 | 94.65 | 102.60 |
| 2 | AB | 308 | G | N1-C2-N3 | -7.95 | 119.13 | 123.90 |
| 2 | AB | 1193 | G | N3-C4-N9 | -7.95 | 121.23 | 126.00 |
| 2 | AB | 2562 | U | N1-C1'-C2' | -7.95 | 103.25 | 112.00 |
| 2 | AB | 2695 | U | N3-C4-O4 | -7.95 | 113.83 | 119.40 |
| 2 | AB | 2753 | A | N9-C4-C5 | 7.95 | 108.98 | 105.80 |
| 35 | BA | 95 | C | C4-C5-C6 | -7.95 | 113.42 | 117.40 |
| 35 | BA | 1424 | U | N3-C2-O2 | -7.95 | 116.63 | 122.20 |
| 2 | AB | 892 | A | N3-C4-N9 | -7.95 | 121.04 | 127.40 |
| 2 | AB | 2037 | A | C5-C6-N1 | 7.95 | 121.67 | 117.70 |
| 2 | AB | 2076 | U | P-O3'-C3' | 7.95 | 129.24 | 119.70 |
| 2 | AB | 2483 | C | N3-C4-N4 | 7.95 | 123.56 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 952 | U | O4'-C1'-N1 | 7.95 | 114.56 | 108.20 |
| 35 | BA | 1089 | G | C8-N9-C4 | -7.95 | 103.22 | 106.40 |
| 35 | BA | 1532 | U | C2-N3-C4 | -7.95 | 122.23 | 127.00 |
| 37 | BC | 32 | G | C4'-C3'-C2' | -7.95 | 94.65 | 102.60 |
| 2 | AB | 2844 | G | C4-C5-C6 | 7.95 | 123.57 | 118.80 |
| 35 | BA | 788 | U | N1-C2-N3 | 7.95 | 119.67 | 114.90 |
| 2 | AB | 186 | G | N9-C1'-C2' | -7.95 | 103.26 | 112.00 |
| 2 | AB | 630 | G | N9-C4-C5 | 7.95 | 108.58 | 105.40 |
| 2 | AB | 2243 | U | C2-N3-C4 | -7.95 | 122.23 | 127.00 |
| 2 | AB | 2310 | C | N1-C2-O2 | 7.95 | 123.67 | 118.90 |
| 2 | AB | 2631 | G | C5'-C4'-O4' | 7.95 | 118.63 | 109.10 |
| 2 | AB | 2825 | G | O4'-C1'-N9 | 7.95 | 114.56 | 108.20 |
| 2 | AB | 2847 | U | C5-C6-N1 | -7.95 | 118.73 | 122.70 |
| 35 | BA | 716 | A | O4'-C4'-C3' | 7.95 | 112.46 | 106.10 |
| 35 | BA | 731 | G | C8-N9-C4 | -7.95 | 103.22 | 106.40 |
| 35 | BA | 1044 | A | N9-C4-C5 | 7.95 | 108.98 | 105.80 |
| 36 | BB | 20 | G | N3-C4-C5 | -7.95 | 124.63 | 128.60 |
| 37 | BC | 10 | G | C8-N9-C4 | -7.95 | 103.22 | 106.40 |
| 1 | AA | 97 | C | C4-C5-C6 | 7.94 | 121.37 | 117.40 |
| 2 | AB | 182 | A | C4'-C3'-C2' | -7.94 | 94.66 | 102.60 |
| 2 | AB | 310 | A | C3'-C2'-C1' | -7.94 | 95.14 | 101.50 |
| 2 | AB | 2201 | G | N1-C6-O6 | -7.94 | 115.13 | 119.90 |
| 2 | AB | 2256 | G | O4'-C1'-N9 | 7.94 | 114.56 | 108.20 |
| 2 | AB | 2731 | G | C8-N9-C4 | -7.94 | 103.22 | 106.40 |
| 2 | AB | 433 | C | C2-N3-C4 | -7.94 | 115.93 | 119.90 |
| 2 | AB | 1297 | C | O4'-C1'-N1 | 7.94 | 114.55 | 108.20 |
| 2 | AB | 1546 | G | C5-C6-N1 | 7.94 | 115.47 | 111.50 |
| 2 | AB | 1996 | C | N1-C2-O2 | 7.94 | 123.67 | 118.90 |
| 35 | BA | 1010 | U | N1-C2-N3 | 7.94 | 119.67 | 114.90 |
| 2 | AB | 1623 | G | O4'-C1'-N9 | 7.94 | 114.55 | 108.20 |
| 2 | AB | 2402 | U | O4'-C1'-C2' | -7.94 | 97.86 | 105.80 |
| 2 | AB | 2654 | A | C2-N3-C4 | 7.94 | 114.57 | 110.60 |
| 35 | BA | 391 | G | N3-C2-N2 | 7.94 | 125.46 | 119.90 |
| 35 | BA | 843 | U | C5-C6-N1 | -7.94 | 118.73 | 122.70 |
| 2 | AB | 1007 | C | N1-C2-O2 | 7.94 | 123.66 | 118.90 |
| 35 | BA | 55 | A | O4'-C1'-N9 | 7.94 | 114.55 | 108.20 |
| 35 | BA | 362 | G | C5'-C4'-O4' | 7.94 | 118.63 | 109.10 |
| 37 | BC | 30 | G | N3-C4-C5 | -7.94 | 124.63 | 128.60 |
| 2 | AB | 273 | G | O4'-C1'-N9 | 7.94 | 114.55 | 108.20 |
| 2 | AB | 1877 | A | N7-C8-N9 | 7.94 | 117.77 | 113.80 |
| 35 | BA | 1089 | G | C5-C6-O6 | 7.94 | 133.36 | 128.60 |
| 35 | BA | 1154 | G | C5-N7-C8 | -7.94 | 100.33 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1501 | C | O4'-C1'-N1 | 7.94 | 114.55 | 108.20 |
| 35 | BA | 833 | G | N7-C8-N9 | 7.94 | 117.07 | 113.10 |
| 1 | AA | 116 | G | C6-N1-C2 | -7.93 | 120.34 | 125.10 |
| 2 | AB | 1463 | C | N3-C4-C5 | -7.93 | 118.73 | 121.90 |
| 2 | AB | 1711 | A | C2-N3-C4 | 7.93 | 114.57 | 110.60 |
| 2 | AB | 1933 | G | C2-N3-C4 | 7.93 | 115.87 | 111.90 |
| 2 | AB | 2754 | U | C5-C4-O4 | -7.93 | 121.14 | 125.90 |
| 35 | BA | 433 | G | N1-C2-N3 | 7.93 | 128.66 | 123.90 |
| 35 | BA | 778 | G | C5-C6-N1 | 7.93 | 115.47 | 111.50 |
| 35 | BA | 779 | C | C2-N3-C4 | -7.93 | 115.93 | 119.90 |
| 35 | BA | 1135 | U | C5-C6-N1 | -7.93 | 118.73 | 122.70 |
| 35 | BA | 1346 | A | C8-N9-C4 | -7.93 | 102.63 | 105.80 |
| 2 | AB | 80 | G | C4'-C3'-C2' | -7.93 | 94.67 | 102.60 |
| 2 | AB | 1718 | G | N7-C8-N9 | 7.93 | 117.07 | 113.10 |
| 35 | BA | 345 | C | C2-N3-C4 | 7.93 | 123.87 | 119.90 |
| 35 | BA | 506 | G | C2-N3-C4 | 7.93 | 115.87 | 111.90 |
| 1 | AA | 34 | A | N3-C4-N9 | 7.93 | 133.75 | 127.40 |
| 2 | AB | 923 | G | N1-C2-N3 | -7.93 | 119.14 | 123.90 |
| 35 | BA | 1259 | C | N1-C2-O2 | 7.93 | 123.66 | 118.90 |
| 2 | AB | 701 | G | C6-N1-C2 | -7.93 | 120.34 | 125.10 |
| 2 | AB | 909 | A | N1-C2-N3 | -7.93 | 125.33 | 129.30 |
| 2 | AB | 1122 | G | O4'-C1'-N9 | 7.93 | 114.54 | 108.20 |
| 2 | AB | 1292 | G | C1'-O4'-C4' | -7.93 | 103.56 | 109.90 |
| 2 | AB | 1806 | C | O4'-C1'-N1 | 7.93 | 114.54 | 108.20 |
| 2 | AB | 2782 | G | C5'-C4'-O4' | 7.93 | 118.61 | 109.10 |
| 35 | BA | 186 | C | C2-N3-C4 | 7.93 | 123.86 | 119.90 |
| 35 | BA | 249 | U | C5-C6-N1 | 7.93 | 126.67 | 122.70 |
| 35 | BA | 632 | U | C5'-C4'-O4' | 7.93 | 118.61 | 109.10 |
| 35 | BA | 763 | G | C5-N7-C8 | 7.93 | 108.27 | 104.30 |
| 35 | BA | 969 | A | C2-N3-C4 | -7.93 | 106.64 | 110.60 |
| 2 | AB | 2536 | G | C5'-C4'-O4' | 7.93 | 118.61 | 109.10 |
| 2 | AB | 101 | A | C5-C6-N1 | 7.93 | 121.66 | 117.70 |
| 2 | AB | 1050 | A | C4-C5-C6 | -7.93 | 113.04 | 117.00 |
| 2 | AB | 1537 | G | C4-C5-C6 | 7.93 | 123.56 | 118.80 |
| 2 | AB | 2674 | G | O4'-C1'-N9 | 7.93 | 114.54 | 108.20 |
| 35 | BA | 744 | C | N3-C2-O2 | -7.93 | 116.35 | 121.90 |
| 35 | BA | 985 | C | C5-C6-N1 | -7.93 | 117.04 | 121.00 |
| 2 | AB | 486 | C | C5-C4-N4 | -7.92 | 114.65 | 120.20 |
| 2 | AB | 974 | G | C5-N7-C8 | 7.92 | 108.26 | 104.30 |
| 2 | AB | 1843 | C | C3'-C2'-C1' | 7.92 | 107.84 | 101.50 |
| 2 | AB | 2280 | G | N9-C4-C5 | 7.92 | 108.57 | 105.40 |
| 2 | AB | 2314 | A | C4-C5-C6 | -7.92 | 113.04 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 37 | BC | 35 | C | O4'-C1'-N1 | 7.92 | 114.54 | 108.20 |
| 2 | AB | 887 | U | C5-C6-N1 | -7.92 | 118.74 | 122.70 |
| 2 | AB | 1485 | U | C4-C5-C6 | 7.92 | 124.45 | 119.70 |
| 35 | BA | 1287 | A | C2-N3-C4 | 7.92 | 114.56 | 110.60 |
| 1 | AA | 118 | C | N3-C2-O2 | -7.92 | 116.36 | 121.90 |
| 2 | AB | 301 | G | N9-C4-C5 | 7.92 | 108.57 | 105.40 |
| 2 | AB | 1211 | C | N1-C2-O2 | 7.92 | 123.65 | 118.90 |
| 2 | AB | 2004 | G | C6-N1-C2 | -7.92 | 120.35 | 125.10 |
| 2 | AB | 2051 | A | C8-N9-C4 | -7.92 | 102.63 | 105.80 |
| 2 | AB | 2291 | U | C4-C5-C6 | -7.92 | 114.95 | 119.70 |
| 35 | BA | 1348 | U | N3-C2-O2 | -7.92 | 116.66 | 122.20 |
| 35 | BA | 1225 | A | N9-C4-C5 | 7.92 | 108.97 | 105.80 |
| 2 | AB | 114 | U | N1-C2-N3 | 7.92 | 119.65 | 114.90 |
| 2 | AB | 155 | A | C5'-C4'-O4' | 7.92 | 118.60 | 109.10 |
| 2 | AB | 1208 | C | N1-C2-O2 | 7.92 | 123.65 | 118.90 |
| 2 | AB | 1401 | G | C8-N9-C4 | -7.92 | 103.23 | 106.40 |
| 2 | AB | 1504 | A | N1-C6-N6 | -7.92 | 113.85 | 118.60 |
| 35 | BA | 299 | G | C4-C5-N7 | -7.92 | 107.63 | 110.80 |
| 35 | BA | 1440 | U | O4'-C1'-N1 | 7.92 | 114.53 | 108.20 |
| 2 | AB | 157 | C | O4'-C1'-N1 | 7.92 | 114.53 | 108.20 |
| 2 | AB | 1390 | U | N3-C2-O2 | -7.92 | 116.66 | 122.20 |
| 35 | BA | 422 | C | C4-C5-C6 | -7.92 | 113.44 | 117.40 |
| 35 | BA | 1502 | A | C5-N7-C8 | 7.92 | 107.86 | 103.90 |
| 2 | AB | 1386 | C | N3-C4-C5 | 7.92 | 125.07 | 121.90 |
| 2 | AB | 2083 | G | N3-C4-C5 | -7.92 | 124.64 | 128.60 |
| 2 | AB | 2521 | C | N3-C2-O2 | 7.92 | 127.44 | 121.90 |
| 2 | AB | 2630 | G | C5-C6-O6 | -7.92 | 123.85 | 128.60 |
| 36 | BB | 23 | C | O4'-C1'-N1 | 7.92 | 114.53 | 108.20 |
| 2 | AB | 532 | A | C5-C6-N1 | 7.91 | 121.66 | 117.70 |
| 2 | AB | 739 | A | C4-C5-C6 | 7.91 | 120.96 | 117.00 |
| 2 | AB | 1272 | A | C2-N3-C4 | -7.91 | 106.64 | 110.60 |
| 2 | AB | 2053 | G | N3-C4-N9 | 7.91 | 130.75 | 126.00 |
| 35 | BA | 1133 | G | C5-C6-O6 | -7.91 | 123.85 | 128.60 |
| 35 | BA | 1372 | U | O4'-C1'-N1 | 7.91 | 114.53 | 108.20 |
| 2 | AB | 2486 | C | O4'-C1'-N1 | 7.91 | 114.53 | 108.20 |
| 35 | BA | 1109 | C | N3-C2-O2 | -7.91 | 116.36 | 121.90 |
| 35 | BA | 1270 | G | N9-C4-C5 | 7.91 | 108.56 | 105.40 |
| 2 | AB | 327 | G | C5-N7-C8 | -7.91 | 100.34 | 104.30 |
| 2 | AB | 362 | A | C8-N9-C4 | 7.91 | 108.96 | 105.80 |
| 2 | AB | 1059 | G | C5-C6-N1 | 7.91 | 115.46 | 111.50 |
| 2 | AB | 1234 | U | C3'-C2'-C1' | 7.91 | 107.83 | 101.50 |
| 2 | AB | 2117 | A | O4'-C1'-N9 | 7.91 | 114.53 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2766 | A | C5'-C4'-C3' | -7.91 | 103.34 | 116.00 |
| 2 | AB | 2871 | U | N1-C2-O2 | 7.91 | 128.34 | 122.80 |
| 35 | BA | 601 | G | N3-C2-N2 | -7.91 | 114.36 | 119.90 |
| 35 | BA | 909 | A | C2-N3-C4 | 7.91 | 114.56 | 110.60 |
| 35 | BA | 1334 | G | N3-C4-C5 | -7.91 | 124.64 | 128.60 |
| 2 | AB | 214 | G | C6-N1-C2 | -7.91 | 120.36 | 125.10 |
| 2 | AB | 409 | G | C4-C5-N7 | -7.91 | 107.64 | 110.80 |
| 2 | AB | 2143 | C | C5'-C4'-O4' | 7.91 | 118.59 | 109.10 |
| 2 | AB | 2299 | U | C2-N3-C4 | -7.91 | 122.25 | 127.00 |
| 2 | AB | 2629 | U | C1'-O4'-C4' | 7.91 | 116.23 | 109.90 |
| 35 | BA | 237 | G | C6-N1-C2 | -7.91 | 120.36 | 125.10 |
| 35 | BA | 1220 | G | C3'-C2'-C1' | 7.91 | 107.83 | 101.50 |
| 35 | BA | 1509 | C | C6-N1-C2 | 7.91 | 123.46 | 120.30 |
| 37 | BC | 13 | C | C4-C5-C6 | 7.91 | 121.36 | 117.40 |
| 2 | AB | 1236 | G | N1-C2-N3 | -7.91 | 119.16 | 123.90 |
| 2 | AB | 2791 | G | C6-N1-C2 | -7.91 | 120.36 | 125.10 |
| 2 | AB | 446 | G | C2-N3-C4 | 7.91 | 115.85 | 111.90 |
| 2 | AB | 751 | A | O4'-C1'-C2' | -7.91 | 97.89 | 105.80 |
| 2 | AB | 1701 | A | O4'-C1'-N9 | 7.91 | 114.53 | 108.20 |
| 2 | AB | 987 | C | C1'-O4'-C4' | -7.90 | 103.58 | 109.90 |
| 2 | AB | 70 | G | O4'-C1'-C2' | -7.90 | 97.90 | 105.80 |
| 2 | AB | 700 | G | C6-N1-C2 | -7.90 | 120.36 | 125.10 |
| 2 | AB | 1016 | G | C4-C5-N7 | -7.90 | 107.64 | 110.80 |
| 2 | AB | 1275 | A | C5-C6-N1 | 7.90 | 121.65 | 117.70 |
| 2 | AB | 2613 | U | C2-N3-C4 | -7.90 | 122.26 | 127.00 |
| 22 | AV | 69 | ARG | NH1-CZ-NH2 | -7.90 | 110.71 | 119.40 |
| 35 | BA | 809 | G | O4'-C4'-C3' | 7.90 | 112.42 | 106.10 |
| 35 | BA | 971 | G | N9-C4-C5 | 7.90 | 108.56 | 105.40 |
| 1 | AA | 48 | U | C1'-O4'-C4' | -7.90 | 103.58 | 109.90 |
| 2 | AB | 942 | G | C6-C5-N7 | 7.90 | 135.14 | 130.40 |
| 2 | AB | 1772 | A | C5-C6-N6 | -7.90 | 117.38 | 123.70 |
| 2 | AB | 2014 | A | C5-C6-N1 | 7.90 | 121.65 | 117.70 |
| 2 | AB | 2349 | G | C6-C5-N7 | -7.90 | 125.66 | 130.40 |
| 2 | AB | 2743 | U | C2-N3-C4 | -7.90 | 122.26 | 127.00 |
| 35 | BA | 93 | U | N1-C2-O2 | 7.90 | 128.33 | 122.80 |
| 9 | AI | 68 | ARG | NE-CZ-NH2 | -7.90 | 116.35 | 120.30 |
| 15 | AO | 16 | ARG | NE-CZ-NH1 | 7.90 | 124.25 | 120.30 |
| 35 | BA | 532 | A | C2-N3-C4 | 7.90 | 114.55 | 110.60 |
| 2 | AB | 237 | C | C2-N3-C4 | -7.90 | 115.95 | 119.90 |
| 2 | AB | 2413 | G | N9-C4-C5 | 7.90 | 108.56 | 105.40 |
| 35 | BA | 1229 | A | C5-N7-C8 | -7.90 | 99.95 | 103.90 |
| 36 | BB | 18 | A | P-O3'-C3' | 7.90 | 129.18 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1509 | A | C1'-O4'-C4' | 7.90 | 116.22 | 109.90 |
| 2 | AB | 2180 | U | O4'-C1'-N1 | 7.90 | 114.52 | 108.20 |
| 2 | AB | 2750 | A | N1-C2-N3 | -7.90 | 125.35 | 129.30 |
| 35 | BA | 116 | A | N7-C8-N9 | -7.90 | 109.85 | 113.80 |
| 2 | AB | 193 | U | C4'-C3'-C2' | -7.89 | 94.70 | 102.60 |
| 2 | AB | 1753 | G | N3-C4-N9 | 7.89 | 130.74 | 126.00 |
| 2 | AB | 2536 | G | C6-N1-C2 | -7.89 | 120.36 | 125.10 |
| 35 | BA | 482 | A | C6-C5-N7 | 7.89 | 137.83 | 132.30 |
| 35 | BA | 746 | A | N1-C2-N3 | 7.89 | 133.25 | 129.30 |
| 37 | BC | 43 | G | N3-C4-C5 | -7.89 | 124.65 | 128.60 |
| 2 | AB | 1542 | U | O5'-P-OP2 | -7.89 | 98.60 | 105.70 |
| 35 | BA | 1193 | G | C2-N3-C4 | 7.89 | 115.85 | 111.90 |
| 2 | AB | 520 | G | N1-C6-O6 | -7.89 | 115.17 | 119.90 |
| 2 | AB | 1732 | C | C6-N1-C2 | -7.89 | 117.14 | 120.30 |
| 2 | AB | 2080 | A | C2-N3-C4 | 7.89 | 114.55 | 110.60 |
| 2 | AB | 2434 | A | C4-C5-N7 | -7.89 | 106.75 | 110.70 |
| 1 | AA | 42 | C | N3-C4-C5 | -7.89 | 118.74 | 121.90 |
| 2 | AB | 493 | G | N9-C4-C5 | 7.89 | 108.56 | 105.40 |
| 2 | AB | 769 | U | N3-C4-O4 | 7.89 | 124.92 | 119.40 |
| 2 | AB | 1992 | G | N9-C4-C5 | 7.89 | 108.56 | 105.40 |
| 2 | AB | 2366 | A | C2-N3-C4 | 7.89 | 114.55 | 110.60 |
| 35 | BA | 217 | C | C2-N3-C4 | -7.89 | 115.96 | 119.90 |
| 35 | BA | 402 | G | N1-C6-O6 | -7.89 | 115.17 | 119.90 |
| 2 | AB | 137 | U | C5-C4-O4 | -7.89 | 121.17 | 125.90 |
| 2 | AB | 19 | A | C6-N1-C2 | -7.89 | 113.87 | 118.60 |
| 2 | AB | 23 | G | C5'-C4'-O4' | 7.89 | 118.56 | 109.10 |
| 2 | AB | 175 | G | N9-C4-C5 | -7.89 | 102.25 | 105.40 |
| 2 | AB | 233 | A | C3'-C2'-C1' | 7.89 | 107.81 | 101.50 |
| 35 | BA | 1304 | G | C6-C5-N7 | -7.89 | 125.67 | 130.40 |
| 2 | AB | 178 | G | C5-C6-O6 | -7.88 | 123.87 | 128.60 |
| 2 | AB | 434 | U | C5-C6-N1 | -7.88 | 118.76 | 122.70 |
| 2 | AB | 880 | G | C2-N3-C4 | 7.88 | 115.84 | 111.90 |
| 2 | AB | 1585 | C | C2-N3-C4 | 7.88 | 123.84 | 119.90 |
| 2 | AB | 2263 | C | N1-C2-N3 | 7.88 | 124.72 | 119.20 |
| 35 | BA | 188 | C | O4'-C1'-N1 | 7.88 | 114.51 | 108.20 |
| 35 | BA | 350 | G | C5-N7-C8 | -7.88 | 100.36 | 104.30 |
| 36 | BB | 40 | G | N3-C2-N2 | -7.88 | 114.38 | 119.90 |
| 2 | AB | 2698 | U | N3-C4-O4 | 7.88 | 124.92 | 119.40 |
| 35 | BA | 345 | C | O4'-C1'-N1 | 7.88 | 114.51 | 108.20 |
| 35 | BA | 434 | U | C2-N3-C4 | -7.88 | 122.27 | 127.00 |
| 35 | BA | 1536 | C | C1'-O4'-C4' | -7.88 | 103.59 | 109.90 |
| 2 | AB | 504 | A | O4'-C1'-N9 | 7.88 | 114.50 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2171 | A | C4-C5-C6 | 7.88 | 120.94 | 117.00 |
| 2 | AB | 2270 | A | N3-C4-C5 | -7.88 | 121.28 | 126.80 |
| 35 | BA | 124 | C | N1-C1'-C2' | -7.88 | 103.33 | 112.00 |
| 35 | BA | 1146 | A | C2-N3-C4 | 7.88 | 114.54 | 110.60 |
| 36 | BB | 13 | A | N9-C1'-C2' | -7.88 | 103.33 | 112.00 |
| 2 | AB | 1483 | G | C4-C5-N7 | -7.88 | 107.65 | 110.80 |
| 2 | AB | 1574 | C | N3-C4-N4 | 7.88 | 123.52 | 118.00 |
| 2 | AB | 1867 | G | N7-C8-N9 | 7.88 | 117.04 | 113.10 |
| 2 | AB | 2381 | A | N7-C8-N9 | -7.88 | 109.86 | 113.80 |
| 2 | AB | 2387 | U | N3-C2-O2 | -7.88 | 116.68 | 122.20 |
| 2 | AB | 2621 | G | N3-C4-C5 | -7.88 | 124.66 | 128.60 |
| 35 | BA | 919 | A | C5-C6-N1 | 7.88 | 121.64 | 117.70 |
| 2 | AB | 241 | A | C4-C5-C6 | -7.88 | 113.06 | 117.00 |
| 2 | AB | 405 | U | N1-C2-N3 | 7.88 | 119.63 | 114.90 |
| 2 | AB | 879 | G | N3-C2-N2 | -7.88 | 114.39 | 119.90 |
| 2 | AB | 1093 | G | N7-C8-N9 | 7.88 | 117.04 | 113.10 |
| 2 | AB | 1672 | A | O4'-C1'-N9 | 7.88 | 114.50 | 108.20 |
| 2 | AB | 1752 | C | C1'-O4'-C4' | -7.88 | 103.60 | 109.90 |
| 2 | AB | 2254 | C | C5-C4-N4 | 7.88 | 125.72 | 120.20 |
| 2 | AB | 2324 | U | C4'-C3'-C2' | 7.88 | 110.48 | 102.60 |
| 2 | AB | 2582 | G | N3-C4-C5 | -7.88 | 124.66 | 128.60 |
| 2 | AB | 2752 | C | C6-N1-C2 | 7.88 | 123.45 | 120.30 |
| 28 | A1 | 10 | ARG | NE-CZ-NH2 | 7.88 | 124.24 | 120.30 |
| 35 | BA | 752 | G | C5-C6-O6 | -7.88 | 123.87 | 128.60 |
| 2 | AB | 957 | C | O4'-C1'-N1 | 7.88 | 114.50 | 108.20 |
| 2 | AB | 1006 | C | C4-C5-C6 | -7.88 | 113.46 | 117.40 |
| 2 | AB | 1347 | A | N1-C6-N6 | -7.88 | 113.88 | 118.60 |
| 2 | AB | 1484 | U | C2-N3-C4 | -7.88 | 122.27 | 127.00 |
| 2 | AB | 1544 | A | N1-C6-N6 | 7.88 | 123.33 | 118.60 |
| 2 | AB | 1854 | A | C8-N9-C4 | 7.88 | 108.95 | 105.80 |
| 2 | AB | 2148 | G | N3-C2-N2 | 7.88 | 125.41 | 119.90 |
| 17 | AQ | 102 | ARG | NE-CZ-NH2 | 7.88 | 124.24 | 120.30 |
| 35 | BA | 349 | A | N1-C2-N3 | 7.88 | 133.24 | 129.30 |
| 35 | BA | 541 | G | N3-C2-N2 | -7.88 | 114.39 | 119.90 |
| 35 | BA | 1293 | C | C6-N1-C2 | 7.88 | 123.45 | 120.30 |
| 2 | AB | 227 | A | C5-N7-C8 | -7.88 | 99.96 | 103.90 |
| 2 | AB | 262 | A | N7-C8-N9 | 7.88 | 117.74 | 113.80 |
| 2 | AB | 489 | G | C5-N7-C8 | -7.88 | 100.36 | 104.30 |
| 2 | AB | 1085 | A | C5-C6-N1 | 7.88 | 121.64 | 117.70 |
| 2 | AB | 1127 | A | N3-C4-C5 | -7.88 | 121.29 | 126.80 |
| 2 | AB | 1260 | A | C6-C5-N7 | 7.88 | 137.81 | 132.30 |
| 2 | AB | 1870 | C | O4'-C1'-N1 | 7.88 | 114.50 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 97 | G | C2-N3-C4 | 7.88 | 115.84 | 111.90 |
| 35 | BA | 1004 | A | C5'-C4'-O4' | 7.88 | 118.55 | 109.10 |
| 35 | BA | 1289 | A | N1-C6-N6 | -7.88 | 113.88 | 118.60 |
| 1 | AA | 20 | G | C5'-C4'-O4' | 7.87 | 118.55 | 109.10 |
| 2 | AB | 174 | U | O4'-C1'-N1 | 7.87 | 114.50 | 108.20 |
| 2 | AB | 1042 | G | N1-C6-O6 | 7.87 | 124.62 | 119.90 |
| 2 | AB | 1052 | C | C2-N3-C4 | -7.87 | 115.96 | 119.90 |
| 2 | AB | 1223 | G | C2-N3-C4 | 7.87 | 115.84 | 111.90 |
| 2 | AB | 2451 | A | C5'-C4'-C3' | -7.87 | 103.40 | 116.00 |
| 2 | AB | 2708 | G | N7-C8-N9 | -7.87 | 109.16 | 113.10 |
| 35 | BA | 31 | G | N1-C2-N2 | -7.87 | 109.11 | 116.20 |
| 35 | BA | 110 | C | C6-N1-C2 | -7.87 | 117.15 | 120.30 |
| 35 | BA | 522 | C | N1-C2-O2 | 7.87 | 123.62 | 118.90 |
| 35 | BA | 833 | G | C4'-C3'-C2' | -7.87 | 94.73 | 102.60 |
| 35 | BA | 913 | A | C2-N3-C4 | 7.87 | 114.54 | 110.60 |
| 35 | BA | 1442 | G | C2-N3-C4 | 7.87 | 115.84 | 111.90 |
| 2 | AB | 19 | A | C4-C5-C6 | 7.87 | 120.94 | 117.00 |
| 2 | AB | 1929 | G | N1-C2-N3 | -7.87 | 119.18 | 123.90 |
| 2 | AB | 2164 | C | N3-C4-N4 | 7.87 | 123.51 | 118.00 |
| 2 | AB | 2203 | U | C5'-C4'-O4' | 7.87 | 118.55 | 109.10 |
| 2 | AB | 2241 | A | C5-C6-N6 | 7.87 | 130.00 | 123.70 |
| 2 | AB | 2777 | G | N3-C4-N9 | 7.87 | 130.72 | 126.00 |
| 35 | BA | 1187 | G | O4'-C1'-N9 | 7.87 | 114.50 | 108.20 |
| 36 | BB | 22 | G | C2'-C3'-O3' | 7.87 | 126.82 | 109.50 |
| 2 | AB | 1048 | A | N7-C8-N9 | 7.87 | 117.73 | 113.80 |
| 2 | AB | 1889 | A | C8-N9-C4 | -7.87 | 102.65 | 105.80 |
| 35 | BA | 1185 | G | C8-N9-C4 | -7.87 | 103.25 | 106.40 |
| 2 | AB | 369 | U | C5'-C4'-O4' | 7.87 | 118.54 | 109.10 |
| 2 | AB | 2716 | C | N1-C1'-C2' | -7.87 | 103.34 | 112.00 |
| 2 | AB | 2758 | A | N9-C4-C5 | 7.87 | 108.95 | 105.80 |
| 2 | AB | 2857 | G | O4'-C1'-N9 | 7.87 | 114.50 | 108.20 |
| 2 | AB | 2861 | U | C5'-C4'-O4' | 7.87 | 118.54 | 109.10 |
| 35 | BA | 585 | G | N3-C4-N9 | 7.87 | 130.72 | 126.00 |
| 35 | BA | 1275 | A | N1-C6-N6 | 7.87 | 123.32 | 118.60 |
| 2 | AB | 2254 | C | C4-C5-C6 | 7.87 | 121.33 | 117.40 |
| 35 | BA | 601 | G | N3-C4-C5 | -7.87 | 124.67 | 128.60 |
| 1 | AA | 99 | A | N9-C4-C5 | 7.87 | 108.95 | 105.80 |
| 2 | AB | 886 | A | N7-C8-N9 | 7.87 | 117.73 | 113.80 |
| 2 | AB | 1738 | G | O4'-C1'-N9 | 7.87 | 114.49 | 108.20 |
| 2 | AB | 2363 | G | C2-N3-C4 | 7.87 | 115.83 | 111.90 |
| 2 | AB | 2409 | G | N1-C2-N2 | 7.87 | 123.28 | 116.20 |
| 2 | AB | 2502 | G | C5-C6-N1 | 7.87 | 115.43 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2768 | U | C6-N1-C2 | -7.87 | 116.28 | 121.00 |
| 2 | AB | 2876 | G | N3-C4-C5 | -7.87 | 124.67 | 128.60 |
| 35 | BA | 152 | A | N7-C8-N9 | -7.87 | 109.87 | 113.80 |
| 2 | AB | 86 | G | C5-C6-O6 | 7.86 | 133.32 | 128.60 |
| 2 | AB | 635 | C | C5'-C4'-O4' | 7.86 | 118.53 | 109.10 |
| 35 | BA | 224 | U | C3'-C2'-C1' | 7.86 | 107.79 | 101.50 |
| 35 | BA | 467 | U | O4'-C1'-N1 | 7.86 | 114.49 | 108.20 |
| 35 | BA | 1233 | G | N1-C2-N3 | -7.86 | 119.18 | 123.90 |
| 38 | BD | 94 | ARG | NE-CZ-NH2 | 7.86 | 124.23 | 120.30 |
| 2 | AB | 244 | A | N1-C6-N6 | -7.86 | 113.88 | 118.60 |
| 35 | BA | 9 | G | O4'-C4'-C3' | 7.86 | 112.39 | 106.10 |
| 36 | BB | 35 | G | N9-C1'-C2' | -7.86 | 103.35 | 112.00 |
| 2 | AB | 335 | C | N3-C4-N4 | 7.86 | 123.50 | 118.00 |
| 2 | AB | 630 | G | C5-N7-C8 | -7.86 | 100.37 | 104.30 |
| 2 | AB | 967 | U | N1-C2-O2 | -7.86 | 117.30 | 122.80 |
| 2 | AB | 1056 | G | N7-C8-N9 | 7.86 | 117.03 | 113.10 |
| 2 | AB | 2314 | A | N3-C4-C5 | 7.86 | 132.30 | 126.80 |
| 2 | AB | 2388 | A | C6-N1-C2 | 7.86 | 123.32 | 118.60 |
| 2 | AB | 2538 | C | C3'-C2'-C1' | -7.86 | 95.21 | 101.50 |
| 2 | AB | 2699 | C | C2-N3-C4 | 7.86 | 123.83 | 119.90 |
| 2 | AB | 2705 | A | C2-N3-C4 | 7.86 | 114.53 | 110.60 |
| 2 | AB | 2848 | G | C4-C5-C6 | 7.86 | 123.52 | 118.80 |
| 2 | AB | 2883 | A | C4-C5-C6 | 7.86 | 120.93 | 117.00 |
| 35 | BA | 553 | A | C1'-O4'-C4' | 7.86 | 116.19 | 109.90 |
| 35 | BA | 723 | U | N3-C4-C5 | -7.86 | 109.88 | 114.60 |
| 35 | BA | 1382 | C | C4-C5-C6 | 7.86 | 121.33 | 117.40 |
| 36 | BB | 35 | G | C8-N9-C4 | -7.86 | 103.26 | 106.40 |
| 36 | BB | 38 | G | C4-C5-N7 | -7.86 | 107.66 | 110.80 |
| 2 | AB | 108 | G | C6-N1-C2 | -7.86 | 120.38 | 125.10 |
| 2 | AB | 595 | C | N1-C2-O2 | 7.86 | 123.62 | 118.90 |
| 2 | AB | 943 | A | N1-C2-N3 | -7.86 | 125.37 | 129.30 |
| 2 | AB | 2704 | C | N3-C4-N4 | 7.86 | 123.50 | 118.00 |
| 35 | BA | 1278 | G | N3-C4-C5 | 7.86 | 132.53 | 128.60 |
| 37 | BC | 28 | U | N3-C2-O2 | -7.86 | 116.70 | 122.20 |
| 1 | AA | 112 | G | N1-C2-N3 | -7.86 | 119.19 | 123.90 |
| 2 | AB | 1623 | G | N7-C8-N9 | 7.86 | 117.03 | 113.10 |
| 2 | AB | 1736 | U | O4'-C1'-N1 | 7.86 | 114.49 | 108.20 |
| 2 | AB | 2577 | A | C5-N7-C8 | 7.86 | 107.83 | 103.90 |
| 35 | BA | 989 | U | N3-C2-O2 | 7.86 | 127.70 | 122.20 |
| 35 | BA | 1137 | C | N3-C2-O2 | -7.86 | 116.40 | 121.90 |
| 35 | BA | 1502 | A | N1-C6-N6 | 7.86 | 123.31 | 118.60 |
| 2 | AB | 359 | G | O4'-C1'-N9 | 7.86 | 114.48 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1439 | A | N1-C6-N6 | -7.86 | 113.89 | 118.60 |
| 2 | AB | 2859 | G | C5-N7-C8 | -7.86 | 100.37 | 104.30 |
| 35 | BA | 38 | G | O4'-C1'-N9 | 7.86 | 114.48 | 108.20 |
| 35 | BA | 1215 | G | O4'-C1'-C2' | 7.86 | 114.67 | 107.60 |
| 35 | BA | 1362 | A | C8-N9-C4 | -7.86 | 102.66 | 105.80 |
| 2 | AB | 2326 | C | N3-C4-C5 | 7.85 | 125.04 | 121.90 |
| 35 | BA | 742 | G | O4'-C1'-N9 | 7.85 | 114.48 | 108.20 |
| 2 | AB | 860 | U | C2-N3-C4 | -7.85 | 122.29 | 127.00 |
| 2 | AB | 1949 | G | N9-C4-C5 | -7.85 | 102.26 | 105.40 |
| 2 | AB | 2020 | A | P-O3'-C3' | 7.85 | 129.12 | 119.70 |
| 2 | AB | 2817 | U | O4'-C1'-N1 | 7.85 | 114.48 | 108.20 |
| 35 | BA | 500 | G | C5-N7-C8 | -7.85 | 100.37 | 104.30 |
| 35 | BA | 535 | A | C4-C5-N7 | -7.85 | 106.77 | 110.70 |
| 36 | BB | 20 | G | C2-N3-C4 | 7.85 | 115.83 | 111.90 |
| 35 | BA | 439 | U | C5-C6-N1 | -7.85 | 118.77 | 122.70 |
| 35 | BA | 773 | G | N3-C4-N9 | 7.85 | 130.71 | 126.00 |
| 35 | BA | 987 | G | C8-N9-C4 | -7.85 | 103.26 | 106.40 |
| 2 | AB | 709 | U | C6-N1-C2 | -7.85 | 116.29 | 121.00 |
| 2 | AB | 1190 | G | C5'-C4'-O4' | 7.85 | 118.52 | 109.10 |
| 2 | AB | 1935 | G | N9-C4-C5 | 7.85 | 108.54 | 105.40 |
| 2 | AB | 2148 | G | C8-N9-C4 | -7.85 | 103.26 | 106.40 |
| 35 | BA | 256 | U | C4-C5-C6 | 7.85 | 124.41 | 119.70 |
| 35 | BA | 401 | C | C6-N1-C2 | 7.85 | 123.44 | 120.30 |
| 35 | BA | 560 | A | O4'-C1'-N9 | 7.85 | 114.48 | 108.20 |
| 35 | BA | 1033 | G | N3-C4-C5 | -7.85 | 124.67 | 128.60 |
| 35 | BA | 1493 | A | C8-N9-C4 | -7.85 | 102.66 | 105.80 |
| 2 | AB | 971 | G | C8-N9-C1' | 7.85 | 137.20 | 127.00 |
| 2 | AB | 1235 | G | N1-C6-O6 | 7.85 | 124.61 | 119.90 |
| 2 | AB | 1301 | A | C2-N3-C4 | 7.85 | 114.52 | 110.60 |
| 2 | AB | 1505 | A | N1-C2-N3 | -7.85 | 125.38 | 129.30 |
| 2 | AB | 1635 | A | O4'-C1'-N9 | 7.85 | 114.48 | 108.20 |
| 2 | AB | 2210 | U | C5-C4-O4 | 7.85 | 130.61 | 125.90 |
| 35 | BA | 9 | G | C4'-C3'-C2' | -7.85 | 94.75 | 102.60 |
| 35 | BA | 478 | A | O4'-C1'-N9 | 7.85 | 114.48 | 108.20 |
| 35 | BA | 666 | G | C4-C5-N7 | 7.85 | 113.94 | 110.80 |
| 2 | AB | 97 | C | C3'-C2'-C1' | -7.85 | 95.22 | 101.50 |
| 2 | AB | 504 | A | N1-C2-N3 | 7.85 | 133.22 | 129.30 |
| 2 | AB | 520 | G | N3-C4-N9 | 7.85 | 130.71 | 126.00 |
| 2 | AB | 2400 | G | C6-N1-C2 | -7.85 | 120.39 | 125.10 |
| 35 | BA | 284 | C | N3-C4-C5 | 7.85 | 125.04 | 121.90 |
| 35 | BA | 1511 | G | N1-C6-O6 | -7.85 | 115.19 | 119.90 |
| 2 | AB | 252 | G | N1-C6-O6 | 7.84 | 124.61 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1192 | G | N1-C2-N2 | 7.84 | 123.26 | 116.20 |
| 2 | AB | 2607 | G | P-O3'-C3' | 7.84 | 129.11 | 119.70 |
| 2 | AB | 2630 | G | N3-C4-C5 | -7.84 | 124.68 | 128.60 |
| 35 | BA | 75 | G | C5-N7-C8 | -7.84 | 100.38 | 104.30 |
| 2 | AB | 207 | A | N9-C4-C5 | 7.84 | 108.94 | 105.80 |
| 2 | AB | 430 | A | C5-C6-N1 | 7.84 | 121.62 | 117.70 |
| 2 | AB | 436 | C | N3-C4-N4 | 7.84 | 123.49 | 118.00 |
| 2 | AB | 1913 | A | C1'-O4'-C4' | -7.84 | 103.63 | 109.90 |
| 2 | AB | 2650 | U | C5-C4-O4 | -7.84 | 121.19 | 125.90 |
| 2 | AB | 2819 | G | O4'-C1'-N9 | 7.84 | 114.47 | 108.20 |
| 2 | AB | 20 | C | C6-N1-C2 | -7.84 | 117.16 | 120.30 |
| 2 | AB | 609 | A | C4-C5-C6 | 7.84 | 120.92 | 117.00 |
| 2 | AB | 1452 | G | C4-C5-N7 | -7.84 | 107.66 | 110.80 |
| 2 | AB | 1803 | A | C8-N9-C4 | -7.84 | 102.66 | 105.80 |
| 2 | AB | 2173 | A | N1-C2-N3 | -7.84 | 125.38 | 129.30 |
| 2 | AB | 2493 | U | C5-C6-N1 | -7.84 | 118.78 | 122.70 |
| 2 | AB | 2578 | G | N9-C4-C5 | 7.84 | 108.54 | 105.40 |
| 35 | BA | 145 | G | N9-C4-C5 | 7.84 | 108.54 | 105.40 |
| 35 | BA | 539 | A | N9-C4-C5 | -7.84 | 102.66 | 105.80 |
| 2 | AB | 105 | C | C5-C4-N4 | 7.84 | 125.69 | 120.20 |
| 2 | AB | 371 | A | C1'-O4'-C4' | 7.84 | 116.17 | 109.90 |
| 2 | AB | 978 | G | C6-N1-C2 | -7.84 | 120.40 | 125.10 |
| 2 | AB | 2218 | G | C4-C5-N7 | 7.84 | 113.94 | 110.80 |
| 35 | BA | 233 | C | C5'-C4'-O4' | 7.84 | 118.51 | 109.10 |
| 35 | BA | 1043 | G | C2-N3-C4 | 7.84 | 115.82 | 111.90 |
| 36 | BB | 28 | U | O4'-C1'-N1 | 7.84 | 114.47 | 108.20 |
| 57 | BW | 65 | ARG | NE-CZ-NH1 | 7.84 | 124.22 | 120.30 |
| 2 | AB | 615 | U | N3-C2-O2 | -7.84 | 116.71 | 122.20 |
| 2 | AB | 1211 | C | C2-N3-C4 | 7.84 | 123.82 | 119.90 |
| 2 | AB | 2182 | U | N3-C4-C5 | -7.84 | 109.90 | 114.60 |
| 2 | AB | 2590 | A | C8-N9-C4 | -7.84 | 102.67 | 105.80 |
| 2 | AB | 2862 | G | C2-N3-C4 | 7.84 | 115.82 | 111.90 |
| 35 | BA | 844 | G | N9-C4-C5 | 7.84 | 108.53 | 105.40 |
| 2 | AB | 976 | G | N3-C2-N2 | 7.84 | 125.39 | 119.90 |
| 2 | AB | 1252 | G | N7-C8-N9 | -7.84 | 109.18 | 113.10 |
| 2 | AB | 2255 | G | C5-C6-O6 | 7.84 | 133.30 | 128.60 |
| 35 | BA | 254 | G | C5-C6-O6 | -7.84 | 123.90 | 128.60 |
| 35 | BA | 429 | U | C4-C5-C6 | 7.84 | 124.40 | 119.70 |
| 35 | BA | 941 | G | C2-N3-C4 | 7.84 | 115.82 | 111.90 |
| 35 | BA | 1321 | U | N3-C4-C5 | -7.84 | 109.90 | 114.60 |
| 2 | AB | 151 | C | P-O3'-C3' | 7.83 | 129.10 | 119.70 |
| 2 | AB | 1235 | G | O4'-C4'-C3' | 7.83 | 112.37 | 106.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 971 | G | C1'-O4'-C4' | -7.83 | 103.63 | 109.90 |
| 57 | BW | 1 | PRO | CA-N-CD | -7.83 | 100.53 | 111.50 |
| 2 | AB | 1718 | G | O4'-C1'-N9 | -7.83 | 101.93 | 108.20 |
| 2 | AB | 1910 | G | C5-C6-O6 | -7.83 | 123.90 | 128.60 |
| 2 | AB | 2024 | G | C8-N9-C4 | -7.83 | 103.27 | 106.40 |
| 2 | AB | 2722 | G | O4'-C1'-N9 | 7.83 | 114.47 | 108.20 |
| 2 | AB | 2861 | U | C6-N1-C2 | -7.83 | 116.30 | 121.00 |
| 2 | AB | 2874 | C | C5-C4-N4 | -7.83 | 114.72 | 120.20 |
| 35 | BA | 1340 | A | N7-C8-N9 | -7.83 | 109.88 | 113.80 |
| 42 | BH | 24 | ARG | NE-CZ-NH1 | 7.83 | 124.22 | 120.30 |
| 2 | AB | 513 | A | C4-C5-N7 | -7.83 | 106.78 | 110.70 |
| 2 | AB | 906 | U | O4'-C1'-N1 | 7.83 | 114.47 | 108.20 |
| 2 | AB | 1090 | A | N9-C4-C5 | 7.83 | 108.93 | 105.80 |
| 2 | AB | 1826 | G | N3-C2-N2 | 7.83 | 125.38 | 119.90 |
| 2 | AB | 2247 | A | C4'-C3'-C2' | -7.83 | 94.77 | 102.60 |
| 2 | AB | 2527 | C | C5-C4-N4 | 7.83 | 125.68 | 120.20 |
| 2 | AB | 2699 | C | N3-C4-C5 | -7.83 | 118.77 | 121.90 |
| 35 | BA | 1145 | A | N1-C2-N3 | -7.83 | 125.38 | 129.30 |
| 2 | AB | 1002 | G | N7-C8-N9 | -7.83 | 109.19 | 113.10 |
| 2 | AB | 1621 | U | C4'-C3'-C2' | -7.83 | 94.77 | 102.60 |
| 7 | AG | 30 | VAL | CA-CB-CG1 | 7.83 | 122.65 | 110.90 |
| 35 | BA | 301 | G | N1-C2-N3 | 7.83 | 128.60 | 123.90 |
| 35 | BA | 325 | A | C8-N9-C4 | -7.83 | 102.67 | 105.80 |
| 2 | AB | 408 | G | C5-N7-C8 | -7.83 | 100.39 | 104.30 |
| 2 | AB | 618 | G | C4-C5-N7 | -7.83 | 107.67 | 110.80 |
| 2 | AB | 1079 | C | C2-N3-C4 | 7.83 | 123.81 | 119.90 |
| 2 | AB | 1196 | C | C6-N1-C2 | 7.83 | 123.43 | 120.30 |
| 2 | AB | 1361 | G | N9-C4-C5 | -7.83 | 102.27 | 105.40 |
| 2 | AB | 1383 | A | C4-C5-C6 | 7.83 | 120.91 | 117.00 |
| 2 | AB | 1396 | U | P-O3'-C3' | 7.83 | 129.09 | 119.70 |
| 2 | AB | 1815 | A | O4'-C1'-N9 | 7.83 | 114.46 | 108.20 |
| 2 | AB | 2266 | A | N9-C4-C5 | -7.83 | 102.67 | 105.80 |
| 2 | AB | 2487 | G | N1-C2-N3 | -7.83 | 119.20 | 123.90 |
| 35 | BA | 301 | G | C6-N1-C2 | -7.83 | 120.40 | 125.10 |
| 35 | BA | 698 | G | C5-C6-O6 | 7.83 | 133.30 | 128.60 |
| 2 | AB | 570 | G | N9-C4-C5 | -7.83 | 102.27 | 105.40 |
| 1 | AA | 105 | G | C4-C5-C6 | 7.83 | 123.50 | 118.80 |
| 2 | AB | 1074 | G | C6-C5-N7 | 7.83 | 135.09 | 130.40 |
| 2 | AB | 1435 | G | C5-C6-O6 | -7.83 | 123.91 | 128.60 |
| 2 | AB | 1726 | C | N1-C2-N3 | -7.83 | 113.72 | 119.20 |
| 2 | AB | 2360 | G | C6-N1-C2 | -7.83 | 120.40 | 125.10 |
| 35 | BA | 1018 | G | C4-C5-C6 | -7.83 | 114.11 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1262 | C | N3-C4-C5 | -7.83 | 118.77 | 121.90 |
| 37 | BC | 57 | C | C6-N1-C2 | -7.83 | 117.17 | 120.30 |
| 46 | BL | 9 | ARG | NE-CZ-NH2 | 7.83 | 124.21 | 120.30 |
| 48 | BN | 94 | TYR | CB-CG-CD1 | -7.83 | 116.31 | 121.00 |
| 2 | AB | 36 | G | N3-C4-N9 | 7.82 | 130.69 | 126.00 |
| 2 | AB | 822 | G | C5-C6-N1 | 7.82 | 115.41 | 111.50 |
| 2 | AB | 2152 | G | C5'-C4'-C3' | -7.82 | 103.48 | 116.00 |
| 35 | BA | 208 | U | O4'-C4'-C3' | 7.82 | 112.36 | 106.10 |
| 35 | BA | 399 | G | N3-C4-C5 | -7.82 | 124.69 | 128.60 |
| 35 | BA | 1169 | A | C8-N9-C4 | 7.82 | 108.93 | 105.80 |
| 37 | BC | 20 | G | C5-C6-O6 | 7.82 | 133.29 | 128.60 |
| 57 | BW | 32 | ARG | NE-CZ-NH2 | 7.82 | 124.21 | 120.30 |
| 2 | AB | 1645 | G | N3-C4-C5 | -7.82 | 124.69 | 128.60 |
| 2 | AB | 1723 | G | C8-N9-C4 | -7.82 | 103.27 | 106.40 |
| 2 | AB | 479 | A | N1-C2-N3 | 7.82 | 133.21 | 129.30 |
| 2 | AB | 1173 | U | C4-C5-C6 | 7.82 | 124.39 | 119.70 |
| 2 | AB | 1746 | A | C6-C5-N7 | -7.82 | 126.83 | 132.30 |
| 2 | AB | 2245 | U | N3-C2-O2 | -7.82 | 116.72 | 122.20 |
| 35 | BA | 427 | U | C3'-C2'-C1' | -7.82 | 95.24 | 101.50 |
| 35 | BA | 593 | U | O4'-C1'-N1 | 7.82 | 114.46 | 108.20 |
| 35 | BA | 1190 | G | C2-N3-C4 | 7.82 | 115.81 | 111.90 |
| 35 | BA | 1204 | A | N3-C4-C5 | -7.82 | 121.33 | 126.80 |
| 2 | AB | 1631 | G | N9-C4-C5 | -7.82 | 102.27 | 105.40 |
| 2 | AB | 1711 | A | C5'-C4'-O4' | 7.82 | 118.48 | 109.10 |
| 2 | AB | 1992 | G | C2-N3-C4 | 7.82 | 115.81 | 111.90 |
| 35 | BA | 295 | C | C2-N1-C1' | -7.82 | 110.20 | 118.80 |
| 35 | BA | 1280 | A | C5-N7-C8 | -7.82 | 99.99 | 103.90 |
| 35 | BA | 1286 | U | C6-N1-C2 | -7.82 | 116.31 | 121.00 |
| 35 | BA | 1293 | C | C4-C5-C6 | -7.82 | 113.49 | 117.40 |
| 51 | BQ | 83 | ARG | NE-CZ-NH2 | 7.82 | 124.21 | 120.30 |
| 2 | AB | 50 | U | O4'-C1'-N1 | 7.82 | 114.45 | 108.20 |
| 2 | AB | 1016 | G | C5-C6-O6 | -7.82 | 123.91 | 128.60 |
| 2 | AB | 1360 | G | N1-C2-N3 | -7.82 | 119.21 | 123.90 |
| 2 | AB | 1950 | G | C5'-C4'-C3' | -7.82 | 103.49 | 116.00 |
| 2 | AB | 2066 | C | C2-N3-C4 | 7.82 | 123.81 | 119.90 |
| 2 | AB | 2319 | G | C3'-C2'-C1' | -7.82 | 95.25 | 101.50 |
| 2 | AB | 2846 | G | C5-C6-O6 | -7.82 | 123.91 | 128.60 |
| 2 | AB | 2862 | G | N9-C4-C5 | 7.82 | 108.53 | 105.40 |
| 35 | BA | 113 | G | C5-C6-N1 | 7.82 | 115.41 | 111.50 |
| 35 | BA | 506 | G | N7-C8-N9 | 7.82 | 117.01 | 113.10 |
| 2 | AB | 98 | G | N3-C4-C5 | -7.82 | 124.69 | 128.60 |
| 2 | AB | 734 | A | C2-N3-C4 | -7.82 | 106.69 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 834 | G | C1'-O4'-C4' | 7.82 | 116.15 | 109.90 |
| 2 | AB | 894 | U | N1-C1'-C2' | -7.82 | 103.40 | 112.00 |
| 2 | AB | 1294 | U | C4-C5-C6 | 7.82 | 124.39 | 119.70 |
| 2 | AB | 1821 | A | C6-C5-N7 | 7.82 | 137.77 | 132.30 |
| 2 | AB | 2112 | G | C6-C5-N7 | 7.82 | 135.09 | 130.40 |
| 6 | AF | 60 | TRP | NE1-CE2-CD2 | -7.82 | 99.48 | 107.30 |
| 35 | BA | 507 | C | C6-N1-C2 | -7.82 | 117.17 | 120.30 |
| 35 | BA | 972 | C | C2-N1-C1' | -7.82 | 110.20 | 118.80 |
| 2 | AB | 335 | C | C2-N3-C4 | 7.81 | 123.81 | 119.90 |
| 35 | BA | 502 | A | C4-C5-N7 | -7.81 | 106.79 | 110.70 |
| 2 | AB | 627 | A | N9-C1'-C2' | -7.81 | 103.41 | 112.00 |
| 2 | AB | 758 | C | N3-C4-C5 | -7.81 | 118.78 | 121.90 |
| 2 | AB | 875 | G | C5-C6-N1 | -7.81 | 107.59 | 111.50 |
| 2 | AB | 1394 | U | N1-C2-O2 | 7.81 | 128.27 | 122.80 |
| 2 | AB | 1559 | U | C5-C4-O4 | -7.81 | 121.21 | 125.90 |
| 2 | AB | 1728 | C | C5-C4-N4 | 7.81 | 125.67 | 120.20 |
| 2 | AB | 1772 | A | C5-C6-N1 | 7.81 | 121.61 | 117.70 |
| 2 | AB | 2623 | G | C5'-C4'-O4' | 7.81 | 118.47 | 109.10 |
| 35 | BA | 160 | A | N7-C8-N9 | 7.81 | 117.71 | 113.80 |
| 35 | BA | 627 | G | O4'-C1'-N9 | 7.81 | 114.45 | 108.20 |
| 35 | BA | 1351 | U | N1-C1'-C2' | -7.81 | 103.41 | 112.00 |
| 2 | AB | 1809 | A | C5-N7-C8 | -7.81 | 100.00 | 103.90 |
| 2 | AB | 2890 | G | N3-C4-C5 | -7.81 | 124.69 | 128.60 |
| 2 | AB | 431 | U | N1-C2-N3 | 7.81 | 119.59 | 114.90 |
| 2 | AB | 963 | U | C4'-C3'-C2' | -7.81 | 94.79 | 102.60 |
| 2 | AB | 2744 | G | O4'-C1'-N9 | 7.81 | 114.45 | 108.20 |
| 35 | BA | 572 | A | N9-C4-C5 | -7.81 | 102.68 | 105.80 |
| 2 | AB | 31 | C | N1-C2-O2 | 7.81 | 123.58 | 118.90 |
| 2 | AB | 577 | G | C2-N3-C4 | 7.81 | 115.80 | 111.90 |
| 2 | AB | 921 | C | N3-C4-N4 | 7.81 | 123.47 | 118.00 |
| 2 | AB | 1319 | C | C2-N3-C4 | 7.81 | 123.80 | 119.90 |
| 2 | AB | 2277 | G | N3-C2-N2 | -7.81 | 114.43 | 119.90 |
| 2 | AB | 2523 | G | C6-C5-N7 | -7.81 | 125.72 | 130.40 |
| 35 | BA | 903 | G | C8-N9-C4 | -7.81 | 103.28 | 106.40 |
| 37 | BC | 45 | A | C5-N7-C8 | 7.81 | 107.80 | 103.90 |
| 35 | BA | 223 | A | C5-N7-C8 | -7.81 | 100.00 | 103.90 |
| 35 | BA | 529 | G | N7-C8-N9 | 7.81 | 117.00 | 113.10 |
| 35 | BA | 1119 | C | C5-C4-N4 | 7.81 | 125.66 | 120.20 |
| 2 | AB | 84 | A | N1-C6-N6 | -7.80 | 113.92 | 118.60 |
| 2 | AB | 504 | A | N7-C8-N9 | -7.80 | 109.90 | 113.80 |
| 2 | AB | 1747 | U | N1-C2-O2 | 7.80 | 128.26 | 122.80 |
| 2 | AB | 1924 | C | C3'-C2'-C1' | 7.80 | 107.74 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2015 | A | C5'-C4'-O4' | -7.80 | 99.73 | 109.10 |
| 2 | AB | 2757 | A | C8-N9-C4 | 7.80 | 108.92 | 105.80 |
| 35 | BA | 102 | G | O4'-C1'-N9 | 7.80 | 114.44 | 108.20 |
| 2 | AB | 2254 | C | O4'-C1'-N1 | 7.80 | 114.44 | 108.20 |
| 2 | AB | 700 | G | C5-C6-N1 | 7.80 | 115.40 | 111.50 |
| 2 | AB | 1863 | G | O4'-C1'-N9 | 7.80 | 114.44 | 108.20 |
| 2 | AB | 1877 | A | C4'-C3'-C2' | -7.80 | 94.80 | 102.60 |
| 2 | AB | 2182 | U | O4'-C1'-N1 | 7.80 | 114.44 | 108.20 |
| 2 | AB | 2394 | C | N1-C2-O2 | 7.80 | 123.58 | 118.90 |
| 2 | AB | 2831 | G | C6-C5-N7 | -7.80 | 125.72 | 130.40 |
| 35 | BA | 921 | U | N1-C2-O2 | 7.80 | 128.26 | 122.80 |
| 35 | BA | 1337 | G | C4-C5-C6 | 7.80 | 123.48 | 118.80 |
| 35 | BA | 1529 | G | O4'-C1'-N9 | 7.80 | 114.44 | 108.20 |
| 46 | BL | 48 | ARG | NE-CZ-NH2 | -7.80 | 116.40 | 120.30 |
| 2 | AB | 148 | U | C4'-C3'-C2' | -7.80 | 94.80 | 102.60 |
| 2 | AB | 468 | G | C4-C5-N7 | -7.80 | 107.68 | 110.80 |
| 2 | AB | 1117 | C | C5'-C4'-O4' | 7.80 | 118.46 | 109.10 |
| 2 | AB | 1481 | U | C3'-C2'-C1' | -7.80 | 95.26 | 101.50 |
| 2 | AB | 1519 | G | N3-C4-C5 | -7.80 | 124.70 | 128.60 |
| 2 | AB | 1678 | A | C8-N9-C4 | -7.80 | 102.68 | 105.80 |
| 2 | AB | 2211 | A | N9-C4-C5 | 7.80 | 108.92 | 105.80 |
| 35 | BA | 342 | C | C4-C5-C6 | -7.80 | 113.50 | 117.40 |
| 35 | BA | 761 | G | C5-C6-O6 | -7.80 | 123.92 | 128.60 |
| 35 | BA | 1244 | G | C5-C6-N1 | 7.80 | 115.40 | 111.50 |
| 35 | BA | 1405 | G | C4-C5-N7 | -7.80 | 107.68 | 110.80 |
| 2 | AB | 608 | A | C5-C6-N6 | 7.80 | 129.94 | 123.70 |
| 2 | AB | 2723 | C | N1-C2-O2 | 7.80 | 123.58 | 118.90 |
| 35 | BA | 1415 | G | N3-C2-N2 | -7.80 | 114.44 | 119.90 |
| 35 | BA | 1533 | C | C5-C6-N1 | 7.80 | 124.90 | 121.00 |
| 2 | AB | 1290 | C | C4-C5-C6 | 7.80 | 121.30 | 117.40 |
| 2 | AB | 2068 | U | C2-N3-C4 | -7.80 | 122.32 | 127.00 |
| 35 | BA | 616 | G | C6-N1-C2 | -7.80 | 120.42 | 125.10 |
| 35 | BA | 1499 | A | N1-C2-N3 | 7.80 | 133.20 | 129.30 |
| 2 | AB | 1315 | C | C3'-C2'-C1' | 7.79 | 107.74 | 101.50 |
| 2 | AB | 2017 | U | C5-C4-O4 | -7.79 | 121.22 | 125.90 |
| 2 | AB | 233 | A | N9-C4-C5 | 7.79 | 108.92 | 105.80 |
| 2 | AB | 1087 | G | N3-C4-N9 | -7.79 | 121.32 | 126.00 |
| 2 | AB | 1702 | G | O4'-C1'-N9 | 7.79 | 114.44 | 108.20 |
| 2 | AB | 2577 | A | N1-C6-N6 | -7.79 | 113.92 | 118.60 |
| 35 | BA | 1 | A | C5-N7-C8 | -7.79 | 100.00 | 103.90 |
| 35 | BA | 357 | G | N9-C4-C5 | 7.79 | 108.52 | 105.40 |
| 1 | AA | 24 | G | O4'-C4'-C3' | 7.79 | 112.33 | 106.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 82 | U | N3-C2-O2 | -7.79 | 116.75 | 122.20 |
| 2 | AB | 386 | G | N1-C2-N2 | 7.79 | 123.21 | 116.20 |
| 2 | AB | 1421 | G | C2-N3-C4 | 7.79 | 115.80 | 111.90 |
| 2 | AB | 2136 | G | P-O5'-C5' | 7.79 | 133.37 | 120.90 |
| 2 | AB | 2336 | A | C8-N9-C4 | -7.79 | 102.68 | 105.80 |
| 2 | AB | 2383 | G | N3-C4-C5 | -7.79 | 124.70 | 128.60 |
| 35 | BA | 346 | G | C5-C6-N1 | -7.79 | 107.61 | 111.50 |
| 35 | BA | 444 | G | C5-N7-C8 | -7.79 | 100.40 | 104.30 |
| 35 | BA | 1048 | G | C5-C6-N1 | 7.79 | 115.39 | 111.50 |
| 2 | AB | 1023 | U | N3-C4-O4 | -7.79 | 113.95 | 119.40 |
| 2 | AB | 1532 | A | C8-N9-C4 | -7.79 | 102.68 | 105.80 |
| 2 | AB | 1768 | C | N3-C2-O2 | -7.79 | 116.45 | 121.90 |
| 2 | AB | 2435 | A | C6-N1-C2 | 7.79 | 123.27 | 118.60 |
| 2 | AB | 2645 | G | O4'-C4'-C3' | 7.79 | 112.33 | 106.10 |
| 35 | BA | 1373 | G | C4'-C3'-C2' | -7.79 | 94.81 | 102.60 |
| 2 | AB | 2410 | G | O4'-C1'-N9 | 7.79 | 114.43 | 108.20 |
| 35 | BA | 1449 | C | C5-C6-N1 | 7.79 | 124.89 | 121.00 |
| 35 | BA | 1527 | U | C5-C4-O4 | -7.79 | 121.23 | 125.90 |
| 2 | AB | 17 | G | P-O3'-C3' | 7.79 | 129.04 | 119.70 |
| 10 | AJ | 61 | ARG | NE-CZ-NH1 | 7.79 | 124.19 | 120.30 |
| 2 | AB | 80 | G | C8-N9-C4 | -7.79 | 103.28 | 106.40 |
| 2 | AB | 2112 | G | N3-C4-C5 | -7.79 | 124.71 | 128.60 |
| 2 | AB | 2582 | G | C5-C6-N1 | 7.79 | 115.39 | 111.50 |
| 35 | BA | 530 | G | C4-C5-N7 | -7.79 | 107.69 | 110.80 |
| 35 | BA | 572 | A | C6-C5-N7 | -7.79 | 126.85 | 132.30 |
| 35 | BA | 691 | G | N3-C4-C5 | -7.79 | 124.71 | 128.60 |
| 35 | BA | 1068 | G | N9-C4-C5 | 7.79 | 108.51 | 105.40 |
| 2 | AB | 1199 | U | O4'-C1'-N1 | 7.78 | 114.43 | 108.20 |
| 2 | AB | 2250 | G | C4-C5-N7 | 7.78 | 113.91 | 110.80 |
| 2 | AB | 2455 | G | N3-C2-N2 | -7.78 | 114.45 | 119.90 |
| 2 | AB | 2529 | G | C8-N9-C4 | -7.78 | 103.29 | 106.40 |
| 2 | AB | 2838 | G | N9-C4-C5 | 7.78 | 108.51 | 105.40 |
| 35 | BA | 67 | C | C4-C5-C6 | 7.78 | 121.29 | 117.40 |
| 2 | AB | 90 | U | O4'-C1'-N1 | 7.78 | 114.43 | 108.20 |
| 35 | BA | 237 | G | N3-C4-N9 | 7.78 | 130.67 | 126.00 |
| 2 | AB | 412 | A | N3-C4-N9 | 7.78 | 133.62 | 127.40 |
| 2 | AB | 1558 | C | C5-C6-N1 | -7.78 | 117.11 | 121.00 |
| 2 | AB | 2430 | A | C5-N7-C8 | 7.78 | 107.79 | 103.90 |
| 2 | AB | 2737 | G | O4'-C1'-N9 | 7.78 | 114.42 | 108.20 |
| 35 | BA | 173 | U | P-O3'-C3' | 7.78 | 129.04 | 119.70 |
| 35 | BA | 218 | U | N3-C4-O4 | 7.78 | 124.85 | 119.40 |
| 35 | BA | 959 | A | C3'-C2'-C1' | 7.78 | 107.72 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1084 | A | C5'-C4'-O4' | 7.78 | 118.44 | 109.10 |
| 35 | BA | 947 | G | O4'-C1'-N9 | 7.78 | 114.42 | 108.20 |
| 2 | AB | 453 | A | P-O3'-C3' | 7.78 | 129.03 | 119.70 |
| 2 | AB | 627 | A | C3'-C2'-C1' | -7.78 | 95.28 | 101.50 |
| 2 | AB | 1268 | A | N1-C6-N6 | -7.78 | 113.93 | 118.60 |
| 2 | AB | 2106 | U | C2-N3-C4 | -7.78 | 122.33 | 127.00 |
| 35 | BA | 1401 | G | N7-C8-N9 | 7.78 | 116.99 | 113.10 |
| 2 | AB | 247 | G | C5-C6-N1 | 7.78 | 115.39 | 111.50 |
| 2 | AB | 366 | C | O4'-C1'-N1 | 7.78 | 114.42 | 108.20 |
| 2 | AB | 978 | G | C4-C5-C6 | 7.78 | 123.47 | 118.80 |
| 2 | AB | 1280 | G | O4'-C4'-C3' | 7.78 | 112.32 | 106.10 |
| 2 | AB | 2022 | U | C5-C4-O4 | -7.78 | 121.23 | 125.90 |
| 2 | AB | 2031 | A | N1-C6-N6 | 7.78 | 123.27 | 118.60 |
| 35 | BA | 452 | A | C5-N7-C8 | -7.78 | 100.01 | 103.90 |
| 35 | BA | 577 | G | N3-C4-C5 | -7.78 | 124.71 | 128.60 |
| 35 | BA | 913 | A | N1-C2-N3 | -7.78 | 125.41 | 129.30 |
| 2 | AB | 2863 | C | N1-C2-O2 | 7.77 | 123.56 | 118.90 |
| 2 | AB | 441 | U | C4-C5-C6 | 7.77 | 124.36 | 119.70 |
| 2 | AB | 618 | G | N9-C4-C5 | 7.77 | 108.51 | 105.40 |
| 2 | AB | 660 | C | N3-C4-N4 | -7.77 | 112.56 | 118.00 |
| 2 | AB | 1218 | G | C8-N9-C4 | -7.77 | 103.29 | 106.40 |
| 2 | AB | 2060 | A | O4'-C1'-N9 | 7.77 | 114.42 | 108.20 |
| 2 | AB | 2341 | G | O4'-C1'-N9 | 7.77 | 114.42 | 108.20 |
| 35 | BA | 631 | C | O4'-C1'-N1 | 7.77 | 114.42 | 108.20 |
| 2 | AB | 874 | G | C5-C6-O6 | -7.77 | 123.94 | 128.60 |
| 2 | AB | 447 | A | C4-C5-N7 | 7.77 | 114.58 | 110.70 |
| 2 | AB | 2546 | U | O4'-C1'-N1 | 7.77 | 114.42 | 108.20 |
| 23 | AW | 28 | LEU | CB-CG-CD1 | -7.77 | 97.79 | 111.00 |
| 35 | BA | 469 | C | C5-C6-N1 | 7.77 | 124.89 | 121.00 |
| 35 | BA | 582 | C | C5-C4-N4 | 7.77 | 125.64 | 120.20 |
| 35 | BA | 730 | G | C8-N9-C4 | -7.77 | 103.29 | 106.40 |
| 35 | BA | 956 | U | C5-C6-N1 | -7.77 | 118.82 | 122.70 |
| 35 | BA | 970 | C | C4-C5-C6 | 7.77 | 121.28 | 117.40 |
| 2 | AB | 332 | A | C4-C5-C6 | -7.77 | 113.12 | 117.00 |
| 2 | AB | 444 | C | C4'-C3'-C2' | -7.77 | 94.83 | 102.60 |
| 2 | AB | 501 | A | C5-C6-N6 | -7.77 | 117.49 | 123.70 |
| 2 | AB | 1737 | G | N3-C4-C5 | -7.77 | 124.72 | 128.60 |
| 2 | AB | 1995 | U | O4'-C1'-N1 | 7.77 | 114.41 | 108.20 |
| 2 | AB | 2542 | A | C5-C6-N6 | -7.77 | 117.49 | 123.70 |
| 2 | AB | 2600 | A | N1-C6-N6 | -7.77 | 113.94 | 118.60 |
| 35 | BA | 749 | A | O4'-C1'-N9 | 7.77 | 114.41 | 108.20 |
| 35 | BA | 789 | U | O4'-C1'-N1 | 7.77 | 114.41 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 861 | G | C5-N7-C8 | -7.77 | 100.42 | 104.30 |
| 35 | BA | 1491 | G | C4-C5-N7 | -7.77 | 107.69 | 110.80 |
| 36 | BB | 20 | G | N1-C2-N3 | -7.77 | 119.24 | 123.90 |
| 2 | AB | 534 | U | C1'-O4'-C4' | 7.77 | 116.11 | 109.90 |
| 35 | BA | 145 | G | N3-C4-C5 | -7.77 | 124.72 | 128.60 |
| 2 | AB | 153 | U | C4'-C3'-C2' | -7.76 | 94.83 | 102.60 |
| 2 | AB | 1663 | G | N1-C2-N2 | 7.76 | 123.19 | 116.20 |
| 2 | AB | 2002 | G | N3-C2-N2 | -7.76 | 114.46 | 119.90 |
| 2 | AB | 607 | U | C3'-C2'-C1' | -7.76 | 95.29 | 101.50 |
| 2 | AB | 1527 | G | N1-C2-N2 | 7.76 | 123.19 | 116.20 |
| 2 | AB | 2812 | G | C4-C5-N7 | -7.76 | 107.69 | 110.80 |
| 2 | AB | 473 | G | C4-C5-N7 | -7.76 | 107.69 | 110.80 |
| 2 | AB | 700 | G | C5-C6-O6 | -7.76 | 123.94 | 128.60 |
| 2 | AB | 2024 | G | N9-C4-C5 | 7.76 | 108.50 | 105.40 |
| 37 | BC | 75 | C | O4'-C1'-N1 | 7.76 | 114.41 | 108.20 |
| 2 | AB | 58 | G | N3-C2-N2 | -7.76 | 114.47 | 119.90 |
| 2 | AB | 146 | A | C2-N3-C4 | 7.76 | 114.48 | 110.60 |
| 2 | AB | 217 | A | O4'-C4'-C3' | -7.76 | 96.24 | 104.00 |
| 2 | AB | 337 | C | O4'-C1'-N1 | 7.76 | 114.41 | 108.20 |
| 2 | AB | 1057 | A | C2-N3-C4 | 7.76 | 114.48 | 110.60 |
| 2 | AB | 2517 | C | N3-C4-C5 | 7.76 | 125.00 | 121.90 |
| 2 | AB | 2627 | G | C2-N3-C4 | 7.76 | 115.78 | 111.90 |
| 35 | BA | 226 | G | C5-N7-C8 | -7.76 | 100.42 | 104.30 |
| 35 | BA | 421 | U | N3-C4-C5 | -7.76 | 109.94 | 114.60 |
| 35 | BA | 936 | C | O4'-C1'-N1 | 7.76 | 114.41 | 108.20 |
| 2 | AB | 1478 | G | O4'-C1'-N9 | 7.76 | 114.41 | 108.20 |
| 2 | AB | 2008 | C | C3'-C2'-C1' | 7.76 | 107.71 | 101.50 |
| 26 | AZ | 77 | TYR | CB-CG-CD2 | 7.76 | 125.66 | 121.00 |
| 35 | BA | 1325 | C | C4'-C3'-C2' | -7.76 | 94.84 | 102.60 |
| 35 | BA | 1512 | U | C6-N1-C2 | -7.76 | 116.34 | 121.00 |
| 2 | AB | 433 | C | N3-C2-O2 | -7.76 | 116.47 | 121.90 |
| 35 | BA | 1385 | G | C4-C5-N7 | 7.76 | 113.90 | 110.80 |
| 2 | AB | 621 | A | O4'-C1'-N9 | 7.75 | 114.40 | 108.20 |
| 2 | AB | 2693 | G | C8-N9-C4 | 7.75 | 109.50 | 106.40 |
| 37 | BC | 41 | C | C1'-O4'-C4' | 7.75 | 116.10 | 109.90 |
| 2 | AB | 85 | G | C5-N7-C8 | 7.75 | 108.18 | 104.30 |
| 2 | AB | 1137 | G | N1-C6-O6 | 7.75 | 124.55 | 119.90 |
| 2 | AB | 1207 | C | N3-C2-O2 | -7.75 | 116.47 | 121.90 |
| 2 | AB | 1539 | U | C6-N1-C2 | -7.75 | 116.35 | 121.00 |
| 2 | AB | 1920 | C | N1-C2-O2 | 7.75 | 123.55 | 118.90 |
| 35 | BA | 25 | C | N3-C4-C5 | -7.75 | 118.80 | 121.90 |
| 35 | BA | 558 | G | C2-N3-C4 | 7.75 | 115.78 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 745 | G | C4-C5-C6 | 7.75 | 123.45 | 118.80 |
| 35 | BA | 1315 | U | N3-C2-O2 | -7.75 | 116.77 | 122.20 |
| 2 | AB | 4 | U | C5-C4-O4 | 7.75 | 130.55 | 125.90 |
| 2 | AB | 590 | A | N7-C8-N9 | -7.75 | 109.92 | 113.80 |
| 2 | AB | 1031 | G | C1'-O4'-C4' | -7.75 | 103.70 | 109.90 |
| 35 | BA | 1434 | A | C6-N1-C2 | 7.75 | 123.25 | 118.60 |
| 2 | AB | 1510 | G | N1-C2-N3 | -7.75 | 119.25 | 123.90 |
| 2 | AB | 1654 | A | C6-C5-N7 | 7.75 | 137.72 | 132.30 |
| 2 | AB | 1731 | G | C2-N3-C4 | 7.75 | 115.78 | 111.90 |
| 2 | AB | 248 | G | C5-C6-O6 | 7.75 | 133.25 | 128.60 |
| 2 | AB | 908 | C | O4'-C1'-N1 | 7.75 | 114.40 | 108.20 |
| 2 | AB | 1140 | C | C5-C4-N4 | -7.75 | 114.78 | 120.20 |
| 2 | AB | 1913 | A | O4'-C1'-N9 | 7.75 | 114.40 | 108.20 |
| 2 | AB | 2163 | A | C2-N3-C4 | 7.75 | 114.47 | 110.60 |
| 2 | AB | 2744 | G | C5'-C4'-O4' | 7.75 | 118.40 | 109.10 |
| 35 | BA | 938 | A | N1-C2-N3 | -7.75 | 125.42 | 129.30 |
| 35 | BA | 1084 | G | C4-C5-N7 | -7.75 | 107.70 | 110.80 |
| 2 | AB | 366 | C | N3-C4-C5 | 7.75 | 125.00 | 121.90 |
| 2 | AB | 2159 | G | N1-C2-N2 | 7.75 | 123.17 | 116.20 |
| 35 | BA | 927 | G | C6-N1-C2 | -7.75 | 120.45 | 125.10 |
| 35 | BA | 1167 | A | C5-C6-N1 | -7.75 | 113.83 | 117.70 |
| 44 | BJ | 12 | ARG | NE-CZ-NH2 | 7.75 | 124.17 | 120.30 |
| 2 | AB | 348 | A | N3-C4-C5 | 7.75 | 132.22 | 126.80 |
| 2 | AB | 549 | G | C3'-C2'-C1' | 7.75 | 107.70 | 101.50 |
| 2 | AB | 1119 | U | N3-C4-C5 | -7.75 | 109.95 | 114.60 |
| 2 | AB | 1377 | G | C6-C5-N7 | -7.75 | 125.75 | 130.40 |
| 2 | AB | 2697 | G | N3-C4-N9 | 7.75 | 130.65 | 126.00 |
| 2 | AB | 2814 | A | O4'-C1'-N9 | 7.75 | 114.40 | 108.20 |
| 7 | AG | 70 | ARG | NE-CZ-NH2 | 7.75 | 124.17 | 120.30 |
| 19 | AS | 2 | ARG | NE-CZ-NH1 | -7.75 | 116.43 | 120.30 |
| 2 | AB | 908 | C | C6-N1-C2 | -7.74 | 117.20 | 120.30 |
| 2 | AB | 1510 | G | C3'-C2'-C1' | -7.74 | 95.31 | 101.50 |
| 35 | BA | 612 | C | C5-C6-N1 | -7.74 | 117.13 | 121.00 |
| 2 | AB | 152 | A | C4-C5-C6 | 7.74 | 120.87 | 117.00 |
| 2 | AB | 857 | G | N1-C2-N3 | 7.74 | 128.54 | 123.90 |
| 2 | AB | 1496 | A | C5-N7-C8 | 7.74 | 107.77 | 103.90 |
| 2 | AB | 1715 | G | O4'-C1'-N9 | 7.74 | 114.39 | 108.20 |
| 35 | BA | 802 | A | C4-C5-N7 | -7.74 | 106.83 | 110.70 |
| 2 | AB | 1846 | G | C5-N7-C8 | 7.74 | 108.17 | 104.30 |
| 2 | AB | 1995 | U | C5-C4-O4 | 7.74 | 130.54 | 125.90 |
| 2 | AB | 2778 | A | N1-C2-N3 | -7.74 | 125.43 | 129.30 |
| 35 | BA | 649 | A | C4-C5-N7 | -7.74 | 106.83 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 690 | G | N9-C4-C5 | 7.74 | 108.50 | 105.40 |
| 35 | BA | 899 | C | C6-N1-C2 | -7.74 | 117.20 | 120.30 |
| 35 | BA | 1262 | C | N1-C2-O2 | 7.74 | 123.54 | 118.90 |
| 2 | AB | 1007 | C | C6-N1-C2 | 7.74 | 123.40 | 120.30 |
| 2 | AB | 1045 | C | N3-C4-N4 | -7.74 | 112.58 | 118.00 |
| 2 | AB | 1350 | C | C6-N1-C2 | -7.74 | 117.20 | 120.30 |
| 2 | AB | 1401 | G | C5-C6-O6 | -7.74 | 123.96 | 128.60 |
| 2 | AB | 1580 | A | C4-C5-N7 | 7.74 | 114.57 | 110.70 |
| 2 | AB | 1609 | A | C6-N1-C2 | 7.74 | 123.24 | 118.60 |
| 35 | BA | 181 | A | C1'-O4'-C4' | -7.74 | 103.71 | 109.90 |
| 2 | AB | 102 | U | C2-N3-C4 | -7.74 | 122.36 | 127.00 |
| 2 | AB | 380 | G | N7-C8-N9 | -7.74 | 109.23 | 113.10 |
| 2 | AB | 930 | G | C4'-C3'-C2' | -7.74 | 94.86 | 102.60 |
| 2 | AB | 1315 | C | C1'-O4'-C4' | 7.74 | 116.09 | 109.90 |
| 2 | AB | 2411 | A | C4-C5-C6 | -7.74 | 113.13 | 117.00 |
| 2 | AB | 741 | U | N1-C2-N3 | 7.74 | 119.54 | 114.90 |
| 2 | AB | 2633 | G | O4'-C1'-N9 | 7.74 | 114.39 | 108.20 |
| 35 | BA | 643 | C | C4'-C3'-C2' | -7.74 | 94.86 | 102.60 |
| 35 | BA | 1412 | C | N3-C4-N4 | 7.74 | 123.42 | 118.00 |
| 36 | BB | 57 | C | C2-N3-C4 | 7.74 | 123.77 | 119.90 |
| 35 | BA | 1157 | A | O4'-C1'-N9 | 7.73 | 114.39 | 108.20 |
| 2 | AB | 183 | C | O4'-C1'-N1 | 7.73 | 114.39 | 108.20 |
| 2 | AB | 533 | G | C2-N3-C4 | 7.73 | 115.77 | 111.90 |
| 2 | AB | 1497 | U | C1'-O4'-C4' | -7.73 | 103.71 | 109.90 |
| 2 | AB | 1516 | G | C1'-O4'-C4' | 7.73 | 116.09 | 109.90 |
| 2 | AB | 1560 | G | C5-N7-C8 | -7.73 | 100.43 | 104.30 |
| 2 | AB | 1633 | G | N3-C4-C5 | -7.73 | 124.73 | 128.60 |
| 2 | AB | 2340 | A | N1-C6-N6 | 7.73 | 123.24 | 118.60 |
| 35 | BA | 926 | G | C3'-C2'-C1' | 7.73 | 107.69 | 101.50 |
| 35 | BA | 1058 | G | C5'-C4'-O4' | 7.73 | 118.38 | 109.10 |
| 2 | AB | 46 | G | C2-N3-C4 | 7.73 | 115.77 | 111.90 |
| 2 | AB | 1037 | G | N3-C4-C5 | -7.73 | 124.73 | 128.60 |
| 2 | AB | 1821 | A | C5-N7-C8 | 7.73 | 107.77 | 103.90 |
| 2 | AB | 2182 | U | N1-C2-O2 | -7.73 | 117.39 | 122.80 |
| 2 | AB | 2601 | C | C5-C4-N4 | -7.73 | 114.79 | 120.20 |
| 9 | AI | 134 | VAL | CA-CB-CG2 | 7.73 | 122.50 | 110.90 |
| 35 | BA | 775 | G | C4-C5-N7 | -7.73 | 107.71 | 110.80 |
| 35 | BA | 910 | C | N3-C4-N4 | 7.73 | 123.41 | 118.00 |
| 35 | BA | 954 | G | C5-N7-C8 | -7.73 | 100.44 | 104.30 |
| 35 | BA | 1309 | G | C2-N3-C4 | 7.73 | 115.77 | 111.90 |
| 48 | BN | 65 | TYR | CG-CD1-CE1 | -7.73 | 115.12 | 121.30 |
| 48 | BN | 113 | ARG | NE-CZ-NH1 | -7.73 | 116.44 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1262 | A | C4-C5-N7 | -7.73 | 106.83 | 110.70 |
| 2 | AB | 2071 | A | C5'-C4'-O4' | 7.73 | 118.38 | 109.10 |
| 2 | AB | 2255 | G | C4-C5-N7 | -7.73 | 107.71 | 110.80 |
| 35 | BA | 46 | G | N1-C6-O6 | -7.73 | 115.26 | 119.90 |
| 1 | AA | 87 | U | O4'-C1'-N1 | 7.73 | 114.38 | 108.20 |
| 2 | AB | 778 | G | O4'-C1'-N9 | 7.73 | 114.38 | 108.20 |
| 2 | AB | 1887 | C | C5'-C4'-O4' | 7.73 | 118.37 | 109.10 |
| 2 | AB | 2252 | G | O4'-C1'-N9 | 7.73 | 114.38 | 108.20 |
| 2 | AB | 2763 | G | C4'-C3'-C2' | -7.73 | 94.87 | 102.60 |
| 35 | BA | 510 | A | C8-N9-C4 | -7.73 | 102.71 | 105.80 |
| 35 | BA | 958 | A | N1-C2-N3 | -7.73 | 125.44 | 129.30 |
| 35 | BA | 1089 | G | C5-N7-C8 | 7.73 | 108.16 | 104.30 |
| 35 | BA | 1179 | A | C5'-C4'-O4' | 7.73 | 118.37 | 109.10 |
| 36 | BB | 22 | G | N3-C2-N2 | -7.73 | 114.49 | 119.90 |
| 37 | BC | 12 | G | C5-C6-N1 | 7.73 | 115.36 | 111.50 |
| 2 | AB | 541 | A | O4'-C1'-N9 | 7.73 | 114.38 | 108.20 |
| 35 | BA | 1350 | A | C5'-C4'-O4' | 7.73 | 118.37 | 109.10 |
| 35 | BA | 1512 | U | N3-C4-C5 | -7.73 | 109.96 | 114.60 |
| 2 | AB | 210 | C | N3-C4-N4 | 7.72 | 123.41 | 118.00 |
| 2 | AB | 378 | C | N1-C1'-C2' | -7.72 | 103.50 | 112.00 |
| 2 | AB | 426 | C | N3-C4-N4 | 7.72 | 123.41 | 118.00 |
| 2 | AB | 984 | A | O4'-C1'-N9 | -7.72 | 102.02 | 108.20 |
| 2 | AB | 1028 | A | C6-N1-C2 | 7.72 | 123.23 | 118.60 |
| 2 | AB | 1725 | U | N3-C4-C5 | -7.72 | 109.97 | 114.60 |
| 2 | AB | 1884 | G | N3-C2-N2 | 7.72 | 125.31 | 119.90 |
| 2 | AB | 2606 | C | C6-N1-C2 | 7.72 | 123.39 | 120.30 |
| 35 | BA | 183 | C | C1'-O4'-C4' | -7.72 | 103.72 | 109.90 |
| 35 | BA | 845 | A | P-O3'-C3' | 7.72 | 128.97 | 119.70 |
| 2 | AB | 192 | C | C4-C5-C6 | -7.72 | 113.54 | 117.40 |
| 2 | AB | 372 | G | N9-C4-C5 | 7.72 | 108.49 | 105.40 |
| 2 | AB | 968 | C | C5-C6-N1 | -7.72 | 117.14 | 121.00 |
| 2 | AB | 1574 | C | N3-C4-C5 | -7.72 | 118.81 | 121.90 |
| 2 | AB | 2618 | G | N1-C6-O6 | 7.72 | 124.53 | 119.90 |
| 35 | BA | 1150 | A | O5'-P-OP2 | -7.72 | 98.75 | 105.70 |
| 37 | BC | 4 | G | O4'-C1'-C2' | -7.72 | 98.08 | 105.80 |
| 2 | AB | 174 | U | N1-C2-N3 | 7.72 | 119.53 | 114.90 |
| 2 | AB | 1907 | G | C6-C5-N7 | -7.72 | 125.77 | 130.40 |
| 2 | AB | 2290 | G | C4-C5-C6 | 7.72 | 123.43 | 118.80 |
| 37 | BC | 31 | G | C5'-C4'-O4' | 7.72 | 118.37 | 109.10 |
| 2 | AB | 2049 | G | N9-C4-C5 | 7.72 | 108.49 | 105.40 |
| 2 | AB | 2478 | A | C2-N3-C4 | 7.72 | 114.46 | 110.60 |
| 35 | BA | 958 | A | C5-C6-N1 | -7.72 | 113.84 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 762 | U | C1'-O4'-C4' | 7.72 | 116.07 | 109.90 |
| 35 | BA | 134 | G | C5-N7-C8 | 7.72 | 108.16 | 104.30 |
| 35 | BA | 1121 | U | N1-C1'-C2' | -7.72 | 103.51 | 112.00 |
| 35 | BA | 1374 | A | C4'-C3'-C2' | -7.72 | 94.88 | 102.60 |
| 2 | AB | 1565 | C | O4'-C4'-C3' | 7.72 | 112.27 | 106.10 |
| 2 | AB | 1760 | C | O4'-C1'-N1 | 7.72 | 114.37 | 108.20 |
| 2 | AB | 1990 | C | N1-C2-O2 | 7.72 | 123.53 | 118.90 |
| 2 | AB | 2655 | G | N1-C2-N3 | -7.72 | 119.27 | 123.90 |
| 19 | AS | 60 | TRP | NE1-CE2-CD2 | -7.72 | 99.58 | 107.30 |
| 35 | BA | 318 | G | C3'-C2'-C1' | 7.72 | 107.67 | 101.50 |
| 35 | BA | 742 | G | C5-C6-O6 | 7.72 | 133.23 | 128.60 |
| 2 | AB | 464 | U | O4'-C1'-N1 | 7.71 | 114.37 | 108.20 |
| 2 | AB | 875 | G | C5-C6-O6 | 7.71 | 133.23 | 128.60 |
| 2 | AB | 1324 | G | C8-N9-C4 | 7.71 | 109.49 | 106.40 |
| 2 | AB | 2253 | G | C2-N3-C4 | 7.71 | 115.76 | 111.90 |
| 2 | AB | 2424 | C | N3-C4-N4 | 7.71 | 123.40 | 118.00 |
| 2 | AB | 2892 | G | C2-N3-C4 | 7.71 | 115.76 | 111.90 |
| 35 | BA | 237 | G | C5-C6-N1 | 7.71 | 115.36 | 111.50 |
| 35 | BA | 1268 | G | C5-C6-N1 | 7.71 | 115.36 | 111.50 |
| 35 | BA | 1290 | G | N3-C2-N2 | -7.71 | 114.50 | 119.90 |
| 42 | BH | 74 | LEU | CB-CG-CD1 | 7.71 | 124.12 | 111.00 |
| 43 | BI | 125 | ASP | CB-CG-OD1 | -7.71 | 111.36 | 118.30 |
| 2 | AB | 2159 | G | C5-C6-O6 | -7.71 | 123.97 | 128.60 |
| 2 | AB | 2895 | G | N9-C1'-C2' | -7.71 | 103.52 | 112.00 |
| 35 | BA | 514 | C | O4'-C1'-N1 | 7.71 | 114.37 | 108.20 |
| 49 | BO | 108 | ARG | NE-CZ-NH1 | 7.71 | 124.16 | 120.30 |
| 2 | AB | 46 | G | N7-C8-N9 | -7.71 | 109.24 | 113.10 |
| 2 | AB | 647 | G | C4-C5-N7 | 7.71 | 113.88 | 110.80 |
| 2 | AB | 2013 | A | C8-N9-C4 | -7.71 | 102.72 | 105.80 |
| 2 | AB | 2118 | U | P-O3'-C3' | 7.71 | 128.95 | 119.70 |
| 2 | AB | 2561 | U | C3'-C2'-C1' | 7.71 | 107.67 | 101.50 |
| 2 | AB | 2572 | A | O4'-C1'-N9 | 7.71 | 114.37 | 108.20 |
| 35 | BA | 218 | U | N3-C2-O2 | -7.71 | 116.80 | 122.20 |
| 35 | BA | 830 | G | C2-N3-C4 | 7.71 | 115.76 | 111.90 |
| 2 | AB | 2209 | G | C4'-C3'-C2' | 7.71 | 110.31 | 102.60 |
| 2 | AB | 2340 | A | N9-C4-C5 | 7.71 | 108.88 | 105.80 |
| 35 | BA | 1094 | G | C8-N9-C4 | -7.71 | 103.32 | 106.40 |
| 2 | AB | 187 | G | C4-C5-N7 | 7.71 | 113.88 | 110.80 |
| 2 | AB | 347 | A | C5'-C4'-O4' | 7.71 | 118.35 | 109.10 |
| 2 | AB | 378 | C | C6-N1-C2 | -7.71 | 117.22 | 120.30 |
| 2 | AB | 2364 | C | N1-C2-O2 | 7.71 | 123.53 | 118.90 |
| 2 | AB | 2534 | A | C4'-C3'-C2' | -7.71 | 94.89 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2553 | G | C5-C6-N1 | 7.71 | 115.36 | 111.50 |
| 35 | BA | 18 | C | N3-C4-C5 | 7.71 | 124.98 | 121.90 |
| 35 | BA | 186 | C | N1-C2-O2 | 7.71 | 123.53 | 118.90 |
| 35 | BA | 286 | C | O4'-C1'-N1 | 7.71 | 114.37 | 108.20 |
| 35 | BA | 332 | G | C5'-C4'-O4' | 7.71 | 118.35 | 109.10 |
| 2 | AB | 349 | U | C1'-O4'-C4' | -7.71 | 103.73 | 109.90 |
| 2 | AB | 960 | A | O4'-C1'-N9 | 7.71 | 114.37 | 108.20 |
| 2 | AB | 2084 | C | C1'-O4'-C4' | -7.71 | 103.73 | 109.90 |
| 2 | AB | 2697 | G | C5'-C4'-O4' | 7.71 | 118.35 | 109.10 |
| 2 | AB | 2749 | A | C5'-C4'-O4' | 7.71 | 118.35 | 109.10 |
| 35 | BA | 422 | C | N1-C2-O2 | 7.71 | 123.52 | 118.90 |
| 35 | BA | 1225 | A | C8-N9-C4 | -7.71 | 102.72 | 105.80 |
| 2 | AB | 592 | A | P-O3'-C3' | 7.71 | 128.95 | 119.70 |
| 2 | AB | 2138 | G | C2-N3-C4 | 7.71 | 115.75 | 111.90 |
| 2 | AB | 2318 | G | C1'-O4'-C4' | -7.71 | 103.74 | 109.90 |
| 35 | BA | 163 | C | N3-C4-N4 | 7.71 | 123.39 | 118.00 |
| 35 | BA | 731 | G | O4'-C1'-N9 | 7.71 | 114.36 | 108.20 |
| 2 | AB | 214 | G | C5-C6-O6 | -7.70 | 123.98 | 128.60 |
| 2 | AB | 400 | G | P-O3'-C3' | 7.70 | 128.94 | 119.70 |
| 2 | AB | 446 | G | C3'-C2'-C1' | 7.70 | 107.66 | 101.50 |
| 2 | AB | 2500 | U | C5-C6-N1 | -7.70 | 118.85 | 122.70 |
| 2 | AB | 2799 | A | C4-C5-N7 | 7.70 | 114.55 | 110.70 |
| 35 | BA | 187 | G | N7-C8-N9 | 7.70 | 116.95 | 113.10 |
| 35 | BA | 846 | G | O4'-C1'-N9 | 7.70 | 114.36 | 108.20 |
| 35 | BA | 975 | A | O4'-C4'-C3' | 7.70 | 112.26 | 106.10 |
| 35 | BA | 771 | G | C2-N3-C4 | 7.70 | 115.75 | 111.90 |
| 1 | AA | 9 | G | N3-C2-N2 | -7.70 | 114.51 | 119.90 |
| 2 | AB | 4 | U | N3-C4-O4 | -7.70 | 114.01 | 119.40 |
| 2 | AB | 2212 | A | O4'-C1'-N9 | 7.70 | 114.36 | 108.20 |
| 2 | AB | 2453 | A | O4'-C1'-C2' | 7.70 | 114.53 | 107.60 |
| 35 | BA | 117 | G | N3-C2-N2 | 7.70 | 125.29 | 119.90 |
| 35 | BA | 922 | G | O4'-C1'-N9 | 7.70 | 114.36 | 108.20 |
| 2 | AB | 883 | G | C8-N9-C4 | -7.70 | 103.32 | 106.40 |
| 2 | AB | 1312 | U | C4'-C3'-C2' | -7.70 | 94.90 | 102.60 |
| 2 | AB | 1794 | A | C2-N3-C4 | -7.70 | 106.75 | 110.60 |
| 2 | AB | 1896 | G | P-O3'-C3' | 7.70 | 128.94 | 119.70 |
| 35 | BA | 115 | G | C6-C5-N7 | -7.70 | 125.78 | 130.40 |
| 35 | BA | 422 | C | C5'-C4'-O4' | 7.70 | 118.34 | 109.10 |
| 35 | BA | 573 | A | N9-C4-C5 | -7.70 | 102.72 | 105.80 |
| 35 | BA | 724 | G | N9-C4-C5 | -7.70 | 102.32 | 105.40 |
| 36 | BB | 32 | U | C6-N1-C2 | -7.70 | 116.38 | 121.00 |
| 2 | AB | 778 | G | O4'-C4'-C3' | 7.70 | 112.26 | 106.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 912 | C | C5-C6-N1 | -7.70 | 117.15 | 121.00 |
| 2 | AB | 1430 | G | C5-C6-N1 | -7.70 | 107.65 | 111.50 |
| 2 | AB | 1794 | A | N7-C8-N9 | 7.70 | 117.65 | 113.80 |
| 2 | AB | 2512 | C | C3'-C2'-C1' | -7.70 | 95.34 | 101.50 |
| 35 | BA | 404 | G | C5-N7-C8 | -7.70 | 100.45 | 104.30 |
| 35 | BA | 881 | G | C5-N7-C8 | -7.70 | 100.45 | 104.30 |
| 35 | BA | 1163 | A | O4'-C1'-N9 | 7.70 | 114.36 | 108.20 |
| 2 | AB | 693 | A | C8-N9-C4 | -7.69 | 102.72 | 105.80 |
| 2 | AB | 2250 | G | N3-C2-N2 | -7.69 | 114.51 | 119.90 |
| 2 | AB | 2719 | G | C2-N3-C4 | 7.69 | 115.75 | 111.90 |
| 7 | AG | 79 | ARG | NE-CZ-NH2 | 7.69 | 124.15 | 120.30 |
| 35 | BA | 538 | G | O4'-C1'-N9 | 7.69 | 114.36 | 108.20 |
| 35 | BA | 1195 | C | C5-C6-N1 | 7.69 | 124.85 | 121.00 |
| 2 | AB | 483 | A | C2-N3-C4 | 7.69 | 114.45 | 110.60 |
| 2 | AB | 1056 | G | N3-C4-C5 | -7.69 | 124.75 | 128.60 |
| 2 | AB | 1191 | G | N3-C2-N2 | -7.69 | 114.52 | 119.90 |
| 2 | AB | 2778 | A | C5-N7-C8 | -7.69 | 100.05 | 103.90 |
| 35 | BA | 10 | A | N3-C4-C5 | -7.69 | 121.42 | 126.80 |
| 35 | BA | 448 | A | C5'-C4'-C3' | -7.69 | 103.69 | 116.00 |
| 35 | BA | 596 | A | N9-C4-C5 | -7.69 | 102.72 | 105.80 |
| 35 | BA | 1356 | G | O4'-C1'-N9 | 7.69 | 114.35 | 108.20 |
| 52 | BR | 25 | ARG | NE-CZ-NH2 | -7.69 | 116.45 | 120.30 |
| 2 | AB | 398 | C | C5-C4-N4 | -7.69 | 114.82 | 120.20 |
| 2 | AB | 404 | A | N1-C2-N3 | -7.69 | 125.45 | 129.30 |
| 2 | AB | 882 | G | C2-N3-C4 | 7.69 | 115.75 | 111.90 |
| 2 | AB | 986 | C | N3-C4-C5 | -7.69 | 118.82 | 121.90 |
| 2 | AB | 1622 | G | O4'-C1'-N9 | 7.69 | 114.35 | 108.20 |
| 2 | AB | 2277 | G | C8-N9-C4 | -7.69 | 103.32 | 106.40 |
| 2 | AB | 2767 | C | C4-C5-C6 | -7.69 | 113.55 | 117.40 |
| 35 | BA | 767 | A | P-O3'-C3' | 7.69 | 128.93 | 119.70 |
| 35 | BA | 1019 | A | N1-C2-N3 | -7.69 | 125.45 | 129.30 |
| 35 | BA | 1387 | G | N7-C8-N9 | 7.69 | 116.95 | 113.10 |
| 2 | AB | 881 | G | C5-C6-O6 | -7.69 | 123.99 | 128.60 |
| 2 | AB | 2341 | G | N3-C2-N2 | -7.69 | 114.52 | 119.90 |
| 35 | BA | 1043 | G | N3-C4-C5 | -7.69 | 124.75 | 128.60 |
| 2 | AB | 963 | U | C2-N3-C4 | -7.69 | 122.39 | 127.00 |
| 2 | AB | 996 | A | N7-C8-N9 | -7.69 | 109.96 | 113.80 |
| 2 | AB | 1119 | U | O4'-C1'-N1 | 7.69 | 114.35 | 108.20 |
| 2 | AB | 1390 | U | P-O3'-C3' | 7.69 | 128.93 | 119.70 |
| 2 | AB | 2260 | C | C2-N3-C4 | 7.69 | 123.74 | 119.90 |
| 2 | AB | 2350 | C | N3-C4-N4 | 7.69 | 123.38 | 118.00 |
| 35 | BA | 55 | A | N9-C4-C5 | -7.69 | 102.72 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 743 | A | O4'-C1'-N9 | 7.69 | 114.35 | 108.20 |
| 35 | BA | 1085 | U | C3'-C2'-C1' | -7.69 | 95.35 | 101.50 |
| 35 | BA | 1324 | A | C3'-C2'-C1' | 7.69 | 107.65 | 101.50 |
| 2 | AB | 2 | G | C5-C6-N1 | 7.68 | 115.34 | 111.50 |
| 2 | AB | 2162 | G | N1-C6-O6 | -7.68 | 115.29 | 119.90 |
| 2 | AB | 2804 | U | C5-C4-O4 | -7.68 | 121.29 | 125.90 |
| 2 | AB | 2854 | G | C6-N1-C2 | -7.68 | 120.49 | 125.10 |
| 35 | BA | 567 | G | C5-N7-C8 | -7.68 | 100.46 | 104.30 |
| 35 | BA | 1358 | U | O4'-C1'-N1 | 7.68 | 114.35 | 108.20 |
| 2 | AB | 119 | A | O4'-C4'-C3' | 7.68 | 112.25 | 106.10 |
| 2 | AB | 554 | U | C4-C5-C6 | 7.68 | 124.31 | 119.70 |
| 2 | AB | 1826 | G | N3-C4-C5 | -7.68 | 124.76 | 128.60 |
| 35 | BA | 481 | G | C2-N3-C4 | 7.68 | 115.74 | 111.90 |
| 35 | BA | 1331 | G | N1-C2-N3 | -7.68 | 119.29 | 123.90 |
| 35 | BA | 1286 | U | N3-C4-O4 | 7.68 | 124.78 | 119.40 |
| 2 | AB | 39 | G | N9-C4-C5 | 7.68 | 108.47 | 105.40 |
| 2 | AB | 368 | A | C5'-C4'-O4' | 7.68 | 118.31 | 109.10 |
| 2 | AB | 1121 | C | C5-C6-N1 | -7.68 | 117.16 | 121.00 |
| 2 | AB | 1401 | G | P-O3'-C3' | 7.68 | 128.91 | 119.70 |
| 2 | AB | 2114 | A | O4'-C1'-N9 | 7.68 | 114.34 | 108.20 |
| 2 | AB | 2602 | A | C4-C5-N7 | -7.68 | 106.86 | 110.70 |
| 35 | BA | 8 | A | C8-N9-C4 | -7.68 | 102.73 | 105.80 |
| 35 | BA | 97 | G | C4'-C3'-C2' | -7.68 | 94.92 | 102.60 |
| 35 | BA | 642 | A | C5-C6-N1 | 7.68 | 121.54 | 117.70 |
| 35 | BA | 1139 | G | C3'-C2'-C1' | -7.68 | 95.36 | 101.50 |
| 35 | BA | 1317 | C | C5'-C4'-O4' | -7.68 | 99.89 | 109.10 |
| 55 | BU | 77 | ARG | NE-CZ-NH2 | -7.68 | 116.46 | 120.30 |
| 2 | AB | 14 | A | N9-C4-C5 | 7.68 | 108.87 | 105.80 |
| 2 | AB | 1047 | G | O4'-C4'-C3' | 7.68 | 112.24 | 106.10 |
| 2 | AB | 1659 | G | C8-N9-C4 | -7.68 | 103.33 | 106.40 |
| 2 | AB | 2507 | C | N1-C2-O2 | 7.68 | 123.51 | 118.90 |
| 35 | BA | 1415 | G | N3-C4-C5 | -7.68 | 124.76 | 128.60 |
| 35 | BA | 1496 | C | C5-C4-N4 | -7.68 | 114.83 | 120.20 |
| 2 | AB | 221 | A | C8-N9-C4 | 7.68 | 108.87 | 105.80 |
| 2 | AB | 791 | C | C3'-C2'-C1' | -7.68 | 95.36 | 101.50 |
| 2 | AB | 1257 | C | O4'-C1'-N1 | 7.68 | 114.34 | 108.20 |
| 2 | AB | 2242 | G | N3-C2-N2 | -7.68 | 114.53 | 119.90 |
| 2 | AB | 2728 | U | N3-C4-C5 | 7.68 | 119.21 | 114.60 |
| 10 | AJ | 97 | GLU | OE1-CD-OE2 | 7.68 | 132.51 | 123.30 |
| 17 | AQ | 25 | ARG | NE-CZ-NH2 | -7.68 | 116.46 | 120.30 |
| 35 | BA | 299 | G | N1-C6-O6 | -7.68 | 115.29 | 119.90 |
| 35 | BA | 305 | G | N9-C4-C5 | -7.68 | 102.33 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 391 | G | N3-C4-N9 | 7.68 | 130.61 | 126.00 |
| 35 | BA | 1252 | A | O4'-C4'-C3' | 7.68 | 112.24 | 106.10 |
| 35 | BA | 1441 | A | N9-C4-C5 | 7.68 | 108.87 | 105.80 |
| 2 | AB | 1256 | G | O4'-C4'-C3' | 7.67 | 112.24 | 106.10 |
| 2 | AB | 1703 | G | C4-C5-C6 | 7.67 | 123.41 | 118.80 |
| 2 | AB | 1799 | G | N7-C8-N9 | 7.67 | 116.94 | 113.10 |
| 2 | AB | 1969 | A | C6-C5-N7 | 7.67 | 137.67 | 132.30 |
| 2 | AB | 2268 | A | N1-C6-N6 | 7.67 | 123.20 | 118.60 |
| 35 | BA | 642 | A | C1'-O4'-C4' | -7.67 | 103.76 | 109.90 |
| 35 | BA | 1022 | A | N9-C4-C5 | 7.67 | 108.87 | 105.80 |
| 35 | BA | 1542 | A | C1'-O4'-C4' | -7.67 | 103.76 | 109.90 |
| 2 | AB | 1183 | U | C4'-C3'-C2' | -7.67 | 94.93 | 102.60 |
| 36 | BB | 48 | C | C4'-C3'-C2' | -7.67 | 94.93 | 102.60 |
| 2 | AB | 269 | C | N3-C2-O2 | -7.67 | 116.53 | 121.90 |
| 2 | AB | 570 | G | N3-C4-C5 | -7.67 | 124.77 | 128.60 |
| 2 | AB | 721 | A | C1'-O4'-C4' | 7.67 | 116.04 | 109.90 |
| 2 | AB | 893 | C | C1'-O4'-C4' | 7.67 | 116.04 | 109.90 |
| 2 | AB | 930 | G | N3-C4-C5 | -7.67 | 124.76 | 128.60 |
| 2 | AB | 958 | U | O4'-C1'-N1 | 7.67 | 114.34 | 108.20 |
| 2 | AB | 1175 | A | C3'-C2'-C1' | -7.67 | 95.36 | 101.50 |
| 2 | AB | 1219 | U | C5'-C4'-O4' | 7.67 | 118.31 | 109.10 |
| 2 | AB | 1417 | C | O4'-C1'-N1 | 7.67 | 114.34 | 108.20 |
| 35 | BA | 1509 | C | O4'-C1'-N1 | 7.67 | 114.34 | 108.20 |
| 2 | AB | 818 | G | C4-C5-N7 | 7.67 | 113.87 | 110.80 |
| 2 | AB | 1629 | U | N3-C4-O4 | 7.67 | 124.77 | 119.40 |
| 2 | AB | 1659 | G | C5-C6-N1 | 7.67 | 115.33 | 111.50 |
| 2 | AB | 1723 | G | N1-C2-N3 | 7.67 | 128.50 | 123.90 |
| 2 | AB | 2224 | G | C5-C6-O6 | -7.67 | 124.00 | 128.60 |
| 2 | AB | 2470 | G | C5'-C4'-O4' | 7.67 | 118.30 | 109.10 |
| 35 | BA | 68 | G | C5-C6-O6 | -7.67 | 124.00 | 128.60 |
| 35 | BA | 758 | C | N3-C4-C5 | -7.67 | 118.83 | 121.90 |
| 35 | BA | 1120 | C | C5-C4-N4 | -7.67 | 114.83 | 120.20 |
| 37 | BC | 68 | C | O4'-C1'-N1 | 7.67 | 114.33 | 108.20 |
| 40 | BF | 96 | ARG | NE-CZ-NH2 | 7.67 | 124.13 | 120.30 |
| 2 | AB | 2631 | G | O4'-C1'-N9 | 7.67 | 114.33 | 108.20 |
| 35 | BA | 496 | A | C5'-C4'-O4' | 7.67 | 118.30 | 109.10 |
| 35 | BA | 690 | G | N1-C2-N2 | -7.67 | 109.30 | 116.20 |
| 35 | BA | 1373 | G | C3'-C2'-C1' | 7.67 | 107.63 | 101.50 |
| 2 | AB | 338 | G | C5-N7-C8 | -7.67 | 100.47 | 104.30 |
| 2 | AB | 466 | A | C5-N7-C8 | 7.67 | 107.73 | 103.90 |
| 2 | AB | 836 | G | N9-C4-C5 | 7.67 | 108.47 | 105.40 |
| 2 | AB | 1733 | G | N9-C4-C5 | 7.67 | 108.47 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2048 | G | N1-C2-N3 | -7.67 | 119.30 | 123.90 |
| 2 | AB | 447 | A | C5-C6-N1 | 7.66 | 121.53 | 117.70 |
| 2 | AB | 785 | G | C6-C5-N7 | 7.66 | 135.00 | 130.40 |
| 2 | AB | 1339 | G | O4'-C1'-N9 | 7.66 | 114.33 | 108.20 |
| 2 | AB | 2156 | G | C3'-C2'-C1' | -7.66 | 95.37 | 101.50 |
| 2 | AB | 879 | G | N9-C1'-C2' | -7.66 | 103.57 | 112.00 |
| 2 | AB | 2059 | A | O4'-C4'-C3' | 7.66 | 112.23 | 106.10 |
| 35 | BA | 1342 | C | C4-C5-C6 | 7.66 | 121.23 | 117.40 |
| 1 | AA | 10 | G | N1-C2-N3 | 7.66 | 128.50 | 123.90 |
| 2 | AB | 104 | A | C2-N3-C4 | -7.66 | 106.77 | 110.60 |
| 2 | AB | 957 | C | C2-N3-C4 | 7.66 | 123.73 | 119.90 |
| 2 | AB | 978 | G | N3-C4-N9 | 7.66 | 130.60 | 126.00 |
| 2 | AB | 1938 | A | O4'-C1'-N9 | 7.66 | 114.33 | 108.20 |
| 2 | AB | 2055 | C | N3-C4-C5 | -7.66 | 118.84 | 121.90 |
| 2 | AB | 2500 | U | N3-C2-O2 | -7.66 | 116.84 | 122.20 |
| 35 | BA | 406 | G | C6-N1-C2 | -7.66 | 120.50 | 125.10 |
| 35 | BA | 455 | G | O4'-C4'-C3' | 7.66 | 112.23 | 106.10 |
| 2 | AB | 717 | C | C6-N1-C2 | -7.66 | 117.24 | 120.30 |
| 2 | AB | 1088 | A | C3'-C2'-C1' | 7.66 | 107.63 | 101.50 |
| 2 | AB | 1235 | G | O4'-C1'-N9 | 7.66 | 114.33 | 108.20 |
| 2 | AB | 1441 | G | C8-N9-C4 | -7.66 | 103.34 | 106.40 |
| 2 | AB | 2342 | C | N3-C2-O2 | -7.66 | 116.54 | 121.90 |
| 2 | AB | 2507 | C | N3-C4-N4 | -7.66 | 112.64 | 118.00 |
| 2 | AB | 2583 | G | O5'-P-OP1 | -7.66 | 98.81 | 105.70 |
| 35 | BA | 473 | U | N3-C4-O4 | 7.66 | 124.76 | 119.40 |
| 35 | BA | 1218 | C | C4-C5-C6 | 7.66 | 121.23 | 117.40 |
| 2 | AB | 1164 | C | N1-C2-O2 | 7.66 | 123.49 | 118.90 |
| 2 | AB | 1408 | G | N3-C2-N2 | -7.66 | 114.54 | 119.90 |
| 2 | AB | 2248 | C | N1-C2-O2 | 7.66 | 123.49 | 118.90 |
| 2 | AB | 2635 | A | C2-N3-C4 | 7.66 | 114.43 | 110.60 |
| 2 | AB | 2871 | U | N3-C2-O2 | -7.66 | 116.84 | 122.20 |
| 2 | AB | 2887 | A | C5'-C4'-O4' | 7.66 | 118.29 | 109.10 |
| 35 | BA | 555 | U | N3-C2-O2 | -7.66 | 116.84 | 122.20 |
| 2 | AB | 455 | C | P-O3'-C3' | 7.66 | 128.89 | 119.70 |
| 2 | AB | 466 | A | C4'-C3'-C2' | -7.66 | 94.94 | 102.60 |
| 2 | AB | 655 | A | P-O3'-C3' | 7.66 | 128.89 | 119.70 |
| 2 | AB | 1190 | G | C4'-C3'-C2' | -7.66 | 94.94 | 102.60 |
| 2 | AB | 1274 | A | C8-N9-C4 | 7.66 | 108.86 | 105.80 |
| 35 | BA | 510 | A | C4-C5-N7 | -7.66 | 106.87 | 110.70 |
| 35 | BA | 933 | G | O4'-C1'-N9 | 7.66 | 114.32 | 108.20 |
| 35 | BA | 1285 | A | C5-N7-C8 | -7.66 | 100.07 | 103.90 |
| 2 | AB | 1426 | G | N3-C4-N9 | -7.65 | 121.41 | 126.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2448 | A | C5-C6-N1 | 7.65 | 121.53 | 117.70 |
| 21 | AU | 88 | ARG | NE-CZ-NH1 | -7.65 | 116.47 | 120.30 |
| 35 | BA | 642 | A | C6-N1-C2 | -7.65 | 114.01 | 118.60 |
| 1 | AA | 80 | U | C2-N3-C4 | -7.65 | 122.41 | 127.00 |
| 2 | AB | 1540 | G | N7-C8-N9 | 7.65 | 116.93 | 113.10 |
| 2 | AB | 1679 | A | C2-N3-C4 | 7.65 | 114.43 | 110.60 |
| 2 | AB | 2088 | A | C2-N3-C4 | -7.65 | 106.77 | 110.60 |
| 2 | AB | 2452 | C | N3-C2-O2 | -7.65 | 116.54 | 121.90 |
| 35 | BA | 305 | G | N3-C2-N2 | 7.65 | 125.26 | 119.90 |
| 35 | BA | 788 | U | N3-C4-C5 | -7.65 | 110.01 | 114.60 |
| 2 | AB | 592 | A | C8-N9-C4 | -7.65 | 102.74 | 105.80 |
| 2 | AB | 612 | G | N7-C8-N9 | 7.65 | 116.92 | 113.10 |
| 2 | AB | 993 | G | N9-C1'-C2' | -7.65 | 103.58 | 112.00 |
| 2 | AB | 2193 | G | C6-N1-C2 | -7.65 | 120.51 | 125.10 |
| 2 | AB | 2324 | U | N3-C2-O2 | -7.65 | 116.84 | 122.20 |
| 2 | AB | 2397 | G | N1-C6-O6 | -7.65 | 115.31 | 119.90 |
| 35 | BA | 468 | A | C4-C5-N7 | 7.65 | 114.53 | 110.70 |
| 35 | BA | 506 | G | C5-N7-C8 | -7.65 | 100.47 | 104.30 |
| 35 | BA | 508 | U | C5-C6-N1 | -7.65 | 118.88 | 122.70 |
| 2 | AB | 138 | U | O4'-C1'-N1 | 7.65 | 114.32 | 108.20 |
| 2 | AB | 1088 | A | N1-C6-N6 | 7.65 | 123.19 | 118.60 |
| 2 | AB | 2183 | A | O4'-C1'-N9 | 7.65 | 114.32 | 108.20 |
| 35 | BA | 765 | G | C4-C5-N7 | 7.65 | 113.86 | 110.80 |
| 35 | BA | 190 | A | O4'-C1'-N9 | 7.65 | 114.32 | 108.20 |
| 35 | BA | 717 | U | P-O3'-C3' | 7.65 | 128.88 | 119.70 |
| 35 | BA | 792 | A | P-O3'-C3' | 7.65 | 128.88 | 119.70 |
| 35 | BA | 1394 | A | C1'-O4'-C4' | 7.65 | 116.02 | 109.90 |
| 2 | AB | 2127 | G | N1-C6-O6 | -7.65 | 115.31 | 119.90 |
| 2 | AB | 2866 | U | C5-C4-O4 | -7.65 | 121.31 | 125.90 |
| 2 | AB | 770 | G | N7-C8-N9 | 7.64 | 116.92 | 113.10 |
| 2 | AB | 1280 | G | N3-C4-N9 | 7.64 | 130.59 | 126.00 |
| 2 | AB | 1378 | A | N9-C4-C5 | 7.64 | 108.86 | 105.80 |
| 2 | AB | 1542 | U | C3'-C2'-C1' | 7.64 | 107.61 | 101.50 |
| 2 | AB | 2127 | G | C5'-C4'-O4' | 7.64 | 118.27 | 109.10 |
| 2 | AB | 2425 | A | P-O3'-C3' | 7.64 | 128.87 | 119.70 |
| 35 | BA | 171 | A | C5'-C4'-O4' | 7.64 | 118.27 | 109.10 |
| 35 | BA | 494 | G | C6-N1-C2 | -7.64 | 120.51 | 125.10 |
| 35 | BA | 584 | G | O4'-C1'-N9 | 7.64 | 114.32 | 108.20 |
| 55 | BU | 60 | PHE | CB-CG-CD1 | -7.64 | 115.45 | 120.80 |
| 2 | AB | 184 | C | O4'-C1'-N1 | 7.64 | 114.31 | 108.20 |
| 2 | AB | 1854 | A | N9-C4-C5 | -7.64 | 102.74 | 105.80 |
| 2 | AB | 2115 | G | C5-N7-C8 | -7.64 | 100.48 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2744 | G | N3-C4-C5 | -7.64 | 124.78 | 128.60 |
| 35 | BA | 849 | G | N3-C4-C5 | -7.64 | 124.78 | 128.60 |
| 35 | BA | 1473 | G | N1-C6-O6 | -7.64 | 115.31 | 119.90 |
| 6 | AF | 168 | ASP | CB-CG-OD2 | -7.64 | 111.42 | 118.30 |
| 35 | BA | 1228 | C | N3-C4-C5 | -7.64 | 118.84 | 121.90 |
| 35 | BA | 1289 | A | N9-C4-C5 | 7.64 | 108.86 | 105.80 |
| 2 | AB | 207 | A | N1-C2-N3 | -7.64 | 125.48 | 129.30 |
| 2 | AB | 296 | U | O4'-C1'-N1 | 7.64 | 114.31 | 108.20 |
| 2 | AB | 643 | A | N1-C2-N3 | -7.64 | 125.48 | 129.30 |
| 2 | AB | 1017 | G | N9-C4-C5 | 7.64 | 108.46 | 105.40 |
| 2 | AB | 1948 | G | C1'-O4'-C4' | 7.64 | 116.01 | 109.90 |
| 35 | BA | 149 | A | C3'-C2'-C1' | 7.64 | 107.61 | 101.50 |
| 35 | BA | 641 | U | O4'-C1'-N1 | 7.64 | 114.31 | 108.20 |
| 35 | BA | 1006 | G | N3-C4-C5 | -7.64 | 124.78 | 128.60 |
| 35 | BA | 1113 | C | C6-N1-C2 | -7.64 | 117.24 | 120.30 |
| 35 | BA | 1212 | U | C2-N3-C4 | -7.64 | 122.42 | 127.00 |
| 2 | AB | 507 | A | C8-N9-C4 | -7.64 | 102.75 | 105.80 |
| 2 | AB | 602 | A | C5-C6-N1 | 7.64 | 121.52 | 117.70 |
| 2 | AB | 661 | A | N7-C8-N9 | 7.64 | 117.62 | 113.80 |
| 2 | AB | 843 | G | C2-N3-C4 | 7.64 | 115.72 | 111.90 |
| 2 | AB | 1509 | A | N1-C2-N3 | -7.64 | 125.48 | 129.30 |
| 2 | AB | 2476 | A | C4-C5-C6 | -7.64 | 113.18 | 117.00 |
| 2 | AB | 2555 | U | C5-C4-O4 | -7.64 | 121.32 | 125.90 |
| 35 | BA | 67 | C | P-O3'-C3' | 7.64 | 128.87 | 119.70 |
| 35 | BA | 654 | G | C3'-C2'-C1' | -7.64 | 95.39 | 101.50 |
| 35 | BA | 1405 | G | C8-N9-C4 | -7.64 | 103.34 | 106.40 |
| 1 | AA | 70 | C | C6-N1-C2 | -7.64 | 117.25 | 120.30 |
| 2 | AB | 231 | A | O4'-C4'-C3' | -7.64 | 96.36 | 104.00 |
| 2 | AB | 372 | G | C5-N7-C8 | -7.64 | 100.48 | 104.30 |
| 2 | AB | 2406 | A | N1-C2-N3 | 7.64 | 133.12 | 129.30 |
| 2 | AB | 2490 | G | P-O3'-C3' | 7.64 | 128.86 | 119.70 |
| 35 | BA | 835 | U | O4'-C1'-N1 | 7.64 | 114.31 | 108.20 |
| 35 | BA | 1129 | C | C6-N1-C2 | -7.64 | 117.25 | 120.30 |
| 2 | AB | 292 | U | N3-C4-C5 | -7.63 | 110.02 | 114.60 |
| 2 | AB | 1213 | A | N1-C6-N6 | -7.63 | 114.02 | 118.60 |
| 2 | AB | 1453 | A | C2-N3-C4 | 7.63 | 114.42 | 110.60 |
| 2 | AB | 2204 | G | P-O3'-C3' | 7.63 | 128.86 | 119.70 |
| 35 | BA | 528 | C | N3-C4-C5 | -7.63 | 118.85 | 121.90 |
| 35 | BA | 721 | G | C4-C5-C6 | 7.63 | 123.38 | 118.80 |
| 35 | BA | 890 | G | C5-C6-N1 | 7.63 | 115.32 | 111.50 |
| 35 | BA | 912 | C | C3'-C2'-C1' | 7.63 | 107.61 | 101.50 |
| 35 | BA | 1432 | G | N9-C4-C5 | 7.63 | 108.45 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 616 | A | C5-N7-C8 | 7.63 | 107.72 | 103.90 |
| 2 | AB | 971 | G | C4-C5-C6 | 7.63 | 123.38 | 118.80 |
| 2 | AB | 2663 | G | N9-C4-C5 | -7.63 | 102.35 | 105.40 |
| 35 | BA | 1048 | G | C5-C6-O6 | -7.63 | 124.02 | 128.60 |
| 35 | BA | 1522 | U | O4'-C1'-N1 | 7.63 | 114.31 | 108.20 |
| 37 | BC | 71 | G | C4-C5-N7 | 7.63 | 113.85 | 110.80 |
| 2 | AB | 99 | U | N3-C4-O4 | -7.63 | 114.06 | 119.40 |
| 2 | AB | 1435 | G | C4'-C3'-C2' | -7.63 | 94.97 | 102.60 |
| 2 | AB | 1495 | A | N9-C4-C5 | -7.63 | 102.75 | 105.80 |
| 2 | AB | 1530 | G | C6-N1-C2 | -7.63 | 120.52 | 125.10 |
| 2 | AB | 2660 | A | C4'-C3'-C2' | -7.63 | 94.97 | 102.60 |
| 35 | BA | 432 | A | C3'-C2'-C1' | -7.63 | 95.39 | 101.50 |
| 35 | BA | 602 | A | C6-N1-C2 | 7.63 | 123.18 | 118.60 |
| 35 | BA | 1312 | G | N9-C4-C5 | 7.63 | 108.45 | 105.40 |
| 2 | AB | 1296 | G | N9-C4-C5 | 7.63 | 108.45 | 105.40 |
| 2 | AB | 109 | C | C5'-C4'-O4' | 7.63 | 118.25 | 109.10 |
| 2 | AB | 481 | G | N3-C2-N2 | -7.63 | 114.56 | 119.90 |
| 2 | AB | 488 | G | N1-C2-N2 | 7.63 | 123.07 | 116.20 |
| 2 | AB | 741 | U | N3-C2-O2 | -7.63 | 116.86 | 122.20 |
| 2 | AB | 1648 | U | N1-C2-N3 | -7.63 | 110.32 | 114.90 |
| 2 | AB | 2460 | U | C2-N3-C4 | -7.63 | 122.42 | 127.00 |
| 2 | AB | 2867 | G | N1-C6-O6 | -7.63 | 115.32 | 119.90 |
| 35 | BA | 621 | A | C2-N3-C4 | 7.63 | 114.41 | 110.60 |
| 35 | BA | 729 | A | C2-N3-C4 | 7.63 | 114.42 | 110.60 |
| 2 | AB | 34 | U | C1'-O4'-C4' | 7.63 | 116.00 | 109.90 |
| 2 | AB | 1118 | C | C4-C5-C6 | 7.63 | 121.21 | 117.40 |
| 2 | AB | 1471 | G | N3-C2-N2 | -7.63 | 114.56 | 119.90 |
| 2 | AB | 1648 | U | N1-C2-O2 | 7.63 | 128.14 | 122.80 |
| 2 | AB | 1888 | G | N7-C8-N9 | 7.63 | 116.91 | 113.10 |
| 2 | AB | 2102 | G | C8-N9-C4 | -7.63 | 103.35 | 106.40 |
| 2 | AB | 2122 | U | C5'-C4'-O4' | 7.63 | 118.25 | 109.10 |
| 2 | AB | 2282 | G | C8-N9-C1' | 7.63 | 136.91 | 127.00 |
| 2 | AB | 2735 | G | C2-N3-C4 | 7.63 | 115.71 | 111.90 |
| 35 | BA | 725 | G | N1-C6-O6 | 7.63 | 124.48 | 119.90 |
| 35 | BA | 780 | A | N1-C2-N3 | -7.63 | 125.49 | 129.30 |
| 1 | AA | 88 | C | C5'-C4'-C3' | -7.62 | 103.80 | 116.00 |
| 2 | AB | 252 | G | P-O3'-C3' | 7.62 | 128.85 | 119.70 |
| 2 | AB | 898 | C | N3-C4-C5 | -7.62 | 118.85 | 121.90 |
| 2 | AB | 1022 | G | N3-C2-N2 | -7.62 | 114.56 | 119.90 |
| 2 | AB | 1132 | U | N3-C2-O2 | -7.62 | 116.86 | 122.20 |
| 2 | AB | 733 | G | C5'-C4'-O4' | 7.62 | 118.25 | 109.10 |
| 2 | AB | 1068 | G | N1-C2-N3 | -7.62 | 119.33 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1096 | A | N7-C8-N9 | 7.62 | 117.61 | 113.80 |
| 2 | AB | 1255 | U | C3'-C2'-C1' | 7.62 | 107.60 | 101.50 |
| 2 | AB | 2872 | A | C6-N1-C2 | 7.62 | 123.17 | 118.60 |
| 35 | BA | 269 | C | C3'-C2'-C1' | 7.62 | 107.60 | 101.50 |
| 2 | AB | 122 | G | C1'-O4'-C4' | -7.62 | 103.80 | 109.90 |
| 2 | AB | 302 | C | N3-C2-O2 | -7.62 | 116.56 | 121.90 |
| 2 | AB | 1028 | A | C5-N7-C8 | -7.62 | 100.09 | 103.90 |
| 2 | AB | 1403 | A | C5-C6-N1 | 7.62 | 121.51 | 117.70 |
| 2 | AB | 1807 | G | N3-C4-C5 | 7.62 | 132.41 | 128.60 |
| 35 | BA | 84 | U | C2-N3-C4 | -7.62 | 122.43 | 127.00 |
| 35 | BA | 168 | G | O4'-C1'-N9 | 7.62 | 114.30 | 108.20 |
| 35 | BA | 356 | A | C4'-C3'-C2' | -7.62 | 94.98 | 102.60 |
| 35 | BA | 873 | A | N9-C4-C5 | 7.62 | 108.85 | 105.80 |
| 35 | BA | 1091 | U | C5-C4-O4 | 7.62 | 130.47 | 125.90 |
| 35 | BA | 1107 | C | N3-C4-C5 | -7.62 | 118.85 | 121.90 |
| 2 | AB | 1405 | U | C4'-C3'-C2' | -7.62 | 94.98 | 102.60 |
| 2 | AB | 2287 | A | N3-C4-C5 | -7.62 | 121.47 | 126.80 |
| 35 | BA | 359 | G | C3'-C2'-C1' | 7.62 | 107.60 | 101.50 |
| 35 | BA | 714 | G | C5-C6-N1 | 7.62 | 115.31 | 111.50 |
| 2 | AB | 360 | U | C4-C5-C6 | 7.62 | 124.27 | 119.70 |
| 2 | AB | 1713 | A | N1-C2-N3 | -7.62 | 125.49 | 129.30 |
| 2 | AB | 2341 | G | N3-C4-C5 | -7.62 | 124.79 | 128.60 |
| 2 | AB | 2515 | C | C4'-C3'-C2' | -7.62 | 94.98 | 102.60 |
| 35 | BA | 867 | G | C3'-C2'-C1' | 7.62 | 107.59 | 101.50 |
| 35 | BA | 1051 | C | C5-C4-N4 | -7.62 | 114.87 | 120.20 |
| 35 | BA | 1373 | G | N1-C6-O6 | 7.62 | 124.47 | 119.90 |
| 2 | AB | 1250 | G | N3-C4-N9 | 7.62 | 130.57 | 126.00 |
| 2 | AB | 2174 | C | N1-C2-O2 | 7.62 | 123.47 | 118.90 |
| 2 | AB | 2418 | A | C5-C6-N1 | 7.62 | 121.51 | 117.70 |
| 35 | BA | 255 | G | C6-C5-N7 | 7.62 | 134.97 | 130.40 |
| 2 | AB | 71 | A | C8-N9-C4 | 7.62 | 108.85 | 105.80 |
| 2 | AB | 629 | G | N7-C8-N9 | 7.62 | 116.91 | 113.10 |
| 2 | AB | 1225 | G | N7-C8-N9 | 7.62 | 116.91 | 113.10 |
| 2 | AB | 1283 | G | C6-N1-C2 | -7.62 | 120.53 | 125.10 |
| 2 | AB | 2557 | G | N3-C4-C5 | -7.62 | 124.79 | 128.60 |
| 1 | AA | 113 | C | N3-C4-N4 | -7.61 | 112.67 | 118.00 |
| 2 | AB | 53 | A | O4'-C1'-N9 | 7.61 | 114.29 | 108.20 |
| 2 | AB | 1189 | A | C6-N1-C2 | -7.61 | 114.03 | 118.60 |
| 9 | AI | 123 | ARG | NE-CZ-NH2 | -7.61 | 116.49 | 120.30 |
| 35 | BA | 114 | U | C5'-C4'-C3' | -7.61 | 103.82 | 116.00 |
| 35 | BA | 474 | G | C6-C5-N7 | -7.61 | 125.83 | 130.40 |
| 35 | BA | 1192 | C | N1-C2-O2 | 7.61 | 123.47 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 45 | BK | 17 | ARG | NE-CZ-NH1 | 7.61 | 124.11 | 120.30 |
| 2 | AB | 981 | A | C5-N7-C8 | -7.61 | 100.09 | 103.90 |
| 2 | AB | 1234 | U | N1-C2-N3 | -7.61 | 110.33 | 114.90 |
| 2 | AB | 1252 | G | C5-N7-C8 | 7.61 | 108.11 | 104.30 |
| 2 | AB | 1919 | A | N7-C8-N9 | -7.61 | 110.00 | 113.80 |
| 2 | AB | 2397 | G | C6-N1-C2 | -7.61 | 120.53 | 125.10 |
| 2 | AB | 2631 | G | C8-N9-C4 | -7.61 | 103.36 | 106.40 |
| 35 | BA | 622 | A | N1-C6-N6 | -7.61 | 114.03 | 118.60 |
| 35 | BA | 743 | A | C4'-C3'-C2' | -7.61 | 94.99 | 102.60 |
| 2 | AB | 1902 | C | N1-C1'-C2' | -7.61 | 103.63 | 112.00 |
| 2 | AB | 2506 | U | N1-C2-O2 | 7.61 | 128.13 | 122.80 |
| 2 | AB | 132 | G | O4'-C1'-N9 | 7.61 | 114.29 | 108.20 |
| 2 | AB | 730 | A | C8-N9-C4 | -7.61 | 102.76 | 105.80 |
| 2 | AB | 1463 | C | O4'-C1'-N1 | 7.61 | 114.29 | 108.20 |
| 35 | BA | 205 | A | N1-C6-N6 | -7.61 | 114.03 | 118.60 |
| 35 | BA | 215 | C | C2-N3-C4 | 7.61 | 123.70 | 119.90 |
| 35 | BA | 1027 | C | C5-C6-N1 | 7.61 | 124.80 | 121.00 |
| 35 | BA | 1223 | C | C5-C4-N4 | 7.61 | 125.53 | 120.20 |
| 2 | AB | 225 | C | N1-C2-O2 | 7.61 | 123.46 | 118.90 |
| 2 | AB | 917 | A | C2-N3-C4 | 7.61 | 114.40 | 110.60 |
| 2 | AB | 1263 | U | N3-C2-O2 | -7.61 | 116.88 | 122.20 |
| 35 | BA | 684 | U | N1-C2-N3 | 7.61 | 119.46 | 114.90 |
| 35 | BA | 1036 | A | C5-N7-C8 | -7.61 | 100.10 | 103.90 |
| 35 | BA | 1063 | C | P-O3'-C3' | 7.61 | 128.83 | 119.70 |
| 2 | AB | 129 | C | C2-N3-C4 | -7.60 | 116.10 | 119.90 |
| 2 | AB | 132 | G | C4-C5-C6 | 7.60 | 123.36 | 118.80 |
| 1 | AA | 33 | G | C5-N7-C8 | -7.60 | 100.50 | 104.30 |
| 2 | AB | 42 | A | C4'-C3'-C2' | -7.60 | 95.00 | 102.60 |
| 2 | AB | 351 | C | C5'-C4'-O4' | 7.60 | 118.22 | 109.10 |
| 2 | AB | 696 | G | O4'-C1'-N9 | 7.60 | 114.28 | 108.20 |
| 2 | AB | 2151 | U | C4-C5-C6 | 7.60 | 124.26 | 119.70 |
| 2 | AB | 2246 | G | N3-C4-C5 | -7.60 | 124.80 | 128.60 |
| 35 | BA | 365 | U | O4'-C1'-N1 | 7.60 | 114.28 | 108.20 |
| 35 | BA | 464 | U | N3-C4-C5 | 7.60 | 119.16 | 114.60 |
| 35 | BA | 584 | G | N1-C2-N3 | -7.60 | 119.34 | 123.90 |
| 35 | BA | 622 | A | C5-N7-C8 | 7.60 | 107.70 | 103.90 |
| 35 | BA | 1399 | C | C4-C5-C6 | 7.60 | 121.20 | 117.40 |
| 57 | BW | 60 | ALA | N-CA-CB | -7.60 | 99.46 | 110.10 |
| 35 | BA | 611 | C | C3'-C2'-C1' | 7.60 | 107.58 | 101.50 |
| 2 | AB | 175 | G | N1-C6-O6 | -7.60 | 115.34 | 119.90 |
| 2 | AB | 463 | G | P-O3'-C3' | 7.60 | 128.82 | 119.70 |
| 2 | AB | 1031 | G | N1-C2-N2 | 7.60 | 123.04 | 116.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1430 | G | N1-C6-O6 | 7.60 | 124.46 | 119.90 |
| 35 | BA | 840 | C | C5'-C4'-O4' | 7.60 | 118.22 | 109.10 |
| 35 | BA | 940 | C | N3-C4-C5 | -7.60 | 118.86 | 121.90 |
| 35 | BA | 1013 | G | C6-C5-N7 | 7.60 | 134.96 | 130.40 |
| 35 | BA | 1222 | G | N3-C4-C5 | -7.60 | 124.80 | 128.60 |
| 37 | BC | 1 | C | N1-C2-O2 | 7.60 | 123.46 | 118.90 |
| 2 | AB | 2297 | A | C5-C6-N6 | 7.60 | 129.78 | 123.70 |
| 35 | BA | 96 | U | C5-C4-O4 | 7.60 | 130.46 | 125.90 |
| 35 | BA | 363 | A | O4'-C4'-C3' | 7.60 | 112.18 | 106.10 |
| 2 | AB | 1692 | U | C4'-C3'-C2' | -7.60 | 95.00 | 102.60 |
| 2 | AB | 638 | G | C2-N3-C4 | 7.59 | 115.70 | 111.90 |
| 2 | AB | 2216 | G | N1-C2-N2 | -7.59 | 109.37 | 116.20 |
| 2 | AB | 2245 | U | N1-C1'-C2' | -7.59 | 103.64 | 112.00 |
| 2 | AB | 2281 | A | O4'-C4'-C3' | -7.59 | 96.41 | 104.00 |
| 2 | AB | 2340 | A | C4-C5-C6 | 7.59 | 120.80 | 117.00 |
| 19 | AS | 44 | TYR | CB-CG-CD1 | -7.59 | 116.44 | 121.00 |
| 35 | BA | 318 | G | O4'-C1'-N9 | 7.59 | 114.28 | 108.20 |
| 35 | BA | 772 | U | C5-C4-O4 | 7.59 | 130.46 | 125.90 |
| 35 | BA | 1302 | C | N3-C2-O2 | -7.59 | 116.58 | 121.90 |
| 35 | BA | 1353 | G | C2-N3-C4 | 7.59 | 115.70 | 111.90 |
| 2 | AB | 912 | C | C4-C5-C6 | 7.59 | 121.20 | 117.40 |
| 2 | AB | 1343 | G | C8-N9-C4 | -7.59 | 103.36 | 106.40 |
| 2 | AB | 1980 | G | C5-N7-C8 | -7.59 | 100.50 | 104.30 |
| 35 | BA | 1534 | A | C4-C5-C6 | -7.59 | 113.20 | 117.00 |
| 1 | AA | 41 | G | C3'-C2'-C1' | 7.59 | 107.57 | 101.50 |
| 2 | AB | 818 | G | C6-C5-N7 | -7.59 | 125.84 | 130.40 |
| 2 | AB | 989 | G | C1'-O4'-C4' | 7.59 | 115.97 | 109.90 |
| 2 | AB | 1723 | G | N1-C6-O6 | -7.59 | 115.34 | 119.90 |
| 2 | AB | 1773 | A | C5-N7-C8 | 7.59 | 107.69 | 103.90 |
| 2 | AB | 2331 | G | N9-C1'-C2' | -7.59 | 103.65 | 112.00 |
| 2 | AB | 2360 | G | N3-C4-C5 | -7.59 | 124.81 | 128.60 |
| 35 | BA | 395 | C | N1-C2-O2 | -7.59 | 114.34 | 118.90 |
| 35 | BA | 457 | G | N3-C4-C5 | -7.59 | 124.80 | 128.60 |
| 2 | AB | 1431 | A | N9-C1'-C2' | -7.59 | 103.65 | 112.00 |
| 2 | AB | 1687 | G | C5-C6-O6 | 7.59 | 133.15 | 128.60 |
| 2 | AB | 1951 | U | C3'-C2'-C1' | 7.59 | 107.57 | 101.50 |
| 2 | AB | 2412 | A | C4-C5-N7 | -7.59 | 106.91 | 110.70 |
| 2 | AB | 2474 | U | N1-C2-O2 | 7.59 | 128.11 | 122.80 |
| 2 | AB | 2842 | G | N1-C2-N2 | -7.59 | 109.37 | 116.20 |
| 26 | AZ | 65 | THR | CA-CB-CG2 | -7.59 | 101.78 | 112.40 |
| 35 | BA | 754 | C | C5-C4-N4 | 7.59 | 125.51 | 120.20 |
| 35 | BA | 1145 | A | C2-N3-C4 | 7.59 | 114.39 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 951 | C | C5-C4-N4 | -7.59 | 114.89 | 120.20 |
| 2 | AB | 2288 | A | C5-C6-N1 | 7.59 | 121.49 | 117.70 |
| 2 | AB | 218 | A | C3'-C2'-C1' | 7.59 | 107.57 | 101.50 |
| 2 | AB | 1571 | A | N7-C8-N9 | 7.59 | 117.59 | 113.80 |
| 2 | AB | 1718 | G | N3-C2-N2 | 7.59 | 125.21 | 119.90 |
| 2 | AB | 2067 | G | N7-C8-N9 | 7.59 | 116.89 | 113.10 |
| 35 | BA | 70 | U | C5'-C4'-C3' | -7.59 | 103.86 | 116.00 |
| 35 | BA | 444 | G | N3-C2-N2 | 7.59 | 125.21 | 119.90 |
| 37 | BC | 7 | G | O4'-C1'-N9 | 7.59 | 114.27 | 108.20 |
| 2 | AB | 692 | C | N1-C2-O2 | 7.58 | 123.45 | 118.90 |
| 2 | AB | 1460 | U | O4'-C1'-N1 | 7.58 | 114.27 | 108.20 |
| 2 | AB | 1532 | A | N1-C6-N6 | 7.58 | 123.15 | 118.60 |
| 2 | AB | 1819 | A | C5-C6-N1 | 7.58 | 121.49 | 117.70 |
| 2 | AB | 2525 | G | C6-N1-C2 | -7.58 | 120.55 | 125.10 |
| 35 | BA | 83 | C | C6-N1-C2 | -7.58 | 117.27 | 120.30 |
| 35 | BA | 146 | G | C1'-O4'-C4' | -7.58 | 103.83 | 109.90 |
| 1 | AA | 32 | U | N1-C2-N3 | 7.58 | 119.45 | 114.90 |
| 1 | AA | 35 | C | N1-C2-O2 | 7.58 | 123.45 | 118.90 |
| 35 | BA | 1361 | G | N9-C4-C5 | 7.58 | 108.43 | 105.40 |
| 1 | AA | 88 | C | C4-C5-C6 | -7.58 | 113.61 | 117.40 |
| 2 | AB | 1199 | U | C5-C4-O4 | -7.58 | 121.35 | 125.90 |
| 2 | AB | 2512 | C | C6-N1-C2 | -7.58 | 117.27 | 120.30 |
| 2 | AB | 2845 | U | C4'-C3'-C2' | -7.58 | 95.02 | 102.60 |
| 35 | BA | 536 | C | C4-C5-C6 | -7.58 | 113.61 | 117.40 |
| 35 | BA | 985 | C | O4'-C1'-N1 | 7.58 | 114.26 | 108.20 |
| 2 | AB | 2546 | U | C4-C5-C6 | 7.58 | 124.25 | 119.70 |
| 2 | AB | 2577 | A | C4-C5-N7 | -7.58 | 106.91 | 110.70 |
| 2 | AB | 2522 | U | C2-N1-C1' | 7.58 | 126.79 | 117.70 |
| 35 | BA | 67 | C | C5-C6-N1 | -7.58 | 117.21 | 121.00 |
| 35 | BA | 1032 | G | C4'-C3'-C2' | -7.58 | 95.02 | 102.60 |
| 1 | AA | 32 | U | N3-C4-C5 | -7.58 | 110.05 | 114.60 |
| 2 | AB | 1838 | C | C2-N3-C4 | -7.58 | 116.11 | 119.90 |
| 2 | AB | 2402 | U | O4'-C4'-C3' | -7.58 | 96.42 | 104.00 |
| 35 | BA | 1239 | A | C2-N3-C4 | 7.58 | 114.39 | 110.60 |
| 35 | BA | 1458 | G | N9-C1'-C2' | -7.58 | 103.67 | 112.00 |
| 35 | BA | 1541 | U | C4'-C3'-C2' | 7.58 | 110.18 | 102.60 |
| 2 | AB | 83 | A | C4-C5-N7 | -7.57 | 106.91 | 110.70 |
| 2 | AB | 1008 | A | C4-C5-N7 | 7.57 | 114.49 | 110.70 |
| 2 | AB | 1679 | A | N9-C4-C5 | 7.57 | 108.83 | 105.80 |
| 2 | AB | 1991 | U | O4'-C1'-N1 | 7.57 | 114.26 | 108.20 |
| 2 | AB | 2340 | A | C5-N7-C8 | 7.57 | 107.69 | 103.90 |
| 35 | BA | 301 | G | C4'-C3'-C2' | -7.57 | 95.03 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 882 | C | N3-C2-O2 | -7.57 | 116.60 | 121.90 |
| 35 | BA | 931 | C | C5'-C4'-O4' | 7.57 | 118.19 | 109.10 |
| 35 | BA | 1013 | G | C4-C5-N7 | -7.57 | 107.77 | 110.80 |
| 35 | BA | 1089 | G | C3'-C2'-C1' | 7.57 | 107.56 | 101.50 |
| 41 | BG | 23 | THR | CA-CB-CG2 | 7.57 | 123.00 | 112.40 |
| 2 | AB | 1740 | G | C2-N3-C4 | 7.57 | 115.69 | 111.90 |
| 9 | AI | 51 | ARG | NE-CZ-NH1 | -7.57 | 116.51 | 120.30 |
| 35 | BA | 303 | A | C5'-C4'-O4' | 7.57 | 118.19 | 109.10 |
| 35 | BA | 1094 | G | C3'-C2'-C1' | 7.57 | 107.56 | 101.50 |
| 36 | BB | 54 | U | C4-C5-C6 | -7.57 | 115.16 | 119.70 |
| 2 | AB | 122 | G | N9-C4-C5 | 7.57 | 108.43 | 105.40 |
| 2 | AB | 175 | G | C6-N1-C2 | -7.57 | 120.56 | 125.10 |
| 2 | AB | 1091 | G | N3-C4-C5 | -7.57 | 124.81 | 128.60 |
| 2 | AB | 1111 | A | N1-C6-N6 | 7.57 | 123.14 | 118.60 |
| 2 | AB | 2802 | G | N1-C2-N3 | -7.57 | 119.36 | 123.90 |
| 2 | AB | 2823 | A | O4'-C1'-N9 | 7.57 | 114.26 | 108.20 |
| 35 | BA | 459 | A | C5-C6-N1 | 7.57 | 121.48 | 117.70 |
| 35 | BA | 507 | C | C2-N3-C4 | -7.57 | 116.11 | 119.90 |
| 35 | BA | 1489 | G | C4'-C3'-C2' | -7.57 | 95.03 | 102.60 |
| 2 | AB | 1477 | A | C6-N1-C2 | -7.57 | 114.06 | 118.60 |
| 2 | AB | 910 | A | N1-C2-N3 | 7.57 | 133.08 | 129.30 |
| 2 | AB | 1954 | G | O4'-C4'-C3' | 7.57 | 112.16 | 106.10 |
| 2 | AB | 2427 | C | N3-C4-N4 | 7.57 | 123.30 | 118.00 |
| 2 | AB | 2852 | G | C5'-C4'-C3' | -7.57 | 103.89 | 116.00 |
| 35 | BA | 425 | G | N3-C2-N2 | -7.57 | 114.60 | 119.90 |
| 35 | BA | 1083 | U | N3-C2-O2 | -7.57 | 116.90 | 122.20 |
| 36 | BB | 53 | G | O4'-C1'-C2' | -7.57 | 98.23 | 105.80 |
| 2 | AB | 2323 | G | C8-N9-C4 | -7.57 | 103.37 | 106.40 |
| 35 | BA | 102 | G | C2-N3-C4 | 7.57 | 115.68 | 111.90 |
| 35 | BA | 1252 | A | C5-C6-N6 | -7.57 | 117.65 | 123.70 |
| 2 | AB | 67 | U | N3-C2-O2 | -7.56 | 116.91 | 122.20 |
| 2 | AB | 561 | G | N9-C4-C5 | -7.56 | 102.38 | 105.40 |
| 2 | AB | 748 | G | O4'-C1'-C2' | -7.56 | 98.24 | 105.80 |
| 2 | AB | 781 | A | O4'-C1'-N9 | 7.56 | 114.25 | 108.20 |
| 2 | AB | 2081 | U | N3-C2-O2 | -7.56 | 116.91 | 122.20 |
| 2 | AB | 2407 | A | O4'-C1'-N9 | -7.56 | 102.15 | 108.20 |
| 35 | BA | 692 | U | N1-C2-O2 | 7.56 | 128.09 | 122.80 |
| 35 | BA | 924 | C | C5-C4-N4 | -7.56 | 114.91 | 120.20 |
| 35 | BA | 1405 | G | N7-C8-N9 | 7.56 | 116.88 | 113.10 |
| 52 | BR | 56 | ARG | NE-CZ-NH2 | 7.56 | 124.08 | 120.30 |
| 2 | AB | 1407 | G | N3-C2-N2 | 7.56 | 125.19 | 119.90 |
| 35 | BA | 545 | C | C6-N1-C2 | -7.56 | 117.28 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1293 | C | N1-C2-O2 | 7.56 | 123.44 | 118.90 |
| 2 | AB | 1236 | G | C8-N9-C4 | -7.56 | 103.38 | 106.40 |
| 2 | AB | 2629 | U | C3'-C2'-C1' | 7.56 | 107.55 | 101.50 |
| 35 | BA | 502 | A | C6-C5-N7 | 7.56 | 137.59 | 132.30 |
| 35 | BA | 615 | G | N1-C2-N2 | 7.56 | 123.00 | 116.20 |
| 35 | BA | 1360 | A | N1-C2-N3 | -7.56 | 125.52 | 129.30 |
| 35 | BA | 1464 | U | C5-C4-O4 | -7.56 | 121.36 | 125.90 |
| 1 | AA | 55 | U | C1'-O4'-C4' | -7.56 | 103.85 | 109.90 |
| 2 | AB | 108 | G | N7-C8-N9 | 7.56 | 116.88 | 113.10 |
| 2 | AB | 140 | C | N3-C2-O2 | -7.56 | 116.61 | 121.90 |
| 2 | AB | 580 | U | C5'-C4'-O4' | 7.56 | 118.17 | 109.10 |
| 2 | AB | 2716 | C | N1-C2-O2 | 7.56 | 123.44 | 118.90 |
| 35 | BA | 335 | C | N3-C4-C5 | -7.56 | 118.88 | 121.90 |
| 35 | BA | 440 | C | C5-C4-N4 | -7.56 | 114.91 | 120.20 |
| 35 | BA | 1113 | C | C1'-O4'-C4' | -7.56 | 103.86 | 109.90 |
| 2 | AB | 77 | G | C6-N1-C2 | -7.56 | 120.57 | 125.10 |
| 2 | AB | 208 | C | C5-C4-N4 | -7.56 | 114.91 | 120.20 |
| 2 | AB | 690 | G | N3-C4-C5 | -7.56 | 124.82 | 128.60 |
| 2 | AB | 907 | G | N7-C8-N9 | 7.56 | 116.88 | 113.10 |
| 2 | AB | 911 | A | O5'-P-OP2 | -7.56 | 98.90 | 105.70 |
| 2 | AB | 1294 | U | N1-C1'-C2' | -7.56 | 103.69 | 112.00 |
| 2 | AB | 2628 | C | O4'-C1'-N1 | 7.56 | 114.25 | 108.20 |
| 35 | BA | 984 | C | C5'-C4'-O4' | 7.56 | 118.17 | 109.10 |
| 35 | BA | 1174 | G | C4'-C3'-C2' | -7.56 | 95.04 | 102.60 |
| 2 | AB | 148 | U | C5'-C4'-C3' | -7.55 | 103.91 | 116.00 |
| 2 | AB | 181 | A | C8-N9-C4 | -7.55 | 102.78 | 105.80 |
| 2 | AB | 380 | G | N3-C4-N9 | 7.55 | 130.53 | 126.00 |
| 2 | AB | 1425 | G | C1'-O4'-C4' | 7.55 | 115.94 | 109.90 |
| 2 | AB | 1476 | U | C4'-C3'-C2' | -7.55 | 95.05 | 102.60 |
| 2 | AB | 2053 | G | N1-C6-O6 | 7.55 | 124.43 | 119.90 |
| 2 | AB | 2169 | A | C8-N9-C4 | -7.55 | 102.78 | 105.80 |
| 2 | AB | 2237 | G | C4-C5-N7 | 7.55 | 113.82 | 110.80 |
| 2 | AB | 2344 | U | C2-N3-C4 | -7.55 | 122.47 | 127.00 |
| 2 | AB | 2806 | C | C5'-C4'-O4' | 7.55 | 118.17 | 109.10 |
| 35 | BA | 113 | G | C6-N1-C2 | -7.55 | 120.57 | 125.10 |
| 37 | BC | 73 | A | C5-N7-C8 | 7.55 | 107.68 | 103.90 |
| 2 | AB | 320 | A | N1-C2-N3 | -7.55 | 125.52 | 129.30 |
| 35 | BA | 1224 | U | N1-C2-O2 | 7.55 | 128.09 | 122.80 |
| 2 | AB | 452 | G | C4-C5-N7 | -7.55 | 107.78 | 110.80 |
| 2 | AB | 704 | G | P-O3'-C3' | 7.55 | 128.76 | 119.70 |
| 2 | AB | 1020 | A | P-O3'-C3' | 7.55 | 128.76 | 119.70 |
| 2 | AB | 1206 | G | C5-C6-N1 | 7.55 | 115.28 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2204 | G | N3-C4-N9 | 7.55 | 130.53 | 126.00 |
| 35 | BA | 326 | G | N3-C4-C5 | -7.55 | 124.83 | 128.60 |
| 2 | AB | 497 | A | C6-C5-N7 | 7.55 | 137.59 | 132.30 |
| 2 | AB | 1298 | C | O4'-C1'-N1 | 7.55 | 114.24 | 108.20 |
| 2 | AB | 1766 | G | C4-C5-N7 | -7.55 | 107.78 | 110.80 |
| 2 | AB | 1874 | C | N1-C2-N3 | -7.55 | 113.92 | 119.20 |
| 2 | AB | 2768 | U | N1-C2-N3 | 7.55 | 119.43 | 114.90 |
| 35 | BA | 39 | G | N3-C4-C5 | -7.55 | 124.83 | 128.60 |
| 2 | AB | 136 | G | N9-C4-C5 | 7.55 | 108.42 | 105.40 |
| 2 | AB | 1592 | C | N1-C1'-C2' | -7.55 | 103.70 | 112.00 |
| 2 | AB | 2257 | U | C5-C6-N1 | 7.55 | 126.47 | 122.70 |
| 35 | BA | 1204 | A | N7-C8-N9 | 7.55 | 117.57 | 113.80 |
| 2 | AB | 174 | U | C5-C6-N1 | -7.55 | 118.93 | 122.70 |
| 2 | AB | 879 | G | C5-C6-O6 | 7.55 | 133.13 | 128.60 |
| 2 | AB | 1091 | G | C5-C6-N1 | 7.55 | 115.27 | 111.50 |
| 2 | AB | 1468 | U | C5'-C4'-O4' | 7.55 | 118.16 | 109.10 |
| 2 | AB | 1515 | A | C1'-O4'-C4' | -7.55 | 103.86 | 109.90 |
| 2 | AB | 2128 | G | C8-N9-C4 | -7.55 | 103.38 | 106.40 |
| 2 | AB | 2264 | C | C4-C5-C6 | -7.55 | 113.63 | 117.40 |
| 2 | AB | 2860 | A | P-O3'-C3' | 7.55 | 128.76 | 119.70 |
| 36 | BB | 23 | C | C6-N1-C2 | 7.55 | 123.32 | 120.30 |
| 2 | AB | 382 | A | N3-C4-N9 | 7.54 | 133.44 | 127.40 |
| 2 | AB | 585 | G | N7-C8-N9 | 7.54 | 116.87 | 113.10 |
| 2 | AB | 2149 | U | C5-C4-O4 | -7.54 | 121.37 | 125.90 |
| 35 | BA | 843 | U | O4'-C1'-N1 | 7.54 | 114.24 | 108.20 |
| 2 | AB | 179 | C | N1-C2-O2 | 7.54 | 123.43 | 118.90 |
| 2 | AB | 1100 | C | P-O3'-C3' | 7.54 | 128.75 | 119.70 |
| 35 | BA | 507 | C | O4'-C1'-N1 | 7.54 | 114.23 | 108.20 |
| 2 | AB | 124 | G | C4-C5-C6 | 7.54 | 123.32 | 118.80 |
| 2 | AB | 695 | G | C5-N7-C8 | 7.54 | 108.07 | 104.30 |
| 2 | AB | 1426 | G | C4-C5-N7 | 7.54 | 113.82 | 110.80 |
| 2 | AB | 1600 | C | C5-C4-N4 | -7.54 | 114.92 | 120.20 |
| 2 | AB | 2094 | A | C8-N9-C4 | -7.54 | 102.78 | 105.80 |
| 2 | AB | 2097 | A | N9-C4-C5 | 7.54 | 108.82 | 105.80 |
| 2 | AB | 2148 | G | N1-C2-N2 | -7.54 | 109.41 | 116.20 |
| 35 | BA | 358 | U | O4'-C1'-N1 | 7.54 | 114.23 | 108.20 |
| 35 | BA | 692 | U | C5-C6-N1 | -7.54 | 118.93 | 122.70 |
| 35 | BA | 693 | G | C3'-C2'-C1' | 7.54 | 107.53 | 101.50 |
| 2 | AB | 332 | A | C6-N1-C2 | -7.54 | 114.08 | 118.60 |
| 35 | BA | 161 | A | N7-C8-N9 | 7.54 | 117.57 | 113.80 |
| 35 | BA | 345 | C | C4'-C3'-C2' | -7.54 | 95.06 | 102.60 |
| 36 | BB | 42 | U | N3-C4-O4 | 7.54 | 124.68 | 119.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 30 | G | O4'-C1'-N9 | 7.54 | 114.23 | 108.20 |
| 2 | AB | 55 | G | N9-C4-C5 | 7.54 | 108.42 | 105.40 |
| 2 | AB | 431 | U | O4'-C1'-N1 | 7.54 | 114.23 | 108.20 |
| 35 | BA | 262 | A | N1-C2-N3 | -7.54 | 125.53 | 129.30 |
| 35 | BA | 1074 | G | N1-C6-O6 | 7.54 | 124.42 | 119.90 |
| 2 | AB | 427 | U | C4-C5-C6 | 7.54 | 124.22 | 119.70 |
| 2 | AB | 751 | A | C4-C5-N7 | 7.54 | 114.47 | 110.70 |
| 2 | AB | 2518 | A | N1-C6-N6 | -7.54 | 114.08 | 118.60 |
| 37 | BC | 70 | C | C1'-O4'-C4' | 7.54 | 115.93 | 109.90 |
| 50 | BP | 41 | TRP | NE1-CE2-CZ2 | 7.54 | 138.69 | 130.40 |
| 2 | AB | 1326 | U | C1'-O4'-C4' | -7.54 | 103.87 | 109.90 |
| 2 | AB | 1603 | A | O4'-C4'-C3' | 7.54 | 112.13 | 106.10 |
| 2 | AB | 1611 | C | C4-C5-C6 | -7.54 | 113.63 | 117.40 |
| 2 | AB | 1699 | G | C2-N3-C4 | -7.54 | 108.13 | 111.90 |
| 35 | BA | 1209 | C | N1-C2-O2 | 7.54 | 123.42 | 118.90 |
| 52 | BR | 25 | ARG | NE-CZ-NH1 | 7.54 | 124.07 | 120.30 |
| 2 | AB | 927 | A | N3-C4-N9 | -7.53 | 121.37 | 127.40 |
| 2 | AB | 1326 | U | C2-N3-C4 | -7.53 | 122.48 | 127.00 |
| 2 | AB | 2340 | A | C6-N1-C2 | 7.53 | 123.12 | 118.60 |
| 2 | AB | 2652 | C | N1-C2-O2 | 7.53 | 123.42 | 118.90 |
| 35 | BA | 51 | A | C3'-C2'-C1' | 7.53 | 107.53 | 101.50 |
| 35 | BA | 347 | G | C8-N9-C4 | -7.53 | 103.39 | 106.40 |
| 35 | BA | 1253 | G | C6-N1-C2 | -7.53 | 120.58 | 125.10 |
| 35 | BA | 1328 | C | C4-C5-C6 | -7.53 | 113.63 | 117.40 |
| 1 | AA | 64 | G | C4-N9-C1' | -7.53 | 116.71 | 126.50 |
| 2 | AB | 1757 | A | N3-C4-C5 | -7.53 | 121.53 | 126.80 |
| 2 | AB | 2303 | G | N3-C2-N2 | 7.53 | 125.17 | 119.90 |
| 2 | AB | 10 | A | C4'-C3'-C2' | -7.53 | 95.07 | 102.60 |
| 2 | AB | 314 | C | C5-C6-N1 | 7.53 | 124.77 | 121.00 |
| 2 | AB | 1135 | C | C5'-C4'-O4' | 7.53 | 118.14 | 109.10 |
| 2 | AB | 1245 | G | C4'-C3'-C2' | -7.53 | 95.07 | 102.60 |
| 2 | AB | 1703 | G | N7-C8-N9 | -7.53 | 109.33 | 113.10 |
| 2 | AB | 1809 | A | N1-C6-N6 | -7.53 | 114.08 | 118.60 |
| 2 | AB | 2204 | G | C5-C6-O6 | -7.53 | 124.08 | 128.60 |
| 2 | AB | 2406 | A | P-O3'-C3' | 7.53 | 128.74 | 119.70 |
| 2 | AB | 1435 | G | C6-N1-C2 | -7.53 | 120.58 | 125.10 |
| 2 | AB | 2005 | A | C8-N9-C4 | 7.53 | 108.81 | 105.80 |
| 2 | AB | 2671 | G | N1-C2-N3 | -7.53 | 119.38 | 123.90 |
| 2 | AB | 2691 | C | C5-C4-N4 | 7.53 | 125.47 | 120.20 |
| 35 | BA | 298 | A | C4-C5-N7 | -7.53 | 106.94 | 110.70 |
| 2 | AB | 271 | G | O4'-C1'-N9 | 7.53 | 114.22 | 108.20 |
| 2 | AB | 534 | U | C5-C6-N1 | 7.53 | 126.46 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2261 | C | N3-C2-O2 | -7.53 | 116.63 | 121.90 |
| 2 | AB | 2645 | G | N3-C4-C5 | -7.53 | 124.84 | 128.60 |
| 35 | BA | 129 | A | N9-C4-C5 | 7.53 | 108.81 | 105.80 |
| 35 | BA | 444 | G | C8-N9-C4 | -7.53 | 103.39 | 106.40 |
| 35 | BA | 898 | G | N9-C1'-C2' | -7.53 | 103.72 | 112.00 |
| 35 | BA | 1133 | G | N1-C6-O6 | 7.53 | 124.42 | 119.90 |
| 35 | BA | 1332 | A | N7-C8-N9 | 7.53 | 117.56 | 113.80 |
| 2 | AB | 1095 | A | C3'-C2'-C1' | 7.53 | 107.52 | 101.50 |
| 2 | AB | 1334 | G | N9-C4-C5 | -7.53 | 102.39 | 105.40 |
| 2 | AB | 1884 | G | C8-N9-C4 | -7.53 | 103.39 | 106.40 |
| 35 | BA | 894 | G | C4'-C3'-C2' | -7.53 | 95.07 | 102.60 |
| 35 | BA | 1000 | A | C5-C6-N1 | 7.53 | 121.46 | 117.70 |
| 35 | BA | 1001 | C | C5-C6-N1 | -7.53 | 117.24 | 121.00 |
| 35 | BA | 1385 | G | N1-C6-O6 | -7.53 | 115.39 | 119.90 |
| 2 | AB | 385 | C | C2-N3-C4 | 7.52 | 123.66 | 119.90 |
| 2 | AB | 930 | G | C4-C5-C6 | 7.52 | 123.31 | 118.80 |
| 2 | AB | 2333 | A | N1-C2-N3 | -7.52 | 125.54 | 129.30 |
| 35 | BA | 296 | U | C4-C5-C6 | 7.52 | 124.21 | 119.70 |
| 1 | AA | 24 | G | C5-C6-N1 | 7.52 | 115.26 | 111.50 |
| 2 | AB | 1582 | C | C4'-C3'-C2' | -7.52 | 95.08 | 102.60 |
| 2 | AB | 2583 | G | N3-C4-N9 | 7.52 | 130.51 | 126.00 |
| 35 | BA | 719 | C | N3-C4-C5 | -7.52 | 118.89 | 121.90 |
| 37 | BC | 29 | C | O4'-C1'-C2' | -7.52 | 98.28 | 105.80 |
| 2 | AB | 704 | G | C4-C5-C6 | -7.52 | 114.29 | 118.80 |
| 2 | AB | 1182 | G | N7-C8-N9 | 7.52 | 116.86 | 113.10 |
| 2 | AB | 1382 | G | O4'-C1'-N9 | 7.52 | 114.22 | 108.20 |
| 2 | AB | 2697 | G | O4'-C1'-N9 | 7.52 | 114.22 | 108.20 |
| 2 | AB | 232 | G | C2-N3-C4 | -7.52 | 108.14 | 111.90 |
| 2 | AB | 635 | C | C4-C5-C6 | -7.52 | 113.64 | 117.40 |
| 2 | AB | 1784 | A | C6-N1-C2 | 7.52 | 123.11 | 118.60 |
| 2 | AB | 1905 | C | O4'-C1'-N1 | 7.52 | 114.22 | 108.20 |
| 2 | AB | 2750 | A | C2-N3-C4 | 7.52 | 114.36 | 110.60 |
| 35 | BA | 60 | A | N3-C4-C5 | -7.52 | 121.54 | 126.80 |
| 2 | AB | 656 | G | C6-C5-N7 | -7.52 | 125.89 | 130.40 |
| 2 | AB | 829 | A | O4'-C4'-C3' | 7.52 | 112.11 | 106.10 |
| 2 | AB | 1574 | C | C4'-C3'-C2' | -7.52 | 95.08 | 102.60 |
| 2 | AB | 2148 | G | C2-N3-C4 | 7.52 | 115.66 | 111.90 |
| 2 | AB | 2833 | U | N3-C4-C5 | -7.52 | 110.09 | 114.60 |
| 2 | AB | 2877 | G | C2-N3-C4 | 7.52 | 115.66 | 111.90 |
| 4 | AD | 101 | ARG | NE-CZ-NH2 | -7.52 | 116.54 | 120.30 |
| 35 | BA | 324 | G | N3-C4-C5 | -7.52 | 124.84 | 128.60 |
| 2 | AB | 1654 | A | C5-C6-N1 | 7.52 | 121.46 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1107 | C | C6-N1-C2 | -7.52 | 117.29 | 120.30 |
| 35 | BA | 1532 | U | O4'-C1'-N1 | 7.52 | 114.21 | 108.20 |
| 2 | AB | 185 | G | N3-C4-N9 | 7.51 | 130.51 | 126.00 |
| 2 | AB | 499 | U | N1-C2-N3 | 7.51 | 119.41 | 114.90 |
| 2 | AB | 1839 | G | C5-C6-N1 | 7.51 | 115.26 | 111.50 |
| 2 | AB | 2601 | C | O4'-C1'-N1 | 7.51 | 114.21 | 108.20 |
| 2 | AB | 2826 | A | N7-C8-N9 | 7.51 | 117.56 | 113.80 |
| 13 | AM | 32 | TYR | CG-CD2-CE2 | -7.51 | 115.29 | 121.30 |
| 35 | BA | 333 | U | C1'-O4'-C4' | 7.51 | 115.91 | 109.90 |
| 35 | BA | 436 | C | C5-C4-N4 | 7.51 | 125.46 | 120.20 |
| 35 | BA | 711 | G | N3-C4-C5 | -7.51 | 124.84 | 128.60 |
| 35 | BA | 1334 | G | C5-C6-O6 | -7.51 | 124.09 | 128.60 |
| 2 | AB | 1284 | A | C8-N9-C4 | -7.51 | 102.80 | 105.80 |
| 2 | AB | 1603 | A | C1'-O4'-C4' | -7.51 | 103.89 | 109.90 |
| 2 | AB | 1740 | G | C5-N7-C8 | -7.51 | 100.54 | 104.30 |
| 35 | BA | 774 | G | N3-C2-N2 | 7.51 | 125.16 | 119.90 |
| 1 | AA | 39 | A | C4'-C3'-C2' | -7.51 | 95.09 | 102.60 |
| 2 | AB | 7 | G | C2-N3-C4 | 7.51 | 115.66 | 111.90 |
| 2 | AB | 65 | U | C4-C5-C6 | 7.51 | 124.21 | 119.70 |
| 2 | AB | 209 | C | N3-C4-C5 | -7.51 | 118.89 | 121.90 |
| 2 | AB | 993 | G | P-O3'-C3' | 7.51 | 128.72 | 119.70 |
| 35 | BA | 210 | C | C5-C4-N4 | 7.51 | 125.46 | 120.20 |
| 35 | BA | 471 | U | C5-C4-O4 | -7.51 | 121.39 | 125.90 |
| 35 | BA | 1265 | C | C2-N3-C4 | 7.51 | 123.66 | 119.90 |
| 40 | BF | 183 | ARG | NE-CZ-NH2 | 7.51 | 124.06 | 120.30 |
| 1 | AA | 17 | C | C2-N3-C4 | 7.51 | 123.66 | 119.90 |
| 2 | AB | 707 | G | N9-C4-C5 | 7.51 | 108.40 | 105.40 |
| 2 | AB | 1110 | G | C3'-C2'-C1' | -7.51 | 95.49 | 101.50 |
| 2 | AB | 1427 | A | N1-C2-N3 | -7.51 | 125.55 | 129.30 |
| 2 | AB | 1518 | C | N3-C4-C5 | -7.51 | 118.90 | 121.90 |
| 2 | AB | 1767 | G | C4-C5-N7 | -7.51 | 107.80 | 110.80 |
| 2 | AB | 1818 | U | C5-C4-O4 | 7.51 | 130.41 | 125.90 |
| 35 | BA | 160 | A | O4'-C1'-N9 | 7.51 | 114.21 | 108.20 |
| 35 | BA | 1219 | A | C2-N3-C4 | 7.51 | 114.36 | 110.60 |
| 2 | AB | 15 | G | C5-N7-C8 | -7.51 | 100.55 | 104.30 |
| 2 | AB | 592 | A | N1-C6-N6 | 7.51 | 123.10 | 118.60 |
| 2 | AB | 1441 | G | C5-C6-N1 | 7.51 | 115.25 | 111.50 |
| 2 | AB | 1761 | C | C5-C4-N4 | 7.51 | 125.45 | 120.20 |
| 2 | AB | 1868 | C | C4'-C3'-C2' | -7.51 | 95.09 | 102.60 |
| 2 | AB | 2068 | U | N3-C2-O2 | -7.51 | 116.95 | 122.20 |
| 2 | AB | 2180 | U | N1-C2-O2 | 7.51 | 128.06 | 122.80 |
| 2 | AB | 2417 | C | O4'-C1'-N1 | 7.51 | 114.20 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2725 | A | C5'-C4'-O4' | 7.51 | 118.11 | 109.10 |
| 35 | BA | 7 | A | N9-C4-C5 | 7.51 | 108.80 | 105.80 |
| 35 | BA | 254 | G | N3-C4-C5 | -7.51 | 124.85 | 128.60 |
| 2 | AB | 1837 | C | C5-C6-N1 | 7.50 | 124.75 | 121.00 |
| 2 | AB | 2538 | C | N3-C2-O2 | -7.50 | 116.65 | 121.90 |
| 35 | BA | 572 | A | N7-C8-N9 | 7.50 | 117.55 | 113.80 |
| 35 | BA | 1461 | G | C4'-C3'-C2' | -7.50 | 95.09 | 102.60 |
| 1 | AA | 21 | G | N1-C2-N3 | -7.50 | 119.40 | 123.90 |
| 1 | AA | 106 | G | C5-C6-O6 | -7.50 | 124.10 | 128.60 |
| 2 | AB | 5 | A | C6-N1-C2 | 7.50 | 123.10 | 118.60 |
| 2 | AB | 643 | A | C2-N3-C4 | 7.50 | 114.35 | 110.60 |
| 2 | AB | 1219 | U | N1-C2-N3 | 7.50 | 119.40 | 114.90 |
| 2 | AB | 1355 | G | N3-C4-C5 | -7.50 | 124.85 | 128.60 |
| 2 | AB | 1535 | A | C1'-O4'-C4' | -7.50 | 103.90 | 109.90 |
| 2 | AB | 2798 | U | C6-N1-C2 | -7.50 | 116.50 | 121.00 |
| 35 | BA | 588 | G | C5-C6-O6 | 7.50 | 133.10 | 128.60 |
| 35 | BA | 764 | C | P-O3'-C3' | 7.50 | 128.70 | 119.70 |
| 35 | BA | 1306 | A | C1'-O4'-C4' | -7.50 | 103.90 | 109.90 |
| 2 | AB | 584 | C | C5'-C4'-O4' | 7.50 | 118.10 | 109.10 |
| 2 | AB | 962 | G | C3'-C2'-C1' | 7.50 | 107.50 | 101.50 |
| 2 | AB | 2054 | A | C5-N7-C8 | -7.50 | 100.15 | 103.90 |
| 2 | AB | 2323 | G | N1-C2-N2 | 7.50 | 122.95 | 116.20 |
| 2 | AB | 2534 | A | C6-N1-C2 | 7.50 | 123.10 | 118.60 |
| 13 | AM | 100 | PHE | CG-CD1-CE1 | 7.50 | 129.05 | 120.80 |
| 35 | BA | 577 | G | C4-C5-C6 | 7.50 | 123.30 | 118.80 |
| 35 | BA | 634 | C | N3-C4-N4 | -7.50 | 112.75 | 118.00 |
| 2 | AB | 92 | U | N1-C2-N3 | -7.50 | 110.40 | 114.90 |
| 35 | BA | 1445 | U | N3-C2-O2 | -7.50 | 116.95 | 122.20 |
| 2 | AB | 277 | G | C8-N9-C4 | -7.50 | 103.40 | 106.40 |
| 2 | AB | 1789 | A | N1-C2-N3 | 7.50 | 133.05 | 129.30 |
| 2 | AB | 1857 | G | N7-C8-N9 | 7.50 | 116.85 | 113.10 |
| 2 | AB | 2887 | A | C3'-C2'-C1' | -7.50 | 95.50 | 101.50 |
| 12 | AL | 34 | ARG | NE-CZ-NH1 | 7.50 | 124.05 | 120.30 |
| 35 | BA | 413 | G | N1-C2-N2 | 7.50 | 122.95 | 116.20 |
| 35 | BA | 1326 | U | C2-N3-C4 | -7.50 | 122.50 | 127.00 |
| 2 | AB | 43 | G | N3-C4-C5 | -7.50 | 124.85 | 128.60 |
| 2 | AB | 2487 | G | C2-N3-C4 | 7.50 | 115.65 | 111.90 |
| 2 | AB | 2543 | G | C6-N1-C2 | 7.50 | 129.60 | 125.10 |
| 35 | BA | 28 | A | C5-C6-N6 | -7.50 | 117.70 | 123.70 |
| 35 | BA | 609 | A | C5-C6-N6 | -7.50 | 117.70 | 123.70 |
| 35 | BA | 1307 | U | N1-C2-O2 | -7.50 | 117.55 | 122.80 |
| 2 | AB | 2562 | U | O4'-C1'-N1 | 7.50 | 114.20 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2817 | U | N1-C2-O2 | 7.50 | 128.05 | 122.80 |
| 35 | BA | 1127 | G | C5-C6-O6 | -7.50 | 124.10 | 128.60 |
| 35 | BA | 1246 | A | N9-C1'-C2' | -7.50 | 103.75 | 112.00 |
| 37 | BC | 72 | C | O4'-C1'-N1 | 7.50 | 114.20 | 108.20 |
| 2 | AB | 57 | C | N1-C1'-C2' | -7.49 | 103.76 | 112.00 |
| 2 | AB | 588 | U | C3'-C2'-C1' | -7.49 | 95.50 | 101.50 |
| 2 | AB | 603 | A | C5'-C4'-C3' | -7.49 | 104.01 | 116.00 |
| 2 | AB | 751 | A | C5'-C4'-O4' | 7.49 | 118.09 | 109.10 |
| 2 | AB | 1356 | G | C5-N7-C8 | -7.49 | 100.55 | 104.30 |
| 2 | AB | 2093 | G | N9-C4-C5 | 7.49 | 108.40 | 105.40 |
| 2 | AB | 2900 | A | N7-C8-N9 | 7.49 | 117.55 | 113.80 |
| 2 | AB | 635 | C | C1'-O4'-C4' | 7.49 | 115.89 | 109.90 |
| 2 | AB | 729 | G | O4'-C1'-N9 | 7.49 | 114.19 | 108.20 |
| 35 | BA | 816 | A | C5'-C4'-O4' | 7.49 | 118.09 | 109.10 |
| 35 | BA | 1253 | G | N3-C2-N2 | -7.49 | 114.66 | 119.90 |
| 2 | AB | 179 | C | O4'-C1'-N1 | 7.49 | 114.19 | 108.20 |
| 2 | AB | 1071 | G | N9-C4-C5 | 7.49 | 108.40 | 105.40 |
| 2 | AB | 1281 | G | N7-C8-N9 | 7.49 | 116.84 | 113.10 |
| 2 | AB | 1938 | A | C6-N1-C2 | -7.49 | 114.11 | 118.60 |
| 2 | AB | 2207 | C | C4'-C3'-C2' | -7.49 | 95.11 | 102.60 |
| 35 | BA | 323 | U | C4-C5-C6 | 7.49 | 124.19 | 119.70 |
| 35 | BA | 682 | G | C2-N3-C4 | 7.49 | 115.65 | 111.90 |
| 35 | BA | 715 | A | N7-C8-N9 | 7.49 | 117.55 | 113.80 |
| 35 | BA | 995 | C | C2-N3-C4 | 7.49 | 123.64 | 119.90 |
| 35 | BA | 1006 | G | O4'-C1'-N9 | 7.49 | 114.19 | 108.20 |
| 2 | AB | 69 | C | C5'-C4'-O4' | 7.49 | 118.09 | 109.10 |
| 2 | AB | 156 | A | N9-C4-C5 | 7.49 | 108.80 | 105.80 |
| 2 | AB | 277 | G | N1-C6-O6 | -7.49 | 115.41 | 119.90 |
| 2 | AB | 468 | G | N1-C2-N3 | -7.49 | 119.41 | 123.90 |
| 2 | AB | 1362 | C | C5-C6-N1 | 7.49 | 124.74 | 121.00 |
| 2 | AB | 2146 | C | C3'-C2'-C1' | -7.49 | 95.51 | 101.50 |
| 2 | AB | 2233 | U | N1-C1'-C2' | -7.49 | 103.76 | 112.00 |
| 2 | AB | 2653 | U | N1-C1'-C2' | 7.49 | 123.74 | 114.00 |
| 2 | AB | 2796 | U | C2-N3-C4 | -7.49 | 122.51 | 127.00 |
| 17 | AQ | 33 | ARG | NE-CZ-NH1 | 7.49 | 124.04 | 120.30 |
| 17 | AQ | 111 | ARG | NE-CZ-NH2 | -7.49 | 116.56 | 120.30 |
| 35 | BA | 49 | U | C6-N1-C1' | -7.49 | 110.72 | 121.20 |
| 35 | BA | 1069 | C | C1'-O4'-C4' | 7.49 | 115.89 | 109.90 |
| 35 | BA | 1085 | U | N1-C2-N3 | 7.49 | 119.39 | 114.90 |
| 35 | BA | 1176 | A | C2-N3-C4 | 7.49 | 114.34 | 110.60 |
| 35 | BA | 1437 | A | C2-N3-C4 | -7.49 | 106.86 | 110.60 |
| 2 | AB | 168 | G | C5-N7-C8 | -7.49 | 100.56 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 560 | C | N3-C4-C5 | -7.49 | 118.91 | 121.90 |
| 2 | AB | 1072 | C | O4'-C4'-C3' | -7.49 | 96.51 | 104.00 |
| 2 | AB | 1309 | G | C4-C5-C6 | 7.49 | 123.29 | 118.80 |
| 2 | AB | 1667 | G | O4'-C1'-N9 | 7.49 | 114.19 | 108.20 |
| 2 | AB | 1724 | G | C2-N3-C4 | 7.49 | 115.64 | 111.90 |
| 2 | AB | 1995 | U | N1-C2-N3 | -7.49 | 110.41 | 114.90 |
| 2 | AB | 404 | A | C1'-O4'-C4' | -7.49 | 103.91 | 109.90 |
| 2 | AB | 954 | G | C8-N9-C4 | -7.49 | 103.41 | 106.40 |
| 2 | AB | 1124 | G | N3-C4-N9 | -7.49 | 121.51 | 126.00 |
| 2 | AB | 1195 | G | N3-C2-N2 | 7.49 | 125.14 | 119.90 |
| 2 | AB | 1589 | U | N1-C2-O2 | 7.49 | 128.04 | 122.80 |
| 2 | AB | 2024 | G | N1-C6-O6 | 7.49 | 124.39 | 119.90 |
| 35 | BA | 263 | A | C2-N3-C4 | -7.49 | 106.86 | 110.60 |
| 35 | BA | 760 | G | N9-C4-C5 | 7.49 | 108.39 | 105.40 |
| 36 | BB | 16 | A | N1-C6-N6 | -7.49 | 114.11 | 118.60 |
| 2 | AB | 1510 | G | C6-N1-C2 | 7.48 | 129.59 | 125.10 |
| 2 | AB | 543 | G | C4'-C3'-C2' | -7.48 | 95.12 | 102.60 |
| 2 | AB | 796 | C | C3'-C2'-C1' | 7.48 | 107.49 | 101.50 |
| 2 | AB | 1445 | G | C5-C6-O6 | -7.48 | 124.11 | 128.60 |
| 2 | AB | 2545 | G | N9-C4-C5 | 7.48 | 108.39 | 105.40 |
| 35 | BA | 150 | U | O4'-C1'-N1 | 7.48 | 114.19 | 108.20 |
| 35 | BA | 654 | G | N1-C2-N2 | 7.48 | 122.94 | 116.20 |
| 35 | BA | 703 | G | C8-N9-C4 | -7.48 | 103.41 | 106.40 |
| 35 | BA | 905 | U | C5-C6-N1 | -7.48 | 118.96 | 122.70 |
| 35 | BA | 1218 | C | C5-C4-N4 | 7.48 | 125.44 | 120.20 |
| 37 | BC | 29 | C | N3-C4-C5 | -7.48 | 118.91 | 121.90 |
| 1 | AA | 38 | C | C3'-C2'-C1' | -7.48 | 95.52 | 101.50 |
| 1 | AA | 64 | G | C4-C5-N7 | -7.48 | 107.81 | 110.80 |
| 2 | AB | 180 | G | N9-C4-C5 | -7.48 | 102.41 | 105.40 |
| 2 | AB | 442 | G | C5-C6-N1 | 7.48 | 115.24 | 111.50 |
| 2 | AB | 645 | C | N3-C2-O2 | 7.48 | 127.14 | 121.90 |
| 2 | AB | 915 | C | C1'-O4'-C4' | -7.48 | 103.92 | 109.90 |
| 2 | AB | 1612 | C | N1-C2-N3 | -7.48 | 113.96 | 119.20 |
| 2 | AB | 2351 | G | C4'-C3'-C2' | -7.48 | 95.12 | 102.60 |
| 35 | BA | 521 | G | C2-N3-C4 | 7.48 | 115.64 | 111.90 |
| 35 | BA | 581 | G | O4'-C1'-N9 | 7.48 | 114.18 | 108.20 |
| 35 | BA | 978 | A | C6-N1-C2 | 7.48 | 123.09 | 118.60 |
| 35 | BA | 1249 | C | C6-N1-C2 | -7.48 | 117.31 | 120.30 |
| 35 | BA | 1304 | G | C6-N1-C2 | -7.48 | 120.61 | 125.10 |
| 36 | BB | 14 | G | N7-C8-N9 | 7.48 | 116.84 | 113.10 |
| 49 | BO | 10 | ASP | CB-CG-OD2 | -7.48 | 111.57 | 118.30 |
| 2 | AB | 823 | C | C2-N3-C4 | 7.48 | 123.64 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 942 | G | C8-N9-C1' | 7.48 | 136.72 | 127.00 |
| 2 | AB | 2138 | G | C5-C6-N1 | 7.48 | 115.24 | 111.50 |
| 2 | AB | 2389 | G | C5-C6-N1 | 7.48 | 115.24 | 111.50 |
| 47 | BM | 92 | ARG | NE-CZ-NH2 | -7.48 | 116.56 | 120.30 |
| 2 | AB | 342 | A | N9-C4-C5 | -7.48 | 102.81 | 105.80 |
| 2 | AB | 1663 | G | N1-C2-N3 | -7.48 | 119.41 | 123.90 |
| 2 | AB | 1673 | G | C5-C6-O6 | -7.48 | 124.11 | 128.60 |
| 2 | AB | 2778 | A | C8-N9-C4 | -7.48 | 102.81 | 105.80 |
| 35 | BA | 176 | C | C5-C4-N4 | -7.48 | 114.97 | 120.20 |
| 35 | BA | 620 | C | C2-N3-C4 | 7.48 | 123.64 | 119.90 |
| 35 | BA | 1390 | U | C4'-C3'-C2' | -7.48 | 95.12 | 102.60 |
| 35 | BA | 1431 | A | C5-C6-N1 | 7.48 | 121.44 | 117.70 |
| 48 | BN | 37 | TYR | CG-CD1-CE1 | 7.48 | 127.28 | 121.30 |
| 2 | AB | 696 | G | N9-C4-C5 | 7.48 | 108.39 | 105.40 |
| 2 | AB | 1224 | U | N1-C2-N3 | 7.48 | 119.39 | 114.90 |
| 2 | AB | 245 | G | N7-C8-N9 | 7.47 | 116.84 | 113.10 |
| 2 | AB | 472 | A | C5'-C4'-O4' | 7.47 | 118.07 | 109.10 |
| 2 | AB | 1103 | A | P-O3'-C3' | 7.47 | 128.67 | 119.70 |
| 2 | AB | 2083 | G | P-O3'-C3' | 7.47 | 128.67 | 119.70 |
| 2 | AB | 2138 | G | C4-C5-C6 | -7.47 | 114.31 | 118.80 |
| 2 | AB | 2226 | C | C2-N3-C4 | 7.47 | 123.64 | 119.90 |
| 2 | AB | 2667 | C | C5-C4-N4 | 7.47 | 125.43 | 120.20 |
| 2 | AB | 2834 | G | C5-C6-N1 | -7.47 | 107.76 | 111.50 |
| 2 | AB | 2838 | G | C4-C5-C6 | 7.47 | 123.28 | 118.80 |
| 35 | BA | 871 | U | C5-C6-N1 | -7.47 | 118.96 | 122.70 |
| 35 | BA | 1285 | A | N3-C4-C5 | -7.47 | 121.57 | 126.80 |
| 37 | BC | 52 | C | C2-N3-C4 | 7.47 | 123.64 | 119.90 |
| 2 | AB | 132 | G | C4-C5-N7 | -7.47 | 107.81 | 110.80 |
| 2 | AB | 875 | G | C6-C5-N7 | -7.47 | 125.92 | 130.40 |
| 2 | AB | 1189 | A | C8-N9-C4 | 7.47 | 108.79 | 105.80 |
| 2 | AB | 2076 | U | C5-C6-N1 | -7.47 | 118.96 | 122.70 |
| 2 | AB | 2288 | A | C1'-O4'-C4' | 7.47 | 115.88 | 109.90 |
| 2 | AB | 2366 | A | C4'-C3'-C2' | -7.47 | 95.13 | 102.60 |
| 2 | AB | 2727 | A | N9-C4-C5 | 7.47 | 108.79 | 105.80 |
| 2 | AB | 2777 | G | P-O3'-C3' | 7.47 | 128.67 | 119.70 |
| 35 | BA | 819 | A | C4-C5-N7 | -7.47 | 106.96 | 110.70 |
| 35 | BA | 1499 | A | C8-N9-C4 | -7.47 | 102.81 | 105.80 |
| 2 | AB | 8 | C | C5'-C4'-O4' | 7.47 | 118.06 | 109.10 |
| 2 | AB | 1122 | G | N3-C4-C5 | -7.47 | 124.87 | 128.60 |
| 2 | AB | 1460 | U | O4'-C1'-C2' | -7.47 | 98.33 | 105.80 |
| 2 | AB | 1970 | A | C4-C5-N7 | -7.47 | 106.97 | 110.70 |
| 2 | AB | 2346 | A | C4-C5-N7 | -7.47 | 106.97 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2674 | G | N3-C4-C5 | -7.47 | 124.86 | 128.60 |
| 35 | BA | 983 | A | C2-N3-C4 | 7.47 | 114.33 | 110.60 |
| 35 | BA | 1074 | G | C1'-O4'-C4' | 7.47 | 115.88 | 109.90 |
| 35 | BA | 1173 | U | C2-N3-C4 | -7.47 | 122.52 | 127.00 |
| 35 | BA | 1510 | C | C4'-C3'-C2' | -7.47 | 95.13 | 102.60 |
| 2 | AB | 989 | G | O4'-C1'-N9 | 7.47 | 114.17 | 108.20 |
| 2 | AB | 2872 | A | C8-N9-C4 | -7.47 | 102.81 | 105.80 |
| 1 | AA | 9 | G | C5'-C4'-O4' | 7.47 | 118.06 | 109.10 |
| 1 | AA | 110 | C | C1'-O4'-C4' | 7.47 | 115.87 | 109.90 |
| 2 | AB | 398 | C | O4'-C1'-N1 | 7.47 | 114.17 | 108.20 |
| 2 | AB | 426 | C | N3-C2-O2 | -7.47 | 116.67 | 121.90 |
| 2 | AB | 864 | G | N1-C2-N2 | 7.47 | 122.92 | 116.20 |
| 2 | AB | 872 | U | C4'-C3'-C2' | -7.47 | 95.13 | 102.60 |
| 2 | AB | 985 | C | O4'-C1'-N1 | 7.47 | 114.17 | 108.20 |
| 2 | AB | 1766 | G | O4'-C1'-N9 | 7.47 | 114.17 | 108.20 |
| 2 | AB | 1826 | G | N9-C4-C5 | 7.47 | 108.39 | 105.40 |
| 2 | AB | 1900 | A | N7-C8-N9 | -7.47 | 110.07 | 113.80 |
| 2 | AB | 2477 | U | C3'-C2'-C1' | 7.47 | 107.47 | 101.50 |
| 35 | BA | 217 | C | C5-C6-N1 | -7.47 | 117.27 | 121.00 |
| 35 | BA | 471 | U | N3-C4-O4 | 7.47 | 124.63 | 119.40 |
| 35 | BA | 1160 | G | C5-N7-C8 | 7.47 | 108.03 | 104.30 |
| 2 | AB | 1124 | G | C5-C6-O6 | 7.46 | 133.08 | 128.60 |
| 2 | AB | 2748 | A | C8-N9-C4 | -7.46 | 102.81 | 105.80 |
| 2 | AB | 2860 | A | C3'-C2'-C1' | 7.46 | 107.47 | 101.50 |
| 35 | BA | 300 | A | C5-C6-N6 | -7.46 | 117.73 | 123.70 |
| 35 | BA | 515 | G | O4'-C1'-N9 | 7.46 | 114.17 | 108.20 |
| 35 | BA | 903 | G | N9-C4-C5 | 7.46 | 108.39 | 105.40 |
| 35 | BA | 1511 | G | C1'-O4'-C4' | 7.46 | 115.87 | 109.90 |
| 2 | AB | 956 | G | O4'-C1'-N9 | 7.46 | 114.17 | 108.20 |
| 2 | AB | 1081 | U | P-O5'-C5' | 7.46 | 132.84 | 120.90 |
| 2 | AB | 1259 | G | N9-C4-C5 | 7.46 | 108.39 | 105.40 |
| 2 | AB | 2697 | G | C4-C5-N7 | -7.46 | 107.81 | 110.80 |
| 35 | BA | 117 | G | N1-C6-O6 | -7.46 | 115.42 | 119.90 |
| 35 | BA | 256 | U | N3-C4-C5 | -7.46 | 110.12 | 114.60 |
| 35 | BA | 642 | A | O4'-C1'-N9 | -7.46 | 102.23 | 108.20 |
| 35 | BA | 717 | U | N3-C4-O4 | 7.46 | 124.62 | 119.40 |
| 2 | AB | 753 | A | C8-N9-C4 | -7.46 | 102.82 | 105.80 |
| 2 | AB | 1116 | G | C4-C5-N7 | -7.46 | 107.82 | 110.80 |
| 2 | AB | 1339 | G | N3-C4-N9 | 7.46 | 130.48 | 126.00 |
| 2 | AB | 1455 | G | C2-N3-C4 | 7.46 | 115.63 | 111.90 |
| 2 | AB | 2517 | C | C4-C5-C6 | -7.46 | 113.67 | 117.40 |
| 2 | AB | 918 | A | C4-C5-N7 | -7.46 | 106.97 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 260 | G | N9-C4-C5 | 7.46 | 108.38 | 105.40 |
| 35 | BA | 694 | A | O4'-C1'-N9 | 7.46 | 114.17 | 108.20 |
| 1 | AA | 102 | G | C4-C5-N7 | -7.46 | 107.82 | 110.80 |
| 2 | AB | 173 | A | C6-N1-C2 | 7.46 | 123.08 | 118.60 |
| 2 | AB | 585 | G | O4'-C1'-N9 | -7.46 | 102.23 | 108.20 |
| 2 | AB | 645 | C | N1-C2-N3 | -7.46 | 113.98 | 119.20 |
| 2 | AB | 962 | G | N3-C4-C5 | -7.46 | 124.87 | 128.60 |
| 2 | AB | 2239 | G | C4-C5-C6 | 7.46 | 123.28 | 118.80 |
| 2 | AB | 2536 | G | C2-N3-C4 | 7.46 | 115.63 | 111.90 |
| 2 | AB | 2686 | G | O4'-C1'-N9 | 7.46 | 114.17 | 108.20 |
| 35 | BA | 95 | C | O4'-C1'-N1 | 7.46 | 114.17 | 108.20 |
| 35 | BA | 324 | G | C2-N3-C4 | 7.46 | 115.63 | 111.90 |
| 2 | AB | 1348 | C | N3-C2-O2 | -7.46 | 116.68 | 121.90 |
| 35 | BA | 478 | A | C8-N9-C4 | 7.46 | 108.78 | 105.80 |
| 35 | BA | 745 | G | N1-C2-N3 | 7.46 | 128.37 | 123.90 |
| 35 | BA | 1268 | G | N1-C6-O6 | -7.46 | 115.43 | 119.90 |
| 2 | AB | 366 | C | C4'-C3'-C2' | -7.46 | 95.14 | 102.60 |
| 2 | AB | 465 | G | C5-N7-C8 | -7.46 | 100.57 | 104.30 |
| 2 | AB | 796 | C | N1-C1'-C2' | -7.46 | 103.80 | 112.00 |
| 2 | AB | 1569 | A | C2-N3-C4 | 7.46 | 114.33 | 110.60 |
| 2 | AB | 2119 | A | N9-C4-C5 | -7.46 | 102.82 | 105.80 |
| 2 | AB | 2736 | A | N1-C2-N3 | -7.46 | 125.57 | 129.30 |
| 2 | AB | 2777 | G | C6-C5-N7 | -7.46 | 125.93 | 130.40 |
| 35 | BA | 121 | U | C5-C6-N1 | -7.46 | 118.97 | 122.70 |
| 36 | BB | 19 | A | O4'-C1'-N9 | 7.46 | 114.16 | 108.20 |
| 2 | AB | 932 | U | C3'-C2'-C1' | 7.45 | 107.46 | 101.50 |
| 35 | BA | 1222 | G | C4-C5-C6 | 7.45 | 123.27 | 118.80 |
| 37 | BC | 52 | C | O4'-C1'-N1 | 7.45 | 114.16 | 108.20 |
| 2 | AB | 600 | G | O4'-C1'-N9 | 7.45 | 114.16 | 108.20 |
| 2 | AB | 2410 | G | C2-N3-C4 | 7.45 | 115.63 | 111.90 |
| 35 | BA | 376 | G | C6-C5-N7 | 7.45 | 134.87 | 130.40 |
| 35 | BA | 1074 | G | N9-C4-C5 | 7.45 | 108.38 | 105.40 |
| 2 | AB | 544 | C | C3'-C2'-C1' | 7.45 | 107.46 | 101.50 |
| 2 | AB | 853 | C | N3-C2-O2 | -7.45 | 116.68 | 121.90 |
| 2 | AB | 2008 | C | C2-N3-C4 | 7.45 | 123.62 | 119.90 |
| 2 | AB | 2235 | G | C3'-C2'-C1' | 7.45 | 107.46 | 101.50 |
| 35 | BA | 1472 | U | O4'-C1'-N1 | 7.45 | 114.16 | 108.20 |
| 1 | AA | 72 | G | N3-C2-N2 | -7.45 | 114.69 | 119.90 |
| 2 | AB | 94 | A | P-O3'-C3' | 7.45 | 128.64 | 119.70 |
| 2 | AB | 380 | G | C5-N7-C8 | 7.45 | 108.02 | 104.30 |
| 2 | AB | 579 | G | C4'-C3'-C2' | -7.45 | 95.15 | 102.60 |
| 2 | AB | 1008 | A | O4'-C1'-N9 | 7.45 | 114.16 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1940 | U | C4-C5-C6 | 7.45 | 124.17 | 119.70 |
| 2 | AB | 2411 | A | O4'-C1'-N9 | 7.45 | 114.16 | 108.20 |
| 30 | A3 | 51 | ARG | NE-CZ-NH1 | -7.45 | 116.58 | 120.30 |
| 37 | BC | 65 | G | C4-C5-N7 | 7.45 | 113.78 | 110.80 |
| 2 | AB | 2597 | G | C4-C5-N7 | -7.45 | 107.82 | 110.80 |
| 35 | BA | 120 | A | C5-C6-N6 | 7.45 | 129.66 | 123.70 |
| 35 | BA | 386 | C | C5-C6-N1 | -7.45 | 117.28 | 121.00 |
| 35 | BA | 1229 | A | N7-C8-N9 | 7.45 | 117.52 | 113.80 |
| 2 | AB | 372 | G | C4-C5-C6 | 7.45 | 123.27 | 118.80 |
| 2 | AB | 1042 | G | N1-C2-N3 | -7.45 | 119.43 | 123.90 |
| 2 | AB | 1388 | G | N1-C2-N2 | -7.45 | 109.50 | 116.20 |
| 2 | AB | 2184 | A | N9-C1'-C2' | -7.45 | 103.81 | 112.00 |
| 2 | AB | 2185 | U | O4'-C1'-C2' | 7.45 | 114.30 | 107.60 |
| 2 | AB | 2270 | A | N1-C2-N3 | 7.45 | 133.02 | 129.30 |
| 2 | AB | 2346 | A | C2-N3-C4 | 7.45 | 114.32 | 110.60 |
| 2 | AB | 2359 | C | N1-C2-O2 | 7.45 | 123.37 | 118.90 |
| 35 | BA | 172 | A | C5-N7-C8 | -7.45 | 100.18 | 103.90 |
| 35 | BA | 260 | G | C8-N9-C4 | -7.45 | 103.42 | 106.40 |
| 35 | BA | 481 | G | C3'-C2'-C1' | 7.45 | 107.46 | 101.50 |
| 35 | BA | 570 | G | N7-C8-N9 | 7.45 | 116.82 | 113.10 |
| 35 | BA | 1136 | C | N1-C2-O2 | 7.45 | 123.37 | 118.90 |
| 35 | BA | 1239 | A | O4'-C4'-C3' | 7.45 | 112.06 | 106.10 |
| 2 | AB | 1008 | A | C8-N9-C4 | 7.44 | 108.78 | 105.80 |
| 35 | BA | 776 | G | O4'-C1'-N9 | 7.44 | 114.16 | 108.20 |
| 1 | AA | 2 | G | N3-C4-C5 | -7.44 | 124.88 | 128.60 |
| 1 | AA | 9 | G | N1-C2-N2 | 7.44 | 122.90 | 116.20 |
| 1 | AA | 56 | G | N3-C2-N2 | -7.44 | 114.69 | 119.90 |
| 2 | AB | 298 | G | N1-C2-N3 | -7.44 | 119.43 | 123.90 |
| 2 | AB | 336 | C | C5-C4-N4 | -7.44 | 114.99 | 120.20 |
| 2 | AB | 482 | A | C4-C5-N7 | 7.44 | 114.42 | 110.70 |
| 2 | AB | 880 | G | C5-N7-C8 | -7.44 | 100.58 | 104.30 |
| 35 | BA | 104 | G | C4-C5-N7 | -7.44 | 107.82 | 110.80 |
| 35 | BA | 213 | G | C8-N9-C4 | -7.44 | 103.42 | 106.40 |
| 2 | AB | 1093 | G | C2-N3-C4 | 7.44 | 115.62 | 111.90 |
| 2 | AB | 1208 | C | N3-C4-C5 | -7.44 | 118.92 | 121.90 |
| 2 | AB | 1653 | G | C8-N9-C4 | -7.44 | 103.42 | 106.40 |
| 2 | AB | 1740 | G | N9-C4-C5 | -7.44 | 102.42 | 105.40 |
| 4 | AD | 100 | ARG | NE-CZ-NH2 | -7.44 | 116.58 | 120.30 |
| 35 | BA | 349 | A | C3'-C2'-C1' | 7.44 | 107.45 | 101.50 |
| 35 | BA | 566 | G | C5-C6-O6 | 7.44 | 133.06 | 128.60 |
| 2 | AB | 24 | G | C4-C5-N7 | -7.44 | 107.82 | 110.80 |
| 2 | AB | 540 | C | C4'-C3'-C2' | -7.44 | 95.16 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2111 | U | N3-C4-C5 | -7.44 | 110.14 | 114.60 |
| 35 | BA | 528 | C | N3-C4-N4 | 7.44 | 123.21 | 118.00 |
| 2 | AB | 539 | G | C3'-C2'-C1' | -7.44 | 95.55 | 101.50 |
| 2 | AB | 721 | A | C3'-C2'-C1' | 7.44 | 107.45 | 101.50 |
| 2 | AB | 869 | G | C6-N1-C2 | -7.44 | 120.64 | 125.10 |
| 2 | AB | 1852 | U | O4'-C1'-N1 | 7.44 | 114.15 | 108.20 |
| 35 | BA | 1164 | G | C5-N7-C8 | -7.44 | 100.58 | 104.30 |
| 2 | AB | 519 | U | N3-C2-O2 | -7.43 | 117.00 | 122.20 |
| 2 | AB | 580 | U | N3-C2-O2 | -7.43 | 117.00 | 122.20 |
| 2 | AB | 946 | C | O4'-C1'-N1 | 7.43 | 114.15 | 108.20 |
| 2 | AB | 2618 | G | C5-C6-N1 | -7.43 | 107.78 | 111.50 |
| 2 | AB | 2812 | G | N3-C4-N9 | 7.43 | 130.46 | 126.00 |
| 35 | BA | 786 | G | N3-C4-C5 | -7.43 | 124.88 | 128.60 |
| 35 | BA | 1158 | C | N3-C4-C5 | -7.43 | 118.93 | 121.90 |
| 35 | BA | 1279 | G | C5-C6-O6 | -7.43 | 124.14 | 128.60 |
| 35 | BA | 1525 | G | C4-C5-C6 | 7.43 | 123.26 | 118.80 |
| 52 | BR | 2 | VAL | CG1-CB-CG2 | -7.43 | 99.01 | 110.90 |
| 2 | AB | 647 | G | C8-N9-C4 | 7.43 | 109.37 | 106.40 |
| 2 | AB | 1110 | G | C5'-C4'-C3' | -7.43 | 104.11 | 116.00 |
| 2 | AB | 1949 | G | C2-N3-C4 | 7.43 | 115.62 | 111.90 |
| 35 | BA | 441 | A | C5-C6-N6 | 7.43 | 129.65 | 123.70 |
| 35 | BA | 786 | G | N7-C8-N9 | 7.43 | 116.82 | 113.10 |
| 35 | BA | 1452 | C | N3-C4-C5 | -7.43 | 118.93 | 121.90 |
| 2 | AB | 2053 | G | N1-C2-N2 | 7.43 | 122.89 | 116.20 |
| 2 | AB | 2511 | U | O4'-C1'-N1 | 7.43 | 114.14 | 108.20 |
| 2 | AB | 2585 | U | C6-N1-C2 | -7.43 | 116.54 | 121.00 |
| 35 | BA | 10 | A | C8-N9-C4 | -7.43 | 102.83 | 105.80 |
| 35 | BA | 117 | G | N1-C2-N3 | -7.43 | 119.44 | 123.90 |
| 35 | BA | 463 | U | C3'-C2'-C1' | 7.43 | 107.44 | 101.50 |
| 35 | BA | 942 | G | C8-N9-C1' | 7.43 | 136.66 | 127.00 |
| 2 | AB | 557 | C | N3-C4-N4 | 7.43 | 123.20 | 118.00 |
| 2 | AB | 2679 | A | N9-C4-C5 | 7.43 | 108.77 | 105.80 |
| 35 | BA | 1485 | U | N3-C2-O2 | -7.43 | 117.00 | 122.20 |
| 2 | AB | 177 | G | N3-C4-N9 | 7.43 | 130.46 | 126.00 |
| 2 | AB | 547 | A | C5-C6-N1 | -7.43 | 113.99 | 117.70 |
| 2 | AB | 1645 | G | C4-C5-N7 | -7.43 | 107.83 | 110.80 |
| 2 | AB | 1687 | G | N7-C8-N9 | 7.43 | 116.81 | 113.10 |
| 2 | AB | 2726 | A | N9-C4-C5 | 7.43 | 108.77 | 105.80 |
| 2 | AB | 2787 | C | C5'-C4'-O4' | 7.43 | 118.01 | 109.10 |
| 21 | AU | 76 | VAL | CG1-CB-CG2 | 7.43 | 122.78 | 110.90 |
| 35 | BA | 142 | G | N3-C4-N9 | 7.43 | 130.46 | 126.00 |
| 35 | BA | 191 | G | N9-C1'-C2' | -7.43 | 103.83 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 196 | A | N9-C4-C5 | 7.43 | 108.77 | 105.80 |
| 2 | AB | 514 | A | P-O3'-C3' | 7.42 | 128.61 | 119.70 |
| 2 | AB | 528 | A | N7-C8-N9 | 7.42 | 117.51 | 113.80 |
| 2 | AB | 547 | A | C1'-O4'-C4' | -7.42 | 103.96 | 109.90 |
| 2 | AB | 802 | A | C4-C5-N7 | -7.42 | 106.99 | 110.70 |
| 2 | AB | 1092 | C | N3-C4-N4 | -7.42 | 112.80 | 118.00 |
| 2 | AB | 1381 | G | N9-C1'-C2' | -7.42 | 103.83 | 112.00 |
| 2 | AB | 1738 | G | N7-C8-N9 | 7.42 | 116.81 | 113.10 |
| 2 | AB | 2335 | A | N3-C4-C5 | -7.42 | 121.60 | 126.80 |
| 35 | BA | 1537 | U | C4-C5-C6 | 7.42 | 124.15 | 119.70 |
| 2 | AB | 106 | C | C2-N3-C4 | 7.42 | 123.61 | 119.90 |
| 2 | AB | 726 | G | C5-C6-N1 | 7.42 | 115.21 | 111.50 |
| 2 | AB | 1869 | G | N1-C2-N3 | 7.42 | 128.35 | 123.90 |
| 2 | AB | 2637 | U | C6-N1-C2 | -7.42 | 116.55 | 121.00 |
| 35 | BA | 734 | G | O4'-C1'-N9 | -7.42 | 102.26 | 108.20 |
| 2 | AB | 592 | A | N7-C8-N9 | 7.42 | 117.51 | 113.80 |
| 2 | AB | 1406 | U | C2-N3-C4 | -7.42 | 122.55 | 127.00 |
| 2 | AB | 2325 | G | C5-C6-O6 | 7.42 | 133.05 | 128.60 |
| 35 | BA | 587 | G | C5-C6-O6 | -7.42 | 124.15 | 128.60 |
| 35 | BA | 1420 | U | C4'-C3'-C2' | -7.42 | 95.18 | 102.60 |
| 2 | AB | 623 | C | C5-C6-N1 | -7.42 | 117.29 | 121.00 |
| 2 | AB | 961 | C | C5-C6-N1 | -7.42 | 117.29 | 121.00 |
| 2 | AB | 1286 | A | C3'-C2'-C1' | -7.42 | 95.56 | 101.50 |
| 2 | AB | 1482 | G | N1-C2-N3 | -7.42 | 119.45 | 123.90 |
| 2 | AB | 1535 | A | N7-C8-N9 | -7.42 | 110.09 | 113.80 |
| 2 | AB | 2198 | A | C4-C5-N7 | -7.42 | 106.99 | 110.70 |
| 2 | AB | 2246 | G | C5-C6-O6 | 7.42 | 133.05 | 128.60 |
| 35 | BA | 212 | G | C2-N3-C4 | 7.42 | 115.61 | 111.90 |
| 48 | BN | 108 | ASP | CB-CG-OD1 | -7.42 | 111.62 | 118.30 |
| 2 | AB | 436 | C | N3-C2-O2 | -7.42 | 116.71 | 121.90 |
| 2 | AB | 739 | A | N3-C4-C5 | -7.42 | 121.61 | 126.80 |
| 2 | AB | 1134 | A | C5-C6-N1 | 7.42 | 121.41 | 117.70 |
| 2 | AB | 1560 | G | C5'-C4'-C3' | -7.42 | 104.13 | 116.00 |
| 2 | AB | 2096 | C | C5'-C4'-O4' | 7.42 | 118.00 | 109.10 |
| 35 | BA | 402 | G | C2-N3-C4 | 7.42 | 115.61 | 111.90 |
| 35 | BA | 434 | U | O4'-C4'-C3' | 7.42 | 112.03 | 106.10 |
| 35 | BA | 588 | G | C1'-O4'-C4' | -7.42 | 103.96 | 109.90 |
| 35 | BA | 1305 | G | N3-C4-C5 | -7.42 | 124.89 | 128.60 |
| 2 | AB | 133 | U | O4'-C1'-N1 | 7.42 | 114.13 | 108.20 |
| 2 | AB | 1683 | U | C5-C6-N1 | -7.42 | 118.99 | 122.70 |
| 2 | AB | 2090 | A | N1-C6-N6 | -7.42 | 114.15 | 118.60 |
| 2 | AB | 2268 | A | N1-C2-N3 | 7.42 | 133.01 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2661 | G | O4'-C1'-N9 | 7.42 | 114.13 | 108.20 |
| 35 | BA | 251 | G | O4'-C1'-N9 | 7.42 | 114.13 | 108.20 |
| 35 | BA | 412 | A | N9-C4-C5 | -7.42 | 102.83 | 105.80 |
| 35 | BA | 453 | G | C5-N7-C8 | 7.42 | 108.01 | 104.30 |
| 35 | BA | 454 | G | C6-N1-C2 | -7.42 | 120.65 | 125.10 |
| 1 | AA | 117 | G | N9-C4-C5 | -7.42 | 102.43 | 105.40 |
| 2 | AB | 324 | A | N1-C6-N6 | 7.42 | 123.05 | 118.60 |
| 2 | AB | 539 | G | N3-C4-N9 | -7.42 | 121.55 | 126.00 |
| 2 | AB | 695 | G | C4-C5-N7 | -7.42 | 107.83 | 110.80 |
| 2 | AB | 1124 | G | C5-N7-C8 | -7.42 | 100.59 | 104.30 |
| 2 | AB | 473 | G | N3-C4-N9 | 7.41 | 130.45 | 126.00 |
| 2 | AB | 857 | G | N1-C2-N2 | -7.41 | 109.53 | 116.20 |
| 2 | AB | 1012 | U | N1-C2-O2 | 7.41 | 127.99 | 122.80 |
| 2 | AB | 1208 | C | C1'-O4'-C4' | -7.41 | 103.97 | 109.90 |
| 2 | AB | 2134 | A | C6-C5-N7 | 7.41 | 137.49 | 132.30 |
| 16 | AP | 83 | LEU | CB-CG-CD2 | 7.41 | 123.60 | 111.00 |
| 35 | BA | 331 | G | C5'-C4'-O4' | 7.41 | 118.00 | 109.10 |
| 35 | BA | 483 | C | C4-C5-C6 | -7.41 | 113.69 | 117.40 |
| 2 | AB | 1232 | G | N7-C8-N9 | 7.41 | 116.81 | 113.10 |
| 2 | AB | 1513 | U | N1-C2-N3 | 7.41 | 119.35 | 114.90 |
| 2 | AB | 2421 | G | N1-C6-O6 | -7.41 | 115.45 | 119.90 |
| 1 | AA | 53 | A | O4'-C1'-N9 | 7.41 | 114.13 | 108.20 |
| 2 | AB | 970 | U | C4'-C3'-C2' | -7.41 | 95.19 | 102.60 |
| 2 | AB | 1314 | C | O4'-C1'-N1 | 7.41 | 114.13 | 108.20 |
| 2 | AB | 2263 | C | C4-C5-C6 | 7.41 | 121.11 | 117.40 |
| 2 | AB | 2430 | A | C8-N9-C4 | 7.41 | 108.76 | 105.80 |
| 35 | BA | 908 | A | N1-C2-N3 | 7.41 | 133.00 | 129.30 |
| 35 | BA | 1467 | C | N3-C2-O2 | -7.41 | 116.71 | 121.90 |
| 35 | BA | 1535 | C | N1-C2-O2 | 7.41 | 123.35 | 118.90 |
| 2 | AB | 410 | G | O4'-C1'-N9 | 7.41 | 114.13 | 108.20 |
| 2 | AB | 486 | C | N1-C2-O2 | 7.41 | 123.34 | 118.90 |
| 2 | AB | 2201 | G | C5-C6-O6 | 7.41 | 133.04 | 128.60 |
| 35 | BA | 66 | A | O4'-C1'-N9 | 7.41 | 114.13 | 108.20 |
| 35 | BA | 539 | A | C5-C6-N6 | 7.41 | 129.63 | 123.70 |
| 37 | BC | 74 | A | C5-C6-N1 | 7.41 | 121.41 | 117.70 |
| 2 | AB | 530 | G | C2-N3-C4 | 7.41 | 115.60 | 111.90 |
| 2 | AB | 1326 | U | C5'-C4'-C3' | -7.41 | 104.15 | 116.00 |
| 2 | AB | 1346 | G | C3'-C2'-C1' | 7.41 | 107.43 | 101.50 |
| 2 | AB | 2167 | U | O4'-C1'-N1 | 7.41 | 114.12 | 108.20 |
| 2 | AB | 2446 | G | C5-C6-N1 | 7.41 | 115.20 | 111.50 |
| 35 | BA | 100 | G | C5-C6-N1 | 7.41 | 115.20 | 111.50 |
| 37 | BC | 10 | G | C2-N3-C4 | 7.41 | 115.60 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1940 | U | N3-C4-O4 | 7.41 | 124.58 | 119.40 |
| 2 | AB | 2631 | G | N3-C4-C5 | -7.41 | 124.90 | 128.60 |
| 35 | BA | 123 | U | N3-C4-O4 | 7.41 | 124.58 | 119.40 |
| 35 | BA | 480 | U | C3'-C2'-C1' | 7.41 | 107.42 | 101.50 |
| 35 | BA | 1243 | C | N3-C2-O2 | -7.41 | 116.72 | 121.90 |
| 35 | BA | 1370 | G | N3-C4-N9 | 7.41 | 130.44 | 126.00 |
| 37 | BC | 23 | G | N7-C8-N9 | 7.41 | 116.80 | 113.10 |
| 1 | AA | 41 | G | C4-C5-N7 | -7.40 | 107.84 | 110.80 |
| 2 | AB | 712 | G | C2-N3-C4 | 7.40 | 115.60 | 111.90 |
| 2 | AB | 1846 | G | N3-C4-C5 | -7.40 | 124.90 | 128.60 |
| 2 | AB | 2531 | A | C5-C6-N6 | -7.40 | 117.78 | 123.70 |
| 35 | BA | 1166 | G | C6-N1-C2 | -7.40 | 120.66 | 125.10 |
| 35 | BA | 1227 | A | O4'-C1'-N9 | 7.40 | 114.12 | 108.20 |
| 2 | AB | 422 | A | C2-N3-C4 | 7.40 | 114.30 | 110.60 |
| 2 | AB | 986 | C | N3-C2-O2 | -7.40 | 116.72 | 121.90 |
| 2 | AB | 2268 | A | C5-C6-N6 | -7.40 | 117.78 | 123.70 |
| 2 | AB | 2603 | G | N3-C4-N9 | 7.40 | 130.44 | 126.00 |
| 35 | BA | 17 | U | C3'-C2'-C1' | 7.40 | 107.42 | 101.50 |
| 35 | BA | 220 | G | N1-C2-N3 | -7.40 | 119.46 | 123.90 |
| 35 | BA | 575 | G | N3-C4-C5 | -7.40 | 124.90 | 128.60 |
| 35 | BA | 648 | A | N3-C4-C5 | 7.40 | 131.98 | 126.80 |
| 35 | BA | 1281 | C | C6-N1-C2 | -7.40 | 117.34 | 120.30 |
| 35 | BA | 1355 | G | O4'-C1'-N9 | 7.40 | 114.12 | 108.20 |
| 37 | BC | 50 | G | C5'-C4'-O4' | 7.40 | 117.98 | 109.10 |
| 1 | AA | 90 | C | O4'-C4'-C3' | 7.40 | 112.02 | 106.10 |
| 1 | AA | 105 | G | C5-N7-C8 | 7.40 | 108.00 | 104.30 |
| 2 | AB | 27 | G | O4'-C1'-N9 | 7.40 | 114.12 | 108.20 |
| 2 | AB | 111 | A | C4-C5-C6 | -7.40 | 113.30 | 117.00 |
| 2 | AB | 312 | G | N9-C4-C5 | -7.40 | 102.44 | 105.40 |
| 2 | AB | 332 | A | O4'-C1'-C2' | -7.40 | 98.40 | 105.80 |
| 2 | AB | 504 | A | O4'-C1'-C2' | -7.40 | 98.40 | 105.80 |
| 2 | AB | 1174 | U | C4-C5-C6 | 7.40 | 124.14 | 119.70 |
| 35 | BA | 1198 | G | C1'-O4'-C4' | -7.40 | 103.98 | 109.90 |
| 35 | BA | 1291 | U | O4'-C4'-C3' | -7.40 | 96.60 | 104.00 |
| 37 | BC | 10 | G | O4'-C4'-C3' | 7.40 | 112.02 | 106.10 |
| 2 | AB | 2077 | A | C8-N9-C4 | 7.40 | 108.76 | 105.80 |
| 35 | BA | 306 | A | C4-C5-C6 | -7.40 | 113.30 | 117.00 |
| 2 | AB | 341 | C | C4-C5-C6 | -7.40 | 113.70 | 117.40 |
| 2 | AB | 1388 | G | C4'-C3'-C2' | -7.40 | 95.20 | 102.60 |
| 2 | AB | 1524 | G | C5'-C4'-C3' | -7.40 | 104.16 | 116.00 |
| 2 | AB | 1538 | G | C5-C6-N1 | 7.40 | 115.20 | 111.50 |
| 2 | AB | 2033 | A | C8-N9-C4 | -7.40 | 102.84 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2206 | C | C5-C6-N1 | 7.40 | 124.70 | 121.00 |
| 2 | AB | 2230 | G | C6-N1-C2 | -7.40 | 120.66 | 125.10 |
| 2 | AB | 2255 | G | P-O3'-C3' | 7.40 | 128.58 | 119.70 |
| 7 | AG | 172 | PHE | CB-CG-CD1 | -7.40 | 115.62 | 120.80 |
| 28 | A1 | 29 | ARG | NH1-CZ-NH2 | -7.40 | 111.26 | 119.40 |
| 35 | BA | 155 | A | C5-C6-N1 | 7.40 | 121.40 | 117.70 |
| 35 | BA | 338 | A | C5'-C4'-O4' | 7.40 | 117.98 | 109.10 |
| 35 | BA | 833 | G | C6-N1-C2 | -7.40 | 120.66 | 125.10 |
| 35 | BA | 1298 | U | N3-C2-O2 | -7.40 | 117.02 | 122.20 |
| 2 | AB | 22 | C | N3-C2-O2 | 7.40 | 127.08 | 121.90 |
| 2 | AB | 432 | A | C5-N7-C8 | 7.40 | 107.60 | 103.90 |
| 35 | BA | 1081 | A | C6-C5-N7 | 7.40 | 137.48 | 132.30 |
| 2 | AB | 135 | U | O4'-C1'-N1 | 7.39 | 114.12 | 108.20 |
| 2 | AB | 2284 | A | C8-N9-C4 | -7.39 | 102.84 | 105.80 |
| 2 | AB | 2330 | G | N3-C4-C5 | -7.39 | 124.90 | 128.60 |
| 2 | AB | 2561 | U | N3-C4-O4 | 7.39 | 124.58 | 119.40 |
| 35 | BA | 820 | U | O4'-C1'-N1 | 7.39 | 114.11 | 108.20 |
| 35 | BA | 1018 | G | C5-N7-C8 | -7.39 | 100.60 | 104.30 |
| 35 | BA | 1140 | C | N3-C4-C5 | 7.39 | 124.86 | 121.90 |
| 48 | BN | 53 | ARG | NE-CZ-NH2 | -7.39 | 116.60 | 120.30 |
| 2 | AB | 8 | C | O4'-C4'-C3' | -7.39 | 96.61 | 104.00 |
| 2 | AB | 46 | G | O4'-C1'-N9 | 7.39 | 114.11 | 108.20 |
| 2 | AB | 111 | A | O4'-C1'-N9 | 7.39 | 114.11 | 108.20 |
| 2 | AB | 1356 | G | C2-N3-C4 | 7.39 | 115.60 | 111.90 |
| 2 | AB | 1450 | G | C8-N9-C4 | -7.39 | 103.44 | 106.40 |
| 35 | BA | 13 | U | C4-C5-C6 | 7.39 | 124.14 | 119.70 |
| 35 | BA | 97 | G | C3'-C2'-C1' | 7.39 | 107.41 | 101.50 |
| 2 | AB | 1221 | C | N1-C2-O2 | 7.39 | 123.33 | 118.90 |
| 2 | AB | 1450 | G | C1'-O4'-C4' | -7.39 | 103.99 | 109.90 |
| 2 | AB | 1702 | G | C4'-C3'-C2' | -7.39 | 95.21 | 102.60 |
| 2 | AB | 2824 | C | P-O3'-C3' | 7.39 | 128.57 | 119.70 |
| 19 | AS | 63 | ARG | NE-CZ-NH1 | 7.39 | 124.00 | 120.30 |
| 35 | BA | 345 | C | C3'-C2'-C1' | 7.39 | 107.41 | 101.50 |
| 35 | BA | 395 | C | C1'-O4'-C4' | -7.39 | 103.99 | 109.90 |
| 35 | BA | 698 | G | C3'-C2'-C1' | -7.39 | 95.59 | 101.50 |
| 2 | AB | 2243 | U | C5-C6-N1 | -7.39 | 119.01 | 122.70 |
| 2 | AB | 184 | C | N1-C2-O2 | -7.39 | 114.47 | 118.90 |
| 2 | AB | 533 | G | C5-C6-O6 | -7.39 | 124.17 | 128.60 |
| 35 | BA | 202 | G | C4-C5-C6 | -7.39 | 114.37 | 118.80 |
| 35 | BA | 753 | A | C5-N7-C8 | 7.39 | 107.59 | 103.90 |
| 35 | BA | 1486 | G | O4'-C1'-N9 | 7.39 | 114.11 | 108.20 |
| 2 | AB | 529 | A | N9-C4-C5 | 7.38 | 108.75 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 764 | A | O4'-C1'-N9 | 7.38 | 114.11 | 108.20 |
| 2 | AB | 1169 | A | N1-C6-N6 | 7.38 | 123.03 | 118.60 |
| 2 | AB | 1274 | A | N7-C8-N9 | -7.38 | 110.11 | 113.80 |
| 2 | AB | 1631 | G | O4'-C1'-N9 | 7.38 | 114.11 | 108.20 |
| 2 | AB | 2409 | G | C5-C6-O6 | -7.38 | 124.17 | 128.60 |
| 35 | BA | 46 | G | N3-C4-C5 | -7.38 | 124.91 | 128.60 |
| 35 | BA | 373 | A | C5-C6-N1 | 7.38 | 121.39 | 117.70 |
| 2 | AB | 993 | G | N1-C6-O6 | 7.38 | 124.33 | 119.90 |
| 2 | AB | 1644 | C | C6-N1-C2 | 7.38 | 123.25 | 120.30 |
| 2 | AB | 1712 | U | C5-C6-N1 | -7.38 | 119.01 | 122.70 |
| 35 | BA | 971 | G | C3'-C2'-C1' | -7.38 | 95.59 | 101.50 |
| 2 | AB | 804 | A | C1'-O4'-C4' | -7.38 | 104.00 | 109.90 |
| 2 | AB | 942 | G | N3-C4-N9 | -7.38 | 121.57 | 126.00 |
| 2 | AB | 1034 | G | C2-N3-C4 | 7.38 | 115.59 | 111.90 |
| 2 | AB | 1546 | G | N3-C4-C5 | -7.38 | 124.91 | 128.60 |
| 24 | AX | 66 | ASP | CB-CG-OD1 | -7.38 | 111.66 | 118.30 |
| 35 | BA | 53 | A | C4-C5-C6 | -7.38 | 113.31 | 117.00 |
| 35 | BA | 462 | G | N9-C4-C5 | 7.38 | 108.35 | 105.40 |
| 35 | BA | 933 | G | C6-C5-N7 | -7.38 | 125.97 | 130.40 |
| 35 | BA | 1099 | G | C8-N9-C4 | -7.38 | 103.45 | 106.40 |
| 2 | AB | 931 | U | N1-C2-O2 | 7.38 | 127.97 | 122.80 |
| 35 | BA | 1432 | G | C6-N1-C2 | -7.38 | 120.67 | 125.10 |
| 2 | AB | 976 | G | C3'-C2'-C1' | -7.38 | 95.60 | 101.50 |
| 2 | AB | 1972 | G | C4-C5-N7 | 7.38 | 113.75 | 110.80 |
| 2 | AB | 2400 | G | C2-N3-C4 | 7.38 | 115.59 | 111.90 |
| 35 | BA | 264 | C | C5-C4-N4 | -7.38 | 115.03 | 120.20 |
| 35 | BA | 318 | G | N9-C1'-C2' | -7.38 | 103.89 | 112.00 |
| 35 | BA | 933 | G | C5-N7-C8 | -7.38 | 100.61 | 104.30 |
| 36 | BB | 45 | G | C5-N7-C8 | -7.38 | 100.61 | 104.30 |
| 2 | AB | 373 | U | N1-C2-O2 | 7.38 | 127.96 | 122.80 |
| 2 | AB | 1059 | G | C4-C5-N7 | 7.38 | 113.75 | 110.80 |
| 2 | AB | 1319 | C | C6-N1-C2 | -7.38 | 117.35 | 120.30 |
| 2 | AB | 1560 | G | O4'-C1'-N9 | 7.38 | 114.10 | 108.20 |
| 2 | AB | 1588 | G | N3-C4-N9 | 7.38 | 130.43 | 126.00 |
| 2 | AB | 1613 | G | C5-C6-N1 | 7.38 | 115.19 | 111.50 |
| 35 | BA | 489 | C | N3-C4-C5 | -7.38 | 118.95 | 121.90 |
| 35 | BA | 964 | A | N1-C2-N3 | -7.38 | 125.61 | 129.30 |
| 40 | BF | 19 | PHE | CB-CG-CD2 | -7.38 | 115.64 | 120.80 |
| 54 | BT | 24 | ASP | CB-CG-OD2 | 7.38 | 124.94 | 118.30 |
| 2 | AB | 1683 | U | C4-C5-C6 | 7.38 | 124.12 | 119.70 |
| 2 | AB | 2018 | G | C6-N1-C2 | -7.38 | 120.67 | 125.10 |
| 25 | AY | 38 | ARG | NE-CZ-NH1 | 7.38 | 123.99 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 445 | G | C5-C6-N1 | 7.38 | 115.19 | 111.50 |
| 35 | BA | 1343 | G | N7-C8-N9 | -7.38 | 109.41 | 113.10 |
| 2 | AB | 406 | G | C2-N3-C4 | 7.37 | 115.59 | 111.90 |
| 2 | AB | 632 | A | N1-C2-N3 | -7.37 | 125.61 | 129.30 |
| 2 | AB | 1220 | G | P-O3'-C3' | 7.37 | 128.55 | 119.70 |
| 2 | AB | 1484 | U | C4-C5-C6 | 7.37 | 124.12 | 119.70 |
| 2 | AB | 1491 | G | C2-N3-C4 | 7.37 | 115.59 | 111.90 |
| 2 | AB | 2325 | G | C2-N3-C4 | 7.37 | 115.59 | 111.90 |
| 2 | AB | 2669 | G | C5-N7-C8 | -7.37 | 100.61 | 104.30 |
| 2 | AB | 2797 | U | N3-C2-O2 | -7.37 | 117.04 | 122.20 |
| 35 | BA | 651 | C | N3-C2-O2 | -7.37 | 116.74 | 121.90 |
| 35 | BA | 1168 | U | N3-C2-O2 | -7.37 | 117.04 | 122.20 |
| 2 | AB | 53 | A | C6-N1-C2 | 7.37 | 123.02 | 118.60 |
| 2 | AB | 205 | G | C5-C6-O6 | -7.37 | 124.18 | 128.60 |
| 2 | AB | 718 | A | C6-N1-C2 | -7.37 | 114.18 | 118.60 |
| 2 | AB | 1234 | U | C5'-C4'-O4' | 7.37 | 117.95 | 109.10 |
| 2 | AB | 1597 | A | O4'-C1'-N9 | 7.37 | 114.10 | 108.20 |
| 2 | AB | 1669 | A | C5-C6-N1 | 7.37 | 121.39 | 117.70 |
| 2 | AB | 1787 | A | C5'-C4'-O4' | 7.37 | 117.94 | 109.10 |
| 2 | AB | 2558 | C | O4'-C1'-N1 | 7.37 | 114.10 | 108.20 |
| 35 | BA | 299 | G | C5-C6-N1 | 7.37 | 115.19 | 111.50 |
| 35 | BA | 430 | A | C8-N9-C4 | -7.37 | 102.85 | 105.80 |
| 2 | AB | 587 | C | N3-C4-C5 | -7.37 | 118.95 | 121.90 |
| 2 | AB | 2112 | G | C4-C5-N7 | -7.37 | 107.85 | 110.80 |
| 35 | BA | 1492 | A | C3'-C2'-C1' | 7.37 | 107.40 | 101.50 |
| 2 | AB | 928 | A | N9-C1'-C2' | -7.37 | 103.89 | 112.00 |
| 2 | AB | 2789 | C | C5-C4-N4 | -7.37 | 115.04 | 120.20 |
| 35 | BA | 199 | A | C5-C6-N1 | 7.37 | 121.39 | 117.70 |
| 35 | BA | 658 | C | N3-C4-C5 | -7.37 | 118.95 | 121.90 |
| 35 | BA | 668 | G | C5-N7-C8 | -7.37 | 100.61 | 104.30 |
| 35 | BA | 1070 | U | C6-N1-C2 | -7.37 | 116.58 | 121.00 |
| 35 | BA | 1108 | G | N9-C4-C5 | 7.37 | 108.35 | 105.40 |
| 35 | BA | 1138 | G | N9-C4-C5 | 7.37 | 108.35 | 105.40 |
| 2 | AB | 1512 | C | C4'-C3'-C2' | -7.37 | 95.23 | 102.60 |
| 2 | AB | 2215 | C | C4-C5-C6 | -7.37 | 113.72 | 117.40 |
| 35 | BA | 115 | G | O4'-C4'-C3' | 7.37 | 111.99 | 106.10 |
| 35 | BA | 427 | U | C4'-C3'-C2' | 7.37 | 109.97 | 102.60 |
| 2 | AB | 377 | G | N9-C4-C5 | 7.37 | 108.35 | 105.40 |
| 2 | AB | 784 | G | C8-N9-C4 | -7.37 | 103.45 | 106.40 |
| 2 | AB | 1097 | U | C2-N3-C4 | -7.37 | 122.58 | 127.00 |
| 2 | AB | 1734 | G | C4'-C3'-C2' | -7.37 | 95.23 | 102.60 |
| 2 | AB | 2127 | G | C8-N9-C4 | -7.37 | 103.45 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 237 | G | N3-C4-C5 | -7.37 | 124.92 | 128.60 |
| 35 | BA | 457 | G | C4'-C3'-C2' | -7.37 | 95.23 | 102.60 |
| 35 | BA | 520 | A | C4-C5-C6 | -7.37 | 113.32 | 117.00 |
| 35 | BA | 839 | C | C6-N1-C2 | -7.37 | 117.35 | 120.30 |
| 35 | BA | 982 | U | C5-C6-N1 | -7.37 | 119.02 | 122.70 |
| 2 | AB | 1889 | A | O4'-C1'-N9 | 7.36 | 114.09 | 108.20 |
| 2 | AB | 1936 | A | N1-C2-N3 | -7.36 | 125.62 | 129.30 |
| 2 | AB | 2225 | A | C5'-C4'-C3' | -7.36 | 104.22 | 116.00 |
| 35 | BA | 85 | U | C4-C5-C6 | 7.36 | 124.12 | 119.70 |
| 35 | BA | 219 | U | N3-C2-O2 | -7.36 | 117.05 | 122.20 |
| 35 | BA | 1239 | A | C3'-C2'-C1' | 7.36 | 107.39 | 101.50 |
| 35 | BA | 1270 | G | C5-N7-C8 | -7.36 | 100.62 | 104.30 |
| 2 | AB | 82 | U | C4'-C3'-C2' | 7.36 | 109.96 | 102.60 |
| 2 | AB | 1549 | A | C5'-C4'-O4' | 7.36 | 117.93 | 109.10 |
| 2 | AB | 1969 | A | C2-N3-C4 | 7.36 | 114.28 | 110.60 |
| 2 | AB | 2811 | G | C5-N7-C8 | 7.36 | 107.98 | 104.30 |
| 35 | BA | 105 | G | C5-C6-O6 | -7.36 | 124.18 | 128.60 |
| 35 | BA | 744 | C | C4-C5-C6 | -7.36 | 113.72 | 117.40 |
| 35 | BA | 1025 | U | N3-C2-O2 | -7.36 | 117.05 | 122.20 |
| 1 | AA | 8 | C | N1-C2-O2 | 7.36 | 123.32 | 118.90 |
| 2 | AB | 186 | G | C6-N1-C2 | -7.36 | 120.68 | 125.10 |
| 2 | AB | 287 | G | C5-C6-N1 | 7.36 | 115.18 | 111.50 |
| 2 | AB | 972 | A | O4'-C1'-N9 | 7.36 | 114.09 | 108.20 |
| 2 | AB | 1483 | G | N3-C4-C5 | -7.36 | 124.92 | 128.60 |
| 2 | AB | 2441 | U | C2-N3-C4 | -7.36 | 122.58 | 127.00 |
| 35 | BA | 114 | U | C1'-O4'-C4' | -7.36 | 104.01 | 109.90 |
| 35 | BA | 284 | C | C4-C5-C6 | -7.36 | 113.72 | 117.40 |
| 35 | BA | 508 | U | C2-N3-C4 | -7.36 | 122.58 | 127.00 |
| 35 | BA | 752 | G | C2-N3-C4 | 7.36 | 115.58 | 111.90 |
| 35 | BA | 934 | C | C4-C5-C6 | 7.36 | 121.08 | 117.40 |
| 2 | AB | 797 | G | C3'-C2'-C1' | 7.36 | 107.39 | 101.50 |
| 2 | AB | 1135 | C | N1-C2-O2 | 7.36 | 123.31 | 118.90 |
| 2 | AB | 1301 | A | C5-N7-C8 | 7.36 | 107.58 | 103.90 |
| 2 | AB | 1863 | G | N1-C2-N3 | 7.36 | 128.32 | 123.90 |
| 2 | AB | 439 | A | C4-C5-C6 | -7.36 | 113.32 | 117.00 |
| 2 | AB | 499 | U | C5'-C4'-C3' | -7.36 | 104.23 | 116.00 |
| 2 | AB | 2757 | A | C5'-C4'-C3' | -7.36 | 104.23 | 116.00 |
| 12 | AL | 120 | ARG | NH1-CZ-NH2 | -7.36 | 111.31 | 119.40 |
| 35 | BA | 588 | G | N9-C4-C5 | 7.36 | 108.34 | 105.40 |
| 35 | BA | 742 | G | C4-C5-C6 | 7.36 | 123.22 | 118.80 |
| 35 | BA | 943 | U | O4'-C1'-N1 | 7.36 | 114.09 | 108.20 |
| 35 | BA | 1067 | A | C4-C5-N7 | -7.36 | 107.02 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1139 | G | O4'-C1'-C2' | 7.36 | 114.22 | 107.60 |
| 35 | BA | 1171 | A | N1-C6-N6 | -7.36 | 114.19 | 118.60 |
| 37 | BC | 23 | G | N3-C4-C5 | -7.36 | 124.92 | 128.60 |
| 2 | AB | 266 | G | C2-N3-C4 | 7.36 | 115.58 | 111.90 |
| 2 | AB | 2125 | G | C5'-C4'-O4' | 7.36 | 117.93 | 109.10 |
| 2 | AB | 2261 | C | C4-C5-C6 | -7.36 | 113.72 | 117.40 |
| 2 | AB | 2301 | C | N1-C2-N3 | -7.36 | 114.05 | 119.20 |
| 2 | AB | 2308 | G | N7-C8-N9 | 7.36 | 116.78 | 113.10 |
| 35 | BA | 142 | G | N3-C2-N2 | -7.36 | 114.75 | 119.90 |
| 35 | BA | 669 | G | C2-N3-C4 | 7.36 | 115.58 | 111.90 |
| 35 | BA | 854 | U | C3'-C2'-C1' | 7.36 | 107.38 | 101.50 |
| 35 | BA | 1058 | G | C5-C6-N1 | 7.36 | 115.18 | 111.50 |
| 35 | BA | 1225 | A | C5-N7-C8 | -7.36 | 100.22 | 103.90 |
| 2 | AB | 1947 | C | O4'-C1'-N1 | 7.35 | 114.08 | 108.20 |
| 35 | BA | 181 | A | O4'-C1'-C2' | -7.35 | 98.45 | 105.80 |
| 35 | BA | 477 | C | C4-C5-C6 | -7.35 | 113.72 | 117.40 |
| 2 | AB | 591 | U | C5-C6-N1 | -7.35 | 119.02 | 122.70 |
| 2 | AB | 863 | A | N9-C1'-C2' | -7.35 | 103.91 | 112.00 |
| 2 | AB | 1380 | G | N3-C4-N9 | 7.35 | 130.41 | 126.00 |
| 2 | AB | 1552 | A | C8-N9-C4 | 7.35 | 108.74 | 105.80 |
| 2 | AB | 1775 | U | N3-C2-O2 | -7.35 | 117.05 | 122.20 |
| 35 | BA | 182 | A | C8-N9-C4 | -7.35 | 102.86 | 105.80 |
| 35 | BA | 772 | U | N3-C4-C5 | -7.35 | 110.19 | 114.60 |
| 36 | BB | 53 | G | N1-C6-O6 | -7.35 | 115.49 | 119.90 |
| 35 | BA | 590 | U | C4-C5-C6 | 7.35 | 124.11 | 119.70 |
| 35 | BA | 1103 | C | C2-N3-C4 | 7.35 | 123.58 | 119.90 |
| 49 | BO | 86 | ARG | NE-CZ-NH1 | 7.35 | 123.98 | 120.30 |
| 1 | AA | 27 | C | C2-N3-C4 | 7.35 | 123.57 | 119.90 |
| 2 | AB | 1469 | A | C5-C6-N1 | 7.35 | 121.38 | 117.70 |
| 36 | BB | 19 | A | C8-N9-C4 | -7.35 | 102.86 | 105.80 |
| 2 | AB | 160 | A | C5-C6-N1 | 7.35 | 121.37 | 117.70 |
| 2 | AB | 450 | G | N3-C4-C5 | -7.35 | 124.93 | 128.60 |
| 2 | AB | 733 | G | N3-C4-N9 | 7.35 | 130.41 | 126.00 |
| 2 | AB | 1115 | G | N7-C8-N9 | 7.35 | 116.77 | 113.10 |
| 2 | AB | 1666 | G | C6-N1-C2 | -7.35 | 120.69 | 125.10 |
| 2 | AB | 2245 | U | O4'-C1'-N1 | 7.35 | 114.08 | 108.20 |
| 2 | AB | 2425 | A | C6-N1-C2 | 7.35 | 123.01 | 118.60 |
| 2 | AB | 2609 | U | C6-N1-C2 | -7.35 | 116.59 | 121.00 |
| 2 | AB | 2851 | A | N1-C2-N3 | -7.35 | 125.63 | 129.30 |
| 35 | BA | 378 | G | O4'-C1'-N9 | 7.35 | 114.08 | 108.20 |
| 35 | BA | 424 | G | C8-N9-C1' | 7.35 | 136.55 | 127.00 |
| 35 | BA | 753 | A | N3-C4-N9 | -7.35 | 121.52 | 127.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 927 | G | N7-C8-N9 | 7.35 | 116.77 | 113.10 |
| 2 | AB | 623 | C | N3-C2-O2 | -7.35 | 116.76 | 121.90 |
| 2 | AB | 987 | C | C5-C4-N4 | -7.35 | 115.06 | 120.20 |
| 2 | AB | 1257 | C | N3-C2-O2 | -7.35 | 116.76 | 121.90 |
| 2 | AB | 2362 | C | C4-C5-C6 | -7.35 | 113.73 | 117.40 |
| 2 | AB | 2409 | G | C2-N3-C4 | 7.35 | 115.57 | 111.90 |
| 35 | BA | 203 | G | C4-C5-N7 | -7.35 | 107.86 | 110.80 |
| 35 | BA | 889 | A | O4'-C1'-C2' | -7.35 | 98.45 | 105.80 |
| 35 | BA | 1540 | U | C4-C5-C6 | 7.35 | 124.11 | 119.70 |
| 40 | BF | 196 | GLU | OE1-CD-OE2 | 7.35 | 132.12 | 123.30 |
| 2 | AB | 973 | A | O4'-C1'-N9 | 7.34 | 114.08 | 108.20 |
| 2 | AB | 1469 | A | C5'-C4'-C3' | 7.34 | 127.75 | 116.00 |
| 2 | AB | 2156 | G | N9-C4-C5 | -7.34 | 102.46 | 105.40 |
| 2 | AB | 2554 | U | N1-C2-O2 | 7.34 | 127.94 | 122.80 |
| 35 | BA | 205 | A | N1-C2-N3 | -7.34 | 125.63 | 129.30 |
| 35 | BA | 612 | C | C4'-C3'-C2' | -7.34 | 95.25 | 102.60 |
| 35 | BA | 1194 | U | O4'-C1'-N1 | 7.34 | 114.08 | 108.20 |
| 2 | AB | 292 | U | C5-C4-O4 | 7.34 | 130.31 | 125.90 |
| 35 | BA | 895 | G | C4-C5-C6 | 7.34 | 123.21 | 118.80 |
| 35 | BA | 1275 | A | C2-N3-C4 | -7.34 | 106.93 | 110.60 |
| 2 | AB | 819 | A | C5'-C4'-C3' | -7.34 | 104.25 | 116.00 |
| 2 | AB | 2597 | G | N1-C2-N3 | -7.34 | 119.50 | 123.90 |
| 2 | AB | 2673 | G | C5'-C4'-O4' | 7.34 | 117.91 | 109.10 |
| 35 | BA | 573 | A | C5-C6-N1 | 7.34 | 121.37 | 117.70 |
| 35 | BA | 777 | A | O4'-C4'-C3' | 7.34 | 111.97 | 106.10 |
| 2 | AB | 535 | G | N1-C2-N3 | -7.34 | 119.50 | 123.90 |
| 2 | AB | 1412 | U | C4'-C3'-C2' | -7.34 | 95.26 | 102.60 |
| 2 | AB | 1832 | C | C5-C6-N1 | 7.34 | 124.67 | 121.00 |
| 2 | AB | 2304 | G | C5-C6-O6 | -7.34 | 124.20 | 128.60 |
| 2 | AB | 2758 | A | C6-C5-N7 | 7.34 | 137.44 | 132.30 |
| 35 | BA | 911 | U | C6-N1-C2 | 7.34 | 125.40 | 121.00 |
| 36 | BB | 59 | A | N9-C4-C5 | 7.34 | 108.73 | 105.80 |
| 37 | BC | 30 | G | C4-C5-C6 | 7.34 | 123.20 | 118.80 |
| 2 | AB | 843 | G | N3-C4-C5 | -7.34 | 124.93 | 128.60 |
| 2 | AB | 1949 | G | N3-C4-N9 | 7.34 | 130.40 | 126.00 |
| 35 | BA | 304 | U | C5'-C4'-C3' | -7.34 | 104.26 | 116.00 |
| 2 | AB | 13 | A | N3-C4-N9 | 7.34 | 133.27 | 127.40 |
| 2 | AB | 159 | G | O4'-C4'-C3' | 7.34 | 111.97 | 106.10 |
| 2 | AB | 787 | C | N1-C2-O2 | 7.34 | 123.30 | 118.90 |
| 2 | AB | 974 | G | O4'-C1'-N9 | 7.34 | 114.07 | 108.20 |
| 2 | AB | 2283 | C | N1-C2-O2 | 7.34 | 123.30 | 118.90 |
| 2 | AB | 2333 | A | C3'-C2'-C1' | 7.34 | 107.37 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 177 | G | C4'-C3'-C2' | -7.34 | 95.26 | 102.60 |
| 2 | AB | 1536 | C | O4'-C1'-N1 | 7.33 | 114.07 | 108.20 |
| 2 | AB | 2166 | U | N3-C4-O4 | 7.33 | 124.53 | 119.40 |
| 35 | BA | 79 | G | C2-N3-C4 | 7.33 | 115.57 | 111.90 |
| 26 | AZ | 10 | ARG | NE-CZ-NH2 | 7.33 | 123.97 | 120.30 |
| 35 | BA | 1089 | G | O4'-C1'-N9 | 7.33 | 114.07 | 108.20 |
| 2 | AB | 774 | G | C8-N9-C4 | -7.33 | 103.47 | 106.40 |
| 2 | AB | 1346 | G | N1-C2-N3 | -7.33 | 119.50 | 123.90 |
| 2 | AB | 1922 | G | N1-C2-N3 | -7.33 | 119.50 | 123.90 |
| 2 | AB | 2846 | G | N3-C2-N2 | 7.33 | 125.03 | 119.90 |
| 13 | AM | 18 | ARG | NE-CZ-NH2 | -7.33 | 116.63 | 120.30 |
| 35 | BA | 437 | U | N3-C4-O4 | -7.33 | 114.27 | 119.40 |
| 35 | BA | 668 | G | N3-C4-N9 | 7.33 | 130.40 | 126.00 |
| 35 | BA | 1371 | G | N9-C1'-C2' | -7.33 | 103.94 | 112.00 |
| 35 | BA | 1503 | A | N7-C8-N9 | -7.33 | 110.13 | 113.80 |
| 2 | AB | 257 | C | N1-C2-N3 | 7.33 | 124.33 | 119.20 |
| 2 | AB | 775 | G | C6-N1-C2 | -7.33 | 120.70 | 125.10 |
| 2 | AB | 1016 | G | C5'-C4'-O4' | 7.33 | 117.90 | 109.10 |
| 2 | AB | 2440 | C | N1-C2-O2 | 7.33 | 123.30 | 118.90 |
| 1 | AA | 83 | G | O4'-C1'-N9 | 7.33 | 114.06 | 108.20 |
| 1 | AA | 104 | A | N1-C2-N3 | 7.33 | 132.96 | 129.30 |
| 2 | AB | 519 | U | O4'-C1'-N1 | 7.33 | 114.06 | 108.20 |
| 2 | AB | 768 | G | N9-C4-C5 | 7.33 | 108.33 | 105.40 |
| 35 | BA | 360 | G | C5-N7-C8 | 7.33 | 107.96 | 104.30 |
| 35 | BA | 749 | A | C8-N9-C4 | -7.33 | 102.87 | 105.80 |
| 35 | BA | 879 | C | N1-C2-N3 | 7.33 | 124.33 | 119.20 |
| 35 | BA | 1081 | A | N7-C8-N9 | 7.33 | 117.46 | 113.80 |
| 35 | BA | 1337 | G | C4-C5-N7 | -7.33 | 107.87 | 110.80 |
| 2 | AB | 98 | G | C6-C5-N7 | -7.33 | 126.00 | 130.40 |
| 2 | AB | 471 | A | C5'-C4'-O4' | 7.33 | 117.89 | 109.10 |
| 2 | AB | 1331 | G | N3-C4-C5 | -7.33 | 124.94 | 128.60 |
| 2 | AB | 1404 | C | N3-C4-N4 | 7.33 | 123.13 | 118.00 |
| 2 | AB | 2187 | U | C5-C4-O4 | 7.33 | 130.30 | 125.90 |
| 35 | BA | 673 | A | C2-N3-C4 | 7.33 | 114.26 | 110.60 |
| 1 | AA | 54 | G | N7-C8-N9 | 7.33 | 116.76 | 113.10 |
| 2 | AB | 347 | A | P-O5'-C5' | 7.33 | 132.62 | 120.90 |
| 2 | AB | 812 | C | C6-N1-C2 | -7.33 | 117.37 | 120.30 |
| 2 | AB | 2308 | G | O4'-C1'-N9 | 7.33 | 114.06 | 108.20 |
| 19 | AS | 105 | PHE | CB-CG-CD2 | 7.33 | 125.93 | 120.80 |
| 35 | BA | 821 | G | C2-N3-C4 | 7.33 | 115.56 | 111.90 |
| 35 | BA | 958 | A | C4-C5-C6 | 7.33 | 120.66 | 117.00 |
| 35 | BA | 1228 | C | N1-C1'-C2' | -7.33 | 103.94 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1423 | G | N1-C6-O6 | 7.33 | 124.30 | 119.90 |
| 2 | AB | 438 | G | C3'-C2'-C1' | -7.32 | 95.64 | 101.50 |
| 2 | AB | 474 | G | N3-C4-N9 | 7.32 | 130.40 | 126.00 |
| 2 | AB | 601 | C | N3-C2-O2 | -7.32 | 116.77 | 121.90 |
| 2 | AB | 659 | G | C5'-C4'-O4' | 7.32 | 117.89 | 109.10 |
| 2 | AB | 664 | G | C3'-C2'-C1' | 7.32 | 107.36 | 101.50 |
| 2 | AB | 2070 | A | N1-C6-N6 | -7.32 | 114.21 | 118.60 |
| 2 | AB | 2323 | G | P-O3'-C3' | 7.32 | 128.49 | 119.70 |
| 2 | AB | 2542 | A | C5'-C4'-O4' | 7.32 | 117.89 | 109.10 |
| 2 | AB | 2869 | G | C2-N3-C4 | 7.32 | 115.56 | 111.90 |
| 35 | BA | 758 | C | C5-C6-N1 | 7.32 | 124.66 | 121.00 |
| 35 | BA | 941 | G | N9-C4-C5 | 7.32 | 108.33 | 105.40 |
| 2 | AB | 426 | C | N1-C2-O2 | 7.32 | 123.29 | 118.90 |
| 2 | AB | 494 | G | N1-C2-N3 | -7.32 | 119.51 | 123.90 |
| 35 | BA | 323 | U | N1-C2-N3 | 7.32 | 119.29 | 114.90 |
| 35 | BA | 855 | U | C4-C5-C6 | 7.32 | 124.09 | 119.70 |
| 1 | AA | 92 | C | N3-C2-O2 | -7.32 | 116.78 | 121.90 |
| 2 | AB | 1055 | G | C6-C5-N7 | 7.32 | 134.79 | 130.40 |
| 2 | AB | 1646 | C | C1'-O4'-C4' | -7.32 | 104.04 | 109.90 |
| 35 | BA | 815 | A | O4'-C1'-N9 | 7.32 | 114.06 | 108.20 |
| 45 | BK | 40 | ARG | NE-CZ-NH1 | -7.32 | 116.64 | 120.30 |
| 1 | AA | 13 | G | C2-N3-C4 | -7.32 | 108.24 | 111.90 |
| 2 | AB | 2412 | A | C5'-C4'-C3' | -7.32 | 104.29 | 116.00 |
| 35 | BA | 316 | C | N1-C2-O2 | 7.32 | 123.29 | 118.90 |
| 35 | BA | 1349 | A | C2-N3-C4 | 7.32 | 114.26 | 110.60 |
| 38 | BD | 236 | PHE | CB-CG-CD1 | 7.32 | 125.92 | 120.80 |
| 2 | AB | 1535 | A | C5-N7-C8 | 7.32 | 107.56 | 103.90 |
| 2 | AB | 1699 | G | C1'-O4'-C4' | -7.32 | 104.05 | 109.90 |
| 2 | AB | 2205 | A | C5-C6-N6 | -7.32 | 117.85 | 123.70 |
| 2 | AB | 2318 | G | C6-C5-N7 | -7.32 | 126.01 | 130.40 |
| 2 | AB | 2452 | C | C4-C5-C6 | 7.32 | 121.06 | 117.40 |
| 15 | AO | 103 | TYR | CB-CG-CD1 | -7.32 | 116.61 | 121.00 |
| 35 | BA | 142 | G | O4'-C1'-N9 | 7.32 | 114.05 | 108.20 |
| 35 | BA | 188 | C | C6-N1-C2 | -7.32 | 117.37 | 120.30 |
| 35 | BA | 792 | A | N3-C4-C5 | -7.32 | 121.68 | 126.80 |
| 35 | BA | 1352 | C | O4'-C1'-N1 | 7.32 | 114.05 | 108.20 |
| 35 | BA | 1489 | G | N3-C4-C5 | -7.32 | 124.94 | 128.60 |
| 2 | AB | 44 | A | N9-C1'-C2' | -7.32 | 103.95 | 112.00 |
| 2 | AB | 329 | G | C6-C5-N7 | -7.32 | 126.01 | 130.40 |
| 2 | AB | 370 | G | C6-N1-C2 | -7.32 | 120.71 | 125.10 |
| 2 | AB | 381 | G | O4'-C1'-N9 | 7.32 | 114.05 | 108.20 |
| 2 | AB | 727 | A | N1-C2-N3 | -7.32 | 125.64 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1523 | U | N1-C2-N3 | 7.32 | 119.29 | 114.90 |
| 2 | AB | 1799 | G | C4-C5-N7 | -7.32 | 107.87 | 110.80 |
| 2 | AB | 1859 | U | C4'-C3'-C2' | -7.32 | 95.28 | 102.60 |
| 2 | AB | 2520 | C | N1-C2-O2 | 7.32 | 123.29 | 118.90 |
| 2 | AB | 2530 | A | N7-C8-N9 | 7.32 | 117.46 | 113.80 |
| 2 | AB | 2832 | U | C5-C6-N1 | -7.32 | 119.04 | 122.70 |
| 35 | BA | 505 | G | C1'-O4'-C4' | -7.32 | 104.05 | 109.90 |
| 35 | BA | 1357 | A | N9-C4-C5 | -7.32 | 102.87 | 105.80 |
| 37 | BC | 4 | G | C2-N3-C4 | -7.32 | 108.24 | 111.90 |
| 2 | AB | 188 | G | C4-C5-N7 | -7.31 | 107.88 | 110.80 |
| 2 | AB | 1187 | G | C5-C6-O6 | -7.31 | 124.21 | 128.60 |
| 2 | AB | 1488 | C | C4-C5-C6 | -7.31 | 113.74 | 117.40 |
| 2 | AB | 2196 | C | O4'-C1'-N1 | 7.31 | 114.05 | 108.20 |
| 35 | BA | 1270 | G | N3-C4-C5 | -7.31 | 124.94 | 128.60 |
| 35 | BA | 1273 | C | C4'-C3'-C2' | -7.31 | 95.29 | 102.60 |
| 2 | AB | 242 | G | C2-N3-C4 | 7.31 | 115.56 | 111.90 |
| 2 | AB | 250 | G | C5-C6-N1 | -7.31 | 107.84 | 111.50 |
| 2 | AB | 498 | G | N3-C4-C5 | -7.31 | 124.94 | 128.60 |
| 2 | AB | 994 | C | C5-C4-N4 | -7.31 | 115.08 | 120.20 |
| 2 | AB | 1153 | C | O4'-C1'-N1 | 7.31 | 114.05 | 108.20 |
| 2 | AB | 1877 | A | C8-N9-C4 | -7.31 | 102.88 | 105.80 |
| 35 | BA | 547 | A | N7-C8-N9 | 7.31 | 117.46 | 113.80 |
| 37 | BC | 45 | A | N9-C4-C5 | -7.31 | 102.88 | 105.80 |
| 2 | AB | 1271 | G | C4-C5-N7 | 7.31 | 113.72 | 110.80 |
| 2 | AB | 1746 | A | C4-C5-C6 | 7.31 | 120.66 | 117.00 |
| 35 | BA | 770 | C | C6-N1-C2 | -7.31 | 117.38 | 120.30 |
| 2 | AB | 24 | G | N3-C2-N2 | -7.31 | 114.78 | 119.90 |
| 2 | AB | 2318 | G | C8-N9-C4 | -7.31 | 103.48 | 106.40 |
| 2 | AB | 2540 | C | C5-C4-N4 | -7.31 | 115.08 | 120.20 |
| 2 | AB | 2713 | U | C1'-O4'-C4' | 7.31 | 115.75 | 109.90 |
| 35 | BA | 479 | U | O4'-C1'-N1 | 7.31 | 114.05 | 108.20 |
| 35 | BA | 1077 | G | C4-C5-C6 | 7.31 | 123.19 | 118.80 |
| 35 | BA | 1509 | C | C5'-C4'-O4' | 7.31 | 117.87 | 109.10 |
| 2 | AB | 1001 | A | C4-C5-C6 | -7.31 | 113.35 | 117.00 |
| 2 | AB | 1539 | U | N1-C2-N3 | 7.31 | 119.28 | 114.90 |
| 2 | AB | 2270 | A | C4-C5-N7 | -7.31 | 107.05 | 110.70 |
| 2 | AB | 2284 | A | O4'-C1'-N9 | 7.31 | 114.05 | 108.20 |
| 10 | AJ | 4 | LEU | CB-CG-CD2 | 7.31 | 123.42 | 111.00 |
| 35 | BA | 306 | A | N1-C6-N6 | -7.31 | 114.22 | 118.60 |
| 35 | BA | 612 | C | N3-C4-N4 | 7.31 | 123.12 | 118.00 |
| 35 | BA | 1081 | A | C4-C5-N7 | -7.31 | 107.05 | 110.70 |
| 2 | AB | 573 | U | C5'-C4'-C3' | -7.31 | 104.31 | 116.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1018 | G | N9-C4-C5 | -7.31 | 102.48 | 105.40 |
| 35 | BA | 1342 | C | N1-C2-N3 | 7.31 | 124.31 | 119.20 |
| 1 | AA | 105 | G | N3-C2-N2 | -7.30 | 114.79 | 119.90 |
| 2 | AB | 1778 | U | C5-C6-N1 | -7.30 | 119.05 | 122.70 |
| 35 | BA | 498 | A | C4-C5-C6 | 7.30 | 120.65 | 117.00 |
| 35 | BA | 725 | G | O4'-C1'-N9 | 7.30 | 114.04 | 108.20 |
| 2 | AB | 1138 | G | C5-C6-N1 | 7.30 | 115.15 | 111.50 |
| 2 | AB | 1222 | U | O4'-C1'-N1 | 7.30 | 114.04 | 108.20 |
| 2 | AB | 1640 | A | C6-N1-C2 | -7.30 | 114.22 | 118.60 |
| 2 | AB | 1823 | G | N3-C4-C5 | -7.30 | 124.95 | 128.60 |
| 2 | AB | 2323 | G | C5'-C4'-O4' | 7.30 | 117.86 | 109.10 |
| 2 | AB | 2366 | A | C6-N1-C2 | 7.30 | 122.98 | 118.60 |
| 35 | BA | 15 | G | C4-C5-N7 | 7.30 | 113.72 | 110.80 |
| 35 | BA | 190 | A | N1-C6-N6 | -7.30 | 114.22 | 118.60 |
| 1 | AA | 61 | G | N3-C4-C5 | -7.30 | 124.95 | 128.60 |
| 2 | AB | 480 | A | N9-C4-C5 | -7.30 | 102.88 | 105.80 |
| 2 | AB | 888 | C | C2-N3-C4 | 7.30 | 123.55 | 119.90 |
| 2 | AB | 927 | A | C4-C5-C6 | -7.30 | 113.35 | 117.00 |
| 2 | AB | 2270 | A | C4'-C3'-C2' | -7.30 | 95.30 | 102.60 |
| 35 | BA | 402 | G | N7-C8-N9 | -7.30 | 109.45 | 113.10 |
| 35 | BA | 651 | C | C6-N1-C2 | -7.30 | 117.38 | 120.30 |
| 35 | BA | 842 | U | C1'-O4'-C4' | 7.30 | 115.74 | 109.90 |
| 35 | BA | 861 | G | C5-C6-N1 | 7.30 | 115.15 | 111.50 |
| 35 | BA | 1235 | U | C5-C4-O4 | -7.30 | 121.52 | 125.90 |
| 37 | BC | 16 | C | C5-C4-N4 | -7.30 | 115.09 | 120.20 |
| 2 | AB | 272 | A | C8-N9-C4 | -7.30 | 102.88 | 105.80 |
| 35 | BA | 303 | A | N1-C2-N3 | -7.30 | 125.65 | 129.30 |
| 35 | BA | 1069 | C | O4'-C1'-C2' | -7.30 | 98.50 | 105.80 |
| 35 | BA | 1118 | U | C1'-O4'-C4' | -7.30 | 104.06 | 109.90 |
| 2 | AB | 8 | C | O4'-C1'-N1 | 7.30 | 114.04 | 108.20 |
| 2 | AB | 171 | U | O4'-C1'-N1 | 7.30 | 114.04 | 108.20 |
| 2 | AB | 1913 | A | C2-N3-C4 | 7.30 | 114.25 | 110.60 |
| 2 | AB | 2382 | G | C6-N1-C2 | -7.30 | 120.72 | 125.10 |
| 35 | BA | 605 | U | C5-C6-N1 | -7.30 | 119.05 | 122.70 |
| 2 | AB | 2347 | C | C6-N1-C2 | 7.29 | 123.22 | 120.30 |
| 35 | BA | 1245 | C | N1-C1'-C2' | -7.29 | 103.97 | 112.00 |
| 2 | AB | 134 | G | N1-C2-N3 | -7.29 | 119.52 | 123.90 |
| 2 | AB | 625 | G | C4'-C3'-C2' | -7.29 | 95.31 | 102.60 |
| 2 | AB | 1315 | C | O4'-C1'-C2' | -7.29 | 98.51 | 105.80 |
| 2 | AB | 1789 | A | C4-C5-N7 | -7.29 | 107.05 | 110.70 |
| 2 | AB | 1806 | C | C5-C4-N4 | 7.29 | 125.31 | 120.20 |
| 2 | AB | 1961 | C | O4'-C1'-N1 | 7.29 | 114.03 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 328 | C | P-O3'-C3' | 7.29 | 128.45 | 119.70 |
| 42 | BH | 59 | TYR | CB-CG-CD1 | -7.29 | 116.62 | 121.00 |
| 2 | AB | 152 | A | C5'-C4'-C3' | -7.29 | 104.33 | 116.00 |
| 2 | AB | 548 | G | C2-N3-C4 | 7.29 | 115.55 | 111.90 |
| 2 | AB | 627 | A | O4'-C1'-N9 | 7.29 | 114.03 | 108.20 |
| 2 | AB | 634 | C | C5-C6-N1 | 7.29 | 124.65 | 121.00 |
| 2 | AB | 787 | C | N3-C4-C5 | -7.29 | 118.98 | 121.90 |
| 2 | AB | 1047 | G | C8-N9-C4 | 7.29 | 109.32 | 106.40 |
| 2 | AB | 1181 | U | C5-C6-N1 | -7.29 | 119.06 | 122.70 |
| 2 | AB | 1293 | C | C2-N3-C4 | 7.29 | 123.55 | 119.90 |
| 2 | AB | 1884 | G | C4-C5-C6 | -7.29 | 114.42 | 118.80 |
| 35 | BA | 8 | A | N1-C6-N6 | 7.29 | 122.97 | 118.60 |
| 35 | BA | 230 | G | C5-N7-C8 | 7.29 | 107.94 | 104.30 |
| 35 | BA | 702 | A | C5'-C4'-C3' | -7.29 | 104.33 | 116.00 |
| 2 | AB | 494 | G | C2-N3-C4 | 7.29 | 115.55 | 111.90 |
| 2 | AB | 620 | G | C2-N3-C4 | 7.29 | 115.55 | 111.90 |
| 2 | AB | 1175 | A | C8-N9-C4 | -7.29 | 102.88 | 105.80 |
| 35 | BA | 926 | G | O4'-C4'-C3' | 7.29 | 111.93 | 106.10 |
| 35 | BA | 1496 | C | C3'-C2'-C1' | -7.29 | 95.67 | 101.50 |
| 2 | AB | 186 | G | N3-C4-C5 | -7.29 | 124.96 | 128.60 |
| 2 | AB | 218 | A | C5-N7-C8 | 7.29 | 107.54 | 103.90 |
| 2 | AB | 237 | C | N3-C2-O2 | -7.29 | 116.80 | 121.90 |
| 2 | AB | 463 | G | C5'-C4'-O4' | 7.29 | 117.85 | 109.10 |
| 2 | AB | 820 | A | N3-C4-C5 | -7.29 | 121.70 | 126.80 |
| 2 | AB | 2330 | G | C8-N9-C4 | -7.29 | 103.48 | 106.40 |
| 2 | AB | 2375 | G | O4'-C4'-C3' | 7.29 | 111.93 | 106.10 |
| 2 | AB | 2447 | G | N3-C4-C5 | -7.29 | 124.96 | 128.60 |
| 2 | AB | 2583 | G | C2-N3-C4 | 7.29 | 115.54 | 111.90 |
| 35 | BA | 152 | A | C8-N9-C4 | 7.29 | 108.72 | 105.80 |
| 35 | BA | 1078 | U | C5-C6-N1 | -7.29 | 119.06 | 122.70 |
| 35 | BA | 1333 | A | N1-C2-N3 | -7.29 | 125.66 | 129.30 |
| 35 | BA | 1490 | U | C5-C6-N1 | -7.29 | 119.06 | 122.70 |
| 2 | AB | 1053 | C | N1-C2-O2 | 7.29 | 123.27 | 118.90 |
| 2 | AB | 1342 | A | N1-C6-N6 | -7.29 | 114.23 | 118.60 |
| 2 | AB | 2042 | A | C2-N3-C4 | -7.29 | 106.96 | 110.60 |
| 1 | AA | 1 | U | C2-N3-C4 | -7.29 | 122.63 | 127.00 |
| 2 | AB | 133 | U | C6-N1-C2 | -7.29 | 116.63 | 121.00 |
| 2 | AB | 163 | C | C2-N3-C4 | 7.29 | 123.54 | 119.90 |
| 2 | AB | 1282 | U | N1-C2-O2 | 7.29 | 127.90 | 122.80 |
| 2 | AB | 1783 | A | N1-C2-N3 | 7.29 | 132.94 | 129.30 |
| 2 | AB | 1904 | G | C6-N1-C2 | -7.29 | 120.73 | 125.10 |
| 2 | AB | 2507 | C | C4-C5-C6 | -7.29 | 113.76 | 117.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 22 | G | N3-C4-C5 | -7.29 | 124.96 | 128.60 |
| 35 | BA | 65 | A | C8-N9-C4 | -7.29 | 102.89 | 105.80 |
| 35 | BA | 411 | A | C4-C5-N7 | -7.29 | 107.06 | 110.70 |
| 35 | BA | 481 | G | C4-C5-C6 | 7.29 | 123.17 | 118.80 |
| 35 | BA | 689 | C | C1'-O4'-C4' | 7.29 | 115.73 | 109.90 |
| 35 | BA | 840 | C | N1-C2-O2 | 7.29 | 123.27 | 118.90 |
| 35 | BA | 1270 | G | N1-C2-N2 | 7.29 | 122.76 | 116.20 |
| 2 | AB | 26 | G | C1'-O4'-C4' | -7.28 | 104.07 | 109.90 |
| 2 | AB | 428 | A | O4'-C4'-C3' | 7.28 | 111.93 | 106.10 |
| 2 | AB | 825 | A | C5-C6-N1 | 7.28 | 121.34 | 117.70 |
| 2 | AB | 930 | G | C5-C6-O6 | 7.28 | 132.97 | 128.60 |
| 2 | AB | 1042 | G | N3-C4-N9 | 7.28 | 130.37 | 126.00 |
| 2 | AB | 1551 | A | N1-C2-N3 | -7.28 | 125.66 | 129.30 |
| 2 | AB | 2193 | G | N9-C4-C5 | 7.28 | 108.31 | 105.40 |
| 2 | AB | 2713 | U | C2-N3-C4 | -7.28 | 122.63 | 127.00 |
| 35 | BA | 21 | G | C5-C6-N1 | 7.28 | 115.14 | 111.50 |
| 35 | BA | 136 | C | C4-C5-C6 | 7.28 | 121.04 | 117.40 |
| 35 | BA | 342 | C | C6-N1-C2 | 7.28 | 123.21 | 120.30 |
| 35 | BA | 1069 | C | O4'-C1'-N1 | 7.28 | 114.03 | 108.20 |
| 35 | BA | 1118 | U | P-O5'-C5' | 7.28 | 132.55 | 120.90 |
| 35 | BA | 1422 | G | N7-C8-N9 | 7.28 | 116.74 | 113.10 |
| 2 | AB | 121 | G | C2-N3-C4 | 7.28 | 115.54 | 111.90 |
| 2 | AB | 612 | G | N1-C6-O6 | -7.28 | 115.53 | 119.90 |
| 7 | AG | 96 | TRP | NE1-CE2-CZ2 | 7.28 | 138.41 | 130.40 |
| 35 | BA | 714 | G | C8-N9-C4 | 7.28 | 109.31 | 106.40 |
| 35 | BA | 775 | G | C6-N1-C2 | 7.28 | 129.47 | 125.10 |
| 1 | AA | 9 | G | C8-N9-C4 | -7.28 | 103.49 | 106.40 |
| 1 | AA | 26 | C | N1-C2-N3 | -7.28 | 114.10 | 119.20 |
| 2 | AB | 1861 | G | N3-C4-N9 | 7.28 | 130.37 | 126.00 |
| 2 | AB | 2708 | G | C4-C5-N7 | -7.28 | 107.89 | 110.80 |
| 35 | BA | 218 | U | C6-N1-C2 | -7.28 | 116.63 | 121.00 |
| 35 | BA | 741 | G | C5-N7-C8 | -7.28 | 100.66 | 104.30 |
| 35 | BA | 771 | G | C6-C5-N7 | -7.28 | 126.03 | 130.40 |
| 35 | BA | 1097 | C | N3-C2-O2 | -7.28 | 116.80 | 121.90 |
| 35 | BA | 1502 | A | C5-C6-N6 | -7.28 | 117.88 | 123.70 |
| 37 | BC | 36 | A | C6-N1-C2 | -7.28 | 114.23 | 118.60 |
| 2 | AB | 1832 | C | N3-C2-O2 | -7.28 | 116.81 | 121.90 |
| 2 | AB | 1978 | A | O4'-C1'-N9 | 7.28 | 114.02 | 108.20 |
| 35 | BA | 524 | G | C8-N9-C4 | -7.28 | 103.49 | 106.40 |
| 35 | BA | 717 | U | C2'-C3'-O3' | 7.28 | 125.51 | 109.50 |
| 35 | BA | 1215 | G | C8-N9-C4 | -7.28 | 103.49 | 106.40 |
| 35 | BA | 1406 | U | O4'-C4'-C3' | 7.28 | 111.92 | 106.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 39 | BE | 10 | ARG | NE-CZ-NH1 | 7.28 | 123.94 | 120.30 |
| 2 | AB | 1339 | G | N9-C1'-C2' | -7.28 | 104.00 | 112.00 |
| 2 | AB | 1425 | G | C4-C5-C6 | 7.28 | 123.17 | 118.80 |
| 2 | AB | 2209 | G | N7-C8-N9 | 7.28 | 116.74 | 113.10 |
| 35 | BA | 126 | G | C6-C5-N7 | -7.28 | 126.03 | 130.40 |
| 35 | BA | 1141 | C | C5-C6-N1 | 7.28 | 124.64 | 121.00 |
| 37 | BC | 18 | U | C2-N3-C4 | 7.28 | 131.37 | 127.00 |
| 37 | BC | 44 | A | C4-C5-C6 | -7.28 | 113.36 | 117.00 |
| 37 | BC | 65 | G | C2-N3-C4 | -7.28 | 108.26 | 111.90 |
| 2 | AB | 338 | G | C5-C6-N1 | 7.27 | 115.14 | 111.50 |
| 2 | AB | 753 | A | C2-N3-C4 | 7.27 | 114.24 | 110.60 |
| 2 | AB | 1726 | C | O4'-C1'-N1 | 7.27 | 114.02 | 108.20 |
| 2 | AB | 1766 | G | C5-N7-C8 | 7.27 | 107.94 | 104.30 |
| 2 | AB | 2884 | U | O4'-C1'-N1 | 7.27 | 114.02 | 108.20 |
| 35 | BA | 307 | C | C3'-C2'-C1' | 7.27 | 107.32 | 101.50 |
| 55 | BU | 1 | PRO | CA-N-CD | -7.27 | 101.32 | 111.50 |
| 2 | AB | 685 | A | C1'-O4'-C4' | 7.27 | 115.72 | 109.90 |
| 2 | AB | 1960 | A | C4-C5-C6 | -7.27 | 113.36 | 117.00 |
| 2 | AB | 2189 | U | C3'-C2'-C1' | 7.27 | 107.32 | 101.50 |
| 35 | BA | 300 | A | N9-C4-C5 | 7.27 | 108.71 | 105.80 |
| 35 | BA | 727 | G | N9-C4-C5 | -7.27 | 102.49 | 105.40 |
| 35 | BA | 1053 | G | N1-C6-O6 | 7.27 | 124.26 | 119.90 |
| 35 | BA | 1059 | C | C4-C5-C6 | -7.27 | 113.76 | 117.40 |
| 35 | BA | 1154 | G | N7-C8-N9 | 7.27 | 116.74 | 113.10 |
| 2 | AB | 2035 | G | N3-C4-C5 | -7.27 | 124.96 | 128.60 |
| 2 | AB | 2387 | U | C6-N1-C2 | -7.27 | 116.64 | 121.00 |
| 2 | AB | 2803 | G | C5-C6-O6 | -7.27 | 124.24 | 128.60 |
| 35 | BA | 115 | G | C5-C6-O6 | -7.27 | 124.24 | 128.60 |
| 1 | AA | 96 | G | C4-C5-N7 | 7.27 | 113.71 | 110.80 |
| 2 | AB | 1069 | A | N7-C8-N9 | 7.27 | 117.43 | 113.80 |
| 2 | AB | 1764 | C | C4-C5-C6 | -7.27 | 113.77 | 117.40 |
| 2 | AB | 1919 | A | C8-N9-C4 | 7.27 | 108.71 | 105.80 |
| 2 | AB | 2589 | A | C4-C5-C6 | -7.27 | 113.36 | 117.00 |
| 6 | AF | 60 | TRP | NE1-CE2-CZ2 | 7.27 | 138.40 | 130.40 |
| 35 | BA | 2 | A | C6-C5-N7 | 7.27 | 137.39 | 132.30 |
| 35 | BA | 182 | A | O4'-C1'-N9 | 7.27 | 114.02 | 108.20 |
| 35 | BA | 430 | A | C4-C5-N7 | -7.27 | 107.06 | 110.70 |
| 35 | BA | 675 | A | C4-C5-N7 | 7.27 | 114.33 | 110.70 |
| 35 | BA | 947 | G | C4'-C3'-C2' | -7.27 | 95.33 | 102.60 |
| 35 | BA | 1525 | G | C3'-C2'-C1' | -7.27 | 95.69 | 101.50 |
| 2 | AB | 923 | G | N9-C1'-C2' | -7.27 | 104.01 | 112.00 |
| 2 | AB | 1300 | G | C4-C5-N7 | -7.27 | 107.89 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1486 | U | O4'-C1'-N1 | 7.27 | 114.01 | 108.20 |
| 35 | BA | 588 | G | O4'-C4'-C3' | 7.27 | 111.91 | 106.10 |
| 35 | BA | 767 | A | O4'-C1'-N9 | 7.27 | 114.01 | 108.20 |
| 35 | BA | 1065 | U | N3-C4-O4 | 7.27 | 124.49 | 119.40 |
| 2 | AB | 185 | G | N9-C1'-C2' | -7.27 | 104.01 | 112.00 |
| 2 | AB | 2659 | G | C4-C5-N7 | -7.27 | 107.89 | 110.80 |
| 35 | BA | 1206 | G | C4-C5-C6 | 7.27 | 123.16 | 118.80 |
| 2 | AB | 51 | G | C5-C6-O6 | -7.26 | 124.24 | 128.60 |
| 2 | AB | 73 | A | N3-C4-C5 | 7.26 | 131.89 | 126.80 |
| 2 | AB | 1008 | A | N9-C4-C5 | -7.26 | 102.89 | 105.80 |
| 2 | AB | 1317 | G | N9-C4-C5 | 7.26 | 108.31 | 105.40 |
| 2 | AB | 1359 | A | N1-C2-N3 | -7.26 | 125.67 | 129.30 |
| 2 | AB | 1709 | U | C2-N3-C4 | -7.26 | 122.64 | 127.00 |
| 2 | AB | 2759 | G | C3'-C2'-C1' | -7.26 | 95.69 | 101.50 |
| 4 | AD | 31 | PRO | N-CD-CG | 7.26 | 114.10 | 103.20 |
| 1 | AA | 76 | G | C4-C5-C6 | -7.26 | 114.44 | 118.80 |
| 2 | AB | 387 | U | O4'-C1'-N1 | 7.26 | 114.01 | 108.20 |
| 2 | AB | 1485 | U | N1-C1'-C2' | -7.26 | 104.01 | 112.00 |
| 2 | AB | 2519 | U | C3'-C2'-C1' | -7.26 | 95.69 | 101.50 |
| 35 | BA | 1387 | G | N1-C2-N3 | -7.26 | 119.54 | 123.90 |
| 46 | BL | 48 | ARG | NE-CZ-NH1 | 7.26 | 123.93 | 120.30 |
| 2 | AB | 565 | C | C5'-C4'-O4' | 7.26 | 117.81 | 109.10 |
| 2 | AB | 752 | A | C2-N3-C4 | 7.26 | 114.23 | 110.60 |
| 2 | AB | 914 | G | N9-C4-C5 | 7.26 | 108.31 | 105.40 |
| 2 | AB | 952 | G | C6-N1-C2 | -7.26 | 120.74 | 125.10 |
| 45 | BK | 79 | ARG | NE-CZ-NH1 | 7.26 | 123.93 | 120.30 |
| 2 | AB | 1667 | G | C5-N7-C8 | -7.26 | 100.67 | 104.30 |
| 2 | AB | 1857 | G | N9-C4-C5 | 7.26 | 108.30 | 105.40 |
| 2 | AB | 2024 | G | O4'-C1'-N9 | 7.26 | 114.01 | 108.20 |
| 2 | AB | 2352 | A | N3-C4-C5 | -7.26 | 121.72 | 126.80 |
| 2 | AB | 2365 | G | N3-C4-N9 | 7.26 | 130.35 | 126.00 |
| 35 | BA | 103 | U | N3-C2-O2 | -7.26 | 117.12 | 122.20 |
| 35 | BA | 835 | U | C5-C6-N1 | -7.26 | 119.07 | 122.70 |
| 35 | BA | 1389 | C | C5-C4-N4 | -7.26 | 115.12 | 120.20 |
| 37 | BC | 44 | A | N9-C4-C5 | -7.26 | 102.90 | 105.80 |
| 1 | AA | 118 | C | C3'-C2'-C1' | -7.26 | 95.69 | 101.50 |
| 35 | BA | 461 | A | C4-C5-N7 | -7.26 | 107.07 | 110.70 |
| 2 | AB | 503 | A | P-O3'-C3' | 7.26 | 128.41 | 119.70 |
| 2 | AB | 561 | G | C4-C5-N7 | 7.26 | 113.70 | 110.80 |
| 2 | AB | 581 | C | C5-C6-N1 | 7.26 | 124.63 | 121.00 |
| 2 | AB | 1199 | U | C5'-C4'-O4' | 7.26 | 117.81 | 109.10 |
| 2 | AB | 1241 | A | O4'-C1'-N9 | 7.26 | 114.00 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1258 | U | C4'-C3'-C2' | -7.26 | 95.34 | 102.60 |
| 2 | AB | 2589 | A | C6-N1-C2 | -7.26 | 114.25 | 118.60 |
| 2 | AB | 2801 | G | C6-N1-C2 | -7.26 | 120.75 | 125.10 |
| 35 | BA | 362 | G | C5-C6-N1 | 7.26 | 115.13 | 111.50 |
| 35 | BA | 370 | C | C2-N3-C4 | -7.26 | 116.27 | 119.90 |
| 35 | BA | 745 | G | C2-N3-C4 | -7.26 | 108.27 | 111.90 |
| 35 | BA | 748 | G | N3-C4-C5 | -7.26 | 124.97 | 128.60 |
| 35 | BA | 1084 | G | N3-C4-C5 | -7.26 | 124.97 | 128.60 |
| 1 | AA | 21 | G | O4'-C1'-N9 | 7.25 | 114.00 | 108.20 |
| 2 | AB | 101 | A | C1'-O4'-C4' | 7.25 | 115.70 | 109.90 |
| 2 | AB | 1551 | A | O4'-C1'-N9 | 7.25 | 114.00 | 108.20 |
| 2 | AB | 1756 | G | N3-C4-C5 | -7.25 | 124.97 | 128.60 |
| 2 | AB | 2063 | C | N1-C2-O2 | 7.25 | 123.25 | 118.90 |
| 35 | BA | 718 | A | C6-N1-C2 | 7.25 | 122.95 | 118.60 |
| 35 | BA | 1147 | C | O4'-C1'-N1 | 7.25 | 114.00 | 108.20 |
| 1 | AA | 30 | C | C4'-C3'-C2' | -7.25 | 95.35 | 102.60 |
| 1 | AA | 31 | C | C4-C5-C6 | 7.25 | 121.03 | 117.40 |
| 1 | AA | 36 | C | O4'-C1'-N1 | 7.25 | 114.00 | 108.20 |
| 2 | AB | 112 | U | C4-C5-C6 | 7.25 | 124.05 | 119.70 |
| 2 | AB | 124 | G | C5-N7-C8 | 7.25 | 107.93 | 104.30 |
| 2 | AB | 1205 | A | N7-C8-N9 | -7.25 | 110.17 | 113.80 |
| 2 | AB | 1715 | G | C4-C5-N7 | -7.25 | 107.90 | 110.80 |
| 2 | AB | 2036 | C | O4'-C1'-N1 | 7.25 | 114.00 | 108.20 |
| 2 | AB | 2440 | C | N3-C2-O2 | -7.25 | 116.82 | 121.90 |
| 2 | AB | 2522 | U | C4-C5-C6 | 7.25 | 124.05 | 119.70 |
| 35 | BA | 802 | A | C5-C6-N6 | 7.25 | 129.50 | 123.70 |
| 2 | AB | 161 | A | N9-C4-C5 | 7.25 | 108.70 | 105.80 |
| 2 | AB | 212 | G | N9-C4-C5 | -7.25 | 102.50 | 105.40 |
| 2 | AB | 388 | G | C5-C6-O6 | -7.25 | 124.25 | 128.60 |
| 2 | AB | 1146 | C | N1-C2-O2 | 7.25 | 123.25 | 118.90 |
| 2 | AB | 1303 | G | N9-C4-C5 | 7.25 | 108.30 | 105.40 |
| 2 | AB | 1790 | C | N3-C4-C5 | -7.25 | 119.00 | 121.90 |
| 2 | AB | 2053 | G | C4-C5-C6 | 7.25 | 123.15 | 118.80 |
| 2 | AB | 2234 | G | N7-C8-N9 | 7.25 | 116.73 | 113.10 |
| 35 | BA | 47 | C | N3-C4-C5 | -7.25 | 119.00 | 121.90 |
| 35 | BA | 337 | G | C6-C5-N7 | -7.25 | 126.05 | 130.40 |
| 35 | BA | 498 | A | C5-C6-N1 | -7.25 | 114.08 | 117.70 |
| 35 | BA | 800 | G | C8-N9-C4 | -7.25 | 103.50 | 106.40 |
| 39 | BE | 125 | ARG | NE-CZ-NH2 | -7.25 | 116.67 | 120.30 |
| 2 | AB | 485 | C | C5'-C4'-O4' | 7.25 | 117.80 | 109.10 |
| 2 | AB | 664 | G | O4'-C1'-N9 | 7.25 | 114.00 | 108.20 |
| 2 | AB | 1546 | G | C5-C6-O6 | -7.25 | 124.25 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 75 | G | N7-C8-N9 | 7.25 | 116.72 | 113.10 |
| 35 | BA | 769 | G | C1'-O4'-C4' | -7.25 | 104.10 | 109.90 |
| 2 | AB | 321 | U | C4'-C3'-C2' | -7.25 | 95.35 | 102.60 |
| 2 | AB | 351 | C | N1-C1'-C2' | -7.25 | 104.03 | 112.00 |
| 2 | AB | 423 | A | N1-C2-N3 | -7.25 | 125.67 | 129.30 |
| 2 | AB | 797 | G | N3-C4-C5 | -7.25 | 124.97 | 128.60 |
| 2 | AB | 2619 | C | O4'-C1'-N1 | 7.25 | 114.00 | 108.20 |
| 35 | BA | 74 | A | C8-N9-C4 | 7.25 | 108.70 | 105.80 |
| 35 | BA | 367 | U | N3-C4-C5 | -7.25 | 110.25 | 114.60 |
| 35 | BA | 1312 | G | C8-N9-C4 | -7.25 | 103.50 | 106.40 |
| 41 | BG | 156 | ARG | NE-CZ-NH2 | 7.25 | 123.92 | 120.30 |
| 2 | AB | 521 | U | C3'-C2'-C1' | 7.25 | 107.30 | 101.50 |
| 2 | AB | 778 | G | C5-C6-O6 | -7.25 | 124.25 | 128.60 |
| 2 | AB | 795 | C | N3-C4-N4 | 7.25 | 123.07 | 118.00 |
| 2 | AB | 1368 | G | N1-C2-N3 | -7.25 | 119.55 | 123.90 |
| 2 | AB | 1826 | G | C8-N9-C4 | -7.25 | 103.50 | 106.40 |
| 35 | BA | 76 | G | O4'-C1'-N9 | 7.25 | 114.00 | 108.20 |
| 36 | BB | 41 | A | C5-C6-N6 | 7.25 | 129.50 | 123.70 |
| 37 | BC | 76 | C | N3-C4-C5 | -7.25 | 119.00 | 121.90 |
| 2 | AB | 815 | C | C6-N1-C2 | 7.25 | 123.20 | 120.30 |
| 2 | AB | 1323 | C | N1-C2-O2 | 7.25 | 123.25 | 118.90 |
| 2 | AB | 1966 | A | C3'-C2'-C1' | 7.25 | 107.30 | 101.50 |
| 2 | AB | 2307 | G | N3-C4-N9 | -7.25 | 121.65 | 126.00 |
| 35 | BA | 55 | A | C5-N7-C8 | 7.25 | 107.52 | 103.90 |
| 35 | BA | 162 | A | N7-C8-N9 | 7.25 | 117.42 | 113.80 |
| 35 | BA | 191 | G | N9-C4-C5 | -7.25 | 102.50 | 105.40 |
| 35 | BA | 901 | A | C6-C5-N7 | 7.25 | 137.37 | 132.30 |
| 1 | AA | 13 | G | C4-C5-N7 | -7.24 | 107.90 | 110.80 |
| 2 | AB | 61 | C | C4-C5-C6 | -7.24 | 113.78 | 117.40 |
| 2 | AB | 1481 | U | N3-C2-O2 | -7.24 | 117.13 | 122.20 |
| 2 | AB | 1525 | A | N9-C1'-C2' | -7.24 | 104.03 | 112.00 |
| 35 | BA | 587 | G | O4'-C1'-C2' | 7.24 | 114.12 | 107.60 |
| 2 | AB | 404 | A | C5-C6-N1 | 7.24 | 121.32 | 117.70 |
| 2 | AB | 598 | U | N3-C4-C5 | -7.24 | 110.25 | 114.60 |
| 2 | AB | 2004 | G | N3-C4-C5 | -7.24 | 124.98 | 128.60 |
| 2 | AB | 2692 | G | C8-N9-C4 | -7.24 | 103.50 | 106.40 |
| 35 | BA | 1203 | C | O4'-C1'-N1 | 7.24 | 113.99 | 108.20 |
| 35 | BA | 1323 | G | N9-C4-C5 | 7.24 | 108.30 | 105.40 |
| 1 | AA | 120 | U | N1-C1'-C2' | -7.24 | 104.03 | 112.00 |
| 2 | AB | 270 | A | C2-N3-C4 | -7.24 | 106.98 | 110.60 |
| 2 | AB | 598 | U | N1-C2-O2 | -7.24 | 117.73 | 122.80 |
| 2 | AB | 2548 | U | C5-C4-O4 | 7.24 | 130.25 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2866 | U | N1-C2-O2 | 7.24 | 127.87 | 122.80 |
| 6 | AF | 61 | ARG | NE-CZ-NH1 | -7.24 | 116.68 | 120.30 |
| 35 | BA | 661 | G | C4'-C3'-C2' | -7.24 | 95.36 | 102.60 |
| 35 | BA | 794 | A | C8-N9-C4 | -7.24 | 102.90 | 105.80 |
| 35 | BA | 858 | G | C2-N3-C4 | 7.24 | 115.52 | 111.90 |
| 35 | BA | 982 | U | C4-C5-C6 | 7.24 | 124.05 | 119.70 |
| 35 | BA | 1156 | G | N9-C4-C5 | 7.24 | 108.30 | 105.40 |
| 35 | BA | 1341 | U | C5'-C4'-O4' | 7.24 | 117.79 | 109.10 |
| 35 | BA | 1487 | G | O4'-C1'-N9 | 7.24 | 113.99 | 108.20 |
| 37 | BC | 65 | G | C4'-C3'-C2' | -7.24 | 95.36 | 102.60 |
| 1 | AA | 58 | A | C5-C6-N6 | -7.24 | 117.91 | 123.70 |
| 2 | AB | 390 | U | N3-C2-O2 | -7.24 | 117.13 | 122.20 |
| 2 | AB | 802 | A | N3-C4-C5 | -7.24 | 121.73 | 126.80 |
| 2 | AB | 1242 | U | C5-C4-O4 | 7.24 | 130.24 | 125.90 |
| 2 | AB | 1337 | G | N7-C8-N9 | 7.24 | 116.72 | 113.10 |
| 2 | AB | 1451 | C | N3-C4-N4 | 7.24 | 123.07 | 118.00 |
| 2 | AB | 1465 | G | N3-C4-N9 | 7.24 | 130.34 | 126.00 |
| 2 | AB | 2292 | U | C5'-C4'-O4' | 7.24 | 117.79 | 109.10 |
| 2 | AB | 2330 | G | C6-N1-C2 | -7.24 | 120.76 | 125.10 |
| 2 | AB | 2536 | G | N3-C4-N9 | 7.24 | 130.34 | 126.00 |
| 2 | AB | 2655 | G | C6-C5-N7 | 7.24 | 134.74 | 130.40 |
| 35 | BA | 46 | G | N7-C8-N9 | 7.24 | 116.72 | 113.10 |
| 35 | BA | 117 | G | N3-C4-C5 | -7.24 | 124.98 | 128.60 |
| 35 | BA | 759 | A | N9-C4-C5 | 7.24 | 108.69 | 105.80 |
| 35 | BA | 769 | G | N9-C4-C5 | -7.24 | 102.50 | 105.40 |
| 35 | BA | 1212 | U | C5-C4-O4 | -7.24 | 121.56 | 125.90 |
| 36 | BB | 44 | U | P-O3'-C3' | 7.24 | 128.39 | 119.70 |
| 1 | AA | 30 | C | C5-C4-N4 | -7.24 | 115.13 | 120.20 |
| 2 | AB | 2694 | G | O4'-C1'-N9 | 7.24 | 113.99 | 108.20 |
| 2 | AB | 492 | A | O4'-C1'-N9 | 7.24 | 113.99 | 108.20 |
| 2 | AB | 1037 | G | N3-C2-N2 | -7.24 | 114.83 | 119.90 |
| 2 | AB | 1292 | G | O4'-C1'-N9 | -7.24 | 102.41 | 108.20 |
| 2 | AB | 1342 | A | C6-N1-C2 | -7.24 | 114.26 | 118.60 |
| 2 | AB | 1581 | G | N3-C2-N2 | -7.24 | 114.83 | 119.90 |
| 2 | AB | 1591 | A | N1-C6-N6 | -7.24 | 114.26 | 118.60 |
| 2 | AB | 2330 | G | C4-C5-C6 | 7.24 | 123.14 | 118.80 |
| 2 | AB | 2379 | G | N3-C2-N2 | -7.24 | 114.84 | 119.90 |
| 36 | BB | 21 | U | C1'-O4'-C4' | -7.24 | 104.11 | 109.90 |
| 2 | AB | 1312 | U | O4'-C1'-N1 | 7.23 | 113.99 | 108.20 |
| 2 | AB | 2421 | G | N1-C2-N3 | 7.23 | 128.24 | 123.90 |
| 2 | AB | 2609 | U | N1-C2-O2 | 7.23 | 127.86 | 122.80 |
| 35 | BA | 914 | A | C8-N9-C4 | -7.23 | 102.91 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 990 | C | O4'-C1'-N1 | 7.23 | 113.99 | 108.20 |
| 37 | BC | 10 | G | C5'-C4'-C3' | -7.23 | 104.43 | 116.00 |
| 1 | AA | 87 | U | N1-C1'-C2' | -7.23 | 104.04 | 112.00 |
| 2 | AB | 1703 | G | C2-N3-C4 | 7.23 | 115.52 | 111.90 |
| 2 | AB | 2817 | U | C5-C6-N1 | 7.23 | 126.32 | 122.70 |
| 35 | BA | 41 | G | C5-C6-O6 | -7.23 | 124.26 | 128.60 |
| 35 | BA | 281 | G | N3-C4-C5 | -7.23 | 124.98 | 128.60 |
| 35 | BA | 829 | G | N9-C4-C5 | 7.23 | 108.29 | 105.40 |
| 35 | BA | 1275 | A | C5-C6-N1 | -7.23 | 114.08 | 117.70 |
| 2 | AB | 543 | G | N9-C4-C5 | 7.23 | 108.29 | 105.40 |
| 2 | AB | 779 | U | N1-C2-O2 | 7.23 | 127.86 | 122.80 |
| 2 | AB | 1037 | G | C5-N7-C8 | -7.23 | 100.68 | 104.30 |
| 2 | AB | 1232 | G | N1-C6-O6 | -7.23 | 115.56 | 119.90 |
| 2 | AB | 1246 | A | C4'-C3'-C2' | -7.23 | 95.37 | 102.60 |
| 2 | AB | 1365 | A | N7-C8-N9 | -7.23 | 110.18 | 113.80 |
| 2 | AB | 2536 | G | N1-C6-O6 | -7.23 | 115.56 | 119.90 |
| 2 | AB | 2632 | A | N7-C8-N9 | -7.23 | 110.19 | 113.80 |
| 16 | AP | 47 | VAL | CA-CB-CG2 | -7.23 | 100.06 | 110.90 |
| 35 | BA | 432 | A | C2-N3-C4 | 7.23 | 114.22 | 110.60 |
| 35 | BA | 881 | G | O4'-C1'-N9 | 7.23 | 113.98 | 108.20 |
| 35 | BA | 1078 | U | C5-C4-O4 | -7.23 | 121.56 | 125.90 |
| 2 | AB | 569 | U | C3'-C2'-C1' | 7.23 | 107.28 | 101.50 |
| 2 | AB | 1388 | G | C2-N3-C4 | 7.23 | 115.51 | 111.90 |
| 2 | AB | 2015 | A | C6-N1-C2 | 7.23 | 122.94 | 118.60 |
| 2 | AB | 2112 | G | C3'-C2'-C1' | 7.23 | 107.28 | 101.50 |
| 2 | AB | 2146 | C | O4'-C1'-N1 | 7.23 | 113.98 | 108.20 |
| 2 | AB | 2336 | A | P-O3'-C3' | 7.23 | 128.38 | 119.70 |
| 35 | BA | 1132 | C | C6-N1-C2 | 7.23 | 123.19 | 120.30 |
| 1 | AA | 15 | A | C5-C6-N1 | 7.23 | 121.31 | 117.70 |
| 2 | AB | 842 | U | C5-C4-O4 | -7.23 | 121.56 | 125.90 |
| 2 | AB | 1246 | A | C3'-C2'-C1' | 7.23 | 107.28 | 101.50 |
| 2 | AB | 2735 | G | C6-C5-N7 | -7.23 | 126.06 | 130.40 |
| 35 | BA | 65 | A | N9-C4-C5 | -7.23 | 102.91 | 105.80 |
| 35 | BA | 81 | A | P-O3'-C3' | 7.23 | 128.37 | 119.70 |
| 35 | BA | 378 | G | N3-C4-C5 | -7.23 | 124.99 | 128.60 |
| 35 | BA | 453 | G | N3-C4-N9 | 7.23 | 130.34 | 126.00 |
| 35 | BA | 725 | G | C4-C5-N7 | -7.23 | 107.91 | 110.80 |
| 35 | BA | 831 | A | C5-N7-C8 | 7.23 | 107.51 | 103.90 |
| 35 | BA | 1084 | G | N9-C4-C5 | 7.23 | 108.29 | 105.40 |
| 35 | BA | 80 | A | C6-N1-C2 | -7.23 | 114.27 | 118.60 |
| 2 | AB | 1351 | C | N1-C2-O2 | 7.22 | 123.23 | 118.90 |
| 2 | AB | 2091 | C | C4'-C3'-C2' | -7.22 | 95.38 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 183 | C | C4'-C3'-C2' | -7.22 | 95.38 | 102.60 |
| 35 | BA | 1119 | C | C5'-C4'-O4' | 7.22 | 117.77 | 109.10 |
| 35 | BA | 1304 | G | C5-N7-C8 | -7.22 | 100.69 | 104.30 |
| 2 | AB | 408 | G | N3-C2-N2 | 7.22 | 124.95 | 119.90 |
| 2 | AB | 517 | C | N3-C4-N4 | 7.22 | 123.06 | 118.00 |
| 2 | AB | 1389 | G | N3-C4-C5 | -7.22 | 124.99 | 128.60 |
| 2 | AB | 1678 | A | C5-C6-N1 | 7.22 | 121.31 | 117.70 |
| 2 | AB | 2788 | C | O4'-C1'-N1 | 7.22 | 113.98 | 108.20 |
| 8 | AH | 169 | ARG | NE-CZ-NH2 | 7.22 | 123.91 | 120.30 |
| 35 | BA | 287 | U | O4'-C1'-N1 | 7.22 | 113.98 | 108.20 |
| 35 | BA | 1140 | C | C4-C5-C6 | -7.22 | 113.79 | 117.40 |
| 2 | AB | 5 | A | C4-C5-C6 | 7.22 | 120.61 | 117.00 |
| 2 | AB | 443 | A | C2-N3-C4 | 7.22 | 114.21 | 110.60 |
| 2 | AB | 488 | G | N3-C2-N2 | -7.22 | 114.84 | 119.90 |
| 2 | AB | 611 | C | N3-C4-C5 | -7.22 | 119.01 | 121.90 |
| 2 | AB | 900 | A | N3-C4-N9 | 7.22 | 133.18 | 127.40 |
| 35 | BA | 208 | U | C1'-O4'-C4' | -7.22 | 104.12 | 109.90 |
| 35 | BA | 210 | C | C2-N3-C4 | 7.22 | 123.51 | 119.90 |
| 35 | BA | 823 | C | C3'-C2'-C1' | 7.22 | 107.28 | 101.50 |
| 35 | BA | 838 | G | C6-N1-C2 | -7.22 | 120.77 | 125.10 |
| 2 | AB | 377 | G | C4'-C3'-C2' | -7.22 | 95.38 | 102.60 |
| 2 | AB | 561 | G | O4'-C1'-N9 | 7.22 | 113.98 | 108.20 |
| 2 | AB | 597 | G | C6-C5-N7 | 7.22 | 134.73 | 130.40 |
| 2 | AB | 894 | U | C5-C6-N1 | -7.22 | 119.09 | 122.70 |
| 2 | AB | 1134 | A | N1-C6-N6 | -7.22 | 114.27 | 118.60 |
| 2 | AB | 1488 | C | C6-N1-C2 | -7.22 | 117.41 | 120.30 |
| 2 | AB | 1601 | G | N7-C8-N9 | 7.22 | 116.71 | 113.10 |
| 2 | AB | 1734 | G | O4'-C1'-N9 | 7.22 | 113.98 | 108.20 |
| 2 | AB | 2544 | G | N3-C2-N2 | -7.22 | 114.85 | 119.90 |
| 2 | AB | 2633 | G | C5-C6-N1 | 7.22 | 115.11 | 111.50 |
| 35 | BA | 1383 | C | N3-C4-C5 | -7.22 | 119.01 | 121.90 |
| 44 | BJ | 77 | VAL | CG1-CB-CG2 | -7.22 | 99.35 | 110.90 |
| 2 | AB | 2476 | A | C6-C5-N7 | 7.22 | 137.35 | 132.30 |
| 14 | AN | 132 | ARG | NE-CZ-NH2 | 7.22 | 123.91 | 120.30 |
| 2 | AB | 742 | A | N1-C2-N3 | -7.22 | 125.69 | 129.30 |
| 2 | AB | 775 | G | C4-C5-N7 | 7.22 | 113.69 | 110.80 |
| 2 | AB | 1951 | U | N1-C1'-C2' | -7.22 | 104.06 | 112.00 |
| 2 | AB | 2267 | A | N1-C6-N6 | -7.22 | 114.27 | 118.60 |
| 2 | AB | 2358 | A | N1-C2-N3 | 7.22 | 132.91 | 129.30 |
| 2 | AB | 2367 | G | C5'-C4'-O4' | 7.22 | 117.76 | 109.10 |
| 35 | BA | 1488 | G | C5-C6-N1 | -7.22 | 107.89 | 111.50 |
| 2 | AB | 354 | A | N9-C1'-C2' | -7.21 | 104.06 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 460 | A | C5-N7-C8 | -7.21 | 100.29 | 103.90 |
| 2 | AB | 1025 | G | C4'-C3'-C2' | 7.21 | 109.81 | 102.60 |
| 2 | AB | 1238 | G | N1-C2-N3 | -7.21 | 119.57 | 123.90 |
| 2 | AB | 1455 | G | N3-C4-C5 | -7.21 | 124.99 | 128.60 |
| 2 | AB | 1847 | A | N9-C4-C5 | 7.21 | 108.69 | 105.80 |
| 2 | AB | 2638 | G | C5'-C4'-O4' | 7.21 | 117.76 | 109.10 |
| 35 | BA | 389 | A | C5'-C4'-O4' | 7.21 | 117.76 | 109.10 |
| 1 | AA | 91 | C | C3'-C2'-C1' | 7.21 | 107.27 | 101.50 |
| 2 | AB | 1000 | A | C5-C6-N1 | -7.21 | 114.09 | 117.70 |
| 2 | AB | 1394 | U | C4-C5-C6 | 7.21 | 124.03 | 119.70 |
| 2 | AB | 1825 | U | C5-C6-N1 | -7.21 | 119.09 | 122.70 |
| 2 | AB | 2238 | G | N1-C2-N2 | 7.21 | 122.69 | 116.20 |
| 2 | AB | 2476 | A | C5-C6-N1 | 7.21 | 121.31 | 117.70 |
| 20 | AT | 80 | ARG | NE-CZ-NH1 | 7.21 | 123.91 | 120.30 |
| 35 | BA | 1488 | G | C4-C5-C6 | 7.21 | 123.13 | 118.80 |
| 35 | BA | 1515 | G | C8-N9-C4 | -7.21 | 103.52 | 106.40 |
| 36 | BB | 13 | A | O4'-C1'-N9 | 7.21 | 113.97 | 108.20 |
| 36 | BB | 55 | A | C6-N1-C2 | -7.21 | 114.27 | 118.60 |
| 2 | AB | 123 | G | C1'-O4'-C4' | 7.21 | 115.67 | 109.90 |
| 2 | AB | 198 | C | C5-C6-N1 | -7.21 | 117.39 | 121.00 |
| 2 | AB | 715 | A | N1-C2-N3 | 7.21 | 132.91 | 129.30 |
| 2 | AB | 2834 | G | C5'-C4'-C3' | 7.21 | 127.54 | 116.00 |
| 35 | BA | 888 | G | N7-C8-N9 | -7.21 | 109.50 | 113.10 |
| 2 | AB | 493 | G | C4-C5-C6 | 7.21 | 123.12 | 118.80 |
| 2 | AB | 523 | C | N3-C4-N4 | 7.21 | 123.05 | 118.00 |
| 2 | AB | 639 | U | N3-C4-O4 | 7.21 | 124.45 | 119.40 |
| 2 | AB | 1034 | G | C4-C5-C6 | 7.21 | 123.13 | 118.80 |
| 2 | AB | 1241 | A | C2-N3-C4 | 7.21 | 114.20 | 110.60 |
| 2 | AB | 1340 | U | P-O3'-C3' | 7.21 | 128.35 | 119.70 |
| 2 | AB | 1814 | G | C2-N3-C4 | 7.21 | 115.50 | 111.90 |
| 35 | BA | 17 | U | N1-C2-O2 | 7.21 | 127.85 | 122.80 |
| 35 | BA | 324 | G | N1-C2-N2 | 7.21 | 122.69 | 116.20 |
| 35 | BA | 1044 | A | C4-C5-C6 | 7.21 | 120.60 | 117.00 |
| 35 | BA | 1342 | C | C2-N3-C4 | -7.21 | 116.30 | 119.90 |
| 2 | AB | 633 | A | N9-C4-C5 | -7.21 | 102.92 | 105.80 |
| 2 | AB | 684 | G | C5-C6-N1 | 7.21 | 115.10 | 111.50 |
| 2 | AB | 1142 | A | C5'-C4'-O4' | 7.21 | 117.75 | 109.10 |
| 2 | AB | 1467 | U | N3-C4-O4 | -7.21 | 114.36 | 119.40 |
| 2 | AB | 1909 | C | N1-C2-O2 | 7.21 | 123.22 | 118.90 |
| 2 | AB | 1968 | G | C6-N1-C2 | -7.21 | 120.78 | 125.10 |
| 2 | AB | 1975 | G | C5-C6-O6 | -7.21 | 124.28 | 128.60 |
| 35 | BA | 54 | C | C4'-C3'-C2' | -7.21 | 95.39 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 350 | G | C5-C6-O6 | -7.21 | 124.28 | 128.60 |
| 35 | BA | 401 | C | O4'-C1'-N1 | 7.21 | 113.97 | 108.20 |
| 35 | BA | 589 | U | O4'-C1'-N1 | 7.21 | 113.97 | 108.20 |
| 35 | BA | 631 | C | N3-C2-O2 | -7.21 | 116.86 | 121.90 |
| 35 | BA | 674 | G | C8-N9-C4 | -7.21 | 103.52 | 106.40 |
| 35 | BA | 1175 | G | N1-C2-N2 | 7.21 | 122.69 | 116.20 |
| 36 | BB | 34 | U | C4'-C3'-C2' | -7.21 | 95.39 | 102.60 |
| 2 | AB | 2593 | U | C1'-O4'-C4' | -7.21 | 104.14 | 109.90 |
| 35 | BA | 514 | C | C4'-C3'-C2' | -7.21 | 95.39 | 102.60 |
| 2 | AB | 410 | G | C2-N3-C4 | 7.20 | 115.50 | 111.90 |
| 2 | AB | 425 | G | N1-C2-N3 | -7.20 | 119.58 | 123.90 |
| 2 | AB | 1246 | A | N9-C4-C5 | 7.20 | 108.68 | 105.80 |
| 2 | AB | 1717 | A | N9-C4-C5 | 7.20 | 108.68 | 105.80 |
| 2 | AB | 1906 | G | N7-C8-N9 | -7.20 | 109.50 | 113.10 |
| 2 | AB | 2114 | A | N1-C6-N6 | -7.20 | 114.28 | 118.60 |
| 35 | BA | 504 | C | N1-C2-O2 | -7.20 | 114.58 | 118.90 |
| 2 | AB | 44 | A | C4-C5-C6 | -7.20 | 113.40 | 117.00 |
| 2 | AB | 717 | C | C4'-C3'-C2' | -7.20 | 95.40 | 102.60 |
| 35 | BA | 98 | A | C4-C5-C6 | -7.20 | 113.40 | 117.00 |
| 2 | AB | 155 | A | O4'-C1'-N9 | 7.20 | 113.96 | 108.20 |
| 2 | AB | 262 | A | N1-C2-N3 | -7.20 | 125.70 | 129.30 |
| 2 | AB | 1601 | G | N1-C2-N3 | -7.20 | 119.58 | 123.90 |
| 2 | AB | 2328 | A | C5-C6-N6 | 7.20 | 129.46 | 123.70 |
| 2 | AB | 2369 | A | C6-C5-N7 | 7.20 | 137.34 | 132.30 |
| 35 | BA | 497 | G | N1-C6-O6 | -7.20 | 115.58 | 119.90 |
| 35 | BA | 1075 | U | N3-C4-C5 | -7.20 | 110.28 | 114.60 |
| 37 | BC | 14 | A | C8-N9-C4 | -7.20 | 102.92 | 105.80 |
| 2 | AB | 728 | G | C5-C6-N1 | 7.20 | 115.10 | 111.50 |
| 2 | AB | 829 | A | N7-C8-N9 | 7.20 | 117.40 | 113.80 |
| 2 | AB | 1371 | G | C5'-C4'-O4' | 7.20 | 117.74 | 109.10 |
| 2 | AB | 1428 | C | C4-C5-C6 | -7.20 | 113.80 | 117.40 |
| 2 | AB | 2053 | G | N1-C2-N3 | -7.20 | 119.58 | 123.90 |
| 35 | BA | 278 | G | N7-C8-N9 | 7.20 | 116.70 | 113.10 |
| 35 | BA | 1445 | U | O4'-C1'-N1 | 7.20 | 113.96 | 108.20 |
| 2 | AB | 419 | U | C6-N1-C2 | -7.20 | 116.68 | 121.00 |
| 35 | BA | 65 | A | C5-N7-C8 | -7.20 | 100.30 | 103.90 |
| 35 | BA | 168 | G | C2-N3-C4 | 7.20 | 115.50 | 111.90 |
| 35 | BA | 566 | G | N3-C4-N9 | 7.20 | 130.32 | 126.00 |
| 35 | BA | 1194 | U | C4'-C3'-C2' | -7.20 | 95.40 | 102.60 |
| 35 | BA | 1450 | U | N3-C2-O2 | -7.20 | 117.16 | 122.20 |
| 37 | BC | 62 | C | N1-C2-O2 | 7.20 | 123.22 | 118.90 |
| 1 | AA | 59 | A | C1'-O4'-C4' | 7.20 | 115.66 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 111 | A | N9-C4-C5 | -7.20 | 102.92 | 105.80 |
| 2 | AB | 145 | C | N3-C4-C5 | 7.20 | 124.78 | 121.90 |
| 2 | AB | 1545 | A | O4'-C1'-N9 | 7.20 | 113.96 | 108.20 |
| 2 | AB | 2236 | U | O4'-C1'-N1 | 7.20 | 113.96 | 108.20 |
| 35 | BA | 219 | U | O4'-C4'-C3' | -7.20 | 96.81 | 104.00 |
| 35 | BA | 242 | G | N7-C8-N9 | 7.20 | 116.70 | 113.10 |
| 35 | BA | 1310 | G | C6-C5-N7 | -7.20 | 126.08 | 130.40 |
| 37 | BC | 2 | G | C5-C6-O6 | -7.20 | 124.28 | 128.60 |
| 43 | BI | 5 | VAL | CA-CB-CG1 | 7.20 | 121.69 | 110.90 |
| 2 | AB | 834 | G | N3-C4-C5 | -7.19 | 125.00 | 128.60 |
| 2 | AB | 280 | U | C2-N3-C4 | -7.19 | 122.68 | 127.00 |
| 2 | AB | 446 | G | C5-C6-N1 | 7.19 | 115.10 | 111.50 |
| 2 | AB | 751 | A | O4'-C1'-N9 | 7.19 | 113.95 | 108.20 |
| 2 | AB | 849 | A | C5-N7-C8 | 7.19 | 107.50 | 103.90 |
| 2 | AB | 1387 | A | C4'-C3'-C2' | -7.19 | 95.41 | 102.60 |
| 2 | AB | 2753 | A | N3-C4-C5 | -7.19 | 121.77 | 126.80 |
| 2 | AB | 2865 | U | C5-C4-O4 | -7.19 | 121.58 | 125.90 |
| 7 | AG | 132 | ARG | NE-CZ-NH2 | 7.19 | 123.90 | 120.30 |
| 35 | BA | 446 | G | C2-N3-C4 | 7.19 | 115.50 | 111.90 |
| 35 | BA | 601 | G | O4'-C1'-N9 | 7.19 | 113.95 | 108.20 |
| 35 | BA | 728 | A | P-O3'-C3' | 7.19 | 128.33 | 119.70 |
| 35 | BA | 1245 | C | N3-C4-C5 | -7.19 | 119.02 | 121.90 |
| 2 | AB | 206 | U | C4-C5-C6 | 7.19 | 124.02 | 119.70 |
| 2 | AB | 1165 | A | P-O3'-C3' | 7.19 | 128.33 | 119.70 |
| 2 | AB | 1507 | C | C1'-O4'-C4' | -7.19 | 104.15 | 109.90 |
| 2 | AB | 2355 | G | N7-C8-N9 | 7.19 | 116.69 | 113.10 |
| 2 | AB | 2376 | A | N3-C4-N9 | -7.19 | 121.65 | 127.40 |
| 2 | AB | 2497 | A | C3'-C2'-C1' | 7.19 | 107.25 | 101.50 |
| 35 | BA | 43 | C | O4'-C1'-N1 | 7.19 | 113.95 | 108.20 |
| 35 | BA | 127 | G | N9-C4-C5 | -7.19 | 102.52 | 105.40 |
| 35 | BA | 700 | G | C2-N3-C4 | 7.19 | 115.50 | 111.90 |
| 49 | BO | 22 | TYR | CB-CG-CD2 | -7.19 | 116.69 | 121.00 |
| 2 | AB | 295 | G | N3-C4-C5 | -7.19 | 125.00 | 128.60 |
| 2 | AB | 529 | A | O4'-C1'-C2' | -7.19 | 98.61 | 105.80 |
| 2 | AB | 809 | G | C8-N9-C4 | 7.19 | 109.28 | 106.40 |
| 2 | AB | 886 | A | C6-N1-C2 | -7.19 | 114.29 | 118.60 |
| 2 | AB | 1035 | U | O4'-C1'-N1 | 7.19 | 113.95 | 108.20 |
| 2 | AB | 2556 | C | N1-C2-O2 | 7.19 | 123.21 | 118.90 |
| 35 | BA | 307 | C | N1-C2-N3 | -7.19 | 114.17 | 119.20 |
| 35 | BA | 801 | U | C5-C4-O4 | -7.19 | 121.59 | 125.90 |
| 1 | AA | 19 | C | N3-C4-C5 | -7.19 | 119.03 | 121.90 |
| 2 | AB | 253 | C | O4'-C1'-N1 | 7.19 | 113.95 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 856 | G | C1'-O4'-C4' | -7.19 | 104.15 | 109.90 |
| 2 | AB | 913 | U | C3'-C2'-C1' | -7.19 | 95.75 | 101.50 |
| 2 | AB | 1469 | A | C1'-O4'-C4' | 7.19 | 115.65 | 109.90 |
| 2 | AB | 1902 | C | P-O5'-C5' | 7.19 | 132.40 | 120.90 |
| 2 | AB | 2038 | G | O4'-C1'-N9 | 7.19 | 113.95 | 108.20 |
| 35 | BA | 1304 | G | C2-N3-C4 | 7.19 | 115.49 | 111.90 |
| 35 | BA | 1530 | G | C5-C6-O6 | -7.19 | 124.29 | 128.60 |
| 2 | AB | 1425 | G | N3-C2-N2 | 7.19 | 124.93 | 119.90 |
| 2 | AB | 1550 | C | C4-C5-C6 | 7.19 | 120.99 | 117.40 |
| 2 | AB | 2200 | C | N1-C2-O2 | 7.19 | 123.21 | 118.90 |
| 2 | AB | 2329 | U | C5-C4-O4 | -7.19 | 121.59 | 125.90 |
| 2 | AB | 473 | G | N1-C2-N3 | 7.18 | 128.21 | 123.90 |
| 2 | AB | 1061 | U | O4'-C4'-C3' | 7.18 | 111.85 | 106.10 |
| 2 | AB | 1636 | U | C5-C4-O4 | -7.18 | 121.59 | 125.90 |
| 2 | AB | 1730 | C | N1-C2-N3 | 7.18 | 124.23 | 119.20 |
| 2 | AB | 2027 | G | C8-N9-C4 | -7.18 | 103.53 | 106.40 |
| 2 | AB | 2572 | A | C5'-C4'-C3' | -7.18 | 104.50 | 116.00 |
| 2 | AB | 2737 | G | C6-N1-C2 | -7.18 | 120.79 | 125.10 |
| 36 | BB | 21 | U | O4'-C1'-N1 | 7.18 | 113.95 | 108.20 |
| 37 | BC | 64 | G | N3-C4-N9 | 7.18 | 130.31 | 126.00 |
| 2 | AB | 669 | G | N9-C4-C5 | 7.18 | 108.27 | 105.40 |
| 2 | AB | 802 | A | N7-C8-N9 | -7.18 | 110.21 | 113.80 |
| 2 | AB | 1899 | A | C2-N3-C4 | 7.18 | 114.19 | 110.60 |
| 35 | BA | 577 | G | N3-C4-N9 | 7.18 | 130.31 | 126.00 |
| 35 | BA | 1317 | C | C5-C4-N4 | -7.18 | 115.17 | 120.20 |
| 2 | AB | 1912 | A | O4'-C1'-N9 | 7.18 | 113.94 | 108.20 |
| 2 | AB | 1916 | A | C4-C5-C6 | -7.18 | 113.41 | 117.00 |
| 2 | AB | 2327 | A | C8-N9-C4 | -7.18 | 102.93 | 105.80 |
| 35 | BA | 1227 | A | N9-C4-C5 | 7.18 | 108.67 | 105.80 |
| 35 | BA | 1304 | G | C4'-C3'-C2' | -7.18 | 95.42 | 102.60 |
| 35 | BA | 1398 | A | C6-C5-N7 | 7.18 | 137.33 | 132.30 |
| 2 | AB | 30 | G | C8-N9-C4 | -7.18 | 103.53 | 106.40 |
| 2 | AB | 1665 | A | N1-C6-N6 | 7.18 | 122.91 | 118.60 |
| 2 | AB | 2476 | A | N9-C1'-C2' | -7.18 | 104.10 | 112.00 |
| 35 | BA | 1059 | C | N3-C2-O2 | -7.18 | 116.88 | 121.90 |
| 2 | AB | 1057 | A | N7-C8-N9 | -7.18 | 110.21 | 113.80 |
| 2 | AB | 1364 | G | C5-N7-C8 | 7.18 | 107.89 | 104.30 |
| 2 | AB | 2475 | C | P-O5'-C5' | 7.18 | 132.38 | 120.90 |
| 35 | BA | 1101 | A | P-O3'-C3' | 7.18 | 128.31 | 119.70 |
| 2 | AB | 54 | G | N3-C4-N9 | 7.18 | 130.31 | 126.00 |
| 2 | AB | 1537 | G | N9-C4-C5 | 7.18 | 108.27 | 105.40 |
| 2 | AB | 1768 | C | N1-C2-O2 | 7.18 | 123.21 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1799 | G | N9-C4-C5 | 7.18 | 108.27 | 105.40 |
| 2 | AB | 2043 | C | C4'-C3'-C2' | -7.18 | 95.42 | 102.60 |
| 2 | AB | 2532 | G | C1'-O4'-C4' | 7.18 | 115.64 | 109.90 |
| 9 | AI | 139 | PHE | CB-CG-CD1 | -7.18 | 115.78 | 120.80 |
| 35 | BA | 159 | G | C5-N7-C8 | -7.18 | 100.71 | 104.30 |
| 35 | BA | 432 | A | N3-C4-C5 | -7.18 | 121.78 | 126.80 |
| 35 | BA | 563 | A | N9-C4-C5 | 7.18 | 108.67 | 105.80 |
| 35 | BA | 727 | G | O5'-C5'-C4' | 7.18 | 125.34 | 111.70 |
| 35 | BA | 990 | C | C4-C5-C6 | -7.18 | 113.81 | 117.40 |
| 35 | BA | 1439 | G | C6-C5-N7 | -7.18 | 126.09 | 130.40 |
| 2 | AB | 538 | A | C4-C5-C6 | -7.17 | 113.41 | 117.00 |
| 2 | AB | 1872 | A | C5-C6-N1 | -7.17 | 114.11 | 117.70 |
| 2 | AB | 1914 | C | N3-C4-C5 | -7.17 | 119.03 | 121.90 |
| 35 | BA | 94 | G | N3-C4-N9 | -7.17 | 121.69 | 126.00 |
| 36 | BB | 33 | A | C4'-C3'-C2' | -7.17 | 95.42 | 102.60 |
| 2 | AB | 436 | C | C5-C6-N1 | 7.17 | 124.59 | 121.00 |
| 2 | AB | 2269 | G | C6-N1-C2 | 7.17 | 129.40 | 125.10 |
| 35 | BA | 231 | U | C5'-C4'-O4' | 7.17 | 117.71 | 109.10 |
| 35 | BA | 365 | U | N3-C4-O4 | 7.17 | 124.42 | 119.40 |
| 35 | BA | 846 | G | C6-N1-C2 | -7.17 | 120.80 | 125.10 |
| 35 | BA | 1225 | A | O4'-C1'-N9 | 7.17 | 113.94 | 108.20 |
| 35 | BA | 1524 | C | N1-C2-O2 | 7.17 | 123.20 | 118.90 |
| 35 | BA | 1525 | G | N1-C2-N3 | -7.17 | 119.60 | 123.90 |
| 1 | AA | 47 | C | N3-C4-C5 | -7.17 | 119.03 | 121.90 |
| 2 | AB | 1034 | G | O4'-C1'-N9 | 7.17 | 113.94 | 108.20 |
| 2 | AB | 1900 | A | N3-C4-N9 | 7.17 | 133.14 | 127.40 |
| 2 | AB | 2183 | A | C2-N3-C4 | -7.17 | 107.01 | 110.60 |
| 2 | AB | 2385 | C | C5'-C4'-O4' | 7.17 | 117.71 | 109.10 |
| 35 | BA | 203 | G | C5-C6-O6 | -7.17 | 124.30 | 128.60 |
| 35 | BA | 344 | A | N3-C4-C5 | -7.17 | 121.78 | 126.80 |
| 35 | BA | 803 | G | C3'-C2'-C1' | -7.17 | 95.76 | 101.50 |
| 35 | BA | 1317 | C | N3-C2-O2 | -7.17 | 116.88 | 121.90 |
| 35 | BA | 1449 | C | N3-C4-N4 | 7.17 | 123.02 | 118.00 |
| 36 | BB | 52 | U | C5'-C4'-O4' | 7.17 | 117.71 | 109.10 |
| 40 | BF | 10 | LEU | CB-CG-CD2 | 7.17 | 123.19 | 111.00 |
| 2 | AB | 1998 | A | N9-C1'-C2' | -7.17 | 104.11 | 112.00 |
| 35 | BA | 440 | C | C3'-C2'-C1' | 7.17 | 107.24 | 101.50 |
| 35 | BA | 1227 | A | O4'-C1'-C2' | -7.17 | 98.63 | 105.80 |
| 48 | BN | 90 | PRO | N-CA-CB | 7.17 | 111.90 | 103.30 |
| 2 | AB | 63 | A | O5'-P-OP2 | -7.17 | 99.25 | 105.70 |
| 2 | AB | 297 | G | C6-C5-N7 | -7.17 | 126.10 | 130.40 |
| 2 | AB | 1746 | A | C5-C6-N1 | -7.17 | 114.11 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1320 | C | N3-C2-O2 | -7.17 | 116.88 | 121.90 |
| 35 | BA | 1369 | C | N3-C4-N4 | -7.17 | 112.98 | 118.00 |
| 2 | AB | 496 | G | C2-N3-C4 | -7.17 | 108.32 | 111.90 |
| 2 | AB | 605 | G | C6-C5-N7 | -7.17 | 126.10 | 130.40 |
| 2 | AB | 1009 | A | N7-C8-N9 | -7.17 | 110.22 | 113.80 |
| 2 | AB | 1341 | G | N3-C4-N9 | 7.17 | 130.30 | 126.00 |
| 2 | AB | 1533 | C | C6-N1-C2 | -7.17 | 117.43 | 120.30 |
| 2 | AB | 1860 | G | C5'-C4'-O4' | 7.17 | 117.70 | 109.10 |
| 2 | AB | 1953 | A | C8-N9-C4 | -7.17 | 102.93 | 105.80 |
| 2 | AB | 2071 | A | O4'-C1'-N9 | 7.17 | 113.93 | 108.20 |
| 2 | AB | 2876 | G | N3-C4-N9 | 7.17 | 130.30 | 126.00 |
| 35 | BA | 338 | A | C6-N1-C2 | 7.17 | 122.90 | 118.60 |
| 35 | BA | 1072 | G | C8-N9-C4 | -7.17 | 103.53 | 106.40 |
| 35 | BA | 1337 | G | N3-C4-N9 | 7.17 | 130.30 | 126.00 |
| 2 | AB | 935 | C | C4'-C3'-C2' | -7.17 | 95.44 | 102.60 |
| 35 | BA | 39 | G | C5'-C4'-O4' | 7.17 | 117.70 | 109.10 |
| 35 | BA | 794 | A | O4'-C1'-N9 | 7.17 | 113.93 | 108.20 |
| 2 | AB | 87 | U | C1'-O4'-C4' | -7.16 | 104.17 | 109.90 |
| 2 | AB | 290 | U | O4'-C1'-N1 | 7.16 | 113.93 | 108.20 |
| 2 | AB | 1393 | A | C5'-C4'-C3' | -7.16 | 104.54 | 116.00 |
| 2 | AB | 1742 | U | N1-C2-N3 | 7.16 | 119.20 | 114.90 |
| 2 | AB | 2710 | C | N3-C4-N4 | 7.16 | 123.01 | 118.00 |
| 35 | BA | 442 | G | N1-C6-O6 | -7.16 | 115.60 | 119.90 |
| 35 | BA | 484 | G | N3-C2-N2 | 7.16 | 124.92 | 119.90 |
| 35 | BA | 557 | G | C4-C5-N7 | -7.16 | 107.94 | 110.80 |
| 35 | BA | 582 | C | C5'-C4'-O4' | 7.16 | 117.70 | 109.10 |
| 35 | BA | 777 | A | C4'-C3'-C2' | -7.16 | 95.44 | 102.60 |
| 35 | BA | 1026 | G | N3-C4-C5 | -7.16 | 125.02 | 128.60 |
| 2 | AB | 310 | A | N1-C2-N3 | 7.16 | 132.88 | 129.30 |
| 2 | AB | 571 | U | N3-C2-O2 | -7.16 | 117.19 | 122.20 |
| 2 | AB | 1876 | A | N1-C6-N6 | -7.16 | 114.30 | 118.60 |
| 2 | AB | 500 | G | C5-N7-C8 | 7.16 | 107.88 | 104.30 |
| 2 | AB | 1303 | G | N3-C2-N2 | 7.16 | 124.91 | 119.90 |
| 35 | BA | 677 | U | C5-C4-O4 | -7.16 | 121.60 | 125.90 |
| 2 | AB | 371 | A | C3'-C2'-C1' | 7.16 | 107.23 | 101.50 |
| 2 | AB | 371 | A | C4-C5-C6 | -7.16 | 113.42 | 117.00 |
| 2 | AB | 622 | G | N3-C4-N9 | 7.16 | 130.29 | 126.00 |
| 2 | AB | 674 | G | N3-C4-N9 | 7.16 | 130.29 | 126.00 |
| 2 | AB | 1729 | U | O4'-C1'-N1 | 7.16 | 113.93 | 108.20 |
| 2 | AB | 1874 | C | N1-C1'-C2' | -7.16 | 104.12 | 112.00 |
| 2 | AB | 2132 | U | N1-C2-N3 | 7.16 | 119.19 | 114.90 |
| 2 | AB | 2160 | C | N3-C2-O2 | -7.16 | 116.89 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2299 | U | N1-C2-N3 | 7.16 | 119.19 | 114.90 |
| 35 | BA | 245 | U | C5-C4-O4 | -7.16 | 121.61 | 125.90 |
| 35 | BA | 695 | A | O4'-C1'-N9 | 7.16 | 113.93 | 108.20 |
| 35 | BA | 1450 | U | C5-C6-N1 | -7.16 | 119.12 | 122.70 |
| 36 | BB | 22 | G | P-O3'-C3' | 7.16 | 128.29 | 119.70 |
| 2 | AB | 260 | G | C3'-C2'-C1' | -7.16 | 95.77 | 101.50 |
| 2 | AB | 466 | A | N1-C6-N6 | -7.16 | 114.31 | 118.60 |
| 2 | AB | 1076 | C | O4'-C4'-C3' | -7.16 | 96.84 | 104.00 |
| 2 | AB | 2307 | G | C5'-C4'-C3' | -7.16 | 104.55 | 116.00 |
| 35 | BA | 280 | C | N3-C4-C5 | 7.16 | 124.76 | 121.90 |
| 35 | BA | 727 | G | C4'-C3'-C2' | -7.16 | 95.44 | 102.60 |
| 37 | BC | 34 | U | O4'-C1'-N1 | 7.16 | 113.93 | 108.20 |
| 2 | AB | 518 | G | C2-N3-C4 | -7.16 | 108.32 | 111.90 |
| 2 | AB | 792 | A | C5-C6-N1 | 7.16 | 121.28 | 117.70 |
| 2 | AB | 1608 | A | C2-N3-C4 | -7.16 | 107.02 | 110.60 |
| 2 | AB | 2042 | A | P-O3'-C3' | 7.16 | 128.29 | 119.70 |
| 2 | AB | 2398 | U | C5'-C4'-O4' | 7.16 | 117.69 | 109.10 |
| 8 | AH | 165 | ASP | CB-CG-OD1 | 7.16 | 124.74 | 118.30 |
| 21 | AU | 25 | ARG | NE-CZ-NH2 | -7.16 | 116.72 | 120.30 |
| 35 | BA | 1249 | C | C2-N3-C4 | 7.16 | 123.48 | 119.90 |
| 36 | BB | 48 | C | C2-N1-C1' | -7.16 | 110.93 | 118.80 |
| 2 | AB | 576 | U | C5'-C4'-O4' | 7.15 | 117.69 | 109.10 |
| 2 | AB | 2614 | A | N9-C4-C5 | 7.15 | 108.66 | 105.80 |
| 35 | BA | 280 | C | O4'-C1'-N1 | 7.15 | 113.92 | 108.20 |
| 35 | BA | 444 | G | N7-C8-N9 | 7.15 | 116.68 | 113.10 |
| 35 | BA | 1002 | G | C4'-C3'-C2' | -7.15 | 95.45 | 102.60 |
| 2 | AB | 112 | U | O4'-C1'-N1 | 7.15 | 113.92 | 108.20 |
| 2 | AB | 264 | C | C1'-O4'-C4' | -7.15 | 104.18 | 109.90 |
| 2 | AB | 620 | G | N3-C4-C5 | -7.15 | 125.02 | 128.60 |
| 2 | AB | 822 | G | C5-N7-C8 | 7.15 | 107.88 | 104.30 |
| 2 | AB | 1117 | C | N3-C4-C5 | -7.15 | 119.04 | 121.90 |
| 2 | AB | 2046 | G | N3-C2-N2 | 7.15 | 124.91 | 119.90 |
| 2 | AB | 2208 | C | C4'-C3'-C2' | -7.15 | 95.45 | 102.60 |
| 2 | AB | 2825 | G | N1-C2-N3 | 7.15 | 128.19 | 123.90 |
| 35 | BA | 254 | G | N3-C4-N9 | 7.15 | 130.29 | 126.00 |
| 35 | BA | 317 | U | N1-C1'-C2' | -7.15 | 104.13 | 112.00 |
| 35 | BA | 752 | G | N3-C2-N2 | 7.15 | 124.91 | 119.90 |
| 35 | BA | 1109 | C | N3-C4-C5 | -7.15 | 119.04 | 121.90 |
| 35 | BA | 1262 | C | O4'-C1'-N1 | 7.15 | 113.92 | 108.20 |
| 35 | BA | 1471 | U | N3-C2-O2 | -7.15 | 117.19 | 122.20 |
| 37 | BC | 22 | A | C1'-O4'-C4' | -7.15 | 104.18 | 109.90 |
| 2 | AB | 83 | A | C4-C5-C6 | 7.15 | 120.58 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 669 | G | C1'-O4'-C4' | 7.15 | 115.62 | 109.90 |
| 2 | AB | 1754 | A | C4-C5-N7 | 7.15 | 114.28 | 110.70 |
| 2 | AB | 1816 | C | N1-C2-O2 | 7.15 | 123.19 | 118.90 |
| 2 | AB | 2100 | G | N7-C8-N9 | 7.15 | 116.67 | 113.10 |
| 35 | BA | 65 | A | C6-N1-C2 | -7.15 | 114.31 | 118.60 |
| 35 | BA | 905 | U | N1-C2-N3 | 7.15 | 119.19 | 114.90 |
| 35 | BA | 1274 | A | N7-C8-N9 | -7.15 | 110.22 | 113.80 |
| 35 | BA | 1457 | G | N7-C8-N9 | 7.15 | 116.68 | 113.10 |
| 35 | BA | 1487 | G | C5-C6-O6 | -7.15 | 124.31 | 128.60 |
| 2 | AB | 1616 | A | N1-C6-N6 | 7.15 | 122.89 | 118.60 |
| 2 | AB | 1753 | G | N1-C2-N2 | -7.15 | 109.77 | 116.20 |
| 35 | BA | 1456 | A | C2-N3-C4 | -7.15 | 107.03 | 110.60 |
| 36 | BB | 34 | U | C5'-C4'-C3' | -7.15 | 104.56 | 116.00 |
| 2 | AB | 1752 | C | O4'-C1'-C2' | 7.15 | 114.03 | 107.60 |
| 2 | AB | 1868 | C | N3-C4-C5 | -7.15 | 119.04 | 121.90 |
| 2 | AB | 2333 | A | C2-N3-C4 | 7.15 | 114.17 | 110.60 |
| 2 | AB | 2455 | G | C8-N9-C4 | -7.15 | 103.54 | 106.40 |
| 2 | AB | 2769 | U | N3-C4-C5 | -7.15 | 110.31 | 114.60 |
| 2 | AB | 2818 | U | P-O3'-C3' | 7.15 | 128.28 | 119.70 |
| 35 | BA | 194 | C | C5-C6-N1 | 7.15 | 124.57 | 121.00 |
| 35 | BA | 256 | U | O4'-C1'-N1 | 7.15 | 113.92 | 108.20 |
| 35 | BA | 264 | C | N3-C4-C5 | 7.15 | 124.76 | 121.90 |
| 1 | AA | 56 | G | N9-C4-C5 | 7.15 | 108.26 | 105.40 |
| 2 | AB | 1663 | G | C4'-C3'-C2' | -7.15 | 95.45 | 102.60 |
| 2 | AB | 2051 | A | C5-C6-N6 | -7.15 | 117.98 | 123.70 |
| 35 | BA | 633 | G | C4-C5-N7 | -7.15 | 107.94 | 110.80 |
| 35 | BA | 662 | U | O4'-C1'-N1 | 7.15 | 113.92 | 108.20 |
| 35 | BA | 1459 | G | N9-C4-C5 | 7.15 | 108.26 | 105.40 |
| 2 | AB | 276 | U | C5-C6-N1 | -7.14 | 119.13 | 122.70 |
| 2 | AB | 332 | A | O4'-C1'-N9 | 7.14 | 113.92 | 108.20 |
| 2 | AB | 560 | C | C4-C5-C6 | 7.14 | 120.97 | 117.40 |
| 2 | AB | 785 | G | N7-C8-N9 | 7.14 | 116.67 | 113.10 |
| 35 | BA | 656 | G | N3-C4-C5 | -7.14 | 125.03 | 128.60 |
| 35 | BA | 738 | C | C2-N3-C4 | 7.14 | 123.47 | 119.90 |
| 35 | BA | 1362 | A | N1-C2-N3 | -7.14 | 125.73 | 129.30 |
| 2 | AB | 3 | U | N3-C4-C5 | 7.14 | 118.89 | 114.60 |
| 2 | AB | 160 | A | C6-N1-C2 | -7.14 | 114.31 | 118.60 |
| 2 | AB | 474 | G | N3-C4-C5 | -7.14 | 125.03 | 128.60 |
| 2 | AB | 1776 | G | C5'-C4'-O4' | 7.14 | 117.67 | 109.10 |
| 2 | AB | 2633 | G | C6-N1-C2 | -7.14 | 120.81 | 125.10 |
| 4 | AD | 101 | ARG | NE-CZ-NH1 | 7.14 | 123.87 | 120.30 |
| 35 | BA | 694 | A | N9-C1'-C2' | -7.14 | 104.14 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1025 | U | O3'-P-O5' | 7.14 | 117.57 | 104.00 |
| 35 | BA | 1099 | G | C6-C5-N7 | -7.14 | 126.11 | 130.40 |
| 36 | BB | 38 | G | N9-C1'-C2' | -7.14 | 104.14 | 112.00 |
| 2 | AB | 95 | A | C5'-C4'-O4' | 7.14 | 117.67 | 109.10 |
| 2 | AB | 273 | G | N3-C4-N9 | 7.14 | 130.28 | 126.00 |
| 2 | AB | 1479 | G | C5-N7-C8 | -7.14 | 100.73 | 104.30 |
| 2 | AB | 2631 | G | C6-C5-N7 | -7.14 | 126.11 | 130.40 |
| 35 | BA | 177 | G | N1-C6-O6 | -7.14 | 115.62 | 119.90 |
| 35 | BA | 628 | G | C5-N7-C8 | -7.14 | 100.73 | 104.30 |
| 2 | AB | 30 | G | C5-N7-C8 | -7.14 | 100.73 | 104.30 |
| 2 | AB | 1270 | C | N1-C2-O2 | 7.14 | 123.18 | 118.90 |
| 2 | AB | 1373 | A | C2-N3-C4 | 7.14 | 114.17 | 110.60 |
| 2 | AB | 2277 | G | N7-C8-N9 | 7.14 | 116.67 | 113.10 |
| 2 | AB | 2309 | A | N1-C2-N3 | -7.14 | 125.73 | 129.30 |
| 2 | AB | 2454 | G | C5-C6-N1 | 7.14 | 115.07 | 111.50 |
| 35 | BA | 737 | C | N3-C4-C5 | -7.14 | 119.04 | 121.90 |
| 2 | AB | 420 | C | N3-C2-O2 | -7.14 | 116.90 | 121.90 |
| 2 | AB | 1151 | A | N1-C6-N6 | 7.14 | 122.88 | 118.60 |
| 2 | AB | 2553 | G | N3-C4-C5 | -7.14 | 125.03 | 128.60 |
| 2 | AB | 2758 | A | O4'-C1'-N9 | 7.14 | 113.91 | 108.20 |
| 1 | AA | 7 | G | N1-C2-N3 | -7.14 | 119.62 | 123.90 |
| 2 | AB | 637 | A | C8-N9-C4 | 7.14 | 108.65 | 105.80 |
| 2 | AB | 1612 | C | C2-N3-C4 | 7.14 | 123.47 | 119.90 |
| 2 | AB | 2470 | G | C4-C5-N7 | -7.14 | 107.94 | 110.80 |
| 2 | AB | 2542 | A | C6-C5-N7 | 7.14 | 137.30 | 132.30 |
| 35 | BA | 207 | C | N1-C2-O2 | 7.14 | 123.18 | 118.90 |
| 35 | BA | 315 | A | C5-C6-N1 | 7.14 | 121.27 | 117.70 |
| 35 | BA | 1005 | A | C8-N9-C4 | -7.14 | 102.94 | 105.80 |
| 35 | BA | 1275 | A | N1-C2-N3 | 7.14 | 132.87 | 129.30 |
| 2 | AB | 133 | U | C5'-C4'-O4' | 7.13 | 117.66 | 109.10 |
| 2 | AB | 220 | G | C6-N1-C2 | -7.13 | 120.82 | 125.10 |
| 2 | AB | 659 | G | O4'-C1'-N9 | 7.13 | 113.91 | 108.20 |
| 2 | AB | 771 | G | C8-N9-C4 | -7.13 | 103.55 | 106.40 |
| 2 | AB | 874 | G | N1-C2-N3 | -7.13 | 119.62 | 123.90 |
| 2 | AB | 1292 | G | N9-C4-C5 | 7.13 | 108.25 | 105.40 |
| 2 | AB | 2782 | G | O4'-C1'-N9 | 7.13 | 113.91 | 108.20 |
| 35 | BA | 614 | C | C6-N1-C2 | -7.13 | 117.45 | 120.30 |
| 35 | BA | 1261 | A | C5'-C4'-O4' | 7.13 | 117.66 | 109.10 |
| 37 | BC | 13 | C | C2-N3-C4 | 7.13 | 123.47 | 119.90 |
| 56 | BV | 50 | PHE | CB-CG-CD1 | -7.13 | 115.81 | 120.80 |
| 2 | AB | 41 | C | C4-C5-C6 | 7.13 | 120.97 | 117.40 |
| 2 | AB | 150 | U | O4'-C1'-N1 | 7.13 | 113.91 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1988 | G | C2-N3-C4 | 7.13 | 115.47 | 111.90 |
| 2 | AB | 2124 | G | C6-C5-N7 | -7.13 | 126.12 | 130.40 |
| 2 | AB | 2228 | G | N9-C4-C5 | 7.13 | 108.25 | 105.40 |
| 2 | AB | 2240 | U | C6-N1-C2 | -7.13 | 116.72 | 121.00 |
| 2 | AB | 231 | A | C6-N1-C2 | 7.13 | 122.88 | 118.60 |
| 2 | AB | 902 | C | C2-N3-C4 | -7.13 | 116.33 | 119.90 |
| 2 | AB | 2363 | G | N1-C6-O6 | 7.13 | 124.18 | 119.90 |
| 2 | AB | 2432 | A | P-O3'-C3' | 7.13 | 128.26 | 119.70 |
| 2 | AB | 2732 | G | N3-C2-N2 | -7.13 | 114.91 | 119.90 |
| 2 | AB | 2881 | U | C3'-C2'-C1' | 7.13 | 107.21 | 101.50 |
| 1 | AA | 93 | C | N3-C4-N4 | 7.13 | 122.99 | 118.00 |
| 2 | AB | 416 | U | C4'-C3'-C2' | -7.13 | 95.47 | 102.60 |
| 2 | AB | 1659 | G | C2-N3-C4 | 7.13 | 115.47 | 111.90 |
| 19 | AS | 52 | ARG | NE-CZ-NH2 | -7.13 | 116.73 | 120.30 |
| 35 | BA | 744 | C | C6-N1-C2 | -7.13 | 117.45 | 120.30 |
| 35 | BA | 830 | G | N9-C4-C5 | 7.13 | 108.25 | 105.40 |
| 35 | BA | 845 | A | N7-C8-N9 | -7.13 | 110.23 | 113.80 |
| 35 | BA | 1046 | A | C8-N9-C4 | -7.13 | 102.95 | 105.80 |
| 35 | BA | 1244 | G | C4'-C3'-C2' | -7.13 | 95.47 | 102.60 |
| 35 | BA | 1446 | A | C6-N1-C2 | -7.13 | 114.32 | 118.60 |
| 2 | AB | 349 | U | C5-C6-N1 | -7.13 | 119.14 | 122.70 |
| 2 | AB | 1977 | A | N1-C2-N3 | -7.13 | 125.74 | 129.30 |
| 2 | AB | 2609 | U | C4-C5-C6 | 7.13 | 123.98 | 119.70 |
| 35 | BA | 64 | G | N7-C8-N9 | 7.13 | 116.66 | 113.10 |
| 35 | BA | 533 | A | O4'-C1'-N9 | 7.13 | 113.90 | 108.20 |
| 49 | BO | 62 | PHE | CB-CG-CD2 | -7.13 | 115.81 | 120.80 |
| 2 | AB | 241 | A | C5-C6-N1 | 7.13 | 121.26 | 117.70 |
| 2 | AB | 1829 | A | C2-N3-C4 | 7.13 | 114.16 | 110.60 |
| 2 | AB | 2027 | G | C6-C5-N7 | -7.13 | 126.12 | 130.40 |
| 2 | AB | 2772 | C | C5-C6-N1 | 7.13 | 124.56 | 121.00 |
| 7 | AG | 19 | PHE | CB-CG-CD1 | -7.13 | 115.81 | 120.80 |
| 29 | A2 | 9 | TYR | CB-CG-CD2 | 7.13 | 125.28 | 121.00 |
| 35 | BA | 304 | U | N1-C2-O2 | 7.13 | 127.79 | 122.80 |
| 35 | BA | 525 | C | C4-C5-C6 | -7.13 | 113.84 | 117.40 |
| 2 | AB | 41 | C | N3-C4-C5 | -7.12 | 119.05 | 121.90 |
| 2 | AB | 290 | U | N3-C4-O4 | -7.12 | 114.41 | 119.40 |
| 2 | AB | 1477 | A | C5-C6-N6 | -7.12 | 118.00 | 123.70 |
| 2 | AB | 1920 | C | N3-C2-O2 | -7.12 | 116.91 | 121.90 |
| 2 | AB | 2090 | A | C4'-C3'-C2' | -7.12 | 95.47 | 102.60 |
| 35 | BA | 1318 | A | O4'-C4'-C3' | 7.12 | 111.80 | 106.10 |
| 2 | AB | 498 | G | C1'-O4'-C4' | 7.12 | 115.60 | 109.90 |
| 2 | AB | 1280 | G | O4'-C1'-N9 | 7.12 | 113.90 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1510 | G | N3-C2-N2 | 7.12 | 124.89 | 119.90 |
| 2 | AB | 2283 | C | N3-C2-O2 | -7.12 | 116.91 | 121.90 |
| 2 | AB | 2846 | G | C2-N3-C4 | 7.12 | 115.46 | 111.90 |
| 32 | A5 | 33 | ARG | CD-NE-CZ | 7.12 | 133.57 | 123.60 |
| 35 | BA | 796 | C | C6-N1-C2 | -7.12 | 117.45 | 120.30 |
| 35 | BA | 909 | A | C4-C5-N7 | -7.12 | 107.14 | 110.70 |
| 35 | BA | 960 | U | O4'-C1'-N1 | 7.12 | 113.90 | 108.20 |
| 2 | AB | 361 | G | O4'-C4'-C3' | 7.12 | 111.80 | 106.10 |
| 2 | AB | 1177 | G | C8-N9-C4 | -7.12 | 103.55 | 106.40 |
| 2 | AB | 1613 | G | N7-C8-N9 | 7.12 | 116.66 | 113.10 |
| 2 | AB | 2543 | G | N1-C2-N3 | -7.12 | 119.63 | 123.90 |
| 35 | BA | 291 | U | C5'-C4'-O4' | 7.12 | 117.65 | 109.10 |
| 36 | BB | 22 | G | O4'-C1'-C2' | -7.12 | 98.68 | 105.80 |
| 2 | AB | 455 | C | C4-C5-C6 | -7.12 | 113.84 | 117.40 |
| 2 | AB | 815 | C | O4'-C1'-N1 | 7.12 | 113.90 | 108.20 |
| 21 | AU | 109 | ASP | CB-CG-OD2 | -7.12 | 111.89 | 118.30 |
| 35 | BA | 461 | A | N1-C6-N6 | 7.12 | 122.87 | 118.60 |
| 35 | BA | 970 | C | C6-N1-C2 | -7.12 | 117.45 | 120.30 |
| 35 | BA | 1515 | G | N3-C4-N9 | -7.12 | 121.73 | 126.00 |
| 1 | AA | 83 | G | N3-C4-C5 | -7.12 | 125.04 | 128.60 |
| 2 | AB | 62 | U | N3-C4-C5 | -7.12 | 110.33 | 114.60 |
| 2 | AB | 1030 | C | C5'-C4'-O4' | 7.12 | 117.64 | 109.10 |
| 2 | AB | 1392 | A | C2-N3-C4 | -7.12 | 107.04 | 110.60 |
| 2 | AB | 1724 | G | N1-C6-O6 | -7.12 | 115.63 | 119.90 |
| 2 | AB | 2567 | G | C4-C5-N7 | -7.12 | 107.95 | 110.80 |
| 2 | AB | 2858 | C | O4'-C1'-N1 | 7.12 | 113.89 | 108.20 |
| 2 | AB | 2867 | G | C5-C6-O6 | 7.12 | 132.87 | 128.60 |
| 35 | BA | 355 | C | C3'-C2'-C1' | 7.12 | 107.19 | 101.50 |
| 35 | BA | 661 | G | C3'-C2'-C1' | 7.12 | 107.19 | 101.50 |
| 2 | AB | 798 | G | C4-C5-N7 | -7.12 | 107.95 | 110.80 |
| 35 | BA | 274 | A | C8-N9-C4 | -7.12 | 102.95 | 105.80 |
| 35 | BA | 1401 | G | C8-N9-C4 | -7.12 | 103.55 | 106.40 |
| 2 | AB | 92 | U | N1-C2-O2 | 7.12 | 127.78 | 122.80 |
| 2 | AB | 427 | U | O4'-C4'-C3' | 7.12 | 111.79 | 106.10 |
| 2 | AB | 1653 | G | C5-C6-N1 | 7.12 | 115.06 | 111.50 |
| 2 | AB | 1905 | C | P-O3'-C3' | 7.12 | 128.24 | 119.70 |
| 2 | AB | 2126 | A | C4-C5-C6 | -7.12 | 113.44 | 117.00 |
| 2 | AB | 2144 | G | N9-C4-C5 | 7.12 | 108.25 | 105.40 |
| 2 | AB | 2406 | A | C6-N1-C2 | -7.12 | 114.33 | 118.60 |
| 2 | AB | 2555 | U | N1-C2-N3 | -7.12 | 110.63 | 114.90 |
| 35 | BA | 482 | A | N1-C6-N6 | -7.12 | 114.33 | 118.60 |
| 35 | BA | 718 | A | C5'-C4'-O4' | 7.12 | 117.64 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 37 | BC | 44 | A | N1-C2-N3 | 7.12 | 132.86 | 129.30 |
| 38 | BD | 195 | VAL | CA-CB-CG2 | 7.12 | 121.57 | 110.90 |
| 2 | AB | 472 | A | C5-C6-N1 | -7.11 | 114.14 | 117.70 |
| 2 | AB | 901 | C | C5-C6-N1 | 7.11 | 124.56 | 121.00 |
| 2 | AB | 968 | C | C3'-C2'-C1' | 7.11 | 107.19 | 101.50 |
| 2 | AB | 1133 | A | C8-N9-C4 | 7.11 | 108.65 | 105.80 |
| 2 | AB | 1223 | G | C1'-O4'-C4' | 7.11 | 115.59 | 109.90 |
| 2 | AB | 2539 | C | N3-C4-C5 | 7.11 | 124.75 | 121.90 |
| 2 | AB | 2790 | U | N3-C2-O2 | -7.11 | 117.22 | 122.20 |
| 35 | BA | 846 | G | C5-N7-C8 | -7.11 | 100.74 | 104.30 |
| 35 | BA | 1131 | G | C5-C6-N1 | 7.11 | 115.06 | 111.50 |
| 37 | BC | 37 | U | C2-N3-C4 | -7.11 | 122.73 | 127.00 |
| 37 | BC | 67 | C | C6-N1-C2 | -7.11 | 117.45 | 120.30 |
| 55 | BU | 31 | ARG | NE-CZ-NH2 | -7.11 | 116.74 | 120.30 |
| 2 | AB | 592 | A | C1'-O4'-C4' | -7.11 | 104.21 | 109.90 |
| 2 | AB | 970 | U | N1-C2-O2 | -7.11 | 117.82 | 122.80 |
| 2 | AB | 2098 | U | C6-N1-C2 | -7.11 | 116.73 | 121.00 |
| 2 | AB | 2720 | U | C5'-C4'-O4' | 7.11 | 117.63 | 109.10 |
| 35 | BA | 52 | C | N3-C4-C5 | -7.11 | 119.06 | 121.90 |
| 35 | BA | 1119 | C | C3'-C2'-C1' | -7.11 | 95.81 | 101.50 |
| 2 | AB | 500 | G | C6-N1-C2 | -7.11 | 120.83 | 125.10 |
| 2 | AB | 2788 | C | C5'-C4'-O4' | 7.11 | 117.63 | 109.10 |
| 5 | AE | 141 | ARG | NE-CZ-NH2 | 7.11 | 123.86 | 120.30 |
| 15 | AO | 92 | TRP | CD1-NE1-CE2 | 7.11 | 115.40 | 109.00 |
| 35 | BA | 271 | C | O4'-C1'-N1 | 7.11 | 113.89 | 108.20 |
| 35 | BA | 1147 | C | N1-C2-O2 | 7.11 | 123.17 | 118.90 |
| 35 | BA | 1155 | A | N7-C8-N9 | 7.11 | 117.36 | 113.80 |
| 2 | AB | 61 | C | C2-N3-C4 | -7.11 | 116.34 | 119.90 |
| 2 | AB | 596 | U | C4-C5-C6 | 7.11 | 123.97 | 119.70 |
| 2 | AB | 824 | U | C5-C4-O4 | 7.11 | 130.17 | 125.90 |
| 2 | AB | 1261 | C | N3-C2-O2 | -7.11 | 116.92 | 121.90 |
| 2 | AB | 2024 | G | C2-N3-C4 | 7.11 | 115.45 | 111.90 |
| 2 | AB | 2495 | G | C5-C6-O6 | -7.11 | 124.33 | 128.60 |
| 8 | AH | 156 | TYR | CG-CD1-CE1 | 7.11 | 126.99 | 121.30 |
| 9 | AI | 47 | PHE | CB-CG-CD1 | 7.11 | 125.78 | 120.80 |
| 35 | BA | 1148 | U | C5-C6-N1 | -7.11 | 119.14 | 122.70 |
| 35 | BA | 1467 | C | C5-C6-N1 | -7.11 | 117.44 | 121.00 |
| 45 | BK | 94 | ARG | NH1-CZ-NH2 | -7.11 | 111.58 | 119.40 |
| 2 | AB | 1047 | G | C5-C6-O6 | 7.11 | 132.87 | 128.60 |
| 2 | AB | 1778 | U | N3-C2-O2 | -7.11 | 117.22 | 122.20 |
| 1 | AA | 26 | C | O4'-C1'-N1 | 7.11 | 113.88 | 108.20 |
| 1 | AA | 115 | A | N9-C4-C5 | -7.11 | 102.96 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 23 | G | C8-N9-C4 | -7.11 | 103.56 | 106.40 |
| 2 | AB | 101 | A | C6-N1-C2 | -7.11 | 114.34 | 118.60 |
| 2 | AB | 200 | U | C5-C6-N1 | -7.11 | 119.15 | 122.70 |
| 2 | AB | 279 | A | C3'-C2'-C1' | 7.11 | 107.19 | 101.50 |
| 2 | AB | 320 | A | N3-C4-N9 | 7.11 | 133.09 | 127.40 |
| 2 | AB | 463 | G | C6-N1-C2 | -7.11 | 120.84 | 125.10 |
| 2 | AB | 1805 | A | N1-C6-N6 | -7.11 | 114.34 | 118.60 |
| 2 | AB | 2106 | U | N3-C4-C5 | 7.11 | 118.86 | 114.60 |
| 2 | AB | 2682 | A | N3-C4-C5 | -7.11 | 121.83 | 126.80 |
| 35 | BA | 1058 | G | C1'-O4'-C4' | 7.11 | 115.58 | 109.90 |
| 2 | AB | 70 | G | O4'-C1'-N9 | 7.10 | 113.88 | 108.20 |
| 2 | AB | 135 | U | C4-C5-C6 | 7.10 | 123.96 | 119.70 |
| 2 | AB | 235 | U | C2-N3-C4 | -7.10 | 122.74 | 127.00 |
| 2 | AB | 518 | G | N3-C4-C5 | 7.10 | 132.15 | 128.60 |
| 2 | AB | 604 | G | C8-N9-C4 | -7.10 | 103.56 | 106.40 |
| 2 | AB | 1239 | G | C1'-O4'-C4' | -7.10 | 104.22 | 109.90 |
| 2 | AB | 2764 | A | O5'-P-OP2 | -7.10 | 99.31 | 105.70 |
| 36 | BB | 25 | U | C4-C5-C6 | 7.10 | 123.96 | 119.70 |
| 2 | AB | 207 | A | C8-N9-C4 | -7.10 | 102.96 | 105.80 |
| 2 | AB | 2718 | G | C5-C6-N1 | 7.10 | 115.05 | 111.50 |
| 2 | AB | 893 | C | C6-N1-C2 | 7.10 | 123.14 | 120.30 |
| 2 | AB | 1617 | C | C4-C5-C6 | 7.10 | 120.95 | 117.40 |
| 2 | AB | 1865 | U | C3'-C2'-C1' | -7.10 | 95.82 | 101.50 |
| 35 | BA | 53 | A | C2-N3-C4 | -7.10 | 107.05 | 110.60 |
| 35 | BA | 1079 | G | C4-C5-N7 | -7.10 | 107.96 | 110.80 |
| 35 | BA | 1526 | G | C6-N1-C2 | -7.10 | 120.84 | 125.10 |
| 2 | AB | 43 | G | C4-C5-N7 | -7.10 | 107.96 | 110.80 |
| 2 | AB | 892 | A | N3-C4-C5 | 7.10 | 131.77 | 126.80 |
| 2 | AB | 1064 | C | C5'-C4'-O4' | 7.10 | 117.62 | 109.10 |
| 2 | AB | 1180 | U | C2-N3-C4 | -7.10 | 122.74 | 127.00 |
| 2 | AB | 1271 | G | N7-C8-N9 | 7.10 | 116.65 | 113.10 |
| 2 | AB | 1863 | G | C1'-O4'-C4' | 7.10 | 115.58 | 109.90 |
| 2 | AB | 2145 | C | O4'-C1'-N1 | 7.10 | 113.88 | 108.20 |
| 35 | BA | 322 | C | C5-C6-N1 | -7.10 | 117.45 | 121.00 |
| 35 | BA | 817 | C | C2-N3-C4 | 7.10 | 123.45 | 119.90 |
| 35 | BA | 1143 | G | C5-C6-N1 | -7.10 | 107.95 | 111.50 |
| 35 | BA | 1221 | G | N3-C4-C5 | -7.10 | 125.05 | 128.60 |
| 2 | AB | 157 | C | C5-C6-N1 | 7.10 | 124.55 | 121.00 |
| 2 | AB | 1031 | G | N7-C8-N9 | 7.10 | 116.65 | 113.10 |
| 2 | AB | 2567 | G | C2-N3-C4 | 7.10 | 115.45 | 111.90 |
| 35 | BA | 276 | G | N3-C2-N2 | -7.10 | 114.93 | 119.90 |
| 35 | BA | 514 | C | C5-C6-N1 | -7.10 | 117.45 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 888 | G | C5-N7-C8 | 7.10 | 107.85 | 104.30 |
| 2 | AB | 515 | A | C5-N7-C8 | 7.09 | 107.45 | 103.90 |
| 2 | AB | 880 | G | N3-C4-C5 | -7.09 | 125.05 | 128.60 |
| 2 | AB | 1145 | C | O4'-C1'-N1 | 7.09 | 113.88 | 108.20 |
| 2 | AB | 1685 | C | P-O3'-C3' | 7.09 | 128.21 | 119.70 |
| 2 | AB | 1787 | A | C5-C6-N1 | 7.09 | 121.25 | 117.70 |
| 2 | AB | 2426 | A | C5-C6-N6 | -7.09 | 118.03 | 123.70 |
| 2 | AB | 2559 | C | N3-C2-O2 | -7.09 | 116.93 | 121.90 |
| 35 | BA | 443 | C | N3-C4-C5 | -7.09 | 119.06 | 121.90 |
| 35 | BA | 508 | U | C4-C5-C6 | 7.09 | 123.96 | 119.70 |
| 36 | BB | 54 | U | C5-C6-N1 | 7.09 | 126.25 | 122.70 |
| 2 | AB | 285 | G | N9-C4-C5 | 7.09 | 108.24 | 105.40 |
| 2 | AB | 1055 | G | C6-N1-C2 | -7.09 | 120.84 | 125.10 |
| 2 | AB | 1540 | G | O4'-C1'-N9 | 7.09 | 113.87 | 108.20 |
| 35 | BA | 196 | A | O4'-C4'-C3' | 7.09 | 111.78 | 106.10 |
| 35 | BA | 899 | C | N1-C2-O2 | 7.09 | 123.16 | 118.90 |
| 35 | BA | 1049 | U | C5-C4-O4 | -7.09 | 121.64 | 125.90 |
| 2 | AB | 190 | A | N7-C8-N9 | 7.09 | 117.35 | 113.80 |
| 2 | AB | 302 | C | C6-N1-C2 | -7.09 | 117.46 | 120.30 |
| 2 | AB | 762 | U | N1-C1'-C2' | 7.09 | 123.22 | 114.00 |
| 2 | AB | 1206 | G | O4'-C1'-N9 | 7.09 | 113.87 | 108.20 |
| 2 | AB | 1571 | A | O4'-C1'-N9 | 7.09 | 113.87 | 108.20 |
| 2 | AB | 2395 | C | C5'-C4'-O4' | 7.09 | 117.61 | 109.10 |
| 35 | BA | 513 | C | N3-C4-N4 | 7.09 | 122.97 | 118.00 |
| 35 | BA | 636 | U | O4'-C1'-N1 | 7.09 | 113.87 | 108.20 |
| 35 | BA | 867 | G | O4'-C1'-N9 | 7.09 | 113.87 | 108.20 |
| 2 | AB | 2343 | U | N3-C4-C5 | -7.09 | 110.35 | 114.60 |
| 2 | AB | 2530 | A | C4-C5-C6 | 7.09 | 120.55 | 117.00 |
| 2 | AB | 2654 | A | C6-N1-C2 | 7.09 | 122.85 | 118.60 |
| 35 | BA | 356 | A | N1-C2-N3 | 7.09 | 132.84 | 129.30 |
| 35 | BA | 782 | A | N9-C1'-C2' | -7.09 | 104.20 | 112.00 |
| 35 | BA | 876 | C | C5'-C4'-C3' | -7.09 | 104.66 | 116.00 |
| 35 | BA | 935 | A | C5-N7-C8 | -7.09 | 100.36 | 103.90 |
| 35 | BA | 1454 | G | C5-N7-C8 | 7.09 | 107.84 | 104.30 |
| 1 | AA | 23 | G | N3-C4-N9 | -7.09 | 121.75 | 126.00 |
| 2 | AB | 916 | G | N9-C1'-C2' | 7.09 | 123.21 | 114.00 |
| 2 | AB | 1753 | G | C4'-C3'-C2' | 7.09 | 109.69 | 102.60 |
| 2 | AB | 2147 | A | O4'-C4'-C3' | 7.09 | 111.77 | 106.10 |
| 2 | AB | 2169 | A | C4-C5-N7 | -7.09 | 107.16 | 110.70 |
| 2 | AB | 2825 | G | C6-C5-N7 | -7.09 | 126.15 | 130.40 |
| 35 | BA | 1053 | G | C1'-O4'-C4' | -7.09 | 104.23 | 109.90 |
| 35 | BA | 1095 | U | N3-C2-O2 | -7.09 | 117.24 | 122.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1437 | A | C1'-O4'-C4' | -7.09 | 104.23 | 109.90 |
| 47 | BM | 36 | ARG | NH1-CZ-NH2 | -7.09 | 111.60 | 119.40 |
| 2 | AB | 121 | G | C5-C6-O6 | -7.09 | 124.35 | 128.60 |
| 35 | BA | 628 | G | N7-C8-N9 | 7.09 | 116.64 | 113.10 |
| 35 | BA | 941 | G | C6-N1-C2 | -7.09 | 120.85 | 125.10 |
| 2 | AB | 139 | U | O4'-C1'-N1 | 7.08 | 113.87 | 108.20 |
| 2 | AB | 160 | A | C5-C6-N6 | 7.08 | 129.37 | 123.70 |
| 2 | AB | 1681 | G | C5-C6-N1 | 7.08 | 115.04 | 111.50 |
| 35 | BA | 188 | C | C2-N3-C4 | 7.08 | 123.44 | 119.90 |
| 35 | BA | 674 | G | C5-C6-N1 | 7.08 | 115.04 | 111.50 |
| 35 | BA | 902 | G | C5-C6-O6 | -7.08 | 124.35 | 128.60 |
| 42 | BH | 84 | VAL | CG1-CB-CG2 | -7.08 | 99.56 | 110.90 |
| 2 | AB | 1400 | U | C5'-C4'-O4' | 7.08 | 117.60 | 109.10 |
| 2 | AB | 1740 | G | N3-C4-C5 | -7.08 | 125.06 | 128.60 |
| 2 | AB | 2036 | C | C4-C5-C6 | 7.08 | 120.94 | 117.40 |
| 2 | AB | 2496 | C | C2-N3-C4 | 7.08 | 123.44 | 119.90 |
| 35 | BA | 37 | U | N1-C1'-C2' | -7.08 | 104.21 | 112.00 |
| 35 | BA | 412 | A | C4'-C3'-C2' | -7.08 | 95.52 | 102.60 |
| 35 | BA | 691 | G | N1-C2-N3 | -7.08 | 119.65 | 123.90 |
| 46 | BL | 31 | ARG | NE-CZ-NH2 | -7.08 | 116.76 | 120.30 |
| 1 | AA | 35 | C | P-O3'-C3' | 7.08 | 128.20 | 119.70 |
| 2 | AB | 1149 | G | C6-N1-C2 | -7.08 | 120.85 | 125.10 |
| 2 | AB | 2061 | G | N1-C2-N2 | 7.08 | 122.57 | 116.20 |
| 35 | BA | 759 | A | C5'-C4'-O4' | 7.08 | 117.60 | 109.10 |
| 35 | BA | 944 | G | N9-C4-C5 | 7.08 | 108.23 | 105.40 |
| 2 | AB | 465 | G | C6-C5-N7 | -7.08 | 126.15 | 130.40 |
| 2 | AB | 2071 | A | C2-N3-C4 | 7.08 | 114.14 | 110.60 |
| 2 | AB | 2684 | U | N1-C2-O2 | 7.08 | 127.76 | 122.80 |
| 35 | BA | 866 | C | C2-N3-C4 | 7.08 | 123.44 | 119.90 |
| 35 | BA | 1401 | G | C4-C5-N7 | -7.08 | 107.97 | 110.80 |
| 2 | AB | 1174 | U | N1-C2-N3 | 7.08 | 119.15 | 114.90 |
| 2 | AB | 1453 | A | N1-C6-N6 | 7.08 | 122.85 | 118.60 |
| 2 | AB | 2637 | U | C4'-C3'-C2' | -7.08 | 95.52 | 102.60 |
| 35 | BA | 1119 | C | O4'-C1'-N1 | 7.08 | 113.86 | 108.20 |
| 35 | BA | 1508 | A | N1-C2-N3 | -7.08 | 125.76 | 129.30 |
| 35 | BA | 1542 | A | O4'-C4'-C3' | 7.08 | 111.76 | 106.10 |
| 2 | AB | 154 | U | N3-C2-O2 | -7.08 | 117.25 | 122.20 |
| 2 | AB | 318 | C | C4-C5-C6 | 7.08 | 120.94 | 117.40 |
| 2 | AB | 1068 | G | C5-N7-C8 | 7.08 | 107.84 | 104.30 |
| 2 | AB | 1166 | G | C4-C5-N7 | -7.08 | 107.97 | 110.80 |
| 2 | AB | 1217 | U | C2-N3-C4 | -7.08 | 122.75 | 127.00 |
| 2 | AB | 1502 | A | C5'-C4'-O4' | 7.08 | 117.59 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 723 | U | C4-C5-C6 | 7.08 | 123.95 | 119.70 |
| 35 | BA | 787 | A | C5-N7-C8 | 7.08 | 107.44 | 103.90 |
| 35 | BA | 1255 | G | N9-C4-C5 | 7.08 | 108.23 | 105.40 |
| 2 | AB | 1974 | C | N3-C4-C5 | -7.08 | 119.07 | 121.90 |
| 35 | BA | 41 | G | N3-C2-N2 | 7.08 | 124.85 | 119.90 |
| 35 | BA | 159 | G | C5-C6-O6 | -7.08 | 124.36 | 128.60 |
| 35 | BA | 929 | G | C2-N3-C4 | 7.08 | 115.44 | 111.90 |
| 35 | BA | 1051 | C | N1-C2-O2 | 7.08 | 123.14 | 118.90 |
| 54 | BT | 69 | TYR | CG-CD2-CE2 | -7.08 | 115.64 | 121.30 |
| 2 | AB | 205 | G | C6-N1-C2 | -7.07 | 120.86 | 125.10 |
| 2 | AB | 896 | A | C2-N3-C4 | 7.07 | 114.14 | 110.60 |
| 2 | AB | 2283 | C | N3-C4-N4 | 7.07 | 122.95 | 118.00 |
| 2 | AB | 2297 | A | C5'-C4'-C3' | -7.07 | 104.68 | 116.00 |
| 2 | AB | 2365 | G | C4-C5-C6 | 7.07 | 123.04 | 118.80 |
| 2 | AB | 2549 | G | N9-C4-C5 | -7.07 | 102.57 | 105.40 |
| 2 | AB | 2724 | U | O4'-C1'-N1 | 7.07 | 113.86 | 108.20 |
| 35 | BA | 112 | G | C4-C5-N7 | 7.07 | 113.63 | 110.80 |
| 35 | BA | 507 | C | N1-C2-N3 | 7.07 | 124.15 | 119.20 |
| 35 | BA | 763 | G | C4-C5-N7 | -7.07 | 107.97 | 110.80 |
| 35 | BA | 1131 | G | C4-C5-N7 | -7.07 | 107.97 | 110.80 |
| 2 | AB | 322 | A | N1-C6-N6 | 7.07 | 122.84 | 118.60 |
| 2 | AB | 1397 | U | O4'-C1'-N1 | 7.07 | 113.86 | 108.20 |
| 35 | BA | 497 | G | P-O3'-C3' | 7.07 | 128.19 | 119.70 |
| 35 | BA | 697 | U | C5-C6-N1 | -7.07 | 119.16 | 122.70 |
| 35 | BA | 920 | U | C4'-C3'-C2' | -7.07 | 95.53 | 102.60 |
| 35 | BA | 1344 | C | N3-C4-C5 | -7.07 | 119.07 | 121.90 |
| 1 | AA | 62 | C | N3-C2-O2 | -7.07 | 116.95 | 121.90 |
| 2 | AB | 82 | U | O4'-C4'-C3' | -7.07 | 96.93 | 104.00 |
| 2 | AB | 265 | A | N7-C8-N9 | 7.07 | 117.34 | 113.80 |
| 2 | AB | 800 | A | C8-N9-C4 | -7.07 | 102.97 | 105.80 |
| 2 | AB | 1749 | A | C8-N9-C4 | -7.07 | 102.97 | 105.80 |
| 10 | AJ | 28 | ASP | CB-CG-OD2 | -7.07 | 111.94 | 118.30 |
| 35 | BA | 748 | G | N1-C2-N3 | -7.07 | 119.66 | 123.90 |
| 35 | BA | 773 | G | N9-C4-C5 | -7.07 | 102.57 | 105.40 |
| 35 | BA | 1288 | A | C4-C5-C6 | -7.07 | 113.47 | 117.00 |
| 35 | BA | 1291 | U | N3-C4-O4 | 7.07 | 124.35 | 119.40 |
| 35 | BA | 1338 | G | C5'-C4'-O4' | 7.07 | 117.58 | 109.10 |
| 35 | BA | 1347 | G | C3'-C2'-C1' | 7.07 | 107.16 | 101.50 |
| 35 | BA | 1535 | C | O4'-C4'-C3' | -7.07 | 96.93 | 104.00 |
| 37 | BC | 9 | G | N9-C4-C5 | 7.07 | 108.23 | 105.40 |
| 37 | BC | 31 | G | C2-N3-C4 | 7.07 | 115.44 | 111.90 |
| 2 | AB | 1664 | A | O4'-C1'-N9 | 7.07 | 113.86 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 676 | A | C4-C5-C6 | 7.07 | 120.53 | 117.00 |
| 35 | BA | 953 | G | C6-N1-C2 | -7.07 | 120.86 | 125.10 |
| 50 | BP | 74 | ARG | NE-CZ-NH1 | 7.07 | 123.83 | 120.30 |
| 2 | AB | 1151 | A | C5-C6-N6 | -7.07 | 118.05 | 123.70 |
| 2 | AB | 1233 | C | C6-N1-C2 | 7.07 | 123.13 | 120.30 |
| 2 | AB | 1422 | G | C8-N9-C4 | 7.07 | 109.23 | 106.40 |
| 2 | AB | 1800 | C | C6-N1-C2 | -7.07 | 117.47 | 120.30 |
| 2 | AB | 2068 | U | N1-C2-N3 | 7.07 | 119.14 | 114.90 |
| 2 | AB | 2174 | C | O4'-C1'-N1 | 7.07 | 113.85 | 108.20 |
| 12 | AL | 53 | TYR | CG-CD1-CE1 | 7.07 | 126.95 | 121.30 |
| 35 | BA | 1169 | A | O4'-C4'-C3' | 7.07 | 111.75 | 106.10 |
| 2 | AB | 963 | U | C4-C5-C6 | 7.07 | 123.94 | 119.70 |
| 35 | BA | 692 | U | C4-C5-C6 | 7.07 | 123.94 | 119.70 |
| 2 | AB | 60 | G | N1-C2-N3 | -7.06 | 119.66 | 123.90 |
| 2 | AB | 85 | G | N9-C4-C5 | 7.06 | 108.23 | 105.40 |
| 2 | AB | 2810 | A | N7-C8-N9 | 7.06 | 117.33 | 113.80 |
| 35 | BA | 727 | G | C3'-C2'-C1' | 7.06 | 107.15 | 101.50 |
| 2 | AB | 360 | U | N1-C2-N3 | 7.06 | 119.14 | 114.90 |
| 2 | AB | 369 | U | C5-C6-N1 | -7.06 | 119.17 | 122.70 |
| 2 | AB | 778 | G | C8-N9-C4 | -7.06 | 103.58 | 106.40 |
| 2 | AB | 1052 | C | C5-C4-N4 | -7.06 | 115.26 | 120.20 |
| 2 | AB | 1269 | A | C2-N3-C4 | 7.06 | 114.13 | 110.60 |
| 2 | AB | 2340 | A | C5-C6-N1 | -7.06 | 114.17 | 117.70 |
| 35 | BA | 10 | A | C5-C6-N1 | 7.06 | 121.23 | 117.70 |
| 35 | BA | 153 | C | C3'-C2'-C1' | 7.06 | 107.15 | 101.50 |
| 35 | BA | 195 | A | C5'-C4'-O4' | 7.06 | 117.58 | 109.10 |
| 35 | BA | 345 | C | P-O3'-C3' | 7.06 | 128.18 | 119.70 |
| 35 | BA | 874 | G | C6-N1-C2 | -7.06 | 120.86 | 125.10 |
| 35 | BA | 1159 | U | C3'-C2'-C1' | 7.06 | 107.15 | 101.50 |
| 2 | AB | 137 | U | O4'-C1'-N1 | 7.06 | 113.85 | 108.20 |
| 2 | AB | 654 | A | P-O3'-C3' | 7.06 | 128.17 | 119.70 |
| 2 | AB | 2634 | A | C5-C6-N1 | 7.06 | 121.23 | 117.70 |
| 35 | BA | 53 | A | N3-C4-N9 | -7.06 | 121.75 | 127.40 |
| 35 | BA | 111 | G | C4-C5-C6 | 7.06 | 123.04 | 118.80 |
| 2 | AB | 251 | A | O4'-C1'-N9 | 7.06 | 113.85 | 108.20 |
| 2 | AB | 684 | G | C6-C5-N7 | 7.06 | 134.63 | 130.40 |
| 2 | AB | 1084 | A | C8-N9-C4 | -7.06 | 102.98 | 105.80 |
| 2 | AB | 1173 | U | C5-C6-N1 | -7.06 | 119.17 | 122.70 |
| 2 | AB | 1540 | G | C2-N3-C4 | 7.06 | 115.43 | 111.90 |
| 2 | AB | 1863 | G | C5-C6-O6 | -7.06 | 124.36 | 128.60 |
| 2 | AB | 2585 | U | N1-C2-N3 | 7.06 | 119.14 | 114.90 |
| 35 | BA | 671 | G | C5-C6-O6 | -7.06 | 124.36 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 791 | G | N1-C2-N3 | -7.06 | 119.67 | 123.90 |
| 1 | AA | 56 | G | O4'-C1'-N9 | 7.06 | 113.85 | 108.20 |
| 2 | AB | 10 | A | C3'-C2'-C1' | 7.06 | 107.14 | 101.50 |
| 2 | AB | 977 | G | N9-C4-C5 | 7.06 | 108.22 | 105.40 |
| 35 | BA | 931 | C | N3-C4-C5 | -7.06 | 119.08 | 121.90 |
| 35 | BA | 1279 | G | O4'-C1'-N9 | -7.06 | 102.55 | 108.20 |
| 35 | BA | 1314 | C | C2-N3-C4 | 7.06 | 123.43 | 119.90 |
| 2 | AB | 777 | G | N9-C1'-C2' | -7.06 | 104.24 | 112.00 |
| 2 | AB | 1870 | C | N1-C2-O2 | 7.06 | 123.13 | 118.90 |
| 2 | AB | 2026 | U | C4'-C3'-C2' | -7.06 | 95.54 | 102.60 |
| 2 | AB | 2036 | C | N3-C2-O2 | -7.06 | 116.96 | 121.90 |
| 2 | AB | 2729 | G | N1-C6-O6 | -7.06 | 115.67 | 119.90 |
| 35 | BA | 77 | A | C8-N9-C4 | -7.06 | 102.98 | 105.80 |
| 35 | BA | 760 | G | C6-N1-C2 | -7.06 | 120.87 | 125.10 |
| 35 | BA | 1410 | A | N9-C4-C5 | -7.06 | 102.98 | 105.80 |
| 2 | AB | 135 | U | C5-C4-O4 | -7.05 | 121.67 | 125.90 |
| 2 | AB | 276 | U | C5-C4-O4 | -7.05 | 121.67 | 125.90 |
| 2 | AB | 1246 | A | C8-N9-C4 | -7.05 | 102.98 | 105.80 |
| 2 | AB | 2032 | G | O4'-C1'-N9 | 7.05 | 113.84 | 108.20 |
| 2 | AB | 2229 | U | C5'-C4'-O4' | 7.05 | 117.56 | 109.10 |
| 5 | AE | 125 | TRP | NE1-CE2-CD2 | -7.05 | 100.25 | 107.30 |
| 35 | BA | 591 | U | P-O3'-C3' | 7.05 | 128.17 | 119.70 |
| 35 | BA | 974 | A | C4-C5-N7 | -7.05 | 107.17 | 110.70 |
| 2 | AB | 117 | G | N3-C4-C5 | -7.05 | 125.07 | 128.60 |
| 2 | AB | 119 | A | N3-C4-C5 | -7.05 | 121.86 | 126.80 |
| 2 | AB | 297 | G | O5'-C5'-C4' | 7.05 | 125.10 | 111.70 |
| 2 | AB | 524 | G | C6-N1-C2 | -7.05 | 120.87 | 125.10 |
| 2 | AB | 572 | A | C5-C6-N6 | -7.05 | 118.06 | 123.70 |
| 2 | AB | 952 | G | C8-N9-C4 | -7.05 | 103.58 | 106.40 |
| 2 | AB | 1238 | G | C5-N7-C8 | -7.05 | 100.77 | 104.30 |
| 2 | AB | 1371 | G | N3-C2-N2 | 7.05 | 124.84 | 119.90 |
| 2 | AB | 1679 | A | C5-C6-N6 | -7.05 | 118.06 | 123.70 |
| 2 | AB | 1777 | U | C4-C5-C6 | 7.05 | 123.93 | 119.70 |
| 2 | AB | 1871 | A | N1-C6-N6 | -7.05 | 114.37 | 118.60 |
| 2 | AB | 2201 | G | O4'-C1'-N9 | 7.05 | 113.84 | 108.20 |
| 2 | AB | 2369 | A | N7-C8-N9 | -7.05 | 110.28 | 113.80 |
| 7 | AG | 70 | ARG | NE-CZ-NH1 | -7.05 | 116.77 | 120.30 |
| 2 | AB | 465 | G | C6-N1-C2 | -7.05 | 120.87 | 125.10 |
| 2 | AB | 774 | G | P-O3'-C3' | 7.05 | 128.16 | 119.70 |
| 2 | AB | 1186 | G | C4-C5-C6 | 7.05 | 123.03 | 118.80 |
| 2 | AB | 1218 | G | N3-C2-N2 | -7.05 | 114.97 | 119.90 |
| 2 | AB | 1341 | G | N9-C4-C5 | -7.05 | 102.58 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1548 | A | C5'-C4'-O4' | 7.05 | 117.56 | 109.10 |
| 2 | AB | 2045 | C | N3-C2-O2 | -7.05 | 116.97 | 121.90 |
| 2 | AB | 2226 | C | N1-C2-O2 | 7.05 | 123.13 | 118.90 |
| 2 | AB | 2601 | C | C2-N3-C4 | -7.05 | 116.38 | 119.90 |
| 35 | BA | 355 | C | O4'-C1'-N1 | 7.05 | 113.84 | 108.20 |
| 2 | AB | 777 | G | C8-N9-C4 | -7.05 | 103.58 | 106.40 |
| 2 | AB | 840 | C | C4-C5-C6 | -7.05 | 113.88 | 117.40 |
| 2 | AB | 1799 | G | C4-C5-C6 | 7.05 | 123.03 | 118.80 |
| 2 | AB | 1826 | G | C2-N3-C4 | 7.05 | 115.42 | 111.90 |
| 2 | AB | 242 | G | C4-C5-C6 | 7.05 | 123.03 | 118.80 |
| 2 | AB | 801 | G | C3'-C2'-C1' | 7.05 | 107.14 | 101.50 |
| 2 | AB | 917 | A | C5-N7-C8 | -7.05 | 100.38 | 103.90 |
| 35 | BA | 73 | C | C4-C5-C6 | -7.05 | 113.88 | 117.40 |
| 35 | BA | 332 | G | N9-C1'-C2' | -7.05 | 104.25 | 112.00 |
| 35 | BA | 579 | A | C4-C5-C6 | 7.05 | 120.52 | 117.00 |
| 1 | AA | 70 | C | C4'-C3'-C2' | -7.04 | 95.56 | 102.60 |
| 2 | AB | 94 | A | C5-C6-N1 | 7.04 | 121.22 | 117.70 |
| 2 | AB | 258 | G | N3-C4-C5 | -7.04 | 125.08 | 128.60 |
| 2 | AB | 1673 | G | O4'-C1'-N9 | 7.04 | 113.84 | 108.20 |
| 35 | BA | 86 | G | O4'-C1'-N9 | 7.04 | 113.84 | 108.20 |
| 37 | BC | 11 | A | C8-N9-C4 | 7.04 | 108.62 | 105.80 |
| 2 | AB | 511 | U | C5'-C4'-C3' | -7.04 | 104.73 | 116.00 |
| 2 | AB | 995 | C | P-O3'-C3' | 7.04 | 128.15 | 119.70 |
| 2 | AB | 1002 | G | OP1-P-O3' | 7.04 | 120.69 | 105.20 |
| 2 | AB | 1547 | C | N3-C4-C5 | -7.04 | 119.08 | 121.90 |
| 2 | AB | 2012 | G | C2-N3-C4 | 7.04 | 115.42 | 111.90 |
| 2 | AB | 2438 | U | C5-C4-O4 | -7.04 | 121.67 | 125.90 |
| 2 | AB | 2502 | G | C6-N1-C2 | -7.04 | 120.87 | 125.10 |
| 2 | AB | 2590 | A | N9-C4-C5 | 7.04 | 108.62 | 105.80 |
| 2 | AB | 2686 | G | C5-N7-C8 | 7.04 | 107.82 | 104.30 |
| 2 | AB | 2692 | G | C6-N1-C2 | -7.04 | 120.87 | 125.10 |
| 12 | AL | 35 | ARG | NE-CZ-NH1 | 7.04 | 123.82 | 120.30 |
| 15 | AO | 55 | ARG | NH1-CZ-NH2 | -7.04 | 111.65 | 119.40 |
| 35 | BA | 127 | G | N3-C4-C5 | -7.04 | 125.08 | 128.60 |
| 35 | BA | 1077 | G | C4-C5-N7 | -7.04 | 107.98 | 110.80 |
| 2 | AB | 1285 | A | C1'-O4'-C4' | 7.04 | 115.53 | 109.90 |
| 2 | AB | 1664 | A | C5'-C4'-C3' | -7.04 | 104.73 | 116.00 |
| 4 | AD | 213 | ARG | NE-CZ-NH1 | 7.04 | 123.82 | 120.30 |
| 35 | BA | 185 | U | N3-C2-O2 | -7.04 | 117.27 | 122.20 |
| 35 | BA | 1231 | G | O4'-C1'-N9 | 7.04 | 113.83 | 108.20 |
| 2 | AB | 91 | A | C6-C5-N7 | 7.04 | 137.23 | 132.30 |
| 2 | AB | 860 | U | N1-C2-N3 | 7.04 | 119.12 | 114.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1851 | U | C5-C4-O4 | -7.04 | 121.68 | 125.90 |
| 2 | AB | 2263 | C | O4'-C1'-N1 | 7.04 | 113.83 | 108.20 |
| 35 | BA | 113 | G | N3-C2-N2 | 7.04 | 124.83 | 119.90 |
| 35 | BA | 430 | A | C4'-C3'-C2' | -7.04 | 95.56 | 102.60 |
| 1 | AA | 61 | G | N9-C4-C5 | 7.04 | 108.22 | 105.40 |
| 2 | AB | 227 | A | C3'-C2'-C1' | -7.04 | 95.87 | 101.50 |
| 2 | AB | 429 | A | C2-N3-C4 | -7.04 | 107.08 | 110.60 |
| 2 | AB | 1160 | G | C1'-O4'-C4' | 7.04 | 115.53 | 109.90 |
| 2 | AB | 1840 | G | N7-C8-N9 | 7.04 | 116.62 | 113.10 |
| 2 | AB | 2146 | C | C1'-O4'-C4' | 7.04 | 115.53 | 109.90 |
| 2 | AB | 2366 | A | C8-N9-C4 | -7.04 | 102.98 | 105.80 |
| 35 | BA | 322 | C | N3-C2-O2 | -7.04 | 116.97 | 121.90 |
| 35 | BA | 844 | G | C4-C5-C6 | 7.04 | 123.02 | 118.80 |
| 37 | BC | 29 | C | C1'-O4'-C4' | 7.04 | 115.53 | 109.90 |
| 1 | AA | 67 | G | N1-C6-O6 | 7.04 | 124.12 | 119.90 |
| 2 | AB | 476 | G | C2-N3-C4 | 7.04 | 115.42 | 111.90 |
| 2 | AB | 544 | C | C1'-O4'-C4' | 7.04 | 115.53 | 109.90 |
| 2 | AB | 891 | G | O4'-C1'-N9 | 7.04 | 113.83 | 108.20 |
| 2 | AB | 1473 | G | N7-C8-N9 | 7.04 | 116.62 | 113.10 |
| 35 | BA | 593 | U | N3-C4-C5 | -7.04 | 110.38 | 114.60 |
| 2 | AB | 467 | G | C6-C5-N7 | 7.04 | 134.62 | 130.40 |
| 2 | AB | 2425 | A | C4'-C3'-C2' | 7.04 | 109.64 | 102.60 |
| 51 | BQ | 87 | ARG | NE-CZ-NH2 | -7.04 | 116.78 | 120.30 |
| 2 | AB | 858 | G | N1-C6-O6 | -7.03 | 115.68 | 119.90 |
| 2 | AB | 957 | C | O4'-C4'-C3' | 7.03 | 111.73 | 106.10 |
| 2 | AB | 1288 | G | N1-C2-N2 | -7.03 | 109.87 | 116.20 |
| 2 | AB | 1597 | A | N1-C6-N6 | -7.03 | 114.38 | 118.60 |
| 2 | AB | 1654 | A | C5'-C4'-C3' | -7.03 | 104.75 | 116.00 |
| 2 | AB | 1958 | C | C5'-C4'-O4' | 7.03 | 117.54 | 109.10 |
| 35 | BA | 91 | U | C5-C4-O4 | 7.03 | 130.12 | 125.90 |
| 35 | BA | 481 | G | C5'-C4'-C3' | -7.03 | 104.75 | 116.00 |
| 35 | BA | 1246 | A | O4'-C1'-N9 | 7.03 | 113.83 | 108.20 |
| 35 | BA | 1252 | A | C4'-C3'-C2' | -7.03 | 95.57 | 102.60 |
| 50 | BP | 39 | ASP | CB-CG-OD1 | -7.03 | 111.97 | 118.30 |
| 2 | AB | 276 | U | O4'-C1'-N1 | 7.03 | 113.83 | 108.20 |
| 35 | BA | 399 | G | N1-C6-O6 | -7.03 | 115.68 | 119.90 |
| 2 | AB | 946 | C | C5-C6-N1 | -7.03 | 117.48 | 121.00 |
| 2 | AB | 1602 | U | C5-C4-O4 | -7.03 | 121.68 | 125.90 |
| 2 | AB | 1841 | U | N3-C2-O2 | -7.03 | 117.28 | 122.20 |
| 2 | AB | 2246 | G | N1-C2-N2 | 7.03 | 122.53 | 116.20 |
| 2 | AB | 2780 | G | C8-N9-C4 | -7.03 | 103.59 | 106.40 |
| 2 | AB | 2809 | A | N9-C1'-C2' | -7.03 | 104.27 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2861 | U | N1-C2-N3 | 7.03 | 119.12 | 114.90 |
| 5 | AE | 13 | ARG | NE-CZ-NH2 | 7.03 | 123.82 | 120.30 |
| 26 | AZ | 10 | ARG | NE-CZ-NH1 | -7.03 | 116.78 | 120.30 |
| 35 | BA | 587 | G | C5-N7-C8 | -7.03 | 100.78 | 104.30 |
| 2 | AB | 308 | G | C6-C5-N7 | 7.03 | 134.62 | 130.40 |
| 2 | AB | 969 | G | N1-C2-N2 | 7.03 | 122.53 | 116.20 |
| 2 | AB | 1049 | C | C2-N3-C4 | 7.03 | 123.41 | 119.90 |
| 2 | AB | 1490 | A | C5'-C4'-O4' | 7.03 | 117.53 | 109.10 |
| 35 | BA | 45 | G | C6-N1-C2 | -7.03 | 120.88 | 125.10 |
| 35 | BA | 228 | A | C5'-C4'-C3' | -7.03 | 104.75 | 116.00 |
| 35 | BA | 500 | G | O4'-C1'-N9 | 7.03 | 113.82 | 108.20 |
| 35 | BA | 1021 | A | C4-C5-N7 | -7.03 | 107.19 | 110.70 |
| 1 | AA | 54 | G | C5'-C4'-O4' | 7.03 | 117.53 | 109.10 |
| 1 | AA | 120 | U | N3-C2-O2 | -7.03 | 117.28 | 122.20 |
| 2 | AB | 106 | C | C3'-C2'-C1' | -7.03 | 95.88 | 101.50 |
| 2 | AB | 186 | G | O4'-C1'-N9 | 7.03 | 113.82 | 108.20 |
| 2 | AB | 1260 | A | O4'-C1'-N9 | 7.03 | 113.82 | 108.20 |
| 2 | AB | 1346 | G | N1-C2-N2 | 7.03 | 122.53 | 116.20 |
| 2 | AB | 1469 | A | N9-C4-C5 | 7.03 | 108.61 | 105.80 |
| 2 | AB | 2003 | A | C4-C5-N7 | 7.03 | 114.21 | 110.70 |
| 2 | AB | 2083 | G | C5-C6-O6 | -7.03 | 124.38 | 128.60 |
| 35 | BA | 1263 | C | C5-C4-N4 | -7.03 | 115.28 | 120.20 |
| 35 | BA | 1366 | C | C4'-C3'-C2' | -7.03 | 95.57 | 102.60 |
| 1 | AA | 69 | G | C5'-C4'-O4' | 7.03 | 117.53 | 109.10 |
| 2 | AB | 512 | G | C6-N1-C2 | -7.03 | 120.88 | 125.10 |
| 2 | AB | 1037 | G | C2-N3-C4 | 7.03 | 115.41 | 111.90 |
| 2 | AB | 2632 | A | N3-C4-C5 | -7.03 | 121.88 | 126.80 |
| 17 | AQ | 99 | TYR | CB-CG-CD2 | -7.03 | 116.78 | 121.00 |
| 35 | BA | 199 | A | C5'-C4'-O4' | 7.03 | 117.53 | 109.10 |
| 35 | BA | 205 | A | C2'-C3'-O3' | 7.03 | 124.96 | 109.50 |
| 35 | BA | 430 | A | C5'-C4'-C3' | -7.03 | 104.76 | 116.00 |
| 35 | BA | 512 | U | O4'-C1'-N1 | 7.03 | 113.82 | 108.20 |
| 35 | BA | 775 | G | N7-C8-N9 | 7.03 | 116.61 | 113.10 |
| 35 | BA | 1357 | A | C4-C5-C6 | -7.03 | 113.49 | 117.00 |
| 35 | BA | 1365 | G | N7-C8-N9 | 7.03 | 116.61 | 113.10 |
| 2 | AB | 94 | A | O4'-C1'-N9 | 7.02 | 113.82 | 108.20 |
| 2 | AB | 1519 | G | N1-C2-N3 | -7.02 | 119.69 | 123.90 |
| 2 | AB | 1981 | A | C2-N3-C4 | -7.02 | 107.09 | 110.60 |
| 35 | BA | 1079 | G | N3-C4-N9 | 7.02 | 130.22 | 126.00 |
| 37 | BC | 65 | G | C5-C6-O6 | -7.02 | 124.39 | 128.60 |
| 2 | AB | 481 | G | C5-N7-C8 | -7.02 | 100.79 | 104.30 |
| 2 | AB | 826 | U | C5-C4-O4 | -7.02 | 121.69 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2270 | A | C5-C6-N1 | 7.02 | 121.21 | 117.70 |
| 2 | AB | 2295 | C | O4'-C4'-C3' | 7.02 | 111.72 | 106.10 |
| 2 | AB | 2545 | G | C6-C5-N7 | 7.02 | 134.61 | 130.40 |
| 2 | AB | 2639 | A | N7-C8-N9 | -7.02 | 110.29 | 113.80 |
| 35 | BA | 530 | G | C6-C5-N7 | -7.02 | 126.19 | 130.40 |
| 35 | BA | 644 | U | N1-C1'-C2' | -7.02 | 104.27 | 112.00 |
| 35 | BA | 901 | A | C4-C5-N7 | -7.02 | 107.19 | 110.70 |
| 35 | BA | 1191 | A | O4'-C1'-N9 | 7.02 | 113.82 | 108.20 |
| 1 | AA | 76 | G | C5-C6-N1 | 7.02 | 115.01 | 111.50 |
| 2 | AB | 559 | G | N1-C2-N3 | -7.02 | 119.69 | 123.90 |
| 2 | AB | 1142 | A | O4'-C1'-N9 | 7.02 | 113.82 | 108.20 |
| 2 | AB | 2143 | C | N3-C4-N4 | -7.02 | 113.08 | 118.00 |
| 35 | BA | 1004 | A | C4-C5-C6 | 7.02 | 120.51 | 117.00 |
| 35 | BA | 1061 | G | N3-C2-N2 | 7.02 | 124.81 | 119.90 |
| 56 | BV | 73 | ARG | NE-CZ-NH2 | -7.02 | 116.79 | 120.30 |
| 2 | AB | 1325 | U | N3-C4-O4 | 7.02 | 124.31 | 119.40 |
| 2 | AB | 2657 | A | C5'-C4'-O4' | 7.02 | 117.52 | 109.10 |
| 2 | AB | 2877 | G | O4'-C1'-N9 | 7.02 | 113.82 | 108.20 |
| 35 | BA | 497 | G | N1-C2-N3 | -7.02 | 119.69 | 123.90 |
| 35 | BA | 522 | C | C3'-C2'-C1' | 7.02 | 107.12 | 101.50 |
| 35 | BA | 593 | U | N3-C2-O2 | -7.02 | 117.29 | 122.20 |
| 2 | AB | 448 | U | C4-C5-C6 | -7.02 | 115.49 | 119.70 |
| 2 | AB | 1787 | A | O4'-C1'-N9 | -7.02 | 102.59 | 108.20 |
| 2 | AB | 1830 | C | C3'-C2'-C1' | 7.02 | 107.11 | 101.50 |
| 35 | BA | 31 | G | N3-C2-N2 | 7.02 | 124.81 | 119.90 |
| 35 | BA | 155 | A | C5-C6-N6 | -7.02 | 118.09 | 123.70 |
| 35 | BA | 760 | G | C2-N3-C4 | 7.02 | 115.41 | 111.90 |
| 35 | BA | 979 | C | C3'-C2'-C1' | 7.02 | 107.11 | 101.50 |
| 1 | AA | 86 | G | N1-C2-N3 | 7.02 | 128.11 | 123.90 |
| 2 | AB | 1007 | C | C4'-C3'-C2' | -7.02 | 95.58 | 102.60 |
| 2 | AB | 1477 | A | N1-C6-N6 | 7.02 | 122.81 | 118.60 |
| 35 | BA | 403 | C | C2-N3-C4 | 7.02 | 123.41 | 119.90 |
| 35 | BA | 409 | U | N3-C4-O4 | -7.02 | 114.49 | 119.40 |
| 1 | AA | 26 | C | N1-C2-O2 | 7.01 | 123.11 | 118.90 |
| 2 | AB | 352 | A | C5-C6-N1 | 7.01 | 121.21 | 117.70 |
| 2 | AB | 523 | C | N1-C2-O2 | 7.01 | 123.11 | 118.90 |
| 2 | AB | 1074 | G | N9-C4-C5 | 7.01 | 108.21 | 105.40 |
| 2 | AB | 1631 | G | N7-C8-N9 | -7.01 | 109.59 | 113.10 |
| 2 | AB | 2668 | G | C6-N1-C2 | -7.01 | 120.89 | 125.10 |
| 35 | BA | 502 | A | C5-C6-N1 | 7.01 | 121.21 | 117.70 |
| 35 | BA | 1158 | C | C2-N3-C4 | 7.01 | 123.41 | 119.90 |
| 35 | BA | 36 | C | N3-C2-O2 | -7.01 | 116.99 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1115 | U | N3-C4-C5 | -7.01 | 110.39 | 114.60 |
| 35 | BA | 1422 | G | C4'-C3'-C2' | -7.01 | 95.59 | 102.60 |
| 2 | AB | 380 | G | C4-C5-N7 | -7.01 | 108.00 | 110.80 |
| 2 | AB | 773 | U | N1-C2-N3 | 7.01 | 119.11 | 114.90 |
| 2 | AB | 832 | U | C5-C6-N1 | -7.01 | 119.19 | 122.70 |
| 2 | AB | 1011 | G | C4-C5-C6 | 7.01 | 123.01 | 118.80 |
| 2 | AB | 1134 | A | C8-N9-C4 | -7.01 | 103.00 | 105.80 |
| 2 | AB | 1143 | A | C1'-O4'-C4' | 7.01 | 115.51 | 109.90 |
| 2 | AB | 2093 | G | C5-C6-N1 | -7.01 | 108.00 | 111.50 |
| 2 | AB | 2547 | A | C1'-O4'-C4' | -7.01 | 104.29 | 109.90 |
| 2 | AB | 2903 | U | N3-C2-O2 | -7.01 | 117.29 | 122.20 |
| 35 | BA | 189 | A | N9-C4-C5 | 7.01 | 108.61 | 105.80 |
| 35 | BA | 289 | G | N1-C2-N3 | -7.01 | 119.69 | 123.90 |
| 35 | BA | 985 | C | C4-C5-C6 | 7.01 | 120.91 | 117.40 |
| 35 | BA | 1390 | U | C5'-C4'-C3' | -7.01 | 104.78 | 116.00 |
| 2 | AB | 543 | G | C6-N1-C2 | -7.01 | 120.89 | 125.10 |
| 2 | AB | 816 | C | O4'-C1'-N1 | 7.01 | 113.81 | 108.20 |
| 2 | AB | 2017 | U | N3-C2-O2 | -7.01 | 117.29 | 122.20 |
| 35 | BA | 291 | U | C4-C5-C6 | 7.01 | 123.91 | 119.70 |
| 35 | BA | 816 | A | N1-C2-N3 | -7.01 | 125.80 | 129.30 |
| 37 | BC | 63 | C | C2-N3-C4 | 7.01 | 123.41 | 119.90 |
| 2 | AB | 962 | G | N3-C4-N9 | 7.01 | 130.21 | 126.00 |
| 2 | AB | 1322 | A | C4-C5-N7 | -7.01 | 107.20 | 110.70 |
| 2 | AB | 1653 | G | N7-C8-N9 | 7.01 | 116.60 | 113.10 |
| 35 | BA | 457 | G | C4-C5-N7 | -7.01 | 108.00 | 110.80 |
| 37 | BC | 66 | C | C5-C6-N1 | 7.01 | 124.50 | 121.00 |
| 2 | AB | 521 | U | N3-C2-O2 | -7.01 | 117.30 | 122.20 |
| 2 | AB | 571 | U | C6-N1-C2 | -7.01 | 116.80 | 121.00 |
| 2 | AB | 687 | C | O4'-C1'-N1 | 7.01 | 113.80 | 108.20 |
| 2 | AB | 1179 | G | N3-C4-C5 | -7.01 | 125.10 | 128.60 |
| 2 | AB | 1601 | G | N1-C6-O6 | -7.01 | 115.70 | 119.90 |
| 2 | AB | 1615 | C | C6-N1-C2 | -7.01 | 117.50 | 120.30 |
| 2 | AB | 1796 | U | C3'-C2'-C1' | 7.01 | 107.11 | 101.50 |
| 2 | AB | 2289 | G | N7-C8-N9 | 7.01 | 116.60 | 113.10 |
| 2 | AB | 2482 | A | P-O3'-C3' | 7.01 | 128.11 | 119.70 |
| 2 | AB | 2865 | U | C5'-C4'-O4' | 7.01 | 117.51 | 109.10 |
| 35 | BA | 765 | G | C2-N3-C4 | 7.01 | 115.40 | 111.90 |
| 35 | BA | 1245 | C | P-O3'-C3' | 7.01 | 128.11 | 119.70 |
| 35 | BA | 1287 | A | P-O3'-C3' | 7.01 | 128.11 | 119.70 |
| 35 | BA | 1381 | U | C5'-C4'-O4' | 7.01 | 117.51 | 109.10 |
| 35 | BA | 1429 | A | N1-C2-N3 | -7.01 | 125.80 | 129.30 |
| 35 | BA | 1465 | A | P-O3'-C3' | 7.01 | 128.11 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 56 | BV | 17 | ARG | NE-CZ-NH1 | 7.01 | 123.80 | 120.30 |
| 2 | AB | 755 | U | C6-N1-C2 | -7.00 | 116.80 | 121.00 |
| 2 | AB | 1405 | U | O4'-C4'-C3' | 7.00 | 111.70 | 106.10 |
| 2 | AB | 1862 | G | N1-C2-N3 | 7.00 | 128.10 | 123.90 |
| 35 | BA | 1370 | G | C5-C6-N1 | 7.00 | 115.00 | 111.50 |
| 35 | BA | 1493 | A | C5'-C4'-C3' | -7.00 | 104.79 | 116.00 |
| 1 | AA | 119 | A | C2-N3-C4 | 7.00 | 114.10 | 110.60 |
| 2 | AB | 430 | A | N1-C2-N3 | -7.00 | 125.80 | 129.30 |
| 2 | AB | 570 | G | C6-C5-N7 | -7.00 | 126.20 | 130.40 |
| 2 | AB | 952 | G | N3-C2-N2 | 7.00 | 124.80 | 119.90 |
| 2 | AB | 1121 | C | N3-C2-O2 | -7.00 | 117.00 | 121.90 |
| 2 | AB | 2188 | U | C1'-O4'-C4' | -7.00 | 104.30 | 109.90 |
| 2 | AB | 2532 | G | C2-N3-C4 | 7.00 | 115.40 | 111.90 |
| 2 | AB | 2613 | U | O4'-C1'-N1 | 7.00 | 113.80 | 108.20 |
| 43 | BI | 125 | ASP | CB-CG-OD2 | 7.00 | 124.60 | 118.30 |
| 54 | BT | 69 | TYR | CD1-CE1-CZ | -7.00 | 113.50 | 119.80 |
| 1 | AA | 48 | U | C5-C6-N1 | -7.00 | 119.20 | 122.70 |
| 2 | AB | 553 | G | O4'-C1'-C2' | 7.00 | 113.90 | 107.60 |
| 2 | AB | 834 | G | N9-C1'-C2' | -7.00 | 104.30 | 112.00 |
| 2 | AB | 1331 | G | C8-N9-C4 | -7.00 | 103.60 | 106.40 |
| 2 | AB | 1656 | C | N3-C4-N4 | 7.00 | 122.90 | 118.00 |
| 2 | AB | 1660 | G | C2-N3-C4 | 7.00 | 115.40 | 111.90 |
| 35 | BA | 354 | G | O4'-C1'-N9 | 7.00 | 113.80 | 108.20 |
| 35 | BA | 912 | C | C4-C5-C6 | -7.00 | 113.90 | 117.40 |
| 35 | BA | 1126 | U | N1-C2-O2 | 7.00 | 127.70 | 122.80 |
| 35 | BA | 1446 | A | N1-C2-N3 | 7.00 | 132.80 | 129.30 |
| 35 | BA | 1492 | A | C1'-O4'-C4' | -7.00 | 104.30 | 109.90 |
| 35 | BA | 761 | G | C4-C5-C6 | 7.00 | 123.00 | 118.80 |
| 43 | BI | 110 | ARG | NE-CZ-NH1 | 7.00 | 123.80 | 120.30 |
| 1 | AA | 6 | G | C3'-C2'-C1' | -7.00 | 95.90 | 101.50 |
| 2 | AB | 77 | G | C5-C6-N1 | 7.00 | 115.00 | 111.50 |
| 2 | AB | 1736 | U | C6-N1-C2 | -7.00 | 116.80 | 121.00 |
| 2 | AB | 1799 | G | C5-C6-O6 | 7.00 | 132.80 | 128.60 |
| 2 | AB | 2310 | C | N3-C4-N4 | -7.00 | 113.10 | 118.00 |
| 2 | AB | 2355 | G | C8-N9-C4 | -7.00 | 103.60 | 106.40 |
| 5 | AE | 125 | TRP | CE2-CD2-CG | 7.00 | 112.90 | 107.30 |
| 35 | BA | 425 | G | C8-N9-C4 | -7.00 | 103.60 | 106.40 |
| 35 | BA | 605 | U | C1'-O4'-C4' | -7.00 | 104.30 | 109.90 |
| 1 | AA | 4 | C | C4-C5-C6 | 7.00 | 120.90 | 117.40 |
| 2 | AB | 107 | G | N7-C8-N9 | 7.00 | 116.60 | 113.10 |
| 2 | AB | 1076 | C | C5'-C4'-O4' | 7.00 | 117.50 | 109.10 |
| 2 | AB | 1399 | C | C6-N1-C2 | -7.00 | 117.50 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1966 | A | O4'-C4'-C3' | 7.00 | 111.70 | 106.10 |
| 35 | BA | 127 | G | C5-C6-O6 | -7.00 | 124.40 | 128.60 |
| 35 | BA | 197 | A | C5-C6-N1 | 7.00 | 121.20 | 117.70 |
| 35 | BA | 1028 | C | C5'-C4'-O4' | 7.00 | 117.50 | 109.10 |
| 2 | AB | 956 | G | N9-C4-C5 | 7.00 | 108.20 | 105.40 |
| 2 | AB | 1233 | C | C4-C5-C6 | -7.00 | 113.90 | 117.40 |
| 2 | AB | 1593 | A | C2-N3-C4 | 7.00 | 114.10 | 110.60 |
| 2 | AB | 1816 | C | P-O3'-C3' | 7.00 | 128.09 | 119.70 |
| 2 | AB | 2356 | U | C5-C6-N1 | -7.00 | 119.20 | 122.70 |
| 2 | AB | 2490 | G | C5-C6-N1 | -7.00 | 108.00 | 111.50 |
| 35 | BA | 105 | G | C2-N3-C4 | 7.00 | 115.40 | 111.90 |
| 35 | BA | 313 | A | C5-C6-N1 | 7.00 | 121.20 | 117.70 |
| 35 | BA | 748 | G | C4-C5-C6 | 7.00 | 123.00 | 118.80 |
| 2 | AB | 166 | U | C2-N3-C4 | -6.99 | 122.80 | 127.00 |
| 2 | AB | 1391 | U | N3-C4-C5 | 6.99 | 118.80 | 114.60 |
| 2 | AB | 2072 | C | N1-C2-O2 | 6.99 | 123.10 | 118.90 |
| 2 | AB | 2361 | G | C3'-C2'-C1' | -6.99 | 95.91 | 101.50 |
| 2 | AB | 2367 | G | N1-C2-N3 | -6.99 | 119.70 | 123.90 |
| 2 | AB | 2889 | C | O4'-C1'-N1 | 6.99 | 113.79 | 108.20 |
| 35 | BA | 236 | A | N7-C8-N9 | 6.99 | 117.30 | 113.80 |
| 35 | BA | 365 | U | N3-C4-C5 | -6.99 | 110.40 | 114.60 |
| 35 | BA | 919 | A | N1-C6-N6 | -6.99 | 114.40 | 118.60 |
| 35 | BA | 1152 | A | N7-C8-N9 | 6.99 | 117.30 | 113.80 |
| 2 | AB | 359 | G | C8-N9-C4 | -6.99 | 103.60 | 106.40 |
| 2 | AB | 2106 | U | C2'-C3'-O3' | 6.99 | 124.89 | 113.70 |
| 35 | BA | 761 | G | C6-N1-C2 | -6.99 | 120.91 | 125.10 |
| 35 | BA | 1044 | A | C4'-C3'-C2' | -6.99 | 95.61 | 102.60 |
| 35 | BA | 1061 | G | N3-C4-C5 | 6.99 | 132.10 | 128.60 |
| 2 | AB | 675 | A | C3'-C2'-C1' | 6.99 | 107.09 | 101.50 |
| 2 | AB | 880 | G | C5-C6-O6 | -6.99 | 124.41 | 128.60 |
| 2 | AB | 2025 | C | C3'-C2'-C1' | 6.99 | 107.09 | 101.50 |
| 2 | AB | 2126 | A | C5-C6-N1 | 6.99 | 121.20 | 117.70 |
| 2 | AB | 2282 | G | P-O3'-C3' | 6.99 | 128.09 | 119.70 |
| 2 | AB | 2828 | G | C5-C6-N1 | 6.99 | 115.00 | 111.50 |
| 35 | BA | 318 | G | C2-N3-C4 | -6.99 | 108.41 | 111.90 |
| 35 | BA | 407 | U | O4'-C1'-N1 | 6.99 | 113.79 | 108.20 |
| 35 | BA | 1223 | C | N3-C4-N4 | -6.99 | 113.11 | 118.00 |
| 56 | BV | 24 | ARG | NE-CZ-NH2 | 6.99 | 123.80 | 120.30 |
| 1 | AA | 11 | C | C2-N3-C4 | 6.99 | 123.39 | 119.90 |
| 2 | AB | 4 | U | C2-N3-C4 | -6.99 | 122.81 | 127.00 |
| 2 | AB | 638 | G | O4'-C1'-N9 | 6.99 | 113.79 | 108.20 |
| 2 | AB | 762 | U | C5-C4-O4 | -6.99 | 121.71 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1265 | A | C5-C6-N6 | -6.99 | 118.11 | 123.70 |
| 2 | AB | 1634 | A | O4'-C4'-C3' | 6.99 | 111.69 | 106.10 |
| 2 | AB | 1944 | U | P-O3'-C3' | 6.99 | 128.09 | 119.70 |
| 35 | BA | 910 | C | C4'-C3'-C2' | -6.99 | 95.61 | 102.60 |
| 35 | BA | 1057 | G | C2-N3-C4 | 6.99 | 115.39 | 111.90 |
| 37 | BC | 5 | G | O4'-C1'-N9 | 6.99 | 113.79 | 108.20 |
| 2 | AB | 456 | C | O4'-C1'-N1 | 6.99 | 113.79 | 108.20 |
| 2 | AB | 1450 | G | O4'-C1'-N9 | 6.99 | 113.79 | 108.20 |
| 2 | AB | 2216 | G | C5'-C4'-O4' | 6.99 | 117.48 | 109.10 |
| 2 | AB | 2424 | C | C5-C4-N4 | -6.99 | 115.31 | 120.20 |
| 2 | AB | 2601 | C | N3-C2-O2 | -6.99 | 117.01 | 121.90 |
| 35 | BA | 312 | C | C5-C4-N4 | -6.99 | 115.31 | 120.20 |
| 35 | BA | 742 | G | C4-C5-N7 | -6.99 | 108.00 | 110.80 |
| 2 | AB | 34 | U | O4'-C1'-N1 | 6.99 | 113.79 | 108.20 |
| 2 | AB | 1010 | A | C2-N3-C4 | 6.99 | 114.09 | 110.60 |
| 2 | AB | 1400 | U | O4'-C1'-N1 | 6.99 | 113.79 | 108.20 |
| 2 | AB | 1887 | C | N3-C2-O2 | -6.99 | 117.01 | 121.90 |
| 2 | AB | 2619 | C | C2-N1-C1' | -6.99 | 111.12 | 118.80 |
| 35 | BA | 354 | G | N3-C4-N9 | -6.99 | 121.81 | 126.00 |
| 35 | BA | 710 | G | C5-C6-O6 | -6.99 | 124.41 | 128.60 |
| 35 | BA | 1216 | A | C4-C5-N7 | -6.99 | 107.21 | 110.70 |
| 35 | BA | 1487 | G | C8-N9-C4 | -6.99 | 103.61 | 106.40 |
| 37 | BC | 73 | A | N7-C8-N9 | -6.99 | 110.31 | 113.80 |
| 1 | AA | 31 | C | O4'-C1'-N1 | 6.98 | 113.79 | 108.20 |
| 2 | AB | 731 | C | O4'-C1'-N1 | 6.98 | 113.79 | 108.20 |
| 2 | AB | 1256 | G | C4-C5-C6 | 6.98 | 122.99 | 118.80 |
| 2 | AB | 2738 | A | C1'-O4'-C4' | -6.98 | 104.31 | 109.90 |
| 2 | AB | 2789 | C | N3-C4-C5 | -6.98 | 119.11 | 121.90 |
| 35 | BA | 1134 | G | C1'-O4'-C4' | -6.98 | 104.31 | 109.90 |
| 1 | AA | 51 | G | C4-C5-C6 | 6.98 | 122.99 | 118.80 |
| 2 | AB | 112 | U | N3-C4-C5 | -6.98 | 110.41 | 114.60 |
| 2 | AB | 172 | A | C5-N7-C8 | 6.98 | 107.39 | 103.90 |
| 2 | AB | 388 | G | C6-N1-C2 | -6.98 | 120.91 | 125.10 |
| 2 | AB | 965 | C | C4-C5-C6 | -6.98 | 113.91 | 117.40 |
| 2 | AB | 1047 | G | P-O3'-C3' | 6.98 | 128.08 | 119.70 |
| 2 | AB | 1579 | A | C5-C6-N1 | -6.98 | 114.21 | 117.70 |
| 3 | AC | 164 | ARG | NE-CZ-NH1 | 6.98 | 123.79 | 120.30 |
| 36 | BB | 29 | G | C4'-C3'-C2' | 6.98 | 109.58 | 102.60 |
| 2 | AB | 783 | A | C5-N7-C8 | 6.98 | 107.39 | 103.90 |
| 2 | AB | 999 | U | O4'-C1'-N1 | 6.98 | 113.78 | 108.20 |
| 2 | AB | 1322 | A | C2'-C3'-O3' | 6.98 | 124.87 | 113.70 |
| 2 | AB | 1834 | U | N3-C4-C5 | -6.98 | 110.41 | 114.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1839 | G | N7-C8-N9 | 6.98 | 116.59 | 113.10 |
| 2 | AB | 1869 | G | C4-C5-N7 | -6.98 | 108.01 | 110.80 |
| 35 | BA | 15 | G | N3-C4-N9 | 6.98 | 130.19 | 126.00 |
| 35 | BA | 689 | C | N3-C2-O2 | -6.98 | 117.01 | 121.90 |
| 35 | BA | 849 | G | C6-C5-N7 | 6.98 | 134.59 | 130.40 |
| 37 | BC | 52 | C | N3-C4-C5 | -6.98 | 119.11 | 121.90 |
| 2 | AB | 1360 | G | N9-C4-C5 | 6.98 | 108.19 | 105.40 |
| 2 | AB | 1654 | A | N3-C4-N9 | -6.98 | 121.82 | 127.40 |
| 2 | AB | 1849 | G | C6-N1-C2 | -6.98 | 120.91 | 125.10 |
| 2 | AB | 2420 | C | N3-C4-C5 | -6.98 | 119.11 | 121.90 |
| 35 | BA | 62 | U | C5-C4-O4 | -6.98 | 121.71 | 125.90 |
| 2 | AB | 968 | C | C2-N3-C4 | 6.98 | 123.39 | 119.90 |
| 2 | AB | 1359 | A | C1'-O4'-C4' | -6.98 | 104.32 | 109.90 |
| 2 | AB | 1891 | G | C5'-C4'-O4' | 6.98 | 117.47 | 109.10 |
| 2 | AB | 1937 | A | N9-C4-C5 | 6.98 | 108.59 | 105.80 |
| 2 | AB | 2506 | U | N3-C2-O2 | -6.98 | 117.32 | 122.20 |
| 2 | AB | 2904 | U | O4'-C1'-N1 | 6.98 | 113.78 | 108.20 |
| 35 | BA | 266 | G | C2-N3-C4 | 6.98 | 115.39 | 111.90 |
| 35 | BA | 670 | G | N1-C6-O6 | -6.98 | 115.71 | 119.90 |
| 35 | BA | 1242 | G | C6-N1-C2 | -6.98 | 120.91 | 125.10 |
| 47 | BM | 126 | ARG | NE-CZ-NH2 | -6.98 | 116.81 | 120.30 |
| 1 | AA | 66 | A | C4'-C3'-O3' | 6.98 | 126.95 | 113.00 |
| 2 | AB | 1685 | C | C1'-O4'-C4' | 6.98 | 115.48 | 109.90 |
| 2 | AB | 1950 | G | N7-C8-N9 | 6.98 | 116.59 | 113.10 |
| 2 | AB | 2153 | C | N3-C2-O2 | -6.98 | 117.02 | 121.90 |
| 35 | BA | 883 | C | N3-C2-O2 | -6.98 | 117.02 | 121.90 |
| 2 | AB | 55 | G | C8-N9-C1' | 6.97 | 136.07 | 127.00 |
| 2 | AB | 187 | G | C5-N7-C8 | -6.97 | 100.81 | 104.30 |
| 2 | AB | 344 | A | C3'-C2'-C1' | 6.97 | 107.08 | 101.50 |
| 2 | AB | 645 | C | N1-C1'-C2' | -6.97 | 104.33 | 112.00 |
| 2 | AB | 811 | U | O4'-C1'-N1 | 6.97 | 113.78 | 108.20 |
| 2 | AB | 1031 | G | C2-N3-C4 | 6.97 | 115.39 | 111.90 |
| 2 | AB | 2475 | C | C5'-C4'-O4' | 6.97 | 117.47 | 109.10 |
| 2 | AB | 2657 | A | N9-C1'-C2' | 6.97 | 123.07 | 114.00 |
| 2 | AB | 2722 | G | C4-C5-N7 | -6.97 | 108.01 | 110.80 |
| 2 | AB | 2776 | A | C4-C5-C6 | -6.97 | 113.51 | 117.00 |
| 3 | AC | 112 | ASP | CB-CG-OD1 | -6.97 | 112.02 | 118.30 |
| 29 | A2 | 49 | ARG | NE-CZ-NH1 | 6.97 | 123.79 | 120.30 |
| 35 | BA | 122 | G | C5-C6-N1 | 6.97 | 114.99 | 111.50 |
| 35 | BA | 776 | G | C4-C5-C6 | -6.97 | 114.61 | 118.80 |
| 35 | BA | 1387 | G | N3-C2-N2 | 6.97 | 124.78 | 119.90 |
| 37 | BC | 53 | G | C1'-O4'-C4' | -6.97 | 104.32 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | AA | 34 | A | C4'-C3'-O3' | 6.97 | 126.95 | 113.00 |
| 1 | AA | 36 | C | C6-N1-C2 | 6.97 | 123.09 | 120.30 |
| 2 | AB | 285 | G | N1-C6-O6 | -6.97 | 115.72 | 119.90 |
| 2 | AB | 589 | U | C4-C5-C6 | 6.97 | 123.88 | 119.70 |
| 2 | AB | 660 | C | C6-N1-C2 | -6.97 | 117.51 | 120.30 |
| 2 | AB | 1375 | U | C5-C6-N1 | -6.97 | 119.21 | 122.70 |
| 2 | AB | 2630 | G | N1-C2-N2 | 6.97 | 122.47 | 116.20 |
| 2 | AB | 2648 | G | O4'-C1'-N9 | 6.97 | 113.78 | 108.20 |
| 35 | BA | 470 | C | C5'-C4'-O4' | 6.97 | 117.47 | 109.10 |
| 35 | BA | 1288 | A | C4-C5-N7 | 6.97 | 114.19 | 110.70 |
| 42 | BH | 113 | ARG | NE-CZ-NH2 | 6.97 | 123.79 | 120.30 |
| 2 | AB | 2152 | G | N3-C4-N9 | 6.97 | 130.18 | 126.00 |
| 2 | AB | 2799 | A | N9-C4-C5 | -6.97 | 103.01 | 105.80 |
| 35 | BA | 230 | G | C5-C6-O6 | -6.97 | 124.42 | 128.60 |
| 35 | BA | 724 | G | O4'-C4'-C3' | 6.97 | 111.68 | 106.10 |
| 35 | BA | 1253 | G | N9-C1'-C2' | -6.97 | 104.33 | 112.00 |
| 1 | AA | 112 | G | N1-C6-O6 | -6.97 | 115.72 | 119.90 |
| 2 | AB | 157 | C | C2-N3-C4 | 6.97 | 123.39 | 119.90 |
| 2 | AB | 803 | U | C5-C6-N1 | -6.97 | 119.22 | 122.70 |
| 2 | AB | 2111 | U | P-O3'-C3' | 6.97 | 128.06 | 119.70 |
| 35 | BA | 98 | A | N7-C8-N9 | 6.97 | 117.28 | 113.80 |
| 35 | BA | 340 | U | N3-C2-O2 | -6.97 | 117.32 | 122.20 |
| 35 | BA | 1025 | U | N3-C4-C5 | -6.97 | 110.42 | 114.60 |
| 35 | BA | 1042 | A | C8-N9-C4 | -6.97 | 103.01 | 105.80 |
| 35 | BA | 1397 | C | N3-C2-O2 | -6.97 | 117.02 | 121.90 |
| 36 | BB | 59 | A | C5-N7-C8 | -6.97 | 100.42 | 103.90 |
| 57 | BW | 70 | TYR | CD1-CE1-CZ | 6.97 | 126.07 | 119.80 |
| 2 | AB | 802 | A | C4-C5-C6 | 6.97 | 120.48 | 117.00 |
| 2 | AB | 1621 | U | C4-C5-C6 | 6.97 | 123.88 | 119.70 |
| 2 | AB | 2761 | A | C8-N9-C4 | -6.97 | 103.01 | 105.80 |
| 2 | AB | 2852 | G | N1-C2-N2 | -6.97 | 109.93 | 116.20 |
| 2 | AB | 27 | G | C8-N9-C4 | -6.97 | 103.61 | 106.40 |
| 2 | AB | 510 | C | C3'-C2'-C1' | 6.97 | 107.07 | 101.50 |
| 2 | AB | 751 | A | N9-C4-C5 | -6.97 | 103.01 | 105.80 |
| 2 | AB | 2641 | G | N3-C4-C5 | -6.97 | 125.12 | 128.60 |
| 2 | AB | 2754 | U | O4'-C1'-N1 | 6.97 | 113.77 | 108.20 |
| 35 | BA | 562 | U | C3'-C2'-C1' | 6.97 | 107.07 | 101.50 |
| 35 | BA | 821 | G | C4-C5-C6 | 6.97 | 122.98 | 118.80 |
| 35 | BA | 956 | U | N1-C2-N3 | 6.97 | 119.08 | 114.90 |
| 35 | BA | 1414 | U | C5-C6-N1 | -6.97 | 119.22 | 122.70 |
| 2 | AB | 411 | G | C2-N3-C4 | 6.96 | 115.38 | 111.90 |
| 2 | AB | 986 | C | O4'-C1'-N1 | 6.96 | 113.77 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1650 | A | N7-C8-N9 | 6.96 | 117.28 | 113.80 |
| 2 | AB | 1992 | G | C4-C5-N7 | -6.96 | 108.01 | 110.80 |
| 2 | AB | 2216 | G | C5-C6-N1 | 6.96 | 114.98 | 111.50 |
| 2 | AB | 2452 | C | N3-C4-C5 | -6.96 | 119.11 | 121.90 |
| 2 | AB | 2616 | C | N3-C4-N4 | 6.96 | 122.88 | 118.00 |
| 19 | AS | 78 | PHE | CB-CG-CD2 | -6.96 | 115.92 | 120.80 |
| 35 | BA | 172 | A | N7-C8-N9 | 6.96 | 117.28 | 113.80 |
| 35 | BA | 289 | G | C4-C5-N7 | -6.96 | 108.01 | 110.80 |
| 35 | BA | 529 | G | C5-C6-O6 | 6.96 | 132.78 | 128.60 |
| 35 | BA | 630 | A | C5-N7-C8 | -6.96 | 100.42 | 103.90 |
| 35 | BA | 1070 | U | N1-C2-O2 | -6.96 | 117.92 | 122.80 |
| 36 | BB | 42 | U | C5-C4-O4 | -6.96 | 121.72 | 125.90 |
| 2 | AB | 88 | G | C5'-C4'-C3' | -6.96 | 104.86 | 116.00 |
| 2 | AB | 2634 | A | C8-N9-C4 | -6.96 | 103.02 | 105.80 |
| 35 | BA | 279 | A | P-O3'-C3' | 6.96 | 128.06 | 119.70 |
| 1 | AA | 62 | C | C3'-C2'-C1' | 6.96 | 107.07 | 101.50 |
| 2 | AB | 1829 | A | C4'-C3'-C2' | -6.96 | 95.64 | 102.60 |
| 2 | AB | 1840 | G | N3-C2-N2 | -6.96 | 115.03 | 119.90 |
| 2 | AB | 2365 | G | C6-C5-N7 | -6.96 | 126.22 | 130.40 |
| 2 | AB | 1566 | A | N7-C8-N9 | 6.96 | 117.28 | 113.80 |
| 35 | BA | 324 | G | C5-N7-C8 | -6.96 | 100.82 | 104.30 |
| 2 | AB | 358 | U | O4'-C1'-N1 | 6.96 | 113.77 | 108.20 |
| 2 | AB | 401 | A | O4'-C1'-N9 | 6.96 | 113.77 | 108.20 |
| 2 | AB | 843 | G | N9-C1'-C2' | -6.96 | 104.35 | 112.00 |
| 2 | AB | 1024 | G | C2-N3-C4 | -6.96 | 108.42 | 111.90 |
| 2 | AB | 1431 | A | O5'-P-OP2 | -6.96 | 99.44 | 105.70 |
| 2 | AB | 1735 | A | C6-N1-C2 | 6.96 | 122.78 | 118.60 |
| 2 | AB | 2100 | G | C5-C6-O6 | -6.96 | 124.42 | 128.60 |
| 2 | AB | 2297 | A | C4'-C3'-C2' | -6.96 | 95.64 | 102.60 |
| 2 | AB | 2302 | U | N1-C2-N3 | 6.96 | 119.08 | 114.90 |
| 2 | AB | 2416 | C | N3-C2-O2 | -6.96 | 117.03 | 121.90 |
| 2 | AB | 359 | G | N7-C8-N9 | 6.96 | 116.58 | 113.10 |
| 2 | AB | 410 | G | N3-C4-N9 | 6.96 | 130.17 | 126.00 |
| 2 | AB | 942 | G | C5-N7-C8 | 6.96 | 107.78 | 104.30 |
| 2 | AB | 1368 | G | N3-C4-C5 | -6.96 | 125.12 | 128.60 |
| 2 | AB | 1608 | A | C8-N9-C4 | 6.96 | 108.58 | 105.80 |
| 2 | AB | 1896 | G | C8-N9-C4 | 6.96 | 109.18 | 106.40 |
| 2 | AB | 2403 | C | C6-N1-C2 | 6.96 | 123.08 | 120.30 |
| 2 | AB | 2735 | G | O4'-C1'-N9 | 6.96 | 113.76 | 108.20 |
| 2 | AB | 2777 | G | N9-C4-C5 | -6.96 | 102.62 | 105.40 |
| 35 | BA | 402 | G | N3-C4-C5 | -6.96 | 125.12 | 128.60 |
| 35 | BA | 728 | A | N9-C4-C5 | 6.96 | 108.58 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 37 | BC | 23 | G | N3-C4-N9 | 6.96 | 130.17 | 126.00 |
| 2 | AB | 2612 | C | C1'-O4'-C4' | -6.96 | 104.34 | 109.90 |
| 35 | BA | 247 | G | C5'-C4'-O4' | 6.96 | 117.45 | 109.10 |
| 2 | AB | 266 | G | C4-C5-N7 | -6.95 | 108.02 | 110.80 |
| 2 | AB | 948 | C | C2-N3-C4 | 6.95 | 123.38 | 119.90 |
| 2 | AB | 1232 | G | N3-C2-N2 | 6.95 | 124.77 | 119.90 |
| 2 | AB | 1681 | G | C4'-C3'-C2' | 6.95 | 109.55 | 102.60 |
| 2 | AB | 1789 | A | N7-C8-N9 | 6.95 | 117.28 | 113.80 |
| 35 | BA | 129 | A | C5-C6-N1 | 6.95 | 121.18 | 117.70 |
| 35 | BA | 262 | A | N1-C6-N6 | -6.95 | 114.43 | 118.60 |
| 35 | BA | 451 | A | P-O3'-C3' | 6.95 | 128.04 | 119.70 |
| 35 | BA | 978 | A | C5'-C4'-O4' | 6.95 | 117.44 | 109.10 |
| 2 | AB | 1029 | A | C5-C6-N1 | -6.95 | 114.22 | 117.70 |
| 2 | AB | 1626 | A | C4-C5-N7 | 6.95 | 114.18 | 110.70 |
| 2 | AB | 2159 | G | N3-C4-C5 | -6.95 | 125.12 | 128.60 |
| 2 | AB | 2845 | U | N1-C1'-C2' | -6.95 | 104.35 | 112.00 |
| 1 | AA | 37 | C | O4'-C1'-N1 | 6.95 | 113.76 | 108.20 |
| 2 | AB | 303 | G | N3-C4-C5 | -6.95 | 125.12 | 128.60 |
| 2 | AB | 408 | G | N9-C4-C5 | -6.95 | 102.62 | 105.40 |
| 2 | AB | 807 | U | C3'-C2'-C1' | -6.95 | 95.94 | 101.50 |
| 2 | AB | 1051 | G | C8-N9-C4 | -6.95 | 103.62 | 106.40 |
| 2 | AB | 1165 | A | C4-C5-N7 | 6.95 | 114.17 | 110.70 |
| 2 | AB | 1449 | G | C4-C5-N7 | 6.95 | 113.58 | 110.80 |
| 2 | AB | 1936 | A | C4-C5-N7 | 6.95 | 114.17 | 110.70 |
| 2 | AB | 2187 | U | C6-N1-C2 | -6.95 | 116.83 | 121.00 |
| 35 | BA | 124 | C | C5-C6-N1 | 6.95 | 124.47 | 121.00 |
| 35 | BA | 604 | G | O4'-C1'-N9 | 6.95 | 113.76 | 108.20 |
| 35 | BA | 937 | A | O4'-C1'-N9 | 6.95 | 113.76 | 108.20 |
| 35 | BA | 1177 | G | O4'-C1'-N9 | 6.95 | 113.76 | 108.20 |
| 35 | BA | 1248 | A | C5-N7-C8 | 6.95 | 107.38 | 103.90 |
| 35 | BA | 1336 | C | C5-C6-N1 | -6.95 | 117.53 | 121.00 |
| 35 | BA | 1406 | U | C3'-C2'-C1' | 6.95 | 107.06 | 101.50 |
| 2 | AB | 706 | A | P-O3'-C3' | 6.95 | 128.04 | 119.70 |
| 2 | AB | 1867 | G | C4-C5-N7 | -6.95 | 108.02 | 110.80 |
| 2 | AB | 2006 | C | C2-N1-C1' | -6.95 | 111.16 | 118.80 |
| 2 | AB | 2146 | C | C6-N1-C2 | -6.95 | 117.52 | 120.30 |
| 2 | AB | 2351 | G | N3-C4-N9 | 6.95 | 130.17 | 126.00 |
| 35 | BA | 1036 | A | C4-C5-N7 | 6.95 | 114.17 | 110.70 |
| 37 | BC | 49 | C | C5'-C4'-C3' | -6.95 | 104.88 | 116.00 |
| 2 | AB | 2385 | C | O4'-C4'-C3' | -6.95 | 97.05 | 104.00 |
| 35 | BA | 190 | A | C5-C6-N6 | 6.95 | 129.26 | 123.70 |
| 2 | AB | 563 | A | C1'-O4'-C4' | -6.95 | 104.34 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 587 | C | N1-C2-O2 | 6.95 | 123.07 | 118.90 |
| 2 | AB | 592 | A | O4'-C4'-C3' | 6.95 | 111.66 | 106.10 |
| 2 | AB | 858 | G | N3-C2-N2 | -6.95 | 115.04 | 119.90 |
| 2 | AB | 1522 | A | C6-N1-C2 | 6.95 | 122.77 | 118.60 |
| 2 | AB | 1632 | A | C4-C5-N7 | -6.95 | 107.23 | 110.70 |
| 2 | AB | 2058 | A | N7-C8-N9 | 6.95 | 117.27 | 113.80 |
| 15 | AO | 66 | ARG | NE-CZ-NH1 | 6.95 | 123.77 | 120.30 |
| 35 | BA | 152 | A | C4-C5-C6 | -6.95 | 113.53 | 117.00 |
| 35 | BA | 751 | U | N1-C2-N3 | 6.95 | 119.07 | 114.90 |
| 35 | BA | 1154 | G | C8-N9-C4 | -6.95 | 103.62 | 106.40 |
| 35 | BA | 1210 | C | N1-C1'-C2' | -6.95 | 104.36 | 112.00 |
| 37 | BC | 29 | C | C4-C5-C6 | 6.95 | 120.87 | 117.40 |
| 2 | AB | 1129 | A | N1-C2-N3 | -6.94 | 125.83 | 129.30 |
| 2 | AB | 1342 | A | P-O3'-C3' | 6.94 | 128.03 | 119.70 |
| 2 | AB | 2077 | A | N9-C4-C5 | -6.94 | 103.02 | 105.80 |
| 2 | AB | 2412 | A | N7-C8-N9 | 6.94 | 117.27 | 113.80 |
| 15 | AO | 68 | PHE | CB-CG-CD2 | -6.94 | 115.94 | 120.80 |
| 35 | BA | 1540 | U | C5-C6-N1 | -6.94 | 119.23 | 122.70 |
| 1 | AA | 56 | G | C4-C5-N7 | -6.94 | 108.02 | 110.80 |
| 2 | AB | 360 | U | C2-N3-C4 | -6.94 | 122.83 | 127.00 |
| 2 | AB | 523 | C | N3-C4-C5 | -6.94 | 119.12 | 121.90 |
| 2 | AB | 766 | U | C6-N1-C2 | -6.94 | 116.83 | 121.00 |
| 2 | AB | 1242 | U | N3-C4-C5 | -6.94 | 110.43 | 114.60 |
| 2 | AB | 1324 | G | C5-C6-N1 | 6.94 | 114.97 | 111.50 |
| 2 | AB | 1355 | G | N9-C4-C5 | 6.94 | 108.18 | 105.40 |
| 2 | AB | 2870 | C | C5'-C4'-O4' | 6.94 | 117.43 | 109.10 |
| 35 | BA | 116 | A | C5-C6-N1 | 6.94 | 121.17 | 117.70 |
| 35 | BA | 212 | G | N3-C4-C5 | -6.94 | 125.13 | 128.60 |
| 35 | BA | 1096 | C | N3-C4-N4 | 6.94 | 122.86 | 118.00 |
| 35 | BA | 1102 | A | C8-N9-C4 | -6.94 | 103.02 | 105.80 |
| 50 | BP | 8 | ARG | NE-CZ-NH1 | 6.94 | 123.77 | 120.30 |
| 1 | AA | 14 | U | C3'-C2'-C1' | 6.94 | 107.05 | 101.50 |
| 2 | AB | 331 | C | C1'-O4'-C4' | -6.94 | 104.35 | 109.90 |
| 2 | AB | 721 | A | O4'-C1'-C2' | -6.94 | 98.86 | 105.80 |
| 2 | AB | 882 | G | C5-C6-O6 | -6.94 | 124.44 | 128.60 |
| 2 | AB | 1266 | G | C2-N3-C4 | 6.94 | 115.37 | 111.90 |
| 2 | AB | 1779 | U | C5-C4-O4 | -6.94 | 121.74 | 125.90 |
| 2 | AB | 1882 | U | C5'-C4'-O4' | 6.94 | 117.43 | 109.10 |
| 2 | AB | 2021 | C | C2-N3-C4 | 6.94 | 123.37 | 119.90 |
| 2 | AB | 2038 | G | C6-C5-N7 | -6.94 | 126.24 | 130.40 |
| 2 | AB | 2103 | C | N1-C1'-C2' | -6.94 | 104.36 | 112.00 |
| 2 | AB | 2171 | A | C6-C5-N7 | -6.94 | 127.44 | 132.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2362 | C | C5-C6-N1 | 6.94 | 124.47 | 121.00 |
| 2 | AB | 2508 | G | C4-C5-N7 | -6.94 | 108.02 | 110.80 |
| 5 | AE | 118 | PHE | CB-CG-CD2 | 6.94 | 125.66 | 120.80 |
| 35 | BA | 310 | G | C5-C6-O6 | -6.94 | 124.44 | 128.60 |
| 35 | BA | 820 | U | N3-C4-O4 | 6.94 | 124.26 | 119.40 |
| 35 | BA | 1300 | G | C5-C6-N1 | -6.94 | 108.03 | 111.50 |
| 35 | BA | 1487 | G | N1-C2-N3 | -6.94 | 119.74 | 123.90 |
| 40 | BF | 64 | TYR | CG-CD2-CE2 | 6.94 | 126.85 | 121.30 |
| 2 | AB | 2181 | U | C3'-C2'-C1' | -6.94 | 95.95 | 101.50 |
| 35 | BA | 124 | C | C5'-C4'-O4' | 6.94 | 117.43 | 109.10 |
| 47 | BM | 105 | ARG | NE-CZ-NH1 | 6.94 | 123.77 | 120.30 |
| 2 | AB | 229 | C | C3'-C2'-C1' | -6.94 | 95.95 | 101.50 |
| 2 | AB | 411 | G | C4-C5-N7 | 6.94 | 113.58 | 110.80 |
| 2 | AB | 532 | A | C5-C6-N6 | -6.94 | 118.15 | 123.70 |
| 2 | AB | 599 | A | C5-C6-N1 | 6.94 | 121.17 | 117.70 |
| 2 | AB | 1055 | G | C5-N7-C8 | 6.94 | 107.77 | 104.30 |
| 2 | AB | 1729 | U | C6-N1-C2 | -6.94 | 116.84 | 121.00 |
| 2 | AB | 2330 | G | N7-C8-N9 | 6.94 | 116.57 | 113.10 |
| 2 | AB | 2664 | G | N1-C6-O6 | -6.94 | 115.74 | 119.90 |
| 2 | AB | 2760 | C | C5-C6-N1 | 6.94 | 124.47 | 121.00 |
| 35 | BA | 282 | A | O4'-C1'-C2' | -6.94 | 98.86 | 105.80 |
| 35 | BA | 378 | G | C5-C6-O6 | -6.94 | 124.44 | 128.60 |
| 35 | BA | 925 | G | N3-C4-N9 | 6.94 | 130.16 | 126.00 |
| 35 | BA | 1215 | G | N9-C1'-C2' | -6.94 | 104.37 | 112.00 |
| 35 | BA | 1316 | G | N1-C6-O6 | 6.94 | 124.06 | 119.90 |
| 40 | BF | 164 | ARG | NE-CZ-NH2 | -6.94 | 116.83 | 120.30 |
| 2 | AB | 2231 | U | C5-C4-O4 | -6.94 | 121.74 | 125.90 |
| 11 | AK | 133 | ARG | NE-CZ-NH1 | 6.94 | 123.77 | 120.30 |
| 35 | BA | 376 | G | N3-C2-N2 | -6.94 | 115.05 | 119.90 |
| 2 | AB | 327 | G | C2-N3-C4 | 6.93 | 115.37 | 111.90 |
| 2 | AB | 663 | G | C4'-C3'-C2' | -6.93 | 95.67 | 102.60 |
| 2 | AB | 1213 | A | C4-C5-C6 | -6.93 | 113.53 | 117.00 |
| 2 | AB | 1642 | G | N3-C4-C5 | -6.93 | 125.13 | 128.60 |
| 2 | AB | 2697 | G | N3-C2-N2 | -6.93 | 115.05 | 119.90 |
| 2 | AB | 2827 | C | C4-C5-C6 | 6.93 | 120.87 | 117.40 |
| 35 | BA | 192 | A | N9-C1'-C2' | -6.93 | 104.37 | 112.00 |
| 35 | BA | 606 | G | O4'-C1'-C2' | 6.93 | 113.84 | 107.60 |
| 37 | BC | 22 | A | C8-N9-C4 | 6.93 | 108.57 | 105.80 |
| 2 | AB | 690 | G | C8-N9-C4 | -6.93 | 103.63 | 106.40 |
| 2 | AB | 718 | A | C5-N7-C8 | -6.93 | 100.43 | 103.90 |
| 2 | AB | 907 | G | O4'-C1'-C2' | 6.93 | 113.84 | 107.60 |
| 2 | AB | 1070 | A | C5-C6-N6 | -6.93 | 118.15 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1477 | A | N1-C2-N3 | 6.93 | 132.77 | 129.30 |
| 2 | AB | 2886 | A | C1'-O4'-C4' | -6.93 | 104.35 | 109.90 |
| 2 | AB | 2903 | U | N1-C2-O2 | 6.93 | 127.65 | 122.80 |
| 35 | BA | 119 | A | N9-C4-C5 | -6.93 | 103.03 | 105.80 |
| 35 | BA | 183 | C | N3-C4-C5 | -6.93 | 119.13 | 121.90 |
| 35 | BA | 604 | G | C3'-C2'-C1' | 6.93 | 107.05 | 101.50 |
| 35 | BA | 728 | A | C8-N9-C4 | -6.93 | 103.03 | 105.80 |
| 35 | BA | 914 | A | C3'-C2'-C1' | 6.93 | 107.05 | 101.50 |
| 35 | BA | 1110 | A | N1-C6-N6 | -6.93 | 114.44 | 118.60 |
| 2 | AB | 576 | U | N3-C4-O4 | 6.93 | 124.25 | 119.40 |
| 2 | AB | 696 | G | C4-C5-N7 | -6.93 | 108.03 | 110.80 |
| 2 | AB | 1459 | G | C2-N3-C4 | 6.93 | 115.36 | 111.90 |
| 2 | AB | 1606 | C | C6-N1-C2 | 6.93 | 123.07 | 120.30 |
| 2 | AB | 28 | A | N1-C2-N3 | -6.93 | 125.83 | 129.30 |
| 2 | AB | 442 | G | N3-C4-C5 | -6.93 | 125.14 | 128.60 |
| 2 | AB | 720 | U | C4-C5-C6 | 6.93 | 123.86 | 119.70 |
| 2 | AB | 1526 | C | N3-C4-N4 | -6.93 | 113.15 | 118.00 |
| 2 | AB | 2476 | A | C2-N3-C4 | 6.93 | 114.06 | 110.60 |
| 35 | BA | 164 | G | C6-N1-C2 | -6.93 | 120.94 | 125.10 |
| 35 | BA | 371 | A | C2-N3-C4 | 6.93 | 114.06 | 110.60 |
| 35 | BA | 714 | G | N3-C4-N9 | 6.93 | 130.16 | 126.00 |
| 35 | BA | 1504 | G | C5-C6-O6 | -6.93 | 124.44 | 128.60 |
| 1 | AA | 66 | A | P-O3'-C3' | 6.93 | 128.01 | 119.70 |
| 2 | AB | 700 | G | N3-C4-C5 | -6.93 | 125.14 | 128.60 |
| 2 | AB | 1853 | A | N1-C2-N3 | -6.93 | 125.84 | 129.30 |
| 2 | AB | 2368 | C | C5'-C4'-O4' | 6.93 | 117.41 | 109.10 |
| 35 | BA | 1258 | G | C5-N7-C8 | -6.93 | 100.84 | 104.30 |
| 2 | AB | 368 | A | C4-C5-C6 | 6.93 | 120.46 | 117.00 |
| 2 | AB | 519 | U | C3'-C2'-C1' | 6.93 | 107.04 | 101.50 |
| 2 | AB | 1418 | G | N1-C6-O6 | -6.93 | 115.74 | 119.90 |
| 2 | AB | 2019 | A | N1-C2-N3 | -6.93 | 125.84 | 129.30 |
| 2 | AB | 2386 | A | C5'-C4'-O4' | 6.93 | 117.41 | 109.10 |
| 2 | AB | 2602 | A | O4'-C1'-N9 | -6.93 | 102.66 | 108.20 |
| 2 | AB | 2673 | G | C6-C5-N7 | 6.93 | 134.56 | 130.40 |
| 35 | BA | 246 | A | N1-C6-N6 | 6.93 | 122.76 | 118.60 |
| 35 | BA | 750 | C | N1-C1'-C2' | -6.93 | 104.38 | 112.00 |
| 35 | BA | 844 | G | N7-C8-N9 | 6.93 | 116.56 | 113.10 |
| 35 | BA | 864 | A | O4'-C4'-C3' | 6.93 | 111.64 | 106.10 |
| 35 | BA | 865 | A | C5-C6-N1 | -6.93 | 114.24 | 117.70 |
| 35 | BA | 1468 | A | N9-C1'-C2' | -6.93 | 104.38 | 112.00 |
| 2 | AB | 313 | G | C4-C5-C6 | 6.92 | 122.95 | 118.80 |
| 2 | AB | 852 | U | C6-N1-C2 | -6.92 | 116.84 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1753 | G | C5'-C4'-O4' | 6.92 | 117.41 | 109.10 |
| 2 | AB | 1916 | A | N9-C4-C5 | -6.92 | 103.03 | 105.80 |
| 2 | AB | 2526 | G | N9-C4-C5 | 6.92 | 108.17 | 105.40 |
| 2 | AB | 2656 | U | C1'-O4'-C4' | -6.92 | 104.36 | 109.90 |
| 35 | BA | 327 | A | C6-C5-N7 | -6.92 | 127.45 | 132.30 |
| 37 | BC | 44 | A | C2-N3-C4 | -6.92 | 107.14 | 110.60 |
| 2 | AB | 1091 | G | N7-C8-N9 | 6.92 | 116.56 | 113.10 |
| 2 | AB | 1127 | A | C4-C5-N7 | -6.92 | 107.24 | 110.70 |
| 2 | AB | 1210 | G | C4-C5-C6 | -6.92 | 114.65 | 118.80 |
| 2 | AB | 2635 | A | C8-N9-C4 | -6.92 | 103.03 | 105.80 |
| 5 | AE | 13 | ARG | NE-CZ-NH1 | -6.92 | 116.84 | 120.30 |
| 27 | A0 | 33 | ALA | N-CA-CB | -6.92 | 100.41 | 110.10 |
| 35 | BA | 430 | A | C5'-C4'-O4' | 6.92 | 117.41 | 109.10 |
| 35 | BA | 1043 | G | C6-C5-N7 | -6.92 | 126.25 | 130.40 |
| 2 | AB | 105 | C | C6-N1-C2 | -6.92 | 117.53 | 120.30 |
| 2 | AB | 127 | A | P-O3'-C3' | 6.92 | 128.01 | 119.70 |
| 2 | AB | 376 | G | C2-N3-C4 | 6.92 | 115.36 | 111.90 |
| 2 | AB | 425 | G | C5-C6-N1 | -6.92 | 108.04 | 111.50 |
| 2 | AB | 450 | G | C4-C5-N7 | -6.92 | 108.03 | 110.80 |
| 2 | AB | 640 | C | N3-C4-C5 | -6.92 | 119.13 | 121.90 |
| 2 | AB | 932 | U | C2-N1-C1' | 6.92 | 126.00 | 117.70 |
| 2 | AB | 1056 | G | C5-N7-C8 | -6.92 | 100.84 | 104.30 |
| 2 | AB | 1581 | G | C4-C5-C6 | 6.92 | 122.95 | 118.80 |
| 2 | AB | 2216 | G | N3-C2-N2 | 6.92 | 124.75 | 119.90 |
| 2 | AB | 2350 | C | O4'-C1'-N1 | 6.92 | 113.74 | 108.20 |
| 2 | AB | 2481 | G | C4-C5-N7 | -6.92 | 108.03 | 110.80 |
| 35 | BA | 261 | U | N1-C1'-C2' | -6.92 | 104.39 | 112.00 |
| 35 | BA | 338 | A | N1-C2-N3 | -6.92 | 125.84 | 129.30 |
| 35 | BA | 435 | A | N1-C6-N6 | -6.92 | 114.45 | 118.60 |
| 35 | BA | 803 | G | P-O3'-C3' | 6.92 | 128.01 | 119.70 |
| 2 | AB | 750 | A | N9-C4-C5 | -6.92 | 103.03 | 105.80 |
| 2 | AB | 1345 | C | C5-C4-N4 | -6.92 | 115.36 | 120.20 |
| 2 | AB | 1418 | G | N3-C4-N9 | 6.92 | 130.15 | 126.00 |
| 2 | AB | 2719 | G | O4'-C1'-N9 | -6.92 | 102.66 | 108.20 |
| 2 | AB | 2886 | A | N1-C6-N6 | -6.92 | 114.45 | 118.60 |
| 35 | BA | 422 | C | N3-C4-N4 | -6.92 | 113.16 | 118.00 |
| 35 | BA | 596 | A | N7-C8-N9 | 6.92 | 117.26 | 113.80 |
| 49 | BO | 22 | TYR | CG-CD1-CE1 | -6.92 | 115.76 | 121.30 |
| 2 | AB | 70 | G | N1-C2-N3 | -6.92 | 119.75 | 123.90 |
| 2 | AB | 70 | G | N9-C1'-C2' | -6.92 | 104.39 | 112.00 |
| 2 | AB | 85 | G | C4-C5-C6 | 6.92 | 122.95 | 118.80 |
| 2 | AB | 706 | A | C8-N9-C4 | -6.92 | 103.03 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 891 | G | C8-N9-C4 | -6.92 | 103.63 | 106.40 |
| 2 | AB | 1021 | A | C3'-C2'-C1' | -6.92 | 95.97 | 101.50 |
| 2 | AB | 2102 | G | C5-C6-N1 | 6.92 | 114.96 | 111.50 |
| 2 | AB | 2255 | G | N1-C6-O6 | -6.92 | 115.75 | 119.90 |
| 2 | AB | 2462 | C | N3-C4-C5 | 6.92 | 124.67 | 121.90 |
| 2 | AB | 2800 | A | N9-C1'-C2' | -6.92 | 104.39 | 112.00 |
| 7 | AG | 147 | ARG | NE-CZ-NH1 | 6.92 | 123.76 | 120.30 |
| 35 | BA | 64 | G | N9-C4-C5 | 6.92 | 108.17 | 105.40 |
| 40 | BF | 46 | ARG | NE-CZ-NH2 | -6.92 | 116.84 | 120.30 |
| 2 | AB | 173 | A | C4-C5-C6 | -6.92 | 113.54 | 117.00 |
| 2 | AB | 553 | G | C3'-C2'-C1' | -6.92 | 95.97 | 101.50 |
| 2 | AB | 721 | A | N7-C8-N9 | 6.92 | 117.26 | 113.80 |
| 2 | AB | 1370 | C | N1-C2-O2 | 6.92 | 123.05 | 118.90 |
| 2 | AB | 1434 | A | C6-N1-C2 | -6.92 | 114.45 | 118.60 |
| 2 | AB | 1958 | C | N3-C4-C5 | -6.92 | 119.13 | 121.90 |
| 2 | AB | 2395 | C | C5-C4-N4 | -6.92 | 115.36 | 120.20 |
| 2 | AB | 2826 | A | C8-N9-C4 | -6.92 | 103.03 | 105.80 |
| 35 | BA | 150 | U | N3-C2-O2 | -6.92 | 117.36 | 122.20 |
| 35 | BA | 934 | C | N1-C1'-C2' | 6.92 | 122.99 | 114.00 |
| 36 | BB | 39 | U | O4'-C1'-N1 | 6.92 | 113.73 | 108.20 |
| 48 | BN | 102 | ASP | CB-CG-OD2 | 6.92 | 124.53 | 118.30 |
| 49 | BO | 97 | ARG | NE-CZ-NH2 | -6.92 | 116.84 | 120.30 |
| 2 | AB | 14 | A | O4'-C1'-N9 | 6.92 | 113.73 | 108.20 |
| 2 | AB | 1173 | U | C5-C4-O4 | 6.92 | 130.05 | 125.90 |
| 2 | AB | 1777 | U | N3-C2-O2 | -6.92 | 117.36 | 122.20 |
| 2 | AB | 2443 | C | O4'-C1'-N1 | 6.92 | 113.73 | 108.20 |
| 35 | BA | 1426 | G | C4-C5-C6 | 6.92 | 122.95 | 118.80 |
| 2 | AB | 301 | G | C2-N3-C4 | 6.91 | 115.36 | 111.90 |
| 2 | AB | 316 | C | N1-C2-O2 | 6.91 | 123.05 | 118.90 |
| 2 | AB | 471 | A | C4-C5-C6 | -6.91 | 113.54 | 117.00 |
| 2 | AB | 689 | A | C5-N7-C8 | -6.91 | 100.44 | 103.90 |
| 2 | AB | 1072 | C | N1-C1'-C2' | -6.91 | 104.40 | 112.00 |
| 2 | AB | 1079 | C | C4-C5-C6 | -6.91 | 113.94 | 117.40 |
| 2 | AB | 1452 | G | C8-N9-C4 | -6.91 | 103.63 | 106.40 |
| 2 | AB | 1506 | U | C4-C5-C6 | 6.91 | 123.85 | 119.70 |
| 2 | AB | 1742 | U | N1-C2-O2 | 6.91 | 127.64 | 122.80 |
| 2 | AB | 1928 | A | C5-C6-N6 | 6.91 | 129.23 | 123.70 |
| 2 | AB | 2674 | G | C1'-O4'-C4' | -6.91 | 104.37 | 109.90 |
| 2 | AB | 2756 | U | C5-C4-O4 | -6.91 | 121.75 | 125.90 |
| 35 | BA | 60 | A | C8-N9-C4 | -6.91 | 103.03 | 105.80 |
| 35 | BA | 174 | A | C5-C6-N6 | 6.91 | 129.23 | 123.70 |
| 35 | BA | 800 | G | C4'-C3'-C2' | -6.91 | 95.69 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 955 | U | C2-N3-C4 | -6.91 | 122.85 | 127.00 |
| 35 | BA | 1144 | G | N3-C4-C5 | -6.91 | 125.14 | 128.60 |
| 35 | BA | 1155 | A | C5'-C4'-C3' | -6.91 | 104.94 | 116.00 |
| 2 | AB | 224 | U | C5-C6-N1 | -6.91 | 119.24 | 122.70 |
| 2 | AB | 286 | U | C1'-O4'-C4' | 6.91 | 115.43 | 109.90 |
| 2 | AB | 752 | A | C5-C6-N6 | 6.91 | 129.23 | 123.70 |
| 2 | AB | 1607 | C | N1-C2-O2 | 6.91 | 123.05 | 118.90 |
| 2 | AB | 1810 | A | C4-C5-C6 | -6.91 | 113.54 | 117.00 |
| 35 | BA | 1023 | U | C2-N3-C4 | -6.91 | 122.85 | 127.00 |
| 35 | BA | 1032 | G | N1-C6-O6 | -6.91 | 115.75 | 119.90 |
| 36 | BB | 13 | A | C5-N7-C8 | 6.91 | 107.36 | 103.90 |
| 2 | AB | 131 | A | C4-C5-C6 | -6.91 | 113.55 | 117.00 |
| 35 | BA | 776 | G | N1-C6-O6 | -6.91 | 115.75 | 119.90 |
| 35 | BA | 813 | U | C4-C5-C6 | 6.91 | 123.85 | 119.70 |
| 46 | BL | 5 | ARG | CA-CB-CG | 6.91 | 128.60 | 113.40 |
| 2 | AB | 582 | A | O4'-C1'-N9 | 6.91 | 113.73 | 108.20 |
| 2 | AB | 784 | G | C5-C6-O6 | -6.91 | 124.45 | 128.60 |
| 2 | AB | 1191 | G | C6-C5-N7 | -6.91 | 126.25 | 130.40 |
| 2 | AB | 1416 | G | P-O3'-C3' | 6.91 | 127.99 | 119.70 |
| 2 | AB | 2468 | A | C6-N1-C2 | -6.91 | 114.45 | 118.60 |
| 2 | AB | 2738 | A | N3-C4-C5 | -6.91 | 121.96 | 126.80 |
| 35 | BA | 27 | G | N1-C2-N2 | 6.91 | 122.42 | 116.20 |
| 35 | BA | 111 | G | C5-N7-C8 | 6.91 | 107.75 | 104.30 |
| 35 | BA | 155 | A | N7-C8-N9 | -6.91 | 110.35 | 113.80 |
| 35 | BA | 653 | U | P-O3'-C3' | 6.91 | 127.99 | 119.70 |
| 35 | BA | 1285 | A | N7-C8-N9 | 6.91 | 117.25 | 113.80 |
| 35 | BA | 1440 | U | C2-N3-C4 | -6.91 | 122.86 | 127.00 |
| 2 | AB | 694 | U | N3-C2-O2 | -6.91 | 117.36 | 122.20 |
| 2 | AB | 1042 | G | N1-C2-N2 | 6.91 | 122.42 | 116.20 |
| 2 | AB | 1424 | G | N3-C4-C5 | -6.91 | 125.15 | 128.60 |
| 35 | BA | 536 | C | N3-C4-N4 | -6.91 | 113.17 | 118.00 |
| 2 | AB | 192 | C | N3-C2-O2 | -6.91 | 117.07 | 121.90 |
| 2 | AB | 299 | A | P-O3'-C3' | 6.91 | 127.99 | 119.70 |
| 2 | AB | 1010 | A | N7-C8-N9 | 6.91 | 117.25 | 113.80 |
| 2 | AB | 1549 | A | C3'-C2'-C1' | -6.91 | 95.98 | 101.50 |
| 2 | AB | 2453 | A | C4-C5-C6 | -6.91 | 113.55 | 117.00 |
| 2 | AB | 2475 | C | N1-C2-O2 | 6.91 | 123.04 | 118.90 |
| 2 | AB | 2720 | U | C5-C6-N1 | -6.91 | 119.25 | 122.70 |
| 36 | BB | 22 | G | N7-C8-N9 | 6.91 | 116.55 | 113.10 |
| 2 | AB | 1366 | A | C5-C6-N6 | -6.90 | 118.18 | 123.70 |
| 2 | AB | 2392 | A | N1-C2-N3 | -6.90 | 125.85 | 129.30 |
| 2 | AB | 2747 | G | N1-C6-O6 | 6.90 | 124.04 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2822 | G | C8-N9-C4 | -6.90 | 103.64 | 106.40 |
| 35 | BA | 710 | G | C6-N1-C2 | -6.90 | 120.96 | 125.10 |
| 2 | AB | 1420 | A | O4'-C1'-N9 | 6.90 | 113.72 | 108.20 |
| 2 | AB | 1680 | U | O4'-C1'-N1 | 6.90 | 113.72 | 108.20 |
| 2 | AB | 2283 | C | C3'-C2'-C1' | -6.90 | 95.98 | 101.50 |
| 2 | AB | 2520 | C | C3'-C2'-C1' | -6.90 | 95.98 | 101.50 |
| 35 | BA | 1066 | C | C5-C6-N1 | 6.90 | 124.45 | 121.00 |
| 35 | BA | 1190 | G | N3-C4-N9 | 6.90 | 130.14 | 126.00 |
| 35 | BA | 1473 | G | C5'-C4'-C3' | -6.90 | 104.96 | 116.00 |
| 46 | BL | 45 | ARG | NE-CZ-NH2 | -6.90 | 116.85 | 120.30 |
| 2 | AB | 83 | A | N1-C2-N3 | 6.90 | 132.75 | 129.30 |
| 2 | AB | 163 | C | N3-C4-C5 | -6.90 | 119.14 | 121.90 |
| 2 | AB | 1367 | A | N1-C2-N3 | -6.90 | 125.85 | 129.30 |
| 2 | AB | 2148 | G | N3-C4-C5 | -6.90 | 125.15 | 128.60 |
| 2 | AB | 2206 | C | C2-N3-C4 | -6.90 | 116.45 | 119.90 |
| 2 | AB | 2650 | U | N3-C4-C5 | 6.90 | 118.74 | 114.60 |
| 35 | BA | 568 | G | C5-C6-O6 | -6.90 | 124.46 | 128.60 |
| 35 | BA | 843 | U | P-O3'-C3' | 6.90 | 127.98 | 119.70 |
| 35 | BA | 1005 | A | C4'-C3'-C2' | -6.90 | 95.70 | 102.60 |
| 43 | BI | 150 | PHE | CB-CG-CD1 | -6.90 | 115.97 | 120.80 |
| 35 | BA | 779 | C | C4-C5-C6 | -6.90 | 113.95 | 117.40 |
| 35 | BA | 788 | U | C4-C5-C6 | 6.90 | 123.84 | 119.70 |
| 35 | BA | 1244 | G | C1'-O4'-C4' | -6.90 | 104.38 | 109.90 |
| 2 | AB | 36 | G | C5'-C4'-O4' | 6.90 | 117.38 | 109.10 |
| 2 | AB | 504 | A | C1'-O4'-C4' | 6.90 | 115.42 | 109.90 |
| 2 | AB | 534 | U | N3-C4-O4 | 6.90 | 124.23 | 119.40 |
| 2 | AB | 2564 | A | C3'-C2'-C1' | -6.90 | 95.98 | 101.50 |
| 35 | BA | 404 | G | N9-C1'-C2' | -6.90 | 104.41 | 112.00 |
| 35 | BA | 836 | G | C1'-O4'-C4' | 6.90 | 115.42 | 109.90 |
| 35 | BA | 1490 | U | C1'-O4'-C4' | -6.90 | 104.38 | 109.90 |
| 2 | AB | 697 | G | C6-C5-N7 | -6.90 | 126.26 | 130.40 |
| 2 | AB | 2743 | U | C5-C6-N1 | -6.90 | 119.25 | 122.70 |
| 35 | BA | 1411 | C | C4'-C3'-C2' | -6.90 | 95.70 | 102.60 |
| 2 | AB | 52 | A | C8-N9-C4 | 6.89 | 108.56 | 105.80 |
| 2 | AB | 233 | A | C4-C5-C6 | 6.89 | 120.45 | 117.00 |
| 2 | AB | 543 | G | N3-C2-N2 | -6.89 | 115.07 | 119.90 |
| 2 | AB | 692 | C | C2-N3-C4 | 6.89 | 123.35 | 119.90 |
| 2 | AB | 1275 | A | C4-C5-N7 | 6.89 | 114.15 | 110.70 |
| 2 | AB | 2156 | G | C5-C6-N1 | 6.89 | 114.95 | 111.50 |
| 35 | BA | 240 | G | C6-N1-C2 | -6.89 | 120.96 | 125.10 |
| 35 | BA | 1014 | A | C6-N1-C2 | 6.89 | 122.74 | 118.60 |
| 35 | BA | 1272 | G | N7-C8-N9 | 6.89 | 116.55 | 113.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1446 | A | C5-C6-N1 | 6.89 | 121.15 | 117.70 |
| 2 | AB | 53 | A | N1-C2-N3 | -6.89 | 125.85 | 129.30 |
| 2 | AB | 997 | G | C1'-O4'-C4' | -6.89 | 104.39 | 109.90 |
| 2 | AB | 1529 | G | C6-N1-C2 | -6.89 | 120.97 | 125.10 |
| 2 | AB | 1535 | A | N9-C1'-C2' | -6.89 | 104.42 | 112.00 |
| 2 | AB | 1706 | C | C6-N1-C2 | 6.89 | 123.06 | 120.30 |
| 2 | AB | 2020 | A | C5-C6-N1 | 6.89 | 121.15 | 117.70 |
| 35 | BA | 124 | C | N3-C4-C5 | 6.89 | 124.66 | 121.90 |
| 35 | BA | 666 | G | C6-N1-C2 | -6.89 | 120.96 | 125.10 |
| 35 | BA | 1410 | A | C4-C5-N7 | 6.89 | 114.15 | 110.70 |
| 36 | BB | 43 | U | C2'-C3'-O3' | 6.89 | 124.73 | 113.70 |
| 2 | AB | 114 | U | C2'-C3'-O3' | 6.89 | 124.72 | 113.70 |
| 2 | AB | 427 | U | C4'-C3'-C2' | -6.89 | 95.71 | 102.60 |
| 2 | AB | 2274 | A | N9-C4-C5 | 6.89 | 108.56 | 105.80 |
| 2 | AB | 53 | A | C5-N7-C8 | -6.89 | 100.46 | 103.90 |
| 2 | AB | 128 | C | N1-C2-N3 | 6.89 | 124.02 | 119.20 |
| 2 | AB | 820 | A | O4'-C1'-N9 | 6.89 | 113.71 | 108.20 |
| 35 | BA | 608 | A | P-O3'-C3' | 6.89 | 127.97 | 119.70 |
| 35 | BA | 1272 | G | N1-C2-N2 | -6.89 | 110.00 | 116.20 |
| 35 | BA | 1386 | G | N3-C4-C5 | -6.89 | 125.16 | 128.60 |
| 35 | BA | 1448 | C | O4'-C4'-C3' | 6.89 | 111.61 | 106.10 |
| 35 | BA | 42 | G | C5-C6-O6 | 6.89 | 132.73 | 128.60 |
| 35 | BA | 76 | G | N3-C4-N9 | 6.89 | 130.13 | 126.00 |
| 35 | BA | 747 | A | C6-C5-N7 | -6.89 | 127.48 | 132.30 |
| 35 | BA | 1073 | U | C5-C6-N1 | -6.89 | 119.26 | 122.70 |
| 35 | BA | 1284 | C | C4-C5-C6 | -6.89 | 113.96 | 117.40 |
| 35 | BA | 1382 | C | C2-N3-C4 | 6.89 | 123.34 | 119.90 |
| 35 | BA | 1427 | C | C4'-C3'-C2' | -6.89 | 95.71 | 102.60 |
| 2 | AB | 63 | A | C4'-C3'-C2' | -6.89 | 95.71 | 102.60 |
| 2 | AB | 876 | C | C5'-C4'-O4' | 6.89 | 117.36 | 109.10 |
| 2 | AB | 1156 | A | C3'-C2'-C1' | 6.89 | 107.01 | 101.50 |
| 2 | AB | 2894 | G | N1-C6-O6 | -6.89 | 115.77 | 119.90 |
| 35 | BA | 576 | C | O4'-C1'-N1 | 6.89 | 113.71 | 108.20 |
| 35 | BA | 1096 | C | C2-N3-C4 | 6.89 | 123.34 | 119.90 |
| 2 | AB | 401 | A | C5-N7-C8 | -6.88 | 100.46 | 103.90 |
| 2 | AB | 638 | G | C5'-C4'-O4' | 6.88 | 117.36 | 109.10 |
| 2 | AB | 1773 | A | C8-N9-C4 | 6.88 | 108.55 | 105.80 |
| 2 | AB | 2490 | G | C6-C5-N7 | -6.88 | 126.27 | 130.40 |
| 2 | AB | 2544 | G | C5-C6-N1 | 6.88 | 114.94 | 111.50 |
| 2 | AB | 2822 | G | C5'-C4'-C3' | -6.88 | 104.99 | 116.00 |
| 35 | BA | 1214 | C | N1-C2-O2 | 6.88 | 123.03 | 118.90 |
| 43 | BI | 159 | ARG | NE-CZ-NH1 | 6.88 | 123.74 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 53 | BS | 64 | ARG | NE-CZ-NH1 | 6.88 | 123.74 | 120.30 |
| 2 | AB | 506 | G | C5-C6-O6 | -6.88 | 124.47 | 128.60 |
| 2 | AB | 1410 | G | N3-C4-N9 | 6.88 | 130.13 | 126.00 |
| 2 | AB | 1755 | A | C6-C5-N7 | 6.88 | 137.12 | 132.30 |
| 2 | AB | 2204 | G | C4-C5-C6 | -6.88 | 114.67 | 118.80 |
| 2 | AB | 2417 | C | C6-N1-C2 | -6.88 | 117.55 | 120.30 |
| 35 | BA | 742 | G | C6-N1-C2 | -6.88 | 120.97 | 125.10 |
| 35 | BA | 1029 | U | P-O3'-C3' | 6.88 | 127.96 | 119.70 |
| 2 | AB | 667 | U | O4'-C1'-N1 | 6.88 | 113.70 | 108.20 |
| 2 | AB | 702 | U | C2-N3-C4 | -6.88 | 122.87 | 127.00 |
| 2 | AB | 821 | A | C5'-C4'-C3' | -6.88 | 104.99 | 116.00 |
| 2 | AB | 1531 | C | C4-C5-C6 | -6.88 | 113.96 | 117.40 |
| 2 | AB | 2130 | U | C2-N1-C1' | 6.88 | 125.96 | 117.70 |
| 2 | AB | 2280 | G | C5'-C4'-O4' | 6.88 | 117.36 | 109.10 |
| 2 | AB | 2711 | A | C6-N1-C2 | 6.88 | 122.73 | 118.60 |
| 2 | AB | 2819 | G | N1-C6-O6 | -6.88 | 115.77 | 119.90 |
| 2 | AB | 2888 | C | C3'-C2'-C1' | 6.88 | 107.00 | 101.50 |
| 35 | BA | 394 | G | N3-C4-N9 | 6.88 | 130.13 | 126.00 |
| 35 | BA | 1482 | G | N3-C4-C5 | -6.88 | 125.16 | 128.60 |
| 2 | AB | 422 | A | C4'-C3'-C2' | -6.88 | 95.72 | 102.60 |
| 2 | AB | 1309 | G | C2-N3-C4 | 6.88 | 115.34 | 111.90 |
| 35 | BA | 481 | G | O4'-C1'-N9 | 6.88 | 113.70 | 108.20 |
| 35 | BA | 536 | C | C1'-O4'-C4' | 6.88 | 115.40 | 109.90 |
| 2 | AB | 859 | G | N3-C4-C5 | -6.88 | 125.16 | 128.60 |
| 2 | AB | 2192 | U | O4'-C1'-N1 | 6.88 | 113.70 | 108.20 |
| 10 | AJ | 105 | PHE | CB-CG-CD1 | -6.88 | 115.99 | 120.80 |
| 35 | BA | 283 | U | N1-C2-N3 | 6.88 | 119.03 | 114.90 |
| 35 | BA | 380 | G | C5-C6-O6 | -6.88 | 124.47 | 128.60 |
| 35 | BA | 456 | A | C5'-C4'-O4' | 6.88 | 117.35 | 109.10 |
| 35 | BA | 861 | G | C4-C5-N7 | 6.88 | 113.55 | 110.80 |
| 35 | BA | 970 | C | O4'-C1'-C2' | 6.88 | 113.79 | 107.60 |
| 35 | BA | 1182 | G | N1-C2-N3 | -6.88 | 119.77 | 123.90 |
| 35 | BA | 1478 | U | O4'-C1'-N1 | 6.88 | 113.70 | 108.20 |
| 1 | AA | 80 | U | N3-C2-O2 | -6.88 | 117.39 | 122.20 |
| 2 | AB | 256 | A | C5-C6-N1 | 6.88 | 121.14 | 117.70 |
| 2 | AB | 411 | G | N9-C4-C5 | -6.88 | 102.65 | 105.40 |
| 2 | AB | 582 | A | C2-N3-C4 | 6.88 | 114.04 | 110.60 |
| 2 | AB | 793 | A | P-O3'-C3' | 6.88 | 127.95 | 119.70 |
| 2 | AB | 936 | A | C6-N1-C2 | -6.88 | 114.47 | 118.60 |
| 2 | AB | 2417 | C | N1-C2-O2 | 6.88 | 123.03 | 118.90 |
| 35 | BA | 93 | U | N1-C1'-C2' | -6.88 | 104.44 | 112.00 |
| 35 | BA | 767 | A | C6-N1-C2 | -6.88 | 114.47 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 991 | U | N3-C2-O2 | -6.88 | 117.39 | 122.20 |
| 35 | BA | 1208 | C | C5'-C4'-O4' | 6.88 | 117.35 | 109.10 |
| 40 | BF | 110 | ARG | NE-CZ-NH2 | -6.88 | 116.86 | 120.30 |
| 2 | AB | 968 | C | C4'-C3'-C2' | -6.88 | 95.72 | 102.60 |
| 19 | AS | 49 | ARG | NE-CZ-NH2 | 6.88 | 123.74 | 120.30 |
| 35 | BA | 408 | A | C5-N7-C8 | -6.88 | 100.46 | 103.90 |
| 35 | BA | 627 | G | C4-C5-C6 | 6.88 | 122.92 | 118.80 |
| 35 | BA | 1411 | C | C2-N3-C4 | 6.88 | 123.34 | 119.90 |
| 2 | AB | 152 | A | C8-N9-C4 | -6.87 | 103.05 | 105.80 |
| 2 | AB | 1400 | U | C6-N1-C2 | -6.87 | 116.88 | 121.00 |
| 2 | AB | 2010 | G | C6-C5-N7 | -6.87 | 126.28 | 130.40 |
| 2 | AB | 2619 | C | N3-C4-C5 | -6.87 | 119.15 | 121.90 |
| 35 | BA | 146 | G | N9-C4-C5 | 6.87 | 108.15 | 105.40 |
| 35 | BA | 254 | G | N7-C8-N9 | -6.87 | 109.66 | 113.10 |
| 35 | BA | 657 | U | N1-C1'-C2' | -6.87 | 104.44 | 112.00 |
| 35 | BA | 1074 | G | C4-C5-N7 | -6.87 | 108.05 | 110.80 |
| 2 | AB | 111 | A | N1-C6-N6 | -6.87 | 114.48 | 118.60 |
| 2 | AB | 623 | C | N3-C4-C5 | -6.87 | 119.15 | 121.90 |
| 2 | AB | 804 | A | C8-N9-C4 | -6.87 | 103.05 | 105.80 |
| 2 | AB | 1336 | A | C4'-C3'-C2' | -6.87 | 95.73 | 102.60 |
| 2 | AB | 1731 | G | C5-N7-C8 | 6.87 | 107.74 | 104.30 |
| 2 | AB | 1951 | U | N3-C2-O2 | -6.87 | 117.39 | 122.20 |
| 2 | AB | 2115 | G | C5-C6-O6 | -6.87 | 124.48 | 128.60 |
| 2 | AB | 2321 | U | P-O3'-C3' | 6.87 | 127.95 | 119.70 |
| 4 | AD | 267 | VAL | CA-CB-CG2 | 6.87 | 121.21 | 110.90 |
| 35 | BA | 119 | A | C8-N9-C4 | 6.87 | 108.55 | 105.80 |
| 35 | BA | 315 | A | C6-N1-C2 | -6.87 | 114.48 | 118.60 |
| 35 | BA | 419 | C | C5-C6-N1 | 6.87 | 124.44 | 121.00 |
| 35 | BA | 933 | G | N7-C8-N9 | 6.87 | 116.54 | 113.10 |
| 43 | BI | 94 | ARG | NE-CZ-NH1 | 6.87 | 123.73 | 120.30 |
| 2 | AB | 443 | A | C4-C5-C6 | 6.87 | 120.44 | 117.00 |
| 2 | AB | 1031 | G | C6-N1-C2 | -6.87 | 120.98 | 125.10 |
| 2 | AB | 1556 | C | C3'-C2'-C1' | 6.87 | 107.00 | 101.50 |
| 2 | AB | 1602 | U | C2-N3-C4 | -6.87 | 122.88 | 127.00 |
| 2 | AB | 1815 | A | C6-N1-C2 | -6.87 | 114.48 | 118.60 |
| 2 | AB | 2568 | U | N3-C4-C5 | -6.87 | 110.48 | 114.60 |
| 35 | BA | 526 | C | C6-N1-C1' | 6.87 | 129.04 | 120.80 |
| 1 | AA | 44 | G | C2-N3-C4 | 6.87 | 115.33 | 111.90 |
| 2 | AB | 542 | C | C5-C4-N4 | -6.87 | 115.39 | 120.20 |
| 2 | AB | 693 | A | C3'-C2'-C1' | 6.87 | 107.00 | 101.50 |
| 2 | AB | 911 | A | C2-N3-C4 | 6.87 | 114.03 | 110.60 |
| 2 | AB | 1068 | G | N3-C4-C5 | -6.87 | 125.17 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1389 | G | C5-N7-C8 | 6.87 | 107.73 | 104.30 |
| 2 | AB | 1530 | G | C4-C5-N7 | 6.87 | 113.55 | 110.80 |
| 2 | AB | 1677 | A | C6-C5-N7 | 6.87 | 137.11 | 132.30 |
| 2 | AB | 1709 | U | C4-C5-C6 | 6.87 | 123.82 | 119.70 |
| 2 | AB | 2168 | G | N1-C2-N3 | 6.87 | 128.02 | 123.90 |
| 2 | AB | 2354 | C | N3-C2-O2 | -6.87 | 117.09 | 121.90 |
| 2 | AB | 2823 | A | N3-C4-C5 | -6.87 | 121.99 | 126.80 |
| 35 | BA | 1349 | A | C6-N1-C2 | -6.87 | 114.48 | 118.60 |
| 2 | AB | 86 | G | C6-N1-C2 | -6.87 | 120.98 | 125.10 |
| 2 | AB | 1959 | G | C8-N9-C4 | -6.87 | 103.65 | 106.40 |
| 2 | AB | 2754 | U | C4'-C3'-C2' | -6.87 | 95.73 | 102.60 |
| 14 | AN | 117 | THR | CA-CB-CG2 | 6.87 | 122.01 | 112.40 |
| 1 | AA | 41 | G | C4'-C3'-C2' | -6.87 | 95.73 | 102.60 |
| 2 | AB | 143 | C | C6-N1-C2 | 6.87 | 123.05 | 120.30 |
| 2 | AB | 278 | A | C5-C6-N6 | -6.87 | 118.21 | 123.70 |
| 2 | AB | 540 | C | C1'-O4'-C4' | -6.87 | 104.41 | 109.90 |
| 2 | AB | 699 | A | C5-C6-N1 | 6.87 | 121.13 | 117.70 |
| 2 | AB | 793 | A | C3'-C2'-C1' | 6.87 | 106.99 | 101.50 |
| 2 | AB | 1216 | G | C4'-C3'-C2' | -6.87 | 95.73 | 102.60 |
| 2 | AB | 1519 | G | C5'-C4'-C3' | -6.87 | 105.01 | 116.00 |
| 2 | AB | 2031 | A | O4'-C1'-C2' | -6.87 | 98.94 | 105.80 |
| 2 | AB | 2032 | G | P-O3'-C3' | 6.87 | 127.94 | 119.70 |
| 2 | AB | 2313 | C | O4'-C1'-N1 | 6.87 | 113.69 | 108.20 |
| 19 | AS | 57 | ARG | NH1-CZ-NH2 | -6.87 | 111.85 | 119.40 |
| 35 | BA | 635 | A | N1-C6-N6 | 6.87 | 122.72 | 118.60 |
| 35 | BA | 1450 | U | O4'-C1'-N1 | 6.87 | 113.69 | 108.20 |
| 1 | AA | 101 | A | N3-C4-C5 | -6.86 | 122.00 | 126.80 |
| 1 | AA | 119 | A | C4-C5-C6 | -6.86 | 113.57 | 117.00 |
| 2 | AB | 84 | A | C8-N9-C4 | -6.86 | 103.06 | 105.80 |
| 2 | AB | 1259 | G | N1-C2-N3 | -6.86 | 119.78 | 123.90 |
| 2 | AB | 1966 | A | C5'-C4'-O4' | -6.86 | 100.86 | 109.10 |
| 2 | AB | 2152 | G | N3-C4-C5 | -6.86 | 125.17 | 128.60 |
| 2 | AB | 2153 | C | N1-C2-O2 | 6.86 | 123.02 | 118.90 |
| 2 | AB | 2459 | A | C5-N7-C8 | -6.86 | 100.47 | 103.90 |
| 2 | AB | 2631 | G | C1'-O4'-C4' | 6.86 | 115.39 | 109.90 |
| 2 | AB | 2638 | G | C6-C5-N7 | -6.86 | 126.28 | 130.40 |
| 35 | BA | 308 | C | C3'-C2'-C1' | -6.86 | 96.01 | 101.50 |
| 35 | BA | 700 | G | C4-C5-C6 | 6.86 | 122.92 | 118.80 |
| 35 | BA | 774 | G | C2-N3-C4 | 6.86 | 115.33 | 111.90 |
| 35 | BA | 1179 | A | C4-C5-C6 | -6.86 | 113.57 | 117.00 |
| 2 | AB | 950 | G | O4'-C1'-N9 | 6.86 | 113.69 | 108.20 |
| 2 | AB | 1066 | U | C4-C5-C6 | -6.86 | 115.58 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1408 | G | O4'-C1'-N9 | 6.86 | 113.69 | 108.20 |
| 2 | AB | 1575 | C | N3-C4-N4 | 6.86 | 122.80 | 118.00 |
| 2 | AB | 1661 | G | N1-C2-N3 | -6.86 | 119.78 | 123.90 |
| 35 | BA | 195 | A | N3-C4-C5 | -6.86 | 122.00 | 126.80 |
| 1 | AA | 79 | G | C5'-C4'-O4' | 6.86 | 117.33 | 109.10 |
| 2 | AB | 187 | G | C8-N9-C4 | -6.86 | 103.66 | 106.40 |
| 2 | AB | 623 | C | C4-C5-C6 | 6.86 | 120.83 | 117.40 |
| 2 | AB | 779 | U | N3-C2-O2 | -6.86 | 117.40 | 122.20 |
| 2 | AB | 799 | G | C4-C5-C6 | 6.86 | 122.92 | 118.80 |
| 2 | AB | 1217 | U | C5-C4-O4 | -6.86 | 121.78 | 125.90 |
| 2 | AB | 1259 | G | C4-C5-N7 | -6.86 | 108.06 | 110.80 |
| 2 | AB | 2355 | G | C4-C5-N7 | -6.86 | 108.06 | 110.80 |
| 35 | BA | 533 | A | N9-C1'-C2' | -6.86 | 104.45 | 112.00 |
| 35 | BA | 567 | G | N9-C4-C5 | 6.86 | 108.14 | 105.40 |
| 35 | BA | 1167 | A | C6-N1-C2 | 6.86 | 122.72 | 118.60 |
| 35 | BA | 1182 | G | N9-C4-C5 | 6.86 | 108.14 | 105.40 |
| 35 | BA | 1194 | U | C3'-C2'-C1' | 6.86 | 106.99 | 101.50 |
| 35 | BA | 1479 | C | N3-C4-C5 | 6.86 | 124.64 | 121.90 |
| 35 | BA | 1492 | A | P-O3'-C3' | 6.86 | 127.93 | 119.70 |
| 2 | AB | 230 | G | N9-C1'-C2' | -6.86 | 104.45 | 112.00 |
| 2 | AB | 469 | G | C4-C5-C6 | 6.86 | 122.92 | 118.80 |
| 35 | BA | 8 | A | C2-N3-C4 | 6.86 | 114.03 | 110.60 |
| 35 | BA | 400 | C | C5-C4-N4 | -6.86 | 115.40 | 120.20 |
| 2 | AB | 252 | G | O4'-C1'-N9 | 6.86 | 113.69 | 108.20 |
| 2 | AB | 1997 | C | C5'-C4'-O4' | 6.86 | 117.33 | 109.10 |
| 2 | AB | 2083 | G | N9-C1'-C2' | -6.86 | 104.46 | 112.00 |
| 2 | AB | 2154 | A | C5-C6-N6 | -6.86 | 118.21 | 123.70 |
| 2 | AB | 2609 | U | N3-C4-C5 | -6.86 | 110.49 | 114.60 |
| 2 | AB | 2629 | U | O4'-C1'-N1 | 6.86 | 113.69 | 108.20 |
| 2 | AB | 2644 | G | N3-C4-C5 | -6.86 | 125.17 | 128.60 |
| 2 | AB | 2821 | A | C6-N1-C2 | -6.86 | 114.49 | 118.60 |
| 35 | BA | 435 | A | C5-C6-N1 | 6.86 | 121.13 | 117.70 |
| 35 | BA | 565 | U | C3'-C2'-C1' | 6.86 | 106.99 | 101.50 |
| 35 | BA | 743 | A | O4'-C4'-C3' | 6.86 | 111.59 | 106.10 |
| 35 | BA | 1174 | G | C1'-O4'-C4' | -6.86 | 104.41 | 109.90 |
| 40 | BF | 80 | ARG | NH1-CZ-NH2 | 6.86 | 126.94 | 119.40 |
| 2 | AB | 827 | U | N1-C2-N3 | 6.86 | 119.01 | 114.90 |
| 2 | AB | 1975 | G | N9-C4-C5 | 6.86 | 108.14 | 105.40 |
| 2 | AB | 2004 | G | C8-N9-C4 | 6.86 | 109.14 | 106.40 |
| 35 | BA | 620 | C | N3-C4-N4 | -6.86 | 113.20 | 118.00 |
| 35 | BA | 1413 | A | N7-C8-N9 | 6.86 | 117.23 | 113.80 |
| 2 | AB | 231 | A | C5'-C4'-O4' | 6.85 | 117.33 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 389 | G | C2-N3-C4 | 6.85 | 115.33 | 111.90 |
| 2 | AB | 776 | G | N7-C8-N9 | 6.85 | 116.53 | 113.10 |
| 2 | AB | 1436 | G | N1-C2-N2 | 6.85 | 122.37 | 116.20 |
| 2 | AB | 2371 | G | C5-N7-C8 | -6.85 | 100.87 | 104.30 |
| 2 | AB | 2857 | G | N3-C4-N9 | 6.85 | 130.11 | 126.00 |
| 15 | AO | 103 | TYR | CG-CD1-CE1 | -6.85 | 115.82 | 121.30 |
| 2 | AB | 75 | G | N1-C6-O6 | 6.85 | 124.01 | 119.90 |
| 2 | AB | 1424 | G | C5-C6-O6 | -6.85 | 124.49 | 128.60 |
| 2 | AB | 2775 | G | C6-N1-C2 | -6.85 | 120.99 | 125.10 |
| 2 | AB | 2880 | C | C5-C4-N4 | -6.85 | 115.40 | 120.20 |
| 35 | BA | 476 | U | C6-N1-C2 | -6.85 | 116.89 | 121.00 |
| 1 | AA | 12 | C | C6-N1-C2 | 6.85 | 123.04 | 120.30 |
| 1 | AA | 86 | G | N3-C2-N2 | -6.85 | 115.10 | 119.90 |
| 2 | AB | 136 | G | C1'-O4'-C4' | 6.85 | 115.38 | 109.90 |
| 2 | AB | 2446 | G | C4-C5-C6 | -6.85 | 114.69 | 118.80 |
| 35 | BA | 159 | G | C6-N1-C2 | -6.85 | 120.99 | 125.10 |
| 41 | BG | 28 | ARG | NE-CZ-NH2 | -6.85 | 116.87 | 120.30 |
| 2 | AB | 690 | G | O5'-C5'-C4' | -6.85 | 98.69 | 111.70 |
| 2 | AB | 701 | G | C2-N3-C4 | 6.85 | 115.32 | 111.90 |
| 2 | AB | 1216 | G | C5-C6-O6 | -6.85 | 124.49 | 128.60 |
| 2 | AB | 1243 | C | C4-C5-C6 | -6.85 | 113.97 | 117.40 |
| 2 | AB | 1412 | U | P-O3'-C3' | 6.85 | 127.92 | 119.70 |
| 2 | AB | 1842 | G | N3-C4-C5 | -6.85 | 125.17 | 128.60 |
| 2 | AB | 1945 | G | C5-C6-O6 | -6.85 | 124.49 | 128.60 |
| 2 | AB | 2572 | A | N1-C2-N3 | -6.85 | 125.88 | 129.30 |
| 2 | AB | 2828 | G | C4-C5-N7 | 6.85 | 113.54 | 110.80 |
| 35 | BA | 694 | A | C6-N1-C2 | 6.85 | 122.71 | 118.60 |
| 35 | BA | 733 | G | N1-C6-O6 | -6.85 | 115.79 | 119.90 |
| 37 | BC | 31 | G | C5-C6-N1 | -6.85 | 108.08 | 111.50 |
| 2 | AB | 131 | A | N9-C4-C5 | -6.85 | 103.06 | 105.80 |
| 2 | AB | 370 | G | C5-C6-N1 | 6.85 | 114.92 | 111.50 |
| 2 | AB | 1703 | G | N3-C4-N9 | 6.85 | 130.11 | 126.00 |
| 2 | AB | 2247 | A | C4-C5-C6 | -6.85 | 113.58 | 117.00 |
| 2 | AB | 2454 | G | C4'-C3'-C2' | -6.85 | 95.75 | 102.60 |
| 2 | AB | 2521 | C | C5'-C4'-O4' | 6.85 | 117.32 | 109.10 |
| 2 | AB | 2792 | A | C5'-C4'-O4' | 6.85 | 117.32 | 109.10 |
| 35 | BA | 120 | A | C5-C6-N1 | 6.85 | 121.12 | 117.70 |
| 35 | BA | 265 | G | C5-C6-N1 | 6.85 | 114.92 | 111.50 |
| 35 | BA | 803 | G | N3-C2-N2 | -6.85 | 115.11 | 119.90 |
| 35 | BA | 1074 | G | C3'-C2'-C1' | 6.85 | 106.98 | 101.50 |
| 35 | BA | 1206 | G | N7-C8-N9 | 6.85 | 116.52 | 113.10 |
| 35 | BA | 1423 | G | C4-C5-N7 | -6.85 | 108.06 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1244 | A | C2-N3-C4 | 6.85 | 114.02 | 110.60 |
| 13 | AM | 64 | ARG | NE-CZ-NH2 | -6.85 | 116.88 | 120.30 |
| 35 | BA | 120 | A | P-O3'-C3' | 6.85 | 127.92 | 119.70 |
| 35 | BA | 296 | U | N3-C2-O2 | -6.85 | 117.41 | 122.20 |
| 35 | BA | 615 | G | N1-C2-N3 | -6.85 | 119.79 | 123.90 |
| 35 | BA | 622 | A | C3'-C2'-C1' | 6.85 | 106.98 | 101.50 |
| 35 | BA | 1440 | U | O3'-P-O5' | -6.85 | 90.99 | 104.00 |
| 1 | AA | 34 | A | C8-N9-C4 | 6.84 | 108.54 | 105.80 |
| 2 | AB | 193 | U | N1-C1'-C2' | -6.84 | 104.47 | 112.00 |
| 2 | AB | 841 | G | N9-C4-C5 | 6.84 | 108.14 | 105.40 |
| 2 | AB | 940 | G | O4'-C1'-N9 | 6.84 | 113.68 | 108.20 |
| 2 | AB | 1312 | U | C3'-C2'-C1' | 6.84 | 106.97 | 101.50 |
| 2 | AB | 1765 | U | N1-C1'-C2' | -6.84 | 104.47 | 112.00 |
| 20 | AT | 90 | ARG | NE-CZ-NH2 | -6.84 | 116.88 | 120.30 |
| 35 | BA | 1173 | U | C4'-C3'-C2' | -6.84 | 95.75 | 102.60 |
| 35 | BA | 1233 | G | N7-C8-N9 | 6.84 | 116.52 | 113.10 |
| 36 | BB | 14 | G | O3'-P-O5' | -6.84 | 91.00 | 104.00 |
| 1 | AA | 75 | G | C6-N1-C2 | -6.84 | 120.99 | 125.10 |
| 2 | AB | 386 | G | O4'-C4'-C3' | -6.84 | 97.16 | 104.00 |
| 2 | AB | 1377 | G | C2-N3-C4 | -6.84 | 108.48 | 111.90 |
| 2 | AB | 1459 | G | C5-N7-C8 | -6.84 | 100.88 | 104.30 |
| 2 | AB | 1671 | U | N3-C4-C5 | -6.84 | 110.49 | 114.60 |
| 2 | AB | 1900 | A | O5'-C5'-C4' | -6.84 | 98.70 | 111.70 |
| 1 | AA | 48 | U | O4'-C4'-C3' | 6.84 | 111.57 | 106.10 |
| 1 | AA | 67 | G | N9-C1'-C2' | -6.84 | 104.47 | 112.00 |
| 1 | AA | 116 | G | C4'-C3'-C2' | -6.84 | 95.76 | 102.60 |
| 2 | AB | 113 | U | C6-N1-C2 | -6.84 | 116.89 | 121.00 |
| 2 | AB | 411 | G | N1-C2-N3 | -6.84 | 119.80 | 123.90 |
| 2 | AB | 1361 | G | C4'-C3'-C2' | -6.84 | 95.76 | 102.60 |
| 2 | AB | 2447 | G | C5'-C4'-O4' | 6.84 | 117.31 | 109.10 |
| 15 | AO | 50 | ARG | NH1-CZ-NH2 | -6.84 | 111.87 | 119.40 |
| 35 | BA | 814 | A | C6-C5-N7 | 6.84 | 137.09 | 132.30 |
| 35 | BA | 1342 | C | N3-C2-O2 | -6.84 | 117.11 | 121.90 |
| 35 | BA | 1356 | G | C4-C5-N7 | 6.84 | 113.54 | 110.80 |
| 35 | BA | 1427 | C | C2-N3-C4 | 6.84 | 123.32 | 119.90 |
| 36 | BB | 22 | G | N1-C2-N2 | 6.84 | 122.36 | 116.20 |
| 1 | AA | 58 | A | N9-C4-C5 | 6.84 | 108.54 | 105.80 |
| 2 | AB | 62 | U | N1-C2-N3 | 6.84 | 119.00 | 114.90 |
| 2 | AB | 136 | G | P-O5'-C5' | -6.84 | 109.96 | 120.90 |
| 2 | AB | 936 | A | C2-N3-C4 | 6.84 | 114.02 | 110.60 |
| 2 | AB | 993 | G | O4'-C1'-N9 | 6.84 | 113.67 | 108.20 |
| 2 | AB | 1226 | A | C6-N1-C2 | -6.84 | 114.50 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 375 | U | C4'-C3'-C2' | -6.84 | 95.76 | 102.60 |
| 35 | BA | 995 | C | C5-C6-N1 | 6.84 | 124.42 | 121.00 |
| 35 | BA | 1528 | U | N1-C2-N3 | 6.84 | 119.00 | 114.90 |
| 2 | AB | 57 | C | C4'-C3'-C2' | -6.84 | 95.76 | 102.60 |
| 2 | AB | 848 | C | O4'-C1'-N1 | 6.84 | 113.67 | 108.20 |
| 2 | AB | 1872 | A | C4'-C3'-C2' | -6.84 | 95.76 | 102.60 |
| 35 | BA | 763 | G | N7-C8-N9 | -6.84 | 109.68 | 113.10 |
| 37 | BC | 26 | C | C6-N1-C2 | 6.84 | 123.03 | 120.30 |
| 2 | AB | 16 | C | C6-N1-C2 | -6.84 | 117.56 | 120.30 |
| 2 | AB | 651 | G | C4-C5-C6 | 6.84 | 122.90 | 118.80 |
| 2 | AB | 775 | G | N3-C4-C5 | -6.84 | 125.18 | 128.60 |
| 2 | AB | 882 | G | C5-C6-N1 | 6.84 | 114.92 | 111.50 |
| 2 | AB | 1137 | G | C5-C6-O6 | -6.84 | 124.50 | 128.60 |
| 2 | AB | 1424 | G | N9-C4-C5 | 6.84 | 108.14 | 105.40 |
| 2 | AB | 2334 | U | C6-N1-C2 | -6.84 | 116.90 | 121.00 |
| 27 | A0 | 48 | ARG | NE-CZ-NH1 | 6.84 | 123.72 | 120.30 |
| 35 | BA | 1298 | U | C2-N3-C4 | -6.84 | 122.90 | 127.00 |
| 2 | AB | 2100 | G | C6-C5-N7 | -6.83 | 126.30 | 130.40 |
| 2 | AB | 2212 | A | N3-C4-C5 | -6.83 | 122.02 | 126.80 |
| 2 | AB | 2485 | G | C6-C5-N7 | -6.83 | 126.30 | 130.40 |
| 35 | BA | 51 | A | C8-N9-C4 | -6.83 | 103.07 | 105.80 |
| 35 | BA | 329 | A | C4-C5-N7 | -6.83 | 107.28 | 110.70 |
| 35 | BA | 724 | G | C4-C5-C6 | -6.83 | 114.70 | 118.80 |
| 2 | AB | 98 | G | C4-C5-N7 | -6.83 | 108.07 | 110.80 |
| 2 | AB | 199 | A | O4'-C1'-N9 | 6.83 | 113.67 | 108.20 |
| 2 | AB | 212 | G | C5'-C4'-O4' | 6.83 | 117.30 | 109.10 |
| 2 | AB | 1640 | A | C2-N3-C4 | 6.83 | 114.02 | 110.60 |
| 2 | AB | 1641 | A | C8-N9-C4 | 6.83 | 108.53 | 105.80 |
| 2 | AB | 1963 | U | C3'-C2'-C1' | 6.83 | 106.97 | 101.50 |
| 2 | AB | 2227 | A | C2-N3-C4 | 6.83 | 114.02 | 110.60 |
| 12 | AL | 27 | ARG | NE-CZ-NH2 | 6.83 | 123.72 | 120.30 |
| 35 | BA | 548 | G | N3-C4-N9 | 6.83 | 130.10 | 126.00 |
| 35 | BA | 815 | A | N7-C8-N9 | -6.83 | 110.38 | 113.80 |
| 35 | BA | 994 | A | C4-C5-C6 | -6.83 | 113.58 | 117.00 |
| 35 | BA | 1283 | U | N1-C1'-C2' | -6.83 | 104.48 | 112.00 |
| 35 | BA | 1323 | G | C5-C6-N1 | 6.83 | 114.92 | 111.50 |
| 35 | BA | 1373 | G | N3-C4-C5 | -6.83 | 125.18 | 128.60 |
| 37 | BC | 43 | G | O4'-C1'-N9 | 6.83 | 113.67 | 108.20 |
| 2 | AB | 65 | U | C6-N1-C2 | -6.83 | 116.90 | 121.00 |
| 2 | AB | 278 | A | N9-C1'-C2' | 6.83 | 122.88 | 114.00 |
| 2 | AB | 512 | G | C5-C6-O6 | -6.83 | 124.50 | 128.60 |
| 2 | AB | 610 | C | C5-C4-N4 | -6.83 | 115.42 | 120.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 890 | C | C2-N3-C4 | 6.83 | 123.32 | 119.90 |
| 2 | AB | 938 | G | C6-C5-N7 | -6.83 | 126.30 | 130.40 |
| 2 | AB | 1613 | G | C6-N1-C2 | -6.83 | 121.00 | 125.10 |
| 2 | AB | 2572 | A | C5-C6-N6 | -6.83 | 118.23 | 123.70 |
| 2 | AB | 2781 | A | O4'-C1'-N9 | 6.83 | 113.67 | 108.20 |
| 35 | BA | 128 | G | C5-N7-C8 | -6.83 | 100.88 | 104.30 |
| 35 | BA | 756 | C | N3-C4-N4 | -6.83 | 113.22 | 118.00 |
| 35 | BA | 1058 | G | C6-N1-C2 | -6.83 | 121.00 | 125.10 |
| 35 | BA | 1455 | G | C5-C6-N1 | 6.83 | 114.92 | 111.50 |
| 35 | BA | 1491 | G | P-O3'-C3' | 6.83 | 127.90 | 119.70 |
| 35 | BA | 1499 | A | C2-N3-C4 | -6.83 | 107.19 | 110.60 |
| 1 | AA | 30 | C | N3-C4-N4 | 6.83 | 122.78 | 118.00 |
| 2 | AB | 595 | C | C2-N3-C4 | 6.83 | 123.31 | 119.90 |
| 2 | AB | 1022 | G | C1'-O4'-C4' | -6.83 | 104.44 | 109.90 |
| 2 | AB | 1495 | A | N1-C6-N6 | -6.83 | 114.50 | 118.60 |
| 2 | AB | 2342 | C | O4'-C4'-C3' | 6.83 | 111.56 | 106.10 |
| 2 | AB | 2650 | U | C2-N3-C4 | -6.83 | 122.90 | 127.00 |
| 37 | BC | 46 | G | C4-C5-N7 | -6.83 | 108.07 | 110.80 |
| 1 | AA | 29 | A | C8-N9-C4 | -6.83 | 103.07 | 105.80 |
| 2 | AB | 534 | U | N1-C2-N3 | 6.83 | 119.00 | 114.90 |
| 2 | AB | 694 | U | N1-C2-O2 | 6.83 | 127.58 | 122.80 |
| 2 | AB | 969 | G | C4-C5-C6 | 6.83 | 122.90 | 118.80 |
| 2 | AB | 1390 | U | N3-C4-C5 | -6.83 | 110.50 | 114.60 |
| 2 | AB | 2237 | G | C6-C5-N7 | -6.83 | 126.30 | 130.40 |
| 2 | AB | 2718 | G | C3'-C2'-C1' | -6.83 | 96.04 | 101.50 |
| 35 | BA | 826 | C | C6-N1-C2 | 6.83 | 123.03 | 120.30 |
| 35 | BA | 837 | U | C5-C6-N1 | -6.83 | 119.28 | 122.70 |
| 35 | BA | 902 | G | N7-C8-N9 | 6.83 | 116.51 | 113.10 |
| 35 | BA | 1083 | U | O4'-C1'-N1 | 6.83 | 113.66 | 108.20 |
| 2 | AB | 633 | A | C6-N1-C2 | 6.83 | 122.70 | 118.60 |
| 2 | AB | 827 | U | O4'-C1'-C2' | -6.83 | 98.97 | 105.80 |
| 2 | AB | 1624 | U | C6-N1-C2 | -6.83 | 116.90 | 121.00 |
| 2 | AB | 1884 | G | C5-N7-C8 | -6.83 | 100.89 | 104.30 |
| 35 | BA | 107 | G | O4'-C1'-C2' | 6.83 | 113.74 | 107.60 |
| 35 | BA | 1205 | U | C5-C4-O4 | 6.83 | 130.00 | 125.90 |
| 37 | BC | 53 | G | O4'-C1'-N9 | 6.83 | 113.66 | 108.20 |
| 2 | AB | 1539 | U | N3-C2-O2 | -6.83 | 117.42 | 122.20 |
| 2 | AB | 1727 | C | O4'-C1'-N1 | 6.83 | 113.66 | 108.20 |
| 2 | AB | 2054 | A | C5'-C4'-O4' | 6.83 | 117.29 | 109.10 |
| 2 | AB | 2088 | A | C4-C5-N7 | 6.83 | 114.11 | 110.70 |
| 2 | AB | 2310 | C | P-O3'-C3' | 6.83 | 127.89 | 119.70 |
| 2 | AB | 2422 | C | C5-C6-N1 | 6.83 | 124.41 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2724 | U | C5-C4-O4 | 6.83 | 130.00 | 125.90 |
| 35 | BA | 613 | C | C5-C4-N4 | 6.83 | 124.98 | 120.20 |
| 35 | BA | 1215 | G | N3-C4-C5 | -6.83 | 125.19 | 128.60 |
| 1 | AA | 9 | G | C5'-C4'-C3' | -6.82 | 105.08 | 116.00 |
| 2 | AB | 344 | A | O5'-P-OP2 | -6.82 | 99.56 | 105.70 |
| 2 | AB | 385 | C | O4'-C4'-C3' | 6.82 | 111.56 | 106.10 |
| 2 | AB | 623 | C | P-O3'-C3' | 6.82 | 127.89 | 119.70 |
| 2 | AB | 1303 | G | C6-C5-N7 | -6.82 | 126.31 | 130.40 |
| 2 | AB | 1501 | G | P-O3'-C3' | 6.82 | 127.89 | 119.70 |
| 2 | AB | 2264 | C | N1-C2-N3 | -6.82 | 114.42 | 119.20 |
| 35 | BA | 428 | G | N7-C8-N9 | 6.82 | 116.51 | 113.10 |
| 35 | BA | 439 | U | C2-N3-C4 | -6.82 | 122.91 | 127.00 |
| 35 | BA | 462 | G | O4'-C1'-C2' | -6.82 | 98.98 | 105.80 |
| 35 | BA | 504 | C | N3-C2-O2 | 6.82 | 126.68 | 121.90 |
| 35 | BA | 623 | C | N1-C2-O2 | 6.82 | 123.00 | 118.90 |
| 35 | BA | 656 | G | C5-C6-O6 | -6.82 | 124.51 | 128.60 |
| 36 | BB | 49 | U | N1-C2-N3 | 6.82 | 118.99 | 114.90 |
| 2 | AB | 461 | C | N3-C2-O2 | -6.82 | 117.12 | 121.90 |
| 2 | AB | 1378 | A | C8-N9-C4 | -6.82 | 103.07 | 105.80 |
| 2 | AB | 1406 | U | N3-C2-O2 | -6.82 | 117.42 | 122.20 |
| 35 | BA | 247 | G | N3-C4-C5 | -6.82 | 125.19 | 128.60 |
| 35 | BA | 506 | G | C6-N1-C2 | -6.82 | 121.01 | 125.10 |
| 37 | BC | 76 | C | O4'-C1'-N1 | 6.82 | 113.66 | 108.20 |
| 2 | AB | 390 | U | P-O3'-C3' | 6.82 | 127.89 | 119.70 |
| 2 | AB | 1215 | G | C6-C5-N7 | 6.82 | 134.49 | 130.40 |
| 2 | AB | 1544 | A | C5-C6-N1 | -6.82 | 114.29 | 117.70 |
| 2 | AB | 1697 | G | C2'-C3'-O3' | 6.82 | 124.61 | 113.70 |
| 2 | AB | 1843 | C | C2-N3-C4 | 6.82 | 123.31 | 119.90 |
| 35 | BA | 155 | A | O4'-C1'-N9 | 6.82 | 113.66 | 108.20 |
| 35 | BA | 1197 | A | N9-C4-C5 | 6.82 | 108.53 | 105.80 |
| 2 | AB | 94 | A | C2-N3-C4 | 6.82 | 114.01 | 110.60 |
| 35 | BA | 921 | U | P-O3'-C3' | 6.82 | 127.88 | 119.70 |
| 1 | AA | 10 | G | N3-C4-C5 | -6.82 | 125.19 | 128.60 |
| 2 | AB | 22 | C | N1-C2-O2 | -6.82 | 114.81 | 118.90 |
| 2 | AB | 1135 | C | C6-N1-C2 | 6.82 | 123.03 | 120.30 |
| 2 | AB | 1238 | G | C5-C6-O6 | -6.82 | 124.51 | 128.60 |
| 2 | AB | 2169 | A | N3-C4-N9 | 6.82 | 132.85 | 127.40 |
| 2 | AB | 2235 | G | N3-C2-N2 | -6.82 | 115.13 | 119.90 |
| 35 | BA | 393 | A | N1-C6-N6 | 6.82 | 122.69 | 118.60 |
| 35 | BA | 561 | U | C2-N3-C4 | -6.82 | 122.91 | 127.00 |
| 35 | BA | 679 | C | C4-C5-C6 | 6.82 | 120.81 | 117.40 |
| 35 | BA | 755 | G | N1-C2-N2 | -6.82 | 110.06 | 116.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 36 | BB | 35 | G | C5-C6-N1 | 6.82 | 114.91 | 111.50 |
| 1 | AA | 41 | G | N1-C6-O6 | -6.82 | 115.81 | 119.90 |
| 2 | AB | 277 | G | C6-N1-C2 | -6.82 | 121.01 | 125.10 |
| 2 | AB | 801 | G | C8-N9-C4 | -6.82 | 103.67 | 106.40 |
| 2 | AB | 966 | G | C5-N7-C8 | -6.82 | 100.89 | 104.30 |
| 2 | AB | 2584 | U | P-O3'-C3' | 6.82 | 127.88 | 119.70 |
| 2 | AB | 2700 | A | C5-N7-C8 | 6.82 | 107.31 | 103.90 |
| 35 | BA | 87 | C | C5'-C4'-O4' | -6.82 | 100.92 | 109.10 |
| 35 | BA | 1076 | U | N1-C2-N3 | 6.82 | 118.99 | 114.90 |
| 35 | BA | 1330 | U | N3-C4-C5 | -6.82 | 110.51 | 114.60 |
| 2 | AB | 962 | G | C5-N7-C8 | -6.81 | 100.89 | 104.30 |
| 2 | AB | 2602 | A | C5-C6-N1 | -6.81 | 114.29 | 117.70 |
| 2 | AB | 2780 | G | N9-C4-C5 | 6.81 | 108.13 | 105.40 |
| 35 | BA | 1399 | C | C5-C6-N1 | -6.81 | 117.59 | 121.00 |
| 2 | AB | 81 | G | N9-C4-C5 | 6.81 | 108.12 | 105.40 |
| 2 | AB | 435 | C | N1-C2-O2 | 6.81 | 122.99 | 118.90 |
| 2 | AB | 818 | G | C5-N7-C8 | -6.81 | 100.89 | 104.30 |
| 2 | AB | 1177 | G | C5-N7-C8 | 6.81 | 107.71 | 104.30 |
| 2 | AB | 1929 | G | C6-C5-N7 | 6.81 | 134.49 | 130.40 |
| 2 | AB | 2722 | G | P-O3'-C3' | 6.81 | 127.88 | 119.70 |
| 8 | AH | 156 | TYR | CD1-CE1-CZ | -6.81 | 113.67 | 119.80 |
| 27 | A0 | 26 | PHE | CB-CG-CD1 | -6.81 | 116.03 | 120.80 |
| 35 | BA | 604 | G | C6-C5-N7 | -6.81 | 126.31 | 130.40 |
| 35 | BA | 1118 | U | N1-C1'-C2' | -6.81 | 104.51 | 112.00 |
| 1 | AA | 97 | C | C5-C6-N1 | -6.81 | 117.59 | 121.00 |
| 2 | AB | 164 | C | C4'-C3'-C2' | -6.81 | 95.79 | 102.60 |
| 2 | AB | 388 | G | N3-C2-N2 | -6.81 | 115.13 | 119.90 |
| 2 | AB | 2270 | A | O4'-C1'-N9 | 6.81 | 113.65 | 108.20 |
| 35 | BA | 934 | C | N3-C4-C5 | -6.81 | 119.18 | 121.90 |
| 35 | BA | 1334 | G | C8-N9-C4 | -6.81 | 103.68 | 106.40 |
| 35 | BA | 1447 | A | C6-C5-N7 | -6.81 | 127.53 | 132.30 |
| 2 | AB | 127 | A | C5'-C4'-O4' | 6.81 | 117.27 | 109.10 |
| 2 | AB | 148 | U | N3-C4-O4 | 6.81 | 124.17 | 119.40 |
| 2 | AB | 718 | A | N3-C4-C5 | -6.81 | 122.03 | 126.80 |
| 2 | AB | 1559 | U | O4'-C1'-N1 | 6.81 | 113.65 | 108.20 |
| 2 | AB | 2646 | C | O4'-C1'-N1 | 6.81 | 113.65 | 108.20 |
| 2 | AB | 2897 | U | C5-C4-O4 | -6.81 | 121.81 | 125.90 |
| 35 | BA | 34 | C | O4'-C1'-C2' | 6.81 | 113.73 | 107.60 |
| 35 | BA | 41 | G | C5-C6-N1 | 6.81 | 114.91 | 111.50 |
| 2 | AB | 1315 | C | C5-C6-N1 | -6.81 | 117.60 | 121.00 |
| 2 | AB | 1748 | C | N3-C2-O2 | -6.81 | 117.14 | 121.90 |
| 2 | AB | 1887 | C | C6-N1-C2 | -6.81 | 117.58 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1977 | A | C5-C6-N1 | 6.81 | 121.10 | 117.70 |
| 2 | AB | 2178 | C | C5-C6-N1 | 6.81 | 124.40 | 121.00 |
| 2 | AB | 2889 | C | C6-N1-C2 | 6.81 | 123.02 | 120.30 |
| 35 | BA | 392 | C | C5'-C4'-O4' | 6.81 | 117.27 | 109.10 |
| 35 | BA | 649 | A | C4-C5-C6 | 6.81 | 120.40 | 117.00 |
| 35 | BA | 864 | A | P-O3'-C3' | 6.81 | 127.87 | 119.70 |
| 35 | BA | 1025 | U | C5-C4-O4 | 6.81 | 129.98 | 125.90 |
| 35 | BA | 1045 | C | N1-C1'-C2' | -6.81 | 104.51 | 112.00 |
| 35 | BA | 1062 | U | C3'-C2'-C1' | 6.81 | 106.95 | 101.50 |
| 35 | BA | 1393 | U | C4-C5-C6 | 6.81 | 123.78 | 119.70 |
| 35 | BA | 1509 | C | C2-N3-C4 | 6.81 | 123.30 | 119.90 |
| 2 | AB | 521 | U | N1-C2-N3 | 6.81 | 118.98 | 114.90 |
| 2 | AB | 616 | A | N1-C6-N6 | 6.81 | 122.68 | 118.60 |
| 2 | AB | 761 | A | N7-C8-N9 | 6.81 | 117.20 | 113.80 |
| 2 | AB | 876 | C | N1-C2-O2 | 6.81 | 122.98 | 118.90 |
| 2 | AB | 966 | G | C5'-C4'-O4' | 6.81 | 117.27 | 109.10 |
| 2 | AB | 2000 | C | N3-C4-C5 | 6.81 | 124.62 | 121.90 |
| 35 | BA | 358 | U | N3-C4-O4 | 6.81 | 124.16 | 119.40 |
| 36 | BB | 18 | A | N1-C2-N3 | -6.81 | 125.90 | 129.30 |
| 2 | AB | 62 | U | O4'-C1'-N1 | 6.80 | 113.64 | 108.20 |
| 2 | AB | 298 | G | N9-C1'-C2' | -6.80 | 104.52 | 112.00 |
| 2 | AB | 318 | C | C5-C6-N1 | 6.80 | 124.40 | 121.00 |
| 2 | AB | 513 | A | N3-C4-C5 | -6.80 | 122.04 | 126.80 |
| 2 | AB | 1244 | A | O4'-C1'-N9 | 6.80 | 113.64 | 108.20 |
| 2 | AB | 1251 | C | N3-C4-C5 | 6.80 | 124.62 | 121.90 |
| 2 | AB | 1383 | A | C8-N9-C4 | 6.80 | 108.52 | 105.80 |
| 2 | AB | 1725 | U | N3-C4-O4 | 6.80 | 124.16 | 119.40 |
| 35 | BA | 302 | G | O4'-C1'-N9 | 6.80 | 113.64 | 108.20 |
| 35 | BA | 813 | U | C6-N1-C2 | -6.80 | 116.92 | 121.00 |
| 2 | AB | 565 | C | C5-C4-N4 | -6.80 | 115.44 | 120.20 |
| 2 | AB | 649 | G | N3-C2-N2 | -6.80 | 115.14 | 119.90 |
| 2 | AB | 1865 | U | N3-C2-O2 | -6.80 | 117.44 | 122.20 |
| 2 | AB | 2369 | A | C4-C5-C6 | -6.80 | 113.60 | 117.00 |
| 35 | BA | 807 | A | C4'-C3'-C2' | -6.80 | 95.80 | 102.60 |
| 35 | BA | 850 | U | C2-N3-C4 | -6.80 | 122.92 | 127.00 |
| 2 | AB | 792 | A | N1-C6-N6 | -6.80 | 114.52 | 118.60 |
| 2 | AB | 1046 | A | N7-C8-N9 | 6.80 | 117.20 | 113.80 |
| 2 | AB | 2183 | A | C4-C5-C6 | -6.80 | 113.60 | 117.00 |
| 2 | AB | 2756 | U | C2'-C3'-O3' | 6.80 | 124.58 | 113.70 |
| 2 | AB | 2798 | U | C5-C4-O4 | -6.80 | 121.82 | 125.90 |
| 9 | AI | 87 | GLU | OE1-CD-OE2 | 6.80 | 131.46 | 123.30 |
| 35 | BA | 787 | A | C6-C5-N7 | 6.80 | 137.06 | 132.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1135 | U | P-O3'-C3' | 6.80 | 127.86 | 119.70 |
| 37 | BC | 30 | G | N1-C2-N2 | -6.80 | 110.08 | 116.20 |
| 2 | AB | 127 | A | C8-N9-C4 | -6.80 | 103.08 | 105.80 |
| 35 | BA | 456 | A | C6-N1-C2 | -6.80 | 114.52 | 118.60 |
| 35 | BA | 1405 | G | N1-C2-N3 | 6.80 | 127.98 | 123.90 |
| 2 | AB | 313 | G | N9-C1'-C2' | -6.80 | 104.52 | 112.00 |
| 2 | AB | 883 | G | N1-C6-O6 | -6.80 | 115.82 | 119.90 |
| 2 | AB | 1366 | A | C4-C5-N7 | -6.80 | 107.30 | 110.70 |
| 2 | AB | 2539 | C | C1'-O4'-C4' | -6.80 | 104.46 | 109.90 |
| 2 | AB | 2691 | C | C6-N1-C2 | -6.80 | 117.58 | 120.30 |
| 2 | AB | 2826 | A | N9-C4-C5 | -6.80 | 103.08 | 105.80 |
| 35 | BA | 266 | G | C6-C5-N7 | -6.80 | 126.32 | 130.40 |
| 35 | BA | 1446 | A | N1-C6-N6 | -6.80 | 114.52 | 118.60 |
| 2 | AB | 52 | A | C6-C5-N7 | -6.80 | 127.54 | 132.30 |
| 2 | AB | 277 | G | O4'-C4'-C3' | -6.80 | 97.20 | 104.00 |
| 2 | AB | 299 | A | N1-C6-N6 | -6.80 | 114.52 | 118.60 |
| 2 | AB | 484 | C | N1-C1'-C2' | -6.80 | 104.52 | 112.00 |
| 2 | AB | 1154 | G | C5'-C4'-O4' | 6.80 | 117.26 | 109.10 |
| 2 | AB | 1482 | G | C8-N9-C4 | -6.80 | 103.68 | 106.40 |
| 2 | AB | 1719 | G | C8-N9-C4 | -6.80 | 103.68 | 106.40 |
| 2 | AB | 2337 | G | O4'-C1'-N9 | 6.80 | 113.64 | 108.20 |
| 2 | AB | 2354 | C | C2-N3-C4 | -6.80 | 116.50 | 119.90 |
| 35 | BA | 127 | G | C5-N7-C8 | 6.80 | 107.70 | 104.30 |
| 35 | BA | 213 | G | P-O3'-C3' | -6.80 | 111.54 | 119.70 |
| 35 | BA | 338 | A | C8-N9-C4 | -6.80 | 103.08 | 105.80 |
| 35 | BA | 934 | C | C5'-C4'-O4' | -6.80 | 100.94 | 109.10 |
| 37 | BC | 1 | C | N3-C4-C5 | 6.80 | 124.62 | 121.90 |
| 2 | AB | 1285 | A | N9-C4-C5 | -6.79 | 103.08 | 105.80 |
| 2 | AB | 2653 | U | P-O3'-C3' | 6.79 | 127.85 | 119.70 |
| 35 | BA | 82 | G | N7-C8-N9 | 6.79 | 116.50 | 113.10 |
| 35 | BA | 876 | C | O4'-C1'-N1 | 6.79 | 113.64 | 108.20 |
| 2 | AB | 147 | C | N3-C2-O2 | -6.79 | 117.14 | 121.90 |
| 2 | AB | 1011 | G | N3-C2-N2 | -6.79 | 115.14 | 119.90 |
| 2 | AB | 1215 | G | O4'-C1'-N9 | 6.79 | 113.63 | 108.20 |
| 2 | AB | 2223 | G | N1-C6-O6 | 6.79 | 123.98 | 119.90 |
| 2 | AB | 2830 | C | C5'-C4'-O4' | 6.79 | 117.25 | 109.10 |
| 35 | BA | 310 | G | C6-N1-C2 | -6.79 | 121.02 | 125.10 |
| 35 | BA | 830 | G | N3-C4-C5 | -6.79 | 125.20 | 128.60 |
| 2 | AB | 1211 | C | C3'-C2'-C1' | 6.79 | 106.93 | 101.50 |
| 2 | AB | 1239 | G | C5-C6-N1 | 6.79 | 114.90 | 111.50 |
| 2 | AB | 1846 | G | C5'-C4'-C3' | -6.79 | 105.14 | 116.00 |
| 2 | AB | 2186 | G | O4'-C1'-N9 | 6.79 | 113.63 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2635 | A | C5-N7-C8 | -6.79 | 100.50 | 103.90 |
| 7 | AG | 111 | ARG | NE-CZ-NH2 | 6.79 | 123.70 | 120.30 |
| 35 | BA | 275 | G | C3'-C2'-C1' | -6.79 | 96.07 | 101.50 |
| 35 | BA | 393 | A | N9-C4-C5 | 6.79 | 108.52 | 105.80 |
| 35 | BA | 1012 | A | N9-C1'-C2' | -6.79 | 104.53 | 112.00 |
| 35 | BA | 1061 | G | C2-N3-C4 | -6.79 | 108.50 | 111.90 |
| 35 | BA | 1333 | A | C2-N3-C4 | 6.79 | 114.00 | 110.60 |
| 35 | BA | 1416 | G | N1-C2-N3 | 6.79 | 127.97 | 123.90 |
| 35 | BA | 1471 | U | C5-C4-O4 | -6.79 | 121.83 | 125.90 |
| 2 | AB | 75 | G | N9-C1'-C2' | -6.79 | 104.53 | 112.00 |
| 2 | AB | 1146 | C | N3-C4-N4 | -6.79 | 113.25 | 118.00 |
| 35 | BA | 1200 | C | C5-C6-N1 | -6.79 | 117.61 | 121.00 |
| 2 | AB | 176 | A | C5-N7-C8 | -6.79 | 100.51 | 103.90 |
| 2 | AB | 517 | C | C5-C4-N4 | -6.79 | 115.45 | 120.20 |
| 2 | AB | 1394 | U | N1-C2-N3 | 6.79 | 118.97 | 114.90 |
| 2 | AB | 1854 | A | C4-C5-N7 | 6.79 | 114.09 | 110.70 |
| 2 | AB | 2189 | U | N3-C4-O4 | 6.79 | 124.15 | 119.40 |
| 2 | AB | 2239 | G | C8-N9-C4 | -6.79 | 103.68 | 106.40 |
| 2 | AB | 2897 | U | C2-N3-C4 | -6.79 | 122.93 | 127.00 |
| 12 | AL | 60 | ASP | CB-CG-OD1 | -6.79 | 112.19 | 118.30 |
| 35 | BA | 706 | A | C2-N3-C4 | 6.79 | 113.99 | 110.60 |
| 35 | BA | 778 | G | C6-N1-C2 | -6.79 | 121.03 | 125.10 |
| 35 | BA | 907 | A | C4-C5-N7 | -6.79 | 107.31 | 110.70 |
| 35 | BA | 920 | U | C5'-C4'-C3' | -6.79 | 105.14 | 116.00 |
| 37 | BC | 61 | U | N3-C2-O2 | -6.79 | 117.45 | 122.20 |
| 48 | BN | 37 | TYR | CB-CG-CD2 | -6.79 | 116.93 | 121.00 |
| 2 | AB | 386 | G | N3-C2-N2 | -6.79 | 115.15 | 119.90 |
| 2 | AB | 2592 | G | C3'-C2'-C1' | -6.79 | 96.07 | 101.50 |
| 35 | BA | 665 | A | N9-C1'-C2' | -6.79 | 104.53 | 112.00 |
| 35 | BA | 1344 | C | N3-C4-N4 | 6.79 | 122.75 | 118.00 |
| 36 | BB | 41 | A | C5'-C4'-O4' | 6.79 | 117.24 | 109.10 |
| 1 | AA | 24 | G | C1'-O4'-C4' | -6.79 | 104.47 | 109.90 |
| 2 | AB | 546 | U | C6-N1-C2 | 6.79 | 125.07 | 121.00 |
| 2 | AB | 1661 | G | C6-C5-N7 | 6.79 | 134.47 | 130.40 |
| 4 | AD | 183 | VAL | CG1-CB-CG2 | -6.79 | 100.04 | 110.90 |
| 35 | BA | 131 | A | C8-N9-C4 | -6.79 | 103.09 | 105.80 |
| 35 | BA | 486 | U | C6-N1-C2 | -6.79 | 116.93 | 121.00 |
| 35 | BA | 1185 | G | N3-C2-N2 | -6.79 | 115.15 | 119.90 |
| 49 | BO | 22 | TYR | CD1-CE1-CZ | 6.79 | 125.91 | 119.80 |
| 2 | AB | 19 | A | N1-C2-N3 | 6.78 | 132.69 | 129.30 |
| 2 | AB | 181 | A | C5-C6-N1 | -6.78 | 114.31 | 117.70 |
| 2 | AB | 606 | U | N1-C2-N3 | 6.78 | 118.97 | 114.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 682 | G | C2-N3-C4 | 6.78 | 115.29 | 111.90 |
| 2 | AB | 881 | G | O4'-C1'-N9 | 6.78 | 113.63 | 108.20 |
| 2 | AB | 2355 | G | C1'-O4'-C4' | -6.78 | 104.47 | 109.90 |
| 35 | BA | 1391 | U | O4'-C1'-N1 | 6.78 | 113.63 | 108.20 |
| 1 | AA | 39 | A | O4'-C4'-C3' | 6.78 | 111.53 | 106.10 |
| 2 | AB | 917 | A | N3-C4-N9 | 6.78 | 132.83 | 127.40 |
| 2 | AB | 992 | C | C6-N1-C2 | 6.78 | 123.01 | 120.30 |
| 2 | AB | 2373 | G | C8-N9-C4 | -6.78 | 103.69 | 106.40 |
| 2 | AB | 2483 | C | O3'-P-O5' | -6.78 | 91.11 | 104.00 |
| 35 | BA | 104 | G | C5-C6-N1 | 6.78 | 114.89 | 111.50 |
| 35 | BA | 1360 | A | C5-N7-C8 | 6.78 | 107.29 | 103.90 |
| 1 | AA | 50 | A | C1'-O4'-C4' | -6.78 | 104.47 | 109.90 |
| 2 | AB | 647 | G | C6-C5-N7 | -6.78 | 126.33 | 130.40 |
| 2 | AB | 1239 | G | N1-C2-N3 | -6.78 | 119.83 | 123.90 |
| 2 | AB | 1374 | G | N1-C2-N3 | -6.78 | 119.83 | 123.90 |
| 2 | AB | 2090 | A | C1'-O4'-C4' | -6.78 | 104.48 | 109.90 |
| 35 | BA | 442 | G | O4'-C4'-C3' | 6.78 | 111.52 | 106.10 |
| 35 | BA | 634 | C | N1-C2-O2 | 6.78 | 122.97 | 118.90 |
| 2 | AB | 905 | A | N1-C6-N6 | 6.78 | 122.67 | 118.60 |
| 2 | AB | 2428 | G | N3-C2-N2 | -6.78 | 115.16 | 119.90 |
| 35 | BA | 795 | C | N3-C4-N4 | -6.78 | 113.25 | 118.00 |
| 35 | BA | 1102 | A | C6-C5-N7 | -6.78 | 127.55 | 132.30 |
| 2 | AB | 340 | A | C2-N3-C4 | 6.78 | 113.99 | 110.60 |
| 2 | AB | 1854 | A | C3'-C2'-C1' | -6.78 | 96.08 | 101.50 |
| 2 | AB | 1949 | G | C5'-C4'-O4' | 6.78 | 117.23 | 109.10 |
| 2 | AB | 2128 | G | N7-C8-N9 | 6.78 | 116.49 | 113.10 |
| 2 | AB | 2670 | A | O4'-C1'-N9 | 6.78 | 113.62 | 108.20 |
| 2 | AB | 2691 | C | N1-C2-O2 | 6.78 | 122.97 | 118.90 |
| 35 | BA | 292 | G | O4'-C1'-N9 | 6.78 | 113.62 | 108.20 |
| 35 | BA | 309 | A | N1-C2-N3 | 6.78 | 132.69 | 129.30 |
| 35 | BA | 351 | G | O4'-C1'-N9 | 6.78 | 113.62 | 108.20 |
| 35 | BA | 917 | G | C1'-O4'-C4' | 6.78 | 115.32 | 109.90 |
| 35 | BA | 1242 | G | N3-C4-C5 | -6.78 | 125.21 | 128.60 |
| 35 | BA | 1242 | G | N3-C4-N9 | 6.78 | 130.07 | 126.00 |
| 50 | BP | 60 | ARG | C-N-CA | 6.78 | 138.65 | 121.70 |
| 2 | AB | 70 | G | C5-N7-C8 | 6.78 | 107.69 | 104.30 |
| 2 | AB | 296 | U | N3-C2-O2 | -6.78 | 117.46 | 122.20 |
| 2 | AB | 480 | A | O4'-C1'-N9 | 6.78 | 113.62 | 108.20 |
| 2 | AB | 733 | G | C4-C5-N7 | 6.78 | 113.51 | 110.80 |
| 2 | AB | 1022 | G | N1-C2-N2 | 6.78 | 122.30 | 116.20 |
| 2 | AB | 1501 | G | C5-C6-N1 | -6.78 | 108.11 | 111.50 |
| 2 | AB | 1828 | G | N3-C4-C5 | -6.78 | 125.21 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2408 | U | O4'-C1'-N1 | 6.78 | 113.62 | 108.20 |
| 2 | AB | 2567 | G | C6-N1-C2 | -6.78 | 121.03 | 125.10 |
| 35 | BA | 183 | C | N1-C2-N3 | 6.78 | 123.94 | 119.20 |
| 35 | BA | 368 | U | C4-C5-C6 | 6.78 | 123.77 | 119.70 |
| 35 | BA | 1188 | A | N7-C8-N9 | 6.78 | 117.19 | 113.80 |
| 49 | BO | 42 | VAL | CA-CB-CG1 | 6.78 | 121.06 | 110.90 |
| 2 | AB | 241 | A | N1-C2-N3 | -6.77 | 125.91 | 129.30 |
| 2 | AB | 1740 | G | C5-C6-O6 | -6.77 | 124.54 | 128.60 |
| 2 | AB | 2469 | A | C8-N9-C4 | -6.77 | 103.09 | 105.80 |
| 35 | BA | 738 | C | C5'-C4'-O4' | 6.77 | 117.23 | 109.10 |
| 35 | BA | 1058 | G | N7-C8-N9 | -6.77 | 109.71 | 113.10 |
| 2 | AB | 219 | A | N9-C4-C5 | 6.77 | 108.51 | 105.80 |
| 2 | AB | 471 | A | C5-N7-C8 | -6.77 | 100.51 | 103.90 |
| 2 | AB | 675 | A | C1'-O4'-C4' | -6.77 | 104.48 | 109.90 |
| 2 | AB | 1231 | U | C4'-C3'-C2' | -6.77 | 95.83 | 102.60 |
| 2 | AB | 1272 | A | C8-N9-C4 | -6.77 | 103.09 | 105.80 |
| 2 | AB | 1595 | C | N1-C1'-C2' | -6.77 | 104.55 | 112.00 |
| 2 | AB | 1745 | A | C4-C5-C6 | 6.77 | 120.39 | 117.00 |
| 2 | AB | 2721 | A | O4'-C1'-N9 | 6.77 | 113.62 | 108.20 |
| 2 | AB | 2753 | A | C4'-C3'-C2' | -6.77 | 95.83 | 102.60 |
| 28 | A1 | 15 | ARG | NH1-CZ-NH2 | -6.77 | 111.95 | 119.40 |
| 35 | BA | 71 | A | C6-C5-N7 | -6.77 | 127.56 | 132.30 |
| 35 | BA | 433 | G | C5'-C4'-O4' | 6.77 | 117.23 | 109.10 |
| 35 | BA | 530 | G | C1'-O4'-C4' | 6.77 | 115.32 | 109.90 |
| 35 | BA | 761 | G | N3-C4-C5 | -6.77 | 125.21 | 128.60 |
| 36 | BB | 33 | A | N3-C4-N9 | 6.77 | 132.82 | 127.40 |
| 2 | AB | 877 | A | N1-C2-N3 | -6.77 | 125.91 | 129.30 |
| 2 | AB | 1642 | G | C5'-C4'-O4' | 6.77 | 117.22 | 109.10 |
| 2 | AB | 2160 | C | C4-C5-C6 | -6.77 | 114.02 | 117.40 |
| 2 | AB | 2869 | G | C6-N1-C2 | 6.77 | 129.16 | 125.10 |
| 35 | BA | 342 | C | C5-C4-N4 | -6.77 | 115.46 | 120.20 |
| 35 | BA | 1204 | A | C8-N9-C4 | -6.77 | 103.09 | 105.80 |
| 35 | BA | 1260 | G | C2-N3-C4 | 6.77 | 115.28 | 111.90 |
| 35 | BA | 1458 | G | C6-N1-C2 | -6.77 | 121.04 | 125.10 |
| 2 | AB | 128 | C | C2-N3-C4 | -6.77 | 116.52 | 119.90 |
| 2 | AB | 496 | G | N1-C2-N3 | 6.77 | 127.96 | 123.90 |
| 2 | AB | 1300 | G | N3-C4-C5 | -6.77 | 125.22 | 128.60 |
| 2 | AB | 1812 | U | C5'-C4'-O4' | 6.77 | 117.22 | 109.10 |
| 2 | AB | 2602 | A | C4-C5-C6 | 6.77 | 120.39 | 117.00 |
| 2 | AB | 2699 | C | C5'-C4'-C3' | 6.77 | 126.83 | 116.00 |
| 2 | AB | 2872 | A | N3-C4-N9 | -6.77 | 121.98 | 127.40 |
| 36 | BB | 57 | C | P-O3'-C3' | 6.77 | 127.82 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 42 | BH | 110 | ARG | NE-CZ-NH2 | -6.77 | 116.92 | 120.30 |
| 1 | AA | 100 | G | C8-N9-C4 | -6.77 | 103.69 | 106.40 |
| 2 | AB | 470 | A | C1'-O4'-C4' | 6.77 | 115.31 | 109.90 |
| 2 | AB | 1251 | C | N1-C2-O2 | 6.77 | 122.96 | 118.90 |
| 2 | AB | 1650 | A | C2-N3-C4 | 6.77 | 113.98 | 110.60 |
| 35 | BA | 340 | U | C4-C5-C6 | 6.77 | 123.76 | 119.70 |
| 35 | BA | 1210 | C | C4-C5-C6 | -6.77 | 114.02 | 117.40 |
| 46 | BL | 45 | ARG | NH1-CZ-NH2 | -6.77 | 111.96 | 119.40 |
| 2 | AB | 384 | A | C1'-O4'-C4' | 6.77 | 115.31 | 109.90 |
| 2 | AB | 475 | C | N3-C4-C5 | -6.77 | 119.19 | 121.90 |
| 2 | AB | 1131 | G | C5-C6-O6 | 6.77 | 132.66 | 128.60 |
| 2 | AB | 1206 | G | N3-C4-N9 | -6.77 | 121.94 | 126.00 |
| 35 | BA | 138 | G | C1'-O4'-C4' | -6.77 | 104.49 | 109.90 |
| 35 | BA | 496 | A | C5-N7-C8 | -6.77 | 100.52 | 103.90 |
| 35 | BA | 803 | G | C6-N1-C2 | -6.77 | 121.04 | 125.10 |
| 35 | BA | 1094 | G | C5'-C4'-O4' | 6.77 | 117.22 | 109.10 |
| 2 | AB | 1153 | C | C5-C6-N1 | 6.76 | 124.38 | 121.00 |
| 2 | AB | 1514 | G | O4'-C1'-N9 | 6.76 | 113.61 | 108.20 |
| 2 | AB | 1528 | A | C4-C5-C6 | -6.76 | 113.62 | 117.00 |
| 2 | AB | 1894 | C | P-O3'-C3' | 6.76 | 127.82 | 119.70 |
| 2 | AB | 2259 | U | O4'-C1'-N1 | 6.76 | 113.61 | 108.20 |
| 12 | AL | 69 | ARG | NH1-CZ-NH2 | -6.76 | 111.96 | 119.40 |
| 35 | BA | 727 | G | O3'-P-O5' | -6.76 | 91.15 | 104.00 |
| 35 | BA | 1023 | U | N3-C4-O4 | -6.76 | 114.67 | 119.40 |
| 35 | BA | 1495 | U | C4'-C3'-C2' | -6.76 | 95.84 | 102.60 |
| 35 | BA | 1497 | G | C1'-O4'-C4' | -6.76 | 104.49 | 109.90 |
| 35 | BA | 1291 | U | N1-C2-N3 | 6.76 | 118.96 | 114.90 |
| 2 | AB | 699 | A | C6-N1-C2 | -6.76 | 114.54 | 118.60 |
| 2 | AB | 786 | C | N3-C4-C5 | -6.76 | 119.19 | 121.90 |
| 2 | AB | 1548 | A | N9-C4-C5 | 6.76 | 108.50 | 105.80 |
| 2 | AB | 1563 | U | C5-C6-N1 | 6.76 | 126.08 | 122.70 |
| 2 | AB | 2027 | G | N9-C1'-C2' | -6.76 | 104.56 | 112.00 |
| 2 | AB | 2059 | A | C5-C6-N1 | -6.76 | 114.32 | 117.70 |
| 2 | AB | 2135 | A | N7-C8-N9 | 6.76 | 117.18 | 113.80 |
| 2 | AB | 2228 | G | N1-C2-N3 | 6.76 | 127.96 | 123.90 |
| 2 | AB | 2548 | U | N3-C2-O2 | -6.76 | 117.47 | 122.20 |
| 35 | BA | 724 | G | C4'-C3'-C2' | -6.76 | 95.84 | 102.60 |
| 35 | BA | 810 | C | C5-C6-N1 | 6.76 | 124.38 | 121.00 |
| 35 | BA | 901 | A | N7-C8-N9 | -6.76 | 110.42 | 113.80 |
| 35 | BA | 1420 | U | C4-C5-C6 | 6.76 | 123.76 | 119.70 |
| 2 | AB | 778 | G | C5-N7-C8 | -6.76 | 100.92 | 104.30 |
| 2 | AB | 1069 | A | C5-C6-N1 | 6.76 | 121.08 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1377 | G | N7-C8-N9 | 6.76 | 116.48 | 113.10 |
| 2 | AB | 1434 | A | C2-N3-C4 | 6.76 | 113.98 | 110.60 |
| 2 | AB | 1528 | A | N1-C6-N6 | -6.76 | 114.55 | 118.60 |
| 2 | AB | 1987 | A | C6-N1-C2 | -6.76 | 114.55 | 118.60 |
| 2 | AB | 2102 | G | C1'-O4'-C4' | -6.76 | 104.49 | 109.90 |
| 2 | AB | 2327 | A | N7-C8-N9 | 6.76 | 117.18 | 113.80 |
| 35 | BA | 464 | U | N1-C2-N3 | 6.76 | 118.96 | 114.90 |
| 2 | AB | 311 | A | C8-N9-C4 | -6.76 | 103.10 | 105.80 |
| 2 | AB | 1192 | G | C4'-C3'-C2' | -6.76 | 95.84 | 102.60 |
| 2 | AB | 2197 | U | N3-C4-O4 | 6.76 | 124.13 | 119.40 |
| 2 | AB | 516 | C | C5-C6-N1 | -6.76 | 117.62 | 121.00 |
| 2 | AB | 1632 | A | C5-C6-N6 | 6.76 | 129.11 | 123.70 |
| 35 | BA | 203 | G | O4'-C1'-C2' | 6.76 | 113.68 | 107.60 |
| 35 | BA | 346 | G | C5-C6-O6 | 6.76 | 132.65 | 128.60 |
| 35 | BA | 612 | C | O4'-C1'-N1 | 6.76 | 113.61 | 108.20 |
| 35 | BA | 793 | U | C2-N1-C1' | 6.76 | 125.81 | 117.70 |
| 35 | BA | 1087 | G | C5'-C4'-C3' | -6.76 | 105.19 | 116.00 |
| 35 | BA | 1240 | U | N1-C2-N3 | 6.76 | 118.95 | 114.90 |
| 35 | BA | 1289 | A | C4'-C3'-C2' | -6.76 | 95.84 | 102.60 |
| 35 | BA | 1302 | C | C5'-C4'-C3' | -6.76 | 105.19 | 116.00 |
| 2 | AB | 207 | A | C2-N3-C4 | 6.75 | 113.98 | 110.60 |
| 2 | AB | 1536 | C | N3-C2-O2 | -6.75 | 117.17 | 121.90 |
| 29 | A2 | 64 | PHE | CB-CG-CD2 | -6.75 | 116.07 | 120.80 |
| 35 | BA | 417 | G | N9-C4-C5 | 6.75 | 108.10 | 105.40 |
| 2 | AB | 219 | A | O4'-C4'-C3' | 6.75 | 111.50 | 106.10 |
| 2 | AB | 1210 | G | C5-C6-O6 | -6.75 | 124.55 | 128.60 |
| 2 | AB | 1450 | G | C4'-C3'-C2' | -6.75 | 95.85 | 102.60 |
| 2 | AB | 2038 | G | N3-C2-N2 | -6.75 | 115.17 | 119.90 |
| 2 | AB | 2198 | A | C4'-C3'-C2' | -6.75 | 95.85 | 102.60 |
| 35 | BA | 71 | A | C5'-C4'-C3' | -6.75 | 105.19 | 116.00 |
| 35 | BA | 500 | G | N3-C2-N2 | -6.75 | 115.17 | 119.90 |
| 35 | BA | 769 | G | N3-C2-N2 | 6.75 | 124.63 | 119.90 |
| 35 | BA | 1222 | G | C6-C5-N7 | -6.75 | 126.35 | 130.40 |
| 35 | BA | 1410 | A | C5-C6-N1 | 6.75 | 121.08 | 117.70 |
| 42 | BH | 108 | GLU | OE1-CD-OE2 | -6.75 | 115.20 | 123.30 |
| 2 | AB | 2836 | U | C6-N1-C2 | -6.75 | 116.95 | 121.00 |
| 35 | BA | 727 | G | C5-N7-C8 | -6.75 | 100.92 | 104.30 |
| 35 | BA | 739 | C | N1-C2-O2 | 6.75 | 122.95 | 118.90 |
| 35 | BA | 1169 | A | C1'-O4'-C4' | -6.75 | 104.50 | 109.90 |
| 35 | BA | 1503 | A | N1-C6-N6 | -6.75 | 114.55 | 118.60 |
| 35 | BA | 1536 | C | C3'-C2'-C1' | 6.75 | 106.90 | 101.50 |
| 2 | AB | 1352 | U | N1-C2-N3 | 6.75 | 118.95 | 114.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1459 | G | C5'-C4'-O4' | 6.75 | 117.20 | 109.10 |
| 2 | AB | 1616 | A | C3'-C2'-C1' | 6.75 | 106.90 | 101.50 |
| 2 | AB | 2447 | G | O4'-C1'-N9 | 6.75 | 113.60 | 108.20 |
| 35 | BA | 223 | A | C4-C5-C6 | -6.75 | 113.62 | 117.00 |
| 35 | BA | 1422 | G | C4-C5-N7 | 6.75 | 113.50 | 110.80 |
| 35 | BA | 1452 | C | P-O3'-C3' | 6.75 | 127.80 | 119.70 |
| 2 | AB | 1005 | C | C5'-C4'-O4' | 6.75 | 117.20 | 109.10 |
| 2 | AB | 1181 | U | C4-C5-C6 | 6.75 | 123.75 | 119.70 |
| 2 | AB | 1589 | U | C4'-C3'-C2' | -6.75 | 95.85 | 102.60 |
| 2 | AB | 1600 | C | C5'-C4'-C3' | -6.75 | 105.20 | 116.00 |
| 2 | AB | 2323 | G | N7-C8-N9 | 6.75 | 116.47 | 113.10 |
| 2 | AB | 2367 | G | N3-C4-C5 | -6.75 | 125.23 | 128.60 |
| 2 | AB | 2602 | A | N9-C4-C5 | 6.75 | 108.50 | 105.80 |
| 2 | AB | 2870 | C | N1-C2-O2 | 6.75 | 122.95 | 118.90 |
| 31 | A4 | 48 | TYR | CB-CG-CD2 | -6.75 | 116.95 | 121.00 |
| 35 | BA | 243 | A | P-O3'-C3' | 6.75 | 127.80 | 119.70 |
| 35 | BA | 1101 | A | O4'-C1'-N9 | 6.75 | 113.60 | 108.20 |
| 2 | AB | 254 | G | O4'-C1'-N9 | 6.75 | 113.60 | 108.20 |
| 2 | AB | 1464 | G | C4'-C3'-C2' | -6.75 | 95.85 | 102.60 |
| 2 | AB | 1848 | A | N7-C8-N9 | 6.75 | 117.17 | 113.80 |
| 2 | AB | 2162 | G | C5-C6-N1 | 6.75 | 114.87 | 111.50 |
| 10 | AJ | 131 | TYR | CB-CG-CD1 | -6.75 | 116.95 | 121.00 |
| 12 | AL | 57 | LEU | CB-CG-CD1 | 6.75 | 122.47 | 111.00 |
| 35 | BA | 884 | U | O4'-C4'-C3' | 6.75 | 111.50 | 106.10 |
| 35 | BA | 1045 | C | C4-C5-C6 | 6.75 | 120.77 | 117.40 |
| 2 | AB | 293 | U | N1-C2-O2 | 6.75 | 127.52 | 122.80 |
| 2 | AB | 1176 | U | C3'-C2'-C1' | 6.75 | 106.90 | 101.50 |
| 2 | AB | 2162 | G | C2-N3-C4 | 6.75 | 115.27 | 111.90 |
| 2 | AB | 2199 | A | O5'-P-OP2 | -6.75 | 99.63 | 105.70 |
| 2 | AB | 261 | G | C6-C5-N7 | 6.74 | 134.45 | 130.40 |
| 2 | AB | 520 | G | C5-C6-N1 | 6.74 | 114.87 | 111.50 |
| 2 | AB | 553 | G | N1-C2-N2 | -6.74 | 110.13 | 116.20 |
| 2 | AB | 568 | U | N1-C2-O2 | 6.74 | 127.52 | 122.80 |
| 2 | AB | 1068 | G | N3-C2-N2 | 6.74 | 124.62 | 119.90 |
| 2 | AB | 1409 | U | C5-C4-O4 | -6.74 | 121.85 | 125.90 |
| 2 | AB | 2197 | U | N1-C2-O2 | 6.74 | 127.52 | 122.80 |
| 2 | AB | 2279 | G | C6-N1-C2 | -6.74 | 121.05 | 125.10 |
| 2 | AB | 2416 | C | N3-C4-C5 | -6.74 | 119.20 | 121.90 |
| 35 | BA | 680 | C | C4-C5-C6 | 6.74 | 120.77 | 117.40 |
| 35 | BA | 1272 | G | O4'-C1'-N9 | 6.74 | 113.59 | 108.20 |
| 37 | BC | 53 | G | N9-C4-C5 | 6.74 | 108.10 | 105.40 |
| 47 | BM | 109 | ILE | CA-CB-CG1 | 6.74 | 123.81 | 111.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 48 | BN | 65 | TYR | CB-CG-CD2 | -6.74 | 116.95 | 121.00 |
| 2 | AB | 1059 | G | C3'-C2'-C1' | 6.74 | 106.89 | 101.50 |
| 2 | AB | 1955 | U | C1'-O4'-C4' | -6.74 | 104.51 | 109.90 |
| 2 | AB | 2437 | G | C8-N9-C4 | -6.74 | 103.70 | 106.40 |
| 2 | AB | 2799 | A | C4-C5-C6 | -6.74 | 113.63 | 117.00 |
| 35 | BA | 363 | A | O4'-C1'-N9 | 6.74 | 113.59 | 108.20 |
| 35 | BA | 890 | G | N9-C4-C5 | 6.74 | 108.10 | 105.40 |
| 35 | BA | 1023 | U | C4-C5-C6 | 6.74 | 123.75 | 119.70 |
| 35 | BA | 1098 | C | O4'-C1'-N1 | 6.74 | 113.59 | 108.20 |
| 35 | BA | 1496 | C | N1-C1'-C2' | -6.74 | 104.58 | 112.00 |
| 2 | AB | 248 | G | N7-C8-N9 | 6.74 | 116.47 | 113.10 |
| 2 | AB | 1551 | A | C2-N3-C4 | 6.74 | 113.97 | 110.60 |
| 2 | AB | 1594 | U | C2-N3-C4 | -6.74 | 122.95 | 127.00 |
| 2 | AB | 2375 | G | C1'-O4'-C4' | -6.74 | 104.51 | 109.90 |
| 35 | BA | 916 | U | C6-N1-C2 | -6.74 | 116.95 | 121.00 |
| 2 | AB | 1945 | G | C2-N3-C4 | 6.74 | 115.27 | 111.90 |
| 2 | AB | 2008 | C | O5'-P-OP1 | -6.74 | 99.64 | 105.70 |
| 22 | AV | 12 | ARG | CA-CB-CG | 6.74 | 128.22 | 113.40 |
| 35 | BA | 31 | G | C5-C6-O6 | 6.74 | 132.64 | 128.60 |
| 35 | BA | 767 | A | C5-C6-N1 | 6.74 | 121.07 | 117.70 |
| 35 | BA | 787 | A | N7-C8-N9 | -6.74 | 110.43 | 113.80 |
| 35 | BA | 1046 | A | C5-C6-N6 | -6.74 | 118.31 | 123.70 |
| 2 | AB | 913 | U | C2-N3-C4 | -6.74 | 122.96 | 127.00 |
| 2 | AB | 1732 | C | N1-C2-N3 | 6.74 | 123.92 | 119.20 |
| 2 | AB | 2576 | G | C8-N9-C4 | -6.74 | 103.70 | 106.40 |
| 2 | AB | 346 | A | O4'-C1'-N9 | 6.74 | 113.59 | 108.20 |
| 2 | AB | 1246 | A | C6-C5-N7 | 6.74 | 137.01 | 132.30 |
| 2 | AB | 1503 | A | C4'-C3'-C2' | -6.74 | 95.86 | 102.60 |
| 2 | AB | 1552 | A | C6-N1-C2 | 6.74 | 122.64 | 118.60 |
| 2 | AB | 2112 | G | C8-N9-C4 | 6.74 | 109.09 | 106.40 |
| 2 | AB | 2176 | A | C4-C5-N7 | 6.74 | 114.07 | 110.70 |
| 2 | AB | 2624 | G | N1-C2-N2 | 6.74 | 122.26 | 116.20 |
| 2 | AB | 2678 | C | O4'-C1'-N1 | 6.74 | 113.59 | 108.20 |
| 2 | AB | 2894 | G | C5-N7-C8 | 6.74 | 107.67 | 104.30 |
| 35 | BA | 27 | G | N1-C6-O6 | 6.74 | 123.94 | 119.90 |
| 35 | BA | 727 | G | N7-C8-N9 | 6.74 | 116.47 | 113.10 |
| 35 | BA | 1199 | U | N1-C2-O2 | -6.74 | 118.08 | 122.80 |
| 35 | BA | 1216 | A | C6-C5-N7 | 6.74 | 137.01 | 132.30 |
| 2 | AB | 559 | G | N7-C8-N9 | -6.73 | 109.73 | 113.10 |
| 2 | AB | 824 | U | N3-C4-O4 | -6.73 | 114.69 | 119.40 |
| 2 | AB | 2896 | C | C2-N3-C4 | -6.73 | 116.53 | 119.90 |
| 35 | BA | 192 | A | C5-C6-N1 | 6.73 | 121.07 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 111 | A | C3'-C2'-C1' | 6.73 | 106.89 | 101.50 |
| 2 | AB | 416 | U | C5-C4-O4 | 6.73 | 129.94 | 125.90 |
| 2 | AB | 431 | U | C1'-O4'-C4' | -6.73 | 104.51 | 109.90 |
| 2 | AB | 480 | A | C5-C6-N1 | 6.73 | 121.07 | 117.70 |
| 2 | AB | 606 | U | C4'-C3'-C2' | -6.73 | 95.87 | 102.60 |
| 2 | AB | 1928 | A | C8-N9-C4 | -6.73 | 103.11 | 105.80 |
| 2 | AB | 2006 | C | C3'-C2'-C1' | 6.73 | 106.89 | 101.50 |
| 43 | BI | 43 | TYR | CB-CG-CD2 | -6.73 | 116.96 | 121.00 |
| 2 | AB | 80 | G | N3-C2-N2 | 6.73 | 124.61 | 119.90 |
| 2 | AB | 481 | G | C5'-C4'-O4' | -6.73 | 101.02 | 109.10 |
| 2 | AB | 576 | U | O4'-C1'-N1 | 6.73 | 113.58 | 108.20 |
| 2 | AB | 1111 | A | C5-C6-N1 | -6.73 | 114.33 | 117.70 |
| 2 | AB | 1687 | G | N9-C4-C5 | -6.73 | 102.71 | 105.40 |
| 2 | AB | 1863 | G | N3-C4-N9 | -6.73 | 121.96 | 126.00 |
| 2 | AB | 1945 | G | N3-C4-C5 | -6.73 | 125.23 | 128.60 |
| 2 | AB | 2054 | A | C8-N9-C4 | -6.73 | 103.11 | 105.80 |
| 2 | AB | 2091 | C | O4'-C1'-N1 | 6.73 | 113.58 | 108.20 |
| 2 | AB | 2209 | G | C6-N1-C2 | -6.73 | 121.06 | 125.10 |
| 2 | AB | 2710 | C | C5-C6-N1 | 6.73 | 124.36 | 121.00 |
| 2 | AB | 2723 | C | C4'-C3'-C2' | -6.73 | 95.87 | 102.60 |
| 6 | AF | 169 | VAL | CG1-CB-CG2 | -6.73 | 100.13 | 110.90 |
| 12 | AL | 125 | TYR | CG-CD1-CE1 | -6.73 | 115.92 | 121.30 |
| 35 | BA | 415 | A | N9-C4-C5 | 6.73 | 108.49 | 105.80 |
| 35 | BA | 575 | G | C4-C5-C6 | 6.73 | 122.84 | 118.80 |
| 35 | BA | 647 | C | C2-N3-C4 | -6.73 | 116.53 | 119.90 |
| 35 | BA | 1399 | C | N3-C2-O2 | -6.73 | 117.19 | 121.90 |
| 2 | AB | 522 | A | C5'-C4'-O4' | 6.73 | 117.17 | 109.10 |
| 2 | AB | 1430 | G | C5-N7-C8 | -6.73 | 100.94 | 104.30 |
| 35 | BA | 104 | G | N1-C6-O6 | -6.73 | 115.86 | 119.90 |
| 35 | BA | 639 | G | C4-C5-N7 | -6.73 | 108.11 | 110.80 |
| 35 | BA | 816 | A | N9-C4-C5 | 6.73 | 108.49 | 105.80 |
| 35 | BA | 1146 | A | N3-C4-C5 | -6.73 | 122.09 | 126.80 |
| 2 | AB | 83 | A | N7-C8-N9 | 6.73 | 117.16 | 113.80 |
| 2 | AB | 323 | C | C1'-O4'-C4' | 6.73 | 115.28 | 109.90 |
| 2 | AB | 426 | C | C4-C5-C6 | 6.73 | 120.76 | 117.40 |
| 2 | AB | 626 | A | O4'-C4'-C3' | -6.73 | 97.27 | 104.00 |
| 2 | AB | 2826 | A | C4-C5-N7 | 6.73 | 114.06 | 110.70 |
| 35 | BA | 130 | A | C5-N7-C8 | 6.73 | 107.26 | 103.90 |
| 2 | AB | 1801 | A | C8-N9-C4 | -6.73 | 103.11 | 105.80 |
| 35 | BA | 228 | A | N7-C8-N9 | -6.73 | 110.44 | 113.80 |
| 35 | BA | 773 | G | O4'-C1'-N9 | 6.73 | 113.58 | 108.20 |
| 2 | AB | 1301 | A | O4'-C1'-N9 | 6.72 | 113.58 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1352 | U | C4'-C3'-C2' | -6.72 | 95.88 | 102.60 |
| 2 | AB | 1583 | A | O4'-C1'-N9 | 6.72 | 113.58 | 108.20 |
| 2 | AB | 2004 | G | C5-C6-N1 | 6.72 | 114.86 | 111.50 |
| 2 | AB | 2128 | G | C5-C6-O6 | -6.72 | 124.56 | 128.60 |
| 2 | AB | 2339 | C | O4'-C4'-C3' | 6.72 | 111.48 | 106.10 |
| 2 | AB | 2363 | G | N3-C4-N9 | 6.72 | 130.03 | 126.00 |
| 2 | AB | 2840 | C | N3-C2-O2 | -6.72 | 117.19 | 121.90 |
| 35 | BA | 12 | U | P-O3'-C3' | 6.72 | 127.77 | 119.70 |
| 35 | BA | 145 | G | N7-C8-N9 | 6.72 | 116.46 | 113.10 |
| 35 | BA | 468 | A | O4'-C1'-N9 | 6.72 | 113.58 | 108.20 |
| 35 | BA | 924 | C | C2-N3-C4 | -6.72 | 116.54 | 119.90 |
| 35 | BA | 973 | G | C4'-C3'-C2' | -6.72 | 95.88 | 102.60 |
| 2 | AB | 325 | G | N3-C2-N2 | -6.72 | 115.19 | 119.90 |
| 2 | AB | 559 | G | C2-N3-C4 | 6.72 | 115.26 | 111.90 |
| 2 | AB | 617 | G | C5'-C4'-O4' | 6.72 | 117.17 | 109.10 |
| 2 | AB | 718 | A | N1-C2-N3 | 6.72 | 132.66 | 129.30 |
| 2 | AB | 1038 | G | C5-C6-N1 | 6.72 | 114.86 | 111.50 |
| 2 | AB | 1139 | G | N9-C4-C5 | -6.72 | 102.71 | 105.40 |
| 2 | AB | 1521 | G | C4-C5-C6 | 6.72 | 122.83 | 118.80 |
| 2 | AB | 1993 | U | N3-C2-O2 | -6.72 | 117.49 | 122.20 |
| 2 | AB | 2243 | U | N3-C2-O2 | -6.72 | 117.50 | 122.20 |
| 35 | BA | 279 | A | N7-C8-N9 | -6.72 | 110.44 | 113.80 |
| 35 | BA | 500 | G | N9-C4-C5 | -6.72 | 102.71 | 105.40 |
| 35 | BA | 576 | C | C5'-C4'-O4' | -6.72 | 101.03 | 109.10 |
| 2 | AB | 176 | A | C5-C6-N1 | 6.72 | 121.06 | 117.70 |
| 2 | AB | 470 | A | C3'-C2'-C1' | 6.72 | 106.88 | 101.50 |
| 2 | AB | 709 | U | C4-C5-C6 | 6.72 | 123.73 | 119.70 |
| 2 | AB | 1288 | G | N1-C2-N3 | 6.72 | 127.93 | 123.90 |
| 2 | AB | 1572 | A | C5-C6-N1 | -6.72 | 114.34 | 117.70 |
| 2 | AB | 2602 | A | N7-C8-N9 | 6.72 | 117.16 | 113.80 |
| 2 | AB | 2667 | C | N1-C2-O2 | 6.72 | 122.93 | 118.90 |
| 35 | BA | 770 | C | C4-C5-C6 | -6.72 | 114.04 | 117.40 |
| 2 | AB | 1364 | G | N3-C2-N2 | 6.72 | 124.60 | 119.90 |
| 2 | AB | 2212 | A | C6-N1-C2 | -6.72 | 114.57 | 118.60 |
| 2 | AB | 2637 | U | O4'-C4'-C3' | 6.72 | 111.48 | 106.10 |
| 2 | AB | 2735 | G | C4-C5-N7 | -6.72 | 108.11 | 110.80 |
| 2 | AB | 2823 | A | C5-N7-C8 | 6.72 | 107.26 | 103.90 |
| 17 | AQ | 81 | ARG | NE-CZ-NH1 | 6.72 | 123.66 | 120.30 |
| 18 | AR | 52 | ARG | NE-CZ-NH1 | 6.72 | 123.66 | 120.30 |
| 35 | BA | 317 | U | C5-C6-N1 | -6.72 | 119.34 | 122.70 |
| 35 | BA | 946 | A | N7-C8-N9 | 6.72 | 117.16 | 113.80 |
| 1 | AA | 111 | U | C2-N3-C4 | -6.72 | 122.97 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1029 | A | N7-C8-N9 | -6.72 | 110.44 | 113.80 |
| 2 | AB | 1521 | G | C3'-C2'-C1' | 6.72 | 106.87 | 101.50 |
| 2 | AB | 2371 | G | N1-C6-O6 | -6.72 | 115.87 | 119.90 |
| 35 | BA | 100 | G | O4'-C1'-N9 | 6.72 | 113.58 | 108.20 |
| 35 | BA | 199 | A | O4'-C4'-C3' | 6.72 | 111.47 | 106.10 |
| 35 | BA | 244 | U | N3-C2-O2 | -6.72 | 117.50 | 122.20 |
| 1 | AA | 29 | A | N7-C8-N9 | 6.72 | 117.16 | 113.80 |
| 2 | AB | 532 | A | O4'-C1'-N9 | 6.72 | 113.57 | 108.20 |
| 2 | AB | 1619 | G | N3-C4-C5 | -6.72 | 125.24 | 128.60 |
| 2 | AB | 2052 | A | C5-C6-N1 | 6.72 | 121.06 | 117.70 |
| 2 | AB | 2081 | U | C3'-C2'-C1' | 6.72 | 106.87 | 101.50 |
| 2 | AB | 2816 | G | C8-N9-C4 | -6.72 | 103.71 | 106.40 |
| 35 | BA | 735 | C | C6-N1-C2 | -6.72 | 117.61 | 120.30 |
| 35 | BA | 1041 | G | N3-C2-N2 | -6.72 | 115.20 | 119.90 |
| 35 | BA | 1479 | C | C5-C6-N1 | -6.72 | 117.64 | 121.00 |
| 2 | AB | 822 | G | O4'-C1'-N9 | 6.71 | 113.57 | 108.20 |
| 2 | AB | 1156 | A | C2-N3-C4 | 6.71 | 113.96 | 110.60 |
| 2 | AB | 1193 | G | C8-N9-C1' | 6.71 | 135.73 | 127.00 |
| 2 | AB | 1409 | U | N3-C4-O4 | 6.71 | 124.10 | 119.40 |
| 2 | AB | 1470 | A | C5-N7-C8 | 6.71 | 107.26 | 103.90 |
| 2 | AB | 2536 | G | N3-C4-C5 | -6.71 | 125.24 | 128.60 |
| 20 | AT | 83 | TYR | CB-CG-CD2 | 6.71 | 125.03 | 121.00 |
| 35 | BA | 315 | A | N1-C6-N6 | -6.71 | 114.57 | 118.60 |
| 35 | BA | 332 | G | N3-C4-C5 | 6.71 | 131.96 | 128.60 |
| 35 | BA | 514 | C | N3-C4-N4 | 6.71 | 122.70 | 118.00 |
| 35 | BA | 809 | G | P-O3'-C3' | 6.71 | 127.76 | 119.70 |
| 35 | BA | 1181 | G | C5'-C4'-C3' | -6.71 | 105.26 | 116.00 |
| 35 | BA | 1251 | A | N7-C8-N9 | 6.71 | 117.16 | 113.80 |
| 35 | BA | 1357 | A | C4-C5-N7 | 6.71 | 114.06 | 110.70 |
| 37 | BC | 60 | A | O4'-C1'-N9 | 6.71 | 113.57 | 108.20 |
| 2 | AB | 160 | A | C2-N3-C4 | 6.71 | 113.96 | 110.60 |
| 2 | AB | 405 | U | N3-C2-O2 | -6.71 | 117.50 | 122.20 |
| 2 | AB | 2599 | G | O4'-C1'-N9 | 6.71 | 113.57 | 108.20 |
| 35 | BA | 862 | C | C3'-C2'-C1' | 6.71 | 106.87 | 101.50 |
| 35 | BA | 1272 | G | N3-C2-N2 | 6.71 | 124.60 | 119.90 |
| 1 | AA | 27 | C | C1'-O4'-C4' | 6.71 | 115.27 | 109.90 |
| 2 | AB | 79 | C | N1-C2-O2 | 6.71 | 122.93 | 118.90 |
| 2 | AB | 132 | G | C5-C6-O6 | -6.71 | 124.57 | 128.60 |
| 2 | AB | 294 | A | C3'-C2'-C1' | -6.71 | 96.13 | 101.50 |
| 2 | AB | 509 | C | N3-C4-C5 | -6.71 | 119.22 | 121.90 |
| 2 | AB | 1840 | G | N1-C2-N2 | 6.71 | 122.24 | 116.20 |
| 2 | AB | 2892 | G | C5-C6-N1 | 6.71 | 114.86 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1413 | A | C5-N7-C8 | -6.71 | 100.54 | 103.90 |
| 35 | BA | 1431 | A | C1'-O4'-C4' | 6.71 | 115.27 | 109.90 |
| 2 | AB | 66 | C | N1-C2-N3 | -6.71 | 114.50 | 119.20 |
| 2 | AB | 366 | C | C4-C5-C6 | -6.71 | 114.05 | 117.40 |
| 15 | AO | 92 | TRP | NE1-CE2-CZ2 | 6.71 | 137.78 | 130.40 |
| 35 | BA | 212 | G | P-O5'-C5' | 6.71 | 131.64 | 120.90 |
| 35 | BA | 1171 | A | C4-C5-C6 | -6.71 | 113.64 | 117.00 |
| 2 | AB | 142 | A | C4'-C3'-C2' | -6.71 | 95.89 | 102.60 |
| 2 | AB | 472 | A | N1-C6-N6 | 6.71 | 122.62 | 118.60 |
| 2 | AB | 632 | A | O4'-C1'-N9 | 6.71 | 113.57 | 108.20 |
| 2 | AB | 638 | G | N1-C2-N3 | -6.71 | 119.88 | 123.90 |
| 2 | AB | 832 | U | C2-N3-C4 | -6.71 | 122.97 | 127.00 |
| 2 | AB | 1847 | A | C4-C5-N7 | -6.71 | 107.35 | 110.70 |
| 2 | AB | 2122 | U | C5-C4-O4 | -6.71 | 121.88 | 125.90 |
| 2 | AB | 2246 | G | C4-C5-N7 | 6.71 | 113.48 | 110.80 |
| 2 | AB | 2325 | G | N1-C6-O6 | -6.71 | 115.88 | 119.90 |
| 2 | AB | 2400 | G | N3-C4-C5 | -6.71 | 125.25 | 128.60 |
| 2 | AB | 2440 | C | O4'-C1'-C2' | 6.71 | 113.64 | 107.60 |
| 35 | BA | 954 | G | C2-N3-C4 | 6.71 | 115.25 | 111.90 |
| 2 | AB | 205 | G | N3-C4-C5 | -6.71 | 125.25 | 128.60 |
| 2 | AB | 832 | U | N3-C2-O2 | -6.71 | 117.50 | 122.20 |
| 2 | AB | 938 | G | C6-N1-C2 | -6.71 | 121.08 | 125.10 |
| 35 | BA | 177 | G | C8-N9-C1' | -6.71 | 118.28 | 127.00 |
| 36 | BB | 35 | G | N7-C8-N9 | 6.71 | 116.45 | 113.10 |
| 2 | AB | 2184 | A | O4'-C1'-N9 | 6.71 | 113.56 | 108.20 |
| 35 | BA | 1297 | G | N3-C2-N2 | -6.71 | 115.21 | 119.90 |
| 2 | AB | 168 | G | N1-C2-N3 | -6.70 | 119.88 | 123.90 |
| 2 | AB | 350 | G | C6-C5-N7 | -6.70 | 126.38 | 130.40 |
| 2 | AB | 448 | U | C2-N3-C4 | -6.70 | 122.98 | 127.00 |
| 2 | AB | 793 | A | C4'-C3'-C2' | -6.70 | 95.90 | 102.60 |
| 2 | AB | 1058 | U | N3-C4-C5 | -6.70 | 110.58 | 114.60 |
| 2 | AB | 1280 | G | C2-N3-C4 | 6.70 | 115.25 | 111.90 |
| 2 | AB | 1313 | U | C5-C4-O4 | -6.70 | 121.88 | 125.90 |
| 2 | AB | 1751 | U | N1-C2-N3 | 6.70 | 118.92 | 114.90 |
| 2 | AB | 2070 | A | C5-C6-N1 | 6.70 | 121.05 | 117.70 |
| 2 | AB | 2599 | G | N1-C6-O6 | -6.70 | 115.88 | 119.90 |
| 26 | AZ | 44 | ARG | NE-CZ-NH1 | -6.70 | 116.95 | 120.30 |
| 35 | BA | 8 | A | O4'-C1'-C2' | -6.70 | 99.10 | 105.80 |
| 35 | BA | 492 | C | N1-C2-O2 | 6.70 | 122.92 | 118.90 |
| 35 | BA | 1051 | C | N3-C4-N4 | 6.70 | 122.69 | 118.00 |
| 37 | BC | 58 | A | C8-N9-C4 | -6.70 | 103.12 | 105.80 |
| 1 | AA | 25 | U | O4'-C1'-N1 | 6.70 | 113.56 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 711 | G | N3-C4-N9 | 6.70 | 130.02 | 126.00 |
| 35 | BA | 377 | G | C6-N1-C2 | -6.70 | 121.08 | 125.10 |
| 35 | BA | 440 | C | O4'-C1'-N1 | 6.70 | 113.56 | 108.20 |
| 35 | BA | 1362 | A | C4'-C3'-C2' | -6.70 | 95.90 | 102.60 |
| 1 | AA | 29 | A | C4'-C3'-C2' | -6.70 | 95.90 | 102.60 |
| 2 | AB | 315 | G | C2-N3-C4 | 6.70 | 115.25 | 111.90 |
| 2 | AB | 424 | G | C4'-C3'-C2' | -6.70 | 95.90 | 102.60 |
| 2 | AB | 810 | U | N3-C2-O2 | -6.70 | 117.51 | 122.20 |
| 2 | AB | 901 | C | N1-C1'-C2' | -6.70 | 104.63 | 112.00 |
| 2 | AB | 1694 | C | C3'-C2'-C1' | -6.70 | 96.14 | 101.50 |
| 2 | AB | 2302 | U | N3-C4-O4 | 6.70 | 124.09 | 119.40 |
| 5 | AE | 179 | ARG | NE-CZ-NH1 | 6.70 | 123.65 | 120.30 |
| 1 | AA | 41 | G | N9-C4-C5 | 6.70 | 108.08 | 105.40 |
| 2 | AB | 686 | U | C6-N1-C2 | -6.70 | 116.98 | 121.00 |
| 2 | AB | 1227 | G | C5'-C4'-O4' | 6.70 | 117.14 | 109.10 |
| 2 | AB | 1267 | U | C5-C4-O4 | -6.70 | 121.88 | 125.90 |
| 2 | AB | 1676 | A | N7-C8-N9 | 6.70 | 117.15 | 113.80 |
| 2 | AB | 1811 | G | C6-N1-C2 | -6.70 | 121.08 | 125.10 |
| 2 | AB | 2260 | C | C4'-C3'-C2' | -6.70 | 95.90 | 102.60 |
| 2 | AB | 2682 | A | N7-C8-N9 | -6.70 | 110.45 | 113.80 |
| 35 | BA | 82 | G | C8-N9-C4 | -6.70 | 103.72 | 106.40 |
| 35 | BA | 1500 | A | C4-C5-C6 | -6.70 | 113.65 | 117.00 |
| 37 | BC | 31 | G | N3-C4-C5 | -6.70 | 125.25 | 128.60 |
| 2 | AB | 695 | G | C5-C6-N1 | -6.70 | 108.15 | 111.50 |
| 2 | AB | 867 | C | N1-C2-O2 | 6.70 | 122.92 | 118.90 |
| 2 | AB | 1081 | U | O4'-C1'-N1 | 6.70 | 113.56 | 108.20 |
| 35 | BA | 1139 | G | C8-N9-C4 | -6.70 | 103.72 | 106.40 |
| 35 | BA | 1223 | C | O4'-C1'-N1 | 6.70 | 113.56 | 108.20 |
| 53 | BS | 64 | ARG | NE-CZ-NH2 | -6.70 | 116.95 | 120.30 |
| 2 | AB | 332 | A | C2-N3-C4 | 6.70 | 113.95 | 110.60 |
| 2 | AB | 501 | A | C3'-C2'-C1' | 6.70 | 106.86 | 101.50 |
| 2 | AB | 670 | A | C1'-O4'-C4' | 6.70 | 115.26 | 109.90 |
| 2 | AB | 709 | U | O4'-C1'-N1 | 6.70 | 113.56 | 108.20 |
| 2 | AB | 727 | A | O4'-C1'-C2' | -6.70 | 99.11 | 105.80 |
| 2 | AB | 1740 | G | C3'-C2'-C1' | -6.70 | 96.14 | 101.50 |
| 2 | AB | 2572 | A | C3'-C2'-C1' | 6.70 | 106.86 | 101.50 |
| 2 | AB | 2842 | G | N1-C2-N3 | 6.70 | 127.92 | 123.90 |
| 2 | AB | 2869 | G | C8-N9-C4 | -6.70 | 103.72 | 106.40 |
| 5 | AE | 113 | SER | CB-CA-C | 6.70 | 122.82 | 110.10 |
| 35 | BA | 252 | U | C3'-C2'-C1' | -6.70 | 96.14 | 101.50 |
| 35 | BA | 419 | C | N1-C2-O2 | 6.70 | 122.92 | 118.90 |
| 35 | BA | 718 | A | N9-C4-C5 | 6.70 | 108.48 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 888 | G | P-O3'-C3' | 6.70 | 127.73 | 119.70 |
| 35 | BA | 976 | G | N3-C4-C5 | -6.70 | 125.25 | 128.60 |
| 35 | BA | 1214 | C | C1'-O4'-C4' | -6.70 | 104.54 | 109.90 |
| 35 | BA | 1221 | G | N3-C2-N2 | 6.70 | 124.59 | 119.90 |
| 2 | AB | 652 | U | O4'-C1'-N1 | 6.69 | 113.56 | 108.20 |
| 2 | AB | 2246 | G | N3-C4-N9 | 6.69 | 130.02 | 126.00 |
| 2 | AB | 2276 | G | C5-C6-O6 | -6.69 | 124.58 | 128.60 |
| 4 | AD | 216 | ARG | NE-CZ-NH1 | 6.69 | 123.65 | 120.30 |
| 22 | AV | 16 | VAL | CG1-CB-CG2 | -6.69 | 100.19 | 110.90 |
| 35 | BA | 310 | G | N3-C2-N2 | -6.69 | 115.21 | 119.90 |
| 2 | AB | 362 | A | N1-C6-N6 | -6.69 | 114.58 | 118.60 |
| 2 | AB | 636 | G | N9-C1'-C2' | -6.69 | 104.64 | 112.00 |
| 2 | AB | 1196 | C | N3-C4-C5 | -6.69 | 119.22 | 121.90 |
| 2 | AB | 1323 | C | O4'-C4'-C3' | 6.69 | 111.45 | 106.10 |
| 2 | AB | 1407 | G | N1-C2-N2 | -6.69 | 110.18 | 116.20 |
| 2 | AB | 1528 | A | C5-C6-N1 | 6.69 | 121.05 | 117.70 |
| 2 | AB | 1633 | G | N1-C2-N3 | -6.69 | 119.88 | 123.90 |
| 2 | AB | 1753 | G | N3-C2-N2 | 6.69 | 124.58 | 119.90 |
| 2 | AB | 1853 | A | C4-C5-N7 | 6.69 | 114.05 | 110.70 |
| 2 | AB | 1870 | C | O4'-C4'-C3' | 6.69 | 111.45 | 106.10 |
| 2 | AB | 2606 | C | C2-N3-C4 | -6.69 | 116.55 | 119.90 |
| 35 | BA | 696 | A | N1-C6-N6 | -6.69 | 114.58 | 118.60 |
| 35 | BA | 1236 | A | C2-N3-C4 | -6.69 | 107.25 | 110.60 |
| 35 | BA | 1440 | U | N3-C4-O4 | -6.69 | 114.72 | 119.40 |
| 35 | BA | 1464 | U | O4'-C1'-N1 | 6.69 | 113.55 | 108.20 |
| 37 | BC | 51 | U | C3'-C2'-C1' | -6.69 | 96.15 | 101.50 |
| 2 | AB | 434 | U | C2-N3-C4 | -6.69 | 122.98 | 127.00 |
| 2 | AB | 612 | G | N3-C4-C5 | -6.69 | 125.25 | 128.60 |
| 2 | AB | 827 | U | C3'-C2'-C1' | 6.69 | 106.85 | 101.50 |
| 2 | AB | 948 | C | N1-C2-O2 | 6.69 | 122.91 | 118.90 |
| 2 | AB | 1221 | C | O4'-C1'-N1 | 6.69 | 113.55 | 108.20 |
| 35 | BA | 245 | U | O4'-C1'-N1 | 6.69 | 113.55 | 108.20 |
| 35 | BA | 358 | U | C5-C4-O4 | -6.69 | 121.89 | 125.90 |
| 35 | BA | 423 | G | C6-N1-C2 | -6.69 | 121.09 | 125.10 |
| 35 | BA | 898 | G | N7-C8-N9 | 6.69 | 116.44 | 113.10 |
| 35 | BA | 1100 | C | N3-C4-N4 | 6.69 | 122.68 | 118.00 |
| 35 | BA | 1266 | G | N3-C4-C5 | -6.69 | 125.25 | 128.60 |
| 2 | AB | 1721 | G | C5-C6-O6 | 6.69 | 132.61 | 128.60 |
| 2 | AB | 2143 | C | C5-C6-N1 | -6.69 | 117.66 | 121.00 |
| 35 | BA | 354 | G | N3-C4-C5 | 6.69 | 131.94 | 128.60 |
| 35 | BA | 531 | U | N3-C4-C5 | -6.69 | 110.59 | 114.60 |
| 2 | AB | 1009 | A | C4-C5-N7 | -6.69 | 107.36 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1876 | A | C4'-C3'-C2' | -6.69 | 95.91 | 102.60 |
| 2 | AB | 1926 | U | C2-N3-C4 | -6.69 | 122.99 | 127.00 |
| 2 | AB | 2136 | G | N1-C6-O6 | 6.69 | 123.91 | 119.90 |
| 2 | AB | 661 | A | C5-C6-N6 | -6.69 | 118.35 | 123.70 |
| 2 | AB | 1020 | A | C5-C6-N6 | -6.69 | 118.35 | 123.70 |
| 2 | AB | 1851 | U | C6-N1-C2 | -6.69 | 116.99 | 121.00 |
| 2 | AB | 2576 | G | N3-C4-C5 | -6.69 | 125.26 | 128.60 |
| 35 | BA | 740 | U | C5-C4-O4 | -6.69 | 121.89 | 125.90 |
| 1 | AA | 74 | U | N1-C2-N3 | 6.68 | 118.91 | 114.90 |
| 2 | AB | 323 | C | N1-C2-O2 | 6.68 | 122.91 | 118.90 |
| 2 | AB | 695 | G | N9-C4-C5 | 6.68 | 108.07 | 105.40 |
| 2 | AB | 743 | A | C5-C6-N1 | -6.68 | 114.36 | 117.70 |
| 2 | AB | 1032 | A | C2-N3-C4 | 6.68 | 113.94 | 110.60 |
| 2 | AB | 1361 | G | C5'-C4'-C3' | -6.68 | 105.31 | 116.00 |
| 35 | BA | 181 | A | O4'-C1'-N9 | 6.68 | 113.55 | 108.20 |
| 35 | BA | 699 | C | O4'-C1'-N1 | 6.68 | 113.55 | 108.20 |
| 35 | BA | 1181 | G | N9-C4-C5 | 6.68 | 108.07 | 105.40 |
| 37 | BC | 38 | A | P-O3'-C3' | 6.68 | 127.72 | 119.70 |
| 2 | AB | 239 | C | N3-C4-N4 | 6.68 | 122.68 | 118.00 |
| 2 | AB | 370 | G | C8-N9-C1' | 6.68 | 135.69 | 127.00 |
| 2 | AB | 512 | G | N9-C4-C5 | 6.68 | 108.07 | 105.40 |
| 2 | AB | 1091 | G | C6-N1-C2 | -6.68 | 121.09 | 125.10 |
| 2 | AB | 1479 | G | C4-C5-N7 | -6.68 | 108.13 | 110.80 |
| 2 | AB | 1546 | G | C5'-C4'-O4' | 6.68 | 117.12 | 109.10 |
| 2 | AB | 1642 | G | C2-N3-C4 | 6.68 | 115.24 | 111.90 |
| 2 | AB | 2053 | G | C5-C6-O6 | -6.68 | 124.59 | 128.60 |
| 2 | AB | 2070 | A | N1-C2-N3 | -6.68 | 125.96 | 129.30 |
| 2 | AB | 2444 | G | N1-C6-O6 | -6.68 | 115.89 | 119.90 |
| 2 | AB | 2786 | U | N1-C2-N3 | 6.68 | 118.91 | 114.90 |
| 35 | BA | 319 | G | N1-C6-O6 | -6.68 | 115.89 | 119.90 |
| 35 | BA | 496 | A | C4-C5-C6 | -6.68 | 113.66 | 117.00 |
| 35 | BA | 510 | A | N9-C4-C5 | 6.68 | 108.47 | 105.80 |
| 2 | AB | 3 | U | C5-C4-O4 | -6.68 | 121.89 | 125.90 |
| 2 | AB | 1897 | G | C4-C5-N7 | -6.68 | 108.13 | 110.80 |
| 2 | AB | 2266 | A | C6-C5-N7 | -6.68 | 127.62 | 132.30 |
| 2 | AB | 332 | A | C1'-O4'-C4' | -6.68 | 104.56 | 109.90 |
| 2 | AB | 497 | A | C4-C5-N7 | -6.68 | 107.36 | 110.70 |
| 2 | AB | 539 | G | C4-C5-N7 | -6.68 | 108.13 | 110.80 |
| 2 | AB | 1304 | A | C3'-C2'-C1' | -6.68 | 96.16 | 101.50 |
| 35 | BA | 768 | A | N9-C4-C5 | 6.68 | 108.47 | 105.80 |
| 2 | AB | 1296 | G | N3-C4-N9 | -6.68 | 121.99 | 126.00 |
| 2 | AB | 1560 | G | C1'-O4'-C4' | 6.68 | 115.24 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1166 | G | C8-N9-C4 | -6.68 | 103.73 | 106.40 |
| 2 | AB | 1168 | G | C1'-O4'-C4' | 6.68 | 115.24 | 109.90 |
| 2 | AB | 1572 | A | N9-C1'-C2' | -6.68 | 104.66 | 112.00 |
| 2 | AB | 1621 | U | C5-C6-N1 | -6.68 | 119.36 | 122.70 |
| 2 | AB | 2521 | C | O4'-C1'-N1 | 6.68 | 113.54 | 108.20 |
| 17 | AQ | 36 | TYR | CD1-CE1-CZ | -6.68 | 113.79 | 119.80 |
| 35 | BA | 477 | C | O4'-C1'-N1 | 6.68 | 113.54 | 108.20 |
| 35 | BA | 779 | C | N1-C2-O2 | 6.68 | 122.91 | 118.90 |
| 35 | BA | 1096 | C | N1-C2-O2 | 6.68 | 122.91 | 118.90 |
| 36 | BB | 48 | C | N1-C2-O2 | 6.68 | 122.91 | 118.90 |
| 42 | BH | 79 | ARG | NE-CZ-NH2 | -6.68 | 116.96 | 120.30 |
| 2 | AB | 911 | A | C5-C6-N6 | -6.67 | 118.36 | 123.70 |
| 2 | AB | 914 | G | C8-N9-C4 | -6.67 | 103.73 | 106.40 |
| 2 | AB | 1311 | G | C5'-C4'-C3' | -6.67 | 105.32 | 116.00 |
| 2 | AB | 2821 | A | N1-C2-N3 | 6.67 | 132.64 | 129.30 |
| 35 | BA | 236 | A | C2-N3-C4 | 6.67 | 113.94 | 110.60 |
| 35 | BA | 741 | G | N7-C8-N9 | 6.67 | 116.44 | 113.10 |
| 35 | BA | 775 | G | C5-C6-N1 | -6.67 | 108.16 | 111.50 |
| 35 | BA | 1014 | A | C3'-C2'-C1' | -6.67 | 96.16 | 101.50 |
| 35 | BA | 1247 | U | C5-C6-N1 | 6.67 | 126.04 | 122.70 |
| 35 | BA | 1319 | A | C5'-C4'-O4' | 6.67 | 117.11 | 109.10 |
| 35 | BA | 1488 | G | C8-N9-C4 | -6.67 | 103.73 | 106.40 |
| 2 | AB | 1178 | C | C4-C5-C6 | 6.67 | 120.74 | 117.40 |
| 2 | AB | 2102 | G | C5-N7-C8 | -6.67 | 100.96 | 104.30 |
| 2 | AB | 29 | U | C5-C6-N1 | -6.67 | 119.36 | 122.70 |
| 2 | AB | 155 | A | N3-C4-C5 | 6.67 | 131.47 | 126.80 |
| 2 | AB | 1041 | G | O4'-C1'-N9 | 6.67 | 113.54 | 108.20 |
| 2 | AB | 1093 | G | C5-N7-C8 | -6.67 | 100.96 | 104.30 |
| 2 | AB | 2686 | G | C4-C5-C6 | 6.67 | 122.80 | 118.80 |
| 35 | BA | 416 | G | N3-C4-C5 | -6.67 | 125.26 | 128.60 |
| 35 | BA | 623 | C | C4'-C3'-C2' | -6.67 | 95.93 | 102.60 |
| 35 | BA | 1366 | C | C5'-C4'-C3' | -6.67 | 105.33 | 116.00 |
| 2 | AB | 128 | C | C1'-O4'-C4' | -6.67 | 104.56 | 109.90 |
| 2 | AB | 2872 | A | C5-N7-C8 | 6.67 | 107.23 | 103.90 |
| 35 | BA | 227 | G | C1'-O4'-C4' | 6.67 | 115.24 | 109.90 |
| 2 | AB | 76 | C | N1-C2-O2 | 6.67 | 122.90 | 118.90 |
| 2 | AB | 692 | C | C5'-C4'-O4' | 6.67 | 117.10 | 109.10 |
| 2 | AB | 1148 | U | N1-C2-O2 | 6.67 | 127.47 | 122.80 |
| 2 | AB | 2625 | G | N1-C6-O6 | -6.67 | 115.90 | 119.90 |
| 35 | BA | 36 | C | N1-C2-O2 | 6.67 | 122.90 | 118.90 |
| 37 | BC | 44 | A | C5-N7-C8 | -6.67 | 100.57 | 103.90 |
| 39 | BE | 155 | ARG | NE-CZ-NH2 | -6.67 | 116.97 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | AA | 50 | A | C4-C5-N7 | -6.67 | 107.37 | 110.70 |
| 2 | AB | 968 | C | C5'-C4'-O4' | 6.67 | 117.10 | 109.10 |
| 2 | AB | 1455 | G | N1-C2-N3 | -6.67 | 119.90 | 123.90 |
| 2 | AB | 1844 | C | C5'-C4'-O4' | 6.67 | 117.10 | 109.10 |
| 2 | AB | 2757 | A | C5-N7-C8 | 6.67 | 107.23 | 103.90 |
| 2 | AB | 2833 | U | C4-C5-C6 | 6.67 | 123.70 | 119.70 |
| 35 | BA | 425 | G | C2-N3-C4 | -6.67 | 108.57 | 111.90 |
| 35 | BA | 925 | G | C4-C5-N7 | 6.67 | 113.47 | 110.80 |
| 35 | BA | 1414 | U | C4-C5-C6 | 6.67 | 123.70 | 119.70 |
| 35 | BA | 1471 | U | N1-C2-N3 | 6.67 | 118.90 | 114.90 |
| 1 | AA | 85 | G | N3-C4-C5 | -6.67 | 125.27 | 128.60 |
| 2 | AB | 582 | A | C8-N9-C4 | -6.67 | 103.13 | 105.80 |
| 2 | AB | 962 | G | N1-C6-O6 | -6.67 | 115.90 | 119.90 |
| 2 | AB | 2830 | C | C5-C4-N4 | -6.67 | 115.53 | 120.20 |
| 35 | BA | 111 | G | C8-N9-C4 | -6.67 | 103.73 | 106.40 |
| 35 | BA | 1135 | U | N1-C2-N3 | 6.67 | 118.90 | 114.90 |
| 2 | AB | 205 | G | C6-C5-N7 | -6.66 | 126.40 | 130.40 |
| 2 | AB | 208 | C | N1-C2-N3 | -6.66 | 114.54 | 119.20 |
| 2 | AB | 916 | G | C2-N3-C4 | 6.66 | 115.23 | 111.90 |
| 2 | AB | 1268 | A | N9-C4-C5 | 6.66 | 108.47 | 105.80 |
| 2 | AB | 2403 | C | C5-C6-N1 | -6.66 | 117.67 | 121.00 |
| 2 | AB | 2515 | C | C5-C6-N1 | 6.66 | 124.33 | 121.00 |
| 35 | BA | 171 | A | C1'-O4'-C4' | 6.66 | 115.23 | 109.90 |
| 35 | BA | 270 | A | O4'-C1'-N9 | 6.66 | 113.53 | 108.20 |
| 35 | BA | 890 | G | N7-C8-N9 | 6.66 | 116.43 | 113.10 |
| 1 | AA | 93 | C | N1-C2-O2 | 6.66 | 122.90 | 118.90 |
| 2 | AB | 1509 | A | C3'-C2'-C1' | 6.66 | 106.83 | 101.50 |
| 2 | AB | 2370 | G | N1-C2-N2 | 6.66 | 122.20 | 116.20 |
| 35 | BA | 312 | C | C5'-C4'-C3' | -6.66 | 105.34 | 116.00 |
| 35 | BA | 1133 | G | C8-N9-C4 | -6.66 | 103.73 | 106.40 |
| 35 | BA | 1257 | A | O4'-C1'-N9 | -6.66 | 102.87 | 108.20 |
| 2 | AB | 27 | G | N3-C4-C5 | -6.66 | 125.27 | 128.60 |
| 2 | AB | 1437 | C | C4'-C3'-C2' | -6.66 | 95.94 | 102.60 |
| 2 | AB | 1744 | A | O4'-C1'-N9 | 6.66 | 113.53 | 108.20 |
| 2 | AB | 2578 | G | N3-C4-C5 | -6.66 | 125.27 | 128.60 |
| 6 | AF | 21 | ARG | NE-CZ-NH2 | 6.66 | 123.63 | 120.30 |
| 35 | BA | 3 | A | C2-N3-C4 | 6.66 | 113.93 | 110.60 |
| 35 | BA | 215 | C | N3-C4-C5 | -6.66 | 119.24 | 121.90 |
| 35 | BA | 301 | G | N3-C2-N2 | -6.66 | 115.24 | 119.90 |
| 35 | BA | 550 | G | C8-N9-C4 | -6.66 | 103.74 | 106.40 |
| 35 | BA | 702 | A | N7-C8-N9 | -6.66 | 110.47 | 113.80 |
| 35 | BA | 1011 | C | N3-C2-O2 | -6.66 | 117.24 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1141 | C | C1'-O4'-C4' | -6.66 | 104.57 | 109.90 |
| 35 | BA | 1175 | G | N3-C4-C5 | -6.66 | 125.27 | 128.60 |
| 35 | BA | 1418 | A | O4'-C1'-N9 | 6.66 | 113.53 | 108.20 |
| 36 | BB | 38 | G | C1'-O4'-C4' | 6.66 | 115.23 | 109.90 |
| 1 | AA | 17 | C | C4-C5-C6 | -6.66 | 114.07 | 117.40 |
| 2 | AB | 596 | U | C5-C6-N1 | -6.66 | 119.37 | 122.70 |
| 2 | AB | 1349 | C | C5-C4-N4 | -6.66 | 115.54 | 120.20 |
| 2 | AB | 1791 | A | C8-N9-C4 | 6.66 | 108.46 | 105.80 |
| 2 | AB | 1845 | G | O4'-C1'-N9 | 6.66 | 113.53 | 108.20 |
| 2 | AB | 2314 | A | C5'-C4'-O4' | 6.66 | 117.09 | 109.10 |
| 2 | AB | 2582 | G | C2-N3-C4 | 6.66 | 115.23 | 111.90 |
| 2 | AB | 2757 | A | C6-N1-C2 | -6.66 | 114.61 | 118.60 |
| 33 | A6 | 41 | ARG | NE-CZ-NH2 | -6.66 | 116.97 | 120.30 |
| 35 | BA | 921 | U | N3-C4-C5 | -6.66 | 110.61 | 114.60 |
| 35 | BA | 1195 | C | C4'-C3'-C2' | -6.66 | 95.94 | 102.60 |
| 35 | BA | 1500 | A | C5'-C4'-C3' | -6.66 | 105.35 | 116.00 |
| 2 | AB | 641 | U | N3-C4-C5 | -6.66 | 110.61 | 114.60 |
| 2 | AB | 974 | G | N7-C8-N9 | -6.66 | 109.77 | 113.10 |
| 2 | AB | 1831 | G | C5-C6-N1 | 6.66 | 114.83 | 111.50 |
| 2 | AB | 2433 | A | C3'-C2'-C1' | -6.66 | 96.17 | 101.50 |
| 1 | AA | 56 | G | O4'-C4'-C3' | 6.66 | 111.42 | 106.10 |
| 2 | AB | 335 | C | N3-C4-C5 | -6.66 | 119.24 | 121.90 |
| 2 | AB | 759 | G | N9-C1'-C2' | -6.66 | 104.68 | 112.00 |
| 2 | AB | 1224 | U | C5-C6-N1 | -6.66 | 119.37 | 122.70 |
| 2 | AB | 1330 | C | C6-N1-C2 | -6.66 | 117.64 | 120.30 |
| 2 | AB | 1363 | C | O4'-C1'-N1 | 6.66 | 113.53 | 108.20 |
| 2 | AB | 1538 | G | C6-N1-C2 | -6.66 | 121.11 | 125.10 |
| 2 | AB | 1602 | U | N1-C2-O2 | 6.66 | 127.46 | 122.80 |
| 2 | AB | 2358 | A | C4-C5-N7 | 6.66 | 114.03 | 110.70 |
| 2 | AB | 2502 | G | C3'-C2'-C1' | 6.66 | 106.83 | 101.50 |
| 2 | AB | 2518 | A | N7-C8-N9 | 6.66 | 117.13 | 113.80 |
| 2 | AB | 2577 | A | N7-C8-N9 | -6.66 | 110.47 | 113.80 |
| 35 | BA | 304 | U | C5-C6-N1 | -6.66 | 119.37 | 122.70 |
| 35 | BA | 1097 | C | C3'-C2'-C1' | 6.66 | 106.82 | 101.50 |
| 35 | BA | 1127 | G | C3'-C2'-C1' | -6.66 | 96.18 | 101.50 |
| 36 | BB | 53 | G | C5-C6-N1 | 6.66 | 114.83 | 111.50 |
| 38 | BD | 6 | ARG | NE-CZ-NH2 | -6.66 | 116.97 | 120.30 |
| 2 | AB | 1204 | A | O4'-C1'-N9 | 6.65 | 113.52 | 108.20 |
| 2 | AB | 1537 | G | C6-C5-N7 | -6.65 | 126.41 | 130.40 |
| 2 | AB | 2179 | C | N1-C2-O2 | 6.65 | 122.89 | 118.90 |
| 7 | AG | 96 | TRP | NE1-CE2-CD2 | -6.65 | 100.65 | 107.30 |
| 35 | BA | 1073 | U | C3'-C2'-C1' | 6.65 | 106.82 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1208 | C | C5'-C4'-C3' | -6.65 | 105.35 | 116.00 |
| 35 | BA | 1268 | G | C2-N3-C4 | 6.65 | 115.23 | 111.90 |
| 35 | BA | 1455 | G | N3-C4-N9 | -6.65 | 122.01 | 126.00 |
| 2 | AB | 194 | G | C4-C5-C6 | 6.65 | 122.79 | 118.80 |
| 2 | AB | 531 | C | N1-C1'-C2' | 6.65 | 122.65 | 114.00 |
| 2 | AB | 1793 | C | C5-C6-N1 | 6.65 | 124.33 | 121.00 |
| 2 | AB | 2555 | U | O4'-C1'-N1 | 6.65 | 113.52 | 108.20 |
| 2 | AB | 2846 | G | N7-C8-N9 | 6.65 | 116.43 | 113.10 |
| 11 | AK | 55 | PRO | CA-N-CD | -6.65 | 102.19 | 111.50 |
| 35 | BA | 71 | A | C5-N7-C8 | -6.65 | 100.57 | 103.90 |
| 35 | BA | 116 | A | O4'-C1'-N9 | 6.65 | 113.52 | 108.20 |
| 35 | BA | 649 | A | C5-N7-C8 | 6.65 | 107.23 | 103.90 |
| 35 | BA | 693 | G | N9-C4-C5 | 6.65 | 108.06 | 105.40 |
| 35 | BA | 1140 | C | N1-C2-O2 | 6.65 | 122.89 | 118.90 |
| 35 | BA | 1277 | C | N1-C1'-C2' | -6.65 | 104.68 | 112.00 |
| 37 | BC | 7 | G | N1-C6-O6 | 6.65 | 123.89 | 119.90 |
| 2 | AB | 595 | C | N1-C2-N3 | -6.65 | 114.55 | 119.20 |
| 2 | AB | 724 | U | C6-N1-C2 | -6.65 | 117.01 | 121.00 |
| 2 | AB | 731 | C | N3-C4-N4 | 6.65 | 122.66 | 118.00 |
| 2 | AB | 768 | G | C1'-O4'-C4' | 6.65 | 115.22 | 109.90 |
| 2 | AB | 1676 | A | C6-N1-C2 | -6.65 | 114.61 | 118.60 |
| 2 | AB | 1781 | U | C2-N3-C4 | -6.65 | 123.01 | 127.00 |
| 2 | AB | 2305 | U | C3'-C2'-C1' | -6.65 | 96.18 | 101.50 |
| 2 | AB | 2349 | G | O4'-C1'-N9 | 6.65 | 113.52 | 108.20 |
| 35 | BA | 1426 | G | N1-C6-O6 | 6.65 | 123.89 | 119.90 |
| 1 | AA | 31 | C | C5-C6-N1 | -6.65 | 117.68 | 121.00 |
| 2 | AB | 998 | C | C5-C6-N1 | -6.65 | 117.68 | 121.00 |
| 2 | AB | 2538 | C | N3-C4-C5 | -6.65 | 119.24 | 121.90 |
| 7 | AG | 98 | PHE | CD1-CE1-CZ | 6.65 | 128.08 | 120.10 |
| 35 | BA | 1353 | G | C5-C6-O6 | -6.65 | 124.61 | 128.60 |
| 2 | AB | 633 | A | N7-C8-N9 | -6.65 | 110.48 | 113.80 |
| 2 | AB | 840 | C | N3-C4-N4 | 6.65 | 122.65 | 118.00 |
| 2 | AB | 975 | A | N9-C4-C5 | -6.65 | 103.14 | 105.80 |
| 2 | AB | 1186 | G | N3-C2-N2 | 6.65 | 124.55 | 119.90 |
| 35 | BA | 246 | A | C6-N1-C2 | 6.65 | 122.59 | 118.60 |
| 35 | BA | 915 | A | C8-N9-C4 | 6.65 | 108.46 | 105.80 |
| 35 | BA | 1318 | A | C8-N9-C4 | 6.65 | 108.46 | 105.80 |
| 35 | BA | 1320 | C | N3-C4-C5 | 6.65 | 124.56 | 121.90 |
| 36 | BB | 13 | A | C6-C5-N7 | 6.65 | 136.95 | 132.30 |
| 37 | BC | 3 | C | C2-N3-C4 | -6.65 | 116.58 | 119.90 |
| 1 | AA | 101 | A | O4'-C1'-N9 | 6.65 | 113.52 | 108.20 |
| 2 | AB | 421 | C | N3-C4-N4 | 6.65 | 122.65 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 509 | C | O4'-C1'-C2' | 6.65 | 113.58 | 107.60 |
| 2 | AB | 2664 | G | O4'-C1'-N9 | 6.65 | 113.52 | 108.20 |
| 35 | BA | 74 | A | O5'-C5'-C4' | -6.65 | 99.07 | 111.70 |
| 35 | BA | 483 | C | C5-C6-N1 | 6.65 | 124.32 | 121.00 |
| 35 | BA | 1101 | A | O5'-C5'-C4' | 6.65 | 124.33 | 111.70 |
| 2 | AB | 293 | U | N3-C2-O2 | -6.64 | 117.55 | 122.20 |
| 2 | AB | 505 | A | O4'-C1'-N9 | 6.64 | 113.52 | 108.20 |
| 2 | AB | 604 | G | N9-C4-C5 | 6.64 | 108.06 | 105.40 |
| 2 | AB | 1187 | G | P-O3'-C3' | 6.64 | 127.67 | 119.70 |
| 2 | AB | 1328 | A | N1-C6-N6 | 6.64 | 122.59 | 118.60 |
| 35 | BA | 472 | U | P-O5'-C5' | 6.64 | 131.53 | 120.90 |
| 35 | BA | 651 | C | C5'-C4'-C3' | -6.64 | 105.37 | 116.00 |
| 35 | BA | 875 | U | C5-C4-O4 | -6.64 | 121.91 | 125.90 |
| 35 | BA | 1112 | C | N1-C2-O2 | 6.64 | 122.89 | 118.90 |
| 35 | BA | 1244 | G | C8-N9-C4 | -6.64 | 103.74 | 106.40 |
| 35 | BA | 1466 | C | O4'-C1'-N1 | 6.64 | 113.52 | 108.20 |
| 50 | BP | 76 | PHE | CB-CG-CD1 | 6.64 | 125.45 | 120.80 |
| 2 | AB | 42 | A | N1-C2-N3 | -6.64 | 125.98 | 129.30 |
| 2 | AB | 42 | A | O4'-C1'-C2' | -6.64 | 99.16 | 105.80 |
| 2 | AB | 134 | G | C4-C5-C6 | 6.64 | 122.79 | 118.80 |
| 2 | AB | 1266 | G | P-O3'-C3' | 6.64 | 127.67 | 119.70 |
| 2 | AB | 1953 | A | O4'-C1'-N9 | -6.64 | 102.89 | 108.20 |
| 2 | AB | 2839 | G | C5'-C4'-O4' | 6.64 | 117.07 | 109.10 |
| 35 | BA | 991 | U | N3-C4-O4 | -6.64 | 114.75 | 119.40 |
| 55 | BU | 2 | ARG | CD-NE-CZ | 6.64 | 132.90 | 123.60 |
| 2 | AB | 1616 | A | O4'-C4'-C3' | 6.64 | 111.41 | 106.10 |
| 35 | BA | 35 | G | N3-C2-N2 | -6.64 | 115.25 | 119.90 |
| 35 | BA | 346 | G | O4'-C1'-C2' | 6.64 | 113.58 | 107.60 |
| 2 | AB | 75 | G | C4-C5-N7 | 6.64 | 113.46 | 110.80 |
| 2 | AB | 396 | G | N3-C4-C5 | -6.64 | 125.28 | 128.60 |
| 2 | AB | 462 | C | C5-C4-N4 | -6.64 | 115.55 | 120.20 |
| 2 | AB | 1230 | A | C2-N3-C4 | 6.64 | 113.92 | 110.60 |
| 2 | AB | 1521 | G | N3-C4-C5 | -6.64 | 125.28 | 128.60 |
| 2 | AB | 1805 | A | C5-C6-N6 | 6.64 | 129.01 | 123.70 |
| 2 | AB | 2171 | A | C5-N7-C8 | -6.64 | 100.58 | 103.90 |
| 2 | AB | 2567 | G | C6-C5-N7 | 6.64 | 134.38 | 130.40 |
| 2 | AB | 2742 | G | N1-C2-N3 | 6.64 | 127.88 | 123.90 |
| 2 | AB | 2748 | A | N1-C2-N3 | -6.64 | 125.98 | 129.30 |
| 2 | AB | 2804 | U | P-O5'-C5' | -6.64 | 110.28 | 120.90 |
| 18 | AR | 20 | ARG | NE-CZ-NH2 | 6.64 | 123.62 | 120.30 |
| 35 | BA | 350 | G | C6-N1-C2 | -6.64 | 121.12 | 125.10 |
| 35 | BA | 1310 | G | C8-N9-C4 | -6.64 | 103.75 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 60 | G | C2-N3-C4 | 6.64 | 115.22 | 111.90 |
| 2 | AB | 1309 | G | C4'-C3'-C2' | -6.64 | 95.96 | 102.60 |
| 2 | AB | 73 | A | C4-C5-C6 | -6.64 | 113.68 | 117.00 |
| 2 | AB | 139 | U | O4'-C1'-C2' | -6.64 | 99.16 | 105.80 |
| 2 | AB | 627 | A | C1'-O4'-C4' | -6.64 | 104.59 | 109.90 |
| 2 | AB | 2285 | C | N3-C4-C5 | -6.64 | 119.25 | 121.90 |
| 2 | AB | 2772 | C | C1'-O4'-C4' | 6.64 | 115.21 | 109.90 |
| 35 | BA | 13 | U | C5-C4-O4 | -6.64 | 121.92 | 125.90 |
| 35 | BA | 947 | G | C5-C6-N1 | 6.64 | 114.82 | 111.50 |
| 35 | BA | 1334 | G | N7-C8-N9 | 6.64 | 116.42 | 113.10 |
| 47 | BM | 51 | PHE | CG-CD1-CE1 | -6.64 | 113.50 | 120.80 |
| 2 | AB | 757 | G | O4'-C1'-N9 | 6.63 | 113.51 | 108.20 |
| 2 | AB | 1137 | G | C8-N9-C4 | -6.63 | 103.75 | 106.40 |
| 2 | AB | 1444 | G | N9-C4-C5 | -6.63 | 102.75 | 105.40 |
| 2 | AB | 1544 | A | N7-C8-N9 | -6.63 | 110.48 | 113.80 |
| 2 | AB | 1561 | C | O4'-C1'-N1 | 6.63 | 113.51 | 108.20 |
| 2 | AB | 1697 | G | C4-C5-N7 | -6.63 | 108.15 | 110.80 |
| 19 | AS | 96 | ASP | CB-CG-OD2 | 6.63 | 124.27 | 118.30 |
| 35 | BA | 150 | U | C4-C5-C6 | 6.63 | 123.68 | 119.70 |
| 35 | BA | 184 | G | C1'-O4'-C4' | -6.63 | 104.59 | 109.90 |
| 35 | BA | 249 | U | C6-N1-C2 | -6.63 | 117.02 | 121.00 |
| 35 | BA | 442 | G | C8-N9-C4 | -6.63 | 103.75 | 106.40 |
| 35 | BA | 712 | A | C4-C5-N7 | -6.63 | 107.38 | 110.70 |
| 35 | BA | 781 | A | C5'-C4'-O4' | 6.63 | 117.06 | 109.10 |
| 35 | BA | 882 | C | N1-C2-O2 | 6.63 | 122.88 | 118.90 |
| 35 | BA | 1278 | G | P-O3'-C3' | 6.63 | 127.66 | 119.70 |
| 2 | AB | 1970 | A | C6-N1-C2 | -6.63 | 114.62 | 118.60 |
| 2 | AB | 2406 | A | C2-N3-C4 | -6.63 | 107.28 | 110.60 |
| 35 | BA | 324 | G | N3-C2-N2 | -6.63 | 115.26 | 119.90 |
| 44 | BJ | 18 | ALA | CB-CA-C | 6.63 | 120.05 | 110.10 |
| 1 | AA | 7 | G | N9-C4-C5 | 6.63 | 108.05 | 105.40 |
| 2 | AB | 103 | A | C5-C6-N1 | 6.63 | 121.02 | 117.70 |
| 2 | AB | 327 | G | N3-C4-C5 | -6.63 | 125.28 | 128.60 |
| 2 | AB | 866 | A | C8-N9-C4 | 6.63 | 108.45 | 105.80 |
| 2 | AB | 1027 | A | N7-C8-N9 | 6.63 | 117.12 | 113.80 |
| 2 | AB | 1040 | A | C5-C6-N1 | -6.63 | 114.39 | 117.70 |
| 2 | AB | 2164 | C | C6-N1-C2 | 6.63 | 122.95 | 120.30 |
| 2 | AB | 2863 | C | C5'-C4'-O4' | -6.63 | 101.14 | 109.10 |
| 35 | BA | 19 | A | C5-C6-N6 | 6.63 | 129.00 | 123.70 |
| 35 | BA | 1510 | C | O3'-P-O5' | -6.63 | 91.40 | 104.00 |
| 37 | BC | 73 | A | C3'-C2'-C1' | -6.63 | 96.19 | 101.50 |
| 2 | AB | 500 | G | N3-C4-C5 | -6.63 | 125.28 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1080 | A | N9-C1'-C2' | -6.63 | 104.71 | 112.00 |
| 2 | AB | 1725 | U | O4'-C1'-N1 | 6.63 | 113.50 | 108.20 |
| 35 | BA | 434 | U | N1-C2-N3 | 6.63 | 118.88 | 114.90 |
| 35 | BA | 519 | C | C3'-C2'-C1' | -6.63 | 96.20 | 101.50 |
| 2 | AB | 869 | G | C4-C5-N7 | -6.63 | 108.15 | 110.80 |
| 2 | AB | 927 | A | C5-C6-N6 | 6.63 | 129.00 | 123.70 |
| 2 | AB | 1429 | G | N3-C2-N2 | -6.63 | 115.26 | 119.90 |
| 2 | AB | 1500 | G | C8-N9-C4 | -6.63 | 103.75 | 106.40 |
| 2 | AB | 2316 | G | N3-C4-C5 | -6.63 | 125.29 | 128.60 |
| 2 | AB | 2422 | C | C6-N1-C2 | -6.63 | 117.65 | 120.30 |
| 2 | AB | 2817 | U | N3-C2-O2 | -6.63 | 117.56 | 122.20 |
| 35 | BA | 54 | C | O4'-C1'-N1 | 6.63 | 113.50 | 108.20 |
| 2 | AB | 13 | A | O4'-C1'-C2' | -6.63 | 99.17 | 105.80 |
| 2 | AB | 201 | C | C2-N3-C4 | -6.63 | 116.59 | 119.90 |
| 2 | AB | 809 | G | N9-C4-C5 | -6.63 | 102.75 | 105.40 |
| 2 | AB | 974 | G | C1'-O4'-C4' | -6.63 | 104.60 | 109.90 |
| 2 | AB | 2072 | C | N1-C1'-C2' | -6.63 | 104.71 | 112.00 |
| 2 | AB | 2111 | U | C4-C5-C6 | 6.63 | 123.68 | 119.70 |
| 2 | AB | 2191 | A | C6-N1-C2 | 6.63 | 122.58 | 118.60 |
| 2 | AB | 2262 | U | O4'-C4'-C3' | 6.63 | 111.40 | 106.10 |
| 2 | AB | 2313 | C | N1-C2-O2 | 6.63 | 122.88 | 118.90 |
| 2 | AB | 2737 | G | C5-C6-N1 | 6.63 | 114.81 | 111.50 |
| 14 | AN | 107 | PHE | CB-CG-CD1 | 6.63 | 125.44 | 120.80 |
| 35 | BA | 1 | A | C5'-C4'-C3' | -6.63 | 105.40 | 116.00 |
| 35 | BA | 1257 | A | N1-C6-N6 | 6.63 | 122.58 | 118.60 |
| 35 | BA | 1313 | U | N3-C4-O4 | 6.63 | 124.04 | 119.40 |
| 2 | AB | 752 | A | O4'-C4'-C3' | 6.62 | 111.40 | 106.10 |
| 2 | AB | 2432 | A | N1-C2-N3 | -6.62 | 125.99 | 129.30 |
| 35 | BA | 323 | U | C5-C4-O4 | 6.62 | 129.88 | 125.90 |
| 35 | BA | 662 | U | N1-C2-N3 | 6.62 | 118.88 | 114.90 |
| 2 | AB | 4 | U | C4-C5-C6 | 6.62 | 123.67 | 119.70 |
| 2 | AB | 447 | A | C5'-C4'-O4' | 6.62 | 117.05 | 109.10 |
| 2 | AB | 1128 | G | O4'-C1'-N9 | 6.62 | 113.50 | 108.20 |
| 2 | AB | 1307 | A | C6-N1-C2 | 6.62 | 122.57 | 118.60 |
| 2 | AB | 2010 | G | C5-N7-C8 | -6.62 | 100.99 | 104.30 |
| 2 | AB | 2039 | U | N3-C2-O2 | -6.62 | 117.56 | 122.20 |
| 19 | AS | 44 | TYR | CB-CG-CD2 | 6.62 | 124.97 | 121.00 |
| 35 | BA | 182 | A | N7-C8-N9 | 6.62 | 117.11 | 113.80 |
| 35 | BA | 276 | G | C2-N3-C4 | 6.62 | 115.21 | 111.90 |
| 35 | BA | 322 | C | N1-C2-O2 | 6.62 | 122.87 | 118.90 |
| 35 | BA | 780 | A | C2-N3-C4 | 6.62 | 113.91 | 110.60 |
| 35 | BA | 1016 | A | C5-N7-C8 | -6.62 | 100.59 | 103.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1226 | C | P-O5'-C5' | 6.62 | 131.50 | 120.90 |
| 37 | BC | 54 | G | C4-C5-N7 | -6.62 | 108.15 | 110.80 |
| 1 | AA | 78 | A | N1-C2-N3 | -6.62 | 125.99 | 129.30 |
| 2 | AB | 812 | C | C4'-C3'-C2' | -6.62 | 95.98 | 102.60 |
| 2 | AB | 1096 | A | C2-N3-C4 | 6.62 | 113.91 | 110.60 |
| 2 | AB | 1709 | U | O4'-C1'-N1 | 6.62 | 113.50 | 108.20 |
| 2 | AB | 1818 | U | N1-C2-N3 | 6.62 | 118.87 | 114.90 |
| 2 | AB | 2061 | G | O4'-C1'-N9 | 6.62 | 113.50 | 108.20 |
| 2 | AB | 2076 | U | C2-N1-C1' | 6.62 | 125.65 | 117.70 |
| 2 | AB | 2403 | C | O4'-C4'-C3' | 6.62 | 111.40 | 106.10 |
| 3 | AC | 166 | ASP | CB-CA-C | 6.62 | 123.64 | 110.40 |
| 35 | BA | 750 | C | O4'-C1'-N1 | 6.62 | 113.50 | 108.20 |
| 35 | BA | 827 | U | O4'-C1'-N1 | 6.62 | 113.50 | 108.20 |
| 2 | AB | 158 | U | N1-C2-N3 | 6.62 | 118.87 | 114.90 |
| 2 | AB | 357 | C | C5-C6-N1 | -6.62 | 117.69 | 121.00 |
| 2 | AB | 2592 | G | C8-N9-C4 | -6.62 | 103.75 | 106.40 |
| 35 | BA | 569 | C | C6-N1-C2 | -6.62 | 117.65 | 120.30 |
| 35 | BA | 1202 | U | C5-C4-O4 | 6.62 | 129.87 | 125.90 |
| 1 | AA | 8 | C | C2-N3-C4 | -6.62 | 116.59 | 119.90 |
| 2 | AB | 117 | G | C4-C5-C6 | 6.62 | 122.77 | 118.80 |
| 2 | AB | 206 | U | N3-C4-O4 | 6.62 | 124.03 | 119.40 |
| 2 | AB | 480 | A | C8-N9-C4 | 6.62 | 108.45 | 105.80 |
| 2 | AB | 770 | G | N1-C2-N2 | 6.62 | 122.16 | 116.20 |
| 2 | AB | 1261 | C | N1-C2-O2 | 6.62 | 122.87 | 118.90 |
| 2 | AB | 1303 | G | C4-C5-N7 | -6.62 | 108.15 | 110.80 |
| 2 | AB | 1775 | U | N1-C2-N3 | 6.62 | 118.87 | 114.90 |
| 2 | AB | 1879 | C | C4'-C3'-C2' | -6.62 | 95.98 | 102.60 |
| 2 | AB | 2121 | G | C1'-O4'-C4' | 6.62 | 115.19 | 109.90 |
| 2 | AB | 2146 | C | O4'-C4'-C3' | -6.62 | 97.38 | 104.00 |
| 2 | AB | 2471 | A | C2'-C3'-O3' | 6.62 | 124.29 | 113.70 |
| 2 | AB | 2844 | G | N7-C8-N9 | 6.62 | 116.41 | 113.10 |
| 35 | BA | 421 | U | N3-C4-O4 | 6.62 | 124.03 | 119.40 |
| 35 | BA | 715 | A | C8-N9-C4 | -6.62 | 103.15 | 105.80 |
| 35 | BA | 1444 | U | N3-C2-O2 | 6.62 | 126.83 | 122.20 |
| 35 | BA | 1502 | A | N3-C4-C5 | -6.62 | 122.17 | 126.80 |
| 35 | BA | 1524 | C | C5-C4-N4 | -6.62 | 115.57 | 120.20 |
| 2 | AB | 1878 | G | C5-C6-N1 | -6.62 | 108.19 | 111.50 |
| 2 | AB | 1923 | U | C5-C4-O4 | -6.62 | 121.93 | 125.90 |
| 12 | AL | 44 | TYR | CB-CG-CD2 | -6.62 | 117.03 | 121.00 |
| 35 | BA | 107 | G | N1-C6-O6 | -6.62 | 115.93 | 119.90 |
| 35 | BA | 691 | G | N7-C8-N9 | -6.62 | 109.79 | 113.10 |
| 2 | AB | 372 | G | O4'-C1'-N9 | 6.62 | 113.49 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 678 | C | C6-N1-C2 | -6.62 | 117.65 | 120.30 |
| 2 | AB | 884 | U | O4'-C1'-N1 | 6.62 | 113.49 | 108.20 |
| 2 | AB | 1602 | U | C5'-C4'-C3' | -6.62 | 105.42 | 116.00 |
| 35 | BA | 554 | A | C5-N7-C8 | -6.62 | 100.59 | 103.90 |
| 35 | BA | 865 | A | N7-C8-N9 | -6.62 | 110.49 | 113.80 |
| 2 | AB | 1269 | A | O4'-C1'-N9 | 6.61 | 113.49 | 108.20 |
| 2 | AB | 1779 | U | C3'-C2'-C1' | 6.61 | 106.79 | 101.50 |
| 2 | AB | 2200 | C | N3-C4-N4 | 6.61 | 122.63 | 118.00 |
| 35 | BA | 371 | A | O4'-C1'-N9 | 6.61 | 113.49 | 108.20 |
| 35 | BA | 891 | U | C6-N1-C2 | 6.61 | 124.97 | 121.00 |
| 2 | AB | 234 | U | C5-C6-N1 | -6.61 | 119.39 | 122.70 |
| 2 | AB | 664 | G | O4'-C4'-C3' | 6.61 | 111.39 | 106.10 |
| 2 | AB | 1402 | U | N1-C1'-C2' | -6.61 | 104.73 | 112.00 |
| 30 | A3 | 12 | ARG | NE-CZ-NH1 | 6.61 | 123.61 | 120.30 |
| 35 | BA | 155 | A | N1-C2-N3 | -6.61 | 125.99 | 129.30 |
| 35 | BA | 232 | G | N1-C2-N3 | 6.61 | 127.87 | 123.90 |
| 35 | BA | 301 | G | N7-C8-N9 | 6.61 | 116.41 | 113.10 |
| 35 | BA | 869 | G | C6-N1-C2 | -6.61 | 121.13 | 125.10 |
| 35 | BA | 1220 | G | N1-C6-O6 | -6.61 | 115.93 | 119.90 |
| 2 | AB | 195 | A | N1-C2-N3 | 6.61 | 132.60 | 129.30 |
| 2 | AB | 394 | C | O4'-C1'-N1 | 6.61 | 113.49 | 108.20 |
| 2 | AB | 401 | A | O4'-C4'-C3' | -6.61 | 97.39 | 104.00 |
| 2 | AB | 535 | G | C2-N3-C4 | 6.61 | 115.20 | 111.90 |
| 2 | AB | 719 | C | C4-C5-C6 | -6.61 | 114.09 | 117.40 |
| 2 | AB | 911 | A | C8-N9-C4 | -6.61 | 103.16 | 105.80 |
| 2 | AB | 1239 | G | C4'-C3'-C2' | -6.61 | 95.99 | 102.60 |
| 2 | AB | 1367 | A | O4'-C1'-N9 | 6.61 | 113.49 | 108.20 |
| 2 | AB | 1385 | A | N7-C8-N9 | 6.61 | 117.11 | 113.80 |
| 2 | AB | 1796 | U | N1-C2-N3 | 6.61 | 118.87 | 114.90 |
| 2 | AB | 1860 | G | C5'-C4'-C3' | -6.61 | 105.42 | 116.00 |
| 2 | AB | 2388 | A | C5-C6-N1 | -6.61 | 114.39 | 117.70 |
| 2 | AB | 2707 | U | N3-C4-C5 | -6.61 | 110.63 | 114.60 |
| 2 | AB | 2803 | G | C8-N9-C4 | -6.61 | 103.76 | 106.40 |
| 35 | BA | 319 | G | C4-C5-N7 | -6.61 | 108.16 | 110.80 |
| 35 | BA | 378 | G | N1-C2-N3 | -6.61 | 119.93 | 123.90 |
| 35 | BA | 1254 | A | C4-C5-N7 | -6.61 | 107.39 | 110.70 |
| 1 | AA | 71 | C | C4-C5-C6 | -6.61 | 114.09 | 117.40 |
| 2 | AB | 163 | C | C6-N1-C2 | 6.61 | 122.94 | 120.30 |
| 2 | AB | 485 | C | N3-C4-C5 | 6.61 | 124.54 | 121.90 |
| 2 | AB | 625 | G | P-O3'-C3' | 6.61 | 127.63 | 119.70 |
| 2 | AB | 1187 | G | N7-C8-N9 | 6.61 | 116.41 | 113.10 |
| 2 | AB | 1388 | G | O4'-C4'-C3' | 6.61 | 111.39 | 106.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1914 | C | C2-N3-C4 | 6.61 | 123.20 | 119.90 |
| 2 | AB | 2152 | G | C2-N3-C4 | 6.61 | 115.20 | 111.90 |
| 35 | BA | 267 | C | C5-C6-N1 | -6.61 | 117.69 | 121.00 |
| 35 | BA | 739 | C | C2-N3-C4 | 6.61 | 123.20 | 119.90 |
| 35 | BA | 1043 | G | C4'-C3'-C2' | -6.61 | 95.99 | 102.60 |
| 1 | AA | 20 | G | C5-C6-O6 | -6.61 | 124.64 | 128.60 |
| 2 | AB | 301 | G | N3-C4-C5 | -6.61 | 125.30 | 128.60 |
| 2 | AB | 380 | G | C2-N3-C4 | 6.61 | 115.20 | 111.90 |
| 2 | AB | 1100 | C | N3-C4-C5 | 6.61 | 124.54 | 121.90 |
| 2 | AB | 1511 | G | C2-N3-C4 | 6.61 | 115.20 | 111.90 |
| 2 | AB | 1552 | A | N1-C2-N3 | -6.61 | 126.00 | 129.30 |
| 2 | AB | 1707 | G | C5-C6-N1 | 6.61 | 114.80 | 111.50 |
| 2 | AB | 2154 | A | N1-C6-N6 | 6.61 | 122.56 | 118.60 |
| 35 | BA | 510 | A | C4-C5-C6 | 6.61 | 120.30 | 117.00 |
| 35 | BA | 898 | G | C2-N3-C4 | 6.61 | 115.20 | 111.90 |
| 2 | AB | 701 | G | C5-N7-C8 | -6.61 | 101.00 | 104.30 |
| 2 | AB | 1226 | A | N9-C1'-C2' | -6.61 | 104.73 | 112.00 |
| 2 | AB | 1265 | A | O4'-C1'-C2' | 6.61 | 113.55 | 107.60 |
| 2 | AB | 1448 | G | C1'-O4'-C4' | -6.61 | 104.61 | 109.90 |
| 2 | AB | 1753 | G | C3'-C2'-C1' | -6.61 | 96.22 | 101.50 |
| 2 | AB | 2766 | A | C3'-C2'-C1' | 6.61 | 106.78 | 101.50 |
| 18 | AR | 38 | ARG | NE-CZ-NH2 | -6.61 | 117.00 | 120.30 |
| 35 | BA | 315 | A | C3'-C2'-C1' | -6.61 | 96.22 | 101.50 |
| 41 | BG | 130 | THR | CA-CB-CG2 | -6.61 | 103.15 | 112.40 |
| 2 | AB | 2604 | U | N1-C2-N3 | 6.60 | 118.86 | 114.90 |
| 2 | AB | 2782 | G | N9-C4-C5 | -6.60 | 102.76 | 105.40 |
| 35 | BA | 869 | G | C5-N7-C8 | -6.60 | 101.00 | 104.30 |
| 35 | BA | 1108 | G | C6-N1-C2 | -6.60 | 121.14 | 125.10 |
| 37 | BC | 61 | U | O4'-C1'-N1 | 6.60 | 113.48 | 108.20 |
| 1 | AA | 75 | G | N9-C4-C5 | 6.60 | 108.04 | 105.40 |
| 2 | AB | 603 | A | O4'-C1'-N9 | 6.60 | 113.48 | 108.20 |
| 2 | AB | 2254 | C | C5'-C4'-O4' | 6.60 | 117.02 | 109.10 |
| 2 | AB | 2589 | A | C5-C6-N1 | 6.60 | 121.00 | 117.70 |
| 2 | AB | 2766 | A | O4'-C4'-C3' | 6.60 | 111.38 | 106.10 |
| 2 | AB | 2812 | G | C2-N3-C4 | 6.60 | 115.20 | 111.90 |
| 35 | BA | 210 | C | C5'-C4'-C3' | -6.60 | 105.44 | 116.00 |
| 35 | BA | 223 | A | C8-N9-C4 | -6.60 | 103.16 | 105.80 |
| 35 | BA | 282 | A | C3'-C2'-C1' | 6.60 | 106.78 | 101.50 |
| 35 | BA | 337 | G | C4-C5-C6 | 6.60 | 122.76 | 118.80 |
| 35 | BA | 962 | C | N3-C2-O2 | -6.60 | 117.28 | 121.90 |
| 35 | BA | 1096 | C | C5-C6-N1 | 6.60 | 124.30 | 121.00 |
| 46 | BL | 48 | ARG | CA-CB-CG | 6.60 | 127.93 | 113.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 580 | U | O4'-C1'-N1 | 6.60 | 113.48 | 108.20 |
| 2 | AB | 1191 | G | N3-C4-N9 | 6.60 | 129.96 | 126.00 |
| 2 | AB | 1588 | G | N1-C2-N2 | -6.60 | 110.26 | 116.20 |
| 35 | BA | 995 | C | N3-C4-C5 | -6.60 | 119.26 | 121.90 |
| 36 | BB | 16 | A | C4-C5-C6 | -6.60 | 113.70 | 117.00 |
| 2 | AB | 926 | G | O4'-C1'-C2' | 6.60 | 113.54 | 107.60 |
| 2 | AB | 974 | G | C4-C5-C6 | 6.60 | 122.76 | 118.80 |
| 2 | AB | 1185 | G | C8-N9-C4 | -6.60 | 103.76 | 106.40 |
| 2 | AB | 2564 | A | C4-C5-C6 | -6.60 | 113.70 | 117.00 |
| 2 | AB | 2565 | A | P-O3'-C3' | 6.60 | 127.62 | 119.70 |
| 35 | BA | 299 | G | N3-C4-C5 | -6.60 | 125.30 | 128.60 |
| 35 | BA | 518 | C | C5'-C4'-C3' | -6.60 | 105.44 | 116.00 |
| 35 | BA | 600 | A | C5-C6-N1 | 6.60 | 121.00 | 117.70 |
| 35 | BA | 833 | G | N3-C4-C5 | -6.60 | 125.30 | 128.60 |
| 35 | BA | 1047 | G | N7-C8-N9 | 6.60 | 116.40 | 113.10 |
| 37 | BC | 4 | G | C5'-C4'-O4' | 6.60 | 117.02 | 109.10 |
| 2 | AB | 392 | U | C5'-C4'-O4' | 6.60 | 117.02 | 109.10 |
| 2 | AB | 458 | G | C8-N9-C4 | -6.60 | 103.76 | 106.40 |
| 2 | AB | 518 | G | N7-C8-N9 | 6.60 | 116.40 | 113.10 |
| 2 | AB | 971 | G | C6-N1-C2 | -6.60 | 121.14 | 125.10 |
| 2 | AB | 1277 | G | C1'-O4'-C4' | -6.60 | 104.62 | 109.90 |
| 2 | AB | 1613 | G | C5-N7-C8 | -6.60 | 101.00 | 104.30 |
| 2 | AB | 1703 | G | C5-N7-C8 | 6.60 | 107.60 | 104.30 |
| 2 | AB | 2084 | C | O4'-C1'-N1 | 6.60 | 113.48 | 108.20 |
| 2 | AB | 2410 | G | N9-C4-C5 | 6.60 | 108.04 | 105.40 |
| 2 | AB | 2568 | U | C4-C5-C6 | 6.60 | 123.66 | 119.70 |
| 2 | AB | 2603 | G | C5-C6-O6 | -6.60 | 124.64 | 128.60 |
| 21 | AU | 8 | ARG | NE-CZ-NH1 | -6.60 | 117.00 | 120.30 |
| 35 | BA | 748 | G | N1-C6-O6 | 6.60 | 123.86 | 119.90 |
| 35 | BA | 1155 | A | C8-N9-C4 | -6.60 | 103.16 | 105.80 |
| 35 | BA | 1265 | C | C6-N1-C2 | -6.60 | 117.66 | 120.30 |
| 35 | BA | 1388 | C | C6-N1-C2 | -6.60 | 117.66 | 120.30 |
| 35 | BA | 1417 | G | C2'-C3'-O3' | 6.60 | 124.25 | 113.70 |
| 35 | BA | 1489 | G | N1-C6-O6 | -6.60 | 115.94 | 119.90 |
| 48 | BN | 93 | ARG | NE-CZ-NH2 | -6.60 | 117.00 | 120.30 |
| 2 | AB | 1624 | U | C5-C6-N1 | -6.60 | 119.40 | 122.70 |
| 2 | AB | 1829 | A | N7-C8-N9 | -6.60 | 110.50 | 113.80 |
| 35 | BA | 18 | C | O4'-C1'-N1 | 6.60 | 113.48 | 108.20 |
| 35 | BA | 68 | G | N9-C4-C5 | 6.60 | 108.04 | 105.40 |
| 35 | BA | 375 | U | N3-C4-O4 | 6.60 | 124.02 | 119.40 |
| 35 | BA | 584 | G | C5-C6-N1 | 6.60 | 114.80 | 111.50 |
| 35 | BA | 1397 | C | O5'-P-OP1 | -6.60 | 99.76 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | AA | 35 | C | N1-C1'-C2' | -6.59 | 104.75 | 112.00 |
| 2 | AB | 233 | A | C5-C6-N6 | -6.59 | 118.42 | 123.70 |
| 2 | AB | 340 | A | C6-N1-C2 | 6.59 | 122.56 | 118.60 |
| 2 | AB | 533 | G | N3-C4-C5 | -6.59 | 125.30 | 128.60 |
| 2 | AB | 940 | G | O4'-C4'-C3' | 6.59 | 111.38 | 106.10 |
| 2 | AB | 1348 | C | P-O3'-C3' | 6.59 | 127.61 | 119.70 |
| 2 | AB | 1364 | G | N1-C6-O6 | 6.59 | 123.86 | 119.90 |
| 2 | AB | 2122 | U | N1-C2-O2 | 6.59 | 127.42 | 122.80 |
| 2 | AB | 2280 | G | C5-C6-O6 | -6.59 | 124.64 | 128.60 |
| 2 | AB | 2648 | G | C4-C5-N7 | -6.59 | 108.16 | 110.80 |
| 2 | AB | 2775 | G | C8-N9-C4 | -6.59 | 103.76 | 106.40 |
| 2 | AB | 2786 | U | C1'-O4'-C4' | -6.59 | 104.62 | 109.90 |
| 35 | BA | 757 | U | N1-C2-O2 | 6.59 | 127.42 | 122.80 |
| 35 | BA | 913 | A | N9-C4-C5 | 6.59 | 108.44 | 105.80 |
| 35 | BA | 1022 | A | C3'-C2'-C1' | 6.59 | 106.78 | 101.50 |
| 35 | BA | 1041 | G | C5-N7-C8 | 6.59 | 107.60 | 104.30 |
| 35 | BA | 1341 | U | N1-C1'-C2' | -6.59 | 104.75 | 112.00 |
| 36 | BB | 25 | U | O5'-P-OP2 | -6.59 | 99.77 | 105.70 |
| 2 | AB | 323 | C | N3-C4-C5 | -6.59 | 119.26 | 121.90 |
| 2 | AB | 535 | G | N3-C2-N2 | 6.59 | 124.52 | 119.90 |
| 2 | AB | 1609 | A | C8-N9-C4 | 6.59 | 108.44 | 105.80 |
| 2 | AB | 2127 | G | C5-C6-O6 | 6.59 | 132.56 | 128.60 |
| 2 | AB | 2210 | U | N3-C2-O2 | -6.59 | 117.58 | 122.20 |
| 2 | AB | 2242 | G | C6-N1-C2 | -6.59 | 121.14 | 125.10 |
| 2 | AB | 2361 | G | C5-N7-C8 | -6.59 | 101.00 | 104.30 |
| 35 | BA | 786 | G | O4'-C1'-N9 | 6.59 | 113.47 | 108.20 |
| 35 | BA | 1526 | G | N3-C2-N2 | -6.59 | 115.28 | 119.90 |
| 2 | AB | 540 | C | C3'-C2'-C1' | 6.59 | 106.77 | 101.50 |
| 2 | AB | 611 | C | N1-C2-O2 | 6.59 | 122.86 | 118.90 |
| 2 | AB | 614 | A | O3'-P-O5' | -6.59 | 91.48 | 104.00 |
| 2 | AB | 2092 | U | C5-C6-N1 | -6.59 | 119.41 | 122.70 |
| 2 | AB | 2193 | G | O4'-C1'-N9 | 6.59 | 113.47 | 108.20 |
| 2 | AB | 2540 | C | O4'-C1'-N1 | 6.59 | 113.47 | 108.20 |
| 35 | BA | 185 | U | O4'-C1'-N1 | 6.59 | 113.47 | 108.20 |
| 35 | BA | 544 | G | C4-C5-N7 | -6.59 | 108.16 | 110.80 |
| 35 | BA | 628 | G | N9-C4-C5 | -6.59 | 102.76 | 105.40 |
| 35 | BA | 1110 | A | N3-C4-C5 | -6.59 | 122.19 | 126.80 |
| 35 | BA | 1340 | A | C5'-C4'-O4' | 6.59 | 117.01 | 109.10 |
| 36 | BB | 22 | G | C6-C5-N7 | -6.59 | 126.44 | 130.40 |
| 36 | BB | 49 | U | N1-C2-O2 | -6.59 | 118.19 | 122.80 |
| 37 | BC | 39 | A | N1-C6-N6 | 6.59 | 122.56 | 118.60 |
| 2 | AB | 615 | U | C6-N1-C2 | -6.59 | 117.05 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 836 | G | C4-C5-N7 | -6.59 | 108.16 | 110.80 |
| 2 | AB | 1081 | U | N3-C4-O4 | 6.59 | 124.01 | 119.40 |
| 2 | AB | 2098 | U | C5-C4-O4 | 6.59 | 129.85 | 125.90 |
| 2 | AB | 2163 | A | C5-C6-N1 | 6.59 | 121.00 | 117.70 |
| 2 | AB | 2456 | C | C5-C6-N1 | -6.59 | 117.71 | 121.00 |
| 2 | AB | 2860 | A | N1-C2-N3 | -6.59 | 126.00 | 129.30 |
| 35 | BA | 461 | A | C2-N3-C4 | 6.59 | 113.89 | 110.60 |
| 35 | BA | 1462 | C | O5'-C5'-C4' | 6.59 | 124.22 | 111.70 |
| 37 | BC | 37 | U | C2-N1-C1' | -6.59 | 109.79 | 117.70 |
| 39 | BE | 135 | ARG | NE-CZ-NH2 | 6.59 | 123.59 | 120.30 |
| 52 | BR | 44 | SER | O-C-N | 6.59 | 133.24 | 122.70 |
| 2 | AB | 2035 | G | C6-N1-C2 | -6.59 | 121.15 | 125.10 |
| 2 | AB | 2172 | U | N3-C2-O2 | 6.59 | 126.81 | 122.20 |
| 2 | AB | 2215 | C | C6-N1-C2 | -6.59 | 117.67 | 120.30 |
| 1 | AA | 58 | A | N9-C1'-C2' | -6.59 | 104.75 | 112.00 |
| 1 | AA | 112 | G | P-O3'-C3' | 6.59 | 127.60 | 119.70 |
| 2 | AB | 2149 | U | N3-C2-O2 | -6.59 | 117.59 | 122.20 |
| 2 | AB | 2654 | A | C4-C5-C6 | -6.59 | 113.71 | 117.00 |
| 2 | AB | 2767 | C | N1-C2-O2 | 6.59 | 122.85 | 118.90 |
| 2 | AB | 2849 | U | N1-C2-N3 | 6.59 | 118.85 | 114.90 |
| 35 | BA | 242 | G | C8-N9-C1' | 6.59 | 135.56 | 127.00 |
| 35 | BA | 511 | C | O4'-C1'-N1 | 6.59 | 113.47 | 108.20 |
| 35 | BA | 691 | G | O4'-C1'-C2' | 6.59 | 113.53 | 107.60 |
| 35 | BA | 716 | A | N7-C8-N9 | 6.59 | 117.09 | 113.80 |
| 35 | BA | 774 | G | C6-N1-C2 | -6.59 | 121.15 | 125.10 |
| 35 | BA | 958 | A | C2-N3-C4 | 6.59 | 113.89 | 110.60 |
| 35 | BA | 1253 | G | N1-C6-O6 | -6.59 | 115.95 | 119.90 |
| 35 | BA | 1412 | C | C5'-C4'-O4' | 6.59 | 117.00 | 109.10 |
| 2 | AB | 452 | G | O4'-C1'-N9 | 6.58 | 113.47 | 108.20 |
| 2 | AB | 1024 | G | C6-C5-N7 | 6.58 | 134.35 | 130.40 |
| 2 | AB | 1254 | A | O3'-P-O5' | 6.58 | 116.51 | 104.00 |
| 2 | AB | 1464 | G | C6-N1-C2 | -6.58 | 121.15 | 125.10 |
| 2 | AB | 1755 | A | N1-C2-N3 | -6.58 | 126.01 | 129.30 |
| 35 | BA | 319 | G | C5'-C4'-O4' | 6.58 | 117.00 | 109.10 |
| 37 | BC | 40 | C | N3-C4-C5 | -6.58 | 119.27 | 121.90 |
| 40 | BF | 127 | ARG | CD-NE-CZ | 6.58 | 132.82 | 123.60 |
| 1 | AA | 106 | G | C8-N9-C4 | -6.58 | 103.77 | 106.40 |
| 2 | AB | 329 | G | N7-C8-N9 | -6.58 | 109.81 | 113.10 |
| 2 | AB | 1040 | A | C4-C5-N7 | -6.58 | 107.41 | 110.70 |
| 2 | AB | 1042 | G | C2-N3-C4 | 6.58 | 115.19 | 111.90 |
| 2 | AB | 1157 | G | C4-C5-C6 | 6.58 | 122.75 | 118.80 |
| 2 | AB | 1266 | G | N3-C2-N2 | -6.58 | 115.29 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1598 | A | C8-N9-C4 | -6.58 | 103.17 | 105.80 |
| 2 | AB | 1959 | G | N9-C4-C5 | 6.58 | 108.03 | 105.40 |
| 16 | AP | 71 | ARG | CD-NE-CZ | 6.58 | 132.82 | 123.60 |
| 33 | A6 | 7 | ARG | NE-CZ-NH1 | 6.58 | 123.59 | 120.30 |
| 35 | BA | 20 | U | C1'-O4'-C4' | 6.58 | 115.17 | 109.90 |
| 35 | BA | 119 | A | C2-N3-C4 | -6.58 | 107.31 | 110.60 |
| 35 | BA | 585 | G | C8-N9-C4 | -6.58 | 103.77 | 106.40 |
| 35 | BA | 1011 | C | O4'-C1'-N1 | 6.58 | 113.47 | 108.20 |
| 35 | BA | 1417 | G | N7-C8-N9 | -6.58 | 109.81 | 113.10 |
| 1 | AA | 71 | C | C5'-C4'-O4' | 6.58 | 117.00 | 109.10 |
| 2 | AB | 217 | A | N3-C4-N9 | 6.58 | 132.66 | 127.40 |
| 2 | AB | 393 | C | C2-N3-C4 | -6.58 | 116.61 | 119.90 |
| 2 | AB | 579 | G | C4-C5-N7 | 6.58 | 113.43 | 110.80 |
| 2 | AB | 794 | A | N9-C4-C5 | 6.58 | 108.43 | 105.80 |
| 2 | AB | 895 | U | C4'-C3'-C2' | 6.58 | 109.18 | 102.60 |
| 2 | AB | 1964 | G | N7-C8-N9 | 6.58 | 116.39 | 113.10 |
| 2 | AB | 2166 | U | N3-C2-O2 | -6.58 | 117.59 | 122.20 |
| 35 | BA | 194 | C | C4-C5-C6 | -6.58 | 114.11 | 117.40 |
| 35 | BA | 1356 | G | C5-C6-O6 | -6.58 | 124.65 | 128.60 |
| 37 | BC | 2 | G | N9-C4-C5 | -6.58 | 102.77 | 105.40 |
| 38 | BD | 161 | PHE | CB-CG-CD1 | 6.58 | 125.41 | 120.80 |
| 2 | AB | 154 | U | N1-C2-N3 | 6.58 | 118.85 | 114.90 |
| 2 | AB | 676 | A | C4-C5-N7 | -6.58 | 107.41 | 110.70 |
| 2 | AB | 711 | G | O4'-C1'-N9 | 6.58 | 113.46 | 108.20 |
| 2 | AB | 1042 | G | C5-C6-O6 | -6.58 | 124.65 | 128.60 |
| 2 | AB | 1433 | A | O4'-C1'-N9 | 6.58 | 113.46 | 108.20 |
| 2 | AB | 2070 | A | O4'-C1'-C2' | -6.58 | 99.22 | 105.80 |
| 2 | AB | 2338 | C | O4'-C1'-N1 | 6.58 | 113.46 | 108.20 |
| 35 | BA | 350 | G | N3-C4-C5 | -6.58 | 125.31 | 128.60 |
| 35 | BA | 827 | U | O4'-C4'-C3' | 6.58 | 111.36 | 106.10 |
| 35 | BA | 837 | U | P-O3'-C3' | -6.58 | 111.80 | 119.70 |
| 2 | AB | 1010 | A | N1-C6-N6 | -6.58 | 114.65 | 118.60 |
| 2 | AB | 1465 | G | C5'-C4'-O4' | -6.58 | 101.20 | 109.10 |
| 2 | AB | 2137 | U | C2-N3-C4 | -6.58 | 123.05 | 127.00 |
| 16 | AP | 71 | ARG | NE-CZ-NH1 | -6.58 | 117.01 | 120.30 |
| 35 | BA | 448 | A | C5-N7-C8 | -6.58 | 100.61 | 103.90 |
| 2 | AB | 154 | U | C3'-C2'-C1' | 6.58 | 106.76 | 101.50 |
| 2 | AB | 598 | U | C6-N1-C2 | -6.58 | 117.05 | 121.00 |
| 2 | AB | 1317 | G | N3-C4-C5 | -6.58 | 125.31 | 128.60 |
| 2 | AB | 2008 | C | N3-C4-C5 | -6.58 | 119.27 | 121.90 |
| 35 | BA | 1090 | U | N3-C4-C5 | -6.58 | 110.65 | 114.60 |
| 2 | AB | 60 | G | C5'-C4'-O4' | 6.58 | 116.99 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 205 | G | C4-C5-N7 | 6.58 | 113.43 | 110.80 |
| 2 | AB | 389 | G | N3-C2-N2 | 6.58 | 124.50 | 119.90 |
| 2 | AB | 662 | G | C5-C6-N1 | 6.58 | 114.79 | 111.50 |
| 2 | AB | 812 | C | C5-C6-N1 | 6.58 | 124.29 | 121.00 |
| 2 | AB | 1068 | G | P-O3'-C3' | 6.58 | 127.59 | 119.70 |
| 2 | AB | 2191 | A | C2-N3-C4 | 6.58 | 113.89 | 110.60 |
| 2 | AB | 2464 | G | C5-C6-N1 | 6.58 | 114.79 | 111.50 |
| 2 | AB | 2597 | G | C1'-O4'-C4' | 6.58 | 115.16 | 109.90 |
| 2 | AB | 2802 | G | N7-C8-N9 | 6.58 | 116.39 | 113.10 |
| 35 | BA | 474 | G | O4'-C1'-N9 | 6.58 | 113.46 | 108.20 |
| 35 | BA | 628 | G | N9-C1'-C2' | -6.58 | 104.77 | 112.00 |
| 35 | BA | 694 | A | C6-C5-N7 | -6.58 | 127.70 | 132.30 |
| 35 | BA | 1338 | G | C5-C6-O6 | -6.58 | 124.66 | 128.60 |
| 35 | BA | 1360 | A | C6-C5-N7 | 6.58 | 136.90 | 132.30 |
| 35 | BA | 1370 | G | N3-C4-C5 | -6.58 | 125.31 | 128.60 |
| 35 | BA | 1397 | C | N3-C4-C5 | -6.58 | 119.27 | 121.90 |
| 35 | BA | 1520 | C | C1'-O4'-C4' | 6.58 | 115.16 | 109.90 |
| 46 | BL | 91 | ASP | CB-CG-OD1 | -6.58 | 112.38 | 118.30 |
| 1 | AA | 102 | G | C3'-C2'-C1' | 6.57 | 106.76 | 101.50 |
| 2 | AB | 161 | A | C6-C5-N7 | 6.57 | 136.90 | 132.30 |
| 2 | AB | 515 | A | N3-C4-C5 | -6.57 | 122.20 | 126.80 |
| 2 | AB | 634 | C | N3-C4-N4 | 6.57 | 122.60 | 118.00 |
| 2 | AB | 649 | G | N1-C2-N2 | 6.57 | 122.12 | 116.20 |
| 2 | AB | 1828 | G | N9-C4-C5 | 6.57 | 108.03 | 105.40 |
| 2 | AB | 2001 | C | C2-N3-C4 | 6.57 | 123.19 | 119.90 |
| 2 | AB | 2444 | G | C6-C5-N7 | -6.57 | 126.45 | 130.40 |
| 35 | BA | 131 | A | C1'-O4'-C4' | -6.57 | 104.64 | 109.90 |
| 35 | BA | 361 | G | C4'-C3'-C2' | -6.57 | 96.03 | 102.60 |
| 35 | BA | 1405 | G | C5-C6-N1 | 6.57 | 114.79 | 111.50 |
| 35 | BA | 1486 | G | N7-C8-N9 | 6.57 | 116.39 | 113.10 |
| 2 | AB | 2300 | C | N3-C4-C5 | -6.57 | 119.27 | 121.90 |
| 2 | AB | 2486 | C | N3-C4-N4 | 6.57 | 122.60 | 118.00 |
| 35 | BA | 1378 | C | N3-C4-N4 | 6.57 | 122.60 | 118.00 |
| 40 | BF | 50 | TYR | CG-CD1-CE1 | -6.57 | 116.04 | 121.30 |
| 2 | AB | 436 | C | C2-N3-C4 | 6.57 | 123.19 | 119.90 |
| 2 | AB | 607 | U | O4'-C1'-N1 | 6.57 | 113.46 | 108.20 |
| 2 | AB | 1057 | A | C5-C6-N1 | 6.57 | 120.98 | 117.70 |
| 2 | AB | 1090 | A | C4-C5-N7 | -6.57 | 107.41 | 110.70 |
| 2 | AB | 1223 | G | N9-C4-C5 | 6.57 | 108.03 | 105.40 |
| 2 | AB | 1471 | G | C1'-O4'-C4' | 6.57 | 115.16 | 109.90 |
| 2 | AB | 1591 | A | C5-C6-N6 | 6.57 | 128.96 | 123.70 |
| 2 | AB | 1937 | A | C6-C5-N7 | 6.57 | 136.90 | 132.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2049 | G | N3-C4-C5 | -6.57 | 125.31 | 128.60 |
| 2 | AB | 2295 | C | C3'-C2'-C1' | 6.57 | 106.76 | 101.50 |
| 2 | AB | 2464 | G | C4-C5-N7 | -6.57 | 108.17 | 110.80 |
| 2 | AB | 2628 | C | C1'-O4'-C4' | -6.57 | 104.64 | 109.90 |
| 35 | BA | 346 | G | O3'-P-O5' | 6.57 | 116.48 | 104.00 |
| 35 | BA | 665 | A | N1-C2-N3 | 6.57 | 132.59 | 129.30 |
| 35 | BA | 896 | C | N3-C4-C5 | -6.57 | 119.27 | 121.90 |
| 35 | BA | 978 | A | O4'-C1'-N9 | 6.57 | 113.46 | 108.20 |
| 2 | AB | 1396 | U | C4'-C3'-C2' | 6.57 | 109.17 | 102.60 |
| 2 | AB | 2613 | U | N1-C2-O2 | -6.57 | 118.20 | 122.80 |
| 35 | BA | 40 | C | N3-C4-N4 | 6.57 | 122.60 | 118.00 |
| 35 | BA | 234 | C | C4'-C3'-C2' | 6.57 | 109.17 | 102.60 |
| 35 | BA | 381 | C | P-O3'-C3' | 6.57 | 127.58 | 119.70 |
| 35 | BA | 1438 | G | O4'-C1'-N9 | 6.57 | 113.45 | 108.20 |
| 1 | AA | 32 | U | O4'-C1'-N1 | 6.57 | 113.45 | 108.20 |
| 2 | AB | 291 | G | C3'-C2'-C1' | -6.57 | 96.25 | 101.50 |
| 2 | AB | 793 | A | C6-N1-C2 | 6.57 | 122.54 | 118.60 |
| 2 | AB | 1563 | U | N3-C4-O4 | -6.57 | 114.80 | 119.40 |
| 2 | AB | 1630 | A | N1-C2-N3 | -6.57 | 126.02 | 129.30 |
| 2 | AB | 1675 | C | C4-C5-C6 | 6.57 | 120.68 | 117.40 |
| 2 | AB | 1824 | G | N9-C4-C5 | 6.57 | 108.03 | 105.40 |
| 35 | BA | 463 | U | C5-C4-O4 | -6.57 | 121.96 | 125.90 |
| 35 | BA | 661 | G | C2-N3-C4 | 6.57 | 115.18 | 111.90 |
| 35 | BA | 1136 | C | N3-C2-O2 | -6.57 | 117.30 | 121.90 |
| 35 | BA | 1220 | G | C5-C6-N1 | 6.57 | 114.78 | 111.50 |
| 35 | BA | 1472 | U | N1-C2-N3 | 6.57 | 118.84 | 114.90 |
| 2 | AB | 186 | G | P-O3'-C3' | 6.57 | 127.58 | 119.70 |
| 2 | AB | 518 | G | N9-C1'-C2' | -6.57 | 104.78 | 112.00 |
| 2 | AB | 555 | G | O4'-C1'-N9 | 6.57 | 113.45 | 108.20 |
| 2 | AB | 1211 | C | O4'-C1'-N1 | 6.57 | 113.45 | 108.20 |
| 2 | AB | 1377 | G | C5-C6-N1 | -6.57 | 108.22 | 111.50 |
| 2 | AB | 1807 | G | P-O3'-C3' | 6.57 | 127.58 | 119.70 |
| 2 | AB | 2048 | G | P-O3'-C3' | 6.57 | 127.58 | 119.70 |
| 2 | AB | 2104 | C | O4'-C1'-N1 | 6.57 | 113.45 | 108.20 |
| 2 | AB | 2224 | G | N3-C2-N2 | 6.57 | 124.50 | 119.90 |
| 2 | AB | 2241 | A | C6-C5-N7 | 6.57 | 136.90 | 132.30 |
| 2 | AB | 2859 | G | N1-C6-O6 | -6.57 | 115.96 | 119.90 |
| 21 | AU | 67 | ASP | CB-CG-OD2 | -6.57 | 112.39 | 118.30 |
| 32 | A5 | 4 | THR | CA-CB-CG2 | 6.57 | 121.59 | 112.40 |
| 35 | BA | 345 | C | N3-C2-O2 | -6.57 | 117.30 | 121.90 |
| 35 | BA | 845 | A | C5-N7-C8 | 6.57 | 107.18 | 103.90 |
| 35 | BA | 1281 | C | O4'-C1'-N1 | 6.57 | 113.45 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1307 | U | O4'-C1'-N1 | 6.57 | 113.45 | 108.20 |
| 35 | BA | 1415 | G | N1-C2-N2 | 6.57 | 122.11 | 116.20 |
| 2 | AB | 97 | C | C5'-C4'-O4' | 6.56 | 116.98 | 109.10 |
| 2 | AB | 522 | A | N1-C2-N3 | 6.56 | 132.58 | 129.30 |
| 2 | AB | 864 | G | C5-C6-O6 | 6.56 | 132.54 | 128.60 |
| 2 | AB | 1410 | G | C4-C5-C6 | 6.56 | 122.74 | 118.80 |
| 2 | AB | 2224 | G | C4'-C3'-C2' | -6.56 | 96.04 | 102.60 |
| 9 | AI | 46 | PHE | CB-CG-CD1 | 6.56 | 125.39 | 120.80 |
| 35 | BA | 1449 | C | N3-C2-O2 | -6.56 | 117.31 | 121.90 |
| 35 | BA | 1469 | C | N3-C2-O2 | -6.56 | 117.31 | 121.90 |
| 2 | AB | 102 | U | O4'-C1'-C2' | -6.56 | 99.24 | 105.80 |
| 2 | AB | 1405 | U | N1-C2-O2 | -6.56 | 118.21 | 122.80 |
| 2 | AB | 1566 | A | C4-C5-C6 | -6.56 | 113.72 | 117.00 |
| 2 | AB | 2336 | A | C2-N3-C4 | 6.56 | 113.88 | 110.60 |
| 2 | AB | 2446 | G | C5'-C4'-O4' | 6.56 | 116.97 | 109.10 |
| 2 | AB | 2651 | C | N3-C4-C5 | 6.56 | 124.53 | 121.90 |
| 2 | AB | 2806 | C | P-O3'-C3' | 6.56 | 127.58 | 119.70 |
| 2 | AB | 2885 | G | C6-C5-N7 | -6.56 | 126.46 | 130.40 |
| 21 | AU | 77 | ASP | CB-CG-OD1 | -6.56 | 112.39 | 118.30 |
| 35 | BA | 54 | C | C3'-C2'-C1' | 6.56 | 106.75 | 101.50 |
| 35 | BA | 361 | G | N1-C6-O6 | -6.56 | 115.96 | 119.90 |
| 35 | BA | 505 | G | N1-C2-N3 | 6.56 | 127.84 | 123.90 |
| 35 | BA | 994 | A | C3'-C2'-C1' | -6.56 | 96.25 | 101.50 |
| 35 | BA | 1046 | A | C5'-C4'-O4' | 6.56 | 116.98 | 109.10 |
| 35 | BA | 1109 | C | C6-N1-C2 | -6.56 | 117.67 | 120.30 |
| 35 | BA | 1206 | G | N3-C4-C5 | -6.56 | 125.32 | 128.60 |
| 35 | BA | 353 | A | N9-C4-C5 | 6.56 | 108.42 | 105.80 |
| 35 | BA | 858 | G | N3-C4-C5 | -6.56 | 125.32 | 128.60 |
| 35 | BA | 1027 | C | N3-C4-N4 | 6.56 | 122.59 | 118.00 |
| 1 | AA | 116 | G | C4-C5-N7 | 6.56 | 113.42 | 110.80 |
| 2 | AB | 188 | G | C8-N9-C4 | -6.56 | 103.78 | 106.40 |
| 2 | AB | 655 | A | C3'-C2'-C1' | -6.56 | 96.25 | 101.50 |
| 2 | AB | 1368 | G | C5-N7-C8 | -6.56 | 101.02 | 104.30 |
| 2 | AB | 1381 | G | N9-C4-C5 | 6.56 | 108.02 | 105.40 |
| 2 | AB | 1444 | G | C8-N9-C4 | 6.56 | 109.02 | 106.40 |
| 2 | AB | 1681 | G | N1-C2-N3 | -6.56 | 119.96 | 123.90 |
| 2 | AB | 2286 | G | N9-C4-C5 | 6.56 | 108.02 | 105.40 |
| 35 | BA | 456 | A | N1-C2-N3 | 6.56 | 132.58 | 129.30 |
| 35 | BA | 1193 | G | N3-C4-N9 | 6.56 | 129.94 | 126.00 |
| 1 | AA | 81 | G | N3-C4-N9 | -6.56 | 122.06 | 126.00 |
| 2 | AB | 67 | U | N3-C4-C5 | -6.56 | 110.67 | 114.60 |
| 2 | AB | 669 | G | O4'-C1'-N9 | 6.56 | 113.45 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1491 | G | C6-N1-C2 | -6.56 | 121.17 | 125.10 |
| 2 | AB | 1863 | G | N1-C6-O6 | 6.56 | 123.83 | 119.90 |
| 2 | AB | 1875 | G | C6-C5-N7 | -6.56 | 126.47 | 130.40 |
| 2 | AB | 2265 | U | C4-C5-C6 | 6.56 | 123.64 | 119.70 |
| 2 | AB | 2364 | C | N3-C4-C5 | -6.56 | 119.28 | 121.90 |
| 35 | BA | 849 | G | C5'-C4'-C3' | -6.56 | 105.51 | 116.00 |
| 35 | BA | 977 | A | C8-N9-C4 | -6.56 | 103.18 | 105.80 |
| 2 | AB | 489 | G | N3-C4-N9 | 6.56 | 129.93 | 126.00 |
| 2 | AB | 529 | A | C5-C6-N1 | -6.56 | 114.42 | 117.70 |
| 2 | AB | 1053 | C | C5'-C4'-O4' | 6.56 | 116.97 | 109.10 |
| 2 | AB | 1276 | A | N1-C2-N3 | -6.56 | 126.02 | 129.30 |
| 2 | AB | 2848 | G | C4-C5-N7 | -6.56 | 108.18 | 110.80 |
| 35 | BA | 811 | C | O4'-C1'-N1 | 6.56 | 113.44 | 108.20 |
| 2 | AB | 496 | G | C4-C5-N7 | 6.55 | 113.42 | 110.80 |
| 2 | AB | 636 | G | C8-N9-C4 | -6.55 | 103.78 | 106.40 |
| 2 | AB | 836 | G | O4'-C1'-N9 | 6.55 | 113.44 | 108.20 |
| 2 | AB | 884 | U | C5-C6-N1 | -6.55 | 119.42 | 122.70 |
| 2 | AB | 1846 | G | N3-C4-N9 | 6.55 | 129.93 | 126.00 |
| 2 | AB | 1949 | G | N1-C6-O6 | -6.55 | 115.97 | 119.90 |
| 2 | AB | 2051 | A | N3-C4-N9 | -6.55 | 122.16 | 127.40 |
| 2 | AB | 2158 | A | C5-N7-C8 | -6.55 | 100.62 | 103.90 |
| 2 | AB | 2319 | G | C5-C6-N1 | -6.55 | 108.22 | 111.50 |
| 2 | AB | 2556 | C | O4'-C1'-N1 | 6.55 | 113.44 | 108.20 |
| 35 | BA | 763 | G | C6-N1-C2 | 6.55 | 129.03 | 125.10 |
| 35 | BA | 1167 | A | OP1-P-O3' | 6.55 | 119.62 | 105.20 |
| 35 | BA | 1201 | A | N7-C8-N9 | -6.55 | 110.52 | 113.80 |
| 45 | BK | 108 | ARG | NE-CZ-NH1 | 6.55 | 123.58 | 120.30 |
| 2 | AB | 96 | C | N1-C2-O2 | -6.55 | 114.97 | 118.90 |
| 2 | AB | 424 | G | C8-N9-C4 | -6.55 | 103.78 | 106.40 |
| 2 | AB | 1172 | C | N3-C4-C5 | 6.55 | 124.52 | 121.90 |
| 2 | AB | 2126 | A | C5'-C4'-O4' | 6.55 | 116.96 | 109.10 |
| 2 | AB | 82 | U | N3-C4-O4 | 6.55 | 123.99 | 119.40 |
| 2 | AB | 514 | A | C5-C6-N6 | 6.55 | 128.94 | 123.70 |
| 2 | AB | 651 | G | C5'-C4'-O4' | 6.55 | 116.96 | 109.10 |
| 2 | AB | 743 | A | O4'-C1'-N9 | 6.55 | 113.44 | 108.20 |
| 2 | AB | 1660 | G | C4'-C3'-C2' | -6.55 | 96.05 | 102.60 |
| 2 | AB | 1718 | G | C2-N3-C4 | 6.55 | 115.17 | 111.90 |
| 2 | AB | 2093 | G | N7-C8-N9 | 6.55 | 116.38 | 113.10 |
| 2 | AB | 2246 | G | C5-N7-C8 | -6.55 | 101.03 | 104.30 |
| 2 | AB | 2693 | G | C2-N3-C4 | 6.55 | 115.18 | 111.90 |
| 35 | BA | 294 | U | O4'-C1'-N1 | 6.55 | 113.44 | 108.20 |
| 35 | BA | 442 | G | C5'-C4'-C3' | -6.55 | 105.52 | 116.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 746 | A | C4'-C3'-C2' | -6.55 | 96.05 | 102.60 |
| 35 | BA | 1013 | G | C3'-C2'-C1' | -6.55 | 96.26 | 101.50 |
| 35 | BA | 1069 | C | N3-C4-C5 | -6.55 | 119.28 | 121.90 |
| 1 | AA | 49 | C | C2-N3-C4 | 6.55 | 123.17 | 119.90 |
| 1 | AA | 105 | G | N3-C4-C5 | -6.55 | 125.33 | 128.60 |
| 2 | AB | 76 | C | C1'-O4'-C4' | 6.55 | 115.14 | 109.90 |
| 2 | AB | 137 | U | C4-C5-C6 | -6.55 | 115.77 | 119.70 |
| 2 | AB | 227 | A | C8-N9-C4 | -6.55 | 103.18 | 105.80 |
| 2 | AB | 261 | G | N3-C4-N9 | -6.55 | 122.07 | 126.00 |
| 2 | AB | 785 | G | C5-C6-O6 | -6.55 | 124.67 | 128.60 |
| 2 | AB | 828 | U | C4'-C3'-C2' | -6.55 | 96.05 | 102.60 |
| 2 | AB | 866 | A | C5-N7-C8 | 6.55 | 107.17 | 103.90 |
| 2 | AB | 1115 | G | C4-C5-C6 | 6.55 | 122.73 | 118.80 |
| 2 | AB | 1311 | G | N3-C4-N9 | 6.55 | 129.93 | 126.00 |
| 2 | AB | 1470 | A | N7-C8-N9 | -6.55 | 110.53 | 113.80 |
| 2 | AB | 1543 | G | C2-N3-C4 | 6.55 | 115.17 | 111.90 |
| 35 | BA | 74 | A | C2-N3-C4 | -6.55 | 107.33 | 110.60 |
| 35 | BA | 968 | A | C5'-C4'-O4' | 6.55 | 116.96 | 109.10 |
| 1 | AA | 98 | G | C6-C5-N7 | 6.55 | 134.33 | 130.40 |
| 2 | AB | 2091 | C | N1-C1'-C2' | -6.55 | 104.80 | 112.00 |
| 35 | BA | 76 | G | N3-C2-N2 | 6.55 | 124.48 | 119.90 |
| 2 | AB | 177 | G | C4-C5-C6 | 6.55 | 122.73 | 118.80 |
| 2 | AB | 923 | G | N3-C2-N2 | 6.55 | 124.48 | 119.90 |
| 2 | AB | 981 | A | N7-C8-N9 | 6.55 | 117.07 | 113.80 |
| 2 | AB | 1276 | A | N9-C4-C5 | 6.55 | 108.42 | 105.80 |
| 2 | AB | 1327 | A | C5-N7-C8 | 6.55 | 107.17 | 103.90 |
| 2 | AB | 1510 | G | N9-C4-C5 | 6.55 | 108.02 | 105.40 |
| 2 | AB | 2679 | A | N1-C6-N6 | -6.55 | 114.67 | 118.60 |
| 2 | AB | 2785 | C | N1-C2-N3 | -6.55 | 114.62 | 119.20 |
| 15 | AO | 50 | ARG | NE-CZ-NH1 | 6.55 | 123.57 | 120.30 |
| 35 | BA | 336 | A | O4'-C1'-N9 | 6.55 | 113.44 | 108.20 |
| 35 | BA | 705 | G | C6-C5-N7 | 6.55 | 134.33 | 130.40 |
| 35 | BA | 1134 | G | C4-C5-N7 | -6.55 | 108.18 | 110.80 |
| 35 | BA | 1332 | A | C6-C5-N7 | -6.55 | 127.72 | 132.30 |
| 35 | BA | 1389 | C | N1-C2-O2 | 6.55 | 122.83 | 118.90 |
| 2 | AB | 416 | U | N3-C4-C5 | -6.54 | 110.67 | 114.60 |
| 2 | AB | 552 | U | C3'-C2'-C1' | 6.54 | 106.74 | 101.50 |
| 2 | AB | 561 | G | C5'-C4'-O4' | 6.54 | 116.95 | 109.10 |
| 2 | AB | 1096 | A | C4-C5-C6 | -6.54 | 113.73 | 117.00 |
| 2 | AB | 2297 | A | C6-N1-C2 | 6.54 | 122.53 | 118.60 |
| 2 | AB | 2437 | G | N1-C2-N3 | -6.54 | 119.97 | 123.90 |
| 35 | BA | 7 | A | C2-N3-C4 | 6.54 | 113.87 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 94 | A | N1-C2-N3 | -6.54 | 126.03 | 129.30 |
| 2 | AB | 101 | A | C8-N9-C4 | -6.54 | 103.18 | 105.80 |
| 2 | AB | 1392 | A | C4-C5-C6 | 6.54 | 120.27 | 117.00 |
| 2 | AB | 2583 | G | P-O3'-C3' | 6.54 | 127.55 | 119.70 |
| 2 | AB | 2634 | A | C4-C5-C6 | -6.54 | 113.73 | 117.00 |
| 2 | AB | 2775 | G | C5-C6-N1 | 6.54 | 114.77 | 111.50 |
| 35 | BA | 227 | G | C6-N1-C2 | 6.54 | 129.03 | 125.10 |
| 35 | BA | 407 | U | C4-C5-C6 | 6.54 | 123.63 | 119.70 |
| 35 | BA | 661 | G | N1-C2-N3 | -6.54 | 119.97 | 123.90 |
| 35 | BA | 1026 | G | C6-C5-N7 | -6.54 | 126.47 | 130.40 |
| 35 | BA | 1088 | G | C4'-C3'-C2' | -6.54 | 96.06 | 102.60 |
| 55 | BU | 77 | ARG | NE-CZ-NH1 | 6.54 | 123.57 | 120.30 |
| 2 | AB | 42 | A | N3-C4-C5 | -6.54 | 122.22 | 126.80 |
| 2 | AB | 564 | C | O4'-C1'-N1 | 6.54 | 113.43 | 108.20 |
| 2 | AB | 776 | G | C2-N3-C4 | 6.54 | 115.17 | 111.90 |
| 2 | AB | 1045 | C | C2-N3-C4 | 6.54 | 123.17 | 119.90 |
| 2 | AB | 1111 | A | C4-C5-C6 | 6.54 | 120.27 | 117.00 |
| 2 | AB | 1128 | G | C6-C5-N7 | -6.54 | 126.47 | 130.40 |
| 2 | AB | 1256 | G | N3-C4-C5 | -6.54 | 125.33 | 128.60 |
| 2 | AB | 1347 | A | C4-C5-C6 | -6.54 | 113.73 | 117.00 |
| 2 | AB | 1679 | A | N1-C2-N3 | -6.54 | 126.03 | 129.30 |
| 2 | AB | 1957 | C | O4'-C1'-N1 | 6.54 | 113.43 | 108.20 |
| 2 | AB | 1978 | A | N7-C8-N9 | 6.54 | 117.07 | 113.80 |
| 2 | AB | 2122 | U | N1-C2-N3 | 6.54 | 118.83 | 114.90 |
| 2 | AB | 2136 | G | C2-N3-C4 | 6.54 | 115.17 | 111.90 |
| 2 | AB | 2726 | A | O4'-C1'-N9 | 6.54 | 113.43 | 108.20 |
| 2 | AB | 2831 | G | C4-C5-N7 | 6.54 | 113.42 | 110.80 |
| 35 | BA | 461 | A | N1-C2-N3 | -6.54 | 126.03 | 129.30 |
| 35 | BA | 764 | C | C5-C6-N1 | 6.54 | 124.27 | 121.00 |
| 35 | BA | 1057 | G | C8-N9-C4 | -6.54 | 103.78 | 106.40 |
| 2 | AB | 992 | C | O4'-C1'-N1 | 6.54 | 113.43 | 108.20 |
| 2 | AB | 1579 | A | O4'-C1'-N9 | 6.54 | 113.43 | 108.20 |
| 2 | AB | 1716 | U | N3-C2-O2 | -6.54 | 117.62 | 122.20 |
| 2 | AB | 1833 | C | O4'-C1'-N1 | 6.54 | 113.43 | 108.20 |
| 2 | AB | 1901 | A | C4-C5-C6 | 6.54 | 120.27 | 117.00 |
| 2 | AB | 1906 | G | P-O3'-C3' | 6.54 | 127.55 | 119.70 |
| 2 | AB | 2754 | U | N1-C2-O2 | -6.54 | 118.22 | 122.80 |
| 35 | BA | 980 | C | C1'-O4'-C4' | -6.54 | 104.67 | 109.90 |
| 35 | BA | 1212 | U | N3-C4-C5 | 6.54 | 118.52 | 114.60 |
| 35 | BA | 1270 | G | C8-N9-C1' | 6.54 | 135.50 | 127.00 |
| 2 | AB | 312 | G | N1-C2-N3 | -6.54 | 119.98 | 123.90 |
| 2 | AB | 424 | G | N1-C2-N3 | 6.54 | 127.82 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1307 | A | P-O3'-C3' | 6.54 | 127.55 | 119.70 |
| 2 | AB | 1620 | G | P-O3'-C3' | 6.54 | 127.55 | 119.70 |
| 2 | AB | 2494 | G | N3-C4-C5 | -6.54 | 125.33 | 128.60 |
| 2 | AB | 2538 | C | O4'-C1'-N1 | 6.54 | 113.43 | 108.20 |
| 35 | BA | 74 | A | C4-C5-N7 | 6.54 | 113.97 | 110.70 |
| 35 | BA | 606 | G | C3'-C2'-C1' | -6.54 | 96.27 | 101.50 |
| 35 | BA | 1090 | U | C4-C5-C6 | 6.54 | 123.62 | 119.70 |
| 35 | BA | 1458 | G | C3'-C2'-C1' | 6.54 | 106.73 | 101.50 |
| 2 | AB | 16 | C | C5-C4-N4 | -6.54 | 115.62 | 120.20 |
| 2 | AB | 163 | C | N1-C2-O2 | 6.54 | 122.82 | 118.90 |
| 2 | AB | 1000 | A | C4-C5-C6 | 6.54 | 120.27 | 117.00 |
| 2 | AB | 1436 | G | C5'-C4'-O4' | 6.54 | 116.94 | 109.10 |
| 2 | AB | 1975 | G | O4'-C1'-N9 | 6.54 | 113.43 | 108.20 |
| 2 | AB | 2002 | G | C4-C5-N7 | -6.54 | 108.19 | 110.80 |
| 35 | BA | 157 | U | C4'-C3'-C2' | -6.54 | 96.06 | 102.60 |
| 35 | BA | 766 | A | C6-N1-C2 | -6.54 | 114.68 | 118.60 |
| 35 | BA | 1440 | U | N1-C1'-C2' | -6.54 | 104.81 | 112.00 |
| 1 | AA | 12 | C | N1-C1'-C2' | 6.54 | 122.50 | 114.00 |
| 2 | AB | 625 | G | C6-N1-C2 | -6.54 | 121.18 | 125.10 |
| 2 | AB | 793 | A | C8-N9-C4 | -6.54 | 103.19 | 105.80 |
| 2 | AB | 2199 | A | C5-N7-C8 | -6.54 | 100.63 | 103.90 |
| 2 | AB | 2489 | U | C5'-C4'-O4' | 6.54 | 116.94 | 109.10 |
| 2 | AB | 2595 | G | C1'-O4'-C4' | 6.54 | 115.13 | 109.90 |
| 35 | BA | 368 | U | N1-C2-O2 | 6.54 | 127.38 | 122.80 |
| 2 | AB | 191 | A | N9-C1'-C2' | -6.53 | 104.81 | 112.00 |
| 2 | AB | 1373 | A | O4'-C1'-N9 | 6.53 | 113.43 | 108.20 |
| 2 | AB | 1415 | U | C6-N1-C2 | 6.53 | 124.92 | 121.00 |
| 2 | AB | 1672 | A | C1'-O4'-C4' | -6.53 | 104.67 | 109.90 |
| 2 | AB | 1723 | G | P-O3'-C3' | 6.53 | 127.54 | 119.70 |
| 2 | AB | 2376 | A | C2-N3-C4 | 6.53 | 113.87 | 110.60 |
| 2 | AB | 2448 | A | O4'-C4'-C3' | 6.53 | 111.33 | 106.10 |
| 2 | AB | 2615 | U | N3-C2-O2 | -6.53 | 117.63 | 122.20 |
| 2 | AB | 2709 | G | C8-N9-C4 | -6.53 | 103.79 | 106.40 |
| 6 | AF | 170 | ARG | NH1-CZ-NH2 | -6.53 | 112.21 | 119.40 |
| 35 | BA | 206 | C | C5'-C4'-O4' | 6.53 | 116.94 | 109.10 |
| 35 | BA | 213 | G | C6-C5-N7 | -6.53 | 126.48 | 130.40 |
| 35 | BA | 489 | C | C2-N3-C4 | 6.53 | 123.17 | 119.90 |
| 35 | BA | 662 | U | C2-N3-C4 | -6.53 | 123.08 | 127.00 |
| 35 | BA | 1078 | U | P-O3'-C3' | 6.53 | 127.54 | 119.70 |
| 35 | BA | 1247 | U | C5-C4-O4 | -6.53 | 121.98 | 125.90 |
| 2 | AB | 1133 | A | C1'-O4'-C4' | -6.53 | 104.67 | 109.90 |
| 2 | AB | 1869 | G | C2-N3-C4 | -6.53 | 108.63 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1993 | U | O4'-C4'-C3' | 6.53 | 111.33 | 106.10 |
| 2 | AB | 2534 | A | N9-C1'-C2' | -6.53 | 104.81 | 112.00 |
| 2 | AB | 2591 | C | C5'-C4'-O4' | 6.53 | 116.94 | 109.10 |
| 2 | AB | 2693 | G | N3-C4-C5 | -6.53 | 125.33 | 128.60 |
| 35 | BA | 145 | G | C5-C6-O6 | 6.53 | 132.52 | 128.60 |
| 35 | BA | 847 | G | C8-N9-C1' | 6.53 | 135.49 | 127.00 |
| 35 | BA | 1496 | C | N3-C4-N4 | 6.53 | 122.57 | 118.00 |
| 2 | AB | 255 | A | N1-C6-N6 | -6.53 | 114.68 | 118.60 |
| 2 | AB | 470 | A | N1-C6-N6 | -6.53 | 114.68 | 118.60 |
| 2 | AB | 572 | A | N1-C6-N6 | 6.53 | 122.52 | 118.60 |
| 2 | AB | 610 | C | N3-C4-C5 | 6.53 | 124.51 | 121.90 |
| 2 | AB | 971 | G | O4'-C1'-N9 | 6.53 | 113.42 | 108.20 |
| 2 | AB | 1332 | G | C8-N9-C4 | -6.53 | 103.79 | 106.40 |
| 2 | AB | 1641 | A | C2-N3-C4 | 6.53 | 113.86 | 110.60 |
| 2 | AB | 1904 | G | C3'-C2'-C1' | 6.53 | 106.72 | 101.50 |
| 2 | AB | 2107 | G | C5'-C4'-O4' | 6.53 | 116.94 | 109.10 |
| 2 | AB | 2113 | U | C5'-C4'-O4' | 6.53 | 116.94 | 109.10 |
| 2 | AB | 2614 | A | N3-C4-C5 | -6.53 | 122.23 | 126.80 |
| 2 | AB | 2886 | A | C6-N1-C2 | -6.53 | 114.68 | 118.60 |
| 2 | AB | 2904 | U | C5'-C4'-O4' | 6.53 | 116.94 | 109.10 |
| 35 | BA | 418 | C | O4'-C1'-N1 | 6.53 | 113.42 | 108.20 |
| 35 | BA | 424 | G | C6-N1-C2 | -6.53 | 121.18 | 125.10 |
| 35 | BA | 574 | A | C4'-C3'-C2' | 6.53 | 109.13 | 102.60 |
| 35 | BA | 969 | A | O4'-C1'-C2' | -6.53 | 99.27 | 105.80 |
| 2 | AB | 443 | A | N3-C4-C5 | -6.53 | 122.23 | 126.80 |
| 2 | AB | 1007 | C | C3'-C2'-C1' | 6.53 | 106.72 | 101.50 |
| 2 | AB | 1450 | G | C2-N3-C4 | 6.53 | 115.16 | 111.90 |
| 2 | AB | 1819 | A | N1-C2-N3 | -6.53 | 126.03 | 129.30 |
| 2 | AB | 2320 | U | N3-C4-O4 | 6.53 | 123.97 | 119.40 |
| 36 | BB | 40 | G | N1-C2-N2 | 6.53 | 122.08 | 116.20 |
| 2 | AB | 343 | C | N3-C4-C5 | -6.53 | 119.29 | 121.90 |
| 2 | AB | 534 | U | N3-C4-C5 | -6.53 | 110.68 | 114.60 |
| 2 | AB | 800 | A | C1'-O4'-C4' | 6.53 | 115.12 | 109.90 |
| 2 | AB | 1165 | A | C5-C6-N6 | 6.53 | 128.92 | 123.70 |
| 2 | AB | 1733 | G | C5-C6-N1 | 6.53 | 114.76 | 111.50 |
| 2 | AB | 2662 | A | O4'-C1'-N9 | -6.53 | 102.98 | 108.20 |
| 2 | AB | 2840 | C | C6-N1-C2 | 6.53 | 122.91 | 120.30 |
| 2 | AB | 2862 | G | O4'-C1'-N9 | 6.53 | 113.42 | 108.20 |
| 35 | BA | 126 | G | N1-C6-O6 | -6.53 | 115.98 | 119.90 |
| 35 | BA | 268 | U | C5-C4-O4 | -6.53 | 121.98 | 125.90 |
| 35 | BA | 299 | G | P-O3'-C3' | 6.53 | 127.53 | 119.70 |
| 35 | BA | 712 | A | C4-C5-C6 | 6.53 | 120.26 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 779 | C | N3-C4-N4 | -6.53 | 113.43 | 118.00 |
| 35 | BA | 808 | C | O4'-C1'-N1 | 6.53 | 113.42 | 108.20 |
| 36 | BB | 15 | G | C5-C6-N1 | 6.53 | 114.76 | 111.50 |
| 2 | AB | 85 | G | N1-C6-O6 | 6.53 | 123.81 | 119.90 |
| 2 | AB | 468 | G | C2-N3-C4 | 6.53 | 115.16 | 111.90 |
| 2 | AB | 541 | A | C5'-C4'-O4' | 6.53 | 116.93 | 109.10 |
| 2 | AB | 582 | A | C4'-C3'-C2' | -6.53 | 96.08 | 102.60 |
| 2 | AB | 939 | G | N1-C6-O6 | -6.53 | 115.98 | 119.90 |
| 2 | AB | 1523 | U | C3'-C2'-C1' | 6.53 | 106.72 | 101.50 |
| 2 | AB | 2215 | C | O4'-C1'-N1 | 6.53 | 113.42 | 108.20 |
| 2 | AB | 2496 | C | N1-C2-N3 | -6.53 | 114.63 | 119.20 |
| 2 | AB | 2545 | G | C5-C6-O6 | -6.53 | 124.69 | 128.60 |
| 4 | AD | 12 | ARG | NE-CZ-NH2 | -6.53 | 117.04 | 120.30 |
| 35 | BA | 636 | U | C4'-C3'-C2' | -6.53 | 96.08 | 102.60 |
| 35 | BA | 836 | G | N1-C2-N3 | -6.53 | 119.98 | 123.90 |
| 35 | BA | 1192 | C | C6-N1-C2 | 6.53 | 122.91 | 120.30 |
| 35 | BA | 1216 | A | C8-N9-C4 | -6.53 | 103.19 | 105.80 |
| 2 | AB | 1002 | G | N9-C1'-C2' | -6.52 | 104.82 | 112.00 |
| 35 | BA | 319 | G | N3-C4-C5 | -6.52 | 125.34 | 128.60 |
| 35 | BA | 1027 | C | C6-N1-C2 | -6.52 | 117.69 | 120.30 |
| 2 | AB | 46 | G | C5-C6-O6 | -6.52 | 124.69 | 128.60 |
| 2 | AB | 842 | U | C5-C6-N1 | -6.52 | 119.44 | 122.70 |
| 2 | AB | 964 | C | C1'-O4'-C4' | -6.52 | 104.68 | 109.90 |
| 2 | AB | 1542 | U | C5-C4-O4 | -6.52 | 121.99 | 125.90 |
| 2 | AB | 1862 | G | C5-C6-N1 | 6.52 | 114.76 | 111.50 |
| 2 | AB | 2340 | A | C4'-C3'-C2' | -6.52 | 96.08 | 102.60 |
| 2 | AB | 2650 | U | N3-C2-O2 | 6.52 | 126.77 | 122.20 |
| 2 | AB | 2826 | A | N1-C6-N6 | -6.52 | 114.69 | 118.60 |
| 35 | BA | 328 | C | N1-C2-N3 | -6.52 | 114.63 | 119.20 |
| 35 | BA | 439 | U | N1-C1'-C2' | -6.52 | 104.83 | 112.00 |
| 35 | BA | 455 | G | O4'-C1'-C2' | 6.52 | 113.47 | 107.60 |
| 35 | BA | 890 | G | C8-N9-C1' | 6.52 | 135.48 | 127.00 |
| 35 | BA | 1431 | A | C6-C5-N7 | 6.52 | 136.87 | 132.30 |
| 2 | AB | 1062 | G | C6-N1-C2 | -6.52 | 121.19 | 125.10 |
| 2 | AB | 1720 | U | C5'-C4'-O4' | 6.52 | 116.92 | 109.10 |
| 35 | BA | 236 | A | C5-N7-C8 | -6.52 | 100.64 | 103.90 |
| 35 | BA | 836 | G | N3-C4-C5 | -6.52 | 125.34 | 128.60 |
| 2 | AB | 200 | U | C4-C5-C6 | 6.52 | 123.61 | 119.70 |
| 2 | AB | 1501 | G | O4'-C1'-N9 | 6.52 | 113.42 | 108.20 |
| 2 | AB | 1846 | G | N1-C2-N2 | -6.52 | 110.33 | 116.20 |
| 2 | AB | 2289 | G | C5'-C4'-O4' | 6.52 | 116.92 | 109.10 |
| 2 | AB | 2867 | G | C4-C5-C6 | 6.52 | 122.71 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 6 | AF | 79 | ARG | NE-CZ-NH2 | -6.52 | 117.04 | 120.30 |
| 35 | BA | 39 | G | C4'-C3'-C2' | -6.52 | 96.08 | 102.60 |
| 35 | BA | 229 | U | C2-N3-C4 | -6.52 | 123.09 | 127.00 |
| 35 | BA | 309 | A | C6-N1-C2 | -6.52 | 114.69 | 118.60 |
| 35 | BA | 384 | G | C5-C6-N1 | 6.52 | 114.76 | 111.50 |
| 35 | BA | 392 | C | C5-C6-N1 | 6.52 | 124.26 | 121.00 |
| 35 | BA | 456 | A | O4'-C1'-N9 | -6.52 | 102.98 | 108.20 |
| 35 | BA | 542 | G | C6-C5-N7 | -6.52 | 126.49 | 130.40 |
| 35 | BA | 805 | C | C5-C6-N1 | -6.52 | 117.74 | 121.00 |
| 35 | BA | 877 | G | C5-C6-O6 | -6.52 | 124.69 | 128.60 |
| 35 | BA | 1297 | G | N3-C4-C5 | -6.52 | 125.34 | 128.60 |
| 2 | AB | 49 | A | C4-C5-C6 | 6.52 | 120.26 | 117.00 |
| 2 | AB | 1447 | C | N3-C4-C5 | -6.52 | 119.29 | 121.90 |
| 2 | AB | 1975 | G | C2-N3-C4 | 6.52 | 115.16 | 111.90 |
| 2 | AB | 2164 | C | C5'-C4'-O4' | 6.52 | 116.92 | 109.10 |
| 2 | AB | 2597 | G | O4'-C1'-C2' | -6.52 | 99.28 | 105.80 |
| 2 | AB | 2725 | A | C5-C6-N6 | 6.52 | 128.91 | 123.70 |
| 35 | BA | 889 | A | C5'-C4'-O4' | -6.52 | 101.28 | 109.10 |
| 35 | BA | 891 | U | C5-C4-O4 | -6.52 | 121.99 | 125.90 |
| 35 | BA | 1206 | G | C8-N9-C4 | -6.52 | 103.79 | 106.40 |
| 35 | BA | 1364 | U | C2-N3-C4 | -6.52 | 123.09 | 127.00 |
| 35 | BA | 1446 | A | P-O3'-C3' | 6.52 | 127.52 | 119.70 |
| 2 | AB | 295 | G | N7-C8-N9 | -6.51 | 109.84 | 113.10 |
| 2 | AB | 516 | C | O4'-C1'-N1 | 6.51 | 113.41 | 108.20 |
| 2 | AB | 749 | A | C5-C6-N1 | -6.51 | 114.44 | 117.70 |
| 2 | AB | 1146 | C | C6-N1-C2 | -6.51 | 117.69 | 120.30 |
| 2 | AB | 1177 | G | N1-C2-N2 | 6.51 | 122.06 | 116.20 |
| 2 | AB | 1862 | G | N3-C4-C5 | -6.51 | 125.34 | 128.60 |
| 2 | AB | 2349 | G | N9-C4-C5 | 6.51 | 108.01 | 105.40 |
| 35 | BA | 136 | C | C5-C6-N1 | -6.51 | 117.74 | 121.00 |
| 35 | BA | 632 | U | N3-C2-O2 | -6.51 | 117.64 | 122.20 |
| 35 | BA | 868 | C | C2-N3-C4 | -6.51 | 116.64 | 119.90 |
| 35 | BA | 1163 | A | N9-C1'-C2' | -6.51 | 104.83 | 112.00 |
| 35 | BA | 1524 | C | N1-C2-N3 | -6.51 | 114.64 | 119.20 |
| 2 | AB | 391 | A | C4'-C3'-C2' | -6.51 | 96.09 | 102.60 |
| 2 | AB | 1905 | C | C4'-C3'-C2' | -6.51 | 96.09 | 102.60 |
| 2 | AB | 2447 | G | C8-N9-C4 | 6.51 | 109.00 | 106.40 |
| 2 | AB | 2639 | A | C4'-C3'-C2' | -6.51 | 96.09 | 102.60 |
| 35 | BA | 332 | G | N9-C4-C5 | 6.51 | 108.00 | 105.40 |
| 35 | BA | 511 | C | C6-N1-C2 | 6.51 | 122.91 | 120.30 |
| 35 | BA | 1075 | U | N3-C2-O2 | -6.51 | 117.64 | 122.20 |
| 35 | BA | 1138 | G | N3-C2-N2 | 6.51 | 124.46 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1314 | C | N3-C4-C5 | -6.51 | 119.30 | 121.90 |
| 35 | BA | 1426 | G | N1-C2-N2 | -6.51 | 110.34 | 116.20 |
| 2 | AB | 186 | G | N3-C4-N9 | 6.51 | 129.91 | 126.00 |
| 2 | AB | 363 | G | N9-C4-C5 | 6.51 | 108.00 | 105.40 |
| 2 | AB | 1207 | C | O4'-C1'-N1 | -6.51 | 102.99 | 108.20 |
| 2 | AB | 2681 | C | C4-C5-C6 | 6.51 | 120.66 | 117.40 |
| 35 | BA | 683 | G | C5-C6-N1 | -6.51 | 108.24 | 111.50 |
| 35 | BA | 885 | G | N3-C4-C5 | -6.51 | 125.34 | 128.60 |
| 35 | BA | 898 | G | N3-C4-N9 | 6.51 | 129.91 | 126.00 |
| 35 | BA | 1163 | A | N9-C4-C5 | -6.51 | 103.19 | 105.80 |
| 35 | BA | 1266 | G | C5-C6-O6 | -6.51 | 124.69 | 128.60 |
| 35 | BA | 1420 | U | N3-C4-C5 | -6.51 | 110.69 | 114.60 |
| 1 | AA | 67 | G | C4-C5-N7 | 6.51 | 113.40 | 110.80 |
| 2 | AB | 74 | A | C8-N9-C4 | 6.51 | 108.40 | 105.80 |
| 2 | AB | 99 | U | C5-C4-O4 | 6.51 | 129.81 | 125.90 |
| 2 | AB | 581 | C | C2-N3-C4 | 6.51 | 123.15 | 119.90 |
| 2 | AB | 1084 | A | N1-C2-N3 | -6.51 | 126.05 | 129.30 |
| 2 | AB | 1109 | C | N1-C2-O2 | 6.51 | 122.81 | 118.90 |
| 2 | AB | 1134 | A | C1'-O4'-C4' | -6.51 | 104.69 | 109.90 |
| 2 | AB | 1210 | G | O4'-C1'-N9 | 6.51 | 113.41 | 108.20 |
| 2 | AB | 1388 | G | N3-C2-N2 | 6.51 | 124.46 | 119.90 |
| 2 | AB | 1799 | G | C8-N9-C1' | 6.51 | 135.46 | 127.00 |
| 2 | AB | 2128 | G | N3-C2-N2 | -6.51 | 115.34 | 119.90 |
| 2 | AB | 2208 | C | N3-C4-C5 | 6.51 | 124.50 | 121.90 |
| 2 | AB | 2642 | G | N7-C8-N9 | 6.51 | 116.36 | 113.10 |
| 35 | BA | 401 | C | C1'-O4'-C4' | -6.51 | 104.69 | 109.90 |
| 35 | BA | 454 | G | C4'-C3'-C2' | -6.51 | 96.09 | 102.60 |
| 35 | BA | 987 | G | C3'-C2'-C1' | 6.51 | 106.71 | 101.50 |
| 35 | BA | 1169 | A | C5-C6-N1 | -6.51 | 114.44 | 117.70 |
| 2 | AB | 565 | C | N3-C4-N4 | 6.51 | 122.56 | 118.00 |
| 2 | AB | 571 | U | N3-C4-C5 | -6.51 | 110.69 | 114.60 |
| 2 | AB | 777 | G | C5-C6-O6 | -6.51 | 124.69 | 128.60 |
| 2 | AB | 1702 | G | N1-C2-N3 | -6.51 | 120.00 | 123.90 |
| 2 | AB | 2206 | C | C4-C5-C6 | -6.51 | 114.15 | 117.40 |
| 2 | AB | 2217 | G | N1-C6-O6 | -6.51 | 116.00 | 119.90 |
| 16 | AP | 90 | ARG | NE-CZ-NH2 | -6.51 | 117.05 | 120.30 |
| 35 | BA | 1245 | C | C6-N1-C2 | 6.51 | 122.90 | 120.30 |
| 2 | AB | 778 | G | N3-C4-C5 | -6.51 | 125.35 | 128.60 |
| 2 | AB | 852 | U | N3-C4-C5 | -6.51 | 110.70 | 114.60 |
| 2 | AB | 1497 | U | OP1-P-OP2 | -6.51 | 109.84 | 119.60 |
| 2 | AB | 2029 | G | N1-C2-N2 | -6.51 | 110.34 | 116.20 |
| 2 | AB | 2114 | A | C8-N9-C4 | 6.51 | 108.40 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2731 | G | C5-C6-O6 | -6.51 | 124.70 | 128.60 |
| 2 | AB | 2867 | G | O4'-C1'-N9 | 6.51 | 113.41 | 108.20 |
| 19 | AS | 97 | ILE | CA-CB-CG1 | 6.51 | 123.36 | 111.00 |
| 35 | BA | 339 | C | C5-C6-N1 | -6.51 | 117.75 | 121.00 |
| 35 | BA | 632 | U | C2-N3-C4 | -6.51 | 123.10 | 127.00 |
| 35 | BA | 1198 | G | C4'-C3'-C2' | -6.51 | 96.09 | 102.60 |
| 35 | BA | 1258 | G | C5-C6-N1 | 6.51 | 114.75 | 111.50 |
| 35 | BA | 1307 | U | C5'-C4'-O4' | 6.51 | 116.91 | 109.10 |
| 2 | AB | 654 | A | C8-N9-C4 | -6.50 | 103.20 | 105.80 |
| 2 | AB | 1726 | C | N3-C2-O2 | 6.50 | 126.45 | 121.90 |
| 20 | AT | 68 | ARG | NE-CZ-NH1 | -6.50 | 117.05 | 120.30 |
| 35 | BA | 299 | G | O4'-C1'-N9 | 6.50 | 113.40 | 108.20 |
| 35 | BA | 315 | A | C8-N9-C4 | -6.50 | 103.20 | 105.80 |
| 37 | BC | 34 | U | C5'-C4'-O4' | 6.50 | 116.91 | 109.10 |
| 2 | AB | 549 | G | C8-N9-C4 | -6.50 | 103.80 | 106.40 |
| 2 | AB | 894 | U | C2-N3-C4 | -6.50 | 123.10 | 127.00 |
| 2 | AB | 899 | A | C2-N3-C4 | -6.50 | 107.35 | 110.60 |
| 2 | AB | 989 | G | C8-N9-C4 | -6.50 | 103.80 | 106.40 |
| 2 | AB | 1333 | G | N3-C4-C5 | -6.50 | 125.35 | 128.60 |
| 2 | AB | 2482 | A | C5'-C4'-O4' | 6.50 | 116.91 | 109.10 |
| 2 | AB | 2680 | U | C2-N3-C4 | -6.50 | 123.10 | 127.00 |
| 4 | AD | 161 | VAL | CA-CB-CG2 | 6.50 | 120.65 | 110.90 |
| 35 | BA | 78 | A | C8-N9-C4 | -6.50 | 103.20 | 105.80 |
| 35 | BA | 300 | A | N1-C6-N6 | 6.50 | 122.50 | 118.60 |
| 35 | BA | 402 | G | C6-N1-C2 | -6.50 | 121.20 | 125.10 |
| 35 | BA | 1240 | U | N3-C2-O2 | -6.50 | 117.65 | 122.20 |
| 35 | BA | 1451 | U | N3-C2-O2 | -6.50 | 117.65 | 122.20 |
| 1 | AA | 72 | G | C4'-C3'-C2' | -6.50 | 96.10 | 102.60 |
| 2 | AB | 194 | G | N9-C1'-C2' | -6.50 | 104.85 | 112.00 |
| 2 | AB | 775 | G | C5-C6-N1 | 6.50 | 114.75 | 111.50 |
| 2 | AB | 817 | C | N3-C2-O2 | -6.50 | 117.35 | 121.90 |
| 2 | AB | 860 | U | C4'-C3'-C2' | -6.50 | 96.10 | 102.60 |
| 2 | AB | 1562 | U | N1-C2-N3 | 6.50 | 118.80 | 114.90 |
| 2 | AB | 2481 | G | C5-C6-O6 | -6.50 | 124.70 | 128.60 |
| 35 | BA | 387 | U | C5-C6-N1 | -6.50 | 119.45 | 122.70 |
| 35 | BA | 1228 | C | C6-N1-C2 | -6.50 | 117.70 | 120.30 |
| 35 | BA | 1459 | G | C3'-C2'-C1' | -6.50 | 96.30 | 101.50 |
| 49 | BO | 112 | ARG | NE-CZ-NH2 | -6.50 | 117.05 | 120.30 |
| 2 | AB | 739 | A | C2-N3-C4 | 6.50 | 113.85 | 110.60 |
| 2 | AB | 1137 | G | C4-C5-C6 | 6.50 | 122.70 | 118.80 |
| 2 | AB | 1520 | U | N3-C4-C5 | 6.50 | 118.50 | 114.60 |
| 2 | AB | 1683 | U | C2-N3-C4 | -6.50 | 123.10 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1049 | U | O4'-C1'-N1 | 6.50 | 113.40 | 108.20 |
| 36 | BB | 28 | U | P-O3'-C3' | 6.50 | 127.50 | 119.70 |
| 2 | AB | 792 | A | N7-C8-N9 | 6.50 | 117.05 | 113.80 |
| 2 | AB | 801 | G | C5-N7-C8 | -6.50 | 101.05 | 104.30 |
| 2 | AB | 1096 | A | C8-N9-C4 | -6.50 | 103.20 | 105.80 |
| 2 | AB | 1142 | A | P-O3'-C3' | 6.50 | 127.50 | 119.70 |
| 2 | AB | 1837 | C | N1-C2-N3 | 6.50 | 123.75 | 119.20 |
| 2 | AB | 2581 | G | P-O3'-C3' | 6.50 | 127.50 | 119.70 |
| 35 | BA | 232 | G | C2-N3-C4 | -6.50 | 108.65 | 111.90 |
| 35 | BA | 328 | C | C5'-C4'-O4' | 6.50 | 116.90 | 109.10 |
| 35 | BA | 383 | A | C5-N7-C8 | 6.50 | 107.15 | 103.90 |
| 35 | BA | 552 | U | C5-C6-N1 | -6.50 | 119.45 | 122.70 |
| 35 | BA | 633 | G | C1'-O4'-C4' | -6.50 | 104.70 | 109.90 |
| 35 | BA | 837 | U | C4'-C3'-C2' | -6.50 | 96.10 | 102.60 |
| 2 | AB | 52 | A | C5-N7-C8 | -6.50 | 100.65 | 103.90 |
| 2 | AB | 577 | G | P-O3'-C3' | 6.50 | 127.50 | 119.70 |
| 2 | AB | 792 | A | C6-N1-C2 | -6.50 | 114.70 | 118.60 |
| 2 | AB | 2094 | A | P-O3'-C3' | 6.50 | 127.50 | 119.70 |
| 2 | AB | 2579 | C | N1-C1'-C2' | -6.50 | 104.85 | 112.00 |
| 2 | AB | 2723 | C | N3-C4-C5 | -6.50 | 119.30 | 121.90 |
| 2 | AB | 2866 | U | N3-C4-C5 | 6.50 | 118.50 | 114.60 |
| 7 | AG | 93 | GLU | N-CA-CB | -6.50 | 98.91 | 110.60 |
| 35 | BA | 409 | U | C5-C4-O4 | 6.50 | 129.80 | 125.90 |
| 35 | BA | 462 | G | N7-C8-N9 | 6.50 | 116.35 | 113.10 |
| 35 | BA | 632 | U | C5'-C4'-C3' | -6.50 | 105.61 | 116.00 |
| 35 | BA | 884 | U | N3-C4-C5 | -6.50 | 110.70 | 114.60 |
| 35 | BA | 1060 | U | O4'-C1'-N1 | 6.50 | 113.40 | 108.20 |
| 35 | BA | 1298 | U | N1-C2-N3 | 6.50 | 118.80 | 114.90 |
| 2 | AB | 456 | C | C3'-C2'-C1' | -6.50 | 96.30 | 101.50 |
| 2 | AB | 1681 | G | C5-C6-O6 | -6.50 | 124.70 | 128.60 |
| 2 | AB | 2184 | A | C5-C6-N1 | 6.50 | 120.95 | 117.70 |
| 2 | AB | 2188 | U | P-O3'-C3' | 6.50 | 127.49 | 119.70 |
| 2 | AB | 2495 | G | N9-C4-C5 | -6.50 | 102.80 | 105.40 |
| 8 | AH | 94 | ARG | CD-NE-CZ | 6.50 | 132.69 | 123.60 |
| 35 | BA | 218 | U | C2-N3-C4 | 6.50 | 130.90 | 127.00 |
| 35 | BA | 615 | G | C5-C6-O6 | -6.50 | 124.70 | 128.60 |
| 2 | AB | 68 | G | N3-C4-N9 | -6.49 | 122.10 | 126.00 |
| 2 | AB | 615 | U | N3-C4-C5 | -6.49 | 110.70 | 114.60 |
| 2 | AB | 805 | G | C5-N7-C8 | 6.49 | 107.55 | 104.30 |
| 2 | AB | 905 | A | C5-C6-N1 | 6.49 | 120.95 | 117.70 |
| 2 | AB | 1141 | U | C5-C4-O4 | -6.49 | 122.00 | 125.90 |
| 2 | AB | 1354 | A | C5'-C4'-O4' | 6.49 | 116.89 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1858 | A | C4-C5-C6 | -6.49 | 113.75 | 117.00 |
| 2 | AB | 2183 | A | C6-C5-N7 | 6.49 | 136.85 | 132.30 |
| 2 | AB | 2331 | G | P-O3'-C3' | 6.49 | 127.49 | 119.70 |
| 2 | AB | 2662 | A | N9-C4-C5 | 6.49 | 108.40 | 105.80 |
| 35 | BA | 376 | G | C4'-C3'-C2' | -6.49 | 96.11 | 102.60 |
| 35 | BA | 797 | C | C5'-C4'-O4' | 6.49 | 116.89 | 109.10 |
| 37 | BC | 62 | C | C2-N3-C4 | -6.49 | 116.65 | 119.90 |
| 2 | AB | 830 | G | N3-C4-N9 | 6.49 | 129.90 | 126.00 |
| 2 | AB | 1416 | G | C8-N9-C4 | -6.49 | 103.80 | 106.40 |
| 2 | AB | 2401 | U | N1-C1'-C2' | -6.49 | 104.86 | 112.00 |
| 2 | AB | 2819 | G | N3-C4-N9 | 6.49 | 129.90 | 126.00 |
| 35 | BA | 905 | U | N3-C2-O2 | -6.49 | 117.66 | 122.20 |
| 35 | BA | 941 | G | N3-C4-C5 | -6.49 | 125.35 | 128.60 |
| 36 | BB | 28 | U | N3-C4-C5 | -6.49 | 110.70 | 114.60 |
| 2 | AB | 70 | G | C1'-O4'-C4' | 6.49 | 115.09 | 109.90 |
| 2 | AB | 320 | A | N7-C8-N9 | -6.49 | 110.55 | 113.80 |
| 2 | AB | 953 | G | N7-C8-N9 | 6.49 | 116.34 | 113.10 |
| 2 | AB | 1025 | G | C4-C5-C6 | -6.49 | 114.91 | 118.80 |
| 2 | AB | 1038 | G | C6-N1-C2 | -6.49 | 121.20 | 125.10 |
| 2 | AB | 1314 | C | C4'-C3'-C2' | -6.49 | 96.11 | 102.60 |
| 2 | AB | 1771 | C | C2-N3-C4 | 6.49 | 123.14 | 119.90 |
| 2 | AB | 2006 | C | N3-C4-N4 | 6.49 | 122.54 | 118.00 |
| 2 | AB | 2218 | G | N7-C8-N9 | 6.49 | 116.34 | 113.10 |
| 2 | AB | 2619 | C | C1'-O4'-C4' | 6.49 | 115.09 | 109.90 |
| 35 | BA | 277 | C | C2-N3-C4 | -6.49 | 116.66 | 119.90 |
| 35 | BA | 510 | A | O4'-C1'-N9 | -6.49 | 103.01 | 108.20 |
| 35 | BA | 510 | A | P-O5'-C5' | 6.49 | 131.28 | 120.90 |
| 35 | BA | 543 | U | N3-C4-O4 | -6.49 | 114.86 | 119.40 |
| 35 | BA | 550 | G | N7-C8-N9 | -6.49 | 109.86 | 113.10 |
| 35 | BA | 760 | G | C6-C5-N7 | 6.49 | 134.29 | 130.40 |
| 35 | BA | 1153 | G | C5-N7-C8 | -6.49 | 101.05 | 104.30 |
| 35 | BA | 1494 | G | O4'-C1'-N9 | 6.49 | 113.39 | 108.20 |
| 2 | AB | 432 | A | C6-C5-N7 | 6.49 | 136.84 | 132.30 |
| 2 | AB | 1695 | G | C2-N3-C4 | 6.49 | 115.14 | 111.90 |
| 2 | AB | 1847 | A | N9-C1'-C2' | -6.49 | 104.86 | 112.00 |
| 2 | AB | 2062 | A | N7-C8-N9 | 6.49 | 117.04 | 113.80 |
| 2 | AB | 2663 | G | C3'-C2'-C1' | -6.49 | 96.31 | 101.50 |
| 2 | AB | 2726 | A | N7-C8-N9 | 6.49 | 117.04 | 113.80 |
| 2 | AB | 2738 | A | C3'-C2'-C1' | -6.49 | 96.31 | 101.50 |
| 15 | AO | 18 | ARG | NE-CZ-NH2 | 6.49 | 123.54 | 120.30 |
| 18 | AR | 71 | ARG | NE-CZ-NH1 | -6.49 | 117.06 | 120.30 |
| 35 | BA | 1102 | A | N7-C8-N9 | 6.49 | 117.04 | 113.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1179 | A | C2-N3-C4 | 6.49 | 113.84 | 110.60 |
| 35 | BA | 1355 | G | C4-C5-N7 | -6.49 | 108.20 | 110.80 |
| 35 | BA | 1456 | A | C4-C5-C6 | 6.49 | 120.24 | 117.00 |
| 35 | BA | 1530 | G | N1-C6-O6 | 6.49 | 123.79 | 119.90 |
| 2 | AB | 296 | U | N1-C1'-C2' | -6.49 | 104.86 | 112.00 |
| 35 | BA | 167 | A | N1-C6-N6 | 6.49 | 122.49 | 118.60 |
| 35 | BA | 306 | A | C6-N1-C2 | -6.49 | 114.71 | 118.60 |
| 35 | BA | 867 | G | O4'-C4'-C3' | 6.49 | 111.29 | 106.10 |
| 35 | BA | 1341 | U | C6-N1-C2 | 6.49 | 124.89 | 121.00 |
| 35 | BA | 1497 | G | O4'-C1'-N9 | 6.49 | 113.39 | 108.20 |
| 1 | AA | 15 | A | N1-C6-N6 | -6.49 | 114.71 | 118.60 |
| 2 | AB | 336 | C | N3-C2-O2 | -6.49 | 117.36 | 121.90 |
| 2 | AB | 586 | A | C8-N9-C4 | -6.49 | 103.21 | 105.80 |
| 2 | AB | 969 | G | N3-C4-N9 | 6.49 | 129.89 | 126.00 |
| 2 | AB | 1192 | G | C6-N1-C2 | -6.49 | 121.21 | 125.10 |
| 2 | AB | 1354 | A | N7-C8-N9 | -6.49 | 110.56 | 113.80 |
| 2 | AB | 1815 | A | C8-N9-C4 | -6.49 | 103.21 | 105.80 |
| 2 | AB | 2006 | C | N1-C1'-C2' | -6.49 | 104.86 | 112.00 |
| 2 | AB | 2158 | A | C4-C5-N7 | 6.49 | 113.94 | 110.70 |
| 2 | AB | 2320 | U | P-O3'-C3' | 6.49 | 127.48 | 119.70 |
| 2 | AB | 2513 | A | N1-C6-N6 | 6.49 | 122.49 | 118.60 |
| 35 | BA | 343 | U | N3-C4-C5 | -6.49 | 110.71 | 114.60 |
| 35 | BA | 381 | C | C5-C6-N1 | -6.49 | 117.76 | 121.00 |
| 35 | BA | 825 | A | C5'-C4'-C3' | -6.49 | 105.62 | 116.00 |
| 2 | AB | 713 | G | P-O3'-C3' | 6.48 | 127.48 | 119.70 |
| 2 | AB | 1460 | U | C5-C6-N1 | -6.48 | 119.46 | 122.70 |
| 2 | AB | 2020 | A | C2-N3-C4 | -6.48 | 107.36 | 110.60 |
| 2 | AB | 2065 | C | C6-N1-C2 | -6.48 | 117.71 | 120.30 |
| 2 | AB | 2295 | C | C4'-C3'-C2' | -6.48 | 96.12 | 102.60 |
| 2 | AB | 2382 | G | N3-C4-N9 | 6.48 | 129.89 | 126.00 |
| 4 | AD | 66 | PHE | CB-CA-C | 6.48 | 123.37 | 110.40 |
| 35 | BA | 243 | A | C1'-O4'-C4' | -6.48 | 104.71 | 109.90 |
| 2 | AB | 525 | U | C3'-C2'-C1' | 6.48 | 106.69 | 101.50 |
| 2 | AB | 1260 | A | C5-N7-C8 | 6.48 | 107.14 | 103.90 |
| 2 | AB | 1493 | C | N1-C2-O2 | 6.48 | 122.79 | 118.90 |
| 2 | AB | 1511 | G | N3-C4-C5 | -6.48 | 125.36 | 128.60 |
| 2 | AB | 2239 | G | N3-C2-N2 | -6.48 | 115.36 | 119.90 |
| 2 | AB | 2308 | G | O5'-P-OP1 | -6.48 | 99.87 | 105.70 |
| 35 | BA | 693 | G | N1-C6-O6 | -6.48 | 116.01 | 119.90 |
| 35 | BA | 749 | A | N1-C2-N3 | -6.48 | 126.06 | 129.30 |
| 35 | BA | 879 | C | C2-N3-C4 | -6.48 | 116.66 | 119.90 |
| 35 | BA | 1297 | G | C5-C6-N1 | 6.48 | 114.74 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | AA | 8 | C | C4-C5-C6 | -6.48 | 114.16 | 117.40 |
| 1 | AA | 44 | G | N1-C2-N3 | -6.48 | 120.01 | 123.90 |
| 2 | AB | 28 | A | C2-N3-C4 | 6.48 | 113.84 | 110.60 |
| 2 | AB | 1160 | G | C2-N3-C4 | 6.48 | 115.14 | 111.90 |
| 2 | AB | 1683 | U | C1'-O4'-C4' | 6.48 | 115.08 | 109.90 |
| 2 | AB | 2444 | G | N9-C4-C5 | -6.48 | 102.81 | 105.40 |
| 2 | AB | 2670 | A | C5-C6-N1 | 6.48 | 120.94 | 117.70 |
| 35 | BA | 30 | U | C5-C6-N1 | -6.48 | 119.46 | 122.70 |
| 35 | BA | 500 | G | C5'-C4'-O4' | 6.48 | 116.88 | 109.10 |
| 35 | BA | 993 | G | C3'-C2'-C1' | 6.48 | 106.68 | 101.50 |
| 36 | BB | 57 | C | O4'-C1'-N1 | 6.48 | 113.38 | 108.20 |
| 37 | BC | 75 | C | C1'-O4'-C4' | -6.48 | 104.72 | 109.90 |
| 57 | BW | 8 | ASN | O-C-N | 6.48 | 133.07 | 122.70 |
| 2 | AB | 643 | A | N7-C8-N9 | 6.48 | 117.04 | 113.80 |
| 2 | AB | 1096 | A | C5-C6-N1 | 6.48 | 120.94 | 117.70 |
| 2 | AB | 2218 | G | O4'-C1'-N9 | 6.48 | 113.38 | 108.20 |
| 2 | AB | 2526 | G | C8-N9-C4 | -6.48 | 103.81 | 106.40 |
| 35 | BA | 107 | G | C1'-O4'-C4' | -6.48 | 104.72 | 109.90 |
| 2 | AB | 44 | A | N1-C2-N3 | -6.48 | 126.06 | 129.30 |
| 2 | AB | 879 | G | C5-N7-C8 | -6.48 | 101.06 | 104.30 |
| 2 | AB | 2689 | U | C5-C4-O4 | -6.48 | 122.01 | 125.90 |
| 2 | AB | 2891 | U | C1'-O4'-C4' | 6.48 | 115.08 | 109.90 |
| 2 | AB | 2893 | A | C4-C5-C6 | -6.48 | 113.76 | 117.00 |
| 35 | BA | 174 | A | C5-C6-N1 | -6.48 | 114.46 | 117.70 |
| 35 | BA | 220 | G | C5-C6-N1 | 6.48 | 114.74 | 111.50 |
| 35 | BA | 271 | C | P-O3'-C3' | 6.48 | 127.47 | 119.70 |
| 35 | BA | 783 | C | N3-C2-O2 | -6.48 | 117.37 | 121.90 |
| 35 | BA | 1243 | C | C5'-C4'-C3' | 6.48 | 126.36 | 116.00 |
| 36 | BB | 45 | G | C4-C5-N7 | 6.48 | 113.39 | 110.80 |
| 2 | AB | 2093 | G | O4'-C1'-N9 | 6.48 | 113.38 | 108.20 |
| 2 | AB | 2214 | C | C6-N1-C2 | 6.48 | 122.89 | 120.30 |
| 2 | AB | 2779 | U | N3-C4-O4 | 6.48 | 123.93 | 119.40 |
| 2 | AB | 2863 | C | C1'-O4'-C4' | 6.48 | 115.08 | 109.90 |
| 14 | AN | 78 | ARG | NE-CZ-NH2 | 6.48 | 123.54 | 120.30 |
| 35 | BA | 230 | G | P-O3'-C3' | -6.48 | 111.93 | 119.70 |
| 35 | BA | 716 | A | C8-N9-C4 | -6.48 | 103.21 | 105.80 |
| 35 | BA | 859 | G | N3-C2-N2 | 6.48 | 124.43 | 119.90 |
| 37 | BC | 19 | G | N3-C2-N2 | 6.48 | 124.43 | 119.90 |
| 2 | AB | 221 | A | C3'-C2'-C1' | -6.47 | 96.32 | 101.50 |
| 2 | AB | 397 | U | O4'-C1'-N1 | 6.47 | 113.38 | 108.20 |
| 2 | AB | 474 | G | C5-N7-C8 | -6.47 | 101.06 | 104.30 |
| 2 | AB | 542 | C | N1-C1'-C2' | -6.47 | 104.88 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 751 | A | C5-C6-N1 | 6.47 | 120.94 | 117.70 |
| 2 | AB | 2174 | C | C4'-C3'-C2' | -6.47 | 96.12 | 102.60 |
| 2 | AB | 2599 | G | N3-C2-N2 | -6.47 | 115.37 | 119.90 |
| 2 | AB | 2652 | C | C5'-C4'-O4' | 6.47 | 116.87 | 109.10 |
| 35 | BA | 1067 | A | N9-C4-C5 | 6.47 | 108.39 | 105.80 |
| 2 | AB | 303 | G | C5-N7-C8 | -6.47 | 101.06 | 104.30 |
| 2 | AB | 891 | G | N1-C2-N3 | -6.47 | 120.02 | 123.90 |
| 2 | AB | 1118 | C | N3-C4-N4 | 6.47 | 122.53 | 118.00 |
| 2 | AB | 1214 | A | C5-C6-N1 | 6.47 | 120.94 | 117.70 |
| 2 | AB | 1307 | A | C8-N9-C4 | -6.47 | 103.21 | 105.80 |
| 2 | AB | 2777 | G | C6-N1-C2 | -6.47 | 121.22 | 125.10 |
| 35 | BA | 149 | A | C1'-O4'-C4' | -6.47 | 104.72 | 109.90 |
| 35 | BA | 198 | G | O4'-C1'-N9 | 6.47 | 113.38 | 108.20 |
| 35 | BA | 246 | A | C4-C5-N7 | 6.47 | 113.94 | 110.70 |
| 35 | BA | 317 | U | N1-C2-N3 | 6.47 | 118.78 | 114.90 |
| 35 | BA | 351 | G | N1-C2-N2 | 6.47 | 122.03 | 116.20 |
| 35 | BA | 539 | A | N1-C6-N6 | -6.47 | 114.72 | 118.60 |
| 35 | BA | 747 | A | C5'-C4'-O4' | 6.47 | 116.87 | 109.10 |
| 35 | BA | 1089 | G | N9-C1'-C2' | -6.47 | 104.88 | 112.00 |
| 2 | AB | 181 | A | N7-C8-N9 | 6.47 | 117.03 | 113.80 |
| 2 | AB | 563 | A | C2-N3-C4 | 6.47 | 113.83 | 110.60 |
| 2 | AB | 1287 | A | C3'-C2'-C1' | -6.47 | 96.32 | 101.50 |
| 2 | AB | 2632 | A | N1-C2-N3 | -6.47 | 126.06 | 129.30 |
| 1 | AA | 57 | A | C5-N7-C8 | -6.47 | 100.67 | 103.90 |
| 2 | AB | 594 | U | C6-N1-C2 | 6.47 | 124.88 | 121.00 |
| 2 | AB | 699 | A | N9-C1'-C2' | -6.47 | 104.88 | 112.00 |
| 2 | AB | 866 | A | N9-C4-C5 | -6.47 | 103.21 | 105.80 |
| 2 | AB | 1137 | G | C3'-C2'-C1' | -6.47 | 96.32 | 101.50 |
| 2 | AB | 2031 | A | C5-N7-C8 | -6.47 | 100.67 | 103.90 |
| 2 | AB | 2047 | C | C4'-C3'-C2' | -6.47 | 96.13 | 102.60 |
| 2 | AB | 2844 | G | N3-C4-C5 | -6.47 | 125.36 | 128.60 |
| 35 | BA | 419 | C | O4'-C1'-N1 | 6.47 | 113.38 | 108.20 |
| 37 | BC | 70 | C | O4'-C1'-C2' | -6.47 | 99.33 | 105.80 |
| 2 | AB | 1518 | C | C5'-C4'-O4' | 6.47 | 116.86 | 109.10 |
| 2 | AB | 1610 | A | N9-C4-C5 | -6.47 | 103.21 | 105.80 |
| 2 | AB | 1648 | U | O4'-C1'-N1 | 6.47 | 113.38 | 108.20 |
| 2 | AB | 2249 | U | N1-C2-N3 | 6.47 | 118.78 | 114.90 |
| 2 | AB | 2317 | A | C5-N7-C8 | 6.47 | 107.13 | 103.90 |
| 35 | BA | 369 | G | C8-N9-C4 | -6.47 | 103.81 | 106.40 |
| 35 | BA | 757 | U | C6-N1-C2 | -6.47 | 117.12 | 121.00 |
| 1 | AA | 108 | A | C5'-C4'-O4' | 6.47 | 116.86 | 109.10 |
| 2 | AB | 382 | A | C8-N9-C4 | 6.47 | 108.39 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1204 | A | C5-C6-N6 | -6.47 | 118.53 | 123.70 |
| 2 | AB | 1739 | A | O4'-C1'-N9 | 6.47 | 113.37 | 108.20 |
| 2 | AB | 2024 | G | N7-C8-N9 | 6.47 | 116.33 | 113.10 |
| 2 | AB | 2715 | C | C4-C5-C6 | -6.47 | 114.17 | 117.40 |
| 2 | AB | 2850 | A | C4'-C3'-C2' | -6.47 | 96.13 | 102.60 |
| 35 | BA | 175 | C | C1'-O4'-C4' | 6.47 | 115.07 | 109.90 |
| 35 | BA | 580 | C | O4'-C1'-N1 | 6.47 | 113.37 | 108.20 |
| 35 | BA | 841 | C | N3-C4-N4 | -6.47 | 113.47 | 118.00 |
| 35 | BA | 1006 | G | N9-C1'-C2' | -6.47 | 104.89 | 112.00 |
| 35 | BA | 1327 | C | O4'-C4'-C3' | -6.47 | 97.53 | 104.00 |
| 35 | BA | 1379 | G | C6-C5-N7 | 6.47 | 134.28 | 130.40 |
| 2 | AB | 261 | G | N7-C8-N9 | 6.46 | 116.33 | 113.10 |
| 2 | AB | 636 | G | C6-C5-N7 | -6.46 | 126.52 | 130.40 |
| 2 | AB | 1005 | C | N3-C4-N4 | 6.46 | 122.53 | 118.00 |
| 2 | AB | 1144 | A | C4'-C3'-C2' | -6.46 | 96.14 | 102.60 |
| 35 | BA | 27 | G | C5'-C4'-O4' | 6.46 | 116.86 | 109.10 |
| 35 | BA | 423 | G | C8-N9-C4 | -6.46 | 103.81 | 106.40 |
| 35 | BA | 901 | A | C6-N1-C2 | 6.46 | 122.48 | 118.60 |
| 35 | BA | 1124 | G | C3'-C2'-C1' | -6.46 | 96.33 | 101.50 |
| 35 | BA | 1268 | G | N9-C4-C5 | -6.46 | 102.81 | 105.40 |
| 37 | BC | 53 | G | C8-N9-C4 | -6.46 | 103.81 | 106.40 |
| 57 | BW | 20 | ARG | NE-CZ-NH1 | -6.46 | 117.07 | 120.30 |
| 2 | AB | 1045 | C | C5-C6-N1 | 6.46 | 124.23 | 121.00 |
| 2 | AB | 1559 | U | N1-C2-O2 | 6.46 | 127.32 | 122.80 |
| 2 | AB | 1650 | A | C8-N9-C4 | -6.46 | 103.22 | 105.80 |
| 2 | AB | 1844 | C | O4'-C1'-N1 | 6.46 | 113.37 | 108.20 |
| 2 | AB | 2429 | G | C5'-C4'-O4' | 6.46 | 116.86 | 109.10 |
| 2 | AB | 2755 | C | N3-C2-O2 | -6.46 | 117.38 | 121.90 |
| 35 | BA | 754 | C | N3-C4-N4 | -6.46 | 113.48 | 118.00 |
| 35 | BA | 1345 | U | C5-C6-N1 | 6.46 | 125.93 | 122.70 |
| 36 | BB | 42 | U | O4'-C1'-N1 | 6.46 | 113.37 | 108.20 |
| 2 | AB | 175 | G | P-O3'-C3' | 6.46 | 127.45 | 119.70 |
| 2 | AB | 612 | G | C2-N3-C4 | 6.46 | 115.13 | 111.90 |
| 2 | AB | 1709 | U | C5-C6-N1 | -6.46 | 119.47 | 122.70 |
| 2 | AB | 2047 | C | C3'-C2'-C1' | 6.46 | 106.67 | 101.50 |
| 2 | AB | 2176 | A | N1-C2-N3 | 6.46 | 132.53 | 129.30 |
| 2 | AB | 2229 | U | O5'-P-OP1 | -6.46 | 99.89 | 105.70 |
| 2 | AB | 2290 | G | C4-C5-N7 | -6.46 | 108.22 | 110.80 |
| 2 | AB | 2415 | G | C6-N1-C2 | -6.46 | 121.22 | 125.10 |
| 2 | AB | 2556 | C | N3-C4-N4 | 6.46 | 122.52 | 118.00 |
| 35 | BA | 259 | G | C6-C5-N7 | -6.46 | 126.52 | 130.40 |
| 35 | BA | 1078 | U | C4-C5-C6 | 6.46 | 123.58 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1421 | G | O4'-C1'-N9 | 6.46 | 113.37 | 108.20 |
| 35 | BA | 1435 | G | C5-N7-C8 | 6.46 | 107.53 | 104.30 |
| 36 | BB | 36 | U | N1-C1'-C2' | -6.46 | 104.89 | 112.00 |
| 2 | AB | 575 | A | C5-N7-C8 | -6.46 | 100.67 | 103.90 |
| 2 | AB | 2360 | G | C5-C6-N1 | 6.46 | 114.73 | 111.50 |
| 2 | AB | 2506 | U | O4'-C1'-N1 | 6.46 | 113.37 | 108.20 |
| 2 | AB | 2724 | U | C3'-C2'-C1' | 6.46 | 106.67 | 101.50 |
| 35 | BA | 568 | G | C6-N1-C2 | -6.46 | 121.22 | 125.10 |
| 37 | BC | 39 | A | C8-N9-C4 | 6.46 | 108.38 | 105.80 |
| 2 | AB | 246 | C | O4'-C1'-N1 | 6.46 | 113.37 | 108.20 |
| 2 | AB | 409 | G | N3-C4-N9 | -6.46 | 122.12 | 126.00 |
| 2 | AB | 875 | G | N7-C8-N9 | 6.46 | 116.33 | 113.10 |
| 2 | AB | 1183 | U | C4-C5-C6 | 6.46 | 123.58 | 119.70 |
| 2 | AB | 1834 | U | C4'-C3'-C2' | -6.46 | 96.14 | 102.60 |
| 2 | AB | 2061 | G | N1-C2-N3 | -6.46 | 120.03 | 123.90 |
| 2 | AB | 2322 | A | C4-C5-N7 | -6.46 | 107.47 | 110.70 |
| 2 | AB | 2369 | A | C5-C6-N1 | 6.46 | 120.93 | 117.70 |
| 2 | AB | 2508 | G | C2-N3-C4 | 6.46 | 115.13 | 111.90 |
| 2 | AB | 2885 | G | O4'-C1'-C2' | -6.46 | 99.34 | 105.80 |
| 35 | BA | 1253 | G | C4-C5-N7 | -6.46 | 108.22 | 110.80 |
| 35 | BA | 1257 | A | N7-C8-N9 | 6.46 | 117.03 | 113.80 |
| 46 | BL | 9 | ARG | CD-NE-CZ | 6.46 | 132.64 | 123.60 |
| 2 | AB | 214 | G | O4'-C1'-N9 | 6.46 | 113.36 | 108.20 |
| 2 | AB | 2293 | G | N1-C6-O6 | -6.46 | 116.03 | 119.90 |
| 8 | AH | 62 | ALA | N-CA-CB | -6.46 | 101.06 | 110.10 |
| 40 | BF | 80 | ARG | NE-CZ-NH1 | -6.46 | 117.07 | 120.30 |
| 2 | AB | 619 | G | N7-C8-N9 | 6.46 | 116.33 | 113.10 |
| 2 | AB | 983 | A | C2-N3-C4 | 6.46 | 113.83 | 110.60 |
| 2 | AB | 1443 | U | N3-C4-O4 | -6.46 | 114.88 | 119.40 |
| 2 | AB | 2696 | U | N3-C2-O2 | -6.46 | 117.68 | 122.20 |
| 35 | BA | 1055 | A | C8-N9-C4 | 6.46 | 108.38 | 105.80 |
| 2 | AB | 962 | G | C2-N3-C4 | 6.45 | 115.13 | 111.90 |
| 2 | AB | 1077 | A | C1'-O4'-C4' | 6.45 | 115.06 | 109.90 |
| 2 | AB | 1102 | C | C6-N1-C2 | -6.45 | 117.72 | 120.30 |
| 2 | AB | 1852 | U | O4'-C4'-C3' | 6.45 | 111.26 | 106.10 |
| 2 | AB | 2228 | G | C4-C5-C6 | 6.45 | 122.67 | 118.80 |
| 2 | AB | 2735 | G | C8-N9-C4 | -6.45 | 103.82 | 106.40 |
| 35 | BA | 324 | G | C6-C5-N7 | -6.45 | 126.53 | 130.40 |
| 35 | BA | 1026 | G | O4'-C1'-N9 | 6.45 | 113.36 | 108.20 |
| 2 | AB | 209 | C | C6-N1-C2 | -6.45 | 117.72 | 120.30 |
| 2 | AB | 438 | G | O4'-C1'-N9 | 6.45 | 113.36 | 108.20 |
| 2 | AB | 1325 | U | C1'-O4'-C4' | -6.45 | 104.74 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1817 | G | N3-C2-N2 | 6.45 | 124.42 | 119.90 |
| 2 | AB | 2018 | G | C5-C6-N1 | 6.45 | 114.73 | 111.50 |
| 35 | BA | 529 | G | O4'-C1'-N9 | 6.45 | 113.36 | 108.20 |
| 2 | AB | 373 | U | C3'-C2'-C1' | -6.45 | 96.34 | 101.50 |
| 2 | AB | 714 | U | C2-N1-C1' | 6.45 | 125.44 | 117.70 |
| 2 | AB | 1243 | C | O4'-C1'-N1 | 6.45 | 113.36 | 108.20 |
| 2 | AB | 1699 | G | N9-C4-C5 | -6.45 | 102.82 | 105.40 |
| 2 | AB | 1949 | G | C6-N1-C2 | -6.45 | 121.23 | 125.10 |
| 2 | AB | 2280 | G | C6-C5-N7 | 6.45 | 134.27 | 130.40 |
| 2 | AB | 2528 | U | N3-C4-O4 | -6.45 | 114.89 | 119.40 |
| 2 | AB | 2708 | G | C4-C5-C6 | 6.45 | 122.67 | 118.80 |
| 17 | AQ | 94 | ARG | NE-CZ-NH2 | -6.45 | 117.07 | 120.30 |
| 35 | BA | 211 | G | C4-C5-C6 | 6.45 | 122.67 | 118.80 |
| 35 | BA | 292 | G | C5'-C4'-O4' | 6.45 | 116.84 | 109.10 |
| 35 | BA | 702 | A | N9-C1'-C2' | 6.45 | 122.38 | 114.00 |
| 2 | AB | 100 | U | C4-C5-C6 | 6.45 | 123.57 | 119.70 |
| 2 | AB | 442 | G | C6-N1-C2 | -6.45 | 121.23 | 125.10 |
| 2 | AB | 499 | U | O5'-C5'-C4' | 6.45 | 123.95 | 111.70 |
| 2 | AB | 882 | G | C6-N1-C2 | -6.45 | 121.23 | 125.10 |
| 2 | AB | 885 | C | N3-C2-O2 | -6.45 | 117.39 | 121.90 |
| 2 | AB | 985 | C | C2-N3-C4 | 6.45 | 123.12 | 119.90 |
| 2 | AB | 997 | G | N1-C6-O6 | 6.45 | 123.77 | 119.90 |
| 2 | AB | 1707 | G | C5-C6-O6 | -6.45 | 124.73 | 128.60 |
| 2 | AB | 1784 | A | N1-C2-N3 | -6.45 | 126.08 | 129.30 |
| 2 | AB | 1876 | A | C8-N9-C4 | -6.45 | 103.22 | 105.80 |
| 2 | AB | 1892 | C | C6-N1-C2 | 6.45 | 122.88 | 120.30 |
| 2 | AB | 2221 | G | N1-C2-N2 | -6.45 | 110.40 | 116.20 |
| 2 | AB | 2352 | A | O4'-C4'-C3' | 6.45 | 111.26 | 106.10 |
| 2 | AB | 2488 | G | C4'-C3'-C2' | -6.45 | 96.15 | 102.60 |
| 35 | BA | 648 | A | C5-N7-C8 | -6.45 | 100.68 | 103.90 |
| 2 | AB | 96 | C | N3-C4-N4 | 6.45 | 122.51 | 118.00 |
| 2 | AB | 581 | C | C4'-C3'-C2' | -6.45 | 96.15 | 102.60 |
| 2 | AB | 1235 | G | C4'-C3'-C2' | -6.45 | 96.15 | 102.60 |
| 2 | AB | 2314 | A | C4-C5-N7 | 6.45 | 113.92 | 110.70 |
| 35 | BA | 827 | U | C5'-C4'-O4' | 6.45 | 116.84 | 109.10 |
| 35 | BA | 1016 | A | C5-C6-N6 | 6.45 | 128.86 | 123.70 |
| 2 | AB | 2 | G | C4-C5-N7 | -6.45 | 108.22 | 110.80 |
| 2 | AB | 133 | U | N3-C4-O4 | 6.45 | 123.91 | 119.40 |
| 2 | AB | 171 | U | P-O3'-C3' | 6.45 | 127.44 | 119.70 |
| 2 | AB | 1596 | A | C2-N3-C4 | -6.45 | 107.38 | 110.60 |
| 2 | AB | 1687 | G | C6-C5-N7 | -6.45 | 126.53 | 130.40 |
| 2 | AB | 1950 | G | P-O5'-C5' | 6.45 | 131.21 | 120.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 14 | AN | 64 | PHE | CB-CG-CD2 | -6.45 | 116.29 | 120.80 |
| 18 | AR | 61 | ARG | NE-CZ-NH2 | 6.45 | 123.52 | 120.30 |
| 35 | BA | 408 | A | C3'-C2'-C1' | 6.45 | 106.66 | 101.50 |
| 35 | BA | 1263 | C | N1-C2-O2 | 6.45 | 122.77 | 118.90 |
| 35 | BA | 1293 | C | C4'-C3'-C2' | -6.45 | 96.16 | 102.60 |
| 37 | BC | 22 | A | C2-N3-C4 | 6.45 | 113.82 | 110.60 |
| 41 | BG | 49 | TYR | CB-CG-CD2 | -6.45 | 117.13 | 121.00 |
| 2 | AB | 2249 | U | C5-C6-N1 | -6.44 | 119.48 | 122.70 |
| 2 | AB | 2329 | U | C1'-O4'-C4' | 6.44 | 115.06 | 109.90 |
| 2 | AB | 2451 | A | N9-C4-C5 | 6.44 | 108.38 | 105.80 |
| 2 | AB | 249 | C | N3-C4-C5 | 6.44 | 124.48 | 121.90 |
| 2 | AB | 294 | A | N9-C1'-C2' | 6.44 | 122.38 | 114.00 |
| 2 | AB | 1912 | A | P-O3'-C3' | 6.44 | 127.43 | 119.70 |
| 2 | AB | 2083 | G | N1-C2-N2 | 6.44 | 122.00 | 116.20 |
| 2 | AB | 2502 | G | N3-C4-C5 | -6.44 | 125.38 | 128.60 |
| 2 | AB | 2558 | C | N3-C4-N4 | 6.44 | 122.51 | 118.00 |
| 2 | AB | 2601 | C | N1-C2-N3 | 6.44 | 123.71 | 119.20 |
| 35 | BA | 105 | G | N3-C2-N2 | 6.44 | 124.41 | 119.90 |
| 35 | BA | 392 | C | C4'-C3'-C2' | -6.44 | 96.16 | 102.60 |
| 35 | BA | 446 | G | N7-C8-N9 | 6.44 | 116.32 | 113.10 |
| 35 | BA | 758 | C | O4'-C4'-C3' | 6.44 | 111.25 | 106.10 |
| 35 | BA | 1190 | G | C3'-C2'-C1' | -6.44 | 96.35 | 101.50 |
| 35 | BA | 1339 | A | C5-C6-N6 | -6.44 | 118.55 | 123.70 |
| 40 | BF | 3 | TYR | CD1-CE1-CZ | 6.44 | 125.60 | 119.80 |
| 2 | AB | 509 | C | C4-C5-C6 | 6.44 | 120.62 | 117.40 |
| 2 | AB | 827 | U | N3-C2-O2 | -6.44 | 117.69 | 122.20 |
| 2 | AB | 960 | A | C5-N7-C8 | -6.44 | 100.68 | 103.90 |
| 2 | AB | 1900 | A | N3-C4-C5 | -6.44 | 122.29 | 126.80 |
| 2 | AB | 1958 | C | C4-C5-C6 | 6.44 | 120.62 | 117.40 |
| 2 | AB | 2189 | U | O4'-C1'-N1 | 6.44 | 113.35 | 108.20 |
| 2 | AB | 2402 | U | C5-C6-N1 | -6.44 | 119.48 | 122.70 |
| 2 | AB | 2433 | A | N9-C4-C5 | 6.44 | 108.38 | 105.80 |
| 2 | AB | 2731 | G | C2-N3-C4 | 6.44 | 115.12 | 111.90 |
| 35 | BA | 364 | A | N7-C8-N9 | 6.44 | 117.02 | 113.80 |
| 35 | BA | 568 | G | C4-C5-C6 | 6.44 | 122.66 | 118.80 |
| 35 | BA | 828 | U | N3-C2-O2 | 6.44 | 126.71 | 122.20 |
| 2 | AB | 917 | A | O4'-C1'-N9 | 6.44 | 113.35 | 108.20 |
| 2 | AB | 960 | A | N9-C4-C5 | -6.44 | 103.22 | 105.80 |
| 2 | AB | 2642 | G | C1'-O4'-C4' | 6.44 | 115.05 | 109.90 |
| 2 | AB | 2728 | U | C5-C4-O4 | -6.44 | 122.04 | 125.90 |
| 35 | BA | 847 | G | C6-N1-C2 | -6.44 | 121.24 | 125.10 |
| 37 | BC | 63 | C | N1-C2-N3 | -6.44 | 114.69 | 119.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | AA | 75 | G | C8-N9-C4 | -6.44 | 103.83 | 106.40 |
| 2 | AB | 466 | A | O4'-C1'-N9 | 6.44 | 113.35 | 108.20 |
| 2 | AB | 508 | A | C4'-C3'-C2' | -6.44 | 96.16 | 102.60 |
| 2 | AB | 930 | G | C2-N3-C4 | 6.44 | 115.12 | 111.90 |
| 2 | AB | 1257 | C | O5'-C5'-C4' | -6.44 | 99.47 | 111.70 |
| 2 | AB | 1823 | G | P-O3'-C3' | -6.44 | 111.97 | 119.70 |
| 2 | AB | 1852 | U | C2-N3-C4 | -6.44 | 123.14 | 127.00 |
| 2 | AB | 2051 | A | C5-C6-N1 | 6.44 | 120.92 | 117.70 |
| 2 | AB | 2252 | G | O3'-P-O5' | -6.44 | 91.77 | 104.00 |
| 2 | AB | 2269 | G | N1-C2-N3 | -6.44 | 120.04 | 123.90 |
| 35 | BA | 502 | A | N3-C4-N9 | -6.44 | 122.25 | 127.40 |
| 35 | BA | 743 | A | N9-C4-C5 | 6.44 | 108.38 | 105.80 |
| 35 | BA | 1077 | G | C3'-C2'-C1' | 6.44 | 106.65 | 101.50 |
| 35 | BA | 1183 | U | C3'-C2'-C1' | 6.44 | 106.65 | 101.50 |
| 35 | BA | 1361 | G | N1-C6-O6 | -6.44 | 116.04 | 119.90 |
| 37 | BC | 22 | A | C4-C5-N7 | 6.44 | 113.92 | 110.70 |
| 2 | AB | 1404 | C | C2-N1-C1' | -6.44 | 111.72 | 118.80 |
| 2 | AB | 1465 | G | C6-N1-C2 | -6.44 | 121.24 | 125.10 |
| 2 | AB | 1487 | U | O4'-C1'-N1 | 6.44 | 113.35 | 108.20 |
| 2 | AB | 1731 | G | N3-C4-C5 | -6.44 | 125.38 | 128.60 |
| 2 | AB | 1770 | G | N3-C4-C5 | -6.44 | 125.38 | 128.60 |
| 2 | AB | 2728 | U | C2-N3-C4 | -6.44 | 123.14 | 127.00 |
| 2 | AB | 1241 | A | N3-C4-N9 | 6.43 | 132.55 | 127.40 |
| 2 | AB | 1698 | A | N1-C6-N6 | -6.43 | 114.74 | 118.60 |
| 2 | AB | 2525 | G | N1-C6-O6 | 6.43 | 123.76 | 119.90 |
| 2 | AB | 2536 | G | C5-N7-C8 | -6.43 | 101.08 | 104.30 |
| 2 | AB | 2702 | G | C5-N7-C8 | 6.43 | 107.52 | 104.30 |
| 35 | BA | 117 | G | C8-N9-C4 | -6.43 | 103.83 | 106.40 |
| 35 | BA | 171 | A | C5-C6-N6 | 6.43 | 128.85 | 123.70 |
| 35 | BA | 593 | U | N3-C4-O4 | 6.43 | 123.90 | 119.40 |
| 35 | BA | 889 | A | N1-C6-N6 | -6.43 | 114.74 | 118.60 |
| 35 | BA | 1117 | A | N1-C6-N6 | 6.43 | 122.46 | 118.60 |
| 36 | BB | 21 | U | C4-C5-C6 | 6.43 | 123.56 | 119.70 |
| 36 | BB | 34 | U | C1'-O4'-C4' | -6.43 | 104.75 | 109.90 |
| 1 | AA | 21 | G | C1'-O4'-C4' | 6.43 | 115.05 | 109.90 |
| 1 | AA | 27 | C | N3-C4-N4 | 6.43 | 122.50 | 118.00 |
| 2 | AB | 129 | C | C5'-C4'-C3' | -6.43 | 105.71 | 116.00 |
| 2 | AB | 304 | U | N1-C2-N3 | 6.43 | 118.76 | 114.90 |
| 2 | AB | 1059 | G | C5-N7-C8 | -6.43 | 101.08 | 104.30 |
| 2 | AB | 1277 | G | C4'-C3'-C2' | -6.43 | 96.17 | 102.60 |
| 2 | AB | 1310 | G | N9-C4-C5 | 6.43 | 107.97 | 105.40 |
| 2 | AB | 1314 | C | C5'-C4'-O4' | 6.43 | 116.82 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2019 | A | C2'-C3'-O3' | 6.43 | 123.99 | 113.70 |
| 35 | BA | 383 | A | C4-C5-N7 | -6.43 | 107.48 | 110.70 |
| 35 | BA | 565 | U | C4'-C3'-C2' | -6.43 | 96.17 | 102.60 |
| 35 | BA | 705 | G | C5-C6-N1 | 6.43 | 114.72 | 111.50 |
| 35 | BA | 1022 | A | C4-C5-C6 | 6.43 | 120.22 | 117.00 |
| 35 | BA | 1051 | C | C6-N1-C2 | 6.43 | 122.87 | 120.30 |
| 2 | AB | 84 | A | N1-C2-N3 | 6.43 | 132.51 | 129.30 |
| 2 | AB | 260 | G | C4-C5-N7 | 6.43 | 113.37 | 110.80 |
| 2 | AB | 304 | U | C5-C4-O4 | -6.43 | 122.04 | 125.90 |
| 2 | AB | 313 | G | N3-C4-C5 | -6.43 | 125.38 | 128.60 |
| 2 | AB | 1404 | C | C1'-O4'-C4' | 6.43 | 115.05 | 109.90 |
| 2 | AB | 2366 | A | N9-C4-C5 | 6.43 | 108.37 | 105.80 |
| 51 | BQ | 88 | ARG | NE-CZ-NH2 | -6.43 | 117.08 | 120.30 |
| 2 | AB | 40 | U | N3-C2-O2 | -6.43 | 117.70 | 122.20 |
| 2 | AB | 329 | G | N3-C4-N9 | 6.43 | 129.86 | 126.00 |
| 2 | AB | 882 | G | N7-C8-N9 | 6.43 | 116.31 | 113.10 |
| 2 | AB | 1666 | G | C4-C5-N7 | -6.43 | 108.23 | 110.80 |
| 2 | AB | 2764 | A | C4-C5-N7 | -6.43 | 107.49 | 110.70 |
| 35 | BA | 164 | G | P-O3'-C3' | 6.43 | 127.42 | 119.70 |
| 35 | BA | 201 | G | C5-N7-C8 | -6.43 | 101.08 | 104.30 |
| 35 | BA | 1403 | C | P-O3'-C3' | 6.43 | 127.42 | 119.70 |
| 48 | BN | 35 | ARG | NE-CZ-NH1 | 6.43 | 123.52 | 120.30 |
| 2 | AB | 693 | A | C4'-C3'-C2' | -6.43 | 96.17 | 102.60 |
| 2 | AB | 1539 | U | C2-N3-C4 | -6.43 | 123.14 | 127.00 |
| 2 | AB | 2331 | G | C4-C5-N7 | 6.43 | 113.37 | 110.80 |
| 35 | BA | 774 | G | C5-C6-N1 | 6.43 | 114.71 | 111.50 |
| 35 | BA | 1060 | U | C2-N3-C4 | -6.43 | 123.14 | 127.00 |
| 35 | BA | 1308 | U | C5-C6-N1 | 6.43 | 125.91 | 122.70 |
| 1 | AA | 96 | G | N1-C2-N3 | 6.43 | 127.76 | 123.90 |
| 1 | AA | 119 | A | C1'-O4'-C4' | -6.43 | 104.76 | 109.90 |
| 2 | AB | 38 | A | N7-C8-N9 | 6.43 | 117.01 | 113.80 |
| 2 | AB | 956 | G | N9-C1'-C2' | -6.43 | 104.93 | 112.00 |
| 2 | AB | 1117 | C | N3-C2-O2 | -6.43 | 117.40 | 121.90 |
| 2 | AB | 1328 | A | C8-N9-C4 | -6.43 | 103.23 | 105.80 |
| 2 | AB | 1529 | G | C2-N3-C4 | -6.43 | 108.69 | 111.90 |
| 2 | AB | 1650 | A | C5'-C4'-C3' | -6.43 | 105.72 | 116.00 |
| 2 | AB | 1964 | G | N1-C2-N3 | -6.43 | 120.04 | 123.90 |
| 2 | AB | 1969 | A | N9-C1'-C2' | -6.43 | 104.93 | 112.00 |
| 2 | AB | 2010 | G | C3'-C2'-C1' | 6.43 | 106.64 | 101.50 |
| 2 | AB | 2102 | G | N9-C4-C5 | -6.43 | 102.83 | 105.40 |
| 2 | AB | 2265 | U | N1-C2-N3 | 6.43 | 118.76 | 114.90 |
| 22 | AV | 51 | PHE | CB-CG-CD2 | -6.43 | 116.30 | 120.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 95 | C | C5-C4-N4 | -6.43 | 115.70 | 120.20 |
| 35 | BA | 499 | A | N7-C8-N9 | 6.43 | 117.01 | 113.80 |
| 35 | BA | 522 | C | C5-C6-N1 | 6.43 | 124.21 | 121.00 |
| 35 | BA | 1337 | G | C4-N9-C1' | -6.43 | 118.15 | 126.50 |
| 37 | BC | 71 | G | C6-C5-N7 | -6.43 | 126.54 | 130.40 |
| 1 | AA | 72 | G | C5-C6-N1 | 6.42 | 114.71 | 111.50 |
| 1 | AA | 91 | C | C5'-C4'-C3' | -6.42 | 105.72 | 116.00 |
| 2 | AB | 30 | G | C4-C5-N7 | 6.42 | 113.37 | 110.80 |
| 2 | AB | 405 | U | C2'-C3'-O3' | 6.42 | 123.98 | 113.70 |
| 2 | AB | 816 | C | C3'-C2'-C1' | 6.42 | 106.64 | 101.50 |
| 2 | AB | 1322 | A | N9-C4-C5 | 6.42 | 108.37 | 105.80 |
| 2 | AB | 1358 | G | C6-N1-C2 | -6.42 | 121.25 | 125.10 |
| 2 | AB | 1361 | G | N3-C4-C5 | -6.42 | 125.39 | 128.60 |
| 2 | AB | 2024 | G | N3-C2-N2 | 6.42 | 124.40 | 119.90 |
| 2 | AB | 2820 | A | N7-C8-N9 | 6.42 | 117.01 | 113.80 |
| 35 | BA | 143 | A | C8-N9-C4 | -6.42 | 103.23 | 105.80 |
| 35 | BA | 760 | G | C4-C5-N7 | -6.42 | 108.23 | 110.80 |
| 35 | BA | 1356 | G | C5-N7-C8 | -6.42 | 101.09 | 104.30 |
| 2 | AB | 1282 | U | C2-N3-C4 | -6.42 | 123.15 | 127.00 |
| 2 | AB | 2771 | C | C5'-C4'-O4' | 6.42 | 116.81 | 109.10 |
| 35 | BA | 114 | U | C5-C6-N1 | -6.42 | 119.49 | 122.70 |
| 35 | BA | 115 | G | C4-C5-C6 | 6.42 | 122.65 | 118.80 |
| 35 | BA | 836 | G | C4-C5-C6 | 6.42 | 122.65 | 118.80 |
| 2 | AB | 12 | U | N3-C2-O2 | -6.42 | 117.70 | 122.20 |
| 2 | AB | 278 | A | N9-C4-C5 | 6.42 | 108.37 | 105.80 |
| 2 | AB | 340 | A | N1-C6-N6 | -6.42 | 114.75 | 118.60 |
| 2 | AB | 602 | A | O4'-C1'-N9 | 6.42 | 113.34 | 108.20 |
| 2 | AB | 767 | U | C4'-C3'-C2' | -6.42 | 96.18 | 102.60 |
| 2 | AB | 772 | C | C2-N3-C4 | 6.42 | 123.11 | 119.90 |
| 2 | AB | 950 | G | N3-C4-C5 | -6.42 | 125.39 | 128.60 |
| 2 | AB | 1055 | G | C5'-C4'-C3' | -6.42 | 105.73 | 116.00 |
| 2 | AB | 1973 | G | N9-C1'-C2' | -6.42 | 104.94 | 112.00 |
| 2 | AB | 2028 | U | C6-N1-C2 | -6.42 | 117.15 | 121.00 |
| 2 | AB | 2077 | A | C5-N7-C8 | 6.42 | 107.11 | 103.90 |
| 2 | AB | 2630 | G | C3'-C2'-C1' | -6.42 | 96.36 | 101.50 |
| 18 | AR | 102 | ARG | NE-CZ-NH1 | 6.42 | 123.51 | 120.30 |
| 35 | BA | 1015 | G | O4'-C1'-N9 | 6.42 | 113.34 | 108.20 |
| 35 | BA | 1303 | C | C5-C4-N4 | -6.42 | 115.70 | 120.20 |
| 35 | BA | 1506 | U | N3-C4-C5 | -6.42 | 110.75 | 114.60 |
| 35 | BA | 1515 | G | N3-C2-N2 | 6.42 | 124.40 | 119.90 |
| 39 | BE | 163 | ARG | NE-CZ-NH2 | 6.42 | 123.51 | 120.30 |
| 2 | AB | 88 | G | C5-C6-O6 | 6.42 | 132.45 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1054 | A | C4-C5-C6 | -6.42 | 113.79 | 117.00 |
| 2 | AB | 1126 | A | C5-C6-N6 | -6.42 | 118.56 | 123.70 |
| 2 | AB | 2544 | G | C6-N1-C2 | -6.42 | 121.25 | 125.10 |
| 13 | AM | 112 | PHE | CB-CG-CD2 | 6.42 | 125.29 | 120.80 |
| 35 | BA | 218 | U | C4-C5-C6 | 6.42 | 123.55 | 119.70 |
| 2 | AB | 172 | A | N9-C1'-C2' | -6.42 | 104.94 | 112.00 |
| 2 | AB | 472 | A | C6-N1-C2 | 6.42 | 122.45 | 118.60 |
| 2 | AB | 542 | C | N3-C4-N4 | 6.42 | 122.49 | 118.00 |
| 2 | AB | 896 | A | N1-C2-N3 | -6.42 | 126.09 | 129.30 |
| 2 | AB | 912 | C | C5'-C4'-O4' | 6.42 | 116.80 | 109.10 |
| 2 | AB | 1202 | G | C8-N9-C4 | -6.42 | 103.83 | 106.40 |
| 2 | AB | 1347 | A | N7-C8-N9 | -6.42 | 110.59 | 113.80 |
| 2 | AB | 1910 | G | C6-N1-C2 | -6.42 | 121.25 | 125.10 |
| 2 | AB | 2073 | C | O4'-C4'-C3' | 6.42 | 111.23 | 106.10 |
| 2 | AB | 2142 | A | C5-C6-N1 | 6.42 | 120.91 | 117.70 |
| 2 | AB | 2315 | G | N9-C4-C5 | 6.42 | 107.97 | 105.40 |
| 2 | AB | 2335 | A | C1'-O4'-C4' | -6.42 | 104.76 | 109.90 |
| 2 | AB | 2341 | G | C4-C5-C6 | 6.42 | 122.65 | 118.80 |
| 2 | AB | 2384 | U | O4'-C1'-N1 | 6.42 | 113.33 | 108.20 |
| 2 | AB | 2437 | G | N1-C2-N2 | 6.42 | 121.98 | 116.20 |
| 2 | AB | 2870 | C | O3'-P-O5' | 6.42 | 116.19 | 104.00 |
| 27 | A0 | 52 | ARG | NE-CZ-NH2 | 6.42 | 123.51 | 120.30 |
| 35 | BA | 1225 | A | N7-C8-N9 | 6.42 | 117.01 | 113.80 |
| 36 | BB | 56 | G | C3'-C2'-C1' | 6.42 | 106.63 | 101.50 |
| 2 | AB | 337 | C | C5'-C4'-C3' | 6.42 | 126.27 | 116.00 |
| 2 | AB | 487 | C | N3-C2-O2 | -6.42 | 117.41 | 121.90 |
| 2 | AB | 834 | G | C5'-C4'-O4' | 6.42 | 116.80 | 109.10 |
| 2 | AB | 860 | U | N3-C2-O2 | -6.42 | 117.71 | 122.20 |
| 2 | AB | 1027 | A | C1'-O4'-C4' | 6.42 | 115.03 | 109.90 |
| 2 | AB | 1146 | C | N3-C4-C5 | -6.42 | 119.33 | 121.90 |
| 2 | AB | 1162 | G | N3-C4-N9 | -6.42 | 122.15 | 126.00 |
| 2 | AB | 1245 | G | C5'-C4'-C3' | -6.42 | 105.73 | 116.00 |
| 2 | AB | 1297 | C | N1-C2-O2 | 6.42 | 122.75 | 118.90 |
| 2 | AB | 1313 | U | C2-N3-C4 | -6.42 | 123.15 | 127.00 |
| 2 | AB | 1630 | A | C3'-C2'-C1' | -6.42 | 96.37 | 101.50 |
| 2 | AB | 1885 | A | C4-C5-N7 | 6.42 | 113.91 | 110.70 |
| 2 | AB | 2038 | G | C4-C5-N7 | 6.42 | 113.37 | 110.80 |
| 19 | AS | 104 | ALA | CB-CA-C | 6.42 | 119.72 | 110.10 |
| 35 | BA | 334 | C | O4'-C1'-N1 | 6.42 | 113.33 | 108.20 |
| 35 | BA | 823 | C | O4'-C1'-C2' | -6.42 | 99.38 | 105.80 |
| 35 | BA | 1097 | C | C1'-O4'-C4' | 6.42 | 115.03 | 109.90 |
| 35 | BA | 1138 | G | C4'-C3'-C2' | -6.42 | 96.18 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1368 | A | C5-N7-C8 | 6.42 | 107.11 | 103.90 |
| 38 | BD | 22 | TRP | CA-CB-CG | 6.42 | 125.89 | 113.70 |
| 40 | BF | 17 | ASP | CB-CG-OD1 | -6.42 | 112.53 | 118.30 |
| 2 | AB | 952 | G | C4'-C3'-C2' | -6.42 | 96.19 | 102.60 |
| 35 | BA | 597 | G | N9-C4-C5 | 6.42 | 107.97 | 105.40 |
| 2 | AB | 169 | G | C8-N9-C4 | -6.41 | 103.83 | 106.40 |
| 2 | AB | 963 | U | C6-N1-C2 | 6.41 | 124.85 | 121.00 |
| 2 | AB | 1423 | G | N9-C4-C5 | 6.41 | 107.97 | 105.40 |
| 2 | AB | 1450 | G | C6-N1-C2 | -6.41 | 121.25 | 125.10 |
| 2 | AB | 1455 | G | O4'-C1'-N9 | -6.41 | 103.07 | 108.20 |
| 2 | AB | 2034 | U | C6-N1-C2 | -6.41 | 117.15 | 121.00 |
| 2 | AB | 2166 | U | C5-C4-O4 | -6.41 | 122.05 | 125.90 |
| 2 | AB | 2545 | G | P-O5'-C5' | 6.41 | 131.16 | 120.90 |
| 35 | BA | 115 | G | C1'-O4'-C4' | -6.41 | 104.77 | 109.90 |
| 35 | BA | 174 | A | C4-C5-C6 | 6.41 | 120.21 | 117.00 |
| 35 | BA | 234 | C | C5'-C4'-C3' | 6.41 | 126.26 | 116.00 |
| 35 | BA | 745 | G | C4-C5-N7 | -6.41 | 108.23 | 110.80 |
| 35 | BA | 872 | A | C3'-C2'-C1' | -6.41 | 96.37 | 101.50 |
| 35 | BA | 1389 | C | O4'-C4'-C3' | 6.41 | 111.23 | 106.10 |
| 35 | BA | 1426 | G | C1'-O4'-C4' | -6.41 | 104.77 | 109.90 |
| 36 | BB | 29 | G | C4-C5-C6 | 6.41 | 122.65 | 118.80 |
| 2 | AB | 589 | U | N3-C4-O4 | 6.41 | 123.89 | 119.40 |
| 2 | AB | 1570 | A | C4-C5-C6 | -6.41 | 113.79 | 117.00 |
| 2 | AB | 2545 | G | C5-N7-C8 | 6.41 | 107.51 | 104.30 |
| 22 | AV | 14 | PRO | N-CA-CB | 6.41 | 111.00 | 103.30 |
| 37 | BC | 75 | C | O4'-C1'-C2' | -6.41 | 99.39 | 105.80 |
| 2 | AB | 1194 | A | C8-N9-C4 | -6.41 | 103.24 | 105.80 |
| 2 | AB | 1303 | G | C5-C6-N1 | -6.41 | 108.30 | 111.50 |
| 2 | AB | 1860 | G | N1-C6-O6 | -6.41 | 116.05 | 119.90 |
| 2 | AB | 2349 | G | C8-N9-C4 | -6.41 | 103.84 | 106.40 |
| 2 | AB | 2380 | C | N3-C4-C5 | 6.41 | 124.47 | 121.90 |
| 2 | AB | 2541 | A | C3'-C2'-C1' | -6.41 | 96.37 | 101.50 |
| 2 | AB | 2721 | A | C5-C6-N6 | -6.41 | 118.57 | 123.70 |
| 5 | AE | 206 | ALA | C-N-CA | 6.41 | 137.72 | 121.70 |
| 35 | BA | 302 | G | C5-N7-C8 | -6.41 | 101.09 | 104.30 |
| 35 | BA | 419 | C | N3-C2-O2 | -6.41 | 117.41 | 121.90 |
| 35 | BA | 707 | U | O4'-C4'-C3' | 6.41 | 111.23 | 106.10 |
| 35 | BA | 785 | G | C5'-C4'-O4' | 6.41 | 116.79 | 109.10 |
| 35 | BA | 863 | U | N3-C4-C5 | -6.41 | 110.75 | 114.60 |
| 35 | BA | 1149 | C | O4'-C1'-N1 | 6.41 | 113.33 | 108.20 |
| 35 | BA | 1155 | A | C5'-C4'-O4' | 6.41 | 116.79 | 109.10 |
| 35 | BA | 1326 | U | N3-C4-O4 | 6.41 | 123.89 | 119.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 305 | C | N1-C2-O2 | 6.41 | 122.75 | 118.90 |
| 2 | AB | 413 | C | C2-N3-C4 | 6.41 | 123.10 | 119.90 |
| 2 | AB | 622 | G | C6-N1-C2 | -6.41 | 121.25 | 125.10 |
| 2 | AB | 788 | A | C2-N3-C4 | -6.41 | 107.40 | 110.60 |
| 2 | AB | 847 | U | C5'-C4'-O4' | 6.41 | 116.79 | 109.10 |
| 2 | AB | 1186 | G | C6-C5-N7 | -6.41 | 126.56 | 130.40 |
| 2 | AB | 1732 | C | C5-C4-N4 | -6.41 | 115.71 | 120.20 |
| 2 | AB | 1925 | C | N3-C4-N4 | -6.41 | 113.51 | 118.00 |
| 2 | AB | 2176 | A | N7-C8-N9 | 6.41 | 117.00 | 113.80 |
| 2 | AB | 2186 | G | N3-C4-C5 | -6.41 | 125.39 | 128.60 |
| 2 | AB | 2488 | G | N3-C2-N2 | 6.41 | 124.39 | 119.90 |
| 2 | AB | 2518 | A | N9-C1'-C2' | 6.41 | 122.33 | 114.00 |
| 2 | AB | 2854 | G | N3-C4-N9 | 6.41 | 129.85 | 126.00 |
| 35 | BA | 1029 | U | C5-C4-O4 | -6.41 | 122.06 | 125.90 |
| 35 | BA | 1281 | C | C4-C5-C6 | -6.41 | 114.20 | 117.40 |
| 1 | AA | 4 | C | N3-C4-N4 | 6.41 | 122.48 | 118.00 |
| 2 | AB | 1343 | G | N3-C4-C5 | -6.41 | 125.40 | 128.60 |
| 1 | AA | 61 | G | C2-N3-C4 | 6.41 | 115.10 | 111.90 |
| 2 | AB | 167 | A | C6-N1-C2 | 6.41 | 122.44 | 118.60 |
| 2 | AB | 661 | A | N1-C6-N6 | 6.41 | 122.44 | 118.60 |
| 2 | AB | 797 | G | N1-C6-O6 | 6.41 | 123.74 | 119.90 |
| 2 | AB | 1132 | U | N3-C4-O4 | 6.41 | 123.88 | 119.40 |
| 2 | AB | 1148 | U | N3-C2-O2 | -6.41 | 117.72 | 122.20 |
| 2 | AB | 1611 | C | C5'-C4'-O4' | 6.41 | 116.78 | 109.10 |
| 2 | AB | 2190 | G | O4'-C1'-C2' | -6.41 | 99.39 | 105.80 |
| 2 | AB | 2298 | A | O4'-C1'-N9 | 6.41 | 113.33 | 108.20 |
| 16 | AP | 34 | ILE | CA-CB-CG1 | 6.41 | 123.17 | 111.00 |
| 35 | BA | 443 | C | C5'-C4'-O4' | 6.41 | 116.78 | 109.10 |
| 35 | BA | 644 | U | C5-C4-O4 | 6.41 | 129.74 | 125.90 |
| 35 | BA | 1451 | U | N1-C1'-C2' | 6.41 | 122.33 | 114.00 |
| 2 | AB | 25 | U | C5-C6-N1 | -6.40 | 119.50 | 122.70 |
| 2 | AB | 883 | G | N3-C4-C5 | -6.40 | 125.40 | 128.60 |
| 2 | AB | 1400 | U | N1-C2-N3 | 6.40 | 118.74 | 114.90 |
| 2 | AB | 1893 | C | C1'-O4'-C4' | 6.40 | 115.02 | 109.90 |
| 35 | BA | 1501 | C | N3-C4-C5 | -6.40 | 119.34 | 121.90 |
| 2 | AB | 890 | C | C5-C4-N4 | -6.40 | 115.72 | 120.20 |
| 2 | AB | 1263 | U | N1-C2-N3 | 6.40 | 118.74 | 114.90 |
| 2 | AB | 1369 | G | C3'-C2'-C1' | 6.40 | 106.62 | 101.50 |
| 35 | BA | 807 | A | C5-C6-N6 | -6.40 | 118.58 | 123.70 |
| 40 | BF | 49 | ASP | CB-CG-OD2 | -6.40 | 112.54 | 118.30 |
| 2 | AB | 813 | U | N3-C4-C5 | 6.40 | 118.44 | 114.60 |
| 2 | AB | 1303 | G | N7-C8-N9 | -6.40 | 109.90 | 113.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2532 | G | N9-C4-C5 | 6.40 | 107.96 | 105.40 |
| 35 | BA | 48 | C | O4'-C4'-C3' | 6.40 | 111.22 | 106.10 |
| 35 | BA | 73 | C | N1-C2-O2 | 6.40 | 122.74 | 118.90 |
| 35 | BA | 123 | U | N3-C2-O2 | -6.40 | 117.72 | 122.20 |
| 35 | BA | 577 | G | C6-C5-N7 | -6.40 | 126.56 | 130.40 |
| 35 | BA | 901 | A | C8-N9-C4 | 6.40 | 108.36 | 105.80 |
| 40 | BF | 25 | ARG | NE-CZ-NH1 | 6.40 | 123.50 | 120.30 |
| 1 | AA | 82 | U | C5'-C4'-O4' | 6.40 | 116.78 | 109.10 |
| 2 | AB | 16 | C | C5'-C4'-C3' | -6.40 | 105.76 | 116.00 |
| 2 | AB | 270 | A | O4'-C1'-N9 | 6.40 | 113.32 | 108.20 |
| 2 | AB | 334 | C | N3-C4-C5 | 6.40 | 124.46 | 121.90 |
| 2 | AB | 538 | A | C5'-C4'-O4' | 6.40 | 116.78 | 109.10 |
| 2 | AB | 1743 | G | C5'-C4'-O4' | 6.40 | 116.78 | 109.10 |
| 2 | AB | 2741 | A | C5-C6-N1 | 6.40 | 120.90 | 117.70 |
| 2 | AB | 369 | U | N3-C4-O4 | 6.40 | 123.88 | 119.40 |
| 2 | AB | 1055 | G | C8-N9-C4 | -6.40 | 103.84 | 106.40 |
| 2 | AB | 1154 | G | O4'-C1'-N9 | 6.40 | 113.32 | 108.20 |
| 2 | AB | 1946 | U | N3-C4-C5 | -6.40 | 110.76 | 114.60 |
| 2 | AB | 2272 | U | C4-C5-C6 | 6.40 | 123.54 | 119.70 |
| 15 | AO | 81 | ARG | NE-CZ-NH1 | -6.40 | 117.10 | 120.30 |
| 35 | BA | 301 | G | C4-C5-N7 | -6.40 | 108.24 | 110.80 |
| 35 | BA | 613 | C | C4'-C3'-C2' | -6.40 | 96.20 | 102.60 |
| 35 | BA | 787 | A | C2-N3-C4 | 6.40 | 113.80 | 110.60 |
| 2 | AB | 666 | A | N1-C6-N6 | -6.40 | 114.76 | 118.60 |
| 2 | AB | 803 | U | N3-C4-C5 | -6.40 | 110.76 | 114.60 |
| 2 | AB | 961 | C | C1'-O4'-C4' | -6.40 | 104.78 | 109.90 |
| 2 | AB | 1238 | G | O4'-C1'-N9 | 6.40 | 113.32 | 108.20 |
| 2 | AB | 1867 | G | C4-C5-C6 | 6.40 | 122.64 | 118.80 |
| 30 | A3 | 30 | ASP | CB-CG-OD2 | 6.40 | 124.06 | 118.30 |
| 35 | BA | 614 | C | C3'-C2'-C1' | -6.40 | 96.38 | 101.50 |
| 2 | AB | 641 | U | C3'-C2'-C1' | 6.39 | 106.62 | 101.50 |
| 2 | AB | 1156 | A | C6-C5-N7 | 6.39 | 136.78 | 132.30 |
| 2 | AB | 1728 | C | N3-C4-N4 | -6.39 | 113.52 | 118.00 |
| 2 | AB | 1902 | C | C2-N3-C4 | 6.39 | 123.10 | 119.90 |
| 2 | AB | 2399 | G | C4-C5-N7 | -6.39 | 108.24 | 110.80 |
| 2 | AB | 2566 | A | N9-C4-C5 | 6.39 | 108.36 | 105.80 |
| 2 | AB | 2665 | A | C1'-O4'-C4' | -6.39 | 104.78 | 109.90 |
| 35 | BA | 159 | G | N1-C2-N2 | -6.39 | 110.44 | 116.20 |
| 35 | BA | 867 | G | N3-C4-N9 | 6.39 | 129.84 | 126.00 |
| 2 | AB | 75 | G | C5-C6-O6 | -6.39 | 124.77 | 128.60 |
| 2 | AB | 371 | A | O4'-C1'-C2' | -6.39 | 99.41 | 105.80 |
| 2 | AB | 464 | U | C2-N3-C4 | -6.39 | 123.16 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 495 | G | C4'-C3'-C2' | -6.39 | 96.21 | 102.60 |
| 2 | AB | 780 | G | C4-C5-C6 | 6.39 | 122.64 | 118.80 |
| 2 | AB | 1203 | U | C1'-O4'-C4' | 6.39 | 115.01 | 109.90 |
| 2 | AB | 1246 | A | O4'-C4'-C3' | 6.39 | 111.21 | 106.10 |
| 2 | AB | 1567 | G | N7-C8-N9 | 6.39 | 116.30 | 113.10 |
| 2 | AB | 1676 | A | N1-C2-N3 | 6.39 | 132.50 | 129.30 |
| 2 | AB | 1718 | G | N1-C2-N3 | -6.39 | 120.06 | 123.90 |
| 15 | AO | 130 | PHE | CB-CG-CD2 | -6.39 | 116.33 | 120.80 |
| 35 | BA | 810 | C | C6-N1-C2 | -6.39 | 117.74 | 120.30 |
| 2 | AB | 1498 | C | N3-C2-O2 | -6.39 | 117.43 | 121.90 |
| 2 | AB | 1741 | C | N1-C2-O2 | 6.39 | 122.73 | 118.90 |
| 2 | AB | 1846 | G | C4-C5-N7 | -6.39 | 108.24 | 110.80 |
| 2 | AB | 2373 | G | C5-C6-O6 | -6.39 | 124.77 | 128.60 |
| 13 | AM | 119 | ALA | N-CA-CB | -6.39 | 101.15 | 110.10 |
| 35 | BA | 320 | A | C4-C5-C6 | 6.39 | 120.20 | 117.00 |
| 35 | BA | 879 | C | C4-C5-C6 | -6.39 | 114.20 | 117.40 |
| 35 | BA | 1028 | C | N3-C2-O2 | -6.39 | 117.43 | 121.90 |
| 35 | BA | 1154 | G | C6-C5-N7 | -6.39 | 126.56 | 130.40 |
| 35 | BA | 1444 | U | P-O3'-C3' | 6.39 | 127.37 | 119.70 |
| 35 | BA | 1469 | C | O4'-C1'-N1 | 6.39 | 113.31 | 108.20 |
| 2 | AB | 949 | G | C8-N9-C4 | 6.39 | 108.96 | 106.40 |
| 2 | AB | 1234 | U | C5-C6-N1 | -6.39 | 119.50 | 122.70 |
| 2 | AB | 1334 | G | C2-N3-C4 | -6.39 | 108.70 | 111.90 |
| 2 | AB | 1553 | A | P-O3'-C3' | 6.39 | 127.37 | 119.70 |
| 2 | AB | 1924 | C | N3-C4-C5 | -6.39 | 119.34 | 121.90 |
| 2 | AB | 2051 | A | C4-C5-N7 | -6.39 | 107.50 | 110.70 |
| 35 | BA | 6 | G | C5-C6-N1 | -6.39 | 108.31 | 111.50 |
| 35 | BA | 141 | G | N1-C2-N3 | -6.39 | 120.07 | 123.90 |
| 35 | BA | 908 | A | C5'-C4'-O4' | 6.39 | 116.77 | 109.10 |
| 35 | BA | 1080 | A | N9-C4-C5 | 6.39 | 108.36 | 105.80 |
| 35 | BA | 1401 | G | N9-C4-C5 | 6.39 | 107.96 | 105.40 |
| 2 | AB | 273 | G | N3-C4-C5 | -6.39 | 125.41 | 128.60 |
| 2 | AB | 275 | C | N3-C4-C5 | -6.39 | 119.34 | 121.90 |
| 2 | AB | 1685 | C | C4-C5-C6 | -6.39 | 114.21 | 117.40 |
| 2 | AB | 2488 | G | N9-C4-C5 | 6.39 | 107.95 | 105.40 |
| 2 | AB | 2599 | G | N1-C2-N3 | 6.39 | 127.73 | 123.90 |
| 35 | BA | 214 | C | C6-N1-C2 | 6.39 | 122.86 | 120.30 |
| 35 | BA | 1163 | A | C1'-O4'-C4' | 6.39 | 115.01 | 109.90 |
| 2 | AB | 194 | G | N7-C8-N9 | 6.39 | 116.29 | 113.10 |
| 2 | AB | 1328 | A | O4'-C4'-C3' | 6.39 | 111.21 | 106.10 |
| 2 | AB | 1804 | C | N3-C4-C5 | -6.39 | 119.35 | 121.90 |
| 2 | AB | 1840 | G | N9-C4-C5 | 6.39 | 107.95 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2096 | C | N3-C2-O2 | -6.39 | 117.43 | 121.90 |
| 2 | AB | 2333 | A | C4-C5-C6 | -6.39 | 113.81 | 117.00 |
| 2 | AB | 2360 | G | N3-C2-N2 | 6.39 | 124.37 | 119.90 |
| 5 | AE | 179 | ARG | NE-CZ-NH2 | -6.39 | 117.11 | 120.30 |
| 35 | BA | 1273 | C | C1'-O4'-C4' | -6.39 | 104.79 | 109.90 |
| 1 | AA | 53 | A | N1-C2-N3 | -6.38 | 126.11 | 129.30 |
| 1 | AA | 92 | C | N3-C4-C5 | -6.38 | 119.35 | 121.90 |
| 2 | AB | 94 | A | C4-C5-C6 | -6.38 | 113.81 | 117.00 |
| 2 | AB | 407 | G | N3-C4-C5 | -6.38 | 125.41 | 128.60 |
| 2 | AB | 974 | G | N3-C2-N2 | -6.38 | 115.43 | 119.90 |
| 2 | AB | 1088 | A | N3-C4-C5 | -6.38 | 122.33 | 126.80 |
| 2 | AB | 1349 | C | N3-C4-N4 | 6.38 | 122.47 | 118.00 |
| 2 | AB | 1501 | G | N7-C8-N9 | 6.38 | 116.29 | 113.10 |
| 2 | AB | 2604 | U | C5-C4-O4 | -6.38 | 122.07 | 125.90 |
| 2 | AB | 2855 | C | C1'-O4'-C4' | -6.38 | 104.79 | 109.90 |
| 35 | BA | 684 | U | N1-C1'-C2' | -6.38 | 104.98 | 112.00 |
| 37 | BC | 43 | G | C2-N3-C4 | 6.38 | 115.09 | 111.90 |
| 2 | AB | 484 | C | C5-C6-N1 | 6.38 | 124.19 | 121.00 |
| 2 | AB | 1099 | G | C6-C5-N7 | -6.38 | 126.57 | 130.40 |
| 2 | AB | 2073 | C | C4'-C3'-C2' | -6.38 | 96.22 | 102.60 |
| 2 | AB | 2257 | U | N1-C1'-C2' | -6.38 | 104.98 | 112.00 |
| 2 | AB | 2892 | G | O4'-C1'-N9 | 6.38 | 113.31 | 108.20 |
| 35 | BA | 107 | G | N9-C1'-C2' | -6.38 | 104.98 | 112.00 |
| 35 | BA | 1388 | C | P-O3'-C3' | 6.38 | 127.36 | 119.70 |
| 2 | AB | 759 | G | C6-N1-C2 | -6.38 | 121.27 | 125.10 |
| 2 | AB | 1006 | C | C3'-C2'-C1' | 6.38 | 106.61 | 101.50 |
| 2 | AB | 1159 | U | O4'-C1'-N1 | 6.38 | 113.31 | 108.20 |
| 2 | AB | 1211 | C | C4'-C3'-C2' | -6.38 | 96.22 | 102.60 |
| 2 | AB | 1544 | A | N1-C2-N3 | -6.38 | 126.11 | 129.30 |
| 2 | AB | 1680 | U | C3'-C2'-C1' | 6.38 | 106.61 | 101.50 |
| 2 | AB | 2034 | U | O4'-C1'-N1 | 6.38 | 113.31 | 108.20 |
| 2 | AB | 2848 | G | N3-C2-N2 | 6.38 | 124.37 | 119.90 |
| 4 | AD | 155 | ARG | NE-CZ-NH2 | -6.38 | 117.11 | 120.30 |
| 35 | BA | 793 | U | C4'-C3'-O3' | 6.38 | 125.76 | 113.00 |
| 35 | BA | 797 | C | P-O3'-C3' | 6.38 | 127.36 | 119.70 |
| 35 | BA | 867 | G | C4-C5-C6 | 6.38 | 122.63 | 118.80 |
| 35 | BA | 1005 | A | N9-C4-C5 | 6.38 | 108.35 | 105.80 |
| 35 | BA | 1347 | G | N1-C2-N2 | 6.38 | 121.94 | 116.20 |
| 35 | BA | 1489 | G | N9-C4-C5 | 6.38 | 107.95 | 105.40 |
| 37 | BC | 4 | G | N1-C2-N3 | 6.38 | 127.73 | 123.90 |
| 2 | AB | 415 | A | C2-N3-C4 | 6.38 | 113.79 | 110.60 |
| 2 | AB | 1653 | G | N3-C4-C5 | 6.38 | 131.79 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1696 | G | C5-N7-C8 | -6.38 | 101.11 | 104.30 |
| 2 | AB | 1723 | G | C6-N1-C2 | -6.38 | 121.27 | 125.10 |
| 2 | AB | 1780 | A | N7-C8-N9 | 6.38 | 116.99 | 113.80 |
| 2 | AB | 2204 | G | C5-N7-C8 | -6.38 | 101.11 | 104.30 |
| 24 | AX | 18 | ARG | NE-CZ-NH1 | -6.38 | 117.11 | 120.30 |
| 35 | BA | 567 | G | O4'-C1'-N9 | 6.38 | 113.30 | 108.20 |
| 52 | BR | 70 | ARG | NE-CZ-NH1 | 6.38 | 123.49 | 120.30 |
| 2 | AB | 206 | U | C6-N1-C2 | -6.38 | 117.17 | 121.00 |
| 2 | AB | 291 | G | N9-C4-C5 | 6.38 | 107.95 | 105.40 |
| 2 | AB | 543 | G | O4'-C1'-N9 | 6.38 | 113.30 | 108.20 |
| 2 | AB | 648 | G | C5-C6-O6 | -6.38 | 124.77 | 128.60 |
| 2 | AB | 1221 | C | C2-N3-C4 | 6.38 | 123.09 | 119.90 |
| 2 | AB | 1805 | A | C4-C5-N7 | -6.38 | 107.51 | 110.70 |
| 2 | AB | 1809 | A | N7-C8-N9 | 6.38 | 116.99 | 113.80 |
| 2 | AB | 2127 | G | N1-C2-N3 | -6.38 | 120.07 | 123.90 |
| 2 | AB | 2648 | G | C5-C6-N1 | -6.38 | 108.31 | 111.50 |
| 5 | AE | 103 | ASP | CB-CG-OD1 | -6.38 | 112.56 | 118.30 |
| 35 | BA | 57 | G | C1'-O4'-C4' | 6.38 | 115.00 | 109.90 |
| 35 | BA | 449 | G | N3-C2-N2 | -6.38 | 115.44 | 119.90 |
| 35 | BA | 504 | C | C3'-C2'-C1' | 6.38 | 106.60 | 101.50 |
| 35 | BA | 1470 | U | C4-C5-C6 | 6.38 | 123.53 | 119.70 |
| 2 | AB | 272 | A | N1-C6-N6 | -6.38 | 114.77 | 118.60 |
| 2 | AB | 588 | U | N1-C2-N3 | 6.38 | 118.73 | 114.90 |
| 2 | AB | 756 | A | N3-C4-N9 | -6.38 | 122.30 | 127.40 |
| 2 | AB | 818 | G | C6-N1-C2 | 6.38 | 128.93 | 125.10 |
| 2 | AB | 1293 | C | O5'-C5'-C4' | -6.38 | 99.58 | 111.70 |
| 2 | AB | 1663 | G | N9-C4-C5 | -6.38 | 102.85 | 105.40 |
| 2 | AB | 2263 | C | N3-C4-N4 | 6.38 | 122.46 | 118.00 |
| 35 | BA | 787 | A | N1-C2-N3 | -6.38 | 126.11 | 129.30 |
| 37 | BC | 20 | G | O4'-C1'-N9 | 6.38 | 113.30 | 108.20 |
| 2 | AB | 42 | A | N9-C4-C5 | 6.38 | 108.35 | 105.80 |
| 2 | AB | 208 | C | C6-N1-C2 | 6.38 | 122.85 | 120.30 |
| 2 | AB | 1529 | G | O4'-C1'-N9 | 6.38 | 113.30 | 108.20 |
| 2 | AB | 1755 | A | C5-N7-C8 | 6.38 | 107.09 | 103.90 |
| 2 | AB | 2052 | A | C6-N1-C2 | -6.38 | 114.78 | 118.60 |
| 35 | BA | 159 | G | N9-C4-C5 | -6.38 | 102.85 | 105.40 |
| 35 | BA | 1419 | G | N9-C4-C5 | -6.38 | 102.85 | 105.40 |
| 2 | AB | 759 | G | C4-C5-N7 | 6.37 | 113.35 | 110.80 |
| 2 | AB | 833 | A | C2-N3-C4 | 6.37 | 113.79 | 110.60 |
| 2 | AB | 1160 | G | N9-C4-C5 | 6.37 | 107.95 | 105.40 |
| 2 | AB | 1231 | U | C4-C5-C6 | 6.37 | 123.52 | 119.70 |
| 2 | AB | 1501 | G | C4-C5-C6 | 6.37 | 122.62 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1741 | C | C4-C5-C6 | 6.37 | 120.59 | 117.40 |
| 2 | AB | 2154 | A | C5'-C4'-O4' | 6.37 | 116.75 | 109.10 |
| 2 | AB | 2645 | G | N1-C6-O6 | -6.37 | 116.08 | 119.90 |
| 35 | BA | 119 | A | C5-C6-N1 | 6.37 | 120.89 | 117.70 |
| 1 | AA | 10 | G | O4'-C1'-C2' | 6.37 | 113.33 | 107.60 |
| 2 | AB | 300 | A | C6-N1-C2 | 6.37 | 122.42 | 118.60 |
| 2 | AB | 457 | A | N7-C8-N9 | -6.37 | 110.61 | 113.80 |
| 2 | AB | 1372 | U | C4-C5-C6 | 6.37 | 123.52 | 119.70 |
| 2 | AB | 1440 | U | N3-C2-O2 | -6.37 | 117.74 | 122.20 |
| 2 | AB | 1522 | A | C2-N3-C4 | -6.37 | 107.41 | 110.60 |
| 2 | AB | 2345 | G | C5-C6-N1 | 6.37 | 114.69 | 111.50 |
| 35 | BA | 441 | A | C8-N9-C4 | -6.37 | 103.25 | 105.80 |
| 35 | BA | 714 | G | P-O3'-C3' | 6.37 | 127.35 | 119.70 |
| 35 | BA | 1079 | G | C4-C5-C6 | 6.37 | 122.62 | 118.80 |
| 35 | BA | 1229 | A | N1-C6-N6 | -6.37 | 114.78 | 118.60 |
| 35 | BA | 1233 | G | C4'-C3'-C2' | -6.37 | 96.23 | 102.60 |
| 35 | BA | 1236 | A | N1-C2-N3 | 6.37 | 132.49 | 129.30 |
| 2 | AB | 30 | G | N3-C2-N2 | -6.37 | 115.44 | 119.90 |
| 35 | BA | 309 | A | O5'-P-OP2 | -6.37 | 99.97 | 105.70 |
| 35 | BA | 713 | G | P-O5'-C5' | 6.37 | 131.09 | 120.90 |
| 35 | BA | 860 | A | C4'-C3'-C2' | -6.37 | 96.23 | 102.60 |
| 2 | AB | 151 | C | N3-C4-C5 | -6.37 | 119.35 | 121.90 |
| 2 | AB | 170 | U | C4'-C3'-C2' | -6.37 | 96.23 | 102.60 |
| 2 | AB | 393 | C | P-O3'-C3' | 6.37 | 127.34 | 119.70 |
| 2 | AB | 441 | U | C2-N1-C1' | -6.37 | 110.06 | 117.70 |
| 2 | AB | 469 | G | P-O3'-C3' | 6.37 | 127.34 | 119.70 |
| 2 | AB | 475 | C | C5-C4-N4 | -6.37 | 115.74 | 120.20 |
| 2 | AB | 916 | G | C4-C5-C6 | 6.37 | 122.62 | 118.80 |
| 2 | AB | 920 | A | C3'-C2'-C1' | -6.37 | 96.41 | 101.50 |
| 2 | AB | 1293 | C | N3-C2-O2 | 6.37 | 126.36 | 121.90 |
| 2 | AB | 1770 | G | P-O3'-C3' | -6.37 | 112.06 | 119.70 |
| 2 | AB | 1862 | G | N9-C1'-C2' | -6.37 | 105.00 | 112.00 |
| 2 | AB | 2272 | U | N3-C4-C5 | -6.37 | 110.78 | 114.60 |
| 2 | AB | 2876 | G | N9-C1'-C2' | -6.37 | 105.00 | 112.00 |
| 35 | BA | 86 | G | C1'-O4'-C4' | 6.37 | 115.00 | 109.90 |
| 35 | BA | 107 | G | O4'-C1'-N9 | 6.37 | 113.29 | 108.20 |
| 35 | BA | 358 | U | C5'-C4'-O4' | 6.37 | 116.74 | 109.10 |
| 35 | BA | 570 | G | C4-C5-N7 | -6.37 | 108.25 | 110.80 |
| 35 | BA | 657 | U | C5-C6-N1 | -6.37 | 119.52 | 122.70 |
| 35 | BA | 1206 | G | N9-C4-C5 | 6.37 | 107.95 | 105.40 |
| 35 | BA | 1389 | C | C6-N1-C2 | 6.37 | 122.85 | 120.30 |
| 2 | AB | 1924 | C | C4-C5-C6 | 6.37 | 120.58 | 117.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1999 | C | N1-C1'-C2' | -6.37 | 105.00 | 112.00 |
| 2 | AB | 2628 | C | O4'-C4'-C3' | 6.37 | 111.19 | 106.10 |
| 35 | BA | 1162 | C | N3-C4-C5 | -6.37 | 119.35 | 121.90 |
| 1 | AA | 86 | G | C4'-C3'-C2' | -6.37 | 96.23 | 102.60 |
| 2 | AB | 58 | G | N9-C4-C5 | 6.37 | 107.95 | 105.40 |
| 2 | AB | 241 | A | O3'-P-O5' | -6.37 | 91.91 | 104.00 |
| 2 | AB | 304 | U | N1-C1'-C2' | -6.37 | 105.00 | 112.00 |
| 2 | AB | 430 | A | C4-C5-C6 | -6.37 | 113.82 | 117.00 |
| 2 | AB | 465 | G | C4-C5-N7 | 6.37 | 113.35 | 110.80 |
| 2 | AB | 719 | C | N3-C4-C5 | 6.37 | 124.45 | 121.90 |
| 2 | AB | 932 | U | O4'-C1'-C2' | -6.37 | 99.44 | 105.80 |
| 2 | AB | 1079 | C | C5-C6-N1 | 6.37 | 124.18 | 121.00 |
| 2 | AB | 1566 | A | O4'-C4'-C3' | 6.37 | 111.19 | 106.10 |
| 2 | AB | 2203 | U | O4'-C1'-N1 | 6.37 | 113.29 | 108.20 |
| 35 | BA | 517 | G | C4-C5-N7 | -6.37 | 108.25 | 110.80 |
| 35 | BA | 631 | C | C5'-C4'-C3' | -6.37 | 105.81 | 116.00 |
| 35 | BA | 791 | G | C4-C5-C6 | -6.37 | 114.98 | 118.80 |
| 35 | BA | 1068 | G | C4-C5-C6 | 6.37 | 122.62 | 118.80 |
| 35 | BA | 1337 | G | C2-N3-C4 | 6.37 | 115.08 | 111.90 |
| 2 | AB | 94 | A | C5-N7-C8 | -6.36 | 100.72 | 103.90 |
| 2 | AB | 499 | U | C6-N1-C2 | -6.36 | 117.18 | 121.00 |
| 2 | AB | 1190 | G | N3-C4-N9 | 6.36 | 129.82 | 126.00 |
| 2 | AB | 1771 | C | N3-C4-N4 | 6.36 | 122.45 | 118.00 |
| 2 | AB | 2305 | U | O4'-C1'-N1 | 6.36 | 113.29 | 108.20 |
| 35 | BA | 242 | G | O4'-C1'-N9 | 6.36 | 113.29 | 108.20 |
| 35 | BA | 307 | C | C5-C4-N4 | 6.36 | 124.65 | 120.20 |
| 35 | BA | 509 | A | C4-C5-N7 | -6.36 | 107.52 | 110.70 |
| 2 | AB | 1213 | A | C4-C5-N7 | 6.36 | 113.88 | 110.70 |
| 2 | AB | 1623 | G | C6-N1-C2 | -6.36 | 121.28 | 125.10 |
| 2 | AB | 1807 | G | N7-C8-N9 | 6.36 | 116.28 | 113.10 |
| 2 | AB | 2345 | G | O4'-C1'-N9 | 6.36 | 113.29 | 108.20 |
| 2 | AB | 2350 | C | C5'-C4'-O4' | 6.36 | 116.73 | 109.10 |
| 35 | BA | 463 | U | O4'-C4'-C3' | 6.36 | 111.19 | 106.10 |
| 35 | BA | 543 | U | C5-C4-O4 | 6.36 | 129.72 | 125.90 |
| 35 | BA | 981 | U | N3-C2-O2 | 6.36 | 126.65 | 122.20 |
| 35 | BA | 1053 | G | C4-C5-C6 | 6.36 | 122.62 | 118.80 |
| 46 | BL | 9 | ARG | NE-CZ-NH1 | -6.36 | 117.12 | 120.30 |
| 2 | AB | 877 | A | C5'-C4'-O4' | 6.36 | 116.73 | 109.10 |
| 2 | AB | 1020 | A | N1-C2-N3 | -6.36 | 126.12 | 129.30 |
| 2 | AB | 1170 | C | O4'-C1'-N1 | 6.36 | 113.29 | 108.20 |
| 2 | AB | 1453 | A | C4-C5-N7 | -6.36 | 107.52 | 110.70 |
| 2 | AB | 1560 | G | N9-C4-C5 | 6.36 | 107.94 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1931 | U | P-O3'-C3' | 6.36 | 127.33 | 119.70 |
| 2 | AB | 1975 | G | C6-C5-N7 | 6.36 | 134.22 | 130.40 |
| 2 | AB | 2400 | G | C4'-C3'-C2' | -6.36 | 96.24 | 102.60 |
| 2 | AB | 2433 | A | C8-N9-C4 | -6.36 | 103.26 | 105.80 |
| 2 | AB | 2796 | U | N3-C4-C5 | 6.36 | 118.42 | 114.60 |
| 14 | AN | 47 | ARG | NE-CZ-NH1 | 6.36 | 123.48 | 120.30 |
| 35 | BA | 502 | A | N7-C8-N9 | -6.36 | 110.62 | 113.80 |
| 35 | BA | 519 | C | O4'-C1'-C2' | 6.36 | 113.32 | 107.60 |
| 35 | BA | 643 | C | C2-N3-C4 | 6.36 | 123.08 | 119.90 |
| 35 | BA | 920 | U | C2-N3-C4 | -6.36 | 123.18 | 127.00 |
| 35 | BA | 1271 | A | N1-C2-N3 | -6.36 | 126.12 | 129.30 |
| 35 | BA | 1310 | G | C4-C5-C6 | 6.36 | 122.62 | 118.80 |
| 35 | BA | 1360 | A | C4-C5-N7 | -6.36 | 107.52 | 110.70 |
| 2 | AB | 1119 | U | C4'-C3'-C2' | -6.36 | 96.24 | 102.60 |
| 2 | AB | 2901 | C | N3-C2-O2 | -6.36 | 117.45 | 121.90 |
| 35 | BA | 115 | G | N9-C4-C5 | 6.36 | 107.94 | 105.40 |
| 35 | BA | 1004 | A | C5'-C4'-C3' | -6.36 | 105.83 | 116.00 |
| 35 | BA | 1114 | C | N1-C2-O2 | 6.36 | 122.72 | 118.90 |
| 35 | BA | 1197 | A | N7-C8-N9 | 6.36 | 116.98 | 113.80 |
| 41 | BG | 160 | VAL | CA-CB-CG1 | 6.36 | 120.44 | 110.90 |
| 1 | AA | 57 | A | C2'-C3'-O3' | 6.36 | 123.87 | 113.70 |
| 2 | AB | 16 | C | C5-C6-N1 | 6.36 | 124.18 | 121.00 |
| 2 | AB | 308 | G | N3-C2-N2 | 6.36 | 124.35 | 119.90 |
| 2 | AB | 622 | G | N1-C6-O6 | 6.36 | 123.71 | 119.90 |
| 2 | AB | 900 | A | C5-C6-N1 | 6.36 | 120.88 | 117.70 |
| 2 | AB | 941 | A | N3-C4-C5 | -6.36 | 122.35 | 126.80 |
| 2 | AB | 1380 | G | N9-C1'-C2' | -6.36 | 105.01 | 112.00 |
| 2 | AB | 1408 | G | C6-C5-N7 | 6.36 | 134.21 | 130.40 |
| 2 | AB | 2761 | A | C5'-C4'-C3' | -6.36 | 105.83 | 116.00 |
| 35 | BA | 357 | G | N1-C2-N3 | 6.36 | 127.72 | 123.90 |
| 35 | BA | 455 | G | C6-N1-C2 | -6.36 | 121.28 | 125.10 |
| 35 | BA | 1190 | G | C4-C5-N7 | -6.36 | 108.26 | 110.80 |
| 2 | AB | 153 | U | C5-C4-O4 | 6.36 | 129.71 | 125.90 |
| 2 | AB | 390 | U | N1-C2-O2 | 6.36 | 127.25 | 122.80 |
| 2 | AB | 445 | C | C5-C6-N1 | -6.36 | 117.82 | 121.00 |
| 2 | AB | 799 | G | N3-C4-N9 | 6.36 | 129.81 | 126.00 |
| 2 | AB | 2567 | G | C5'-C4'-C3' | -6.36 | 105.83 | 116.00 |
| 2 | AB | 2700 | A | N3-C4-C5 | -6.36 | 122.35 | 126.80 |
| 2 | AB | 2808 | G | N1-C2-N2 | -6.36 | 110.48 | 116.20 |
| 35 | BA | 61 | G | C6-C5-N7 | -6.36 | 126.59 | 130.40 |
| 35 | BA | 404 | G | N1-C6-O6 | -6.36 | 116.09 | 119.90 |
| 35 | BA | 1117 | A | C8-N9-C4 | -6.36 | 103.26 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1153 | G | N3-C2-N2 | -6.36 | 115.45 | 119.90 |
| 35 | BA | 1394 | A | C3'-C2'-C1' | 6.36 | 106.58 | 101.50 |
| 1 | AA | 79 | G | C5-C6-O6 | -6.35 | 124.79 | 128.60 |
| 2 | AB | 585 | G | C5-C6-O6 | -6.35 | 124.79 | 128.60 |
| 2 | AB | 638 | G | N3-C2-N2 | 6.35 | 124.35 | 119.90 |
| 2 | AB | 1329 | U | O4'-C1'-N1 | 6.35 | 113.28 | 108.20 |
| 2 | AB | 1629 | U | N3-C2-O2 | -6.35 | 117.75 | 122.20 |
| 2 | AB | 2024 | G | N9-C1'-C2' | -6.35 | 105.01 | 112.00 |
| 2 | AB | 2044 | C | C6-N1-C2 | -6.35 | 117.76 | 120.30 |
| 2 | AB | 2136 | G | C8-N9-C4 | -6.35 | 103.86 | 106.40 |
| 2 | AB | 2736 | A | C3'-C2'-C1' | -6.35 | 96.42 | 101.50 |
| 35 | BA | 387 | U | C4-C5-C6 | 6.35 | 123.51 | 119.70 |
| 35 | BA | 441 | A | C5'-C4'-C3' | -6.35 | 105.83 | 116.00 |
| 35 | BA | 459 | A | N9-C4-C5 | -6.35 | 103.26 | 105.80 |
| 35 | BA | 1507 | A | N9-C1'-C2' | -6.35 | 105.01 | 112.00 |
| 2 | AB | 630 | G | N7-C8-N9 | 6.35 | 116.28 | 113.10 |
| 2 | AB | 782 | A | P-O3'-C3' | 6.35 | 127.32 | 119.70 |
| 2 | AB | 1860 | G | C4'-C3'-C2' | -6.35 | 96.25 | 102.60 |
| 2 | AB | 1921 | G | C2-N3-C4 | 6.35 | 115.08 | 111.90 |
| 2 | AB | 2814 | A | C5-C6-N1 | 6.35 | 120.88 | 117.70 |
| 17 | AQ | 91 | SER | N-CA-CB | 6.35 | 120.03 | 110.50 |
| 35 | BA | 208 | U | O4'-C1'-N1 | 6.35 | 113.28 | 108.20 |
| 35 | BA | 792 | A | O4'-C4'-C3' | 6.35 | 111.18 | 106.10 |
| 35 | BA | 940 | C | C2-N3-C4 | 6.35 | 123.08 | 119.90 |
| 2 | AB | 768 | G | C4-C5-N7 | -6.35 | 108.26 | 110.80 |
| 2 | AB | 1144 | A | C2-N3-C4 | 6.35 | 113.78 | 110.60 |
| 2 | AB | 1858 | A | C4-C5-N7 | 6.35 | 113.88 | 110.70 |
| 2 | AB | 2358 | A | C6-C5-N7 | -6.35 | 127.85 | 132.30 |
| 2 | AB | 2524 | G | C4'-C3'-C2' | -6.35 | 96.25 | 102.60 |
| 35 | BA | 825 | A | O4'-C1'-N9 | 6.35 | 113.28 | 108.20 |
| 2 | AB | 835 | C | N3-C4-C5 | -6.35 | 119.36 | 121.90 |
| 2 | AB | 1131 | G | C5-N7-C8 | 6.35 | 107.47 | 104.30 |
| 2 | AB | 1621 | U | O4'-C1'-N1 | 6.35 | 113.28 | 108.20 |
| 2 | AB | 2215 | C | N1-C2-O2 | 6.35 | 122.71 | 118.90 |
| 2 | AB | 2788 | C | C5-C4-N4 | -6.35 | 115.76 | 120.20 |
| 35 | BA | 121 | U | N1-C2-N3 | 6.35 | 118.71 | 114.90 |
| 35 | BA | 301 | G | N3-C4-C5 | -6.35 | 125.42 | 128.60 |
| 35 | BA | 433 | G | N3-C4-N9 | 6.35 | 129.81 | 126.00 |
| 35 | BA | 446 | G | C5-N7-C8 | -6.35 | 101.12 | 104.30 |
| 35 | BA | 1184 | G | O3'-P-O5' | 6.35 | 116.06 | 104.00 |
| 1 | AA | 29 | A | C2-N3-C4 | 6.35 | 113.77 | 110.60 |
| 2 | AB | 8 | C | C5-C4-N4 | 6.35 | 124.64 | 120.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 668 | A | P-O3'-C3' | 6.35 | 127.32 | 119.70 |
| 2 | AB | 870 | U | N3-C4-O4 | -6.35 | 114.96 | 119.40 |
| 2 | AB | 1039 | A | C4-C5-C6 | -6.35 | 113.83 | 117.00 |
| 2 | AB | 2041 | U | C3'-C2'-C1' | 6.35 | 106.58 | 101.50 |
| 2 | AB | 2384 | U | C5-C6-N1 | -6.35 | 119.53 | 122.70 |
| 2 | AB | 2530 | A | C4'-C3'-C2' | -6.35 | 96.25 | 102.60 |
| 35 | BA | 140 | U | O4'-C1'-N1 | 6.35 | 113.28 | 108.20 |
| 35 | BA | 207 | C | N3-C2-O2 | -6.35 | 117.46 | 121.90 |
| 35 | BA | 285 | C | C5-C6-N1 | 6.35 | 124.17 | 121.00 |
| 2 | AB | 775 | G | N3-C2-N2 | -6.35 | 115.46 | 119.90 |
| 2 | AB | 989 | G | N1-C2-N3 | -6.35 | 120.09 | 123.90 |
| 35 | BA | 65 | A | C4-C5-N7 | 6.35 | 113.87 | 110.70 |
| 35 | BA | 668 | G | N1-C6-O6 | 6.35 | 123.71 | 119.90 |
| 35 | BA | 1219 | A | N1-C2-N3 | -6.35 | 126.13 | 129.30 |
| 2 | AB | 432 | A | N1-C6-N6 | -6.34 | 114.79 | 118.60 |
| 2 | AB | 489 | G | C6-N1-C2 | -6.34 | 121.29 | 125.10 |
| 2 | AB | 701 | G | C5-C6-N1 | 6.34 | 114.67 | 111.50 |
| 2 | AB | 1084 | A | N1-C6-N6 | -6.34 | 114.79 | 118.60 |
| 2 | AB | 2635 | A | C3'-C2'-C1' | -6.34 | 96.42 | 101.50 |
| 2 | AB | 2697 | G | C6-C5-N7 | -6.34 | 126.59 | 130.40 |
| 35 | BA | 41 | G | C4'-C3'-C2' | -6.34 | 96.25 | 102.60 |
| 35 | BA | 193 | C | N3-C2-O2 | -6.34 | 117.46 | 121.90 |
| 35 | BA | 544 | G | N9-C1'-C2' | -6.34 | 105.02 | 112.00 |
| 35 | BA | 748 | G | C8-N9-C4 | -6.34 | 103.86 | 106.40 |
| 35 | BA | 893 | C | N1-C2-O2 | 6.34 | 122.71 | 118.90 |
| 35 | BA | 1413 | A | C2-N3-C4 | 6.34 | 113.77 | 110.60 |
| 2 | AB | 34 | U | C5-C6-N1 | 6.34 | 125.87 | 122.70 |
| 2 | AB | 194 | G | C8-N9-C4 | -6.34 | 103.86 | 106.40 |
| 2 | AB | 1250 | G | C6-N1-C2 | -6.34 | 121.29 | 125.10 |
| 2 | AB | 1683 | U | O4'-C1'-N1 | 6.34 | 113.27 | 108.20 |
| 2 | AB | 2125 | G | C5-N7-C8 | -6.34 | 101.13 | 104.30 |
| 2 | AB | 2339 | C | C6-N1-C2 | -6.34 | 117.76 | 120.30 |
| 2 | AB | 2737 | G | C4-C5-N7 | -6.34 | 108.26 | 110.80 |
| 5 | AE | 45 | TYR | CG-CD2-CE2 | -6.34 | 116.23 | 121.30 |
| 35 | BA | 77 | A | N9-C4-C5 | 6.34 | 108.34 | 105.80 |
| 35 | BA | 907 | A | C5-C6-N1 | 6.34 | 120.87 | 117.70 |
| 2 | AB | 622 | G | C5-C6-N1 | 6.34 | 114.67 | 111.50 |
| 2 | AB | 959 | A | C5-N7-C8 | -6.34 | 100.73 | 103.90 |
| 2 | AB | 2141 | G | C8-N9-C4 | -6.34 | 103.86 | 106.40 |
| 2 | AB | 2588 | G | C4-C5-N7 | 6.34 | 113.34 | 110.80 |
| 35 | BA | 494 | G | C4-C5-C6 | 6.34 | 122.61 | 118.80 |
| 35 | BA | 886 | G | C5-C6-N1 | 6.34 | 114.67 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 37 | BC | 24 | C | C4'-C3'-C2' | -6.34 | 96.26 | 102.60 |
| 2 | AB | 58 | G | N1-C6-O6 | 6.34 | 123.70 | 119.90 |
| 2 | AB | 1016 | G | N7-C8-N9 | -6.34 | 109.93 | 113.10 |
| 2 | AB | 1048 | A | C5'-C4'-O4' | 6.34 | 116.71 | 109.10 |
| 2 | AB | 1172 | C | N3-C4-N4 | -6.34 | 113.56 | 118.00 |
| 2 | AB | 1263 | U | O4'-C4'-C3' | 6.34 | 111.17 | 106.10 |
| 2 | AB | 1746 | A | O4'-C1'-N9 | 6.34 | 113.27 | 108.20 |
| 2 | AB | 1996 | C | P-O3'-C3' | 6.34 | 127.31 | 119.70 |
| 2 | AB | 2168 | G | C2-N3-C4 | -6.34 | 108.73 | 111.90 |
| 2 | AB | 2207 | C | N1-C2-O2 | 6.34 | 122.70 | 118.90 |
| 2 | AB | 2376 | A | C5-C6-N6 | 6.34 | 128.77 | 123.70 |
| 2 | AB | 2396 | G | C8-N9-C1' | 6.34 | 135.24 | 127.00 |
| 2 | AB | 2426 | A | C5-C6-N1 | 6.34 | 120.87 | 117.70 |
| 2 | AB | 2875 | C | N3-C4-N4 | 6.34 | 122.44 | 118.00 |
| 3 | AC | 69 | THR | CA-CB-CG2 | 6.34 | 121.28 | 112.40 |
| 35 | BA | 276 | G | N3-C4-C5 | -6.34 | 125.43 | 128.60 |
| 35 | BA | 617 | G | O4'-C1'-N9 | 6.34 | 113.27 | 108.20 |
| 35 | BA | 649 | A | C5-C6-N1 | -6.34 | 114.53 | 117.70 |
| 35 | BA | 1090 | U | C6-N1-C2 | -6.34 | 117.20 | 121.00 |
| 1 | AA | 43 | C | O4'-C1'-C2' | -6.34 | 99.46 | 105.80 |
| 2 | AB | 1303 | G | C3'-C2'-C1' | -6.34 | 96.43 | 101.50 |
| 2 | AB | 2226 | C | N3-C4-C5 | -6.34 | 119.36 | 121.90 |
| 2 | AB | 2904 | U | N1-C2-O2 | 6.34 | 127.24 | 122.80 |
| 35 | BA | 547 | A | C5-N7-C8 | -6.34 | 100.73 | 103.90 |
| 35 | BA | 853 | C | C4-C5-C6 | 6.34 | 120.57 | 117.40 |
| 2 | AB | 561 | G | N3-C4-N9 | 6.34 | 129.80 | 126.00 |
| 2 | AB | 871 | U | C4'-C3'-C2' | -6.34 | 96.26 | 102.60 |
| 2 | AB | 1472 | C | C5-C4-N4 | -6.34 | 115.77 | 120.20 |
| 2 | AB | 1556 | C | N3-C4-N4 | 6.34 | 122.44 | 118.00 |
| 2 | AB | 1691 | C | C5'-C4'-O4' | 6.34 | 116.70 | 109.10 |
| 2 | AB | 2221 | G | C4-C5-N7 | -6.34 | 108.27 | 110.80 |
| 2 | AB | 2389 | G | N7-C8-N9 | 6.34 | 116.27 | 113.10 |
| 2 | AB | 2448 | A | N3-C4-N9 | 6.34 | 132.47 | 127.40 |
| 35 | BA | 110 | C | O5'-C5'-C4' | -6.34 | 99.66 | 111.70 |
| 35 | BA | 241 | G | C5-C6-N1 | 6.34 | 114.67 | 111.50 |
| 35 | BA | 261 | U | N1-C2-O2 | 6.34 | 127.23 | 122.80 |
| 35 | BA | 373 | A | C5-C6-N6 | -6.34 | 118.63 | 123.70 |
| 35 | BA | 529 | G | N1-C2-N3 | -6.34 | 120.10 | 123.90 |
| 35 | BA | 650 | G | O4'-C4'-C3' | 6.34 | 111.17 | 106.10 |
| 35 | BA | 697 | U | C5'-C4'-O4' | 6.34 | 116.70 | 109.10 |
| 35 | BA | 1374 | A | C1'-O4'-C4' | -6.34 | 104.83 | 109.90 |
| 35 | BA | 1513 | A | C5-C6-N1 | 6.34 | 120.87 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 50 | BP | 51 | PRO | N-CA-CB | 6.34 | 110.90 | 103.30 |
| 1 | AA | 109 | A | N3-C4-C5 | -6.33 | 122.37 | 126.80 |
| 2 | AB | 608 | A | N9-C4-C5 | -6.33 | 103.27 | 105.80 |
| 2 | AB | 1655 | A | C5'-C4'-O4' | 6.33 | 116.70 | 109.10 |
| 2 | AB | 2016 | U | O4'-C1'-N1 | 6.33 | 113.27 | 108.20 |
| 2 | AB | 2209 | G | C3'-C2'-C1' | -6.33 | 96.43 | 101.50 |
| 2 | AB | 2773 | C | C1'-O4'-C4' | -6.33 | 104.83 | 109.90 |
| 35 | BA | 648 | A | C4-C5-N7 | 6.33 | 113.87 | 110.70 |
| 35 | BA | 1255 | G | N3-C4-C5 | -6.33 | 125.43 | 128.60 |
| 2 | AB | 13 | A | C2-N3-C4 | 6.33 | 113.77 | 110.60 |
| 2 | AB | 1032 | A | C6-C5-N7 | 6.33 | 136.73 | 132.30 |
| 2 | AB | 1295 | C | C5-C6-N1 | -6.33 | 117.83 | 121.00 |
| 2 | AB | 1337 | G | P-O3'-C3' | 6.33 | 127.30 | 119.70 |
| 2 | AB | 1373 | A | C3'-C2'-C1' | -6.33 | 96.43 | 101.50 |
| 2 | AB | 1573 | G | C5'-C4'-O4' | 6.33 | 116.70 | 109.10 |
| 2 | AB | 1676 | A | C5-C6-N6 | -6.33 | 118.63 | 123.70 |
| 2 | AB | 1906 | G | C6-N1-C2 | -6.33 | 121.30 | 125.10 |
| 2 | AB | 2095 | A | C4-C5-N7 | 6.33 | 113.87 | 110.70 |
| 2 | AB | 2348 | U | N1-C2-O2 | -6.33 | 118.37 | 122.80 |
| 35 | BA | 553 | A | C2-N3-C4 | 6.33 | 113.77 | 110.60 |
| 35 | BA | 627 | G | C1'-O4'-C4' | -6.33 | 104.83 | 109.90 |
| 35 | BA | 1234 | C | O4'-C1'-N1 | 6.33 | 113.27 | 108.20 |
| 36 | BB | 20 | G | C6-C5-N7 | -6.33 | 126.60 | 130.40 |
| 2 | AB | 93 | G | C3'-C2'-C1' | -6.33 | 96.43 | 101.50 |
| 2 | AB | 385 | C | O4'-C1'-N1 | 6.33 | 113.27 | 108.20 |
| 2 | AB | 683 | U | N3-C4-C5 | 6.33 | 118.40 | 114.60 |
| 2 | AB | 738 | G | P-O3'-C3' | 6.33 | 127.30 | 119.70 |
| 2 | AB | 1379 | U | O4'-C1'-N1 | 6.33 | 113.27 | 108.20 |
| 2 | AB | 1930 | G | C4'-C3'-C2' | -6.33 | 96.27 | 102.60 |
| 2 | AB | 2376 | A | C5-N7-C8 | -6.33 | 100.73 | 103.90 |
| 2 | AB | 2401 | U | N3-C2-O2 | -6.33 | 117.77 | 122.20 |
| 5 | AE | 124 | ARG | NE-CZ-NH2 | 6.33 | 123.47 | 120.30 |
| 6 | AF | 16 | GLU | OE1-CD-OE2 | 6.33 | 130.90 | 123.30 |
| 35 | BA | 237 | G | C6-C5-N7 | -6.33 | 126.60 | 130.40 |
| 35 | BA | 429 | U | N3-C4-O4 | 6.33 | 123.83 | 119.40 |
| 35 | BA | 849 | G | C2-N3-C4 | 6.33 | 115.07 | 111.90 |
| 35 | BA | 1264 | U | N3-C4-O4 | 6.33 | 123.83 | 119.40 |
| 2 | AB | 422 | A | C5-C6-N6 | -6.33 | 118.64 | 123.70 |
| 2 | AB | 1195 | G | P-O3'-C3' | 6.33 | 127.30 | 119.70 |
| 2 | AB | 1327 | A | O4'-C1'-N9 | 6.33 | 113.26 | 108.20 |
| 35 | BA | 825 | A | C8-N9-C4 | 6.33 | 108.33 | 105.80 |
| 35 | BA | 1120 | C | C4-C5-C6 | -6.33 | 114.23 | 117.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1095 | A | C5-N7-C8 | 6.33 | 107.06 | 103.90 |
| 2 | AB | 1119 | U | C5-C4-O4 | 6.33 | 129.70 | 125.90 |
| 2 | AB | 1706 | C | O4'-C1'-C2' | -6.33 | 99.47 | 105.80 |
| 2 | AB | 2684 | U | C5'-C4'-O4' | 6.33 | 116.69 | 109.10 |
| 35 | BA | 537 | G | P-O3'-C3' | 6.33 | 127.30 | 119.70 |
| 35 | BA | 606 | G | N9-C1'-C2' | -6.33 | 105.04 | 112.00 |
| 35 | BA | 724 | G | N3-C4-C5 | 6.33 | 131.76 | 128.60 |
| 35 | BA | 1192 | C | O4'-C1'-N1 | 6.33 | 113.26 | 108.20 |
| 36 | BB | 48 | C | C5-C4-N4 | -6.33 | 115.77 | 120.20 |
| 37 | BC | 74 | A | N1-C2-N3 | -6.33 | 126.14 | 129.30 |
| 2 | AB | 695 | G | N7-C8-N9 | -6.33 | 109.94 | 113.10 |
| 2 | AB | 1272 | A | N3-C4-N9 | -6.33 | 122.34 | 127.40 |
| 2 | AB | 1498 | C | C4-C5-C6 | -6.33 | 114.24 | 117.40 |
| 2 | AB | 1725 | U | C4-C5-C6 | 6.33 | 123.50 | 119.70 |
| 2 | AB | 1816 | C | P-O5'-C5' | 6.33 | 131.02 | 120.90 |
| 2 | AB | 1978 | A | C5'-C4'-O4' | 6.33 | 116.69 | 109.10 |
| 2 | AB | 2743 | U | O4'-C1'-N1 | 6.33 | 113.26 | 108.20 |
| 35 | BA | 601 | G | N1-C6-O6 | -6.33 | 116.10 | 119.90 |
| 35 | BA | 1281 | C | C5-C6-N1 | 6.33 | 124.16 | 121.00 |
| 2 | AB | 935 | C | C3'-C2'-C1' | 6.33 | 106.56 | 101.50 |
| 2 | AB | 1210 | G | C5-N7-C8 | 6.33 | 107.46 | 104.30 |
| 2 | AB | 1843 | C | N1-C1'-C2' | -6.33 | 105.04 | 112.00 |
| 2 | AB | 2744 | G | C8-N9-C4 | 6.33 | 108.93 | 106.40 |
| 2 | AB | 2779 | U | C5-C6-N1 | -6.33 | 119.54 | 122.70 |
| 2 | AB | 2831 | G | O4'-C1'-N9 | 6.33 | 113.26 | 108.20 |
| 35 | BA | 25 | C | C5'-C4'-O4' | 6.33 | 116.69 | 109.10 |
| 35 | BA | 47 | C | N1-C2-N3 | -6.33 | 114.77 | 119.20 |
| 35 | BA | 112 | G | O4'-C1'-N9 | 6.33 | 113.26 | 108.20 |
| 35 | BA | 1409 | C | C5-C6-N1 | 6.33 | 124.16 | 121.00 |
| 2 | AB | 404 | A | C4-C5-C6 | -6.32 | 113.84 | 117.00 |
| 2 | AB | 519 | U | C6-N1-C2 | -6.32 | 117.21 | 121.00 |
| 2 | AB | 1191 | G | C5'-C4'-O4' | 6.32 | 116.69 | 109.10 |
| 2 | AB | 1459 | G | C5-C6-O6 | -6.32 | 124.81 | 128.60 |
| 2 | AB | 2741 | A | P-O3'-C3' | 6.32 | 127.29 | 119.70 |
| 35 | BA | 217 | C | N3-C2-O2 | -6.32 | 117.47 | 121.90 |
| 2 | AB | 2093 | G | C6-C5-N7 | -6.32 | 126.61 | 130.40 |
| 2 | AB | 2557 | G | C6-N1-C2 | -6.32 | 121.31 | 125.10 |
| 35 | BA | 942 | G | N7-C8-N9 | 6.32 | 116.26 | 113.10 |
| 35 | BA | 1233 | G | N9-C4-C5 | 6.32 | 107.93 | 105.40 |
| 35 | BA | 1339 | A | C5'-C4'-O4' | 6.32 | 116.69 | 109.10 |
| 35 | BA | 1527 | U | C3'-C2'-C1' | 6.32 | 106.56 | 101.50 |
| 37 | BC | 51 | U | P-O5'-C5' | 6.32 | 131.02 | 120.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 15 | G | C3'-C2'-C1' | 6.32 | 106.56 | 101.50 |
| 2 | AB | 878 | A | N1-C2-N3 | -6.32 | 126.14 | 129.30 |
| 2 | AB | 978 | G | C4-C5-N7 | -6.32 | 108.27 | 110.80 |
| 2 | AB | 1654 | A | N9-C4-C5 | 6.32 | 108.33 | 105.80 |
| 2 | AB | 2583 | G | C5-C6-O6 | -6.32 | 124.81 | 128.60 |
| 35 | BA | 46 | G | C2-N3-C4 | 6.32 | 115.06 | 111.90 |
| 35 | BA | 411 | A | C5-N7-C8 | 6.32 | 107.06 | 103.90 |
| 35 | BA | 486 | U | C2-N3-C4 | -6.32 | 123.21 | 127.00 |
| 35 | BA | 767 | A | C8-N9-C4 | -6.32 | 103.27 | 105.80 |
| 35 | BA | 1487 | G | N3-C2-N2 | 6.32 | 124.32 | 119.90 |
| 2 | AB | 636 | G | C5-C6-O6 | -6.32 | 124.81 | 128.60 |
| 2 | AB | 1297 | C | N3-C4-C5 | -6.32 | 119.37 | 121.90 |
| 2 | AB | 2281 | A | N9-C4-C5 | -6.32 | 103.27 | 105.80 |
| 2 | AB | 2470 | G | N3-C2-N2 | -6.32 | 115.48 | 119.90 |
| 35 | BA | 141 | G | C2-N3-C4 | 6.32 | 115.06 | 111.90 |
| 35 | BA | 1416 | G | O4'-C1'-N9 | 6.32 | 113.25 | 108.20 |
| 2 | AB | 1121 | C | C2-N3-C4 | 6.32 | 123.06 | 119.90 |
| 2 | AB | 1511 | G | N3-C2-N2 | -6.32 | 115.48 | 119.90 |
| 2 | AB | 1645 | G | N9-C4-C5 | 6.32 | 107.93 | 105.40 |
| 2 | AB | 1766 | G | C2-N3-C4 | 6.32 | 115.06 | 111.90 |
| 2 | AB | 2071 | A | N1-C6-N6 | -6.32 | 114.81 | 118.60 |
| 2 | AB | 2664 | G | N9-C4-C5 | 6.32 | 107.93 | 105.40 |
| 35 | BA | 506 | G | C4-C5-C6 | -6.32 | 115.01 | 118.80 |
| 35 | BA | 649 | A | N9-C4-C5 | 6.32 | 108.33 | 105.80 |
| 35 | BA | 694 | A | N3-C4-N9 | 6.32 | 132.45 | 127.40 |
| 35 | BA | 958 | A | C6-C5-N7 | -6.32 | 127.88 | 132.30 |
| 2 | AB | 15 | G | C4'-C3'-C2' | -6.32 | 96.28 | 102.60 |
| 2 | AB | 471 | A | C4-C5-N7 | 6.32 | 113.86 | 110.70 |
| 2 | AB | 583 | G | N1-C2-N3 | -6.32 | 120.11 | 123.90 |
| 2 | AB | 981 | A | N3-C4-C5 | -6.32 | 122.38 | 126.80 |
| 2 | AB | 1284 | A | C4-C5-N7 | -6.32 | 107.54 | 110.70 |
| 2 | AB | 1425 | G | N1-C6-O6 | -6.32 | 116.11 | 119.90 |
| 2 | AB | 1624 | U | O4'-C1'-N1 | 6.32 | 113.25 | 108.20 |
| 2 | AB | 1772 | A | N7-C8-N9 | -6.32 | 110.64 | 113.80 |
| 2 | AB | 2205 | A | C5'-C4'-C3' | -6.32 | 105.90 | 116.00 |
| 35 | BA | 292 | G | C5-C6-N1 | 6.32 | 114.66 | 111.50 |
| 35 | BA | 606 | G | C5-N7-C8 | 6.32 | 107.46 | 104.30 |
| 35 | BA | 890 | G | N3-C4-C5 | -6.32 | 125.44 | 128.60 |
| 35 | BA | 1013 | G | N1-C6-O6 | -6.32 | 116.11 | 119.90 |
| 35 | BA | 1227 | A | C4-C5-N7 | -6.32 | 107.54 | 110.70 |
| 2 | AB | 1420 | A | C8-N9-C4 | 6.31 | 108.33 | 105.80 |
| 14 | AN | 58 | TYR | CG-CD1-CE1 | -6.31 | 116.25 | 121.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 587 | G | C8-N9-C4 | -6.31 | 103.88 | 106.40 |
| 35 | BA | 776 | G | N3-C2-N2 | 6.31 | 124.32 | 119.90 |
| 35 | BA | 780 | A | O4'-C1'-C2' | 6.31 | 113.28 | 107.60 |
| 35 | BA | 1018 | G | N9-C1'-C2' | -6.31 | 105.06 | 112.00 |
| 35 | BA | 1211 | U | C3'-C2'-C1' | 6.31 | 106.55 | 101.50 |
| 35 | BA | 1287 | A | C8-N9-C4 | -6.31 | 103.27 | 105.80 |
| 35 | BA | 1458 | G | C5-C6-N1 | 6.31 | 114.66 | 111.50 |
| 2 | AB | 375 | G | C1'-O4'-C4' | 6.31 | 114.95 | 109.90 |
| 2 | AB | 529 | A | C5-C6-N6 | 6.31 | 128.75 | 123.70 |
| 2 | AB | 1020 | A | N1-C6-N6 | 6.31 | 122.39 | 118.60 |
| 2 | AB | 1465 | G | C4-C5-N7 | 6.31 | 113.33 | 110.80 |
| 2 | AB | 2022 | U | C5'-C4'-O4' | -6.31 | 101.53 | 109.10 |
| 2 | AB | 2464 | G | C5-C6-O6 | -6.31 | 124.81 | 128.60 |
| 2 | AB | 2798 | U | C3'-C2'-C1' | 6.31 | 106.55 | 101.50 |
| 35 | BA | 1210 | C | N1-C2-O2 | 6.31 | 122.69 | 118.90 |
| 35 | BA | 1244 | G | N1-C2-N3 | 6.31 | 127.69 | 123.90 |
| 2 | AB | 1532 | A | O4'-C1'-N9 | 6.31 | 113.25 | 108.20 |
| 35 | BA | 219 | U | N1-C2-N3 | 6.31 | 118.69 | 114.90 |
| 35 | BA | 285 | C | C4'-C3'-C2' | -6.31 | 96.29 | 102.60 |
| 35 | BA | 585 | G | C2-N3-C4 | 6.31 | 115.06 | 111.90 |
| 35 | BA | 687 | A | O4'-C1'-N9 | -6.31 | 103.15 | 108.20 |
| 35 | BA | 1284 | C | C6-N1-C2 | -6.31 | 117.78 | 120.30 |
| 1 | AA | 10 | G | N1-C6-O6 | 6.31 | 123.69 | 119.90 |
| 2 | AB | 458 | G | C5'-C4'-O4' | 6.31 | 116.67 | 109.10 |
| 2 | AB | 1125 | G | N1-C2-N3 | -6.31 | 120.11 | 123.90 |
| 2 | AB | 1826 | G | O4'-C1'-N9 | 6.31 | 113.25 | 108.20 |
| 2 | AB | 2385 | C | N3-C4-C5 | -6.31 | 119.38 | 121.90 |
| 2 | AB | 2800 | A | C4'-C3'-C2' | 6.31 | 108.91 | 102.60 |
| 35 | BA | 491 | G | N9-C4-C5 | 6.31 | 107.92 | 105.40 |
| 35 | BA | 759 | A | P-O3'-C3' | 6.31 | 127.27 | 119.70 |
| 35 | BA | 930 | C | C3'-C2'-C1' | -6.31 | 96.45 | 101.50 |
| 35 | BA | 1030 | U | P-O3'-C3' | 6.31 | 127.27 | 119.70 |
| 35 | BA | 1221 | G | N9-C1'-C2' | -6.31 | 105.06 | 112.00 |
| 2 | AB | 1646 | C | C5-C4-N4 | -6.31 | 115.78 | 120.20 |
| 2 | AB | 1873 | G | O4'-C1'-N9 | 6.31 | 113.25 | 108.20 |
| 2 | AB | 1954 | G | O4'-C1'-N9 | 6.31 | 113.25 | 108.20 |
| 2 | AB | 2166 | U | C5'-C4'-C3' | -6.31 | 105.91 | 116.00 |
| 2 | AB | 2275 | C | C3'-C2'-C1' | 6.31 | 106.55 | 101.50 |
| 2 | AB | 2551 | C | O4'-C1'-N1 | 6.31 | 113.25 | 108.20 |
| 2 | AB | 2680 | U | C5-C6-N1 | -6.31 | 119.55 | 122.70 |
| 2 | AB | 2769 | U | C4-C5-C6 | 6.31 | 123.48 | 119.70 |
| 2 | AB | 2800 | A | C4-C5-N7 | -6.31 | 107.55 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 101 | A | C5'-C4'-O4' | 6.31 | 116.67 | 109.10 |
| 35 | BA | 273 | U | C6-N1-C2 | -6.31 | 117.22 | 121.00 |
| 35 | BA | 1195 | C | N3-C2-O2 | 6.31 | 126.31 | 121.90 |
| 35 | BA | 1293 | C | C5-C6-N1 | 6.31 | 124.15 | 121.00 |
| 54 | BT | 5 | ARG | NE-CZ-NH2 | -6.31 | 117.15 | 120.30 |
| 2 | AB | 1140 | C | N3-C4-N4 | 6.31 | 122.41 | 118.00 |
| 2 | AB | 1935 | G | C5-C6-O6 | 6.31 | 132.38 | 128.60 |
| 35 | BA | 688 | G | C6-C5-N7 | -6.31 | 126.62 | 130.40 |
| 35 | BA | 1183 | U | C4-C5-C6 | -6.31 | 115.92 | 119.70 |
| 35 | BA | 1231 | G | N1-C6-O6 | 6.31 | 123.68 | 119.90 |
| 35 | BA | 1266 | G | N3-C4-N9 | 6.31 | 129.78 | 126.00 |
| 2 | AB | 298 | G | N3-C4-N9 | 6.30 | 129.78 | 126.00 |
| 2 | AB | 517 | C | C2-N3-C4 | -6.30 | 116.75 | 119.90 |
| 2 | AB | 874 | G | C8-N9-C1' | 6.30 | 135.19 | 127.00 |
| 2 | AB | 990 | A | N9-C4-C5 | -6.30 | 103.28 | 105.80 |
| 2 | AB | 1252 | G | N1-C6-O6 | 6.30 | 123.68 | 119.90 |
| 2 | AB | 1706 | C | N1-C2-O2 | 6.30 | 122.68 | 118.90 |
| 2 | AB | 2044 | C | C2-N3-C4 | 6.30 | 123.05 | 119.90 |
| 7 | AG | 101 | ARG | NE-CZ-NH2 | 6.30 | 123.45 | 120.30 |
| 14 | AN | 2 | ARG | NE-CZ-NH2 | -6.30 | 117.15 | 120.30 |
| 35 | BA | 767 | A | C4-C5-N7 | -6.30 | 107.55 | 110.70 |
| 2 | AB | 806 | C | O4'-C1'-N1 | 6.30 | 113.24 | 108.20 |
| 2 | AB | 1987 | A | N7-C8-N9 | 6.30 | 116.95 | 113.80 |
| 2 | AB | 2180 | U | C6-N1-C2 | 6.30 | 124.78 | 121.00 |
| 24 | AX | 84 | PRO | CA-N-CD | -6.30 | 102.68 | 111.50 |
| 35 | BA | 374 | A | C2-N3-C4 | -6.30 | 107.45 | 110.60 |
| 35 | BA | 1500 | A | N1-C2-N3 | -6.30 | 126.15 | 129.30 |
| 1 | AA | 76 | G | C6-C5-N7 | 6.30 | 134.18 | 130.40 |
| 2 | AB | 391 | A | C5-N7-C8 | 6.30 | 107.05 | 103.90 |
| 2 | AB | 484 | C | O4'-C1'-N1 | 6.30 | 113.24 | 108.20 |
| 2 | AB | 555 | G | N3-C4-C5 | -6.30 | 125.45 | 128.60 |
| 2 | AB | 1456 | G | N9-C1'-C2' | -6.30 | 105.07 | 112.00 |
| 2 | AB | 2896 | C | N3-C4-C5 | 6.30 | 124.42 | 121.90 |
| 6 | AF | 61 | ARG | NE-CZ-NH2 | 6.30 | 123.45 | 120.30 |
| 35 | BA | 667 | G | C6-C5-N7 | -6.30 | 126.62 | 130.40 |
| 35 | BA | 739 | C | O4'-C1'-N1 | 6.30 | 113.24 | 108.20 |
| 35 | BA | 1267 | C | C2-N3-C4 | 6.30 | 123.05 | 119.90 |
| 37 | BC | 17 | C | C2-N1-C1' | 6.30 | 125.73 | 118.80 |
| 2 | AB | 708 | G | N9-C1'-C2' | -6.30 | 105.07 | 112.00 |
| 2 | AB | 788 | A | O4'-C4'-C3' | -6.30 | 97.70 | 104.00 |
| 2 | AB | 1127 | A | C5-N7-C8 | 6.30 | 107.05 | 103.90 |
| 2 | AB | 1735 | A | C4-C5-C6 | -6.30 | 113.85 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2320 | U | C2-N3-C4 | 6.30 | 130.78 | 127.00 |
| 2 | AB | 2453 | A | C5-C6-N6 | 6.30 | 128.74 | 123.70 |
| 35 | BA | 217 | C | C6-N1-C2 | 6.30 | 122.82 | 120.30 |
| 35 | BA | 698 | G | N1-C2-N3 | -6.30 | 120.12 | 123.90 |
| 35 | BA | 1164 | G | O4'-C1'-N9 | 6.30 | 113.24 | 108.20 |
| 2 | AB | 88 | G | N9-C1'-C2' | -6.30 | 105.07 | 112.00 |
| 2 | AB | 219 | A | N1-C6-N6 | 6.30 | 122.38 | 118.60 |
| 2 | AB | 445 | C | C6-N1-C2 | 6.30 | 122.82 | 120.30 |
| 2 | AB | 451 | U | P-O3'-C3' | 6.30 | 127.26 | 119.70 |
| 2 | AB | 478 | A | C2-N3-C4 | 6.30 | 113.75 | 110.60 |
| 2 | AB | 1059 | G | N3-C4-C5 | 6.30 | 131.75 | 128.60 |
| 2 | AB | 1453 | A | O4'-C1'-N9 | 6.30 | 113.24 | 108.20 |
| 2 | AB | 1932 | A | C6-N1-C2 | -6.30 | 114.82 | 118.60 |
| 2 | AB | 2867 | G | N3-C4-N9 | 6.30 | 129.78 | 126.00 |
| 35 | BA | 524 | G | N3-C4-C5 | -6.30 | 125.45 | 128.60 |
| 35 | BA | 880 | C | N1-C1'-C2' | -6.30 | 105.07 | 112.00 |
| 35 | BA | 993 | G | N7-C8-N9 | 6.30 | 116.25 | 113.10 |
| 35 | BA | 1130 | A | N1-C6-N6 | -6.30 | 114.82 | 118.60 |
| 1 | AA | 33 | G | N1-C2-N3 | 6.30 | 127.68 | 123.90 |
| 2 | AB | 62 | U | O4'-C4'-C3' | 6.30 | 111.14 | 106.10 |
| 2 | AB | 907 | G | N1-C2-N3 | -6.30 | 120.12 | 123.90 |
| 2 | AB | 1735 | A | O4'-C1'-N9 | 6.30 | 113.24 | 108.20 |
| 2 | AB | 1885 | A | C6-C5-N7 | -6.30 | 127.89 | 132.30 |
| 2 | AB | 1904 | G | C5-C6-O6 | -6.30 | 124.82 | 128.60 |
| 2 | AB | 1957 | C | N1-C1'-C2' | -6.30 | 105.07 | 112.00 |
| 2 | AB | 2203 | U | N3-C4-O4 | 6.30 | 123.81 | 119.40 |
| 2 | AB | 2513 | A | C5'-C4'-O4' | 6.30 | 116.66 | 109.10 |
| 35 | BA | 58 | C | C4'-C3'-C2' | -6.30 | 96.30 | 102.60 |
| 35 | BA | 283 | U | C2-N3-C4 | -6.30 | 123.22 | 127.00 |
| 35 | BA | 700 | G | C5-C6-O6 | 6.30 | 132.38 | 128.60 |
| 35 | BA | 760 | G | C8-N9-C4 | -6.30 | 103.88 | 106.40 |
| 35 | BA | 760 | G | N3-C4-C5 | -6.30 | 125.45 | 128.60 |
| 35 | BA | 962 | C | N3-C4-C5 | -6.30 | 119.38 | 121.90 |
| 35 | BA | 1305 | G | C4'-C3'-C2' | -6.30 | 96.30 | 102.60 |
| 2 | AB | 922 | C | C6-N1-C2 | -6.29 | 117.78 | 120.30 |
| 2 | AB | 1332 | G | C4-C5-N7 | 6.29 | 113.32 | 110.80 |
| 9 | AI | 47 | PHE | CB-CG-CD2 | -6.29 | 116.39 | 120.80 |
| 35 | BA | 926 | G | C6-C5-N7 | -6.29 | 126.62 | 130.40 |
| 1 | AA | 72 | G | N1-C2-N2 | 6.29 | 121.86 | 116.20 |
| 2 | AB | 146 | A | C4'-C3'-C2' | -6.29 | 96.31 | 102.60 |
| 2 | AB | 161 | A | C4-C5-N7 | -6.29 | 107.55 | 110.70 |
| 2 | AB | 614 | A | C4'-C3'-C2' | -6.29 | 96.31 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 886 | A | N1-C2-N3 | 6.29 | 132.45 | 129.30 |
| 2 | AB | 992 | C | C4'-C3'-C2' | -6.29 | 96.31 | 102.60 |
| 2 | AB | 1246 | A | N9-C1'-C2' | -6.29 | 105.08 | 112.00 |
| 2 | AB | 1475 | G | C4-C5-N7 | -6.29 | 108.28 | 110.80 |
| 2 | AB | 2237 | G | O4'-C4'-C3' | 6.29 | 111.14 | 106.10 |
| 2 | AB | 2635 | A | C6-C5-N7 | -6.29 | 127.89 | 132.30 |
| 35 | BA | 101 | A | C4-C5-N7 | -6.29 | 107.55 | 110.70 |
| 35 | BA | 1038 | C | N3-C2-O2 | -6.29 | 117.50 | 121.90 |
| 1 | AA | 106 | G | N1-C6-O6 | 6.29 | 123.67 | 119.90 |
| 2 | AB | 264 | C | N3-C4-N4 | 6.29 | 122.40 | 118.00 |
| 2 | AB | 563 | A | C6-N1-C2 | 6.29 | 122.37 | 118.60 |
| 2 | AB | 798 | G | C5-C6-O6 | -6.29 | 124.83 | 128.60 |
| 2 | AB | 1641 | A | N1-C6-N6 | -6.29 | 114.83 | 118.60 |
| 2 | AB | 2027 | G | C4'-C3'-C2' | -6.29 | 96.31 | 102.60 |
| 2 | AB | 2222 | C | O4'-C1'-N1 | 6.29 | 113.23 | 108.20 |
| 2 | AB | 2883 | A | N9-C4-C5 | 6.29 | 108.32 | 105.80 |
| 35 | BA | 54 | C | C4-C5-C6 | -6.29 | 114.25 | 117.40 |
| 35 | BA | 478 | A | C5-N7-C8 | 6.29 | 107.05 | 103.90 |
| 35 | BA | 504 | C | C6-N1-C2 | -6.29 | 117.78 | 120.30 |
| 35 | BA | 877 | G | N1-C6-O6 | 6.29 | 123.67 | 119.90 |
| 35 | BA | 1248 | A | C4'-C3'-C2' | -6.29 | 96.31 | 102.60 |
| 35 | BA | 1316 | G | C5'-C4'-O4' | 6.29 | 116.65 | 109.10 |
| 1 | AA | 28 | C | O5'-P-OP2 | -6.29 | 100.04 | 105.70 |
| 2 | AB | 190 | A | C5-N7-C8 | -6.29 | 100.75 | 103.90 |
| 35 | BA | 50 | A | C4-C5-C6 | -6.29 | 113.86 | 117.00 |
| 35 | BA | 117 | G | C5'-C4'-O4' | 6.29 | 116.65 | 109.10 |
| 35 | BA | 401 | C | N1-C2-O2 | 6.29 | 122.67 | 118.90 |
| 2 | AB | 1047 | G | N3-C4-C5 | -6.29 | 125.46 | 128.60 |
| 2 | AB | 1051 | G | C4-C5-N7 | -6.29 | 108.28 | 110.80 |
| 2 | AB | 1282 | U | N3-C2-O2 | -6.29 | 117.80 | 122.20 |
| 2 | AB | 1410 | G | C6-C5-N7 | -6.29 | 126.63 | 130.40 |
| 2 | AB | 1681 | G | N3-C4-C5 | -6.29 | 125.46 | 128.60 |
| 2 | AB | 1794 | A | C6-N1-C2 | -6.29 | 114.83 | 118.60 |
| 2 | AB | 2009 | A | C8-N9-C4 | -6.29 | 103.28 | 105.80 |
| 2 | AB | 2341 | G | C4-C5-N7 | -6.29 | 108.28 | 110.80 |
| 35 | BA | 901 | A | C5'-C4'-O4' | 6.29 | 116.64 | 109.10 |
| 35 | BA | 995 | C | C6-N1-C2 | -6.29 | 117.78 | 120.30 |
| 35 | BA | 1404 | C | C2'-C3'-O3' | 6.29 | 123.76 | 113.70 |
| 1 | AA | 46 | A | C1'-O4'-C4' | -6.29 | 104.87 | 109.90 |
| 2 | AB | 709 | U | N1-C2-N3 | 6.29 | 118.67 | 114.90 |
| 2 | AB | 752 | A | N3-C4-N9 | 6.29 | 132.43 | 127.40 |
| 2 | AB | 1270 | C | N1-C1'-C2' | 6.29 | 122.17 | 114.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1435 | G | N9-C4-C5 | -6.29 | 102.89 | 105.40 |
| 2 | AB | 1905 | C | C4-C5-C6 | 6.29 | 120.54 | 117.40 |
| 2 | AB | 2529 | G | N1-C2-N3 | -6.29 | 120.13 | 123.90 |
| 35 | BA | 1394 | A | O4'-C1'-N9 | 6.29 | 113.23 | 108.20 |
| 35 | BA | 1505 | G | N1-C2-N2 | 6.29 | 121.86 | 116.20 |
| 2 | AB | 180 | G | C5'-C4'-O4' | 6.29 | 116.64 | 109.10 |
| 2 | AB | 180 | G | C5-C6-O6 | -6.29 | 124.83 | 128.60 |
| 2 | AB | 580 | U | C2-N3-C4 | -6.29 | 123.23 | 127.00 |
| 2 | AB | 1069 | A | C5-N7-C8 | -6.29 | 100.76 | 103.90 |
| 2 | AB | 1799 | G | N3-C4-C5 | -6.29 | 125.46 | 128.60 |
| 2 | AB | 1980 | G | C6-C5-N7 | -6.29 | 126.63 | 130.40 |
| 35 | BA | 664 | G | C4-C5-N7 | -6.29 | 108.29 | 110.80 |
| 35 | BA | 702 | A | C4-C5-N7 | -6.29 | 107.56 | 110.70 |
| 35 | BA | 1270 | G | N1-C2-N3 | -6.29 | 120.13 | 123.90 |
| 37 | BC | 18 | U | N1-C2-N3 | -6.29 | 111.13 | 114.90 |
| 2 | AB | 500 | G | C4-C5-C6 | 6.28 | 122.57 | 118.80 |
| 2 | AB | 914 | G | C4-C5-N7 | -6.28 | 108.29 | 110.80 |
| 2 | AB | 1854 | A | N1-C6-N6 | 6.28 | 122.37 | 118.60 |
| 2 | AB | 2355 | G | O5'-P-OP2 | -6.28 | 100.04 | 105.70 |
| 2 | AB | 2435 | A | N9-C4-C5 | 6.28 | 108.31 | 105.80 |
| 2 | AB | 2751 | G | N1-C6-O6 | -6.28 | 116.13 | 119.90 |
| 35 | BA | 712 | A | C5-C6-N1 | -6.28 | 114.56 | 117.70 |
| 2 | AB | 1027 | A | N1-C6-N6 | 6.28 | 122.37 | 118.60 |
| 2 | AB | 2652 | C | C5-C6-N1 | 6.28 | 124.14 | 121.00 |
| 30 | A3 | 39 | ARG | CD-NE-CZ | 6.28 | 132.40 | 123.60 |
| 35 | BA | 555 | U | C2-N3-C4 | -6.28 | 123.23 | 127.00 |
| 35 | BA | 1263 | C | O4'-C1'-N1 | 6.28 | 113.23 | 108.20 |
| 35 | BA | 1348 | U | C5'-C4'-O4' | 6.28 | 116.64 | 109.10 |
| 2 | AB | 452 | G | P-O5'-C5' | 6.28 | 130.95 | 120.90 |
| 2 | AB | 661 | A | C2-N3-C4 | 6.28 | 113.74 | 110.60 |
| 2 | AB | 682 | G | N3-C4-C5 | -6.28 | 125.46 | 128.60 |
| 2 | AB | 1114 | C | O4'-C4'-C3' | 6.28 | 111.12 | 106.10 |
| 2 | AB | 1232 | G | C5-N7-C8 | -6.28 | 101.16 | 104.30 |
| 2 | AB | 1523 | U | C6-N1-C2 | -6.28 | 117.23 | 121.00 |
| 2 | AB | 1532 | A | C2-N3-C4 | -6.28 | 107.46 | 110.60 |
| 2 | AB | 2542 | A | N1-C2-N3 | -6.28 | 126.16 | 129.30 |
| 2 | AB | 2595 | G | N9-C1'-C2' | -6.28 | 105.09 | 112.00 |
| 2 | AB | 2661 | G | C5-C6-N1 | 6.28 | 114.64 | 111.50 |
| 7 | AG | 122 | ASP | CB-CG-OD2 | -6.28 | 112.65 | 118.30 |
| 35 | BA | 941 | G | N9-C1'-C2' | -6.28 | 105.09 | 112.00 |
| 35 | BA | 1277 | C | O4'-C1'-N1 | 6.28 | 113.22 | 108.20 |
| 2 | AB | 1397 | U | C6-N1-C2 | 6.28 | 124.77 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1565 | C | O3'-P-O5' | -6.28 | 92.07 | 104.00 |
| 2 | AB | 2147 | A | N1-C6-N6 | -6.28 | 114.83 | 118.60 |
| 2 | AB | 2148 | G | C6-N1-C2 | -6.28 | 121.33 | 125.10 |
| 35 | BA | 1144 | G | O4'-C1'-N9 | 6.28 | 113.22 | 108.20 |
| 2 | AB | 25 | U | N1-C2-N3 | 6.28 | 118.67 | 114.90 |
| 2 | AB | 41 | C | O4'-C4'-C3' | -6.28 | 97.72 | 104.00 |
| 2 | AB | 327 | G | C5-C6-O6 | -6.28 | 124.83 | 128.60 |
| 2 | AB | 1384 | A | O4'-C4'-C3' | 6.28 | 111.12 | 106.10 |
| 2 | AB | 1590 | A | C2-N3-C4 | 6.28 | 113.74 | 110.60 |
| 2 | AB | 2238 | G | C5'-C4'-O4' | 6.28 | 116.63 | 109.10 |
| 2 | AB | 2265 | U | N3-C4-C5 | -6.28 | 110.83 | 114.60 |
| 2 | AB | 2317 | A | N7-C8-N9 | -6.28 | 110.66 | 113.80 |
| 2 | AB | 2331 | G | C6-N1-C2 | -6.28 | 121.33 | 125.10 |
| 2 | AB | 2475 | C | N1-C1'-C2' | 6.28 | 122.16 | 114.00 |
| 2 | AB | 2821 | A | N9-C4-C5 | 6.28 | 108.31 | 105.80 |
| 35 | BA | 286 | C | N1-C2-N3 | -6.28 | 114.81 | 119.20 |
| 35 | BA | 1016 | A | N9-C1'-C2' | -6.28 | 105.10 | 112.00 |
| 35 | BA | 1452 | C | C2-N3-C4 | 6.28 | 123.04 | 119.90 |
| 36 | BB | 46 | C | N3-C2-O2 | -6.28 | 117.51 | 121.90 |
| 2 | AB | 221 | A | O4'-C1'-N9 | 6.28 | 113.22 | 108.20 |
| 2 | AB | 388 | G | P-O3'-C3' | 6.28 | 127.23 | 119.70 |
| 2 | AB | 1049 | C | C5-C6-N1 | 6.28 | 124.14 | 121.00 |
| 2 | AB | 1694 | C | C2-N3-C4 | 6.28 | 123.04 | 119.90 |
| 2 | AB | 1825 | U | O4'-C1'-N1 | 6.28 | 113.22 | 108.20 |
| 2 | AB | 2183 | A | C4'-C3'-C2' | -6.28 | 96.33 | 102.60 |
| 2 | AB | 2199 | A | C5-C6-N1 | 6.28 | 120.84 | 117.70 |
| 2 | AB | 2374 | C | C4-C5-C6 | -6.28 | 114.26 | 117.40 |
| 35 | BA | 36 | C | C4'-C3'-C2' | -6.28 | 96.32 | 102.60 |
| 35 | BA | 48 | C | O4'-C1'-N1 | 6.28 | 113.22 | 108.20 |
| 35 | BA | 149 | A | C4-C5-C6 | 6.28 | 120.14 | 117.00 |
| 35 | BA | 158 | G | N7-C8-N9 | 6.28 | 116.24 | 113.10 |
| 35 | BA | 234 | C | O4'-C1'-N1 | 6.28 | 113.22 | 108.20 |
| 35 | BA | 619 | U | C4-C5-C6 | 6.28 | 123.47 | 119.70 |
| 35 | BA | 684 | U | C2-N3-C4 | -6.28 | 123.23 | 127.00 |
| 35 | BA | 715 | A | C2-N3-C4 | -6.28 | 107.46 | 110.60 |
| 35 | BA | 814 | A | C2-N3-C4 | 6.28 | 113.74 | 110.60 |
| 35 | BA | 836 | G | C2-N3-C4 | 6.28 | 115.04 | 111.90 |
| 35 | BA | 1110 | A | C3'-C2'-C1' | -6.28 | 96.48 | 101.50 |
| 35 | BA | 1154 | G | C2-N3-C4 | 6.28 | 115.04 | 111.90 |
| 35 | BA | 1404 | C | C5-C4-N4 | 6.28 | 124.59 | 120.20 |
| 2 | AB | 202 | U | C5'-C4'-O4' | 6.27 | 116.63 | 109.10 |
| 2 | AB | 1273 | U | C5-C4-O4 | -6.27 | 122.14 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2839 | G | C8-N9-C4 | -6.27 | 103.89 | 106.40 |
| 14 | AN | 119 | PRO | N-CA-CB | 6.27 | 110.83 | 103.30 |
| 2 | AB | 153 | U | O4'-C1'-N1 | 6.27 | 113.22 | 108.20 |
| 2 | AB | 425 | G | C6-N1-C2 | 6.27 | 128.86 | 125.10 |
| 2 | AB | 1620 | G | C6-N1-C2 | -6.27 | 121.34 | 125.10 |
| 2 | AB | 2026 | U | N1-C2-O2 | 6.27 | 127.19 | 122.80 |
| 2 | AB | 2230 | G | C5'-C4'-O4' | 6.27 | 116.63 | 109.10 |
| 35 | BA | 35 | G | C6-N1-C2 | -6.27 | 121.34 | 125.10 |
| 35 | BA | 400 | C | N3-C4-N4 | 6.27 | 122.39 | 118.00 |
| 35 | BA | 514 | C | C6-N1-C2 | 6.27 | 122.81 | 120.30 |
| 35 | BA | 535 | A | C6-C5-N7 | 6.27 | 136.69 | 132.30 |
| 35 | BA | 871 | U | N1-C2-O2 | 6.27 | 127.19 | 122.80 |
| 35 | BA | 885 | G | C2-N3-C4 | 6.27 | 115.04 | 111.90 |
| 35 | BA | 1038 | C | C4'-C3'-C2' | -6.27 | 96.33 | 102.60 |
| 1 | AA | 35 | C | C5'-C4'-C3' | -6.27 | 105.97 | 116.00 |
| 2 | AB | 797 | G | C4-C5-C6 | 6.27 | 122.56 | 118.80 |
| 2 | AB | 2270 | A | C8-N9-C4 | -6.27 | 103.29 | 105.80 |
| 35 | BA | 335 | C | N1-C2-O2 | 6.27 | 122.66 | 118.90 |
| 35 | BA | 869 | G | C5'-C4'-C3' | -6.27 | 105.97 | 116.00 |
| 2 | AB | 162 | U | O3'-P-O5' | -6.27 | 92.09 | 104.00 |
| 2 | AB | 258 | G | N1-C2-N3 | 6.27 | 127.66 | 123.90 |
| 2 | AB | 527 | C | N3-C2-O2 | -6.27 | 117.51 | 121.90 |
| 2 | AB | 975 | A | C4-C5-C6 | -6.27 | 113.86 | 117.00 |
| 2 | AB | 1263 | U | C6-N1-C2 | -6.27 | 117.24 | 121.00 |
| 2 | AB | 1867 | G | C8-N9-C4 | -6.27 | 103.89 | 106.40 |
| 2 | AB | 2138 | G | C8-N9-C4 | -6.27 | 103.89 | 106.40 |
| 2 | AB | 2306 | C | C5-C6-N1 | -6.27 | 117.87 | 121.00 |
| 2 | AB | 2659 | G | N9-C4-C5 | 6.27 | 107.91 | 105.40 |
| 35 | BA | 216 | U | O4'-C1'-N1 | 6.27 | 113.22 | 108.20 |
| 35 | BA | 237 | G | C3'-C2'-C1' | -6.27 | 96.48 | 101.50 |
| 35 | BA | 260 | G | O4'-C1'-N9 | 6.27 | 113.22 | 108.20 |
| 35 | BA | 300 | A | C4'-C3'-C2' | -6.27 | 96.33 | 102.60 |
| 35 | BA | 783 | C | C5-C6-N1 | 6.27 | 124.14 | 121.00 |
| 35 | BA | 862 | C | C5-C4-N4 | -6.27 | 115.81 | 120.20 |
| 35 | BA | 1141 | C | N1-C2-N3 | -6.27 | 114.81 | 119.20 |
| 36 | BB | 13 | A | N3-C4-N9 | -6.27 | 122.39 | 127.40 |
| 42 | BH | 44 | ARG | NE-CZ-NH2 | -6.27 | 117.17 | 120.30 |
| 2 | AB | 1708 | C | N3-C2-O2 | -6.27 | 117.51 | 121.90 |
| 2 | AB | 2211 | A | O4'-C1'-N9 | -6.27 | 103.19 | 108.20 |
| 2 | AB | 2227 | A | C6-C5-N7 | -6.27 | 127.91 | 132.30 |
| 2 | AB | 2264 | C | C5-C6-N1 | 6.27 | 124.13 | 121.00 |
| 2 | AB | 2340 | A | C2-N3-C4 | 6.27 | 113.73 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 85 | U | C5-C6-N1 | -6.27 | 119.57 | 122.70 |
| 35 | BA | 520 | A | C5-C6-N1 | 6.27 | 120.83 | 117.70 |
| 35 | BA | 564 | C | N3-C4-C5 | -6.27 | 119.39 | 121.90 |
| 35 | BA | 906 | A | N3-C4-C5 | -6.27 | 122.41 | 126.80 |
| 35 | BA | 982 | U | N3-C2-O2 | -6.27 | 117.81 | 122.20 |
| 35 | BA | 1222 | G | C5-N7-C8 | 6.27 | 107.43 | 104.30 |
| 37 | BC | 17 | C | C6-N1-C1' | -6.27 | 113.28 | 120.80 |
| 37 | BC | 19 | G | N1-C6-O6 | -6.27 | 116.14 | 119.90 |
| 2 | AB | 411 | G | N1-C2-N2 | 6.27 | 121.84 | 116.20 |
| 2 | AB | 466 | A | C8-N9-C4 | 6.27 | 108.31 | 105.80 |
| 2 | AB | 859 | G | C6-N1-C2 | 6.27 | 128.86 | 125.10 |
| 35 | BA | 317 | U | P-O3'-C3' | 6.27 | 127.22 | 119.70 |
| 35 | BA | 1362 | A | C5-N7-C8 | -6.27 | 100.77 | 103.90 |
| 2 | AB | 480 | A | C5-N7-C8 | 6.26 | 107.03 | 103.90 |
| 2 | AB | 1033 | U | N3-C4-O4 | 6.26 | 123.78 | 119.40 |
| 2 | AB | 1223 | G | C4-C5-C6 | 6.26 | 122.56 | 118.80 |
| 2 | AB | 2168 | G | C8-N9-C4 | -6.26 | 103.89 | 106.40 |
| 2 | AB | 2320 | U | C2'-C3'-O3' | 6.26 | 123.72 | 113.70 |
| 26 | AZ | 19 | HIS | CA-CB-CG | 6.26 | 124.25 | 113.60 |
| 35 | BA | 327 | A | C6-N1-C2 | 6.26 | 122.36 | 118.60 |
| 35 | BA | 664 | G | C6-N1-C2 | -6.26 | 121.34 | 125.10 |
| 35 | BA | 1088 | G | N3-C4-C5 | -6.26 | 125.47 | 128.60 |
| 35 | BA | 1145 | A | N9-C1'-C2' | -6.26 | 105.11 | 112.00 |
| 2 | AB | 185 | G | N3-C2-N2 | -6.26 | 115.52 | 119.90 |
| 2 | AB | 300 | A | N9-C1'-C2' | -6.26 | 105.11 | 112.00 |
| 2 | AB | 532 | A | C8-N9-C4 | -6.26 | 103.30 | 105.80 |
| 2 | AB | 890 | C | P-O3'-C3' | 6.26 | 127.22 | 119.70 |
| 2 | AB | 1663 | G | C6-N1-C2 | 6.26 | 128.86 | 125.10 |
| 35 | BA | 442 | G | C1'-O4'-C4' | -6.26 | 104.89 | 109.90 |
| 35 | BA | 478 | A | N7-C8-N9 | -6.26 | 110.67 | 113.80 |
| 35 | BA | 507 | C | N3-C2-O2 | -6.26 | 117.52 | 121.90 |
| 35 | BA | 540 | G | C8-N9-C4 | -6.26 | 103.89 | 106.40 |
| 35 | BA | 859 | G | C5'-C4'-O4' | 6.26 | 116.62 | 109.10 |
| 35 | BA | 1422 | G | N9-C4-C5 | -6.26 | 102.89 | 105.40 |
| 2 | AB | 76 | C | O4'-C1'-N1 | 6.26 | 113.21 | 108.20 |
| 2 | AB | 324 | A | C5-C6-N6 | -6.26 | 118.69 | 123.70 |
| 2 | AB | 2134 | A | N1-C2-N3 | 6.26 | 132.43 | 129.30 |
| 2 | AB | 2407 | A | C4-C5-N7 | 6.26 | 113.83 | 110.70 |
| 10 | AJ | 152 | ARG | NE-CZ-NH2 | -6.26 | 117.17 | 120.30 |
| 35 | BA | 931 | C | O4'-C1'-N1 | 6.26 | 113.21 | 108.20 |
| 35 | BA | 1084 | G | N3-C2-N2 | 6.26 | 124.28 | 119.90 |
| 2 | AB | 1097 | U | N3-C2-O2 | -6.26 | 117.82 | 122.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2735 | G | P-O3'-C3' | 6.26 | 127.21 | 119.70 |
| 35 | BA | 132 | C | N3-C4-C5 | -6.26 | 119.40 | 121.90 |
| 35 | BA | 278 | G | C2-N3-C4 | 6.26 | 115.03 | 111.90 |
| 35 | BA | 530 | G | N7-C8-N9 | 6.26 | 116.23 | 113.10 |
| 35 | BA | 650 | G | C5'-C4'-C3' | -6.26 | 105.98 | 116.00 |
| 35 | BA | 1153 | G | N7-C8-N9 | 6.26 | 116.23 | 113.10 |
| 35 | BA | 1289 | A | N1-C2-N3 | 6.26 | 132.43 | 129.30 |
| 35 | BA | 1350 | A | C6-N1-C2 | 6.26 | 122.36 | 118.60 |
| 50 | BP | 100 | TRP | CB-CG-CD2 | 6.26 | 134.74 | 126.60 |
| 2 | AB | 148 | U | C5-C6-N1 | -6.26 | 119.57 | 122.70 |
| 2 | AB | 846 | U | C4-C5-C6 | 6.26 | 123.45 | 119.70 |
| 2 | AB | 1651 | G | N7-C8-N9 | 6.26 | 116.23 | 113.10 |
| 35 | BA | 72 | A | C4'-C3'-C2' | -6.26 | 96.34 | 102.60 |
| 35 | BA | 125 | U | C5-C6-N1 | -6.26 | 119.57 | 122.70 |
| 35 | BA | 1230 | C | C5-C4-N4 | -6.26 | 115.82 | 120.20 |
| 2 | AB | 180 | G | C4-C5-N7 | 6.26 | 113.30 | 110.80 |
| 2 | AB | 583 | G | N1-C2-N2 | 6.26 | 121.83 | 116.20 |
| 2 | AB | 1849 | G | C5-C6-O6 | -6.26 | 124.85 | 128.60 |
| 2 | AB | 2375 | G | C8-N9-C4 | -6.26 | 103.90 | 106.40 |
| 35 | BA | 139 | A | C6-N1-C2 | -6.26 | 114.85 | 118.60 |
| 35 | BA | 538 | G | C6-N1-C2 | -6.26 | 121.35 | 125.10 |
| 35 | BA | 917 | G | N1-C6-O6 | -6.26 | 116.15 | 119.90 |
| 35 | BA | 1320 | C | N1-C2-O2 | 6.26 | 122.65 | 118.90 |
| 35 | BA | 1538 | C | C2-N3-C4 | 6.26 | 123.03 | 119.90 |
| 2 | AB | 19 | A | O4'-C1'-N9 | 6.25 | 113.20 | 108.20 |
| 2 | AB | 973 | A | C4'-C3'-C2' | -6.25 | 96.34 | 102.60 |
| 2 | AB | 2418 | A | N1-C6-N6 | -6.25 | 114.85 | 118.60 |
| 26 | AZ | 21 | LEU | CA-C-N | 6.25 | 130.96 | 117.20 |
| 35 | BA | 44 | A | C4'-C3'-C2' | -6.25 | 96.34 | 102.60 |
| 35 | BA | 208 | U | C4'-C3'-C2' | -6.25 | 96.34 | 102.60 |
| 36 | BB | 14 | G | O4'-C1'-N9 | 6.25 | 113.20 | 108.20 |
| 2 | AB | 448 | U | N1-C1'-C2' | 6.25 | 122.13 | 114.00 |
| 2 | AB | 1271 | G | C2-N3-C4 | -6.25 | 108.77 | 111.90 |
| 2 | AB | 2723 | C | N3-C4-N4 | 6.25 | 122.38 | 118.00 |
| 2 | AB | 2827 | C | C5-C6-N1 | -6.25 | 117.87 | 121.00 |
| 20 | AT | 22 | LEU | CB-CG-CD2 | 6.25 | 121.63 | 111.00 |
| 35 | BA | 1149 | C | N3-C4-C5 | -6.25 | 119.40 | 121.90 |
| 35 | BA | 1177 | G | C6-C5-N7 | -6.25 | 126.65 | 130.40 |
| 35 | BA | 1310 | G | C3'-C2'-C1' | -6.25 | 96.50 | 101.50 |
| 35 | BA | 1385 | G | C1'-O4'-C4' | 6.25 | 114.90 | 109.90 |
| 35 | BA | 1502 | A | N1-C2-N3 | -6.25 | 126.17 | 129.30 |
| 37 | BC | 64 | G | N7-C8-N9 | 6.25 | 116.23 | 113.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | AA | 65 | U | O4'-C1'-N1 | 6.25 | 113.20 | 108.20 |
| 2 | AB | 112 | U | C5-C4-O4 | 6.25 | 129.65 | 125.90 |
| 2 | AB | 132 | G | C2-N3-C4 | 6.25 | 115.03 | 111.90 |
| 2 | AB | 161 | A | C6-N1-C2 | 6.25 | 122.35 | 118.60 |
| 2 | AB | 196 | A | N1-C6-N6 | -6.25 | 114.85 | 118.60 |
| 2 | AB | 776 | G | C5-N7-C8 | -6.25 | 101.17 | 104.30 |
| 2 | AB | 1014 | A | N1-C2-N3 | -6.25 | 126.17 | 129.30 |
| 2 | AB | 1164 | C | C4-C5-C6 | -6.25 | 114.27 | 117.40 |
| 2 | AB | 1514 | G | C4'-C3'-C2' | -6.25 | 96.35 | 102.60 |
| 2 | AB | 1603 | A | C5-C6-N1 | 6.25 | 120.83 | 117.70 |
| 2 | AB | 1932 | A | C4-C5-N7 | 6.25 | 113.83 | 110.70 |
| 2 | AB | 2358 | A | N7-C8-N9 | 6.25 | 116.92 | 113.80 |
| 2 | AB | 2431 | U | C2-N3-C4 | -6.25 | 123.25 | 127.00 |
| 35 | BA | 1076 | U | C1'-O4'-C4' | -6.25 | 104.90 | 109.90 |
| 35 | BA | 1251 | A | N1-C6-N6 | -6.25 | 114.85 | 118.60 |
| 35 | BA | 1461 | G | C5'-C4'-O4' | 6.25 | 116.60 | 109.10 |
| 2 | AB | 397 | U | C4'-C3'-C2' | -6.25 | 96.35 | 102.60 |
| 2 | AB | 757 | G | C3'-C2'-C1' | -6.25 | 96.50 | 101.50 |
| 2 | AB | 1253 | A | C4-C5-N7 | -6.25 | 107.58 | 110.70 |
| 2 | AB | 1791 | A | N1-C6-N6 | 6.25 | 122.35 | 118.60 |
| 2 | AB | 2078 | C | N3-C2-O2 | -6.25 | 117.53 | 121.90 |
| 2 | AB | 2903 | U | N3-C4-C5 | 6.25 | 118.35 | 114.60 |
| 35 | BA | 380 | G | C5-N7-C8 | 6.25 | 107.42 | 104.30 |
| 35 | BA | 402 | G | N3-C4-N9 | 6.25 | 129.75 | 126.00 |
| 2 | AB | 217 | A | C5'-C4'-O4' | 6.25 | 116.60 | 109.10 |
| 2 | AB | 474 | G | C4-C5-N7 | 6.25 | 113.30 | 110.80 |
| 2 | AB | 538 | A | N3-C4-N9 | 6.25 | 132.40 | 127.40 |
| 2 | AB | 667 | U | C3'-C2'-C1' | 6.25 | 106.50 | 101.50 |
| 2 | AB | 734 | A | C8-N9-C4 | -6.25 | 103.30 | 105.80 |
| 2 | AB | 858 | G | N1-C2-N2 | 6.25 | 121.82 | 116.20 |
| 2 | AB | 1006 | C | C5'-C4'-O4' | 6.25 | 116.60 | 109.10 |
| 2 | AB | 1187 | G | C5-C6-N1 | 6.25 | 114.62 | 111.50 |
| 2 | AB | 1217 | U | C5-C6-N1 | -6.25 | 119.58 | 122.70 |
| 2 | AB | 1291 | C | N3-C4-C5 | -6.25 | 119.40 | 121.90 |
| 2 | AB | 1733 | G | C8-N9-C1' | 6.25 | 135.12 | 127.00 |
| 2 | AB | 2540 | C | C5-C6-N1 | -6.25 | 117.88 | 121.00 |
| 2 | AB | 2598 | A | C3'-C2'-C1' | 6.25 | 106.50 | 101.50 |
| 2 | AB | 2812 | G | N7-C8-N9 | 6.25 | 116.22 | 113.10 |
| 2 | AB | 2883 | A | C5'-C4'-O4' | 6.25 | 116.60 | 109.10 |
| 11 | AK | 58 | ILE | CA-CB-CG1 | 6.25 | 122.87 | 111.00 |
| 35 | BA | 524 | G | C6-C5-N7 | -6.25 | 126.65 | 130.40 |
| 35 | BA | 675 | A | N1-C6-N6 | -6.25 | 114.85 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 840 | C | O4'-C1'-N1 | 6.25 | 113.20 | 108.20 |
| 35 | BA | 1527 | U | N3-C4-O4 | 6.25 | 123.77 | 119.40 |
| 1 | AA | 109 | A | C4-C5-C6 | 6.25 | 120.12 | 117.00 |
| 2 | AB | 56 | A | C2-N3-C4 | 6.25 | 113.72 | 110.60 |
| 2 | AB | 899 | A | N9-C1'-C2' | -6.25 | 105.13 | 112.00 |
| 2 | AB | 957 | C | C4-C5-C6 | 6.25 | 120.52 | 117.40 |
| 2 | AB | 1143 | A | O4'-C1'-N9 | 6.25 | 113.20 | 108.20 |
| 2 | AB | 1903 | G | C8-N9-C4 | -6.25 | 103.90 | 106.40 |
| 2 | AB | 2438 | U | C5-C6-N1 | -6.25 | 119.58 | 122.70 |
| 2 | AB | 2822 | G | C6-N1-C2 | -6.25 | 121.35 | 125.10 |
| 35 | BA | 331 | G | C5'-C4'-C3' | -6.25 | 106.01 | 116.00 |
| 35 | BA | 1328 | C | N3-C4-N4 | 6.25 | 122.37 | 118.00 |
| 2 | AB | 17 | G | C6-N1-C2 | -6.25 | 121.35 | 125.10 |
| 2 | AB | 170 | U | N3-C4-C5 | -6.25 | 110.85 | 114.60 |
| 2 | AB | 450 | G | C4'-C3'-C2' | -6.25 | 96.36 | 102.60 |
| 2 | AB | 1139 | G | C4'-C3'-C2' | 6.25 | 108.84 | 102.60 |
| 2 | AB | 1385 | A | C5-N7-C8 | -6.25 | 100.78 | 103.90 |
| 2 | AB | 1546 | G | P-O3'-C3' | 6.25 | 127.19 | 119.70 |
| 35 | BA | 390 | U | C2-N3-C4 | -6.25 | 123.25 | 127.00 |
| 35 | BA | 744 | C | C5-C6-N1 | 6.25 | 124.12 | 121.00 |
| 35 | BA | 856 | C | N3-C4-C5 | -6.25 | 119.40 | 121.90 |
| 1 | AA | 44 | G | C8-N9-C4 | 6.24 | 108.90 | 106.40 |
| 2 | AB | 89 | A | C5-C6-N1 | 6.24 | 120.82 | 117.70 |
| 2 | AB | 183 | C | C6-N1-C2 | -6.24 | 117.80 | 120.30 |
| 2 | AB | 613 | A | N9-C4-C5 | 6.24 | 108.30 | 105.80 |
| 2 | AB | 880 | G | C8-N9-C4 | -6.24 | 103.90 | 106.40 |
| 2 | AB | 1066 | U | C4'-C3'-C2' | -6.24 | 96.36 | 102.60 |
| 2 | AB | 1195 | G | C5-N7-C8 | 6.24 | 107.42 | 104.30 |
| 2 | AB | 1393 | A | C6-N1-C2 | 6.24 | 122.35 | 118.60 |
| 2 | AB | 1987 | A | C8-N9-C4 | -6.24 | 103.30 | 105.80 |
| 2 | AB | 2356 | U | C2-N3-C4 | -6.24 | 123.25 | 127.00 |
| 2 | AB | 2382 | G | O4'-C1'-N9 | 6.24 | 113.19 | 108.20 |
| 2 | AB | 2388 | A | C5-C6-N6 | 6.24 | 128.69 | 123.70 |
| 2 | AB | 2671 | G | N3-C4-N9 | 6.24 | 129.75 | 126.00 |
| 35 | BA | 180 | U | O4'-C1'-C2' | 6.24 | 113.22 | 107.60 |
| 35 | BA | 518 | C | O4'-C1'-C2' | -6.24 | 99.56 | 105.80 |
| 35 | BA | 1454 | G | N9-C4-C5 | 6.24 | 107.90 | 105.40 |
| 35 | BA | 1506 | U | C5'-C4'-O4' | -6.24 | 101.61 | 109.10 |
| 40 | BF | 61 | ARG | NE-CZ-NH1 | 6.24 | 123.42 | 120.30 |
| 2 | AB | 41 | C | C1'-O4'-C4' | -6.24 | 104.91 | 109.90 |
| 2 | AB | 249 | C | C4-C5-C6 | -6.24 | 114.28 | 117.40 |
| 2 | AB | 686 | U | C5-C6-N1 | 6.24 | 125.82 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1173 | U | P-O3'-C3' | 6.24 | 127.19 | 119.70 |
| 2 | AB | 1639 | C | N1-C2-O2 | 6.24 | 122.64 | 118.90 |
| 2 | AB | 1666 | G | N1-C2-N3 | 6.24 | 127.64 | 123.90 |
| 2 | AB | 2188 | U | C3'-C2'-C1' | -6.24 | 96.51 | 101.50 |
| 35 | BA | 566 | G | N3-C4-C5 | -6.24 | 125.48 | 128.60 |
| 1 | AA | 68 | C | N1-C2-N3 | -6.24 | 114.83 | 119.20 |
| 2 | AB | 100 | U | C5-C4-O4 | -6.24 | 122.16 | 125.90 |
| 2 | AB | 107 | G | C8-N9-C4 | -6.24 | 103.90 | 106.40 |
| 2 | AB | 454 | A | N1-C6-N6 | -6.24 | 114.86 | 118.60 |
| 2 | AB | 533 | G | C4'-C3'-C2' | -6.24 | 96.36 | 102.60 |
| 2 | AB | 575 | A | C4-C5-C6 | -6.24 | 113.88 | 117.00 |
| 2 | AB | 1296 | G | P-O3'-C3' | 6.24 | 127.19 | 119.70 |
| 2 | AB | 1641 | A | C5-C6-N1 | 6.24 | 120.82 | 117.70 |
| 2 | AB | 1669 | A | O4'-C4'-C3' | -6.24 | 97.76 | 104.00 |
| 35 | BA | 204 | G | O4'-C1'-N9 | 6.24 | 113.19 | 108.20 |
| 35 | BA | 257 | G | C8-N9-C4 | -6.24 | 103.90 | 106.40 |
| 35 | BA | 1042 | A | C6-N1-C2 | -6.24 | 114.86 | 118.60 |
| 35 | BA | 1338 | G | C4-C5-N7 | 6.24 | 113.30 | 110.80 |
| 35 | BA | 1489 | G | N3-C2-N2 | -6.24 | 115.53 | 119.90 |
| 2 | AB | 632 | A | C1'-O4'-C4' | 6.24 | 114.89 | 109.90 |
| 2 | AB | 703 | U | C5-C4-O4 | 6.24 | 129.64 | 125.90 |
| 2 | AB | 872 | U | C6-N1-C2 | -6.24 | 117.26 | 121.00 |
| 2 | AB | 1571 | A | N9-C4-C5 | -6.24 | 103.30 | 105.80 |
| 2 | AB | 1772 | A | C5'-C4'-C3' | -6.24 | 106.02 | 116.00 |
| 2 | AB | 1795 | C | C5-C6-N1 | 6.24 | 124.12 | 121.00 |
| 2 | AB | 1916 | A | O4'-C1'-C2' | 6.24 | 113.21 | 107.60 |
| 2 | AB | 2048 | G | C4-C5-N7 | -6.24 | 108.30 | 110.80 |
| 2 | AB | 2271 | G | N1-C2-N2 | -6.24 | 110.58 | 116.20 |
| 2 | AB | 2723 | C | C3'-C2'-C1' | 6.24 | 106.49 | 101.50 |
| 35 | BA | 53 | A | C3'-C2'-C1' | -6.24 | 96.51 | 101.50 |
| 35 | BA | 94 | G | O4'-C1'-N9 | -6.24 | 103.21 | 108.20 |
| 35 | BA | 542 | G | C4-C5-N7 | 6.24 | 113.30 | 110.80 |
| 36 | BB | 13 | A | C2-N3-C4 | -6.24 | 107.48 | 110.60 |
| 2 | AB | 1066 | U | N3-C2-O2 | -6.24 | 117.83 | 122.20 |
| 2 | AB | 1372 | U | O4'-C1'-N1 | 6.24 | 113.19 | 108.20 |
| 37 | BC | 66 | C | P-O3'-C3' | 6.24 | 127.18 | 119.70 |
| 2 | AB | 576 | U | N1-C2-N3 | 6.24 | 118.64 | 114.90 |
| 2 | AB | 883 | G | C4'-C3'-C2' | -6.24 | 96.36 | 102.60 |
| 2 | AB | 1437 | C | N1-C2-O2 | -6.24 | 115.16 | 118.90 |
| 2 | AB | 1577 | C | P-O3'-C3' | 6.24 | 127.18 | 119.70 |
| 2 | AB | 1865 | U | C6-N1-C2 | -6.24 | 117.26 | 121.00 |
| 2 | AB | 1896 | G | C6-C5-N7 | -6.24 | 126.66 | 130.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2470 | G | N1-C2-N2 | 6.24 | 121.81 | 116.20 |
| 2 | AB | 2588 | G | C5-N7-C8 | -6.24 | 101.18 | 104.30 |
| 2 | AB | 2744 | G | N3-C4-N9 | 6.24 | 129.74 | 126.00 |
| 8 | AH | 39 | ALA | CB-CA-C | -6.24 | 100.75 | 110.10 |
| 35 | BA | 822 | U | C5-C6-N1 | -6.24 | 119.58 | 122.70 |
| 35 | BA | 855 | U | C2-N3-C4 | 6.24 | 130.74 | 127.00 |
| 35 | BA | 1244 | G | N1-C2-N2 | -6.24 | 110.59 | 116.20 |
| 35 | BA | 1373 | G | N9-C4-C5 | -6.24 | 102.91 | 105.40 |
| 2 | AB | 875 | G | C4-C5-C6 | 6.23 | 122.54 | 118.80 |
| 2 | AB | 2210 | U | C6-N1-C2 | -6.23 | 117.26 | 121.00 |
| 2 | AB | 2798 | U | O4'-C1'-N1 | 6.23 | 113.19 | 108.20 |
| 35 | BA | 229 | U | C5'-C4'-O4' | 6.23 | 116.58 | 109.10 |
| 35 | BA | 534 | U | C4'-C3'-C2' | 6.23 | 108.83 | 102.60 |
| 1 | AA | 96 | G | N9-C1'-C2' | -6.23 | 105.14 | 112.00 |
| 2 | AB | 42 | A | C5'-C4'-O4' | 6.23 | 116.58 | 109.10 |
| 2 | AB | 1048 | A | C6-C5-N7 | -6.23 | 127.94 | 132.30 |
| 2 | AB | 1307 | A | C1'-O4'-C4' | -6.23 | 104.91 | 109.90 |
| 2 | AB | 1334 | G | N1-C6-O6 | -6.23 | 116.16 | 119.90 |
| 2 | AB | 1343 | G | C5-C6-O6 | -6.23 | 124.86 | 128.60 |
| 2 | AB | 1621 | U | N3-C4-C5 | -6.23 | 110.86 | 114.60 |
| 2 | AB | 1811 | G | C5-C6-O6 | -6.23 | 124.86 | 128.60 |
| 2 | AB | 1995 | U | O5'-P-OP2 | -6.23 | 100.09 | 105.70 |
| 2 | AB | 2015 | A | P-O5'-C5' | 6.23 | 130.87 | 120.90 |
| 2 | AB | 2145 | C | N3-C4-C5 | -6.23 | 119.41 | 121.90 |
| 2 | AB | 2453 | A | C6-C5-N7 | 6.23 | 136.66 | 132.30 |
| 2 | AB | 2791 | G | C5-C6-N1 | 6.23 | 114.62 | 111.50 |
| 13 | AM | 79 | PHE | CB-CG-CD2 | -6.23 | 116.44 | 120.80 |
| 35 | BA | 100 | G | C1'-O4'-C4' | 6.23 | 114.89 | 109.90 |
| 35 | BA | 233 | C | C5-C4-N4 | -6.23 | 115.84 | 120.20 |
| 35 | BA | 256 | U | C5-C4-O4 | 6.23 | 129.64 | 125.90 |
| 35 | BA | 387 | U | N3-C2-O2 | -6.23 | 117.84 | 122.20 |
| 35 | BA | 497 | G | N3-C4-C5 | -6.23 | 125.48 | 128.60 |
| 35 | BA | 749 | A | C5-N7-C8 | 6.23 | 107.02 | 103.90 |
| 35 | BA | 1311 | A | N3-C4-C5 | 6.23 | 131.16 | 126.80 |
| 2 | AB | 19 | A | N9-C4-C5 | 6.23 | 108.29 | 105.80 |
| 2 | AB | 601 | C | C5'-C4'-O4' | 6.23 | 116.58 | 109.10 |
| 2 | AB | 1212 | G | C2-N3-C4 | 6.23 | 115.02 | 111.90 |
| 2 | AB | 1387 | A | N7-C8-N9 | 6.23 | 116.92 | 113.80 |
| 2 | AB | 1830 | C | O4'-C4'-C3' | 6.23 | 111.08 | 106.10 |
| 2 | AB | 1952 | A | N1-C6-N6 | -6.23 | 114.86 | 118.60 |
| 2 | AB | 1980 | G | N3-C4-C5 | -6.23 | 125.48 | 128.60 |
| 2 | AB | 2715 | C | C5-C6-N1 | 6.23 | 124.11 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2734 | A | C5-C6-N6 | -6.23 | 118.72 | 123.70 |
| 35 | BA | 73 | C | N3-C2-O2 | -6.23 | 117.54 | 121.90 |
| 35 | BA | 130 | A | C4-C5-C6 | 6.23 | 120.11 | 117.00 |
| 35 | BA | 620 | C | C4-C5-C6 | -6.23 | 114.28 | 117.40 |
| 35 | BA | 810 | C | O4'-C4'-C3' | -6.23 | 97.77 | 104.00 |
| 35 | BA | 975 | A | C5-N7-C8 | -6.23 | 100.78 | 103.90 |
| 35 | BA | 1064 | G | N1-C2-N2 | 6.23 | 121.81 | 116.20 |
| 37 | BC | 72 | C | C5-C4-N4 | -6.23 | 115.84 | 120.20 |
| 44 | BJ | 111 | THR | CA-CB-CG2 | 6.23 | 121.12 | 112.40 |
| 2 | AB | 204 | A | C4-C5-C6 | -6.23 | 113.89 | 117.00 |
| 2 | AB | 275 | C | N3-C4-N4 | 6.23 | 122.36 | 118.00 |
| 2 | AB | 439 | A | C6-N1-C2 | -6.23 | 114.86 | 118.60 |
| 35 | BA | 760 | G | N3-C2-N2 | 6.23 | 124.26 | 119.90 |
| 35 | BA | 908 | A | C6-N1-C2 | -6.23 | 114.86 | 118.60 |
| 35 | BA | 1110 | A | N9-C4-C5 | 6.23 | 108.29 | 105.80 |
| 1 | AA | 15 | A | N9-C4-C5 | 6.23 | 108.29 | 105.80 |
| 2 | AB | 188 | G | C8-N9-C1' | 6.23 | 135.09 | 127.00 |
| 2 | AB | 368 | A | N3-C4-C5 | -6.23 | 122.44 | 126.80 |
| 2 | AB | 560 | C | N3-C4-N4 | 6.23 | 122.36 | 118.00 |
| 2 | AB | 583 | G | C4-C5-N7 | -6.23 | 108.31 | 110.80 |
| 2 | AB | 820 | A | C1'-O4'-C4' | -6.23 | 104.92 | 109.90 |
| 2 | AB | 854 | C | O4'-C1'-N1 | 6.23 | 113.18 | 108.20 |
| 2 | AB | 1017 | G | C5-C6-O6 | -6.23 | 124.86 | 128.60 |
| 2 | AB | 1552 | A | O4'-C4'-C3' | -6.23 | 97.77 | 104.00 |
| 2 | AB | 1598 | A | N9-C4-C5 | 6.23 | 108.29 | 105.80 |
| 2 | AB | 2268 | A | N9-C4-C5 | 6.23 | 108.29 | 105.80 |
| 2 | AB | 2288 | A | N1-C6-N6 | -6.23 | 114.86 | 118.60 |
| 19 | AS | 35 | PHE | CB-CG-CD1 | -6.23 | 116.44 | 120.80 |
| 35 | BA | 100 | G | C8-N9-C4 | -6.23 | 103.91 | 106.40 |
| 35 | BA | 1127 | G | N1-C6-O6 | 6.23 | 123.64 | 119.90 |
| 37 | BC | 41 | C | N1-C2-O2 | 6.23 | 122.64 | 118.90 |
| 2 | AB | 1695 | G | C5-C6-N1 | 6.23 | 114.61 | 111.50 |
| 2 | AB | 2370 | G | C4-C5-N7 | 6.23 | 113.29 | 110.80 |
| 2 | AB | 2485 | G | C5'-C4'-O4' | 6.23 | 116.57 | 109.10 |
| 2 | AB | 2900 | A | N1-C6-N6 | 6.23 | 122.33 | 118.60 |
| 35 | BA | 672 | U | N3-C4-O4 | -6.23 | 115.04 | 119.40 |
| 35 | BA | 937 | A | N9-C4-C5 | -6.23 | 103.31 | 105.80 |
| 35 | BA | 1162 | C | C5'-C4'-O4' | 6.23 | 116.57 | 109.10 |
| 35 | BA | 1200 | C | C1'-O4'-C4' | 6.23 | 114.88 | 109.90 |
| 35 | BA | 1300 | G | N3-C2-N2 | -6.23 | 115.54 | 119.90 |
| 2 | AB | 27 | G | N1-C6-O6 | -6.22 | 116.17 | 119.90 |
| 2 | AB | 194 | G | C4'-C3'-C2' | -6.22 | 96.38 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1384 | A | C6-N1-C2 | 6.22 | 122.33 | 118.60 |
| 2 | AB | 2267 | A | P-O3'-C3' | 6.22 | 127.17 | 119.70 |
| 2 | AB | 2812 | G | C6-N1-C2 | -6.22 | 121.36 | 125.10 |
| 35 | BA | 9 | G | N3-C4-N9 | -6.22 | 122.27 | 126.00 |
| 35 | BA | 73 | C | C5-C4-N4 | -6.22 | 115.84 | 120.20 |
| 35 | BA | 587 | G | N7-C8-N9 | 6.22 | 116.21 | 113.10 |
| 35 | BA | 839 | C | N3-C2-O2 | -6.22 | 117.54 | 121.90 |
| 35 | BA | 927 | G | C5-C6-N1 | 6.22 | 114.61 | 111.50 |
| 35 | BA | 1006 | G | C2-N3-C4 | 6.22 | 115.01 | 111.90 |
| 35 | BA | 1541 | U | N3-C2-O2 | -6.22 | 117.84 | 122.20 |
| 37 | BC | 23 | G | C5-C6-O6 | -6.22 | 124.87 | 128.60 |
| 1 | AA | 1 | U | O4'-C1'-N1 | 6.22 | 113.18 | 108.20 |
| 2 | AB | 45 | G | N3-C4-C5 | -6.22 | 125.49 | 128.60 |
| 2 | AB | 499 | U | N3-C4-C5 | -6.22 | 110.87 | 114.60 |
| 2 | AB | 511 | U | O4'-C1'-N1 | 6.22 | 113.18 | 108.20 |
| 2 | AB | 619 | G | C2-N3-C4 | -6.22 | 108.79 | 111.90 |
| 2 | AB | 929 | U | C6-N1-C2 | 6.22 | 124.73 | 121.00 |
| 2 | AB | 1231 | U | C3'-C2'-C1' | 6.22 | 106.48 | 101.50 |
| 2 | AB | 1818 | U | C6-N1-C2 | -6.22 | 117.27 | 121.00 |
| 2 | AB | 1818 | U | N3-C4-C5 | -6.22 | 110.87 | 114.60 |
| 2 | AB | 2070 | A | C4'-C3'-C2' | -6.22 | 96.38 | 102.60 |
| 2 | AB | 2288 | A | C6-N1-C2 | -6.22 | 114.87 | 118.60 |
| 2 | AB | 2708 | G | C3'-C2'-C1' | -6.22 | 96.52 | 101.50 |
| 2 | AB | 2777 | G | C4-C5-N7 | 6.22 | 113.29 | 110.80 |
| 19 | AS | 60 | TRP | CE2-CD2-CE3 | -6.22 | 111.23 | 118.70 |
| 35 | BA | 129 | A | C1'-O4'-C4' | -6.22 | 104.92 | 109.90 |
| 35 | BA | 753 | A | C8-N9-C4 | -6.22 | 103.31 | 105.80 |
| 35 | BA | 1200 | C | C2-N3-C4 | -6.22 | 116.79 | 119.90 |
| 35 | BA | 1400 | C | C6-N1-C1' | -6.22 | 113.33 | 120.80 |
| 35 | BA | 1456 | A | N9-C1'-C2' | -6.22 | 105.15 | 112.00 |
| 35 | BA | 1473 | G | P-O5'-C5' | 6.22 | 130.86 | 120.90 |
| 39 | BE | 180 | ASP | CB-CG-OD2 | -6.22 | 112.70 | 118.30 |
| 2 | AB | 2570 | G | N9-C4-C5 | 6.22 | 107.89 | 105.40 |
| 35 | BA | 250 | A | N7-C8-N9 | -6.22 | 110.69 | 113.80 |
| 35 | BA | 798 | U | N3-C4-O4 | 6.22 | 123.75 | 119.40 |
| 35 | BA | 956 | U | P-O3'-C3' | 6.22 | 127.17 | 119.70 |
| 2 | AB | 60 | G | C5-N7-C8 | -6.22 | 101.19 | 104.30 |
| 2 | AB | 2139 | U | N3-C4-O4 | 6.22 | 123.75 | 119.40 |
| 2 | AB | 2352 | A | C1'-O4'-C4' | -6.22 | 104.92 | 109.90 |
| 35 | BA | 23 | C | O4'-C1'-N1 | 6.22 | 113.17 | 108.20 |
| 35 | BA | 632 | U | O4'-C1'-N1 | 6.22 | 113.18 | 108.20 |
| 35 | BA | 704 | A | C5-N7-C8 | -6.22 | 100.79 | 103.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1020 | A | C5'-C4'-C3' | -6.22 | 106.05 | 116.00 |
| 2 | AB | 1173 | U | O3'-P-O5' | -6.22 | 92.19 | 104.00 |
| 35 | BA | 786 | G | N3-C4-N9 | 6.22 | 129.73 | 126.00 |
| 2 | AB | 85 | G | C1'-O4'-C4' | -6.22 | 104.93 | 109.90 |
| 2 | AB | 701 | G | N3-C2-N2 | -6.22 | 115.55 | 119.90 |
| 2 | AB | 970 | U | N1-C2-N3 | 6.22 | 118.63 | 114.90 |
| 2 | AB | 1193 | G | C2-N3-C4 | 6.22 | 115.01 | 111.90 |
| 2 | AB | 2014 | A | O4'-C1'-N9 | 6.22 | 113.17 | 108.20 |
| 35 | BA | 224 | U | C4'-C3'-C2' | -6.22 | 96.38 | 102.60 |
| 35 | BA | 229 | U | C5-C6-N1 | 6.22 | 125.81 | 122.70 |
| 35 | BA | 958 | A | N1-C6-N6 | 6.22 | 122.33 | 118.60 |
| 35 | BA | 1352 | C | C1'-O4'-C4' | -6.22 | 104.93 | 109.90 |
| 35 | BA | 1482 | G | C5'-C4'-O4' | 6.22 | 116.56 | 109.10 |
| 2 | AB | 54 | G | C1'-O4'-C4' | -6.21 | 104.93 | 109.90 |
| 2 | AB | 95 | A | C1'-O4'-C4' | -6.21 | 104.93 | 109.90 |
| 2 | AB | 208 | C | N3-C2-O2 | 6.21 | 126.25 | 121.90 |
| 2 | AB | 472 | A | C4-C5-N7 | -6.21 | 107.59 | 110.70 |
| 2 | AB | 555 | G | C8-N9-C4 | -6.21 | 103.91 | 106.40 |
| 2 | AB | 1672 | A | N3-C4-N9 | 6.21 | 132.37 | 127.40 |
| 17 | AQ | 30 | ARG | NE-CZ-NH2 | -6.21 | 117.19 | 120.30 |
| 35 | BA | 984 | C | O4'-C1'-N1 | 6.21 | 113.17 | 108.20 |
| 35 | BA | 1133 | G | O4'-C1'-N9 | -6.21 | 103.23 | 108.20 |
| 2 | AB | 1300 | G | N7-C8-N9 | 6.21 | 116.21 | 113.10 |
| 2 | AB | 1494 | A | C2-N3-C4 | 6.21 | 113.71 | 110.60 |
| 2 | AB | 1528 | A | C6-C5-N7 | 6.21 | 136.65 | 132.30 |
| 2 | AB | 1903 | G | N1-C6-O6 | 6.21 | 123.63 | 119.90 |
| 35 | BA | 152 | A | C5'-C4'-O4' | 6.21 | 116.56 | 109.10 |
| 35 | BA | 495 | A | N1-C2-N3 | -6.21 | 126.19 | 129.30 |
| 35 | BA | 692 | U | P-O3'-C3' | 6.21 | 127.16 | 119.70 |
| 35 | BA | 1393 | U | C5-C6-N1 | -6.21 | 119.59 | 122.70 |
| 35 | BA | 1485 | U | N1-C2-N3 | 6.21 | 118.63 | 114.90 |
| 2 | AB | 149 | A | N7-C8-N9 | 6.21 | 116.91 | 113.80 |
| 2 | AB | 628 | G | O4'-C1'-N9 | 6.21 | 113.17 | 108.20 |
| 2 | AB | 886 | A | C4-C5-C6 | -6.21 | 113.89 | 117.00 |
| 2 | AB | 1533 | C | C5-C4-N4 | 6.21 | 124.55 | 120.20 |
| 2 | AB | 1823 | G | C4-C5-C6 | 6.21 | 122.53 | 118.80 |
| 2 | AB | 1871 | A | C2-N3-C4 | 6.21 | 113.71 | 110.60 |
| 2 | AB | 2010 | G | C4-C5-N7 | 6.21 | 113.28 | 110.80 |
| 2 | AB | 2667 | C | C6-N1-C2 | -6.21 | 117.81 | 120.30 |
| 35 | BA | 616 | G | C8-N9-C4 | -6.21 | 103.92 | 106.40 |
| 35 | BA | 1419 | G | N1-C2-N3 | -6.21 | 120.17 | 123.90 |
| 50 | BP | 12 | ARG | NE-CZ-NH1 | 6.21 | 123.41 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 483 | A | N3-C4-C5 | -6.21 | 122.45 | 126.80 |
| 2 | AB | 903 | C | C6-N1-C2 | -6.21 | 117.82 | 120.30 |
| 2 | AB | 1697 | G | N3-C4-N9 | 6.21 | 129.73 | 126.00 |
| 35 | BA | 916 | U | C2-N3-C4 | -6.21 | 123.27 | 127.00 |
| 37 | BC | 64 | G | C5-N7-C8 | -6.21 | 101.19 | 104.30 |
| 51 | BQ | 17 | ASP | CB-CG-OD1 | -6.21 | 112.71 | 118.30 |
| 2 | AB | 279 | A | N1-C2-N3 | 6.21 | 132.40 | 129.30 |
| 2 | AB | 987 | C | C2'-C3'-O3' | 6.21 | 123.64 | 113.70 |
| 2 | AB | 1192 | G | C3'-C2'-C1' | 6.21 | 106.47 | 101.50 |
| 2 | AB | 1781 | U | C5-C6-N1 | -6.21 | 119.60 | 122.70 |
| 2 | AB | 1799 | G | C1'-O4'-C4' | -6.21 | 104.93 | 109.90 |
| 2 | AB | 2338 | C | C1'-O4'-C4' | -6.21 | 104.93 | 109.90 |
| 35 | BA | 170 | U | C5'-C4'-O4' | 6.21 | 116.55 | 109.10 |
| 35 | BA | 212 | G | N7-C8-N9 | 6.21 | 116.20 | 113.10 |
| 35 | BA | 413 | G | C5-C6-O6 | -6.21 | 124.88 | 128.60 |
| 35 | BA | 450 | G | N9-C1'-C2' | -6.21 | 105.17 | 112.00 |
| 35 | BA | 867 | G | N3-C2-N2 | -6.21 | 115.55 | 119.90 |
| 35 | BA | 998 | C | C1'-O4'-C4' | -6.21 | 104.93 | 109.90 |
| 2 | AB | 672 | C | N3-C4-C5 | 6.21 | 124.38 | 121.90 |
| 2 | AB | 987 | C | N1-C2-O2 | 6.21 | 122.62 | 118.90 |
| 2 | AB | 1948 | G | C6-C5-N7 | -6.21 | 126.68 | 130.40 |
| 2 | AB | 2118 | U | C1'-O4'-C4' | -6.21 | 104.94 | 109.90 |
| 2 | AB | 2126 | A | N1-C6-N6 | -6.21 | 114.88 | 118.60 |
| 2 | AB | 2458 | G | C3'-C2'-C1' | -6.21 | 96.53 | 101.50 |
| 35 | BA | 172 | A | C5'-C4'-C3' | -6.21 | 106.07 | 116.00 |
| 35 | BA | 374 | A | O4'-C4'-C3' | 6.21 | 111.06 | 106.10 |
| 35 | BA | 449 | G | C2'-C3'-O3' | 6.21 | 123.63 | 113.70 |
| 35 | BA | 576 | C | N3-C4-N4 | 6.21 | 122.34 | 118.00 |
| 35 | BA | 765 | G | N1-C6-O6 | -6.21 | 116.18 | 119.90 |
| 35 | BA | 987 | G | C6-N1-C2 | -6.21 | 121.38 | 125.10 |
| 37 | BC | 46 | G | C4-C5-C6 | 6.21 | 122.52 | 118.80 |
| 2 | AB | 424 | G | C5-C6-N1 | 6.21 | 114.60 | 111.50 |
| 2 | AB | 497 | A | N9-C4-C5 | 6.21 | 108.28 | 105.80 |
| 2 | AB | 1672 | A | C5-C6-N6 | -6.21 | 118.74 | 123.70 |
| 2 | AB | 2055 | C | C2-N3-C4 | 6.21 | 123.00 | 119.90 |
| 35 | BA | 236 | A | C8-N9-C4 | -6.21 | 103.32 | 105.80 |
| 35 | BA | 355 | C | C4'-C3'-C2' | -6.21 | 96.39 | 102.60 |
| 35 | BA | 622 | A | C4'-C3'-C2' | -6.21 | 96.39 | 102.60 |
| 35 | BA | 764 | C | C2-N3-C4 | 6.21 | 123.00 | 119.90 |
| 35 | BA | 793 | U | C5-C6-N1 | -6.21 | 119.60 | 122.70 |
| 35 | BA | 1375 | A | N9-C4-C5 | 6.21 | 108.28 | 105.80 |
| 35 | BA | 1448 | C | N1-C2-N3 | 6.21 | 123.54 | 119.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | AA | 48 | U | C5'-C4'-C3' | -6.20 | 106.07 | 116.00 |
| 2 | AB | 843 | G | C5-C6-O6 | -6.20 | 124.88 | 128.60 |
| 2 | AB | 1326 | U | N1-C2-N3 | 6.20 | 118.62 | 114.90 |
| 35 | BA | 286 | C | C6-N1-C2 | 6.20 | 122.78 | 120.30 |
| 35 | BA | 361 | G | N3-C4-C5 | -6.20 | 125.50 | 128.60 |
| 35 | BA | 460 | A | N7-C8-N9 | 6.20 | 116.90 | 113.80 |
| 35 | BA | 584 | G | N7-C8-N9 | 6.20 | 116.20 | 113.10 |
| 35 | BA | 737 | C | C5'-C4'-C3' | -6.20 | 106.08 | 116.00 |
| 35 | BA | 797 | C | C2-N3-C4 | 6.20 | 123.00 | 119.90 |
| 35 | BA | 1086 | U | O4'-C1'-N1 | 6.20 | 113.16 | 108.20 |
| 2 | AB | 108 | G | N1-C2-N3 | 6.20 | 127.62 | 123.90 |
| 2 | AB | 253 | C | C1'-O4'-C4' | 6.20 | 114.86 | 109.90 |
| 2 | AB | 873 | C | C4-C5-C6 | 6.20 | 120.50 | 117.40 |
| 2 | AB | 1035 | U | C3'-C2'-C1' | -6.20 | 96.54 | 101.50 |
| 2 | AB | 1818 | U | C3'-C2'-C1' | 6.20 | 106.46 | 101.50 |
| 2 | AB | 2527 | C | O4'-C1'-N1 | 6.20 | 113.16 | 108.20 |
| 35 | BA | 239 | U | C5-C4-O4 | -6.20 | 122.18 | 125.90 |
| 35 | BA | 288 | A | C1'-O4'-C4' | -6.20 | 104.94 | 109.90 |
| 35 | BA | 677 | U | O4'-C1'-N1 | 6.20 | 113.16 | 108.20 |
| 1 | AA | 45 | A | O4'-C4'-C3' | -6.20 | 97.80 | 104.00 |
| 2 | AB | 19 | A | C1'-O4'-C4' | 6.20 | 114.86 | 109.90 |
| 2 | AB | 455 | C | O4'-C1'-C2' | -6.20 | 99.60 | 105.80 |
| 2 | AB | 539 | G | C6-C5-N7 | 6.20 | 134.12 | 130.40 |
| 2 | AB | 1302 | A | C4-C5-C6 | -6.20 | 113.90 | 117.00 |
| 2 | AB | 2059 | A | C4'-C3'-C2' | -6.20 | 96.40 | 102.60 |
| 2 | AB | 2443 | C | C5'-C4'-O4' | 6.20 | 116.54 | 109.10 |
| 35 | BA | 6 | G | N9-C4-C5 | -6.20 | 102.92 | 105.40 |
| 35 | BA | 47 | C | O4'-C1'-C2' | -6.20 | 99.60 | 105.80 |
| 35 | BA | 806 | C | O4'-C1'-N1 | 6.20 | 113.16 | 108.20 |
| 35 | BA | 1169 | A | O4'-C1'-N9 | 6.20 | 113.16 | 108.20 |
| 36 | BB | 49 | U | P-O3'-C3' | 6.20 | 127.14 | 119.70 |
| 2 | AB | 204 | A | N7-C8-N9 | -6.20 | 110.70 | 113.80 |
| 2 | AB | 219 | A | C5'-C4'-C3' | -6.20 | 106.08 | 116.00 |
| 2 | AB | 743 | A | N3-C4-C5 | -6.20 | 122.46 | 126.80 |
| 2 | AB | 1069 | A | N3-C4-N9 | -6.20 | 122.44 | 127.40 |
| 2 | AB | 1179 | G | N9-C4-C5 | 6.20 | 107.88 | 105.40 |
| 2 | AB | 1259 | G | O4'-C1'-N9 | 6.20 | 113.16 | 108.20 |
| 2 | AB | 2034 | U | N1-C1'-C2' | -6.20 | 105.18 | 112.00 |
| 2 | AB | 2408 | U | C4'-C3'-C2' | -6.20 | 96.40 | 102.60 |
| 35 | BA | 30 | U | O4'-C4'-C3' | 6.20 | 111.06 | 106.10 |
| 35 | BA | 38 | G | N9-C4-C5 | 6.20 | 107.88 | 105.40 |
| 35 | BA | 270 | A | N7-C8-N9 | -6.20 | 110.70 | 113.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 285 | C | O4'-C1'-N1 | 6.20 | 113.16 | 108.20 |
| 35 | BA | 430 | A | N9-C4-C5 | 6.20 | 108.28 | 105.80 |
| 35 | BA | 451 | A | C6-N1-C2 | -6.20 | 114.88 | 118.60 |
| 35 | BA | 681 | A | N1-C2-N3 | -6.20 | 126.20 | 129.30 |
| 35 | BA | 707 | U | N3-C2-O2 | -6.20 | 117.86 | 122.20 |
| 35 | BA | 763 | G | O4'-C1'-N9 | 6.20 | 113.16 | 108.20 |
| 35 | BA | 845 | A | C4-C5-N7 | -6.20 | 107.60 | 110.70 |
| 35 | BA | 910 | C | O4'-C1'-N1 | 6.20 | 113.16 | 108.20 |
| 35 | BA | 1444 | U | O4'-C4'-C3' | 6.20 | 111.06 | 106.10 |
| 35 | BA | 1525 | G | C8-N9-C4 | -6.20 | 103.92 | 106.40 |
| 2 | AB | 240 | C | C2-N3-C4 | 6.20 | 123.00 | 119.90 |
| 2 | AB | 251 | A | C6-N1-C2 | -6.20 | 114.88 | 118.60 |
| 2 | AB | 1231 | U | C2-N3-C4 | -6.20 | 123.28 | 127.00 |
| 2 | AB | 1236 | G | C4-C5-C6 | 6.20 | 122.52 | 118.80 |
| 35 | BA | 475 | C | N1-C2-N3 | -6.20 | 114.86 | 119.20 |
| 35 | BA | 836 | G | C6-C5-N7 | -6.20 | 126.68 | 130.40 |
| 37 | BC | 31 | G | C4-C5-C6 | 6.20 | 122.52 | 118.80 |
| 2 | AB | 307 | G | C6-N1-C2 | 6.20 | 128.82 | 125.10 |
| 2 | AB | 331 | C | C2-N3-C4 | 6.20 | 123.00 | 119.90 |
| 2 | AB | 482 | A | C8-N9-C4 | -6.20 | 103.32 | 105.80 |
| 2 | AB | 863 | A | C6-N1-C2 | 6.20 | 122.32 | 118.60 |
| 2 | AB | 985 | C | N1-C2-O2 | 6.20 | 122.62 | 118.90 |
| 2 | AB | 1243 | C | C5-C6-N1 | 6.20 | 124.10 | 121.00 |
| 2 | AB | 2343 | U | N3-C4-O4 | 6.20 | 123.74 | 119.40 |
| 2 | AB | 2844 | G | N3-C4-N9 | 6.20 | 129.72 | 126.00 |
| 2 | AB | 2880 | C | C5'-C4'-C3' | -6.20 | 106.09 | 116.00 |
| 8 | AH | 57 | TYR | CB-CG-CD1 | 6.20 | 124.72 | 121.00 |
| 35 | BA | 488 | C | N1-C2-O2 | 6.20 | 122.62 | 118.90 |
| 35 | BA | 588 | G | O4'-C1'-C2' | 6.20 | 113.18 | 107.60 |
| 35 | BA | 1068 | G | N3-C2-N2 | -6.20 | 115.56 | 119.90 |
| 35 | BA | 1110 | A | N7-C8-N9 | 6.20 | 116.90 | 113.80 |
| 35 | BA | 1122 | U | C6-N1-C2 | -6.20 | 117.28 | 121.00 |
| 35 | BA | 1442 | G | N3-C4-C5 | -6.20 | 125.50 | 128.60 |
| 47 | BM | 10 | ARG | CD-NE-CZ | 6.20 | 132.27 | 123.60 |
| 2 | AB | 119 | A | O4'-C1'-N9 | -6.19 | 103.25 | 108.20 |
| 2 | AB | 178 | G | N7-C8-N9 | 6.19 | 116.20 | 113.10 |
| 2 | AB | 1284 | A | C4'-C3'-C2' | -6.19 | 96.41 | 102.60 |
| 6 | AF | 7 | ASP | CB-CG-OD2 | -6.19 | 112.72 | 118.30 |
| 35 | BA | 17 | U | C6-N1-C2 | -6.19 | 117.28 | 121.00 |
| 35 | BA | 855 | U | N3-C4-C5 | -6.19 | 110.88 | 114.60 |
| 35 | BA | 1315 | U | C5-C4-O4 | -6.19 | 122.18 | 125.90 |
| 2 | AB | 262 | A | O4'-C1'-C2' | 6.19 | 113.17 | 107.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 911 | A | C6-C5-N7 | 6.19 | 136.63 | 132.30 |
| 2 | AB | 1296 | G | C3'-C2'-C1' | -6.19 | 96.55 | 101.50 |
| 2 | AB | 2535 | G | C8-N9-C1' | 6.19 | 135.05 | 127.00 |
| 2 | AB | 2778 | A | C2-N3-C4 | 6.19 | 113.70 | 110.60 |
| 11 | AK | 122 | GLU | N-CA-CB | -6.19 | 99.45 | 110.60 |
| 35 | BA | 562 | U | C6-N1-C2 | -6.19 | 117.28 | 121.00 |
| 35 | BA | 1175 | G | N1-C2-N3 | -6.19 | 120.18 | 123.90 |
| 35 | BA | 1287 | A | N3-C4-C5 | -6.19 | 122.47 | 126.80 |
| 35 | BA | 1435 | G | O4'-C1'-N9 | 6.19 | 113.15 | 108.20 |
| 44 | BJ | 64 | TYR | CB-CG-CD2 | -6.19 | 117.28 | 121.00 |
| 1 | AA | 12 | C | N1-C2-N3 | -6.19 | 114.87 | 119.20 |
| 2 | AB | 549 | G | C6-C5-N7 | 6.19 | 134.11 | 130.40 |
| 2 | AB | 1203 | U | C3'-C2'-C1' | 6.19 | 106.45 | 101.50 |
| 2 | AB | 1843 | C | N1-C2-N3 | -6.19 | 114.87 | 119.20 |
| 2 | AB | 2010 | G | C1'-O4'-C4' | -6.19 | 104.95 | 109.90 |
| 2 | AB | 2334 | U | C1'-O4'-C4' | 6.19 | 114.85 | 109.90 |
| 13 | AM | 115 | ILE | CA-CB-CG1 | 6.19 | 122.76 | 111.00 |
| 35 | BA | 74 | A | C5-N7-C8 | -6.19 | 100.80 | 103.90 |
| 35 | BA | 529 | G | C5-N7-C8 | -6.19 | 101.20 | 104.30 |
| 35 | BA | 788 | U | C5'-C4'-O4' | 6.19 | 116.53 | 109.10 |
| 35 | BA | 901 | A | N1-C6-N6 | 6.19 | 122.31 | 118.60 |
| 35 | BA | 1017 | U | C5'-C4'-O4' | 6.19 | 116.53 | 109.10 |
| 35 | BA | 1118 | U | C5-C6-N1 | -6.19 | 119.61 | 122.70 |
| 35 | BA | 1291 | U | C1'-O4'-C4' | 6.19 | 114.85 | 109.90 |
| 2 | AB | 404 | A | C6-C5-N7 | 6.19 | 136.63 | 132.30 |
| 2 | AB | 422 | A | C4-C5-C6 | -6.19 | 113.91 | 117.00 |
| 2 | AB | 1857 | G | C2-N3-C4 | 6.19 | 114.99 | 111.90 |
| 2 | AB | 2697 | G | C2-N3-C4 | 6.19 | 114.99 | 111.90 |
| 35 | BA | 456 | A | C5-C6-N1 | 6.19 | 120.79 | 117.70 |
| 35 | BA | 1454 | G | N7-C8-N9 | -6.19 | 110.00 | 113.10 |
| 36 | BB | 31 | U | C5-C6-N1 | -6.19 | 119.61 | 122.70 |
| 37 | BC | 14 | A | N9-C4-C5 | 6.19 | 108.28 | 105.80 |
| 2 | AB | 349 | U | C4-C5-C6 | 6.19 | 123.41 | 119.70 |
| 2 | AB | 546 | U | N3-C4-C5 | 6.19 | 118.31 | 114.60 |
| 2 | AB | 625 | G | C1'-O4'-C4' | -6.19 | 104.95 | 109.90 |
| 2 | AB | 2518 | A | C2-N3-C4 | 6.19 | 113.69 | 110.60 |
| 2 | AB | 2751 | G | C8-N9-C4 | -6.19 | 103.92 | 106.40 |
| 35 | BA | 14 | U | C5-C4-O4 | 6.19 | 129.61 | 125.90 |
| 35 | BA | 408 | A | C6-C5-N7 | -6.19 | 127.97 | 132.30 |
| 35 | BA | 491 | G | C1'-O4'-C4' | -6.19 | 104.95 | 109.90 |
| 35 | BA | 1475 | G | C2-N3-C4 | 6.19 | 114.99 | 111.90 |
| 36 | BB | 26 | U | C1'-O4'-C4' | 6.19 | 114.85 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 938 | G | N9-C1'-C2' | -6.19 | 105.19 | 112.00 |
| 2 | AB | 1597 | A | N9-C4-C5 | -6.19 | 103.33 | 105.80 |
| 35 | BA | 1230 | C | O4'-C1'-N1 | 6.19 | 113.15 | 108.20 |
| 36 | BB | 26 | U | N1-C2-N3 | 6.19 | 118.61 | 114.90 |
| 2 | AB | 127 | A | N1-C6-N6 | -6.18 | 114.89 | 118.60 |
| 2 | AB | 185 | G | C4-C5-C6 | 6.18 | 122.51 | 118.80 |
| 2 | AB | 300 | A | C8-N9-C4 | -6.18 | 103.33 | 105.80 |
| 2 | AB | 802 | A | C1'-O4'-C4' | 6.18 | 114.85 | 109.90 |
| 2 | AB | 1253 | A | C5-N7-C8 | 6.18 | 106.99 | 103.90 |
| 2 | AB | 1389 | G | N3-C4-N9 | 6.18 | 129.71 | 126.00 |
| 2 | AB | 2320 | U | N3-C4-C5 | -6.18 | 110.89 | 114.60 |
| 18 | AR | 61 | ARG | NE-CZ-NH1 | -6.18 | 117.21 | 120.30 |
| 35 | BA | 724 | G | C5'-C4'-C3' | -6.18 | 106.10 | 116.00 |
| 35 | BA | 1066 | C | C5-C4-N4 | 6.18 | 124.53 | 120.20 |
| 1 | AA | 9 | G | N1-C6-O6 | 6.18 | 123.61 | 119.90 |
| 1 | AA | 67 | G | N3-C2-N2 | -6.18 | 115.57 | 119.90 |
| 1 | AA | 74 | U | O4'-C1'-N1 | 6.18 | 113.15 | 108.20 |
| 2 | AB | 54 | G | N1-C2-N3 | -6.18 | 120.19 | 123.90 |
| 2 | AB | 1137 | G | N9-C1'-C2' | -6.18 | 105.20 | 112.00 |
| 2 | AB | 1379 | U | C5'-C4'-O4' | 6.18 | 116.52 | 109.10 |
| 2 | AB | 1398 | C | N1-C2-N3 | -6.18 | 114.87 | 119.20 |
| 2 | AB | 1651 | G | C5'-C4'-C3' | -6.18 | 106.11 | 116.00 |
| 2 | AB | 1966 | A | N1-C2-N3 | -6.18 | 126.21 | 129.30 |
| 2 | AB | 2597 | G | C4'-C3'-C2' | -6.18 | 96.42 | 102.60 |
| 2 | AB | 2819 | G | C4-C5-N7 | -6.18 | 108.33 | 110.80 |
| 35 | BA | 14 | U | N1-C2-O2 | 6.18 | 127.13 | 122.80 |
| 35 | BA | 321 | A | C4-C5-C6 | -6.18 | 113.91 | 117.00 |
| 35 | BA | 452 | A | N1-C2-N3 | -6.18 | 126.21 | 129.30 |
| 35 | BA | 790 | A | C6-N1-C2 | -6.18 | 114.89 | 118.60 |
| 35 | BA | 1096 | C | C6-N1-C2 | -6.18 | 117.83 | 120.30 |
| 35 | BA | 1162 | C | O4'-C1'-N1 | 6.18 | 113.14 | 108.20 |
| 35 | BA | 1165 | U | C5-C6-N1 | 6.18 | 125.79 | 122.70 |
| 1 | AA | 90 | C | N1-C1'-C2' | -6.18 | 105.20 | 112.00 |
| 2 | AB | 532 | A | O4'-C1'-C2' | -6.18 | 99.62 | 105.80 |
| 2 | AB | 834 | G | C6-N1-C2 | -6.18 | 121.39 | 125.10 |
| 2 | AB | 1403 | A | C5-C6-N6 | -6.18 | 118.75 | 123.70 |
| 2 | AB | 1588 | G | C4-C5-C6 | 6.18 | 122.51 | 118.80 |
| 2 | AB | 1910 | G | N1-C6-O6 | 6.18 | 123.61 | 119.90 |
| 2 | AB | 2566 | A | C5-C6-N1 | 6.18 | 120.79 | 117.70 |
| 2 | AB | 2596 | U | C5'-C4'-O4' | 6.18 | 116.52 | 109.10 |
| 2 | AB | 2791 | G | N9-C4-C5 | 6.18 | 107.87 | 105.40 |
| 35 | BA | 406 | G | C5-C6-N1 | 6.18 | 114.59 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 353 | C | N3-C4-N4 | 6.18 | 122.33 | 118.00 |
| 2 | AB | 735 | A | O4'-C1'-N9 | 6.18 | 113.14 | 108.20 |
| 2 | AB | 764 | A | N1-C6-N6 | 6.18 | 122.31 | 118.60 |
| 2 | AB | 864 | G | P-O3'-C3' | 6.18 | 127.12 | 119.70 |
| 2 | AB | 986 | C | P-O3'-C3' | 6.18 | 127.11 | 119.70 |
| 2 | AB | 1822 | C | N1-C2-N3 | -6.18 | 114.87 | 119.20 |
| 2 | AB | 2135 | A | C5-C6-N6 | -6.18 | 118.76 | 123.70 |
| 2 | AB | 2177 | C | N3-C4-N4 | -6.18 | 113.67 | 118.00 |
| 2 | AB | 2346 | A | C5-N7-C8 | 6.18 | 106.99 | 103.90 |
| 2 | AB | 2399 | G | N9-C4-C5 | 6.18 | 107.87 | 105.40 |
| 2 | AB | 2717 | C | N3-C4-N4 | 6.18 | 122.33 | 118.00 |
| 2 | AB | 2857 | G | P-O3'-C3' | 6.18 | 127.11 | 119.70 |
| 6 | AF | 49 | ARG | NE-CZ-NH1 | -6.18 | 117.21 | 120.30 |
| 35 | BA | 203 | G | N1-C6-O6 | 6.18 | 123.61 | 119.90 |
| 35 | BA | 452 | A | C4'-C3'-C2' | -6.18 | 96.42 | 102.60 |
| 35 | BA | 532 | A | P-O3'-C3' | 6.18 | 127.11 | 119.70 |
| 2 | AB | 442 | G | N1-C6-O6 | -6.18 | 116.19 | 119.90 |
| 2 | AB | 691 | C | N3-C4-C5 | -6.18 | 119.43 | 121.90 |
| 35 | BA | 4 | U | N1-C2-O2 | 6.18 | 127.12 | 122.80 |
| 35 | BA | 739 | C | O3'-P-O5' | 6.18 | 115.74 | 104.00 |
| 40 | BF | 74 | TYR | CG-CD1-CE1 | -6.18 | 116.36 | 121.30 |
| 2 | AB | 61 | C | N3-C4-C5 | 6.18 | 124.37 | 121.90 |
| 2 | AB | 724 | U | O4'-C1'-N1 | 6.18 | 113.14 | 108.20 |
| 2 | AB | 1568 | G | N1-C6-O6 | 6.18 | 123.61 | 119.90 |
| 2 | AB | 1839 | G | C6-C5-N7 | 6.18 | 134.11 | 130.40 |
| 2 | AB | 1968 | G | C5'-C4'-C3' | -6.18 | 106.12 | 116.00 |
| 2 | AB | 2245 | U | C6-N1-C2 | -6.18 | 117.29 | 121.00 |
| 2 | AB | 2469 | A | C2-N3-C4 | 6.18 | 113.69 | 110.60 |
| 22 | AV | 11 | LEU | O-C-N | -6.18 | 112.82 | 122.70 |
| 35 | BA | 874 | G | N9-C4-C5 | 6.18 | 107.87 | 105.40 |
| 35 | BA | 1460 | C | C5-C4-N4 | 6.18 | 124.52 | 120.20 |
| 35 | BA | 1506 | U | N3-C2-O2 | -6.18 | 117.88 | 122.20 |
| 1 | AA | 10 | G | C1'-O4'-C4' | -6.17 | 104.96 | 109.90 |
| 2 | AB | 291 | G | C5-C6-N1 | -6.17 | 108.41 | 111.50 |
| 2 | AB | 459 | U | C6-N1-C2 | -6.17 | 117.30 | 121.00 |
| 2 | AB | 788 | A | C5'-C4'-O4' | 6.17 | 116.51 | 109.10 |
| 2 | AB | 810 | U | N1-C2-N3 | 6.17 | 118.61 | 114.90 |
| 2 | AB | 1724 | G | N3-C4-C5 | -6.17 | 125.51 | 128.60 |
| 19 | AS | 46 | TYR | CB-CG-CD2 | -6.17 | 117.30 | 121.00 |
| 35 | BA | 730 | G | C3'-C2'-C1' | 6.17 | 106.44 | 101.50 |
| 35 | BA | 964 | A | N7-C8-N9 | -6.17 | 110.71 | 113.80 |
| 35 | BA | 1142 | G | C2-N3-C4 | -6.17 | 108.81 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1419 | G | N3-C2-N2 | 6.17 | 124.22 | 119.90 |
| 2 | AB | 879 | G | C4'-C3'-C2' | -6.17 | 96.43 | 102.60 |
| 2 | AB | 1693 | U | C5-C6-N1 | -6.17 | 119.61 | 122.70 |
| 35 | BA | 230 | G | C2-N3-C4 | 6.17 | 114.99 | 111.90 |
| 1 | AA | 80 | U | O4'-C1'-N1 | 6.17 | 113.14 | 108.20 |
| 2 | AB | 444 | C | C6-N1-C2 | -6.17 | 117.83 | 120.30 |
| 2 | AB | 657 | U | C3'-C2'-C1' | 6.17 | 106.44 | 101.50 |
| 2 | AB | 804 | A | C4-C5-N7 | 6.17 | 113.79 | 110.70 |
| 2 | AB | 939 | G | C5-C6-N1 | 6.17 | 114.59 | 111.50 |
| 2 | AB | 1477 | A | N3-C4-C5 | -6.17 | 122.48 | 126.80 |
| 2 | AB | 1689 | A | N9-C4-C5 | -6.17 | 103.33 | 105.80 |
| 2 | AB | 1903 | G | N3-C4-C5 | -6.17 | 125.51 | 128.60 |
| 21 | AU | 35 | ILE | CB-CA-C | 6.17 | 123.94 | 111.60 |
| 35 | BA | 606 | G | N3-C4-N9 | -6.17 | 122.30 | 126.00 |
| 35 | BA | 765 | G | C1'-O4'-C4' | -6.17 | 104.96 | 109.90 |
| 2 | AB | 11 | C | C4'-C3'-C2' | -6.17 | 96.43 | 102.60 |
| 2 | AB | 1782 | U | N3-C2-O2 | -6.17 | 117.88 | 122.20 |
| 35 | BA | 1514 | G | C8-N9-C4 | -6.17 | 103.93 | 106.40 |
| 37 | BC | 44 | A | C4-C5-N7 | 6.17 | 113.78 | 110.70 |
| 38 | BD | 73 | ARG | NE-CZ-NH2 | -6.17 | 117.22 | 120.30 |
| 2 | AB | 537 | G | O4'-C1'-N9 | 6.17 | 113.14 | 108.20 |
| 2 | AB | 1237 | A | C1'-O4'-C4' | 6.17 | 114.83 | 109.90 |
| 2 | AB | 1682 | G | O4'-C4'-C3' | 6.17 | 111.03 | 106.10 |
| 2 | AB | 1813 | G | N3-C4-C5 | -6.17 | 125.52 | 128.60 |
| 2 | AB | 2308 | G | C4-C5-C6 | 6.17 | 122.50 | 118.80 |
| 35 | BA | 194 | C | N3-C4-C5 | 6.17 | 124.37 | 121.90 |
| 35 | BA | 496 | A | C8-N9-C4 | -6.17 | 103.33 | 105.80 |
| 35 | BA | 650 | G | N3-C4-C5 | -6.17 | 125.52 | 128.60 |
| 35 | BA | 949 | A | C5-C6-N1 | 6.17 | 120.78 | 117.70 |
| 35 | BA | 987 | G | C5'-C4'-O4' | 6.17 | 116.50 | 109.10 |
| 35 | BA | 1314 | C | C3'-C2'-C1' | 6.17 | 106.44 | 101.50 |
| 43 | BI | 84 | TYR | CG-CD2-CE2 | -6.17 | 116.36 | 121.30 |
| 45 | BK | 17 | ARG | NE-CZ-NH2 | -6.17 | 117.22 | 120.30 |
| 1 | AA | 41 | G | O4'-C1'-C2' | -6.17 | 99.63 | 105.80 |
| 2 | AB | 30 | G | C6-N1-C2 | -6.17 | 121.40 | 125.10 |
| 2 | AB | 120 | U | P-O3'-C3' | 6.17 | 127.10 | 119.70 |
| 2 | AB | 512 | G | O4'-C1'-N9 | 6.17 | 113.13 | 108.20 |
| 2 | AB | 574 | A | C3'-C2'-C1' | 6.17 | 106.43 | 101.50 |
| 2 | AB | 953 | G | C2-N3-C4 | 6.17 | 114.98 | 111.90 |
| 2 | AB | 966 | G | O4'-C1'-N9 | 6.17 | 113.13 | 108.20 |
| 2 | AB | 977 | G | C5-C6-O6 | -6.17 | 124.90 | 128.60 |
| 2 | AB | 1302 | A | N1-C2-N3 | -6.17 | 126.22 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1886 | U | N1-C2-O2 | -6.17 | 118.48 | 122.80 |
| 2 | AB | 2246 | G | C6-C5-N7 | -6.17 | 126.70 | 130.40 |
| 2 | AB | 2365 | G | C4'-C3'-C2' | -6.17 | 96.43 | 102.60 |
| 2 | AB | 2658 | C | N3-C2-O2 | -6.17 | 117.58 | 121.90 |
| 35 | BA | 72 | A | O4'-C1'-N9 | 6.17 | 113.13 | 108.20 |
| 35 | BA | 127 | G | O4'-C1'-C2' | -6.17 | 99.63 | 105.80 |
| 35 | BA | 347 | G | C5-C6-N1 | 6.17 | 114.58 | 111.50 |
| 35 | BA | 723 | U | C1'-O4'-C4' | -6.17 | 104.97 | 109.90 |
| 49 | BO | 10 | ASP | CB-CG-OD1 | 6.17 | 123.85 | 118.30 |
| 2 | AB | 771 | G | C5-N7-C8 | -6.17 | 101.22 | 104.30 |
| 2 | AB | 1196 | C | C2-N3-C4 | 6.17 | 122.98 | 119.90 |
| 2 | AB | 1542 | U | N3-C4-C5 | 6.17 | 118.30 | 114.60 |
| 2 | AB | 1748 | C | C2-N3-C4 | -6.17 | 116.82 | 119.90 |
| 35 | BA | 1029 | U | O4'-C1'-N1 | 6.17 | 113.13 | 108.20 |
| 1 | AA | 92 | C | C5'-C4'-O4' | 6.16 | 116.50 | 109.10 |
| 2 | AB | 272 | A | P-O3'-C3' | 6.16 | 127.10 | 119.70 |
| 2 | AB | 477 | A | O4'-C4'-C3' | 6.16 | 111.03 | 106.10 |
| 2 | AB | 547 | A | O4'-C1'-C2' | 6.16 | 113.15 | 107.60 |
| 2 | AB | 629 | G | N3-C4-C5 | -6.16 | 125.52 | 128.60 |
| 2 | AB | 656 | G | C8-N9-C4 | -6.16 | 103.94 | 106.40 |
| 2 | AB | 1019 | U | N1-C2-N3 | 6.16 | 118.60 | 114.90 |
| 2 | AB | 1407 | G | N7-C8-N9 | 6.16 | 116.18 | 113.10 |
| 2 | AB | 1456 | G | C5-C6-O6 | -6.16 | 124.90 | 128.60 |
| 2 | AB | 2661 | G | C2-N3-C4 | 6.16 | 114.98 | 111.90 |
| 2 | AB | 2729 | G | C5-C6-O6 | 6.16 | 132.30 | 128.60 |
| 35 | BA | 96 | U | C4-C5-C6 | 6.16 | 123.40 | 119.70 |
| 35 | BA | 126 | G | C6-N1-C2 | -6.16 | 121.40 | 125.10 |
| 35 | BA | 793 | U | P-O3'-C3' | 6.16 | 127.10 | 119.70 |
| 35 | BA | 1040 | U | O4'-C1'-N1 | 6.16 | 113.13 | 108.20 |
| 2 | AB | 717 | C | C4-C5-C6 | 6.16 | 120.48 | 117.40 |
| 2 | AB | 2325 | G | C1'-O4'-C4' | -6.16 | 104.97 | 109.90 |
| 2 | AB | 2775 | G | N9-C4-C5 | 6.16 | 107.86 | 105.40 |
| 35 | BA | 1104 | G | N3-C4-N9 | 6.16 | 129.70 | 126.00 |
| 2 | AB | 212 | G | N7-C8-N9 | 6.16 | 116.18 | 113.10 |
| 2 | AB | 789 | A | C1'-O4'-C4' | 6.16 | 114.83 | 109.90 |
| 2 | AB | 833 | A | C5-N7-C8 | -6.16 | 100.82 | 103.90 |
| 2 | AB | 1946 | U | C4-C5-C6 | 6.16 | 123.40 | 119.70 |
| 2 | AB | 2094 | A | N7-C8-N9 | 6.16 | 116.88 | 113.80 |
| 2 | AB | 2230 | G | C5-C6-O6 | -6.16 | 124.90 | 128.60 |
| 2 | AB | 2541 | A | P-O3'-C3' | 6.16 | 127.09 | 119.70 |
| 35 | BA | 26 | A | N1-C2-N3 | -6.16 | 126.22 | 129.30 |
| 37 | BC | 58 | A | C4-C5-N7 | -6.16 | 107.62 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 40 | BF | 172 | VAL | CA-CB-CG1 | 6.16 | 120.14 | 110.90 |
| 43 | BI | 86 | VAL | CA-CB-CG1 | 6.16 | 120.14 | 110.90 |
| 1 | AA | 98 | G | C5-C6-N1 | 6.16 | 114.58 | 111.50 |
| 1 | AA | 107 | G | C4'-C3'-C2' | 6.16 | 108.76 | 102.60 |
| 2 | AB | 48 | G | N1-C2-N3 | 6.16 | 127.59 | 123.90 |
| 2 | AB | 181 | A | C2-N3-C4 | -6.16 | 107.52 | 110.60 |
| 2 | AB | 699 | A | N1-C2-N3 | 6.16 | 132.38 | 129.30 |
| 2 | AB | 1650 | A | C5-N7-C8 | -6.16 | 100.82 | 103.90 |
| 35 | BA | 948 | C | C5-C6-N1 | -6.16 | 117.92 | 121.00 |
| 2 | AB | 1122 | G | N9-C1'-C2' | -6.16 | 105.23 | 112.00 |
| 2 | AB | 1262 | A | C5-C6-N1 | 6.16 | 120.78 | 117.70 |
| 2 | AB | 2750 | A | O4'-C4'-C3' | 6.16 | 111.03 | 106.10 |
| 35 | BA | 329 | A | C6-C5-N7 | 6.16 | 136.61 | 132.30 |
| 35 | BA | 513 | C | C6-N1-C2 | -6.16 | 117.84 | 120.30 |
| 2 | AB | 444 | C | O4'-C1'-N1 | 6.16 | 113.12 | 108.20 |
| 2 | AB | 1374 | G | N1-C6-O6 | -6.16 | 116.21 | 119.90 |
| 2 | AB | 1801 | A | N3-C4-N9 | -6.16 | 122.47 | 127.40 |
| 2 | AB | 2238 | G | C4-C5-C6 | 6.16 | 122.49 | 118.80 |
| 35 | BA | 92 | U | C4-C5-C6 | 6.16 | 123.39 | 119.70 |
| 35 | BA | 610 | U | C6-N1-C2 | -6.16 | 117.31 | 121.00 |
| 35 | BA | 1066 | C | C2-N3-C4 | 6.16 | 122.98 | 119.90 |
| 35 | BA | 1112 | C | C5-C6-N1 | 6.16 | 124.08 | 121.00 |
| 2 | AB | 405 | U | C3'-C2'-C1' | 6.15 | 106.42 | 101.50 |
| 2 | AB | 621 | A | N3-C4-N9 | -6.15 | 122.48 | 127.40 |
| 2 | AB | 1112 | G | N9-C4-C5 | 6.15 | 107.86 | 105.40 |
| 2 | AB | 1979 | U | C5'-C4'-C3' | -6.15 | 106.15 | 116.00 |
| 8 | AH | 154 | GLU | CB-CA-C | 6.15 | 122.71 | 110.40 |
| 35 | BA | 7 | A | C5-C6-N1 | 6.15 | 120.78 | 117.70 |
| 35 | BA | 63 | C | C6-N1-C1' | -6.15 | 113.42 | 120.80 |
| 35 | BA | 817 | C | N1-C2-O2 | 6.15 | 122.59 | 118.90 |
| 35 | BA | 1284 | C | N3-C4-C5 | 6.15 | 124.36 | 121.90 |
| 35 | BA | 1349 | A | C6-C5-N7 | 6.15 | 136.61 | 132.30 |
| 35 | BA | 1356 | G | N7-C8-N9 | 6.15 | 116.18 | 113.10 |
| 2 | AB | 87 | U | C5-C4-O4 | -6.15 | 122.21 | 125.90 |
| 2 | AB | 1066 | U | N3-C4-C5 | 6.15 | 118.29 | 114.60 |
| 2 | AB | 2008 | C | C4'-C3'-C2' | -6.15 | 96.45 | 102.60 |
| 2 | AB | 2079 | U | C4-C5-C6 | 6.15 | 123.39 | 119.70 |
| 2 | AB | 2091 | C | C1'-O4'-C4' | -6.15 | 104.98 | 109.90 |
| 2 | AB | 2202 | U | P-O3'-C3' | 6.15 | 127.08 | 119.70 |
| 10 | AJ | 137 | ARG | NE-CZ-NH1 | 6.15 | 123.38 | 120.30 |
| 35 | BA | 495 | A | C3'-C2'-C1' | -6.15 | 96.58 | 101.50 |
| 35 | BA | 1106 | G | O4'-C1'-N9 | 6.15 | 113.12 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1477 | U | O4'-C1'-N1 | 6.15 | 113.12 | 108.20 |
| 37 | BC | 31 | G | N9-C1'-C2' | -6.15 | 105.23 | 112.00 |
| 2 | AB | 7 | G | O4'-C1'-N9 | 6.15 | 113.12 | 108.20 |
| 2 | AB | 533 | G | C8-N9-C1' | 6.15 | 135.00 | 127.00 |
| 2 | AB | 574 | A | C5-C6-N1 | -6.15 | 114.62 | 117.70 |
| 2 | AB | 785 | G | P-O3'-C3' | 6.15 | 127.08 | 119.70 |
| 2 | AB | 1157 | G | C5-N7-C8 | -6.15 | 101.22 | 104.30 |
| 2 | AB | 1530 | G | C5-N7-C8 | -6.15 | 101.22 | 104.30 |
| 2 | AB | 1671 | U | O5'-P-OP2 | -6.15 | 100.16 | 105.70 |
| 2 | AB | 2005 | A | N3-C4-N9 | 6.15 | 132.32 | 127.40 |
| 2 | AB | 2338 | C | O4'-C4'-C3' | 6.15 | 111.02 | 106.10 |
| 35 | BA | 146 | G | N3-C4-C5 | -6.15 | 125.53 | 128.60 |
| 35 | BA | 212 | G | C4'-C3'-C2' | -6.15 | 96.45 | 102.60 |
| 35 | BA | 494 | G | O4'-C1'-N9 | -6.15 | 103.28 | 108.20 |
| 35 | BA | 543 | U | C6-N1-C2 | -6.15 | 117.31 | 121.00 |
| 35 | BA | 1418 | A | N1-C6-N6 | 6.15 | 122.29 | 118.60 |
| 1 | AA | 43 | C | C3'-C2'-C1' | 6.15 | 106.42 | 101.50 |
| 2 | AB | 723 | C | N1-C2-N3 | 6.15 | 123.50 | 119.20 |
| 2 | AB | 1508 | A | N3-C4-C5 | -6.15 | 122.50 | 126.80 |
| 2 | AB | 1774 | C | C6-N1-C2 | -6.15 | 117.84 | 120.30 |
| 2 | AB | 1788 | C | C5'-C4'-C3' | -6.15 | 106.16 | 116.00 |
| 2 | AB | 1877 | A | N1-C2-N3 | 6.15 | 132.38 | 129.30 |
| 2 | AB | 2586 | U | C1'-O4'-C4' | -6.15 | 104.98 | 109.90 |
| 2 | AB | 2718 | G | O4'-C1'-N9 | 6.15 | 113.12 | 108.20 |
| 2 | AB | 2829 | A | N1-C2-N3 | 6.15 | 132.38 | 129.30 |
| 35 | BA | 328 | C | O4'-C1'-C2' | -6.15 | 99.65 | 105.80 |
| 35 | BA | 1272 | G | C8-N9-C4 | -6.15 | 103.94 | 106.40 |
| 35 | BA | 1326 | U | C4-C5-C6 | 6.15 | 123.39 | 119.70 |
| 1 | AA | 97 | C | C4'-C3'-C2' | -6.15 | 96.45 | 102.60 |
| 2 | AB | 371 | A | N7-C8-N9 | 6.15 | 116.87 | 113.80 |
| 2 | AB | 1033 | U | C5-C6-N1 | -6.15 | 119.63 | 122.70 |
| 2 | AB | 1302 | A | C8-N9-C4 | -6.15 | 103.34 | 105.80 |
| 2 | AB | 1629 | U | N1-C2-O2 | 6.15 | 127.10 | 122.80 |
| 2 | AB | 2087 | G | C4-C5-C6 | -6.15 | 115.11 | 118.80 |
| 2 | AB | 2136 | G | N1-C2-N3 | -6.15 | 120.21 | 123.90 |
| 2 | AB | 2325 | G | N7-C8-N9 | 6.15 | 116.17 | 113.10 |
| 35 | BA | 670 | G | C5'-C4'-O4' | 6.15 | 116.48 | 109.10 |
| 35 | BA | 841 | C | N3-C4-C5 | 6.15 | 124.36 | 121.90 |
| 35 | BA | 1154 | G | N1-C2-N3 | -6.15 | 120.21 | 123.90 |
| 35 | BA | 1168 | U | O5'-P-OP2 | -6.15 | 100.17 | 105.70 |
| 35 | BA | 1221 | G | C6-C5-N7 | 6.15 | 134.09 | 130.40 |
| 35 | BA | 1513 | A | N1-C2-N3 | -6.15 | 126.23 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | AA | 83 | G | C3'-C2'-C1' | -6.15 | 96.58 | 101.50 |
| 2 | AB | 258 | G | C4'-C3'-C2' | -6.15 | 96.45 | 102.60 |
| 2 | AB | 1109 | C | N3-C4-N4 | 6.15 | 122.30 | 118.00 |
| 2 | AB | 1127 | A | C2-N3-C4 | 6.15 | 113.67 | 110.60 |
| 2 | AB | 2255 | G | N3-C4-N9 | -6.15 | 122.31 | 126.00 |
| 2 | AB | 2650 | U | C5'-C4'-O4' | 6.15 | 116.48 | 109.10 |
| 35 | BA | 579 | A | N3-C4-C5 | -6.15 | 122.50 | 126.80 |
| 35 | BA | 791 | G | N1-C6-O6 | -6.15 | 116.21 | 119.90 |
| 35 | BA | 1258 | G | C3'-C2'-C1' | -6.15 | 96.58 | 101.50 |
| 2 | AB | 466 | A | C4-C5-N7 | -6.14 | 107.63 | 110.70 |
| 2 | AB | 476 | G | C5'-C4'-C3' | 6.14 | 125.83 | 116.00 |
| 2 | AB | 780 | G | O4'-C1'-N9 | 6.14 | 113.12 | 108.20 |
| 2 | AB | 789 | A | O4'-C1'-C2' | -6.14 | 99.66 | 105.80 |
| 2 | AB | 1043 | C | P-O3'-C3' | 6.14 | 127.07 | 119.70 |
| 2 | AB | 1103 | A | C2-N3-C4 | 6.14 | 113.67 | 110.60 |
| 2 | AB | 1103 | A | N9-C4-C5 | 6.14 | 108.26 | 105.80 |
| 2 | AB | 1134 | A | C5-N7-C8 | -6.14 | 100.83 | 103.90 |
| 2 | AB | 1439 | A | N3-C4-C5 | -6.14 | 122.50 | 126.80 |
| 2 | AB | 2280 | G | C5-N7-C8 | 6.14 | 107.37 | 104.30 |
| 2 | AB | 2451 | A | C8-N9-C4 | -6.14 | 103.34 | 105.80 |
| 2 | AB | 2581 | G | O4'-C1'-N9 | 6.14 | 113.12 | 108.20 |
| 2 | AB | 2731 | G | N3-C4-N9 | 6.14 | 129.69 | 126.00 |
| 35 | BA | 39 | G | N3-C4-N9 | 6.14 | 129.69 | 126.00 |
| 35 | BA | 275 | G | C6-C5-N7 | -6.14 | 126.71 | 130.40 |
| 35 | BA | 793 | U | C6-N1-C1' | -6.14 | 112.60 | 121.20 |
| 35 | BA | 886 | G | C1'-O4'-C4' | 6.14 | 114.81 | 109.90 |
| 35 | BA | 1072 | G | C5-C6-N1 | 6.14 | 114.57 | 111.50 |
| 35 | BA | 1292 | G | O4'-C1'-N9 | 6.14 | 113.12 | 108.20 |
| 36 | BB | 57 | C | C5-C6-N1 | 6.14 | 124.07 | 121.00 |
| 53 | BS | 26 | ARG | NE-CZ-NH1 | 6.14 | 123.37 | 120.30 |
| 1 | AA | 22 | U | N1-C1'-C2' | -6.14 | 105.24 | 112.00 |
| 2 | AB | 31 | C | C2-N3-C4 | -6.14 | 116.83 | 119.90 |
| 2 | AB | 94 | A | N7-C8-N9 | 6.14 | 116.87 | 113.80 |
| 2 | AB | 124 | G | N9-C1'-C2' | -6.14 | 105.24 | 112.00 |
| 2 | AB | 210 | C | O4'-C1'-N1 | 6.14 | 113.11 | 108.20 |
| 2 | AB | 375 | G | N1-C2-N2 | 6.14 | 121.73 | 116.20 |
| 2 | AB | 377 | G | N1-C6-O6 | -6.14 | 116.22 | 119.90 |
| 2 | AB | 738 | G | N3-C4-N9 | 6.14 | 129.69 | 126.00 |
| 2 | AB | 1126 | A | N3-C4-C5 | -6.14 | 122.50 | 126.80 |
| 2 | AB | 1446 | C | C1'-O4'-C4' | 6.14 | 114.81 | 109.90 |
| 2 | AB | 1647 | U | N1-C2-O2 | 6.14 | 127.10 | 122.80 |
| 2 | AB | 2368 | C | C1'-O4'-C4' | 6.14 | 114.81 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2446 | G | N1-C6-O6 | -6.14 | 116.21 | 119.90 |
| 2 | AB | 2561 | U | C5'-C4'-O4' | 6.14 | 116.47 | 109.10 |
| 2 | AB | 2887 | A | O4'-C4'-C3' | -6.14 | 97.86 | 104.00 |
| 35 | BA | 98 | A | C4'-C3'-C2' | -6.14 | 96.46 | 102.60 |
| 35 | BA | 476 | U | N3-C2-O2 | -6.14 | 117.90 | 122.20 |
| 35 | BA | 722 | G | C5-C6-N1 | 6.14 | 114.57 | 111.50 |
| 35 | BA | 750 | C | C5'-C4'-C3' | -6.14 | 106.17 | 116.00 |
| 35 | BA | 786 | G | N1-C6-O6 | -6.14 | 116.22 | 119.90 |
| 35 | BA | 924 | C | C1'-O4'-C4' | -6.14 | 104.99 | 109.90 |
| 35 | BA | 1070 | U | O4'-C4'-C3' | 6.14 | 111.02 | 106.10 |
| 2 | AB | 1031 | G | O4'-C1'-C2' | 6.14 | 113.13 | 107.60 |
| 2 | AB | 1837 | C | C4-C5-C6 | -6.14 | 114.33 | 117.40 |
| 2 | AB | 235 | U | C5-C4-O4 | -6.14 | 122.22 | 125.90 |
| 2 | AB | 866 | A | N7-C8-N9 | -6.14 | 110.73 | 113.80 |
| 2 | AB | 1171 | G | C5-C6-O6 | 6.14 | 132.28 | 128.60 |
| 2 | AB | 1916 | A | N1-C2-N3 | 6.14 | 132.37 | 129.30 |
| 2 | AB | 2108 | A | C5-C6-N1 | 6.14 | 120.77 | 117.70 |
| 2 | AB | 2191 | A | C5'-C4'-O4' | 6.14 | 116.47 | 109.10 |
| 2 | AB | 2530 | A | C5-N7-C8 | -6.14 | 100.83 | 103.90 |
| 35 | BA | 105 | G | N1-C6-O6 | 6.14 | 123.58 | 119.90 |
| 35 | BA | 432 | A | C5-N7-C8 | 6.14 | 106.97 | 103.90 |
| 35 | BA | 588 | G | C2-N3-C4 | 6.14 | 114.97 | 111.90 |
| 35 | BA | 886 | G | N3-C2-N2 | 6.14 | 124.20 | 119.90 |
| 35 | BA | 1074 | G | C6-C5-N7 | -6.14 | 126.72 | 130.40 |
| 37 | BC | 71 | G | C6-N1-C2 | -6.14 | 121.42 | 125.10 |
| 1 | AA | 46 | A | N1-C6-N6 | 6.14 | 122.28 | 118.60 |
| 2 | AB | 166 | U | C4-C5-C6 | 6.14 | 123.38 | 119.70 |
| 2 | AB | 960 | A | C6-N1-C2 | 6.14 | 122.28 | 118.60 |
| 2 | AB | 1185 | G | N9-C4-C5 | 6.14 | 107.86 | 105.40 |
| 2 | AB | 1360 | G | C5-C6-O6 | 6.14 | 132.28 | 128.60 |
| 2 | AB | 1492 | G | C6-N1-C2 | -6.14 | 121.42 | 125.10 |
| 2 | AB | 1782 | U | C5'-C4'-C3' | -6.14 | 106.18 | 116.00 |
| 2 | AB | 2530 | A | N1-C2-N3 | 6.14 | 132.37 | 129.30 |
| 4 | AD | 269 | ARG | N-CA-CB | -6.14 | 99.55 | 110.60 |
| 35 | BA | 135 | C | C1'-O4'-C4' | -6.14 | 104.99 | 109.90 |
| 35 | BA | 414 | A | C8-N9-C4 | -6.14 | 103.34 | 105.80 |
| 35 | BA | 1480 | A | C5'-C4'-C3' | 6.14 | 125.82 | 116.00 |
| 2 | AB | 706 | A | C5-N7-C8 | -6.14 | 100.83 | 103.90 |
| 2 | AB | 734 | A | C4-C5-N7 | -6.14 | 107.63 | 110.70 |
| 2 | AB | 1099 | G | C5-N7-C8 | -6.14 | 101.23 | 104.30 |
| 2 | AB | 2059 | A | C6-N1-C2 | 6.14 | 122.28 | 118.60 |
| 2 | AB | 2560 | A | N9-C4-C5 | 6.14 | 108.25 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2870 | C | N3-C4-N4 | -6.14 | 113.70 | 118.00 |
| 24 | AX | 11 | GLU | OE1-CD-OE2 | 6.14 | 130.66 | 123.30 |
| 35 | BA | 979 | C | C4'-C3'-C2' | -6.14 | 96.46 | 102.60 |
| 35 | BA | 1145 | A | P-O3'-C3' | 6.14 | 127.06 | 119.70 |
| 35 | BA | 1492 | A | N7-C8-N9 | 6.14 | 116.87 | 113.80 |
| 2 | AB | 48 | G | C4-C5-C6 | 6.13 | 122.48 | 118.80 |
| 2 | AB | 153 | U | N3-C4-O4 | -6.13 | 115.11 | 119.40 |
| 2 | AB | 662 | G | C6-C5-N7 | -6.13 | 126.72 | 130.40 |
| 2 | AB | 798 | G | C5'-C4'-C3' | -6.13 | 106.18 | 116.00 |
| 2 | AB | 800 | A | O4'-C1'-N9 | 6.13 | 113.11 | 108.20 |
| 2 | AB | 2161 | C | C2-N3-C4 | -6.13 | 116.83 | 119.90 |
| 35 | BA | 361 | G | C5-C6-N1 | 6.13 | 114.57 | 111.50 |
| 35 | BA | 789 | U | O4'-C1'-C2' | 6.13 | 113.12 | 107.60 |
| 35 | BA | 1217 | C | N1-C2-N3 | -6.13 | 114.91 | 119.20 |
| 35 | BA | 1535 | C | C2-N3-C4 | 6.13 | 122.97 | 119.90 |
| 37 | BC | 69 | C | C5-C4-N4 | -6.13 | 115.91 | 120.20 |
| 2 | AB | 226 | A | C5-C6-N6 | -6.13 | 118.79 | 123.70 |
| 2 | AB | 1215 | G | C4-C5-N7 | -6.13 | 108.35 | 110.80 |
| 2 | AB | 1382 | G | N3-C4-N9 | 6.13 | 129.68 | 126.00 |
| 2 | AB | 1785 | A | C4-C5-N7 | -6.13 | 107.63 | 110.70 |
| 2 | AB | 1912 | A | N1-C6-N6 | -6.13 | 114.92 | 118.60 |
| 35 | BA | 318 | G | N1-C2-N3 | 6.13 | 127.58 | 123.90 |
| 35 | BA | 928 | G | C4'-C3'-C2' | -6.13 | 96.47 | 102.60 |
| 36 | BB | 38 | G | C5-C6-N1 | 6.13 | 114.57 | 111.50 |
| 2 | AB | 1563 | U | C3'-C2'-C1' | 6.13 | 106.41 | 101.50 |
| 2 | AB | 1736 | U | C4'-C3'-C2' | -6.13 | 96.47 | 102.60 |
| 2 | AB | 1754 | A | O4'-C1'-N9 | 6.13 | 113.11 | 108.20 |
| 2 | AB | 2124 | G | C8-N9-C4 | -6.13 | 103.95 | 106.40 |
| 2 | AB | 2249 | U | C4-C5-C6 | 6.13 | 123.38 | 119.70 |
| 2 | AB | 2770 | G | C5-C6-O6 | 6.13 | 132.28 | 128.60 |
| 10 | AJ | 118 | PRO | N-CD-CG | 6.13 | 112.40 | 103.20 |
| 35 | BA | 26 | A | C4-C5-C6 | -6.13 | 113.93 | 117.00 |
| 35 | BA | 805 | C | N1-C2-O2 | 6.13 | 122.58 | 118.90 |
| 35 | BA | 1010 | U | N3-C4-C5 | -6.13 | 110.92 | 114.60 |
| 35 | BA | 1420 | U | N3-C4-O4 | 6.13 | 123.69 | 119.40 |
| 35 | BA | 1435 | G | C4-N9-C1' | -6.13 | 118.53 | 126.50 |
| 37 | BC | 32 | G | N3-C4-C5 | -6.13 | 125.53 | 128.60 |
| 2 | AB | 1438 | U | C3'-C2'-C1' | 6.13 | 106.40 | 101.50 |
| 2 | AB | 1627 | G | N3-C2-N2 | 6.13 | 124.19 | 119.90 |
| 2 | AB | 2744 | G | C1'-O4'-C4' | 6.13 | 114.80 | 109.90 |
| 6 | AF | 153 | LEU | CB-CG-CD1 | 6.13 | 121.42 | 111.00 |
| 35 | BA | 307 | C | C5'-C4'-O4' | 6.13 | 116.46 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1332 | A | C5-C6-N6 | -6.13 | 118.80 | 123.70 |
| 35 | BA | 1513 | A | C4'-C3'-C2' | -6.13 | 96.47 | 102.60 |
| 1 | AA | 97 | C | C5'-C4'-O4' | 6.13 | 116.45 | 109.10 |
| 2 | AB | 89 | A | C8-N9-C4 | 6.13 | 108.25 | 105.80 |
| 2 | AB | 228 | C | C4-C5-C6 | 6.13 | 120.46 | 117.40 |
| 2 | AB | 1624 | U | N3-C4-C5 | -6.13 | 110.92 | 114.60 |
| 2 | AB | 2330 | G | N1-C2-N3 | 6.13 | 127.58 | 123.90 |
| 2 | AB | 2425 | A | N7-C8-N9 | 6.13 | 116.86 | 113.80 |
| 2 | AB | 2465 | C | C3'-C2'-C1' | -6.13 | 96.60 | 101.50 |
| 35 | BA | 97 | G | P-O3'-C3' | 6.13 | 127.06 | 119.70 |
| 35 | BA | 1033 | G | N1-C2-N3 | -6.13 | 120.22 | 123.90 |
| 35 | BA | 1379 | G | N3-C2-N2 | -6.13 | 115.61 | 119.90 |
| 35 | BA | 1499 | A | N7-C8-N9 | 6.13 | 116.86 | 113.80 |
| 36 | BB | 40 | G | N9-C4-C5 | -6.13 | 102.95 | 105.40 |
| 36 | BB | 45 | G | C4'-C3'-C2' | -6.13 | 96.47 | 102.60 |
| 2 | AB | 670 | A | C5'-C4'-O4' | 6.13 | 116.45 | 109.10 |
| 2 | AB | 1429 | G | N3-C4-C5 | -6.13 | 125.54 | 128.60 |
| 2 | AB | 1625 | C | N1-C2-O2 | 6.13 | 122.58 | 118.90 |
| 2 | AB | 1802 | A | C5'-C4'-O4' | 6.13 | 116.45 | 109.10 |
| 2 | AB | 1913 | A | O4'-C4'-C3' | 6.13 | 111.00 | 106.10 |
| 2 | AB | 2248 | C | C1'-O4'-C4' | 6.13 | 114.80 | 109.90 |
| 2 | AB | 2336 | A | N1-C2-N3 | -6.13 | 126.24 | 129.30 |
| 35 | BA | 297 | G | C4-N9-C1' | -6.13 | 118.53 | 126.50 |
| 35 | BA | 565 | U | P-O3'-C3' | 6.13 | 127.05 | 119.70 |
| 36 | BB | 47 | C | P-O3'-C3' | 6.13 | 127.05 | 119.70 |
| 37 | BC | 4 | G | N3-C2-N2 | -6.13 | 115.61 | 119.90 |
| 2 | AB | 1460 | U | N3-C4-C5 | -6.12 | 110.92 | 114.60 |
| 2 | AB | 2008 | C | O4'-C1'-C2' | -6.12 | 99.67 | 105.80 |
| 35 | BA | 810 | C | N3-C2-O2 | -6.12 | 117.61 | 121.90 |
| 35 | BA | 1223 | C | P-O3'-C3' | 6.12 | 127.05 | 119.70 |
| 1 | AA | 64 | G | C5-C6-N1 | -6.12 | 108.44 | 111.50 |
| 2 | AB | 445 | C | O4'-C4'-C3' | 6.12 | 111.00 | 106.10 |
| 2 | AB | 601 | C | N1-C2-O2 | 6.12 | 122.57 | 118.90 |
| 2 | AB | 1059 | G | N1-C2-N3 | -6.12 | 120.22 | 123.90 |
| 2 | AB | 1357 | C | C1'-O4'-C4' | 6.12 | 114.80 | 109.90 |
| 2 | AB | 1512 | C | N1-C2-O2 | 6.12 | 122.57 | 118.90 |
| 2 | AB | 1613 | G | C1'-O4'-C4' | -6.12 | 105.00 | 109.90 |
| 2 | AB | 1691 | C | C2-N3-C4 | -6.12 | 116.84 | 119.90 |
| 2 | AB | 2618 | G | C5-N7-C8 | -6.12 | 101.24 | 104.30 |
| 2 | AB | 2643 | G | P-O3'-C3' | 6.12 | 127.05 | 119.70 |
| 2 | AB | 2685 | G | C3'-C2'-C1' | -6.12 | 96.60 | 101.50 |
| 4 | AD | 268 | ARG | NE-CZ-NH2 | -6.12 | 117.24 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 5 | AE | 175 | LEU | CB-CG-CD1 | -6.12 | 100.59 | 111.00 |
| 35 | BA | 577 | G | N7-C8-N9 | 6.12 | 116.16 | 113.10 |
| 2 | AB | 504 | A | C5'-C4'-O4' | 6.12 | 116.45 | 109.10 |
| 2 | AB | 914 | G | C2-N3-C4 | 6.12 | 114.96 | 111.90 |
| 2 | AB | 1561 | C | C5-C6-N1 | 6.12 | 124.06 | 121.00 |
| 2 | AB | 2356 | U | O5'-P-OP2 | -6.12 | 100.19 | 105.70 |
| 35 | BA | 114 | U | N3-C2-O2 | -6.12 | 117.92 | 122.20 |
| 35 | BA | 355 | C | C2-N3-C4 | 6.12 | 122.96 | 119.90 |
| 35 | BA | 398 | U | C1'-O4'-C4' | 6.12 | 114.80 | 109.90 |
| 35 | BA | 517 | G | N1-C6-O6 | -6.12 | 116.23 | 119.90 |
| 35 | BA | 641 | U | C5-C6-N1 | -6.12 | 119.64 | 122.70 |
| 35 | BA | 1098 | C | N3-C2-O2 | -6.12 | 117.61 | 121.90 |
| 35 | BA | 1306 | A | N9-C4-C5 | -6.12 | 103.35 | 105.80 |
| 2 | AB | 1543 | G | C8-N9-C4 | -6.12 | 103.95 | 106.40 |
| 2 | AB | 1723 | G | C5-N7-C8 | 6.12 | 107.36 | 104.30 |
| 2 | AB | 1752 | C | C5-C4-N4 | -6.12 | 115.92 | 120.20 |
| 12 | AL | 98 | GLU | CA-CB-CG | 6.12 | 126.86 | 113.40 |
| 24 | AX | 21 | ARG | NE-CZ-NH1 | -6.12 | 117.24 | 120.30 |
| 35 | BA | 179 | A | O4'-C1'-N9 | 6.12 | 113.10 | 108.20 |
| 35 | BA | 690 | G | P-O5'-C5' | 6.12 | 130.69 | 120.90 |
| 35 | BA | 744 | C | C5-C4-N4 | -6.12 | 115.92 | 120.20 |
| 35 | BA | 1174 | G | C8-N9-C4 | 6.12 | 108.85 | 106.40 |
| 35 | BA | 1330 | U | C1'-O4'-C4' | 6.12 | 114.80 | 109.90 |
| 2 | AB | 442 | G | O4'-C1'-N9 | 6.12 | 113.09 | 108.20 |
| 2 | AB | 538 | A | O4'-C1'-N9 | 6.12 | 113.09 | 108.20 |
| 2 | AB | 769 | U | C4'-C3'-C2' | -6.12 | 96.48 | 102.60 |
| 2 | AB | 828 | U | C3'-C2'-C1' | 6.12 | 106.39 | 101.50 |
| 2 | AB | 995 | C | N1-C2-O2 | 6.12 | 122.57 | 118.90 |
| 2 | AB | 1178 | C | C6-N1-C2 | 6.12 | 122.75 | 120.30 |
| 2 | AB | 1807 | G | C2'-C3'-O3' | 6.12 | 123.49 | 113.70 |
| 2 | AB | 2008 | C | N1-C2-N3 | -6.12 | 114.92 | 119.20 |
| 2 | AB | 2182 | U | C2-N3-C4 | -6.12 | 123.33 | 127.00 |
| 2 | AB | 2555 | U | C6-N1-C2 | 6.12 | 124.67 | 121.00 |
| 2 | AB | 2615 | U | C5-C6-N1 | -6.12 | 119.64 | 122.70 |
| 35 | BA | 92 | U | C4'-C3'-C2' | -6.12 | 96.48 | 102.60 |
| 35 | BA | 364 | A | C6-C5-N7 | 6.12 | 136.58 | 132.30 |
| 35 | BA | 560 | A | C8-N9-C4 | 6.12 | 108.25 | 105.80 |
| 37 | BC | 63 | C | C2-N1-C1' | -6.12 | 112.07 | 118.80 |
| 46 | BL | 13 | PHE | CB-CG-CD2 | -6.12 | 116.52 | 120.80 |
| 1 | AA | 17 | C | C4'-C3'-C2' | 6.12 | 108.72 | 102.60 |
| 2 | AB | 232 | G | N3-C4-N9 | 6.12 | 129.67 | 126.00 |
| 2 | AB | 1148 | U | N3-C4-C5 | 6.12 | 118.27 | 114.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1882 | U | N3-C2-O2 | 6.12 | 126.48 | 122.20 |
| 2 | AB | 2163 | A | C5'-C4'-O4' | 6.12 | 116.44 | 109.10 |
| 2 | AB | 2734 | A | N1-C6-N6 | 6.12 | 122.27 | 118.60 |
| 35 | BA | 29 | U | C5-C4-O4 | 6.12 | 129.57 | 125.90 |
| 35 | BA | 51 | A | O3'-P-O5' | -6.12 | 92.38 | 104.00 |
| 35 | BA | 921 | U | N3-C4-O4 | 6.12 | 123.68 | 119.40 |
| 35 | BA | 1369 | C | O4'-C1'-N1 | 6.12 | 113.09 | 108.20 |
| 2 | AB | 1295 | C | C5'-C4'-O4' | 6.12 | 116.44 | 109.10 |
| 2 | AB | 1913 | A | C4-C5-N7 | -6.12 | 107.64 | 110.70 |
| 35 | BA | 7 | A | C6-N1-C2 | -6.12 | 114.93 | 118.60 |
| 35 | BA | 944 | G | C5-C6-O6 | -6.12 | 124.93 | 128.60 |
| 35 | BA | 1347 | G | N7-C8-N9 | 6.12 | 116.16 | 113.10 |
| 1 | AA | 64 | G | C4-C5-C6 | 6.11 | 122.47 | 118.80 |
| 1 | AA | 81 | G | N9-C4-C5 | 6.11 | 107.85 | 105.40 |
| 2 | AB | 250 | G | C4-C5-N7 | -6.11 | 108.36 | 110.80 |
| 2 | AB | 783 | A | N1-C2-N3 | 6.11 | 132.36 | 129.30 |
| 2 | AB | 842 | U | N3-C4-O4 | 6.11 | 123.68 | 119.40 |
| 2 | AB | 2008 | C | N1-C1'-C2' | -6.11 | 105.27 | 112.00 |
| 2 | AB | 2387 | U | N1-C2-N3 | 6.11 | 118.57 | 114.90 |
| 2 | AB | 2801 | G | N7-C8-N9 | 6.11 | 116.16 | 113.10 |
| 35 | BA | 213 | G | C5'-C4'-O4' | 6.11 | 116.44 | 109.10 |
| 35 | BA | 635 | A | C5-N7-C8 | 6.11 | 106.96 | 103.90 |
| 35 | BA | 1122 | U | C2-N3-C4 | -6.11 | 123.33 | 127.00 |
| 35 | BA | 1304 | G | C4-C5-N7 | 6.11 | 113.25 | 110.80 |
| 2 | AB | 581 | C | N3-C4-C5 | -6.11 | 119.45 | 121.90 |
| 2 | AB | 1395 | A | C5-C6-N1 | 6.11 | 120.76 | 117.70 |
| 2 | AB | 2448 | A | N7-C8-N9 | 6.11 | 116.86 | 113.80 |
| 11 | AK | 37 | PHE | CB-CG-CD1 | -6.11 | 116.52 | 120.80 |
| 35 | BA | 763 | G | N1-C6-O6 | 6.11 | 123.57 | 119.90 |
| 35 | BA | 798 | U | O4'-C1'-N1 | 6.11 | 113.09 | 108.20 |
| 37 | BC | 63 | C | C1'-O4'-C4' | 6.11 | 114.79 | 109.90 |
| 1 | AA | 111 | U | N3-C2-O2 | -6.11 | 117.92 | 122.20 |
| 2 | AB | 561 | G | C1'-O4'-C4' | 6.11 | 114.79 | 109.90 |
| 2 | AB | 723 | C | N1-C2-O2 | -6.11 | 115.23 | 118.90 |
| 2 | AB | 1121 | C | C4'-C3'-C2' | -6.11 | 96.49 | 102.60 |
| 2 | AB | 1176 | U | C6-N1-C2 | -6.11 | 117.33 | 121.00 |
| 2 | AB | 1380 | G | C4-C5-C6 | 6.11 | 122.47 | 118.80 |
| 2 | AB | 2250 | G | N3-C4-N9 | 6.11 | 129.67 | 126.00 |
| 2 | AB | 2446 | G | C6-C5-N7 | 6.11 | 134.07 | 130.40 |
| 2 | AB | 2886 | A | C4'-C3'-C2' | -6.11 | 96.49 | 102.60 |
| 35 | BA | 111 | G | O4'-C1'-N9 | 6.11 | 113.09 | 108.20 |
| 35 | BA | 179 | A | C5'-C4'-O4' | 6.11 | 116.43 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 303 | A | N9-C1'-C2' | -6.11 | 105.28 | 112.00 |
| 35 | BA | 692 | U | C4'-C3'-C2' | -6.11 | 96.49 | 102.60 |
| 35 | BA | 1441 | A | O4'-C1'-N9 | 6.11 | 113.09 | 108.20 |
| 37 | BC | 65 | G | O4'-C1'-N9 | 6.11 | 113.09 | 108.20 |
| 2 | AB | 258 | G | C6-N1-C2 | -6.11 | 121.44 | 125.10 |
| 2 | AB | 489 | G | C6-C5-N7 | -6.11 | 126.73 | 130.40 |
| 2 | AB | 713 | G | C6-C5-N7 | -6.11 | 126.73 | 130.40 |
| 2 | AB | 794 | A | C2-N3-C4 | 6.11 | 113.65 | 110.60 |
| 2 | AB | 2050 | C | C3'-C2'-C1' | 6.11 | 106.39 | 101.50 |
| 35 | BA | 174 | A | O5'-P-OP2 | 6.11 | 118.03 | 110.70 |
| 35 | BA | 751 | U | O3'-P-O5' | -6.11 | 92.39 | 104.00 |
| 35 | BA | 1188 | A | C4-C5-C6 | 6.11 | 120.06 | 117.00 |
| 2 | AB | 57 | C | O3'-P-O5' | -6.11 | 92.39 | 104.00 |
| 2 | AB | 323 | C | C4-C5-C6 | 6.11 | 120.45 | 117.40 |
| 2 | AB | 849 | A | C2-N3-C4 | 6.11 | 113.65 | 110.60 |
| 2 | AB | 1033 | U | C3'-C2'-C1' | -6.11 | 96.61 | 101.50 |
| 2 | AB | 1221 | C | C5'-C4'-O4' | 6.11 | 116.43 | 109.10 |
| 2 | AB | 1521 | G | N1-C2-N2 | 6.11 | 121.70 | 116.20 |
| 2 | AB | 1559 | U | N3-C2-O2 | -6.11 | 117.92 | 122.20 |
| 2 | AB | 2261 | C | N3-C4-N4 | 6.11 | 122.28 | 118.00 |
| 2 | AB | 2396 | G | C1'-O4'-C4' | 6.11 | 114.79 | 109.90 |
| 2 | AB | 2746 | U | C4'-C3'-C2' | -6.11 | 96.49 | 102.60 |
| 2 | AB | 2781 | A | C8-N9-C4 | 6.11 | 108.24 | 105.80 |
| 35 | BA | 287 | U | N1-C1'-C2' | -6.11 | 105.28 | 112.00 |
| 35 | BA | 723 | U | O4'-C1'-N1 | 6.11 | 113.09 | 108.20 |
| 35 | BA | 1218 | C | C6-N1-C2 | 6.11 | 122.74 | 120.30 |
| 35 | BA | 1377 | A | P-O3'-C3' | 6.11 | 127.03 | 119.70 |
| 42 | BH | 103 | VAL | CA-CB-CG1 | 6.11 | 120.06 | 110.90 |
| 51 | BQ | 77 | TYR | CB-CG-CD1 | -6.11 | 117.34 | 121.00 |
| 1 | AA | 87 | U | N3-C4-C5 | -6.11 | 110.94 | 114.60 |
| 2 | AB | 661 | A | C6-C5-N7 | 6.11 | 136.57 | 132.30 |
| 2 | AB | 1336 | A | N7-C8-N9 | 6.11 | 116.85 | 113.80 |
| 2 | AB | 1511 | G | C5-N7-C8 | 6.11 | 107.35 | 104.30 |
| 8 | AH | 136 | ASP | CB-CG-OD2 | -6.11 | 112.81 | 118.30 |
| 35 | BA | 513 | C | C5-C4-N4 | -6.11 | 115.93 | 120.20 |
| 35 | BA | 769 | G | N7-C8-N9 | 6.11 | 116.15 | 113.10 |
| 35 | BA | 1099 | G | N9-C1'-C2' | -6.11 | 105.28 | 112.00 |
| 2 | AB | 66 | C | C5'-C4'-O4' | 6.10 | 116.42 | 109.10 |
| 2 | AB | 222 | A | N1-C6-N6 | -6.10 | 114.94 | 118.60 |
| 2 | AB | 881 | G | N1-C6-O6 | 6.10 | 123.56 | 119.90 |
| 2 | AB | 975 | A | O5'-P-OP1 | 6.10 | 118.02 | 110.70 |
| 2 | AB | 1250 | G | C3'-C2'-C1' | 6.10 | 106.38 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2214 | C | C5-C4-N4 | 6.10 | 124.47 | 120.20 |
| 5 | AE | 127 | PHE | CB-CG-CD2 | -6.10 | 116.53 | 120.80 |
| 35 | BA | 1378 | C | N1-C2-O2 | 6.10 | 122.56 | 118.90 |
| 35 | BA | 1464 | U | N3-C4-O4 | 6.10 | 123.67 | 119.40 |
| 44 | BJ | 26 | MET | CA-CB-CG | 6.10 | 123.68 | 113.30 |
| 2 | AB | 2064 | C | O4'-C4'-C3' | 6.10 | 110.98 | 106.10 |
| 2 | AB | 2522 | U | C2-N3-C4 | -6.10 | 123.34 | 127.00 |
| 2 | AB | 2654 | A | O4'-C1'-N9 | 6.10 | 113.08 | 108.20 |
| 35 | BA | 491 | G | O4'-C4'-C3' | 6.10 | 110.98 | 106.10 |
| 35 | BA | 546 | A | C3'-C2'-C1' | 6.10 | 106.38 | 101.50 |
| 35 | BA | 616 | G | N3-C4-C5 | -6.10 | 125.55 | 128.60 |
| 35 | BA | 760 | G | C3'-C2'-C1' | -6.10 | 96.62 | 101.50 |
| 35 | BA | 1180 | A | N1-C2-N3 | -6.10 | 126.25 | 129.30 |
| 50 | BP | 40 | ARG | NE-CZ-NH1 | 6.10 | 123.35 | 120.30 |
| 2 | AB | 1084 | A | N9-C4-C5 | 6.10 | 108.24 | 105.80 |
| 2 | AB | 1558 | C | C3'-C2'-C1' | 6.10 | 106.38 | 101.50 |
| 2 | AB | 2066 | C | C5'-C4'-O4' | 6.10 | 116.42 | 109.10 |
| 2 | AB | 2821 | A | N7-C8-N9 | 6.10 | 116.85 | 113.80 |
| 2 | AB | 2871 | U | O4'-C1'-N1 | 6.10 | 113.08 | 108.20 |
| 35 | BA | 830 | G | C1'-O4'-C4' | 6.10 | 114.78 | 109.90 |
| 35 | BA | 1073 | U | C4'-C3'-C2' | -6.10 | 96.50 | 102.60 |
| 35 | BA | 1092 | A | C5'-C4'-C3' | -6.10 | 106.24 | 116.00 |
| 1 | AA | 22 | U | C6-N1-C2 | -6.10 | 117.34 | 121.00 |
| 2 | AB | 581 | C | N3-C4-N4 | 6.10 | 122.27 | 118.00 |
| 2 | AB | 789 | A | C5'-C4'-O4' | 6.10 | 116.42 | 109.10 |
| 2 | AB | 954 | G | C2-N3-C4 | 6.10 | 114.95 | 111.90 |
| 2 | AB | 1691 | C | P-O3'-C3' | 6.10 | 127.02 | 119.70 |
| 2 | AB | 2461 | A | P-O5'-C5' | 6.10 | 130.66 | 120.90 |
| 2 | AB | 2578 | G | N1-C6-O6 | 6.10 | 123.56 | 119.90 |
| 6 | AF | 176 | ASP | CB-CG-OD1 | -6.10 | 112.81 | 118.30 |
| 35 | BA | 451 | A | O3'-P-O5' | 6.10 | 115.59 | 104.00 |
| 35 | BA | 661 | G | C1'-O4'-C4' | 6.10 | 114.78 | 109.90 |
| 35 | BA | 889 | A | C5'-C4'-C3' | 6.10 | 125.76 | 116.00 |
| 35 | BA | 953 | G | O4'-C1'-N9 | 6.10 | 113.08 | 108.20 |
| 35 | BA | 1415 | G | N9-C4-C5 | 6.10 | 107.84 | 105.40 |
| 35 | BA | 1530 | G | N3-C4-C5 | -6.10 | 125.55 | 128.60 |
| 2 | AB | 696 | G | C5'-C4'-O4' | 6.10 | 116.42 | 109.10 |
| 2 | AB | 937 | C | N1-C1'-C2' | -6.10 | 105.29 | 112.00 |
| 2 | AB | 1129 | A | O4'-C1'-N9 | 6.10 | 113.08 | 108.20 |
| 2 | AB | 1544 | A | N9-C4-C5 | -6.10 | 103.36 | 105.80 |
| 2 | AB | 1816 | C | N3-C2-O2 | -6.10 | 117.63 | 121.90 |
| 2 | AB | 1976 | U | C2-N3-C4 | -6.10 | 123.34 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2101 | A | C5-C6-N6 | -6.10 | 118.82 | 123.70 |
| 2 | AB | 2143 | C | O4'-C1'-N1 | 6.10 | 113.08 | 108.20 |
| 2 | AB | 2628 | C | N1-C2-N3 | -6.10 | 114.93 | 119.20 |
| 35 | BA | 497 | G | C4-C5-C6 | 6.10 | 122.46 | 118.80 |
| 35 | BA | 976 | G | C6-C5-N7 | -6.10 | 126.74 | 130.40 |
| 35 | BA | 1109 | C | O4'-C1'-N1 | 6.10 | 113.08 | 108.20 |
| 35 | BA | 1127 | G | N3-C4-C5 | -6.10 | 125.55 | 128.60 |
| 54 | BT | 47 | ARG | NE-CZ-NH1 | 6.10 | 123.35 | 120.30 |
| 2 | AB | 1201 | U | O4'-C1'-N1 | 6.10 | 113.08 | 108.20 |
| 2 | AB | 1256 | G | N3-C2-N2 | 6.10 | 124.17 | 119.90 |
| 2 | AB | 2484 | G | O5'-P-OP2 | 6.10 | 118.02 | 110.70 |
| 35 | BA | 1330 | U | C4-C5-C6 | 6.10 | 123.36 | 119.70 |
| 2 | AB | 1122 | G | C5'-C4'-C3' | 6.09 | 125.75 | 116.00 |
| 2 | AB | 2249 | U | C2-N3-C4 | -6.09 | 123.34 | 127.00 |
| 2 | AB | 2894 | G | C4-C5-C6 | -6.09 | 115.14 | 118.80 |
| 35 | BA | 690 | G | C8-N9-C1' | 6.09 | 134.92 | 127.00 |
| 35 | BA | 704 | A | O5'-P-OP2 | -6.09 | 100.22 | 105.70 |
| 35 | BA | 1467 | C | C4-C5-C6 | 6.09 | 120.45 | 117.40 |
| 2 | AB | 1305 | C | C5'-C4'-O4' | 6.09 | 116.41 | 109.10 |
| 2 | AB | 1909 | C | C5'-C4'-O4' | 6.09 | 116.41 | 109.10 |
| 15 | AO | 92 | TRP | NE1-CE2-CD2 | -6.09 | 101.21 | 107.30 |
| 35 | BA | 60 | A | C2-N3-C4 | 6.09 | 113.65 | 110.60 |
| 35 | BA | 508 | U | N1-C2-N3 | 6.09 | 118.56 | 114.90 |
| 35 | BA | 525 | C | C2-N3-C4 | 6.09 | 122.95 | 119.90 |
| 35 | BA | 973 | G | C5-C6-O6 | -6.09 | 124.94 | 128.60 |
| 35 | BA | 1354 | U | C3'-C2'-C1' | -6.09 | 96.62 | 101.50 |
| 36 | BB | 23 | C | N1-C2-O2 | 6.09 | 122.56 | 118.90 |
| 37 | BC | 44 | A | C5'-C4'-O4' | 6.09 | 116.41 | 109.10 |
| 2 | AB | 1053 | C | C2-N3-C4 | 6.09 | 122.95 | 119.90 |
| 2 | AB | 1058 | U | C4'-C3'-C2' | -6.09 | 96.51 | 102.60 |
| 2 | AB | 2578 | G | C8-N9-C4 | -6.09 | 103.96 | 106.40 |
| 2 | AB | 2891 | U | C2-N3-C4 | -6.09 | 123.34 | 127.00 |
| 35 | BA | 19 | A | C4-C5-C6 | 6.09 | 120.05 | 117.00 |
| 35 | BA | 70 | U | C2-N3-C4 | -6.09 | 123.34 | 127.00 |
| 35 | BA | 108 | G | C5-C6-O6 | -6.09 | 124.95 | 128.60 |
| 35 | BA | 195 | A | N7-C8-N9 | 6.09 | 116.85 | 113.80 |
| 35 | BA | 228 | A | C5'-C4'-O4' | 6.09 | 116.41 | 109.10 |
| 35 | BA | 304 | U | C4-C5-C6 | 6.09 | 123.35 | 119.70 |
| 35 | BA | 464 | U | C5'-C4'-O4' | 6.09 | 116.41 | 109.10 |
| 35 | BA | 706 | A | N1-C2-N3 | -6.09 | 126.25 | 129.30 |
| 35 | BA | 798 | U | C6-N1-C2 | 6.09 | 124.66 | 121.00 |
| 35 | BA | 1073 | U | N1-C1'-C2' | -6.09 | 105.30 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1200 | C | O4'-C1'-N1 | 6.09 | 113.07 | 108.20 |
| 2 | AB | 1401 | G | N3-C4-C5 | -6.09 | 125.56 | 128.60 |
| 2 | AB | 1808 | A | O4'-C1'-N9 | 6.09 | 113.07 | 108.20 |
| 2 | AB | 1817 | G | C5-C6-O6 | -6.09 | 124.95 | 128.60 |
| 2 | AB | 2322 | A | N7-C8-N9 | -6.09 | 110.75 | 113.80 |
| 2 | AB | 2487 | G | N3-C2-N2 | 6.09 | 124.16 | 119.90 |
| 2 | AB | 2731 | G | O4'-C1'-C2' | 6.09 | 113.08 | 107.60 |
| 35 | BA | 1064 | G | C4-C5-N7 | 6.09 | 113.24 | 110.80 |
| 2 | AB | 149 | A | C5-C6-N1 | -6.09 | 114.66 | 117.70 |
| 2 | AB | 1415 | U | C1'-O4'-C4' | 6.09 | 114.77 | 109.90 |
| 2 | AB | 1858 | A | C2-N3-C4 | 6.09 | 113.64 | 110.60 |
| 2 | AB | 2205 | A | N3-C4-C5 | 6.09 | 131.06 | 126.80 |
| 35 | BA | 1087 | G | C4-C5-N7 | -6.09 | 108.36 | 110.80 |
| 1 | AA | 22 | U | N3-C4-O4 | -6.09 | 115.14 | 119.40 |
| 1 | AA | 31 | C | N3-C4-C5 | -6.09 | 119.47 | 121.90 |
| 2 | AB | 438 | G | O5'-P-OP1 | -6.09 | 100.22 | 105.70 |
| 2 | AB | 635 | C | C5-C6-N1 | 6.09 | 124.04 | 121.00 |
| 2 | AB | 972 | A | C5-N7-C8 | -6.09 | 100.86 | 103.90 |
| 2 | AB | 1262 | A | N7-C8-N9 | 6.09 | 116.84 | 113.80 |
| 2 | AB | 1313 | U | O4'-C1'-N1 | -6.09 | 103.33 | 108.20 |
| 2 | AB | 1719 | G | N1-C2-N3 | -6.09 | 120.25 | 123.90 |
| 2 | AB | 1761 | C | C4'-C3'-C2' | -6.09 | 96.51 | 102.60 |
| 2 | AB | 2102 | G | C8-N9-C1' | 6.09 | 134.91 | 127.00 |
| 2 | AB | 2770 | G | P-O3'-C3' | 6.09 | 127.00 | 119.70 |
| 2 | AB | 2876 | G | C5-N7-C8 | 6.09 | 107.34 | 104.30 |
| 15 | AO | 6 | ARG | NE-CZ-NH1 | 6.09 | 123.34 | 120.30 |
| 35 | BA | 56 | U | C5-C6-N1 | -6.09 | 119.66 | 122.70 |
| 35 | BA | 241 | G | C6-N1-C2 | -6.09 | 121.45 | 125.10 |
| 35 | BA | 308 | C | C5-C4-N4 | -6.09 | 115.94 | 120.20 |
| 35 | BA | 430 | A | N1-C6-N6 | 6.09 | 122.25 | 118.60 |
| 35 | BA | 609 | A | N1-C6-N6 | 6.09 | 122.25 | 118.60 |
| 41 | BG | 48 | GLY | O-C-N | 6.09 | 132.44 | 122.70 |
| 2 | AB | 1936 | A | C1'-O4'-C4' | -6.08 | 105.03 | 109.90 |
| 2 | AB | 2292 | U | O4'-C1'-N1 | 6.08 | 113.07 | 108.20 |
| 2 | AB | 2311 | A | N9-C4-C5 | -6.08 | 103.37 | 105.80 |
| 35 | BA | 87 | C | N3-C2-O2 | -6.08 | 117.64 | 121.90 |
| 35 | BA | 986 | U | O5'-P-OP2 | -6.08 | 100.22 | 105.70 |
| 35 | BA | 1217 | C | C4-C5-C6 | -6.08 | 114.36 | 117.40 |
| 1 | AA | 10 | G | N3-C4-N9 | 6.08 | 129.65 | 126.00 |
| 1 | AA | 84 | G | N3-C4-C5 | -6.08 | 125.56 | 128.60 |
| 2 | AB | 308 | G | O4'-C1'-N9 | 6.08 | 113.07 | 108.20 |
| 2 | AB | 769 | U | N3-C2-O2 | -6.08 | 117.94 | 122.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 770 | G | C2-N3-C4 | 6.08 | 114.94 | 111.90 |
| 2 | AB | 909 | A | P-O3'-C3' | 6.08 | 127.00 | 119.70 |
| 2 | AB | 962 | G | C5-C6-N1 | 6.08 | 114.54 | 111.50 |
| 2 | AB | 1180 | U | C5-C4-O4 | -6.08 | 122.25 | 125.90 |
| 2 | AB | 1644 | C | N3-C2-O2 | -6.08 | 117.64 | 121.90 |
| 2 | AB | 1999 | C | N3-C4-C5 | -6.08 | 119.47 | 121.90 |
| 2 | AB | 2293 | G | C4-C5-N7 | 6.08 | 113.23 | 110.80 |
| 2 | AB | 2380 | C | N1-C2-N3 | -6.08 | 114.94 | 119.20 |
| 2 | AB | 2578 | G | C4-C5-C6 | 6.08 | 122.45 | 118.80 |
| 35 | BA | 408 | A | N7-C8-N9 | 6.08 | 116.84 | 113.80 |
| 35 | BA | 423 | G | N3-C4-C5 | -6.08 | 125.56 | 128.60 |
| 35 | BA | 942 | G | N3-C4-N9 | 6.08 | 129.65 | 126.00 |
| 35 | BA | 1425 | U | N3-C4-O4 | 6.08 | 123.66 | 119.40 |
| 2 | AB | 55 | G | C4'-C3'-C2' | -6.08 | 96.52 | 102.60 |
| 2 | AB | 95 | A | C5-C6-N6 | -6.08 | 118.83 | 123.70 |
| 2 | AB | 413 | C | O4'-C1'-N1 | 6.08 | 113.06 | 108.20 |
| 2 | AB | 627 | A | C8-N9-C4 | -6.08 | 103.37 | 105.80 |
| 2 | AB | 660 | C | O4'-C4'-C3' | 6.08 | 110.97 | 106.10 |
| 2 | AB | 1348 | C | C6-N1-C2 | -6.08 | 117.87 | 120.30 |
| 2 | AB | 1406 | U | P-O3'-C3' | 6.08 | 127.00 | 119.70 |
| 2 | AB | 1972 | G | C5'-C4'-O4' | 6.08 | 116.40 | 109.10 |
| 2 | AB | 2044 | C | C5-C6-N1 | 6.08 | 124.04 | 121.00 |
| 2 | AB | 2076 | U | N1-C2-N3 | 6.08 | 118.55 | 114.90 |
| 2 | AB | 2402 | U | C5'-C4'-O4' | 6.08 | 116.40 | 109.10 |
| 2 | AB | 2464 | G | P-O3'-C3' | 6.08 | 127.00 | 119.70 |
| 2 | AB | 2538 | C | N1-C2-N3 | 6.08 | 123.46 | 119.20 |
| 35 | BA | 53 | A | N9-C4-C5 | 6.08 | 108.23 | 105.80 |
| 35 | BA | 205 | A | O4'-C1'-N9 | 6.08 | 113.06 | 108.20 |
| 35 | BA | 812 | G | C5-C6-O6 | -6.08 | 124.95 | 128.60 |
| 35 | BA | 959 | A | O4'-C1'-N9 | 6.08 | 113.06 | 108.20 |
| 35 | BA | 1059 | C | C5-C6-N1 | 6.08 | 124.04 | 121.00 |
| 35 | BA | 1462 | C | N3-C4-C5 | -6.08 | 119.47 | 121.90 |
| 2 | AB | 798 | G | C3'-C2'-C1' | -6.08 | 96.64 | 101.50 |
| 2 | AB | 977 | G | O4'-C1'-N9 | -6.08 | 103.34 | 108.20 |
| 2 | AB | 1347 | A | C2-N3-C4 | -6.08 | 107.56 | 110.60 |
| 2 | AB | 1878 | G | C4-C5-C6 | 6.08 | 122.45 | 118.80 |
| 35 | BA | 976 | G | N9-C4-C5 | -6.08 | 102.97 | 105.40 |
| 35 | BA | 1222 | G | C5-C6-N1 | -6.08 | 108.46 | 111.50 |
| 35 | BA | 1524 | C | O4'-C1'-N1 | 6.08 | 113.06 | 108.20 |
| 36 | BB | 16 | A | C5-C6-N1 | 6.08 | 120.74 | 117.70 |
| 1 | AA | 119 | A | C8-N9-C4 | -6.08 | 103.37 | 105.80 |
| 2 | AB | 939 | G | C4'-C3'-C2' | -6.08 | 96.52 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 990 | A | C2-N3-C4 | 6.08 | 113.64 | 110.60 |
| 2 | AB | 1218 | G | C6-C5-N7 | -6.08 | 126.75 | 130.40 |
| 2 | AB | 1702 | G | C2-N3-C4 | 6.08 | 114.94 | 111.90 |
| 2 | AB | 1840 | G | P-O3'-C3' | 6.08 | 126.99 | 119.70 |
| 2 | AB | 1888 | G | N9-C4-C5 | 6.08 | 107.83 | 105.40 |
| 2 | AB | 2400 | G | O4'-C4'-C3' | 6.08 | 110.96 | 106.10 |
| 2 | AB | 2440 | C | C1'-O4'-C4' | -6.08 | 105.04 | 109.90 |
| 11 | AK | 53 | PRO | N-CD-CG | 6.08 | 112.32 | 103.20 |
| 16 | AP | 91 | ALA | N-CA-CB | -6.08 | 101.59 | 110.10 |
| 35 | BA | 190 | A | N7-C8-N9 | 6.08 | 116.84 | 113.80 |
| 35 | BA | 224 | U | C2-N3-C4 | -6.08 | 123.35 | 127.00 |
| 35 | BA | 373 | A | N9-C4-C5 | -6.08 | 103.37 | 105.80 |
| 35 | BA | 1019 | A | C8-N9-C4 | 6.08 | 108.23 | 105.80 |
| 35 | BA | 1173 | U | C5-C6-N1 | -6.08 | 119.66 | 122.70 |
| 2 | AB | 923 | G | N9-C4-C5 | 6.08 | 107.83 | 105.40 |
| 2 | AB | 1340 | U | C4-C5-C6 | 6.08 | 123.35 | 119.70 |
| 2 | AB | 1810 | A | P-O3'-C3' | 6.08 | 126.99 | 119.70 |
| 2 | AB | 2097 | A | O4'-C1'-N9 | 6.08 | 113.06 | 108.20 |
| 1 | AA | 80 | U | N1-C2-N3 | 6.08 | 118.55 | 114.90 |
| 1 | AA | 96 | G | N1-C6-O6 | 6.08 | 123.55 | 119.90 |
| 2 | AB | 212 | G | N3-C4-N9 | 6.08 | 129.65 | 126.00 |
| 2 | AB | 618 | G | N3-C4-C5 | -6.08 | 125.56 | 128.60 |
| 2 | AB | 1534 | U | P-O3'-C3' | 6.08 | 126.99 | 119.70 |
| 2 | AB | 1719 | G | O5'-P-OP2 | -6.08 | 100.23 | 105.70 |
| 2 | AB | 1819 | A | O4'-C1'-N9 | 6.08 | 113.06 | 108.20 |
| 2 | AB | 1846 | G | N3-C2-N2 | 6.08 | 124.15 | 119.90 |
| 2 | AB | 2152 | G | C5'-C4'-O4' | 6.08 | 116.39 | 109.10 |
| 2 | AB | 2161 | C | O4'-C4'-C3' | -6.08 | 97.92 | 104.00 |
| 2 | AB | 2482 | A | C3'-C2'-C1' | -6.08 | 96.64 | 101.50 |
| 35 | BA | 6 | G | C4-C5-C6 | 6.08 | 122.44 | 118.80 |
| 35 | BA | 168 | G | N3-C4-C5 | -6.08 | 125.56 | 128.60 |
| 35 | BA | 379 | C | N1-C2-O2 | 6.08 | 122.55 | 118.90 |
| 35 | BA | 548 | G | C5-C6-O6 | -6.08 | 124.95 | 128.60 |
| 35 | BA | 594 | U | C5-C6-N1 | -6.08 | 119.66 | 122.70 |
| 37 | BC | 3 | C | O4'-C1'-N1 | 6.08 | 113.06 | 108.20 |
| 2 | AB | 280 | U | O4'-C1'-N1 | 6.07 | 113.06 | 108.20 |
| 2 | AB | 617 | G | N9-C4-C5 | -6.07 | 102.97 | 105.40 |
| 2 | AB | 629 | G | O4'-C1'-N9 | 6.07 | 113.06 | 108.20 |
| 2 | AB | 741 | U | C5-C4-O4 | -6.07 | 122.26 | 125.90 |
| 2 | AB | 1298 | C | P-O3'-C3' | 6.07 | 126.99 | 119.70 |
| 2 | AB | 1429 | G | C8-N9-C4 | 6.07 | 108.83 | 106.40 |
| 2 | AB | 2199 | A | N1-C6-N6 | 6.07 | 122.24 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2642 | G | O4'-C1'-C2' | -6.07 | 99.73 | 105.80 |
| 2 | AB | 2655 | G | C8-N9-C4 | -6.07 | 103.97 | 106.40 |
| 35 | BA | 171 | A | O4'-C1'-N9 | 6.07 | 113.06 | 108.20 |
| 35 | BA | 280 | C | O4'-C4'-C3' | 6.07 | 110.96 | 106.10 |
| 35 | BA | 411 | A | O4'-C1'-N9 | 6.07 | 113.06 | 108.20 |
| 2 | AB | 858 | G | C5-N7-C8 | -6.07 | 101.26 | 104.30 |
| 2 | AB | 917 | A | C5'-C4'-C3' | -6.07 | 106.28 | 116.00 |
| 2 | AB | 2341 | G | C8-N9-C1' | 6.07 | 134.89 | 127.00 |
| 2 | AB | 2769 | U | P-O3'-C3' | 6.07 | 126.99 | 119.70 |
| 35 | BA | 196 | A | C4'-C3'-C2' | -6.07 | 96.53 | 102.60 |
| 35 | BA | 590 | U | C5'-C4'-C3' | -6.07 | 106.28 | 116.00 |
| 35 | BA | 942 | G | N1-C6-O6 | -6.07 | 116.26 | 119.90 |
| 35 | BA | 1034 | G | O4'-C1'-N9 | 6.07 | 113.06 | 108.20 |
| 45 | BK | 6 | TYR | CB-CG-CD1 | 6.07 | 124.64 | 121.00 |
| 2 | AB | 258 | G | C5-N7-C8 | -6.07 | 101.26 | 104.30 |
| 2 | AB | 470 | A | C4'-C3'-C2' | -6.07 | 96.53 | 102.60 |
| 2 | AB | 632 | A | N3-C4-C5 | -6.07 | 122.55 | 126.80 |
| 2 | AB | 879 | G | N9-C4-C5 | 6.07 | 107.83 | 105.40 |
| 2 | AB | 974 | G | C5-C6-O6 | 6.07 | 132.24 | 128.60 |
| 2 | AB | 1555 | G | N1-C2-N2 | 6.07 | 121.66 | 116.20 |
| 2 | AB | 1788 | C | N3-C2-O2 | -6.07 | 117.65 | 121.90 |
| 2 | AB | 1812 | U | C5-C4-O4 | 6.07 | 129.54 | 125.90 |
| 2 | AB | 2688 | G | N1-C6-O6 | -6.07 | 116.26 | 119.90 |
| 35 | BA | 717 | U | O4'-C1'-N1 | 6.07 | 113.06 | 108.20 |
| 35 | BA | 1006 | G | C5-N7-C8 | 6.07 | 107.33 | 104.30 |
| 35 | BA | 1275 | A | C4-C5-C6 | 6.07 | 120.03 | 117.00 |
| 37 | BC | 75 | C | C4'-C3'-C2' | -6.07 | 96.53 | 102.60 |
| 1 | AA | 57 | A | C5-C6-N6 | 6.07 | 128.56 | 123.70 |
| 2 | AB | 1126 | A | C1'-O4'-C4' | 6.07 | 114.75 | 109.90 |
| 2 | AB | 1420 | A | N1-C6-N6 | 6.07 | 122.24 | 118.60 |
| 2 | AB | 2738 | A | C2-N3-C4 | 6.07 | 113.63 | 110.60 |
| 35 | BA | 15 | G | C6-N1-C2 | 6.07 | 128.74 | 125.10 |
| 1 | AA | 104 | A | C6-N1-C2 | -6.07 | 114.96 | 118.60 |
| 2 | AB | 760 | G | C2-N3-C4 | 6.07 | 114.93 | 111.90 |
| 2 | AB | 1230 | A | C8-N9-C4 | -6.07 | 103.37 | 105.80 |
| 2 | AB | 2891 | U | N1-C2-N3 | 6.07 | 118.54 | 114.90 |
| 35 | BA | 163 | C | C1'-O4'-C4' | 6.07 | 114.75 | 109.90 |
| 35 | BA | 186 | C | C4-C5-C6 | 6.07 | 120.43 | 117.40 |
| 35 | BA | 569 | C | C5'-C4'-C3' | -6.07 | 106.29 | 116.00 |
| 35 | BA | 586 | C | O4'-C1'-N1 | -6.07 | 103.35 | 108.20 |
| 35 | BA | 606 | G | C4-C5-C6 | 6.07 | 122.44 | 118.80 |
| 35 | BA | 1184 | G | N9-C1'-C2' | -6.07 | 105.33 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1440 | U | C5'-C4'-O4' | 6.07 | 116.38 | 109.10 |
| 35 | BA | 1495 | U | O5'-P-OP2 | -6.07 | 100.24 | 105.70 |
| 50 | BP | 52 | ARG | NE-CZ-NH2 | -6.07 | 117.27 | 120.30 |
| 2 | AB | 158 | U | N1-C2-O2 | -6.07 | 118.55 | 122.80 |
| 2 | AB | 548 | G | N1-C2-N3 | -6.07 | 120.26 | 123.90 |
| 2 | AB | 712 | G | C4'-C3'-C2' | -6.07 | 96.53 | 102.60 |
| 2 | AB | 1866 | A | N9-C1'-C2' | -6.07 | 105.33 | 112.00 |
| 2 | AB | 2628 | C | C6-N1-C1' | -6.07 | 113.52 | 120.80 |
| 26 | AZ | 39 | VAL | CA-CB-CG2 | 6.07 | 120.00 | 110.90 |
| 35 | BA | 199 | A | C4-C5-C6 | -6.07 | 113.97 | 117.00 |
| 35 | BA | 319 | G | C5'-C4'-C3' | -6.07 | 106.30 | 116.00 |
| 35 | BA | 416 | G | C4-C5-N7 | -6.07 | 108.37 | 110.80 |
| 35 | BA | 687 | A | C6-C5-N7 | 6.07 | 136.55 | 132.30 |
| 35 | BA | 801 | U | O4'-C1'-N1 | 6.07 | 113.05 | 108.20 |
| 35 | BA | 926 | G | N3-C4-N9 | 6.07 | 129.64 | 126.00 |
| 35 | BA | 950 | U | C6-N1-C2 | -6.07 | 117.36 | 121.00 |
| 35 | BA | 952 | U | C5-C6-N1 | -6.07 | 119.67 | 122.70 |
| 35 | BA | 1178 | G | O4'-C1'-N9 | -6.07 | 103.35 | 108.20 |
| 2 | AB | 559 | G | C3'-C2'-C1' | -6.06 | 96.65 | 101.50 |
| 2 | AB | 1215 | G | C5'-C4'-O4' | 6.06 | 116.38 | 109.10 |
| 2 | AB | 1233 | C | N1-C1'-C2' | -6.06 | 105.33 | 112.00 |
| 2 | AB | 2862 | G | C4'-C3'-C2' | -6.06 | 96.54 | 102.60 |
| 35 | BA | 1187 | G | N9-C4-C5 | 6.06 | 107.83 | 105.40 |
| 35 | BA | 1259 | C | C5'-C4'-C3' | -6.06 | 106.30 | 116.00 |
| 35 | BA | 1487 | G | N3-C4-N9 | 6.06 | 129.64 | 126.00 |
| 2 | AB | 363 | G | N3-C2-N2 | 6.06 | 124.14 | 119.90 |
| 2 | AB | 701 | G | N3-C4-C5 | -6.06 | 125.57 | 128.60 |
| 2 | AB | 1097 | U | C2-N1-C1' | 6.06 | 124.97 | 117.70 |
| 2 | AB | 1639 | C | N3-C4-C5 | -6.06 | 119.47 | 121.90 |
| 2 | AB | 1719 | G | N1-C6-O6 | 6.06 | 123.54 | 119.90 |
| 2 | AB | 1875 | G | N7-C8-N9 | 6.06 | 116.13 | 113.10 |
| 2 | AB | 2606 | C | N3-C4-N4 | -6.06 | 113.76 | 118.00 |
| 2 | AB | 2867 | G | P-O3'-C3' | 6.06 | 126.97 | 119.70 |
| 35 | BA | 492 | C | C3'-C2'-C1' | 6.06 | 106.35 | 101.50 |
| 35 | BA | 890 | G | C6-N1-C2 | -6.06 | 121.46 | 125.10 |
| 1 | AA | 101 | A | N3-C4-N9 | 6.06 | 132.25 | 127.40 |
| 2 | AB | 1033 | U | C4-C5-C6 | 6.06 | 123.34 | 119.70 |
| 2 | AB | 1241 | A | C3'-C2'-C1' | 6.06 | 106.35 | 101.50 |
| 1 | AA | 27 | C | C5'-C4'-O4' | 6.06 | 116.37 | 109.10 |
| 2 | AB | 55 | G | N3-C4-C5 | -6.06 | 125.57 | 128.60 |
| 2 | AB | 368 | A | O4'-C1'-C2' | -6.06 | 99.74 | 105.80 |
| 2 | AB | 526 | A | O3'-P-O5' | -6.06 | 92.49 | 104.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1118 | C | N3-C2-O2 | -6.06 | 117.66 | 121.90 |
| 2 | AB | 1230 | A | C6-N1-C2 | 6.06 | 122.24 | 118.60 |
| 2 | AB | 1266 | G | C4-C5-N7 | 6.06 | 113.22 | 110.80 |
| 2 | AB | 1768 | C | N3-C4-N4 | -6.06 | 113.76 | 118.00 |
| 2 | AB | 1980 | G | O4'-C1'-C2' | -6.06 | 99.74 | 105.80 |
| 2 | AB | 2436 | G | C5-C6-O6 | -6.06 | 124.97 | 128.60 |
| 24 | AX | 43 | ASP | CB-CG-OD2 | 6.06 | 123.75 | 118.30 |
| 35 | BA | 436 | C | C4'-C3'-C2' | -6.06 | 96.54 | 102.60 |
| 35 | BA | 583 | A | C2-N3-C4 | -6.06 | 107.57 | 110.60 |
| 35 | BA | 818 | G | N1-C6-O6 | -6.06 | 116.26 | 119.90 |
| 35 | BA | 924 | C | O4'-C1'-N1 | 6.06 | 113.05 | 108.20 |
| 35 | BA | 1486 | G | N3-C2-N2 | 6.06 | 124.14 | 119.90 |
| 2 | AB | 1422 | G | C3'-C2'-C1' | -6.06 | 96.65 | 101.50 |
| 2 | AB | 1889 | A | N9-C4-C5 | 6.06 | 108.22 | 105.80 |
| 2 | AB | 2363 | G | O4'-C1'-N9 | 6.06 | 113.05 | 108.20 |
| 2 | AB | 2728 | U | C5'-C4'-O4' | 6.06 | 116.37 | 109.10 |
| 2 | AB | 2759 | G | N3-C4-C5 | -6.06 | 125.57 | 128.60 |
| 35 | BA | 194 | C | C6-N1-C2 | -6.06 | 117.88 | 120.30 |
| 35 | BA | 523 | A | N1-C6-N6 | -6.06 | 114.97 | 118.60 |
| 35 | BA | 539 | A | C3'-C2'-C1' | 6.06 | 106.34 | 101.50 |
| 2 | AB | 1431 | A | C2-N3-C4 | 6.06 | 113.63 | 110.60 |
| 2 | AB | 2087 | G | C6-N1-C2 | -6.06 | 121.47 | 125.10 |
| 2 | AB | 2238 | G | C5-C6-N1 | 6.06 | 114.53 | 111.50 |
| 35 | BA | 177 | G | C4-C5-N7 | -6.06 | 108.38 | 110.80 |
| 35 | BA | 1421 | G | N3-C2-N2 | 6.06 | 124.14 | 119.90 |
| 2 | AB | 94 | A | C5-C6-N6 | -6.05 | 118.86 | 123.70 |
| 2 | AB | 318 | C | C1'-O4'-C4' | -6.05 | 105.06 | 109.90 |
| 2 | AB | 1090 | A | N7-C8-N9 | 6.05 | 116.83 | 113.80 |
| 2 | AB | 1095 | A | N1-C6-N6 | 6.05 | 122.23 | 118.60 |
| 2 | AB | 1118 | C | O4'-C1'-N1 | 6.05 | 113.04 | 108.20 |
| 2 | AB | 1183 | U | C3'-C2'-C1' | 6.05 | 106.34 | 101.50 |
| 2 | AB | 1246 | A | C2-N3-C4 | 6.05 | 113.63 | 110.60 |
| 2 | AB | 1791 | A | C5-C6-N6 | -6.05 | 118.86 | 123.70 |
| 2 | AB | 2809 | A | C4-C5-C6 | -6.05 | 113.97 | 117.00 |
| 35 | BA | 213 | G | N9-C4-C5 | 6.05 | 107.82 | 105.40 |
| 35 | BA | 323 | U | N3-C4-C5 | -6.05 | 110.97 | 114.60 |
| 35 | BA | 635 | A | P-O3'-C3' | 6.05 | 126.97 | 119.70 |
| 35 | BA | 728 | A | O4'-C1'-N9 | 6.05 | 113.04 | 108.20 |
| 35 | BA | 929 | G | N9-C4-C5 | 6.05 | 107.82 | 105.40 |
| 35 | BA | 1009 | U | N1-C1'-C2' | -6.05 | 105.34 | 112.00 |
| 35 | BA | 1099 | G | C5-C6-N1 | 6.05 | 114.53 | 111.50 |
| 35 | BA | 1362 | A | O4'-C1'-N9 | 6.05 | 113.04 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1405 | G | N9-C4-C5 | 6.05 | 107.82 | 105.40 |
| 2 | AB | 283 | G | N7-C8-N9 | -6.05 | 110.07 | 113.10 |
| 2 | AB | 385 | C | C5-C6-N1 | 6.05 | 124.03 | 121.00 |
| 2 | AB | 2454 | G | C3'-C2'-C1' | 6.05 | 106.34 | 101.50 |
| 35 | BA | 501 | C | C6-N1-C2 | -6.05 | 117.88 | 120.30 |
| 35 | BA | 709 | U | O4'-C1'-N1 | 6.05 | 113.04 | 108.20 |
| 35 | BA | 981 | U | N1-C2-O2 | -6.05 | 118.56 | 122.80 |
| 35 | BA | 1185 | G | N9-C4-C5 | 6.05 | 107.82 | 105.40 |
| 36 | BB | 14 | G | C5-C6-N1 | -6.05 | 108.47 | 111.50 |
| 2 | AB | 19 | A | C3'-C2'-C1' | 6.05 | 106.34 | 101.50 |
| 2 | AB | 406 | G | C4'-C3'-C2' | -6.05 | 96.55 | 102.60 |
| 2 | AB | 1784 | A | C5-C6-N1 | -6.05 | 114.67 | 117.70 |
| 2 | AB | 1839 | G | O3'-P-O5' | -6.05 | 92.50 | 104.00 |
| 2 | AB | 2448 | A | N1-C6-N6 | -6.05 | 114.97 | 118.60 |
| 2 | AB | 2613 | U | C4'-C3'-C2' | -6.05 | 96.55 | 102.60 |
| 2 | AB | 2741 | A | C6-N1-C2 | -6.05 | 114.97 | 118.60 |
| 35 | BA | 142 | G | C4'-C3'-C2' | -6.05 | 96.55 | 102.60 |
| 35 | BA | 151 | A | C1'-O4'-C4' | 6.05 | 114.74 | 109.90 |
| 35 | BA | 627 | G | N9-C1'-C2' | -6.05 | 105.34 | 112.00 |
| 35 | BA | 819 | A | C6-N1-C2 | -6.05 | 114.97 | 118.60 |
| 35 | BA | 835 | U | N1-C2-O2 | -6.05 | 118.56 | 122.80 |
| 35 | BA | 1109 | C | C4-C5-C6 | -6.05 | 114.38 | 117.40 |
| 35 | BA | 1141 | C | C4'-C3'-C2' | -6.05 | 96.55 | 102.60 |
| 35 | BA | 1463 | U | C5'-C4'-C3' | -6.05 | 106.32 | 116.00 |
| 35 | BA | 1487 | G | P-O3'-C3' | 6.05 | 126.96 | 119.70 |
| 37 | BC | 6 | G | C4-C5-C6 | -6.05 | 115.17 | 118.80 |
| 2 | AB | 513 | A | C5-N7-C8 | 6.05 | 106.92 | 103.90 |
| 2 | AB | 1178 | C | N1-C2-O2 | 6.05 | 122.53 | 118.90 |
| 2 | AB | 1197 | G | N1-C6-O6 | -6.05 | 116.27 | 119.90 |
| 2 | AB | 1215 | G | C2-N3-C4 | 6.05 | 114.92 | 111.90 |
| 2 | AB | 1441 | G | N1-C2-N2 | 6.05 | 121.64 | 116.20 |
| 2 | AB | 2282 | G | N1-C2-N3 | -6.05 | 120.27 | 123.90 |
| 2 | AB | 2507 | C | N3-C4-C5 | 6.05 | 124.32 | 121.90 |
| 2 | AB | 2843 | G | N3-C2-N2 | -6.05 | 115.67 | 119.90 |
| 35 | BA | 88 | U | N3-C2-O2 | -6.05 | 117.97 | 122.20 |
| 35 | BA | 99 | C | N3-C4-C5 | -6.05 | 119.48 | 121.90 |
| 35 | BA | 145 | G | C5'-C4'-O4' | 6.05 | 116.36 | 109.10 |
| 35 | BA | 585 | G | C4-C5-C6 | 6.05 | 122.43 | 118.80 |
| 35 | BA | 1386 | G | C4-C5-C6 | 6.05 | 122.43 | 118.80 |
| 35 | BA | 1398 | A | C5-N7-C8 | 6.05 | 106.92 | 103.90 |
| 2 | AB | 2349 | G | C4'-C3'-C2' | -6.05 | 96.55 | 102.60 |
| 15 | AO | 59 | ARG | N-CA-CB | -6.05 | 99.71 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 182 | A | C5-C6-N6 | 6.05 | 128.54 | 123.70 |
| 35 | BA | 232 | G | N9-C4-C5 | 6.05 | 107.82 | 105.40 |
| 35 | BA | 1125 | U | C6-N1-C2 | -6.05 | 117.37 | 121.00 |
| 2 | AB | 654 | A | C4-C5-N7 | -6.05 | 107.68 | 110.70 |
| 2 | AB | 1074 | G | C5-C6-N1 | 6.05 | 114.52 | 111.50 |
| 2 | AB | 1288 | G | C6-N1-C2 | -6.05 | 121.47 | 125.10 |
| 2 | AB | 1587 | G | C2-N3-C4 | -6.05 | 108.88 | 111.90 |
| 2 | AB | 1891 | G | O4'-C1'-N9 | 6.05 | 113.04 | 108.20 |
| 2 | AB | 2156 | G | P-O3'-C3' | 6.05 | 126.95 | 119.70 |
| 2 | AB | 2396 | G | N1-C2-N2 | -6.05 | 110.76 | 116.20 |
| 2 | AB | 2695 | U | C1'-O4'-C4' | -6.05 | 105.06 | 109.90 |
| 35 | BA | 300 | A | C4-C5-N7 | -6.05 | 107.68 | 110.70 |
| 35 | BA | 1335 | U | C5-C6-N1 | -6.05 | 119.68 | 122.70 |
| 35 | BA | 1397 | C | C1'-O4'-C4' | 6.05 | 114.74 | 109.90 |
| 35 | BA | 1410 | A | C8-N9-C4 | 6.05 | 108.22 | 105.80 |
| 35 | BA | 1455 | G | N9-C4-C5 | 6.05 | 107.82 | 105.40 |
| 35 | BA | 1488 | G | N3-C4-C5 | -6.05 | 125.58 | 128.60 |
| 2 | AB | 1679 | A | N1-C6-N6 | 6.04 | 122.23 | 118.60 |
| 35 | BA | 7 | A | C5'-C4'-O4' | 6.04 | 116.35 | 109.10 |
| 35 | BA | 292 | G | C3'-C2'-C1' | -6.04 | 96.66 | 101.50 |
| 35 | BA | 586 | C | C2-N3-C4 | -6.04 | 116.88 | 119.90 |
| 35 | BA | 604 | G | C5-N7-C8 | -6.04 | 101.28 | 104.30 |
| 2 | AB | 585 | G | N9-C1'-C2' | -6.04 | 105.35 | 112.00 |
| 2 | AB | 1023 | U | C4-C5-C6 | 6.04 | 123.33 | 119.70 |
| 2 | AB | 1028 | A | N7-C8-N9 | 6.04 | 116.82 | 113.80 |
| 2 | AB | 1048 | A | N3-C4-C5 | -6.04 | 122.57 | 126.80 |
| 2 | AB | 1240 | U | N1-C1'-C2' | -6.04 | 105.35 | 112.00 |
| 2 | AB | 1401 | G | C5'-C4'-O4' | 6.04 | 116.35 | 109.10 |
| 2 | AB | 1959 | G | N3-C4-N9 | -6.04 | 122.37 | 126.00 |
| 2 | AB | 2023 | C | C4-C5-C6 | 6.04 | 120.42 | 117.40 |
| 5 | AE | 83 | ARG | NE-CZ-NH1 | -6.04 | 117.28 | 120.30 |
| 15 | AO | 114 | ARG | NE-CZ-NH2 | 6.04 | 123.32 | 120.30 |
| 35 | BA | 38 | G | N3-C4-C5 | -6.04 | 125.58 | 128.60 |
| 35 | BA | 1473 | G | C5'-C4'-O4' | 6.04 | 116.35 | 109.10 |
| 55 | BU | 61 | VAL | CG1-CB-CG2 | -6.04 | 101.23 | 110.90 |
| 2 | AB | 42 | A | N7-C8-N9 | 6.04 | 116.82 | 113.80 |
| 2 | AB | 224 | U | C2-N3-C4 | -6.04 | 123.38 | 127.00 |
| 2 | AB | 1275 | A | C5'-C4'-O4' | 6.04 | 116.35 | 109.10 |
| 2 | AB | 2404 | U | C1'-O4'-C4' | 6.04 | 114.73 | 109.90 |
| 2 | AB | 2473 | U | N1-C2-O2 | 6.04 | 127.03 | 122.80 |
| 2 | AB | 2857 | G | N9-C1'-C2' | -6.04 | 105.36 | 112.00 |
| 16 | AP | 12 | ARG | NE-CZ-NH1 | -6.04 | 117.28 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 397 | A | N9-C4-C5 | -6.04 | 103.38 | 105.80 |
| 35 | BA | 412 | A | C3'-C2'-C1' | 6.04 | 106.33 | 101.50 |
| 35 | BA | 748 | G | C4-C5-N7 | -6.04 | 108.38 | 110.80 |
| 35 | BA | 1154 | G | C5-C6-O6 | -6.04 | 124.97 | 128.60 |
| 35 | BA | 1485 | U | O4'-C1'-N1 | 6.04 | 113.03 | 108.20 |
| 40 | BF | 43 | ARG | NE-CZ-NH1 | -6.04 | 117.28 | 120.30 |
| 2 | AB | 704 | G | N1-C6-O6 | -6.04 | 116.28 | 119.90 |
| 2 | AB | 810 | U | P-O3'-C3' | 6.04 | 126.95 | 119.70 |
| 2 | AB | 1355 | G | C6-N1-C2 | -6.04 | 121.48 | 125.10 |
| 2 | AB | 1471 | G | C5'-C4'-O4' | 6.04 | 116.35 | 109.10 |
| 2 | AB | 2380 | C | C5-C4-N4 | -6.04 | 115.97 | 120.20 |
| 28 | A1 | 39 | ASP | CB-CG-OD1 | -6.04 | 112.86 | 118.30 |
| 35 | BA | 1368 | A | N1-C6-N6 | -6.04 | 114.98 | 118.60 |
| 35 | BA | 1520 | C | C3'-C2'-C1' | 6.04 | 106.33 | 101.50 |
| 2 | AB | 222 | A | O4'-C4'-C3' | 6.04 | 110.93 | 106.10 |
| 2 | AB | 333 | G | O4'-C1'-N9 | 6.04 | 113.03 | 108.20 |
| 2 | AB | 401 | A | C5-C6-N6 | -6.04 | 118.87 | 123.70 |
| 2 | AB | 479 | A | C5'-C4'-O4' | 6.04 | 116.34 | 109.10 |
| 2 | AB | 842 | U | C2-N3-C4 | -6.04 | 123.38 | 127.00 |
| 2 | AB | 1984 | G | O4'-C1'-N9 | 6.04 | 113.03 | 108.20 |
| 2 | AB | 2279 | G | C8-N9-C1' | 6.04 | 134.85 | 127.00 |
| 35 | BA | 251 | G | C2-N3-C4 | 6.04 | 114.92 | 111.90 |
| 35 | BA | 434 | U | C4'-C3'-C2' | -6.04 | 96.56 | 102.60 |
| 35 | BA | 953 | G | C5-C6-N1 | 6.04 | 114.52 | 111.50 |
| 35 | BA | 1300 | G | C5-N7-C8 | -6.04 | 101.28 | 104.30 |
| 47 | BM | 8 | ARG | CD-NE-CZ | 6.04 | 132.05 | 123.60 |
| 2 | AB | 149 | A | C8-N9-C4 | -6.04 | 103.39 | 105.80 |
| 2 | AB | 692 | C | C4'-C3'-C2' | -6.04 | 96.56 | 102.60 |
| 2 | AB | 2723 | C | O4'-C1'-C2' | -6.04 | 99.76 | 105.80 |
| 35 | BA | 127 | G | C4-N9-C1' | -6.04 | 118.65 | 126.50 |
| 35 | BA | 659 | U | N3-C4-O4 | 6.04 | 123.63 | 119.40 |
| 39 | BE | 39 | ARG | NE-CZ-NH2 | -6.04 | 117.28 | 120.30 |
| 2 | AB | 48 | G | C6-N1-C2 | -6.04 | 121.48 | 125.10 |
| 2 | AB | 240 | C | N3-C4-N4 | 6.04 | 122.22 | 118.00 |
| 2 | AB | 1034 | G | C6-C5-N7 | -6.04 | 126.78 | 130.40 |
| 2 | AB | 1413 | A | C6-C5-N7 | 6.04 | 136.53 | 132.30 |
| 2 | AB | 1583 | A | N9-C1'-C2' | -6.04 | 105.36 | 112.00 |
| 2 | AB | 1772 | A | C5'-C4'-O4' | 6.04 | 116.34 | 109.10 |
| 2 | AB | 2093 | G | C5-C6-O6 | 6.04 | 132.22 | 128.60 |
| 2 | AB | 2292 | U | N3-C4-O4 | 6.04 | 123.62 | 119.40 |
| 2 | AB | 2479 | U | C2-N3-C4 | -6.04 | 123.38 | 127.00 |
| 2 | AB | 2719 | G | C4-C5-N7 | -6.04 | 108.39 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2852 | G | C1'-O4'-C4' | -6.04 | 105.07 | 109.90 |
| 35 | BA | 253 | A | C3'-C2'-C1' | -6.04 | 96.67 | 101.50 |
| 35 | BA | 622 | A | N7-C8-N9 | -6.04 | 110.78 | 113.80 |
| 35 | BA | 747 | A | C4-C5-C6 | 6.04 | 120.02 | 117.00 |
| 35 | BA | 1024 | G | C8-N9-C4 | 6.04 | 108.81 | 106.40 |
| 35 | BA | 1329 | A | C5'-C4'-O4' | 6.04 | 116.34 | 109.10 |
| 2 | AB | 1341 | G | C6-C5-N7 | -6.03 | 126.78 | 130.40 |
| 2 | AB | 1758 | U | C2-N1-C1' | 6.03 | 124.94 | 117.70 |
| 2 | AB | 2818 | U | C4-C5-C6 | -6.03 | 116.08 | 119.70 |
| 5 | AE | 25 | THR | CA-CB-CG2 | -6.03 | 103.95 | 112.40 |
| 35 | BA | 487 | A | N9-C4-C5 | 6.03 | 108.21 | 105.80 |
| 35 | BA | 563 | A | N1-C6-N6 | 6.03 | 122.22 | 118.60 |
| 35 | BA | 846 | G | C6-C5-N7 | -6.03 | 126.78 | 130.40 |
| 35 | BA | 884 | U | C4'-C3'-C2' | -6.03 | 96.57 | 102.60 |
| 35 | BA | 1203 | C | C1'-O4'-C4' | 6.03 | 114.73 | 109.90 |
| 1 | AA | 51 | G | N3-C4-C5 | -6.03 | 125.58 | 128.60 |
| 2 | AB | 191 | A | N1-C6-N6 | -6.03 | 114.98 | 118.60 |
| 2 | AB | 342 | A | C2-N3-C4 | -6.03 | 107.58 | 110.60 |
| 2 | AB | 2598 | A | C4'-C3'-C2' | -6.03 | 96.57 | 102.60 |
| 2 | AB | 2722 | G | O4'-C4'-C3' | 6.03 | 110.92 | 106.10 |
| 5 | AE | 15 | PHE | CB-CG-CD2 | -6.03 | 116.58 | 120.80 |
| 35 | BA | 217 | C | N1-C2-O2 | 6.03 | 122.52 | 118.90 |
| 35 | BA | 1209 | C | C5-C6-N1 | 6.03 | 124.02 | 121.00 |
| 43 | BI | 91 | ARG | NE-CZ-NH1 | 6.03 | 123.32 | 120.30 |
| 1 | AA | 93 | C | C4-C5-C6 | 6.03 | 120.42 | 117.40 |
| 2 | AB | 1655 | A | N1-C2-N3 | -6.03 | 126.28 | 129.30 |
| 2 | AB | 2767 | C | C5-C6-N1 | 6.03 | 124.02 | 121.00 |
| 2 | AB | 2775 | G | N1-C6-O6 | -6.03 | 116.28 | 119.90 |
| 35 | BA | 109 | A | C5-N7-C8 | -6.03 | 100.89 | 103.90 |
| 35 | BA | 148 | G | O4'-C1'-N9 | 6.03 | 113.02 | 108.20 |
| 35 | BA | 196 | A | C6-C5-N7 | 6.03 | 136.52 | 132.30 |
| 35 | BA | 497 | G | C5-C6-N1 | -6.03 | 108.48 | 111.50 |
| 35 | BA | 819 | A | C4-C5-C6 | 6.03 | 120.02 | 117.00 |
| 35 | BA | 1426 | G | O4'-C4'-C3' | 6.03 | 110.92 | 106.10 |
| 2 | AB | 523 | C | N1-C1'-C2' | -6.03 | 105.37 | 112.00 |
| 2 | AB | 1247 | A | N7-C8-N9 | 6.03 | 116.81 | 113.80 |
| 2 | AB | 1538 | G | N9-C4-C5 | 6.03 | 107.81 | 105.40 |
| 2 | AB | 2751 | G | C6-N1-C2 | -6.03 | 121.48 | 125.10 |
| 35 | BA | 222 | C | N3-C4-N4 | 6.03 | 122.22 | 118.00 |
| 35 | BA | 1217 | C | C5-C6-N1 | 6.03 | 124.02 | 121.00 |
| 2 | AB | 82 | U | N1-C2-N3 | 6.03 | 118.52 | 114.90 |
| 2 | AB | 159 | G | C1'-O4'-C4' | -6.03 | 105.08 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 439 | A | C2-N3-C4 | 6.03 | 113.61 | 110.60 |
| 2 | AB | 1284 | A | C3'-C2'-C1' | 6.03 | 106.32 | 101.50 |
| 2 | AB | 1336 | A | C8-N9-C4 | -6.03 | 103.39 | 105.80 |
| 2 | AB | 1337 | G | C5'-C4'-O4' | 6.03 | 116.33 | 109.10 |
| 2 | AB | 1403 | A | C5'-C4'-O4' | 6.03 | 116.33 | 109.10 |
| 2 | AB | 1660 | G | N9-C4-C5 | 6.03 | 107.81 | 105.40 |
| 2 | AB | 1737 | G | C1'-O4'-C4' | 6.03 | 114.72 | 109.90 |
| 2 | AB | 2641 | G | C2-N3-C4 | 6.03 | 114.91 | 111.90 |
| 2 | AB | 2904 | U | C1'-O4'-C4' | 6.03 | 114.72 | 109.90 |
| 35 | BA | 10 | A | C6-N1-C2 | -6.03 | 114.98 | 118.60 |
| 35 | BA | 539 | A | C4'-C3'-C2' | -6.03 | 96.57 | 102.60 |
| 35 | BA | 576 | C | N3-C4-C5 | -6.03 | 119.49 | 121.90 |
| 35 | BA | 591 | U | C5-C4-O4 | 6.03 | 129.52 | 125.90 |
| 35 | BA | 628 | G | C5-C6-N1 | 6.03 | 114.51 | 111.50 |
| 35 | BA | 646 | G | O4'-C1'-N9 | 6.03 | 113.02 | 108.20 |
| 35 | BA | 762 | U | C2-N3-C4 | -6.03 | 123.38 | 127.00 |
| 35 | BA | 1181 | G | C4'-C3'-C2' | -6.03 | 96.57 | 102.60 |
| 37 | BC | 75 | C | C3'-C2'-C1' | -6.03 | 96.68 | 101.50 |
| 40 | BF | 186 | GLU | OE1-CD-OE2 | 6.03 | 130.53 | 123.30 |
| 2 | AB | 256 | A | O4'-C1'-N9 | 6.03 | 113.02 | 108.20 |
| 2 | AB | 803 | U | N3-C4-O4 | 6.03 | 123.62 | 119.40 |
| 2 | AB | 1571 | A | C1'-O4'-C4' | 6.03 | 114.72 | 109.90 |
| 2 | AB | 2088 | A | N7-C8-N9 | -6.03 | 110.79 | 113.80 |
| 2 | AB | 2532 | G | C4'-C3'-C2' | 6.03 | 108.62 | 102.60 |
| 13 | AM | 80 | ASP | CB-CG-OD2 | -6.03 | 112.88 | 118.30 |
| 35 | BA | 1 | A | C4-C5-N7 | 6.03 | 113.71 | 110.70 |
| 35 | BA | 41 | G | C8-N9-C4 | -6.03 | 103.99 | 106.40 |
| 35 | BA | 284 | C | C5'-C4'-C3' | -6.03 | 106.36 | 116.00 |
| 35 | BA | 301 | G | C4-C5-C6 | 6.03 | 122.42 | 118.80 |
| 35 | BA | 446 | G | O4'-C1'-N9 | 6.03 | 113.02 | 108.20 |
| 35 | BA | 1152 | A | C5-C6-N1 | 6.03 | 120.71 | 117.70 |
| 35 | BA | 1185 | G | C4-C5-C6 | 6.03 | 122.42 | 118.80 |
| 37 | BC | 73 | A | C6-C5-N7 | 6.03 | 136.52 | 132.30 |
| 51 | BQ | 86 | LEU | CB-CG-CD1 | -6.03 | 100.76 | 111.00 |
| 2 | AB | 1538 | G | N7-C8-N9 | 6.02 | 116.11 | 113.10 |
| 2 | AB | 2022 | U | O4'-C1'-N1 | 6.02 | 113.02 | 108.20 |
| 2 | AB | 2362 | C | N3-C4-C5 | -6.02 | 119.49 | 121.90 |
| 35 | BA | 67 | C | O4'-C1'-N1 | 6.02 | 113.02 | 108.20 |
| 35 | BA | 240 | G | N1-C2-N2 | -6.02 | 110.78 | 116.20 |
| 35 | BA | 1389 | C | N3-C4-N4 | 6.02 | 122.22 | 118.00 |
| 2 | AB | 467 | G | C5-C6-O6 | -6.02 | 124.99 | 128.60 |
| 2 | AB | 957 | C | N1-C2-O2 | 6.02 | 122.51 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1070 | A | P-O3'-C3' | 6.02 | 126.93 | 119.70 |
| 2 | AB | 1343 | G | C5-N7-C8 | -6.02 | 101.29 | 104.30 |
| 2 | AB | 1534 | U | C5-C6-N1 | -6.02 | 119.69 | 122.70 |
| 2 | AB | 2636 | C | N1-C1'-C2' | -6.02 | 105.37 | 112.00 |
| 2 | AB | 2697 | G | C5-N7-C8 | 6.02 | 107.31 | 104.30 |
| 2 | AB | 2839 | G | C3'-C2'-C1' | -6.02 | 96.68 | 101.50 |
| 35 | BA | 201 | G | N1-C2-N3 | -6.02 | 120.29 | 123.90 |
| 35 | BA | 244 | U | P-O3'-C3' | 6.02 | 126.93 | 119.70 |
| 35 | BA | 274 | A | C5-N7-C8 | 6.02 | 106.91 | 103.90 |
| 35 | BA | 432 | A | N3-C4-N9 | 6.02 | 132.22 | 127.40 |
| 35 | BA | 876 | C | C6-N1-C2 | 6.02 | 122.71 | 120.30 |
| 2 | AB | 613 | A | C4-C5-N7 | -6.02 | 107.69 | 110.70 |
| 2 | AB | 1124 | G | C3'-C2'-C1' | 6.02 | 106.32 | 101.50 |
| 2 | AB | 1433 | A | C5'-C4'-O4' | 6.02 | 116.33 | 109.10 |
| 2 | AB | 1914 | C | C5-C4-N4 | 6.02 | 124.42 | 120.20 |
| 2 | AB | 2520 | C | N3-C4-C5 | -6.02 | 119.49 | 121.90 |
| 36 | BB | 31 | U | N3-C4-C5 | -6.02 | 110.99 | 114.60 |
| 2 | AB | 377 | G | P-O5'-C5' | 6.02 | 130.53 | 120.90 |
| 2 | AB | 952 | G | N1-C2-N2 | -6.02 | 110.78 | 116.20 |
| 2 | AB | 1053 | C | C1'-O4'-C4' | -6.02 | 105.08 | 109.90 |
| 2 | AB | 1364 | G | C6-C5-N7 | 6.02 | 134.01 | 130.40 |
| 2 | AB | 1488 | C | P-O3'-C3' | 6.02 | 126.92 | 119.70 |
| 2 | AB | 1498 | C | N3-C4-C5 | 6.02 | 124.31 | 121.90 |
| 2 | AB | 1904 | G | C8-N9-C4 | 6.02 | 108.81 | 106.40 |
| 5 | AE | 168 | GLU | OE1-CD-OE2 | 6.02 | 130.53 | 123.30 |
| 35 | BA | 140 | U | C2-N3-C4 | -6.02 | 123.39 | 127.00 |
| 35 | BA | 145 | G | C6-C5-N7 | -6.02 | 126.79 | 130.40 |
| 35 | BA | 607 | A | P-O3'-C3' | 6.02 | 126.92 | 119.70 |
| 35 | BA | 951 | G | N1-C2-N3 | 6.02 | 127.51 | 123.90 |
| 35 | BA | 1094 | G | N9-C4-C5 | 6.02 | 107.81 | 105.40 |
| 35 | BA | 1202 | U | O4'-C1'-N1 | 6.02 | 113.02 | 108.20 |
| 2 | AB | 259 | G | C3'-C2'-C1' | 6.02 | 106.31 | 101.50 |
| 2 | AB | 1208 | C | O4'-C1'-N1 | 6.02 | 113.01 | 108.20 |
| 2 | AB | 1565 | C | O4'-C1'-N1 | 6.02 | 113.01 | 108.20 |
| 2 | AB | 1630 | A | C1'-O4'-C4' | -6.02 | 105.09 | 109.90 |
| 2 | AB | 1750 | G | N1-C6-O6 | 6.02 | 123.51 | 119.90 |
| 2 | AB | 2447 | G | N7-C8-N9 | -6.02 | 110.09 | 113.10 |
| 2 | AB | 2485 | G | N7-C8-N9 | 6.02 | 116.11 | 113.10 |
| 2 | AB | 2659 | G | N3-C2-N2 | -6.02 | 115.69 | 119.90 |
| 2 | AB | 2887 | A | O4'-C1'-N9 | 6.02 | 113.02 | 108.20 |
| 35 | BA | 356 | A | C2-N3-C4 | -6.02 | 107.59 | 110.60 |
| 35 | BA | 481 | G | O4'-C4'-C3' | 6.02 | 110.92 | 106.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 546 | A | C6-N1-C2 | -6.02 | 114.99 | 118.60 |
| 35 | BA | 620 | C | N1-C2-N3 | -6.02 | 114.99 | 119.20 |
| 35 | BA | 659 | U | C5'-C4'-O4' | 6.02 | 116.32 | 109.10 |
| 35 | BA | 838 | G | N7-C8-N9 | 6.02 | 116.11 | 113.10 |
| 35 | BA | 867 | G | C6-N1-C2 | -6.02 | 121.49 | 125.10 |
| 37 | BC | 71 | G | C2-N3-C4 | 6.02 | 114.91 | 111.90 |
| 2 | AB | 526 | A | P-O5'-C5' | 6.02 | 130.53 | 120.90 |
| 2 | AB | 727 | A | C6-N1-C2 | 6.02 | 122.21 | 118.60 |
| 2 | AB | 1410 | G | C6-N1-C2 | -6.02 | 121.49 | 125.10 |
| 2 | AB | 2434 | A | O4'-C1'-N9 | -6.02 | 103.39 | 108.20 |
| 21 | AU | 82 | MET | CA-CB-CG | -6.02 | 103.07 | 113.30 |
| 35 | BA | 18 | C | C4-C5-C6 | -6.02 | 114.39 | 117.40 |
| 35 | BA | 1162 | C | C4-C5-C6 | 6.02 | 120.41 | 117.40 |
| 35 | BA | 1295 | U | C5-C6-N1 | 6.02 | 125.71 | 122.70 |
| 2 | AB | 100 | U | O4'-C4'-C3' | 6.01 | 110.91 | 106.10 |
| 2 | AB | 762 | U | O4'-C1'-N1 | 6.01 | 113.01 | 108.20 |
| 2 | AB | 797 | G | C2-N3-C4 | 6.01 | 114.91 | 111.90 |
| 2 | AB | 1068 | G | C6-N1-C2 | 6.01 | 128.71 | 125.10 |
| 2 | AB | 2026 | U | C2-N3-C4 | -6.01 | 123.39 | 127.00 |
| 2 | AB | 2037 | A | N9-C4-C5 | 6.01 | 108.20 | 105.80 |
| 2 | AB | 2354 | C | C5'-C4'-O4' | 6.01 | 116.32 | 109.10 |
| 2 | AB | 2435 | A | N3-C4-N9 | -6.01 | 122.59 | 127.40 |
| 2 | AB | 2574 | G | C4-C5-N7 | 6.01 | 113.20 | 110.80 |
| 2 | AB | 2623 | G | C5-C6-N1 | -6.01 | 108.49 | 111.50 |
| 35 | BA | 166 | U | C5'-C4'-O4' | 6.01 | 116.32 | 109.10 |
| 35 | BA | 417 | G | N7-C8-N9 | 6.01 | 116.11 | 113.10 |
| 35 | BA | 466 | A | C6-C5-N7 | 6.01 | 136.51 | 132.30 |
| 35 | BA | 653 | U | C5-C4-O4 | -6.01 | 122.29 | 125.90 |
| 35 | BA | 914 | A | N1-C6-N6 | -6.01 | 114.99 | 118.60 |
| 35 | BA | 1053 | G | P-O3'-C3' | 6.01 | 126.92 | 119.70 |
| 35 | BA | 1359 | C | N1-C2-O2 | 6.01 | 122.51 | 118.90 |
| 2 | AB | 327 | G | N3-C2-N2 | 6.01 | 124.11 | 119.90 |
| 2 | AB | 556 | A | N9-C1'-C2' | -6.01 | 105.39 | 112.00 |
| 2 | AB | 1506 | U | C4'-C3'-C2' | -6.01 | 96.59 | 102.60 |
| 2 | AB | 1651 | G | C8-N9-C1' | 6.01 | 134.82 | 127.00 |
| 2 | AB | 1687 | G | N1-C2-N2 | -6.01 | 110.79 | 116.20 |
| 2 | AB | 1815 | A | P-O3'-C3' | 6.01 | 126.92 | 119.70 |
| 2 | AB | 2544 | G | C5'-C4'-O4' | 6.01 | 116.31 | 109.10 |
| 13 | AM | 100 | PHE | CB-CG-CD2 | 6.01 | 125.01 | 120.80 |
| 35 | BA | 282 | A | N3-C4-N9 | -6.01 | 122.59 | 127.40 |
| 35 | BA | 293 | G | C5'-C4'-C3' | -6.01 | 106.38 | 116.00 |
| 35 | BA | 928 | G | C3'-C2'-C1' | 6.01 | 106.31 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1186 | G | C6-C5-N7 | -6.01 | 126.79 | 130.40 |
| 35 | BA | 1214 | C | C6-N1-C2 | -6.01 | 117.89 | 120.30 |
| 35 | BA | 1525 | G | N3-C4-N9 | 6.01 | 129.61 | 126.00 |
| 2 | AB | 347 | A | C4-C5-N7 | -6.01 | 107.69 | 110.70 |
| 2 | AB | 742 | A | C5'-C4'-O4' | 6.01 | 116.31 | 109.10 |
| 2 | AB | 930 | G | N3-C2-N2 | 6.01 | 124.11 | 119.90 |
| 2 | AB | 1378 | A | O4'-C4'-C3' | 6.01 | 110.91 | 106.10 |
| 2 | AB | 1634 | A | C1'-O4'-C4' | -6.01 | 105.09 | 109.90 |
| 2 | AB | 2712 | C | O4'-C1'-N1 | 6.01 | 113.01 | 108.20 |
| 14 | AN | 123 | ARG | NE-CZ-NH2 | 6.01 | 123.31 | 120.30 |
| 35 | BA | 303 | A | C2-N3-C4 | 6.01 | 113.61 | 110.60 |
| 35 | BA | 416 | G | C8-N9-C4 | -6.01 | 104.00 | 106.40 |
| 35 | BA | 522 | C | N3-C4-C5 | -6.01 | 119.50 | 121.90 |
| 35 | BA | 592 | G | C5-N7-C8 | -6.01 | 101.29 | 104.30 |
| 35 | BA | 1053 | G | O4'-C1'-N9 | -6.01 | 103.39 | 108.20 |
| 35 | BA | 1239 | A | C5-C6-N1 | -6.01 | 114.69 | 117.70 |
| 35 | BA | 1326 | U | N1-C2-O2 | -6.01 | 118.59 | 122.80 |
| 36 | BB | 59 | A | C5'-C4'-C3' | -6.01 | 106.38 | 116.00 |
| 37 | BC | 37 | U | N1-C2-N3 | 6.01 | 118.51 | 114.90 |
| 40 | BF | 3 | TYR | CG-CD1-CE1 | -6.01 | 116.49 | 121.30 |
| 2 | AB | 100 | U | C5'-C4'-C3' | -6.01 | 106.39 | 116.00 |
| 2 | AB | 199 | A | N1-C6-N6 | 6.01 | 122.21 | 118.60 |
| 2 | AB | 501 | A | N1-C6-N6 | 6.01 | 122.21 | 118.60 |
| 2 | AB | 849 | A | C5'-C4'-C3' | -6.01 | 106.38 | 116.00 |
| 2 | AB | 1106 | G | N9-C1'-C2' | -6.01 | 105.39 | 112.00 |
| 2 | AB | 1143 | A | O3'-P-O5' | -6.01 | 92.58 | 104.00 |
| 2 | AB | 1260 | A | N9-C4-C5 | 6.01 | 108.20 | 105.80 |
| 2 | AB | 1523 | U | O5'-P-OP1 | -6.01 | 100.29 | 105.70 |
| 2 | AB | 1558 | C | C1'-O4'-C4' | 6.01 | 114.71 | 109.90 |
| 2 | AB | 1568 | G | C4-C5-C6 | 6.01 | 122.41 | 118.80 |
| 2 | AB | 1661 | G | C2-N3-C4 | 6.01 | 114.91 | 111.90 |
| 2 | AB | 1828 | G | P-O3'-C3' | 6.01 | 126.91 | 119.70 |
| 2 | AB | 1838 | C | N3-C2-O2 | -6.01 | 117.69 | 121.90 |
| 2 | AB | 2443 | C | C5'-C4'-C3' | -6.01 | 106.38 | 116.00 |
| 2 | AB | 2753 | A | C4-C5-C6 | 6.01 | 120.00 | 117.00 |
| 35 | BA | 682 | G | N3-C4-C5 | -6.01 | 125.59 | 128.60 |
| 2 | AB | 341 | C | C1'-O4'-C4' | 6.01 | 114.71 | 109.90 |
| 2 | AB | 469 | G | C3'-C2'-C1' | -6.01 | 96.69 | 101.50 |
| 2 | AB | 684 | G | C6-N1-C2 | -6.01 | 121.50 | 125.10 |
| 2 | AB | 959 | A | N7-C8-N9 | 6.01 | 116.80 | 113.80 |
| 2 | AB | 1921 | G | N1-C6-O6 | 6.01 | 123.50 | 119.90 |
| 2 | AB | 2209 | G | O4'-C1'-N9 | 6.01 | 113.01 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2461 | A | O4'-C4'-C3' | 6.01 | 110.91 | 106.10 |
| 2 | AB | 2600 | A | O4'-C1'-N9 | 6.01 | 113.01 | 108.20 |
| 2 | AB | 181 | A | C6-N1-C2 | 6.01 | 122.20 | 118.60 |
| 2 | AB | 911 | A | N9-C4-C5 | 6.01 | 108.20 | 105.80 |
| 2 | AB | 1239 | G | C5'-C4'-O4' | 6.01 | 116.31 | 109.10 |
| 2 | AB | 1833 | C | C2-N3-C4 | 6.01 | 122.90 | 119.90 |
| 2 | AB | 1969 | A | C4-C5-C6 | -6.01 | 114.00 | 117.00 |
| 2 | AB | 2173 | A | N9-C4-C5 | 6.01 | 108.20 | 105.80 |
| 2 | AB | 2231 | U | N3-C4-O4 | 6.01 | 123.61 | 119.40 |
| 2 | AB | 2468 | A | O3'-P-O5' | -6.01 | 92.59 | 104.00 |
| 2 | AB | 2892 | G | C4-C5-N7 | -6.01 | 108.40 | 110.80 |
| 35 | BA | 405 | U | C5'-C4'-C3' | -6.01 | 106.39 | 116.00 |
| 35 | BA | 585 | G | C6-C5-N7 | -6.01 | 126.80 | 130.40 |
| 35 | BA | 600 | A | C3'-C2'-C1' | 6.01 | 106.31 | 101.50 |
| 35 | BA | 1041 | G | C4-C5-C6 | 6.01 | 122.40 | 118.80 |
| 2 | AB | 19 | A | O4'-C1'-C2' | -6.00 | 99.80 | 105.80 |
| 2 | AB | 1601 | G | N3-C4-N9 | 6.00 | 129.60 | 126.00 |
| 2 | AB | 1719 | G | C5'-C4'-O4' | 6.00 | 116.31 | 109.10 |
| 2 | AB | 2032 | G | C5'-C4'-O4' | 6.00 | 116.31 | 109.10 |
| 2 | AB | 2455 | G | N7-C8-N9 | 6.00 | 116.10 | 113.10 |
| 35 | BA | 448 | A | C6-C5-N7 | -6.00 | 128.10 | 132.30 |
| 35 | BA | 859 | G | C2-N3-C4 | 6.00 | 114.90 | 111.90 |
| 36 | BB | 36 | U | C6-N1-C2 | 6.00 | 124.60 | 121.00 |
| 2 | AB | 702 | U | O4'-C1'-N1 | 6.00 | 113.00 | 108.20 |
| 2 | AB | 1243 | C | C5-C4-N4 | -6.00 | 116.00 | 120.20 |
| 2 | AB | 1388 | G | C5-C6-O6 | -6.00 | 125.00 | 128.60 |
| 2 | AB | 1447 | C | C6-N1-C2 | -6.00 | 117.90 | 120.30 |
| 2 | AB | 1601 | G | C2'-C3'-O3' | 6.00 | 123.31 | 113.70 |
| 2 | AB | 1667 | G | N9-C4-C5 | 6.00 | 107.80 | 105.40 |
| 2 | AB | 1684 | G | N3-C4-C5 | -6.00 | 125.60 | 128.60 |
| 2 | AB | 1914 | C | C4-C5-C6 | 6.00 | 120.40 | 117.40 |
| 2 | AB | 2217 | G | C6-N1-C2 | -6.00 | 121.50 | 125.10 |
| 2 | AB | 2643 | G | C2-N3-C4 | -6.00 | 108.90 | 111.90 |
| 2 | AB | 2813 | A | C6-N1-C2 | 6.00 | 122.20 | 118.60 |
| 35 | BA | 44 | A | C1'-O4'-C4' | -6.00 | 105.10 | 109.90 |
| 35 | BA | 360 | G | C5'-C4'-O4' | 6.00 | 116.31 | 109.10 |
| 35 | BA | 606 | G | O5'-C5'-C4' | -6.00 | 100.29 | 111.70 |
| 35 | BA | 1236 | A | C8-N9-C4 | -6.00 | 103.40 | 105.80 |
| 35 | BA | 1419 | G | C4-N9-C1' | -6.00 | 118.69 | 126.50 |
| 37 | BC | 4 | G | C5-N7-C8 | -6.00 | 101.30 | 104.30 |
| 37 | BC | 77 | A | N9-C4-C5 | 6.00 | 108.20 | 105.80 |
| 2 | AB | 89 | A | C2-N3-C4 | -6.00 | 107.60 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 321 | U | O4'-C1'-C2' | -6.00 | 99.80 | 105.80 |
| 2 | AB | 462 | C | C5-C6-N1 | 6.00 | 124.00 | 121.00 |
| 2 | AB | 840 | C | N1-C2-N3 | -6.00 | 115.00 | 119.20 |
| 2 | AB | 1522 | A | O4'-C4'-C3' | 6.00 | 110.90 | 106.10 |
| 2 | AB | 2125 | G | N3-C4-C5 | -6.00 | 125.60 | 128.60 |
| 2 | AB | 2514 | U | C5'-C4'-C3' | -6.00 | 106.40 | 116.00 |
| 8 | AH | 108 | PHE | CG-CD1-CE1 | -6.00 | 114.20 | 120.80 |
| 35 | BA | 128 | G | C2'-C3'-O3' | 6.00 | 123.30 | 113.70 |
| 35 | BA | 553 | A | O4'-C1'-N9 | 6.00 | 113.00 | 108.20 |
| 35 | BA | 571 | U | N3-C4-C5 | 6.00 | 118.20 | 114.60 |
| 35 | BA | 726 | C | C5-C4-N4 | -6.00 | 116.00 | 120.20 |
| 35 | BA | 1145 | A | C5-N7-C8 | -6.00 | 100.90 | 103.90 |
| 35 | BA | 1430 | A | C5-C6-N6 | 6.00 | 128.50 | 123.70 |
| 35 | BA | 1527 | U | C2-N3-C4 | -6.00 | 123.40 | 127.00 |
| 36 | BB | 24 | A | O4'-C1'-N9 | 6.00 | 113.00 | 108.20 |
| 2 | AB | 568 | U | N3-C2-O2 | -6.00 | 118.00 | 122.20 |
| 2 | AB | 648 | G | O4'-C1'-N9 | 6.00 | 113.00 | 108.20 |
| 2 | AB | 856 | G | C5-C6-N1 | 6.00 | 114.50 | 111.50 |
| 2 | AB | 2482 | A | C5-N7-C8 | 6.00 | 106.90 | 103.90 |
| 35 | BA | 448 | A | O4'-C1'-N9 | 6.00 | 113.00 | 108.20 |
| 35 | BA | 594 | U | O4'-C1'-N1 | 6.00 | 113.00 | 108.20 |
| 35 | BA | 627 | G | N3-C4-N9 | 6.00 | 129.60 | 126.00 |
| 35 | BA | 1094 | G | C5-N7-C8 | -6.00 | 101.30 | 104.30 |
| 2 | AB | 765 | C | C4-C5-C6 | 6.00 | 120.40 | 117.40 |
| 2 | AB | 1369 | G | C6-C5-N7 | -6.00 | 126.80 | 130.40 |
| 2 | AB | 1900 | A | P-O3'-C3' | 6.00 | 126.90 | 119.70 |
| 2 | AB | 2244 | U | C5'-C4'-O4' | 6.00 | 116.30 | 109.10 |
| 15 | AO | 28 | PHE | N-CA-CB | -6.00 | 99.80 | 110.60 |
| 35 | BA | 265 | G | N1-C2-N3 | -6.00 | 120.30 | 123.90 |
| 35 | BA | 571 | U | N3-C4-O4 | -6.00 | 115.20 | 119.40 |
| 2 | AB | 1404 | C | C6-N1-C1' | 6.00 | 128.00 | 120.80 |
| 2 | AB | 2214 | C | N3-C4-N4 | -6.00 | 113.80 | 118.00 |
| 2 | AB | 2337 | G | C1'-O4'-C4' | 6.00 | 114.70 | 109.90 |
| 2 | AB | 2437 | G | N9-C4-C5 | 6.00 | 107.80 | 105.40 |
| 2 | AB | 2752 | C | C5-C6-N1 | 6.00 | 124.00 | 121.00 |
| 2 | AB | 2776 | A | O4'-C1'-N9 | -6.00 | 103.40 | 108.20 |
| 35 | BA | 232 | G | N3-C4-N9 | -6.00 | 122.40 | 126.00 |
| 35 | BA | 350 | G | C6-C5-N7 | -6.00 | 126.80 | 130.40 |
| 35 | BA | 1215 | G | C2-N3-C4 | 6.00 | 114.90 | 111.90 |
| 35 | BA | 1287 | A | N1-C6-N6 | -6.00 | 115.00 | 118.60 |
| 35 | BA | 1496 | C | C6-N1-C2 | 6.00 | 122.70 | 120.30 |
| 36 | BB | 35 | G | C2-N3-C4 | 6.00 | 114.90 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 175 | G | N3-C4-N9 | 6.00 | 129.60 | 126.00 |
| 2 | AB | 710 | U | C6-N1-C2 | -6.00 | 117.40 | 121.00 |
| 2 | AB | 1342 | A | C8-N9-C4 | -6.00 | 103.40 | 105.80 |
| 2 | AB | 1739 | A | C2-N3-C4 | 6.00 | 113.60 | 110.60 |
| 2 | AB | 1869 | G | N1-C2-N2 | -6.00 | 110.81 | 116.20 |
| 2 | AB | 2227 | A | C4'-C3'-C2' | -6.00 | 96.61 | 102.60 |
| 2 | AB | 2461 | A | N9-C4-C5 | -6.00 | 103.40 | 105.80 |
| 7 | AG | 166 | ARG | NE-CZ-NH1 | 6.00 | 123.30 | 120.30 |
| 35 | BA | 9 | G | N9-C1'-C2' | -6.00 | 105.41 | 112.00 |
| 35 | BA | 1267 | C | C5-C4-N4 | 6.00 | 124.40 | 120.20 |
| 35 | BA | 1324 | A | C5-C6-N1 | -6.00 | 114.70 | 117.70 |
| 36 | BB | 57 | C | C5-C4-N4 | 6.00 | 124.40 | 120.20 |
| 2 | AB | 409 | G | C3'-C2'-C1' | 5.99 | 106.30 | 101.50 |
| 2 | AB | 597 | G | C4-C5-C6 | -5.99 | 115.20 | 118.80 |
| 2 | AB | 1243 | C | N1-C2-N3 | 5.99 | 123.39 | 119.20 |
| 2 | AB | 1364 | G | C5-C6-N1 | -5.99 | 108.50 | 111.50 |
| 2 | AB | 2166 | U | N1-C2-O2 | 5.99 | 127.00 | 122.80 |
| 35 | BA | 126 | G | C4-C5-N7 | 5.99 | 113.20 | 110.80 |
| 35 | BA | 197 | A | C5'-C4'-O4' | 5.99 | 116.29 | 109.10 |
| 35 | BA | 558 | G | N1-C2-N3 | -5.99 | 120.30 | 123.90 |
| 35 | BA | 849 | G | C4'-C3'-C2' | -5.99 | 96.61 | 102.60 |
| 35 | BA | 907 | A | C6-C5-N7 | 5.99 | 136.50 | 132.30 |
| 35 | BA | 1082 | A | C4-C5-N7 | -5.99 | 107.70 | 110.70 |
| 35 | BA | 1302 | C | O4'-C1'-N1 | 5.99 | 113.00 | 108.20 |
| 2 | AB | 140 | C | C2-N1-C1' | 5.99 | 125.39 | 118.80 |
| 2 | AB | 529 | A | C4-C5-N7 | -5.99 | 107.70 | 110.70 |
| 2 | AB | 1138 | G | C5'-C4'-O4' | 5.99 | 116.29 | 109.10 |
| 2 | AB | 1186 | G | O5'-C5'-C4' | -5.99 | 100.32 | 111.70 |
| 35 | BA | 78 | A | C1'-O4'-C4' | 5.99 | 114.69 | 109.90 |
| 35 | BA | 688 | G | O4'-C1'-N9 | 5.99 | 112.99 | 108.20 |
| 35 | BA | 851 | G | C5-N7-C8 | 5.99 | 107.30 | 104.30 |
| 35 | BA | 1076 | U | N3-C4-O4 | 5.99 | 123.59 | 119.40 |
| 2 | AB | 221 | A | C5-N7-C8 | -5.99 | 100.91 | 103.90 |
| 2 | AB | 717 | C | C3'-C2'-C1' | 5.99 | 106.29 | 101.50 |
| 2 | AB | 787 | C | C4-C5-C6 | 5.99 | 120.40 | 117.40 |
| 2 | AB | 875 | G | C5'-C4'-O4' | -5.99 | 101.91 | 109.10 |
| 2 | AB | 879 | G | N1-C2-N3 | 5.99 | 127.49 | 123.90 |
| 2 | AB | 1296 | G | C2-N3-C4 | 5.99 | 114.89 | 111.90 |
| 2 | AB | 1388 | G | N9-C4-C5 | 5.99 | 107.80 | 105.40 |
| 2 | AB | 2336 | A | N7-C8-N9 | 5.99 | 116.80 | 113.80 |
| 2 | AB | 2419 | U | C4-C5-C6 | 5.99 | 123.29 | 119.70 |
| 2 | AB | 2517 | C | N3-C2-O2 | -5.99 | 117.71 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 8 | AH | 46 | ASP | CB-CG-OD2 | -5.99 | 112.91 | 118.30 |
| 1 | AA | 1 | U | C1'-O4'-C4' | 5.99 | 114.69 | 109.90 |
| 2 | AB | 81 | G | C5-C6-N1 | 5.99 | 114.50 | 111.50 |
| 2 | AB | 314 | C | O3'-P-O5' | -5.99 | 92.62 | 104.00 |
| 2 | AB | 597 | G | C8-N9-C4 | -5.99 | 104.00 | 106.40 |
| 2 | AB | 892 | A | C6-N1-C2 | 5.99 | 122.19 | 118.60 |
| 2 | AB | 1150 | C | C5-C4-N4 | -5.99 | 116.01 | 120.20 |
| 2 | AB | 1158 | C | N3-C2-O2 | -5.99 | 117.71 | 121.90 |
| 2 | AB | 1158 | C | N3-C4-N4 | 5.99 | 122.19 | 118.00 |
| 2 | AB | 1387 | A | N9-C4-C5 | -5.99 | 103.40 | 105.80 |
| 2 | AB | 1669 | A | C5-C6-N6 | -5.99 | 118.91 | 123.70 |
| 2 | AB | 2032 | G | C5'-C4'-C3' | -5.99 | 106.42 | 116.00 |
| 2 | AB | 2062 | A | N3-C4-N9 | -5.99 | 122.61 | 127.40 |
| 2 | AB | 2252 | G | P-O3'-C3' | 5.99 | 126.89 | 119.70 |
| 35 | BA | 82 | G | C5-N7-C8 | -5.99 | 101.31 | 104.30 |
| 35 | BA | 103 | U | N1-C2-N3 | 5.99 | 118.49 | 114.90 |
| 35 | BA | 547 | A | C2-N3-C4 | 5.99 | 113.59 | 110.60 |
| 35 | BA | 566 | G | C4'-C3'-C2' | -5.99 | 96.61 | 102.60 |
| 35 | BA | 759 | A | N1-C6-N6 | 5.99 | 122.19 | 118.60 |
| 35 | BA | 1221 | G | O4'-C1'-N9 | 5.99 | 112.99 | 108.20 |
| 35 | BA | 1247 | U | N3-C4-O4 | 5.99 | 123.59 | 119.40 |
| 54 | BT | 69 | TYR | CB-CG-CD2 | -5.99 | 117.41 | 121.00 |
| 2 | AB | 187 | G | O5'-P-OP1 | -5.99 | 100.31 | 105.70 |
| 2 | AB | 631 | A | C4'-C3'-O3' | 5.99 | 124.97 | 113.00 |
| 2 | AB | 934 | U | C2-N3-C4 | -5.99 | 123.41 | 127.00 |
| 2 | AB | 1319 | C | C3'-C2'-C1' | 5.99 | 106.29 | 101.50 |
| 2 | AB | 1602 | U | O4'-C4'-C3' | 5.99 | 110.89 | 106.10 |
| 2 | AB | 1630 | A | N7-C8-N9 | -5.99 | 110.81 | 113.80 |
| 2 | AB | 2265 | U | C1'-O4'-C4' | 5.99 | 114.69 | 109.90 |
| 2 | AB | 2648 | G | N7-C8-N9 | 5.99 | 116.09 | 113.10 |
| 35 | BA | 711 | G | C4-C5-N7 | -5.99 | 108.41 | 110.80 |
| 35 | BA | 1213 | A | P-O3'-C3' | 5.99 | 126.89 | 119.70 |
| 35 | BA | 1499 | A | N1-C6-N6 | 5.99 | 122.19 | 118.60 |
| 2 | AB | 169 | G | O4'-C1'-N9 | 5.99 | 112.99 | 108.20 |
| 2 | AB | 239 | C | C6-N1-C2 | -5.99 | 117.91 | 120.30 |
| 2 | AB | 574 | A | C2-N3-C4 | 5.99 | 113.59 | 110.60 |
| 2 | AB | 603 | A | C4'-C3'-O3' | 5.99 | 124.97 | 113.00 |
| 2 | AB | 1580 | A | C8-N9-C4 | -5.99 | 103.41 | 105.80 |
| 2 | AB | 1927 | A | N3-C4-C5 | -5.99 | 122.61 | 126.80 |
| 2 | AB | 1964 | G | N1-C6-O6 | -5.99 | 116.31 | 119.90 |
| 35 | BA | 127 | G | C3'-C2'-C1' | 5.99 | 106.29 | 101.50 |
| 35 | BA | 592 | G | C2-N3-C4 | 5.99 | 114.89 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 665 | A | N7-C8-N9 | 5.99 | 116.79 | 113.80 |
| 35 | BA | 680 | C | C4'-C3'-C2' | -5.99 | 96.61 | 102.60 |
| 2 | AB | 571 | U | N1-C2-N3 | 5.98 | 118.49 | 114.90 |
| 2 | AB | 1299 | G | C6-N1-C2 | -5.98 | 121.51 | 125.10 |
| 2 | AB | 1405 | U | N3-C4-O4 | -5.98 | 115.21 | 119.40 |
| 2 | AB | 1415 | U | C5'-C4'-O4' | 5.98 | 116.28 | 109.10 |
| 2 | AB | 2357 | G | C4-C5-N7 | -5.98 | 108.41 | 110.80 |
| 2 | AB | 2600 | A | C5-N7-C8 | -5.98 | 100.91 | 103.90 |
| 2 | AB | 2634 | A | C5-C6-N6 | -5.98 | 118.91 | 123.70 |
| 35 | BA | 6 | G | C5-N7-C8 | -5.98 | 101.31 | 104.30 |
| 2 | AB | 882 | G | P-O3'-C3' | 5.98 | 126.88 | 119.70 |
| 2 | AB | 1031 | G | C3'-C2'-C1' | -5.98 | 96.71 | 101.50 |
| 2 | AB | 1138 | G | N1-C2-N3 | -5.98 | 120.31 | 123.90 |
| 2 | AB | 1472 | C | C2-N1-C1' | -5.98 | 112.22 | 118.80 |
| 2 | AB | 1530 | G | C5'-C4'-O4' | 5.98 | 116.28 | 109.10 |
| 2 | AB | 1704 | C | C4-C5-C6 | 5.98 | 120.39 | 117.40 |
| 2 | AB | 1913 | A | N3-C4-C5 | -5.98 | 122.61 | 126.80 |
| 2 | AB | 2120 | G | N9-C4-C5 | -5.98 | 103.01 | 105.40 |
| 2 | AB | 2708 | G | C5-N7-C8 | 5.98 | 107.29 | 104.30 |
| 2 | AB | 2885 | G | N3-C4-N9 | 5.98 | 129.59 | 126.00 |
| 35 | BA | 773 | G | C6-C5-N7 | -5.98 | 126.81 | 130.40 |
| 1 | AA | 50 | A | O4'-C1'-C2' | 5.98 | 112.98 | 107.60 |
| 2 | AB | 114 | U | P-O3'-C3' | 5.98 | 126.88 | 119.70 |
| 2 | AB | 524 | G | N3-C4-C5 | -5.98 | 125.61 | 128.60 |
| 2 | AB | 730 | A | N1-C6-N6 | 5.98 | 122.19 | 118.60 |
| 2 | AB | 1300 | G | C4-C5-C6 | 5.98 | 122.39 | 118.80 |
| 2 | AB | 1353 | A | C5'-C4'-O4' | 5.98 | 116.28 | 109.10 |
| 2 | AB | 2001 | C | O4'-C1'-N1 | 5.98 | 112.98 | 108.20 |
| 2 | AB | 2070 | A | C1'-O4'-C4' | 5.98 | 114.68 | 109.90 |
| 2 | AB | 2357 | G | C8-N9-C1' | 5.98 | 134.78 | 127.00 |
| 2 | AB | 2371 | G | C5'-C4'-O4' | 5.98 | 116.28 | 109.10 |
| 35 | BA | 976 | G | C5'-C4'-O4' | -5.98 | 101.92 | 109.10 |
| 35 | BA | 1198 | G | O4'-C4'-C3' | 5.98 | 110.88 | 106.10 |
| 35 | BA | 1316 | G | C6-N1-C2 | 5.98 | 128.69 | 125.10 |
| 35 | BA | 1412 | C | C5-C4-N4 | -5.98 | 116.01 | 120.20 |
| 53 | BS | 2 | ASP | CB-CG-OD1 | -5.98 | 112.92 | 118.30 |
| 2 | AB | 32 | C | C6-N1-C2 | 5.98 | 122.69 | 120.30 |
| 2 | AB | 554 | U | C6-N1-C2 | -5.98 | 117.41 | 121.00 |
| 2 | AB | 1629 | U | O4'-C1'-N1 | 5.98 | 112.98 | 108.20 |
| 2 | AB | 1800 | C | C4-C5-C6 | -5.98 | 114.41 | 117.40 |
| 2 | AB | 2536 | G | C5-C6-N1 | 5.98 | 114.49 | 111.50 |
| 2 | AB | 2546 | U | P-O3'-C3' | 5.98 | 126.88 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 399 | G | C2-N3-C4 | 5.98 | 114.89 | 111.90 |
| 35 | BA | 844 | G | C3'-C2'-C1' | 5.98 | 106.28 | 101.50 |
| 35 | BA | 1300 | G | N1-C2-N3 | 5.98 | 127.49 | 123.90 |
| 35 | BA | 1526 | G | N3-C4-N9 | 5.98 | 129.59 | 126.00 |
| 44 | BJ | 128 | VAL | CG1-CB-CG2 | -5.98 | 101.33 | 110.90 |
| 2 | AB | 36 | G | N1-C2-N3 | -5.98 | 120.31 | 123.90 |
| 2 | AB | 1564 | C | O4'-C4'-C3' | 5.98 | 110.88 | 106.10 |
| 2 | AB | 1921 | G | C4-C5-N7 | 5.98 | 113.19 | 110.80 |
| 2 | AB | 2647 | U | N1-C2-N3 | 5.98 | 118.49 | 114.90 |
| 15 | AO | 78 | LEU | CB-CG-CD1 | 5.98 | 121.16 | 111.00 |
| 35 | BA | 155 | A | C2-N3-C4 | 5.98 | 113.59 | 110.60 |
| 35 | BA | 694 | A | N3-C4-C5 | -5.98 | 122.62 | 126.80 |
| 35 | BA | 787 | A | O4'-C1'-C2' | 5.98 | 112.98 | 107.60 |
| 35 | BA | 1165 | U | C3'-C2'-C1' | 5.98 | 106.28 | 101.50 |
| 1 | AA | 78 | A | C2-N3-C4 | 5.98 | 113.59 | 110.60 |
| 2 | AB | 750 | A | C4-C5-N7 | 5.98 | 113.69 | 110.70 |
| 2 | AB | 1510 | G | C5'-C4'-O4' | 5.98 | 116.27 | 109.10 |
| 2 | AB | 2563 | U | N1-C2-N3 | -5.98 | 111.31 | 114.90 |
| 35 | BA | 854 | U | N1-C2-O2 | -5.98 | 118.62 | 122.80 |
| 45 | BK | 126 | PHE | CB-CG-CD1 | -5.98 | 116.62 | 120.80 |
| 1 | AA | 71 | C | C5-C6-N1 | 5.97 | 123.99 | 121.00 |
| 2 | AB | 50 | U | C3'-C2'-C1' | 5.97 | 106.28 | 101.50 |
| 2 | AB | 334 | C | C5-C6-N1 | 5.97 | 123.99 | 121.00 |
| 2 | AB | 425 | G | N9-C1'-C2' | -5.97 | 105.43 | 112.00 |
| 2 | AB | 855 | G | C4-C5-C6 | 5.97 | 122.39 | 118.80 |
| 2 | AB | 1243 | C | N3-C4-C5 | 5.97 | 124.29 | 121.90 |
| 2 | AB | 1251 | C | N1-C2-N3 | -5.97 | 115.02 | 119.20 |
| 2 | AB | 1354 | A | C5-C6-N6 | -5.97 | 118.92 | 123.70 |
| 2 | AB | 1474 | U | C3'-C2'-C1' | 5.97 | 106.28 | 101.50 |
| 2 | AB | 1608 | A | C5-N7-C8 | 5.97 | 106.89 | 103.90 |
| 6 | AF | 120 | VAL | CB-CA-C | 5.97 | 122.75 | 111.40 |
| 35 | BA | 238 | A | C8-N9-C4 | -5.97 | 103.41 | 105.80 |
| 35 | BA | 240 | G | C4'-C3'-C2' | -5.97 | 96.62 | 102.60 |
| 35 | BA | 358 | U | C4-C5-C6 | 5.97 | 123.28 | 119.70 |
| 35 | BA | 579 | A | C8-N9-C4 | -5.97 | 103.41 | 105.80 |
| 35 | BA | 601 | G | N1-C2-N3 | 5.97 | 127.48 | 123.90 |
| 35 | BA | 712 | A | O4'-C1'-N9 | 5.97 | 112.98 | 108.20 |
| 35 | BA | 778 | G | C1'-O4'-C4' | -5.97 | 105.12 | 109.90 |
| 35 | BA | 931 | C | C1'-O4'-C4' | -5.97 | 105.12 | 109.90 |
| 35 | BA | 947 | G | C8-N9-C4 | -5.97 | 104.01 | 106.40 |
| 48 | BN | 60 | PHE | CB-CG-CD2 | -5.97 | 116.62 | 120.80 |
| 1 | AA | 5 | U | C2-N3-C4 | -5.97 | 123.42 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 244 | A | C4-C5-C6 | -5.97 | 114.01 | 117.00 |
| 2 | AB | 752 | A | C4-C5-C6 | 5.97 | 119.99 | 117.00 |
| 2 | AB | 1066 | U | C5-C4-O4 | -5.97 | 122.32 | 125.90 |
| 2 | AB | 2007 | U | C3'-C2'-C1' | 5.97 | 106.28 | 101.50 |
| 2 | AB | 2095 | A | O4'-C4'-C3' | 5.97 | 110.88 | 106.10 |
| 2 | AB | 2595 | G | N1-C6-O6 | -5.97 | 116.32 | 119.90 |
| 2 | AB | 2615 | U | N3-C4-O4 | 5.97 | 123.58 | 119.40 |
| 5 | AE | 156 | PHE | CB-CG-CD1 | -5.97 | 116.62 | 120.80 |
| 35 | BA | 166 | U | P-O5'-C5' | 5.97 | 130.46 | 120.90 |
| 35 | BA | 491 | G | O4'-C1'-N9 | 5.97 | 112.98 | 108.20 |
| 35 | BA | 520 | A | O4'-C1'-N9 | 5.97 | 112.98 | 108.20 |
| 35 | BA | 724 | G | C5-C6-N1 | 5.97 | 114.49 | 111.50 |
| 35 | BA | 832 | G | C5'-C4'-O4' | 5.97 | 116.27 | 109.10 |
| 35 | BA | 874 | G | C4-C5-C6 | 5.97 | 122.38 | 118.80 |
| 35 | BA | 1000 | A | N3-C4-N9 | -5.97 | 122.62 | 127.40 |
| 35 | BA | 1063 | C | N1-C2-N3 | -5.97 | 115.02 | 119.20 |
| 35 | BA | 1146 | A | C4-C5-N7 | -5.97 | 107.71 | 110.70 |
| 35 | BA | 1526 | G | N9-C1'-C2' | -5.97 | 105.43 | 112.00 |
| 2 | AB | 1591 | A | C3'-C2'-C1' | 5.97 | 106.28 | 101.50 |
| 2 | AB | 1720 | U | C5-C6-N1 | -5.97 | 119.72 | 122.70 |
| 2 | AB | 2544 | G | N1-C6-O6 | 5.97 | 123.48 | 119.90 |
| 7 | AG | 19 | PHE | CB-CG-CD2 | 5.97 | 124.98 | 120.80 |
| 8 | AH | 57 | TYR | CG-CD2-CE2 | -5.97 | 116.52 | 121.30 |
| 35 | BA | 262 | A | C3'-C2'-C1' | 5.97 | 106.28 | 101.50 |
| 35 | BA | 541 | G | N9-C4-C5 | 5.97 | 107.79 | 105.40 |
| 2 | AB | 415 | A | N3-C4-C5 | -5.97 | 122.62 | 126.80 |
| 2 | AB | 840 | C | N3-C2-O2 | -5.97 | 117.72 | 121.90 |
| 2 | AB | 939 | G | C5'-C4'-O4' | 5.97 | 116.26 | 109.10 |
| 2 | AB | 1092 | C | C2-N3-C4 | -5.97 | 116.92 | 119.90 |
| 2 | AB | 1216 | G | N7-C8-N9 | 5.97 | 116.08 | 113.10 |
| 2 | AB | 1261 | C | O4'-C1'-N1 | 5.97 | 112.97 | 108.20 |
| 2 | AB | 1435 | G | C5-C6-N1 | 5.97 | 114.48 | 111.50 |
| 2 | AB | 1458 | U | C3'-C2'-C1' | 5.97 | 106.28 | 101.50 |
| 2 | AB | 1558 | C | N3-C4-N4 | -5.97 | 113.82 | 118.00 |
| 2 | AB | 1636 | U | C5'-C4'-O4' | 5.97 | 116.26 | 109.10 |
| 2 | AB | 1849 | G | C6-C5-N7 | -5.97 | 126.82 | 130.40 |
| 35 | BA | 269 | C | C6-N1-C2 | -5.97 | 117.91 | 120.30 |
| 35 | BA | 310 | G | C2-N3-C4 | -5.97 | 108.92 | 111.90 |
| 35 | BA | 312 | C | N1-C2-O2 | 5.97 | 122.48 | 118.90 |
| 35 | BA | 398 | U | C6-N1-C2 | 5.97 | 124.58 | 121.00 |
| 35 | BA | 439 | U | O4'-C4'-C3' | 5.97 | 110.88 | 106.10 |
| 35 | BA | 459 | A | C6-C5-N7 | 5.97 | 136.48 | 132.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 546 | A | C2-N3-C4 | 5.97 | 113.58 | 110.60 |
| 35 | BA | 1240 | U | N1-C1'-C2' | 5.97 | 121.76 | 114.00 |
| 35 | BA | 1304 | G | C4'-C3'-O3' | 5.97 | 124.94 | 113.00 |
| 35 | BA | 1360 | A | N3-C4-N9 | -5.97 | 122.62 | 127.40 |
| 2 | AB | 169 | G | C5'-C4'-O4' | 5.97 | 116.26 | 109.10 |
| 2 | AB | 1343 | G | C5-C6-N1 | 5.97 | 114.48 | 111.50 |
| 2 | AB | 1407 | G | C5-C6-N1 | 5.97 | 114.48 | 111.50 |
| 2 | AB | 1507 | C | O4'-C1'-N1 | 5.97 | 112.97 | 108.20 |
| 2 | AB | 2120 | G | N1-C2-N2 | 5.97 | 121.57 | 116.20 |
| 2 | AB | 2355 | G | O4'-C4'-C3' | 5.97 | 110.87 | 106.10 |
| 2 | AB | 2557 | G | N1-C2-N2 | -5.97 | 110.83 | 116.20 |
| 2 | AB | 2560 | A | C2-N3-C4 | 5.97 | 113.58 | 110.60 |
| 2 | AB | 2825 | G | N7-C8-N9 | 5.97 | 116.08 | 113.10 |
| 35 | BA | 789 | U | C5-C4-O4 | -5.97 | 122.32 | 125.90 |
| 37 | BC | 65 | G | C5-N7-C8 | -5.97 | 101.32 | 104.30 |
| 2 | AB | 106 | C | C5-C6-N1 | 5.97 | 123.98 | 121.00 |
| 2 | AB | 229 | C | N1-C1'-C2' | -5.97 | 105.44 | 112.00 |
| 2 | AB | 252 | G | C6-N1-C2 | -5.97 | 121.52 | 125.10 |
| 2 | AB | 452 | G | P-O3'-C3' | 5.97 | 126.86 | 119.70 |
| 2 | AB | 564 | C | N3-C2-O2 | -5.97 | 117.72 | 121.90 |
| 2 | AB | 673 | C | C5'-C4'-O4' | 5.97 | 116.26 | 109.10 |
| 2 | AB | 709 | U | N1-C2-O2 | -5.97 | 118.62 | 122.80 |
| 2 | AB | 1309 | G | N3-C4-N9 | 5.97 | 129.58 | 126.00 |
| 2 | AB | 1761 | C | N3-C4-N4 | -5.97 | 113.82 | 118.00 |
| 17 | AQ | 36 | TYR | CB-CG-CD2 | -5.97 | 117.42 | 121.00 |
| 35 | BA | 16 | A | C3'-C2'-C1' | -5.97 | 96.73 | 101.50 |
| 35 | BA | 975 | A | C4-C5-C6 | 5.97 | 119.98 | 117.00 |
| 35 | BA | 1191 | A | N1-C2-N3 | -5.97 | 126.32 | 129.30 |
| 35 | BA | 1242 | G | C4'-C3'-C2' | -5.97 | 96.63 | 102.60 |
| 2 | AB | 263 | G | O4'-C1'-N9 | 5.96 | 112.97 | 108.20 |
| 2 | AB | 308 | G | N3-C4-N9 | -5.96 | 122.42 | 126.00 |
| 2 | AB | 574 | A | O4'-C1'-C2' | -5.96 | 99.83 | 105.80 |
| 2 | AB | 793 | A | N1-C6-N6 | 5.96 | 122.18 | 118.60 |
| 2 | AB | 1121 | C | N1-C2-O2 | 5.96 | 122.48 | 118.90 |
| 2 | AB | 1836 | C | O4'-C1'-N1 | 5.96 | 112.97 | 108.20 |
| 2 | AB | 1978 | A | C4'-C3'-C2' | -5.96 | 96.64 | 102.60 |
| 2 | AB | 2473 | U | C1'-O4'-C4' | -5.96 | 105.13 | 109.90 |
| 2 | AB | 2538 | C | C5'-C4'-O4' | 5.96 | 116.26 | 109.10 |
| 2 | AB | 2885 | G | N1-C2-N2 | -5.96 | 110.83 | 116.20 |
| 3 | AC | 16 | ASP | CB-CG-OD2 | -5.96 | 112.93 | 118.30 |
| 35 | BA | 95 | C | C5-C6-N1 | 5.96 | 123.98 | 121.00 |
| 35 | BA | 330 | C | C1'-O4'-C4' | -5.96 | 105.13 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 36 | BB | 52 | U | C5-C4-O4 | 5.96 | 129.48 | 125.90 |
| 49 | BO | 94 | LEU | CB-CG-CD1 | -5.96 | 100.86 | 111.00 |
| 2 | AB | 141 | G | C4-C5-C6 | 5.96 | 122.38 | 118.80 |
| 2 | AB | 1896 | G | C4-C5-N7 | 5.96 | 113.19 | 110.80 |
| 2 | AB | 2746 | U | C1'-O4'-C4' | -5.96 | 105.13 | 109.90 |
| 17 | AQ | 111 | ARG | NE-CZ-NH1 | 5.96 | 123.28 | 120.30 |
| 35 | BA | 125 | U | C4'-C3'-C2' | -5.96 | 96.64 | 102.60 |
| 1 | AA | 103 | U | C5-C6-N1 | 5.96 | 125.68 | 122.70 |
| 1 | AA | 115 | A | C5-C6-N1 | 5.96 | 120.68 | 117.70 |
| 2 | AB | 902 | C | C5-C4-N4 | -5.96 | 116.03 | 120.20 |
| 2 | AB | 2168 | G | N7-C8-N9 | 5.96 | 116.08 | 113.10 |
| 2 | AB | 2635 | A | C4-C5-N7 | 5.96 | 113.68 | 110.70 |
| 2 | AB | 2718 | G | C6-N1-C2 | -5.96 | 121.52 | 125.10 |
| 2 | AB | 2839 | G | N1-C2-N3 | -5.96 | 120.32 | 123.90 |
| 2 | AB | 2865 | U | O4'-C1'-N1 | 5.96 | 112.97 | 108.20 |
| 2 | AB | 2872 | A | C6-C5-N7 | 5.96 | 136.47 | 132.30 |
| 35 | BA | 242 | G | C4-C5-N7 | -5.96 | 108.42 | 110.80 |
| 35 | BA | 416 | G | O5'-C5'-C4' | -5.96 | 100.37 | 111.70 |
| 35 | BA | 643 | C | C6-N1-C2 | 5.96 | 122.69 | 120.30 |
| 35 | BA | 750 | C | N3-C2-O2 | -5.96 | 117.73 | 121.90 |
| 35 | BA | 782 | A | C5-C6-N1 | -5.96 | 114.72 | 117.70 |
| 35 | BA | 1043 | G | C8-N9-C4 | -5.96 | 104.02 | 106.40 |
| 35 | BA | 1303 | C | N3-C4-N4 | 5.96 | 122.17 | 118.00 |
| 35 | BA | 1537 | U | C3'-C2'-C1' | 5.96 | 106.27 | 101.50 |
| 50 | BP | 62 | ARG | NH1-CZ-NH2 | 5.96 | 125.96 | 119.40 |
| 2 | AB | 555 | G | C2-N3-C4 | 5.96 | 114.88 | 111.90 |
| 2 | AB | 783 | A | C4-C5-C6 | 5.96 | 119.98 | 117.00 |
| 2 | AB | 1852 | U | N1-C2-O2 | 5.96 | 126.97 | 122.80 |
| 2 | AB | 2212 | A | N9-C4-C5 | -5.96 | 103.42 | 105.80 |
| 2 | AB | 2326 | C | C2-N3-C4 | -5.96 | 116.92 | 119.90 |
| 2 | AB | 2713 | U | C3'-C2'-C1' | 5.96 | 106.27 | 101.50 |
| 35 | BA | 80 | A | N9-C1'-C2' | 5.96 | 121.75 | 114.00 |
| 35 | BA | 698 | G | O4'-C1'-N9 | -5.96 | 103.43 | 108.20 |
| 35 | BA | 1048 | G | C1'-O4'-C4' | -5.96 | 105.13 | 109.90 |
| 1 | AA | 106 | G | C6-C5-N7 | -5.96 | 126.83 | 130.40 |
| 2 | AB | 179 | C | O4'-C1'-C2' | -5.96 | 99.84 | 105.80 |
| 2 | AB | 257 | C | C4-C5-C6 | 5.96 | 120.38 | 117.40 |
| 2 | AB | 486 | C | N1-C1'-C2' | -5.96 | 105.44 | 112.00 |
| 2 | AB | 1019 | U | O3'-P-O5' | -5.96 | 92.68 | 104.00 |
| 2 | AB | 1019 | U | N3-C2-O2 | -5.96 | 118.03 | 122.20 |
| 2 | AB | 1141 | U | P-O3'-C3' | 5.96 | 126.85 | 119.70 |
| 2 | AB | 1601 | G | C1'-O4'-C4' | -5.96 | 105.13 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2055 | C | C4'-C3'-C2' | -5.96 | 96.64 | 102.60 |
| 2 | AB | 2080 | A | C6-N1-C2 | 5.96 | 122.17 | 118.60 |
| 2 | AB | 2135 | A | C4'-C3'-C2' | -5.96 | 96.64 | 102.60 |
| 2 | AB | 2154 | A | C5-N7-C8 | -5.96 | 100.92 | 103.90 |
| 2 | AB | 2237 | G | C5-N7-C8 | -5.96 | 101.32 | 104.30 |
| 35 | BA | 897 | C | C6-N1-C2 | -5.96 | 117.92 | 120.30 |
| 35 | BA | 1283 | U | N3-C2-O2 | -5.96 | 118.03 | 122.20 |
| 35 | BA | 1507 | A | C8-N9-C4 | -5.96 | 103.42 | 105.80 |
| 2 | AB | 562 | U | N1-C2-N3 | 5.96 | 118.47 | 114.90 |
| 2 | AB | 944 | C | N1-C2-N3 | -5.96 | 115.03 | 119.20 |
| 2 | AB | 1275 | A | O4'-C4'-C3' | -5.96 | 98.04 | 104.00 |
| 2 | AB | 1373 | A | C4-C5-C6 | -5.96 | 114.02 | 117.00 |
| 2 | AB | 1527 | G | N3-C4-C5 | -5.96 | 125.62 | 128.60 |
| 2 | AB | 1830 | C | N1-C2-O2 | 5.96 | 122.47 | 118.90 |
| 2 | AB | 1870 | C | C5-C4-N4 | 5.96 | 124.37 | 120.20 |
| 2 | AB | 1967 | C | C4-C5-C6 | 5.96 | 120.38 | 117.40 |
| 2 | AB | 2534 | A | N1-C6-N6 | 5.96 | 122.17 | 118.60 |
| 2 | AB | 2674 | G | C4'-C3'-C2' | -5.96 | 96.64 | 102.60 |
| 32 | A5 | 41 | ARG | CD-NE-CZ | 5.96 | 131.94 | 123.60 |
| 35 | BA | 121 | U | C5'-C4'-O4' | 5.96 | 116.25 | 109.10 |
| 35 | BA | 242 | G | N9-C4-C5 | 5.96 | 107.78 | 105.40 |
| 35 | BA | 246 | A | N9-C4-C5 | -5.96 | 103.42 | 105.80 |
| 35 | BA | 714 | G | C1'-O4'-C4' | -5.96 | 105.14 | 109.90 |
| 35 | BA | 908 | A | C8-N9-C4 | -5.96 | 103.42 | 105.80 |
| 35 | BA | 1424 | U | N3-C4-O4 | 5.96 | 123.57 | 119.40 |
| 37 | BC | 67 | C | C5'-C4'-O4' | 5.96 | 116.25 | 109.10 |
| 2 | AB | 19 | A | C5-N7-C8 | 5.96 | 106.88 | 103.90 |
| 2 | AB | 884 | U | C5'-C4'-O4' | 5.96 | 116.25 | 109.10 |
| 2 | AB | 1026 | G | N3-C4-N9 | 5.96 | 129.57 | 126.00 |
| 2 | AB | 1033 | U | N1-C2-N3 | 5.96 | 118.47 | 114.90 |
| 2 | AB | 1968 | G | N3-C2-N2 | -5.96 | 115.73 | 119.90 |
| 2 | AB | 2542 | A | C4-C5-C6 | -5.96 | 114.02 | 117.00 |
| 35 | BA | 525 | C | O4'-C1'-N1 | 5.96 | 112.96 | 108.20 |
| 35 | BA | 1347 | G | N3-C4-N9 | -5.96 | 122.43 | 126.00 |
| 37 | BC | 6 | G | C5-C6-O6 | -5.96 | 125.03 | 128.60 |
| 43 | BI | 91 | ARG | CD-NE-CZ | 5.96 | 131.94 | 123.60 |
| 1 | AA | 44 | G | O4'-C1'-N9 | -5.95 | 103.44 | 108.20 |
| 2 | AB | 78 | U | C5-C4-O4 | -5.95 | 122.33 | 125.90 |
| 2 | AB | 134 | G | O4'-C1'-N9 | 5.95 | 112.96 | 108.20 |
| 2 | AB | 315 | G | C4-C5-C6 | 5.95 | 122.37 | 118.80 |
| 2 | AB | 936 | A | C4'-C3'-C2' | -5.95 | 96.65 | 102.60 |
| 2 | AB | 1329 | U | C4'-C3'-C2' | 5.95 | 108.55 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1361 | G | C8-N9-C4 | 5.95 | 108.78 | 106.40 |
| 2 | AB | 1465 | G | C4'-C3'-C2' | -5.95 | 96.65 | 102.60 |
| 2 | AB | 1490 | A | C5-N7-C8 | -5.95 | 100.92 | 103.90 |
| 2 | AB | 1649 | G | C4-N9-C1' | -5.95 | 118.76 | 126.50 |
| 2 | AB | 1935 | G | C5'-C4'-O4' | 5.95 | 116.24 | 109.10 |
| 2 | AB | 1987 | A | N9-C1'-C2' | -5.95 | 105.45 | 112.00 |
| 2 | AB | 1999 | C | N1-C2-O2 | 5.95 | 122.47 | 118.90 |
| 2 | AB | 2683 | C | N1-C2-O2 | 5.95 | 122.47 | 118.90 |
| 2 | AB | 2825 | G | C5'-C4'-O4' | 5.95 | 116.24 | 109.10 |
| 2 | AB | 2839 | G | C6-N1-C2 | -5.95 | 121.53 | 125.10 |
| 35 | BA | 436 | C | C5-C6-N1 | 5.95 | 123.98 | 121.00 |
| 35 | BA | 716 | A | C4'-C3'-C2' | -5.95 | 96.65 | 102.60 |
| 35 | BA | 718 | A | C4'-C3'-C2' | 5.95 | 108.55 | 102.60 |
| 35 | BA | 830 | G | P-O3'-C3' | 5.95 | 126.84 | 119.70 |
| 37 | BC | 48 | U | P-O3'-C3' | 5.95 | 126.84 | 119.70 |
| 2 | AB | 140 | C | C3'-C2'-C1' | 5.95 | 106.26 | 101.50 |
| 2 | AB | 651 | G | C6-C5-N7 | -5.95 | 126.83 | 130.40 |
| 2 | AB | 1013 | C | C5'-C4'-O4' | 5.95 | 116.24 | 109.10 |
| 2 | AB | 1286 | A | C5'-C4'-C3' | -5.95 | 106.48 | 116.00 |
| 2 | AB | 2842 | G | C6-N1-C2 | -5.95 | 121.53 | 125.10 |
| 35 | BA | 152 | A | P-O3'-C3' | 5.95 | 126.84 | 119.70 |
| 35 | BA | 283 | U | P-O3'-C3' | 5.95 | 126.84 | 119.70 |
| 35 | BA | 487 | A | O4'-C1'-N9 | 5.95 | 112.96 | 108.20 |
| 35 | BA | 793 | U | C5-C4-O4 | -5.95 | 122.33 | 125.90 |
| 1 | AA | 112 | G | C2-N3-C4 | 5.95 | 114.88 | 111.90 |
| 2 | AB | 28 | A | C8-N9-C4 | -5.95 | 103.42 | 105.80 |
| 2 | AB | 170 | U | O4'-C1'-N1 | 5.95 | 112.96 | 108.20 |
| 2 | AB | 706 | A | O4'-C1'-N9 | 5.95 | 112.96 | 108.20 |
| 2 | AB | 1227 | G | C4-C5-N7 | 5.95 | 113.18 | 110.80 |
| 2 | AB | 1570 | A | O4'-C1'-N9 | 5.95 | 112.96 | 108.20 |
| 2 | AB | 1651 | G | N3-C4-C5 | -5.95 | 125.62 | 128.60 |
| 2 | AB | 1678 | A | C6-N1-C2 | -5.95 | 115.03 | 118.60 |
| 2 | AB | 1797 | G | C6-N1-C2 | -5.95 | 121.53 | 125.10 |
| 2 | AB | 1848 | A | C5-N7-C8 | -5.95 | 100.92 | 103.90 |
| 2 | AB | 2175 | C | O3'-P-O5' | -5.95 | 92.69 | 104.00 |
| 2 | AB | 2833 | U | O4'-C1'-N1 | 5.95 | 112.96 | 108.20 |
| 3 | AC | 10 | VAL | CG1-CB-CG2 | -5.95 | 101.38 | 110.90 |
| 35 | BA | 236 | A | N9-C4-C5 | 5.95 | 108.18 | 105.80 |
| 35 | BA | 414 | A | C4'-C3'-C2' | -5.95 | 96.65 | 102.60 |
| 35 | BA | 957 | U | N3-C4-O4 | 5.95 | 123.56 | 119.40 |
| 37 | BC | 18 | U | N3-C4-C5 | -5.95 | 111.03 | 114.60 |
| 2 | AB | 11 | C | N1-C2-O2 | 5.95 | 122.47 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 15 | G | C8-N9-C4 | -5.95 | 104.02 | 106.40 |
| 2 | AB | 717 | C | C2-N3-C4 | -5.95 | 116.93 | 119.90 |
| 2 | AB | 1337 | G | O4'-C1'-N9 | 5.95 | 112.96 | 108.20 |
| 2 | AB | 1369 | G | N1-C2-N2 | 5.95 | 121.56 | 116.20 |
| 2 | AB | 1477 | A | N3-C4-N9 | 5.95 | 132.16 | 127.40 |
| 2 | AB | 2714 | G | C5-C6-N1 | 5.95 | 114.47 | 111.50 |
| 35 | BA | 224 | U | N3-C4-C5 | 5.95 | 118.17 | 114.60 |
| 35 | BA | 634 | C | N3-C4-C5 | -5.95 | 119.52 | 121.90 |
| 35 | BA | 802 | A | C5-C6-N1 | -5.95 | 114.73 | 117.70 |
| 35 | BA | 812 | G | O4'-C1'-N9 | 5.95 | 112.96 | 108.20 |
| 35 | BA | 921 | U | O4'-C4'-C3' | 5.95 | 110.86 | 106.10 |
| 38 | BD | 122 | ASP | CB-CG-OD1 | 5.95 | 123.65 | 118.30 |
| 2 | AB | 336 | C | C5-C6-N1 | -5.95 | 118.03 | 121.00 |
| 2 | AB | 354 | A | C5-C6-N6 | -5.95 | 118.94 | 123.70 |
| 2 | AB | 471 | A | P-O3'-C3' | 5.95 | 126.84 | 119.70 |
| 2 | AB | 524 | G | C3'-C2'-C1' | -5.95 | 96.74 | 101.50 |
| 2 | AB | 686 | U | C2-N1-C1' | 5.95 | 124.84 | 117.70 |
| 2 | AB | 1003 | G | N9-C4-C5 | 5.95 | 107.78 | 105.40 |
| 2 | AB | 1734 | G | C8-N9-C4 | -5.95 | 104.02 | 106.40 |
| 2 | AB | 1916 | A | N1-C6-N6 | -5.95 | 115.03 | 118.60 |
| 35 | BA | 670 | G | N1-C2-N3 | 5.95 | 127.47 | 123.90 |
| 35 | BA | 1398 | A | C6-N1-C2 | -5.95 | 115.03 | 118.60 |
| 2 | AB | 1627 | G | N7-C8-N9 | -5.95 | 110.13 | 113.10 |
| 2 | AB | 1779 | U | N3-C2-O2 | -5.95 | 118.04 | 122.20 |
| 2 | AB | 1981 | A | C5-C6-N6 | 5.95 | 128.46 | 123.70 |
| 2 | AB | 2190 | G | C4'-C3'-C2' | -5.95 | 96.65 | 102.60 |
| 2 | AB | 2267 | A | C6-N1-C2 | -5.95 | 115.03 | 118.60 |
| 2 | AB | 2443 | C | N3-C4-C5 | -5.95 | 119.52 | 121.90 |
| 2 | AB | 2705 | A | N1-C2-N3 | -5.95 | 126.33 | 129.30 |
| 10 | AJ | 75 | PHE | CB-CG-CD2 | -5.95 | 116.64 | 120.80 |
| 35 | BA | 411 | A | C5'-C4'-O4' | 5.95 | 116.23 | 109.10 |
| 35 | BA | 442 | G | N3-C2-N2 | -5.95 | 115.74 | 119.90 |
| 45 | BK | 48 | ARG | NE-CZ-NH2 | -5.95 | 117.33 | 120.30 |
| 35 | BA | 168 | G | C8-N9-C1' | 5.94 | 134.73 | 127.00 |
| 35 | BA | 445 | G | N3-C4-C5 | -5.94 | 125.63 | 128.60 |
| 35 | BA | 536 | C | C5-C6-N1 | 5.94 | 123.97 | 121.00 |
| 35 | BA | 1199 | U | C6-N1-C2 | -5.94 | 117.43 | 121.00 |
| 35 | BA | 1222 | G | N3-C4-N9 | 5.94 | 129.57 | 126.00 |
| 35 | BA | 1532 | U | O4'-C4'-C3' | 5.94 | 110.86 | 106.10 |
| 39 | BE | 17 | TRP | CG-CD2-CE3 | 5.94 | 139.25 | 133.90 |
| 1 | AA | 71 | C | C1'-O4'-C4' | 5.94 | 114.65 | 109.90 |
| 2 | AB | 63 | A | O4'-C4'-C3' | 5.94 | 110.85 | 106.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 406 | G | C6-C5-N7 | 5.94 | 133.97 | 130.40 |
| 2 | AB | 439 | A | C3'-C2'-C1' | -5.94 | 96.75 | 101.50 |
| 2 | AB | 669 | G | P-O3'-C3' | 5.94 | 126.83 | 119.70 |
| 2 | AB | 1596 | A | N1-C6-N6 | -5.94 | 115.03 | 118.60 |
| 2 | AB | 2142 | A | C6-N1-C2 | -5.94 | 115.03 | 118.60 |
| 2 | AB | 2576 | G | C5'-C4'-O4' | 5.94 | 116.23 | 109.10 |
| 2 | AB | 2855 | C | N1-C1'-C2' | -5.94 | 105.46 | 112.00 |
| 20 | AT | 21 | ARG | NE-CZ-NH1 | -5.94 | 117.33 | 120.30 |
| 35 | BA | 40 | C | O4'-C1'-N1 | 5.94 | 112.95 | 108.20 |
| 35 | BA | 248 | C | C4'-C3'-C2' | -5.94 | 96.66 | 102.60 |
| 35 | BA | 364 | A | N3-C4-C5 | 5.94 | 130.96 | 126.80 |
| 35 | BA | 412 | A | C4-C5-N7 | 5.94 | 113.67 | 110.70 |
| 35 | BA | 495 | A | C6-C5-N7 | -5.94 | 128.14 | 132.30 |
| 35 | BA | 824 | G | N1-C2-N3 | -5.94 | 120.33 | 123.90 |
| 35 | BA | 1077 | G | C8-N9-C1' | 5.94 | 134.73 | 127.00 |
| 35 | BA | 1150 | A | C5'-C4'-C3' | -5.94 | 106.49 | 116.00 |
| 35 | BA | 1323 | G | C4-C5-N7 | -5.94 | 108.42 | 110.80 |
| 35 | BA | 1341 | U | C5'-C4'-C3' | -5.94 | 106.49 | 116.00 |
| 35 | BA | 1500 | A | C5'-C4'-O4' | 5.94 | 116.23 | 109.10 |
| 1 | AA | 22 | U | C3'-C2'-C1' | 5.94 | 106.25 | 101.50 |
| 2 | AB | 1331 | G | N7-C8-N9 | 5.94 | 116.07 | 113.10 |
| 2 | AB | 1332 | G | C6-N1-C2 | -5.94 | 121.54 | 125.10 |
| 2 | AB | 1354 | A | O4'-C1'-N9 | 5.94 | 112.95 | 108.20 |
| 2 | AB | 1878 | G | C3'-C2'-C1' | 5.94 | 106.25 | 101.50 |
| 2 | AB | 1890 | A | N1-C6-N6 | 5.94 | 122.16 | 118.60 |
| 2 | AB | 2097 | A | C4-C5-N7 | -5.94 | 107.73 | 110.70 |
| 2 | AB | 2116 | G | O4'-C4'-C3' | 5.94 | 110.85 | 106.10 |
| 2 | AB | 2558 | C | P-O5'-C5' | 5.94 | 130.40 | 120.90 |
| 2 | AB | 2611 | C | C5-C4-N4 | -5.94 | 116.04 | 120.20 |
| 2 | AB | 2689 | U | N3-C4-O4 | 5.94 | 123.56 | 119.40 |
| 35 | BA | 286 | C | O4'-C4'-C3' | 5.94 | 110.85 | 106.10 |
| 35 | BA | 765 | G | N3-C4-N9 | 5.94 | 129.56 | 126.00 |
| 35 | BA | 1294 | G | P-O3'-C3' | 5.94 | 126.83 | 119.70 |
| 35 | BA | 1300 | G | C4'-C3'-C2' | -5.94 | 96.66 | 102.60 |
| 2 | AB | 729 | G | C4-C5-N7 | -5.94 | 108.42 | 110.80 |
| 2 | AB | 820 | A | N3-C4-N9 | 5.94 | 132.15 | 127.40 |
| 2 | AB | 1483 | G | C4-C5-C6 | 5.94 | 122.36 | 118.80 |
| 2 | AB | 2275 | C | O4'-C1'-N1 | 5.94 | 112.95 | 108.20 |
| 2 | AB | 2294 | G | O4'-C1'-N9 | 5.94 | 112.95 | 108.20 |
| 2 | AB | 2627 | G | N1-C2-N3 | -5.94 | 120.34 | 123.90 |
| 2 | AB | 2659 | G | N1-C2-N3 | 5.94 | 127.46 | 123.90 |
| 2 | AB | 2776 | A | C3'-C2'-C1' | -5.94 | 96.75 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 978 | A | N1-C6-N6 | 5.94 | 122.16 | 118.60 |
| 37 | BC | 24 | C | N1-C1'-C2' | -5.94 | 105.47 | 112.00 |
| 2 | AB | 327 | G | C8-N9-C1' | 5.94 | 134.72 | 127.00 |
| 2 | AB | 766 | U | C5-C4-O4 | -5.94 | 122.34 | 125.90 |
| 2 | AB | 1261 | C | N3-C4-N4 | 5.94 | 122.16 | 118.00 |
| 2 | AB | 1290 | C | O4'-C1'-N1 | 5.94 | 112.95 | 108.20 |
| 2 | AB | 1623 | G | N3-C2-N2 | -5.94 | 115.74 | 119.90 |
| 2 | AB | 1682 | G | C5-C6-N1 | -5.94 | 108.53 | 111.50 |
| 2 | AB | 2705 | A | P-O3'-C3' | 5.94 | 126.82 | 119.70 |
| 35 | BA | 452 | A | N1-C6-N6 | 5.94 | 122.16 | 118.60 |
| 35 | BA | 482 | A | C5-C6-N1 | 5.94 | 120.67 | 117.70 |
| 35 | BA | 676 | A | N3-C4-C5 | -5.94 | 122.64 | 126.80 |
| 35 | BA | 1038 | C | C1'-O4'-C4' | -5.94 | 105.15 | 109.90 |
| 35 | BA | 1215 | G | N1-C2-N3 | -5.94 | 120.34 | 123.90 |
| 35 | BA | 1298 | U | C5'-C4'-O4' | -5.94 | 101.98 | 109.10 |
| 35 | BA | 1300 | G | C4-C5-N7 | 5.94 | 113.17 | 110.80 |
| 35 | BA | 1513 | A | N1-C6-N6 | -5.94 | 115.04 | 118.60 |
| 2 | AB | 389 | G | N3-C4-C5 | -5.94 | 125.63 | 128.60 |
| 2 | AB | 788 | A | C5-C6-N1 | -5.94 | 114.73 | 117.70 |
| 2 | AB | 905 | A | N3-C4-C5 | -5.94 | 122.64 | 126.80 |
| 2 | AB | 1162 | G | N9-C4-C5 | 5.94 | 107.78 | 105.40 |
| 2 | AB | 2086 | U | C1'-O4'-C4' | -5.94 | 105.15 | 109.90 |
| 2 | AB | 2135 | A | N9-C4-C5 | 5.94 | 108.17 | 105.80 |
| 35 | BA | 102 | G | N1-C2-N2 | 5.94 | 121.54 | 116.20 |
| 35 | BA | 148 | G | C3'-C2'-C1' | -5.94 | 96.75 | 101.50 |
| 35 | BA | 177 | G | C5-C6-N1 | 5.94 | 114.47 | 111.50 |
| 35 | BA | 619 | U | N3-C4-C5 | -5.94 | 111.04 | 114.60 |
| 35 | BA | 852 | G | O4'-C1'-C2' | -5.94 | 99.86 | 105.80 |
| 35 | BA | 963 | G | N7-C8-N9 | 5.94 | 116.07 | 113.10 |
| 2 | AB | 160 | A | N9-C4-C5 | 5.93 | 108.17 | 105.80 |
| 2 | AB | 538 | A | C4-C5-N7 | 5.93 | 113.67 | 110.70 |
| 2 | AB | 1141 | U | N1-C2-N3 | 5.93 | 118.46 | 114.90 |
| 2 | AB | 1322 | A | O4'-C1'-N9 | 5.93 | 112.95 | 108.20 |
| 2 | AB | 1329 | U | C5-C6-N1 | -5.93 | 119.73 | 122.70 |
| 2 | AB | 1343 | G | O4'-C4'-C3' | 5.93 | 110.85 | 106.10 |
| 2 | AB | 1572 | A | C4'-C3'-C2' | -5.93 | 96.67 | 102.60 |
| 2 | AB | 1597 | A | C5'-C4'-C3' | -5.93 | 106.50 | 116.00 |
| 2 | AB | 2565 | A | N9-C1'-C2' | -5.93 | 105.47 | 112.00 |
| 2 | AB | 2645 | G | N9-C1'-C2' | -5.93 | 105.47 | 112.00 |
| 35 | BA | 26 | A | C3'-C2'-C1' | 5.93 | 106.25 | 101.50 |
| 35 | BA | 836 | G | C5'-C4'-C3' | -5.93 | 106.50 | 116.00 |
| 35 | BA | 1266 | G | C5-C6-N1 | 5.93 | 114.47 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1312 | G | N1-C6-O6 | -5.93 | 116.34 | 119.90 |
| 35 | BA | 1415 | G | C2-N3-C4 | 5.93 | 114.87 | 111.90 |
| 37 | BC | 33 | OMC | P-O3'-C3' | 5.93 | 126.82 | 119.70 |
| 2 | AB | 1460 | U | P-O3'-C3' | 5.93 | 126.82 | 119.70 |
| 2 | AB | 1486 | U | N3-C2-O2 | -5.93 | 118.05 | 122.20 |
| 2 | AB | 1861 | G | C6-N1-C2 | -5.93 | 121.54 | 125.10 |
| 2 | AB | 2261 | C | C2-N3-C4 | -5.93 | 116.93 | 119.90 |
| 2 | AB | 2517 | C | C5-C4-N4 | -5.93 | 116.05 | 120.20 |
| 2 | AB | 2577 | A | C3'-C2'-C1' | 5.93 | 106.25 | 101.50 |
| 2 | AB | 2590 | A | C6-C5-N7 | -5.93 | 128.15 | 132.30 |
| 2 | AB | 2686 | G | N1-C2-N3 | -5.93 | 120.34 | 123.90 |
| 35 | BA | 255 | G | N1-C6-O6 | 5.93 | 123.46 | 119.90 |
| 35 | BA | 604 | G | C4-C5-N7 | 5.93 | 113.17 | 110.80 |
| 37 | BC | 2 | G | N3-C2-N2 | -5.93 | 115.75 | 119.90 |
| 2 | AB | 438 | G | C8-N9-C4 | -5.93 | 104.03 | 106.40 |
| 2 | AB | 733 | G | N3-C4-C5 | -5.93 | 125.63 | 128.60 |
| 2 | AB | 961 | C | N3-C4-C5 | -5.93 | 119.53 | 121.90 |
| 35 | BA | 845 | A | C1'-O4'-C4' | 5.93 | 114.64 | 109.90 |
| 35 | BA | 1026 | G | C5'-C4'-O4' | 5.93 | 116.22 | 109.10 |
| 36 | BB | 19 | A | C5-N7-C8 | 5.93 | 106.86 | 103.90 |
| 2 | AB | 579 | G | N1-C6-O6 | 5.93 | 123.46 | 119.90 |
| 2 | AB | 711 | G | N3-C2-N2 | -5.93 | 115.75 | 119.90 |
| 2 | AB | 908 | C | N3-C4-C5 | -5.93 | 119.53 | 121.90 |
| 2 | AB | 1242 | U | N1-C2-N3 | 5.93 | 118.46 | 114.90 |
| 2 | AB | 1468 | U | C4-C5-C6 | 5.93 | 123.26 | 119.70 |
| 2 | AB | 1603 | A | C5-N7-C8 | 5.93 | 106.86 | 103.90 |
| 2 | AB | 1647 | U | C5'-C4'-O4' | -5.93 | 101.98 | 109.10 |
| 2 | AB | 2038 | G | C5-C6-O6 | -5.93 | 125.04 | 128.60 |
| 2 | AB | 2179 | C | O4'-C1'-N1 | 5.93 | 112.94 | 108.20 |
| 2 | AB | 2799 | A | C5-C6-N1 | 5.93 | 120.67 | 117.70 |
| 2 | AB | 2900 | A | C1'-O4'-C4' | -5.93 | 105.16 | 109.90 |
| 4 | AD | 110 | LYS | N-CA-CB | -5.93 | 99.93 | 110.60 |
| 24 | AX | 2 | PHE | CB-CG-CD1 | 5.93 | 124.95 | 120.80 |
| 35 | BA | 493 | A | N1-C6-N6 | 5.93 | 122.16 | 118.60 |
| 35 | BA | 557 | G | C5-C6-O6 | -5.93 | 125.04 | 128.60 |
| 35 | BA | 978 | A | C5-C6-N1 | -5.93 | 114.73 | 117.70 |
| 35 | BA | 1172 | C | O4'-C1'-N1 | 5.93 | 112.94 | 108.20 |
| 35 | BA | 1187 | G | N3-C4-C5 | -5.93 | 125.64 | 128.60 |
| 35 | BA | 1395 | C | P-O3'-C3' | 5.93 | 126.82 | 119.70 |
| 35 | BA | 1439 | G | C8-N9-C4 | -5.93 | 104.03 | 106.40 |
| 37 | BC | 12 | G | N3-C4-N9 | 5.93 | 129.56 | 126.00 |
| 1 | AA | 3 | C | C4-C5-C6 | -5.93 | 114.44 | 117.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 309 | A | C4-C5-C6 | 5.93 | 119.96 | 117.00 |
| 2 | AB | 1477 | A | C6-C5-N7 | -5.93 | 128.15 | 132.30 |
| 2 | AB | 1479 | G | C2-N3-C4 | 5.93 | 114.86 | 111.90 |
| 2 | AB | 1868 | C | C6-N1-C2 | -5.93 | 117.93 | 120.30 |
| 2 | AB | 2625 | G | O4'-C4'-C3' | 5.93 | 110.84 | 106.10 |
| 35 | BA | 524 | G | N9-C4-C5 | 5.93 | 107.77 | 105.40 |
| 35 | BA | 1014 | A | N9-C4-C5 | 5.93 | 108.17 | 105.80 |
| 2 | AB | 445 | C | C2-N3-C4 | 5.93 | 122.86 | 119.90 |
| 2 | AB | 592 | A | C6-N1-C2 | 5.93 | 122.16 | 118.60 |
| 2 | AB | 676 | A | C4-C5-C6 | 5.93 | 119.96 | 117.00 |
| 2 | AB | 1014 | A | C4'-C3'-C2' | -5.93 | 96.67 | 102.60 |
| 2 | AB | 1081 | U | C5-C6-N1 | -5.93 | 119.74 | 122.70 |
| 2 | AB | 1728 | C | C5-C6-N1 | 5.93 | 123.96 | 121.00 |
| 2 | AB | 2159 | G | C6-N1-C2 | -5.93 | 121.54 | 125.10 |
| 2 | AB | 2653 | U | N1-C2-N3 | 5.93 | 118.46 | 114.90 |
| 5 | AE | 172 | VAL | CG1-CB-CG2 | -5.93 | 101.42 | 110.90 |
| 35 | BA | 196 | A | N3-C4-N9 | -5.93 | 122.66 | 127.40 |
| 35 | BA | 507 | C | C4'-C3'-C2' | -5.93 | 96.67 | 102.60 |
| 35 | BA | 654 | G | N1-C6-O6 | -5.93 | 116.34 | 119.90 |
| 35 | BA | 996 | A | N9-C4-C5 | 5.93 | 108.17 | 105.80 |
| 35 | BA | 1378 | C | C3'-C2'-C1' | -5.93 | 96.76 | 101.50 |
| 2 | AB | 939 | G | N9-C4-C5 | 5.92 | 107.77 | 105.40 |
| 2 | AB | 1054 | A | N9-C4-C5 | -5.92 | 103.43 | 105.80 |
| 2 | AB | 1382 | G | N9-C4-C5 | -5.92 | 103.03 | 105.40 |
| 2 | AB | 1560 | G | P-O3'-C3' | 5.92 | 126.81 | 119.70 |
| 2 | AB | 1643 | G | O4'-C1'-N9 | 5.92 | 112.94 | 108.20 |
| 2 | AB | 1884 | G | N1-C2-N2 | -5.92 | 110.87 | 116.20 |
| 2 | AB | 2134 | A | C5-C6-N6 | -5.92 | 118.96 | 123.70 |
| 2 | AB | 2520 | C | C6-N1-C2 | 5.92 | 122.67 | 120.30 |
| 15 | AO | 114 | ARG | NE-CZ-NH1 | -5.92 | 117.34 | 120.30 |
| 35 | BA | 105 | G | O4'-C1'-N9 | 5.92 | 112.94 | 108.20 |
| 35 | BA | 126 | G | C4'-C3'-C2' | -5.92 | 96.67 | 102.60 |
| 35 | BA | 365 | U | C4'-C3'-C2' | -5.92 | 96.68 | 102.60 |
| 35 | BA | 552 | U | C1'-O4'-C4' | 5.92 | 114.64 | 109.90 |
| 35 | BA | 758 | C | C4-C5-C6 | -5.92 | 114.44 | 117.40 |
| 48 | BN | 53 | ARG | NE-CZ-NH1 | 5.92 | 123.26 | 120.30 |
| 2 | AB | 330 | A | O4'-C1'-N9 | 5.92 | 112.94 | 108.20 |
| 2 | AB | 553 | G | N3-C4-C5 | -5.92 | 125.64 | 128.60 |
| 2 | AB | 904 | G | N3-C4-N9 | 5.92 | 129.55 | 126.00 |
| 2 | AB | 980 | A | C4-C5-N7 | 5.92 | 113.66 | 110.70 |
| 2 | AB | 1476 | U | C5'-C4'-O4' | 5.92 | 116.21 | 109.10 |
| 2 | AB | 1543 | G | C4-C5-C6 | -5.92 | 115.25 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 537 | G | N1-C2-N3 | -5.92 | 120.35 | 123.90 |
| 35 | BA | 1247 | U | N1-C2-O2 | -5.92 | 118.65 | 122.80 |
| 35 | BA | 1535 | C | N3-C4-N4 | 5.92 | 122.15 | 118.00 |
| 2 | AB | 14 | A | C4-C5-N7 | -5.92 | 107.74 | 110.70 |
| 2 | AB | 260 | G | O4'-C1'-C2' | 5.92 | 112.93 | 107.60 |
| 2 | AB | 900 | A | C2-N3-C4 | 5.92 | 113.56 | 110.60 |
| 2 | AB | 1125 | G | N9-C1'-C2' | -5.92 | 105.49 | 112.00 |
| 2 | AB | 1616 | A | N1-C2-N3 | 5.92 | 132.26 | 129.30 |
| 2 | AB | 2363 | G | C5'-C4'-O4' | 5.92 | 116.20 | 109.10 |
| 2 | AB | 2472 | G | C8-N9-C4 | -5.92 | 104.03 | 106.40 |
| 2 | AB | 2608 | G | N3-C2-N2 | -5.92 | 115.75 | 119.90 |
| 2 | AB | 2865 | U | C3'-C2'-C1' | 5.92 | 106.24 | 101.50 |
| 35 | BA | 521 | G | O4'-C1'-N9 | 5.92 | 112.94 | 108.20 |
| 35 | BA | 775 | G | C3'-C2'-C1' | -5.92 | 96.76 | 101.50 |
| 35 | BA | 1187 | G | N3-C2-N2 | -5.92 | 115.75 | 119.90 |
| 36 | BB | 15 | G | P-O3'-C3' | 5.92 | 126.81 | 119.70 |
| 2 | AB | 1195 | G | C4-C5-N7 | -5.92 | 108.43 | 110.80 |
| 2 | AB | 1654 | A | O5'-C5'-C4' | -5.92 | 100.45 | 111.70 |
| 2 | AB | 2047 | C | N1-C2-O2 | 5.92 | 122.45 | 118.90 |
| 5 | AE | 101 | PHE | CB-CG-CD2 | -5.92 | 116.66 | 120.80 |
| 35 | BA | 1323 | G | C6-C5-N7 | 5.92 | 133.95 | 130.40 |
| 2 | AB | 356 | G | N9-C4-C5 | 5.92 | 107.77 | 105.40 |
| 2 | AB | 359 | G | N1-C6-O6 | -5.92 | 116.35 | 119.90 |
| 2 | AB | 641 | U | N3-C4-O4 | 5.92 | 123.54 | 119.40 |
| 2 | AB | 698 | C | C6-N1-C2 | -5.92 | 117.93 | 120.30 |
| 2 | AB | 916 | G | N1-C2-N3 | -5.92 | 120.35 | 123.90 |
| 2 | AB | 1833 | C | C4'-C3'-C2' | -5.92 | 96.68 | 102.60 |
| 2 | AB | 1891 | G | C6-N1-C2 | 5.92 | 128.65 | 125.10 |
| 2 | AB | 2227 | A | C5-N7-C8 | -5.92 | 100.94 | 103.90 |
| 35 | BA | 354 | G | N1-C6-O6 | -5.92 | 116.35 | 119.90 |
| 35 | BA | 366 | A | P-O3'-C3' | 5.92 | 126.80 | 119.70 |
| 35 | BA | 561 | U | C5-C4-O4 | -5.92 | 122.35 | 125.90 |
| 35 | BA | 833 | G | C4-C5-N7 | -5.92 | 108.43 | 110.80 |
| 35 | BA | 942 | G | N1-C2-N3 | -5.92 | 120.35 | 123.90 |
| 35 | BA | 1453 | G | C5'-C4'-O4' | 5.92 | 116.20 | 109.10 |
| 35 | BA | 1479 | C | P-O5'-C5' | 5.92 | 130.37 | 120.90 |
| 43 | BI | 110 | ARG | NH1-CZ-NH2 | -5.92 | 112.89 | 119.40 |
| 2 | AB | 14 | A | C6-C5-N7 | 5.92 | 136.44 | 132.30 |
| 2 | AB | 329 | G | C8-N9-C4 | 5.92 | 108.77 | 106.40 |
| 2 | AB | 480 | A | C4-C5-C6 | -5.92 | 114.04 | 117.00 |
| 2 | AB | 707 | G | C6-N1-C2 | -5.92 | 121.55 | 125.10 |
| 2 | AB | 891 | G | P-O3'-C3' | 5.92 | 126.80 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1034 | G | C3'-C2'-C1' | 5.92 | 106.23 | 101.50 |
| 2 | AB | 1092 | C | N3-C4-C5 | 5.92 | 124.27 | 121.90 |
| 2 | AB | 2168 | G | C5-C6-O6 | -5.92 | 125.05 | 128.60 |
| 2 | AB | 2493 | U | C5-C4-O4 | -5.92 | 122.35 | 125.90 |
| 2 | AB | 2811 | G | C3'-C2'-C1' | 5.92 | 106.23 | 101.50 |
| 35 | BA | 32 | A | C5-C6-N1 | 5.92 | 120.66 | 117.70 |
| 36 | BB | 50 | U | O4'-C1'-N1 | -5.92 | 103.47 | 108.20 |
| 2 | AB | 72 | U | C5'-C4'-O4' | -5.92 | 102.00 | 109.10 |
| 2 | AB | 330 | A | N9-C4-C5 | -5.92 | 103.43 | 105.80 |
| 2 | AB | 1051 | G | C3'-C2'-C1' | 5.92 | 106.23 | 101.50 |
| 2 | AB | 1627 | G | N1-C6-O6 | 5.92 | 123.45 | 119.90 |
| 2 | AB | 2393 | U | N3-C2-O2 | -5.92 | 118.06 | 122.20 |
| 2 | AB | 2676 | C | N3-C4-C5 | -5.92 | 119.53 | 121.90 |
| 2 | AB | 2866 | U | C2-N3-C4 | -5.92 | 123.45 | 127.00 |
| 35 | BA | 173 | U | O3'-P-O5' | -5.92 | 92.76 | 104.00 |
| 35 | BA | 554 | A | C8-N9-C4 | -5.92 | 103.43 | 105.80 |
| 35 | BA | 1258 | G | C4-C5-C6 | -5.92 | 115.25 | 118.80 |
| 2 | AB | 713 | G | C2-N3-C4 | 5.91 | 114.86 | 111.90 |
| 2 | AB | 932 | U | N1-C1'-C2' | 5.91 | 121.69 | 114.00 |
| 2 | AB | 1807 | G | N3-C2-N2 | -5.91 | 115.76 | 119.90 |
| 2 | AB | 1947 | C | C2-N3-C4 | 5.91 | 122.86 | 119.90 |
| 2 | AB | 2138 | G | C5-C6-O6 | -5.91 | 125.05 | 128.60 |
| 2 | AB | 2558 | C | C5'-C4'-O4' | 5.91 | 116.20 | 109.10 |
| 35 | BA | 334 | C | C6-N1-C2 | -5.91 | 117.93 | 120.30 |
| 35 | BA | 460 | A | C4-C5-N7 | 5.91 | 113.66 | 110.70 |
| 35 | BA | 732 | C | O4'-C1'-N1 | 5.91 | 112.93 | 108.20 |
| 35 | BA | 1176 | A | C5-N7-C8 | -5.91 | 100.94 | 103.90 |
| 35 | BA | 1214 | C | P-O3'-C3' | 5.91 | 126.80 | 119.70 |
| 36 | BB | 43 | U | O5'-C5'-C4' | -5.91 | 100.46 | 111.70 |
| 37 | BC | 60 | A | C2-N3-C4 | -5.91 | 107.64 | 110.60 |
| 2 | AB | 799 | G | O4'-C1'-N9 | -5.91 | 103.47 | 108.20 |
| 2 | AB | 1190 | G | O4'-C4'-C3' | 5.91 | 110.83 | 106.10 |
| 2 | AB | 1829 | A | N3-C4-N9 | 5.91 | 132.13 | 127.40 |
| 2 | AB | 2250 | G | N7-C8-N9 | 5.91 | 116.06 | 113.10 |
| 35 | BA | 208 | U | P-O3'-C3' | 5.91 | 126.79 | 119.70 |
| 35 | BA | 577 | G | C3'-C2'-C1' | 5.91 | 106.23 | 101.50 |
| 35 | BA | 888 | G | N1-C2-N3 | -5.91 | 120.35 | 123.90 |
| 44 | BJ | 82 | LEU | N-CA-C | -5.91 | 95.04 | 111.00 |
| 2 | AB | 241 | A | C4-C5-N7 | 5.91 | 113.66 | 110.70 |
| 2 | AB | 616 | A | C8-N9-C4 | -5.91 | 103.44 | 105.80 |
| 2 | AB | 740 | C | C4-C5-C6 | -5.91 | 114.44 | 117.40 |
| 2 | AB | 1124 | G | C8-N9-C4 | -5.91 | 104.04 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1141 | U | C2-N3-C4 | -5.91 | 123.45 | 127.00 |
| 2 | AB | 1185 | G | O4'-C1'-N9 | 5.91 | 112.93 | 108.20 |
| 2 | AB | 1667 | G | C5-C6-O6 | -5.91 | 125.05 | 128.60 |
| 2 | AB | 1695 | G | N1-C6-O6 | -5.91 | 116.35 | 119.90 |
| 2 | AB | 2272 | U | C5'-C4'-O4' | 5.91 | 116.19 | 109.10 |
| 2 | AB | 2755 | C | C4-C5-C6 | 5.91 | 120.36 | 117.40 |
| 7 | AG | 172 | PHE | CB-CG-CD2 | 5.91 | 124.94 | 120.80 |
| 23 | AW | 72 | PHE | CB-CG-CD1 | -5.91 | 116.66 | 120.80 |
| 35 | BA | 114 | U | C5-C4-O4 | -5.91 | 122.35 | 125.90 |
| 35 | BA | 189 | A | C4-C5-N7 | -5.91 | 107.75 | 110.70 |
| 35 | BA | 221 | C | O5'-C5'-C4' | 5.91 | 122.93 | 111.70 |
| 35 | BA | 260 | G | N3-C2-N2 | -5.91 | 115.76 | 119.90 |
| 35 | BA | 333 | U | C5-C6-N1 | 5.91 | 125.66 | 122.70 |
| 35 | BA | 880 | C | O4'-C4'-C3' | -5.91 | 98.09 | 104.00 |
| 35 | BA | 902 | G | C5'-C4'-O4' | 5.91 | 116.19 | 109.10 |
| 35 | BA | 1540 | U | O4'-C1'-N1 | 5.91 | 112.93 | 108.20 |
| 1 | AA | 86 | G | C4-C5-C6 | 5.91 | 122.34 | 118.80 |
| 2 | AB | 115 | C | C4'-C3'-C2' | -5.91 | 96.69 | 102.60 |
| 2 | AB | 325 | G | C8-N9-C4 | -5.91 | 104.04 | 106.40 |
| 2 | AB | 748 | G | N7-C8-N9 | 5.91 | 116.06 | 113.10 |
| 2 | AB | 893 | C | C2'-C3'-O3' | 5.91 | 123.15 | 113.70 |
| 2 | AB | 1002 | G | C5-C6-O6 | 5.91 | 132.15 | 128.60 |
| 2 | AB | 1060 | U | N1-C2-O2 | 5.91 | 126.94 | 122.80 |
| 2 | AB | 1465 | G | N9-C4-C5 | -5.91 | 103.04 | 105.40 |
| 2 | AB | 1572 | A | C3'-C2'-C1' | 5.91 | 106.23 | 101.50 |
| 2 | AB | 1621 | U | C1'-O4'-C4' | -5.91 | 105.17 | 109.90 |
| 2 | AB | 1811 | G | P-O3'-C3' | 5.91 | 126.79 | 119.70 |
| 2 | AB | 2143 | C | C5-C4-N4 | 5.91 | 124.34 | 120.20 |
| 2 | AB | 2188 | U | C4-C5-C6 | 5.91 | 123.25 | 119.70 |
| 2 | AB | 2353 | G | N3-C4-N9 | -5.91 | 122.45 | 126.00 |
| 8 | AH | 34 | ARG | NH1-CZ-NH2 | -5.91 | 112.90 | 119.40 |
| 35 | BA | 295 | C | N1-C2-O2 | 5.91 | 122.44 | 118.90 |
| 35 | BA | 1082 | A | O4'-C1'-N9 | 5.91 | 112.93 | 108.20 |
| 35 | BA | 1231 | G | C5-C6-O6 | -5.91 | 125.06 | 128.60 |
| 37 | BC | 19 | G | C6-C5-N7 | -5.91 | 126.86 | 130.40 |
| 2 | AB | 3 | U | O4'-C1'-N1 | 5.91 | 112.93 | 108.20 |
| 2 | AB | 1646 | C | N3-C4-N4 | 5.91 | 122.14 | 118.00 |
| 35 | BA | 838 | G | C5-N7-C8 | -5.91 | 101.35 | 104.30 |
| 1 | AA | 52 | A | N3-C4-N9 | -5.91 | 122.68 | 127.40 |
| 2 | AB | 441 | U | C5-C6-N1 | -5.91 | 119.75 | 122.70 |
| 2 | AB | 506 | G | O4'-C1'-N9 | 5.91 | 112.92 | 108.20 |
| 2 | AB | 613 | A | C4'-C3'-C2' | -5.91 | 96.69 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1335 | C | N3-C2-O2 | 5.91 | 126.03 | 121.90 |
| 2 | AB | 1720 | U | P-O3'-C3' | 5.91 | 126.79 | 119.70 |
| 2 | AB | 1990 | C | C5'-C4'-O4' | 5.91 | 116.19 | 109.10 |
| 2 | AB | 2076 | U | C4-C5-C6 | 5.91 | 123.24 | 119.70 |
| 2 | AB | 2539 | C | C5-C6-N1 | 5.91 | 123.95 | 121.00 |
| 35 | BA | 6 | G | C8-N9-C4 | 5.91 | 108.76 | 106.40 |
| 35 | BA | 514 | C | C5-C4-N4 | -5.91 | 116.07 | 120.20 |
| 35 | BA | 851 | G | N1-C6-O6 | -5.91 | 116.36 | 119.90 |
| 35 | BA | 1022 | A | C5-C6-N1 | -5.91 | 114.75 | 117.70 |
| 35 | BA | 1050 | G | C6-C5-N7 | -5.91 | 126.86 | 130.40 |
| 2 | AB | 7 | G | N1-C2-N2 | 5.90 | 121.51 | 116.20 |
| 2 | AB | 142 | A | C2-N3-C4 | 5.90 | 113.55 | 110.60 |
| 2 | AB | 270 | A | N1-C2-N3 | 5.90 | 132.25 | 129.30 |
| 2 | AB | 743 | A | C5-C6-N6 | 5.90 | 128.42 | 123.70 |
| 2 | AB | 1497 | U | C2-N3-C4 | -5.90 | 123.46 | 127.00 |
| 2 | AB | 1978 | A | C5-N7-C8 | -5.90 | 100.95 | 103.90 |
| 35 | BA | 620 | C | C6-N1-C2 | 5.90 | 122.66 | 120.30 |
| 40 | BF | 145 | ARG | NE-CZ-NH1 | 5.90 | 123.25 | 120.30 |
| 1 | AA | 58 | A | C5-C6-N1 | 5.90 | 120.65 | 117.70 |
| 2 | AB | 313 | G | N3-C4-N9 | 5.90 | 129.54 | 126.00 |
| 2 | AB | 967 | U | C5-C4-O4 | 5.90 | 129.44 | 125.90 |
| 2 | AB | 1080 | A | C6-C5-N7 | 5.90 | 136.43 | 132.30 |
| 2 | AB | 1097 | U | C6-N1-C1' | -5.90 | 112.94 | 121.20 |
| 2 | AB | 1368 | G | N3-C2-N2 | 5.90 | 124.03 | 119.90 |
| 2 | AB | 2040 | G | C8-N9-C4 | -5.90 | 104.04 | 106.40 |
| 2 | AB | 2076 | U | N3-C4-O4 | 5.90 | 123.53 | 119.40 |
| 2 | AB | 2318 | G | C2-N3-C4 | -5.90 | 108.95 | 111.90 |
| 2 | AB | 2505 | G | P-O3'-C3' | 5.90 | 126.78 | 119.70 |
| 2 | AB | 2516 | A | O4'-C1'-N9 | 5.90 | 112.92 | 108.20 |
| 2 | AB | 2632 | A | C5-N7-C8 | 5.90 | 106.85 | 103.90 |
| 2 | AB | 2718 | G | C5-C6-O6 | -5.90 | 125.06 | 128.60 |
| 35 | BA | 444 | G | O4'-C1'-N9 | 5.90 | 112.92 | 108.20 |
| 35 | BA | 450 | G | N9-C4-C5 | 5.90 | 107.76 | 105.40 |
| 35 | BA | 480 | U | C4-C5-C6 | 5.90 | 123.24 | 119.70 |
| 35 | BA | 1085 | U | P-O3'-C3' | 5.90 | 126.78 | 119.70 |
| 35 | BA | 1121 | U | N3-C4-O4 | 5.90 | 123.53 | 119.40 |
| 35 | BA | 1461 | G | N9-C4-C5 | 5.90 | 107.76 | 105.40 |
| 2 | AB | 318 | C | P-O3'-C3' | 5.90 | 126.78 | 119.70 |
| 2 | AB | 466 | A | C5-C6-N6 | 5.90 | 128.42 | 123.70 |
| 2 | AB | 682 | G | C5-C6-N1 | 5.90 | 114.45 | 111.50 |
| 2 | AB | 1145 | C | N3-C2-O2 | -5.90 | 117.77 | 121.90 |
| 2 | AB | 1224 | U | O4'-C1'-N1 | 5.90 | 112.92 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1269 | A | C6-N1-C2 | 5.90 | 122.14 | 118.60 |
| 2 | AB | 1544 | A | C6-N1-C2 | 5.90 | 122.14 | 118.60 |
| 2 | AB | 1677 | A | C5'-C4'-O4' | 5.90 | 116.18 | 109.10 |
| 2 | AB | 1936 | A | O4'-C1'-N9 | 5.90 | 112.92 | 108.20 |
| 2 | AB | 2002 | G | N9-C4-C5 | -5.90 | 103.04 | 105.40 |
| 2 | AB | 2015 | A | N7-C8-N9 | 5.90 | 116.75 | 113.80 |
| 2 | AB | 2212 | A | C5-N7-C8 | 5.90 | 106.85 | 103.90 |
| 2 | AB | 2224 | G | O3'-P-O5' | 5.90 | 115.21 | 104.00 |
| 2 | AB | 2718 | G | N7-C8-N9 | -5.90 | 110.15 | 113.10 |
| 35 | BA | 479 | U | N3-C4-O4 | 5.90 | 123.53 | 119.40 |
| 35 | BA | 932 | C | N1-C2-O2 | 5.90 | 122.44 | 118.90 |
| 35 | BA | 1150 | A | C5-N7-C8 | 5.90 | 106.85 | 103.90 |
| 35 | BA | 1186 | G | C4-C5-C6 | 5.90 | 122.34 | 118.80 |
| 37 | BC | 11 | A | N9-C4-C5 | -5.90 | 103.44 | 105.80 |
| 48 | BN | 116 | TYR | CG-CD2-CE2 | -5.90 | 116.58 | 121.30 |
| 35 | BA | 575 | G | C5-C6-O6 | -5.90 | 125.06 | 128.60 |
| 1 | AA | 15 | A | C4-C5-N7 | -5.90 | 107.75 | 110.70 |
| 1 | AA | 98 | G | O4'-C1'-N9 | 5.90 | 112.92 | 108.20 |
| 2 | AB | 626 | A | N1-C2-N3 | -5.90 | 126.35 | 129.30 |
| 2 | AB | 749 | A | C5-N7-C8 | 5.90 | 106.85 | 103.90 |
| 2 | AB | 969 | G | C3'-C2'-C1' | -5.90 | 96.78 | 101.50 |
| 2 | AB | 1026 | G | N3-C4-C5 | -5.90 | 125.65 | 128.60 |
| 2 | AB | 1744 | A | C1'-O4'-C4' | -5.90 | 105.18 | 109.90 |
| 2 | AB | 2083 | G | N1-C6-O6 | 5.90 | 123.44 | 119.90 |
| 2 | AB | 2264 | C | C2-N3-C4 | 5.90 | 122.85 | 119.90 |
| 35 | BA | 72 | A | C4-C5-N7 | -5.90 | 107.75 | 110.70 |
| 35 | BA | 234 | C | N3-C4-C5 | -5.90 | 119.54 | 121.90 |
| 35 | BA | 413 | G | C6-N1-C2 | 5.90 | 128.64 | 125.10 |
| 35 | BA | 786 | G | C5-N7-C8 | -5.90 | 101.35 | 104.30 |
| 35 | BA | 1101 | A | C6-C5-N7 | -5.90 | 128.17 | 132.30 |
| 35 | BA | 1252 | A | N1-C6-N6 | 5.90 | 122.14 | 118.60 |
| 35 | BA | 1350 | A | C5'-C4'-C3' | -5.90 | 106.56 | 116.00 |
| 35 | BA | 1404 | C | O4'-C1'-N1 | 5.90 | 112.92 | 108.20 |
| 36 | BB | 46 | C | N1-C2-O2 | 5.90 | 122.44 | 118.90 |
| 49 | BO | 56 | ARG | NE-CZ-NH1 | -5.90 | 117.35 | 120.30 |
| 1 | AA | 13 | G | O4'-C4'-C3' | 5.90 | 110.82 | 106.10 |
| 2 | AB | 1373 | A | C6-C5-N7 | 5.89 | 136.43 | 132.30 |
| 2 | AB | 1423 | G | P-O3'-C3' | 5.89 | 126.77 | 119.70 |
| 2 | AB | 1579 | A | N7-C8-N9 | 5.89 | 116.75 | 113.80 |
| 2 | AB | 2200 | C | N3-C2-O2 | -5.89 | 117.77 | 121.90 |
| 2 | AB | 2254 | C | N1-C2-O2 | 5.89 | 122.44 | 118.90 |
| 2 | AB | 2256 | G | C5-C6-N1 | 5.89 | 114.45 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2438 | U | N3-C2-O2 | -5.89 | 118.07 | 122.20 |
| 2 | AB | 2574 | G | C4'-C3'-O3' | -5.89 | 97.02 | 109.40 |
| 2 | AB | 2657 | A | C8-N9-C4 | -5.89 | 103.44 | 105.80 |
| 7 | AG | 91 | ARG | NE-CZ-NH2 | -5.89 | 117.35 | 120.30 |
| 35 | BA | 433 | G | N1-C2-N2 | -5.89 | 110.89 | 116.20 |
| 35 | BA | 511 | C | N1-C1'-C2' | 5.89 | 121.66 | 114.00 |
| 36 | BB | 25 | U | C4'-C3'-C2' | -5.89 | 96.70 | 102.60 |
| 47 | BM | 127 | ARG | CA-CB-CG | 5.89 | 126.37 | 113.40 |
| 1 | AA | 66 | A | N3-C4-N9 | -5.89 | 122.69 | 127.40 |
| 2 | AB | 76 | C | C5'-C4'-O4' | 5.89 | 116.17 | 109.10 |
| 2 | AB | 806 | C | N3-C4-C5 | 5.89 | 124.26 | 121.90 |
| 2 | AB | 882 | G | O4'-C1'-N9 | 5.89 | 112.91 | 108.20 |
| 2 | AB | 966 | G | N1-C6-O6 | -5.89 | 116.36 | 119.90 |
| 2 | AB | 1026 | G | C6-N1-C2 | -5.89 | 121.56 | 125.10 |
| 2 | AB | 1061 | U | C2-N1-C1' | 5.89 | 124.77 | 117.70 |
| 2 | AB | 1214 | A | C6-N1-C2 | -5.89 | 115.06 | 118.60 |
| 2 | AB | 1498 | C | N3-C4-N4 | 5.89 | 122.12 | 118.00 |
| 2 | AB | 1655 | A | O4'-C1'-N9 | 5.89 | 112.91 | 108.20 |
| 2 | AB | 2800 | A | C6-C5-N7 | 5.89 | 136.43 | 132.30 |
| 35 | BA | 66 | A | C4-C5-N7 | -5.89 | 107.75 | 110.70 |
| 35 | BA | 167 | A | C5'-C4'-O4' | 5.89 | 116.17 | 109.10 |
| 35 | BA | 344 | A | C4-C5-N7 | -5.89 | 107.75 | 110.70 |
| 35 | BA | 1087 | G | C2-N3-C4 | 5.89 | 114.85 | 111.90 |
| 35 | BA | 1290 | G | C5-C6-O6 | -5.89 | 125.06 | 128.60 |
| 2 | AB | 127 | A | C5-C6-N1 | 5.89 | 120.64 | 117.70 |
| 2 | AB | 379 | G | C2-N3-C4 | 5.89 | 114.85 | 111.90 |
| 2 | AB | 874 | G | C3'-C2'-C1' | -5.89 | 96.79 | 101.50 |
| 2 | AB | 1291 | C | O4'-C1'-N1 | 5.89 | 112.91 | 108.20 |
| 2 | AB | 1684 | G | N3-C4-N9 | 5.89 | 129.53 | 126.00 |
| 35 | BA | 187 | G | C5-C6-N1 | 5.89 | 114.44 | 111.50 |
| 2 | AB | 1376 | C | N1-C2-O2 | 5.89 | 122.43 | 118.90 |
| 2 | AB | 1564 | C | C5'-C4'-O4' | 5.89 | 116.17 | 109.10 |
| 2 | AB | 1708 | C | O4'-C1'-N1 | 5.89 | 112.91 | 108.20 |
| 2 | AB | 2029 | G | N9-C1'-C2' | -5.89 | 105.52 | 112.00 |
| 2 | AB | 2548 | U | N1-C1'-C2' | -5.89 | 105.52 | 112.00 |
| 2 | AB | 2660 | A | C3'-C2'-C1' | 5.89 | 106.21 | 101.50 |
| 2 | AB | 2787 | C | C1'-O4'-C4' | 5.89 | 114.61 | 109.90 |
| 35 | BA | 643 | C | N1-C2-N3 | -5.89 | 115.08 | 119.20 |
| 35 | BA | 963 | G | C8-N9-C4 | -5.89 | 104.04 | 106.40 |
| 35 | BA | 1002 | G | C3'-C2'-C1' | 5.89 | 106.21 | 101.50 |
| 35 | BA | 1110 | A | C5-C6-N6 | 5.89 | 128.41 | 123.70 |
| 35 | BA | 1233 | G | C8-N9-C1' | 5.89 | 134.66 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1290 | G | C5'-C4'-O4' | 5.89 | 116.17 | 109.10 |
| 2 | AB | 1877 | A | C3'-C2'-C1' | 5.89 | 106.21 | 101.50 |
| 2 | AB | 2118 | U | O4'-C1'-C2' | -5.89 | 99.91 | 105.80 |
| 16 | AP | 69 | ARG | NE-CZ-NH1 | 5.89 | 123.24 | 120.30 |
| 22 | AV | 68 | LYS | CB-CA-C | 5.89 | 122.18 | 110.40 |
| 35 | BA | 213 | G | N3-C4-C5 | -5.89 | 125.66 | 128.60 |
| 35 | BA | 973 | G | N9-C4-C5 | 5.89 | 107.75 | 105.40 |
| 1 | AA | 104 | A | C2-N3-C4 | -5.89 | 107.66 | 110.60 |
| 2 | AB | 430 | A | C5-C6-N6 | -5.89 | 118.99 | 123.70 |
| 2 | AB | 520 | G | O4'-C1'-N9 | 5.89 | 112.91 | 108.20 |
| 2 | AB | 788 | A | C4-C5-C6 | 5.89 | 119.94 | 117.00 |
| 2 | AB | 907 | G | N3-C2-N2 | 5.89 | 124.02 | 119.90 |
| 2 | AB | 1027 | A | C2-N3-C4 | 5.89 | 113.54 | 110.60 |
| 2 | AB | 1764 | C | C3'-C2'-C1' | 5.89 | 106.21 | 101.50 |
| 2 | AB | 2082 | A | N1-C2-N3 | -5.89 | 126.36 | 129.30 |
| 2 | AB | 2394 | C | C5-C4-N4 | -5.89 | 116.08 | 120.20 |
| 2 | AB | 2801 | G | C2-N3-C4 | 5.89 | 114.84 | 111.90 |
| 2 | AB | 2886 | A | C2-N3-C4 | 5.89 | 113.54 | 110.60 |
| 4 | AD | 132 | ARG | CD-NE-CZ | 5.89 | 131.84 | 123.60 |
| 9 | AI | 116 | ARG | NE-CZ-NH2 | -5.89 | 117.36 | 120.30 |
| 13 | AM | 17 | ARG | CB-CA-C | 5.89 | 122.17 | 110.40 |
| 29 | A2 | 31 | ASP | CB-CG-OD2 | -5.89 | 113.00 | 118.30 |
| 35 | BA | 372 | C | C5-C6-N1 | -5.89 | 118.06 | 121.00 |
| 35 | BA | 543 | U | C3'-C2'-C1' | -5.89 | 96.79 | 101.50 |
| 35 | BA | 840 | C | C5-C6-N1 | 5.89 | 123.94 | 121.00 |
| 35 | BA | 885 | G | C3'-C2'-C1' | -5.89 | 96.79 | 101.50 |
| 2 | AB | 75 | G | C6-C5-N7 | -5.88 | 126.87 | 130.40 |
| 2 | AB | 418 | C | N1-C2-N3 | -5.88 | 115.08 | 119.20 |
| 2 | AB | 738 | G | O5'-P-OP2 | -5.88 | 100.40 | 105.70 |
| 2 | AB | 845 | A | N9-C4-C5 | 5.88 | 108.15 | 105.80 |
| 2 | AB | 941 | A | C8-N9-C4 | -5.88 | 103.45 | 105.80 |
| 2 | AB | 987 | C | P-O3'-C3' | 5.88 | 126.76 | 119.70 |
| 2 | AB | 1185 | G | C4'-C3'-C2' | -5.88 | 96.72 | 102.60 |
| 2 | AB | 1277 | G | O4'-C4'-C3' | 5.88 | 110.81 | 106.10 |
| 2 | AB | 1490 | A | N7-C8-N9 | 5.88 | 116.74 | 113.80 |
| 2 | AB | 1975 | G | C4-C5-C6 | -5.88 | 115.27 | 118.80 |
| 2 | AB | 2168 | G | C6-N1-C2 | -5.88 | 121.57 | 125.10 |
| 2 | AB | 2376 | A | O4'-C1'-N9 | 5.88 | 112.91 | 108.20 |
| 2 | AB | 2408 | U | C4-C5-C6 | 5.88 | 123.23 | 119.70 |
| 2 | AB | 2547 | A | O4'-C4'-C3' | 5.88 | 110.81 | 106.10 |
| 2 | AB | 2721 | A | N1-C6-N6 | 5.88 | 122.13 | 118.60 |
| 2 | AB | 2903 | U | C3'-C2'-C1' | 5.88 | 106.21 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 18 | AR | 61 | ARG | CB-CA-C | 5.88 | 122.17 | 110.40 |
| 18 | AR | 81 | ASP | CB-CG-OD1 | -5.88 | 113.00 | 118.30 |
| 35 | BA | 86 | G | C8-N9-C4 | -5.88 | 104.05 | 106.40 |
| 35 | BA | 93 | U | N3-C4-C5 | -5.88 | 111.07 | 114.60 |
| 35 | BA | 288 | A | O5'-P-OP2 | 5.88 | 117.76 | 110.70 |
| 35 | BA | 537 | G | N9-C4-C5 | -5.88 | 103.05 | 105.40 |
| 35 | BA | 791 | G | N9-C4-C5 | -5.88 | 103.05 | 105.40 |
| 35 | BA | 800 | G | C4-C5-N7 | 5.88 | 113.15 | 110.80 |
| 35 | BA | 857 | C | O4'-C1'-C2' | -5.88 | 99.92 | 105.80 |
| 35 | BA | 1057 | G | N3-C4-C5 | -5.88 | 125.66 | 128.60 |
| 35 | BA | 1340 | A | N3-C4-C5 | -5.88 | 122.68 | 126.80 |
| 35 | BA | 1343 | G | N1-C2-N3 | -5.88 | 120.37 | 123.90 |
| 1 | AA | 24 | G | C5'-C4'-C3' | -5.88 | 106.59 | 116.00 |
| 2 | AB | 498 | G | C5'-C4'-O4' | 5.88 | 116.16 | 109.10 |
| 2 | AB | 511 | U | C5-C6-N1 | 5.88 | 125.64 | 122.70 |
| 2 | AB | 2297 | A | O4'-C1'-N9 | 5.88 | 112.91 | 108.20 |
| 2 | AB | 2378 | A | C4-C5-C6 | -5.88 | 114.06 | 117.00 |
| 2 | AB | 2396 | G | O4'-C1'-C2' | -5.88 | 99.92 | 105.80 |
| 35 | BA | 42 | G | C1'-O4'-C4' | 5.88 | 114.61 | 109.90 |
| 35 | BA | 547 | A | C5'-C4'-C3' | -5.88 | 106.59 | 116.00 |
| 35 | BA | 590 | U | N1-C2-O2 | -5.88 | 118.68 | 122.80 |
| 35 | BA | 590 | U | O5'-P-OP2 | -5.88 | 100.41 | 105.70 |
| 35 | BA | 764 | C | N3-C4-N4 | 5.88 | 122.12 | 118.00 |
| 2 | AB | 10 | A | C5-C6-N1 | 5.88 | 120.64 | 117.70 |
| 2 | AB | 612 | G | C5-C6-O6 | 5.88 | 132.13 | 128.60 |
| 2 | AB | 1009 | A | O4'-C1'-N9 | 5.88 | 112.91 | 108.20 |
| 2 | AB | 1464 | G | O5'-P-OP1 | -5.88 | 100.41 | 105.70 |
| 2 | AB | 1941 | C | C5'-C4'-C3' | -5.88 | 106.59 | 116.00 |
| 2 | AB | 1999 | C | C4'-C3'-C2' | -5.88 | 96.72 | 102.60 |
| 2 | AB | 2131 | U | C2-N1-C1' | 5.88 | 124.76 | 117.70 |
| 2 | AB | 2644 | G | C2-N3-C4 | 5.88 | 114.84 | 111.90 |
| 10 | AJ | 25 | VAL | CG1-CB-CG2 | -5.88 | 101.49 | 110.90 |
| 35 | BA | 300 | A | C2-N3-C4 | 5.88 | 113.54 | 110.60 |
| 35 | BA | 743 | A | C3'-C2'-C1' | 5.88 | 106.21 | 101.50 |
| 35 | BA | 1164 | G | N1-C2-N3 | -5.88 | 120.37 | 123.90 |
| 35 | BA | 1348 | U | N3-C4-C5 | -5.88 | 111.07 | 114.60 |
| 2 | AB | 497 | A | N1-C6-N6 | 5.88 | 122.13 | 118.60 |
| 2 | AB | 964 | C | N3-C2-O2 | -5.88 | 117.78 | 121.90 |
| 2 | AB | 7 | G | C5'-C4'-O4' | 5.88 | 116.15 | 109.10 |
| 2 | AB | 930 | G | C5-N7-C8 | 5.88 | 107.24 | 104.30 |
| 2 | AB | 1195 | G | N1-C2-N2 | -5.88 | 110.91 | 116.20 |
| 2 | AB | 1507 | C | O3'-P-O5' | 5.88 | 115.17 | 104.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2111 | U | N3-C4-O4 | 5.88 | 123.51 | 119.40 |
| 2 | AB | 2263 | C | C5-C6-N1 | -5.88 | 118.06 | 121.00 |
| 2 | AB | 2744 | G | N3-C2-N2 | -5.88 | 115.78 | 119.90 |
| 35 | BA | 18 | C | O4'-C1'-C2' | 5.88 | 112.89 | 107.60 |
| 35 | BA | 222 | C | C5'-C4'-O4' | 5.88 | 116.15 | 109.10 |
| 35 | BA | 511 | C | C2-N3-C4 | 5.88 | 122.84 | 119.90 |
| 35 | BA | 668 | G | C5-C6-O6 | -5.88 | 125.07 | 128.60 |
| 35 | BA | 704 | A | N9-C4-C5 | 5.88 | 108.15 | 105.80 |
| 35 | BA | 1458 | G | N3-C4-C5 | -5.88 | 125.66 | 128.60 |
| 2 | AB | 616 | A | C2-N3-C4 | 5.88 | 113.54 | 110.60 |
| 2 | AB | 995 | C | N3-C4-C5 | -5.88 | 119.55 | 121.90 |
| 2 | AB | 1381 | G | C4-C5-N7 | -5.88 | 108.45 | 110.80 |
| 2 | AB | 1513 | U | C5-C4-O4 | 5.88 | 129.43 | 125.90 |
| 2 | AB | 1675 | C | O4'-C1'-C2' | -5.88 | 99.92 | 105.80 |
| 2 | AB | 1739 | A | C5-C6-N1 | -5.88 | 114.76 | 117.70 |
| 2 | AB | 2800 | A | N3-C4-N9 | -5.88 | 122.70 | 127.40 |
| 2 | AB | 2808 | G | C8-N9-C4 | -5.88 | 104.05 | 106.40 |
| 35 | BA | 529 | G | C2-N3-C4 | 5.88 | 114.84 | 111.90 |
| 35 | BA | 707 | U | C3'-C2'-C1' | 5.88 | 106.20 | 101.50 |
| 35 | BA | 736 | C | C1'-O4'-C4' | -5.88 | 105.20 | 109.90 |
| 35 | BA | 817 | C | C4'-C3'-C2' | 5.88 | 108.48 | 102.60 |
| 2 | AB | 191 | A | C4-C5-N7 | 5.88 | 113.64 | 110.70 |
| 2 | AB | 1002 | G | C5'-C4'-O4' | 5.88 | 116.15 | 109.10 |
| 2 | AB | 1275 | A | N1-C2-N3 | -5.88 | 126.36 | 129.30 |
| 2 | AB | 1502 | A | N1-C6-N6 | -5.88 | 115.08 | 118.60 |
| 2 | AB | 2036 | C | N3-C4-C5 | -5.88 | 119.55 | 121.90 |
| 2 | AB | 2071 | A | C4-C5-N7 | -5.88 | 107.76 | 110.70 |
| 2 | AB | 2211 | A | N7-C8-N9 | -5.88 | 110.86 | 113.80 |
| 2 | AB | 2524 | G | N1-C2-N3 | -5.88 | 120.38 | 123.90 |
| 2 | AB | 2576 | G | C2-N3-C4 | 5.88 | 114.84 | 111.90 |
| 2 | AB | 2704 | C | N1-C2-O2 | -5.88 | 115.38 | 118.90 |
| 35 | BA | 799 | G | N3-C4-N9 | 5.88 | 129.53 | 126.00 |
| 35 | BA | 1338 | G | C3'-C2'-C1' | 5.88 | 106.20 | 101.50 |
| 35 | BA | 1426 | G | N1-C2-N3 | 5.88 | 127.42 | 123.90 |
| 2 | AB | 849 | A | C1'-O4'-C4' | 5.87 | 114.60 | 109.90 |
| 2 | AB | 1459 | G | C6-N1-C2 | -5.87 | 121.58 | 125.10 |
| 2 | AB | 1798 | U | P-O3'-C3' | 5.87 | 126.75 | 119.70 |
| 2 | AB | 2161 | C | C4'-C3'-C2' | -5.87 | 96.73 | 102.60 |
| 2 | AB | 2227 | A | C5-C6-N6 | -5.87 | 119.00 | 123.70 |
| 2 | AB | 2372 | U | N3-C4-O4 | 5.87 | 123.51 | 119.40 |
| 2 | AB | 2464 | G | C2-N3-C4 | 5.87 | 114.84 | 111.90 |
| 21 | AU | 88 | ARG | NE-CZ-NH2 | 5.87 | 123.24 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 356 | A | C8-N9-C4 | -5.87 | 103.45 | 105.80 |
| 2 | AB | 141 | G | O4'-C1'-N9 | 5.87 | 112.90 | 108.20 |
| 2 | AB | 512 | G | C6-C5-N7 | -5.87 | 126.88 | 130.40 |
| 2 | AB | 1517 | G | N1-C6-O6 | -5.87 | 116.38 | 119.90 |
| 2 | AB | 1890 | A | C8-N9-C4 | -5.87 | 103.45 | 105.80 |
| 2 | AB | 2119 | A | C8-N9-C4 | -5.87 | 103.45 | 105.80 |
| 2 | AB | 2467 | C | C5-C4-N4 | 5.87 | 124.31 | 120.20 |
| 2 | AB | 2540 | C | N3-C4-N4 | 5.87 | 122.11 | 118.00 |
| 2 | AB | 2545 | G | N3-C2-N2 | 5.87 | 124.01 | 119.90 |
| 2 | AB | 2737 | G | N1-C2-N2 | -5.87 | 110.92 | 116.20 |
| 35 | BA | 158 | G | O4'-C1'-N9 | 5.87 | 112.90 | 108.20 |
| 35 | BA | 321 | A | N9-C1'-C2' | -5.87 | 105.54 | 112.00 |
| 35 | BA | 436 | C | N3-C2-O2 | -5.87 | 117.79 | 121.90 |
| 35 | BA | 729 | A | N9-C4-C5 | 5.87 | 108.15 | 105.80 |
| 35 | BA | 1024 | G | N3-C2-N2 | -5.87 | 115.79 | 119.90 |
| 2 | AB | 2321 | U | O4'-C1'-C2' | 5.87 | 112.88 | 107.60 |
| 2 | AB | 2440 | C | C2-N3-C4 | -5.87 | 116.97 | 119.90 |
| 35 | BA | 533 | A | C2-N3-C4 | 5.87 | 113.53 | 110.60 |
| 35 | BA | 1155 | A | C5-C6-N1 | -5.87 | 114.77 | 117.70 |
| 35 | BA | 1169 | A | C3'-C2'-C1' | 5.87 | 106.20 | 101.50 |
| 1 | AA | 59 | A | C5-C6-N1 | 5.87 | 120.64 | 117.70 |
| 2 | AB | 85 | G | C6-N1-C2 | -5.87 | 121.58 | 125.10 |
| 2 | AB | 304 | U | P-O3'-C3' | 5.87 | 126.74 | 119.70 |
| 2 | AB | 1002 | G | N9-C4-C5 | -5.87 | 103.05 | 105.40 |
| 2 | AB | 1004 | U | N1-C2-O2 | 5.87 | 126.91 | 122.80 |
| 2 | AB | 1086 | A | N1-C6-N6 | 5.87 | 122.12 | 118.60 |
| 2 | AB | 1370 | C | C1'-O4'-C4' | 5.87 | 114.59 | 109.90 |
| 2 | AB | 2221 | G | N9-C4-C5 | 5.87 | 107.75 | 105.40 |
| 2 | AB | 2851 | A | C5-N7-C8 | 5.87 | 106.83 | 103.90 |
| 7 | AG | 49 | LEU | CB-CG-CD2 | 5.87 | 120.98 | 111.00 |
| 35 | BA | 195 | A | N9-C1'-C2' | 5.87 | 121.63 | 114.00 |
| 35 | BA | 923 | A | P-O3'-C3' | 5.87 | 126.74 | 119.70 |
| 35 | BA | 1045 | C | N3-C4-C5 | -5.87 | 119.55 | 121.90 |
| 2 | AB | 1453 | A | C8-N9-C4 | -5.87 | 103.45 | 105.80 |
| 2 | AB | 1634 | A | C4-C5-N7 | 5.87 | 113.63 | 110.70 |
| 2 | AB | 1702 | G | N1-C2-N2 | 5.87 | 121.48 | 116.20 |
| 2 | AB | 1712 | U | C4'-C3'-C2' | -5.87 | 96.73 | 102.60 |
| 2 | AB | 1940 | U | C3'-C2'-C1' | 5.87 | 106.19 | 101.50 |
| 2 | AB | 2045 | C | C2-N3-C4 | -5.87 | 116.97 | 119.90 |
| 2 | AB | 2244 | U | N1-C2-N3 | -5.87 | 111.38 | 114.90 |
| 2 | AB | 2451 | A | C4'-C3'-C2' | -5.87 | 96.73 | 102.60 |
| 2 | AB | 2646 | C | C1'-O4'-C4' | 5.87 | 114.59 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2651 | C | C6-N1-C2 | -5.87 | 117.95 | 120.30 |
| 35 | BA | 45 | G | N3-C2-N2 | -5.87 | 115.79 | 119.90 |
| 35 | BA | 367 | U | N3-C4-O4 | 5.87 | 123.51 | 119.40 |
| 35 | BA | 1035 | A | N1-C6-N6 | -5.87 | 115.08 | 118.60 |
| 35 | BA | 1381 | U | N1-C2-O2 | -5.87 | 118.69 | 122.80 |
| 2 | AB | 522 | A | C5-C6-N6 | 5.87 | 128.39 | 123.70 |
| 2 | AB | 848 | C | C5-C6-N1 | 5.87 | 123.93 | 121.00 |
| 2 | AB | 1343 | G | C6-N1-C2 | -5.87 | 121.58 | 125.10 |
| 2 | AB | 2184 | A | C6-N1-C2 | -5.87 | 115.08 | 118.60 |
| 2 | AB | 2454 | G | C6-C5-N7 | -5.87 | 126.88 | 130.40 |
| 2 | AB | 2588 | G | N9-C4-C5 | -5.87 | 103.05 | 105.40 |
| 2 | AB | 2675 | A | C4-C5-C6 | 5.87 | 119.93 | 117.00 |
| 2 | AB | 2741 | A | O4'-C1'-N9 | 5.87 | 112.89 | 108.20 |
| 2 | AB | 2882 | A | C2-N3-C4 | -5.87 | 107.67 | 110.60 |
| 16 | AP | 8 | ARG | NE-CZ-NH1 | -5.87 | 117.37 | 120.30 |
| 35 | BA | 25 | C | C4'-C3'-C2' | 5.87 | 108.47 | 102.60 |
| 35 | BA | 147 | G | N1-C6-O6 | -5.87 | 116.38 | 119.90 |
| 35 | BA | 456 | A | C5-C6-N6 | -5.87 | 119.01 | 123.70 |
| 35 | BA | 466 | A | C5'-C4'-C3' | -5.87 | 106.62 | 116.00 |
| 35 | BA | 594 | U | P-O3'-C3' | 5.87 | 126.74 | 119.70 |
| 35 | BA | 1388 | C | N3-C2-O2 | -5.87 | 117.80 | 121.90 |
| 2 | AB | 213 | A | C4-C5-N7 | -5.86 | 107.77 | 110.70 |
| 2 | AB | 267 | C | N3-C2-O2 | -5.86 | 117.80 | 121.90 |
| 2 | AB | 474 | G | C8-N9-C4 | -5.86 | 104.05 | 106.40 |
| 2 | AB | 669 | G | C4-C5-N7 | -5.86 | 108.45 | 110.80 |
| 2 | AB | 852 | U | C4'-C3'-C2' | -5.86 | 96.74 | 102.60 |
| 2 | AB | 1509 | A | C4-C5-C6 | 5.86 | 119.93 | 117.00 |
| 2 | AB | 1956 | U | C4'-C3'-C2' | -5.86 | 96.74 | 102.60 |
| 2 | AB | 2219 | U | C5-C4-O4 | -5.86 | 122.38 | 125.90 |
| 2 | AB | 2309 | A | C3'-C2'-C1' | 5.86 | 106.19 | 101.50 |
| 2 | AB | 2332 | C | C4-C5-C6 | -5.86 | 114.47 | 117.40 |
| 2 | AB | 2561 | U | N3-C4-C5 | -5.86 | 111.08 | 114.60 |
| 2 | AB | 2617 | U | C5-C4-O4 | 5.86 | 129.42 | 125.90 |
| 35 | BA | 438 | U | C2-N3-C4 | -5.86 | 123.48 | 127.00 |
| 35 | BA | 573 | A | C8-N9-C4 | 5.86 | 108.14 | 105.80 |
| 35 | BA | 974 | A | N3-C4-N9 | -5.86 | 122.71 | 127.40 |
| 36 | BB | 31 | U | C5'-C4'-O4' | 5.86 | 116.14 | 109.10 |
| 2 | AB | 1541 | C | N3-C4-C5 | -5.86 | 119.56 | 121.90 |
| 2 | AB | 1712 | U | C4-C5-C6 | 5.86 | 123.22 | 119.70 |
| 2 | AB | 2073 | C | P-O3'-C3' | 5.86 | 126.73 | 119.70 |
| 2 | AB | 2695 | U | C5-C6-N1 | -5.86 | 119.77 | 122.70 |
| 35 | BA | 1330 | U | C5-C4-O4 | 5.86 | 129.42 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 157 | C | C4'-C3'-C2' | -5.86 | 96.74 | 102.60 |
| 2 | AB | 208 | C | C2-N3-C4 | 5.86 | 122.83 | 119.90 |
| 2 | AB | 261 | G | C5-C6-N1 | 5.86 | 114.43 | 111.50 |
| 2 | AB | 409 | G | N7-C8-N9 | 5.86 | 116.03 | 113.10 |
| 2 | AB | 971 | G | N1-C6-O6 | -5.86 | 116.38 | 119.90 |
| 2 | AB | 1287 | A | C5-C6-N6 | 5.86 | 128.39 | 123.70 |
| 2 | AB | 1770 | G | C4-C5-N7 | -5.86 | 108.46 | 110.80 |
| 2 | AB | 2096 | C | C4-C5-C6 | -5.86 | 114.47 | 117.40 |
| 19 | AS | 12 | ARG | CD-NE-CZ | 5.86 | 131.80 | 123.60 |
| 21 | AU | 38 | TYR | CB-CG-CD1 | -5.86 | 117.48 | 121.00 |
| 35 | BA | 195 | A | C4-C5-C6 | 5.86 | 119.93 | 117.00 |
| 35 | BA | 318 | G | N3-C2-N2 | -5.86 | 115.80 | 119.90 |
| 35 | BA | 657 | U | C2-N3-C4 | -5.86 | 123.48 | 127.00 |
| 35 | BA | 703 | G | C6-N1-C2 | -5.86 | 121.58 | 125.10 |
| 35 | BA | 747 | A | N1-C6-N6 | 5.86 | 122.12 | 118.60 |
| 35 | BA | 807 | A | C8-N9-C4 | -5.86 | 103.46 | 105.80 |
| 35 | BA | 993 | G | C2'-C3'-O3' | 5.86 | 123.08 | 113.70 |
| 35 | BA | 1291 | U | C4-C5-C6 | 5.86 | 123.22 | 119.70 |
| 35 | BA | 1431 | A | P-O3'-C3' | 5.86 | 126.73 | 119.70 |
| 35 | BA | 1461 | G | C5'-C4'-C3' | -5.86 | 106.62 | 116.00 |
| 2 | AB | 715 | A | C6-N1-C2 | -5.86 | 115.08 | 118.60 |
| 2 | AB | 911 | A | N3-C4-C5 | -5.86 | 122.70 | 126.80 |
| 2 | AB | 1343 | G | N9-C4-C5 | 5.86 | 107.74 | 105.40 |
| 2 | AB | 1344 | U | C2-N3-C4 | -5.86 | 123.48 | 127.00 |
| 2 | AB | 2058 | A | O4'-C1'-N9 | 5.86 | 112.89 | 108.20 |
| 35 | BA | 782 | A | O4'-C1'-C2' | -5.86 | 99.94 | 105.80 |
| 37 | BC | 48 | U | O4'-C1'-C2' | 5.86 | 112.87 | 107.60 |
| 2 | AB | 101 | A | O4'-C4'-C3' | -5.86 | 98.14 | 104.00 |
| 2 | AB | 208 | C | O4'-C4'-C3' | -5.86 | 98.14 | 104.00 |
| 2 | AB | 232 | G | O4'-C1'-N9 | 5.86 | 112.89 | 108.20 |
| 2 | AB | 1624 | U | C5'-C4'-O4' | 5.86 | 116.13 | 109.10 |
| 2 | AB | 1842 | G | C6-C5-N7 | -5.86 | 126.89 | 130.40 |
| 2 | AB | 1873 | G | C2-N3-C4 | -5.86 | 108.97 | 111.90 |
| 2 | AB | 2459 | A | P-O3'-C3' | 5.86 | 126.73 | 119.70 |
| 35 | BA | 528 | C | O4'-C1'-N1 | -5.86 | 103.51 | 108.20 |
| 35 | BA | 1277 | C | N3-C4-N4 | -5.86 | 113.90 | 118.00 |
| 1 | AA | 69 | G | C2-N3-C4 | -5.86 | 108.97 | 111.90 |
| 2 | AB | 192 | C | N1-C2-N3 | 5.86 | 123.30 | 119.20 |
| 2 | AB | 1126 | A | C3'-C2'-C1' | 5.86 | 106.19 | 101.50 |
| 2 | AB | 1378 | A | C4'-C3'-C2' | -5.86 | 96.74 | 102.60 |
| 2 | AB | 1878 | G | C4'-C3'-C2' | -5.86 | 96.75 | 102.60 |
| 2 | AB | 2048 | G | C4-C5-C6 | 5.86 | 122.31 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2171 | A | O4'-C1'-C2' | -5.86 | 99.94 | 105.80 |
| 2 | AB | 2598 | A | C2-N3-C4 | 5.86 | 113.53 | 110.60 |
| 23 | AW | 73 | ASN | C-N-CA | 5.86 | 136.34 | 121.70 |
| 35 | BA | 1200 | C | C4-C5-C6 | 5.86 | 120.33 | 117.40 |
| 35 | BA | 1486 | G | N1-C6-O6 | -5.86 | 116.39 | 119.90 |
| 2 | AB | 159 | G | C4'-C3'-C2' | -5.85 | 96.75 | 102.60 |
| 2 | AB | 697 | G | C4-C5-C6 | 5.85 | 122.31 | 118.80 |
| 2 | AB | 1036 | G | O4'-C1'-N9 | 5.85 | 112.88 | 108.20 |
| 2 | AB | 1672 | A | C6-N1-C2 | -5.85 | 115.09 | 118.60 |
| 2 | AB | 2125 | G | N7-C8-N9 | 5.85 | 116.03 | 113.10 |
| 2 | AB | 2766 | A | P-O3'-C3' | -5.85 | 112.67 | 119.70 |
| 27 | A0 | 48 | ARG | NE-CZ-NH2 | -5.85 | 117.37 | 120.30 |
| 35 | BA | 52 | C | C4-C5-C6 | 5.85 | 120.33 | 117.40 |
| 36 | BB | 46 | C | O4'-C1'-N1 | 5.85 | 112.88 | 108.20 |
| 1 | AA | 110 | C | C4'-C3'-C2' | 5.85 | 108.45 | 102.60 |
| 2 | AB | 59 | U | O4'-C1'-N1 | 5.85 | 112.88 | 108.20 |
| 2 | AB | 237 | C | N3-C4-N4 | -5.85 | 113.90 | 118.00 |
| 2 | AB | 314 | C | N1-C2-O2 | 5.85 | 122.41 | 118.90 |
| 2 | AB | 411 | G | C6-C5-N7 | -5.85 | 126.89 | 130.40 |
| 2 | AB | 505 | A | N1-C6-N6 | 5.85 | 122.11 | 118.60 |
| 2 | AB | 565 | C | O4'-C1'-N1 | 5.85 | 112.88 | 108.20 |
| 2 | AB | 575 | A | C5'-C4'-O4' | 5.85 | 116.12 | 109.10 |
| 2 | AB | 598 | U | C5-C4-O4 | 5.85 | 129.41 | 125.90 |
| 2 | AB | 832 | U | C2'-C3'-O3' | 5.85 | 123.06 | 113.70 |
| 2 | AB | 1032 | A | C3'-C2'-C1' | 5.85 | 106.18 | 101.50 |
| 2 | AB | 1116 | G | C4-C5-C6 | 5.85 | 122.31 | 118.80 |
| 2 | AB | 1137 | G | O4'-C1'-C2' | 5.85 | 112.87 | 107.60 |
| 2 | AB | 1789 | A | N9-C4-C5 | 5.85 | 108.14 | 105.80 |
| 2 | AB | 1809 | A | C4-C5-C6 | -5.85 | 114.07 | 117.00 |
| 2 | AB | 1887 | C | O4'-C1'-N1 | 5.85 | 112.88 | 108.20 |
| 2 | AB | 2031 | A | C4-C5-N7 | 5.85 | 113.63 | 110.70 |
| 2 | AB | 2136 | G | N9-C1'-C2' | -5.85 | 105.56 | 112.00 |
| 2 | AB | 2160 | C | C6-N1-C2 | -5.85 | 117.96 | 120.30 |
| 2 | AB | 2339 | C | C4-C5-C6 | 5.85 | 120.33 | 117.40 |
| 2 | AB | 2862 | G | N1-C6-O6 | -5.85 | 116.39 | 119.90 |
| 35 | BA | 331 | G | C8-N9-C4 | -5.85 | 104.06 | 106.40 |
| 35 | BA | 1158 | C | C4'-C3'-C2' | -5.85 | 96.75 | 102.60 |
| 35 | BA | 1188 | A | N3-C4-C5 | -5.85 | 122.70 | 126.80 |
| 35 | BA | 1473 | G | C6-N1-C2 | -5.85 | 121.59 | 125.10 |
| 2 | AB | 1663 | G | C2-N3-C4 | 5.85 | 114.83 | 111.90 |
| 35 | BA | 266 | G | C4-C5-C6 | 5.85 | 122.31 | 118.80 |
| 35 | BA | 571 | U | C5-C6-N1 | -5.85 | 119.77 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 562 | U | N3-C4-C5 | 5.85 | 118.11 | 114.60 |
| 2 | AB | 772 | C | N3-C4-N4 | 5.85 | 122.09 | 118.00 |
| 2 | AB | 1103 | A | C1'-O4'-C4' | -5.85 | 105.22 | 109.90 |
| 2 | AB | 1996 | C | C2-N3-C4 | 5.85 | 122.83 | 119.90 |
| 2 | AB | 2082 | A | N9-C4-C5 | 5.85 | 108.14 | 105.80 |
| 2 | AB | 2184 | A | C5-C6-N6 | -5.85 | 119.02 | 123.70 |
| 2 | AB | 2355 | G | N3-C2-N2 | 5.85 | 124.00 | 119.90 |
| 35 | BA | 342 | C | N3-C4-C5 | 5.85 | 124.24 | 121.90 |
| 35 | BA | 351 | G | C5-N7-C8 | -5.85 | 101.38 | 104.30 |
| 35 | BA | 554 | A | N7-C8-N9 | 5.85 | 116.72 | 113.80 |
| 35 | BA | 603 | U | O5'-P-OP1 | -5.85 | 100.44 | 105.70 |
| 35 | BA | 616 | G | N3-C2-N2 | -5.85 | 115.81 | 119.90 |
| 35 | BA | 743 | A | C4-C5-C6 | 5.85 | 119.92 | 117.00 |
| 35 | BA | 1228 | C | C3'-C2'-C1' | -5.85 | 96.82 | 101.50 |
| 1 | AA | 69 | G | C5-C6-O6 | 5.85 | 132.11 | 128.60 |
| 1 | AA | 116 | G | C5-C6-N1 | 5.85 | 114.42 | 111.50 |
| 2 | AB | 61 | C | C5-C6-N1 | 5.85 | 123.92 | 121.00 |
| 2 | AB | 119 | A | N1-C6-N6 | -5.85 | 115.09 | 118.60 |
| 2 | AB | 260 | G | C5'-C4'-O4' | 5.85 | 116.12 | 109.10 |
| 2 | AB | 389 | G | O3'-P-O5' | -5.85 | 92.89 | 104.00 |
| 2 | AB | 472 | A | N3-C4-C5 | -5.85 | 122.71 | 126.80 |
| 2 | AB | 1378 | A | C3'-C2'-C1' | 5.85 | 106.18 | 101.50 |
| 2 | AB | 1415 | U | C4-C5-C6 | 5.85 | 123.21 | 119.70 |
| 2 | AB | 1496 | A | N9-C4-C5 | 5.85 | 108.14 | 105.80 |
| 2 | AB | 1548 | A | C3'-C2'-C1' | -5.85 | 96.82 | 101.50 |
| 2 | AB | 1558 | C | N1-C2-O2 | 5.85 | 122.41 | 118.90 |
| 2 | AB | 2211 | A | C5-N7-C8 | 5.85 | 106.82 | 103.90 |
| 2 | AB | 2587 | A | C5-C6-N1 | 5.85 | 120.62 | 117.70 |
| 35 | BA | 13 | U | C5-C6-N1 | -5.85 | 119.78 | 122.70 |
| 35 | BA | 702 | A | C5'-C4'-O4' | 5.85 | 116.12 | 109.10 |
| 35 | BA | 783 | C | C4-C5-C6 | -5.85 | 114.48 | 117.40 |
| 35 | BA | 795 | C | P-O3'-C3' | 5.85 | 126.72 | 119.70 |
| 35 | BA | 1221 | G | C6-N1-C2 | 5.85 | 128.61 | 125.10 |
| 35 | BA | 1502 | A | N7-C8-N9 | -5.85 | 110.88 | 113.80 |
| 43 | BI | 84 | TYR | CD1-CE1-CZ | 5.85 | 125.06 | 119.80 |
| 2 | AB | 628 | G | C2-N3-C4 | 5.85 | 114.82 | 111.90 |
| 2 | AB | 1162 | G | O4'-C4'-C3' | -5.85 | 98.15 | 104.00 |
| 2 | AB | 2174 | C | N3-C2-O2 | -5.85 | 117.81 | 121.90 |
| 2 | AB | 2231 | U | O5'-C5'-C4' | 5.85 | 122.81 | 111.70 |
| 2 | AB | 2334 | U | O4'-C4'-C3' | -5.85 | 98.15 | 104.00 |
| 35 | BA | 181 | A | N9-C1'-C2' | 5.85 | 121.60 | 114.00 |
| 2 | AB | 938 | G | O4'-C1'-N9 | 5.84 | 112.88 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1241 | A | N3-C4-C5 | -5.84 | 122.71 | 126.80 |
| 2 | AB | 1317 | G | C2'-C3'-O3' | 5.84 | 123.05 | 113.70 |
| 2 | AB | 1360 | G | C4-C5-C6 | 5.84 | 122.31 | 118.80 |
| 2 | AB | 1878 | G | C8-N9-C4 | -5.84 | 104.06 | 106.40 |
| 2 | AB | 1979 | U | C5-C6-N1 | -5.84 | 119.78 | 122.70 |
| 35 | BA | 221 | C | C6-N1-C2 | -5.84 | 117.96 | 120.30 |
| 35 | BA | 349 | A | N9-C4-C5 | -5.84 | 103.46 | 105.80 |
| 35 | BA | 852 | G | C4'-C3'-C2' | -5.84 | 96.75 | 102.60 |
| 35 | BA | 1287 | A | N9-C4-C5 | 5.84 | 108.14 | 105.80 |
| 35 | BA | 1404 | C | N1-C2-O2 | 5.84 | 122.41 | 118.90 |
| 35 | BA | 1446 | A | C1'-O4'-C4' | -5.84 | 105.22 | 109.90 |
| 2 | AB | 103 | A | N7-C8-N9 | 5.84 | 116.72 | 113.80 |
| 2 | AB | 1753 | G | C6-N1-C2 | -5.84 | 121.59 | 125.10 |
| 2 | AB | 1813 | G | N9-C4-C5 | 5.84 | 107.74 | 105.40 |
| 2 | AB | 2746 | U | C5-C4-O4 | -5.84 | 122.39 | 125.90 |
| 17 | AQ | 10 | ARG | NE-CZ-NH2 | 5.84 | 123.22 | 120.30 |
| 35 | BA | 726 | C | O4'-C1'-N1 | 5.84 | 112.87 | 108.20 |
| 35 | BA | 1120 | C | C5-C6-N1 | 5.84 | 123.92 | 121.00 |
| 2 | AB | 470 | A | C4-C5-C6 | -5.84 | 114.08 | 117.00 |
| 2 | AB | 493 | G | C6-C5-N7 | -5.84 | 126.89 | 130.40 |
| 2 | AB | 914 | G | C5'-C4'-C3' | -5.84 | 106.65 | 116.00 |
| 2 | AB | 1069 | A | C4-C5-C6 | -5.84 | 114.08 | 117.00 |
| 2 | AB | 1323 | C | N1-C1'-C2' | -5.84 | 105.58 | 112.00 |
| 2 | AB | 1936 | A | C4'-C3'-C2' | -5.84 | 96.76 | 102.60 |
| 2 | AB | 2351 | G | O4'-C4'-C3' | 5.84 | 110.77 | 106.10 |
| 2 | AB | 2725 | A | O4'-C1'-N9 | 5.84 | 112.87 | 108.20 |
| 2 | AB | 2802 | G | O3'-P-O5' | -5.84 | 92.90 | 104.00 |
| 2 | AB | 2901 | C | C5-C4-N4 | -5.84 | 116.11 | 120.20 |
| 15 | AO | 51 | ARG | NH1-CZ-NH2 | -5.84 | 112.97 | 119.40 |
| 35 | BA | 44 | A | C4-C5-C6 | -5.84 | 114.08 | 117.00 |
| 35 | BA | 72 | A | O3'-P-O5' | 5.84 | 115.10 | 104.00 |
| 35 | BA | 377 | G | N1-C6-O6 | -5.84 | 116.39 | 119.90 |
| 35 | BA | 388 | G | O4'-C1'-C2' | -5.84 | 99.96 | 105.80 |
| 35 | BA | 504 | C | N3-C4-C5 | -5.84 | 119.56 | 121.90 |
| 35 | BA | 703 | G | C5'-C4'-C3' | -5.84 | 106.65 | 116.00 |
| 35 | BA | 932 | C | C4-C5-C6 | 5.84 | 120.32 | 117.40 |
| 35 | BA | 963 | G | N1-C2-N3 | -5.84 | 120.39 | 123.90 |
| 1 | AA | 90 | C | C4'-C3'-C2' | -5.84 | 96.76 | 102.60 |
| 2 | AB | 372 | G | C5-C6-N1 | -5.84 | 108.58 | 111.50 |
| 2 | AB | 434 | U | O4'-C1'-N1 | -5.84 | 103.53 | 108.20 |
| 2 | AB | 599 | A | C4-C5-C6 | -5.84 | 114.08 | 117.00 |
| 2 | AB | 609 | A | C8-N9-C4 | -5.84 | 103.46 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 916 | G | C4'-C3'-C2' | -5.84 | 96.76 | 102.60 |
| 2 | AB | 1287 | A | C5-C6-N1 | -5.84 | 114.78 | 117.70 |
| 2 | AB | 2391 | G | C8-N9-C1' | 5.84 | 134.59 | 127.00 |
| 35 | BA | 287 | U | N3-C4-C5 | 5.84 | 118.10 | 114.60 |
| 35 | BA | 416 | G | N9-C4-C5 | 5.84 | 107.74 | 105.40 |
| 35 | BA | 638 | U | C5-C4-O4 | -5.84 | 122.40 | 125.90 |
| 35 | BA | 895 | G | N1-C2-N2 | -5.84 | 110.94 | 116.20 |
| 35 | BA | 995 | C | N1-C2-O2 | 5.84 | 122.40 | 118.90 |
| 35 | BA | 1531 | A | N3-C4-N9 | -5.84 | 122.73 | 127.40 |
| 36 | BB | 58 | C | N1-C2-O2 | 5.84 | 122.40 | 118.90 |
| 2 | AB | 346 | A | C4-C5-C6 | -5.84 | 114.08 | 117.00 |
| 2 | AB | 2759 | G | N3-C4-N9 | 5.84 | 129.50 | 126.00 |
| 35 | BA | 45 | G | C8-N9-C4 | 5.84 | 108.73 | 106.40 |
| 35 | BA | 576 | C | C2-N3-C4 | 5.84 | 122.82 | 119.90 |
| 35 | BA | 1347 | G | N1-C2-N3 | -5.84 | 120.40 | 123.90 |
| 1 | AA | 102 | G | N9-C4-C5 | 5.84 | 107.73 | 105.40 |
| 2 | AB | 172 | A | C6-C5-N7 | 5.84 | 136.39 | 132.30 |
| 2 | AB | 494 | G | N9-C1'-C2' | -5.84 | 105.58 | 112.00 |
| 2 | AB | 1283 | G | C5-C6-N1 | 5.84 | 114.42 | 111.50 |
| 2 | AB | 1625 | C | N3-C4-C5 | 5.84 | 124.23 | 121.90 |
| 2 | AB | 2187 | U | N3-C4-C5 | -5.84 | 111.10 | 114.60 |
| 2 | AB | 2658 | C | N1-C2-O2 | 5.84 | 122.40 | 118.90 |
| 2 | AB | 2677 | G | C4-C5-N7 | -5.84 | 108.47 | 110.80 |
| 35 | BA | 975 | A | C8-N9-C4 | -5.84 | 103.47 | 105.80 |
| 35 | BA | 1086 | U | N3-C2-O2 | -5.84 | 118.11 | 122.20 |
| 35 | BA | 1236 | A | C1'-O4'-C4' | -5.84 | 105.23 | 109.90 |
| 35 | BA | 1378 | C | C5'-C4'-C3' | -5.84 | 106.66 | 116.00 |
| 36 | BB | 42 | U | N3-C2-O2 | -5.84 | 118.11 | 122.20 |
| 37 | BC | 27 | G | N9-C1'-C2' | -5.84 | 105.58 | 112.00 |
| 37 | BC | 28 | U | C5-C4-O4 | 5.84 | 129.40 | 125.90 |
| 41 | BG | 109 | ALA | CB-CA-C | 5.84 | 118.86 | 110.10 |
| 2 | AB | 1340 | U | C5'-C4'-O4' | 5.83 | 116.10 | 109.10 |
| 2 | AB | 1359 | A | N1-C6-N6 | -5.83 | 115.10 | 118.60 |
| 2 | AB | 1890 | A | C5-N7-C8 | -5.83 | 100.98 | 103.90 |
| 2 | AB | 2057 | G | C5-C6-N1 | 5.83 | 114.42 | 111.50 |
| 2 | AB | 2228 | G | N7-C8-N9 | 5.83 | 116.02 | 113.10 |
| 2 | AB | 2670 | A | N7-C8-N9 | 5.83 | 116.72 | 113.80 |
| 7 | AG | 3 | LEU | CB-CG-CD1 | 5.83 | 120.92 | 111.00 |
| 35 | BA | 151 | A | C5-C6-N1 | 5.83 | 120.62 | 117.70 |
| 35 | BA | 723 | U | C5-C4-O4 | -5.83 | 122.40 | 125.90 |
| 35 | BA | 1311 | A | O4'-C1'-N9 | 5.83 | 112.87 | 108.20 |
| 35 | BA | 1417 | G | C5-C6-N1 | 5.83 | 114.42 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | AA | 35 | C | C5'-C4'-O4' | 5.83 | 116.10 | 109.10 |
| 2 | AB | 91 | A | P-O3'-C3' | 5.83 | 126.70 | 119.70 |
| 2 | AB | 312 | G | N3-C4-C5 | -5.83 | 125.68 | 128.60 |
| 2 | AB | 470 | A | O4'-C1'-C2' | -5.83 | 99.97 | 105.80 |
| 2 | AB | 1135 | C | OP1-P-OP2 | 5.83 | 128.35 | 119.60 |
| 2 | AB | 1193 | G | C5-N7-C8 | -5.83 | 101.38 | 104.30 |
| 2 | AB | 1279 | G | C4'-C3'-C2' | -5.83 | 96.77 | 102.60 |
| 2 | AB | 1279 | G | C4-C5-N7 | 5.83 | 113.13 | 110.80 |
| 2 | AB | 1325 | U | N3-C2-O2 | -5.83 | 118.12 | 122.20 |
| 2 | AB | 1487 | U | C1'-O4'-C4' | 5.83 | 114.57 | 109.90 |
| 2 | AB | 1756 | G | C6-N1-C2 | -5.83 | 121.60 | 125.10 |
| 2 | AB | 2063 | C | N1-C2-N3 | -5.83 | 115.12 | 119.20 |
| 2 | AB | 2091 | C | N3-C2-O2 | -5.83 | 117.82 | 121.90 |
| 2 | AB | 2150 | C | C6-N1-C2 | -5.83 | 117.97 | 120.30 |
| 2 | AB | 2234 | G | C4-C5-N7 | -5.83 | 108.47 | 110.80 |
| 2 | AB | 2775 | G | O4'-C4'-C3' | 5.83 | 110.77 | 106.10 |
| 2 | AB | 2791 | G | C4-C5-N7 | -5.83 | 108.47 | 110.80 |
| 2 | AB | 2797 | U | N1-C1'-C2' | 5.83 | 121.58 | 114.00 |
| 35 | BA | 270 | A | O5'-P-OP1 | 5.83 | 117.70 | 110.70 |
| 35 | BA | 439 | U | C5-C4-O4 | -5.83 | 122.40 | 125.90 |
| 35 | BA | 605 | U | N3-C2-O2 | -5.83 | 118.12 | 122.20 |
| 35 | BA | 628 | G | N1-C2-N2 | 5.83 | 121.45 | 116.20 |
| 35 | BA | 1414 | U | O4'-C1'-C2' | -5.83 | 99.97 | 105.80 |
| 35 | BA | 1419 | G | C3'-C2'-C1' | 5.83 | 106.17 | 101.50 |
| 35 | BA | 1452 | C | C5'-C4'-O4' | -5.83 | 102.10 | 109.10 |
| 35 | BA | 1462 | C | C3'-C2'-C1' | 5.83 | 106.17 | 101.50 |
| 37 | BC | 6 | G | C5-N7-C8 | -5.83 | 101.38 | 104.30 |
| 46 | BL | 1 | MET | O-C-N | 5.83 | 132.03 | 122.70 |
| 2 | AB | 538 | A | N7-C8-N9 | -5.83 | 110.89 | 113.80 |
| 2 | AB | 758 | C | N3-C2-O2 | -5.83 | 117.82 | 121.90 |
| 2 | AB | 775 | G | N3-C4-N9 | 5.83 | 129.50 | 126.00 |
| 2 | AB | 1174 | U | C1'-O4'-C4' | 5.83 | 114.56 | 109.90 |
| 2 | AB | 2720 | U | N3-C2-O2 | -5.83 | 118.12 | 122.20 |
| 35 | BA | 132 | C | N1-C1'-C2' | -5.83 | 105.58 | 112.00 |
| 35 | BA | 264 | C | C1'-O4'-C4' | -5.83 | 105.23 | 109.90 |
| 35 | BA | 372 | C | C3'-C2'-C1' | 5.83 | 106.17 | 101.50 |
| 35 | BA | 544 | G | C8-N9-C1' | 5.83 | 134.58 | 127.00 |
| 35 | BA | 669 | G | C5-C6-N1 | 5.83 | 114.42 | 111.50 |
| 35 | BA | 1273 | C | N1-C2-N3 | -5.83 | 115.12 | 119.20 |
| 42 | BH | 80 | PHE | CB-CG-CD2 | 5.83 | 124.88 | 120.80 |
| 2 | AB | 1433 | A | N9-C1'-C2' | -5.83 | 105.59 | 112.00 |
| 35 | BA | 792 | A | C8-N9-C4 | -5.83 | 103.47 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1533 | C | C1'-O4'-C4' | -5.83 | 105.24 | 109.90 |
| 36 | BB | 38 | G | N3-C4-C5 | -5.83 | 125.69 | 128.60 |
| 1 | AA | 17 | C | N3-C2-O2 | -5.83 | 117.82 | 121.90 |
| 1 | AA | 18 | G | C5-C6-O6 | 5.83 | 132.10 | 128.60 |
| 1 | AA | 25 | U | N3-C4-C5 | -5.83 | 111.10 | 114.60 |
| 2 | AB | 65 | U | N3-C4-C5 | -5.83 | 111.10 | 114.60 |
| 2 | AB | 226 | A | C8-N9-C4 | -5.83 | 103.47 | 105.80 |
| 2 | AB | 412 | A | N1-C2-N3 | -5.83 | 126.39 | 129.30 |
| 2 | AB | 602 | A | N7-C8-N9 | -5.83 | 110.89 | 113.80 |
| 2 | AB | 609 | A | C6-C5-N7 | -5.83 | 128.22 | 132.30 |
| 2 | AB | 688 | U | N3-C2-O2 | -5.83 | 118.12 | 122.20 |
| 2 | AB | 1005 | C | C5-C4-N4 | -5.83 | 116.12 | 120.20 |
| 2 | AB | 1445 | G | C5'-C4'-C3' | 5.83 | 125.33 | 116.00 |
| 2 | AB | 2133 | G | N1-C6-O6 | 5.83 | 123.40 | 119.90 |
| 2 | AB | 2293 | G | C4'-C3'-C2' | -5.83 | 96.77 | 102.60 |
| 35 | BA | 95 | C | O4'-C4'-C3' | 5.83 | 110.76 | 106.10 |
| 35 | BA | 126 | G | N7-C8-N9 | 5.83 | 116.02 | 113.10 |
| 35 | BA | 222 | C | C1'-O4'-C4' | 5.83 | 114.56 | 109.90 |
| 35 | BA | 343 | U | C4-C5-C6 | 5.83 | 123.20 | 119.70 |
| 35 | BA | 831 | A | C6-C5-N7 | 5.83 | 136.38 | 132.30 |
| 35 | BA | 1114 | C | C1'-O4'-C4' | -5.83 | 105.24 | 109.90 |
| 35 | BA | 1183 | U | N3-C4-C5 | 5.83 | 118.10 | 114.60 |
| 35 | BA | 1305 | G | P-O3'-C3' | 5.83 | 126.69 | 119.70 |
| 35 | BA | 1347 | G | O4'-C1'-N9 | 5.83 | 112.86 | 108.20 |
| 54 | BT | 60 | ARG | NH1-CZ-NH2 | -5.83 | 112.99 | 119.40 |
| 2 | AB | 77 | G | C2-N3-C4 | 5.83 | 114.81 | 111.90 |
| 2 | AB | 336 | C | N3-C4-C5 | 5.83 | 124.23 | 121.90 |
| 2 | AB | 430 | A | P-O3'-C3' | 5.83 | 126.69 | 119.70 |
| 2 | AB | 904 | G | N1-C2-N2 | 5.83 | 121.44 | 116.20 |
| 2 | AB | 1155 | A | C2-N3-C4 | 5.83 | 113.51 | 110.60 |
| 2 | AB | 2297 | A | O4'-C4'-C3' | 5.83 | 110.76 | 106.10 |
| 2 | AB | 2719 | G | C5'-C4'-O4' | 5.83 | 116.09 | 109.10 |
| 35 | BA | 901 | A | C5-C6-N6 | -5.83 | 119.04 | 123.70 |
| 35 | BA | 1218 | C | P-O3'-C3' | 5.83 | 126.69 | 119.70 |
| 35 | BA | 1288 | A | N3-C4-N9 | -5.83 | 122.74 | 127.40 |
| 35 | BA | 1409 | C | P-O5'-C5' | 5.83 | 130.22 | 120.90 |
| 41 | BG | 132 | PRO | N-CA-CB | 5.83 | 110.29 | 103.30 |
| 2 | AB | 118 | A | O4'-C1'-N9 | 5.83 | 112.86 | 108.20 |
| 2 | AB | 335 | C | C4'-C3'-C2' | -5.83 | 96.78 | 102.60 |
| 2 | AB | 406 | G | O4'-C1'-N9 | 5.83 | 112.86 | 108.20 |
| 2 | AB | 1632 | A | N7-C8-N9 | -5.83 | 110.89 | 113.80 |
| 2 | AB | 2389 | G | C6-C5-N7 | -5.83 | 126.90 | 130.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2389 | G | C6-N1-C2 | -5.83 | 121.60 | 125.10 |
| 2 | AB | 2407 | A | C5'-C4'-O4' | 5.83 | 116.09 | 109.10 |
| 2 | AB | 2583 | G | C6-N1-C2 | -5.83 | 121.61 | 125.10 |
| 2 | AB | 2612 | C | N3-C4-C5 | 5.83 | 124.23 | 121.90 |
| 6 | AF | 183 | PHE | CB-CG-CD1 | -5.83 | 116.72 | 120.80 |
| 10 | AJ | 75 | PHE | CB-CG-CD1 | 5.83 | 124.88 | 120.80 |
| 35 | BA | 328 | C | N3-C4-N4 | 5.83 | 122.08 | 118.00 |
| 35 | BA | 611 | C | O4'-C1'-N1 | 5.83 | 112.86 | 108.20 |
| 35 | BA | 669 | G | N3-C2-N2 | 5.83 | 123.98 | 119.90 |
| 35 | BA | 1099 | G | N3-C2-N2 | 5.83 | 123.98 | 119.90 |
| 2 | AB | 108 | G | C5-C6-N1 | 5.82 | 114.41 | 111.50 |
| 2 | AB | 258 | G | O4'-C1'-N9 | -5.82 | 103.54 | 108.20 |
| 2 | AB | 275 | C | C4'-C3'-C2' | -5.82 | 96.78 | 102.60 |
| 2 | AB | 484 | C | N1-C2-N3 | -5.82 | 115.12 | 119.20 |
| 2 | AB | 1450 | G | C4-C5-N7 | -5.82 | 108.47 | 110.80 |
| 2 | AB | 1506 | U | C3'-C2'-C1' | 5.82 | 106.16 | 101.50 |
| 2 | AB | 2557 | G | C5'-C4'-C3' | -5.82 | 106.68 | 116.00 |
| 22 | AV | 96 | VAL | CA-CB-CG1 | 5.82 | 119.63 | 110.90 |
| 35 | BA | 811 | C | N3-C4-C5 | -5.82 | 119.57 | 121.90 |
| 35 | BA | 1296 | C | C4'-C3'-C2' | -5.82 | 96.78 | 102.60 |
| 2 | AB | 711 | G | N1-C2-N3 | -5.82 | 120.41 | 123.90 |
| 2 | AB | 2682 | A | N3-C4-N9 | 5.82 | 132.06 | 127.40 |
| 35 | BA | 482 | A | C2-N3-C4 | 5.82 | 113.51 | 110.60 |
| 35 | BA | 615 | G | C5-C6-N1 | 5.82 | 114.41 | 111.50 |
| 35 | BA | 1151 | A | C4-C5-N7 | -5.82 | 107.79 | 110.70 |
| 36 | BB | 31 | U | C4'-C3'-C2' | -5.82 | 96.78 | 102.60 |
| 2 | AB | 490 | C | P-O3'-C3' | 5.82 | 126.68 | 119.70 |
| 2 | AB | 610 | C | C4-C5-C6 | -5.82 | 114.49 | 117.40 |
| 2 | AB | 766 | U | N3-C4-O4 | 5.82 | 123.47 | 119.40 |
| 2 | AB | 987 | C | C6-N1-C2 | 5.82 | 122.63 | 120.30 |
| 2 | AB | 1656 | C | C6-N1-C2 | 5.82 | 122.63 | 120.30 |
| 2 | AB | 1665 | A | N9-C4-C5 | 5.82 | 108.13 | 105.80 |
| 2 | AB | 1750 | G | C5-C6-O6 | -5.82 | 125.11 | 128.60 |
| 2 | AB | 1884 | G | N3-C4-N9 | -5.82 | 122.51 | 126.00 |
| 2 | AB | 2176 | A | C8-N9-C4 | -5.82 | 103.47 | 105.80 |
| 35 | BA | 66 | A | N9-C4-C5 | 5.82 | 108.13 | 105.80 |
| 35 | BA | 239 | U | O4'-C4'-C3' | 5.82 | 110.76 | 106.10 |
| 35 | BA | 251 | G | N9-C4-C5 | -5.82 | 103.07 | 105.40 |
| 35 | BA | 648 | A | N9-C1'-C2' | -5.82 | 105.60 | 112.00 |
| 35 | BA | 971 | G | N1-C2-N2 | 5.82 | 121.44 | 116.20 |
| 35 | BA | 1124 | G | C4-C5-N7 | 5.82 | 113.13 | 110.80 |
| 35 | BA | 1192 | C | C2-N3-C4 | 5.82 | 122.81 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 65 | U | C3'-C2'-C1' | -5.82 | 96.84 | 101.50 |
| 2 | AB | 2043 | C | O4'-C4'-C3' | 5.82 | 110.75 | 106.10 |
| 4 | AD | 12 | ARG | NE-CZ-NH1 | 5.82 | 123.21 | 120.30 |
| 19 | AS | 12 | ARG | NE-CZ-NH1 | -5.82 | 117.39 | 120.30 |
| 35 | BA | 56 | U | N1-C2-N3 | 5.82 | 118.39 | 114.90 |
| 35 | BA | 187 | G | C2'-C3'-O3' | 5.82 | 123.01 | 113.70 |
| 39 | BE | 97 | PRO | N-CA-CB | 5.82 | 110.28 | 103.30 |
| 1 | AA | 20 | G | C1'-O4'-C4' | 5.82 | 114.55 | 109.90 |
| 2 | AB | 201 | C | C6-N1-C2 | -5.82 | 117.97 | 120.30 |
| 2 | AB | 236 | C | N3-C4-C5 | -5.82 | 119.57 | 121.90 |
| 2 | AB | 1225 | G | C4'-C3'-C2' | -5.82 | 96.78 | 102.60 |
| 2 | AB | 1284 | A | C2-N3-C4 | 5.82 | 113.51 | 110.60 |
| 2 | AB | 1403 | A | C1'-O4'-C4' | 5.82 | 114.55 | 109.90 |
| 2 | AB | 1407 | G | N9-C4-C5 | 5.82 | 107.73 | 105.40 |
| 2 | AB | 1631 | G | C4'-C3'-C2' | -5.82 | 96.78 | 102.60 |
| 2 | AB | 2038 | G | C8-N9-C4 | 5.82 | 108.73 | 106.40 |
| 2 | AB | 2565 | A | N1-C2-N3 | -5.82 | 126.39 | 129.30 |
| 2 | AB | 2868 | A | N3-C4-N9 | 5.82 | 132.05 | 127.40 |
| 25 | AY | 62 | ALA | CB-CA-C | 5.82 | 118.83 | 110.10 |
| 35 | BA | 138 | G | C2-N3-C4 | 5.82 | 114.81 | 111.90 |
| 35 | BA | 505 | G | O4'-C1'-N9 | 5.82 | 112.85 | 108.20 |
| 35 | BA | 597 | G | N1-C2-N3 | -5.82 | 120.41 | 123.90 |
| 35 | BA | 750 | C | C4-C5-C6 | 5.82 | 120.31 | 117.40 |
| 35 | BA | 1248 | A | C4-C5-N7 | -5.82 | 107.79 | 110.70 |
| 35 | BA | 1461 | G | O4'-C1'-C2' | -5.82 | 99.98 | 105.80 |
| 35 | BA | 1533 | C | C4-C5-C6 | -5.82 | 114.49 | 117.40 |
| 39 | BE | 192 | TYR | CG-CD2-CE2 | 5.82 | 125.95 | 121.30 |
| 40 | BF | 101 | VAL | CA-CB-CG2 | 5.82 | 119.63 | 110.90 |
| 44 | BJ | 69 | ALA | N-CA-CB | -5.82 | 101.96 | 110.10 |
| 45 | BK | 90 | ASP | CB-CG-OD1 | 5.82 | 123.54 | 118.30 |
| 2 | AB | 38 | A | O4'-C1'-N9 | 5.82 | 112.85 | 108.20 |
| 2 | AB | 473 | G | C3'-C2'-C1' | -5.82 | 96.85 | 101.50 |
| 2 | AB | 856 | G | C2-N3-C4 | -5.82 | 108.99 | 111.90 |
| 2 | AB | 1139 | G | C5-C6-O6 | -5.82 | 125.11 | 128.60 |
| 2 | AB | 1242 | U | O4'-C1'-N1 | 5.82 | 112.85 | 108.20 |
| 2 | AB | 1445 | G | C1'-O4'-C4' | 5.82 | 114.55 | 109.90 |
| 2 | AB | 1589 | U | N3-C2-O2 | -5.82 | 118.13 | 122.20 |
| 2 | AB | 2090 | A | O4'-C4'-C3' | 5.82 | 110.75 | 106.10 |
| 2 | AB | 2203 | U | C1'-O4'-C4' | -5.82 | 105.25 | 109.90 |
| 2 | AB | 2204 | G | N9-C4-C5 | -5.82 | 103.07 | 105.40 |
| 2 | AB | 2493 | U | N3-C4-O4 | 5.82 | 123.47 | 119.40 |
| 35 | BA | 858 | G | C4'-C3'-C2' | -5.82 | 96.78 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 537 | G | N1-C2-N3 | -5.81 | 120.41 | 123.90 |
| 2 | AB | 610 | C | C6-N1-C2 | 5.81 | 122.63 | 120.30 |
| 2 | AB | 1269 | A | C5-N7-C8 | 5.81 | 106.81 | 103.90 |
| 2 | AB | 1916 | A | C2-N3-C4 | -5.81 | 107.69 | 110.60 |
| 2 | AB | 1960 | A | O4'-C1'-N9 | 5.81 | 112.85 | 108.20 |
| 2 | AB | 2126 | A | P-O3'-C3' | 5.81 | 126.68 | 119.70 |
| 2 | AB | 2795 | C | N3-C4-C5 | -5.81 | 119.57 | 121.90 |
| 35 | BA | 380 | G | N7-C8-N9 | -5.81 | 110.19 | 113.10 |
| 35 | BA | 755 | G | C4'-C3'-C2' | -5.81 | 96.79 | 102.60 |
| 35 | BA | 1448 | C | O4'-C1'-N1 | 5.81 | 112.85 | 108.20 |
| 40 | BF | 140 | ASP | CB-CG-OD2 | 5.81 | 123.53 | 118.30 |
| 2 | AB | 688 | U | N1-C2-N3 | 5.81 | 118.39 | 114.90 |
| 2 | AB | 805 | G | N3-C2-N2 | -5.81 | 115.83 | 119.90 |
| 2 | AB | 1078 | U | O4'-C1'-N1 | 5.81 | 112.85 | 108.20 |
| 2 | AB | 1171 | G | O4'-C1'-N9 | 5.81 | 112.85 | 108.20 |
| 2 | AB | 1897 | G | N9-C1'-C2' | -5.81 | 105.61 | 112.00 |
| 2 | AB | 2003 | A | C2-N3-C4 | 5.81 | 113.51 | 110.60 |
| 2 | AB | 2057 | G | C4-N9-C1' | -5.81 | 118.94 | 126.50 |
| 2 | AB | 2148 | G | N9-C4-C5 | 5.81 | 107.72 | 105.40 |
| 2 | AB | 2559 | C | C4'-C3'-C2' | -5.81 | 96.79 | 102.60 |
| 2 | AB | 2630 | G | C2'-C3'-O3' | 5.81 | 123.00 | 113.70 |
| 35 | BA | 201 | G | C8-N9-C4 | -5.81 | 104.08 | 106.40 |
| 35 | BA | 337 | G | C2-N3-C4 | -5.81 | 108.99 | 111.90 |
| 35 | BA | 635 | A | C4-C5-C6 | 5.81 | 119.91 | 117.00 |
| 35 | BA | 758 | C | C6-N1-C2 | -5.81 | 117.97 | 120.30 |
| 35 | BA | 823 | C | C2-N3-C4 | -5.81 | 116.99 | 119.90 |
| 35 | BA | 834 | U | C5-C4-O4 | -5.81 | 122.41 | 125.90 |
| 2 | AB | 7 | G | C5-C6-O6 | -5.81 | 125.11 | 128.60 |
| 2 | AB | 977 | G | C4'-C3'-C2' | -5.81 | 96.79 | 102.60 |
| 2 | AB | 1015 | U | C5'-C4'-O4' | 5.81 | 116.07 | 109.10 |
| 2 | AB | 1386 | C | C6-N1-C2 | 5.81 | 122.62 | 120.30 |
| 2 | AB | 1411 | U | C4'-C3'-C2' | 5.81 | 108.41 | 102.60 |
| 2 | AB | 1642 | G | N9-C1'-C2' | -5.81 | 105.61 | 112.00 |
| 2 | AB | 1981 | A | P-O3'-C3' | 5.81 | 126.67 | 119.70 |
| 2 | AB | 2000 | C | C4'-C3'-C2' | -5.81 | 96.79 | 102.60 |
| 2 | AB | 2406 | A | C5-N7-C8 | -5.81 | 100.99 | 103.90 |
| 35 | BA | 240 | G | C4-C5-C6 | 5.81 | 122.29 | 118.80 |
| 35 | BA | 490 | C | C5'-C4'-C3' | -5.81 | 106.70 | 116.00 |
| 35 | BA | 1033 | G | C6-C5-N7 | -5.81 | 126.91 | 130.40 |
| 36 | BB | 37 | G | N1-C2-N3 | -5.81 | 120.41 | 123.90 |
| 2 | AB | 1 | G | N3-C2-N2 | -5.81 | 115.83 | 119.90 |
| 2 | AB | 33 | C | C6-N1-C2 | 5.81 | 122.62 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 115 | C | O4'-C1'-N1 | 5.81 | 112.85 | 108.20 |
| 2 | AB | 404 | A | O4'-C4'-C3' | 5.81 | 110.75 | 106.10 |
| 2 | AB | 427 | U | C5-C6-N1 | -5.81 | 119.80 | 122.70 |
| 2 | AB | 504 | A | N1-C6-N6 | 5.81 | 122.08 | 118.60 |
| 2 | AB | 584 | C | C2-N3-C4 | 5.81 | 122.80 | 119.90 |
| 2 | AB | 815 | C | N3-C4-C5 | -5.81 | 119.58 | 121.90 |
| 2 | AB | 841 | G | C5-C6-N1 | 5.81 | 114.41 | 111.50 |
| 2 | AB | 987 | C | N3-C4-C5 | 5.81 | 124.22 | 121.90 |
| 2 | AB | 1335 | C | O4'-C1'-N1 | 5.81 | 112.85 | 108.20 |
| 2 | AB | 1585 | C | C4-C5-C6 | 5.81 | 120.30 | 117.40 |
| 2 | AB | 1593 | A | C5-C6-N1 | 5.81 | 120.61 | 117.70 |
| 2 | AB | 1697 | G | C8-N9-C4 | -5.81 | 104.08 | 106.40 |
| 2 | AB | 2128 | G | C6-N1-C2 | -5.81 | 121.61 | 125.10 |
| 2 | AB | 2157 | G | C5-N7-C8 | 5.81 | 107.20 | 104.30 |
| 2 | AB | 2451 | A | C3'-C2'-C1' | 5.81 | 106.15 | 101.50 |
| 2 | AB | 2536 | G | N3-C2-N2 | -5.81 | 115.83 | 119.90 |
| 35 | BA | 384 | G | C5-N7-C8 | -5.81 | 101.40 | 104.30 |
| 35 | BA | 1119 | C | N3-C4-N4 | -5.81 | 113.93 | 118.00 |
| 35 | BA | 1141 | C | O4'-C4'-C3' | 5.81 | 110.75 | 106.10 |
| 2 | AB | 416 | U | O4'-C1'-N1 | 5.81 | 112.85 | 108.20 |
| 2 | AB | 669 | G | N7-C8-N9 | 5.81 | 116.00 | 113.10 |
| 2 | AB | 1147 | A | N1-C6-N6 | -5.81 | 115.11 | 118.60 |
| 2 | AB | 1288 | G | O4'-C1'-C2' | -5.81 | 99.99 | 105.80 |
| 2 | AB | 1379 | U | C3'-C2'-C1' | 5.81 | 106.15 | 101.50 |
| 2 | AB | 1945 | G | O4'-C1'-N9 | 5.81 | 112.85 | 108.20 |
| 2 | AB | 2876 | G | C6-C5-N7 | -5.81 | 126.92 | 130.40 |
| 10 | AJ | 158 | ARG | NE-CZ-NH2 | -5.81 | 117.40 | 120.30 |
| 35 | BA | 163 | C | N3-C2-O2 | -5.81 | 117.83 | 121.90 |
| 35 | BA | 914 | A | C5-N7-C8 | -5.81 | 101.00 | 103.90 |
| 35 | BA | 1405 | G | C1'-O4'-C4' | -5.81 | 105.25 | 109.90 |
| 37 | BC | 24 | C | C3'-C2'-C1' | 5.81 | 106.15 | 101.50 |
| 39 | BE | 155 | ARG | O-C-N | -5.81 | 113.41 | 122.70 |
| 57 | BW | 35 | GLU | OE1-CD-OE2 | 5.81 | 130.27 | 123.30 |
| 2 | AB | 439 | A | C5-C6-N6 | -5.81 | 119.06 | 123.70 |
| 2 | AB | 1538 | G | N1-C6-O6 | -5.81 | 116.42 | 119.90 |
| 2 | AB | 1780 | A | C6-C5-N7 | 5.81 | 136.36 | 132.30 |
| 2 | AB | 1975 | G | C5'-C4'-O4' | 5.81 | 116.07 | 109.10 |
| 35 | BA | 44 | A | C4-C5-N7 | -5.81 | 107.80 | 110.70 |
| 35 | BA | 207 | C | C2-N3-C4 | -5.81 | 117.00 | 119.90 |
| 35 | BA | 950 | U | N3-C2-O2 | -5.81 | 118.14 | 122.20 |
| 35 | BA | 1361 | G | C5-N7-C8 | -5.81 | 101.40 | 104.30 |
| 36 | BB | 46 | C | C5'-C4'-O4' | 5.81 | 116.07 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | AA | 90 | C | C4-C5-C6 | -5.80 | 114.50 | 117.40 |
| 2 | AB | 42 | A | P-O3'-C3' | 5.80 | 126.67 | 119.70 |
| 2 | AB | 153 | U | C3'-C2'-C1' | 5.80 | 106.14 | 101.50 |
| 2 | AB | 750 | A | N1-C6-N6 | -5.80 | 115.12 | 118.60 |
| 2 | AB | 1068 | G | C6-C5-N7 | 5.80 | 133.88 | 130.40 |
| 2 | AB | 1075 | C | N1-C2-O2 | 5.80 | 122.38 | 118.90 |
| 2 | AB | 1332 | G | C6-C5-N7 | -5.80 | 126.92 | 130.40 |
| 2 | AB | 1504 | A | C8-N9-C4 | -5.80 | 103.48 | 105.80 |
| 2 | AB | 1533 | C | P-O3'-C3' | 5.80 | 126.67 | 119.70 |
| 2 | AB | 2226 | C | N1-C1'-C2' | -5.80 | 105.61 | 112.00 |
| 2 | AB | 2780 | G | C6-N1-C2 | -5.80 | 121.62 | 125.10 |
| 2 | AB | 2801 | G | N3-C2-N2 | 5.80 | 123.96 | 119.90 |
| 3 | AC | 178 | VAL | CA-CB-CG2 | 5.80 | 119.61 | 110.90 |
| 15 | AO | 55 | ARG | NE-CZ-NH2 | 5.80 | 123.20 | 120.30 |
| 35 | BA | 36 | C | C4-C5-C6 | 5.80 | 120.30 | 117.40 |
| 35 | BA | 111 | G | C3'-C2'-C1' | 5.80 | 106.14 | 101.50 |
| 2 | AB | 1588 | G | C5'-C4'-O4' | -5.80 | 102.14 | 109.10 |
| 2 | AB | 2509 | G | N9-C4-C5 | 5.80 | 107.72 | 105.40 |
| 37 | BC | 66 | C | N3-C4-C5 | -5.80 | 119.58 | 121.90 |
| 2 | AB | 324 | A | C5'-C4'-O4' | 5.80 | 116.06 | 109.10 |
| 2 | AB | 690 | G | O4'-C1'-N9 | 5.80 | 112.84 | 108.20 |
| 2 | AB | 767 | U | O4'-C1'-N1 | 5.80 | 112.84 | 108.20 |
| 2 | AB | 815 | C | N1-C2-O2 | 5.80 | 122.38 | 118.90 |
| 2 | AB | 889 | C | N3-C4-C5 | -5.80 | 119.58 | 121.90 |
| 2 | AB | 917 | A | P-O3'-C3' | 5.80 | 126.66 | 119.70 |
| 2 | AB | 946 | C | C4'-C3'-C2' | -5.80 | 96.80 | 102.60 |
| 2 | AB | 1529 | G | C5-N7-C8 | -5.80 | 101.40 | 104.30 |
| 2 | AB | 2404 | U | C4'-C3'-C2' | 5.80 | 108.40 | 102.60 |
| 2 | AB | 2722 | G | N9-C4-C5 | 5.80 | 107.72 | 105.40 |
| 2 | AB | 2756 | U | C3'-C2'-C1' | 5.80 | 106.14 | 101.50 |
| 2 | AB | 2846 | G | C5-N7-C8 | -5.80 | 101.40 | 104.30 |
| 11 | AK | 61 | TYR | CD1-CE1-CZ | 5.80 | 125.02 | 119.80 |
| 35 | BA | 71 | A | N9-C1'-C2' | -5.80 | 105.62 | 112.00 |
| 35 | BA | 356 | A | C5'-C4'-O4' | 5.80 | 116.06 | 109.10 |
| 35 | BA | 490 | C | C5'-C4'-O4' | 5.80 | 116.06 | 109.10 |
| 35 | BA | 970 | C | C5-C6-N1 | -5.80 | 118.10 | 121.00 |
| 35 | BA | 1011 | C | C4'-C3'-C2' | -5.80 | 96.80 | 102.60 |
| 35 | BA | 1264 | U | C5-C4-O4 | -5.80 | 122.42 | 125.90 |
| 39 | BE | 82 | ASP | CB-CG-OD1 | 5.80 | 123.52 | 118.30 |
| 2 | AB | 500 | G | C5'-C4'-O4' | 5.80 | 116.06 | 109.10 |
| 2 | AB | 1324 | G | N9-C4-C5 | -5.80 | 103.08 | 105.40 |
| 2 | AB | 1346 | G | C8-N9-C4 | -5.80 | 104.08 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1392 | A | C5'-C4'-O4' | 5.80 | 116.06 | 109.10 |
| 2 | AB | 1682 | G | C4-C5-C6 | 5.80 | 122.28 | 118.80 |
| 2 | AB | 2151 | U | C5-C6-N1 | -5.80 | 119.80 | 122.70 |
| 2 | AB | 2557 | G | C4-C5-C6 | 5.80 | 122.28 | 118.80 |
| 2 | AB | 2687 | U | C4-C5-C6 | 5.80 | 123.18 | 119.70 |
| 25 | AY | 73 | PRO | N-CD-CG | 5.80 | 111.90 | 103.20 |
| 35 | BA | 31 | G | C2-N3-C4 | -5.80 | 109.00 | 111.90 |
| 35 | BA | 1318 | A | C5'-C4'-C3' | -5.80 | 106.72 | 116.00 |
| 49 | BO | 91 | ARG | NH1-CZ-NH2 | 5.80 | 125.78 | 119.40 |
| 2 | AB | 61 | C | N1-C2-N3 | 5.80 | 123.26 | 119.20 |
| 2 | AB | 309 | A | N9-C4-C5 | 5.80 | 108.12 | 105.80 |
| 2 | AB | 371 | A | C4'-C3'-C2' | -5.80 | 96.80 | 102.60 |
| 2 | AB | 738 | G | O4'-C1'-N9 | 5.80 | 112.84 | 108.20 |
| 2 | AB | 1260 | A | C5'-C4'-O4' | 5.80 | 116.06 | 109.10 |
| 2 | AB | 2759 | G | C5-N7-C8 | -5.80 | 101.40 | 104.30 |
| 35 | BA | 94 | G | C8-N9-C4 | 5.80 | 108.72 | 106.40 |
| 35 | BA | 706 | A | N7-C8-N9 | 5.80 | 116.70 | 113.80 |
| 35 | BA | 712 | A | P-O5'-C5' | 5.80 | 130.18 | 120.90 |
| 35 | BA | 923 | A | N9-C1'-C2' | -5.80 | 105.62 | 112.00 |
| 2 | AB | 209 | C | C5'-C4'-O4' | 5.80 | 116.06 | 109.10 |
| 2 | AB | 789 | A | N3-C4-C5 | -5.80 | 122.74 | 126.80 |
| 2 | AB | 1386 | C | O4'-C1'-N1 | 5.80 | 112.84 | 108.20 |
| 2 | AB | 1997 | C | N3-C2-O2 | -5.80 | 117.84 | 121.90 |
| 2 | AB | 2353 | G | N3-C2-N2 | -5.80 | 115.84 | 119.90 |
| 2 | AB | 2448 | A | N3-C4-C5 | -5.80 | 122.74 | 126.80 |
| 2 | AB | 2577 | A | C5-C6-N6 | 5.80 | 128.34 | 123.70 |
| 2 | AB | 2586 | U | C3'-C2'-C1' | 5.80 | 106.14 | 101.50 |
| 2 | AB | 2671 | G | N7-C8-N9 | 5.80 | 116.00 | 113.10 |
| 35 | BA | 422 | C | O4'-C1'-N1 | 5.80 | 112.84 | 108.20 |
| 35 | BA | 449 | G | N1-C6-O6 | 5.80 | 123.38 | 119.90 |
| 35 | BA | 790 | A | C4-C5-C6 | 5.80 | 119.90 | 117.00 |
| 35 | BA | 1183 | U | C5'-C4'-C3' | -5.80 | 106.73 | 116.00 |
| 37 | BC | 31 | G | N1-C2-N3 | -5.80 | 120.42 | 123.90 |
| 2 | AB | 478 | A | C3'-C2'-C1' | 5.79 | 106.14 | 101.50 |
| 2 | AB | 697 | G | N3-C2-N2 | -5.79 | 115.84 | 119.90 |
| 2 | AB | 762 | U | C3'-C2'-C1' | 5.79 | 106.14 | 101.50 |
| 2 | AB | 905 | A | O4'-C1'-N9 | 5.79 | 112.84 | 108.20 |
| 2 | AB | 2111 | U | C3'-C2'-C1' | -5.79 | 96.86 | 101.50 |
| 2 | AB | 2553 | G | C3'-C2'-C1' | 5.79 | 106.14 | 101.50 |
| 25 | AY | 9 | THR | CA-CB-CG2 | 5.79 | 120.51 | 112.40 |
| 35 | BA | 73 | C | N3-C4-C5 | 5.79 | 124.22 | 121.90 |
| 35 | BA | 141 | G | C8-N9-C4 | -5.79 | 104.08 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 446 | G | N3-C4-C5 | -5.79 | 125.70 | 128.60 |
| 35 | BA | 505 | G | P-O3'-C3' | 5.79 | 126.65 | 119.70 |
| 35 | BA | 663 | A | C4-C5-N7 | 5.79 | 113.60 | 110.70 |
| 35 | BA | 807 | A | C5'-C4'-O4' | 5.79 | 116.05 | 109.10 |
| 35 | BA | 963 | G | C5'-C4'-O4' | 5.79 | 116.05 | 109.10 |
| 35 | BA | 1033 | G | C8-N9-C4 | -5.79 | 104.08 | 106.40 |
| 35 | BA | 1196 | A | N9-C4-C5 | -5.79 | 103.48 | 105.80 |
| 35 | BA | 1208 | C | C4-C5-C6 | -5.79 | 114.50 | 117.40 |
| 1 | AA | 105 | G | C5-C6-O6 | 5.79 | 132.08 | 128.60 |
| 2 | AB | 56 | A | C5-C6-N1 | 5.79 | 120.60 | 117.70 |
| 2 | AB | 97 | C | C4-C5-C6 | -5.79 | 114.50 | 117.40 |
| 2 | AB | 370 | G | O4'-C1'-C2' | -5.79 | 100.01 | 105.80 |
| 2 | AB | 415 | A | C4-C5-C6 | 5.79 | 119.90 | 117.00 |
| 2 | AB | 841 | G | N1-C2-N3 | -5.79 | 120.42 | 123.90 |
| 2 | AB | 862 | G | C5'-C4'-O4' | 5.79 | 116.05 | 109.10 |
| 2 | AB | 1131 | G | C5'-C4'-C3' | -5.79 | 106.73 | 116.00 |
| 2 | AB | 1184 | U | C5'-C4'-O4' | 5.79 | 116.05 | 109.10 |
| 2 | AB | 2294 | G | C4-C5-N7 | -5.79 | 108.48 | 110.80 |
| 2 | AB | 2829 | A | C4'-C3'-C2' | -5.79 | 96.81 | 102.60 |
| 2 | AB | 2834 | G | N3-C4-C5 | -5.79 | 125.70 | 128.60 |
| 2 | AB | 2874 | C | O4'-C1'-N1 | 5.79 | 112.83 | 108.20 |
| 35 | BA | 126 | G | C1'-O4'-C4' | -5.79 | 105.27 | 109.90 |
| 35 | BA | 223 | A | C1'-O4'-C4' | -5.79 | 105.27 | 109.90 |
| 35 | BA | 670 | G | N3-C4-N9 | 5.79 | 129.48 | 126.00 |
| 35 | BA | 894 | G | C5'-C4'-O4' | 5.79 | 116.05 | 109.10 |
| 35 | BA | 949 | A | N7-C8-N9 | 5.79 | 116.70 | 113.80 |
| 35 | BA | 1157 | A | C6-N1-C2 | 5.79 | 122.08 | 118.60 |
| 35 | BA | 1182 | G | C5-C6-N1 | 5.79 | 114.40 | 111.50 |
| 35 | BA | 1220 | G | C5-N7-C8 | -5.79 | 101.40 | 104.30 |
| 35 | BA | 1224 | U | C6-N1-C1' | -5.79 | 113.09 | 121.20 |
| 2 | AB | 68 | G | C4-C5-C6 | -5.79 | 115.33 | 118.80 |
| 2 | AB | 247 | G | N3-C2-N2 | -5.79 | 115.85 | 119.90 |
| 2 | AB | 375 | G | C5-C6-N1 | -5.79 | 108.60 | 111.50 |
| 2 | AB | 638 | G | C5-C6-N1 | 5.79 | 114.40 | 111.50 |
| 2 | AB | 1829 | A | C4-C5-C6 | -5.79 | 114.11 | 117.00 |
| 2 | AB | 1921 | G | C5-N7-C8 | -5.79 | 101.40 | 104.30 |
| 2 | AB | 2017 | U | N1-C2-O2 | 5.79 | 126.85 | 122.80 |
| 2 | AB | 2516 | A | C6-N1-C2 | -5.79 | 115.12 | 118.60 |
| 3 | AC | 111 | PHE | CG-CD2-CE2 | -5.79 | 114.43 | 120.80 |
| 35 | BA | 407 | U | N1-C2-N3 | 5.79 | 118.38 | 114.90 |
| 35 | BA | 1176 | A | O4'-C1'-N9 | 5.79 | 112.83 | 108.20 |
| 53 | BS | 49 | ASN | O-C-N | 5.79 | 131.97 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2 | G | C6-C5-N7 | 5.79 | 133.87 | 130.40 |
| 2 | AB | 1571 | A | C8-N9-C4 | -5.79 | 103.48 | 105.80 |
| 2 | AB | 1929 | G | N3-C4-C5 | -5.79 | 125.70 | 128.60 |
| 2 | AB | 2099 | U | C5'-C4'-O4' | 5.79 | 116.05 | 109.10 |
| 2 | AB | 2657 | A | C4-C5-C6 | -5.79 | 114.11 | 117.00 |
| 2 | AB | 2715 | C | C6-N1-C2 | -5.79 | 117.98 | 120.30 |
| 35 | BA | 1253 | G | C2-N3-C4 | 5.79 | 114.80 | 111.90 |
| 2 | AB | 440 | C | O4'-C1'-N1 | 5.79 | 112.83 | 108.20 |
| 2 | AB | 1406 | U | C5-C6-N1 | -5.79 | 119.81 | 122.70 |
| 2 | AB | 1990 | C | C4-C5-C6 | -5.79 | 114.51 | 117.40 |
| 2 | AB | 2061 | G | C5-C6-O6 | 5.79 | 132.07 | 128.60 |
| 2 | AB | 2110 | G | N7-C8-N9 | 5.79 | 115.99 | 113.10 |
| 2 | AB | 2578 | G | C5'-C4'-C3' | -5.79 | 106.74 | 116.00 |
| 2 | AB | 2788 | C | C5'-C4'-C3' | -5.79 | 106.74 | 116.00 |
| 35 | BA | 615 | G | C1'-O4'-C4' | -5.79 | 105.27 | 109.90 |
| 35 | BA | 1072 | G | C4'-C3'-C2' | -5.79 | 96.81 | 102.60 |
| 35 | BA | 1307 | U | N3-C2-O2 | 5.79 | 126.25 | 122.20 |
| 35 | BA | 1357 | A | P-O5'-C5' | 5.79 | 130.16 | 120.90 |
| 36 | BB | 55 | A | C6-C5-N7 | -5.79 | 128.25 | 132.30 |
| 2 | AB | 1518 | C | N1-C2-O2 | 5.79 | 122.37 | 118.90 |
| 2 | AB | 2875 | C | C5-C4-N4 | -5.79 | 116.15 | 120.20 |
| 35 | BA | 109 | A | O4'-C1'-C2' | -5.79 | 100.01 | 105.80 |
| 35 | BA | 837 | U | C3'-C2'-C1' | 5.79 | 106.13 | 101.50 |
| 2 | AB | 378 | C | C4-C5-C6 | 5.79 | 120.29 | 117.40 |
| 2 | AB | 1033 | U | N3-C4-C5 | -5.79 | 111.13 | 114.60 |
| 2 | AB | 1161 | C | C6-N1-C2 | -5.79 | 117.99 | 120.30 |
| 2 | AB | 1317 | G | C5-N7-C8 | 5.79 | 107.19 | 104.30 |
| 2 | AB | 1440 | U | O4'-C1'-N1 | 5.79 | 112.83 | 108.20 |
| 6 | AF | 88 | ARG | NE-CZ-NH1 | -5.79 | 117.41 | 120.30 |
| 35 | BA | 522 | C | O4'-C4'-C3' | 5.79 | 110.73 | 106.10 |
| 35 | BA | 553 | A | N7-C8-N9 | 5.79 | 116.69 | 113.80 |
| 35 | BA | 653 | U | C5-C6-N1 | -5.79 | 119.81 | 122.70 |
| 35 | BA | 1121 | U | N3-C2-O2 | -5.79 | 118.15 | 122.20 |
| 2 | AB | 17 | G | C4'-C3'-C2' | -5.78 | 96.82 | 102.60 |
| 2 | AB | 46 | G | N1-C2-N3 | -5.78 | 120.43 | 123.90 |
| 2 | AB | 235 | U | N3-C2-O2 | -5.78 | 118.15 | 122.20 |
| 2 | AB | 378 | C | N3-C4-C5 | -5.78 | 119.59 | 121.90 |
| 2 | AB | 581 | C | C5-C4-N4 | -5.78 | 116.15 | 120.20 |
| 2 | AB | 740 | C | O4'-C1'-C2' | -5.78 | 100.02 | 105.80 |
| 2 | AB | 942 | G | N1-C2-N3 | 5.78 | 127.37 | 123.90 |
| 2 | AB | 1479 | G | C5'-C4'-C3' | -5.78 | 106.75 | 116.00 |
| 2 | AB | 1658 | C | O4'-C1'-N1 | 5.78 | 112.83 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2401 | U | N1-C2-N3 | 5.78 | 118.37 | 114.90 |
| 2 | AB | 2828 | G | N1-C6-O6 | -5.78 | 116.43 | 119.90 |
| 22 | AV | 18 | GLU | CB-CA-C | 5.78 | 121.97 | 110.40 |
| 35 | BA | 5 | U | C5-C4-O4 | -5.78 | 122.43 | 125.90 |
| 35 | BA | 653 | U | C2-N3-C4 | -5.78 | 123.53 | 127.00 |
| 35 | BA | 741 | G | C2-N3-C4 | -5.78 | 109.01 | 111.90 |
| 35 | BA | 1289 | A | C5-C6-N6 | 5.78 | 128.33 | 123.70 |
| 35 | BA | 1318 | A | O3'-P-O5' | -5.78 | 93.01 | 104.00 |
| 35 | BA | 1447 | A | C3'-C2'-C1' | 5.78 | 106.13 | 101.50 |
| 2 | AB | 2725 | A | C5'-C4'-C3' | -5.78 | 106.75 | 116.00 |
| 35 | BA | 648 | A | N3-C4-N9 | -5.78 | 122.77 | 127.40 |
| 35 | BA | 800 | G | O5'-C5'-C4' | -5.78 | 100.72 | 111.70 |
| 35 | BA | 1359 | C | C2-N3-C4 | 5.78 | 122.79 | 119.90 |
| 35 | BA | 1506 | U | C4'-C3'-C2' | -5.78 | 96.82 | 102.60 |
| 2 | AB | 185 | G | C5-C6-N1 | 5.78 | 114.39 | 111.50 |
| 2 | AB | 325 | G | N7-C8-N9 | 5.78 | 115.99 | 113.10 |
| 2 | AB | 424 | G | N1-C2-N2 | -5.78 | 111.00 | 116.20 |
| 2 | AB | 1162 | G | C6-N1-C2 | -5.78 | 121.63 | 125.10 |
| 2 | AB | 1526 | C | C2-N3-C4 | -5.78 | 117.01 | 119.90 |
| 2 | AB | 1715 | G | C4'-C3'-C2' | -5.78 | 96.82 | 102.60 |
| 2 | AB | 1727 | C | C4'-C3'-C2' | -5.78 | 96.82 | 102.60 |
| 2 | AB | 1874 | C | C2-N3-C4 | 5.78 | 122.79 | 119.90 |
| 2 | AB | 1932 | A | C4-C5-C6 | -5.78 | 114.11 | 117.00 |
| 2 | AB | 2216 | G | P-O3'-C3' | 5.78 | 126.64 | 119.70 |
| 2 | AB | 2295 | C | N3-C4-C5 | -5.78 | 119.59 | 121.90 |
| 2 | AB | 2424 | C | O4'-C4'-C3' | 5.78 | 110.72 | 106.10 |
| 2 | AB | 2455 | G | O4'-C1'-N9 | 5.78 | 112.82 | 108.20 |
| 2 | AB | 2582 | G | N1-C6-O6 | -5.78 | 116.43 | 119.90 |
| 2 | AB | 2747 | G | C4-N9-C1' | -5.78 | 118.99 | 126.50 |
| 2 | AB | 2874 | C | C2-N3-C4 | 5.78 | 122.79 | 119.90 |
| 35 | BA | 259 | G | C4-C5-C6 | 5.78 | 122.27 | 118.80 |
| 35 | BA | 676 | A | C4-C5-N7 | -5.78 | 107.81 | 110.70 |
| 35 | BA | 1244 | G | N3-C4-C5 | -5.78 | 125.71 | 128.60 |
| 50 | BP | 37 | ASP | CB-CG-OD1 | 5.78 | 123.50 | 118.30 |
| 2 | AB | 130 | C | N1-C2-O2 | 5.78 | 122.37 | 118.90 |
| 2 | AB | 348 | A | C4-C5-N7 | 5.78 | 113.59 | 110.70 |
| 2 | AB | 742 | A | N7-C8-N9 | 5.78 | 116.69 | 113.80 |
| 2 | AB | 1639 | C | C2-N1-C1' | -5.78 | 112.44 | 118.80 |
| 2 | AB | 2637 | U | C1'-O4'-C4' | -5.78 | 105.28 | 109.90 |
| 12 | AL | 124 | VAL | CG1-CB-CG2 | -5.78 | 101.65 | 110.90 |
| 2 | AB | 188 | G | C4-N9-C1' | -5.78 | 118.99 | 126.50 |
| 2 | AB | 381 | G | C8-N9-C4 | -5.78 | 104.09 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 445 | C | C4'-C3'-C2' | -5.78 | 96.82 | 102.60 |
| 2 | AB | 1653 | G | C6-N1-C2 | -5.78 | 121.63 | 125.10 |
| 2 | AB | 2132 | U | O4'-C1'-N1 | 5.78 | 112.82 | 108.20 |
| 2 | AB | 2774 | C | C5'-C4'-O4' | 5.78 | 116.03 | 109.10 |
| 35 | BA | 522 | C | C5'-C4'-C3' | -5.78 | 106.76 | 116.00 |
| 35 | BA | 667 | G | C8-N9-C4 | -5.78 | 104.09 | 106.40 |
| 35 | BA | 668 | G | O4'-C1'-N9 | 5.78 | 112.82 | 108.20 |
| 35 | BA | 745 | G | N9-C1'-C2' | -5.78 | 105.65 | 112.00 |
| 35 | BA | 790 | A | N3-C4-C5 | -5.78 | 122.75 | 126.80 |
| 35 | BA | 941 | G | C4-C5-N7 | -5.78 | 108.49 | 110.80 |
| 35 | BA | 1012 | A | C8-N9-C4 | -5.78 | 103.49 | 105.80 |
| 35 | BA | 1072 | G | C4-C5-N7 | -5.78 | 108.49 | 110.80 |
| 35 | BA | 1492 | A | N1-C6-N6 | 5.78 | 122.07 | 118.60 |
| 37 | BC | 63 | C | N1-C2-O2 | 5.78 | 122.37 | 118.90 |
| 2 | AB | 163 | C | C5-C6-N1 | -5.78 | 118.11 | 121.00 |
| 2 | AB | 165 | A | O4'-C1'-N9 | 5.78 | 112.82 | 108.20 |
| 2 | AB | 210 | C | C1'-O4'-C4' | 5.78 | 114.52 | 109.90 |
| 2 | AB | 314 | C | P-O3'-C3' | 5.78 | 126.63 | 119.70 |
| 2 | AB | 874 | G | C4-N9-C1' | -5.78 | 118.99 | 126.50 |
| 2 | AB | 1319 | C | C5-C4-N4 | 5.78 | 124.24 | 120.20 |
| 2 | AB | 1452 | G | C5-N7-C8 | 5.78 | 107.19 | 104.30 |
| 2 | AB | 1755 | A | C5-C6-N1 | 5.78 | 120.59 | 117.70 |
| 2 | AB | 1899 | A | C5-C6-N6 | 5.78 | 128.32 | 123.70 |
| 2 | AB | 2392 | A | C3'-C2'-C1' | -5.78 | 96.88 | 101.50 |
| 2 | AB | 2490 | G | C1'-O4'-C4' | 5.78 | 114.52 | 109.90 |
| 2 | AB | 2887 | A | C5-N7-C8 | -5.78 | 101.01 | 103.90 |
| 3 | AC | 208 | TYR | CB-CG-CD1 | -5.78 | 117.53 | 121.00 |
| 20 | AT | 27 | ILE | CA-CB-CG1 | 5.78 | 121.97 | 111.00 |
| 35 | BA | 44 | A | C6-N1-C2 | 5.78 | 122.06 | 118.60 |
| 35 | BA | 282 | A | C2-N3-C4 | -5.78 | 107.71 | 110.60 |
| 35 | BA | 1172 | C | C1'-O4'-C4' | -5.78 | 105.28 | 109.90 |
| 38 | BD | 126 | ASP | CB-CG-OD2 | 5.78 | 123.50 | 118.30 |
| 43 | BI | 95 | ARG | NE-CZ-NH2 | -5.78 | 117.41 | 120.30 |
| 55 | BU | 9 | PHE | CD1-CE1-CZ | 5.78 | 127.03 | 120.10 |
| 1 | AA | 87 | U | C5-C6-N1 | -5.77 | 119.81 | 122.70 |
| 2 | AB | 1006 | C | C6-N1-C2 | 5.77 | 122.61 | 120.30 |
| 2 | AB | 1973 | G | P-O3'-C3' | 5.77 | 126.63 | 119.70 |
| 2 | AB | 2539 | C | N1-C1'-C2' | -5.77 | 105.65 | 112.00 |
| 2 | AB | 2679 | A | C5'-C4'-O4' | 5.77 | 116.03 | 109.10 |
| 35 | BA | 506 | G | C5'-C4'-O4' | 5.77 | 116.03 | 109.10 |
| 35 | BA | 608 | A | C5-C6-N1 | 5.77 | 120.59 | 117.70 |
| 36 | BB | 33 | A | O4'-C1'-C2' | -5.77 | 100.03 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 558 | U | O4'-C1'-N1 | 5.77 | 112.82 | 108.20 |
| 2 | AB | 738 | G | C5-C6-N1 | 5.77 | 114.39 | 111.50 |
| 2 | AB | 1217 | U | C4'-C3'-C2' | -5.77 | 96.83 | 102.60 |
| 2 | AB | 1367 | A | C4-C5-C6 | -5.77 | 114.11 | 117.00 |
| 2 | AB | 1464 | G | N9-C1'-C2' | -5.77 | 105.65 | 112.00 |
| 2 | AB | 1625 | C | C6-N1-C2 | 5.77 | 122.61 | 120.30 |
| 2 | AB | 2736 | A | C5-C6-N6 | -5.77 | 119.08 | 123.70 |
| 35 | BA | 90 | C | N3-C4-C5 | -5.77 | 119.59 | 121.90 |
| 35 | BA | 341 | C | N1-C2-O2 | -5.77 | 115.44 | 118.90 |
| 35 | BA | 345 | C | O4'-C4'-C3' | 5.77 | 110.72 | 106.10 |
| 35 | BA | 492 | C | C4'-C3'-C2' | -5.77 | 96.83 | 102.60 |
| 35 | BA | 505 | G | C6-C5-N7 | -5.77 | 126.94 | 130.40 |
| 35 | BA | 595 | A | C8-N9-C4 | -5.77 | 103.49 | 105.80 |
| 35 | BA | 969 | A | C5-C6-N1 | -5.77 | 114.81 | 117.70 |
| 42 | BH | 103 | VAL | CG1-CB-CG2 | -5.77 | 101.67 | 110.90 |
| 2 | AB | 1 | G | N9-C4-C5 | 5.77 | 107.71 | 105.40 |
| 2 | AB | 1218 | G | C4-C5-C6 | 5.77 | 122.26 | 118.80 |
| 20 | AT | 60 | LYS | CG-CD-CE | -5.77 | 94.59 | 111.90 |
| 35 | BA | 169 | C | C1'-O4'-C4' | -5.77 | 105.28 | 109.90 |
| 35 | BA | 185 | U | C2-N3-C4 | -5.77 | 123.54 | 127.00 |
| 35 | BA | 522 | C | N3-C4-N4 | 5.77 | 122.04 | 118.00 |
| 35 | BA | 875 | U | O4'-C1'-N1 | 5.77 | 112.82 | 108.20 |
| 35 | BA | 960 | U | C3'-C2'-C1' | 5.77 | 106.12 | 101.50 |
| 35 | BA | 964 | A | N1-C6-N6 | -5.77 | 115.14 | 118.60 |
| 35 | BA | 1454 | G | C6-C5-N7 | 5.77 | 133.86 | 130.40 |
| 35 | BA | 1498 | UR3 | P-O3'-C3' | 5.77 | 126.62 | 119.70 |
| 2 | AB | 233 | A | O4'-C1'-N9 | 5.77 | 112.82 | 108.20 |
| 2 | AB | 289 | G | O4'-C1'-N9 | 5.77 | 112.82 | 108.20 |
| 2 | AB | 348 | A | N9-C4-C5 | -5.77 | 103.49 | 105.80 |
| 2 | AB | 698 | C | C3'-C2'-C1' | -5.77 | 96.88 | 101.50 |
| 2 | AB | 1268 | A | C5-C6-N1 | 5.77 | 120.58 | 117.70 |
| 2 | AB | 1562 | U | N3-C2-O2 | -5.77 | 118.16 | 122.20 |
| 2 | AB | 2567 | G | C5'-C4'-O4' | 5.77 | 116.02 | 109.10 |
| 2 | AB | 2771 | C | C2-N3-C4 | -5.77 | 117.02 | 119.90 |
| 5 | AE | 9 | VAL | C-N-CA | 5.77 | 134.41 | 122.30 |
| 35 | BA | 376 | G | N9-C4-C5 | 5.77 | 107.71 | 105.40 |
| 35 | BA | 394 | G | C5-C6-O6 | -5.77 | 125.14 | 128.60 |
| 35 | BA | 1182 | G | N3-C4-N9 | 5.77 | 129.46 | 126.00 |
| 35 | BA | 1433 | A | C4'-C3'-C2' | -5.77 | 96.83 | 102.60 |
| 1 | AA | 96 | G | N3-C4-N9 | 5.77 | 129.46 | 126.00 |
| 2 | AB | 1854 | A | C5'-C4'-O4' | 5.77 | 116.02 | 109.10 |
| 2 | AB | 1989 | G | N3-C4-C5 | -5.77 | 125.72 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1992 | G | C4-C5-C6 | 5.77 | 122.26 | 118.80 |
| 2 | AB | 2561 | U | C4'-C3'-C2' | -5.77 | 96.83 | 102.60 |
| 2 | AB | 2585 | U | N3-C4-C5 | -5.77 | 111.14 | 114.60 |
| 35 | BA | 260 | G | C4-C5-N7 | -5.77 | 108.49 | 110.80 |
| 35 | BA | 964 | A | C4-C5-N7 | -5.77 | 107.82 | 110.70 |
| 2 | AB | 362 | A | N3-C4-N9 | 5.77 | 132.01 | 127.40 |
| 2 | AB | 2255 | G | N9-C1'-C2' | -5.77 | 105.66 | 112.00 |
| 2 | AB | 2488 | G | C2-N3-C4 | 5.77 | 114.78 | 111.90 |
| 35 | BA | 132 | C | O4'-C1'-N1 | 5.77 | 112.81 | 108.20 |
| 35 | BA | 1529 | G | N7-C8-N9 | 5.77 | 115.98 | 113.10 |
| 36 | BB | 48 | C | C3'-C2'-C1' | 5.77 | 106.11 | 101.50 |
| 1 | AA | 73 | A | N7-C8-N9 | -5.76 | 110.92 | 113.80 |
| 2 | AB | 282 | A | N1-C2-N3 | -5.76 | 126.42 | 129.30 |
| 2 | AB | 356 | G | C4-C5-C6 | 5.76 | 122.26 | 118.80 |
| 2 | AB | 372 | G | C4-C5-N7 | -5.76 | 108.49 | 110.80 |
| 2 | AB | 870 | U | C4'-C3'-C2' | -5.76 | 96.84 | 102.60 |
| 2 | AB | 904 | G | C1'-O4'-C4' | -5.76 | 105.29 | 109.90 |
| 2 | AB | 1248 | G | O4'-C1'-C2' | -5.76 | 100.04 | 105.80 |
| 2 | AB | 1405 | U | C5-C6-N1 | 5.76 | 125.58 | 122.70 |
| 2 | AB | 1513 | U | C5-C6-N1 | 5.76 | 125.58 | 122.70 |
| 2 | AB | 2092 | U | C1'-O4'-C4' | -5.76 | 105.29 | 109.90 |
| 2 | AB | 2326 | C | C4-C5-C6 | -5.76 | 114.52 | 117.40 |
| 2 | AB | 2489 | U | C5-C6-N1 | -5.76 | 119.82 | 122.70 |
| 35 | BA | 64 | G | C5'-C4'-C3' | -5.76 | 106.78 | 116.00 |
| 35 | BA | 168 | G | C6-N1-C2 | -5.76 | 121.64 | 125.10 |
| 35 | BA | 251 | G | N3-C4-C5 | -5.76 | 125.72 | 128.60 |
| 35 | BA | 362 | G | C6-C5-N7 | 5.76 | 133.86 | 130.40 |
| 35 | BA | 548 | G | N3-C4-C5 | -5.76 | 125.72 | 128.60 |
| 35 | BA | 660 | C | C5'-C4'-O4' | 5.76 | 116.02 | 109.10 |
| 35 | BA | 1181 | G | C2-N3-C4 | 5.76 | 114.78 | 111.90 |
| 35 | BA | 1297 | G | C5-C6-O6 | -5.76 | 125.14 | 128.60 |
| 35 | BA | 1414 | U | C2-N3-C4 | -5.76 | 123.54 | 127.00 |
| 35 | BA | 1494 | G | N1-C2-N2 | 5.76 | 121.39 | 116.20 |
| 37 | BC | 54 | G | O4'-C1'-N9 | 5.76 | 112.81 | 108.20 |
| 2 | AB | 274 | C | N3-C2-O2 | -5.76 | 117.87 | 121.90 |
| 2 | AB | 1773 | A | C5'-C4'-C3' | -5.76 | 106.78 | 116.00 |
| 35 | BA | 718 | A | C1'-O4'-C4' | 5.76 | 114.51 | 109.90 |
| 35 | BA | 1234 | C | C5-C6-N1 | 5.76 | 123.88 | 121.00 |
| 2 | AB | 84 | A | C5-N7-C8 | -5.76 | 101.02 | 103.90 |
| 2 | AB | 214 | G | O4'-C4'-C3' | -5.76 | 98.24 | 104.00 |
| 2 | AB | 318 | C | C4'-C3'-C2' | -5.76 | 96.84 | 102.60 |
| 2 | AB | 329 | G | O4'-C1'-N9 | -5.76 | 103.59 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 428 | A | N9-C4-C5 | -5.76 | 103.50 | 105.80 |
| 2 | AB | 1051 | G | O4'-C1'-N9 | 5.76 | 112.81 | 108.20 |
| 2 | AB | 1151 | A | C5'-C4'-O4' | 5.76 | 116.01 | 109.10 |
| 2 | AB | 1182 | G | N9-C1'-C2' | -5.76 | 105.66 | 112.00 |
| 2 | AB | 1191 | G | C5-C6-N1 | -5.76 | 108.62 | 111.50 |
| 2 | AB | 2158 | A | C2-N3-C4 | 5.76 | 113.48 | 110.60 |
| 2 | AB | 2432 | A | C2'-C3'-O3' | 5.76 | 122.92 | 113.70 |
| 35 | BA | 426 | U | C1'-O4'-C4' | 5.76 | 114.51 | 109.90 |
| 35 | BA | 574 | A | C1'-O4'-C4' | 5.76 | 114.51 | 109.90 |
| 35 | BA | 759 | A | N1-C2-N3 | -5.76 | 126.42 | 129.30 |
| 35 | BA | 814 | A | C4-C5-N7 | -5.76 | 107.82 | 110.70 |
| 35 | BA | 818 | G | N3-C4-N9 | 5.76 | 129.46 | 126.00 |
| 2 | AB | 47 | C | C6-N1-C2 | 5.76 | 122.60 | 120.30 |
| 2 | AB | 126 | A | C5'-C4'-O4' | 5.76 | 116.01 | 109.10 |
| 2 | AB | 490 | C | C6-N1-C1' | 5.76 | 127.71 | 120.80 |
| 2 | AB | 1144 | A | N7-C8-N9 | 5.76 | 116.68 | 113.80 |
| 2 | AB | 1657 | U | C4-C5-C6 | 5.76 | 123.16 | 119.70 |
| 2 | AB | 1689 | A | O4'-C1'-N9 | 5.76 | 112.81 | 108.20 |
| 2 | AB | 2399 | G | C5'-C4'-O4' | 5.76 | 116.01 | 109.10 |
| 29 | A2 | 52 | ALA | CB-CA-C | 5.76 | 118.74 | 110.10 |
| 35 | BA | 462 | G | C6-C5-N7 | 5.76 | 133.86 | 130.40 |
| 35 | BA | 1264 | U | C4-C5-C6 | 5.76 | 123.16 | 119.70 |
| 35 | BA | 1309 | G | N9-C4-C5 | 5.76 | 107.70 | 105.40 |
| 1 | AA | 39 | A | C4-C5-C6 | 5.76 | 119.88 | 117.00 |
| 2 | AB | 396 | G | C8-N9-C4 | 5.76 | 108.70 | 106.40 |
| 2 | AB | 574 | A | N1-C2-N3 | -5.76 | 126.42 | 129.30 |
| 2 | AB | 990 | A | C5-C6-N1 | 5.76 | 120.58 | 117.70 |
| 2 | AB | 1476 | U | N1-C2-O2 | 5.76 | 126.83 | 122.80 |
| 2 | AB | 2039 | U | C5-C4-O4 | -5.76 | 122.44 | 125.90 |
| 2 | AB | 2780 | G | N3-C2-N2 | 5.76 | 123.93 | 119.90 |
| 35 | BA | 231 | U | C5'-C4'-C3' | -5.76 | 106.79 | 116.00 |
| 35 | BA | 343 | U | C5-C4-O4 | -5.76 | 122.44 | 125.90 |
| 35 | BA | 452 | A | N7-C8-N9 | 5.76 | 116.68 | 113.80 |
| 35 | BA | 807 | A | N9-C4-C5 | 5.76 | 108.10 | 105.80 |
| 35 | BA | 1209 | C | C1'-O4'-C4' | 5.76 | 114.51 | 109.90 |
| 2 | AB | 585 | G | C6-C5-N7 | 5.76 | 133.85 | 130.40 |
| 2 | AB | 834 | G | O4'-C1'-N9 | 5.76 | 112.81 | 108.20 |
| 2 | AB | 919 | U | N3-C4-O4 | 5.76 | 123.43 | 119.40 |
| 2 | AB | 1370 | C | N3-C4-N4 | -5.76 | 113.97 | 118.00 |
| 2 | AB | 1623 | G | C5-N7-C8 | -5.76 | 101.42 | 104.30 |
| 2 | AB | 1842 | G | C8-N9-C4 | -5.76 | 104.10 | 106.40 |
| 2 | AB | 2121 | G | O4'-C1'-N9 | 5.76 | 112.81 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2140 | G | C4-C5-N7 | -5.76 | 108.50 | 110.80 |
| 2 | AB | 2140 | G | N9-C4-C5 | 5.76 | 107.70 | 105.40 |
| 2 | AB | 2207 | C | C5'-C4'-C3' | -5.76 | 106.79 | 116.00 |
| 2 | AB | 2247 | A | C6-C5-N7 | 5.76 | 136.33 | 132.30 |
| 2 | AB | 2666 | C | C5-C6-N1 | 5.76 | 123.88 | 121.00 |
| 2 | AB | 2813 | A | C5-N7-C8 | -5.76 | 101.02 | 103.90 |
| 35 | BA | 1241 | G | N7-C8-N9 | 5.76 | 115.98 | 113.10 |
| 35 | BA | 1341 | U | O4'-C1'-N1 | 5.76 | 112.81 | 108.20 |
| 35 | BA | 1374 | A | C4-C5-C6 | -5.76 | 114.12 | 117.00 |
| 38 | BD | 103 | TRP | CD1-CG-CD2 | 5.76 | 110.91 | 106.30 |
| 2 | AB | 4 | U | N1-C2-N3 | 5.75 | 118.35 | 114.90 |
| 2 | AB | 1378 | A | N7-C8-N9 | 5.75 | 116.68 | 113.80 |
| 2 | AB | 2603 | G | N1-C2-N3 | -5.75 | 120.45 | 123.90 |
| 4 | AD | 62 | ARG | NE-CZ-NH2 | -5.75 | 117.42 | 120.30 |
| 35 | BA | 378 | G | C4-C5-N7 | 5.75 | 113.10 | 110.80 |
| 35 | BA | 413 | G | C6-C5-N7 | 5.75 | 133.85 | 130.40 |
| 35 | BA | 1036 | A | C6-N1-C2 | 5.75 | 122.05 | 118.60 |
| 35 | BA | 1502 | A | C4'-C3'-C2' | -5.75 | 96.84 | 102.60 |
| 1 | AA | 102 | G | N9-C1'-C2' | -5.75 | 105.67 | 112.00 |
| 2 | AB | 35 | G | C5'-C4'-O4' | 5.75 | 116.00 | 109.10 |
| 2 | AB | 173 | A | C6-C5-N7 | 5.75 | 136.33 | 132.30 |
| 2 | AB | 182 | A | N1-C2-N3 | -5.75 | 126.42 | 129.30 |
| 2 | AB | 284 | U | C4-C5-C6 | 5.75 | 123.15 | 119.70 |
| 2 | AB | 323 | C | O4'-C1'-C2' | -5.75 | 100.05 | 105.80 |
| 2 | AB | 596 | U | N1-C2-O2 | 5.75 | 126.83 | 122.80 |
| 2 | AB | 1019 | U | O4'-C1'-N1 | 5.75 | 112.80 | 108.20 |
| 2 | AB | 1088 | A | C2-N3-C4 | 5.75 | 113.48 | 110.60 |
| 2 | AB | 1753 | G | N9-C4-C5 | -5.75 | 103.10 | 105.40 |
| 2 | AB | 1951 | U | C5-C6-N1 | 5.75 | 125.58 | 122.70 |
| 2 | AB | 2016 | U | C6-N1-C2 | -5.75 | 117.55 | 121.00 |
| 35 | BA | 200 | G | C5'-C4'-O4' | 5.75 | 116.00 | 109.10 |
| 35 | BA | 444 | G | N1-C2-N3 | -5.75 | 120.45 | 123.90 |
| 35 | BA | 698 | G | N9-C4-C5 | 5.75 | 107.70 | 105.40 |
| 35 | BA | 742 | G | C5-N7-C8 | -5.75 | 101.42 | 104.30 |
| 35 | BA | 1414 | U | P-O3'-C3' | 5.75 | 126.61 | 119.70 |
| 2 | AB | 402 | A | N3-C4-N9 | -5.75 | 122.80 | 127.40 |
| 2 | AB | 556 | A | O4'-C1'-N9 | 5.75 | 112.80 | 108.20 |
| 2 | AB | 820 | A | N9-C1'-C2' | -5.75 | 105.67 | 112.00 |
| 2 | AB | 867 | C | O4'-C4'-C3' | -5.75 | 98.25 | 104.00 |
| 2 | AB | 1485 | U | C5-C6-N1 | -5.75 | 119.82 | 122.70 |
| 35 | BA | 77 | A | C4-C5-N7 | -5.75 | 107.82 | 110.70 |
| 35 | BA | 92 | U | C3'-C2'-C1' | 5.75 | 106.10 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 473 | U | N3-C2-O2 | -5.75 | 118.17 | 122.20 |
| 35 | BA | 604 | G | N3-C4-C5 | -5.75 | 125.72 | 128.60 |
| 35 | BA | 641 | U | N1-C2-N3 | 5.75 | 118.35 | 114.90 |
| 35 | BA | 664 | G | N3-C4-N9 | -5.75 | 122.55 | 126.00 |
| 35 | BA | 846 | G | C8-N9-C4 | -5.75 | 104.10 | 106.40 |
| 35 | BA | 849 | G | C1'-O4'-C4' | -5.75 | 105.30 | 109.90 |
| 35 | BA | 1099 | G | O4'-C1'-N9 | 5.75 | 112.80 | 108.20 |
| 35 | BA | 1244 | G | C4'-C3'-O3' | 5.75 | 124.50 | 113.00 |
| 35 | BA | 1495 | U | C4-C5-C6 | -5.75 | 116.25 | 119.70 |
| 37 | BC | 30 | G | N3-C4-N9 | 5.75 | 129.45 | 126.00 |
| 2 | AB | 363 | G | N1-C2-N3 | -5.75 | 120.45 | 123.90 |
| 2 | AB | 1948 | G | C5-N7-C8 | 5.75 | 107.17 | 104.30 |
| 2 | AB | 28 | A | O3'-P-O5' | -5.75 | 93.08 | 104.00 |
| 2 | AB | 323 | C | C2-N1-C1' | 5.75 | 125.12 | 118.80 |
| 2 | AB | 411 | G | C5'-C4'-O4' | 5.75 | 116.00 | 109.10 |
| 2 | AB | 473 | G | C8-N9-C4 | -5.75 | 104.10 | 106.40 |
| 2 | AB | 475 | C | N3-C2-O2 | -5.75 | 117.88 | 121.90 |
| 2 | AB | 581 | C | C2-N1-C1' | 5.75 | 125.12 | 118.80 |
| 2 | AB | 727 | A | O5'-P-OP2 | 5.75 | 117.60 | 110.70 |
| 2 | AB | 984 | A | N1-C2-N3 | 5.75 | 132.17 | 129.30 |
| 2 | AB | 1391 | U | N1-C1'-C2' | 5.75 | 121.47 | 114.00 |
| 2 | AB | 1966 | A | P-O3'-C3' | 5.75 | 126.60 | 119.70 |
| 2 | AB | 1981 | A | N9-C1'-C2' | 5.75 | 121.47 | 114.00 |
| 2 | AB | 2011 | U | N3-C2-O2 | -5.75 | 118.18 | 122.20 |
| 2 | AB | 2311 | A | C2-N3-C4 | -5.75 | 107.73 | 110.60 |
| 2 | AB | 2410 | G | N3-C4-N9 | 5.75 | 129.45 | 126.00 |
| 2 | AB | 2440 | C | C2'-C3'-O3' | 5.75 | 122.90 | 113.70 |
| 2 | AB | 2542 | A | C4-C5-N7 | -5.75 | 107.83 | 110.70 |
| 2 | AB | 2638 | G | C6-N1-C2 | -5.75 | 121.65 | 125.10 |
| 2 | AB | 2688 | G | C5'-C4'-C3' | -5.75 | 106.80 | 116.00 |
| 2 | AB | 2869 | G | C4-C5-N7 | 5.75 | 113.10 | 110.80 |
| 26 | AZ | 21 | LEU | O-C-N | -5.75 | 113.50 | 122.70 |
| 35 | BA | 1062 | U | O4'-C1'-N1 | 5.75 | 112.80 | 108.20 |
| 35 | BA | 1132 | C | O4'-C4'-C3' | 5.75 | 110.70 | 106.10 |
| 35 | BA | 1536 | C | C5'-C4'-O4' | -5.75 | 102.20 | 109.10 |
| 1 | AA | 96 | G | N9-C4-C5 | -5.75 | 103.10 | 105.40 |
| 2 | AB | 237 | C | C5-C6-N1 | -5.75 | 118.13 | 121.00 |
| 2 | AB | 245 | G | N9-C4-C5 | 5.75 | 107.70 | 105.40 |
| 2 | AB | 654 | A | C2-N3-C4 | 5.75 | 113.47 | 110.60 |
| 2 | AB | 896 | A | C5-N7-C8 | -5.75 | 101.03 | 103.90 |
| 2 | AB | 2377 | A | C2-N3-C4 | 5.75 | 113.47 | 110.60 |
| 2 | AB | 2542 | A | C5-C6-N1 | 5.75 | 120.57 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2548 | U | C4-C5-C6 | 5.75 | 123.15 | 119.70 |
| 35 | BA | 59 | A | O4'-C1'-C2' | 5.75 | 112.77 | 107.60 |
| 35 | BA | 530 | G | N1-C2-N3 | 5.75 | 127.35 | 123.90 |
| 35 | BA | 547 | A | N9-C4-C5 | -5.75 | 103.50 | 105.80 |
| 35 | BA | 1143 | G | C5'-C4'-O4' | 5.75 | 116.00 | 109.10 |
| 35 | BA | 1206 | G | C5-N7-C8 | -5.75 | 101.43 | 104.30 |
| 2 | AB | 30 | G | C6-C5-N7 | -5.75 | 126.95 | 130.40 |
| 2 | AB | 492 | A | C5-N7-C8 | 5.75 | 106.77 | 103.90 |
| 2 | AB | 970 | U | C5-C6-N1 | 5.75 | 125.57 | 122.70 |
| 2 | AB | 1499 | C | C5'-C4'-O4' | 5.75 | 116.00 | 109.10 |
| 2 | AB | 1728 | C | C4'-C3'-C2' | -5.75 | 96.86 | 102.60 |
| 2 | AB | 1757 | A | N7-C8-N9 | 5.75 | 116.67 | 113.80 |
| 2 | AB | 1879 | C | N1-C1'-C2' | -5.75 | 105.68 | 112.00 |
| 2 | AB | 1980 | G | C4-C5-C6 | 5.75 | 122.25 | 118.80 |
| 35 | BA | 223 | A | C6-N1-C2 | -5.75 | 115.15 | 118.60 |
| 35 | BA | 503 | C | C4'-C3'-C2' | -5.75 | 96.86 | 102.60 |
| 35 | BA | 628 | G | C5-C6-O6 | -5.75 | 125.15 | 128.60 |
| 35 | BA | 693 | G | N3-C4-C5 | -5.75 | 125.73 | 128.60 |
| 35 | BA | 1131 | G | N3-C4-N9 | 5.75 | 129.45 | 126.00 |
| 35 | BA | 1272 | G | C5-C6-N1 | 5.75 | 114.37 | 111.50 |
| 35 | BA | 1480 | A | C5-C6-N6 | -5.75 | 119.10 | 123.70 |
| 1 | AA | 96 | G | C5-N7-C8 | -5.74 | 101.43 | 104.30 |
| 2 | AB | 308 | G | C2-N3-C4 | 5.74 | 114.77 | 111.90 |
| 2 | AB | 518 | G | N9-C4-C5 | 5.74 | 107.70 | 105.40 |
| 2 | AB | 613 | A | C6-N1-C2 | 5.74 | 122.05 | 118.60 |
| 2 | AB | 1560 | G | O4'-C1'-C2' | -5.74 | 100.06 | 105.80 |
| 2 | AB | 2188 | U | C5-C4-O4 | 5.74 | 129.35 | 125.90 |
| 2 | AB | 2638 | G | C4-C5-N7 | 5.74 | 113.10 | 110.80 |
| 2 | AB | 2693 | G | C5-N7-C8 | 5.74 | 107.17 | 104.30 |
| 2 | AB | 2775 | G | P-O3'-C3' | 5.74 | 126.59 | 119.70 |
| 33 | A6 | 7 | ARG | NE-CZ-NH2 | -5.74 | 117.43 | 120.30 |
| 35 | BA | 617 | G | C4-C5-N7 | -5.74 | 108.50 | 110.80 |
| 35 | BA | 733 | G | C5-C6-N1 | 5.74 | 114.37 | 111.50 |
| 35 | BA | 984 | C | O4'-C4'-C3' | 5.74 | 110.69 | 106.10 |
| 35 | BA | 1176 | A | N1-C6-N6 | 5.74 | 122.05 | 118.60 |
| 35 | BA | 1299 | A | C2-N3-C4 | -5.74 | 107.73 | 110.60 |
| 35 | BA | 1347 | G | P-O3'-C3' | 5.74 | 126.59 | 119.70 |
| 2 | AB | 539 | G | O4'-C1'-C2' | 5.74 | 112.77 | 107.60 |
| 2 | AB | 675 | A | O4'-C1'-N9 | -5.74 | 103.61 | 108.20 |
| 2 | AB | 1192 | G | N1-C6-O6 | -5.74 | 116.45 | 119.90 |
| 2 | AB | 2532 | G | N3-C2-N2 | 5.74 | 123.92 | 119.90 |
| 2 | AB | 2815 | C | C5-C6-N1 | 5.74 | 123.87 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 63 | C | N1-C2-O2 | 5.74 | 122.34 | 118.90 |
| 35 | BA | 543 | U | N1-C2-O2 | -5.74 | 118.78 | 122.80 |
| 48 | BN | 65 | TYR | CD1-CG-CD2 | 5.74 | 124.22 | 117.90 |
| 1 | AA | 46 | A | N9-C4-C5 | 5.74 | 108.10 | 105.80 |
| 2 | AB | 491 | G | N1-C6-O6 | -5.74 | 116.46 | 119.90 |
| 2 | AB | 541 | A | C4-C5-N7 | 5.74 | 113.57 | 110.70 |
| 2 | AB | 989 | G | C2-N3-C4 | 5.74 | 114.77 | 111.90 |
| 2 | AB | 1283 | G | N7-C8-N9 | 5.74 | 115.97 | 113.10 |
| 2 | AB | 1308 | A | C8-N9-C4 | -5.74 | 103.50 | 105.80 |
| 2 | AB | 2363 | G | C4-N9-C1' | -5.74 | 119.04 | 126.50 |
| 2 | AB | 2607 | G | N7-C8-N9 | 5.74 | 115.97 | 113.10 |
| 2 | AB | 2782 | G | N9-C1'-C2' | -5.74 | 105.69 | 112.00 |
| 15 | AO | 6 | ARG | NH1-CZ-NH2 | -5.74 | 113.09 | 119.40 |
| 35 | BA | 67 | C | N1-C2-O2 | -5.74 | 115.46 | 118.90 |
| 35 | BA | 540 | G | C8-N9-C1' | 5.74 | 134.46 | 127.00 |
| 35 | BA | 808 | C | C4-C5-C6 | -5.74 | 114.53 | 117.40 |
| 35 | BA | 840 | C | C6-N1-C2 | -5.74 | 118.00 | 120.30 |
| 35 | BA | 841 | C | C3'-C2'-C1' | 5.74 | 106.09 | 101.50 |
| 35 | BA | 954 | G | O4'-C1'-N9 | 5.74 | 112.79 | 108.20 |
| 35 | BA | 1087 | G | C5-C6-O6 | 5.74 | 132.04 | 128.60 |
| 35 | BA | 1138 | G | C8-N9-C4 | -5.74 | 104.10 | 106.40 |
| 35 | BA | 1387 | G | C5-N7-C8 | -5.74 | 101.43 | 104.30 |
| 35 | BA | 1448 | C | C3'-C2'-C1' | 5.74 | 106.09 | 101.50 |
| 35 | BA | 1510 | C | N3-C4-N4 | -5.74 | 113.98 | 118.00 |
| 1 | AA | 69 | G | O4'-C1'-N9 | -5.74 | 103.61 | 108.20 |
| 2 | AB | 154 | U | N3-C4-C5 | 5.74 | 118.04 | 114.60 |
| 2 | AB | 453 | A | C8-N9-C4 | -5.74 | 103.50 | 105.80 |
| 2 | AB | 570 | G | C4-C5-N7 | 5.74 | 113.09 | 110.80 |
| 2 | AB | 574 | A | C6-N1-C2 | 5.74 | 122.04 | 118.60 |
| 2 | AB | 1557 | C | C1'-O4'-C4' | -5.74 | 105.31 | 109.90 |
| 10 | AJ | 43 | ALA | CB-CA-C | 5.74 | 118.71 | 110.10 |
| 32 | A5 | 3 | ARG | NE-CZ-NH2 | 5.74 | 123.17 | 120.30 |
| 35 | BA | 25 | C | N1-C2-O2 | 5.74 | 122.34 | 118.90 |
| 35 | BA | 552 | U | N1-C1'-C2' | 5.74 | 121.46 | 114.00 |
| 35 | BA | 721 | G | C6-C5-N7 | -5.74 | 126.96 | 130.40 |
| 35 | BA | 734 | G | N9-C4-C5 | -5.74 | 103.11 | 105.40 |
| 35 | BA | 946 | A | C5-N7-C8 | -5.74 | 101.03 | 103.90 |
| 35 | BA | 1093 | A | N3-C4-N9 | 5.74 | 131.99 | 127.40 |
| 35 | BA | 1194 | U | N3-C4-O4 | 5.74 | 123.42 | 119.40 |
| 35 | BA | 1327 | C | O4'-C1'-N1 | 5.74 | 112.79 | 108.20 |
| 38 | BD | 34 | ARG | NE-CZ-NH1 | 5.74 | 123.17 | 120.30 |
| 2 | AB | 283 | G | C1'-O4'-C4' | 5.74 | 114.49 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 765 | C | C2-N3-C4 | 5.74 | 122.77 | 119.90 |
| 2 | AB | 784 | G | C2-N3-C4 | 5.74 | 114.77 | 111.90 |
| 2 | AB | 1366 | A | O4'-C1'-N9 | 5.74 | 112.79 | 108.20 |
| 2 | AB | 1602 | U | C6-N1-C2 | 5.74 | 124.44 | 121.00 |
| 35 | BA | 500 | G | C2-N3-C4 | -5.74 | 109.03 | 111.90 |
| 35 | BA | 645 | G | C5'-C4'-O4' | 5.74 | 115.98 | 109.10 |
| 1 | AA | 22 | U | C4'-C3'-C2' | -5.74 | 96.86 | 102.60 |
| 2 | AB | 295 | G | N1-C2-N3 | -5.74 | 120.46 | 123.90 |
| 2 | AB | 373 | U | C5'-C4'-O4' | 5.74 | 115.98 | 109.10 |
| 2 | AB | 408 | G | C6-C5-N7 | -5.74 | 126.96 | 130.40 |
| 2 | AB | 731 | C | C5'-C4'-O4' | 5.74 | 115.98 | 109.10 |
| 2 | AB | 1352 | U | N3-C2-O2 | -5.74 | 118.18 | 122.20 |
| 2 | AB | 2206 | C | C3'-C2'-C1' | -5.74 | 96.91 | 101.50 |
| 35 | BA | 28 | A | C4'-C3'-C2' | -5.74 | 96.86 | 102.60 |
| 35 | BA | 94 | G | N1-C6-O6 | 5.74 | 123.34 | 119.90 |
| 35 | BA | 175 | C | C6-N1-C2 | 5.74 | 122.59 | 120.30 |
| 35 | BA | 691 | G | N1-C2-N2 | 5.74 | 121.36 | 116.20 |
| 35 | BA | 1408 | A | N7-C8-N9 | -5.74 | 110.93 | 113.80 |
| 35 | BA | 1432 | G | C4-C5-N7 | -5.74 | 108.51 | 110.80 |
| 2 | AB | 57 | C | C5'-C4'-O4' | 5.73 | 115.98 | 109.10 |
| 2 | AB | 2579 | C | N3-C2-O2 | -5.73 | 117.89 | 121.90 |
| 35 | BA | 1111 | A | N1-C6-N6 | -5.73 | 115.16 | 118.60 |
| 1 | AA | 96 | G | C6-C5-N7 | -5.73 | 126.96 | 130.40 |
| 1 | AA | 101 | A | N1-C6-N6 | -5.73 | 115.16 | 118.60 |
| 2 | AB | 554 | U | C5-C6-N1 | -5.73 | 119.83 | 122.70 |
| 2 | AB | 848 | C | N3-C4-N4 | -5.73 | 113.99 | 118.00 |
| 2 | AB | 1720 | U | C5-C4-O4 | 5.73 | 129.34 | 125.90 |
| 2 | AB | 2156 | G | O4'-C1'-N9 | 5.73 | 112.79 | 108.20 |
| 2 | AB | 2459 | A | C1'-O4'-C4' | -5.73 | 105.31 | 109.90 |
| 35 | BA | 118 | U | O4'-C1'-N1 | -5.73 | 103.61 | 108.20 |
| 35 | BA | 162 | A | N9-C1'-C2' | -5.73 | 105.69 | 112.00 |
| 35 | BA | 374 | A | C5-N7-C8 | -5.73 | 101.03 | 103.90 |
| 35 | BA | 389 | A | C5-N7-C8 | 5.73 | 106.77 | 103.90 |
| 35 | BA | 718 | A | N3-C4-N9 | -5.73 | 122.81 | 127.40 |
| 35 | BA | 945 | G | C6-N1-C2 | -5.73 | 121.66 | 125.10 |
| 1 | AA | 34 | A | C6-N1-C2 | 5.73 | 122.04 | 118.60 |
| 2 | AB | 821 | A | C3'-C2'-C1' | -5.73 | 96.92 | 101.50 |
| 2 | AB | 835 | C | O5'-C5'-C4' | 5.73 | 122.59 | 111.70 |
| 2 | AB | 1075 | C | N3-C4-N4 | 5.73 | 122.01 | 118.00 |
| 2 | AB | 1146 | C | C5'-C4'-O4' | 5.73 | 115.98 | 109.10 |
| 2 | AB | 1540 | G | C5-N7-C8 | -5.73 | 101.43 | 104.30 |
| 2 | AB | 1721 | G | N1-C2-N2 | 5.73 | 121.36 | 116.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 25 | AY | 10 | ARG | NE-CZ-NH1 | -5.73 | 117.43 | 120.30 |
| 35 | BA | 302 | G | C6-C5-N7 | -5.73 | 126.96 | 130.40 |
| 35 | BA | 518 | C | N3-C4-C5 | -5.73 | 119.61 | 121.90 |
| 36 | BB | 24 | A | C5-C6-N1 | -5.73 | 114.83 | 117.70 |
| 52 | BR | 31 | ARG | NE-CZ-NH2 | -5.73 | 117.44 | 120.30 |
| 2 | AB | 110 | G | C8-N9-C4 | -5.73 | 104.11 | 106.40 |
| 2 | AB | 962 | G | O4'-C1'-N9 | 5.73 | 112.78 | 108.20 |
| 2 | AB | 1043 | C | C1'-O4'-C4' | -5.73 | 105.32 | 109.90 |
| 2 | AB | 1133 | A | N1-C2-N3 | 5.73 | 132.16 | 129.30 |
| 2 | AB | 1823 | G | C4-C5-N7 | 5.73 | 113.09 | 110.80 |
| 2 | AB | 2586 | U | C5'-C4'-O4' | -5.73 | 102.22 | 109.10 |
| 35 | BA | 1356 | G | N9-C4-C5 | -5.73 | 103.11 | 105.40 |
| 1 | AA | 23 | G | N1-C6-O6 | 5.73 | 123.34 | 119.90 |
| 2 | AB | 10 | A | N1-C6-N6 | -5.73 | 115.16 | 118.60 |
| 2 | AB | 19 | A | N3-C4-C5 | -5.73 | 122.79 | 126.80 |
| 2 | AB | 285 | G | C4-C5-C6 | 5.73 | 122.24 | 118.80 |
| 2 | AB | 622 | G | N7-C8-N9 | 5.73 | 115.96 | 113.10 |
| 2 | AB | 748 | G | C2-N3-C4 | 5.73 | 114.76 | 111.90 |
| 2 | AB | 1534 | U | O4'-C1'-N1 | 5.73 | 112.78 | 108.20 |
| 2 | AB | 1734 | G | C5'-C4'-O4' | 5.73 | 115.97 | 109.10 |
| 2 | AB | 2117 | A | C4-C5-N7 | -5.73 | 107.84 | 110.70 |
| 2 | AB | 2354 | C | N1-C2-O2 | 5.73 | 122.34 | 118.90 |
| 2 | AB | 2555 | U | C1'-O4'-C4' | -5.73 | 105.32 | 109.90 |
| 2 | AB | 2646 | C | N3-C2-O2 | -5.73 | 117.89 | 121.90 |
| 35 | BA | 390 | U | C4'-C3'-C2' | -5.73 | 96.87 | 102.60 |
| 35 | BA | 480 | U | C4'-C3'-C2' | -5.73 | 96.87 | 102.60 |
| 35 | BA | 1317 | C | C4-C5-C6 | -5.73 | 114.54 | 117.40 |
| 35 | BA | 1365 | G | C2-N3-C4 | 5.73 | 114.76 | 111.90 |
| 36 | BB | 26 | U | N3-C4-O4 | 5.73 | 123.41 | 119.40 |
| 2 | AB | 1645 | G | C6-N1-C2 | -5.73 | 121.67 | 125.10 |
| 2 | AB | 2036 | C | N1-C2-N3 | 5.73 | 123.21 | 119.20 |
| 2 | AB | 2469 | A | N3-C4-C5 | -5.73 | 122.79 | 126.80 |
| 32 | A5 | 18 | PHE | CB-CG-CD1 | -5.73 | 116.79 | 120.80 |
| 35 | BA | 38 | G | N1-C2-N3 | -5.73 | 120.46 | 123.90 |
| 35 | BA | 45 | G | C5-C6-O6 | -5.73 | 125.16 | 128.60 |
| 35 | BA | 499 | A | C1'-O4'-C4' | -5.73 | 105.32 | 109.90 |
| 35 | BA | 1142 | G | N1-C2-N3 | 5.73 | 127.34 | 123.90 |
| 2 | AB | 184 | C | N1-C1'-C2' | -5.72 | 105.70 | 112.00 |
| 2 | AB | 212 | G | C5-C6-O6 | 5.72 | 132.03 | 128.60 |
| 2 | AB | 1236 | G | N3-C4-N9 | 5.72 | 129.43 | 126.00 |
| 2 | AB | 1405 | U | C2-N3-C4 | -5.72 | 123.56 | 127.00 |
| 2 | AB | 1506 | U | P-O5'-C5' | 5.72 | 130.06 | 120.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1749 | A | C6-C5-N7 | 5.72 | 136.31 | 132.30 |
| 2 | AB | 1782 | U | C2-N3-C4 | -5.72 | 123.57 | 127.00 |
| 2 | AB | 1975 | G | N7-C8-N9 | 5.72 | 115.96 | 113.10 |
| 2 | AB | 2005 | A | C3'-C2'-C1' | 5.72 | 106.08 | 101.50 |
| 2 | AB | 2105 | U | O3'-P-O5' | -5.72 | 93.12 | 104.00 |
| 2 | AB | 2363 | G | C6-C5-N7 | -5.72 | 126.97 | 130.40 |
| 2 | AB | 2849 | U | N3-C4-C5 | 5.72 | 118.03 | 114.60 |
| 2 | AB | 2850 | A | C5'-C4'-C3' | -5.72 | 106.84 | 116.00 |
| 35 | BA | 274 | A | C4-C5-C6 | 5.72 | 119.86 | 117.00 |
| 35 | BA | 392 | C | C3'-C2'-C1' | 5.72 | 106.08 | 101.50 |
| 35 | BA | 524 | G | N7-C8-N9 | 5.72 | 115.96 | 113.10 |
| 35 | BA | 877 | G | N3-C4-N9 | -5.72 | 122.56 | 126.00 |
| 35 | BA | 1370 | G | N7-C8-N9 | -5.72 | 110.24 | 113.10 |
| 35 | BA | 1429 | A | P-O3'-C3' | 5.72 | 126.57 | 119.70 |
| 37 | BC | 67 | C | C3'-C2'-C1' | -5.72 | 96.92 | 101.50 |
| 2 | AB | 78 | U | N1-C2-O2 | 5.72 | 126.81 | 122.80 |
| 2 | AB | 294 | A | P-O3'-C3' | 5.72 | 126.57 | 119.70 |
| 2 | AB | 756 | A | C1'-O4'-C4' | -5.72 | 105.32 | 109.90 |
| 2 | AB | 760 | G | N1-C2-N3 | -5.72 | 120.47 | 123.90 |
| 2 | AB | 796 | C | N3-C4-N4 | -5.72 | 113.99 | 118.00 |
| 2 | AB | 1003 | G | C1'-O4'-C4' | 5.72 | 114.48 | 109.90 |
| 2 | AB | 1104 | C | N3-C4-C5 | 5.72 | 124.19 | 121.90 |
| 2 | AB | 1126 | A | N1-C6-N6 | 5.72 | 122.03 | 118.60 |
| 2 | AB | 1344 | U | C4-C5-C6 | 5.72 | 123.13 | 119.70 |
| 2 | AB | 2100 | G | C4-C5-C6 | 5.72 | 122.23 | 118.80 |
| 2 | AB | 2614 | A | N7-C8-N9 | 5.72 | 116.66 | 113.80 |
| 2 | AB | 2811 | G | C4'-C3'-C2' | -5.72 | 96.88 | 102.60 |
| 35 | BA | 281 | G | C5'-C4'-C3' | -5.72 | 106.84 | 116.00 |
| 35 | BA | 548 | G | N1-C2-N2 | 5.72 | 121.35 | 116.20 |
| 35 | BA | 569 | C | N1-C1'-C2' | -5.72 | 105.70 | 112.00 |
| 35 | BA | 767 | A | O3'-P-O5' | 5.72 | 114.87 | 104.00 |
| 35 | BA | 817 | C | O3'-P-O5' | -5.72 | 93.13 | 104.00 |
| 35 | BA | 1529 | G | C5'-C4'-O4' | 5.72 | 115.97 | 109.10 |
| 56 | BV | 28 | ARG | NE-CZ-NH2 | -5.72 | 117.44 | 120.30 |
| 1 | AA | 91 | C | C4'-C3'-C2' | -5.72 | 96.88 | 102.60 |
| 2 | AB | 2217 | G | C4-C5-C6 | 5.72 | 122.23 | 118.80 |
| 2 | AB | 2701 | U | O4'-C1'-N1 | 5.72 | 112.78 | 108.20 |
| 35 | BA | 691 | G | O4'-C1'-N9 | 5.72 | 112.78 | 108.20 |
| 35 | BA | 858 | G | O4'-C1'-N9 | 5.72 | 112.78 | 108.20 |
| 43 | BI | 110 | ARG | NE-CZ-NH2 | 5.72 | 123.16 | 120.30 |
| 2 | AB | 46 | G | N3-C2-N2 | 5.72 | 123.90 | 119.90 |
| 2 | AB | 91 | A | N9-C4-C5 | 5.72 | 108.09 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 338 | G | N1-C6-O6 | -5.72 | 116.47 | 119.90 |
| 2 | AB | 2339 | C | C4'-C3'-C2' | -5.72 | 96.88 | 102.60 |
| 35 | BA | 656 | G | C8-N9-C4 | -5.72 | 104.11 | 106.40 |
| 35 | BA | 1061 | G | N7-C8-N9 | 5.72 | 115.96 | 113.10 |
| 35 | BA | 1193 | G | P-O3'-C3' | 5.72 | 126.56 | 119.70 |
| 37 | BC | 54 | G | C8-N9-C4 | 5.72 | 108.69 | 106.40 |
| 2 | AB | 1913 | A | C5-C6-N6 | 5.72 | 128.27 | 123.70 |
| 2 | AB | 2863 | C | C3'-C2'-C1' | 5.72 | 106.07 | 101.50 |
| 28 | A1 | 29 | ARG | NE-CZ-NH1 | 5.72 | 123.16 | 120.30 |
| 35 | BA | 165 | G | C5-C6-N1 | 5.72 | 114.36 | 111.50 |
| 36 | BB | 40 | G | C4'-C3'-C2' | -5.72 | 96.88 | 102.60 |
| 2 | AB | 263 | G | C8-N9-C4 | -5.72 | 104.11 | 106.40 |
| 2 | AB | 282 | A | C5'-C4'-O4' | 5.72 | 115.96 | 109.10 |
| 2 | AB | 318 | C | N1-C2-N3 | 5.72 | 123.20 | 119.20 |
| 2 | AB | 467 | G | C6-N1-C2 | -5.72 | 121.67 | 125.10 |
| 2 | AB | 1920 | C | N3-C4-N4 | 5.72 | 122.00 | 118.00 |
| 2 | AB | 2035 | G | C5-C6-N1 | 5.72 | 114.36 | 111.50 |
| 2 | AB | 2278 | A | C6-N1-C2 | -5.72 | 115.17 | 118.60 |
| 2 | AB | 2545 | G | N3-C4-C5 | -5.72 | 125.74 | 128.60 |
| 2 | AB | 2667 | C | C5'-C4'-O4' | 5.72 | 115.96 | 109.10 |
| 10 | AJ | 124 | ARG | NE-CZ-NH1 | 5.72 | 123.16 | 120.30 |
| 35 | BA | 195 | A | C8-N9-C4 | -5.72 | 103.51 | 105.80 |
| 35 | BA | 231 | U | C4'-C3'-C2' | -5.72 | 96.88 | 102.60 |
| 35 | BA | 375 | U | C5-C6-N1 | -5.72 | 119.84 | 122.70 |
| 35 | BA | 721 | G | C5-C6-O6 | 5.72 | 132.03 | 128.60 |
| 35 | BA | 748 | G | N9-C4-C5 | 5.72 | 107.69 | 105.40 |
| 35 | BA | 1346 | A | O3'-P-O5' | -5.72 | 93.14 | 104.00 |
| 49 | BO | 59 | VAL | CA-CB-CG2 | 5.72 | 119.48 | 110.90 |
| 1 | AA | 93 | C | N3-C2-O2 | -5.71 | 117.90 | 121.90 |
| 2 | AB | 883 | G | O4'-C4'-C3' | 5.71 | 110.67 | 106.10 |
| 2 | AB | 1361 | G | N1-C6-O6 | 5.71 | 123.33 | 119.90 |
| 2 | AB | 2004 | G | C3'-C2'-C1' | 5.71 | 106.07 | 101.50 |
| 2 | AB | 2183 | A | C3'-C2'-C1' | -5.71 | 96.93 | 101.50 |
| 2 | AB | 2290 | G | C5'-C4'-O4' | 5.71 | 115.96 | 109.10 |
| 2 | AB | 2347 | C | N1-C2-N3 | -5.71 | 115.20 | 119.20 |
| 2 | AB | 2592 | G | N9-C1'-C2' | -5.71 | 105.71 | 112.00 |
| 2 | AB | 2752 | C | N1-C2-N3 | -5.71 | 115.20 | 119.20 |
| 2 | AB | 2877 | G | C6-C5-N7 | -5.71 | 126.97 | 130.40 |
| 19 | AS | 101 | ASP | CB-CG-OD1 | -5.71 | 113.16 | 118.30 |
| 35 | BA | 32 | A | P-O3'-C3' | 5.71 | 126.56 | 119.70 |
| 35 | BA | 198 | G | C4-C5-N7 | -5.71 | 108.51 | 110.80 |
| 35 | BA | 360 | G | N3-C2-N2 | -5.71 | 115.90 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1450 | U | N3-C4-C5 | 5.71 | 118.03 | 114.60 |
| 37 | BC | 48 | U | C3'-C2'-C1' | -5.71 | 96.93 | 101.50 |
| 2 | AB | 723 | C | C5-C4-N4 | 5.71 | 124.20 | 120.20 |
| 2 | AB | 762 | U | O4'-C1'-C2' | -5.71 | 100.09 | 105.80 |
| 35 | BA | 544 | G | N7-C8-N9 | 5.71 | 115.96 | 113.10 |
| 39 | BE | 42 | LEU | O-C-N | 5.71 | 131.84 | 122.70 |
| 2 | AB | 237 | C | N1-C2-N3 | 5.71 | 123.20 | 119.20 |
| 2 | AB | 330 | A | C5'-C4'-C3' | -5.71 | 106.86 | 116.00 |
| 2 | AB | 391 | A | C8-N9-C4 | -5.71 | 103.52 | 105.80 |
| 2 | AB | 495 | G | O4'-C1'-C2' | -5.71 | 100.09 | 105.80 |
| 2 | AB | 700 | G | C4'-C3'-C2' | -5.71 | 96.89 | 102.60 |
| 2 | AB | 1597 | A | C2-N3-C4 | 5.71 | 113.45 | 110.60 |
| 2 | AB | 1780 | A | N3-C4-N9 | -5.71 | 122.83 | 127.40 |
| 2 | AB | 2357 | G | N3-C2-N2 | -5.71 | 115.90 | 119.90 |
| 2 | AB | 2499 | C | N3-C4-C5 | 5.71 | 124.19 | 121.90 |
| 2 | AB | 2620 | C | C1'-O4'-C4' | -5.71 | 105.33 | 109.90 |
| 2 | AB | 2753 | A | O4'-C4'-C3' | 5.71 | 110.67 | 106.10 |
| 2 | AB | 2759 | G | C2-N3-C4 | 5.71 | 114.76 | 111.90 |
| 2 | AB | 2805 | C | C2-N3-C4 | 5.71 | 122.76 | 119.90 |
| 8 | AH | 150 | TYR | CB-CG-CD1 | -5.71 | 117.57 | 121.00 |
| 16 | AP | 71 | ARG | NE-CZ-NH2 | -5.71 | 117.44 | 120.30 |
| 35 | BA | 549 | C | C5-C4-N4 | -5.71 | 116.20 | 120.20 |
| 35 | BA | 892 | A | N1-C2-N3 | 5.71 | 132.16 | 129.30 |
| 35 | BA | 976 | G | C4'-C3'-C2' | -5.71 | 96.89 | 102.60 |
| 35 | BA | 1043 | G | N3-C4-N9 | 5.71 | 129.43 | 126.00 |
| 47 | BM | 106 | ILE | CB-CA-C | 5.71 | 123.02 | 111.60 |
| 1 | AA | 21 | G | C5'-C4'-O4' | 5.71 | 115.95 | 109.10 |
| 1 | AA | 73 | A | P-O3'-C3' | 5.71 | 126.55 | 119.70 |
| 2 | AB | 888 | C | C5-C6-N1 | 5.71 | 123.86 | 121.00 |
| 35 | BA | 952 | U | N3-C2-O2 | -5.71 | 118.20 | 122.20 |
| 2 | AB | 105 | C | C3'-C2'-C1' | 5.71 | 106.07 | 101.50 |
| 2 | AB | 184 | C | N1-C2-N3 | 5.71 | 123.20 | 119.20 |
| 2 | AB | 210 | C | N3-C4-C5 | -5.71 | 119.62 | 121.90 |
| 2 | AB | 711 | G | C2-N3-C4 | 5.71 | 114.75 | 111.90 |
| 2 | AB | 1395 | A | N9-C4-C5 | 5.71 | 108.08 | 105.80 |
| 2 | AB | 2082 | A | C3'-C2'-C1' | -5.71 | 96.93 | 101.50 |
| 2 | AB | 2342 | C | O4'-C1'-N1 | 5.71 | 112.77 | 108.20 |
| 2 | AB | 2357 | G | C4-C5-C6 | 5.71 | 122.22 | 118.80 |
| 35 | BA | 624 | C | C6-N1-C2 | 5.71 | 122.58 | 120.30 |
| 35 | BA | 780 | A | O4'-C1'-N9 | -5.71 | 103.63 | 108.20 |
| 35 | BA | 1168 | U | O4'-C1'-N1 | 5.71 | 112.77 | 108.20 |
| 35 | BA | 1272 | G | C2-N3-C4 | 5.71 | 114.75 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1327 | C | C6-N1-C2 | -5.71 | 118.02 | 120.30 |
| 36 | BB | 53 | G | C2-N3-C4 | 5.71 | 114.75 | 111.90 |
| 37 | BC | 48 | U | C4'-C3'-C2' | 5.71 | 108.31 | 102.60 |
| 42 | BH | 24 | ARG | NH1-CZ-NH2 | -5.71 | 113.12 | 119.40 |
| 48 | BN | 55 | ARG | O-C-N | 5.71 | 131.83 | 122.70 |
| 2 | AB | 158 | U | N3-C4-C5 | -5.71 | 111.18 | 114.60 |
| 2 | AB | 332 | A | C8-N9-C4 | -5.71 | 103.52 | 105.80 |
| 2 | AB | 494 | G | C1'-O4'-C4' | -5.71 | 105.33 | 109.90 |
| 2 | AB | 956 | G | C4-C5-C6 | 5.71 | 122.22 | 118.80 |
| 2 | AB | 1433 | A | C2-N3-C4 | 5.71 | 113.45 | 110.60 |
| 2 | AB | 1519 | G | N9-C4-C5 | 5.71 | 107.68 | 105.40 |
| 2 | AB | 1581 | G | C6-N1-C2 | -5.71 | 121.68 | 125.10 |
| 2 | AB | 1858 | A | N9-C1'-C2' | -5.71 | 105.72 | 112.00 |
| 2 | AB | 2112 | G | N1-C2-N3 | -5.71 | 120.48 | 123.90 |
| 2 | AB | 2511 | U | C4-C5-C6 | 5.71 | 123.12 | 119.70 |
| 2 | AB | 2694 | G | N9-C4-C5 | -5.71 | 103.12 | 105.40 |
| 35 | BA | 465 | A | C3'-C2'-C1' | -5.71 | 96.93 | 101.50 |
| 37 | BC | 9 | G | C6-C5-N7 | -5.71 | 126.98 | 130.40 |
| 37 | BC | 62 | C | C5-C6-N1 | -5.71 | 118.15 | 121.00 |
| 2 | AB | 182 | A | C2-N3-C4 | 5.71 | 113.45 | 110.60 |
| 2 | AB | 182 | A | C6-N1-C2 | 5.71 | 122.02 | 118.60 |
| 2 | AB | 960 | A | C5-C6-N6 | 5.71 | 128.26 | 123.70 |
| 2 | AB | 992 | C | C5-C4-N4 | -5.71 | 116.21 | 120.20 |
| 2 | AB | 1978 | A | N9-C4-C5 | -5.71 | 103.52 | 105.80 |
| 2 | AB | 2110 | G | C5-N7-C8 | -5.71 | 101.45 | 104.30 |
| 2 | AB | 2484 | G | C6-C5-N7 | -5.71 | 126.98 | 130.40 |
| 24 | AX | 24 | ASN | CB-CA-C | 5.71 | 121.81 | 110.40 |
| 35 | BA | 12 | U | C5-C6-N1 | -5.71 | 119.85 | 122.70 |
| 35 | BA | 1170 | A | N1-C2-N3 | -5.71 | 126.45 | 129.30 |
| 1 | AA | 76 | G | OP1-P-OP2 | 5.70 | 128.16 | 119.60 |
| 2 | AB | 1981 | A | N3-C4-N9 | -5.70 | 122.84 | 127.40 |
| 2 | AB | 2056 | G | O4'-C1'-N9 | 5.70 | 112.76 | 108.20 |
| 2 | AB | 2087 | G | C5-C6-O6 | -5.70 | 125.18 | 128.60 |
| 2 | AB | 2235 | G | C1'-O4'-C4' | 5.70 | 114.46 | 109.90 |
| 2 | AB | 2742 | G | C3'-C2'-C1' | 5.70 | 106.06 | 101.50 |
| 35 | BA | 174 | A | N9-C4-C5 | 5.70 | 108.08 | 105.80 |
| 35 | BA | 236 | A | C6-C5-N7 | -5.70 | 128.31 | 132.30 |
| 35 | BA | 534 | U | N1-C2-O2 | 5.70 | 126.79 | 122.80 |
| 35 | BA | 811 | C | N3-C4-N4 | 5.70 | 121.99 | 118.00 |
| 35 | BA | 880 | C | O4'-C1'-C2' | 5.70 | 112.73 | 107.60 |
| 43 | BI | 159 | ARG | NE-CZ-NH2 | -5.70 | 117.45 | 120.30 |
| 2 | AB | 161 | A | C8-N9-C4 | -5.70 | 103.52 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1129 | A | C5-N7-C8 | -5.70 | 101.05 | 103.90 |
| 2 | AB | 1450 | G | C5-C6-O6 | -5.70 | 125.18 | 128.60 |
| 2 | AB | 2340 | A | N3-C4-C5 | -5.70 | 122.81 | 126.80 |
| 2 | AB | 2641 | G | C8-N9-C4 | -5.70 | 104.12 | 106.40 |
| 35 | BA | 848 | C | N3-C4-C5 | -5.70 | 119.62 | 121.90 |
| 2 | AB | 100 | U | C1'-O4'-C4' | -5.70 | 105.34 | 109.90 |
| 2 | AB | 370 | G | N7-C8-N9 | 5.70 | 115.95 | 113.10 |
| 2 | AB | 433 | C | N1-C2-O2 | 5.70 | 122.32 | 118.90 |
| 2 | AB | 1349 | C | C5-C6-N1 | -5.70 | 118.15 | 121.00 |
| 2 | AB | 1391 | U | C1'-O4'-C4' | -5.70 | 105.34 | 109.90 |
| 2 | AB | 1415 | U | O4'-C1'-C2' | -5.70 | 100.10 | 105.80 |
| 2 | AB | 1449 | G | C5-N7-C8 | -5.70 | 101.45 | 104.30 |
| 2 | AB | 1523 | U | C2-N3-C4 | -5.70 | 123.58 | 127.00 |
| 2 | AB | 1585 | C | C5'-C4'-O4' | 5.70 | 115.94 | 109.10 |
| 2 | AB | 1624 | U | C5-C4-O4 | 5.70 | 129.32 | 125.90 |
| 2 | AB | 1718 | G | N3-C4-C5 | -5.70 | 125.75 | 128.60 |
| 2 | AB | 1733 | G | C2-N3-C4 | 5.70 | 114.75 | 111.90 |
| 2 | AB | 1776 | G | N7-C8-N9 | 5.70 | 115.95 | 113.10 |
| 2 | AB | 2151 | U | C4'-C3'-C2' | -5.70 | 96.90 | 102.60 |
| 2 | AB | 2181 | U | N1-C2-N3 | 5.70 | 118.32 | 114.90 |
| 2 | AB | 2221 | G | N3-C2-N2 | 5.70 | 123.89 | 119.90 |
| 2 | AB | 2315 | G | N3-C4-C5 | -5.70 | 125.75 | 128.60 |
| 2 | AB | 2487 | G | N3-C4-C5 | -5.70 | 125.75 | 128.60 |
| 14 | AN | 58 | TYR | CB-CG-CD1 | -5.70 | 117.58 | 121.00 |
| 35 | BA | 295 | C | C5-C4-N4 | -5.70 | 116.21 | 120.20 |
| 35 | BA | 1075 | U | C6-N1-C2 | -5.70 | 117.58 | 121.00 |
| 42 | BH | 116 | PHE | CB-CG-CD1 | -5.70 | 116.81 | 120.80 |
| 2 | AB | 951 | C | C2-N3-C4 | -5.70 | 117.05 | 119.90 |
| 2 | AB | 1711 | A | C4-C5-N7 | 5.70 | 113.55 | 110.70 |
| 2 | AB | 1800 | C | N3-C4-C5 | 5.70 | 124.18 | 121.90 |
| 2 | AB | 1872 | A | N3-C4-N9 | -5.70 | 122.84 | 127.40 |
| 2 | AB | 1905 | C | O4'-C4'-C3' | 5.70 | 110.66 | 106.10 |
| 2 | AB | 1909 | C | N3-C2-O2 | -5.70 | 117.91 | 121.90 |
| 2 | AB | 2112 | G | N3-C4-N9 | 5.70 | 129.42 | 126.00 |
| 2 | AB | 2645 | G | C6-N1-C2 | -5.70 | 121.68 | 125.10 |
| 12 | AL | 8 | PRO | N-CA-CB | 5.70 | 110.14 | 103.30 |
| 35 | BA | 1 | A | C4-C5-C6 | -5.70 | 114.15 | 117.00 |
| 35 | BA | 319 | G | N7-C8-N9 | -5.70 | 110.25 | 113.10 |
| 35 | BA | 1255 | G | C5-C6-O6 | -5.70 | 125.18 | 128.60 |
| 35 | BA | 1316 | G | O4'-C1'-N9 | 5.70 | 112.76 | 108.20 |
| 2 | AB | 88 | G | N1-C2-N3 | -5.70 | 120.48 | 123.90 |
| 2 | AB | 309 | A | C5-C6-N6 | 5.70 | 128.26 | 123.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1486 | U | C5'-C4'-C3' | -5.70 | 106.88 | 116.00 |
| 2 | AB | 2373 | G | N9-C4-C5 | 5.70 | 107.68 | 105.40 |
| 2 | AB | 2774 | C | C5'-C4'-C3' | -5.70 | 106.89 | 116.00 |
| 35 | BA | 106 | C | N3-C2-O2 | -5.70 | 117.91 | 121.90 |
| 35 | BA | 263 | A | C5'-C4'-O4' | 5.70 | 115.94 | 109.10 |
| 35 | BA | 610 | U | P-O3'-C3' | 5.70 | 126.54 | 119.70 |
| 35 | BA | 1429 | A | C3'-C2'-C1' | -5.70 | 96.94 | 101.50 |
| 2 | AB | 932 | U | C2-N3-C4 | 5.70 | 130.42 | 127.00 |
| 2 | AB | 1088 | A | C4-C5-C6 | 5.70 | 119.85 | 117.00 |
| 2 | AB | 1159 | U | C5-C4-O4 | -5.70 | 122.48 | 125.90 |
| 2 | AB | 1349 | C | C1'-O4'-C4' | 5.70 | 114.46 | 109.90 |
| 2 | AB | 1619 | G | C5-C6-O6 | -5.70 | 125.18 | 128.60 |
| 2 | AB | 1674 | G | C4-C5-N7 | -5.70 | 108.52 | 110.80 |
| 2 | AB | 1783 | A | C5-C6-N6 | -5.70 | 119.14 | 123.70 |
| 2 | AB | 1919 | A | N9-C4-C5 | -5.70 | 103.52 | 105.80 |
| 2 | AB | 2681 | C | O5'-P-OP2 | -5.70 | 100.57 | 105.70 |
| 13 | AM | 64 | ARG | NE-CZ-NH1 | 5.70 | 123.15 | 120.30 |
| 34 | A7 | 4 | ARG | CD-NE-CZ | 5.70 | 131.57 | 123.60 |
| 35 | BA | 238 | A | N1-C2-N3 | -5.70 | 126.45 | 129.30 |
| 35 | BA | 462 | G | C4-C5-N7 | -5.70 | 108.52 | 110.80 |
| 35 | BA | 579 | A | N1-C6-N6 | 5.70 | 122.02 | 118.60 |
| 35 | BA | 1004 | A | N1-C6-N6 | 5.70 | 122.02 | 118.60 |
| 41 | BG | 53 | ARG | NE-CZ-NH2 | -5.70 | 117.45 | 120.30 |
| 2 | AB | 8 | C | N1-C2-O2 | 5.69 | 122.32 | 118.90 |
| 2 | AB | 1770 | G | N1-C2-N3 | -5.69 | 120.48 | 123.90 |
| 2 | AB | 2000 | C | C5'-C4'-C3' | -5.69 | 106.89 | 116.00 |
| 2 | AB | 2101 | A | O4'-C1'-N9 | 5.69 | 112.75 | 108.20 |
| 2 | AB | 2443 | C | C4'-C3'-C2' | -5.69 | 96.91 | 102.60 |
| 35 | BA | 8 | A | C1'-O4'-C4' | 5.69 | 114.45 | 109.90 |
| 35 | BA | 245 | U | N1-C2-O2 | -5.69 | 118.81 | 122.80 |
| 35 | BA | 560 | A | C5'-C4'-O4' | 5.69 | 115.93 | 109.10 |
| 35 | BA | 592 | G | C6-N1-C2 | -5.69 | 121.68 | 125.10 |
| 35 | BA | 925 | G | N7-C8-N9 | 5.69 | 115.95 | 113.10 |
| 35 | BA | 1038 | C | C5'-C4'-C3' | -5.69 | 106.89 | 116.00 |
| 35 | BA | 1357 | A | C5-C6-N1 | 5.69 | 120.55 | 117.70 |
| 2 | AB | 148 | U | O4'-C1'-N1 | 5.69 | 112.75 | 108.20 |
| 2 | AB | 506 | G | C6-N1-C2 | -5.69 | 121.68 | 125.10 |
| 2 | AB | 670 | A | O4'-C1'-C2' | -5.69 | 100.11 | 105.80 |
| 2 | AB | 760 | G | C6-C5-N7 | -5.69 | 126.98 | 130.40 |
| 2 | AB | 823 | C | N3-C4-C5 | -5.69 | 119.62 | 121.90 |
| 2 | AB | 1573 | G | C5'-C4'-C3' | -5.69 | 106.89 | 116.00 |
| 2 | AB | 2708 | G | N1-C6-O6 | 5.69 | 123.31 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2836 | U | N3-C4-O4 | 5.69 | 123.38 | 119.40 |
| 35 | BA | 421 | U | C1'-O4'-C4' | 5.69 | 114.45 | 109.90 |
| 35 | BA | 526 | C | C2-N1-C1' | -5.69 | 112.54 | 118.80 |
| 35 | BA | 1097 | C | N3-C4-N4 | -5.69 | 114.02 | 118.00 |
| 35 | BA | 1340 | A | N1-C6-N6 | 5.69 | 122.02 | 118.60 |
| 35 | BA | 1477 | U | C5-C6-N1 | -5.69 | 119.85 | 122.70 |
| 35 | BA | 1508 | A | N9-C4-C5 | 5.69 | 108.08 | 105.80 |
| 1 | AA | 76 | G | N3-C4-N9 | 5.69 | 129.41 | 126.00 |
| 1 | AA | 109 | A | C8-N9-C4 | -5.69 | 103.52 | 105.80 |
| 2 | AB | 32 | C | P-O3'-C3' | 5.69 | 126.53 | 119.70 |
| 2 | AB | 46 | G | C8-N9-C4 | -5.69 | 104.12 | 106.40 |
| 2 | AB | 400 | G | C3'-C2'-C1' | 5.69 | 106.05 | 101.50 |
| 2 | AB | 445 | C | O5'-P-OP2 | -5.69 | 100.58 | 105.70 |
| 2 | AB | 1222 | U | C1'-O4'-C4' | 5.69 | 114.45 | 109.90 |
| 2 | AB | 1262 | A | C1'-O4'-C4' | -5.69 | 105.35 | 109.90 |
| 2 | AB | 2468 | A | C4-C5-N7 | 5.69 | 113.55 | 110.70 |
| 2 | AB | 2531 | A | P-O3'-C3' | 5.69 | 126.53 | 119.70 |
| 2 | AB | 2723 | C | O4'-C1'-N1 | 5.69 | 112.75 | 108.20 |
| 2 | AB | 2764 | A | C5-C6-N1 | -5.69 | 114.85 | 117.70 |
| 35 | BA | 42 | G | C3'-C2'-C1' | -5.69 | 96.95 | 101.50 |
| 35 | BA | 69 | G | N1-C2-N3 | -5.69 | 120.49 | 123.90 |
| 35 | BA | 572 | A | O4'-C1'-N9 | -5.69 | 103.65 | 108.20 |
| 35 | BA | 788 | U | N3-C2-O2 | -5.69 | 118.22 | 122.20 |
| 35 | BA | 1100 | C | C2-N3-C4 | 5.69 | 122.75 | 119.90 |
| 35 | BA | 1203 | C | N3-C4-N4 | 5.69 | 121.98 | 118.00 |
| 35 | BA | 1395 | C | N1-C1'-C2' | -5.69 | 105.74 | 112.00 |
| 38 | BD | 165 | ALA | CB-CA-C | 5.69 | 118.64 | 110.10 |
| 2 | AB | 121 | G | N3-C4-C5 | -5.69 | 125.76 | 128.60 |
| 2 | AB | 294 | A | C5'-C4'-O4' | 5.69 | 115.93 | 109.10 |
| 2 | AB | 397 | U | N1-C2-N3 | 5.69 | 118.31 | 114.90 |
| 2 | AB | 1578 | U | N3-C4-O4 | 5.69 | 123.38 | 119.40 |
| 2 | AB | 1616 | A | C5-C6-N1 | -5.69 | 114.86 | 117.70 |
| 2 | AB | 2560 | A | N3-C4-C5 | -5.69 | 122.82 | 126.80 |
| 2 | AB | 2748 | A | C5-C6-N1 | 5.69 | 120.55 | 117.70 |
| 35 | BA | 472 | U | C3'-C2'-C1' | 5.69 | 106.05 | 101.50 |
| 1 | AA | 36 | C | P-O3'-C3' | 5.69 | 126.53 | 119.70 |
| 1 | AA | 118 | C | C5-C4-N4 | -5.69 | 116.22 | 120.20 |
| 2 | AB | 70 | G | N3-C4-C5 | -5.69 | 125.76 | 128.60 |
| 2 | AB | 184 | C | N3-C4-N4 | 5.69 | 121.98 | 118.00 |
| 2 | AB | 534 | U | O4'-C4'-C3' | -5.69 | 98.31 | 104.00 |
| 2 | AB | 1159 | U | N1-C2-O2 | 5.69 | 126.78 | 122.80 |
| 2 | AB | 1274 | A | C5-C6-N1 | -5.69 | 114.86 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2018 | G | N1-C6-O6 | -5.69 | 116.49 | 119.90 |
| 2 | AB | 2081 | U | N1-C2-N3 | 5.69 | 118.31 | 114.90 |
| 2 | AB | 2492 | U | C1'-O4'-C4' | 5.69 | 114.45 | 109.90 |
| 2 | AB | 2780 | G | C2-N3-C4 | 5.69 | 114.74 | 111.90 |
| 2 | AB | 2782 | G | C6-C5-N7 | -5.69 | 126.99 | 130.40 |
| 26 | AZ | 30 | PRO | N-CA-CB | 5.69 | 110.12 | 103.30 |
| 35 | BA | 53 | A | C5-C6-N6 | -5.69 | 119.15 | 123.70 |
| 35 | BA | 96 | U | N1-C2-O2 | -5.69 | 118.82 | 122.80 |
| 35 | BA | 179 | A | C4-C5-N7 | -5.69 | 107.86 | 110.70 |
| 35 | BA | 338 | A | C4-C5-N7 | -5.69 | 107.86 | 110.70 |
| 35 | BA | 1005 | A | N9-C1'-C2' | -5.69 | 105.74 | 112.00 |
| 35 | BA | 1208 | C | N3-C2-O2 | -5.69 | 117.92 | 121.90 |
| 35 | BA | 1278 | G | N3-C4-N9 | -5.69 | 122.59 | 126.00 |
| 35 | BA | 1455 | G | P-O5'-C5' | 5.69 | 130.00 | 120.90 |
| 2 | AB | 1076 | C | O4'-C1'-C2' | -5.69 | 100.11 | 105.80 |
| 2 | AB | 1231 | U | C1'-O4'-C4' | -5.69 | 105.35 | 109.90 |
| 2 | AB | 1967 | C | C5'-C4'-C3' | -5.69 | 106.90 | 116.00 |
| 2 | AB | 1968 | G | C3'-C2'-C1' | 5.69 | 106.05 | 101.50 |
| 2 | AB | 2824 | C | O4'-C1'-N1 | 5.69 | 112.75 | 108.20 |
| 35 | BA | 331 | G | N7-C8-N9 | 5.69 | 115.94 | 113.10 |
| 35 | BA | 739 | C | C4'-C3'-C2' | -5.69 | 96.91 | 102.60 |
| 35 | BA | 1117 | A | C6-N1-C2 | 5.69 | 122.01 | 118.60 |
| 2 | AB | 80 | G | C2-N3-C4 | 5.68 | 114.74 | 111.90 |
| 2 | AB | 236 | C | O4'-C1'-N1 | 5.68 | 112.75 | 108.20 |
| 2 | AB | 1350 | C | C2-N3-C4 | 5.68 | 122.74 | 119.90 |
| 2 | AB | 1593 | A | N1-C2-N3 | -5.68 | 126.46 | 129.30 |
| 2 | AB | 1978 | A | N9-C1'-C2' | -5.68 | 105.75 | 112.00 |
| 35 | BA | 115 | G | N1-C2-N2 | 5.68 | 121.32 | 116.20 |
| 35 | BA | 217 | C | C5-C4-N4 | -5.68 | 116.22 | 120.20 |
| 35 | BA | 1033 | G | C5-N7-C8 | -5.68 | 101.46 | 104.30 |
| 1 | AA | 117 | G | O4'-C4'-C3' | 5.68 | 110.65 | 106.10 |
| 2 | AB | 598 | U | C1'-O4'-C4' | 5.68 | 114.44 | 109.90 |
| 2 | AB | 1256 | G | C6-C5-N7 | -5.68 | 126.99 | 130.40 |
| 2 | AB | 1620 | G | N3-C4-N9 | 5.68 | 129.41 | 126.00 |
| 2 | AB | 1680 | U | C4-C5-C6 | 5.68 | 123.11 | 119.70 |
| 2 | AB | 2448 | A | C6-N1-C2 | -5.68 | 115.19 | 118.60 |
| 2 | AB | 2621 | G | N3-C4-N9 | 5.68 | 129.41 | 126.00 |
| 2 | AB | 2803 | G | N3-C4-N9 | -5.68 | 122.59 | 126.00 |
| 26 | AZ | 57 | VAL | CA-CB-CG2 | 5.68 | 119.42 | 110.90 |
| 35 | BA | 90 | C | C5'-C4'-O4' | 5.68 | 115.92 | 109.10 |
| 35 | BA | 1140 | C | C5-C6-N1 | 5.68 | 123.84 | 121.00 |
| 35 | BA | 1213 | A | C2'-C3'-O3' | 5.68 | 122.79 | 113.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1336 | C | C1'-O4'-C4' | 5.68 | 114.44 | 109.90 |
| 36 | BB | 53 | G | N3-C2-N2 | -5.68 | 115.92 | 119.90 |
| 48 | BN | 1 | ALA | CB-CA-C | 5.68 | 118.62 | 110.10 |
| 2 | AB | 27 | G | O4'-C1'-C2' | -5.68 | 100.12 | 105.80 |
| 2 | AB | 608 | A | N3-C4-N9 | 5.68 | 131.94 | 127.40 |
| 2 | AB | 772 | C | N1-C1'-C2' | -5.68 | 105.75 | 112.00 |
| 2 | AB | 1153 | C | C4-C5-C6 | -5.68 | 114.56 | 117.40 |
| 2 | AB | 1253 | A | C2-N3-C4 | 5.68 | 113.44 | 110.60 |
| 2 | AB | 1403 | A | C6-N1-C2 | -5.68 | 115.19 | 118.60 |
| 2 | AB | 2660 | A | O4'-C4'-C3' | 5.68 | 110.64 | 106.10 |
| 36 | BB | 29 | G | O4'-C1'-N9 | -5.68 | 103.66 | 108.20 |
| 2 | AB | 160 | A | P-O3'-C3' | -5.68 | 112.89 | 119.70 |
| 2 | AB | 696 | G | N3-C4-C5 | -5.68 | 125.76 | 128.60 |
| 2 | AB | 709 | U | N3-C4-C5 | -5.68 | 111.19 | 114.60 |
| 2 | AB | 906 | U | C5'-C4'-O4' | 5.68 | 115.92 | 109.10 |
| 2 | AB | 1156 | A | O4'-C1'-N9 | -5.68 | 103.66 | 108.20 |
| 2 | AB | 1821 | A | C8-N9-C4 | -5.68 | 103.53 | 105.80 |
| 16 | AP | 86 | ARG | CD-NE-CZ | 5.68 | 131.55 | 123.60 |
| 35 | BA | 33 | A | C5'-C4'-C3' | -5.68 | 106.91 | 116.00 |
| 35 | BA | 168 | G | N3-C2-N2 | 5.68 | 123.88 | 119.90 |
| 35 | BA | 262 | A | C5-C6-N1 | 5.68 | 120.54 | 117.70 |
| 35 | BA | 354 | G | C4'-C3'-C2' | -5.68 | 96.92 | 102.60 |
| 35 | BA | 423 | G | C5-C6-N1 | 5.68 | 114.34 | 111.50 |
| 35 | BA | 463 | U | N1-C2-O2 | -5.68 | 118.83 | 122.80 |
| 35 | BA | 1040 | U | C5-C6-N1 | -5.68 | 119.86 | 122.70 |
| 35 | BA | 1309 | G | C6-C5-N7 | -5.68 | 126.99 | 130.40 |
| 35 | BA | 1497 | G | C4'-C3'-C2' | -5.68 | 96.92 | 102.60 |
| 2 | AB | 583 | G | O4'-C1'-N9 | 5.68 | 112.74 | 108.20 |
| 2 | AB | 1918 | A | N9-C4-C5 | 5.68 | 108.07 | 105.80 |
| 2 | AB | 2342 | C | C5-C4-N4 | -5.68 | 116.23 | 120.20 |
| 2 | AB | 2809 | A | C5-C6-N6 | -5.68 | 119.16 | 123.70 |
| 35 | BA | 1058 | G | O4'-C1'-N9 | 5.68 | 112.74 | 108.20 |
| 35 | BA | 1187 | G | C5-N7-C8 | 5.68 | 107.14 | 104.30 |
| 35 | BA | 1435 | G | P-O3'-C3' | 5.68 | 126.51 | 119.70 |
| 2 | AB | 48 | G | C5-N7-C8 | 5.68 | 107.14 | 104.30 |
| 2 | AB | 346 | A | C5-C6-N1 | 5.68 | 120.54 | 117.70 |
| 2 | AB | 753 | A | C5'-C4'-O4' | 5.68 | 115.91 | 109.10 |
| 2 | AB | 796 | C | C5-C4-N4 | 5.68 | 124.17 | 120.20 |
| 2 | AB | 1265 | A | C5-C6-N1 | 5.68 | 120.54 | 117.70 |
| 2 | AB | 1342 | A | C5-C6-N1 | 5.68 | 120.54 | 117.70 |
| 2 | AB | 1398 | C | C5-C4-N4 | -5.68 | 116.23 | 120.20 |
| 2 | AB | 1454 | C | O4'-C4'-C3' | 5.68 | 110.64 | 106.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1757 | A | N1-C6-N6 | 5.68 | 122.01 | 118.60 |
| 2 | AB | 2380 | C | C2-N1-C1' | -5.68 | 112.56 | 118.80 |
| 2 | AB | 2844 | G | N3-C2-N2 | 5.68 | 123.87 | 119.90 |
| 4 | AD | 47 | ARG | NE-CZ-NH2 | 5.68 | 123.14 | 120.30 |
| 35 | BA | 647 | C | N3-C4-C5 | 5.68 | 124.17 | 121.90 |
| 35 | BA | 932 | C | N3-C2-O2 | -5.68 | 117.93 | 121.90 |
| 35 | BA | 949 | A | C6-C5-N7 | 5.68 | 136.27 | 132.30 |
| 35 | BA | 1460 | C | N3-C4-C5 | -5.68 | 119.63 | 121.90 |
| 35 | BA | 1464 | U | C2-N3-C4 | -5.68 | 123.59 | 127.00 |
| 35 | BA | 1501 | C | C3'-C2'-C1' | 5.68 | 106.04 | 101.50 |
| 2 | AB | 1171 | G | C4-C5-N7 | -5.67 | 108.53 | 110.80 |
| 2 | AB | 1493 | C | C3'-C2'-C1' | -5.67 | 96.96 | 101.50 |
| 2 | AB | 1609 | A | C5-C6-N1 | -5.67 | 114.86 | 117.70 |
| 2 | AB | 2828 | G | N9-C4-C5 | -5.67 | 103.13 | 105.40 |
| 5 | AE | 60 | VAL | O-C-N | 5.67 | 131.78 | 122.70 |
| 35 | BA | 619 | U | N3-C4-O4 | 5.67 | 123.37 | 119.40 |
| 35 | BA | 1077 | G | C6-C5-N7 | -5.67 | 127.00 | 130.40 |
| 35 | BA | 1118 | U | O4'-C1'-C2' | 5.67 | 112.71 | 107.60 |
| 35 | BA | 1443 | C | C6-N1-C2 | -5.67 | 118.03 | 120.30 |
| 35 | BA | 1507 | A | C3'-C2'-C1' | -5.67 | 96.96 | 101.50 |
| 2 | AB | 1858 | A | P-O3'-C3' | 5.67 | 126.51 | 119.70 |
| 2 | AB | 2863 | C | N3-C2-O2 | -5.67 | 117.93 | 121.90 |
| 4 | AD | 7 | PRO | N-CD-CG | 5.67 | 111.71 | 103.20 |
| 35 | BA | 673 | A | C3'-C2'-C1' | 5.67 | 106.04 | 101.50 |
| 35 | BA | 1304 | G | N3-C4-C5 | -5.67 | 125.76 | 128.60 |
| 37 | BC | 32 | G | C3'-C2'-C1' | 5.67 | 106.04 | 101.50 |
| 2 | AB | 85 | G | C2-N3-C4 | -5.67 | 109.06 | 111.90 |
| 2 | AB | 244 | A | C6-C5-N7 | 5.67 | 136.27 | 132.30 |
| 2 | AB | 710 | U | N1-C2-N3 | 5.67 | 118.30 | 114.90 |
| 2 | AB | 1137 | G | N9-C4-C5 | 5.67 | 107.67 | 105.40 |
| 2 | AB | 1237 | A | C5-C6-N6 | 5.67 | 128.24 | 123.70 |
| 2 | AB | 1340 | U | O4'-C1'-N1 | 5.67 | 112.74 | 108.20 |
| 2 | AB | 1361 | G | N3-C2-N2 | 5.67 | 123.87 | 119.90 |
| 2 | AB | 1762 | A | C8-N9-C4 | 5.67 | 108.07 | 105.80 |
| 2 | AB | 2169 | A | P-O3'-C3' | 5.67 | 126.51 | 119.70 |
| 2 | AB | 2854 | G | C2-N3-C4 | 5.67 | 114.74 | 111.90 |
| 5 | AE | 125 | TRP | CD1-NE1-CE2 | 5.67 | 114.10 | 109.00 |
| 35 | BA | 102 | G | C8-N9-C4 | -5.67 | 104.13 | 106.40 |
| 35 | BA | 554 | A | C4-C5-C6 | -5.67 | 114.16 | 117.00 |
| 35 | BA | 593 | U | C4-C5-C6 | 5.67 | 123.10 | 119.70 |
| 35 | BA | 713 | G | N3-C4-C5 | -5.67 | 125.77 | 128.60 |
| 35 | BA | 791 | G | C2-N3-C4 | 5.67 | 114.74 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 813 | U | C4'-C3'-C2' | 5.67 | 108.27 | 102.60 |
| 35 | BA | 894 | G | P-O3'-C3' | 5.67 | 126.50 | 119.70 |
| 35 | BA | 1090 | U | O4'-C1'-N1 | 5.67 | 112.74 | 108.20 |
| 35 | BA | 1420 | U | O4'-C1'-N1 | 5.67 | 112.74 | 108.20 |
| 1 | AA | 35 | C | N3-C2-O2 | -5.67 | 117.93 | 121.90 |
| 2 | AB | 251 | A | N7-C8-N9 | -5.67 | 110.97 | 113.80 |
| 2 | AB | 1136 | G | N3-C4-N9 | -5.67 | 122.60 | 126.00 |
| 2 | AB | 1197 | G | P-O3'-C3' | 5.67 | 126.50 | 119.70 |
| 35 | BA | 79 | G | N7-C8-N9 | 5.67 | 115.94 | 113.10 |
| 35 | BA | 171 | A | C5-C6-N1 | -5.67 | 114.86 | 117.70 |
| 35 | BA | 661 | G | P-O3'-C3' | 5.67 | 126.50 | 119.70 |
| 35 | BA | 855 | U | C4'-C3'-C2' | -5.67 | 96.93 | 102.60 |
| 35 | BA | 934 | C | P-O3'-C3' | 5.67 | 126.50 | 119.70 |
| 35 | BA | 1222 | G | O5'-C5'-C4' | 5.67 | 122.47 | 111.70 |
| 35 | BA | 1511 | G | C5'-C4'-O4' | 5.67 | 115.91 | 109.10 |
| 1 | AA | 48 | U | C2-N3-C4 | -5.67 | 123.60 | 127.00 |
| 2 | AB | 92 | U | O4'-C1'-N1 | 5.67 | 112.73 | 108.20 |
| 2 | AB | 107 | G | C4'-C3'-C2' | -5.67 | 96.93 | 102.60 |
| 2 | AB | 793 | A | C5-C6-N1 | -5.67 | 114.87 | 117.70 |
| 2 | AB | 953 | G | N1-C2-N3 | -5.67 | 120.50 | 123.90 |
| 2 | AB | 1620 | G | N1-C2-N3 | -5.67 | 120.50 | 123.90 |
| 2 | AB | 1763 | G | C6-C5-N7 | -5.67 | 127.00 | 130.40 |
| 2 | AB | 1768 | C | C5-C4-N4 | 5.67 | 124.17 | 120.20 |
| 2 | AB | 2344 | U | C5'-C4'-O4' | 5.67 | 115.90 | 109.10 |
| 35 | BA | 44 | A | C5-N7-C8 | 5.67 | 106.73 | 103.90 |
| 35 | BA | 289 | G | C4'-C3'-C2' | -5.67 | 96.93 | 102.60 |
| 35 | BA | 359 | G | C5'-C4'-C3' | -5.67 | 106.93 | 116.00 |
| 35 | BA | 540 | G | N7-C8-N9 | 5.67 | 115.94 | 113.10 |
| 35 | BA | 714 | G | N3-C4-C5 | -5.67 | 125.77 | 128.60 |
| 35 | BA | 1106 | G | C5'-C4'-C3' | 5.67 | 125.07 | 116.00 |
| 35 | BA | 1457 | G | C2-N3-C4 | 5.67 | 114.73 | 111.90 |
| 36 | BB | 18 | A | C5-N7-C8 | -5.67 | 101.06 | 103.90 |
| 54 | BT | 74 | GLN | CB-CA-C | 5.67 | 121.74 | 110.40 |
| 2 | AB | 8 | C | O4'-C1'-C2' | -5.67 | 100.13 | 105.80 |
| 2 | AB | 376 | G | N1-C6-O6 | -5.67 | 116.50 | 119.90 |
| 2 | AB | 1089 | A | C4'-C3'-C2' | -5.67 | 96.93 | 102.60 |
| 2 | AB | 1357 | C | C5'-C4'-O4' | 5.67 | 115.90 | 109.10 |
| 2 | AB | 1580 | A | N1-C6-N6 | -5.67 | 115.20 | 118.60 |
| 2 | AB | 2128 | G | C2-N3-C4 | -5.67 | 109.07 | 111.90 |
| 2 | AB | 2702 | G | N3-C4-N9 | 5.67 | 129.40 | 126.00 |
| 3 | AC | 90 | ALA | N-CA-CB | -5.67 | 102.17 | 110.10 |
| 35 | BA | 171 | A | N1-C6-N6 | -5.67 | 115.20 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 373 | A | C4-C5-C6 | -5.67 | 114.17 | 117.00 |
| 35 | BA | 886 | G | C6-C5-N7 | 5.67 | 133.80 | 130.40 |
| 39 | BE | 229 | LYS | C-N-CA | 5.67 | 134.20 | 122.30 |
| 2 | AB | 120 | U | C1'-O4'-C4' | 5.67 | 114.43 | 109.90 |
| 2 | AB | 468 | G | C4-N9-C1' | -5.67 | 119.14 | 126.50 |
| 2 | AB | 1729 | U | O4'-C4'-C3' | 5.67 | 110.63 | 106.10 |
| 2 | AB | 1972 | G | C3'-C2'-C1' | -5.67 | 96.97 | 101.50 |
| 2 | AB | 2572 | A | N1-C6-N6 | 5.67 | 122.00 | 118.60 |
| 2 | AB | 2879 | A | C5-N7-C8 | -5.67 | 101.07 | 103.90 |
| 2 | AB | 2893 | A | N3-C4-N9 | 5.67 | 131.93 | 127.40 |
| 35 | BA | 319 | G | O4'-C1'-C2' | -5.67 | 100.14 | 105.80 |
| 35 | BA | 570 | G | N3-C2-N2 | 5.67 | 123.86 | 119.90 |
| 35 | BA | 896 | C | O4'-C1'-N1 | 5.67 | 112.73 | 108.20 |
| 35 | BA | 1449 | C | C4-C5-C6 | -5.67 | 114.57 | 117.40 |
| 2 | AB | 27 | G | N9-C4-C5 | 5.66 | 107.67 | 105.40 |
| 2 | AB | 536 | G | C6-C5-N7 | -5.66 | 127.00 | 130.40 |
| 2 | AB | 907 | G | C1'-O4'-C4' | -5.66 | 105.37 | 109.90 |
| 2 | AB | 935 | C | C6-N1-C2 | 5.66 | 122.57 | 120.30 |
| 2 | AB | 1074 | G | C3'-C2'-C1' | -5.66 | 96.97 | 101.50 |
| 2 | AB | 1397 | U | N3-C4-O4 | -5.66 | 115.44 | 119.40 |
| 2 | AB | 1544 | A | C4'-C3'-O3' | 5.66 | 124.33 | 113.00 |
| 2 | AB | 1558 | C | C4-C5-C6 | 5.66 | 120.23 | 117.40 |
| 2 | AB | 1678 | A | N7-C8-N9 | 5.66 | 116.63 | 113.80 |
| 2 | AB | 2242 | G | C5-C6-O6 | -5.66 | 125.20 | 128.60 |
| 2 | AB | 2320 | U | C3'-C2'-C1' | -5.66 | 96.97 | 101.50 |
| 2 | AB | 2713 | U | N1-C2-N3 | 5.66 | 118.30 | 114.90 |
| 15 | AO | 18 | ARG | NH1-CZ-NH2 | -5.66 | 113.17 | 119.40 |
| 35 | BA | 116 | A | N1-C6-N6 | -5.66 | 115.20 | 118.60 |
| 35 | BA | 203 | G | C1'-O4'-C4' | -5.66 | 105.37 | 109.90 |
| 35 | BA | 533 | A | N1-C2-N3 | -5.66 | 126.47 | 129.30 |
| 35 | BA | 630 | A | C6-C5-N7 | -5.66 | 128.34 | 132.30 |
| 35 | BA | 650 | G | C8-N9-C4 | -5.66 | 104.13 | 106.40 |
| 43 | BI | 176 | TYR | CB-CG-CD2 | 5.66 | 124.40 | 121.00 |
| 49 | BO | 89 | ARG | NE-CZ-NH1 | 5.66 | 123.13 | 120.30 |
| 2 | AB | 280 | U | C5-C6-N1 | -5.66 | 119.87 | 122.70 |
| 2 | AB | 538 | A | C5-C6-N6 | -5.66 | 119.17 | 123.70 |
| 2 | AB | 2676 | C | O4'-C1'-C2' | -5.66 | 100.14 | 105.80 |
| 35 | BA | 284 | C | O4'-C1'-N1 | 5.66 | 112.73 | 108.20 |
| 35 | BA | 325 | A | N9-C4-C5 | 5.66 | 108.06 | 105.80 |
| 35 | BA | 710 | G | N3-C4-N9 | -5.66 | 122.60 | 126.00 |
| 35 | BA | 1254 | A | O4'-C1'-N9 | 5.66 | 112.73 | 108.20 |
| 35 | BA | 1304 | G | N7-C8-N9 | 5.66 | 115.93 | 113.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 44 | BJ | 109 | VAL | O-C-N | 5.66 | 131.76 | 122.70 |
| 2 | AB | 20 | C | N1-C1'-C2' | -5.66 | 105.77 | 112.00 |
| 2 | AB | 282 | A | N7-C8-N9 | -5.66 | 110.97 | 113.80 |
| 2 | AB | 322 | A | C5-C6-N1 | 5.66 | 120.53 | 117.70 |
| 2 | AB | 355 | U | C4-C5-C6 | 5.66 | 123.10 | 119.70 |
| 2 | AB | 443 | A | C5-C6-N6 | -5.66 | 119.17 | 123.70 |
| 2 | AB | 461 | C | N1-C2-O2 | 5.66 | 122.30 | 118.90 |
| 2 | AB | 885 | C | N1-C2-O2 | 5.66 | 122.30 | 118.90 |
| 2 | AB | 960 | A | C4-C5-N7 | 5.66 | 113.53 | 110.70 |
| 2 | AB | 1842 | G | C2-N3-C4 | 5.66 | 114.73 | 111.90 |
| 2 | AB | 2389 | G | N3-C4-N9 | 5.66 | 129.40 | 126.00 |
| 2 | AB | 2848 | G | N1-C2-N2 | -5.66 | 111.11 | 116.20 |
| 35 | BA | 263 | A | O4'-C1'-N9 | 5.66 | 112.73 | 108.20 |
| 37 | BC | 77 | A | C4'-C3'-C2' | 5.66 | 108.26 | 102.60 |
| 2 | AB | 570 | G | C5-C6-O6 | -5.66 | 125.20 | 128.60 |
| 2 | AB | 663 | G | N3-C2-N2 | 5.66 | 123.86 | 119.90 |
| 2 | AB | 942 | G | N3-C4-C5 | -5.66 | 125.77 | 128.60 |
| 2 | AB | 1295 | C | N1-C2-O2 | 5.66 | 122.30 | 118.90 |
| 2 | AB | 1398 | C | C5'-C4'-O4' | 5.66 | 115.89 | 109.10 |
| 2 | AB | 1482 | G | C6-N1-C2 | 5.66 | 128.50 | 125.10 |
| 2 | AB | 1753 | G | N3-C4-C5 | -5.66 | 125.77 | 128.60 |
| 2 | AB | 2318 | G | C4-C5-N7 | 5.66 | 113.06 | 110.80 |
| 2 | AB | 2557 | G | N3-C2-N2 | 5.66 | 123.86 | 119.90 |
| 35 | BA | 97 | G | C5-N7-C8 | -5.66 | 101.47 | 104.30 |
| 35 | BA | 246 | A | C2-N3-C4 | 5.66 | 113.43 | 110.60 |
| 35 | BA | 429 | U | C6-N1-C2 | -5.66 | 117.61 | 121.00 |
| 35 | BA | 458 | U | C5'-C4'-O4' | 5.66 | 115.89 | 109.10 |
| 35 | BA | 685 | G | C2-N3-C4 | 5.66 | 114.73 | 111.90 |
| 35 | BA | 1234 | C | C6-N1-C2 | -5.66 | 118.04 | 120.30 |
| 35 | BA | 1289 | A | P-O3'-C3' | 5.66 | 126.49 | 119.70 |
| 2 | AB | 2284 | A | P-O3'-C3' | 5.66 | 126.49 | 119.70 |
| 2 | AB | 2574 | G | C8-N9-C4 | -5.66 | 104.14 | 106.40 |
| 35 | BA | 406 | G | N3-C2-N2 | -5.66 | 115.94 | 119.90 |
| 35 | BA | 570 | G | C8-N9-C4 | -5.66 | 104.14 | 106.40 |
| 35 | BA | 1312 | G | C6-C5-N7 | 5.66 | 133.79 | 130.40 |
| 35 | BA | 1418 | A | N9-C4-C5 | 5.66 | 108.06 | 105.80 |
| 2 | AB | 8 | C | N3-C4-C5 | -5.66 | 119.64 | 121.90 |
| 2 | AB | 356 | G | C6-C5-N7 | -5.66 | 127.01 | 130.40 |
| 2 | AB | 564 | C | N1-C2-O2 | 5.66 | 122.29 | 118.90 |
| 2 | AB | 636 | G | N1-C2-N3 | 5.66 | 127.29 | 123.90 |
| 2 | AB | 1261 | C | N3-C4-C5 | -5.66 | 119.64 | 121.90 |
| 2 | AB | 1687 | G | C5-N7-C8 | -5.66 | 101.47 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2592 | G | C6-N1-C2 | -5.66 | 121.71 | 125.10 |
| 31 | A4 | 27 | ARG | CD-NE-CZ | 5.66 | 131.52 | 123.60 |
| 35 | BA | 162 | A | P-O3'-C3' | 5.66 | 126.49 | 119.70 |
| 35 | BA | 185 | U | C5'-C4'-O4' | 5.66 | 115.89 | 109.10 |
| 35 | BA | 229 | U | C4'-C3'-C2' | -5.66 | 96.94 | 102.60 |
| 35 | BA | 407 | U | C2-N3-C4 | -5.66 | 123.61 | 127.00 |
| 35 | BA | 741 | G | C8-N9-C1' | 5.66 | 134.35 | 127.00 |
| 35 | BA | 921 | U | N1-C1'-C2' | -5.66 | 105.78 | 112.00 |
| 35 | BA | 1033 | G | N3-C4-N9 | 5.66 | 129.39 | 126.00 |
| 35 | BA | 1180 | A | P-O3'-C3' | 5.66 | 126.49 | 119.70 |
| 37 | BC | 68 | C | O4'-C1'-C2' | -5.66 | 100.14 | 105.80 |
| 2 | AB | 161 | A | N1-C2-N3 | -5.65 | 126.47 | 129.30 |
| 2 | AB | 776 | G | N3-C4-C5 | -5.65 | 125.77 | 128.60 |
| 2 | AB | 981 | A | N1-C2-N3 | -5.65 | 126.47 | 129.30 |
| 2 | AB | 2310 | C | N3-C2-O2 | -5.65 | 117.94 | 121.90 |
| 2 | AB | 2510 | C | N1-C2-O2 | -5.65 | 115.51 | 118.90 |
| 2 | AB | 2841 | C | C4-C5-C6 | -5.65 | 114.57 | 117.40 |
| 2 | AB | 2852 | G | C6-C5-N7 | -5.65 | 127.01 | 130.40 |
| 35 | BA | 562 | U | C4'-C3'-C2' | -5.65 | 96.95 | 102.60 |
| 35 | BA | 1356 | G | N1-C2-N3 | -5.65 | 120.51 | 123.90 |
| 35 | BA | 1430 | A | C1'-O4'-C4' | 5.65 | 114.42 | 109.90 |
| 2 | AB | 172 | A | N1-C6-N6 | -5.65 | 115.21 | 118.60 |
| 2 | AB | 463 | G | C3'-C2'-C1' | -5.65 | 96.98 | 101.50 |
| 2 | AB | 636 | G | C4-C5-N7 | 5.65 | 113.06 | 110.80 |
| 2 | AB | 845 | A | C6-N1-C2 | 5.65 | 121.99 | 118.60 |
| 2 | AB | 1170 | C | N3-C4-N4 | 5.65 | 121.96 | 118.00 |
| 2 | AB | 1906 | G | N3-C4-C5 | -5.65 | 125.77 | 128.60 |
| 2 | AB | 1956 | U | C2-N1-C1' | -5.65 | 110.92 | 117.70 |
| 2 | AB | 2329 | U | N3-C4-O4 | 5.65 | 123.36 | 119.40 |
| 2 | AB | 2331 | G | N7-C8-N9 | 5.65 | 115.93 | 113.10 |
| 2 | AB | 2589 | A | N1-C2-N3 | 5.65 | 132.13 | 129.30 |
| 2 | AB | 2594 | C | N1-C1'-C2' | -5.65 | 105.78 | 112.00 |
| 2 | AB | 2669 | G | O4'-C1'-N9 | -5.65 | 103.68 | 108.20 |
| 19 | AS | 46 | TYR | CZ-CE2-CD2 | 5.65 | 124.89 | 119.80 |
| 35 | BA | 1106 | G | C5-C6-O6 | -5.65 | 125.21 | 128.60 |
| 35 | BA | 1148 | U | N1-C2-O2 | -5.65 | 118.84 | 122.80 |
| 35 | BA | 1180 | A | N9-C4-C5 | 5.65 | 108.06 | 105.80 |
| 2 | AB | 372 | G | C8-N9-C4 | -5.65 | 104.14 | 106.40 |
| 2 | AB | 506 | G | C5-N7-C8 | -5.65 | 101.47 | 104.30 |
| 2 | AB | 579 | G | O4'-C4'-C3' | 5.65 | 110.62 | 106.10 |
| 2 | AB | 929 | U | C5-C4-O4 | -5.65 | 122.51 | 125.90 |
| 2 | AB | 1159 | U | N1-C2-N3 | -5.65 | 111.51 | 114.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1272 | A | N1-C6-N6 | 5.65 | 121.99 | 118.60 |
| 2 | AB | 1598 | A | C5-N7-C8 | 5.65 | 106.73 | 103.90 |
| 2 | AB | 2072 | C | N1-C2-N3 | -5.65 | 115.25 | 119.20 |
| 2 | AB | 2224 | G | C5-C6-N1 | 5.65 | 114.33 | 111.50 |
| 2 | AB | 2676 | C | C4-C5-C6 | 5.65 | 120.22 | 117.40 |
| 2 | AB | 2732 | G | P-O3'-C3' | 5.65 | 126.48 | 119.70 |
| 4 | AD | 70 | LYS | O-C-N | 5.65 | 131.74 | 122.70 |
| 12 | AL | 37 | ARG | NE-CZ-NH2 | 5.65 | 123.12 | 120.30 |
| 35 | BA | 704 | A | N1-C6-N6 | -5.65 | 115.21 | 118.60 |
| 35 | BA | 927 | G | C5-C6-O6 | -5.65 | 125.21 | 128.60 |
| 35 | BA | 1043 | G | C4-C5-C6 | 5.65 | 122.19 | 118.80 |
| 2 | AB | 589 | U | C1'-O4'-C4' | -5.65 | 105.38 | 109.90 |
| 2 | AB | 1991 | U | C6-N1-C2 | -5.65 | 117.61 | 121.00 |
| 37 | BC | 63 | C | C5'-C4'-O4' | 5.65 | 115.88 | 109.10 |
| 2 | AB | 364 | C | O4'-C4'-C3' | 5.65 | 110.62 | 106.10 |
| 2 | AB | 531 | C | C2-N3-C4 | 5.65 | 122.72 | 119.90 |
| 2 | AB | 2124 | G | C4-C5-C6 | 5.65 | 122.19 | 118.80 |
| 2 | AB | 2250 | G | N3-C4-C5 | -5.65 | 125.78 | 128.60 |
| 2 | AB | 2266 | A | C8-N9-C4 | 5.65 | 108.06 | 105.80 |
| 2 | AB | 2618 | G | N3-C4-C5 | -5.65 | 125.78 | 128.60 |
| 2 | AB | 2825 | G | N3-C2-N2 | -5.65 | 115.95 | 119.90 |
| 35 | BA | 103 | U | C5'-C4'-O4' | 5.65 | 115.88 | 109.10 |
| 35 | BA | 115 | G | C5-N7-C8 | -5.65 | 101.48 | 104.30 |
| 35 | BA | 141 | G | C3'-C2'-C1' | -5.65 | 96.98 | 101.50 |
| 35 | BA | 597 | G | C4-C5-N7 | -5.65 | 108.54 | 110.80 |
| 35 | BA | 688 | G | C4-C5-N7 | 5.65 | 113.06 | 110.80 |
| 35 | BA | 804 | U | C4'-C3'-C2' | -5.65 | 96.95 | 102.60 |
| 35 | BA | 1008 | U | C4-C5-C6 | 5.65 | 123.09 | 119.70 |
| 35 | BA | 1285 | A | N3-C4-N9 | 5.65 | 131.92 | 127.40 |
| 37 | BC | 25 | U | N3-C4-O4 | -5.65 | 115.45 | 119.40 |
| 2 | AB | 715 | A | C4-C5-N7 | -5.65 | 107.88 | 110.70 |
| 2 | AB | 1038 | G | C2-N3-C4 | 5.65 | 114.72 | 111.90 |
| 2 | AB | 1938 | A | C4-C5-N7 | -5.65 | 107.88 | 110.70 |
| 2 | AB | 2545 | G | N1-C2-N3 | -5.65 | 120.51 | 123.90 |
| 35 | BA | 269 | C | N1-C2-O2 | -5.65 | 115.51 | 118.90 |
| 35 | BA | 592 | G | N1-C6-O6 | -5.65 | 116.51 | 119.90 |
| 35 | BA | 620 | C | N1-C2-O2 | 5.65 | 122.29 | 118.90 |
| 35 | BA | 890 | G | C5-N7-C8 | -5.65 | 101.48 | 104.30 |
| 2 | AB | 99 | U | C2-N3-C4 | -5.64 | 123.61 | 127.00 |
| 2 | AB | 1296 | G | C4-C5-C6 | -5.64 | 115.41 | 118.80 |
| 2 | AB | 1516 | G | C8-N9-C1' | 5.64 | 134.34 | 127.00 |
| 2 | AB | 1841 | U | C4-C5-C6 | 5.64 | 123.09 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2148 | G | C5'-C4'-C3' | 5.64 | 125.03 | 116.00 |
| 2 | AB | 2364 | C | O4'-C1'-N1 | 5.64 | 112.72 | 108.20 |
| 2 | AB | 2471 | A | C5-N7-C8 | 5.64 | 106.72 | 103.90 |
| 2 | AB | 2473 | U | C4-C5-C6 | 5.64 | 123.09 | 119.70 |
| 2 | AB | 2692 | G | N1-C2-N3 | 5.64 | 127.29 | 123.90 |
| 2 | AB | 2700 | A | C5-C6-N1 | 5.64 | 120.52 | 117.70 |
| 5 | AE | 125 | TRP | CB-CG-CD2 | 5.64 | 133.94 | 126.60 |
| 35 | BA | 552 | U | C2-N3-C4 | -5.64 | 123.61 | 127.00 |
| 35 | BA | 701 | U | O4'-C1'-N1 | -5.64 | 103.69 | 108.20 |
| 35 | BA | 875 | U | C5'-C4'-O4' | 5.64 | 115.87 | 109.10 |
| 35 | BA | 1232 | U | N1-C1'-C2' | -5.64 | 105.79 | 112.00 |
| 35 | BA | 1333 | A | C6-C5-N7 | 5.64 | 136.25 | 132.30 |
| 35 | BA | 1348 | U | C4-C5-C6 | 5.64 | 123.09 | 119.70 |
| 1 | AA | 45 | A | C4-C5-N7 | 5.64 | 113.52 | 110.70 |
| 2 | AB | 756 | A | C4-C5-C6 | -5.64 | 114.18 | 117.00 |
| 2 | AB | 1572 | A | O4'-C1'-N9 | 5.64 | 112.72 | 108.20 |
| 2 | AB | 1707 | G | C8-N9-C1' | 5.64 | 134.34 | 127.00 |
| 2 | AB | 1786 | A | O4'-C1'-N9 | 5.64 | 112.71 | 108.20 |
| 2 | AB | 2262 | U | N1-C2-N3 | 5.64 | 118.28 | 114.90 |
| 2 | AB | 2525 | G | N1-C2-N3 | 5.64 | 127.29 | 123.90 |
| 2 | AB | 2668 | G | N3-C4-C5 | -5.64 | 125.78 | 128.60 |
| 2 | AB | 2889 | C | C1'-O4'-C4' | 5.64 | 114.41 | 109.90 |
| 35 | BA | 208 | U | OP2-P-O3' | 5.64 | 117.61 | 105.20 |
| 35 | BA | 424 | G | N9-C4-C5 | 5.64 | 107.66 | 105.40 |
| 35 | BA | 690 | G | N9-C1'-C2' | -5.64 | 105.79 | 112.00 |
| 35 | BA | 1007 | U | O4'-C1'-N1 | 5.64 | 112.71 | 108.20 |
| 35 | BA | 1089 | G | C6-C5-N7 | -5.64 | 127.02 | 130.40 |
| 35 | BA | 1134 | G | N9-C4-C5 | 5.64 | 107.66 | 105.40 |
| 35 | BA | 1180 | A | O4'-C1'-N9 | 5.64 | 112.71 | 108.20 |
| 38 | BD | 63 | LYS | CA-CB-CG | 5.64 | 125.81 | 113.40 |
| 2 | AB | 252 | G | N7-C8-N9 | 5.64 | 115.92 | 113.10 |
| 2 | AB | 1071 | G | C4-C5-N7 | -5.64 | 108.54 | 110.80 |
| 2 | AB | 1510 | G | N3-C4-N9 | -5.64 | 122.62 | 126.00 |
| 2 | AB | 1650 | A | O4'-C1'-N9 | -5.64 | 103.69 | 108.20 |
| 2 | AB | 1773 | A | O4'-C1'-N9 | -5.64 | 103.69 | 108.20 |
| 2 | AB | 2587 | A | P-O3'-C3' | 5.64 | 126.47 | 119.70 |
| 35 | BA | 343 | U | C5'-C4'-O4' | 5.64 | 115.87 | 109.10 |
| 35 | BA | 1260 | G | N3-C2-N2 | 5.64 | 123.85 | 119.90 |
| 35 | BA | 1288 | A | N9-C1'-C2' | -5.64 | 105.79 | 112.00 |
| 36 | BB | 29 | G | C8-N9-C4 | -5.64 | 104.14 | 106.40 |
| 2 | AB | 468 | G | N9-C1'-C2' | -5.64 | 105.80 | 112.00 |
| 2 | AB | 512 | G | C8-N9-C1' | 5.64 | 134.33 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 515 | A | C4'-C3'-C2' | -5.64 | 96.96 | 102.60 |
| 2 | AB | 821 | A | N1-C2-N3 | -5.64 | 126.48 | 129.30 |
| 2 | AB | 892 | A | C5'-C4'-O4' | 5.64 | 115.87 | 109.10 |
| 2 | AB | 1536 | C | N1-C1'-C2' | 5.64 | 121.33 | 114.00 |
| 2 | AB | 1637 | A | N1-C2-N3 | -5.64 | 126.48 | 129.30 |
| 2 | AB | 1668 | A | C4-C5-C6 | 5.64 | 119.82 | 117.00 |
| 2 | AB | 1811 | G | N3-C4-N9 | 5.64 | 129.38 | 126.00 |
| 2 | AB | 1838 | C | O4'-C1'-N1 | 5.64 | 112.71 | 108.20 |
| 2 | AB | 2430 | A | C6-N1-C2 | -5.64 | 115.22 | 118.60 |
| 2 | AB | 2894 | G | C2-N3-C4 | 5.64 | 114.72 | 111.90 |
| 35 | BA | 93 | U | C3'-C2'-C1' | 5.64 | 106.01 | 101.50 |
| 35 | BA | 325 | A | N1-C6-N6 | -5.64 | 115.22 | 118.60 |
| 35 | BA | 663 | A | N7-C8-N9 | 5.64 | 116.62 | 113.80 |
| 35 | BA | 803 | G | N1-C6-O6 | -5.64 | 116.52 | 119.90 |
| 35 | BA | 1259 | C | N3-C4-N4 | 5.64 | 121.95 | 118.00 |
| 39 | BE | 163 | ARG | NE-CZ-NH1 | -5.64 | 117.48 | 120.30 |
| 2 | AB | 712 | G | C6-N1-C2 | 5.64 | 128.48 | 125.10 |
| 2 | AB | 1427 | A | C6-C5-N7 | 5.64 | 136.25 | 132.30 |
| 2 | AB | 2557 | G | N1-C6-O6 | -5.64 | 116.52 | 119.90 |
| 2 | AB | 2879 | A | C4-C5-C6 | -5.64 | 114.18 | 117.00 |
| 35 | BA | 258 | G | C5-N7-C8 | -5.64 | 101.48 | 104.30 |
| 35 | BA | 573 | A | C2-N3-C4 | 5.64 | 113.42 | 110.60 |
| 1 | AA | 79 | G | C5-N7-C8 | -5.64 | 101.48 | 104.30 |
| 2 | AB | 98 | G | N3-C2-N2 | -5.64 | 115.95 | 119.90 |
| 2 | AB | 509 | C | O4'-C4'-C3' | 5.64 | 110.61 | 106.10 |
| 2 | AB | 561 | G | N9-C1'-C2' | -5.64 | 105.80 | 112.00 |
| 2 | AB | 648 | G | C2'-C3'-O3' | 5.64 | 122.72 | 113.70 |
| 2 | AB | 904 | G | N3-C2-N2 | -5.64 | 115.95 | 119.90 |
| 2 | AB | 1104 | C | C2-N3-C4 | -5.64 | 117.08 | 119.90 |
| 2 | AB | 1135 | C | N1-C2-N3 | -5.64 | 115.25 | 119.20 |
| 2 | AB | 1200 | C | C2-N3-C4 | 5.64 | 122.72 | 119.90 |
| 2 | AB | 1268 | A | N1-C2-N3 | -5.64 | 126.48 | 129.30 |
| 2 | AB | 1675 | C | N1-C2-O2 | 5.64 | 122.28 | 118.90 |
| 2 | AB | 1749 | A | N3-C4-N9 | -5.64 | 122.89 | 127.40 |
| 2 | AB | 1823 | G | C5-C6-N1 | -5.64 | 108.68 | 111.50 |
| 2 | AB | 1990 | C | N3-C2-O2 | -5.64 | 117.95 | 121.90 |
| 2 | AB | 2098 | U | C4'-C3'-C2' | -5.64 | 96.96 | 102.60 |
| 2 | AB | 2148 | G | C5-C6-N1 | 5.64 | 114.32 | 111.50 |
| 2 | AB | 2356 | U | N3-C4-O4 | -5.64 | 115.45 | 119.40 |
| 2 | AB | 2885 | G | N3-C4-C5 | -5.64 | 125.78 | 128.60 |
| 4 | AD | 202 | ARG | NE-CZ-NH1 | 5.64 | 123.12 | 120.30 |
| 7 | AG | 78 | ILE | CB-CA-C | 5.64 | 122.88 | 111.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 148 | G | C6-N1-C2 | -5.64 | 121.72 | 125.10 |
| 35 | BA | 182 | A | N9-C4-C5 | 5.64 | 108.06 | 105.80 |
| 35 | BA | 722 | G | N3-C4-C5 | 5.64 | 131.42 | 128.60 |
| 35 | BA | 745 | G | O3'-P-O5' | -5.64 | 93.29 | 104.00 |
| 35 | BA | 1080 | A | P-O3'-C3' | 5.64 | 126.46 | 119.70 |
| 50 | BP | 80 | ARG | NE-CZ-NH2 | 5.64 | 123.12 | 120.30 |
| 2 | AB | 411 | G | O5'-P-OP2 | -5.63 | 100.63 | 105.70 |
| 2 | AB | 481 | G | C5-C6-N1 | 5.63 | 114.32 | 111.50 |
| 2 | AB | 612 | G | N3-C2-N2 | 5.63 | 123.84 | 119.90 |
| 2 | AB | 810 | U | O4'-C1'-N1 | -5.63 | 103.69 | 108.20 |
| 2 | AB | 1419 | A | N1-C2-N3 | -5.63 | 126.48 | 129.30 |
| 2 | AB | 1819 | A | C3'-C2'-C1' | 5.63 | 106.01 | 101.50 |
| 2 | AB | 2418 | A | N9-C1'-C2' | -5.63 | 105.80 | 112.00 |
| 2 | AB | 2421 | G | C1'-O4'-C4' | 5.63 | 114.41 | 109.90 |
| 2 | AB | 2610 | C | O4'-C1'-N1 | -5.63 | 103.69 | 108.20 |
| 2 | AB | 2896 | C | C5-C4-N4 | -5.63 | 116.26 | 120.20 |
| 25 | AY | 59 | PHE | CB-CG-CD2 | -5.63 | 116.86 | 120.80 |
| 35 | BA | 278 | G | C5-C6-O6 | -5.63 | 125.22 | 128.60 |
| 35 | BA | 293 | G | C6-C5-N7 | -5.63 | 127.02 | 130.40 |
| 35 | BA | 710 | G | C4-C5-N7 | -5.63 | 108.55 | 110.80 |
| 35 | BA | 715 | A | O5'-P-OP1 | -5.63 | 100.63 | 105.70 |
| 35 | BA | 840 | C | C1'-O4'-C4' | -5.63 | 105.39 | 109.90 |
| 35 | BA | 1158 | C | C5-C6-N1 | 5.63 | 123.82 | 121.00 |
| 35 | BA | 1455 | G | C8-N9-C4 | -5.63 | 104.15 | 106.40 |
| 2 | AB | 828 | U | C5'-C4'-O4' | 5.63 | 115.86 | 109.10 |
| 2 | AB | 1585 | C | N1-C2-N3 | -5.63 | 115.26 | 119.20 |
| 35 | BA | 1331 | G | N7-C8-N9 | 5.63 | 115.92 | 113.10 |
| 48 | BN | 47 | ALA | N-CA-CB | -5.63 | 102.21 | 110.10 |
| 1 | AA | 2 | G | C4-C5-N7 | -5.63 | 108.55 | 110.80 |
| 1 | AA | 10 | G | N3-C2-N2 | -5.63 | 115.96 | 119.90 |
| 2 | AB | 160 | A | N3-C4-C5 | -5.63 | 122.86 | 126.80 |
| 2 | AB | 362 | A | C4-C5-C6 | -5.63 | 114.18 | 117.00 |
| 2 | AB | 551 | G | N3-C4-N9 | 5.63 | 129.38 | 126.00 |
| 2 | AB | 609 | A | C5-C6-N1 | -5.63 | 114.89 | 117.70 |
| 2 | AB | 719 | C | C5-C4-N4 | -5.63 | 116.26 | 120.20 |
| 2 | AB | 915 | C | O4'-C1'-N1 | 5.63 | 112.70 | 108.20 |
| 2 | AB | 1393 | A | O4'-C1'-C2' | 5.63 | 112.67 | 107.60 |
| 2 | AB | 2350 | C | N3-C2-O2 | -5.63 | 117.96 | 121.90 |
| 35 | BA | 152 | A | C4'-C3'-C2' | -5.63 | 96.97 | 102.60 |
| 35 | BA | 296 | U | N3-C4-C5 | -5.63 | 111.22 | 114.60 |
| 35 | BA | 558 | G | N1-C2-N2 | 5.63 | 121.27 | 116.20 |
| 35 | BA | 562 | U | N1-C2-N3 | 5.63 | 118.28 | 114.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1017 | U | C1'-O4'-C4' | 5.63 | 114.41 | 109.90 |
| 35 | BA | 1041 | G | N9-C4-C5 | 5.63 | 107.65 | 105.40 |
| 35 | BA | 1487 | G | C5'-C4'-O4' | 5.63 | 115.86 | 109.10 |
| 35 | BA | 1496 | C | O4'-C1'-N1 | 5.63 | 112.70 | 108.20 |
| 37 | BC | 4 | G | C3'-C2'-C1' | 5.63 | 106.00 | 101.50 |
| 37 | BC | 19 | G | N9-C4-C5 | -5.63 | 103.15 | 105.40 |
| 2 | AB | 164 | C | O5'-P-OP2 | -5.63 | 100.63 | 105.70 |
| 2 | AB | 191 | A | C3'-C2'-C1' | 5.63 | 106.00 | 101.50 |
| 2 | AB | 1036 | G | N9-C4-C5 | 5.63 | 107.65 | 105.40 |
| 2 | AB | 1169 | A | C5-C6-N6 | -5.63 | 119.20 | 123.70 |
| 2 | AB | 1777 | U | C4'-C3'-C2' | -5.63 | 96.97 | 102.60 |
| 2 | AB | 2057 | G | C5-C6-O6 | -5.63 | 125.22 | 128.60 |
| 2 | AB | 2496 | C | C3'-C2'-C1' | 5.63 | 106.00 | 101.50 |
| 2 | AB | 2544 | G | C8-N9-C4 | 5.63 | 108.65 | 106.40 |
| 35 | BA | 247 | G | C2-N3-C4 | 5.63 | 114.72 | 111.90 |
| 35 | BA | 1008 | U | C5-C6-N1 | -5.63 | 119.89 | 122.70 |
| 1 | AA | 107 | G | C5'-C4'-O4' | 5.63 | 115.85 | 109.10 |
| 2 | AB | 956 | G | N3-C4-C5 | -5.63 | 125.78 | 128.60 |
| 2 | AB | 1362 | C | C2-N3-C4 | 5.63 | 122.72 | 119.90 |
| 2 | AB | 1474 | U | N1-C2-N3 | -5.63 | 111.52 | 114.90 |
| 2 | AB | 1712 | U | P-O3'-C3' | 5.63 | 126.45 | 119.70 |
| 2 | AB | 1932 | A | C5-C6-N1 | 5.63 | 120.52 | 117.70 |
| 2 | AB | 2010 | G | O4'-C1'-N9 | 5.63 | 112.70 | 108.20 |
| 2 | AB | 2134 | A | C4-C5-N7 | -5.63 | 107.89 | 110.70 |
| 2 | AB | 2572 | A | C6-C5-N7 | 5.63 | 136.24 | 132.30 |
| 2 | AB | 2846 | G | N1-C2-N3 | -5.63 | 120.52 | 123.90 |
| 35 | BA | 366 | A | N9-C4-C5 | 5.63 | 108.05 | 105.80 |
| 35 | BA | 597 | G | N3-C4-N9 | -5.63 | 122.62 | 126.00 |
| 35 | BA | 611 | C | C1'-O4'-C4' | -5.63 | 105.40 | 109.90 |
| 35 | BA | 664 | G | C8-N9-C1' | 5.63 | 134.32 | 127.00 |
| 35 | BA | 878 | A | C8-N9-C4 | -5.63 | 103.55 | 105.80 |
| 55 | BU | 53 | GLY | CA-C-O | -5.63 | 110.47 | 120.60 |
| 2 | AB | 418 | C | N1-C2-O2 | 5.63 | 122.28 | 118.90 |
| 2 | AB | 984 | A | C2-N3-C4 | -5.63 | 107.79 | 110.60 |
| 2 | AB | 1116 | G | N9-C4-C5 | 5.63 | 107.65 | 105.40 |
| 2 | AB | 1206 | G | N1-C6-O6 | -5.63 | 116.52 | 119.90 |
| 2 | AB | 1877 | A | C5-N7-C8 | -5.63 | 101.09 | 103.90 |
| 2 | AB | 2081 | U | C4'-C3'-C2' | -5.63 | 96.97 | 102.60 |
| 2 | AB | 2105 | U | N1-C2-N3 | -5.63 | 111.52 | 114.90 |
| 2 | AB | 2176 | A | C5'-C4'-O4' | 5.63 | 115.85 | 109.10 |
| 2 | AB | 2286 | G | N1-C2-N2 | 5.63 | 121.26 | 116.20 |
| 35 | BA | 50 | A | C5-C6-N1 | 5.63 | 120.51 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 211 | G | C5'-C4'-C3' | -5.63 | 107.00 | 116.00 |
| 35 | BA | 550 | G | C2-N3-C4 | 5.63 | 114.71 | 111.90 |
| 35 | BA | 873 | A | N7-C8-N9 | 5.63 | 116.61 | 113.80 |
| 35 | BA | 1166 | G | C4-C5-N7 | -5.63 | 108.55 | 110.80 |
| 35 | BA | 1172 | C | C5-C6-N1 | 5.63 | 123.81 | 121.00 |
| 36 | BB | 52 | U | N3-C4-O4 | -5.63 | 115.46 | 119.40 |
| 2 | AB | 187 | G | N1-C6-O6 | -5.62 | 116.53 | 119.90 |
| 2 | AB | 357 | C | O4'-C1'-N1 | 5.62 | 112.70 | 108.20 |
| 2 | AB | 665 | U | N3-C2-O2 | -5.62 | 118.26 | 122.20 |
| 2 | AB | 804 | A | N7-C8-N9 | 5.62 | 116.61 | 113.80 |
| 2 | AB | 2305 | U | C5'-C4'-O4' | 5.62 | 115.85 | 109.10 |
| 35 | BA | 380 | G | N1-C2-N3 | -5.62 | 120.53 | 123.90 |
| 35 | BA | 1424 | U | C4-C5-C6 | 5.62 | 123.08 | 119.70 |
| 35 | BA | 1434 | A | C4-C5-C6 | -5.62 | 114.19 | 117.00 |
| 37 | BC | 29 | C | C4'-C3'-C2' | -5.62 | 96.97 | 102.60 |
| 51 | BQ | 52 | ARG | NH1-CZ-NH2 | -5.62 | 113.21 | 119.40 |
| 1 | AA | 55 | U | C2-N3-C4 | -5.62 | 123.63 | 127.00 |
| 2 | AB | 467 | G | C5-N7-C8 | 5.62 | 107.11 | 104.30 |
| 2 | AB | 820 | A | C3'-C2'-C1' | -5.62 | 97.00 | 101.50 |
| 2 | AB | 1017 | G | C8-N9-C4 | -5.62 | 104.15 | 106.40 |
| 2 | AB | 1124 | G | C6-N1-C2 | -5.62 | 121.73 | 125.10 |
| 2 | AB | 1234 | U | N1-C2-O2 | 5.62 | 126.74 | 122.80 |
| 2 | AB | 1246 | A | C4-C5-C6 | -5.62 | 114.19 | 117.00 |
| 2 | AB | 1682 | G | C6-C5-N7 | -5.62 | 127.03 | 130.40 |
| 35 | BA | 393 | A | C5-C6-N6 | -5.62 | 119.20 | 123.70 |
| 35 | BA | 653 | U | C4'-C3'-C2' | 5.62 | 108.22 | 102.60 |
| 35 | BA | 1095 | U | C4-C5-C6 | 5.62 | 123.08 | 119.70 |
| 35 | BA | 1160 | G | O4'-C1'-N9 | -5.62 | 103.70 | 108.20 |
| 35 | BA | 1422 | G | N3-C4-N9 | 5.62 | 129.37 | 126.00 |
| 36 | BB | 48 | C | O4'-C1'-N1 | 5.62 | 112.70 | 108.20 |
| 37 | BC | 31 | G | C6-C5-N7 | -5.62 | 127.03 | 130.40 |
| 2 | AB | 331 | C | C5-C6-N1 | 5.62 | 123.81 | 121.00 |
| 2 | AB | 1029 | A | C4-C5-C6 | 5.62 | 119.81 | 117.00 |
| 2 | AB | 1035 | U | P-O3'-C3' | 5.62 | 126.45 | 119.70 |
| 2 | AB | 1275 | A | C4-C5-C6 | -5.62 | 114.19 | 117.00 |
| 2 | AB | 1428 | C | C1'-O4'-C4' | 5.62 | 114.40 | 109.90 |
| 2 | AB | 1653 | G | P-O3'-C3' | 5.62 | 126.45 | 119.70 |
| 2 | AB | 1802 | A | C6-C5-N7 | -5.62 | 128.36 | 132.30 |
| 2 | AB | 1889 | A | C4'-C3'-C2' | -5.62 | 96.98 | 102.60 |
| 2 | AB | 1910 | G | N9-C4-C5 | 5.62 | 107.65 | 105.40 |
| 2 | AB | 2105 | U | C3'-C2'-C1' | 5.62 | 106.00 | 101.50 |
| 2 | AB | 2709 | G | C5-C6-N1 | 5.62 | 114.31 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2854 | G | N1-C6-O6 | -5.62 | 116.53 | 119.90 |
| 35 | BA | 110 | C | C3'-C2'-C1' | 5.62 | 106.00 | 101.50 |
| 35 | BA | 141 | G | C5-C6-O6 | -5.62 | 125.23 | 128.60 |
| 35 | BA | 422 | C | O4'-C1'-C2' | -5.62 | 100.18 | 105.80 |
| 35 | BA | 766 | A | C4-C5-N7 | -5.62 | 107.89 | 110.70 |
| 35 | BA | 877 | G | N3-C2-N2 | -5.62 | 115.97 | 119.90 |
| 35 | BA | 1019 | A | C4-C5-N7 | 5.62 | 113.51 | 110.70 |
| 35 | BA | 1065 | U | N3-C4-C5 | -5.62 | 111.23 | 114.60 |
| 35 | BA | 1134 | G | O4'-C1'-N9 | 5.62 | 112.70 | 108.20 |
| 35 | BA | 1166 | G | N3-C4-N9 | 5.62 | 129.37 | 126.00 |
| 35 | BA | 1267 | C | N1-C2-O2 | 5.62 | 122.27 | 118.90 |
| 36 | BB | 37 | G | C4-C5-N7 | -5.62 | 108.55 | 110.80 |
| 2 | AB | 381 | G | N7-C8-N9 | 5.62 | 115.91 | 113.10 |
| 2 | AB | 949 | G | N3-C2-N2 | -5.62 | 115.97 | 119.90 |
| 2 | AB | 2196 | C | N3-C4-N4 | 5.62 | 121.93 | 118.00 |
| 2 | AB | 2661 | G | C3'-C2'-C1' | 5.62 | 106.00 | 101.50 |
| 35 | BA | 1256 | A | O4'-C1'-N9 | 5.62 | 112.70 | 108.20 |
| 2 | AB | 681 | G | C6-N1-C2 | -5.62 | 121.73 | 125.10 |
| 2 | AB | 1018 | U | C6-N1-C2 | -5.62 | 117.63 | 121.00 |
| 2 | AB | 1305 | C | C4'-C3'-C2' | -5.62 | 96.98 | 102.60 |
| 2 | AB | 1458 | U | O5'-P-OP1 | -5.62 | 100.64 | 105.70 |
| 2 | AB | 1755 | A | C4-C5-N7 | -5.62 | 107.89 | 110.70 |
| 2 | AB | 2626 | C | N1-C2-N3 | 5.62 | 123.13 | 119.20 |
| 30 | A3 | 48 | TYR | CB-CG-CD1 | -5.62 | 117.63 | 121.00 |
| 35 | BA | 81 | A | N1-C2-N3 | 5.62 | 132.11 | 129.30 |
| 35 | BA | 202 | G | N7-C8-N9 | -5.62 | 110.29 | 113.10 |
| 35 | BA | 605 | U | C4-C5-C6 | 5.62 | 123.07 | 119.70 |
| 35 | BA | 845 | A | N1-C6-N6 | -5.62 | 115.23 | 118.60 |
| 35 | BA | 924 | C | N1-C1'-C2' | -5.62 | 105.82 | 112.00 |
| 35 | BA | 1509 | C | N1-C2-N3 | -5.62 | 115.27 | 119.20 |
| 1 | AA | 112 | G | C1'-O4'-C4' | 5.62 | 114.39 | 109.90 |
| 2 | AB | 335 | C | P-O3'-C3' | 5.62 | 126.44 | 119.70 |
| 2 | AB | 849 | A | N1-C6-N6 | -5.62 | 115.23 | 118.60 |
| 2 | AB | 2266 | A | O4'-C4'-C3' | 5.62 | 110.59 | 106.10 |
| 2 | AB | 2418 | A | C3'-C2'-C1' | -5.62 | 97.01 | 101.50 |
| 13 | AM | 105 | ARG | NE-CZ-NH1 | -5.62 | 117.49 | 120.30 |
| 35 | BA | 46 | G | C8-N9-C1' | 5.62 | 134.30 | 127.00 |
| 35 | BA | 383 | A | N7-C8-N9 | 5.62 | 116.61 | 113.80 |
| 2 | AB | 131 | A | C4-C5-N7 | 5.62 | 113.51 | 110.70 |
| 2 | AB | 252 | G | C8-N9-C4 | -5.62 | 104.15 | 106.40 |
| 2 | AB | 869 | G | N7-C8-N9 | 5.62 | 115.91 | 113.10 |
| 2 | AB | 932 | U | O4'-C4'-C3' | 5.62 | 110.59 | 106.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1103 | A | C4-C5-N7 | -5.62 | 107.89 | 110.70 |
| 2 | AB | 1339 | G | C4-C5-N7 | 5.62 | 113.05 | 110.80 |
| 2 | AB | 1354 | A | C6-N1-C2 | -5.62 | 115.23 | 118.60 |
| 2 | AB | 1605 | C | N3-C4-C5 | -5.62 | 119.65 | 121.90 |
| 2 | AB | 2040 | G | C2-N3-C4 | 5.62 | 114.71 | 111.90 |
| 2 | AB | 2478 | A | C1'-O4'-C4' | -5.62 | 105.41 | 109.90 |
| 2 | AB | 2564 | A | P-O3'-C3' | 5.62 | 126.44 | 119.70 |
| 2 | AB | 2852 | G | N3-C2-N2 | 5.62 | 123.83 | 119.90 |
| 24 | AX | 79 | ARG | NE-CZ-NH2 | -5.62 | 117.49 | 120.30 |
| 35 | BA | 166 | U | C2-N3-C4 | -5.62 | 123.63 | 127.00 |
| 35 | BA | 1382 | C | O4'-C1'-N1 | 5.62 | 112.69 | 108.20 |
| 2 | AB | 54 | G | C5-C6-O6 | -5.61 | 125.23 | 128.60 |
| 2 | AB | 89 | A | N7-C8-N9 | -5.61 | 110.99 | 113.80 |
| 2 | AB | 572 | A | C4'-C3'-O3' | 5.61 | 124.23 | 113.00 |
| 2 | AB | 650 | C | C6-N1-C2 | -5.61 | 118.06 | 120.30 |
| 2 | AB | 1324 | G | C6-N1-C2 | -5.61 | 121.73 | 125.10 |
| 2 | AB | 1684 | G | C8-N9-C4 | -5.61 | 104.16 | 106.40 |
| 2 | AB | 2132 | U | C5-C6-N1 | -5.61 | 119.89 | 122.70 |
| 7 | AG | 82 | TYR | CB-CG-CD2 | -5.61 | 117.63 | 121.00 |
| 35 | BA | 195 | A | N3-C4-N9 | 5.61 | 131.89 | 127.40 |
| 35 | BA | 337 | G | N9-C4-C5 | 5.61 | 107.64 | 105.40 |
| 35 | BA | 538 | G | C5-C6-N1 | 5.61 | 114.31 | 111.50 |
| 35 | BA | 816 | A | O4'-C1'-N9 | 5.61 | 112.69 | 108.20 |
| 35 | BA | 963 | G | C1'-O4'-C4' | -5.61 | 105.41 | 109.90 |
| 35 | BA | 974 | A | C1'-O4'-C4' | -5.61 | 105.41 | 109.90 |
| 35 | BA | 1480 | A | C8-N9-C4 | -5.61 | 103.55 | 105.80 |
| 2 | AB | 677 | A | C5-N7-C8 | -5.61 | 101.09 | 103.90 |
| 2 | AB | 980 | A | C5-N7-C8 | -5.61 | 101.09 | 103.90 |
| 2 | AB | 1715 | G | C5'-C4'-C3' | -5.61 | 107.02 | 116.00 |
| 2 | AB | 2077 | A | O5'-C5'-C4' | 5.61 | 122.36 | 111.70 |
| 35 | BA | 165 | G | N9-C1'-C2' | -5.61 | 105.83 | 112.00 |
| 37 | BC | 26 | C | N1-C2-O2 | 5.61 | 122.27 | 118.90 |
| 2 | AB | 62 | U | C5-C6-N1 | -5.61 | 119.89 | 122.70 |
| 2 | AB | 112 | U | C5-C6-N1 | -5.61 | 119.89 | 122.70 |
| 2 | AB | 348 | A | C5-C6-N1 | 5.61 | 120.50 | 117.70 |
| 2 | AB | 1088 | A | C4'-C3'-C2' | -5.61 | 96.99 | 102.60 |
| 2 | AB | 1282 | U | O4'-C1'-N1 | 5.61 | 112.69 | 108.20 |
| 2 | AB | 1588 | G | C4-C5-N7 | -5.61 | 108.56 | 110.80 |
| 2 | AB | 1735 | A | N9-C4-C5 | 5.61 | 108.04 | 105.80 |
| 2 | AB | 1859 | U | N3-C2-O2 | -5.61 | 118.27 | 122.20 |
| 2 | AB | 2375 | G | N3-C2-N2 | 5.61 | 123.83 | 119.90 |
| 2 | AB | 2391 | G | C5-N7-C8 | 5.61 | 107.11 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2459 | A | N9-C4-C5 | -5.61 | 103.56 | 105.80 |
| 35 | BA | 659 | U | N3-C2-O2 | -5.61 | 118.27 | 122.20 |
| 35 | BA | 801 | U | C5-C6-N1 | -5.61 | 119.89 | 122.70 |
| 35 | BA | 889 | A | C4'-C3'-C2' | -5.61 | 96.99 | 102.60 |
| 35 | BA | 1039 | G | C1'-O4'-C4' | -5.61 | 105.41 | 109.90 |
| 35 | BA | 1427 | C | O5'-P-OP2 | -5.61 | 100.65 | 105.70 |
| 36 | BB | 28 | U | N1-C1'-C2' | -5.61 | 105.83 | 112.00 |
| 36 | BB | 37 | G | C1'-O4'-C4' | -5.61 | 105.41 | 109.90 |
| 1 | AA | 47 | C | C6-N1-C1' | 5.61 | 127.53 | 120.80 |
| 2 | AB | 6 | A | N9-C1'-C2' | 5.61 | 121.29 | 114.00 |
| 2 | AB | 1124 | G | O4'-C1'-N9 | 5.61 | 112.69 | 108.20 |
| 2 | AB | 1422 | G | C4-C5-C6 | -5.61 | 115.43 | 118.80 |
| 2 | AB | 2576 | G | C5-N7-C8 | 5.61 | 107.11 | 104.30 |
| 2 | AB | 2860 | A | C8-N9-C4 | -5.61 | 103.56 | 105.80 |
| 2 | AB | 2897 | U | C3'-C2'-C1' | 5.61 | 105.99 | 101.50 |
| 35 | BA | 724 | G | C1'-O4'-C4' | -5.61 | 105.41 | 109.90 |
| 37 | BC | 63 | C | P-O3'-C3' | 5.61 | 126.43 | 119.70 |
| 37 | BC | 77 | A | C5-C6-N6 | -5.61 | 119.21 | 123.70 |
| 2 | AB | 297 | G | N9-C4-C5 | -5.61 | 103.16 | 105.40 |
| 2 | AB | 1187 | G | C4-C5-C6 | -5.61 | 115.44 | 118.80 |
| 2 | AB | 1481 | U | C6-N1-C1' | 5.61 | 129.05 | 121.20 |
| 2 | AB | 1642 | G | C4-C5-N7 | -5.61 | 108.56 | 110.80 |
| 2 | AB | 1675 | C | N3-C4-N4 | 5.61 | 121.93 | 118.00 |
| 2 | AB | 2436 | G | C5'-C4'-O4' | 5.61 | 115.83 | 109.10 |
| 35 | BA | 220 | G | N1-C2-N2 | 5.61 | 121.25 | 116.20 |
| 35 | BA | 258 | G | C1'-O4'-C4' | -5.61 | 105.41 | 109.90 |
| 35 | BA | 541 | G | N1-C2-N2 | 5.61 | 121.25 | 116.20 |
| 35 | BA | 1400 | C | O4'-C1'-C2' | -5.61 | 100.19 | 105.80 |
| 40 | BF | 96 | ARG | NH1-CZ-NH2 | -5.61 | 113.23 | 119.40 |
| 57 | BW | 68 | ARG | NH1-CZ-NH2 | 5.61 | 125.57 | 119.40 |
| 2 | AB | 58 | G | C5'-C4'-O4' | 5.61 | 115.83 | 109.10 |
| 2 | AB | 284 | U | N3-C4-O4 | -5.61 | 115.48 | 119.40 |
| 2 | AB | 437 | U | C1'-O4'-C4' | -5.61 | 105.42 | 109.90 |
| 2 | AB | 534 | U | C5'-C4'-O4' | 5.61 | 115.83 | 109.10 |
| 2 | AB | 558 | U | C4'-C3'-C2' | -5.61 | 97.00 | 102.60 |
| 2 | AB | 1170 | C | O5'-P-OP2 | -5.61 | 100.66 | 105.70 |
| 2 | AB | 1354 | A | N1-C6-N6 | 5.61 | 121.96 | 118.60 |
| 2 | AB | 2223 | G | N1-C2-N3 | -5.61 | 120.54 | 123.90 |
| 2 | AB | 2864 | G | N3-C4-C5 | -5.61 | 125.80 | 128.60 |
| 35 | BA | 141 | G | C4-N9-C1' | -5.61 | 119.21 | 126.50 |
| 35 | BA | 142 | G | C2-N3-C4 | 5.61 | 114.70 | 111.90 |
| 35 | BA | 146 | G | C4-C5-N7 | -5.61 | 108.56 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 185 | U | C3'-C2'-C1' | 5.61 | 105.98 | 101.50 |
| 35 | BA | 335 | C | P-O3'-C3' | 5.61 | 126.43 | 119.70 |
| 35 | BA | 608 | A | N3-C4-N9 | 5.61 | 131.88 | 127.40 |
| 35 | BA | 747 | A | C5-C6-N1 | -5.61 | 114.90 | 117.70 |
| 35 | BA | 770 | C | C5-C4-N4 | -5.61 | 116.28 | 120.20 |
| 35 | BA | 906 | A | C8-N9-C4 | -5.61 | 103.56 | 105.80 |
| 35 | BA | 1160 | G | C2-N3-C4 | 5.61 | 114.70 | 111.90 |
| 43 | BI | 154 | ARG | NE-CZ-NH1 | 5.61 | 123.10 | 120.30 |
| 52 | BR | 16 | PHE | CB-CG-CD2 | -5.61 | 116.88 | 120.80 |
| 2 | AB | 104 | A | N3-C4-C5 | 5.60 | 130.72 | 126.80 |
| 2 | AB | 571 | U | N3-C4-O4 | 5.60 | 123.32 | 119.40 |
| 2 | AB | 1208 | C | C4'-C3'-C2' | -5.60 | 97.00 | 102.60 |
| 2 | AB | 2247 | A | C5-C6-N1 | 5.60 | 120.50 | 117.70 |
| 2 | AB | 2718 | G | C8-N9-C4 | 5.60 | 108.64 | 106.40 |
| 35 | BA | 858 | G | C5-N7-C8 | 5.60 | 107.10 | 104.30 |
| 35 | BA | 923 | A | C2-N3-C4 | -5.60 | 107.80 | 110.60 |
| 35 | BA | 1006 | G | C4-C5-N7 | -5.60 | 108.56 | 110.80 |
| 35 | BA | 1483 | A | N7-C8-N9 | -5.60 | 111.00 | 113.80 |
| 37 | BC | 64 | G | C5-C6-O6 | -5.60 | 125.24 | 128.60 |
| 1 | AA | 76 | G | C4'-C3'-C2' | -5.60 | 97.00 | 102.60 |
| 2 | AB | 458 | G | C8-N9-C1' | 5.60 | 134.28 | 127.00 |
| 2 | AB | 476 | G | N3-C4-C5 | -5.60 | 125.80 | 128.60 |
| 2 | AB | 764 | A | C6-N1-C2 | 5.60 | 121.96 | 118.60 |
| 2 | AB | 1008 | A | N3-C4-N9 | 5.60 | 131.88 | 127.40 |
| 2 | AB | 1319 | C | C5'-C4'-C3' | -5.60 | 107.04 | 116.00 |
| 2 | AB | 1518 | C | C5-C6-N1 | 5.60 | 123.80 | 121.00 |
| 2 | AB | 1540 | G | C8-N9-C4 | -5.60 | 104.16 | 106.40 |
| 2 | AB | 2159 | G | N1-C2-N3 | -5.60 | 120.54 | 123.90 |
| 2 | AB | 2284 | A | C5-N7-C8 | -5.60 | 101.10 | 103.90 |
| 2 | AB | 2549 | G | C5'-C4'-O4' | 5.60 | 115.82 | 109.10 |
| 35 | BA | 64 | G | C8-N9-C1' | 5.60 | 134.28 | 127.00 |
| 35 | BA | 358 | U | N3-C2-O2 | -5.60 | 118.28 | 122.20 |
| 35 | BA | 392 | C | N1-C1'-C2' | -5.60 | 105.84 | 112.00 |
| 35 | BA | 1239 | A | N1-C6-N6 | 5.60 | 121.96 | 118.60 |
| 35 | BA | 1288 | A | N3-C4-C5 | 5.60 | 130.72 | 126.80 |
| 35 | BA | 1419 | G | O4'-C1'-N9 | 5.60 | 112.68 | 108.20 |
| 35 | BA | 1476 | A | C4-C5-C6 | -5.60 | 114.20 | 117.00 |
| 41 | BG | 92 | ARG | NH1-CZ-NH2 | -5.60 | 113.24 | 119.40 |
| 2 | AB | 273 | G | C4-C5-N7 | -5.60 | 108.56 | 110.80 |
| 2 | AB | 507 | A | N7-C8-N9 | 5.60 | 116.60 | 113.80 |
| 2 | AB | 1206 | G | C4-C5-N7 | 5.60 | 113.04 | 110.80 |
| 2 | AB | 1820 | U | O4'-C1'-C2' | -5.60 | 100.20 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1965 | C | O4'-C1'-N1 | 5.60 | 112.68 | 108.20 |
| 2 | AB | 2881 | U | N3-C4-C5 | -5.60 | 111.24 | 114.60 |
| 8 | AH | 140 | ILE | CB-CA-C | 5.60 | 122.80 | 111.60 |
| 35 | BA | 635 | A | O5'-C5'-C4' | 5.60 | 122.34 | 111.70 |
| 35 | BA | 1243 | C | N1-C2-O2 | 5.60 | 122.26 | 118.90 |
| 2 | AB | 276 | U | N3-C4-O4 | 5.60 | 123.32 | 119.40 |
| 2 | AB | 308 | G | C5-C6-N1 | 5.60 | 114.30 | 111.50 |
| 2 | AB | 1646 | C | N1-C2-O2 | 5.60 | 122.26 | 118.90 |
| 2 | AB | 1662 | U | C5-C6-N1 | -5.60 | 119.90 | 122.70 |
| 2 | AB | 2013 | A | O4'-C1'-N9 | 5.60 | 112.68 | 108.20 |
| 2 | AB | 2295 | C | N1-C2-O2 | 5.60 | 122.26 | 118.90 |
| 2 | AB | 2331 | G | C2-N3-C4 | 5.60 | 114.70 | 111.90 |
| 2 | AB | 2357 | G | C5'-C4'-O4' | 5.60 | 115.82 | 109.10 |
| 2 | AB | 2689 | U | C4-C5-C6 | -5.60 | 116.34 | 119.70 |
| 8 | AH | 164 | ALA | CB-CA-C | 5.60 | 118.50 | 110.10 |
| 35 | BA | 259 | G | N1-C2-N2 | -5.60 | 111.16 | 116.20 |
| 35 | BA | 550 | G | N3-C4-C5 | -5.60 | 125.80 | 128.60 |
| 35 | BA | 754 | C | C4-C5-C6 | 5.60 | 120.20 | 117.40 |
| 35 | BA | 794 | A | N9-C4-C5 | 5.60 | 108.04 | 105.80 |
| 35 | BA | 808 | C | N1-C2-O2 | 5.60 | 122.26 | 118.90 |
| 35 | BA | 817 | C | O5'-C5'-C4' | -5.60 | 101.06 | 111.70 |
| 35 | BA | 885 | G | C2'-C3'-O3' | 5.60 | 122.66 | 113.70 |
| 35 | BA | 1285 | A | C2-N3-C4 | 5.60 | 113.40 | 110.60 |
| 35 | BA | 1379 | G | C4-C5-C6 | -5.60 | 115.44 | 118.80 |
| 35 | BA | 1487 | G | N1-C6-O6 | 5.60 | 123.26 | 119.90 |
| 38 | BD | 94 | ARG | NH1-CZ-NH2 | -5.60 | 113.24 | 119.40 |
| 1 | AA | 43 | C | N3-C2-O2 | -5.60 | 117.98 | 121.90 |
| 2 | AB | 519 | U | C5'-C4'-O4' | 5.60 | 115.82 | 109.10 |
| 2 | AB | 701 | G | C6-C5-N7 | -5.60 | 127.04 | 130.40 |
| 2 | AB | 840 | C | C6-N1-C2 | 5.60 | 122.54 | 120.30 |
| 2 | AB | 2090 | A | C4-C5-N7 | -5.60 | 107.90 | 110.70 |
| 2 | AB | 2103 | C | O4'-C1'-N1 | 5.60 | 112.68 | 108.20 |
| 2 | AB | 2641 | G | P-O3'-C3' | 5.60 | 126.42 | 119.70 |
| 13 | AM | 100 | PHE | CD1-CG-CD2 | -5.60 | 111.02 | 118.30 |
| 28 | A1 | 12 | ALA | N-CA-CB | -5.60 | 102.26 | 110.10 |
| 35 | BA | 113 | G | N3-C4-C5 | -5.60 | 125.80 | 128.60 |
| 35 | BA | 156 | C | O4'-C4'-C3' | 5.60 | 110.58 | 106.10 |
| 35 | BA | 474 | G | N3-C2-N2 | 5.60 | 123.82 | 119.90 |
| 2 | AB | 93 | G | C5-C6-N1 | 5.60 | 114.30 | 111.50 |
| 2 | AB | 804 | A | C4-C5-C6 | -5.60 | 114.20 | 117.00 |
| 2 | AB | 1156 | A | C6-N1-C2 | 5.60 | 121.96 | 118.60 |
| 2 | AB | 1517 | G | O4'-C1'-N9 | 5.60 | 112.68 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2374 | C | N1-C2-O2 | 5.60 | 122.26 | 118.90 |
| 35 | BA | 611 | C | O4'-C4'-C3' | 5.60 | 110.58 | 106.10 |
| 35 | BA | 694 | A | P-O3'-C3' | 5.60 | 126.42 | 119.70 |
| 35 | BA | 914 | A | C2-N3-C4 | 5.60 | 113.40 | 110.60 |
| 2 | AB | 389 | G | C4-C5-N7 | -5.59 | 108.56 | 110.80 |
| 2 | AB | 472 | A | C4'-C3'-C2' | -5.59 | 97.01 | 102.60 |
| 2 | AB | 780 | G | C2-N3-C4 | -5.59 | 109.10 | 111.90 |
| 2 | AB | 1276 | A | C5'-C4'-O4' | 5.59 | 115.81 | 109.10 |
| 2 | AB | 1300 | G | N3-C4-N9 | -5.59 | 122.64 | 126.00 |
| 2 | AB | 1581 | G | N7-C8-N9 | 5.59 | 115.90 | 113.10 |
| 35 | BA | 18 | C | C5'-C4'-C3' | 5.59 | 124.95 | 116.00 |
| 35 | BA | 167 | A | C2-N3-C4 | -5.59 | 107.80 | 110.60 |
| 35 | BA | 318 | G | C4-C5-N7 | -5.59 | 108.56 | 110.80 |
| 35 | BA | 1001 | C | C5-C4-N4 | -5.59 | 116.28 | 120.20 |
| 35 | BA | 1088 | G | C5-C6-O6 | -5.59 | 125.24 | 128.60 |
| 35 | BA | 1148 | U | O4'-C4'-C3' | -5.59 | 98.41 | 104.00 |
| 48 | BN | 15 | VAL | CA-CB-CG1 | 5.59 | 119.29 | 110.90 |
| 2 | AB | 1064 | C | C3'-C2'-C1' | 5.59 | 105.97 | 101.50 |
| 2 | AB | 1973 | G | O4'-C1'-N9 | 5.59 | 112.67 | 108.20 |
| 2 | AB | 2183 | A | N3-C4-N9 | -5.59 | 122.92 | 127.40 |
| 2 | AB | 2288 | A | C3'-C2'-C1' | -5.59 | 97.03 | 101.50 |
| 2 | AB | 2350 | C | P-O3'-C3' | 5.59 | 126.41 | 119.70 |
| 9 | AI | 110 | VAL | CG1-CB-CG2 | -5.59 | 101.95 | 110.90 |
| 35 | BA | 36 | C | O4'-C4'-C3' | 5.59 | 110.57 | 106.10 |
| 35 | BA | 335 | C | C2-N3-C4 | 5.59 | 122.70 | 119.90 |
| 35 | BA | 838 | G | C5-C6-N1 | 5.59 | 114.30 | 111.50 |
| 35 | BA | 860 | A | C3'-C2'-C1' | 5.59 | 105.97 | 101.50 |
| 1 | AA | 31 | C | N1-C2-N3 | 5.59 | 123.11 | 119.20 |
| 1 | AA | 54 | G | C8-N9-C1' | 5.59 | 134.27 | 127.00 |
| 2 | AB | 241 | A | OP1-P-O3' | 5.59 | 117.50 | 105.20 |
| 2 | AB | 961 | C | O4'-C1'-N1 | 5.59 | 112.67 | 108.20 |
| 2 | AB | 1089 | A | C5-N7-C8 | -5.59 | 101.10 | 103.90 |
| 2 | AB | 1413 | A | C1'-O4'-C4' | 5.59 | 114.37 | 109.90 |
| 2 | AB | 1666 | G | C8-N9-C1' | 5.59 | 134.27 | 127.00 |
| 2 | AB | 1872 | A | N1-C6-N6 | 5.59 | 121.95 | 118.60 |
| 2 | AB | 2108 | A | C4-C5-C6 | -5.59 | 114.20 | 117.00 |
| 2 | AB | 2199 | A | N9-C4-C5 | 5.59 | 108.04 | 105.80 |
| 2 | AB | 2394 | C | C2-N3-C4 | 5.59 | 122.70 | 119.90 |
| 2 | AB | 2700 | A | N1-C2-N3 | -5.59 | 126.50 | 129.30 |
| 2 | AB | 2756 | U | N3-C4-O4 | 5.59 | 123.31 | 119.40 |
| 9 | AI | 97 | ARG | CD-NE-CZ | 5.59 | 131.43 | 123.60 |
| 35 | BA | 28 | A | O4'-C1'-N9 | 5.59 | 112.67 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 112 | G | C8-N9-C4 | -5.59 | 104.16 | 106.40 |
| 35 | BA | 127 | G | N1-C6-O6 | 5.59 | 123.25 | 119.90 |
| 37 | BC | 12 | G | C4-C5-N7 | -5.59 | 108.56 | 110.80 |
| 2 | AB | 474 | G | P-O5'-C5' | 5.59 | 129.84 | 120.90 |
| 2 | AB | 1089 | A | P-O3'-C3' | 5.59 | 126.41 | 119.70 |
| 2 | AB | 1673 | G | N1-C6-O6 | 5.59 | 123.25 | 119.90 |
| 2 | AB | 2131 | U | C6-N1-C1' | -5.59 | 113.37 | 121.20 |
| 2 | AB | 2241 | A | C4-C5-C6 | -5.59 | 114.20 | 117.00 |
| 2 | AB | 2286 | G | N1-C2-N3 | -5.59 | 120.55 | 123.90 |
| 2 | AB | 2725 | A | C4-C5-C6 | 5.59 | 119.80 | 117.00 |
| 35 | BA | 450 | G | C5'-C4'-O4' | 5.59 | 115.81 | 109.10 |
| 35 | BA | 765 | G | N1-C2-N3 | -5.59 | 120.55 | 123.90 |
| 35 | BA | 785 | G | C6-C5-N7 | -5.59 | 127.05 | 130.40 |
| 35 | BA | 906 | A | C2-N3-C4 | 5.59 | 113.39 | 110.60 |
| 35 | BA | 996 | A | O5'-C5'-C4' | -5.59 | 101.08 | 111.70 |
| 35 | BA | 1300 | G | N3-C4-N9 | 5.59 | 129.35 | 126.00 |
| 35 | BA | 1410 | A | O5'-P-OP2 | -5.59 | 100.67 | 105.70 |
| 37 | BC | 74 | A | C1'-O4'-C4' | 5.59 | 114.37 | 109.90 |
| 38 | BD | 21 | TYR | CG-CD1-CE1 | -5.59 | 116.83 | 121.30 |
| 50 | BP | 50 | LEU | CB-CG-CD1 | 5.59 | 120.50 | 111.00 |
| 2 | AB | 146 | A | N7-C8-N9 | -5.59 | 111.01 | 113.80 |
| 2 | AB | 157 | C | C5'-C4'-C3' | -5.59 | 107.06 | 116.00 |
| 2 | AB | 651 | G | O4'-C1'-N9 | 5.59 | 112.67 | 108.20 |
| 2 | AB | 1757 | A | N1-C2-N3 | 5.59 | 132.09 | 129.30 |
| 35 | BA | 505 | G | C5-C6-O6 | -5.59 | 125.25 | 128.60 |
| 35 | BA | 1179 | A | C4-C5-N7 | 5.59 | 113.49 | 110.70 |
| 35 | BA | 1225 | A | C2-N3-C4 | -5.59 | 107.81 | 110.60 |
| 35 | BA | 1396 | A | C3'-C2'-C1' | 5.59 | 105.97 | 101.50 |
| 35 | BA | 1535 | C | O4'-C1'-N1 | 5.59 | 112.67 | 108.20 |
| 48 | BN | 56 | LEU | CB-CG-CD2 | 5.59 | 120.50 | 111.00 |
| 1 | AA | 67 | G | C4-C5-C6 | -5.59 | 115.45 | 118.80 |
| 2 | AB | 26 | G | C5-C6-O6 | -5.59 | 125.25 | 128.60 |
| 2 | AB | 533 | G | C5-N7-C8 | -5.59 | 101.51 | 104.30 |
| 2 | AB | 633 | A | O3'-P-O5' | -5.59 | 93.38 | 104.00 |
| 2 | AB | 1388 | G | C1'-O4'-C4' | -5.59 | 105.43 | 109.90 |
| 2 | AB | 1430 | G | C6-N1-C2 | 5.59 | 128.45 | 125.10 |
| 2 | AB | 1640 | A | N3-C4-C5 | -5.59 | 122.89 | 126.80 |
| 2 | AB | 1842 | G | O4'-C1'-N9 | 5.59 | 112.67 | 108.20 |
| 2 | AB | 1916 | A | C6-N1-C2 | -5.59 | 115.25 | 118.60 |
| 2 | AB | 2469 | A | O5'-P-OP2 | 5.59 | 117.40 | 110.70 |
| 2 | AB | 2756 | U | C5'-C4'-O4' | 5.59 | 115.80 | 109.10 |
| 2 | AB | 2768 | U | C5'-C4'-O4' | 5.59 | 115.80 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 490 | C | N3-C2-O2 | -5.59 | 117.99 | 121.90 |
| 35 | BA | 576 | C | P-O3'-C3' | 5.59 | 126.40 | 119.70 |
| 35 | BA | 902 | G | C2-N3-C4 | 5.59 | 114.69 | 111.90 |
| 35 | BA | 1108 | G | C5-N7-C8 | 5.59 | 107.09 | 104.30 |
| 35 | BA | 1340 | A | N3-C4-N9 | 5.59 | 131.87 | 127.40 |
| 2 | AB | 146 | A | C8-N9-C4 | 5.58 | 108.03 | 105.80 |
| 2 | AB | 1246 | A | C5-C6-N6 | -5.58 | 119.23 | 123.70 |
| 2 | AB | 1424 | G | C6-N1-C2 | -5.58 | 121.75 | 125.10 |
| 2 | AB | 1678 | A | C4-C5-C6 | -5.58 | 114.21 | 117.00 |
| 2 | AB | 1729 | U | C4'-C3'-C2' | -5.58 | 97.02 | 102.60 |
| 35 | BA | 1184 | G | C5'-C4'-O4' | 5.58 | 115.80 | 109.10 |
| 35 | BA | 1294 | G | C6-N1-C2 | -5.58 | 121.75 | 125.10 |
| 37 | BC | 24 | C | C2-N3-C4 | 5.58 | 122.69 | 119.90 |
| 2 | AB | 1311 | G | N3-C4-C5 | -5.58 | 125.81 | 128.60 |
| 2 | AB | 2161 | C | N1-C2-N3 | 5.58 | 123.11 | 119.20 |
| 2 | AB | 2257 | U | C6-N1-C2 | -5.58 | 117.65 | 121.00 |
| 2 | AB | 2370 | G | N9-C1'-C2' | -5.58 | 105.86 | 112.00 |
| 2 | AB | 2420 | C | C3'-C2'-C1' | -5.58 | 97.03 | 101.50 |
| 2 | AB | 2876 | G | N7-C8-N9 | -5.58 | 110.31 | 113.10 |
| 35 | BA | 110 | C | C2-N1-C1' | 5.58 | 124.94 | 118.80 |
| 35 | BA | 172 | A | O4'-C1'-N9 | 5.58 | 112.67 | 108.20 |
| 35 | BA | 618 | C | C2'-C3'-O3' | 5.58 | 122.63 | 113.70 |
| 35 | BA | 706 | A | C5-C6-N6 | -5.58 | 119.23 | 123.70 |
| 35 | BA | 1180 | A | C3'-C2'-C1' | 5.58 | 105.97 | 101.50 |
| 35 | BA | 1354 | U | N3-C2-O2 | -5.58 | 118.29 | 122.20 |
| 2 | AB | 171 | U | N1-C2-O2 | 5.58 | 126.71 | 122.80 |
| 2 | AB | 368 | A | N9-C1'-C2' | 5.58 | 121.26 | 114.00 |
| 2 | AB | 1254 | A | N9-C4-C5 | 5.58 | 108.03 | 105.80 |
| 2 | AB | 1265 | A | N1-C2-N3 | -5.58 | 126.51 | 129.30 |
| 2 | AB | 1316 | U | C2-N3-C4 | -5.58 | 123.65 | 127.00 |
| 2 | AB | 1324 | G | N3-C4-N9 | 5.58 | 129.35 | 126.00 |
| 2 | AB | 1426 | G | C5-N7-C8 | -5.58 | 101.51 | 104.30 |
| 2 | AB | 1436 | G | N1-C2-N3 | -5.58 | 120.55 | 123.90 |
| 2 | AB | 2227 | A | N3-C4-N9 | 5.58 | 131.87 | 127.40 |
| 2 | AB | 2273 | A | C5-C6-N6 | 5.58 | 128.16 | 123.70 |
| 2 | AB | 2411 | A | C5'-C4'-O4' | 5.58 | 115.80 | 109.10 |
| 2 | AB | 2865 | U | C4-C5-C6 | 5.58 | 123.05 | 119.70 |
| 35 | BA | 244 | U | O4'-C4'-C3' | 5.58 | 110.56 | 106.10 |
| 35 | BA | 376 | G | N1-C6-O6 | 5.58 | 123.25 | 119.90 |
| 35 | BA | 456 | A | C4-C5-C6 | -5.58 | 114.21 | 117.00 |
| 35 | BA | 560 | A | N1-C6-N6 | -5.58 | 115.25 | 118.60 |
| 35 | BA | 663 | A | C5-C6-N1 | 5.58 | 120.49 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 664 | G | N3-C2-N2 | -5.58 | 115.99 | 119.90 |
| 35 | BA | 678 | U | C4'-C3'-C2' | 5.58 | 108.18 | 102.60 |
| 35 | BA | 780 | A | C5-C6-N6 | 5.58 | 128.16 | 123.70 |
| 35 | BA | 1133 | G | O4'-C4'-C3' | 5.58 | 110.56 | 106.10 |
| 35 | BA | 1222 | G | N7-C8-N9 | -5.58 | 110.31 | 113.10 |
| 35 | BA | 1414 | U | N1-C2-O2 | 5.58 | 126.71 | 122.80 |
| 1 | AA | 62 | C | N1-C2-O2 | 5.58 | 122.25 | 118.90 |
| 2 | AB | 529 | A | C4-C5-C6 | 5.58 | 119.79 | 117.00 |
| 2 | AB | 630 | G | C2-N3-C4 | -5.58 | 109.11 | 111.90 |
| 2 | AB | 836 | G | C5-N7-C8 | 5.58 | 107.09 | 104.30 |
| 2 | AB | 1763 | G | C6-N1-C2 | -5.58 | 121.75 | 125.10 |
| 2 | AB | 2116 | G | C5'-C4'-O4' | 5.58 | 115.80 | 109.10 |
| 2 | AB | 2157 | G | N9-C1'-C2' | -5.58 | 105.86 | 112.00 |
| 2 | AB | 2469 | A | C5'-C4'-O4' | 5.58 | 115.80 | 109.10 |
| 35 | BA | 164 | G | C2-N3-C4 | 5.58 | 114.69 | 111.90 |
| 35 | BA | 799 | G | O4'-C1'-N9 | 5.58 | 112.66 | 108.20 |
| 35 | BA | 970 | C | O4'-C1'-N1 | 5.58 | 112.66 | 108.20 |
| 35 | BA | 1441 | A | N1-C6-N6 | -5.58 | 115.25 | 118.60 |
| 1 | AA | 43 | C | N1-C2-O2 | 5.58 | 122.25 | 118.90 |
| 1 | AA | 113 | C | C5-C4-N4 | 5.58 | 124.11 | 120.20 |
| 2 | AB | 236 | C | C5'-C4'-O4' | -5.58 | 102.41 | 109.10 |
| 2 | AB | 248 | G | N1-C2-N3 | -5.58 | 120.55 | 123.90 |
| 2 | AB | 338 | G | C4-C5-C6 | -5.58 | 115.45 | 118.80 |
| 2 | AB | 352 | A | N1-C6-N6 | -5.58 | 115.25 | 118.60 |
| 2 | AB | 779 | U | N1-C1'-C2' | -5.58 | 105.86 | 112.00 |
| 2 | AB | 1182 | G | C5'-C4'-C3' | 5.58 | 124.93 | 116.00 |
| 2 | AB | 1477 | A | C4'-C3'-C2' | -5.58 | 97.02 | 102.60 |
| 2 | AB | 1620 | G | N1-C6-O6 | 5.58 | 123.25 | 119.90 |
| 2 | AB | 1669 | A | C1'-O4'-C4' | 5.58 | 114.36 | 109.90 |
| 2 | AB | 1794 | A | O4'-C1'-N9 | 5.58 | 112.66 | 108.20 |
| 2 | AB | 2245 | U | C5'-C4'-O4' | 5.58 | 115.79 | 109.10 |
| 2 | AB | 2442 | C | C5-C6-N1 | 5.58 | 123.79 | 121.00 |
| 2 | AB | 2456 | C | O4'-C1'-N1 | 5.58 | 112.66 | 108.20 |
| 2 | AB | 2621 | G | N7-C8-N9 | 5.58 | 115.89 | 113.10 |
| 35 | BA | 389 | A | C4-C5-N7 | -5.58 | 107.91 | 110.70 |
| 35 | BA | 418 | C | C5-C6-N1 | 5.58 | 123.79 | 121.00 |
| 35 | BA | 610 | U | C5'-C4'-C3' | 5.58 | 124.92 | 116.00 |
| 35 | BA | 945 | G | P-O3'-C3' | -5.58 | 113.00 | 119.70 |
| 35 | BA | 1297 | G | N1-C2-N2 | 5.58 | 121.22 | 116.20 |
| 35 | BA | 1433 | A | P-O3'-C3' | 5.58 | 126.39 | 119.70 |
| 37 | BC | 34 | U | N1-C2-O2 | -5.58 | 118.89 | 122.80 |
| 1 | AA | 49 | C | N3-C4-C5 | -5.58 | 119.67 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2385 | C | C4-C5-C6 | 5.58 | 120.19 | 117.40 |
| 7 | AG | 31 | GLU | N-CA-CB | -5.58 | 100.56 | 110.60 |
| 35 | BA | 686 | U | O4'-C4'-C3' | 5.58 | 110.56 | 106.10 |
| 35 | BA | 1087 | G | N3-C2-N2 | 5.58 | 123.80 | 119.90 |
| 1 | AA | 23 | G | C4'-C3'-C2' | -5.58 | 97.03 | 102.60 |
| 1 | AA | 52 | A | O4'-C4'-C3' | 5.58 | 110.56 | 106.10 |
| 1 | AA | 75 | G | N3-C4-C5 | -5.58 | 125.81 | 128.60 |
| 2 | AB | 242 | G | C5-N7-C8 | 5.58 | 107.09 | 104.30 |
| 2 | AB | 837 | C | C4-C5-C6 | -5.58 | 114.61 | 117.40 |
| 2 | AB | 1211 | C | C6-N1-C2 | -5.58 | 118.07 | 120.30 |
| 2 | AB | 1218 | G | O4'-C1'-N9 | 5.58 | 112.66 | 108.20 |
| 2 | AB | 1407 | G | C6-N1-C2 | -5.58 | 121.75 | 125.10 |
| 2 | AB | 1540 | G | P-O3'-C3' | 5.58 | 126.39 | 119.70 |
| 2 | AB | 1860 | G | C5-C6-O6 | 5.58 | 131.94 | 128.60 |
| 2 | AB | 1971 | U | N3-C2-O2 | -5.58 | 118.30 | 122.20 |
| 2 | AB | 2121 | G | C2-N3-C4 | 5.58 | 114.69 | 111.90 |
| 2 | AB | 2237 | G | N1-C2-N3 | -5.58 | 120.55 | 123.90 |
| 2 | AB | 2427 | C | P-O3'-C3' | 5.58 | 126.39 | 119.70 |
| 2 | AB | 2459 | A | N7-C8-N9 | 5.58 | 116.59 | 113.80 |
| 2 | AB | 2630 | G | N1-C2-N3 | -5.58 | 120.56 | 123.90 |
| 2 | AB | 2718 | G | C5-N7-C8 | 5.58 | 107.09 | 104.30 |
| 12 | AL | 141 | ASP | CB-CG-OD2 | -5.58 | 113.28 | 118.30 |
| 35 | BA | 156 | C | C6-N1-C2 | -5.58 | 118.07 | 120.30 |
| 35 | BA | 996 | A | C4'-C3'-C2' | -5.58 | 97.02 | 102.60 |
| 35 | BA | 1214 | C | C2-N3-C4 | 5.58 | 122.69 | 119.90 |
| 35 | BA | 1341 | U | P-O3'-C3' | 5.58 | 126.39 | 119.70 |
| 36 | BB | 19 | A | O4'-C1'-C2' | -5.58 | 100.22 | 105.80 |
| 37 | BC | 77 | A | C5-C6-N1 | 5.58 | 120.49 | 117.70 |
| 47 | BM | 31 | VAL | CG1-CB-CG2 | -5.58 | 101.98 | 110.90 |
| 2 | AB | 125 | A | O4'-C1'-N9 | 5.57 | 112.66 | 108.20 |
| 2 | AB | 585 | G | C4-C5-N7 | -5.57 | 108.57 | 110.80 |
| 2 | AB | 929 | U | N1-C2-O2 | 5.57 | 126.70 | 122.80 |
| 2 | AB | 1318 | U | N1-C2-N3 | -5.57 | 111.56 | 114.90 |
| 2 | AB | 1376 | C | C5'-C4'-O4' | -5.57 | 102.41 | 109.10 |
| 2 | AB | 1456 | G | N3-C4-N9 | -5.57 | 122.66 | 126.00 |
| 2 | AB | 1531 | C | C4'-C3'-C2' | -5.57 | 97.03 | 102.60 |
| 2 | AB | 2187 | U | C4-C5-C6 | 5.57 | 123.04 | 119.70 |
| 2 | AB | 2198 | A | N7-C8-N9 | 5.57 | 116.59 | 113.80 |
| 2 | AB | 2352 | A | N3-C4-N9 | 5.57 | 131.86 | 127.40 |
| 2 | AB | 2391 | G | C2-N3-C4 | 5.57 | 114.69 | 111.90 |
| 2 | AB | 2428 | G | C8-N9-C1' | 5.57 | 134.25 | 127.00 |
| 2 | AB | 2517 | C | C2-N3-C4 | -5.57 | 117.11 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2648 | G | N3-C2-N2 | -5.57 | 116.00 | 119.90 |
| 2 | AB | 2899 | A | C5'-C4'-O4' | 5.57 | 115.79 | 109.10 |
| 35 | BA | 149 | A | C8-N9-C4 | 5.57 | 108.03 | 105.80 |
| 35 | BA | 550 | G | N9-C1'-C2' | -5.57 | 105.87 | 112.00 |
| 35 | BA | 735 | C | N1-C2-N3 | 5.57 | 123.10 | 119.20 |
| 35 | BA | 800 | G | C1'-O4'-C4' | -5.57 | 105.44 | 109.90 |
| 35 | BA | 988 | G | C2-N3-C4 | 5.57 | 114.69 | 111.90 |
| 35 | BA | 1153 | G | N1-C2-N3 | 5.57 | 127.24 | 123.90 |
| 35 | BA | 1189 | U | C5-C4-O4 | 5.57 | 129.24 | 125.90 |
| 35 | BA | 1256 | A | C4-C5-N7 | 5.57 | 113.49 | 110.70 |
| 2 | AB | 517 | C | C6-N1-C2 | -5.57 | 118.07 | 120.30 |
| 2 | AB | 1384 | A | O5'-P-OP2 | -5.57 | 100.69 | 105.70 |
| 2 | AB | 2479 | U | C5'-C4'-O4' | 5.57 | 115.79 | 109.10 |
| 31 | A4 | 27 | ARG | NE-CZ-NH1 | -5.57 | 117.51 | 120.30 |
| 35 | BA | 26 | A | C6-N1-C2 | 5.57 | 121.94 | 118.60 |
| 35 | BA | 204 | G | C5-C6-O6 | -5.57 | 125.26 | 128.60 |
| 35 | BA | 1397 | C | C5-C4-N4 | -5.57 | 116.30 | 120.20 |
| 1 | AA | 88 | C | C5-C4-N4 | -5.57 | 116.30 | 120.20 |
| 2 | AB | 184 | C | O5'-P-OP2 | -5.57 | 100.69 | 105.70 |
| 2 | AB | 1129 | A | C2-N3-C4 | 5.57 | 113.39 | 110.60 |
| 2 | AB | 1339 | G | N3-C2-N2 | 5.57 | 123.80 | 119.90 |
| 2 | AB | 1365 | A | C5-C6-N1 | 5.57 | 120.48 | 117.70 |
| 2 | AB | 1575 | C | C5-C4-N4 | -5.57 | 116.30 | 120.20 |
| 2 | AB | 1674 | G | C8-N9-C4 | -5.57 | 104.17 | 106.40 |
| 2 | AB | 1813 | G | N1-C2-N2 | 5.57 | 121.21 | 116.20 |
| 2 | AB | 2845 | U | C1'-O4'-C4' | 5.57 | 114.36 | 109.90 |
| 35 | BA | 138 | G | N9-C1'-C2' | -5.57 | 105.87 | 112.00 |
| 35 | BA | 230 | G | C4-C5-C6 | 5.57 | 122.14 | 118.80 |
| 35 | BA | 774 | G | N1-C2-N2 | -5.57 | 111.19 | 116.20 |
| 35 | BA | 1352 | C | N3-C2-O2 | -5.57 | 118.00 | 121.90 |
| 35 | BA | 1404 | C | N3-C4-C5 | -5.57 | 119.67 | 121.90 |
| 36 | BB | 13 | A | C5'-C4'-O4' | 5.57 | 115.78 | 109.10 |
| 41 | BG | 122 | VAL | CA-CB-CG2 | 5.57 | 119.26 | 110.90 |
| 49 | BO | 97 | ARG | CD-NE-CZ | 5.57 | 131.40 | 123.60 |
| 2 | AB | 977 | G | C3'-C2'-C1' | 5.57 | 105.95 | 101.50 |
| 2 | AB | 1532 | A | C6-N1-C2 | 5.57 | 121.94 | 118.60 |
| 2 | AB | 1610 | A | N3-C4-N9 | 5.57 | 131.85 | 127.40 |
| 2 | AB | 2527 | C | N1-C2-N3 | 5.57 | 123.10 | 119.20 |
| 35 | BA | 404 | G | C4-C5-C6 | -5.57 | 115.46 | 118.80 |
| 35 | BA | 974 | A | C6-C5-N7 | 5.57 | 136.20 | 132.30 |
| 37 | BC | 63 | C | C4-C5-C6 | -5.57 | 114.62 | 117.40 |
| 2 | AB | 16 | C | C1'-O4'-C4' | 5.57 | 114.35 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 119 | A | C5-C6-N1 | 5.57 | 120.48 | 117.70 |
| 2 | AB | 204 | A | C6-N1-C2 | 5.57 | 121.94 | 118.60 |
| 2 | AB | 492 | A | N1-C6-N6 | 5.57 | 121.94 | 118.60 |
| 2 | AB | 510 | C | N3-C4-N4 | -5.57 | 114.10 | 118.00 |
| 2 | AB | 1060 | U | O4'-C1'-N1 | 5.57 | 112.65 | 108.20 |
| 2 | AB | 2010 | G | C5-C6-O6 | 5.57 | 131.94 | 128.60 |
| 35 | BA | 442 | G | O5'-P-OP1 | 5.57 | 117.38 | 110.70 |
| 35 | BA | 829 | G | C8-N9-C4 | -5.57 | 104.17 | 106.40 |
| 35 | BA | 1070 | U | N3-C4-O4 | 5.57 | 123.30 | 119.40 |
| 35 | BA | 1382 | C | C6-N1-C2 | 5.57 | 122.53 | 120.30 |
| 35 | BA | 1400 | C | N1-C2-N3 | -5.57 | 115.30 | 119.20 |
| 37 | BC | 32 | G | C8-N9-C1' | 5.57 | 134.24 | 127.00 |
| 2 | AB | 190 | A | C8-N9-C4 | -5.57 | 103.57 | 105.80 |
| 2 | AB | 568 | U | N3-C4-C5 | -5.57 | 111.26 | 114.60 |
| 2 | AB | 1328 | A | C5-C6-N6 | -5.57 | 119.25 | 123.70 |
| 2 | AB | 1922 | G | C8-N9-C4 | -5.57 | 104.17 | 106.40 |
| 35 | BA | 1013 | G | P-O3'-C3' | 5.57 | 126.38 | 119.70 |
| 35 | BA | 1076 | U | C4'-C3'-C2' | -5.57 | 97.03 | 102.60 |
| 35 | BA | 1361 | G | C4-C5-C6 | 5.57 | 122.14 | 118.80 |
| 52 | BR | 60 | TRP | NE1-CE2-CD2 | -5.57 | 101.73 | 107.30 |
| 2 | AB | 218 | A | C4-C5-N7 | -5.56 | 107.92 | 110.70 |
| 2 | AB | 226 | A | C1'-O4'-C4' | 5.56 | 114.35 | 109.90 |
| 2 | AB | 552 | U | C5-C6-N1 | -5.56 | 119.92 | 122.70 |
| 2 | AB | 676 | A | C4'-C3'-C2' | -5.56 | 97.04 | 102.60 |
| 2 | AB | 1624 | U | C2-N3-C4 | -5.56 | 123.66 | 127.00 |
| 2 | AB | 1913 | A | C6-C5-N7 | 5.56 | 136.19 | 132.30 |
| 2 | AB | 2597 | G | P-O3'-C3' | 5.56 | 126.38 | 119.70 |
| 25 | AY | 18 | LYS | CA-CB-CG | 5.56 | 125.64 | 113.40 |
| 35 | BA | 596 | A | N3-C4-N9 | 5.56 | 131.85 | 127.40 |
| 35 | BA | 904 | U | C5-C4-O4 | 5.56 | 129.24 | 125.90 |
| 2 | AB | 197 | A | C3'-C2'-C1' | -5.56 | 97.05 | 101.50 |
| 2 | AB | 637 | A | C5'-C4'-O4' | -5.56 | 102.42 | 109.10 |
| 2 | AB | 676 | A | C5-C6-N1 | -5.56 | 114.92 | 117.70 |
| 2 | AB | 834 | G | C4-C5-N7 | 5.56 | 113.03 | 110.80 |
| 2 | AB | 1090 | A | C5'-C4'-O4' | 5.56 | 115.78 | 109.10 |
| 2 | AB | 1578 | U | P-O3'-C3' | 5.56 | 126.38 | 119.70 |
| 2 | AB | 1963 | U | N3-C2-O2 | -5.56 | 118.31 | 122.20 |
| 2 | AB | 2033 | A | N7-C8-N9 | 5.56 | 116.58 | 113.80 |
| 2 | AB | 2182 | U | O4'-C4'-C3' | 5.56 | 110.55 | 106.10 |
| 2 | AB | 2593 | U | O4'-C1'-N1 | 5.56 | 112.65 | 108.20 |
| 23 | AW | 66 | VAL | CG1-CB-CG2 | -5.56 | 102.00 | 110.90 |
| 35 | BA | 162 | A | C4-C5-N7 | 5.56 | 113.48 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 212 | G | C5-C6-N1 | 5.56 | 114.28 | 111.50 |
| 35 | BA | 532 | A | O5'-P-OP1 | -5.56 | 100.69 | 105.70 |
| 35 | BA | 842 | U | N3-C4-C5 | -5.56 | 111.26 | 114.60 |
| 35 | BA | 1186 | G | C6-N1-C2 | -5.56 | 121.76 | 125.10 |
| 35 | BA | 1189 | U | C5'-C4'-O4' | 5.56 | 115.77 | 109.10 |
| 35 | BA | 1526 | G | C5-N7-C8 | 5.56 | 107.08 | 104.30 |
| 2 | AB | 193 | U | N3-C4-O4 | 5.56 | 123.29 | 119.40 |
| 2 | AB | 515 | A | N1-C6-N6 | -5.56 | 115.26 | 118.60 |
| 2 | AB | 533 | G | N9-C1'-C2' | -5.56 | 105.88 | 112.00 |
| 2 | AB | 611 | C | P-O3'-C3' | 5.56 | 126.37 | 119.70 |
| 2 | AB | 915 | C | C5-C4-N4 | -5.56 | 116.31 | 120.20 |
| 2 | AB | 1271 | G | N3-C4-N9 | -5.56 | 122.66 | 126.00 |
| 2 | AB | 2151 | U | N1-C2-N3 | 5.56 | 118.24 | 114.90 |
| 2 | AB | 2483 | C | C5-C4-N4 | -5.56 | 116.31 | 120.20 |
| 35 | BA | 1034 | G | C3'-C2'-C1' | 5.56 | 105.95 | 101.50 |
| 35 | BA | 1066 | C | O4'-C1'-N1 | 5.56 | 112.65 | 108.20 |
| 35 | BA | 1467 | C | C4'-C3'-C2' | -5.56 | 97.04 | 102.60 |
| 2 | AB | 323 | C | C6-N1-C1' | -5.56 | 114.13 | 120.80 |
| 2 | AB | 1060 | U | C5-C4-O4 | 5.56 | 129.24 | 125.90 |
| 2 | AB | 1221 | C | N1-C2-N3 | -5.56 | 115.31 | 119.20 |
| 2 | AB | 1478 | G | C8-N9-C4 | -5.56 | 104.18 | 106.40 |
| 2 | AB | 1883 | U | C1'-O4'-C4' | -5.56 | 105.45 | 109.90 |
| 2 | AB | 2409 | G | N9-C1'-C2' | -5.56 | 105.89 | 112.00 |
| 2 | AB | 2537 | U | C5-C6-N1 | 5.56 | 125.48 | 122.70 |
| 2 | AB | 2663 | G | C2'-C3'-O3' | 5.56 | 122.60 | 113.70 |
| 2 | AB | 2781 | A | N3-C4-N9 | 5.56 | 131.85 | 127.40 |
| 4 | AD | 202 | ARG | NE-CZ-NH2 | -5.56 | 117.52 | 120.30 |
| 35 | BA | 414 | A | O4'-C1'-N9 | 5.56 | 112.65 | 108.20 |
| 35 | BA | 795 | C | C2-N1-C1' | 5.56 | 124.92 | 118.80 |
| 35 | BA | 1184 | G | N7-C8-N9 | -5.56 | 110.32 | 113.10 |
| 35 | BA | 1305 | G | N9-C4-C5 | 5.56 | 107.62 | 105.40 |
| 2 | AB | 83 | A | C2-N3-C4 | -5.56 | 107.82 | 110.60 |
| 2 | AB | 118 | A | C6-N1-C2 | 5.56 | 121.94 | 118.60 |
| 2 | AB | 172 | A | C5'-C4'-O4' | 5.56 | 115.77 | 109.10 |
| 2 | AB | 185 | G | N1-C2-N3 | 5.56 | 127.23 | 123.90 |
| 2 | AB | 455 | C | C5-C4-N4 | 5.56 | 124.09 | 120.20 |
| 2 | AB | 524 | G | N1-C6-O6 | -5.56 | 116.57 | 119.90 |
| 2 | AB | 824 | U | C5'-C4'-C3' | -5.56 | 107.11 | 116.00 |
| 2 | AB | 1718 | G | C5-N7-C8 | -5.56 | 101.52 | 104.30 |
| 2 | AB | 1996 | C | C5-C6-N1 | 5.56 | 123.78 | 121.00 |
| 2 | AB | 2792 | A | C4-C5-C6 | -5.56 | 114.22 | 117.00 |
| 35 | BA | 297 | G | C8-N9-C4 | -5.56 | 104.18 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 396 | C | P-O5'-C5' | 5.56 | 129.79 | 120.90 |
| 35 | BA | 935 | A | C8-N9-C4 | -5.56 | 103.58 | 105.80 |
| 35 | BA | 1374 | A | O4'-C4'-C3' | 5.56 | 110.55 | 106.10 |
| 2 | AB | 298 | G | C5-N7-C8 | -5.56 | 101.52 | 104.30 |
| 2 | AB | 1386 | C | C6-N1-C1' | -5.56 | 114.13 | 120.80 |
| 2 | AB | 1516 | G | N1-C6-O6 | 5.56 | 123.23 | 119.90 |
| 2 | AB | 1799 | G | C4-N9-C1' | -5.56 | 119.28 | 126.50 |
| 32 | A5 | 19 | ARG | NE-CZ-NH2 | 5.56 | 123.08 | 120.30 |
| 35 | BA | 1193 | G | N1-C6-O6 | 5.56 | 123.23 | 119.90 |
| 35 | BA | 1479 | C | C5'-C4'-O4' | 5.56 | 115.77 | 109.10 |
| 1 | AA | 59 | A | N1-C6-N6 | -5.55 | 115.27 | 118.60 |
| 2 | AB | 88 | G | C1'-O4'-C4' | -5.55 | 105.46 | 109.90 |
| 2 | AB | 298 | G | C4'-C3'-C2' | -5.55 | 97.05 | 102.60 |
| 2 | AB | 950 | G | C1'-O4'-C4' | 5.55 | 114.34 | 109.90 |
| 2 | AB | 1254 | A | N1-C2-N3 | 5.55 | 132.08 | 129.30 |
| 2 | AB | 1292 | G | C3'-C2'-C1' | 5.55 | 105.94 | 101.50 |
| 2 | AB | 1521 | G | O4'-C1'-N9 | 5.55 | 112.64 | 108.20 |
| 2 | AB | 2601 | C | N3-C4-C5 | 5.55 | 124.12 | 121.90 |
| 2 | AB | 2831 | G | C8-N9-C4 | -5.55 | 104.18 | 106.40 |
| 3 | AC | 1 | MET | CG-SD-CE | 5.55 | 109.09 | 100.20 |
| 8 | AH | 10 | VAL | CA-CB-CG1 | -5.55 | 102.57 | 110.90 |
| 35 | BA | 25 | C | C6-N1-C2 | -5.55 | 118.08 | 120.30 |
| 35 | BA | 37 | U | N3-C4-C5 | 5.55 | 117.93 | 114.60 |
| 35 | BA | 102 | G | C3'-C2'-C1' | -5.55 | 97.06 | 101.50 |
| 35 | BA | 340 | U | C5'-C4'-O4' | 5.55 | 115.77 | 109.10 |
| 35 | BA | 357 | G | N1-C6-O6 | -5.55 | 116.57 | 119.90 |
| 35 | BA | 605 | U | C3'-C2'-C1' | 5.55 | 105.94 | 101.50 |
| 35 | BA | 646 | G | C5'-C4'-O4' | 5.55 | 115.77 | 109.10 |
| 35 | BA | 1040 | U | C4'-C3'-C2' | -5.55 | 97.05 | 102.60 |
| 35 | BA | 1456 | A | N7-C8-N9 | 5.55 | 116.58 | 113.80 |
| 2 | AB | 531 | C | C6-N1-C2 | -5.55 | 118.08 | 120.30 |
| 2 | AB | 1208 | C | N3-C2-O2 | -5.55 | 118.01 | 121.90 |
| 2 | AB | 2870 | C | P-O5'-C5' | 5.55 | 129.78 | 120.90 |
| 35 | BA | 53 | A | C6-C5-N7 | 5.55 | 136.19 | 132.30 |
| 35 | BA | 810 | C | C3'-C2'-C1' | 5.55 | 105.94 | 101.50 |
| 1 | AA | 106 | G | N7-C8-N9 | 5.55 | 115.88 | 113.10 |
| 2 | AB | 43 | G | C2-N3-C4 | 5.55 | 114.67 | 111.90 |
| 2 | AB | 428 | A | N1-C2-N3 | 5.55 | 132.07 | 129.30 |
| 2 | AB | 1269 | A | C6-C5-N7 | 5.55 | 136.19 | 132.30 |
| 2 | AB | 1371 | G | C2-N3-C4 | 5.55 | 114.67 | 111.90 |
| 2 | AB | 1490 | A | C8-N9-C4 | -5.55 | 103.58 | 105.80 |
| 2 | AB | 1680 | U | P-O3'-C3' | 5.55 | 126.36 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1984 | G | C8-N9-C4 | 5.55 | 108.62 | 106.40 |
| 2 | AB | 2466 | C | C5'-C4'-C3' | -5.55 | 107.12 | 116.00 |
| 2 | AB | 2509 | G | C4-C5-C6 | 5.55 | 122.13 | 118.80 |
| 2 | AB | 2696 | U | C1'-O4'-C4' | 5.55 | 114.34 | 109.90 |
| 2 | AB | 2747 | G | OP1-P-OP2 | -5.55 | 111.27 | 119.60 |
| 35 | BA | 505 | G | C5'-C4'-C3' | -5.55 | 107.12 | 116.00 |
| 35 | BA | 650 | G | C6-N1-C2 | -5.55 | 121.77 | 125.10 |
| 35 | BA | 1031 | C | N3-C2-O2 | -5.55 | 118.01 | 121.90 |
| 35 | BA | 1044 | A | C5'-C4'-C3' | -5.55 | 107.12 | 116.00 |
| 35 | BA | 1279 | G | C5-C6-N1 | 5.55 | 114.28 | 111.50 |
| 39 | BE | 131 | ARG | NH1-CZ-NH2 | -5.55 | 113.29 | 119.40 |
| 2 | AB | 333 | G | N1-C6-O6 | -5.55 | 116.57 | 119.90 |
| 2 | AB | 831 | G | N1-C2-N3 | -5.55 | 120.57 | 123.90 |
| 2 | AB | 1045 | C | N1-C2-O2 | 5.55 | 122.23 | 118.90 |
| 2 | AB | 1764 | C | C4'-C3'-C2' | -5.55 | 97.05 | 102.60 |
| 2 | AB | 2002 | G | C1'-O4'-C4' | 5.55 | 114.34 | 109.90 |
| 20 | AT | 66 | HIS | N-CA-CB | 5.55 | 120.59 | 110.60 |
| 35 | BA | 99 | C | P-O3'-C3' | 5.55 | 126.36 | 119.70 |
| 35 | BA | 153 | C | C5'-C4'-O4' | 5.55 | 115.76 | 109.10 |
| 35 | BA | 249 | U | N3-C2-O2 | -5.55 | 118.32 | 122.20 |
| 35 | BA | 366 | A | C1'-O4'-C4' | 5.55 | 114.34 | 109.90 |
| 35 | BA | 1151 | A | C4-C5-C6 | 5.55 | 119.77 | 117.00 |
| 35 | BA | 1299 | A | N9-C4-C5 | -5.55 | 103.58 | 105.80 |
| 35 | BA | 1410 | A | O4'-C1'-N9 | 5.55 | 112.64 | 108.20 |
| 37 | BC | 9 | G | C1'-O4'-C4' | 5.55 | 114.34 | 109.90 |
| 2 | AB | 46 | G | C6-C5-N7 | 5.55 | 133.73 | 130.40 |
| 2 | AB | 829 | A | C3'-C2'-C1' | 5.55 | 105.94 | 101.50 |
| 2 | AB | 2085 | U | C5-C4-O4 | -5.55 | 122.57 | 125.90 |
| 2 | AB | 2639 | A | C5-C6-N1 | 5.55 | 120.47 | 117.70 |
| 10 | AJ | 81 | ILE | CA-CB-CG2 | 5.55 | 122.00 | 110.90 |
| 35 | BA | 146 | G | C2-N3-C4 | 5.55 | 114.67 | 111.90 |
| 35 | BA | 209 | U | O4'-C1'-N1 | 5.55 | 112.64 | 108.20 |
| 36 | BB | 38 | G | C6-C5-N7 | 5.55 | 133.73 | 130.40 |
| 37 | BC | 62 | C | N3-C4-C5 | 5.55 | 124.12 | 121.90 |
| 1 | AA | 74 | U | C5-C4-O4 | -5.55 | 122.57 | 125.90 |
| 2 | AB | 45 | G | C4-C5-C6 | 5.55 | 122.13 | 118.80 |
| 2 | AB | 142 | A | C3'-C2'-C1' | 5.55 | 105.94 | 101.50 |
| 2 | AB | 869 | G | C6-C5-N7 | 5.55 | 133.73 | 130.40 |
| 2 | AB | 1042 | G | C4-C5-C6 | 5.55 | 122.13 | 118.80 |
| 2 | AB | 1227 | G | C2-N3-C4 | 5.55 | 114.67 | 111.90 |
| 2 | AB | 1338 | G | N9-C4-C5 | -5.55 | 103.18 | 105.40 |
| 2 | AB | 1377 | G | C4-C5-N7 | 5.55 | 113.02 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1742 | U | C4-C5-C6 | 5.55 | 123.03 | 119.70 |
| 2 | AB | 1784 | A | N3-C4-N9 | -5.55 | 122.96 | 127.40 |
| 2 | AB | 2345 | G | O4'-C4'-C3' | 5.55 | 110.54 | 106.10 |
| 4 | AD | 34 | GLU | OE1-CD-OE2 | 5.55 | 129.96 | 123.30 |
| 9 | AI | 130 | VAL | C-N-CA | 5.55 | 135.57 | 121.70 |
| 35 | BA | 27 | G | C5-N7-C8 | 5.55 | 107.07 | 104.30 |
| 35 | BA | 76 | G | C5-C6-O6 | -5.55 | 125.27 | 128.60 |
| 35 | BA | 346 | G | N7-C8-N9 | 5.55 | 115.87 | 113.10 |
| 35 | BA | 540 | G | C2-N3-C4 | 5.55 | 114.67 | 111.90 |
| 35 | BA | 568 | G | N3-C4-N9 | 5.55 | 129.33 | 126.00 |
| 35 | BA | 1030 | U | O4'-C4'-C3' | -5.55 | 98.45 | 104.00 |
| 35 | BA | 1128 | C | N3-C4-N4 | 5.55 | 121.88 | 118.00 |
| 35 | BA | 1292 | G | C3'-C2'-C1' | -5.55 | 97.06 | 101.50 |
| 35 | BA | 1443 | C | N3-C4-N4 | 5.55 | 121.88 | 118.00 |
| 1 | AA | 13 | G | C6-N1-C2 | -5.54 | 121.77 | 125.10 |
| 2 | AB | 761 | A | N1-C2-N3 | 5.54 | 132.07 | 129.30 |
| 2 | AB | 1156 | A | P-O3'-C3' | 5.54 | 126.35 | 119.70 |
| 2 | AB | 1623 | G | N1-C2-N2 | 5.54 | 121.19 | 116.20 |
| 2 | AB | 2644 | G | C5'-C4'-O4' | 5.54 | 115.75 | 109.10 |
| 35 | BA | 1007 | U | C5-C4-O4 | 5.54 | 129.23 | 125.90 |
| 35 | BA | 1203 | C | C5'-C4'-C3' | -5.54 | 107.13 | 116.00 |
| 35 | BA | 1348 | U | N1-C2-N3 | 5.54 | 118.23 | 114.90 |
| 56 | BV | 9 | ARG | NE-CZ-NH2 | -5.54 | 117.53 | 120.30 |
| 1 | AA | 98 | G | N3-C4-N9 | 5.54 | 129.33 | 126.00 |
| 2 | AB | 674 | G | N9-C1'-C2' | -5.54 | 105.90 | 112.00 |
| 2 | AB | 937 | C | C6-N1-C1' | 5.54 | 127.45 | 120.80 |
| 2 | AB | 969 | G | C2-N3-C4 | 5.54 | 114.67 | 111.90 |
| 2 | AB | 1244 | A | P-O3'-C3' | 5.54 | 126.35 | 119.70 |
| 2 | AB | 1645 | G | C4-C5-C6 | 5.54 | 122.13 | 118.80 |
| 2 | AB | 1664 | A | O4'-C4'-C3' | 5.54 | 110.53 | 106.10 |
| 2 | AB | 1944 | U | O4'-C4'-C3' | 5.54 | 110.53 | 106.10 |
| 2 | AB | 2161 | C | C4-C5-C6 | -5.54 | 114.63 | 117.40 |
| 2 | AB | 2178 | C | N1-C1'-C2' | 5.54 | 121.21 | 114.00 |
| 2 | AB | 2202 | U | N1-C2-N3 | -5.54 | 111.57 | 114.90 |
| 21 | AU | 28 | LYS | N-CA-CB | 5.54 | 120.58 | 110.60 |
| 35 | BA | 163 | C | N1-C2-N3 | -5.54 | 115.32 | 119.20 |
| 35 | BA | 667 | G | C6-N1-C2 | -5.54 | 121.77 | 125.10 |
| 35 | BA | 861 | G | C4'-C3'-C2' | -5.54 | 97.06 | 102.60 |
| 35 | BA | 1022 | A | C4-C5-N7 | -5.54 | 107.93 | 110.70 |
| 35 | BA | 1055 | A | N9-C1'-C2' | -5.54 | 105.90 | 112.00 |
| 35 | BA | 1294 | G | N7-C8-N9 | -5.54 | 110.33 | 113.10 |
| 35 | BA | 1489 | G | C1'-O4'-C4' | -5.54 | 105.47 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 37 | BC | 47 | A | C6-C5-N7 | 5.54 | 136.18 | 132.30 |
| 2 | AB | 73 | A | O4'-C1'-N9 | -5.54 | 103.77 | 108.20 |
| 2 | AB | 402 | A | C3'-C2'-C1' | 5.54 | 105.93 | 101.50 |
| 2 | AB | 782 | A | C3'-C2'-C1' | -5.54 | 97.07 | 101.50 |
| 2 | AB | 814 | C | C5'-C4'-O4' | 5.54 | 115.75 | 109.10 |
| 2 | AB | 875 | G | O4'-C4'-C3' | 5.54 | 110.53 | 106.10 |
| 2 | AB | 1156 | A | C1'-O4'-C4' | -5.54 | 105.47 | 109.90 |
| 2 | AB | 1371 | G | N1-C6-O6 | -5.54 | 116.58 | 119.90 |
| 2 | AB | 1387 | A | C5'-C4'-C3' | 5.54 | 124.87 | 116.00 |
| 2 | AB | 1405 | U | C5'-C4'-C3' | -5.54 | 107.13 | 116.00 |
| 2 | AB | 1813 | G | C1'-O4'-C4' | 5.54 | 114.33 | 109.90 |
| 2 | AB | 2394 | C | N3-C4-N4 | 5.54 | 121.88 | 118.00 |
| 2 | AB | 2397 | G | C5-C6-N1 | 5.54 | 114.27 | 111.50 |
| 10 | AJ | 88 | PRO | N-CA-CB | 5.54 | 109.95 | 103.30 |
| 35 | BA | 311 | C | C4-C5-C6 | -5.54 | 114.63 | 117.40 |
| 35 | BA | 331 | G | N3-C4-C5 | -5.54 | 125.83 | 128.60 |
| 35 | BA | 399 | G | O5'-C5'-C4' | -5.54 | 101.17 | 111.70 |
| 35 | BA | 431 | A | N1-C2-N3 | 5.54 | 132.07 | 129.30 |
| 35 | BA | 666 | G | N3-C4-N9 | 5.54 | 129.32 | 126.00 |
| 35 | BA | 1021 | A | C5'-C4'-C3' | -5.54 | 107.13 | 116.00 |
| 35 | BA | 1178 | G | N7-C8-N9 | 5.54 | 115.87 | 113.10 |
| 36 | BB | 27 | A | C4-C5-C6 | 5.54 | 119.77 | 117.00 |
| 37 | BC | 24 | C | C5'-C4'-O4' | -5.54 | 102.45 | 109.10 |
| 52 | BR | 53 | ASP | CB-CG-OD2 | -5.54 | 113.31 | 118.30 |
| 2 | AB | 320 | A | C5-C6-N1 | 5.54 | 120.47 | 117.70 |
| 2 | AB | 900 | A | C2'-C3'-O3' | 5.54 | 122.56 | 113.70 |
| 2 | AB | 1133 | A | C5-C6-N1 | -5.54 | 114.93 | 117.70 |
| 2 | AB | 1458 | U | N1-C1'-C2' | 5.54 | 121.20 | 114.00 |
| 2 | AB | 1750 | G | C6-C5-N7 | 5.54 | 133.72 | 130.40 |
| 35 | BA | 176 | C | OP2-P-O3' | 5.54 | 117.39 | 105.20 |
| 35 | BA | 961 | U | C4-C5-C6 | -5.54 | 116.38 | 119.70 |
| 1 | AA | 13 | G | C1'-O4'-C4' | -5.54 | 105.47 | 109.90 |
| 2 | AB | 393 | C | C5-C6-N1 | -5.54 | 118.23 | 121.00 |
| 2 | AB | 661 | A | C8-N9-C4 | -5.54 | 103.58 | 105.80 |
| 2 | AB | 1591 | A | C4'-C3'-C2' | -5.54 | 97.06 | 102.60 |
| 2 | AB | 1606 | C | C5'-C4'-O4' | 5.54 | 115.75 | 109.10 |
| 2 | AB | 1638 | C | C3'-C2'-C1' | 5.54 | 105.93 | 101.50 |
| 2 | AB | 2533 | U | N1-C1'-C2' | -5.54 | 105.91 | 112.00 |
| 35 | BA | 50 | A | C3'-C2'-C1' | 5.54 | 105.93 | 101.50 |
| 35 | BA | 65 | A | C6-C5-N7 | -5.54 | 128.42 | 132.30 |
| 35 | BA | 164 | G | C5'-C4'-O4' | 5.54 | 115.75 | 109.10 |
| 35 | BA | 250 | A | C4-C5-C6 | -5.54 | 114.23 | 117.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 717 | U | C5-C6-N1 | 5.54 | 125.47 | 122.70 |
| 1 | AA | 19 | C | C5-C4-N4 | 5.54 | 124.08 | 120.20 |
| 1 | AA | 84 | G | N3-C4-N9 | 5.54 | 129.32 | 126.00 |
| 2 | AB | 102 | U | O4'-C1'-N1 | 5.54 | 112.63 | 108.20 |
| 2 | AB | 257 | C | C1'-O4'-C4' | -5.54 | 105.47 | 109.90 |
| 2 | AB | 547 | A | P-O5'-C5' | 5.54 | 129.76 | 120.90 |
| 2 | AB | 687 | C | C5-C4-N4 | -5.54 | 116.32 | 120.20 |
| 2 | AB | 1516 | G | C6-C5-N7 | -5.54 | 127.08 | 130.40 |
| 2 | AB | 2608 | G | C5'-C4'-O4' | 5.54 | 115.75 | 109.10 |
| 2 | AB | 2688 | G | C5'-C4'-O4' | 5.54 | 115.75 | 109.10 |
| 35 | BA | 306 | A | N7-C8-N9 | 5.54 | 116.57 | 113.80 |
| 35 | BA | 524 | G | C2-N3-C4 | 5.54 | 114.67 | 111.90 |
| 35 | BA | 735 | C | N3-C2-O2 | -5.54 | 118.02 | 121.90 |
| 35 | BA | 938 | A | C5-N7-C8 | 5.54 | 106.67 | 103.90 |
| 2 | AB | 159 | G | N3-C4-C5 | -5.54 | 125.83 | 128.60 |
| 2 | AB | 377 | G | C8-N9-C4 | -5.54 | 104.19 | 106.40 |
| 2 | AB | 1437 | C | N3-C4-C5 | 5.54 | 124.11 | 121.90 |
| 2 | AB | 1995 | U | N3-C4-O4 | -5.54 | 115.53 | 119.40 |
| 2 | AB | 2409 | G | C6-N1-C2 | -5.54 | 121.78 | 125.10 |
| 35 | BA | 533 | A | C5-N7-C8 | 5.54 | 106.67 | 103.90 |
| 35 | BA | 1051 | C | N1-C2-N3 | -5.54 | 115.33 | 119.20 |
| 2 | AB | 984 | A | C5'-C4'-O4' | -5.53 | 102.46 | 109.10 |
| 2 | AB | 1234 | U | C2-N3-C4 | 5.53 | 130.32 | 127.00 |
| 2 | AB | 1763 | G | P-O3'-C3' | 5.53 | 126.34 | 119.70 |
| 2 | AB | 1839 | G | N1-C2-N3 | -5.53 | 120.58 | 123.90 |
| 2 | AB | 2437 | G | C4-C5-C6 | 5.53 | 122.12 | 118.80 |
| 2 | AB | 2500 | U | O4'-C1'-N1 | 5.53 | 112.63 | 108.20 |
| 35 | BA | 259 | G | N1-C2-N3 | 5.53 | 127.22 | 123.90 |
| 35 | BA | 260 | G | N1-C6-O6 | 5.53 | 123.22 | 119.90 |
| 35 | BA | 320 | A | C4'-C3'-C2' | -5.53 | 97.07 | 102.60 |
| 35 | BA | 813 | U | O4'-C1'-N1 | 5.53 | 112.63 | 108.20 |
| 35 | BA | 911 | U | C1'-O4'-C4' | 5.53 | 114.33 | 109.90 |
| 35 | BA | 1367 | C | N1-C2-O2 | 5.53 | 122.22 | 118.90 |
| 37 | BC | 13 | C | O4'-C4'-C3' | 5.53 | 110.53 | 106.10 |
| 2 | AB | 775 | G | C3'-C2'-C1' | -5.53 | 97.08 | 101.50 |
| 2 | AB | 1720 | U | C3'-C2'-C1' | 5.53 | 105.92 | 101.50 |
| 2 | AB | 1949 | G | C4-C5-N7 | 5.53 | 113.01 | 110.80 |
| 35 | BA | 12 | U | C1'-O4'-C4' | -5.53 | 105.47 | 109.90 |
| 35 | BA | 321 | A | N1-C6-N6 | 5.53 | 121.92 | 118.60 |
| 35 | BA | 877 | G | C8-N9-C4 | -5.53 | 104.19 | 106.40 |
| 35 | BA | 1448 | C | C2'-C3'-O3' | 5.53 | 122.55 | 113.70 |
| 46 | BL | 62 | ARG | CD-NE-CZ | 5.53 | 131.34 | 123.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | AA | 17 | C | N3-C4-C5 | -5.53 | 119.69 | 121.90 |
| 2 | AB | 68 | G | C3'-C2'-C1' | 5.53 | 105.92 | 101.50 |
| 2 | AB | 572 | A | C4'-C3'-C2' | -5.53 | 97.07 | 102.60 |
| 2 | AB | 766 | U | C4'-C3'-C2' | -5.53 | 97.07 | 102.60 |
| 2 | AB | 832 | U | C3'-C2'-C1' | 5.53 | 105.92 | 101.50 |
| 2 | AB | 1037 | G | C3'-C2'-C1' | 5.53 | 105.92 | 101.50 |
| 2 | AB | 2074 | U | P-O5'-C5' | 5.53 | 129.75 | 120.90 |
| 2 | AB | 2318 | G | N7-C8-N9 | 5.53 | 115.86 | 113.10 |
| 2 | AB | 2761 | A | C5'-C4'-O4' | 5.53 | 115.74 | 109.10 |
| 15 | AO | 6 | ARG | NE-CZ-NH2 | 5.53 | 123.06 | 120.30 |
| 35 | BA | 59 | A | C8-N9-C4 | -5.53 | 103.59 | 105.80 |
| 40 | BF | 171 | GLU | OE1-CD-OE2 | 5.53 | 129.94 | 123.30 |
| 1 | AA | 90 | C | C5'-C4'-C3' | -5.53 | 107.15 | 116.00 |
| 2 | AB | 532 | A | C6-N1-C2 | -5.53 | 115.28 | 118.60 |
| 2 | AB | 2227 | A | N7-C8-N9 | 5.53 | 116.56 | 113.80 |
| 2 | AB | 2375 | G | C4-N9-C1' | -5.53 | 119.31 | 126.50 |
| 2 | AB | 2670 | A | C4-C5-C6 | -5.53 | 114.23 | 117.00 |
| 35 | BA | 293 | G | C3'-C2'-C1' | 5.53 | 105.92 | 101.50 |
| 35 | BA | 1419 | G | C5'-C4'-O4' | 5.53 | 115.73 | 109.10 |
| 1 | AA | 76 | G | C6-N1-C2 | -5.53 | 121.78 | 125.10 |
| 1 | AA | 81 | G | C2-N3-C4 | -5.53 | 109.14 | 111.90 |
| 2 | AB | 233 | A | N7-C8-N9 | 5.53 | 116.56 | 113.80 |
| 2 | AB | 646 | U | C1'-O4'-C4' | -5.53 | 105.48 | 109.90 |
| 2 | AB | 1166 | G | P-O3'-C3' | 5.53 | 126.33 | 119.70 |
| 2 | AB | 1263 | U | N3-C4-O4 | 5.53 | 123.27 | 119.40 |
| 2 | AB | 1558 | C | O4'-C1'-N1 | 5.53 | 112.62 | 108.20 |
| 2 | AB | 1569 | A | O4'-C1'-N9 | -5.53 | 103.78 | 108.20 |
| 2 | AB | 1822 | C | C6-N1-C2 | -5.53 | 118.09 | 120.30 |
| 2 | AB | 1903 | G | C2-N3-C4 | 5.53 | 114.66 | 111.90 |
| 2 | AB | 2066 | C | N3-C4-C5 | -5.53 | 119.69 | 121.90 |
| 2 | AB | 2083 | G | N3-C4-N9 | 5.53 | 129.32 | 126.00 |
| 2 | AB | 2091 | C | C6-N1-C2 | -5.53 | 118.09 | 120.30 |
| 2 | AB | 2221 | G | N3-C4-N9 | -5.53 | 122.68 | 126.00 |
| 2 | AB | 2317 | A | C6-C5-N7 | 5.53 | 136.17 | 132.30 |
| 2 | AB | 2361 | G | P-O3'-C3' | 5.53 | 126.33 | 119.70 |
| 2 | AB | 2512 | C | C4-C5-C6 | 5.53 | 120.16 | 117.40 |
| 2 | AB | 2674 | G | C8-N9-C1' | 5.53 | 134.19 | 127.00 |
| 2 | AB | 2757 | A | O5'-C5'-C4' | 5.53 | 122.20 | 111.70 |
| 35 | BA | 144 | G | C8-N9-C4 | -5.53 | 104.19 | 106.40 |
| 35 | BA | 485 | U | C4'-C3'-C2' | -5.53 | 97.07 | 102.60 |
| 35 | BA | 930 | C | C4-C5-C6 | 5.53 | 120.16 | 117.40 |
| 37 | BC | 59 | A | C6-C5-N7 | 5.53 | 136.17 | 132.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 38 | BD | 117 | GLU | OE1-CD-OE2 | 5.53 | 129.93 | 123.30 |
| 1 | AA | 15 | A | C5-N7-C8 | 5.53 | 106.66 | 103.90 |
| 2 | AB | 88 | G | N1-C6-O6 | -5.53 | 116.58 | 119.90 |
| 2 | AB | 176 | A | C8-N9-C4 | -5.53 | 103.59 | 105.80 |
| 2 | AB | 249 | C | C5'-C4'-C3' | -5.53 | 107.16 | 116.00 |
| 2 | AB | 525 | U | P-O3'-C3' | 5.53 | 126.33 | 119.70 |
| 2 | AB | 1418 | G | C6-N1-C2 | -5.53 | 121.78 | 125.10 |
| 2 | AB | 1475 | G | N1-C2-N3 | 5.53 | 127.22 | 123.90 |
| 2 | AB | 2201 | G | C4'-C3'-C2' | -5.53 | 97.07 | 102.60 |
| 2 | AB | 2308 | G | P-O3'-C3' | 5.53 | 126.33 | 119.70 |
| 2 | AB | 2470 | G | C5-C6-O6 | 5.53 | 131.92 | 128.60 |
| 2 | AB | 2873 | A | C6-N1-C2 | 5.53 | 121.92 | 118.60 |
| 2 | AB | 2882 | A | N9-C1'-C2' | -5.53 | 105.92 | 112.00 |
| 35 | BA | 375 | U | C5'-C4'-C3' | -5.53 | 107.16 | 116.00 |
| 35 | BA | 495 | A | C5'-C4'-O4' | 5.53 | 115.73 | 109.10 |
| 35 | BA | 741 | G | N1-C2-N3 | 5.53 | 127.22 | 123.90 |
| 35 | BA | 985 | C | C6-N1-C2 | 5.53 | 122.51 | 120.30 |
| 35 | BA | 1322 | C | C6-N1-C2 | -5.53 | 118.09 | 120.30 |
| 35 | BA | 1339 | A | P-O3'-C3' | 5.53 | 126.33 | 119.70 |
| 35 | BA | 1373 | G | N1-C2-N3 | -5.53 | 120.58 | 123.90 |
| 36 | BB | 15 | G | O4'-C4'-C3' | 5.53 | 110.52 | 106.10 |
| 37 | BC | 20 | G | N3-C2-N2 | 5.53 | 123.77 | 119.90 |
| 37 | BC | 41 | C | C2-N3-C4 | 5.53 | 122.66 | 119.90 |
| 2 | AB | 1148 | U | C2-N3-C4 | -5.52 | 123.69 | 127.00 |
| 2 | AB | 1838 | C | C5-C6-N1 | -5.52 | 118.24 | 121.00 |
| 2 | AB | 2484 | G | N3-C2-N2 | -5.52 | 116.03 | 119.90 |
| 35 | BA | 272 | C | OP2-P-O3' | 5.52 | 117.35 | 105.20 |
| 35 | BA | 1105 | A | C1'-O4'-C4' | -5.52 | 105.48 | 109.90 |
| 47 | BM | 76 | TYR | CG-CD1-CE1 | 5.52 | 125.72 | 121.30 |
| 2 | AB | 902 | C | O4'-C1'-N1 | 5.52 | 112.62 | 108.20 |
| 2 | AB | 942 | G | C5'-C4'-C3' | -5.52 | 107.16 | 116.00 |
| 2 | AB | 1048 | A | C8-N9-C4 | -5.52 | 103.59 | 105.80 |
| 2 | AB | 1185 | G | N3-C4-C5 | -5.52 | 125.84 | 128.60 |
| 2 | AB | 1219 | U | O4'-C4'-C3' | 5.52 | 110.52 | 106.10 |
| 2 | AB | 1294 | U | N3-C2-O2 | -5.52 | 118.33 | 122.20 |
| 2 | AB | 1313 | U | N1-C2-N3 | 5.52 | 118.21 | 114.90 |
| 2 | AB | 1445 | G | N7-C8-N9 | -5.52 | 110.34 | 113.10 |
| 2 | AB | 1451 | C | C5-C4-N4 | -5.52 | 116.33 | 120.20 |
| 2 | AB | 1496 | A | N1-C2-N3 | -5.52 | 126.54 | 129.30 |
| 2 | AB | 2007 | U | C5'-C4'-O4' | 5.52 | 115.73 | 109.10 |
| 2 | AB | 2559 | C | C5'-C4'-O4' | 5.52 | 115.73 | 109.10 |
| 2 | AB | 2672 | U | O4'-C1'-N1 | 5.52 | 112.62 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2824 | C | C6-N1-C2 | 5.52 | 122.51 | 120.30 |
| 7 | AG | 27 | VAL | CG1-CB-CG2 | -5.52 | 102.06 | 110.90 |
| 13 | AM | 94 | PRO | N-CD-CG | 5.52 | 111.48 | 103.20 |
| 35 | BA | 91 | U | C4-C5-C6 | 5.52 | 123.01 | 119.70 |
| 35 | BA | 494 | G | C8-N9-C1' | 5.52 | 134.18 | 127.00 |
| 35 | BA | 495 | A | N7-C8-N9 | -5.52 | 111.04 | 113.80 |
| 35 | BA | 538 | G | C5'-C4'-O4' | 5.52 | 115.73 | 109.10 |
| 35 | BA | 583 | A | C1'-O4'-C4' | -5.52 | 105.48 | 109.90 |
| 35 | BA | 646 | G | C4-C5-C6 | 5.52 | 122.11 | 118.80 |
| 35 | BA | 694 | A | C8-N9-C4 | 5.52 | 108.01 | 105.80 |
| 35 | BA | 868 | C | C5'-C4'-O4' | 5.52 | 115.73 | 109.10 |
| 35 | BA | 1174 | G | C6-C5-N7 | -5.52 | 127.09 | 130.40 |
| 36 | BB | 56 | G | C5'-C4'-O4' | -5.52 | 102.47 | 109.10 |
| 45 | BK | 108 | ARG | NE-CZ-NH2 | -5.52 | 117.54 | 120.30 |
| 2 | AB | 86 | G | C5-C6-N1 | 5.52 | 114.26 | 111.50 |
| 2 | AB | 761 | A | C5'-C4'-C3' | -5.52 | 107.17 | 116.00 |
| 2 | AB | 2384 | U | C3'-C2'-C1' | 5.52 | 105.92 | 101.50 |
| 2 | AB | 2556 | C | C5'-C4'-C3' | -5.52 | 107.17 | 116.00 |
| 35 | BA | 61 | G | C5'-C4'-O4' | 5.52 | 115.72 | 109.10 |
| 35 | BA | 860 | A | C5-N7-C8 | -5.52 | 101.14 | 103.90 |
| 37 | BC | 52 | C | P-O5'-C5' | -5.52 | 112.07 | 120.90 |
| 2 | AB | 74 | A | N1-C6-N6 | -5.52 | 115.29 | 118.60 |
| 2 | AB | 104 | A | C4-C5-C6 | -5.52 | 114.24 | 117.00 |
| 2 | AB | 1908 | C | C4'-C3'-C2' | -5.52 | 97.08 | 102.60 |
| 2 | AB | 1987 | A | C5-C6-N1 | 5.52 | 120.46 | 117.70 |
| 2 | AB | 2435 | A | O5'-C5'-C4' | -5.52 | 101.21 | 111.70 |
| 2 | AB | 2711 | A | P-O3'-C3' | 5.52 | 126.32 | 119.70 |
| 2 | AB | 2712 | C | C5-C6-N1 | -5.52 | 118.24 | 121.00 |
| 2 | AB | 2760 | C | N3-C4-C5 | -5.52 | 119.69 | 121.90 |
| 35 | BA | 41 | G | N1-C2-N3 | -5.52 | 120.59 | 123.90 |
| 35 | BA | 271 | C | N3-C4-C5 | -5.52 | 119.69 | 121.90 |
| 35 | BA | 404 | G | C6-N1-C2 | -5.52 | 121.79 | 125.10 |
| 35 | BA | 431 | A | O4'-C1'-N9 | 5.52 | 112.62 | 108.20 |
| 35 | BA | 759 | A | C5-N7-C8 | -5.52 | 101.14 | 103.90 |
| 35 | BA | 812 | G | C3'-C2'-C1' | 5.52 | 105.92 | 101.50 |
| 35 | BA | 909 | A | N9-C4-C5 | 5.52 | 108.01 | 105.80 |
| 43 | BI | 139 | ASP | CB-CG-OD2 | -5.52 | 113.33 | 118.30 |
| 1 | AA | 108 | A | N3-C4-N9 | -5.52 | 122.99 | 127.40 |
| 2 | AB | 48 | G | C4-N9-C1' | -5.52 | 119.33 | 126.50 |
| 2 | AB | 195 | A | C4-C5-N7 | 5.52 | 113.46 | 110.70 |
| 2 | AB | 287 | G | C4-C5-N7 | -5.52 | 108.59 | 110.80 |
| 2 | AB | 294 | A | N1-C6-N6 | -5.52 | 115.29 | 118.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 374 | A | N1-C2-N3 | 5.52 | 132.06 | 129.30 |
| 2 | AB | 885 | C | C6-N1-C2 | -5.52 | 118.09 | 120.30 |
| 2 | AB | 1018 | U | P-O3'-C3' | 5.52 | 126.32 | 119.70 |
| 2 | AB | 1058 | U | C3'-C2'-C1' | 5.52 | 105.91 | 101.50 |
| 2 | AB | 1058 | U | C5'-C4'-O4' | 5.52 | 115.72 | 109.10 |
| 2 | AB | 1779 | U | P-O5'-C5' | 5.52 | 129.73 | 120.90 |
| 2 | AB | 2190 | G | C5-C6-O6 | -5.52 | 125.29 | 128.60 |
| 2 | AB | 2242 | G | N3-C4-N9 | 5.52 | 129.31 | 126.00 |
| 2 | AB | 2314 | A | C8-N9-C4 | 5.52 | 108.01 | 105.80 |
| 2 | AB | 2693 | G | N9-C1'-C2' | -5.52 | 105.93 | 112.00 |
| 2 | AB | 2709 | G | N7-C8-N9 | 5.52 | 115.86 | 113.10 |
| 2 | AB | 2751 | G | N9-C1'-C2' | 5.52 | 121.17 | 114.00 |
| 2 | AB | 2757 | A | N9-C4-C5 | -5.52 | 103.59 | 105.80 |
| 35 | BA | 411 | A | N9-C4-C5 | 5.52 | 108.01 | 105.80 |
| 35 | BA | 974 | A | C4'-C3'-C2' | -5.52 | 97.08 | 102.60 |
| 35 | BA | 1168 | U | C4-C5-C6 | 5.52 | 123.01 | 119.70 |
| 36 | BB | 45 | G | N1-C6-O6 | -5.52 | 116.59 | 119.90 |
| 2 | AB | 14 | A | C5'-C4'-C3' | -5.52 | 107.17 | 116.00 |
| 2 | AB | 1543 | G | N1-C6-O6 | -5.52 | 116.59 | 119.90 |
| 2 | AB | 1719 | G | N7-C8-N9 | 5.52 | 115.86 | 113.10 |
| 35 | BA | 354 | G | C5-C6-O6 | 5.52 | 131.91 | 128.60 |
| 2 | AB | 17 | G | C3'-C2'-C1' | 5.51 | 105.91 | 101.50 |
| 2 | AB | 879 | G | N1-C6-O6 | -5.51 | 116.59 | 119.90 |
| 2 | AB | 987 | C | N1-C2-N3 | -5.51 | 115.34 | 119.20 |
| 2 | AB | 1036 | G | C8-N9-C4 | -5.51 | 104.19 | 106.40 |
| 2 | AB | 1229 | C | N1-C2-O2 | 5.51 | 122.21 | 118.90 |
| 2 | AB | 1264 | A | C4-C5-C6 | -5.51 | 114.24 | 117.00 |
| 2 | AB | 1388 | G | C3'-C2'-C1' | 5.51 | 105.91 | 101.50 |
| 2 | AB | 1734 | G | N1-C2-N3 | -5.51 | 120.59 | 123.90 |
| 2 | AB | 2217 | G | N3-C4-C5 | -5.51 | 125.84 | 128.60 |
| 2 | AB | 2364 | C | N3-C2-O2 | -5.51 | 118.04 | 121.90 |
| 2 | AB | 2794 | C | O4'-C1'-N1 | 5.51 | 112.61 | 108.20 |
| 8 | AH | 170 | THR | C-N-CA | 5.51 | 135.49 | 121.70 |
| 35 | BA | 554 | A | C4'-C3'-C2' | -5.51 | 97.09 | 102.60 |
| 35 | BA | 794 | A | P-O3'-C3' | 5.51 | 126.32 | 119.70 |
| 35 | BA | 858 | G | C6-C5-N7 | 5.51 | 133.71 | 130.40 |
| 2 | AB | 103 | A | C5-N7-C8 | -5.51 | 101.14 | 103.90 |
| 2 | AB | 950 | G | N1-C2-N3 | -5.51 | 120.59 | 123.90 |
| 2 | AB | 2027 | G | O4'-C1'-N9 | 5.51 | 112.61 | 108.20 |
| 2 | AB | 2304 | G | N3-C4-N9 | 5.51 | 129.31 | 126.00 |
| 2 | AB | 2825 | G | C4'-C3'-C2' | -5.51 | 97.09 | 102.60 |
| 35 | BA | 1017 | U | C5-C4-O4 | 5.51 | 129.21 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 36 | BB | 34 | U | O4'-C1'-N1 | 5.51 | 112.61 | 108.20 |
| 2 | AB | 951 | C | C4-C5-C6 | -5.51 | 114.64 | 117.40 |
| 2 | AB | 1153 | C | C6-N1-C2 | -5.51 | 118.09 | 120.30 |
| 2 | AB | 1156 | A | C4-C5-C6 | -5.51 | 114.24 | 117.00 |
| 2 | AB | 1196 | C | C4'-C3'-O3' | 5.51 | 124.02 | 113.00 |
| 2 | AB | 2341 | G | C5-C6-N1 | -5.51 | 108.75 | 111.50 |
| 2 | AB | 2388 | A | C1'-O4'-C4' | -5.51 | 105.49 | 109.90 |
| 2 | AB | 2673 | G | C6-N1-C2 | -5.51 | 121.79 | 125.10 |
| 35 | BA | 106 | C | N3-C4-C5 | -5.51 | 119.69 | 121.90 |
| 35 | BA | 324 | G | N3-C4-N9 | 5.51 | 129.31 | 126.00 |
| 35 | BA | 446 | G | N3-C4-N9 | 5.51 | 129.31 | 126.00 |
| 35 | BA | 590 | U | N1-C1'-C2' | -5.51 | 105.94 | 112.00 |
| 2 | AB | 153 | U | N1-C2-N3 | -5.51 | 111.59 | 114.90 |
| 2 | AB | 802 | A | C5-C6-N1 | -5.51 | 114.94 | 117.70 |
| 2 | AB | 819 | A | C6-N1-C2 | -5.51 | 115.30 | 118.60 |
| 2 | AB | 1013 | C | N1-C2-N3 | -5.51 | 115.34 | 119.20 |
| 2 | AB | 1215 | G | C8-N9-C4 | -5.51 | 104.20 | 106.40 |
| 2 | AB | 1308 | A | C4-C5-N7 | -5.51 | 107.95 | 110.70 |
| 2 | AB | 1366 | A | N1-C6-N6 | 5.51 | 121.91 | 118.60 |
| 2 | AB | 1479 | G | O4'-C1'-N9 | 5.51 | 112.61 | 108.20 |
| 2 | AB | 1883 | U | O4'-C1'-C2' | 5.51 | 112.56 | 107.60 |
| 2 | AB | 2482 | A | C2-N3-C4 | 5.51 | 113.36 | 110.60 |
| 2 | AB | 2783 | U | N1-C2-O2 | -5.51 | 118.94 | 122.80 |
| 3 | AC | 60 | ARG | NE-CZ-NH2 | 5.51 | 123.06 | 120.30 |
| 35 | BA | 5 | U | N3-C4-O4 | 5.51 | 123.26 | 119.40 |
| 35 | BA | 420 | U | C5'-C4'-O4' | 5.51 | 115.71 | 109.10 |
| 35 | BA | 572 | A | N1-C6-N6 | -5.51 | 115.29 | 118.60 |
| 2 | AB | 858 | G | N9-C4-C5 | 5.51 | 107.60 | 105.40 |
| 2 | AB | 1833 | C | N3-C4-C5 | -5.51 | 119.70 | 121.90 |
| 2 | AB | 2014 | A | C5-N7-C8 | -5.51 | 101.15 | 103.90 |
| 2 | AB | 2084 | C | C4-C5-C6 | -5.51 | 114.65 | 117.40 |
| 2 | AB | 2198 | A | C3'-C2'-C1' | 5.51 | 105.91 | 101.50 |
| 35 | BA | 177 | G | O4'-C1'-C2' | -5.51 | 100.29 | 105.80 |
| 35 | BA | 424 | G | C5-C6-N1 | 5.51 | 114.25 | 111.50 |
| 35 | BA | 809 | G | C5'-C4'-C3' | -5.51 | 107.19 | 116.00 |
| 42 | BH | 112 | ARG | NH1-CZ-NH2 | 5.51 | 125.46 | 119.40 |
| 2 | AB | 97 | C | C5-C6-N1 | 5.51 | 123.75 | 121.00 |
| 2 | AB | 155 | A | N3-C4-N9 | -5.51 | 122.99 | 127.40 |
| 2 | AB | 216 | A | N9-C4-C5 | 5.51 | 108.00 | 105.80 |
| 2 | AB | 845 | A | O3'-P-O5' | -5.51 | 93.54 | 104.00 |
| 2 | AB | 1106 | G | C2-N3-C4 | 5.51 | 114.65 | 111.90 |
| 2 | AB | 1199 | U | O5'-P-OP2 | -5.51 | 100.74 | 105.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1528 | A | O4'-C1'-N9 | 5.51 | 112.61 | 108.20 |
| 2 | AB | 1625 | C | N3-C4-N4 | -5.51 | 114.15 | 118.00 |
| 2 | AB | 1649 | G | C8-N9-C1' | 5.51 | 134.16 | 127.00 |
| 2 | AB | 1904 | G | C4-N9-C1' | -5.51 | 119.34 | 126.50 |
| 2 | AB | 2514 | U | N1-C1'-C2' | -5.51 | 105.94 | 112.00 |
| 2 | AB | 2561 | U | N1-C1'-C2' | -5.51 | 105.94 | 112.00 |
| 2 | AB | 2615 | U | C2-N3-C4 | -5.51 | 123.70 | 127.00 |
| 2 | AB | 2631 | G | C4-C5-C6 | 5.51 | 122.10 | 118.80 |
| 35 | BA | 105 | G | N3-C4-C5 | -5.51 | 125.85 | 128.60 |
| 35 | BA | 158 | G | C5'-C4'-O4' | 5.51 | 115.71 | 109.10 |
| 35 | BA | 163 | C | C4-C5-C6 | 5.51 | 120.15 | 117.40 |
| 35 | BA | 464 | U | C4-C5-C6 | -5.51 | 116.40 | 119.70 |
| 35 | BA | 1327 | C | C4'-C3'-C2' | -5.51 | 97.09 | 102.60 |
| 41 | BG | 81 | GLN | CB-CG-CD | 5.51 | 125.92 | 111.60 |
| 2 | AB | 408 | G | C4-C5-C6 | -5.50 | 115.50 | 118.80 |
| 2 | AB | 533 | G | P-O3'-C3' | 5.50 | 126.31 | 119.70 |
| 2 | AB | 707 | G | N1-C2-N3 | 5.50 | 127.20 | 123.90 |
| 2 | AB | 839 | U | N3-C2-O2 | -5.50 | 118.35 | 122.20 |
| 2 | AB | 1584 | U | N3-C2-O2 | -5.50 | 118.35 | 122.20 |
| 2 | AB | 2282 | G | N1-C6-O6 | 5.50 | 123.20 | 119.90 |
| 2 | AB | 2367 | G | N3-C4-N9 | 5.50 | 129.30 | 126.00 |
| 2 | AB | 2817 | U | C2-N3-C4 | 5.50 | 130.30 | 127.00 |
| 35 | BA | 247 | G | C6-N1-C2 | -5.50 | 121.80 | 125.10 |
| 35 | BA | 539 | A | P-O3'-C3' | 5.50 | 126.31 | 119.70 |
| 35 | BA | 545 | C | P-O3'-C3' | 5.50 | 126.31 | 119.70 |
| 35 | BA | 1441 | A | N3-C4-N9 | -5.50 | 123.00 | 127.40 |
| 35 | BA | 1468 | A | C2-N3-C4 | 5.50 | 113.35 | 110.60 |
| 2 | AB | 60 | G | C5-C6-O6 | 5.50 | 131.90 | 128.60 |
| 2 | AB | 84 | A | C4-C5-C6 | -5.50 | 114.25 | 117.00 |
| 2 | AB | 146 | A | N3-C4-C5 | -5.50 | 122.95 | 126.80 |
| 2 | AB | 186 | G | C6-C5-N7 | -5.50 | 127.10 | 130.40 |
| 2 | AB | 411 | G | N3-C4-N9 | 5.50 | 129.30 | 126.00 |
| 2 | AB | 433 | C | P-O3'-C3' | 5.50 | 126.31 | 119.70 |
| 2 | AB | 492 | A | N7-C8-N9 | -5.50 | 111.05 | 113.80 |
| 2 | AB | 506 | G | C5-C6-N1 | 5.50 | 114.25 | 111.50 |
| 2 | AB | 732 | C | N1-C2-N3 | 5.50 | 123.05 | 119.20 |
| 2 | AB | 782 | A | N9-C1'-C2' | -5.50 | 105.95 | 112.00 |
| 2 | AB | 941 | A | C2-N3-C4 | 5.50 | 113.35 | 110.60 |
| 2 | AB | 1309 | G | N1-C6-O6 | 5.50 | 123.20 | 119.90 |
| 2 | AB | 1559 | U | C6-N1-C1' | -5.50 | 113.50 | 121.20 |
| 2 | AB | 2290 | G | N3-C4-C5 | -5.50 | 125.85 | 128.60 |
| 2 | AB | 2317 | A | N1-C2-N3 | -5.50 | 126.55 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2381 | A | C4-C5-C6 | -5.50 | 114.25 | 117.00 |
| 35 | BA | 246 | A | N3-C4-N9 | 5.50 | 131.80 | 127.40 |
| 35 | BA | 573 | A | N7-C8-N9 | -5.50 | 111.05 | 113.80 |
| 35 | BA | 696 | A | O4'-C1'-C2' | 5.50 | 112.55 | 107.60 |
| 35 | BA | 826 | C | N1-C2-N3 | -5.50 | 115.35 | 119.20 |
| 35 | BA | 1079 | G | C5-N7-C8 | 5.50 | 107.05 | 104.30 |
| 35 | BA | 1151 | A | C4'-C3'-C2' | -5.50 | 97.10 | 102.60 |
| 41 | BG | 30 | PHE | CB-CG-CD2 | -5.50 | 116.95 | 120.80 |
| 2 | AB | 1 | G | N1-C2-N2 | 5.50 | 121.15 | 116.20 |
| 2 | AB | 228 | C | C6-N1-C2 | -5.50 | 118.10 | 120.30 |
| 2 | AB | 229 | C | O4'-C4'-C3' | -5.50 | 98.50 | 104.00 |
| 2 | AB | 492 | A | C4-C5-N7 | -5.50 | 107.95 | 110.70 |
| 2 | AB | 628 | G | N7-C8-N9 | 5.50 | 115.85 | 113.10 |
| 2 | AB | 883 | G | C5-C6-O6 | 5.50 | 131.90 | 128.60 |
| 2 | AB | 895 | U | O3'-P-O5' | -5.50 | 93.55 | 104.00 |
| 2 | AB | 998 | C | N3-C4-C5 | -5.50 | 119.70 | 121.90 |
| 2 | AB | 1175 | A | P-O3'-C3' | 5.50 | 126.30 | 119.70 |
| 2 | AB | 1389 | G | C4-N9-C1' | -5.50 | 119.35 | 126.50 |
| 2 | AB | 2071 | A | C3'-C2'-C1' | -5.50 | 97.10 | 101.50 |
| 2 | AB | 2212 | A | N1-C2-N3 | 5.50 | 132.05 | 129.30 |
| 2 | AB | 2348 | U | N3-C2-O2 | -5.50 | 118.35 | 122.20 |
| 2 | AB | 2427 | C | C5-C4-N4 | -5.50 | 116.35 | 120.20 |
| 2 | AB | 2452 | C | C5-C4-N4 | 5.50 | 124.05 | 120.20 |
| 2 | AB | 2488 | G | N3-C4-C5 | -5.50 | 125.85 | 128.60 |
| 2 | AB | 2516 | A | C4'-C3'-C2' | -5.50 | 97.10 | 102.60 |
| 2 | AB | 2619 | C | N1-C2-O2 | 5.50 | 122.20 | 118.90 |
| 2 | AB | 2854 | G | N9-C1'-C2' | -5.50 | 105.95 | 112.00 |
| 24 | AX | 30 | ILE | CA-CB-CG1 | 5.50 | 121.45 | 111.00 |
| 35 | BA | 941 | G | O4'-C1'-N9 | 5.50 | 112.60 | 108.20 |
| 35 | BA | 1028 | C | N1-C2-O2 | 5.50 | 122.20 | 118.90 |
| 35 | BA | 1236 | A | C5'-C4'-C3' | -5.50 | 107.20 | 116.00 |
| 35 | BA | 1314 | C | N1-C2-O2 | 5.50 | 122.20 | 118.90 |
| 35 | BA | 1374 | A | N1-C6-N6 | -5.50 | 115.30 | 118.60 |
| 35 | BA | 1495 | U | O4'-C1'-N1 | 5.50 | 112.60 | 108.20 |
| 36 | BB | 33 | A | C3'-C2'-C1' | 5.50 | 105.90 | 101.50 |
| 2 | AB | 582 | A | C3'-C2'-C1' | 5.50 | 105.90 | 101.50 |
| 4 | AD | 257 | ARG | CD-NE-CZ | 5.50 | 131.30 | 123.60 |
| 35 | BA | 261 | U | C5'-C4'-O4' | 5.50 | 115.70 | 109.10 |
| 35 | BA | 689 | C | C2-N3-C4 | -5.50 | 117.15 | 119.90 |
| 35 | BA | 718 | A | C2-N3-C4 | -5.50 | 107.85 | 110.60 |
| 35 | BA | 1379 | G | C5-C6-N1 | 5.50 | 114.25 | 111.50 |
| 46 | BL | 26 | VAL | CB-CA-C | 5.50 | 121.85 | 111.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 56 | A | C4'-C3'-C2' | -5.50 | 97.10 | 102.60 |
| 2 | AB | 333 | G | N3-C4-N9 | 5.50 | 129.30 | 126.00 |
| 2 | AB | 388 | G | C5'-C4'-O4' | 5.50 | 115.70 | 109.10 |
| 2 | AB | 533 | G | C6-C5-N7 | -5.50 | 127.10 | 130.40 |
| 2 | AB | 1851 | U | N3-C4-O4 | 5.50 | 123.25 | 119.40 |
| 2 | AB | 1874 | C | C3'-C2'-C1' | 5.50 | 105.90 | 101.50 |
| 2 | AB | 2262 | U | N1-C1'-C2' | -5.50 | 105.95 | 112.00 |
| 2 | AB | 2354 | C | C5-C4-N4 | -5.50 | 116.35 | 120.20 |
| 2 | AB | 2400 | G | N7-C8-N9 | 5.50 | 115.85 | 113.10 |
| 7 | AG | 112 | ASP | CB-CG-OD2 | -5.50 | 113.35 | 118.30 |
| 35 | BA | 87 | C | C6-N1-C2 | -5.50 | 118.10 | 120.30 |
| 35 | BA | 441 | A | N7-C8-N9 | 5.50 | 116.55 | 113.80 |
| 35 | BA | 760 | G | C5-N7-C8 | 5.50 | 107.05 | 104.30 |
| 35 | BA | 958 | A | C6-N1-C2 | 5.50 | 121.90 | 118.60 |
| 35 | BA | 1003 | G | N7-C8-N9 | -5.50 | 110.35 | 113.10 |
| 35 | BA | 1108 | G | C6-C5-N7 | 5.50 | 133.70 | 130.40 |
| 36 | BB | 21 | U | C2-N3-C4 | -5.50 | 123.70 | 127.00 |
| 1 | AA | 66 | A | C8-N9-C4 | -5.50 | 103.60 | 105.80 |
| 2 | AB | 632 | A | N3-C4-N9 | 5.50 | 131.80 | 127.40 |
| 2 | AB | 952 | G | C5'-C4'-C3' | -5.50 | 107.21 | 116.00 |
| 2 | AB | 1407 | G | N1-C6-O6 | -5.50 | 116.60 | 119.90 |
| 2 | AB | 1995 | U | N3-C2-O2 | -5.50 | 118.35 | 122.20 |
| 2 | AB | 2015 | A | C8-N9-C4 | -5.50 | 103.60 | 105.80 |
| 2 | AB | 2148 | G | C5-C6-O6 | -5.50 | 125.30 | 128.60 |
| 2 | AB | 2702 | G | C5'-C4'-C3' | -5.50 | 107.21 | 116.00 |
| 2 | AB | 2893 | A | C5-N7-C8 | -5.50 | 101.15 | 103.90 |
| 35 | BA | 135 | C | C2-N3-C4 | 5.50 | 122.65 | 119.90 |
| 35 | BA | 201 | G | N3-C4-C5 | 5.50 | 131.35 | 128.60 |
| 35 | BA | 389 | A | O4'-C1'-N9 | 5.50 | 112.60 | 108.20 |
| 35 | BA | 948 | C | O4'-C1'-C2' | 5.50 | 112.55 | 107.60 |
| 2 | AB | 580 | U | N1-C2-N3 | 5.50 | 118.20 | 114.90 |
| 2 | AB | 631 | A | O4'-C1'-N9 | 5.50 | 112.60 | 108.20 |
| 2 | AB | 1022 | G | N1-C6-O6 | -5.50 | 116.60 | 119.90 |
| 12 | AL | 17 | VAL | CA-CB-CG1 | 5.50 | 119.14 | 110.90 |
| 35 | BA | 15 | G | C6-C5-N7 | -5.50 | 127.10 | 130.40 |
| 35 | BA | 328 | C | C1'-O4'-C4' | 5.50 | 114.30 | 109.90 |
| 35 | BA | 1342 | C | C5'-C4'-O4' | 5.50 | 115.69 | 109.10 |
| 35 | BA | 1515 | G | C4-C5-N7 | -5.50 | 108.60 | 110.80 |
| 37 | BC | 9 | G | N7-C8-N9 | 5.50 | 115.85 | 113.10 |
| 41 | BG | 137 | ARG | NE-CZ-NH1 | 5.50 | 123.05 | 120.30 |
| 42 | BH | 94 | HIS | CB-CA-C | 5.50 | 121.39 | 110.40 |
| 1 | AA | 32 | U | C2-N3-C4 | -5.49 | 123.70 | 127.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | AA | 116 | G | C3'-C2'-C1' | 5.49 | 105.89 | 101.50 |
| 2 | AB | 333 | G | C5-C6-N1 | 5.49 | 114.25 | 111.50 |
| 2 | AB | 590 | A | N9-C1'-C2' | -5.49 | 105.96 | 112.00 |
| 2 | AB | 773 | U | C2-N3-C4 | -5.49 | 123.70 | 127.00 |
| 2 | AB | 809 | G | C6-N1-C2 | -5.49 | 121.80 | 125.10 |
| 2 | AB | 1144 | A | C3'-C2'-C1' | 5.49 | 105.89 | 101.50 |
| 2 | AB | 1483 | G | N3-C2-N2 | -5.49 | 116.05 | 119.90 |
| 2 | AB | 1987 | A | C5-N7-C8 | -5.49 | 101.15 | 103.90 |
| 2 | AB | 2372 | U | N1-C1'-C2' | -5.49 | 105.96 | 112.00 |
| 2 | AB | 2409 | G | N3-C2-N2 | -5.49 | 116.05 | 119.90 |
| 21 | AU | 18 | ARG | CD-NE-CZ | 5.49 | 131.29 | 123.60 |
| 35 | BA | 242 | G | N3-C4-C5 | -5.49 | 125.85 | 128.60 |
| 35 | BA | 1195 | C | N1-C2-O2 | -5.49 | 115.60 | 118.90 |
| 2 | AB | 176 | A | C1'-O4'-C4' | -5.49 | 105.51 | 109.90 |
| 2 | AB | 375 | G | O4'-C1'-N9 | 5.49 | 112.59 | 108.20 |
| 2 | AB | 1600 | C | O4'-C1'-N1 | 5.49 | 112.59 | 108.20 |
| 2 | AB | 2323 | G | C6-C5-N7 | 5.49 | 133.69 | 130.40 |
| 2 | AB | 2497 | A | O4'-C4'-C3' | 5.49 | 110.49 | 106.10 |
| 21 | AU | 34 | ASP | CB-CG-OD2 | -5.49 | 113.36 | 118.30 |
| 27 | A0 | 42 | LEU | CB-CG-CD2 | 5.49 | 120.34 | 111.00 |
| 35 | BA | 3 | A | O4'-C1'-N9 | 5.49 | 112.59 | 108.20 |
| 35 | BA | 879 | C | N3-C2-O2 | -5.49 | 118.06 | 121.90 |
| 35 | BA | 1180 | A | C5'-C4'-O4' | 5.49 | 115.69 | 109.10 |
| 35 | BA | 1499 | A | C5-N7-C8 | -5.49 | 101.15 | 103.90 |
| 2 | AB | 134 | G | P-O3'-C3' | 5.49 | 126.29 | 119.70 |
| 2 | AB | 423 | A | C5'-C4'-O4' | 5.49 | 115.69 | 109.10 |
| 2 | AB | 711 | G | C1'-O4'-C4' | -5.49 | 105.51 | 109.90 |
| 2 | AB | 1167 | C | N1-C2-O2 | 5.49 | 122.19 | 118.90 |
| 2 | AB | 2099 | U | C4'-C3'-C2' | -5.49 | 97.11 | 102.60 |
| 35 | BA | 64 | G | P-O3'-C3' | 5.49 | 126.29 | 119.70 |
| 35 | BA | 111 | G | C2-N3-C4 | 5.49 | 114.64 | 111.90 |
| 35 | BA | 247 | G | C5-N7-C8 | -5.49 | 101.55 | 104.30 |
| 35 | BA | 1098 | C | N1-C2-O2 | 5.49 | 122.19 | 118.90 |
| 2 | AB | 321 | U | O4'-C4'-C3' | 5.49 | 110.49 | 106.10 |
| 2 | AB | 531 | C | O4'-C4'-C3' | 5.49 | 110.49 | 106.10 |
| 2 | AB | 849 | A | C3'-C2'-C1' | 5.49 | 105.89 | 101.50 |
| 2 | AB | 934 | U | N1-C1'-C2' | -5.49 | 105.96 | 112.00 |
| 2 | AB | 1111 | A | N9-C1'-C2' | -5.49 | 105.96 | 112.00 |
| 2 | AB | 1192 | G | C2-N3-C4 | 5.49 | 114.64 | 111.90 |
| 2 | AB | 1381 | G | N3-C4-C5 | -5.49 | 125.86 | 128.60 |
| 2 | AB | 1475 | G | C5-C6-O6 | -5.49 | 125.31 | 128.60 |
| 2 | AB | 1501 | G | C6-C5-N7 | -5.49 | 127.11 | 130.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1627 | G | C8-N9-C4 | 5.49 | 108.59 | 106.40 |
| 2 | AB | 2381 | A | C1'-O4'-C4' | 5.49 | 114.29 | 109.90 |
| 2 | AB | 2760 | C | O4'-C1'-N1 | 5.49 | 112.59 | 108.20 |
| 35 | BA | 230 | G | C4'-C3'-C2' | -5.49 | 97.11 | 102.60 |
| 35 | BA | 246 | A | C6-C5-N7 | -5.49 | 128.46 | 132.30 |
| 35 | BA | 716 | A | C1'-O4'-C4' | -5.49 | 105.51 | 109.90 |
| 35 | BA | 1104 | G | C5'-C4'-O4' | 5.49 | 115.69 | 109.10 |
| 35 | BA | 1113 | C | N3-C4-N4 | -5.49 | 114.16 | 118.00 |
| 35 | BA | 1180 | A | C5-C6-N6 | -5.49 | 119.31 | 123.70 |
| 35 | BA | 1269 | A | C5-N7-C8 | 5.49 | 106.64 | 103.90 |
| 37 | BC | 39 | A | C4-C5-C6 | 5.49 | 119.74 | 117.00 |
| 2 | AB | 246 | C | C5-C6-N1 | 5.49 | 123.74 | 121.00 |
| 2 | AB | 284 | U | C5'-C4'-O4' | 5.49 | 115.68 | 109.10 |
| 2 | AB | 1850 | G | N9-C4-C5 | 5.49 | 107.59 | 105.40 |
| 2 | AB | 2048 | G | C3'-C2'-C1' | -5.49 | 97.11 | 101.50 |
| 2 | AB | 2727 | A | N3-C4-C5 | -5.49 | 122.96 | 126.80 |
| 17 | AQ | 1 | MET | CG-SD-CE | 5.49 | 108.98 | 100.20 |
| 19 | AS | 101 | ASP | CB-CA-C | 5.49 | 121.37 | 110.40 |
| 35 | BA | 723 | U | C5'-C4'-C3' | -5.49 | 107.22 | 116.00 |
| 35 | BA | 1174 | G | C2-N3-C4 | -5.49 | 109.16 | 111.90 |
| 35 | BA | 1320 | C | C4'-C3'-C2' | -5.49 | 97.11 | 102.60 |
| 2 | AB | 229 | C | N3-C4-N4 | -5.49 | 114.16 | 118.00 |
| 2 | AB | 879 | G | C2-N3-C4 | -5.49 | 109.16 | 111.90 |
| 2 | AB | 1013 | C | C2-N3-C4 | 5.49 | 122.64 | 119.90 |
| 2 | AB | 1291 | C | N1-C2-O2 | 5.49 | 122.19 | 118.90 |
| 2 | AB | 1311 | G | C5-C6-O6 | -5.49 | 125.31 | 128.60 |
| 2 | AB | 1333 | G | N1-C6-O6 | 5.49 | 123.19 | 119.90 |
| 2 | AB | 1471 | G | O4'-C4'-C3' | -5.49 | 98.52 | 104.00 |
| 2 | AB | 1810 | A | C6-N1-C2 | 5.49 | 121.89 | 118.60 |
| 2 | AB | 1935 | G | C2-N3-C4 | 5.49 | 114.64 | 111.90 |
| 2 | AB | 2417 | C | C3'-C2'-C1' | -5.49 | 97.11 | 101.50 |
| 2 | AB | 2715 | C | N1-C2-O2 | 5.49 | 122.19 | 118.90 |
| 2 | AB | 2766 | A | C5'-C4'-O4' | 5.49 | 115.68 | 109.10 |
| 35 | BA | 192 | A | C6-C5-N7 | 5.49 | 136.14 | 132.30 |
| 35 | BA | 300 | A | C4-C5-C6 | 5.49 | 119.74 | 117.00 |
| 35 | BA | 320 | A | C6-C5-N7 | -5.49 | 128.46 | 132.30 |
| 35 | BA | 1021 | A | C5-N7-C8 | 5.49 | 106.64 | 103.90 |
| 35 | BA | 1121 | U | C5-C4-O4 | -5.49 | 122.61 | 125.90 |
| 35 | BA | 1183 | U | O4'-C1'-N1 | 5.49 | 112.59 | 108.20 |
| 35 | BA | 1381 | U | C5-C6-N1 | -5.49 | 119.96 | 122.70 |
| 37 | BC | 62 | C | C5-C4-N4 | -5.49 | 116.36 | 120.20 |
| 40 | BF | 64 | TYR | CA-CB-CG | 5.49 | 123.82 | 113.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | AA | 81 | G | N1-C2-N3 | 5.48 | 127.19 | 123.90 |
| 2 | AB | 849 | A | C5'-C4'-O4' | 5.48 | 115.68 | 109.10 |
| 2 | AB | 1040 | A | C8-N9-C4 | -5.48 | 103.61 | 105.80 |
| 2 | AB | 2145 | C | C4'-C3'-C2' | -5.48 | 97.12 | 102.60 |
| 2 | AB | 2692 | G | C4-C5-C6 | 5.48 | 122.09 | 118.80 |
| 34 | A7 | 20 | ASP | CB-CG-OD1 | -5.48 | 113.36 | 118.30 |
| 35 | BA | 531 | U | C4-C5-C6 | 5.48 | 122.99 | 119.70 |
| 35 | BA | 790 | A | C2-N3-C4 | 5.48 | 113.34 | 110.60 |
| 1 | AA | 58 | A | N1-C2-N3 | -5.48 | 126.56 | 129.30 |
| 2 | AB | 25 | U | N3-C4-C5 | -5.48 | 111.31 | 114.60 |
| 2 | AB | 44 | A | C6-N1-C2 | 5.48 | 121.89 | 118.60 |
| 2 | AB | 1131 | G | C6-C5-N7 | 5.48 | 133.69 | 130.40 |
| 2 | AB | 1364 | G | C6-N1-C2 | 5.48 | 128.39 | 125.10 |
| 2 | AB | 1928 | A | N3-C4-C5 | -5.48 | 122.96 | 126.80 |
| 2 | AB | 2110 | G | P-O3'-C3' | 5.48 | 126.28 | 119.70 |
| 2 | AB | 2562 | U | C2-N3-C4 | -5.48 | 123.71 | 127.00 |
| 2 | AB | 2667 | C | C4-C5-C6 | 5.48 | 120.14 | 117.40 |
| 2 | AB | 2779 | U | N3-C4-C5 | -5.48 | 111.31 | 114.60 |
| 35 | BA | 408 | A | N3-C4-C5 | -5.48 | 122.96 | 126.80 |
| 35 | BA | 475 | C | C6-N1-C2 | 5.48 | 122.49 | 120.30 |
| 35 | BA | 572 | A | P-O3'-C3' | 5.48 | 126.28 | 119.70 |
| 35 | BA | 946 | A | C5'-C4'-O4' | 5.48 | 115.68 | 109.10 |
| 35 | BA | 1386 | G | N1-C2-N2 | 5.48 | 121.14 | 116.20 |
| 35 | BA | 1441 | A | C3'-C2'-C1' | 5.48 | 105.89 | 101.50 |
| 35 | BA | 1507 | A | C5-N7-C8 | 5.48 | 106.64 | 103.90 |
| 37 | BC | 45 | A | C2-N3-C4 | 5.48 | 113.34 | 110.60 |
| 1 | AA | 32 | U | N3-C2-O2 | -5.48 | 118.36 | 122.20 |
| 2 | AB | 330 | A | C4-C5-N7 | 5.48 | 113.44 | 110.70 |
| 2 | AB | 414 | C | C1'-O4'-C4' | -5.48 | 105.52 | 109.90 |
| 2 | AB | 1677 | A | P-O3'-C3' | 5.48 | 126.28 | 119.70 |
| 2 | AB | 1774 | C | O4'-C1'-N1 | 5.48 | 112.58 | 108.20 |
| 2 | AB | 1791 | A | N9-C4-C5 | -5.48 | 103.61 | 105.80 |
| 2 | AB | 1871 | A | C5-C6-N1 | 5.48 | 120.44 | 117.70 |
| 2 | AB | 2202 | U | C1'-O4'-C4' | 5.48 | 114.28 | 109.90 |
| 2 | AB | 2240 | U | C5-C4-O4 | -5.48 | 122.61 | 125.90 |
| 2 | AB | 2300 | C | C6-N1-C2 | 5.48 | 122.49 | 120.30 |
| 20 | AT | 59 | ILE | N-CA-C | -5.48 | 96.20 | 111.00 |
| 35 | BA | 143 | A | N9-C1'-C2' | -5.48 | 105.97 | 112.00 |
| 35 | BA | 600 | A | C4'-C3'-C2' | -5.48 | 97.12 | 102.60 |
| 35 | BA | 648 | A | N1-C6-N6 | 5.48 | 121.89 | 118.60 |
| 35 | BA | 1344 | C | N1-C2-O2 | 5.48 | 122.19 | 118.90 |
| 35 | BA | 1365 | G | C4-C5-N7 | 5.48 | 112.99 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1368 | A | N7-C8-N9 | -5.48 | 111.06 | 113.80 |
| 35 | BA | 1393 | U | C5'-C4'-O4' | 5.48 | 115.68 | 109.10 |
| 38 | BD | 78 | ALA | N-CA-CB | -5.48 | 102.43 | 110.10 |
| 2 | AB | 136 | G | N3-C4-C5 | -5.48 | 125.86 | 128.60 |
| 2 | AB | 615 | U | C4-C5-C6 | 5.48 | 122.99 | 119.70 |
| 2 | AB | 679 | C | C5'-C4'-O4' | 5.48 | 115.67 | 109.10 |
| 2 | AB | 1159 | U | C6-N1-C2 | 5.48 | 124.29 | 121.00 |
| 2 | AB | 2508 | G | C4-C5-C6 | 5.48 | 122.09 | 118.80 |
| 3 | AC | 211 | LYS | N-CA-CB | -5.48 | 100.74 | 110.60 |
| 35 | BA | 1030 | U | C5-C6-N1 | 5.48 | 125.44 | 122.70 |
| 35 | BA | 1386 | G | O4'-C1'-N9 | 5.48 | 112.58 | 108.20 |
| 35 | BA | 1432 | G | C4-C5-C6 | 5.48 | 122.09 | 118.80 |
| 1 | AA | 106 | G | C5'-C4'-O4' | 5.48 | 115.67 | 109.10 |
| 2 | AB | 246 | C | C5'-C4'-O4' | 5.48 | 115.67 | 109.10 |
| 2 | AB | 712 | G | P-O3'-C3' | 5.48 | 126.27 | 119.70 |
| 2 | AB | 1054 | A | C3'-C2'-C1' | -5.48 | 97.12 | 101.50 |
| 2 | AB | 1403 | A | O4'-C1'-N9 | 5.48 | 112.58 | 108.20 |
| 2 | AB | 1409 | U | C4'-C3'-C2' | -5.48 | 97.12 | 102.60 |
| 2 | AB | 1451 | C | C4-C5-C6 | -5.48 | 114.66 | 117.40 |
| 2 | AB | 1541 | C | C5-C6-N1 | 5.48 | 123.74 | 121.00 |
| 2 | AB | 1608 | A | O4'-C1'-N9 | 5.48 | 112.58 | 108.20 |
| 2 | AB | 2177 | C | O4'-C4'-C3' | 5.48 | 110.48 | 106.10 |
| 2 | AB | 2456 | C | N3-C2-O2 | 5.48 | 125.73 | 121.90 |
| 2 | AB | 2509 | G | N3-C2-N2 | -5.48 | 116.07 | 119.90 |
| 2 | AB | 2532 | G | N9-C1'-C2' | -5.48 | 105.98 | 112.00 |
| 2 | AB | 2732 | G | C5-C6-N1 | -5.48 | 108.76 | 111.50 |
| 2 | AB | 2794 | C | C3'-C2'-C1' | -5.48 | 97.12 | 101.50 |
| 7 | AG | 177 | ARG | NE-CZ-NH1 | 5.48 | 123.04 | 120.30 |
| 15 | AO | 59 | ARG | CB-CG-CD | 5.48 | 125.84 | 111.60 |
| 35 | BA | 11 | G | C2-N3-C4 | 5.48 | 114.64 | 111.90 |
| 35 | BA | 251 | G | N3-C2-N2 | -5.48 | 116.07 | 119.90 |
| 35 | BA | 724 | G | O4'-C1'-C2' | 5.48 | 112.53 | 107.60 |
| 35 | BA | 745 | G | C1'-O4'-C4' | 5.48 | 114.28 | 109.90 |
| 35 | BA | 763 | G | C5-C6-O6 | -5.48 | 125.31 | 128.60 |
| 35 | BA | 1196 | A | C4'-C3'-C2' | -5.48 | 97.12 | 102.60 |
| 45 | BK | 120 | ALA | N-CA-CB | -5.48 | 102.43 | 110.10 |
| 49 | BO | 22 | TYR | CB-CG-CD1 | 5.48 | 124.29 | 121.00 |
| 2 | AB | 1022 | G | O4'-C1'-N9 | 5.48 | 112.58 | 108.20 |
| 2 | AB | 2416 | C | C5-C6-N1 | 5.48 | 123.74 | 121.00 |
| 2 | AB | 2582 | G | C5'-C4'-O4' | 5.48 | 115.67 | 109.10 |
| 35 | BA | 78 | A | C5-C6-N1 | -5.48 | 114.96 | 117.70 |
| 35 | BA | 167 | A | N3-C4-C5 | 5.48 | 130.63 | 126.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 670 | G | N7-C8-N9 | 5.48 | 115.84 | 113.10 |
| 35 | BA | 913 | A | C8-N9-C4 | -5.48 | 103.61 | 105.80 |
| 55 | BU | 62 | THR | CA-CB-CG2 | 5.48 | 120.07 | 112.40 |
| 2 | AB | 253 | C | O4'-C4'-C3' | -5.47 | 98.53 | 104.00 |
| 2 | AB | 783 | A | O4'-C1'-C2' | -5.47 | 100.33 | 105.80 |
| 2 | AB | 916 | G | C8-N9-C4 | -5.47 | 104.21 | 106.40 |
| 2 | AB | 1260 | A | N3-C4-N9 | -5.47 | 123.02 | 127.40 |
| 2 | AB | 1367 | A | O5'-C5'-C4' | -5.47 | 101.30 | 111.70 |
| 2 | AB | 1555 | G | N9-C4-C5 | 5.47 | 107.59 | 105.40 |
| 2 | AB | 1812 | U | C4-C5-C6 | 5.47 | 122.98 | 119.70 |
| 2 | AB | 2425 | A | C2-N3-C4 | 5.47 | 113.34 | 110.60 |
| 2 | AB | 2429 | G | N3-C4-N9 | -5.47 | 122.72 | 126.00 |
| 2 | AB | 2777 | G | N3-C4-C5 | -5.47 | 125.86 | 128.60 |
| 2 | AB | 2853 | C | C4'-C3'-C2' | -5.47 | 97.12 | 102.60 |
| 35 | BA | 922 | G | C3'-C2'-C1' | 5.47 | 105.88 | 101.50 |
| 35 | BA | 1120 | C | N1-C2-O2 | -5.47 | 115.61 | 118.90 |
| 35 | BA | 1387 | G | C5'-C4'-C3' | -5.47 | 107.24 | 116.00 |
| 35 | BA | 1461 | G | N3-C2-N2 | 5.47 | 123.73 | 119.90 |
| 39 | BE | 63 | ILE | O-C-N | 5.47 | 131.46 | 122.70 |
| 1 | AA | 38 | C | C5-C4-N4 | -5.47 | 116.37 | 120.20 |
| 2 | AB | 37 | C | C5'-C4'-C3' | -5.47 | 107.24 | 116.00 |
| 2 | AB | 251 | A | C5'-C4'-O4' | 5.47 | 115.67 | 109.10 |
| 2 | AB | 822 | G | N1-C6-O6 | -5.47 | 116.62 | 119.90 |
| 2 | AB | 1261 | C | C4'-C3'-C2' | -5.47 | 97.13 | 102.60 |
| 2 | AB | 1550 | C | C6-N1-C1' | 5.47 | 127.37 | 120.80 |
| 2 | AB | 1656 | C | C5'-C4'-C3' | -5.47 | 107.24 | 116.00 |
| 2 | AB | 1989 | G | P-O5'-C5' | 5.47 | 129.66 | 120.90 |
| 2 | AB | 1991 | U | C2-N3-C4 | -5.47 | 123.72 | 127.00 |
| 2 | AB | 2313 | C | C2-N3-C4 | 5.47 | 122.64 | 119.90 |
| 2 | AB | 2512 | C | C5-C4-N4 | 5.47 | 124.03 | 120.20 |
| 2 | AB | 2673 | G | N1-C2-N2 | 5.47 | 121.13 | 116.20 |
| 2 | AB | 2762 | C | N1-C2-N3 | -5.47 | 115.37 | 119.20 |
| 7 | AG | 6 | TYR | CG-CD2-CE2 | -5.47 | 116.92 | 121.30 |
| 7 | AG | 166 | ARG | NE-CZ-NH2 | -5.47 | 117.56 | 120.30 |
| 35 | BA | 74 | A | N3-C4-C5 | 5.47 | 130.63 | 126.80 |
| 35 | BA | 83 | C | N3-C4-N4 | 5.47 | 121.83 | 118.00 |
| 35 | BA | 435 | A | C5'-C4'-O4' | 5.47 | 115.67 | 109.10 |
| 35 | BA | 756 | C | C5-C4-N4 | 5.47 | 124.03 | 120.20 |
| 35 | BA | 792 | A | N3-C4-N9 | 5.47 | 131.78 | 127.40 |
| 35 | BA | 854 | U | C5-C6-N1 | 5.47 | 125.44 | 122.70 |
| 35 | BA | 1036 | A | N3-C4-C5 | 5.47 | 130.63 | 126.80 |
| 35 | BA | 1433 | A | N7-C8-N9 | 5.47 | 116.54 | 113.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 511 | U | C4'-C3'-C2' | -5.47 | 97.13 | 102.60 |
| 2 | AB | 817 | C | O4'-C1'-N1 | 5.47 | 112.58 | 108.20 |
| 2 | AB | 1403 | A | N3-C4-C5 | 5.47 | 130.63 | 126.80 |
| 2 | AB | 1460 | U | N1-C1'-C2' | 5.47 | 121.11 | 114.00 |
| 2 | AB | 1867 | G | N9-C4-C5 | 5.47 | 107.59 | 105.40 |
| 2 | AB | 1904 | G | C2-N3-C4 | -5.47 | 109.16 | 111.90 |
| 2 | AB | 1970 | A | C2-N3-C4 | 5.47 | 113.34 | 110.60 |
| 35 | BA | 112 | G | N3-C4-C5 | -5.47 | 125.86 | 128.60 |
| 35 | BA | 152 | A | N3-C4-C5 | 5.47 | 130.63 | 126.80 |
| 35 | BA | 237 | G | C5'-C4'-C3' | 5.47 | 124.75 | 116.00 |
| 35 | BA | 1243 | C | P-O3'-C3' | 5.47 | 126.27 | 119.70 |
| 35 | BA | 1266 | G | C6-N1-C2 | -5.47 | 121.82 | 125.10 |
| 35 | BA | 1273 | C | N1-C2-O2 | 5.47 | 122.18 | 118.90 |
| 35 | BA | 1454 | G | N9-C1'-C2' | -5.47 | 105.98 | 112.00 |
| 35 | BA | 1458 | G | C4'-C3'-C2' | -5.47 | 97.13 | 102.60 |
| 36 | BB | 35 | G | N3-C4-C5 | -5.47 | 125.86 | 128.60 |
| 2 | AB | 283 | G | P-O3'-C3' | 5.47 | 126.26 | 119.70 |
| 2 | AB | 1057 | A | C4'-C3'-C2' | 5.47 | 108.07 | 102.60 |
| 2 | AB | 1922 | G | O4'-C1'-C2' | 5.47 | 112.52 | 107.60 |
| 2 | AB | 2012 | G | N1-C2-N2 | -5.47 | 111.28 | 116.20 |
| 2 | AB | 2037 | A | C5'-C4'-O4' | 5.47 | 115.66 | 109.10 |
| 2 | AB | 2124 | G | N3-C4-N9 | 5.47 | 129.28 | 126.00 |
| 2 | AB | 2387 | U | C5-C4-O4 | -5.47 | 122.62 | 125.90 |
| 23 | AW | 76 | THR | CA-CB-CG2 | -5.47 | 104.74 | 112.40 |
| 35 | BA | 162 | A | C6-C5-N7 | -5.47 | 128.47 | 132.30 |
| 35 | BA | 341 | C | C4-C5-C6 | 5.47 | 120.13 | 117.40 |
| 35 | BA | 396 | C | C6-N1-C2 | -5.47 | 118.11 | 120.30 |
| 35 | BA | 881 | G | C4-C5-N7 | 5.47 | 112.99 | 110.80 |
| 35 | BA | 901 | A | C4-C5-C6 | -5.47 | 114.27 | 117.00 |
| 44 | BJ | 48 | PHE | CB-CG-CD1 | 5.47 | 124.63 | 120.80 |
| 2 | AB | 1069 | A | P-O3'-C3' | 5.47 | 126.26 | 119.70 |
| 2 | AB | 1521 | G | C5-N7-C8 | 5.47 | 107.03 | 104.30 |
| 2 | AB | 2170 | A | C5-N7-C8 | -5.47 | 101.17 | 103.90 |
| 35 | BA | 537 | G | C4-C5-N7 | 5.47 | 112.99 | 110.80 |
| 35 | BA | 1036 | A | C8-N9-C4 | 5.47 | 107.99 | 105.80 |
| 2 | AB | 412 | A | C8-N9-C4 | -5.47 | 103.61 | 105.80 |
| 2 | AB | 709 | U | C4'-C3'-C2' | -5.47 | 97.13 | 102.60 |
| 2 | AB | 770 | G | C6-C5-N7 | -5.47 | 127.12 | 130.40 |
| 2 | AB | 965 | C | C6-N1-C2 | -5.47 | 118.11 | 120.30 |
| 2 | AB | 1063 | G | P-O3'-C3' | 5.47 | 126.26 | 119.70 |
| 2 | AB | 1291 | C | C2-N3-C4 | 5.47 | 122.63 | 119.90 |
| 2 | AB | 1636 | U | C5-C6-N1 | -5.47 | 119.97 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1741 | C | P-O5'-C5' | 5.47 | 129.65 | 120.90 |
| 2 | AB | 2239 | G | O4'-C1'-N9 | 5.47 | 112.57 | 108.20 |
| 2 | AB | 2730 | C | C5'-C4'-O4' | 5.47 | 115.66 | 109.10 |
| 2 | AB | 2742 | G | C6-N1-C2 | -5.47 | 121.82 | 125.10 |
| 35 | BA | 202 | G | C5-N7-C8 | 5.47 | 107.03 | 104.30 |
| 35 | BA | 654 | G | C6-C5-N7 | -5.47 | 127.12 | 130.40 |
| 35 | BA | 1190 | G | O4'-C4'-C3' | 5.47 | 110.47 | 106.10 |
| 35 | BA | 1211 | U | C5-C6-N1 | -5.47 | 119.97 | 122.70 |
| 35 | BA | 1280 | A | N7-C8-N9 | 5.47 | 116.53 | 113.80 |
| 35 | BA | 1520 | C | O4'-C1'-C2' | -5.47 | 100.33 | 105.80 |
| 37 | BC | 23 | G | C5'-C4'-C3' | 5.47 | 124.75 | 116.00 |
| 2 | AB | 411 | G | C3'-C2'-C1' | -5.46 | 97.13 | 101.50 |
| 2 | AB | 599 | A | P-O3'-C3' | 5.46 | 126.26 | 119.70 |
| 2 | AB | 937 | C | N3-C4-N4 | 5.46 | 121.83 | 118.00 |
| 2 | AB | 1019 | U | C1'-O4'-C4' | 5.46 | 114.27 | 109.90 |
| 2 | AB | 1369 | G | C4'-C3'-C2' | -5.46 | 97.14 | 102.60 |
| 2 | AB | 1441 | G | C5'-C4'-O4' | 5.46 | 115.66 | 109.10 |
| 2 | AB | 1919 | A | C4-C5-C6 | -5.46 | 114.27 | 117.00 |
| 2 | AB | 2226 | C | O4'-C1'-N1 | 5.46 | 112.57 | 108.20 |
| 2 | AB | 2639 | A | C3'-C2'-C1' | 5.46 | 105.87 | 101.50 |
| 5 | AE | 90 | PHE | CB-CG-CD1 | -5.46 | 116.97 | 120.80 |
| 35 | BA | 195 | A | C1'-O4'-C4' | 5.46 | 114.27 | 109.90 |
| 35 | BA | 213 | G | N1-C2-N2 | -5.46 | 111.28 | 116.20 |
| 35 | BA | 597 | G | C4'-C3'-C2' | -5.46 | 97.14 | 102.60 |
| 35 | BA | 868 | C | N1-C2-O2 | 5.46 | 122.18 | 118.90 |
| 35 | BA | 874 | G | N3-C4-C5 | -5.46 | 125.87 | 128.60 |
| 35 | BA | 1066 | C | C5'-C4'-O4' | 5.46 | 115.66 | 109.10 |
| 35 | BA | 1218 | C | N3-C4-N4 | -5.46 | 114.17 | 118.00 |
| 35 | BA | 1338 | G | C4'-C3'-C2' | -5.46 | 97.14 | 102.60 |
| 36 | BB | 49 | U | C5'-C4'-O4' | 5.46 | 115.66 | 109.10 |
| 2 | AB | 139 | U | C5'-C4'-C3' | -5.46 | 107.26 | 116.00 |
| 2 | AB | 647 | G | C2-N3-C4 | 5.46 | 114.63 | 111.90 |
| 2 | AB | 1115 | G | C6-N1-C2 | -5.46 | 121.82 | 125.10 |
| 2 | AB | 1272 | A | C6-N1-C2 | 5.46 | 121.88 | 118.60 |
| 35 | BA | 9 | G | C1'-O4'-C4' | -5.46 | 105.53 | 109.90 |
| 35 | BA | 237 | G | C8-N9-C4 | -5.46 | 104.22 | 106.40 |
| 1 | AA | 17 | C | C3'-C2'-C1' | -5.46 | 97.13 | 101.50 |
| 1 | AA | 25 | U | O4'-C1'-C2' | -5.46 | 100.34 | 105.80 |
| 2 | AB | 60 | G | O3'-P-O5' | -5.46 | 93.62 | 104.00 |
| 2 | AB | 69 | C | C5-C4-N4 | 5.46 | 124.02 | 120.20 |
| 2 | AB | 444 | C | N1-C1'-C2' | -5.46 | 105.99 | 112.00 |
| 2 | AB | 1182 | G | N9-C4-C5 | 5.46 | 107.58 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1186 | G | C8-N9-C4 | 5.46 | 108.58 | 106.40 |
| 2 | AB | 1247 | A | OP2-P-O3' | 5.46 | 117.22 | 105.20 |
| 2 | AB | 1284 | A | N1-C2-N3 | -5.46 | 126.57 | 129.30 |
| 2 | AB | 1286 | A | P-O5'-C5' | 5.46 | 129.64 | 120.90 |
| 2 | AB | 1444 | G | C5-C6-O6 | 5.46 | 131.88 | 128.60 |
| 2 | AB | 1550 | C | C6-N1-C2 | -5.46 | 118.11 | 120.30 |
| 2 | AB | 1866 | A | C8-N9-C4 | -5.46 | 103.61 | 105.80 |
| 2 | AB | 1903 | G | P-O3'-C3' | 5.46 | 126.25 | 119.70 |
| 2 | AB | 1952 | A | O4'-C1'-N9 | 5.46 | 112.57 | 108.20 |
| 2 | AB | 2180 | U | O5'-C5'-C4' | -5.46 | 101.32 | 111.70 |
| 2 | AB | 2231 | U | C2-N3-C4 | -5.46 | 123.72 | 127.00 |
| 2 | AB | 2493 | U | C2-N3-C4 | -5.46 | 123.72 | 127.00 |
| 2 | AB | 2877 | G | N1-C2-N2 | 5.46 | 121.11 | 116.20 |
| 24 | AX | 92 | VAL | CA-CB-CG2 | 5.46 | 119.09 | 110.90 |
| 35 | BA | 362 | G | N7-C8-N9 | 5.46 | 115.83 | 113.10 |
| 35 | BA | 737 | C | O4'-C1'-N1 | 5.46 | 112.57 | 108.20 |
| 35 | BA | 783 | C | N3-C4-C5 | -5.46 | 119.72 | 121.90 |
| 35 | BA | 1537 | U | O4'-C1'-N1 | 5.46 | 112.57 | 108.20 |
| 36 | BB | 43 | U | O3'-P-O5' | -5.46 | 93.62 | 104.00 |
| 37 | BC | 68 | C | N1-C2-O2 | 5.46 | 122.18 | 118.90 |
| 2 | AB | 1395 | A | O4'-C1'-C2' | -5.46 | 100.34 | 105.80 |
| 2 | AB | 1402 | U | O4'-C1'-N1 | 5.46 | 112.57 | 108.20 |
| 2 | AB | 2264 | C | C5'-C4'-O4' | 5.46 | 115.65 | 109.10 |
| 35 | BA | 818 | G | P-O3'-C3' | 5.46 | 126.25 | 119.70 |
| 35 | BA | 1263 | C | C4'-C3'-C2' | -5.46 | 97.14 | 102.60 |
| 2 | AB | 509 | C | C1'-O4'-C4' | -5.46 | 105.53 | 109.90 |
| 2 | AB | 737 | C | C6-N1-C2 | 5.46 | 122.48 | 120.30 |
| 2 | AB | 1017 | G | C6-C5-N7 | -5.46 | 127.12 | 130.40 |
| 2 | AB | 1028 | A | O4'-C1'-N9 | 5.46 | 112.57 | 108.20 |
| 2 | AB | 1439 | A | C5-C6-N6 | 5.46 | 128.07 | 123.70 |
| 2 | AB | 1719 | G | C6-N1-C2 | 5.46 | 128.38 | 125.10 |
| 2 | AB | 1763 | G | C2'-C3'-O3' | 5.46 | 122.44 | 113.70 |
| 2 | AB | 2403 | C | C4-C5-C6 | 5.46 | 120.13 | 117.40 |
| 2 | AB | 2454 | G | O4'-C4'-C3' | 5.46 | 110.47 | 106.10 |
| 2 | AB | 2555 | U | N1-C2-O2 | 5.46 | 126.62 | 122.80 |
| 2 | AB | 2659 | G | C4-C5-C6 | 5.46 | 122.08 | 118.80 |
| 35 | BA | 255 | G | O4'-C1'-N9 | 5.46 | 112.57 | 108.20 |
| 35 | BA | 298 | A | C6-C5-N7 | 5.46 | 136.12 | 132.30 |
| 35 | BA | 305 | G | O4'-C4'-C3' | 5.46 | 110.47 | 106.10 |
| 35 | BA | 429 | U | N3-C2-O2 | -5.46 | 118.38 | 122.20 |
| 35 | BA | 982 | U | O4'-C1'-N1 | 5.46 | 112.57 | 108.20 |
| 35 | BA | 1082 | A | C8-N9-C4 | -5.46 | 103.62 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | AA | 59 | A | C6-N1-C2 | -5.46 | 115.33 | 118.60 |
| 2 | AB | 580 | U | C4-C5-C6 | 5.46 | 122.97 | 119.70 |
| 2 | AB | 743 | A | C2-N3-C4 | 5.46 | 113.33 | 110.60 |
| 2 | AB | 862 | G | N7-C8-N9 | 5.46 | 115.83 | 113.10 |
| 2 | AB | 934 | U | C3'-C2'-C1' | -5.46 | 97.13 | 101.50 |
| 2 | AB | 1196 | C | N3-C2-O2 | -5.46 | 118.08 | 121.90 |
| 2 | AB | 1841 | U | C5'-C4'-C3' | 5.46 | 124.73 | 116.00 |
| 2 | AB | 1906 | G | C8-N9-C4 | 5.46 | 108.58 | 106.40 |
| 2 | AB | 2144 | G | O3'-P-O5' | -5.46 | 93.63 | 104.00 |
| 2 | AB | 2715 | C | N3-C4-C5 | 5.46 | 124.08 | 121.90 |
| 35 | BA | 114 | U | O4'-C4'-C3' | 5.46 | 110.47 | 106.10 |
| 35 | BA | 127 | G | C4'-C3'-C2' | -5.46 | 97.14 | 102.60 |
| 35 | BA | 283 | U | N1-C2-O2 | -5.46 | 118.98 | 122.80 |
| 35 | BA | 447 | G | O4'-C4'-C3' | 5.46 | 110.47 | 106.10 |
| 35 | BA | 462 | G | C2-N3-C4 | 5.46 | 114.63 | 111.90 |
| 35 | BA | 509 | A | C3'-C2'-C1' | 5.46 | 105.86 | 101.50 |
| 35 | BA | 744 | C | O4'-C1'-N1 | 5.46 | 112.56 | 108.20 |
| 35 | BA | 1231 | G | C5-N7-C8 | 5.46 | 107.03 | 104.30 |
| 36 | BB | 15 | G | C5-N7-C8 | 5.46 | 107.03 | 104.30 |
| 1 | AA | 73 | A | N1-C6-N6 | 5.46 | 121.87 | 118.60 |
| 2 | AB | 369 | U | C5-C4-O4 | -5.46 | 122.63 | 125.90 |
| 2 | AB | 832 | U | N1-C2-N3 | 5.46 | 118.17 | 114.90 |
| 2 | AB | 1071 | G | C4-C5-C6 | 5.46 | 122.07 | 118.80 |
| 2 | AB | 1425 | G | N1-C2-N2 | -5.46 | 111.29 | 116.20 |
| 2 | AB | 1937 | A | C4-C5-N7 | -5.46 | 107.97 | 110.70 |
| 26 | AZ | 38 | TRP | NE1-CE2-CZ2 | 5.46 | 136.40 | 130.40 |
| 35 | BA | 339 | C | C6-N1-C2 | 5.46 | 122.48 | 120.30 |
| 35 | BA | 690 | G | C8-N9-C4 | -5.46 | 104.22 | 106.40 |
| 35 | BA | 1062 | U | P-O3'-C3' | 5.46 | 126.25 | 119.70 |
| 35 | BA | 1505 | G | N9-C4-C5 | 5.46 | 107.58 | 105.40 |
| 2 | AB | 142 | A | C4-C5-C6 | -5.45 | 114.27 | 117.00 |
| 2 | AB | 254 | G | C1'-O4'-C4' | 5.45 | 114.26 | 109.90 |
| 2 | AB | 732 | C | O5'-C5'-C4' | 5.45 | 122.06 | 111.70 |
| 2 | AB | 1025 | G | O4'-C4'-C3' | -5.45 | 98.55 | 104.00 |
| 2 | AB | 1138 | G | P-O3'-C3' | 5.45 | 126.24 | 119.70 |
| 2 | AB | 1191 | G | C2-N3-C4 | 5.45 | 114.63 | 111.90 |
| 2 | AB | 1554 | U | N1-C2-N3 | 5.45 | 118.17 | 114.90 |
| 2 | AB | 1648 | U | C3'-C2'-C1' | -5.45 | 97.14 | 101.50 |
| 2 | AB | 1743 | G | P-O3'-C3' | 5.45 | 126.24 | 119.70 |
| 2 | AB | 1933 | G | C5'-C4'-C3' | 5.45 | 124.73 | 116.00 |
| 2 | AB | 2687 | U | C5-C6-N1 | 5.45 | 125.43 | 122.70 |
| 2 | AB | 2756 | U | N1-C2-O2 | 5.45 | 126.62 | 122.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2827 | C | N3-C4-C5 | -5.45 | 119.72 | 121.90 |
| 35 | BA | 109 | A | N1-C6-N6 | -5.45 | 115.33 | 118.60 |
| 35 | BA | 588 | G | P-O3'-C3' | 5.45 | 126.25 | 119.70 |
| 35 | BA | 856 | C | N1-C2-N3 | -5.45 | 115.38 | 119.20 |
| 35 | BA | 906 | A | C6-C5-N7 | -5.45 | 128.48 | 132.30 |
| 35 | BA | 1038 | C | C2-N3-C4 | 5.45 | 122.63 | 119.90 |
| 35 | BA | 1191 | A | C8-N9-C4 | 5.45 | 107.98 | 105.80 |
| 35 | BA | 1346 | A | N1-C6-N6 | -5.45 | 115.33 | 118.60 |
| 35 | BA | 1447 | A | C8-N9-C4 | -5.45 | 103.62 | 105.80 |
| 36 | BB | 51 | C | N1-C2-O2 | 5.45 | 122.17 | 118.90 |
| 37 | BC | 73 | A | C5-C6-N6 | -5.45 | 119.34 | 123.70 |
| 2 | AB | 100 | U | O4'-C1'-N1 | 5.45 | 112.56 | 108.20 |
| 2 | AB | 714 | U | N3-C2-O2 | -5.45 | 118.38 | 122.20 |
| 2 | AB | 1752 | C | C2-N3-C4 | -5.45 | 117.17 | 119.90 |
| 2 | AB | 1892 | C | C1'-O4'-C4' | -5.45 | 105.54 | 109.90 |
| 2 | AB | 2212 | A | C4'-C3'-C2' | -5.45 | 97.15 | 102.60 |
| 2 | AB | 2681 | C | N1-C2-O2 | 5.45 | 122.17 | 118.90 |
| 10 | AJ | 117 | ILE | CA-CB-CG1 | 5.45 | 121.36 | 111.00 |
| 35 | BA | 459 | A | P-O3'-C3' | 5.45 | 126.24 | 119.70 |
| 35 | BA | 588 | G | N3-C4-C5 | -5.45 | 125.87 | 128.60 |
| 35 | BA | 610 | U | O5'-P-OP2 | -5.45 | 100.79 | 105.70 |
| 35 | BA | 864 | A | O4'-C1'-N9 | 5.45 | 112.56 | 108.20 |
| 35 | BA | 1089 | G | C5-C6-N1 | -5.45 | 108.77 | 111.50 |
| 35 | BA | 1204 | A | N3-C4-N9 | 5.45 | 131.76 | 127.40 |
| 35 | BA | 1218 | C | N1-C1'-C2' | -5.45 | 106.00 | 112.00 |
| 1 | AA | 39 | A | C4-C5-N7 | -5.45 | 107.97 | 110.70 |
| 2 | AB | 423 | A | C4-C5-N7 | 5.45 | 113.42 | 110.70 |
| 2 | AB | 599 | A | O4'-C1'-C2' | -5.45 | 100.35 | 105.80 |
| 2 | AB | 1153 | C | C5'-C4'-C3' | -5.45 | 107.28 | 116.00 |
| 2 | AB | 1423 | G | C5-N7-C8 | -5.45 | 101.58 | 104.30 |
| 2 | AB | 1462 | C | C4-C5-C6 | 5.45 | 120.12 | 117.40 |
| 2 | AB | 1959 | G | N3-C2-N2 | -5.45 | 116.08 | 119.90 |
| 2 | AB | 2049 | G | C4-C5-C6 | 5.45 | 122.07 | 118.80 |
| 2 | AB | 2653 | U | N3-C2-O2 | -5.45 | 118.38 | 122.20 |
| 2 | AB | 2725 | A | N1-C6-N6 | -5.45 | 115.33 | 118.60 |
| 2 | AB | 2734 | A | C4-C5-N7 | 5.45 | 113.42 | 110.70 |
| 35 | BA | 424 | G | O4'-C1'-N9 | 5.45 | 112.56 | 108.20 |
| 35 | BA | 499 | A | N1-C2-N3 | -5.45 | 126.58 | 129.30 |
| 35 | BA | 602 | A | C5'-C4'-O4' | 5.45 | 115.64 | 109.10 |
| 35 | BA | 761 | G | N1-C6-O6 | 5.45 | 123.17 | 119.90 |
| 35 | BA | 946 | A | C8-N9-C4 | -5.45 | 103.62 | 105.80 |
| 35 | BA | 1224 | U | C6-N1-C2 | 5.45 | 124.27 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1303 | C | C3'-C2'-C1' | 5.45 | 105.86 | 101.50 |
| 1 | AA | 44 | G | N3-C4-C5 | -5.45 | 125.88 | 128.60 |
| 2 | AB | 126 | A | N9-C4-C5 | 5.45 | 107.98 | 105.80 |
| 2 | AB | 128 | C | N3-C4-C5 | -5.45 | 119.72 | 121.90 |
| 2 | AB | 133 | U | N3-C4-C5 | -5.45 | 111.33 | 114.60 |
| 2 | AB | 236 | C | N3-C2-O2 | -5.45 | 118.09 | 121.90 |
| 2 | AB | 633 | A | N3-C4-N9 | 5.45 | 131.76 | 127.40 |
| 2 | AB | 762 | U | C5-C6-N1 | -5.45 | 119.98 | 122.70 |
| 2 | AB | 846 | U | C5-C4-O4 | -5.45 | 122.63 | 125.90 |
| 2 | AB | 1546 | G | C3'-C2'-C1' | 5.45 | 105.86 | 101.50 |
| 2 | AB | 1614 | A | C8-N9-C4 | -5.45 | 103.62 | 105.80 |
| 2 | AB | 2282 | G | C4-C5-C6 | 5.45 | 122.07 | 118.80 |
| 2 | AB | 2773 | C | O4'-C4'-C3' | 5.45 | 110.46 | 106.10 |
| 16 | AP | 71 | ARG | NH1-CZ-NH2 | 5.45 | 125.39 | 119.40 |
| 35 | BA | 14 | U | C5-C6-N1 | 5.45 | 125.42 | 122.70 |
| 35 | BA | 110 | C | N1-C2-O2 | -5.45 | 115.63 | 118.90 |
| 35 | BA | 1000 | A | N3-C4-C5 | 5.45 | 130.61 | 126.80 |
| 35 | BA | 1277 | C | C5-C4-N4 | 5.45 | 124.01 | 120.20 |
| 35 | BA | 1368 | A | C4-C5-N7 | -5.45 | 107.98 | 110.70 |
| 2 | AB | 632 | A | C2'-C3'-O3' | 5.45 | 122.42 | 113.70 |
| 2 | AB | 749 | A | C4-C5-N7 | -5.45 | 107.98 | 110.70 |
| 2 | AB | 2440 | C | C3'-C2'-C1' | -5.45 | 97.14 | 101.50 |
| 2 | AB | 2490 | G | O4'-C1'-N9 | 5.45 | 112.56 | 108.20 |
| 35 | BA | 358 | U | N1-C2-O2 | 5.45 | 126.61 | 122.80 |
| 35 | BA | 569 | C | N3-C4-C5 | -5.45 | 119.72 | 121.90 |
| 35 | BA | 652 | U | N1-C2-N3 | -5.45 | 111.63 | 114.90 |
| 37 | BC | 20 | G | C5-C6-N1 | 5.45 | 114.22 | 111.50 |
| 53 | BS | 1 | THR | CA-CB-CG2 | 5.45 | 120.03 | 112.40 |
| 2 | AB | 319 | G | C5-C6-O6 | -5.45 | 125.33 | 128.60 |
| 2 | AB | 596 | U | C2-N3-C4 | -5.45 | 123.73 | 127.00 |
| 2 | AB | 818 | G | N1-C2-N2 | 5.45 | 121.10 | 116.20 |
| 2 | AB | 1024 | G | C4-C5-C6 | -5.45 | 115.53 | 118.80 |
| 2 | AB | 1216 | G | P-O5'-C5' | 5.45 | 129.61 | 120.90 |
| 2 | AB | 1732 | C | C2-N3-C4 | -5.45 | 117.18 | 119.90 |
| 2 | AB | 1856 | U | N3-C4-C5 | -5.45 | 111.33 | 114.60 |
| 2 | AB | 2193 | G | C5-N7-C8 | -5.45 | 101.58 | 104.30 |
| 2 | AB | 2409 | G | N1-C2-N3 | -5.45 | 120.63 | 123.90 |
| 2 | AB | 2417 | C | C4'-C3'-C2' | 5.45 | 108.05 | 102.60 |
| 35 | BA | 143 | A | P-O3'-C3' | 5.45 | 126.23 | 119.70 |
| 35 | BA | 337 | G | P-O3'-C3' | 5.45 | 126.24 | 119.70 |
| 35 | BA | 374 | A | C5-C6-N1 | -5.45 | 114.98 | 117.70 |
| 35 | BA | 484 | G | C2-N3-C4 | 5.45 | 114.62 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 493 | A | N1-C2-N3 | -5.45 | 126.58 | 129.30 |
| 35 | BA | 513 | C | C5-C6-N1 | 5.45 | 123.72 | 121.00 |
| 35 | BA | 818 | G | N9-C1'-C2' | -5.45 | 106.01 | 112.00 |
| 35 | BA | 1383 | C | C5'-C4'-C3' | -5.45 | 107.29 | 116.00 |
| 35 | BA | 1413 | A | C8-N9-C4 | -5.45 | 103.62 | 105.80 |
| 35 | BA | 1534 | A | N1-C2-N3 | -5.45 | 126.58 | 129.30 |
| 48 | BN | 30 | ARG | CD-NE-CZ | 5.45 | 131.22 | 123.60 |
| 2 | AB | 1279 | G | C6-C5-N7 | -5.44 | 127.13 | 130.40 |
| 2 | AB | 1586 | A | C4'-C3'-C2' | -5.44 | 97.16 | 102.60 |
| 2 | AB | 1948 | G | O4'-C4'-C3' | -5.44 | 98.56 | 104.00 |
| 2 | AB | 2642 | G | C2-N3-C4 | 5.44 | 114.62 | 111.90 |
| 35 | BA | 76 | G | N3-C4-C5 | -5.44 | 125.88 | 128.60 |
| 35 | BA | 699 | C | C2-N3-C4 | -5.44 | 117.18 | 119.90 |
| 35 | BA | 708 | C | C6-N1-C2 | 5.44 | 122.48 | 120.30 |
| 35 | BA | 1070 | U | O4'-C1'-N1 | 5.44 | 112.56 | 108.20 |
| 1 | AA | 109 | A | N3-C4-N9 | 5.44 | 131.75 | 127.40 |
| 2 | AB | 39 | G | N3-C4-N9 | -5.44 | 122.73 | 126.00 |
| 2 | AB | 899 | A | C1'-O4'-C4' | 5.44 | 114.25 | 109.90 |
| 2 | AB | 971 | G | C5-N7-C8 | 5.44 | 107.02 | 104.30 |
| 2 | AB | 1046 | A | N9-C4-C5 | -5.44 | 103.62 | 105.80 |
| 2 | AB | 1079 | C | N1-C2-O2 | 5.44 | 122.17 | 118.90 |
| 2 | AB | 1813 | G | C5-C6-N1 | -5.44 | 108.78 | 111.50 |
| 2 | AB | 2133 | G | P-O3'-C3' | 5.44 | 126.23 | 119.70 |
| 2 | AB | 2393 | U | C5-C6-N1 | 5.44 | 125.42 | 122.70 |
| 35 | BA | 25 | C | C3'-C2'-C1' | -5.44 | 97.15 | 101.50 |
| 35 | BA | 198 | G | C6-C5-N7 | 5.44 | 133.67 | 130.40 |
| 35 | BA | 353 | A | P-O5'-C5' | 5.44 | 129.61 | 120.90 |
| 35 | BA | 403 | C | N3-C4-N4 | 5.44 | 121.81 | 118.00 |
| 35 | BA | 412 | A | O4'-C1'-N9 | 5.44 | 112.55 | 108.20 |
| 35 | BA | 460 | A | C4-C5-C6 | -5.44 | 114.28 | 117.00 |
| 35 | BA | 548 | G | C5-C6-N1 | 5.44 | 114.22 | 111.50 |
| 35 | BA | 692 | U | C1'-O4'-C4' | -5.44 | 105.55 | 109.90 |
| 35 | BA | 752 | G | C5'-C4'-C3' | -5.44 | 107.29 | 116.00 |
| 35 | BA | 819 | A | C3'-C2'-C1' | 5.44 | 105.85 | 101.50 |
| 35 | BA | 867 | G | O4'-C1'-C2' | -5.44 | 100.36 | 105.80 |
| 35 | BA | 913 | A | C1'-O4'-C4' | 5.44 | 114.25 | 109.90 |
| 35 | BA | 1258 | G | P-O3'-C3' | 5.44 | 126.23 | 119.70 |
| 37 | BC | 68 | C | C1'-O4'-C4' | 5.44 | 114.25 | 109.90 |
| 39 | BE | 10 | ARG | CD-NE-CZ | 5.44 | 131.22 | 123.60 |
| 57 | BW | 70 | TYR | CB-CG-CD1 | -5.44 | 117.73 | 121.00 |
| 2 | AB | 56 | A | C6-N1-C2 | -5.44 | 115.34 | 118.60 |
| 2 | AB | 85 | G | C3'-C2'-C1' | -5.44 | 97.15 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 700 | G | N9-C1'-C2' | -5.44 | 106.02 | 112.00 |
| 2 | AB | 761 | A | C5-N7-C8 | -5.44 | 101.18 | 103.90 |
| 2 | AB | 979 | A | O4'-C1'-N9 | 5.44 | 112.55 | 108.20 |
| 2 | AB | 2278 | A | C5-N7-C8 | 5.44 | 106.62 | 103.90 |
| 35 | BA | 47 | C | C4-C5-C6 | -5.44 | 114.68 | 117.40 |
| 35 | BA | 871 | U | O4'-C4'-C3' | 5.44 | 110.45 | 106.10 |
| 35 | BA | 926 | G | N1-C6-O6 | -5.44 | 116.64 | 119.90 |
| 35 | BA | 1313 | U | N1-C1'-C2' | -5.44 | 106.02 | 112.00 |
| 51 | BQ | 49 | HIS | CA-CB-CG | 5.44 | 122.85 | 113.60 |
| 2 | AB | 1187 | G | C4-C5-N7 | 5.44 | 112.98 | 110.80 |
| 2 | AB | 2122 | U | N3-C4-O4 | 5.44 | 123.21 | 119.40 |
| 2 | AB | 2587 | A | O4'-C1'-N9 | 5.44 | 112.55 | 108.20 |
| 35 | BA | 750 | C | N1-C2-O2 | 5.44 | 122.16 | 118.90 |
| 35 | BA | 972 | C | N3-C4-C5 | 5.44 | 124.08 | 121.90 |
| 35 | BA | 974 | A | C5-C6-N1 | 5.44 | 120.42 | 117.70 |
| 35 | BA | 1184 | G | C2-N3-C4 | -5.44 | 109.18 | 111.90 |
| 37 | BC | 42 | C | C2-N3-C4 | 5.44 | 122.62 | 119.90 |
| 1 | AA | 64 | G | C5-C6-O6 | 5.44 | 131.86 | 128.60 |
| 2 | AB | 56 | A | C1'-O4'-C4' | -5.44 | 105.55 | 109.90 |
| 2 | AB | 80 | G | C5-C6-N1 | 5.44 | 114.22 | 111.50 |
| 2 | AB | 86 | G | O4'-C1'-N9 | 5.44 | 112.55 | 108.20 |
| 2 | AB | 261 | G | N1-C6-O6 | -5.44 | 116.64 | 119.90 |
| 2 | AB | 330 | A | C6-C5-N7 | -5.44 | 128.49 | 132.30 |
| 2 | AB | 699 | A | N3-C4-C5 | -5.44 | 122.99 | 126.80 |
| 2 | AB | 1037 | G | N3-C4-N9 | 5.44 | 129.26 | 126.00 |
| 2 | AB | 1050 | A | C4-C5-N7 | -5.44 | 107.98 | 110.70 |
| 2 | AB | 1483 | G | N9-C1'-C2' | -5.44 | 106.02 | 112.00 |
| 2 | AB | 1635 | A | C5-N7-C8 | -5.44 | 101.18 | 103.90 |
| 2 | AB | 1814 | G | N1-C2-N3 | -5.44 | 120.64 | 123.90 |
| 2 | AB | 2458 | G | O4'-C1'-N9 | 5.44 | 112.55 | 108.20 |
| 2 | AB | 2473 | U | C3'-C2'-C1' | -5.44 | 97.15 | 101.50 |
| 2 | AB | 2520 | C | N1-C2-N3 | -5.44 | 115.39 | 119.20 |
| 2 | AB | 2814 | A | C4-C5-C6 | -5.44 | 114.28 | 117.00 |
| 35 | BA | 13 | U | C1'-O4'-C4' | 5.44 | 114.25 | 109.90 |
| 35 | BA | 112 | G | C5-N7-C8 | -5.44 | 101.58 | 104.30 |
| 35 | BA | 447 | G | C4-C5-N7 | -5.44 | 108.62 | 110.80 |
| 35 | BA | 498 | A | O4'-C4'-C3' | 5.44 | 110.45 | 106.10 |
| 35 | BA | 689 | C | N1-C2-O2 | 5.44 | 122.16 | 118.90 |
| 35 | BA | 814 | A | C5-N7-C8 | 5.44 | 106.62 | 103.90 |
| 35 | BA | 1215 | G | C4-C5-C6 | 5.44 | 122.06 | 118.80 |
| 36 | BB | 51 | C | O4'-C1'-N1 | -5.44 | 103.85 | 108.20 |
| 54 | BT | 22 | TYR | CA-CB-CG | 5.44 | 123.73 | 113.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | AA | 92 | C | N1-C2-O2 | 5.44 | 122.16 | 118.90 |
| 1 | AA | 104 | A | C5-N7-C8 | -5.44 | 101.18 | 103.90 |
| 2 | AB | 1336 | A | C2'-C3'-O3' | 5.44 | 122.40 | 113.70 |
| 2 | AB | 1354 | A | N9-C4-C5 | -5.44 | 103.63 | 105.80 |
| 2 | AB | 1855 | U | O4'-C1'-N1 | 5.44 | 112.55 | 108.20 |
| 35 | BA | 876 | C | C1'-O4'-C4' | 5.44 | 114.25 | 109.90 |
| 2 | AB | 184 | C | C2-N3-C4 | -5.43 | 117.18 | 119.90 |
| 2 | AB | 274 | C | C3'-C2'-C1' | 5.43 | 105.85 | 101.50 |
| 2 | AB | 291 | G | C6-N1-C2 | 5.43 | 128.36 | 125.10 |
| 2 | AB | 503 | A | C3'-C2'-C1' | 5.43 | 105.85 | 101.50 |
| 2 | AB | 506 | G | N7-C8-N9 | 5.43 | 115.82 | 113.10 |
| 2 | AB | 890 | C | O4'-C1'-N1 | 5.43 | 112.55 | 108.20 |
| 2 | AB | 1525 | A | C4'-C3'-C2' | -5.43 | 97.17 | 102.60 |
| 2 | AB | 1629 | U | C3'-C2'-C1' | -5.43 | 97.15 | 101.50 |
| 2 | AB | 1809 | A | C4-C5-N7 | 5.43 | 113.42 | 110.70 |
| 2 | AB | 2117 | A | N9-C1'-C2' | -5.43 | 106.02 | 112.00 |
| 2 | AB | 2557 | G | C5'-C4'-O4' | 5.43 | 115.62 | 109.10 |
| 2 | AB | 2828 | G | C5'-C4'-O4' | 5.43 | 115.62 | 109.10 |
| 35 | BA | 14 | U | C2-N3-C4 | 5.43 | 130.26 | 127.00 |
| 35 | BA | 34 | C | P-O3'-C3' | 5.43 | 126.22 | 119.70 |
| 35 | BA | 394 | G | C6-N1-C2 | -5.43 | 121.84 | 125.10 |
| 35 | BA | 835 | U | N3-C4-O4 | 5.43 | 123.20 | 119.40 |
| 35 | BA | 941 | G | C3'-C2'-C1' | 5.43 | 105.85 | 101.50 |
| 43 | BI | 97 | ALA | CB-CA-C | -5.43 | 101.95 | 110.10 |
| 2 | AB | 302 | C | N1-C2-O2 | 5.43 | 122.16 | 118.90 |
| 2 | AB | 570 | G | N1-C6-O6 | 5.43 | 123.16 | 119.90 |
| 2 | AB | 708 | G | C5'-C4'-O4' | 5.43 | 115.62 | 109.10 |
| 2 | AB | 768 | G | C3'-C2'-C1' | 5.43 | 105.85 | 101.50 |
| 2 | AB | 1107 | G | C5'-C4'-O4' | 5.43 | 115.62 | 109.10 |
| 2 | AB | 1153 | C | C5'-C4'-O4' | 5.43 | 115.62 | 109.10 |
| 2 | AB | 1422 | G | C5-C6-N1 | 5.43 | 114.22 | 111.50 |
| 17 | AQ | 93 | ASP | CB-CG-OD2 | 5.43 | 123.19 | 118.30 |
| 35 | BA | 162 | A | C2-N3-C4 | 5.43 | 113.32 | 110.60 |
| 35 | BA | 480 | U | C5-C6-N1 | -5.43 | 119.98 | 122.70 |
| 35 | BA | 715 | A | O4'-C4'-C3' | -5.43 | 98.57 | 104.00 |
| 35 | BA | 910 | C | C4-C5-C6 | -5.43 | 114.68 | 117.40 |
| 35 | BA | 1514 | G | C3'-C2'-C1' | -5.43 | 97.15 | 101.50 |
| 2 | AB | 250 | G | N7-C8-N9 | -5.43 | 110.38 | 113.10 |
| 2 | AB | 406 | G | C5-N7-C8 | 5.43 | 107.02 | 104.30 |
| 2 | AB | 649 | G | N9-C1'-C2' | -5.43 | 106.03 | 112.00 |
| 2 | AB | 1494 | A | N1-C2-N3 | -5.43 | 126.58 | 129.30 |
| 2 | AB | 1508 | A | C5-C6-N1 | -5.43 | 114.98 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1773 | A | C5-C6-N6 | -5.43 | 119.36 | 123.70 |
| 2 | AB | 2037 | A | C5-C6-N6 | -5.43 | 119.36 | 123.70 |
| 2 | AB | 2268 | A | C5'-C4'-C3' | -5.43 | 107.31 | 116.00 |
| 2 | AB | 2431 | U | C5'-C4'-O4' | 5.43 | 115.62 | 109.10 |
| 35 | BA | 114 | U | C4'-C3'-C2' | -5.43 | 97.17 | 102.60 |
| 35 | BA | 615 | G | C8-N9-C1' | 5.43 | 134.06 | 127.00 |
| 35 | BA | 624 | C | P-O3'-C3' | 5.43 | 126.22 | 119.70 |
| 2 | AB | 520 | G | N1-C2-N2 | 5.43 | 121.09 | 116.20 |
| 2 | AB | 764 | A | C3'-C2'-C1' | -5.43 | 97.16 | 101.50 |
| 2 | AB | 978 | G | P-O3'-C3' | 5.43 | 126.22 | 119.70 |
| 2 | AB | 993 | G | N7-C8-N9 | 5.43 | 115.81 | 113.10 |
| 2 | AB | 1069 | A | C5-C6-N6 | -5.43 | 119.36 | 123.70 |
| 2 | AB | 1246 | A | C5-C6-N1 | 5.43 | 120.42 | 117.70 |
| 2 | AB | 1376 | C | C4-C5-C6 | 5.43 | 120.11 | 117.40 |
| 2 | AB | 1620 | G | C5-C6-O6 | -5.43 | 125.34 | 128.60 |
| 2 | AB | 1820 | U | C5-C4-O4 | -5.43 | 122.64 | 125.90 |
| 2 | AB | 2006 | C | C6-N1-C1' | 5.43 | 127.32 | 120.80 |
| 2 | AB | 2073 | C | N1-C2-N3 | -5.43 | 115.40 | 119.20 |
| 2 | AB | 2382 | G | N3-C4-C5 | -5.43 | 125.89 | 128.60 |
| 2 | AB | 2421 | G | N7-C8-N9 | 5.43 | 115.81 | 113.10 |
| 2 | AB | 2835 | A | C6-C5-N7 | -5.43 | 128.50 | 132.30 |
| 3 | AC | 172 | HIS | CA-CB-CG | 5.43 | 122.83 | 113.60 |
| 13 | AM | 63 | VAL | CB-CA-C | 5.43 | 121.72 | 111.40 |
| 35 | BA | 523 | A | C5-C6-N6 | 5.43 | 128.04 | 123.70 |
| 35 | BA | 1097 | C | C4'-C3'-C2' | -5.43 | 97.17 | 102.60 |
| 35 | BA | 1199 | U | O4'-C4'-C3' | 5.43 | 110.44 | 106.10 |
| 35 | BA | 1204 | A | O4'-C1'-N9 | 5.43 | 112.54 | 108.20 |
| 37 | BC | 4 | G | N1-C6-O6 | 5.43 | 123.16 | 119.90 |
| 2 | AB | 890 | C | C6-N1-C2 | -5.43 | 118.13 | 120.30 |
| 2 | AB | 1175 | A | N1-C2-N3 | -5.43 | 126.59 | 129.30 |
| 2 | AB | 1327 | A | O4'-C4'-C3' | 5.43 | 110.44 | 106.10 |
| 2 | AB | 1866 | A | C4-C5-C6 | 5.43 | 119.71 | 117.00 |
| 2 | AB | 2159 | G | N3-C2-N2 | -5.43 | 116.10 | 119.90 |
| 2 | AB | 2349 | G | N3-C4-N9 | 5.43 | 129.26 | 126.00 |
| 2 | AB | 2443 | C | C6-N1-C2 | -5.43 | 118.13 | 120.30 |
| 2 | AB | 2594 | C | O4'-C1'-N1 | 5.43 | 112.54 | 108.20 |
| 8 | AH | 152 | ARG | CD-NE-CZ | 5.43 | 131.20 | 123.60 |
| 35 | BA | 372 | C | O3'-P-O5' | 5.43 | 114.31 | 104.00 |
| 35 | BA | 447 | G | C5-C6-N1 | 5.43 | 114.21 | 111.50 |
| 35 | BA | 1086 | U | C4'-C3'-C2' | -5.43 | 97.17 | 102.60 |
| 35 | BA | 1095 | U | N1-C2-N3 | 5.43 | 118.16 | 114.90 |
| 2 | AB | 77 | G | C2'-C3'-O3' | 5.43 | 122.38 | 113.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 453 | A | O4'-C1'-N9 | 5.43 | 112.54 | 108.20 |
| 2 | AB | 763 | G | C5-C6-N1 | 5.43 | 114.21 | 111.50 |
| 2 | AB | 1204 | A | N7-C8-N9 | -5.43 | 111.09 | 113.80 |
| 2 | AB | 1300 | G | C5-C6-N1 | -5.43 | 108.79 | 111.50 |
| 2 | AB | 1321 | A | N1-C2-N3 | 5.43 | 132.01 | 129.30 |
| 2 | AB | 1379 | U | C1'-O4'-C4' | 5.43 | 114.24 | 109.90 |
| 2 | AB | 2802 | G | N9-C4-C5 | 5.43 | 107.57 | 105.40 |
| 25 | AY | 30 | VAL | O-C-N | 5.43 | 131.38 | 122.70 |
| 35 | BA | 1035 | A | O4'-C1'-N9 | 5.43 | 112.54 | 108.20 |
| 35 | BA | 1316 | G | P-O3'-C3' | 5.43 | 126.21 | 119.70 |
| 56 | BV | 67 | HIS | N-CA-CB | -5.43 | 100.83 | 110.60 |
| 1 | AA | 31 | C | C6-N1-C2 | -5.42 | 118.13 | 120.30 |
| 2 | AB | 252 | G | N9-C4-C5 | 5.42 | 107.57 | 105.40 |
| 2 | AB | 293 | U | C4'-C3'-C2' | -5.42 | 97.17 | 102.60 |
| 2 | AB | 370 | G | C5-C6-O6 | -5.42 | 125.35 | 128.60 |
| 2 | AB | 917 | A | C1'-O4'-C4' | 5.42 | 114.24 | 109.90 |
| 2 | AB | 936 | A | C5-C6-N1 | 5.42 | 120.41 | 117.70 |
| 2 | AB | 981 | A | N9-C1'-C2' | -5.42 | 106.03 | 112.00 |
| 2 | AB | 1138 | G | N3-C2-N2 | 5.42 | 123.70 | 119.90 |
| 2 | AB | 1146 | C | N3-C2-O2 | -5.42 | 118.10 | 121.90 |
| 2 | AB | 1914 | C | C3'-C2'-C1' | 5.42 | 105.84 | 101.50 |
| 2 | AB | 2370 | G | N3-C2-N2 | -5.42 | 116.10 | 119.90 |
| 2 | AB | 2704 | C | C1'-O4'-C4' | -5.42 | 105.56 | 109.90 |
| 2 | AB | 2727 | A | C2-N3-C4 | 5.42 | 113.31 | 110.60 |
| 4 | AD | 2 | VAL | CA-CB-CG2 | -5.42 | 102.76 | 110.90 |
| 27 | A0 | 7 | ARG | NH1-CZ-NH2 | -5.42 | 113.43 | 119.40 |
| 35 | BA | 558 | G | C5-C6-O6 | 5.42 | 131.85 | 128.60 |
| 35 | BA | 777 | A | N7-C8-N9 | 5.42 | 116.51 | 113.80 |
| 35 | BA | 1230 | C | N3-C2-O2 | -5.42 | 118.10 | 121.90 |
| 35 | BA | 1262 | C | N3-C2-O2 | -5.42 | 118.10 | 121.90 |
| 37 | BC | 72 | C | C5-C6-N1 | -5.42 | 118.29 | 121.00 |
| 2 | AB | 497 | A | N7-C8-N9 | 5.42 | 116.51 | 113.80 |
| 2 | AB | 1023 | U | C1'-O4'-C4' | -5.42 | 105.56 | 109.90 |
| 2 | AB | 1117 | C | N1-C2-O2 | 5.42 | 122.15 | 118.90 |
| 2 | AB | 1240 | U | N3-C2-O2 | -5.42 | 118.40 | 122.20 |
| 2 | AB | 1608 | A | OP2-P-O3' | 5.42 | 117.13 | 105.20 |
| 2 | AB | 1746 | A | N3-C4-N9 | 5.42 | 131.74 | 127.40 |
| 2 | AB | 2202 | U | O4'-C1'-N1 | 5.42 | 112.54 | 108.20 |
| 2 | AB | 2415 | G | N9-C4-C5 | 5.42 | 107.57 | 105.40 |
| 2 | AB | 2471 | A | N9-C4-C5 | 5.42 | 107.97 | 105.80 |
| 35 | BA | 711 | G | N3-C2-N2 | -5.42 | 116.10 | 119.90 |
| 35 | BA | 1153 | G | C4'-C3'-C2' | -5.42 | 97.18 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1428 | A | C4'-C3'-C2' | -5.42 | 97.18 | 102.60 |
| 35 | BA | 1474 | U | N1-C1'-C2' | -5.42 | 106.03 | 112.00 |
| 2 | AB | 224 | U | C4-C5-C6 | 5.42 | 122.95 | 119.70 |
| 2 | AB | 325 | G | N1-C6-O6 | -5.42 | 116.65 | 119.90 |
| 2 | AB | 809 | G | C5-C6-O6 | -5.42 | 125.35 | 128.60 |
| 2 | AB | 900 | A | N3-C4-C5 | -5.42 | 123.01 | 126.80 |
| 2 | AB | 1857 | G | C5-C6-O6 | -5.42 | 125.35 | 128.60 |
| 2 | AB | 1864 | U | N3-C4-C5 | -5.42 | 111.35 | 114.60 |
| 2 | AB | 1888 | G | N3-C4-N9 | 5.42 | 129.25 | 126.00 |
| 2 | AB | 2325 | G | C8-N9-C4 | -5.42 | 104.23 | 106.40 |
| 2 | AB | 2397 | G | N3-C4-C5 | -5.42 | 125.89 | 128.60 |
| 2 | AB | 2529 | G | C6-C5-N7 | -5.42 | 127.15 | 130.40 |
| 2 | AB | 2639 | A | C4-C5-C6 | -5.42 | 114.29 | 117.00 |
| 2 | AB | 2715 | C | N3-C2-O2 | -5.42 | 118.11 | 121.90 |
| 5 | AE | 125 | TRP | NE1-CE2-CZ2 | 5.42 | 136.36 | 130.40 |
| 7 | AG | 31 | GLU | CB-CA-C | 5.42 | 121.24 | 110.40 |
| 35 | BA | 172 | A | C5'-C4'-O4' | 5.42 | 115.61 | 109.10 |
| 35 | BA | 546 | A | N1-C6-N6 | -5.42 | 115.35 | 118.60 |
| 35 | BA | 872 | A | C2-N3-C4 | 5.42 | 113.31 | 110.60 |
| 35 | BA | 1101 | A | N1-C2-N3 | -5.42 | 126.59 | 129.30 |
| 35 | BA | 1149 | C | C5-C4-N4 | 5.42 | 123.99 | 120.20 |
| 35 | BA | 1410 | A | N9-C1'-C2' | -5.42 | 106.04 | 112.00 |
| 42 | BH | 42 | TRP | CD1-NE1-CE2 | 5.42 | 113.88 | 109.00 |
| 56 | BV | 61 | ALA | N-CA-CB | -5.42 | 102.51 | 110.10 |
| 2 | AB | 991 | C | N3-C2-O2 | 5.42 | 125.69 | 121.90 |
| 2 | AB | 1051 | G | N1-C2-N2 | -5.42 | 111.32 | 116.20 |
| 2 | AB | 1530 | G | C2-N3-C4 | 5.42 | 114.61 | 111.90 |
| 2 | AB | 2530 | A | N9-C4-C5 | 5.42 | 107.97 | 105.80 |
| 2 | AB | 2721 | A | N7-C8-N9 | -5.42 | 111.09 | 113.80 |
| 35 | BA | 648 | A | C4-C5-C6 | -5.42 | 114.29 | 117.00 |
| 35 | BA | 965 | U | C2-N3-C4 | -5.42 | 123.75 | 127.00 |
| 37 | BC | 31 | G | N7-C8-N9 | 5.42 | 115.81 | 113.10 |
| 1 | AA | 105 | G | N1-C2-N2 | 5.42 | 121.08 | 116.20 |
| 2 | AB | 9 | G | O3'-P-O5' | -5.42 | 93.70 | 104.00 |
| 2 | AB | 61 | C | C6-N1-C2 | -5.42 | 118.13 | 120.30 |
| 2 | AB | 910 | A | C6-N1-C2 | -5.42 | 115.35 | 118.60 |
| 2 | AB | 934 | U | C5'-C4'-O4' | 5.42 | 115.60 | 109.10 |
| 2 | AB | 1226 | A | N9-C4-C5 | 5.42 | 107.97 | 105.80 |
| 2 | AB | 1413 | A | P-O3'-C3' | 5.42 | 126.20 | 119.70 |
| 2 | AB | 2434 | A | N9-C4-C5 | 5.42 | 107.97 | 105.80 |
| 2 | AB | 2453 | A | C5'-C4'-O4' | 5.42 | 115.60 | 109.10 |
| 2 | AB | 2549 | G | N1-C2-N3 | 5.42 | 127.15 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2875 | C | C2-N3-C4 | 5.42 | 122.61 | 119.90 |
| 22 | AV | 86 | THR | N-CA-C | 5.42 | 125.63 | 111.00 |
| 35 | BA | 241 | G | C5-C6-O6 | -5.42 | 125.35 | 128.60 |
| 35 | BA | 574 | A | O4'-C1'-N9 | 5.42 | 112.53 | 108.20 |
| 35 | BA | 855 | U | O3'-P-O5' | 5.42 | 114.30 | 104.00 |
| 35 | BA | 1087 | G | N1-C2-N2 | -5.42 | 111.32 | 116.20 |
| 35 | BA | 1391 | U | C6-N1-C2 | -5.42 | 117.75 | 121.00 |
| 1 | AA | 39 | A | O5'-C5'-C4' | -5.42 | 101.41 | 111.70 |
| 2 | AB | 38 | A | N9-C1'-C2' | -5.42 | 106.04 | 112.00 |
| 2 | AB | 490 | C | P-O5'-C5' | 5.42 | 129.56 | 120.90 |
| 2 | AB | 671 | C | C5'-C4'-O4' | 5.42 | 115.60 | 109.10 |
| 2 | AB | 744 | U | C4'-C3'-C2' | -5.42 | 97.18 | 102.60 |
| 2 | AB | 758 | C | O4'-C4'-C3' | -5.42 | 98.58 | 104.00 |
| 2 | AB | 1191 | G | O4'-C4'-C3' | 5.42 | 110.43 | 106.10 |
| 2 | AB | 1275 | A | N1-C6-N6 | -5.42 | 115.35 | 118.60 |
| 2 | AB | 1419 | A | N9-C1'-C2' | -5.42 | 106.04 | 112.00 |
| 2 | AB | 1595 | C | N3-C4-N4 | 5.42 | 121.79 | 118.00 |
| 2 | AB | 1764 | C | C6-N1-C2 | -5.42 | 118.13 | 120.30 |
| 2 | AB | 2077 | A | N7-C8-N9 | -5.42 | 111.09 | 113.80 |
| 2 | AB | 2728 | U | C6-N1-C2 | 5.42 | 124.25 | 121.00 |
| 2 | AB | 2773 | C | C5-C4-N4 | -5.42 | 116.41 | 120.20 |
| 17 | AQ | 12 | THR | O-C-N | -5.42 | 114.03 | 122.70 |
| 35 | BA | 265 | G | N3-C2-N2 | 5.42 | 123.69 | 119.90 |
| 35 | BA | 694 | A | N9-C4-C5 | -5.42 | 103.63 | 105.80 |
| 35 | BA | 795 | C | N3-C2-O2 | -5.42 | 118.11 | 121.90 |
| 35 | BA | 835 | U | C2-N3-C4 | -5.42 | 123.75 | 127.00 |
| 35 | BA | 908 | A | O4'-C1'-N9 | 5.42 | 112.53 | 108.20 |
| 35 | BA | 1146 | A | C4-C5-C6 | 5.42 | 119.71 | 117.00 |
| 35 | BA | 1305 | G | O5'-C5'-C4' | -5.42 | 101.41 | 111.70 |
| 35 | BA | 1339 | A | N1-C6-N6 | 5.42 | 121.85 | 118.60 |
| 47 | BM | 114 | PRO | CA-CB-CG | -5.42 | 93.71 | 104.00 |
| 1 | AA | 30 | C | N1-C2-O2 | 5.42 | 122.15 | 118.90 |
| 2 | AB | 589 | U | N1-C2-N3 | 5.42 | 118.15 | 114.90 |
| 2 | AB | 743 | A | C5-N7-C8 | 5.42 | 106.61 | 103.90 |
| 2 | AB | 1672 | A | N1-C6-N6 | 5.42 | 121.85 | 118.60 |
| 2 | AB | 1686 | C | C2-N3-C4 | -5.42 | 117.19 | 119.90 |
| 2 | AB | 1836 | C | C1'-O4'-C4' | -5.42 | 105.57 | 109.90 |
| 2 | AB | 2175 | C | O5'-P-OP2 | -5.42 | 100.83 | 105.70 |
| 2 | AB | 2740 | A | P-O3'-C3' | 5.42 | 126.20 | 119.70 |
| 3 | AC | 12 | ARG | NE-CZ-NH2 | -5.42 | 117.59 | 120.30 |
| 13 | AM | 117 | SER | N-CA-CB | -5.42 | 102.38 | 110.50 |
| 35 | BA | 1310 | G | C5'-C4'-O4' | 5.42 | 115.60 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1326 | U | O4'-C1'-N1 | 5.42 | 112.53 | 108.20 |
| 35 | BA | 1340 | A | C4-C5-C6 | 5.42 | 119.71 | 117.00 |
| 1 | AA | 79 | G | O4'-C1'-N9 | 5.41 | 112.53 | 108.20 |
| 2 | AB | 209 | C | C5-C4-N4 | 5.41 | 123.99 | 120.20 |
| 2 | AB | 228 | C | P-O3'-C3' | 5.41 | 126.20 | 119.70 |
| 2 | AB | 368 | A | C5-N7-C8 | 5.41 | 106.61 | 103.90 |
| 2 | AB | 598 | U | N1-C2-N3 | 5.41 | 118.15 | 114.90 |
| 2 | AB | 758 | C | C5'-C4'-O4' | 5.41 | 115.60 | 109.10 |
| 2 | AB | 913 | U | N3-C4-C5 | 5.41 | 117.85 | 114.60 |
| 2 | AB | 931 | U | C3'-C2'-C1' | 5.41 | 105.83 | 101.50 |
| 2 | AB | 1027 | A | C6-N1-C2 | -5.41 | 115.35 | 118.60 |
| 2 | AB | 1090 | A | C6-C5-N7 | 5.41 | 136.09 | 132.30 |
| 2 | AB | 1121 | C | O4'-C1'-N1 | 5.41 | 112.53 | 108.20 |
| 2 | AB | 1596 | A | N3-C4-N9 | -5.41 | 123.07 | 127.40 |
| 2 | AB | 2892 | G | P-O3'-C3' | 5.41 | 126.20 | 119.70 |
| 4 | AD | 65 | ASP | CB-CG-OD1 | -5.41 | 113.43 | 118.30 |
| 9 | AI | 39 | ALA | CB-CA-C | 5.41 | 118.22 | 110.10 |
| 33 | A6 | 26 | ALA | N-CA-CB | -5.41 | 102.52 | 110.10 |
| 35 | BA | 123 | U | N1-C1'-C2' | -5.41 | 106.05 | 112.00 |
| 35 | BA | 293 | G | C1'-O4'-C4' | -5.41 | 105.57 | 109.90 |
| 35 | BA | 508 | U | C5'-C4'-C3' | -5.41 | 107.34 | 116.00 |
| 35 | BA | 673 | A | O4'-C1'-N9 | 5.41 | 112.53 | 108.20 |
| 35 | BA | 973 | G | O4'-C1'-N9 | 5.41 | 112.53 | 108.20 |
| 35 | BA | 1055 | A | C2-N3-C4 | 5.41 | 113.31 | 110.60 |
| 2 | AB | 931 | U | O3'-P-O5' | -5.41 | 93.72 | 104.00 |
| 2 | AB | 965 | C | P-O3'-C3' | 5.41 | 126.19 | 119.70 |
| 2 | AB | 1684 | G | C5-C6-N1 | 5.41 | 114.21 | 111.50 |
| 2 | AB | 2063 | C | N3-C4-N4 | 5.41 | 121.79 | 118.00 |
| 2 | AB | 2486 | C | N1-C2-O2 | 5.41 | 122.15 | 118.90 |
| 35 | BA | 197 | A | C5'-C4'-C3' | -5.41 | 107.34 | 116.00 |
| 35 | BA | 1201 | A | C1'-O4'-C4' | -5.41 | 105.57 | 109.90 |
| 35 | BA | 1311 | A | C5'-C4'-O4' | 5.41 | 115.59 | 109.10 |
| 1 | AA | 100 | G | N1-C2-N2 | 5.41 | 121.07 | 116.20 |
| 2 | AB | 41 | C | C2-N3-C4 | 5.41 | 122.61 | 119.90 |
| 2 | AB | 355 | U | C5'-C4'-O4' | 5.41 | 115.59 | 109.10 |
| 2 | AB | 500 | G | C2'-C3'-O3' | 5.41 | 122.36 | 113.70 |
| 2 | AB | 716 | A | C4-C5-C6 | 5.41 | 119.70 | 117.00 |
| 2 | AB | 1035 | U | C5'-C4'-O4' | 5.41 | 115.59 | 109.10 |
| 2 | AB | 1195 | G | C6-N1-C2 | -5.41 | 121.85 | 125.10 |
| 2 | AB | 1316 | U | P-O3'-C3' | 5.41 | 126.19 | 119.70 |
| 2 | AB | 1497 | U | C2-N1-C1' | 5.41 | 124.19 | 117.70 |
| 2 | AB | 1701 | A | C8-N9-C4 | -5.41 | 103.64 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1822 | C | N3-C4-N4 | 5.41 | 121.79 | 118.00 |
| 2 | AB | 1839 | G | C1'-O4'-C4' | -5.41 | 105.57 | 109.90 |
| 2 | AB | 2081 | U | C2-N3-C4 | -5.41 | 123.75 | 127.00 |
| 2 | AB | 2239 | G | N7-C8-N9 | 5.41 | 115.81 | 113.10 |
| 2 | AB | 2655 | G | N3-C2-N2 | 5.41 | 123.69 | 119.90 |
| 2 | AB | 2890 | G | C5'-C4'-O4' | 5.41 | 115.59 | 109.10 |
| 35 | BA | 388 | G | C5'-C4'-O4' | 5.41 | 115.59 | 109.10 |
| 35 | BA | 495 | A | O3'-P-O5' | -5.41 | 93.72 | 104.00 |
| 35 | BA | 1164 | G | C4'-C3'-C2' | -5.41 | 97.19 | 102.60 |
| 36 | BB | 31 | U | O4'-C1'-N1 | 5.41 | 112.53 | 108.20 |
| 36 | BB | 43 | U | O4'-C1'-N1 | -5.41 | 103.87 | 108.20 |
| 2 | AB | 386 | G | N1-C2-N3 | -5.41 | 120.66 | 123.90 |
| 2 | AB | 397 | U | N1-C1'-C2' | -5.41 | 106.05 | 112.00 |
| 2 | AB | 617 | G | C4-C5-N7 | 5.41 | 112.96 | 110.80 |
| 2 | AB | 760 | G | N1-C2-N2 | 5.41 | 121.07 | 116.20 |
| 2 | AB | 941 | A | N7-C8-N9 | -5.41 | 111.10 | 113.80 |
| 2 | AB | 1233 | C | O4'-C1'-N1 | 5.41 | 112.53 | 108.20 |
| 2 | AB | 1235 | G | C3'-C2'-C1' | 5.41 | 105.83 | 101.50 |
| 2 | AB | 1292 | G | C4'-C3'-C2' | -5.41 | 97.19 | 102.60 |
| 2 | AB | 1420 | A | C3'-C2'-C1' | 5.41 | 105.83 | 101.50 |
| 2 | AB | 1660 | G | C4-C5-N7 | -5.41 | 108.64 | 110.80 |
| 2 | AB | 1710 | G | N9-C1'-C2' | -5.41 | 106.05 | 112.00 |
| 2 | AB | 1740 | G | N1-C6-O6 | 5.41 | 123.14 | 119.90 |
| 2 | AB | 2439 | A | C8-N9-C4 | -5.41 | 103.64 | 105.80 |
| 2 | AB | 2637 | U | C4-C5-C6 | 5.41 | 122.94 | 119.70 |
| 2 | AB | 2705 | A | N9-C1'-C2' | -5.41 | 106.05 | 112.00 |
| 18 | AR | 30 | TRP | CD1-NE1-CE2 | 5.41 | 113.87 | 109.00 |
| 35 | BA | 147 | G | C6-N1-C2 | -5.41 | 121.86 | 125.10 |
| 35 | BA | 601 | G | N9-C4-C5 | 5.41 | 107.56 | 105.40 |
| 35 | BA | 939 | G | C6-C5-N7 | -5.41 | 127.15 | 130.40 |
| 35 | BA | 1184 | G | N9-C4-C5 | -5.41 | 103.24 | 105.40 |
| 35 | BA | 1467 | C | N1-C1'-C2' | -5.41 | 106.05 | 112.00 |
| 36 | BB | 14 | G | C6-N1-C2 | 5.41 | 128.34 | 125.10 |
| 43 | BI | 155 | TRP | CD1-CG-CD2 | -5.41 | 101.97 | 106.30 |
| 1 | AA | 34 | A | C4-C5-C6 | -5.41 | 114.30 | 117.00 |
| 2 | AB | 383 | C | C5'-C4'-O4' | 5.41 | 115.59 | 109.10 |
| 2 | AB | 695 | G | C5-C6-O6 | 5.41 | 131.84 | 128.60 |
| 2 | AB | 1653 | G | C1'-O4'-C4' | -5.41 | 105.57 | 109.90 |
| 35 | BA | 711 | G | C5'-C4'-O4' | 5.41 | 115.59 | 109.10 |
| 35 | BA | 1177 | G | C1'-O4'-C4' | 5.41 | 114.23 | 109.90 |
| 35 | BA | 1299 | A | N7-C8-N9 | 5.41 | 116.50 | 113.80 |
| 37 | BC | 32 | G | C8-N9-C4 | -5.41 | 104.24 | 106.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 69 | C | C5'-C4'-C3' | -5.41 | 107.35 | 116.00 |
| 2 | AB | 401 | A | N1-C6-N6 | 5.41 | 121.84 | 118.60 |
| 2 | AB | 897 | C | C5-C4-N4 | -5.41 | 116.42 | 120.20 |
| 2 | AB | 1522 | A | C5-C6-N1 | -5.41 | 115.00 | 117.70 |
| 2 | AB | 1602 | U | C2-N1-C1' | -5.41 | 111.21 | 117.70 |
| 2 | AB | 1647 | U | N3-C2-O2 | -5.41 | 118.42 | 122.20 |
| 2 | AB | 1749 | A | C6-N1-C2 | 5.41 | 121.84 | 118.60 |
| 2 | AB | 1866 | A | C4-C5-N7 | -5.41 | 108.00 | 110.70 |
| 2 | AB | 1983 | G | C3'-C2'-C1' | -5.41 | 97.18 | 101.50 |
| 2 | AB | 2240 | U | N3-C4-C5 | 5.41 | 117.84 | 114.60 |
| 6 | AF | 21 | ARG | NE-CZ-NH1 | -5.41 | 117.60 | 120.30 |
| 6 | AF | 105 | LEU | O-C-N | -5.41 | 114.05 | 122.70 |
| 28 | A1 | 37 | ARG | NE-CZ-NH1 | -5.41 | 117.60 | 120.30 |
| 35 | BA | 223 | A | C4'-C3'-C2' | -5.41 | 97.19 | 102.60 |
| 35 | BA | 339 | C | O4'-C1'-C2' | 5.41 | 112.47 | 107.60 |
| 35 | BA | 344 | A | N7-C8-N9 | -5.41 | 111.10 | 113.80 |
| 35 | BA | 448 | A | C4-C5-N7 | 5.41 | 113.40 | 110.70 |
| 35 | BA | 494 | G | C4-N9-C1' | -5.41 | 119.47 | 126.50 |
| 35 | BA | 586 | C | N1-C2-N3 | 5.41 | 122.98 | 119.20 |
| 35 | BA | 672 | U | N3-C4-C5 | 5.41 | 117.84 | 114.60 |
| 35 | BA | 1384 | C | N3-C4-N4 | -5.41 | 114.22 | 118.00 |
| 35 | BA | 1492 | A | C6-C5-N7 | -5.41 | 128.52 | 132.30 |
| 36 | BB | 15 | G | C6-C5-N7 | 5.41 | 133.64 | 130.40 |
| 2 | AB | 1305 | C | C6-N1-C1' | 5.40 | 127.28 | 120.80 |
| 2 | AB | 2317 | A | O4'-C1'-N9 | 5.40 | 112.52 | 108.20 |
| 35 | BA | 195 | A | C5'-C4'-C3' | -5.40 | 107.35 | 116.00 |
| 35 | BA | 297 | G | N7-C8-N9 | 5.40 | 115.80 | 113.10 |
| 36 | BB | 22 | G | C4-C5-N7 | 5.40 | 112.96 | 110.80 |
| 2 | AB | 278 | A | C8-N9-C4 | -5.40 | 103.64 | 105.80 |
| 2 | AB | 1531 | C | O4'-C1'-N1 | 5.40 | 112.52 | 108.20 |
| 2 | AB | 1721 | G | C5'-C4'-O4' | 5.40 | 115.58 | 109.10 |
| 2 | AB | 2246 | G | N7-C8-N9 | 5.40 | 115.80 | 113.10 |
| 23 | AW | 7 | ASP | CB-CG-OD1 | -5.40 | 113.44 | 118.30 |
| 35 | BA | 739 | C | N3-C4-C5 | -5.40 | 119.74 | 121.90 |
| 35 | BA | 852 | G | O4'-C1'-N9 | 5.40 | 112.52 | 108.20 |
| 35 | BA | 872 | A | C8-N9-C4 | 5.40 | 107.96 | 105.80 |
| 2 | AB | 238 | C | O4'-C1'-N1 | 5.40 | 112.52 | 108.20 |
| 2 | AB | 466 | A | N7-C8-N9 | -5.40 | 111.10 | 113.80 |
| 2 | AB | 476 | G | C1'-O4'-C4' | 5.40 | 114.22 | 109.90 |
| 2 | AB | 992 | C | N1-C2-O2 | 5.40 | 122.14 | 118.90 |
| 2 | AB | 1721 | G | C5-C6-N1 | -5.40 | 108.80 | 111.50 |
| 2 | AB | 2369 | A | N1-C2-N3 | 5.40 | 132.00 | 129.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2381 | A | C5-C6-N6 | -5.40 | 119.38 | 123.70 |
| 2 | AB | 2862 | G | N1-C2-N3 | -5.40 | 120.66 | 123.90 |
| 16 | AP | 80 | PHE | CB-CG-CD2 | -5.40 | 117.02 | 120.80 |
| 35 | BA | 79 | G | C4'-C3'-C2' | -5.40 | 97.20 | 102.60 |
| 35 | BA | 260 | G | N1-C2-N2 | 5.40 | 121.06 | 116.20 |
| 35 | BA | 751 | U | N1-C2-O2 | -5.40 | 119.02 | 122.80 |
| 35 | BA | 951 | G | C5-N7-C8 | -5.40 | 101.60 | 104.30 |
| 35 | BA | 1346 | A | C2-N3-C4 | 5.40 | 113.30 | 110.60 |
| 35 | BA | 1475 | G | O4'-C4'-C3' | 5.40 | 110.42 | 106.10 |
| 1 | AA | 22 | U | C4-C5-C6 | 5.40 | 122.94 | 119.70 |
| 2 | AB | 178 | G | C3'-C2'-C1' | -5.40 | 97.18 | 101.50 |
| 2 | AB | 1177 | G | P-O5'-C5' | 5.40 | 129.54 | 120.90 |
| 2 | AB | 1866 | A | C5'-C4'-O4' | 5.40 | 115.58 | 109.10 |
| 2 | AB | 1869 | G | C5'-C4'-O4' | 5.40 | 115.58 | 109.10 |
| 2 | AB | 2611 | C | C4-C5-C6 | 5.40 | 120.10 | 117.40 |
| 2 | AB | 2616 | C | N3-C4-C5 | -5.40 | 119.74 | 121.90 |
| 32 | A5 | 12 | ARG | NH1-CZ-NH2 | -5.40 | 113.46 | 119.40 |
| 35 | BA | 1392 | G | C4'-C3'-O3' | 5.40 | 123.80 | 113.00 |
| 45 | BK | 37 | TYR | CD1-CG-CD2 | 5.40 | 123.84 | 117.90 |
| 52 | BR | 3 | THR | O-C-N | 5.40 | 131.34 | 122.70 |
| 2 | AB | 223 | A | C2-N3-C4 | -5.40 | 107.90 | 110.60 |
| 2 | AB | 335 | C | C6-N1-C2 | -5.40 | 118.14 | 120.30 |
| 2 | AB | 953 | G | C5-C6-N1 | -5.40 | 108.80 | 111.50 |
| 2 | AB | 1760 | C | N3-C2-O2 | -5.40 | 118.12 | 121.90 |
| 2 | AB | 1839 | G | N3-C4-C5 | -5.40 | 125.90 | 128.60 |
| 2 | AB | 1899 | A | OP1-P-O3' | 5.40 | 117.08 | 105.20 |
| 2 | AB | 2707 | U | C4'-C3'-C2' | -5.40 | 97.20 | 102.60 |
| 5 | AE | 5 | VAL | CA-CB-CG1 | 5.40 | 119.00 | 110.90 |
| 9 | AI | 109 | GLU | CA-CB-CG | 5.40 | 125.27 | 113.40 |
| 35 | BA | 185 | U | C5-C4-O4 | 5.40 | 129.14 | 125.90 |
| 35 | BA | 675 | A | C5-C6-N6 | 5.40 | 128.02 | 123.70 |
| 35 | BA | 735 | C | O4'-C1'-N1 | 5.40 | 112.52 | 108.20 |
| 35 | BA | 794 | A | N7-C8-N9 | 5.40 | 116.50 | 113.80 |
| 35 | BA | 997 | U | N3-C2-O2 | -5.40 | 118.42 | 122.20 |
| 35 | BA | 1074 | G | O4'-C1'-C2' | -5.40 | 100.40 | 105.80 |
| 35 | BA | 1122 | U | O4'-C1'-N1 | 5.40 | 112.52 | 108.20 |
| 45 | BK | 52 | GLU | OE1-CD-OE2 | 5.40 | 129.78 | 123.30 |
| 48 | BN | 61 | GLU | CG-CD-OE1 | 5.40 | 129.10 | 118.30 |
| 2 | AB | 176 | A | O4'-C4'-C3' | 5.40 | 110.42 | 106.10 |
| 2 | AB | 317 | G | C3'-C2'-C1' | -5.40 | 97.18 | 101.50 |
| 2 | AB | 340 | A | C4'-C3'-C2' | -5.40 | 97.20 | 102.60 |
| 2 | AB | 458 | G | C5'-C4'-C3' | -5.40 | 107.37 | 116.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 889 | C | C5-C6-N1 | 5.40 | 123.70 | 121.00 |
| 2 | AB | 894 | U | C4-C5-C6 | 5.40 | 122.94 | 119.70 |
| 2 | AB | 949 | G | N1-C2-N3 | 5.40 | 127.14 | 123.90 |
| 2 | AB | 1553 | A | N9-C1'-C2' | -5.40 | 106.06 | 112.00 |
| 2 | AB | 1885 | A | C5-N7-C8 | -5.40 | 101.20 | 103.90 |
| 2 | AB | 2140 | G | C4-N9-C1' | -5.40 | 119.48 | 126.50 |
| 2 | AB | 2886 | A | C6-C5-N7 | 5.40 | 136.08 | 132.30 |
| 35 | BA | 1375 | A | O4'-C1'-N9 | 5.40 | 112.52 | 108.20 |
| 2 | AB | 227 | A | O3'-P-O5' | -5.39 | 93.75 | 104.00 |
| 2 | AB | 865 | C | N1-C1'-C2' | 5.39 | 121.01 | 114.00 |
| 2 | AB | 939 | G | C2-N3-C4 | 5.39 | 114.60 | 111.90 |
| 2 | AB | 1231 | U | O4'-C4'-C3' | 5.39 | 110.42 | 106.10 |
| 2 | AB | 1610 | A | C4-C5-N7 | 5.39 | 113.40 | 110.70 |
| 2 | AB | 2100 | G | C8-N9-C1' | 5.39 | 134.01 | 127.00 |
| 2 | AB | 2121 | G | N9-C4-C5 | -5.39 | 103.24 | 105.40 |
| 2 | AB | 2146 | C | C5'-C4'-O4' | 5.39 | 115.57 | 109.10 |
| 2 | AB | 2544 | G | C1'-O4'-C4' | 5.39 | 114.22 | 109.90 |
| 35 | BA | 88 | U | C2-N3-C4 | -5.39 | 123.76 | 127.00 |
| 35 | BA | 268 | U | O4'-C1'-N1 | 5.39 | 112.52 | 108.20 |
| 35 | BA | 459 | A | C5-C6-N6 | -5.39 | 119.38 | 123.70 |
| 35 | BA | 512 | U | C4'-C3'-C2' | -5.39 | 97.20 | 102.60 |
| 35 | BA | 908 | A | C2-N3-C4 | -5.39 | 107.90 | 110.60 |
| 35 | BA | 1003 | G | C5'-C4'-O4' | 5.39 | 115.57 | 109.10 |
| 35 | BA | 1253 | G | C4-C5-C6 | 5.39 | 122.04 | 118.80 |
| 35 | BA | 1373 | G | C5'-C4'-O4' | 5.39 | 115.57 | 109.10 |
| 2 | AB | 176 | A | N3-C4-N9 | 5.39 | 131.72 | 127.40 |
| 2 | AB | 191 | A | C5-N7-C8 | -5.39 | 101.20 | 103.90 |
| 2 | AB | 504 | A | C5-C6-N6 | -5.39 | 119.39 | 123.70 |
| 2 | AB | 619 | G | N9-C1'-C2' | 5.39 | 121.01 | 114.00 |
| 2 | AB | 1009 | A | C5'-C4'-O4' | -5.39 | 102.63 | 109.10 |
| 2 | AB | 1160 | G | N1-C6-O6 | 5.39 | 123.14 | 119.90 |
| 2 | AB | 1999 | C | C5-C4-N4 | -5.39 | 116.42 | 120.20 |
| 2 | AB | 2196 | C | C5-C4-N4 | -5.39 | 116.42 | 120.20 |
| 2 | AB | 2279 | G | C4-N9-C1' | -5.39 | 119.49 | 126.50 |
| 2 | AB | 2317 | A | N1-C6-N6 | 5.39 | 121.83 | 118.60 |
| 2 | AB | 2481 | G | C2-N3-C4 | 5.39 | 114.60 | 111.90 |
| 2 | AB | 2668 | G | C6-C5-N7 | -5.39 | 127.16 | 130.40 |
| 2 | AB | 2779 | U | C1'-O4'-C4' | -5.39 | 105.58 | 109.90 |
| 2 | AB | 2847 | U | N3-C2-O2 | -5.39 | 118.43 | 122.20 |
| 2 | AB | 2865 | U | C4'-C3'-C2' | -5.39 | 97.21 | 102.60 |
| 20 | AT | 80 | ARG | NE-CZ-NH2 | -5.39 | 117.60 | 120.30 |
| 35 | BA | 432 | A | P-O3'-C3' | 5.39 | 126.17 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 746 | A | C5-C6-N6 | -5.39 | 119.39 | 123.70 |
| 35 | BA | 789 | U | O4'-C4'-C3' | 5.39 | 110.41 | 106.10 |
| 35 | BA | 1248 | A | C5'-C4'-O4' | 5.39 | 115.57 | 109.10 |
| 35 | BA | 1274 | A | O4'-C1'-N9 | 5.39 | 112.51 | 108.20 |
| 2 | AB | 252 | G | N9-C1'-C2' | -5.39 | 106.07 | 112.00 |
| 2 | AB | 521 | U | C5'-C4'-O4' | 5.39 | 115.57 | 109.10 |
| 2 | AB | 528 | A | N1-C6-N6 | -5.39 | 115.36 | 118.60 |
| 2 | AB | 684 | G | N1-C6-O6 | 5.39 | 123.13 | 119.90 |
| 2 | AB | 896 | A | C4'-C3'-C2' | -5.39 | 97.21 | 102.60 |
| 2 | AB | 1333 | G | C4-C5-C6 | 5.39 | 122.03 | 118.80 |
| 2 | AB | 1346 | G | N7-C8-N9 | 5.39 | 115.80 | 113.10 |
| 2 | AB | 2432 | A | C2-N3-C4 | 5.39 | 113.30 | 110.60 |
| 2 | AB | 2470 | G | C3'-C2'-C1' | 5.39 | 105.81 | 101.50 |
| 35 | BA | 929 | G | C4-C5-N7 | -5.39 | 108.64 | 110.80 |
| 35 | BA | 1014 | A | N1-C6-N6 | 5.39 | 121.83 | 118.60 |
| 2 | AB | 266 | G | C5-N7-C8 | 5.39 | 107.00 | 104.30 |
| 2 | AB | 332 | A | C6-C5-N7 | 5.39 | 136.07 | 132.30 |
| 2 | AB | 521 | U | N3-C4-C5 | -5.39 | 111.37 | 114.60 |
| 2 | AB | 532 | A | N1-C2-N3 | 5.39 | 132.00 | 129.30 |
| 2 | AB | 647 | G | C5-C6-O6 | -5.39 | 125.37 | 128.60 |
| 2 | AB | 665 | U | C1'-O4'-C4' | 5.39 | 114.21 | 109.90 |
| 2 | AB | 700 | G | C6-C5-N7 | 5.39 | 133.63 | 130.40 |
| 2 | AB | 895 | U | P-O3'-C3' | 5.39 | 126.17 | 119.70 |
| 2 | AB | 987 | C | O4'-C4'-C3' | 5.39 | 110.41 | 106.10 |
| 2 | AB | 1091 | G | N1-C6-O6 | -5.39 | 116.67 | 119.90 |
| 2 | AB | 1130 | U | O4'-C4'-C3' | 5.39 | 110.41 | 106.10 |
| 2 | AB | 2120 | G | O3'-P-O5' | -5.39 | 93.76 | 104.00 |
| 35 | BA | 99 | C | N3-C4-N4 | 5.39 | 121.77 | 118.00 |
| 35 | BA | 351 | G | N1-C2-N3 | -5.39 | 120.67 | 123.90 |
| 35 | BA | 819 | A | N3-C4-C5 | -5.39 | 123.03 | 126.80 |
| 35 | BA | 901 | A | C5-N7-C8 | 5.39 | 106.59 | 103.90 |
| 35 | BA | 976 | G | C2-N3-C4 | 5.39 | 114.59 | 111.90 |
| 35 | BA | 1032 | G | N1-C2-N3 | -5.39 | 120.67 | 123.90 |
| 35 | BA | 1335 | U | P-O5'-C5' | 5.39 | 129.52 | 120.90 |
| 37 | BC | 24 | C | C4-C5-C6 | -5.39 | 114.70 | 117.40 |
| 2 | AB | 588 | U | C4-C5-C6 | 5.39 | 122.93 | 119.70 |
| 2 | AB | 1400 | U | C2-N1-C1' | 5.39 | 124.17 | 117.70 |
| 2 | AB | 2720 | U | N1-C2-N3 | 5.39 | 118.13 | 114.90 |
| 35 | BA | 180 | U | C5-C4-O4 | -5.39 | 122.67 | 125.90 |
| 35 | BA | 213 | G | C5'-C4'-C3' | -5.39 | 107.38 | 116.00 |
| 35 | BA | 1171 | A | N9-C4-C5 | -5.39 | 103.64 | 105.80 |
| 35 | BA | 1262 | C | C2'-C3'-O3' | 5.39 | 122.32 | 113.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 54 | BT | 31 | TYR | CB-CG-CD1 | -5.39 | 117.77 | 121.00 |
| 1 | AA | 59 | A | N9-C1'-C2' | -5.39 | 106.07 | 112.00 |
| 2 | AB | 176 | A | C6-N1-C2 | -5.39 | 115.37 | 118.60 |
| 2 | AB | 495 | G | N1-C2-N2 | -5.39 | 111.35 | 116.20 |
| 2 | AB | 1148 | U | C5-C4-O4 | -5.39 | 122.67 | 125.90 |
| 2 | AB | 1600 | C | N1-C2-O2 | 5.39 | 122.13 | 118.90 |
| 2 | AB | 1905 | C | C5'-C4'-C3' | -5.39 | 107.38 | 116.00 |
| 2 | AB | 2027 | G | O4'-C4'-C3' | 5.39 | 110.41 | 106.10 |
| 2 | AB | 2330 | G | N3-C2-N2 | -5.39 | 116.13 | 119.90 |
| 2 | AB | 2516 | A | N9-C4-C5 | 5.39 | 107.95 | 105.80 |
| 2 | AB | 2770 | G | N9-C1'-C2' | 5.39 | 121.00 | 114.00 |
| 2 | AB | 2820 | A | C3'-C2'-C1' | -5.39 | 97.19 | 101.50 |
| 35 | BA | 765 | G | C5-C6-N1 | 5.39 | 114.19 | 111.50 |
| 35 | BA | 1157 | A | N3-C4-N9 | 5.39 | 131.71 | 127.40 |
| 35 | BA | 1299 | A | C4'-C3'-C2' | 5.39 | 107.99 | 102.60 |
| 2 | AB | 240 | C | N1-C2-O2 | 5.38 | 122.13 | 118.90 |
| 2 | AB | 248 | G | C5-N7-C8 | -5.38 | 101.61 | 104.30 |
| 2 | AB | 508 | A | O4'-C1'-N9 | 5.38 | 112.51 | 108.20 |
| 2 | AB | 546 | U | N3-C4-O4 | -5.38 | 115.63 | 119.40 |
| 2 | AB | 1216 | G | C8-N9-C4 | -5.38 | 104.25 | 106.40 |
| 2 | AB | 1263 | U | C3'-C2'-C1' | 5.38 | 105.81 | 101.50 |
| 2 | AB | 1290 | C | N1-C1'-C2' | -5.38 | 106.08 | 112.00 |
| 2 | AB | 1412 | U | O4'-C1'-N1 | 5.38 | 112.51 | 108.20 |
| 2 | AB | 1696 | G | C6-N1-C2 | -5.38 | 121.87 | 125.10 |
| 2 | AB | 1956 | U | N3-C4-O4 | 5.38 | 123.17 | 119.40 |
| 2 | AB | 2062 | A | C3'-C2'-C1' | 5.38 | 105.81 | 101.50 |
| 2 | AB | 2111 | U | N1-C2-O2 | 5.38 | 126.57 | 122.80 |
| 2 | AB | 2371 | G | N7-C8-N9 | 5.38 | 115.79 | 113.10 |
| 35 | BA | 158 | G | N1-C6-O6 | -5.38 | 116.67 | 119.90 |
| 35 | BA | 225 | C | C4-C5-C6 | 5.38 | 120.09 | 117.40 |
| 35 | BA | 754 | C | C6-N1-C2 | 5.38 | 122.45 | 120.30 |
| 35 | BA | 968 | A | C8-N9-C1' | -5.38 | 118.01 | 127.70 |
| 35 | BA | 1127 | G | C1'-O4'-C4' | 5.38 | 114.21 | 109.90 |
| 37 | BC | 72 | C | C4'-C3'-C2' | -5.38 | 97.22 | 102.60 |
| 38 | BD | 224 | ARG | NE-CZ-NH2 | -5.38 | 117.61 | 120.30 |
| 47 | BM | 73 | VAL | CG1-CB-CG2 | -5.38 | 102.28 | 110.90 |
| 1 | AA | 20 | G | C5-N7-C8 | -5.38 | 101.61 | 104.30 |
| 2 | AB | 333 | G | C3'-C2'-C1' | -5.38 | 97.19 | 101.50 |
| 2 | AB | 501 | A | C6-N1-C2 | -5.38 | 115.37 | 118.60 |
| 2 | AB | 768 | G | O4'-C1'-C2' | -5.38 | 100.42 | 105.80 |
| 2 | AB | 843 | G | O4'-C1'-N9 | 5.38 | 112.51 | 108.20 |
| 2 | AB | 1055 | G | C3'-C2'-C1' | -5.38 | 97.19 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2236 | U | C4-C5-C6 | 5.38 | 122.93 | 119.70 |
| 35 | BA | 921 | U | C6-N1-C1' | -5.38 | 113.66 | 121.20 |
| 2 | AB | 28 | A | O4'-C1'-C2' | 5.38 | 112.44 | 107.60 |
| 2 | AB | 449 | A | C5'-C4'-C3' | -5.38 | 107.39 | 116.00 |
| 2 | AB | 665 | U | C3'-C2'-C1' | 5.38 | 105.81 | 101.50 |
| 2 | AB | 954 | G | N3-C2-N2 | 5.38 | 123.67 | 119.90 |
| 2 | AB | 1135 | C | C5-C6-N1 | -5.38 | 118.31 | 121.00 |
| 2 | AB | 1162 | G | P-O3'-C3' | 5.38 | 126.16 | 119.70 |
| 2 | AB | 1234 | U | O3'-P-O5' | -5.38 | 93.78 | 104.00 |
| 2 | AB | 1239 | G | C5'-C4'-C3' | -5.38 | 107.39 | 116.00 |
| 2 | AB | 1315 | C | N1-C2-O2 | 5.38 | 122.13 | 118.90 |
| 2 | AB | 1734 | G | C5'-C4'-C3' | -5.38 | 107.39 | 116.00 |
| 2 | AB | 2659 | G | C6-N1-C2 | -5.38 | 121.87 | 125.10 |
| 2 | AB | 2901 | C | N1-C2-O2 | 5.38 | 122.13 | 118.90 |
| 6 | AF | 61 | ARG | C-N-CA | 5.38 | 135.15 | 121.70 |
| 8 | AH | 88 | LEU | CB-CG-CD2 | 5.38 | 120.15 | 111.00 |
| 29 | A2 | 9 | TYR | CG-CD2-CE2 | 5.38 | 125.61 | 121.30 |
| 35 | BA | 267 | C | N3-C4-N4 | 5.38 | 121.77 | 118.00 |
| 35 | BA | 988 | G | C5-N7-C8 | -5.38 | 101.61 | 104.30 |
| 35 | BA | 1109 | C | N3-C4-N4 | 5.38 | 121.77 | 118.00 |
| 35 | BA | 1111 | A | C1'-O4'-C4' | -5.38 | 105.59 | 109.90 |
| 35 | BA | 1326 | U | C6-N1-C2 | -5.38 | 117.77 | 121.00 |
| 2 | AB | 501 | A | N3-C4-C5 | -5.38 | 123.03 | 126.80 |
| 2 | AB | 675 | A | C5'-C4'-O4' | 5.38 | 115.56 | 109.10 |
| 2 | AB | 773 | U | C6-N1-C2 | -5.38 | 117.77 | 121.00 |
| 2 | AB | 2427 | C | N3-C4-C5 | -5.38 | 119.75 | 121.90 |
| 15 | AO | 81 | ARG | CD-NE-CZ | 5.38 | 131.13 | 123.60 |
| 35 | BA | 3 | A | P-O3'-C3' | 5.38 | 126.16 | 119.70 |
| 35 | BA | 485 | U | P-O3'-C3' | 5.38 | 126.16 | 119.70 |
| 35 | BA | 556 | C | C4-C5-C6 | 5.38 | 120.09 | 117.40 |
| 35 | BA | 667 | G | O4'-C1'-N9 | 5.38 | 112.50 | 108.20 |
| 2 | AB | 170 | U | C5-C4-O4 | -5.38 | 122.67 | 125.90 |
| 2 | AB | 451 | U | C5'-C4'-C3' | -5.38 | 107.39 | 116.00 |
| 2 | AB | 633 | A | N1-C2-N3 | -5.38 | 126.61 | 129.30 |
| 2 | AB | 756 | A | C2-N3-C4 | -5.38 | 107.91 | 110.60 |
| 2 | AB | 760 | G | N9-C4-C5 | -5.38 | 103.25 | 105.40 |
| 2 | AB | 1122 | G | P-O3'-C3' | 5.38 | 126.15 | 119.70 |
| 2 | AB | 1702 | G | C8-N9-C1' | 5.38 | 133.99 | 127.00 |
| 2 | AB | 1856 | U | N1-C2-O2 | 5.38 | 126.56 | 122.80 |
| 2 | AB | 2187 | U | C1'-O4'-C4' | -5.38 | 105.60 | 109.90 |
| 2 | AB | 2720 | U | C5-C4-O4 | 5.38 | 129.13 | 125.90 |
| 2 | AB | 2844 | G | P-O3'-C3' | 5.38 | 126.15 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 271 | C | O4'-C4'-C3' | 5.38 | 110.40 | 106.10 |
| 35 | BA | 371 | A | C6-N1-C2 | -5.38 | 115.37 | 118.60 |
| 35 | BA | 682 | G | C5-N7-C8 | -5.38 | 101.61 | 104.30 |
| 35 | BA | 769 | G | P-O3'-C3' | 5.38 | 126.15 | 119.70 |
| 43 | BI | 89 | GLU | OE1-CD-OE2 | 5.38 | 129.75 | 123.30 |
| 43 | BI | 108 | ARG | NE-CZ-NH2 | -5.38 | 117.61 | 120.30 |
| 2 | AB | 82 | U | O4'-C1'-C2' | 5.38 | 112.44 | 107.60 |
| 2 | AB | 337 | C | C3'-C2'-C1' | -5.38 | 97.20 | 101.50 |
| 2 | AB | 344 | A | P-O3'-C3' | 5.38 | 126.15 | 119.70 |
| 2 | AB | 411 | G | C4'-C3'-C2' | 5.38 | 107.98 | 102.60 |
| 2 | AB | 748 | G | N1-C2-N3 | -5.38 | 120.67 | 123.90 |
| 2 | AB | 825 | A | O4'-C4'-C3' | -5.38 | 98.62 | 104.00 |
| 2 | AB | 944 | C | C2-N3-C4 | 5.38 | 122.59 | 119.90 |
| 2 | AB | 1077 | A | N1-C6-N6 | 5.38 | 121.83 | 118.60 |
| 2 | AB | 1600 | C | O4'-C4'-C3' | -5.38 | 98.62 | 104.00 |
| 2 | AB | 1740 | G | N9-C1'-C2' | -5.38 | 106.09 | 112.00 |
| 2 | AB | 2150 | C | C1'-O4'-C4' | -5.38 | 105.60 | 109.90 |
| 2 | AB | 2338 | C | C4'-C3'-C2' | -5.38 | 97.22 | 102.60 |
| 2 | AB | 2517 | C | O3'-P-O5' | -5.38 | 93.79 | 104.00 |
| 2 | AB | 2615 | U | C4-C5-C6 | 5.38 | 122.93 | 119.70 |
| 2 | AB | 2893 | A | P-O3'-C3' | 5.38 | 126.15 | 119.70 |
| 12 | AL | 125 | TYR | CD1-CG-CD2 | 5.38 | 123.81 | 117.90 |
| 18 | AR | 20 | ARG | CA-CB-CG | 5.38 | 125.23 | 113.40 |
| 35 | BA | 112 | G | C4-N9-C1' | 5.38 | 133.49 | 126.50 |
| 35 | BA | 164 | G | C3'-C2'-C1' | -5.38 | 97.20 | 101.50 |
| 35 | BA | 233 | C | N1-C2-N3 | 5.38 | 122.96 | 119.20 |
| 35 | BA | 465 | A | O5'-C5'-C4' | -5.38 | 101.48 | 111.70 |
| 35 | BA | 582 | C | N3-C4-N4 | -5.38 | 114.24 | 118.00 |
| 35 | BA | 685 | G | C4-C5-C6 | -5.38 | 115.57 | 118.80 |
| 35 | BA | 774 | G | N3-C4-C5 | -5.38 | 125.91 | 128.60 |
| 35 | BA | 853 | C | N3-C4-C5 | -5.38 | 119.75 | 121.90 |
| 35 | BA | 938 | A | C5-C6-N1 | 5.38 | 120.39 | 117.70 |
| 35 | BA | 1297 | G | C4'-C3'-C2' | -5.38 | 97.22 | 102.60 |
| 2 | AB | 71 | A | C5-N7-C8 | -5.38 | 101.21 | 103.90 |
| 2 | AB | 307 | G | N9-C1'-C2' | -5.38 | 106.09 | 112.00 |
| 2 | AB | 371 | A | O5'-C5'-C4' | 5.38 | 121.91 | 111.70 |
| 2 | AB | 1023 | U | N3-C4-C5 | 5.38 | 117.83 | 114.60 |
| 2 | AB | 1137 | G | C8-N9-C1' | 5.38 | 133.99 | 127.00 |
| 2 | AB | 1309 | G | P-O3'-C3' | 5.38 | 126.15 | 119.70 |
| 2 | AB | 1373 | A | C5-C6-N1 | 5.38 | 120.39 | 117.70 |
| 2 | AB | 2375 | G | C5'-C4'-O4' | 5.38 | 115.55 | 109.10 |
| 35 | BA | 92 | U | C5'-C4'-C3' | -5.38 | 107.40 | 116.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 48 | BN | 7 | VAL | CA-CB-CG2 | 5.38 | 118.96 | 110.90 |
| 1 | AA | 53 | A | C6-N1-C2 | 5.37 | 121.83 | 118.60 |
| 2 | AB | 47 | C | O4'-C1'-N1 | 5.37 | 112.50 | 108.20 |
| 2 | AB | 52 | A | O4'-C1'-N9 | 5.37 | 112.50 | 108.20 |
| 2 | AB | 146 | A | C3'-C2'-C1' | 5.37 | 105.80 | 101.50 |
| 2 | AB | 254 | G | C5-C6-O6 | 5.37 | 131.82 | 128.60 |
| 2 | AB | 532 | A | C5-N7-C8 | -5.37 | 101.21 | 103.90 |
| 2 | AB | 688 | U | C2-N3-C4 | -5.37 | 123.78 | 127.00 |
| 2 | AB | 778 | G | C4'-C3'-C2' | -5.37 | 97.23 | 102.60 |
| 2 | AB | 1169 | A | C8-N9-C4 | -5.37 | 103.65 | 105.80 |
| 2 | AB | 1342 | A | O4'-C1'-C2' | 5.37 | 112.44 | 107.60 |
| 2 | AB | 1431 | A | C5-N7-C8 | 5.37 | 106.59 | 103.90 |
| 2 | AB | 1642 | G | C5-C6-N1 | 5.37 | 114.19 | 111.50 |
| 2 | AB | 1757 | A | C6-N1-C2 | -5.37 | 115.38 | 118.60 |
| 2 | AB | 2802 | G | OP1-P-O3' | 5.37 | 117.02 | 105.20 |
| 2 | AB | 2818 | U | C5-C6-N1 | 5.37 | 125.39 | 122.70 |
| 6 | AF | 114 | ARG | NH1-CZ-NH2 | -5.37 | 113.49 | 119.40 |
| 35 | BA | 316 | C | O4'-C1'-N1 | 5.37 | 112.50 | 108.20 |
| 35 | BA | 892 | A | C2-N3-C4 | -5.37 | 107.91 | 110.60 |
| 35 | BA | 1294 | G | N9-C1'-C2' | -5.37 | 106.09 | 112.00 |
| 50 | BP | 41 | TRP | CD1-NE1-CE2 | 5.37 | 113.84 | 109.00 |
| 2 | AB | 114 | U | OP1-P-OP2 | -5.37 | 111.54 | 119.60 |
| 2 | AB | 269 | C | O4'-C1'-N1 | 5.37 | 112.50 | 108.20 |
| 2 | AB | 271 | G | C5'-C4'-C3' | -5.37 | 107.41 | 116.00 |
| 2 | AB | 311 | A | N9-C4-C5 | 5.37 | 107.95 | 105.80 |
| 2 | AB | 497 | A | N1-C2-N3 | -5.37 | 126.61 | 129.30 |
| 2 | AB | 504 | A | C8-N9-C4 | 5.37 | 107.95 | 105.80 |
| 2 | AB | 662 | G | C4-C5-N7 | 5.37 | 112.95 | 110.80 |
| 2 | AB | 1318 | U | N3-C4-C5 | -5.37 | 111.38 | 114.60 |
| 2 | AB | 1414 | C | C1'-O4'-C4' | -5.37 | 105.60 | 109.90 |
| 2 | AB | 1820 | U | C2-N3-C4 | -5.37 | 123.78 | 127.00 |
| 2 | AB | 1885 | A | C5'-C4'-O4' | 5.37 | 115.55 | 109.10 |
| 2 | AB | 2351 | G | C6-C5-N7 | -5.37 | 127.18 | 130.40 |
| 2 | AB | 2470 | G | O5'-P-OP2 | -5.37 | 100.86 | 105.70 |
| 2 | AB | 2523 | G | N9-C4-C5 | -5.37 | 103.25 | 105.40 |
| 10 | AJ | 30 | ARG | NE-CZ-NH2 | -5.37 | 117.61 | 120.30 |
| 35 | BA | 168 | G | C4'-C3'-C2' | -5.37 | 97.23 | 102.60 |
| 35 | BA | 393 | A | N3-C4-N9 | 5.37 | 131.70 | 127.40 |
| 35 | BA | 462 | G | N1-C2-N2 | 5.37 | 121.03 | 116.20 |
| 35 | BA | 1063 | C | C3'-C2'-C1' | 5.37 | 105.80 | 101.50 |
| 35 | BA | 1194 | U | N3-C4-C5 | -5.37 | 111.38 | 114.60 |
| 35 | BA | 1284 | C | C5-C6-N1 | 5.37 | 123.69 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1336 | C | C5-C4-N4 | 5.37 | 123.96 | 120.20 |
| 35 | BA | 1364 | U | P-O3'-C3' | 5.37 | 126.14 | 119.70 |
| 35 | BA | 1386 | G | N3-C2-N2 | -5.37 | 116.14 | 119.90 |
| 35 | BA | 1388 | C | C2-N3-C4 | 5.37 | 122.58 | 119.90 |
| 1 | AA | 22 | U | N3-C2-O2 | -5.37 | 118.44 | 122.20 |
| 1 | AA | 74 | U | C4'-C3'-C2' | 5.37 | 107.97 | 102.60 |
| 2 | AB | 628 | G | N3-C2-N2 | -5.37 | 116.14 | 119.90 |
| 2 | AB | 1438 | U | O4'-C1'-N1 | 5.37 | 112.50 | 108.20 |
| 2 | AB | 1941 | C | N1-C2-N3 | -5.37 | 115.44 | 119.20 |
| 2 | AB | 2114 | A | C1'-O4'-C4' | 5.37 | 114.20 | 109.90 |
| 2 | AB | 2390 | U | C4-C5-C6 | 5.37 | 122.92 | 119.70 |
| 2 | AB | 2410 | G | C3'-C2'-C1' | 5.37 | 105.80 | 101.50 |
| 10 | AJ | 53 | VAL | CG1-CB-CG2 | -5.37 | 102.31 | 110.90 |
| 35 | BA | 140 | U | C5-C4-O4 | -5.37 | 122.68 | 125.90 |
| 35 | BA | 307 | C | C4'-C3'-C2' | -5.37 | 97.23 | 102.60 |
| 35 | BA | 338 | A | C5-N7-C8 | 5.37 | 106.58 | 103.90 |
| 1 | AA | 83 | G | C4-C5-C6 | 5.37 | 122.02 | 118.80 |
| 2 | AB | 359 | G | C5-N7-C8 | -5.37 | 101.62 | 104.30 |
| 2 | AB | 920 | A | C4-C5-C6 | 5.37 | 119.69 | 117.00 |
| 2 | AB | 1236 | G | N9-C4-C5 | 5.37 | 107.55 | 105.40 |
| 2 | AB | 1262 | A | C5-C6-N6 | -5.37 | 119.40 | 123.70 |
| 2 | AB | 1696 | G | C5-C6-N1 | 5.37 | 114.18 | 111.50 |
| 2 | AB | 1868 | C | C3'-C2'-C1' | 5.37 | 105.80 | 101.50 |
| 2 | AB | 2051 | A | C6-C5-N7 | 5.37 | 136.06 | 132.30 |
| 2 | AB | 2107 | G | C5'-C4'-C3' | -5.37 | 107.41 | 116.00 |
| 2 | AB | 2219 | U | C5-C6-N1 | -5.37 | 120.02 | 122.70 |
| 2 | AB | 2462 | C | C3'-C2'-C1' | -5.37 | 97.21 | 101.50 |
| 2 | AB | 2876 | G | C6-N1-C2 | -5.37 | 121.88 | 125.10 |
| 14 | AN | 69 | ARG | NE-CZ-NH1 | 5.37 | 122.98 | 120.30 |
| 35 | BA | 187 | G | C2-N3-C4 | 5.37 | 114.58 | 111.90 |
| 35 | BA | 413 | G | C5-N7-C8 | -5.37 | 101.61 | 104.30 |
| 35 | BA | 736 | C | C4-C5-C6 | -5.37 | 114.72 | 117.40 |
| 35 | BA | 768 | A | N3-C4-N9 | -5.37 | 123.11 | 127.40 |
| 35 | BA | 1146 | A | O4'-C1'-N9 | 5.37 | 112.50 | 108.20 |
| 35 | BA | 1384 | C | C5-C4-N4 | 5.37 | 123.96 | 120.20 |
| 1 | AA | 47 | C | C5'-C4'-C3' | -5.37 | 107.41 | 116.00 |
| 1 | AA | 74 | U | C2-N3-C4 | -5.37 | 123.78 | 127.00 |
| 2 | AB | 364 | C | C4'-C3'-O3' | 5.37 | 123.73 | 113.00 |
| 2 | AB | 860 | U | C3'-C2'-C1' | 5.37 | 105.79 | 101.50 |
| 2 | AB | 860 | U | N1-C1'-C2' | -5.37 | 106.10 | 112.00 |
| 2 | AB | 1089 | A | C3'-C2'-C1' | 5.37 | 105.79 | 101.50 |
| 2 | AB | 1282 | U | N3-C4-C5 | 5.37 | 117.82 | 114.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 989 | U | N1-C1'-C2' | -5.37 | 106.10 | 112.00 |
| 2 | AB | 201 | C | N3-C2-O2 | -5.37 | 118.14 | 121.90 |
| 2 | AB | 350 | G | C6-N1-C2 | -5.37 | 121.88 | 125.10 |
| 2 | AB | 467 | G | N3-C4-C5 | -5.37 | 125.92 | 128.60 |
| 2 | AB | 491 | G | C4'-C3'-C2' | -5.37 | 97.23 | 102.60 |
| 2 | AB | 630 | G | C5-C6-O6 | -5.37 | 125.38 | 128.60 |
| 2 | AB | 988 | A | C4-C5-C6 | -5.37 | 114.32 | 117.00 |
| 2 | AB | 1170 | C | C2-N3-C4 | 5.37 | 122.58 | 119.90 |
| 2 | AB | 1882 | U | C5-C6-N1 | -5.37 | 120.02 | 122.70 |
| 2 | AB | 1901 | A | C6-C5-N7 | -5.37 | 128.54 | 132.30 |
| 2 | AB | 2359 | C | N3-C2-O2 | -5.37 | 118.14 | 121.90 |
| 2 | AB | 2642 | G | C5-N7-C8 | -5.37 | 101.62 | 104.30 |
| 25 | AY | 63 | ASP | CB-CG-OD1 | 5.37 | 123.13 | 118.30 |
| 35 | BA | 178 | C | C5-C4-N4 | -5.37 | 116.44 | 120.20 |
| 35 | BA | 313 | A | O4'-C1'-N9 | 5.37 | 112.49 | 108.20 |
| 35 | BA | 351 | G | C8-N9-C4 | 5.37 | 108.55 | 106.40 |
| 48 | BN | 116 | TYR | CZ-CE2-CD2 | 5.37 | 124.63 | 119.80 |
| 2 | AB | 331 | C | O4'-C1'-N1 | 5.36 | 112.49 | 108.20 |
| 2 | AB | 664 | G | N9-C1'-C2' | -5.36 | 106.10 | 112.00 |
| 2 | AB | 833 | A | N3-C4-C5 | -5.36 | 123.05 | 126.80 |
| 2 | AB | 889 | C | C5'-C4'-O4' | 5.36 | 115.54 | 109.10 |
| 2 | AB | 892 | A | C6-C5-N7 | 5.36 | 136.06 | 132.30 |
| 2 | AB | 909 | A | N9-C4-C5 | 5.36 | 107.95 | 105.80 |
| 2 | AB | 1024 | G | O4'-C1'-N9 | 5.36 | 112.49 | 108.20 |
| 2 | AB | 1061 | U | C4'-C3'-C2' | -5.36 | 97.24 | 102.60 |
| 2 | AB | 1252 | G | C3'-C2'-C1' | 5.36 | 105.79 | 101.50 |
| 2 | AB | 1614 | A | C4'-C3'-C2' | -5.36 | 97.24 | 102.60 |
| 2 | AB | 2212 | A | C2-N3-C4 | 5.36 | 113.28 | 110.60 |
| 2 | AB | 2640 | G | C2-N3-C4 | 5.36 | 114.58 | 111.90 |
| 2 | AB | 2673 | G | C2-N3-C4 | 5.36 | 114.58 | 111.90 |
| 2 | AB | 2759 | G | O4'-C1'-N9 | 5.36 | 112.49 | 108.20 |
| 4 | AD | 68 | ARG | NE-CZ-NH2 | -5.36 | 117.62 | 120.30 |
| 17 | AQ | 112 | GLU | OE1-CD-OE2 | 5.36 | 129.74 | 123.30 |
| 35 | BA | 146 | G | C6-N1-C2 | -5.36 | 121.88 | 125.10 |
| 35 | BA | 195 | A | C6-N1-C2 | 5.36 | 121.82 | 118.60 |
| 35 | BA | 519 | C | O4'-C1'-N1 | 5.36 | 112.49 | 108.20 |
| 35 | BA | 715 | A | N3-C4-N9 | -5.36 | 123.11 | 127.40 |
| 35 | BA | 736 | C | N1-C2-O2 | 5.36 | 122.12 | 118.90 |
| 35 | BA | 1013 | G | N3-C4-N9 | -5.36 | 122.78 | 126.00 |
| 35 | BA | 1171 | A | C5-N7-C8 | -5.36 | 101.22 | 103.90 |
| 35 | BA | 1495 | U | C2-N3-C4 | -5.36 | 123.78 | 127.00 |
| 40 | BF | 17 | ASP | CA-CB-CG | 5.36 | 125.20 | 113.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1025 | G | C6-C5-N7 | 5.36 | 133.62 | 130.40 |
| 2 | AB | 1170 | C | N1-C2-O2 | 5.36 | 122.12 | 118.90 |
| 2 | AB | 1396 | U | C2-N3-C4 | -5.36 | 123.78 | 127.00 |
| 2 | AB | 1641 | A | N7-C8-N9 | -5.36 | 111.12 | 113.80 |
| 35 | BA | 17 | U | N1-C2-N3 | 5.36 | 118.12 | 114.90 |
| 35 | BA | 307 | C | N3-C4-N4 | -5.36 | 114.25 | 118.00 |
| 35 | BA | 672 | U | C5'-C4'-O4' | 5.36 | 115.53 | 109.10 |
| 35 | BA | 1493 | A | C2-N3-C4 | 5.36 | 113.28 | 110.60 |
| 2 | AB | 164 | C | C5-C4-N4 | -5.36 | 116.45 | 120.20 |
| 2 | AB | 334 | C | N1-C2-O2 | 5.36 | 122.12 | 118.90 |
| 2 | AB | 1442 | U | C5-C4-O4 | -5.36 | 122.68 | 125.90 |
| 2 | AB | 2146 | C | O4'-C1'-C2' | -5.36 | 100.44 | 105.80 |
| 2 | AB | 2644 | G | N9-C4-C5 | 5.36 | 107.54 | 105.40 |
| 4 | AD | 174 | ARG | CD-NE-CZ | 5.36 | 131.10 | 123.60 |
| 35 | BA | 363 | A | C4'-C3'-C2' | -5.36 | 97.24 | 102.60 |
| 35 | BA | 400 | C | O3'-P-O5' | -5.36 | 93.82 | 104.00 |
| 35 | BA | 541 | G | C8-N9-C4 | -5.36 | 104.26 | 106.40 |
| 35 | BA | 615 | G | C4-N9-C1' | -5.36 | 119.53 | 126.50 |
| 35 | BA | 649 | A | N3-C4-C5 | -5.36 | 123.05 | 126.80 |
| 35 | BA | 918 | A | N3-C4-N9 | 5.36 | 131.69 | 127.40 |
| 35 | BA | 1039 | G | N1-C2-N3 | -5.36 | 120.68 | 123.90 |
| 35 | BA | 1123 | U | C3'-C2'-C1' | 5.36 | 105.79 | 101.50 |
| 38 | BD | 20 | ARG | NE-CZ-NH1 | 5.36 | 122.98 | 120.30 |
| 1 | AA | 19 | C | C2-N3-C4 | 5.36 | 122.58 | 119.90 |
| 1 | AA | 111 | U | C6-N1-C2 | -5.36 | 117.78 | 121.00 |
| 2 | AB | 904 | G | C4-C5-C6 | 5.36 | 122.02 | 118.80 |
| 2 | AB | 1569 | A | C3'-C2'-C1' | 5.36 | 105.79 | 101.50 |
| 2 | AB | 1775 | U | C4-C5-C6 | 5.36 | 122.92 | 119.70 |
| 2 | AB | 2777 | G | C5-N7-C8 | -5.36 | 101.62 | 104.30 |
| 6 | AF | 133 | LEU | CB-CG-CD1 | 5.36 | 120.11 | 111.00 |
| 48 | BN | 11 | ARG | CD-NE-CZ | 5.36 | 131.10 | 123.60 |
| 1 | AA | 101 | A | C2-N3-C4 | 5.36 | 113.28 | 110.60 |
| 2 | AB | 942 | G | C4-N9-C1' | -5.36 | 119.53 | 126.50 |
| 2 | AB | 1437 | C | P-O3'-C3' | 5.36 | 126.13 | 119.70 |
| 2 | AB | 2102 | G | N1-C2-N3 | -5.36 | 120.69 | 123.90 |
| 2 | AB | 2425 | A | N1-C6-N6 | 5.36 | 121.81 | 118.60 |
| 2 | AB | 2518 | A | N9-C4-C5 | 5.36 | 107.94 | 105.80 |
| 2 | AB | 2768 | U | C4-C5-C6 | -5.36 | 116.48 | 119.70 |
| 2 | AB | 2883 | A | P-O3'-C3' | 5.36 | 126.13 | 119.70 |
| 35 | BA | 138 | G | C5'-C4'-C3' | -5.36 | 107.43 | 116.00 |
| 35 | BA | 381 | C | N3-C4-C5 | 5.36 | 124.04 | 121.90 |
| 35 | BA | 464 | U | P-O3'-C3' | 5.36 | 126.13 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 713 | G | N9-C4-C5 | 5.36 | 107.54 | 105.40 |
| 35 | BA | 1092 | A | N3-C4-C5 | -5.36 | 123.05 | 126.80 |
| 35 | BA | 1099 | G | N1-C2-N2 | -5.36 | 111.38 | 116.20 |
| 35 | BA | 1129 | C | N3-C4-N4 | 5.36 | 121.75 | 118.00 |
| 2 | AB | 308 | G | N7-C8-N9 | 5.36 | 115.78 | 113.10 |
| 2 | AB | 323 | C | C5-C4-N4 | 5.36 | 123.95 | 120.20 |
| 2 | AB | 729 | G | C3'-C2'-C1' | 5.36 | 105.78 | 101.50 |
| 2 | AB | 1168 | G | N9-C1'-C2' | -5.36 | 106.11 | 112.00 |
| 2 | AB | 1206 | G | N9-C1'-C2' | -5.36 | 106.11 | 112.00 |
| 2 | AB | 1212 | G | O5'-P-OP2 | -5.36 | 100.88 | 105.70 |
| 2 | AB | 1383 | A | C5-C6-N1 | -5.36 | 115.02 | 117.70 |
| 2 | AB | 1570 | A | N3-C4-C5 | 5.36 | 130.55 | 126.80 |
| 2 | AB | 1657 | U | C4'-C3'-C2' | -5.36 | 97.24 | 102.60 |
| 2 | AB | 1850 | G | C8-N9-C4 | -5.36 | 104.26 | 106.40 |
| 2 | AB | 1899 | A | C8-N9-C4 | -5.36 | 103.66 | 105.80 |
| 2 | AB | 1931 | U | C5-C6-N1 | -5.36 | 120.02 | 122.70 |
| 2 | AB | 2472 | G | N1-C2-N3 | -5.36 | 120.69 | 123.90 |
| 2 | AB | 2904 | U | N3-C4-C5 | -5.36 | 111.39 | 114.60 |
| 35 | BA | 118 | U | C2-N3-C4 | -5.36 | 123.79 | 127.00 |
| 35 | BA | 276 | G | N3-C4-N9 | 5.36 | 129.21 | 126.00 |
| 35 | BA | 454 | G | P-O3'-C3' | 5.36 | 126.13 | 119.70 |
| 35 | BA | 788 | U | C6-N1-C2 | -5.36 | 117.79 | 121.00 |
| 35 | BA | 1061 | G | N1-C2-N2 | -5.36 | 111.38 | 116.20 |
| 35 | BA | 1136 | C | P-O3'-C3' | 5.36 | 126.13 | 119.70 |
| 35 | BA | 1392 | G | C2-N3-C4 | 5.36 | 114.58 | 111.90 |
| 2 | AB | 638 | G | C4'-C3'-C2' | 5.35 | 107.95 | 102.60 |
| 2 | AB | 989 | G | C3'-C2'-C1' | 5.35 | 105.78 | 101.50 |
| 2 | AB | 1398 | C | C2-N3-C4 | 5.35 | 122.58 | 119.90 |
| 2 | AB | 1568 | G | C5'-C4'-O4' | 5.35 | 115.53 | 109.10 |
| 12 | AL | 15 | TRP | NE1-CE2-CZ2 | 5.35 | 136.29 | 130.40 |
| 35 | BA | 466 | A | N1-C6-N6 | 5.35 | 121.81 | 118.60 |
| 35 | BA | 557 | G | N1-C6-O6 | 5.35 | 123.11 | 119.90 |
| 2 | AB | 698 | C | N1-C2-N3 | 5.35 | 122.95 | 119.20 |
| 2 | AB | 999 | U | O3'-P-O5' | 5.35 | 114.17 | 104.00 |
| 2 | AB | 1158 | C | N1-C1'-C2' | -5.35 | 106.11 | 112.00 |
| 2 | AB | 1423 | G | N9-C1'-C2' | -5.35 | 106.11 | 112.00 |
| 2 | AB | 2032 | G | N9-C1'-C2' | 5.35 | 120.96 | 114.00 |
| 2 | AB | 2090 | A | N7-C8-N9 | 5.35 | 116.48 | 113.80 |
| 2 | AB | 2147 | A | N3-C4-C5 | -5.35 | 123.05 | 126.80 |
| 2 | AB | 2616 | C | O4'-C1'-N1 | -5.35 | 103.92 | 108.20 |
| 2 | AB | 2633 | G | N3-C4-N9 | 5.35 | 129.21 | 126.00 |
| 2 | AB | 2669 | G | C6-C5-N7 | -5.35 | 127.19 | 130.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2745 | C | C5'-C4'-O4' | 5.35 | 115.52 | 109.10 |
| 35 | BA | 290 | C | C5'-C4'-C3' | -5.35 | 107.44 | 116.00 |
| 35 | BA | 856 | C | C2-N3-C4 | 5.35 | 122.58 | 119.90 |
| 35 | BA | 1041 | G | C2-N3-C4 | 5.35 | 114.58 | 111.90 |
| 35 | BA | 1152 | A | N3-C4-C5 | 5.35 | 130.55 | 126.80 |
| 35 | BA | 1263 | C | C1'-O4'-C4' | -5.35 | 105.62 | 109.90 |
| 35 | BA | 1467 | C | C2-N3-C4 | -5.35 | 117.22 | 119.90 |
| 1 | AA | 89 | U | C1'-O4'-C4' | 5.35 | 114.18 | 109.90 |
| 2 | AB | 1965 | C | N3-C4-C5 | -5.35 | 119.76 | 121.90 |
| 2 | AB | 2003 | A | P-O3'-C3' | 5.35 | 126.12 | 119.70 |
| 2 | AB | 2207 | C | P-O3'-C3' | 5.35 | 126.12 | 119.70 |
| 35 | BA | 343 | U | O4'-C1'-N1 | 5.35 | 112.48 | 108.20 |
| 35 | BA | 542 | G | C8-N9-C4 | -5.35 | 104.26 | 106.40 |
| 35 | BA | 744 | C | N1-C2-O2 | 5.35 | 122.11 | 118.90 |
| 35 | BA | 1393 | U | N1-C2-N3 | 5.35 | 118.11 | 114.90 |
| 42 | BH | 60 | VAL | CA-CB-CG1 | 5.35 | 118.93 | 110.90 |
| 46 | BL | 96 | VAL | CG1-CB-CG2 | -5.35 | 102.34 | 110.90 |
| 51 | BQ | 6 | ALA | CB-CA-C | 5.35 | 118.13 | 110.10 |
| 2 | AB | 364 | C | C3'-C2'-C1' | 5.35 | 105.78 | 101.50 |
| 2 | AB | 415 | A | N9-C4-C5 | 5.35 | 107.94 | 105.80 |
| 2 | AB | 445 | C | O4'-C1'-N1 | 5.35 | 112.48 | 108.20 |
| 2 | AB | 923 | G | C4'-C3'-C2' | -5.35 | 97.25 | 102.60 |
| 2 | AB | 1026 | G | C2'-C3'-O3' | 5.35 | 122.26 | 113.70 |
| 2 | AB | 1294 | U | P-O3'-C3' | 5.35 | 126.12 | 119.70 |
| 2 | AB | 1338 | G | C6-N1-C2 | -5.35 | 121.89 | 125.10 |
| 2 | AB | 1699 | G | O4'-C1'-C2' | 5.35 | 112.42 | 107.60 |
| 2 | AB | 1842 | G | P-O3'-C3' | 5.35 | 126.12 | 119.70 |
| 2 | AB | 2042 | A | C2'-C3'-O3' | 5.35 | 122.26 | 113.70 |
| 2 | AB | 2137 | U | C1'-O4'-C4' | 5.35 | 114.18 | 109.90 |
| 2 | AB | 2521 | C | N1-C2-O2 | -5.35 | 115.69 | 118.90 |
| 2 | AB | 2738 | A | O4'-C1'-N9 | -5.35 | 103.92 | 108.20 |
| 12 | AL | 124 | VAL | CA-CB-CG2 | 5.35 | 118.93 | 110.90 |
| 35 | BA | 179 | A | C1'-O4'-C4' | 5.35 | 114.18 | 109.90 |
| 35 | BA | 867 | G | C5'-C4'-C3' | -5.35 | 107.44 | 116.00 |
| 35 | BA | 971 | G | N9-C1'-C2' | 5.35 | 120.95 | 114.00 |
| 35 | BA | 1172 | C | C2-N3-C4 | 5.35 | 122.58 | 119.90 |
| 35 | BA | 1252 | A | P-O3'-C3' | 5.35 | 126.12 | 119.70 |
| 36 | BB | 38 | G | C2-N3-C4 | 5.35 | 114.58 | 111.90 |
| 47 | BM | 104 | PHE | CG-CD1-CE1 | -5.35 | 114.92 | 120.80 |
| 1 | AA | 7 | G | N1-C2-N2 | 5.35 | 121.01 | 116.20 |
| 2 | AB | 223 | A | C4'-C3'-C2' | 5.35 | 107.95 | 102.60 |
| 2 | AB | 399 | U | C5-C4-O4 | -5.35 | 122.69 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 868 | U | C4-C5-C6 | 5.35 | 122.91 | 119.70 |
| 2 | AB | 906 | U | C4'-C3'-O3' | 5.35 | 123.69 | 113.00 |
| 2 | AB | 1258 | U | C5-C6-N1 | -5.35 | 120.03 | 122.70 |
| 2 | AB | 1318 | U | C1'-O4'-C4' | 5.35 | 114.18 | 109.90 |
| 2 | AB | 1524 | G | N3-C4-C5 | -5.35 | 125.93 | 128.60 |
| 2 | AB | 1912 | A | N9-C4-C5 | 5.35 | 107.94 | 105.80 |
| 2 | AB | 2064 | C | C5-C4-N4 | -5.35 | 116.46 | 120.20 |
| 2 | AB | 2690 | U | N1-C1'-C2' | 5.35 | 120.95 | 114.00 |
| 2 | AB | 2861 | U | N3-C4-O4 | -5.35 | 115.66 | 119.40 |
| 20 | AT | 94 | THR | CA-CB-CG2 | -5.35 | 104.91 | 112.40 |
| 35 | BA | 147 | G | N1-C2-N3 | 5.35 | 127.11 | 123.90 |
| 35 | BA | 650 | G | N1-C2-N3 | 5.35 | 127.11 | 123.90 |
| 35 | BA | 650 | G | N3-C2-N2 | -5.35 | 116.16 | 119.90 |
| 35 | BA | 1428 | A | C1'-O4'-C4' | -5.35 | 105.62 | 109.90 |
| 36 | BB | 35 | G | C5'-C4'-O4' | 5.35 | 115.52 | 109.10 |
| 37 | BC | 53 | G | N9-C1'-C2' | -5.35 | 106.12 | 112.00 |
| 51 | BQ | 55 | LEU | CB-CG-CD2 | -5.35 | 101.91 | 111.00 |
| 2 | AB | 114 | U | C4'-C3'-C2' | -5.35 | 97.25 | 102.60 |
| 2 | AB | 1073 | A | C5'-C4'-O4' | 5.35 | 115.52 | 109.10 |
| 2 | AB | 1477 | A | C8-N9-C4 | -5.35 | 103.66 | 105.80 |
| 2 | AB | 2035 | G | C2-N3-C4 | 5.35 | 114.57 | 111.90 |
| 2 | AB | 2556 | C | N3-C4-C5 | -5.35 | 119.76 | 121.90 |
| 2 | AB | 2685 | G | N7-C8-N9 | -5.35 | 110.43 | 113.10 |
| 21 | AU | 38 | TYR | CG-CD2-CE2 | -5.35 | 117.02 | 121.30 |
| 35 | BA | 347 | G | N3-C2-N2 | -5.35 | 116.16 | 119.90 |
| 35 | BA | 359 | G | C5'-C4'-O4' | 5.35 | 115.52 | 109.10 |
| 35 | BA | 1528 | U | C2-N3-C4 | -5.35 | 123.79 | 127.00 |
| 2 | AB | 43 | G | N7-C8-N9 | 5.34 | 115.77 | 113.10 |
| 2 | AB | 74 | A | O4'-C1'-N9 | 5.34 | 112.47 | 108.20 |
| 2 | AB | 108 | G | C1'-O4'-C4' | 5.34 | 114.17 | 109.90 |
| 2 | AB | 998 | C | C4-C5-C6 | 5.34 | 120.07 | 117.40 |
| 2 | AB | 1057 | A | P-O3'-C3' | 5.34 | 126.11 | 119.70 |
| 2 | AB | 1058 | U | C5'-C4'-C3' | -5.34 | 107.45 | 116.00 |
| 2 | AB | 1065 | U | N3-C2-O2 | -5.34 | 118.46 | 122.20 |
| 2 | AB | 1388 | G | N3-C4-N9 | 5.34 | 129.21 | 126.00 |
| 2 | AB | 1576 | U | P-O3'-C3' | 5.34 | 126.11 | 119.70 |
| 2 | AB | 1577 | C | C4-C5-C6 | -5.34 | 114.73 | 117.40 |
| 2 | AB | 1822 | C | N1-C2-O2 | -5.34 | 115.69 | 118.90 |
| 2 | AB | 2111 | U | O4'-C1'-N1 | 5.34 | 112.48 | 108.20 |
| 2 | AB | 2223 | G | C3'-C2'-C1' | -5.34 | 97.22 | 101.50 |
| 2 | AB | 2357 | G | N1-C2-N2 | 5.34 | 121.01 | 116.20 |
| 2 | AB | 2840 | C | O4'-C1'-N1 | 5.34 | 112.48 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2884 | U | C5'-C4'-C3' | -5.34 | 107.45 | 116.00 |
| 35 | BA | 115 | G | N3-C4-N9 | 5.34 | 129.21 | 126.00 |
| 35 | BA | 322 | C | OP2-P-O3' | 5.34 | 116.96 | 105.20 |
| 35 | BA | 543 | U | N3-C2-O2 | 5.34 | 125.94 | 122.20 |
| 35 | BA | 674 | G | C6-N1-C2 | -5.34 | 121.89 | 125.10 |
| 35 | BA | 720 | C | C6-N1-C2 | -5.34 | 118.16 | 120.30 |
| 35 | BA | 823 | C | C1'-O4'-C4' | 5.34 | 114.18 | 109.90 |
| 35 | BA | 1089 | G | N1-C6-O6 | -5.34 | 116.69 | 119.90 |
| 35 | BA | 1182 | G | O4'-C1'-C2' | -5.34 | 100.46 | 105.80 |
| 35 | BA | 1353 | G | O4'-C4'-C3' | -5.34 | 98.66 | 104.00 |
| 37 | BC | 51 | U | C1'-O4'-C4' | -5.34 | 105.62 | 109.90 |
| 53 | BS | 57 | VAL | CG1-CB-CG2 | -5.34 | 102.35 | 110.90 |
| 2 | AB | 377 | G | N9-C1'-C2' | -5.34 | 106.12 | 112.00 |
| 2 | AB | 926 | G | C4-C5-C6 | 5.34 | 122.01 | 118.80 |
| 2 | AB | 1210 | G | C2'-C3'-O3' | 5.34 | 122.25 | 113.70 |
| 2 | AB | 1249 | U | C3'-C2'-C1' | 5.34 | 105.78 | 101.50 |
| 2 | AB | 1752 | C | N3-C4-N4 | 5.34 | 121.74 | 118.00 |
| 2 | AB | 2147 | A | C4'-C3'-C2' | -5.34 | 97.26 | 102.60 |
| 2 | AB | 2253 | G | C5-N7-C8 | -5.34 | 101.63 | 104.30 |
| 35 | BA | 167 | A | O4'-C1'-N9 | 5.34 | 112.47 | 108.20 |
| 35 | BA | 432 | A | C4-C5-C6 | 5.34 | 119.67 | 117.00 |
| 35 | BA | 523 | A | N9-C4-C5 | 5.34 | 107.94 | 105.80 |
| 35 | BA | 1424 | U | N1-C2-N3 | 5.34 | 118.11 | 114.90 |
| 44 | BJ | 33 | VAL | CA-CB-CG1 | 5.34 | 118.92 | 110.90 |
| 2 | AB | 154 | U | C4-C5-C6 | 5.34 | 122.91 | 119.70 |
| 2 | AB | 818 | G | N3-C4-C5 | -5.34 | 125.93 | 128.60 |
| 2 | AB | 917 | A | C5'-C4'-O4' | 5.34 | 115.51 | 109.10 |
| 2 | AB | 1050 | A | C5'-C4'-O4' | 5.34 | 115.51 | 109.10 |
| 2 | AB | 1360 | G | C5-C6-N1 | 5.34 | 114.17 | 111.50 |
| 2 | AB | 1440 | U | C3'-C2'-C1' | -5.34 | 97.23 | 101.50 |
| 2 | AB | 1502 | A | N9-C4-C5 | -5.34 | 103.66 | 105.80 |
| 2 | AB | 1980 | G | N9-C4-C5 | 5.34 | 107.54 | 105.40 |
| 2 | AB | 2674 | G | C5'-C4'-O4' | 5.34 | 115.51 | 109.10 |
| 35 | BA | 30 | U | C4-C5-C6 | 5.34 | 122.91 | 119.70 |
| 35 | BA | 123 | U | C5-C6-N1 | -5.34 | 120.03 | 122.70 |
| 35 | BA | 330 | C | N1-C2-N3 | -5.34 | 115.46 | 119.20 |
| 35 | BA | 1134 | G | C4'-C3'-C2' | -5.34 | 97.26 | 102.60 |
| 35 | BA | 1139 | G | P-O3'-C3' | 5.34 | 126.11 | 119.70 |
| 39 | BE | 21 | TRP | CA-CB-CG | 5.34 | 123.85 | 113.70 |
| 2 | AB | 31 | C | C5-C6-N1 | 5.34 | 123.67 | 121.00 |
| 2 | AB | 391 | A | C6-N1-C2 | -5.34 | 115.40 | 118.60 |
| 2 | AB | 406 | G | N3-C4-N9 | -5.34 | 122.80 | 126.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 983 | A | N1-C2-N3 | -5.34 | 126.63 | 129.30 |
| 2 | AB | 1080 | A | C8-N9-C4 | -5.34 | 103.66 | 105.80 |
| 2 | AB | 1296 | G | C5-N7-C8 | -5.34 | 101.63 | 104.30 |
| 2 | AB | 1386 | C | C5'-C4'-O4' | 5.34 | 115.51 | 109.10 |
| 2 | AB | 1422 | G | N1-C2-N2 | 5.34 | 121.01 | 116.20 |
| 2 | AB | 1829 | A | N1-C6-N6 | -5.34 | 115.40 | 118.60 |
| 2 | AB | 1935 | G | C5-N7-C8 | -5.34 | 101.63 | 104.30 |
| 2 | AB | 1945 | G | C8-N9-C4 | -5.34 | 104.26 | 106.40 |
| 2 | AB | 2086 | U | C5-C6-N1 | -5.34 | 120.03 | 122.70 |
| 2 | AB | 2228 | G | N3-C4-C5 | -5.34 | 125.93 | 128.60 |
| 35 | BA | 3 | A | C5'-C4'-O4' | 5.34 | 115.51 | 109.10 |
| 35 | BA | 138 | G | N1-C2-N3 | -5.34 | 120.70 | 123.90 |
| 35 | BA | 702 | A | N9-C4-C5 | 5.34 | 107.94 | 105.80 |
| 35 | BA | 950 | U | C4-C5-C6 | -5.34 | 116.50 | 119.70 |
| 35 | BA | 1185 | G | N7-C8-N9 | 5.34 | 115.77 | 113.10 |
| 35 | BA | 1330 | U | O4'-C1'-N1 | 5.34 | 112.47 | 108.20 |
| 42 | BH | 42 | TRP | NE1-CE2-CZ2 | 5.34 | 136.27 | 130.40 |
| 1 | AA | 96 | G | C5'-C4'-O4' | 5.34 | 115.50 | 109.10 |
| 2 | AB | 338 | G | N9-C4-C5 | -5.34 | 103.27 | 105.40 |
| 2 | AB | 721 | A | C5-N7-C8 | -5.34 | 101.23 | 103.90 |
| 35 | BA | 454 | G | N9-C4-C5 | 5.34 | 107.53 | 105.40 |
| 35 | BA | 549 | C | N3-C4-N4 | 5.34 | 121.74 | 118.00 |
| 35 | BA | 635 | A | N3-C4-C5 | -5.34 | 123.06 | 126.80 |
| 35 | BA | 1422 | G | C6-C5-N7 | -5.34 | 127.20 | 130.40 |
| 1 | AA | 73 | A | C5-C6-N1 | -5.34 | 115.03 | 117.70 |
| 1 | AA | 110 | C | O4'-C4'-C3' | -5.34 | 98.66 | 104.00 |
| 2 | AB | 258 | G | C5-C6-O6 | 5.34 | 131.80 | 128.60 |
| 2 | AB | 476 | G | N1-C2-N3 | -5.34 | 120.70 | 123.90 |
| 2 | AB | 705 | A | N7-C8-N9 | 5.34 | 116.47 | 113.80 |
| 2 | AB | 781 | A | C8-N9-C4 | 5.34 | 107.93 | 105.80 |
| 2 | AB | 1007 | C | C2-N3-C4 | 5.34 | 122.57 | 119.90 |
| 2 | AB | 1070 | A | O4'-C4'-C3' | 5.34 | 110.37 | 106.10 |
| 2 | AB | 1141 | U | N3-C4-O4 | 5.34 | 123.14 | 119.40 |
| 2 | AB | 1194 | A | C2-N3-C4 | 5.34 | 113.27 | 110.60 |
| 2 | AB | 1231 | U | C5-C6-N1 | -5.34 | 120.03 | 122.70 |
| 2 | AB | 1232 | G | C5'-C4'-O4' | 5.34 | 115.50 | 109.10 |
| 2 | AB | 1399 | C | N3-C2-O2 | -5.34 | 118.17 | 121.90 |
| 2 | AB | 1669 | A | N7-C8-N9 | -5.34 | 111.13 | 113.80 |
| 2 | AB | 1694 | C | N3-C4-N4 | 5.34 | 121.74 | 118.00 |
| 2 | AB | 1856 | U | N1-C1'-C2' | -5.34 | 106.13 | 112.00 |
| 2 | AB | 2468 | A | O4'-C1'-N9 | 5.34 | 112.47 | 108.20 |
| 2 | AB | 2571 | U | C5-C4-O4 | 5.34 | 129.10 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2683 | C | C5'-C4'-O4' | 5.34 | 115.50 | 109.10 |
| 2 | AB | 2714 | G | C2-N3-C4 | 5.34 | 114.57 | 111.90 |
| 2 | AB | 2743 | U | N1-C2-O2 | -5.34 | 119.06 | 122.80 |
| 20 | AT | 54 | VAL | CA-CB-CG2 | 5.34 | 118.91 | 110.90 |
| 35 | BA | 229 | U | N3-C2-O2 | -5.34 | 118.46 | 122.20 |
| 35 | BA | 307 | C | C5-C6-N1 | 5.34 | 123.67 | 121.00 |
| 35 | BA | 554 | A | C2-N3-C4 | -5.34 | 107.93 | 110.60 |
| 35 | BA | 793 | U | C4-C5-C6 | 5.34 | 122.90 | 119.70 |
| 35 | BA | 843 | U | O3'-P-O5' | -5.34 | 93.86 | 104.00 |
| 35 | BA | 981 | U | C5-C6-N1 | -5.34 | 120.03 | 122.70 |
| 35 | BA | 1528 | U | C5-C6-N1 | -5.34 | 120.03 | 122.70 |
| 36 | BB | 45 | G | O4'-C4'-C3' | 5.34 | 110.37 | 106.10 |
| 37 | BC | 61 | U | O3'-P-O5' | -5.34 | 93.86 | 104.00 |
| 57 | BW | 36 | PHE | CB-CG-CD2 | 5.34 | 124.54 | 120.80 |
| 2 | AB | 543 | G | N3-C4-C5 | -5.33 | 125.93 | 128.60 |
| 2 | AB | 547 | A | C5-C6-N6 | 5.33 | 127.97 | 123.70 |
| 2 | AB | 1448 | G | C5-C6-O6 | 5.33 | 131.80 | 128.60 |
| 2 | AB | 1603 | A | N1-C6-N6 | -5.33 | 115.40 | 118.60 |
| 2 | AB | 2032 | G | N3-C4-C5 | -5.33 | 125.93 | 128.60 |
| 2 | AB | 2157 | G | C1'-O4'-C4' | -5.33 | 105.63 | 109.90 |
| 2 | AB | 2655 | G | N3-C4-N9 | 5.33 | 129.20 | 126.00 |
| 2 | AB | 2771 | C | C4'-C3'-C2' | -5.33 | 97.27 | 102.60 |
| 19 | AS | 46 | TYR | CG-CD2-CE2 | -5.33 | 117.03 | 121.30 |
| 35 | BA | 160 | A | C6-C5-N7 | 5.33 | 136.03 | 132.30 |
| 35 | BA | 1138 | G | C5'-C4'-C3' | -5.33 | 107.46 | 116.00 |
| 35 | BA | 1171 | A | N3-C4-C5 | 5.33 | 130.53 | 126.80 |
| 35 | BA | 1323 | G | C4'-C3'-C2' | -5.33 | 97.27 | 102.60 |
| 53 | BS | 27 | PHE | CD1-CG-CD2 | -5.33 | 111.36 | 118.30 |
| 1 | AA | 30 | C | C1'-O4'-C4' | -5.33 | 105.63 | 109.90 |
| 1 | AA | 71 | C | C6-N1-C2 | -5.33 | 118.17 | 120.30 |
| 2 | AB | 122 | G | N7-C8-N9 | 5.33 | 115.77 | 113.10 |
| 2 | AB | 544 | C | N3-C2-O2 | -5.33 | 118.17 | 121.90 |
| 2 | AB | 940 | G | N1-C2-N3 | -5.33 | 120.70 | 123.90 |
| 2 | AB | 942 | G | C5'-C4'-O4' | 5.33 | 115.50 | 109.10 |
| 2 | AB | 1080 | A | N9-C4-C5 | 5.33 | 107.93 | 105.80 |
| 2 | AB | 1209 | U | N1-C2-N3 | 5.33 | 118.10 | 114.90 |
| 2 | AB | 1685 | C | C5-C6-N1 | 5.33 | 123.67 | 121.00 |
| 2 | AB | 2130 | U | C5-C6-N1 | 5.33 | 125.37 | 122.70 |
| 2 | AB | 2833 | U | N3-C4-O4 | 5.33 | 123.13 | 119.40 |
| 5 | AE | 77 | ARG | N-CA-CB | -5.33 | 101.00 | 110.60 |
| 35 | BA | 455 | G | C3'-C2'-C1' | -5.33 | 97.23 | 101.50 |
| 35 | BA | 513 | C | C1'-O4'-C4' | 5.33 | 114.17 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 663 | A | C5-C6-N6 | -5.33 | 119.43 | 123.70 |
| 35 | BA | 842 | U | N3-C4-O4 | 5.33 | 123.13 | 119.40 |
| 35 | BA | 1014 | A | C5'-C4'-O4' | -5.33 | 102.70 | 109.10 |
| 35 | BA | 1036 | A | C4-C5-C6 | -5.33 | 114.33 | 117.00 |
| 35 | BA | 1273 | C | C2-N3-C4 | 5.33 | 122.57 | 119.90 |
| 35 | BA | 1363 | A | C3'-C2'-C1' | -5.33 | 97.23 | 101.50 |
| 37 | BC | 51 | U | C4'-C3'-C2' | -5.33 | 97.27 | 102.60 |
| 49 | BO | 78 | ARG | NE-CZ-NH1 | 5.33 | 122.97 | 120.30 |
| 2 | AB | 11 | C | N3-C2-O2 | -5.33 | 118.17 | 121.90 |
| 2 | AB | 210 | C | C5-C6-N1 | -5.33 | 118.33 | 121.00 |
| 2 | AB | 1013 | C | N3-C4-C5 | -5.33 | 119.77 | 121.90 |
| 2 | AB | 1130 | U | C6-N1-C2 | -5.33 | 117.80 | 121.00 |
| 2 | AB | 1143 | A | O4'-C1'-C2' | -5.33 | 100.47 | 105.80 |
| 2 | AB | 1772 | A | N3-C4-C5 | -5.33 | 123.07 | 126.80 |
| 2 | AB | 1974 | C | C4-C5-C6 | 5.33 | 120.06 | 117.40 |
| 2 | AB | 2218 | G | N9-C4-C5 | -5.33 | 103.27 | 105.40 |
| 2 | AB | 2231 | U | C5'-C4'-O4' | 5.33 | 115.50 | 109.10 |
| 2 | AB | 2463 | C | N1-C2-N3 | -5.33 | 115.47 | 119.20 |
| 2 | AB | 2788 | C | N3-C4-C5 | 5.33 | 124.03 | 121.90 |
| 6 | AF | 12 | LEU | CB-CG-CD1 | 5.33 | 120.06 | 111.00 |
| 24 | AX | 2 | PHE | CB-CG-CD2 | -5.33 | 117.07 | 120.80 |
| 35 | BA | 177 | G | N3-C4-C5 | -5.33 | 125.93 | 128.60 |
| 35 | BA | 364 | A | C4-C5-N7 | 5.33 | 113.37 | 110.70 |
| 35 | BA | 835 | U | N1-C1'-C2' | -5.33 | 106.14 | 112.00 |
| 35 | BA | 1178 | G | C4-C5-N7 | -5.33 | 108.67 | 110.80 |
| 35 | BA | 1270 | G | C5-C6-O6 | -5.33 | 125.40 | 128.60 |
| 35 | BA | 1336 | C | C6-N1-C2 | 5.33 | 122.43 | 120.30 |
| 2 | AB | 41 | C | N3-C2-O2 | 5.33 | 125.63 | 121.90 |
| 2 | AB | 87 | U | N1-C1'-C2' | -5.33 | 106.14 | 112.00 |
| 2 | AB | 278 | A | C3'-C2'-C1' | -5.33 | 97.24 | 101.50 |
| 2 | AB | 343 | C | P-O3'-C3' | 5.33 | 126.10 | 119.70 |
| 2 | AB | 654 | A | O4'-C4'-C3' | 5.33 | 110.36 | 106.10 |
| 2 | AB | 748 | G | C4'-C3'-C2' | -5.33 | 97.27 | 102.60 |
| 2 | AB | 887 | U | C5'-C4'-C3' | -5.33 | 107.47 | 116.00 |
| 2 | AB | 996 | A | C5-C6-N1 | -5.33 | 115.03 | 117.70 |
| 2 | AB | 1687 | G | N3-C2-N2 | 5.33 | 123.63 | 119.90 |
| 2 | AB | 1854 | A | O5'-P-OP2 | -5.33 | 100.90 | 105.70 |
| 2 | AB | 2736 | A | N1-C6-N6 | 5.33 | 121.80 | 118.60 |
| 35 | BA | 740 | U | C4'-C3'-C2' | -5.33 | 97.27 | 102.60 |
| 35 | BA | 876 | C | C2-N1-C1' | -5.33 | 112.94 | 118.80 |
| 35 | BA | 1190 | G | O4'-C1'-C2' | 5.33 | 112.40 | 107.60 |
| 35 | BA | 1502 | A | OP2-P-O3' | 5.33 | 116.93 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 43 | BI | 113 | LYS | O-C-N | -5.33 | 114.17 | 122.70 |
| 2 | AB | 114 | U | C5-C4-O4 | -5.33 | 122.70 | 125.90 |
| 2 | AB | 142 | A | C5-C6-N6 | -5.33 | 119.44 | 123.70 |
| 2 | AB | 522 | A | C4-C5-C6 | 5.33 | 119.66 | 117.00 |
| 2 | AB | 615 | U | N1-C2-N3 | 5.33 | 118.10 | 114.90 |
| 2 | AB | 755 | U | C2-N3-C4 | -5.33 | 123.80 | 127.00 |
| 2 | AB | 1047 | G | C4'-C3'-C2' | -5.33 | 97.27 | 102.60 |
| 2 | AB | 1133 | A | O4'-C4'-C3' | 5.33 | 110.36 | 106.10 |
| 2 | AB | 1150 | C | N3-C2-O2 | -5.33 | 118.17 | 121.90 |
| 2 | AB | 1289 | C | C3'-C2'-C1' | 5.33 | 105.76 | 101.50 |
| 2 | AB | 1367 | A | C5-C6-N1 | 5.33 | 120.36 | 117.70 |
| 2 | AB | 1410 | G | C5'-C4'-O4' | 5.33 | 115.50 | 109.10 |
| 2 | AB | 1670 | C | N3-C4-C5 | -5.33 | 119.77 | 121.90 |
| 2 | AB | 1767 | G | N9-C1'-C2' | -5.33 | 106.14 | 112.00 |
| 2 | AB | 2010 | G | N9-C4-C5 | -5.33 | 103.27 | 105.40 |
| 2 | AB | 2133 | G | N3-C4-N9 | 5.33 | 129.20 | 126.00 |
| 2 | AB | 2183 | A | N1-C6-N6 | -5.33 | 115.40 | 118.60 |
| 2 | AB | 2190 | G | N9-C1'-C2' | -5.33 | 106.14 | 112.00 |
| 2 | AB | 2616 | C | O4'-C4'-C3' | -5.33 | 98.67 | 104.00 |
| 24 | AX | 72 | VAL | CA-CB-CG2 | 5.33 | 118.89 | 110.90 |
| 2 | AB | 462 | C | N3-C2-O2 | -5.33 | 118.17 | 121.90 |
| 2 | AB | 677 | A | N7-C8-N9 | 5.33 | 116.46 | 113.80 |
| 2 | AB | 913 | U | C1'-O4'-C4' | -5.33 | 105.64 | 109.90 |
| 2 | AB | 1355 | G | C2-N3-C4 | 5.33 | 114.56 | 111.90 |
| 2 | AB | 2564 | A | C5'-C4'-O4' | 5.33 | 115.49 | 109.10 |
| 2 | AB | 2706 | A | C3'-C2'-C1' | 5.33 | 105.76 | 101.50 |
| 35 | BA | 455 | G | C5-C6-N1 | 5.33 | 114.16 | 111.50 |
| 35 | BA | 913 | A | N1-C6-N6 | 5.33 | 121.80 | 118.60 |
| 35 | BA | 1458 | G | C5'-C4'-C3' | -5.33 | 107.48 | 116.00 |
| 37 | BC | 2 | G | C3'-C2'-C1' | 5.33 | 105.76 | 101.50 |
| 2 | AB | 154 | U | C1'-O4'-C4' | -5.33 | 105.64 | 109.90 |
| 2 | AB | 782 | A | C4-C5-C6 | 5.33 | 119.66 | 117.00 |
| 2 | AB | 894 | U | O4'-C1'-N1 | 5.33 | 112.46 | 108.20 |
| 2 | AB | 1003 | G | C3'-C2'-C1' | -5.33 | 97.24 | 101.50 |
| 2 | AB | 1320 | C | O3'-P-O5' | -5.33 | 93.88 | 104.00 |
| 2 | AB | 1509 | A | N9-C4-C5 | 5.33 | 107.93 | 105.80 |
| 2 | AB | 1537 | G | C4'-C3'-C2' | -5.33 | 97.27 | 102.60 |
| 2 | AB | 1970 | A | N3-C4-C5 | -5.33 | 123.07 | 126.80 |
| 2 | AB | 2531 | A | C5-C6-N1 | -5.33 | 115.04 | 117.70 |
| 2 | AB | 2711 | A | C4-C5-C6 | -5.33 | 114.34 | 117.00 |
| 9 | AI | 98 | ASP | CB-CG-OD1 | -5.33 | 113.51 | 118.30 |
| 35 | BA | 21 | G | C3'-C2'-C1' | -5.33 | 97.24 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 150 | U | C2-N3-C4 | -5.33 | 123.80 | 127.00 |
| 35 | BA | 367 | U | C5'-C4'-C3' | -5.33 | 107.48 | 116.00 |
| 35 | BA | 409 | U | O4'-C1'-N1 | 5.33 | 112.46 | 108.20 |
| 35 | BA | 483 | C | O4'-C1'-N1 | 5.33 | 112.46 | 108.20 |
| 35 | BA | 500 | G | N1-C2-N3 | 5.33 | 127.09 | 123.90 |
| 35 | BA | 680 | C | C5'-C4'-O4' | 5.33 | 115.49 | 109.10 |
| 35 | BA | 681 | A | C2-N3-C4 | 5.33 | 113.26 | 110.60 |
| 35 | BA | 715 | A | P-O3'-C3' | 5.33 | 126.09 | 119.70 |
| 35 | BA | 880 | C | C5-C4-N4 | -5.33 | 116.47 | 120.20 |
| 35 | BA | 1056 | U | C4-C5-C6 | 5.33 | 122.90 | 119.70 |
| 35 | BA | 1087 | G | C1'-O4'-C4' | -5.33 | 105.64 | 109.90 |
| 35 | BA | 1094 | G | C5-C6-N1 | 5.33 | 114.16 | 111.50 |
| 35 | BA | 1183 | U | C2'-C3'-O3' | 5.33 | 122.22 | 113.70 |
| 35 | BA | 1382 | C | C5'-C4'-O4' | 5.33 | 115.49 | 109.10 |
| 1 | AA | 25 | U | O5'-P-OP2 | -5.32 | 100.91 | 105.70 |
| 2 | AB | 1050 | A | C3'-C2'-C1' | -5.32 | 97.24 | 101.50 |
| 2 | AB | 1845 | G | C8-N9-C4 | -5.32 | 104.27 | 106.40 |
| 2 | AB | 1893 | C | C2-N3-C4 | 5.32 | 122.56 | 119.90 |
| 2 | AB | 2098 | U | C2-N1-C1' | 5.32 | 124.09 | 117.70 |
| 14 | AN | 55 | MET | CG-SD-CE | 5.32 | 108.72 | 100.20 |
| 35 | BA | 628 | G | C6-N1-C2 | -5.32 | 121.91 | 125.10 |
| 35 | BA | 701 | U | N3-C4-C5 | -5.32 | 111.41 | 114.60 |
| 35 | BA | 1028 | C | P-O3'-C3' | 5.32 | 126.09 | 119.70 |
| 35 | BA | 1100 | C | C5-C6-N1 | 5.32 | 123.66 | 121.00 |
| 35 | BA | 1192 | C | N1-C2-N3 | -5.32 | 115.47 | 119.20 |
| 35 | BA | 1219 | A | N9-C4-C5 | -5.32 | 103.67 | 105.80 |
| 35 | BA | 1337 | G | C8-N9-C1' | 5.32 | 133.92 | 127.00 |
| 35 | BA | 1416 | G | C4-C5-C6 | 5.32 | 121.99 | 118.80 |
| 35 | BA | 1435 | G | O5'-C5'-C4' | -5.32 | 101.59 | 111.70 |
| 2 | AB | 2607 | G | N3-C4-N9 | 5.32 | 129.19 | 126.00 |
| 2 | AB | 2675 | A | C2'-C3'-O3' | 5.32 | 122.22 | 113.70 |
| 35 | BA | 847 | G | C4-C5-N7 | 5.32 | 112.93 | 110.80 |
| 35 | BA | 1387 | G | C8-N9-C4 | -5.32 | 104.27 | 106.40 |
| 35 | BA | 1496 | C | C4'-C3'-C2' | 5.32 | 107.92 | 102.60 |
| 1 | AA | 23 | G | O4'-C4'-C3' | 5.32 | 110.36 | 106.10 |
| 1 | AA | 114 | C | C6-N1-C2 | 5.32 | 122.43 | 120.30 |
| 2 | AB | 240 | C | C5-C6-N1 | -5.32 | 118.34 | 121.00 |
| 2 | AB | 701 | G | N1-C2-N2 | 5.32 | 120.99 | 116.20 |
| 2 | AB | 730 | A | C6-N1-C2 | 5.32 | 121.79 | 118.60 |
| 2 | AB | 1049 | C | N3-C4-N4 | 5.32 | 121.72 | 118.00 |
| 2 | AB | 1622 | G | N3-C2-N2 | 5.32 | 123.62 | 119.90 |
| 2 | AB | 1653 | G | C3'-C2'-C1' | -5.32 | 97.24 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2035 | G | C4-C5-N7 | -5.32 | 108.67 | 110.80 |
| 2 | AB | 2395 | C | N3-C4-C5 | 5.32 | 124.03 | 121.90 |
| 2 | AB | 2435 | A | N1-C2-N3 | -5.32 | 126.64 | 129.30 |
| 2 | AB | 2470 | G | O4'-C1'-C2' | -5.32 | 100.48 | 105.80 |
| 2 | AB | 2722 | G | C8-N9-C4 | -5.32 | 104.27 | 106.40 |
| 2 | AB | 2743 | U | C4-C5-C6 | 5.32 | 122.89 | 119.70 |
| 2 | AB | 2788 | C | C4-C5-C6 | -5.32 | 114.74 | 117.40 |
| 19 | AS | 17 | LEU | CB-CG-CD2 | 5.32 | 120.04 | 111.00 |
| 35 | BA | 41 | G | C6-C5-N7 | -5.32 | 127.21 | 130.40 |
| 35 | BA | 451 | A | C5'-C4'-O4' | 5.32 | 115.48 | 109.10 |
| 35 | BA | 507 | C | O4'-C4'-C3' | 5.32 | 110.36 | 106.10 |
| 35 | BA | 561 | U | N3-C4-C5 | 5.32 | 117.79 | 114.60 |
| 35 | BA | 693 | G | O4'-C1'-N9 | 5.32 | 112.46 | 108.20 |
| 35 | BA | 710 | G | C4'-C3'-C2' | -5.32 | 97.28 | 102.60 |
| 35 | BA | 729 | A | N7-C8-N9 | 5.32 | 116.46 | 113.80 |
| 35 | BA | 871 | U | C4-C5-C6 | 5.32 | 122.89 | 119.70 |
| 35 | BA | 923 | A | C1'-O4'-C4' | -5.32 | 105.64 | 109.90 |
| 35 | BA | 1013 | G | C6-N1-C2 | 5.32 | 128.29 | 125.10 |
| 35 | BA | 1245 | C | O4'-C1'-N1 | 5.32 | 112.46 | 108.20 |
| 35 | BA | 1501 | C | C5-C6-N1 | 5.32 | 123.66 | 121.00 |
| 35 | BA | 1513 | A | C5'-C4'-O4' | 5.32 | 115.48 | 109.10 |
| 2 | AB | 435 | C | C4'-C3'-C2' | -5.32 | 97.28 | 102.60 |
| 2 | AB | 443 | A | N1-C6-N6 | 5.32 | 121.79 | 118.60 |
| 2 | AB | 991 | C | N1-C1'-C2' | -5.32 | 106.15 | 112.00 |
| 2 | AB | 1005 | C | P-O3'-C3' | 5.32 | 126.08 | 119.70 |
| 2 | AB | 1574 | C | C4-C5-C6 | 5.32 | 120.06 | 117.40 |
| 2 | AB | 1662 | U | C4'-C3'-C2' | -5.32 | 97.28 | 102.60 |
| 2 | AB | 1941 | C | C6-N1-C2 | 5.32 | 122.43 | 120.30 |
| 35 | BA | 85 | U | N1-C1'-C2' | -5.32 | 106.15 | 112.00 |
| 35 | BA | 279 | A | C5-N7-C8 | 5.32 | 106.56 | 103.90 |
| 35 | BA | 820 | U | C2-N3-C4 | -5.32 | 123.81 | 127.00 |
| 35 | BA | 1015 | G | N9-C1'-C2' | -5.32 | 106.15 | 112.00 |
| 2 | AB | 150 | U | C1'-O4'-C4' | -5.32 | 105.65 | 109.90 |
| 2 | AB | 1076 | C | O4'-C1'-N1 | 5.32 | 112.45 | 108.20 |
| 2 | AB | 1258 | U | O4'-C1'-N1 | 5.32 | 112.45 | 108.20 |
| 2 | AB | 1497 | U | C4'-C3'-C2' | -5.32 | 97.28 | 102.60 |
| 2 | AB | 1557 | C | N3-C4-C5 | -5.32 | 119.77 | 121.90 |
| 2 | AB | 2149 | U | O4'-C1'-N1 | 5.32 | 112.45 | 108.20 |
| 2 | AB | 2279 | G | C4-C5-N7 | 5.32 | 112.93 | 110.80 |
| 2 | AB | 2299 | U | C4'-C3'-C2' | -5.32 | 97.28 | 102.60 |
| 2 | AB | 2523 | G | C5-N7-C8 | -5.32 | 101.64 | 104.30 |
| 2 | AB | 2665 | A | C5'-C4'-O4' | 5.32 | 115.48 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 12 | AL | 15 | TRP | CD1-NE1-CE2 | 5.32 | 113.79 | 109.00 |
| 35 | BA | 344 | A | O4'-C1'-N9 | 5.32 | 112.45 | 108.20 |
| 35 | BA | 1099 | G | C5-C6-O6 | -5.32 | 125.41 | 128.60 |
| 35 | BA | 1142 | G | N3-C2-N2 | 5.32 | 123.62 | 119.90 |
| 35 | BA | 1188 | A | C2-N3-C4 | 5.32 | 113.26 | 110.60 |
| 35 | BA | 1275 | A | C6-C5-N7 | -5.32 | 128.58 | 132.30 |
| 35 | BA | 1330 | U | C2-N3-C4 | 5.32 | 130.19 | 127.00 |
| 35 | BA | 1435 | G | N9-C1'-C2' | -5.32 | 106.15 | 112.00 |
| 37 | BC | 72 | C | N3-C4-C5 | 5.32 | 124.03 | 121.90 |
| 50 | BP | 41 | TRP | NE1-CE2-CD2 | -5.32 | 101.98 | 107.30 |
| 1 | AA | 28 | C | C5-C6-N1 | -5.32 | 118.34 | 121.00 |
| 1 | AA | 72 | G | C8-N9-C4 | -5.32 | 104.27 | 106.40 |
| 1 | AA | 105 | G | C8-N9-C4 | 5.32 | 108.53 | 106.40 |
| 2 | AB | 552 | U | N1-C2-O2 | 5.32 | 126.52 | 122.80 |
| 2 | AB | 1461 | C | O5'-C5'-C4' | 5.32 | 121.80 | 111.70 |
| 2 | AB | 1863 | G | C4-C5-C6 | 5.32 | 121.99 | 118.80 |
| 2 | AB | 2360 | G | N3-C4-N9 | 5.32 | 129.19 | 126.00 |
| 2 | AB | 2714 | G | C5-N7-C8 | -5.32 | 101.64 | 104.30 |
| 35 | BA | 354 | G | O4'-C1'-C2' | -5.32 | 100.48 | 105.80 |
| 35 | BA | 694 | A | C4-C5-N7 | 5.32 | 113.36 | 110.70 |
| 35 | BA | 1426 | G | C6-N1-C2 | -5.32 | 121.91 | 125.10 |
| 2 | AB | 901 | C | C4'-C3'-C2' | -5.31 | 97.29 | 102.60 |
| 2 | AB | 1308 | A | C5'-C4'-O4' | 5.31 | 115.48 | 109.10 |
| 2 | AB | 1757 | A | C4-C5-C6 | 5.31 | 119.66 | 117.00 |
| 2 | AB | 2134 | A | C4-C5-C6 | -5.31 | 114.34 | 117.00 |
| 22 | AV | 76 | ARG | NE-CZ-NH2 | -5.31 | 117.64 | 120.30 |
| 35 | BA | 474 | G | C5'-C4'-C3' | -5.31 | 107.50 | 116.00 |
| 35 | BA | 1191 | A | C5-C6-N1 | 5.31 | 120.36 | 117.70 |
| 2 | AB | 122 | G | N1-C2-N3 | -5.31 | 120.71 | 123.90 |
| 2 | AB | 177 | G | C3'-C2'-C1' | -5.31 | 97.25 | 101.50 |
| 2 | AB | 553 | G | N1-C6-O6 | -5.31 | 116.71 | 119.90 |
| 2 | AB | 555 | G | C5-C6-O6 | 5.31 | 131.79 | 128.60 |
| 2 | AB | 630 | G | N1-C6-O6 | 5.31 | 123.09 | 119.90 |
| 2 | AB | 659 | G | N1-C2-N2 | 5.31 | 120.98 | 116.20 |
| 2 | AB | 1323 | C | C1'-O4'-C4' | -5.31 | 105.65 | 109.90 |
| 2 | AB | 1380 | G | C1'-O4'-C4' | -5.31 | 105.65 | 109.90 |
| 2 | AB | 1389 | G | C8-N9-C4 | 5.31 | 108.53 | 106.40 |
| 2 | AB | 1598 | A | C5'-C4'-C3' | -5.31 | 107.50 | 116.00 |
| 2 | AB | 2160 | C | C5-C4-N4 | -5.31 | 116.48 | 120.20 |
| 2 | AB | 2526 | G | P-O3'-C3' | 5.31 | 126.08 | 119.70 |
| 19 | AS | 29 | ARG | CA-CB-CG | 5.31 | 125.09 | 113.40 |
| 35 | BA | 265 | G | C5'-C4'-C3' | -5.31 | 107.50 | 116.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 518 | C | C3'-C2'-C1' | 5.31 | 105.75 | 101.50 |
| 35 | BA | 747 | A | O4'-C1'-N9 | 5.31 | 112.45 | 108.20 |
| 35 | BA | 1326 | U | C5-C6-N1 | -5.31 | 120.04 | 122.70 |
| 35 | BA | 1461 | G | C5-N7-C8 | 5.31 | 106.96 | 104.30 |
| 2 | AB | 1543 | G | C5'-C4'-C3' | -5.31 | 107.50 | 116.00 |
| 2 | AB | 2052 | A | O4'-C1'-N9 | 5.31 | 112.45 | 108.20 |
| 30 | A3 | 39 | ARG | NE-CZ-NH2 | -5.31 | 117.64 | 120.30 |
| 35 | BA | 1335 | U | C5-C4-O4 | -5.31 | 122.71 | 125.90 |
| 1 | AA | 35 | C | C4'-C3'-C2' | -5.31 | 97.29 | 102.60 |
| 2 | AB | 563 | A | C4-C5-C6 | -5.31 | 114.34 | 117.00 |
| 2 | AB | 581 | C | O4'-C1'-N1 | 5.31 | 112.45 | 108.20 |
| 2 | AB | 1129 | A | N9-C4-C5 | -5.31 | 103.68 | 105.80 |
| 2 | AB | 1560 | G | C2-N3-C4 | 5.31 | 114.56 | 111.90 |
| 2 | AB | 1727 | C | C5-C6-N1 | -5.31 | 118.34 | 121.00 |
| 2 | AB | 1761 | C | N3-C2-O2 | -5.31 | 118.18 | 121.90 |
| 2 | AB | 1928 | A | N1-C2-N3 | 5.31 | 131.96 | 129.30 |
| 2 | AB | 1935 | G | C1'-O4'-C4' | 5.31 | 114.15 | 109.90 |
| 2 | AB | 2285 | C | C6-N1-C2 | -5.31 | 118.18 | 120.30 |
| 2 | AB | 2758 | A | N1-C6-N6 | -5.31 | 115.41 | 118.60 |
| 2 | AB | 2786 | U | C2-N3-C4 | -5.31 | 123.81 | 127.00 |
| 35 | BA | 180 | U | O3'-P-O5' | -5.31 | 93.91 | 104.00 |
| 35 | BA | 295 | C | C5-C6-N1 | -5.31 | 118.34 | 121.00 |
| 35 | BA | 321 | A | N3-C4-C5 | 5.31 | 130.52 | 126.80 |
| 35 | BA | 785 | G | C8-N9-C4 | -5.31 | 104.28 | 106.40 |
| 35 | BA | 1342 | C | C5-C6-N1 | -5.31 | 118.34 | 121.00 |
| 35 | BA | 1440 | U | C5-C4-O4 | 5.31 | 129.09 | 125.90 |
| 35 | BA | 1495 | U | C6-N1-C2 | -5.31 | 117.81 | 121.00 |
| 37 | BC | 24 | C | C1'-O4'-C4' | -5.31 | 105.65 | 109.90 |
| 2 | AB | 16 | C | P-O5'-C5' | 5.31 | 129.39 | 120.90 |
| 2 | AB | 195 | A | N7-C8-N9 | 5.31 | 116.45 | 113.80 |
| 2 | AB | 414 | C | N1-C2-O2 | 5.31 | 122.08 | 118.90 |
| 2 | AB | 693 | A | N9-C4-C5 | 5.31 | 107.92 | 105.80 |
| 2 | AB | 835 | C | N3-C2-O2 | -5.31 | 118.19 | 121.90 |
| 2 | AB | 890 | C | C4-C5-C6 | 5.31 | 120.05 | 117.40 |
| 2 | AB | 1224 | U | N3-C4-C5 | -5.31 | 111.42 | 114.60 |
| 2 | AB | 1590 | A | C1'-O4'-C4' | -5.31 | 105.65 | 109.90 |
| 2 | AB | 1702 | G | C5-N7-C8 | -5.31 | 101.65 | 104.30 |
| 2 | AB | 1888 | G | C4-C5-C6 | 5.31 | 121.98 | 118.80 |
| 2 | AB | 2036 | C | C5-C4-N4 | -5.31 | 116.48 | 120.20 |
| 2 | AB | 2121 | G | N9-C1'-C2' | -5.31 | 106.16 | 112.00 |
| 2 | AB | 2712 | C | P-O3'-C3' | 5.31 | 126.07 | 119.70 |
| 35 | BA | 65 | A | N3-C4-N9 | 5.31 | 131.65 | 127.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 359 | G | C4'-C3'-C2' | -5.31 | 97.29 | 102.60 |
| 35 | BA | 543 | U | C5'-C4'-C3' | -5.31 | 107.51 | 116.00 |
| 35 | BA | 886 | G | C8-N9-C4 | -5.31 | 104.28 | 106.40 |
| 35 | BA | 949 | A | C4-C5-N7 | -5.31 | 108.05 | 110.70 |
| 35 | BA | 1059 | C | N1-C2-N3 | 5.31 | 122.92 | 119.20 |
| 35 | BA | 1372 | U | N3-C2-O2 | -5.31 | 118.48 | 122.20 |
| 2 | AB | 599 | A | N1-C2-N3 | -5.31 | 126.65 | 129.30 |
| 2 | AB | 1020 | A | N7-C8-N9 | 5.31 | 116.45 | 113.80 |
| 2 | AB | 1204 | A | N1-C6-N6 | 5.31 | 121.78 | 118.60 |
| 2 | AB | 1645 | G | O4'-C1'-N9 | 5.31 | 112.44 | 108.20 |
| 2 | AB | 1762 | A | N9-C4-C5 | -5.31 | 103.68 | 105.80 |
| 2 | AB | 2192 | U | N3-C4-O4 | -5.31 | 115.69 | 119.40 |
| 2 | AB | 2287 | A | C6-N1-C2 | -5.31 | 115.42 | 118.60 |
| 2 | AB | 2647 | U | C2-N3-C4 | -5.31 | 123.82 | 127.00 |
| 35 | BA | 11 | G | N3-C4-C5 | -5.31 | 125.95 | 128.60 |
| 35 | BA | 374 | A | N9-C1'-C2' | -5.31 | 106.16 | 112.00 |
| 35 | BA | 539 | A | C4'-C3'-O3' | 5.31 | 123.61 | 113.00 |
| 35 | BA | 579 | A | C5'-C4'-O4' | 5.31 | 115.47 | 109.10 |
| 1 | AA | 55 | U | O4'-C4'-C3' | 5.30 | 110.34 | 106.10 |
| 2 | AB | 214 | G | C8-N9-C4 | -5.30 | 104.28 | 106.40 |
| 2 | AB | 1088 | A | C1'-O4'-C4' | -5.30 | 105.66 | 109.90 |
| 2 | AB | 1096 | A | C5-N7-C8 | -5.30 | 101.25 | 103.90 |
| 2 | AB | 1179 | G | O4'-C1'-N9 | 5.30 | 112.44 | 108.20 |
| 2 | AB | 1396 | U | C1'-O4'-C4' | 5.30 | 114.14 | 109.90 |
| 2 | AB | 1941 | C | C4'-C3'-C2' | -5.30 | 97.30 | 102.60 |
| 2 | AB | 1961 | C | C5'-C4'-O4' | 5.30 | 115.47 | 109.10 |
| 2 | AB | 2380 | C | N1-C2-O2 | 5.30 | 122.08 | 118.90 |
| 2 | AB | 2792 | A | C5-N7-C8 | -5.30 | 101.25 | 103.90 |
| 35 | BA | 278 | G | N1-C2-N3 | -5.30 | 120.72 | 123.90 |
| 35 | BA | 330 | C | N1-C1'-C2' | -5.30 | 106.17 | 112.00 |
| 35 | BA | 384 | G | C4-N9-C1' | -5.30 | 119.60 | 126.50 |
| 35 | BA | 426 | U | C4'-C3'-C2' | 5.30 | 107.90 | 102.60 |
| 35 | BA | 812 | G | C5'-C4'-O4' | 5.30 | 115.47 | 109.10 |
| 35 | BA | 866 | C | C4'-C3'-C2' | -5.30 | 97.30 | 102.60 |
| 35 | BA | 1040 | U | C5'-C4'-O4' | 5.30 | 115.47 | 109.10 |
| 1 | AA | 56 | G | C5-N7-C8 | 5.30 | 106.95 | 104.30 |
| 2 | AB | 132 | G | C8-N9-C1' | 5.30 | 133.89 | 127.00 |
| 2 | AB | 234 | U | C1'-O4'-C4' | 5.30 | 114.14 | 109.90 |
| 2 | AB | 1322 | A | N1-C6-N6 | 5.30 | 121.78 | 118.60 |
| 2 | AB | 2285 | C | C5-C6-N1 | 5.30 | 123.65 | 121.00 |
| 35 | BA | 241 | G | O4'-C1'-N9 | 5.30 | 112.44 | 108.20 |
| 2 | AB | 106 | C | N3-C2-O2 | -5.30 | 118.19 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 118 | A | C3'-C2'-C1' | -5.30 | 97.26 | 101.50 |
| 2 | AB | 470 | A | C6-C5-N7 | 5.30 | 136.01 | 132.30 |
| 2 | AB | 554 | U | P-O5'-C5' | 5.30 | 129.38 | 120.90 |
| 2 | AB | 579 | G | C6-C5-N7 | -5.30 | 127.22 | 130.40 |
| 2 | AB | 704 | G | C6-C5-N7 | 5.30 | 133.58 | 130.40 |
| 2 | AB | 876 | C | C1'-O4'-C4' | -5.30 | 105.66 | 109.90 |
| 2 | AB | 1292 | G | C5-N7-C8 | 5.30 | 106.95 | 104.30 |
| 2 | AB | 1817 | G | N9-C4-C5 | 5.30 | 107.52 | 105.40 |
| 2 | AB | 1969 | A | C6-N1-C2 | -5.30 | 115.42 | 118.60 |
| 2 | AB | 2532 | G | C5'-C4'-O4' | 5.30 | 115.46 | 109.10 |
| 35 | BA | 54 | C | P-O3'-C3' | 5.30 | 126.06 | 119.70 |
| 35 | BA | 587 | G | N3-C4-N9 | -5.30 | 122.82 | 126.00 |
| 35 | BA | 646 | G | C6-C5-N7 | 5.30 | 133.58 | 130.40 |
| 35 | BA | 1079 | G | P-O3'-C3' | 5.30 | 126.06 | 119.70 |
| 36 | BB | 51 | C | O4'-C1'-C2' | 5.30 | 112.37 | 107.60 |
| 40 | BF | 170 | LEU | CB-CA-C | 5.30 | 120.27 | 110.20 |
| 1 | AA | 24 | G | C4-C5-C6 | -5.30 | 115.62 | 118.80 |
| 2 | AB | 377 | G | N1-C2-N2 | 5.30 | 120.97 | 116.20 |
| 2 | AB | 651 | G | P-O3'-C3' | 5.30 | 126.06 | 119.70 |
| 2 | AB | 846 | U | C2-N3-C4 | 5.30 | 130.18 | 127.00 |
| 2 | AB | 1073 | A | O4'-C1'-N9 | -5.30 | 103.96 | 108.20 |
| 2 | AB | 1117 | C | O4'-C1'-N1 | 5.30 | 112.44 | 108.20 |
| 2 | AB | 1564 | C | C4-C5-C6 | 5.30 | 120.05 | 117.40 |
| 2 | AB | 1879 | C | N3-C2-O2 | -5.30 | 118.19 | 121.90 |
| 2 | AB | 2567 | G | N3-C2-N2 | 5.30 | 123.61 | 119.90 |
| 2 | AB | 2576 | G | O4'-C1'-N9 | 5.30 | 112.44 | 108.20 |
| 21 | AU | 9 | HIS | CA-CB-CG | 5.30 | 122.61 | 113.60 |
| 35 | BA | 98 | A | C3'-C2'-C1' | 5.30 | 105.74 | 101.50 |
| 35 | BA | 376 | G | C2-N3-C4 | -5.30 | 109.25 | 111.90 |
| 35 | BA | 655 | A | C2-N3-C4 | 5.30 | 113.25 | 110.60 |
| 35 | BA | 844 | G | N3-C2-N2 | -5.30 | 116.19 | 119.90 |
| 35 | BA | 1127 | G | O4'-C1'-N9 | -5.30 | 103.96 | 108.20 |
| 35 | BA | 1305 | G | O4'-C1'-N9 | 5.30 | 112.44 | 108.20 |
| 35 | BA | 1392 | G | O5'-P-OP2 | -5.30 | 100.93 | 105.70 |
| 47 | BM | 122 | PRO | N-CD-CG | 5.30 | 111.15 | 103.20 |
| 1 | AA | 100 | G | N7-C8-N9 | 5.30 | 115.75 | 113.10 |
| 2 | AB | 891 | G | N7-C8-N9 | 5.30 | 115.75 | 113.10 |
| 2 | AB | 1594 | U | O4'-C4'-C3' | -5.30 | 98.70 | 104.00 |
| 2 | AB | 2598 | A | N9-C4-C5 | 5.30 | 107.92 | 105.80 |
| 35 | BA | 112 | G | N3-C4-N9 | 5.30 | 129.18 | 126.00 |
| 35 | BA | 403 | C | N1-C1'-C2' | -5.30 | 106.17 | 112.00 |
| 2 | AB | 221 | A | C5'-C4'-C3' | -5.30 | 107.53 | 116.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 690 | G | C5'-C4'-O4' | 5.30 | 115.46 | 109.10 |
| 2 | AB | 1249 | U | N3-C2-O2 | -5.30 | 118.49 | 122.20 |
| 2 | AB | 1413 | A | N9-C4-C5 | 5.30 | 107.92 | 105.80 |
| 2 | AB | 1426 | G | C8-N9-C1' | -5.30 | 120.11 | 127.00 |
| 2 | AB | 1936 | A | C4-C5-C6 | -5.30 | 114.35 | 117.00 |
| 2 | AB | 2375 | G | N7-C8-N9 | 5.30 | 115.75 | 113.10 |
| 2 | AB | 2549 | G | C4'-C3'-C2' | -5.30 | 97.30 | 102.60 |
| 2 | AB | 2620 | C | C4'-C3'-C2' | -5.30 | 97.30 | 102.60 |
| 2 | AB | 2734 | A | C5'-C4'-C3' | -5.30 | 107.53 | 116.00 |
| 28 | A1 | 37 | ARG | CD-NE-CZ | 5.30 | 131.01 | 123.60 |
| 35 | BA | 98 | A | C4-C5-N7 | -5.30 | 108.05 | 110.70 |
| 35 | BA | 133 | U | C5-C4-O4 | -5.30 | 122.72 | 125.90 |
| 35 | BA | 432 | A | C4-C5-N7 | -5.30 | 108.05 | 110.70 |
| 35 | BA | 671 | G | C5'-C4'-O4' | 5.30 | 115.45 | 109.10 |
| 35 | BA | 700 | G | C3'-C2'-C1' | -5.30 | 97.26 | 101.50 |
| 35 | BA | 778 | G | O4'-C1'-N9 | -5.30 | 103.96 | 108.20 |
| 35 | BA | 1055 | A | N7-C8-N9 | -5.30 | 111.15 | 113.80 |
| 35 | BA | 1138 | G | C3'-C2'-C1' | 5.30 | 105.74 | 101.50 |
| 35 | BA | 1239 | A | O4'-C1'-N9 | -5.30 | 103.96 | 108.20 |
| 35 | BA | 1423 | G | C4-C5-C6 | 5.30 | 121.98 | 118.80 |
| 43 | BI | 84 | TYR | CG-CD1-CE1 | -5.30 | 117.06 | 121.30 |
| 2 | AB | 353 | C | C2-N1-C1' | -5.29 | 112.98 | 118.80 |
| 2 | AB | 522 | A | N3-C4-C5 | -5.29 | 123.09 | 126.80 |
| 2 | AB | 1205 | A | N1-C2-N3 | 5.29 | 131.95 | 129.30 |
| 2 | AB | 1580 | A | N9-C4-C5 | -5.29 | 103.68 | 105.80 |
| 2 | AB | 1967 | C | C5-C6-N1 | -5.29 | 118.35 | 121.00 |
| 2 | AB | 2876 | G | C1'-O4'-C4' | -5.29 | 105.66 | 109.90 |
| 35 | BA | 951 | G | C4-C5-N7 | 5.29 | 112.92 | 110.80 |
| 1 | AA | 98 | G | C1'-O4'-C4' | 5.29 | 114.13 | 109.90 |
| 2 | AB | 297 | G | C4-C5-C6 | 5.29 | 121.98 | 118.80 |
| 2 | AB | 388 | G | C4-C5-N7 | 5.29 | 112.92 | 110.80 |
| 2 | AB | 660 | C | C5-C6-N1 | 5.29 | 123.65 | 121.00 |
| 2 | AB | 942 | G | C1'-O4'-C4' | 5.29 | 114.14 | 109.90 |
| 2 | AB | 1256 | G | C2-N3-C4 | 5.29 | 114.55 | 111.90 |
| 2 | AB | 2050 | C | C2-N3-C4 | 5.29 | 122.55 | 119.90 |
| 2 | AB | 2154 | A | N7-C8-N9 | 5.29 | 116.45 | 113.80 |
| 2 | AB | 2327 | A | O4'-C1'-C2' | -5.29 | 100.51 | 105.80 |
| 2 | AB | 2389 | G | O4'-C1'-N9 | 5.29 | 112.43 | 108.20 |
| 2 | AB | 2496 | C | C5-C4-N4 | -5.29 | 116.50 | 120.20 |
| 2 | AB | 2765 | A | C8-N9-C4 | -5.29 | 103.68 | 105.80 |
| 5 | AE | 107 | VAL | CA-CB-CG1 | -5.29 | 102.96 | 110.90 |
| 6 | AF | 154 | ASP | CB-CG-OD2 | -5.29 | 113.54 | 118.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 342 | C | C5-C6-N1 | 5.29 | 123.65 | 121.00 |
| 35 | BA | 722 | G | C5'-C4'-C3' | -5.29 | 107.53 | 116.00 |
| 35 | BA | 894 | G | C8-N9-C1' | 5.29 | 133.88 | 127.00 |
| 35 | BA | 1406 | U | N1-C2-O2 | -5.29 | 119.09 | 122.80 |
| 35 | BA | 1408 | A | N9-C4-C5 | 5.29 | 107.92 | 105.80 |
| 36 | BB | 32 | U | P-O3'-C3' | 5.29 | 126.05 | 119.70 |
| 37 | BC | 1 | C | P-O3'-C3' | 5.29 | 126.05 | 119.70 |
| 37 | BC | 5 | G | C6-N1-C2 | -5.29 | 121.92 | 125.10 |
| 37 | BC | 46 | G | C6-N1-C2 | -5.29 | 121.92 | 125.10 |
| 1 | AA | 113 | C | O4'-C1'-N1 | 5.29 | 112.43 | 108.20 |
| 2 | AB | 4 | U | C5'-C4'-C3' | -5.29 | 107.53 | 116.00 |
| 2 | AB | 772 | C | C5-C6-N1 | 5.29 | 123.64 | 121.00 |
| 2 | AB | 839 | U | C5'-C4'-O4' | 5.29 | 115.45 | 109.10 |
| 2 | AB | 957 | C | C6-N1-C1' | -5.29 | 114.45 | 120.80 |
| 2 | AB | 1048 | A | N3-C4-N9 | 5.29 | 131.63 | 127.40 |
| 2 | AB | 1237 | A | P-O5'-C5' | 5.29 | 129.37 | 120.90 |
| 2 | AB | 1388 | G | C4-C5-C6 | 5.29 | 121.97 | 118.80 |
| 2 | AB | 1500 | G | N1-C2-N3 | -5.29 | 120.73 | 123.90 |
| 2 | AB | 1711 | A | C5'-C4'-C3' | -5.29 | 107.53 | 116.00 |
| 2 | AB | 1893 | C | C3'-C2'-C1' | 5.29 | 105.73 | 101.50 |
| 2 | AB | 2486 | C | C5'-C4'-O4' | 5.29 | 115.45 | 109.10 |
| 2 | AB | 2543 | G | C8-N9-C4 | -5.29 | 104.28 | 106.40 |
| 2 | AB | 2698 | U | C5-C4-O4 | -5.29 | 122.72 | 125.90 |
| 23 | AW | 21 | ARG | NE-CZ-NH1 | -5.29 | 117.66 | 120.30 |
| 35 | BA | 10 | A | N7-C8-N9 | 5.29 | 116.45 | 113.80 |
| 35 | BA | 244 | U | C1'-O4'-C4' | -5.29 | 105.67 | 109.90 |
| 35 | BA | 1102 | A | N9-C1'-C2' | -5.29 | 106.18 | 112.00 |
| 35 | BA | 1535 | C | C4-C5-C6 | 5.29 | 120.05 | 117.40 |
| 47 | BM | 51 | PHE | CD1-CE1-CZ | 5.29 | 126.45 | 120.10 |
| 2 | AB | 795 | C | O4'-C4'-C3' | 5.29 | 110.33 | 106.10 |
| 2 | AB | 799 | G | C1'-O4'-C4' | 5.29 | 114.13 | 109.90 |
| 2 | AB | 986 | C | C3'-C2'-C1' | -5.29 | 97.27 | 101.50 |
| 2 | AB | 1528 | A | C3'-C2'-C1' | 5.29 | 105.73 | 101.50 |
| 2 | AB | 1572 | A | C6-N1-C2 | 5.29 | 121.77 | 118.60 |
| 2 | AB | 2422 | C | N3-C2-O2 | -5.29 | 118.20 | 121.90 |
| 2 | AB | 2903 | U | C5-C6-N1 | 5.29 | 125.34 | 122.70 |
| 20 | AT | 19 | THR | CA-CB-CG2 | -5.29 | 104.99 | 112.40 |
| 35 | BA | 577 | G | C5'-C4'-O4' | 5.29 | 115.45 | 109.10 |
| 35 | BA | 916 | U | P-O3'-C3' | 5.29 | 126.05 | 119.70 |
| 35 | BA | 957 | U | C5-C4-O4 | -5.29 | 122.73 | 125.90 |
| 35 | BA | 1460 | C | C5'-C4'-C3' | 5.29 | 124.47 | 116.00 |
| 36 | BB | 54 | U | N1-C1'-C2' | -5.29 | 106.18 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 52 | BR | 3 | THR | N-CA-CB | -5.29 | 100.25 | 110.30 |
| 1 | AA | 28 | C | N3-C4-C5 | -5.29 | 119.78 | 121.90 |
| 2 | AB | 750 | A | C5-C6-N1 | 5.29 | 120.34 | 117.70 |
| 2 | AB | 855 | G | C8-N9-C4 | -5.29 | 104.28 | 106.40 |
| 2 | AB | 1167 | C | N3-C4-C5 | -5.29 | 119.78 | 121.90 |
| 2 | AB | 1234 | U | N3-C4-C5 | -5.29 | 111.43 | 114.60 |
| 2 | AB | 1907 | G | C8-N9-C4 | -5.29 | 104.28 | 106.40 |
| 35 | BA | 82 | G | C2-N3-C4 | -5.29 | 109.25 | 111.90 |
| 35 | BA | 700 | G | C5-N7-C8 | 5.29 | 106.94 | 104.30 |
| 35 | BA | 913 | A | N9-C1'-C2' | 5.29 | 120.88 | 114.00 |
| 35 | BA | 1262 | C | C6-N1-C2 | -5.29 | 118.18 | 120.30 |
| 52 | BR | 32 | PHE | CB-CG-CD2 | 5.29 | 124.50 | 120.80 |
| 2 | AB | 799 | G | C4-C5-N7 | -5.29 | 108.69 | 110.80 |
| 2 | AB | 1188 | U | N1-C2-O2 | 5.29 | 126.50 | 122.80 |
| 2 | AB | 1567 | G | N3-C2-N2 | -5.29 | 116.20 | 119.90 |
| 2 | AB | 2048 | G | O4'-C1'-N9 | 5.29 | 112.43 | 108.20 |
| 2 | AB | 2049 | G | C5-C6-O6 | 5.29 | 131.77 | 128.60 |
| 2 | AB | 2212 | A | O4'-C1'-C2' | -5.29 | 100.51 | 105.80 |
| 2 | AB | 2325 | G | O4'-C1'-C2' | 5.29 | 112.36 | 107.60 |
| 2 | AB | 2817 | U | C5-C4-O4 | -5.29 | 122.73 | 125.90 |
| 2 | AB | 2844 | G | C3'-C2'-C1' | -5.29 | 97.27 | 101.50 |
| 35 | BA | 128 | G | O4'-C1'-N9 | 5.29 | 112.43 | 108.20 |
| 35 | BA | 584 | G | N1-C2-N2 | 5.29 | 120.96 | 116.20 |
| 35 | BA | 1168 | U | N1-C2-N3 | 5.29 | 118.07 | 114.90 |
| 1 | AA | 55 | U | N1-C1'-C2' | -5.29 | 106.19 | 112.00 |
| 1 | AA | 78 | A | N3-C4-N9 | 5.29 | 131.63 | 127.40 |
| 1 | AA | 87 | U | C1'-O4'-C4' | -5.29 | 105.67 | 109.90 |
| 2 | AB | 187 | G | N1-C2-N2 | -5.29 | 111.44 | 116.20 |
| 2 | AB | 253 | C | C2-N3-C4 | -5.29 | 117.26 | 119.90 |
| 2 | AB | 366 | C | C2-N1-C1' | -5.29 | 112.99 | 118.80 |
| 2 | AB | 440 | C | C4'-C3'-C2' | -5.29 | 97.31 | 102.60 |
| 2 | AB | 590 | A | O4'-C1'-N9 | 5.29 | 112.43 | 108.20 |
| 2 | AB | 748 | G | C2'-C3'-O3' | 5.29 | 122.16 | 113.70 |
| 2 | AB | 810 | U | C4-C5-C6 | 5.29 | 122.87 | 119.70 |
| 2 | AB | 838 | C | C5-C6-N1 | 5.29 | 123.64 | 121.00 |
| 2 | AB | 1229 | C | C1'-O4'-C4' | -5.29 | 105.67 | 109.90 |
| 2 | AB | 1688 | U | C4'-C3'-C2' | -5.29 | 97.31 | 102.60 |
| 2 | AB | 1711 | A | C4-C5-C6 | -5.29 | 114.36 | 117.00 |
| 2 | AB | 1790 | C | O4'-C1'-N1 | 5.29 | 112.43 | 108.20 |
| 2 | AB | 2286 | G | C6-C5-N7 | 5.29 | 133.57 | 130.40 |
| 2 | AB | 2664 | G | P-O3'-C3' | 5.29 | 126.04 | 119.70 |
| 2 | AB | 2836 | U | C4-C5-C6 | 5.29 | 122.87 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2868 | A | P-O5'-C5' | 5.29 | 129.36 | 120.90 |
| 2 | AB | 2872 | A | C4-C5-C6 | 5.29 | 119.64 | 117.00 |
| 9 | AI | 113 | SER | N-CA-C | 5.29 | 125.27 | 111.00 |
| 14 | AN | 58 | TYR | CD1-CE1-CZ | 5.29 | 124.56 | 119.80 |
| 35 | BA | 356 | A | C5'-C4'-C3' | -5.29 | 107.54 | 116.00 |
| 37 | BC | 35 | C | N3-C2-O2 | 5.29 | 125.60 | 121.90 |
| 37 | BC | 69 | C | N3-C4-N4 | 5.29 | 121.70 | 118.00 |
| 2 | AB | 194 | G | P-O5'-C5' | 5.28 | 129.35 | 120.90 |
| 2 | AB | 682 | G | O4'-C1'-N9 | 5.28 | 112.43 | 108.20 |
| 2 | AB | 759 | G | O5'-P-OP2 | -5.28 | 100.95 | 105.70 |
| 2 | AB | 925 | A | C5-C6-N1 | -5.28 | 115.06 | 117.70 |
| 2 | AB | 1015 | U | C5-C6-N1 | -5.28 | 120.06 | 122.70 |
| 2 | AB | 1254 | A | N9-C1'-C2' | -5.28 | 106.19 | 112.00 |
| 2 | AB | 1302 | A | C5-N7-C8 | -5.28 | 101.26 | 103.90 |
| 2 | AB | 1811 | G | N9-C4-C5 | 5.28 | 107.51 | 105.40 |
| 2 | AB | 1922 | G | N3-C2-N2 | -5.28 | 116.20 | 119.90 |
| 2 | AB | 2057 | G | N3-C2-N2 | -5.28 | 116.20 | 119.90 |
| 12 | AL | 67 | ASN | N-CA-CB | -5.28 | 101.09 | 110.60 |
| 35 | BA | 1454 | G | O4'-C1'-N9 | 5.28 | 112.43 | 108.20 |
| 42 | BH | 65 | GLU | N-CA-CB | -5.28 | 101.09 | 110.60 |
| 2 | AB | 1215 | G | N1-C2-N2 | 5.28 | 120.95 | 116.20 |
| 2 | AB | 1590 | A | N7-C8-N9 | 5.28 | 116.44 | 113.80 |
| 2 | AB | 2748 | A | C5'-C4'-O4' | 5.28 | 115.44 | 109.10 |
| 2 | AB | 2856 | A | C4-C5-C6 | 5.28 | 119.64 | 117.00 |
| 35 | BA | 141 | G | C5'-C4'-C3' | -5.28 | 107.55 | 116.00 |
| 35 | BA | 215 | C | N1-C1'-C2' | -5.28 | 106.19 | 112.00 |
| 37 | BC | 41 | C | P-O3'-C3' | 5.28 | 126.04 | 119.70 |
| 1 | AA | 90 | C | C1'-O4'-C4' | -5.28 | 105.68 | 109.90 |
| 2 | AB | 479 | A | C5-N7-C8 | -5.28 | 101.26 | 103.90 |
| 2 | AB | 774 | G | N3-C4-N9 | -5.28 | 122.83 | 126.00 |
| 2 | AB | 1265 | A | C1'-O4'-C4' | -5.28 | 105.68 | 109.90 |
| 2 | AB | 1435 | G | C2-N3-C4 | 5.28 | 114.54 | 111.90 |
| 2 | AB | 1538 | G | C2-N3-C4 | 5.28 | 114.54 | 111.90 |
| 2 | AB | 2564 | A | C5-C6-N1 | 5.28 | 120.34 | 117.70 |
| 2 | AB | 2658 | C | C2'-C3'-O3' | 5.28 | 122.15 | 113.70 |
| 2 | AB | 2781 | A | C2-N3-C4 | 5.28 | 113.24 | 110.60 |
| 19 | AS | 95 | ALA | N-CA-CB | -5.28 | 102.71 | 110.10 |
| 35 | BA | 873 | A | C5-N7-C8 | -5.28 | 101.26 | 103.90 |
| 35 | BA | 962 | C | N1-C2-O2 | 5.28 | 122.07 | 118.90 |
| 35 | BA | 1127 | G | C2-N3-C4 | 5.28 | 114.54 | 111.90 |
| 35 | BA | 1360 | A | O4'-C1'-N9 | 5.28 | 112.42 | 108.20 |
| 35 | BA | 1373 | G | C4-C5-N7 | 5.28 | 112.91 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1386 | G | C2-N3-C4 | 5.28 | 114.54 | 111.90 |
| 35 | BA | 1439 | G | C4-C5-C6 | 5.28 | 121.97 | 118.80 |
| 36 | BB | 53 | G | C5-N7-C8 | 5.28 | 106.94 | 104.30 |
| 2 | AB | 145 | C | C2-N3-C4 | -5.28 | 117.26 | 119.90 |
| 2 | AB | 1588 | G | N3-C2-N2 | 5.28 | 123.59 | 119.90 |
| 2 | AB | 1742 | U | C2-N3-C4 | -5.28 | 123.83 | 127.00 |
| 2 | AB | 1909 | C | O4'-C4'-C3' | -5.28 | 98.72 | 104.00 |
| 2 | AB | 2181 | U | C2-N3-C4 | -5.28 | 123.83 | 127.00 |
| 35 | BA | 136 | C | O4'-C1'-N1 | 5.28 | 112.42 | 108.20 |
| 35 | BA | 1163 | A | N1-C2-N3 | -5.28 | 126.66 | 129.30 |
| 35 | BA | 1533 | C | C6-N1-C1' | 5.28 | 127.14 | 120.80 |
| 1 | AA | 112 | G | C8-N9-C4 | 5.28 | 108.51 | 106.40 |
| 2 | AB | 234 | U | N1-C2-N3 | 5.28 | 118.07 | 114.90 |
| 2 | AB | 392 | U | O4'-C1'-N1 | 5.28 | 112.42 | 108.20 |
| 2 | AB | 407 | G | N1-C6-O6 | -5.28 | 116.73 | 119.90 |
| 2 | AB | 1074 | G | O3'-P-O5' | -5.28 | 93.97 | 104.00 |
| 2 | AB | 1324 | G | N7-C8-N9 | -5.28 | 110.46 | 113.10 |
| 2 | AB | 1606 | C | O4'-C4'-C3' | -5.28 | 98.72 | 104.00 |
| 2 | AB | 2046 | G | C3'-C2'-C1' | -5.28 | 97.28 | 101.50 |
| 2 | AB | 2345 | G | C8-N9-C4 | -5.28 | 104.29 | 106.40 |
| 2 | AB | 2482 | A | N3-C4-C5 | -5.28 | 123.11 | 126.80 |
| 2 | AB | 2637 | U | O4'-C1'-N1 | 5.28 | 112.42 | 108.20 |
| 2 | AB | 2718 | G | C2-N3-C4 | 5.28 | 114.54 | 111.90 |
| 35 | BA | 176 | C | C4'-C3'-C2' | -5.28 | 97.32 | 102.60 |
| 35 | BA | 402 | G | C4-C5-C6 | 5.28 | 121.97 | 118.80 |
| 35 | BA | 444 | G | N9-C4-C5 | 5.28 | 107.51 | 105.40 |
| 35 | BA | 951 | G | C6-N1-C2 | -5.28 | 121.93 | 125.10 |
| 35 | BA | 1155 | A | N1-C6-N6 | 5.28 | 121.77 | 118.60 |
| 35 | BA | 1274 | A | O3'-P-O5' | 5.28 | 114.03 | 104.00 |
| 35 | BA | 1336 | C | O5'-C5'-C4' | -5.28 | 101.67 | 111.70 |
| 35 | BA | 1434 | A | P-O3'-C3' | 5.28 | 126.03 | 119.70 |
| 35 | BA | 1500 | A | C6-N1-C2 | -5.28 | 115.43 | 118.60 |
| 36 | BB | 49 | U | O4'-C4'-C3' | -5.28 | 98.72 | 104.00 |
| 2 | AB | 7 | G | C4-C5-N7 | 5.28 | 112.91 | 110.80 |
| 2 | AB | 713 | G | C3'-C2'-C1' | 5.28 | 105.72 | 101.50 |
| 2 | AB | 795 | C | N3-C4-C5 | -5.28 | 119.79 | 121.90 |
| 2 | AB | 1474 | U | O4'-C1'-N1 | 5.28 | 112.42 | 108.20 |
| 2 | AB | 2238 | G | O4'-C1'-N9 | -5.28 | 103.98 | 108.20 |
| 2 | AB | 2532 | G | C5-N7-C8 | -5.28 | 101.66 | 104.30 |
| 35 | BA | 120 | A | O4'-C4'-C3' | 5.28 | 110.32 | 106.10 |
| 35 | BA | 122 | G | OP1-P-O3' | 5.28 | 116.81 | 105.20 |
| 35 | BA | 185 | U | C5-C6-N1 | 5.28 | 125.34 | 122.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 560 | A | N9-C4-C5 | -5.28 | 103.69 | 105.80 |
| 35 | BA | 846 | G | P-O3'-C3' | 5.28 | 126.03 | 119.70 |
| 35 | BA | 1282 | C | P-O5'-C5' | 5.28 | 129.34 | 120.90 |
| 35 | BA | 1499 | A | C3'-C2'-C1' | -5.28 | 97.28 | 101.50 |
| 35 | BA | 1521 | C | C5'-C4'-O4' | 5.28 | 115.43 | 109.10 |
| 2 | AB | 384 | A | N3-C4-C5 | -5.27 | 123.11 | 126.80 |
| 2 | AB | 427 | U | C1'-O4'-C4' | -5.27 | 105.68 | 109.90 |
| 2 | AB | 1235 | G | C1'-O4'-C4' | -5.27 | 105.68 | 109.90 |
| 2 | AB | 1634 | A | C5-C6-N6 | -5.27 | 119.48 | 123.70 |
| 2 | AB | 2178 | C | N3-C4-N4 | -5.27 | 114.31 | 118.00 |
| 2 | AB | 2655 | G | C4-C5-C6 | -5.27 | 115.64 | 118.80 |
| 6 | AF | 60 | TRP | CD1-NE1-CE2 | 5.27 | 113.75 | 109.00 |
| 35 | BA | 525 | C | N3-C2-O2 | -5.27 | 118.21 | 121.90 |
| 35 | BA | 1230 | C | N1-C2-O2 | 5.27 | 122.06 | 118.90 |
| 35 | BA | 1337 | G | C5-N7-C8 | 5.27 | 106.94 | 104.30 |
| 2 | AB | 9 | G | P-O3'-C3' | 5.27 | 126.03 | 119.70 |
| 2 | AB | 121 | G | C8-N9-C4 | -5.27 | 104.29 | 106.40 |
| 2 | AB | 404 | A | C5-C6-N6 | -5.27 | 119.48 | 123.70 |
| 2 | AB | 538 | A | C5-C6-N1 | 5.27 | 120.34 | 117.70 |
| 2 | AB | 937 | C | N1-C2-O2 | 5.27 | 122.06 | 118.90 |
| 2 | AB | 1026 | G | N1-C2-N3 | -5.27 | 120.74 | 123.90 |
| 2 | AB | 1427 | A | C4-C5-C6 | -5.27 | 114.36 | 117.00 |
| 2 | AB | 1439 | A | C4-C5-N7 | -5.27 | 108.06 | 110.70 |
| 2 | AB | 1631 | G | C5'-C4'-O4' | 5.27 | 115.43 | 109.10 |
| 2 | AB | 2528 | U | C4'-C3'-C2' | 5.27 | 107.87 | 102.60 |
| 2 | AB | 2571 | U | O4'-C1'-N1 | 5.27 | 112.42 | 108.20 |
| 2 | AB | 2671 | G | N3-C4-C5 | -5.27 | 125.96 | 128.60 |
| 2 | AB | 2791 | G | O4'-C4'-C3' | 5.27 | 110.32 | 106.10 |
| 2 | AB | 2861 | U | C5-C4-O4 | 5.27 | 129.06 | 125.90 |
| 4 | AD | 29 | PHE | CB-CG-CD2 | 5.27 | 124.49 | 120.80 |
| 30 | A3 | 54 | ILE | CB-CA-C | 5.27 | 122.14 | 111.60 |
| 35 | BA | 146 | G | N1-C2-N2 | 5.27 | 120.94 | 116.20 |
| 35 | BA | 310 | G | P-O3'-C3' | 5.27 | 126.03 | 119.70 |
| 35 | BA | 348 | G | N1-C6-O6 | -5.27 | 116.74 | 119.90 |
| 35 | BA | 349 | A | C5-N7-C8 | 5.27 | 106.54 | 103.90 |
| 35 | BA | 1137 | C | C5-C4-N4 | 5.27 | 123.89 | 120.20 |
| 35 | BA | 1303 | C | C5'-C4'-O4' | 5.27 | 115.43 | 109.10 |
| 2 | AB | 65 | U | N3-C2-O2 | -5.27 | 118.51 | 122.20 |
| 2 | AB | 189 | G | C5-C6-N1 | -5.27 | 108.86 | 111.50 |
| 2 | AB | 611 | C | C2'-C3'-O3' | 5.27 | 122.13 | 113.70 |
| 2 | AB | 941 | A | C5-C6-N6 | -5.27 | 119.48 | 123.70 |
| 2 | AB | 2372 | U | C5-C4-O4 | -5.27 | 122.74 | 125.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 371 | A | P-O3'-C3' | 5.27 | 126.03 | 119.70 |
| 35 | BA | 880 | C | C5-C6-N1 | -5.27 | 118.36 | 121.00 |
| 50 | BP | 76 | PHE | CB-CG-CD2 | -5.27 | 117.11 | 120.80 |
| 2 | AB | 450 | G | C2-N3-C4 | 5.27 | 114.53 | 111.90 |
| 2 | AB | 454 | A | C3'-C2'-C1' | -5.27 | 97.28 | 101.50 |
| 2 | AB | 875 | G | C2-N3-C4 | -5.27 | 109.27 | 111.90 |
| 2 | AB | 1167 | C | C3'-C2'-C1' | 5.27 | 105.72 | 101.50 |
| 2 | AB | 2322 | A | O4'-C1'-N9 | 5.27 | 112.42 | 108.20 |
| 2 | AB | 2470 | G | C8-N9-C4 | -5.27 | 104.29 | 106.40 |
| 35 | BA | 531 | U | C6-N1-C2 | -5.27 | 117.84 | 121.00 |
| 35 | BA | 625 | U | C5'-C4'-C3' | -5.27 | 107.57 | 116.00 |
| 35 | BA | 748 | G | N3-C2-N2 | 5.27 | 123.59 | 119.90 |
| 35 | BA | 1002 | G | O4'-C1'-N9 | 5.27 | 112.42 | 108.20 |
| 35 | BA | 1312 | G | C5-C6-N1 | 5.27 | 114.14 | 111.50 |
| 35 | BA | 1356 | G | O4'-C4'-C3' | 5.27 | 110.32 | 106.10 |
| 2 | AB | 74 | A | C5-N7-C8 | 5.27 | 106.53 | 103.90 |
| 2 | AB | 358 | U | O4'-C4'-C3' | 5.27 | 110.31 | 106.10 |
| 2 | AB | 585 | G | C1'-O4'-C4' | -5.27 | 105.69 | 109.90 |
| 2 | AB | 1086 | A | C2-N3-C4 | -5.27 | 107.97 | 110.60 |
| 2 | AB | 1334 | G | N1-C2-N3 | 5.27 | 127.06 | 123.90 |
| 2 | AB | 1340 | U | N1-C2-N3 | 5.27 | 118.06 | 114.90 |
| 2 | AB | 1569 | A | C6-N1-C2 | -5.27 | 115.44 | 118.60 |
| 2 | AB | 1796 | U | C6-N1-C1' | 5.27 | 128.58 | 121.20 |
| 2 | AB | 2242 | G | C5-C6-N1 | 5.27 | 114.13 | 111.50 |
| 2 | AB | 2286 | G | O4'-C1'-N9 | 5.27 | 112.42 | 108.20 |
| 2 | AB | 2693 | G | N3-C4-N9 | 5.27 | 129.16 | 126.00 |
| 2 | AB | 2850 | A | C2-N3-C4 | -5.27 | 107.97 | 110.60 |
| 35 | BA | 18 | C | O4'-C4'-C3' | -5.27 | 98.73 | 104.00 |
| 35 | BA | 76 | G | C5'-C4'-O4' | 5.27 | 115.42 | 109.10 |
| 35 | BA | 528 | C | N1-C1'-C2' | -5.27 | 106.20 | 112.00 |
| 35 | BA | 863 | U | N3-C2-O2 | -5.27 | 118.51 | 122.20 |
| 35 | BA | 1141 | C | C2-N3-C4 | 5.27 | 122.53 | 119.90 |
| 35 | BA | 1368 | A | N9-C4-C5 | 5.27 | 107.91 | 105.80 |
| 2 | AB | 1015 | U | O4'-C1'-N1 | 5.27 | 112.41 | 108.20 |
| 2 | AB | 1423 | G | C1'-O4'-C4' | 5.27 | 114.11 | 109.90 |
| 2 | AB | 1798 | U | C5'-C4'-O4' | 5.27 | 115.42 | 109.10 |
| 2 | AB | 1986 | C | N1-C2-O2 | 5.27 | 122.06 | 118.90 |
| 35 | BA | 561 | U | O4'-C4'-C3' | -5.27 | 98.73 | 104.00 |
| 35 | BA | 782 | A | C4'-C3'-C2' | -5.27 | 97.33 | 102.60 |
| 1 | AA | 50 | A | N9-C4-C5 | 5.26 | 107.91 | 105.80 |
| 2 | AB | 107 | G | C5'-C4'-C3' | -5.26 | 107.58 | 116.00 |
| 2 | AB | 148 | U | C4-C5-C6 | 5.26 | 122.86 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 295 | G | C5-C6-N1 | 5.26 | 114.13 | 111.50 |
| 2 | AB | 541 | A | C3'-C2'-C1' | 5.26 | 105.71 | 101.50 |
| 2 | AB | 668 | A | C5-N7-C8 | -5.26 | 101.27 | 103.90 |
| 2 | AB | 1519 | G | N3-C2-N2 | 5.26 | 123.58 | 119.90 |
| 2 | AB | 1653 | G | O4'-C4'-C3' | 5.26 | 110.31 | 106.10 |
| 2 | AB | 1659 | G | C5'-C4'-O4' | 5.26 | 115.42 | 109.10 |
| 2 | AB | 1899 | A | O4'-C4'-C3' | 5.26 | 110.31 | 106.10 |
| 2 | AB | 1979 | U | P-O3'-C3' | 5.26 | 126.02 | 119.70 |
| 2 | AB | 2319 | G | O4'-C4'-C3' | 5.26 | 110.31 | 106.10 |
| 2 | AB | 2376 | A | N1-C6-N6 | -5.26 | 115.44 | 118.60 |
| 2 | AB | 2659 | G | C8-N9-C4 | -5.26 | 104.29 | 106.40 |
| 19 | AS | 60 | TRP | CG-CD2-CE3 | 5.26 | 138.64 | 133.90 |
| 35 | BA | 146 | G | C5-N7-C8 | 5.26 | 106.93 | 104.30 |
| 35 | BA | 381 | C | C5'-C4'-O4' | 5.26 | 115.42 | 109.10 |
| 35 | BA | 550 | G | C4-C5-N7 | -5.26 | 108.69 | 110.80 |
| 35 | BA | 572 | A | C3'-C2'-C1' | 5.26 | 105.71 | 101.50 |
| 35 | BA | 829 | G | N1-C2-N3 | -5.26 | 120.74 | 123.90 |
| 35 | BA | 961 | U | C3'-C2'-C1' | 5.26 | 105.71 | 101.50 |
| 35 | BA | 1014 | A | C2'-C3'-O3' | 5.26 | 122.12 | 113.70 |
| 35 | BA | 1437 | A | C6-N1-C2 | -5.26 | 115.44 | 118.60 |
| 35 | BA | 1470 | U | N1-C2-O2 | -5.26 | 119.11 | 122.80 |
| 2 | AB | 854 | C | C2-N3-C4 | 5.26 | 122.53 | 119.90 |
| 2 | AB | 1206 | G | C4-C5-C6 | -5.26 | 115.64 | 118.80 |
| 2 | AB | 2490 | G | C5-N7-C8 | -5.26 | 101.67 | 104.30 |
| 2 | AB | 2567 | G | N1-C6-O6 | -5.26 | 116.74 | 119.90 |
| 2 | AB | 2597 | G | N1-C6-O6 | 5.26 | 123.06 | 119.90 |
| 35 | BA | 778 | G | O4'-C1'-C2' | 5.26 | 112.34 | 107.60 |
| 35 | BA | 1063 | C | N3-C2-O2 | -5.26 | 118.22 | 121.90 |
| 35 | BA | 1427 | C | N3-C4-N4 | 5.26 | 121.68 | 118.00 |
| 1 | AA | 52 | A | N3-C4-C5 | 5.26 | 130.48 | 126.80 |
| 2 | AB | 155 | A | C4'-C3'-C2' | -5.26 | 97.34 | 102.60 |
| 2 | AB | 441 | U | C5'-C4'-O4' | 5.26 | 115.41 | 109.10 |
| 2 | AB | 1172 | C | C1'-O4'-C4' | 5.26 | 114.11 | 109.90 |
| 2 | AB | 1437 | C | C4-C5-C6 | -5.26 | 114.77 | 117.40 |
| 2 | AB | 1488 | C | N3-C4-C5 | 5.26 | 124.00 | 121.90 |
| 2 | AB | 1593 | A | C4'-C3'-C2' | -5.26 | 97.34 | 102.60 |
| 2 | AB | 1652 | A | N7-C8-N9 | -5.26 | 111.17 | 113.80 |
| 2 | AB | 1694 | C | P-O3'-C3' | 5.26 | 126.01 | 119.70 |
| 2 | AB | 1895 | C | C5'-C4'-C3' | 5.26 | 124.42 | 116.00 |
| 2 | AB | 1955 | U | C2-N3-C4 | -5.26 | 123.84 | 127.00 |
| 2 | AB | 2019 | A | C6-N1-C2 | 5.26 | 121.76 | 118.60 |
| 2 | AB | 2262 | U | C4'-C3'-C2' | -5.26 | 97.34 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2621 | G | C8-N9-C1' | 5.26 | 133.84 | 127.00 |
| 2 | AB | 2781 | A | C5-C6-N6 | -5.26 | 119.49 | 123.70 |
| 35 | BA | 265 | G | C2-N3-C4 | 5.26 | 114.53 | 111.90 |
| 35 | BA | 302 | G | C4-C5-N7 | 5.26 | 112.90 | 110.80 |
| 35 | BA | 611 | C | C2'-C3'-O3' | 5.26 | 122.12 | 113.70 |
| 35 | BA | 1112 | C | O3'-P-O5' | -5.26 | 94.00 | 104.00 |
| 47 | BM | 127 | ARG | NE-CZ-NH2 | -5.26 | 117.67 | 120.30 |
| 2 | AB | 53 | A | N9-C4-C5 | -5.26 | 103.70 | 105.80 |
| 2 | AB | 467 | G | C3'-C2'-C1' | 5.26 | 105.71 | 101.50 |
| 2 | AB | 647 | G | C5'-C4'-O4' | 5.26 | 115.41 | 109.10 |
| 2 | AB | 770 | G | C3'-C2'-C1' | -5.26 | 97.29 | 101.50 |
| 2 | AB | 1062 | G | C4'-C3'-C2' | -5.26 | 97.34 | 102.60 |
| 2 | AB | 1219 | U | C4'-C3'-C2' | -5.26 | 97.34 | 102.60 |
| 2 | AB | 1751 | U | C1'-O4'-C4' | -5.26 | 105.69 | 109.90 |
| 2 | AB | 2056 | G | N3-C4-N9 | 5.26 | 129.16 | 126.00 |
| 2 | AB | 2310 | C | C2-N3-C4 | 5.26 | 122.53 | 119.90 |
| 2 | AB | 2388 | A | C4'-C3'-C2' | 5.26 | 107.86 | 102.60 |
| 35 | BA | 132 | C | C1'-O4'-C4' | 5.26 | 114.11 | 109.90 |
| 35 | BA | 468 | A | O5'-C5'-C4' | 5.26 | 121.69 | 111.70 |
| 35 | BA | 512 | U | C5'-C4'-O4' | 5.26 | 115.41 | 109.10 |
| 35 | BA | 550 | G | C3'-C2'-C1' | 5.26 | 105.71 | 101.50 |
| 35 | BA | 1162 | C | C2-N1-C1' | -5.26 | 113.02 | 118.80 |
| 37 | BC | 12 | G | C6-N1-C2 | -5.26 | 121.94 | 125.10 |
| 2 | AB | 103 | A | C5-C6-N6 | -5.26 | 119.49 | 123.70 |
| 2 | AB | 1166 | G | N9-C1'-C2' | -5.26 | 106.22 | 112.00 |
| 2 | AB | 1288 | G | O4'-C1'-N9 | 5.26 | 112.41 | 108.20 |
| 2 | AB | 2356 | U | N1-C2-N3 | 5.26 | 118.06 | 114.90 |
| 35 | BA | 149 | A | N3-C4-C5 | -5.26 | 123.12 | 126.80 |
| 35 | BA | 736 | C | C2-N3-C4 | 5.26 | 122.53 | 119.90 |
| 1 | AA | 79 | G | OP1-P-OP2 | -5.26 | 111.71 | 119.60 |
| 2 | AB | 350 | G | N1-C6-O6 | 5.26 | 123.05 | 119.90 |
| 2 | AB | 987 | C | O4'-C1'-N1 | 5.26 | 112.40 | 108.20 |
| 2 | AB | 1280 | G | C5-N7-C8 | 5.26 | 106.93 | 104.30 |
| 2 | AB | 1540 | G | N1-C2-N2 | 5.26 | 120.93 | 116.20 |
| 2 | AB | 1759 | A | C4-C5-C6 | 5.26 | 119.63 | 117.00 |
| 2 | AB | 1874 | C | C4'-C3'-C2' | -5.26 | 97.34 | 102.60 |
| 2 | AB | 2077 | A | N9-C1'-C2' | -5.26 | 106.22 | 112.00 |
| 2 | AB | 2394 | C | N1-C1'-C2' | -5.26 | 106.22 | 112.00 |
| 2 | AB | 2419 | U | C6-N1-C2 | 5.26 | 124.15 | 121.00 |
| 2 | AB | 2766 | A | C1'-O4'-C4' | -5.26 | 105.70 | 109.90 |
| 2 | AB | 2798 | U | C2-N3-C4 | 5.26 | 130.15 | 127.00 |
| 13 | AM | 121 | GLU | OE1-CD-OE2 | 5.26 | 129.61 | 123.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 38 | G | C8-N9-C1' | 5.26 | 133.83 | 127.00 |
| 35 | BA | 134 | G | C1'-O4'-C4' | 5.26 | 114.10 | 109.90 |
| 35 | BA | 355 | C | C2-N1-C1' | 5.26 | 124.58 | 118.80 |
| 35 | BA | 646 | G | N9-C4-C5 | 5.26 | 107.50 | 105.40 |
| 35 | BA | 888 | G | C5-C6-N1 | 5.26 | 114.13 | 111.50 |
| 35 | BA | 983 | A | C5-C6-N1 | 5.26 | 120.33 | 117.70 |
| 35 | BA | 1324 | A | N3-C4-C5 | -5.26 | 123.12 | 126.80 |
| 37 | BC | 10 | G | N1-C2-N2 | 5.26 | 120.93 | 116.20 |
| 2 | AB | 362 | A | C5-C6-N1 | 5.25 | 120.33 | 117.70 |
| 2 | AB | 1531 | C | C1'-O4'-C4' | -5.25 | 105.70 | 109.90 |
| 2 | AB | 2890 | G | C4-C5-C6 | 5.25 | 121.95 | 118.80 |
| 35 | BA | 292 | G | P-O3'-C3' | 5.25 | 126.01 | 119.70 |
| 35 | BA | 1081 | A | C2-N3-C4 | 5.25 | 113.23 | 110.60 |
| 35 | BA | 1436 | U | C3'-C2'-C1' | 5.25 | 105.70 | 101.50 |
| 43 | BI | 74 | VAL | CA-CB-CG1 | -5.25 | 103.02 | 110.90 |
| 1 | AA | 33 | G | C4-C5-N7 | 5.25 | 112.90 | 110.80 |
| 2 | AB | 103 | A | C1'-O4'-C4' | 5.25 | 114.10 | 109.90 |
| 2 | AB | 157 | C | C3'-C2'-C1' | 5.25 | 105.70 | 101.50 |
| 2 | AB | 493 | G | C5'-C4'-O4' | 5.25 | 115.40 | 109.10 |
| 2 | AB | 1311 | G | N9-C4-C5 | -5.25 | 103.30 | 105.40 |
| 2 | AB | 1428 | C | N1-C1'-C2' | 5.25 | 120.83 | 114.00 |
| 2 | AB | 1679 | A | C8-N9-C4 | -5.25 | 103.70 | 105.80 |
| 2 | AB | 1824 | G | N9-C1'-C2' | -5.25 | 106.22 | 112.00 |
| 2 | AB | 1893 | C | N3-C4-N4 | 5.25 | 121.68 | 118.00 |
| 2 | AB | 1910 | G | C4-N9-C1' | 5.25 | 133.33 | 126.50 |
| 2 | AB | 2083 | G | N7-C8-N9 | 5.25 | 115.73 | 113.10 |
| 2 | AB | 2264 | C | C6-N1-C2 | -5.25 | 118.20 | 120.30 |
| 2 | AB | 2822 | G | C5-C6-N1 | 5.25 | 114.13 | 111.50 |
| 2 | AB | 2885 | G | N3-C2-N2 | 5.25 | 123.58 | 119.90 |
| 35 | BA | 118 | U | C3'-C2'-C1' | 5.25 | 105.70 | 101.50 |
| 35 | BA | 189 | A | C6-N1-C2 | -5.25 | 115.45 | 118.60 |
| 35 | BA | 254 | G | C5-C6-N1 | 5.25 | 114.13 | 111.50 |
| 35 | BA | 489 | C | N1-C2-O2 | 5.25 | 122.05 | 118.90 |
| 35 | BA | 867 | G | C4-C5-N7 | 5.25 | 112.90 | 110.80 |
| 35 | BA | 1186 | G | C5-N7-C8 | 5.25 | 106.93 | 104.30 |
| 35 | BA | 1374 | A | C6-N1-C2 | -5.25 | 115.45 | 118.60 |
| 35 | BA | 1468 | A | O4'-C1'-N9 | 5.25 | 112.40 | 108.20 |
| 35 | BA | 1488 | G | N9-C1'-C2' | -5.25 | 106.22 | 112.00 |
| 36 | BB | 59 | A | N3-C4-N9 | -5.25 | 123.20 | 127.40 |
| 45 | BK | 60 | LEU | O-C-N | -5.25 | 114.30 | 122.70 |
| 1 | AA | 15 | A | C6-N1-C2 | -5.25 | 115.45 | 118.60 |
| 1 | AA | 57 | A | N9-C4-C5 | -5.25 | 103.70 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 637 | A | C6-N1-C2 | 5.25 | 121.75 | 118.60 |
| 2 | AB | 684 | G | N9-C1'-C2' | -5.25 | 106.22 | 112.00 |
| 2 | AB | 931 | U | N1-C2-N3 | -5.25 | 111.75 | 114.90 |
| 2 | AB | 1304 | A | N9-C4-C5 | -5.25 | 103.70 | 105.80 |
| 2 | AB | 1660 | G | N9-C1'-C2' | -5.25 | 106.22 | 112.00 |
| 2 | AB | 2405 | G | N3-C2-N2 | -5.25 | 116.22 | 119.90 |
| 2 | AB | 2842 | G | C4'-C3'-O3' | 5.25 | 123.50 | 113.00 |
| 31 | A4 | 48 | TYR | CB-CG-CD1 | 5.25 | 124.15 | 121.00 |
| 35 | BA | 19 | A | C5-N7-C8 | 5.25 | 106.53 | 103.90 |
| 35 | BA | 322 | C | P-O3'-C3' | 5.25 | 126.00 | 119.70 |
| 54 | BT | 31 | TYR | N-CA-CB | -5.25 | 101.15 | 110.60 |
| 2 | AB | 142 | A | C1'-O4'-C4' | -5.25 | 105.70 | 109.90 |
| 2 | AB | 398 | C | N3-C4-N4 | 5.25 | 121.67 | 118.00 |
| 2 | AB | 1094 | U | N1-C2-N3 | 5.25 | 118.05 | 114.90 |
| 35 | BA | 517 | G | C1'-O4'-C4' | -5.25 | 105.70 | 109.90 |
| 35 | BA | 771 | G | C5'-C4'-O4' | 5.25 | 115.40 | 109.10 |
| 35 | BA | 1225 | A | C5-C6-N1 | -5.25 | 115.08 | 117.70 |
| 35 | BA | 1384 | C | C5'-C4'-C3' | -5.25 | 107.60 | 116.00 |
| 35 | BA | 1421 | G | P-O3'-C3' | 5.25 | 126.00 | 119.70 |
| 43 | BI | 150 | PHE | CB-CG-CD2 | 5.25 | 124.47 | 120.80 |
| 2 | AB | 212 | G | N3-C4-C5 | -5.25 | 125.98 | 128.60 |
| 2 | AB | 254 | G | C5'-C4'-O4' | 5.25 | 115.40 | 109.10 |
| 2 | AB | 358 | U | C3'-C2'-C1' | 5.25 | 105.70 | 101.50 |
| 2 | AB | 403 | U | N3-C2-O2 | -5.25 | 118.53 | 122.20 |
| 2 | AB | 1070 | A | N1-C6-N6 | 5.25 | 121.75 | 118.60 |
| 2 | AB | 1177 | G | N3-C4-N9 | 5.25 | 129.15 | 126.00 |
| 2 | AB | 1239 | G | N3-C2-N2 | 5.25 | 123.57 | 119.90 |
| 2 | AB | 2175 | C | N1-C1'-C2' | -5.25 | 106.23 | 112.00 |
| 2 | AB | 2663 | G | C5-C6-O6 | -5.25 | 125.45 | 128.60 |
| 2 | AB | 2865 | U | C5-C6-N1 | -5.25 | 120.08 | 122.70 |
| 35 | BA | 90 | C | O4'-C1'-N1 | 5.25 | 112.40 | 108.20 |
| 35 | BA | 712 | A | C5-N7-C8 | 5.25 | 106.52 | 103.90 |
| 35 | BA | 1190 | G | C5-N7-C8 | 5.25 | 106.92 | 104.30 |
| 35 | BA | 1296 | C | C3'-C2'-C1' | 5.25 | 105.70 | 101.50 |
| 35 | BA | 1502 | A | C4-C5-N7 | -5.25 | 108.08 | 110.70 |
| 1 | AA | 54 | G | C4'-C3'-C2' | -5.25 | 97.35 | 102.60 |
| 1 | AA | 108 | A | C4-C5-N7 | -5.25 | 108.08 | 110.70 |
| 1 | AA | 110 | C | C3'-C2'-C1' | -5.25 | 97.30 | 101.50 |
| 2 | AB | 725 | G | C4-C5-C6 | 5.25 | 121.95 | 118.80 |
| 2 | AB | 1002 | G | P-O3'-C3' | 5.25 | 126.00 | 119.70 |
| 2 | AB | 1266 | G | C5-C6-O6 | -5.25 | 125.45 | 128.60 |
| 2 | AB | 1416 | G | C4'-C3'-C2' | -5.25 | 97.35 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1478 | G | N9-C4-C5 | 5.25 | 107.50 | 105.40 |
| 2 | AB | 1608 | A | C1'-O4'-C4' | -5.25 | 105.70 | 109.90 |
| 2 | AB | 1755 | A | N9-C4-C5 | 5.25 | 107.90 | 105.80 |
| 2 | AB | 1820 | U | C1'-O4'-C4' | 5.25 | 114.10 | 109.90 |
| 2 | AB | 2218 | G | C4-C5-C6 | -5.25 | 115.65 | 118.80 |
| 2 | AB | 2224 | G | C6-N1-C2 | -5.25 | 121.95 | 125.10 |
| 2 | AB | 2506 | U | C1'-O4'-C4' | -5.25 | 105.70 | 109.90 |
| 2 | AB | 2539 | C | C4-C5-C6 | -5.25 | 114.78 | 117.40 |
| 35 | BA | 202 | G | O4'-C1'-N9 | 5.25 | 112.40 | 108.20 |
| 35 | BA | 591 | U | N3-C4-O4 | -5.25 | 115.73 | 119.40 |
| 35 | BA | 1387 | G | C2-N3-C4 | 5.25 | 114.52 | 111.90 |
| 2 | AB | 529 | A | O5'-P-OP2 | -5.25 | 100.98 | 105.70 |
| 2 | AB | 542 | C | O4'-C1'-N1 | 5.25 | 112.40 | 108.20 |
| 2 | AB | 1215 | G | C5'-C4'-C3' | -5.25 | 107.61 | 116.00 |
| 2 | AB | 1542 | U | C5'-C4'-O4' | 5.25 | 115.39 | 109.10 |
| 2 | AB | 2532 | G | N1-C6-O6 | -5.25 | 116.75 | 119.90 |
| 2 | AB | 2782 | G | C2-N3-C4 | 5.25 | 114.52 | 111.90 |
| 35 | BA | 15 | G | N3-C4-C5 | -5.25 | 125.98 | 128.60 |
| 35 | BA | 94 | G | N3-C4-C5 | 5.25 | 131.22 | 128.60 |
| 35 | BA | 360 | G | O4'-C1'-C2' | -5.25 | 100.56 | 105.80 |
| 35 | BA | 1008 | U | C4'-C3'-C2' | -5.25 | 97.36 | 102.60 |
| 1 | AA | 39 | A | C5-C6-N1 | -5.24 | 115.08 | 117.70 |
| 2 | AB | 568 | U | C5-C6-N1 | 5.24 | 125.32 | 122.70 |
| 2 | AB | 788 | A | P-O3'-C3' | 5.24 | 125.99 | 119.70 |
| 2 | AB | 897 | C | C4-C5-C6 | -5.24 | 114.78 | 117.40 |
| 2 | AB | 929 | U | C4-C5-C6 | 5.24 | 122.85 | 119.70 |
| 2 | AB | 1367 | A | P-O3'-C3' | 5.24 | 125.99 | 119.70 |
| 2 | AB | 2146 | C | N3-C4-N4 | -5.24 | 114.33 | 118.00 |
| 2 | AB | 2201 | G | N3-C2-N2 | -5.24 | 116.23 | 119.90 |
| 2 | AB | 2285 | C | C5'-C4'-O4' | 5.24 | 115.39 | 109.10 |
| 2 | AB | 2346 | A | N9-C4-C5 | 5.24 | 107.90 | 105.80 |
| 2 | AB | 2607 | G | C1'-O4'-C4' | 5.24 | 114.09 | 109.90 |
| 35 | BA | 355 | C | O5'-C5'-C4' | 5.24 | 121.66 | 111.70 |
| 35 | BA | 613 | C | C2-N3-C4 | 5.24 | 122.52 | 119.90 |
| 35 | BA | 676 | A | C2-N3-C4 | 5.24 | 113.22 | 110.60 |
| 35 | BA | 735 | C | C5'-C4'-O4' | 5.24 | 115.39 | 109.10 |
| 35 | BA | 743 | A | C5'-C4'-C3' | -5.24 | 107.61 | 116.00 |
| 35 | BA | 857 | C | O4'-C1'-N1 | 5.24 | 112.39 | 108.20 |
| 35 | BA | 1011 | C | N1-C2-O2 | 5.24 | 122.05 | 118.90 |
| 35 | BA | 1104 | G | N1-C2-N3 | -5.24 | 120.75 | 123.90 |
| 35 | BA | 1180 | A | C8-N9-C4 | -5.24 | 103.70 | 105.80 |
| 40 | BF | 110 | ARG | NE-CZ-NH1 | 5.24 | 122.92 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 7 | G | N1-C2-N3 | -5.24 | 120.75 | 123.90 |
| 2 | AB | 248 | G | C8-N9-C4 | -5.24 | 104.30 | 106.40 |
| 2 | AB | 581 | C | N1-C2-O2 | -5.24 | 115.75 | 118.90 |
| 2 | AB | 735 | A | C4'-C3'-C2' | -5.24 | 97.36 | 102.60 |
| 2 | AB | 1553 | A | N7-C8-N9 | -5.24 | 111.18 | 113.80 |
| 2 | AB | 1556 | C | O4'-C4'-C3' | 5.24 | 110.29 | 106.10 |
| 2 | AB | 1720 | U | C4-C5-C6 | 5.24 | 122.84 | 119.70 |
| 2 | AB | 1952 | A | C2-N3-C4 | 5.24 | 113.22 | 110.60 |
| 2 | AB | 2592 | G | C4-C5-N7 | -5.24 | 108.70 | 110.80 |
| 11 | AK | 55 | PRO | C-N-CA | 5.24 | 134.81 | 121.70 |
| 35 | BA | 119 | A | C1'-O4'-C4' | 5.24 | 114.09 | 109.90 |
| 35 | BA | 412 | A | O3'-P-O5' | -5.24 | 94.04 | 104.00 |
| 35 | BA | 701 | U | P-O3'-C3' | 5.24 | 125.99 | 119.70 |
| 35 | BA | 728 | A | C4-C5-N7 | -5.24 | 108.08 | 110.70 |
| 35 | BA | 1062 | U | C6-N1-C2 | 5.24 | 124.14 | 121.00 |
| 35 | BA | 1120 | C | N3-C4-C5 | 5.24 | 124.00 | 121.90 |
| 35 | BA | 1408 | A | C4'-C3'-C2' | -5.24 | 97.36 | 102.60 |
| 36 | BB | 15 | G | O4'-C1'-N9 | 5.24 | 112.39 | 108.20 |
| 2 | AB | 156 | A | C2-N3-C4 | -5.24 | 107.98 | 110.60 |
| 2 | AB | 555 | G | N9-C4-C5 | 5.24 | 107.50 | 105.40 |
| 2 | AB | 818 | G | C2-N3-C4 | 5.24 | 114.52 | 111.90 |
| 2 | AB | 877 | A | C8-N9-C4 | 5.24 | 107.90 | 105.80 |
| 2 | AB | 1239 | G | C2-N3-C4 | 5.24 | 114.52 | 111.90 |
| 2 | AB | 1326 | U | O5'-P-OP1 | 5.24 | 116.99 | 110.70 |
| 2 | AB | 1425 | G | C4-C5-N7 | 5.24 | 112.90 | 110.80 |
| 2 | AB | 1440 | U | C5'-C4'-O4' | 5.24 | 115.39 | 109.10 |
| 2 | AB | 1653 | G | C4-C5-C6 | -5.24 | 115.66 | 118.80 |
| 2 | AB | 2293 | G | C6-N1-C2 | -5.24 | 121.96 | 125.10 |
| 2 | AB | 2673 | G | C1'-O4'-C4' | -5.24 | 105.71 | 109.90 |
| 2 | AB | 2877 | G | N3-C4-C5 | -5.24 | 125.98 | 128.60 |
| 35 | BA | 69 | G | N3-C4-N9 | 5.24 | 129.15 | 126.00 |
| 35 | BA | 370 | C | N3-C2-O2 | -5.24 | 118.23 | 121.90 |
| 35 | BA | 416 | G | C4-C5-C6 | 5.24 | 121.94 | 118.80 |
| 35 | BA | 422 | C | C6-N1-C1' | -5.24 | 114.51 | 120.80 |
| 35 | BA | 1027 | C | C5'-C4'-C3' | -5.24 | 107.61 | 116.00 |
| 35 | BA | 1247 | U | P-O3'-C3' | 5.24 | 125.99 | 119.70 |
| 35 | BA | 1304 | G | P-O3'-C3' | 5.24 | 125.99 | 119.70 |
| 2 | AB | 30 | G | N7-C8-N9 | 5.24 | 115.72 | 113.10 |
| 2 | AB | 949 | G | N9-C4-C5 | -5.24 | 103.31 | 105.40 |
| 2 | AB | 1009 | A | C6-C5-N7 | 5.24 | 135.97 | 132.30 |
| 2 | AB | 1390 | U | C3'-C2'-C1' | 5.24 | 105.69 | 101.50 |
| 2 | AB | 1476 | U | N3-C2-O2 | -5.24 | 118.53 | 122.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1526 | C | C5-C4-N4 | 5.24 | 123.87 | 120.20 |
| 2 | AB | 1642 | G | C8-N9-C1' | 5.24 | 133.81 | 127.00 |
| 2 | AB | 1682 | G | C8-N9-C4 | 5.24 | 108.50 | 106.40 |
| 2 | AB | 2392 | A | C1'-O4'-C4' | -5.24 | 105.71 | 109.90 |
| 2 | AB | 2427 | C | C3'-C2'-C1' | 5.24 | 105.69 | 101.50 |
| 2 | AB | 2685 | G | N9-C4-C5 | -5.24 | 103.31 | 105.40 |
| 35 | BA | 631 | C | N3-C4-N4 | 5.24 | 121.67 | 118.00 |
| 35 | BA | 750 | C | C1'-O4'-C4' | -5.24 | 105.71 | 109.90 |
| 35 | BA | 1437 | A | O5'-C5'-C4' | 5.24 | 121.65 | 111.70 |
| 35 | BA | 1445 | U | N3-C4-O4 | 5.24 | 123.07 | 119.40 |
| 55 | BU | 9 | PHE | CG-CD2-CE2 | 5.24 | 126.56 | 120.80 |
| 2 | AB | 980 | A | C5-C6-N1 | 5.24 | 120.32 | 117.70 |
| 2 | AB | 1052 | C | N3-C4-C5 | 5.24 | 124.00 | 121.90 |
| 2 | AB | 1076 | C | N3-C4-C5 | -5.24 | 119.81 | 121.90 |
| 2 | AB | 1420 | A | C5-N7-C8 | 5.24 | 106.52 | 103.90 |
| 2 | AB | 1989 | G | C5'-C4'-O4' | 5.24 | 115.38 | 109.10 |
| 2 | AB | 2406 | A | C3'-C2'-C1' | 5.24 | 105.69 | 101.50 |
| 2 | AB | 2791 | G | N9-C1'-C2' | -5.24 | 106.24 | 112.00 |
| 35 | BA | 151 | A | C6-C5-N7 | 5.24 | 135.97 | 132.30 |
| 35 | BA | 803 | G | N1-C2-N2 | 5.24 | 120.91 | 116.20 |
| 35 | BA | 860 | A | N7-C8-N9 | 5.24 | 116.42 | 113.80 |
| 35 | BA | 1051 | C | C2-N1-C1' | -5.24 | 113.04 | 118.80 |
| 1 | AA | 32 | U | C1'-O4'-C4' | -5.24 | 105.71 | 109.90 |
| 2 | AB | 655 | A | P-O5'-C5' | 5.24 | 129.28 | 120.90 |
| 2 | AB | 723 | C | C6-N1-C2 | -5.24 | 118.21 | 120.30 |
| 2 | AB | 726 | G | C2-N3-C4 | 5.24 | 114.52 | 111.90 |
| 2 | AB | 1318 | U | C6-N1-C2 | 5.24 | 124.14 | 121.00 |
| 2 | AB | 1532 | A | C3'-C2'-C1' | -5.24 | 97.31 | 101.50 |
| 2 | AB | 1701 | A | C6-C5-N7 | 5.24 | 135.97 | 132.30 |
| 2 | AB | 1839 | G | C4-C5-N7 | -5.24 | 108.70 | 110.80 |
| 2 | AB | 2495 | G | C2-N3-C4 | 5.24 | 114.52 | 111.90 |
| 2 | AB | 2645 | G | N9-C4-C5 | 5.24 | 107.49 | 105.40 |
| 2 | AB | 2718 | G | N1-C2-N2 | 5.24 | 120.91 | 116.20 |
| 6 | AF | 111 | GLU | OE1-CD-OE2 | 5.24 | 129.58 | 123.30 |
| 35 | BA | 21 | G | N1-C6-O6 | -5.24 | 116.76 | 119.90 |
| 35 | BA | 89 | U | N1-C2-N3 | 5.24 | 118.04 | 114.90 |
| 35 | BA | 218 | U | C4'-C3'-O3' | 5.24 | 123.47 | 113.00 |
| 35 | BA | 860 | A | O4'-C1'-C2' | -5.24 | 100.56 | 105.80 |
| 35 | BA | 1261 | A | C8-N9-C4 | -5.24 | 103.70 | 105.80 |
| 35 | BA | 1394 | A | C5-C6-N6 | -5.24 | 119.51 | 123.70 |
| 1 | AA | 71 | C | C5'-C4'-C3' | -5.23 | 107.63 | 116.00 |
| 2 | AB | 165 | A | N9-C4-C5 | -5.23 | 103.71 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 520 | G | N1-C2-N3 | -5.23 | 120.76 | 123.90 |
| 2 | AB | 524 | G | N3-C2-N2 | -5.23 | 116.24 | 119.90 |
| 2 | AB | 1750 | G | N3-C2-N2 | -5.23 | 116.24 | 119.90 |
| 2 | AB | 2460 | U | N1-C2-N3 | 5.23 | 118.04 | 114.90 |
| 35 | BA | 60 | A | P-O3'-C3' | 5.23 | 125.98 | 119.70 |
| 36 | BB | 55 | A | C2'-C3'-O3' | 5.23 | 122.07 | 113.70 |
| 2 | AB | 146 | A | N3-C4-N9 | 5.23 | 131.59 | 127.40 |
| 2 | AB | 1373 | A | P-O3'-C3' | 5.23 | 125.98 | 119.70 |
| 2 | AB | 1465 | G | C1'-O4'-C4' | -5.23 | 105.71 | 109.90 |
| 2 | AB | 1563 | U | C4'-C3'-C2' | -5.23 | 97.37 | 102.60 |
| 2 | AB | 1828 | G | N7-C8-N9 | 5.23 | 115.72 | 113.10 |
| 2 | AB | 2189 | U | C1'-O4'-C4' | 5.23 | 114.09 | 109.90 |
| 2 | AB | 2549 | G | N9-C1'-C2' | -5.23 | 106.24 | 112.00 |
| 2 | AB | 2553 | G | N7-C8-N9 | 5.23 | 115.72 | 113.10 |
| 2 | AB | 2802 | G | C2-N3-C4 | 5.23 | 114.52 | 111.90 |
| 2 | AB | 2808 | G | N3-C4-C5 | -5.23 | 125.98 | 128.60 |
| 3 | AC | 60 | ARG | NH1-CZ-NH2 | -5.23 | 113.64 | 119.40 |
| 35 | BA | 328 | C | C6-N1-C2 | 5.23 | 122.39 | 120.30 |
| 35 | BA | 592 | G | N3-C4-C5 | -5.23 | 125.98 | 128.60 |
| 35 | BA | 776 | G | N3-C4-C5 | -5.23 | 125.98 | 128.60 |
| 35 | BA | 1490 | U | N3-C4-C5 | 5.23 | 117.74 | 114.60 |
| 1 | AA | 85 | G | N3-C4-N9 | 5.23 | 129.14 | 126.00 |
| 2 | AB | 473 | G | C6-C5-N7 | -5.23 | 127.26 | 130.40 |
| 2 | AB | 1256 | G | N3-C4-N9 | 5.23 | 129.14 | 126.00 |
| 2 | AB | 1408 | G | N1-C2-N2 | 5.23 | 120.91 | 116.20 |
| 2 | AB | 1494 | A | N9-C4-C5 | 5.23 | 107.89 | 105.80 |
| 2 | AB | 1797 | G | N1-C6-O6 | -5.23 | 116.76 | 119.90 |
| 2 | AB | 2159 | G | C8-N9-C4 | -5.23 | 104.31 | 106.40 |
| 2 | AB | 2255 | G | C3'-C2'-C1' | 5.23 | 105.69 | 101.50 |
| 2 | AB | 2723 | C | N3-C2-O2 | -5.23 | 118.24 | 121.90 |
| 35 | BA | 40 | C | C6-N1-C2 | -5.23 | 118.21 | 120.30 |
| 35 | BA | 429 | U | C5-C4-O4 | -5.23 | 122.76 | 125.90 |
| 35 | BA | 917 | G | N3-C2-N2 | 5.23 | 123.56 | 119.90 |
| 35 | BA | 1014 | A | C4'-C3'-C2' | 5.23 | 107.83 | 102.60 |
| 35 | BA | 1267 | C | C4-C5-C6 | 5.23 | 120.02 | 117.40 |
| 35 | BA | 1435 | G | C5-C6-N1 | 5.23 | 114.11 | 111.50 |
| 35 | BA | 1509 | C | N1-C1'-C2' | -5.23 | 106.25 | 112.00 |
| 37 | BC | 73 | A | N1-C6-N6 | 5.23 | 121.74 | 118.60 |
| 2 | AB | 234 | U | C2-N3-C4 | -5.23 | 123.86 | 127.00 |
| 2 | AB | 361 | G | N1-C2-N2 | 5.23 | 120.91 | 116.20 |
| 2 | AB | 697 | G | N3-C4-C5 | -5.23 | 125.98 | 128.60 |
| 2 | AB | 1136 | G | C1'-O4'-C4' | 5.23 | 114.08 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1165 | A | C5-C6-N1 | 5.23 | 120.31 | 117.70 |
| 2 | AB | 2192 | U | C2-N3-C4 | -5.23 | 123.86 | 127.00 |
| 2 | AB | 2709 | G | C4-N9-C1' | 5.23 | 133.30 | 126.50 |
| 35 | BA | 226 | G | C5-C6-N1 | -5.23 | 108.89 | 111.50 |
| 35 | BA | 513 | C | N3-C2-O2 | -5.23 | 118.24 | 121.90 |
| 35 | BA | 636 | U | C5-C4-O4 | -5.23 | 122.76 | 125.90 |
| 35 | BA | 826 | C | C4-C5-C6 | -5.23 | 114.79 | 117.40 |
| 35 | BA | 920 | U | O5'-P-OP1 | -5.23 | 100.99 | 105.70 |
| 35 | BA | 1469 | C | C1'-O4'-C4' | 5.23 | 114.08 | 109.90 |
| 37 | BC | 32 | G | N7-C8-N9 | 5.23 | 115.71 | 113.10 |
| 39 | BE | 96 | VAL | CG1-CB-CG2 | -5.23 | 102.53 | 110.90 |
| 2 | AB | 161 | A | N1-C6-N6 | 5.23 | 121.74 | 118.60 |
| 2 | AB | 446 | G | C4-C5-C6 | -5.23 | 115.66 | 118.80 |
| 2 | AB | 911 | A | C5-C6-N1 | 5.23 | 120.31 | 117.70 |
| 2 | AB | 1889 | A | C1'-O4'-C4' | -5.23 | 105.72 | 109.90 |
| 2 | AB | 2211 | A | C4-C5-N7 | -5.23 | 108.09 | 110.70 |
| 2 | AB | 2402 | U | C1'-O4'-C4' | -5.23 | 105.72 | 109.90 |
| 2 | AB | 2838 | G | C3'-C2'-C1' | 5.23 | 105.68 | 101.50 |
| 15 | AO | 66 | ARG | NE-CZ-NH2 | -5.23 | 117.69 | 120.30 |
| 20 | AT | 75 | VAL | CG1-CB-CG2 | -5.23 | 102.53 | 110.90 |
| 35 | BA | 23 | C | P-O3'-C3' | 5.23 | 125.97 | 119.70 |
| 35 | BA | 312 | C | C4-C5-C6 | -5.23 | 114.79 | 117.40 |
| 35 | BA | 316 | C | C5-C6-N1 | 5.23 | 123.61 | 121.00 |
| 35 | BA | 475 | C | C4-C5-C6 | 5.23 | 120.01 | 117.40 |
| 35 | BA | 588 | G | N1-C2-N3 | -5.23 | 120.76 | 123.90 |
| 35 | BA | 607 | A | N1-C6-N6 | -5.23 | 115.46 | 118.60 |
| 35 | BA | 624 | C | N3-C4-C5 | -5.23 | 119.81 | 121.90 |
| 35 | BA | 708 | C | C5'-C4'-O4' | 5.23 | 115.37 | 109.10 |
| 35 | BA | 765 | G | C6-C5-N7 | -5.23 | 127.26 | 130.40 |
| 35 | BA | 1521 | C | C5-C6-N1 | 5.23 | 123.61 | 121.00 |
| 35 | BA | 1523 | G | C5-N7-C8 | -5.23 | 101.69 | 104.30 |
| 36 | BB | 39 | U | C2'-C3'-O3' | 5.23 | 122.06 | 113.70 |
| 1 | AA | 116 | G | C5-C6-O6 | 5.23 | 131.74 | 128.60 |
| 2 | AB | 1584 | U | C6-N1-C2 | -5.23 | 117.86 | 121.00 |
| 2 | AB | 2163 | A | N3-C4-C5 | -5.23 | 123.14 | 126.80 |
| 2 | AB | 2565 | A | C5-N7-C8 | -5.23 | 101.29 | 103.90 |
| 2 | AB | 2617 | U | P-O3'-C3' | 5.23 | 125.97 | 119.70 |
| 2 | AB | 2857 | G | N3-C2-N2 | -5.23 | 116.24 | 119.90 |
| 35 | BA | 19 | A | C5-C6-N1 | -5.23 | 115.09 | 117.70 |
| 35 | BA | 573 | A | C6-C5-N7 | 5.23 | 135.96 | 132.30 |
| 35 | BA | 575 | G | C1'-O4'-C4' | -5.23 | 105.72 | 109.90 |
| 35 | BA | 1034 | G | N3-C4-N9 | 5.23 | 129.13 | 126.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1206 | G | O4'-C1'-N9 | 5.23 | 112.38 | 108.20 |
| 35 | BA | 1395 | C | C5-C4-N4 | 5.23 | 123.86 | 120.20 |
| 1 | AA | 74 | U | N3-C2-O2 | -5.22 | 118.54 | 122.20 |
| 2 | AB | 600 | G | N3-C4-C5 | -5.22 | 125.99 | 128.60 |
| 2 | AB | 1065 | U | O4'-C1'-N1 | 5.22 | 112.38 | 108.20 |
| 2 | AB | 1096 | A | N1-C6-N6 | -5.22 | 115.47 | 118.60 |
| 2 | AB | 1455 | G | N7-C8-N9 | 5.22 | 115.71 | 113.10 |
| 2 | AB | 1522 | A | C3'-C2'-C1' | 5.22 | 105.68 | 101.50 |
| 2 | AB | 1646 | C | N3-C2-O2 | -5.22 | 118.24 | 121.90 |
| 2 | AB | 1993 | U | C4'-C3'-C2' | -5.22 | 97.38 | 102.60 |
| 2 | AB | 2315 | G | O4'-C1'-C2' | 5.22 | 112.30 | 107.60 |
| 2 | AB | 2327 | A | N1-C6-N6 | -5.22 | 115.47 | 118.60 |
| 2 | AB | 2494 | G | N3-C2-N2 | 5.22 | 123.56 | 119.90 |
| 2 | AB | 2772 | C | O4'-C4'-C3' | -5.22 | 98.78 | 104.00 |
| 8 | AH | 42 | VAL | CG1-CB-CG2 | 5.22 | 119.26 | 110.90 |
| 30 | A3 | 24 | VAL | CA-CB-CG2 | 5.22 | 118.74 | 110.90 |
| 35 | BA | 834 | U | O4'-C1'-N1 | 5.22 | 112.38 | 108.20 |
| 35 | BA | 984 | C | C5-C6-N1 | -5.22 | 118.39 | 121.00 |
| 35 | BA | 1027 | C | C3'-C2'-C1' | 5.22 | 105.68 | 101.50 |
| 35 | BA | 1061 | G | N9-C4-C5 | 5.22 | 107.49 | 105.40 |
| 35 | BA | 1072 | G | C3'-C2'-C1' | 5.22 | 105.68 | 101.50 |
| 35 | BA | 1183 | U | C5-C4-O4 | -5.22 | 122.77 | 125.90 |
| 35 | BA | 1190 | G | C5-C6-O6 | -5.22 | 125.47 | 128.60 |
| 35 | BA | 1394 | A | C5-N7-C8 | -5.22 | 101.29 | 103.90 |
| 35 | BA | 1405 | G | P-O3'-C3' | 5.22 | 125.97 | 119.70 |
| 40 | BF | 45 | PRO | N-CA-CB | 5.22 | 109.57 | 103.30 |
| 43 | BI | 52 | ARG | CD-NE-CZ | 5.22 | 130.91 | 123.60 |
| 2 | AB | 37 | C | C5'-C4'-O4' | 5.22 | 115.37 | 109.10 |
| 2 | AB | 350 | G | C5-C6-O6 | -5.22 | 125.47 | 128.60 |
| 2 | AB | 361 | G | N3-C2-N2 | -5.22 | 116.25 | 119.90 |
| 2 | AB | 1707 | G | O5'-C5'-C4' | -5.22 | 101.78 | 111.70 |
| 2 | AB | 2279 | G | C5-C6-N1 | 5.22 | 114.11 | 111.50 |
| 2 | AB | 2325 | G | N3-C4-N9 | 5.22 | 129.13 | 126.00 |
| 2 | AB | 2835 | A | O5'-C5'-C4' | -5.22 | 101.78 | 111.70 |
| 35 | BA | 292 | G | C5-C6-O6 | -5.22 | 125.47 | 128.60 |
| 35 | BA | 361 | G | C5-N7-C8 | -5.22 | 101.69 | 104.30 |
| 35 | BA | 1180 | A | N3-C4-C5 | -5.22 | 123.14 | 126.80 |
| 35 | BA | 1381 | U | C6-N1-C2 | -5.22 | 117.87 | 121.00 |
| 41 | BG | 116 | VAL | C-N-CA | 5.22 | 134.75 | 121.70 |
| 2 | AB | 96 | C | C6-N1-C2 | -5.22 | 118.21 | 120.30 |
| 2 | AB | 1715 | G | C2-N3-C4 | 5.22 | 114.51 | 111.90 |
| 2 | AB | 1934 | C | C5-C6-N1 | 5.22 | 123.61 | 121.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2386 | A | C4-C5-C6 | -5.22 | 114.39 | 117.00 |
| 2 | AB | 2501 | C | C5'-C4'-C3' | 5.22 | 124.35 | 116.00 |
| 2 | AB | 2573 | C | C5-C6-N1 | 5.22 | 123.61 | 121.00 |
| 2 | AB | 2574 | G | C5'-C4'-O4' | -5.22 | 102.83 | 109.10 |
| 2 | AB | 2610 | C | C2-N3-C4 | 5.22 | 122.51 | 119.90 |
| 2 | AB | 2740 | A | C4'-C3'-C2' | 5.22 | 107.82 | 102.60 |
| 2 | AB | 2903 | U | O3'-P-O5' | -5.22 | 94.08 | 104.00 |
| 35 | BA | 1041 | G | N1-C6-O6 | -5.22 | 116.77 | 119.90 |
| 1 | AA | 111 | U | C4-C5-C6 | 5.22 | 122.83 | 119.70 |
| 2 | AB | 144 | A | C5'-C4'-O4' | 5.22 | 115.36 | 109.10 |
| 2 | AB | 238 | C | N3-C4-C5 | -5.22 | 119.81 | 121.90 |
| 2 | AB | 585 | G | N1-C2-N3 | -5.22 | 120.77 | 123.90 |
| 2 | AB | 631 | A | N1-C2-N3 | 5.22 | 131.91 | 129.30 |
| 2 | AB | 1125 | G | C2-N3-C4 | 5.22 | 114.51 | 111.90 |
| 2 | AB | 1135 | C | C4'-C3'-C2' | -5.22 | 97.38 | 102.60 |
| 2 | AB | 1482 | G | N3-C4-C5 | -5.22 | 125.99 | 128.60 |
| 2 | AB | 1695 | G | C8-N9-C4 | 5.22 | 108.49 | 106.40 |
| 2 | AB | 1870 | C | C3'-C2'-C1' | 5.22 | 105.67 | 101.50 |
| 2 | AB | 2240 | U | N1-C2-O2 | -5.22 | 119.15 | 122.80 |
| 2 | AB | 2283 | C | C6-N1-C1' | 5.22 | 127.06 | 120.80 |
| 30 | A3 | 1 | ALA | CB-CA-C | 5.22 | 117.93 | 110.10 |
| 35 | BA | 81 | A | N1-C6-N6 | 5.22 | 121.73 | 118.60 |
| 35 | BA | 1398 | A | N7-C8-N9 | -5.22 | 111.19 | 113.80 |
| 53 | BS | 21 | VAL | CA-CB-CG2 | 5.22 | 118.73 | 110.90 |
| 2 | AB | 217 | A | C3'-C2'-C1' | -5.22 | 97.33 | 101.50 |
| 2 | AB | 778 | G | N3-C2-N2 | 5.22 | 123.55 | 119.90 |
| 2 | AB | 1111 | A | C6-N1-C2 | 5.22 | 121.73 | 118.60 |
| 2 | AB | 1165 | A | C2-N3-C4 | -5.22 | 107.99 | 110.60 |
| 2 | AB | 1961 | C | C5-C4-N4 | -5.22 | 116.55 | 120.20 |
| 2 | AB | 2627 | G | C5'-C4'-C3' | 5.22 | 124.35 | 116.00 |
| 6 | AF | 187 | VAL | CA-CB-CG1 | 5.22 | 118.73 | 110.90 |
| 35 | BA | 945 | G | N1-C2-N2 | -5.22 | 111.50 | 116.20 |
| 35 | BA | 1399 | C | P-O3'-C3' | 5.22 | 125.96 | 119.70 |
| 2 | AB | 148 | U | N3-C4-C5 | -5.22 | 111.47 | 114.60 |
| 2 | AB | 529 | A | C3'-C2'-C1' | -5.22 | 97.33 | 101.50 |
| 2 | AB | 778 | G | N7-C8-N9 | 5.22 | 115.71 | 113.10 |
| 2 | AB | 877 | A | N3-C4-N9 | 5.22 | 131.57 | 127.40 |
| 2 | AB | 1463 | C | C4'-C3'-C2' | -5.22 | 97.38 | 102.60 |
| 2 | AB | 2469 | A | N9-C1'-C2' | -5.22 | 106.26 | 112.00 |
| 2 | AB | 2507 | C | C5'-C4'-O4' | 5.22 | 115.36 | 109.10 |
| 2 | AB | 2812 | G | C5-C6-N1 | 5.22 | 114.11 | 111.50 |
| 2 | AB | 2816 | G | C1'-O4'-C4' | -5.22 | 105.73 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 8 | AH | 78 | VAL | CA-CB-CG1 | 5.22 | 118.73 | 110.90 |
| 35 | BA | 92 | U | N3-C4-O4 | 5.22 | 123.05 | 119.40 |
| 35 | BA | 177 | G | C4-N9-C1' | 5.22 | 133.28 | 126.50 |
| 35 | BA | 191 | G | N3-C4-N9 | 5.22 | 129.13 | 126.00 |
| 35 | BA | 372 | C | P-O3'-C3' | 5.22 | 125.96 | 119.70 |
| 35 | BA | 523 | A | C4-C5-N7 | -5.22 | 108.09 | 110.70 |
| 35 | BA | 637 | C | O4'-C1'-N1 | 5.22 | 112.37 | 108.20 |
| 35 | BA | 726 | C | N1-C2-O2 | 5.22 | 122.03 | 118.90 |
| 35 | BA | 749 | A | C4-C5-C6 | 5.22 | 119.61 | 117.00 |
| 35 | BA | 824 | G | O4'-C1'-N9 | 5.22 | 112.37 | 108.20 |
| 35 | BA | 1128 | C | C4'-C3'-C2' | -5.22 | 97.38 | 102.60 |
| 35 | BA | 1513 | A | C1'-O4'-C4' | -5.22 | 105.73 | 109.90 |
| 40 | BF | 49 | ASP | CB-CG-OD1 | 5.22 | 123.00 | 118.30 |
| 46 | BL | 78 | GLU | OE1-CD-OE2 | 5.22 | 129.56 | 123.30 |
| 56 | BV | 40 | ALA | CB-CA-C | -5.22 | 102.28 | 110.10 |
| 2 | AB | 66 | C | C5'-C4'-C3' | -5.21 | 107.66 | 116.00 |
| 2 | AB | 221 | A | C4-C5-C6 | -5.21 | 114.39 | 117.00 |
| 2 | AB | 236 | C | N1-C1'-C2' | -5.21 | 106.26 | 112.00 |
| 2 | AB | 281 | C | O3'-P-O5' | -5.21 | 94.09 | 104.00 |
| 2 | AB | 473 | G | C5-N7-C8 | 5.21 | 106.91 | 104.30 |
| 2 | AB | 1082 | U | C2-N3-C4 | -5.21 | 123.87 | 127.00 |
| 2 | AB | 1160 | G | N3-C2-N2 | 5.21 | 123.55 | 119.90 |
| 2 | AB | 1405 | U | O4'-C1'-N1 | 5.21 | 112.37 | 108.20 |
| 2 | AB | 2578 | G | C5-C6-O6 | -5.21 | 125.47 | 128.60 |
| 2 | AB | 2818 | U | C4'-C3'-C2' | -5.21 | 97.39 | 102.60 |
| 35 | BA | 199 | A | P-O3'-C3' | 5.21 | 125.96 | 119.70 |
| 35 | BA | 568 | G | C2-N3-C4 | 5.21 | 114.51 | 111.90 |
| 35 | BA | 603 | U | C4-C5-C6 | 5.21 | 122.83 | 119.70 |
| 35 | BA | 976 | G | C4-C5-N7 | 5.21 | 112.89 | 110.80 |
| 35 | BA | 1234 | C | N1-C2-O2 | 5.21 | 122.03 | 118.90 |
| 42 | BH | 114 | ASP | CB-CG-OD2 | 5.21 | 122.99 | 118.30 |
| 35 | BA | 156 | C | C4'-C3'-C2' | -5.21 | 97.39 | 102.60 |
| 35 | BA | 673 | A | C5-C6-N6 | -5.21 | 119.53 | 123.70 |
| 2 | AB | 376 | G | N3-C4-C5 | -5.21 | 125.99 | 128.60 |
| 2 | AB | 660 | C | C3'-C2'-C1' | 5.21 | 105.67 | 101.50 |
| 2 | AB | 1040 | A | C4-C5-C6 | 5.21 | 119.61 | 117.00 |
| 2 | AB | 1072 | C | N1-C2-O2 | 5.21 | 122.03 | 118.90 |
| 2 | AB | 1125 | G | C2'-C3'-O3' | 5.21 | 122.04 | 113.70 |
| 2 | AB | 1137 | G | C1'-O4'-C4' | -5.21 | 105.73 | 109.90 |
| 2 | AB | 1244 | A | N7-C8-N9 | 5.21 | 116.41 | 113.80 |
| 2 | AB | 1545 | A | C5'-C4'-O4' | 5.21 | 115.35 | 109.10 |
| 2 | AB | 1813 | G | N1-C6-O6 | 5.21 | 123.03 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1870 | C | C4'-C3'-C2' | -5.21 | 97.39 | 102.60 |
| 2 | AB | 1949 | G | C1'-O4'-C4' | -5.21 | 105.73 | 109.90 |
| 2 | AB | 2678 | C | N3-C4-C5 | -5.21 | 119.82 | 121.90 |
| 35 | BA | 73 | C | N1-C1'-C2' | -5.21 | 106.27 | 112.00 |
| 35 | BA | 957 | U | C5-C6-N1 | -5.21 | 120.09 | 122.70 |
| 1 | AA | 76 | G | C5'-C4'-O4' | 5.21 | 115.35 | 109.10 |
| 2 | AB | 471 | A | O4'-C1'-C2' | 5.21 | 112.29 | 107.60 |
| 2 | AB | 534 | U | C2'-C3'-O3' | 5.21 | 122.04 | 113.70 |
| 2 | AB | 1990 | C | N3-C4-C5 | 5.21 | 123.98 | 121.90 |
| 2 | AB | 2175 | C | C5-C6-N1 | -5.21 | 118.39 | 121.00 |
| 2 | AB | 2233 | U | C5'-C4'-O4' | 5.21 | 115.35 | 109.10 |
| 2 | AB | 2423 | U | C3'-C2'-C1' | -5.21 | 97.33 | 101.50 |
| 2 | AB | 2527 | C | C4-C5-C6 | 5.21 | 120.00 | 117.40 |
| 35 | BA | 1442 | G | C6-C5-N7 | 5.21 | 133.53 | 130.40 |
| 2 | AB | 1177 | G | C2-N3-C4 | 5.21 | 114.50 | 111.90 |
| 2 | AB | 1253 | A | C3'-C2'-C1' | -5.21 | 97.33 | 101.50 |
| 2 | AB | 1255 | U | C5'-C4'-O4' | 5.21 | 115.35 | 109.10 |
| 2 | AB | 1481 | U | N3-C4-C5 | -5.21 | 111.47 | 114.60 |
| 2 | AB | 1596 | A | C3'-C2'-C1' | -5.21 | 97.33 | 101.50 |
| 2 | AB | 1601 | G | N3-C2-N2 | 5.21 | 123.55 | 119.90 |
| 2 | AB | 1897 | G | C6-C5-N7 | -5.21 | 127.28 | 130.40 |
| 2 | AB | 1968 | G | C4'-C3'-C2' | -5.21 | 97.39 | 102.60 |
| 2 | AB | 2379 | G | N1-C2-N2 | 5.21 | 120.89 | 116.20 |
| 2 | AB | 2442 | C | C6-N1-C2 | -5.21 | 118.22 | 120.30 |
| 2 | AB | 2454 | G | C4-C5-N7 | 5.21 | 112.88 | 110.80 |
| 2 | AB | 2747 | G | O4'-C1'-C2' | 5.21 | 112.29 | 107.60 |
| 2 | AB | 2803 | G | N1-C2-N3 | -5.21 | 120.78 | 123.90 |
| 2 | AB | 2862 | G | C5-C6-N1 | 5.21 | 114.10 | 111.50 |
| 4 | AD | 132 | ARG | NE-CZ-NH1 | 5.21 | 122.90 | 120.30 |
| 35 | BA | 230 | G | C6-N1-C2 | -5.21 | 121.97 | 125.10 |
| 35 | BA | 396 | C | O3'-P-O5' | -5.21 | 94.10 | 104.00 |
| 35 | BA | 1179 | A | C5-N7-C8 | -5.21 | 101.30 | 103.90 |
| 35 | BA | 1232 | U | C5'-C4'-C3' | -5.21 | 107.67 | 116.00 |
| 35 | BA | 1475 | G | N3-C4-C5 | -5.21 | 126.00 | 128.60 |
| 37 | BC | 11 | A | P-O3'-C3' | 5.21 | 125.95 | 119.70 |
| 2 | AB | 140 | C | C5'-C4'-O4' | 5.21 | 115.35 | 109.10 |
| 2 | AB | 285 | G | P-O3'-C3' | 5.21 | 125.95 | 119.70 |
| 2 | AB | 663 | G | N1-C2-N3 | -5.21 | 120.78 | 123.90 |
| 2 | AB | 782 | A | C5-C6-N6 | -5.21 | 119.53 | 123.70 |
| 2 | AB | 880 | G | N3-C2-N2 | 5.21 | 123.54 | 119.90 |
| 2 | AB | 985 | C | N3-C2-O2 | -5.21 | 118.26 | 121.90 |
| 2 | AB | 1897 | G | C5-N7-C8 | -5.21 | 101.70 | 104.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2730 | C | C2-N3-C4 | 5.21 | 122.50 | 119.90 |
| 13 | AM | 39 | ILE | CA-CB-CG1 | 5.21 | 120.89 | 111.00 |
| 35 | BA | 1415 | G | N7-C8-N9 | 5.21 | 115.70 | 113.10 |
| 2 | AB | 76 | C | N1-C2-N3 | -5.21 | 115.56 | 119.20 |
| 2 | AB | 122 | G | N3-C4-N9 | -5.21 | 122.88 | 126.00 |
| 2 | AB | 470 | A | N9-C4-C5 | -5.21 | 103.72 | 105.80 |
| 2 | AB | 710 | U | C5'-C4'-O4' | -5.21 | 102.85 | 109.10 |
| 2 | AB | 1071 | G | C2-N3-C4 | 5.21 | 114.50 | 111.90 |
| 2 | AB | 1214 | A | N7-C8-N9 | -5.21 | 111.20 | 113.80 |
| 2 | AB | 1666 | G | C4-C5-C6 | 5.21 | 121.92 | 118.80 |
| 2 | AB | 2410 | G | C4-C5-C6 | 5.21 | 121.92 | 118.80 |
| 35 | BA | 573 | A | C5'-C4'-O4' | 5.21 | 115.34 | 109.10 |
| 35 | BA | 1364 | U | O4'-C1'-C2' | -5.21 | 100.59 | 105.80 |
| 1 | AA | 21 | G | N7-C8-N9 | -5.20 | 110.50 | 113.10 |
| 2 | AB | 132 | G | N9-C1'-C2' | -5.20 | 106.28 | 112.00 |
| 2 | AB | 875 | G | C5-N7-C8 | -5.20 | 101.70 | 104.30 |
| 2 | AB | 998 | C | C5'-C4'-O4' | 5.20 | 115.34 | 109.10 |
| 2 | AB | 1342 | A | C4-C5-N7 | -5.20 | 108.10 | 110.70 |
| 2 | AB | 1756 | G | C4-C5-N7 | -5.20 | 108.72 | 110.80 |
| 2 | AB | 1816 | C | C5'-C4'-C3' | -5.20 | 107.67 | 116.00 |
| 2 | AB | 1859 | U | C5'-C4'-O4' | 5.20 | 115.34 | 109.10 |
| 2 | AB | 2063 | C | C5'-C4'-O4' | 5.20 | 115.34 | 109.10 |
| 2 | AB | 2147 | A | C5'-C4'-C3' | -5.20 | 107.67 | 116.00 |
| 2 | AB | 2587 | A | C5-N7-C8 | -5.20 | 101.30 | 103.90 |
| 2 | AB | 2649 | C | C4'-C3'-C2' | -5.20 | 97.40 | 102.60 |
| 2 | AB | 2737 | G | N9-C4-C5 | 5.20 | 107.48 | 105.40 |
| 2 | AB | 2750 | A | OP1-P-OP2 | 5.20 | 127.40 | 119.60 |
| 35 | BA | 850 | U | N3-C2-O2 | -5.20 | 118.56 | 122.20 |
| 35 | BA | 857 | C | N3-C4-C5 | -5.20 | 119.82 | 121.90 |
| 35 | BA | 1064 | G | C6-C5-N7 | -5.20 | 127.28 | 130.40 |
| 35 | BA | 1413 | A | N1-C2-N3 | -5.20 | 126.70 | 129.30 |
| 1 | AA | 104 | A | P-O3'-C3' | 5.20 | 125.94 | 119.70 |
| 2 | AB | 423 | A | C5-N7-C8 | -5.20 | 101.30 | 103.90 |
| 2 | AB | 594 | U | C4-C5-C6 | 5.20 | 122.82 | 119.70 |
| 2 | AB | 810 | U | O4'-C1'-C2' | 5.20 | 112.28 | 107.60 |
| 2 | AB | 1283 | G | C3'-C2'-C1' | -5.20 | 97.34 | 101.50 |
| 2 | AB | 1358 | G | C5-C6-N1 | 5.20 | 114.10 | 111.50 |
| 2 | AB | 1488 | C | C3'-C2'-C1' | 5.20 | 105.66 | 101.50 |
| 2 | AB | 2214 | C | C2-N3-C4 | 5.20 | 122.50 | 119.90 |
| 2 | AB | 2380 | C | C3'-C2'-C1' | 5.20 | 105.66 | 101.50 |
| 2 | AB | 2477 | U | C2-N1-C1' | 5.20 | 123.94 | 117.70 |
| 30 | A3 | 15 | ARG | NE-CZ-NH1 | -5.20 | 117.70 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 568 | G | N9-C4-C5 | 5.20 | 107.48 | 105.40 |
| 35 | BA | 1401 | G | C5'-C4'-C3' | -5.20 | 107.68 | 116.00 |
| 37 | BC | 4 | G | C1'-O4'-C4' | 5.20 | 114.06 | 109.90 |
| 1 | AA | 51 | G | N1-C2-N3 | 5.20 | 127.02 | 123.90 |
| 2 | AB | 118 | A | N1-C6-N6 | 5.20 | 121.72 | 118.60 |
| 2 | AB | 286 | U | C2-N3-C4 | 5.20 | 130.12 | 127.00 |
| 2 | AB | 501 | A | C5-C6-N1 | 5.20 | 120.30 | 117.70 |
| 2 | AB | 579 | G | N1-C2-N2 | 5.20 | 120.88 | 116.20 |
| 2 | AB | 583 | G | N9-C4-C5 | 5.20 | 107.48 | 105.40 |
| 2 | AB | 715 | A | C8-N9-C4 | 5.20 | 107.88 | 105.80 |
| 2 | AB | 1816 | C | C5'-C4'-O4' | 5.20 | 115.34 | 109.10 |
| 2 | AB | 2279 | G | N3-C2-N2 | -5.20 | 116.26 | 119.90 |
| 2 | AB | 2447 | G | N9-C4-C5 | -5.20 | 103.32 | 105.40 |
| 2 | AB | 2621 | G | C4-N9-C1' | -5.20 | 119.74 | 126.50 |
| 2 | AB | 2773 | C | N3-C4-N4 | 5.20 | 121.64 | 118.00 |
| 14 | AN | 61 | LEU | CB-CG-CD2 | 5.20 | 119.84 | 111.00 |
| 35 | BA | 235 | C | N3-C4-N4 | 5.20 | 121.64 | 118.00 |
| 35 | BA | 895 | G | C4-C5-N7 | -5.20 | 108.72 | 110.80 |
| 35 | BA | 1396 | A | N9-C1'-C2' | -5.20 | 106.28 | 112.00 |
| 35 | BA | 1404 | C | C5-C6-N1 | 5.20 | 123.60 | 121.00 |
| 35 | BA | 1493 | A | C5'-C4'-O4' | 5.20 | 115.34 | 109.10 |
| 2 | AB | 34 | U | C6-N1-C2 | -5.20 | 117.88 | 121.00 |
| 2 | AB | 46 | G | N3-C4-C5 | -5.20 | 126.00 | 128.60 |
| 2 | AB | 304 | U | N3-C2-O2 | -5.20 | 118.56 | 122.20 |
| 2 | AB | 692 | C | N3-C4-N4 | 5.20 | 121.64 | 118.00 |
| 2 | AB | 836 | G | C6-N1-C2 | -5.20 | 121.98 | 125.10 |
| 2 | AB | 909 | A | C4'-C3'-C2' | -5.20 | 97.40 | 102.60 |
| 2 | AB | 1112 | G | C4'-C3'-C2' | -5.20 | 97.40 | 102.60 |
| 2 | AB | 1161 | C | N3-C4-C5 | -5.20 | 119.82 | 121.90 |
| 2 | AB | 1449 | G | C2-N3-C4 | 5.20 | 114.50 | 111.90 |
| 2 | AB | 1501 | G | N3-C2-N2 | -5.20 | 116.26 | 119.90 |
| 2 | AB | 1521 | G | N1-C2-N3 | -5.20 | 120.78 | 123.90 |
| 2 | AB | 1935 | G | N1-C6-O6 | -5.20 | 116.78 | 119.90 |
| 2 | AB | 2188 | U | C6-N1-C2 | -5.20 | 117.88 | 121.00 |
| 2 | AB | 2263 | C | N3-C2-O2 | -5.20 | 118.26 | 121.90 |
| 2 | AB | 2818 | U | C1'-O4'-C4' | -5.20 | 105.74 | 109.90 |
| 7 | AG | 83 | PRO | N-CA-CB | 5.20 | 109.54 | 103.30 |
| 35 | BA | 39 | G | N7-C8-N9 | -5.20 | 110.50 | 113.10 |
| 35 | BA | 416 | G | C6-N1-C2 | -5.20 | 121.98 | 125.10 |
| 35 | BA | 480 | U | C5'-C4'-O4' | 5.20 | 115.34 | 109.10 |
| 35 | BA | 495 | A | C5-C6-N1 | -5.20 | 115.10 | 117.70 |
| 35 | BA | 562 | U | C1'-O4'-C4' | 5.20 | 114.06 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 997 | U | N1-C2-O2 | 5.20 | 126.44 | 122.80 |
| 40 | BF | 30 | LYS | CB-CA-C | 5.20 | 120.80 | 110.40 |
| 2 | AB | 802 | A | O4'-C4'-C3' | 5.20 | 110.26 | 106.10 |
| 2 | AB | 2076 | U | C6-N1-C1' | -5.20 | 113.92 | 121.20 |
| 2 | AB | 2132 | U | P-O3'-C3' | 5.20 | 125.94 | 119.70 |
| 2 | AB | 2780 | G | C5-C6-N1 | 5.20 | 114.10 | 111.50 |
| 14 | AN | 3 | LEU | CB-CG-CD1 | 5.20 | 119.83 | 111.00 |
| 15 | AO | 21 | ALA | N-CA-CB | 5.20 | 117.38 | 110.10 |
| 35 | BA | 1027 | C | N3-C4-C5 | -5.20 | 119.82 | 121.90 |
| 2 | AB | 117 | G | P-O5'-C5' | 5.20 | 129.21 | 120.90 |
| 2 | AB | 195 | A | C5'-C4'-O4' | 5.20 | 115.33 | 109.10 |
| 2 | AB | 862 | G | P-O3'-C3' | 5.20 | 125.93 | 119.70 |
| 2 | AB | 1334 | G | C5-C6-N1 | 5.20 | 114.10 | 111.50 |
| 2 | AB | 1722 | A | C2'-C3'-O3' | 5.20 | 122.01 | 113.70 |
| 2 | AB | 1867 | G | O4'-C1'-N9 | 5.20 | 112.36 | 108.20 |
| 2 | AB | 1920 | C | P-O3'-C3' | 5.20 | 125.94 | 119.70 |
| 2 | AB | 1976 | U | N3-C4-O4 | 5.20 | 123.04 | 119.40 |
| 2 | AB | 2014 | A | C6-N1-C2 | -5.20 | 115.48 | 118.60 |
| 2 | AB | 2131 | U | N3-C4-C5 | -5.20 | 111.48 | 114.60 |
| 2 | AB | 2177 | C | C1'-O4'-C4' | -5.20 | 105.74 | 109.90 |
| 2 | AB | 2537 | U | N3-C4-O4 | 5.20 | 123.04 | 119.40 |
| 4 | AD | 51 | ARG | NE-CZ-NH1 | 5.20 | 122.90 | 120.30 |
| 35 | BA | 160 | A | C4-C5-C6 | -5.20 | 114.40 | 117.00 |
| 35 | BA | 195 | A | C2-N3-C4 | 5.20 | 113.20 | 110.60 |
| 35 | BA | 237 | G | OP1-P-OP2 | 5.20 | 127.39 | 119.60 |
| 35 | BA | 557 | G | O4'-C1'-N9 | 5.20 | 112.36 | 108.20 |
| 35 | BA | 718 | A | P-O3'-C3' | 5.20 | 125.93 | 119.70 |
| 35 | BA | 946 | A | O5'-P-OP2 | -5.20 | 101.03 | 105.70 |
| 35 | BA | 985 | C | C2-N3-C4 | -5.20 | 117.30 | 119.90 |
| 2 | AB | 6 | A | C8-N9-C4 | -5.19 | 103.72 | 105.80 |
| 2 | AB | 527 | C | C3'-C2'-C1' | -5.19 | 97.34 | 101.50 |
| 2 | AB | 553 | G | C4-N9-C1' | -5.19 | 119.75 | 126.50 |
| 2 | AB | 718 | A | C4-C5-C6 | 5.19 | 119.60 | 117.00 |
| 2 | AB | 809 | G | C4'-C3'-C2' | -5.19 | 97.41 | 102.60 |
| 6 | AF | 161 | ALA | CB-CA-C | -5.19 | 102.31 | 110.10 |
| 35 | BA | 149 | A | N1-C6-N6 | -5.19 | 115.48 | 118.60 |
| 35 | BA | 386 | C | C2-N1-C1' | -5.19 | 113.09 | 118.80 |
| 35 | BA | 520 | A | N1-C6-N6 | -5.19 | 115.48 | 118.60 |
| 35 | BA | 602 | A | C5-C6-N1 | -5.19 | 115.10 | 117.70 |
| 35 | BA | 1130 | A | C4-C5-C6 | 5.19 | 119.60 | 117.00 |
| 35 | BA | 1522 | U | C6-N1-C2 | -5.19 | 117.88 | 121.00 |
| 39 | BE | 171 | ARG | NE-CZ-NH1 | 5.19 | 122.90 | 120.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 241 | A | C5-N7-C8 | -5.19 | 101.30 | 103.90 |
| 2 | AB | 245 | G | C5'-C4'-O4' | 5.19 | 115.33 | 109.10 |
| 2 | AB | 454 | A | C8-N9-C4 | 5.19 | 107.88 | 105.80 |
| 2 | AB | 1363 | C | P-O3'-C3' | 5.19 | 125.93 | 119.70 |
| 2 | AB | 2858 | C | C4'-C3'-C2' | 5.19 | 107.79 | 102.60 |
| 19 | AS | 29 | ARG | NE-CZ-NH1 | 5.19 | 122.90 | 120.30 |
| 35 | BA | 16 | A | O4'-C4'-C3' | -5.19 | 98.81 | 104.00 |
| 35 | BA | 266 | G | O3'-P-O5' | 5.19 | 113.86 | 104.00 |
| 35 | BA | 775 | G | N3-C4-N9 | -5.19 | 122.88 | 126.00 |
| 2 | AB | 498 | G | C5-N7-C8 | -5.19 | 101.70 | 104.30 |
| 2 | AB | 528 | A | P-O3'-C3' | 5.19 | 125.93 | 119.70 |
| 2 | AB | 528 | A | O4'-C1'-C2' | 5.19 | 112.27 | 107.60 |
| 2 | AB | 579 | G | C5-C6-O6 | -5.19 | 125.48 | 128.60 |
| 2 | AB | 1248 | G | C3'-C2'-C1' | 5.19 | 105.65 | 101.50 |
| 2 | AB | 1342 | A | C1'-O4'-C4' | -5.19 | 105.75 | 109.90 |
| 2 | AB | 1421 | G | C6-C5-N7 | -5.19 | 127.28 | 130.40 |
| 2 | AB | 1423 | G | N1-C2-N2 | -5.19 | 111.53 | 116.20 |
| 2 | AB | 1770 | G | C2-N3-C4 | 5.19 | 114.50 | 111.90 |
| 2 | AB | 1802 | A | N3-C4-N9 | 5.19 | 131.55 | 127.40 |
| 2 | AB | 2401 | U | N3-C4-C5 | -5.19 | 111.48 | 114.60 |
| 2 | AB | 2544 | G | C2'-C3'-O3' | 5.19 | 122.00 | 113.70 |
| 24 | AX | 12 | GLN | O-C-N | -5.19 | 114.38 | 123.20 |
| 35 | BA | 584 | G | O5'-P-OP2 | -5.19 | 101.03 | 105.70 |
| 35 | BA | 838 | G | C8-N9-C4 | -5.19 | 104.32 | 106.40 |
| 35 | BA | 961 | U | C4'-C3'-C2' | -5.19 | 97.41 | 102.60 |
| 35 | BA | 1090 | U | N1-C2-O2 | -5.19 | 119.17 | 122.80 |
| 35 | BA | 1107 | C | C4-C5-C6 | 5.19 | 120.00 | 117.40 |
| 35 | BA | 1131 | G | C5-N7-C8 | 5.19 | 106.89 | 104.30 |
| 35 | BA | 1305 | G | C4-C5-C6 | 5.19 | 121.91 | 118.80 |
| 35 | BA | 1352 | C | N3-C4-C5 | 5.19 | 123.98 | 121.90 |
| 35 | BA | 1375 | A | C4-C5-C6 | 5.19 | 119.60 | 117.00 |
| 35 | BA | 1418 | A | C4-C5-N7 | -5.19 | 108.11 | 110.70 |
| 35 | BA | 1441 | A | C4'-C3'-C2' | -5.19 | 97.41 | 102.60 |
| 37 | BC | 75 | C | C5'-C4'-O4' | 5.19 | 115.33 | 109.10 |
| 2 | AB | 735 | A | P-O3'-C3' | 5.19 | 125.93 | 119.70 |
| 2 | AB | 1669 | A | N3-C4-C5 | -5.19 | 123.17 | 126.80 |
| 2 | AB | 1981 | A | N1-C6-N6 | -5.19 | 115.49 | 118.60 |
| 2 | AB | 2415 | G | N3-C4-C5 | -5.19 | 126.01 | 128.60 |
| 2 | AB | 2439 | A | C6-N1-C2 | -5.19 | 115.49 | 118.60 |
| 2 | AB | 2665 | A | C4-C5-N7 | 5.19 | 113.29 | 110.70 |
| 25 | AY | 38 | ARG | CD-NE-CZ | 5.19 | 130.87 | 123.60 |
| 35 | BA | 254 | G | N3-C2-N2 | -5.19 | 116.27 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 698 | G | N3-C4-N9 | 5.19 | 129.11 | 126.00 |
| 35 | BA | 851 | G | O4'-C1'-N9 | 5.19 | 112.35 | 108.20 |
| 35 | BA | 867 | G | O5'-P-OP2 | 5.19 | 116.93 | 110.70 |
| 35 | BA | 1106 | G | N7-C8-N9 | 5.19 | 115.69 | 113.10 |
| 35 | BA | 1228 | C | C5-C4-N4 | -5.19 | 116.57 | 120.20 |
| 37 | BC | 19 | G | N7-C8-N9 | 5.19 | 115.69 | 113.10 |
| 1 | AA | 117 | G | C4-N9-C1' | -5.19 | 119.76 | 126.50 |
| 2 | AB | 669 | G | N3-C4-N9 | -5.19 | 122.89 | 126.00 |
| 2 | AB | 748 | G | C1'-O4'-C4' | -5.19 | 105.75 | 109.90 |
| 2 | AB | 1237 | A | C8-N9-C4 | -5.19 | 103.72 | 105.80 |
| 2 | AB | 1412 | U | C1'-O4'-C4' | -5.19 | 105.75 | 109.90 |
| 2 | AB | 1473 | G | C5-C6-O6 | -5.19 | 125.49 | 128.60 |
| 2 | AB | 1491 | G | C5-C6-N1 | 5.19 | 114.09 | 111.50 |
| 2 | AB | 2013 | A | N3-C4-C5 | -5.19 | 123.17 | 126.80 |
| 2 | AB | 2041 | U | C4'-C3'-C2' | -5.19 | 97.41 | 102.60 |
| 2 | AB | 2100 | G | N1-C6-O6 | 5.19 | 123.01 | 119.90 |
| 2 | AB | 2147 | A | C4-C5-N7 | -5.19 | 108.11 | 110.70 |
| 2 | AB | 2253 | G | N3-C4-N9 | -5.19 | 122.89 | 126.00 |
| 2 | AB | 2727 | A | C5-N7-C8 | 5.19 | 106.49 | 103.90 |
| 35 | BA | 150 | U | N3-C4-C5 | -5.19 | 111.49 | 114.60 |
| 35 | BA | 492 | C | C4-C5-C6 | -5.19 | 114.81 | 117.40 |
| 35 | BA | 585 | G | C8-N9-C1' | 5.19 | 133.74 | 127.00 |
| 35 | BA | 628 | G | C4-C5-N7 | 5.19 | 112.88 | 110.80 |
| 35 | BA | 1071 | C | N3-C2-O2 | -5.19 | 118.27 | 121.90 |
| 35 | BA | 1278 | G | N3-C2-N2 | 5.19 | 123.53 | 119.90 |
| 35 | BA | 1527 | U | O4'-C1'-C2' | -5.19 | 100.61 | 105.80 |
| 36 | BB | 17 | U | N3-C2-O2 | -5.19 | 118.57 | 122.20 |
| 36 | BB | 28 | U | C4'-C3'-C2' | -5.19 | 97.41 | 102.60 |
| 43 | BI | 80 | GLY | C-N-CA | 5.19 | 133.19 | 122.30 |
| 2 | AB | 606 | U | C1'-O4'-C4' | -5.19 | 105.75 | 109.90 |
| 2 | AB | 792 | A | C6-C5-N7 | 5.19 | 135.93 | 132.30 |
| 2 | AB | 981 | A | C5'-C4'-O4' | 5.19 | 115.32 | 109.10 |
| 2 | AB | 1086 | A | C1'-O4'-C4' | 5.19 | 114.05 | 109.90 |
| 2 | AB | 1387 | A | C2-N3-C4 | -5.19 | 108.01 | 110.60 |
| 2 | AB | 1840 | G | C5'-C4'-C3' | -5.19 | 107.70 | 116.00 |
| 2 | AB | 2244 | U | N3-C2-O2 | 5.19 | 125.83 | 122.20 |
| 2 | AB | 2391 | G | C5'-C4'-C3' | -5.19 | 107.70 | 116.00 |
| 2 | AB | 2518 | A | C5-N7-C8 | -5.19 | 101.31 | 103.90 |
| 2 | AB | 2744 | G | C5-C6-N1 | -5.19 | 108.91 | 111.50 |
| 35 | BA | 158 | G | C8-N9-C4 | -5.19 | 104.33 | 106.40 |
| 35 | BA | 289 | G | C5-N7-C8 | 5.19 | 106.89 | 104.30 |
| 35 | BA | 363 | A | C5-C6-N1 | 5.19 | 120.29 | 117.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 739 | C | C1'-O4'-C4' | -5.19 | 105.75 | 109.90 |
| 35 | BA | 740 | U | N1-C2-O2 | -5.19 | 119.17 | 122.80 |
| 35 | BA | 759 | A | C8-N9-C4 | -5.19 | 103.72 | 105.80 |
| 41 | BG | 56 | PRO | N-CA-CB | 5.19 | 109.52 | 103.30 |
| 2 | AB | 187 | G | C5-C6-N1 | 5.18 | 114.09 | 111.50 |
| 2 | AB | 305 | C | C6-N1-C2 | -5.18 | 118.23 | 120.30 |
| 2 | AB | 358 | U | C4-C5-C6 | 5.18 | 122.81 | 119.70 |
| 2 | AB | 908 | C | C5'-C4'-C3' | -5.18 | 107.70 | 116.00 |
| 2 | AB | 920 | A | N1-C2-N3 | 5.18 | 131.89 | 129.30 |
| 2 | AB | 953 | G | C5-C6-O6 | 5.18 | 131.71 | 128.60 |
| 2 | AB | 968 | C | N3-C2-O2 | -5.18 | 118.27 | 121.90 |
| 2 | AB | 1389 | G | N1-C6-O6 | -5.18 | 116.79 | 119.90 |
| 2 | AB | 1638 | C | C5'-C4'-O4' | 5.18 | 115.32 | 109.10 |
| 2 | AB | 1789 | A | N3-C4-C5 | -5.18 | 123.17 | 126.80 |
| 2 | AB | 1910 | G | C5-N7-C8 | -5.18 | 101.71 | 104.30 |
| 2 | AB | 1942 | C | C2-N3-C4 | -5.18 | 117.31 | 119.90 |
| 2 | AB | 1982 | U | C5'-C4'-C3' | -5.18 | 107.70 | 116.00 |
| 2 | AB | 2426 | A | N7-C8-N9 | 5.18 | 116.39 | 113.80 |
| 2 | AB | 2761 | A | C6-C5-N7 | 5.18 | 135.93 | 132.30 |
| 5 | AE | 189 | VAL | CA-CB-CG1 | 5.18 | 118.67 | 110.90 |
| 35 | BA | 155 | A | C4'-C3'-C2' | -5.18 | 97.42 | 102.60 |
| 35 | BA | 672 | U | C5-C6-N1 | -5.18 | 120.11 | 122.70 |
| 35 | BA | 1243 | C | O4'-C4'-C3' | -5.18 | 98.81 | 104.00 |
| 35 | BA | 1269 | A | C6-N1-C2 | 5.18 | 121.71 | 118.60 |
| 2 | AB | 106 | C | OP1-P-OP2 | -5.18 | 111.83 | 119.60 |
| 2 | AB | 159 | G | N3-C4-N9 | 5.18 | 129.11 | 126.00 |
| 2 | AB | 199 | A | C1'-O4'-C4' | 5.18 | 114.05 | 109.90 |
| 2 | AB | 208 | C | C2-N1-C1' | -5.18 | 113.10 | 118.80 |
| 2 | AB | 314 | C | C4-C5-C6 | -5.18 | 114.81 | 117.40 |
| 2 | AB | 801 | G | N1-C6-O6 | 5.18 | 123.01 | 119.90 |
| 2 | AB | 1180 | U | N3-C2-O2 | -5.18 | 118.57 | 122.20 |
| 2 | AB | 1724 | G | C5-C6-N1 | 5.18 | 114.09 | 111.50 |
| 2 | AB | 1783 | A | C4'-C3'-C2' | 5.18 | 107.78 | 102.60 |
| 2 | AB | 2019 | A | C4-C5-C6 | -5.18 | 114.41 | 117.00 |
| 2 | AB | 2026 | U | N1-C1'-C2' | -5.18 | 106.30 | 112.00 |
| 2 | AB | 2377 | A | C5-C6-N6 | -5.18 | 119.55 | 123.70 |
| 2 | AB | 2718 | G | N3-C2-N2 | -5.18 | 116.27 | 119.90 |
| 2 | AB | 2849 | U | N3-C2-O2 | -5.18 | 118.57 | 122.20 |
| 6 | AF | 102 | ARG | NE-CZ-NH2 | 5.18 | 122.89 | 120.30 |
| 35 | BA | 1144 | G | C5-C6-N1 | -5.18 | 108.91 | 111.50 |
| 35 | BA | 1174 | G | O4'-C1'-N9 | 5.18 | 112.35 | 108.20 |
| 35 | BA | 1387 | G | C5-C6-N1 | 5.18 | 114.09 | 111.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1434 | A | N1-C2-N3 | -5.18 | 126.71 | 129.30 |
| 1 | AA | 39 | A | N1-C2-N3 | -5.18 | 126.71 | 129.30 |
| 2 | AB | 250 | G | N9-C4-C5 | 5.18 | 107.47 | 105.40 |
| 2 | AB | 363 | G | N3-C4-N9 | 5.18 | 129.11 | 126.00 |
| 2 | AB | 401 | A | C4-C5-C6 | -5.18 | 114.41 | 117.00 |
| 2 | AB | 1031 | G | C8-N9-C4 | -5.18 | 104.33 | 106.40 |
| 2 | AB | 2221 | G | C4'-C3'-C2' | 5.18 | 107.78 | 102.60 |
| 2 | AB | 2781 | A | N1-C6-N6 | 5.18 | 121.71 | 118.60 |
| 35 | BA | 820 | U | C3'-C2'-C1' | -5.18 | 97.36 | 101.50 |
| 35 | BA | 978 | A | O5'-P-OP1 | -5.18 | 101.04 | 105.70 |
| 35 | BA | 1001 | C | C3'-C2'-C1' | 5.18 | 105.64 | 101.50 |
| 37 | BC | 15 | G | N9-C1'-C2' | -5.18 | 106.30 | 112.00 |
| 2 | AB | 74 | A | C5-C6-N6 | 5.18 | 127.84 | 123.70 |
| 2 | AB | 556 | A | C4'-C3'-C2' | -5.18 | 97.42 | 102.60 |
| 2 | AB | 628 | G | N1-C2-N2 | 5.18 | 120.86 | 116.20 |
| 2 | AB | 2075 | U | C1'-O4'-C4' | -5.18 | 105.76 | 109.90 |
| 2 | AB | 2611 | C | N3-C2-O2 | -5.18 | 118.27 | 121.90 |
| 2 | AB | 2638 | G | N7-C8-N9 | 5.18 | 115.69 | 113.10 |
| 17 | AQ | 94 | ARG | CB-CA-C | 5.18 | 120.76 | 110.40 |
| 35 | BA | 912 | C | O3'-P-O5' | -5.18 | 94.16 | 104.00 |
| 2 | AB | 748 | G | C5-N7-C8 | -5.18 | 101.71 | 104.30 |
| 2 | AB | 1342 | A | C5'-C4'-C3' | -5.18 | 107.72 | 116.00 |
| 2 | AB | 1516 | G | OP2-P-O3' | 5.18 | 116.59 | 105.20 |
| 2 | AB | 1706 | C | N3-C4-N4 | 5.18 | 121.62 | 118.00 |
| 2 | AB | 2191 | A | C8-N9-C4 | -5.18 | 103.73 | 105.80 |
| 35 | BA | 577 | G | N1-C6-O6 | 5.18 | 123.01 | 119.90 |
| 35 | BA | 716 | A | C3'-C2'-C1' | 5.18 | 105.64 | 101.50 |
| 35 | BA | 1043 | G | P-O5'-C5' | -5.18 | 112.62 | 120.90 |
| 2 | AB | 43 | G | C3'-C2'-C1' | -5.18 | 97.36 | 101.50 |
| 2 | AB | 197 | A | C2-N3-C4 | 5.18 | 113.19 | 110.60 |
| 2 | AB | 322 | A | C5-N7-C8 | -5.18 | 101.31 | 103.90 |
| 2 | AB | 734 | A | C5'-C4'-C3' | -5.18 | 107.72 | 116.00 |
| 2 | AB | 1058 | U | C5-C4-O4 | 5.18 | 129.00 | 125.90 |
| 2 | AB | 1122 | G | N7-C8-N9 | 5.18 | 115.69 | 113.10 |
| 2 | AB | 1130 | U | C2-N3-C4 | -5.18 | 123.89 | 127.00 |
| 2 | AB | 1151 | A | C4'-C3'-C2' | -5.18 | 97.42 | 102.60 |
| 2 | AB | 1203 | U | P-O3'-C3' | 5.18 | 125.91 | 119.70 |
| 2 | AB | 1288 | G | C4'-C3'-C2' | 5.18 | 107.78 | 102.60 |
| 2 | AB | 1366 | A | C6-C5-N7 | 5.18 | 135.92 | 132.30 |
| 2 | AB | 1496 | A | C2-N3-C4 | 5.18 | 113.19 | 110.60 |
| 2 | AB | 1627 | G | C5-C6-O6 | -5.18 | 125.49 | 128.60 |
| 2 | AB | 1695 | G | N7-C8-N9 | -5.18 | 110.51 | 113.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2138 | G | C6-C5-N7 | 5.18 | 133.51 | 130.40 |
| 2 | AB | 2239 | G | C5-N7-C8 | -5.18 | 101.71 | 104.30 |
| 2 | AB | 2269 | G | C1'-O4'-C4' | -5.18 | 105.76 | 109.90 |
| 2 | AB | 2323 | G | C4-C5-N7 | -5.18 | 108.73 | 110.80 |
| 2 | AB | 2434 | A | N1-C6-N6 | -5.18 | 115.49 | 118.60 |
| 2 | AB | 2523 | G | C2'-C3'-O3' | 5.18 | 121.98 | 113.70 |
| 2 | AB | 2749 | A | O4'-C4'-C3' | 5.18 | 110.24 | 106.10 |
| 16 | AP | 21 | PHE | CA-C-O | -5.18 | 109.23 | 120.10 |
| 17 | AQ | 56 | LYS | CB-CG-CD | 5.18 | 125.06 | 111.60 |
| 35 | BA | 64 | G | C5-N7-C8 | -5.18 | 101.71 | 104.30 |
| 35 | BA | 220 | G | N3-C4-N9 | 5.18 | 129.11 | 126.00 |
| 35 | BA | 481 | G | O4'-C1'-C2' | -5.18 | 100.62 | 105.80 |
| 35 | BA | 517 | G | OP1-P-O3' | 5.18 | 116.59 | 105.20 |
| 35 | BA | 796 | C | C5-C6-N1 | 5.18 | 123.59 | 121.00 |
| 35 | BA | 1090 | U | P-O3'-C3' | 5.18 | 125.91 | 119.70 |
| 35 | BA | 1195 | C | C2'-C3'-O3' | 5.18 | 121.98 | 113.70 |
| 35 | BA | 1319 | A | C8-N9-C4 | 5.18 | 107.87 | 105.80 |
| 38 | BD | 31 | PHE | CB-CG-CD1 | 5.18 | 124.42 | 120.80 |
| 48 | BN | 98 | ARG | N-CA-CB | -5.18 | 101.28 | 110.60 |
| 2 | AB | 140 | C | N1-C2-O2 | 5.17 | 122.00 | 118.90 |
| 2 | AB | 631 | A | N7-C8-N9 | 5.17 | 116.39 | 113.80 |
| 2 | AB | 735 | A | C3'-C2'-C1' | 5.17 | 105.64 | 101.50 |
| 2 | AB | 755 | U | N3-C4-O4 | 5.17 | 123.02 | 119.40 |
| 2 | AB | 826 | U | O3'-P-O5' | -5.17 | 94.17 | 104.00 |
| 2 | AB | 1458 | U | O4'-C4'-C3' | 5.17 | 110.24 | 106.10 |
| 2 | AB | 1505 | A | C5'-C4'-C3' | -5.17 | 107.72 | 116.00 |
| 2 | AB | 1827 | U | C5-C4-O4 | -5.17 | 122.80 | 125.90 |
| 2 | AB | 1845 | G | C4-C5-C6 | 5.17 | 121.91 | 118.80 |
| 2 | AB | 2102 | G | N7-C8-N9 | 5.17 | 115.69 | 113.10 |
| 2 | AB | 2425 | A | C5-C6-N1 | -5.17 | 115.11 | 117.70 |
| 2 | AB | 2820 | A | C6-C5-N7 | 5.17 | 135.92 | 132.30 |
| 2 | AB | 2859 | G | P-O3'-C3' | 5.17 | 125.91 | 119.70 |
| 6 | AF | 146 | VAL | CA-CB-CG1 | 5.17 | 118.66 | 110.90 |
| 35 | BA | 102 | G | N3-C2-N2 | -5.17 | 116.28 | 119.90 |
| 35 | BA | 106 | C | N3-C4-N4 | 5.17 | 121.62 | 118.00 |
| 35 | BA | 119 | A | C4-C5-N7 | 5.17 | 113.29 | 110.70 |
| 35 | BA | 1230 | C | O4'-C4'-C3' | -5.17 | 98.83 | 104.00 |
| 35 | BA | 1368 | A | C4'-C3'-C2' | -5.17 | 97.43 | 102.60 |
| 36 | BB | 31 | U | C4'-C3'-O3' | 5.17 | 123.35 | 113.00 |
| 37 | BC | 38 | A | C8-N9-C4 | 5.17 | 107.87 | 105.80 |
| 2 | AB | 670 | A | O4'-C1'-N9 | 5.17 | 112.34 | 108.20 |
| 2 | AB | 704 | G | N3-C2-N2 | 5.17 | 123.52 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 976 | G | N9-C1'-C2' | -5.17 | 106.31 | 112.00 |
| 2 | AB | 1359 | A | C4'-C3'-O3' | 5.17 | 123.35 | 113.00 |
| 2 | AB | 1957 | C | C5'-C4'-O4' | 5.17 | 115.31 | 109.10 |
| 2 | AB | 2019 | A | C5-N7-C8 | -5.17 | 101.31 | 103.90 |
| 2 | AB | 2331 | G | C8-N9-C4 | 5.17 | 108.47 | 106.40 |
| 2 | AB | 2374 | C | C5'-C4'-C3' | -5.17 | 107.72 | 116.00 |
| 35 | BA | 165 | G | C4-C5-N7 | -5.17 | 108.73 | 110.80 |
| 35 | BA | 675 | A | C1'-O4'-C4' | -5.17 | 105.76 | 109.90 |
| 35 | BA | 687 | A | O4'-C1'-C2' | -5.17 | 100.63 | 105.80 |
| 35 | BA | 1042 | A | C5-N7-C8 | -5.17 | 101.31 | 103.90 |
| 35 | BA | 1223 | C | O3'-P-O5' | -5.17 | 94.17 | 104.00 |
| 36 | BB | 45 | G | N1-C2-N2 | -5.17 | 111.55 | 116.20 |
| 2 | AB | 248 | G | N9-C4-C5 | 5.17 | 107.47 | 105.40 |
| 2 | AB | 386 | G | C4'-C3'-C2' | -5.17 | 97.43 | 102.60 |
| 2 | AB | 954 | G | C4'-C3'-C2' | -5.17 | 97.43 | 102.60 |
| 2 | AB | 1456 | G | C8-N9-C1' | 5.17 | 133.72 | 127.00 |
| 2 | AB | 1529 | G | O4'-C4'-C3' | 5.17 | 110.24 | 106.10 |
| 2 | AB | 2191 | A | O4'-C1'-N9 | 5.17 | 112.34 | 108.20 |
| 2 | AB | 2466 | C | N1-C2-O2 | 5.17 | 122.00 | 118.90 |
| 2 | AB | 2778 | A | O4'-C4'-C3' | 5.17 | 110.24 | 106.10 |
| 2 | AB | 2864 | G | C5-N7-C8 | -5.17 | 101.71 | 104.30 |
| 35 | BA | 8 | A | N9-C1'-C2' | 5.17 | 120.72 | 114.00 |
| 35 | BA | 211 | G | O3'-P-O5' | 5.17 | 113.83 | 104.00 |
| 35 | BA | 479 | U | C6-N1-C2 | -5.17 | 117.90 | 121.00 |
| 35 | BA | 791 | G | O4'-C1'-N9 | 5.17 | 112.34 | 108.20 |
| 35 | BA | 1030 | U | C5'-C4'-O4' | 5.17 | 115.31 | 109.10 |
| 35 | BA | 1167 | A | C4-C5-C6 | 5.17 | 119.58 | 117.00 |
| 35 | BA | 1445 | U | C4-C5-C6 | -5.17 | 116.60 | 119.70 |
| 1 | AA | 100 | G | C5'-C4'-O4' | 5.17 | 115.30 | 109.10 |
| 2 | AB | 416 | U | C5'-C4'-O4' | 5.17 | 115.30 | 109.10 |
| 2 | AB | 476 | G | C4-C5-C6 | 5.17 | 121.90 | 118.80 |
| 2 | AB | 776 | G | C5-C6-O6 | -5.17 | 125.50 | 128.60 |
| 2 | AB | 1047 | G | O4'-C1'-N9 | -5.17 | 104.06 | 108.20 |
| 2 | AB | 1487 | U | C3'-C2'-C1' | -5.17 | 97.36 | 101.50 |
| 2 | AB | 2012 | G | N3-C4-C5 | -5.17 | 126.02 | 128.60 |
| 35 | BA | 98 | A | C1'-O4'-C4' | -5.17 | 105.76 | 109.90 |
| 35 | BA | 1176 | A | C5-C6-N6 | -5.17 | 119.56 | 123.70 |
| 35 | BA | 1433 | A | C1'-O4'-C4' | -5.17 | 105.76 | 109.90 |
| 2 | AB | 161 | A | C5'-C4'-C3' | -5.17 | 107.73 | 116.00 |
| 2 | AB | 339 | U | C4-C5-C6 | 5.17 | 122.80 | 119.70 |
| 2 | AB | 468 | G | C6-C5-N7 | 5.17 | 133.50 | 130.40 |
| 2 | AB | 680 | C | C2'-C3'-O3' | 5.17 | 121.97 | 113.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1170 | C | N1-C1'-C2' | -5.17 | 106.31 | 112.00 |
| 2 | AB | 1508 | A | C6-N1-C2 | 5.17 | 121.70 | 118.60 |
| 2 | AB | 1546 | G | O3'-P-O5' | -5.17 | 94.18 | 104.00 |
| 2 | AB | 1773 | A | N3-C4-C5 | -5.17 | 123.18 | 126.80 |
| 2 | AB | 2534 | A | C2-N3-C4 | -5.17 | 108.02 | 110.60 |
| 2 | AB | 2565 | A | C6-C5-N7 | -5.17 | 128.68 | 132.30 |
| 8 | AH | 51 | PHE | CB-CG-CD2 | 5.17 | 124.42 | 120.80 |
| 26 | AZ | 46 | VAL | CG1-CB-CG2 | -5.17 | 102.63 | 110.90 |
| 35 | BA | 449 | G | N1-C2-N2 | 5.17 | 120.85 | 116.20 |
| 35 | BA | 938 | A | N7-C8-N9 | -5.17 | 111.22 | 113.80 |
| 35 | BA | 1456 | A | C3'-C2'-C1' | -5.17 | 97.37 | 101.50 |
| 36 | BB | 55 | A | C4-C5-C6 | 5.17 | 119.58 | 117.00 |
| 1 | AA | 64 | G | C8-N9-C1' | 5.17 | 133.72 | 127.00 |
| 2 | AB | 168 | G | OP2-P-O3' | 5.17 | 116.57 | 105.20 |
| 2 | AB | 182 | A | C5-C6-N1 | -5.17 | 115.12 | 117.70 |
| 2 | AB | 255 | A | C5-N7-C8 | 5.17 | 106.48 | 103.90 |
| 2 | AB | 596 | U | N1-C2-N3 | 5.17 | 118.00 | 114.90 |
| 2 | AB | 825 | A | C6-N1-C2 | -5.17 | 115.50 | 118.60 |
| 2 | AB | 841 | G | C2-N3-C4 | 5.17 | 114.48 | 111.90 |
| 2 | AB | 1681 | G | O4'-C1'-N9 | 5.17 | 112.33 | 108.20 |
| 2 | AB | 1705 | A | P-O3'-C3' | 5.17 | 125.90 | 119.70 |
| 2 | AB | 1737 | G | N3-C4-N9 | 5.17 | 129.10 | 126.00 |
| 35 | BA | 122 | G | N3-C4-N9 | 5.17 | 129.10 | 126.00 |
| 35 | BA | 133 | U | C3'-C2'-C1' | -5.17 | 97.37 | 101.50 |
| 35 | BA | 415 | A | C5-C6-N1 | 5.17 | 120.28 | 117.70 |
| 35 | BA | 651 | C | C5'-C4'-O4' | 5.17 | 115.30 | 109.10 |
| 35 | BA | 822 | U | C3'-C2'-C1' | -5.17 | 97.37 | 101.50 |
| 35 | BA | 878 | A | C4'-C3'-C2' | -5.17 | 97.43 | 102.60 |
| 35 | BA | 1187 | G | N9-C1'-C2' | -5.17 | 106.32 | 112.00 |
| 35 | BA | 1355 | G | C4-C5-C6 | 5.17 | 121.90 | 118.80 |
| 36 | BB | 16 | A | N7-C8-N9 | 5.17 | 116.38 | 113.80 |
| 49 | BO | 75 | SER | CA-C-O | -5.17 | 109.25 | 120.10 |
| 1 | AA | 23 | G | N3-C4-C5 | 5.17 | 131.18 | 128.60 |
| 2 | AB | 638 | G | C6-C5-N7 | 5.17 | 133.50 | 130.40 |
| 2 | AB | 842 | U | C4-C5-C6 | 5.17 | 122.80 | 119.70 |
| 2 | AB | 1348 | C | N3-C4-C5 | -5.17 | 119.83 | 121.90 |
| 2 | AB | 1832 | C | C5'-C4'-O4' | 5.17 | 115.30 | 109.10 |
| 2 | AB | 2329 | U | C3'-C2'-C1' | 5.17 | 105.63 | 101.50 |
| 2 | AB | 2656 | U | O4'-C4'-C3' | 5.17 | 110.23 | 106.10 |
| 17 | AQ | 81 | ARG | CD-NE-CZ | 5.17 | 130.83 | 123.60 |
| 35 | BA | 366 | A | C4-C5-N7 | -5.17 | 108.12 | 110.70 |
| 2 | AB | 121 | G | N1-C2-N3 | 5.16 | 127.00 | 123.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 129 | C | O4'-C4'-C3' | 5.16 | 110.23 | 106.10 |
| 2 | AB | 228 | C | O4'-C1'-N1 | 5.16 | 112.33 | 108.20 |
| 2 | AB | 275 | C | C5'-C4'-C3' | -5.16 | 107.74 | 116.00 |
| 2 | AB | 639 | U | N3-C2-O2 | -5.16 | 118.59 | 122.20 |
| 2 | AB | 1218 | G | N7-C8-N9 | 5.16 | 115.68 | 113.10 |
| 2 | AB | 1648 | U | C5'-C4'-O4' | 5.16 | 115.30 | 109.10 |
| 2 | AB | 1719 | G | C3'-C2'-C1' | -5.16 | 97.37 | 101.50 |
| 2 | AB | 2128 | G | C5-N7-C8 | -5.16 | 101.72 | 104.30 |
| 2 | AB | 2141 | G | C2-N3-C4 | 5.16 | 114.48 | 111.90 |
| 2 | AB | 2187 | U | P-O3'-C3' | 5.16 | 125.90 | 119.70 |
| 2 | AB | 2226 | C | N3-C2-O2 | -5.16 | 118.29 | 121.90 |
| 2 | AB | 2547 | A | C4-C5-N7 | 5.16 | 113.28 | 110.70 |
| 2 | AB | 2553 | G | N9-C1'-C2' | -5.16 | 106.32 | 112.00 |
| 2 | AB | 2570 | G | C5-N7-C8 | -5.16 | 101.72 | 104.30 |
| 2 | AB | 2574 | G | C5-C6-O6 | -5.16 | 125.50 | 128.60 |
| 7 | AG | 98 | PHE | CG-CD1-CE1 | -5.16 | 115.12 | 120.80 |
| 23 | AW | 96 | LYS | C-N-CA | 5.16 | 134.61 | 121.70 |
| 35 | BA | 903 | G | N3-C4-N9 | -5.16 | 122.90 | 126.00 |
| 35 | BA | 1081 | A | N9-C4-C5 | 5.16 | 107.86 | 105.80 |
| 35 | BA | 1312 | G | N1-C2-N3 | -5.16 | 120.80 | 123.90 |
| 35 | BA | 1398 | A | C2-N3-C4 | 5.16 | 113.18 | 110.60 |
| 51 | BQ | 69 | LEU | CB-CG-CD1 | 5.16 | 119.78 | 111.00 |
| 2 | AB | 1037 | G | N1-C2-N2 | 5.16 | 120.85 | 116.20 |
| 2 | AB | 1659 | G | N3-C2-N2 | -5.16 | 116.29 | 119.90 |
| 2 | AB | 2151 | U | N3-C4-O4 | 5.16 | 123.01 | 119.40 |
| 2 | AB | 2532 | G | N3-C4-C5 | -5.16 | 126.02 | 128.60 |
| 4 | AD | 7 | PRO | CA-N-CD | -5.16 | 104.27 | 111.50 |
| 32 | A5 | 5 | PHE | CB-CG-CD1 | 5.16 | 124.41 | 120.80 |
| 35 | BA | 276 | G | N1-C2-N2 | 5.16 | 120.85 | 116.20 |
| 55 | BU | 21 | ALA | N-CA-CB | 5.16 | 117.33 | 110.10 |
| 1 | AA | 69 | G | C6-C5-N7 | -5.16 | 127.30 | 130.40 |
| 2 | AB | 78 | U | C5'-C4'-O4' | 5.16 | 115.29 | 109.10 |
| 2 | AB | 335 | C | C3'-C2'-C1' | 5.16 | 105.63 | 101.50 |
| 2 | AB | 444 | C | C2'-C3'-O3' | 5.16 | 121.96 | 113.70 |
| 2 | AB | 495 | G | C3'-C2'-C1' | 5.16 | 105.63 | 101.50 |
| 2 | AB | 496 | G | C3'-C2'-C1' | -5.16 | 97.37 | 101.50 |
| 2 | AB | 678 | C | O5'-P-OP1 | -5.16 | 101.06 | 105.70 |
| 2 | AB | 909 | A | P-O5'-C5' | 5.16 | 129.16 | 120.90 |
| 2 | AB | 1090 | A | C8-N9-C4 | -5.16 | 103.74 | 105.80 |
| 2 | AB | 1111 | A | O5'-P-OP2 | -5.16 | 101.06 | 105.70 |
| 2 | AB | 1183 | U | C5-C4-O4 | 5.16 | 129.00 | 125.90 |
| 2 | AB | 1227 | G | C6-C5-N7 | -5.16 | 127.30 | 130.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1358 | G | O5'-P-OP2 | -5.16 | 101.06 | 105.70 |
| 2 | AB | 1382 | G | C4'-C3'-C2' | -5.16 | 97.44 | 102.60 |
| 2 | AB | 1558 | C | C6-N1-C2 | 5.16 | 122.36 | 120.30 |
| 2 | AB | 1598 | A | C5'-C4'-O4' | 5.16 | 115.29 | 109.10 |
| 2 | AB | 1633 | G | C5'-C4'-C3' | -5.16 | 107.74 | 116.00 |
| 2 | AB | 1722 | A | C4'-C3'-C2' | -5.16 | 97.44 | 102.60 |
| 2 | AB | 1806 | C | N1-C2-O2 | 5.16 | 122.00 | 118.90 |
| 2 | AB | 2010 | G | C5'-C4'-C3' | -5.16 | 107.74 | 116.00 |
| 2 | AB | 2145 | C | N3-C4-N4 | 5.16 | 121.61 | 118.00 |
| 2 | AB | 2451 | A | N1-C6-N6 | -5.16 | 115.50 | 118.60 |
| 2 | AB | 2550 | G | C8-N9-C1' | 5.16 | 133.71 | 127.00 |
| 2 | AB | 2763 | G | N1-C2-N3 | -5.16 | 120.80 | 123.90 |
| 3 | AC | 55 | SER | CB-CA-C | 5.16 | 119.91 | 110.10 |
| 35 | BA | 789 | U | N3-C4-O4 | 5.16 | 123.01 | 119.40 |
| 35 | BA | 807 | A | O4'-C1'-N9 | -5.16 | 104.07 | 108.20 |
| 35 | BA | 950 | U | C5-C6-N1 | 5.16 | 125.28 | 122.70 |
| 35 | BA | 1383 | C | P-O5'-C5' | 5.16 | 129.16 | 120.90 |
| 2 | AB | 240 | C | C5'-C4'-O4' | 5.16 | 115.29 | 109.10 |
| 2 | AB | 1139 | G | C3'-C2'-C1' | -5.16 | 97.37 | 101.50 |
| 2 | AB | 1294 | U | N3-C4-O4 | 5.16 | 123.01 | 119.40 |
| 2 | AB | 1506 | U | C5'-C4'-O4' | 5.16 | 115.29 | 109.10 |
| 2 | AB | 2296 | U | C5'-C4'-O4' | 5.16 | 115.29 | 109.10 |
| 2 | AB | 2377 | A | N1-C6-N6 | 5.16 | 121.69 | 118.60 |
| 2 | AB | 2715 | C | C6-N1-C1' | 5.16 | 126.99 | 120.80 |
| 2 | AB | 2883 | A | C5-N7-C8 | 5.16 | 106.48 | 103.90 |
| 2 | AB | 2885 | G | C2-N3-C4 | 5.16 | 114.48 | 111.90 |
| 35 | BA | 244 | U | N1-C2-O2 | 5.16 | 126.41 | 122.80 |
| 35 | BA | 807 | A | C3'-C2'-C1' | 5.16 | 105.63 | 101.50 |
| 35 | BA | 1430 | A | N1-C6-N6 | -5.16 | 115.50 | 118.60 |
| 2 | AB | 446 | G | C5-N7-C8 | -5.16 | 101.72 | 104.30 |
| 2 | AB | 488 | G | C5'-C4'-O4' | 5.16 | 115.29 | 109.10 |
| 2 | AB | 650 | C | C3'-C2'-C1' | 5.16 | 105.62 | 101.50 |
| 2 | AB | 775 | G | C4'-C3'-C2' | 5.16 | 107.76 | 102.60 |
| 2 | AB | 1205 | A | N3-C4-N9 | -5.16 | 123.27 | 127.40 |
| 2 | AB | 2328 | A | P-O5'-C5' | 5.16 | 129.15 | 120.90 |
| 35 | BA | 187 | G | C8-N9-C1' | 5.16 | 133.70 | 127.00 |
| 35 | BA | 1126 | U | O4'-C1'-N1 | 5.16 | 112.33 | 108.20 |
| 35 | BA | 1307 | U | C6-N1-C2 | -5.16 | 117.91 | 121.00 |
| 35 | BA | 1322 | C | O4'-C4'-C3' | 5.16 | 110.22 | 106.10 |
| 35 | BA | 1345 | U | C2-N3-C4 | -5.16 | 123.91 | 127.00 |
| 39 | BE | 167 | TYR | CD1-CE1-CZ | -5.16 | 115.16 | 119.80 |
| 42 | BH | 93 | LYS | C-N-CA | 5.16 | 134.59 | 121.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 25 | U | N1-C2-O2 | -5.16 | 119.19 | 122.80 |
| 2 | AB | 536 | G | C4-C5-C6 | 5.16 | 121.89 | 118.80 |
| 2 | AB | 539 | G | O4'-C1'-N9 | -5.16 | 104.08 | 108.20 |
| 2 | AB | 603 | A | C5-C6-N1 | 5.16 | 120.28 | 117.70 |
| 2 | AB | 612 | G | C4'-C3'-C2' | 5.16 | 107.76 | 102.60 |
| 2 | AB | 878 | A | N9-C1'-C2' | -5.16 | 106.33 | 112.00 |
| 2 | AB | 1006 | C | C2'-C3'-O3' | 5.16 | 121.95 | 113.70 |
| 2 | AB | 1215 | G | N9-C4-C5 | 5.16 | 107.46 | 105.40 |
| 2 | AB | 1420 | A | N7-C8-N9 | -5.16 | 111.22 | 113.80 |
| 2 | AB | 1772 | A | N3-C4-N9 | 5.16 | 131.52 | 127.40 |
| 2 | AB | 1926 | U | N1-C1'-C2' | -5.16 | 106.33 | 112.00 |
| 2 | AB | 1953 | A | N3-C4-C5 | -5.16 | 123.19 | 126.80 |
| 2 | AB | 1988 | G | C5-C6-O6 | -5.16 | 125.51 | 128.60 |
| 2 | AB | 2521 | C | N1-C2-N3 | -5.16 | 115.59 | 119.20 |
| 2 | AB | 2694 | G | N1-C2-N3 | 5.16 | 126.99 | 123.90 |
| 4 | AD | 197 | ALA | CB-CA-C | -5.16 | 102.37 | 110.10 |
| 15 | AO | 18 | ARG | NE-CZ-NH1 | 5.16 | 122.88 | 120.30 |
| 35 | BA | 116 | A | C3'-C2'-C1' | -5.16 | 97.38 | 101.50 |
| 35 | BA | 374 | A | N3-C4-N9 | -5.16 | 123.28 | 127.40 |
| 35 | BA | 458 | U | C5-C4-O4 | 5.16 | 128.99 | 125.90 |
| 35 | BA | 634 | C | N3-C2-O2 | -5.16 | 118.29 | 121.90 |
| 35 | BA | 812 | G | C1'-O4'-C4' | 5.16 | 114.02 | 109.90 |
| 35 | BA | 842 | U | C4-C5-C6 | 5.16 | 122.79 | 119.70 |
| 35 | BA | 1000 | A | C5-C6-N6 | -5.16 | 119.58 | 123.70 |
| 35 | BA | 1386 | G | C4-C5-N7 | -5.16 | 108.74 | 110.80 |
| 35 | BA | 1453 | G | C5'-C4'-C3' | -5.16 | 107.75 | 116.00 |
| 2 | AB | 144 | A | N9-C4-C5 | 5.15 | 107.86 | 105.80 |
| 2 | AB | 804 | A | C5-N7-C8 | -5.15 | 101.32 | 103.90 |
| 2 | AB | 892 | A | OP2-P-O3' | 5.15 | 116.54 | 105.20 |
| 2 | AB | 2049 | G | C5-C6-N1 | -5.15 | 108.92 | 111.50 |
| 35 | BA | 250 | A | C5-C6-N1 | 5.15 | 120.28 | 117.70 |
| 37 | BC | 42 | C | C5-C6-N1 | -5.15 | 118.42 | 121.00 |
| 1 | AA | 38 | C | C5-C6-N1 | 5.15 | 123.58 | 121.00 |
| 2 | AB | 662 | G | C3'-C2'-C1' | 5.15 | 105.62 | 101.50 |
| 2 | AB | 1042 | G | C5'-C4'-O4' | 5.15 | 115.28 | 109.10 |
| 2 | AB | 1139 | G | C5-C6-N1 | 5.15 | 114.08 | 111.50 |
| 2 | AB | 1416 | G | N3-C4-N9 | -5.15 | 122.91 | 126.00 |
| 2 | AB | 1516 | G | C5'-C4'-O4' | 5.15 | 115.28 | 109.10 |
| 2 | AB | 2335 | A | C4'-C3'-C2' | -5.15 | 97.45 | 102.60 |
| 2 | AB | 2401 | U | P-O3'-C3' | 5.15 | 125.88 | 119.70 |
| 6 | AF | 24 | ASN | CB-CA-C | 5.15 | 120.70 | 110.40 |
| 35 | BA | 352 | C | C2-N3-C4 | 5.15 | 122.48 | 119.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 626 | G | C5'-C4'-O4' | 5.15 | 115.28 | 109.10 |
| 35 | BA | 676 | A | C5'-C4'-C3' | -5.15 | 107.76 | 116.00 |
| 2 | AB | 455 | C | N3-C4-N4 | -5.15 | 114.39 | 118.00 |
| 2 | AB | 1122 | G | N1-C2-N3 | -5.15 | 120.81 | 123.90 |
| 2 | AB | 1133 | A | C2-N3-C4 | -5.15 | 108.03 | 110.60 |
| 2 | AB | 1231 | U | O4'-C1'-N1 | 5.15 | 112.32 | 108.20 |
| 2 | AB | 1250 | G | C5-N7-C8 | -5.15 | 101.72 | 104.30 |
| 2 | AB | 1638 | C | C5-C6-N1 | 5.15 | 123.58 | 121.00 |
| 2 | AB | 1805 | A | C6-C5-N7 | 5.15 | 135.91 | 132.30 |
| 2 | AB | 1816 | C | C2-N1-C1' | 5.15 | 124.47 | 118.80 |
| 2 | AB | 2584 | U | N1-C2-N3 | 5.15 | 117.99 | 114.90 |
| 2 | AB | 2611 | C | C1'-O4'-C4' | 5.15 | 114.02 | 109.90 |
| 2 | AB | 2645 | G | C1'-O4'-C4' | -5.15 | 105.78 | 109.90 |
| 12 | AL | 85 | LYS | CB-CG-CD | 5.15 | 124.99 | 111.60 |
| 16 | AP | 55 | ALA | CB-CA-C | 5.15 | 117.83 | 110.10 |
| 35 | BA | 488 | C | C5-C6-N1 | 5.15 | 123.58 | 121.00 |
| 35 | BA | 497 | G | C4-N9-C1' | -5.15 | 119.80 | 126.50 |
| 35 | BA | 509 | A | C5-C6-N1 | 5.15 | 120.28 | 117.70 |
| 35 | BA | 1451 | U | C2-N1-C1' | 5.15 | 123.88 | 117.70 |
| 2 | AB | 908 | C | C1'-O4'-C4' | -5.15 | 105.78 | 109.90 |
| 2 | AB | 1059 | G | C4-C5-C6 | -5.15 | 115.71 | 118.80 |
| 2 | AB | 1228 | G | C4'-C3'-C2' | -5.15 | 97.45 | 102.60 |
| 2 | AB | 2305 | U | C2-N3-C4 | -5.15 | 123.91 | 127.00 |
| 2 | AB | 2335 | A | C3'-C2'-C1' | 5.15 | 105.62 | 101.50 |
| 2 | AB | 2717 | C | C6-N1-C1' | 5.15 | 126.98 | 120.80 |
| 3 | AC | 45 | ALA | N-CA-CB | -5.15 | 102.89 | 110.10 |
| 22 | AV | 67 | VAL | CA-CB-CG2 | 5.15 | 118.62 | 110.90 |
| 35 | BA | 507 | C | C5'-C4'-C3' | 5.15 | 124.24 | 116.00 |
| 35 | BA | 1280 | A | C3'-C2'-C1' | 5.15 | 105.62 | 101.50 |
| 35 | BA | 1459 | G | C8-N9-C4 | -5.15 | 104.34 | 106.40 |
| 36 | BB | 19 | A | N1-C6-N6 | -5.15 | 115.51 | 118.60 |
| 37 | BC | 25 | U | O4'-C1'-N1 | 5.15 | 112.32 | 108.20 |
| 2 | AB | 521 | U | N1-C1'-C2' | -5.15 | 106.34 | 112.00 |
| 2 | AB | 582 | A | N9-C4-C5 | 5.15 | 107.86 | 105.80 |
| 2 | AB | 852 | U | C2-N1-C1' | 5.15 | 123.88 | 117.70 |
| 2 | AB | 905 | A | C5'-C4'-O4' | 5.15 | 115.28 | 109.10 |
| 2 | AB | 1653 | G | C6-C5-N7 | 5.15 | 133.49 | 130.40 |
| 2 | AB | 1965 | C | N1-C2-N3 | -5.15 | 115.60 | 119.20 |
| 2 | AB | 2282 | G | O4'-C4'-C3' | 5.15 | 110.22 | 106.10 |
| 2 | AB | 2337 | G | N9-C4-C5 | 5.15 | 107.46 | 105.40 |
| 2 | AB | 2453 | A | C1'-O4'-C4' | -5.15 | 105.78 | 109.90 |
| 2 | AB | 2595 | G | C5-C6-O6 | 5.15 | 131.69 | 128.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2835 | A | C5-C6-N1 | -5.15 | 115.13 | 117.70 |
| 2 | AB | 2879 | A | N9-C4-C5 | -5.15 | 103.74 | 105.80 |
| 10 | AJ | 52 | ARG | NE-CZ-NH1 | -5.15 | 117.73 | 120.30 |
| 13 | AM | 78 | ARG | CD-NE-CZ | 5.15 | 130.81 | 123.60 |
| 22 | AV | 80 | TRP | CD2-CE2-CZ2 | 5.15 | 128.48 | 122.30 |
| 35 | BA | 60 | A | O4'-C1'-N9 | -5.15 | 104.08 | 108.20 |
| 35 | BA | 428 | G | C5'-C4'-C3' | -5.15 | 107.76 | 116.00 |
| 35 | BA | 464 | U | O3'-P-O5' | -5.15 | 94.22 | 104.00 |
| 35 | BA | 603 | U | O4'-C1'-N1 | 5.15 | 112.32 | 108.20 |
| 35 | BA | 750 | C | C4'-C3'-C2' | -5.15 | 97.45 | 102.60 |
| 35 | BA | 1157 | A | C1'-O4'-C4' | 5.15 | 114.02 | 109.90 |
| 1 | AA | 109 | A | C5-C6-N1 | -5.15 | 115.13 | 117.70 |
| 2 | AB | 978 | G | C5-C6-O6 | -5.15 | 125.51 | 128.60 |
| 2 | AB | 1004 | U | C3'-C2'-C1' | 5.15 | 105.62 | 101.50 |
| 2 | AB | 1562 | U | O4'-C1'-N1 | 5.15 | 112.32 | 108.20 |
| 2 | AB | 1799 | G | C8-N9-C4 | -5.15 | 104.34 | 106.40 |
| 2 | AB | 2532 | G | O4'-C4'-C3' | -5.15 | 98.85 | 104.00 |
| 2 | AB | 2864 | G | N9-C4-C5 | 5.15 | 107.46 | 105.40 |
| 35 | BA | 176 | C | N3-C4-C5 | 5.15 | 123.96 | 121.90 |
| 2 | AB | 70 | G | O5'-P-OP2 | -5.14 | 101.07 | 105.70 |
| 2 | AB | 129 | C | C1'-O4'-C4' | -5.14 | 105.78 | 109.90 |
| 2 | AB | 219 | A | C1'-O4'-C4' | -5.14 | 105.78 | 109.90 |
| 2 | AB | 284 | U | P-O3'-C3' | 5.14 | 125.87 | 119.70 |
| 2 | AB | 291 | G | C4-C5-C6 | 5.14 | 121.89 | 118.80 |
| 2 | AB | 464 | U | C6-N1-C2 | -5.14 | 117.91 | 121.00 |
| 2 | AB | 1011 | G | C6-C5-N7 | -5.14 | 127.31 | 130.40 |
| 2 | AB | 1731 | G | C4-C5-N7 | -5.14 | 108.74 | 110.80 |
| 2 | AB | 1923 | U | N3-C4-O4 | 5.14 | 123.00 | 119.40 |
| 2 | AB | 2262 | U | N3-C2-O2 | -5.14 | 118.60 | 122.20 |
| 2 | AB | 2444 | G | N3-C4-N9 | 5.14 | 129.09 | 126.00 |
| 5 | AE | 107 | VAL | CA-CB-CG2 | 5.14 | 118.61 | 110.90 |
| 7 | AG | 148 | VAL | CB-CA-C | 5.14 | 121.18 | 111.40 |
| 35 | BA | 110 | C | C2-N3-C4 | 5.14 | 122.47 | 119.90 |
| 35 | BA | 122 | G | C4-C5-N7 | -5.14 | 108.74 | 110.80 |
| 35 | BA | 265 | G | C5'-C4'-O4' | 5.14 | 115.27 | 109.10 |
| 35 | BA | 319 | G | O4'-C1'-N9 | 5.14 | 112.32 | 108.20 |
| 35 | BA | 918 | A | C5'-C4'-O4' | -5.14 | 102.93 | 109.10 |
| 35 | BA | 1000 | A | O4'-C1'-N9 | 5.14 | 112.31 | 108.20 |
| 35 | BA | 1287 | A | C6-C5-N7 | 5.14 | 135.90 | 132.30 |
| 35 | BA | 1396 | A | N1-C2-N3 | -5.14 | 126.73 | 129.30 |
| 35 | BA | 1431 | A | N3-C4-C5 | 5.14 | 130.40 | 126.80 |
| 35 | BA | 1484 | C | C3'-C2'-C1' | 5.14 | 105.61 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1533 | C | C2-N3-C4 | 5.14 | 122.47 | 119.90 |
| 2 | AB | 814 | C | C3'-C2'-C1' | -5.14 | 97.39 | 101.50 |
| 2 | AB | 1097 | U | N1-C1'-C2' | -5.14 | 106.34 | 112.00 |
| 2 | AB | 1175 | A | O4'-C1'-N9 | 5.14 | 112.31 | 108.20 |
| 2 | AB | 1420 | A | C4-C5-N7 | -5.14 | 108.13 | 110.70 |
| 2 | AB | 1814 | G | N3-C4-N9 | 5.14 | 129.09 | 126.00 |
| 10 | AJ | 64 | GLU | OE1-CD-OE2 | 5.14 | 129.47 | 123.30 |
| 25 | AY | 34 | SER | N-CA-CB | -5.14 | 102.79 | 110.50 |
| 35 | BA | 144 | G | C4-C5-C6 | 5.14 | 121.89 | 118.80 |
| 35 | BA | 829 | G | C5'-C4'-O4' | 5.14 | 115.27 | 109.10 |
| 35 | BA | 1000 | A | N7-C8-N9 | -5.14 | 111.23 | 113.80 |
| 35 | BA | 1231 | G | C5'-C4'-C3' | -5.14 | 107.77 | 116.00 |
| 36 | BB | 37 | G | N1-C6-O6 | -5.14 | 116.81 | 119.90 |
| 57 | BW | 62 | GLU | OE1-CD-OE2 | 5.14 | 129.47 | 123.30 |
| 2 | AB | 167 | A | O4'-C1'-N9 | 5.14 | 112.31 | 108.20 |
| 2 | AB | 480 | A | C4'-C3'-C2' | -5.14 | 97.46 | 102.60 |
| 2 | AB | 1127 | A | C5-C6-N6 | -5.14 | 119.59 | 123.70 |
| 2 | AB | 1144 | A | C5-N7-C8 | -5.14 | 101.33 | 103.90 |
| 2 | AB | 1237 | A | C5'-C4'-O4' | 5.14 | 115.27 | 109.10 |
| 2 | AB | 1627 | G | C4'-C3'-C2' | -5.14 | 97.46 | 102.60 |
| 2 | AB | 2285 | C | C3'-C2'-C1' | -5.14 | 97.39 | 101.50 |
| 2 | AB | 2451 | A | O4'-C1'-C2' | -5.14 | 100.66 | 105.80 |
| 35 | BA | 636 | U | C2-N3-C4 | -5.14 | 123.92 | 127.00 |
| 35 | BA | 917 | G | C5-C6-N1 | 5.14 | 114.07 | 111.50 |
| 35 | BA | 952 | U | C5'-C4'-C3' | 5.14 | 124.23 | 116.00 |
| 53 | BS | 5 | ARG | NE-CZ-NH1 | 5.14 | 122.87 | 120.30 |
| 2 | AB | 367 | G | N3-C4-C5 | -5.14 | 126.03 | 128.60 |
| 2 | AB | 491 | G | O3'-P-O5' | -5.14 | 94.23 | 104.00 |
| 2 | AB | 921 | C | OP2-P-O3' | 5.14 | 116.50 | 105.20 |
| 2 | AB | 962 | G | N7-C8-N9 | 5.14 | 115.67 | 113.10 |
| 2 | AB | 1419 | A | C2-N3-C4 | 5.14 | 113.17 | 110.60 |
| 2 | AB | 1598 | A | C4-C5-N7 | -5.14 | 108.13 | 110.70 |
| 2 | AB | 1721 | G | O4'-C1'-N9 | 5.14 | 112.31 | 108.20 |
| 2 | AB | 2108 | A | N1-C6-N6 | -5.14 | 115.52 | 118.60 |
| 2 | AB | 2252 | G | C4-C5-N7 | -5.14 | 108.74 | 110.80 |
| 2 | AB | 2321 | U | C4'-C3'-C2' | 5.14 | 107.74 | 102.60 |
| 2 | AB | 2375 | G | N3-C4-N9 | 5.14 | 129.08 | 126.00 |
| 2 | AB | 2380 | C | O4'-C1'-N1 | 5.14 | 112.31 | 108.20 |
| 2 | AB | 2393 | U | O4'-C1'-N1 | 5.14 | 112.31 | 108.20 |
| 2 | AB | 2664 | G | C5-N7-C8 | 5.14 | 106.87 | 104.30 |
| 2 | AB | 2743 | U | N1-C1'-C2' | -5.14 | 106.35 | 112.00 |
| 18 | AR | 10 | GLU | OE1-CD-OE2 | 5.14 | 129.47 | 123.30 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 256 | U | C5'-C4'-O4' | 5.14 | 115.27 | 109.10 |
| 35 | BA | 361 | G | C8-N9-C1' | 5.14 | 133.68 | 127.00 |
| 35 | BA | 432 | A | O4'-C1'-C2' | 5.14 | 112.23 | 107.60 |
| 35 | BA | 504 | C | C5-C6-N1 | 5.14 | 123.57 | 121.00 |
| 35 | BA | 793 | U | N3-C4-O4 | 5.14 | 123.00 | 119.40 |
| 1 | AA | 39 | A | C3'-C2'-C1' | 5.14 | 105.61 | 101.50 |
| 2 | AB | 142 | A | O4'-C4'-C3' | 5.14 | 110.21 | 106.10 |
| 2 | AB | 943 | A | C5'-C4'-O4' | 5.14 | 115.27 | 109.10 |
| 2 | AB | 1657 | U | N3-C2-O2 | -5.14 | 118.60 | 122.20 |
| 2 | AB | 1855 | U | C5-C4-O4 | -5.14 | 122.82 | 125.90 |
| 2 | AB | 1875 | G | C8-N9-C1' | 5.14 | 133.68 | 127.00 |
| 26 | AZ | 45 | PHE | CB-CG-CD2 | -5.14 | 117.20 | 120.80 |
| 35 | BA | 44 | A | C5-C6-N6 | -5.14 | 119.59 | 123.70 |
| 35 | BA | 204 | G | C5'-C4'-O4' | 5.14 | 115.27 | 109.10 |
| 35 | BA | 306 | A | P-O3'-C3' | 5.14 | 125.86 | 119.70 |
| 35 | BA | 596 | A | C8-N9-C4 | -5.14 | 103.75 | 105.80 |
| 35 | BA | 666 | G | C5-C6-N1 | 5.14 | 114.07 | 111.50 |
| 35 | BA | 1053 | G | C5'-C4'-O4' | -5.14 | 102.93 | 109.10 |
| 2 | AB | 310 | A | N1-C6-N6 | 5.14 | 121.68 | 118.60 |
| 2 | AB | 351 | C | O5'-C5'-C4' | -5.14 | 101.94 | 111.70 |
| 2 | AB | 502 | A | C6-C5-N7 | 5.14 | 135.90 | 132.30 |
| 2 | AB | 1313 | U | N3-C4-C5 | 5.14 | 117.68 | 114.60 |
| 2 | AB | 1491 | G | N1-C6-O6 | -5.14 | 116.82 | 119.90 |
| 2 | AB | 2253 | G | C4-C5-C6 | 5.14 | 121.88 | 118.80 |
| 2 | AB | 2465 | C | C6-N1-C1' | 5.14 | 126.96 | 120.80 |
| 2 | AB | 2493 | U | C5'-C4'-O4' | 5.14 | 115.26 | 109.10 |
| 2 | AB | 2563 | U | O4'-C1'-N1 | 5.14 | 112.31 | 108.20 |
| 9 | AI | 139 | PHE | CZ-CE2-CD2 | -5.14 | 113.94 | 120.10 |
| 35 | BA | 19 | A | C4-C5-N7 | -5.14 | 108.13 | 110.70 |
| 35 | BA | 161 | A | N1-C6-N6 | -5.14 | 115.52 | 118.60 |
| 35 | BA | 562 | U | C5-C4-O4 | 5.14 | 128.98 | 125.90 |
| 35 | BA | 587 | G | C5'-C4'-O4' | 5.14 | 115.26 | 109.10 |
| 35 | BA | 817 | C | P-O3'-C3' | 5.14 | 125.86 | 119.70 |
| 35 | BA | 859 | G | C2'-C3'-O3' | 5.14 | 121.92 | 113.70 |
| 35 | BA | 1067 | A | P-O3'-C3' | 5.14 | 125.86 | 119.70 |
| 35 | BA | 1469 | C | C6-N1-C1' | 5.14 | 126.96 | 120.80 |
| 35 | BA | 1478 | U | C3'-C2'-C1' | 5.14 | 105.61 | 101.50 |
| 35 | BA | 1523 | G | C3'-C2'-C1' | -5.14 | 97.39 | 101.50 |
| 35 | BA | 1525 | G | O4'-C1'-N9 | 5.14 | 112.31 | 108.20 |
| 2 | AB | 43 | G | C8-N9-C4 | -5.13 | 104.35 | 106.40 |
| 2 | AB | 211 | C | O4'-C1'-C2' | -5.13 | 100.67 | 105.80 |
| 2 | AB | 352 | A | C1'-O4'-C4' | -5.13 | 105.79 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 376 | G | O5'-P-OP2 | -5.13 | 101.08 | 105.70 |
| 2 | AB | 1035 | U | C4'-C3'-C2' | -5.13 | 97.47 | 102.60 |
| 2 | AB | 1131 | G | N9-C4-C5 | 5.13 | 107.45 | 105.40 |
| 2 | AB | 1157 | G | C4-C5-N7 | -5.13 | 108.75 | 110.80 |
| 2 | AB | 1294 | U | C5-C6-N1 | -5.13 | 120.13 | 122.70 |
| 2 | AB | 2694 | G | N3-C4-C5 | -5.13 | 126.03 | 128.60 |
| 2 | AB | 2700 | A | N3-C4-N9 | 5.13 | 131.51 | 127.40 |
| 2 | AB | 2878 | U | P-O5'-C5' | 5.13 | 129.12 | 120.90 |
| 35 | BA | 21 | G | O5'-P-OP1 | -5.13 | 101.08 | 105.70 |
| 35 | BA | 99 | C | N1-C1'-C2' | -5.13 | 106.35 | 112.00 |
| 35 | BA | 537 | G | N1-C6-O6 | -5.13 | 116.82 | 119.90 |
| 35 | BA | 557 | G | O5'-P-OP1 | 5.13 | 116.86 | 110.70 |
| 35 | BA | 605 | U | O4'-C4'-C3' | 5.13 | 110.21 | 106.10 |
| 35 | BA | 607 | A | C3'-C2'-C1' | 5.13 | 105.61 | 101.50 |
| 35 | BA | 799 | G | N1-C2-N3 | -5.13 | 120.82 | 123.90 |
| 35 | BA | 975 | A | C6-C5-N7 | -5.13 | 128.71 | 132.30 |
| 35 | BA | 1284 | C | C5-C4-N4 | -5.13 | 116.61 | 120.20 |
| 35 | BA | 1362 | A | P-O3'-C3' | 5.13 | 125.86 | 119.70 |
| 35 | BA | 1517 | G | C1'-O4'-C4' | -5.13 | 105.79 | 109.90 |
| 37 | BC | 36 | A | C5'-C4'-C3' | 5.13 | 124.21 | 116.00 |
| 2 | AB | 448 | U | C6-N1-C2 | -5.13 | 117.92 | 121.00 |
| 2 | AB | 809 | G | N9-C1'-C2' | 5.13 | 120.67 | 114.00 |
| 2 | AB | 1228 | G | O5'-C5'-C4' | -5.13 | 101.95 | 111.70 |
| 2 | AB | 1597 | A | N3-C4-N9 | 5.13 | 131.51 | 127.40 |
| 2 | AB | 2286 | G | C2-N3-C4 | 5.13 | 114.47 | 111.90 |
| 2 | AB | 2300 | C | N3-C4-N4 | 5.13 | 121.59 | 118.00 |
| 2 | AB | 2309 | A | C2-N3-C4 | 5.13 | 113.17 | 110.60 |
| 2 | AB | 2329 | U | O4'-C1'-C2' | -5.13 | 100.67 | 105.80 |
| 2 | AB | 2631 | G | O4'-C1'-C2' | -5.13 | 100.67 | 105.80 |
| 2 | AB | 2726 | A | N1-C6-N6 | -5.13 | 115.52 | 118.60 |
| 35 | BA | 50 | A | P-O3'-C3' | 5.13 | 125.86 | 119.70 |
| 35 | BA | 892 | A | C3'-C2'-C1' | -5.13 | 97.39 | 101.50 |
| 35 | BA | 1358 | U | N3-C2-O2 | 5.13 | 125.79 | 122.20 |
| 35 | BA | 1454 | G | N3-C4-N9 | -5.13 | 122.92 | 126.00 |
| 35 | BA | 1504 | G | O4'-C1'-C2' | -5.13 | 100.67 | 105.80 |
| 46 | BL | 58 | ASN | CB-CA-C | 5.13 | 120.67 | 110.40 |
| 1 | AA | 39 | A | C1'-O4'-C4' | -5.13 | 105.79 | 109.90 |
| 2 | AB | 250 | G | C5-N7-C8 | 5.13 | 106.87 | 104.30 |
| 2 | AB | 1196 | C | N1-C2-N3 | -5.13 | 115.61 | 119.20 |
| 2 | AB | 1499 | C | C3'-C2'-C1' | -5.13 | 97.39 | 101.50 |
| 2 | AB | 1711 | A | N9-C4-C5 | -5.13 | 103.75 | 105.80 |
| 2 | AB | 1810 | A | C4-C5-N7 | -5.13 | 108.13 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1936 | A | O4'-C4'-C3' | 5.13 | 110.20 | 106.10 |
| 2 | AB | 1948 | G | C4-C5-C6 | 5.13 | 121.88 | 118.80 |
| 2 | AB | 2339 | C | N3-C4-C5 | -5.13 | 119.85 | 121.90 |
| 2 | AB | 2379 | G | C5'-C4'-O4' | 5.13 | 115.26 | 109.10 |
| 2 | AB | 2433 | A | C2-N3-C4 | -5.13 | 108.03 | 110.60 |
| 2 | AB | 2587 | A | O4'-C4'-C3' | 5.13 | 110.21 | 106.10 |
| 2 | AB | 2820 | A | C8-N9-C4 | -5.13 | 103.75 | 105.80 |
| 18 | AR | 8 | GLU | CG-CD-OE2 | -5.13 | 108.04 | 118.30 |
| 35 | BA | 337 | G | O4'-C1'-C2' | -5.13 | 100.67 | 105.80 |
| 35 | BA | 497 | G | C6-C5-N7 | -5.13 | 127.32 | 130.40 |
| 35 | BA | 520 | A | C4'-C3'-C2' | -5.13 | 97.47 | 102.60 |
| 35 | BA | 537 | G | N3-C4-N9 | 5.13 | 129.08 | 126.00 |
| 35 | BA | 542 | G | C5-N7-C8 | -5.13 | 101.73 | 104.30 |
| 35 | BA | 767 | A | C6-C5-N7 | 5.13 | 135.89 | 132.30 |
| 35 | BA | 884 | U | O4'-C1'-C2' | -5.13 | 100.67 | 105.80 |
| 35 | BA | 1011 | C | C4-C5-C6 | 5.13 | 119.97 | 117.40 |
| 35 | BA | 1458 | G | C5'-C4'-O4' | 5.13 | 115.26 | 109.10 |
| 36 | BB | 55 | A | N1-C2-N3 | 5.13 | 131.87 | 129.30 |
| 53 | BS | 39 | ARG | NH1-CZ-NH2 | 5.13 | 125.05 | 119.40 |
| 1 | AA | 89 | U | C5-C4-O4 | -5.13 | 122.82 | 125.90 |
| 1 | AA | 120 | U | C4-C5-C6 | -5.13 | 116.62 | 119.70 |
| 2 | AB | 614 | A | OP2-P-O3' | 5.13 | 116.49 | 105.20 |
| 2 | AB | 756 | A | C5'-C4'-O4' | -5.13 | 102.94 | 109.10 |
| 2 | AB | 858 | G | O4'-C1'-N9 | 5.13 | 112.30 | 108.20 |
| 2 | AB | 1530 | G | C5-C6-N1 | 5.13 | 114.06 | 111.50 |
| 2 | AB | 1669 | A | C8-N9-C4 | 5.13 | 107.85 | 105.80 |
| 2 | AB | 2071 | A | OP2-P-O3' | 5.13 | 116.49 | 105.20 |
| 2 | AB | 2144 | G | N1-C2-N2 | -5.13 | 111.58 | 116.20 |
| 2 | AB | 2438 | U | P-O3'-C3' | 5.13 | 125.86 | 119.70 |
| 35 | BA | 413 | G | C5-C6-N1 | 5.13 | 114.06 | 111.50 |
| 35 | BA | 1419 | G | C6-N1-C2 | 5.13 | 128.18 | 125.10 |
| 45 | BK | 44 | ARG | NH1-CZ-NH2 | -5.13 | 113.76 | 119.40 |
| 2 | AB | 487 | C | C1'-O4'-C4' | -5.13 | 105.80 | 109.90 |
| 2 | AB | 641 | U | C4'-C3'-C2' | -5.13 | 97.47 | 102.60 |
| 2 | AB | 1413 | A | N1-C2-N3 | 5.13 | 131.87 | 129.30 |
| 2 | AB | 1881 | C | C2-N3-C4 | 5.13 | 122.46 | 119.90 |
| 2 | AB | 2461 | A | N3-C4-C5 | 5.13 | 130.39 | 126.80 |
| 4 | AD | 30 | ALA | N-CA-CB | 5.13 | 117.28 | 110.10 |
| 35 | BA | 307 | C | O4'-C1'-C2' | -5.13 | 100.67 | 105.80 |
| 35 | BA | 367 | U | N1-C1'-C2' | 5.13 | 120.67 | 114.00 |
| 35 | BA | 452 | A | O4'-C4'-C3' | 5.13 | 110.20 | 106.10 |
| 35 | BA | 563 | A | OP1-P-O3' | 5.13 | 116.48 | 105.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 845 | A | N9-C1'-C2' | 5.13 | 120.67 | 114.00 |
| 1 | AA | 23 | G | C6-N1-C2 | 5.13 | 128.18 | 125.10 |
| 2 | AB | 632 | A | C5-C6-N1 | -5.13 | 115.14 | 117.70 |
| 2 | AB | 827 | U | N3-C4-C5 | -5.13 | 111.52 | 114.60 |
| 2 | AB | 1407 | G | N3-C4-N9 | -5.13 | 122.92 | 126.00 |
| 2 | AB | 1738 | G | N9-C4-C5 | 5.13 | 107.45 | 105.40 |
| 2 | AB | 1888 | G | C5-C6-N1 | 5.13 | 114.06 | 111.50 |
| 2 | AB | 1903 | G | O5'-C5'-C4' | 5.13 | 121.44 | 111.70 |
| 2 | AB | 2011 | U | N1-C2-O2 | 5.13 | 126.39 | 122.80 |
| 2 | AB | 2157 | G | C4-C5-C6 | 5.13 | 121.88 | 118.80 |
| 2 | AB | 2194 | U | P-O3'-C3' | 5.13 | 125.85 | 119.70 |
| 2 | AB | 2260 | C | C5'-C4'-C3' | -5.13 | 107.80 | 116.00 |
| 2 | AB | 2800 | A | C3'-C2'-C1' | -5.13 | 97.40 | 101.50 |
| 35 | BA | 360 | G | O4'-C1'-N9 | 5.13 | 112.30 | 108.20 |
| 35 | BA | 505 | G | N1-C2-N2 | -5.13 | 111.58 | 116.20 |
| 35 | BA | 636 | U | N3-C2-O2 | -5.13 | 118.61 | 122.20 |
| 35 | BA | 733 | G | O4'-C1'-C2' | -5.13 | 100.67 | 105.80 |
| 35 | BA | 909 | A | N3-C4-C5 | -5.13 | 123.21 | 126.80 |
| 35 | BA | 934 | C | O4'-C1'-N1 | 5.13 | 112.30 | 108.20 |
| 35 | BA | 1160 | G | C4-C5-C6 | 5.13 | 121.88 | 118.80 |
| 35 | BA | 1177 | G | N3-C4-N9 | -5.13 | 122.92 | 126.00 |
| 35 | BA | 1237 | C | N3-C4-N4 | 5.13 | 121.59 | 118.00 |
| 35 | BA | 1367 | C | C1'-O4'-C4' | 5.13 | 114.00 | 109.90 |
| 35 | BA | 1457 | G | N1-C2-N3 | -5.13 | 120.82 | 123.90 |
| 35 | BA | 1510 | C | C1'-O4'-C4' | -5.13 | 105.80 | 109.90 |
| 37 | BC | 16 | C | N1-C2-O2 | 5.13 | 121.98 | 118.90 |
| 2 | AB | 119 | A | C1'-O4'-C4' | -5.12 | 105.80 | 109.90 |
| 2 | AB | 251 | A | C5-C6-N6 | -5.12 | 119.60 | 123.70 |
| 2 | AB | 2287 | A | C5-C6-N6 | -5.12 | 119.60 | 123.70 |
| 2 | AB | 2887 | A | N7-C8-N9 | 5.12 | 116.36 | 113.80 |
| 11 | AK | 102 | ARG | CD-NE-CZ | 5.12 | 130.78 | 123.60 |
| 19 | AS | 24 | TYR | N-CA-CB | -5.12 | 101.38 | 110.60 |
| 25 | AY | 40 | ARG | CB-CA-C | 5.12 | 120.65 | 110.40 |
| 35 | BA | 57 | G | C6-C5-N7 | -5.12 | 127.33 | 130.40 |
| 35 | BA | 379 | C | O4'-C1'-N1 | 5.12 | 112.30 | 108.20 |
| 43 | BI | 138 | GLU | OE1-CD-OE2 | 5.12 | 129.45 | 123.30 |
| 1 | AA | 40 | U | P-O3'-C3' | 5.12 | 125.85 | 119.70 |
| 2 | AB | 110 | G | O4'-C4'-C3' | -5.12 | 98.88 | 104.00 |
| 2 | AB | 165 | A | C6-N1-C2 | -5.12 | 115.53 | 118.60 |
| 2 | AB | 209 | C | C1'-O4'-C4' | 5.12 | 114.00 | 109.90 |
| 2 | AB | 224 | U | C5'-C4'-C3' | -5.12 | 107.80 | 116.00 |
| 2 | AB | 281 | C | C4-C5-C6 | -5.12 | 114.84 | 117.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 409 | G | N1-C2-N3 | -5.12 | 120.83 | 123.90 |
| 2 | AB | 670 | A | O5'-C5'-C4' | 5.12 | 121.44 | 111.70 |
| 2 | AB | 675 | A | C8-N9-C4 | -5.12 | 103.75 | 105.80 |
| 2 | AB | 768 | G | C4'-C3'-C2' | -5.12 | 97.48 | 102.60 |
| 2 | AB | 1207 | C | N3-C4-N4 | -5.12 | 114.41 | 118.00 |
| 2 | AB | 1487 | U | P-O5'-C5' | 5.12 | 129.10 | 120.90 |
| 2 | AB | 2144 | G | N3-C4-N9 | -5.12 | 122.92 | 126.00 |
| 2 | AB | 2343 | U | C5'-C4'-O4' | 5.12 | 115.25 | 109.10 |
| 2 | AB | 2669 | G | C8-N9-C4 | -5.12 | 104.35 | 106.40 |
| 2 | AB | 2727 | A | O4'-C1'-N9 | 5.12 | 112.30 | 108.20 |
| 2 | AB | 2773 | C | C5'-C4'-C3' | -5.12 | 107.80 | 116.00 |
| 35 | BA | 423 | G | C2-N3-C4 | 5.12 | 114.46 | 111.90 |
| 35 | BA | 484 | G | N1-C2-N2 | -5.12 | 111.59 | 116.20 |
| 35 | BA | 727 | G | C4-C5-N7 | 5.12 | 112.85 | 110.80 |
| 35 | BA | 786 | G | C4-C5-N7 | 5.12 | 112.85 | 110.80 |
| 35 | BA | 797 | C | C6-N1-C2 | -5.12 | 118.25 | 120.30 |
| 35 | BA | 979 | C | P-O3'-C3' | 5.12 | 125.85 | 119.70 |
| 35 | BA | 1272 | G | C6-N1-C2 | -5.12 | 122.03 | 125.10 |
| 35 | BA | 1288 | A | C2-N3-C4 | -5.12 | 108.04 | 110.60 |
| 44 | BJ | 79 | ARG | NH1-CZ-NH2 | -5.12 | 113.77 | 119.40 |
| 2 | AB | 116 | C | C4'-C3'-C2' | -5.12 | 97.48 | 102.60 |
| 2 | AB | 182 | A | O4'-C4'-C3' | 5.12 | 110.20 | 106.10 |
| 2 | AB | 189 | G | N9-C1'-C2' | -5.12 | 106.36 | 112.00 |
| 2 | AB | 461 | C | C5-C4-N4 | -5.12 | 116.61 | 120.20 |
| 2 | AB | 814 | C | N1-C2-O2 | 5.12 | 121.97 | 118.90 |
| 2 | AB | 830 | G | C5-C6-O6 | -5.12 | 125.53 | 128.60 |
| 2 | AB | 886 | A | P-O3'-C3' | 5.12 | 125.85 | 119.70 |
| 2 | AB | 1330 | C | N1-C2-O2 | -5.12 | 115.83 | 118.90 |
| 2 | AB | 1933 | G | C5-N7-C8 | -5.12 | 101.74 | 104.30 |
| 2 | AB | 2228 | G | C4'-C3'-C2' | -5.12 | 97.48 | 102.60 |
| 2 | AB | 2437 | G | C5-C6-O6 | 5.12 | 131.67 | 128.60 |
| 2 | AB | 2654 | A | N7-C8-N9 | 5.12 | 116.36 | 113.80 |
| 2 | AB | 2742 | G | C5-C6-O6 | 5.12 | 131.67 | 128.60 |
| 4 | AD | 34 | GLU | CB-CA-C | 5.12 | 120.64 | 110.40 |
| 35 | BA | 132 | C | C4'-C3'-C2' | -5.12 | 97.48 | 102.60 |
| 35 | BA | 188 | C | C5-C6-N1 | 5.12 | 123.56 | 121.00 |
| 35 | BA | 640 | A | C1'-O4'-C4' | -5.12 | 105.80 | 109.90 |
| 35 | BA | 834 | U | C1'-O4'-C4' | -5.12 | 105.80 | 109.90 |
| 35 | BA | 1339 | A | C6-N1-C2 | -5.12 | 115.53 | 118.60 |
| 2 | AB | 142 | A | C5-C6-N1 | 5.12 | 120.26 | 117.70 |
| 2 | AB | 545 | U | C2-N3-C4 | -5.12 | 123.93 | 127.00 |
| 2 | AB | 823 | C | C2-N1-C1' | -5.12 | 113.17 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1174 | U | C2-N3-C4 | -5.12 | 123.93 | 127.00 |
| 2 | AB | 1193 | G | N3-C4-C5 | -5.12 | 126.04 | 128.60 |
| 2 | AB | 1587 | G | C5'-C4'-O4' | 5.12 | 115.24 | 109.10 |
| 2 | AB | 1653 | G | N1-C6-O6 | -5.12 | 116.83 | 119.90 |
| 34 | A7 | 30 | GLU | OE1-CD-OE2 | 5.12 | 129.44 | 123.30 |
| 35 | BA | 184 | G | N9-C1'-C2' | -5.12 | 106.37 | 112.00 |
| 35 | BA | 370 | C | N3-C4-C5 | 5.12 | 123.95 | 121.90 |
| 35 | BA | 908 | A | P-O3'-C3' | 5.12 | 125.84 | 119.70 |
| 35 | BA | 1113 | C | P-O3'-C3' | 5.12 | 125.84 | 119.70 |
| 35 | BA | 1506 | U | C6-N1-C2 | -5.12 | 117.93 | 121.00 |
| 1 | AA | 118 | C | C6-N1-C2 | -5.12 | 118.25 | 120.30 |
| 2 | AB | 30 | G | N1-C2-N3 | 5.12 | 126.97 | 123.90 |
| 2 | AB | 150 | U | C5-C6-N1 | -5.12 | 120.14 | 122.70 |
| 2 | AB | 300 | A | C5'-C4'-C3' | 5.12 | 124.19 | 116.00 |
| 2 | AB | 689 | A | C6-N1-C2 | 5.12 | 121.67 | 118.60 |
| 2 | AB | 967 | U | N3-C4-C5 | -5.12 | 111.53 | 114.60 |
| 2 | AB | 1089 | A | O4'-C1'-C2' | -5.12 | 100.68 | 105.80 |
| 2 | AB | 1179 | G | C5-N7-C8 | -5.12 | 101.74 | 104.30 |
| 2 | AB | 1547 | C | C4-C5-C6 | 5.12 | 119.96 | 117.40 |
| 2 | AB | 1580 | A | C6-C5-N7 | -5.12 | 128.72 | 132.30 |
| 2 | AB | 1715 | G | O4'-C4'-C3' | 5.12 | 110.19 | 106.10 |
| 2 | AB | 2005 | A | O4'-C1'-N9 | 5.12 | 112.30 | 108.20 |
| 2 | AB | 2064 | C | N3-C4-C5 | 5.12 | 123.95 | 121.90 |
| 5 | AE | 15 | PHE | CG-CD2-CE2 | -5.12 | 115.17 | 120.80 |
| 35 | BA | 61 | G | N9-C4-C5 | 5.12 | 107.45 | 105.40 |
| 35 | BA | 203 | G | C3'-C2'-C1' | -5.12 | 97.41 | 101.50 |
| 35 | BA | 1054 | C | N1-C2-N3 | 5.12 | 122.78 | 119.20 |
| 35 | BA | 1102 | A | C5-N7-C8 | -5.12 | 101.34 | 103.90 |
| 35 | BA | 1120 | C | C4'-C3'-C2' | -5.12 | 97.48 | 102.60 |
| 35 | BA | 1286 | U | N1-C2-N3 | 5.12 | 117.97 | 114.90 |
| 35 | BA | 1369 | C | C5-C4-N4 | 5.12 | 123.78 | 120.20 |
| 43 | BI | 90 | VAL | CA-CB-CG2 | 5.12 | 118.58 | 110.90 |
| 2 | AB | 423 | A | C5-C6-N1 | 5.12 | 120.26 | 117.70 |
| 2 | AB | 793 | A | O4'-C1'-N9 | 5.12 | 112.29 | 108.20 |
| 2 | AB | 812 | C | C3'-C2'-C1' | 5.12 | 105.59 | 101.50 |
| 2 | AB | 814 | C | N1-C2-N3 | -5.12 | 115.62 | 119.20 |
| 2 | AB | 1182 | G | O4'-C4'-C3' | -5.12 | 98.88 | 104.00 |
| 2 | AB | 1251 | C | N3-C4-N4 | 5.12 | 121.58 | 118.00 |
| 2 | AB | 1861 | G | N9-C4-C5 | -5.12 | 103.35 | 105.40 |
| 2 | AB | 2436 | G | O4'-C1'-N9 | 5.12 | 112.29 | 108.20 |
| 2 | AB | 2865 | U | P-O3'-C3' | 5.12 | 125.84 | 119.70 |
| 35 | BA | 1476 | A | O4'-C1'-N9 | 5.12 | 112.29 | 108.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 9 | G | N3-C4-N9 | 5.12 | 129.07 | 126.00 |
| 2 | AB | 432 | A | C4-C5-C6 | -5.12 | 114.44 | 117.00 |
| 2 | AB | 928 | A | N1-C2-N3 | 5.12 | 131.86 | 129.30 |
| 2 | AB | 990 | A | N1-C2-N3 | -5.12 | 126.74 | 129.30 |
| 2 | AB | 1413 | A | C2-N3-C4 | -5.12 | 108.04 | 110.60 |
| 2 | AB | 1500 | G | C3'-C2'-C1' | -5.12 | 97.41 | 101.50 |
| 2 | AB | 1850 | G | C6-C5-N7 | 5.12 | 133.47 | 130.40 |
| 2 | AB | 2190 | G | N1-C2-N3 | -5.12 | 120.83 | 123.90 |
| 2 | AB | 2383 | G | N1-C2-N3 | -5.12 | 120.83 | 123.90 |
| 2 | AB | 2428 | G | N1-C6-O6 | -5.12 | 116.83 | 119.90 |
| 2 | AB | 2569 | G | C5-N7-C8 | 5.12 | 106.86 | 104.30 |
| 35 | BA | 46 | G | C5-N7-C8 | -5.12 | 101.74 | 104.30 |
| 35 | BA | 73 | C | C5-C6-N1 | 5.12 | 123.56 | 121.00 |
| 35 | BA | 257 | G | C5-C6-O6 | -5.12 | 125.53 | 128.60 |
| 35 | BA | 356 | A | C5-C6-N1 | -5.12 | 115.14 | 117.70 |
| 35 | BA | 368 | U | C2'-C3'-O3' | 5.12 | 121.89 | 113.70 |
| 35 | BA | 953 | G | N1-C2-N3 | 5.12 | 126.97 | 123.90 |
| 53 | BS | 68 | LYS | CA-CB-CG | -5.12 | 102.15 | 113.40 |
| 2 | AB | 231 | A | C5'-C4'-C3' | -5.11 | 107.82 | 116.00 |
| 2 | AB | 344 | A | C8-N9-C4 | -5.11 | 103.75 | 105.80 |
| 2 | AB | 645 | C | N3-C4-C5 | -5.11 | 119.86 | 121.90 |
| 2 | AB | 856 | G | C5-N7-C8 | 5.11 | 106.86 | 104.30 |
| 2 | AB | 1688 | U | O4'-C1'-N1 | 5.11 | 112.29 | 108.20 |
| 2 | AB | 1776 | G | N3-C4-C5 | -5.11 | 126.04 | 128.60 |
| 2 | AB | 2227 | A | C4-C5-N7 | 5.11 | 113.26 | 110.70 |
| 2 | AB | 2526 | G | N3-C4-C5 | -5.11 | 126.04 | 128.60 |
| 2 | AB | 2782 | G | N3-C4-N9 | 5.11 | 129.07 | 126.00 |
| 6 | AF | 197 | GLU | O-C-N | 5.11 | 130.88 | 122.70 |
| 35 | BA | 150 | U | C5'-C4'-O4' | 5.11 | 115.23 | 109.10 |
| 35 | BA | 182 | A | C5-C6-N1 | -5.11 | 115.14 | 117.70 |
| 35 | BA | 355 | C | O4'-C4'-C3' | 5.11 | 110.19 | 106.10 |
| 35 | BA | 566 | G | C5'-C4'-C3' | -5.11 | 107.82 | 116.00 |
| 35 | BA | 676 | A | C4'-C3'-C2' | -5.11 | 97.49 | 102.60 |
| 35 | BA | 1437 | A | O4'-C1'-C2' | 5.11 | 112.20 | 107.60 |
| 1 | AA | 50 | A | N9-C1'-C2' | -5.11 | 106.38 | 112.00 |
| 2 | AB | 889 | C | C4'-C3'-O3' | 5.11 | 123.22 | 113.00 |
| 2 | AB | 1318 | U | C2-N1-C1' | -5.11 | 111.57 | 117.70 |
| 2 | AB | 1409 | U | C5-C6-N1 | -5.11 | 120.14 | 122.70 |
| 2 | AB | 1434 | A | P-O3'-C3' | 5.11 | 125.83 | 119.70 |
| 2 | AB | 1518 | C | C5'-C4'-C3' | -5.11 | 107.82 | 116.00 |
| 2 | AB | 1768 | C | C4-C5-C6 | 5.11 | 119.96 | 117.40 |
| 2 | AB | 1791 | A | P-O3'-C3' | 5.11 | 125.83 | 119.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2696 | U | C5-C4-O4 | -5.11 | 122.83 | 125.90 |
| 35 | BA | 440 | C | N3-C4-N4 | 5.11 | 121.58 | 118.00 |
| 35 | BA | 712 | A | P-O3'-C3' | 5.11 | 125.83 | 119.70 |
| 35 | BA | 798 | U | C1'-O4'-C4' | -5.11 | 105.81 | 109.90 |
| 35 | BA | 1348 | U | C5'-C4'-C3' | -5.11 | 107.82 | 116.00 |
| 41 | BG | 68 | ARG | NE-CZ-NH2 | -5.11 | 117.74 | 120.30 |
| 2 | AB | 62 | U | C2-N3-C4 | -5.11 | 123.93 | 127.00 |
| 2 | AB | 287 | G | C8-N9-C1' | 5.11 | 133.64 | 127.00 |
| 2 | AB | 323 | C | N3-C2-O2 | -5.11 | 118.32 | 121.90 |
| 2 | AB | 395 | U | C5'-C4'-O4' | 5.11 | 115.23 | 109.10 |
| 2 | AB | 1024 | G | P-O3'-C3' | 5.11 | 125.83 | 119.70 |
| 2 | AB | 1043 | C | O4'-C1'-N1 | 5.11 | 112.29 | 108.20 |
| 2 | AB | 1193 | G | C4-C5-N7 | -5.11 | 108.76 | 110.80 |
| 2 | AB | 1319 | C | C4'-C3'-C2' | -5.11 | 97.49 | 102.60 |
| 2 | AB | 2320 | U | C5'-C4'-O4' | 5.11 | 115.23 | 109.10 |
| 2 | AB | 2517 | C | N1-C1'-C2' | -5.11 | 106.38 | 112.00 |
| 2 | AB | 2833 | U | C3'-C2'-C1' | -5.11 | 97.41 | 101.50 |
| 2 | AB | 2888 | C | C4-C5-C6 | -5.11 | 114.84 | 117.40 |
| 2 | AB | 2888 | C | O4'-C4'-C3' | 5.11 | 110.19 | 106.10 |
| 15 | AO | 103 | TYR | CZ-CE2-CD2 | -5.11 | 115.20 | 119.80 |
| 32 | A5 | 18 | PHE | CG-CD2-CE2 | -5.11 | 115.18 | 120.80 |
| 35 | BA | 207 | C | C5-C4-N4 | -5.11 | 116.62 | 120.20 |
| 35 | BA | 313 | A | C5'-C4'-O4' | 5.11 | 115.23 | 109.10 |
| 35 | BA | 443 | C | C5-C4-N4 | 5.11 | 123.78 | 120.20 |
| 35 | BA | 606 | G | N1-C6-O6 | 5.11 | 122.97 | 119.90 |
| 35 | BA | 644 | U | O4'-C1'-C2' | -5.11 | 100.69 | 105.80 |
| 35 | BA | 942 | G | C4-N9-C1' | -5.11 | 119.86 | 126.50 |
| 35 | BA | 1072 | G | N3-C4-C5 | -5.11 | 126.05 | 128.60 |
| 35 | BA | 1316 | G | N3-C4-C5 | -5.11 | 126.05 | 128.60 |
| 35 | BA | 1388 | C | C1'-O4'-C4' | -5.11 | 105.81 | 109.90 |
| 2 | AB | 1638 | C | P-O3'-C3' | 5.11 | 125.83 | 119.70 |
| 2 | AB | 1715 | G | N3-C4-C5 | -5.11 | 126.05 | 128.60 |
| 2 | AB | 1763 | G | C5'-C4'-C3' | -5.11 | 107.83 | 116.00 |
| 2 | AB | 2592 | G | C6-C5-N7 | 5.11 | 133.47 | 130.40 |
| 2 | AB | 2775 | G | C2-N3-C4 | 5.11 | 114.45 | 111.90 |
| 35 | BA | 236 | A | C4'-C3'-C2' | -5.11 | 97.49 | 102.60 |
| 35 | BA | 832 | G | O4'-C1'-N9 | 5.11 | 112.29 | 108.20 |
| 35 | BA | 1249 | C | C4-C5-C6 | -5.11 | 114.84 | 117.40 |
| 35 | BA | 1293 | C | C5'-C4'-C3' | -5.11 | 107.83 | 116.00 |
| 35 | BA | 1324 | A | N9-C4-C5 | 5.11 | 107.84 | 105.80 |
| 35 | BA | 1332 | A | C2-N3-C4 | -5.11 | 108.05 | 110.60 |
| 35 | BA | 1527 | U | N1-C2-N3 | 5.11 | 117.97 | 114.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 55 | BU | 46 | LEU | O-C-N | 5.11 | 130.87 | 122.70 |
| 1 | AA | 78 | A | N3-C4-C5 | -5.11 | 123.22 | 126.80 |
| 1 | AA | 102 | G | O4'-C1'-N9 | 5.11 | 112.29 | 108.20 |
| 2 | AB | 52 | A | C5'-C4'-O4' | 5.11 | 115.23 | 109.10 |
| 2 | AB | 190 | A | O4'-C1'-N9 | 5.11 | 112.29 | 108.20 |
| 2 | AB | 371 | A | N1-C6-N6 | -5.11 | 115.54 | 118.60 |
| 2 | AB | 1808 | A | P-O3'-C3' | 5.11 | 125.83 | 119.70 |
| 2 | AB | 1817 | G | N1-C6-O6 | 5.11 | 122.96 | 119.90 |
| 2 | AB | 1924 | C | O3'-P-O5' | 5.11 | 113.70 | 104.00 |
| 2 | AB | 2101 | A | C6-N1-C2 | -5.11 | 115.54 | 118.60 |
| 2 | AB | 2617 | U | N3-C2-O2 | -5.11 | 118.62 | 122.20 |
| 2 | AB | 2686 | G | C3'-C2'-C1' | -5.11 | 97.41 | 101.50 |
| 2 | AB | 2742 | G | N9-C4-C5 | 5.11 | 107.44 | 105.40 |
| 6 | AF | 6 | LYS | CB-CA-C | 5.11 | 120.62 | 110.40 |
| 19 | AS | 110 | GLU | OE1-CD-OE2 | 5.11 | 129.43 | 123.30 |
| 35 | BA | 1 | A | C5-C6-N1 | 5.11 | 120.25 | 117.70 |
| 35 | BA | 109 | A | C8-N9-C4 | 5.11 | 107.84 | 105.80 |
| 35 | BA | 220 | G | N3-C4-C5 | -5.11 | 126.05 | 128.60 |
| 35 | BA | 364 | A | N3-C4-N9 | -5.11 | 123.31 | 127.40 |
| 35 | BA | 393 | A | C8-N9-C4 | -5.11 | 103.76 | 105.80 |
| 35 | BA | 608 | A | N3-C4-C5 | -5.11 | 123.22 | 126.80 |
| 35 | BA | 689 | C | C5-C6-N1 | -5.11 | 118.45 | 121.00 |
| 35 | BA | 705 | G | N3-C4-N9 | 5.11 | 129.06 | 126.00 |
| 54 | BT | 50 | TYR | CG-CD1-CE1 | -5.11 | 117.21 | 121.30 |
| 1 | AA | 73 | A | C6-C5-N7 | -5.11 | 128.73 | 132.30 |
| 2 | AB | 415 | A | P-O5'-C5' | 5.11 | 129.07 | 120.90 |
| 2 | AB | 867 | C | O4'-C1'-N1 | 5.11 | 112.28 | 108.20 |
| 2 | AB | 914 | G | P-O5'-C5' | 5.11 | 129.07 | 120.90 |
| 2 | AB | 1252 | G | N3-C4-N9 | -5.11 | 122.94 | 126.00 |
| 2 | AB | 1574 | C | C5-C4-N4 | -5.11 | 116.63 | 120.20 |
| 2 | AB | 1751 | U | C2-N3-C4 | -5.11 | 123.94 | 127.00 |
| 2 | AB | 1821 | A | N9-C4-C5 | 5.11 | 107.84 | 105.80 |
| 2 | AB | 1895 | C | C6-N1-C1' | 5.11 | 126.93 | 120.80 |
| 2 | AB | 2126 | A | C6-N1-C2 | -5.11 | 115.54 | 118.60 |
| 2 | AB | 2559 | C | O4'-C1'-N1 | 5.11 | 112.28 | 108.20 |
| 35 | BA | 8 | A | C6-N1-C2 | 5.11 | 121.66 | 118.60 |
| 35 | BA | 79 | G | C5'-C4'-O4' | 5.11 | 115.23 | 109.10 |
| 35 | BA | 218 | U | O4'-C1'-N1 | 5.11 | 112.28 | 108.20 |
| 35 | BA | 286 | C | C5'-C4'-O4' | 5.11 | 115.23 | 109.10 |
| 35 | BA | 313 | A | N9-C4-C5 | -5.11 | 103.76 | 105.80 |
| 35 | BA | 398 | U | C3'-C2'-C1' | 5.11 | 105.58 | 101.50 |
| 35 | BA | 466 | A | C2-N3-C4 | 5.11 | 113.15 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 506 | G | O4'-C1'-N9 | 5.11 | 112.28 | 108.20 |
| 35 | BA | 541 | G | C4-C5-N7 | -5.11 | 108.76 | 110.80 |
| 35 | BA | 939 | G | C3'-C2'-C1' | 5.11 | 105.58 | 101.50 |
| 35 | BA | 1082 | A | C5'-C4'-C3' | -5.11 | 107.83 | 116.00 |
| 35 | BA | 1195 | C | O4'-C4'-C3' | 5.11 | 110.18 | 106.10 |
| 2 | AB | 48 | G | C8-N9-C1' | 5.10 | 133.63 | 127.00 |
| 2 | AB | 718 | A | N9-C4-C5 | 5.10 | 107.84 | 105.80 |
| 2 | AB | 777 | G | C6-C5-N7 | 5.10 | 133.46 | 130.40 |
| 2 | AB | 938 | G | N1-C6-O6 | -5.10 | 116.84 | 119.90 |
| 2 | AB | 2182 | U | C1'-O4'-C4' | -5.10 | 105.82 | 109.90 |
| 2 | AB | 2647 | U | C5-C6-N1 | -5.10 | 120.15 | 122.70 |
| 35 | BA | 100 | G | N9-C4-C5 | 5.10 | 107.44 | 105.40 |
| 35 | BA | 168 | G | O3'-P-O5' | 5.10 | 113.70 | 104.00 |
| 35 | BA | 634 | C | C2-N3-C4 | 5.10 | 122.45 | 119.90 |
| 35 | BA | 900 | A | C8-N9-C4 | -5.10 | 103.76 | 105.80 |
| 35 | BA | 1352 | C | N3-C4-N4 | -5.10 | 114.43 | 118.00 |
| 2 | AB | 100 | U | N3-C4-O4 | 5.10 | 122.97 | 119.40 |
| 2 | AB | 176 | A | N1-C6-N6 | -5.10 | 115.54 | 118.60 |
| 2 | AB | 343 | C | C4'-C3'-C2' | -5.10 | 97.50 | 102.60 |
| 2 | AB | 350 | G | N9-C4-C5 | 5.10 | 107.44 | 105.40 |
| 2 | AB | 627 | A | C5'-C4'-C3' | -5.10 | 107.84 | 116.00 |
| 2 | AB | 727 | A | C4'-C3'-C2' | -5.10 | 97.50 | 102.60 |
| 2 | AB | 835 | C | C5-C6-N1 | -5.10 | 118.45 | 121.00 |
| 2 | AB | 1110 | G | C8-N9-C4 | -5.10 | 104.36 | 106.40 |
| 2 | AB | 1366 | A | N9-C1'-C2' | -5.10 | 106.39 | 112.00 |
| 2 | AB | 1522 | A | N9-C4-C5 | -5.10 | 103.76 | 105.80 |
| 2 | AB | 1878 | G | N9-C1'-C2' | -5.10 | 106.39 | 112.00 |
| 2 | AB | 2045 | C | O4'-C4'-C3' | -5.10 | 98.90 | 104.00 |
| 2 | AB | 2131 | U | C4'-C3'-C2' | -5.10 | 97.50 | 102.60 |
| 2 | AB | 2239 | G | N9-C4-C5 | 5.10 | 107.44 | 105.40 |
| 2 | AB | 2545 | G | N9-C1'-C2' | -5.10 | 106.39 | 112.00 |
| 35 | BA | 45 | G | N1-C6-O6 | 5.10 | 122.96 | 119.90 |
| 35 | BA | 468 | A | C5-C6-N1 | 5.10 | 120.25 | 117.70 |
| 35 | BA | 738 | C | N1-C2-N3 | -5.10 | 115.63 | 119.20 |
| 35 | BA | 1020 | G | C4-N9-C1' | -5.10 | 119.87 | 126.50 |
| 35 | BA | 1183 | U | O4'-C4'-C3' | 5.10 | 110.18 | 106.10 |
| 1 | AA | 97 | C | O3'-P-O5' | -5.10 | 94.31 | 104.00 |
| 2 | AB | 856 | G | N1-C2-N3 | 5.10 | 126.96 | 123.90 |
| 2 | AB | 1062 | G | O5'-P-OP1 | -5.10 | 101.11 | 105.70 |
| 2 | AB | 1318 | U | N3-C4-O4 | 5.10 | 122.97 | 119.40 |
| 2 | AB | 2364 | C | C4'-C3'-C2' | -5.10 | 97.50 | 102.60 |
| 2 | AB | 2522 | U | C3'-C2'-C1' | -5.10 | 97.42 | 101.50 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 625 | U | C3'-C2'-C1' | 5.10 | 105.58 | 101.50 |
| 35 | BA | 954 | G | N3-C4-N9 | 5.10 | 129.06 | 126.00 |
| 1 | AA | 107 | G | C2-N3-C4 | -5.10 | 109.35 | 111.90 |
| 2 | AB | 6 | A | N1-C2-N3 | -5.10 | 126.75 | 129.30 |
| 2 | AB | 37 | C | C5-C4-N4 | -5.10 | 116.63 | 120.20 |
| 2 | AB | 202 | U | C2-N3-C4 | -5.10 | 123.94 | 127.00 |
| 2 | AB | 485 | C | C6-N1-C2 | -5.10 | 118.26 | 120.30 |
| 2 | AB | 652 | U | P-O3'-C3' | 5.10 | 125.82 | 119.70 |
| 2 | AB | 801 | G | P-O3'-C3' | 5.10 | 125.82 | 119.70 |
| 2 | AB | 819 | A | C5'-C4'-O4' | 5.10 | 115.22 | 109.10 |
| 2 | AB | 898 | C | P-O3'-C3' | 5.10 | 125.82 | 119.70 |
| 2 | AB | 914 | G | C1'-O4'-C4' | -5.10 | 105.82 | 109.90 |
| 2 | AB | 938 | G | N3-C2-N2 | -5.10 | 116.33 | 119.90 |
| 2 | AB | 947 | A | C5'-C4'-O4' | 5.10 | 115.22 | 109.10 |
| 2 | AB | 1440 | U | O4'-C4'-C3' | -5.10 | 98.90 | 104.00 |
| 2 | AB | 1452 | G | C6-N1-C2 | -5.10 | 122.04 | 125.10 |
| 2 | AB | 1600 | C | N3-C4-N4 | 5.10 | 121.57 | 118.00 |
| 2 | AB | 1827 | U | O4'-C1'-N1 | 5.10 | 112.28 | 108.20 |
| 2 | AB | 1859 | U | N1-C2-O2 | 5.10 | 126.37 | 122.80 |
| 2 | AB | 2046 | G | N7-C8-N9 | 5.10 | 115.65 | 113.10 |
| 2 | AB | 2791 | G | C4'-C3'-C2' | -5.10 | 97.50 | 102.60 |
| 2 | AB | 2828 | G | C4-C5-C6 | -5.10 | 115.74 | 118.80 |
| 35 | BA | 250 | A | C1'-O4'-C4' | -5.10 | 105.82 | 109.90 |
| 35 | BA | 399 | G | C4'-C3'-C2' | -5.10 | 97.50 | 102.60 |
| 35 | BA | 449 | G | C8-N9-C4 | -5.10 | 104.36 | 106.40 |
| 35 | BA | 466 | A | N9-C4-C5 | 5.10 | 107.84 | 105.80 |
| 35 | BA | 960 | U | O3'-P-O5' | 5.10 | 113.69 | 104.00 |
| 35 | BA | 1095 | U | C4'-C3'-C2' | -5.10 | 97.50 | 102.60 |
| 38 | BD | 197 | PHE | CB-CG-CD2 | -5.10 | 117.23 | 120.80 |
| 2 | AB | 480 | A | N7-C8-N9 | -5.10 | 111.25 | 113.80 |
| 2 | AB | 706 | A | C6-N1-C2 | 5.10 | 121.66 | 118.60 |
| 2 | AB | 714 | U | O4'-C1'-N1 | 5.10 | 112.28 | 108.20 |
| 2 | AB | 728 | G | N3-C4-C5 | -5.10 | 126.05 | 128.60 |
| 2 | AB | 751 | A | O5'-C5'-C4' | -5.10 | 102.02 | 111.70 |
| 2 | AB | 861 | A | C6-N1-C2 | -5.10 | 115.54 | 118.60 |
| 2 | AB | 1584 | U | C5'-C4'-C3' | -5.10 | 107.84 | 116.00 |
| 2 | AB | 1710 | G | C8-N9-C1' | 5.10 | 133.63 | 127.00 |
| 2 | AB | 2119 | A | C4'-C3'-C2' | 5.10 | 107.70 | 102.60 |
| 2 | AB | 2904 | U | C5-C6-N1 | -5.10 | 120.15 | 122.70 |
| 5 | AE | 28 | GLU | CG-CD-OE2 | -5.10 | 108.11 | 118.30 |
| 35 | BA | 611 | C | C5-C4-N4 | 5.10 | 123.77 | 120.20 |
| 35 | BA | 665 | A | N3-C4-C5 | -5.10 | 123.23 | 126.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 812 | G | N1-C2-N3 | -5.10 | 120.84 | 123.90 |
| 35 | BA | 821 | G | C6-C5-N7 | -5.10 | 127.34 | 130.40 |
| 35 | BA | 939 | G | C5'-C4'-O4' | 5.10 | 115.22 | 109.10 |
| 35 | BA | 1119 | C | N3-C4-C5 | -5.10 | 119.86 | 121.90 |
| 35 | BA | 1199 | U | P-O3'-C3' | 5.10 | 125.82 | 119.70 |
| 35 | BA | 1205 | U | O3'-P-O5' | 5.10 | 113.68 | 104.00 |
| 35 | BA | 1280 | A | C5'-C4'-O4' | 5.10 | 115.22 | 109.10 |
| 37 | BC | 10 | G | C5-C6-O6 | -5.10 | 125.54 | 128.60 |
| 49 | BO | 40 | GLU | OE1-CD-OE2 | 5.10 | 129.42 | 123.30 |
| 49 | BO | 106 | ARG | NH1-CZ-NH2 | -5.10 | 113.79 | 119.40 |
| 1 | AA | 119 | A | N1-C6-N6 | 5.10 | 121.66 | 118.60 |
| 2 | AB | 216 | A | N9-C1'-C2' | -5.10 | 106.39 | 112.00 |
| 2 | AB | 357 | C | C4-C5-C6 | 5.10 | 119.95 | 117.40 |
| 2 | AB | 1099 | G | N9-C1'-C2' | -5.10 | 106.39 | 112.00 |
| 2 | AB | 1160 | G | C3'-C2'-C1' | 5.10 | 105.58 | 101.50 |
| 2 | AB | 1270 | C | C5'-C4'-C3' | -5.10 | 107.85 | 116.00 |
| 2 | AB | 1386 | C | N1-C2-N3 | -5.10 | 115.63 | 119.20 |
| 2 | AB | 1801 | A | N9-C4-C5 | 5.10 | 107.84 | 105.80 |
| 2 | AB | 1921 | G | C4-N9-C1' | -5.10 | 119.88 | 126.50 |
| 35 | BA | 198 | G | C2'-C3'-O3' | 5.10 | 121.85 | 113.70 |
| 35 | BA | 202 | G | C4-C5-N7 | -5.10 | 108.76 | 110.80 |
| 35 | BA | 760 | G | N1-C2-N2 | -5.10 | 111.61 | 116.20 |
| 35 | BA | 1201 | A | C2'-C3'-O3' | 5.10 | 121.85 | 113.70 |
| 35 | BA | 1393 | U | C2-N3-C4 | -5.10 | 123.94 | 127.00 |
| 35 | BA | 1451 | U | C4-C5-C6 | 5.10 | 122.76 | 119.70 |
| 37 | BC | 17 | C | C5'-C4'-O4' | 5.10 | 115.22 | 109.10 |
| 1 | AA | 11 | C | O4'-C1'-C2' | 5.09 | 112.19 | 107.60 |
| 2 | AB | 351 | C | N1-C2-O2 | 5.09 | 121.96 | 118.90 |
| 2 | AB | 661 | A | C4-C5-N7 | -5.09 | 108.15 | 110.70 |
| 2 | AB | 1940 | U | O4'-C1'-C2' | -5.09 | 100.71 | 105.80 |
| 2 | AB | 2104 | C | P-O3'-C3' | 5.09 | 125.81 | 119.70 |
| 2 | AB | 2173 | A | O5'-C5'-C4' | -5.09 | 102.02 | 111.70 |
| 2 | AB | 2301 | C | N1-C2-O2 | 5.09 | 121.96 | 118.90 |
| 2 | AB | 2474 | U | C2-N3-C4 | -5.09 | 123.94 | 127.00 |
| 2 | AB | 2748 | A | N9-C4-C5 | 5.09 | 107.84 | 105.80 |
| 2 | AB | 2826 | A | C5-C6-N1 | 5.09 | 120.25 | 117.70 |
| 16 | AP | 45 | ARG | CD-NE-CZ | 5.09 | 130.73 | 123.60 |
| 35 | BA | 61 | G | O4'-C1'-N9 | 5.09 | 112.28 | 108.20 |
| 35 | BA | 79 | G | O5'-C5'-C4' | -5.09 | 102.02 | 111.70 |
| 35 | BA | 523 | A | P-O3'-C3' | 5.09 | 125.81 | 119.70 |
| 35 | BA | 599 | C | C5-C6-N1 | 5.09 | 123.55 | 121.00 |
| 35 | BA | 639 | G | C6-N1-C2 | -5.09 | 122.04 | 125.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 678 | U | C3'-C2'-C1' | -5.09 | 97.42 | 101.50 |
| 35 | BA | 839 | C | N1-C2-N3 | 5.09 | 122.77 | 119.20 |
| 35 | BA | 1178 | G | C5-C6-N1 | 5.09 | 114.05 | 111.50 |
| 35 | BA | 1358 | U | N3-C4-O4 | -5.09 | 115.83 | 119.40 |
| 35 | BA | 1457 | G | N3-C2-N2 | 5.09 | 123.47 | 119.90 |
| 36 | BB | 37 | G | N3-C4-C5 | -5.09 | 126.05 | 128.60 |
| 2 | AB | 68 | G | C5'-C4'-C3' | -5.09 | 107.85 | 116.00 |
| 2 | AB | 73 | A | N1-C2-N3 | 5.09 | 131.85 | 129.30 |
| 2 | AB | 2194 | U | C5'-C4'-O4' | 5.09 | 115.21 | 109.10 |
| 2 | AB | 2351 | G | OP2-P-O3' | 5.09 | 116.41 | 105.20 |
| 2 | AB | 2644 | G | O4'-C1'-N9 | 5.09 | 112.28 | 108.20 |
| 2 | AB | 2881 | U | C5'-C4'-C3' | -5.09 | 107.85 | 116.00 |
| 35 | BA | 1094 | G | C4-C5-N7 | 5.09 | 112.84 | 110.80 |
| 35 | BA | 1137 | C | O4'-C1'-C2' | -5.09 | 100.71 | 105.80 |
| 35 | BA | 1198 | G | C2-N3-C4 | 5.09 | 114.45 | 111.90 |
| 35 | BA | 1209 | C | N3-C2-O2 | -5.09 | 118.33 | 121.90 |
| 2 | AB | 408 | G | N9-C1'-C2' | -5.09 | 106.40 | 112.00 |
| 2 | AB | 434 | U | C4-C5-C6 | 5.09 | 122.75 | 119.70 |
| 2 | AB | 453 | A | N9-C4-C5 | 5.09 | 107.84 | 105.80 |
| 2 | AB | 1592 | C | C2-N3-C4 | 5.09 | 122.45 | 119.90 |
| 2 | AB | 1603 | A | C5'-C4'-C3' | -5.09 | 107.85 | 116.00 |
| 2 | AB | 2052 | A | C4-C5-N7 | 5.09 | 113.25 | 110.70 |
| 2 | AB | 2597 | G | C4-N9-C1' | 5.09 | 133.12 | 126.50 |
| 2 | AB | 2608 | G | N1-C2-N2 | 5.09 | 120.78 | 116.20 |
| 2 | AB | 2756 | U | N3-C2-O2 | -5.09 | 118.64 | 122.20 |
| 10 | AJ | 69 | GLU | OE1-CD-OE2 | -5.09 | 117.19 | 123.30 |
| 16 | AP | 17 | ARG | NE-CZ-NH2 | -5.09 | 117.75 | 120.30 |
| 22 | AV | 41 | ALA | CB-CA-C | 5.09 | 117.74 | 110.10 |
| 35 | BA | 7 | A | P-O3'-C3' | 5.09 | 125.81 | 119.70 |
| 35 | BA | 457 | G | C6-N1-C2 | -5.09 | 122.05 | 125.10 |
| 35 | BA | 467 | U | O3'-P-O5' | -5.09 | 94.33 | 104.00 |
| 35 | BA | 540 | G | C5-C6-N1 | 5.09 | 114.05 | 111.50 |
| 35 | BA | 750 | C | P-O5'-C5' | 5.09 | 129.04 | 120.90 |
| 35 | BA | 857 | C | O3'-P-O5' | 5.09 | 113.67 | 104.00 |
| 35 | BA | 1143 | G | C5-C6-O6 | 5.09 | 131.66 | 128.60 |
| 35 | BA | 1148 | U | N3-C4-C5 | 5.09 | 117.66 | 114.60 |
| 35 | BA | 1484 | C | N1-C2-O2 | 5.09 | 121.95 | 118.90 |
| 35 | BA | 1501 | C | C2-N3-C4 | 5.09 | 122.45 | 119.90 |
| 36 | BB | 14 | G | O4'-C4'-C3' | 5.09 | 110.17 | 106.10 |
| 1 | AA | 36 | C | N1-C2-N3 | -5.09 | 115.64 | 119.20 |
| 1 | AA | 72 | G | O4'-C1'-C2' | -5.09 | 100.71 | 105.80 |
| 2 | AB | 367 | G | N9-C1'-C2' | -5.09 | 106.40 | 112.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 518 | G | C5-N7-C8 | -5.09 | 101.75 | 104.30 |
| 2 | AB | 947 | A | C1'-O4'-C4' | 5.09 | 113.97 | 109.90 |
| 2 | AB | 1196 | C | C5'-C4'-C3' | -5.09 | 107.86 | 116.00 |
| 2 | AB | 1454 | C | N1-C2-O2 | 5.09 | 121.95 | 118.90 |
| 2 | AB | 1475 | G | C4-N9-C1' | -5.09 | 119.88 | 126.50 |
| 2 | AB | 1511 | G | C5-C6-O6 | 5.09 | 131.65 | 128.60 |
| 2 | AB | 1637 | A | C3'-C2'-C1' | 5.09 | 105.57 | 101.50 |
| 2 | AB | 1665 | A | C5-C6-N6 | -5.09 | 119.63 | 123.70 |
| 2 | AB | 1743 | G | C5-N7-C8 | -5.09 | 101.75 | 104.30 |
| 2 | AB | 2110 | G | N1-C2-N3 | -5.09 | 120.85 | 123.90 |
| 2 | AB | 2733 | A | N7-C8-N9 | 5.09 | 116.34 | 113.80 |
| 35 | BA | 625 | U | N1-C1'-C2' | -5.09 | 106.40 | 112.00 |
| 35 | BA | 1005 | A | C3'-C2'-C1' | 5.09 | 105.57 | 101.50 |
| 35 | BA | 1398 | A | C4-C5-N7 | -5.09 | 108.16 | 110.70 |
| 36 | BB | 31 | U | C3'-C2'-C1' | 5.09 | 105.57 | 101.50 |
| 48 | BN | 37 | TYR | CA-CB-CG | 5.09 | 123.07 | 113.40 |
| 2 | AB | 135 | U | C5-C6-N1 | -5.09 | 120.16 | 122.70 |
| 2 | AB | 198 | C | C4-C5-C6 | 5.09 | 119.94 | 117.40 |
| 2 | AB | 1413 | A | C3'-C2'-C1' | 5.09 | 105.57 | 101.50 |
| 2 | AB | 2683 | C | C5'-C4'-C3' | -5.09 | 107.86 | 116.00 |
| 2 | AB | 2822 | G | C1'-O4'-C4' | -5.09 | 105.83 | 109.90 |
| 11 | AK | 126 | ARG | NE-CZ-NH1 | 5.09 | 122.84 | 120.30 |
| 35 | BA | 1248 | A | N9-C4-C5 | 5.09 | 107.83 | 105.80 |
| 35 | BA | 1386 | G | O4'-C4'-C3' | -5.09 | 98.91 | 104.00 |
| 35 | BA | 1387 | G | N9-C1'-C2' | -5.09 | 106.40 | 112.00 |
| 1 | AA | 9 | G | N3-C4-N9 | 5.09 | 129.05 | 126.00 |
| 2 | AB | 44 | A | P-O3'-C3' | 5.09 | 125.80 | 119.70 |
| 2 | AB | 104 | A | C5'-C4'-O4' | 5.09 | 115.20 | 109.10 |
| 2 | AB | 138 | U | C5-C4-O4 | -5.09 | 122.85 | 125.90 |
| 2 | AB | 705 | A | C5-C6-N1 | 5.09 | 120.24 | 117.70 |
| 2 | AB | 1136 | G | N9-C1'-C2' | -5.09 | 106.41 | 112.00 |
| 2 | AB | 1213 | A | C5-N7-C8 | -5.09 | 101.36 | 103.90 |
| 2 | AB | 1348 | C | N1-C2-N3 | 5.09 | 122.76 | 119.20 |
| 2 | AB | 1779 | U | O4'-C1'-N1 | 5.09 | 112.27 | 108.20 |
| 2 | AB | 2220 | U | P-O3'-C3' | 5.09 | 125.80 | 119.70 |
| 2 | AB | 2253 | G | C5'-C4'-C3' | -5.09 | 107.86 | 116.00 |
| 2 | AB | 2413 | G | N1-C2-N2 | -5.09 | 111.62 | 116.20 |
| 2 | AB | 2490 | G | C4-C5-C6 | 5.09 | 121.85 | 118.80 |
| 2 | AB | 2850 | A | C8-N9-C4 | -5.09 | 103.77 | 105.80 |
| 2 | AB | 2870 | C | N3-C2-O2 | -5.09 | 118.34 | 121.90 |
| 3 | AC | 52 | ALA | N-CA-CB | 5.09 | 117.22 | 110.10 |
| 35 | BA | 135 | C | N1-C2-O2 | 5.09 | 121.95 | 118.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1177 | G | C3'-C2'-C1' | 5.09 | 105.57 | 101.50 |
| 35 | BA | 1269 | A | C4-C5-N7 | -5.09 | 108.16 | 110.70 |
| 35 | BA | 1305 | G | O5'-P-OP2 | -5.09 | 101.12 | 105.70 |
| 35 | BA | 1411 | C | C1'-O4'-C4' | 5.09 | 113.97 | 109.90 |
| 37 | BC | 69 | C | O4'-C1'-N1 | 5.09 | 112.27 | 108.20 |
| 40 | BF | 61 | ARG | CD-NE-CZ | 5.09 | 130.72 | 123.60 |
| 42 | BH | 79 | ARG | NE-CZ-NH1 | 5.09 | 122.84 | 120.30 |
| 2 | AB | 402 | A | C8-N9-C4 | -5.08 | 103.77 | 105.80 |
| 2 | AB | 2523 | G | N7-C8-N9 | 5.08 | 115.64 | 113.10 |
| 35 | BA | 35 | G | N3-C4-C5 | -5.08 | 126.06 | 128.60 |
| 37 | BC | 57 | C | N3-C2-O2 | -5.08 | 118.34 | 121.90 |
| 57 | BW | 11 | PHE | CB-CG-CD1 | -5.08 | 117.24 | 120.80 |
| 2 | AB | 498 | G | N9-C4-C5 | 5.08 | 107.43 | 105.40 |
| 2 | AB | 1013 | C | P-O3'-C3' | 5.08 | 125.80 | 119.70 |
| 2 | AB | 1812 | U | N3-C4-O4 | -5.08 | 115.84 | 119.40 |
| 2 | AB | 2508 | G | O3'-P-O5' | -5.08 | 94.34 | 104.00 |
| 2 | AB | 2700 | A | C4'-C3'-C2' | -5.08 | 97.52 | 102.60 |
| 2 | AB | 2717 | C | N1-C1'-C2' | -5.08 | 106.41 | 112.00 |
| 2 | AB | 2808 | G | C5'-C4'-C3' | 5.08 | 124.13 | 116.00 |
| 4 | AD | 88 | ALA | O-C-N | 5.08 | 130.83 | 122.70 |
| 35 | BA | 839 | C | P-O3'-C3' | -5.08 | 113.60 | 119.70 |
| 35 | BA | 897 | C | C3'-C2'-C1' | -5.08 | 97.43 | 101.50 |
| 35 | BA | 1178 | G | N3-C4-C5 | -5.08 | 126.06 | 128.60 |
| 37 | BC | 68 | C | C3'-C2'-C1' | 5.08 | 105.57 | 101.50 |
| 2 | AB | 16 | C | N1-C2-O2 | -5.08 | 115.85 | 118.90 |
| 2 | AB | 36 | G | N1-C2-N2 | 5.08 | 120.77 | 116.20 |
| 2 | AB | 363 | G | C5-C6-O6 | -5.08 | 125.55 | 128.60 |
| 2 | AB | 822 | G | N7-C8-N9 | -5.08 | 110.56 | 113.10 |
| 2 | AB | 1021 | A | N1-C2-N3 | -5.08 | 126.76 | 129.30 |
| 2 | AB | 1027 | A | C5-C6-N1 | 5.08 | 120.24 | 117.70 |
| 2 | AB | 1141 | U | N3-C2-O2 | -5.08 | 118.64 | 122.20 |
| 2 | AB | 1266 | G | C4-C5-C6 | 5.08 | 121.85 | 118.80 |
| 2 | AB | 1504 | A | O4'-C1'-N9 | 5.08 | 112.27 | 108.20 |
| 2 | AB | 1553 | A | C6-C5-N7 | -5.08 | 128.74 | 132.30 |
| 2 | AB | 2367 | G | C5-N7-C8 | -5.08 | 101.76 | 104.30 |
| 2 | AB | 2895 | G | C6-N1-C2 | -5.08 | 122.05 | 125.10 |
| 8 | AH | 61 | TRP | CE2-CD2-CG | 5.08 | 111.36 | 107.30 |
| 35 | BA | 366 | A | C8-N9-C4 | -5.08 | 103.77 | 105.80 |
| 35 | BA | 650 | G | C5-C6-N1 | 5.08 | 114.04 | 111.50 |
| 35 | BA | 812 | G | C5'-C4'-C3' | -5.08 | 107.87 | 116.00 |
| 35 | BA | 892 | A | O5'-C5'-C4' | 5.08 | 121.36 | 111.70 |
| 35 | BA | 1110 | A | C2-N3-C4 | 5.08 | 113.14 | 110.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1141 | C | N3-C2-O2 | 5.08 | 125.46 | 121.90 |
| 35 | BA | 1300 | G | C4-N9-C1' | -5.08 | 119.89 | 126.50 |
| 35 | BA | 1456 | A | O4'-C1'-N9 | 5.08 | 112.27 | 108.20 |
| 57 | BW | 70 | TYR | CB-CG-CD2 | -5.08 | 117.95 | 121.00 |
| 2 | AB | 315 | G | C5-C6-O6 | -5.08 | 125.55 | 128.60 |
| 2 | AB | 1434 | A | N3-C4-C5 | -5.08 | 123.24 | 126.80 |
| 2 | AB | 1569 | A | C5'-C4'-O4' | 5.08 | 115.20 | 109.10 |
| 2 | AB | 1704 | C | C2-N3-C4 | 5.08 | 122.44 | 119.90 |
| 2 | AB | 2206 | C | C5-C4-N4 | -5.08 | 116.64 | 120.20 |
| 2 | AB | 2469 | A | C5-C6-N1 | 5.08 | 120.24 | 117.70 |
| 15 | AO | 6 | ARG | C-N-CA | 5.08 | 134.40 | 121.70 |
| 35 | BA | 608 | A | P-O5'-C5' | 5.08 | 129.03 | 120.90 |
| 35 | BA | 684 | U | C3'-C2'-C1' | 5.08 | 105.56 | 101.50 |
| 35 | BA | 977 | A | N9-C4-C5 | 5.08 | 107.83 | 105.80 |
| 37 | BC | 77 | A | C5'-C4'-C3' | -5.08 | 107.87 | 116.00 |
| 40 | BF | 183 | ARG | NE-CZ-NH1 | -5.08 | 117.76 | 120.30 |
| 1 | AA | 65 | U | N3-C4-O4 | 5.08 | 122.95 | 119.40 |
| 2 | AB | 55 | G | C1'-O4'-C4' | -5.08 | 105.84 | 109.90 |
| 2 | AB | 87 | U | N1-C2-N3 | -5.08 | 111.85 | 114.90 |
| 2 | AB | 180 | G | C4'-C3'-C2' | -5.08 | 97.52 | 102.60 |
| 2 | AB | 255 | A | C5-C6-N6 | 5.08 | 127.76 | 123.70 |
| 2 | AB | 626 | A | N7-C8-N9 | 5.08 | 116.34 | 113.80 |
| 2 | AB | 636 | G | C1'-O4'-C4' | 5.08 | 113.96 | 109.90 |
| 2 | AB | 855 | G | N3-C4-N9 | 5.08 | 129.05 | 126.00 |
| 2 | AB | 1197 | G | N3-C4-C5 | -5.08 | 126.06 | 128.60 |
| 2 | AB | 1310 | G | C5-C6-O6 | -5.08 | 125.55 | 128.60 |
| 2 | AB | 1358 | G | C4-C5-C6 | 5.08 | 121.85 | 118.80 |
| 2 | AB | 1359 | A | C5-C6-N6 | 5.08 | 127.76 | 123.70 |
| 2 | AB | 1748 | C | C5'-C4'-O4' | 5.08 | 115.19 | 109.10 |
| 2 | AB | 1748 | C | N1-C2-N3 | 5.08 | 122.75 | 119.20 |
| 2 | AB | 1906 | G | C5-C6-N1 | 5.08 | 114.04 | 111.50 |
| 2 | AB | 1930 | G | O5'-C5'-C4' | -5.08 | 102.05 | 111.70 |
| 2 | AB | 2310 | C | C1'-O4'-C4' | -5.08 | 105.84 | 109.90 |
| 2 | AB | 2386 | A | C5-C6-N1 | 5.08 | 120.24 | 117.70 |
| 2 | AB | 2817 | U | N3-C4-C5 | -5.08 | 111.55 | 114.60 |
| 35 | BA | 10 | A | C1'-O4'-C4' | 5.08 | 113.96 | 109.90 |
| 35 | BA | 129 | A | C5-N7-C8 | -5.08 | 101.36 | 103.90 |
| 35 | BA | 269 | C | N3-C4-N4 | -5.08 | 114.44 | 118.00 |
| 35 | BA | 664 | G | N1-C6-O6 | 5.08 | 122.95 | 119.90 |
| 35 | BA | 703 | G | C4-N9-C1' | 5.08 | 133.10 | 126.50 |
| 35 | BA | 874 | G | O4'-C1'-N9 | 5.08 | 112.26 | 108.20 |
| 35 | BA | 1378 | C | N3-C4-C5 | -5.08 | 119.87 | 121.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 36 | BB | 24 | A | C2-N3-C4 | -5.08 | 108.06 | 110.60 |
| 2 | AB | 24 | G | N9-C4-C5 | 5.08 | 107.43 | 105.40 |
| 2 | AB | 508 | A | C8-N9-C4 | -5.08 | 103.77 | 105.80 |
| 2 | AB | 739 | A | N9-C4-C5 | 5.08 | 107.83 | 105.80 |
| 2 | AB | 952 | G | N9-C4-C5 | 5.08 | 107.43 | 105.40 |
| 2 | AB | 1661 | G | C8-N9-C4 | -5.08 | 104.37 | 106.40 |
| 2 | AB | 1710 | G | N3-C4-N9 | -5.08 | 122.95 | 126.00 |
| 2 | AB | 2275 | C | C1'-O4'-C4' | 5.08 | 113.96 | 109.90 |
| 2 | AB | 2334 | U | C2-N1-C1' | 5.08 | 123.79 | 117.70 |
| 3 | AC | 193 | LEU | CB-CG-CD2 | -5.08 | 102.37 | 111.00 |
| 35 | BA | 351 | G | C2-N3-C4 | 5.08 | 114.44 | 111.90 |
| 35 | BA | 413 | G | N7-C8-N9 | 5.08 | 115.64 | 113.10 |
| 35 | BA | 836 | G | C3'-C2'-C1' | 5.08 | 105.56 | 101.50 |
| 37 | BC | 64 | G | C4'-C3'-C2' | -5.08 | 97.52 | 102.60 |
| 1 | AA | 13 | G | O4'-C1'-C2' | 5.08 | 112.17 | 107.60 |
| 1 | AA | 26 | C | C6-N1-C2 | 5.08 | 122.33 | 120.30 |
| 2 | AB | 728 | G | C5'-C4'-C3' | -5.08 | 107.88 | 116.00 |
| 2 | AB | 1036 | G | C4'-C3'-C2' | -5.08 | 97.53 | 102.60 |
| 2 | AB | 1072 | C | N3-C2-O2 | -5.08 | 118.35 | 121.90 |
| 2 | AB | 1098 | A | O4'-C1'-C2' | 5.08 | 112.17 | 107.60 |
| 2 | AB | 1241 | A | N1-C6-N6 | 5.08 | 121.64 | 118.60 |
| 2 | AB | 1438 | U | O5'-P-OP1 | 5.08 | 116.79 | 110.70 |
| 2 | AB | 1515 | A | C6-N1-C2 | 5.08 | 121.65 | 118.60 |
| 2 | AB | 1568 | G | N3-C4-N9 | 5.08 | 129.04 | 126.00 |
| 2 | AB | 1734 | G | C4-C5-N7 | 5.08 | 112.83 | 110.80 |
| 2 | AB | 1924 | C | O4'-C1'-C2' | -5.08 | 100.72 | 105.80 |
| 2 | AB | 2098 | U | C4-C5-C6 | 5.08 | 122.75 | 119.70 |
| 2 | AB | 2154 | A | C5'-C4'-C3' | -5.08 | 107.88 | 116.00 |
| 2 | AB | 2331 | G | C5-C6-O6 | -5.08 | 125.56 | 128.60 |
| 2 | AB | 2604 | U | C5'-C4'-O4' | 5.08 | 115.19 | 109.10 |
| 8 | AH | 80 | GLU | OE1-CD-OE2 | 5.08 | 129.39 | 123.30 |
| 27 | A0 | 46 | VAL | O-C-N | 5.08 | 130.82 | 122.70 |
| 35 | BA | 11 | G | C8-N9-C4 | -5.08 | 104.37 | 106.40 |
| 35 | BA | 272 | C | C5'-C4'-O4' | 5.08 | 115.19 | 109.10 |
| 35 | BA | 317 | U | N3-C4-C5 | 5.08 | 117.64 | 114.60 |
| 35 | BA | 381 | C | C5-C4-N4 | -5.08 | 116.65 | 120.20 |
| 35 | BA | 526 | C | C4'-C3'-C2' | -5.08 | 97.53 | 102.60 |
| 35 | BA | 972 | C | C5'-C4'-O4' | 5.08 | 115.19 | 109.10 |
| 35 | BA | 1341 | U | C2-N3-C4 | 5.08 | 130.04 | 127.00 |
| 35 | BA | 1441 | A | C1'-O4'-C4' | -5.08 | 105.84 | 109.90 |
| 37 | BC | 5 | G | N1-C6-O6 | 5.08 | 122.94 | 119.90 |
| 37 | BC | 34 | U | N1-C2-N3 | 5.08 | 117.94 | 114.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 1 | AA | 23 | G | C5'-C4'-C3' | -5.07 | 107.88 | 116.00 |
| 2 | AB | 44 | A | C5-N7-C8 | 5.07 | 106.44 | 103.90 |
| 2 | AB | 274 | C | C6-N1-C2 | 5.07 | 122.33 | 120.30 |
| 2 | AB | 1073 | A | C1'-O4'-C4' | -5.07 | 105.84 | 109.90 |
| 2 | AB | 1432 | G | N3-C4-C5 | -5.07 | 126.06 | 128.60 |
| 2 | AB | 1594 | U | N3-C4-C5 | 5.07 | 117.64 | 114.60 |
| 2 | AB | 1775 | U | C3'-C2'-C1' | 5.07 | 105.56 | 101.50 |
| 2 | AB | 2205 | A | C5-C6-N1 | -5.07 | 115.16 | 117.70 |
| 2 | AB | 2212 | A | C5'-C4'-O4' | -5.07 | 103.01 | 109.10 |
| 2 | AB | 2294 | G | N7-C8-N9 | -5.07 | 110.56 | 113.10 |
| 2 | AB | 2675 | A | N3-C4-C5 | -5.07 | 123.25 | 126.80 |
| 9 | AI | 74 | ALA | N-CA-C | -5.07 | 97.30 | 111.00 |
| 35 | BA | 675 | A | N9-C4-C5 | -5.07 | 103.77 | 105.80 |
| 35 | BA | 867 | G | C5'-C4'-O4' | 5.07 | 115.19 | 109.10 |
| 37 | BC | 20 | G | C4-C5-N7 | -5.07 | 108.77 | 110.80 |
| 1 | AA | 83 | G | N9-C1'-C2' | -5.07 | 106.42 | 112.00 |
| 2 | AB | 1435 | G | C3'-C2'-C1' | 5.07 | 105.56 | 101.50 |
| 2 | AB | 2263 | C | C2-N3-C4 | -5.07 | 117.36 | 119.90 |
| 2 | AB | 2481 | G | P-O3'-C3' | 5.07 | 125.79 | 119.70 |
| 2 | AB | 2850 | A | N1-C6-N6 | 5.07 | 121.64 | 118.60 |
| 4 | AD | 167 | ASP | CB-CG-OD1 | -5.07 | 113.73 | 118.30 |
| 35 | BA | 802 | A | N1-C6-N6 | -5.07 | 115.56 | 118.60 |
| 35 | BA | 1060 | U | N1-C1'-C2' | -5.07 | 106.42 | 112.00 |
| 36 | BB | 28 | U | C5-C4-O4 | -5.07 | 122.86 | 125.90 |
| 1 | AA | 54 | G | N9-C4-C5 | 5.07 | 107.43 | 105.40 |
| 1 | AA | 91 | C | C5-C6-N1 | 5.07 | 123.53 | 121.00 |
| 1 | AA | 109 | A | C4-C5-N7 | -5.07 | 108.17 | 110.70 |
| 2 | AB | 160 | A | C8-N9-C4 | -5.07 | 103.77 | 105.80 |
| 2 | AB | 873 | C | C2-N3-C4 | 5.07 | 122.44 | 119.90 |
| 2 | AB | 1065 | U | O3'-P-O5' | -5.07 | 94.37 | 104.00 |
| 2 | AB | 1214 | A | N3-C4-N9 | 5.07 | 131.46 | 127.40 |
| 2 | AB | 1331 | G | N3-C2-N2 | 5.07 | 123.45 | 119.90 |
| 2 | AB | 2206 | C | O5'-P-OP2 | -5.07 | 101.14 | 105.70 |
| 2 | AB | 2216 | G | C4'-C3'-C2' | 5.07 | 107.67 | 102.60 |
| 2 | AB | 2237 | G | N7-C8-N9 | 5.07 | 115.64 | 113.10 |
| 2 | AB | 2308 | G | C4-C5-N7 | -5.07 | 108.77 | 110.80 |
| 2 | AB | 2515 | C | N1-C1'-C2' | -5.07 | 106.42 | 112.00 |
| 2 | AB | 2613 | U | N1-C2-N3 | 5.07 | 117.94 | 114.90 |
| 2 | AB | 2744 | G | O4'-C4'-C3' | -5.07 | 98.93 | 104.00 |
| 2 | AB | 2805 | C | N1-C2-O2 | 5.07 | 121.94 | 118.90 |
| 33 | A6 | 35 | LYS | O-C-N | 5.07 | 130.81 | 122.70 |
| 35 | BA | 116 | A | C5-N7-C8 | 5.07 | 106.44 | 103.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 187 | G | C5-N7-C8 | -5.07 | 101.77 | 104.30 |
| 35 | BA | 273 | U | N1-C1'-C2' | -5.07 | 106.42 | 112.00 |
| 35 | BA | 502 | A | N1-C6-N6 | -5.07 | 115.56 | 118.60 |
| 35 | BA | 705 | G | N3-C2-N2 | 5.07 | 123.45 | 119.90 |
| 35 | BA | 727 | G | C6-C5-N7 | -5.07 | 127.36 | 130.40 |
| 35 | BA | 766 | A | N3-C4-N9 | -5.07 | 123.34 | 127.40 |
| 35 | BA | 803 | G | C8-N9-C4 | -5.07 | 104.37 | 106.40 |
| 35 | BA | 880 | C | N3-C4-N4 | 5.07 | 121.55 | 118.00 |
| 35 | BA | 1167 | A | C4-C5-N7 | -5.07 | 108.17 | 110.70 |
| 35 | BA | 1219 | A | OP1-P-OP2 | -5.07 | 111.99 | 119.60 |
| 35 | BA | 1338 | G | P-O3'-C3' | 5.07 | 125.78 | 119.70 |
| 35 | BA | 1484 | C | C6-N1-C2 | -5.07 | 118.27 | 120.30 |
| 41 | BG | 16 | ALA | N-CA-CB | -5.07 | 103.00 | 110.10 |
| 47 | BM | 97 | ARG | NE-CZ-NH1 | -5.07 | 117.77 | 120.30 |
| 56 | BV | 3 | ILE | CA-CB-CG1 | 5.07 | 120.63 | 111.00 |
| 2 | AB | 1063 | G | N1-C6-O6 | 5.07 | 122.94 | 119.90 |
| 2 | AB | 1566 | A | C5-N7-C8 | -5.07 | 101.37 | 103.90 |
| 2 | AB | 1833 | C | C1'-O4'-C4' | -5.07 | 105.84 | 109.90 |
| 2 | AB | 1877 | A | O4'-C1'-N9 | 5.07 | 112.25 | 108.20 |
| 2 | AB | 2867 | G | C4'-C3'-C2' | -5.07 | 97.53 | 102.60 |
| 19 | AS | 29 | ARG | NE-CZ-NH2 | -5.07 | 117.77 | 120.30 |
| 35 | BA | 811 | C | C5-C4-N4 | -5.07 | 116.65 | 120.20 |
| 35 | BA | 1029 | U | N1-C2-O2 | -5.07 | 119.25 | 122.80 |
| 2 | AB | 257 | C | C5-C4-N4 | 5.07 | 123.75 | 120.20 |
| 2 | AB | 347 | A | N9-C4-C5 | 5.07 | 107.83 | 105.80 |
| 2 | AB | 500 | G | N7-C8-N9 | -5.07 | 110.57 | 113.10 |
| 2 | AB | 501 | A | C4-C5-C6 | 5.07 | 119.53 | 117.00 |
| 2 | AB | 561 | G | C6-C5-N7 | -5.07 | 127.36 | 130.40 |
| 2 | AB | 610 | C | O4'-C1'-N1 | 5.07 | 112.25 | 108.20 |
| 2 | AB | 956 | G | C4-C5-N7 | -5.07 | 108.77 | 110.80 |
| 2 | AB | 1730 | C | N1-C1'-C2' | 5.07 | 120.59 | 114.00 |
| 2 | AB | 1988 | G | C6-C5-N7 | 5.07 | 133.44 | 130.40 |
| 2 | AB | 2328 | A | C5'-C4'-O4' | 5.07 | 115.18 | 109.10 |
| 6 | AF | 33 | VAL | CG1-CB-CG2 | -5.07 | 102.79 | 110.90 |
| 18 | AR | 4 | ILE | C-N-CA | 5.07 | 134.37 | 121.70 |
| 35 | BA | 185 | U | C4'-C3'-C2' | -5.07 | 97.53 | 102.60 |
| 35 | BA | 1152 | A | C6-C5-N7 | 5.07 | 135.85 | 132.30 |
| 35 | BA | 1473 | G | C5-N7-C8 | -5.07 | 101.77 | 104.30 |
| 35 | BA | 1536 | C | O3'-P-O5' | -5.07 | 94.37 | 104.00 |
| 2 | AB | 56 | A | C5'-C4'-O4' | 5.07 | 115.18 | 109.10 |
| 2 | AB | 189 | G | C4-C5-C6 | 5.07 | 121.84 | 118.80 |
| 2 | AB | 468 | G | N9-C4-C5 | 5.07 | 107.43 | 105.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 708 | G | N3-C2-N2 | -5.07 | 116.36 | 119.90 |
| 2 | AB | 974 | G | N3-C4-N9 | 5.07 | 129.04 | 126.00 |
| 2 | AB | 1026 | G | C1'-O4'-C4' | 5.07 | 113.95 | 109.90 |
| 2 | AB | 1072 | C | C6-N1-C2 | -5.07 | 118.27 | 120.30 |
| 2 | AB | 1394 | U | C2-N3-C4 | -5.07 | 123.96 | 127.00 |
| 2 | AB | 1395 | A | C1'-O4'-C4' | -5.07 | 105.85 | 109.90 |
| 2 | AB | 1413 | A | C4'-C3'-C2' | -5.07 | 97.53 | 102.60 |
| 2 | AB | 1512 | C | N3-C4-N4 | 5.07 | 121.55 | 118.00 |
| 2 | AB | 1615 | C | C2-N3-C4 | 5.07 | 122.43 | 119.90 |
| 2 | AB | 1988 | G | C4-C5-C6 | 5.07 | 121.84 | 118.80 |
| 2 | AB | 2158 | A | C5-C6-N1 | 5.07 | 120.23 | 117.70 |
| 2 | AB | 2207 | C | N3-C2-O2 | -5.07 | 118.35 | 121.90 |
| 10 | AJ | 68 | PHE | CB-CG-CD1 | 5.07 | 124.34 | 120.80 |
| 35 | BA | 73 | C | O5'-P-OP2 | -5.07 | 101.14 | 105.70 |
| 35 | BA | 197 | A | N1-C6-N6 | -5.07 | 115.56 | 118.60 |
| 35 | BA | 627 | G | C8-N9-C4 | -5.07 | 104.37 | 106.40 |
| 35 | BA | 1385 | G | N3-C4-C5 | 5.07 | 131.13 | 128.60 |
| 37 | BC | 61 | U | C5-C4-O4 | -5.07 | 122.86 | 125.90 |
| 2 | AB | 70 | G | C3'-C2'-C1' | 5.06 | 105.55 | 101.50 |
| 2 | AB | 574 | A | N3-C4-C5 | -5.06 | 123.25 | 126.80 |
| 2 | AB | 1149 | G | N3-C4-C5 | -5.06 | 126.07 | 128.60 |
| 2 | AB | 1334 | G | C8-N9-C4 | 5.06 | 108.42 | 106.40 |
| 2 | AB | 1613 | G | C4'-C3'-C2' | -5.06 | 97.54 | 102.60 |
| 2 | AB | 2175 | C | C4-C5-C6 | 5.06 | 119.93 | 117.40 |
| 35 | BA | 576 | C | C5-C4-N4 | -5.06 | 116.66 | 120.20 |
| 35 | BA | 1007 | U | C5'-C4'-C3' | -5.06 | 107.90 | 116.00 |
| 35 | BA | 1189 | U | P-O3'-C3' | 5.06 | 125.78 | 119.70 |
| 2 | AB | 98 | G | O5'-C5'-C4' | -5.06 | 102.08 | 111.70 |
| 2 | AB | 116 | C | C5-C6-N1 | -5.06 | 118.47 | 121.00 |
| 2 | AB | 297 | G | C2-N3-C4 | 5.06 | 114.43 | 111.90 |
| 2 | AB | 526 | A | C5-N7-C8 | -5.06 | 101.37 | 103.90 |
| 2 | AB | 531 | C | O4'-C1'-C2' | -5.06 | 100.74 | 105.80 |
| 2 | AB | 816 | C | C6-N1-C2 | 5.06 | 122.33 | 120.30 |
| 2 | AB | 827 | U | C6-N1-C2 | -5.06 | 117.96 | 121.00 |
| 2 | AB | 844 | A | C4-C5-C6 | -5.06 | 114.47 | 117.00 |
| 2 | AB | 854 | C | N3-C4-N4 | 5.06 | 121.54 | 118.00 |
| 2 | AB | 969 | G | C4-C5-N7 | -5.06 | 108.78 | 110.80 |
| 2 | AB | 1168 | G | C6-C5-N7 | 5.06 | 133.44 | 130.40 |
| 2 | AB | 1568 | G | C5'-C4'-C3' | -5.06 | 107.90 | 116.00 |
| 2 | AB | 1577 | C | N3-C2-O2 | 5.06 | 125.44 | 121.90 |
| 2 | AB | 1956 | U | C5'-C4'-O4' | 5.06 | 115.18 | 109.10 |
| 2 | AB | 2165 | C | C5'-C4'-O4' | 5.06 | 115.17 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2193 | G | C5-C6-O6 | -5.06 | 125.56 | 128.60 |
| 2 | AB | 2635 | A | C5-C6-N1 | 5.06 | 120.23 | 117.70 |
| 2 | AB | 2642 | G | O4'-C1'-N9 | 5.06 | 112.25 | 108.20 |
| 2 | AB | 2764 | A | N1-C2-N3 | -5.06 | 126.77 | 129.30 |
| 2 | AB | 2850 | A | O4'-C4'-C3' | 5.06 | 110.15 | 106.10 |
| 16 | AP | 63 | ARG | NE-CZ-NH2 | -5.06 | 117.77 | 120.30 |
| 35 | BA | 22 | G | O4'-C4'-C3' | -5.06 | 98.94 | 104.00 |
| 35 | BA | 308 | C | N1-C2-N3 | 5.06 | 122.74 | 119.20 |
| 35 | BA | 380 | G | C2'-C3'-O3' | 5.06 | 121.80 | 113.70 |
| 35 | BA | 749 | A | N9-C1'-C2' | -5.06 | 106.43 | 112.00 |
| 35 | BA | 981 | U | C4-C5-C6 | 5.06 | 122.74 | 119.70 |
| 35 | BA | 1439 | G | C8-N9-C1' | 5.06 | 133.58 | 127.00 |
| 2 | AB | 1184 | U | C6-N1-C2 | -5.06 | 117.96 | 121.00 |
| 2 | AB | 1633 | G | N9-C1'-C2' | -5.06 | 106.43 | 112.00 |
| 2 | AB | 1774 | C | N3-C4-C5 | -5.06 | 119.88 | 121.90 |
| 2 | AB | 2428 | G | N9-C4-C5 | 5.06 | 107.42 | 105.40 |
| 18 | AR | 100 | ARG | NE-CZ-NH1 | -5.06 | 117.77 | 120.30 |
| 35 | BA | 436 | C | P-O3'-C3' | 5.06 | 125.77 | 119.70 |
| 35 | BA | 450 | G | C2-N3-C4 | 5.06 | 114.43 | 111.90 |
| 35 | BA | 553 | A | O3'-P-O5' | -5.06 | 94.38 | 104.00 |
| 35 | BA | 761 | G | O4'-C1'-N9 | 5.06 | 112.25 | 108.20 |
| 2 | AB | 265 | A | C2'-C3'-O3' | 5.06 | 121.80 | 113.70 |
| 2 | AB | 1135 | C | N3-C4-N4 | -5.06 | 114.46 | 118.00 |
| 2 | AB | 1428 | C | O3'-P-O5' | -5.06 | 94.39 | 104.00 |
| 2 | AB | 1543 | G | C5-C6-N1 | 5.06 | 114.03 | 111.50 |
| 2 | AB | 1565 | C | C4'-C3'-C2' | -5.06 | 97.54 | 102.60 |
| 2 | AB | 2241 | A | C4-C5-N7 | -5.06 | 108.17 | 110.70 |
| 2 | AB | 2412 | A | C2-N3-C4 | 5.06 | 113.13 | 110.60 |
| 2 | AB | 2558 | C | C5-C4-N4 | -5.06 | 116.66 | 120.20 |
| 2 | AB | 2800 | A | O5'-P-OP2 | -5.06 | 101.15 | 105.70 |
| 4 | AD | 76 | VAL | C-N-CA | 5.06 | 134.35 | 121.70 |
| 26 | AZ | 26 | ARG | NE-CZ-NH1 | 5.06 | 122.83 | 120.30 |
| 35 | BA | 25 | C | O4'-C1'-N1 | -5.06 | 104.15 | 108.20 |
| 35 | BA | 175 | C | C3'-C2'-C1' | 5.06 | 105.55 | 101.50 |
| 35 | BA | 185 | U | C1'-O4'-C4' | -5.06 | 105.85 | 109.90 |
| 35 | BA | 502 | A | C8-N9-C4 | -5.06 | 103.78 | 105.80 |
| 35 | BA | 537 | G | C6-N1-C2 | 5.06 | 128.14 | 125.10 |
| 35 | BA | 1462 | C | C4'-C3'-C2' | -5.06 | 97.54 | 102.60 |
| 2 | AB | 112 | U | C4'-C3'-C2' | -5.06 | 97.54 | 102.60 |
| 2 | AB | 542 | C | C1'-O4'-C4' | 5.06 | 113.95 | 109.90 |
| 2 | AB | 651 | G | N3-C4-C5 | -5.06 | 126.07 | 128.60 |
| 2 | AB | 757 | G | C2-N3-C4 | 5.06 | 114.43 | 111.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 863 | A | C3'-C2'-C1' | 5.06 | 105.55 | 101.50 |
| 2 | AB | 1625 | C | C1'-O4'-C4' | -5.06 | 105.86 | 109.90 |
| 2 | AB | 1754 | A | C1'-O4'-C4' | -5.06 | 105.85 | 109.90 |
| 2 | AB | 1873 | G | C4-C5-N7 | 5.06 | 112.82 | 110.80 |
| 2 | AB | 2118 | U | C4'-C3'-C2' | -5.06 | 97.54 | 102.60 |
| 2 | AB | 2297 | A | C5-N7-C8 | 5.06 | 106.43 | 103.90 |
| 35 | BA | 159 | G | N7-C8-N9 | 5.06 | 115.63 | 113.10 |
| 35 | BA | 316 | C | C4'-C3'-C2' | 5.06 | 107.66 | 102.60 |
| 35 | BA | 634 | C | O4'-C1'-N1 | 5.06 | 112.25 | 108.20 |
| 35 | BA | 1103 | C | N1-C2-N3 | -5.06 | 115.66 | 119.20 |
| 2 | AB | 91 | A | N7-C8-N9 | -5.06 | 111.27 | 113.80 |
| 2 | AB | 656 | G | C4-C5-C6 | 5.06 | 121.83 | 118.80 |
| 2 | AB | 791 | C | C6-N1-C2 | -5.06 | 118.28 | 120.30 |
| 2 | AB | 1976 | U | N1-C2-N3 | 5.06 | 117.93 | 114.90 |
| 2 | AB | 1978 | A | N3-C4-N9 | 5.06 | 131.44 | 127.40 |
| 2 | AB | 2215 | C | N3-C2-O2 | -5.06 | 118.36 | 121.90 |
| 2 | AB | 2481 | G | C5-C6-N1 | 5.06 | 114.03 | 111.50 |
| 2 | AB | 2557 | G | N3-C4-N9 | 5.06 | 129.03 | 126.00 |
| 35 | BA | 95 | C | C5'-C4'-O4' | 5.06 | 115.17 | 109.10 |
| 35 | BA | 711 | G | O4'-C1'-N9 | 5.06 | 112.25 | 108.20 |
| 52 | BR | 72 | ALA | N-CA-CB | -5.06 | 103.02 | 110.10 |
| 1 | AA | 18 | G | C4-C5-C6 | 5.05 | 121.83 | 118.80 |
| 2 | AB | 213 | A | C6-C5-N7 | 5.05 | 135.84 | 132.30 |
| 2 | AB | 791 | C | O3'-P-O5' | -5.05 | 94.40 | 104.00 |
| 2 | AB | 887 | U | C3'-C2'-C1' | 5.05 | 105.54 | 101.50 |
| 2 | AB | 930 | G | C5-C6-N1 | -5.05 | 108.97 | 111.50 |
| 2 | AB | 1189 | A | C5-N7-C8 | -5.05 | 101.37 | 103.90 |
| 2 | AB | 1554 | U | C6-N1-C2 | -5.05 | 117.97 | 121.00 |
| 2 | AB | 1697 | G | C3'-C2'-C1' | -5.05 | 97.46 | 101.50 |
| 2 | AB | 2189 | U | C2-N3-C4 | 5.05 | 130.03 | 127.00 |
| 2 | AB | 2362 | C | O4'-C4'-C3' | 5.05 | 110.14 | 106.10 |
| 2 | AB | 2585 | U | C1'-O4'-C4' | -5.05 | 105.86 | 109.90 |
| 2 | AB | 2629 | U | O4'-C1'-C2' | -5.05 | 100.75 | 105.80 |
| 34 | A7 | 21 | GLY | CA-C-O | -5.05 | 111.50 | 120.60 |
| 35 | BA | 495 | A | C4-C5-N7 | 5.05 | 113.23 | 110.70 |
| 35 | BA | 670 | G | O5'-C5'-C4' | -5.05 | 102.10 | 111.70 |
| 35 | BA | 821 | G | C4'-C3'-C2' | -5.05 | 97.55 | 102.60 |
| 35 | BA | 1094 | G | C4-C5-C6 | -5.05 | 115.77 | 118.80 |
| 35 | BA | 1180 | A | O4'-C4'-C3' | 5.05 | 110.14 | 106.10 |
| 37 | BC | 24 | C | C5-C6-N1 | 5.05 | 123.53 | 121.00 |
| 2 | AB | 38 | A | C6-C5-N7 | -5.05 | 128.76 | 132.30 |
| 2 | AB | 2121 | G | C4'-C3'-C2' | -5.05 | 97.55 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2613 | U | C6-N1-C2 | -5.05 | 117.97 | 121.00 |
| 13 | AM | 13 | ASN | N-CA-CB | -5.05 | 101.50 | 110.60 |
| 35 | BA | 859 | G | C4'-C3'-C2' | -5.05 | 97.55 | 102.60 |
| 35 | BA | 869 | G | C5-C6-N1 | 5.05 | 114.03 | 111.50 |
| 35 | BA | 1266 | G | C8-N9-C4 | -5.05 | 104.38 | 106.40 |
| 1 | AA | 115 | A | N1-C6-N6 | -5.05 | 115.57 | 118.60 |
| 2 | AB | 68 | G | N1-C2-N3 | -5.05 | 120.87 | 123.90 |
| 2 | AB | 283 | G | C5-N7-C8 | 5.05 | 106.83 | 104.30 |
| 2 | AB | 941 | A | C4-C5-N7 | -5.05 | 108.17 | 110.70 |
| 2 | AB | 1137 | G | C4-C5-N7 | -5.05 | 108.78 | 110.80 |
| 2 | AB | 1511 | G | O4'-C4'-C3' | 5.05 | 110.14 | 106.10 |
| 2 | AB | 1558 | C | N3-C4-C5 | -5.05 | 119.88 | 121.90 |
| 2 | AB | 1625 | C | O4'-C1'-N1 | 5.05 | 112.24 | 108.20 |
| 2 | AB | 1829 | A | C5-N7-C8 | 5.05 | 106.42 | 103.90 |
| 2 | AB | 1898 | U | O3'-P-O5' | -5.05 | 94.40 | 104.00 |
| 2 | AB | 2044 | C | O3'-P-O5' | -5.05 | 94.40 | 104.00 |
| 2 | AB | 2685 | G | C5'-C4'-O4' | 5.05 | 115.16 | 109.10 |
| 2 | AB | 2765 | A | C2'-C3'-O3' | 5.05 | 121.78 | 113.70 |
| 18 | AR | 31 | VAL | CG1-CB-CG2 | -5.05 | 102.82 | 110.90 |
| 35 | BA | 149 | A | C5'-C4'-O4' | -5.05 | 103.04 | 109.10 |
| 35 | BA | 1398 | A | C4-C5-C6 | -5.05 | 114.47 | 117.00 |
| 35 | BA | 1531 | A | C6-C5-N7 | 5.05 | 135.84 | 132.30 |
| 37 | BC | 17 | C | C2-N3-C4 | 5.05 | 122.43 | 119.90 |
| 37 | BC | 51 | U | N3-C4-C5 | -5.05 | 111.57 | 114.60 |
| 1 | AA | 103 | U | C3'-C2'-C1' | -5.05 | 97.46 | 101.50 |
| 2 | AB | 30 | G | C4'-C3'-C2' | -5.05 | 97.55 | 102.60 |
| 2 | AB | 99 | U | C2-N1-C1' | 5.05 | 123.76 | 117.70 |
| 2 | AB | 457 | A | O4'-C1'-N9 | 5.05 | 112.24 | 108.20 |
| 2 | AB | 797 | G | O5'-P-OP2 | -5.05 | 101.16 | 105.70 |
| 2 | AB | 926 | G | C5'-C4'-O4' | 5.05 | 115.16 | 109.10 |
| 2 | AB | 959 | A | C8-N9-C4 | -5.05 | 103.78 | 105.80 |
| 2 | AB | 1107 | G | N1-C6-O6 | 5.05 | 122.93 | 119.90 |
| 2 | AB | 1404 | C | N1-C1'-C2' | -5.05 | 106.45 | 112.00 |
| 2 | AB | 1762 | A | C6-C5-N7 | -5.05 | 128.77 | 132.30 |
| 2 | AB | 2177 | C | N1-C1'-C2' | -5.05 | 106.44 | 112.00 |
| 2 | AB | 2287 | A | N3-C4-N9 | 5.05 | 131.44 | 127.40 |
| 2 | AB | 2418 | A | C4-C5-N7 | 5.05 | 113.22 | 110.70 |
| 2 | AB | 2516 | A | C4-C5-C6 | 5.05 | 119.53 | 117.00 |
| 2 | AB | 2770 | G | C5-C6-N1 | 5.05 | 114.03 | 111.50 |
| 35 | BA | 133 | U | C1'-O4'-C4' | -5.05 | 105.86 | 109.90 |
| 35 | BA | 146 | G | N3-C2-N2 | -5.05 | 116.36 | 119.90 |
| 35 | BA | 488 | C | C2-N1-C1' | -5.05 | 113.25 | 118.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1038 | C | OP2-P-O3' | 5.05 | 116.31 | 105.20 |
| 2 | AB | 92 | U | C6-N1-C2 | 5.05 | 124.03 | 121.00 |
| 2 | AB | 122 | G | C6-N1-C2 | 5.05 | 128.13 | 125.10 |
| 2 | AB | 790 | U | N3-C4-O4 | -5.05 | 115.87 | 119.40 |
| 2 | AB | 1213 | A | O5'-C5'-C4' | 5.05 | 121.29 | 111.70 |
| 2 | AB | 1805 | A | O4'-C1'-N9 | 5.05 | 112.24 | 108.20 |
| 2 | AB | 2147 | A | N3-C4-N9 | 5.05 | 131.44 | 127.40 |
| 2 | AB | 2454 | G | N3-C2-N2 | -5.05 | 116.37 | 119.90 |
| 4 | AD | 92 | LEU | CB-CA-C | 5.05 | 119.79 | 110.20 |
| 35 | BA | 272 | C | N1-C1'-C2' | -5.05 | 106.45 | 112.00 |
| 35 | BA | 282 | A | C5-C6-N6 | 5.05 | 127.74 | 123.70 |
| 35 | BA | 661 | G | C4-C5-N7 | -5.05 | 108.78 | 110.80 |
| 37 | BC | 39 | A | C1'-O4'-C4' | -5.05 | 105.86 | 109.90 |
| 52 | BR | 25 | ARG | CB-CA-C | 5.05 | 120.50 | 110.40 |
| 2 | AB | 85 | G | N1-C2-N3 | 5.05 | 126.93 | 123.90 |
| 2 | AB | 150 | U | C4'-C3'-C2' | -5.05 | 97.55 | 102.60 |
| 2 | AB | 383 | C | C3'-C2'-C1' | 5.05 | 105.54 | 101.50 |
| 2 | AB | 644 | A | C3'-C2'-C1' | 5.05 | 105.54 | 101.50 |
| 2 | AB | 859 | G | P-O3'-C3' | 5.05 | 125.75 | 119.70 |
| 2 | AB | 874 | G | N3-C4-N9 | -5.05 | 122.97 | 126.00 |
| 2 | AB | 921 | C | C4'-C3'-C2' | -5.05 | 97.55 | 102.60 |
| 2 | AB | 989 | G | C6-N1-C2 | 5.05 | 128.13 | 125.10 |
| 2 | AB | 1072 | C | O3'-P-O5' | -5.05 | 94.41 | 104.00 |
| 2 | AB | 1072 | C | C3'-C2'-C1' | -5.05 | 97.46 | 101.50 |
| 2 | AB | 1356 | G | N1-C2-N2 | 5.05 | 120.74 | 116.20 |
| 2 | AB | 1473 | G | C1'-O4'-C4' | -5.05 | 105.86 | 109.90 |
| 2 | AB | 1558 | C | C5'-C4'-C3' | -5.05 | 107.92 | 116.00 |
| 2 | AB | 1594 | U | N1-C2-N3 | 5.05 | 117.93 | 114.90 |
| 2 | AB | 1758 | U | C4-C5-C6 | 5.05 | 122.73 | 119.70 |
| 2 | AB | 1885 | A | N1-C6-N6 | 5.05 | 121.63 | 118.60 |
| 2 | AB | 2102 | G | P-O3'-C3' | 5.05 | 125.76 | 119.70 |
| 2 | AB | 2178 | C | N1-C2-O2 | 5.05 | 121.93 | 118.90 |
| 2 | AB | 2443 | C | N1-C2-N3 | 5.05 | 122.73 | 119.20 |
| 2 | AB | 2553 | G | N1-C6-O6 | -5.05 | 116.87 | 119.90 |
| 2 | AB | 2587 | A | C8-N9-C4 | -5.05 | 103.78 | 105.80 |
| 2 | AB | 2842 | G | N9-C4-C5 | -5.05 | 103.38 | 105.40 |
| 2 | AB | 2875 | C | C5'-C4'-O4' | 5.05 | 115.16 | 109.10 |
| 8 | AH | 131 | VAL | CG1-CB-CG2 | -5.05 | 102.83 | 110.90 |
| 35 | BA | 346 | G | C5'-C4'-O4' | 5.05 | 115.16 | 109.10 |
| 35 | BA | 503 | C | N3-C4-C5 | -5.05 | 119.88 | 121.90 |
| 35 | BA | 534 | U | N3-C2-O2 | -5.05 | 118.67 | 122.20 |
| 35 | BA | 803 | G | C5'-C4'-O4' | 5.05 | 115.16 | 109.10 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1044 | A | N9-C1'-C2' | -5.05 | 106.45 | 112.00 |
| 35 | BA | 1444 | U | C4'-C3'-O3' | 5.05 | 123.09 | 113.00 |
| 2 | AB | 247 | G | N9-C4-C5 | -5.04 | 103.38 | 105.40 |
| 2 | AB | 408 | G | N1-C2-N3 | -5.04 | 120.87 | 123.90 |
| 2 | AB | 480 | A | C5-C6-N6 | -5.04 | 119.66 | 123.70 |
| 2 | AB | 490 | C | N3-C2-O2 | -5.04 | 118.37 | 121.90 |
| 2 | AB | 1002 | G | C4'-C3'-O3' | 5.04 | 123.09 | 113.00 |
| 2 | AB | 1230 | A | N7-C8-N9 | 5.04 | 116.32 | 113.80 |
| 2 | AB | 2395 | C | C4-C5-C6 | -5.04 | 114.88 | 117.40 |
| 2 | AB | 2563 | U | C5'-C4'-O4' | 5.04 | 115.15 | 109.10 |
| 2 | AB | 2674 | G | C4-N9-C1' | -5.04 | 119.94 | 126.50 |
| 2 | AB | 2705 | A | C5-C6-N6 | -5.04 | 119.66 | 123.70 |
| 2 | AB | 2733 | A | C4'-C3'-C2' | -5.04 | 97.56 | 102.60 |
| 35 | BA | 2 | A | N1-C6-N6 | 5.04 | 121.63 | 118.60 |
| 35 | BA | 1205 | U | N3-C4-C5 | -5.04 | 111.57 | 114.60 |
| 2 | AB | 755 | U | C5-C4-O4 | -5.04 | 122.87 | 125.90 |
| 2 | AB | 1059 | G | C4'-C3'-C2' | -5.04 | 97.56 | 102.60 |
| 2 | AB | 1608 | A | C5-C6-N6 | -5.04 | 119.67 | 123.70 |
| 2 | AB | 1642 | G | C4-N9-C1' | -5.04 | 119.94 | 126.50 |
| 2 | AB | 1872 | A | C4-C5-N7 | -5.04 | 108.18 | 110.70 |
| 2 | AB | 1920 | C | C4-C5-C6 | 5.04 | 119.92 | 117.40 |
| 2 | AB | 1970 | A | O4'-C1'-N9 | 5.04 | 112.23 | 108.20 |
| 2 | AB | 1972 | G | C5-N7-C8 | -5.04 | 101.78 | 104.30 |
| 2 | AB | 2018 | G | O4'-C1'-N9 | 5.04 | 112.23 | 108.20 |
| 2 | AB | 2049 | G | C2-N3-C4 | 5.04 | 114.42 | 111.90 |
| 2 | AB | 2133 | G | O4'-C1'-C2' | 5.04 | 112.14 | 107.60 |
| 2 | AB | 2335 | A | C2-N3-C4 | 5.04 | 113.12 | 110.60 |
| 2 | AB | 2343 | U | C4-C5-C6 | 5.04 | 122.73 | 119.70 |
| 2 | AB | 2505 | G | C5-N7-C8 | -5.04 | 101.78 | 104.30 |
| 7 | AG | 76 | PHE | CB-CG-CD1 | -5.04 | 117.27 | 120.80 |
| 11 | AK | 95 | ASP | CB-CG-OD1 | -5.04 | 113.76 | 118.30 |
| 18 | AR | 58 | PHE | CD1-CE1-CZ | -5.04 | 114.05 | 120.10 |
| 35 | BA | 1524 | C | O3'-P-O5' | -5.04 | 94.42 | 104.00 |
| 37 | BC | 35 | C | O4'-C1'-C2' | -5.04 | 100.76 | 105.80 |
| 37 | BC | 76 | C | C4-C5-C6 | 5.04 | 119.92 | 117.40 |
| 2 | AB | 222 | A | C5-N7-C8 | 5.04 | 106.42 | 103.90 |
| 2 | AB | 488 | G | C5-C6-O6 | -5.04 | 125.58 | 128.60 |
| 2 | AB | 850 | U | C3'-C2'-C1' | 5.04 | 105.53 | 101.50 |
| 2 | AB | 896 | A | C5'-C4'-C3' | -5.04 | 107.94 | 116.00 |
| 2 | AB | 971 | G | C4-N9-C1' | -5.04 | 119.95 | 126.50 |
| 2 | AB | 1007 | C | P-O3'-C3' | 5.04 | 125.75 | 119.70 |
| 2 | AB | 1615 | C | C5'-C4'-C3' | 5.04 | 124.06 | 116.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1651 | G | C2-N3-C4 | 5.04 | 114.42 | 111.90 |
| 2 | AB | 1822 | C | C4-C5-C6 | -5.04 | 114.88 | 117.40 |
| 2 | AB | 1888 | G | C6-N1-C2 | -5.04 | 122.08 | 125.10 |
| 2 | AB | 1897 | G | C5-C6-N1 | -5.04 | 108.98 | 111.50 |
| 2 | AB | 2031 | A | C6-C5-N7 | -5.04 | 128.77 | 132.30 |
| 2 | AB | 2725 | A | C2'-C3'-O3' | 5.04 | 121.77 | 113.70 |
| 35 | BA | 134 | G | N7-C8-N9 | -5.04 | 110.58 | 113.10 |
| 35 | BA | 478 | A | C4-C5-N7 | -5.04 | 108.18 | 110.70 |
| 35 | BA | 931 | C | N1-C2-O2 | -5.04 | 115.88 | 118.90 |
| 35 | BA | 958 | A | C8-N9-C4 | -5.04 | 103.78 | 105.80 |
| 35 | BA | 968 | A | C1'-O4'-C4' | -5.04 | 105.87 | 109.90 |
| 35 | BA | 1021 | A | N3-C4-C5 | -5.04 | 123.27 | 126.80 |
| 35 | BA | 1181 | G | N7-C8-N9 | 5.04 | 115.62 | 113.10 |
| 35 | BA | 1186 | G | C4-N9-C1' | -5.04 | 119.94 | 126.50 |
| 35 | BA | 1186 | G | C8-N9-C4 | 5.04 | 108.42 | 106.40 |
| 35 | BA | 1334 | G | C5-N7-C8 | -5.04 | 101.78 | 104.30 |
| 35 | BA | 1502 | A | O3'-P-O5' | -5.04 | 94.42 | 104.00 |
| 36 | BB | 20 | G | N9-C4-C5 | -5.04 | 103.38 | 105.40 |
| 48 | BN | 94 | TYR | CG-CD1-CE1 | -5.04 | 117.27 | 121.30 |
| 2 | AB | 613 | A | P-O3'-C3' | 5.04 | 125.75 | 119.70 |
| 2 | AB | 1403 | A | N7-C8-N9 | 5.04 | 116.32 | 113.80 |
| 2 | AB | 1674 | G | N1-C2-N2 | 5.04 | 120.74 | 116.20 |
| 2 | AB | 2146 | C | C2-N1-C1' | 5.04 | 124.34 | 118.80 |
| 2 | AB | 2637 | U | C6-N1-C1' | 5.04 | 128.26 | 121.20 |
| 17 | AQ | 2 | ASP | CB-CG-OD1 | -5.04 | 113.76 | 118.30 |
| 35 | BA | 16 | A | C4'-C3'-C2' | 5.04 | 107.64 | 102.60 |
| 35 | BA | 536 | C | O4'-C1'-N1 | 5.04 | 112.23 | 108.20 |
| 35 | BA | 616 | G | N1-C6-O6 | -5.04 | 116.88 | 119.90 |
| 35 | BA | 879 | C | C3'-C2'-C1' | -5.04 | 97.47 | 101.50 |
| 35 | BA | 894 | G | OP1-P-O3' | 5.04 | 116.29 | 105.20 |
| 52 | BR | 16 | PHE | CG-CD2-CE2 | -5.04 | 115.26 | 120.80 |
| 1 | AA | 86 | G | C5-C6-O6 | -5.04 | 125.58 | 128.60 |
| 1 | AA | 106 | G | C4'-C3'-C2' | -5.04 | 97.56 | 102.60 |
| 2 | AB | 473 | G | N9-C4-C5 | 5.04 | 107.42 | 105.40 |
| 2 | AB | 784 | G | O3'-P-O5' | -5.04 | 94.42 | 104.00 |
| 2 | AB | 1006 | C | N3-C4-N4 | 5.04 | 121.53 | 118.00 |
| 2 | AB | 1015 | U | C4-C5-C6 | 5.04 | 122.72 | 119.70 |
| 2 | AB | 1397 | U | C5'-C4'-O4' | 5.04 | 115.15 | 109.10 |
| 2 | AB | 1435 | G | N3-C4-C5 | -5.04 | 126.08 | 128.60 |
| 2 | AB | 1685 | C | N3-C2-O2 | -5.04 | 118.37 | 121.90 |
| 2 | AB | 1710 | G | N9-C4-C5 | 5.04 | 107.42 | 105.40 |
| 2 | AB | 2105 | U | N3-C4-O4 | 5.04 | 122.93 | 119.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 49 | U | N3-C4-O4 | 5.04 | 122.93 | 119.40 |
| 35 | BA | 129 | A | N3-C4-C5 | -5.04 | 123.27 | 126.80 |
| 35 | BA | 306 | A | C6-C5-N7 | 5.04 | 135.83 | 132.30 |
| 35 | BA | 1533 | C | C2-N1-C1' | -5.04 | 113.26 | 118.80 |
| 2 | AB | 384 | A | C5-N7-C8 | -5.04 | 101.38 | 103.90 |
| 2 | AB | 637 | A | C4'-C3'-C2' | -5.04 | 97.56 | 102.60 |
| 2 | AB | 734 | A | N9-C4-C5 | 5.04 | 107.81 | 105.80 |
| 2 | AB | 1263 | U | C4'-C3'-C2' | -5.04 | 97.56 | 102.60 |
| 2 | AB | 1496 | A | O3'-P-O5' | 5.04 | 113.57 | 104.00 |
| 35 | BA | 350 | G | O4'-C1'-C2' | 5.04 | 112.13 | 107.60 |
| 35 | BA | 713 | G | C1'-O4'-C4' | -5.04 | 105.87 | 109.90 |
| 35 | BA | 759 | A | C4-C5-N7 | -5.04 | 108.18 | 110.70 |
| 35 | BA | 1343 | G | C4-C5-N7 | -5.04 | 108.78 | 110.80 |
| 1 | AA | 13 | G | N7-C8-N9 | 5.04 | 115.62 | 113.10 |
| 2 | AB | 324 | A | P-O3'-C3' | 5.04 | 125.74 | 119.70 |
| 2 | AB | 517 | C | C5-C6-N1 | 5.04 | 123.52 | 121.00 |
| 2 | AB | 905 | A | C6-N1-C2 | -5.04 | 115.58 | 118.60 |
| 2 | AB | 943 | A | C2-N3-C4 | 5.04 | 113.12 | 110.60 |
| 2 | AB | 1296 | G | C5-C6-N1 | 5.04 | 114.02 | 111.50 |
| 2 | AB | 1354 | A | C3'-C2'-C1' | -5.04 | 97.47 | 101.50 |
| 2 | AB | 1655 | A | N9-C1'-C2' | -5.04 | 106.46 | 112.00 |
| 2 | AB | 1669 | A | N3-C4-N9 | 5.04 | 131.43 | 127.40 |
| 2 | AB | 1729 | U | N3-C4-O4 | 5.04 | 122.92 | 119.40 |
| 2 | AB | 2245 | U | N3-C4-C5 | -5.04 | 111.58 | 114.60 |
| 2 | AB | 2347 | C | C2-N3-C4 | 5.04 | 122.42 | 119.90 |
| 2 | AB | 2487 | G | P-O3'-C3' | 5.04 | 125.74 | 119.70 |
| 2 | AB | 2607 | G | O4'-C1'-N9 | 5.04 | 112.23 | 108.20 |
| 2 | AB | 2810 | A | C8-N9-C4 | -5.04 | 103.79 | 105.80 |
| 9 | AI | 105 | ALA | CB-CA-C | 5.04 | 117.65 | 110.10 |
| 31 | A4 | 20 | TYR | CB-CG-CD1 | -5.04 | 117.98 | 121.00 |
| 35 | BA | 77 | A | C5'-C4'-C3' | -5.04 | 107.94 | 116.00 |
| 35 | BA | 99 | C | OP1-P-O3' | 5.04 | 116.28 | 105.20 |
| 35 | BA | 1108 | G | C5-C6-N1 | 5.04 | 114.02 | 111.50 |
| 35 | BA | 1200 | C | N3-C2-O2 | -5.04 | 118.38 | 121.90 |
| 35 | BA | 1434 | A | C6-C5-N7 | 5.04 | 135.82 | 132.30 |
| 35 | BA | 1467 | C | OP1-P-O3' | 5.04 | 116.28 | 105.20 |
| 1 | AA | 7 | G | N7-C8-N9 | 5.03 | 115.62 | 113.10 |
| 1 | AA | 25 | U | C5'-C4'-C3' | -5.03 | 107.95 | 116.00 |
| 2 | AB | 1 | G | C4-C5-N7 | -5.03 | 108.79 | 110.80 |
| 2 | AB | 174 | U | N3-C2-O2 | -5.03 | 118.68 | 122.20 |
| 2 | AB | 289 | G | C4'-C3'-C2' | -5.03 | 97.57 | 102.60 |
| 2 | AB | 522 | A | C5-N7-C8 | 5.03 | 106.42 | 103.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 587 | C | O4'-C1'-N1 | 5.03 | 112.23 | 108.20 |
| 2 | AB | 2014 | A | C8-N9-C4 | 5.03 | 107.81 | 105.80 |
| 2 | AB | 2027 | G | C3'-C2'-C1' | 5.03 | 105.53 | 101.50 |
| 2 | AB | 2214 | C | C4'-C3'-C2' | -5.03 | 97.57 | 102.60 |
| 2 | AB | 2299 | U | C5'-C4'-C3' | -5.03 | 107.95 | 116.00 |
| 2 | AB | 2383 | G | C8-N9-C4 | 5.03 | 108.41 | 106.40 |
| 2 | AB | 2399 | G | C6-C5-N7 | -5.03 | 127.38 | 130.40 |
| 4 | AD | 40 | GLY | C-N-CA | 5.03 | 132.87 | 122.30 |
| 17 | AQ | 95 | SER | N-CA-CB | 5.03 | 118.05 | 110.50 |
| 35 | BA | 133 | U | O4'-C1'-C2' | 5.03 | 112.13 | 107.60 |
| 35 | BA | 183 | C | C5'-C4'-O4' | 5.03 | 115.14 | 109.10 |
| 35 | BA | 192 | A | N1-C6-N6 | -5.03 | 115.58 | 118.60 |
| 35 | BA | 233 | C | C5'-C4'-C3' | -5.03 | 107.95 | 116.00 |
| 35 | BA | 283 | U | C3'-C2'-C1' | 5.03 | 105.53 | 101.50 |
| 35 | BA | 530 | G | C4'-C3'-C2' | 5.03 | 107.63 | 102.60 |
| 35 | BA | 650 | G | C4'-C3'-C2' | -5.03 | 97.57 | 102.60 |
| 35 | BA | 712 | A | N9-C4-C5 | 5.03 | 107.81 | 105.80 |
| 35 | BA | 727 | G | N3-C2-N2 | -5.03 | 116.38 | 119.90 |
| 35 | BA | 738 | C | N3-C2-O2 | 5.03 | 125.42 | 121.90 |
| 35 | BA | 1065 | U | C5'-C4'-O4' | -5.03 | 103.06 | 109.10 |
| 35 | BA | 1309 | G | C4-C5-N7 | -5.03 | 108.79 | 110.80 |
| 35 | BA | 1425 | U | C4-C5-C6 | -5.03 | 116.68 | 119.70 |
| 48 | BN | 120 | ARG | NH1-CZ-NH2 | -5.03 | 113.86 | 119.40 |
| 2 | AB | 469 | G | C5-C6-N1 | 5.03 | 114.02 | 111.50 |
| 2 | AB | 633 | A | C6-C5-N7 | -5.03 | 128.78 | 132.30 |
| 2 | AB | 2051 | A | C5'-C4'-O4' | -5.03 | 103.06 | 109.10 |
| 2 | AB | 2635 | A | N3-C4-N9 | 5.03 | 131.43 | 127.40 |
| 2 | AB | 2777 | G | N1-C2-N3 | -5.03 | 120.88 | 123.90 |
| 35 | BA | 947 | G | N1-C2-N3 | -5.03 | 120.88 | 123.90 |
| 35 | BA | 1388 | C | N1-C2-O2 | 5.03 | 121.92 | 118.90 |
| 2 | AB | 114 | U | C3'-C2'-C1' | 5.03 | 105.52 | 101.50 |
| 2 | AB | 371 | A | C5-N7-C8 | -5.03 | 101.39 | 103.90 |
| 2 | AB | 709 | U | C3'-C2'-C1' | 5.03 | 105.52 | 101.50 |
| 2 | AB | 1042 | G | O4'-C1'-N9 | 5.03 | 112.22 | 108.20 |
| 2 | AB | 1072 | C | C1'-O4'-C4' | 5.03 | 113.92 | 109.90 |
| 2 | AB | 1256 | G | C5-C6-O6 | 5.03 | 131.62 | 128.60 |
| 2 | AB | 1807 | G | C4'-C3'-C2' | -5.03 | 97.57 | 102.60 |
| 2 | AB | 2031 | A | C5'-C4'-C3' | -5.03 | 107.95 | 116.00 |
| 2 | AB | 2375 | G | C4-C5-N7 | -5.03 | 108.79 | 110.80 |
| 2 | AB | 2874 | C | C1'-O4'-C4' | 5.03 | 113.92 | 109.90 |
| 2 | AB | 2894 | G | N7-C8-N9 | -5.03 | 110.58 | 113.10 |
| 12 | AL | 99 | ARG | NH1-CZ-NH2 | -5.03 | 113.87 | 119.40 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 17 | AQ | 85 | LYS | CB-CA-C | 5.03 | 120.46 | 110.40 |
| 35 | BA | 324 | G | P-O3'-C3' | 5.03 | 125.74 | 119.70 |
| 35 | BA | 492 | C | C6-N1-C2 | -5.03 | 118.29 | 120.30 |
| 35 | BA | 1004 | A | C2'-C3'-O3' | 5.03 | 121.75 | 113.70 |
| 35 | BA | 1086 | U | P-O3'-C3' | 5.03 | 125.74 | 119.70 |
| 35 | BA | 1141 | C | C3'-C2'-C1' | 5.03 | 105.52 | 101.50 |
| 35 | BA | 1360 | A | N7-C8-N9 | -5.03 | 111.28 | 113.80 |
| 35 | BA | 1398 | A | C5-C6-N6 | -5.03 | 119.68 | 123.70 |
| 35 | BA | 1467 | C | N1-C2-N3 | 5.03 | 122.72 | 119.20 |
| 39 | BE | 128 | MET | CA-C-N | 5.03 | 128.26 | 117.20 |
| 45 | BK | 6 | TYR | CG-CD1-CE1 | 5.03 | 125.32 | 121.30 |
| 1 | AA | 66 | A | C3'-C2'-C1' | 5.03 | 105.52 | 101.50 |
| 2 | AB | 432 | A | C1'-O4'-C4' | 5.03 | 113.92 | 109.90 |
| 2 | AB | 903 | C | C3'-C2'-C1' | 5.03 | 105.52 | 101.50 |
| 2 | AB | 1892 | C | C3'-C2'-C1' | 5.03 | 105.52 | 101.50 |
| 2 | AB | 2904 | U | C6-N1-C1' | -5.03 | 114.16 | 121.20 |
| 31 | A4 | 5 | ARG | NH1-CZ-NH2 | -5.03 | 113.87 | 119.40 |
| 35 | BA | 635 | A | C4-C5-N7 | -5.03 | 108.19 | 110.70 |
| 35 | BA | 1014 | A | O4'-C1'-C2' | 5.03 | 112.13 | 107.60 |
| 35 | BA | 1474 | U | N3-C2-O2 | -5.03 | 118.68 | 122.20 |
| 2 | AB | 47 | C | C5-C6-N1 | -5.03 | 118.49 | 121.00 |
| 2 | AB | 338 | G | C1'-O4'-C4' | -5.03 | 105.88 | 109.90 |
| 2 | AB | 784 | G | C6-N1-C2 | -5.03 | 122.08 | 125.10 |
| 2 | AB | 1053 | C | O4'-C1'-N1 | 5.03 | 112.22 | 108.20 |
| 2 | AB | 1138 | G | N1-C6-O6 | 5.03 | 122.92 | 119.90 |
| 2 | AB | 1364 | G | C8-N9-C4 | -5.03 | 104.39 | 106.40 |
| 2 | AB | 1481 | U | C6-N1-C2 | -5.03 | 117.98 | 121.00 |
| 2 | AB | 1696 | G | N9-C1'-C2' | -5.03 | 106.47 | 112.00 |
| 2 | AB | 1935 | G | C4'-C3'-C2' | -5.03 | 97.57 | 102.60 |
| 2 | AB | 1945 | G | C6-C5-N7 | -5.03 | 127.38 | 130.40 |
| 2 | AB | 2494 | G | C4-N9-C1' | -5.03 | 119.97 | 126.50 |
| 35 | BA | 179 | A | N7-C8-N9 | -5.03 | 111.29 | 113.80 |
| 35 | BA | 243 | A | C5-N7-C8 | -5.03 | 101.39 | 103.90 |
| 35 | BA | 411 | A | C4-C5-C6 | 5.03 | 119.51 | 117.00 |
| 35 | BA | 771 | G | N3-C2-N2 | 5.03 | 123.42 | 119.90 |
| 35 | BA | 900 | A | O4'-C1'-N9 | 5.03 | 112.22 | 108.20 |
| 35 | BA | 927 | G | N9-C4-C5 | 5.03 | 107.41 | 105.40 |
| 35 | BA | 957 | U | O4'-C1'-N1 | 5.03 | 112.22 | 108.20 |
| 35 | BA | 1117 | A | C5-C6-N1 | -5.03 | 115.19 | 117.70 |
| 35 | BA | 1168 | U | C5-C4-O4 | -5.03 | 122.88 | 125.90 |
| 35 | BA | 1215 | G | N1-C6-O6 | 5.03 | 122.92 | 119.90 |
| 35 | BA | 1229 | A | C1'-O4'-C4' | 5.03 | 113.92 | 109.90 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 37 | BC | 52 | C | N3-C2-O2 | -5.03 | 118.38 | 121.90 |
| 1 | AA | 33 | G | C4'-C3'-C2' | -5.03 | 97.57 | 102.60 |
| 1 | AA | 112 | G | C4-C5-N7 | 5.03 | 112.81 | 110.80 |
| 2 | AB | 265 | A | C5-N7-C8 | -5.03 | 101.39 | 103.90 |
| 2 | AB | 1044 | C | C4-C5-C6 | 5.03 | 119.91 | 117.40 |
| 2 | AB | 1142 | A | O3'-P-O5' | 5.03 | 113.55 | 104.00 |
| 2 | AB | 1175 | A | C2-N3-C4 | 5.03 | 113.11 | 110.60 |
| 2 | AB | 1684 | G | C4'-C3'-C2' | -5.03 | 97.57 | 102.60 |
| 2 | AB | 2163 | A | C4-C5-N7 | -5.03 | 108.19 | 110.70 |
| 2 | AB | 2215 | C | C1'-O4'-C4' | 5.03 | 113.92 | 109.90 |
| 2 | AB | 2858 | C | C2-N1-C1' | 5.03 | 124.33 | 118.80 |
| 24 | AX | 90 | ASP | CB-CG-OD2 | -5.03 | 113.78 | 118.30 |
| 35 | BA | 601 | G | C4-C5-N7 | -5.03 | 108.79 | 110.80 |
| 35 | BA | 787 | A | O4'-C4'-C3' | 5.03 | 110.12 | 106.10 |
| 47 | BM | 85 | VAL | CA-CB-CG1 | 5.03 | 118.44 | 110.90 |
| 2 | AB | 2265 | U | O4'-C4'-C3' | -5.02 | 98.98 | 104.00 |
| 2 | AB | 2268 | A | C8-N9-C4 | -5.02 | 103.79 | 105.80 |
| 2 | AB | 2742 | G | C4-C5-C6 | 5.02 | 121.81 | 118.80 |
| 2 | AB | 2780 | G | C5'-C4'-C3' | -5.02 | 107.96 | 116.00 |
| 3 | AC | 90 | ALA | CB-CA-C | 5.02 | 117.64 | 110.10 |
| 35 | BA | 6 | G | P-O5'-C5' | 5.02 | 128.94 | 120.90 |
| 35 | BA | 96 | U | C4'-C3'-C2' | -5.02 | 97.58 | 102.60 |
| 35 | BA | 530 | G | N1-C2-N2 | 5.02 | 120.72 | 116.20 |
| 35 | BA | 1438 | G | P-O3'-C3' | 5.02 | 125.73 | 119.70 |
| 35 | BA | 1495 | U | C1'-O4'-C4' | -5.02 | 105.88 | 109.90 |
| 2 | AB | 58 | G | C4-C5-N7 | -5.02 | 108.79 | 110.80 |
| 2 | AB | 194 | G | C5-C6-N1 | -5.02 | 108.99 | 111.50 |
| 2 | AB | 242 | G | O4'-C4'-C3' | 5.02 | 110.12 | 106.10 |
| 2 | AB | 656 | G | N1-C6-O6 | 5.02 | 122.91 | 119.90 |
| 2 | AB | 940 | G | N1-C2-N2 | 5.02 | 120.72 | 116.20 |
| 2 | AB | 1421 | G | C5'-C4'-C3' | -5.02 | 107.97 | 116.00 |
| 2 | AB | 1437 | C | C2-N3-C4 | -5.02 | 117.39 | 119.90 |
| 2 | AB | 1661 | G | N3-C4-N9 | -5.02 | 122.99 | 126.00 |
| 2 | AB | 1678 | A | C3'-C2'-C1' | -5.02 | 97.48 | 101.50 |
| 2 | AB | 1842 | G | N1-C2-N3 | -5.02 | 120.89 | 123.90 |
| 2 | AB | 1873 | G | N9-C4-C5 | -5.02 | 103.39 | 105.40 |
| 2 | AB | 1996 | C | O4'-C4'-C3' | 5.02 | 110.12 | 106.10 |
| 2 | AB | 2481 | G | C5-N7-C8 | 5.02 | 106.81 | 104.30 |
| 2 | AB | 2496 | C | C6-N1-C2 | 5.02 | 122.31 | 120.30 |
| 2 | AB | 2768 | U | C2-N3-C4 | -5.02 | 123.99 | 127.00 |
| 2 | AB | 2796 | U | O3'-P-O5' | 5.02 | 113.54 | 104.00 |
| 35 | BA | 107 | G | C4-C5-N7 | 5.02 | 112.81 | 110.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 197 | A | C4-C5-C6 | -5.02 | 114.49 | 117.00 |
| 35 | BA | 554 | A | N3-C4-N9 | -5.02 | 123.38 | 127.40 |
| 35 | BA | 603 | U | C1'-O4'-C4' | -5.02 | 105.88 | 109.90 |
| 35 | BA | 937 | A | O4'-C4'-C3' | 5.02 | 110.12 | 106.10 |
| 35 | BA | 952 | U | C5-C4-O4 | -5.02 | 122.89 | 125.90 |
| 35 | BA | 1349 | A | C5'-C4'-O4' | 5.02 | 115.13 | 109.10 |
| 35 | BA | 1490 | U | N1-C2-N3 | 5.02 | 117.91 | 114.90 |
| 35 | BA | 1537 | U | O5'-P-OP1 | 5.02 | 116.73 | 110.70 |
| 2 | AB | 135 | U | C2-N1-C1' | 5.02 | 123.73 | 117.70 |
| 2 | AB | 351 | C | C2-N3-C4 | 5.02 | 122.41 | 119.90 |
| 2 | AB | 578 | G | N9-C1'-C2' | -5.02 | 106.48 | 112.00 |
| 2 | AB | 1843 | C | C6-N1-C2 | 5.02 | 122.31 | 120.30 |
| 2 | AB | 2259 | U | C5-C6-N1 | -5.02 | 120.19 | 122.70 |
| 2 | AB | 2708 | G | C6-N1-C2 | -5.02 | 122.09 | 125.10 |
| 4 | AD | 194 | VAL | CA-CB-CG2 | 5.02 | 118.43 | 110.90 |
| 35 | BA | 14 | U | N3-C4-C5 | -5.02 | 111.59 | 114.60 |
| 45 | BK | 16 | ALA | CB-CA-C | 5.02 | 117.63 | 110.10 |
| 54 | BT | 9 | PHE | CB-CA-C | 5.02 | 120.44 | 110.40 |
| 1 | AA | 22 | U | C5-C4-O4 | 5.02 | 128.91 | 125.90 |
| 2 | AB | 51 | G | P-O3'-C3' | 5.02 | 125.72 | 119.70 |
| 2 | AB | 185 | G | N1-C6-O6 | -5.02 | 116.89 | 119.90 |
| 2 | AB | 364 | C | N3-C2-O2 | -5.02 | 118.39 | 121.90 |
| 2 | AB | 471 | A | N9-C1'-C2' | -5.02 | 106.48 | 112.00 |
| 2 | AB | 990 | A | C4-C5-C6 | -5.02 | 114.49 | 117.00 |
| 2 | AB | 1213 | A | N1-C2-N3 | -5.02 | 126.79 | 129.30 |
| 2 | AB | 1259 | G | C8-N9-C4 | -5.02 | 104.39 | 106.40 |
| 2 | AB | 1478 | G | C4-C5-N7 | -5.02 | 108.79 | 110.80 |
| 2 | AB | 1500 | G | O4'-C1'-N9 | 5.02 | 112.22 | 108.20 |
| 2 | AB | 1756 | G | N1-C6-O6 | -5.02 | 116.89 | 119.90 |
| 2 | AB | 1853 | A | C4-C5-C6 | 5.02 | 119.51 | 117.00 |
| 2 | AB | 2336 | A | C2'-C3'-O3' | 5.02 | 121.73 | 113.70 |
| 2 | AB | 2568 | U | C1'-O4'-C4' | -5.02 | 105.89 | 109.90 |
| 7 | AG | 82 | TYR | CB-CG-CD1 | 5.02 | 124.01 | 121.00 |
| 17 | AQ | 117 | PHE | CB-CG-CD1 | -5.02 | 117.29 | 120.80 |
| 35 | BA | 97 | G | C4-C5-C6 | 5.02 | 121.81 | 118.80 |
| 35 | BA | 158 | G | C3'-C2'-C1' | 5.02 | 105.52 | 101.50 |
| 35 | BA | 346 | G | C6-C5-N7 | -5.02 | 127.39 | 130.40 |
| 35 | BA | 691 | G | N9-C1'-C2' | -5.02 | 106.48 | 112.00 |
| 35 | BA | 888 | G | O4'-C1'-C2' | 5.02 | 112.12 | 107.60 |
| 35 | BA | 1020 | G | N9-C1'-C2' | -5.02 | 106.48 | 112.00 |
| 35 | BA | 1050 | G | C5'-C4'-C3' | -5.02 | 107.97 | 116.00 |
| 35 | BA | 1110 | A | C4-C5-N7 | -5.02 | 108.19 | 110.70 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 1138 | G | N1-C2-N3 | -5.02 | 120.89 | 123.90 |
| 35 | BA | 1430 | A | O4'-C1'-N9 | 5.02 | 112.22 | 108.20 |
| 35 | BA | 1440 | U | C4-C5-C6 | 5.02 | 122.71 | 119.70 |
| 37 | BC | 38 | A | C6-N1-C2 | 5.02 | 121.61 | 118.60 |
| 2 | AB | 24 | G | N1-C2-N2 | 5.02 | 120.72 | 116.20 |
| 2 | AB | 82 | U | O4'-C1'-N1 | 5.02 | 112.21 | 108.20 |
| 2 | AB | 528 | A | C5-C6-N1 | 5.02 | 120.21 | 117.70 |
| 2 | AB | 743 | A | N1-C2-N3 | -5.02 | 126.79 | 129.30 |
| 2 | AB | 1177 | G | C5'-C4'-O4' | 5.02 | 115.12 | 109.10 |
| 2 | AB | 1442 | U | C3'-C2'-C1' | -5.02 | 97.48 | 101.50 |
| 2 | AB | 2281 | A | C1'-O4'-C4' | 5.02 | 113.91 | 109.90 |
| 2 | AB | 2315 | G | C4'-C3'-C2' | -5.02 | 97.58 | 102.60 |
| 2 | AB | 2541 | A | N1-C6-N6 | 5.02 | 121.61 | 118.60 |
| 2 | AB | 2574 | G | O4'-C1'-C2' | 5.02 | 112.12 | 107.60 |
| 2 | AB | 2659 | G | O4'-C1'-N9 | 5.02 | 112.22 | 108.20 |
| 23 | AW | 54 | PRO | O-C-N | -5.02 | 114.67 | 123.20 |
| 35 | BA | 154 | U | C5'-C4'-O4' | 5.02 | 115.12 | 109.10 |
| 35 | BA | 346 | G | C1'-O4'-C4' | -5.02 | 105.89 | 109.90 |
| 35 | BA | 530 | G | C2-N3-C4 | 5.02 | 114.41 | 111.90 |
| 35 | BA | 870 | U | C2-N3-C4 | -5.02 | 123.99 | 127.00 |
| 35 | BA | 1134 | G | C4-C5-C6 | 5.02 | 121.81 | 118.80 |
| 35 | BA | 1472 | U | P-O3'-C3' | 5.02 | 125.72 | 119.70 |
| 38 | BD | 221 | ARG | N-CA-CB | -5.02 | 101.57 | 110.60 |
| 2 | AB | 270 | A | O3'-P-O5' | 5.02 | 113.53 | 104.00 |
| 2 | AB | 682 | G | C4-N9-C1' | -5.02 | 119.98 | 126.50 |
| 2 | AB | 1248 | G | N1-C2-N2 | 5.02 | 120.71 | 116.20 |
| 2 | AB | 1342 | A | C6-C5-N7 | 5.02 | 135.81 | 132.30 |
| 2 | AB | 1357 | C | N3-C4-C5 | -5.02 | 119.89 | 121.90 |
| 2 | AB | 1809 | A | C4'-C3'-C2' | -5.02 | 97.58 | 102.60 |
| 2 | AB | 1839 | G | N1-C2-N2 | 5.02 | 120.72 | 116.20 |
| 2 | AB | 2010 | G | N3-C4-N9 | 5.02 | 129.01 | 126.00 |
| 2 | AB | 2494 | G | O4'-C1'-N9 | 5.02 | 112.21 | 108.20 |
| 2 | AB | 2606 | C | N3-C4-C5 | 5.02 | 123.91 | 121.90 |
| 11 | AK | 7 | TYR | CA-CB-CG | 5.02 | 122.93 | 113.40 |
| 14 | AN | 33 | ARG | NE-CZ-NH1 | 5.02 | 122.81 | 120.30 |
| 35 | BA | 1167 | A | N7-C8-N9 | -5.02 | 111.29 | 113.80 |
| 57 | BW | 33 | ARG | NE-CZ-NH1 | 5.02 | 122.81 | 120.30 |
| 2 | AB | 60 | G | C5'-C4'-C3' | -5.01 | 107.98 | 116.00 |
| 2 | AB | 73 | A | C5-C6-N1 | 5.01 | 120.21 | 117.70 |
| 2 | AB | 687 | C | C3'-C2'-C1' | -5.01 | 97.49 | 101.50 |
| 2 | AB | 759 | G | N9-C4-C5 | 5.01 | 107.41 | 105.40 |
| 2 | AB | 948 | C | N3-C4-N4 | 5.01 | 121.51 | 118.00 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 971 | G | C4'-C3'-C2' | -5.01 | 97.58 | 102.60 |
| 2 | AB | 1116 | G | C5-C6-N1 | -5.01 | 108.99 | 111.50 |
| 2 | AB | 1146 | C | C2-N3-C4 | 5.01 | 122.41 | 119.90 |
| 2 | AB | 1150 | C | C1'-O4'-C4' | 5.01 | 113.91 | 109.90 |
| 2 | AB | 1285 | A | C5'-C4'-O4' | 5.01 | 115.12 | 109.10 |
| 2 | AB | 1718 | G | C4'-C3'-C2' | -5.01 | 97.59 | 102.60 |
| 2 | AB | 2181 | U | C5-C4-O4 | 5.01 | 128.91 | 125.90 |
| 2 | AB | 2392 | A | N9-C4-C5 | -5.01 | 103.79 | 105.80 |
| 2 | AB | 2396 | G | N3-C4-N9 | -5.01 | 122.99 | 126.00 |
| 2 | AB | 2497 | A | C6-N1-C2 | 5.01 | 121.61 | 118.60 |
| 4 | AD | 154 | ALA | CB-CA-C | 5.01 | 117.62 | 110.10 |
| 6 | AF | 198 | GLU | CA-CB-CG | 5.01 | 124.43 | 113.40 |
| 35 | BA | 596 | A | C4-C5-N7 | 5.01 | 113.21 | 110.70 |
| 35 | BA | 803 | G | C5-N7-C8 | -5.01 | 101.79 | 104.30 |
| 35 | BA | 1008 | U | C1'-O4'-C4' | -5.01 | 105.89 | 109.90 |
| 35 | BA | 1242 | G | C1'-O4'-C4' | -5.01 | 105.89 | 109.90 |
| 35 | BA | 1394 | A | N3-C4-N9 | 5.01 | 131.41 | 127.40 |
| 39 | BE | 28 | PHE | CB-CG-CD2 | -5.01 | 117.29 | 120.80 |
| 48 | BN | 92 | VAL | CG1-CB-CG2 | -5.01 | 102.88 | 110.90 |
| 2 | AB | 243 | U | C5-C6-N1 | -5.01 | 120.19 | 122.70 |
| 2 | AB | 1303 | G | N3-C4-N9 | 5.01 | 129.01 | 126.00 |
| 2 | AB | 1536 | C | C5'-C4'-O4' | -5.01 | 103.08 | 109.10 |
| 2 | AB | 2479 | U | C4'-C3'-C2' | -5.01 | 97.59 | 102.60 |
| 7 | AG | 127 | TYR | CB-CG-CD1 | -5.01 | 117.99 | 121.00 |
| 35 | BA | 74 | A | C6-N1-C2 | 5.01 | 121.61 | 118.60 |
| 35 | BA | 370 | C | O5'-C5'-C4' | -5.01 | 102.17 | 111.70 |
| 35 | BA | 869 | G | C2-N3-C4 | 5.01 | 114.41 | 111.90 |
| 35 | BA | 1473 | G | C5-C6-N1 | 5.01 | 114.01 | 111.50 |
| 1 | AA | 38 | C | N3-C2-O2 | -5.01 | 118.39 | 121.90 |
| 2 | AB | 384 | A | O3'-P-O5' | -5.01 | 94.48 | 104.00 |
| 2 | AB | 950 | G | N1-C2-N2 | 5.01 | 120.71 | 116.20 |
| 2 | AB | 1020 | A | OP1-P-O3' | 5.01 | 116.22 | 105.20 |
| 2 | AB | 1533 | C | N3-C2-O2 | -5.01 | 118.39 | 121.90 |
| 2 | AB | 1545 | A | N1-C6-N6 | 5.01 | 121.61 | 118.60 |
| 2 | AB | 1671 | U | N3-C4-O4 | 5.01 | 122.91 | 119.40 |
| 2 | AB | 1733 | G | N1-C6-O6 | 5.01 | 122.91 | 119.90 |
| 2 | AB | 2178 | C | C5'-C4'-C3' | -5.01 | 107.98 | 116.00 |
| 2 | AB | 2231 | U | N1-C2-N3 | 5.01 | 117.91 | 114.90 |
| 2 | AB | 2260 | C | N3-C4-C5 | -5.01 | 119.89 | 121.90 |
| 2 | AB | 2382 | G | O3'-P-O5' | -5.01 | 94.48 | 104.00 |
| 2 | AB | 2484 | G | C5-C6-O6 | -5.01 | 125.59 | 128.60 |
| 35 | BA | 146 | G | C4'-C3'-C2' | -5.01 | 97.59 | 102.60 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 219 | U | C2-N3-C4 | -5.01 | 123.99 | 127.00 |
| 35 | BA | 277 | C | C4'-C3'-C2' | -5.01 | 97.59 | 102.60 |
| 35 | BA | 515 | G | C8-N9-C4 | -5.01 | 104.39 | 106.40 |
| 35 | BA | 681 | A | N3-C4-N9 | -5.01 | 123.39 | 127.40 |
| 35 | BA | 879 | C | O4'-C4'-C3' | -5.01 | 98.99 | 104.00 |
| 35 | BA | 1264 | U | C3'-C2'-C1' | 5.01 | 105.51 | 101.50 |
| 35 | BA | 1315 | U | N1-C2-O2 | 5.01 | 126.31 | 122.80 |
| 2 | AB | 113 | U | N1-C2-N3 | 5.01 | 117.91 | 114.90 |
| 2 | AB | 121 | G | C5-C6-N1 | 5.01 | 114.00 | 111.50 |
| 2 | AB | 682 | G | C8-N9-C1' | 5.01 | 133.51 | 127.00 |
| 2 | AB | 804 | A | C3'-C2'-C1' | -5.01 | 97.49 | 101.50 |
| 2 | AB | 912 | C | C5'-C4'-C3' | -5.01 | 107.98 | 116.00 |
| 2 | AB | 1464 | G | N3-C4-C5 | -5.01 | 126.09 | 128.60 |
| 2 | AB | 1513 | U | C4'-C3'-C2' | -5.01 | 97.59 | 102.60 |
| 2 | AB | 1537 | G | P-O3'-C3' | 5.01 | 125.71 | 119.70 |
| 2 | AB | 1634 | A | C5-C6-N1 | 5.01 | 120.20 | 117.70 |
| 2 | AB | 1649 | G | C5-N7-C8 | 5.01 | 106.81 | 104.30 |
| 2 | AB | 1685 | C | O4'-C4'-C3' | -5.01 | 98.99 | 104.00 |
| 2 | AB | 2162 | G | N3-C4-C5 | -5.01 | 126.09 | 128.60 |
| 2 | AB | 2425 | A | C3'-C2'-C1' | -5.01 | 97.49 | 101.50 |
| 2 | AB | 2497 | A | C5'-C4'-C3' | -5.01 | 107.98 | 116.00 |
| 2 | AB | 2787 | C | C2-N3-C4 | -5.01 | 117.39 | 119.90 |
| 29 | A2 | 3 | LYS | CB-CA-C | 5.01 | 120.42 | 110.40 |
| 35 | BA | 784 | A | N9-C4-C5 | 5.01 | 107.80 | 105.80 |
| 35 | BA | 944 | G | OP1-P-O3' | 5.01 | 116.22 | 105.20 |
| 35 | BA | 1082 | A | C5'-C4'-O4' | 5.01 | 115.11 | 109.10 |
| 35 | BA | 1298 | U | O4'-C1'-N1 | 5.01 | 112.21 | 108.20 |
| 35 | BA | 1472 | U | C6-N1-C2 | -5.01 | 117.99 | 121.00 |
| 44 | BJ | 98 | LEU | CB-CG-CD1 | 5.01 | 119.52 | 111.00 |
| 2 | AB | 146 | A | C5-C6-N1 | 5.01 | 120.20 | 117.70 |
| 2 | AB | 552 | U | C4'-C3'-C2' | -5.01 | 97.59 | 102.60 |
| 2 | AB | 810 | U | C1'-O4'-C4' | -5.01 | 105.89 | 109.90 |
| 2 | AB | 925 | A | N9-C1'-C2' | -5.01 | 106.49 | 112.00 |
| 2 | AB | 1402 | U | N1-C2-O2 | 5.01 | 126.31 | 122.80 |
| 2 | AB | 1903 | G | C4-C5-C6 | 5.01 | 121.81 | 118.80 |
| 2 | AB | 1966 | A | C6-N1-C2 | 5.01 | 121.61 | 118.60 |
| 35 | BA | 799 | G | C6-N1-C2 | -5.01 | 122.09 | 125.10 |
| 1 | AA | 101 | A | C5'-C4'-O4' | 5.01 | 115.11 | 109.10 |
| 2 | AB | 6 | A | C5'-C4'-C3' | 5.01 | 124.01 | 116.00 |
| 2 | AB | 18 | U | N1-C2-N3 | 5.01 | 117.90 | 114.90 |
| 2 | AB | 435 | C | C5-C6-N1 | -5.01 | 118.50 | 121.00 |
| 2 | AB | 476 | G | N1-C2-N2 | 5.01 | 120.71 | 116.20 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 566 | U | C4-C5-C6 | 5.01 | 122.70 | 119.70 |
| 2 | AB | 1758 | U | C6-N1-C1' | -5.01 | 114.19 | 121.20 |
| 2 | AB | 1926 | U | N1-C2-N3 | 5.01 | 117.90 | 114.90 |
| 2 | AB | 2037 | A | C8-N9-C4 | -5.01 | 103.80 | 105.80 |
| 2 | AB | 2126 | A | C2-N3-C4 | -5.01 | 108.10 | 110.60 |
| 2 | AB | 2458 | G | C1'-O4'-C4' | -5.01 | 105.89 | 109.90 |
| 2 | AB | 2636 | C | N1-C2-O2 | 5.01 | 121.90 | 118.90 |
| 2 | AB | 2650 | U | N1-C2-O2 | -5.01 | 119.30 | 122.80 |
| 35 | BA | 41 | G | C5'-C4'-O4' | 5.01 | 115.11 | 109.10 |
| 35 | BA | 211 | G | N3-C4-N9 | 5.01 | 129.00 | 126.00 |
| 35 | BA | 417 | G | N3-C4-C5 | -5.01 | 126.10 | 128.60 |
| 35 | BA | 433 | G | C2-N3-C4 | 5.01 | 114.40 | 111.90 |
| 35 | BA | 576 | C | N3-C2-O2 | -5.01 | 118.39 | 121.90 |
| 35 | BA | 784 | A | C1'-O4'-C4' | -5.01 | 105.89 | 109.90 |
| 35 | BA | 802 | A | C2-N3-C4 | -5.01 | 108.10 | 110.60 |
| 35 | BA | 883 | C | C1'-O4'-C4' | 5.01 | 113.91 | 109.90 |
| 35 | BA | 971 | G | N1-C2-N3 | -5.01 | 120.90 | 123.90 |
| 35 | BA | 1436 | U | O4'-C1'-N1 | 5.01 | 112.20 | 108.20 |
| 36 | BB | 45 | G | O3'-P-O5' | -5.01 | 94.49 | 104.00 |
| 44 | BJ | 94 | VAL | CA-CB-CG2 | 5.01 | 118.41 | 110.90 |
| 2 | AB | 227 | A | O4'-C1'-N9 | 5.00 | 112.20 | 108.20 |
| 2 | AB | 837 | C | C6-N1-C2 | -5.00 | 118.30 | 120.30 |
| 2 | AB | 900 | A | N9-C4-C5 | -5.00 | 103.80 | 105.80 |
| 2 | AB | 1749 | A | C5'-C4'-O4' | 5.00 | 115.11 | 109.10 |
| 2 | AB | 1770 | G | C1'-O4'-C4' | -5.00 | 105.90 | 109.90 |
| 2 | AB | 2441 | U | N1-C2-O2 | 5.00 | 126.30 | 122.80 |
| 26 | AZ | 73 | ARG | NE-CZ-NH1 | -5.00 | 117.80 | 120.30 |
| 35 | BA | 411 | A | C5'-C4'-C3' | -5.00 | 107.99 | 116.00 |
| 35 | BA | 516 | PSU | P-O3'-C3' | 5.00 | 125.71 | 119.70 |
| 35 | BA | 1241 | G | C6-C5-N7 | 5.00 | 133.40 | 130.40 |
| 35 | BA | 1242 | G | N9-C4-C5 | -5.00 | 103.40 | 105.40 |
| 49 | BO | 70 | ARG | NE-CZ-NH1 | 5.00 | 122.80 | 120.30 |
| 1 | AA | 84 | G | C5'-C4'-C3' | -5.00 | 108.00 | 116.00 |
| 2 | AB | 217 | A | C5-C6-N6 | -5.00 | 119.70 | 123.70 |
| 2 | AB | 329 | G | C4-C5-C6 | 5.00 | 121.80 | 118.80 |
| 2 | AB | 499 | U | O4'-C4'-C3' | 5.00 | 110.10 | 106.10 |
| 2 | AB | 591 | U | C5'-C4'-O4' | -5.00 | 103.10 | 109.10 |
| 2 | AB | 1095 | A | C5-C6-N6 | -5.00 | 119.70 | 123.70 |
| 2 | AB | 1571 | A | C4-C5-N7 | 5.00 | 113.20 | 110.70 |
| 2 | AB | 2048 | G | N1-C6-O6 | 5.00 | 122.90 | 119.90 |
| 2 | AB | 2408 | U | P-O3'-C3' | 5.00 | 125.70 | 119.70 |
| 2 | AB | 2900 | A | C8-N9-C4 | -5.00 | 103.80 | 105.80 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 35 | BA | 119 | A | N1-C6-N6 | -5.00 | 115.60 | 118.60 |
| 35 | BA | 464 | U | N3-C4-O4 | 5.00 | 122.90 | 119.40 |
| 35 | BA | 506 | G | N9-C4-C5 | -5.00 | 103.40 | 105.40 |
| 35 | BA | 507 | C | C1'-O4'-C4' | -5.00 | 105.90 | 109.90 |
| 35 | BA | 685 | G | O5'-C5'-C4' | 5.00 | 121.21 | 111.70 |
| 35 | BA | 969 | A | C5'-C4'-O4' | 5.00 | 115.11 | 109.10 |
| 35 | BA | 1253 | G | C2'-C3'-O3' | 5.00 | 121.70 | 113.70 |
| 37 | BC | 29 | C | C5-C6-N1 | -5.00 | 118.50 | 121.00 |
| 39 | BE | 81 | GLU | OE1-CD-OE2 | 5.00 | 129.31 | 123.30 |
| 52 | BR | 38 | PHE | CG-CD2-CE2 | -5.00 | 115.30 | 120.80 |
| 1 | AA | 3 | C | C2-N3-C4 | 5.00 | 122.40 | 119.90 |
| 2 | AB | 58 | G | P-O3'-C3' | 5.00 | 125.70 | 119.70 |
| 2 | AB | 763 | G | O5'-P-OP2 | -5.00 | 101.20 | 105.70 |
| 2 | AB | 1123 | C | C6-N1-C2 | -5.00 | 118.30 | 120.30 |
| 2 | AB | 1232 | G | C6-N1-C2 | -5.00 | 122.10 | 125.10 |
| 2 | AB | 1437 | C | C6-N1-C1' | -5.00 | 114.80 | 120.80 |
| 2 | AB | 1781 | U | C4-C5-C6 | 5.00 | 122.70 | 119.70 |
| 2 | AB | 1860 | G | N3-C2-N2 | 5.00 | 123.40 | 119.90 |
| 2 | AB | 2131 | U | O3'-P-O5' | 5.00 | 113.50 | 104.00 |
| 2 | AB | 2771 | C | N1-C2-O2 | -5.00 | 115.90 | 118.90 |
| 13 | AM | 123 | LEU | CB-CA-C | 5.00 | 119.70 | 110.20 |
| 35 | BA | 395 | C | C4'-C3'-C2' | -5.00 | 97.60 | 102.60 |
| 39 | BE | 70 | ALA | CB-CA-C | 5.00 | 117.60 | 110.10 |

There are no chirality outliers.

All (2857) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 27 | A0 | 29 | ARG | Sidechain |
| 27 | A0 | 57 | LEU | Peptide |
| 27 | A0 | 6 | LEU | Mainchain |
| 27 | A0 | 7 | ARG | Sidechain |
| 28 | A1 | 10 | ARG | Sidechain |
| 28 | A1 | 29 | ARG | Sidechain |
| 28 | A1 | 30 | ARG | Peptide |
| 28 | A1 | 44 | ARG | Sidechain |
| 29 | A2 | 30 | HIS | Peptide |
| 29 | A2 | 33 | ASN | Peptide |
| 29 | A2 | 49 | ARG | Peptide |
| 30 | A3 | 48 | TYR | Sidechain |
| 31 | A4 | 23 | THR | Mainchain |
| 31 | A4 | 48 | TYR | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 32 | A5 | 15 | SER | Peptide |
| 32 | A5 | 21 | ARG | Sidechain |
| 33 | A6 | 39 | ARG | Sidechain |
| 33 | A6 | 63 | TYR | Sidechain |
| 34 | A7 | 19 | ARG | Sidechain |
| 34 | A7 | 36 | ARG | Sidechain |
| 1 | AA | 1 | U | Sidechain |
| 1 | AA | 10 | G | Sidechain |
| 1 | AA | 100 | G | Sidechain |
| 1 | AA | 103 | U | Sidechain |
| 1 | AA | 104 | A | Sidechain |
| 1 | AA | 107 | G | Sidechain |
| 1 | AA | 109 | A | Sidechain |
| 1 | AA | 11 | C | Sidechain |
| 1 | AA | 112 | G | Sidechain |
| 1 | AA | 113 | C | Sidechain |
| 1 | AA | 116 | G | Sidechain |
| 1 | AA | 120 | U | Sidechain |
| 1 | AA | 13 | G | Sidechain |
| 1 | AA | 14 | U | Sidechain |
| 1 | AA | 18 | G | Sidechain |
| 1 | AA | 2 | G | Sidechain |
| 1 | AA | 20 | G | Sidechain |
| 1 | AA | 21 | G | Sidechain |
| 1 | AA | 25 | U | Sidechain |
| 1 | AA | 26 | C | Sidechain |
| 1 | AA | 29 | A | Sidechain |
| 1 | AA | 3 | C | Sidechain |
| 1 | AA | 30 | C | Sidechain |
| 1 | AA | 31 | C | Sidechain |
| 1 | AA | 32 | U | Sidechain |
| 1 | AA | 33 | G | Sidechain |
| 1 | AA | 34 | A | Sidechain |
| 1 | AA | 35 | C | Sidechain |
| 1 | AA | 36 | C | Sidechain |
| 1 | AA | 37 | C | Sidechain |
| 1 | AA | 4 | C | Sidechain |
| 1 | AA | 42 | C | Sidechain |
| 1 | AA | 44 | G | Sidechain |
| 1 | AA | 46 | A | Sidechain |
| 1 | AA | 48 | U | Sidechain |
| 1 | AA | 5 | U | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 1 | AA | 51 | G | Sidechain |
| 1 | AA | 52 | A | Sidechain |
| 1 | AA | 55 | U | Sidechain |
| 1 | AA | 56 | G | Sidechain |
| 1 | AA | 59 | A | Sidechain |
| 1 | AA | 6 | G | Sidechain |
| 1 | AA | 60 | C | Sidechain |
| 1 | AA | 61 | G | Sidechain |
| 1 | AA | 62 | C | Sidechain |
| 1 | AA | 64 | G | Sidechain |
| 1 | AA | 65 | U | Sidechain |
| 1 | AA | 66 | A | Sidechain |
| 1 | AA | 67 | G | Sidechain |
| 1 | AA | 68 | C | Sidechain |
| 1 | AA | 7 | G | Sidechain |
| 1 | AA | 72 | G | Sidechain |
| 1 | AA | 73 | A | Sidechain |
| 1 | AA | 76 | G | Sidechain |
| 1 | AA | 78 | A | Sidechain |
| 1 | AA | 79 | G | Sidechain |
| 1 | AA | 8 | C | Sidechain |
| 1 | AA | 81 | G | Sidechain |
| 1 | AA | 83 | G | Sidechain |
| 1 | AA | 84 | G | Sidechain |
| 1 | AA | 85 | G | Sidechain |
| 1 | AA | 86 | G | Sidechain |
| 1 | AA | 87 | U | Sidechain |
| 1 | AA | 88 | C | Sidechain |
| 1 | AA | 89 | U | Sidechain |
| 1 | AA | 90 | C | Sidechain |
| 1 | AA | 91 | C | Sidechain |
| 1 | AA | 92 | C | Sidechain |
| 1 | AA | 98 | G | Sidechain |
| 2 | AB | 1 | G | Sidechain |
| 2 | AB | 10 | A | Sidechain |
| 2 | AB | 100 | U | Sidechain |
| 2 | AB | 1000 | A | Sidechain |
| 2 | AB | 1001 | A | Sidechain |
| 2 | AB | 1002 | G | Sidechain |
| 2 | AB | 1003 | G | Sidechain |
| 2 | AB | 1005 | C | Sidechain |
| 2 | AB | 1006 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 1007 | C | Sidechain |
| 2 | AB | 1009 | A | Sidechain |
| 2 | AB | 1014 | A | Sidechain |
| 2 | AB | 1015 | U | Sidechain |
| 2 | AB | 1016 | G | Sidechain |
| 2 | AB | 1017 | G | Sidechain |
| 2 | AB | 102 | U | Sidechain |
| 2 | AB | 1020 | A | Sidechain |
| 2 | AB | 1021 | A | Sidechain |
| 2 | AB | 1022 | G | Sidechain |
| 2 | AB | 1023 | U | Sidechain |
| 2 | AB | 1026 | G | Sidechain |
| 2 | AB | 1028 | A | Sidechain |
| 2 | AB | 1029 | A | Sidechain |
| 2 | AB | 103 | A | Sidechain |
| 2 | AB | 1033 | U | Sidechain |
| 2 | AB | 1034 | G | Sidechain |
| 2 | AB | 1035 | U | Sidechain |
| 2 | AB | 1036 | G | Sidechain |
| 2 | AB | 1038 | G | Sidechain |
| 2 | AB | 104 | A | Sidechain |
| 2 | AB | 1040 | A | Sidechain |
| 2 | AB | 1041 | G | Sidechain |
| 2 | AB | 1042 | G | Sidechain |
| 2 | AB | 1043 | C | Sidechain |
| 2 | AB | 1044 | C | Sidechain |
| 2 | AB | 1045 | C | Sidechain |
| 2 | AB | 1046 | A | Sidechain |
| 2 | AB | 1047 | G | Sidechain |
| 2 | AB | 1049 | C | Sidechain |
| 2 | AB | 105 | C | Sidechain |
| 2 | AB | 1050 | A | Sidechain |
| 2 | AB | 1051 | G | Sidechain |
| 2 | AB | 1052 | C | Sidechain |
| 2 | AB | 1053 | C | Sidechain |
| 2 | AB | 1056 | G | Sidechain |
| 2 | AB | 1057 | A | Sidechain |
| 2 | AB | 1058 | U | Sidechain |
| 2 | AB | 1059 | G | Sidechain |
| 2 | AB | 106 | C | Sidechain |
| 2 | AB | 1063 | G | Sidechain |
| 2 | AB | 1064 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 1067 | A | Sidechain |
| 2 | AB | 1068 | G | Sidechain |
| 2 | AB | 1069 | A | Sidechain |
| 2 | AB | 1070 | A | Sidechain |
| 2 | AB | 1073 | A | Sidechain |
| 2 | AB | 1074 | G | Sidechain |
| 2 | AB | 1075 | C | Sidechain |
| 2 | AB | 1076 | C | Sidechain |
| 2 | AB | 1077 | A | Sidechain |
| 2 | AB | 1078 | U | Sidechain |
| 2 | AB | 1079 | C | Sidechain |
| 2 | AB | 1080 | A | Sidechain |
| 2 | AB | 1081 | U | Sidechain |
| 2 | AB | 1082 | U | Sidechain |
| 2 | AB | 1083 | U | Sidechain |
| 2 | AB | 1084 | A | Sidechain |
| 2 | AB | 1085 | A | Sidechain |
| 2 | AB | 1086 | A | Sidechain |
| 2 | AB | 1087 | G | Sidechain |
| 2 | AB | 1088 | A | Sidechain |
| 2 | AB | 1089 | A | Sidechain |
| 2 | AB | 1092 | C | Sidechain |
| 2 | AB | 1093 | G | Sidechain |
| 2 | AB | 1094 | U | Sidechain |
| 2 | AB | 1099 | G | Sidechain |
| 2 | AB | 11 | C | Sidechain |
| 2 | AB | 1101 | U | Sidechain |
| 2 | AB | 1102 | C | Sidechain |
| 2 | AB | 1104 | C | Sidechain |
| 2 | AB | 1107 | G | Sidechain |
| 2 | AB | 1108 | U | Sidechain |
| 2 | AB | 1109 | C | Sidechain |
| 2 | AB | 1110 | G | Sidechain |
| 2 | AB | 1111 | A | Sidechain |
| 2 | AB | 1112 | G | Sidechain |
| 2 | AB | 1114 | C | Sidechain |
| 2 | AB | 1117 | C | Sidechain |
| 2 | AB | 1119 | U | Sidechain |
| 2 | AB | 1121 | C | Sidechain |
| 2 | AB | 1122 | G | Sidechain |
| 2 | AB | 1124 | G | Sidechain |
| 2 | AB | 1125 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 1129 | A | Sidechain |
| 2 | AB | 113 | U | Sidechain |
| 2 | AB | 1130 | U | Sidechain |
| 2 | AB | 1131 | G | Sidechain |
| 2 | AB | 1135 | C | Sidechain |
| 2 | AB | 1136 | G | Sidechain |
| 2 | AB | 1137 | G | Sidechain |
| 2 | AB | 114 | U | Sidechain |
| 2 | AB | 1141 | U | Sidechain |
| 2 | AB | 1148 | U | Sidechain |
| 2 | AB | 115 | C | Sidechain |
| 2 | AB | 1155 | A | Sidechain |
| 2 | AB | 1158 | C | Sidechain |
| 2 | AB | 1160 | G | Sidechain |
| 2 | AB | 1162 | G | Sidechain |
| 2 | AB | 1163 | G | Sidechain |
| 2 | AB | 1164 | C | Sidechain |
| 2 | AB | 1165 | A | Sidechain |
| 2 | AB | 1166 | G | Sidechain |
| 2 | AB | 1167 | C | Sidechain |
| 2 | AB | 1168 | G | Sidechain |
| 2 | AB | 1169 | A | Sidechain |
| 2 | AB | 1170 | C | Sidechain |
| 2 | AB | 1171 | G | Sidechain |
| 2 | AB | 1173 | U | Sidechain |
| 2 | AB | 1176 | U | Sidechain |
| 2 | AB | 1177 | G | Sidechain |
| 2 | AB | 1178 | C | Sidechain |
| 2 | AB | 1179 | G | Sidechain |
| 2 | AB | 118 | A | Sidechain |
| 2 | AB | 1183 | U | Sidechain |
| 2 | AB | 1184 | U | Sidechain |
| 2 | AB | 1185 | G | Sidechain |
| 2 | AB | 1186 | G | Sidechain |
| 2 | AB | 1187 | G | Sidechain |
| 2 | AB | 1188 | U | Sidechain |
| 2 | AB | 1189 | A | Sidechain |
| 2 | AB | 1190 | G | Sidechain |
| 2 | AB | 1191 | G | Sidechain |
| 2 | AB | 1192 | G | Sidechain |
| 2 | AB | 1193 | G | Sidechain |
| 2 | AB | 1195 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 1196 | C | Sidechain |
| 2 | AB | 1197 | G | Sidechain |
| 2 | AB | 1199 | U | Sidechain |
| 2 | AB | 12 | U | Sidechain |
| 2 | AB | 120 | U | Sidechain |
| 2 | AB | 1200 | C | Sidechain |
| 2 | AB | 1202 | G | Sidechain |
| 2 | AB | 1204 | A | Sidechain |
| 2 | AB | 1206 | G | Sidechain |
| 2 | AB | 1207 | C | Sidechain |
| 2 | AB | 1208 | C | Sidechain |
| 2 | AB | 1209 | U | Sidechain |
| 2 | AB | 1212 | G | Sidechain |
| 2 | AB | 1213 | A | Sidechain |
| 2 | AB | 1215 | G | Sidechain |
| 2 | AB | 122 | G | Sidechain |
| 2 | AB | 1220 | G | Sidechain |
| 2 | AB | 1226 | A | Sidechain |
| 2 | AB | 1227 | G | Sidechain |
| 2 | AB | 1228 | G | Sidechain |
| 2 | AB | 1229 | C | Sidechain |
| 2 | AB | 123 | G | Sidechain |
| 2 | AB | 1231 | U | Sidechain |
| 2 | AB | 1234 | U | Sidechain |
| 2 | AB | 1235 | G | Sidechain |
| 2 | AB | 1236 | G | Sidechain |
| 2 | AB | 1237 | A | Sidechain |
| 2 | AB | 1238 | G | Sidechain |
| 2 | AB | 1239 | G | Sidechain |
| 2 | AB | 124 | G | Sidechain |
| 2 | AB | 1243 | C | Sidechain |
| 2 | AB | 1244 | A | Sidechain |
| 2 | AB | 1245 | G | Sidechain |
| 2 | AB | 1246 | A | Sidechain |
| 2 | AB | 1248 | G | Sidechain |
| 2 | AB | 1249 | U | Sidechain |
| 2 | AB | 1250 | G | Sidechain |
| 2 | AB | 1251 | C | Sidechain |
| 2 | AB | 1252 | G | Sidechain |
| 2 | AB | 1254 | A | Sidechain |
| 2 | AB | 1255 | U | Sidechain |
| 2 | AB | 1256 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 126 | A | Sidechain |
| 2 | AB | 1260 | A | Sidechain |
| 2 | AB | 1262 | A | Sidechain |
| 2 | AB | 1263 | U | Sidechain |
| 2 | AB | 1265 | A | Sidechain |
| 2 | AB | 1266 | G | Sidechain |
| 2 | AB | 1267 | U | Sidechain |
| 2 | AB | 1268 | A | Sidechain |
| 2 | AB | 127 | A | Sidechain |
| 2 | AB | 1270 | C | Sidechain |
| 2 | AB | 1271 | G | Sidechain |
| 2 | AB | 1273 | U | Sidechain |
| 2 | AB | 1274 | A | Sidechain |
| 2 | AB | 1277 | G | Sidechain |
| 2 | AB | 1278 | C | Sidechain |
| 2 | AB | 1281 | G | Sidechain |
| 2 | AB | 1284 | A | Sidechain |
| 2 | AB | 1285 | A | Sidechain |
| 2 | AB | 1286 | A | Sidechain |
| 2 | AB | 1287 | A | Sidechain |
| 2 | AB | 1288 | G | Sidechain |
| 2 | AB | 129 | C | Sidechain |
| 2 | AB | 1290 | C | Sidechain |
| 2 | AB | 1291 | C | Sidechain |
| 2 | AB | 1292 | G | Sidechain |
| 2 | AB | 1293 | C | Sidechain |
| 2 | AB | 1296 | G | Sidechain |
| 2 | AB | 1298 | C | Sidechain |
| 2 | AB | 1299 | G | Sidechain |
| 2 | AB | 130 | C | Sidechain |
| 2 | AB | 1301 | A | Sidechain |
| 2 | AB | 1302 | A | Sidechain |
| 2 | AB | 1305 | C | Sidechain |
| 2 | AB | 1306 | C | Sidechain |
| 2 | AB | 1310 | G | Sidechain |
| 2 | AB | 1311 | G | Sidechain |
| 2 | AB | 1313 | U | Sidechain |
| 2 | AB | 1319 | C | Sidechain |
| 2 | AB | 1321 | A | Sidechain |
| 2 | AB | 1322 | A | Sidechain |
| 2 | AB | 1323 | C | Sidechain |
| 2 | AB | 1324 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 1325 | U | Sidechain |
| 2 | AB | 1327 | A | Sidechain |
| 2 | AB | 133 | U | Sidechain |
| 2 | AB | 1330 | C | Sidechain |
| 2 | AB | 1331 | G | Sidechain |
| 2 | AB | 1332 | G | Sidechain |
| 2 | AB | 1333 | G | Sidechain |
| 2 | AB | 1337 | G | Sidechain |
| 2 | AB | 1339 | G | Sidechain |
| 2 | AB | 134 | G | Sidechain |
| 2 | AB | 1340 | U | Sidechain |
| 2 | AB | 1342 | A | Sidechain |
| 2 | AB | 1343 | G | Sidechain |
| 2 | AB | 1345 | C | Sidechain |
| 2 | AB | 1346 | G | Sidechain |
| 2 | AB | 1349 | C | Sidechain |
| 2 | AB | 135 | U | Sidechain |
| 2 | AB | 1352 | U | Sidechain |
| 2 | AB | 1353 | A | Sidechain |
| 2 | AB | 1355 | G | Sidechain |
| 2 | AB | 1356 | G | Sidechain |
| 2 | AB | 1357 | C | Sidechain |
| 2 | AB | 1358 | G | Sidechain |
| 2 | AB | 1359 | A | Sidechain |
| 2 | AB | 1360 | G | Sidechain |
| 2 | AB | 1361 | G | Sidechain |
| 2 | AB | 1362 | C | Sidechain |
| 2 | AB | 1365 | A | Sidechain |
| 2 | AB | 1367 | A | Sidechain |
| 2 | AB | 1369 | G | Sidechain |
| 2 | AB | 137 | U | Sidechain |
| 2 | AB | 1371 | G | Sidechain |
| 2 | AB | 1372 | U | Sidechain |
| 2 | AB | 1376 | C | Sidechain |
| 2 | AB | 1379 | U | Sidechain |
| 2 | AB | 1380 | G | Sidechain |
| 2 | AB | 1381 | G | Sidechain |
| 2 | AB | 1382 | G | Sidechain |
| 2 | AB | 1384 | A | Sidechain |
| 2 | AB | 1385 | A | Sidechain |
| 2 | AB | 1386 | C | Sidechain |
| 2 | AB | 1387 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 1389 | G | Sidechain |
| 2 | AB | 1391 | U | Sidechain |
| 2 | AB | 1392 | A | Sidechain |
| 2 | AB | 1393 | A | Sidechain |
| 2 | AB | 1394 | U | Sidechain |
| 2 | AB | 1395 | A | Sidechain |
| 2 | AB | 1396 | U | Sidechain |
| 2 | AB | 14 | A | Sidechain |
| 2 | AB | 140 | C | Sidechain |
| 2 | AB | 1400 | U | Sidechain |
| 2 | AB | 1403 | A | Sidechain |
| 2 | AB | 1404 | C | Sidechain |
| 2 | AB | 1406 | U | Sidechain |
| 2 | AB | 1407 | G | Sidechain |
| 2 | AB | 1409 | U | Sidechain |
| 2 | AB | 141 | G | Sidechain |
| 2 | AB | 1410 | G | Sidechain |
| 2 | AB | 1411 | U | Sidechain |
| 2 | AB | 1412 | U | Sidechain |
| 2 | AB | 1414 | C | Sidechain |
| 2 | AB | 1416 | G | Sidechain |
| 2 | AB | 1417 | C | Sidechain |
| 2 | AB | 1418 | G | Sidechain |
| 2 | AB | 1421 | G | Sidechain |
| 2 | AB | 1422 | G | Sidechain |
| 2 | AB | 1423 | G | Sidechain |
| 2 | AB | 1425 | G | Sidechain |
| 2 | AB | 1427 | A | Sidechain |
| 2 | AB | 1428 | C | Sidechain |
| 2 | AB | 1436 | G | Sidechain |
| 2 | AB | 1438 | U | Sidechain |
| 2 | AB | 1439 | A | Sidechain |
| 2 | AB | 144 | A | Sidechain |
| 2 | AB | 1442 | U | Sidechain |
| 2 | AB | 1443 | U | Sidechain |
| 2 | AB | 1444 | G | Sidechain |
| 2 | AB | 1447 | C | Sidechain |
| 2 | AB | 1448 | G | Sidechain |
| 2 | AB | 1451 | C | Sidechain |
| 2 | AB | 1453 | A | Sidechain |
| 2 | AB | 1455 | G | Sidechain |
| 2 | AB | 1456 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 1457 | U | Sidechain |
| 2 | AB | 1458 | U | Sidechain |
| 2 | AB | 1459 | G | Sidechain |
| 2 | AB | 1460 | U | Sidechain |
| 2 | AB | 1462 | C | Sidechain |
| 2 | AB | 1463 | C | Sidechain |
| 2 | AB | 1464 | G | Sidechain |
| 2 | AB | 1466 | U | Sidechain |
| 2 | AB | 1468 | U | Sidechain |
| 2 | AB | 147 | C | Sidechain |
| 2 | AB | 1470 | A | Sidechain |
| 2 | AB | 1471 | G | Sidechain |
| 2 | AB | 1474 | U | Sidechain |
| 2 | AB | 1475 | G | Sidechain |
| 2 | AB | 1476 | U | Sidechain |
| 2 | AB | 1478 | G | Sidechain |
| 2 | AB | 1479 | G | Sidechain |
| 2 | AB | 148 | U | Sidechain |
| 2 | AB | 1480 | C | Sidechain |
| 2 | AB | 1481 | U | Sidechain |
| 2 | AB | 1482 | G | Sidechain |
| 2 | AB | 1483 | G | Sidechain |
| 2 | AB | 1484 | U | Sidechain |
| 2 | AB | 1485 | U | Sidechain |
| 2 | AB | 1487 | U | Sidechain |
| 2 | AB | 1488 | C | Sidechain |
| 2 | AB | 1492 | G | Sidechain |
| 2 | AB | 1494 | A | Sidechain |
| 2 | AB | 1496 | A | Sidechain |
| 2 | AB | 1499 | C | Sidechain |
| 2 | AB | 15 | G | Sidechain |
| 2 | AB | 1500 | G | Sidechain |
| 2 | AB | 1501 | G | Sidechain |
| 2 | AB | 1502 | A | Sidechain |
| 2 | AB | 1507 | C | Sidechain |
| 2 | AB | 1508 | A | Sidechain |
| 2 | AB | 1511 | G | Sidechain |
| 2 | AB | 1513 | U | Sidechain |
| 2 | AB | 1515 | A | Sidechain |
| 2 | AB | 1516 | G | Sidechain |
| 2 | AB | 1517 | G | Sidechain |
| 2 | AB | 1519 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 1520 | U | Sidechain |
| 2 | AB | 1521 | G | Sidechain |
| 2 | AB | 1522 | A | Sidechain |
| 2 | AB | 1524 | G | Sidechain |
| 2 | AB | 1525 | A | Sidechain |
| 2 | AB | 1527 | G | Sidechain |
| 2 | AB | 153 | U | Sidechain |
| 2 | AB | 1530 | G | Sidechain |
| 2 | AB | 1532 | A | Sidechain |
| 2 | AB | 1534 | U | Sidechain |
| 2 | AB | 1537 | G | Sidechain |
| 2 | AB | 1538 | G | Sidechain |
| 2 | AB | 1540 | G | Sidechain |
| 2 | AB | 1542 | U | Sidechain |
| 2 | AB | 1545 | A | Sidechain |
| 2 | AB | 1546 | G | Sidechain |
| 2 | AB | 1547 | C | Sidechain |
| 2 | AB | 1548 | A | Sidechain |
| 2 | AB | 155 | A | Sidechain |
| 2 | AB | 1554 | U | Sidechain |
| 2 | AB | 1555 | G | Sidechain |
| 2 | AB | 1556 | C | Sidechain |
| 2 | AB | 1559 | U | Sidechain |
| 2 | AB | 1560 | G | Sidechain |
| 2 | AB | 1563 | U | Sidechain |
| 2 | AB | 1565 | C | Sidechain |
| 2 | AB | 1567 | G | Sidechain |
| 2 | AB | 1568 | G | Sidechain |
| 2 | AB | 1569 | A | Sidechain |
| 2 | AB | 157 | C | Sidechain |
| 2 | AB | 1572 | A | Sidechain |
| 2 | AB | 1573 | G | Sidechain |
| 2 | AB | 1575 | C | Sidechain |
| 2 | AB | 1576 | U | Sidechain |
| 2 | AB | 1577 | C | Sidechain |
| 2 | AB | 158 | U | Sidechain |
| 2 | AB | 1581 | G | Sidechain |
| 2 | AB | 1583 | A | Sidechain |
| 2 | AB | 1584 | U | Sidechain |
| 2 | AB | 1585 | C | Sidechain |
| 2 | AB | 1586 | A | Sidechain |
| 2 | AB | 1587 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 1588 | G | Sidechain |
| 2 | AB | 1589 | U | Sidechain |
| 2 | AB | 159 | G | Sidechain |
| 2 | AB | 1593 | A | Sidechain |
| 2 | AB | 1595 | C | Sidechain |
| 2 | AB | 1597 | A | Sidechain |
| 2 | AB | 1598 | A | Sidechain |
| 2 | AB | 1599 | U | Sidechain |
| 2 | AB | 1600 | C | Sidechain |
| 2 | AB | 1601 | G | Sidechain |
| 2 | AB | 1602 | U | Sidechain |
| 2 | AB | 1604 | C | Sidechain |
| 2 | AB | 1605 | C | Sidechain |
| 2 | AB | 1608 | A | Sidechain |
| 2 | AB | 161 | A | Sidechain |
| 2 | AB | 1612 | C | Sidechain |
| 2 | AB | 1613 | G | Sidechain |
| 2 | AB | 1614 | A | Sidechain |
| 2 | AB | 1616 | A | Sidechain |
| 2 | AB | 1619 | G | Sidechain |
| 2 | AB | 1621 | U | Sidechain |
| 2 | AB | 1623 | G | Sidechain |
| 2 | AB | 1626 | A | Sidechain |
| 2 | AB | 1631 | G | Sidechain |
| 2 | AB | 1633 | G | Sidechain |
| 2 | AB | 1635 | A | Sidechain |
| 2 | AB | 1637 | A | Sidechain |
| 2 | AB | 1638 | C | Sidechain |
| 2 | AB | 164 | C | Sidechain |
| 2 | AB | 1640 | A | Sidechain |
| 2 | AB | 1641 | A | Sidechain |
| 2 | AB | 1642 | G | Sidechain |
| 2 | AB | 1644 | C | Sidechain |
| 2 | AB | 1645 | G | Sidechain |
| 2 | AB | 1646 | C | Sidechain |
| 2 | AB | 1648 | U | Sidechain |
| 2 | AB | 1649 | G | Sidechain |
| 2 | AB | 1651 | G | Sidechain |
| 2 | AB | 1653 | G | Sidechain |
| 2 | AB | 1655 | A | Sidechain |
| 2 | AB | 1656 | C | Sidechain |
| 2 | AB | 1657 | U | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 166 | U | Sidechain |
| 2 | AB | 1660 | G | Sidechain |
| 2 | AB | 1664 | A | Sidechain |
| 2 | AB | 1665 | A | Sidechain |
| 2 | AB | 1666 | G | Sidechain |
| 2 | AB | 1667 | G | Sidechain |
| 2 | AB | 1671 | U | Sidechain |
| 2 | AB | 1672 | A | Sidechain |
| 2 | AB | 1673 | G | Sidechain |
| 2 | AB | 1675 | C | Sidechain |
| 2 | AB | 1676 | A | Sidechain |
| 2 | AB | 1677 | A | Sidechain |
| 2 | AB | 1678 | A | Sidechain |
| 2 | AB | 168 | G | Sidechain |
| 2 | AB | 1680 | U | Sidechain |
| 2 | AB | 1682 | G | Sidechain |
| 2 | AB | 1683 | U | Sidechain |
| 2 | AB | 1684 | G | Sidechain |
| 2 | AB | 1685 | C | Sidechain |
| 2 | AB | 1687 | G | Sidechain |
| 2 | AB | 1688 | U | Sidechain |
| 2 | AB | 1689 | A | Sidechain |
| 2 | AB | 169 | G | Sidechain |
| 2 | AB | 1690 | A | Sidechain |
| 2 | AB | 1692 | U | Sidechain |
| 2 | AB | 1694 | C | Sidechain |
| 2 | AB | 1695 | G | Sidechain |
| 2 | AB | 1696 | G | Sidechain |
| 2 | AB | 1699 | G | Sidechain |
| 2 | AB | 170 | U | Sidechain |
| 2 | AB | 1703 | G | Sidechain |
| 2 | AB | 1704 | C | Sidechain |
| 2 | AB | 1705 | A | Sidechain |
| 2 | AB | 1706 | C | Sidechain |
| 2 | AB | 1707 | G | Sidechain |
| 2 | AB | 1708 | C | Sidechain |
| 2 | AB | 1709 | U | Sidechain |
| 2 | AB | 171 | U | Sidechain |
| 2 | AB | 1710 | G | Sidechain |
| 2 | AB | 1712 | U | Sidechain |
| 2 | AB | 1715 | G | Sidechain |
| 2 | AB | 1717 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 1719 | G | Sidechain |
| 2 | AB | 1720 | U | Sidechain |
| 2 | AB | 1722 | A | Sidechain |
| 2 | AB | 1723 | G | Sidechain |
| 2 | AB | 1724 | G | Sidechain |
| 2 | AB | 1727 | C | Sidechain |
| 2 | AB | 1728 | C | Sidechain |
| 2 | AB | 1729 | U | Sidechain |
| 2 | AB | 1733 | G | Sidechain |
| 2 | AB | 1734 | G | Sidechain |
| 2 | AB | 1736 | U | Sidechain |
| 2 | AB | 1737 | G | Sidechain |
| 2 | AB | 1738 | G | Sidechain |
| 2 | AB | 1740 | G | Sidechain |
| 2 | AB | 1741 | C | Sidechain |
| 2 | AB | 1742 | U | Sidechain |
| 2 | AB | 1745 | A | Sidechain |
| 2 | AB | 1750 | G | Sidechain |
| 2 | AB | 1751 | U | Sidechain |
| 2 | AB | 1752 | C | Sidechain |
| 2 | AB | 1753 | G | Sidechain |
| 2 | AB | 1754 | A | Sidechain |
| 2 | AB | 1756 | G | Sidechain |
| 2 | AB | 1757 | A | Sidechain |
| 2 | AB | 1758 | U | Sidechain |
| 2 | AB | 1759 | A | Sidechain |
| 2 | AB | 176 | A | Sidechain |
| 2 | AB | 1761 | C | Sidechain |
| 2 | AB | 1763 | G | Sidechain |
| 2 | AB | 1764 | C | Sidechain |
| 2 | AB | 1767 | G | Sidechain |
| 2 | AB | 1769 | U | Sidechain |
| 2 | AB | 177 | G | Sidechain |
| 2 | AB | 1771 | C | Sidechain |
| 2 | AB | 1772 | A | Sidechain |
| 2 | AB | 1774 | C | Sidechain |
| 2 | AB | 1775 | U | Sidechain |
| 2 | AB | 1778 | U | Sidechain |
| 2 | AB | 178 | G | Sidechain |
| 2 | AB | 1780 | A | Sidechain |
| 2 | AB | 1782 | U | Sidechain |
| 2 | AB | 1784 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 1785 | A | Sidechain |
| 2 | AB | 1786 | A | Sidechain |
| 2 | AB | 1788 | C | Sidechain |
| 2 | AB | 1789 | A | Sidechain |
| 2 | AB | 179 | C | Sidechain |
| 2 | AB | 1792 | G | Sidechain |
| 2 | AB | 1793 | C | Sidechain |
| 2 | AB | 1797 | G | Sidechain |
| 2 | AB | 1799 | G | Sidechain |
| 2 | AB | 180 | G | Sidechain |
| 2 | AB | 1801 | A | Sidechain |
| 2 | AB | 1802 | A | Sidechain |
| 2 | AB | 1808 | A | Sidechain |
| 2 | AB | 1809 | A | Sidechain |
| 2 | AB | 181 | A | Sidechain |
| 2 | AB | 1810 | A | Sidechain |
| 2 | AB | 1814 | G | Sidechain |
| 2 | AB | 1815 | A | Sidechain |
| 2 | AB | 1817 | G | Sidechain |
| 2 | AB | 182 | A | Sidechain |
| 2 | AB | 1820 | U | Sidechain |
| 2 | AB | 1822 | C | Sidechain |
| 2 | AB | 1823 | G | Sidechain |
| 2 | AB | 1826 | G | Sidechain |
| 2 | AB | 1828 | G | Sidechain |
| 2 | AB | 1830 | C | Sidechain |
| 2 | AB | 1832 | C | Sidechain |
| 2 | AB | 1834 | U | Sidechain |
| 2 | AB | 1836 | C | Sidechain |
| 2 | AB | 1837 | C | Sidechain |
| 2 | AB | 1838 | C | Sidechain |
| 2 | AB | 1840 | G | Sidechain |
| 2 | AB | 1841 | U | Sidechain |
| 2 | AB | 1845 | G | Sidechain |
| 2 | AB | 1846 | G | Sidechain |
| 2 | AB | 1847 | A | Sidechain |
| 2 | AB | 1848 | A | Sidechain |
| 2 | AB | 1849 | G | Sidechain |
| 2 | AB | 1851 | U | Sidechain |
| 2 | AB | 1852 | U | Sidechain |
| 2 | AB | 1853 | A | Sidechain |
| 2 | AB | 1857 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 1858 | A | Sidechain |
| 2 | AB | 186 | G | Sidechain |
| 2 | AB | 1861 | G | Sidechain |
| 2 | AB | 1862 | G | Sidechain |
| 2 | AB | 1863 | G | Sidechain |
| 2 | AB | 1864 | U | Sidechain |
| 2 | AB | 1866 | A | Sidechain |
| 2 | AB | 1869 | G | Sidechain |
| 2 | AB | 1873 | G | Sidechain |
| 2 | AB | 1874 | C | Sidechain |
| 2 | AB | 1875 | G | Sidechain |
| 2 | AB | 1877 | A | Sidechain |
| 2 | AB | 1879 | C | Sidechain |
| 2 | AB | 188 | G | Sidechain |
| 2 | AB | 1883 | U | Sidechain |
| 2 | AB | 1887 | C | Sidechain |
| 2 | AB | 1889 | A | Sidechain |
| 2 | AB | 1890 | A | Sidechain |
| 2 | AB | 1891 | G | Sidechain |
| 2 | AB | 1892 | C | Sidechain |
| 2 | AB | 1897 | G | Sidechain |
| 2 | AB | 1899 | A | Sidechain |
| 2 | AB | 190 | A | Sidechain |
| 2 | AB | 1900 | A | Sidechain |
| 2 | AB | 1904 | G | Sidechain |
| 2 | AB | 1906 | G | Sidechain |
| 2 | AB | 1907 | G | Sidechain |
| 2 | AB | 1909 | C | Sidechain |
| 2 | AB | 1910 | G | Sidechain |
| 2 | AB | 1912 | A | Sidechain |
| 2 | AB | 1913 | A | Sidechain |
| 2 | AB | 1914 | C | Sidechain |
| 2 | AB | 1916 | A | Sidechain |
| 2 | AB | 1919 | A | Sidechain |
| 2 | AB | 1920 | C | Sidechain |
| 2 | AB | 1921 | G | Sidechain |
| 2 | AB | 1927 | A | Sidechain |
| 2 | AB | 1928 | A | Sidechain |
| 2 | AB | 1929 | G | Sidechain |
| 2 | AB | 1930 | G | Sidechain |
| 2 | AB | 1934 | C | Sidechain |
| 2 | AB | 1935 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 1937 | A | Sidechain |
| 2 | AB | 1938 | A | Sidechain |
| 2 | AB | 194 | G | Sidechain |
| 2 | AB | 1940 | U | Sidechain |
| 2 | AB | 1941 | C | Sidechain |
| 2 | AB | 1945 | G | Sidechain |
| 2 | AB | 1946 | U | Sidechain |
| 2 | AB | 1947 | C | Sidechain |
| 2 | AB | 1948 | G | Sidechain |
| 2 | AB | 195 | A | Sidechain |
| 2 | AB | 1955 | U | Sidechain |
| 2 | AB | 1959 | G | Sidechain |
| 2 | AB | 196 | A | Sidechain |
| 2 | AB | 1960 | A | Sidechain |
| 2 | AB | 1961 | C | Sidechain |
| 2 | AB | 1963 | U | Sidechain |
| 2 | AB | 1966 | A | Sidechain |
| 2 | AB | 1971 | U | Sidechain |
| 2 | AB | 1973 | G | Sidechain |
| 2 | AB | 1974 | C | Sidechain |
| 2 | AB | 1976 | U | Sidechain |
| 2 | AB | 1979 | U | Sidechain |
| 2 | AB | 1980 | G | Sidechain |
| 2 | AB | 1982 | U | Sidechain |
| 2 | AB | 1983 | G | Sidechain |
| 2 | AB | 1984 | G | Sidechain |
| 2 | AB | 1985 | C | Sidechain |
| 2 | AB | 1987 | A | Sidechain |
| 2 | AB | 1988 | G | Sidechain |
| 2 | AB | 199 | A | Sidechain |
| 2 | AB | 1991 | U | Sidechain |
| 2 | AB | 1994 | C | Sidechain |
| 2 | AB | 1995 | U | Sidechain |
| 2 | AB | 1996 | C | Sidechain |
| 2 | AB | 2 | G | Sidechain |
| 2 | AB | 20 | C | Sidechain |
| 2 | AB | 2000 | C | Sidechain |
| 2 | AB | 2002 | G | Sidechain |
| 2 | AB | 2004 | G | Sidechain |
| 2 | AB | 2005 | A | Sidechain |
| 2 | AB | 2006 | C | Sidechain |
| 2 | AB | 2007 | U | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 2008 | C | Sidechain |
| 2 | AB | 2009 | A | Sidechain |
| 2 | AB | 2010 | G | Sidechain |
| 2 | AB | 2011 | U | Sidechain |
| 2 | AB | 2014 | A | Sidechain |
| 2 | AB | 2015 | A | Sidechain |
| 2 | AB | 2016 | U | Sidechain |
| 2 | AB | 2018 | G | Sidechain |
| 2 | AB | 2019 | A | Sidechain |
| 2 | AB | 202 | U | Sidechain |
| 2 | AB | 2022 | U | Sidechain |
| 2 | AB | 2026 | U | Sidechain |
| 2 | AB | 2027 | G | Sidechain |
| 2 | AB | 2028 | U | Sidechain |
| 2 | AB | 2029 | G | Sidechain |
| 2 | AB | 2033 | A | Sidechain |
| 2 | AB | 2034 | U | Sidechain |
| 2 | AB | 2035 | G | Sidechain |
| 2 | AB | 2038 | G | Sidechain |
| 2 | AB | 2039 | U | Sidechain |
| 2 | AB | 204 | A | Sidechain |
| 2 | AB | 2040 | G | Sidechain |
| 2 | AB | 2042 | A | Sidechain |
| 2 | AB | 2043 | C | Sidechain |
| 2 | AB | 2044 | C | Sidechain |
| 2 | AB | 2047 | C | Sidechain |
| 2 | AB | 2048 | G | Sidechain |
| 2 | AB | 2049 | G | Sidechain |
| 2 | AB | 205 | G | Sidechain |
| 2 | AB | 2053 | G | Sidechain |
| 2 | AB | 2054 | A | Sidechain |
| 2 | AB | 2055 | C | Sidechain |
| 2 | AB | 2056 | G | Sidechain |
| 2 | AB | 2058 | A | Sidechain |
| 2 | AB | 2059 | A | Sidechain |
| 2 | AB | 206 | U | Sidechain |
| 2 | AB | 2060 | A | Sidechain |
| 2 | AB | 2062 | A | Sidechain |
| 2 | AB | 2066 | C | Sidechain |
| 2 | AB | 2067 | G | Sidechain |
| 2 | AB | 2068 | U | Sidechain |
| 2 | AB | 207 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 2072 | C | Sidechain |
| 2 | AB | 2075 | U | Sidechain |
| 2 | AB | 2076 | U | Sidechain |
| 2 | AB | 2079 | U | Sidechain |
| 2 | AB | 208 | C | Sidechain |
| 2 | AB | 2083 | G | Sidechain |
| 2 | AB | 2084 | C | Sidechain |
| 2 | AB | 2085 | U | Sidechain |
| 2 | AB | 2087 | G | Sidechain |
| 2 | AB | 2090 | A | Sidechain |
| 2 | AB | 2092 | U | Sidechain |
| 2 | AB | 2093 | G | Sidechain |
| 2 | AB | 2094 | A | Sidechain |
| 2 | AB | 2097 | A | Sidechain |
| 2 | AB | 2099 | U | Sidechain |
| 2 | AB | 2101 | A | Sidechain |
| 2 | AB | 2102 | G | Sidechain |
| 2 | AB | 2106 | U | Sidechain |
| 2 | AB | 2107 | G | Sidechain |
| 2 | AB | 2109 | U | Sidechain |
| 2 | AB | 2110 | G | Sidechain |
| 2 | AB | 2111 | U | Sidechain |
| 2 | AB | 2112 | G | Sidechain |
| 2 | AB | 2113 | U | Sidechain |
| 2 | AB | 2114 | A | Sidechain |
| 2 | AB | 2115 | G | Sidechain |
| 2 | AB | 2116 | G | Sidechain |
| 2 | AB | 212 | G | Sidechain |
| 2 | AB | 2120 | G | Sidechain |
| 2 | AB | 2122 | U | Sidechain |
| 2 | AB | 2123 | G | Sidechain |
| 2 | AB | 2124 | G | Sidechain |
| 2 | AB | 2125 | G | Sidechain |
| 2 | AB | 2126 | A | Sidechain |
| 2 | AB | 2127 | G | Sidechain |
| 2 | AB | 2128 | G | Sidechain |
| 2 | AB | 2129 | C | Sidechain |
| 2 | AB | 213 | A | Sidechain |
| 2 | AB | 2130 | U | Sidechain |
| 2 | AB | 2133 | G | Sidechain |
| 2 | AB | 2135 | A | Sidechain |
| 2 | AB | 2136 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 2137 | U | Sidechain |
| 2 | AB | 2140 | G | Sidechain |
| 2 | AB | 2141 | G | Sidechain |
| 2 | AB | 2144 | G | Sidechain |
| 2 | AB | 2145 | C | Sidechain |
| 2 | AB | 2148 | G | Sidechain |
| 2 | AB | 2149 | U | Sidechain |
| 2 | AB | 215 | G | Sidechain |
| 2 | AB | 2153 | C | Sidechain |
| 2 | AB | 2154 | A | Sidechain |
| 2 | AB | 2155 | U | Sidechain |
| 2 | AB | 2157 | G | Sidechain |
| 2 | AB | 2159 | G | Sidechain |
| 2 | AB | 2160 | C | Sidechain |
| 2 | AB | 2161 | C | Sidechain |
| 2 | AB | 2164 | C | Sidechain |
| 2 | AB | 2165 | C | Sidechain |
| 2 | AB | 2166 | U | Sidechain |
| 2 | AB | 2167 | U | Sidechain |
| 2 | AB | 2168 | G | Sidechain |
| 2 | AB | 2169 | A | Sidechain |
| 2 | AB | 217 | A | Sidechain |
| 2 | AB | 2170 | A | Sidechain |
| 2 | AB | 2171 | A | Sidechain |
| 2 | AB | 2172 | U | Sidechain |
| 2 | AB | 2175 | C | Sidechain |
| 2 | AB | 2176 | A | Sidechain |
| 2 | AB | 2178 | C | Sidechain |
| 2 | AB | 2179 | C | Sidechain |
| 2 | AB | 2184 | A | Sidechain |
| 2 | AB | 2185 | U | Sidechain |
| 2 | AB | 2186 | G | Sidechain |
| 2 | AB | 2187 | U | Sidechain |
| 2 | AB | 219 | A | Sidechain |
| 2 | AB | 2190 | G | Sidechain |
| 2 | AB | 2191 | A | Sidechain |
| 2 | AB | 2194 | U | Sidechain |
| 2 | AB | 2196 | C | Sidechain |
| 2 | AB | 2197 | U | Sidechain |
| 2 | AB | 2198 | A | Sidechain |
| 2 | AB | 220 | G | Sidechain |
| 2 | AB | 2200 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 2201 | G | Sidechain |
| 2 | AB | 2203 | U | Sidechain |
| 2 | AB | 2204 | G | Sidechain |
| 2 | AB | 2206 | C | Sidechain |
| 2 | AB | 2209 | G | Sidechain |
| 2 | AB | 2210 | U | Sidechain |
| 2 | AB | 2211 | A | Sidechain |
| 2 | AB | 2212 | A | Sidechain |
| 2 | AB | 2213 | U | Sidechain |
| 2 | AB | 2214 | C | Sidechain |
| 2 | AB | 2218 | G | Sidechain |
| 2 | AB | 222 | A | Sidechain |
| 2 | AB | 2220 | U | Sidechain |
| 2 | AB | 2221 | G | Sidechain |
| 2 | AB | 2222 | C | Sidechain |
| 2 | AB | 2227 | A | Sidechain |
| 2 | AB | 2228 | G | Sidechain |
| 2 | AB | 2230 | G | Sidechain |
| 2 | AB | 2233 | U | Sidechain |
| 2 | AB | 2234 | G | Sidechain |
| 2 | AB | 2235 | G | Sidechain |
| 2 | AB | 2237 | G | Sidechain |
| 2 | AB | 2238 | G | Sidechain |
| 2 | AB | 2239 | G | Sidechain |
| 2 | AB | 2241 | A | Sidechain |
| 2 | AB | 2243 | U | Sidechain |
| 2 | AB | 2244 | U | Sidechain |
| 2 | AB | 2245 | U | Sidechain |
| 2 | AB | 2246 | G | Sidechain |
| 2 | AB | 2249 | U | Sidechain |
| 2 | AB | 2250 | G | Sidechain |
| 2 | AB | 2252 | G | Sidechain |
| 2 | AB | 2253 | G | Sidechain |
| 2 | AB | 2254 | C | Sidechain |
| 2 | AB | 2255 | G | Sidechain |
| 2 | AB | 2256 | G | Sidechain |
| 2 | AB | 2258 | C | Sidechain |
| 2 | AB | 2259 | U | Sidechain |
| 2 | AB | 226 | A | Sidechain |
| 2 | AB | 2260 | C | Sidechain |
| 2 | AB | 2261 | C | Sidechain |
| 2 | AB | 2263 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 2264 | C | Sidechain |
| 2 | AB | 2265 | U | Sidechain |
| 2 | AB | 2267 | A | Sidechain |
| 2 | AB | 2268 | A | Sidechain |
| 2 | AB | 2269 | G | Sidechain |
| 2 | AB | 2271 | G | Sidechain |
| 2 | AB | 2272 | U | Sidechain |
| 2 | AB | 2273 | A | Sidechain |
| 2 | AB | 2274 | A | Sidechain |
| 2 | AB | 2276 | G | Sidechain |
| 2 | AB | 228 | C | Sidechain |
| 2 | AB | 2281 | A | Sidechain |
| 2 | AB | 2282 | G | Sidechain |
| 2 | AB | 2285 | C | Sidechain |
| 2 | AB | 2286 | G | Sidechain |
| 2 | AB | 2288 | A | Sidechain |
| 2 | AB | 2292 | U | Sidechain |
| 2 | AB | 2294 | G | Sidechain |
| 2 | AB | 2295 | C | Sidechain |
| 2 | AB | 2296 | U | Sidechain |
| 2 | AB | 2297 | A | Sidechain |
| 2 | AB | 23 | G | Sidechain |
| 2 | AB | 230 | G | Sidechain |
| 2 | AB | 2301 | C | Sidechain |
| 2 | AB | 2302 | U | Sidechain |
| 2 | AB | 2303 | G | Sidechain |
| 2 | AB | 2304 | G | Sidechain |
| 2 | AB | 2305 | U | Sidechain |
| 2 | AB | 2306 | C | Sidechain |
| 2 | AB | 231 | A | Sidechain |
| 2 | AB | 2313 | C | Sidechain |
| 2 | AB | 2315 | G | Sidechain |
| 2 | AB | 2317 | A | Sidechain |
| 2 | AB | 2318 | G | Sidechain |
| 2 | AB | 2319 | G | Sidechain |
| 2 | AB | 232 | G | Sidechain |
| 2 | AB | 2321 | U | Sidechain |
| 2 | AB | 2322 | A | Sidechain |
| 2 | AB | 2323 | G | Sidechain |
| 2 | AB | 2324 | U | Sidechain |
| 2 | AB | 2325 | G | Sidechain |
| 2 | AB | 2326 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 2327 | A | Sidechain |
| 2 | AB | 2328 | A | Sidechain |
| 2 | AB | 233 | A | Sidechain |
| 2 | AB | 2331 | G | Sidechain |
| 2 | AB | 2334 | U | Sidechain |
| 2 | AB | 2335 | A | Sidechain |
| 2 | AB | 2337 | G | Sidechain |
| 2 | AB | 2339 | C | Sidechain |
| 2 | AB | 234 | U | Sidechain |
| 2 | AB | 2340 | A | Sidechain |
| 2 | AB | 2342 | C | Sidechain |
| 2 | AB | 2343 | U | Sidechain |
| 2 | AB | 2344 | U | Sidechain |
| 2 | AB | 2345 | G | Sidechain |
| 2 | AB | 2346 | A | Sidechain |
| 2 | AB | 2347 | C | Sidechain |
| 2 | AB | 2348 | U | Sidechain |
| 2 | AB | 2349 | G | Sidechain |
| 2 | AB | 235 | U | Sidechain |
| 2 | AB | 2353 | G | Sidechain |
| 2 | AB | 2355 | G | Sidechain |
| 2 | AB | 2357 | G | Sidechain |
| 2 | AB | 2360 | G | Sidechain |
| 2 | AB | 2361 | G | Sidechain |
| 2 | AB | 2363 | G | Sidechain |
| 2 | AB | 2364 | C | Sidechain |
| 2 | AB | 2365 | G | Sidechain |
| 2 | AB | 2367 | G | Sidechain |
| 2 | AB | 2371 | G | Sidechain |
| 2 | AB | 2372 | U | Sidechain |
| 2 | AB | 2373 | G | Sidechain |
| 2 | AB | 2374 | C | Sidechain |
| 2 | AB | 2375 | G | Sidechain |
| 2 | AB | 2379 | G | Sidechain |
| 2 | AB | 2382 | G | Sidechain |
| 2 | AB | 2383 | G | Sidechain |
| 2 | AB | 2384 | U | Sidechain |
| 2 | AB | 2388 | A | Sidechain |
| 2 | AB | 2389 | G | Sidechain |
| 2 | AB | 2390 | U | Sidechain |
| 2 | AB | 2391 | G | Sidechain |
| 2 | AB | 2393 | U | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 2397 | G | Sidechain |
| 2 | AB | 2398 | U | Sidechain |
| 2 | AB | 24 | G | Sidechain |
| 2 | AB | 240 | C | Sidechain |
| 2 | AB | 2401 | U | Sidechain |
| 2 | AB | 2405 | G | Sidechain |
| 2 | AB | 2411 | A | Sidechain |
| 2 | AB | 2412 | A | Sidechain |
| 2 | AB | 2413 | G | Sidechain |
| 2 | AB | 2415 | G | Sidechain |
| 2 | AB | 2416 | C | Sidechain |
| 2 | AB | 2417 | C | Sidechain |
| 2 | AB | 242 | G | Sidechain |
| 2 | AB | 2420 | C | Sidechain |
| 2 | AB | 2421 | G | Sidechain |
| 2 | AB | 2423 | U | Sidechain |
| 2 | AB | 2425 | A | Sidechain |
| 2 | AB | 2426 | A | Sidechain |
| 2 | AB | 2428 | G | Sidechain |
| 2 | AB | 2430 | A | Sidechain |
| 2 | AB | 2431 | U | Sidechain |
| 2 | AB | 2432 | A | Sidechain |
| 2 | AB | 2433 | A | Sidechain |
| 2 | AB | 2434 | A | Sidechain |
| 2 | AB | 2435 | A | Sidechain |
| 2 | AB | 2436 | G | Sidechain |
| 2 | AB | 2439 | A | Sidechain |
| 2 | AB | 2440 | C | Sidechain |
| 2 | AB | 2441 | U | Sidechain |
| 2 | AB | 2442 | C | Sidechain |
| 2 | AB | 2444 | G | Sidechain |
| 2 | AB | 2446 | G | Sidechain |
| 2 | AB | 2453 | A | Sidechain |
| 2 | AB | 2455 | G | Sidechain |
| 2 | AB | 2456 | C | Sidechain |
| 2 | AB | 2458 | G | Sidechain |
| 2 | AB | 2459 | A | Sidechain |
| 2 | AB | 2461 | A | Sidechain |
| 2 | AB | 2462 | C | Sidechain |
| 2 | AB | 2465 | C | Sidechain |
| 2 | AB | 2467 | C | Sidechain |
| 2 | AB | 2469 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 247 | G | Sidechain |
| 2 | AB | 2471 | A | Sidechain |
| 2 | AB | 2472 | G | Sidechain |
| 2 | AB | 2474 | U | Sidechain |
| 2 | AB | 2475 | C | Sidechain |
| 2 | AB | 2476 | A | Sidechain |
| 2 | AB | 2477 | U | Sidechain |
| 2 | AB | 2479 | U | Sidechain |
| 2 | AB | 248 | G | Sidechain |
| 2 | AB | 2482 | A | Sidechain |
| 2 | AB | 2484 | G | Sidechain |
| 2 | AB | 2485 | G | Sidechain |
| 2 | AB | 2487 | G | Sidechain |
| 2 | AB | 2488 | G | Sidechain |
| 2 | AB | 2489 | U | Sidechain |
| 2 | AB | 2490 | G | Sidechain |
| 2 | AB | 2492 | U | Sidechain |
| 2 | AB | 2493 | U | Sidechain |
| 2 | AB | 2495 | G | Sidechain |
| 2 | AB | 25 | U | Sidechain |
| 2 | AB | 250 | G | Sidechain |
| 2 | AB | 2500 | U | Sidechain |
| 2 | AB | 2502 | G | Sidechain |
| 2 | AB | 2505 | G | Sidechain |
| 2 | AB | 2506 | U | Sidechain |
| 2 | AB | 2508 | G | Sidechain |
| 2 | AB | 251 | A | Sidechain |
| 2 | AB | 2511 | U | Sidechain |
| 2 | AB | 2512 | C | Sidechain |
| 2 | AB | 2513 | A | Sidechain |
| 2 | AB | 2515 | C | Sidechain |
| 2 | AB | 2518 | A | Sidechain |
| 2 | AB | 252 | G | Sidechain |
| 2 | AB | 2520 | C | Sidechain |
| 2 | AB | 2522 | U | Sidechain |
| 2 | AB | 2523 | G | Sidechain |
| 2 | AB | 2525 | G | Sidechain |
| 2 | AB | 2528 | U | Sidechain |
| 2 | AB | 2529 | G | Sidechain |
| 2 | AB | 2531 | A | Sidechain |
| 2 | AB | 2532 | G | Sidechain |
| 2 | AB | 2533 | U | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 2535 | G | Sidechain |
| 2 | AB | 2536 | G | Sidechain |
| 2 | AB | 2537 | U | Sidechain |
| 2 | AB | 254 | G | Sidechain |
| 2 | AB | 2541 | A | Sidechain |
| 2 | AB | 2545 | G | Sidechain |
| 2 | AB | 255 | A | Sidechain |
| 2 | AB | 2550 | G | Sidechain |
| 2 | AB | 2553 | G | Sidechain |
| 2 | AB | 2555 | U | Sidechain |
| 2 | AB | 2556 | C | Sidechain |
| 2 | AB | 2557 | G | Sidechain |
| 2 | AB | 2559 | C | Sidechain |
| 2 | AB | 256 | A | Sidechain |
| 2 | AB | 2561 | U | Sidechain |
| 2 | AB | 2562 | U | Sidechain |
| 2 | AB | 2563 | U | Sidechain |
| 2 | AB | 2566 | A | Sidechain |
| 2 | AB | 2567 | G | Sidechain |
| 2 | AB | 2568 | U | Sidechain |
| 2 | AB | 257 | C | Sidechain |
| 2 | AB | 2571 | U | Sidechain |
| 2 | AB | 2572 | A | Sidechain |
| 2 | AB | 2573 | C | Sidechain |
| 2 | AB | 2576 | G | Sidechain |
| 2 | AB | 2578 | G | Sidechain |
| 2 | AB | 2579 | C | Sidechain |
| 2 | AB | 258 | G | Sidechain |
| 2 | AB | 2581 | G | Sidechain |
| 2 | AB | 2582 | G | Sidechain |
| 2 | AB | 2583 | G | Sidechain |
| 2 | AB | 2584 | U | Sidechain |
| 2 | AB | 2585 | U | Sidechain |
| 2 | AB | 2586 | U | Sidechain |
| 2 | AB | 2588 | G | Sidechain |
| 2 | AB | 2591 | C | Sidechain |
| 2 | AB | 2592 | G | Sidechain |
| 2 | AB | 2593 | U | Sidechain |
| 2 | AB | 2595 | G | Sidechain |
| 2 | AB | 2596 | U | Sidechain |
| 2 | AB | 2598 | A | Sidechain |
| 2 | AB | 2599 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 2600 | A | Sidechain |
| 2 | AB | 2601 | C | Sidechain |
| 2 | AB | 2607 | G | Sidechain |
| 2 | AB | 2608 | G | Sidechain |
| 2 | AB | 2609 | U | Sidechain |
| 2 | AB | 261 | G | Sidechain |
| 2 | AB | 2613 | U | Sidechain |
| 2 | AB | 2614 | A | Sidechain |
| 2 | AB | 2616 | C | Sidechain |
| 2 | AB | 2618 | G | Sidechain |
| 2 | AB | 262 | A | Sidechain |
| 2 | AB | 2621 | G | Sidechain |
| 2 | AB | 2623 | G | Sidechain |
| 2 | AB | 2624 | G | Sidechain |
| 2 | AB | 2625 | G | Sidechain |
| 2 | AB | 2627 | G | Sidechain |
| 2 | AB | 2628 | C | Sidechain |
| 2 | AB | 2629 | U | Sidechain |
| 2 | AB | 263 | G | Sidechain |
| 2 | AB | 2630 | G | Sidechain |
| 2 | AB | 2631 | G | Sidechain |
| 2 | AB | 2632 | A | Sidechain |
| 2 | AB | 2634 | A | Sidechain |
| 2 | AB | 2635 | A | Sidechain |
| 2 | AB | 2637 | U | Sidechain |
| 2 | AB | 2639 | A | Sidechain |
| 2 | AB | 2641 | G | Sidechain |
| 2 | AB | 2644 | G | Sidechain |
| 2 | AB | 2645 | G | Sidechain |
| 2 | AB | 2647 | U | Sidechain |
| 2 | AB | 2655 | G | Sidechain |
| 2 | AB | 2656 | U | Sidechain |
| 2 | AB | 2659 | G | Sidechain |
| 2 | AB | 2661 | G | Sidechain |
| 2 | AB | 2662 | A | Sidechain |
| 2 | AB | 2664 | G | Sidechain |
| 2 | AB | 2665 | A | Sidechain |
| 2 | AB | 2667 | C | Sidechain |
| 2 | AB | 2668 | G | Sidechain |
| 2 | AB | 2669 | G | Sidechain |
| 2 | AB | 2673 | G | Sidechain |
| 2 | AB | 2677 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 268 | C | Sidechain |
| 2 | AB | 2680 | U | Sidechain |
| 2 | AB | 2681 | C | Sidechain |
| 2 | AB | 2682 | A | Sidechain |
| 2 | AB | 2683 | C | Sidechain |
| 2 | AB | 2684 | U | Sidechain |
| 2 | AB | 2685 | G | Sidechain |
| 2 | AB | 2686 | G | Sidechain |
| 2 | AB | 2689 | U | Sidechain |
| 2 | AB | 269 | C | Sidechain |
| 2 | AB | 2690 | U | Sidechain |
| 2 | AB | 2692 | G | Sidechain |
| 2 | AB | 2694 | G | Sidechain |
| 2 | AB | 2698 | U | Sidechain |
| 2 | AB | 27 | G | Sidechain |
| 2 | AB | 270 | A | Sidechain |
| 2 | AB | 2702 | G | Sidechain |
| 2 | AB | 2703 | C | Sidechain |
| 2 | AB | 2704 | C | Sidechain |
| 2 | AB | 2705 | A | Sidechain |
| 2 | AB | 2708 | G | Sidechain |
| 2 | AB | 271 | G | Sidechain |
| 2 | AB | 2710 | C | Sidechain |
| 2 | AB | 2713 | U | Sidechain |
| 2 | AB | 2714 | G | Sidechain |
| 2 | AB | 2715 | C | Sidechain |
| 2 | AB | 2717 | C | Sidechain |
| 2 | AB | 2718 | G | Sidechain |
| 2 | AB | 2719 | G | Sidechain |
| 2 | AB | 2722 | G | Sidechain |
| 2 | AB | 2723 | C | Sidechain |
| 2 | AB | 2724 | U | Sidechain |
| 2 | AB | 2725 | A | Sidechain |
| 2 | AB | 2727 | A | Sidechain |
| 2 | AB | 2728 | U | Sidechain |
| 2 | AB | 2729 | G | Sidechain |
| 2 | AB | 273 | G | Sidechain |
| 2 | AB | 2731 | G | Sidechain |
| 2 | AB | 2732 | G | Sidechain |
| 2 | AB | 2733 | A | Sidechain |
| 2 | AB | 2735 | G | Sidechain |
| 2 | AB | 2737 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 2739 | U | Sidechain |
| 2 | AB | 274 | C | Sidechain |
| 2 | AB | 2740 | A | Sidechain |
| 2 | AB | 2741 | A | Sidechain |
| 2 | AB | 2742 | G | Sidechain |
| 2 | AB | 2743 | U | Sidechain |
| 2 | AB | 2746 | U | Sidechain |
| 2 | AB | 2747 | G | Sidechain |
| 2 | AB | 2749 | A | Sidechain |
| 2 | AB | 2752 | C | Sidechain |
| 2 | AB | 2753 | A | Sidechain |
| 2 | AB | 2755 | C | Sidechain |
| 2 | AB | 2759 | G | Sidechain |
| 2 | AB | 276 | U | Sidechain |
| 2 | AB | 2760 | C | Sidechain |
| 2 | AB | 2764 | A | Sidechain |
| 2 | AB | 2765 | A | Sidechain |
| 2 | AB | 2766 | A | Sidechain |
| 2 | AB | 2767 | C | Sidechain |
| 2 | AB | 2768 | U | Sidechain |
| 2 | AB | 2769 | U | Sidechain |
| 2 | AB | 2772 | C | Sidechain |
| 2 | AB | 2774 | C | Sidechain |
| 2 | AB | 2775 | G | Sidechain |
| 2 | AB | 2777 | G | Sidechain |
| 2 | AB | 2779 | U | Sidechain |
| 2 | AB | 2781 | A | Sidechain |
| 2 | AB | 2782 | G | Sidechain |
| 2 | AB | 2783 | U | Sidechain |
| 2 | AB | 2787 | C | Sidechain |
| 2 | AB | 279 | A | Sidechain |
| 2 | AB | 2792 | A | Sidechain |
| 2 | AB | 2793 | C | Sidechain |
| 2 | AB | 2796 | U | Sidechain |
| 2 | AB | 2797 | U | Sidechain |
| 2 | AB | 2798 | U | Sidechain |
| 2 | AB | 2800 | A | Sidechain |
| 2 | AB | 2802 | G | Sidechain |
| 2 | AB | 2808 | G | Sidechain |
| 2 | AB | 2809 | A | Sidechain |
| 2 | AB | 281 | C | Sidechain |
| 2 | AB | 2810 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 2811 | G | Sidechain |
| 2 | AB | 2812 | G | Sidechain |
| 2 | AB | 2813 | A | Sidechain |
| 2 | AB | 2814 | A | Sidechain |
| 2 | AB | 2815 | C | Sidechain |
| 2 | AB | 2816 | G | Sidechain |
| 2 | AB | 2818 | U | Sidechain |
| 2 | AB | 2819 | G | Sidechain |
| 2 | AB | 282 | A | Sidechain |
| 2 | AB | 2821 | A | Sidechain |
| 2 | AB | 2824 | C | Sidechain |
| 2 | AB | 2827 | C | Sidechain |
| 2 | AB | 2828 | G | Sidechain |
| 2 | AB | 283 | G | Sidechain |
| 2 | AB | 2830 | C | Sidechain |
| 2 | AB | 2831 | G | Sidechain |
| 2 | AB | 2832 | U | Sidechain |
| 2 | AB | 2834 | G | Sidechain |
| 2 | AB | 2836 | U | Sidechain |
| 2 | AB | 2838 | G | Sidechain |
| 2 | AB | 2839 | G | Sidechain |
| 2 | AB | 2843 | G | Sidechain |
| 2 | AB | 2844 | G | Sidechain |
| 2 | AB | 2845 | U | Sidechain |
| 2 | AB | 2846 | G | Sidechain |
| 2 | AB | 2848 | G | Sidechain |
| 2 | AB | 2849 | U | Sidechain |
| 2 | AB | 285 | G | Sidechain |
| 2 | AB | 2852 | G | Sidechain |
| 2 | AB | 2853 | C | Sidechain |
| 2 | AB | 2854 | G | Sidechain |
| 2 | AB | 2857 | G | Sidechain |
| 2 | AB | 2858 | C | Sidechain |
| 2 | AB | 2859 | G | Sidechain |
| 2 | AB | 286 | U | Sidechain |
| 2 | AB | 2860 | A | Sidechain |
| 2 | AB | 2866 | U | Sidechain |
| 2 | AB | 2868 | A | Sidechain |
| 2 | AB | 2869 | G | Sidechain |
| 2 | AB | 2871 | U | Sidechain |
| 2 | AB | 2874 | C | Sidechain |
| 2 | AB | 2875 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 2 | AB | 2876 | G | Sidechain |
| 2 | AB | 2877 | G | Sidechain |
| 2 | AB | 2878 | U | Sidechain |
| 2 | AB | 2879 | A | Sidechain |
| 2 | AB | 288 | U | Sidechain |
| 2 | AB | 2880 | C | Sidechain |
| 2 | AB | 2881 | U | Sidechain |
| 2 | AB | 2885 | G | Sidechain |
| 2 | AB | 2886 | A | Sidechain |
| 2 | AB | 2887 | A | Sidechain |
| 2 | AB | 289 | G | Sidechain |
| 2 | AB | 2890 | G | Sidechain |
| 2 | AB | 2891 | U | Sidechain |
| 2 | AB | 2892 | G | Sidechain |
| 2 | AB | 2893 | A | Sidechain |
| 2 | AB | 2894 | G | Sidechain |
| 2 | AB | 2896 | C | Sidechain |
| 2 | AB | 2899 | A | Sidechain |
| 2 | AB | 29 | U | Sidechain |
| 2 | AB | 2902 | C | Sidechain |
| 2 | AB | 2903 | U | Sidechain |
| 2 | AB | 2904 | U | Sidechain |
| 2 | AB | 291 | G | Sidechain |
| 2 | AB | 293 | U | Sidechain |
| 2 | AB | 295 | G | Sidechain |
| 2 | AB | 296 | U | Sidechain |
| 2 | AB | 297 | G | Sidechain |
| 2 | AB | 299 | A | Sidechain |
| 2 | AB | 3 | U | Sidechain |
| 2 | AB | 30 | G | Sidechain |
| 2 | AB | 300 | A | Sidechain |
| 2 | AB | 301 | G | Sidechain |
| 2 | AB | 303 | G | Sidechain |
| 2 | AB | 307 | G | Sidechain |
| 2 | AB | 310 | A | Sidechain |
| 2 | AB | 311 | A | Sidechain |
| 2 | AB | 315 | G | Sidechain |
| 2 | AB | 316 | C | Sidechain |
| 2 | AB | 317 | G | Sidechain |
| 2 | AB | 318 | C | Sidechain |
| 2 | AB | 319 | G | Sidechain |
| 2 | AB | 320 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 2 | AB | 322 | A | Sidechain |
| 2 | AB | 323 | C | Sidechain |
| 2 | AB | 324 | A | Sidechain |
| 2 | AB | 325 | G | Sidechain |
| 2 | AB | 327 | G | Sidechain |
| 2 | AB | 328 | U | Sidechain |
| 2 | AB | 330 | A | Sidechain |
| 2 | AB | 331 | C | Sidechain |
| 2 | AB | 333 | G | Sidechain |
| 2 | AB | 334 | C | Sidechain |
| 2 | AB | 335 | C | Sidechain |
| 2 | AB | 336 | C | Sidechain |
| 2 | AB | 337 | C | Sidechain |
| 2 | AB | 338 | G | Sidechain |
| 2 | AB | 34 | U | Sidechain |
| 2 | AB | 340 | A | Sidechain |
| 2 | AB | 341 | C | Sidechain |
| 2 | AB | 344 | A | Sidechain |
| 2 | AB | 345 | A | Sidechain |
| 2 | AB | 346 | A | Sidechain |
| 2 | AB | 347 | A | Sidechain |
| 2 | AB | 349 | U | Sidechain |
| 2 | AB | 35 | G | Sidechain |
| 2 | AB | 350 | G | Sidechain |
| 2 | AB | 352 | A | Sidechain |
| 2 | AB | 353 | C | Sidechain |
| 2 | AB | 356 | G | Sidechain |
| 2 | AB | 358 | U | Sidechain |
| 2 | AB | 359 | G | Sidechain |
| 2 | AB | 36 | G | Sidechain |
| 2 | AB | 361 | G | Sidechain |
| 2 | AB | 362 | A | Sidechain |
| 2 | AB | 364 | C | Sidechain |
| 2 | AB | 366 | C | Sidechain |
| 2 | AB | 367 | G | Sidechain |
| 2 | AB | 368 | A | Sidechain |
| 2 | AB | 369 | U | Sidechain |
| 2 | AB | 37 | C | Sidechain |
| 2 | AB | 370 | G | Sidechain |
| 2 | AB | 372 | G | Sidechain |
| 2 | AB | 373 | U | Sidechain |
| 2 | AB | 375 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 2 | AB | 376 | G | Sidechain |
| 2 | AB | 377 | G | Sidechain |
| 2 | AB | 380 | G | Sidechain |
| 2 | AB | 381 | G | Sidechain |
| 2 | AB | 383 | C | Sidechain |
| 2 | AB | 385 | C | Sidechain |
| 2 | AB | 387 | U | Sidechain |
| 2 | AB | 388 | G | Sidechain |
| 2 | AB | 389 | G | Sidechain |
| 2 | AB | 39 | G | Sidechain |
| 2 | AB | 391 | A | Sidechain |
| 2 | AB | 392 | U | Sidechain |
| 2 | AB | 394 | C | Sidechain |
| 2 | AB | 395 | U | Sidechain |
| 2 | AB | 396 | G | Sidechain |
| 2 | AB | 4 | U | Sidechain |
| 2 | AB | 401 | A | Sidechain |
| 2 | AB | 402 | A | Sidechain |
| 2 | AB | 403 | U | Sidechain |
| 2 | AB | 404 | A | Sidechain |
| 2 | AB | 405 | U | Sidechain |
| 2 | AB | 407 | G | Sidechain |
| 2 | AB | 408 | G | Sidechain |
| 2 | AB | 409 | G | Sidechain |
| 2 | AB | 410 | G | Sidechain |
| 2 | AB | 412 | A | Sidechain |
| 2 | AB | 414 | C | Sidechain |
| 2 | AB | 415 | A | Sidechain |
| 2 | AB | 419 | U | Sidechain |
| 2 | AB | 421 | C | Sidechain |
| 2 | AB | 425 | G | Sidechain |
| 2 | AB | 426 | C | Sidechain |
| 2 | AB | 428 | A | Sidechain |
| 2 | AB | 43 | G | Sidechain |
| 2 | AB | 430 | A | Sidechain |
| 2 | AB | 432 | A | Sidechain |
| 2 | AB | 435 | C | Sidechain |
| 2 | AB | 437 | U | Sidechain |
| 2 | AB | 438 | G | Sidechain |
| 2 | AB | 439 | A | Sidechain |
| 2 | AB | 44 | A | Sidechain |
| 2 | AB | 440 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 2 | AB | 441 | U | Sidechain |
| 2 | AB | 442 | G | Sidechain |
| 2 | AB | 443 | A | Sidechain |
| 2 | AB | 448 | U | Sidechain |
| 2 | AB | 45 | G | Sidechain |
| 2 | AB | 450 | G | Sidechain |
| 2 | AB | 451 | U | Sidechain |
| 2 | AB | 453 | A | Sidechain |
| 2 | AB | 454 | A | Sidechain |
| 2 | AB | 455 | C | Sidechain |
| 2 | AB | 457 | A | Sidechain |
| 2 | AB | 458 | G | Sidechain |
| 2 | AB | 459 | U | Sidechain |
| 2 | AB | 46 | G | Sidechain |
| 2 | AB | 460 | A | Sidechain |
| 2 | AB | 462 | C | Sidechain |
| 2 | AB | 463 | G | Sidechain |
| 2 | AB | 464 | U | Sidechain |
| 2 | AB | 465 | G | Sidechain |
| 2 | AB | 466 | A | Sidechain |
| 2 | AB | 467 | G | Sidechain |
| 2 | AB | 468 | G | Sidechain |
| 2 | AB | 469 | G | Sidechain |
| 2 | AB | 472 | A | Sidechain |
| 2 | AB | 474 | G | Sidechain |
| 2 | AB | 475 | C | Sidechain |
| 2 | AB | 477 | A | Sidechain |
| 2 | AB | 48 | G | Sidechain |
| 2 | AB | 480 | A | Sidechain |
| 2 | AB | 481 | G | Sidechain |
| 2 | AB | 486 | C | Sidechain |
| 2 | AB | 487 | C | Sidechain |
| 2 | AB | 488 | G | Sidechain |
| 2 | AB | 489 | G | Sidechain |
| 2 | AB | 49 | A | Sidechain |
| 2 | AB | 491 | G | Sidechain |
| 2 | AB | 494 | G | Sidechain |
| 2 | AB | 496 | G | Sidechain |
| 2 | AB | 498 | G | Sidechain |
| 2 | AB | 499 | U | Sidechain |
| 2 | AB | 501 | A | Sidechain |
| 2 | AB | 503 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 2 | AB | 505 | A | Sidechain |
| 2 | AB | 506 | G | Sidechain |
| 2 | AB | 512 | G | Sidechain |
| 2 | AB | 514 | A | Sidechain |
| 2 | AB | 515 | A | Sidechain |
| 2 | AB | 516 | C | Sidechain |
| 2 | AB | 518 | G | Sidechain |
| 2 | AB | 520 | G | Sidechain |
| 2 | AB | 521 | U | Sidechain |
| 2 | AB | 524 | G | Sidechain |
| 2 | AB | 528 | A | Sidechain |
| 2 | AB | 53 | A | Sidechain |
| 2 | AB | 530 | G | Sidechain |
| 2 | AB | 531 | C | Sidechain |
| 2 | AB | 534 | U | Sidechain |
| 2 | AB | 535 | G | Sidechain |
| 2 | AB | 536 | G | Sidechain |
| 2 | AB | 537 | G | Sidechain |
| 2 | AB | 540 | C | Sidechain |
| 2 | AB | 541 | A | Sidechain |
| 2 | AB | 543 | G | Sidechain |
| 2 | AB | 546 | U | Sidechain |
| 2 | AB | 548 | G | Sidechain |
| 2 | AB | 549 | G | Sidechain |
| 2 | AB | 55 | G | Sidechain |
| 2 | AB | 550 | C | Sidechain |
| 2 | AB | 551 | G | Sidechain |
| 2 | AB | 553 | G | Sidechain |
| 2 | AB | 555 | G | Sidechain |
| 2 | AB | 558 | U | Sidechain |
| 2 | AB | 56 | A | Sidechain |
| 2 | AB | 561 | G | Sidechain |
| 2 | AB | 562 | U | Sidechain |
| 2 | AB | 563 | A | Sidechain |
| 2 | AB | 564 | C | Sidechain |
| 2 | AB | 566 | U | Sidechain |
| 2 | AB | 567 | U | Sidechain |
| 2 | AB | 568 | U | Sidechain |
| 2 | AB | 569 | U | Sidechain |
| 2 | AB | 570 | G | Sidechain |
| 2 | AB | 573 | U | Sidechain |
| 2 | AB | 574 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 2 | AB | 576 | U | Sidechain |
| 2 | AB | 577 | G | Sidechain |
| 2 | AB | 578 | G | Sidechain |
| 2 | AB | 579 | G | Sidechain |
| 2 | AB | 58 | G | Sidechain |
| 2 | AB | 580 | U | Sidechain |
| 2 | AB | 581 | C | Sidechain |
| 2 | AB | 582 | A | Sidechain |
| 2 | AB | 583 | G | Sidechain |
| 2 | AB | 585 | G | Sidechain |
| 2 | AB | 586 | A | Sidechain |
| 2 | AB | 588 | U | Sidechain |
| 2 | AB | 589 | U | Sidechain |
| 2 | AB | 590 | A | Sidechain |
| 2 | AB | 592 | A | Sidechain |
| 2 | AB | 593 | U | Sidechain |
| 2 | AB | 594 | U | Sidechain |
| 2 | AB | 595 | C | Sidechain |
| 2 | AB | 596 | U | Sidechain |
| 2 | AB | 597 | G | Sidechain |
| 2 | AB | 60 | G | Sidechain |
| 2 | AB | 600 | G | Sidechain |
| 2 | AB | 601 | C | Sidechain |
| 2 | AB | 605 | G | Sidechain |
| 2 | AB | 606 | U | Sidechain |
| 2 | AB | 608 | A | Sidechain |
| 2 | AB | 612 | G | Sidechain |
| 2 | AB | 613 | A | Sidechain |
| 2 | AB | 615 | U | Sidechain |
| 2 | AB | 618 | G | Sidechain |
| 2 | AB | 619 | G | Sidechain |
| 2 | AB | 62 | U | Sidechain |
| 2 | AB | 621 | A | Sidechain |
| 2 | AB | 622 | G | Sidechain |
| 2 | AB | 628 | G | Sidechain |
| 2 | AB | 629 | G | Sidechain |
| 2 | AB | 63 | A | Sidechain |
| 2 | AB | 630 | G | Sidechain |
| 2 | AB | 631 | A | Sidechain |
| 2 | AB | 632 | A | Sidechain |
| 2 | AB | 636 | G | Sidechain |
| 2 | AB | 641 | U | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 2 | AB | 646 | U | Sidechain |
| 2 | AB | 647 | G | Sidechain |
| 2 | AB | 648 | G | Sidechain |
| 2 | AB | 650 | C | Sidechain |
| 2 | AB | 651 | G | Sidechain |
| 2 | AB | 652 | U | Sidechain |
| 2 | AB | 653 | U | Sidechain |
| 2 | AB | 655 | A | Sidechain |
| 2 | AB | 656 | G | Sidechain |
| 2 | AB | 660 | C | Sidechain |
| 2 | AB | 661 | A | Sidechain |
| 2 | AB | 662 | G | Sidechain |
| 2 | AB | 663 | G | Sidechain |
| 2 | AB | 664 | G | Sidechain |
| 2 | AB | 665 | U | Sidechain |
| 2 | AB | 666 | A | Sidechain |
| 2 | AB | 668 | A | Sidechain |
| 2 | AB | 669 | G | Sidechain |
| 2 | AB | 67 | U | Sidechain |
| 2 | AB | 670 | A | Sidechain |
| 2 | AB | 672 | C | Sidechain |
| 2 | AB | 676 | A | Sidechain |
| 2 | AB | 677 | A | Sidechain |
| 2 | AB | 679 | C | Sidechain |
| 2 | AB | 68 | G | Sidechain |
| 2 | AB | 684 | G | Sidechain |
| 2 | AB | 685 | A | Sidechain |
| 2 | AB | 690 | G | Sidechain |
| 2 | AB | 692 | C | Sidechain |
| 2 | AB | 695 | G | Sidechain |
| 2 | AB | 697 | G | Sidechain |
| 2 | AB | 699 | A | Sidechain |
| 2 | AB | 70 | G | Sidechain |
| 2 | AB | 700 | G | Sidechain |
| 2 | AB | 702 | U | Sidechain |
| 2 | AB | 703 | U | Sidechain |
| 2 | AB | 704 | G | Sidechain |
| 2 | AB | 705 | A | Sidechain |
| 2 | AB | 707 | G | Sidechain |
| 2 | AB | 708 | G | Sidechain |
| 2 | AB | 709 | U | Sidechain |
| 2 | AB | 711 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 2 | AB | 712 | G | Sidechain |
| 2 | AB | 713 | G | Sidechain |
| 2 | AB | 715 | A | Sidechain |
| 2 | AB | 716 | A | Sidechain |
| 2 | AB | 717 | C | Sidechain |
| 2 | AB | 719 | C | Sidechain |
| 2 | AB | 720 | U | Sidechain |
| 2 | AB | 721 | A | Sidechain |
| 2 | AB | 722 | A | Sidechain |
| 2 | AB | 727 | A | Sidechain |
| 2 | AB | 729 | G | Sidechain |
| 2 | AB | 73 | A | Sidechain |
| 2 | AB | 732 | C | Sidechain |
| 2 | AB | 735 | A | Sidechain |
| 2 | AB | 738 | G | Sidechain |
| 2 | AB | 74 | A | Sidechain |
| 2 | AB | 740 | C | Sidechain |
| 2 | AB | 741 | U | Sidechain |
| 2 | AB | 743 | A | Sidechain |
| 2 | AB | 744 | U | Sidechain |
| 2 | AB | 750 | A | Sidechain |
| 2 | AB | 751 | A | Sidechain |
| 2 | AB | 752 | A | Sidechain |
| 2 | AB | 757 | G | Sidechain |
| 2 | AB | 759 | G | Sidechain |
| 2 | AB | 760 | G | Sidechain |
| 2 | AB | 764 | A | Sidechain |
| 2 | AB | 766 | U | Sidechain |
| 2 | AB | 767 | U | Sidechain |
| 2 | AB | 768 | G | Sidechain |
| 2 | AB | 77 | G | Sidechain |
| 2 | AB | 771 | G | Sidechain |
| 2 | AB | 773 | U | Sidechain |
| 2 | AB | 774 | G | Sidechain |
| 2 | AB | 776 | G | Sidechain |
| 2 | AB | 777 | G | Sidechain |
| 2 | AB | 778 | G | Sidechain |
| 2 | AB | 78 | U | Sidechain |
| 2 | AB | 781 | A | Sidechain |
| 2 | AB | 784 | G | Sidechain |
| 2 | AB | 785 | G | Sidechain |
| 2 | AB | 787 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 2 | AB | 788 | A | Sidechain |
| 2 | AB | 79 | C | Sidechain |
| 2 | AB | 792 | A | Sidechain |
| 2 | AB | 794 | A | Sidechain |
| 2 | AB | 796 | C | Sidechain |
| 2 | AB | 798 | G | Sidechain |
| 2 | AB | 799 | G | Sidechain |
| 2 | AB | 800 | A | Sidechain |
| 2 | AB | 801 | G | Sidechain |
| 2 | AB | 802 | A | Sidechain |
| 2 | AB | 803 | U | Sidechain |
| 2 | AB | 804 | A | Sidechain |
| 2 | AB | 805 | G | Sidechain |
| 2 | AB | 806 | C | Sidechain |
| 2 | AB | 807 | U | Sidechain |
| 2 | AB | 808 | G | Sidechain |
| 2 | AB | 810 | U | Sidechain |
| 2 | AB | 811 | U | Sidechain |
| 2 | AB | 812 | C | Sidechain |
| 2 | AB | 814 | C | Sidechain |
| 2 | AB | 818 | G | Sidechain |
| 2 | AB | 820 | A | Sidechain |
| 2 | AB | 821 | A | Sidechain |
| 2 | AB | 822 | G | Sidechain |
| 2 | AB | 824 | U | Sidechain |
| 2 | AB | 826 | U | Sidechain |
| 2 | AB | 828 | U | Sidechain |
| 2 | AB | 829 | A | Sidechain |
| 2 | AB | 83 | A | Sidechain |
| 2 | AB | 830 | G | Sidechain |
| 2 | AB | 832 | U | Sidechain |
| 2 | AB | 834 | G | Sidechain |
| 2 | AB | 835 | C | Sidechain |
| 2 | AB | 837 | C | Sidechain |
| 2 | AB | 838 | C | Sidechain |
| 2 | AB | 839 | U | Sidechain |
| 2 | AB | 84 | A | Sidechain |
| 2 | AB | 840 | C | Sidechain |
| 2 | AB | 841 | G | Sidechain |
| 2 | AB | 845 | A | Sidechain |
| 2 | AB | 847 | U | Sidechain |
| 2 | AB | 849 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 2 | AB | 852 | U | Sidechain |
| 2 | AB | 853 | C | Sidechain |
| 2 | AB | 856 | G | Sidechain |
| 2 | AB | 857 | G | Sidechain |
| 2 | AB | 859 | G | Sidechain |
| 2 | AB | 86 | G | Sidechain |
| 2 | AB | 860 | U | Sidechain |
| 2 | AB | 864 | G | Sidechain |
| 2 | AB | 869 | G | Sidechain |
| 2 | AB | 87 | U | Sidechain |
| 2 | AB | 870 | U | Sidechain |
| 2 | AB | 871 | U | Sidechain |
| 2 | AB | 875 | G | Sidechain |
| 2 | AB | 876 | C | Sidechain |
| 2 | AB | 877 | A | Sidechain |
| 2 | AB | 882 | G | Sidechain |
| 2 | AB | 883 | G | Sidechain |
| 2 | AB | 884 | U | Sidechain |
| 2 | AB | 885 | C | Sidechain |
| 2 | AB | 886 | A | Sidechain |
| 2 | AB | 887 | U | Sidechain |
| 2 | AB | 888 | C | Sidechain |
| 2 | AB | 890 | C | Sidechain |
| 2 | AB | 891 | G | Sidechain |
| 2 | AB | 894 | U | Sidechain |
| 2 | AB | 899 | A | Sidechain |
| 2 | AB | 90 | U | Sidechain |
| 2 | AB | 901 | C | Sidechain |
| 2 | AB | 902 | C | Sidechain |
| 2 | AB | 904 | G | Sidechain |
| 2 | AB | 906 | U | Sidechain |
| 2 | AB | 908 | C | Sidechain |
| 2 | AB | 909 | A | Sidechain |
| 2 | AB | 910 | A | Sidechain |
| 2 | AB | 911 | A | Sidechain |
| 2 | AB | 912 | C | Sidechain |
| 2 | AB | 913 | U | Sidechain |
| 2 | AB | 918 | A | Sidechain |
| 2 | AB | 922 | C | Sidechain |
| 2 | AB | 923 | G | Sidechain |
| 2 | AB | 924 | G | Sidechain |
| 2 | AB | 926 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 2 | AB | 927 | A | Sidechain |
| 2 | AB | 928 | A | Sidechain |
| 2 | AB | 931 | U | Sidechain |
| 2 | AB | 932 | U | Sidechain |
| 2 | AB | 934 | U | Sidechain |
| 2 | AB | 935 | C | Sidechain |
| 2 | AB | 936 | A | Sidechain |
| 2 | AB | 937 | C | Sidechain |
| 2 | AB | 938 | G | Sidechain |
| 2 | AB | 939 | G | Sidechain |
| 2 | AB | 94 | A | Sidechain |
| 2 | AB | 940 | G | Sidechain |
| 2 | AB | 943 | A | Sidechain |
| 2 | AB | 944 | C | Sidechain |
| 2 | AB | 947 | A | Sidechain |
| 2 | AB | 948 | C | Sidechain |
| 2 | AB | 949 | G | Sidechain |
| 2 | AB | 95 | A | Sidechain |
| 2 | AB | 950 | G | Sidechain |
| 2 | AB | 953 | G | Sidechain |
| 2 | AB | 954 | G | Sidechain |
| 2 | AB | 958 | U | Sidechain |
| 2 | AB | 959 | A | Sidechain |
| 2 | AB | 96 | C | Sidechain |
| 2 | AB | 962 | G | Sidechain |
| 2 | AB | 963 | U | Sidechain |
| 2 | AB | 964 | C | Sidechain |
| 2 | AB | 965 | C | Sidechain |
| 2 | AB | 966 | G | Sidechain |
| 2 | AB | 968 | C | Sidechain |
| 2 | AB | 97 | C | Sidechain |
| 2 | AB | 970 | U | Sidechain |
| 2 | AB | 975 | A | Sidechain |
| 2 | AB | 976 | G | Sidechain |
| 2 | AB | 977 | G | Sidechain |
| 2 | AB | 979 | A | Sidechain |
| 2 | AB | 98 | G | Sidechain |
| 2 | AB | 980 | A | Sidechain |
| 2 | AB | 981 | A | Sidechain |
| 2 | AB | 983 | A | Sidechain |
| 2 | AB | 984 | A | Sidechain |
| 2 | AB | 985 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-------------------|
| 2 | AB | 986 | C | Sidechain |
| 2 | AB | 987 | C | Sidechain |
| 2 | AB | 989 | G | Sidechain |
| 2 | AB | 99 | U | Sidechain |
| 2 | AB | 993 | G | Sidechain |
| 2 | AB | 995 | C | Sidechain |
| 2 | AB | 997 | G | Sidechain |
| 3 | AC | 12 | ARG | Sidechain |
| 3 | AC | 134 | ARG | Mainchain |
| 3 | AC | 208 | TYR | Sidechain |
| 4 | AD | 101 | ARG | Peptide |
| 4 | AD | 128 | THR | Mainchain |
| 4 | AD | 157 | ALA | Mainchain |
| 4 | AD | 170 | TYR | Sidechain |
| 4 | AD | 199 | HIS | Sidechain |
| 4 | AD | 240 | GLY | Peptide |
| 4 | AD | 35 | LYS | Mainchain |
| 4 | AD | 5 | CYS | Peptide,Mainchain |
| 4 | AD | 51 | ARG | Sidechain |
| 4 | AD | 82 | TYR | Sidechain |
| 5 | AE | 113 | SER | Peptide |
| 5 | AE | 114 | LYS | Peptide |
| 5 | AE | 119 | ALA | Peptide |
| 5 | AE | 156 | PHE | Sidechain |
| 5 | AE | 40 | LEU | Peptide |
| 5 | AE | 77 | ARG | Sidechain |
| 5 | AE | 82 | PHE | Sidechain |
| 6 | AF | 70 | SER | Peptide |
| 6 | AF | 79 | ARG | Sidechain |
| 7 | AG | 102 | LEU | Peptide |
| 8 | AH | 29 | ASN | Peptide |
| 8 | AH | 69 | ALA | Mainchain |
| 9 | AI | 132 | PHE | Sidechain |
| 9 | AI | 23 | ALA | Mainchain |
| 9 | AI | 70 | GLU | Peptide |
| 10 | AJ | 112 | PHE | Sidechain |
| 10 | AJ | 124 | ARG | Sidechain |
| 10 | AJ | 130 | THR | Peptide,Mainchain |
| 10 | AJ | 152 | ARG | Sidechain |
| 10 | AJ | 30 | ARG | Sidechain |
| 10 | AJ | 50 | TYR | Sidechain |
| 10 | AJ | 92 | ALA | Mainchain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 11 | AK | 59 | THR | Mainchain |
| 12 | AL | 46 | PRO | Peptide |
| 12 | AL | 53 | TYR | Sidechain |
| 12 | AL | 98 | GLU | Peptide |
| 13 | AM | 17 | ARG | Sidechain |
| 13 | AM | 29 | HIS | Sidechain |
| 13 | AM | 70 | ARG | Sidechain |
| 14 | AN | 45 | GLY | Peptide |
| 14 | AN | 58 | TYR | Sidechain |
| 15 | AO | 18 | ARG | Sidechain |
| 15 | AO | 40 | ARG | Sidechain |
| 15 | AO | 91 | TYR | Sidechain |
| 16 | AP | 112 | TYR | Sidechain |
| 16 | AP | 125 | ALA | Mainchain |
| 16 | AP | 63 | ARG | Sidechain |
| 16 | AP | 7 | GLY | Peptide |
| 16 | AP | 80 | PHE | Sidechain |
| 17 | AQ | 10 | ARG | Sidechain |
| 17 | AQ | 13 | ARG | Sidechain |
| 17 | AQ | 15 | ARG | Sidechain |
| 17 | AQ | 16 | ARG | Sidechain |
| 18 | AR | 100 | ARG | Sidechain |
| 18 | AR | 19 | PHE | Sidechain |
| 18 | AR | 20 | ARG | Sidechain |
| 18 | AR | 71 | ARG | Sidechain |
| 18 | AR | 96 | LEU | Mainchain |
| 18 | AR | 98 | TYR | Sidechain |
| 19 | AS | 29 | ARG | Sidechain |
| 19 | AS | 56 | PHE | Sidechain |
| 19 | AS | 75 | TYR | Sidechain |
| 20 | AT | 12 | HIS | Sidechain |
| 20 | AT | 78 | ARG | Sidechain |
| 20 | AT | 82 | HIS | Sidechain |
| 20 | AT | 83 | TYR | Sidechain |
| 20 | AT | 90 | ARG | Sidechain |
| 21 | AU | 4 | ILE | Peptide |
| 21 | AU | 57 | ASN | Mainchain |
| 21 | AU | 6 | LYS | Peptide |
| 21 | AU | 8 | ARG | Sidechain |
| 21 | AU | 99 | ARG | Sidechain |
| 22 | AV | 49 | LYS | Peptide |
| 24 | AX | 26 | PHE | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 24 | AX | 31 | TYR | Sidechain |
| 24 | AX | 44 | HIS | Sidechain |
| 24 | AX | 91 | PHE | Sidechain |
| 24 | AX | 93 | ARG | Sidechain |
| 25 | AY | 12 | GLY | Peptide |
| 25 | AY | 13 | ARG | Peptide |
| 25 | AY | 14 | ASP | Peptide |
| 25 | AY | 16 | GLU | Peptide |
| 26 | AZ | 1 | SER | Peptide |
| 26 | AZ | 28 | PHE | Sidechain |
| 35 | BA | 10 | A | Sidechain |
| 35 | BA | 1002 | G | Sidechain |
| 35 | BA | 1003 | G | Sidechain |
| 35 | BA | 1004 | A | Sidechain |
| 35 | BA | 101 | A | Sidechain |
| 35 | BA | 1012 | A | Sidechain |
| 35 | BA | 1013 | G | Sidechain |
| 35 | BA | 1014 | A | Sidechain |
| 35 | BA | 1016 | A | Sidechain |
| 35 | BA | 1018 | G | Sidechain |
| 35 | BA | 102 | G | Sidechain |
| 35 | BA | 1022 | A | Sidechain |
| 35 | BA | 1024 | G | Sidechain |
| 35 | BA | 103 | U | Sidechain |
| 35 | BA | 1033 | G | Sidechain |
| 35 | BA | 1035 | A | Sidechain |
| 35 | BA | 1039 | G | Sidechain |
| 35 | BA | 104 | G | Sidechain |
| 35 | BA | 1041 | G | Sidechain |
| 35 | BA | 1042 | A | Sidechain |
| 35 | BA | 1043 | G | Sidechain |
| 35 | BA | 1045 | C | Sidechain |
| 35 | BA | 1046 | A | Sidechain |
| 35 | BA | 1048 | G | Sidechain |
| 35 | BA | 105 | G | Sidechain |
| 35 | BA | 1058 | G | Sidechain |
| 35 | BA | 1060 | U | Sidechain |
| 35 | BA | 1063 | C | Sidechain |
| 35 | BA | 1064 | G | Sidechain |
| 35 | BA | 1067 | A | Sidechain |
| 35 | BA | 1068 | G | Sidechain |
| 35 | BA | 107 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 35 | BA | 1070 | U | Sidechain |
| 35 | BA | 1071 | C | Sidechain |
| 35 | BA | 1072 | G | Sidechain |
| 35 | BA | 1073 | U | Sidechain |
| 35 | BA | 1077 | G | Sidechain |
| 35 | BA | 1079 | G | Sidechain |
| 35 | BA | 108 | G | Sidechain |
| 35 | BA | 1081 | A | Sidechain |
| 35 | BA | 1082 | A | Sidechain |
| 35 | BA | 1083 | U | Sidechain |
| 35 | BA | 1084 | G | Sidechain |
| 35 | BA | 1085 | U | Sidechain |
| 35 | BA | 1087 | G | Sidechain |
| 35 | BA | 1088 | G | Sidechain |
| 35 | BA | 1091 | U | Sidechain |
| 35 | BA | 1092 | A | Sidechain |
| 35 | BA | 1093 | A | Sidechain |
| 35 | BA | 1094 | G | Sidechain |
| 35 | BA | 1095 | U | Sidechain |
| 35 | BA | 1096 | C | Sidechain |
| 35 | BA | 1099 | G | Sidechain |
| 35 | BA | 1101 | A | Sidechain |
| 35 | BA | 1104 | G | Sidechain |
| 35 | BA | 1105 | A | Sidechain |
| 35 | BA | 1106 | G | Sidechain |
| 35 | BA | 1107 | C | Sidechain |
| 35 | BA | 1108 | G | Sidechain |
| 35 | BA | 1109 | C | Sidechain |
| 35 | BA | 111 | G | Sidechain |
| 35 | BA | 1110 | A | Sidechain |
| 35 | BA | 1113 | C | Sidechain |
| 35 | BA | 1114 | C | Sidechain |
| 35 | BA | 1115 | U | Sidechain |
| 35 | BA | 1116 | U | Sidechain |
| 35 | BA | 1117 | A | Sidechain |
| 35 | BA | 1119 | C | Sidechain |
| 35 | BA | 112 | G | Sidechain |
| 35 | BA | 1120 | C | Sidechain |
| 35 | BA | 1121 | U | Sidechain |
| 35 | BA | 1122 | U | Sidechain |
| 35 | BA | 1123 | U | Sidechain |
| 35 | BA | 1124 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 35 | BA | 1125 | U | Sidechain |
| 35 | BA | 1126 | U | Sidechain |
| 35 | BA | 1129 | C | Sidechain |
| 35 | BA | 113 | G | Sidechain |
| 35 | BA | 1130 | A | Sidechain |
| 35 | BA | 1132 | C | Sidechain |
| 35 | BA | 1133 | G | Sidechain |
| 35 | BA | 1139 | G | Sidechain |
| 35 | BA | 114 | U | Sidechain |
| 35 | BA | 1140 | C | Sidechain |
| 35 | BA | 1141 | C | Sidechain |
| 35 | BA | 1143 | G | Sidechain |
| 35 | BA | 1145 | A | Sidechain |
| 35 | BA | 1146 | A | Sidechain |
| 35 | BA | 1148 | U | Sidechain |
| 35 | BA | 115 | G | Sidechain |
| 35 | BA | 1155 | A | Sidechain |
| 35 | BA | 1159 | U | Sidechain |
| 35 | BA | 116 | A | Sidechain |
| 35 | BA | 1162 | C | Sidechain |
| 35 | BA | 1164 | G | Sidechain |
| 35 | BA | 1165 | U | Sidechain |
| 35 | BA | 1166 | G | Sidechain |
| 35 | BA | 1168 | U | Sidechain |
| 35 | BA | 1169 | A | Sidechain |
| 35 | BA | 117 | G | Sidechain |
| 35 | BA | 1170 | A | Sidechain |
| 35 | BA | 1174 | G | Sidechain |
| 35 | BA | 1175 | G | Sidechain |
| 35 | BA | 1177 | G | Sidechain |
| 35 | BA | 118 | U | Sidechain |
| 35 | BA | 1181 | G | Sidechain |
| 35 | BA | 1183 | U | Sidechain |
| 35 | BA | 1185 | G | Sidechain |
| 35 | BA | 1188 | A | Sidechain |
| 35 | BA | 1189 | U | Sidechain |
| 35 | BA | 119 | A | Sidechain |
| 35 | BA | 1191 | A | Sidechain |
| 35 | BA | 1195 | C | Sidechain |
| 35 | BA | 1196 | A | Sidechain |
| 35 | BA | 1198 | G | Sidechain |
| 35 | BA | 12 | U | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 35 | BA | 1201 | A | Sidechain |
| 35 | BA | 1202 | U | Sidechain |
| 35 | BA | 1203 | C | Sidechain |
| 35 | BA | 1204 | A | Sidechain |
| 35 | BA | 1206 | G | Sidechain |
| 35 | BA | 1208 | C | Sidechain |
| 35 | BA | 1209 | C | Sidechain |
| 35 | BA | 1211 | U | Sidechain |
| 35 | BA | 1212 | U | Sidechain |
| 35 | BA | 1215 | G | Sidechain |
| 35 | BA | 1216 | A | Sidechain |
| 35 | BA | 1218 | C | Sidechain |
| 35 | BA | 122 | G | Sidechain |
| 35 | BA | 1220 | G | Sidechain |
| 35 | BA | 1221 | G | Sidechain |
| 35 | BA | 1223 | C | Sidechain |
| 35 | BA | 1224 | U | Sidechain |
| 35 | BA | 1227 | A | Sidechain |
| 35 | BA | 1228 | C | Sidechain |
| 35 | BA | 1230 | C | Sidechain |
| 35 | BA | 1231 | G | Sidechain |
| 35 | BA | 1232 | U | Sidechain |
| 35 | BA | 1234 | C | Sidechain |
| 35 | BA | 1237 | C | Sidechain |
| 35 | BA | 1238 | A | Sidechain |
| 35 | BA | 1240 | U | Sidechain |
| 35 | BA | 1241 | G | Sidechain |
| 35 | BA | 1242 | G | Sidechain |
| 35 | BA | 1244 | G | Sidechain |
| 35 | BA | 1249 | C | Sidechain |
| 35 | BA | 1250 | A | Sidechain |
| 35 | BA | 1254 | A | Sidechain |
| 35 | BA | 1255 | G | Sidechain |
| 35 | BA | 1257 | A | Sidechain |
| 35 | BA | 1259 | C | Sidechain |
| 35 | BA | 1260 | G | Sidechain |
| 35 | BA | 1261 | A | Sidechain |
| 35 | BA | 1265 | C | Sidechain |
| 35 | BA | 1266 | G | Sidechain |
| 35 | BA | 1268 | G | Sidechain |
| 35 | BA | 1269 | A | Sidechain |
| 35 | BA | 1270 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 35 | BA | 1272 | G | Sidechain |
| 35 | BA | 1274 | A | Sidechain |
| 35 | BA | 1275 | A | Sidechain |
| 35 | BA | 1278 | G | Sidechain |
| 35 | BA | 1279 | G | Sidechain |
| 35 | BA | 128 | G | Sidechain |
| 35 | BA | 1280 | A | Sidechain |
| 35 | BA | 1283 | U | Sidechain |
| 35 | BA | 1286 | U | Sidechain |
| 35 | BA | 1287 | A | Sidechain |
| 35 | BA | 1289 | A | Sidechain |
| 35 | BA | 129 | A | Sidechain |
| 35 | BA | 1290 | G | Sidechain |
| 35 | BA | 1291 | U | Sidechain |
| 35 | BA | 1292 | G | Sidechain |
| 35 | BA | 1294 | G | Sidechain |
| 35 | BA | 1295 | U | Sidechain |
| 35 | BA | 1297 | G | Sidechain |
| 35 | BA | 1298 | U | Sidechain |
| 35 | BA | 1299 | A | Sidechain |
| 35 | BA | 13 | U | Sidechain |
| 35 | BA | 1300 | G | Sidechain |
| 35 | BA | 1302 | C | Sidechain |
| 35 | BA | 1304 | G | Sidechain |
| 35 | BA | 1305 | G | Sidechain |
| 35 | BA | 1306 | A | Sidechain |
| 35 | BA | 1309 | G | Sidechain |
| 35 | BA | 1311 | A | Sidechain |
| 35 | BA | 1313 | U | Sidechain |
| 35 | BA | 1314 | C | Sidechain |
| 35 | BA | 1316 | G | Sidechain |
| 35 | BA | 1317 | C | Sidechain |
| 35 | BA | 1320 | C | Sidechain |
| 35 | BA | 1321 | U | Sidechain |
| 35 | BA | 1322 | C | Sidechain |
| 35 | BA | 1326 | U | Sidechain |
| 35 | BA | 1327 | C | Sidechain |
| 35 | BA | 1328 | C | Sidechain |
| 35 | BA | 133 | U | Sidechain |
| 35 | BA | 1330 | U | Sidechain |
| 35 | BA | 1331 | G | Sidechain |
| 35 | BA | 1333 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 35 | BA | 1336 | C | Sidechain |
| 35 | BA | 1337 | G | Sidechain |
| 35 | BA | 1341 | U | Sidechain |
| 35 | BA | 1343 | G | Sidechain |
| 35 | BA | 1345 | U | Sidechain |
| 35 | BA | 1346 | A | Sidechain |
| 35 | BA | 1348 | U | Sidechain |
| 35 | BA | 1349 | A | Sidechain |
| 35 | BA | 135 | C | Sidechain |
| 35 | BA | 1350 | A | Sidechain |
| 35 | BA | 1352 | C | Sidechain |
| 35 | BA | 1353 | G | Sidechain |
| 35 | BA | 1354 | U | Sidechain |
| 35 | BA | 1358 | U | Sidechain |
| 35 | BA | 1360 | A | Sidechain |
| 35 | BA | 1361 | G | Sidechain |
| 35 | BA | 1365 | G | Sidechain |
| 35 | BA | 137 | U | Sidechain |
| 35 | BA | 1370 | G | Sidechain |
| 35 | BA | 1371 | G | Sidechain |
| 35 | BA | 1372 | U | Sidechain |
| 35 | BA | 1373 | G | Sidechain |
| 35 | BA | 1374 | A | Sidechain |
| 35 | BA | 1375 | A | Sidechain |
| 35 | BA | 1377 | A | Sidechain |
| 35 | BA | 1379 | G | Sidechain |
| 35 | BA | 138 | G | Sidechain |
| 35 | BA | 1380 | U | Sidechain |
| 35 | BA | 1381 | U | Sidechain |
| 35 | BA | 1383 | C | Sidechain |
| 35 | BA | 1384 | C | Sidechain |
| 35 | BA | 1387 | G | Sidechain |
| 35 | BA | 1392 | G | Sidechain |
| 35 | BA | 1393 | U | Sidechain |
| 35 | BA | 1397 | C | Sidechain |
| 35 | BA | 1398 | A | Sidechain |
| 35 | BA | 1399 | C | Sidechain |
| 35 | BA | 140 | U | Sidechain |
| 35 | BA | 1400 | C | Sidechain |
| 35 | BA | 1401 | G | Sidechain |
| 35 | BA | 1404 | C | Sidechain |
| 35 | BA | 1405 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 35 | BA | 1409 | C | Sidechain |
| 35 | BA | 141 | G | Sidechain |
| 35 | BA | 1410 | A | Sidechain |
| 35 | BA | 1412 | C | Sidechain |
| 35 | BA | 1413 | A | Sidechain |
| 35 | BA | 1415 | G | Sidechain |
| 35 | BA | 1417 | G | Sidechain |
| 35 | BA | 1418 | A | Sidechain |
| 35 | BA | 1419 | G | Sidechain |
| 35 | BA | 142 | G | Sidechain |
| 35 | BA | 1421 | G | Sidechain |
| 35 | BA | 1423 | G | Sidechain |
| 35 | BA | 1424 | U | Sidechain |
| 35 | BA | 1425 | U | Sidechain |
| 35 | BA | 1426 | G | Sidechain |
| 35 | BA | 1428 | A | Sidechain |
| 35 | BA | 1429 | A | Sidechain |
| 35 | BA | 143 | A | Sidechain |
| 35 | BA | 1430 | A | Sidechain |
| 35 | BA | 1431 | A | Sidechain |
| 35 | BA | 1432 | G | Sidechain |
| 35 | BA | 1433 | A | Sidechain |
| 35 | BA | 1435 | G | Sidechain |
| 35 | BA | 1436 | U | Sidechain |
| 35 | BA | 1438 | G | Sidechain |
| 35 | BA | 1439 | G | Sidechain |
| 35 | BA | 1440 | U | Sidechain |
| 35 | BA | 1441 | A | Sidechain |
| 35 | BA | 1442 | G | Sidechain |
| 35 | BA | 1443 | C | Sidechain |
| 35 | BA | 1444 | U | Sidechain |
| 35 | BA | 1445 | U | Sidechain |
| 35 | BA | 1446 | A | Sidechain |
| 35 | BA | 1449 | C | Sidechain |
| 35 | BA | 145 | G | Sidechain |
| 35 | BA | 1450 | U | Sidechain |
| 35 | BA | 1451 | U | Sidechain |
| 35 | BA | 1452 | C | Sidechain |
| 35 | BA | 1453 | G | Sidechain |
| 35 | BA | 1454 | G | Sidechain |
| 35 | BA | 1455 | G | Sidechain |
| 35 | BA | 1456 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 35 | BA | 1458 | G | Sidechain |
| 35 | BA | 1459 | G | Sidechain |
| 35 | BA | 146 | G | Sidechain |
| 35 | BA | 1461 | G | Sidechain |
| 35 | BA | 1464 | U | Sidechain |
| 35 | BA | 1469 | C | Sidechain |
| 35 | BA | 147 | G | Sidechain |
| 35 | BA | 1470 | U | Sidechain |
| 35 | BA | 1473 | G | Sidechain |
| 35 | BA | 1474 | U | Sidechain |
| 35 | BA | 1476 | A | Sidechain |
| 35 | BA | 1477 | U | Sidechain |
| 35 | BA | 1478 | U | Sidechain |
| 35 | BA | 1479 | C | Sidechain |
| 35 | BA | 148 | G | Sidechain |
| 35 | BA | 1482 | G | Sidechain |
| 35 | BA | 1485 | U | Sidechain |
| 35 | BA | 1486 | G | Sidechain |
| 35 | BA | 1487 | G | Sidechain |
| 35 | BA | 1489 | G | Sidechain |
| 35 | BA | 1492 | A | Sidechain |
| 35 | BA | 1493 | A | Sidechain |
| 35 | BA | 1497 | G | Sidechain |
| 35 | BA | 1499 | A | Sidechain |
| 35 | BA | 15 | G | Sidechain |
| 35 | BA | 1503 | A | Sidechain |
| 35 | BA | 1505 | G | Sidechain |
| 35 | BA | 1506 | U | Sidechain |
| 35 | BA | 1507 | A | Sidechain |
| 35 | BA | 1511 | G | Sidechain |
| 35 | BA | 1512 | U | Sidechain |
| 35 | BA | 1513 | A | Sidechain |
| 35 | BA | 1514 | G | Sidechain |
| 35 | BA | 152 | A | Sidechain |
| 35 | BA | 1521 | C | Sidechain |
| 35 | BA | 1522 | U | Sidechain |
| 35 | BA | 1523 | G | Sidechain |
| 35 | BA | 1524 | C | Sidechain |
| 35 | BA | 1525 | G | Sidechain |
| 35 | BA | 1529 | G | Sidechain |
| 35 | BA | 1532 | U | Sidechain |
| 35 | BA | 1535 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|------|------|-----------|
| 35 | BA | 1536 | C | Sidechain |
| 35 | BA | 1537 | U | Sidechain |
| 35 | BA | 1538 | C | Sidechain |
| 35 | BA | 1539 | C | Sidechain |
| 35 | BA | 1540 | U | Sidechain |
| 35 | BA | 156 | C | Sidechain |
| 35 | BA | 157 | U | Sidechain |
| 35 | BA | 158 | G | Sidechain |
| 35 | BA | 159 | G | Sidechain |
| 35 | BA | 16 | A | Sidechain |
| 35 | BA | 160 | A | Sidechain |
| 35 | BA | 163 | C | Sidechain |
| 35 | BA | 166 | U | Sidechain |
| 35 | BA | 167 | A | Sidechain |
| 35 | BA | 168 | G | Sidechain |
| 35 | BA | 169 | C | Sidechain |
| 35 | BA | 17 | U | Sidechain |
| 35 | BA | 171 | A | Sidechain |
| 35 | BA | 173 | U | Sidechain |
| 35 | BA | 176 | C | Sidechain |
| 35 | BA | 179 | A | Sidechain |
| 35 | BA | 183 | C | Sidechain |
| 35 | BA | 185 | U | Sidechain |
| 35 | BA | 187 | G | Sidechain |
| 35 | BA | 188 | C | Sidechain |
| 35 | BA | 189 | A | Sidechain |
| 35 | BA | 190 | A | Sidechain |
| 35 | BA | 192 | A | Sidechain |
| 35 | BA | 196 | A | Sidechain |
| 35 | BA | 197 | A | Sidechain |
| 35 | BA | 2 | A | Sidechain |
| 35 | BA | 20 | U | Sidechain |
| 35 | BA | 202 | G | Sidechain |
| 35 | BA | 203 | G | Sidechain |
| 35 | BA | 204 | G | Sidechain |
| 35 | BA | 207 | C | Sidechain |
| 35 | BA | 208 | U | Sidechain |
| 35 | BA | 21 | G | Sidechain |
| 35 | BA | 211 | G | Sidechain |
| 35 | BA | 213 | G | Sidechain |
| 35 | BA | 214 | C | Sidechain |
| 35 | BA | 22 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 35 | BA | 220 | G | Sidechain |
| 35 | BA | 221 | C | Sidechain |
| 35 | BA | 224 | U | Sidechain |
| 35 | BA | 226 | G | Sidechain |
| 35 | BA | 227 | G | Sidechain |
| 35 | BA | 229 | U | Sidechain |
| 35 | BA | 23 | C | Sidechain |
| 35 | BA | 230 | G | Sidechain |
| 35 | BA | 232 | G | Sidechain |
| 35 | BA | 233 | C | Sidechain |
| 35 | BA | 235 | C | Sidechain |
| 35 | BA | 238 | A | Sidechain |
| 35 | BA | 24 | U | Sidechain |
| 35 | BA | 240 | G | Sidechain |
| 35 | BA | 244 | U | Sidechain |
| 35 | BA | 245 | U | Sidechain |
| 35 | BA | 246 | A | Sidechain |
| 35 | BA | 247 | G | Sidechain |
| 35 | BA | 249 | U | Sidechain |
| 35 | BA | 251 | G | Sidechain |
| 35 | BA | 252 | U | Sidechain |
| 35 | BA | 255 | G | Sidechain |
| 35 | BA | 258 | G | Sidechain |
| 35 | BA | 259 | G | Sidechain |
| 35 | BA | 260 | G | Sidechain |
| 35 | BA | 261 | U | Sidechain |
| 35 | BA | 263 | A | Sidechain |
| 35 | BA | 264 | C | Sidechain |
| 35 | BA | 265 | G | Sidechain |
| 35 | BA | 266 | G | Sidechain |
| 35 | BA | 27 | G | Sidechain |
| 35 | BA | 271 | C | Sidechain |
| 35 | BA | 273 | U | Sidechain |
| 35 | BA | 275 | G | Sidechain |
| 35 | BA | 276 | G | Sidechain |
| 35 | BA | 278 | G | Sidechain |
| 35 | BA | 279 | A | Sidechain |
| 35 | BA | 280 | C | Sidechain |
| 35 | BA | 281 | G | Sidechain |
| 35 | BA | 285 | C | Sidechain |
| 35 | BA | 288 | A | Sidechain |
| 35 | BA | 29 | U | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 35 | BA | 291 | U | Sidechain |
| 35 | BA | 293 | G | Sidechain |
| 35 | BA | 295 | C | Sidechain |
| 35 | BA | 297 | G | Sidechain |
| 35 | BA | 298 | A | Sidechain |
| 35 | BA | 299 | G | Sidechain |
| 35 | BA | 3 | A | Sidechain |
| 35 | BA | 30 | U | Sidechain |
| 35 | BA | 301 | G | Sidechain |
| 35 | BA | 302 | G | Sidechain |
| 35 | BA | 303 | A | Sidechain |
| 35 | BA | 305 | G | Sidechain |
| 35 | BA | 306 | A | Sidechain |
| 35 | BA | 307 | C | Sidechain |
| 35 | BA | 309 | A | Sidechain |
| 35 | BA | 31 | G | Sidechain |
| 35 | BA | 314 | C | Sidechain |
| 35 | BA | 316 | C | Sidechain |
| 35 | BA | 317 | U | Sidechain |
| 35 | BA | 322 | C | Sidechain |
| 35 | BA | 323 | U | Sidechain |
| 35 | BA | 324 | G | Sidechain |
| 35 | BA | 326 | G | Sidechain |
| 35 | BA | 327 | A | Sidechain |
| 35 | BA | 328 | C | Sidechain |
| 35 | BA | 329 | A | Sidechain |
| 35 | BA | 33 | A | Sidechain |
| 35 | BA | 330 | C | Sidechain |
| 35 | BA | 331 | G | Sidechain |
| 35 | BA | 332 | G | Sidechain |
| 35 | BA | 334 | C | Sidechain |
| 35 | BA | 335 | C | Sidechain |
| 35 | BA | 337 | G | Sidechain |
| 35 | BA | 338 | A | Sidechain |
| 35 | BA | 341 | C | Sidechain |
| 35 | BA | 343 | U | Sidechain |
| 35 | BA | 347 | G | Sidechain |
| 35 | BA | 349 | A | Sidechain |
| 35 | BA | 35 | G | Sidechain |
| 35 | BA | 350 | G | Sidechain |
| 35 | BA | 352 | C | Sidechain |
| 35 | BA | 354 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 35 | BA | 355 | C | Sidechain |
| 35 | BA | 356 | A | Sidechain |
| 35 | BA | 357 | G | Sidechain |
| 35 | BA | 359 | G | Sidechain |
| 35 | BA | 36 | C | Sidechain |
| 35 | BA | 360 | G | Sidechain |
| 35 | BA | 366 | A | Sidechain |
| 35 | BA | 367 | U | Sidechain |
| 35 | BA | 368 | U | Sidechain |
| 35 | BA | 369 | G | Sidechain |
| 35 | BA | 37 | U | Sidechain |
| 35 | BA | 370 | C | Sidechain |
| 35 | BA | 371 | A | Sidechain |
| 35 | BA | 373 | A | Sidechain |
| 35 | BA | 375 | U | Sidechain |
| 35 | BA | 378 | G | Sidechain |
| 35 | BA | 38 | G | Sidechain |
| 35 | BA | 380 | G | Sidechain |
| 35 | BA | 381 | C | Sidechain |
| 35 | BA | 382 | A | Sidechain |
| 35 | BA | 384 | G | Sidechain |
| 35 | BA | 385 | C | Sidechain |
| 35 | BA | 386 | C | Sidechain |
| 35 | BA | 387 | U | Sidechain |
| 35 | BA | 388 | G | Sidechain |
| 35 | BA | 390 | U | Sidechain |
| 35 | BA | 391 | G | Sidechain |
| 35 | BA | 392 | C | Sidechain |
| 35 | BA | 396 | C | Sidechain |
| 35 | BA | 397 | A | Sidechain |
| 35 | BA | 399 | G | Sidechain |
| 35 | BA | 40 | C | Sidechain |
| 35 | BA | 400 | C | Sidechain |
| 35 | BA | 401 | C | Sidechain |
| 35 | BA | 403 | C | Sidechain |
| 35 | BA | 404 | G | Sidechain |
| 35 | BA | 406 | G | Sidechain |
| 35 | BA | 408 | A | Sidechain |
| 35 | BA | 409 | U | Sidechain |
| 35 | BA | 41 | G | Sidechain |
| 35 | BA | 410 | G | Sidechain |
| 35 | BA | 412 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 35 | BA | 414 | A | Sidechain |
| 35 | BA | 415 | A | Sidechain |
| 35 | BA | 416 | G | Sidechain |
| 35 | BA | 417 | G | Sidechain |
| 35 | BA | 418 | C | Sidechain |
| 35 | BA | 419 | C | Sidechain |
| 35 | BA | 42 | G | Sidechain |
| 35 | BA | 421 | U | Sidechain |
| 35 | BA | 422 | C | Sidechain |
| 35 | BA | 423 | G | Sidechain |
| 35 | BA | 426 | U | Sidechain |
| 35 | BA | 429 | U | Sidechain |
| 35 | BA | 433 | G | Sidechain |
| 35 | BA | 434 | U | Sidechain |
| 35 | BA | 435 | A | Sidechain |
| 35 | BA | 436 | C | Sidechain |
| 35 | BA | 437 | U | Sidechain |
| 35 | BA | 442 | G | Sidechain |
| 35 | BA | 443 | C | Sidechain |
| 35 | BA | 444 | G | Sidechain |
| 35 | BA | 445 | G | Sidechain |
| 35 | BA | 446 | G | Sidechain |
| 35 | BA | 448 | A | Sidechain |
| 35 | BA | 45 | G | Sidechain |
| 35 | BA | 450 | G | Sidechain |
| 35 | BA | 456 | A | Sidechain |
| 35 | BA | 457 | G | Sidechain |
| 35 | BA | 458 | U | Sidechain |
| 35 | BA | 459 | A | Sidechain |
| 35 | BA | 460 | A | Sidechain |
| 35 | BA | 461 | A | Sidechain |
| 35 | BA | 462 | G | Sidechain |
| 35 | BA | 463 | U | Sidechain |
| 35 | BA | 464 | U | Sidechain |
| 35 | BA | 466 | A | Sidechain |
| 35 | BA | 468 | A | Sidechain |
| 35 | BA | 473 | U | Sidechain |
| 35 | BA | 474 | G | Sidechain |
| 35 | BA | 478 | A | Sidechain |
| 35 | BA | 48 | C | Sidechain |
| 35 | BA | 481 | G | Sidechain |
| 35 | BA | 482 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 35 | BA | 483 | C | Sidechain |
| 35 | BA | 484 | G | Sidechain |
| 35 | BA | 485 | U | Sidechain |
| 35 | BA | 486 | U | Sidechain |
| 35 | BA | 490 | C | Sidechain |
| 35 | BA | 491 | G | Sidechain |
| 35 | BA | 493 | A | Sidechain |
| 35 | BA | 494 | G | Sidechain |
| 35 | BA | 496 | A | Sidechain |
| 35 | BA | 498 | A | Sidechain |
| 35 | BA | 5 | U | Sidechain |
| 35 | BA | 50 | A | Sidechain |
| 35 | BA | 500 | G | Sidechain |
| 35 | BA | 501 | C | Sidechain |
| 35 | BA | 503 | C | Sidechain |
| 35 | BA | 505 | G | Sidechain |
| 35 | BA | 507 | C | Sidechain |
| 35 | BA | 508 | U | Sidechain |
| 35 | BA | 510 | A | Sidechain |
| 35 | BA | 511 | C | Sidechain |
| 35 | BA | 512 | U | Sidechain |
| 35 | BA | 514 | C | Sidechain |
| 35 | BA | 517 | G | Sidechain |
| 35 | BA | 519 | C | Sidechain |
| 35 | BA | 520 | A | Sidechain |
| 35 | BA | 523 | A | Sidechain |
| 35 | BA | 525 | C | Sidechain |
| 35 | BA | 528 | C | Sidechain |
| 35 | BA | 529 | G | Sidechain |
| 35 | BA | 53 | A | Sidechain |
| 35 | BA | 531 | U | Sidechain |
| 35 | BA | 532 | A | Sidechain |
| 35 | BA | 536 | C | Sidechain |
| 35 | BA | 538 | G | Sidechain |
| 35 | BA | 540 | G | Sidechain |
| 35 | BA | 542 | G | Sidechain |
| 35 | BA | 543 | U | Sidechain |
| 35 | BA | 544 | G | Sidechain |
| 35 | BA | 545 | C | Sidechain |
| 35 | BA | 546 | A | Sidechain |
| 35 | BA | 548 | G | Sidechain |
| 35 | BA | 550 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 35 | BA | 552 | U | Sidechain |
| 35 | BA | 553 | A | Sidechain |
| 35 | BA | 555 | U | Sidechain |
| 35 | BA | 556 | C | Sidechain |
| 35 | BA | 558 | G | Sidechain |
| 35 | BA | 562 | U | Sidechain |
| 35 | BA | 563 | A | Sidechain |
| 35 | BA | 565 | U | Sidechain |
| 35 | BA | 566 | G | Sidechain |
| 35 | BA | 567 | G | Sidechain |
| 35 | BA | 57 | G | Sidechain |
| 35 | BA | 570 | G | Sidechain |
| 35 | BA | 571 | U | Sidechain |
| 35 | BA | 573 | A | Sidechain |
| 35 | BA | 575 | G | Sidechain |
| 35 | BA | 576 | C | Sidechain |
| 35 | BA | 577 | G | Sidechain |
| 35 | BA | 579 | A | Sidechain |
| 35 | BA | 58 | C | Sidechain |
| 35 | BA | 580 | C | Sidechain |
| 35 | BA | 581 | G | Sidechain |
| 35 | BA | 583 | A | Sidechain |
| 35 | BA | 584 | G | Sidechain |
| 35 | BA | 587 | G | Sidechain |
| 35 | BA | 592 | G | Sidechain |
| 35 | BA | 593 | U | Sidechain |
| 35 | BA | 596 | A | Sidechain |
| 35 | BA | 597 | G | Sidechain |
| 35 | BA | 598 | U | Sidechain |
| 35 | BA | 599 | C | Sidechain |
| 35 | BA | 6 | G | Sidechain |
| 35 | BA | 60 | A | Sidechain |
| 35 | BA | 600 | A | Sidechain |
| 35 | BA | 603 | U | Sidechain |
| 35 | BA | 608 | A | Sidechain |
| 35 | BA | 609 | A | Sidechain |
| 35 | BA | 61 | G | Sidechain |
| 35 | BA | 610 | U | Sidechain |
| 35 | BA | 611 | C | Sidechain |
| 35 | BA | 613 | C | Sidechain |
| 35 | BA | 615 | G | Sidechain |
| 35 | BA | 616 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 35 | BA | 617 | G | Sidechain |
| 35 | BA | 618 | C | Sidechain |
| 35 | BA | 620 | C | Sidechain |
| 35 | BA | 621 | A | Sidechain |
| 35 | BA | 623 | C | Sidechain |
| 35 | BA | 624 | C | Sidechain |
| 35 | BA | 627 | G | Sidechain |
| 35 | BA | 628 | G | Sidechain |
| 35 | BA | 629 | A | Sidechain |
| 35 | BA | 63 | C | Sidechain |
| 35 | BA | 632 | U | Sidechain |
| 35 | BA | 633 | G | Sidechain |
| 35 | BA | 634 | C | Sidechain |
| 35 | BA | 637 | C | Sidechain |
| 35 | BA | 638 | U | Sidechain |
| 35 | BA | 639 | G | Sidechain |
| 35 | BA | 64 | G | Sidechain |
| 35 | BA | 641 | U | Sidechain |
| 35 | BA | 642 | A | Sidechain |
| 35 | BA | 643 | C | Sidechain |
| 35 | BA | 645 | G | Sidechain |
| 35 | BA | 646 | G | Sidechain |
| 35 | BA | 648 | A | Sidechain |
| 35 | BA | 649 | A | Sidechain |
| 35 | BA | 65 | A | Sidechain |
| 35 | BA | 650 | G | Sidechain |
| 35 | BA | 651 | C | Sidechain |
| 35 | BA | 652 | U | Sidechain |
| 35 | BA | 653 | U | Sidechain |
| 35 | BA | 654 | G | Sidechain |
| 35 | BA | 656 | G | Sidechain |
| 35 | BA | 657 | U | Sidechain |
| 35 | BA | 663 | A | Sidechain |
| 35 | BA | 666 | G | Sidechain |
| 35 | BA | 667 | G | Sidechain |
| 35 | BA | 668 | G | Sidechain |
| 35 | BA | 67 | C | Sidechain |
| 35 | BA | 670 | G | Sidechain |
| 35 | BA | 671 | G | Sidechain |
| 35 | BA | 672 | U | Sidechain |
| 35 | BA | 673 | A | Sidechain |
| 35 | BA | 676 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 35 | BA | 678 | U | Sidechain |
| 35 | BA | 680 | C | Sidechain |
| 35 | BA | 682 | G | Sidechain |
| 35 | BA | 684 | U | Sidechain |
| 35 | BA | 686 | U | Sidechain |
| 35 | BA | 687 | A | Sidechain |
| 35 | BA | 689 | C | Sidechain |
| 35 | BA | 69 | G | Sidechain |
| 35 | BA | 690 | G | Sidechain |
| 35 | BA | 692 | U | Sidechain |
| 35 | BA | 693 | G | Sidechain |
| 35 | BA | 694 | A | Sidechain |
| 35 | BA | 695 | A | Sidechain |
| 35 | BA | 696 | A | Sidechain |
| 35 | BA | 697 | U | Sidechain |
| 35 | BA | 698 | G | Sidechain |
| 35 | BA | 7 | A | Sidechain |
| 35 | BA | 701 | U | Sidechain |
| 35 | BA | 703 | G | Sidechain |
| 35 | BA | 704 | A | Sidechain |
| 35 | BA | 709 | U | Sidechain |
| 35 | BA | 710 | G | Sidechain |
| 35 | BA | 711 | G | Sidechain |
| 35 | BA | 712 | A | Sidechain |
| 35 | BA | 714 | G | Sidechain |
| 35 | BA | 715 | A | Sidechain |
| 35 | BA | 716 | A | Sidechain |
| 35 | BA | 719 | C | Sidechain |
| 35 | BA | 72 | A | Sidechain |
| 35 | BA | 720 | C | Sidechain |
| 35 | BA | 721 | G | Sidechain |
| 35 | BA | 722 | G | Sidechain |
| 35 | BA | 723 | U | Sidechain |
| 35 | BA | 725 | G | Sidechain |
| 35 | BA | 727 | G | Sidechain |
| 35 | BA | 728 | A | Sidechain |
| 35 | BA | 729 | A | Sidechain |
| 35 | BA | 730 | G | Sidechain |
| 35 | BA | 731 | G | Sidechain |
| 35 | BA | 732 | C | Sidechain |
| 35 | BA | 733 | G | Sidechain |
| 35 | BA | 734 | G | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 35 | BA | 736 | C | Sidechain |
| 35 | BA | 738 | C | Sidechain |
| 35 | BA | 74 | A | Sidechain |
| 35 | BA | 740 | U | Sidechain |
| 35 | BA | 742 | G | Sidechain |
| 35 | BA | 743 | A | Sidechain |
| 35 | BA | 746 | A | Sidechain |
| 35 | BA | 747 | A | Sidechain |
| 35 | BA | 748 | G | Sidechain |
| 35 | BA | 749 | A | Sidechain |
| 35 | BA | 750 | C | Sidechain |
| 35 | BA | 752 | G | Sidechain |
| 35 | BA | 753 | A | Sidechain |
| 35 | BA | 755 | G | Sidechain |
| 35 | BA | 757 | U | Sidechain |
| 35 | BA | 759 | A | Sidechain |
| 35 | BA | 76 | G | Sidechain |
| 35 | BA | 762 | U | Sidechain |
| 35 | BA | 763 | G | Sidechain |
| 35 | BA | 764 | C | Sidechain |
| 35 | BA | 766 | A | Sidechain |
| 35 | BA | 767 | A | Sidechain |
| 35 | BA | 769 | G | Sidechain |
| 35 | BA | 77 | A | Sidechain |
| 35 | BA | 770 | C | Sidechain |
| 35 | BA | 771 | G | Sidechain |
| 35 | BA | 772 | U | Sidechain |
| 35 | BA | 773 | G | Sidechain |
| 35 | BA | 776 | G | Sidechain |
| 35 | BA | 778 | G | Sidechain |
| 35 | BA | 779 | C | Sidechain |
| 35 | BA | 78 | A | Sidechain |
| 35 | BA | 782 | A | Sidechain |
| 35 | BA | 785 | G | Sidechain |
| 35 | BA | 786 | G | Sidechain |
| 35 | BA | 787 | A | Sidechain |
| 35 | BA | 788 | U | Sidechain |
| 35 | BA | 79 | G | Sidechain |
| 35 | BA | 795 | C | Sidechain |
| 35 | BA | 796 | C | Sidechain |
| 35 | BA | 797 | C | Sidechain |
| 35 | BA | 798 | U | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 35 | BA | 799 | G | Sidechain |
| 35 | BA | 80 | A | Sidechain |
| 35 | BA | 800 | G | Sidechain |
| 35 | BA | 802 | A | Sidechain |
| 35 | BA | 803 | G | Sidechain |
| 35 | BA | 805 | C | Sidechain |
| 35 | BA | 806 | C | Sidechain |
| 35 | BA | 808 | C | Sidechain |
| 35 | BA | 809 | G | Sidechain |
| 35 | BA | 812 | G | Sidechain |
| 35 | BA | 813 | U | Sidechain |
| 35 | BA | 814 | A | Sidechain |
| 35 | BA | 816 | A | Sidechain |
| 35 | BA | 817 | C | Sidechain |
| 35 | BA | 818 | G | Sidechain |
| 35 | BA | 819 | A | Sidechain |
| 35 | BA | 82 | G | Sidechain |
| 35 | BA | 820 | U | Sidechain |
| 35 | BA | 821 | G | Sidechain |
| 35 | BA | 822 | U | Sidechain |
| 35 | BA | 826 | C | Sidechain |
| 35 | BA | 827 | U | Sidechain |
| 35 | BA | 83 | C | Sidechain |
| 35 | BA | 830 | G | Sidechain |
| 35 | BA | 832 | G | Sidechain |
| 35 | BA | 834 | U | Sidechain |
| 35 | BA | 835 | U | Sidechain |
| 35 | BA | 837 | U | Sidechain |
| 35 | BA | 838 | G | Sidechain |
| 35 | BA | 839 | C | Sidechain |
| 35 | BA | 84 | U | Sidechain |
| 35 | BA | 840 | C | Sidechain |
| 35 | BA | 841 | C | Sidechain |
| 35 | BA | 846 | G | Sidechain |
| 35 | BA | 847 | G | Sidechain |
| 35 | BA | 849 | G | Sidechain |
| 35 | BA | 85 | U | Sidechain |
| 35 | BA | 850 | U | Sidechain |
| 35 | BA | 851 | G | Sidechain |
| 35 | BA | 852 | G | Sidechain |
| 35 | BA | 854 | U | Sidechain |
| 35 | BA | 857 | C | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 35 | BA | 858 | G | Sidechain |
| 35 | BA | 859 | G | Sidechain |
| 35 | BA | 860 | A | Sidechain |
| 35 | BA | 861 | G | Sidechain |
| 35 | BA | 862 | C | Sidechain |
| 35 | BA | 863 | U | Sidechain |
| 35 | BA | 864 | A | Sidechain |
| 35 | BA | 865 | A | Sidechain |
| 35 | BA | 867 | G | Sidechain |
| 35 | BA | 868 | C | Sidechain |
| 35 | BA | 869 | G | Sidechain |
| 35 | BA | 87 | C | Sidechain |
| 35 | BA | 870 | U | Sidechain |
| 35 | BA | 873 | A | Sidechain |
| 35 | BA | 875 | U | Sidechain |
| 35 | BA | 879 | C | Sidechain |
| 35 | BA | 881 | G | Sidechain |
| 35 | BA | 882 | C | Sidechain |
| 35 | BA | 884 | U | Sidechain |
| 35 | BA | 885 | G | Sidechain |
| 35 | BA | 886 | G | Sidechain |
| 35 | BA | 887 | G | Sidechain |
| 35 | BA | 888 | G | Sidechain |
| 35 | BA | 889 | A | Sidechain |
| 35 | BA | 89 | U | Sidechain |
| 35 | BA | 890 | G | Sidechain |
| 35 | BA | 892 | A | Sidechain |
| 35 | BA | 894 | G | Sidechain |
| 35 | BA | 898 | G | Sidechain |
| 35 | BA | 899 | C | Sidechain |
| 35 | BA | 9 | G | Sidechain |
| 35 | BA | 90 | C | Sidechain |
| 35 | BA | 900 | A | Sidechain |
| 35 | BA | 901 | A | Sidechain |
| 35 | BA | 902 | G | Sidechain |
| 35 | BA | 903 | G | Sidechain |
| 35 | BA | 905 | U | Sidechain |
| 35 | BA | 906 | A | Sidechain |
| 35 | BA | 907 | A | Sidechain |
| 35 | BA | 91 | U | Sidechain |
| 35 | BA | 913 | A | Sidechain |
| 35 | BA | 914 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 35 | BA | 915 | A | Sidechain |
| 35 | BA | 916 | U | Sidechain |
| 35 | BA | 917 | G | Sidechain |
| 35 | BA | 92 | U | Sidechain |
| 35 | BA | 920 | U | Sidechain |
| 35 | BA | 921 | U | Sidechain |
| 35 | BA | 924 | C | Sidechain |
| 35 | BA | 925 | G | Sidechain |
| 35 | BA | 926 | G | Sidechain |
| 35 | BA | 927 | G | Sidechain |
| 35 | BA | 928 | G | Sidechain |
| 35 | BA | 929 | G | Sidechain |
| 35 | BA | 93 | U | Sidechain |
| 35 | BA | 930 | C | Sidechain |
| 35 | BA | 933 | G | Sidechain |
| 35 | BA | 934 | C | Sidechain |
| 35 | BA | 938 | A | Sidechain |
| 35 | BA | 939 | G | Sidechain |
| 35 | BA | 94 | G | Sidechain |
| 35 | BA | 940 | C | Sidechain |
| 35 | BA | 941 | G | Sidechain |
| 35 | BA | 945 | G | Sidechain |
| 35 | BA | 95 | C | Sidechain |
| 35 | BA | 950 | U | Sidechain |
| 35 | BA | 951 | G | Sidechain |
| 35 | BA | 952 | U | Sidechain |
| 35 | BA | 955 | U | Sidechain |
| 35 | BA | 957 | U | Sidechain |
| 35 | BA | 959 | A | Sidechain |
| 35 | BA | 960 | U | Sidechain |
| 35 | BA | 961 | U | Sidechain |
| 35 | BA | 963 | G | Sidechain |
| 35 | BA | 964 | A | Sidechain |
| 35 | BA | 965 | U | Sidechain |
| 35 | BA | 968 | A | Sidechain |
| 35 | BA | 97 | G | Sidechain |
| 35 | BA | 972 | C | Sidechain |
| 35 | BA | 973 | G | Sidechain |
| 35 | BA | 975 | A | Sidechain |
| 35 | BA | 976 | G | Sidechain |
| 35 | BA | 980 | C | Sidechain |
| 35 | BA | 982 | U | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 35 | BA | 983 | A | Sidechain |
| 35 | BA | 984 | C | Sidechain |
| 35 | BA | 986 | U | Sidechain |
| 35 | BA | 987 | G | Sidechain |
| 35 | BA | 988 | G | Sidechain |
| 35 | BA | 989 | U | Sidechain |
| 35 | BA | 994 | A | Sidechain |
| 35 | BA | 995 | C | Sidechain |
| 35 | BA | 997 | U | Sidechain |
| 35 | BA | 998 | C | Sidechain |
| 36 | BB | 13 | A | Sidechain |
| 36 | BB | 14 | G | Sidechain |
| 36 | BB | 15 | G | Sidechain |
| 36 | BB | 16 | A | Sidechain |
| 36 | BB | 17 | U | Sidechain |
| 36 | BB | 18 | A | Sidechain |
| 36 | BB | 20 | G | Sidechain |
| 36 | BB | 23 | C | Sidechain |
| 36 | BB | 25 | U | Sidechain |
| 36 | BB | 29 | G | Sidechain |
| 36 | BB | 30 | U | Sidechain |
| 36 | BB | 33 | A | Sidechain |
| 36 | BB | 34 | U | Sidechain |
| 36 | BB | 35 | G | Sidechain |
| 36 | BB | 36 | U | Sidechain |
| 36 | BB | 37 | G | Sidechain |
| 36 | BB | 38 | G | Sidechain |
| 36 | BB | 39 | U | Sidechain |
| 36 | BB | 40 | G | Sidechain |
| 36 | BB | 42 | U | Sidechain |
| 36 | BB | 43 | U | Sidechain |
| 36 | BB | 44 | U | Sidechain |
| 36 | BB | 45 | G | Sidechain |
| 36 | BB | 46 | C | Sidechain |
| 36 | BB | 47 | C | Sidechain |
| 36 | BB | 49 | U | Sidechain |
| 36 | BB | 53 | G | Sidechain |
| 36 | BB | 54 | U | Sidechain |
| 36 | BB | 56 | G | Sidechain |
| 36 | BB | 59 | A | Sidechain |
| 37 | BC | 12 | G | Sidechain |
| 37 | BC | 14 | A | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 37 | BC | 15 | G | Sidechain |
| 37 | BC | 16 | C | Sidechain |
| 37 | BC | 17 | C | Sidechain |
| 37 | BC | 2 | G | Sidechain |
| 37 | BC | 20 | G | Sidechain |
| 37 | BC | 25 | U | Sidechain |
| 37 | BC | 29 | C | Sidechain |
| 37 | BC | 3 | C | Sidechain |
| 37 | BC | 30 | G | Sidechain |
| 37 | BC | 31 | G | Sidechain |
| 37 | BC | 32 | G | Sidechain |
| 37 | BC | 35 | C | Sidechain |
| 37 | BC | 37 | U | Sidechain |
| 37 | BC | 38 | A | Sidechain |
| 37 | BC | 40 | C | Sidechain |
| 37 | BC | 41 | C | Sidechain |
| 37 | BC | 43 | G | Sidechain |
| 37 | BC | 44 | A | Sidechain |
| 37 | BC | 46 | G | Sidechain |
| 37 | BC | 47 | A | Sidechain |
| 37 | BC | 48 | U | Sidechain |
| 37 | BC | 49 | C | Sidechain |
| 37 | BC | 5 | G | Sidechain |
| 37 | BC | 50 | G | Sidechain |
| 37 | BC | 51 | U | Sidechain |
| 37 | BC | 53 | G | Sidechain |
| 37 | BC | 58 | A | Sidechain |
| 37 | BC | 59 | A | Sidechain |
| 37 | BC | 60 | A | Sidechain |
| 37 | BC | 63 | C | Sidechain |
| 37 | BC | 64 | G | Sidechain |
| 37 | BC | 65 | G | Sidechain |
| 37 | BC | 67 | C | Sidechain |
| 37 | BC | 7 | G | Sidechain |
| 37 | BC | 71 | G | Sidechain |
| 37 | BC | 72 | C | Sidechain |
| 37 | BC | 73 | A | Sidechain |
| 37 | BC | 77 | A | Sidechain |
| 37 | BC | 9 | G | Sidechain |
| 38 | BD | 112 | ARG | Sidechain |
| 38 | BD | 198 | VAL | Peptide |
| 38 | BD | 21 | TYR | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 38 | BD | 89 | PHE | Sidechain |
| 39 | BE | 125 | ARG | Sidechain |
| 39 | BE | 131 | ARG | Sidechain |
| 39 | BE | 155 | ARG | Sidechain |
| 39 | BE | 167 | TYR | Sidechain |
| 39 | BE | 171 | ARG | Sidechain |
| 39 | BE | 175 | HIS | Sidechain |
| 39 | BE | 208 | GLY | Peptide |
| 39 | BE | 36 | PHE | Sidechain |
| 39 | BE | 96 | VAL | Mainchain |
| 40 | BF | 145 | ARG | Sidechain |
| 40 | BF | 163 | GLN | Peptide |
| 40 | BF | 64 | TYR | Sidechain |
| 41 | BG | 156 | ARG | Mainchain |
| 41 | BG | 49 | TYR | Sidechain |
| 41 | BG | 73 | VAL | Peptide |
| 42 | BH | 111 | GLU | Peptide |
| 42 | BH | 46 | GLN | Peptide |
| 42 | BH | 49 | TYR | Sidechain |
| 42 | BH | 59 | TYR | Sidechain |
| 42 | BH | 64 | VAL | Peptide |
| 42 | BH | 69 | GLU | Mainchain |
| 42 | BH | 78 | PHE | Sidechain |
| 42 | BH | 79 | ARG | Sidechain |
| 42 | BH | 80 | PHE | Sidechain |
| 43 | BI | 154 | ARG | Peptide |
| 43 | BI | 61 | PHE | Sidechain |
| 43 | BI | 89 | GLU | Mainchain |
| 44 | BJ | 100 | ILE | Peptide |
| 44 | BJ | 113 | ARG | Sidechain |
| 44 | BJ | 12 | ARG | Sidechain |
| 44 | BJ | 127 | TYR | Sidechain |
| 44 | BJ | 20 | ASN | Mainchain |
| 44 | BJ | 44 | PHE | Peptide |
| 44 | BJ | 64 | TYR | Sidechain |
| 45 | BK | 108 | ARG | Sidechain |
| 45 | BK | 122 | ARG | Sidechain |
| 45 | BK | 123 | ARG | Sidechain |
| 45 | BK | 48 | ARG | Sidechain |
| 45 | BK | 84 | ARG | Sidechain |
| 46 | BL | 13 | PHE | Sidechain |
| 46 | BL | 65 | TYR | Sidechain |

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| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-------------------|
| 47 | BM | 126 | ARG | Sidechain |
| 48 | BN | 116 | TYR | Peptide |
| 48 | BN | 120 | ARG | Sidechain |
| 48 | BN | 37 | TYR | Peptide |
| 48 | BN | 42 | LYS | Peptide |
| 48 | BN | 71 | HIS | Sidechain |
| 48 | BN | 94 | TYR | Sidechain |
| 49 | BO | 106 | ARG | Sidechain |
| 49 | BO | 22 | TYR | Sidechain |
| 49 | BO | 78 | ARG | Sidechain |
| 49 | BO | 85 | TYR | Sidechain |
| 50 | BP | 68 | ARG | Sidechain |
| 51 | BQ | 50 | HIS | Sidechain |
| 51 | BQ | 63 | ARG | Sidechain |
| 52 | BR | 17 | TYR | Sidechain |
| 52 | BR | 6 | LEU | Peptide |
| 53 | BS | 33 | TYR | Sidechain |
| 54 | BT | 10 | CYS | Peptide |
| 54 | BT | 50 | TYR | Sidechain |
| 55 | BU | 73 | PHE | Sidechain |
| 55 | BU | 82 | HIS | Peptide,Mainchain |
| 55 | BU | 87 | LYS | Peptide |
| 57 | BW | 11 | PHE | Sidechain |
| 57 | BW | 20 | ARG | Sidechain |
| 57 | BW | 44 | ARG | Sidechain |
| 57 | BW | 68 | ARG | Sidechain |

5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1 | AA | 2566 | 0 | 1299 | 0 | 0 |
| 2 | AB | 62351 | 0 | 31248 | 0 | 0 |
| 3 | AC | 1733 | 0 | 1824 | 0 | 0 |
| 4 | AD | 2092 | 0 | 2170 | 0 | 0 |
| 5 | AE | 1565 | 0 | 1616 | 0 | 0 |
| 6 | AF | 1552 | 0 | 1619 | 0 | 0 |
| 7 | AG | 1420 | 0 | 1460 | 0 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 8 | AH | 1323 | 0 | 1374 | 0 | 0 |
| 9 | AI | 1111 | 0 | 1148 | 0 | 0 |
| 10 | AJ | 1233 | 0 | 1283 | 0 | 0 |
| 11 | AK | 1032 | 0 | 1088 | 0 | 0 |
| 12 | AL | 1129 | 0 | 1162 | 0 | 0 |
| 13 | AM | 947 | 0 | 1023 | 0 | 0 |
| 14 | AN | 1053 | 0 | 1129 | 0 | 0 |
| 15 | AO | 1074 | 0 | 1157 | 0 | 0 |
| 16 | AP | 1008 | 0 | 1045 | 0 | 0 |
| 17 | AQ | 900 | 0 | 935 | 0 | 0 |
| 18 | AR | 917 | 0 | 965 | 0 | 0 |
| 19 | AS | 947 | 0 | 1022 | 0 | 0 |
| 20 | AT | 816 | 0 | 839 | 0 | 0 |
| 21 | AU | 857 | 0 | 922 | 0 | 0 |
| 22 | AV | 787 | 0 | 846 | 0 | 0 |
| 23 | AW | 789 | 0 | 847 | 0 | 0 |
| 24 | AX | 753 | 0 | 780 | 0 | 0 |
| 25 | AY | 634 | 0 | 656 | 0 | 0 |
| 26 | AZ | 625 | 0 | 655 | 0 | 0 |
| 27 | A0 | 509 | 0 | 543 | 0 | 0 |
| 28 | A1 | 449 | 0 | 491 | 0 | 0 |
| 29 | A2 | 549 | 0 | 552 | 0 | 0 |
| 30 | A3 | 444 | 0 | 461 | 0 | 0 |
| 31 | A4 | 441 | 0 | 485 | 0 | 0 |
| 32 | A5 | 377 | 0 | 418 | 0 | 0 |
| 33 | A6 | 504 | 0 | 574 | 0 | 0 |
| 34 | A7 | 302 | 0 | 343 | 0 | 0 |
| 35 | BA | 33089 | 0 | 16599 | 0 | 0 |
| 36 | BB | 993 | 0 | 501 | 0 | 0 |
| 37 | BC | 1641 | 0 | 841 | 0 | 0 |
| 38 | BD | 1872 | 0 | 1885 | 0 | 0 |
| 39 | BE | 1822 | 0 | 1913 | 0 | 0 |
| 40 | BF | 1643 | 0 | 1710 | 0 | 0 |
| 41 | BG | 1225 | 0 | 1273 | 0 | 0 |
| 42 | BH | 1101 | 0 | 1050 | 0 | 0 |
| 43 | BI | 1400 | 0 | 1449 | 0 | 0 |
| 44 | BJ | 979 | 0 | 1034 | 0 | 0 |
| 45 | BK | 1036 | 0 | 1084 | 0 | 0 |
| 46 | BL | 825 | 0 | 865 | 0 | 0 |
| 47 | BM | 965 | 0 | 997 | 0 | 0 |
| 48 | BN | 955 | 0 | 1019 | 0 | 0 |
| 49 | BO | 910 | 0 | 981 | 0 | 0 |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|--------|----------|----------|---------|--------------|
| 50 | BP | 805 | 0 | 847 | 0 | 0 |
| 51 | BQ | 716 | 0 | 742 | 0 | 0 |
| 52 | BR | 649 | 0 | 666 | 0 | 0 |
| 53 | BS | 672 | 0 | 716 | 0 | 0 |
| 54 | BT | 626 | 0 | 651 | 0 | 0 |
| 55 | BU | 727 | 0 | 769 | 0 | 0 |
| 56 | BV | 670 | 0 | 722 | 0 | 0 |
| 57 | BW | 590 | 0 | 631 | 0 | 0 |
| All | All | 150700 | 0 | 102924 | 0 | 0 |

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). Clashscore could not be calculated for this entry.

There are no clashes within the asymmetric unit.

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|---------------|-----------|----------|----------|-------------|----|
| 3 | AC | 232/234 (99%) | 215 (93%) | 12 (5%) | 5 (2%) | 6 | 35 |
| 4 | AD | 270/272 (99%) | 237 (88%) | 24 (9%) | 9 (3%) | 4 | 26 |
| 5 | AE | 207/209 (99%) | 175 (84%) | 24 (12%) | 8 (4%) | 3 | 23 |
| 6 | AF | 199/201 (99%) | 173 (87%) | 16 (8%) | 10 (5%) | 2 | 20 |
| 7 | AG | 176/178 (99%) | 151 (86%) | 15 (8%) | 10 (6%) | 1 | 18 |
| 8 | AH | 174/176 (99%) | 159 (91%) | 11 (6%) | 4 (2%) | 6 | 34 |
| 9 | AI | 147/149 (99%) | 131 (89%) | 12 (8%) | 4 (3%) | 5 | 31 |
| 10 | AJ | 162/164 (99%) | 155 (96%) | 6 (4%) | 1 (1%) | 25 | 66 |
| 11 | AK | 139/141 (99%) | 134 (96%) | 4 (3%) | 1 (1%) | 22 | 63 |
| 12 | AL | 140/142 (99%) | 120 (86%) | 15 (11%) | 5 (4%) | 3 | 25 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|---------------|-----------|----------|----------|-------------|-----|
| 13 | AM | 121/123 (98%) | 105 (87%) | 12 (10%) | 4 (3%) | 4 | 26 |
| 14 | AN | 142/144 (99%) | 125 (88%) | 14 (10%) | 3 (2%) | 7 | 36 |
| 15 | AO | 134/136 (98%) | 124 (92%) | 8 (6%) | 2 (2%) | 10 | 46 |
| 16 | AP | 125/127 (98%) | 115 (92%) | 9 (7%) | 1 (1%) | 19 | 60 |
| 17 | AQ | 115/117 (98%) | 110 (96%) | 5 (4%) | 0 | 100 | 100 |
| 18 | AR | 112/114 (98%) | 97 (87%) | 13 (12%) | 2 (2%) | 8 | 40 |
| 19 | AS | 115/117 (98%) | 108 (94%) | 3 (3%) | 4 (4%) | 3 | 25 |
| 20 | AT | 101/103 (98%) | 89 (88%) | 9 (9%) | 3 (3%) | 4 | 28 |
| 21 | AU | 108/110 (98%) | 99 (92%) | 5 (5%) | 4 (4%) | 3 | 24 |
| 22 | AV | 98/100 (98%) | 77 (79%) | 18 (18%) | 3 (3%) | 4 | 27 |
| 23 | AW | 101/103 (98%) | 89 (88%) | 9 (9%) | 3 (3%) | 4 | 28 |
| 24 | AX | 92/94 (98%) | 84 (91%) | 7 (8%) | 1 (1%) | 14 | 52 |
| 25 | AY | 82/84 (98%) | 64 (78%) | 14 (17%) | 4 (5%) | 2 | 20 |
| 26 | AZ | 75/77 (97%) | 68 (91%) | 4 (5%) | 3 (4%) | 3 | 23 |
| 27 | A0 | 61/63 (97%) | 56 (92%) | 4 (7%) | 1 (2%) | 9 | 44 |
| 28 | A1 | 56/58 (97%) | 54 (96%) | 2 (4%) | 0 | 100 | 100 |
| 29 | A2 | 68/70 (97%) | 64 (94%) | 3 (4%) | 1 (2%) | 10 | 46 |
| 30 | A3 | 54/56 (96%) | 48 (89%) | 4 (7%) | 2 (4%) | 3 | 24 |
| 31 | A4 | 52/54 (96%) | 49 (94%) | 1 (2%) | 2 (4%) | 3 | 24 |
| 32 | A5 | 44/46 (96%) | 40 (91%) | 2 (4%) | 2 (4%) | 2 | 22 |
| 33 | A6 | 62/64 (97%) | 58 (94%) | 3 (5%) | 1 (2%) | 9 | 44 |
| 34 | A7 | 36/38 (95%) | 29 (81%) | 4 (11%) | 3 (8%) | 1 | 12 |
| 38 | BD | 238/240 (99%) | 218 (92%) | 14 (6%) | 6 (2%) | 5 | 32 |
| 39 | BE | 230/232 (99%) | 217 (94%) | 9 (4%) | 4 (2%) | 9 | 42 |
| 40 | BF | 203/205 (99%) | 186 (92%) | 13 (6%) | 4 (2%) | 7 | 38 |
| 41 | BG | 164/166 (99%) | 150 (92%) | 12 (7%) | 2 (1%) | 13 | 50 |
| 42 | BH | 133/135 (98%) | 123 (92%) | 9 (7%) | 1 (1%) | 19 | 60 |
| 43 | BI | 176/178 (99%) | 168 (96%) | 5 (3%) | 3 (2%) | 9 | 42 |
| 44 | BJ | 127/129 (98%) | 119 (94%) | 7 (6%) | 1 (1%) | 19 | 60 |
| 45 | BK | 127/129 (98%) | 114 (90%) | 10 (8%) | 3 (2%) | 6 | 33 |
| 46 | BL | 101/103 (98%) | 91 (90%) | 4 (4%) | 6 (6%) | 1 | 17 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|-----------------|------------|----------|----------|-------------|-----|
| 47 | BM | 126/128 (98%) | 109 (86%) | 15 (12%) | 2 (2%) | 9 | 44 |
| 48 | BN | 121/123 (98%) | 103 (85%) | 16 (13%) | 2 (2%) | 9 | 42 |
| 49 | BO | 115/117 (98%) | 109 (95%) | 5 (4%) | 1 (1%) | 17 | 57 |
| 50 | BP | 98/100 (98%) | 85 (87%) | 6 (6%) | 7 (7%) | 1 | 14 |
| 51 | BQ | 86/88 (98%) | 81 (94%) | 4 (5%) | 1 (1%) | 13 | 50 |
| 52 | BR | 80/82 (98%) | 76 (95%) | 4 (5%) | 0 | 100 | 100 |
| 53 | BS | 81/83 (98%) | 73 (90%) | 7 (9%) | 1 (1%) | 13 | 50 |
| 54 | BT | 72/74 (97%) | 62 (86%) | 7 (10%) | 3 (4%) | 3 | 22 |
| 55 | BU | 89/91 (98%) | 82 (92%) | 6 (7%) | 1 (1%) | 14 | 52 |
| 56 | BV | 84/86 (98%) | 79 (94%) | 4 (5%) | 1 (1%) | 13 | 50 |
| 57 | BW | 68/70 (97%) | 61 (90%) | 4 (6%) | 3 (4%) | 2 | 22 |
| All | All | 6319/6423 (98%) | 5708 (90%) | 453 (7%) | 158 (2%) | 9 | 32 |

All (158) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 4 | AD | 94 | LEU |
| 6 | AF | 62 | GLN |
| 6 | AF | 188 | MET |
| 7 | AG | 136 | ILE |
| 9 | AI | 3 | VAL |
| 18 | AR | 25 | VAL |
| 19 | AS | 88 | GLU |
| 21 | AU | 41 | LYS |
| 22 | AV | 39 | THR |
| 22 | AV | 86 | THR |
| 23 | AW | 97 | SER |
| 31 | A4 | 35 | LEU |
| 41 | BG | 77 | ASN |
| 46 | BL | 57 | VAL |
| 47 | BM | 52 | ARG |
| 50 | BP | 2 | LYS |
| 50 | BP | 70 | HIS |
| 54 | BT | 11 | ARG |
| 3 | AC | 217 | THR |
| 4 | AD | 35 | LYS |
| 4 | AD | 64 | VAL |
| 4 | AD | 140 | VAL |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 4 | AD | 142 | ASN |
| 5 | AE | 119 | ALA |
| 5 | AE | 173 | GLN |
| 6 | AF | 44 | ARG |
| 6 | AF | 78 | TRP |
| 6 | AF | 79 | ARG |
| 8 | AH | 61 | TRP |
| 9 | AI | 113 | SER |
| 11 | AK | 93 | ASN |
| 12 | AL | 14 | ASP |
| 12 | AL | 81 | ILE |
| 13 | AM | 6 | THR |
| 13 | AM | 71 | ARG |
| 14 | AN | 19 | LEU |
| 15 | AO | 36 | VAL |
| 16 | AP | 107 | ASN |
| 19 | AS | 87 | VAL |
| 21 | AU | 65 | ASP |
| 21 | AU | 89 | ALA |
| 23 | AW | 74 | ALA |
| 26 | AZ | 18 | SER |
| 26 | AZ | 27 | ARG |
| 29 | A2 | 43 | PHE |
| 31 | A4 | 52 | LYS |
| 34 | A7 | 6 | SER |
| 34 | A7 | 16 | ILE |
| 38 | BD | 22 | TRP |
| 39 | BE | 14 | VAL |
| 39 | BE | 163 | ARG |
| 39 | BE | 179 | ALA |
| 40 | BF | 47 | LEU |
| 44 | BJ | 80 | PRO |
| 46 | BL | 62 | ARG |
| 46 | BL | 74 | VAL |
| 50 | BP | 32 | ASP |
| 50 | BP | 61 | ASN |
| 55 | BU | 11 | ASP |
| 4 | AD | 37 | SER |
| 4 | AD | 123 | ILE |
| 5 | AE | 113 | SER |
| 6 | AF | 60 | TRP |
| 6 | AF | 183 | PHE |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 7 | AG | 99 | PHE |
| 7 | AG | 132 | ARG |
| 7 | AG | 148 | VAL |
| 8 | AH | 170 | THR |
| 9 | AI | 27 | ARG |
| 9 | AI | 122 | LEU |
| 12 | AL | 65 | THR |
| 14 | AN | 3 | LEU |
| 20 | AT | 91 | GLN |
| 22 | AV | 9 | LYS |
| 24 | AX | 71 | LYS |
| 27 | A0 | 23 | ARG |
| 30 | A3 | 2 | VAL |
| 32 | A5 | 7 | PRO |
| 45 | BK | 106 | ASP |
| 45 | BK | 122 | ARG |
| 45 | BK | 128 | LYS |
| 50 | BP | 62 | ARG |
| 51 | BQ | 87 | ARG |
| 53 | BS | 81 | ALA |
| 54 | BT | 18 | GLN |
| 57 | BW | 3 | ILE |
| 57 | BW | 9 | GLU |
| 57 | BW | 24 | LYS |
| 3 | AC | 159 | GLY |
| 6 | AF | 68 | ALA |
| 6 | AF | 96 | VAL |
| 7 | AG | 103 | ILE |
| 7 | AG | 145 | VAL |
| 8 | AH | 9 | VAL |
| 8 | AH | 94 | ARG |
| 12 | AL | 120 | ARG |
| 19 | AS | 5 | ARG |
| 25 | AY | 36 | ILE |
| 25 | AY | 52 | CYS |
| 34 | A7 | 4 | ARG |
| 39 | BE | 145 | ALA |
| 40 | BF | 27 | ILE |
| 42 | BH | 54 | LEU |
| 46 | BL | 42 | LEU |
| 46 | BL | 58 | ASN |
| 48 | BN | 23 | LEU |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 50 | BP | 37 | ASP |
| 54 | BT | 5 | ARG |
| 3 | AC | 55 | SER |
| 3 | AC | 73 | VAL |
| 5 | AE | 43 | ASP |
| 5 | AE | 109 | VAL |
| 5 | AE | 168 | GLU |
| 5 | AE | 170 | VAL |
| 7 | AG | 66 | ILE |
| 10 | AJ | 33 | THR |
| 13 | AM | 17 | ARG |
| 13 | AM | 46 | ALA |
| 14 | AN | 117 | THR |
| 20 | AT | 43 | ASN |
| 20 | AT | 101 | ILE |
| 21 | AU | 28 | LYS |
| 26 | AZ | 53 | LYS |
| 30 | A3 | 48 | TYR |
| 38 | BD | 17 | HIS |
| 38 | BD | 35 | ASN |
| 38 | BD | 123 | GLY |
| 38 | BD | 205 | ALA |
| 40 | BF | 37 | PRO |
| 41 | BG | 26 | GLY |
| 43 | BI | 13 | PRO |
| 43 | BI | 84 | TYR |
| 48 | BN | 43 | LYS |
| 50 | BP | 80 | ARG |
| 56 | BV | 67 | HIS |
| 4 | AD | 204 | LEU |
| 6 | AF | 45 | ALA |
| 7 | AG | 88 | VAL |
| 12 | AL | 79 | GLY |
| 15 | AO | 43 | ALA |
| 19 | AS | 91 | ARG |
| 25 | AY | 13 | ARG |
| 25 | AY | 23 | LYS |
| 40 | BF | 21 | LYS |
| 43 | BI | 2 | ARG |
| 46 | BL | 75 | ASP |
| 47 | BM | 118 | ASN |
| 7 | AG | 38 | GLY |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 18 | AR | 32 | VAL |
| 23 | AW | 15 | GLY |
| 5 | AE | 152 | PRO |
| 49 | BO | 6 | ILE |
| 4 | AD | 240 | GLY |
| 7 | AG | 84 | ILE |
| 33 | A6 | 31 | ILE |
| 38 | BD | 13 | VAL |
| 32 | A5 | 44 | VAL |
| 3 | AC | 206 | GLY |

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|----------------|-----------|----------|-------------|----|
| 3 | AC | 181/181 (100%) | 176 (97%) | 5 (3%) | 43 | 65 |
| 4 | AD | 217/217 (100%) | 205 (94%) | 12 (6%) | 21 | 47 |
| 5 | AE | 164/164 (100%) | 152 (93%) | 12 (7%) | 14 | 39 |
| 6 | AF | 165/165 (100%) | 160 (97%) | 5 (3%) | 41 | 63 |
| 7 | AG | 149/149 (100%) | 140 (94%) | 9 (6%) | 19 | 44 |
| 8 | AH | 137/137 (100%) | 123 (90%) | 14 (10%) | 7 | 25 |
| 9 | AI | 114/114 (100%) | 109 (96%) | 5 (4%) | 28 | 53 |
| 10 | AJ | 122/122 (100%) | 115 (94%) | 7 (6%) | 20 | 45 |
| 11 | AK | 109/109 (100%) | 104 (95%) | 5 (5%) | 27 | 52 |
| 12 | AL | 116/116 (100%) | 107 (92%) | 9 (8%) | 12 | 36 |
| 13 | AM | 104/104 (100%) | 98 (94%) | 6 (6%) | 20 | 45 |
| 14 | AN | 103/103 (100%) | 102 (99%) | 1 (1%) | 76 | 86 |
| 15 | AO | 109/109 (100%) | 101 (93%) | 8 (7%) | 14 | 39 |
| 16 | AP | 103/103 (100%) | 99 (96%) | 4 (4%) | 32 | 56 |
| 17 | AQ | 87/87 (100%) | 79 (91%) | 8 (9%) | 9 | 29 |
| 18 | AR | 99/99 (100%) | 94 (95%) | 5 (5%) | 24 | 48 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|----------------|-----------|----------|-------------|----|
| 19 | AS | 89/89 (100%) | 86 (97%) | 3 (3%) | 37 | 60 |
| 20 | AT | 84/84 (100%) | 78 (93%) | 6 (7%) | 14 | 39 |
| 21 | AU | 93/93 (100%) | 88 (95%) | 5 (5%) | 22 | 47 |
| 22 | AV | 84/84 (100%) | 78 (93%) | 6 (7%) | 14 | 39 |
| 23 | AW | 84/84 (100%) | 80 (95%) | 4 (5%) | 25 | 51 |
| 24 | AX | 78/78 (100%) | 73 (94%) | 5 (6%) | 17 | 42 |
| 25 | AY | 62/62 (100%) | 57 (92%) | 5 (8%) | 11 | 35 |
| 26 | AZ | 67/67 (100%) | 60 (90%) | 7 (10%) | 7 | 24 |
| 27 | A0 | 55/55 (100%) | 52 (94%) | 3 (6%) | 21 | 47 |
| 28 | A1 | 48/48 (100%) | 42 (88%) | 6 (12%) | 4 | 19 |
| 29 | A2 | 62/62 (100%) | 61 (98%) | 1 (2%) | 62 | 79 |
| 30 | A3 | 47/47 (100%) | 45 (96%) | 2 (4%) | 29 | 53 |
| 31 | A4 | 48/48 (100%) | 44 (92%) | 4 (8%) | 11 | 34 |
| 32 | A5 | 38/38 (100%) | 35 (92%) | 3 (8%) | 12 | 35 |
| 33 | A6 | 51/51 (100%) | 50 (98%) | 1 (2%) | 55 | 74 |
| 34 | A7 | 34/34 (100%) | 33 (97%) | 1 (3%) | 42 | 64 |
| 38 | BD | 198/198 (100%) | 188 (95%) | 10 (5%) | 24 | 48 |
| 39 | BE | 189/189 (100%) | 174 (92%) | 15 (8%) | 12 | 35 |
| 40 | BF | 172/172 (100%) | 168 (98%) | 4 (2%) | 50 | 70 |
| 41 | BG | 125/125 (100%) | 118 (94%) | 7 (6%) | 21 | 46 |
| 42 | BH | 116/116 (100%) | 107 (92%) | 9 (8%) | 12 | 36 |
| 43 | BI | 146/146 (100%) | 139 (95%) | 7 (5%) | 25 | 51 |
| 44 | BJ | 104/104 (100%) | 99 (95%) | 5 (5%) | 25 | 51 |
| 45 | BK | 106/106 (100%) | 100 (94%) | 6 (6%) | 20 | 45 |
| 46 | BL | 90/90 (100%) | 83 (92%) | 7 (8%) | 12 | 36 |
| 47 | BM | 98/98 (100%) | 96 (98%) | 2 (2%) | 55 | 74 |
| 48 | BN | 103/103 (100%) | 99 (96%) | 4 (4%) | 32 | 56 |
| 49 | BO | 95/95 (100%) | 89 (94%) | 6 (6%) | 18 | 43 |
| 50 | BP | 83/83 (100%) | 79 (95%) | 4 (5%) | 25 | 51 |
| 51 | BQ | 76/76 (100%) | 75 (99%) | 1 (1%) | 69 | 81 |
| 52 | BR | 65/65 (100%) | 57 (88%) | 8 (12%) | 4 | 19 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|------------------|------------|----------|-------------|-----|
| 53 | BS | 77/77 (100%) | 72 (94%) | 5 (6%) | 17 | 42 |
| 54 | BT | 64/64 (100%) | 61 (95%) | 3 (5%) | 26 | 51 |
| 55 | BU | 78/78 (100%) | 69 (88%) | 9 (12%) | 5 | 21 |
| 56 | BV | 65/65 (100%) | 65 (100%) | 0 | 100 | 100 |
| 57 | BW | 60/60 (100%) | 55 (92%) | 5 (8%) | 11 | 34 |
| All | All | 5213/5213 (100%) | 4919 (94%) | 294 (6%) | 25 | 46 |

All (294) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 3 | AC | 6 | LYS |
| 3 | AC | 75 | VAL |
| 3 | AC | 130 | VAL |
| 3 | AC | 134 | ARG |
| 3 | AC | 162 | ARG |
| 4 | AD | 50 | THR |
| 4 | AD | 66 | PHE |
| 4 | AD | 68 | ARG |
| 4 | AD | 114 | GLN |
| 4 | AD | 119 | VAL |
| 4 | AD | 146 | LYS |
| 4 | AD | 166 | ARG |
| 4 | AD | 213 | ARG |
| 4 | AD | 235 | GLU |
| 4 | AD | 249 | VAL |
| 4 | AD | 250 | GLN |
| 4 | AD | 263 | ASP |
| 5 | AE | 17 | GLU |
| 5 | AE | 33 | ARG |
| 5 | AE | 39 | ASP |
| 5 | AE | 74 | GLU |
| 5 | AE | 83 | ARG |
| 5 | AE | 99 | GLU |
| 5 | AE | 113 | SER |
| 5 | AE | 114 | LYS |
| 5 | AE | 140 | HIS |
| 5 | AE | 175 | LEU |
| 5 | AE | 197 | THR |
| 5 | AE | 201 | LEU |
| 6 | AF | 7 | ASP |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 6 | AF | 9 | GLN |
| 6 | AF | 40 | ARG |
| 6 | AF | 88 | ARG |
| 6 | AF | 152 | GLU |
| 7 | AG | 3 | LEU |
| 7 | AG | 10 | GLU |
| 7 | AG | 29 | ARG |
| 7 | AG | 48 | LEU |
| 7 | AG | 84 | ILE |
| 7 | AG | 93 | GLU |
| 7 | AG | 116 | LEU |
| 7 | AG | 160 | LYS |
| 7 | AG | 168 | LEU |
| 8 | AH | 17 | LYS |
| 8 | AH | 28 | LYS |
| 8 | AH | 34 | ARG |
| 8 | AH | 40 | VAL |
| 8 | AH | 42 | VAL |
| 8 | AH | 61 | TRP |
| 8 | AH | 74 | MET |
| 8 | AH | 85 | LYS |
| 8 | AH | 87 | GLN |
| 8 | AH | 88 | LEU |
| 8 | AH | 100 | ASN |
| 8 | AH | 109 | SER |
| 8 | AH | 114 | HIS |
| 8 | AH | 170 | THR |
| 9 | AI | 2 | GLN |
| 9 | AI | 76 | GLU |
| 9 | AI | 98 | ASP |
| 9 | AI | 109 | GLU |
| 9 | AI | 114 | GLU |
| 10 | AJ | 50 | TYR |
| 10 | AJ | 63 | VAL |
| 10 | AJ | 69 | GLU |
| 10 | AJ | 72 | LYS |
| 10 | AJ | 96 | LYS |
| 10 | AJ | 105 | PHE |
| 10 | AJ | 112 | PHE |
| 11 | AK | 2 | LYS |
| 11 | AK | 55 | PRO |
| 11 | AK | 58 | ILE |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 11 | AK | 101 | SER |
| 11 | AK | 107 | GLU |
| 12 | AL | 5 | THR |
| 12 | AL | 37 | ARG |
| 12 | AL | 43 | GLU |
| 12 | AL | 61 | LYS |
| 12 | AL | 85 | LYS |
| 12 | AL | 106 | LYS |
| 12 | AL | 113 | PRO |
| 12 | AL | 123 | LYS |
| 12 | AL | 129 | GLU |
| 13 | AM | 8 | LEU |
| 13 | AM | 29 | HIS |
| 13 | AM | 39 | ILE |
| 13 | AM | 49 | ARG |
| 13 | AM | 63 | VAL |
| 13 | AM | 123 | LEU |
| 14 | AN | 78 | ARG |
| 15 | AO | 20 | LEU |
| 15 | AO | 31 | PHE |
| 15 | AO | 51 | ARG |
| 15 | AO | 59 | ARG |
| 15 | AO | 93 | VAL |
| 15 | AO | 106 | ASP |
| 15 | AO | 115 | GLU |
| 15 | AO | 136 | MET |
| 16 | AP | 11 | ASN |
| 16 | AP | 39 | PRO |
| 16 | AP | 48 | VAL |
| 16 | AP | 71 | ARG |
| 17 | AQ | 3 | LYS |
| 17 | AQ | 30 | ARG |
| 17 | AQ | 56 | LYS |
| 17 | AQ | 63 | LYS |
| 17 | AQ | 88 | LYS |
| 17 | AQ | 91 | SER |
| 17 | AQ | 100 | HIS |
| 17 | AQ | 112 | GLU |
| 18 | AR | 21 | PRO |
| 18 | AR | 50 | ARG |
| 18 | AR | 98 | TYR |
| 18 | AR | 108 | ARG |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 18 | AR | 112 | ARG |
| 19 | AS | 4 | LYS |
| 19 | AS | 48 | ASP |
| 19 | AS | 70 | GLN |
| 20 | AT | 10 | LYS |
| 20 | AT | 15 | SER |
| 20 | AT | 21 | ARG |
| 20 | AT | 24 | LYS |
| 20 | AT | 68 | ARG |
| 20 | AT | 83 | TYR |
| 21 | AU | 13 | SER |
| 21 | AU | 27 | LYS |
| 21 | AU | 68 | ASP |
| 21 | AU | 77 | ASP |
| 21 | AU | 95 | ARG |
| 22 | AV | 31 | VAL |
| 22 | AV | 37 | ASP |
| 22 | AV | 42 | GLU |
| 22 | AV | 50 | LEU |
| 22 | AV | 72 | GLN |
| 22 | AV | 85 | VAL |
| 23 | AW | 17 | ASP |
| 23 | AW | 46 | LYS |
| 23 | AW | 87 | GLU |
| 23 | AW | 94 | PHE |
| 24 | AX | 26 | PHE |
| 24 | AX | 34 | LYS |
| 24 | AX | 53 | LYS |
| 24 | AX | 70 | ILE |
| 24 | AX | 71 | LYS |
| 25 | AY | 18 | LYS |
| 25 | AY | 20 | LEU |
| 25 | AY | 49 | ASN |
| 25 | AY | 54 | ARG |
| 25 | AY | 59 | PHE |
| 26 | AZ | 7 | THR |
| 26 | AZ | 17 | ARG |
| 26 | AZ | 19 | HIS |
| 26 | AZ | 32 | LEU |
| 26 | AZ | 58 | ILE |
| 26 | AZ | 75 | GLU |
| 26 | AZ | 76 | LYS |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 27 | A0 | 24 | GLU |
| 27 | A0 | 26 | PHE |
| 27 | A0 | 48 | ARG |
| 28 | A1 | 2 | LYS |
| 28 | A1 | 18 | LYS |
| 28 | A1 | 33 | HIS |
| 28 | A1 | 34 | THR |
| 28 | A1 | 36 | GLU |
| 28 | A1 | 56 | VAL |
| 29 | A2 | 24 | ILE |
| 30 | A3 | 2 | VAL |
| 30 | A3 | 9 | ARG |
| 31 | A4 | 7 | LYS |
| 31 | A4 | 16 | THR |
| 31 | A4 | 27 | ARG |
| 31 | A4 | 47 | ILE |
| 32 | A5 | 6 | GLN |
| 32 | A5 | 11 | LYS |
| 32 | A5 | 14 | ARG |
| 33 | A6 | 12 | ARG |
| 34 | A7 | 23 | ILE |
| 38 | BD | 18 | GLN |
| 38 | BD | 20 | ARG |
| 38 | BD | 34 | ARG |
| 38 | BD | 38 | HIS |
| 38 | BD | 63 | LYS |
| 38 | BD | 77 | GLU |
| 38 | BD | 113 | LEU |
| 38 | BD | 141 | GLU |
| 38 | BD | 158 | ASP |
| 38 | BD | 173 | LYS |
| 39 | BE | 2 | GLN |
| 39 | BE | 13 | ILE |
| 39 | BE | 48 | LYS |
| 39 | BE | 78 | LYS |
| 39 | BE | 106 | ARG |
| 39 | BE | 110 | LEU |
| 39 | BE | 111 | ASP |
| 39 | BE | 118 | SER |
| 39 | BE | 128 | MET |
| 39 | BE | 166 | TRP |
| 39 | BE | 176 | THR |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 39 | BE | 192 | TYR |
| 39 | BE | 203 | LYS |
| 39 | BE | 205 | GLU |
| 39 | BE | 226 | GLN |
| 40 | BF | 25 | ARG |
| 40 | BF | 46 | ARG |
| 40 | BF | 191 | SER |
| 40 | BF | 204 | SER |
| 41 | BG | 28 | ARG |
| 41 | BG | 61 | LYS |
| 41 | BG | 82 | HIS |
| 41 | BG | 122 | VAL |
| 41 | BG | 125 | LYS |
| 41 | BG | 146 | MET |
| 41 | BG | 155 | LYS |
| 42 | BH | 9 | MET |
| 42 | BH | 55 | HIS |
| 42 | BH | 76 | THR |
| 42 | BH | 89 | VAL |
| 42 | BH | 98 | GLU |
| 42 | BH | 102 | MET |
| 42 | BH | 106 | LYS |
| 42 | BH | 118 | ASN |
| 42 | BH | 130 | GLU |
| 43 | BI | 1 | PRO |
| 43 | BI | 4 | ARG |
| 43 | BI | 6 | ILE |
| 43 | BI | 14 | ASP |
| 43 | BI | 26 | VAL |
| 43 | BI | 42 | VAL |
| 43 | BI | 88 | VAL |
| 44 | BJ | 55 | LYS |
| 44 | BJ | 59 | GLU |
| 44 | BJ | 68 | LYS |
| 44 | BJ | 104 | SER |
| 44 | BJ | 128 | VAL |
| 45 | BK | 24 | ASN |
| 45 | BK | 31 | GLN |
| 45 | BK | 40 | ARG |
| 45 | BK | 45 | MET |
| 45 | BK | 88 | GLU |
| 45 | BK | 129 | ARG |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 46 | BL | 5 | ARG |
| 46 | BL | 9 | ARG |
| 46 | BL | 16 | ARG |
| 46 | BL | 48 | ARG |
| 46 | BL | 56 | HIS |
| 46 | BL | 77 | VAL |
| 46 | BL | 92 | LEU |
| 47 | BM | 10 | ARG |
| 47 | BM | 127 | ARG |
| 48 | BN | 28 | GLN |
| 48 | BN | 87 | LYS |
| 48 | BN | 102 | ASP |
| 48 | BN | 122 | LYS |
| 49 | BO | 2 | ARG |
| 49 | BO | 24 | VAL |
| 49 | BO | 68 | LEU |
| 49 | BO | 78 | ARG |
| 49 | BO | 85 | TYR |
| 49 | BO | 106 | ARG |
| 50 | BP | 5 | MET |
| 50 | BP | 66 | THR |
| 50 | BP | 89 | ARG |
| 50 | BP | 95 | LEU |
| 51 | BQ | 17 | ASP |
| 52 | BR | 1 | MET |
| 52 | BR | 4 | ILE |
| 52 | BR | 16 | PHE |
| 52 | BR | 18 | GLN |
| 52 | BR | 23 | ASP |
| 52 | BR | 42 | ILE |
| 52 | BR | 46 | LYS |
| 52 | BR | 47 | GLU |
| 53 | BS | 1 | THR |
| 53 | BS | 10 | ARG |
| 53 | BS | 36 | PHE |
| 53 | BS | 48 | GLU |
| 53 | BS | 49 | ASN |
| 54 | BT | 18 | GLN |
| 54 | BT | 35 | SER |
| 54 | BT | 47 | ARG |
| 55 | BU | 1 | PRO |
| 55 | BU | 4 | LEU |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 55 | BU | 6 | LYS |
| 55 | BU | 12 | LEU |
| 55 | BU | 35 | ARG |
| 55 | BU | 42 | ASN |
| 55 | BU | 47 | THR |
| 55 | BU | 52 | ASN |
| 55 | BU | 55 | GLN |
| 57 | BW | 1 | PRO |
| 57 | BW | 7 | GLU |
| 57 | BW | 20 | ARG |
| 57 | BW | 39 | LYS |
| 57 | BW | 40 | PRO |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

5.3.3 RNA [i](#)

| Mol | Chain | Analysed | Backbone Outliers | Pucker Outliers |
|-----|-------|-----------------|-------------------|-----------------|
| 1 | AA | 119/120 (99%) | 18 (15%) | 13 (10%) |
| 2 | AB | 2898/2904 (99%) | 527 (18%) | 180 (6%) |
| 35 | BA | 1538/1542 (99%) | 294 (19%) | 112 (7%) |
| 36 | BB | 46/47 (97%) | 15 (32%) | 6 (13%) |
| 37 | BC | 76/77 (98%) | 14 (18%) | 1 (1%) |
| All | All | 4677/4690 (99%) | 868 (18%) | 312 (6%) |

All (868) RNA backbone outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | AA | 9 | G |
| 1 | AA | 13 | G |
| 1 | AA | 14 | U |
| 1 | AA | 25 | U |
| 1 | AA | 26 | C |
| 1 | AA | 35 | C |
| 1 | AA | 41 | G |
| 1 | AA | 43 | C |
| 1 | AA | 44 | G |
| 1 | AA | 51 | G |
| 1 | AA | 58 | A |
| 1 | AA | 66 | A |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | AA | 67 | G |
| 1 | AA | 73 | A |
| 1 | AA | 88 | C |
| 1 | AA | 90 | C |
| 1 | AA | 99 | A |
| 1 | AA | 120 | U |
| 2 | AB | 13 | A |
| 2 | AB | 14 | A |
| 2 | AB | 18 | U |
| 2 | AB | 30 | G |
| 2 | AB | 34 | U |
| 2 | AB | 35 | G |
| 2 | AB | 42 | A |
| 2 | AB | 43 | G |
| 2 | AB | 45 | G |
| 2 | AB | 46 | G |
| 2 | AB | 49 | A |
| 2 | AB | 50 | U |
| 2 | AB | 71 | A |
| 2 | AB | 75 | G |
| 2 | AB | 91 | A |
| 2 | AB | 92 | U |
| 2 | AB | 95 | A |
| 2 | AB | 98 | G |
| 2 | AB | 101 | A |
| 2 | AB | 102 | U |
| 2 | AB | 103 | A |
| 2 | AB | 115 | C |
| 2 | AB | 119 | A |
| 2 | AB | 120 | U |
| 2 | AB | 128 | C |
| 2 | AB | 194 | G |
| 2 | AB | 196 | A |
| 2 | AB | 197 | A |
| 2 | AB | 199 | A |
| 2 | AB | 204 | A |
| 2 | AB | 205 | G |
| 2 | AB | 215 | G |
| 2 | AB | 216 | A |
| 2 | AB | 218 | A |
| 2 | AB | 222 | A |
| 2 | AB | 224 | U |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2 | AB | 225 | C |
| 2 | AB | 232 | G |
| 2 | AB | 242 | G |
| 2 | AB | 243 | U |
| 2 | AB | 248 | G |
| 2 | AB | 250 | G |
| 2 | AB | 255 | A |
| 2 | AB | 265 | A |
| 2 | AB | 266 | G |
| 2 | AB | 271 | G |
| 2 | AB | 277 | G |
| 2 | AB | 294 | A |
| 2 | AB | 295 | G |
| 2 | AB | 311 | A |
| 2 | AB | 321 | U |
| 2 | AB | 330 | A |
| 2 | AB | 332 | A |
| 2 | AB | 333 | G |
| 2 | AB | 338 | G |
| 2 | AB | 368 | A |
| 2 | AB | 370 | G |
| 2 | AB | 371 | A |
| 2 | AB | 372 | G |
| 2 | AB | 386 | G |
| 2 | AB | 387 | U |
| 2 | AB | 388 | G |
| 2 | AB | 389 | G |
| 2 | AB | 390 | U |
| 2 | AB | 391 | A |
| 2 | AB | 396 | G |
| 2 | AB | 406 | G |
| 2 | AB | 411 | G |
| 2 | AB | 418 | C |
| 2 | AB | 424 | G |
| 2 | AB | 428 | A |
| 2 | AB | 429 | A |
| 2 | AB | 431 | U |
| 2 | AB | 436 | C |
| 2 | AB | 452 | G |
| 2 | AB | 454 | A |
| 2 | AB | 455 | C |
| 2 | AB | 456 | C |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2 | AB | 479 | A |
| 2 | AB | 480 | A |
| 2 | AB | 481 | G |
| 2 | AB | 484 | C |
| 2 | AB | 489 | G |
| 2 | AB | 504 | A |
| 2 | AB | 505 | A |
| 2 | AB | 508 | A |
| 2 | AB | 509 | C |
| 2 | AB | 527 | C |
| 2 | AB | 532 | A |
| 2 | AB | 545 | U |
| 2 | AB | 546 | U |
| 2 | AB | 550 | C |
| 2 | AB | 562 | U |
| 2 | AB | 563 | A |
| 2 | AB | 573 | U |
| 2 | AB | 575 | A |
| 2 | AB | 603 | A |
| 2 | AB | 604 | G |
| 2 | AB | 612 | G |
| 2 | AB | 613 | A |
| 2 | AB | 614 | A |
| 2 | AB | 615 | U |
| 2 | AB | 620 | G |
| 2 | AB | 621 | A |
| 2 | AB | 627 | A |
| 2 | AB | 635 | C |
| 2 | AB | 637 | A |
| 2 | AB | 644 | A |
| 2 | AB | 645 | C |
| 2 | AB | 655 | A |
| 2 | AB | 656 | G |
| 2 | AB | 671 | C |
| 2 | AB | 675 | A |
| 2 | AB | 686 | U |
| 2 | AB | 696 | G |
| 2 | AB | 718 | A |
| 2 | AB | 719 | C |
| 2 | AB | 728 | G |
| 2 | AB | 730 | A |
| 2 | AB | 732 | C |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2 | AB | 736 | C |
| 2 | AB | 747 | 5MU |
| 2 | AB | 751 | A |
| 2 | AB | 753 | A |
| 2 | AB | 758 | C |
| 2 | AB | 762 | U |
| 2 | AB | 763 | G |
| 2 | AB | 764 | A |
| 2 | AB | 775 | G |
| 2 | AB | 776 | G |
| 2 | AB | 782 | A |
| 2 | AB | 784 | G |
| 2 | AB | 786 | C |
| 2 | AB | 789 | A |
| 2 | AB | 790 | U |
| 2 | AB | 793 | A |
| 2 | AB | 802 | A |
| 2 | AB | 805 | G |
| 2 | AB | 806 | C |
| 2 | AB | 812 | C |
| 2 | AB | 846 | U |
| 2 | AB | 847 | U |
| 2 | AB | 848 | C |
| 2 | AB | 859 | G |
| 2 | AB | 870 | U |
| 2 | AB | 888 | C |
| 2 | AB | 889 | C |
| 2 | AB | 894 | U |
| 2 | AB | 896 | A |
| 2 | AB | 897 | C |
| 2 | AB | 901 | C |
| 2 | AB | 911 | A |
| 2 | AB | 915 | C |
| 2 | AB | 925 | A |
| 2 | AB | 932 | U |
| 2 | AB | 933 | A |
| 2 | AB | 938 | G |
| 2 | AB | 941 | A |
| 2 | AB | 945 | A |
| 2 | AB | 946 | C |
| 2 | AB | 961 | C |
| 2 | AB | 973 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 2 | AB | 974 | G |
| 2 | AB | 979 | A |
| 2 | AB | 980 | A |
| 2 | AB | 981 | A |
| 2 | AB | 983 | A |
| 2 | AB | 984 | A |
| 2 | AB | 985 | C |
| 2 | AB | 986 | C |
| 2 | AB | 990 | A |
| 2 | AB | 995 | C |
| 2 | AB | 996 | A |
| 2 | AB | 1002 | G |
| 2 | AB | 1003 | G |
| 2 | AB | 1005 | C |
| 2 | AB | 1008 | A |
| 2 | AB | 1010 | A |
| 2 | AB | 1011 | G |
| 2 | AB | 1013 | C |
| 2 | AB | 1022 | G |
| 2 | AB | 1025 | G |
| 2 | AB | 1026 | G |
| 2 | AB | 1044 | C |
| 2 | AB | 1045 | C |
| 2 | AB | 1047 | G |
| 2 | AB | 1048 | A |
| 2 | AB | 1060 | U |
| 2 | AB | 1061 | U |
| 2 | AB | 1062 | G |
| 2 | AB | 1070 | A |
| 2 | AB | 1071 | G |
| 2 | AB | 1073 | A |
| 2 | AB | 1078 | U |
| 2 | AB | 1079 | C |
| 2 | AB | 1081 | U |
| 2 | AB | 1083 | U |
| 2 | AB | 1084 | A |
| 2 | AB | 1087 | G |
| 2 | AB | 1094 | U |
| 2 | AB | 1096 | A |
| 2 | AB | 1097 | U |
| 2 | AB | 1098 | A |
| 2 | AB | 1104 | C |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 2 | AB | 1109 | C |
| 2 | AB | 1110 | G |
| 2 | AB | 1112 | G |
| 2 | AB | 1123 | C |
| 2 | AB | 1128 | G |
| 2 | AB | 1129 | A |
| 2 | AB | 1130 | U |
| 2 | AB | 1132 | U |
| 2 | AB | 1134 | A |
| 2 | AB | 1135 | C |
| 2 | AB | 1142 | A |
| 2 | AB | 1143 | A |
| 2 | AB | 1157 | G |
| 2 | AB | 1158 | C |
| 2 | AB | 1173 | U |
| 2 | AB | 1175 | A |
| 2 | AB | 1177 | G |
| 2 | AB | 1184 | U |
| 2 | AB | 1204 | A |
| 2 | AB | 1211 | C |
| 2 | AB | 1236 | G |
| 2 | AB | 1237 | A |
| 2 | AB | 1238 | G |
| 2 | AB | 1239 | G |
| 2 | AB | 1241 | A |
| 2 | AB | 1253 | A |
| 2 | AB | 1255 | U |
| 2 | AB | 1256 | G |
| 2 | AB | 1266 | G |
| 2 | AB | 1272 | A |
| 2 | AB | 1273 | U |
| 2 | AB | 1274 | A |
| 2 | AB | 1275 | A |
| 2 | AB | 1283 | G |
| 2 | AB | 1300 | G |
| 2 | AB | 1301 | A |
| 2 | AB | 1302 | A |
| 2 | AB | 1303 | G |
| 2 | AB | 1307 | A |
| 2 | AB | 1308 | A |
| 2 | AB | 1318 | U |
| 2 | AB | 1321 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 2 | AB | 1323 | C |
| 2 | AB | 1329 | U |
| 2 | AB | 1341 | G |
| 2 | AB | 1349 | C |
| 2 | AB | 1362 | C |
| 2 | AB | 1363 | C |
| 2 | AB | 1365 | A |
| 2 | AB | 1368 | G |
| 2 | AB | 1378 | A |
| 2 | AB | 1379 | U |
| 2 | AB | 1385 | A |
| 2 | AB | 1386 | C |
| 2 | AB | 1392 | A |
| 2 | AB | 1395 | A |
| 2 | AB | 1396 | U |
| 2 | AB | 1416 | G |
| 2 | AB | 1417 | C |
| 2 | AB | 1420 | A |
| 2 | AB | 1421 | G |
| 2 | AB | 1453 | A |
| 2 | AB | 1454 | C |
| 2 | AB | 1455 | G |
| 2 | AB | 1459 | G |
| 2 | AB | 1460 | U |
| 2 | AB | 1461 | C |
| 2 | AB | 1482 | G |
| 2 | AB | 1493 | C |
| 2 | AB | 1509 | A |
| 2 | AB | 1514 | G |
| 2 | AB | 1515 | A |
| 2 | AB | 1522 | A |
| 2 | AB | 1523 | U |
| 2 | AB | 1524 | G |
| 2 | AB | 1552 | A |
| 2 | AB | 1558 | C |
| 2 | AB | 1565 | C |
| 2 | AB | 1566 | A |
| 2 | AB | 1567 | G |
| 2 | AB | 1569 | A |
| 2 | AB | 1578 | U |
| 2 | AB | 1584 | U |
| 2 | AB | 1585 | C |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 2 | AB | 1608 | A |
| 2 | AB | 1609 | A |
| 2 | AB | 1610 | A |
| 2 | AB | 1612 | C |
| 2 | AB | 1616 | A |
| 2 | AB | 1617 | C |
| 2 | AB | 1632 | A |
| 2 | AB | 1635 | A |
| 2 | AB | 1636 | U |
| 2 | AB | 1646 | C |
| 2 | AB | 1648 | U |
| 2 | AB | 1669 | A |
| 2 | AB | 1674 | G |
| 2 | AB | 1676 | A |
| 2 | AB | 1678 | A |
| 2 | AB | 1693 | U |
| 2 | AB | 1713 | A |
| 2 | AB | 1715 | G |
| 2 | AB | 1724 | G |
| 2 | AB | 1730 | C |
| 2 | AB | 1758 | U |
| 2 | AB | 1759 | A |
| 2 | AB | 1760 | C |
| 2 | AB | 1761 | C |
| 2 | AB | 1762 | A |
| 2 | AB | 1763 | G |
| 2 | AB | 1764 | C |
| 2 | AB | 1773 | A |
| 2 | AB | 1780 | A |
| 2 | AB | 1782 | U |
| 2 | AB | 1786 | A |
| 2 | AB | 1787 | A |
| 2 | AB | 1800 | C |
| 2 | AB | 1808 | A |
| 2 | AB | 1809 | A |
| 2 | AB | 1815 | A |
| 2 | AB | 1825 | U |
| 2 | AB | 1830 | C |
| 2 | AB | 1831 | G |
| 2 | AB | 1833 | C |
| 2 | AB | 1851 | U |
| 2 | AB | 1854 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 2 | AB | 1873 | G |
| 2 | AB | 1900 | A |
| 2 | AB | 1901 | A |
| 2 | AB | 1912 | A |
| 2 | AB | 1913 | A |
| 2 | AB | 1928 | A |
| 2 | AB | 1930 | G |
| 2 | AB | 1937 | A |
| 2 | AB | 1938 | A |
| 2 | AB | 1941 | C |
| 2 | AB | 1943 | U |
| 2 | AB | 1955 | U |
| 2 | AB | 1963 | U |
| 2 | AB | 1964 | G |
| 2 | AB | 1965 | C |
| 2 | AB | 1968 | G |
| 2 | AB | 1970 | A |
| 2 | AB | 1971 | U |
| 2 | AB | 1972 | G |
| 2 | AB | 1982 | U |
| 2 | AB | 1993 | U |
| 2 | AB | 1996 | C |
| 2 | AB | 2004 | G |
| 2 | AB | 2012 | G |
| 2 | AB | 2020 | A |
| 2 | AB | 2023 | C |
| 2 | AB | 2031 | A |
| 2 | AB | 2032 | G |
| 2 | AB | 2034 | U |
| 2 | AB | 2040 | G |
| 2 | AB | 2043 | C |
| 2 | AB | 2055 | C |
| 2 | AB | 2056 | G |
| 2 | AB | 2059 | A |
| 2 | AB | 2061 | G |
| 2 | AB | 2062 | A |
| 2 | AB | 2069 | 7MG |
| 2 | AB | 2077 | A |
| 2 | AB | 2084 | C |
| 2 | AB | 2093 | G |
| 2 | AB | 2095 | A |
| 2 | AB | 2107 | G |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 2 | AB | 2111 | U |
| 2 | AB | 2112 | G |
| 2 | AB | 2118 | U |
| 2 | AB | 2119 | A |
| 2 | AB | 2127 | G |
| 2 | AB | 2128 | G |
| 2 | AB | 2132 | U |
| 2 | AB | 2133 | G |
| 2 | AB | 2134 | A |
| 2 | AB | 2137 | U |
| 2 | AB | 2143 | C |
| 2 | AB | 2147 | A |
| 2 | AB | 2148 | G |
| 2 | AB | 2154 | A |
| 2 | AB | 2158 | A |
| 2 | AB | 2163 | A |
| 2 | AB | 2198 | A |
| 2 | AB | 2199 | A |
| 2 | AB | 2204 | G |
| 2 | AB | 2211 | A |
| 2 | AB | 2212 | A |
| 2 | AB | 2213 | U |
| 2 | AB | 2214 | C |
| 2 | AB | 2215 | C |
| 2 | AB | 2224 | G |
| 2 | AB | 2225 | A |
| 2 | AB | 2237 | G |
| 2 | AB | 2238 | G |
| 2 | AB | 2239 | G |
| 2 | AB | 2246 | G |
| 2 | AB | 2249 | U |
| 2 | AB | 2250 | G |
| 2 | AB | 2253 | G |
| 2 | AB | 2266 | A |
| 2 | AB | 2282 | G |
| 2 | AB | 2283 | C |
| 2 | AB | 2287 | A |
| 2 | AB | 2288 | A |
| 2 | AB | 2307 | G |
| 2 | AB | 2309 | A |
| 2 | AB | 2321 | U |
| 2 | AB | 2322 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 2 | AB | 2325 | G |
| 2 | AB | 2334 | U |
| 2 | AB | 2335 | A |
| 2 | AB | 2336 | A |
| 2 | AB | 2337 | G |
| 2 | AB | 2340 | A |
| 2 | AB | 2345 | G |
| 2 | AB | 2346 | A |
| 2 | AB | 2347 | C |
| 2 | AB | 2350 | C |
| 2 | AB | 2354 | C |
| 2 | AB | 2358 | A |
| 2 | AB | 2383 | G |
| 2 | AB | 2385 | C |
| 2 | AB | 2389 | G |
| 2 | AB | 2390 | U |
| 2 | AB | 2402 | U |
| 2 | AB | 2406 | A |
| 2 | AB | 2407 | A |
| 2 | AB | 2411 | A |
| 2 | AB | 2426 | A |
| 2 | AB | 2427 | C |
| 2 | AB | 2428 | G |
| 2 | AB | 2429 | G |
| 2 | AB | 2432 | A |
| 2 | AB | 2433 | A |
| 2 | AB | 2435 | A |
| 2 | AB | 2439 | A |
| 2 | AB | 2440 | C |
| 2 | AB | 2441 | U |
| 2 | AB | 2448 | A |
| 2 | AB | 2449 | H2U |
| 2 | AB | 2450 | A |
| 2 | AB | 2452 | C |
| 2 | AB | 2453 | A |
| 2 | AB | 2472 | G |
| 2 | AB | 2476 | A |
| 2 | AB | 2478 | A |
| 2 | AB | 2486 | C |
| 2 | AB | 2491 | U |
| 2 | AB | 2493 | U |
| 2 | AB | 2494 | G |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 2 | AB | 2501 | C |
| 2 | AB | 2502 | G |
| 2 | AB | 2504 | PSU |
| 2 | AB | 2505 | G |
| 2 | AB | 2515 | C |
| 2 | AB | 2516 | A |
| 2 | AB | 2518 | A |
| 2 | AB | 2519 | U |
| 2 | AB | 2530 | A |
| 2 | AB | 2547 | A |
| 2 | AB | 2554 | U |
| 2 | AB | 2566 | A |
| 2 | AB | 2567 | G |
| 2 | AB | 2572 | A |
| 2 | AB | 2573 | C |
| 2 | AB | 2582 | G |
| 2 | AB | 2585 | U |
| 2 | AB | 2586 | U |
| 2 | AB | 2599 | G |
| 2 | AB | 2602 | A |
| 2 | AB | 2603 | G |
| 2 | AB | 2608 | G |
| 2 | AB | 2609 | U |
| 2 | AB | 2610 | C |
| 2 | AB | 2613 | U |
| 2 | AB | 2616 | C |
| 2 | AB | 2628 | C |
| 2 | AB | 2629 | U |
| 2 | AB | 2639 | A |
| 2 | AB | 2654 | A |
| 2 | AB | 2655 | G |
| 2 | AB | 2656 | U |
| 2 | AB | 2664 | G |
| 2 | AB | 2685 | G |
| 2 | AB | 2689 | U |
| 2 | AB | 2690 | U |
| 2 | AB | 2714 | G |
| 2 | AB | 2737 | G |
| 2 | AB | 2739 | U |
| 2 | AB | 2742 | G |
| 2 | AB | 2744 | G |
| 2 | AB | 2757 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 2 | AB | 2765 | A |
| 2 | AB | 2766 | A |
| 2 | AB | 2769 | U |
| 2 | AB | 2771 | C |
| 2 | AB | 2774 | C |
| 2 | AB | 2777 | G |
| 2 | AB | 2778 | A |
| 2 | AB | 2779 | U |
| 2 | AB | 2782 | G |
| 2 | AB | 2791 | G |
| 2 | AB | 2800 | A |
| 2 | AB | 2807 | U |
| 2 | AB | 2825 | G |
| 2 | AB | 2832 | U |
| 2 | AB | 2833 | U |
| 2 | AB | 2842 | G |
| 2 | AB | 2849 | U |
| 2 | AB | 2858 | C |
| 2 | AB | 2864 | G |
| 2 | AB | 2867 | G |
| 2 | AB | 2868 | A |
| 2 | AB | 2879 | A |
| 2 | AB | 2880 | C |
| 2 | AB | 2883 | A |
| 2 | AB | 2885 | G |
| 2 | AB | 2889 | C |
| 2 | AB | 2893 | A |
| 2 | AB | 2895 | G |
| 2 | AB | 2903 | U |
| 35 | BA | 2 | A |
| 35 | BA | 3 | A |
| 35 | BA | 4 | U |
| 35 | BA | 5 | U |
| 35 | BA | 7 | A |
| 35 | BA | 8 | A |
| 35 | BA | 9 | G |
| 35 | BA | 32 | A |
| 35 | BA | 36 | C |
| 35 | BA | 48 | C |
| 35 | BA | 52 | C |
| 35 | BA | 53 | A |
| 35 | BA | 54 | C |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 35 | BA | 60 | A |
| 35 | BA | 61 | G |
| 35 | BA | 83 | C |
| 35 | BA | 98 | A |
| 35 | BA | 108 | G |
| 35 | BA | 121 | U |
| 35 | BA | 122 | G |
| 35 | BA | 123 | U |
| 35 | BA | 129 | A |
| 35 | BA | 153 | C |
| 35 | BA | 164 | G |
| 35 | BA | 166 | U |
| 35 | BA | 171 | A |
| 35 | BA | 174 | A |
| 35 | BA | 182 | A |
| 35 | BA | 184 | G |
| 35 | BA | 188 | C |
| 35 | BA | 189 | A |
| 35 | BA | 197 | A |
| 35 | BA | 204 | G |
| 35 | BA | 205 | A |
| 35 | BA | 206 | C |
| 35 | BA | 209 | U |
| 35 | BA | 210 | C |
| 35 | BA | 211 | G |
| 35 | BA | 212 | G |
| 35 | BA | 225 | C |
| 35 | BA | 228 | A |
| 35 | BA | 240 | G |
| 35 | BA | 244 | U |
| 35 | BA | 245 | U |
| 35 | BA | 247 | G |
| 35 | BA | 249 | U |
| 35 | BA | 250 | A |
| 35 | BA | 251 | G |
| 35 | BA | 252 | U |
| 35 | BA | 262 | A |
| 35 | BA | 266 | G |
| 35 | BA | 267 | C |
| 35 | BA | 272 | C |
| 35 | BA | 280 | C |
| 35 | BA | 289 | G |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 35 | BA | 293 | G |
| 35 | BA | 306 | A |
| 35 | BA | 307 | C |
| 35 | BA | 316 | C |
| 35 | BA | 317 | U |
| 35 | BA | 319 | G |
| 35 | BA | 328 | C |
| 35 | BA | 329 | A |
| 35 | BA | 332 | G |
| 35 | BA | 344 | A |
| 35 | BA | 352 | C |
| 35 | BA | 353 | A |
| 35 | BA | 354 | G |
| 35 | BA | 365 | U |
| 35 | BA | 367 | U |
| 35 | BA | 372 | C |
| 35 | BA | 373 | A |
| 35 | BA | 374 | A |
| 35 | BA | 381 | C |
| 35 | BA | 382 | A |
| 35 | BA | 384 | G |
| 35 | BA | 389 | A |
| 35 | BA | 390 | U |
| 35 | BA | 392 | C |
| 35 | BA | 395 | C |
| 35 | BA | 398 | U |
| 35 | BA | 406 | G |
| 35 | BA | 411 | A |
| 35 | BA | 412 | A |
| 35 | BA | 413 | G |
| 35 | BA | 415 | A |
| 35 | BA | 421 | U |
| 35 | BA | 422 | C |
| 35 | BA | 429 | U |
| 35 | BA | 444 | G |
| 35 | BA | 463 | U |
| 35 | BA | 464 | U |
| 35 | BA | 465 | A |
| 35 | BA | 467 | U |
| 35 | BA | 468 | A |
| 35 | BA | 476 | U |
| 35 | BA | 479 | U |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 35 | BA | 481 | G |
| 35 | BA | 482 | A |
| 35 | BA | 485 | U |
| 35 | BA | 496 | A |
| 35 | BA | 498 | A |
| 35 | BA | 505 | G |
| 35 | BA | 508 | U |
| 35 | BA | 510 | A |
| 35 | BA | 518 | C |
| 35 | BA | 528 | C |
| 35 | BA | 531 | U |
| 35 | BA | 532 | A |
| 35 | BA | 533 | A |
| 35 | BA | 534 | U |
| 35 | BA | 535 | A |
| 35 | BA | 547 | A |
| 35 | BA | 552 | U |
| 35 | BA | 560 | A |
| 35 | BA | 561 | U |
| 35 | BA | 566 | G |
| 35 | BA | 572 | A |
| 35 | BA | 573 | A |
| 35 | BA | 575 | G |
| 35 | BA | 576 | C |
| 35 | BA | 577 | G |
| 35 | BA | 578 | C |
| 35 | BA | 583 | A |
| 35 | BA | 588 | G |
| 35 | BA | 611 | C |
| 35 | BA | 615 | G |
| 35 | BA | 620 | C |
| 35 | BA | 631 | C |
| 35 | BA | 632 | U |
| 35 | BA | 633 | G |
| 35 | BA | 636 | U |
| 35 | BA | 642 | A |
| 35 | BA | 650 | G |
| 35 | BA | 653 | U |
| 35 | BA | 687 | A |
| 35 | BA | 688 | G |
| 35 | BA | 702 | A |
| 35 | BA | 718 | A |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 35 | BA | 721 | G |
| 35 | BA | 724 | G |
| 35 | BA | 729 | A |
| 35 | BA | 755 | G |
| 35 | BA | 760 | G |
| 35 | BA | 765 | G |
| 35 | BA | 766 | A |
| 35 | BA | 777 | A |
| 35 | BA | 783 | C |
| 35 | BA | 790 | A |
| 35 | BA | 793 | U |
| 35 | BA | 794 | A |
| 35 | BA | 805 | C |
| 35 | BA | 810 | C |
| 35 | BA | 812 | G |
| 35 | BA | 816 | A |
| 35 | BA | 817 | C |
| 35 | BA | 819 | A |
| 35 | BA | 821 | G |
| 35 | BA | 828 | U |
| 35 | BA | 829 | G |
| 35 | BA | 841 | C |
| 35 | BA | 842 | U |
| 35 | BA | 843 | U |
| 35 | BA | 870 | U |
| 35 | BA | 873 | A |
| 35 | BA | 876 | C |
| 35 | BA | 899 | C |
| 35 | BA | 900 | A |
| 35 | BA | 910 | C |
| 35 | BA | 914 | A |
| 35 | BA | 926 | G |
| 35 | BA | 927 | G |
| 35 | BA | 938 | A |
| 35 | BA | 939 | G |
| 35 | BA | 945 | G |
| 35 | BA | 960 | U |
| 35 | BA | 961 | U |
| 35 | BA | 962 | C |
| 35 | BA | 968 | A |
| 35 | BA | 969 | A |
| 35 | BA | 970 | C |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 35 | BA | 973 | G |
| 35 | BA | 974 | A |
| 35 | BA | 975 | A |
| 35 | BA | 978 | A |
| 35 | BA | 979 | C |
| 35 | BA | 980 | C |
| 35 | BA | 982 | U |
| 35 | BA | 983 | A |
| 35 | BA | 984 | C |
| 35 | BA | 992 | U |
| 35 | BA | 993 | G |
| 35 | BA | 994 | A |
| 35 | BA | 995 | C |
| 35 | BA | 1004 | A |
| 35 | BA | 1006 | G |
| 35 | BA | 1015 | G |
| 35 | BA | 1026 | G |
| 35 | BA | 1028 | C |
| 35 | BA | 1030 | U |
| 35 | BA | 1031 | C |
| 35 | BA | 1050 | G |
| 35 | BA | 1064 | G |
| 35 | BA | 1065 | U |
| 35 | BA | 1081 | A |
| 35 | BA | 1094 | G |
| 35 | BA | 1095 | U |
| 35 | BA | 1101 | A |
| 35 | BA | 1118 | U |
| 35 | BA | 1135 | U |
| 35 | BA | 1137 | C |
| 35 | BA | 1139 | G |
| 35 | BA | 1143 | G |
| 35 | BA | 1149 | C |
| 35 | BA | 1152 | A |
| 35 | BA | 1154 | G |
| 35 | BA | 1159 | U |
| 35 | BA | 1168 | U |
| 35 | BA | 1181 | G |
| 35 | BA | 1182 | G |
| 35 | BA | 1183 | U |
| 35 | BA | 1190 | G |
| 35 | BA | 1197 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 35 | BA | 1198 | G |
| 35 | BA | 1200 | C |
| 35 | BA | 1201 | A |
| 35 | BA | 1202 | U |
| 35 | BA | 1208 | C |
| 35 | BA | 1212 | U |
| 35 | BA | 1214 | C |
| 35 | BA | 1215 | G |
| 35 | BA | 1224 | U |
| 35 | BA | 1226 | C |
| 35 | BA | 1227 | A |
| 35 | BA | 1228 | C |
| 35 | BA | 1238 | A |
| 35 | BA | 1239 | A |
| 35 | BA | 1240 | U |
| 35 | BA | 1250 | A |
| 35 | BA | 1254 | A |
| 35 | BA | 1256 | A |
| 35 | BA | 1257 | A |
| 35 | BA | 1258 | G |
| 35 | BA | 1264 | U |
| 35 | BA | 1270 | G |
| 35 | BA | 1278 | G |
| 35 | BA | 1280 | A |
| 35 | BA | 1281 | C |
| 35 | BA | 1286 | U |
| 35 | BA | 1290 | G |
| 35 | BA | 1297 | G |
| 35 | BA | 1300 | G |
| 35 | BA | 1301 | U |
| 35 | BA | 1303 | C |
| 35 | BA | 1305 | G |
| 35 | BA | 1315 | U |
| 35 | BA | 1317 | C |
| 35 | BA | 1319 | A |
| 35 | BA | 1322 | C |
| 35 | BA | 1340 | A |
| 35 | BA | 1345 | U |
| 35 | BA | 1346 | A |
| 35 | BA | 1347 | G |
| 35 | BA | 1348 | U |
| 35 | BA | 1360 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 35 | BA | 1363 | A |
| 35 | BA | 1364 | U |
| 35 | BA | 1365 | G |
| 35 | BA | 1368 | A |
| 35 | BA | 1378 | C |
| 35 | BA | 1401 | G |
| 35 | BA | 1431 | A |
| 35 | BA | 1432 | G |
| 35 | BA | 1437 | A |
| 35 | BA | 1446 | A |
| 35 | BA | 1448 | C |
| 35 | BA | 1452 | C |
| 35 | BA | 1454 | G |
| 35 | BA | 1490 | U |
| 35 | BA | 1492 | A |
| 35 | BA | 1493 | A |
| 35 | BA | 1494 | G |
| 35 | BA | 1502 | A |
| 35 | BA | 1503 | A |
| 35 | BA | 1506 | U |
| 35 | BA | 1507 | A |
| 35 | BA | 1529 | G |
| 35 | BA | 1530 | G |
| 35 | BA | 1531 | A |
| 35 | BA | 1534 | A |
| 35 | BA | 1536 | C |
| 35 | BA | 1539 | C |
| 35 | BA | 1540 | U |
| 35 | BA | 1542 | A |
| 36 | BB | 17 | U |
| 36 | BB | 18 | A |
| 36 | BB | 21 | U |
| 36 | BB | 23 | C |
| 36 | BB | 26 | U |
| 36 | BB | 27 | A |
| 36 | BB | 30 | U |
| 36 | BB | 33 | A |
| 36 | BB | 34 | U |
| 36 | BB | 40 | G |
| 36 | BB | 44 | U |
| 36 | BB | 47 | C |
| 36 | BB | 48 | C |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 36 | BB | 53 | G |
| 36 | BB | 56 | G |
| 37 | BC | 8 | 4SU |
| 37 | BC | 9 | G |
| 37 | BC | 10 | G |
| 37 | BC | 18 | U |
| 37 | BC | 19 | G |
| 37 | BC | 20 | G |
| 37 | BC | 22 | A |
| 37 | BC | 38 | A |
| 37 | BC | 48 | U |
| 37 | BC | 49 | C |
| 37 | BC | 50 | G |
| 37 | BC | 75 | C |
| 37 | BC | 76 | C |
| 37 | BC | 77 | A |

All (312) RNA pucker outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | AA | 11 | C |
| 1 | AA | 13 | G |
| 1 | AA | 15 | A |
| 1 | AA | 25 | U |
| 1 | AA | 29 | A |
| 1 | AA | 34 | A |
| 1 | AA | 41 | G |
| 1 | AA | 43 | C |
| 1 | AA | 44 | G |
| 1 | AA | 57 | A |
| 1 | AA | 66 | A |
| 1 | AA | 72 | G |
| 1 | AA | 87 | U |
| 2 | AB | 13 | A |
| 2 | AB | 26 | G |
| 2 | AB | 42 | A |
| 2 | AB | 49 | A |
| 2 | AB | 63 | A |
| 2 | AB | 71 | A |
| 2 | AB | 91 | A |
| 2 | AB | 94 | A |
| 2 | AB | 99 | U |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 2 | AB | 109 | C |
| 2 | AB | 114 | U |
| 2 | AB | 196 | A |
| 2 | AB | 199 | A |
| 2 | AB | 228 | C |
| 2 | AB | 231 | A |
| 2 | AB | 241 | A |
| 2 | AB | 242 | G |
| 2 | AB | 265 | A |
| 2 | AB | 277 | G |
| 2 | AB | 294 | A |
| 2 | AB | 332 | A |
| 2 | AB | 386 | G |
| 2 | AB | 387 | U |
| 2 | AB | 389 | G |
| 2 | AB | 401 | A |
| 2 | AB | 403 | U |
| 2 | AB | 428 | A |
| 2 | AB | 445 | C |
| 2 | AB | 451 | U |
| 2 | AB | 453 | A |
| 2 | AB | 455 | C |
| 2 | AB | 463 | G |
| 2 | AB | 479 | A |
| 2 | AB | 503 | A |
| 2 | AB | 534 | U |
| 2 | AB | 561 | G |
| 2 | AB | 603 | A |
| 2 | AB | 611 | C |
| 2 | AB | 620 | G |
| 2 | AB | 625 | G |
| 2 | AB | 628 | G |
| 2 | AB | 635 | C |
| 2 | AB | 671 | C |
| 2 | AB | 689 | A |
| 2 | AB | 714 | U |
| 2 | AB | 743 | A |
| 2 | AB | 748 | G |
| 2 | AB | 762 | U |
| 2 | AB | 775 | G |
| 2 | AB | 776 | G |
| 2 | AB | 789 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 2 | AB | 847 | U |
| 2 | AB | 870 | U |
| 2 | AB | 900 | A |
| 2 | AB | 940 | G |
| 2 | AB | 945 | A |
| 2 | AB | 974 | G |
| 2 | AB | 979 | A |
| 2 | AB | 980 | A |
| 2 | AB | 995 | C |
| 2 | AB | 1012 | U |
| 2 | AB | 1040 | A |
| 2 | AB | 1043 | C |
| 2 | AB | 1061 | U |
| 2 | AB | 1069 | A |
| 2 | AB | 1070 | A |
| 2 | AB | 1078 | U |
| 2 | AB | 1083 | U |
| 2 | AB | 1095 | A |
| 2 | AB | 1133 | A |
| 2 | AB | 1134 | A |
| 2 | AB | 1142 | A |
| 2 | AB | 1157 | G |
| 2 | AB | 1163 | G |
| 2 | AB | 1166 | G |
| 2 | AB | 1200 | C |
| 2 | AB | 1210 | G |
| 2 | AB | 1239 | G |
| 2 | AB | 1254 | A |
| 2 | AB | 1255 | U |
| 2 | AB | 1288 | G |
| 2 | AB | 1300 | G |
| 2 | AB | 1329 | U |
| 2 | AB | 1349 | C |
| 2 | AB | 1351 | C |
| 2 | AB | 1386 | C |
| 2 | AB | 1391 | U |
| 2 | AB | 1395 | A |
| 2 | AB | 1416 | G |
| 2 | AB | 1451 | C |
| 2 | AB | 1452 | G |
| 2 | AB | 1454 | C |
| 2 | AB | 1460 | U |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 2 | AB | 1476 | U |
| 2 | AB | 1567 | G |
| 2 | AB | 1608 | A |
| 2 | AB | 1609 | A |
| 2 | AB | 1616 | A |
| 2 | AB | 1634 | A |
| 2 | AB | 1693 | U |
| 2 | AB | 1697 | G |
| 2 | AB | 1715 | G |
| 2 | AB | 1723 | G |
| 2 | AB | 1759 | A |
| 2 | AB | 1773 | A |
| 2 | AB | 1778 | U |
| 2 | AB | 1783 | A |
| 2 | AB | 1784 | A |
| 2 | AB | 1786 | A |
| 2 | AB | 1807 | G |
| 2 | AB | 1832 | C |
| 2 | AB | 1882 | U |
| 2 | AB | 1889 | A |
| 2 | AB | 1912 | A |
| 2 | AB | 1913 | A |
| 2 | AB | 1927 | A |
| 2 | AB | 1939 | 5MU |
| 2 | AB | 1940 | U |
| 2 | AB | 1944 | U |
| 2 | AB | 1955 | U |
| 2 | AB | 1973 | G |
| 2 | AB | 2019 | A |
| 2 | AB | 2021 | C |
| 2 | AB | 2031 | A |
| 2 | AB | 2033 | A |
| 2 | AB | 2042 | A |
| 2 | AB | 2058 | A |
| 2 | AB | 2061 | G |
| 2 | AB | 2068 | U |
| 2 | AB | 2076 | U |
| 2 | AB | 2079 | U |
| 2 | AB | 2106 | U |
| 2 | AB | 2118 | U |
| 2 | AB | 2132 | U |
| 2 | AB | 2133 | G |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 2 | AB | 2198 | A |
| 2 | AB | 2213 | U |
| 2 | AB | 2223 | G |
| 2 | AB | 2225 | A |
| 2 | AB | 2236 | U |
| 2 | AB | 2238 | G |
| 2 | AB | 2249 | U |
| 2 | AB | 2282 | G |
| 2 | AB | 2287 | A |
| 2 | AB | 2336 | A |
| 2 | AB | 2353 | G |
| 2 | AB | 2385 | C |
| 2 | AB | 2402 | U |
| 2 | AB | 2425 | A |
| 2 | AB | 2432 | A |
| 2 | AB | 2434 | A |
| 2 | AB | 2439 | A |
| 2 | AB | 2440 | C |
| 2 | AB | 2452 | C |
| 2 | AB | 2500 | U |
| 2 | AB | 2504 | PSU |
| 2 | AB | 2515 | C |
| 2 | AB | 2571 | U |
| 2 | AB | 2585 | U |
| 2 | AB | 2602 | A |
| 2 | AB | 2608 | G |
| 2 | AB | 2610 | C |
| 2 | AB | 2613 | U |
| 2 | AB | 2628 | C |
| 2 | AB | 2655 | G |
| 2 | AB | 2663 | G |
| 2 | AB | 2690 | U |
| 2 | AB | 2697 | G |
| 2 | AB | 2756 | U |
| 2 | AB | 2765 | A |
| 2 | AB | 2771 | C |
| 2 | AB | 2777 | G |
| 2 | AB | 2791 | G |
| 2 | AB | 2802 | G |
| 2 | AB | 2806 | C |
| 2 | AB | 2833 | U |
| 2 | AB | 2835 | A |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 2 | AB | 2842 | G |
| 2 | AB | 2858 | C |
| 2 | AB | 2879 | A |
| 35 | BA | 2 | A |
| 35 | BA | 7 | A |
| 35 | BA | 39 | G |
| 35 | BA | 42 | G |
| 35 | BA | 51 | A |
| 35 | BA | 84 | U |
| 35 | BA | 97 | G |
| 35 | BA | 101 | A |
| 35 | BA | 121 | U |
| 35 | BA | 128 | G |
| 35 | BA | 173 | U |
| 35 | BA | 178 | C |
| 35 | BA | 187 | G |
| 35 | BA | 188 | C |
| 35 | BA | 204 | G |
| 35 | BA | 205 | A |
| 35 | BA | 206 | C |
| 35 | BA | 209 | U |
| 35 | BA | 224 | U |
| 35 | BA | 243 | A |
| 35 | BA | 244 | U |
| 35 | BA | 249 | U |
| 35 | BA | 251 | G |
| 35 | BA | 261 | U |
| 35 | BA | 272 | C |
| 35 | BA | 279 | A |
| 35 | BA | 306 | A |
| 35 | BA | 328 | C |
| 35 | BA | 337 | G |
| 35 | BA | 366 | A |
| 35 | BA | 372 | C |
| 35 | BA | 410 | G |
| 35 | BA | 429 | U |
| 35 | BA | 467 | U |
| 35 | BA | 481 | G |
| 35 | BA | 497 | G |
| 35 | BA | 533 | A |
| 35 | BA | 534 | U |
| 35 | BA | 552 | U |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 35 | BA | 578 | C |
| 35 | BA | 582 | C |
| 35 | BA | 606 | G |
| 35 | BA | 618 | C |
| 35 | BA | 653 | U |
| 35 | BA | 675 | A |
| 35 | BA | 681 | A |
| 35 | BA | 682 | G |
| 35 | BA | 700 | G |
| 35 | BA | 717 | U |
| 35 | BA | 727 | G |
| 35 | BA | 744 | C |
| 35 | BA | 764 | C |
| 35 | BA | 765 | G |
| 35 | BA | 782 | A |
| 35 | BA | 789 | U |
| 35 | BA | 792 | A |
| 35 | BA | 815 | A |
| 35 | BA | 816 | A |
| 35 | BA | 840 | C |
| 35 | BA | 844 | G |
| 35 | BA | 845 | A |
| 35 | BA | 870 | U |
| 35 | BA | 897 | C |
| 35 | BA | 898 | G |
| 35 | BA | 926 | G |
| 35 | BA | 931 | C |
| 35 | BA | 937 | A |
| 35 | BA | 944 | G |
| 35 | BA | 960 | U |
| 35 | BA | 965 | U |
| 35 | BA | 968 | A |
| 35 | BA | 969 | A |
| 35 | BA | 974 | A |
| 35 | BA | 979 | C |
| 35 | BA | 992 | U |
| 35 | BA | 993 | G |
| 35 | BA | 1014 | A |
| 35 | BA | 1029 | U |
| 35 | BA | 1125 | U |
| 35 | BA | 1129 | C |
| 35 | BA | 1160 | G |

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| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 35 | BA | 1167 | A |
| 35 | BA | 1201 | A |
| 35 | BA | 1213 | A |
| 35 | BA | 1214 | C |
| 35 | BA | 1224 | U |
| 35 | BA | 1226 | C |
| 35 | BA | 1239 | A |
| 35 | BA | 1253 | G |
| 35 | BA | 1256 | A |
| 35 | BA | 1279 | G |
| 35 | BA | 1281 | C |
| 35 | BA | 1289 | A |
| 35 | BA | 1302 | C |
| 35 | BA | 1310 | G |
| 35 | BA | 1313 | U |
| 35 | BA | 1318 | A |
| 35 | BA | 1323 | G |
| 35 | BA | 1329 | A |
| 35 | BA | 1346 | A |
| 35 | BA | 1347 | G |
| 35 | BA | 1364 | U |
| 35 | BA | 1393 | U |
| 35 | BA | 1404 | C |
| 35 | BA | 1417 | G |
| 35 | BA | 1452 | C |
| 35 | BA | 1461 | G |
| 35 | BA | 1465 | A |
| 35 | BA | 1491 | G |
| 35 | BA | 1492 | A |
| 35 | BA | 1502 | A |
| 35 | BA | 1530 | G |
| 36 | BB | 22 | G |
| 36 | BB | 29 | G |
| 36 | BB | 39 | U |
| 36 | BB | 43 | U |
| 36 | BB | 53 | G |
| 36 | BB | 55 | A |
| 37 | BC | 9 | G |

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

40 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|-----|------|-------|------|------|--------------|------|----------|-------------|------|----------|
| | | | | | Counts | RMSZ | # Z > 2 | Counts | RMSZ | # Z > 2 |
| 2 | 6MZ | AB | 2030 | 2 | 18,25,26 | 1.85 | 3 (16%) | 16,36,39 | 1.95 | 3 (18%) |
| 2 | 5MU | AB | 747 | 2 | 19,22,23 | 1.52 | 3 (15%) | 28,32,35 | 2.79 | 17 (60%) |
| 37 | 4SU | BC | 8 | 37 | 18,21,22 | 1.95 | 6 (33%) | 26,30,33 | 1.77 | 7 (26%) |
| 2 | 2MA | AB | 2503 | 2 | 17,25,26 | 1.22 | 2 (11%) | 17,37,40 | 1.78 | 3 (17%) |
| 2 | 2MG | AB | 2445 | 2 | 18,26,27 | 1.77 | 4 (22%) | 16,38,41 | 1.76 | 4 (25%) |
| 35 | PSU | BA | 516 | 35 | 18,21,22 | 1.67 | 4 (22%) | 22,30,33 | 2.34 | 4 (18%) |
| 2 | OMU | AB | 2552 | 2 | 19,22,23 | 0.82 | 1 (5%) | 26,31,34 | 1.36 | 3 (11%) |
| 2 | 5MU | AB | 1939 | 2 | 19,22,23 | 1.35 | 2 (10%) | 28,32,35 | 2.31 | 9 (32%) |
| 35 | MA6 | BA | 1518 | 35 | 19,26,27 | 1.51 | 2 (10%) | 18,38,41 | 1.32 | 3 (16%) |
| 2 | OMC | AB | 2498 | 2 | 19,22,23 | 1.30 | 5 (26%) | 26,31,34 | 1.57 | 6 (23%) |
| 2 | PSU | AB | 1911 | 2 | 18,21,22 | 2.38 | 8 (44%) | 22,30,33 | 1.33 | 4 (18%) |
| 2 | H2U | AB | 2449 | 2 | 18,21,22 | 1.23 | 1 (5%) | 21,30,33 | 2.82 | 9 (42%) |
| 2 | 6MZ | AB | 1618 | 2 | 18,25,26 | 1.81 | 6 (33%) | 16,36,39 | 1.60 | 4 (25%) |
| 35 | 5MC | BA | 967 | 35 | 18,22,23 | 1.05 | 1 (5%) | 26,32,35 | 1.33 | 4 (15%) |
| 2 | 2MG | AB | 1835 | 2 | 18,26,27 | 1.79 | 4 (22%) | 16,38,41 | 1.83 | 3 (18%) |
| 2 | PSU | AB | 1917 | 2 | 18,21,22 | 1.39 | 4 (22%) | 22,30,33 | 1.82 | 5 (22%) |
| 2 | PSU | AB | 2580 | 2 | 18,21,22 | 1.85 | 5 (27%) | 22,30,33 | 1.48 | 4 (18%) |
| 2 | OMG | AB | 2251 | 2 | 18,26,27 | 1.71 | 5 (27%) | 19,38,41 | 1.37 | 1 (5%) |
| 35 | 2MG | BA | 966 | 35 | 18,26,27 | 1.87 | 6 (33%) | 16,38,41 | 1.50 | 4 (25%) |
| 2 | 1MG | AB | 745 | 2 | 18,26,27 | 2.01 | 9 (50%) | 19,39,42 | 1.89 | 6 (31%) |
| 2 | PSU | AB | 2605 | 2 | 18,21,22 | 1.79 | 3 (16%) | 22,30,33 | 1.92 | 7 (31%) |
| 2 | PSU | AB | 746 | 2 | 18,21,22 | 2.04 | 5 (27%) | 22,30,33 | 2.03 | 6 (27%) |
| 35 | 7MG | BA | 527 | 35 | 22,26,27 | 3.39 | 7 (31%) | 29,39,42 | 1.61 | 2 (6%) |
| 35 | 5MC | BA | 1407 | 35 | 18,22,23 | 1.58 | 3 (16%) | 26,32,35 | 1.49 | 6 (23%) |
| 37 | PSU | BC | 56 | 37 | 18,21,22 | 2.23 | 5 (27%) | 22,30,33 | 1.22 | 1 (4%) |
| 2 | 5MC | AB | 1962 | 2 | 18,22,23 | 1.31 | 2 (11%) | 26,32,35 | 1.51 | 6 (23%) |
| 35 | 2MG | BA | 1207 | 35 | 18,26,27 | 1.59 | 4 (22%) | 16,38,41 | 1.44 | 2 (12%) |
| 37 | H2U | BC | 21 | 37 | 18,21,22 | 1.65 | 6 (33%) | 21,30,33 | 2.23 | 9 (42%) |
| 35 | 4OC | BA | 1402 | 35 | 20,23,24 | 1.24 | 4 (20%) | 26,32,35 | 1.97 | 8 (30%) |

| Mol | Type | Chain | Res | Link | Bond lengths | | | Bond angles | | |
|-----|------|-------|------|------|--------------|------|----------|-------------|------|----------|
| | | | | | Counts | RMSZ | # Z > 2 | Counts | RMSZ | # Z > 2 |
| 37 | OMC | BC | 33 | 37 | 19,22,23 | 1.24 | 3 (15%) | 26,31,34 | 1.38 | 5 (19%) |
| 2 | 3TD | AB | 1915 | 2 | 18,22,23 | 1.38 | 3 (16%) | 22,32,35 | 2.17 | 7 (31%) |
| 35 | 2MG | BA | 1516 | 35 | 18,26,27 | 1.64 | 4 (22%) | 16,38,41 | 1.47 | 3 (18%) |
| 2 | 7MG | AB | 2069 | 2 | 22,26,27 | 4.67 | 4 (18%) | 29,39,42 | 1.64 | 5 (17%) |
| 2 | PSU | AB | 2457 | 2 | 18,21,22 | 1.56 | 3 (16%) | 22,30,33 | 2.33 | 5 (22%) |
| 2 | CH | AB | 2575 | 2 | 16,21,22 | 1.64 | 2 (12%) | 20,30,33 | 1.55 | 4 (20%) |
| 2 | PSU | AB | 2504 | 2 | 18,21,22 | 1.71 | 3 (16%) | 22,30,33 | 2.17 | 5 (22%) |
| 35 | UR3 | BA | 1498 | 35 | 19,22,23 | 1.23 | 3 (15%) | 26,32,35 | 1.91 | 7 (26%) |
| 2 | PSU | AB | 955 | 2 | 18,21,22 | 1.90 | 3 (16%) | 22,30,33 | 1.56 | 4 (18%) |
| 37 | 5MU | BC | 55 | 37 | 19,22,23 | 1.01 | 1 (5%) | 28,32,35 | 1.97 | 8 (28%) |
| 35 | MA6 | BA | 1519 | 35 | 19,26,27 | 1.46 | 4 (21%) | 18,38,41 | 2.25 | 5 (27%) |

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|-----|------|-------|------|------|---------|-----------|---------|
| 2 | 6MZ | AB | 2030 | 2 | - | 0/5/27/28 | 0/3/3/3 |
| 2 | 5MU | AB | 747 | 2 | - | 0/7/25/26 | 0/2/2/2 |
| 37 | 4SU | BC | 8 | 37 | - | 0/7/25/26 | 0/2/2/2 |
| 2 | 2MA | AB | 2503 | 2 | - | 0/3/25/26 | 0/3/3/3 |
| 2 | 2MG | AB | 2445 | 2 | - | 0/5/27/28 | 0/3/3/3 |
| 35 | PSU | BA | 516 | 35 | - | 1/7/25/26 | 0/2/2/2 |
| 2 | OMU | AB | 2552 | 2 | - | 1/9/27/28 | 0/2/2/2 |
| 2 | 5MU | AB | 1939 | 2 | - | 0/7/25/26 | 0/2/2/2 |
| 35 | MA6 | BA | 1518 | 35 | - | 0/7/29/30 | 0/3/3/3 |
| 2 | OMC | AB | 2498 | 2 | - | 0/9/27/28 | 0/2/2/2 |
| 2 | PSU | AB | 1911 | 2 | - | 2/7/25/26 | 0/2/2/2 |
| 2 | H2U | AB | 2449 | 2 | - | 0/7/38/39 | 0/2/2/2 |
| 2 | 6MZ | AB | 1618 | 2 | - | 1/5/27/28 | 0/3/3/3 |
| 35 | 5MC | BA | 967 | 35 | - | 1/7/25/26 | 0/2/2/2 |
| 2 | 2MG | AB | 1835 | 2 | - | 0/5/27/28 | 0/3/3/3 |
| 2 | PSU | AB | 1917 | 2 | - | 3/7/25/26 | 0/2/2/2 |
| 2 | PSU | AB | 2580 | 2 | - | 3/7/25/26 | 0/2/2/2 |
| 2 | OMG | AB | 2251 | 2 | - | 0/5/27/28 | 0/3/3/3 |
| 35 | 2MG | BA | 966 | 35 | - | 0/5/27/28 | 0/3/3/3 |
| 2 | 1MG | AB | 745 | 2 | - | 0/3/25/26 | 0/3/3/3 |
| 2 | PSU | AB | 2605 | 2 | - | 0/7/25/26 | 0/2/2/2 |

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| Mol | Type | Chain | Res | Link | Chirals | Torsions | Rings |
|-----|------|-------|------|------|---------|-----------|---------|
| 2 | PSU | AB | 746 | 2 | - | 1/7/25/26 | 0/2/2/2 |
| 35 | 7MG | BA | 527 | 35 | - | 1/7/37/38 | 0/3/3/3 |
| 35 | 5MC | BA | 1407 | 35 | - | 0/7/25/26 | 0/2/2/2 |
| 37 | PSU | BC | 56 | 37 | - | 0/7/25/26 | 0/2/2/2 |
| 2 | 5MC | AB | 1962 | 2 | - | 0/7/25/26 | 0/2/2/2 |
| 35 | 2MG | BA | 1207 | 35 | - | 0/5/27/28 | 0/3/3/3 |
| 37 | H2U | BC | 21 | 37 | - | 0/7/38/39 | 0/2/2/2 |
| 35 | 4OC | BA | 1402 | 35 | - | 0/9/29/30 | 0/2/2/2 |
| 37 | OMC | BC | 33 | 37 | - | 0/9/27/28 | 0/2/2/2 |
| 2 | 3TD | AB | 1915 | 2 | - | 0/7/25/26 | 0/2/2/2 |
| 35 | 2MG | BA | 1516 | 35 | - | 0/5/27/28 | 0/3/3/3 |
| 2 | 7MG | AB | 2069 | 2 | - | 0/7/37/38 | 0/3/3/3 |
| 2 | PSU | AB | 2457 | 2 | - | 0/7/25/26 | 0/2/2/2 |
| 2 | CH | AB | 2575 | 2 | - | 0/5/25/26 | 0/2/2/2 |
| 2 | PSU | AB | 2504 | 2 | - | 2/7/25/26 | 0/2/2/2 |
| 35 | UR3 | BA | 1498 | 35 | - | 0/7/25/26 | 0/2/2/2 |
| 2 | PSU | AB | 955 | 2 | - | 0/7/25/26 | 0/2/2/2 |
| 37 | 5MU | BC | 55 | 37 | - | 0/7/25/26 | 0/2/2/2 |
| 35 | MA6 | BA | 1519 | 35 | - | 0/7/29/30 | 0/3/3/3 |

All (153) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|--------|-------------|----------|
| 2 | AB | 2069 | 7MG | C8-N9 | -20.69 | 1.34 | 1.46 |
| 35 | BA | 527 | 7MG | C8-N9 | -14.00 | 1.38 | 1.46 |
| 2 | AB | 2030 | 6MZ | C6-N1 | 5.79 | 1.42 | 1.34 |
| 2 | AB | 1911 | PSU | C2'-C1' | -5.36 | 1.46 | 1.53 |
| 2 | AB | 955 | PSU | C2'-C1' | -5.26 | 1.46 | 1.53 |
| 2 | AB | 1835 | 2MG | C8-N7 | -5.15 | 1.26 | 1.35 |
| 37 | BC | 56 | PSU | C1'-C5 | 5.02 | 1.61 | 1.50 |
| 2 | AB | 2575 | CH | C2'-C1' | 4.80 | 1.61 | 1.53 |
| 2 | AB | 2445 | 2MG | C6-N1 | 4.75 | 1.44 | 1.37 |
| 37 | BC | 56 | PSU | C6-N1 | 4.69 | 1.44 | 1.36 |
| 2 | AB | 746 | PSU | O4'-C4' | -4.62 | 1.34 | 1.45 |
| 37 | BC | 8 | 4SU | C5-C4 | -4.58 | 1.36 | 1.42 |
| 2 | AB | 2069 | 7MG | C5-N7 | 4.48 | 1.40 | 1.35 |
| 2 | AB | 2580 | PSU | C2-N1 | 4.43 | 1.42 | 1.36 |
| 2 | AB | 1911 | PSU | C4-N3 | 4.28 | 1.46 | 1.38 |
| 2 | AB | 2605 | PSU | C2-N1 | 4.27 | 1.42 | 1.36 |
| 35 | BA | 1407 | 5MC | C6-C5 | 4.23 | 1.41 | 1.34 |
| 35 | BA | 1518 | MA6 | O4'-C1' | 4.18 | 1.46 | 1.41 |
| 2 | AB | 1618 | 6MZ | C2'-C1' | -4.05 | 1.47 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 37 | BC | 56 | PSU | C2'-C1' | 3.94 | 1.58 | 1.53 |
| 35 | BA | 1207 | 2MG | C8-N7 | -3.91 | 1.28 | 1.35 |
| 2 | AB | 2504 | PSU | C6-N1 | 3.80 | 1.42 | 1.36 |
| 2 | AB | 747 | 5MU | C2-N1 | 3.75 | 1.44 | 1.38 |
| 2 | AB | 2605 | PSU | C6-C5 | 3.74 | 1.39 | 1.35 |
| 35 | BA | 966 | 2MG | C8-N7 | -3.70 | 1.28 | 1.35 |
| 2 | AB | 2580 | PSU | O4'-C1' | 3.66 | 1.48 | 1.43 |
| 37 | BC | 8 | 4SU | C4-N3 | 3.55 | 1.41 | 1.37 |
| 2 | AB | 1939 | 5MU | C2-N3 | 3.54 | 1.44 | 1.38 |
| 2 | AB | 2504 | PSU | C6-C5 | 3.45 | 1.39 | 1.35 |
| 2 | AB | 745 | 1MG | O3'-C3' | -3.45 | 1.34 | 1.43 |
| 35 | BA | 1518 | MA6 | C2'-C1' | 3.44 | 1.59 | 1.53 |
| 35 | BA | 1516 | 2MG | C2'-C1' | -3.40 | 1.48 | 1.53 |
| 2 | AB | 746 | PSU | C6-N1 | 3.35 | 1.41 | 1.36 |
| 2 | AB | 746 | PSU | C2-N1 | 3.35 | 1.41 | 1.36 |
| 2 | AB | 2251 | OMG | O4'-C1' | -3.32 | 1.36 | 1.41 |
| 2 | AB | 2457 | PSU | C6-C5 | 3.30 | 1.39 | 1.35 |
| 35 | BA | 527 | 7MG | O3'-C3' | -3.21 | 1.35 | 1.43 |
| 35 | BA | 516 | PSU | C3'-C4' | 3.20 | 1.61 | 1.53 |
| 37 | BC | 21 | H2U | C2-N1 | 3.10 | 1.40 | 1.35 |
| 2 | AB | 1911 | PSU | C2-N1 | 3.01 | 1.40 | 1.36 |
| 2 | AB | 2504 | PSU | C2'-C1' | -3.01 | 1.49 | 1.53 |
| 2 | AB | 955 | PSU | C3'-C4' | 2.98 | 1.60 | 1.53 |
| 2 | AB | 745 | 1MG | C8-N7 | -2.96 | 1.30 | 1.35 |
| 37 | BC | 21 | H2U | C2'-C3' | 2.96 | 1.61 | 1.53 |
| 2 | AB | 745 | 1MG | CM1-N1 | 2.94 | 1.52 | 1.47 |
| 35 | BA | 516 | PSU | C2-N1 | 2.90 | 1.40 | 1.36 |
| 2 | AB | 746 | PSU | C4-C5 | 2.90 | 1.52 | 1.44 |
| 37 | BC | 8 | 4SU | C3'-C4' | -2.88 | 1.45 | 1.53 |
| 2 | AB | 2251 | OMG | O4'-C4' | -2.84 | 1.38 | 1.45 |
| 2 | AB | 955 | PSU | C6-C5 | 2.82 | 1.38 | 1.35 |
| 35 | BA | 516 | PSU | C2-N3 | 2.82 | 1.42 | 1.37 |
| 2 | AB | 745 | 1MG | C5-C4 | -2.80 | 1.35 | 1.43 |
| 2 | AB | 2030 | 6MZ | C4-N3 | 2.80 | 1.39 | 1.35 |
| 2 | AB | 2445 | 2MG | O4'-C4' | -2.78 | 1.38 | 1.45 |
| 2 | AB | 1618 | 6MZ | O4'-C1' | 2.77 | 1.45 | 1.41 |
| 35 | BA | 1207 | 2MG | CM2-N2 | 2.76 | 1.50 | 1.45 |
| 35 | BA | 966 | 2MG | O4'-C1' | 2.76 | 1.44 | 1.41 |
| 2 | AB | 1911 | PSU | C1'-C5 | 2.74 | 1.56 | 1.50 |
| 2 | AB | 1917 | PSU | C2-N1 | 2.72 | 1.40 | 1.36 |
| 2 | AB | 2251 | OMG | C2-N3 | 2.71 | 1.39 | 1.33 |
| 2 | AB | 1962 | 5MC | O5'-C5' | -2.70 | 1.38 | 1.44 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 37 | BC | 33 | OMC | C2-N1 | 2.70 | 1.45 | 1.40 |
| 35 | BA | 1516 | 2MG | O3'-C3' | -2.70 | 1.36 | 1.43 |
| 35 | BA | 967 | 5MC | O5'-C5' | -2.69 | 1.38 | 1.44 |
| 35 | BA | 1402 | 4OC | O5'-C5' | -2.68 | 1.38 | 1.44 |
| 35 | BA | 527 | 7MG | C5'-C4' | 2.68 | 1.60 | 1.51 |
| 37 | BC | 56 | PSU | O4'-C4' | -2.68 | 1.39 | 1.45 |
| 35 | BA | 1519 | MA6 | C2-N3 | 2.68 | 1.36 | 1.32 |
| 2 | AB | 2457 | PSU | O4'-C1' | 2.65 | 1.47 | 1.43 |
| 35 | BA | 966 | 2MG | C4-N3 | -2.65 | 1.30 | 1.37 |
| 2 | AB | 2030 | 6MZ | C6-N6 | 2.63 | 1.39 | 1.35 |
| 2 | AB | 1835 | 2MG | C5-C6 | -2.62 | 1.42 | 1.47 |
| 35 | BA | 527 | 7MG | O5'-C5' | -2.61 | 1.38 | 1.44 |
| 2 | AB | 1618 | 6MZ | C6-N1 | 2.60 | 1.37 | 1.34 |
| 2 | AB | 746 | PSU | C2'-C1' | -2.56 | 1.50 | 1.53 |
| 35 | BA | 1516 | 2MG | O2'-C2' | -2.55 | 1.37 | 1.43 |
| 37 | BC | 21 | H2U | C5-C4 | 2.55 | 1.55 | 1.50 |
| 2 | AB | 1911 | PSU | C5'-C4' | 2.54 | 1.59 | 1.51 |
| 35 | BA | 1498 | UR3 | C3U-N3 | 2.53 | 1.51 | 1.47 |
| 35 | BA | 1519 | MA6 | O4'-C4' | -2.51 | 1.39 | 1.45 |
| 35 | BA | 516 | PSU | C4-N3 | -2.50 | 1.34 | 1.38 |
| 35 | BA | 1519 | MA6 | O2'-C2' | -2.50 | 1.37 | 1.43 |
| 35 | BA | 527 | 7MG | C1'-N9 | 2.49 | 1.51 | 1.46 |
| 2 | AB | 1911 | PSU | C2-N3 | 2.49 | 1.41 | 1.37 |
| 2 | AB | 2580 | PSU | O5'-C5' | -2.46 | 1.38 | 1.44 |
| 2 | AB | 2069 | 7MG | O5'-C5' | -2.46 | 1.38 | 1.44 |
| 2 | AB | 2580 | PSU | C6-C5 | 2.45 | 1.38 | 1.35 |
| 2 | AB | 745 | 1MG | C2'-C3' | 2.45 | 1.60 | 1.53 |
| 2 | AB | 2449 | H2U | C2-N1 | 2.43 | 1.39 | 1.35 |
| 2 | AB | 1911 | PSU | O3'-C3' | -2.43 | 1.37 | 1.43 |
| 2 | AB | 1618 | 6MZ | O5'-C5' | -2.41 | 1.38 | 1.44 |
| 2 | AB | 2251 | OMG | O5'-C5' | -2.40 | 1.38 | 1.44 |
| 2 | AB | 2069 | 7MG | C2-N3 | 2.40 | 1.38 | 1.33 |
| 2 | AB | 1911 | PSU | O4'-C1' | 2.40 | 1.47 | 1.43 |
| 2 | AB | 2580 | PSU | O3'-C3' | 2.39 | 1.48 | 1.43 |
| 2 | AB | 2445 | 2MG | C8-N7 | -2.38 | 1.31 | 1.35 |
| 35 | BA | 1207 | 2MG | C2-N1 | 2.38 | 1.40 | 1.36 |
| 2 | AB | 745 | 1MG | O2'-C2' | 2.38 | 1.48 | 1.43 |
| 2 | AB | 1618 | 6MZ | C8-N7 | -2.38 | 1.30 | 1.34 |
| 2 | AB | 2575 | CH | O2'-C2' | -2.37 | 1.37 | 1.43 |
| 2 | AB | 1618 | 6MZ | C9-N6 | 2.36 | 1.49 | 1.45 |
| 35 | BA | 966 | 2MG | C2-N1 | 2.34 | 1.40 | 1.36 |
| 2 | AB | 2445 | 2MG | C2'-C1' | -2.33 | 1.50 | 1.53 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 2 | AB | 2498 | OMC | O2'-C2' | 2.33 | 1.48 | 1.42 |
| 37 | BC | 56 | PSU | C2-N1 | 2.33 | 1.39 | 1.36 |
| 2 | AB | 2457 | PSU | C6-N1 | -2.32 | 1.32 | 1.36 |
| 37 | BC | 21 | H2U | C5'-C4' | 2.32 | 1.58 | 1.51 |
| 2 | AB | 1917 | PSU | O5'-C5' | -2.31 | 1.39 | 1.44 |
| 2 | AB | 1915 | 3TD | O5'-C5' | -2.30 | 1.39 | 1.44 |
| 35 | BA | 1407 | 5MC | C3'-C4' | -2.29 | 1.47 | 1.53 |
| 2 | AB | 2605 | PSU | C3'-C2' | 2.29 | 1.59 | 1.53 |
| 2 | AB | 2503 | 2MA | O4'-C1' | 2.29 | 1.44 | 1.41 |
| 2 | AB | 1917 | PSU | C5'-C4' | 2.29 | 1.58 | 1.51 |
| 35 | BA | 1498 | UR3 | C3'-C2' | -2.28 | 1.47 | 1.53 |
| 37 | BC | 33 | OMC | C3'-C4' | 2.27 | 1.58 | 1.53 |
| 2 | AB | 1962 | 5MC | CM5-C5 | 2.26 | 1.56 | 1.50 |
| 37 | BC | 8 | 4SU | C2-N1 | 2.25 | 1.42 | 1.38 |
| 2 | AB | 745 | 1MG | O4'-C1' | -2.25 | 1.37 | 1.41 |
| 2 | AB | 747 | 5MU | C2-N3 | 2.25 | 1.42 | 1.38 |
| 2 | AB | 2503 | 2MA | C8-N7 | -2.24 | 1.31 | 1.35 |
| 35 | BA | 1516 | 2MG | O5'-C5' | -2.23 | 1.39 | 1.44 |
| 2 | AB | 1915 | 3TD | O4'-C1' | 2.21 | 1.46 | 1.43 |
| 2 | AB | 2498 | OMC | O4'-C4' | -2.21 | 1.40 | 1.45 |
| 37 | BC | 8 | 4SU | C6-C5 | 2.19 | 1.40 | 1.35 |
| 2 | AB | 1835 | 2MG | O4'-C1' | 2.18 | 1.44 | 1.41 |
| 2 | AB | 1939 | 5MU | O5'-C5' | -2.18 | 1.39 | 1.44 |
| 35 | BA | 966 | 2MG | O6-C6 | 2.18 | 1.27 | 1.23 |
| 2 | AB | 1915 | 3TD | C10-N3 | 2.17 | 1.51 | 1.47 |
| 35 | BA | 1402 | 4OC | CM4-N4 | 2.17 | 1.49 | 1.45 |
| 35 | BA | 1402 | 4OC | O3'-C3' | 2.16 | 1.48 | 1.43 |
| 35 | BA | 1519 | MA6 | C3'-C2' | -2.15 | 1.47 | 1.53 |
| 35 | BA | 1402 | 4OC | O2'-CM2 | 2.13 | 1.49 | 1.42 |
| 2 | AB | 745 | 1MG | C6-N1 | 2.13 | 1.43 | 1.39 |
| 2 | AB | 2498 | OMC | C1'-N1 | 2.13 | 1.53 | 1.47 |
| 2 | AB | 2552 | OMU | C4-N3 | 2.13 | 1.42 | 1.38 |
| 2 | AB | 747 | 5MU | O3'-C3' | 2.13 | 1.48 | 1.43 |
| 37 | BC | 33 | OMC | O3'-C3' | 2.11 | 1.48 | 1.43 |
| 37 | BC | 21 | H2U | O2'-C2' | -2.11 | 1.38 | 1.43 |
| 37 | BC | 55 | 5MU | O2'-C2' | -2.11 | 1.38 | 1.43 |
| 37 | BC | 8 | 4SU | O4'-C4' | -2.11 | 1.40 | 1.45 |
| 2 | AB | 2498 | OMC | C5'-C4' | 2.10 | 1.58 | 1.51 |
| 35 | BA | 527 | 7MG | O4'-C1' | -2.09 | 1.37 | 1.42 |
| 35 | BA | 527 | 7MG | O2'-C2' | 2.09 | 1.47 | 1.43 |
| 2 | AB | 2251 | OMG | C2-N2 | -2.08 | 1.29 | 1.34 |
| 35 | BA | 1407 | 5MC | C1'-N1 | 2.08 | 1.53 | 1.47 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|---------|-------|-------------|----------|
| 35 | BA | 1207 | 2MG | C4-N3 | -2.06 | 1.32 | 1.37 |
| 2 | AB | 745 | 1MG | C5-C6 | -2.04 | 1.41 | 1.47 |
| 35 | BA | 1498 | UR3 | C2'-C1' | 2.04 | 1.60 | 1.53 |
| 35 | BA | 966 | 2MG | C5-C4 | -2.02 | 1.37 | 1.43 |
| 37 | BC | 21 | H2U | C2-N3 | -2.02 | 1.34 | 1.38 |
| 2 | AB | 2498 | OMC | O5'-C5' | -2.01 | 1.39 | 1.44 |
| 2 | AB | 1835 | 2MG | C6-N1 | 2.01 | 1.40 | 1.37 |
| 2 | AB | 1917 | PSU | O4'-C4' | -2.01 | 1.40 | 1.45 |

All (208) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2457 | PSU | C6-C5-C4 | 7.75 | 123.62 | 118.20 |
| 35 | BA | 516 | PSU | C3'-C2'-C1' | 7.65 | 110.55 | 101.64 |
| 2 | AB | 2449 | H2U | O2-C2-N1 | -7.16 | 114.12 | 123.11 |
| 2 | AB | 1939 | 5MU | C5M-C5-C4 | 6.70 | 126.14 | 118.77 |
| 2 | AB | 2504 | PSU | C6-C5-C4 | 6.64 | 122.84 | 118.20 |
| 2 | AB | 747 | 5MU | C5-C4-N3 | 6.63 | 120.97 | 115.31 |
| 35 | BA | 527 | 7MG | N9-C8-N7 | 6.00 | 111.95 | 103.38 |
| 35 | BA | 1519 | MA6 | C4-C5-N7 | -5.91 | 103.24 | 109.40 |
| 2 | AB | 747 | 5MU | O4-C4-C5 | -5.79 | 118.19 | 124.90 |
| 2 | AB | 2030 | 6MZ | C9-N6-C6 | 5.71 | 127.79 | 122.87 |
| 2 | AB | 1917 | PSU | C6-C5-C4 | 5.61 | 122.12 | 118.20 |
| 2 | AB | 2449 | H2U | O2-C2-N3 | 5.46 | 131.67 | 121.50 |
| 2 | AB | 1835 | 2MG | O6-C6-N1 | 5.45 | 127.08 | 120.65 |
| 35 | BA | 516 | PSU | C6-C5-C4 | 5.20 | 121.84 | 118.20 |
| 2 | AB | 2069 | 7MG | N9-C8-N7 | 5.17 | 110.77 | 103.38 |
| 37 | BC | 55 | 5MU | C5M-C5-C4 | 5.02 | 124.30 | 118.77 |
| 37 | BC | 21 | H2U | C4-N3-C2 | 4.80 | 129.77 | 125.79 |
| 2 | AB | 1915 | 3TD | C6-C5-C4 | 4.77 | 121.52 | 118.22 |
| 2 | AB | 1939 | 5MU | C5M-C5-C6 | -4.69 | 116.58 | 122.85 |
| 2 | AB | 1915 | 3TD | C3'-C2'-C1' | 4.68 | 107.09 | 101.64 |
| 35 | BA | 1402 | 4OC | C6-C5-C4 | -4.66 | 111.26 | 116.96 |
| 2 | AB | 2498 | OMC | O4'-C1'-N1 | 4.56 | 118.78 | 108.36 |
| 35 | BA | 1519 | MA6 | N1-C6-N6 | 4.50 | 121.80 | 117.06 |
| 37 | BC | 55 | 5MU | C5M-C5-C6 | -4.46 | 116.89 | 122.85 |
| 35 | BA | 1498 | UR3 | O4-C4-N3 | 4.46 | 125.85 | 119.66 |
| 2 | AB | 1915 | 3TD | C5-C6-N1 | -4.43 | 115.47 | 122.11 |
| 2 | AB | 747 | 5MU | C4-N3-C2 | -4.33 | 121.75 | 127.35 |
| 2 | AB | 2605 | PSU | O2-C2-N1 | -4.27 | 118.09 | 122.79 |
| 2 | AB | 2449 | H2U | O4'-C1'-N1 | 4.25 | 115.09 | 109.30 |
| 2 | AB | 747 | 5MU | C1'-N1-C6 | -4.20 | 114.13 | 121.12 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 746 | PSU | O4'-C4'-C3' | 4.18 | 113.39 | 105.11 |
| 37 | BC | 55 | 5MU | O2-C2-N1 | 4.18 | 128.34 | 122.79 |
| 2 | AB | 2449 | H2U | O4'-C4'-C3' | 4.12 | 113.27 | 105.11 |
| 2 | AB | 747 | 5MU | O2-C2-N1 | -4.12 | 117.32 | 122.79 |
| 35 | BA | 1402 | 4OC | C5-C4-N3 | 4.08 | 129.16 | 122.59 |
| 2 | AB | 2504 | PSU | O4'-C1'-C2' | 4.05 | 110.86 | 105.14 |
| 2 | AB | 1939 | 5MU | C4-N3-C2 | -3.97 | 122.22 | 127.35 |
| 2 | AB | 2503 | 2MA | N1-C2-N3 | 3.96 | 129.63 | 123.06 |
| 2 | AB | 2449 | H2U | C2'-C3'-C4' | -3.94 | 94.99 | 102.64 |
| 2 | AB | 2030 | 6MZ | C3'-C2'-C1' | 3.87 | 106.80 | 100.98 |
| 2 | AB | 746 | PSU | C3'-C2'-C1' | 3.86 | 106.14 | 101.64 |
| 2 | AB | 745 | 1MG | CM1-N1-C6 | -3.85 | 112.27 | 117.55 |
| 2 | AB | 2503 | 2MA | O4'-C4'-C3' | -3.80 | 97.59 | 105.11 |
| 2 | AB | 747 | 5MU | C5M-C5-C4 | 3.79 | 122.94 | 118.77 |
| 2 | AB | 2575 | CH | C5-C4-N3 | 3.74 | 120.17 | 118.04 |
| 2 | AB | 2445 | 2MG | O6-C6-N1 | 3.73 | 125.05 | 120.65 |
| 35 | BA | 1402 | 4OC | CM4-N4-C4 | 3.72 | 129.72 | 122.45 |
| 37 | BC | 8 | 4SU | O4'-C4'-C3' | 3.67 | 112.38 | 105.11 |
| 2 | AB | 2552 | OMU | O4'-C1'-N1 | 3.67 | 116.75 | 108.36 |
| 37 | BC | 21 | H2U | C2'-C3'-C4' | -3.66 | 95.53 | 102.64 |
| 35 | BA | 1516 | 2MG | O3'-C3'-C4' | 3.66 | 121.63 | 111.05 |
| 35 | BA | 1498 | UR3 | O4'-C1'-N1 | 3.64 | 116.67 | 108.36 |
| 2 | AB | 745 | 1MG | O5'-C5'-C4' | 3.57 | 121.15 | 108.99 |
| 2 | AB | 1618 | 6MZ | C1'-N9-C4 | -3.55 | 120.40 | 126.64 |
| 2 | AB | 746 | PSU | C2'-C3'-C4' | -3.55 | 95.74 | 102.64 |
| 2 | AB | 2457 | PSU | O2-C2-N1 | 3.52 | 126.67 | 122.79 |
| 2 | AB | 2251 | OMG | O2'-C2'-C1' | -3.49 | 102.18 | 109.09 |
| 2 | AB | 1939 | 5MU | C5-C4-N3 | 3.48 | 118.28 | 115.31 |
| 37 | BC | 21 | H2U | C5-C4-N3 | -3.48 | 112.74 | 116.65 |
| 35 | BA | 527 | 7MG | C5-C4-N9 | 3.47 | 110.85 | 106.35 |
| 2 | AB | 2605 | PSU | C6-C5-C4 | 3.44 | 120.60 | 118.20 |
| 35 | BA | 966 | 2MG | O3'-C3'-C4' | 3.42 | 120.93 | 111.05 |
| 35 | BA | 1407 | 5MC | C5-C4-N3 | -3.42 | 117.99 | 121.67 |
| 35 | BA | 1498 | UR3 | C2'-C1'-N1 | -3.41 | 103.56 | 113.22 |
| 37 | BC | 8 | 4SU | O4'-C1'-N1 | 3.41 | 116.15 | 108.36 |
| 2 | AB | 2457 | PSU | C6-N1-C2 | 3.40 | 126.16 | 122.68 |
| 2 | AB | 1939 | 5MU | O4-C4-C5 | -3.38 | 120.99 | 124.90 |
| 2 | AB | 2504 | PSU | C5-C6-N1 | -3.38 | 117.05 | 122.11 |
| 37 | BC | 56 | PSU | C2'-C3'-C4' | -3.37 | 96.10 | 102.64 |
| 2 | AB | 747 | 5MU | O2-C2-N3 | 3.34 | 127.73 | 121.50 |
| 2 | AB | 2504 | PSU | N1-C2-N3 | 3.34 | 118.92 | 115.13 |
| 2 | AB | 2457 | PSU | C5-C6-N1 | -3.34 | 117.10 | 122.11 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 2445 | 2MG | C2'-C3'-C4' | -3.31 | 96.21 | 102.64 |
| 2 | AB | 955 | PSU | O2-C2-N1 | 3.27 | 126.39 | 122.79 |
| 2 | AB | 746 | PSU | N1-C2-N3 | 3.24 | 118.81 | 115.13 |
| 35 | BA | 967 | 5MC | C5-C6-N1 | -3.21 | 120.04 | 123.34 |
| 2 | AB | 746 | PSU | O5'-C5'-C4' | -3.20 | 98.12 | 108.99 |
| 35 | BA | 1519 | MA6 | O3'-C3'-C4' | 3.18 | 120.24 | 111.05 |
| 37 | BC | 55 | 5MU | O4-C4-C5 | 3.17 | 128.57 | 124.90 |
| 37 | BC | 8 | 4SU | C5-C4-S4 | 3.12 | 128.48 | 124.47 |
| 2 | AB | 1939 | 5MU | O3'-C3'-C2' | 3.07 | 121.74 | 111.82 |
| 2 | AB | 2445 | 2MG | C5-C6-N1 | -3.06 | 108.55 | 113.95 |
| 37 | BC | 8 | 4SU | C6-N1-C2 | -3.04 | 117.10 | 120.99 |
| 2 | AB | 2605 | PSU | C3'-C2'-C1' | 3.04 | 105.18 | 101.64 |
| 37 | BC | 21 | H2U | N3-C2-N1 | -3.03 | 113.45 | 116.65 |
| 2 | AB | 1962 | 5MC | C5-C4-N3 | 3.03 | 124.94 | 121.67 |
| 35 | BA | 1518 | MA6 | C4-C5-N7 | -2.97 | 106.30 | 109.40 |
| 2 | AB | 745 | 1MG | CM1-N1-C2 | 2.97 | 123.80 | 120.72 |
| 37 | BC | 33 | OMC | O2'-C2'-C1' | 2.95 | 114.83 | 109.08 |
| 35 | BA | 1498 | UR3 | O4'-C1'-C2' | -2.95 | 100.22 | 106.64 |
| 2 | AB | 2575 | CH | O5'-C5'-C4' | 2.93 | 118.95 | 108.99 |
| 2 | AB | 2552 | OMU | C4-N3-C2 | -2.92 | 122.72 | 126.58 |
| 2 | AB | 2498 | OMC | O4'-C4'-C5' | 2.92 | 118.97 | 109.37 |
| 2 | AB | 2552 | OMU | N3-C2-N1 | 2.91 | 118.76 | 114.89 |
| 35 | BA | 1402 | 4OC | C5-C4-N4 | -2.91 | 116.68 | 122.61 |
| 2 | AB | 2605 | PSU | C4'-O4'-C1' | 2.89 | 115.81 | 108.55 |
| 37 | BC | 21 | H2U | O4'-C1'-C2' | -2.84 | 100.45 | 106.64 |
| 2 | AB | 1915 | 3TD | C6-N1-C2 | 2.84 | 129.46 | 121.68 |
| 2 | AB | 1618 | 6MZ | C4-C5-N7 | 2.80 | 112.31 | 109.40 |
| 35 | BA | 516 | PSU | C5-C6-N1 | -2.78 | 117.95 | 122.11 |
| 35 | BA | 1518 | MA6 | N1-C6-N6 | 2.75 | 119.94 | 117.06 |
| 2 | AB | 2580 | PSU | O5'-C5'-C4' | 2.74 | 118.31 | 108.99 |
| 2 | AB | 745 | 1MG | C2-N1-C6 | 2.73 | 123.17 | 120.95 |
| 37 | BC | 21 | H2U | O4'-C1'-N1 | 2.73 | 113.01 | 109.30 |
| 37 | BC | 33 | OMC | C2'-C1'-N1 | -2.70 | 108.98 | 114.22 |
| 2 | AB | 1917 | PSU | O2-C2-N1 | 2.69 | 125.75 | 122.79 |
| 2 | AB | 747 | 5MU | O4'-C4'-C5' | 2.69 | 118.21 | 109.37 |
| 2 | AB | 2069 | 7MG | C2'-C3'-C4' | -2.68 | 97.43 | 102.64 |
| 35 | BA | 1498 | UR3 | C6-C5-C4 | 2.68 | 126.08 | 120.78 |
| 35 | BA | 1498 | UR3 | C6-N1-C2 | -2.67 | 119.40 | 121.79 |
| 35 | BA | 1207 | 2MG | C2'-C3'-C4' | -2.66 | 97.47 | 102.64 |
| 2 | AB | 2580 | PSU | O4'-C1'-C2' | 2.66 | 108.89 | 105.14 |
| 2 | AB | 1911 | PSU | C4-N3-C2 | -2.64 | 122.54 | 126.34 |
| 2 | AB | 1917 | PSU | C5-C6-N1 | -2.64 | 118.16 | 122.11 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 1911 | PSU | O3'-C3'-C4' | 2.61 | 118.60 | 111.05 |
| 2 | AB | 1618 | 6MZ | C2-N1-C6 | 2.61 | 118.83 | 116.59 |
| 35 | BA | 1402 | 4OC | O4'-C4'-C3' | -2.60 | 99.97 | 105.11 |
| 2 | AB | 1962 | 5MC | C1'-N1-C6 | 2.58 | 125.43 | 121.12 |
| 2 | AB | 2069 | 7MG | N2-C2-N3 | -2.57 | 114.72 | 119.73 |
| 2 | AB | 2605 | PSU | C5-C6-N1 | -2.57 | 118.25 | 122.11 |
| 35 | BA | 1407 | 5MC | C5-C6-N1 | -2.56 | 120.70 | 123.34 |
| 2 | AB | 747 | 5MU | O4'-C1'-N1 | 2.56 | 114.21 | 108.36 |
| 2 | AB | 1962 | 5MC | O4'-C1'-N1 | 2.55 | 114.19 | 108.36 |
| 37 | BC | 21 | H2U | C4'-O4'-C1' | 2.54 | 115.08 | 109.47 |
| 35 | BA | 1407 | 5MC | O4'-C4'-C3' | -2.53 | 100.11 | 105.11 |
| 37 | BC | 33 | OMC | O4'-C1'-N1 | 2.53 | 114.14 | 108.36 |
| 2 | AB | 2069 | 7MG | C3'-C2'-C1' | 2.52 | 106.22 | 101.43 |
| 2 | AB | 1835 | 2MG | C5-C6-N1 | -2.51 | 109.52 | 113.95 |
| 2 | AB | 2605 | PSU | C2'-C3'-C4' | -2.51 | 97.77 | 102.64 |
| 2 | AB | 2575 | CH | C3'-C2'-C1' | -2.50 | 97.22 | 100.98 |
| 35 | BA | 967 | 5MC | O2-C2-N3 | -2.50 | 118.27 | 122.33 |
| 35 | BA | 1519 | MA6 | C5-C6-N1 | -2.49 | 111.91 | 118.92 |
| 2 | AB | 2580 | PSU | O4'-C4'-C3' | 2.49 | 110.03 | 105.11 |
| 2 | AB | 2445 | 2MG | O3'-C3'-C4' | 2.48 | 118.22 | 111.05 |
| 37 | BC | 8 | 4SU | O2-C2-N1 | 2.48 | 126.08 | 122.79 |
| 2 | AB | 1911 | PSU | O2'-C2'-C1' | -2.47 | 105.35 | 111.23 |
| 2 | AB | 2504 | PSU | O4'-C4'-C3' | 2.46 | 109.99 | 105.11 |
| 2 | AB | 2498 | OMC | C4-N3-C2 | 2.46 | 124.23 | 120.25 |
| 2 | AB | 1939 | 5MU | O3'-C3'-C4' | -2.45 | 103.97 | 111.05 |
| 2 | AB | 1915 | 3TD | C4-N3-C2 | -2.45 | 121.95 | 124.61 |
| 2 | AB | 1618 | 6MZ | O4'-C1'-C2' | -2.45 | 103.35 | 106.93 |
| 2 | AB | 1917 | PSU | O4'-C1'-C2' | 2.44 | 108.58 | 105.14 |
| 2 | AB | 2449 | H2U | N3-C2-N1 | -2.44 | 114.08 | 116.65 |
| 2 | AB | 2503 | 2MA | C5-C6-N1 | 2.42 | 118.20 | 114.02 |
| 37 | BC | 21 | H2U | O4-C4-N3 | 2.41 | 124.11 | 120.28 |
| 2 | AB | 745 | 1MG | C5-C6-N1 | -2.41 | 110.27 | 113.90 |
| 35 | BA | 1518 | MA6 | C5-C6-N1 | -2.41 | 112.15 | 118.92 |
| 2 | AB | 747 | 5MU | C3'-C2'-C1' | 2.41 | 106.00 | 101.43 |
| 2 | AB | 747 | 5MU | C6-N1-C2 | 2.40 | 123.73 | 121.30 |
| 35 | BA | 1402 | 4OC | O3'-C3'-C2' | -2.40 | 104.34 | 111.17 |
| 2 | AB | 1962 | 5MC | O2-C2-N3 | -2.40 | 118.42 | 122.33 |
| 35 | BA | 1402 | 4OC | O4'-C1'-N1 | 2.40 | 113.85 | 108.36 |
| 2 | AB | 2449 | H2U | C3'-C2'-C1' | 2.39 | 105.96 | 101.43 |
| 2 | AB | 1917 | PSU | C5'-C4'-C3' | 2.39 | 124.13 | 115.18 |
| 2 | AB | 2580 | PSU | C4'-O4'-C1' | -2.38 | 102.58 | 108.55 |
| 35 | BA | 966 | 2MG | O3'-C3'-C2' | -2.35 | 104.21 | 111.82 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 2 | AB | 747 | 5MU | C1'-N1-C2 | 2.35 | 121.83 | 117.57 |
| 37 | BC | 21 | H2U | O2-C2-N1 | 2.35 | 126.06 | 123.11 |
| 2 | AB | 2605 | PSU | O4'-C1'-C2' | -2.35 | 101.83 | 105.14 |
| 35 | BA | 1519 | MA6 | C9-N6-C6 | 2.35 | 126.61 | 119.51 |
| 2 | AB | 1939 | 5MU | O2'-C2'-C3' | -2.34 | 104.25 | 111.82 |
| 2 | AB | 1962 | 5MC | C5-C4-N4 | -2.34 | 117.98 | 121.48 |
| 35 | BA | 1407 | 5MC | O2-C2-N3 | -2.33 | 118.54 | 122.33 |
| 37 | BC | 8 | 4SU | S4-C4-N3 | -2.33 | 117.92 | 120.21 |
| 35 | BA | 1207 | 2MG | O2'-C2'-C3' | 2.32 | 119.32 | 111.82 |
| 35 | BA | 966 | 2MG | O6-C6-N1 | -2.30 | 117.93 | 120.65 |
| 2 | AB | 747 | 5MU | C5-C6-N1 | -2.30 | 120.97 | 123.34 |
| 2 | AB | 2030 | 6MZ | O4'-C4'-C3' | 2.29 | 109.64 | 105.11 |
| 35 | BA | 1516 | 2MG | O4'-C1'-C2' | 2.29 | 110.27 | 106.93 |
| 2 | AB | 1915 | 3TD | O5'-C5'-C4' | 2.28 | 116.75 | 108.99 |
| 35 | BA | 1402 | 4OC | N1-C2-N3 | -2.28 | 114.66 | 118.81 |
| 2 | AB | 746 | PSU | C6-N1-C2 | -2.27 | 120.36 | 122.68 |
| 35 | BA | 1498 | UR3 | C1'-N1-C6 | 2.25 | 125.75 | 120.84 |
| 2 | AB | 1911 | PSU | O4'-C1'-C2' | 2.25 | 108.32 | 105.14 |
| 2 | AB | 2498 | OMC | C2'-C1'-N1 | -2.25 | 109.85 | 114.22 |
| 2 | AB | 1835 | 2MG | O4'-C4'-C3' | -2.22 | 100.72 | 105.11 |
| 2 | AB | 745 | 1MG | O6-C6-C5 | 2.22 | 128.13 | 124.19 |
| 37 | BC | 8 | 4SU | O2-C2-N3 | -2.20 | 117.40 | 121.50 |
| 35 | BA | 516 | PSU | C4'-O4'-C1' | 2.18 | 114.04 | 108.55 |
| 2 | AB | 747 | 5MU | C5M-C5-C6 | -2.18 | 119.94 | 122.85 |
| 2 | AB | 1915 | 3TD | O2'-C2'-C1' | 2.18 | 116.42 | 111.23 |
| 2 | AB | 2457 | PSU | O2-C2-N3 | -2.17 | 117.72 | 121.82 |
| 2 | AB | 1962 | 5MC | O2-C2-N1 | 2.17 | 123.37 | 118.89 |
| 35 | BA | 967 | 5MC | CM5-C5-C6 | -2.17 | 119.95 | 122.85 |
| 37 | BC | 55 | 5MU | O4'-C1'-N1 | 2.16 | 113.30 | 108.36 |
| 37 | BC | 33 | OMC | C5-C4-N3 | -2.16 | 117.66 | 121.33 |
| 35 | BA | 967 | 5MC | O4'-C1'-N1 | 2.15 | 113.27 | 108.36 |
| 2 | AB | 1939 | 5MU | O4'-C4'-C5' | 2.14 | 116.41 | 109.37 |
| 2 | AB | 747 | 5MU | O4'-C1'-C2' | -2.12 | 102.02 | 106.64 |
| 2 | AB | 955 | PSU | O4'-C1'-C2' | 2.12 | 108.13 | 105.14 |
| 37 | BC | 55 | 5MU | C6-N1-C2 | 2.11 | 123.43 | 121.30 |
| 2 | AB | 2575 | CH | C2'-C3'-C4' | 2.11 | 106.74 | 102.64 |
| 2 | AB | 2449 | H2U | C4-N3-C2 | 2.11 | 127.54 | 125.79 |
| 37 | BC | 33 | OMC | C1'-N1-C6 | 2.10 | 125.43 | 120.84 |
| 2 | AB | 747 | 5MU | O3'-C3'-C2' | 2.10 | 118.62 | 111.82 |
| 2 | AB | 2449 | H2U | O4'-C1'-C2' | -2.10 | 102.07 | 106.64 |
| 37 | BC | 55 | 5MU | O4-C4-N3 | -2.10 | 116.10 | 120.12 |
| 2 | AB | 955 | PSU | O2'-C2'-C3' | -2.09 | 105.05 | 111.82 |

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| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|-------|-------------|----------|
| 37 | BC | 55 | 5MU | O5'-C5'-C4' | 2.08 | 116.06 | 108.99 |
| 2 | AB | 2498 | OMC | C3'-C2'-C1' | -2.07 | 99.00 | 102.89 |
| 2 | AB | 2069 | 7MG | O3'-C3'-C2' | 2.07 | 118.51 | 111.82 |
| 2 | AB | 747 | 5MU | C2'-C3'-C4' | -2.06 | 98.64 | 102.64 |
| 35 | BA | 1407 | 5MC | O2'-C2'-C3' | -2.03 | 105.24 | 111.82 |
| 2 | AB | 955 | PSU | C2'-C3'-C4' | -2.03 | 98.70 | 102.64 |
| 35 | BA | 1407 | 5MC | C2'-C1'-N1 | -2.03 | 107.47 | 113.22 |
| 35 | BA | 966 | 2MG | O4'-C4'-C3' | -2.02 | 101.11 | 105.11 |
| 2 | AB | 2498 | OMC | O3'-C3'-C2' | -2.01 | 105.46 | 111.17 |
| 35 | BA | 1516 | 2MG | O2'-C2'-C1' | -2.00 | 103.46 | 110.85 |

There are no chirality outliers.

All (16) torsion outliers are listed below:

| Mol | Chain | Res | Type | Atoms |
|-----|-------|------|------|-----------------|
| 2 | AB | 746 | PSU | C2'-C1'-C5-C4 |
| 2 | AB | 2552 | OMU | C1'-C2'-O2'-CM2 |
| 2 | AB | 1917 | PSU | O4'-C4'-C5'-O5' |
| 2 | AB | 1917 | PSU | C3'-C4'-C5'-O5' |
| 35 | BA | 527 | 7MG | C4'-C5'-O5'-P |
| 2 | AB | 2580 | PSU | C3'-C4'-C5'-O5' |
| 2 | AB | 2580 | PSU | C4'-C5'-O5'-P |
| 2 | AB | 1911 | PSU | O4'-C1'-C5-C4 |
| 2 | AB | 2504 | PSU | O4'-C1'-C5-C4 |
| 35 | BA | 516 | PSU | O4'-C1'-C5-C4 |
| 35 | BA | 967 | 5MC | O4'-C4'-C5'-O5' |
| 2 | AB | 1618 | 6MZ | O4'-C4'-C5'-O5' |
| 2 | AB | 1911 | PSU | O4'-C1'-C5-C6 |
| 2 | AB | 1917 | PSU | O4'-C1'-C5-C6 |
| 2 | AB | 2504 | PSU | O4'-C1'-C5-C6 |
| 2 | AB | 2580 | PSU | O4'-C4'-C5'-O5' |

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

| Mol | Chain | Number of breaks |
|-----|-------|------------------|
| 2 | AB | 1 |

All chain breaks are listed below:

| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|-------|-------|-----------|--------|-----------|--------|--------------|
| 1 | AB | 2831:G | O3' | 2832:U | P | 1.76 |

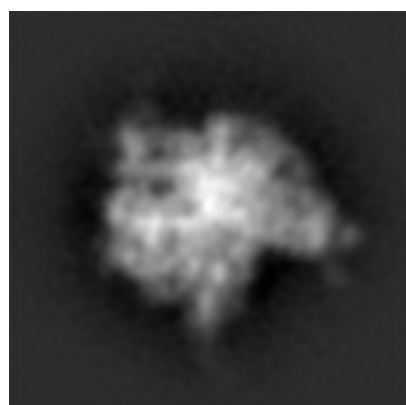
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-5360. These allow visual inspection of the internal detail of the map and identification of artifacts.

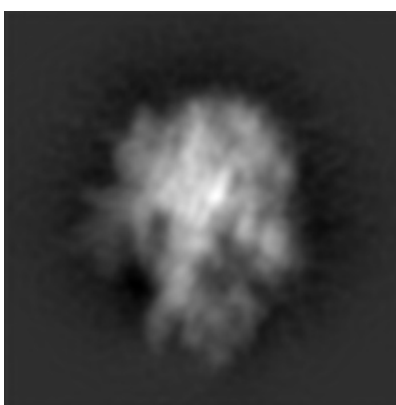
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

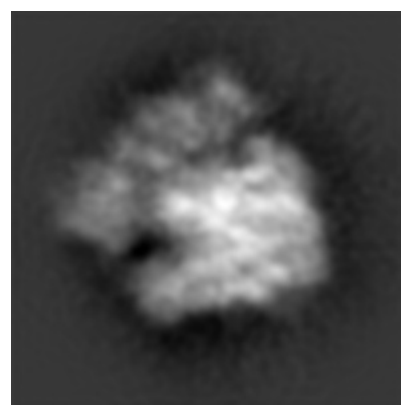
6.1.1 Primary map



X



Y

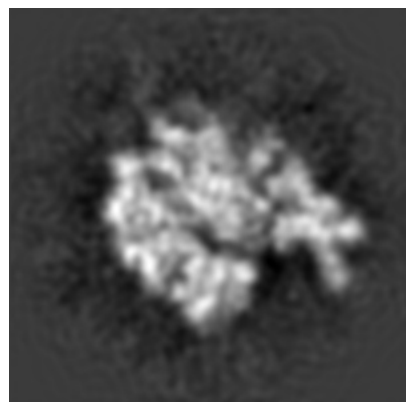


Z

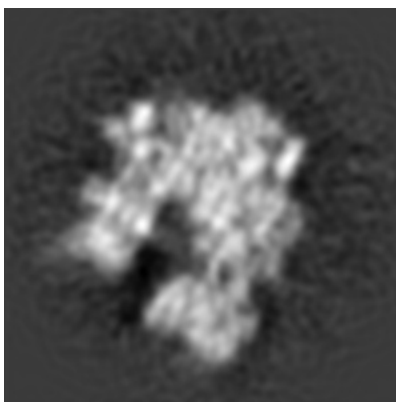
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

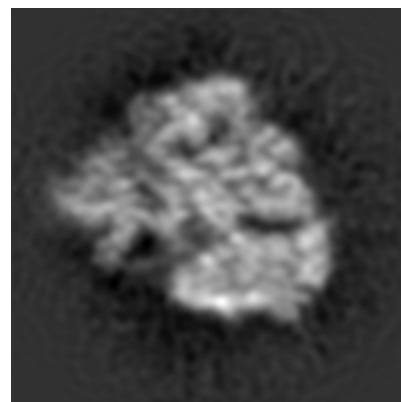
6.2.1 Primary map



X Index: 125



Y Index: 125

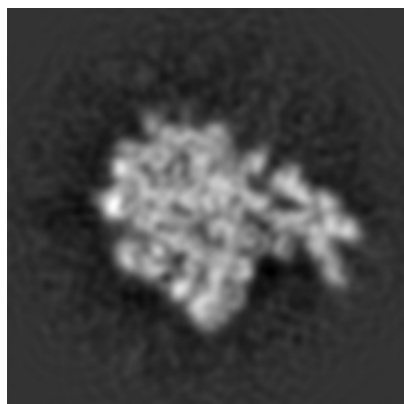


Z Index: 125

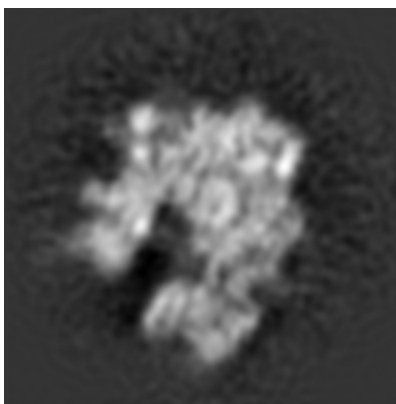
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

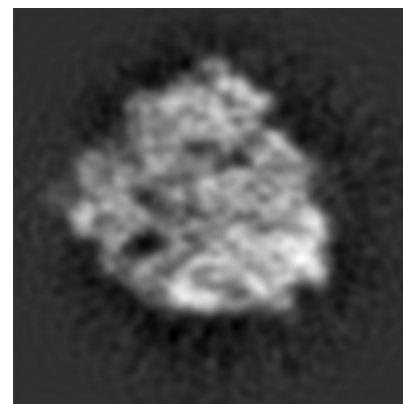
6.3.1 Primary map



X Index: 131



Y Index: 128

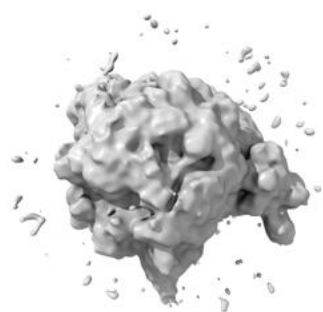


Z Index: 118

The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views [i](#)

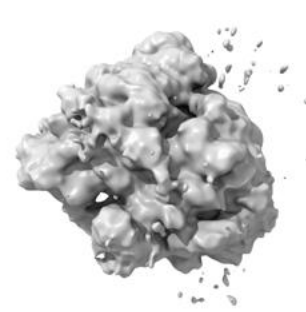
6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.1. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

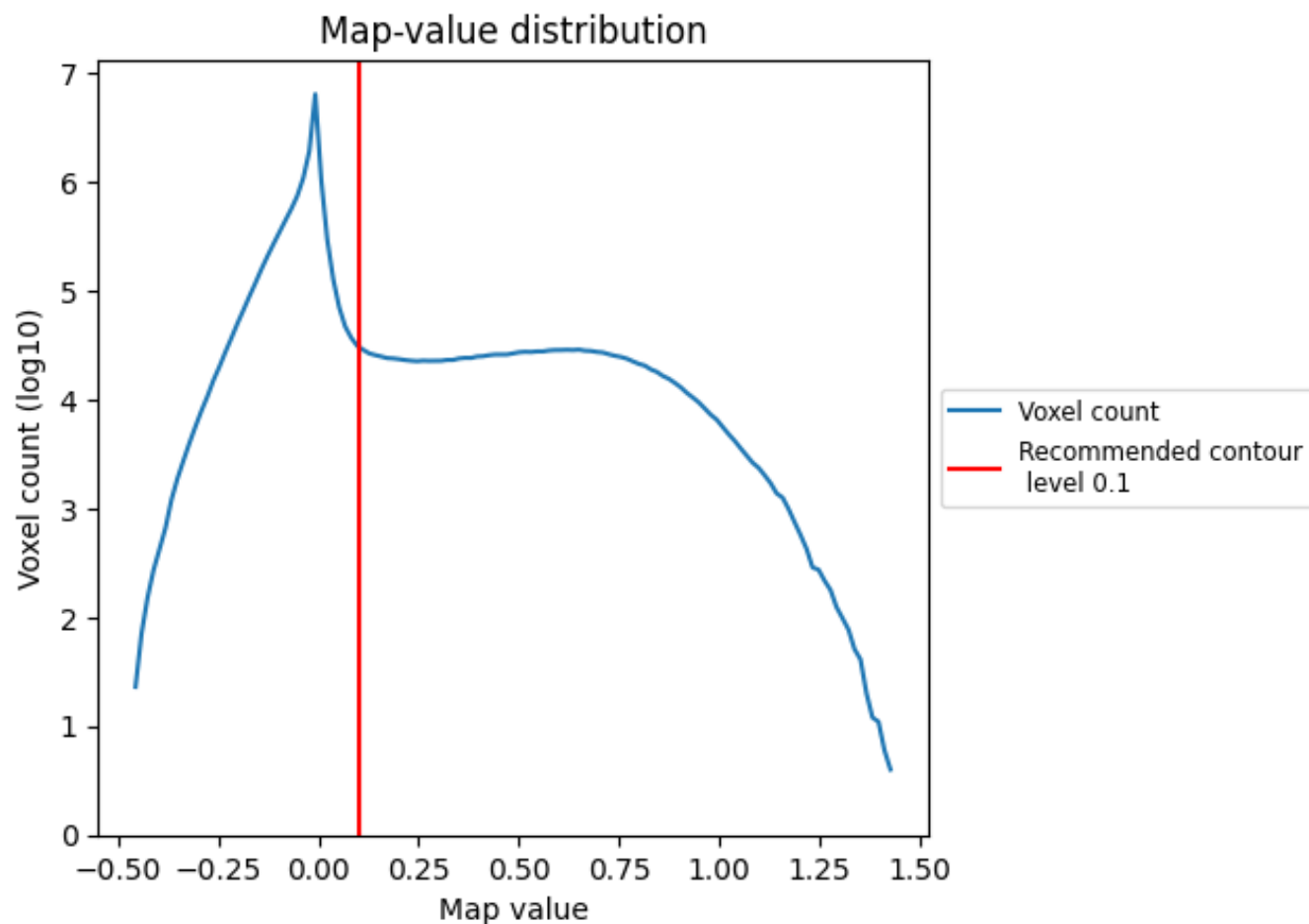
6.5 Mask visualisation

This section was not generated. No masks/segmentation were deposited.

7 Map analysis [i](#)

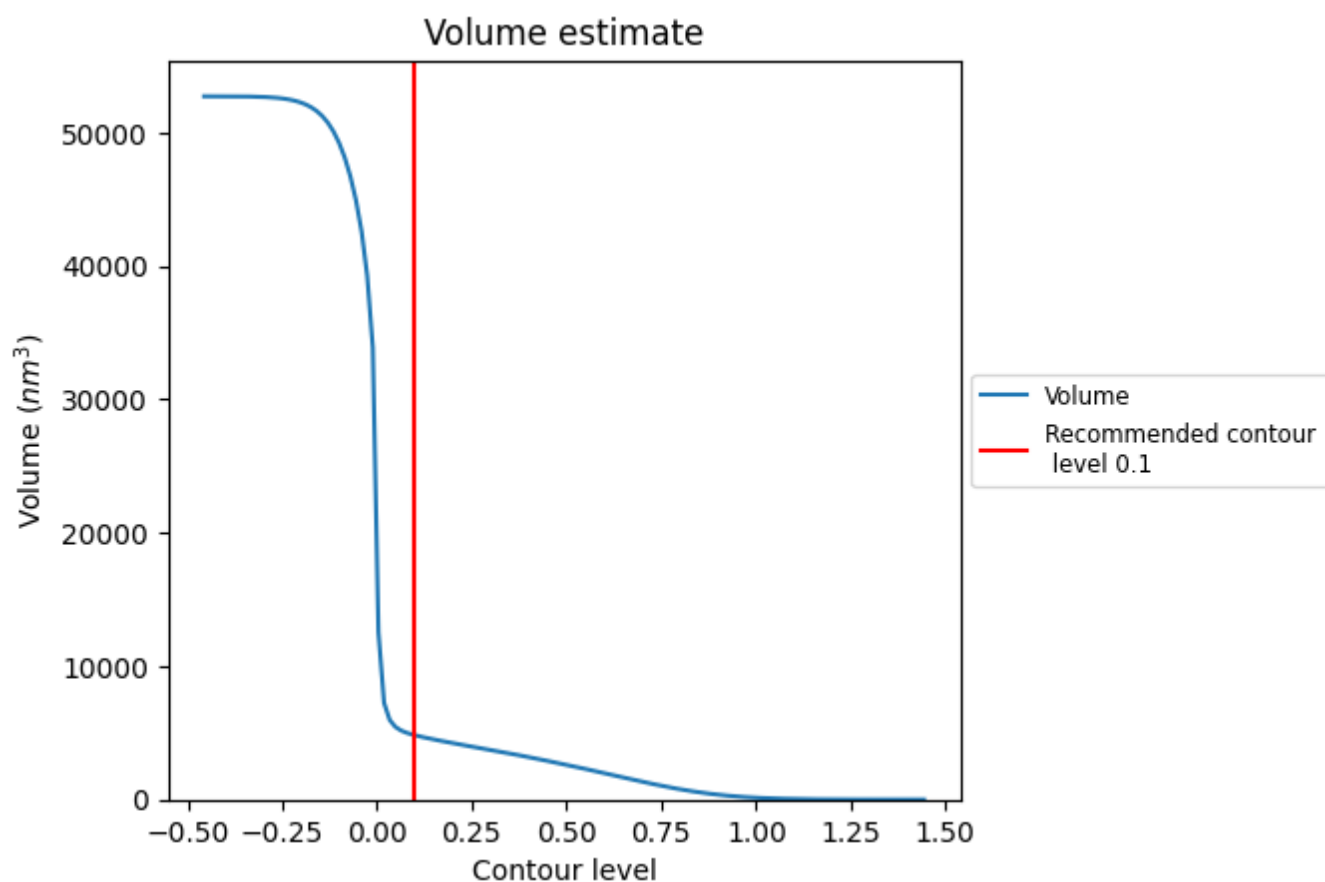
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

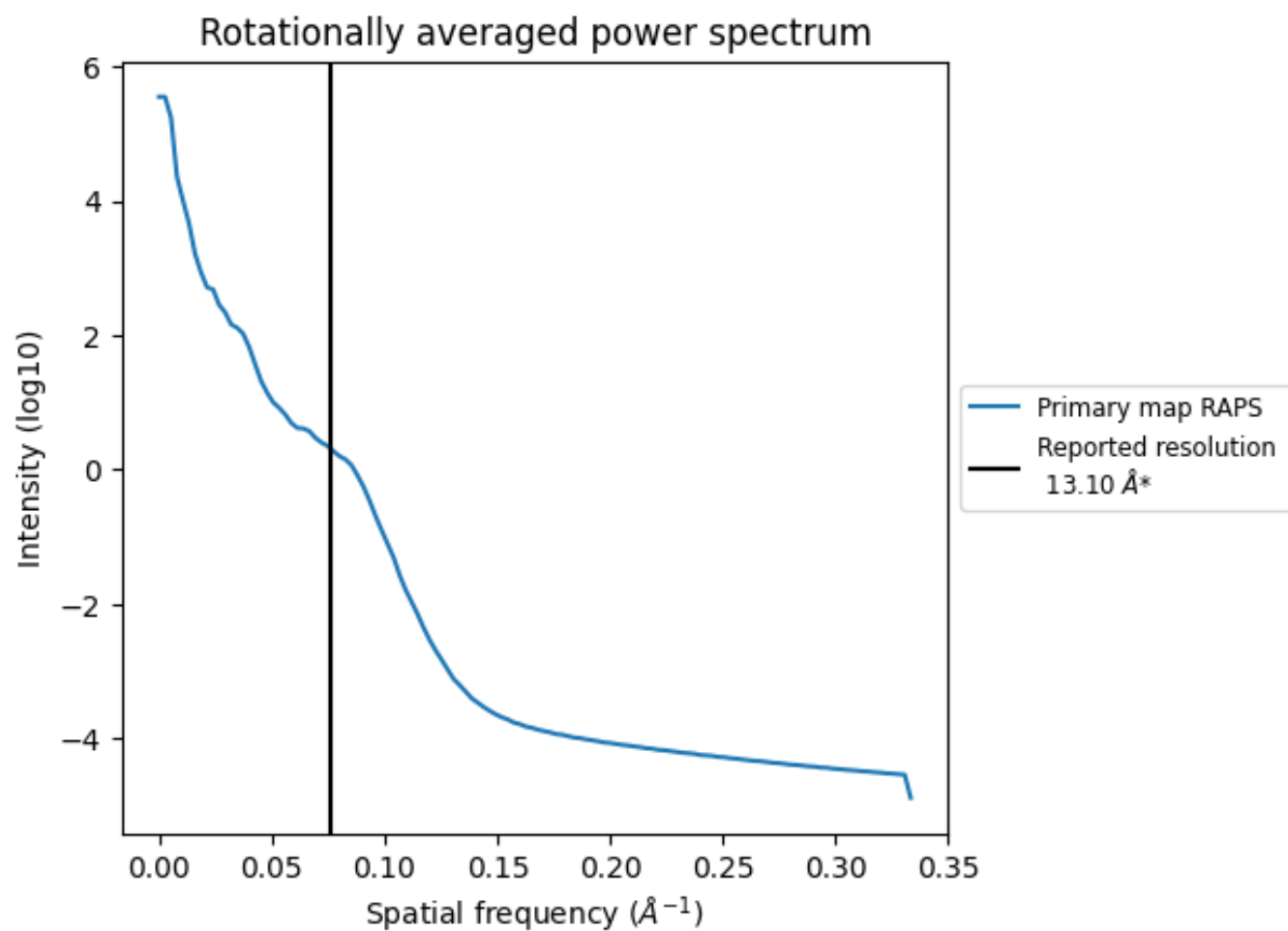
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 4825 nm^3 ; this corresponds to an approximate mass of 4359 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum ⓘ



*Reported resolution corresponds to spatial frequency of 0.076 Å⁻¹

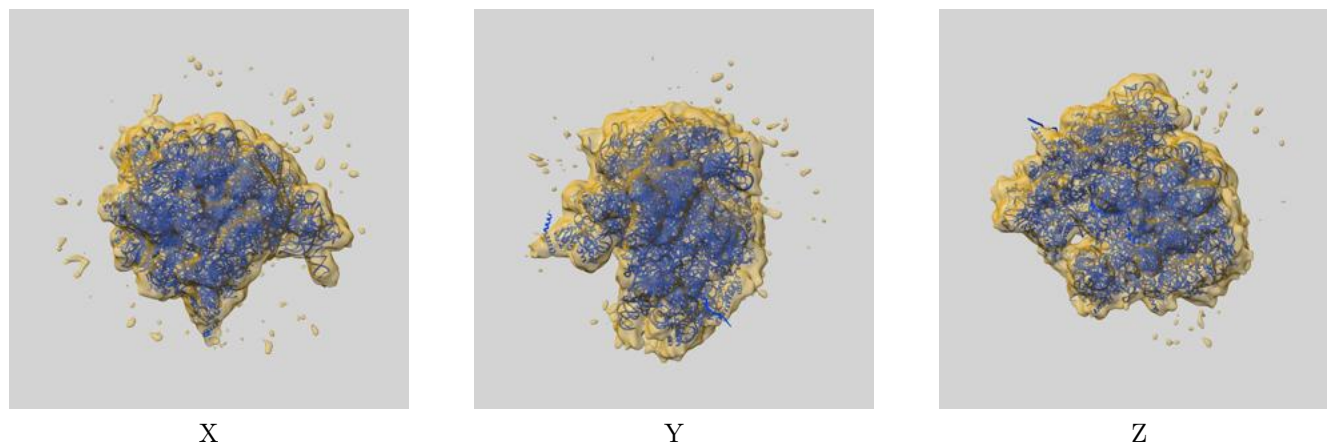
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit [i](#)

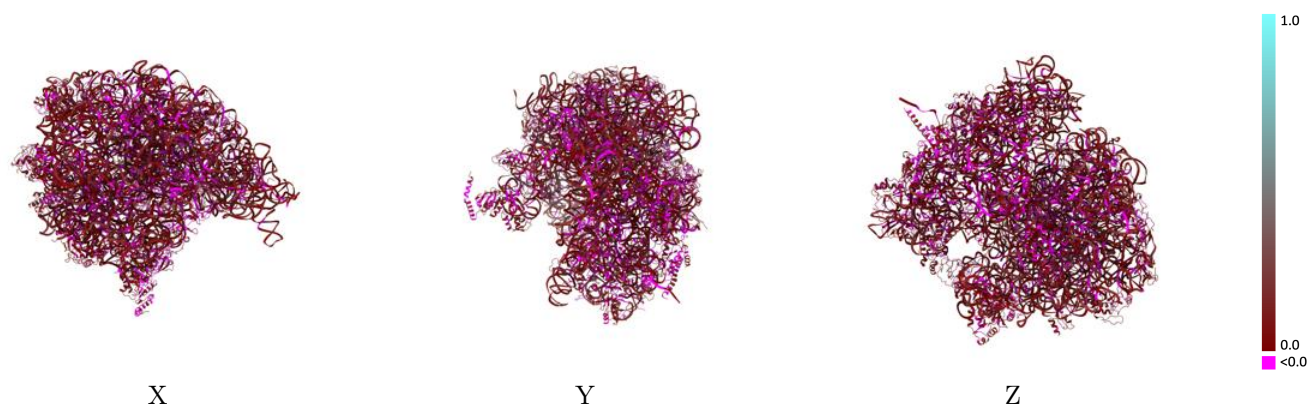
This section contains information regarding the fit between EMDB map EMD-5360 and PDB model 4V6S. Per-residue inclusion information can be found in section [3](#) on page [14](#).

9.1 Map-model overlay [i](#)



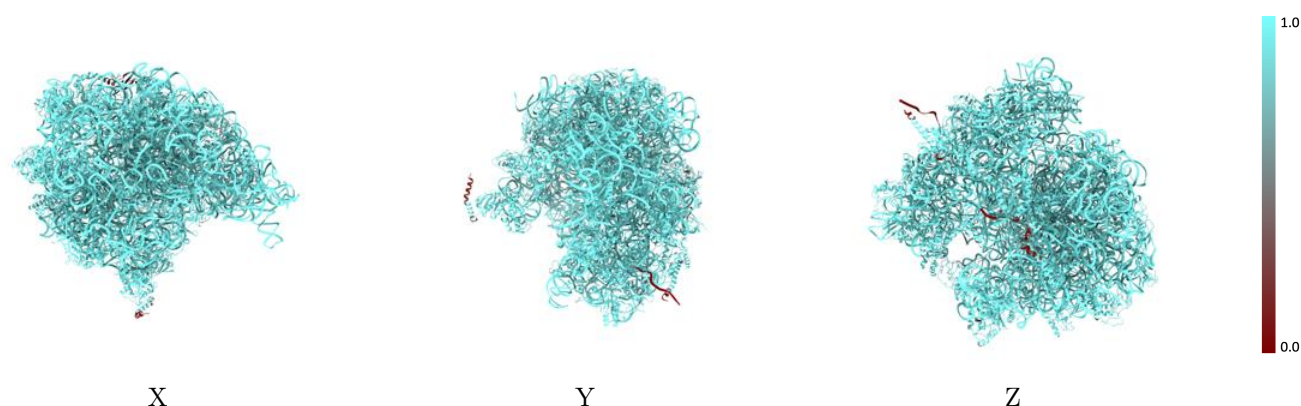
The images above show the 3D surface view of the map at the recommended contour level 0.1 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



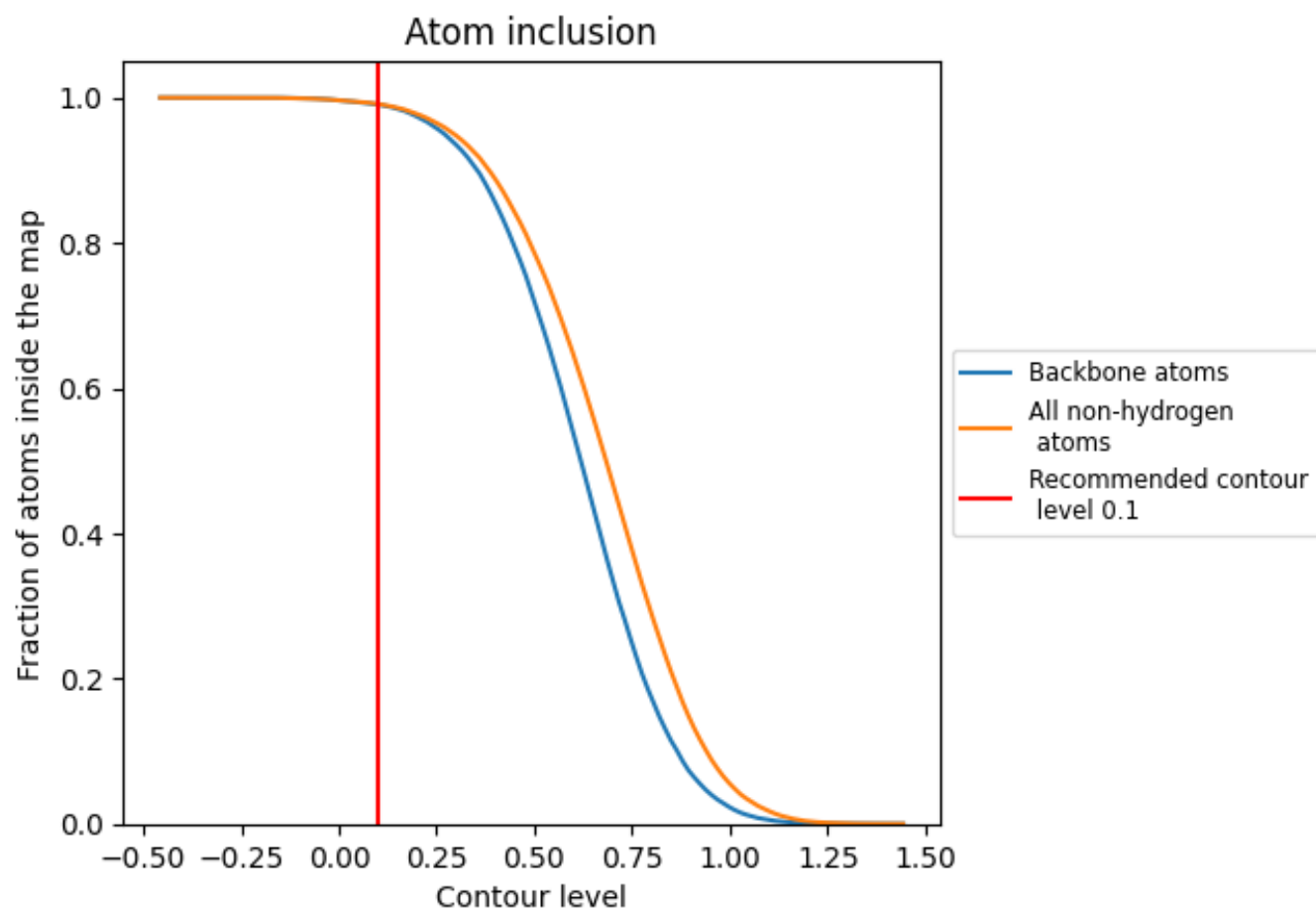
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.1).

9.4 Atom inclusion [i](#)



At the recommended contour level, 99% of all backbone atoms, 99% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ















































The table lists the average atom inclusion at the recommended contour level (0.1) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion | Q-score |
|-------|----------------|---------|
| All | 0.9912 | 0.0680 |
| A0 | 1.0000 | 0.0510 |
| A1 | 0.9954 | 0.0290 |
| A2 | 0.9108 | 0.0270 |
| A3 | 1.0000 | 0.0260 |
| A4 | 1.0000 | 0.0490 |
| A5 | 1.0000 | -0.0180 |
| A6 | 1.0000 | -0.0250 |
| A7 | 1.0000 | 0.0160 |
| AA | 0.9996 | 0.0850 |
| AB | 0.9991 | 0.0850 |
| AC | 0.9614 | 0.0370 |
| AD | 1.0000 | 0.0210 |
| AE | 0.9961 | 0.0150 |
| AF | 0.9974 | 0.0470 |
| AG | 0.9978 | 0.0730 |
| AH | 0.9992 | 0.0210 |
| AI | 0.7901 | 0.0300 |
| AJ | 0.8698 | 0.0350 |
| AK | 0.9795 | 0.0440 |
| AL | 0.9991 | 0.0250 |
| AM | 0.9902 | 0.0340 |
| AN | 0.9941 | 0.0100 |
| AO | 1.0000 | 0.0310 |
| AP | 1.0000 | 0.0080 |
| AQ | 0.9931 | 0.0550 |
| AR | 0.9786 | 0.0230 |
| AS | 0.9978 | 0.0170 |
| AT | 1.0000 | 0.0470 |
| AU | 1.0000 | 0.0140 |
| AV | 1.0000 | 0.0310 |
| AW | 1.0000 | 0.0770 |
| AX | 1.0000 | 0.0740 |
| AY | 0.9984 | 0.0080 |
| AZ | 1.0000 | 0.0600 |



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| Chain | Atom inclusion | Q-score |
|-------|--|--|
| BA |  0.9992 |  0.0840 |
| BB |  0.7341 |  -0.0130 |
| BC |  1.0000 |  0.0980 |
| BD |  0.9093 |  0.0220 |
| BE |  0.9983 |  0.0640 |
| BF |  1.0000 |  0.0460 |
| BG |  0.9967 |  0.0420 |
| BH |  0.9618 |  0.0290 |
| BI |  0.9926 |  0.0680 |
| BJ |  0.9729 |  0.0280 |
| BK |  0.9879 |  0.0480 |
| BL |  1.0000 |  0.0400 |
| BM |  0.9369 |  0.0550 |
| BN |  0.9772 |  0.0330 |
| BO |  0.9715 |  0.0480 |
| BP |  1.0000 |  0.0270 |
| BQ |  1.0000 |  0.0410 |
| BR |  1.0000 |  0.0480 |
| BS |  1.0000 |  0.0660 |
| BT |  1.0000 |  0.0540 |
| BU |  0.9817 |  0.0270 |
| BV |  1.0000 |  0.0460 |
| BW |  0.9964 |  0.0570 |