



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 31, 2014 – 05:44 PM BST

PDB ID : 3OGE
Title : Structure of the *Thermus thermophilus* ribosome complexed with chloramphenicol. This file contains the 30S subunit of one 70S ribosome. The entire crystal structure contains two 70S ribosomes.
Authors : Bulkley, D.P.; Innis, C.A.; Blaha, G.; Steitz, T.A.
Deposited on : 2010-08-16
Resolution : 3.00 Å(reported)

This is a full wwPDB validation report for a publicly released PDB entry.
We welcome your comments at validation@mail.wwpdb.org
A user guide is available at <http://wwpdb.org/ValidationPDFNotes.html>

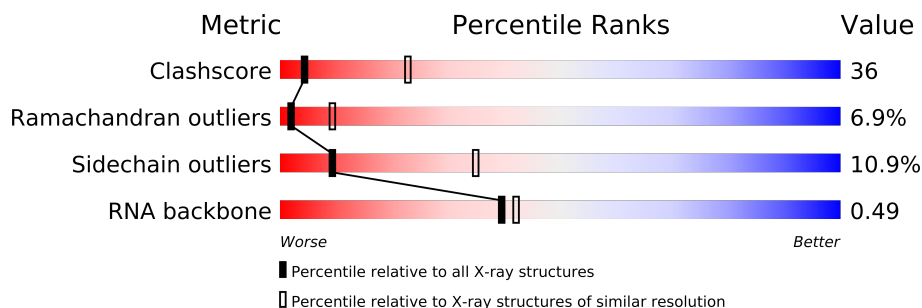
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.15 2013
Xtriage (Phenix) : dev-1323
EDS : **NOT EXECUTED**
Percentile statistics : 21963
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : stable23004

1 Overall quality at a glance

The reported resolution of this entry is 3.00 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)	Similar resolution (#Entries, resolution range(Å))
Clashscore	79885	1594 (3.00-3.00)
Ramachandran outliers	78287	1537 (3.00-3.00)
Sidechain outliers	78261	1540 (3.00-3.00)
RNA backbone	1838	1070 (3.50-2.50)

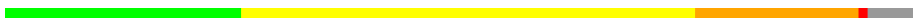
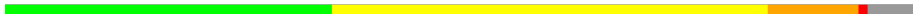
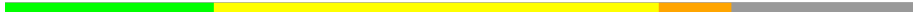

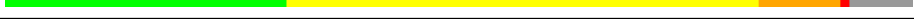

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density.

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	1522	
2	B	256	
3	C	239	
4	D	209	
5	E	162	
6	F	101	
7	G	156	
8	H	138	
9	I	128	
10	J	105	
11	K	129	
12	L	135	
13	M	126	
14	N	61	
15	O	89	

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Mol	Chain	Length	Quality of chain
16	P	88	
17	Q	105	
18	R	88	
19	S	93	
20	T	106	
21	U	27	

2 Entry composition

There are 23 unique types of molecules in this entry. The entry contains 51477 atoms, of which 0 are hydrogen and 0 are deuterium.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, 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 16S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	1504	Total	C	N	O	P	0	0	0
			32329	14390	5992	10444	1503			

- Molecule 2 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	235	Total	C	N	O	S	0	0	1
			1901	1213	342	341	5			

- Molecule 3 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	207	Total	C	N	O	S	0	0	1
			1613	1016	315	281	1			

- Molecule 4 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	D	208	Total	C	N	O	S	0	0	0
			1703	1066	339	291	7			

- Molecule 5 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	151	Total	C	N	O	S	0	0	1
			1147	724	218	201	4			

- Molecule 6 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	F	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			

- Molecule 7 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	G	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			

- Molecule 8 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	H	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			

- Molecule 9 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	I	127	Total	C	N	O	S	0	0	0
			1011	639	198	174				

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
I	58	ARG	HIS	CONFLICT	UNP P80374

- Molecule 10 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	99	Total	C	N	O	S	0	0	1
			795	499	157	138	1			

- Molecule 11 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	119	Total	C	N	O	S	0	0	0
			885	549	168	165	3			

- Molecule 12 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	L	125	Total	C	N	O	S	0	0	1
			971	611	196	163	1			

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
L	2	VAL	-	INSERTION	UNP Q5SHN3
L	3	ALA	-	INSERTION	UNP Q5SHN3
L	4	LEU	-	INSERTION	UNP Q5SHN3

- Molecule 13 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	M	115	Total	C	N	O	S	0	0	0
			921	569	190	160	2			

- Molecule 14 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	N	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			

- Molecule 15 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	O	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			

- Molecule 16 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	P	84	Total	C	N	O	S	0	0	1
			701	443	140	117	1			

- Molecule 17 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	Q	100	Total	C	N	O	S	0	0	1
			824	528	152	142	2			

- Molecule 18 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	R	70	Total	C	N	O		0	0	0
			574	367	112	95				

- Molecule 19 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	S	79	Total	C	N	O	S	0	0	1
			630	403	115	110	2			

- Molecule 20 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	T	99	Total	C	N	O	S	0	0	0
			763	470	162	129	2			

- Molecule 21 is a protein called 30S ribosomal protein Thx.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	U	25	Total	C	N	O	0	0	1
			209	128	51	30			

- Molecule 22 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
22	A	56	Total	Mg	0	0
			56	56		

- Molecule 23 is ZINC ION (three-letter code: ZN) (formula: Zn).

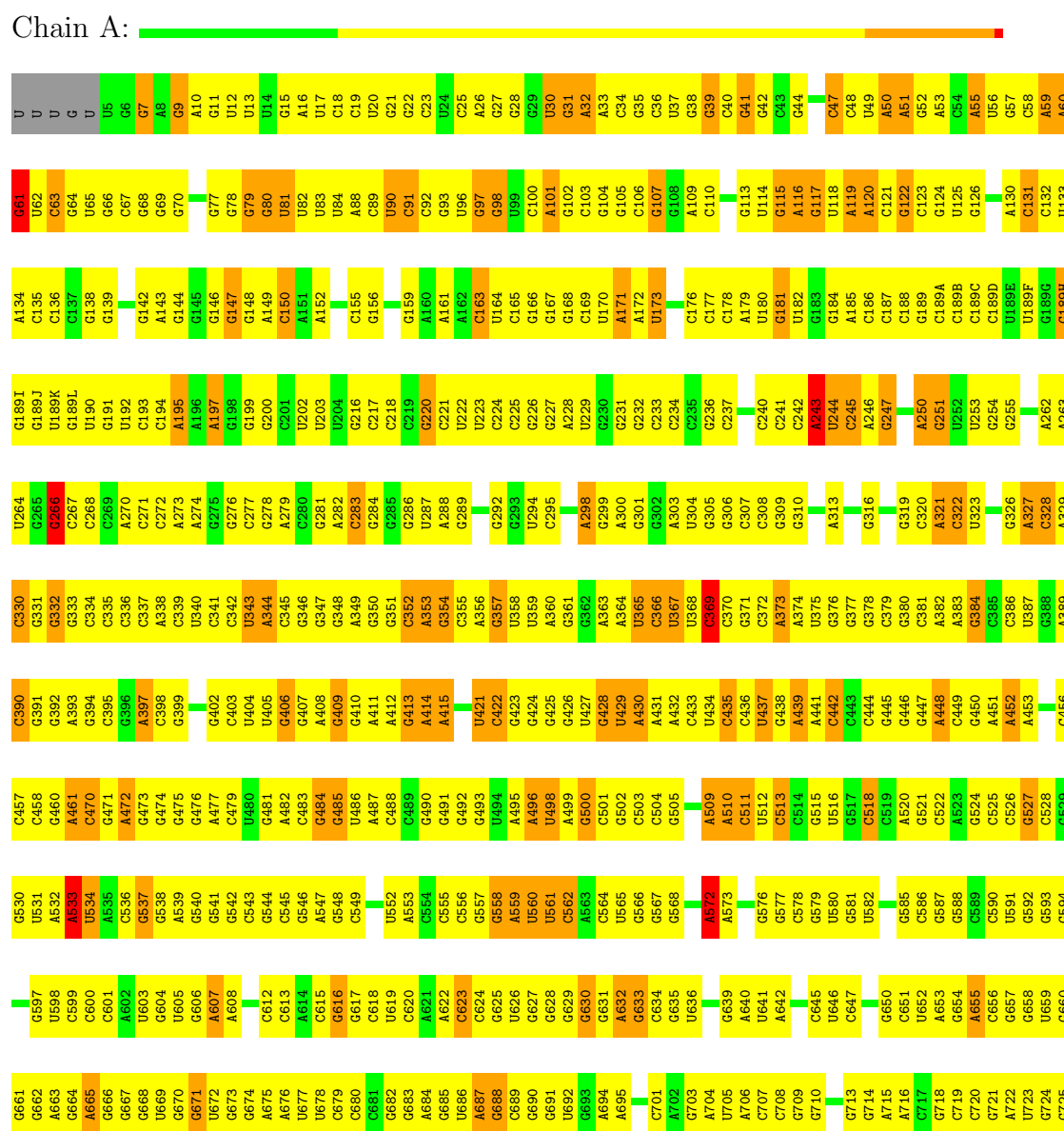
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
23	D	1	Total	Zn	0	0
			1	1		
23	N	1	Total	Zn	0	0
			1	1		

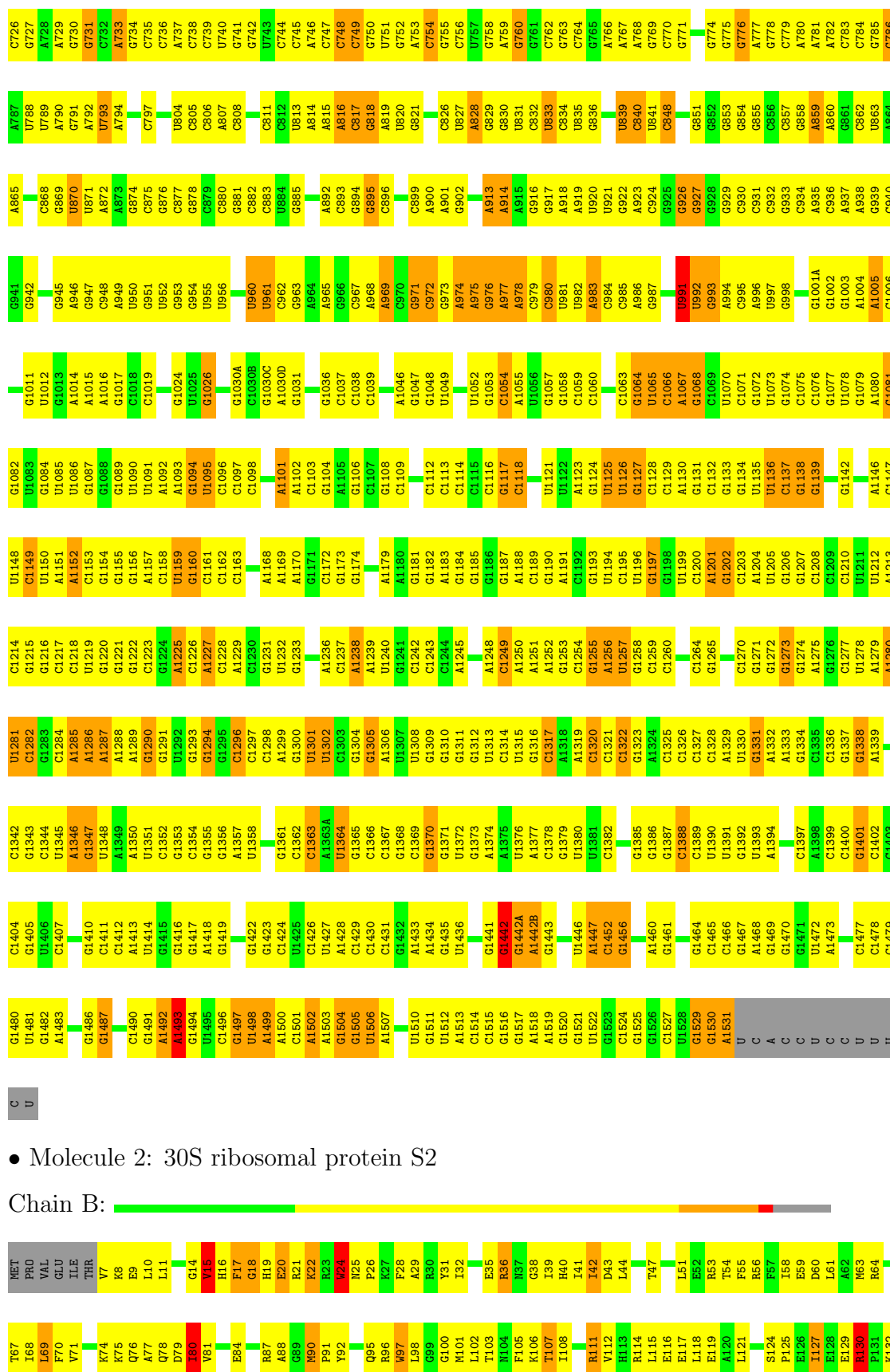
3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron 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 dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). 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.

Note EDS was not executed.

• Molecule 1: 16S rRNA

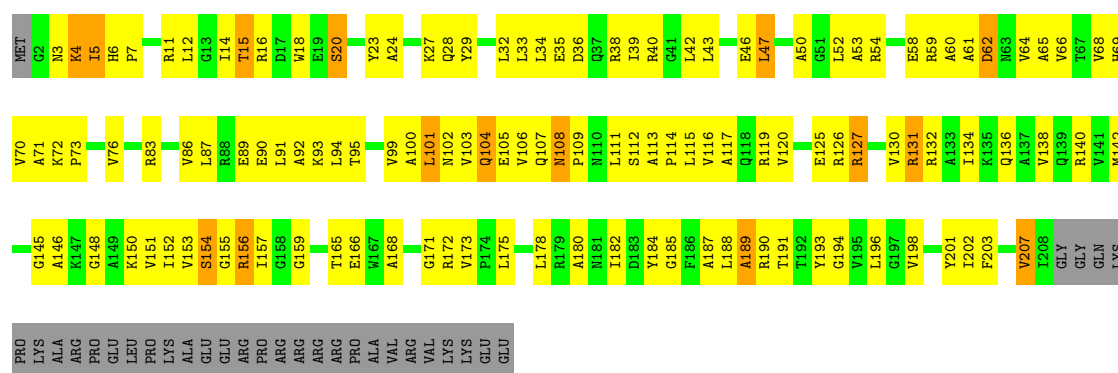






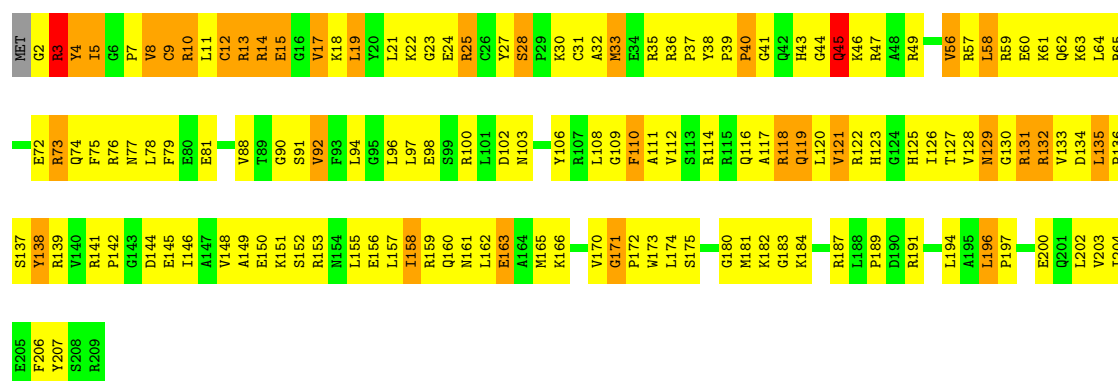
• Molecule 3: 30S ribosomal protein S3

Chain C:



• Molecule 4: 30S ribosomal protein S4

Chain D:



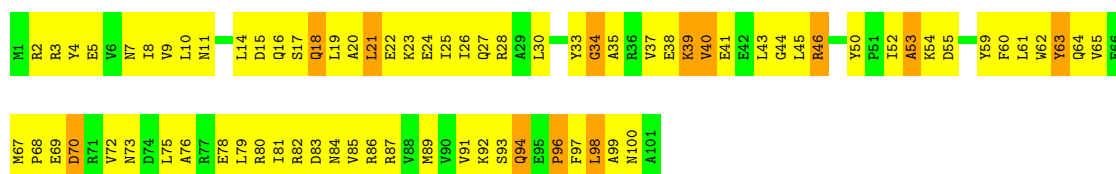
• Molecule 5: 30S ribosomal protein S5

Chain E:



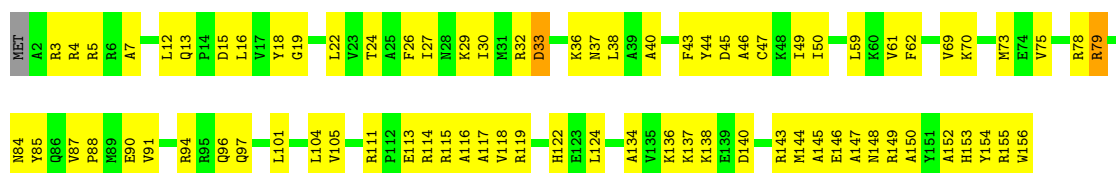
• Molecule 6: 30S ribosomal protein S6

Chain F:



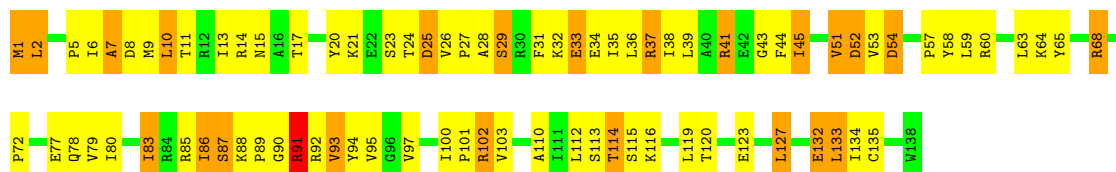
• Molecule 7: 30S ribosomal protein S7

Chain G:



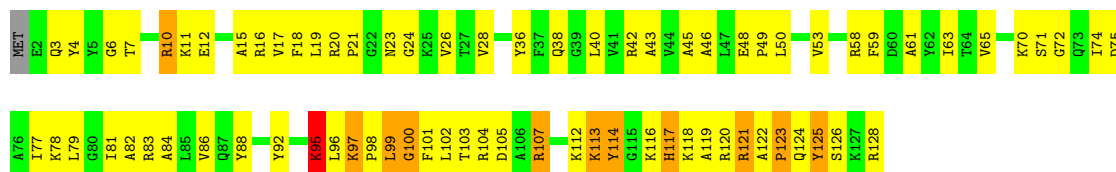
• Molecule 8: 30S ribosomal protein S8

Chain H:



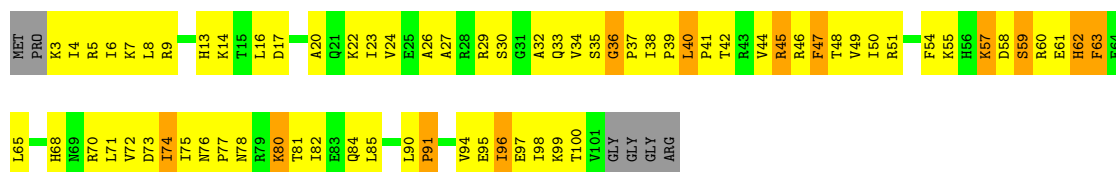
• Molecule 9: 30S ribosomal protein S9

Chain I:



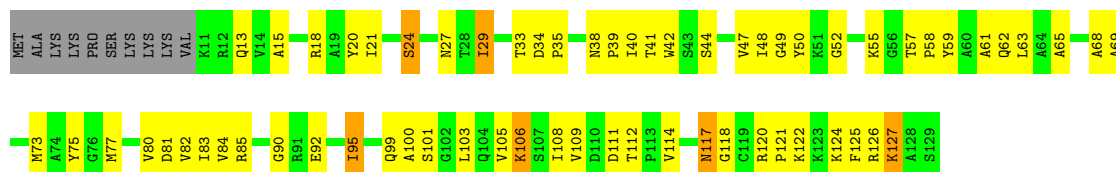
• Molecule 10: 30S ribosomal protein S10

Chain J:



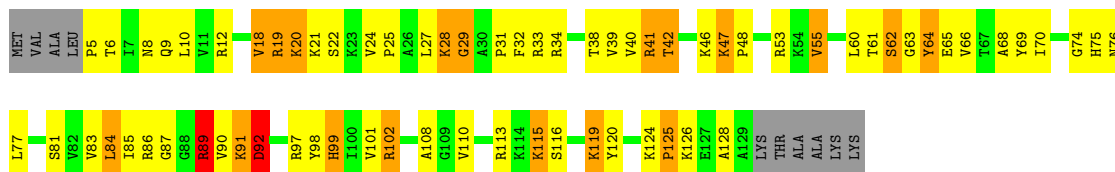
• Molecule 11: 30S ribosomal protein S11

Chain K:



- Molecule 12: 30S ribosomal protein S12

Chain L:



- Molecule 13: 30S ribosomal protein S13

Chain M:



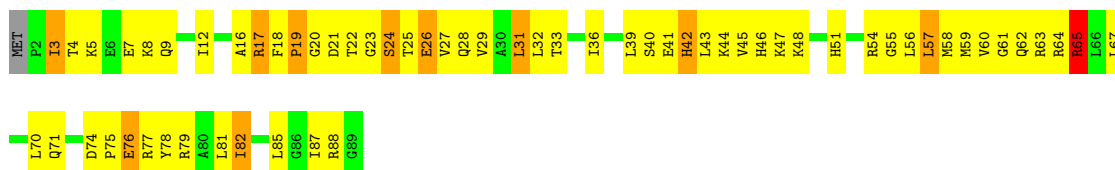
- Molecule 14: 30S ribosomal protein S14

Chain N:



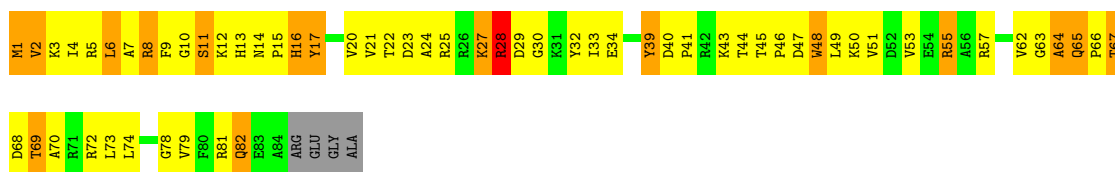
- Molecule 15: 30S ribosomal protein S15

Chain O:



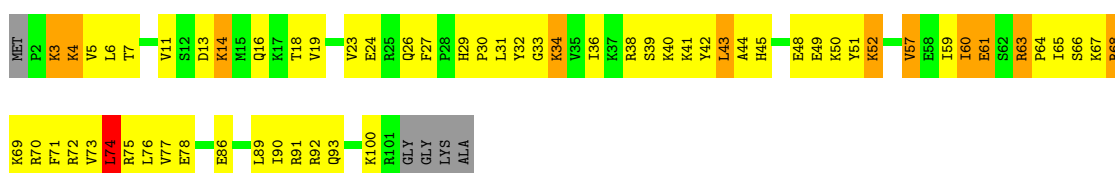
- Molecule 16: 30S ribosomal protein S16

Chain P:



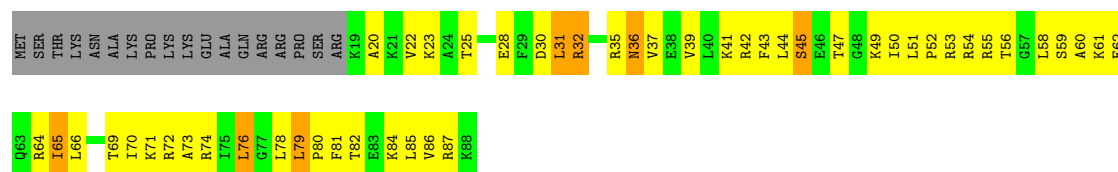
- Molecule 17: 30S ribosomal protein S17

Chain Q:



- Molecule 18: 30S ribosomal protein S18

Chain R:



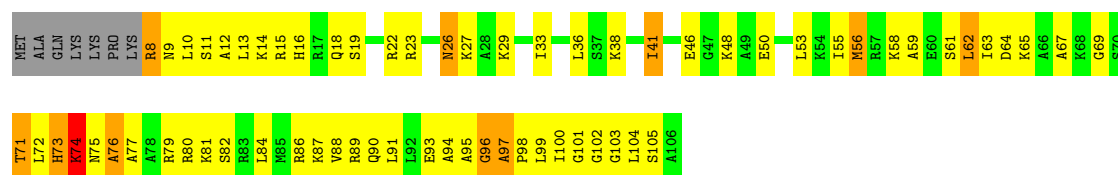
- Molecule 19: 30S ribosomal protein S19

Chain S:



- Molecule 20: 30S ribosomal protein S20

Chain T:



- Molecule 21: 30S ribosomal protein Thx

Chain U:



4 Data and refinement statistics

EDS was not executed - this section will therefore be incomplete.

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	210.18Å 448.40Å 621.05Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.57 – 3.00	Depositor
% Data completeness (in resolution range)	(Not available) (49.57-3.00)	Depositor
R_{merge}	0.32	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.07 (at 3.01Å)	Xtriage
Refinement program	Phenix	Depositor
R, R_{free}	0.244 , 0.281	Depositor
Wilson B-factor (Å ²)	73.9	Xtriage
Anisotropy	0.178	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning	$\langle L \rangle = 0.47$, $\langle L^2 \rangle = 0.29$	Xtriage
Outliers	0 of 1140008 reflections	Xtriage
Total number of atoms	51477	wwPDB-VP
Average B, all atoms (Å ²)	125.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.66% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, MG

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	A	0.54	0/36190	0.92	37/56486 (0.1%)
2	B	0.29	0/1936	0.51	0/2611
3	C	0.27	0/1637	0.44	0/2207
4	D	0.36	0/1733	0.54	0/2318
5	E	0.38	0/1163	0.58	0/1566
6	F	0.38	0/856	0.58	0/1154
7	G	0.25	0/1276	0.44	0/1709
8	H	0.34	0/1136	0.56	0/1527
9	I	0.25	0/1028	0.44	0/1375
10	J	0.27	0/808	0.48	0/1087
11	K	0.33	0/900	0.55	0/1213
12	L	0.42	0/987	0.65	0/1322
13	M	0.26	0/928	0.47	0/1238
14	N	0.26	0/501	0.42	0/664
15	O	0.36	0/745	0.59	0/992
16	P	0.34	0/717	0.59	0/965
17	Q	0.36	0/837	0.58	0/1119
18	R	0.35	0/579	0.58	0/768
19	S	0.26	0/643	0.43	0/867
20	T	0.36	0/765	0.57	0/1007
21	U	0.26	0/213	0.43	0/279
All	All	0.47	0/55578	0.81	37/82474 (0.0%)

There are no bond length outliers.

All (37) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	899	C	C6-N1-C2	8.75	123.80	120.30
1	A	322	C	C6-N1-C2	7.98	123.49	120.30
1	A	123	C	C6-N1-C2	7.81	123.42	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	123	C	C5-C6-N1	-7.67	117.17	121.00
1	A	756	C	C6-N1-C2	6.69	122.97	120.30
1	A	1442	G	C6-C5-N7	-6.56	126.47	130.40
1	A	1431	C	C6-N1-C2	6.49	122.89	120.30
1	A	1442	G	C4-N9-C1'	6.33	134.73	126.50
1	A	139	G	N1-C6-O6	6.28	123.67	119.90
1	A	283	C	N1-C2-O2	6.18	122.61	118.90
1	A	1442	G	C8-N9-C1'	-6.18	118.97	127.00
1	A	7	G	C4-N9-C1'	-5.96	118.75	126.50
1	A	895	G	C2-N3-C4	-5.95	108.92	111.90
1	A	61	G	C4-C5-N7	-5.69	108.52	110.80
1	A	369	C	C6-N1-C2	-5.54	118.08	120.30
1	A	813	U	C6-N1-C2	5.53	124.32	121.00
1	A	1524	C	N1-C2-O2	-5.46	115.62	118.90
1	A	1401	G	N1-C6-O6	5.40	123.14	119.90
1	A	245	C	C6-N1-C2	5.39	122.46	120.30
1	A	1512	U	C5-C6-N1	-5.32	120.04	122.70
1	A	117	G	C6-C5-N7	-5.28	127.23	130.40
1	A	7	G	C8-N9-C1'	5.18	133.74	127.00
1	A	55	A	C8-N9-C4	-5.18	103.73	105.80
1	A	991	U	C3'-C2'-C1'	5.16	105.63	101.50
1	A	107	G	C8-N9-C4	5.14	108.46	106.40
1	A	1525	G	C4-N9-C1'	-5.11	119.85	126.50
1	A	243	A	N9-C4-C5	5.11	107.84	105.80
1	A	1524	C	C6-N1-C2	5.10	122.34	120.30
1	A	533	A	C8-N9-C4	-5.09	103.76	105.80
1	A	1493	A	C3'-C2'-C1'	5.08	105.56	101.50
1	A	1502	A	N1-C6-N6	5.08	121.65	118.60
1	A	572	A	C8-N9-C4	5.07	107.83	105.80
1	A	1442	G	C4-C5-N7	5.06	112.83	110.80
1	A	122	G	C8-N9-C4	5.04	108.42	106.40
1	A	899	C	N3-C2-O2	5.03	125.42	121.90
1	A	243	A	C8-N9-C4	-5.03	103.79	105.80
1	A	266	G	C6-C5-N7	-5.02	127.39	130.40

There are no chirality outliers.

There are no planarity outliers.

5.2 Close contacts

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 hydrogens

added by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, and the number in parentheses is this value normalized per 1000 atoms of the molecule in the chain. The Symm-Clashes column gives symmetry related clashes, in the same way as for the Clashes column.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	32329	0	16318	1565	0
2	B	1901	0	1951	215	0
3	C	1613	0	1677	116	0
4	D	1703	0	1765	190	0
5	E	1147	0	1207	101	0
6	F	843	0	857	96	0
7	G	1257	0	1296	75	0
8	H	1116	0	1177	101	0
9	I	1011	0	1042	101	0
10	J	795	0	840	105	0
11	K	885	0	904	63	0
12	L	971	0	1057	100	0
13	M	921	0	976	87	0
14	N	492	0	530	47	0
15	O	734	0	771	76	0
16	P	701	0	720	91	0
17	Q	824	0	891	66	0
18	R	574	0	644	76	0
19	S	630	0	652	51	0
20	T	763	0	861	82	0
21	U	209	0	221	9	0
22	A	56	0	0	0	0
23	D	1	0	0	0	0
23	N	1	0	0	0	0
All	All	51477	0	36357	3134	0

Clashscore is defined as the number of clashes calculated for the entry per 1000 atoms (including hydrogens) of the entry. The overall clashscore for this entry is 36.

All (3134) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:185:ILE:HG22	2:B:199:TYR:HB2	1.26	1.15
16:P:28:ARG:HH11	16:P:28:ARG:HG2	1.09	1.15
4:D:128:VAL:HG13	4:D:129:ASN:HD22	1.00	1.12
1:A:1442:G:O2'	1:A:1442(A):G:H5''	1.49	1.09
15:O:17:ARG:HH11	15:O:17:ARG:HG3	1.14	1.07
1:A:585:G:H4'	12:L:8:ASN:HD21	1.07	1.07
1:A:673:G:H2'	1:A:674:G:C8	1.89	1.06

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1103:C:H5''	2:B:98:LEU:HD13	1.38	1.05
2:B:84:GLU:HB3	2:B:219:VAL:HG21	1.38	1.05
1:A:1256:A:H61	1:A:1278:U:H1'	1.17	1.04
2:B:111:ARG:HG2	2:B:111:ARG:HH11	1.17	1.03
8:H:86:ILE:HG22	8:H:87:SER:H	1.19	1.02
16:P:4:ILE:HG13	16:P:21:VAL:HG12	1.41	1.01
15:O:82:ILE:HG12	15:O:87:ILE:HB	1.41	1.00
1:A:1442(A):G:H3'	1:A:1442(B):A:H5''	1.44	0.99
16:P:72:ARG:HH21	16:P:73:LEU:HD21	1.28	0.95
1:A:509:A:H2'	1:A:510:A:C8	2.02	0.95
4:D:15:GLU:HG3	4:D:63:LYS:HE2	1.47	0.94
12:L:47:LYS:HB3	12:L:48:PRO:HD3	1.45	0.94
1:A:1502:A:H2	1:A:1505:G:H1	1.04	0.94
1:A:250:A:H4'	1:A:251:G:O5'	1.69	0.93
11:K:127:LYS:HA	11:K:127:LYS:HE2	1.46	0.93
6:F:18:GLN:HA	6:F:21:LEU:HD23	1.49	0.93
16:P:20:VAL:HG21	16:P:32:TYR:CG	2.02	0.92
1:A:954:G:H21	1:A:1227:A:H62	1.14	0.92
13:M:34:LEU:HD13	13:M:41:PRO:HG3	1.49	0.92
1:A:1412:C:H2'	1:A:1413:A:H8	1.35	0.91
4:D:128:VAL:HG13	4:D:129:ASN:ND2	1.85	0.91
2:B:187:LEU:HD23	2:B:201:ILE:HG22	1.53	0.91
1:A:929:G:H1	1:A:1388:C:H42	1.20	0.90
12:L:102:ARG:HH11	12:L:102:ARG:HG3	1.36	0.90
1:A:975:A:H4'	1:A:976:G:H5''	1.53	0.89
2:B:172:ILE:H	2:B:172:ILE:HD12	1.35	0.89
1:A:1072:G:H2'	1:A:1073:U:C6	2.07	0.89
12:L:102:ARG:HH11	12:L:102:ARG:CG	1.85	0.89
1:A:685:G:O2'	1:A:686:U:H5'	1.71	0.89
1:A:102:G:H2'	1:A:103:C:H6	1.36	0.89
15:O:39:LEU:CD1	15:O:56:LEU:HB2	2.03	0.89
4:D:158:ILE:HG23	4:D:162:LEU:HD12	1.54	0.88
1:A:673:G:H2'	1:A:674:G:H8	1.36	0.88
15:O:87:ILE:HG22	15:O:88:ARG:H	1.37	0.88
20:T:13:LEU:HD12	20:T:13:LEU:H	1.36	0.88
1:A:1097:C:H1'	1:A:1170:A:H1'	1.53	0.88
1:A:254:G:OP1	17:Q:67:LYS:O	1.92	0.88
9:I:96:LEU:HG	9:I:102:LEU:HB2	1.55	0.88
8:H:10:LEU:HD13	8:H:83:ILE:HD11	1.56	0.88
9:I:19:LEU:HD22	9:I:59:PHE:HB3	1.55	0.88
6:F:69:GLU:O	6:F:72:VAL:HG12	1.74	0.87
4:D:119:GLN:HG3	4:D:123:HIS:CD2	2.09	0.87

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:4:TYR:HB2	9:I:19:LEU:HB2	1.57	0.87
1:A:444:C:H2'	1:A:445:G:H8	1.39	0.87
20:T:50:GLU:HB3	20:T:100:ILE:HG12	1.55	0.86
4:D:9:CYS:HA	4:D:12:CYS:HB2	1.54	0.86
4:D:119:GLN:HG3	4:D:123:HIS:HD2	1.38	0.86
12:L:38:THR:HG23	12:L:39:VAL:HG23	1.57	0.86
1:A:1090:U:H2'	1:A:1091:U:H6	1.37	0.86
1:A:737:A:H2'	1:A:738:C:C6	2.11	0.86
1:A:585:G:H4'	12:L:8:ASN:ND2	1.88	0.86
2:B:111:ARG:HG2	2:B:111:ARG:NH1	1.90	0.86
16:P:28:ARG:HG2	16:P:28:ARG:NH1	1.91	0.86
10:J:32:ALA:HB2	10:J:76:ASN:HB3	1.54	0.86
8:H:88:LYS:HB3	8:H:89:PRO:HD2	1.55	0.86
1:A:1442(A):G:H3'	1:A:1442(B):A:C5'	2.02	0.85
1:A:240:C:H2'	1:A:241:C:H6	1.41	0.85
1:A:336:C:O2'	1:A:337:C:H5'	1.75	0.85
11:K:29:ILE:HB	11:K:44:SER:HB3	1.58	0.85
1:A:1169:A:H2'	1:A:1170:A:C8	2.10	0.85
1:A:1412:C:H2'	1:A:1413:A:C8	2.10	0.85
1:A:1065:U:H1'	1:A:1066:C:OP2	1.76	0.85
1:A:444:C:H2'	1:A:445:G:C8	2.11	0.85
1:A:1070:U:H2'	1:A:1071:C:H6	1.40	0.85
3:C:70:VAL:HG12	3:C:72:LYS:H	1.42	0.84
1:A:59:A:H5''	1:A:60:A:H5''	1.58	0.84
1:A:949:A:H1'	1:A:1364:U:H3	1.43	0.84
1:A:671:G:H2'	1:A:672:U:H6	1.41	0.84
1:A:55:A:C5	1:A:56:U:C5	2.65	0.84
1:A:677:U:H3	1:A:713:G:H22	1.25	0.84
13:M:66:LEU:HD12	13:M:66:LEU:H	1.43	0.83
15:O:17:ARG:HG3	15:O:17:ARG:NH1	1.93	0.83
1:A:1502:A:H2	1:A:1505:G:N1	1.74	0.83
1:A:737:A:H2'	1:A:738:C:H6	1.44	0.83
1:A:63:C:H42	1:A:104:G:H1	1.26	0.83
20:T:50:GLU:HB3	20:T:100:ILE:CG1	2.08	0.83
1:A:409:G:H2'	1:A:410:G:H5'	1.60	0.83
15:O:39:LEU:HD12	15:O:56:LEU:HB2	1.60	0.83
1:A:600:C:H2'	1:A:601:C:H6	1.41	0.83
7:G:113:GLU:HB2	7:G:119:ARG:HG2	1.60	0.83
1:A:333:G:H4'	20:T:16:HIS:CE1	2.14	0.82
16:P:20:VAL:HG21	16:P:32:TYR:HB2	1.60	0.82
1:A:949:A:H61	1:A:1232:U:H3	1.26	0.82
5:E:101:ILE:HD11	5:E:119:LEU:HD23	1.62	0.82

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1279:A:H5''	1:A:1280:A:OP1	1.79	0.82
11:K:111:ASP:HA	18:R:84:LYS:HG3	1.60	0.82
1:A:973:G:H3'	1:A:974:A:H5''	1.61	0.82
14:N:4:LYS:O	14:N:7:ILE:HG12	1.78	0.82
5:E:101:ILE:HD11	5:E:119:LEU:HA	1.59	0.82
2:B:204:ASN:ND2	2:B:206:ASP:H	1.77	0.82
1:A:1199:U:H4'	10:J:54:PHE:CE1	2.15	0.82
8:H:102:ARG:HE	8:H:102:ARG:H	1.29	0.81
4:D:133:VAL:HG13	4:D:135:LEU:HD22	1.62	0.81
1:A:382:A:H2'	1:A:383:A:C8	2.16	0.81
1:A:382:A:H2'	1:A:383:A:H8	1.46	0.81
1:A:559:A:H5''	1:A:560:U:H3'	1.62	0.81
1:A:622:A:C8	1:A:623:C:C6	2.69	0.81
1:A:1452:C:H5'	1:A:1456:G:C4	2.16	0.81
6:F:63:TYR:N	6:F:63:TYR:HD2	1.78	0.80
1:A:17:U:H2'	1:A:18:C:C6	2.16	0.80
1:A:1256:A:N6	1:A:1278:U:H1'	1.96	0.80
1:A:1063:C:H3'	1:A:1064:G:H2'	1.64	0.80
2:B:88:ALA:HB2	2:B:219:VAL:HG13	1.63	0.80
4:D:180:GLY:HA3	4:D:182:LYS:HE2	1.64	0.80
3:C:150:LYS:HB3	3:C:201:TYR:HB2	1.62	0.80
1:A:1201:A:H1'	1:A:1202:G:OP2	1.82	0.80
1:A:475:G:H2'	1:A:476:G:H8	1.46	0.80
1:A:134:A:H61	16:P:25:ARG:HH12	1.29	0.80
1:A:678:U:H2'	1:A:679:C:C6	2.17	0.79
1:A:445:G:H2'	1:A:446:G:H8	1.47	0.79
8:H:120:THR:H	8:H:123:GLU:HB2	1.47	0.79
10:J:40:LEU:HB2	10:J:41:PRO:HD2	1.62	0.79
1:A:1003:G:H2'	1:A:1004:A:H4'	1.62	0.79
12:L:6:THR:HG23	12:L:9:GLN:HE21	1.45	0.79
1:A:84:U:H5	1:A:88:A:C8	2.00	0.79
15:O:17:ARG:HH11	15:O:17:ARG:CG	1.92	0.79
4:D:108:LEU:HD23	4:D:183:GLY:HA3	1.63	0.79
19:S:40:ILE:HD13	19:S:62:ILE:HD11	1.63	0.79
1:A:600:C:H2'	1:A:601:C:C6	2.18	0.79
13:M:49:THR:HG22	13:M:51:ALA:H	1.47	0.79
19:S:6:LYS:HG2	19:S:7:LYS:HD3	1.65	0.79
3:C:108:ASN:HB3	3:C:111:LEU:HB2	1.63	0.79
20:T:89:ARG:HB2	20:T:104:LEU:HD11	1.64	0.78
1:A:389:A:H2'	1:A:390:C:H5'	1.66	0.78
2:B:188:ALA:HB1	2:B:192:SER:HB2	1.65	0.78
15:O:87:ILE:HG22	15:O:88:ARG:N	1.99	0.78

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1285:A:H1'	1:A:1286:A:OP2	1.82	0.78
3:C:47:LEU:HD21	3:C:68:VAL:HG11	1.64	0.78
16:P:28:ARG:HH11	16:P:28:ARG:CG	1.96	0.78
15:O:33:THR:HG21	15:O:85:LEU:HD22	1.65	0.78
1:A:1530:G:H4'	1:A:1530:G:OP1	1.84	0.78
12:L:27:LEU:HD11	12:L:64:TYR:CE1	2.19	0.78
4:D:112:VAL:HG12	4:D:116:GLN:OE1	1.84	0.78
18:R:53:ARG:HH21	18:R:60:ALA:N	1.81	0.77
16:P:43:LYS:HA	16:P:48:TRP:HB3	1.66	0.77
4:D:23:GLY:HA3	4:D:112:VAL:HG22	1.65	0.77
1:A:942:G:H21	9:I:124:GLN:HE22	1.32	0.77
2:B:185:ILE:CG2	2:B:199:TYR:HB2	2.11	0.77
1:A:1072:G:H2'	1:A:1073:U:H6	1.45	0.77
1:A:457:C:H2'	1:A:458:C:H6	1.47	0.77
1:A:370:C:H2'	1:A:371:G:C8	2.19	0.77
16:P:20:VAL:HG21	16:P:32:TYR:CB	2.14	0.77
5:E:71:LEU:O	5:E:72:GLN:HG3	1.84	0.77
18:R:45:SER:HB3	18:R:51:LEU:HD21	1.67	0.77
16:P:20:VAL:CG2	16:P:32:TYR:HB2	2.15	0.77
17:Q:67:LYS:HA	17:Q:70:ARG:HH12	1.50	0.77
1:A:1435:G:H2'	1:A:1436:U:C6	2.20	0.77
1:A:180:U:H2'	1:A:181:G:H5'	1.66	0.77
16:P:22:THR:HG22	16:P:32:TYR:HA	1.65	0.76
2:B:87:ARG:HE	2:B:233:SER:HB3	1.50	0.76
16:P:39:TYR:CD2	16:P:73:LEU:HD11	2.20	0.76
2:B:115:LEU:HD13	2:B:145:LEU:HB3	1.67	0.76
15:O:63:ARG:HH11	15:O:87:ILE:HD13	1.48	0.76
1:A:1003:G:H2'	1:A:1004:A:C4'	2.16	0.76
1:A:1148:U:H2'	1:A:1149:C:O4'	1.84	0.76
2:B:20:GLU:HG3	2:B:191:ASP:HB2	1.67	0.76
17:Q:6:LEU:HD13	17:Q:23:VAL:HG11	1.67	0.76
1:A:1236:A:O2'	1:A:1304:G:H4'	1.85	0.76
1:A:67:C:H2'	1:A:68:G:C8	2.21	0.76
1:A:877:C:H5''	8:H:88:LYS:HD2	1.66	0.76
7:G:79:ARG:NE	7:G:84:ASN:HD21	1.83	0.76
11:K:29:ILE:HB	11:K:44:SER:CB	2.14	0.76
1:A:913:A:H4'	1:A:914:A:O5'	1.86	0.76
1:A:394:G:H2'	1:A:395:C:H6	1.51	0.76
1:A:633:G:H5'	1:A:634:C:OP2	1.86	0.76
1:A:1184:G:H2'	1:A:1185:G:H8	1.51	0.76
1:A:1281:U:H4'	1:A:1282:C:OP2	1.86	0.76
4:D:58:LEU:HD22	4:D:62:GLN:HG2	1.67	0.75

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:42:GLY:HA3	5:E:66:MET:HG2	1.68	0.75
5:E:102:ALA:HB1	5:E:106:PRO:HG2	1.69	0.75
1:A:1505:G:H4'	1:A:1506:U:H5''	1.67	0.75
1:A:193:C:H2'	1:A:194:C:H6	1.52	0.75
2:B:22:LYS:HA	2:B:22:LYS:HZ3	1.51	0.75
1:A:390:C:O3'	16:P:28:ARG:NH2	2.20	0.75
1:A:1086:U:H2'	1:A:1087:G:H8	1.52	0.75
13:M:25:ILE:HD11	13:M:66:LEU:HD23	1.68	0.75
1:A:862:C:H2'	1:A:863:U:H5'	1.68	0.75
1:A:377:G:O2'	1:A:378:G:H5'	1.86	0.75
6:F:67:MET:HB2	6:F:68:PRO:HD2	1.69	0.75
13:M:3:ARG:HG2	13:M:9:ILE:HD11	1.67	0.75
14:N:29:ARG:HD3	14:N:40:CYS:SG	2.27	0.75
1:A:1117:G:H4'	9:I:104:ARG:CZ	2.17	0.75
1:A:663:A:O2'	1:A:664:G:H5'	1.87	0.75
1:A:1321:C:C5'	1:A:1322:C:H5''	2.17	0.75
2:B:187:LEU:HD11	2:B:204:ASN:O	1.87	0.74
1:A:80:G:H1	1:A:89:C:H41	1.35	0.74
1:A:937:A:H1'	1:A:1379:G:H22	1.51	0.74
2:B:69:LEU:HB3	2:B:162:ILE:HG22	1.68	0.74
13:M:19:LEU:HB3	13:M:25:ILE:HG21	1.67	0.74
2:B:20:GLU:O	2:B:40:HIS:HB2	1.87	0.74
1:A:1422:G:O2'	1:A:1423:G:H5'	1.87	0.74
4:D:189:PRO:HB2	4:D:194:LEU:HD21	1.68	0.74
1:A:1216:G:OP1	14:N:2:ALA:HA	1.86	0.74
1:A:735:C:H2'	1:A:736:C:H6	1.53	0.74
3:C:180:ALA:HB1	3:C:182:ILE:HG13	1.69	0.74
1:A:1442(B):A:H4'	1:A:1442(B):A:OP1	1.85	0.73
1:A:1066:C:H5'	1:A:1067:A:OP2	1.86	0.73
10:J:34:VAL:HG22	10:J:74:ILE:HG22	1.70	0.73
1:A:862:C:C2'	1:A:863:U:H5'	2.17	0.73
15:O:62:GLN:HA	15:O:65:ARG:HH11	1.53	0.73
8:H:86:ILE:HG22	8:H:87:SER:N	2.00	0.73
4:D:31:CYS:C	4:D:33:MET:H	1.89	0.73
1:A:1256:A:H5'	1:A:1257:U:OP1	1.88	0.73
1:A:977:A:H2'	1:A:978:A:H5'	1.68	0.73
1:A:170:U:O2'	1:A:171:A:H5'	1.89	0.73
1:A:386:C:C2'	1:A:387:U:H5'	2.18	0.73
1:A:976:G:H5'	1:A:1358:U:O2'	1.89	0.73
1:A:38:G:C2	1:A:397:A:C2	2.75	0.73
1:A:819:A:H4'	1:A:820:U:OP2	1.88	0.73
1:A:353:A:H5'	1:A:353:A:H8	1.54	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:P:4:ILE:HB	16:P:66:PRO:HB3	1.70	0.73
1:A:678:U:H2'	1:A:679:C:H6	1.52	0.73
20:T:71:THR:HG22	20:T:72:LEU:N	2.03	0.73
1:A:328:C:O2	1:A:328:C:H2'	1.88	0.73
5:E:101:ILE:HG12	5:E:101:ILE:O	1.87	0.73
18:R:45:SER:H	18:R:51:LEU:HD11	1.53	0.73
8:H:51:VAL:HG11	8:H:60:ARG:HG3	1.68	0.73
19:S:36:ARG:HH12	19:S:75:ALA:HB3	1.54	0.73
1:A:266:G:H5''	1:A:268:C:H41	1.54	0.73
15:O:67:LEU:HD22	15:O:78:TYR:HE1	1.54	0.72
4:D:8:VAL:HG12	4:D:21:LEU:CD1	2.19	0.72
12:L:102:ARG:HG3	12:L:102:ARG:NH1	2.03	0.72
2:B:97:TRP:CH2	2:B:173:ALA:HA	2.24	0.72
4:D:146:ILE:N	4:D:146:ILE:HD12	2.04	0.72
1:A:1342:C:H4'	9:I:125:TYR:HB3	1.70	0.72
1:A:667:G:H4'	15:O:51:HIS:CE1	2.25	0.72
2:B:77:ALA:HB2	2:B:211:ILE:HD13	1.70	0.72
6:F:62:TRP:CH2	6:F:64:GLN:HB2	2.24	0.72
12:L:119:LYS:HB2	12:L:120:TYR:CD1	2.24	0.72
12:L:124:LYS:HD2	12:L:125:PRO:HD2	1.71	0.72
1:A:1112:C:N3	3:C:178:LEU:HD23	2.05	0.72
1:A:359:U:H2'	1:A:360:A:C8	2.24	0.72
1:A:963:G:H21	10:J:55:LYS:HD3	1.52	0.72
2:B:167:PRO:HG3	2:B:188:ALA:HB2	1.71	0.72
1:A:365:U:H5''	1:A:366:C:OP1	1.90	0.72
2:B:55:PHE:HE1	2:B:218:ALA:HA	1.53	0.72
1:A:559:A:H4'	1:A:560:U:H3'	1.71	0.72
1:A:1159:U:H4'	1:A:1160:G:OP1	1.88	0.72
1:A:545:C:H5''	4:D:72:GLU:HG2	1.72	0.72
10:J:63:PHE:HZ	14:N:45:ARG:HG3	1.55	0.72
1:A:1104:G:H4'	2:B:111:ARG:NH1	2.04	0.71
1:A:428:G:H4'	1:A:429:U:O5'	1.90	0.71
1:A:102:G:H2'	1:A:103:C:C6	2.25	0.71
1:A:102:G:C4	1:A:103:C:C5	2.78	0.71
1:A:499:A:H4'	1:A:500:G:OP1	1.88	0.71
9:I:53:VAL:HB	9:I:92:TYR:HE2	1.55	0.71
2:B:61:LEU:HA	2:B:64:ARG:HG2	1.72	0.71
1:A:688:G:H2'	1:A:689:C:H6	1.55	0.71
16:P:53:VAL:O	16:P:57:ARG:HG2	1.90	0.71
3:C:157:ILE:HD11	3:C:166:GLU:HB2	1.72	0.71
1:A:66:G:H4'	1:A:173:U:C5	2.24	0.71
1:A:1054:C:O2'	1:A:1055:A:H5''	1.90	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:509:A:C2	1:A:510:A:C2	2.78	0.71
9:I:53:VAL:HB	9:I:92:TYR:CE2	2.25	0.71
5:E:51:VAL:HB	5:E:52:PRO:HD3	1.73	0.71
15:O:81:LEU:HD11	15:O:85:LEU:HD12	1.73	0.71
10:J:8:LEU:HG	10:J:96:ILE:HG22	1.73	0.71
9:I:45:ALA:O	9:I:48:GLU:HB2	1.90	0.71
7:G:15:ASP:HB3	7:G:19:GLY:H	1.54	0.71
12:L:76:ASN:O	12:L:77:LEU:HD23	1.91	0.71
1:A:559:A:C5'	1:A:560:U:H3'	2.19	0.71
20:T:23:ARG:HA	20:T:26:ASN:HD21	1.55	0.71
4:D:49:ARG:HA	4:D:49:ARG:HE	1.55	0.71
12:L:87:GLY:HA2	12:L:98:TYR:HA	1.71	0.71
11:K:52:GLY:H	11:K:55:LYS:HG3	1.56	0.71
1:A:240:C:H2'	1:A:241:C:C6	2.24	0.71
4:D:133:VAL:HG11	4:D:138:TYR:CD1	2.26	0.71
12:L:27:LEU:O	12:L:29:GLY:N	2.23	0.71
1:A:624:C:H4'	16:P:10:GLY:HA2	1.72	0.71
10:J:65:LEU:HD13	14:N:56:VAL:HG22	1.72	0.71
1:A:445:G:H2'	1:A:446:G:C8	2.25	0.70
1:A:662:G:H2'	1:A:663:A:C8	2.26	0.70
1:A:992:U:H1'	1:A:993:G:OP2	1.89	0.70
8:H:5:PRO:O	8:H:8:ASP:HB3	1.90	0.70
1:A:194:C:H2'	1:A:195:A:H5''	1.73	0.70
3:C:132:ARG:O	3:C:136:GLN:HB2	1.90	0.70
1:A:359:U:H2'	1:A:360:A:H8	1.55	0.70
1:A:1101:A:H4'	1:A:1102:A:O5'	1.90	0.70
9:I:10:ARG:HD3	9:I:75:ASP:HB3	1.71	0.70
4:D:108:LEU:HD11	4:D:174:LEU:HD22	1.73	0.70
1:A:1321:C:H5'	1:A:1322:C:H5''	1.73	0.70
1:A:937:A:H1'	1:A:1379:G:N2	2.05	0.70
1:A:1064:G:H1'	1:A:1065:U:OP2	1.92	0.70
1:A:1169:A:H2'	1:A:1170:A:H8	1.56	0.70
1:A:616:G:C2	1:A:617:G:C8	2.80	0.70
3:C:50:ALA:HB1	3:C:70:VAL:HG11	1.72	0.70
1:A:560:U:H4'	1:A:561:U:O5'	1.92	0.70
1:A:84:U:C5	1:A:88:A:C8	2.79	0.70
1:A:1128:C:H5'	9:I:16:ARG:HH12	1.57	0.70
4:D:8:VAL:HG12	4:D:21:LEU:HD13	1.73	0.70
1:A:437:U:OP1	4:D:155:LEU:HD22	1.91	0.70
1:A:192:U:O4'	20:T:103:GLY:HA2	1.91	0.70
13:M:68:GLY:HA2	13:M:71:ARG:HB3	1.74	0.70
4:D:62:GLN:HE22	4:D:65:ARG:HE	1.36	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:180:U:C2'	1:A:181:G:H5'	2.21	0.70
3:C:173:VAL:O	3:C:175:LEU:HD12	1.91	0.70
1:A:555:C:H2'	1:A:556:C:H6	1.56	0.69
1:A:22:G:H2'	1:A:23:C:C6	2.27	0.69
12:L:24:VAL:HG13	12:L:98:TYR:CE2	2.27	0.69
12:L:34:ARG:O	12:L:61:THR:HG23	1.91	0.69
1:A:1372:U:H5''	9:I:71:SER:HB3	1.72	0.69
1:A:1238:A:H62	1:A:1299:A:N6	1.89	0.69
1:A:585:G:C4'	12:L:8:ASN:HD21	1.96	0.69
15:O:63:ARG:NH1	15:O:87:ILE:HD13	2.07	0.69
1:A:555:C:H2'	1:A:556:C:C6	2.27	0.69
1:A:1446:U:H4'	1:A:1447:A:N7	2.07	0.69
2:B:21:ARG:HB3	2:B:39:ILE:HA	1.73	0.69
1:A:659:U:C2'	1:A:660:G:H5'	2.23	0.69
1:A:674:G:H2'	1:A:675:A:H8	1.57	0.69
1:A:749:C:O2'	1:A:750:G:H5'	1.92	0.69
5:E:57:LYS:O	5:E:61:TYR:HD2	1.75	0.69
1:A:441:A:H3'	1:A:442:C:H6	1.58	0.69
1:A:542:G:H5'	4:D:41:GLY:HA3	1.74	0.69
7:G:113:GLU:HB2	7:G:119:ARG:CG	2.23	0.69
1:A:820:U:H4'	1:A:821:G:OP2	1.93	0.69
10:J:51:ARG:HE	10:J:61:GLU:HB2	1.58	0.69
5:E:139:LEU:HA	5:E:142:LEU:HD12	1.72	0.69
6:F:63:TYR:N	6:F:63:TYR:CD2	2.52	0.69
1:A:804:U:H5''	1:A:805:C:OP2	1.92	0.69
1:A:41:G:H2'	1:A:42:G:C8	2.27	0.69
1:A:102:G:C5	1:A:103:C:C5	2.81	0.69
1:A:33:A:H2'	1:A:34:C:C6	2.27	0.69
1:A:544:G:H2'	1:A:545:C:H6	1.57	0.69
5:E:68:GLU:HG3	5:E:68:GLU:O	1.93	0.69
1:A:1346:A:N1	1:A:1374:A:H5''	2.06	0.69
1:A:460:G:O6	1:A:470:C:H5''	1.93	0.68
3:C:130:VAL:O	3:C:134:ILE:HG12	1.92	0.68
19:S:63:THR:O	19:S:66:MET:HG2	1.93	0.68
2:B:77:ALA:HA	2:B:80:ILE:HD11	1.76	0.68
1:A:189(B):C:H42	1:A:189(I):G:H1	1.40	0.68
6:F:91:VAL:HG11	18:R:72:ARG:NH1	2.08	0.68
1:A:392:G:H2'	1:A:393:A:H8	1.58	0.68
1:A:1073:U:H2'	1:A:1074:G:H8	1.57	0.68
16:P:53:VAL:HG12	16:P:79:VAL:HG22	1.74	0.68
7:G:146:GLU:HA	7:G:149:ARG:HB2	1.76	0.68
13:M:81:LEU:HB3	13:M:89:GLY:HA2	1.76	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1289:A:H3'	1:A:1290:G:H8	1.59	0.68
2:B:74:LYS:NZ	2:B:76:GLN:HB2	2.08	0.68
1:A:950:U:H2'	1:A:951:G:H8	1.57	0.68
13:M:10:PRO:HB2	13:M:18:ALA:HB1	1.74	0.68
1:A:386:C:O2'	1:A:387:U:H5'	1.92	0.68
4:D:62:GLN:HA	4:D:62:GLN:NE2	2.09	0.68
17:Q:70:ARG:O	17:Q:71:PHE:CD2	2.47	0.68
17:Q:59:ILE:HG22	17:Q:71:PHE:HD1	1.58	0.68
1:A:1118:C:H1'	1:A:1179:A:C4	2.29	0.68
1:A:983:A:H2	1:A:984:C:C6	2.12	0.68
3:C:112:SER:O	3:C:116:VAL:HG23	1.93	0.68
1:A:1386:G:C2	1:A:1387:G:C8	2.81	0.68
1:A:192:U:H2'	1:A:193:C:C6	2.29	0.68
6:F:89:MET:HG2	6:F:91:VAL:HG23	1.75	0.68
1:A:598:U:H4'	8:H:94:TYR:CD2	2.29	0.68
1:A:409:G:H2'	1:A:410:G:C5'	2.24	0.68
1:A:430:A:OP2	4:D:8:VAL:HG23	1.92	0.68
6:F:17:SER:O	6:F:21:LEU:HD22	1.94	0.68
1:A:373:A:H2'	1:A:374:A:H8	1.59	0.68
1:A:1225:A:N3	1:A:1225:A:H2'	2.07	0.68
1:A:1446:U:O2'	1:A:1447:A:H8	1.77	0.68
2:B:29:ALA:O	2:B:32:ILE:HG22	1.93	0.68
15:O:4:THR:OG1	15:O:7:GLU:HB2	1.94	0.68
1:A:1442:G:C8	1:A:1442(B):A:C2	2.82	0.67
1:A:1090:U:H2'	1:A:1091:U:C6	2.26	0.67
11:K:48:ILE:HG21	11:K:63:LEU:HD13	1.76	0.67
1:A:1162:C:H2'	1:A:1163:C:H6	1.58	0.67
1:A:159:G:H2'	1:A:161:A:OP2	1.94	0.67
11:K:13:GLN:HB3	11:K:75:TYR:O	1.93	0.67
6:F:86:ARG:O	6:F:87:ARG:HG2	1.94	0.67
3:C:71:ALA:HA	3:C:106:VAL:HB	1.75	0.67
1:A:35:G:H2'	1:A:36:C:C6	2.29	0.67
1:A:1116:C:H3'	1:A:1117:G:H5''	1.76	0.67
7:G:73:MET:HG2	7:G:90:GLU:HA	1.75	0.67
1:A:763:G:H2'	1:A:764:C:H6	1.57	0.67
1:A:539:A:H2'	1:A:540:G:C8	2.29	0.67
4:D:28:SER:HB3	4:D:30:LYS:HG2	1.75	0.67
1:A:671:G:H2'	1:A:672:U:C6	2.28	0.67
12:L:24:VAL:HG13	12:L:98:TYR:HE2	1.60	0.67
10:J:7:LYS:HB2	10:J:97:GLU:HB2	1.77	0.67
1:A:1446:U:O2'	1:A:1447:A:C8	2.47	0.67
18:R:50:ILE:CD1	18:R:70:ILE:HG21	2.24	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1106:G:H5''	3:C:172:ARG:HG2	1.75	0.67
5:E:80:ILE:HD12	5:E:138:ALA:HB1	1.76	0.67
1:A:148:G:O2'	1:A:149:A:H5'	1.94	0.67
6:F:76:ALA:O	6:F:80:ARG:HG3	1.95	0.67
1:A:659:U:O2'	1:A:660:G:H5'	1.94	0.67
5:E:31:LEU:HD11	5:E:129:ILE:HA	1.75	0.67
1:A:1399:C:C2	1:A:1502:A:N6	2.63	0.67
1:A:193:C:H2'	1:A:194:C:C6	2.28	0.67
5:E:78:HIS:CE1	5:E:143:ARG:H	2.13	0.67
15:O:3:ILE:HD13	15:O:3:ILE:H	1.60	0.67
1:A:62:U:O2'	1:A:379:C:H1'	1.94	0.67
3:C:182:ILE:HG12	3:C:203:PHE:HA	1.77	0.67
1:A:1070:U:H2'	1:A:1071:C:C6	2.28	0.67
1:A:859:A:H2'	1:A:860:A:O4'	1.95	0.67
6:F:82:ARG:HA	6:F:82:ARG:HH11	1.60	0.67
1:A:1190:G:OP1	3:C:4:LYS:HA	1.94	0.66
20:T:16:HIS:O	20:T:19:SER:HB3	1.95	0.66
1:A:920:U:H2'	1:A:921:U:C6	2.30	0.66
12:L:75:HIS:HD2	12:L:77:LEU:H	1.42	0.66
1:A:1162:C:H2'	1:A:1163:C:C6	2.29	0.66
3:C:73:PRO:O	3:C:76:VAL:HG22	1.95	0.66
1:A:344:A:O2'	1:A:346:G:N7	2.27	0.66
8:H:21:LYS:O	8:H:63:LEU:HD23	1.95	0.66
4:D:129:ASN:HD21	4:D:144:ASP:HB3	1.61	0.66
5:E:32:VAL:HB	5:E:58:ALA:HB1	1.78	0.66
10:J:65:LEU:HD12	14:N:55:GLY:O	1.93	0.66
6:F:91:VAL:HG12	6:F:92:LYS:O	1.95	0.66
1:A:972:C:H4'	10:J:57:LYS:HG3	1.77	0.66
1:A:271:C:H2'	1:A:272:C:H6	1.61	0.66
1:A:617:G:C6	1:A:618:C:C5	2.84	0.66
1:A:1184:G:H2'	1:A:1185:G:C8	2.31	0.66
1:A:818:G:O2'	1:A:819:A:H5'	1.95	0.66
7:G:16:LEU:HD13	9:I:45:ALA:HB2	1.76	0.66
1:A:626:U:H2'	1:A:627:G:H8	1.61	0.66
14:N:48:ALA:HB2	14:N:53:LEU:HD12	1.77	0.66
15:O:87:ILE:CG2	15:O:88:ARG:H	2.09	0.66
8:H:102:ARG:N	8:H:102:ARG:HE	1.92	0.66
1:A:59:A:H3'	1:A:331:G:H22	1.61	0.66
4:D:61:LYS:HD3	4:D:62:GLN:HE21	1.60	0.66
11:K:127:LYS:CA	11:K:127:LYS:HE2	2.25	0.66
10:J:54:PHE:CE2	10:J:55:LYS:HD2	2.31	0.66
10:J:7:LYS:HD3	10:J:71:LEU:HD13	1.77	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:58:TYR:O	8:H:59:LEU:HD23	1.96	0.66
1:A:1479:C:O2'	1:A:1480:G:H5'	1.95	0.66
1:A:113:G:H2'	1:A:114:U:C6	2.31	0.66
1:A:707:C:O2'	1:A:708:C:H5'	1.96	0.66
4:D:17:VAL:HG11	4:D:197:PRO:HB2	1.77	0.66
16:P:22:THR:HA	16:P:33:ILE:HG12	1.78	0.66
1:A:735:C:O2'	1:A:736:C:H5'	1.96	0.66
12:L:69:TYR:HB3	12:L:99:HIS:CD2	2.31	0.66
2:B:100:GLY:N	2:B:176:GLU:OE2	2.28	0.66
1:A:1497:G:H2'	1:A:1498:U:H5'	1.77	0.66
1:A:949:A:H1'	1:A:1364:U:N3	2.11	0.65
1:A:632:A:C8	1:A:633:G:C8	2.83	0.65
1:A:1226:C:C4	13:M:104:ARG:HB2	2.30	0.65
4:D:189:PRO:HB2	4:D:194:LEU:CD2	2.25	0.65
3:C:52:LEU:H	3:C:52:LEU:HD23	1.61	0.65
10:J:8:LEU:HD22	10:J:20:ALA:HB2	1.76	0.65
19:S:22:LEU:O	19:S:26:GLY:HA2	1.96	0.65
2:B:22:LYS:HA	2:B:22:LYS:NZ	2.12	0.65
15:O:62:GLN:HA	15:O:65:ARG:NH1	2.11	0.65
1:A:1270:C:H2'	1:A:1271:G:O4'	1.96	0.65
1:A:552:U:H4'	12:L:86:ARG:HG2	1.77	0.65
2:B:69:LEU:HD22	2:B:91:PRO:HB2	1.78	0.65
16:P:20:VAL:HG21	16:P:32:TYR:CD2	2.30	0.65
4:D:33:MET:HE2	4:D:37:PRO:HA	1.78	0.65
18:R:43:PHE:C	18:R:44:LEU:HD12	2.16	0.65
11:K:48:ILE:HG22	11:K:49:GLY:H	1.61	0.65
6:F:99:ALA:HB1	18:R:23:LYS:NZ	2.11	0.65
7:G:62:PHE:HA	7:G:124:LEU:HD22	1.78	0.65
2:B:8:LYS:NZ	2:B:217:ARG:HH11	1.94	0.65
1:A:785:G:H2'	1:A:786:G:H5'	1.79	0.65
2:B:88:ALA:HB2	2:B:219:VAL:CG1	2.26	0.65
1:A:878:G:H5'	8:H:89:PRO:HG2	1.77	0.65
15:O:26:GLU:HA	15:O:81:LEU:HD22	1.78	0.65
1:A:17:U:H2'	1:A:18:C:H6	1.59	0.65
1:A:1128:C:O2'	1:A:1130:A:C8	2.48	0.65
9:I:17:VAL:HG11	9:I:81:ILE:HD13	1.79	0.65
2:B:137:ARG:HA	2:B:137:ARG:HH11	1.61	0.65
7:G:152:ALA:O	7:G:155:ARG:HG3	1.97	0.65
10:J:3:LYS:HD2	10:J:77:PRO:HD3	1.79	0.65
6:F:16:GLN:CD	6:F:16:GLN:H	2.00	0.65
2:B:201:ILE:HG21	2:B:214:ILE:HG21	1.79	0.65
6:F:19:LEU:O	6:F:19:LEU:HD23	1.97	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1112:C:O2	3:C:178:LEU:HB2	1.95	0.65
1:A:189(J):G:O2'	1:A:189(K):U:H5'	1.96	0.65
2:B:163:PHE:HD2	2:B:185:ILE:HG13	1.62	0.65
16:P:48:TRP:H	16:P:48:TRP:HD1	1.44	0.65
20:T:18:GLN:O	20:T:22:ARG:HG3	1.97	0.65
6:F:91:VAL:HG11	18:R:72:ARG:HH12	1.60	0.65
9:I:114:TYR:HE1	10:J:60:ARG:O	1.79	0.65
7:G:47:CYS:O	7:G:50:ILE:HB	1.96	0.65
15:O:56:LEU:O	15:O:60:VAL:HG23	1.97	0.65
1:A:1095:U:H5''	1:A:1109:C:O2	1.98	0.65
17:Q:5:VAL:HG12	17:Q:6:LEU:N	2.11	0.65
1:A:607:A:H2'	1:A:608:A:O4'	1.97	0.65
13:M:68:GLY:CA	13:M:71:ARG:HB3	2.27	0.64
9:I:114:TYR:CD2	9:I:114:TYR:N	2.64	0.64
3:C:23:TYR:CG	3:C:24:ALA:N	2.65	0.64
2:B:135:GLN:O	2:B:139:LYS:HB2	1.98	0.64
1:A:425:G:C2'	1:A:426:G:H5'	2.27	0.64
1:A:932:C:H4'	7:G:4:ARG:NH2	2.12	0.64
5:E:144:THR:O	5:E:148:VAL:HG23	1.97	0.64
4:D:172:PRO:HB2	4:D:187:ARG:HH22	1.62	0.64
12:L:47:LYS:CB	12:L:48:PRO:HD3	2.23	0.64
10:J:33:GLN:HB2	10:J:75:ILE:HD13	1.79	0.64
1:A:192:U:C4'	20:T:103:GLY:HA2	2.27	0.64
1:A:1117:G:H4'	9:I:104:ARG:NH2	2.13	0.64
5:E:78:HIS:HE1	5:E:143:ARG:H	1.45	0.64
11:K:59:TYR:O	11:K:62:GLN:HB3	1.98	0.64
1:A:545:C:O2'	1:A:546:G:H5'	1.97	0.64
12:L:6:THR:H	12:L:9:GLN:HE21	1.45	0.64
1:A:1337:G:H5''	1:A:1338:G:OP1	1.98	0.64
1:A:441:A:H3'	1:A:442:C:C6	2.33	0.64
20:T:61:SER:O	20:T:65:LYS:HG3	1.98	0.64
4:D:79:PHE:CZ	4:D:204:ILE:HD13	2.33	0.64
6:F:23:LYS:O	6:F:27:GLN:HG2	1.98	0.64
4:D:146:ILE:H	4:D:146:ILE:HD12	1.62	0.64
1:A:627:G:H2'	1:A:628:G:H8	1.61	0.64
8:H:20:TYR:HD1	8:H:65:TYR:CD2	2.16	0.64
1:A:816:A:OP2	1:A:1527:C:H5'	1.97	0.64
16:P:3:LYS:O	16:P:21:VAL:HA	1.98	0.64
6:F:11:ASN:HB3	6:F:14:LEU:HG	1.78	0.64
6:F:5:GLU:HG3	6:F:93:SER:OG	1.98	0.64
1:A:922:G:C6	1:A:923:A:C6	2.86	0.64
1:A:165:C:H2'	1:A:166:G:C8	2.33	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:826:C:H2'	1:A:827:U:C6	2.33	0.64
1:A:487:A:H2'	1:A:488:C:O4'	1.97	0.64
2:B:97:TRP:HZ2	2:B:102:LEU:HD13	1.63	0.64
14:N:23:ARG:NH1	14:N:30:ALA:HB2	2.13	0.64
16:P:6:LEU:HG	16:P:17:TYR:HB3	1.78	0.64
1:A:942:G:N2	9:I:124:GLN:HE22	1.95	0.64
10:J:34:VAL:CG2	10:J:74:ILE:HG22	2.28	0.64
5:E:136:MET:O	5:E:139:LEU:N	2.31	0.64
1:A:942:G:H21	9:I:124:GLN:NE2	1.95	0.64
1:A:59:A:H5''	1:A:60:A:C5'	2.28	0.63
1:A:407:G:H5'	4:D:3:ARG:NH1	2.13	0.63
3:C:73:PRO:HA	3:C:76:VAL:HG13	1.80	0.63
10:J:30:SER:HB2	10:J:80:LYS:HG3	1.79	0.63
1:A:544:G:H2'	1:A:545:C:C6	2.32	0.63
17:Q:59:ILE:CG2	17:Q:71:PHE:HB3	2.29	0.63
1:A:447:G:H2'	1:A:485:G:N2	2.14	0.63
1:A:63:C:N4	1:A:104:G:H1	1.94	0.63
1:A:194:C:C2'	1:A:195:A:H5''	2.28	0.63
1:A:624:C:H2'	1:A:625:G:H8	1.62	0.63
7:G:4:ARG:HB3	7:G:5:ARG:HH11	1.63	0.63
1:A:1416:G:H2'	1:A:1417:G:O4'	1.98	0.63
1:A:1332:A:O5'	1:A:1332:A:H8	1.81	0.63
5:E:33:VAL:HG11	5:E:109:ILE:HA	1.79	0.63
2:B:141:GLU:O	2:B:145:LEU:HB2	1.98	0.63
12:L:90:VAL:O	12:L:92:ASP:N	2.32	0.63
2:B:167:PRO:HG2	2:B:192:SER:HB3	1.81	0.63
18:R:59:SER:HB3	18:R:62:GLU:HG3	1.80	0.63
2:B:61:LEU:CD2	2:B:68:ILE:HD11	2.29	0.63
1:A:262:A:C6	1:A:263:A:C6	2.87	0.63
2:B:101:MET:HA	2:B:108:ILE:HG13	1.81	0.63
2:B:204:ASN:HD22	2:B:206:ASP:H	1.46	0.63
1:A:617:G:N1	1:A:618:C:C4	2.67	0.63
2:B:22:LYS:NZ	2:B:40:HIS:HE1	1.96	0.63
1:A:814:A:N7	1:A:816:A:C4	2.67	0.63
1:A:590:C:H2'	1:A:591:U:H6	1.63	0.63
11:K:121:PRO:HD2	11:K:126:ARG:HG3	1.80	0.63
1:A:635:G:C5	1:A:636:U:C5	2.86	0.63
1:A:343:U:N3	1:A:347:G:C6	2.67	0.63
20:T:56:MET:HG2	20:T:84:LEU:HD11	1.80	0.63
1:A:409:G:C2'	1:A:410:G:H5'	2.28	0.62
1:A:877:C:H5''	8:H:88:LYS:CD	2.29	0.62
1:A:1128:C:H5'	9:I:16:ARG:NH1	2.14	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:32:A:H2'	1:A:33:A:C8	2.34	0.62
1:A:785:G:C2'	1:A:786:G:H5'	2.29	0.62
1:A:830:G:H2'	1:A:831:U:H6	1.62	0.62
1:A:1096:C:H2'	1:A:1097:C:H6	1.63	0.62
4:D:119:GLN:O	4:D:123:HIS:CD2	2.52	0.62
1:A:1085:U:C6	1:A:1094:G:N1	2.67	0.62
18:R:66:LEU:HD11	18:R:70:ILE:HD11	1.80	0.62
20:T:86:ARG:O	20:T:90:GLN:HG3	1.99	0.62
1:A:60:A:H4'	1:A:61:G:O5'	1.99	0.62
1:A:1057:G:H5''	3:C:154:SER:HB2	1.80	0.62
1:A:370:C:H2'	1:A:371:G:H8	1.61	0.62
8:H:6:ILE:HB	8:H:85:ARG:NH1	2.14	0.62
4:D:60:GLU:HG2	4:D:202:LEU:HB2	1.82	0.62
1:A:193:C:O2'	1:A:194:C:H5'	1.98	0.62
9:I:114:TYR:N	9:I:114:TYR:HD2	1.98	0.62
4:D:141:ARG:HB3	4:D:142:PRO:CD	2.30	0.62
1:A:67:C:H2'	1:A:68:G:H8	1.62	0.62
1:A:80:G:H1	1:A:89:C:N4	1.97	0.62
1:A:745:C:H2'	1:A:746:A:C8	2.35	0.62
12:L:91:LYS:O	12:L:91:LYS:HG3	1.99	0.62
1:A:509:A:O2'	1:A:510:A:O5'	2.18	0.62
10:J:63:PHE:HB3	14:N:57:ARG:O	1.99	0.62
8:H:6:ILE:N	8:H:6:ILE:HD12	2.14	0.62
7:G:150:ALA:HB2	11:K:50:TYR:CZ	2.35	0.62
1:A:243:A:H4'	1:A:244:U:O5'	1.99	0.62
19:S:12:ASP:HB2	19:S:15:LEU:HD23	1.80	0.62
6:F:69:GLU:HG2	6:F:70:ASP:H	1.65	0.62
1:A:619:U:H2'	4:D:135:LEU:HD21	1.82	0.62
5:E:78:HIS:CE1	5:E:142:LEU:HD23	2.35	0.62
1:A:389:A:H2'	1:A:390:C:C5'	2.30	0.62
2:B:54:THR:HG21	2:B:201:ILE:HD11	1.82	0.62
4:D:160:GLN:O	4:D:163:GLU:HB3	2.00	0.62
1:A:829:G:O2'	1:A:830:G:H5'	2.00	0.62
8:H:64:LYS:O	8:H:79:VAL:HB	2.00	0.62
1:A:646:U:H2'	1:A:647:C:C6	2.35	0.62
1:A:503:C:H2'	1:A:504:C:H6	1.64	0.62
10:J:24:VAL:HG21	10:J:37:PRO:HG3	1.81	0.62
1:A:1287:A:C2	1:A:1353:G:H1'	2.34	0.62
7:G:97:GLN:O	7:G:101:LEU:HG	1.98	0.62
1:A:1237:C:H42	1:A:1337:G:H1	1.47	0.62
1:A:991:U:O2	1:A:993:G:H8	1.82	0.62
1:A:750:G:N3	15:O:23:GLY:HA3	2.15	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:100:ALA:O	3:C:101:LEU:HB2	1.99	0.62
11:K:85:ARG:HA	11:K:112:THR:OG1	1.99	0.61
1:A:189(C):C:C2'	1:A:189(D):C:H5'	2.30	0.61
15:O:25:THR:HG21	15:O:70:LEU:HB2	1.81	0.61
3:C:107:GLN:O	3:C:108:ASN:HB2	1.99	0.61
2:B:168:THR:CG2	2:B:192:SER:HA	2.31	0.61
16:P:70:ALA:O	16:P:74:LEU:HD12	2.00	0.61
1:A:41:G:H2'	1:A:42:G:H8	1.63	0.61
1:A:1355:G:H2'	1:A:1356:G:C8	2.35	0.61
20:T:38:LYS:HA	20:T:41:ILE:HD12	1.81	0.61
10:J:39:PRO:HB3	10:J:70:ARG:HH12	1.64	0.61
7:G:75:VAL:HG21	7:G:144:MET:HB3	1.82	0.61
1:A:709:G:H2'	1:A:710:G:H8	1.66	0.61
1:A:948:C:OP1	13:M:107:ALA:HA	2.00	0.61
1:A:1172:C:H2'	1:A:1173:G:C8	2.34	0.61
16:P:39:TYR:CD1	16:P:39:TYR:C	2.73	0.61
7:G:26:PHE:CE2	7:G:30:ILE:HD11	2.34	0.61
2:B:213:LEU:O	2:B:213:LEU:HD23	2.01	0.61
1:A:594:G:H1	1:A:645:C:H42	1.49	0.61
1:A:360:A:O2'	1:A:361:G:H5'	2.00	0.61
1:A:450:G:H5''	16:P:41:PRO:O	2.00	0.61
1:A:817:C:H4'	1:A:818:G:OP1	2.00	0.61
4:D:17:VAL:HG11	4:D:197:PRO:CB	2.31	0.61
6:F:100:ASN:O	18:R:28:GLU:HG2	2.01	0.61
1:A:189(D):C:H1'	1:A:189(H):G:C2	2.36	0.61
3:C:58:GLU:H	3:C:65:ALA:HB3	1.64	0.61
1:A:1264:C:H2'	1:A:1265:G:H8	1.64	0.61
1:A:650:G:O2'	1:A:651:C:H5'	2.01	0.61
1:A:1205:U:H5''	3:C:190:ARG:NH2	2.15	0.61
1:A:1228:C:P	13:M:108:ARG:HH22	2.23	0.61
1:A:1199:U:H4'	10:J:54:PHE:CZ	2.35	0.61
20:T:71:THR:HG22	20:T:72:LEU:HG	1.81	0.61
1:A:833:U:H2'	1:A:834:C:C6	2.36	0.61
1:A:186:C:H2'	1:A:187:C:C6	2.36	0.61
1:A:613:C:H42	1:A:627:G:H1	1.48	0.61
1:A:605:U:H2'	1:A:606:G:C8	2.35	0.61
1:A:1173:G:H2'	1:A:1174:G:H8	1.65	0.61
17:Q:13:ASP:H	17:Q:14:LYS:NZ	1.99	0.61
16:P:6:LEU:HG	16:P:17:TYR:CB	2.30	0.61
4:D:5:ILE:HG22	4:D:5:ILE:O	2.00	0.61
1:A:1064:G:N2	1:A:1190:G:H2'	2.16	0.61
8:H:13:ILE:O	8:H:17:THR:HG23	2.01	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:189(D):C:H1'	1:A:189(H):G:N2	2.16	0.61
10:J:29:ARG:HH22	10:J:84:GLN:HG2	1.65	0.61
20:T:46:GLU:CD	20:T:48:LYS:HE2	2.21	0.61
2:B:187:LEU:HA	2:B:201:ILE:HB	1.82	0.61
4:D:12:CYS:HA	4:D:19:LEU:HD11	1.82	0.61
4:D:162:LEU:O	4:D:165:MET:HB2	2.01	0.61
13:M:61:GLU:HA	13:M:66:LEU:HD11	1.83	0.61
17:Q:5:VAL:CG1	17:Q:6:LEU:H	2.14	0.61
19:S:10:PHE:HZ	19:S:70:LYS:HZ3	1.47	0.61
1:A:22:G:H2'	1:A:23:C:H6	1.63	0.61
1:A:945:G:H2'	1:A:945:G:N3	2.14	0.61
1:A:748:C:H4'	1:A:749:C:O5'	2.01	0.61
15:O:71:GLN:HG3	15:O:78:TYR:CD2	2.35	0.60
4:D:3:ARG:O	4:D:5:ILE:HG13	2.01	0.60
1:A:1073:U:H2'	1:A:1074:G:C8	2.36	0.60
1:A:105:G:H2'	1:A:106:C:C6	2.36	0.60
11:K:58:PRO:HA	11:K:90:GLY:HA2	1.82	0.60
5:E:96:PRO:HA	5:E:117:ASP:OD2	2.00	0.60
9:I:4:TYR:HA	9:I:88:TYR:CE1	2.35	0.60
1:A:475:G:H2'	1:A:476:G:C8	2.33	0.60
1:A:662:G:H2'	1:A:663:A:H8	1.65	0.60
12:L:119:LYS:HB2	12:L:120:TYR:HD1	1.66	0.60
16:P:49:LEU:HD12	16:P:50:LYS:H	1.65	0.60
1:A:892:A:H2'	1:A:893:C:C6	2.36	0.60
4:D:12:CYS:CA	4:D:19:LEU:HD11	2.31	0.60
11:K:111:ASP:HA	18:R:84:LYS:HE2	1.83	0.60
4:D:135:LEU:HB2	4:D:138:TYR:HB2	1.82	0.60
5:E:18:ARG:NH2	5:E:25:ARG:HG2	2.16	0.60
1:A:328:C:O2	1:A:328:C:C2'	2.50	0.60
1:A:652:U:O4	1:A:752:G:O2'	2.20	0.60
1:A:1084:G:C5	1:A:1085:U:C4	2.88	0.60
10:J:49:VAL:HG11	14:N:41:ARG:O	2.00	0.60
3:C:24:ALA:HB1	3:C:28:GLN:O	2.01	0.60
1:A:425:G:H2'	1:A:426:G:H5'	1.83	0.60
10:J:26:ALA:HB1	10:J:29:ARG:HH21	1.66	0.60
18:R:32:ARG:HA	18:R:69:THR:HG21	1.83	0.60
8:H:1:MET:HE2	8:H:1:MET:H3	1.67	0.60
4:D:9:CYS:SG	4:D:22:LYS:HD2	2.42	0.60
3:C:113:ALA:HB3	3:C:114:PRO:HD3	1.83	0.60
1:A:186:C:H2'	1:A:187:C:H6	1.66	0.60
1:A:421:U:C4	3:C:127:ARG:NH1	2.69	0.60
12:L:31:PRO:HB2	12:L:32:PHE:CD2	2.37	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:Q:50:LYS:HE3	17:Q:51:TYR:CE1	2.37	0.60
1:A:1026:G:N3	1:A:1026:G:H2'	2.16	0.60
16:P:17:TYR:HE1	16:P:41:PRO:HG3	1.67	0.60
1:A:509:A:O2'	1:A:510:A:P	2.59	0.60
1:A:542:G:H5'	4:D:41:GLY:CA	2.32	0.60
1:A:191:G:C4	20:T:105:SER:HB3	2.36	0.60
1:A:675:A:H2'	1:A:676:A:H8	1.67	0.60
8:H:110:ALA:O	8:H:112:LEU:HD23	2.02	0.60
1:A:1469:G:H2'	1:A:1470:G:H8	1.67	0.60
1:A:1277:C:H2'	1:A:1278:U:H5'	1.83	0.59
1:A:954:G:N2	1:A:1227:A:H62	1.94	0.59
7:G:115:ARG:HB2	7:G:118:VAL:HG22	1.83	0.59
3:C:34:LEU:O	3:C:34:LEU:HD23	2.02	0.59
2:B:44:LEU:H	2:B:44:LEU:HD12	1.65	0.59
1:A:52:G:C2'	1:A:53:A:H5'	2.32	0.59
12:L:74:GLY:O	12:L:102:ARG:NH2	2.34	0.59
1:A:719:C:H5	1:A:720:C:C4	2.20	0.59
1:A:865:A:C2	1:A:918:A:H4'	2.37	0.59
1:A:1320:C:O2'	19:S:73:GLU:HG2	2.03	0.59
6:F:79:LEU:O	6:F:85:VAL:HG11	2.02	0.59
1:A:357:G:C2'	1:A:358:U:H5'	2.32	0.59
1:A:1321:C:C3'	1:A:1322:C:H5''	2.33	0.59
1:A:797:C:OP1	11:K:124:LYS:HE2	2.02	0.59
4:D:150:GLU:HG2	4:D:151:LYS:H	1.67	0.59
1:A:1238:A:N6	1:A:1299:A:N6	2.51	0.59
1:A:114:U:H2'	1:A:115:G:C8	2.37	0.59
17:Q:65:ILE:H	17:Q:65:ILE:HD12	1.66	0.59
1:A:1325:C:H4'	21:U:17:THR:HG21	1.85	0.59
15:O:82:ILE:HG13	15:O:88:ARG:HG3	1.84	0.59
4:D:138:TYR:CD2	4:D:138:TYR:C	2.74	0.59
20:T:63:ILE:HD13	20:T:80:ARG:HB2	1.83	0.59
1:A:646:U:H2'	1:A:647:C:H6	1.67	0.59
1:A:1355:G:H2'	1:A:1356:G:H8	1.67	0.59
2:B:185:ILE:HG22	2:B:199:TYR:CB	2.17	0.59
4:D:126:ILE:HG22	4:D:127:THR:H	1.67	0.59
20:T:97:ALA:O	20:T:99:LEU:N	2.33	0.59
1:A:199:G:O2'	1:A:200:G:H5'	2.01	0.59
1:A:152:A:N6	1:A:170:U:C2	2.70	0.59
2:B:84:GLU:OE1	2:B:219:VAL:HB	2.02	0.59
1:A:428:G:C4'	1:A:429:U:O5'	2.50	0.59
10:J:3:LYS:HD2	10:J:77:PRO:CD	2.33	0.59
1:A:826:C:H2'	1:A:827:U:H6	1.67	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:537:G:H2'	1:A:538:G:H8	1.67	0.59
2:B:105:PHE:O	2:B:107:THR:N	2.36	0.59
1:A:758:G:H8	1:A:758:G:O5'	1.85	0.59
1:A:963:G:H21	10:J:55:LYS:CD	2.15	0.59
9:I:125:TYR:HD2	9:I:126:SER:N	2.01	0.59
1:A:1372:U:OP1	9:I:72:GLY:N	2.36	0.59
1:A:1301:U:H3'	1:A:1302:U:H5''	1.84	0.59
1:A:657:G:C2	1:A:750:G:C5	2.90	0.59
13:M:46:LYS:HG3	13:M:47:ASP:H	1.68	0.59
1:A:118:U:C5	1:A:288:A:C6	2.90	0.59
4:D:18:LYS:HE3	4:D:31:CYS:SG	2.42	0.59
1:A:1118:C:H1'	1:A:1179:A:C5	2.38	0.59
13:M:15:VAL:O	13:M:19:LEU:HD23	2.03	0.59
18:R:62:GLU:HA	18:R:65:ILE:CD1	2.33	0.59
17:Q:5:VAL:CG1	17:Q:6:LEU:N	2.66	0.59
1:A:1150:U:O4	1:A:1151:A:N6	2.35	0.59
7:G:69:VAL:O	7:G:138:LYS:HG3	2.03	0.59
2:B:163:PHE:HA	2:B:185:ILE:HG12	1.84	0.58
1:A:1095:U:H2'	1:A:1096:C:C6	2.37	0.58
13:M:66:LEU:HD12	13:M:66:LEU:N	2.16	0.58
1:A:1003:G:C2'	1:A:1004:A:H4'	2.29	0.58
1:A:1239:A:H62	1:A:1299:A:N6	2.01	0.58
5:E:6:PHE:HB2	5:E:34:VAL:HG13	1.85	0.58
3:C:125:GLU:HA	3:C:191:THR:HG22	1.84	0.58
2:B:24:TRP:CG	2:B:25:ASN:N	2.70	0.58
4:D:33:MET:CE	4:D:37:PRO:HA	2.32	0.58
1:A:1096:C:H2'	1:A:1097:C:C6	2.38	0.58
5:E:101:ILE:CD1	5:E:119:LEU:HD23	2.33	0.58
8:H:44:PHE:CD1	8:H:80:ILE:HG12	2.38	0.58
13:M:32:GLU:OE2	13:M:64:TRP:CH2	2.56	0.58
1:A:1342:C:H1'	9:I:124:GLN:HE22	1.69	0.58
1:A:78:G:H22	1:A:91:C:H42	1.51	0.58
20:T:26:ASN:HB3	20:T:71:THR:OG1	2.03	0.58
19:S:63:THR:HG22	19:S:66:MET:HE3	1.85	0.58
1:A:189:G:C6	1:A:189(L):G:N1	2.71	0.58
6:F:82:ARG:HB2	6:F:85:VAL:HG23	1.85	0.58
20:T:56:MET:CG	20:T:88:VAL:HG21	2.33	0.58
12:L:18:VAL:HG23	12:L:19:ARG:H	1.68	0.58
18:R:31:LEU:HD23	18:R:31:LEU:H	1.67	0.58
13:M:95:GLY:HA2	13:M:110:ARG:HH21	1.68	0.58
3:C:150:LYS:HE2	3:C:152:ILE:HD11	1.85	0.58
18:R:58:LEU:HB3	18:R:62:GLU:HB2	1.85	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:189(K):U:H2'	1:A:189(L):G:C8	2.38	0.58
10:J:30:SER:OG	10:J:81:THR:HG22	2.03	0.58
1:A:186:C:C2	1:A:187:C:C5	2.91	0.58
1:A:25:C:H2'	1:A:26:A:C8	2.39	0.58
1:A:808:C:P	15:O:48:LYS:HE3	2.43	0.58
3:C:66:VAL:HG11	3:C:91:LEU:HD11	1.84	0.58
1:A:509:A:HO2'	1:A:510:A:C5'	2.16	0.58
1:A:448:A:OP2	1:A:485:G:N2	2.32	0.58
13:M:46:LYS:HG3	13:M:47:ASP:N	2.17	0.58
6:F:97:PHE:O	18:R:31:LEU:HD23	2.04	0.58
11:K:34:ASP:HB2	11:K:35:PRO:CD	2.32	0.58
4:D:58:LEU:CD2	4:D:62:GLN:HG2	2.33	0.58
1:A:1158:C:N4	1:A:1181:G:H22	2.01	0.58
3:C:18:TRP:HD1	14:N:51:GLY:O	1.86	0.58
7:G:153:HIS:HA	7:G:155:ARG:NH1	2.19	0.58
1:A:1201:A:H4'	1:A:1202:G:O5'	2.03	0.58
1:A:622:A:C8	1:A:623:C:C5	2.91	0.58
18:R:52:PRO:O	18:R:56:THR:HG23	2.03	0.58
9:I:116:LYS:O	9:I:118:LYS:N	2.37	0.58
1:A:1418:A:C2	1:A:1483:A:C2	2.91	0.58
1:A:1441:G:H5''	1:A:1442:G:H5'	1.84	0.58
5:E:98:THR:HG22	5:E:99:GLY:N	2.16	0.58
1:A:456:C:N4	1:A:475:G:H1	2.01	0.58
1:A:667:G:H4'	15:O:51:HIS:ND1	2.17	0.58
1:A:748:C:H1'	1:A:749:C:OP2	2.04	0.58
8:H:20:TYR:HA	8:H:65:TYR:CE2	2.39	0.58
4:D:43:HIS:HB3	4:D:46:LYS:HD2	1.85	0.58
1:A:59:A:N3	1:A:59:A:H2'	2.19	0.58
2:B:111:ARG:CG	2:B:111:ARG:HH11	2.03	0.58
1:A:78:G:H22	1:A:91:C:N4	2.02	0.58
2:B:61:LEU:HD21	2:B:68:ILE:HD11	1.84	0.58
2:B:21:ARG:CB	2:B:39:ILE:HA	2.34	0.58
1:A:271:C:H2'	1:A:272:C:C6	2.39	0.58
6:F:100:ASN:H	18:R:23:LYS:HZ1	1.52	0.58
1:A:692:U:H2'	1:A:694:A:OP2	2.04	0.58
1:A:473:G:H5'	16:P:81:ARG:HG3	1.85	0.58
1:A:724:G:C2	1:A:725:G:C8	2.91	0.58
6:F:60:PHE:C	6:F:61:LEU:HD12	2.24	0.58
9:I:48:GLU:N	9:I:49:PRO:HD2	2.18	0.58
1:A:131:C:H2'	1:A:132:C:H6	1.68	0.58
1:A:1256:A:H61	1:A:1278:U:C1'	2.04	0.57
15:O:55:GLY:HA2	15:O:58:MET:HE3	1.85	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:83:ARG:O	9:I:86:VAL:HG12	2.03	0.57
1:A:192:U:O2'	1:A:193:C:H5'	2.03	0.57
1:A:78:G:H1	1:A:91:C:H42	1.52	0.57
1:A:626:U:H2'	1:A:627:G:C8	2.38	0.57
1:A:343:U:O2'	1:A:346:G:O6	2.18	0.57
9:I:17:VAL:HG13	9:I:63:ILE:HG13	1.86	0.57
13:M:75:ALA:O	13:M:79:LYS:HG3	2.04	0.57
16:P:43:LYS:C	16:P:45:THR:H	2.07	0.57
4:D:138:TYR:C	4:D:138:TYR:HD2	2.06	0.57
3:C:104:GLN:NE2	3:C:105:GLU:H	2.02	0.57
19:S:78:ARG:HB2	19:S:81:ARG:HH11	1.68	0.57
20:T:23:ARG:O	20:T:27:LYS:HB2	2.03	0.57
19:S:24:ALA:O	19:S:25:LYS:HB2	2.04	0.57
19:S:29:ARG:HB3	19:S:47:HIS:HA	1.86	0.57
1:A:1316:G:H2'	1:A:1317:C:H5''	1.86	0.57
1:A:1135:U:H4'	1:A:1136:U:H5	1.70	0.57
4:D:128:VAL:O	4:D:130:GLY:N	2.37	0.57
9:I:7:THR:O	9:I:79:LEU:HD12	2.05	0.57
8:H:51:VAL:HG21	8:H:60:ARG:HG2	1.85	0.57
1:A:833:U:H2'	1:A:834:C:H6	1.67	0.57
1:A:287:U:O2'	1:A:288:A:H5'	2.04	0.57
1:A:163:C:H2'	1:A:164:U:C6	2.39	0.57
16:P:20:VAL:HG22	16:P:21:VAL:N	2.19	0.57
16:P:43:LYS:HG2	16:P:48:TRP:CD2	2.39	0.57
1:A:620:C:C2	4:D:135:LEU:HG	2.39	0.57
4:D:133:VAL:HG11	4:D:138:TYR:HD1	1.69	0.57
13:M:106:ASN:O	13:M:107:ALA:HB3	2.04	0.57
1:A:270:A:C5	1:A:271:C:C4	2.92	0.57
3:C:32:LEU:HD22	3:C:59:ARG:NH1	2.19	0.57
17:Q:76:LEU:HD12	17:Q:77:VAL:H	1.70	0.57
1:A:1113:C:H2'	1:A:1114:C:C6	2.39	0.57
1:A:330:C:H2'	1:A:331:G:H5'	1.85	0.57
16:P:21:VAL:HG23	16:P:33:ILE:HB	1.86	0.57
1:A:687:A:N3	1:A:688:G:H1'	2.18	0.57
10:J:6:ILE:HG13	10:J:72:VAL:O	2.04	0.57
1:A:936:C:H2'	1:A:937:A:O4'	2.05	0.57
4:D:94:LEU:HA	4:D:97:LEU:HB2	1.86	0.57
12:L:86:ARG:HB2	12:L:101:VAL:HG22	1.86	0.57
5:E:33:VAL:HG12	5:E:34:VAL:N	2.20	0.57
20:T:10:LEU:O	20:T:12:ALA:N	2.36	0.57
11:K:105:VAL:O	11:K:105:VAL:HG23	2.05	0.57
1:A:393:A:C2	1:A:394:G:C8	2.92	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1074:G:C4	1:A:1102:A:C2	2.93	0.57
1:A:1065:U:C1'	1:A:1066:C:OP2	2.52	0.57
1:A:343:U:H2'	1:A:346:G:O6	2.05	0.57
13:M:32:GLU:OE2	13:M:64:TRP:HH2	1.88	0.57
6:F:22:GLU:O	6:F:26:ILE:HG13	2.04	0.57
10:J:48:THR:HA	10:J:62:HIS:HB3	1.87	0.57
4:D:30:LYS:C	4:D:32:ALA:H	2.08	0.57
9:I:103:THR:HG22	9:I:105:ASP:H	1.68	0.57
1:A:1070:U:C2	1:A:1071:C:C5	2.93	0.57
1:A:1203:C:H2'	1:A:1204:A:C8	2.40	0.57
6:F:46:ARG:HH12	18:R:37:VAL:HG21	1.69	0.57
4:D:108:LEU:CD1	4:D:174:LEU:HD13	2.35	0.57
18:R:50:ILE:HD11	18:R:70:ILE:HG21	1.85	0.57
1:A:651:C:H2'	1:A:652:U:C6	2.40	0.57
18:R:81:PHE:O	18:R:82:THR:HB	2.05	0.57
1:A:939:G:H2'	1:A:940:C:C6	2.39	0.57
2:B:163:PHE:HD2	2:B:185:ILE:CG1	2.17	0.57
1:A:357:G:O2'	1:A:358:U:H5'	2.05	0.57
19:S:6:LYS:HG2	19:S:7:LYS:CD	2.35	0.57
10:J:9:ARG:HH21	10:J:95:GLU:HG2	1.68	0.57
2:B:67:THR:O	2:B:68:ILE:HD12	2.04	0.57
2:B:8:LYS:HZ3	2:B:217:ARG:HH11	1.53	0.57
19:S:10:PHE:HE2	19:S:37:ARG:O	1.87	0.57
3:C:91:LEU:HB3	3:C:99:VAL:HG21	1.87	0.57
17:Q:3:LYS:HD2	17:Q:60:ILE:HD11	1.85	0.57
17:Q:63:ARG:HG2	17:Q:64:PRO:HD2	1.87	0.57
1:A:713:G:N2	1:A:714:G:C2	2.73	0.57
10:J:49:VAL:HG13	14:N:41:ARG:HB2	1.86	0.57
9:I:10:ARG:HG2	9:I:104:ARG:O	2.05	0.57
1:A:775:G:O2'	1:A:776:G:H5'	2.05	0.57
1:A:338:A:O2'	1:A:339:C:H5'	2.04	0.57
9:I:97:LYS:HB3	9:I:98:PRO:HD3	1.86	0.57
1:A:1189:C:O3'	3:C:5:ILE:HD12	2.04	0.57
19:S:42:PRO:O	19:S:43:GLU:HB3	2.04	0.57
9:I:18:PHE:HB3	9:I:20:ARG:NH1	2.20	0.57
12:L:62:SER:C	12:L:64:TYR:H	2.07	0.57
3:C:34:LEU:O	3:C:38:ARG:HG2	2.04	0.57
10:J:4:ILE:HG12	10:J:100:THR:CG2	2.35	0.57
2:B:36:ARG:H	2:B:41:ILE:HD13	1.70	0.57
1:A:542:G:O2'	1:A:543:C:H5'	2.04	0.56
1:A:586:C:H2'	1:A:587:G:H5'	1.86	0.56
1:A:991:U:O2'	1:A:992:U:OP2	2.20	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:658:G:C4	1:A:659:U:C5	2.93	0.56
1:A:1497:G:C2'	1:A:1498:U:H5'	2.34	0.56
1:A:200:G:H1	1:A:217:C:H42	1.51	0.56
8:H:26:VAL:HG22	8:H:27:PRO:O	2.05	0.56
5:E:145:LYS:O	5:E:149:GLU:HG2	2.05	0.56
16:P:28:ARG:NH1	16:P:29:ASP:OD2	2.38	0.56
1:A:1104:G:OP1	2:B:111:ARG:HD2	2.05	0.56
1:A:430:A:O2'	1:A:431:A:H5'	2.06	0.56
5:E:42:GLY:CA	5:E:66:MET:HG2	2.34	0.56
1:A:192:U:H2'	1:A:193:C:H6	1.69	0.56
1:A:1407:C:O5'	1:A:1407:C:H6	1.88	0.56
4:D:65:ARG:HG3	4:D:75:PHE:CD1	2.40	0.56
3:C:43:LEU:O	3:C:47:LEU:HB3	2.06	0.56
13:M:25:ILE:CD1	13:M:66:LEU:HD23	2.35	0.56
5:E:101:ILE:O	5:E:120:THR:HG23	2.05	0.56
1:A:299:G:C6	1:A:300:A:C6	2.94	0.56
1:A:1342:C:H1'	9:I:124:GLN:NE2	2.20	0.56
1:A:90:U:O2'	1:A:91:C:C5	2.55	0.56
15:O:24:SER:O	15:O:28:GLN:HG3	2.05	0.56
5:E:139:LEU:HA	5:E:142:LEU:CD1	2.35	0.56
3:C:83:ARG:O	3:C:86:VAL:HG22	2.05	0.56
1:A:109:A:C6	1:A:326:G:C6	2.94	0.56
1:A:247:G:OP2	17:Q:100:LYS:HG2	2.05	0.56
21:U:9:ARG:O	21:U:13:ILE:HG13	2.05	0.56
13:M:54:VAL:HG22	13:M:57:ARG:HH21	1.68	0.56
1:A:355:C:C2	1:A:356:A:C8	2.93	0.56
16:P:72:ARG:HH21	16:P:73:LEU:CD2	2.11	0.56
1:A:1452:C:O4'	1:A:1456:G:C2	2.58	0.56
2:B:87:ARG:NE	2:B:233:SER:HB3	2.18	0.56
1:A:323:U:OP1	20:T:26:ASN:ND2	2.38	0.56
1:A:629:G:H2'	1:A:630:G:O4'	2.05	0.56
1:A:1478:C:H2'	1:A:1479:C:H6	1.70	0.56
7:G:26:PHE:O	7:G:30:ILE:HG12	2.06	0.56
1:A:1312:G:N2	1:A:1326:C:C2	2.73	0.56
1:A:422:C:H1'	1:A:423:G:N2	2.21	0.56
2:B:228:GLY:O	2:B:230:VAL:HG13	2.05	0.56
2:B:189:ASP:OD1	2:B:189:ASP:N	2.37	0.56
4:D:106:TYR:HE1	4:D:112:VAL:O	1.89	0.56
1:A:920:U:O4'	1:A:1080:A:C2	2.58	0.56
2:B:20:GLU:HB2	2:B:190:THR:OG1	2.06	0.56
9:I:118:LYS:O	9:I:119:ALA:HB3	2.06	0.56
1:A:30:U:H4'	1:A:31:G:OP2	2.06	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:539:A:OP2	12:L:115:LYS:HE3	2.06	0.56
18:R:58:LEU:HD23	18:R:62:GLU:HB3	1.86	0.56
2:B:102:LEU:HD12	2:B:102:LEU:N	2.21	0.56
18:R:50:ILE:HD12	18:R:70:ILE:HG21	1.87	0.56
5:E:80:ILE:HD11	5:E:91:LEU:HD23	1.87	0.56
2:B:7:VAL:O	2:B:11:LEU:HG	2.06	0.56
1:A:1154:G:H2'	1:A:1155:G:H8	1.69	0.56
1:A:524:G:H2'	1:A:525:C:C6	2.40	0.56
5:E:112:LEU:N	5:E:112:LEU:HD23	2.21	0.56
1:A:176:C:H2'	1:A:177:C:C6	2.41	0.56
10:J:47:PHE:CE2	14:N:37:PHE:HE2	2.23	0.56
4:D:13:ARG:O	4:D:15:GLU:N	2.38	0.56
18:R:35:ARG:O	18:R:37:VAL:N	2.38	0.56
10:J:7:LYS:O	10:J:96:ILE:HA	2.06	0.56
9:I:26:VAL:HG22	9:I:61:ALA:HB3	1.87	0.56
15:O:78:TYR:O	15:O:82:ILE:HG22	2.05	0.56
6:F:11:ASN:O	6:F:14:LEU:HB2	2.06	0.56
1:A:1203:C:OP1	14:N:3:ARG:HD3	2.06	0.56
1:A:84:U:H5	1:A:88:A:N7	2.04	0.56
12:L:24:VAL:HG12	12:L:24:VAL:O	2.04	0.56
10:J:6:ILE:HG22	10:J:98:ILE:HG13	1.87	0.56
1:A:946:A:H2'	1:A:947:G:C8	2.41	0.56
1:A:1157:A:H4'	1:A:1158:C:O5'	2.06	0.56
2:B:130:ARG:HE	2:B:130:ARG:HA	1.69	0.56
1:A:1030(A):G:H1'	1:A:1031:G:H22	1.70	0.56
1:A:615:C:H2'	1:A:616:G:O4'	2.06	0.56
1:A:559:A:C4'	1:A:560:U:H3'	2.36	0.56
1:A:1285:A:H8	1:A:1285:A:OP1	1.89	0.56
3:C:148:GLY:HA3	3:C:172:ARG:O	2.05	0.56
1:A:167:G:O2'	1:A:168:G:H5'	2.05	0.56
1:A:131:C:H2'	1:A:132:C:C6	2.41	0.56
1:A:1133:G:N3	1:A:1142:G:N2	2.54	0.56
15:O:81:LEU:CD1	15:O:85:LEU:HD12	2.35	0.56
15:O:78:TYR:OH	15:O:88:ARG:HD2	2.06	0.56
1:A:1081:G:N2	1:A:1082:G:H1'	2.21	0.56
2:B:22:LYS:HZ3	2:B:40:HIS:HE1	1.52	0.56
7:G:15:ASP:HB3	7:G:19:GLY:N	2.21	0.56
1:A:624:C:H2'	1:A:625:G:C8	2.41	0.56
1:A:828:A:H2'	1:A:829:G:O4'	2.06	0.56
5:E:33:VAL:HG12	5:E:34:VAL:H	1.71	0.56
3:C:20:SER:HB2	3:C:40:ARG:NH2	2.21	0.56
1:A:916:G:H2'	1:A:917:G:H8	1.71	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:687:A:H1'	1:A:688:G:OP2	2.05	0.55
4:D:119:GLN:O	4:D:123:HIS:HD2	1.88	0.55
1:A:333:G:O2'	1:A:334:C:H5'	2.06	0.55
18:R:59:SER:HB3	18:R:62:GLU:CG	2.35	0.55
15:O:23:GLY:O	15:O:27:VAL:HB	2.06	0.55
9:I:28:VAL:HA	9:I:63:ILE:O	2.07	0.55
4:D:56:VAL:HG12	4:D:202:LEU:HD13	1.87	0.55
16:P:20:VAL:HG23	16:P:34:GLU:O	2.07	0.55
1:A:434:U:H2'	1:A:435:C:C6	2.42	0.55
1:A:327:A:C4	1:A:329:A:C8	2.94	0.55
7:G:73:MET:HA	7:G:91:VAL:HG23	1.88	0.55
1:A:792:A:H4'	1:A:793:U:O5'	2.06	0.55
12:L:21:LYS:HD2	12:L:21:LYS:N	2.21	0.55
1:A:537:G:OP1	12:L:113:ARG:NH2	2.40	0.55
20:T:13:LEU:H	20:T:13:LEU:CD1	2.12	0.55
9:I:7:THR:HB	9:I:83:ARG:HH11	1.71	0.55
1:A:1084:G:OP1	1:A:1086:U:C4	2.59	0.55
1:A:719:C:O2'	18:R:49:LYS:HB3	2.06	0.55
1:A:79:G:C4'	1:A:80:G:OP1	2.54	0.55
2:B:68:ILE:HG22	2:B:70:PHE:CE1	2.41	0.55
1:A:1346:A:H5''	9:I:120:ARG:HH12	1.71	0.55
8:H:44:PHE:HB3	8:H:80:ILE:HD11	1.89	0.55
18:R:31:LEU:CD2	18:R:31:LEU:H	2.19	0.55
1:A:148:G:C2	1:A:149:A:N7	2.74	0.55
1:A:373:A:N3	1:A:374:A:C8	2.75	0.55
1:A:976:G:P	14:N:32:SER:H	2.30	0.55
12:L:38:THR:HG21	12:L:65:GLU:OE2	2.05	0.55
10:J:49:VAL:HG22	14:N:41:ARG:HB2	1.88	0.55
8:H:64:LYS:HG2	8:H:79:VAL:HG21	1.87	0.55
3:C:127:ARG:HD2	3:C:127:ARG:N	2.21	0.55
1:A:1316:G:O3'	14:N:18:VAL:HG22	2.07	0.55
1:A:1001(A):G:H2'	1:A:1002:G:O4'	2.06	0.55
1:A:307:C:C5	1:A:308:C:C5	2.95	0.55
1:A:356:A:H2'	1:A:357:G:O5'	2.06	0.55
1:A:386:C:H2'	1:A:387:U:H5'	1.87	0.55
1:A:501:C:H2'	1:A:502:G:H8	1.71	0.55
1:A:410:G:H1'	1:A:432:A:N6	2.21	0.55
1:A:411:A:C6	1:A:429:U:C4	2.95	0.55
6:F:18:GLN:HA	6:F:21:LEU:CD2	2.30	0.55
15:O:39:LEU:HD11	15:O:56:LEU:HB2	1.88	0.55
1:A:1452:C:H5'	1:A:1456:G:C5	2.41	0.55
1:A:1313:U:P	19:S:6:LYS:HG3	2.47	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:719:C:C5	1:A:720:C:C4	2.95	0.55
1:A:166:G:O2'	1:A:167:G:H5'	2.07	0.55
1:A:472:A:H4'	16:P:82:GLN:HE22	1.70	0.55
2:B:103:THR:HA	2:B:180:LEU:HD11	1.87	0.55
9:I:6:GLY:HA3	9:I:84:ALA:HB2	1.88	0.55
1:A:709:G:O2'	1:A:710:G:H5'	2.07	0.55
8:H:88:LYS:HB3	8:H:89:PRO:CD	2.32	0.55
1:A:977:A:C2'	1:A:978:A:H5'	2.34	0.55
20:T:89:ARG:HB2	20:T:104:LEU:CD1	2.34	0.55
2:B:61:LEU:HA	2:B:64:ARG:CG	2.36	0.55
9:I:77:ILE:O	9:I:81:ILE:HG12	2.06	0.55
7:G:32:ARG:O	7:G:33:ASP:CB	2.55	0.55
1:A:1254:C:OP1	10:J:45:ARG:HG2	2.06	0.55
4:D:138:TYR:CD2	4:D:139:ARG:N	2.74	0.55
1:A:1003:G:N2	1:A:1039:C:C2	2.75	0.55
1:A:189:G:C6	1:A:189(A):C:C4	2.94	0.55
1:A:552:U:O2'	1:A:553:A:H5'	2.07	0.55
3:C:35:GLU:CD	3:C:59:ARG:HH22	2.09	0.55
12:L:18:VAL:O	12:L:19:ARG:HB3	2.07	0.55
3:C:69:HIS:CD2	3:C:69:HIS:N	2.74	0.55
1:A:872:A:C4	1:A:874:G:N7	2.75	0.55
4:D:31:CYS:C	4:D:33:MET:N	2.59	0.55
9:I:114:TYR:HD1	10:J:60:ARG:HG2	1.70	0.55
2:B:124:SER:OG	2:B:125:PRO:HD2	2.06	0.55
15:O:74:ASP:OD2	15:O:76:GLU:HB3	2.06	0.55
1:A:705:U:C5	1:A:706:A:C5	2.95	0.55
2:B:187:LEU:O	2:B:187:LEU:HD13	2.06	0.55
1:A:432:A:C8	1:A:433:C:C5	2.94	0.55
1:A:541:G:H2'	1:A:542:G:H8	1.70	0.55
13:M:34:LEU:HD22	13:M:39:ILE:O	2.07	0.55
1:A:977:A:C8	1:A:1223:C:C4	2.94	0.55
1:A:190:U:O2	20:T:105:SER:HB2	2.07	0.55
1:A:724:G:N3	1:A:725:G:C8	2.75	0.55
1:A:357:G:C2	1:A:358:U:C5	2.95	0.55
1:A:510:A:H5''	1:A:511:C:P	2.47	0.55
20:T:14:LYS:O	20:T:18:GLN:HG3	2.07	0.55
1:A:116:A:H61	1:A:313:A:H1'	1.70	0.55
1:A:791:G:C6	1:A:792:A:N7	2.76	0.55
1:A:501:C:O2'	1:A:502:G:H5'	2.07	0.54
4:D:12:CYS:HA	4:D:19:LEU:CD1	2.36	0.54
4:D:12:CYS:N	4:D:19:LEU:HD11	2.22	0.54
5:E:102:ALA:HB1	5:E:106:PRO:CG	2.36	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:33:A:H2'	1:A:34:C:H6	1.71	0.54
1:A:1481:U:H2'	1:A:1482:G:C8	2.42	0.54
1:A:832:C:O2'	1:A:833:U:P	2.64	0.54
4:D:57:ARG:HH22	5:E:107:ARG:HD3	1.72	0.54
1:A:1152:A:H5''	10:J:13:HIS:CD2	2.42	0.54
8:H:77:GLU:HG3	8:H:78:GLN:H	1.72	0.54
1:A:377:G:OP1	16:P:3:LYS:HD2	2.07	0.54
1:A:436:C:H5''	4:D:156:GLU:OE2	2.07	0.54
6:F:19:LEU:O	6:F:23:LYS:HG3	2.08	0.54
1:A:976:G:C5'	1:A:1358:U:O2'	2.56	0.54
1:A:561:U:O2'	1:A:562:C:P	2.65	0.54
1:A:119:A:H4'	1:A:120:A:O5'	2.07	0.54
1:A:1132:C:H2'	1:A:1133:G:O4'	2.07	0.54
5:E:15:ARG:HD2	5:E:26:PHE:CD2	2.42	0.54
7:G:145:ALA:O	7:G:147:ALA:N	2.39	0.54
5:E:41:VAL:HG13	5:E:113:ALA:HA	1.89	0.54
2:B:218:ALA:O	2:B:222:ILE:HG13	2.07	0.54
1:A:1277:C:HO2'	1:A:1279:A:H8	1.55	0.54
18:R:76:LEU:N	18:R:76:LEU:HD23	2.23	0.54
1:A:343:U:C2'	1:A:346:G:O6	2.55	0.54
6:F:99:ALA:HB1	18:R:23:LYS:HZ1	1.70	0.54
1:A:373:A:C2	1:A:374:A:C8	2.96	0.54
2:B:189:ASP:OD1	2:B:205:ASP:HB3	2.07	0.54
2:B:87:ARG:HH21	2:B:233:SER:HB3	1.72	0.54
1:A:189(B):C:N4	1:A:189(I):G:H1	2.04	0.54
1:A:472:A:O2'	16:P:81:ARG:HA	2.07	0.54
5:E:113:ALA:HB3	5:E:115:VAL:HG23	1.88	0.54
5:E:45:PHE:CD2	5:E:47:LYS:HD2	2.42	0.54
8:H:53:VAL:O	8:H:54:ASP:HB2	2.08	0.54
1:A:147:G:N2	1:A:148:G:H1'	2.22	0.54
1:A:355:C:C4	1:A:356:A:N7	2.75	0.54
2:B:114:ARG:O	2:B:118:LEU:HG	2.08	0.54
12:L:46:LYS:HG2	12:L:47:LYS:N	2.23	0.54
1:A:438:G:O2'	1:A:493:G:C2	2.59	0.54
5:E:12:LEU:CD1	5:E:31:LEU:HB2	2.38	0.54
10:J:29:ARG:HG2	10:J:29:ARG:O	2.08	0.54
1:A:264:U:O2'	17:Q:64:PRO:HB2	2.08	0.54
1:A:408:A:H4'	4:D:112:VAL:HG11	1.89	0.54
1:A:1228:C:H5''	13:M:108:ARG:NH2	2.22	0.54
1:A:1423:G:H2'	1:A:1424:C:C6	2.43	0.54
1:A:1498:U:H1'	1:A:1499:A:OP2	2.08	0.54
12:L:83:VAL:HG22	12:L:84:LEU:N	2.23	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:731:G:OP1	1:A:766:A:H1'	2.07	0.54
2:B:166:ASP:HB3	2:B:169:LYS:HB2	1.88	0.54
1:A:930:C:O2'	1:A:931:C:H5'	2.08	0.54
1:A:679:C:O2'	1:A:680:C:H5'	2.08	0.54
6:F:52:ILE:O	6:F:53:ALA:HB3	2.06	0.54
2:B:168:THR:HG21	2:B:192:SER:HA	1.88	0.54
1:A:741:G:H2'	1:A:742:G:O4'	2.07	0.54
2:B:98:LEU:HB2	2:B:101:MET:HE2	1.89	0.54
2:B:189:ASP:OD2	2:B:205:ASP:OD1	2.25	0.54
2:B:74:LYS:HZ2	2:B:76:GLN:HB2	1.72	0.54
4:D:31:CYS:SG	4:D:31:CYS:O	2.65	0.54
12:L:47:LYS:HB3	12:L:48:PRO:CD	2.28	0.54
19:S:6:LYS:H	19:S:6:LYS:HD2	1.72	0.54
1:A:1423:G:H2'	1:A:1424:C:H6	1.73	0.54
6:F:75:LEU:CD2	6:F:79:LEU:HD11	2.37	0.54
3:C:36:ASP:HB3	3:C:40:ARG:HH12	1.73	0.54
1:A:303:A:C5	1:A:304:U:C5	2.95	0.54
1:A:228:A:H2'	1:A:229:U:O4'	2.08	0.54
1:A:357:G:C2	1:A:358:U:C6	2.95	0.54
1:A:503:C:H2'	1:A:504:C:C6	2.43	0.54
4:D:75:PHE:O	4:D:78:LEU:HB2	2.08	0.54
6:F:73:ASN:O	6:F:76:ALA:HB3	2.08	0.54
1:A:1048:G:OP1	14:N:4:LYS:HB2	2.08	0.54
1:A:616:G:N2	1:A:617:G:C8	2.76	0.54
1:A:1003:G:C2	1:A:1004:A:H1'	2.42	0.54
8:H:77:GLU:HG3	8:H:78:GLN:N	2.23	0.54
12:L:41:ARG:CG	12:L:42:THR:H	2.21	0.54
13:M:14:ARG:CZ	13:M:42:ALA:HA	2.38	0.54
7:G:27:ILE:HD11	7:G:43:PHE:CD2	2.43	0.54
1:A:1291:G:H4'	9:I:38:GLN:O	2.07	0.54
4:D:100:ARG:NH1	4:D:137:SER:HA	2.23	0.54
4:D:206:PHE:HD2	4:D:207:TYR:CD2	2.26	0.54
1:A:1227:A:OP2	13:M:111:LYS:HE2	2.08	0.54
1:A:564:C:C2'	1:A:565:U:H5'	2.36	0.54
10:J:8:LEU:HG	10:J:96:ILE:CG2	2.37	0.54
9:I:46:ALA:HA	9:I:78:LYS:HZ2	1.74	0.54
5:E:90:VAL:HG23	5:E:121:LYS:O	2.08	0.54
1:A:236:G:C5	1:A:237:C:C5	2.96	0.54
4:D:175:SER:OG	4:D:184:LYS:HB2	2.07	0.54
2:B:47:THR:HG23	2:B:202:PRO:HG2	1.89	0.54
1:A:538:G:OP2	12:L:115:LYS:HG3	2.08	0.53
1:A:586:C:C2'	1:A:587:G:H5'	2.38	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:55:A:N7	1:A:56:U:C5	2.76	0.53
10:J:54:PHE:CZ	10:J:55:LYS:NZ	2.75	0.53
1:A:658:G:C2	1:A:749:C:N3	2.76	0.53
1:A:657:G:N2	1:A:750:G:C8	2.76	0.53
6:F:75:LEU:HD21	6:F:79:LEU:HD11	1.90	0.53
16:P:82:GLN:N	16:P:82:GLN:HE21	2.06	0.53
19:S:29:ARG:HD3	19:S:48:THR:OG1	2.08	0.53
1:A:1030(D):A:N7	1:A:1031:G:N3	2.56	0.53
1:A:330:C:C2'	1:A:331:G:H5'	2.38	0.53
1:A:373:A:C8	1:A:482:A:C8	2.96	0.53
1:A:428:G:C5	1:A:430:A:C6	2.96	0.53
1:A:543:C:O2'	1:A:544:G:H5'	2.07	0.53
4:D:138:TYR:HD2	4:D:139:ARG:N	2.05	0.53
16:P:23:ASP:O	16:P:25:ARG:N	2.41	0.53
2:B:97:TRP:HH2	2:B:176:GLU:CG	2.21	0.53
1:A:625:G:H2'	1:A:626:U:H6	1.72	0.53
1:A:342:C:C2'	1:A:343:U:H5'	2.38	0.53
1:A:1271:G:H5'	1:A:1314:C:H5'	1.90	0.53
3:C:102:ASN:O	3:C:103:VAL:HG23	2.07	0.53
2:B:77:ALA:HA	2:B:80:ILE:CD1	2.37	0.53
4:D:79:PHE:CE1	4:D:204:ILE:HA	2.44	0.53
1:A:490:G:O2'	1:A:491:G:H5'	2.09	0.53
1:A:300:A:H1'	1:A:565:U:O2	2.08	0.53
7:G:150:ALA:HB2	11:K:50:TYR:OH	2.08	0.53
17:Q:40:LYS:HD2	17:Q:42:TYR:CZ	2.44	0.53
1:A:840:C:H4'	1:A:848:C:O2	2.08	0.53
1:A:353:A:H2'	1:A:354:G:OP2	2.07	0.53
1:A:450:G:OP1	1:A:452:A:OP1	2.27	0.53
6:F:53:ALA:O	6:F:54:LYS:HB2	2.07	0.53
1:A:1321:C:H5'	1:A:1322:C:C5'	2.37	0.53
20:T:67:ALA:HB2	20:T:77:ALA:HB2	1.90	0.53
17:Q:13:ASP:H	17:Q:14:LYS:HZ2	1.55	0.53
13:M:44:ARG:HB2	13:M:46:LYS:HG2	1.90	0.53
3:C:86:VAL:O	3:C:90:GLU:HG2	2.09	0.53
2:B:79:ASP:C	2:B:81:VAL:H	2.12	0.53
4:D:131:ARG:HD3	4:D:131:ARG:H	1.73	0.53
17:Q:27:PHE:CZ	17:Q:36:ILE:HD11	2.43	0.53
1:A:926:G:H5''	1:A:927:G:O5'	2.09	0.53
1:A:1191:A:H5''	3:C:4:LYS:HZ2	1.73	0.53
12:L:62:SER:O	12:L:64:TYR:N	2.41	0.53
13:M:81:LEU:HB3	13:M:89:GLY:CA	2.38	0.53
1:A:995:C:H1'	14:N:8:GLU:OE2	2.08	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:221:LEU:O	2:B:221:LEU:HD13	2.07	0.53
4:D:127:THR:OG1	4:D:128:VAL:N	2.42	0.53
1:A:1191:A:P	3:C:3:ASN:HD21	2.32	0.53
1:A:84:U:H6	1:A:84:U:H3'	1.74	0.53
17:Q:5:VAL:HG12	17:Q:6:LEU:H	1.73	0.53
1:A:1321:C:H5''	1:A:1322:C:H2'	1.90	0.53
1:A:627:G:H2'	1:A:628:G:C8	2.43	0.53
1:A:1348:U:H4'	9:I:120:ARG:HD2	1.91	0.53
1:A:1510:U:H2'	1:A:1511:G:C8	2.44	0.53
2:B:142:LEU:HD23	2:B:142:LEU:O	2.09	0.53
16:P:39:TYR:CE1	16:P:41:PRO:HA	2.44	0.53
6:F:14:LEU:HB3	6:F:19:LEU:HB2	1.90	0.53
1:A:437:U:O2'	1:A:438:G:H5'	2.09	0.53
1:A:20:U:H2'	1:A:21:G:O4'	2.08	0.53
1:A:560:U:H5'	1:A:566:G:N2	2.24	0.53
12:L:55:VAL:HG12	12:L:68:ALA:O	2.08	0.53
4:D:98:GLU:HG2	4:D:194:LEU:HD11	1.89	0.53
1:A:448:A:H62	1:A:486:U:H3	1.56	0.53
8:H:36:LEU:C	8:H:38:ILE:H	2.12	0.53
2:B:158:LEU:HD12	2:B:158:LEU:N	2.24	0.53
20:T:8:ARG:HD2	20:T:8:ARG:N	2.24	0.53
1:A:1486:G:H2'	1:A:1487:G:O4'	2.09	0.53
3:C:105:GLU:HG2	3:C:106:VAL:H	1.74	0.53
12:L:33:ARG:HG2	12:L:60:LEU:HD12	1.90	0.53
1:A:863:U:H2'	1:A:865:A:OP2	2.08	0.53
3:C:116:VAL:HG21	3:C:202:ILE:HD11	1.90	0.53
19:S:79:THR:O	19:S:80:TYR:CB	2.56	0.53
20:T:50:GLU:HB3	20:T:100:ILE:CD1	2.39	0.53
13:M:15:VAL:HG12	13:M:45:VAL:HG22	1.91	0.53
1:A:946:A:H2'	1:A:947:G:H8	1.74	0.53
2:B:67:THR:HG22	2:B:90:MET:HE1	1.91	0.53
7:G:146:GLU:OE2	7:G:149:ARG:HD2	2.09	0.53
8:H:28:ALA:HB3	8:H:57:PRO:O	2.08	0.53
2:B:127:ILE:N	2:B:127:ILE:HD13	2.24	0.53
16:P:39:TYR:HA	16:P:48:TRP:O	2.09	0.53
6:F:69:GLU:HG2	6:F:70:ASP:N	2.23	0.53
1:A:475:G:O2'	1:A:476:G:H5'	2.08	0.53
1:A:947:G:H2'	1:A:948:C:C6	2.44	0.53
7:G:70:LYS:HB3	7:G:96:GLN:OE1	2.09	0.53
4:D:121:VAL:O	4:D:134:ASP:HA	2.09	0.53
1:A:778:G:H2'	1:A:779:C:O5'	2.09	0.53
1:A:836:G:C6	1:A:851:G:C6	2.97	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:380:G:N2	1:A:384:G:C5	2.77	0.52
1:A:862:C:H2'	1:A:863:U:C5'	2.38	0.52
1:A:1226:C:H2'	13:M:103:THR:OG1	2.10	0.52
6:F:98:LEU:HD22	18:R:28:GLU:HB3	1.90	0.52
18:R:36:ASN:ND2	18:R:39:VAL:HG21	2.24	0.52
1:A:379:C:O2'	1:A:380:G:H5'	2.10	0.52
10:J:32:ALA:CB	10:J:76:ASN:HB3	2.34	0.52
1:A:561:U:O2'	1:A:562:C:OP1	2.26	0.52
1:A:17:U:C2	1:A:18:C:C5	2.98	0.52
1:A:1530:G:H2'	1:A:1531:A:O5'	2.09	0.52
4:D:91:SER:HA	4:D:94:LEU:HD12	1.91	0.52
3:C:109:PRO:HA	3:C:115:LEU:HD12	1.91	0.52
3:C:66:VAL:O	3:C:66:VAL:HG12	2.09	0.52
11:K:21:ILE:HB	11:K:84:VAL:HG12	1.90	0.52
1:A:1442(A):G:C3'	1:A:1442(B):A:H5''	2.27	0.52
8:H:87:SER:HA	8:H:93:VAL:HB	1.92	0.52
4:D:79:PHE:CZ	4:D:204:ILE:HA	2.44	0.52
6:F:76:ALA:HB1	6:F:80:ARG:HH21	1.74	0.52
6:F:3:ARG:NH1	6:F:38:GLU:OE2	2.42	0.52
13:M:92:HIS:CE1	13:M:98:VAL:HG23	2.45	0.52
2:B:97:TRP:HH2	2:B:176:GLU:CD	2.13	0.52
12:L:119:LYS:O	12:L:120:TYR:HB2	2.08	0.52
17:Q:40:LYS:HD2	17:Q:42:TYR:CE1	2.44	0.52
1:A:592:G:H2'	1:A:593:G:H8	1.75	0.52
5:E:137:GLU:O	5:E:141:GLN:HG3	2.08	0.52
10:J:46:ARG:HD3	14:N:61:TRP:CZ3	2.44	0.52
8:H:86:ILE:CG2	8:H:87:SER:H	2.02	0.52
10:J:32:ALA:HB1	10:J:75:ILE:CG1	2.39	0.52
1:A:336:C:H2'	1:A:337:C:H6	1.74	0.52
5:E:76:ILE:HG12	5:E:77:PRO:HD2	1.90	0.52
10:J:94:VAL:HG12	10:J:95:GLU:N	2.25	0.52
1:A:590:C:H2'	1:A:591:U:C6	2.44	0.52
20:T:73:HIS:H	20:T:76:ALA:HB3	1.75	0.52
1:A:721:G:H4'	1:A:722:A:O4'	2.09	0.52
1:A:1058:G:C6	1:A:1059:C:N3	2.78	0.52
1:A:781:A:H2'	1:A:782:A:H5'	1.91	0.52
9:I:105:ASP:OD2	9:I:107:ARG:HD3	2.09	0.52
9:I:19:LEU:HB3	9:I:59:PHE:HD2	1.74	0.52
1:A:949:A:N6	1:A:1232:U:H3	2.02	0.52
1:A:1003:G:N3	1:A:1004:A:H1'	2.24	0.52
12:L:62:SER:O	12:L:64:TYR:HD1	1.92	0.52
1:A:1157:A:C4	1:A:1181:G:N2	2.77	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:136:GLN:HG2	3:C:140:ARG:NH2	2.24	0.52
2:B:21:ARG:HB2	2:B:38:GLY:O	2.10	0.52
10:J:39:PRO:HB3	10:J:70:ARG:NH1	2.24	0.52
17:Q:65:ILE:N	17:Q:65:ILE:HD12	2.23	0.52
1:A:939:G:C6	1:A:940:C:N4	2.78	0.52
3:C:155:GLY:O	3:C:156:ARG:HB2	2.10	0.52
1:A:44:G:N2	1:A:399:G:C4	2.77	0.52
15:O:18:PHE:CE1	15:O:21:ASP:HB2	2.45	0.52
1:A:1492:A:H5'	1:A:1493:A:OP2	2.08	0.52
1:A:783:C:C2'	1:A:784:C:H5'	2.40	0.52
2:B:208:ILE:HA	2:B:211:ILE:HD12	1.91	0.52
4:D:8:VAL:HG12	4:D:21:LEU:HD12	1.91	0.52
12:L:102:ARG:HD2	12:L:108:ALA:O	2.09	0.52
15:O:54:ARG:HG2	15:O:58:MET:CE	2.40	0.52
1:A:1097:C:H2'	1:A:1098:C:H6	1.74	0.52
13:M:24:GLY:C	13:M:25:ILE:HD12	2.29	0.52
1:A:1233:G:P	9:I:124:GLN:HB2	2.50	0.52
1:A:1125:U:H3	10:J:5:ARG:NH1	2.08	0.52
1:A:1239:A:H62	1:A:1299:A:H62	1.57	0.52
2:B:180:LEU:O	2:B:181:PHE:HB2	2.10	0.52
7:G:32:ARG:O	7:G:33:ASP:HB2	2.09	0.52
1:A:1218:C:H2'	1:A:1219:U:C6	2.44	0.52
1:A:767:A:H2'	1:A:768:A:O4'	2.09	0.52
1:A:683:G:C6	1:A:684:A:C6	2.97	0.52
1:A:632:A:N7	1:A:633:G:C8	2.78	0.52
5:E:55:VAL:O	5:E:58:ALA:HB3	2.10	0.52
1:A:272:C:H2'	1:A:273:A:H8	1.75	0.52
1:A:167:G:C2'	1:A:168:G:H5'	2.39	0.52
20:T:96:GLY:O	20:T:97:ALA:HB3	2.09	0.52
2:B:51:LEU:HD23	2:B:201:ILE:HD12	1.92	0.52
9:I:4:TYR:CD2	9:I:59:PHE:HE2	2.27	0.52
1:A:658:G:C5	1:A:659:U:C5	2.97	0.52
1:A:659:U:H2'	1:A:660:G:H5'	1.92	0.52
3:C:52:LEU:CD2	3:C:52:LEU:H	2.21	0.52
20:T:80:ARG:O	20:T:84:LEU:HB2	2.10	0.52
3:C:42:LEU:HD11	3:C:46:GLU:OE2	2.10	0.52
19:S:16:LEU:O	19:S:20:LEU:HB2	2.09	0.52
19:S:51:VAL:HG21	19:S:71:LEU:HB3	1.91	0.52
17:Q:31:LEU:O	17:Q:31:LEU:HG	2.09	0.52
15:O:71:GLN:HA	15:O:78:TYR:HB2	1.92	0.52
15:O:82:ILE:HD13	15:O:82:ILE:C	2.30	0.52
1:A:501:C:H2'	1:A:502:G:C8	2.44	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:543:C:C2	1:A:544:G:C8	2.98	0.52
1:A:983:A:N3	1:A:983:A:H3'	2.25	0.52
6:F:5:GLU:HB3	6:F:62:TRP:NE1	2.25	0.52
1:A:1077:G:C2	1:A:1081:G:C5	2.97	0.52
8:H:123:GLU:O	8:H:127:LEU:HB2	2.10	0.52
1:A:89:C:OP1	1:A:90:U:C4	2.63	0.52
3:C:6:HIS:CD2	3:C:7:PRO:HD2	2.44	0.52
1:A:1369:C:H2'	1:A:1370:G:O4'	2.09	0.52
1:A:950:U:H2'	1:A:951:G:C8	2.42	0.52
1:A:232:G:H1'	1:A:262:A:N1	2.25	0.52
11:K:34:ASP:HB3	11:K:40:ILE:HD11	1.91	0.52
13:M:82:MET:HB2	13:M:93:ARG:NH1	2.25	0.52
19:S:29:ARG:HD2	19:S:30:LEU:N	2.24	0.52
7:G:70:LYS:HB3	7:G:96:GLN:HB3	1.92	0.52
16:P:8:ARG:HG2	16:P:9:PHE:N	2.25	0.52
11:K:73:MET:HG2	11:K:103:LEU:HD11	1.91	0.52
1:A:1240:U:H4'	7:G:38:LEU:HD21	1.92	0.52
1:A:59:A:C5	1:A:354:G:C6	2.98	0.52
4:D:58:LEU:HD22	4:D:62:GLN:CG	2.37	0.52
10:J:40:LEU:HD23	10:J:40:LEU:H	1.75	0.52
1:A:1530:G:C2'	1:A:1531:A:O5'	2.58	0.52
2:B:17:PHE:O	2:B:18:GLY:O	2.27	0.52
1:A:187:C:H2'	1:A:188:C:H6	1.74	0.52
1:A:1113:C:H2'	1:A:1114:C:H6	1.75	0.52
16:P:12:LYS:O	16:P:13:HIS:HB2	2.10	0.52
1:A:356:A:C2'	1:A:357:G:O5'	2.57	0.51
2:B:211:ILE:O	2:B:215:LEU:HD23	2.09	0.51
1:A:433:C:O2'	1:A:434:U:H5'	2.10	0.51
4:D:33:MET:C	4:D:35:ARG:H	2.12	0.51
20:T:89:ARG:HD2	20:T:104:LEU:HD11	1.93	0.51
12:L:25:PRO:C	12:L:27:LEU:H	2.12	0.51
20:T:71:THR:HG22	20:T:72:LEU:H	1.74	0.51
3:C:130:VAL:HB	3:C:157:ILE:HG23	1.92	0.51
12:L:40:VAL:O	12:L:40:VAL:HG12	2.10	0.51
5:E:80:ILE:HG13	5:E:91:LEU:HB2	1.92	0.51
13:M:79:LYS:O	13:M:82:MET:HB3	2.10	0.51
12:L:41:ARG:HG2	12:L:42:THR:H	1.75	0.51
18:R:25:THR:HG22	18:R:42:ARG:HH11	1.75	0.51
1:A:668:G:O2'	1:A:669:U:H5'	2.10	0.51
1:A:1490:C:O2'	1:A:1491:G:H5'	2.09	0.51
1:A:173:U:O4'	1:A:197:A:C4	2.64	0.51
1:A:392:G:H2'	1:A:393:A:C8	2.41	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:O:17:ARG:HD3	15:O:26:GLU:HG3	1.91	0.51
1:A:1255:G:H5'	1:A:1256:A:OP1	2.09	0.51
18:R:62:GLU:HA	18:R:65:ILE:HD11	1.91	0.51
1:A:191:G:H1'	20:T:105:SER:HA	1.92	0.51
3:C:11:ARG:HE	3:C:180:ALA:HB3	1.74	0.51
7:G:69:VAL:HG13	7:G:134:ALA:O	2.10	0.51
1:A:303:A:H2'	1:A:304:U:O4'	2.11	0.51
1:A:294:U:H2'	1:A:295:C:C6	2.45	0.51
1:A:960:U:H2'	1:A:960:U:O2	2.09	0.51
1:A:414:A:C5	1:A:431:A:C2	2.98	0.51
4:D:2:GLY:O	4:D:4:TYR:N	2.43	0.51
1:A:1089:G:C6	1:A:1090:U:C4	2.98	0.51
2:B:102:LEU:CD1	2:B:102:LEU:N	2.74	0.51
1:A:246:A:C2	1:A:282:A:C5	2.99	0.51
1:A:1058:G:C5	1:A:1059:C:C4	2.99	0.51
4:D:191:ARG:HE	4:D:200:GLU:CD	2.14	0.51
1:A:1248:A:C2'	1:A:1249:C:H5'	2.40	0.51
1:A:701:C:O2	1:A:703:G:N1	2.43	0.51
2:B:185:ILE:HA	2:B:199:TYR:O	2.10	0.51
16:P:43:LYS:CG	16:P:48:TRP:CD2	2.93	0.51
4:D:204:ILE:HG21	5:E:98:THR:O	2.11	0.51
1:A:559:A:H4'	1:A:560:U:C5'	2.41	0.51
1:A:1456:G:OP1	1:A:1456:G:O4'	2.28	0.51
6:F:37:VAL:HA	6:F:65:VAL:HG12	1.92	0.51
1:A:134:A:N6	16:P:25:ARG:HH12	2.02	0.51
18:R:53:ARG:O	18:R:55:ARG:N	2.43	0.51
1:A:37:U:O2'	1:A:38:G:H5'	2.09	0.51
1:A:950:U:H3'	13:M:102:ARG:HH12	1.76	0.51
2:B:29:ALA:C	2:B:31:TYR:N	2.64	0.51
1:A:853:G:H2'	1:A:854:G:H8	1.76	0.51
1:A:745:C:H2'	1:A:746:A:H8	1.74	0.51
20:T:95:ALA:O	20:T:97:ALA:N	2.44	0.51
1:A:222:U:H2'	1:A:223:U:C6	2.45	0.51
1:A:391:G:C6	1:A:392:G:C5	2.98	0.51
1:A:683:G:C6	1:A:684:A:C5	2.98	0.51
1:A:558:G:C5	1:A:559:A:C2	2.98	0.51
1:A:1004:A:H2'	1:A:1038:C:O2	2.10	0.51
12:L:66:VAL:HG11	12:L:98:TYR:CE1	2.46	0.51
10:J:6:ILE:HD11	10:J:72:VAL:HB	1.91	0.51
8:H:6:ILE:H	8:H:6:ILE:HD12	1.76	0.51
5:E:90:VAL:O	5:E:91:LEU:HD13	2.10	0.51
2:B:11:LEU:HB3	2:B:213:LEU:HD11	1.91	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1305:G:C8	1:A:1305:G:OP2	2.63	0.51
20:T:73:HIS:O	20:T:74:LYS:O	2.29	0.51
1:A:9:G:N3	1:A:9:G:H2'	2.26	0.51
9:I:118:LYS:NZ	9:I:118:LYS:HB3	2.25	0.51
1:A:874:G:H2'	1:A:875:C:C6	2.45	0.51
10:J:13:HIS:O	10:J:17:ASP:HB2	2.10	0.51
6:F:41:GLU:HB3	6:F:43:LEU:CD1	2.40	0.51
1:A:394:G:C4	1:A:395:C:C5	2.98	0.51
1:A:52:G:O2'	1:A:53:A:H5'	2.11	0.51
1:A:585:G:O2'	12:L:8:ASN:ND2	2.44	0.51
2:B:111:ARG:O	2:B:145:LEU:HD11	2.10	0.51
1:A:55:A:C4	1:A:56:U:C6	2.99	0.51
1:A:1379:G:C6	1:A:1380:U:O4	2.62	0.51
1:A:625:G:O2'	1:A:626:U:H5'	2.11	0.51
1:A:722:A:O3'	1:A:723:U:C5	2.64	0.51
1:A:726:C:O2'	1:A:727:G:H5'	2.10	0.51
1:A:811:C:O2'	1:A:901:A:N1	2.43	0.51
11:K:99:GLN:O	11:K:101:SER:N	2.37	0.51
1:A:51:A:C6	1:A:353:A:C2	2.99	0.51
13:M:16:ASP:HB3	13:M:41:PRO:HB3	1.92	0.51
6:F:62:TRP:C	6:F:63:TYR:HD2	2.14	0.51
18:R:58:LEU:HB3	18:R:62:GLU:CB	2.41	0.51
18:R:66:LEU:O	18:R:70:ILE:HG12	2.11	0.51
1:A:1173:G:H2'	1:A:1174:G:C8	2.46	0.51
1:A:375:U:H2'	1:A:376:G:H8	1.75	0.51
16:P:21:VAL:HG22	16:P:34:GLU:O	2.11	0.51
2:B:76:GLN:O	2:B:208:ILE:HG12	2.11	0.51
8:H:86:ILE:O	8:H:87:SER:C	2.48	0.51
4:D:206:PHE:HD2	4:D:207:TYR:CE2	2.28	0.51
1:A:1072:G:C5	1:A:1073:U:C4	2.98	0.51
1:A:664:G:H22	1:A:741:G:H1	1.59	0.51
1:A:1052:U:H2'	1:A:1055:A:OP1	2.11	0.51
5:E:80:ILE:CG1	5:E:91:LEU:HB2	2.40	0.51
7:G:50:ILE:HD12	7:G:61:VAL:HG11	1.93	0.51
1:A:830:G:C5	1:A:831:U:C5	2.98	0.51
1:A:668:G:O2'	15:O:46:HIS:HD2	1.93	0.51
1:A:377:G:HO2'	1:A:378:G:H5'	1.76	0.51
1:A:394:G:H2'	1:A:395:C:C6	2.39	0.51
4:D:30:LYS:HA	4:D:35:ARG:HD2	1.93	0.51
4:D:8:VAL:O	4:D:10:ARG:N	2.43	0.51
6:F:40:VAL:HA	6:F:62:TRP:O	2.10	0.51
6:F:5:GLU:HB3	6:F:62:TRP:HE1	1.76	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:81:U:H2'	1:A:82:U:C5	2.46	0.51
21:U:22:ARG:N	21:U:23:PRO:HD3	2.26	0.51
1:A:1378:C:N4	1:A:1379:G:C2	2.78	0.51
1:A:626:U:C2	1:A:627:G:C8	2.99	0.51
1:A:1315:U:H2'	1:A:1316:G:O4'	2.11	0.51
15:O:43:LEU:C	15:O:45:VAL:N	2.64	0.51
1:A:353:A:C2'	1:A:354:G:OP2	2.58	0.51
1:A:376:G:O2'	1:A:377:G:H5'	2.11	0.51
1:A:61:G:H2'	1:A:62:U:O4'	2.11	0.51
8:H:87:SER:OG	8:H:132:GLU:HG3	2.11	0.51
6:F:46:ARG:NH1	18:R:37:VAL:HG21	2.24	0.51
1:A:1076:C:C2	1:A:1082:G:N2	2.79	0.51
4:D:109:GLY:O	4:D:111:ALA:N	2.43	0.51
1:A:1226:C:N3	13:M:104:ARG:HG3	2.26	0.51
2:B:29:ALA:C	2:B:31:TYR:H	2.13	0.51
2:B:25:ASN:C	2:B:25:ASN:OD1	2.48	0.51
20:T:12:ALA:O	20:T:15:ARG:HB2	2.11	0.51
1:A:874:G:C6	1:A:875:C:C4	2.99	0.51
1:A:1152:A:O2'	1:A:1153:C:H5'	2.10	0.51
1:A:781:A:C3'	1:A:782:A:H5'	2.41	0.51
3:C:117:ALA:O	3:C:187:ALA:HB3	2.10	0.51
7:G:40:ALA:O	7:G:44:TYR:CD1	2.64	0.51
14:N:26:ARG:NH1	14:N:47:LEU:HD21	2.26	0.51
2:B:239:VAL:HG12	2:B:239:VAL:O	2.10	0.51
1:A:149:A:O2'	1:A:150:C:P	2.68	0.50
1:A:375:U:C2	1:A:376:G:C8	2.99	0.50
2:B:55:PHE:HA	2:B:58:ILE:HG12	1.93	0.50
10:J:33:GLN:O	10:J:75:ILE:HG12	2.12	0.50
1:A:321:A:C2	1:A:333:G:C2	3.00	0.50
12:L:6:THR:OG1	12:L:9:GLN:HG3	2.11	0.50
18:R:47:THR:OG1	18:R:49:LYS:HG3	2.11	0.50
2:B:63:MET:HB3	2:B:225:ALA:HB1	1.91	0.50
1:A:66:G:C4'	1:A:173:U:C5	2.94	0.50
16:P:45:THR:C	16:P:47:ASP:H	2.14	0.50
1:A:1414:U:H3	1:A:1486:G:H1	1.59	0.50
1:A:973:G:C4	10:J:55:LYS:HE2	2.46	0.50
6:F:3:ARG:HD3	6:F:38:GLU:OE1	2.12	0.50
1:A:1285:A:H4'	1:A:1286:A:O5'	2.11	0.50
12:L:28:LYS:CE	12:L:33:ARG:HH12	2.24	0.50
1:A:1322:C:H5'	13:M:100:GLY:HA3	1.92	0.50
5:E:80:ILE:CD1	5:E:138:ALA:HB1	2.40	0.50
1:A:828:A:N6	1:A:858:G:O2'	2.41	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:T:56:MET:O	20:T:59:ALA:HB3	2.11	0.50
3:C:35:GLU:O	3:C:39:ILE:HG13	2.12	0.50
4:D:148:VAL:HG12	4:D:149:ALA:N	2.25	0.50
1:A:1426:C:O2'	1:A:1427:U:H5'	2.11	0.50
1:A:173:U:C6	1:A:197:A:C2	2.99	0.50
12:L:8:ASN:ND2	17:Q:34:LYS:HE2	2.25	0.50
17:Q:33:GLY:O	17:Q:34:LYS:C	2.49	0.50
1:A:1502:A:H5'	1:A:1504:G:N7	2.27	0.50
1:A:1411:C:O2'	1:A:1412:C:H5'	2.11	0.50
1:A:1090:U:C2	1:A:1091:U:C5	2.99	0.50
10:J:6:ILE:HA	10:J:97:GLU:O	2.12	0.50
1:A:933:G:O6	7:G:3:ARG:NH2	2.44	0.50
8:H:44:PHE:HD1	8:H:80:ILE:HG12	1.75	0.50
17:Q:3:LYS:CD	17:Q:60:ILE:HD11	2.41	0.50
6:F:26:ILE:O	6:F:30:LEU:HG	2.12	0.50
1:A:987:G:N2	1:A:1219:U:C2	2.80	0.50
2:B:114:ARG:HA	2:B:117:GLU:HB2	1.92	0.50
1:A:710:G:H5''	6:F:54:LYS:HE3	1.92	0.50
13:M:45:VAL:O	13:M:48:LEU:HD22	2.12	0.50
1:A:321:A:N7	1:A:328:C:O2'	2.33	0.50
19:S:6:LYS:N	19:S:6:LYS:HD2	2.26	0.50
12:L:55:VAL:HG12	12:L:69:TYR:HA	1.93	0.50
14:N:51:GLY:C	14:N:53:LEU:H	2.14	0.50
1:A:763:G:C4	1:A:764:C:C6	2.99	0.50
1:A:1477:C:H2'	1:A:1478:C:C6	2.46	0.50
1:A:723:U:H5''	1:A:724:G:OP2	2.11	0.50
3:C:20:SER:HB2	3:C:40:ARG:HH22	1.75	0.50
11:K:33:THR:HA	11:K:39:PRO:HA	1.92	0.50
1:A:1179:A:O2'	9:I:103:THR:HG23	2.11	0.50
12:L:6:THR:HG23	12:L:9:GLN:NE2	2.19	0.50
18:R:59:SER:H	18:R:62:GLU:CD	2.15	0.50
2:B:97:TRP:CZ2	2:B:102:LEU:HD13	2.46	0.50
2:B:97:TRP:CH2	2:B:176:GLU:OE2	2.65	0.50
3:C:112:SER:HB3	3:C:115:LEU:HD12	1.94	0.50
2:B:32:ILE:HA	2:B:42:ILE:HA	1.94	0.50
1:A:552:U:C2'	1:A:553:A:H5'	2.41	0.50
1:A:222:U:C2	1:A:223:U:C5	3.00	0.50
1:A:882:C:O2'	1:A:883:C:H5'	2.11	0.50
1:A:1428:A:H2'	1:A:1429:C:C6	2.47	0.50
2:B:15:VAL:C	2:B:16:HIS:CG	2.85	0.50
5:E:152:ARG:HG2	8:H:43:GLY:O	2.12	0.50
1:A:1252:A:H2'	1:A:1253:G:O4'	2.12	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:540:G:C2'	1:A:541:G:H5'	2.41	0.50
1:A:682:G:C6	1:A:683:G:N7	2.80	0.50
10:J:32:ALA:H	10:J:78:ASN:HD21	1.60	0.50
12:L:10:LEU:HB3	17:Q:32:TYR:CE1	2.47	0.50
18:R:53:ARG:NH2	18:R:60:ALA:N	2.57	0.50
1:A:661:G:C2	1:A:662:G:C8	2.99	0.50
3:C:114:PRO:HG3	3:C:185:GLY:HA3	1.94	0.50
1:A:1480:G:H2'	1:A:1481:U:O4'	2.12	0.50
9:I:15:ALA:HA	9:I:65:VAL:HA	1.94	0.50
7:G:4:ARG:HD3	7:G:5:ARG:NH1	2.27	0.50
1:A:694:A:H2'	1:A:695:A:O5'	2.11	0.50
9:I:122:ALA:HB1	9:I:123:PRO:HD2	1.92	0.50
11:K:81:ASP:CG	11:K:106:LYS:HG2	2.32	0.50
1:A:403:C:O2'	1:A:404:U:H5'	2.12	0.50
8:H:87:SER:CA	8:H:93:VAL:HB	2.42	0.50
1:A:542:G:C2	1:A:543:C:C5	2.99	0.50
1:A:684:A:H2'	1:A:685:G:C8	2.46	0.50
1:A:736:C:H2'	1:A:737:A:C8	2.46	0.50
1:A:1067:A:H1'	1:A:1068:G:C8	2.47	0.50
13:M:52:GLU:O	13:M:56:LEU:HB2	2.11	0.50
1:A:81:U:C4	1:A:83:U:C5	3.00	0.50
3:C:14:ILE:HG12	3:C:15:THR:H	1.77	0.50
16:P:74:LEU:O	16:P:79:VAL:HG23	2.11	0.50
17:Q:48:GLU:C	17:Q:50:LYS:N	2.65	0.50
9:I:118:LYS:NZ	9:I:118:LYS:CB	2.74	0.50
5:E:28:PHE:O	5:E:47:LYS:HA	2.12	0.50
20:T:87:LYS:HE3	20:T:91:LEU:HD11	1.92	0.50
15:O:8:LYS:O	15:O:12:ILE:HG13	2.11	0.50
1:A:581:G:N2	1:A:582:U:C4	2.80	0.50
1:A:498:U:H2'	1:A:498:U:O2	2.12	0.50
1:A:356:A:H1'	1:A:368:U:O2'	2.12	0.50
2:B:187:LEU:HD23	2:B:201:ILE:CG2	2.35	0.50
1:A:538:G:C2	1:A:539:A:C4	3.00	0.50
12:L:102:ARG:CG	12:L:102:ARG:NH1	2.56	0.50
1:A:1074:G:N3	1:A:1102:A:C2	2.80	0.50
1:A:682:G:C4	1:A:683:G:C8	2.99	0.50
1:A:1168:A:C6	1:A:1169:A:C6	3.00	0.50
1:A:254:G:O2'	1:A:255:G:H5'	2.11	0.50
1:A:1080:A:H5'	5:E:14:ARG:NH2	2.26	0.50
1:A:1238:A:H62	1:A:1299:A:H62	1.58	0.50
1:A:658:G:H2'	1:A:659:U:H6	1.77	0.50
20:T:73:HIS:O	20:T:76:ALA:HB3	2.11	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:724:G:H2'	1:A:725:G:H8	1.76	0.50
1:A:304:U:H2'	1:A:305:G:C8	2.47	0.50
17:Q:86:GLU:O	17:Q:90:ILE:HG12	2.12	0.50
3:C:188:LEU:O	3:C:189:ALA:HB2	2.11	0.50
1:A:512:U:H2'	1:A:513:C:H6	1.76	0.50
1:A:1505:G:C4'	1:A:1506:U:H5''	2.40	0.50
9:I:79:LEU:HD11	9:I:83:ARG:CZ	2.41	0.50
4:D:155:LEU:O	4:D:159:ARG:HG2	2.12	0.50
12:L:27:LEU:HG	12:L:62:SER:CB	2.42	0.50
1:A:458:C:H2'	1:A:460:G:C8	2.47	0.50
1:A:1215:G:C6	1:A:1216:G:C5	2.99	0.50
4:D:170:VAL:HG22	4:D:171:GLY:H	1.77	0.50
1:A:155:C:H2'	1:A:156:G:H8	1.76	0.50
2:B:92:TYR:CE2	2:B:151:GLY:HA3	2.47	0.50
1:A:355:C:N3	1:A:356:A:N7	2.59	0.49
1:A:380:G:C2	1:A:384:G:C6	3.00	0.49
16:P:39:TYR:CD2	16:P:73:LEU:CD1	2.93	0.49
6:F:19:LEU:HD21	6:F:59:TYR:CE2	2.47	0.49
1:A:1118:C:C1'	1:A:1179:A:C4	2.94	0.49
12:L:87:GLY:H	12:L:99:HIS:H	1.60	0.49
5:E:69:VAL:HG12	5:E:71:LEU:HD23	1.94	0.49
1:A:191:G:N3	20:T:103:GLY:O	2.45	0.49
1:A:1226:C:N4	13:M:104:ARG:HD2	2.27	0.49
3:C:14:ILE:HG23	3:C:15:THR:N	2.26	0.49
1:A:1158:C:H42	1:A:1181:G:H22	1.59	0.49
14:N:54:PRO:O	14:N:56:VAL:HG23	2.11	0.49
3:C:189:ALA:HB3	3:C:196:LEU:HB2	1.94	0.49
1:A:97:G:O2'	1:A:98:G:O5'	2.28	0.49
1:A:395:C:H2'	1:A:395:C:O2	2.12	0.49
1:A:63:C:O2'	1:A:380:G:H4'	2.11	0.49
15:O:36:ILE:HD12	15:O:63:ARG:HE	1.77	0.49
1:A:427:U:C4	1:A:428:G:C6	3.00	0.49
1:A:445:G:N3	1:A:446:G:C8	2.80	0.49
1:A:973:G:C3'	1:A:974:A:H5''	2.38	0.49
14:N:3:ARG:O	14:N:7:ILE:HG23	2.12	0.49
6:F:61:LEU:HB3	6:F:63:TYR:HE2	1.77	0.49
1:A:1338:G:H2'	1:A:1339:A:O4'	2.12	0.49
13:M:91:ARG:HB2	13:M:98:VAL:CG2	2.42	0.49
1:A:625:G:H4'	16:P:16:HIS:CD2	2.47	0.49
20:T:56:MET:HG3	20:T:88:VAL:HG21	1.94	0.49
1:A:189(C):C:H2'	1:A:189(D):C:H5'	1.92	0.49
16:P:50:LYS:HD3	16:P:50:LYS:C	2.32	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:112:LYS:HA	9:I:119:ALA:HB2	1.93	0.49
5:E:7:GLU:HG2	5:E:112:LEU:HD22	1.94	0.49
1:A:669:U:O2'	1:A:670:G:H5'	2.13	0.49
1:A:1207:G:H2'	1:A:1208:C:C6	2.47	0.49
6:F:96:PRO:HB3	18:R:30:ASP:OD2	2.11	0.49
4:D:73:ARG:HG3	4:D:77:ASN:HD21	1.78	0.49
11:K:15:ALA:HA	11:K:77:MET:HA	1.94	0.49
1:A:477:A:O2'	1:A:479:C:H5'	2.12	0.49
2:B:163:PHE:HA	2:B:185:ILE:O	2.12	0.49
4:D:36:ARG:HB3	4:D:38:TYR:CE2	2.47	0.49
6:F:44:GLY:HA2	6:F:59:TYR:CZ	2.47	0.49
1:A:671:G:C4	1:A:672:U:C5	3.00	0.49
1:A:564:C:H2'	1:A:565:U:H5'	1.94	0.49
8:H:63:LEU:N	8:H:63:LEU:HD22	2.27	0.49
12:L:84:LEU:HD22	12:L:85:ILE:H	1.77	0.49
9:I:40:LEU:HD11	9:I:70:LYS:HG3	1.95	0.49
1:A:439:A:C4	1:A:496:A:C2	3.01	0.49
5:E:87:SER:HB3	5:E:125:SER:O	2.12	0.49
1:A:642:A:C5	8:H:115:SER:HA	2.46	0.49
17:Q:24:GLU:HA	17:Q:39:SER:HB3	1.95	0.49
1:A:675:A:H2'	1:A:676:A:C8	2.47	0.49
2:B:84:GLU:O	2:B:219:VAL:HG11	2.11	0.49
1:A:457:C:H6	1:A:457:C:O5'	1.95	0.49
1:A:1225:A:H1'	19:S:78:ARG:HD3	1.94	0.49
10:J:61:GLU:OE1	14:N:58:LYS:HE2	2.12	0.49
10:J:80:LYS:HZ3	10:J:80:LYS:HB2	1.77	0.49
1:A:1189:C:OP1	3:C:5:ILE:HG21	2.11	0.49
10:J:4:ILE:HG12	10:J:100:THR:HG22	1.94	0.49
1:A:1433:A:C6	1:A:1468:A:C4	3.01	0.49
1:A:66:G:O4'	1:A:173:U:C4	2.66	0.49
1:A:540:G:O2'	1:A:541:G:H5'	2.12	0.49
4:D:78:LEU:O	4:D:81:GLU:HB3	2.12	0.49
1:A:685:G:N2	1:A:686:U:C4	2.81	0.49
1:A:1067:A:H4'	1:A:1068:G:O5'	2.13	0.49
1:A:1203:C:H2'	1:A:1204:A:O4'	2.13	0.49
1:A:865:A:H2	1:A:918:A:H4'	1.76	0.49
1:A:115:G:H4'	1:A:116:A:O5'	2.11	0.49
1:A:1248:A:H2'	1:A:1249:C:H5'	1.94	0.49
1:A:430:A:C2'	1:A:431:A:H5'	2.43	0.49
9:I:104:ARG:O	9:I:104:ARG:HG2	2.13	0.49
4:D:150:GLU:H	4:D:150:GLU:CD	2.15	0.49
9:I:113:LYS:H	9:I:119:ALA:HA	1.78	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:986:A:H2'	1:A:987:G:O4'	2.13	0.49
1:A:1206:G:O4'	3:C:194:GLY:HA2	2.13	0.49
1:A:716:A:N3	11:K:118:GLY:HA2	2.26	0.49
8:H:86:ILE:HG21	8:H:133:LEU:HD13	1.94	0.49
1:A:542:G:H2'	1:A:543:C:H6	1.77	0.49
1:A:929:G:N2	1:A:1388:C:N3	2.39	0.49
1:A:437:U:H2'	1:A:438:G:C8	2.47	0.49
1:A:1322:C:OP1	1:A:1322:C:H6	1.96	0.49
16:P:57:ARG:CZ	16:P:79:VAL:O	2.61	0.49
1:A:624:C:H4'	16:P:11:SER:H	1.77	0.49
1:A:349:A:O2'	1:A:350:G:H5'	2.12	0.49
8:H:63:LEU:H	8:H:63:LEU:HD22	1.77	0.49
1:A:604:G:C6	1:A:605:U:C4	3.01	0.49
5:E:41:VAL:CG1	5:E:113:ALA:HA	2.43	0.49
11:K:65:ALA:O	11:K:68:ALA:HB3	2.12	0.49
1:A:1274:G:N2	1:A:1275:A:H62	2.11	0.49
1:A:540:G:H2'	1:A:541:G:O4'	2.12	0.49
10:J:78:ASN:O	10:J:82:ILE:HG12	2.13	0.49
1:A:1064:G:H5'	1:A:1066:C:H1'	1.94	0.49
1:A:1067:A:C4'	1:A:1068:G:O5'	2.61	0.49
1:A:15:G:H2'	1:A:16:A:H8	1.77	0.49
1:A:15:G:C4	1:A:16:A:C8	3.01	0.49
17:Q:74:LEU:HD12	17:Q:75:ARG:HG2	1.95	0.49
15:O:43:LEU:O	15:O:45:VAL:N	2.46	0.49
1:A:96:U:O2'	1:A:97:G:P	2.71	0.49
1:A:518:C:H2'	1:A:530:G:C2	2.48	0.49
1:A:309:G:H2'	1:A:310:G:H8	1.77	0.49
1:A:414:A:H2'	1:A:415:A:O4'	2.13	0.49
1:A:428:G:C6	1:A:430:A:C6	3.00	0.49
4:D:4:TYR:O	4:D:5:ILE:HB	2.13	0.49
15:O:54:ARG:HG2	15:O:58:MET:HE1	1.95	0.49
7:G:79:ARG:HE	7:G:84:ASN:HD21	1.55	0.49
3:C:7:PRO:O	3:C:11:ARG:HG2	2.12	0.49
1:A:933:G:C2	1:A:1385:G:C2	3.01	0.49
1:A:270:A:C6	1:A:271:C:N3	2.81	0.49
9:I:63:ILE:N	9:I:63:ILE:HD12	2.27	0.49
1:A:590:C:O2'	1:A:591:U:H5'	2.13	0.49
1:A:520:A:C2	1:A:536:C:O2	2.66	0.49
1:A:1250:A:N6	1:A:1251:A:C6	2.81	0.49
1:A:567:G:H2'	1:A:568:G:O4'	2.11	0.49
1:A:39:G:C5	1:A:40:C:C5	3.01	0.49
1:A:1391:U:H2'	1:A:1392:G:C8	2.48	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:91:PRO:HG3	2:B:154:LEU:CB	2.43	0.49
1:A:64:G:H4'	1:A:65:U:H5''	1.93	0.49
1:A:1227:A:H2'	1:A:1228:C:O5'	2.13	0.49
1:A:253:U:H2'	1:A:254:G:H8	1.77	0.49
1:A:382:A:C2	1:A:383:A:C4	3.01	0.49
1:A:946:A:N3	1:A:1333:A:H2	2.11	0.49
17:Q:40:LYS:HG2	17:Q:41:LYS:N	2.27	0.49
11:K:18:ARG:HB3	11:K:33:THR:OG1	2.13	0.49
3:C:53:ALA:O	3:C:54:ARG:HB2	2.13	0.49
1:A:1277:C:H2'	1:A:1278:U:C5'	2.43	0.48
1:A:504:C:H1'	1:A:510:A:C4	2.47	0.48
4:D:206:PHE:CD2	4:D:207:TYR:CE2	3.01	0.48
1:A:688:G:H2'	1:A:689:C:C6	2.42	0.48
1:A:1201:A:H5'	1:A:1203:C:OP2	2.13	0.48
1:A:635:G:C4	1:A:636:U:C6	3.00	0.48
2:B:97:TRP:HH2	2:B:176:GLU:HG3	1.77	0.48
1:A:916:G:H2'	1:A:917:G:C8	2.48	0.48
1:A:985:C:H2'	1:A:986:A:C8	2.48	0.48
1:A:642:A:C4	8:H:114:THR:O	2.65	0.48
1:A:142:G:H2'	1:A:143:A:H8	1.78	0.48
1:A:1516:G:H2'	1:A:1518:A:OP2	2.12	0.48
7:G:85:TYR:CD1	7:G:154:TYR:HE1	2.30	0.48
20:T:75:ASN:HD22	20:T:75:ASN:H	1.59	0.48
1:A:451:A:C6	1:A:481:G:C5	3.01	0.48
1:A:685:G:C2	1:A:686:U:C4	3.02	0.48
6:F:61:LEU:HD23	6:F:63:TYR:OH	2.12	0.48
1:A:948:C:C5	13:M:106:ASN:ND2	2.81	0.48
19:S:36:ARG:HD2	19:S:52:TYR:O	2.13	0.48
2:B:59:GLU:C	2:B:61:LEU:H	2.17	0.48
1:A:1298:C:C6	7:G:114:ARG:CZ	2.97	0.48
1:A:1290:G:N3	1:A:1290:G:H2'	2.27	0.48
9:I:61:ALA:HB1	9:I:63:ILE:HD11	1.93	0.48
4:D:92:VAL:HG12	4:D:96:LEU:CD2	2.42	0.48
1:A:458:C:H2'	1:A:460:G:H8	1.78	0.48
13:M:91:ARG:HB2	13:M:98:VAL:HG21	1.93	0.48
2:B:97:TRP:CH2	2:B:176:GLU:HG3	2.48	0.48
1:A:1352:C:O2	1:A:1371:G:C2	2.65	0.48
15:O:23:GLY:O	15:O:24:SER:HB3	2.12	0.48
1:A:165:C:H2'	1:A:166:G:H8	1.77	0.48
4:D:88:VAL:O	4:D:92:VAL:HG23	2.12	0.48
1:A:1015:A:N6	1:A:1016:A:C6	2.81	0.48
15:O:26:GLU:OE2	15:O:77:ARG:NH1	2.47	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:215:LEU:O	2:B:219:VAL:HG23	2.12	0.48
12:L:46:LYS:HG2	12:L:47:LYS:H	1.78	0.48
1:A:491:G:C2	1:A:492:G:C4	3.02	0.48
10:J:33:GLN:H	10:J:75:ILE:HD11	1.78	0.48
13:M:48:LEU:HD11	13:M:53:VAL:HG22	1.95	0.48
1:A:1076:C:C2	1:A:1082:G:C2	3.01	0.48
2:B:28:PHE:HD1	2:B:190:THR:HG22	1.78	0.48
1:A:192:U:H4'	20:T:103:GLY:HA2	1.94	0.48
1:A:664:G:N2	1:A:741:G:H1	2.11	0.48
2:B:67:THR:HG21	2:B:155:LEU:CD2	2.42	0.48
2:B:21:ARG:O	2:B:21:ARG:HG3	2.12	0.48
10:J:50:ILE:HA	10:J:60:ARG:HB2	1.95	0.48
1:A:930:C:C4	1:A:931:C:C5	3.01	0.48
1:A:522:C:H41	12:L:53:ARG:HH22	1.60	0.48
3:C:94:LEU:HD12	3:C:95:THR:N	2.28	0.48
19:S:44:MET:HA	19:S:44:MET:CE	2.44	0.48
1:A:375:U:O3'	16:P:6:LEU:HB2	2.13	0.48
13:M:31:LYS:HA	13:M:34:LEU:HD12	1.94	0.48
1:A:491:G:C4	1:A:492:G:C8	3.01	0.48
3:C:68:VAL:HG12	3:C:70:VAL:HG23	1.96	0.48
1:A:322:C:OP2	1:A:328:C:N4	2.47	0.48
1:A:617:G:N1	1:A:618:C:C5	2.82	0.48
2:B:168:THR:HG23	2:B:192:SER:HA	1.96	0.48
1:A:47:C:H5''	1:A:365:U:C6	2.49	0.48
9:I:53:VAL:CB	9:I:92:TYR:HE2	2.26	0.48
1:A:950:U:H6	13:M:102:ARG:NH1	2.11	0.48
1:A:1106:G:H4'	3:C:171:GLY:O	2.13	0.48
1:A:341:C:O2'	1:A:342:C:H5'	2.13	0.48
1:A:552:U:H5'	12:L:86:ARG:HD2	1.95	0.48
1:A:790:A:C6	1:A:791:G:C6	3.02	0.48
1:A:1250:A:H61	1:A:1354:C:H1'	1.78	0.48
1:A:1156:G:H8	1:A:1156:G:O5'	1.97	0.48
4:D:74:GLN:O	4:D:78:LEU:HG	2.14	0.48
20:T:50:GLU:CB	20:T:100:ILE:HG12	2.34	0.48
10:J:32:ALA:HB1	10:J:75:ILE:HG13	1.94	0.48
10:J:74:ILE:H	10:J:74:ILE:HD13	1.77	0.48
1:A:184:G:H2'	1:A:185:A:H8	1.78	0.48
5:E:129:ILE:O	5:E:132:ALA:HB3	2.12	0.48
17:Q:7:THR:HA	17:Q:57:VAL:O	2.14	0.48
2:B:14:GLY:O	2:B:15:VAL:HG13	2.12	0.48
1:A:1311:G:N2	1:A:1327:C:C2	2.81	0.48
11:K:41:THR:CG2	11:K:42:TRP:N	2.76	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:579:G:C5	1:A:580:U:C5	3.01	0.48
12:L:89:ARG:HA	12:L:97:ARG:HA	1.95	0.48
1:A:352:C:O2'	1:A:354:G:OP1	2.25	0.48
1:A:356:A:H2'	1:A:357:G:H8	1.78	0.48
1:A:429:U:H4'	1:A:430:A:O5'	2.13	0.48
1:A:1074:G:C2	1:A:1102:A:C2	3.02	0.48
1:A:102:G:C6	1:A:103:C:C4	3.02	0.48
1:A:1434:A:H61	1:A:1467:G:H1'	1.78	0.48
1:A:631:G:H5''	1:A:632:A:OP1	2.13	0.48
5:E:51:VAL:O	5:E:55:VAL:HG23	2.14	0.48
8:H:6:ILE:HB	8:H:85:ARG:HH12	1.78	0.48
11:K:77:MET:SD	11:K:80:VAL:HG12	2.54	0.48
1:A:895:G:H2'	1:A:896:C:C6	2.48	0.48
14:N:44:LEU:C	14:N:44:LEU:HD12	2.33	0.48
8:H:41:ARG:HG2	8:H:41:ARG:O	2.12	0.48
1:A:410:G:H1'	1:A:432:A:H61	1.77	0.48
1:A:364:A:H2'	1:A:365:U:O2	2.14	0.48
16:P:53:VAL:O	16:P:57:ARG:CG	2.60	0.48
5:E:82:VAL:HG21	5:E:138:ALA:HA	1.94	0.48
1:A:189(C):C:H2'	1:A:189(D):C:O4'	2.14	0.48
1:A:1317:C:N4	14:N:19:ARG:HH21	2.11	0.48
6:F:30:LEU:O	6:F:35:ALA:HB3	2.13	0.48
2:B:142:LEU:O	2:B:146:GLN:HB2	2.14	0.48
1:A:1058:G:C6	1:A:1059:C:C4	3.01	0.48
3:C:61:ALA:O	3:C:62:ASP:HB2	2.13	0.48
5:E:27:ARG:HB2	5:E:27:ARG:HE	1.50	0.48
1:A:1137:C:H4'	1:A:1138:G:C2	2.49	0.48
1:A:60:A:P	1:A:60:A:H8	2.37	0.48
16:P:22:THR:CG2	16:P:32:TYR:HA	2.39	0.48
1:A:674:G:O2'	1:A:675:A:H5'	2.14	0.48
10:J:48:THR:HA	10:J:62:HIS:CB	2.44	0.48
1:A:431:A:H2'	1:A:432:A:O4'	2.14	0.48
12:L:38:THR:CG2	12:L:39:VAL:N	2.76	0.48
10:J:16:LEU:HD13	10:J:16:LEU:O	2.13	0.48
10:J:37:PRO:HA	10:J:72:VAL:HG22	1.95	0.48
1:A:1321:C:H3'	1:A:1322:C:H5''	1.95	0.48
1:A:577:G:C8	1:A:816:A:C6	3.02	0.48
1:A:1264:C:H2'	1:A:1265:G:C8	2.47	0.48
1:A:402:G:C6	1:A:403:C:C4	3.02	0.48
2:B:238:LEU:O	2:B:240:GLN:N	2.47	0.48
9:I:11:LYS:HG2	9:I:11:LYS:O	2.14	0.48
18:R:22:VAL:O	18:R:22:VAL:HG12	2.13	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:9:VAL:HG12	19:S:9:VAL:O	2.14	0.48
1:A:491:G:H2'	1:A:492:G:H8	1.77	0.48
12:L:38:THR:HG23	12:L:39:VAL:N	2.29	0.48
1:A:1221:G:OP1	1:A:1321:C:N3	2.47	0.48
16:P:14:ASN:OD1	16:P:16:HIS:CE1	2.66	0.48
13:M:68:GLY:N	13:M:71:ARG:HB3	2.28	0.48
1:A:933:G:N2	1:A:1385:G:C4	2.82	0.48
1:A:270:A:C6	1:A:271:C:C4	3.02	0.48
11:K:50:TYR:HE1	11:K:59:TYR:HD2	1.62	0.48
10:J:50:ILE:HD13	10:J:60:ARG:HD3	1.96	0.48
19:S:35:SER:C	19:S:37:ARG:H	2.17	0.48
4:D:43:HIS:O	4:D:45:GLN:N	2.46	0.48
1:A:472:A:C4'	16:P:82:GLN:HE22	2.27	0.48
1:A:461:A:C5	1:A:471:G:C6	3.02	0.48
1:A:1260:C:H4'	1:A:1284:C:H5'	1.94	0.48
18:R:79:LEU:HD23	18:R:80:PRO:HD2	1.96	0.48
2:B:219:VAL:HA	2:B:222:ILE:HD12	1.95	0.47
1:A:511:C:C2	1:A:512:U:C5	3.01	0.47
1:A:687:A:C2	1:A:704:A:C6	3.02	0.47
1:A:21:G:H2'	1:A:22:G:C8	2.49	0.47
1:A:921:U:H2'	1:A:922:G:O4'	2.14	0.47
1:A:1123:A:O2'	10:J:38:ILE:HG22	2.15	0.47
10:J:38:ILE:HD11	10:J:71:LEU:HB3	1.94	0.47
1:A:634:C:O2'	1:A:635:G:H5'	2.13	0.47
4:D:146:ILE:N	4:D:146:ILE:CD1	2.75	0.47
1:A:1368:G:H2'	1:A:1369:C:H5'	1.96	0.47
1:A:606:G:H5''	1:A:607:A:H5'	1.96	0.47
5:E:110:LEU:O	5:E:115:VAL:HG23	2.13	0.47
1:A:881:G:P	12:L:12:ARG:HH22	2.37	0.47
6:F:24:GLU:HG2	6:F:28:ARG:CZ	2.44	0.47
1:A:1242:C:H5''	21:U:10:ARG:HH12	1.79	0.47
1:A:1310:G:N2	1:A:1328:C:C2	2.82	0.47
1:A:408:A:C2	1:A:409:G:N9	2.82	0.47
6:F:14:LEU:HD22	6:F:18:GLN:NE2	2.30	0.47
1:A:1191:A:H5''	3:C:4:LYS:NZ	2.28	0.47
1:A:1201:A:C1'	1:A:1202:G:OP2	2.57	0.47
1:A:382:A:O2'	1:A:383:A:H5'	2.14	0.47
4:D:94:LEU:O	4:D:98:GLU:N	2.45	0.47
8:H:6:ILE:CD1	8:H:6:ILE:N	2.77	0.47
11:K:106:LYS:HG3	11:K:106:LYS:O	2.12	0.47
1:A:1310:G:OP1	13:M:77:ASN:HB3	2.14	0.47
1:A:1460:A:H2'	1:A:1461:G:O4'	2.13	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:78:GLU:O	6:F:81:ILE:HG13	2.14	0.47
7:G:115:ARG:O	7:G:119:ARG:HG3	2.14	0.47
1:A:19:C:O2'	1:A:20:U:H5'	2.14	0.47
1:A:370:C:C2	1:A:371:G:C8	3.02	0.47
2:B:19:HIS:CG	2:B:20:GLU:H	2.31	0.47
13:M:91:ARG:HD3	19:S:81:ARG:HH21	1.78	0.47
5:E:43:LEU:HD21	5:E:132:ALA:HB1	1.96	0.47
3:C:73:PRO:HA	3:C:76:VAL:CG1	2.44	0.47
1:A:830:G:H2'	1:A:831:U:O4'	2.14	0.47
1:A:832:C:H42	1:A:854:G:H1	1.62	0.47
19:S:4:SER:O	19:S:5:LEU:HB2	2.14	0.47
2:B:41:ILE:HD12	2:B:41:ILE:N	2.29	0.47
9:I:40:LEU:HD11	9:I:70:LYS:CG	2.44	0.47
1:A:358:U:H2'	1:A:359:U:C6	2.49	0.47
4:D:62:GLN:HA	4:D:62:GLN:HE21	1.77	0.47
8:H:83:ILE:O	8:H:83:ILE:HG23	2.13	0.47
1:A:55:A:C8	1:A:56:U:H5	2.32	0.47
1:A:556:C:O2'	1:A:557:G:H5'	2.15	0.47
3:C:106:VAL:HG12	3:C:108:ASN:H	1.80	0.47
1:A:865:A:H5'	1:A:1078:U:O4	2.14	0.47
1:A:499:A:H4'	1:A:500:G:H5'	1.97	0.47
1:A:1238:A:N6	1:A:1299:A:H62	2.11	0.47
7:G:153:HIS:HE1	11:K:57:THR:HG23	1.78	0.47
1:A:642:A:N7	8:H:115:SER:HA	2.30	0.47
1:A:568:G:O6	12:L:5:PRO:HD3	2.15	0.47
18:R:74:ARG:HG3	18:R:79:LEU:HB3	1.96	0.47
1:A:1343:G:H2'	1:A:1344:C:C6	2.48	0.47
1:A:533:A:C4'	1:A:534:U:OP1	2.62	0.47
7:G:29:LYS:O	7:G:105:VAL:HG11	2.14	0.47
2:B:71:VAL:HB	2:B:164:VAL:HG22	1.95	0.47
9:I:21:PRO:HA	9:I:58:ARG:O	2.14	0.47
11:K:24:SER:HB3	11:K:27:ASN:O	2.15	0.47
1:A:410:G:OP2	4:D:25:ARG:HG3	2.15	0.47
1:A:1410:G:O2'	1:A:1411:C:H5'	2.14	0.47
9:I:3:GLN:HB3	9:I:20:ARG:NH1	2.28	0.47
1:A:23:C:OP2	1:A:561:U:N3	2.47	0.47
6:F:61:LEU:HB3	6:F:63:TYR:CE2	2.50	0.47
1:A:1077:G:C2	1:A:1081:G:C6	3.03	0.47
12:L:28:LYS:HE3	12:L:33:ARG:HH12	1.78	0.47
8:H:6:ILE:CD1	8:H:6:ILE:H	2.26	0.47
1:A:1298:C:C5	7:G:114:ARG:CZ	2.97	0.47
2:B:35:GLU:HA	2:B:39:ILE:O	2.15	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:57:LYS:O	5:E:61:TYR:CD2	2.63	0.47
1:A:342:C:H2'	1:A:343:U:O4'	2.14	0.47
1:A:1481:U:H2'	1:A:1482:G:H8	1.79	0.47
1:A:832:C:N4	1:A:854:G:H1	2.12	0.47
12:L:90:VAL:HG12	12:L:90:VAL:O	2.14	0.47
20:T:41:ILE:H	20:T:41:ILE:HG13	1.49	0.47
18:R:85:LEU:HD12	18:R:86:VAL:H	1.79	0.47
1:A:683:G:C2	1:A:684:A:C4	3.03	0.47
1:A:17:U:H1'	1:A:1080:A:H1'	1.96	0.47
1:A:1226:C:OP1	13:M:91:ARG:NH1	2.48	0.47
1:A:80:G:N1	1:A:89:C:N4	2.60	0.47
3:C:138:VAL:HG22	3:C:151:VAL:HG23	1.96	0.47
1:A:892:A:C6	1:A:893:C:C4	3.02	0.47
1:A:1469:G:H2'	1:A:1470:G:C8	2.48	0.47
4:D:148:VAL:HG12	4:D:152:SER:HB2	1.96	0.47
1:A:758:G:H2'	1:A:759:A:OP2	2.15	0.47
1:A:1513:A:H2'	1:A:1514:C:C6	2.49	0.47
10:J:90:LEU:N	10:J:91:PRO:HD3	2.29	0.47
1:A:585:G:C4'	12:L:8:ASN:ND2	2.67	0.47
4:D:3:ARG:CD	4:D:5:ILE:HD11	2.44	0.47
1:A:1503:A:O2'	1:A:1504:G:C5'	2.62	0.47
1:A:977:A:H8	1:A:1223:C:N3	2.12	0.47
12:L:6:THR:H	12:L:9:GLN:NE2	2.11	0.47
3:C:16:ARG:HH11	3:C:16:ARG:HA	1.80	0.47
16:P:53:VAL:CG1	16:P:79:VAL:HG22	2.44	0.47
12:L:40:VAL:HG11	12:L:77:LEU:O	2.14	0.47
1:A:628:G:O2'	1:A:629:G:H5'	2.14	0.47
3:C:29:TYR:OH	14:N:54:PRO:HD2	2.14	0.47
1:A:1298:C:H4'	1:A:1299:A:O4'	2.14	0.47
1:A:805:C:H2'	1:A:806:C:H6	1.79	0.47
2:B:217:ARG:HA	2:B:220:ASP:HB2	1.96	0.47
10:J:58:ASP:O	10:J:59:SER:C	2.52	0.47
20:T:73:HIS:O	20:T:74:LYS:C	2.53	0.47
1:A:979:C:H3'	1:A:980:C:H5''	1.95	0.47
5:E:45:PHE:CE2	5:E:47:LYS:HD2	2.49	0.47
2:B:79:ASP:O	2:B:81:VAL:N	2.48	0.47
1:A:520:A:H2	1:A:536:C:O2	1.98	0.47
1:A:1330:U:C5'	1:A:1331:G:O5'	2.63	0.47
1:A:729:A:H2'	1:A:730:G:H8	1.80	0.47
2:B:116:GLU:HA	2:B:119:GLU:HB2	1.97	0.47
1:A:393:A:O2'	1:A:394:G:H5'	2.14	0.47
6:F:9:VAL:HB	6:F:87:ARG:HB2	1.96	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:432:A:N7	1:A:433:C:C4	2.83	0.47
15:O:55:GLY:O	15:O:56:LEU:C	2.52	0.47
1:A:55:A:C4	1:A:56:U:C5	3.02	0.47
4:D:108:LEU:HD11	4:D:174:LEU:HD13	1.96	0.47
1:A:79:G:H4'	1:A:80:G:OP1	2.15	0.47
3:C:131:ARG:NH1	5:E:50:GLU:HG2	2.30	0.47
1:A:775:G:C2'	1:A:776:G:H5'	2.44	0.47
1:A:1361:G:H2'	1:A:1362:C:O4'	2.15	0.47
1:A:892:A:C5	1:A:893:C:C4	3.03	0.47
1:A:758:G:H4'	1:A:880:C:H4'	1.97	0.47
1:A:783:C:O2'	1:A:784:C:H5'	2.15	0.47
6:F:2:ARG:HD2	6:F:4:TYR:OH	2.15	0.47
1:A:376:G:H5''	16:P:5:ARG:HB2	1.96	0.47
1:A:413:G:N2	1:A:428:G:H1'	2.30	0.47
1:A:250:A:H1'	1:A:251:G:OP2	2.15	0.47
1:A:734:G:H2'	1:A:735:C:C6	2.50	0.47
6:F:3:ARG:HB3	6:F:93:SER:HB2	1.97	0.47
13:M:3:ARG:HA	13:M:9:ILE:HG13	1.97	0.47
2:B:61:LEU:HD12	2:B:61:LEU:O	2.14	0.47
1:A:159:G:C4	1:A:161:A:OP2	2.67	0.47
1:A:515:G:H2'	1:A:516:U:O4'	2.15	0.47
13:M:112:GLY:O	13:M:113:PRO:HG2	2.14	0.47
1:A:537:G:H2'	1:A:538:G:C8	2.49	0.47
1:A:965:A:C2	1:A:969:A:C2	3.03	0.47
1:A:1074:G:O2'	1:A:1101:A:N1	2.35	0.47
1:A:277:C:P	17:Q:68:ARG:HH12	2.37	0.47
1:A:735:C:H2'	1:A:736:C:C6	2.41	0.47
1:A:586:C:O2'	1:A:878:G:H4'	2.15	0.47
11:K:29:ILE:HB	11:K:44:SER:HB2	1.97	0.47
10:J:54:PHE:HZ	10:J:55:LYS:HZ2	1.54	0.47
1:A:38:G:N1	1:A:397:A:C2	2.83	0.47
7:G:22:LEU:HG	7:G:62:PHE:HE2	1.80	0.47
20:T:84:LEU:O	20:T:88:VAL:HG23	2.15	0.47
3:C:92:ALA:HB2	3:C:99:VAL:HG22	1.97	0.47
1:A:1016:A:H2'	1:A:1017:G:O4'	2.15	0.47
1:A:92:C:H2'	1:A:93:G:H8	1.81	0.47
1:A:655:A:C2	1:A:656:C:C2	3.03	0.47
1:A:1389:C:H2'	1:A:1390:U:O4'	2.14	0.47
8:H:37:ARG:HG2	8:H:37:ARG:O	2.15	0.47
1:A:1486:G:H2'	1:A:1487:G:C1'	2.45	0.46
1:A:1072:G:C4	1:A:1073:U:C5	3.03	0.46
1:A:1086:U:O2'	1:A:1087:G:H5'	2.15	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:28:LYS:O	12:L:29:GLY:C	2.53	0.46
1:A:460:G:C6	1:A:470:C:H5'	2.49	0.46
12:L:110:VAL:HG21	12:L:120:TYR:HB3	1.97	0.46
1:A:625:G:C4	1:A:626:U:C5	3.04	0.46
8:H:6:ILE:C	8:H:8:ASP:N	2.68	0.46
1:A:1352:C:H42	1:A:1370:G:H1	1.63	0.46
1:A:659:U:O2	1:A:659:U:H2'	2.14	0.46
1:A:814:A:N7	1:A:816:A:C5	2.83	0.46
8:H:80:ILE:O	8:H:80:ILE:HG22	2.15	0.46
17:Q:63:ARG:HG2	17:Q:64:PRO:CD	2.45	0.46
1:A:872:A:C5	1:A:874:G:C8	3.03	0.46
1:A:407:G:H5'	4:D:3:ARG:HH12	1.81	0.46
1:A:102:G:C4	1:A:103:C:C6	3.04	0.46
1:A:438:G:OP1	4:D:125:HIS:HE1	1.98	0.46
1:A:1452:C:H5'	1:A:1456:G:N9	2.29	0.46
20:T:71:THR:CG2	20:T:72:LEU:N	2.73	0.46
9:I:78:LYS:HB2	9:I:78:LYS:HZ2	1.81	0.46
1:A:658:G:N3	1:A:659:U:C6	2.84	0.46
13:M:78:ILE:HA	13:M:81:LEU:HD12	1.98	0.46
1:A:105:G:H2'	1:A:106:C:H6	1.76	0.46
1:A:106:C:H2'	1:A:107:G:H8	1.80	0.46
15:O:18:PHE:O	15:O:19:PRO:C	2.53	0.46
1:A:354:G:C2	1:A:355:C:C5	3.03	0.46
16:P:55:ARG:HA	16:P:55:ARG:HE	1.81	0.46
8:H:113:SER:H	8:H:134:ILE:HG12	1.81	0.46
1:A:683:G:C2	1:A:708:C:N3	2.83	0.46
9:I:102:LEU:O	9:I:103:THR:OG1	2.29	0.46
1:A:1080:A:H5'	5:E:14:ARG:HH21	1.78	0.46
2:B:188:ALA:HB1	2:B:192:SER:CB	2.42	0.46
1:A:664:G:P	18:R:64:ARG:HH21	2.38	0.46
1:A:1158:C:H42	1:A:1181:G:H1	1.63	0.46
1:A:116:A:C8	1:A:116:A:OP2	2.68	0.46
4:D:117:ALA:O	4:D:120:LEU:HB2	2.15	0.46
9:I:99:LEU:HD12	9:I:101:PHE:CE1	2.50	0.46
7:G:13:GLN:O	7:G:24:THR:HG21	2.15	0.46
1:A:1442:G:O2'	1:A:1442(A):G:C5'	2.41	0.46
2:B:96:ARG:O	2:B:98:LEU:N	2.48	0.46
15:O:39:LEU:HD12	15:O:56:LEU:CB	2.41	0.46
1:A:437:U:C5	1:A:438:G:N7	2.83	0.46
1:A:945:G:C2	1:A:946:A:C8	3.04	0.46
1:A:1159:U:C5	1:A:1182:G:N3	2.83	0.46
1:A:189:G:O2'	1:A:189(A):C:H5'	2.15	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:484:G:H4'	1:A:485:G:OP1	2.15	0.46
1:A:9:G:C6	1:A:26:A:N6	2.83	0.46
1:A:1521:G:H2'	1:A:1522:U:C6	2.50	0.46
9:I:43:ALA:HA	9:I:74:ILE:HD13	1.97	0.46
2:B:157:ARG:O	2:B:159:PRO:HD3	2.15	0.46
1:A:1350:A:OP1	9:I:121:ARG:HG3	2.16	0.46
19:S:50:ALA:HA	19:S:58:VAL:O	2.15	0.46
1:A:509:A:H4'	1:A:510:A:OP1	2.16	0.46
4:D:19:LEU:HD13	4:D:21:LEU:HD21	1.98	0.46
1:A:437:U:O3'	4:D:125:HIS:NE2	2.48	0.46
5:E:101:ILE:H	5:E:101:ILE:HD13	1.79	0.46
1:A:963:G:H21	10:J:55:LYS:CE	2.29	0.46
18:R:53:ARG:C	18:R:55:ARG:N	2.69	0.46
1:A:1147:C:C5	1:A:1148:U:C4	3.04	0.46
8:H:24:THR:HG22	8:H:25:ASP:N	2.30	0.46
12:L:75:HIS:HD2	12:L:77:LEU:N	2.12	0.46
3:C:119:ARG:HE	3:C:140:ARG:NE	2.13	0.46
13:M:83:ASP:CG	13:M:84:ILE:H	2.18	0.46
1:A:340:U:H2'	1:A:341:C:O4'	2.14	0.46
1:A:411:A:OP1	4:D:30:LYS:NZ	2.45	0.46
1:A:545:C:H5''	4:D:72:GLU:CG	2.44	0.46
1:A:255:G:O6	1:A:266:G:O6	2.33	0.46
17:Q:59:ILE:HD13	17:Q:73:VAL:HA	1.97	0.46
13:M:60:VAL:HG12	13:M:66:LEU:HD21	1.98	0.46
4:D:173:TRP:CD1	4:D:174:LEU:HG	2.51	0.46
18:R:56:THR:OG1	18:R:58:LEU:HD13	2.16	0.46
12:L:110:VAL:CG2	12:L:120:TYR:HB3	2.46	0.46
1:A:658:G:C5	1:A:659:U:H5	2.34	0.46
1:A:1478:C:H2'	1:A:1479:C:C6	2.51	0.46
1:A:577:G:C2	1:A:578:C:C5	3.04	0.46
20:T:94:ALA:O	20:T:95:ALA:HB3	2.14	0.46
2:B:24:TRP:CH2	2:B:26:PRO:HA	2.50	0.46
1:A:1245:A:N1	1:A:1293:G:C6	2.84	0.46
5:E:118:ILE:HG23	5:E:118:ILE:O	2.16	0.46
1:A:482:A:N3	1:A:482:A:H2'	2.30	0.46
14:N:3:ARG:CZ	14:N:3:ARG:HB3	2.46	0.46
4:D:108:LEU:HD12	4:D:174:LEU:HD13	1.96	0.46
1:A:499:A:C4'	1:A:500:G:OP1	2.63	0.46
1:A:950:U:C6	13:M:102:ARG:NH1	2.84	0.46
5:E:6:PHE:HD2	5:E:36:ASP:HB3	1.81	0.46
1:A:262:A:N6	1:A:263:A:N6	2.64	0.46
1:A:242:C:H2'	1:A:243:A:H5'	1.97	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1014:A:C2	19:S:34:TRP:CE2	3.04	0.46
3:C:188:LEU:O	3:C:189:ALA:CB	2.63	0.46
8:H:31:PHE:O	8:H:35:ILE:HG13	2.16	0.46
3:C:207:VAL:O	3:C:207:VAL:HG12	2.15	0.46
1:A:1401:G:C2	1:A:1402:C:H1'	2.51	0.46
10:J:14:LYS:HE3	10:J:14:LYS:HB2	1.77	0.46
1:A:316:G:OP2	1:A:351:G:O2'	2.33	0.46
1:A:310:G:OP2	16:P:27:LYS:NZ	2.44	0.46
4:D:128:VAL:HA	4:D:145:GLU:O	2.15	0.46
1:A:1442:G:HO2'	1:A:1442(A):G:H5''	1.71	0.46
1:A:1277:C:H3'	1:A:1277:C:H6	1.80	0.46
15:O:36:ILE:CD1	15:O:63:ARG:HE	2.28	0.46
1:A:1228:C:H2'	1:A:1229:A:H8	1.80	0.46
1:A:737:A:C4	1:A:738:C:C5	3.04	0.46
1:A:1202:G:H2'	1:A:1203:C:O4'	2.15	0.46
19:S:40:ILE:HB	19:S:67:VAL:O	2.15	0.46
12:L:27:LEU:HD22	12:L:27:LEU:N	2.31	0.46
1:A:663:A:C2'	1:A:664:G:H5'	2.45	0.46
14:N:53:LEU:HB3	14:N:56:VAL:HG21	1.98	0.46
1:A:750:G:C2	1:A:751:U:C6	3.04	0.46
1:A:130:A:N3	1:A:263:A:O2'	2.42	0.46
20:T:56:MET:HG3	20:T:88:VAL:HG11	1.98	0.46
5:E:111:GLU:HB3	5:E:112:LEU:HD23	1.97	0.46
1:A:874:G:H2'	1:A:875:C:H6	1.79	0.46
10:J:42:THR:HG23	10:J:68:HIS:HA	1.98	0.46
11:K:21:ILE:HD13	11:K:82:VAL:HG13	1.98	0.46
1:A:579:G:C6	1:A:580:U:C4	3.04	0.46
1:A:527:G:O2'	1:A:528:C:H5'	2.16	0.46
1:A:1074:G:C2	1:A:1075:C:C2	3.03	0.46
1:A:961:U:C4	1:A:962:C:C4	3.04	0.46
1:A:920:U:H2'	1:A:921:U:H6	1.79	0.46
18:R:45:SER:CB	18:R:51:LEU:HD21	2.43	0.46
2:B:178:ARG:HH21	8:H:68:ARG:HH22	1.63	0.46
1:A:189(A):C:O2'	1:A:189(B):C:H5'	2.16	0.46
7:G:26:PHE:CD1	7:G:62:PHE:HE1	2.34	0.46
1:A:1287:A:C6	1:A:1288:A:C6	3.04	0.46
1:A:1287:A:H2	1:A:1353:G:N3	2.14	0.46
13:M:44:ARG:CB	13:M:46:LYS:HG2	2.46	0.46
1:A:872:A:C2	1:A:874:G:C6	3.04	0.46
1:A:1228:C:H2'	1:A:1229:A:C8	2.51	0.46
9:I:79:LEU:HD13	9:I:79:LEU:C	2.36	0.46
1:A:382:A:C2	1:A:383:A:C5	3.04	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:559:A:C8	1:A:561:U:C5	3.03	0.46
12:L:27:LEU:O	12:L:28:LYS:C	2.53	0.46
12:L:60:LEU:HA	12:L:60:LEU:HD13	1.82	0.46
2:B:178:ARG:HH22	2:B:196:LEU:C	2.19	0.46
1:A:691:G:H2'	1:A:692:U:C6	2.51	0.46
1:A:938:A:H8	1:A:938:A:O5'	1.99	0.46
1:A:1154:G:H2'	1:A:1155:G:C8	2.49	0.46
1:A:778:G:C2'	1:A:779:C:O5'	2.64	0.46
11:K:20:TYR:C	11:K:21:ILE:HD12	2.36	0.46
11:K:125:PHE:N	11:K:125:PHE:CD1	2.83	0.46
2:B:91:PRO:HG3	2:B:154:LEU:HB2	1.98	0.45
2:B:101:MET:HG2	2:B:108:ILE:HG21	1.98	0.45
15:O:82:ILE:CD1	15:O:88:ARG:HG3	2.46	0.45
1:A:929:G:H1	1:A:1388:C:N4	2.00	0.45
9:I:3:GLN:O	9:I:4:TYR:HD1	1.97	0.45
3:C:3:ASN:N	3:C:3:ASN:OD1	2.49	0.45
1:A:1060:C:H4'	10:J:51:ARG:HB3	1.98	0.45
1:A:763:G:C5	1:A:764:C:C5	3.04	0.45
5:E:11:ILE:HB	5:E:31:LEU:HB3	1.97	0.45
1:A:1319:A:H61	1:A:1361:G:H21	1.63	0.45
6:F:10:LEU:HA	6:F:84:ASN:O	2.16	0.45
1:A:236:G:C6	1:A:237:C:C4	3.03	0.45
2:B:158:LEU:HD12	2:B:158:LEU:H	1.79	0.45
14:N:12:ARG:C	14:N:14:PRO:HD3	2.36	0.45
1:A:1187:G:C6	1:A:1188:A:C6	3.05	0.45
1:A:1472:U:O2'	1:A:1473:A:H5'	2.15	0.45
20:T:64:ASP:OD2	20:T:81:LYS:NZ	2.44	0.45
1:A:450:G:N7	1:A:481:G:C6	2.84	0.45
4:D:4:TYR:C	4:D:4:TYR:CD1	2.87	0.45
1:A:926:G:C6	1:A:1505:G:C6	3.04	0.45
2:B:172:ILE:H	2:B:172:ILE:CD1	2.12	0.45
1:A:684:A:C6	1:A:685:G:C6	3.04	0.45
17:Q:67:LYS:CA	17:Q:70:ARG:HH12	2.24	0.45
2:B:28:PHE:HD2	2:B:194:PRO:HD3	1.80	0.45
1:A:992:U:C1'	1:A:993:G:OP2	2.63	0.45
20:T:67:ALA:O	20:T:73:HIS:CE1	2.70	0.45
1:A:807:A:H2'	1:A:808:C:C6	2.51	0.45
1:A:938:A:C6	1:A:939:G:C5	3.04	0.45
1:A:31:G:H5'	1:A:306:G:N2	2.31	0.45
11:K:81:ASP:OD2	11:K:106:LYS:HG2	2.16	0.45
1:A:715:A:H2'	1:A:716:A:C8	2.51	0.45
4:D:88:VAL:HG13	5:E:97:GLY:HA3	1.98	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:R:86:VAL:O	18:R:87:ARG:HB3	2.16	0.45
1:A:1278:U:O4	10:J:99:LYS:HE3	2.17	0.45
1:A:502:G:C6	1:A:503:C:N3	2.84	0.45
1:A:1057:G:C5	1:A:1204:A:C2	3.04	0.45
18:R:65:ILE:HG13	18:R:65:ILE:H	1.38	0.45
10:J:63:PHE:CZ	14:N:45:ARG:HG3	2.43	0.45
1:A:833:U:O2	1:A:854:G:C2	2.69	0.45
11:K:34:ASP:HB2	11:K:35:PRO:HD2	1.97	0.45
1:A:303:A:C4	1:A:304:U:C6	3.05	0.45
2:B:158:LEU:H	2:B:158:LEU:CD1	2.30	0.45
4:D:117:ALA:O	4:D:121:VAL:HG23	2.15	0.45
1:A:782:A:O3'	1:A:1515:C:H4'	2.16	0.45
1:A:781:A:C2'	1:A:782:A:H5'	2.45	0.45
18:R:73:ALA:HB3	18:R:79:LEU:HD12	1.98	0.45
1:A:283:C:H2'	1:A:284:G:O4'	2.17	0.45
1:A:1272:G:C6	1:A:1273:G:C5	3.04	0.45
1:A:1012:U:O5'	1:A:1012:U:H6	1.98	0.45
1:A:386:C:H2'	1:A:387:U:C5'	2.46	0.45
20:T:13:LEU:N	20:T:13:LEU:HD12	2.18	0.45
10:J:33:GLN:HB2	10:J:75:ILE:CD1	2.46	0.45
4:D:108:LEU:HB3	4:D:110:PHE:HE1	1.81	0.45
3:C:111:LEU:HD21	3:C:145:GLY:O	2.16	0.45
18:R:62:GLU:O	18:R:65:ILE:HD12	2.16	0.45
1:A:1160:G:H2'	1:A:1160:G:N3	2.30	0.45
4:D:49:ARG:HA	4:D:49:ARG:NE	2.28	0.45
7:G:153:HIS:CE1	11:K:57:THR:HG23	2.51	0.45
11:K:57:THR:HG22	11:K:59:TYR:H	1.81	0.45
1:A:155:C:H2'	1:A:156:G:C8	2.51	0.45
1:A:156:G:C6	1:A:166:G:N1	2.85	0.45
1:A:106:C:O2'	1:A:107:G:H5'	2.15	0.45
6:F:10:LEU:HD12	6:F:10:LEU:N	2.32	0.45
19:S:49:ILE:HD12	19:S:49:ILE:H	1.82	0.45
8:H:87:SER:CB	8:H:93:VAL:H	2.30	0.45
15:O:67:LEU:CD2	15:O:78:TYR:HE1	2.26	0.45
1:A:1413:A:C2	1:A:1414:U:C2	3.04	0.45
18:R:53:ARG:C	18:R:55:ARG:H	2.20	0.45
1:A:1320:C:H2'	1:A:1321:C:O4'	2.17	0.45
9:I:48:GLU:N	9:I:49:PRO:CD	2.79	0.45
1:A:189:G:O6	1:A:189(L):G:C6	2.69	0.45
5:E:31:LEU:HD22	5:E:43:LEU:HD11	1.98	0.45
1:A:1306:A:H1'	1:A:1332:A:C2	2.52	0.45
1:A:117:G:O5'	1:A:117:G:H8	1.99	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:473:G:C2	1:A:474:G:C8	3.04	0.45
5:E:7:GLU:HB2	5:E:35:GLY:O	2.16	0.45
1:A:1030(A):G:O2'	1:A:1030(C):G:N7	2.47	0.45
1:A:13:U:C5	1:A:916:G:O6	2.69	0.45
2:B:15:VAL:HG23	2:B:16:HIS:CE1	2.52	0.45
1:A:582:U:C2	1:A:760:G:C6	3.04	0.45
1:A:495:A:H4'	1:A:496:A:OP1	2.17	0.45
14:N:44:LEU:HD12	14:N:44:LEU:O	2.16	0.45
1:A:92:C:H2'	1:A:93:G:C8	2.52	0.45
1:A:1404:C:H2'	1:A:1405:G:C8	2.51	0.45
8:H:93:VAL:O	8:H:93:VAL:HG12	2.14	0.45
1:A:411:A:C4	1:A:413:G:O4'	2.69	0.45
1:A:1072:G:C6	1:A:1073:U:O4	2.70	0.45
1:A:734:G:C6	1:A:735:C:C4	3.04	0.45
1:A:1286:A:H2	21:U:22:ARG:HH22	1.64	0.45
1:A:1434:A:H2'	1:A:1435:G:O4'	2.16	0.45
2:B:87:ARG:NH2	2:B:233:SER:HB3	2.32	0.45
2:B:178:ARG:NH2	8:H:68:ARG:HH22	2.14	0.45
1:A:831:U:O2'	1:A:832:C:H5'	2.17	0.45
20:T:53:LEU:HA	20:T:56:MET:HB2	1.99	0.45
1:A:744:C:O2'	1:A:745:C:H5'	2.16	0.45
1:A:9:G:OP1	5:E:122:GLU:HG3	2.17	0.45
6:F:10:LEU:HD21	6:F:26:ILE:HD11	1.98	0.45
5:E:7:GLU:HB3	5:E:112:LEU:HD13	1.98	0.45
6:F:96:PRO:HB3	18:R:30:ASP:CG	2.37	0.45
4:D:92:VAL:HG12	4:D:96:LEU:HD21	1.99	0.45
1:A:1366:C:OP1	9:I:117:HIS:CE1	2.70	0.45
16:P:27:LYS:HG2	16:P:27:LYS:H	1.60	0.45
16:P:45:THR:O	16:P:47:ASP:N	2.50	0.45
1:A:1254:C:H2'	1:A:1255:G:C8	2.52	0.45
1:A:502:G:C2	1:A:503:C:O2	2.70	0.45
1:A:541:G:H2'	1:A:542:G:C8	2.50	0.45
6:F:72:VAL:HG13	6:F:73:ASN:N	2.31	0.45
1:A:625:G:N3	1:A:626:U:C6	2.85	0.45
8:H:23:SER:HA	8:H:63:LEU:CD2	2.47	0.45
1:A:834:C:H2'	1:A:835:U:C6	2.52	0.45
1:A:117:G:C2'	1:A:118:U:H5'	2.47	0.45
1:A:979:C:OP1	1:A:1222:G:O6	2.34	0.45
1:A:727:G:C6	1:A:731:G:C6	3.04	0.45
1:A:227:G:O2'	1:A:228:A:H5'	2.16	0.45
15:O:8:LYS:HG2	15:O:12:ILE:HD11	1.99	0.45
13:M:17:VAL:O	13:M:20:THR:HB	2.17	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:29:SER:HB3	8:H:32:LYS:HD2	1.99	0.45
1:A:66:G:C2	1:A:67:C:C6	3.05	0.45
16:P:43:LYS:HG3	16:P:48:TRP:CE3	2.51	0.45
8:H:94:TYR:HD1	8:H:132:GLU:HA	1.82	0.45
15:O:67:LEU:HD22	15:O:78:TYR:CE1	2.44	0.45
1:A:276:G:O3'	17:Q:68:ARG:NH1	2.41	0.45
21:U:12:LYS:HB3	21:U:22:ARG:HD2	1.98	0.45
1:A:457:C:C2	1:A:458:C:C5	3.05	0.45
2:B:87:ARG:HE	2:B:233:SER:CB	2.26	0.45
1:A:37:U:H2'	1:A:38:G:O4'	2.17	0.45
7:G:16:LEU:CD1	9:I:42:ARG:HA	2.47	0.45
6:F:89:MET:HG2	6:F:89:MET:O	2.16	0.45
1:A:763:G:N3	1:A:764:C:C6	2.85	0.45
1:A:114:U:H2'	1:A:115:G:H8	1.82	0.45
8:H:64:LYS:CG	8:H:79:VAL:HG21	2.47	0.45
1:A:779:C:H2'	1:A:780:A:O4'	2.16	0.45
1:A:997:U:H2'	1:A:998:G:C8	2.52	0.45
1:A:57:G:H2'	1:A:58:C:O4'	2.16	0.45
1:A:451:A:C5	1:A:481:G:C6	3.04	0.45
16:P:27:LYS:O	16:P:30:GLY:N	2.49	0.45
16:P:34:GLU:OE2	16:P:55:ARG:HD3	2.17	0.45
16:P:39:TYR:CD1	16:P:40:ASP:N	2.85	0.45
2:B:114:ARG:HH11	2:B:118:LEU:HD21	1.81	0.45
4:D:74:GLN:HE22	4:D:137:SER:HB3	1.81	0.45
19:S:7:LYS:N	19:S:7:LYS:HD3	2.32	0.45
1:A:370:C:N3	1:A:371:G:C5	2.85	0.45
1:A:184:G:N2	1:A:194:C:C2	2.85	0.45
1:A:1308:U:H2'	1:A:1309:G:C8	2.52	0.45
9:I:46:ALA:O	9:I:49:PRO:HD2	2.16	0.45
1:A:613:C:N4	1:A:627:G:H1	2.11	0.45
13:M:69:GLU:HB3	13:M:72:ALA:HB3	1.98	0.45
1:A:1387:G:N3	1:A:1387:G:H2'	2.31	0.45
1:A:827:U:H5''	1:A:828:A:OP2	2.17	0.45
1:A:1316:G:H1	19:S:5:LEU:CD2	2.30	0.45
18:R:25:THR:HG22	18:R:42:ARG:NH1	2.32	0.45
1:A:369:C:H2'	1:A:369:C:O2	2.15	0.45
1:A:376:G:C4	1:A:389:A:C2	3.05	0.45
1:A:713:G:H2'	1:A:714:G:C8	2.52	0.45
2:B:114:ARG:HD2	2:B:141:GLU:OE1	2.17	0.45
1:A:1097:C:C1'	1:A:1170:A:H1'	2.37	0.45
1:A:1086:U:H2'	1:A:1087:G:C8	2.41	0.45
13:M:56:LEU:O	13:M:60:VAL:HG23	2.16	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:K:111:ASP:CA	18:R:84:LYS:HG3	2.41	0.45
1:A:961:U:OP2	1:A:1223:C:H4'	2.17	0.45
1:A:923:A:O2'	1:A:924:C:H5'	2.17	0.45
1:A:78:G:H1	1:A:91:C:N4	2.15	0.45
8:H:51:VAL:HB	8:H:52:ASP:H	1.68	0.45
9:I:45:ALA:O	9:I:78:LYS:HE3	2.18	0.45
1:A:448:A:H2'	1:A:449:C:C6	2.51	0.45
1:A:262:A:H2'	1:A:263:A:C8	2.52	0.45
17:Q:100:LYS:HD3	17:Q:100:LYS:HA	1.82	0.45
1:A:1014:A:H2	1:A:1219:U:O2	2.00	0.45
11:K:80:VAL:O	11:K:80:VAL:HG23	2.15	0.45
1:A:1344:C:O2'	1:A:1345:U:H5'	2.16	0.45
1:A:367:U:O2	1:A:369:C:C6	2.69	0.45
10:J:44:VAL:HG11	10:J:46:ARG:NE	2.32	0.44
1:A:407:G:C2	1:A:436:C:N3	2.85	0.44
8:H:89:PRO:HA	8:H:92:ARG:NH1	2.32	0.44
1:A:1066:C:C5'	1:A:1067:A:OP2	2.60	0.44
18:R:84:LYS:HA	18:R:84:LYS:HD3	1.80	0.44
1:A:1037:C:H2'	1:A:1038:C:O4'	2.17	0.44
1:A:1322:C:P	19:S:78:ARG:HH22	2.41	0.44
1:A:747:C:C5	1:A:748:C:N3	2.85	0.44
5:E:139:LEU:CA	5:E:142:LEU:HD12	2.43	0.44
1:A:35:G:C6	1:A:36:C:N4	2.85	0.44
1:A:807:A:C6	1:A:808:C:C4	3.05	0.44
1:A:872:A:C4	1:A:874:G:C8	3.04	0.44
9:I:36:TYR:CE1	9:I:70:LYS:NZ	2.85	0.44
1:A:1015:A:C6	1:A:1016:A:C5	3.05	0.44
17:Q:19:VAL:HG23	17:Q:44:ALA:HB3	1.99	0.44
1:A:868:C:H2'	1:A:869:G:O4'	2.17	0.44
1:A:675:A:C4	1:A:676:A:C8	3.05	0.44
10:J:62:HIS:CE1	14:N:61:TRP:CH2	3.05	0.44
8:H:103:VAL:CG2	8:H:110:ALA:HB2	2.48	0.44
1:A:410:G:C2	1:A:429:U:C2	3.04	0.44
1:A:1072:G:C6	1:A:1073:U:C4	3.05	0.44
1:A:685:G:O2'	1:A:686:U:C5'	2.54	0.44
20:T:100:ILE:O	20:T:102:GLY:N	2.50	0.44
1:A:1064:G:C1'	1:A:1065:U:OP2	2.63	0.44
1:A:559:A:H4'	1:A:560:U:O5'	2.16	0.44
12:L:60:LEU:HD21	12:L:66:VAL:HG22	1.99	0.44
12:L:70:ILE:N	12:L:70:ILE:HD12	2.33	0.44
2:B:174:VAL:O	2:B:178:ARG:HB2	2.17	0.44
1:A:1422:G:HO2'	1:A:1423:G:H5'	1.78	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:78:HIS:HE1	5:E:142:LEU:HA	1.81	0.44
8:H:1:MET:H3	8:H:1:MET:CE	2.29	0.44
1:A:811:C:H4'	1:A:900:A:N6	2.31	0.44
1:A:1293:G:O2'	1:A:1294:G:P	2.75	0.44
2:B:134:GLU:O	2:B:138:LEU:HD12	2.17	0.44
1:A:994:A:N6	1:A:1046:A:H2	2.15	0.44
1:A:598:U:H2'	1:A:599:C:C6	2.52	0.44
1:A:410:G:O5'	1:A:410:G:H8	2.01	0.44
1:A:876:G:H2'	1:A:877:C:C6	2.52	0.44
1:A:971:G:H1'	1:A:1365:G:O2'	2.18	0.44
1:A:397:A:H5''	1:A:397:A:N3	2.32	0.44
1:A:1271:G:H5'	1:A:1314:C:C5'	2.47	0.44
1:A:189(C):C:H2'	1:A:189(D):C:C5'	2.48	0.44
1:A:1205:U:H5''	3:C:190:ARG:HH21	1.80	0.44
4:D:149:ALA:O	4:D:150:GLU:C	2.54	0.44
2:B:36:ARG:HB2	2:B:41:ILE:HD13	1.99	0.44
7:G:78:ARG:HB3	7:G:87:VAL:HG23	1.99	0.44
1:A:353:A:H5'	1:A:353:A:C8	2.44	0.44
16:P:39:TYR:HD2	16:P:73:LEU:HD11	1.78	0.44
15:O:63:ARG:HG3	15:O:67:LEU:HD12	2.00	0.44
1:A:432:A:C8	1:A:433:C:C6	3.05	0.44
1:A:542:G:OP1	4:D:10:ARG:NH2	2.48	0.44
1:A:544:G:C4	1:A:545:C:C5	3.04	0.44
6:F:14:LEU:HD23	6:F:14:LEU:HA	1.68	0.44
1:A:492:G:C5	1:A:493:G:N7	2.86	0.44
16:P:14:ASN:N	16:P:15:PRO:HD3	2.32	0.44
1:A:1368:G:C2'	1:A:1369:C:H5'	2.47	0.44
7:G:26:PHE:CG	7:G:62:PHE:CE1	3.05	0.44
1:A:163:C:H2'	1:A:164:U:H6	1.81	0.44
1:A:580:U:O2'	15:O:57:LEU:HD13	2.18	0.44
14:N:12:ARG:C	14:N:14:PRO:CD	2.86	0.44
7:G:88:PRO:HG3	7:G:148:ASN:O	2.17	0.44
1:A:640:A:O2'	1:A:641:U:H5'	2.18	0.44
1:A:68:G:N2	1:A:69:G:C4	2.86	0.44
1:A:962:C:H42	1:A:974:A:H61	1.65	0.44
6:F:62:TRP:CE2	18:R:35:ARG:NH2	2.86	0.44
10:J:8:LEU:HB3	10:J:16:LEU:HD21	1.99	0.44
10:J:6:ILE:HG22	10:J:98:ILE:CG1	2.47	0.44
3:C:11:ARG:O	3:C:14:ILE:O	2.35	0.44
3:C:15:THR:HG22	3:C:16:ARG:HH12	1.83	0.44
13:M:68:GLY:O	13:M:69:GLU:HB2	2.18	0.44
13:M:81:LEU:HD11	13:M:88:ARG:HH12	1.82	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:58:GLU:H	3:C:65:ALA:CB	2.27	0.44
1:A:119:A:N7	1:A:288:A:C2	2.85	0.44
3:C:5:ILE:HD13	3:C:5:ILE:O	2.17	0.44
1:A:836:G:C6	1:A:851:G:C5	3.06	0.44
1:A:782:A:H4'	1:A:1514:C:O2'	2.17	0.44
1:A:1350:A:C5	1:A:1351:U:C4	3.05	0.44
1:A:510:A:H5''	1:A:511:C:OP2	2.18	0.44
6:F:20:ALA:O	6:F:23:LYS:HB2	2.17	0.44
17:Q:66:SER:O	17:Q:67:LYS:C	2.54	0.44
1:A:973:G:N3	10:J:55:LYS:HE2	2.33	0.44
2:B:170:GLU:O	2:B:174:VAL:HG23	2.18	0.44
2:B:19:HIS:O	2:B:20:GLU:O	2.35	0.44
1:A:90:U:H5''	1:A:91:C:H5'	1.99	0.44
3:C:15:THR:HG22	3:C:16:ARG:NH1	2.33	0.44
3:C:134:ILE:HG22	3:C:168:ALA:HB3	1.99	0.44
1:A:342:C:O2'	1:A:343:U:H5'	2.18	0.44
7:G:46:ALA:O	7:G:50:ILE:HG12	2.17	0.44
1:A:120:A:C6	1:A:122:G:C2	3.05	0.44
11:K:69:ALA:O	11:K:73:MET:HG3	2.18	0.44
9:I:99:LEU:O	9:I:100:GLY:C	2.56	0.44
19:S:58:VAL:O	19:S:58:VAL:HG23	2.17	0.44
1:A:245:C:O2	1:A:283:C:N3	2.50	0.44
1:A:224:C:H2'	1:A:225:C:C6	2.53	0.44
1:A:169:C:C5	1:A:170:U:C5	3.06	0.44
16:P:20:VAL:HG22	16:P:32:TYR:HB2	1.98	0.44
16:P:4:ILE:N	16:P:4:ILE:HD12	2.32	0.44
1:A:408:A:H5'	4:D:116:GLN:HB2	1.99	0.44
4:D:65:ARG:HD2	4:D:72:GLU:HA	2.00	0.44
9:I:105:ASP:CG	9:I:107:ARG:HD3	2.38	0.44
1:A:1091:U:O2	1:A:1093:A:C8	2.71	0.44
1:A:328:C:H4'	1:A:329:A:H5'	1.99	0.44
4:D:146:ILE:H	4:D:146:ILE:CD1	2.30	0.44
1:A:624:C:O3'	16:P:10:GLY:HA2	2.18	0.44
1:A:577:G:H1'	1:A:816:A:C4	2.53	0.44
1:A:594:G:H1	1:A:645:C:N4	2.13	0.44
17:Q:4:LYS:HB3	17:Q:61:GLU:OE2	2.18	0.44
3:C:33:LEU:HD23	14:N:37:PHE:O	2.17	0.44
1:A:1350:A:O5'	1:A:1350:A:H8	2.01	0.44
7:G:87:VAL:HA	7:G:88:PRO:HD3	1.91	0.44
1:A:1210:C:H4'	1:A:1214:C:C4	2.53	0.44
4:D:24:GLU:O	4:D:27:TYR:HB2	2.17	0.44
1:A:150:C:N4	1:A:170:U:C4	2.86	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:355:C:H5'	1:A:389:A:OP2	2.18	0.44
2:B:98:LEU:HB2	2:B:101:MET:CE	2.48	0.44
1:A:1347:G:C6	9:I:107:ARG:NH2	2.86	0.44
10:J:54:PHE:CZ	10:J:55:LYS:HD2	2.52	0.44
1:A:557:G:H2'	1:A:558:G:C8	2.53	0.44
1:A:397:A:N7	1:A:548:G:C8	2.86	0.44
1:A:1054:C:C2'	1:A:1055:A:H5''	2.48	0.44
4:D:141:ARG:HB3	4:D:142:PRO:HD2	2.00	0.44
1:A:12:U:H4'	1:A:526:C:O2'	2.17	0.44
2:B:124:SER:O	2:B:127:ILE:HG12	2.18	0.44
1:A:1218:C:H2'	1:A:1219:U:C5	2.53	0.44
1:A:1240:U:P	7:G:116:ALA:HB2	2.58	0.44
1:A:788:U:H2'	1:A:789:U:O4'	2.18	0.44
2:B:132:LYS:O	2:B:136:VAL:HG23	2.18	0.44
1:A:27:G:O2'	1:A:28:G:H5'	2.17	0.44
1:A:1011:G:N2	1:A:1019:C:C2	2.86	0.44
19:S:69:HIS:CB	19:S:74:PHE:HE2	2.30	0.44
7:G:94:ARG:H	7:G:94:ARG:HG3	1.61	0.44
1:A:676:A:H2'	1:A:677:U:C6	2.53	0.44
10:J:62:HIS:O	10:J:62:HIS:HD2	2.00	0.44
4:D:79:PHE:CD1	4:D:207:TYR:CD1	3.06	0.44
1:A:491:G:H2'	1:A:492:G:O4'	2.18	0.44
7:G:111:ARG:HB3	7:G:113:GLU:HG2	2.00	0.44
7:G:111:ARG:CZ	7:G:122:HIS:HB3	2.47	0.44
6:F:63:TYR:O	6:F:65:VAL:HG13	2.17	0.44
1:A:1079:G:H2'	1:A:1080:A:C8	2.53	0.44
10:J:38:ILE:HG12	10:J:71:LEU:O	2.17	0.44
1:A:90:U:H6	1:A:90:U:H3'	1.83	0.44
1:A:1159:U:C5	1:A:1182:G:C4	3.06	0.44
1:A:1054:C:OP1	1:A:1197:G:OP2	2.35	0.44
1:A:273:A:O2'	1:A:274:A:H5'	2.18	0.44
1:A:604:G:C5	1:A:605:U:C5	3.06	0.44
1:A:448:A:N7	1:A:486:U:O4	2.51	0.44
1:A:694:A:C2'	1:A:695:A:O5'	2.66	0.44
7:G:27:ILE:HD11	7:G:43:PHE:CG	2.53	0.44
2:B:223:ILE:C	2:B:225:ALA:H	2.21	0.44
15:O:64:ARG:HH11	15:O:64:ARG:HG3	1.83	0.44
8:H:90:GLY:O	8:H:91:ARG:HB2	2.18	0.44
18:R:61:LYS:O	18:R:65:ILE:HG13	2.18	0.43
2:B:61:LEU:CA	2:B:64:ARG:HG2	2.45	0.43
1:A:612:C:O2	1:A:629:G:N2	2.51	0.43
1:A:991:U:O2'	1:A:992:U:P	2.76	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:58:ASP:O	10:J:60:ARG:N	2.52	0.43
1:A:854:G:OP2	1:A:871:U:C5	2.71	0.43
1:A:243:A:C2	1:A:246:A:C8	3.06	0.43
11:K:85:ARG:HG2	11:K:112:THR:HA	1.98	0.43
20:T:46:GLU:CG	20:T:48:LYS:HE2	2.48	0.43
1:A:117:G:O2'	1:A:118:U:H5'	2.18	0.43
1:A:1113:C:O5'	1:A:1113:C:H6	2.01	0.43
1:A:11:G:C6	1:A:12:U:C4	3.06	0.43
15:O:20:GLY:O	15:O:21:ASP:HB3	2.18	0.43
1:A:718:G:H5'	11:K:117:ASN:HB2	2.00	0.43
1:A:665:A:C5	1:A:733:A:C5	3.05	0.43
2:B:144:ARG:HG3	2:B:145:LEU:N	2.33	0.43
1:A:509:A:O2'	1:A:510:A:C5'	2.66	0.43
1:A:513:C:O2	1:A:513:C:H2'	2.18	0.43
1:A:735:C:H5'	18:R:71:LYS:HD3	2.00	0.43
1:A:1063:C:C5	1:A:1064:G:C4	3.06	0.43
1:A:1047:G:C2'	1:A:1048:G:H5'	2.48	0.43
1:A:1285:A:C4'	1:A:1286:A:O5'	2.67	0.43
10:J:5:ARG:O	10:J:98:ILE:HA	2.18	0.43
2:B:178:ARG:HG3	8:H:72:PRO:HA	2.00	0.43
1:A:1281:U:H5'	1:A:1282:C:H5	1.83	0.43
8:H:11:THR:HA	8:H:14:ARG:NH1	2.34	0.43
1:A:658:G:C1'	15:O:22:THR:HB	2.48	0.43
18:R:66:LEU:CD1	18:R:70:ILE:HD11	2.46	0.43
1:A:731:G:H5'	1:A:766:A:H4'	2.01	0.43
15:O:43:LEU:C	15:O:45:VAL:H	2.22	0.43
1:A:518:C:O2'	1:A:530:G:N2	2.52	0.43
6:F:24:GLU:O	6:F:28:ARG:HD2	2.18	0.43
8:H:39:LEU:HB3	8:H:45:ILE:HG12	2.00	0.43
16:P:27:LYS:O	16:P:28:ARG:C	2.56	0.43
1:A:1256:A:O3'	1:A:1257:U:H4'	2.19	0.43
1:A:22:G:H4'	1:A:885:G:C8	2.53	0.43
2:B:194:PRO:O	2:B:196:LEU:N	2.52	0.43
7:G:153:HIS:HA	7:G:155:ARG:HH12	1.83	0.43
1:A:1319:A:N6	1:A:1361:G:H21	2.16	0.43
1:A:758:G:H5''	1:A:880:C:H1'	2.00	0.43
13:M:29:ARG:HA	13:M:32:GLU:HB3	2.01	0.43
1:A:980:C:O2	14:N:19:ARG:HA	2.18	0.43
3:C:159:GLY:HA2	3:C:193:TYR:CD1	2.53	0.43
1:A:292:G:H1	1:A:308:C:H42	1.66	0.43
2:B:204:ASN:HD21	2:B:207:ALA:H	1.67	0.43
15:O:78:TYR:O	15:O:79:ARG:C	2.56	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:14:ARG:HB2	4:D:40:PRO:HD2	2.00	0.43
1:A:1048:G:P	14:N:4:LYS:HB2	2.58	0.43
1:A:558:G:H5'	1:A:559:A:P	2.58	0.43
1:A:1308:U:H2'	1:A:1309:G:H8	1.83	0.43
20:T:26:ASN:HA	20:T:29:LYS:HG2	2.01	0.43
1:A:363:A:OP2	12:L:34:ARG:HB3	2.18	0.43
1:A:854:G:H3'	1:A:871:U:O4	2.18	0.43
8:H:1:MET:O	8:H:2:LEU:O	2.35	0.43
3:C:126:ARG:O	3:C:127:ARG:HB2	2.18	0.43
17:Q:3:LYS:O	17:Q:4:LYS:C	2.57	0.43
4:D:131:ARG:HD3	4:D:131:ARG:N	2.31	0.43
1:A:1250:A:C6	1:A:1251:A:C6	3.05	0.43
15:O:61:GLY:O	15:O:64:ARG:HB3	2.18	0.43
1:A:197:A:N6	1:A:221:C:H5'	2.34	0.43
1:A:308:C:H2'	1:A:309:G:H8	1.83	0.43
15:O:75:PRO:O	15:O:78:TYR:HB3	2.18	0.43
4:D:79:PHE:CD2	4:D:79:PHE:C	2.92	0.43
1:A:953:G:H5'	1:A:965:A:H61	1.84	0.43
9:I:4:TYR:HD2	9:I:59:PHE:HE2	1.67	0.43
1:A:923:A:H5'	5:E:21:ALA:HB2	2.00	0.43
1:A:457:C:H2'	1:A:458:C:C6	2.38	0.43
2:B:28:PHE:CD1	2:B:190:THR:HA	2.52	0.43
1:A:946:A:C2	1:A:1236:A:C2	3.06	0.43
2:B:67:THR:HG22	2:B:90:MET:CE	2.48	0.43
1:A:1371:G:C6	1:A:1372:U:C4	3.07	0.43
20:T:73:HIS:HB3	20:T:74:LYS:H	1.53	0.43
19:S:15:LEU:HD21	19:S:35:SER:HB3	2.00	0.43
3:C:87:LEU:O	3:C:91:LEU:HG	2.19	0.43
9:I:118:LYS:HZ3	9:I:118:LYS:HB3	1.83	0.43
14:N:36:PHE:HD1	14:N:37:PHE:CD2	2.37	0.43
1:A:143:A:N1	1:A:220:G:O6	2.51	0.43
1:A:1006:C:H42	1:A:1024:G:H21	1.66	0.43
8:H:116:LYS:O	8:H:119:LEU:HD21	2.18	0.43
1:A:135:C:H2'	1:A:136:C:H5'	2.00	0.43
1:A:673:G:O3'	6:F:87:ARG:NH2	2.52	0.43
1:A:512:U:C2	1:A:513:C:C5	3.07	0.43
1:A:542:G:P	4:D:10:ARG:HH21	2.41	0.43
1:A:709:G:H2'	1:A:710:G:C8	2.51	0.43
17:Q:45:HIS:O	17:Q:73:VAL:HG23	2.17	0.43
1:A:491:G:H2'	1:A:492:G:C8	2.53	0.43
1:A:561:U:HO2'	1:A:562:C:P	2.38	0.43
18:R:51:LEU:HB2	18:R:56:THR:HG22	2.00	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1125:U:O3'	1:A:1126:U:C6	2.72	0.43
19:S:36:ARG:HH12	19:S:75:ALA:CB	2.25	0.43
1:A:363:A:O2'	1:A:364:A:H5'	2.19	0.43
8:H:6:ILE:O	8:H:8:ASP:N	2.52	0.43
1:A:774:G:N2	1:A:806:C:C2	2.87	0.43
5:E:127:ASN:O	5:E:128:PRO:C	2.57	0.43
5:E:12:LEU:C	5:E:12:LEU:HD22	2.39	0.43
1:A:1496:C:H2'	1:A:1497:G:O4'	2.18	0.43
20:T:76:ALA:O	20:T:77:ALA:C	2.55	0.43
3:C:59:ARG:HE	3:C:64:VAL:HG13	1.83	0.43
13:M:12:ASN:OD1	13:M:46:LYS:HE2	2.18	0.43
16:P:81:ARG:C	16:P:82:GLN:HE21	2.22	0.43
17:Q:29:HIS:HB2	17:Q:36:ILE:HD13	1.99	0.43
7:G:37:ASN:HD21	9:I:40:LEU:CD2	2.31	0.43
1:A:1392:G:C2'	1:A:1393:U:H5'	2.48	0.43
1:A:521:G:O2'	1:A:522:C:H5'	2.18	0.43
1:A:57:G:C6	1:A:58:C:N3	2.87	0.43
16:P:1:MET:HG2	16:P:2:VAL:O	2.18	0.43
13:M:115:LYS:O	13:M:116:THR:C	2.57	0.43
1:A:148:G:H2'	1:A:149:A:H8	1.84	0.43
16:P:43:LYS:C	16:P:45:THR:N	2.72	0.43
2:B:54:THR:O	2:B:58:ILE:HG12	2.19	0.43
13:M:40:ASN:HA	13:M:41:PRO:HD3	1.81	0.43
6:F:50:TYR:HE2	6:F:52:ILE:HG12	1.83	0.43
17:Q:59:ILE:HG22	17:Q:71:PHE:CD1	2.47	0.43
1:A:564:C:H5'	12:L:10:LEU:HD12	2.01	0.43
2:B:171:ALA:HA	2:B:174:VAL:CG2	2.48	0.43
1:A:125:U:O3'	1:A:633:G:N2	2.52	0.43
1:A:1160:G:N2	1:A:1161:C:C6	2.86	0.43
16:P:68:ASP:C	16:P:70:ALA:H	2.21	0.43
1:A:1299:A:C5	1:A:1301:U:O2	2.72	0.43
3:C:35:GLU:HA	3:C:38:ARG:HG2	2.01	0.43
11:K:69:ALA:HB1	11:K:103:LEU:HD23	1.99	0.43
1:A:770:C:O2'	1:A:771:G:H5'	2.18	0.43
8:H:33:GLU:O	8:H:34:GLU:C	2.57	0.43
1:A:352:C:H4'	1:A:354:G:OP1	2.18	0.43
15:O:87:ILE:O	15:O:88:ARG:HB2	2.17	0.43
13:M:108:ARG:NE	13:M:114:ARG:HG2	2.33	0.43
8:H:10:LEU:H	8:H:10:LEU:HD23	1.83	0.43
1:A:438:G:H4'	4:D:123:HIS:ND1	2.34	0.43
1:A:1364:U:O2'	1:A:1365:G:H5'	2.19	0.43
3:C:6:HIS:NE2	3:C:184:TYR:HE2	2.17	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:763:G:C4	1:A:764:C:C5	3.06	0.43
6:F:97:PHE:HD2	18:R:31:LEU:HD21	1.84	0.43
2:B:149:LEU:HD22	2:B:152:PHE:HB3	2.01	0.43
11:K:95:ILE:CG2	11:K:108:ILE:HD13	2.48	0.43
1:A:50:A:N6	1:A:361:G:H4'	2.33	0.43
1:A:538:G:N2	1:A:539:A:C4	2.87	0.43
20:T:50:GLU:HB3	20:T:100:ILE:HD13	2.01	0.43
1:A:558:G:C4	1:A:559:A:C2	3.07	0.43
2:B:194:PRO:O	2:B:195:ASP:C	2.57	0.43
1:A:945:G:N1	1:A:1337:G:C2	2.87	0.43
1:A:666:G:C2	1:A:741:G:C4	3.06	0.43
1:A:818:G:HO2'	1:A:820:U:H6	1.64	0.43
1:A:1053:G:C3'	1:A:1054:C:H5'	2.49	0.43
1:A:627:G:O2'	1:A:628:G:H5'	2.18	0.43
8:H:11:THR:HG22	8:H:15:ASN:ND2	2.34	0.43
2:B:18:GLY:HA2	2:B:42:ILE:HG22	2.01	0.43
1:A:348:G:N2	1:A:349:A:C4	2.87	0.43
9:I:114:TYR:CD1	10:J:60:ARG:HG2	2.52	0.43
1:A:723:U:OP1	1:A:723:U:H6	2.02	0.43
5:E:112:LEU:HD23	5:E:112:LEU:H	1.83	0.43
1:A:791:G:C5	1:A:792:A:N7	2.87	0.43
1:A:769:G:H4'	1:A:1513:A:H4'	2.00	0.43
15:O:18:PHE:CD1	15:O:18:PHE:O	2.72	0.43
1:A:1015:A:C6	1:A:1016:A:C6	3.07	0.43
1:A:1243:C:OP2	21:U:10:ARG:CZ	2.67	0.43
1:A:100:C:H2'	1:A:101:A:O4'	2.19	0.43
20:T:58:LYS:O	20:T:62:LEU:HB2	2.18	0.43
1:A:1253:G:H2'	1:A:1254:C:O4'	2.19	0.43
4:D:79:PHE:CD1	4:D:207:TYR:HD1	2.37	0.43
1:A:1095:U:P	1:A:1108:G:H1	2.42	0.43
1:A:1084:G:OP1	1:A:1086:U:C2	2.72	0.43
1:A:55:A:N7	1:A:56:U:H5	2.17	0.43
7:G:113:GLU:CB	7:G:119:ARG:HG2	2.40	0.43
18:R:44:LEU:HA	18:R:49:LYS:O	2.18	0.43
2:B:233:SER:HB2	2:B:234:PRO:HD2	1.99	0.43
13:M:106:ASN:O	13:M:107:ALA:CB	2.65	0.43
1:A:635:G:H2'	1:A:636:U:H6	1.84	0.43
1:A:1116:C:C4	1:A:1117:G:C8	3.07	0.43
2:B:29:ALA:O	2:B:31:TYR:N	2.52	0.43
10:J:80:LYS:HB2	10:J:80:LYS:NZ	2.34	0.43
9:I:113:LYS:O	9:I:116:LYS:HB2	2.19	0.43
9:I:112:LYS:HG2	9:I:119:ALA:H	1.83	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:225:C:H2'	1:A:226:G:H8	1.83	0.43
17:Q:92:ARG:HG2	17:Q:93:GLN:N	2.33	0.43
1:A:1121:U:H6	1:A:1121:U:O5'	2.02	0.43
1:A:392:G:C4	1:A:393:A:C8	3.07	0.42
1:A:407:G:O2'	4:D:116:GLN:CG	2.68	0.42
1:A:103:C:OP2	20:T:14:LYS:HD3	2.19	0.42
18:R:62:GLU:HA	18:R:65:ILE:HD12	2.00	0.42
1:A:1127:G:C2'	1:A:1147:C:H42	2.32	0.42
1:A:363:A:OP2	12:L:61:THR:HG21	2.18	0.42
7:G:26:PHE:CG	7:G:62:PHE:HE1	2.37	0.42
1:A:577:G:N3	1:A:578:C:C6	2.87	0.42
1:A:1293:G:HO2'	1:A:1294:G:P	2.42	0.42
1:A:224:C:C2	1:A:225:C:C5	3.07	0.42
6:F:33:TYR:O	6:F:34:GLY:C	2.57	0.42
1:A:309:G:O2'	1:A:310:G:H5'	2.18	0.42
13:M:66:LEU:CD1	13:M:66:LEU:H	2.23	0.42
1:A:982:U:H4'	1:A:983:A:O5'	2.19	0.42
1:A:1452:C:C5'	1:A:1456:G:C4	2.97	0.42
1:A:1126:U:C2'	1:A:1127:G:O5'	2.66	0.42
1:A:862:C:O2'	1:A:863:U:H5'	2.18	0.42
6:F:67:MET:CB	6:F:68:PRO:HD2	2.46	0.42
1:A:1053:G:H3'	1:A:1054:C:H5'	2.00	0.42
8:H:8:ASP:O	8:H:11:THR:N	2.52	0.42
20:T:79:ARG:HA	20:T:82:SER:OG	2.19	0.42
1:A:286:G:C5	1:A:287:U:C5	3.07	0.42
1:A:1150:U:C5	1:A:1151:A:N7	2.87	0.42
4:D:153:ARG:HG2	4:D:181:MET:SD	2.59	0.42
8:H:86:ILE:HG12	8:H:135:CYS:HA	2.00	0.42
4:D:3:ARG:HD3	4:D:5:ILE:HD11	1.99	0.42
1:A:600:C:N3	1:A:639:G:C2	2.87	0.42
1:A:617:G:C6	1:A:618:C:C4	3.07	0.42
8:H:8:ASP:O	8:H:9:MET:C	2.56	0.42
13:M:71:ARG:O	13:M:71:ARG:HG3	2.19	0.42
7:G:149:ARG:O	7:G:149:ARG:HG2	2.20	0.42
8:H:58:TYR:CD1	8:H:58:TYR:N	2.87	0.42
9:I:114:TYR:CD2	9:I:114:TYR:O	2.72	0.42
1:A:603:U:O2'	1:A:604:G:H5'	2.19	0.42
4:D:150:GLU:HG2	4:D:151:LYS:N	2.32	0.42
1:A:286:G:C6	1:A:287:U:C4	3.07	0.42
1:A:1206:G:C6	1:A:1207:G:C6	3.07	0.42
1:A:518:C:H2'	1:A:530:G:N3	2.35	0.42
1:A:173:U:H5''	1:A:197:A:O4'	2.18	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:374:A:C2	1:A:375:U:C2	3.07	0.42
1:A:69:G:C2	1:A:70:G:N7	2.87	0.42
1:A:708:C:O2'	1:A:709:G:H5'	2.20	0.42
1:A:335:C:O2'	1:A:336:C:H5'	2.19	0.42
1:A:20:U:H4'	1:A:572:A:C6	2.54	0.42
1:A:1077:G:C6	1:A:1081:G:O6	2.72	0.42
1:A:134:A:H61	16:P:25:ARG:NH1	2.06	0.42
8:H:120:THR:HG23	8:H:123:GLU:CD	2.39	0.42
1:A:1004:A:N7	1:A:1036:G:O6	2.52	0.42
4:D:109:GLY:O	4:D:110:PHE:C	2.57	0.42
2:B:19:HIS:O	2:B:20:GLU:C	2.58	0.42
2:B:100:GLY:HA2	2:B:176:GLU:OE1	2.20	0.42
1:A:1158:C:O2	1:A:1158:C:H3'	2.19	0.42
1:A:1298:C:C6	7:G:114:ARG:NH1	2.87	0.42
2:B:17:PHE:H	2:B:17:PHE:HD2	1.66	0.42
9:I:26:VAL:HA	9:I:61:ALA:O	2.20	0.42
1:A:577:G:H2'	1:A:578:C:H6	1.85	0.42
20:T:55:ILE:O	20:T:56:MET:C	2.57	0.42
1:A:1362:C:C2'	1:A:1363:C:H5''	2.49	0.42
1:A:1317:C:H41	14:N:19:ARG:HH21	1.67	0.42
11:K:21:ILE:HB	11:K:84:VAL:HA	2.00	0.42
1:A:985:C:H6	1:A:985:C:O5'	2.02	0.42
1:A:515:G:H1	1:A:536:C:H42	1.67	0.42
1:A:754:C:H3'	1:A:754:C:O2	2.20	0.42
2:B:162:ILE:O	2:B:185:ILE:HG12	2.19	0.42
1:A:374:A:C6	1:A:375:U:C4	3.08	0.42
1:A:376:G:O3'	16:P:5:ARG:HD2	2.19	0.42
1:A:689:C:C2	1:A:690:G:C8	3.08	0.42
9:I:82:ALA:HB1	9:I:96:LEU:HD13	2.00	0.42
13:M:83:ASP:OD1	19:S:66:MET:HE1	2.20	0.42
1:A:762:C:C2	1:A:763:G:C8	3.08	0.42
6:F:8:ILE:HD11	6:F:79:LEU:HD13	2.02	0.42
1:A:857:C:H2'	1:A:858:G:O4'	2.20	0.42
6:F:94:GLN:HE21	18:R:32:ARG:HH21	1.66	0.42
17:Q:48:GLU:O	17:Q:50:LYS:N	2.53	0.42
1:A:472:A:O2'	16:P:82:GLN:NE2	2.52	0.42
1:A:163:C:C2	1:A:164:U:C5	3.07	0.42
5:E:15:ARG:CD	5:E:26:PHE:CD2	3.02	0.42
1:A:839:U:OP2	1:A:840:C:H5	2.01	0.42
18:R:73:ALA:CB	18:R:79:LEU:HD12	2.49	0.42
21:U:2:GLY:C	21:U:4:GLY:H	2.21	0.42
15:O:5:LYS:O	15:O:9:GLN:HG2	2.20	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:137:LYS:HE2	7:G:137:LYS:HB3	1.86	0.42
19:S:19:VAL:HG12	19:S:19:VAL:O	2.19	0.42
1:A:1441:G:H5''	1:A:1442:G:C5'	2.49	0.42
1:A:511:C:O2	1:A:512:U:C6	2.72	0.42
1:A:427:U:OP1	4:D:13:ARG:NH2	2.52	0.42
5:E:99:GLY:C	5:E:116:THR:O	2.58	0.42
17:Q:45:HIS:HB3	17:Q:72:ARG:HG2	2.01	0.42
1:A:556:C:C2'	1:A:557:G:H5'	2.49	0.42
1:A:1452:C:H4'	1:A:1456:G:O5'	2.20	0.42
6:F:39:LYS:HB3	6:F:62:TRP:HZ3	1.84	0.42
1:A:1003:G:H2'	1:A:1004:A:O4'	2.19	0.42
2:B:171:ALA:HA	2:B:174:VAL:HG23	2.01	0.42
1:A:1054:C:P	1:A:1197:G:OP2	2.78	0.42
1:A:951:G:C6	1:A:1231:G:C6	3.07	0.42
5:E:12:LEU:O	5:E:13:ILE:HD12	2.19	0.42
8:H:28:ALA:HA	8:H:59:LEU:HG	2.01	0.42
7:G:26:PHE:HB2	7:G:62:PHE:HZ	1.83	0.42
1:A:577:G:C2	1:A:578:C:C6	3.08	0.42
1:A:827:U:C4	1:A:870:U:N3	2.87	0.42
1:A:832:C:N4	1:A:855:G:C6	2.88	0.42
17:Q:60:ILE:HB	17:Q:74:LEU:HD23	2.01	0.42
1:A:994:A:H62	1:A:1046:A:H2	1.66	0.42
1:A:994:A:N6	1:A:1046:A:C2	2.87	0.42
1:A:770:C:C2'	1:A:771:G:H5'	2.49	0.42
7:G:49:ILE:HG22	7:G:49:ILE:O	2.19	0.42
8:H:101:PRO:HG2	8:H:133:LEU:HD11	2.02	0.42
13:M:25:ILE:HD12	13:M:25:ILE:N	2.34	0.42
1:A:1049:U:OP1	14:N:3:ARG:NH1	2.52	0.42
1:A:1452:C:H4'	1:A:1456:G:N3	2.34	0.42
1:A:38:G:H22	1:A:397:A:H5''	1.85	0.42
8:H:24:THR:HG22	8:H:25:ASP:H	1.83	0.42
1:A:1385:G:C6	1:A:1386:G:N7	2.87	0.42
5:E:128:PRO:O	5:E:129:ILE:C	2.57	0.42
1:A:349:A:C2'	1:A:350:G:H5'	2.50	0.42
1:A:832:C:O2'	1:A:833:U:O5'	2.33	0.42
17:Q:74:LEU:HA	17:Q:74:LEU:HD22	1.89	0.42
2:B:129:GLU:HB3	2:B:130:ARG:H	1.69	0.42
12:L:20:LYS:H	12:L:20:LYS:HD3	1.85	0.42
4:D:126:ILE:HG22	4:D:127:THR:N	2.35	0.42
15:O:32:LEU:O	15:O:33:THR:C	2.58	0.42
2:B:51:LEU:HD22	2:B:55:PHE:CE2	2.55	0.42
1:A:1277:C:O2'	1:A:1279:A:H1'	2.19	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:407:G:O2'	4:D:116:GLN:CB	2.68	0.42
17:Q:68:ARG:HG3	17:Q:68:ARG:O	2.20	0.42
9:I:18:PHE:HB3	9:I:20:ARG:HH11	1.82	0.42
3:C:43:LEU:O	3:C:47:LEU:HD23	2.20	0.42
1:A:977:A:C8	1:A:1223:C:N3	2.88	0.42
1:A:982:U:C2	1:A:983:A:N6	2.88	0.42
1:A:458:C:H3'	1:A:460:G:H8	1.85	0.42
5:E:75:THR:OG1	5:E:76:ILE:N	2.50	0.42
14:N:29:ARG:NH2	14:N:41:ARG:HH12	2.18	0.42
5:E:135:THR:O	5:E:138:ALA:HB3	2.19	0.42
5:E:91:LEU:HD12	5:E:91:LEU:HA	1.76	0.42
1:A:1152:A:OP1	10:J:68:HIS:CD2	2.73	0.42
1:A:515:G:C6	1:A:516:U:N3	2.87	0.42
1:A:1328:C:H2'	1:A:1329:A:O4'	2.20	0.42
4:D:132:ARG:HG3	4:D:132:ARG:H	1.61	0.42
1:A:68:G:C2	1:A:69:G:C4	3.08	0.42
8:H:112:LEU:HA	8:H:134:ILE:H	1.84	0.42
8:H:134:ILE:O	8:H:135:CYS:HB3	2.20	0.42
1:A:1502:A:H2	1:A:1505:G:C2	2.38	0.42
17:Q:70:ARG:C	17:Q:71:PHE:CD2	2.93	0.42
1:A:1068:G:OP2	1:A:1094:G:H5'	2.20	0.42
1:A:982:U:H5''	14:N:6:LEU:CD1	2.49	0.42
5:E:72:GLN:O	5:E:75:THR:HG22	2.20	0.42
20:T:29:LYS:O	20:T:33:ILE:HG12	2.20	0.42
1:A:1298:C:H4'	1:A:1299:A:C4	2.55	0.42
1:A:339:C:H2'	1:A:340:U:C6	2.55	0.42
1:A:338:A:C2'	1:A:339:C:H5'	2.48	0.42
10:J:50:ILE:HA	10:J:60:ARG:CB	2.50	0.42
4:D:171:GLY:HA2	4:D:172:PRO:HD3	1.76	0.42
11:K:38:ASN:HA	11:K:39:PRO:HD3	1.89	0.42
1:A:1137:C:H6	1:A:1137:C:H3'	1.85	0.42
1:A:654:G:C2'	1:A:655:A:H5'	2.50	0.42
11:K:125:PHE:H	11:K:125:PHE:HD1	1.67	0.42
11:K:125:PHE:N	11:K:125:PHE:HD1	2.18	0.42
17:Q:18:THR:HG23	17:Q:69:LYS:HE3	2.02	0.42
1:A:1194:U:H2'	1:A:1195:C:C6	2.55	0.42
14:N:25:VAL:HG23	14:N:38:GLY:O	2.19	0.42
5:E:140:ARG:HE	5:E:140:ARG:HB2	1.68	0.42
2:B:153:ARG:O	2:B:154:LEU:C	2.58	0.42
2:B:163:PHE:CD2	2:B:185:ILE:HG13	2.48	0.42
1:A:597:G:C8	1:A:598:U:C5	3.08	0.42
1:A:411:A:O2'	1:A:413:G:H5'	2.20	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:253:U:H2'	1:A:254:G:C8	2.54	0.42
1:A:437:U:H4'	4:D:125:HIS:HE2	1.83	0.42
1:A:1065:U:O2'	1:A:1066:C:OP2	2.35	0.42
1:A:1084:G:OP1	1:A:1086:U:N3	2.53	0.42
1:A:618:C:H3'	1:A:619:U:H5''	2.01	0.42
1:A:1126:U:H2'	1:A:1127:G:O5'	2.20	0.42
10:J:5:ARG:HA	10:J:73:ASP:OD1	2.20	0.42
1:A:1281:U:H3'	1:A:1282:C:H6	1.84	0.42
8:H:25:ASP:OD2	8:H:60:ARG:NE	2.52	0.42
1:A:774:G:C2'	1:A:775:G:H5'	2.49	0.42
5:E:31:LEU:HA	5:E:31:LEU:HD23	1.84	0.42
8:H:28:ALA:CB	8:H:57:PRO:O	2.68	0.42
8:H:58:TYR:N	8:H:58:TYR:HD1	2.18	0.42
10:J:81:THR:O	10:J:85:LEU:HG	2.19	0.42
20:T:63:ILE:HG22	20:T:77:ALA:HB1	2.01	0.42
17:Q:14:LYS:N	17:Q:14:LYS:HZ2	2.17	0.42
1:A:106:C:C2	1:A:107:G:C8	3.08	0.42
1:A:808:C:OP1	15:O:48:LYS:HE3	2.19	0.42
1:A:177:C:O2'	1:A:178:C:H5'	2.20	0.42
1:A:1366:C:H2'	1:A:1367:C:C6	2.54	0.42
9:I:50:LEU:HD23	9:I:50:LEU:HA	1.85	0.42
3:C:165:THR:O	3:C:165:THR:HG23	2.19	0.42
16:P:48:TRP:CD1	16:P:48:TRP:N	2.74	0.41
2:B:204:ASN:HB3	2:B:210:SER:HB3	2.02	0.41
2:B:74:LYS:O	2:B:78:GLN:HG3	2.19	0.41
1:A:954:G:C2	1:A:955:U:C2	3.08	0.41
1:A:255:G:H5'	17:Q:16:GLN:O	2.20	0.41
1:A:299:G:C6	1:A:300:A:N1	2.88	0.41
13:M:97:PRO:O	13:M:98:VAL:HA	2.20	0.41
1:A:1052:U:O4	1:A:1200:C:C2	2.74	0.41
1:A:1298:C:H2'	7:G:114:ARG:HH12	1.85	0.41
3:C:52:LEU:N	3:C:52:LEU:HD23	2.32	0.41
20:T:56:MET:HG2	20:T:84:LEU:CD1	2.47	0.41
18:R:79:LEU:HD23	18:R:80:PRO:CD	2.50	0.41
1:A:1465:C:H2'	1:A:1466:C:O4'	2.19	0.41
1:A:503:C:OP2	12:L:116:SER:OG	2.33	0.41
4:D:65:ARG:HA	4:D:75:PHE:CE1	2.54	0.41
1:A:1229:A:OP2	13:M:114:ARG:HD3	2.20	0.41
1:A:953:G:O6	1:A:1228:C:N4	2.53	0.41
9:I:86:VAL:HB	9:I:96:LEU:HD22	2.01	0.41
5:E:101:ILE:CD1	5:E:119:LEU:HA	2.40	0.41
1:A:1452:C:OP1	1:A:1456:G:C6	2.74	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:81:U:C4	1:A:88:A:N6	2.88	0.41
4:D:108:LEU:O	4:D:110:PHE:CD1	2.73	0.41
1:A:457:C:O2'	1:A:458:C:H5'	2.19	0.41
19:S:75:ALA:HA	19:S:76:PRO:HD2	1.95	0.41
16:P:68:ASP:C	16:P:70:ALA:N	2.73	0.41
6:F:91:VAL:CG1	18:R:72:ARG:HH12	2.30	0.41
1:A:1386:G:N3	1:A:1387:G:C8	2.87	0.41
5:E:12:LEU:HD22	5:E:13:ILE:N	2.35	0.41
2:B:8:LYS:HA	2:B:11:LEU:HD12	2.02	0.41
1:A:262:A:C6	1:A:263:A:N6	2.88	0.41
20:T:82:SER:O	20:T:86:ARG:CB	2.68	0.41
1:A:1287:A:N6	1:A:1288:A:N6	2.68	0.41
1:A:692:U:O2'	1:A:694:A:N7	2.44	0.41
15:O:12:ILE:HG12	15:O:31:LEU:HD11	2.01	0.41
1:A:740:U:H4'	15:O:42:HIS:CD2	2.54	0.41
1:A:1373:G:O5'	1:A:1373:G:H8	2.02	0.41
1:A:674:G:H2'	1:A:675:A:C8	2.44	0.41
2:B:219:VAL:O	2:B:222:ILE:HB	2.21	0.41
4:D:165:MET:O	4:D:166:LYS:C	2.58	0.41
1:A:949:A:OP1	13:M:101:GLN:HB3	2.20	0.41
1:A:671:G:C5	1:A:672:U:C5	3.08	0.41
1:A:565:U:C6	1:A:566:G:C8	3.08	0.41
6:F:5:GLU:O	6:F:7:ASN:ND2	2.53	0.41
1:A:1313:U:OP2	19:S:6:LYS:HB3	2.20	0.41
12:L:55:VAL:HA	12:L:70:ILE:HD13	2.02	0.41
5:E:50:GLU:OE2	5:E:51:VAL:HG23	2.19	0.41
8:H:7:ALA:HB2	8:H:85:ARG:HD2	2.03	0.41
1:A:1478:C:O2'	1:A:1479:C:H5'	2.20	0.41
1:A:200:G:N2	1:A:218:C:C2	2.89	0.41
19:S:69:HIS:HB2	19:S:74:PHE:HE2	1.84	0.41
1:A:1005:A:H5''	1:A:1006:C:OP2	2.20	0.41
4:D:196:LEU:N	4:D:196:LEU:HD12	2.35	0.41
2:B:193:ASP:O	2:B:193:ASP:OD2	2.37	0.41
1:A:509:A:O5'	1:A:509:A:H8	2.02	0.41
4:D:19:LEU:HD13	4:D:21:LEU:HD11	2.02	0.41
4:D:14:ARG:HD3	4:D:39:PRO:HB3	2.02	0.41
13:M:34:LEU:HD13	13:M:41:PRO:CG	2.35	0.41
4:D:161:ASN:O	4:D:165:MET:HG2	2.21	0.41
17:Q:67:LYS:O	17:Q:68:ARG:HB3	2.21	0.41
1:A:734:G:C2	1:A:735:C:C2	3.08	0.41
1:A:1158:C:N4	1:A:1160:G:C6	2.88	0.41
1:A:749:C:H2'	1:A:750:G:H8	1.85	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:T:84:LEU:C	20:T:84:LEU:HD13	2.41	0.41
1:A:1362:C:O2'	1:A:1363:C:H5''	2.19	0.41
1:A:1429:C:H2'	1:A:1430:C:C6	2.56	0.41
1:A:39:G:C6	1:A:40:C:C5	3.09	0.41
1:A:996:A:H2'	1:A:997:U:O4'	2.20	0.41
1:A:1376:U:O2'	1:A:1377:A:H5'	2.21	0.41
12:L:126:LYS:HG3	12:L:128:ALA:H	1.86	0.41
1:A:146:G:N2	1:A:147:G:H1'	2.35	0.41
1:A:197:A:N6	1:A:221:C:H4'	2.35	0.41
1:A:66:G:C4'	1:A:173:U:C4	3.03	0.41
15:O:81:LEU:HD11	15:O:85:LEU:CD1	2.46	0.41
4:D:13:ARG:HD2	4:D:38:TYR:O	2.20	0.41
1:A:1501:C:H5''	1:A:1502:A:OP2	2.20	0.41
17:Q:59:ILE:HG21	17:Q:71:PHE:HB3	1.99	0.41
1:A:16:A:C2	1:A:17:U:C6	3.09	0.41
12:L:33:ARG:CG	12:L:60:LEU:HD12	2.49	0.41
1:A:179:A:H2'	1:A:180:U:C6	2.56	0.41
1:A:1125:U:H2'	1:A:1126:U:OP2	2.20	0.41
2:B:20:GLU:CG	2:B:191:ASP:HB2	2.44	0.41
2:B:97:TRP:CH2	2:B:176:GLU:CD	2.94	0.41
8:H:13:ILE:HG22	8:H:14:ARG:N	2.36	0.41
3:C:113:ALA:C	3:C:115:LEU:N	2.72	0.41
1:A:1386:G:C2	1:A:1387:G:N7	2.87	0.41
1:A:1477:C:H2'	1:A:1478:C:H6	1.84	0.41
4:D:102:ASP:HB2	4:D:118:ARG:HG3	2.01	0.41
17:Q:43:LEU:N	17:Q:43:LEU:HD23	2.36	0.41
1:A:981:U:O5'	1:A:981:U:H6	2.02	0.41
1:A:49:U:C2	1:A:361:G:N2	2.89	0.41
1:A:1277:C:C2'	1:A:1278:U:H5'	2.50	0.41
4:D:30:LYS:C	4:D:32:ALA:N	2.74	0.41
4:D:9:CYS:HA	4:D:12:CYS:CB	2.38	0.41
1:A:1504:G:OP1	1:A:1507:A:H4'	2.20	0.41
1:A:1228:C:C5'	13:M:108:ARG:HH22	2.33	0.41
15:O:56:LEU:HA	15:O:59:MET:HE2	2.01	0.41
1:A:189(F):U:C4	17:Q:72:ARG:NH2	2.88	0.41
7:G:113:GLU:HB3	7:G:118:VAL:HG23	2.02	0.41
1:A:329:A:C2	1:A:332:G:C4	3.09	0.41
1:A:559:A:H4'	1:A:560:U:C3'	2.45	0.41
1:A:1126:U:O4	1:A:1127:G:C2	2.74	0.41
2:B:19:HIS:CG	2:B:20:GLU:N	2.89	0.41
1:A:1215:G:C5	1:A:1216:G:N7	2.89	0.41
3:C:134:ILE:HG23	3:C:151:VAL:CG1	2.51	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1128:C:N3	1:A:1139:G:C6	2.88	0.41
1:A:783:C:H2'	1:A:784:C:H5'	2.02	0.41
19:S:58:VAL:HA	19:S:59:PRO:HD2	1.96	0.41
16:P:64:ALA:O	16:P:65:GLN:C	2.58	0.41
3:C:120:VAL:HG12	3:C:198:VAL:HG21	2.02	0.41
3:C:89:GLU:O	3:C:93:LYS:HB2	2.21	0.41
2:B:75:LYS:HD3	2:B:75:LYS:O	2.21	0.41
16:P:45:THR:C	16:P:47:ASP:N	2.74	0.41
2:B:98:LEU:H	2:B:101:MET:HE3	1.85	0.41
2:B:114:ARG:HD3	2:B:114:ARG:O	2.20	0.41
1:A:502:G:C2	1:A:503:C:C2	3.08	0.41
4:D:12:CYS:SG	4:D:19:LEU:O	2.79	0.41
4:D:206:PHE:CD2	4:D:207:TYR:CD2	3.09	0.41
1:A:102:G:C6	1:A:103:C:N4	2.89	0.41
1:A:1068:G:N7	1:A:1094:G:C8	2.89	0.41
13:M:19:LEU:O	13:M:22:ILE:HG13	2.20	0.41
14:N:3:ARG:NH1	14:N:3:ARG:HB3	2.35	0.41
1:A:1077:G:N2	1:A:1081:G:C5	2.89	0.41
4:D:108:LEU:HB3	4:D:110:PHE:CE1	2.56	0.41
18:R:44:LEU:O	18:R:45:SER:C	2.59	0.41
9:I:28:VAL:HG13	9:I:65:VAL:HG12	2.03	0.41
1:A:577:G:C1'	1:A:816:A:C4	3.04	0.41
20:T:82:SER:O	20:T:86:ARG:HD2	2.21	0.41
1:A:892:A:H2'	1:A:893:C:H6	1.83	0.41
1:A:1312:G:H1	1:A:1325:C:H42	1.68	0.41
17:Q:57:VAL:HG12	17:Q:75:ARG:O	2.21	0.41
1:A:987:G:N2	1:A:1219:U:N3	2.68	0.41
1:A:1258:G:H2'	1:A:1259:C:C6	2.55	0.41
10:J:44:VAL:HG12	10:J:45:ARG:N	2.35	0.41
1:A:501:C:H1'	1:A:549:C:H1'	2.02	0.41
4:D:163:GLU:O	4:D:165:MET:N	2.53	0.41
5:E:92:LYS:O	5:E:119:LEU:N	2.51	0.41
1:A:963:G:N3	10:J:55:LYS:NZ	2.50	0.41
1:A:977:A:H1'	1:A:982:U:O4	2.21	0.41
1:A:7:G:C6	1:A:298:A:C2	3.09	0.41
12:L:62:SER:C	12:L:64:TYR:N	2.74	0.41
1:A:458:C:C2	1:A:460:G:C8	3.09	0.41
1:A:78:G:N2	1:A:91:C:H42	2.16	0.41
3:C:153:VAL:HB	3:C:166:GLU:HB3	2.02	0.41
6:F:89:MET:SD	18:R:76:LEU:HD21	2.61	0.41
5:E:146:ALA:O	5:E:148:VAL:N	2.54	0.41
14:N:21:TYR:OH	14:N:23:ARG:NH2	2.54	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:T:36:LEU:HD12	20:T:55:ILE:HG23	2.03	0.41
11:K:61:ALA:HB1	11:K:90:GLY:O	2.21	0.41
13:M:44:ARG:HB2	13:M:46:LYS:CG	2.51	0.41
1:A:9:G:H2'	1:A:10:A:C8	2.56	0.41
1:A:1217:C:H2'	1:A:1218:C:O4'	2.21	0.41
16:P:7:ALA:O	16:P:9:PHE:CD2	2.74	0.41
20:T:75:ASN:ND2	20:T:75:ASN:H	2.19	0.41
1:A:640:A:C2'	1:A:641:U:H5'	2.50	0.41
1:A:319:G:N2	1:A:320:C:H1'	2.36	0.41
2:B:53:ARG:O	2:B:56:ARG:HB2	2.21	0.41
17:Q:52:LYS:HB3	17:Q:52:LYS:HE3	1.85	0.41
1:A:375:U:C4	1:A:376:G:N7	2.89	0.41
1:A:450:G:OP1	1:A:452:A:P	2.79	0.41
1:A:51:A:H4'	1:A:52:G:C5'	2.50	0.41
1:A:63:C:H5'	1:A:64:G:OP2	2.21	0.41
16:P:43:LYS:CG	16:P:48:TRP:CE3	3.04	0.41
2:B:55:PHE:CE1	2:B:218:ALA:HA	2.44	0.41
15:O:82:ILE:CG1	15:O:88:ARG:HG3	2.48	0.41
4:D:13:ARG:O	4:D:14:ARG:C	2.59	0.41
6:F:18:GLN:H	6:F:18:GLN:HG3	1.64	0.41
1:A:682:G:N1	1:A:683:G:C5	2.89	0.41
1:A:878:G:C5'	8:H:89:PRO:HG2	2.46	0.41
1:A:1065:U:C2'	1:A:1066:C:OP2	2.68	0.41
1:A:327:A:C5	1:A:329:A:C5	3.09	0.41
1:A:1203:C:H2'	1:A:1204:A:H8	1.84	0.41
4:D:139:ARG:HB3	4:D:139:ARG:HE	1.57	0.41
1:A:381:C:H2'	1:A:382:A:O4'	2.20	0.41
1:A:922:G:H4'	5:E:20:GLN:HA	2.03	0.41
10:J:27:ALA:CB	10:J:34:VAL:HG21	2.50	0.41
10:J:34:VAL:HG13	10:J:73:ASP:O	2.21	0.41
1:A:191:G:N2	20:T:103:GLY:O	2.54	0.41
4:D:90:GLY:O	4:D:94:LEU:HD12	2.21	0.41
1:A:1220:G:O3'	19:S:36:ARG:HD3	2.20	0.41
9:I:53:VAL:HG12	9:I:95:LYS:HG2	2.02	0.41
12:L:76:ASN:O	12:L:76:ASN:CG	2.59	0.41
14:N:51:GLY:C	14:N:53:LEU:N	2.73	0.41
1:A:750:G:N3	1:A:751:U:C6	2.89	0.41
1:A:189:G:C6	1:A:189(A):C:N4	2.88	0.41
1:A:1271:G:OP1	1:A:1314:C:H4'	2.20	0.41
1:A:552:U:H4'	12:L:86:ARG:CG	2.49	0.41
9:I:17:VAL:HG22	9:I:63:ILE:CG1	2.51	0.41
5:E:144:THR:OG1	5:E:146:ALA:HB3	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:105:G:C6	1:A:106:C:C4	3.09	0.41
11:K:61:ALA:CB	11:K:90:GLY:O	2.69	0.41
1:A:286:G:C5	1:A:287:U:C4	3.08	0.41
1:A:12:U:H2'	1:A:13:U:H5''	2.03	0.41
1:A:124:G:H1	1:A:237:C:H42	1.68	0.41
1:A:779:C:O2'	1:A:780:A:H5'	2.21	0.41
1:A:779:C:O2'	11:K:120:ARG:HD3	2.21	0.41
19:S:20:LEU:O	19:S:23:ASN:HB3	2.21	0.41
16:P:8:ARG:HG2	16:P:9:PHE:H	1.83	0.41
1:A:1464:G:O2'	1:A:1465:C:H5'	2.21	0.41
1:A:319:G:C2	1:A:320:C:C2	3.08	0.41
8:H:97:VAL:HA	8:H:100:ILE:HG13	2.02	0.41
2:B:95:GLN:HG3	2:B:147:LYS:O	2.20	0.41
1:A:1092:A:C2	1:A:1183:A:C2	3.09	0.41
7:G:136:LYS:O	7:G:140:ASP:HB2	2.21	0.41
1:A:405:U:H3'	1:A:406:G:H5'	2.02	0.41
1:A:64:G:OP1	1:A:64:G:H3'	2.21	0.41
1:A:1442:G:C5	1:A:1442(B):A:N1	2.89	0.41
1:A:411:A:C5	1:A:429:U:C4	3.08	0.41
6:F:15:ASP:OD1	6:F:18:GLN:N	2.52	0.41
6:F:15:ASP:O	6:F:19:LEU:HB3	2.21	0.41
1:A:1228:C:H5''	13:M:108:ARG:HH22	1.86	0.41
1:A:953:G:C6	1:A:1229:A:C6	3.09	0.41
20:T:89:ARG:HD2	20:T:104:LEU:HD21	2.03	0.41
10:J:95:GLU:C	10:J:96:ILE:HD13	2.41	0.41
1:A:945:G:C6	1:A:1337:G:C2	3.09	0.41
1:A:951:G:C5	1:A:952:U:C5	3.09	0.41
12:L:84:LEU:HB3	12:L:101:VAL:HB	2.03	0.41
1:A:425:G:O2'	1:A:426:G:H5'	2.21	0.41
1:A:834:C:C2	1:A:853:G:C2	3.08	0.41
1:A:1017:G:H8	1:A:1017:G:O5'	2.03	0.41
1:A:1296:C:C5	1:A:1297:C:C5	3.09	0.41
13:M:23:TYR:HB3	13:M:67:GLU:HB2	2.03	0.41
1:A:66:G:C6	1:A:67:C:C4	3.09	0.40
4:D:36:ARG:HB3	4:D:38:TYR:CZ	2.57	0.40
6:F:69:GLU:CD	6:F:69:GLU:H	2.24	0.40
1:A:1067:A:O3'	1:A:1094:G:OP1	2.40	0.40
1:A:671:G:C4	1:A:672:U:C6	3.09	0.40
1:A:616:G:C2	1:A:617:G:N7	2.89	0.40
1:A:298:A:H5''	1:A:299:G:OP2	2.21	0.40
6:F:3:ARG:HH11	6:F:3:ARG:HG3	1.87	0.40
1:A:922:G:H1'	5:E:19:MET:HB2	2.03	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:94:VAL:CG1	10:J:95:GLU:N	2.84	0.40
1:A:1117:G:O5'	9:I:104:ARG:NH1	2.54	0.40
1:A:658:G:H1'	15:O:22:THR:HB	2.03	0.40
5:E:13:ILE:HA	5:E:29:GLY:O	2.21	0.40
1:A:341:C:O2	1:A:349:A:C2	2.74	0.40
1:A:425:G:N2	1:A:426:G:H1'	2.36	0.40
1:A:577:G:C4	1:A:578:C:C5	3.09	0.40
1:A:1356:G:H2'	1:A:1357:A:C8	2.56	0.40
7:G:104:LEU:HD22	7:G:134:ALA:HB1	2.02	0.40
1:A:132:C:O2'	1:A:133:U:H5'	2.21	0.40
19:S:48:THR:HG22	19:S:61:TYR:HA	2.02	0.40
11:K:81:ASP:OD1	11:K:106:LYS:HG2	2.21	0.40
1:A:579:G:C4	1:A:580:U:C5	3.09	0.40
21:U:25:LYS:HG2	21:U:26:LYS:N	2.37	0.40
7:G:45:ASP:HB3	7:G:117:ALA:CB	2.51	0.40
1:A:67:C:O2	1:A:171:A:H2	2.04	0.40
4:D:126:ILE:H	4:D:126:ILE:HG12	1.75	0.40
2:B:215:LEU:HD13	2:B:215:LEU:HA	1.96	0.40
1:A:509:A:O2'	1:A:510:A:O4'	2.39	0.40
1:A:409:G:C2'	1:A:410:G:C5'	2.93	0.40
1:A:541:G:C4	1:A:542:G:C8	3.09	0.40
4:D:116:GLN:NE2	4:D:157:LEU:HD21	2.35	0.40
6:F:23:LYS:HE2	6:F:23:LYS:HB3	1.86	0.40
1:A:1075:C:OP1	2:B:179:LYS:HD3	2.20	0.40
4:D:135:LEU:O	4:D:136:PRO:C	2.59	0.40
1:A:1037:C:C4	1:A:1038:C:C4	3.10	0.40
1:A:993:G:N3	1:A:993:G:H2'	2.36	0.40
1:A:658:G:C2	1:A:659:U:C6	3.09	0.40
2:B:42:ILE:CG1	2:B:43:ASP:N	2.84	0.40
1:A:830:G:C4	1:A:831:U:C6	3.09	0.40
1:A:278:G:O4'	1:A:282:A:H1'	2.21	0.40
9:I:112:LYS:HG2	9:I:119:ALA:N	2.37	0.40
17:Q:57:VAL:HG12	17:Q:76:LEU:HA	2.02	0.40
1:A:781:A:O2'	1:A:1522:U:O2	2.38	0.40
9:I:11:LYS:O	9:I:12:GLU:HB2	2.21	0.40
13:M:94:ARG:O	13:M:96:LEU:HG	2.21	0.40
2:B:203:GLY:O	2:B:204:ASN:C	2.60	0.40
1:A:542:G:C2	1:A:543:C:C4	3.10	0.40
4:D:203:VAL:O	4:D:204:ILE:C	2.60	0.40
1:A:1394:A:C5	1:A:1501:C:H4'	2.56	0.40
6:F:15:ASP:O	6:F:19:LEU:CB	2.69	0.40
1:A:955:U:O2'	1:A:956:U:H5'	2.22	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:965:A:C2	1:A:969:A:N1	2.90	0.40
4:D:163:GLU:C	4:D:165:MET:N	2.75	0.40
12:L:38:THR:CG2	12:L:39:VAL:H	2.34	0.40
1:A:738:C:C2	1:A:739:C:C5	3.09	0.40
6:F:62:TRP:CE3	6:F:62:TRP:O	2.74	0.40
3:C:106:VAL:C	3:C:108:ASN:H	2.25	0.40
1:A:179:A:H2'	1:A:180:U:H6	1.85	0.40
20:T:26:ASN:CB	20:T:71:THR:OG1	2.68	0.40
11:K:50:TYR:HE1	11:K:59:TYR:CD2	2.39	0.40
7:G:150:ALA:O	11:K:57:THR:HG21	2.21	0.40
1:A:126:G:OP1	1:A:605:U:O2'	2.38	0.40
20:T:69:GLY:O	20:T:73:HIS:NE2	2.54	0.40
1:A:132:C:C2	1:A:133:U:C6	3.09	0.40
17:Q:63:ARG:HG2	17:Q:64:PRO:N	2.35	0.40
1:A:109:A:H4'	1:A:110:C:OP2	2.21	0.40
1:A:1154:G:N3	1:A:1155:G:C8	2.89	0.40
11:K:21:ILE:CB	11:K:84:VAL:HG12	2.50	0.40
4:D:103:ASN:OD1	4:D:114:ARG:NH2	2.48	0.40
7:G:18:TYR:CD2	7:G:59:LEU:HD13	2.55	0.40
3:C:142:MET:HE3	3:C:146:ALA:O	2.21	0.40
1:A:815:A:C2	1:A:1529:G:C4	3.10	0.40
11:K:83:ILE:HA	11:K:109:VAL:O	2.21	0.40
11:K:122:LYS:HB3	11:K:122:LYS:HE2	1.59	0.40
1:A:380:G:N2	1:A:384:G:C6	2.90	0.40
1:A:452:A:O2'	1:A:453:A:H8	2.05	0.40
2:B:204:ASN:HD22	2:B:205:ASP:N	2.19	0.40
8:H:86:ILE:HB	8:H:133:LEU:HD22	2.03	0.40
4:D:61:LYS:HA	4:D:203:VAL:HG22	2.04	0.40
4:D:78:LEU:O	4:D:79:PHE:C	2.59	0.40
1:A:1169:A:C2'	1:A:1170:A:C8	2.95	0.40
1:A:1067:A:N3	1:A:1068:G:H1'	2.36	0.40
1:A:1084:G:OP1	1:A:1086:U:C5	2.74	0.40
1:A:327:A:C5	1:A:329:A:N7	2.90	0.40
12:L:27:LEU:C	12:L:29:GLY:N	2.75	0.40
1:A:1308:U:OP1	13:M:98:VAL:N	2.54	0.40
2:B:97:TRP:CE3	2:B:97:TRP:O	2.75	0.40
1:A:189(J):G:C2'	1:A:189(K):U:H5'	2.51	0.40
1:A:1319:A:OP1	19:S:10:PHE:CD1	2.75	0.40
2:B:142:LEU:HD23	2:B:142:LEU:C	2.42	0.40
8:H:36:LEU:C	8:H:38:ILE:N	2.75	0.40
18:R:25:THR:HG22	18:R:25:THR:O	2.21	0.40
1:A:1392:G:O2'	1:A:1393:U:H5'	2.20	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:140:ASP:HA	7:G:143:ARG:NH1	2.36	0.40
10:J:35:SER:O	10:J:36:GLY:O	2.40	0.40
1:A:677:U:C4	1:A:678:U:C4	3.09	0.40
1:A:1399:C:H4'	1:A:1400:C:H5''	2.04	0.40
1:A:437:U:H2'	1:A:438:G:H8	1.86	0.40
1:A:1080:A:H5''	1:A:1081:G:OP2	2.21	0.40
12:L:25:PRO:O	12:L:27:LEU:HD22	2.22	0.40
1:A:397:A:N6	1:A:548:G:C5	2.89	0.40
2:B:97:TRP:CZ3	2:B:173:ALA:HA	2.54	0.40
2:B:67:THR:C	2:B:68:ILE:HD12	2.42	0.40
5:E:51:VAL:HB	5:E:52:PRO:CD	2.45	0.40
1:A:32:A:C2	1:A:33:A:C4	3.09	0.40
4:D:17:VAL:HG11	4:D:197:PRO:CG	2.51	0.40
20:T:46:GLU:HG2	20:T:48:LYS:HE2	2.02	0.40
18:R:36:ASN:HD22	18:R:39:VAL:HG21	1.86	0.40
17:Q:90:ILE:O	17:Q:91:ARG:C	2.60	0.40
1:A:894:G:C6	1:A:895:G:C5	3.09	0.40
2:B:112:VAL:HG22	2:B:149:LEU:HD13	2.04	0.40
1:A:233:C:C4	1:A:234:C:C5	3.09	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution. 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	
2	B	233/256 (91%)	155 (66%)	61 (26%)	17 (7%)	2	8
3	C	205/239 (86%)	148 (72%)	46 (22%)	11 (5%)	3	17
4	D	206/209 (99%)	129 (63%)	57 (28%)	20 (10%)	1	4
5	E	149/162 (92%)	103 (69%)	36 (24%)	10 (7%)	2	10
6	F	99/101 (98%)	78 (79%)	16 (16%)	5 (5%)	3	18
7	G	153/156 (98%)	123 (80%)	28 (18%)	2 (1%)	18	62
8	H	136/138 (99%)	98 (72%)	25 (18%)	13 (10%)	1	4

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
9	I	123/128 (96%)	89 (72%)	26 (21%)	8 (6%)	2	11
10	J	97/105 (92%)	78 (80%)	15 (16%)	4 (4%)	4	24
11	K	117/129 (91%)	92 (79%)	23 (20%)	2 (2%)	14	54
12	L	123/135 (91%)	85 (69%)	25 (20%)	13 (11%)	1	3
13	M	107/126 (85%)	80 (75%)	21 (20%)	6 (6%)	3	16
14	N	58/61 (95%)	49 (84%)	8 (14%)	1 (2%)	14	54
15	O	86/89 (97%)	65 (76%)	14 (16%)	7 (8%)	1	7
16	P	82/88 (93%)	51 (62%)	18 (22%)	13 (16%)	0	1
17	Q	98/105 (93%)	79 (81%)	11 (11%)	8 (8%)	1	6
18	R	68/88 (77%)	49 (72%)	14 (21%)	5 (7%)	2	8
19	S	77/93 (83%)	59 (77%)	11 (14%)	7 (9%)	1	5
20	T	97/106 (92%)	70 (72%)	18 (19%)	9 (9%)	1	5
21	U	23/27 (85%)	17 (74%)	5 (22%)	1 (4%)	4	23
All	All	2337/2541 (92%)	1697 (73%)	478 (20%)	162 (7%)	2	9

All (162) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	18	GLY
2	B	20	GLU
2	B	106	LYS
2	B	165	VAL
2	B	195	ASP
3	C	47	LEU
3	C	101	LEU
3	C	189	ALA
4	D	3	ARG
4	D	13	ARG
4	D	14	ARG
4	D	129	ASN
4	D	163	GLU
5	E	71	LEU
6	F	39	LYS
6	F	40	VAL
7	G	7	ALA
7	G	33	ASP
8	H	2	LEU

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Mol	Chain	Res	Type
8	H	91	ARG
9	I	23	ASN
9	I	117	HIS
10	J	59	SER
12	L	28	LYS
12	L	47	LYS
12	L	91	LYS
13	M	83	ASP
14	N	16	PHE
16	P	11	SER
16	P	28	ARG
19	S	27	GLU
19	S	28	LYS
19	S	80	TYR
20	T	9	ASN
20	T	11	SER
20	T	74	LYS
20	T	96	GLY
2	B	15	VAL
2	B	97	TRP
2	B	239	VAL
3	C	4	LYS
3	C	20	SER
3	C	156	ARG
4	D	4	TYR
4	D	5	ILE
4	D	17	VAL
4	D	40	PRO
4	D	44	GLY
4	D	47	ARG
4	D	56	VAL
4	D	110	PHE
5	E	72	GLN
5	E	146	ALA
6	F	34	GLY
6	F	96	PRO
8	H	87	SER
8	H	133	LEU
9	I	100	GLY
9	I	107	ARG
10	J	36	GLY
11	K	106	LYS

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Mol	Chain	Res	Type
12	L	18	VAL
12	L	64	TYR
12	L	92	ASP
12	L	115	LYS
13	M	100	GLY
15	O	16	ALA
15	O	40	SER
16	P	24	ALA
16	P	63	GLY
17	Q	3	LYS
17	Q	34	LYS
17	Q	49	GLU
17	Q	61	GLU
18	R	54	ARG
19	S	10	PHE
20	T	76	ALA
20	T	101	GLY
21	U	25	LYS
2	B	24	TRP
2	B	80	ILE
2	B	204	ASN
2	B	240	GLN
3	C	15	THR
3	C	108	ASN
4	D	45	GLN
5	E	128	PRO
5	E	129	ILE
5	E	153	LYS
6	F	53	ALA
8	H	54	ASP
8	H	68	ARG
10	J	23	ILE
11	K	100	ALA
12	L	89	ARG
13	M	105	THR
13	M	106	ASN
13	M	107	ALA
15	O	44	LYS
16	P	17	TYR
17	Q	78	GLU
18	R	20	ALA
18	R	45	SER

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Mol	Chain	Res	Type
19	S	29	ARG
19	S	30	LEU
20	T	73	HIS
2	B	130	ARG
2	B	216	SER
3	C	154	SER
4	D	9	CYS
4	D	10	ARG
4	D	28	SER
5	E	118	ILE
5	E	140	ARG
8	H	33	GLU
8	H	37	ARG
8	H	132	GLU
9	I	24	GLY
9	I	95	LYS
9	I	97	LYS
12	L	63	GLY
15	O	76	GLU
16	P	44	THR
16	P	46	PRO
16	P	64	ALA
16	P	78	GLY
17	Q	74	LEU
18	R	36	ASN
18	R	41	LYS
20	T	97	ALA
2	B	60	ASP
2	B	194	PRO
2	B	224	GLN
3	C	60	ALA
4	D	7	PRO
4	D	73	ARG
5	E	85	GLY
5	E	136	MET
8	H	7	ALA
12	L	19	ARG
12	L	22	SER
15	O	19	PRO
15	O	65	ARG
16	P	16	HIS
16	P	67	THR

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Mol	Chain	Res	Type
16	P	69	THR
17	Q	30	PRO
8	H	83	ILE
12	L	125	PRO
17	Q	4	LYS
19	S	5	LEU
3	C	207	VAL
8	H	86	ILE
9	I	123	PRO
15	O	29	VAL
10	J	91	PRO
12	L	29	GLY
13	M	6	GLY
20	T	98	PRO
4	D	171	GLY
8	H	51	VAL
16	P	51	VAL

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 X-ray entries followed by that with respect to entries of similar resolution. 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	
2	B	202/220 (92%)	170 (84%)	32 (16%)	4	18
3	C	160/188 (85%)	153 (96%)	7 (4%)	39	82
4	D	180/181 (99%)	156 (87%)	24 (13%)	6	25
5	E	115/123 (94%)	95 (83%)	20 (17%)	3	14
6	F	90/90 (100%)	79 (88%)	11 (12%)	7	29
7	G	126/127 (99%)	122 (97%)	4 (3%)	51	89
8	H	119/119 (100%)	106 (89%)	13 (11%)	9	35
9	I	98/99 (99%)	90 (92%)	8 (8%)	17	52
10	J	88/92 (96%)	78 (89%)	10 (11%)	8	33
11	K	90/99 (91%)	82 (91%)	8 (9%)	14	48
12	L	104/111 (94%)	92 (88%)	12 (12%)	8	32
13	M	93/101 (92%)	87 (94%)	6 (6%)	24	65

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
14	N	49/50 (98%)	45 (92%)	4 (8%)	17	52
15	O	79/80 (99%)	68 (86%)	11 (14%)	5	23
16	P	72/74 (97%)	58 (81%)	14 (19%)	2	11
17	Q	94/97 (97%)	82 (87%)	12 (13%)	6	27
18	R	61/77 (79%)	55 (90%)	6 (10%)	12	41
19	S	69/80 (86%)	62 (90%)	7 (10%)	11	39
20	T	76/82 (93%)	68 (90%)	8 (10%)	10	37
21	U	19/22 (86%)	19 (100%)	0	100	100
All	All	1984/2112 (94%)	1767 (89%)	217 (11%)	9	35

All (217) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	9	GLU
2	B	10	LEU
2	B	15	VAL
2	B	17	PHE
2	B	22	LYS
2	B	24	TRP
2	B	36	ARG
2	B	42	ILE
2	B	69	LEU
2	B	80	ILE
2	B	90	MET
2	B	107	THR
2	B	111	ARG
2	B	121	LEU
2	B	127	ILE
2	B	130	ARG
2	B	137	ARG
2	B	145	LEU
2	B	146	GLN
2	B	154	LEU
2	B	165	VAL
2	B	178	ARG
2	B	185	ILE
2	B	187	LEU
2	B	189	ASP
2	B	193	ASP

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Mol	Chain	Res	Type
2	B	195	ASP
2	B	196	LEU
2	B	198	ASP
2	B	204	ASN
2	B	205	ASP
2	B	221	LEU
3	C	5	ILE
3	C	12	LEU
3	C	27	LYS
3	C	62	ASP
3	C	104	GLN
3	C	127	ARG
3	C	131	ARG
4	D	3	ARG
4	D	8	VAL
4	D	11	LEU
4	D	12	CYS
4	D	15	GLU
4	D	19	LEU
4	D	25	ARG
4	D	33	MET
4	D	45	GLN
4	D	58	LEU
4	D	59	ARG
4	D	64	LEU
4	D	76	ARG
4	D	92	VAL
4	D	118	ARG
4	D	119	GLN
4	D	121	VAL
4	D	122	ARG
4	D	131	ARG
4	D	132	ARG
4	D	135	LEU
4	D	138	TYR
4	D	158	ILE
4	D	196	LEU
5	E	12	LEU
5	E	13	ILE
5	E	18	ARG
5	E	20	GLN
5	E	25	ARG

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Mol	Chain	Res	Type
5	E	27	ARG
5	E	41	VAL
5	E	50	GLU
5	E	55	VAL
5	E	76	ILE
5	E	79	GLU
5	E	87	SER
5	E	90	VAL
5	E	91	LEU
5	E	101	ILE
5	E	112	LEU
5	E	115	VAL
5	E	116	THR
5	E	120	THR
5	E	143	ARG
6	F	18	GLN
6	F	21	LEU
6	F	25	ILE
6	F	45	LEU
6	F	46	ARG
6	F	55	ASP
6	F	63	TYR
6	F	70	ASP
6	F	83	ASP
6	F	94	GLN
6	F	98	LEU
7	G	12	LEU
7	G	36	LYS
7	G	79	ARG
7	G	156	TRP
8	H	1	MET
8	H	10	LEU
8	H	25	ASP
8	H	29	SER
8	H	41	ARG
8	H	45	ILE
8	H	52	ASP
8	H	91	ARG
8	H	93	VAL
8	H	95	VAL
8	H	102	ARG
8	H	114	THR

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Mol	Chain	Res	Type
8	H	127	LEU
9	I	10	ARG
9	I	95	LYS
9	I	99	LEU
9	I	113	LYS
9	I	114	TYR
9	I	121	ARG
9	I	125	TYR
9	I	128	ARG
10	J	22	LYS
10	J	40	LEU
10	J	45	ARG
10	J	47	PHE
10	J	57	LYS
10	J	62	HIS
10	J	63	PHE
10	J	74	ILE
10	J	80	LYS
10	J	96	ILE
11	K	24	SER
11	K	29	ILE
11	K	47	VAL
11	K	92	GLU
11	K	95	ILE
11	K	114	VAL
11	K	117	ASN
11	K	127	LYS
12	L	20	LYS
12	L	41	ARG
12	L	42	THR
12	L	55	VAL
12	L	62	SER
12	L	81	SER
12	L	84	LEU
12	L	89	ARG
12	L	92	ASP
12	L	99	HIS
12	L	102	ARG
12	L	119	LYS
13	M	47	ASP
13	M	64	TRP
13	M	66	LEU

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Mol	Chain	Res	Type
13	M	70	LEU
13	M	86	CYS
13	M	93	ARG
14	N	18	VAL
14	N	33	VAL
14	N	42	ILE
14	N	44	LEU
15	O	3	ILE
15	O	17	ARG
15	O	24	SER
15	O	26	GLU
15	O	31	LEU
15	O	41	GLU
15	O	42	HIS
15	O	47	LYS
15	O	57	LEU
15	O	65	ARG
15	O	82	ILE
16	P	1	MET
16	P	2	VAL
16	P	6	LEU
16	P	8	ARG
16	P	27	LYS
16	P	28	ARG
16	P	39	TYR
16	P	48	TRP
16	P	55	ARG
16	P	62	VAL
16	P	65	GLN
16	P	67	THR
16	P	69	THR
16	P	82	GLN
17	Q	11	VAL
17	Q	14	LYS
17	Q	26	GLN
17	Q	38	ARG
17	Q	43	LEU
17	Q	52	LYS
17	Q	57	VAL
17	Q	60	ILE
17	Q	63	ARG
17	Q	68	ARG

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Mol	Chain	Res	Type
17	Q	74	LEU
17	Q	89	LEU
18	R	31	LEU
18	R	32	ARG
18	R	65	ILE
18	R	76	LEU
18	R	78	LEU
18	R	79	LEU
19	S	5	LEU
19	S	6	LYS
19	S	7	LYS
19	S	22	LEU
19	S	44	MET
19	S	49	ILE
19	S	79	THR
20	T	8	ARG
20	T	26	ASN
20	T	41	ILE
20	T	56	MET
20	T	62	LEU
20	T	71	THR
20	T	74	LYS
20	T	93	GLU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (45) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	40	HIS
2	B	135	GLN
2	B	146	GLN
2	B	204	ASN
3	C	28	GLN
3	C	69	HIS
3	C	104	GLN
3	C	107	GLN
3	C	170	GLN
4	D	62	GLN
4	D	74	GLN
4	D	77	ASN
4	D	123	HIS
4	D	129	ASN
5	E	20	GLN

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Mol	Chain	Res	Type
5	E	78	HIS
6	F	7	ASN
6	F	18	GLN
6	F	27	GLN
6	F	32	ASN
6	F	73	ASN
6	F	94	GLN
6	F	100	ASN
7	G	13	GLN
7	G	37	ASN
7	G	84	ASN
7	G	86	GLN
7	G	106	GLN
9	I	117	HIS
9	I	124	GLN
10	J	68	HIS
10	J	78	ASN
11	K	38	ASN
11	K	117	ASN
12	L	8	ASN
12	L	9	GLN
12	L	49	ASN
12	L	75	HIS
15	O	46	HIS
16	P	76	GLN
16	P	82	GLN
17	Q	16	GLN
20	T	16	HIS
20	T	26	ASN
20	T	75	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1503/1522 (98%)	280 (18%)	31 (2%)

All (280) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	9	G
1	A	31	G

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Mol	Chain	Res	Type
1	A	32	A
1	A	39	G
1	A	41	G
1	A	47	C
1	A	48	C
1	A	50	A
1	A	51	A
1	A	59	A
1	A	61	G
1	A	63	C
1	A	77	G
1	A	80	G
1	A	81	U
1	A	90	U
1	A	91	C
1	A	97	G
1	A	98	G
1	A	101	A
1	A	115	G
1	A	116	A
1	A	119	A
1	A	120	A
1	A	121	C
1	A	131	C
1	A	138	G
1	A	144	G
1	A	147	G
1	A	150	C
1	A	163	C
1	A	171	A
1	A	172	A
1	A	173	U
1	A	181	G
1	A	182	U
1	A	189(H)	G
1	A	195	A
1	A	197	A
1	A	202	U
1	A	203	U
1	A	216	G
1	A	220	G
1	A	231	G

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Mol	Chain	Res	Type
1	A	243	A
1	A	244	U
1	A	247	G
1	A	251	G
1	A	266	G
1	A	267	C
1	A	279	A
1	A	281	G
1	A	289	G
1	A	298	A
1	A	301	G
1	A	321	A
1	A	328	C
1	A	330	C
1	A	332	G
1	A	343	U
1	A	344	A
1	A	345	C
1	A	352	C
1	A	353	A
1	A	354	G
1	A	357	G
1	A	365	U
1	A	367	U
1	A	369	C
1	A	372	C
1	A	373	A
1	A	384	G
1	A	390	C
1	A	397	A
1	A	398	C
1	A	406	G
1	A	409	G
1	A	412	A
1	A	413	G
1	A	414	A
1	A	415	A
1	A	421	U
1	A	422	C
1	A	424	G
1	A	428	G
1	A	429	U

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Mol	Chain	Res	Type
1	A	430	A
1	A	435	C
1	A	437	U
1	A	439	A
1	A	442	C
1	A	448	A
1	A	452	A
1	A	461	A
1	A	470	C
1	A	472	A
1	A	483	C
1	A	484	G
1	A	485	G
1	A	496	A
1	A	498	U
1	A	500	G
1	A	505	G
1	A	509	A
1	A	510	A
1	A	511	C
1	A	513	C
1	A	518	C
1	A	527	G
1	A	531	U
1	A	532	A
1	A	533	A
1	A	534	U
1	A	537	G
1	A	547	A
1	A	558	G
1	A	559	A
1	A	560	U
1	A	561	U
1	A	562	C
1	A	572	A
1	A	573	A
1	A	576	G
1	A	588	G
1	A	607	A
1	A	616	G
1	A	623	C
1	A	630	G

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Mol	Chain	Res	Type
1	A	632	A
1	A	633	G
1	A	653	A
1	A	655	A
1	A	665	A
1	A	671	G
1	A	687	A
1	A	688	G
1	A	731	G
1	A	733	A
1	A	748	C
1	A	749	C
1	A	753	A
1	A	754	C
1	A	755	G
1	A	760	G
1	A	776	G
1	A	777	A
1	A	786	G
1	A	793	U
1	A	794	A
1	A	816	A
1	A	817	C
1	A	818	G
1	A	828	A
1	A	833	U
1	A	839	U
1	A	840	C
1	A	841	U
1	A	848	C
1	A	859	A
1	A	870	U
1	A	902	G
1	A	914	A
1	A	919	A
1	A	926	G
1	A	927	G
1	A	934	C
1	A	935	A
1	A	960	U
1	A	961	U
1	A	967	C

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Mol	Chain	Res	Type
1	A	968	A
1	A	969	A
1	A	971	G
1	A	972	C
1	A	974	A
1	A	975	A
1	A	976	G
1	A	977	A
1	A	978	A
1	A	980	C
1	A	983	A
1	A	991	U
1	A	992	U
1	A	993	G
1	A	1005	A
1	A	1026	G
1	A	1054	C
1	A	1064	G
1	A	1065	U
1	A	1066	C
1	A	1067	A
1	A	1068	G
1	A	1081	G
1	A	1094	G
1	A	1095	U
1	A	1101	A
1	A	1117	G
1	A	1118	C
1	A	1124	G
1	A	1125	U
1	A	1126	U
1	A	1127	G
1	A	1129	C
1	A	1131	G
1	A	1134	G
1	A	1136	U
1	A	1137	C
1	A	1138	G
1	A	1139	G
1	A	1146	A
1	A	1149	C
1	A	1152	A

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Mol	Chain	Res	Type
1	A	1159	U
1	A	1160	G
1	A	1193	G
1	A	1196	U
1	A	1197	G
1	A	1202	G
1	A	1212	U
1	A	1213	A
1	A	1225	A
1	A	1227	A
1	A	1238	A
1	A	1249	C
1	A	1255	G
1	A	1256	A
1	A	1257	U
1	A	1273	G
1	A	1280	A
1	A	1281	U
1	A	1282	C
1	A	1286	A
1	A	1287	A
1	A	1290	G
1	A	1294	G
1	A	1296	C
1	A	1300	G
1	A	1301	U
1	A	1302	U
1	A	1305	G
1	A	1317	C
1	A	1320	C
1	A	1322	C
1	A	1323	G
1	A	1331	G
1	A	1334	G
1	A	1336	C
1	A	1338	G
1	A	1346	A
1	A	1347	G
1	A	1363	C
1	A	1364	U
1	A	1370	G
1	A	1382	C

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Mol	Chain	Res	Type
1	A	1388	C
1	A	1397	C
1	A	1419	G
1	A	1442	G
1	A	1442(A)	G
1	A	1442(B)	A
1	A	1443	G
1	A	1447	A
1	A	1452	C
1	A	1456	G
1	A	1487	G
1	A	1492	A
1	A	1493	A
1	A	1494	G
1	A	1497	G
1	A	1499	A
1	A	1500	A
1	A	1504	G
1	A	1505	G
1	A	1506	U
1	A	1517	G
1	A	1519	A
1	A	1520	G
1	A	1529	G
1	A	1530	G
1	A	1531	A

All (31) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	30	U
1	A	60	A
1	A	79	G
1	A	115	G
1	A	119	A
1	A	243	A
1	A	250	A
1	A	266	G
1	A	327	A
1	A	366	C
1	A	428	G
1	A	429	U

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Mol	Chain	Res	Type
1	A	484	G
1	A	509	A
1	A	533	A
1	A	560	U
1	A	687	A
1	A	748	C
1	A	793	U
1	A	913	A
1	A	991	U
1	A	992	U
1	A	1064	G
1	A	1065	U
1	A	1067	A
1	A	1201	A
1	A	1285	A
1	A	1452	C
1	A	1493	A
1	A	1498	U
1	A	1504	G

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

5.6 Ligand geometry ⓘ

Of 58 ligands modelled in this entry, 58 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

EDS was not executed - this section will therefore be empty.

6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

EDS was not executed - this section will therefore be empty.

6.3 Carbohydrates ⓘ

EDS was not executed - this section will therefore be empty.

6.4 Ligands ⓘ

EDS was not executed - this section will therefore be empty.

6.5 Other polymers ⓘ

EDS was not executed - this section will therefore be empty.