



Full wwPDB X-ray Structure Validation Report

Sep 26, 2014 – 05:16 AM EDT

PDB ID : 4TP2
Title : Crystal structure of the E. coli ribosome bound to dalfopristin. This file contains the 30S subunit of the second 70S ribosome.
Authors : Noeske, J.; Huang, J.; Olivier, N.B.; Giacobbe, R.A.; Zambrowski, M.; Cate, J.H.D.
Deposited on : 2014-06-06
Resolution : 2.90 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>

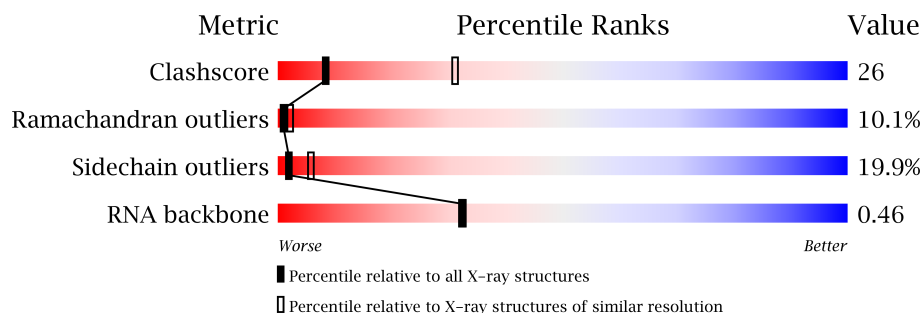
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.16 November 2013
Xtriage (Phenix) : **NOT EXECUTED**
EDS : **NOT EXECUTED**
Percentile statistics : 21963
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : stable23828

1 Overall quality at a glance

The reported resolution of this entry is 2.90 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	1326 (2.90-2.90)
Ramachandran outliers	78287	1290 (2.90-2.90)
Sidechain outliers	78261	1292 (2.90-2.90)
RNA backbone	1838	1055 (3.40-2.40)

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	1539	
2	B	218	
3	C	206	
4	D	205	
5	E	150	
6	F	100	
7	G	151	
8	H	129	
9	I	127	
10	J	98	
11	K	117	
12	L	123	
13	M	114	
14	N	100	

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Mol	Chain	Length	Quality of chain
15	O	88	
16	P	82	
17	Q	80	
18	R	55	
19	S	79	
20	T	85	
21	U	51	

2 Entry composition

There are 23 unique types of molecules in this entry. The entry contains 51819 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	1539	Total	C	N	O	P	0	0	0
			33015	14725	6052	10699	1539			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	218	Total	C	N	O	S	0	0	0
			1705	1081	305	312	7			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	206	Total	C	N	O	S	0	0	0
			1625	1028	305	289	3			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	D	205	Total	C	N	O	S	0	0	0
			1643	1026	315	298	4			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	150	Total	C	N	O	S	0	0	0
			1106	687	211	202	6			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	F	100	Total	C	N	O	S	0	0	0
			818	515	148	149	6			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	G	151	Total	C	N	O	S	0	0	0
			1182	735	227	216	4			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	H	129	Total	C	N	O	S	0	0	0
			979	616	173	184	6			

- 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
			1022	634	206	179	3			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	98	Total	C	N	O	S	0	0	0
			787	493	150	143	1			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	117	Total	C	N	O	S	0	0	0
			877	540	174	160	3			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	L	123	Total	C	N	O	S	0	0	0
			955	590	196	165	4			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	M	114	Total	C	N	O	S	0	0	0
			884	546	178	157	3			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	N	96	Total	C	N	O	S	0	0	0
			774	483	160	128	3			

- 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
			710	437	143	129	1			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	P	82	Total	C	N	O	S	0	0	0
			649	406	128	114	1			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	Q	80	Total	C	N	O	S	0	0	0
			649	411	121	114	3			

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	R	55	Total	C	N	O	0	0	0
			456	288	86	82			

- 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	0
			638	408	120	108	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	T	85	Total	C	N	O	S	0	0	0
			665	411	137	114	3			

- Molecule 21 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	U	51	Total	C	N	O	S	0	0	0
			426	265	86	74	1			

- 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 water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
23	A	193	Total	O	0	0
			193	193		
23	L	1	Total	O	0	0
			1	1		
23	N	1	Total	O	0	0
			1	1		
23	T	2	Total	O	0	0
			2	2		
23	U	1	Total	O	0	0
			1	1		

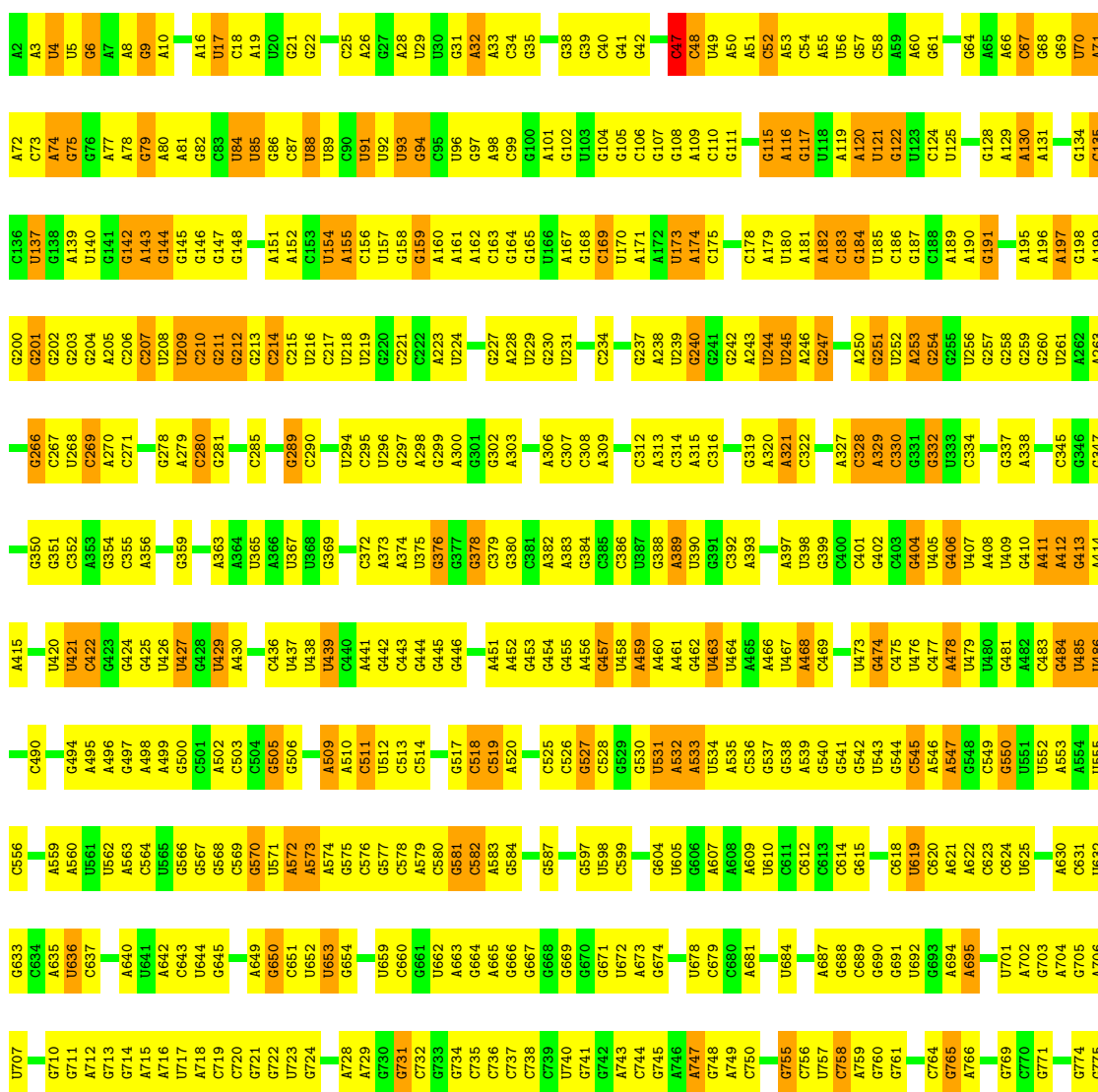
3 Residue-property plots

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 ($\text{RSRZ} > 2$). 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.

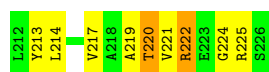
Note EDS was not executed.

• Molecule 1: 16S rRNA

Chain A:

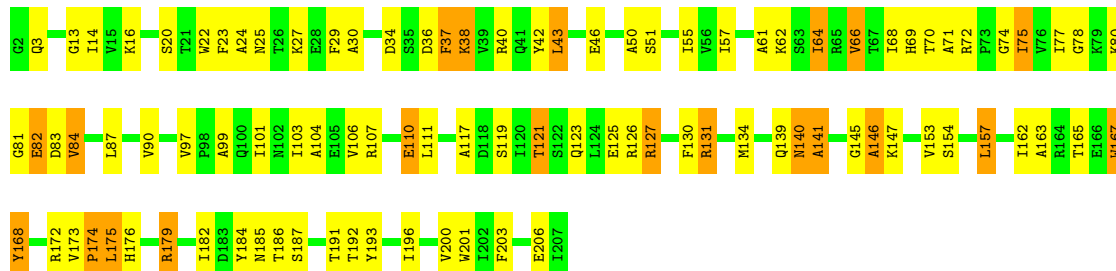






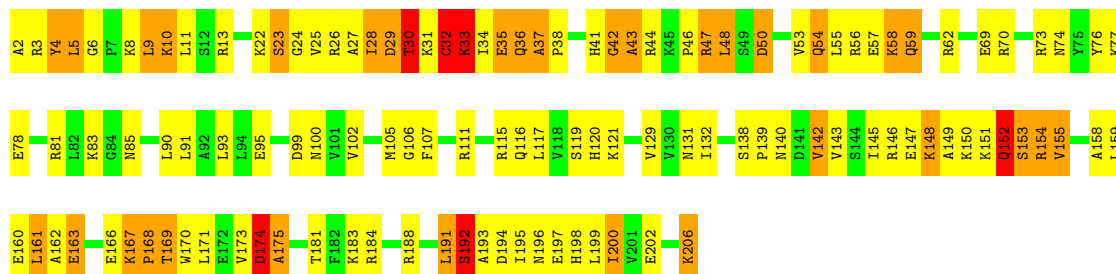
- Molecule 3: 30S ribosomal protein S3

Chain C:



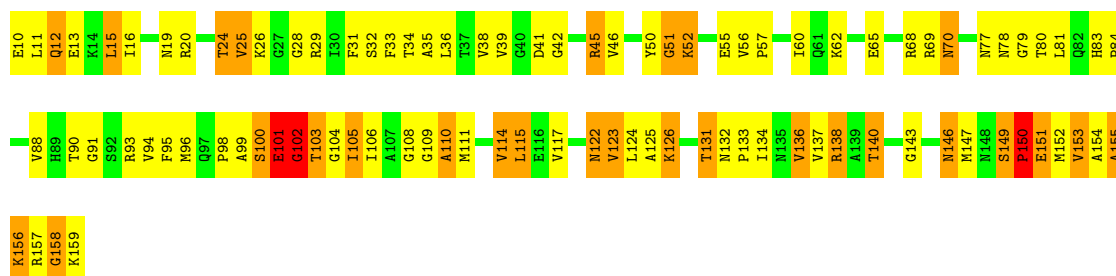
- Molecule 4: 30S ribosomal protein S4

Chain D:



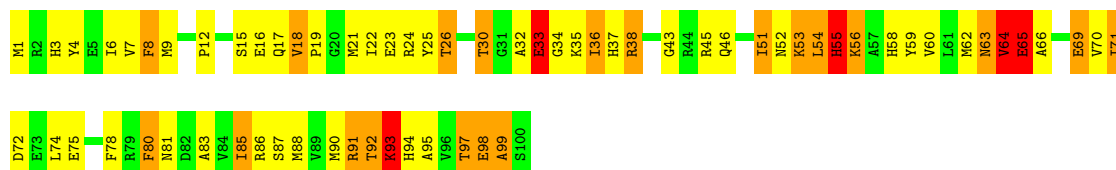
- Molecule 5: 30S ribosomal protein S5

Chain E:



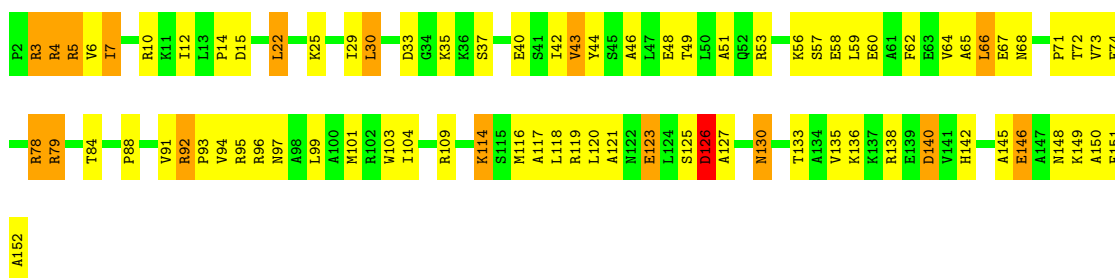
- Molecule 6: 30S ribosomal protein S6

Chain F:



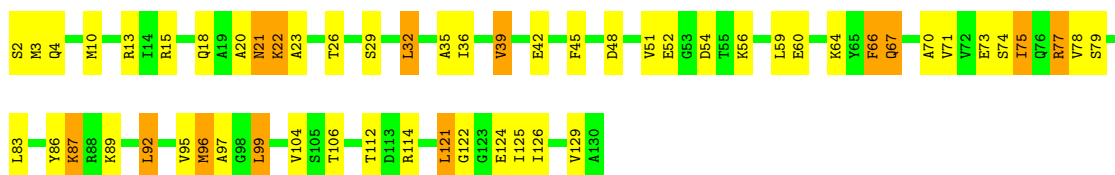
- Molecule 7: 30S ribosomal protein S7

Chain G:



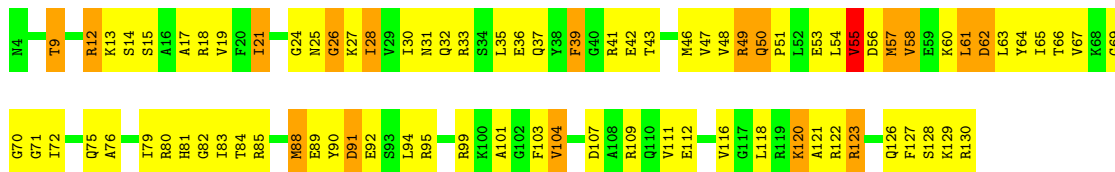
• Molecule 8: 30S ribosomal protein S8

Chain H:



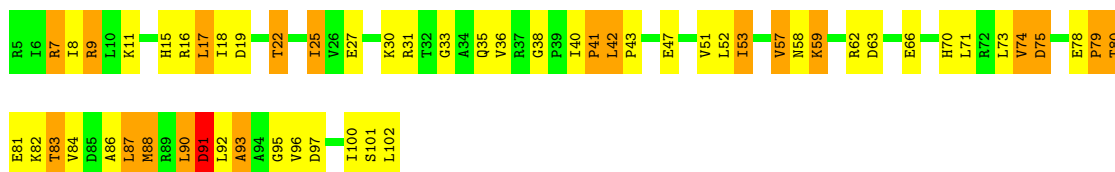
• Molecule 9: 30S ribosomal protein S9

Chain I:



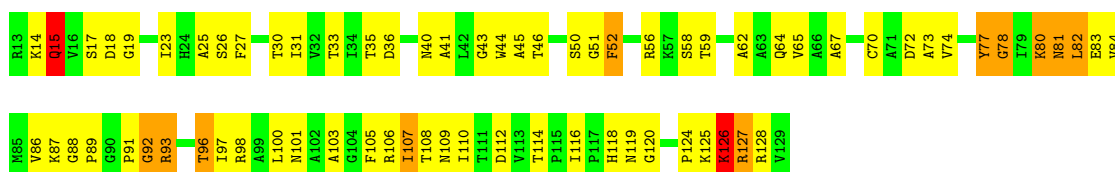
• Molecule 10: 30S ribosomal protein S10

Chain J:



• Molecule 11: 30S ribosomal protein S11

Chain K:



• Molecule 12: 30S ribosomal protein S12

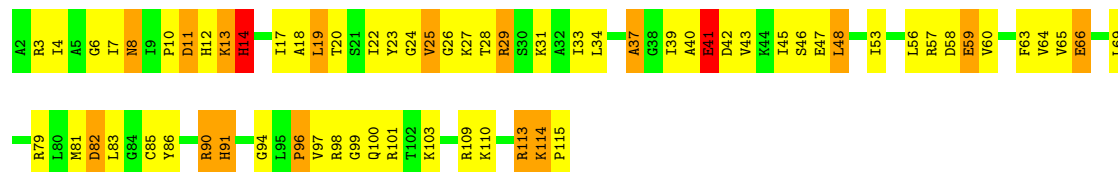
Chain L:





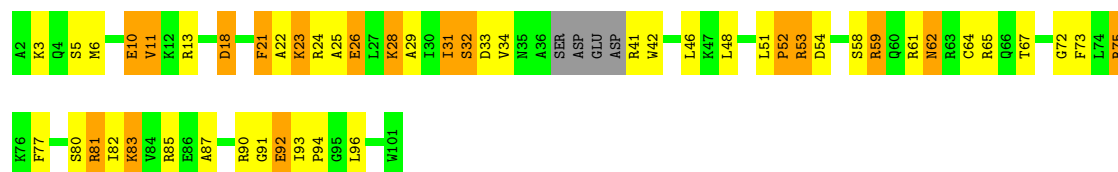
- Molecule 13: 30S ribosomal protein S13

Chain M:



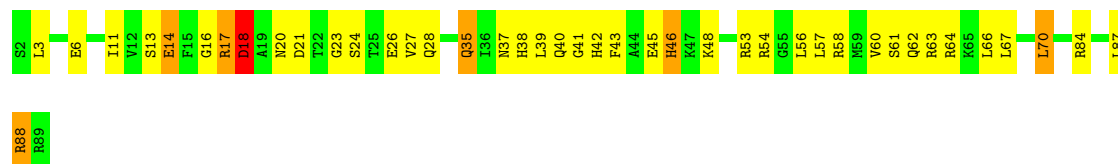
- Molecule 14: 30S ribosomal protein S14

Chain N:



- Molecule 15: 30S ribosomal protein S15

Chain O:



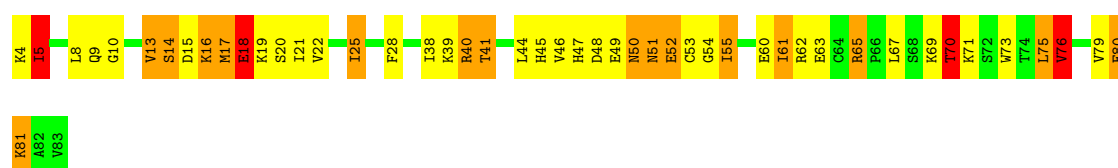
- Molecule 16: 30S ribosomal protein S16

Chain P:



- Molecule 17: 30S ribosomal protein S17

Chain Q:



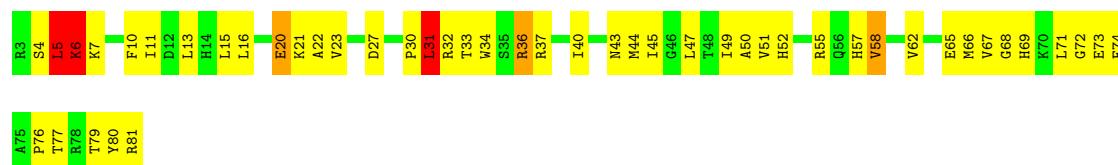
- Molecule 18: 30S ribosomal protein S18

Chain R:



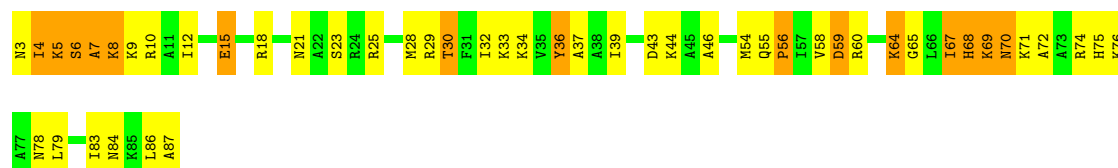
- Molecule 19: 30S ribosomal protein S19

Chain S: 



- Molecule 20: 30S ribosomal protein S20

Chain T: 



- Molecule 21: 30S ribosomal protein S21

Chain U: 



4 Data and refinement statistics

Xtriage (Phenix) and EDS were 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	210.21Å 433.03Å 619.20Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	39.97 – 2.90	Depositor
% Data completeness (in resolution range)	94.9 (39.97-2.90)	Depositor
R_{merge}	0.12	Depositor
R_{sym}	(Not available)	Depositor
Refinement program	PHENIX (phenix.refine: 1.8.1_1168)	Depositor
R, R_{free}	0.220 , 0.264	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	51819	wwPDB-VP
Average B, all atoms (Å ²)	78.0	wwPDB-VP

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: 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	0.39	0/36966	0.86	4/57666 (0.0%)
2	B	0.32	0/1736	0.53	0/2338
3	C	0.31	0/1652	0.51	0/2225
4	D	0.39	0/1665	0.61	0/2227
5	E	0.37	0/1119	0.65	0/1504
6	F	0.33	0/836	0.58	0/1128
7	G	0.31	0/1196	0.51	0/1602
8	H	0.31	0/989	0.52	0/1326
9	I	0.31	0/1034	0.55	0/1375
10	J	0.31	0/797	0.52	0/1077
11	K	0.32	0/893	0.55	0/1205
12	L	0.37	0/969	0.63	0/1300
13	M	0.32	0/893	0.52	0/1193
14	N	0.30	0/785	0.50	0/1043
15	O	0.32	0/718	0.50	0/959
16	P	0.32	0/659	0.55	0/884
17	Q	0.33	0/658	0.54	0/881
18	R	0.33	0/463	0.52	0/621
19	S	0.32	0/653	0.56	0/877
20	T	0.30	0/671	0.54	0/888
21	U	0.42	0/431	0.62	0/570
All	All	0.37	0/55783	0.78	4/82889 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
4	D	0	1
5	E	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
6	F	0	1
12	L	0	1
All	All	0	4

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1397	C	C6-N1-C2	-5.81	117.97	120.30
1	A	4	U	C2-N1-C1'	5.57	124.39	117.70
1	A	47	C	C6-N1-C2	5.26	122.40	120.30
1	A	536	C	C6-N1-C2	5.00	122.30	120.30

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
4	D	152	GLN	Peptide
5	E	102	GLY	Peptide
6	F	54	LEU	Peptide
12	L	24	LEU	Peptide

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	33015	0	16617	1177	0
2	B	1705	0	1732	124	0
3	C	1625	0	1696	76	0
4	D	1643	0	1707	140	0
5	E	1106	0	1148	111	0
6	F	818	0	808	62	0
7	G	1182	0	1238	70	0
8	H	979	0	1031	49	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
9	I	1022	0	1070	76	0
10	J	787	0	828	49	0
11	K	877	0	887	62	0
12	L	955	0	1016	70	0
13	M	884	0	941	56	0
14	N	774	0	824	53	0
15	O	710	0	728	30	0
16	P	649	0	666	33	0
17	Q	649	0	691	50	0
18	R	456	0	478	23	0
19	S	638	0	665	37	0
20	T	665	0	714	49	0
21	U	426	0	449	50	0
22	A	56	0	0	0	0
23	A	193	0	0	17	0
23	L	1	0	0	0	0
23	N	1	0	0	0	0
23	T	2	0	0	0	0
23	U	1	0	0	1	0
All	All	51819	0	35934	2271	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 26.

All (2271) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:101:GLU:O	5:E:103:THR:N	1.86	1.08
5:E:157:ARG:O	5:E:159:LYS:N	1.96	0.98
2:B:73:LYS:O	2:B:75:ALA:N	1.95	0.98
4:D:41:HIS:O	4:D:43:ALA:N	1.98	0.97
1:A:858:G:N7	23:A:1819:HOH:O	1.97	0.96
1:A:912:C:OP1	12:L:43:LYS:NZ	1.97	0.96
4:D:29:ASP:O	4:D:31:LYS:N	1.99	0.95
1:A:1500:A:OP2	23:A:1884:HOH:O	1.87	0.91
1:A:1198:G:N7	23:A:1853:HOH:O	2.02	0.91
4:D:174:ASP:OD1	4:D:175:ALA:N	2.04	0.90
1:A:32:A:C2	1:A:33:A:C5	2.60	0.88
20:T:5:LYS:O	20:T:7:ALA:N	2.07	0.87
17:Q:19:LYS:O	17:Q:71:LYS:NZ	2.08	0.87
1:A:484:G:H4'	1:A:485:U:O5'	1.75	0.86
9:I:107:ASP:OD1	9:I:109:ARG:NH1	2.09	0.86
1:A:1256:A:O2'	1:A:1278:G:O6	1.94	0.85

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:28:ILE:O	4:D:31:LYS:NZ	2.08	0.85
5:E:102:GLY:O	5:E:104:GLY:N	2.10	0.85
14:N:41:ARG:NH1	14:N:42:TRP:O	2.10	0.84
18:R:20:GLU:O	18:R:22:ASP:N	2.10	0.84
10:J:63:ASP:OD1	14:N:85:ARG:NH1	2.10	0.84
1:A:736:C:OP1	18:R:61:ARG:NH1	2.10	0.83
1:A:319:G:O6	23:A:1735:HOH:O	1.95	0.83
1:A:201:G:N2	1:A:469:C:O2	2.11	0.83
20:T:59:ASP:OD2	20:T:76:LYS:NZ	2.11	0.82
7:G:93:PRO:O	7:G:97:ASN:ND2	2.11	0.82
1:A:1046:A:N6	1:A:1211:U:O2	2.13	0.82
1:A:495:A:C2	1:A:496:A:C6	2.68	0.82
1:A:992:U:O4'	1:A:993:G:N2	2.13	0.82
1:A:409:U:OP1	4:D:24:GLY:HA3	1.78	0.81
1:A:209:U:H4'	1:A:210:C:OP2	1.80	0.81
1:A:1007:U:O4	1:A:1022:A:N6	2.14	0.81
1:A:243:A:H4'	1:A:244:U:C5'	2.10	0.81
1:A:243:A:H4'	1:A:244:U:H5'	1.62	0.81
1:A:1308:U:OP1	13:M:97:VAL:N	2.14	0.80
1:A:205:A:N6	1:A:213:G:O6	2.14	0.80
5:E:99:ALA:O	5:E:101:GLU:N	2.14	0.80
1:A:266:G:H3'	17:Q:69:LYS:HB2	1.64	0.80
6:F:91:ARG:O	6:F:92:THR:OG1	1.98	0.80
11:K:17:SER:O	11:K:80:LYS:N	2.15	0.79
2:B:103:ASN:ND2	2:B:106:THR:OG1	2.15	0.79
1:A:195:A:OP1	20:T:60:ARG:NH1	2.16	0.78
1:A:537:G:OP1	12:L:110:ARG:NH2	2.16	0.78
4:D:192:SER:OG	4:D:193:ALA:N	2.14	0.77
1:A:1499:A:OP2	23:A:1884:HOH:O	2.00	0.77
13:M:40:ALA:O	13:M:42:ASP:N	2.17	0.77
1:A:72:A:C6	1:A:73:C:N4	2.52	0.77
1:A:890:G:O2'	1:A:906:A:N6	2.17	0.77
1:A:718:A:C8	1:A:719:C:C5	2.74	0.76
1:A:527:G:C2	1:A:528:C:C6	2.74	0.76
1:A:567:G:O2'	23:A:1705:HOH:O	2.04	0.76
2:B:193:PRO:O	2:B:195:GLY:N	2.18	0.76
2:B:58:ASN:ND2	2:B:220:THR:O	2.19	0.75
13:M:13:LYS:O	13:M:14:HIS:ND1	2.19	0.75
21:U:51:SER:O	21:U:53:VAL:N	2.19	0.75
1:A:1124:G:O2'	1:A:1145:A:N6	2.18	0.75
17:Q:69:LYS:O	17:Q:70:THR:OG1	2.04	0.75
1:A:1181:G:O2'	1:A:1182:G:N7	2.19	0.75

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:41:ASP:OD1	5:E:42:GLY:N	2.20	0.75
1:A:734:G:C2	1:A:735:C:C6	2.74	0.75
1:A:684:U:O2'	11:K:40:ASN:O	2.04	0.75
2:B:87:CYS:O	2:B:89:GLN:N	2.20	0.74
1:A:533:A:OP1	23:A:1763:HOH:O	2.05	0.74
4:D:95:GLU:OE2	4:D:100:ASN:ND2	2.20	0.74
14:N:21:PHE:O	14:N:23:LYS:N	2.21	0.73
1:A:1147:C:O2	9:I:18:ARG:NH2	2.21	0.73
1:A:1525:G:O6	23:A:1892:HOH:O	2.05	0.72
1:A:679:C:O2	1:A:712:A:C2	2.42	0.72
10:J:87:LEU:HD13	10:J:88:MET:N	2.04	0.72
1:A:552:U:C4	1:A:553:A:N7	2.57	0.72
1:A:1385:G:N7	23:A:1874:HOH:O	2.22	0.72
5:E:80:THR:OG1	5:E:122:ASN:ND2	2.22	0.72
1:A:734:G:N3	1:A:735:C:C6	2.57	0.72
19:S:4:SER:O	19:S:5:LEU:HB2	1.90	0.72
5:E:101:GLU:O	5:E:101:GLU:CD	2.28	0.72
1:A:1219:A:N6	1:A:1220:G:O6	2.23	0.72
4:D:100:ASN:OD1	4:D:111:ARG:NH1	2.21	0.72
1:A:374:A:H5''	1:A:452:A:N1	2.05	0.71
5:E:132:ASN:O	5:E:136:VAL:HG12	1.91	0.71
1:A:1108:G:O6	23:A:1858:HOH:O	2.05	0.70
4:D:26:ARG:HG3	4:D:27:ALA:N	2.06	0.70
1:A:1124:G:N2	1:A:1127:G:C2	2.60	0.70
1:A:1302:C:C4	13:M:17:ILE:HD13	2.26	0.70
12:L:57:LEU:O	12:L:60:GLY:N	2.23	0.70
1:A:811:C:O2'	1:A:901:A:N1	2.24	0.70
21:U:18:ARG:O	21:U:21:ARG:N	2.24	0.70
1:A:977:A:H3'	1:A:977:A:N3	2.07	0.70
2:B:15:HIS:O	2:B:17:GLY:N	2.25	0.70
1:A:496:A:C2	1:A:497:G:C5	2.80	0.69
1:A:582:C:N3	1:A:760:G:C6	2.60	0.69
5:E:155:ALA:HB1	8:H:66:PHE:CD2	2.26	0.69
1:A:376:G:H5'	16:P:5:ARG:HB3	1.74	0.69
1:A:495:A:C2	1:A:496:A:N6	2.60	0.69
1:A:533:A:O2'	1:A:535:A:OP2	2.11	0.69
1:A:1348:U:H4'	9:I:122:ARG:HG3	1.74	0.69
1:A:688:G:O2'	1:A:704:A:N1	2.21	0.69
9:I:12:ARG:NH1	9:I:107:ASP:OD2	2.26	0.69
1:A:1095:U:OP2	23:A:1858:HOH:O	2.09	0.69
1:A:66:A:C6	1:A:67:C:C5	2.81	0.69
1:A:875:U:O2'	8:H:15:ARG:NH1	2.26	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:8:A:C6	4:D:206:LYS:HB3	2.28	0.69
1:A:1004:A:O2'	1:A:1036:A:N1	2.26	0.68
1:A:511:C:C2	1:A:512:U:C5	2.82	0.68
1:A:475:C:H2'	1:A:476:U:C6	2.28	0.68
1:A:620:C:C2	4:D:132:ILE:HD13	2.29	0.68
1:A:801:U:C2	1:A:802:A:C8	2.81	0.68
12:L:20:ASN:OD1	12:L:20:ASN:N	2.26	0.68
1:A:1408:A:C2	1:A:1494:G:C4	2.82	0.68
1:A:227:G:H2'	1:A:228:A:O4'	1.93	0.68
1:A:1297:G:O2'	7:G:114:LYS:NZ	2.21	0.68
1:A:1316:G:N1	1:A:1319:A:OP2	2.27	0.68
1:A:706:A:C5	1:A:707:U:C5	2.82	0.68
1:A:802:A:C2	1:A:803:G:H1'	2.28	0.67
4:D:105:MET:SD	4:D:143:VAL:HG13	2.33	0.67
1:A:1490:U:H2'	1:A:1491:G:O4'	1.93	0.67
1:A:1279:G:H2'	1:A:1279:G:N3	2.08	0.67
1:A:499:A:C6	1:A:547:A:C8	2.82	0.67
1:A:718:A:C5	11:K:118:HIS:CD2	2.83	0.67
9:I:19:VAL:HG21	9:I:82:GLY:HA3	1.77	0.67
12:L:25:GLU:O	12:L:27:CYS:N	2.27	0.67
1:A:1151:A:C2	1:A:1152:A:C5	2.82	0.67
2:B:96:TRP:CE2	2:B:172:ALA:HB2	2.29	0.67
2:B:21:ARG:CZ	2:B:21:ARG:HA	2.25	0.67
4:D:174:ASP:CG	4:D:175:ALA:N	2.48	0.67
5:E:146:ASN:OD1	5:E:146:ASN:N	2.27	0.67
1:A:1381:U:C2'	1:A:1382:C:O5'	2.43	0.67
1:A:919:A:C2	1:A:920:U:C5	2.83	0.67
2:B:203:ASN:OD1	2:B:204:ASP:N	2.27	0.67
1:A:427:U:OP1	4:D:13:ARG:NH2	2.28	0.67
1:A:309:A:O2'	1:A:607:A:N1	2.27	0.66
4:D:105:MET:SD	4:D:143:VAL:CG1	2.84	0.66
18:R:20:GLU:N	18:R:55:LEU:HD12	2.09	0.66
1:A:1345:U:C2	1:A:1377:A:C2	2.84	0.66
5:E:56:VAL:N	5:E:57:PRO:HD2	2.11	0.66
11:K:27:PHE:CZ	11:K:89:PRO:HG2	2.30	0.66
1:A:1356:G:H2'	1:A:1357:A:C8	2.30	0.66
6:F:45:ARG:O	6:F:56:LYS:HA	1.96	0.66
1:A:1225:A:H2'	1:A:1226:C:C5	2.29	0.66
1:A:70:U:H2'	1:A:94:G:N7	2.11	0.66
8:H:2:SER:O	8:H:4:GLN:N	2.29	0.66
18:R:22:ASP:OD1	18:R:23:TYR:N	2.28	0.66
4:D:99:ASP:OD1	4:D:100:ASN:N	2.29	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:8:PHE:CZ	6:F:60:VAL:HB	2.31	0.66
1:A:1391:U:H2'	1:A:1392:G:C8	2.30	0.65
1:A:485:U:OP2	1:A:485:U:H4'	1.96	0.65
1:A:604:G:H2'	1:A:605:U:O4'	1.96	0.65
5:E:133:PRO:O	5:E:137:VAL:HG12	1.95	0.65
2:B:206:ALA:O	2:B:208:ARG:N	2.29	0.65
1:A:1105:A:C2	1:A:1106:G:N7	2.65	0.65
1:A:1127:G:H5'	1:A:1280:A:O2'	1.96	0.65
1:A:378:G:C2	1:A:386:C:O2	2.50	0.65
1:A:858:G:O6	1:A:869:G:H3'	1.96	0.65
1:A:160:A:H2'	1:A:161:A:O4'	1.97	0.65
1:A:1460:C:N4	1:A:1461:G:C6	2.65	0.65
1:A:801:U:H2'	1:A:802:A:H8	1.62	0.65
11:K:88:GLY:N	11:K:114:THR:HG22	2.11	0.65
1:A:17:U:H2'	1:A:18:C:C6	2.31	0.65
1:A:485:U:O2'	1:A:486:U:OP1	2.14	0.65
1:A:154:U:C2	1:A:168:G:N2	2.65	0.65
1:A:64:G:C8	1:A:99:C:N4	2.65	0.65
4:D:174:ASP:O	4:D:175:ALA:CB	2.44	0.65
19:S:66:MET:SD	19:S:74:PHE:CZ	2.90	0.65
1:A:8:A:C5	4:D:206:LYS:HB3	2.31	0.64
4:D:59:GLN:HA	4:D:59:GLN:OE1	1.96	0.64
16:P:39:PHE:CD1	16:P:74:LEU:HD11	2.32	0.64
1:A:1007:U:H2'	1:A:1008:U:C5'	2.27	0.64
12:L:57:LEU:O	12:L:59:ASN:N	2.29	0.64
1:A:1211:U:O2'	1:A:1212:U:OP2	2.15	0.64
1:A:1255:G:C6	1:A:1279:G:C8	2.86	0.64
1:A:945:G:C2	1:A:946:A:C8	2.85	0.64
2:B:35:ARG:O	2:B:37:LYS:N	2.31	0.64
10:J:91:ASP:N	10:J:91:ASP:OD1	2.30	0.64
2:B:119:THR:O	2:B:120:GLN:HB2	1.98	0.64
9:I:33:ARG:NE	9:I:37:GLN:OE1	2.30	0.64
1:A:1061:G:O4'	10:J:58:ASN:ND2	2.31	0.64
19:S:55:ARG:NE	19:S:79:THR:HG22	2.13	0.64
1:A:829:G:C5	1:A:858:G:N2	2.66	0.64
5:E:65:GLU:OE1	5:E:69:ARG:NH2	2.31	0.64
9:I:120:LYS:HG3	9:I:123:ARG:HB3	1.78	0.64
1:A:563:A:H2'	1:A:567:G:C8	2.33	0.64
1:A:706:A:O2'	11:K:31:ILE:HD11	1.98	0.64
1:A:527:G:C6	1:A:528:C:C5	2.86	0.64
17:Q:21:ILE:N	17:Q:48:ASP:OD1	2.30	0.64
1:A:664:G:N2	1:A:666:G:C8	2.66	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:O:18:ASP:OD1	15:O:20:ASN:N	2.30	0.63
8:H:2:SER:C	8:H:4:GLN:H	2.01	0.63
16:P:14:ARG:N	16:P:15:PRO:CD	2.61	0.63
21:U:21:ARG:HD3	21:U:21:ARG:N	2.12	0.63
1:A:1167:A:N7	1:A:1169:A:C5	2.67	0.63
1:A:404:G:N7	4:D:2:ALA:N	2.46	0.63
4:D:34:ILE:O	4:D:35:GLU:HB3	1.98	0.63
15:O:17:ARG:O	15:O:18:ASP:CB	2.46	0.63
1:A:1150:A:N6	1:A:1151:A:H62	1.96	0.63
3:C:139:GLN:O	3:C:141:ALA:N	2.31	0.63
1:A:1141:C:O2'	1:A:1142:G:O5'	2.15	0.63
13:M:98:ARG:O	13:M:100:GLN:N	2.31	0.63
11:K:125:LYS:O	21:U:34:ARG:NE	2.32	0.63
1:A:1521:C:N3	1:A:1522:U:C5	2.67	0.63
12:L:47:SER:O	12:L:48:ALA:CB	2.47	0.63
1:A:183:C:O2'	1:A:184:G:O5'	2.16	0.62
6:F:32:ALA:O	6:F:34:GLY:N	2.32	0.62
1:A:495:A:N1	1:A:496:A:N6	2.46	0.62
1:A:815:A:N7	1:A:1509:C:O2'	2.25	0.62
4:D:9:LEU:CD2	4:D:22:LYS:HD2	2.29	0.62
1:A:1364:U:H2'	1:A:1364:U:O2	1.99	0.62
1:A:409:U:OP1	4:D:24:GLY:CA	2.46	0.62
3:C:173:VAL:O	3:C:175:LEU:N	2.32	0.62
18:R:24:LYS:O	18:R:26:ILE:N	2.32	0.62
1:A:1007:U:H2'	1:A:1008:U:H5'	1.81	0.62
1:A:1217:C:H2'	1:A:1218:C:C6	2.35	0.62
1:A:72:A:N6	1:A:73:C:N4	2.48	0.62
1:A:801:U:H2'	1:A:802:A:C8	2.35	0.62
1:A:1089:G:N2	1:A:1090:U:H1'	2.15	0.62
1:A:1521:C:C4	1:A:1522:U:C5	2.87	0.62
15:O:18:ASP:OD1	15:O:20:ASN:HB2	1.99	0.62
1:A:790:A:C6	1:A:791:G:C6	2.87	0.62
2:B:58:ASN:CG	2:B:220:THR:O	2.37	0.62
7:G:5:ARG:NE	7:G:5:ARG:HA	2.15	0.62
9:I:15:SER:OG	9:I:69:GLY:O	2.10	0.62
1:A:243:A:H4'	1:A:244:U:H5''	1.81	0.61
1:A:1467:C:H2'	1:A:1468:A:C8	2.35	0.61
1:A:1417:G:C6	1:A:1482:G:C6	2.88	0.61
4:D:29:ASP:C	4:D:31:LYS:H	2.04	0.61
7:G:101:MET:HA	7:G:104:ILE:HD12	1.81	0.61
20:T:67:ILE:O	20:T:67:ILE:CG2	2.49	0.61
1:A:1169:A:C2	1:A:1170:A:C4	2.88	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:728:A:C8	15:O:54:ARG:CZ	2.83	0.61
2:B:21:ARG:NH1	2:B:21:ARG:HA	2.16	0.61
7:G:68:ASN:ND2	7:G:130:ASN:OD1	2.34	0.61
12:L:25:GLU:O	12:L:26:ALA:C	2.37	0.61
1:A:1345:U:N3	1:A:1377:A:C2	2.68	0.61
4:D:58:LYS:NZ	4:D:59:GLN:OE1	2.30	0.61
16:P:28:ARG:HG3	16:P:29:ASN:OD1	2.01	0.61
1:A:1151:A:N3	1:A:1152:A:C5	2.68	0.61
1:A:511:C:C2	1:A:512:U:C6	2.88	0.61
6:F:98:GLU:O	6:F:99:ALA:HB3	2.00	0.61
12:L:47:SER:O	12:L:48:ALA:HB2	2.01	0.61
4:D:57:GLU:OE2	4:D:196:ASN:N	2.34	0.61
1:A:955:U:O2'	1:A:1227:A:N6	2.33	0.61
1:A:570:G:H5''	1:A:571:U:OP2	2.01	0.61
18:R:33:ILE:HA	18:R:40:VAL:HG23	1.82	0.61
1:A:154:U:C2'	1:A:155:A:H5'	2.31	0.61
1:A:518:C:H4'	1:A:519:C:O5'	2.00	0.61
1:A:811:C:N4	1:A:812:G:C6	2.69	0.61
6:F:9:MET:SD	6:F:59:TYR:CE1	2.94	0.61
1:A:577:G:C8	1:A:816:A:C6	2.89	0.61
1:A:791:G:C6	1:A:792:A:N7	2.68	0.61
2:B:167:ASP:O	2:B:168:HIS:CB	2.48	0.61
5:E:25:VAL:N	5:E:28:GLY:O	2.34	0.61
6:F:69:GLU:O	6:F:72:ASP:HB3	2.00	0.61
1:A:718:A:N7	1:A:719:C:C5	2.69	0.60
1:A:829:G:C6	1:A:858:G:N2	2.69	0.60
15:O:17:ARG:O	15:O:18:ASP:HB3	2.01	0.60
21:U:12:PHE:O	21:U:13:ASP:HB2	2.01	0.60
21:U:14:VAL:HG12	21:U:16:LEU:HG	1.83	0.60
1:A:717:U:O2'	1:A:734:G:O4'	2.13	0.60
8:H:10:MET:HE1	8:H:36:ILE:HB	1.83	0.60
14:N:52:PRO:O	14:N:53:ARG:CB	2.49	0.60
1:A:1071:C:H2'	1:A:1072:G:C8	2.37	0.60
1:A:1240:U:OP2	7:G:116:MET:N	2.34	0.60
1:A:1062:U:H2'	1:A:1063:C:C6	2.37	0.60
1:A:73:C:O2'	1:A:74:A:O5'	2.18	0.60
6:F:36:ILE:HG12	6:F:36:ILE:O	2.01	0.60
15:O:53:ARG:O	15:O:56:LEU:N	2.35	0.60
1:A:1285:A:H4'	1:A:1286:U:C5	2.37	0.60
5:E:157:ARG:HD3	5:E:158:GLY:N	2.16	0.60
20:T:44:LYS:NZ	20:T:86:LEU:O	2.31	0.60
1:A:716:A:N3	11:K:119:ASN:O	2.35	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:106:ILE:HD11	5:E:124:LEU:HD23	1.84	0.60
5:E:101:GLU:O	5:E:103:THR:CA	2.50	0.60
5:E:83:HIS:CD2	8:H:96:MET:CE	2.84	0.60
14:N:31:ILE:O	14:N:33:ASP:N	2.35	0.60
1:A:268:U:H2'	1:A:269:C:C6	2.36	0.60
1:A:779:C:C2'	1:A:780:A:H5'	2.32	0.60
4:D:34:ILE:O	4:D:35:GLU:CB	2.49	0.60
5:E:137:VAL:O	5:E:138:ARG:HG2	2.01	0.60
6:F:36:ILE:O	6:F:36:ILE:CG1	2.49	0.60
1:A:1151:A:C2	1:A:1152:A:C6	2.90	0.60
1:A:154:U:H2'	1:A:155:A:H5'	1.84	0.60
1:A:375:U:C2	1:A:376:G:C8	2.90	0.60
1:A:388:G:O2'	1:A:389:A:OP1	2.18	0.60
1:A:692:U:O2'	1:A:694:A:N7	2.29	0.60
4:D:4:TYR:O	4:D:5:LEU:HB2	2.01	0.60
9:I:57:MET:HB3	9:I:61:LEU:CD2	2.32	0.60
12:L:21:VAL:O	12:L:23:ALA:N	2.35	0.60
1:A:511:C:O2	1:A:512:U:C6	2.55	0.59
1:A:527:G:N1	1:A:528:C:C5	2.70	0.59
1:A:577:G:C8	1:A:816:A:N1	2.70	0.59
1:A:1072:G:C6	1:A:1073:U:C4	2.90	0.59
1:A:1005:A:O3'	1:A:1037:C:O2'	2.15	0.59
1:A:992:U:C4	1:A:1043:G:C8	2.90	0.59
1:A:1259:C:H3'	1:A:1260:G:H5''	1.85	0.59
14:N:61:ARG:O	14:N:62:ASN:HB2	2.02	0.59
6:F:26:THR:O	6:F:30:THR:OG1	2.20	0.59
18:R:63:ARG:HB3	18:R:70:TYR:CE1	2.37	0.59
1:A:1309:G:C6	1:A:1329:A:C2	2.90	0.59
1:A:518:C:H5''	1:A:519:C:C6	2.37	0.59
12:L:18:LYS:HD2	12:L:18:LYS:C	2.23	0.59
1:A:1211:U:C2'	1:A:1212:U:OP2	2.51	0.59
1:A:33:A:H2'	1:A:34:C:H6	1.67	0.59
1:A:411:A:C5	1:A:429:U:C5	2.91	0.59
1:A:254:G:O2'	17:Q:18:GLU:O	2.20	0.59
1:A:55:A:C6	1:A:56:U:C2	2.91	0.59
12:L:68:GLY:O	12:L:99:ARG:NH1	2.36	0.59
21:U:8:GLU:HB3	21:U:12:PHE:CD2	2.38	0.59
1:A:214:C:H2'	1:A:215:C:C6	2.37	0.59
1:A:1006:G:H2'	1:A:1007:U:C6	2.38	0.58
1:A:152:A:N6	1:A:170:U:C2	2.71	0.58
2:B:134:ALA:O	2:B:138:THR:OG1	2.08	0.58
2:B:47:VAL:HB	2:B:48:PRO:HD3	1.84	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:57:MET:SD	9:I:58:VAL:N	2.76	0.58
21:U:14:VAL:O	21:U:16:LEU:HG	2.03	0.58
21:U:15:ALA:O	21:U:17:ARG:N	2.36	0.58
1:A:1499:A:H3'	23:A:1884:HOH:O	2.02	0.58
1:A:570:G:H1'	1:A:820:U:C4	2.38	0.58
1:A:920:U:H2'	1:A:921:U:C6	2.36	0.58
1:A:994:A:N3	1:A:994:A:H2'	2.17	0.58
2:B:133:GLU:O	2:B:137:ARG:HB3	2.03	0.58
5:E:56:VAL:O	5:E:60:ILE:HG23	2.03	0.58
17:Q:47:HIS:HB2	17:Q:67:LEU:HD12	1.85	0.58
20:T:55:GLN:N	20:T:56:PRO:CD	2.65	0.58
1:A:692:U:H1'	1:A:695:A:N7	2.19	0.58
1:A:755:G:C2	1:A:756:C:C5	2.91	0.58
1:A:994:A:C8	1:A:1216:A:H4'	2.39	0.58
2:B:90:PHE:CZ	2:B:154:MET:HA	2.38	0.58
1:A:1108:G:H5''	3:C:176:HIS:CD2	2.37	0.58
4:D:35:GLU:O	4:D:38:PRO:HD3	2.02	0.58
11:K:126:LYS:O	11:K:127:ARG:HB2	2.03	0.58
17:Q:46:VAL:HG21	17:Q:61:ILE:CD1	2.34	0.58
1:A:190:A:C8	1:A:191:G:H1'	2.38	0.58
1:A:257:G:C2	1:A:270:A:N1	2.71	0.58
1:A:681:A:C2	1:A:710:G:C2	2.92	0.58
1:A:765:G:C6	1:A:812:G:C4	2.92	0.58
1:A:960:U:C5	1:A:1225:A:C8	2.91	0.58
4:D:30:THR:C	4:D:31:LYS:HD3	2.23	0.58
5:E:122:ASN:O	5:E:123:VAL:O	2.22	0.58
1:A:1343:G:H2'	1:A:1344:C:C6	2.39	0.58
1:A:373:A:C2	1:A:374:A:C8	2.91	0.58
1:A:728:A:H2'	1:A:729:A:C8	2.38	0.58
2:B:120:GLN:HG2	2:B:125:THR:O	2.03	0.58
1:A:938:A:N6	1:A:939:G:C6	2.71	0.58
2:B:119:THR:O	2:B:120:GLN:CB	2.52	0.58
1:A:1381:U:H2'	1:A:1382:C:O5'	2.04	0.58
1:A:17:U:C2	1:A:18:C:C5	2.92	0.58
4:D:29:ASP:C	4:D:31:LYS:N	2.56	0.58
12:L:44:LYS:O	12:L:46:ASN:N	2.37	0.58
1:A:1027:C:N4	1:A:1034:G:C6	2.72	0.58
1:A:649:A:H2'	1:A:650:G:O4'	2.04	0.58
5:E:109:GLY:O	5:E:110:ALA:HB3	2.04	0.58
19:S:31:LEU:O	19:S:33:THR:N	2.36	0.58
1:A:115:G:H4'	1:A:116:A:O5'	2.04	0.58
1:A:1167:A:N7	1:A:1169:A:C6	2.71	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:624:C:H2'	1:A:625:U:O4'	2.04	0.58
4:D:9:LEU:HD12	4:D:32:CYS:SG	2.43	0.58
6:F:97:THR:O	6:F:98:GLU:HB3	2.04	0.58
20:T:15:GLU:OE2	20:T:18:ARG:NH2	2.35	0.58
20:T:67:ILE:O	20:T:67:ILE:HG22	2.03	0.58
3:C:72:ARG:HB3	3:C:75:ILE:HG23	1.85	0.58
6:F:43:GLY:HA2	6:F:58:HIS:NE2	2.19	0.58
10:J:84:VAL:O	10:J:88:MET:HB2	2.04	0.58
12:L:21:VAL:N	12:L:22:PRO:HD3	2.19	0.58
1:A:1003:G:C2	1:A:1038:C:C4	2.92	0.57
1:A:992:U:N3	1:A:1043:G:N7	2.52	0.57
4:D:166:GLU:O	4:D:167:LYS:HB2	2.04	0.57
9:I:30:ILE:HA	9:I:65:ILE:O	2.03	0.57
1:A:1093:A:C5	1:A:1095:U:O4'	2.56	0.57
1:A:1245:C:C4	1:A:1246:A:N7	2.72	0.57
1:A:1224:U:C4	1:A:1322:C:O2	2.56	0.57
2:B:21:ARG:O	2:B:23:TRP:N	2.37	0.57
12:L:38:TYR:CB	12:L:52:VAL:HG13	2.34	0.57
14:N:54:ASP:HA	14:N:59:ARG:HD3	1.86	0.57
14:N:91:GLY:O	14:N:93:ILE:N	2.37	0.57
17:Q:50:ASN:O	17:Q:52:GLU:N	2.37	0.57
1:A:1092:A:C6	1:A:1183:U:O2	2.57	0.57
1:A:927:G:O2'	1:A:1503:A:N7	2.31	0.57
1:A:1096:C:H2'	1:A:1097:C:C6	2.39	0.57
1:A:1478:U:H2'	1:A:1479:C:C6	2.39	0.57
1:A:206:C:H2'	1:A:207:C:H5'	1.87	0.57
1:A:33:A:H2'	1:A:34:C:C6	2.39	0.57
4:D:32:CYS:O	4:D:33:LYS:CB	2.53	0.57
8:H:89:LYS:HA	8:H:92:LEU:CD1	2.34	0.57
1:A:455:G:N2	1:A:478:A:C2	2.72	0.57
1:A:577:G:C4	1:A:816:A:C2	2.92	0.57
2:B:210:VAL:O	2:B:214:LEU:HB2	2.04	0.57
7:G:125:SER:O	7:G:127:ALA:N	2.37	0.57
9:I:116:VAL:CG2	10:J:62:ARG:HD3	2.35	0.57
1:A:145:G:C2	1:A:146:G:C8	2.92	0.57
1:A:543:U:O2'	1:A:544:G:H5'	2.03	0.57
1:A:1178:G:N2	1:A:1181:G:OP2	2.38	0.57
1:A:1302:C:C5	13:M:17:ILE:HD13	2.40	0.57
1:A:1365:G:H2'	1:A:1366:C:O4'	2.05	0.57
2:B:100:MET:HA	2:B:107:VAL:HG21	1.87	0.57
21:U:10:GLU:HB2	21:U:11:PRO:HD3	1.87	0.57
4:D:32:CYS:O	4:D:33:LYS:HB3	2.05	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:154:ALA:HA	5:E:157:ARG:HB3	1.86	0.57
6:F:86:ARG:CG	6:F:86:ARG:HH11	2.17	0.57
8:H:96:MET:HB2	8:H:99:LEU:O	2.03	0.57
14:N:80:SER:O	14:N:82:ILE:N	2.37	0.57
20:T:28:MET:HE3	20:T:58:VAL:HG22	1.87	0.57
1:A:992:U:C4	1:A:1043:G:N7	2.73	0.57
1:A:60:A:N3	1:A:61:G:H1'	2.20	0.57
1:A:636:U:H2'	1:A:637:C:C6	2.39	0.57
2:B:210:VAL:HG22	2:B:211:THR:N	2.18	0.57
5:E:104:GLY:O	5:E:105:ILE:CG2	2.53	0.57
5:E:24:THR:HA	5:E:29:ARG:HA	1.86	0.57
12:L:80:ILE:HD12	12:L:97:THR:HG21	1.87	0.57
16:P:51:ARG:C	16:P:51:ARG:HD3	2.25	0.57
16:P:38:PHE:CE2	16:P:51:ARG:HD2	2.40	0.57
20:T:25:ARG:HD2	20:T:29:ARG:NH1	2.19	0.57
4:D:173:VAL:O	4:D:174:ASP:HB3	2.05	0.57
7:G:92:ARG:HB3	7:G:93:PRO:HD2	1.86	0.57
19:S:55:ARG:CZ	19:S:79:THR:HG22	2.34	0.57
1:A:575:G:C6	1:A:821:G:N7	2.73	0.56
2:B:184:PHE:CE1	2:B:198:PHE:CD2	2.93	0.56
5:E:98:PRO:O	5:E:122:ASN:ND2	2.33	0.56
6:F:45:ARG:HD2	6:F:59:TYR:CE2	2.40	0.56
8:H:126:ILE:N	8:H:126:ILE:HD12	2.20	0.56
9:I:32:GLN:NE2	9:I:64:TYR:OH	2.38	0.56
15:O:62:GLN:O	15:O:66:LEU:HD23	2.05	0.56
2:B:83:ALA:O	2:B:86:SER:OG	2.22	0.56
12:L:107:VAL:CG2	12:L:117:TYR:HB3	2.35	0.56
1:A:1394:A:C5	1:A:1501:C:H4'	2.40	0.56
1:A:411:A:C6	1:A:429:U:C5	2.93	0.56
1:A:562:U:OP2	12:L:14:ARG:NE	2.38	0.56
5:E:96:MET:HE3	5:E:111:MET:CE	2.34	0.56
15:O:37:ASN:O	15:O:40:GLN:CB	2.52	0.56
1:A:1330:U:H4'	13:M:23:TYR:CE1	2.39	0.56
3:C:77:ILE:HA	3:C:84:VAL:CG2	2.35	0.56
12:L:44:LYS:CB	12:L:45:PRO:CD	2.83	0.56
13:M:91:HIS:CD2	13:M:97:VAL:HG21	2.40	0.56
1:A:991:U:C4	1:A:1212:U:O4'	2.58	0.56
1:A:922:G:H4'	5:E:25:VAL:HA	1.88	0.56
1:A:972:C:H4'	10:J:59:LYS:HG2	1.88	0.56
21:U:35:ARG:NH2	23:U:101:HOH:O	2.38	0.56
1:A:106:C:C2'	1:A:107:G:H5'	2.35	0.56
1:A:1224:U:N3	1:A:1322:C:O2	2.38	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:169:C:H2'	1:A:170:U:C6	2.40	0.56
1:A:32:A:H2'	1:A:32:A:N3	2.20	0.56
8:H:64:LYS:HB3	8:H:71:VAL:HG21	1.87	0.56
1:A:1262:C:C4	1:A:1263:C:C4	2.94	0.56
1:A:802:A:N3	1:A:802:A:H2'	2.21	0.56
2:B:143:LYS:O	2:B:147:SER:OG	2.19	0.56
3:C:61:ALA:O	3:C:62:LYS:HB2	2.05	0.56
4:D:62:ARG:NH1	4:D:69:GLU:OE1	2.38	0.56
4:D:70:ARG:O	4:D:74:ASN:ND2	2.39	0.56
5:E:34:THR:HB	5:E:50:TYR:CZ	2.41	0.56
5:E:98:PRO:O	5:E:99:ALA:HB3	2.05	0.56
8:H:21:ASN:O	8:H:22:LYS:C	2.42	0.56
9:I:55:VAL:CG2	9:I:55:VAL:O	2.53	0.56
11:K:25:ALA:HB3	11:K:87:LYS:O	2.05	0.56
16:P:70:ARG:O	16:P:74:LEU:HD23	2.05	0.56
1:A:1069:C:C2'	1:A:1070:U:O5'	2.54	0.56
3:C:130:PHE:CZ	3:C:131:ARG:HD2	2.41	0.56
12:L:90:LEU:HB3	12:L:93:VAL:CG2	2.36	0.56
21:U:47:ARG:HE	21:U:47:ARG:HA	1.70	0.56
1:A:1069:C:H2'	1:A:1070:U:O5'	2.06	0.56
1:A:1394:A:N1	1:A:1500:A:O2'	2.36	0.56
1:A:182:A:C5	1:A:184:G:N7	2.74	0.56
1:A:577:G:N9	1:A:816:A:C2	2.74	0.56
1:A:635:A:C6	1:A:636:U:C4	2.93	0.56
2:B:54:LEU:HA	2:B:57:LEU:HB3	1.86	0.56
1:A:1190:G:H5'	3:C:176:HIS:CE1	2.41	0.56
4:D:168:PRO:CB	4:D:171:LEU:HD12	2.36	0.56
1:A:426:U:H5''	4:D:37:ALA:HB1	1.87	0.56
11:K:84:VAL:HG11	11:K:97:ILE:HG22	1.88	0.56
16:P:16:PHE:CE1	16:P:38:PHE:HB2	2.41	0.56
1:A:496:A:C2	1:A:497:G:C6	2.93	0.56
1:A:502:A:H2'	1:A:503:C:O4'	2.06	0.56
2:B:10:LEU:CD2	2:B:12:ALA:O	2.54	0.56
2:B:15:HIS:CG	2:B:15:HIS:O	2.58	0.56
2:B:162:PHE:HA	2:B:184:PHE:O	2.06	0.56
3:C:75:ILE:HG13	3:C:75:ILE:O	2.05	0.56
5:E:125:ALA:O	5:E:126:LYS:HB3	2.05	0.56
1:A:898:G:N2	1:A:901:A:OP2	2.36	0.56
2:B:219:ALA:O	2:B:220:THR:HB	2.05	0.56
12:L:82:ILE:HD11	12:L:95:TYR:HB2	1.88	0.56
1:A:1255:G:N1	1:A:1279:G:C8	2.74	0.55
3:C:74:GLY:O	3:C:78:GLY:N	2.39	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:107:PHE:CG	4:D:145:ILE:HD11	2.41	0.55
20:T:67:ILE:HD12	20:T:71:LYS:HE3	1.87	0.55
21:U:37:PHE:HA	21:U:40:LYS:HE3	1.87	0.55
1:A:1041:G:H2'	1:A:1042:A:C8	2.40	0.55
1:A:109:A:C6	1:A:327:A:C6	2.94	0.55
1:A:1296:C:H4'	1:A:1302:C:N4	2.21	0.55
1:A:1439:G:C2	1:A:1463:U:O2	2.59	0.55
4:D:160:GLU:O	4:D:163:GLU:HB2	2.06	0.55
1:A:466:A:C2	1:A:468:A:C8	2.95	0.55
1:A:798:U:H2'	1:A:799:G:O5'	2.07	0.55
8:H:18:GLN:NE2	8:H:70:ALA:HB1	2.21	0.55
1:A:1012:A:C2	1:A:1018:G:C2	2.94	0.55
1:A:1071:C:H2'	1:A:1072:G:H8	1.71	0.55
1:A:734:G:C4	1:A:735:C:C5	2.94	0.55
4:D:161:LEU:HD23	4:D:162:ALA:N	2.21	0.55
9:I:25:ASN:O	9:I:27:LYS:N	2.39	0.55
1:A:328:C:O2	1:A:328:C:C2'	2.54	0.55
1:A:427:U:O2'	1:A:541:G:OP1	2.17	0.55
3:C:134:MET:SD	3:C:153:VAL:CG1	2.95	0.55
4:D:107:PHE:O	4:D:117:LEU:HD11	2.07	0.55
9:I:19:VAL:HG21	9:I:82:GLY:CA	2.36	0.55
1:A:1000:A:C2	1:A:1041:G:N2	2.74	0.55
1:A:1255:G:C6	1:A:1279:G:N7	2.74	0.55
1:A:1288:A:N1	1:A:1371:G:H1'	2.21	0.55
1:A:137:U:H1'	1:A:227:G:N2	2.21	0.55
5:E:90:THR:HG22	5:E:91:GLY:N	2.21	0.55
1:A:1007:U:C4	1:A:1008:U:C5	2.95	0.55
1:A:1107:C:C4	1:A:1108:G:N7	2.75	0.55
1:A:1363:A:O2'	1:A:1365:G:N7	2.36	0.55
1:A:1491:G:C6	1:A:1492:A:N1	2.75	0.55
1:A:718:A:H5'	11:K:119:ASN:CG	2.27	0.55
9:I:12:ARG:CZ	9:I:107:ASP:OD2	2.53	0.55
19:S:80:TYR:O	19:S:81:ARG:CB	2.54	0.55
1:A:1521:C:C2	1:A:1522:U:C6	2.94	0.55
1:A:786:G:N2	1:A:787:A:H1'	2.22	0.55
1:A:840:C:N3	1:A:842:U:H4'	2.22	0.55
1:A:909:A:H2'	1:A:910:C:O4'	2.07	0.55
2:B:141:LEU:O	2:B:145:GLU:N	2.37	0.55
6:F:18:VAL:HG12	6:F:19:PRO:N	2.22	0.55
6:F:97:THR:O	6:F:98:GLU:CB	2.55	0.55
8:H:2:SER:C	8:H:4:GLN:N	2.60	0.55
12:L:90:LEU:CB	12:L:93:VAL:HG21	2.37	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:106:C:H2'	1:A:107:G:H5'	1.89	0.55
1:A:31:G:O4'	1:A:306:A:C2	2.60	0.55
1:A:769:G:H4'	1:A:1513:A:H4'	1.88	0.55
3:C:172:ARG:HG3	3:C:174:PRO:HD3	1.89	0.55
1:A:280:C:N3	17:Q:40:ARG:HA	2.22	0.55
21:U:8:GLU:HB3	21:U:12:PHE:CE2	2.42	0.55
1:A:1072:G:C5	1:A:1073:U:C5	2.95	0.54
1:A:53:A:C2	1:A:359:G:C6	2.95	0.54
1:A:466:A:N1	1:A:468:A:N7	2.55	0.54
1:A:939:G:C6	1:A:940:C:N4	2.75	0.54
1:A:97:G:C5	1:A:98:A:H1'	2.42	0.54
5:E:36:LEU:HD21	5:E:137:VAL:HG11	1.89	0.54
1:A:1240:U:C5	7:G:109:ARG:NH1	2.76	0.54
12:L:3:THR:HB	12:L:6:GLN:HG3	1.89	0.54
12:L:83:ARG:CG	12:L:84:GLY:N	2.70	0.54
12:L:88:LYS:O	12:L:88:LYS:HG3	2.07	0.54
15:O:27:VAL:HG12	15:O:28:GLN:N	2.21	0.54
1:A:577:G:H1'	1:A:816:A:N3	2.23	0.54
1:A:801:U:C2	1:A:802:A:N7	2.75	0.54
2:B:53:ALA:O	2:B:57:LEU:HB2	2.07	0.54
4:D:22:LYS:O	4:D:23:SER:C	2.45	0.54
1:A:614:C:OP1	4:D:83:LYS:NZ	2.39	0.54
9:I:54:LEU:O	9:I:55:VAL:HG22	2.08	0.54
1:A:1181:G:O2'	1:A:1182:G:C8	2.56	0.54
1:A:66:A:H4'	1:A:173:U:C5	2.42	0.54
1:A:736:C:H2'	1:A:737:C:C6	2.42	0.54
21:U:12:PHE:O	21:U:13:ASP:CB	2.54	0.54
1:A:1027:C:N4	1:A:1034:G:N1	2.56	0.54
1:A:1296:C:C5'	1:A:1297:G:OP2	2.55	0.54
1:A:203:G:N2	1:A:215:C:N3	2.56	0.54
1:A:748:G:H2'	1:A:749:A:H8	1.71	0.54
2:B:167:ASP:O	2:B:168:HIS:HB3	2.07	0.54
3:C:42:TYR:CE1	3:C:90:VAL:HG21	2.42	0.54
4:D:35:GLU:HG3	4:D:36:GLN:N	2.22	0.54
17:Q:69:LYS:HG2	17:Q:69:LYS:O	2.07	0.54
21:U:12:PHE:N	21:U:12:PHE:CD1	2.74	0.54
1:A:1235:U:H2'	1:A:1236:A:O4'	2.07	0.54
1:A:369:G:OP2	1:A:388:G:N1	2.39	0.54
1:A:374:A:H5''	1:A:452:A:C2	2.43	0.54
1:A:632:U:O2	1:A:632:U:C2'	2.56	0.54
1:A:743:A:C6	1:A:744:C:C4	2.96	0.54
1:A:1202:U:N3	14:N:82:ILE:HG21	2.22	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:N:87:ALA:O	14:N:90:ARG:N	2.41	0.54
19:S:73:GLU:HB2	19:S:74:PHE:CD1	2.42	0.54
20:T:60:ARG:O	20:T:64:LYS:N	2.38	0.54
1:A:1386:G:C2	1:A:1387:G:C8	2.96	0.54
1:A:1513:A:H2'	1:A:1514:G:C8	2.43	0.54
1:A:237:G:C6	1:A:238:A:C5	2.95	0.54
1:A:818:G:O2'	1:A:819:A:H5'	2.07	0.54
4:D:147:GLU:O	4:D:150:LYS:HB3	2.07	0.54
9:I:118:LEU:HD23	9:I:121:ALA:O	2.08	0.54
1:A:252:U:O4	1:A:253:A:N6	2.40	0.54
6:F:81:ASN:C	6:F:81:ASN:OD1	2.45	0.54
11:K:107:ILE:O	11:K:107:ILE:HG23	2.06	0.54
19:S:22:ALA:CB	19:S:47:LEU:HD13	2.37	0.54
1:A:1000:A:H2'	1:A:1001:C:O4'	2.08	0.54
1:A:528:C:O2	1:A:528:C:H2'	2.08	0.54
1:A:749:A:O2'	1:A:750:C:H5'	2.08	0.54
1:A:779:C:H2'	1:A:780:A:H5'	1.88	0.54
1:A:853:C:C4	1:A:854:U:C5	2.95	0.54
1:A:890:G:N2	1:A:906:A:H2'	2.23	0.54
2:B:85:LEU:HG	2:B:85:LEU:O	2.08	0.54
3:C:43:LEU:HD21	3:C:68:ILE:HD11	1.88	0.54
4:D:196:ASN:HB3	4:D:198:HIS:CE1	2.42	0.54
5:E:150:PRO:C	5:E:152:MET:H	2.10	0.54
11:K:18:ASP:HB3	11:K:81:ASN:OD1	2.07	0.54
17:Q:70:THR:O	17:Q:71:LYS:C	2.46	0.54
20:T:55:GLN:N	20:T:56:PRO:HD2	2.23	0.54
21:U:36:GLU:HG3	21:U:37:PHE:H	1.72	0.54
1:A:142:G:C2	1:A:143:A:H1'	2.42	0.54
1:A:780:A:C2	1:A:803:G:N1	2.76	0.54
10:J:92:LEU:O	10:J:93:ALA:HB2	2.08	0.54
1:A:1041:G:C6	1:A:1042:A:N6	2.75	0.54
4:D:168:PRO:HB2	4:D:171:LEU:HD12	1.90	0.54
5:E:137:VAL:O	5:E:138:ARG:CB	2.56	0.54
16:P:19:VAL:HG13	16:P:37:GLY:N	2.22	0.54
17:Q:8:LEU:HD13	17:Q:73:TRP:CZ3	2.43	0.54
18:R:22:ASP:OD2	18:R:24:LYS:NZ	2.41	0.54
1:A:425:G:H2'	1:A:426:U:O4'	2.08	0.53
1:A:562:U:H2'	12:L:14:ARG:HD3	1.89	0.53
7:G:92:ARG:NE	7:G:93:PRO:CD	2.71	0.53
9:I:21:ILE:HG12	9:I:62:ASP:O	2.07	0.53
1:A:121:U:H3'	1:A:122:G:H5'	1.91	0.53
1:A:805:C:C2	1:A:806:C:C5	2.96	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:8:PHE:CE2	6:F:60:VAL:HB	2.42	0.53
6:F:98:GLU:O	6:F:99:ALA:CB	2.56	0.53
12:L:25:GLU:C	12:L:27:CYS:N	2.59	0.53
19:S:6:LYS:CB	19:S:7:LYS:HE2	2.37	0.53
1:A:1201:A:H4'	1:A:1202:U:O5'	2.08	0.53
1:A:242:G:N2	1:A:285:C:C2	2.77	0.53
3:C:162:ILE:O	3:C:162:ILE:HD12	2.08	0.53
7:G:78:ARG:O	7:G:79:ARG:HB2	2.08	0.53
1:A:572:A:H5'	1:A:573:A:OP2	2.08	0.53
1:A:748:G:H2'	1:A:749:A:C8	2.44	0.53
4:D:35:GLU:HG3	4:D:36:GLN:HG3	1.90	0.53
7:G:5:ARG:HA	7:G:5:ARG:HE	1.72	0.53
1:A:1387:G:H2'	1:A:1388:C:C6	2.43	0.53
1:A:1491:G:H3'	1:A:1492:A:C8	2.44	0.53
1:A:374:A:C2	1:A:375:U:C6	2.96	0.53
5:E:38:VAL:HG12	5:E:117:VAL:HG21	1.91	0.53
9:I:88:MET:O	9:I:88:MET:HG2	2.08	0.53
11:K:45:ALA:HB3	11:K:70:CYS:HB2	1.90	0.53
13:M:114:LYS:HB2	13:M:115:PRO:HD3	1.90	0.53
1:A:1126:U:O4	10:J:73:LEU:HD12	2.09	0.53
1:A:256:U:H2'	1:A:257:G:O4'	2.08	0.53
1:A:355:C:C4	1:A:356:A:N7	2.77	0.53
1:A:632:U:H3'	1:A:633:G:H5'	1.90	0.53
1:A:664:G:H2'	1:A:666:G:OP1	2.08	0.53
1:A:892:A:C5	1:A:893:C:C5	2.96	0.53
2:B:102:THR:HB	2:B:175:GLU:HG3	1.91	0.53
10:J:83:THR:O	10:J:87:LEU:HD12	2.08	0.53
1:A:1302:C:C4	13:M:17:ILE:CD1	2.92	0.53
1:A:1388:C:C2	1:A:1389:C:C5	2.97	0.53
1:A:31:G:C5	1:A:306:A:H1'	2.44	0.53
1:A:451:A:H4'	1:A:452:A:O4'	2.08	0.53
1:A:991:U:N3	1:A:1212:U:O4'	2.42	0.53
1:A:892:A:O2'	1:A:1415:G:H4'	2.09	0.53
1:A:350:G:C6	1:A:351:G:C6	2.96	0.53
7:G:65:ALA:O	7:G:127:ALA:HB1	2.09	0.53
9:I:84:THR:HG21	9:I:103:PHE:HB3	1.91	0.53
12:L:28:PRO:HB2	12:L:29:GLN:OE1	2.08	0.53
1:A:1053:G:O5'	1:A:1054:C:H3'	2.08	0.53
1:A:1151:A:H1'	1:A:1152:A:C8	2.43	0.53
1:A:1417:G:N2	1:A:1484:C:C4	2.76	0.53
1:A:1461:G:H2'	1:A:1462:C:O4'	2.08	0.53
1:A:891:U:C5	1:A:906:A:C2	2.97	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1228:C:H5'	13:M:113:ARG:HB2	1.91	0.53
13:M:20:THR:HG22	13:M:20:THR:O	2.09	0.53
1:A:106:C:O2	1:A:379:C:H4'	2.09	0.53
1:A:1161:C:O2	1:A:1176:A:C2	2.62	0.53
1:A:223:A:H2'	1:A:224:U:C6	2.45	0.53
1:A:619:U:H3	4:D:131:ASN:HB3	1.74	0.53
1:A:119:A:H4'	1:A:120:A:O5'	2.09	0.52
5:E:153:VAL:O	5:E:157:ARG:N	2.42	0.52
5:E:96:MET:HE3	5:E:111:MET:HE3	1.91	0.52
7:G:68:ASN:O	7:G:138:ARG:NH2	2.42	0.52
12:L:90:LEU:CB	12:L:93:VAL:CG2	2.87	0.52
13:M:20:THR:HG23	13:M:26:GLY:O	2.09	0.52
20:T:83:ILE:O	20:T:87:ALA:HB3	2.09	0.52
1:A:1068:G:C2'	1:A:1069:C:H5'	2.38	0.52
1:A:718:A:C8	1:A:719:C:C6	2.97	0.52
4:D:148:LYS:O	4:D:149:ALA:HB3	2.07	0.52
7:G:46:ALA:HA	7:G:121:ALA:HB2	1.92	0.52
1:A:669:G:N2	1:A:738:C:C2	2.77	0.52
1:A:978:A:O2'	1:A:1322:C:C5	2.63	0.52
3:C:130:PHE:CZ	3:C:131:ARG:CD	2.92	0.52
4:D:3:ARG:HD2	4:D:115:ARG:NE	2.25	0.52
6:F:93:LYS:HG2	6:F:93:LYS:O	2.09	0.52
9:I:120:LYS:CG	9:I:123:ARG:HB3	2.38	0.52
1:A:718:A:C5'	11:K:119:ASN:ND2	2.73	0.52
14:N:52:PRO:O	14:N:53:ARG:HB3	2.09	0.52
1:A:1055:A:C6	1:A:1206:G:C5	2.98	0.52
1:A:632:U:O2	1:A:632:U:H2'	2.08	0.52
1:A:747:A:C6	1:A:748:G:C6	2.97	0.52
2:B:167:ASP:OD2	2:B:191:SER:HA	2.10	0.52
16:P:28:ARG:CG	16:P:29:ASN:OD1	2.56	0.52
1:A:32:A:H2'	1:A:33:A:C8	2.44	0.52
1:A:519:C:H2'	1:A:520:A:O4'	2.10	0.52
1:A:644:U:H2'	1:A:645:G:O4'	2.10	0.52
1:A:73:C:C2	1:A:74:A:C8	2.98	0.52
1:A:1232:U:OP1	9:I:126:GLN:HG2	2.10	0.52
17:Q:48:ASP:N	17:Q:48:ASP:OD2	2.41	0.52
1:A:1298:U:O2	1:A:1298:U:C2'	2.57	0.52
1:A:151:A:H2'	1:A:152:A:O4'	2.09	0.52
1:A:542:G:C2	1:A:543:U:C5	2.98	0.52
2:B:91:PHE:CD2	2:B:150:GLY:HA3	2.44	0.52
4:D:22:LYS:O	4:D:24:GLY:N	2.43	0.52
7:G:74:GLU:O	7:G:88:PRO:HA	2.10	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:O:53:ARG:O	15:O:56:LEU:HB3	2.09	0.52
19:S:15:LEU:HD13	19:S:33:THR:HG21	1.92	0.52
20:T:32:ILE:HG12	20:T:54:MET:HE3	1.90	0.52
1:A:1296:C:H5'	1:A:1297:G:OP2	2.09	0.52
1:A:1306:A:H1'	1:A:1332:A:C5	2.45	0.52
1:A:421:U:O5'	1:A:422:C:C5	2.62	0.52
1:A:484:G:N7	1:A:486:U:H1'	2.24	0.52
1:A:518:C:OP2	1:A:530:G:H1'	2.08	0.52
1:A:71:A:C2	1:A:72:A:C8	2.98	0.52
2:B:15:HIS:C	2:B:15:HIS:ND1	2.63	0.52
4:D:46:PRO:O	4:D:48:LEU:N	2.42	0.52
11:K:40:ASN:O	11:K:41:ALA:HB3	2.10	0.52
1:A:553:A:O2'	12:L:26:ALA:O	2.27	0.52
16:P:23:ASP:OD2	16:P:25:ARG:CG	2.58	0.52
20:T:36:TYR:C	20:T:36:TYR:CD1	2.83	0.52
1:A:1416:G:N2	1:A:1485:U:H1'	2.24	0.52
2:B:62:SER:HA	2:B:224:GLY:HA3	1.91	0.52
1:A:643:C:H5'	8:H:32:LEU:HD22	1.92	0.52
21:U:14:VAL:C	21:U:16:LEU:HG	2.29	0.52
1:A:154:U:O2	1:A:168:G:N2	2.43	0.52
1:A:517:G:H5'	1:A:519:C:O2	2.10	0.52
1:A:609:A:N7	1:A:610:U:C5	2.78	0.52
13:M:10:PRO:O	13:M:11:ASP:HB2	2.10	0.52
1:A:34:C:H2'	1:A:35:G:C8	2.45	0.52
1:A:885:G:O2'	1:A:914:A:N1	2.32	0.52
3:C:111:LEU:CD1	3:C:146:ALA:HB2	2.40	0.52
3:C:77:ILE:HA	3:C:84:VAL:HG23	1.92	0.52
5:E:105:ILE:H	5:E:122:ASN:C	2.13	0.52
5:E:153:VAL:HG23	5:E:157:ARG:HB2	1.90	0.52
17:Q:15:ASP:OD1	17:Q:54:GLY:HA2	2.10	0.52
1:A:1060:U:C5'	10:J:53:ILE:HG23	2.41	0.51
1:A:179:A:H2'	1:A:180:U:C6	2.45	0.51
1:A:949:A:C2	1:A:1233:G:N3	2.78	0.51
1:A:957:U:O2	1:A:959:A:C8	2.62	0.51
4:D:192:SER:O	4:D:193:ALA:HB3	2.10	0.51
5:E:157:ARG:HD3	5:E:158:GLY:H	1.75	0.51
11:K:77:TYR:CD1	11:K:77:TYR:N	2.78	0.51
11:K:92:GLY:O	11:K:93:ARG:C	2.49	0.51
1:A:1105:A:N3	1:A:1106:G:C8	2.78	0.51
1:A:1157:A:H4'	1:A:1158:C:O5'	2.10	0.51
1:A:1238:A:N3	1:A:1241:G:O2'	2.35	0.51
1:A:575:G:C6	1:A:821:G:C5	2.98	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:73:GLU:HB2	19:S:74:PHE:CE1	2.45	0.51
1:A:1337:G:C5'	1:A:1338:G:OP1	2.59	0.51
1:A:1537:U:C5	1:A:1538:C:C4	2.98	0.51
1:A:583:A:C2	1:A:759:A:C5	2.98	0.51
2:B:128:LYS:O	2:B:129:LEU:HB2	2.09	0.51
7:G:25:LYS:O	7:G:29:ILE:HG12	2.10	0.51
10:J:7:ARG:HD3	10:J:75:ASP:OD1	2.11	0.51
1:A:1014:A:O4'	19:S:34:TRP:CZ3	2.63	0.51
1:A:474:G:H2'	1:A:475:C:O4'	2.11	0.51
1:A:597:G:H2'	1:A:598:U:H5'	1.92	0.51
4:D:29:ASP:O	4:D:30:THR:C	2.49	0.51
10:J:52:LEU:HB2	14:N:81:ARG:HD2	1.92	0.51
12:L:40:THR:HG22	12:L:41:THR:N	2.26	0.51
12:L:38:TYR:HB2	12:L:52:VAL:HG13	1.92	0.51
14:N:80:SER:O	14:N:83:LYS:N	2.43	0.51
1:A:1067:A:N1	1:A:1108:G:O2'	2.28	0.51
1:A:1068:G:H2'	1:A:1069:C:H5'	1.92	0.51
1:A:1133:G:N3	1:A:1133:G:H2'	2.26	0.51
1:A:1291:U:OP1	7:G:37:SER:HB3	2.10	0.51
1:A:409:U:H2'	1:A:410:G:O4'	2.10	0.51
3:C:62:LYS:O	3:C:97:VAL:HB	2.10	0.51
12:L:24:LEU:HD22	12:L:59:ASN:OD1	2.11	0.51
12:L:61:PHE:N	12:L:61:PHE:CD1	2.75	0.51
20:T:3:ASN:N	20:T:8:LYS:HD3	2.26	0.51
1:A:1084:G:C5	1:A:1085:U:C4	2.98	0.51
1:A:1089:G:C4	1:A:1090:U:C6	2.99	0.51
1:A:402:G:H4'	1:A:620:C:O2	2.11	0.51
3:C:87:LEU:HA	3:C:90:VAL:HG22	1.93	0.51
4:D:173:VAL:HG13	4:D:174:ASP:N	2.26	0.51
5:E:19:ASN:O	5:E:33:PHE:HA	2.10	0.51
10:J:17:LEU:HD23	10:J:18:ILE:N	2.25	0.51
16:P:14:ARG:N	16:P:15:PRO:HD2	2.25	0.51
1:A:1004:A:C6	1:A:1005:A:C6	2.98	0.51
2:B:102:THR:HB	2:B:175:GLU:CG	2.41	0.51
5:E:78:ASN:OD1	5:E:79:GLY:N	2.44	0.51
8:H:86:TYR:CD2	8:H:124:GLU:HB2	2.45	0.51
11:K:35:THR:OG1	11:K:40:ASN:N	2.44	0.51
1:A:121:U:H3'	1:A:122:G:C5'	2.41	0.51
1:A:211:G:N3	1:A:211:G:H2'	2.25	0.51
1:A:32:A:C2	1:A:33:A:C4	2.98	0.51
1:A:618:C:H5''	1:A:619:U:H5''	1.92	0.51
1:A:728:A:C8	15:O:54:ARG:NH1	2.78	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:72:A:C6	1:A:73:C:C4	2.99	0.51
1:A:840:C:C4	1:A:842:U:H4'	2.46	0.51
1:A:861:G:C5	1:A:862:C:C5	2.98	0.51
2:B:94:HIS:CD2	2:B:146:ASN:HB2	2.45	0.51
4:D:11:LEU:N	4:D:11:LEU:HD23	2.25	0.51
4:D:168:PRO:HB2	4:D:171:LEU:CD1	2.41	0.51
21:U:53:VAL:HG13	21:U:54:LYS:N	2.26	0.51
1:A:1053:G:N7	1:A:1200:C:H5'	2.26	0.51
1:A:1105:A:C2	1:A:1106:G:C8	2.99	0.51
1:A:913:A:H4'	1:A:914:A:OP1	2.11	0.51
2:B:85:LEU:O	2:B:85:LEU:CG	2.59	0.51
6:F:22:ILE:O	6:F:26:THR:OG1	2.27	0.51
5:E:83:HIS:NE2	8:H:96:MET:HE3	2.26	0.51
1:A:1463:U:H2'	1:A:1464:U:C6	2.46	0.51
1:A:1505:G:H4'	1:A:1506:U:H5''	1.93	0.51
1:A:115:G:C2	1:A:289:G:N7	2.78	0.51
1:A:332:G:OP2	20:T:5:LYS:HB3	2.11	0.51
1:A:4:U:O2	1:A:4:U:H2'	2.10	0.51
1:A:747:A:N6	1:A:748:G:C6	2.79	0.51
1:A:756:C:O2'	1:A:757:U:H5'	2.11	0.51
11:K:31:ILE:HB	11:K:46:THR:HG22	1.93	0.51
16:P:75:ILE:HA	16:P:78:VAL:HG12	1.92	0.51
21:U:44:GLU:OE1	21:U:45:ARG:NH1	2.44	0.51
1:A:653:U:C2	8:H:56:LYS:HG2	2.46	0.50
2:B:135:LEU:O	2:B:139:ARG:HG3	2.11	0.50
4:D:148:LYS:H	4:D:148:LYS:CD	2.24	0.50
7:G:46:ALA:HB2	7:G:117:ALA:HA	1.92	0.50
8:H:20:ALA:O	8:H:22:LYS:N	2.44	0.50
17:Q:61:ILE:HG23	17:Q:73:TRP:CE3	2.45	0.50
1:A:1010:U:C2	1:A:1020:G:C2	3.00	0.50
1:A:518:C:H2'	1:A:530:G:C8	2.46	0.50
1:A:667:G:C2	1:A:740:U:O2	2.64	0.50
2:B:26:LYS:HB2	2:B:193:PRO:HD2	1.94	0.50
2:B:56:GLU:HG2	2:B:198:PHE:CZ	2.47	0.50
7:G:51:ALA:CB	7:G:58:GLU:HA	2.41	0.50
13:M:4:ILE:HA	13:M:57:ARG:CZ	2.41	0.50
17:Q:45:HIS:O	17:Q:71:LYS:HA	2.11	0.50
1:A:134:G:H2'	1:A:135:C:O4'	2.11	0.50
1:A:412:A:HO2'	1:A:413:G:P	2.33	0.50
1:A:580:C:H2'	1:A:581:G:O4'	2.12	0.50
4:D:46:PRO:O	4:D:47:ARG:C	2.49	0.50
7:G:88:PRO:HD2	7:G:152:ALA:HA	1.92	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:K:72:ASP:OD1	11:K:73:ALA:N	2.44	0.50
18:R:58:ALA:O	18:R:61:ARG:N	2.45	0.50
1:A:1007:U:H2'	1:A:1008:U:H5''	1.92	0.50
1:A:1072:G:C5	1:A:1073:U:C4	3.00	0.50
1:A:1096:C:H2'	1:A:1097:C:H6	1.76	0.50
1:A:1098:C:H2'	1:A:1099:G:O4'	2.12	0.50
1:A:1167:A:C8	1:A:1169:A:C5	2.98	0.50
1:A:218:U:H2'	1:A:219:U:O4'	2.12	0.50
1:A:369:G:OP2	1:A:388:G:N2	2.43	0.50
1:A:945:G:H2'	1:A:945:G:N3	2.25	0.50
2:B:139:ARG:HD2	2:B:139:ARG:C	2.32	0.50
3:C:145:GLY:O	3:C:146:ALA:O	2.29	0.50
11:K:51:GLY:O	11:K:52:PHE:O	2.28	0.50
17:Q:25:ILE:O	17:Q:41:THR:HA	2.11	0.50
1:A:1068:G:C6	1:A:1069:C:C4	3.00	0.50
1:A:546:A:P	4:D:69:GLU:HB3	2.51	0.50
1:A:81:A:C2	1:A:89:U:C2	2.99	0.50
3:C:69:HIS:HA	3:C:104:ALA:HB3	1.93	0.50
12:L:38:TYR:N	12:L:52:VAL:O	2.44	0.50
1:A:846:G:OP2	18:R:48:ARG:NH2	2.44	0.50
20:T:43:ASP:HB3	20:T:46:ALA:HB3	1.92	0.50
1:A:1474:U:H2'	1:A:1475:G:H5''	1.93	0.50
1:A:1490:U:C2'	1:A:1491:G:O4'	2.60	0.50
1:A:247:G:C6	1:A:278:G:N1	2.78	0.50
1:A:298:A:H2'	1:A:299:G:O4'	2.11	0.50
12:L:65:SER:OG	12:L:97:THR:HG23	2.12	0.50
15:O:42:HIS:O	15:O:45:GLU:O	2.30	0.50
13:M:79:ARG:HD2	19:S:65:GLU:HG2	1.93	0.50
1:A:206:C:C2'	1:A:207:C:H5'	2.40	0.50
1:A:786:G:H2'	1:A:786:G:N3	2.26	0.50
1:A:821:G:H2'	1:A:822:U:H6	1.76	0.50
3:C:40:ARG:HG2	3:C:55:ILE:HD11	1.94	0.50
9:I:12:ARG:CD	9:I:107:ASP:HB3	2.42	0.50
10:J:22:THR:HA	10:J:25:ILE:HG22	1.93	0.50
11:K:23:ILE:HG21	11:K:96:THR:HG21	1.94	0.50
14:N:18:ASP:OD2	14:N:18:ASP:N	2.45	0.50
1:A:1197:A:H2'	1:A:1198:G:H5'	1.92	0.50
1:A:1364:U:C2'	1:A:1364:U:O2	2.60	0.50
1:A:1376:U:O4	7:G:10:ARG:NH1	2.45	0.50
1:A:32:A:C2	1:A:33:A:C6	2.99	0.50
3:C:64:ILE:HG12	3:C:66:VAL:HG23	1.94	0.50
19:S:40:ILE:HA	19:S:44:MET:SD	2.52	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:T:68:HIS:C	20:T:69:LYS:HG3	2.32	0.50
20:T:74:ARG:O	20:T:78:ASN:ND2	2.44	0.50
1:A:1072:G:OP1	5:E:62:LYS:NZ	2.44	0.50
1:A:1089:G:C5	1:A:1090:U:C5	3.00	0.50
1:A:1279:G:OP2	10:J:11:LYS:NZ	2.42	0.50
1:A:1347:G:O2'	1:A:1348:U:P	2.70	0.50
1:A:147:G:N2	1:A:148:G:C6	2.80	0.50
1:A:380:G:N2	1:A:383:A:OP2	2.37	0.50
1:A:963:G:C2'	1:A:964:A:H5'	2.42	0.50
11:K:110:ILE:HG22	21:U:17:ARG:NH1	2.27	0.50
12:L:3:THR:CB	12:L:6:GLN:HG3	2.42	0.50
17:Q:69:LYS:C	17:Q:70:THR:OG1	2.49	0.50
20:T:60:ARG:O	20:T:64:LYS:HB2	2.12	0.50
1:A:109:A:C6	1:A:327:A:C5	3.00	0.49
1:A:74:A:C2	1:A:75:G:C5	3.00	0.49
1:A:844:G:H2'	1:A:844:G:N3	2.27	0.49
2:B:219:ALA:O	2:B:220:THR:CB	2.60	0.49
3:C:57:ILE:HG13	3:C:66:VAL:HG22	1.93	0.49
4:D:116:GLN:HG3	4:D:120:HIS:CE1	2.47	0.49
9:I:30:ILE:HA	9:I:65:ILE:HG13	1.94	0.49
10:J:33:GLY:HA3	10:J:83:THR:HB	1.93	0.49
1:A:1134:G:C6	1:A:1135:U:C2	2.99	0.49
1:A:1179:A:OP2	9:I:99:ARG:NH2	2.45	0.49
1:A:1252:A:H2'	1:A:1253:G:O4'	2.12	0.49
1:A:183:C:O2'	1:A:184:G:C5'	2.61	0.49
1:A:216:U:H5''	1:A:464:U:H4'	1.93	0.49
1:A:29:U:H4'	1:A:295:C:O3'	2.12	0.49
4:D:22:LYS:C	4:D:24:GLY:N	2.64	0.49
6:F:32:ALA:O	6:F:33:GLU:C	2.51	0.49
6:F:86:ARG:HH11	6:F:86:ARG:HG2	1.77	0.49
8:H:75:ILE:HD13	8:H:129:VAL:HG22	1.94	0.49
9:I:63:LEU:HG	9:I:63:LEU:O	2.12	0.49
6:F:59:TYR:HE2	18:R:67:LEU:CD2	2.25	0.49
21:U:4:ILE:O	21:U:4:ILE:HG22	2.13	0.49
1:A:1002:G:C2	1:A:1003:G:H1'	2.47	0.49
1:A:1000:A:C2	1:A:1041:G:C2	3.00	0.49
1:A:1315:U:O2'	1:A:1360:A:N3	2.34	0.49
1:A:1412:C:H2'	1:A:1413:A:C8	2.47	0.49
1:A:213:G:C8	1:A:214:C:C5	3.00	0.49
1:A:321:A:C8	1:A:328:C:C2	3.00	0.49
1:A:771:G:C4	1:A:809:G:N2	2.80	0.49
5:E:150:PRO:HA	8:H:99:LEU:CD2	2.41	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:88:MET:HA	9:I:92:GLU:OE2	2.12	0.49
1:A:1004:A:C2	1:A:1026:G:N3	2.80	0.49
1:A:101:A:C4	1:A:102:G:C8	3.01	0.49
1:A:1124:G:N2	1:A:1127:G:N2	2.59	0.49
1:A:1162:C:C2	1:A:1175:G:N2	2.80	0.49
1:A:927:G:N2	1:A:1391:U:H1'	2.28	0.49
1:A:145:G:N2	1:A:146:G:C4	2.81	0.49
1:A:666:G:C6	1:A:741:G:C6	3.01	0.49
4:D:9:LEU:HD11	4:D:29:ASP:OD1	2.12	0.49
9:I:50:GLN:N	9:I:51:PRO:HD2	2.28	0.49
1:A:1171:A:C2	1:A:1172:C:C2	3.00	0.49
1:A:1201:A:H1'	1:A:1202:U:OP2	2.13	0.49
1:A:1363:A:N3	1:A:1363:A:H2'	2.27	0.49
1:A:1502:A:H5'	1:A:1504:G:N7	2.27	0.49
1:A:307:C:H5''	1:A:308:C:OP2	2.12	0.49
4:D:168:PRO:O	4:D:170:TRP:N	2.46	0.49
6:F:4:TYR:CD2	6:F:71:ILE:HG21	2.48	0.49
6:F:78:PHE:N	6:F:78:PHE:CD2	2.80	0.49
17:Q:16:LYS:C	17:Q:17:MET:SD	2.91	0.49
1:A:1386:G:N3	1:A:1387:G:C8	2.80	0.49
1:A:815:A:H4'	1:A:817:C:C4	2.47	0.49
8:H:86:TYR:CE2	8:H:124:GLU:HB2	2.47	0.49
17:Q:50:ASN:O	17:Q:51:ASN:C	2.51	0.49
17:Q:51:ASN:O	17:Q:51:ASN:ND2	2.46	0.49
1:A:1048:G:P	23:A:1849:HOH:O	2.70	0.49
1:A:1152:A:C4	1:A:1153:G:C8	3.00	0.49
1:A:1321:U:C4	1:A:1322:C:C5	3.00	0.49
1:A:246:A:C4	1:A:279:A:C6	3.01	0.49
1:A:728:A:H2'	1:A:729:A:H8	1.77	0.49
7:G:114:LYS:HB2	7:G:118:LEU:HD12	1.95	0.49
1:A:1380:U:C5	7:G:3:ARG:HA	2.46	0.49
12:L:61:PHE:HD1	12:L:61:PHE:N	2.11	0.49
12:L:90:LEU:HB3	12:L:93:VAL:HG21	1.95	0.49
17:Q:81:LYS:N	17:Q:81:LYS:CD	2.75	0.49
1:A:1296:C:H4'	1:A:1302:C:C4	2.47	0.49
1:A:198:G:O2'	1:A:199:A:H5'	2.12	0.49
1:A:216:U:H2'	1:A:217:C:C6	2.47	0.49
1:A:881:G:C6	1:A:882:C:C4	3.01	0.49
3:C:130:PHE:CE1	3:C:157:LEU:HB3	2.48	0.49
1:A:718:A:H5''	11:K:119:ASN:ND2	2.28	0.49
14:N:87:ALA:HB1	14:N:92:GLU:HB2	1.95	0.49
21:U:37:PHE:CD2	21:U:41:PRO:HG3	2.48	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1337:G:H5''	1:A:1338:G:OP1	2.13	0.49
1:A:161:A:H2'	1:A:162:A:C8	2.48	0.49
1:A:16:A:C2'	1:A:17:U:H5'	2.43	0.49
1:A:630:A:H2'	1:A:631:C:O4'	2.13	0.49
2:B:67:ILE:HG22	2:B:68:LEU:N	2.28	0.49
4:D:146:ARG:O	4:D:148:LYS:O	2.30	0.49
12:L:42:PRO:HD3	12:L:48:ALA:O	2.13	0.49
12:L:94:ARG:O	12:L:95:TYR:CD1	2.66	0.49
14:N:46:LEU:O	14:N:46:LEU:HG	2.13	0.49
1:A:1074:G:H4'	2:B:102:THR:O	2.12	0.49
1:A:1082:A:C6	1:A:1083:U:N3	2.81	0.49
1:A:1361:G:C4	1:A:1362:A:N7	2.81	0.49
1:A:157:U:O2'	1:A:158:G:H5'	2.12	0.49
1:A:215:C:H2'	1:A:216:U:O4'	2.13	0.49
1:A:620:C:H2'	1:A:621:A:O4'	2.13	0.49
1:A:757:U:OP1	1:A:822:U:O2'	2.17	0.49
1:A:786:G:C2	1:A:787:A:H1'	2.47	0.49
1:A:834:U:N3	1:A:835:U:C4	2.81	0.49
3:C:81:GLY:O	3:C:83:ASP:N	2.46	0.49
4:D:168:PRO:CB	4:D:171:LEU:CD1	2.91	0.49
5:E:13:GLU:HB2	5:E:39:VAL:HG12	1.95	0.49
8:H:106:THR:HG21	8:H:121:LEU:HD13	1.95	0.49
21:U:37:PHE:CD1	21:U:40:LYS:HE3	2.47	0.49
21:U:40:LYS:N	21:U:41:PRO:CD	2.76	0.49
1:A:1211:U:O2'	1:A:1212:U:P	2.70	0.48
1:A:1240:U:OP2	7:G:116:MET:HB3	2.12	0.48
1:A:9:G:OP2	5:E:126:LYS:NZ	2.44	0.48
3:C:83:ASP:O	3:C:84:VAL:C	2.52	0.48
5:E:35:ALA:O	5:E:50:TYR:O	2.31	0.48
5:E:50:TYR:O	5:E:51:GLY:O	2.31	0.48
7:G:42:ILE:HG21	7:G:116:MET:HG3	1.95	0.48
9:I:13:LYS:O	9:I:14:SER:HB3	2.12	0.48
13:M:29:ARG:NH1	13:M:59:GLU:O	2.46	0.48
14:N:10:GLU:O	14:N:11:VAL:C	2.50	0.48
1:A:734:G:C4	1:A:735:C:C6	3.01	0.48
2:B:71:GLY:CA	2:B:164:ILE:CG2	2.91	0.48
1:A:8:A:N6	4:D:54:GLN:OE1	2.46	0.48
5:E:96:MET:CE	5:E:111:MET:CE	2.90	0.48
5:E:149:SER:OG	5:E:152:MET:HB2	2.13	0.48
5:E:33:PHE:O	5:E:52:LYS:HB2	2.13	0.48
6:F:43:GLY:HA2	6:F:58:HIS:CD2	2.48	0.48
6:F:66:ALA:HB3	6:F:71:ILE:HD11	1.93	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:73:LEU:CD2	10:J:75:ASP:HB2	2.42	0.48
10:J:82:LYS:O	10:J:86:ALA:HB3	2.13	0.48
14:N:62:ASN:HB3	14:N:73:PHE:CD1	2.48	0.48
1:A:1019:A:H2'	1:A:1020:G:O4'	2.14	0.48
1:A:1181:G:O2'	1:A:1182:G:C5	2.64	0.48
1:A:158:G:C5	1:A:164:G:C6	3.01	0.48
1:A:3:A:O2'	1:A:612:C:O2'	2.26	0.48
1:A:728:A:C2	1:A:729:A:C5	3.01	0.48
2:B:20:THR:OG1	2:B:21:ARG:N	2.46	0.48
9:I:116:VAL:HG23	10:J:62:ARG:HD3	1.96	0.48
12:L:21:VAL:N	12:L:22:PRO:CD	2.76	0.48
1:A:1513:A:H2'	1:A:1514:G:H8	1.78	0.48
1:A:577:G:C2	1:A:578:C:C6	3.02	0.48
1:A:862:C:C4	1:A:863:U:C5	3.01	0.48
2:B:186:ILE:HA	2:B:200:ILE:HB	1.93	0.48
4:D:73:ARG:O	4:D:76:TYR:N	2.46	0.48
7:G:146:GLU:OE1	7:G:149:LYS:CE	2.61	0.48
7:G:30:LEU:HD11	7:G:116:MET:HE2	1.96	0.48
14:N:54:ASP:HA	14:N:59:ARG:CD	2.43	0.48
1:A:1029:U:O2	1:A:1029:U:H2'	2.14	0.48
1:A:238:A:O2'	1:A:239:U:H5'	2.13	0.48
1:A:578:C:C2	1:A:579:A:C8	3.01	0.48
1:A:582:C:C4	1:A:760:G:C6	3.01	0.48
5:E:16:ILE:HD11	5:E:38:VAL:HG23	1.95	0.48
7:G:92:ARG:NE	7:G:93:PRO:HD2	2.28	0.48
8:H:86:TYR:O	8:H:87:LYS:HD2	2.13	0.48
10:J:57:VAL:HG13	10:J:58:ASN:N	2.28	0.48
10:J:47:GLU:O	10:J:66:GLU:HA	2.13	0.48
1:A:1328:C:H5''	13:M:28:THR:HG21	1.94	0.48
19:S:34:TRP:HA	19:S:52:HIS:HB2	1.96	0.48
1:A:120:A:H2'	1:A:120:A:OP2	2.13	0.48
1:A:158:G:C6	1:A:159:G:C5	3.02	0.48
1:A:189:A:N6	1:A:190:A:N1	2.61	0.48
1:A:211:G:O2'	1:A:212:G:C4'	2.62	0.48
1:A:833:G:N2	1:A:834:U:H1'	2.29	0.48
2:B:81:LYS:HG3	2:B:91:PHE:CZ	2.48	0.48
3:C:121:THR:O	3:C:125:GLU:OE2	2.31	0.48
4:D:107:PHE:O	4:D:117:LEU:CD1	2.60	0.48
7:G:92:ARG:NE	7:G:93:PRO:HD3	2.28	0.48
17:Q:38:ILE:CG2	17:Q:39:LYS:N	2.77	0.48
1:A:1160:G:O2'	1:A:1161:C:P	2.72	0.48
1:A:1404:C:H2'	1:A:1405:G:C8	2.48	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:32:A:N1	1:A:33:A:C6	2.82	0.48
1:A:811:C:H4'	1:A:900:A:N6	2.29	0.48
4:D:139:PRO:O	4:D:140:ASN:HB2	2.14	0.48
4:D:202:GLU:OE1	5:E:105:ILE:HG23	2.13	0.48
11:K:82:LEU:HD22	11:K:105:PHE:HB3	1.95	0.48
1:A:1001:C:H2'	1:A:1002:G:C8	2.49	0.48
1:A:1104:G:C6	1:A:1105:A:C5	3.02	0.48
1:A:1298:U:O2	1:A:1298:U:H2'	2.13	0.48
1:A:1377:A:C6	7:G:7:ILE:HD12	2.49	0.48
1:A:1408:A:C2	1:A:1494:G:N3	2.82	0.48
1:A:17:U:H2'	1:A:18:C:H6	1.76	0.48
1:A:29:U:H5'	1:A:296:U:OP1	2.14	0.48
1:A:722:G:N3	1:A:722:G:H3'	2.29	0.48
1:A:756:C:H2'	1:A:757:U:C5'	2.43	0.48
1:A:756:C:C2	1:A:757:U:C6	3.01	0.48
1:A:582:C:C2	1:A:760:G:N1	2.81	0.48
1:A:829:G:C6	1:A:858:G:C2	3.01	0.48
4:D:151:LYS:C	4:D:152:GLN:OE1	2.52	0.48
4:D:53:VAL:HG23	4:D:54:GLN:N	2.29	0.48
12:L:44:LYS:N	12:L:44:LYS:HD3	2.27	0.48
13:M:27:LYS:CD	13:M:27:LYS:O	2.62	0.48
14:N:24:ARG:CZ	14:N:51:LEU:HD11	2.44	0.48
17:Q:52:GLU:HG2	17:Q:53:CYS:N	2.29	0.48
1:A:1478:U:H2'	1:A:1479:C:H6	1.79	0.48
1:A:202:G:H2'	1:A:203:G:O4'	2.14	0.48
1:A:203:G:N2	1:A:215:C:C2	2.82	0.48
1:A:555:U:H2'	1:A:556:C:C6	2.49	0.48
1:A:671:G:N1	1:A:672:U:C2	2.81	0.48
5:E:20:ARG:HG2	5:E:20:ARG:O	2.14	0.48
17:Q:19:LYS:CD	17:Q:49:GLU:HA	2.44	0.48
1:A:1511:G:C5	1:A:1512:U:C5	3.01	0.48
1:A:577:G:C2	1:A:578:C:C5	3.02	0.48
1:A:643:C:C5'	8:H:32:LEU:HD22	2.44	0.48
1:A:690:G:H2'	1:A:691:G:O4'	2.14	0.48
3:C:36:ASP:O	3:C:40:ARG:HG3	2.13	0.48
4:D:107:PHE:N	4:D:107:PHE:CD1	2.80	0.48
8:H:21:ASN:O	8:H:23:ALA:N	2.47	0.48
5:E:83:HIS:NE2	8:H:96:MET:CE	2.77	0.48
1:A:1040:U:H2'	1:A:1041:G:C8	2.49	0.47
1:A:1255:G:N1	1:A:1279:G:N7	2.62	0.47
1:A:1273:C:H2'	1:A:1274:A:O4'	2.13	0.47
1:A:1307:U:C4	1:A:1308:U:C5	3.02	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1423:G:H2'	1:A:1424:U:O4'	2.14	0.47
1:A:407:U:H2'	1:A:408:A:C8	2.49	0.47
1:A:457:G:C6	1:A:458:U:N3	2.82	0.47
1:A:477:C:H2'	1:A:478:A:C8	2.50	0.47
1:A:673:A:H2'	1:A:674:G:C8	2.48	0.47
2:B:123:ASP:O	2:B:124:GLY:C	2.51	0.47
6:F:81:ASN:OD1	6:F:83:ALA:N	2.45	0.47
10:J:91:ASP:O	10:J:92:LEU:HB2	2.14	0.47
11:K:107:ILE:HD13	11:K:107:ILE:C	2.33	0.47
11:K:58:SER:O	11:K:91:PRO:HG3	2.14	0.47
1:A:1084:G:H5'	1:A:1102:A:OP2	2.14	0.47
1:A:1388:C:N3	1:A:1389:C:C5	2.83	0.47
1:A:143:A:H5'	1:A:144:G:C5'	2.44	0.47
1:A:1460:C:C4	1:A:1461:G:C5	3.02	0.47
1:A:374:A:N3	1:A:375:U:C6	2.83	0.47
1:A:38:G:C2	1:A:397:A:C2	3.02	0.47
1:A:476:U:O2'	1:A:477:C:H5'	2.13	0.47
1:A:609:A:H2'	1:A:610:U:H5'	1.96	0.47
1:A:704:A:C6	1:A:705:G:C4	3.03	0.47
1:A:755:G:C2	1:A:756:C:C6	3.02	0.47
1:A:933:G:OP2	7:G:3:ARG:HB3	2.14	0.47
1:A:983:A:N3	1:A:983:A:C2'	2.78	0.47
1:A:992:U:C2	1:A:1043:G:N7	2.83	0.47
2:B:15:HIS:O	2:B:16:PHE:C	2.52	0.47
2:B:35:ARG:O	2:B:38:VAL:N	2.45	0.47
7:G:92:ARG:CZ	7:G:93:PRO:HD3	2.45	0.47
9:I:81:HIS:O	9:I:85:ARG:HB2	2.13	0.47
1:A:1216:A:OP1	14:N:5:SER:CB	2.63	0.47
1:A:1001:C:H2'	1:A:1002:G:N7	2.29	0.47
1:A:1004:A:O2'	1:A:1036:A:C2	2.66	0.47
1:A:106:C:O2	1:A:379:C:C5'	2.62	0.47
1:A:1262:C:C2'	1:A:1263:C:H5'	2.45	0.47
1:A:1479:C:C2	1:A:1480:A:C8	3.02	0.47
1:A:414:A:H2'	1:A:415:A:O4'	2.14	0.47
1:A:811:C:C5	1:A:812:G:C6	3.02	0.47
1:A:824:G:H1'	8:H:2:SER:N	2.29	0.47
1:A:859:G:H2'	1:A:860:A:C8	2.49	0.47
3:C:42:TYR:CZ	3:C:46:GLU:HG3	2.49	0.47
5:E:13:GLU:OE1	5:E:68:ARG:NH1	2.45	0.47
9:I:17:ALA:HA	9:I:67:VAL:HA	1.95	0.47
12:L:38:TYR:HB3	12:L:52:VAL:HG13	1.95	0.47
14:N:23:LYS:O	14:N:26:GLU:HG3	2.15	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:O:13:SER:O	15:O:14:GLU:HG3	2.14	0.47
1:A:1107:C:C2	1:A:1108:G:C8	3.03	0.47
1:A:485:U:HO2'	1:A:486:U:P	2.38	0.47
1:A:775:G:C2'	1:A:776:G:H5'	2.44	0.47
1:A:951:G:N3	1:A:970:C:O2'	2.34	0.47
11:K:112:ASP:HB3	21:U:4:ILE:CG2	2.44	0.47
14:N:67:THR:HG23	14:N:83:LYS:CE	2.45	0.47
1:A:330:C:O2	1:A:330:C:H2'	2.13	0.47
1:A:350:G:C6	1:A:351:G:O6	2.67	0.47
1:A:375:U:N3	1:A:376:G:N7	2.63	0.47
1:A:302:G:O2'	1:A:556:C:H5''	2.15	0.47
1:A:651:C:N4	1:A:652:U:O4	2.47	0.47
1:A:771:G:C2	1:A:809:G:C2	3.03	0.47
1:A:976:G:H1'	1:A:1363:A:N6	2.30	0.47
2:B:186:ILE:HG13	2:B:200:ILE:O	2.15	0.47
2:B:71:GLY:HA2	2:B:164:ILE:CG2	2.45	0.47
5:E:16:ILE:CD1	5:E:38:VAL:HG23	2.44	0.47
3:C:168:TYR:OH	5:E:55:GLU:OE1	2.31	0.47
9:I:101:ALA:HB1	9:I:103:PHE:CZ	2.50	0.47
1:A:1343:G:O2'	9:I:123:ARG:HD2	2.15	0.47
10:J:7:ARG:HD2	10:J:73:LEU:HD21	1.97	0.47
12:L:3:THR:O	12:L:4:VAL:C	2.53	0.47
20:T:67:ILE:CD1	20:T:71:LYS:HE3	2.44	0.47
1:A:1272:G:H2'	1:A:1273:C:O4'	2.15	0.47
1:A:211:G:O2'	1:A:212:G:H4'	2.15	0.47
1:A:455:G:C6	1:A:456:A:C6	3.03	0.47
1:A:484:G:C5	1:A:486:U:H1'	2.49	0.47
1:A:784:A:H2'	1:A:785:G:C8	2.50	0.47
2:B:187:VAL:HG23	2:B:188:ASP:O	2.14	0.47
2:B:68:LEU:HD22	2:B:70:VAL:HG23	1.94	0.47
5:E:105:ILE:HG13	5:E:105:ILE:O	2.14	0.47
7:G:42:ILE:O	7:G:42:ILE:CG2	2.63	0.47
5:E:83:HIS:CD2	8:H:96:MET:HE2	2.50	0.47
10:J:15:HIS:HB3	10:J:70:HIS:NE2	2.29	0.47
10:J:15:HIS:HB3	10:J:70:HIS:CD2	2.50	0.47
11:K:50:SER:HB3	11:K:65:VAL:CG2	2.45	0.47
12:L:59:ASN:N	12:L:59:ASN:HD22	2.13	0.47
14:N:3:LYS:HD3	14:N:6:MET:HG2	1.97	0.47
20:T:67:ILE:O	20:T:68:HIS:C	2.52	0.47
1:A:1014:A:N7	1:A:1015:G:C6	2.82	0.47
1:A:1129:C:C6	1:A:1139:G:C8	3.02	0.47
1:A:939:G:C6	1:A:940:C:C4	3.03	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:57:LEU:HD11	2:B:221:VAL:CG2	2.45	0.47
3:C:71:ALA:HA	3:C:106:VAL:HB	1.96	0.47
4:D:174:ASP:O	4:D:175:ALA:HB2	2.14	0.47
9:I:26:GLY:N	9:I:61:LEU:O	2.47	0.47
10:J:57:VAL:HG22	10:J:58:ASN:H	1.79	0.47
1:A:1299:A:H2'	1:A:1299:A:N3	2.30	0.47
1:A:421:U:O5'	1:A:422:C:H5	1.96	0.47
1:A:505:G:C6	1:A:535:A:C2	3.03	0.47
1:A:642:A:H2'	1:A:643:C:C6	2.50	0.47
1:A:991:U:H4'	1:A:992:U:H5''	1.96	0.47
5:E:111:MET:HG3	5:E:140:THR:HG21	1.96	0.47
7:G:66:LEU:HG	7:G:66:LEU:O	2.15	0.47
1:A:1152:A:H4'	10:J:15:HIS:CD2	2.50	0.47
17:Q:14:SER:CB	17:Q:22:VAL:HG12	2.45	0.47
19:S:6:LYS:HB2	19:S:7:LYS:HE2	1.95	0.47
1:A:1410:A:H2'	1:A:1411:C:C6	2.50	0.47
1:A:1486:G:H2'	1:A:1487:G:O4'	2.14	0.47
1:A:570:G:H2'	1:A:570:G:N3	2.28	0.47
5:E:56:VAL:N	5:E:57:PRO:CD	2.77	0.47
13:M:86:TYR:O	13:M:90:ARG:CG	2.63	0.47
16:P:19:VAL:CG1	16:P:37:GLY:N	2.78	0.47
21:U:32:VAL:O	21:U:32:VAL:HG12	2.15	0.47
1:A:1034:G:H5'	1:A:1035:A:OP2	2.15	0.47
1:A:1092:A:N1	1:A:1183:U:O2	2.48	0.47
1:A:1381:U:O2'	1:A:1382:C:O5'	2.33	0.47
1:A:162:A:H2'	1:A:163:C:O4'	2.15	0.47
1:A:459:A:OP2	1:A:459:A:C8	2.68	0.47
1:A:846:G:C2	1:A:847:G:C8	3.03	0.47
3:C:30:ALA:HB1	14:N:65:ARG:NH2	2.30	0.47
10:J:19:ASP:HA	10:J:22:THR:HB	1.97	0.47
10:J:41:PRO:O	10:J:42:LEU:HB2	2.14	0.47
13:M:37:ALA:CB	13:M:56:LEU:HG	2.44	0.47
1:A:1052:U:H5''	1:A:1053:G:OP2	2.15	0.47
1:A:1311:A:C2	1:A:1327:C:N3	2.83	0.47
1:A:1348:U:H4'	9:I:122:ARG:CG	2.45	0.47
1:A:1386:G:H2'	1:A:1387:G:H8	1.80	0.47
1:A:16:A:C6	1:A:17:U:C5	3.02	0.47
1:A:427:U:P	4:D:13:ARG:HH22	2.38	0.47
1:A:581:G:N2	1:A:761:G:C6	2.83	0.47
1:A:991:U:H4'	1:A:992:U:OP1	2.15	0.47
5:E:38:VAL:HG11	5:E:114:VAL:HA	1.96	0.47
17:Q:81:LYS:HD2	17:Q:81:LYS:N	2.30	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:Q:8:LEU:HD12	17:Q:8:LEU:N	2.29	0.47
1:A:157:U:O2	1:A:165:G:C2	2.68	0.46
1:A:872:A:C4	1:A:874:G:C8	3.02	0.46
2:B:85:LEU:HD12	2:B:85:LEU:O	2.15	0.46
11:K:44:TRP:HA	11:K:70:CYS:SG	2.55	0.46
1:A:1060:U:H5'	10:J:53:ILE:HG23	1.98	0.46
1:A:1202:U:H2'	1:A:1203:C:O4'	2.15	0.46
1:A:681:A:C2	1:A:710:G:N3	2.83	0.46
1:A:731:G:H5'	1:A:766:A:H4'	1.97	0.46
1:A:774:G:C6	1:A:775:G:C5	3.03	0.46
5:E:77:ASN:O	5:E:80:THR:HG22	2.15	0.46
6:F:62:MET:O	6:F:63:ASN:HB2	2.15	0.46
7:G:116:MET:HA	7:G:119:ARG:HD3	1.97	0.46
8:H:66:PHE:CE2	8:H:67:GLN:OE1	2.67	0.46
13:M:85:CYS:HB3	19:S:74:PHE:CZ	2.50	0.46
13:M:3:ARG:HA	13:M:8:ASN:O	2.15	0.46
15:O:3:LEU:HD13	15:O:35:GLN:HG2	1.96	0.46
1:A:999:C:H2'	1:A:1000:A:C8	2.50	0.46
1:A:1361:G:C4	1:A:1362:A:C8	3.03	0.46
1:A:1489:G:C5	1:A:1490:U:C5	3.04	0.46
3:C:110:GLU:C	3:C:111:LEU:HD22	2.35	0.46
3:C:126:ARG:O	3:C:127:ARG:CB	2.63	0.46
5:E:109:GLY:O	5:E:110:ALA:CB	2.63	0.46
6:F:80:PHE:CG	6:F:80:PHE:O	2.68	0.46
7:G:14:PRO:O	7:G:15:ASP:C	2.54	0.46
19:S:50:ALA:HB1	19:S:57:HIS:HB3	1.98	0.46
19:S:55:ARG:NE	19:S:79:THR:CG2	2.79	0.46
1:A:1521:C:C2	1:A:1522:U:C5	3.03	0.46
1:A:155:A:C2	1:A:167:A:C5	3.03	0.46
1:A:955:U:H2'	1:A:956:U:O4'	2.14	0.46
2:B:167:ASP:HA	2:B:170:HIS:HB3	1.97	0.46
4:D:142:VAL:HG12	4:D:181:THR:OG1	2.16	0.46
1:A:1279:G:H5''	10:J:9:ARG:NH2	2.30	0.46
13:M:91:HIS:O	13:M:109:ARG:NH2	2.49	0.46
13:M:40:ALA:O	13:M:41:GLU:C	2.54	0.46
15:O:39:LEU:O	15:O:42:HIS:HB3	2.16	0.46
1:A:957:U:O3'	19:S:79:THR:OG1	2.33	0.46
20:T:21:ASN:O	20:T:25:ARG:HB3	2.15	0.46
1:A:1157:A:H5'	1:A:1158:C:C6	2.50	0.46
1:A:295:C:C4	1:A:296:U:C5	3.03	0.46
1:A:373:A:O2'	1:A:374:A:H5'	2.16	0.46
1:A:414:A:C2	1:A:415:A:C4	3.03	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:421:U:C4'	1:A:421:U:OP1	2.63	0.46
1:A:674:G:OP1	6:F:86:ARG:NH2	2.44	0.46
1:A:756:C:H2'	1:A:757:U:O5'	2.16	0.46
3:C:36:ASP:C	3:C:38:LYS:H	2.19	0.46
9:I:56:ASP:C	9:I:57:MET:HG3	2.36	0.46
1:A:146:G:N2	1:A:147:G:H1'	2.30	0.46
1:A:577:G:C8	1:A:816:A:C2	3.03	0.46
7:G:123:GLU:OE1	7:G:123:GLU:HA	2.16	0.46
9:I:90:TYR:O	9:I:91:ASP:O	2.34	0.46
10:J:53:ILE:HD11	14:N:85:ARG:NH1	2.31	0.46
11:K:100:LEU:O	11:K:103:ALA:N	2.48	0.46
14:N:61:ARG:O	14:N:62:ASN:CB	2.64	0.46
1:A:1009:U:C2	1:A:1021:A:N6	2.84	0.46
1:A:1105:A:C2	1:A:1106:G:C5	3.04	0.46
1:A:1259:C:N4	1:A:1260:G:C4	2.84	0.46
1:A:505:G:C2	1:A:506:G:C5	3.04	0.46
1:A:862:C:N3	1:A:863:U:C5	2.83	0.46
2:B:166:ALA:HB2	2:B:187:VAL:HB	1.98	0.46
5:E:137:VAL:O	5:E:138:ARG:CG	2.64	0.46
6:F:93:LYS:HD3	6:F:93:LYS:N	2.31	0.46
9:I:57:MET:HA	9:I:60:LYS:HB3	1.98	0.46
1:A:718:A:C4	11:K:118:HIS:CD2	3.03	0.46
16:P:23:ASP:OD2	16:P:25:ARG:HG3	2.16	0.46
16:P:6:LEU:CD1	16:P:71:VAL:CG2	2.93	0.46
14:N:46:LEU:HG	19:S:10:PHE:CD2	2.51	0.46
1:A:110:C:H2'	1:A:111:G:O4'	2.16	0.46
1:A:1157:A:C5	1:A:1180:A:C6	3.03	0.46
1:A:1386:G:C2	1:A:1387:G:N7	2.84	0.46
1:A:170:U:O2'	1:A:171:A:H5'	2.15	0.46
1:A:461:A:H2'	1:A:462:G:O4'	2.16	0.46
1:A:513:C:H2'	1:A:514:C:C6	2.51	0.46
1:A:731:G:O2'	1:A:732:C:H5'	2.16	0.46
1:A:802:A:C2	1:A:803:G:C1'	2.98	0.46
1:A:811:C:C4	1:A:812:G:C6	3.04	0.46
2:B:175:GLU:O	2:B:179:LEU:HD22	2.15	0.46
4:D:36:GLN:O	4:D:37:ALA:HB2	2.15	0.46
14:N:46:LEU:CD2	19:S:10:PHE:CD2	2.99	0.46
1:A:1227:A:OP2	13:M:110:LYS:HD2	2.15	0.46
1:A:620:C:N1	4:D:132:ILE:HD13	2.30	0.46
1:A:728:A:N1	1:A:729:A:C6	2.84	0.46
1:A:798:U:C2'	1:A:799:G:O5'	2.64	0.46
1:A:78:A:C2	1:A:92:U:O2	2.69	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:93:U:C2'	1:A:94:G:H5''	2.46	0.46
3:C:111:LEU:N	3:C:111:LEU:HD22	2.31	0.46
4:D:146:ARG:O	4:D:150:LYS:HB2	2.16	0.46
4:D:26:ARG:CG	4:D:27:ALA:N	2.74	0.46
4:D:58:LYS:CB	4:D:200:ILE:HB	2.46	0.46
6:F:86:ARG:CG	6:F:86:ARG:NH1	2.77	0.46
7:G:99:LEU:HB3	7:G:103:TRP:CZ2	2.50	0.46
1:A:684:U:C2'	11:K:40:ASN:O	2.64	0.46
13:M:23:TYR:CD2	13:M:23:TYR:O	2.69	0.46
1:A:1056:U:H4'	3:C:163:ALA:HB2	1.98	0.46
1:A:1260:G:OP1	1:A:1284:C:O2'	2.19	0.46
1:A:1315:U:C5	1:A:1316:G:C5	3.04	0.46
1:A:1388:C:H2'	1:A:1389:C:H6	1.81	0.46
1:A:139:A:O2'	1:A:140:U:H5'	2.16	0.46
1:A:441:A:C2	1:A:497:G:C6	3.04	0.46
1:A:71:A:C6	1:A:72:A:N7	2.84	0.46
1:A:819:A:H4'	1:A:820:U:OP2	2.16	0.46
2:B:207:ILE:N	2:B:207:ILE:HD13	2.30	0.46
3:C:184:TYR:CD1	3:C:201:TRP:CD1	3.04	0.46
4:D:9:LEU:HG	4:D:32:CYS:HB2	1.98	0.46
4:D:33:LYS:NZ	4:D:33:LYS:HB2	2.31	0.46
5:E:104:GLY:O	5:E:105:ILE:HG22	2.16	0.46
1:A:9:G:H5'	5:E:108:GLY:HA3	1.97	0.46
8:H:35:ALA:O	8:H:39:VAL:HG23	2.16	0.46
9:I:116:VAL:HG21	10:J:62:ARG:HD3	1.97	0.46
12:L:18:LYS:O	12:L:18:LYS:HD2	2.16	0.46
14:N:62:ASN:OD1	14:N:73:PHE:CE1	2.69	0.46
15:O:37:ASN:O	15:O:40:GLN:HB2	2.16	0.46
1:A:1007:U:C2'	1:A:1008:U:H5'	2.45	0.45
1:A:1055:A:N7	1:A:1206:G:C6	2.84	0.45
1:A:1244:G:C6	1:A:1245:C:N4	2.84	0.45
1:A:1392:G:O2'	1:A:1393:U:H5'	2.15	0.45
1:A:1457:G:H2'	1:A:1458:G:O4'	2.16	0.45
1:A:18:C:C2	1:A:19:A:C8	3.04	0.45
4:D:42:GLY:C	4:D:44:ARG:H	2.19	0.45
8:H:77:ARG:HD3	8:H:78:VAL:N	2.31	0.45
8:H:89:LYS:HA	8:H:92:LEU:HD13	1.98	0.45
10:J:40:ILE:HG22	10:J:42:LEU:HG	1.96	0.45
11:K:97:ILE:HG13	11:K:98:ARG:N	2.30	0.45
13:M:22:ILE:N	13:M:22:ILE:HD12	2.31	0.45
14:N:48:LEU:HD23	14:N:48:LEU:O	2.16	0.45
17:Q:14:SER:HB3	17:Q:22:VAL:CG1	2.46	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:34:ARG:HE	21:U:35:ARG:HB2	1.82	0.45
1:A:1073:U:H5'	1:A:1074:G:OP2	2.17	0.45
1:A:124:C:N3	1:A:125:U:C4	2.84	0.45
1:A:1310:G:N2	1:A:1328:C:O2	2.49	0.45
1:A:1426:G:C4	1:A:1475:G:C2	3.05	0.45
1:A:429:U:H3'	4:D:9:LEU:HD23	1.98	0.45
1:A:442:G:C6	1:A:443:C:C4	3.04	0.45
1:A:510:A:H5''	1:A:511:C:P	2.56	0.45
1:A:525:C:N4	1:A:526:C:N4	2.63	0.45
1:A:701:U:H4'	1:A:703:G:C8	2.51	0.45
1:A:669:G:N2	1:A:738:C:O2	2.48	0.45
1:A:756:C:C2'	1:A:757:U:H5'	2.46	0.45
1:A:81:A:H2'	1:A:82:G:C8	2.51	0.45
1:A:952:U:O4	13:M:103:LYS:HD3	2.15	0.45
1:A:968:A:C8	1:A:1062:U:H4'	2.51	0.45
1:A:992:U:O4'	1:A:993:G:C2	2.68	0.45
2:B:186:ILE:HA	2:B:200:ILE:O	2.16	0.45
2:B:90:PHE:HB3	2:B:150:GLY:O	2.16	0.45
4:D:74:ASN:HA	4:D:77:LYS:HB2	1.98	0.45
4:D:78:GLU:CG	4:D:93:LEU:HD11	2.46	0.45
6:F:51:ILE:CG1	6:F:51:ILE:O	2.63	0.45
5:E:150:PRO:HA	8:H:99:LEU:HD21	1.98	0.45
12:L:9:ARG:HB2	12:L:9:ARG:CZ	2.46	0.45
13:M:96:PRO:CB	13:M:100:GLN:OE1	2.65	0.45
15:O:11:ILE:O	15:O:14:GLU:HB2	2.16	0.45
17:Q:14:SER:OG	17:Q:22:VAL:HG12	2.16	0.45
17:Q:13:VAL:HG13	17:Q:22:VAL:HG13	1.98	0.45
20:T:54:MET:HE2	20:T:58:VAL:CG2	2.47	0.45
21:U:29:LEU:C	21:U:29:LEU:HD23	2.37	0.45
1:A:1015:G:H2'	1:A:1016:A:O4'	2.17	0.45
1:A:1137:C:H1'	1:A:1138:G:N2	2.31	0.45
1:A:22:G:O2'	1:A:913:A:N1	2.43	0.45
5:E:96:MET:CE	5:E:111:MET:HE3	2.46	0.45
5:E:126:LYS:HE3	5:E:126:LYS:HA	1.97	0.45
5:E:154:ALA:C	5:E:156:LYS:N	2.70	0.45
5:E:95:PHE:CG	5:E:96:MET:N	2.84	0.45
12:L:57:LEU:O	12:L:58:THR:C	2.54	0.45
14:N:80:SER:O	14:N:81:ARG:C	2.55	0.45
1:A:1088:G:C6	1:A:1089:G:N7	2.84	0.45
1:A:1134:G:H2'	1:A:1135:U:O4'	2.16	0.45
1:A:1491:G:C5	1:A:1492:A:C6	3.04	0.45
1:A:186:C:O2'	1:A:187:G:H5'	2.16	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:569:C:H1'	1:A:574:A:C4	2.51	0.45
1:A:68:G:C6	1:A:69:G:H1'	2.52	0.45
1:A:784:A:H2'	1:A:785:G:O4'	2.15	0.45
1:A:892:A:C6	1:A:893:C:C4	3.04	0.45
5:E:99:ALA:HB2	5:E:124:LEU:HG	1.99	0.45
1:A:1297:G:HO2'	7:G:114:LYS:HZ3	1.54	0.45
7:G:53:ARG:NH2	7:G:125:SER:OG	2.49	0.45
8:H:64:LYS:HE2	8:H:71:VAL:HG21	1.98	0.45
9:I:19:VAL:HG22	9:I:65:ILE:HG22	1.97	0.45
9:I:88:MET:HB2	9:I:92:GLU:CD	2.37	0.45
13:M:27:LYS:O	13:M:27:LYS:HD2	2.17	0.45
13:M:18:ALA:CB	13:M:45:ILE:HD11	2.47	0.45
16:P:19:VAL:HG12	16:P:37:GLY:C	2.36	0.45
17:Q:10:GLY:HA3	17:Q:25:ILE:HD13	1.99	0.45
21:U:14:VAL:O	21:U:16:LEU:CD1	2.65	0.45
11:K:127:ARG:HB2	21:U:34:ARG:NH1	2.31	0.45
1:A:1006:G:OP1	1:A:1038:C:H5''	2.16	0.45
1:A:1053:G:N7	1:A:1200:C:C5'	2.79	0.45
1:A:25:C:H2'	1:A:26:A:C8	2.51	0.45
1:A:289:G:C2	1:A:290:C:C5	3.05	0.45
1:A:517:G:H4'	1:A:519:C:C2	2.52	0.45
3:C:172:ARG:C	3:C:174:PRO:HD3	2.36	0.45
3:C:20:SER:HB2	14:N:92:GLU:O	2.17	0.45
5:E:102:GLY:C	5:E:104:GLY:N	2.69	0.45
5:E:15:LEU:HD12	5:E:15:LEU:C	2.37	0.45
6:F:6:ILE:HG22	6:F:7:VAL:N	2.31	0.45
1:A:1377:A:C5	7:G:7:ILE:HD12	2.51	0.45
10:J:74:VAL:HG12	10:J:75:ASP:N	2.30	0.45
12:L:107:VAL:HG23	12:L:117:TYR:HB3	1.97	0.45
20:T:9:LYS:O	20:T:12:ILE:HG12	2.16	0.45
20:T:69:LYS:O	20:T:71:LYS:N	2.49	0.45
1:A:1091:U:H2'	1:A:1093:A:OP2	2.16	0.45
1:A:1408:A:N1	1:A:1494:G:C5	2.85	0.45
1:A:517:G:C8	1:A:531:U:C4	3.04	0.45
1:A:505:G:OP2	1:A:534:U:H2'	2.17	0.45
1:A:706:A:O2'	11:K:31:ILE:CD1	2.64	0.45
1:A:681:A:C2	1:A:710:G:C4	3.05	0.45
1:A:97:G:C6	1:A:98:A:H1'	2.52	0.45
2:B:117:LEU:HB3	2:B:141:LEU:HG	1.98	0.45
2:B:87:CYS:HB3	2:B:222:ARG:HA	1.99	0.45
6:F:6:ILE:HD12	6:F:6:ILE:N	2.31	0.45
7:G:126:ASP:N	7:G:126:ASP:OD1	2.50	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:R:25:ASP:OD1	18:R:25:ASP:N	2.50	0.45
1:A:1039:G:C6	1:A:1040:U:N3	2.85	0.45
1:A:1070:U:C2	1:A:1071:C:C5	3.04	0.45
1:A:1113:C:H4'	3:C:14:ILE:HD12	1.99	0.45
1:A:1206:G:C6	1:A:1207:G:C5	3.04	0.45
1:A:757:U:C2'	1:A:758:C:O5'	2.65	0.45
1:A:764:C:C4	1:A:765:G:C5	3.04	0.45
1:A:793:U:O2'	1:A:1516:G:H1'	2.17	0.45
1:A:803:G:C5	1:A:804:U:C4	3.05	0.45
2:B:16:PHE:CD2	2:B:16:PHE:N	2.85	0.45
3:C:182:ILE:HD13	3:C:203:PHE:HA	1.99	0.45
5:E:115:LEU:CD2	5:E:123:VAL:HG21	2.47	0.45
7:G:145:ALA:O	7:G:146:GLU:HB2	2.15	0.45
7:G:37:SER:OG	9:I:43:THR:HG23	2.16	0.45
12:L:22:PRO:O	12:L:24:LEU:N	2.45	0.45
13:M:33:ILE:HG22	13:M:56:LEU:HD23	1.98	0.45
16:P:23:ASP:OD2	16:P:25:ARG:HG2	2.17	0.45
1:A:1258:G:H2'	1:A:1259:C:C6	2.51	0.45
1:A:920:U:C2	1:A:921:U:C5	3.05	0.45
1:A:9:G:OP2	5:E:126:LYS:CE	2.65	0.45
5:E:101:GLU:HA	5:E:122:ASN:CB	2.46	0.45
5:E:16:ILE:N	5:E:16:ILE:HD12	2.32	0.45
6:F:37:HIS:O	6:F:38:ARG:HB3	2.17	0.45
1:A:1291:U:OP1	7:G:37:SER:CB	2.65	0.45
9:I:49:ARG:C	9:I:49:ARG:HD3	2.37	0.45
9:I:88:MET:CG	9:I:88:MET:O	2.65	0.45
11:K:82:LEU:HD23	11:K:82:LEU:O	2.17	0.45
14:N:51:LEU:O	14:N:53:ARG:N	2.50	0.45
19:S:51:VAL:O	19:S:58:VAL:HG13	2.17	0.45
1:A:1027:C:N4	1:A:1034:G:O6	2.50	0.45
1:A:16:A:C2	1:A:17:U:C6	3.05	0.45
1:A:218:U:C2'	1:A:219:U:H5'	2.47	0.45
1:A:240:G:H4'	1:A:240:G:OP1	2.16	0.45
1:A:421:U:H4'	1:A:421:U:OP1	2.17	0.45
1:A:444:G:C6	1:A:445:G:N7	2.85	0.45
1:A:541:G:H2'	1:A:542:G:O4'	2.17	0.45
1:A:745:G:H5''	1:A:851:G:O2'	2.17	0.45
1:A:778:G:C6	1:A:779:C:N3	2.85	0.45
1:A:782:A:C8	1:A:783:C:C5	3.05	0.45
2:B:10:LEU:HD23	2:B:12:ALA:O	2.17	0.45
2:B:71:GLY:HA3	2:B:164:ILE:HG21	1.99	0.45
4:D:35:GLU:O	4:D:37:ALA:N	2.45	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:17:GLN:O	6:F:21:MET:HG3	2.17	0.45
1:A:1166:G:N1	1:A:1169:A:OP2	2.45	0.45
1:A:33:A:C4	1:A:34:C:C5	3.04	0.45
1:A:355:C:H2'	1:A:356:A:O4'	2.17	0.45
1:A:714:G:H2'	1:A:715:A:C8	2.52	0.45
5:E:101:GLU:HA	5:E:122:ASN:HB3	1.99	0.45
5:E:131:THR:O	5:E:132:ASN:C	2.54	0.45
12:L:86:ARG:NH1	12:L:88:LYS:HA	2.32	0.45
13:M:96:PRO:HB2	13:M:100:GLN:OE1	2.16	0.45
19:S:40:ILE:HD13	19:S:66:MET:HB3	1.97	0.45
21:U:34:ARG:CD	21:U:35:ARG:HB2	2.47	0.45
1:A:1226:C:N4	13:M:103:LYS:HB2	2.33	0.44
1:A:1287:A:C6	1:A:1288:A:C6	3.05	0.44
1:A:1411:C:H2'	1:A:1412:C:H6	1.81	0.44
1:A:197:A:C6	1:A:221:C:H4'	2.52	0.44
1:A:951:G:C6	1:A:952:U:C4	3.05	0.44
2:B:118:GLU:HA	2:B:121:SER:OG	2.17	0.44
4:D:5:LEU:CD1	4:D:5:LEU:N	2.80	0.44
6:F:37:HIS:CD2	6:F:65:GLU:HB2	2.52	0.44
8:H:59:LEU:HD12	8:H:60:GLU:N	2.32	0.44
11:K:19:GLY:O	11:K:82:LEU:HA	2.17	0.44
12:L:72:HIS:ND1	12:L:74:LEU:HB2	2.32	0.44
14:N:51:LEU:HB3	14:N:52:PRO:HD2	1.99	0.44
15:O:35:GLN:NE2	15:O:39:LEU:HD21	2.32	0.44
20:T:3:ASN:O	20:T:4:ILE:C	2.55	0.44
1:A:937:A:C2	1:A:1379:G:O6	2.69	0.44
1:A:178:C:H2'	1:A:179:A:O4'	2.17	0.44
1:A:251:G:N1	1:A:266:G:C6	2.85	0.44
1:A:517:G:H5'	1:A:519:C:C2	2.51	0.44
1:A:540:G:C6	1:A:541:G:C5	3.05	0.44
1:A:632:U:H2'	1:A:633:G:OP1	2.17	0.44
2:B:148:LEU:N	2:B:148:LEU:HD12	2.33	0.44
3:C:117:ALA:HB1	3:C:187:SER:HB2	1.98	0.44
4:D:155:VAL:HA	4:D:158:ALA:HB3	2.00	0.44
5:E:104:GLY:O	5:E:105:ILE:HG23	2.17	0.44
5:E:155:ALA:C	5:E:156:LYS:HG3	2.36	0.44
9:I:30:ILE:HD13	9:I:39:PHE:CE2	2.52	0.44
9:I:46:MET:O	9:I:49:ARG:HB3	2.17	0.44
11:K:43:GLY:HA3	11:K:74:VAL:HG12	1.99	0.44
11:K:25:ALA:O	11:K:89:PRO:O	2.36	0.44
14:N:41:ARG:HG2	14:N:42:TRP:N	2.31	0.44
19:S:36:ARG:NH1	19:S:72:GLY:HA3	2.32	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1142:G:H5'	1:A:1143:G:OP2	2.17	0.44
1:A:1491:G:C6	1:A:1492:A:C6	3.05	0.44
1:A:734:G:C5	1:A:735:C:C5	3.05	0.44
2:B:18:HIS:O	2:B:19:GLN:CB	2.65	0.44
3:C:196:ILE:O	3:C:196:ILE:HG22	2.17	0.44
4:D:160:GLU:O	4:D:163:GLU:CB	2.65	0.44
5:E:70:ASN:N	5:E:70:ASN:OD1	2.49	0.44
6:F:45:ARG:HG2	6:F:46:GLN:N	2.32	0.44
9:I:54:LEU:O	9:I:55:VAL:HG13	2.18	0.44
9:I:95:ARG:HG2	9:I:104:VAL:HG11	1.99	0.44
10:J:52:LEU:HD23	10:J:62:ARG:HG2	1.99	0.44
17:Q:55:ILE:HD13	17:Q:55:ILE:C	2.37	0.44
1:A:1029:U:O2	1:A:1031:C:H1'	2.18	0.44
1:A:1138:G:C2	1:A:1140:C:C4	3.06	0.44
1:A:1160:G:O6	1:A:1181:G:C6	2.70	0.44
1:A:888:G:H4'	1:A:1488:G:O2'	2.17	0.44
1:A:174:A:C4	1:A:175:C:C6	3.05	0.44
1:A:144:G:C5	1:A:179:A:C2	3.06	0.44
1:A:505:G:H5'	1:A:534:U:C2	2.53	0.44
1:A:68:G:C5	1:A:69:G:H1'	2.52	0.44
1:A:747:A:C5	1:A:748:G:C5	3.05	0.44
1:A:765:G:H5''	1:A:766:A:OP1	2.17	0.44
1:A:853:C:H2'	1:A:854:U:O4'	2.18	0.44
1:A:862:C:C2	1:A:863:U:C5	3.05	0.44
5:E:103:THR:O	5:E:122:ASN:HA	2.18	0.44
1:A:824:G:H1'	8:H:2:SER:HA	2.00	0.44
14:N:93:ILE:HG21	14:N:96:LEU:HD22	1.99	0.44
15:O:58:ARG:O	15:O:62:GLN:HB2	2.18	0.44
16:P:5:ARG:O	16:P:19:VAL:HA	2.17	0.44
1:A:130:A:OP1	17:Q:65:ARG:HD2	2.18	0.44
20:T:67:ILE:O	20:T:68:HIS:O	2.34	0.44
20:T:72:ALA:O	20:T:75:HIS:HB2	2.18	0.44
21:U:34:ARG:HD3	21:U:35:ARG:CB	2.48	0.44
1:A:1007:U:C2'	1:A:1008:U:C5'	2.95	0.44
1:A:1361:G:H3'	1:A:1362:A:H5''	2.00	0.44
1:A:159:G:H5'	1:A:160:A:OP2	2.18	0.44
1:A:230:G:H2'	1:A:231:U:O4'	2.17	0.44
1:A:66:A:N6	1:A:67:C:N4	2.65	0.44
1:A:73:C:HO2'	1:A:74:A:P	2.39	0.44
4:D:148:LYS:CE	4:D:148:LYS:H	2.31	0.44
6:F:91:ARG:HG2	6:F:93:LYS:NZ	2.32	0.44
7:G:117:ALA:O	7:G:121:ALA:CB	2.66	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:51:ALA:HB1	7:G:57:SER:O	2.18	0.44
8:H:20:ALA:C	8:H:22:LYS:H	2.21	0.44
11:K:89:PRO:HD3	21:U:29:LEU:HD11	1.97	0.44
13:M:6:GLY:O	13:M:8:ASN:N	2.51	0.44
14:N:10:GLU:O	14:N:13:ARG:N	2.51	0.44
15:O:37:ASN:O	15:O:40:GLN:HB3	2.17	0.44
17:Q:46:VAL:HG12	17:Q:47:HIS:N	2.33	0.44
17:Q:60:GLU:HB3	17:Q:76:VAL:HG23	1.98	0.44
1:A:1004:A:H2'	1:A:1005:A:C8	2.52	0.44
1:A:110:C:C4	1:A:111:G:C5	3.06	0.44
1:A:1347:G:HO2'	1:A:1348:U:P	2.38	0.44
1:A:862:C:H2'	1:A:863:U:C6	2.52	0.44
1:A:954:G:N2	1:A:1228:C:N3	2.65	0.44
5:E:11:LEU:HG	5:E:12:GLN:N	2.33	0.44
8:H:104:VAL:HA	8:H:126:ILE:CD1	2.48	0.44
13:M:81:MET:O	13:M:82:ASP:C	2.56	0.44
20:T:67:ILE:HD13	20:T:67:ILE:HA	1.84	0.44
1:A:1073:U:H2'	1:A:1073:U:O2	2.17	0.44
1:A:1119:C:O2	1:A:1155:A:C2	2.71	0.44
1:A:1149:C:C4	1:A:1150:A:C6	3.05	0.44
1:A:1157:A:N6	1:A:1178:G:H1'	2.32	0.44
1:A:121:U:C3'	1:A:122:G:H5'	2.48	0.44
1:A:1126:U:N1	1:A:1281:C:C5	2.86	0.44
1:A:1288:A:N6	1:A:1289:A:N6	2.66	0.44
1:A:1304:G:O2'	1:A:1333:A:N6	2.33	0.44
1:A:1492:A:N7	1:A:1493:A:C2	2.86	0.44
1:A:260:G:C6	1:A:261:U:C4	3.06	0.44
1:A:455:G:C2	1:A:478:A:N1	2.86	0.44
1:A:483:C:H5''	1:A:484:G:OP2	2.17	0.44
1:A:715:A:H1'	1:A:777:A:C2	2.52	0.44
1:A:756:C:H2'	1:A:757:U:H5'	2.00	0.44
1:A:791:G:C5	1:A:792:A:N7	2.85	0.44
1:A:797:C:O2'	1:A:798:U:H5'	2.18	0.44
1:A:803:G:C6	1:A:804:U:N3	2.86	0.44
1:A:811:C:C5	1:A:812:G:C5	3.06	0.44
1:A:834:U:C2	1:A:835:U:C5	3.06	0.44
1:A:978:A:OP1	1:A:1361:G:N2	2.42	0.44
6:F:70:VAL:HG23	6:F:71:ILE:CD1	2.48	0.44
7:G:88:PRO:HD2	7:G:151:PHE:O	2.17	0.44
11:K:56:ARG:O	11:K:59:THR:HG23	2.17	0.44
11:K:30:THR:HG21	11:K:92:GLY:HA3	1.99	0.44
13:M:43:VAL:HG23	13:M:43:VAL:O	2.18	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:O:88:ARG:HG3	15:O:88:ARG:O	2.18	0.44
17:Q:4:LYS:HG2	17:Q:5:ILE:N	2.32	0.44
1:A:1004:A:C6	1:A:1005:A:N1	2.86	0.44
1:A:1077:G:N2	1:A:1080:A:OP2	2.50	0.44
1:A:1197:A:C2'	1:A:1198:G:H5'	2.47	0.44
1:A:147:G:C2	1:A:148:G:C6	3.06	0.44
1:A:173:U:H3'	1:A:174:A:H5'	1.99	0.44
1:A:327:A:C2	1:A:329:A:C4	3.05	0.44
1:A:438:U:C2	1:A:494:G:C6	3.06	0.44
1:A:711:G:N2	1:A:712:A:C4	2.86	0.44
1:A:774:G:C5	1:A:775:G:C8	3.06	0.44
1:A:960:U:O2'	1:A:1223:C:H4'	2.17	0.44
2:B:104:TRP:CH2	2:B:108:ARG:HD3	2.53	0.44
2:B:173:ILE:HG22	2:B:177:ASN:ND2	2.33	0.44
2:B:93:ASN:OD1	2:B:94:HIS:N	2.50	0.44
3:C:30:ALA:O	3:C:34:ASP:HB2	2.18	0.44
4:D:188:ARG:NH2	4:D:197:GLU:OE2	2.49	0.44
4:D:3:ARG:O	4:D:5:LEU:HD13	2.18	0.44
5:E:156:LYS:O	5:E:159:LYS:NZ	2.48	0.44
6:F:8:PHE:CD2	6:F:8:PHE:N	2.86	0.44
7:G:71:PRO:HD2	7:G:96:ARG:O	2.18	0.44
9:I:55:VAL:HG23	9:I:55:VAL:O	2.17	0.44
12:L:51:LYS:HD2	12:L:51:LYS:N	2.33	0.44
13:M:25:VAL:O	13:M:25:VAL:HG13	2.18	0.44
13:M:53:ILE:O	13:M:57:ARG:HB2	2.17	0.44
18:R:37:GLY:O	18:R:63:ARG:NH2	2.47	0.44
19:S:55:ARG:CZ	19:S:79:THR:CG2	2.95	0.44
20:T:32:ILE:CG1	20:T:54:MET:HE3	2.48	0.44
11:K:126:LYS:O	21:U:34:ARG:CZ	2.66	0.44
21:U:37:PHE:O	21:U:39:GLU:N	2.44	0.44
1:A:1213:A:C5	1:A:1215:G:C4	3.06	0.44
1:A:1345:U:H4'	1:A:1346:A:H5'	1.99	0.44
1:A:1462:C:H2'	1:A:1463:U:C6	2.53	0.44
1:A:1480:A:H2'	1:A:1481:U:O4'	2.18	0.44
1:A:237:G:C4	1:A:238:A:C8	3.06	0.44
1:A:246:A:N3	1:A:279:A:N6	2.65	0.44
1:A:552:U:C2	1:A:553:A:C8	3.05	0.44
1:A:73:C:O2'	1:A:74:A:P	2.76	0.44
1:A:781:A:OP2	23:A:1812:HOH:O	2.21	0.44
4:D:149:ALA:O	4:D:152:GLN:HB2	2.17	0.44
8:H:51:VAL:O	8:H:51:VAL:HG22	2.18	0.44
11:K:67:ALA:HB1	11:K:100:LEU:HD13	2.00	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:K:118:HIS:O	11:K:119:ASN:HB2	2.18	0.44
12:L:51:LYS:CD	12:L:51:LYS:N	2.81	0.44
13:M:85:CYS:HB3	19:S:74:PHE:CE2	2.52	0.44
1:A:1077:G:N2	1:A:1081:A:C4	2.86	0.43
1:A:1238:A:H2'	1:A:1241:G:H1'	1.99	0.43
1:A:1345:U:C2	1:A:1377:A:N1	2.86	0.43
1:A:971:G:N2	1:A:1363:A:C8	2.86	0.43
1:A:1537:U:C4	1:A:1538:C:C4	3.06	0.43
1:A:378:G:N2	1:A:386:C:O2	2.50	0.43
1:A:376:G:N3	1:A:389:A:C2	2.86	0.43
1:A:414:A:C6	1:A:415:A:C5	3.05	0.43
1:A:458:U:H2'	1:A:459:A:C8	2.53	0.43
1:A:35:G:C2	1:A:550:G:C2	3.06	0.43
1:A:57:G:C5	1:A:58:C:C4	3.05	0.43
1:A:635:A:C5	1:A:636:U:C5	3.06	0.43
2:B:60:ILE:HA	2:B:63:ARG:HB2	2.00	0.43
2:B:68:LEU:CD2	2:B:68:LEU:C	2.86	0.43
3:C:173:VAL:O	3:C:173:VAL:HG12	2.18	0.43
3:C:23:PHE:CG	3:C:24:ALA:N	2.85	0.43
4:D:129:VAL:O	4:D:129:VAL:HG13	2.17	0.43
1:A:8:A:N6	4:D:206:LYS:HG2	2.33	0.43
13:M:14:HIS:HB2	13:M:17:ILE:CD1	2.48	0.43
15:O:23:GLY:O	15:O:24:SER:C	2.57	0.43
16:P:19:VAL:HG12	16:P:37:GLY:CA	2.48	0.43
1:A:1321:U:C4	1:A:1322:C:H5	2.36	0.43
1:A:1361:G:H3'	1:A:1362:A:C5'	2.47	0.43
1:A:1494:G:C6	1:A:1495:U:C4	3.07	0.43
1:A:206:C:H2'	1:A:207:C:C5'	2.46	0.43
1:A:32:A:N3	1:A:33:A:C8	2.87	0.43
1:A:436:C:C2	1:A:437:U:C5	3.06	0.43
1:A:57:G:C6	1:A:58:C:C4	3.06	0.43
1:A:651:C:C4	1:A:652:U:O4	2.72	0.43
1:A:847:G:C2	1:A:848:C:C2	3.06	0.43
1:A:934:C:C5'	23:A:1827:HOH:O	2.65	0.43
4:D:32:CYS:SG	4:D:33:LYS:N	2.91	0.43
8:H:29:SER:HB2	8:H:59:LEU:HB2	2.00	0.43
8:H:78:VAL:HG12	8:H:79:SER:N	2.33	0.43
12:L:37:VAL:HG12	12:L:37:VAL:O	2.18	0.43
14:N:87:ALA:HA	14:N:92:GLU:HG3	2.00	0.43
1:A:135:C:O2	16:P:1:MET:HB2	2.18	0.43
17:Q:21:ILE:HG23	17:Q:21:ILE:O	2.18	0.43
17:Q:75:LEU:C	17:Q:75:LEU:CD1	2.87	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1005:A:N7	1:A:1006:G:C4	2.86	0.43
1:A:1018:G:O6	1:A:1019:A:N6	2.51	0.43
1:A:1158:C:C2'	1:A:1158:C:O2	2.66	0.43
1:A:1411:C:H2'	1:A:1412:C:C6	2.53	0.43
1:A:1496:C:H2'	1:A:1497:G:C1'	2.48	0.43
1:A:184:G:N2	1:A:185:U:C2	2.87	0.43
1:A:420:U:O2'	1:A:421:U:H5''	2.18	0.43
1:A:944:G:H5''	1:A:945:G:OP2	2.18	0.43
1:A:946:A:H2'	1:A:947:G:C8	2.53	0.43
2:B:206:ALA:O	2:B:207:ILE:C	2.56	0.43
5:E:104:GLY:HA3	5:E:122:ASN:O	2.18	0.43
5:E:12:GLN:OE1	5:E:12:GLN:HA	2.17	0.43
5:E:133:PRO:HA	5:E:136:VAL:HG13	2.00	0.43
8:H:95:VAL:O	8:H:99:LEU:O	2.36	0.43
20:T:32:ILE:HG12	20:T:54:MET:CE	2.47	0.43
1:A:1105:A:H2'	1:A:1106:G:H8	1.83	0.43
1:A:1211:U:H1'	1:A:1213:A:C2	2.53	0.43
1:A:1318:A:O2'	19:S:37:ARG:HD2	2.19	0.43
1:A:195:A:C6	1:A:196:A:N1	2.86	0.43
1:A:256:U:OP1	17:Q:19:LYS:NZ	2.40	0.43
1:A:409:U:H5'	4:D:25:VAL:HG23	2.00	0.43
1:A:718:A:H5'	11:K:119:ASN:ND2	2.33	0.43
1:A:718:A:OP2	1:A:720:C:N4	2.50	0.43
1:A:583:A:C6	1:A:759:A:N7	2.86	0.43
1:A:764:C:N4	1:A:765:G:C5	2.87	0.43
1:A:919:A:N1	1:A:920:U:C4	2.86	0.43
1:A:938:A:N6	1:A:939:G:C5	2.86	0.43
1:A:983:A:N3	1:A:983:A:H2'	2.33	0.43
10:J:80:THR:O	10:J:84:VAL:HG12	2.18	0.43
16:P:67:ILE:HG23	16:P:71:VAL:CG1	2.49	0.43
20:T:36:TYR:CG	20:T:37:ALA:N	2.87	0.43
1:A:1032:G:H2'	1:A:1032:G:N3	2.34	0.43
1:A:1141:C:HO2'	1:A:1142:G:C5'	2.30	0.43
1:A:947:G:N2	1:A:1235:U:O2	2.52	0.43
1:A:1255:G:C6	1:A:1279:G:C5	3.06	0.43
1:A:1424:U:H2'	1:A:1425:U:O4'	2.17	0.43
1:A:1459:G:H2'	1:A:1460:C:O4'	2.18	0.43
1:A:635:A:C5	1:A:636:U:C4	3.07	0.43
1:A:678:U:H2'	1:A:679:C:O4'	2.19	0.43
1:A:790:A:N6	1:A:791:G:C6	2.87	0.43
2:B:141:LEU:O	2:B:142:GLU:C	2.57	0.43
2:B:35:ARG:O	2:B:38:VAL:HG12	2.18	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:192:SER:HB2	4:D:195:ILE:HG12	2.01	0.43
9:I:24:GLY:N	9:I:61:LEU:HA	2.34	0.43
1:A:1126:U:O4	10:J:73:LEU:CD1	2.66	0.43
12:L:74:LEU:HD11	12:L:80:ILE:HG21	2.01	0.43
16:P:52:LEU:HD22	16:P:57:ILE:HD11	2.01	0.43
18:R:25:ASP:C	18:R:27:ALA:N	2.71	0.43
20:T:33:LYS:O	20:T:36:TYR:CE2	2.71	0.43
1:A:104:G:C2	1:A:105:G:C8	3.06	0.43
1:A:1306:A:H1'	1:A:1332:A:N7	2.34	0.43
1:A:129:A:H1'	1:A:130:A:C8	2.54	0.43
1:A:1316:G:N2	1:A:1318:A:H3'	2.33	0.43
1:A:1323:G:O2'	1:A:1362:A:N3	2.40	0.43
1:A:258:G:H2'	1:A:259:G:O4'	2.18	0.43
1:A:38:G:N2	1:A:397:A:C4	2.86	0.43
1:A:216:U:C5'	1:A:464:U:H4'	2.47	0.43
1:A:632:U:H5''	1:A:633:G:C8	2.54	0.43
1:A:671:G:C6	1:A:672:U:N3	2.86	0.43
1:A:794:A:H2'	1:A:795:C:C6	2.52	0.43
2:B:68:LEU:HG	2:B:154:MET:HE1	2.01	0.43
2:B:87:CYS:SG	2:B:89:GLN:OE1	2.76	0.43
4:D:138:SER:HB3	4:D:139:PRO:CD	2.48	0.43
5:E:133:PRO:HG2	5:E:134:ILE:HD12	2.00	0.43
7:G:42:ILE:CG2	7:G:116:MET:HG3	2.49	0.43
7:G:95:ARG:O	7:G:99:LEU:HG	2.19	0.43
10:J:8:ILE:CD1	10:J:25:ILE:HD11	2.48	0.43
1:A:1006:G:OP1	1:A:1038:C:C5'	2.66	0.43
1:A:110:C:N4	1:A:111:G:C6	2.86	0.43
1:A:1151:A:C2	1:A:1152:A:C4	3.07	0.43
1:A:1359:C:H2'	1:A:1361:G:OP2	2.18	0.43
1:A:924:C:O2'	1:A:1502:A:N1	2.44	0.43
1:A:68:G:O4'	1:A:171:A:H1'	2.19	0.43
1:A:322:C:O2	1:A:332:G:N2	2.43	0.43
1:A:538:G:H2'	1:A:539:A:O4'	2.18	0.43
1:A:643:C:C5'	8:H:32:LEU:CD2	2.97	0.43
1:A:963:G:C2	1:A:973:G:C6	3.06	0.43
2:B:16:PHE:CE1	2:B:18:HIS:CE1	3.06	0.43
3:C:111:LEU:N	3:C:111:LEU:CD2	2.82	0.43
6:F:52:ASN:O	6:F:53:LYS:HB2	2.19	0.43
9:I:25:ASN:O	9:I:27:LYS:HG2	2.18	0.43
11:K:18:ASP:CB	11:K:81:ASN:OD1	2.66	0.43
12:L:14:ARG:NH1	12:L:15:LYS:HG3	2.33	0.43
3:C:34:ASP:CG	14:N:65:ARG:HG2	2.39	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:39:GLU:HA	21:U:42:THR:OG1	2.19	0.43
1:A:1124:G:C2'	1:A:1145:A:H62	2.32	0.43
1:A:1375:A:C5	1:A:1376:U:C5	3.06	0.43
1:A:1412:C:O2	1:A:1413:A:C8	2.72	0.43
1:A:280:C:H4'	1:A:281:G:OP2	2.19	0.43
1:A:32:A:C2	1:A:33:A:N7	2.86	0.43
1:A:794:A:C5	1:A:795:C:C4	3.06	0.43
1:A:860:A:N6	1:A:861:G:C2	2.86	0.43
1:A:996:A:H2'	1:A:997:U:C5	2.54	0.43
7:G:49:THR:O	7:G:53:ARG:HD3	2.18	0.43
14:N:54:ASP:OD1	14:N:59:ARG:NH1	2.52	0.43
3:C:22:TRP:CH2	14:N:94:PRO:HG2	2.53	0.43
17:Q:14:SER:HB3	17:Q:22:VAL:HG12	2.01	0.43
19:S:16:LEU:O	19:S:20:GLU:HG2	2.17	0.43
1:A:1244:G:C2	1:A:1294:G:C2	3.07	0.43
1:A:1362:A:H4'	1:A:1362:A:OP1	2.19	0.43
1:A:1402:C:H2'	1:A:1403:C:O4'	2.19	0.43
1:A:1435:G:H2'	1:A:1436:U:C6	2.54	0.43
1:A:1520:C:H2'	1:A:1521:C:C6	2.54	0.43
1:A:206:C:H2'	1:A:207:C:C4'	2.49	0.43
1:A:439:U:H4'	4:D:121:LYS:HE3	2.01	0.43
1:A:84:U:O2'	1:A:85:U:H5'	2.18	0.43
2:B:164:ILE:O	2:B:186:ILE:HG23	2.19	0.43
2:B:21:ARG:HH12	2:B:39:HIS:CD2	2.37	0.43
2:B:32:PHE:N	2:B:40:ILE:O	2.46	0.43
2:B:70:VAL:O	2:B:164:ILE:HG22	2.18	0.43
7:G:33:ASP:HB3	7:G:35:LYS:HE3	2.00	0.43
9:I:54:LEU:C	9:I:55:VAL:HG13	2.39	0.43
15:O:46:HIS:O	15:O:48:LYS:N	2.41	0.43
1:A:1074:G:O2'	2:B:102:THR:HG23	2.18	0.43
1:A:1262:C:N4	1:A:1263:C:N4	2.67	0.43
1:A:978:A:C6	1:A:1318:A:N6	2.86	0.43
1:A:179:A:C5	1:A:180:U:C4	3.06	0.43
1:A:302:G:C6	1:A:303:A:C5	3.07	0.43
1:A:314:C:N4	1:A:315:A:N6	2.66	0.43
1:A:328:C:O2	1:A:328:C:O2'	2.34	0.43
1:A:320:A:C2	1:A:334:C:N3	2.87	0.43
1:A:363:A:OP1	12:L:31:ARG:N	2.51	0.43
1:A:484:G:N7	1:A:486:U:C1'	2.82	0.43
1:A:992:U:O4	1:A:1044:A:C8	2.72	0.43
3:C:119:SER:O	3:C:123:GLN:HG3	2.19	0.43
1:A:1112:C:O2	3:C:179:ARG:HG3	2.19	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:25:ASN:O	3:C:29:PHE:HB2	2.18	0.43
4:D:9:LEU:HD22	4:D:22:LYS:HD2	2.01	0.43
5:E:154:ALA:O	5:E:156:LYS:N	2.52	0.43
5:E:20:ARG:NH2	5:E:31:PHE:CZ	2.87	0.43
6:F:37:HIS:O	6:F:97:THR:HG23	2.19	0.43
9:I:28:ILE:HB	9:I:35:LEU:HB2	2.01	0.43
9:I:49:ARG:C	9:I:51:PRO:HD2	2.38	0.43
10:J:27:GLU:O	10:J:31:ARG:HB3	2.18	0.43
12:L:44:LYS:HB3	12:L:45:PRO:CD	2.48	0.43
13:M:48:LEU:HD22	13:M:53:ILE:HG13	2.01	0.43
13:M:64:VAL:O	13:M:69:LEU:HB2	2.18	0.43
14:N:25:ALA:O	14:N:28:LYS:HG2	2.19	0.43
14:N:64:CYS:SG	14:N:83:LYS:HG3	2.59	0.43
16:P:6:LEU:CD1	16:P:71:VAL:HG23	2.49	0.43
1:A:957:U:H4'	19:S:79:THR:O	2.19	0.43
21:U:34:ARG:HD3	21:U:35:ARG:HB3	2.00	0.43
1:A:108:G:C6	20:T:10:ARG:HG2	2.54	0.42
1:A:1134:G:C6	1:A:1141:C:N4	2.87	0.42
1:A:124:C:N4	1:A:125:U:O4	2.52	0.42
1:A:1317:C:H2'	1:A:1318:A:O5'	2.19	0.42
1:A:1537:U:C5	1:A:1538:C:N4	2.87	0.42
1:A:392:C:C2	1:A:393:A:C8	3.07	0.42
1:A:411:A:H4'	1:A:412:A:O5'	2.18	0.42
1:A:793:U:HO2'	1:A:1516:G:C2'	2.29	0.42
1:A:81:A:N1	1:A:88:U:O4	2.52	0.42
2:B:140:GLU:O	2:B:141:LEU:C	2.56	0.42
4:D:142:VAL:CG1	4:D:181:THR:OG1	2.67	0.42
4:D:170:TRP:O	4:D:183:LYS:HB2	2.19	0.42
4:D:90:LEU:CD2	4:D:200:ILE:HD11	2.49	0.42
7:G:51:ALA:HB2	7:G:58:GLU:HA	2.00	0.42
10:J:17:LEU:HD21	10:J:96:VAL:HG22	2.00	0.42
14:N:21:PHE:CD2	14:N:25:ALA:HB2	2.54	0.42
17:Q:21:ILE:HB	17:Q:48:ASP:OD1	2.18	0.42
18:R:33:ILE:CA	18:R:40:VAL:HG23	2.47	0.42
21:U:26:ALA:O	21:U:27:GLY:C	2.56	0.42
1:A:1179:A:H2'	1:A:1180:A:O4'	2.19	0.42
1:A:1115:U:O2	1:A:1186:G:C2	2.72	0.42
1:A:959:A:C2	1:A:1222:G:O4'	2.72	0.42
1:A:954:G:C2	1:A:1228:C:N3	2.87	0.42
1:A:978:A:P	1:A:1362:A:N6	2.92	0.42
1:A:158:G:C6	1:A:164:G:C5	3.07	0.42
1:A:297:G:N2	1:A:300:A:OP2	2.47	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:405:U:OP2	4:D:3:ARG:NH1	2.52	0.42
1:A:466:A:C2	1:A:468:A:N7	2.88	0.42
1:A:519:C:C4	1:A:520:A:C6	3.07	0.42
1:A:542:G:C2	1:A:543:U:C6	3.08	0.42
1:A:552:U:N3	1:A:553:A:N7	2.67	0.42
1:A:671:G:C2	1:A:672:U:C2	3.07	0.42
1:A:6:G:H4'	1:A:298:A:H4'	2.01	0.42
1:A:866:C:C4	1:A:867:G:H1'	2.54	0.42
2:B:25:PRO:O	2:B:28:LYS:HB2	2.19	0.42
3:C:40:ARG:NH1	3:C:55:ILE:HG13	2.34	0.42
6:F:92:THR:HG22	6:F:93:LYS:N	2.34	0.42
9:I:47:VAL:O	9:I:80:ARG:HG3	2.19	0.42
13:M:22:ILE:HB	13:M:25:VAL:HG12	2.00	0.42
14:N:31:ILE:HD12	14:N:31:ILE:N	2.34	0.42
15:O:67:LEU:O	15:O:70:LEU:N	2.52	0.42
17:Q:15:ASP:HA	17:Q:21:ILE:HD12	2.01	0.42
19:S:66:MET:O	19:S:68:GLY:N	2.53	0.42
1:A:1000:A:N3	1:A:1041:G:N2	2.67	0.42
1:A:1087:G:N2	1:A:1099:G:H1'	2.35	0.42
1:A:1144:G:N2	1:A:1145:A:C2	2.87	0.42
1:A:1362:A:C4'	1:A:1362:A:OP1	2.67	0.42
1:A:189:A:N7	1:A:190:A:C5	2.88	0.42
1:A:270:A:H2'	1:A:271:C:C6	2.54	0.42
1:A:456:A:H2'	1:A:457:G:O4'	2.19	0.42
1:A:623:C:C4	1:A:624:C:C5	3.07	0.42
1:A:662:U:H2'	1:A:663:A:C8	2.55	0.42
1:A:853:C:C2	1:A:854:U:C6	3.06	0.42
1:A:244:U:O4	1:A:906:A:H1'	2.18	0.42
2:B:21:ARG:NE	2:B:21:ARG:HA	2.32	0.42
6:F:3:HIS:O	6:F:92:THR:HA	2.19	0.42
11:K:116:ILE:HG22	11:K:116:ILE:O	2.19	0.42
13:M:4:ILE:HG22	13:M:53:ILE:CG2	2.48	0.42
14:N:87:ALA:HB1	14:N:92:GLU:CB	2.49	0.42
16:P:42:ILE:O	16:P:43:ALA:HB3	2.19	0.42
20:T:84:ASN:O	20:T:84:ASN:ND2	2.53	0.42
21:U:14:VAL:CG1	21:U:15:ALA:N	2.82	0.42
1:A:1317:C:C4	14:N:53:ARG:HD2	2.54	0.42
1:A:47:C:H4'	1:A:48:C:OP1	2.20	0.42
1:A:57:G:H2'	1:A:58:C:C6	2.55	0.42
2:B:86:SER:O	2:B:87:CYS:O	2.36	0.42
3:C:141:ALA:O	3:C:146:ALA:HB3	2.18	0.42
3:C:147:LYS:HB2	3:C:203:PHE:CD2	2.54	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:145:ILE:HG22	4:D:146:ARG:O	2.19	0.42
7:G:130:ASN:HA	7:G:135:VAL:HG11	2.00	0.42
7:G:40:GLU:HA	7:G:43:VAL:HB	2.01	0.42
11:K:127:ARG:O	21:U:34:ARG:NH1	2.40	0.42
12:L:30:LYS:O	12:L:81:LEU:HD12	2.19	0.42
17:Q:46:VAL:HG11	17:Q:61:ILE:CG1	2.49	0.42
18:R:57:ARG:HG2	18:R:58:ALA:N	2.34	0.42
19:S:44:MET:HE1	19:S:71:LEU:HD21	2.00	0.42
20:T:58:VAL:CG1	20:T:72:ALA:HB1	2.49	0.42
20:T:69:LYS:HD2	20:T:70:ASN:OD1	2.19	0.42
21:U:11:PRO:C	21:U:12:PHE:CG	2.93	0.42
1:A:1300:G:C6	1:A:1335:U:C5	3.07	0.42
1:A:135:C:O2	16:P:1:MET:CB	2.68	0.42
1:A:756:C:N3	1:A:757:U:C6	2.88	0.42
2:B:131:LYS:HA	2:B:131:LYS:HE2	2.02	0.42
2:B:62:SER:C	2:B:64:LYS:N	2.73	0.42
1:A:532:A:N6	3:C:192:THR:OG1	2.53	0.42
5:E:122:ASN:ND2	5:E:123:VAL:N	2.68	0.42
6:F:18:VAL:HB	6:F:19:PRO:HD3	2.01	0.42
8:H:104:VAL:HA	8:H:126:ILE:HD12	2.01	0.42
11:K:126:LYS:O	11:K:127:ARG:CB	2.68	0.42
12:L:108:LYS:O	12:L:109:ASP:HB2	2.20	0.42
1:A:1036:A:H3'	1:A:1037:C:C6	2.54	0.42
1:A:1139:G:O6	1:A:1143:G:N2	2.52	0.42
1:A:1175:G:O6	1:A:1182:G:O6	2.37	0.42
1:A:1349:A:OP1	9:I:123:ARG:N	2.52	0.42
1:A:411:A:C6	1:A:429:U:C4	3.07	0.42
1:A:41:G:H2'	1:A:42:G:C8	2.55	0.42
1:A:445:G:C2	1:A:490:C:C2	3.07	0.42
1:A:689:C:H2'	1:A:690:G:O4'	2.19	0.42
1:A:72:A:N6	1:A:73:C:H42	2.18	0.42
1:A:833:G:O2'	1:A:834:U:H5'	2.19	0.42
1:A:899:C:H6	1:A:899:C:OP1	2.02	0.42
4:D:198:HIS:CE1	4:D:199:LEU:CD2	3.03	0.42
4:D:4:TYR:CZ	4:D:6:GLY:HA3	2.54	0.42
4:D:53:VAL:CG2	4:D:54:GLN:N	2.82	0.42
5:E:122:ASN:ND2	5:E:123:VAL:H	2.17	0.42
5:E:57:PRO:O	5:E:60:ILE:HG13	2.18	0.42
6:F:64:VAL:HG12	6:F:65:GLU:H	1.85	0.42
6:F:86:ARG:HD3	18:R:64:TYR:CE1	2.54	0.42
9:I:130:ARG:HD2	9:I:130:ARG:HA	1.82	0.42
13:M:45:ILE:O	13:M:45:ILE:HG22	2.20	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:N:46:LEU:HD23	19:S:10:PHE:HB2	2.02	0.42
21:U:14:VAL:O	21:U:16:LEU:CG	2.66	0.42
1:A:1261:A:C6	1:A:1275:A:C4	3.08	0.42
1:A:1286:U:H2'	1:A:1286:U:O2	2.18	0.42
1:A:1291:U:H4'	9:I:42:GLU:HG2	2.01	0.42
1:A:1377:A:C4	7:G:7:ILE:HD11	2.54	0.42
1:A:210:C:OP1	1:A:211:G:OP1	2.37	0.42
1:A:408:A:H2'	1:A:409:U:O4'	2.19	0.42
1:A:509:A:N3	1:A:543:U:O2'	2.46	0.42
1:A:599:C:H4'	8:H:122:GLY:C	2.40	0.42
1:A:609:A:C5	1:A:610:U:C6	3.07	0.42
1:A:927:G:OP2	1:A:927:G:H4'	2.20	0.42
1:A:994:A:C2	1:A:995:C:C1'	3.02	0.42
2:B:71:GLY:HA3	2:B:164:ILE:CG2	2.50	0.42
2:B:217:VAL:O	2:B:220:THR:HG22	2.20	0.42
3:C:179:ARG:HD2	3:C:179:ARG:C	2.40	0.42
3:C:75:ILE:CG1	3:C:75:ILE:O	2.68	0.42
5:E:126:LYS:CE	5:E:126:LYS:HA	2.49	0.42
7:G:43:VAL:HG12	7:G:44:TYR:CD1	2.55	0.42
11:K:15:GLN:OE1	11:K:17:SER:N	2.53	0.42
11:K:77:TYR:O	11:K:78:GLY:C	2.58	0.42
12:L:110:ARG:NE	12:L:117:TYR:CD2	2.88	0.42
13:M:14:HIS:HB2	13:M:17:ILE:HD12	2.01	0.42
1:A:1130:A:C8	1:A:1146:A:N1	2.88	0.42
1:A:1132:C:H2'	1:A:1133:G:C1'	2.50	0.42
1:A:1269:A:H1'	1:A:1326:U:H1'	2.02	0.42
1:A:155:A:C2	1:A:167:A:C4	3.08	0.42
1:A:337:G:H2'	1:A:338:A:C8	2.55	0.42
1:A:409:U:C4	1:A:410:G:C5	3.08	0.42
1:A:728:A:C2	1:A:729:A:C4	3.08	0.42
4:D:119:SER:O	4:D:131:ASN:OD1	2.38	0.42
4:D:169:THR:HG22	4:D:184:ARG:NH2	2.34	0.42
4:D:59:GLN:OE1	4:D:59:GLN:CA	2.64	0.42
5:E:157:ARG:C	5:E:159:LYS:N	2.72	0.42
6:F:12:PRO:O	6:F:15:SER:OG	2.23	0.42
7:G:4:ARG:HG3	7:G:5:ARG:N	2.35	0.42
18:R:42:SER:HB2	18:R:46:GLY:O	2.19	0.42
19:S:44:MET:CB	19:S:62:VAL:HG11	2.50	0.42
1:A:1070:U:O2	1:A:1071:C:C6	2.73	0.42
1:A:1130:A:N9	1:A:1146:A:C2	2.87	0.42
1:A:1530:G:H2'	1:A:1531:A:C8	2.54	0.42
1:A:373:A:N3	1:A:374:A:C8	2.88	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:780:A:N3	1:A:803:G:C2	2.88	0.42
2:B:30:PHE:CD1	2:B:30:PHE:N	2.85	0.42
2:B:82:ASP:N	2:B:85:LEU:HB3	2.35	0.42
10:J:73:LEU:C	10:J:73:LEU:HD23	2.40	0.42
18:R:45:THR:OG1	18:R:47:THR:HG23	2.20	0.42
6:F:59:TYR:CE2	18:R:67:LEU:CD2	3.03	0.42
1:A:1221:G:O3'	19:S:77:THR:HB	2.20	0.42
20:T:79:LEU:O	20:T:83:ILE:HG23	2.20	0.42
1:A:1280:A:O4'	10:J:43:PRO:HG3	2.19	0.42
1:A:68:G:N2	1:A:152:A:H1'	2.35	0.42
1:A:457:G:C5	1:A:458:U:C4	3.08	0.42
1:A:801:U:N3	1:A:802:A:N7	2.68	0.42
1:A:91:U:C4	1:A:92:U:C4	3.08	0.42
1:A:990:C:C4	1:A:991:U:O4	2.73	0.42
2:B:68:LEU:HD12	2:B:158:PRO:CG	2.50	0.42
2:B:187:VAL:HG22	2:B:187:VAL:O	2.20	0.42
2:B:207:ILE:HG12	2:B:208:ARG:N	2.35	0.42
2:B:73:LYS:O	2:B:74:ARG:C	2.57	0.42
3:C:167:TRP:HE3	3:C:167:TRP:C	2.23	0.42
6:F:45:ARG:HD2	6:F:59:TYR:CD2	2.54	0.42
1:A:1240:U:O4	7:G:30:LEU:HG	2.20	0.42
9:I:21:ILE:O	9:I:21:ILE:HG22	2.20	0.42
1:A:1359:C:OP2	14:N:75:ARG:NH1	2.53	0.42
19:S:74:PHE:CD1	19:S:74:PHE:N	2.87	0.42
1:A:1022:A:C5	1:A:1023:U:C5	3.08	0.41
1:A:1144:G:C2	1:A:1145:A:C2	3.07	0.41
1:A:1225:A:N3	1:A:1225:A:C2'	2.83	0.41
1:A:1298:U:H4'	1:A:1299:A:C4	2.54	0.41
1:A:978:A:O5'	1:A:1362:A:N6	2.51	0.41
1:A:247:G:C6	1:A:278:G:C2	3.08	0.41
1:A:451:A:OP2	16:P:70:ARG:NH2	2.48	0.41
1:A:459:A:C2	1:A:460:A:C5	3.08	0.41
1:A:570:G:C4	1:A:571:U:C5	3.08	0.41
1:A:919:A:C2	1:A:920:U:C6	3.08	0.41
2:B:55:ALA:O	2:B:59:LYS:HB2	2.20	0.41
6:F:25:TYR:CD2	6:F:25:TYR:N	2.84	0.41
9:I:26:GLY:CA	9:I:61:LEU:O	2.68	0.41
10:J:81:GLU:HA	10:J:84:VAL:HG12	2.02	0.41
13:M:46:SER:O	13:M:47:GLU:HB3	2.19	0.41
14:N:58:SER:O	14:N:59:ARG:HG3	2.20	0.41
16:P:71:VAL:O	16:P:75:ILE:HD12	2.21	0.41
17:Q:15:ASP:O	17:Q:17:MET:N	2.51	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:T:54:MET:CE	20:T:58:VAL:HG21	2.50	0.41
1:A:1261:A:C2	1:A:1262:C:C5	3.08	0.41
1:A:1282:C:O2	1:A:1282:C:H2'	2.19	0.41
1:A:1282:C:N3	1:A:1283:U:C4	2.88	0.41
1:A:1289:A:O2'	7:G:35:LYS:HE2	2.20	0.41
1:A:1408:A:C2	1:A:1494:G:C2	3.08	0.41
1:A:1516:G:C2	1:A:1518:A:OP2	2.73	0.41
1:A:313:A:H2'	1:A:314:C:C6	2.55	0.41
1:A:50:A:H1'	1:A:52:C:O4'	2.20	0.41
2:B:18:HIS:O	2:B:19:GLN:HB2	2.19	0.41
2:B:57:LEU:O	2:B:60:ILE:CD1	2.68	0.41
3:C:81:GLY:O	3:C:82:GLU:C	2.59	0.41
4:D:53:VAL:O	4:D:54:GLN:C	2.58	0.41
5:E:104:GLY:HA3	5:E:122:ASN:HA	2.01	0.41
6:F:38:ARG:HG3	6:F:63:ASN:HB2	2.00	0.41
7:G:22:LEU:HG	7:G:25:LYS:HE2	2.02	0.41
9:I:15:SER:OG	9:I:70:GLY:HA3	2.19	0.41
11:K:89:PRO:HD3	21:U:29:LEU:CD1	2.51	0.41
12:L:90:LEU:HB2	12:L:93:VAL:CG2	2.49	0.41
16:P:78:VAL:O	16:P:78:VAL:HG22	2.20	0.41
18:R:72:ASP:C	18:R:73:ARG:HG2	2.41	0.41
1:A:1095:U:N3	1:A:1096:C:C4	2.88	0.41
1:A:1159:U:H5''	1:A:1159:U:O2	2.19	0.41
1:A:977:A:O2'	1:A:1223:C:N4	2.52	0.41
1:A:1243:C:H2'	1:A:1244:G:C8	2.56	0.41
1:A:1262:C:N4	1:A:1263:C:C4	2.88	0.41
1:A:1300:G:N1	1:A:1335:U:C6	2.88	0.41
1:A:1394:A:H2'	1:A:1501:C:O2'	2.20	0.41
1:A:28:A:H2'	1:A:29:U:O4'	2.20	0.41
1:A:436:C:H2'	1:A:437:U:C6	2.55	0.41
1:A:743:A:C5	1:A:744:C:C5	3.08	0.41
1:A:75:G:N2	1:A:96:U:H1'	2.34	0.41
1:A:785:G:N3	1:A:785:G:H2'	2.34	0.41
1:A:842:U:O2'	1:A:846:G:C6	2.73	0.41
1:A:857:C:H2'	1:A:858:G:O4'	2.20	0.41
1:A:926:G:C6	1:A:1505:G:C6	3.08	0.41
1:A:980:C:OP1	23:A:1866:HOH:O	2.22	0.41
1:A:401:C:OP2	4:D:70:ARG:HD3	2.20	0.41
5:E:38:VAL:HG12	5:E:39:VAL:N	2.36	0.41
9:I:51:PRO:HG2	9:I:83:ILE:HD12	2.02	0.41
15:O:35:GLN:NE2	15:O:39:LEU:CD2	2.83	0.41
1:A:1458:G:O3'	20:T:23:SER:HA	2.20	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:T:30:THR:O	20:T:34:LYS:HG2	2.20	0.41
1:A:312:C:H2'	1:A:313:A:O4'	2.21	0.41
1:A:373:A:C2'	1:A:374:A:H5'	2.50	0.41
1:A:496:A:N3	1:A:496:A:H2'	2.35	0.41
1:A:545:C:O2'	1:A:549:C:H5''	2.20	0.41
1:A:64:G:N2	1:A:67:C:C4	2.89	0.41
1:A:64:G:C2	1:A:67:C:N4	2.88	0.41
1:A:821:G:H2'	1:A:822:U:C6	2.54	0.41
1:A:878:A:C5	1:A:879:C:C5	3.08	0.41
2:B:60:ILE:HD12	2:B:61:ALA:N	2.36	0.41
3:C:101:ILE:O	3:C:101:ILE:HG23	2.20	0.41
3:C:153:VAL:HG23	3:C:196:ILE:CG2	2.50	0.41
4:D:168:PRO:HB3	4:D:171:LEU:HD12	2.00	0.41
4:D:188:ARG:O	4:D:191:LEU:HD12	2.21	0.41
5:E:15:LEU:C	5:E:16:ILE:HD12	2.41	0.41
10:J:91:ASP:O	10:J:92:LEU:CB	2.68	0.41
12:L:90:LEU:HB2	12:L:93:VAL:HG21	2.02	0.41
13:M:19:LEU:CD1	13:M:33:ILE:HB	2.50	0.41
17:Q:48:ASP:O	17:Q:49:GLU:C	2.57	0.41
11:K:112:ASP:HB3	21:U:20:LYS:HE3	2.02	0.41
1:A:1186:G:H4'	9:I:112:GLU:CD	2.41	0.41
1:A:1332:A:H2'	1:A:1333:A:O4'	2.21	0.41
1:A:406:G:C2	1:A:407:U:C6	3.09	0.41
1:A:456:A:C6	1:A:457:G:C5	3.09	0.41
1:A:66:A:C4'	1:A:173:U:C4	3.03	0.41
1:A:858:G:N7	1:A:869:G:N7	2.69	0.41
2:B:111:ILE:O	2:B:114:LEU:HB3	2.21	0.41
1:A:429:U:O3'	4:D:22:LYS:HE3	2.20	0.41
4:D:57:GLU:OE1	4:D:57:GLU:HA	2.20	0.41
7:G:92:ARG:HA	7:G:92:ARG:HE	1.84	0.41
14:N:31:ILE:HG22	14:N:32:SER:N	2.36	0.41
17:Q:13:VAL:CG1	17:Q:22:VAL:HG13	2.50	0.41
21:U:4:ILE:HA	21:U:20:LYS:HZ1	1.84	0.41
1:A:1088:G:C4	1:A:1089:G:C8	3.08	0.41
1:A:1089:G:C2	1:A:1090:U:H1'	2.56	0.41
1:A:1106:G:N2	1:A:1107:C:C2	2.89	0.41
1:A:1269:A:N7	1:A:1270:G:H1'	2.35	0.41
1:A:1346:A:O3'	1:A:1347:G:H4'	2.21	0.41
1:A:1431:A:C6	1:A:1432:G:N1	2.89	0.41
1:A:144:G:C4	1:A:179:A:C2	3.09	0.41
1:A:560:A:N7	1:A:566:G:C4	2.89	0.41
1:A:846:G:H2'	1:A:846:G:N3	2.35	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:150:LYS:O	4:D:152:GLN:OE1	2.39	0.41
4:D:50:ASP:O	4:D:53:VAL:HG22	2.20	0.41
5:E:38:VAL:HG12	5:E:117:VAL:CG2	2.50	0.41
6:F:55:HIS:O	6:F:56:LYS:O	2.37	0.41
9:I:118:LEU:N	9:I:118:LEU:CD1	2.84	0.41
9:I:35:LEU:HD21	9:I:48:VAL:HG21	2.02	0.41
19:S:79:THR:OG1	19:S:79:THR:O	2.33	0.41
20:T:33:LYS:HA	20:T:36:TYR:HD2	1.86	0.41
1:A:1000:A:H3'	1:A:1001:C:C6	2.56	0.41
1:A:164:G:H2'	1:A:164:G:N3	2.35	0.41
1:A:257:G:C2	1:A:270:A:C6	3.08	0.41
1:A:382:A:H2'	1:A:383:A:C8	2.55	0.41
1:A:587:G:H4'	8:H:4:GLN:HA	2.03	0.41
1:A:792:A:H1'	1:A:794:A:N7	2.35	0.41
1:A:79:G:N2	1:A:91:U:O2	2.54	0.41
1:A:972:C:H4'	10:J:59:LYS:CG	2.50	0.41
2:B:115:LYS:HA	2:B:118:GLU:HG2	2.03	0.41
2:B:87:CYS:SG	2:B:89:GLN:NE2	2.94	0.41
4:D:76:TYR:O	4:D:77:LYS:C	2.58	0.41
7:G:133:THR:HA	7:G:136:LYS:HB3	2.03	0.41
10:J:78:GLU:HA	10:J:79:PRO:HD3	1.89	0.41
11:K:52:PHE:CE2	11:K:62:ALA:HB1	2.55	0.41
13:M:22:ILE:HG22	13:M:23:TYR:N	2.36	0.41
13:M:81:MET:O	13:M:83:LEU:N	2.53	0.41
15:O:43:PHE:CZ	15:O:53:ARG:HA	2.56	0.41
18:R:20:GLU:O	18:R:21:ILE:C	2.57	0.41
1:A:101:A:C5	1:A:102:G:N7	2.88	0.41
1:A:375:U:C4	1:A:376:G:N7	2.89	0.41
1:A:40:C:H2'	1:A:41:G:O4'	2.20	0.41
1:A:414:A:N1	1:A:415:A:C4	2.89	0.41
1:A:834:U:H2'	1:A:835:U:C6	2.56	0.41
1:A:913:A:H4'	1:A:914:A:H4'	2.03	0.41
3:C:179:ARG:O	3:C:206:GLU:O	2.38	0.41
4:D:149:ALA:O	4:D:150:LYS:C	2.56	0.41
4:D:153:SER:O	4:D:154:ARG:C	2.58	0.41
5:E:134:ILE:HD12	5:E:134:ILE:H	1.85	0.41
5:E:153:VAL:HG23	5:E:153:VAL:O	2.20	0.41
5:E:36:LEU:HD21	5:E:137:VAL:CG1	2.50	0.41
8:H:78:VAL:N	8:H:126:ILE:O	2.51	0.41
9:I:13:LYS:O	9:I:14:SER:CB	2.69	0.41
11:K:100:LEU:O	11:K:101:ASN:C	2.59	0.41
20:T:44:LYS:HB3	20:T:87:ALA:HB1	2.02	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1055:A:C5	1:A:1206:G:C6	3.09	0.41
1:A:1090:U:H2'	1:A:1091:U:C6	2.56	0.41
1:A:1092:A:C2	1:A:1183:U:C2	3.09	0.41
1:A:1261:A:N6	1:A:1275:A:N9	2.68	0.41
1:A:1293:C:H2'	1:A:1294:G:O4'	2.21	0.41
1:A:1428:A:N1	1:A:1473:G:C6	2.89	0.41
1:A:228:A:H2'	1:A:229:U:O4'	2.21	0.41
1:A:243:A:C2	1:A:246:A:C8	3.08	0.41
1:A:49:U:O4	1:A:365:U:H5	2.03	0.41
1:A:4:U:C2'	1:A:4:U:O2	2.68	0.41
1:A:69:G:H5'	1:A:70:U:OP1	2.20	0.41
2:B:94:HIS:CG	2:B:95:ARG:NH2	2.89	0.41
3:C:50:ALA:O	3:C:51:SER:HB2	2.21	0.41
4:D:152:GLN:OE1	4:D:152:GLN:N	2.53	0.41
4:D:58:LYS:HG3	4:D:59:GLN:N	2.36	0.41
9:I:71:GLY:O	9:I:75:GLN:N	2.46	0.41
1:A:684:U:O2	11:K:41:ALA:HB3	2.21	0.41
12:L:43:LYS:O	12:L:44:LYS:O	2.39	0.41
12:L:72:HIS:ND1	12:L:72:HIS:O	2.54	0.41
15:O:60:VAL:O	15:O:63:ARG:HB3	2.20	0.41
20:T:39:ILE:HD11	20:T:83:ILE:CG2	2.51	0.41
1:A:1183:U:C2'	1:A:1184:G:OP1	2.69	0.41
1:A:1219:A:C6	1:A:1220:G:C6	3.09	0.41
1:A:1327:C:N4	1:A:1328:C:N4	2.68	0.41
1:A:1412:C:C2	1:A:1413:A:C8	3.09	0.41
1:A:186:C:O2	1:A:186:C:H2'	2.21	0.41
1:A:243:A:C2	1:A:245:U:C2	3.09	0.41
1:A:109:A:N1	1:A:327:A:C6	2.88	0.41
1:A:463:U:H5'	1:A:464:U:OP2	2.21	0.41
1:A:671:G:O2'	1:A:672:U:H5'	2.21	0.41
1:A:867:G:C5	1:A:868:C:C5	3.08	0.41
1:A:929:G:C5	1:A:930:C:C5	3.08	0.41
1:A:976:G:C8	1:A:1361:G:O6	2.74	0.41
3:C:134:MET:SD	3:C:153:VAL:HG12	2.60	0.41
3:C:13:GLY:C	3:C:14:ILE:HD13	2.41	0.41
3:C:167:TRP:C	3:C:167:TRP:CE3	2.94	0.41
3:C:23:PHE:CD2	10:J:97:ASP:HB2	2.56	0.41
3:C:64:ILE:HG23	3:C:99:ALA:HB2	2.02	0.41
5:E:156:LYS:HD3	8:H:71:VAL:HG13	2.03	0.41
6:F:88:MET:SD	6:F:90:MET:SD	3.19	0.41
12:L:38:TYR:O	12:L:39:THR:HG23	2.21	0.41
13:M:22:ILE:HB	13:M:25:VAL:CG1	2.51	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:34:LEU:HD22	13:M:39:ILE:HG21	2.02	0.41
15:O:41:GLY:O	15:O:42:HIS:C	2.59	0.41
16:P:28:ARG:CG	16:P:29:ASN:N	2.84	0.41
16:P:4:ILE:CD1	16:P:65:ALA:HB1	2.51	0.41
21:U:15:ALA:O	21:U:16:LEU:C	2.59	0.41
21:U:4:ILE:N	21:U:19:PHE:CE1	2.89	0.41
1:A:1072:G:C4	1:A:1104:G:N2	2.89	0.41
1:A:1263:C:C5	1:A:1264:U:C5	3.09	0.41
1:A:1502:A:C8	1:A:1504:G:C4	3.09	0.41
1:A:263:A:P	20:T:74:ARG:NH1	2.94	0.41
1:A:748:G:C2	1:A:749:A:C5	3.09	0.41
1:A:74:A:C2	1:A:75:G:C8	3.09	0.41
1:A:822:U:C2	1:A:823:C:C5	3.08	0.41
1:A:77:A:C2	1:A:93:U:N3	2.89	0.41
1:A:9:G:C2	1:A:10:A:C8	3.08	0.41
2:B:102:THR:HA	2:B:179:LEU:HD21	2.01	0.41
2:B:199:VAL:C	2:B:200:ILE:HD12	2.41	0.41
2:B:207:ILE:O	2:B:210:VAL:HG13	2.21	0.41
5:E:83:HIS:HB2	5:E:84:PRO:HD2	2.01	0.41
6:F:51:ILE:O	6:F:51:ILE:HG12	2.21	0.41
6:F:70:VAL:HG23	6:F:71:ILE:HD12	2.01	0.41
7:G:71:PRO:HD2	7:G:96:ARG:HG2	2.03	0.41
11:K:36:ASP:CG	11:K:40:ASN:HB2	2.42	0.41
16:P:39:PHE:O	16:P:41:PRO:HD3	2.21	0.41
17:Q:52:GLU:CD	17:Q:75:LEU:HD21	2.42	0.41
1:A:1049:U:OP1	23:A:1846:HOH:O	2.21	0.40
1:A:1049:U:H4'	1:A:1050:G:O5'	2.20	0.40
1:A:1244:G:H2'	1:A:1245:C:C6	2.56	0.40
1:A:189:A:N6	1:A:190:A:C2	2.89	0.40
1:A:128:G:C2	1:A:234:C:C2	3.09	0.40
1:A:243:A:C5	1:A:281:G:N2	2.90	0.40
1:A:263:A:OP1	20:T:74:ARG:NH1	2.53	0.40
1:A:453:G:H2'	1:A:454:G:C8	2.56	0.40
1:A:782:A:C5	1:A:801:U:N3	2.89	0.40
1:A:793:U:HO2'	1:A:1516:G:C1'	2.34	0.40
1:A:799:G:C6	1:A:800:G:C4	3.09	0.40
1:A:923:A:H2'	1:A:924:C:O4'	2.21	0.40
1:A:975:A:N3	1:A:975:A:H5'	2.36	0.40
2:B:141:LEU:O	2:B:143:LYS:N	2.54	0.40
3:C:154:SER:CB	3:C:165:THR:HG22	2.51	0.40
4:D:194:ASP:O	4:D:195:ILE:CG2	2.69	0.40
4:D:9:LEU:HA	4:D:9:LEU:HD13	1.80	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:136:LYS:HD2	7:G:136:LYS:O	2.21	0.40
8:H:95:VAL:CG1	8:H:96:MET:N	2.84	0.40
9:I:28:ILE:HG21	9:I:35:LEU:HD22	2.02	0.40
11:K:124:PRO:HB2	11:K:126:LYS:CD	2.50	0.40
12:L:114:ARG:CZ	12:L:121:ARG:HA	2.51	0.40
16:P:19:VAL:CG1	16:P:37:GLY:CA	2.99	0.40
1:A:1070:U:H2'	1:A:1071:C:H6	1.86	0.40
1:A:1295:U:H2'	1:A:1296:C:C6	2.56	0.40
1:A:1500:A:C5	1:A:1501:C:C5	3.09	0.40
1:A:207:C:O2	1:A:207:C:H2'	2.21	0.40
1:A:374:A:OP1	1:A:452:A:N1	2.54	0.40
1:A:577:G:N3	1:A:578:C:C6	2.90	0.40
1:A:599:C:C2	1:A:640:A:C2	3.09	0.40
1:A:659:U:O2'	1:A:660:C:H5'	2.21	0.40
2:B:139:ARG:HD2	2:B:140:GLU:N	2.36	0.40
4:D:102:VAL:HG13	4:D:107:PHE:HB2	2.04	0.40
4:D:30:THR:O	4:D:31:LYS:HD3	2.21	0.40
5:E:147:MET:HG2	5:E:147:MET:O	2.21	0.40
7:G:91:VAL:HG21	7:G:96:ARG:HA	2.03	0.40
17:Q:38:ILE:HG22	17:Q:39:LYS:O	2.21	0.40
1:A:1129:C:C5	1:A:1139:G:C8	3.09	0.40
1:A:116:A:H2'	1:A:117:G:O5'	2.21	0.40
1:A:1057:G:C5	1:A:1204:A:C2	3.09	0.40
1:A:1386:G:O2'	1:A:1387:G:H5'	2.21	0.40
1:A:53:A:H2'	1:A:54:C:O4'	2.21	0.40
1:A:582:C:O2'	1:A:583:A:H5'	2.21	0.40
1:A:583:A:C8	1:A:584:G:C8	3.10	0.40
1:A:678:U:N3	1:A:713:G:N2	2.70	0.40
1:A:890:G:H22	1:A:906:A:H2'	1.85	0.40
3:C:130:PHE:CZ	3:C:131:ARG:HD3	2.55	0.40
7:G:57:SER:HB3	7:G:60:GLU:HB2	2.03	0.40
9:I:101:ALA:HB1	9:I:103:PHE:CE1	2.56	0.40
15:O:16:GLY:O	15:O:18:ASP:N	2.54	0.40
17:Q:44:LEU:O	17:Q:46:VAL:HG23	2.21	0.40
21:U:36:GLU:OE1	21:U:36:GLU:HA	2.20	0.40
1:A:1179:A:C2'	1:A:1180:A:H5'	2.52	0.40
1:A:1292:G:C2	1:A:1293:C:C2	3.09	0.40
1:A:1352:C:C2	1:A:1371:G:N1	2.89	0.40
1:A:861:G:N7	1:A:862:C:C5	2.90	0.40
1:A:88:U:C5	1:A:89:U:C5	3.09	0.40
2:B:56:GLU:HA	2:B:56:GLU:OE2	2.22	0.40
3:C:117:ALA:HB1	3:C:187:SER:CB	2.51	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:184:TYR:CD1	3:C:201:TRP:NE1	2.89	0.40
4:D:106:GLY:O	4:D:158:ALA:HB1	2.21	0.40
6:F:38:ARG:CG	6:F:63:ASN:HB2	2.51	0.40
9:I:91:ASP:OD2	9:I:91:ASP:C	2.59	0.40
1:A:1007:U:C3'	1:A:1008:U:H5'	2.52	0.40
1:A:1070:U:H2'	1:A:1071:C:C6	2.57	0.40
1:A:1434:A:N6	1:A:1435:G:C6	2.89	0.40
1:A:1536:C:H2'	1:A:1537:U:C6	2.56	0.40
1:A:1540:U:H4'	21:U:18:ARG:HG2	2.02	0.40
1:A:223:A:C6	1:A:224:U:C4	3.09	0.40
1:A:420:U:C2'	1:A:421:U:H5''	2.51	0.40
1:A:496:A:N3	1:A:497:G:N7	2.69	0.40
1:A:505:G:H2'	1:A:505:G:N3	2.36	0.40
1:A:563:A:N7	1:A:567:G:H1'	2.36	0.40
1:A:844:G:C8	1:A:844:G:OP2	2.74	0.40
1:A:91:U:C4	1:A:92:U:C5	3.10	0.40
4:D:195:ILE:O	4:D:195:ILE:CG1	2.69	0.40
4:D:24:GLY:O	4:D:161:LEU:CD1	2.70	0.40
4:D:91:LEU:HD12	4:D:188:ARG:NE	2.37	0.40
6:F:71:ILE:CD1	6:F:71:ILE:N	2.85	0.40
7:G:148:ASN:C	7:G:150:ALA:N	2.75	0.40
9:I:31:ASN:HA	9:I:66:THR:HG22	2.03	0.40
9:I:61:LEU:CD2	9:I:61:LEU:N	2.85	0.40
9:I:76:ALA:HA	9:I:79:ILE:HD12	2.03	0.40
12:L:79:VAL:O	12:L:103:ASP:HB2	2.21	0.40
13:M:13:LYS:O	13:M:14:HIS:CG	2.72	0.40
13:M:24:GLY:HA3	13:M:65:VAL:HG12	2.04	0.40
15:O:57:LEU:O	15:O:61:SER:N	2.46	0.40
18:R:49:ALA:O	18:R:50:LYS:C	2.58	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	216/218 (99%)	142 (66%)	48 (22%)	26 (12%)	1	1
3	C	204/206 (99%)	154 (76%)	39 (19%)	11 (5%)	3	9
4	D	203/205 (99%)	147 (72%)	33 (16%)	23 (11%)	1	1
5	E	148/150 (99%)	98 (66%)	34 (23%)	16 (11%)	1	2
6	F	98/100 (98%)	66 (67%)	18 (18%)	14 (14%)	0	1
7	G	149/151 (99%)	120 (80%)	20 (13%)	9 (6%)	2	7
8	H	127/129 (98%)	102 (80%)	17 (13%)	8 (6%)	2	6
9	I	125/127 (98%)	89 (71%)	21 (17%)	15 (12%)	1	1
10	J	96/98 (98%)	74 (77%)	10 (10%)	12 (12%)	1	1
11	K	115/117 (98%)	80 (70%)	26 (23%)	9 (8%)	1	3
12	L	121/123 (98%)	89 (74%)	20 (16%)	12 (10%)	1	2
13	M	112/114 (98%)	82 (73%)	17 (15%)	13 (12%)	1	1
14	N	92/100 (92%)	56 (61%)	22 (24%)	14 (15%)	0	1
15	O	86/88 (98%)	66 (77%)	16 (19%)	4 (5%)	4	13
16	P	80/82 (98%)	59 (74%)	16 (20%)	5 (6%)	2	6
17	Q	78/80 (98%)	58 (74%)	11 (14%)	9 (12%)	1	1
18	R	53/55 (96%)	34 (64%)	16 (30%)	3 (6%)	3	8
19	S	77/79 (98%)	56 (73%)	12 (16%)	9 (12%)	1	1
20	T	83/85 (98%)	64 (77%)	10 (12%)	9 (11%)	1	2
21	U	49/51 (96%)	26 (53%)	10 (20%)	13 (26%)	0	0
All	All	2312/2358 (98%)	1662 (72%)	416 (18%)	234 (10%)	1	2

All (234) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	16	PHE
2	B	35	ARG
2	B	36	ASN
2	B	74	ARG
2	B	87	CYS
2	B	88	ASP
2	B	120	GLN
2	B	126	PHE
2	B	141	LEU
2	B	168	HIS
2	B	194	ASP

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Mol	Chain	Res	Type
2	B	207	ILE
2	B	220	THR
3	C	82	GLU
3	C	127	ARG
3	C	146	ALA
4	D	28	ILE
4	D	30	THR
4	D	32	CYS
4	D	33	LYS
4	D	35	GLU
4	D	42	GLY
4	D	169	THR
4	D	175	ALA
5	E	100	SER
5	E	101	GLU
5	E	102	GLY
5	E	103	THR
5	E	123	VAL
5	E	158	GLY
6	F	33	GLU
6	F	55	HIS
6	F	56	LYS
6	F	65	GLU
6	F	92	THR
6	F	98	GLU
6	F	99	ALA
7	G	3	ARG
7	G	130	ASN
7	G	146	GLU
8	H	3	MET
9	I	26	GLY
9	I	41	ARG
9	I	53	GLU
9	I	91	ASP
9	I	120	LYS
10	J	91	ASP
11	K	52	PHE
11	K	93	ARG
11	K	127	ARG
12	L	4	VAL
12	L	44	LYS
12	L	48	ALA

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Mol	Chain	Res	Type
12	L	58	THR
12	L	89	ASP
13	M	7	ILE
13	M	41	GLU
13	M	99	GLY
14	N	22	ALA
14	N	29	ALA
14	N	32	SER
14	N	52	PRO
14	N	59	ARG
14	N	81	ARG
14	N	92	GLU
15	O	14	GLU
15	O	18	ASP
17	Q	51	ASN
17	Q	70	THR
17	Q	76	VAL
18	R	21	ILE
18	R	25	ASP
19	S	5	LEU
19	S	32	ARG
20	T	4	ILE
20	T	6	SER
20	T	68	HIS
21	U	9	ASN
21	U	12	PHE
21	U	13	ASP
21	U	24	GLU
21	U	36	GLU
21	U	37	PHE
21	U	40	LYS
21	U	52	ALA
2	B	22	TYR
2	B	124	GLY
2	B	130	THR
2	B	193	PRO
3	C	66	VAL
3	C	140	ASN
3	C	141	ALA
3	C	174	PRO
4	D	4	TYR
4	D	43	ALA

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Mol	Chain	Res	Type
5	E	45	ARG
5	E	51	GLY
5	E	122	ASN
5	E	155	ALA
6	F	93	LYS
6	F	94	HIS
7	G	114	LYS
8	H	54	ASP
9	I	57	MET
9	I	72	ILE
9	I	123	ARG
10	J	38	GLY
10	J	41	PRO
10	J	57	VAL
10	J	90	LEU
10	J	93	ALA
11	K	78	GLY
11	K	126	LYS
12	L	76	GLU
13	M	94	GLY
14	N	53	ARG
15	O	21	ASP
16	P	77	GLU
17	Q	18	GLU
19	S	6	LYS
19	S	45	ILE
21	U	35	ARG
2	B	19	GLN
2	B	203	ASN
3	C	64	ILE
4	D	36	GLN
4	D	168	PRO
4	D	174	ASP
5	E	12	GLN
5	E	110	ALA
5	E	138	ARG
5	E	143	GLY
5	E	150	PRO
6	F	91	ARG
6	F	95	ALA
7	G	56	LYS
7	G	126	ASP

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Mol	Chain	Res	Type
8	H	21	ASN
8	H	97	ALA
8	H	114	ARG
9	I	12	ARG
10	J	79	PRO
12	L	17	ALA
12	L	22	PRO
12	L	26	ALA
12	L	43	LYS
13	M	11	ASP
13	M	12	HIS
13	M	37	ALA
13	M	66	GLU
13	M	114	LYS
14	N	21	PHE
14	N	31	ILE
16	P	46	LYS
17	Q	20	SER
17	Q	80	GLU
18	R	47	THR
19	S	31	LEU
20	T	5	LYS
20	T	70	ASN
21	U	10	GLU
21	U	16	LEU
2	B	136	MET
2	B	142	GLU
4	D	23	SER
4	D	29	ASP
4	D	153	SER
4	D	154	ARG
4	D	192	SER
7	G	79	ARG
7	G	84	THR
7	G	140	ASP
8	H	66	PHE
9	I	9	THR
10	J	35	GLN
10	J	36	VAL
12	L	23	ALA
12	L	24	LEU
13	M	82	ASP

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Mol	Chain	Res	Type
14	N	62	ASN
15	O	46	HIS
16	P	15	PRO
20	T	7	ALA
2	B	68	LEU
2	B	127	ASP
2	B	149	GLY
3	C	37	PHE
4	D	47	ARG
4	D	85	ASN
5	E	151	GLU
6	F	18	VAL
8	H	22	LYS
8	H	96	MET
9	I	55	VAL
10	J	95	GLY
11	K	15	GLN
13	M	14	HIS
14	N	11	VAL
17	Q	16	LYS
19	S	67	VAL
19	S	69	HIS
19	S	76	PRO
21	U	11	PRO
2	B	205	ASP
2	B	208	ARG
3	C	84	VAL
3	C	191	THR
4	D	10	LYS
9	I	39	PHE
9	I	58	VAL
9	I	128	SER
10	J	75	ASP
11	K	80	LYS
13	M	96	PRO
16	P	14	ARG
17	Q	5	ILE
20	T	56	PRO
20	T	65	GLY
6	F	85	ILE
11	K	120	GLY
14	N	34	VAL

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Mol	Chain	Res	Type
11	K	92	GLY
16	P	42	ILE
17	Q	13	VAL
20	T	67	ILE
21	U	27	GLY
4	D	37	ALA
9	I	104	VAL
4	D	167	LYS
10	J	42	LEU
13	M	25	VAL
14	N	72	GLY
19	S	30	PRO
6	F	64	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	180/180 (100%)	132 (73%)	48 (27%)	1	2
3	C	170/170 (100%)	146 (86%)	24 (14%)	5	14
4	D	172/172 (100%)	145 (84%)	27 (16%)	4	11
5	E	113/113 (100%)	84 (74%)	29 (26%)	1	2
6	F	87/87 (100%)	60 (69%)	27 (31%)	0	1
7	G	124/124 (100%)	100 (81%)	24 (19%)	2	6
8	H	104/104 (100%)	84 (81%)	20 (19%)	2	6
9	I	105/105 (100%)	90 (86%)	15 (14%)	5	13
10	J	86/86 (100%)	65 (76%)	21 (24%)	1	3
11	K	90/90 (100%)	73 (81%)	17 (19%)	2	7
12	L	103/103 (100%)	83 (81%)	20 (19%)	2	6
13	M	92/92 (100%)	75 (82%)	17 (18%)	2	7
14	N	79/83 (95%)	71 (90%)	8 (10%)	11	32
15	O	75/76 (99%)	64 (85%)	11 (15%)	4	13
16	P	65/65 (100%)	55 (85%)	10 (15%)	4	12

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
17	Q	74/74 (100%)	52 (70%)	22 (30%)	0	1
18	R	48/48 (100%)	39 (81%)	9 (19%)	2	7
19	S	70/70 (100%)	57 (81%)	13 (19%)	2	7
20	T	65/65 (100%)	57 (88%)	8 (12%)	7	20
21	U	44/44 (100%)	27 (61%)	17 (39%)	0	0
All	All	1946/1951 (100%)	1559 (80%)	387 (20%)	2	6

All (387) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	15	HIS
2	B	16	PHE
2	B	20	THR
2	B	21	ARG
2	B	23	TRP
2	B	26	LYS
2	B	27	MET
2	B	32	PHE
2	B	40	ILE
2	B	43	LEU
2	B	49	MET
2	B	50	PHE
2	B	56	GLU
2	B	63	ARG
2	B	66	LYS
2	B	67	ILE
2	B	68	LEU
2	B	73	LYS
2	B	74	ARG
2	B	77	SER
2	B	80	VAL
2	B	85	LEU
2	B	87	CYS
2	B	88	ASP
2	B	94	HIS
2	B	95	ARG
2	B	96	TRP
2	B	101	LEU
2	B	106	THR
2	B	111	ILE

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Mol	Chain	Res	Type
2	B	126	PHE
2	B	130	THR
2	B	136	MET
2	B	148	LEU
2	B	163	VAL
2	B	164	ILE
2	B	171	ILE
2	B	174	LYS
2	B	175	GLU
2	B	179	LEU
2	B	187	VAL
2	B	205	ASP
2	B	207	ILE
2	B	208	ARG
2	B	210	VAL
2	B	213	TYR
2	B	222	ARG
2	B	225	ARG
3	C	3	GLN
3	C	16	LYS
3	C	27	LYS
3	C	37	PHE
3	C	38	LYS
3	C	43	LEU
3	C	70	THR
3	C	75	ILE
3	C	80	LYS
3	C	103	ILE
3	C	107	ARG
3	C	110	GLU
3	C	121	THR
3	C	131	ARG
3	C	140	ASN
3	C	157	LEU
3	C	167	TRP
3	C	168	TYR
3	C	175	LEU
3	C	179	ARG
3	C	185	ASN
3	C	186	THR
3	C	193	TYR
3	C	200	VAL

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Mol	Chain	Res	Type
4	D	5	LEU
4	D	8	LYS
4	D	9	LEU
4	D	10	LYS
4	D	30	THR
4	D	32	CYS
4	D	33	LYS
4	D	48	LEU
4	D	50	ASP
4	D	54	GLN
4	D	55	LEU
4	D	56	ARG
4	D	58	LYS
4	D	59	GLN
4	D	81	ARG
4	D	142	VAL
4	D	148	LYS
4	D	152	GLN
4	D	155	VAL
4	D	159	LEU
4	D	161	LEU
4	D	163	GLU
4	D	174	ASP
4	D	191	LEU
4	D	192	SER
4	D	200	ILE
4	D	206	LYS
5	E	10	GLU
5	E	15	LEU
5	E	24	THR
5	E	25	VAL
5	E	26	LYS
5	E	32	SER
5	E	45	ARG
5	E	46	VAL
5	E	52	LYS
5	E	70	ASN
5	E	81	LEU
5	E	88	VAL
5	E	93	ARG
5	E	94	VAL
5	E	100	SER

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Mol	Chain	Res	Type
5	E	101	GLU
5	E	105	ILE
5	E	114	VAL
5	E	115	LEU
5	E	126	LYS
5	E	131	THR
5	E	136	VAL
5	E	140	THR
5	E	146	ASN
5	E	149	SER
5	E	150	PRO
5	E	151	GLU
5	E	153	VAL
5	E	156	LYS
6	F	1	MET
6	F	8	PHE
6	F	16	GLU
6	F	23	GLU
6	F	24	ARG
6	F	26	THR
6	F	30	THR
6	F	33	GLU
6	F	35	LYS
6	F	36	ILE
6	F	38	ARG
6	F	51	ILE
6	F	53	LYS
6	F	54	LEU
6	F	55	HIS
6	F	63	ASN
6	F	64	VAL
6	F	65	GLU
6	F	69	GLU
6	F	71	ILE
6	F	74	LEU
6	F	75	GLU
6	F	80	PHE
6	F	85	ILE
6	F	87	SER
6	F	93	LYS
6	F	97	THR
7	G	4	ARG

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Mol	Chain	Res	Type
7	G	5	ARG
7	G	6	VAL
7	G	7	ILE
7	G	12	ILE
7	G	22	LEU
7	G	30	LEU
7	G	43	VAL
7	G	48	GLU
7	G	59	LEU
7	G	62	PHE
7	G	64	VAL
7	G	66	LEU
7	G	67	GLU
7	G	72	THR
7	G	73	VAL
7	G	78	ARG
7	G	92	ARG
7	G	94	VAL
7	G	120	LEU
7	G	123	GLU
7	G	126	ASP
7	G	140	ASP
7	G	142	HIS
8	H	13	ARG
8	H	26	THR
8	H	32	LEU
8	H	39	VAL
8	H	42	GLU
8	H	45	PHE
8	H	48	ASP
8	H	52	GLU
8	H	67	GLN
8	H	73	GLU
8	H	74	SER
8	H	75	ILE
8	H	77	ARG
8	H	83	LEU
8	H	87	LYS
8	H	92	LEU
8	H	99	LEU
8	H	112	THR
8	H	121	LEU

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Mol	Chain	Res	Type
8	H	125	ILE
9	I	9	THR
9	I	21	ILE
9	I	28	ILE
9	I	36	GLU
9	I	49	ARG
9	I	50	GLN
9	I	55	VAL
9	I	61	LEU
9	I	62	ASP
9	I	88	MET
9	I	89	GLU
9	I	94	LEU
9	I	111	VAL
9	I	127	PHE
9	I	129	LYS
10	J	7	ARG
10	J	9	ARG
10	J	16	ARG
10	J	17	LEU
10	J	22	THR
10	J	25	ILE
10	J	30	LYS
10	J	51	VAL
10	J	53	ILE
10	J	59	LYS
10	J	71	LEU
10	J	74	VAL
10	J	80	THR
10	J	83	THR
10	J	87	LEU
10	J	88	MET
10	J	90	LEU
10	J	91	ASP
10	J	100	ILE
10	J	101	SER
10	J	102	LEU
11	K	14	LYS
11	K	15	GLN
11	K	26	SER
11	K	33	THR
11	K	64	GLN

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Mol	Chain	Res	Type
11	K	77	TYR
11	K	81	ASN
11	K	82	LEU
11	K	83	GLU
11	K	86	VAL
11	K	96	THR
11	K	106	ARG
11	K	107	ILE
11	K	108	THR
11	K	109	ASN
11	K	126	LYS
11	K	128	ARG
12	L	3	THR
12	L	4	VAL
12	L	10	LYS
12	L	18	LYS
12	L	19	SER
12	L	20	ASN
12	L	29	GLN
12	L	38	TYR
12	L	44	LYS
12	L	59	ASN
12	L	63	VAL
12	L	86	ARG
12	L	89	ASP
12	L	93	VAL
12	L	94	ARG
12	L	97	THR
12	L	107	VAL
12	L	110	ARG
12	L	111	LYS
12	L	121	ARG
13	M	8	ASN
13	M	13	LYS
13	M	14	HIS
13	M	19	LEU
13	M	29	ARG
13	M	31	LYS
13	M	41	GLU
13	M	48	LEU
13	M	58	ASP
13	M	59	GLU

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Mol	Chain	Res	Type
13	M	60	VAL
13	M	63	PHE
13	M	66	GLU
13	M	90	ARG
13	M	91	HIS
13	M	101	ARG
13	M	113	ARG
14	N	10	GLU
14	N	18	ASP
14	N	23	LYS
14	N	26	GLU
14	N	28	LYS
14	N	75	ARG
14	N	77	PHE
14	N	83	LYS
15	O	6	GLU
15	O	17	ARG
15	O	18	ASP
15	O	26	GLU
15	O	35	GLN
15	O	38	HIS
15	O	64	ARG
15	O	70	LEU
15	O	84	ARG
15	O	87	LEU
15	O	88	ARG
16	P	1	MET
16	P	18	GLN
16	P	20	VAL
16	P	31	ARG
16	P	46	LYS
16	P	51	ARG
16	P	55	ASP
16	P	63	GLN
16	P	74	LEU
16	P	80	LYS
17	Q	5	ILE
17	Q	9	GLN
17	Q	14	SER
17	Q	17	MET
17	Q	18	GLU
17	Q	25	ILE

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Mol	Chain	Res	Type
17	Q	28	PHE
17	Q	40	ARG
17	Q	41	THR
17	Q	50	ASN
17	Q	52	GLU
17	Q	55	ILE
17	Q	61	ILE
17	Q	62	ARG
17	Q	63	GLU
17	Q	65	ARG
17	Q	70	THR
17	Q	75	LEU
17	Q	76	VAL
17	Q	79	VAL
17	Q	80	GLU
17	Q	81	LYS
18	R	21	ILE
18	R	25	ASP
18	R	33	ILE
18	R	43	ARG
18	R	45	THR
18	R	47	THR
18	R	54	GLN
18	R	57	ARG
18	R	66	SER
19	S	5	LEU
19	S	6	LYS
19	S	11	ILE
19	S	13	LEU
19	S	20	GLU
19	S	21	LYS
19	S	23	VAL
19	S	27	ASP
19	S	31	LEU
19	S	36	ARG
19	S	43	ASN
19	S	49	ILE
19	S	58	VAL
20	T	6	SER
20	T	8	LYS
20	T	15	GLU
20	T	30	THR

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Mol	Chain	Res	Type
20	T	36	TYR
20	T	59	ASP
20	T	64	LYS
20	T	69	LYS
21	U	5	LYS
21	U	7	ARG
21	U	12	PHE
21	U	16	LEU
21	U	18	ARG
21	U	19	PHE
21	U	21	ARG
21	U	24	GLU
21	U	25	LYS
21	U	28	VAL
21	U	34	ARG
21	U	37	PHE
21	U	38	TYR
21	U	42	THR
21	U	47	ARG
21	U	53	VAL
21	U	54	LYS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (13) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	103	ASN
3	C	176	HIS
4	D	136	GLN
5	E	122	ASN
7	G	97	ASN
8	H	67	GLN
9	I	25	ASN
14	N	66	GLN
15	O	40	GLN
15	O	42	HIS
17	Q	31	HIS
20	T	21	ASN
20	T	61	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1538/1539 (99%)	330 (21%)	8 (0%)

All (330) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	5	U
1	A	6	G
1	A	9	G
1	A	17	U
1	A	21	G
1	A	32	A
1	A	39	G
1	A	47	C
1	A	48	C
1	A	51	A
1	A	52	C
1	A	67	C
1	A	70	U
1	A	71	A
1	A	74	A
1	A	75	G
1	A	79	G
1	A	80	A
1	A	84	U
1	A	85	U
1	A	86	G
1	A	87	C
1	A	88	U
1	A	91	U
1	A	93	U
1	A	94	G
1	A	116	A
1	A	117	G
1	A	120	A
1	A	121	U
1	A	122	G
1	A	130	A
1	A	131	A
1	A	135	C
1	A	137	U
1	A	142	G
1	A	143	A
1	A	144	G

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Mol	Chain	Res	Type
1	A	154	U
1	A	155	A
1	A	156	C
1	A	159	G
1	A	169	C
1	A	173	U
1	A	174	A
1	A	181	A
1	A	182	A
1	A	183	C
1	A	184	G
1	A	191	G
1	A	197	A
1	A	200	G
1	A	201	G
1	A	204	G
1	A	207	C
1	A	208	U
1	A	209	U
1	A	210	C
1	A	211	G
1	A	212	G
1	A	214	C
1	A	240	G
1	A	244	U
1	A	245	U
1	A	247	G
1	A	250	A
1	A	251	G
1	A	253	A
1	A	254	G
1	A	266	G
1	A	267	C
1	A	269	C
1	A	280	C
1	A	289	G
1	A	294	U
1	A	316	C
1	A	321	A
1	A	328	C
1	A	329	A
1	A	330	C

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Mol	Chain	Res	Type
1	A	332	G
1	A	345	C
1	A	347	G
1	A	352	C
1	A	354	G
1	A	367	U
1	A	372	C
1	A	376	G
1	A	378	G
1	A	384	G
1	A	389	A
1	A	390	U
1	A	398	U
1	A	399	G
1	A	404	G
1	A	406	G
1	A	411	A
1	A	412	A
1	A	413	G
1	A	421	U
1	A	422	C
1	A	424	G
1	A	427	U
1	A	429	U
1	A	430	A
1	A	439	U
1	A	446	G
1	A	457	G
1	A	459	A
1	A	463	U
1	A	467	U
1	A	468	A
1	A	473	U
1	A	474	G
1	A	478	A
1	A	479	U
1	A	481	G
1	A	484	G
1	A	485	U
1	A	486	U
1	A	498	A
1	A	500	G

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Mol	Chain	Res	Type
1	A	505	G
1	A	509	A
1	A	511	C
1	A	518	C
1	A	519	C
1	A	527	G
1	A	531	U
1	A	532	A
1	A	533	A
1	A	545	C
1	A	547	A
1	A	550	G
1	A	559	A
1	A	564	C
1	A	568	G
1	A	570	G
1	A	572	A
1	A	573	A
1	A	576	C
1	A	581	G
1	A	582	C
1	A	615	G
1	A	619	U
1	A	622	A
1	A	636	U
1	A	650	G
1	A	653	U
1	A	654	G
1	A	665	A
1	A	687	A
1	A	695	A
1	A	702	A
1	A	721	G
1	A	723	U
1	A	724	G
1	A	731	G
1	A	747	A
1	A	755	G
1	A	758	C
1	A	765	G
1	A	777	A
1	A	785	G

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Mol	Chain	Res	Type
1	A	787	A
1	A	793	U
1	A	794	A
1	A	799	G
1	A	802	A
1	A	812	G
1	A	815	A
1	A	817	C
1	A	828	U
1	A	832	G
1	A	841	C
1	A	842	U
1	A	843	U
1	A	844	G
1	A	845	A
1	A	846	G
1	A	849	G
1	A	874	G
1	A	876	C
1	A	880	C
1	A	889	A
1	A	906	A
1	A	914	A
1	A	919	A
1	A	922	G
1	A	926	G
1	A	934	C
1	A	935	A
1	A	960	U
1	A	964	A
1	A	969	A
1	A	971	G
1	A	975	A
1	A	976	G
1	A	977	A
1	A	983	A
1	A	991	U
1	A	992	U
1	A	993	G
1	A	994	A
1	A	995	C
1	A	996	A

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Mol	Chain	Res	Type
1	A	1004	A
1	A	1008	U
1	A	1018	G
1	A	1020	G
1	A	1025	U
1	A	1026	G
1	A	1027	C
1	A	1028	C
1	A	1030	U
1	A	1031	C
1	A	1032	G
1	A	1033	G
1	A	1034	G
1	A	1037	C
1	A	1039	G
1	A	1042	A
1	A	1043	G
1	A	1044	A
1	A	1047	G
1	A	1050	G
1	A	1052	U
1	A	1054	C
1	A	1055	A
1	A	1065	U
1	A	1069	C
1	A	1070	U
1	A	1072	G
1	A	1073	U
1	A	1086	U
1	A	1094	G
1	A	1095	U
1	A	1101	A
1	A	1104	G
1	A	1124	G
1	A	1125	U
1	A	1129	C
1	A	1133	G
1	A	1134	G
1	A	1136	C
1	A	1137	C
1	A	1139	G
1	A	1140	C

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Mol	Chain	Res	Type
1	A	1141	C
1	A	1142	G
1	A	1145	A
1	A	1154	G
1	A	1157	A
1	A	1159	U
1	A	1160	G
1	A	1161	C
1	A	1168	U
1	A	1181	G
1	A	1182	G
1	A	1184	G
1	A	1196	A
1	A	1198	G
1	A	1202	U
1	A	1212	U
1	A	1213	A
1	A	1222	G
1	A	1227	A
1	A	1228	C
1	A	1230	C
1	A	1236	A
1	A	1238	A
1	A	1239	A
1	A	1240	U
1	A	1253	G
1	A	1257	A
1	A	1259	C
1	A	1260	G
1	A	1275	A
1	A	1280	A
1	A	1285	A
1	A	1286	U
1	A	1287	A
1	A	1297	G
1	A	1299	A
1	A	1301	U
1	A	1305	G
1	A	1312	G
1	A	1317	C
1	A	1318	A
1	A	1320	C

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Mol	Chain	Res	Type
1	A	1322	C
1	A	1323	G
1	A	1324	A
1	A	1332	A
1	A	1336	C
1	A	1337	G
1	A	1338	G
1	A	1346	A
1	A	1353	G
1	A	1362	A
1	A	1363	A
1	A	1368	A
1	A	1379	G
1	A	1381	U
1	A	1382	C
1	A	1418	A
1	A	1441	A
1	A	1442	G
1	A	1446	A
1	A	1451	U
1	A	1452	C
1	A	1454	G
1	A	1475	G
1	A	1477	U
1	A	1491	G
1	A	1492	A
1	A	1497	G
1	A	1503	A
1	A	1505	G
1	A	1506	U
1	A	1507	A
1	A	1509	C
1	A	1517	G
1	A	1519	A
1	A	1529	G
1	A	1530	G
1	A	1533	C
1	A	1534	A
1	A	1535	C
1	A	1536	C

All (8) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	85	U
1	A	115	G
1	A	209	U
1	A	429	U
1	A	484	G
1	A	1049	U
1	A	1201	A
1	A	1211	U

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 56 ligands modelled in this entry, 56 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.