



Full wwPDB EM Validation Report ⓘ

Mar 22, 2026 – 05:16 PM UTC

PDB ID : 4ADV / pdb_00004adv
EMDB ID : EMD-2017
Title : Structure of the E. coli methyltransferase KsgA bound to the E. coli 30S ribosomal subunit
Authors : Boehringer, D.; O'Farrell, H.C.; Rife, J.P.; Ban, N.
Deposited on : 2012-01-03
Resolution : 13.50 Å (reported)
Based on initial models : 1QYR, 2AVY

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

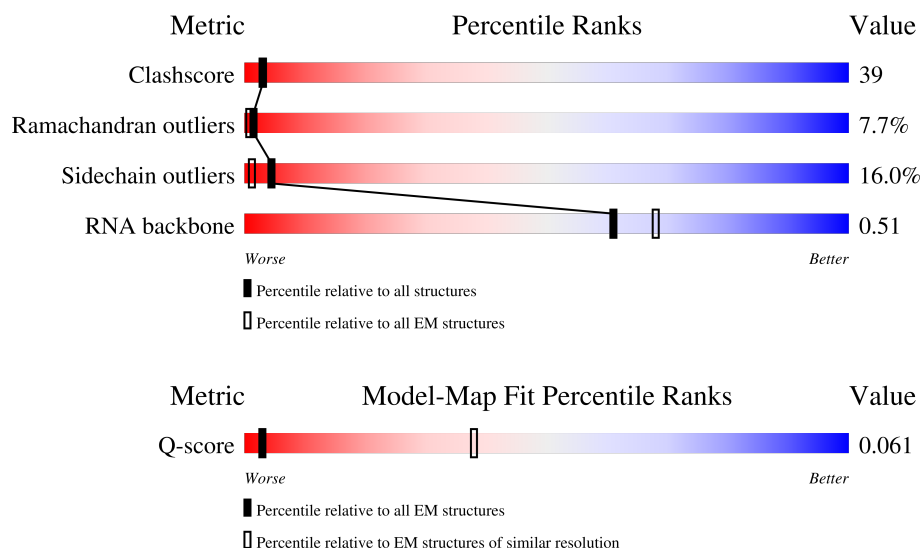
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDb archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

1 Overall quality at a glance

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

The reported resolution of this entry is 13.50 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	74 (13.00 - 14.00)

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

Mol	Chain	Length	Quality of chain
1	A	1542	
2	B	240	
3	C	232	

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Mol	Chain	Length	Quality of chain
4	D	205	
5	E	166	
6	F	135	
7	G	178	
8	H	129	
9	I	129	
10	J	103	
11	K	128	
12	L	123	
13	M	117	
14	N	100	
15	O	89	
16	P	82	
17	Q	83	
18	R	74	
19	S	91	
20	T	86	
21	U	71	
22	V	252	

2 Entry composition

There are 23 unique types of molecules in this entry. The entry contains 50888 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 16S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	1410	Total	C	N	O	P	0	0
			30262	13496	5559	9797	1410		

- Molecule 2 is a protein called 30S RIBOSOMAL PROTEIN S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	218	Total	C	N	O	S	0	0
			1704	1081	305	311	7		

- Molecule 3 is a protein called 30S RIBOSOMAL PROTEIN S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	206	Total	C	N	O	S	0	0
			1624	1028	305	288	3		

- Molecule 4 is a protein called 30S RIBOSOMAL PROTEIN S4.

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

- Molecule 5 is a protein called 30S RIBOSOMAL PROTEIN S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	150	Total	C	N	O	S	0	0
			1105	687	211	201	6		

- Molecule 6 is a protein called 30S RIBOSOMAL PROTEIN S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	100	Total	C	N	O	S	0	0
			817	515	148	148	6		

- Molecule 7 is a protein called 30S RIBOSOMAL PROTEIN S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	150	Total	C	N	O	S	0	0
			1174	730	226	214	4		

- Molecule 8 is a protein called 30S RIBOSOMAL PROTEIN S8.

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

- Molecule 9 is a protein called 30S RIBOSOMAL PROTEIN S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I	127	Total	C	N	O	S	0	0
			1022	634	206	179	3		

- Molecule 10 is a protein called 30S RIBOSOMAL PROTEIN S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	J	98	Total	C	N	O	S	0	0
			786	493	150	142	1		

- Molecule 11 is a protein called 30S RIBOSOMAL PROTEIN S11.

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

- Molecule 12 is a protein called 30S RIBOSOMAL PROTEIN S12.

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

- Molecule 13 is a protein called 30S RIBOSOMAL PROTEIN S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	M	114	Total	C	N	O	S	0	0
			883	546	178	156	3		

- Molecule 14 is a protein called 30S RIBOSOMAL PROTEIN S14.

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

- Molecule 15 is a protein called 30S RIBOSOMAL PROTEIN S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	O	88	Total	C	N	O	S	0	0
			716	440	146	129	1		

- Molecule 16 is a protein called 30S RIBOSOMAL PROTEIN S16.

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

- Molecule 17 is a protein called 30S RIBOSOMAL PROTEIN S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	Q	80	Total	C	N	O	S	0	0
			648	411	121	113	3		

- Molecule 18 is a protein called 30S RIBOSOMAL PROTEIN S18.

Mol	Chain	Residues	Atoms				AltConf	Trace
18	R	55	Total	C	N	O	0	0
			455	288	86	81		

- Molecule 19 is a protein called 30S RIBOSOMAL PROTEIN S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	S	79	Total	C	N	O	S	0	0
			637	408	120	107	2		

- Molecule 20 is a protein called 30S RIBOSOMAL PROTEIN S20.

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

- Molecule 21 is a protein called 30S RIBOSOMAL PROTEIN S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	U	51	Total	C	N	O	S	0	0
			425	265	86	73	1		

- Molecule 22 is a protein called RIBOSOMAL RNA SMALL SUBUNIT METHYLTRANSFERASE A.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	V	252	Total	C	N	O	S	0	0
			1949	1241	336	359	13		

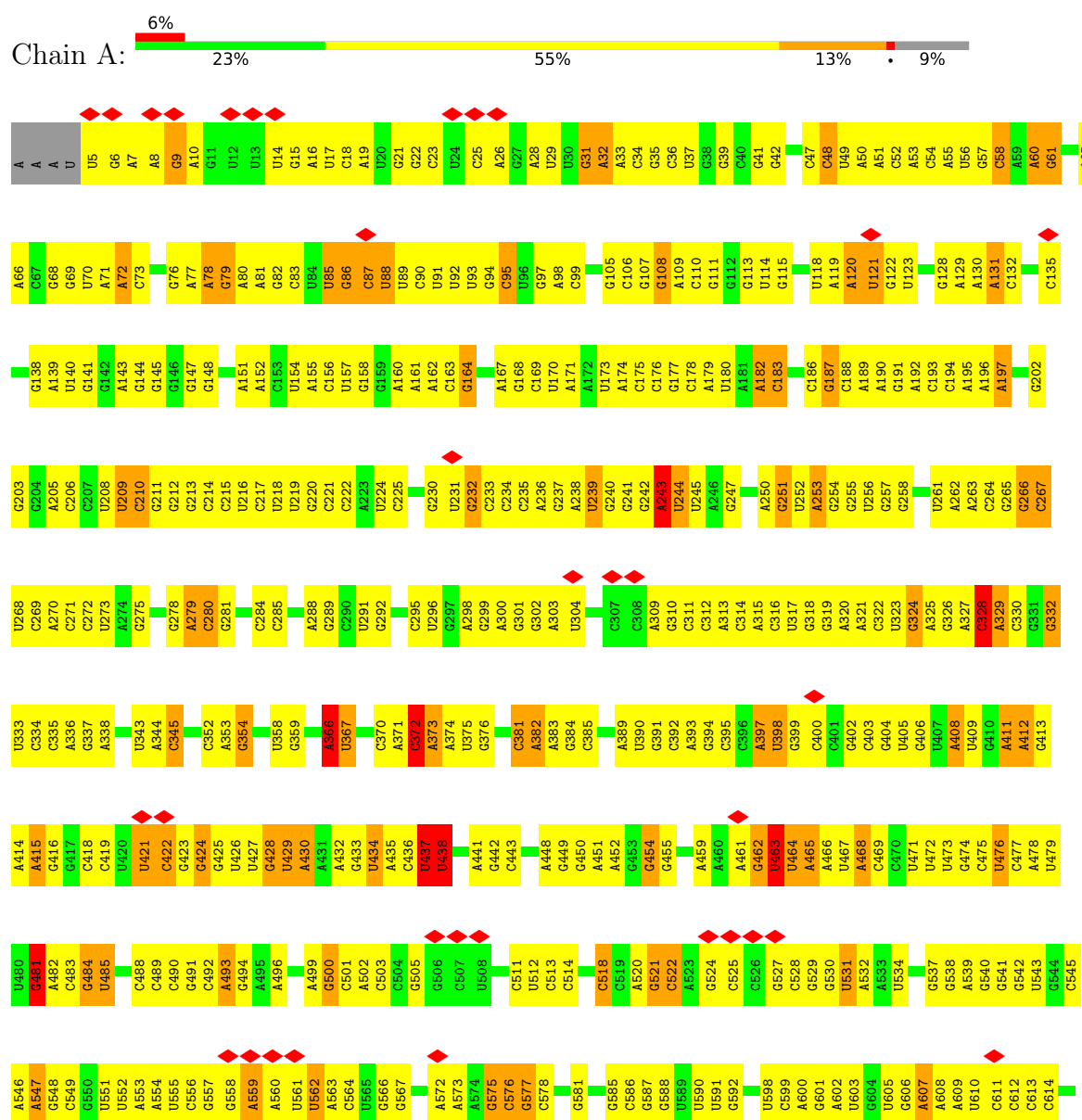
- Molecule 23 is water.

Mol	Chain	Residues	Atoms		AltConf
23	V	139	Total	O	0
			139	139	

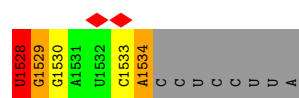
3 Residue-property plots

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

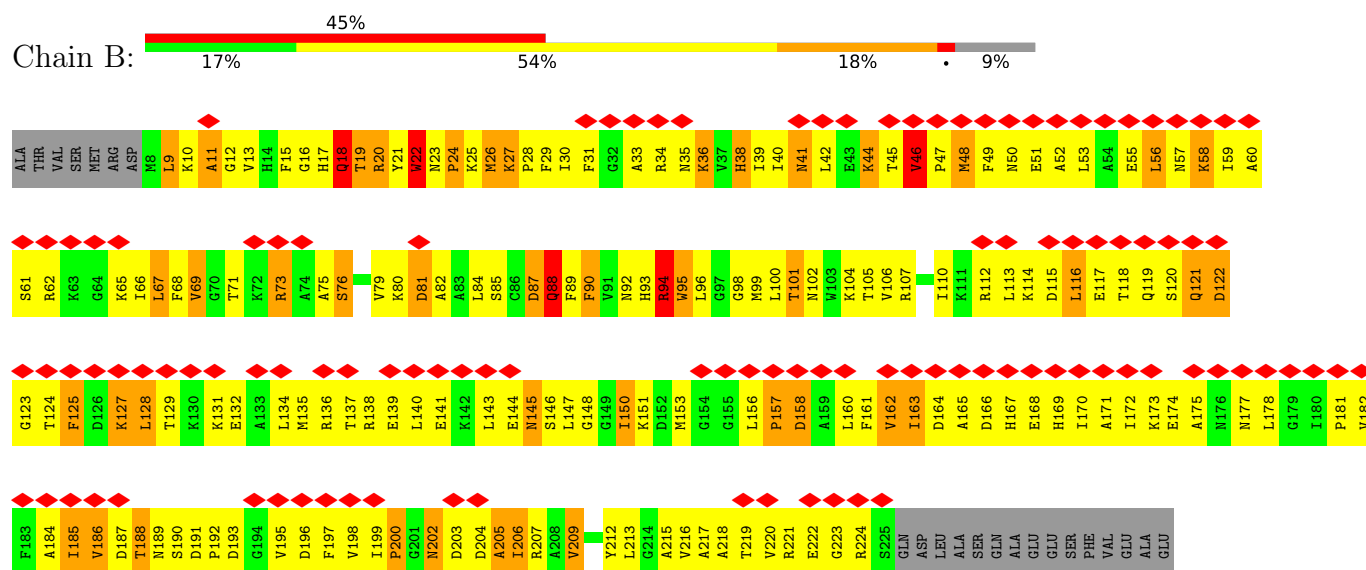
• Molecule 1: 16S RIBOSOMAL RNA



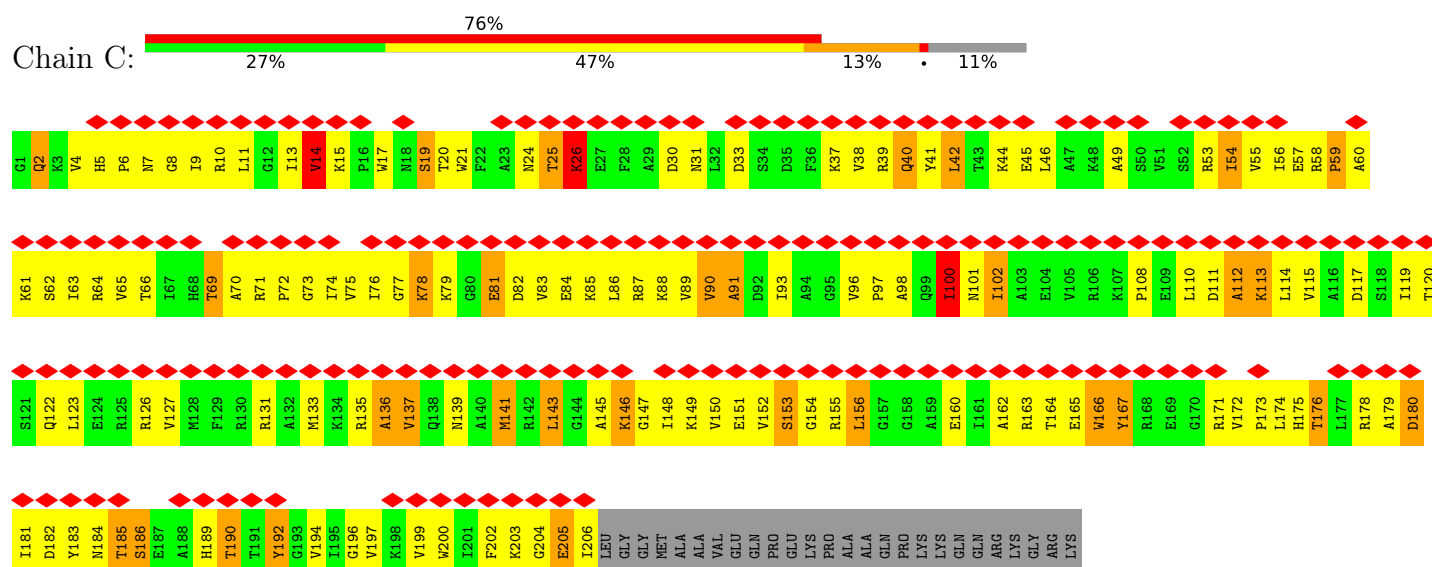




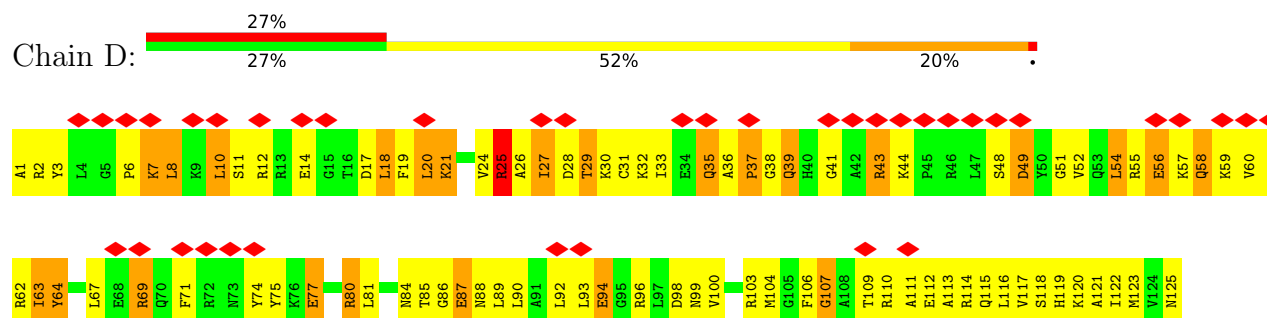
• Molecule 2: 30S RIBOSOMAL PROTEIN S2

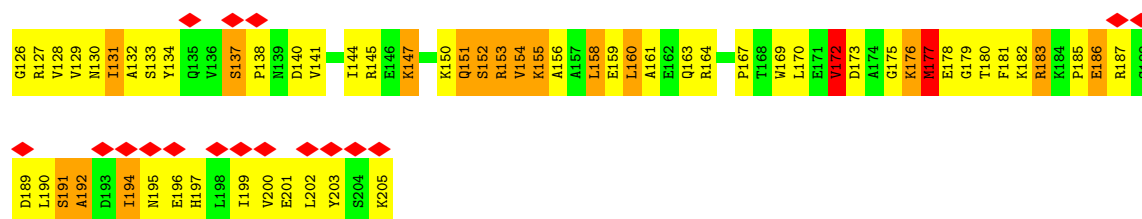


• Molecule 3: 30S RIBOSOMAL PROTEIN S3

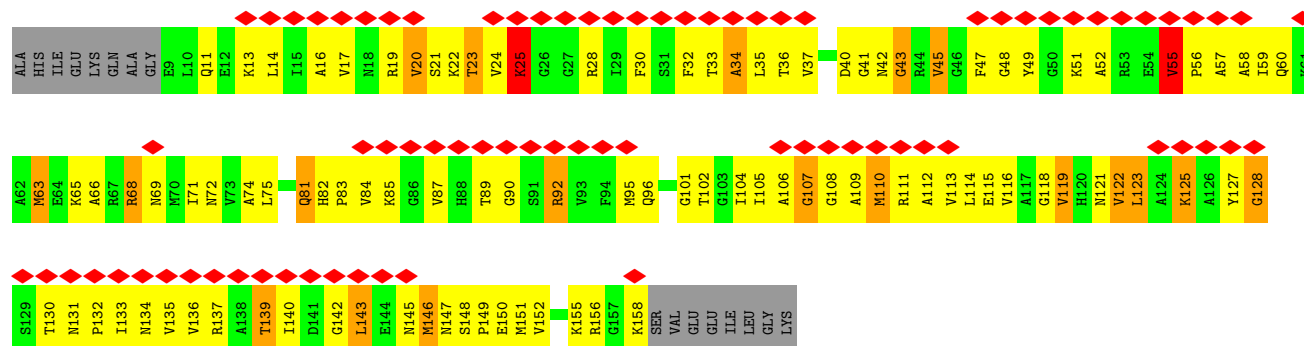


• Molecule 4: 30S RIBOSOMAL PROTEIN S4

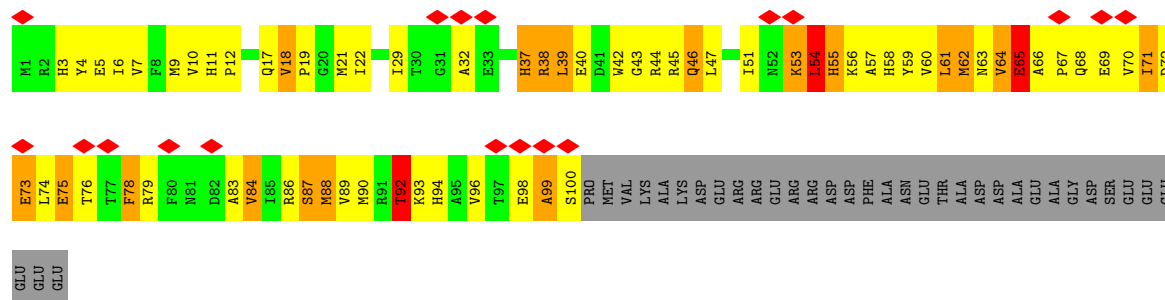
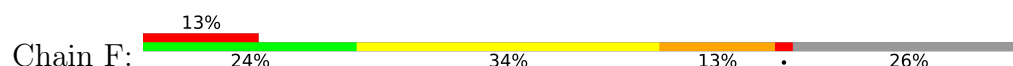




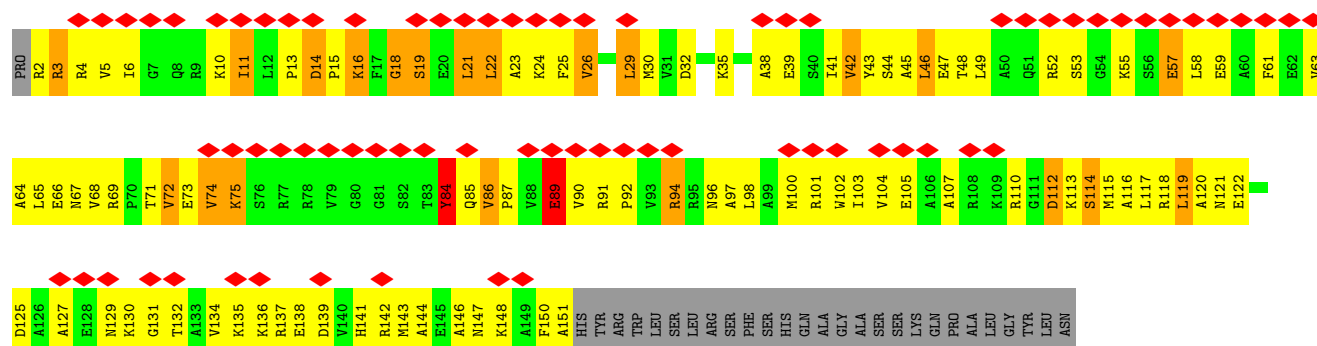
• Molecule 5: 30S RIBOSOMAL PROTEIN S5



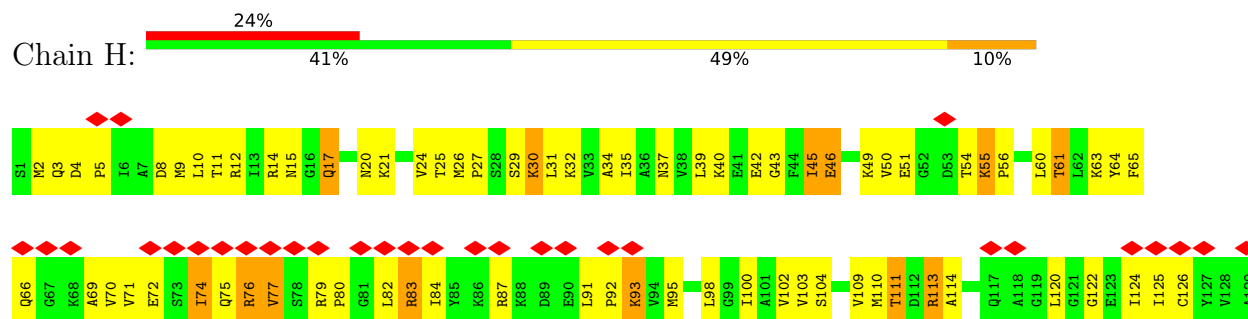
• Molecule 6: 30S RIBOSOMAL PROTEIN S6



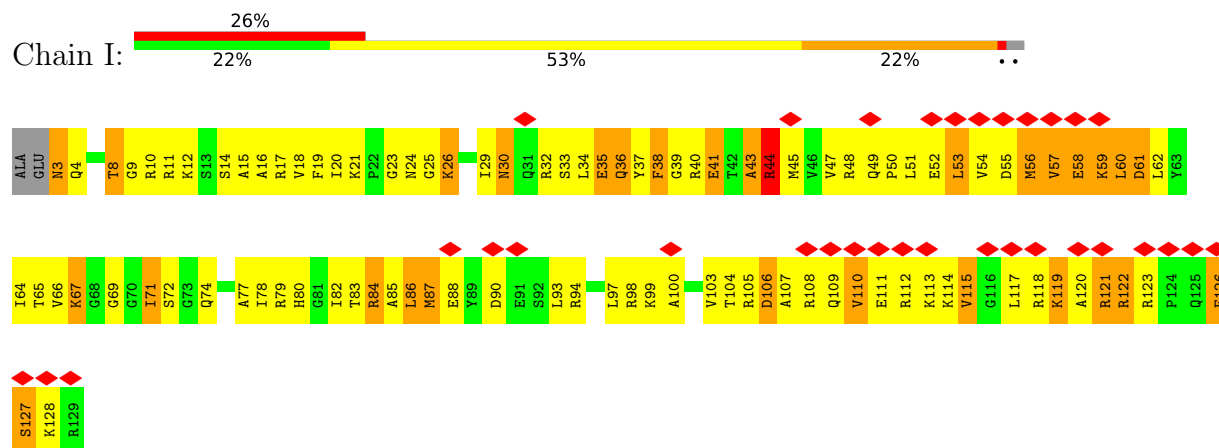
• Molecule 7: 30S RIBOSOMAL PROTEIN S7



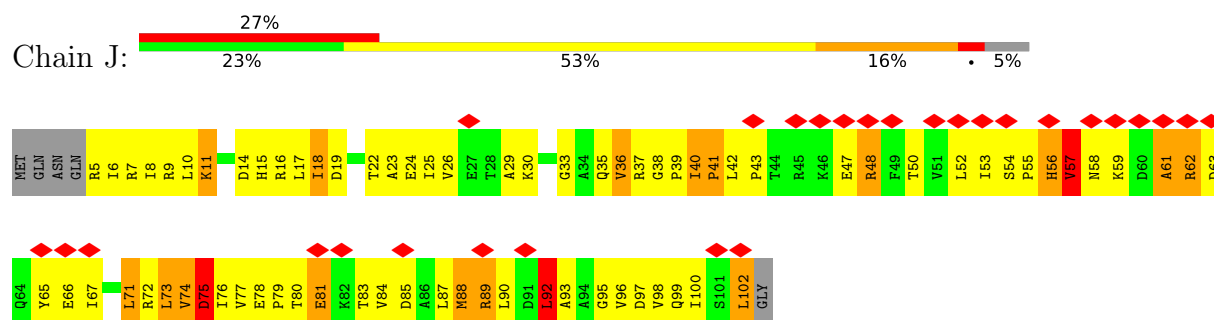
- Molecule 8: 30S RIBOSOMAL PROTEIN S8



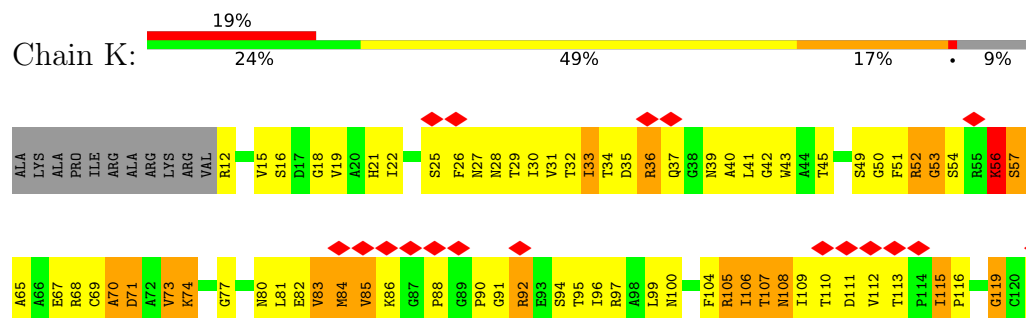
- Molecule 9: 30S RIBOSOMAL PROTEIN S9



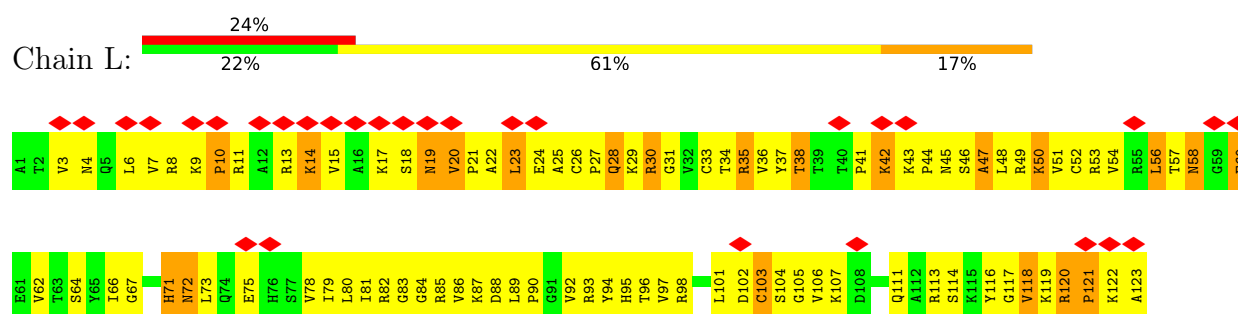
- Molecule 10: 30S RIBOSOMAL PROTEIN S10



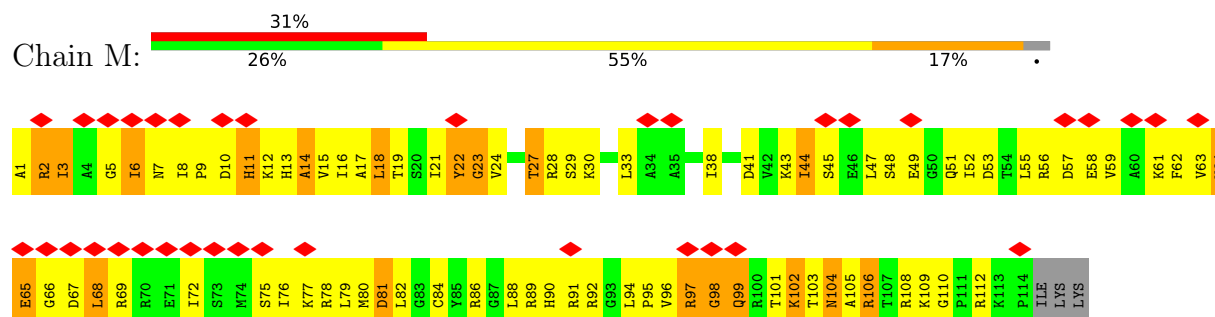
- Molecule 11: 30S RIBOSOMAL PROTEIN S11



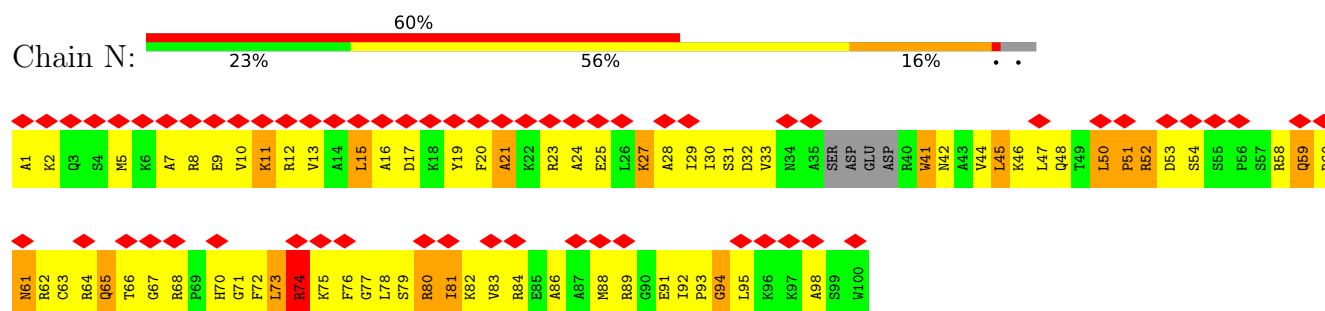
- Molecule 12: 30S RIBOSOMAL PROTEIN S12



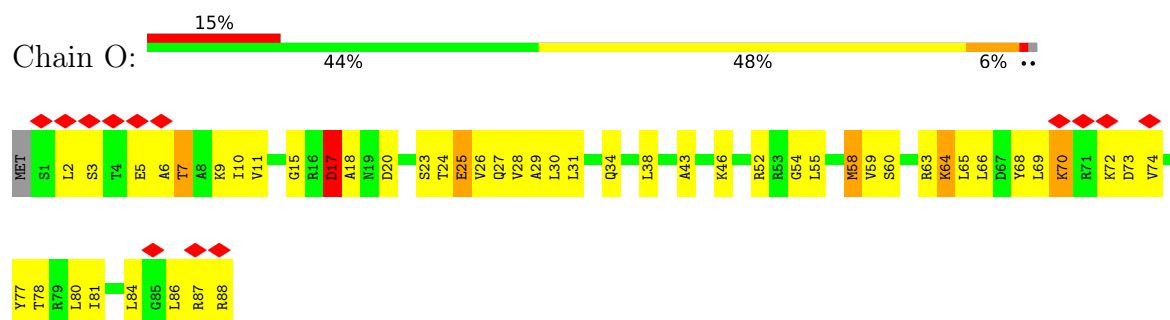
• Molecule 13: 30S RIBOSOMAL PROTEIN S13



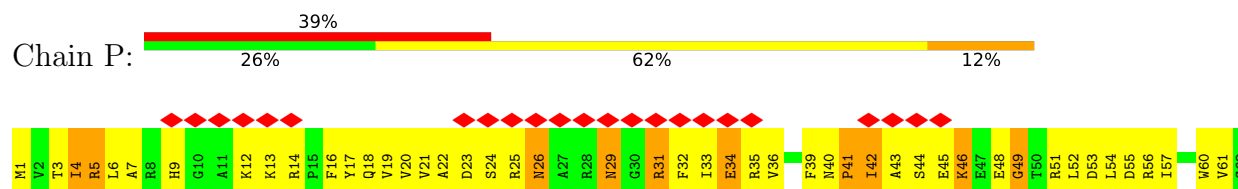
• Molecule 14: 30S RIBOSOMAL PROTEIN S14



• Molecule 15: 30S RIBOSOMAL PROTEIN S15



• Molecule 16: 30S RIBOSOMAL PROTEIN S16

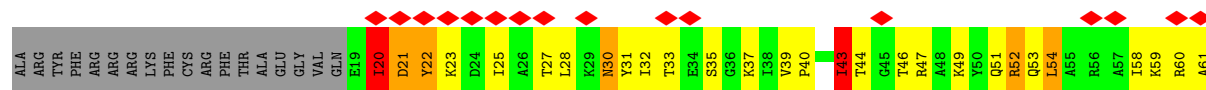
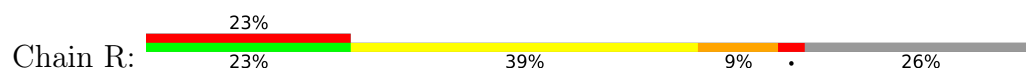




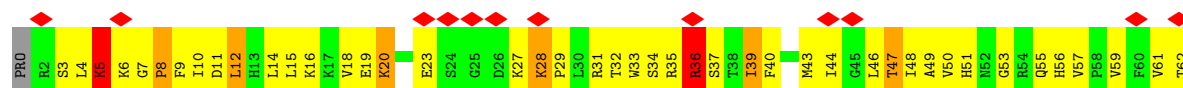
• Molecule 17: 30S RIBOSOMAL PROTEIN S17



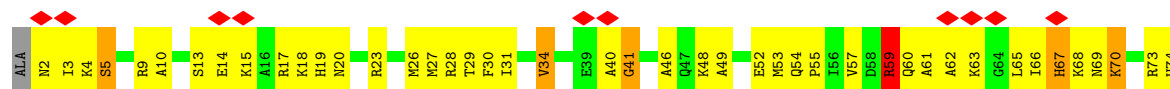
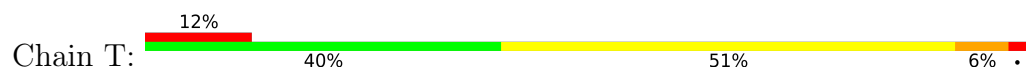
• Molecule 18: 30S RIBOSOMAL PROTEIN S18



• Molecule 19: 30S RIBOSOMAL PROTEIN S19

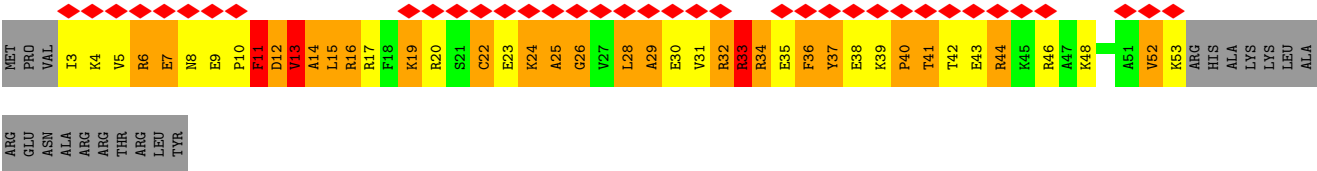


• Molecule 20: 30S RIBOSOMAL PROTEIN S20

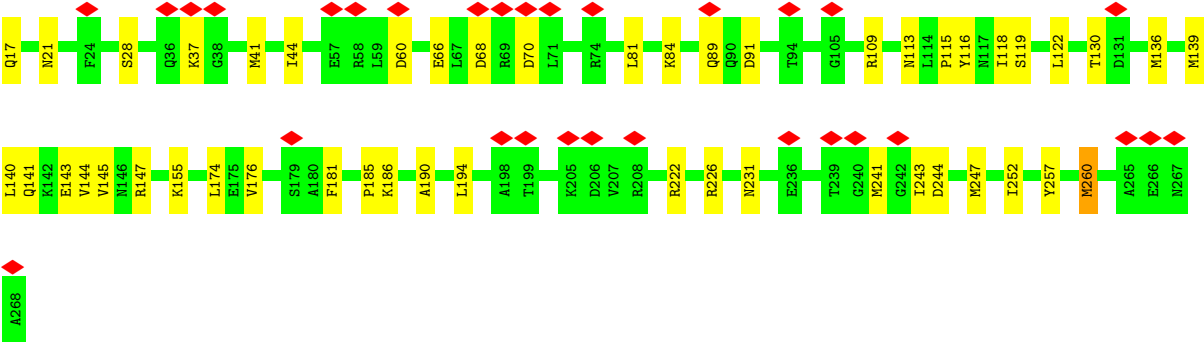
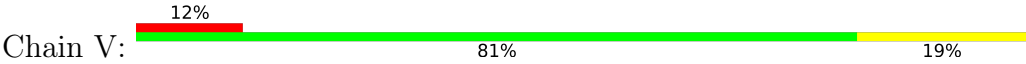


• Molecule 21: 30S RIBOSOMAL PROTEIN S21





● Molecule 22: RIBOSOMAL RNA SMALL SUBUNIT METHYLTRANSFERASE A



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	23343	Depositor
Resolution determination method	Not provided	
CTF correction method	PER IMAGE, CTFFIND3	Depositor
Microscope	FEI TECNAI 20	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/\text{\AA}^2$)	20	Depositor
Minimum defocus (nm)	2000	Depositor
Maximum defocus (nm)	4000	Depositor
Magnification	82000	Depositor
Image detector	GATAN ULTRASCAN 4000 (4k x 4k)	Depositor
Maximum map value	615.226	Depositor
Minimum map value	-195.405	Depositor
Average map value	-10.220	Depositor
Map value standard deviation	23.595	Depositor
Recommended contour level	39	Depositor
Map size ($\text{\AA}$)	392.96, 392.96, 392.96	wwPDB
Map dimensions	128, 128, 128	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	3.07, 3.07, 3.07	Depositor

5 Model quality

5.1 Standard geometry

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	0.27	1/33885 (0.0%)	0.63	26/52858 (0.0%)
2	B	0.31	1/1735 (0.1%)	0.77	1/2338 (0.0%)
3	C	0.28	0/1651	0.74	1/2225 (0.0%)
4	D	0.27	0/1665	0.72	1/2227 (0.0%)
5	E	0.30	0/1118	0.76	1/1504 (0.1%)
6	F	0.30	0/835	0.81	2/1128 (0.2%)
7	G	0.27	0/1187	0.74	0/1591
8	H	0.28	0/989	0.79	0/1326
9	I	0.28	0/1034	0.75	0/1375
10	J	0.29	0/796	0.71	0/1077
11	K	0.30	0/893	0.80	2/1205 (0.2%)
12	L	0.28	0/969	0.72	0/1300
13	M	0.28	0/892	0.77	0/1193
14	N	0.28	0/785	0.74	0/1043
15	O	0.27	0/724	0.73	1/966 (0.1%)
16	P	0.29	0/659	0.76	0/884
17	Q	0.26	0/657	0.63	0/881
18	R	0.31	0/462	0.71	0/621
19	S	0.29	0/652	0.72	0/877
20	T	0.28	0/671	0.76	0/888
21	U	1.53	5/430 (1.2%)	1.15	8/570 (1.4%)
22	V	0.78	1/1991 (0.1%)	0.96	0/2710
All	All	0.34	8/54680 (0.0%)	0.69	43/80787 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	15
21	U	0	1
All	All	0	16

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
21	U	15	LEU	C-N	-23.59	0.99	1.33
21	U	25	ALA	C-N	-11.74	1.16	1.33
21	U	29	ALA	C-N	11.73	1.49	1.33
21	U	11	PHE	C-N	-9.07	1.21	1.33
21	U	7	GLU	C-N	6.81	1.43	1.33
22	V	260	MET	SD-CE	-5.97	1.64	1.79
2	B	46	VAL	CA-CB	5.40	1.56	1.54
1	A	463	U	O3'-P	-5.36	1.53	1.61

All (43) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	328	C	C2'-C3'-O3'	8.66	122.48	109.50
1	A	372	C	C2'-C3'-O3'	7.33	120.49	109.50
21	U	15	LEU	CA-C-N	6.80	136.12	121.64
21	U	15	LEU	C-N-CA	6.80	136.12	121.64
1	A	232	G	C5'-C4'-C3'	-6.62	106.07	116.00
1	A	120	A	C4'-C3'-O3'	-6.60	103.09	113.00
1	A	1528	U	C2'-C3'-O3'	6.56	119.34	109.50
1	A	960	U	C2'-C3'-O3'	6.48	119.22	109.50
1	A	968	A	C4'-C3'-O3'	-6.46	99.71	109.40
2	B	44	LYS	N-CA-C	-6.36	105.16	113.17
21	U	29	ALA	CA-C-N	-6.29	111.85	120.28
21	U	29	ALA	C-N-CA	-6.29	111.85	120.28
1	A	243	A	C4'-C3'-O3'	6.27	118.80	109.40
1	A	811	C	C4'-C3'-O3'	-6.26	103.60	113.00
1	A	765	G	C4'-C3'-O3'	6.08	122.12	113.00
1	A	765	G	N9-C1'-C2'	-5.99	103.02	112.00
1	A	438	U	N1-C1'-C2'	-5.94	105.08	114.00
1	A	1065	U	C2'-C3'-O3'	5.92	118.39	109.50
3	C	137	VAL	N-CA-C	-5.82	108.18	113.71
21	U	19	LYS	N-CA-C	-5.75	106.23	113.18
1	A	1534	A	C4'-C3'-O3'	5.65	121.47	113.00
1	A	437	U	N1-C1'-C2'	5.63	120.44	112.00
1	A	1004	A	C4'-C3'-O3'	-5.62	104.58	113.00
1	A	1118	U	C5'-C4'-C3'	-5.58	107.63	116.00
4	D	49	ASP	N-CA-C	-5.54	107.52	114.56
6	F	99	ALA	CB-CA-C	-5.40	110.36	116.63
15	O	43	ALA	N-CA-C	-5.37	105.53	111.71
1	A	965	U	C4'-C3'-O3'	-5.33	105.00	113.00
1	A	814	A	C5'-C4'-C3'	5.32	123.98	116.00
1	A	1049	U	C2'-C3'-O3'	5.32	117.48	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1528	U	C4'-C3'-O3'	5.29	117.34	109.40
6	F	18	VAL	CB-CA-C	-5.26	108.70	113.70
11	K	105	ARG	CA-C-O	5.26	120.99	117.94
5	E	55	VAL	CB-CA-C	-5.23	108.73	113.70
21	U	46	ARG	N-CA-C	-5.22	106.97	113.55
1	A	1043	G	N9-C1'-C2'	5.21	119.82	112.00
1	A	1319	A	N9-C1'-C2'	5.21	119.81	112.00
1	A	1226	C	C2'-C3'-O3'	5.21	117.31	109.50
21	U	29	ALA	N-CA-C	-5.20	106.03	112.38
11	K	105	ARG	CB-CA-C	-5.18	109.61	117.07
1	A	366	A	C2'-C3'-O3'	5.15	117.23	109.50
1	A	855	U	C5'-C4'-C3'	-5.13	108.30	116.00
21	U	15	LEU	O-C-N	-5.00	116.61	121.87

There are no chirality outliers.

All (16) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1006	G	Sidechain
1	A	1028	C	Sidechain
1	A	1319	A	Sidechain
1	A	1331	G	Sidechain
1	A	187	G	Sidechain
1	A	281	G	Sidechain
1	A	437	U	Sidechain
1	A	438	U	Sidechain
1	A	454	G	Sidechain
1	A	481	G	Sidechain
1	A	496	A	Sidechain
1	A	521	G	Sidechain
1	A	575	G	Sidechain
1	A	58	C	Sidechain
1	A	703	G	Sidechain
21	U	11	PHE	Mainchain

5.2 Too-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 hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	30262	0	15198	1467	0
2	B	1704	0	1720	443	0
3	C	1624	0	1699	167	0
4	D	1643	0	1710	184	0
5	E	1105	0	1145	174	0
6	F	817	0	808	81	0
7	G	1174	0	1230	108	0
8	H	979	0	1032	80	0
9	I	1022	0	1070	154	0
10	J	786	0	828	100	0
11	K	877	0	887	113	0
12	L	955	0	1019	107	0
13	M	883	0	944	89	0
14	N	774	0	827	98	0
15	O	716	0	742	50	0
16	P	649	0	666	81	0
17	Q	648	0	691	84	0
18	R	455	0	478	45	0
19	S	637	0	665	83	0
20	T	665	0	714	57	0
21	U	425	0	448	105	0
22	V	1949	0	1949	53	0
23	V	139	0	0	11	0
All	All	50888	0	36470	3362	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 39.

All (3362) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:870:U:C6	2:B:27:LYS:HD3	1.28	1.64
1:A:829:G:C3'	2:B:30:ILE:HG12	1.18	1.62
1:A:830:G:C4	2:B:22:TRP:HB3	1.40	1.53
1:A:17:U:C5'	1:A:1079:G:H5'	1.39	1.49
1:A:830:G:C5	2:B:22:TRP:HB3	1.47	1.49
1:A:17:U:H5'	1:A:1079:G:C4'	1.00	1.47
1:A:17:U:H5'	1:A:1079:G:C5'	1.46	1.45
1:A:17:U:C5'	1:A:1079:G:C5'	1.94	1.44
1:A:829:G:C4'	2:B:30:ILE:HG12	1.24	1.43
1:A:829:G:C4'	2:B:30:ILE:CG1	1.91	1.43
1:A:17:U:C5'	1:A:1079:G:C4'	1.95	1.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1082:A:H8	5:E:22:LYS:NZ	1.14	1.41
1:A:869:G:C3'	2:B:24:PRO:HB3	1.49	1.40
1:A:1081:A:C8	5:E:22:LYS:HB2	1.55	1.39
1:A:1081:A:C8	5:E:22:LYS:CD	1.97	1.38
1:A:1081:A:C8	5:E:22:LYS:HD2	1.26	1.38
21:U:14:ALA:HA	21:U:16:ARG:NH1	1.37	1.37
1:A:920:U:C2	1:A:1079:G:O6	1.78	1.37
1:A:859:G:O3'	2:B:191:ASP:C	1.68	1.36
21:U:14:ALA:O	21:U:16:ARG:NE	1.57	1.36
1:A:1517:G:OP2	22:V:147:ARG:NH2	1.61	1.31
21:U:14:ALA:CA	21:U:16:ARG:NH1	1.92	1.31
1:A:859:G:C1'	2:B:26:MET:HG2	1.63	1.29
1:A:870:U:O4	2:B:28:PRO:CD	1.79	1.28
1:A:829:G:C8	2:B:26:MET:O	1.87	1.28
1:A:870:U:O4	2:B:28:PRO:HD3	1.13	1.26
1:A:855:U:H3	2:B:20:ARG:NH2	1.33	1.25
1:A:870:U:C6	2:B:27:LYS:CD	2.17	1.25
1:A:1081:A:H8	5:E:22:LYS:CB	1.43	1.24
1:A:1080:A:O2'	5:E:28:ARG:HG3	1.30	1.24
1:A:827:U:H2'	2:B:28:PRO:CG	1.68	1.24
1:A:861:G:O6	2:B:25:LYS:CE	1.84	1.24
1:A:869:G:H2'	2:B:24:PRO:CB	1.68	1.23
1:A:18:C:C6	1:A:1078:U:C1'	2.22	1.23
1:A:17:U:C4'	1:A:1079:G:H5'	1.66	1.23
1:A:860:A:C3'	2:B:193:ASP:OD1	1.86	1.22
1:A:861:G:O6	2:B:25:LYS:HE2	1.36	1.22
1:A:1517:G:H4'	22:V:144:VAL:CG2	1.69	1.22
1:A:829:G:C3'	2:B:30:ILE:CG1	2.12	1.22
1:A:17:U:C4'	1:A:1079:G:C5'	2.20	1.20
1:A:830:G:C4'	2:B:17:HIS:O	1.89	1.20
21:U:14:ALA:N	21:U:16:ARG:NH1	1.88	1.20
1:A:855:U:N3	2:B:20:ARG:NH2	1.88	1.19
1:A:857:C:O2	2:B:22:TRP:O	1.60	1.19
1:A:870:U:N1	2:B:27:LYS:HD3	1.43	1.19
1:A:861:G:C6	2:B:25:LYS:HE2	1.78	1.18
1:A:920:U:C2	1:A:1079:G:C6	2.30	1.17
1:A:1080:A:C8	5:E:22:LYS:HA	1.78	1.17
1:A:1081:A:O3'	5:E:24:VAL:CG1	1.93	1.17
1:A:830:G:H3'	2:B:38:HIS:ND1	1.51	1.16
1:A:830:G:C5	2:B:22:TRP:CB	2.29	1.16
1:A:830:G:H3'	2:B:38:HIS:H	1.04	1.15

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:18:C:C6	1:A:1078:U:H1'	1.81	1.15
1:A:869:G:C2'	2:B:24:PRO:CB	2.25	1.15
1:A:17:U:H4'	1:A:1079:G:H5'	1.30	1.14
1:A:827:U:C2'	2:B:28:PRO:CG	2.25	1.14
1:A:921:U:H4'	1:A:1081:A:O2'	1.47	1.14
1:A:829:G:H3'	2:B:30:ILE:CG1	1.76	1.14
1:A:830:G:C3'	2:B:38:HIS:ND1	2.07	1.14
21:U:14:ALA:CA	21:U:16:ARG:CZ	2.24	1.14
1:A:860:A:OP2	2:B:191:ASP:OD1	1.66	1.14
1:A:870:U:C4	2:B:27:LYS:HB3	1.83	1.14
1:A:830:G:C2'	2:B:19:THR:O	1.92	1.13
1:A:1082:A:C8	5:E:22:LYS:NZ	2.04	1.13
1:A:830:G:H4'	2:B:17:HIS:O	0.95	1.13
1:A:859:G:O3'	2:B:192:PRO:N	1.63	1.13
2:B:156:LEU:HD13	5:E:68:ARG:HH12	1.06	1.13
1:A:859:G:H1'	2:B:26:MET:HG2	1.16	1.12
1:A:869:G:H3'	2:B:24:PRO:CB	1.80	1.12
1:A:829:G:H3'	2:B:30:ILE:HG12	1.11	1.11
1:A:830:G:C4'	2:B:38:HIS:HD1	1.64	1.11
2:B:156:LEU:HD13	5:E:68:ARG:NH1	1.65	1.11
1:A:830:G:C3'	2:B:38:HIS:HD1	1.63	1.10
1:A:830:G:C1'	2:B:19:THR:O	1.99	1.10
1:A:1080:A:O2'	5:E:28:ARG:CG	2.00	1.10
1:A:829:G:O4'	2:B:30:ILE:HG13	1.48	1.09
1:A:830:G:C4	2:B:22:TRP:CB	2.35	1.09
1:A:1517:G:H4'	22:V:144:VAL:HG23	1.15	1.09
1:A:869:G:C3'	2:B:24:PRO:CB	2.31	1.09
1:A:17:U:C5'	1:A:1079:G:O4'	2.01	1.08
1:A:18:C:H5'	1:A:1078:U:H4'	1.09	1.08
1:A:861:G:O6	2:B:25:LYS:NZ	1.87	1.08
2:B:156:LEU:CD1	5:E:68:ARG:HH12	1.67	1.08
1:A:827:U:O3'	2:B:28:PRO:HB3	0.92	1.08
1:A:860:A:C5'	2:B:192:PRO:O	1.84	1.08
1:A:860:A:N7	2:B:25:LYS:HB3	1.69	1.08
1:A:830:G:O5'	2:B:38:HIS:ND1	1.84	1.07
1:A:827:U:C2'	2:B:28:PRO:HG3	1.84	1.07
1:A:829:G:O4'	2:B:30:ILE:CG1	2.00	1.07
1:A:17:U:H4'	1:A:1079:G:C5'	1.82	1.07
1:A:828:U:OP1	2:B:28:PRO:O	1.73	1.07
3:C:78:LYS:HG2	3:C:81:GLU:HB2	1.36	1.07
1:A:860:A:H3'	2:B:193:ASP:OD1	0.91	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:857:C:O2	2:B:22:TRP:C	1.86	1.06
1:A:869:G:H2'	2:B:24:PRO:HB2	1.33	1.06
1:A:17:U:H5''	1:A:1079:G:H5'	1.34	1.05
1:A:921:U:C4'	1:A:1081:A:O2'	2.04	1.05
1:A:827:U:C3'	2:B:28:PRO:HB3	1.87	1.05
1:A:1514:G:H5''	22:V:222:ARG:CZ	1.84	1.05
1:A:17:U:H5'	1:A:1079:G:H4'	1.05	1.04
2:B:163:ILE:HG23	2:B:164:ASP:H	1.17	1.04
1:A:829:G:OP1	2:B:41:ASN:HB3	1.56	1.04
1:A:1518:A:OP1	22:V:143:GLU:HB2	1.57	1.04
1:A:18:C:O4'	1:A:1078:U:O4'	1.76	1.03
10:J:35:GLN:HB3	10:J:77:VAL:HG23	1.34	1.03
1:A:855:U:C4	2:B:20:ARG:NH2	2.27	1.03
1:A:827:U:H2'	2:B:28:PRO:HG3	1.03	1.02
1:A:869:G:C2'	2:B:24:PRO:HB2	1.86	1.02
1:A:18:C:C5	1:A:1078:U:C2	2.47	1.01
8:H:92:PRO:HA	8:H:93:LYS:HZ2	1.25	1.01
21:U:14:ALA:N	21:U:16:ARG:CZ	2.23	1.01
1:A:17:U:O4'	1:A:1079:G:O4'	1.78	1.01
1:A:18:C:C5'	1:A:1078:U:H4'	1.89	1.01
1:A:869:G:H3'	2:B:24:PRO:HB3	1.04	1.01
1:A:827:U:O3'	2:B:28:PRO:CB	1.85	1.01
1:A:830:G:C5'	2:B:38:HIS:HD1	1.74	1.01
1:A:830:G:N3	2:B:19:THR:O	1.93	1.00
1:A:870:U:O4	2:B:28:PRO:CG	2.09	1.00
7:G:125:ASP:HB3	7:G:130:LYS:HB3	1.39	1.00
1:A:17:U:H5'	1:A:1079:G:O4'	1.60	1.00
1:A:859:G:C5'	2:B:190:SER:O	1.84	0.99
1:A:919:A:C2	1:A:1078:U:O4	2.15	0.99
1:A:921:U:O2'	1:A:1081:A:O2'	1.81	0.99
21:U:29:ALA:HB1	21:U:32:ARG:HH21	1.26	0.98
1:A:830:G:C6	2:B:22:TRP:CG	2.51	0.98
1:A:1081:A:C8	5:E:22:LYS:CB	2.16	0.98
2:B:46:VAL:HG13	2:B:47:PRO:HD3	1.45	0.98
8:H:103:VAL:HG12	8:H:124:ILE:HA	1.46	0.97
1:A:829:G:N1	2:B:23:ASN:N	2.02	0.97
13:M:106:ARG:HE	13:M:112:ARG:HG2	1.29	0.97
1:A:376:G:H5''	16:P:5:ARG:HB2	1.45	0.97
1:A:827:U:O2'	2:B:28:PRO:HG2	1.64	0.97
1:A:870:U:C5	2:B:27:LYS:HD3	2.00	0.97
1:A:828:U:P	2:B:28:PRO:O	2.20	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:830:G:N3	2:B:22:TRP:N	2.12	0.97
1:A:1313:U:H5''	19:S:5:LYS:HG2	1.47	0.96
1:A:859:G:O5'	2:B:23:ASN:OD1	1.83	0.96
1:A:1081:A:O3'	5:E:24:VAL:HG11	1.64	0.96
1:A:870:U:C5	2:B:27:LYS:HB3	2.00	0.96
11:K:124:LYS:HA	21:U:34:ARG:HB3	1.47	0.96
14:N:63:CYS:HB3	14:N:67:GLY:H	1.30	0.95
1:A:869:G:C2'	2:B:24:PRO:HB3	1.93	0.95
3:C:58:ARG:HG2	3:C:63:ILE:HG22	1.48	0.95
13:M:11:HIS:H	13:M:44:ILE:HD11	1.32	0.95
1:A:829:G:C4'	2:B:30:ILE:HG13	1.91	0.94
19:S:49:ALA:HB1	19:S:56:HIS:HB3	1.47	0.94
1:A:828:U:H3'	2:B:27:LYS:C	1.92	0.94
6:F:53:LYS:HD3	6:F:54:LEU:H	1.30	0.94
1:A:1517:G:N3	22:V:141:GLN:HG2	1.81	0.93
10:J:88:MET:HB2	10:J:89:ARG:HH12	1.32	0.93
1:A:859:G:C4'	2:B:190:SER:O	2.15	0.93
1:A:857:C:C2	2:B:22:TRP:C	2.46	0.93
2:B:67:LEU:HD11	2:B:157:PRO:HB3	1.47	0.93
1:A:17:U:H4'	1:A:1079:G:P	2.00	0.93
1:A:18:C:O4'	1:A:1078:U:C4'	2.16	0.93
1:A:830:G:O4'	2:B:188:THR:HG21	1.69	0.93
1:A:849:G:OP2	2:B:34:ARG:HD3	1.68	0.92
21:U:14:ALA:HA	21:U:16:ARG:CZ	1.90	0.92
1:A:848:C:OP1	2:B:35:ASN:OD1	1.87	0.92
1:A:849:G:OP2	2:B:34:ARG:CD	2.18	0.92
17:Q:18:LYS:HG2	17:Q:48:GLU:HA	1.52	0.91
11:K:22:ILE:HG21	11:K:95:THR:HG21	1.53	0.91
1:A:859:G:C8	2:B:26:MET:N	2.23	0.91
1:A:830:G:C5'	2:B:188:THR:HG21	2.02	0.91
1:A:860:A:H62	2:B:25:LYS:HG2	1.36	0.90
19:S:18:VAL:HG21	19:S:43:MET:HG2	1.53	0.90
9:I:51:LEU:HD23	9:I:56:MET:HE3	1.51	0.90
1:A:1086:U:H3	1:A:1099:G:H22	1.14	0.90
6:F:88:MET:HE1	6:F:90:MET:HG3	1.52	0.90
20:T:68:LYS:HG3	20:T:69:ASN:H	1.36	0.90
14:N:60:ARG:HD3	14:N:60:ARG:H	1.37	0.89
1:A:1517:G:C8	22:V:141:GLN:NE2	2.39	0.89
21:U:14:ALA:C	21:U:16:ARG:NE	2.30	0.89
1:A:859:G:C3'	2:B:191:ASP:C	2.33	0.89
1:A:860:A:H5''	2:B:192:PRO:O	1.58	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:18:C:H6	1:A:1078:U:C1'	1.83	0.89
1:A:859:G:P	2:B:23:ASN:OD1	2.29	0.89
21:U:13:VAL:C	21:U:16:ARG:HH12	1.81	0.89
1:A:18:C:C6	1:A:1078:U:O4'	2.24	0.89
1:A:860:A:P	2:B:191:ASP:OD1	2.30	0.89
13:M:48:SER:H	13:M:51:GLN:HB2	1.38	0.88
1:A:828:U:H3'	2:B:27:LYS:O	1.70	0.88
1:A:830:G:C3'	2:B:38:HIS:H	1.87	0.88
1:A:870:U:C4	2:B:28:PRO:HD3	2.07	0.88
7:G:112:ASP:HB2	7:G:118:ARG:HG2	1.55	0.88
1:A:860:A:N7	2:B:25:LYS:CB	2.36	0.88
16:P:46:LYS:H	16:P:46:LYS:HD3	1.38	0.88
13:M:78:ARG:HH21	13:M:79:LEU:HG	1.37	0.87
4:D:60:VAL:HA	4:D:63:ILE:HD12	1.57	0.87
6:F:53:LYS:HZ3	6:F:53:LYS:HA	1.40	0.87
19:S:4:LEU:HD13	19:S:9:PHE:H	1.37	0.87
2:B:150:ILE:HG13	2:B:153:MET:HE3	1.53	0.87
2:B:131:LYS:HA	2:B:134:LEU:HD12	1.56	0.87
12:L:8:ARG:HG3	12:L:9:LYS:H	1.40	0.86
18:R:52:ARG:HB3	18:R:52:ARG:HH11	1.40	0.86
1:A:699:C:H2'	1:A:700:G:H5''	1.57	0.86
9:I:34:LEU:HD11	9:I:47:VAL:HG21	1.56	0.86
1:A:1517:G:P	22:V:147:ARG:NH2	2.48	0.86
1:A:1514:G:O4'	23:V:312:HOH:O	1.90	0.86
10:J:8:ILE:HD12	10:J:100:ILE:HG22	1.58	0.86
1:A:920:U:N3	1:A:1079:G:O6	2.08	0.86
1:A:829:G:N9	2:B:26:MET:O	2.08	0.86
1:A:1082:A:H8	5:E:22:LYS:HZ1	1.23	0.86
1:A:859:G:C1'	2:B:26:MET:CG	2.51	0.85
1:A:830:G:H1'	2:B:19:THR:O	1.74	0.85
21:U:14:ALA:HA	21:U:16:ARG:HH11	1.03	0.85
21:U:13:VAL:HG13	21:U:14:ALA:H	1.38	0.85
1:A:243:A:H4'	1:A:244:U:H5'	1.59	0.85
1:A:1101:A:H4'	1:A:1102:A:O5'	1.76	0.85
15:O:6:ALA:HA	15:O:9:LYS:HE3	1.59	0.85
9:I:29:ILE:HG22	9:I:64:ILE:HB	1.57	0.85
1:A:1081:A:N6	5:E:51:LYS:NZ	2.24	0.85
12:L:48:LEU:H	12:L:48:LEU:HD23	1.42	0.85
1:A:664:G:H22	1:A:741:G:H1	1.26	0.84
1:A:870:U:OP2	2:B:22:TRP:CH2	2.30	0.84
16:P:20:VAL:HG23	16:P:35:ARG:HA	1.57	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:27:PHE:HB3	17:Q:36:PHE:HB3	1.59	0.84
21:U:13:VAL:C	21:U:16:ARG:NH1	2.35	0.84
1:A:857:C:C2	2:B:22:TRP:O	2.28	0.84
2:B:163:ILE:HG23	2:B:164:ASP:N	1.92	0.84
1:A:830:G:C5	2:B:22:TRP:CG	2.66	0.84
21:U:14:ALA:O	21:U:16:ARG:CZ	2.25	0.84
1:A:1514:G:C5'	22:V:222:ARG:CZ	2.39	0.84
2:B:33:ALA:HA	2:B:38:HIS:HA	1.58	0.84
21:U:14:ALA:O	21:U:16:ARG:CD	2.26	0.84
1:A:831:A:H3'	2:B:36:LYS:C	2.03	0.84
14:N:60:ARG:HH21	14:N:62:ARG:HE	1.21	0.84
1:A:18:C:C5	1:A:1078:U:H1'	2.12	0.83
1:A:18:C:H6	1:A:1078:U:H1'	1.33	0.83
1:A:1517:G:N9	22:V:141:GLN:NE2	2.26	0.83
11:K:126:ARG:HB2	21:U:33:ARG:HD2	1.61	0.83
15:O:25:GLU:HG3	15:O:80:LEU:HD12	1.58	0.83
2:B:202:ASN:HD22	2:B:204:ASP:H	1.26	0.83
12:L:56:LEU:HD11	12:L:81:ILE:HD12	1.60	0.83
1:A:830:G:O5'	2:B:38:HIS:CG	2.23	0.83
4:D:36:ALA:HA	4:D:41:GLY:HA3	1.61	0.83
1:A:921:U:C3'	1:A:1081:A:O2'	2.26	0.83
4:D:160:LEU:H	4:D:160:LEU:HD13	1.41	0.82
1:A:920:U:O2	1:A:1079:G:C6	2.33	0.82
8:H:54:THR:HG23	8:H:55:LYS:HG2	1.59	0.82
13:M:33:LEU:HD22	13:M:38:ILE:HB	1.61	0.82
1:A:17:U:C4'	1:A:1079:G:O4'	2.28	0.82
1:A:920:U:N1	1:A:1079:G:O6	2.11	0.82
3:C:146:LYS:HE3	3:C:202:PHE:HE2	1.42	0.82
1:A:1323:G:H2'	1:A:1324:A:C8	2.15	0.82
3:C:49:ALA:HB1	3:C:75:VAL:HG22	1.63	0.81
1:A:859:G:H5'	2:B:190:SER:O	1.12	0.81
3:C:155:ARG:H	3:C:162:ALA:HA	1.45	0.81
15:O:7:THR:HG22	15:O:30:LEU:HD11	1.62	0.81
1:A:793:U:O4	22:V:116:TYR:O	1.97	0.81
1:A:830:G:C2	2:B:21:TYR:C	2.48	0.81
1:A:1082:A:P	5:E:24:VAL:HG11	2.20	0.81
4:D:159:GLU:HG3	4:D:160:LEU:N	1.94	0.81
1:A:830:G:C4	2:B:20:ARG:HA	2.15	0.81
6:F:64:VAL:HG12	6:F:65:GLU:H	1.45	0.81
1:A:859:G:H1'	2:B:26:MET:CG	2.06	0.81
1:A:921:U:C2'	1:A:1081:A:O2'	2.29	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:33:A:H1'	12:L:27:PRO:HG3	1.61	0.80
7:G:21:LEU:HD23	7:G:21:LEU:H	1.45	0.80
17:Q:16:MET:HB2	17:Q:19:SER:HB2	1.64	0.80
5:E:87:VAL:HG12	5:E:92:ARG:HA	1.64	0.80
1:A:830:G:H3'	2:B:38:HIS:N	1.89	0.80
1:A:870:U:C5	2:B:27:LYS:CB	2.65	0.80
21:U:3:ILE:HA	21:U:19:LYS:HG2	1.64	0.80
2:B:112:ARG:O	2:B:116:LEU:HB2	1.82	0.80
1:A:827:U:C2'	2:B:28:PRO:HG2	2.04	0.80
1:A:1211:U:H4'	1:A:1213:A:H1'	1.64	0.80
13:M:19:THR:HA	13:M:24:VAL:HG23	1.64	0.80
1:A:869:G:H2'	2:B:24:PRO:C	2.06	0.79
5:E:105:ILE:HB	5:E:123:LEU:HA	1.61	0.79
1:A:1005:A:H2'	1:A:1006:G:O4'	1.82	0.79
5:E:83:PRO:HB3	5:E:96:GLN:HG3	1.65	0.79
17:Q:10:ARG:CZ	17:Q:11:VAL:H	1.95	0.79
20:T:30:PHE:HB3	20:T:53:MET:HB3	1.63	0.79
1:A:829:G:C1'	2:B:30:ILE:CG1	2.60	0.79
2:B:61:SER:HA	2:B:224:ARG:HA	1.62	0.79
2:B:9:LEU:HD22	2:B:11:ALA:H	1.48	0.79
1:A:1517:G:H4'	22:V:144:VAL:HG21	1.62	0.79
1:A:1518:A:OP1	22:V:143:GLU:CB	2.31	0.79
4:D:187:ARG:HA	4:D:190:LEU:HD22	1.65	0.79
21:U:14:ALA:C	21:U:16:ARG:CZ	2.56	0.79
1:A:860:A:N7	2:B:25:LYS:CG	2.46	0.79
1:A:858:G:C4	2:B:23:ASN:ND2	2.50	0.78
17:Q:10:ARG:NH1	17:Q:56:ASP:H	1.79	0.78
9:I:110:VAL:HG12	9:I:111:GLU:H	1.47	0.78
10:J:35:GLN:HB2	10:J:78:GLU:HB2	1.64	0.78
14:N:12:ARG:HA	14:N:15:LEU:HD11	1.66	0.78
17:Q:11:VAL:HA	17:Q:22:VAL:HG22	1.66	0.78
1:A:830:G:H4'	2:B:17:HIS:C	2.03	0.78
2:B:156:LEU:HD13	5:E:68:ARG:CZ	2.12	0.78
21:U:36:PHE:HB3	21:U:40:PRO:HD3	1.63	0.78
9:I:12:LYS:H	9:I:109:GLN:HE22	1.30	0.78
9:I:23:GLY:H	9:I:60:LEU:HA	1.48	0.77
10:J:56:HIS:H	14:N:80:ARG:HH22	1.30	0.77
13:M:11:HIS:N	13:M:44:ILE:HD11	1.99	0.77
1:A:65:A:N3	1:A:65:A:H2'	1.99	0.77
1:A:855:U:O4	2:B:20:ARG:NH2	2.12	0.77
1:A:830:G:O4'	2:B:188:THR:CG2	2.33	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1080:A:O2'	5:E:28:ARG:CD	2.31	0.77
15:O:2:LEU:HD22	15:O:7:THR:HG23	1.65	0.77
21:U:14:ALA:C	21:U:16:ARG:HD2	2.09	0.77
19:S:35:ARG:HG2	19:S:50:VAL:HG13	1.66	0.77
1:A:17:U:H4'	1:A:1079:G:O5'	1.84	0.77
1:A:849:G:OP2	2:B:34:ARG:NE	2.16	0.77
1:A:859:G:O4'	2:B:190:SER:O	2.03	0.77
1:A:861:G:C8	2:B:193:ASP:OD1	2.38	0.77
3:C:184:ASN:HD22	3:C:185:THR:H	1.32	0.77
15:O:81:ILE:HA	15:O:86:LEU:HD12	1.67	0.77
1:A:1074:G:OP1	5:E:65:LYS:HD3	1.85	0.77
13:M:18:LEU:HB3	13:M:29:SER:HB2	1.67	0.77
6:F:38:ARG:HB3	6:F:63:ASN:HB2	1.65	0.77
13:M:23:GLY:HA3	13:M:64:VAL:HG13	1.67	0.77
2:B:120:SER:HA	2:B:125:PHE:HB3	1.67	0.76
1:A:921:U:O3'	1:A:1082:A:H5'	1.85	0.76
11:K:30:ILE:HG22	11:K:45:THR:HA	1.67	0.76
13:M:21:ILE:HG22	13:M:64:VAL:HG11	1.67	0.76
8:H:113:ARG:HH21	8:H:114:ALA:HA	1.49	0.76
1:A:830:G:C2	2:B:22:TRP:N	2.54	0.76
2:B:162:VAL:HG13	2:B:184:ALA:HB2	1.67	0.76
7:G:87:PRO:HG2	7:G:151:ALA:HB2	1.66	0.76
1:A:857:C:H1'	2:B:21:TYR:CA	2.15	0.76
12:L:35:ARG:NH2	12:L:75:GLU:HB3	2.00	0.76
16:P:42:ILE:HB	16:P:46:LYS:HD2	1.68	0.76
1:A:437:U:H2'	1:A:438:U:O4'	1.85	0.76
1:A:764:C:H3'	1:A:765:G:H21	1.51	0.76
1:A:830:G:C4	2:B:19:THR:O	2.39	0.76
1:A:1103:C:H5''	2:B:96:LEU:HD12	1.68	0.76
14:N:30:ILE:HG21	14:N:41:TRP:HB2	1.65	0.76
1:A:18:C:C5	1:A:1078:U:C1'	2.69	0.76
20:T:27:MET:HE1	20:T:66:ILE:HG12	1.66	0.76
1:A:840:C:H2'	1:A:842:U:H5''	1.67	0.76
3:C:8:GLY:HA2	3:C:11:LEU:HG	1.67	0.75
1:A:1219:A:H2'	1:A:1220:G:C8	2.21	0.75
1:A:1308:U:H2'	1:A:1309:G:H8	1.50	0.75
1:A:18:C:H5'	1:A:1078:U:C4'	2.05	0.75
1:A:78:A:H2'	1:A:79:G:C8	2.20	0.75
1:A:829:G:OP1	2:B:41:ASN:CB	2.33	0.75
1:A:859:G:O3'	2:B:192:PRO:CA	2.33	0.75
21:U:14:ALA:C	21:U:16:ARG:CD	2.58	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:19:ASP:O	10:J:22:THR:HG22	1.87	0.75
21:U:14:ALA:N	21:U:16:ARG:HH12	1.81	0.75
2:B:41:ASN:HD22	2:B:44:LYS:HE2	1.50	0.75
16:P:71:VAL:HA	16:P:74:LEU:HG	1.69	0.75
2:B:204:ASP:CG	2:B:205:ALA:H	1.95	0.75
16:P:52:LEU:HG	16:P:75:ILE:HG12	1.69	0.75
1:A:829:G:OP2	2:B:30:ILE:O	1.88	0.74
3:C:179:ALA:HB1	3:C:202:PHE:HE1	1.52	0.74
7:G:67:ASN:HD22	7:G:127:ALA:HA	1.51	0.74
1:A:429:U:H3'	4:D:8:LEU:HD23	1.70	0.74
13:M:44:ILE:HD12	13:M:45:SER:H	1.52	0.74
1:A:830:G:N9	2:B:22:TRP:HB3	2.01	0.74
1:A:812:G:H2'	1:A:812:G:N3	2.02	0.74
21:U:14:ALA:HA	21:U:16:ARG:CD	2.16	0.74
1:A:830:G:C6	2:B:22:TRP:CD1	2.76	0.74
1:A:858:G:C1'	2:B:22:TRP:O	2.34	0.74
11:K:86:LYS:HB2	11:K:112:VAL:HG23	1.68	0.74
1:A:921:U:C2'	1:A:1081:A:HO2'	2.00	0.74
4:D:104:MET:HE2	4:D:170:LEU:HD13	1.67	0.74
12:L:66:ILE:HD13	12:L:73:LEU:HD12	1.69	0.74
22:V:247:MET:HE3	22:V:252:ILE:HD13	1.70	0.74
1:A:1074:G:OP1	5:E:65:LYS:NZ	2.17	0.73
1:A:1081:A:N6	5:E:51:LYS:HZ2	1.84	0.73
10:J:39:PRO:HA	10:J:74:VAL:HG22	1.70	0.73
21:U:40:PRO:HG2	21:U:41:THR:H	1.53	0.73
1:A:1081:A:O3'	5:E:24:VAL:HG12	1.88	0.73
2:B:67:LEU:H	2:B:67:LEU:HD22	1.52	0.73
13:M:15:VAL:HG23	13:M:33:LEU:HD12	1.70	0.73
1:A:870:U:C2	2:B:27:LYS:HD3	2.21	0.73
21:U:20:ARG:HA	21:U:24:LYS:HG3	1.70	0.73
1:A:135:C:O2	16:P:1:MET:HB2	1.88	0.73
4:D:10:LEU:HD21	4:D:62:ARG:HD3	1.70	0.73
1:A:830:G:H5'	2:B:188:THR:HG21	1.69	0.73
20:T:60:GLN:HE21	20:T:61:ALA:H	1.36	0.73
1:A:830:G:O4'	2:B:188:THR:CB	2.37	0.73
1:A:18:C:C5	1:A:1078:U:N1	2.57	0.73
1:A:946:A:H2'	1:A:947:G:C8	2.24	0.73
3:C:5:HIS:HD2	3:C:8:GLY:H	1.35	0.73
1:A:430:A:OP1	4:D:8:LEU:HB2	1.89	0.73
1:A:1513:A:H2'	23:V:312:HOH:O	1.87	0.73
2:B:163:ILE:HD11	2:B:209:VAL:HG12	1.70	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:781:A:H2'	1:A:782:A:H5'	1.69	0.73
4:D:84:ASN:ND2	4:D:87:GLU:H	1.87	0.73
5:E:108:GLY:H	5:E:110:MET:HE1	1.53	0.73
13:M:77:LYS:HA	13:M:80:MET:HB3	1.71	0.73
16:P:26:ASN:CG	16:P:31:ARG:HB3	2.13	0.73
1:A:1080:A:H8	5:E:22:LYS:HA	1.45	0.72
1:A:1514:G:H8	23:V:312:HOH:O	1.72	0.72
1:A:829:G:H3'	2:B:30:ILE:CD1	2.17	0.72
1:A:1250:A:H4'	9:I:69:GLY:H	1.54	0.72
1:A:1125:U:H2'	1:A:1126:U:H5''	1.70	0.72
2:B:116:LEU:HD11	2:B:139:GLU:HB3	1.71	0.72
4:D:156:ALA:O	4:D:159:GLU:HG2	1.89	0.72
15:O:70:LYS:HZ1	15:O:74:VAL:HA	1.54	0.72
1:A:18:C:O4'	1:A:1078:U:H5'	1.89	0.72
11:K:110:THR:HG21	21:U:4:LYS:HD2	1.69	0.72
13:M:38:ILE:HG13	13:M:55:LEU:HD21	1.71	0.72
21:U:29:ALA:CB	21:U:32:ARG:HH21	2.03	0.72
11:K:56:LYS:O	11:K:58:THR:HG22	1.90	0.72
1:A:830:G:H5'	2:B:188:THR:CG2	2.19	0.72
1:A:832:G:C8	2:B:20:ARG:HG3	2.25	0.72
1:A:1517:G:C4'	22:V:144:VAL:CG2	2.59	0.72
1:A:1515:G:P	23:V:336:HOH:O	2.48	0.72
12:L:98:ARG:HA	12:L:98:ARG:HE	1.55	0.72
1:A:1081:A:C4'	5:E:24:VAL:HG13	2.19	0.71
1:A:1517:G:C4'	22:V:144:VAL:HG23	2.09	0.71
2:B:46:VAL:HA	2:B:49:PHE:HD2	1.55	0.71
1:A:501:C:H2'	1:A:502:A:H8	1.53	0.71
1:A:921:U:H4'	1:A:1081:A:C2'	2.20	0.71
1:A:1218:C:H2'	1:A:1219:A:H8	1.54	0.71
10:J:92:LEU:HD22	10:J:92:LEU:H	1.55	0.71
1:A:278:G:H21	1:A:279:A:H62	1.36	0.71
4:D:94:GLU:HG3	4:D:103:ARG:HH12	1.55	0.71
13:M:44:ILE:HA	13:M:47:LEU:HD13	1.71	0.71
16:P:67:ILE:HG13	16:P:71:VAL:HG13	1.71	0.71
17:Q:29:LYS:HD3	17:Q:35:LYS:N	2.06	0.71
1:A:1082:A:O5'	5:E:22:LYS:NZ	2.23	0.71
1:A:1308:U:H2'	1:A:1309:G:C8	2.24	0.71
5:E:131:ASN:HD21	5:E:133:ILE:HB	1.54	0.71
1:A:18:C:O4'	1:A:1078:U:C5'	2.38	0.71
1:A:780:A:O2'	1:A:781:A:H5''	1.91	0.71
1:A:870:U:O4	2:B:28:PRO:HG3	1.88	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:92:ARG:HH11	11:K:92:ARG:HB3	1.55	0.71
13:M:78:ARG:NH2	13:M:79:LEU:HG	2.05	0.71
1:A:920:U:N3	1:A:1079:G:C6	2.57	0.71
7:G:100:MET:HA	7:G:103:ILE:HD12	1.71	0.71
11:K:42:GLY:HA3	11:K:73:VAL:HG22	1.71	0.71
20:T:81:GLN:O	20:T:85:LEU:HB3	1.90	0.71
1:A:1057:G:H5''	3:C:153:SER:HB3	1.72	0.71
3:C:57:GLU:HB2	3:C:64:ARG:HB2	1.73	0.71
9:I:71:ILE:H	9:I:71:ILE:HD12	1.55	0.71
11:K:113:THR:HG21	21:U:28:LEU:HD11	1.72	0.71
1:A:17:U:C5'	1:A:1079:G:H4'	1.90	0.71
1:A:1080:A:OP1	5:E:20:VAL:C	2.34	0.71
1:A:1179:A:H4'	9:I:104:THR:HA	1.73	0.71
1:A:1218:C:H2'	1:A:1219:A:C8	2.25	0.71
19:S:48:ILE:HB	19:S:59:VAL:HB	1.73	0.71
1:A:814:A:H5'	1:A:1511:G:H4'	1.73	0.70
17:Q:20:ILE:HG13	17:Q:45:VAL:HB	1.73	0.70
1:A:1081:A:H8	5:E:22:LYS:HB2	0.98	0.70
1:A:878:A:H5''	8:H:80:PRO:HG2	1.73	0.70
3:C:153:SER:HB2	3:C:196:GLY:H	1.54	0.70
8:H:49:LYS:HG3	8:H:50:VAL:H	1.56	0.70
14:N:63:CYS:HB3	14:N:67:GLY:N	2.04	0.70
5:E:95:MET:HE1	5:E:114:LEU:HD21	1.72	0.70
9:I:40:ARG:H	9:I:44:ARG:HE	1.39	0.70
10:J:56:HIS:O	10:J:57:VAL:HG12	1.92	0.70
1:A:1330:U:H2'	1:A:1331:G:H5'	1.72	0.70
3:C:72:PRO:O	3:C:76:ILE:HG12	1.91	0.70
4:D:194:ILE:HD13	4:D:195:ASN:N	2.06	0.70
14:N:30:ILE:HD12	14:N:30:ILE:H	1.56	0.70
1:A:860:A:C8	2:B:25:LYS:HB3	2.27	0.70
1:A:922:G:H2'	1:A:923:A:C8	2.26	0.70
15:O:70:LYS:HZ3	15:O:74:VAL:HG13	1.57	0.70
16:P:7:ALA:HB1	16:P:29:ASN:HB3	1.74	0.70
1:A:239:U:H4'	1:A:239:U:OP1	1.90	0.70
1:A:828:U:C4'	2:B:29:PHE:CG	2.68	0.70
7:G:13:PRO:HB2	7:G:18:GLY:HA2	1.72	0.70
9:I:56:MET:HA	9:I:59:LYS:HZ2	1.55	0.70
11:K:19:VAL:HG12	11:K:82:GLU:HB2	1.74	0.70
11:K:88:PRO:HD3	21:U:28:LEU:HD13	1.73	0.70
1:A:673:A:H2'	1:A:674:G:C8	2.27	0.70
1:A:870:U:N1	2:B:27:LYS:CD	2.29	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:112:ARG:NH1	9:I:112:ARG:HB2	2.07	0.69
16:P:42:ILE:HG22	16:P:43:ALA:H	1.55	0.69
21:U:14:ALA:CA	21:U:16:ARG:HD2	2.22	0.69
1:A:279:A:H5''	1:A:280:C:H3'	1.74	0.69
1:A:390:U:H2'	1:A:391:G:C8	2.27	0.69
1:A:412:A:H1'	1:A:413:G:H8	1.54	0.69
1:A:1074:G:P	5:E:65:LYS:HZ2	2.15	0.69
7:G:38:ALA:O	7:G:41:ILE:HG22	1.92	0.69
1:A:1182:G:H4'	1:A:1183:U:C5'	2.21	0.69
12:L:28:GLN:HG3	12:L:80:LEU:HD21	1.73	0.69
1:A:541:G:O2'	4:D:39:GLN:HB2	1.92	0.69
1:A:1517:G:OP2	22:V:147:ARG:CZ	2.39	0.69
12:L:35:ARG:HG3	12:L:36:VAL:H	1.56	0.69
12:L:79:ILE:HD13	12:L:96:THR:HG22	1.74	0.69
1:A:186:C:H4'	20:T:75:LYS:HB2	1.74	0.69
1:A:473:U:H2'	1:A:474:G:H8	1.58	0.69
1:A:518:C:H2'	1:A:530:G:C8	2.28	0.69
1:A:1326:U:H2'	1:A:1327:C:C6	2.28	0.69
6:F:86:ARG:HH11	18:R:63:TYR:HB3	1.55	0.69
1:A:870:U:C4	2:B:27:LYS:CB	2.72	0.69
1:A:1081:A:H62	5:E:51:LYS:HZ2	1.39	0.69
1:A:1208:C:H2'	1:A:1209:C:O4'	1.93	0.69
19:S:49:ALA:HA	19:S:57:VAL:O	1.93	0.69
1:A:1517:G:O4'	23:V:359:HOH:O	2.10	0.69
2:B:141:GLU:O	2:B:145:ASN:HB2	1.93	0.69
2:B:212:TYR:O	2:B:216:VAL:HG23	1.92	0.69
3:C:141:MET:HA	3:C:141:MET:HE3	1.75	0.69
1:A:830:G:OP2	2:B:30:ILE:HG23	1.93	0.69
1:A:1320:C:H41	19:S:36:ARG:HG2	1.57	0.69
12:L:20:VAL:HG13	12:L:94:TYR:HH	1.58	0.69
10:J:52:LEU:HB2	14:N:80:ARG:HD2	1.74	0.68
4:D:12:ARG:HD2	4:D:37:PRO:HA	1.75	0.68
14:N:50:LEU:HD23	14:N:51:PRO:HD3	1.73	0.68
18:R:46:THR:HG23	18:R:51:GLN:HB2	1.75	0.68
3:C:141:MET:HE1	3:C:147:GLY:H	1.59	0.68
3:C:154:GLY:HA3	3:C:162:ALA:HB1	1.76	0.68
10:J:71:LEU:H	10:J:71:LEU:HD12	1.58	0.68
1:A:18:C:C6	1:A:1078:U:N1	2.62	0.68
10:J:87:LEU:HB3	10:J:88:MET:HE3	1.75	0.68
12:L:24:GLU:HB3	12:L:26:CYS:SG	2.34	0.68
13:M:9:PRO:O	13:M:44:ILE:HG12	1.94	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:7:GLU:OE2	21:U:15:LEU:HD22	1.93	0.68
1:A:830:G:C4'	2:B:188:THR:HG21	2.24	0.68
8:H:111:THR:HG23	8:H:114:ALA:HB2	1.76	0.68
1:A:869:G:H2'	2:B:24:PRO:CA	2.22	0.68
1:A:901:A:H5'	1:A:902:G:OP2	1.94	0.68
5:E:101:GLY:H	5:E:121:ASN:HD21	1.41	0.68
1:A:619:U:N3	4:D:131:ILE:HD12	2.09	0.68
2:B:67:LEU:HD12	2:B:153:MET:HE2	1.74	0.68
3:C:9:ILE:HG23	3:C:10:ARG:HG3	1.76	0.68
3:C:133:MET:HE2	3:C:152:VAL:HG21	1.76	0.68
10:J:40:ILE:HG13	10:J:73:LEU:HB3	1.75	0.68
12:L:80:LEU:HD23	12:L:97:VAL:HG21	1.74	0.68
1:A:268:U:H2'	1:A:269:C:C6	2.28	0.68
1:A:1029:U:H5''	1:A:1030:U:H5	1.59	0.68
1:A:501:C:H2'	1:A:502:A:C8	2.30	0.67
1:A:967:C:H3'	1:A:968:A:H5'	1.75	0.67
6:F:37:HIS:CE1	6:F:65:GLU:HB2	2.29	0.67
8:H:30:LYS:HZ2	8:H:30:LYS:HA	1.58	0.67
10:J:6:ILE:HG12	10:J:102:LEU:HD11	1.74	0.67
15:O:68:TYR:CZ	15:O:72:LYS:HG3	2.29	0.67
1:A:1021:A:H2'	1:A:1022:A:O4'	1.93	0.67
1:A:1241:G:H2'	1:A:1242:G:H8	1.59	0.67
1:A:1251:A:H2'	1:A:1252:A:C8	2.28	0.67
1:A:71:A:H61	1:A:99:C:H1'	1.56	0.67
1:A:238:A:H2'	1:A:239:U:H5''	1.77	0.67
2:B:44:LYS:NZ	8:H:21:LYS:CE	2.37	0.67
3:C:33:ASP:HB2	14:N:64:ARG:HD3	1.75	0.67
8:H:64:TYR:HB3	8:H:69:ALA:HA	1.77	0.67
6:F:86:ARG:NH1	18:R:63:TYR:HB3	2.09	0.67
20:T:28:ARG:HA	20:T:31:ILE:HD12	1.77	0.67
2:B:102:ASN:O	2:B:106:VAL:HG23	1.93	0.67
2:B:198:VAL:HG22	2:B:200:PRO:HD3	1.76	0.67
1:A:1060:U:H2'	1:A:1061:G:H8	1.58	0.67
11:K:69:CYS:C	11:K:71:ASP:H	2.01	0.67
1:A:18:C:C5	1:A:1078:U:O2	2.48	0.67
1:A:1000:A:H2'	1:A:1001:C:C6	2.29	0.67
1:A:1060:U:H5''	10:J:53:ILE:HG22	1.75	0.67
1:A:1071:C:H2'	1:A:1072:G:H8	1.59	0.67
1:A:1236:A:H4'	1:A:1304:G:H4'	1.76	0.67
10:J:65:TYR:HB3	14:N:95:LEU:HD11	1.77	0.67
3:C:46:LEU:HD11	3:C:86:LEU:HD21	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:176:THR:HB	3:C:179:ALA:HB2	1.77	0.67
14:N:60:ARG:NH2	14:N:62:ARG:HE	1.92	0.67
1:A:919:A:C2	1:A:1078:U:C4	2.83	0.67
2:B:67:LEU:HD21	2:B:157:PRO:HG3	1.76	0.67
18:R:58:ILE:O	18:R:62:ARG:HG3	1.95	0.67
13:M:109:LYS:HG3	13:M:110:GLY:H	1.58	0.66
1:A:1123:U:O2'	1:A:1124:G:H5'	1.96	0.66
3:C:13:ILE:O	3:C:14:VAL:HG22	1.96	0.66
13:M:106:ARG:NE	13:M:112:ARG:HG2	2.08	0.66
1:A:858:G:H1'	2:B:22:TRP:O	1.95	0.66
1:A:1342:C:H2'	1:A:1343:G:H8	1.61	0.66
1:A:1517:G:C1'	23:V:359:HOH:O	2.43	0.66
4:D:123:MET:HA	4:D:128:VAL:HA	1.78	0.66
8:H:102:VAL:HG12	8:H:125:ILE:HD12	1.76	0.66
13:M:64:VAL:HA	13:M:68:LEU:HD12	1.76	0.66
21:U:3:ILE:HG12	21:U:19:LYS:HG2	1.77	0.66
1:A:860:A:N7	2:B:25:LYS:HD3	2.09	0.66
1:A:1074:G:H5'	2:B:104:LYS:HZ1	1.60	0.66
14:N:66:THR:HG23	14:N:67:GLY:H	1.59	0.66
14:N:30:ILE:HB	14:N:44:VAL:HG11	1.78	0.66
3:C:77:GLY:HA3	3:C:82:ASP:H	1.59	0.66
16:P:51:ARG:HB3	16:P:51:ARG:NH1	2.10	0.66
1:A:1026:G:H2'	1:A:1027:C:C6	2.31	0.66
1:A:1300:G:H1'	1:A:1301:U:H5	1.61	0.66
1:A:1514:G:C8	23:V:312:HOH:O	2.47	0.66
1:A:1081:A:N7	5:E:22:LYS:HD2	2.03	0.66
1:A:1326:U:H2'	1:A:1327:C:H6	1.61	0.66
10:J:11:LYS:HG2	10:J:97:ASP:HB3	1.78	0.66
1:A:829:G:N3	2:B:188:THR:HG22	2.11	0.66
7:G:144:ALA:C	7:G:146:ALA:H	2.04	0.66
9:I:33:SER:HB3	9:I:36:GLN:HB2	1.76	0.66
2:B:156:LEU:HD13	5:E:68:ARG:NH2	2.10	0.66
2:B:202:ASN:ND2	2:B:204:ASP:H	1.92	0.66
3:C:178:ARG:O	3:C:178:ARG:HG2	1.96	0.66
5:E:109:ALA:HB3	5:E:135:VAL:HG23	1.77	0.66
4:D:159:GLU:HG3	4:D:160:LEU:H	1.59	0.65
17:Q:10:ARG:HH11	17:Q:55:GLY:H	1.43	0.65
1:A:17:U:C4'	1:A:1079:G:O5'	2.40	0.65
1:A:562:U:H1'	12:L:11:ARG:HB3	1.78	0.65
1:A:830:G:C8	2:B:22:TRP:HB3	2.31	0.65
1:A:832:G:C6	2:B:20:ARG:NH2	2.62	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:859:G:O4'	2:B:26:MET:CG	2.44	0.65
13:M:52:ILE:HD12	13:M:55:LEU:HD12	1.78	0.65
1:A:869:G:N9	2:B:24:PRO:HB2	2.10	0.65
10:J:53:ILE:HG12	10:J:63:ASP:HB2	1.78	0.65
1:A:1225:A:H3'	1:A:1226:C:H6	1.61	0.65
6:F:40:GLU:HG3	6:F:42:TRP:HE1	1.60	0.65
8:H:5:PRO:HB2	8:H:32:LYS:NZ	2.11	0.65
8:H:111:THR:H	8:H:114:ALA:HB3	1.60	0.65
10:J:37:ARG:NE	10:J:77:VAL:HG11	2.11	0.65
14:N:11:LYS:HZ2	14:N:11:LYS:HA	1.61	0.65
14:N:60:ARG:HE	14:N:62:ARG:NE	1.93	0.65
21:U:36:PHE:HB3	21:U:40:PRO:CD	2.25	0.65
1:A:922:G:H4'	5:E:24:VAL:HA	1.77	0.65
2:B:53:LEU:HD21	2:B:212:TYR:HE1	1.60	0.65
2:B:202:ASN:HD22	2:B:204:ASP:N	1.95	0.65
6:F:10:VAL:HA	6:F:84:VAL:HA	1.77	0.65
21:U:14:ALA:HA	21:U:16:ARG:HD2	1.76	0.65
1:A:188:C:H2'	1:A:189:A:O4'	1.97	0.65
1:A:278:G:N2	1:A:279:A:H62	1.93	0.65
1:A:559:A:H4'	1:A:560:A:H3'	1.77	0.65
1:A:1062:U:H2'	1:A:1063:C:C6	2.31	0.65
1:A:1182:G:H4'	1:A:1183:U:H5'	1.79	0.65
2:B:119:GLN:HE22	2:B:127:LYS:HD3	1.60	0.65
6:F:3:HIS:HA	6:F:65:GLU:HA	1.77	0.65
10:J:15:HIS:HA	10:J:18:ILE:HG22	1.79	0.65
14:N:60:ARG:HD3	14:N:60:ARG:N	2.12	0.65
15:O:31:LEU:HD12	15:O:58:MET:HB2	1.78	0.65
17:Q:10:ARG:HA	17:Q:10:ARG:HE	1.62	0.65
1:A:270:A:H2'	1:A:271:C:C6	2.31	0.65
5:E:23:THR:HG23	5:E:28:ARG:HD3	1.78	0.65
8:H:30:LYS:HA	8:H:30:LYS:NZ	2.12	0.65
1:A:441:A:H61	1:A:493:A:H62	1.44	0.65
2:B:52:ALA:O	2:B:56:LEU:HD22	1.96	0.65
1:A:87:C:H2'	1:A:88:U:H4'	1.79	0.65
4:D:19:PHE:HB2	4:D:110:ARG:HH12	1.60	0.65
4:D:84:ASN:HD22	4:D:87:GLU:H	1.43	0.65
1:A:859:G:H2'	1:A:860:A:C8	2.32	0.65
2:B:163:ILE:CG2	2:B:164:ASP:H	1.98	0.65
3:C:146:LYS:HD3	3:C:204:GLY:HA2	1.79	0.65
1:A:36:C:H5''	12:L:119:LYS:HB3	1.79	0.64
1:A:1017:U:H2'	1:A:1018:G:C8	2.31	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1221:G:H5''	19:S:35:ARG:HH11	1.62	0.64
4:D:88:ASN:O	4:D:92:LEU:HD23	1.97	0.64
17:Q:59:GLU:H	17:Q:74:LEU:HD23	1.62	0.64
1:A:828:U:H4'	2:B:29:PHE:CD1	2.31	0.64
1:A:831:A:H3'	2:B:36:LYS:O	1.97	0.64
1:A:859:G:N9	2:B:26:MET:HG2	2.10	0.64
1:A:1302:C:O4'	13:M:16:ILE:HD11	1.96	0.64
1:A:1342:C:H2'	1:A:1343:G:C8	2.32	0.64
1:A:1513:A:H2'	1:A:1514:G:C8	2.32	0.64
14:N:12:ARG:HH11	14:N:60:ARG:NH1	1.95	0.64
20:T:59:ARG:HB2	20:T:59:ARG:HH11	1.62	0.64
1:A:1518:A:H2	22:V:186:LYS:H	1.45	0.64
2:B:41:ASN:ND2	2:B:44:LYS:HB2	2.13	0.64
11:K:105:ARG:NH2	21:U:10:PRO:HG3	2.12	0.64
13:M:3:ILE:HG23	13:M:56:ARG:HG2	1.78	0.64
14:N:51:PRO:HB2	14:N:54:SER:HB3	1.79	0.64
1:A:203:G:H1'	1:A:465:A:N6	2.13	0.64
1:A:205:A:H2'	1:A:206:C:H6	1.60	0.64
1:A:269:C:H2'	1:A:270:A:H8	1.63	0.64
1:A:1515:G:OP2	23:V:336:HOH:O	2.15	0.64
5:E:45:VAL:O	5:E:71:ILE:HG22	1.98	0.64
8:H:63:LYS:HG2	8:H:70:VAL:HG21	1.80	0.64
20:T:48:LYS:O	20:T:52:GLU:HB2	1.96	0.64
1:A:875:U:O2'	8:H:14:ARG:HD2	1.97	0.64
3:C:113:LYS:HE2	3:C:117:ASP:OD2	1.97	0.64
3:C:185:THR:HG22	3:C:186:SER:H	1.62	0.64
7:G:148:LYS:HG3	7:G:151:ALA:HB3	1.80	0.64
1:A:522:C:H41	12:L:49:ARG:HH22	1.45	0.64
1:A:1080:A:C8	5:E:22:LYS:CA	2.70	0.64
5:E:104:ILE:HD13	5:E:115:GLU:HG3	1.78	0.64
11:K:88:PRO:HA	11:K:92:ARG:HE	1.63	0.64
1:A:269:C:H2'	1:A:270:A:C8	2.32	0.64
1:A:539:A:H2'	1:A:540:G:C8	2.32	0.64
1:A:827:U:C3'	2:B:28:PRO:CB	2.64	0.64
1:A:828:U:O4	2:B:23:ASN:O	2.15	0.64
4:D:2:ARG:HG3	4:D:114:ARG:CZ	2.28	0.64
19:S:31:ARG:HG3	19:S:56:HIS:NE2	2.13	0.64
1:A:131:A:H2'	1:A:132:C:C6	2.32	0.64
1:A:312:C:H2'	1:A:313:A:C8	2.33	0.64
6:F:53:LYS:HA	6:F:53:LYS:NZ	2.11	0.64
14:N:71:GLY:O	14:N:79:SER:HA	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:4:LYS:HD2	20:T:5:SER:N	2.13	0.64
20:T:15:LYS:HD3	20:T:18:LYS:HE3	1.79	0.64
1:A:18:C:H5	1:A:1078:U:O2	1.81	0.63
2:B:65:LYS:HD2	2:B:157:PRO:HA	1.80	0.63
1:A:524:G:H2'	1:A:525:C:C6	2.34	0.63
1:A:982:U:H5''	14:N:5:MET:HE2	1.80	0.63
1:A:1081:A:H61	5:E:51:LYS:NZ	1.95	0.63
9:I:20:ILE:HG23	9:I:60:LEU:HD13	1.79	0.63
16:P:46:LYS:H	16:P:46:LYS:CD	2.10	0.63
17:Q:26:ARG:HE	17:Q:39:ARG:NH1	1.96	0.63
1:A:105:G:H2'	1:A:106:C:C6	2.33	0.63
13:M:106:ARG:HH11	13:M:106:ARG:HA	1.61	0.63
16:P:42:ILE:HG22	16:P:43:ALA:N	2.14	0.63
8:H:9:MET:HE1	8:H:32:LYS:O	1.97	0.63
1:A:10:A:OP2	5:E:130:THR:HB	1.99	0.63
1:A:919:A:H2	1:A:1078:U:O4	1.78	0.63
1:A:981:U:H4'	14:N:60:ARG:HG3	1.81	0.63
2:B:75:ALA:O	2:B:79:VAL:HB	1.98	0.63
4:D:99:ASN:CG	4:D:103:ARG:HH21	2.06	0.63
6:F:92:THR:HG23	6:F:93:LYS:H	1.64	0.63
8:H:11:THR:HA	8:H:14:ARG:NH1	2.14	0.63
9:I:56:MET:HE2	9:I:57:VAL:H	1.64	0.63
10:J:87:LEU:HD22	10:J:90:LEU:HD12	1.79	0.63
12:L:20:VAL:HG13	12:L:94:TYR:OH	1.98	0.63
12:L:85:ARG:HA	12:L:93:ARG:HA	1.80	0.63
1:A:1080:A:O3'	5:E:22:LYS:O	2.00	0.63
1:A:1118:U:H1'	1:A:1179:A:C4	2.34	0.63
2:B:118:THR:O	2:B:121:GLN:HB3	1.98	0.63
3:C:146:LYS:HE3	3:C:202:PHE:CE2	2.30	0.63
5:E:104:ILE:HD11	5:E:114:LEU:HB2	1.79	0.63
9:I:51:LEU:HB3	9:I:56:MET:HG2	1.81	0.63
10:J:88:MET:HB2	10:J:89:ARG:NH1	2.11	0.63
19:S:39:ILE:HG21	19:S:65:MET:HB3	1.80	0.63
21:U:36:PHE:HB3	21:U:40:PRO:CG	2.29	0.63
1:A:9:G:H5'	5:E:107:GLY:HA3	1.81	0.63
1:A:1082:A:P	5:E:22:LYS:NZ	2.72	0.63
11:K:105:ARG:HH21	21:U:10:PRO:HG3	1.63	0.63
13:M:1:ALA:O	13:M:8:ILE:HG22	1.98	0.63
19:S:4:LEU:HD13	19:S:9:PHE:N	2.13	0.63
21:U:26:GLY:C	21:U:28:LEU:H	2.05	0.63
1:A:620:C:H1'	4:D:131:ILE:HG21	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:678:U:H2'	1:A:679:C:C6	2.34	0.63
1:A:870:U:C5	2:B:27:LYS:CD	2.72	0.63
2:B:148:GLY:O	2:B:151:LYS:HE2	1.99	0.63
1:A:662:U:H2'	1:A:663:A:C8	2.34	0.63
1:A:921:U:C6	1:A:1080:A:N6	2.66	0.63
2:B:178:LEU:HD13	5:E:69:ASN:OD1	1.98	0.63
13:M:68:LEU:O	13:M:72:ILE:HD13	1.99	0.63
16:P:9:HIS:HE1	16:P:29:ASN:HB2	1.64	0.63
16:P:68:SER:HB3	16:P:71:VAL:HG12	1.80	0.63
17:Q:10:ARG:HH11	17:Q:55:GLY:N	1.97	0.63
10:J:67:ILE:HD11	14:N:95:LEU:HD22	1.81	0.62
1:A:60:A:H4'	1:A:61:G:O5'	1.99	0.62
1:A:858:G:H1'	2:B:22:TRP:C	2.11	0.62
1:A:921:U:C2	1:A:1080:A:C6	2.87	0.62
1:A:1081:A:H61	5:E:51:LYS:HZ3	1.46	0.62
2:B:163:ILE:O	2:B:185:ILE:HG13	1.99	0.62
7:G:44:SER:O	7:G:48:THR:HG23	1.99	0.62
9:I:30:ASN:ND2	9:I:65:THR:HA	2.14	0.62
12:L:43:LYS:N	12:L:44:PRO:HD2	2.14	0.62
16:P:67:ILE:HD11	16:P:72:ALA:HA	1.81	0.62
1:A:69:G:H2'	1:A:70:U:C6	2.34	0.62
1:A:1011:C:H2'	1:A:1012:A:H8	1.64	0.62
3:C:61:LYS:O	3:C:96:VAL:HB	1.98	0.62
6:F:9:MET:HA	6:F:58:HIS:O	1.99	0.62
3:C:5:HIS:CD2	3:C:8:GLY:H	2.16	0.62
4:D:56:GLU:HG2	4:D:195:ASN:HD22	1.63	0.62
21:U:40:PRO:O	21:U:44:ARG:HB2	1.98	0.62
1:A:121:U:OP1	1:A:121:U:H3'	2.00	0.62
15:O:11:VAL:HG23	15:O:26:VAL:HG11	1.82	0.62
15:O:29:ALA:HA	15:O:84:LEU:HD21	1.80	0.62
1:A:79:G:H2'	1:A:80:A:C8	2.34	0.62
1:A:918:A:H2'	1:A:919:A:C8	2.35	0.62
5:E:114:LEU:HD22	5:E:119:VAL:HG21	1.80	0.62
14:N:11:LYS:O	14:N:15:LEU:HG	1.99	0.62
14:N:15:LEU:HD12	14:N:16:ALA:N	2.14	0.62
1:A:37:U:P	12:L:119:LYS:HB2	2.40	0.62
1:A:78:A:H2'	1:A:79:G:H8	1.63	0.62
1:A:531:U:H5'	1:A:531:U:H6	1.63	0.62
1:A:1101:A:H61	2:B:173:LYS:HD2	1.63	0.62
3:C:151:GLU:O	3:C:197:VAL:HA	1.99	0.62
9:I:113:LYS:HA	9:I:120:ALA:HB2	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:88:LEU:O	13:M:92:ARG:HG3	2.00	0.62
19:S:5:LYS:N	19:S:5:LYS:HE3	2.15	0.62
4:D:123:MET:HE3	4:D:126:GLY:HA2	1.81	0.62
9:I:35:GLU:HA	9:I:39:GLY:HA3	1.82	0.62
9:I:40:ARG:N	9:I:44:ARG:HE	1.96	0.62
12:L:64:SER:OG	12:L:96:THR:HG23	2.00	0.62
21:U:39:LYS:N	21:U:40:PRO:HD2	2.14	0.62
1:A:501:C:H1'	1:A:549:C:H1'	1.81	0.62
1:A:1081:A:H8	5:E:22:LYS:HB3	1.57	0.62
1:A:1081:A:C5'	5:E:24:VAL:HG13	2.30	0.62
2:B:17:HIS:HB2	2:B:202:ASN:OD1	2.00	0.62
3:C:69:THR:HG21	3:C:75:VAL:HG21	1.81	0.62
20:T:60:GLN:H	20:T:60:GLN:CD	2.07	0.62
21:U:14:ALA:CA	21:U:16:ARG:CD	2.78	0.62
1:A:763:G:H2'	1:A:764:C:H6	1.64	0.62
1:A:817:C:H1'	1:A:819:A:H5'	1.80	0.62
3:C:59:PRO:HG2	3:C:60:ALA:H	1.65	0.62
5:E:33:THR:O	5:E:34:ALA:HB3	2.00	0.62
7:G:97:ALA:HA	7:G:100:MET:HE3	1.82	0.62
15:O:87:ARG:NH1	15:O:87:ARG:HA	2.15	0.62
1:A:882:C:O2'	1:A:883:C:H5'	1.99	0.61
2:B:96:LEU:HD21	2:B:146:SER:HB2	1.82	0.61
4:D:163:GLN:HB2	4:D:164:ARG:NH1	2.14	0.61
5:E:140:ILE:HA	5:E:143:LEU:HD12	1.81	0.61
1:A:8:A:H2'	4:D:205:LYS:O	2.00	0.61
1:A:528:C:H41	12:L:45:ASN:CG	2.07	0.61
1:A:1038:C:H2'	1:A:1039:G:H8	1.64	0.61
1:A:1074:G:H5'	2:B:104:LYS:NZ	2.15	0.61
1:A:1285:A:H4'	1:A:1286:U:C5	2.36	0.61
6:F:99:ALA:O	6:F:100:SER:HB2	2.00	0.61
9:I:10:ARG:HB2	9:I:14:SER:O	2.00	0.61
13:M:103:THR:HG22	13:M:104:ASN:H	1.62	0.61
4:D:99:ASN:ND2	4:D:110:ARG:HE	1.97	0.61
8:H:92:PRO:HA	8:H:93:LYS:NZ	2.09	0.61
10:J:15:HIS:HD2	10:J:18:ILE:HG22	1.65	0.61
10:J:80:THR:H	10:J:84:VAL:HG11	1.66	0.61
14:N:78:LEU:HB2	14:N:83:VAL:HG22	1.82	0.61
18:R:52:ARG:HB3	18:R:52:ARG:NH1	2.14	0.61
1:A:590:U:H2'	1:A:591:U:C6	2.35	0.61
1:A:1060:U:H2'	1:A:1061:G:C8	2.35	0.61
5:E:35:LEU:HD11	5:E:136:VAL:HG11	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:98:GLY:H	13:M:99:GLN:HE21	1.49	0.61
1:A:505:G:H5'	1:A:534:U:H2'	1.81	0.61
4:D:7:LYS:HE2	4:D:20:LEU:HD22	1.83	0.61
7:G:49:LEU:HB2	7:G:57:GLU:HG3	1.82	0.61
9:I:87:MET:HE3	9:I:94:ARG:HE	1.66	0.61
11:K:69:CYS:O	11:K:73:VAL:HG23	2.01	0.61
19:S:50:VAL:O	19:S:56:HIS:HA	2.00	0.61
22:V:44:ILE:HD13	22:V:122:LEU:HD21	1.83	0.61
1:A:919:A:C2	1:A:1079:G:O6	2.54	0.61
1:A:983:A:H5'	1:A:984:C:OP2	1.99	0.61
1:A:1300:G:H1'	1:A:1301:U:C5	2.36	0.61
2:B:27:LYS:HB3	2:B:28:PRO:HD3	1.82	0.61
11:K:95:THR:HG23	11:K:96:ILE:H	1.65	0.61
20:T:54:GLN:N	20:T:55:PRO:HD2	2.16	0.61
1:A:476:U:H2'	1:A:477:C:C6	2.35	0.61
1:A:1225:A:H3'	1:A:1226:C:C6	2.35	0.61
1:A:1254:A:OP1	10:J:47:GLU:HG3	2.01	0.61
1:A:194:C:O2'	1:A:195:A:H5'	2.01	0.61
1:A:699:C:C2'	1:A:700:G:H5''	2.30	0.61
1:A:1225:A:H4'	19:S:77:ARG:NH2	2.16	0.61
4:D:94:GLU:HG3	4:D:103:ARG:NH1	2.16	0.61
5:E:155:LYS:HA	8:H:65:PHE:CD1	2.36	0.61
1:A:1295:U:H2'	1:A:1296:C:C6	2.35	0.61
1:A:1518:A:H2'	1:A:1519:A:C8	2.35	0.61
2:B:76:SER:O	2:B:79:VAL:HG12	2.01	0.61
7:G:3:ARG:HB3	7:G:3:ARG:NH1	2.16	0.61
7:G:117:LEU:HD22	7:G:120:ALA:HB3	1.83	0.61
1:A:80:A:H2'	1:A:81:A:O4'	2.01	0.61
1:A:590:U:H2'	1:A:591:U:H6	1.66	0.61
1:A:1171:A:H2'	1:A:1172:C:H6	1.65	0.61
3:C:45:GLU:C	3:C:46:LEU:HD12	2.25	0.61
5:E:96:GLN:HB3	5:E:123:LEU:CD1	2.31	0.61
9:I:15:ALA:O	9:I:66:VAL:HG23	2.01	0.61
10:J:25:ILE:HG23	10:J:29:ALA:HB3	1.83	0.61
1:A:1193:G:O2'	1:A:1194:U:H5'	2.01	0.60
1:A:1513:A:H2'	1:A:1514:G:H8	1.65	0.60
3:C:30:ASP:O	3:C:33:ASP:HB3	2.01	0.60
5:E:110:MET:HB3	5:E:139:THR:HG21	1.82	0.60
13:M:5:GLY:O	13:M:6:ILE:HG12	2.00	0.60
14:N:63:CYS:SG	14:N:66:THR:HG22	2.41	0.60
1:A:801:U:H2'	1:A:802:A:H8	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1048:G:H4'	14:N:2:LYS:HZ2	1.66	0.60
1:A:1257:A:H2'	1:A:1257:A:N3	2.16	0.60
6:F:40:GLU:HG3	6:F:42:TRP:NE1	2.16	0.60
19:S:11:ASP:CG	19:S:34:SER:HB2	2.26	0.60
22:V:181:PHE:HB2	22:V:185:PRO:HD3	1.83	0.60
13:M:98:GLY:H	13:M:99:GLN:NE2	1.99	0.60
1:A:95:C:O2	1:A:95:C:H2'	2.02	0.60
1:A:1281:C:H5'	1:A:1282:C:H5	1.66	0.60
1:A:1307:U:H2'	1:A:1308:U:C6	2.36	0.60
2:B:53:LEU:HD21	2:B:212:TYR:CE1	2.37	0.60
4:D:120:LYS:HB2	4:D:145:ARG:HH21	1.66	0.60
5:E:85:LYS:HE2	5:E:92:ARG:NH1	2.16	0.60
9:I:18:VAL:HG11	9:I:82:ILE:HG12	1.83	0.60
11:K:86:LYS:HG3	11:K:113:THR:HA	1.82	0.60
20:T:60:GLN:NE2	20:T:61:ALA:H	1.99	0.60
1:A:132:C:H5''	20:T:68:LYS:HE3	1.82	0.60
1:A:429:U:H1'	1:A:430:A:H5''	1.84	0.60
1:A:859:G:O4'	2:B:26:MET:HG2	2.02	0.60
2:B:69:VAL:O	2:B:163:ILE:HG22	2.00	0.60
8:H:79:ARG:HB2	8:H:80:PRO:HD2	1.84	0.60
4:D:20:LEU:H	4:D:20:LEU:HD12	1.65	0.60
17:Q:26:ARG:HH21	17:Q:39:ARG:CZ	2.13	0.60
1:A:370:C:H2'	1:A:371:A:H8	1.66	0.60
1:A:858:G:O4'	2:B:22:TRP:O	2.18	0.60
1:A:858:G:O6	1:A:869:G:H3'	2.01	0.60
1:A:1090:U:H2'	1:A:1091:U:C6	2.37	0.60
15:O:55:LEU:O	15:O:59:VAL:HG23	2.01	0.60
19:S:28:LYS:HB2	19:S:29:PRO:HD2	1.84	0.60
1:A:105:G:H2'	1:A:106:C:H6	1.66	0.60
1:A:212:G:H2'	1:A:213:G:H8	1.65	0.60
1:A:783:C:O2'	1:A:784:A:H5'	2.02	0.60
1:A:832:G:O2'	1:A:833:G:H5'	2.02	0.60
1:A:1074:G:H2'	1:A:1075:U:C6	2.35	0.60
5:E:152:VAL:HG21	8:H:98:LEU:HD23	1.83	0.60
7:G:59:GLU:O	7:G:63:VAL:HG23	2.01	0.60
12:L:78:VAL:HG12	12:L:101:LEU:HD23	1.82	0.60
19:S:50:VAL:HB	19:S:57:VAL:HG22	1.84	0.60
22:V:115:PRO:HD2	22:V:118:ILE:HD11	1.84	0.60
1:A:1278:G:H4'	1:A:1279:G:O5'	2.01	0.60
2:B:31:PHE:HB3	2:B:39:ILE:HB	1.84	0.60
2:B:51:GLU:OE2	8:H:20:ASN:ND2	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:22:LEU:O	7:G:25:PHE:HB3	2.01	0.60
1:A:1111:A:HO2'	1:A:1112:C:H6	1.49	0.60
3:C:5:HIS:CD2	14:N:88:MET:HB3	2.37	0.60
4:D:59:LYS:O	4:D:63:ILE:HG13	2.02	0.60
6:F:9:MET:HE1	18:R:64:LEU:HA	1.84	0.60
10:J:56:HIS:N	14:N:80:ARG:HH22	1.98	0.60
14:N:20:PHE:HA	14:N:24:ALA:HB2	1.83	0.60
1:A:17:U:C4'	1:A:1079:G:P	2.84	0.59
1:A:1074:G:H2'	1:A:1075:U:H6	1.67	0.59
4:D:90:LEU:HA	4:D:93:LEU:HD12	1.83	0.59
8:H:12:ARG:HD3	8:H:26:MET:HE3	1.84	0.59
12:L:35:ARG:HA	12:L:35:ARG:HE	1.67	0.59
17:Q:59:GLU:H	17:Q:74:LEU:CD2	2.14	0.59
1:A:93:U:H3'	1:A:94:G:H5''	1.83	0.59
1:A:118:U:O4	1:A:288:A:H2'	2.02	0.59
1:A:720:C:H5''	18:R:40:PRO:HA	1.84	0.59
1:A:829:G:C1'	2:B:30:ILE:HG12	2.30	0.59
1:A:1109:C:H42	1:A:1110:A:N6	1.98	0.59
11:K:83:VAL:HG23	11:K:109:ILE:HA	1.84	0.59
1:A:763:G:H2'	1:A:764:C:C6	2.36	0.59
1:A:858:G:N9	2:B:23:ASN:ND2	2.46	0.59
1:A:920:U:H2'	1:A:921:U:C6	2.38	0.59
3:C:112:ALA:HB1	3:C:199:VAL:HG23	1.84	0.59
4:D:11:SER:OG	4:D:17:ASP:HA	2.02	0.59
4:D:58:GLN:HA	4:D:61:ARG:HB2	1.83	0.59
4:D:94:GLU:HA	4:D:103:ARG:HH22	1.67	0.59
7:G:64:ALA:HA	7:G:127:ALA:HB2	1.83	0.59
1:A:107:G:O6	20:T:9:ARG:HD3	2.03	0.59
1:A:451:A:H4'	1:A:452:A:O4'	2.03	0.59
1:A:1243:C:H2'	1:A:1244:G:H8	1.67	0.59
1:A:1361:G:H2'	1:A:1362:A:H5''	1.85	0.59
20:T:67:HIS:O	20:T:70:LYS:HG2	2.02	0.59
21:U:13:VAL:HG13	21:U:14:ALA:N	2.16	0.59
1:A:57:G:H2'	1:A:58:C:C6	2.37	0.59
1:A:241:G:O2'	1:A:242:G:H5'	2.03	0.59
2:B:156:LEU:HD13	5:E:68:ARG:HH22	1.68	0.59
4:D:20:LEU:O	4:D:21:LYS:HE3	2.02	0.59
4:D:118:SER:HA	4:D:130:ASN:HB2	1.85	0.59
7:G:53:SER:HB2	7:G:55:LYS:NZ	2.18	0.59
10:J:26:VAL:O	10:J:30:LYS:HB3	2.02	0.59
1:A:967:C:H3'	1:A:968:A:C5'	2.33	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1517:G:N3	22:V:141:GLN:CG	2.51	0.59
2:B:128:LEU:HG	2:B:132:GLU:HG2	1.83	0.59
4:D:191:SER:O	4:D:192:ALA:HB2	2.01	0.59
10:J:38:GLY:O	10:J:74:VAL:HA	2.02	0.59
16:P:51:ARG:O	16:P:52:LEU:HD13	2.03	0.59
1:A:398:U:H2'	1:A:399:G:H8	1.66	0.59
1:A:829:G:C3'	2:B:30:ILE:CD1	2.78	0.59
1:A:830:G:C4'	2:B:38:HIS:ND1	2.34	0.59
1:A:1260:G:H4'	1:A:1284:C:H5'	1.84	0.59
5:E:156:ARG:HD2	8:H:42:GLU:O	2.03	0.59
1:A:1219:A:H2'	1:A:1220:G:H8	1.64	0.59
2:B:67:LEU:HD13	2:B:67:LEU:N	2.18	0.59
6:F:42:TRP:HB2	6:F:59:TYR:HB2	1.85	0.59
9:I:117:LEU:HD22	9:I:123:ARG:HG2	1.84	0.59
12:L:19:ASN:HB2	12:L:93:ARG:NH1	2.18	0.59
13:M:48:SER:O	13:M:52:ILE:HG22	2.03	0.59
19:S:7:GLY:H	19:S:8:PRO:HD3	1.67	0.59
1:A:626:G:H2'	1:A:627:G:C8	2.38	0.59
15:O:60:SER:HA	15:O:63:ARG:NH1	2.17	0.59
22:V:247:MET:HE3	22:V:252:ILE:CD1	2.32	0.59
1:A:1163:A:H2'	1:A:1164:G:H8	1.68	0.59
3:C:184:ASN:HD22	3:C:185:THR:N	1.98	0.59
7:G:74:VAL:HG12	7:G:75:LYS:H	1.68	0.59
10:J:30:LYS:HB2	10:J:36:VAL:HG21	1.85	0.59
14:N:61:ASN:O	14:N:62:ARG:HB2	2.03	0.59
1:A:272:C:H2'	1:A:273:U:H6	1.68	0.58
1:A:829:G:C8	2:B:27:LYS:HA	2.38	0.58
1:A:1284:C:H3'	1:A:1285:A:H5''	1.84	0.58
4:D:25:ARG:NH1	4:D:30:LYS:HG2	2.18	0.58
4:D:154:VAL:HG13	4:D:155:LYS:H	1.66	0.58
12:L:19:ASN:O	12:L:20:VAL:HG23	2.03	0.58
17:Q:46:HIS:HB2	17:Q:70:LYS:HE3	1.85	0.58
8:H:8:ASP:O	8:H:12:ARG:HG3	2.03	0.58
9:I:18:VAL:HG13	9:I:64:ILE:HG12	1.85	0.58
13:M:89:ARG:HB2	13:M:96:VAL:HG12	1.84	0.58
16:P:1:MET:N	16:P:24:SER:HB3	2.18	0.58
1:A:1116:U:O2'	1:A:1117:A:H5'	2.03	0.58
2:B:41:ASN:ND2	2:B:44:LYS:HE2	2.17	0.58
2:B:166:ASP:OD1	2:B:190:SER:HA	2.02	0.58
4:D:169:TRP:NE1	4:D:170:LEU:HD23	2.18	0.58
9:I:18:VAL:HG22	9:I:64:ILE:HG23	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:7:LEU:HD13	17:Q:24:ILE:HG12	1.84	0.58
1:A:436:C:O2'	1:A:437:U:H5'	2.03	0.58
1:A:827:U:O2'	2:B:28:PRO:CG	2.36	0.58
1:A:1081:A:H4'	5:E:24:VAL:HG13	1.82	0.58
1:A:1081:A:H5''	5:E:24:VAL:HG13	1.84	0.58
1:A:1172:C:H2'	1:A:1173:U:C6	2.39	0.58
7:G:11:ILE:HG12	7:G:24:LYS:HE2	1.85	0.58
1:A:270:A:H2'	1:A:271:C:H6	1.68	0.58
1:A:830:G:C4	2:B:22:TRP:N	2.71	0.58
1:A:1241:G:H2'	1:A:1242:G:C8	2.39	0.58
8:H:42:GLU:HG3	8:H:100:ILE:HD13	1.84	0.58
1:A:450:G:H4'	16:P:41:PRO:HB2	1.85	0.58
1:A:784:A:H2'	1:A:785:G:H8	1.69	0.58
1:A:1048:G:H4'	14:N:2:LYS:NZ	2.18	0.58
4:D:69:ARG:HA	4:D:69:ARG:HE	1.68	0.58
9:I:17:ARG:O	9:I:64:ILE:HA	2.02	0.58
17:Q:28:VAL:C	17:Q:36:PHE:HA	2.28	0.58
1:A:376:G:H5''	16:P:5:ARG:CB	2.28	0.58
1:A:384:G:H2'	1:A:385:C:C6	2.39	0.58
1:A:555:U:H2'	1:A:556:C:C6	2.39	0.58
1:A:830:G:C5'	2:B:17:HIS:O	2.51	0.58
1:A:1217:C:OP1	14:N:8:ARG:HD3	2.03	0.58
1:A:1517:G:C4	22:V:141:GLN:NE2	2.72	0.58
9:I:118:ARG:HH22	9:I:122:ARG:HH21	1.52	0.58
1:A:987:G:H2'	1:A:988:G:H8	1.69	0.58
1:A:1011:C:H2'	1:A:1012:A:C8	2.37	0.58
4:D:137:SER:HB2	4:D:138:PRO:HD2	1.85	0.58
6:F:17:GLN:HG2	6:F:21:MET:HG3	1.86	0.58
12:L:42:LYS:HE3	12:L:90:PRO:HD3	1.84	0.58
1:A:560:A:H4'	1:A:561:U:H5''	1.86	0.58
1:A:676:A:H1'	11:K:116:PRO:HB3	1.86	0.58
1:A:1163:A:H2'	1:A:1164:G:C8	2.39	0.58
1:A:1329:A:OP1	13:M:28:ARG:HB2	2.04	0.58
1:A:1338:G:H2'	1:A:1339:A:C8	2.39	0.58
5:E:13:LYS:HD2	5:E:112:ALA:HB1	1.85	0.58
1:A:1091:U:H2'	1:A:1093:A:OP2	2.04	0.58
1:A:1100:C:OP2	2:B:94:ARG:HD3	2.04	0.58
1:A:1238:A:C2	1:A:1241:G:H1'	2.38	0.58
1:A:1380:U:O4	7:G:2:ARG:HA	2.04	0.58
3:C:46:LEU:HD23	3:C:75:VAL:HG13	1.86	0.58
4:D:24:VAL:HG23	4:D:25:ARG:HD2	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:78:THR:HA	15:O:81:ILE:HG12	1.84	0.58
17:Q:17:GLU:C	17:Q:19:SER:H	2.11	0.58
1:A:57:G:H2'	1:A:58:C:H6	1.68	0.57
1:A:870:U:OP2	2:B:24:PRO:HA	2.03	0.57
4:D:25:ARG:HH12	4:D:30:LYS:HG2	1.69	0.57
6:F:18:VAL:N	6:F:19:PRO:HD2	2.19	0.57
8:H:26:MET:HB2	8:H:27:PRO:HD2	1.86	0.57
9:I:18:VAL:HG22	9:I:64:ILE:HG12	1.85	0.57
11:K:126:ARG:HB2	21:U:33:ARG:CD	2.32	0.57
19:S:44:ILE:HA	19:S:61:VAL:HB	1.86	0.57
1:A:678:U:H2'	1:A:679:C:H6	1.69	0.57
1:A:829:G:C4	2:B:188:THR:HG22	2.37	0.57
1:A:860:A:N7	2:B:25:LYS:CD	2.66	0.57
1:A:919:A:N1	1:A:1078:U:O4	2.36	0.57
2:B:26:MET:HE3	2:B:192:PRO:HG3	1.84	0.57
2:B:147:LEU:O	2:B:150:ILE:HG22	2.03	0.57
3:C:90:VAL:CG2	3:C:98:ALA:HB3	2.34	0.57
4:D:138:PRO:HA	4:D:181:PHE:HD2	1.67	0.57
5:E:156:ARG:HB2	8:H:43:GLY:HA3	1.85	0.57
11:K:18:GLY:O	11:K:81:LEU:HB2	2.03	0.57
12:L:22:ALA:HB2	12:L:56:LEU:HD21	1.85	0.57
1:A:312:C:H2'	1:A:313:A:H8	1.68	0.57
1:A:390:U:H2'	1:A:391:G:H8	1.66	0.57
1:A:1077:G:N2	1:A:1079:G:H3'	2.19	0.57
1:A:1129:C:H5''	9:I:17:ARG:HH22	1.70	0.57
1:A:1142:G:H2'	1:A:1143:G:O4'	2.03	0.57
4:D:99:ASN:HD21	4:D:110:ARG:HE	1.52	0.57
4:D:170:LEU:HB2	4:D:180:THR:O	2.04	0.57
4:D:196:GLU:HA	4:D:199:ILE:HD12	1.85	0.57
5:E:90:GLY:O	5:E:128:GLY:HA3	2.04	0.57
8:H:5:PRO:HB2	8:H:32:LYS:HZ1	1.68	0.57
1:A:91:U:H2'	1:A:92:U:C6	2.40	0.57
1:A:1055:A:H4'	3:C:160:GLU:CG	2.35	0.57
1:A:1201:A:H1'	1:A:1202:U:OP2	2.04	0.57
11:K:25:SER:HB3	11:K:28:ASN:O	2.04	0.57
17:Q:10:ARG:HA	17:Q:10:ARG:NE	2.18	0.57
1:A:160:A:H2'	1:A:161:A:O4'	2.04	0.57
1:A:672:U:H2'	1:A:673:A:C8	2.39	0.57
8:H:29:SER:CB	8:H:32:LYS:HZ2	2.18	0.57
8:H:64:TYR:HA	8:H:70:VAL:HG23	1.85	0.57
9:I:51:LEU:HD11	9:I:82:ILE:HG21	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:52:ARG:HD2	11:K:53:GLY:N	2.19	0.57
11:K:58:THR:HG23	11:K:61:ALA:HB2	1.85	0.57
14:N:24:ALA:HB1	14:N:27:LYS:HE3	1.87	0.57
16:P:1:MET:HE1	16:P:64:GLY:O	2.03	0.57
21:U:13:VAL:O	21:U:14:ALA:HB2	2.05	0.57
1:A:72:A:H2'	1:A:73:C:H6	1.70	0.57
1:A:203:G:H1'	1:A:465:A:H62	1.69	0.57
1:A:239:U:C5'	1:A:239:U:H6	2.18	0.57
1:A:586:C:O2'	1:A:587:G:H5'	2.04	0.57
1:A:625:U:H4'	16:P:16:PHE:CE2	2.39	0.57
1:A:677:U:H3	1:A:713:G:H22	1.51	0.57
1:A:869:G:C1'	2:B:24:PRO:HB2	2.35	0.57
11:K:95:THR:HG23	11:K:96:ILE:N	2.20	0.57
13:M:95:PRO:HD3	13:M:108:ARG:HG2	1.87	0.57
1:A:168:G:O2'	1:A:169:C:H5'	2.04	0.57
1:A:796:C:H5'	11:K:128:VAL:HG13	1.86	0.57
1:A:967:C:OP1	1:A:969:A:H5'	2.04	0.57
1:A:1026:G:H2'	1:A:1027:C:H6	1.67	0.57
3:C:183:TYR:HA	3:C:199:VAL:O	2.03	0.57
4:D:111:ALA:O	4:D:114:ARG:HB3	2.04	0.57
4:D:173:ASP:HB3	4:D:178:GLU:HB3	1.85	0.57
7:G:4:ARG:CZ	7:G:5:VAL:H	2.18	0.57
9:I:118:ARG:NH1	9:I:122:ARG:HE	2.03	0.57
11:K:92:ARG:HB3	11:K:92:ARG:NH1	2.19	0.57
14:N:30:ILE:C	14:N:32:ASP:H	2.13	0.57
1:A:129:A:H1'	1:A:130:A:C8	2.40	0.57
1:A:190:A:H8	1:A:190:A:O5'	1.87	0.57
1:A:827:U:C3'	2:B:28:PRO:CG	2.82	0.57
1:A:883:C:O2'	1:A:884:U:H5'	2.05	0.57
1:A:1074:G:OP1	5:E:65:LYS:CD	2.52	0.57
1:A:1102:A:H2'	1:A:1103:C:C6	2.40	0.57
4:D:98:ASP:CG	4:D:132:ALA:HB1	2.30	0.57
4:D:117:VAL:O	4:D:130:ASN:HA	2.05	0.57
6:F:53:LYS:CD	6:F:54:LEU:H	2.11	0.57
7:G:132:THR:HG22	7:G:136:LYS:HG3	1.87	0.57
9:I:82:ILE:O	9:I:86:LEU:HD22	2.03	0.57
20:T:34:VAL:HG22	20:T:49:ALA:HB1	1.87	0.57
21:U:14:ALA:HA	21:U:16:ARG:NE	2.18	0.57
1:A:674:G:H2'	1:A:675:A:H8	1.70	0.57
1:A:940:C:H2'	1:A:941:G:H8	1.69	0.57
1:A:973:G:H1'	10:J:56:HIS:ND1	2.20	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:92:PRO:CA	8:H:93:LYS:HZ2	2.10	0.57
13:M:21:ILE:CG2	13:M:64:VAL:HG11	2.32	0.57
14:N:30:ILE:CG2	14:N:41:TRP:HB2	2.34	0.57
1:A:1508:A:H2'	1:A:1509:C:C6	2.40	0.57
4:D:60:VAL:HB	4:D:194:ILE:HG13	1.86	0.57
6:F:3:HIS:HB2	6:F:92:THR:CB	2.35	0.57
9:I:80:HIS:O	9:I:84:ARG:HB2	2.04	0.57
16:P:12:LYS:HD2	16:P:13:LYS:HE3	1.87	0.57
17:Q:75:VAL:HG23	17:Q:76:ARG:H	1.70	0.57
21:U:14:ALA:CA	21:U:16:ARG:NE	2.59	0.57
1:A:202:G:H2'	1:A:203:G:C8	2.39	0.56
1:A:940:C:H2'	1:A:941:G:C8	2.40	0.56
1:A:987:G:H2'	1:A:988:G:C8	2.40	0.56
1:A:1027:C:H2'	1:A:1028:C:H6	1.70	0.56
1:A:1035:A:H2'	1:A:1036:A:H8	1.69	0.56
1:A:1053:G:H4'	1:A:1054:C:H5'	1.87	0.56
1:A:1294:G:H2'	1:A:1295:U:C6	2.40	0.56
7:G:13:PRO:HB2	7:G:18:GLY:CA	2.35	0.56
7:G:96:ASN:O	7:G:100:MET:HG3	2.04	0.56
14:N:9:GLU:HB2	14:N:60:ARG:NH2	2.20	0.56
16:P:23:ASP:O	16:P:26:ASN:HB2	2.05	0.56
1:A:978:A:H5'	1:A:1362:A:N6	2.19	0.56
1:A:985:C:H2'	1:A:986:U:C6	2.41	0.56
9:I:56:MET:CE	9:I:57:VAL:H	2.17	0.56
9:I:61:ASP:O	9:I:62:LEU:HD13	2.06	0.56
13:M:22:TYR:HB3	13:M:69:ARG:NH2	2.20	0.56
14:N:42:ASN:O	14:N:46:LYS:HG3	2.05	0.56
1:A:176:C:H2'	1:A:177:G:N3	2.20	0.56
1:A:177:G:H5''	20:T:59:ARG:HH21	1.70	0.56
1:A:372:C:H1'	1:A:373:A:OP2	2.05	0.56
1:A:764:C:H2'	1:A:765:G:H5'	1.87	0.56
1:A:1008:U:H2'	1:A:1009:U:H4'	1.87	0.56
1:A:1171:A:H2'	1:A:1172:C:C6	2.40	0.56
1:A:1225:A:O5'	13:M:102:LYS:HB3	2.06	0.56
1:A:1330:U:C2'	1:A:1331:G:H5'	2.35	0.56
4:D:25:ARG:HH11	4:D:30:LYS:HE3	1.70	0.56
5:E:104:ILE:CD1	5:E:114:LEU:HB2	2.34	0.56
6:F:54:LEU:CD1	6:F:55:HIS:H	2.18	0.56
9:I:30:ASN:HD22	9:I:30:ASN:N	2.04	0.56
11:K:61:ALA:O	11:K:64:VAL:HG12	2.06	0.56
15:O:60:SER:HA	15:O:63:ARG:HH12	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:51:ARG:HB3	16:P:51:ARG:HH11	1.71	0.56
19:S:59:VAL:HG11	19:S:70:LEU:HD11	1.87	0.56
1:A:810:C:O2'	1:A:811:C:H5'	2.06	0.56
1:A:1246:A:H2'	1:A:1247:U:C6	2.41	0.56
2:B:119:GLN:O	2:B:124:THR:HG23	2.04	0.56
7:G:4:ARG:NE	7:G:5:VAL:H	2.03	0.56
7:G:85:GLN:O	7:G:86:VAL:C	2.49	0.56
11:K:32:THR:HA	11:K:43:TRP:HA	1.88	0.56
12:L:105:GLY:HA3	12:L:117:GLY:HA3	1.88	0.56
16:P:41:PRO:O	16:P:42:ILE:HD13	2.06	0.56
1:A:85:U:H4'	1:A:86:G:H4'	1.86	0.56
1:A:829:G:H1'	2:B:188:THR:HA	1.86	0.56
14:N:50:LEU:CD2	14:N:51:PRO:HD3	2.36	0.56
17:Q:45:VAL:HG12	17:Q:46:HIS:H	1.70	0.56
19:S:32:THR:HB	19:S:49:ALA:O	2.06	0.56
1:A:278:G:H21	1:A:279:A:N6	2.04	0.56
1:A:335:C:H2'	1:A:336:A:C8	2.41	0.56
2:B:38:HIS:O	2:B:39:ILE:HD13	2.06	0.56
7:G:67:ASN:ND2	7:G:127:ALA:HA	2.21	0.56
7:G:114:SER:C	7:G:118:ARG:HG3	2.30	0.56
11:K:97:ARG:HB3	11:K:97:ARG:NH1	2.21	0.56
16:P:18:GLN:NE2	16:P:35:ARG:HD2	2.20	0.56
20:T:68:LYS:CG	20:T:69:ASN:H	2.12	0.56
1:A:372:C:H4'	1:A:373:A:H5'	1.87	0.56
1:A:1244:G:H2'	1:A:1245:C:C6	2.41	0.56
6:F:4:TYR:O	6:F:63:ASN:HA	2.04	0.56
12:L:37:TYR:HB2	12:L:51:VAL:HG23	1.88	0.56
1:A:521:G:OP2	12:L:50:LYS:HE3	2.06	0.56
1:A:629:A:H2'	1:A:630:A:O4'	2.06	0.56
1:A:1027:C:H2'	1:A:1028:C:C6	2.41	0.56
1:A:1170:A:H8	1:A:1170:A:O5'	1.88	0.56
7:G:72:VAL:HA	7:G:89:GLU:HA	1.87	0.56
11:K:88:PRO:HD3	21:U:28:LEU:CD1	2.34	0.56
14:N:12:ARG:HH21	14:N:58:ARG:HH12	1.53	0.56
9:I:50:PRO:HG2	9:I:51:LEU:HD12	1.88	0.56
10:J:55:PRO:HA	14:N:80:ARG:NH2	2.21	0.56
14:N:15:LEU:HD12	14:N:16:ALA:H	1.71	0.56
16:P:20:VAL:HG22	16:P:21:VAL:N	2.21	0.56
22:V:226:ARG:HD2	23:V:341:HOH:O	2.06	0.56
1:A:163:C:H2'	1:A:164:G:O4'	2.06	0.56
1:A:313:A:H2'	1:A:314:C:C6	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:449:G:H2'	1:A:450:G:C8	2.40	0.56
1:A:829:G:C2'	2:B:30:ILE:HG12	2.22	0.56
1:A:861:G:H8	2:B:193:ASP:OD1	1.84	0.56
6:F:100:SER:HA	18:R:23:LYS:NZ	2.21	0.56
13:M:106:ARG:NH1	13:M:109:LYS:HD2	2.21	0.56
1:A:389:A:H3'	1:A:390:U:H6	1.71	0.55
1:A:555:U:H2'	1:A:556:C:H6	1.71	0.55
1:A:1115:U:H2'	1:A:1116:U:C6	2.41	0.55
1:A:1320:C:N4	19:S:36:ARG:HG2	2.21	0.55
2:B:10:LYS:C	2:B:12:GLY:H	2.14	0.55
13:M:2:ARG:HB3	13:M:6:ILE:O	2.06	0.55
17:Q:16:MET:CB	17:Q:19:SER:HB2	2.35	0.55
1:A:803:G:H2'	1:A:804:U:C6	2.40	0.55
1:A:844:G:N2	1:A:845:A:H62	2.03	0.55
1:A:859:G:C4'	2:B:190:SER:C	2.56	0.55
1:A:1522:U:O2'	1:A:1523:G:H5'	2.06	0.55
2:B:138:ARG:HA	2:B:141:GLU:OE2	2.06	0.55
7:G:19:SER:OG	7:G:22:LEU:HB2	2.06	0.55
10:J:24:GLU:OE2	10:J:90:LEU:HD22	2.06	0.55
10:J:53:ILE:HG23	14:N:84:ARG:CZ	2.37	0.55
11:K:113:THR:HG21	21:U:28:LEU:HD21	1.88	0.55
11:K:113:THR:CG2	21:U:28:LEU:HD21	2.36	0.55
11:K:124:LYS:CA	21:U:34:ARG:HB3	2.29	0.55
14:N:27:LYS:HD2	14:N:27:LYS:C	2.30	0.55
1:A:878:A:H1'	8:H:3:GLN:HE22	1.70	0.55
2:B:125:PHE:HD1	2:B:125:PHE:H	1.53	0.55
3:C:71:ARG:HB3	3:C:74:ILE:HG22	1.87	0.55
5:E:82:HIS:HB2	5:E:83:PRO:HD2	1.88	0.55
13:M:64:VAL:HG12	13:M:65:GLU:H	1.71	0.55
14:N:66:THR:HG23	14:N:67:GLY:N	2.20	0.55
17:Q:74:LEU:HD22	17:Q:75:VAL:N	2.21	0.55
21:U:36:PHE:CB	21:U:40:PRO:HD3	2.35	0.55
1:A:6:G:H4'	1:A:298:A:H4'	1.88	0.55
1:A:332:G:OP2	20:T:2:ASN:HB3	2.06	0.55
1:A:857:C:N3	2:B:22:TRP:C	2.63	0.55
1:A:924:C:O2'	1:A:925:G:H5'	2.05	0.55
2:B:112:ARG:HA	2:B:115:ASP:OD2	2.07	0.55
11:K:58:THR:HG23	11:K:61:ALA:CB	2.36	0.55
12:L:83:GLY:HA2	12:L:94:TYR:HD1	1.70	0.55
13:M:13:HIS:HB2	13:M:16:ILE:CG2	2.37	0.55
21:U:14:ALA:N	21:U:16:ARG:NH2	2.55	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:370:C:H2'	1:A:371:A:C8	2.42	0.55
1:A:408:A:H5'	4:D:21:LYS:HE2	1.88	0.55
1:A:845:A:H3'	1:A:846:G:O4'	2.06	0.55
1:A:1513:A:C2'	23:V:312:HOH:O	2.50	0.55
1:A:1517:G:C4'	22:V:144:VAL:HG21	2.29	0.55
3:C:42:LEU:O	3:C:46:LEU:HB2	2.07	0.55
4:D:117:VAL:HG12	4:D:130:ASN:HA	1.88	0.55
9:I:51:LEU:HD11	9:I:82:ILE:HD13	1.87	0.55
16:P:51:ARG:C	16:P:52:LEU:HD22	2.31	0.55
18:R:23:LYS:C	18:R:25:ILE:H	2.14	0.55
19:S:20:LYS:HB3	19:S:20:LYS:HZ2	1.72	0.55
21:U:39:LYS:N	21:U:40:PRO:CD	2.69	0.55
1:A:218:U:H2'	1:A:219:U:C6	2.41	0.55
1:A:1280:A:O4'	10:J:43:PRO:HG3	2.06	0.55
1:A:1324:A:H2'	1:A:1325:C:H6	1.72	0.55
1:A:1332:A:H2'	1:A:1333:A:C8	2.42	0.55
3:C:166:TRP:HA	3:C:166:TRP:CE3	2.42	0.55
5:E:45:VAL:CG1	5:E:116:VAL:HG23	2.37	0.55
6:F:46:GLN:HA	6:F:56:LYS:HG3	1.89	0.55
12:L:30:ARG:CB	12:L:30:ARG:HH11	2.19	0.55
14:N:17:ASP:HA	14:N:21:ALA:CB	2.37	0.55
1:A:32:A:H2'	1:A:33:A:C8	2.42	0.55
1:A:736:C:H4'	6:F:88:MET:HE3	1.89	0.55
1:A:918:A:N1	1:A:1078:U:C5	2.74	0.55
1:A:1512:U:O2'	1:A:1513:A:H5'	2.07	0.55
2:B:148:GLY:HA2	2:B:151:LYS:HD3	1.89	0.55
3:C:39:ARG:HG3	3:C:54:ILE:HG21	1.87	0.55
3:C:151:GLU:HB2	3:C:200:TRP:HZ3	1.71	0.55
7:G:45:ALA:HB1	7:G:120:ALA:HB2	1.88	0.55
10:J:67:ILE:HG13	14:N:95:LEU:HD13	1.87	0.55
12:L:3:VAL:O	12:L:7:VAL:HG23	2.07	0.55
14:N:65:GLN:HB2	14:N:78:LEU:HD22	1.87	0.55
17:Q:10:ARG:CZ	17:Q:56:ASP:H	2.20	0.55
1:A:97:G:H2'	1:A:98:A:O4'	2.07	0.55
1:A:921:U:O3'	1:A:1082:A:C5'	2.54	0.55
1:A:1517:G:H1'	22:V:141:GLN:H	1.71	0.55
3:C:133:MET:HE2	3:C:152:VAL:CG2	2.37	0.55
4:D:32:LYS:O	4:D:35:GLN:HB2	2.05	0.55
8:H:50:VAL:HG22	8:H:51:GLU:N	2.22	0.55
9:I:38:PHE:O	9:I:44:ARG:HG2	2.07	0.55
1:A:18:C:C4'	1:A:1078:U:H5'	2.37	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:173:U:H5'	1:A:197:A:O4'	2.07	0.55
1:A:1243:C:H2'	1:A:1244:G:C8	2.41	0.55
5:E:132:PRO:HA	5:E:135:VAL:HG22	1.88	0.55
19:S:49:ALA:HB1	19:S:56:HIS:CB	2.29	0.55
20:T:82:ILE:HG13	20:T:83:ASN:N	2.22	0.55
1:A:190:A:H2'	1:A:191:G:O4'	2.07	0.55
1:A:393:A:H5'	1:A:483:C:O2'	2.07	0.55
1:A:769:G:H4'	1:A:1513:A:H4'	1.87	0.55
1:A:1101:A:N6	2:B:173:LYS:HD2	2.22	0.55
1:A:1112:C:O2	3:C:178:ARG:N	2.40	0.55
2:B:67:LEU:HD22	2:B:67:LEU:N	2.21	0.55
3:C:21:TRP:CB	3:C:58:ARG:HB2	2.37	0.55
1:A:801:U:H2'	1:A:802:A:C8	2.42	0.54
1:A:1035:A:H2'	1:A:1036:A:C8	2.43	0.54
1:A:1135:U:O2	1:A:1135:U:H2'	2.06	0.54
1:A:1160:G:H2'	1:A:1161:C:H6	1.72	0.54
1:A:1346:A:N1	1:A:1374:A:H5''	2.22	0.54
2:B:87:ASP:O	2:B:88:GLN:HG3	2.07	0.54
2:B:216:VAL:O	2:B:220:VAL:HG23	2.06	0.54
3:C:77:GLY:HA3	3:C:81:GLU:HB3	1.89	0.54
10:J:11:LYS:NZ	10:J:99:GLN:H	2.05	0.54
11:K:54:SER:HA	11:K:56:LYS:HE3	1.90	0.54
1:A:930:C:H2'	1:A:931:C:O4'	2.08	0.54
1:A:1117:A:H5''	9:I:105:ARG:HH12	1.73	0.54
2:B:144:GLU:O	2:B:148:GLY:HA3	2.06	0.54
3:C:156:LEU:HD12	3:C:156:LEU:H	1.72	0.54
5:E:56:PRO:O	5:E:60:GLN:HG3	2.07	0.54
9:I:49:GLN:NE2	9:I:79:ARG:HD2	2.21	0.54
11:K:70:ALA:HB1	11:K:74:LYS:HE3	1.89	0.54
14:N:30:ILE:HG21	14:N:44:VAL:HG21	1.88	0.54
15:O:70:LYS:NZ	15:O:74:VAL:HG13	2.22	0.54
15:O:84:LEU:HD22	15:O:86:LEU:HD11	1.90	0.54
17:Q:32:ILE:HG13	17:Q:33:TYR:N	2.21	0.54
1:A:398:U:H2'	1:A:399:G:C8	2.42	0.54
1:A:1221:G:H5''	19:S:35:ARG:NH1	2.23	0.54
3:C:154:GLY:HA2	3:C:163:ARG:O	2.06	0.54
6:F:61:LEU:HD12	6:F:63:ASN:OD1	2.07	0.54
6:F:64:VAL:HG12	6:F:65:GLU:N	2.17	0.54
7:G:110:ARG:HH22	7:G:121:ASN:HB3	1.73	0.54
21:U:37:TYR:C	21:U:40:PRO:HD2	2.33	0.54
21:U:38:GLU:C	21:U:40:PRO:HD2	2.31	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:921:U:H2'	1:A:922:G:O4'	2.06	0.54
1:A:1363:A:H2'	1:A:1363:A:N3	2.22	0.54
6:F:6:ILE:HD13	6:F:89:VAL:HB	1.90	0.54
11:K:51:PHE:CE1	11:K:61:ALA:HB1	2.43	0.54
15:O:54:GLY:O	15:O:58:MET:HG2	2.07	0.54
17:Q:44:HIS:O	17:Q:72:TRP:HB2	2.07	0.54
1:A:415:A:H3'	1:A:416:G:H8	1.72	0.54
1:A:621:A:H2'	1:A:622:A:C8	2.43	0.54
1:A:830:G:O4'	2:B:188:THR:HB	2.08	0.54
1:A:830:G:N1	2:B:22:TRP:CD1	2.75	0.54
2:B:46:VAL:O	2:B:49:PHE:HB2	2.07	0.54
2:B:67:LEU:HA	2:B:89:PHE:O	2.07	0.54
2:B:113:LEU:HD23	2:B:113:LEU:C	2.33	0.54
9:I:23:GLY:O	9:I:24:ASN:HB2	2.06	0.54
11:K:15:VAL:HG21	11:K:41:LEU:HD11	1.88	0.54
11:K:110:THR:CG2	21:U:4:LYS:HA	2.37	0.54
19:S:20:LYS:O	19:S:23:GLU:HB3	2.07	0.54
1:A:1307:U:H2'	1:A:1308:U:H6	1.72	0.54
2:B:113:LEU:HG	2:B:143:LEU:HB3	1.90	0.54
8:H:9:MET:HA	8:H:26:MET:HE2	1.89	0.54
1:A:86:G:H4'	1:A:86:G:OP1	2.05	0.54
1:A:859:G:H2'	1:A:860:A:H8	1.71	0.54
5:E:95:MET:HE3	5:E:139:THR:HG22	1.89	0.54
17:Q:45:VAL:HG11	17:Q:74:LEU:HB2	1.89	0.54
18:R:33:THR:HG23	18:R:35:SER:H	1.73	0.54
1:A:18:C:C5'	1:A:1078:U:C4'	2.74	0.54
1:A:37:U:OP1	12:L:119:LYS:HE3	2.07	0.54
1:A:764:C:C2'	1:A:765:G:H5'	2.37	0.54
1:A:865:A:H2'	1:A:866:C:C6	2.43	0.54
1:A:1100:C:O2'	1:A:1101:A:H5'	2.07	0.54
1:A:1111:A:O2'	1:A:1112:C:H6	1.90	0.54
2:B:67:LEU:HD11	2:B:157:PRO:CB	2.30	0.54
3:C:111:ASP:O	3:C:115:VAL:HG23	2.08	0.54
8:H:45:ILE:C	8:H:63:LYS:HZ1	2.15	0.54
16:P:12:LYS:HD2	16:P:13:LYS:HG3	1.89	0.54
1:A:399:G:H2'	1:A:400:C:C6	2.43	0.54
1:A:477:C:H2'	1:A:478:A:C8	2.42	0.54
1:A:638:U:H2'	1:A:639:G:O4'	2.08	0.54
3:C:55:VAL:HG12	3:C:56:ILE:N	2.23	0.54
4:D:144:ILE:CD1	4:D:154:VAL:HG21	2.38	0.54
16:P:40:ASN:HB3	16:P:49:GLY:O	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:26:GLY:C	21:U:28:LEU:N	2.66	0.54
1:A:189:A:H2'	1:A:190:A:C8	2.43	0.54
1:A:403:C:O2'	1:A:404:G:H5'	2.08	0.54
1:A:513:C:H2'	1:A:514:C:H6	1.73	0.54
1:A:830:G:N3	2:B:19:THR:C	2.65	0.54
1:A:1310:G:H2'	1:A:1311:A:O4'	2.07	0.54
2:B:96:LEU:H	2:B:99:MET:HE3	1.73	0.54
2:B:163:ILE:CD1	2:B:209:VAL:HG12	2.38	0.54
3:C:53:ARG:HG2	3:C:54:ILE:H	1.72	0.54
3:C:156:LEU:HD11	3:C:163:ARG:O	2.08	0.54
7:G:115:MET:HE3	7:G:119:LEU:HB2	1.90	0.54
8:H:49:LYS:HG3	8:H:50:VAL:N	2.21	0.54
14:N:81:ILE:HD12	14:N:82:LYS:H	1.72	0.54
1:A:1323:G:H2'	1:A:1324:A:H8	1.65	0.53
2:B:67:LEU:HD21	2:B:157:PRO:CG	2.37	0.53
2:B:185:ILE:HA	2:B:199:ILE:HB	1.90	0.53
4:D:17:ASP:OD2	4:D:27:ILE:HG12	2.08	0.53
5:E:84:VAL:HG22	5:E:85:LYS:H	1.73	0.53
5:E:134:ASN:O	5:E:137:ARG:HG2	2.07	0.53
7:G:16:LYS:HG3	7:G:43:TYR:OH	2.08	0.53
7:G:100:MET:O	7:G:104:VAL:HG23	2.08	0.53
17:Q:18:LYS:HA	17:Q:47:ASP:O	2.08	0.53
17:Q:64:ARG:HG3	17:Q:65:PRO:HD2	1.89	0.53
1:A:636:U:H2'	1:A:637:C:C6	2.43	0.53
1:A:828:U:C4'	2:B:29:PHE:CD1	2.90	0.53
1:A:956:U:O2'	1:A:957:U:H5'	2.09	0.53
6:F:18:VAL:O	6:F:22:ILE:HG13	2.07	0.53
7:G:45:ALA:HA	7:G:48:THR:OG1	2.08	0.53
9:I:113:LYS:HG2	9:I:114:LYS:N	2.22	0.53
12:L:58:ASN:H	12:L:58:ASN:ND2	2.06	0.53
14:N:42:ASN:HB3	14:N:46:LYS:HE2	1.89	0.53
17:Q:4:ILE:HD12	17:Q:5:ARG:H	1.73	0.53
20:T:60:GLN:CD	20:T:60:GLN:N	2.67	0.53
1:A:53:A:C2	1:A:54:C:H1'	2.43	0.53
1:A:476:U:H2'	1:A:477:C:H6	1.73	0.53
1:A:716:A:N3	11:K:119:GLY:HA2	2.22	0.53
1:A:1042:A:H2'	1:A:1043:G:O4'	2.08	0.53
1:A:1082:A:OP2	5:E:22:LYS:NZ	2.40	0.53
5:E:95:MET:HE2	5:E:114:LEU:HD11	1.90	0.53
9:I:24:ASN:O	9:I:61:ASP:HA	2.09	0.53
9:I:43:ALA:C	9:I:45:MET:H	2.16	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:44:ARG:N	9:I:44:ARG:HH11	2.06	0.53
12:L:8:ARG:HG3	12:L:9:LYS:N	2.17	0.53
12:L:20:VAL:O	12:L:23:LEU:HG	2.08	0.53
19:S:69:LYS:O	19:S:72:GLU:HB2	2.08	0.53
1:A:520:A:OP2	12:L:47:ALA:HB1	2.09	0.53
1:A:870:U:OP2	2:B:22:TRP:CZ2	2.61	0.53
1:A:1517:G:H1'	23:V:359:HOH:O	2.04	0.53
2:B:71:THR:HG23	2:B:93:HIS:C	2.33	0.53
3:C:155:ARG:N	3:C:162:ALA:HA	2.21	0.53
5:E:40:ASP:C	5:E:42:ASN:H	2.17	0.53
5:E:150:GLU:C	5:E:152:VAL:H	2.16	0.53
7:G:112:ASP:CB	7:G:118:ARG:HG2	2.33	0.53
9:I:113:LYS:HG2	9:I:114:LYS:H	1.74	0.53
10:J:81:GLU:HA	10:J:84:VAL:HG22	1.89	0.53
1:A:742:G:O2'	1:A:743:A:H5'	2.08	0.53
1:A:1130:A:H5'	9:I:19:PHE:CE2	2.44	0.53
1:A:1299:A:H62	1:A:1302:C:H5	1.57	0.53
1:A:1517:G:P	22:V:147:ARG:HH21	2.25	0.53
4:D:25:ARG:HD3	4:D:26:ALA:H	1.73	0.53
8:H:43:GLY:O	8:H:63:LYS:HE3	2.09	0.53
12:L:56:LEU:HB3	12:L:58:ASN:ND2	2.24	0.53
16:P:42:ILE:HB	16:P:46:LYS:CD	2.36	0.53
17:Q:4:ILE:HD12	17:Q:4:ILE:H	1.74	0.53
1:A:405:U:O4	4:D:1:ALA:HA	2.09	0.53
1:A:602:A:O2'	1:A:603:U:H5'	2.07	0.53
1:A:824:G:O2'	1:A:825:A:H5'	2.08	0.53
1:A:1039:G:H2'	1:A:1040:U:C6	2.43	0.53
1:A:1040:U:H2'	1:A:1041:G:H8	1.74	0.53
8:H:5:PRO:O	8:H:32:LYS:HE3	2.09	0.53
9:I:11:ARG:HA	9:I:105:ARG:NE	2.23	0.53
10:J:7:ARG:HA	10:J:75:ASP:HB2	1.90	0.53
11:K:110:THR:HG22	21:U:4:LYS:HA	1.90	0.53
12:L:20:VAL:O	12:L:20:VAL:HG12	2.08	0.53
16:P:57:ILE:O	16:P:61:VAL:HG22	2.09	0.53
1:A:18:C:C4'	1:A:1078:U:C4'	2.87	0.53
1:A:71:A:N6	1:A:99:C:H1'	2.24	0.53
1:A:196:A:O5'	20:T:63:LYS:HE2	2.09	0.53
1:A:263:A:P	20:T:73:ARG:HH22	2.32	0.53
1:A:859:G:O4'	2:B:26:MET:HG3	2.08	0.53
1:A:860:A:H5'	2:B:192:PRO:O	1.40	0.53
1:A:860:A:N6	2:B:25:LYS:HG2	2.16	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:919:A:H2	1:A:1079:G:C6	2.26	0.53
1:A:973:G:H3'	1:A:974:A:H5''	1.90	0.53
1:A:1040:U:H2'	1:A:1041:G:C8	2.43	0.53
1:A:1250:A:H4'	9:I:69:GLY:N	2.22	0.53
1:A:1508:A:H2'	1:A:1509:C:H6	1.73	0.53
3:C:78:LYS:CG	3:C:81:GLU:HB2	2.24	0.53
5:E:55:VAL:N	5:E:56:PRO:HD2	2.23	0.53
6:F:47:LEU:HD13	6:F:51:ILE:HG22	1.91	0.53
11:K:33:ILE:O	11:K:41:LEU:HB2	2.08	0.53
14:N:81:ILE:O	14:N:84:ARG:HB3	2.09	0.53
15:O:15:GLY:HA3	15:O:20:ASP:OD1	2.09	0.53
18:R:62:ARG:HD3	18:R:69:TYR:HA	1.90	0.53
1:A:317:U:H2'	1:A:318:G:H8	1.74	0.53
1:A:1514:G:H5'	22:V:222:ARG:CZ	2.36	0.53
3:C:135:ARG:C	3:C:137:VAL:H	2.17	0.53
3:C:186:SER:HB3	3:C:197:VAL:CG1	2.38	0.53
5:E:81:GLN:HE21	5:E:147:ASN:C	2.17	0.53
6:F:100:SER:HA	18:R:23:LYS:HD2	1.91	0.53
9:I:90:ASP:O	9:I:93:LEU:HG	2.09	0.53
12:L:86:VAL:HG11	12:L:89:LEU:HD23	1.90	0.53
20:T:74:HIS:O	20:T:78:LEU:HD12	2.08	0.53
1:A:128:G:H2'	1:A:129:A:C8	2.44	0.53
1:A:252:U:H2'	1:A:253:A:H8	1.74	0.53
1:A:626:G:H2'	1:A:627:G:H8	1.74	0.53
1:A:1507:A:H2'	1:A:1508:A:C8	2.44	0.53
4:D:138:PRO:HA	4:D:181:PHE:CD2	2.43	0.53
6:F:40:GLU:CG	6:F:42:TRP:HE1	2.22	0.53
6:F:43:GLY:O	6:F:58:HIS:HA	2.09	0.53
11:K:36:ARG:HG2	11:K:37:GLN:H	1.74	0.53
20:T:53:MET:O	20:T:57:VAL:HG23	2.08	0.53
1:A:275:G:C5'	17:Q:15:LYS:HG2	2.39	0.53
1:A:600:A:H2'	1:A:601:G:H8	1.74	0.53
1:A:746:A:H2'	1:A:747:A:C8	2.44	0.53
1:A:960:U:O2'	1:A:1223:C:H4'	2.08	0.53
1:A:997:U:O2'	1:A:998:C:H5'	2.09	0.53
2:B:67:LEU:HD12	2:B:153:MET:CE	2.39	0.53
2:B:185:ILE:HG22	2:B:199:ILE:HB	1.91	0.53
3:C:6:PRO:HG3	3:C:200:TRP:HE1	1.73	0.53
3:C:126:ARG:HH22	3:C:190:THR:HG22	1.72	0.53
6:F:55:HIS:O	6:F:56:LYS:HG3	2.09	0.53
15:O:2:LEU:HD23	15:O:3:SER:N	2.24	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:6:ALA:O	15:O:9:LYS:HB3	2.09	0.53
16:P:12:LYS:C	16:P:14:ARG:H	2.17	0.53
19:S:29:PRO:HA	19:S:47:THR:HB	1.89	0.53
1:A:77:A:H2'	1:A:78:A:C8	2.43	0.52
1:A:766:A:H2'	1:A:767:A:O4'	2.08	0.52
1:A:1381:U:O2'	1:A:1382:C:H5'	2.08	0.52
1:A:1517:G:P	22:V:147:ARG:HH22	2.31	0.52
2:B:66:ILE:C	2:B:67:LEU:HD13	2.34	0.52
4:D:96:ARG:O	4:D:100:VAL:HG23	2.09	0.52
9:I:24:ASN:CA	9:I:26:LYS:HZ3	2.22	0.52
1:A:177:G:P	20:T:59:ARG:HE	2.33	0.52
1:A:408:A:H3'	1:A:409:U:H6	1.74	0.52
1:A:411:A:O2'	1:A:412:A:H4'	2.09	0.52
1:A:499:A:H4'	1:A:500:G:OP1	2.09	0.52
1:A:664:G:N2	1:A:741:G:H1	2.02	0.52
1:A:860:A:H2'	1:A:861:G:O4'	2.09	0.52
1:A:1170:A:H2'	1:A:1171:A:O4'	2.09	0.52
1:A:1308:U:OP1	13:M:95:PRO:HA	2.09	0.52
1:A:1309:G:N7	13:M:97:ARG:NH2	2.58	0.52
2:B:95:TRP:HH2	2:B:100:LEU:HB2	1.75	0.52
3:C:38:VAL:HG23	3:C:39:ARG:N	2.23	0.52
4:D:183:ARG:HH22	4:D:186:GLU:H	1.58	0.52
5:E:109:ALA:CB	5:E:135:VAL:HG23	2.39	0.52
12:L:90:PRO:C	12:L:92:VAL:H	2.17	0.52
21:U:14:ALA:H	21:U:16:ARG:NH2	2.07	0.52
1:A:17:U:O4'	1:A:1079:G:C8	2.63	0.52
1:A:120:A:H2'	1:A:121:U:H5''	1.90	0.52
1:A:187:G:H4'	20:T:79:THR:HG21	1.90	0.52
1:A:279:A:H4'	1:A:280:C:OP2	2.10	0.52
1:A:889:A:H61	1:A:907:A:H3'	1.74	0.52
1:A:1132:C:H2'	1:A:1133:G:O4'	2.09	0.52
1:A:1283:U:H2'	1:A:1284:C:C6	2.44	0.52
2:B:101:THR:HG23	2:B:102:ASN:H	1.75	0.52
4:D:54:LEU:O	4:D:54:LEU:HD22	2.09	0.52
7:G:143:MET:O	7:G:147:ASN:HB2	2.09	0.52
15:O:7:THR:CG2	15:O:30:LEU:HD11	2.38	0.52
17:Q:35:LYS:O	17:Q:37:ILE:HG13	2.10	0.52
19:S:62:THR:HB	19:S:64:GLU:OE2	2.10	0.52
1:A:214:C:H2'	1:A:215:C:C6	2.44	0.52
1:A:919:A:O2'	1:A:1077:G:H4'	2.08	0.52
1:A:1103:C:C5'	2:B:96:LEU:HD12	2.37	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:96:LEU:HB2	2:B:99:MET:HE3	1.91	0.52
4:D:117:VAL:HG12	4:D:130:ASN:C	2.35	0.52
12:L:30:ARG:HH11	12:L:30:ARG:HB3	1.75	0.52
12:L:35:ARG:CZ	12:L:75:GLU:HB3	2.39	0.52
1:A:936:C:H1'	1:A:1382:C:H42	1.74	0.52
5:E:14:LEU:HA	5:E:36:THR:HG22	1.92	0.52
7:G:110:ARG:HH22	7:G:121:ASN:CB	2.23	0.52
11:K:109:ILE:H	21:U:5:VAL:HB	1.75	0.52
11:K:111:ASP:HB3	21:U:3:ILE:HD13	1.92	0.52
19:S:50:VAL:H	19:S:57:VAL:H	1.57	0.52
21:U:36:PHE:HB3	21:U:40:PRO:HG3	1.90	0.52
1:A:472:U:H2'	1:A:473:U:C6	2.44	0.52
1:A:830:G:N9	2:B:19:THR:O	2.42	0.52
1:A:1080:A:O2'	5:E:28:ARG:HD2	2.07	0.52
1:A:1376:U:H2'	1:A:1377:A:H8	1.75	0.52
2:B:95:TRP:CZ3	2:B:171:ALA:HA	2.44	0.52
3:C:39:ARG:HG3	3:C:54:ILE:HD13	1.91	0.52
5:E:74:ALA:HB1	5:E:148:SER:HB3	1.91	0.52
10:J:22:THR:HG23	10:J:23:ALA:N	2.23	0.52
11:K:28:ASN:ND2	11:K:29:THR:N	2.58	0.52
11:K:56:LYS:O	11:K:58:THR:N	2.43	0.52
13:M:106:ARG:CZ	13:M:109:LYS:HD2	2.40	0.52
19:S:18:VAL:CG2	19:S:43:MET:HG2	2.32	0.52
19:S:29:PRO:CA	19:S:47:THR:HB	2.39	0.52
1:A:736:C:H2'	1:A:737:C:C6	2.45	0.52
1:A:861:G:C6	2:B:25:LYS:CE	2.62	0.52
1:A:1247:U:O2'	1:A:1248:A:H5'	2.10	0.52
1:A:1289:A:H2'	1:A:1290:G:H5'	1.91	0.52
2:B:46:VAL:CG1	2:B:47:PRO:HD3	2.31	0.52
2:B:53:LEU:HA	2:B:56:LEU:HD23	1.92	0.52
3:C:141:MET:CE	3:C:147:GLY:H	2.23	0.52
5:E:149:PRO:HA	8:H:98:LEU:HD21	1.91	0.52
8:H:76:ARG:HH11	8:H:76:ARG:HG3	1.74	0.52
1:A:266:G:O2'	1:A:267:C:H3'	2.10	0.52
1:A:815:A:H4'	1:A:817:C:C4	2.45	0.52
1:A:860:A:N7	2:B:25:LYS:HG2	2.25	0.52
1:A:1225:A:H4'	19:S:77:ARG:HH22	1.75	0.52
1:A:1521:C:O2'	1:A:1522:U:H5'	2.09	0.52
4:D:58:GLN:OE1	4:D:62:ARG:HG3	2.09	0.52
4:D:122:ILE:O	4:D:128:VAL:HG23	2.10	0.52
7:G:16:LYS:C	7:G:16:LYS:HD3	2.34	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:104:SER:O	8:H:122:GLY:HA3	2.10	0.52
9:I:11:ARG:HA	9:I:105:ARG:HE	1.75	0.52
9:I:56:MET:SD	9:I:57:VAL:N	2.82	0.52
9:I:93:LEU:HD13	9:I:97:LEU:HD23	1.92	0.52
10:J:88:MET:C	10:J:90:LEU:H	2.17	0.52
13:M:106:ARG:HD3	13:M:110:GLY:O	2.09	0.52
17:Q:80:LYS:O	17:Q:80:LYS:HE3	2.09	0.52
1:A:18:C:C1'	1:A:1078:U:O4'	2.57	0.52
2:B:55:GLU:HG3	2:B:197:PHE:CZ	2.45	0.52
4:D:107:GLY:HA2	4:D:112:GLU:OE1	2.10	0.52
4:D:186:GLU:O	4:D:190:LEU:HD13	2.09	0.52
5:E:71:ILE:HG12	5:E:72:ASN:N	2.24	0.52
7:G:142:ARG:C	7:G:146:ALA:HB3	2.34	0.52
1:A:195:A:H1'	1:A:222:C:O2'	2.09	0.52
1:A:320:A:H2'	1:A:321:A:C8	2.44	0.52
1:A:423:G:H2'	1:A:424:G:O4'	2.09	0.52
1:A:975:A:H5''	1:A:976:G:O5'	2.10	0.52
1:A:1060:U:H5''	10:J:53:ILE:CG2	2.40	0.52
1:A:1071:C:H2'	1:A:1072:G:C8	2.41	0.52
1:A:1517:G:H1'	22:V:141:GLN:N	2.24	0.52
2:B:23:ASN:HD22	2:B:23:ASN:C	2.16	0.52
2:B:76:SER:OG	2:B:92:ASN:HB2	2.10	0.52
4:D:115:GLN:HE21	4:D:119:HIS:CE1	2.28	0.52
9:I:30:ASN:ND2	9:I:30:ASN:N	2.56	0.52
9:I:38:PHE:O	9:I:41:GLU:HB2	2.09	0.52
9:I:99:LYS:HD3	9:I:100:ALA:N	2.25	0.52
14:N:9:GLU:O	14:N:13:VAL:HG23	2.10	0.52
15:O:66:LEU:HB3	15:O:77:TYR:HE1	1.74	0.52
22:V:241:MET:HE1	22:V:260:MET:HG2	1.90	0.52
1:A:492:C:H2'	1:A:493:A:H5''	1.92	0.51
1:A:828:U:OP1	2:B:44:LYS:HE3	2.10	0.51
1:A:939:G:H4'	7:G:101:ARG:NH2	2.25	0.51
1:A:1122:U:H2'	1:A:1123:U:C6	2.45	0.51
1:A:1190:G:O2'	3:C:2:GLN:HB2	2.10	0.51
3:C:100:ILE:HG23	3:C:100:ILE:O	2.10	0.51
5:E:81:GLN:HG2	5:E:148:SER:HA	1.92	0.51
10:J:39:PRO:CA	10:J:74:VAL:HG22	2.39	0.51
12:L:103:CYS:SG	12:L:104:SER:N	2.83	0.51
18:R:44:THR:HG22	18:R:46:THR:HB	1.91	0.51
21:U:5:VAL:HG12	21:U:6:ARG:N	2.25	0.51
1:A:300:A:H2'	1:A:301:G:O4'	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:474:G:H2'	1:A:475:C:C6	2.45	0.51
1:A:642:A:H2'	1:A:643:C:C6	2.45	0.51
1:A:920:U:H2'	1:A:921:U:H6	1.75	0.51
1:A:1098:C:C2'	1:A:1099:G:H5'	2.40	0.51
11:K:80:ASN:HD21	11:K:107:THR:CG2	2.23	0.51
11:K:88:PRO:HD3	21:U:28:LEU:HD22	1.91	0.51
17:Q:56:ASP:HB3	17:Q:79:GLU:O	2.09	0.51
17:Q:60:ILE:HD13	17:Q:60:ILE:N	2.25	0.51
18:R:25:ILE:HG13	18:R:67:LEU:HD11	1.91	0.51
1:A:56:U:H2'	1:A:57:G:C8	2.44	0.51
1:A:731:G:OP1	1:A:766:A:H1'	2.10	0.51
1:A:838:G:H2'	1:A:839:C:O4'	2.11	0.51
1:A:846:G:H2'	1:A:846:G:N3	2.23	0.51
1:A:1172:C:H2'	1:A:1173:U:H6	1.76	0.51
1:A:1366:C:H2'	1:A:1367:C:H6	1.76	0.51
1:A:1524:C:H2'	1:A:1525:G:C8	2.46	0.51
3:C:77:GLY:CA	3:C:81:GLU:HB3	2.40	0.51
4:D:197:HIS:HA	4:D:200:VAL:HG22	1.91	0.51
7:G:30:MET:SD	7:G:35:LYS:HB2	2.50	0.51
11:K:63:GLN:HB3	11:K:94:SER:OG	2.10	0.51
11:K:88:PRO:HA	11:K:92:ARG:NE	2.23	0.51
12:L:22:ALA:HB2	12:L:56:LEU:CD2	2.40	0.51
12:L:95:HIS:HD1	12:L:96:THR:N	2.09	0.51
18:R:52:ARG:HH11	18:R:52:ARG:CB	2.15	0.51
1:A:205:A:H2'	1:A:206:C:C6	2.43	0.51
1:A:275:G:O5'	17:Q:15:LYS:HG2	2.11	0.51
1:A:275:G:H5'	17:Q:15:LYS:HG2	1.92	0.51
1:A:693:G:H2'	1:A:694:A:O4'	2.10	0.51
1:A:712:A:O2'	1:A:713:G:H5'	2.10	0.51
1:A:857:C:H2'	1:A:858:G:O4'	2.10	0.51
1:A:909:A:H2'	1:A:910:C:O4'	2.11	0.51
1:A:958:A:N1	19:S:53:GLY:HA3	2.25	0.51
1:A:1005:A:H3'	1:A:1006:G:H8	1.74	0.51
1:A:1197:A:O2'	1:A:1198:G:H5'	2.10	0.51
1:A:1320:C:H41	19:S:36:ARG:HE	1.57	0.51
1:A:1332:A:H2'	1:A:1333:A:H8	1.75	0.51
2:B:68:PHE:HA	2:B:161:PHE:O	2.10	0.51
3:C:110:LEU:O	3:C:203:LYS:HE2	2.11	0.51
3:C:186:SER:O	3:C:197:VAL:HG12	2.11	0.51
5:E:37:VAL:HG11	5:E:113:VAL:HG12	1.93	0.51
7:G:14:ASP:OD1	7:G:22:LEU:HD12	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:11:ARG:HG3	9:I:11:ARG:O	2.10	0.51
9:I:32:ARG:NH2	9:I:36:GLN:HG2	2.25	0.51
11:K:110:THR:CG2	21:U:4:LYS:HD2	2.40	0.51
12:L:48:LEU:H	12:L:48:LEU:CD2	2.18	0.51
14:N:27:LYS:HD2	14:N:28:ALA:N	2.26	0.51
16:P:40:ASN:HD21	16:P:42:ILE:HG13	1.76	0.51
1:A:36:C:H2'	1:A:37:U:O4'	2.09	0.51
1:A:202:G:H2'	1:A:203:G:H8	1.74	0.51
1:A:251:G:H4'	1:A:252:U:H5'	1.93	0.51
1:A:545:C:O2'	1:A:546:A:H5'	2.10	0.51
1:A:1033:G:H2'	1:A:1034:G:O4'	2.10	0.51
1:A:1080:A:N9	5:E:22:LYS:HA	2.04	0.51
7:G:3:ARG:HB3	7:G:3:ARG:CZ	2.40	0.51
7:G:72:VAL:HB	7:G:144:ALA:HB3	1.92	0.51
11:K:80:ASN:HD21	11:K:107:THR:HG23	1.76	0.51
11:K:83:VAL:HG21	11:K:109:ILE:HG12	1.92	0.51
18:R:60:ARG:HG3	18:R:61:ALA:N	2.25	0.51
1:A:208:U:H2'	1:A:210:C:C5	2.45	0.51
1:A:272:C:H2'	1:A:273:U:C6	2.45	0.51
1:A:857:C:H1'	2:B:21:TYR:HA	1.91	0.51
2:B:49:PHE:O	2:B:53:LEU:HD23	2.10	0.51
7:G:91:ARG:HB3	7:G:92:PRO:HD2	1.91	0.51
11:K:69:CYS:C	11:K:71:ASP:N	2.66	0.51
11:K:111:ASP:O	18:R:72:ARG:HD3	2.09	0.51
16:P:9:HIS:CE1	16:P:29:ASN:HB2	2.44	0.51
1:A:219:U:H2'	1:A:220:G:C8	2.46	0.51
1:A:590:U:OP1	8:H:30:LYS:HE2	2.10	0.51
1:A:663:A:O2'	1:A:664:G:H5'	2.11	0.51
1:A:711:G:O2'	1:A:712:A:H5'	2.11	0.51
1:A:979:C:H2'	1:A:980:C:O4'	2.10	0.51
1:A:1051:C:H2'	1:A:1052:U:C6	2.46	0.51
1:A:1110:A:N7	1:A:1111:A:N6	2.58	0.51
1:A:1285:A:N6	1:A:1355:G:H4'	2.26	0.51
11:K:125:LYS:O	11:K:126:ARG:O	2.29	0.51
12:L:31:GLY:HA3	12:L:54:VAL:CG1	2.41	0.51
13:M:78:ARG:HH12	19:S:64:GLU:HG2	1.76	0.51
19:S:35:ARG:HG2	19:S:50:VAL:CG1	2.39	0.51
1:A:830:G:N7	2:B:22:TRP:CB	2.73	0.51
3:C:76:ILE:C	3:C:82:ASP:HB2	2.36	0.51
3:C:89:VAL:C	3:C:91:ALA:H	2.19	0.51
4:D:71:PHE:O	4:D:74:TYR:HB2	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:32:ALA:HB1	6:F:70:VAL:HG11	1.93	0.51
7:G:11:ILE:HD12	7:G:11:ILE:H	1.75	0.51
7:G:23:ALA:O	7:G:26:VAL:HG22	2.11	0.51
9:I:34:LEU:HD11	9:I:47:VAL:CG2	2.35	0.51
11:K:81:LEU:HD22	11:K:104:PHE:HB3	1.92	0.51
13:M:13:HIS:O	13:M:16:ILE:HG22	2.11	0.51
13:M:18:LEU:O	13:M:21:ILE:HG13	2.10	0.51
13:M:27:THR:O	13:M:30:LYS:HB3	2.11	0.51
22:V:28:SER:OG	22:V:174:LEU:HD11	2.11	0.51
22:V:41:MET:HE3	22:V:109:ARG:CB	2.41	0.51
1:A:255:G:H5'	17:Q:17:GLU:O	2.10	0.51
1:A:529:G:H22	12:L:47:ALA:CB	2.24	0.51
1:A:644:U:H4'	8:H:83:ARG:HH22	1.75	0.51
1:A:840:C:C2'	1:A:842:U:H5''	2.38	0.51
1:A:1081:A:H4'	5:E:23:THR:O	2.11	0.51
3:C:83:VAL:HG12	3:C:87:ARG:HE	1.75	0.51
4:D:116:LEU:HB3	4:D:122:ILE:HD11	1.93	0.51
5:E:17:VAL:HA	5:E:34:ALA:HA	1.93	0.51
5:E:110:MET:O	5:E:113:VAL:HG22	2.10	0.51
7:G:14:ASP:CG	7:G:15:PRO:HD2	2.36	0.51
9:I:87:MET:HE3	9:I:94:ARG:NE	2.25	0.51
11:K:88:PRO:HA	11:K:92:ARG:HD2	1.93	0.51
12:L:54:VAL:HG12	12:L:56:LEU:HD12	1.93	0.51
14:N:17:ASP:HA	14:N:21:ALA:HB2	1.92	0.51
21:U:43:GLU:OE1	21:U:43:GLU:HA	2.10	0.51
1:A:337:G:H2'	1:A:338:A:C8	2.45	0.51
1:A:413:G:O6	4:D:32:LYS:HE3	2.11	0.51
1:A:841:C:H3'	1:A:843:U:OP2	2.11	0.51
1:A:919:A:C2	1:A:1079:G:C6	2.99	0.51
1:A:1206:G:H4'	3:C:192:TYR:HA	1.93	0.51
1:A:1324:A:H2'	1:A:1325:C:C6	2.46	0.51
6:F:37:HIS:HE1	6:F:65:GLU:HB2	1.73	0.51
7:G:19:SER:OG	7:G:21:LEU:HG	2.10	0.51
8:H:60:LEU:HD12	8:H:60:LEU:N	2.26	0.51
10:J:55:PRO:O	10:J:56:HIS:HB3	2.10	0.51
13:M:44:ILE:HD12	13:M:45:SER:N	2.23	0.51
1:A:824:G:H2'	1:A:825:A:H8	1.75	0.50
1:A:921:U:N3	1:A:1080:A:N1	2.59	0.50
3:C:71:ARG:NH2	3:C:74:ILE:HB	2.26	0.50
3:C:71:ARG:O	3:C:74:ILE:HG22	2.11	0.50
4:D:2:ARG:O	4:D:3:TYR:HB2	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:6:ILE:HB	6:F:89:VAL:HB	1.93	0.50
9:I:49:GLN:HE21	9:I:79:ARG:HD2	1.75	0.50
11:K:92:ARG:HH11	11:K:92:ARG:CB	2.23	0.50
13:M:10:ASP:HA	13:M:44:ILE:CD1	2.41	0.50
18:R:62:ARG:HD2	18:R:69:TYR:CD1	2.46	0.50
18:R:63:TYR:C	18:R:65:SER:H	2.19	0.50
1:A:751:U:H2'	1:A:752:G:O4'	2.11	0.50
1:A:1101:A:N7	2:B:170:ILE:HD12	2.26	0.50
1:A:1169:A:H2'	1:A:1170:A:C8	2.47	0.50
2:B:31:PHE:HA	2:B:41:ASN:HB2	1.94	0.50
4:D:172:VAL:HA	4:D:178:GLU:O	2.11	0.50
7:G:45:ALA:HB2	7:G:116:ALA:O	2.10	0.50
7:G:53:SER:HB2	7:G:55:LYS:HZ2	1.75	0.50
7:G:66:GLU:HA	7:G:69:ARG:HE	1.75	0.50
12:L:20:VAL:HG22	12:L:94:TYR:CE1	2.46	0.50
1:A:33:A:H2'	1:A:34:C:C6	2.46	0.50
1:A:1142:G:H3'	1:A:1143:G:H8	1.76	0.50
1:A:1343:G:H2'	1:A:1344:C:C6	2.47	0.50
4:D:17:ASP:HB2	4:D:27:ILE:HG23	1.94	0.50
4:D:77:GLU:O	4:D:81:LEU:HG	2.11	0.50
4:D:123:MET:HG3	4:D:127:ARG:C	2.36	0.50
4:D:131:ILE:O	4:D:134:TYR:HB2	2.10	0.50
6:F:12:PRO:HG3	6:F:54:LEU:HG	1.94	0.50
6:F:67:PRO:HG2	6:F:70:VAL:HG22	1.92	0.50
6:F:98:GLU:HG2	6:F:99:ALA:H	1.76	0.50
9:I:110:VAL:HG12	9:I:111:GLU:N	2.20	0.50
11:K:56:LYS:H	11:K:56:LYS:HD3	1.75	0.50
12:L:3:VAL:HG23	12:L:4:ASN:OD1	2.11	0.50
17:Q:24:ILE:HB	17:Q:41:THR:HB	1.92	0.50
1:A:90:C:H2'	1:A:91:U:H6	1.76	0.50
1:A:412:A:H1'	1:A:413:G:C8	2.43	0.50
1:A:807:A:H2'	1:A:808:C:C6	2.47	0.50
1:A:830:G:H3'	2:B:38:HIS:CG	2.39	0.50
1:A:919:A:C2	1:A:1078:U:C5	2.99	0.50
1:A:1007:U:H2'	1:A:1008:U:H6	1.77	0.50
1:A:1366:C:H2'	1:A:1367:C:C6	2.45	0.50
2:B:113:LEU:O	2:B:117:GLU:HG3	2.12	0.50
2:B:132:GLU:O	2:B:136:ARG:HG3	2.11	0.50
3:C:21:TRP:HB3	3:C:58:ARG:HB2	1.93	0.50
3:C:154:GLY:HA2	3:C:163:ARG:H	1.77	0.50
8:H:8:ASP:OD2	8:H:12:ARG:HD2	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:122:PRO:HG2	21:U:35:GLU:HG2	1.93	0.50
12:L:106:VAL:CG2	12:L:116:TYR:HB3	2.40	0.50
1:A:633:G:H2'	1:A:634:C:C6	2.47	0.50
1:A:837:U:H2'	1:A:838:G:H8	1.77	0.50
1:A:840:C:C2	1:A:842:U:H4'	2.47	0.50
2:B:100:LEU:O	2:B:178:LEU:HG	2.12	0.50
2:B:107:ARG:HA	2:B:110:ILE:CD1	2.42	0.50
2:B:156:LEU:CD1	5:E:68:ARG:HH22	2.25	0.50
3:C:78:LYS:HE3	3:C:81:GLU:OE2	2.11	0.50
4:D:11:SER:HB2	4:D:20:LEU:HD11	1.92	0.50
4:D:51:GLY:O	4:D:55:ARG:HB2	2.12	0.50
10:J:41:PRO:O	10:J:42:LEU:HB2	2.12	0.50
10:J:67:ILE:HG12	14:N:94:GLY:O	2.11	0.50
12:L:121:PRO:C	12:L:123:ALA:H	2.18	0.50
18:R:40:PRO:HD2	18:R:43:ILE:HD11	1.94	0.50
1:A:16:A:H4'	5:E:21:SER:H	1.76	0.50
1:A:33:A:H2'	1:A:34:C:H6	1.77	0.50
1:A:828:U:OP1	2:B:28:PRO:C	2.52	0.50
1:A:1081:A:H62	5:E:51:LYS:NZ	2.02	0.50
3:C:146:LYS:HG3	3:C:202:PHE:HD2	1.74	0.50
6:F:100:SER:HA	18:R:23:LYS:CE	2.42	0.50
9:I:56:MET:HA	9:I:59:LYS:HB2	1.94	0.50
1:A:556:C:O2'	1:A:557:G:H5'	2.11	0.50
1:A:848:C:P	2:B:35:ASN:OD1	2.70	0.50
2:B:53:LEU:HD12	2:B:219:THR:HG21	1.92	0.50
2:B:156:LEU:HD11	5:E:68:ARG:HH12	1.67	0.50
15:O:80:LEU:HD23	15:O:80:LEU:C	2.36	0.50
17:Q:18:LYS:HE3	17:Q:48:GLU:HG2	1.93	0.50
21:U:40:PRO:C	21:U:42:THR:N	2.69	0.50
22:V:41:MET:HE3	22:V:109:ARG:HB2	1.92	0.50
1:A:90:C:H2'	1:A:91:U:C6	2.47	0.50
1:A:220:G:O2'	1:A:221:C:H5'	2.12	0.50
1:A:723:U:O4'	21:U:48:LYS:HD3	2.12	0.50
1:A:1080:A:HO2'	5:E:28:ARG:CD	2.24	0.50
1:A:1108:G:H5'	3:C:175:HIS:CD2	2.47	0.50
1:A:1110:A:C2'	1:A:1111:A:H5'	2.42	0.50
1:A:1137:C:O2'	1:A:1138:G:H5''	2.12	0.50
2:B:71:THR:CG2	2:B:94:ARG:HH21	2.25	0.50
4:D:18:LEU:HB2	4:D:20:LEU:HD11	1.92	0.50
4:D:64:TYR:H	4:D:64:TYR:HD1	1.59	0.50
7:G:61:PHE:O	7:G:65:LEU:HD13	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:24:ASN:HA	9:I:26:LYS:HZ3	1.76	0.50
10:J:57:VAL:HG13	10:J:58:ASN:N	2.27	0.50
22:V:241:MET:HE3	22:V:243:ILE:HD12	1.92	0.50
1:A:49:U:O2'	1:A:50:A:H2'	2.11	0.50
1:A:216:U:H2'	1:A:217:C:C6	2.46	0.50
1:A:235:C:H2'	1:A:236:A:C8	2.47	0.50
1:A:613:C:H2'	1:A:614:C:C6	2.46	0.50
2:B:59:ILE:HD12	2:B:60:ALA:N	2.27	0.50
4:D:112:GLU:OE2	4:D:153:ARG:HD3	2.11	0.50
5:E:92:ARG:HB3	5:E:127:TYR:HB2	1.94	0.50
5:E:155:LYS:HE3	8:H:70:VAL:HG13	1.94	0.50
7:G:72:VAL:HB	7:G:144:ALA:CB	2.41	0.50
7:G:94:ARG:HD3	7:G:98:LEU:HD11	1.93	0.50
17:Q:10:ARG:NH2	17:Q:11:VAL:HG23	2.27	0.50
1:A:18:C:C4'	1:A:1078:U:H4'	2.41	0.49
1:A:98:A:H2'	1:A:99:C:C6	2.47	0.49
1:A:370:C:O2'	1:A:371:A:H5'	2.13	0.49
1:A:664:G:H5''	18:R:52:ARG:NH2	2.27	0.49
1:A:859:G:O3'	2:B:191:ASP:OD1	2.29	0.49
1:A:869:G:C6	2:B:23:ASN:ND2	2.76	0.49
1:A:1082:A:O5'	5:E:22:LYS:CE	2.60	0.49
2:B:114:LYS:HA	2:B:117:GLU:OE1	2.12	0.49
5:E:41:GLY:HA2	5:E:118:GLY:HA2	1.94	0.49
12:L:113:ARG:HA	12:L:118:VAL:HG23	1.93	0.49
13:M:89:ARG:NH1	13:M:94:LEU:HD13	2.27	0.49
1:A:110:C:H2'	1:A:111:G:O4'	2.12	0.49
1:A:537:G:H2'	1:A:538:G:C8	2.47	0.49
1:A:600:A:H2'	1:A:601:G:C8	2.48	0.49
1:A:685:G:O4'	11:K:40:ALA:HB3	2.11	0.49
1:A:1096:C:O2'	1:A:1097:C:H5'	2.12	0.49
1:A:1284:C:H3'	1:A:1285:A:C5'	2.42	0.49
1:A:1313:U:H5''	19:S:5:LYS:CG	2.33	0.49
2:B:36:LYS:N	2:B:36:LYS:HE3	2.28	0.49
2:B:218:ALA:HA	2:B:221:ARG:HE	1.76	0.49
5:E:110:MET:SD	5:E:110:MET:N	2.85	0.49
6:F:54:LEU:HD13	6:F:55:HIS:H	1.77	0.49
7:G:103:ILE:O	7:G:107:ALA:HB2	2.11	0.49
13:M:89:ARG:HH11	13:M:94:LEU:HD13	1.76	0.49
1:A:72:A:H2'	1:A:73:C:C6	2.47	0.49
1:A:218:U:H2'	1:A:219:U:H6	1.77	0.49
1:A:237:G:O2'	1:A:238:A:H5'	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:309:A:H2'	1:A:310:G:H8	1.76	0.49
1:A:642:A:H2'	1:A:643:C:H6	1.76	0.49
1:A:830:G:C8	2:B:22:TRP:CB	2.95	0.49
1:A:830:G:N7	2:B:22:TRP:HB3	2.13	0.49
2:B:95:TRP:CE3	2:B:171:ALA:HA	2.47	0.49
3:C:78:LYS:H	3:C:81:GLU:CB	2.25	0.49
3:C:119:ILE:O	3:C:123:LEU:HG	2.12	0.49
4:D:169:TRP:HB3	4:D:183:ARG:HH21	1.77	0.49
9:I:53:LEU:O	9:I:53:LEU:HD13	2.12	0.49
13:M:38:ILE:HG13	13:M:55:LEU:CD2	2.41	0.49
20:T:68:LYS:HG3	20:T:69:ASN:ND2	2.27	0.49
1:A:546:A:H4'	1:A:548:G:O3'	2.12	0.49
1:A:685:G:O2'	1:A:686:U:H5'	2.12	0.49
1:A:764:C:H3'	1:A:765:G:N2	2.25	0.49
1:A:915:A:H2'	1:A:916:U:H5'	1.94	0.49
1:A:969:A:N3	1:A:970:C:O2	2.45	0.49
1:A:971:G:OP1	1:A:971:G:H3'	2.12	0.49
3:C:49:ALA:HB1	3:C:75:VAL:CG2	2.40	0.49
3:C:149:LYS:HB3	3:C:200:TRP:HB2	1.94	0.49
4:D:7:LYS:HG3	4:D:20:LEU:HB2	1.94	0.49
10:J:48:ARG:HA	10:J:66:GLU:HA	1.95	0.49
19:S:64:GLU:OE2	19:S:65:MET:HG3	2.12	0.49
1:A:859:G:O3'	2:B:191:ASP:O	2.22	0.49
1:A:957:U:H3	1:A:960:U:H5''	1.77	0.49
9:I:51:LEU:CD1	9:I:82:ILE:HG21	2.42	0.49
12:L:35:ARG:O	12:L:52:CYS:HB2	2.13	0.49
13:M:84:CYS:HA	19:S:72:GLU:O	2.13	0.49
15:O:78:THR:HA	15:O:81:ILE:CD1	2.42	0.49
1:A:636:U:H2'	1:A:637:C:H6	1.78	0.49
1:A:677:U:H2'	1:A:678:U:C6	2.48	0.49
3:C:100:ILE:C	3:C:100:ILE:HD13	2.38	0.49
4:D:10:LEU:HD21	4:D:62:ARG:CD	2.41	0.49
5:E:89:THR:HG21	5:E:134:ASN:ND2	2.27	0.49
17:Q:10:ARG:NE	17:Q:10:ARG:CA	2.76	0.49
21:U:8:ASN:O	21:U:9:GLU:HB2	2.12	0.49
1:A:34:C:H2'	1:A:35:G:C8	2.47	0.49
1:A:212:G:H2'	1:A:213:G:C8	2.47	0.49
1:A:610:U:O2	1:A:610:U:O4'	2.28	0.49
1:A:806:C:H2'	1:A:807:A:H8	1.77	0.49
1:A:1220:G:H2'	1:A:1221:G:H8	1.77	0.49
1:A:1285:A:H62	1:A:1355:G:H4'	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:15:PHE:HD1	2:B:16:GLY:H	1.61	0.49
2:B:45:THR:HA	2:B:48:MET:HG3	1.95	0.49
2:B:187:ASP:CG	2:B:188:THR:N	2.70	0.49
4:D:29:THR:O	4:D:30:LYS:HB2	2.13	0.49
8:H:46:GLU:HA	8:H:63:LYS:HZ3	1.77	0.49
11:K:52:ARG:O	11:K:54:SER:N	2.46	0.49
13:M:15:VAL:HG13	13:M:29:SER:OG	2.13	0.49
16:P:5:ARG:H	16:P:5:ARG:HD2	1.77	0.49
22:V:244:ASP:HB3	22:V:247:MET:HG3	1.94	0.49
1:A:16:A:N1	1:A:919:A:H2	2.10	0.49
1:A:79:G:H2'	1:A:80:A:O4'	2.13	0.49
1:A:254:G:O2'	1:A:255:G:H5'	2.13	0.49
1:A:327:A:H1'	1:A:329:A:O4'	2.13	0.49
1:A:1271:A:H2'	1:A:1272:G:H8	1.78	0.49
1:A:1372:U:OP1	9:I:72:SER:HB2	2.12	0.49
2:B:9:LEU:H	2:B:9:LEU:HD12	1.78	0.49
9:I:32:ARG:HD3	9:I:37:TYR:HD1	1.77	0.49
11:K:15:VAL:HG11	11:K:35:ASP:HB2	1.94	0.49
11:K:49:SER:HA	11:K:68:ARG:HH21	1.77	0.49
16:P:42:ILE:CB	16:P:46:LYS:HD2	2.42	0.49
17:Q:60:ILE:HB	17:Q:72:TRP:HE3	1.78	0.49
1:A:22:G:H4'	1:A:885:G:C8	2.47	0.49
1:A:214:C:H2'	1:A:215:C:H6	1.76	0.49
1:A:677:U:H2'	1:A:678:U:H6	1.77	0.49
1:A:755:G:OP2	15:O:64:LYS:HG2	2.13	0.49
1:A:870:U:O4	2:B:27:LYS:HB3	2.06	0.49
1:A:1081:A:C3'	5:E:24:VAL:CG1	2.89	0.49
1:A:1329:A:O2'	1:A:1330:U:H5'	2.13	0.49
1:A:1514:G:H5'	22:V:222:ARG:NH1	2.28	0.49
2:B:9:LEU:HD11	2:B:11:ALA:HB3	1.93	0.49
3:C:115:VAL:CG1	3:C:137:VAL:HG13	2.43	0.49
9:I:112:ARG:HB2	9:I:112:ARG:HH11	1.77	0.49
14:N:74:ARG:O	14:N:74:ARG:HD3	2.13	0.49
16:P:52:LEU:HG	16:P:75:ILE:CG1	2.40	0.49
21:U:29:ALA:HA	21:U:32:ARG:HB2	1.94	0.49
1:A:560:A:H5'	1:A:566:G:N2	2.28	0.49
1:A:708:C:H2'	1:A:709:U:C6	2.47	0.49
1:A:1018:G:H2'	1:A:1019:A:C8	2.48	0.49
1:A:1281:C:H5'	1:A:1282:C:C5	2.48	0.49
1:A:1506:U:H4'	11:K:128:VAL:OXT	2.13	0.49
2:B:162:VAL:HG13	2:B:184:ALA:CB	2.39	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:195:VAL:HG12	2:B:197:PHE:H	1.78	0.49
4:D:24:VAL:O	4:D:25:ARG:C	2.55	0.49
4:D:194:ILE:HD11	4:D:199:ILE:HD11	1.95	0.49
14:N:15:LEU:C	14:N:17:ASP:H	2.21	0.49
16:P:29:ASN:N	16:P:29:ASN:ND2	2.60	0.49
17:Q:23:ALA:HB1	17:Q:40:THR:HG23	1.94	0.49
19:S:12:LEU:O	19:S:15:LEU:HB3	2.13	0.49
19:S:51:HIS:HA	19:S:55:GLN:O	2.12	0.49
1:A:335:C:H2'	1:A:336:A:H8	1.78	0.48
1:A:806:C:H2'	1:A:807:A:C8	2.48	0.48
2:B:175:ALA:C	2:B:177:ASN:H	2.20	0.48
3:C:150:VAL:HG12	3:C:151:GLU:N	2.27	0.48
6:F:39:LEU:HD13	6:F:40:GLU:H	1.77	0.48
8:H:29:SER:HB3	8:H:32:LYS:HG3	1.95	0.48
9:I:4:GLN:NE2	9:I:21:LYS:HE3	2.28	0.48
11:K:125:LYS:O	21:U:33:ARG:NH2	2.45	0.48
12:L:35:ARG:HG3	12:L:36:VAL:N	2.26	0.48
17:Q:68:LYS:O	17:Q:69:THR:CB	2.61	0.48
1:A:182:A:H1'	1:A:183:C:C5	2.47	0.48
1:A:575:G:H4'	1:A:576:C:O5'	2.13	0.48
1:A:878:A:C5'	8:H:80:PRO:HG2	2.43	0.48
1:A:900:A:H2'	1:A:901:A:C8	2.47	0.48
1:A:920:U:C6	1:A:1079:G:O6	2.65	0.48
1:A:1178:G:H2'	1:A:1180:A:OP2	2.13	0.48
1:A:1234:C:H2'	1:A:1235:U:C6	2.48	0.48
2:B:13:VAL:HG11	2:B:207:ARG:HB2	1.95	0.48
2:B:76:SER:HA	2:B:92:ASN:HB2	1.94	0.48
2:B:162:VAL:HG21	2:B:168:GLU:HB2	1.95	0.48
2:B:204:ASP:CG	2:B:205:ALA:N	2.63	0.48
9:I:64:ILE:HG22	9:I:65:THR:N	2.28	0.48
18:R:70:THR:OG1	18:R:71:ASP:N	2.46	0.48
1:A:239:U:H5''	1:A:239:U:H6	1.78	0.48
1:A:1002:G:H2'	1:A:1002:G:N3	2.27	0.48
1:A:1314:C:H2'	1:A:1315:U:C6	2.49	0.48
3:C:77:GLY:O	3:C:79:LYS:N	2.46	0.48
3:C:122:GLN:HE22	3:C:136:ALA:HB1	1.78	0.48
3:C:150:VAL:HG12	3:C:151:GLU:H	1.77	0.48
4:D:177:MET:H	4:D:177:MET:HE2	1.79	0.48
5:E:33:THR:O	5:E:34:ALA:CB	2.61	0.48
8:H:24:VAL:CG1	8:H:60:LEU:HB2	2.43	0.48
10:J:55:PRO:HA	14:N:80:ARG:HH22	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:56:U:H2'	1:A:57:G:H8	1.77	0.48
1:A:157:U:O2'	1:A:158:G:H5'	2.13	0.48
1:A:208:U:C2'	1:A:209:U:H5''	2.43	0.48
1:A:265:G:H2'	1:A:267:C:H5	1.78	0.48
1:A:919:A:H2	1:A:1078:U:C4	2.28	0.48
1:A:946:A:H2'	1:A:947:G:H8	1.75	0.48
2:B:131:LYS:HE3	2:B:135:MET:HE2	1.95	0.48
8:H:11:THR:HG22	8:H:15:ASN:ND2	2.29	0.48
9:I:18:VAL:HG21	9:I:82:ILE:HG13	1.95	0.48
9:I:87:MET:SD	9:I:94:ARG:HG3	2.53	0.48
16:P:20:VAL:HG21	16:P:32:PHE:CD2	2.48	0.48
16:P:71:VAL:HA	16:P:74:LEU:CG	2.39	0.48
17:Q:20:ILE:HG21	17:Q:52:CYS:SG	2.54	0.48
20:T:61:ALA:HA	20:T:66:ILE:O	2.13	0.48
21:U:3:ILE:HA	21:U:19:LYS:CG	2.37	0.48
1:A:15:G:C6	1:A:1079:G:C2	3.01	0.48
1:A:87:C:N3	1:A:88:U:H1'	2.28	0.48
1:A:333:U:H2'	1:A:334:C:H6	1.79	0.48
1:A:911:U:H2'	1:A:912:C:C6	2.49	0.48
2:B:60:ALA:HB3	2:B:223:GLY:HA3	1.95	0.48
3:C:66:THR:HA	3:C:101:ASN:O	2.14	0.48
5:E:111:ARG:O	5:E:115:GLU:HG3	2.13	0.48
8:H:10:LEU:HA	8:H:74:ILE:HD11	1.95	0.48
8:H:87:ARG:O	8:H:91:LEU:HG	2.14	0.48
9:I:18:VAL:HG21	9:I:82:ILE:CG1	2.43	0.48
9:I:38:PHE:C	9:I:44:ARG:HG2	2.39	0.48
11:K:22:ILE:CG2	11:K:95:THR:HG21	2.35	0.48
13:M:106:ARG:HH11	13:M:106:ARG:CA	2.24	0.48
19:S:4:LEU:CD1	19:S:9:PHE:H	2.17	0.48
1:A:31:G:H2'	1:A:48:C:H5	1.77	0.48
1:A:591:U:H2'	1:A:592:G:H8	1.79	0.48
1:A:782:A:H2'	1:A:783:C:O4'	2.13	0.48
1:A:1081:A:O2'	1:A:1082:A:H5'	2.14	0.48
1:A:1130:A:O2'	1:A:1131:G:H5'	2.13	0.48
3:C:85:LYS:O	3:C:89:VAL:HG23	2.13	0.48
3:C:113:LYS:HG3	3:C:117:ASP:OD2	2.13	0.48
6:F:75:GLU:O	6:F:79:ARG:HG2	2.14	0.48
8:H:17:GLN:NE2	8:H:69:ALA:HB1	2.28	0.48
1:A:65:A:N3	1:A:65:A:C2'	2.74	0.48
1:A:238:A:C2'	1:A:239:U:H5''	2.42	0.48
1:A:522:C:H41	12:L:49:ARG:NH2	2.10	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:537:G:H2'	1:A:538:G:H8	1.78	0.48
1:A:734:G:H2'	1:A:735:C:C6	2.49	0.48
1:A:812:G:N3	1:A:812:G:C2'	2.75	0.48
1:A:1220:G:H4'	19:S:33:TRP:O	2.14	0.48
1:A:1376:U:H2'	1:A:1377:A:C8	2.49	0.48
1:A:1526:G:O2'	1:A:1527:U:H5'	2.13	0.48
6:F:67:PRO:O	6:F:70:VAL:HG22	2.13	0.48
8:H:29:SER:HB3	8:H:32:LYS:HZ2	1.77	0.48
9:I:118:ARG:HH22	9:I:122:ARG:NH2	2.10	0.48
11:K:82:GLU:HG3	11:K:107:THR:OG1	2.13	0.48
11:K:121:ARG:HG3	11:K:121:ARG:NH1	2.29	0.48
13:M:78:ARG:HH22	13:M:82:LEU:HD11	1.78	0.48
14:N:59:GLN:N	14:N:59:GLN:NE2	2.62	0.48
18:R:64:LEU:CB	18:R:66:LEU:HG	2.44	0.48
21:U:3:ILE:CA	21:U:19:LYS:HG2	2.38	0.48
1:A:147:G:H2'	1:A:148:G:C8	2.49	0.48
1:A:720:C:C5'	18:R:40:PRO:HA	2.43	0.48
1:A:864:A:H2'	1:A:865:A:C8	2.49	0.48
4:D:58:GLN:CD	4:D:62:ARG:HG3	2.39	0.48
4:D:94:GLU:CA	4:D:103:ARG:HH22	2.27	0.48
5:E:63:MET:O	5:E:66:ALA:HB3	2.14	0.48
5:E:104:ILE:HG23	5:E:104:ILE:O	2.14	0.48
7:G:131:GLY:O	7:G:134:VAL:HG12	2.13	0.48
9:I:56:MET:HE2	9:I:56:MET:HB2	1.76	0.48
10:J:41:PRO:O	10:J:71:LEU:HD13	2.13	0.48
17:Q:8:GLN:HB3	17:Q:57:VAL:HG13	1.95	0.48
17:Q:10:ARG:NH1	17:Q:11:VAL:HB	2.28	0.48
22:V:113:ASN:HA	22:V:139:MET:HB3	1.96	0.48
1:A:5:U:H1'	1:A:6:G:C2	2.48	0.48
1:A:21:G:H2'	1:A:22:G:C8	2.49	0.48
1:A:179:A:H2'	1:A:180:U:C6	2.48	0.48
1:A:182:A:H1'	1:A:183:C:H5	1.79	0.48
1:A:434:U:O2	1:A:434:U:H2'	2.14	0.48
1:A:829:G:H5'	2:B:39:ILE:O	2.13	0.48
1:A:1072:G:H2'	1:A:1073:U:C6	2.48	0.48
2:B:160:LEU:O	2:B:182:VAL:HA	2.14	0.48
2:B:162:VAL:O	2:B:184:ALA:HA	2.14	0.48
2:B:215:ALA:O	2:B:218:ALA:HB3	2.13	0.48
10:J:65:TYR:C	14:N:98:ALA:HB2	2.39	0.48
11:K:15:VAL:HG21	11:K:41:LEU:CD1	2.44	0.48
12:L:80:LEU:O	12:L:97:VAL:HG23	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:36:VAL:HG13	16:P:36:VAL:O	2.14	0.48
1:A:252:U:H2'	1:A:253:A:C8	2.48	0.48
1:A:608:A:H2'	1:A:609:A:O4'	2.14	0.48
1:A:684:U:O2'	11:K:39:ASN:HB3	2.14	0.48
1:A:830:G:C6	2:B:22:TRP:CD2	3.02	0.48
1:A:870:U:P	2:B:24:PRO:HB3	2.54	0.48
1:A:922:G:H2'	1:A:923:A:H8	1.75	0.48
1:A:1014:A:C2	1:A:1219:A:H1'	2.49	0.48
1:A:1137:C:H1'	1:A:1138:G:N2	2.28	0.48
4:D:84:ASN:HD22	4:D:87:GLU:N	2.10	0.48
4:D:93:LEU:O	4:D:96:ARG:HB3	2.14	0.48
7:G:14:ASP:OD2	7:G:15:PRO:HD2	2.14	0.48
11:K:121:ARG:HG3	11:K:121:ARG:HH11	1.79	0.48
16:P:33:ILE:H	16:P:33:ILE:HD12	1.79	0.48
21:U:14:ALA:H	21:U:16:ARG:CZ	2.15	0.48
1:A:109:A:H4'	1:A:110:C:OP2	2.14	0.47
1:A:174:A:O2'	1:A:175:C:H5'	2.13	0.47
1:A:235:C:H2'	1:A:236:A:H8	1.78	0.47
1:A:437:U:H5''	4:D:151:GLN:NE2	2.29	0.47
1:A:953:G:H2'	1:A:954:G:O4'	2.14	0.47
1:A:1060:U:C5'	10:J:53:ILE:HG22	2.42	0.47
1:A:1080:A:H8	5:E:22:LYS:CA	2.18	0.47
1:A:1081:A:C5	5:E:22:LYS:HD2	2.37	0.47
1:A:1258:G:C4	1:A:1278:G:N2	2.82	0.47
2:B:80:LYS:O	2:B:84:LEU:N	2.47	0.47
6:F:18:VAL:HG21	6:F:58:HIS:CG	2.49	0.47
6:F:70:VAL:HA	6:F:73:GLU:HG3	1.96	0.47
7:G:125:ASP:HB3	7:G:130:LYS:CB	2.27	0.47
10:J:22:THR:CG2	10:J:23:ALA:N	2.77	0.47
12:L:58:ASN:HD22	12:L:58:ASN:N	2.11	0.47
15:O:28:VAL:HG22	15:O:65:LEU:HB3	1.96	0.47
16:P:6:LEU:HD11	16:P:71:VAL:HB	1.96	0.47
20:T:40:ALA:O	20:T:41:GLY:C	2.56	0.47
1:A:34:C:H2'	1:A:35:G:H8	1.79	0.47
1:A:193:C:H2'	1:A:194:C:C6	2.49	0.47
1:A:333:U:H2'	1:A:334:C:C6	2.49	0.47
1:A:659:U:H2'	1:A:660:C:C6	2.49	0.47
7:G:22:LEU:O	7:G:26:VAL:HG13	2.14	0.47
10:J:88:MET:H	10:J:88:MET:CE	2.27	0.47
11:K:60:PHE:HA	11:K:63:GLN:OE1	2.14	0.47
14:N:12:ARG:HH11	14:N:60:ARG:HH12	1.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:29:LYS:HA	17:Q:35:LYS:C	2.39	0.47
19:S:3:SER:O	19:S:4:LEU:HG	2.14	0.47
19:S:10:ILE:HD11	19:S:15:LEU:HD13	1.96	0.47
20:T:4:LYS:HD2	20:T:5:SER:H	1.79	0.47
1:A:317:U:H2'	1:A:318:G:C8	2.49	0.47
1:A:321:A:O2'	1:A:322:C:H5'	2.14	0.47
1:A:426:U:H2'	1:A:427:U:C6	2.48	0.47
1:A:513:C:H2'	1:A:514:C:C6	2.49	0.47
1:A:577:G:O2'	1:A:578:C:H5'	2.14	0.47
1:A:672:U:H2'	1:A:673:A:H8	1.78	0.47
1:A:1352:C:H2'	1:A:1353:G:C8	2.50	0.47
3:C:120:THR:HA	3:C:123:LEU:HD12	1.96	0.47
3:C:178:ARG:O	3:C:206:ILE:HA	2.14	0.47
4:D:176:LYS:O	4:D:177:MET:C	2.57	0.47
5:E:19:ARG:O	5:E:20:VAL:HB	2.14	0.47
5:E:114:LEU:C	5:E:116:VAL:H	2.20	0.47
7:G:71:THR:HA	7:G:90:VAL:HG22	1.96	0.47
7:G:137:ARG:HG2	7:G:141:HIS:CE1	2.48	0.47
1:A:343:U:O2'	1:A:344:A:H2'	2.14	0.47
1:A:986:U:H1'	19:S:53:GLY:O	2.14	0.47
1:A:1215:G:H5'	1:A:1215:G:H8	1.78	0.47
1:A:1369:C:H2'	1:A:1370:G:C8	2.49	0.47
3:C:11:LEU:HD22	3:C:17:TRP:CD1	2.50	0.47
3:C:46:LEU:CD2	3:C:75:VAL:HG13	2.44	0.47
3:C:110:LEU:HB3	3:C:203:LYS:HZ3	1.80	0.47
4:D:69:ARG:HE	4:D:69:ARG:CA	2.25	0.47
4:D:160:LEU:H	4:D:160:LEU:CD1	2.20	0.47
5:E:45:VAL:HG23	5:E:71:ILE:CG2	2.43	0.47
6:F:71:ILE:HG13	6:F:72:ASP:N	2.29	0.47
11:K:83:VAL:CG2	11:K:109:ILE:HG12	2.44	0.47
17:Q:56:ASP:C	17:Q:79:GLU:HB3	2.40	0.47
21:U:5:VAL:CG2	21:U:19:LYS:HZ1	2.28	0.47
22:V:60:ASP:O	22:V:84:LYS:HG2	2.14	0.47
1:A:389:A:H2'	1:A:389:A:N3	2.30	0.47
1:A:462:G:H3'	1:A:463:U:H5''	1.95	0.47
1:A:1343:G:H2'	1:A:1344:C:H6	1.78	0.47
1:A:1367:C:O2'	1:A:1368:A:H5'	2.14	0.47
2:B:98:GLY:C	2:B:100:LEU:H	2.22	0.47
2:B:158:ASP:O	2:B:181:PRO:HD2	2.15	0.47
3:C:5:HIS:CD2	3:C:7:ASN:HB2	2.49	0.47
3:C:112:ALA:O	3:C:113:LYS:C	2.57	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:58:LEU:HB3	7:G:59:GLU:OE2	2.14	0.47
9:I:30:ASN:HD21	9:I:65:THR:HA	1.80	0.47
10:J:11:LYS:HZ3	10:J:99:GLN:H	1.62	0.47
13:M:58:GLU:HA	13:M:61:LYS:HE2	1.95	0.47
17:Q:20:ILE:CG1	17:Q:45:VAL:HB	2.43	0.47
21:U:29:ALA:HB1	21:U:32:ARG:NH2	2.10	0.47
1:A:901:A:H3'	1:A:902:G:O4'	2.15	0.47
1:A:1518:A:C2	22:V:186:LYS:HB2	2.50	0.47
2:B:50:ASN:O	2:B:51:GLU:C	2.58	0.47
2:B:163:ILE:HG13	2:B:185:ILE:HD11	1.96	0.47
2:B:172:ILE:O	2:B:175:ALA:HB3	2.13	0.47
6:F:38:ARG:HH21	6:F:96:VAL:CG1	2.28	0.47
7:G:87:PRO:CG	7:G:151:ALA:HB2	2.41	0.47
8:H:64:TYR:CB	8:H:69:ALA:HA	2.44	0.47
13:M:33:LEU:HB3	13:M:38:ILE:O	2.14	0.47
13:M:109:LYS:HG3	13:M:110:GLY:N	2.28	0.47
14:N:72:PHE:CE1	14:N:77:GLY:HA2	2.49	0.47
16:P:1:MET:H2	16:P:24:SER:HB3	1.79	0.47
17:Q:24:ILE:O	17:Q:40:THR:HA	2.14	0.47
1:A:232:G:H1'	1:A:262:A:N1	2.29	0.47
1:A:255:G:H2'	1:A:256:U:C6	2.48	0.47
1:A:301:G:H2'	1:A:302:G:H8	1.79	0.47
1:A:588:G:H5'	8:H:2:MET:O	2.14	0.47
1:A:1060:U:H4'	10:J:54:SER:HB2	1.95	0.47
1:A:1109:C:N4	1:A:1110:A:N6	2.62	0.47
1:A:1121:U:H2'	1:A:1122:U:O4'	2.15	0.47
1:A:1171:A:O2'	1:A:1172:C:H5'	2.15	0.47
1:A:1272:G:H2'	1:A:1273:C:C6	2.50	0.47
2:B:206:ILE:O	2:B:209:VAL:HG23	2.13	0.47
3:C:21:TRP:CD1	3:C:58:ARG:HD2	2.49	0.47
3:C:61:LYS:O	3:C:97:PRO:HD2	2.14	0.47
3:C:75:VAL:O	3:C:75:VAL:HG12	2.14	0.47
4:D:81:LEU:HD11	4:D:92:LEU:HD21	1.97	0.47
7:G:94:ARG:CD	7:G:98:LEU:HD11	2.44	0.47
8:H:49:LYS:CG	8:H:50:VAL:H	2.27	0.47
8:H:111:THR:HG23	8:H:114:ALA:CB	2.44	0.47
10:J:5:ARG:HD3	10:J:5:ARG:N	2.29	0.47
11:K:63:GLN:O	11:K:67:GLU:HB3	2.14	0.47
11:K:92:ARG:NH2	11:K:111:ASP:OD1	2.47	0.47
13:M:11:HIS:O	13:M:12:LYS:HG2	2.14	0.47
13:M:77:LYS:O	13:M:81:ASP:N	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:39:PHE:CE1	16:P:74:LEU:HD22	2.49	0.47
16:P:67:ILE:HG13	16:P:71:VAL:CG1	2.41	0.47
17:Q:22:VAL:HG21	17:Q:58:VAL:HG21	1.96	0.47
19:S:37:SER:O	19:S:69:LYS:HG2	2.15	0.47
20:T:57:VAL:C	20:T:60:GLN:HE22	2.22	0.47
21:U:31:VAL:O	21:U:32:ARG:C	2.57	0.47
21:U:40:PRO:O	21:U:42:THR:N	2.48	0.47
1:A:78:A:O2'	1:A:79:G:H5'	2.14	0.47
1:A:471:U:H2'	1:A:472:U:H6	1.80	0.47
1:A:746:A:H2'	1:A:747:A:H8	1.80	0.47
1:A:812:G:HO2'	1:A:813:U:H6	1.55	0.47
1:A:1348:U:H2'	1:A:1349:A:H8	1.80	0.47
2:B:35:ASN:O	2:B:36:LYS:HB2	2.13	0.47
3:C:139:ASN:O	3:C:143:LEU:HD22	2.14	0.47
10:J:8:ILE:H	10:J:75:ASP:HB2	1.80	0.47
13:M:13:HIS:HB2	13:M:16:ILE:HG22	1.97	0.47
15:O:87:ARG:HA	15:O:87:ARG:HH11	1.78	0.47
19:S:4:LEU:N	19:S:5:LYS:HE3	2.29	0.47
20:T:49:ALA:HA	20:T:52:GLU:HB3	1.96	0.47
21:U:3:ILE:HA	21:U:19:LYS:HE3	1.97	0.47
21:U:35:GLU:HB2	21:U:37:TYR:CZ	2.50	0.47
22:V:136:MET:HB2	22:V:194:LEU:HB2	1.96	0.47
1:A:167:A:O2'	1:A:168:G:H5'	2.15	0.47
1:A:552:U:H2'	1:A:553:A:C8	2.50	0.47
1:A:674:G:H2'	1:A:675:A:C8	2.49	0.47
1:A:719:C:H1'	18:R:37:LYS:HE3	1.96	0.47
1:A:751:U:H4'	15:O:23:SER:HA	1.97	0.47
1:A:827:U:C2'	2:B:28:PRO:CB	2.86	0.47
1:A:1085:U:H3'	1:A:1086:U:H5	1.80	0.47
1:A:1124:G:H5''	10:J:38:GLY:HA3	1.97	0.47
1:A:1198:G:H2'	1:A:1199:U:C6	2.50	0.47
2:B:156:LEU:H	2:B:156:LEU:HD12	1.80	0.47
2:B:162:VAL:HG11	2:B:172:ILE:HG12	1.96	0.47
4:D:117:VAL:HG12	4:D:130:ASN:CA	2.45	0.47
11:K:21:HIS:CE1	11:K:34:THR:HG21	2.50	0.47
14:N:60:ARG:HE	14:N:62:ARG:CZ	2.28	0.47
1:A:975:A:H4'	1:A:976:G:OP2	2.14	0.47
1:A:1018:G:H2'	1:A:1019:A:H8	1.80	0.47
4:D:100:VAL:CG1	4:D:104:MET:HE3	2.45	0.47
4:D:147:LYS:HE3	4:D:147:LYS:H	1.80	0.47
6:F:43:GLY:HA2	6:F:58:HIS:CE1	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:18:ILE:HD12	10:J:72:ARG:HG3	1.97	0.47
10:J:35:GLN:H	10:J:78:GLU:HB3	1.80	0.47
11:K:12:ARG:N	11:K:12:ARG:HD2	2.30	0.47
11:K:52:ARG:HD2	11:K:53:GLY:H	1.80	0.47
12:L:106:VAL:HG22	12:L:117:GLY:H	1.79	0.47
13:M:72:ILE:O	13:M:76:ILE:HG13	2.15	0.47
16:P:29:ASN:N	16:P:29:ASN:HD22	2.11	0.47
16:P:33:ILE:HD12	16:P:33:ILE:N	2.29	0.47
1:A:767:A:H2'	1:A:768:A:C8	2.51	0.46
1:A:1294:G:H2'	1:A:1295:U:H6	1.79	0.46
3:C:84:GLU:HA	3:C:87:ARG:NH2	2.30	0.46
4:D:145:ARG:C	4:D:147:LYS:H	2.22	0.46
4:D:163:GLN:HB2	4:D:164:ARG:HH12	1.80	0.46
5:E:45:VAL:HG12	5:E:116:VAL:HG23	1.98	0.46
6:F:5:GLU:HG3	6:F:63:ASN:OD1	2.15	0.46
6:F:64:VAL:CG1	6:F:65:GLU:H	2.15	0.46
6:F:66:ALA:HB1	6:F:67:PRO:HD2	1.96	0.46
10:J:57:VAL:HG22	10:J:58:ASN:H	1.80	0.46
12:L:50:LYS:HE2	12:L:50:LYS:N	2.30	0.46
16:P:3:THR:HG22	16:P:66:THR:HB	1.98	0.46
16:P:26:ASN:OD1	16:P:31:ARG:HB3	2.14	0.46
1:A:18:C:C4	1:A:1078:U:C2	3.02	0.46
1:A:303:A:H2'	1:A:304:U:O4'	2.14	0.46
1:A:649:A:H2'	1:A:650:G:O4'	2.15	0.46
1:A:916:U:H2'	1:A:917:G:H8	1.80	0.46
1:A:1016:A:H5'	1:A:1218:C:H4'	1.97	0.46
1:A:1057:G:H4'	3:C:194:VAL:O	2.15	0.46
1:A:1180:A:P	9:I:98:ARG:HH22	2.38	0.46
3:C:78:LYS:H	3:C:81:GLU:HB3	1.79	0.46
5:E:84:VAL:HG21	5:E:142:GLY:O	2.15	0.46
7:G:35:LYS:O	7:G:39:GLU:HG2	2.16	0.46
10:J:57:VAL:HG13	10:J:58:ASN:CG	2.40	0.46
11:K:109:ILE:O	11:K:110:THR:HG23	2.16	0.46
12:L:35:ARG:HH21	12:L:75:GLU:HB3	1.78	0.46
16:P:4:ILE:HA	16:P:20:VAL:O	2.15	0.46
22:V:119:SER:HB2	22:V:140:LEU:HD22	1.97	0.46
1:A:607:A:H2'	1:A:608:A:C8	2.49	0.46
1:A:692:U:H2'	1:A:694:A:OP2	2.16	0.46
1:A:844:G:H21	1:A:845:A:H62	1.61	0.46
1:A:894:G:O2'	1:A:895:G:H5'	2.15	0.46
1:A:1118:U:H1'	1:A:1179:A:C5	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1527:U:O2'	1:A:1528:U:H5'	2.16	0.46
2:B:82:ALA:O	2:B:217:ALA:HB2	2.15	0.46
3:C:71:ARG:O	3:C:75:VAL:HG23	2.15	0.46
3:C:171:ARG:NH1	3:C:173:PRO:HG3	2.31	0.46
4:D:81:LEU:CD1	4:D:92:LEU:HD21	2.45	0.46
4:D:167:PRO:HB2	4:D:170:LEU:HG	1.97	0.46
9:I:40:ARG:HA	9:I:44:ARG:HH21	1.81	0.46
10:J:89:ARG:NE	10:J:89:ARG:HA	2.31	0.46
13:M:22:TYR:HB3	13:M:69:ARG:HH22	1.78	0.46
19:S:43:MET:O	19:S:46:LEU:HB2	2.14	0.46
20:T:70:LYS:HB2	20:T:70:LYS:NZ	2.31	0.46
21:U:34:ARG:HD2	21:U:34:ARG:C	2.41	0.46
1:A:26:A:H61	1:A:558:G:H1'	1.81	0.46
1:A:418:C:H2'	1:A:419:C:H6	1.79	0.46
1:A:541:G:H2'	1:A:542:G:H8	1.79	0.46
1:A:950:U:H2'	1:A:951:G:C8	2.50	0.46
1:A:1096:C:H2'	1:A:1097:C:C6	2.50	0.46
2:B:119:GLN:HA	2:B:124:THR:HG23	1.97	0.46
2:B:138:ARG:HA	2:B:141:GLU:CD	2.40	0.46
3:C:24:ASN:O	3:C:26:LYS:N	2.49	0.46
3:C:126:ARG:HH22	3:C:190:THR:CG2	2.28	0.46
3:C:131:ARG:CZ	3:C:131:ARG:HB3	2.45	0.46
5:E:108:GLY:N	5:E:110:MET:SD	2.89	0.46
8:H:64:TYR:CA	8:H:70:VAL:HG23	2.45	0.46
9:I:49:GLN:N	9:I:50:PRO:HD2	2.30	0.46
9:I:64:ILE:HD13	9:I:78:ILE:HG21	1.98	0.46
14:N:79:SER:O	14:N:81:ILE:HD12	2.14	0.46
15:O:24:THR:HB	15:O:69:LEU:HD21	1.98	0.46
19:S:4:LEU:O	19:S:6:LYS:N	2.48	0.46
1:A:301:G:H2'	1:A:302:G:C8	2.50	0.46
2:B:9:LEU:HD22	2:B:11:ALA:N	2.24	0.46
2:B:79:VAL:HG13	2:B:90:PHE:HD2	1.79	0.46
2:B:178:LEU:CD1	5:E:69:ASN:HD21	2.28	0.46
4:D:43:ARG:HB3	4:D:44:LYS:H	1.49	0.46
4:D:117:VAL:HG22	4:D:122:ILE:HG13	1.97	0.46
6:F:9:MET:HE1	18:R:64:LEU:CA	2.45	0.46
10:J:80:THR:N	10:J:84:VAL:HG11	2.29	0.46
13:M:106:ARG:HE	13:M:112:ARG:CG	2.14	0.46
1:A:230:G:O2'	1:A:231:U:H5'	2.15	0.46
1:A:829:G:OP1	2:B:41:ASN:N	2.49	0.46
1:A:948:C:O2'	1:A:949:A:H5'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1071:C:O2'	1:A:1072:G:H5'	2.15	0.46
1:A:1256:A:O4'	1:A:1278:G:N2	2.49	0.46
1:A:1348:U:H4'	9:I:121:ARG:NH1	2.31	0.46
3:C:33:ASP:O	3:C:37:LYS:HE2	2.16	0.46
4:D:25:ARG:HD3	4:D:26:ALA:N	2.31	0.46
7:G:42:VAL:O	7:G:46:LEU:HB2	2.15	0.46
8:H:65:PHE:CD2	8:H:66:GLN:HG3	2.51	0.46
9:I:71:ILE:O	9:I:72:SER:C	2.59	0.46
14:N:10:VAL:HG12	14:N:11:LYS:NZ	2.31	0.46
17:Q:66:LEU:HD11	17:Q:73:THR:HG22	1.98	0.46
20:T:17:ARG:C	20:T:17:ARG:HD2	2.40	0.46
1:A:829:G:O3'	2:B:39:ILE:O	2.33	0.46
1:A:841:C:H6	1:A:843:U:OP1	1.99	0.46
1:A:920:U:N3	1:A:1079:G:N1	2.63	0.46
1:A:947:G:H2'	1:A:948:C:C6	2.51	0.46
1:A:982:U:H4'	1:A:983:A:O4'	2.16	0.46
1:A:1131:G:O2'	1:A:1132:C:H5'	2.15	0.46
3:C:112:ALA:HB2	3:C:182:ASP:O	2.16	0.46
3:C:131:ARG:HH22	3:C:135:ARG:NH1	2.14	0.46
4:D:94:GLU:HA	4:D:94:GLU:OE1	2.14	0.46
4:D:160:LEU:HD22	4:D:161:ALA:N	2.31	0.46
16:P:39:PHE:HE2	16:P:70:ARG:HH21	1.63	0.46
16:P:71:VAL:CA	16:P:74:LEU:HG	2.41	0.46
17:Q:19:SER:O	17:Q:20:ILE:HG23	2.16	0.46
1:A:792:A:H1'	1:A:794:A:N7	2.31	0.46
1:A:981:U:H4'	14:N:60:ARG:CG	2.45	0.46
1:A:1315:U:H3'	1:A:1316:G:C8	2.51	0.46
1:A:1320:C:H2'	1:A:1321:U:O4'	2.16	0.46
2:B:95:TRP:CH2	2:B:100:LEU:HB2	2.50	0.46
3:C:17:TRP:C	3:C:19:SER:H	2.24	0.46
6:F:42:TRP:CZ2	6:F:61:LEU:HD23	2.51	0.46
7:G:132:THR:HA	7:G:135:LYS:HB3	1.97	0.46
11:K:22:ILE:HD13	11:K:95:THR:CG2	2.46	0.46
13:M:21:ILE:HG22	13:M:64:VAL:CG1	2.41	0.46
1:A:114:U:H2'	1:A:115:G:C8	2.50	0.46
1:A:512:U:H2'	1:A:513:C:C6	2.51	0.46
1:A:601:G:H2'	1:A:602:A:C8	2.51	0.46
1:A:664:G:H5''	18:R:52:ARG:CZ	2.46	0.46
1:A:890:G:O2'	1:A:906:A:N6	2.49	0.46
1:A:947:G:H2'	1:A:948:C:H6	1.81	0.46
1:A:1211:U:H1'	1:A:1213:A:C2	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:166:TRP:HB3	3:C:167:TYR:H	1.49	0.46
7:G:110:ARG:HH12	7:G:122:GLU:N	2.13	0.46
17:Q:10:ARG:NE	17:Q:11:VAL:H	2.12	0.46
18:R:46:THR:CG2	18:R:51:GLN:HB2	2.43	0.46
20:T:74:HIS:O	20:T:78:LEU:HB2	2.16	0.46
1:A:131:A:H2'	1:A:132:C:H6	1.75	0.46
1:A:844:G:N7	1:A:846:G:N3	2.63	0.46
1:A:1038:C:H2'	1:A:1039:G:C8	2.47	0.46
2:B:128:LEU:CG	2:B:132:GLU:HG2	2.46	0.46
3:C:90:VAL:HG21	3:C:98:ALA:HB3	1.97	0.46
3:C:90:VAL:HA	3:C:93:ILE:HG21	1.97	0.46
4:D:32:LYS:HB3	4:D:35:GLN:HE21	1.81	0.46
4:D:36:ALA:C	4:D:38:GLY:H	2.24	0.46
4:D:170:LEU:HD12	4:D:170:LEU:O	2.15	0.46
5:E:25:LYS:C	5:E:25:LYS:HE2	2.41	0.46
6:F:5:GLU:HA	6:F:63:ASN:HA	1.97	0.46
7:G:139:ASP:HA	7:G:142:ARG:HH12	1.81	0.46
8:H:34:ALA:HB1	8:H:109:VAL:HG21	1.97	0.46
9:I:10:ARG:HA	9:I:77:ALA:HB1	1.98	0.46
9:I:15:ALA:O	9:I:66:VAL:HA	2.16	0.46
9:I:44:ARG:O	9:I:47:VAL:HG22	2.15	0.46
10:J:80:THR:HG22	10:J:81:GLU:H	1.81	0.46
12:L:49:ARG:HH12	12:L:88:ASP:CB	2.29	0.46
12:L:98:ARG:CB	12:L:116:TYR:HA	2.46	0.46
13:M:53:ASP:OD1	13:M:56:ARG:HD2	2.15	0.46
15:O:6:ALA:O	15:O:10:ILE:HG22	2.16	0.46
20:T:68:LYS:HG3	20:T:69:ASN:N	2.19	0.46
1:A:16:A:O3'	1:A:1079:G:H4'	2.17	0.45
1:A:22:G:O2'	1:A:23:C:H5'	2.16	0.45
1:A:299:G:H2'	1:A:300:A:C8	2.51	0.45
1:A:489:C:H2'	1:A:490:C:C6	2.51	0.45
1:A:491:G:H2'	1:A:492:C:C6	2.51	0.45
1:A:927:G:O2'	1:A:928:G:H5'	2.16	0.45
2:B:102:ASN:OD1	2:B:105:THR:HG22	2.16	0.45
2:B:128:LEU:HD13	2:B:129:THR:H	1.80	0.45
8:H:31:LEU:O	8:H:35:ILE:HG13	2.15	0.45
14:N:45:LEU:O	14:N:48:GLN:HB3	2.16	0.45
15:O:27:GLN:O	15:O:31:LEU:HD23	2.16	0.45
17:Q:7:LEU:C	17:Q:9:GLY:H	2.24	0.45
1:A:234:C:H2'	1:A:235:C:C6	2.52	0.45
1:A:366:A:O2'	1:A:394:G:N2	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:812:G:H4'	1:A:812:G:OP1	2.16	0.45
1:A:820:U:H4'	1:A:821:G:OP2	2.16	0.45
1:A:968:A:H5'	1:A:968:A:N3	2.31	0.45
1:A:1085:U:H3'	1:A:1086:U:C5	2.51	0.45
1:A:1113:C:H2'	1:A:1114:C:H6	1.81	0.45
1:A:1517:G:C8	22:V:141:GLN:CD	2.83	0.45
2:B:33:ALA:HA	2:B:38:HIS:CA	2.39	0.45
2:B:174:GLU:O	2:B:178:LEU:HD23	2.16	0.45
4:D:113:ALA:O	4:D:117:VAL:HG23	2.16	0.45
10:J:67:ILE:CG1	14:N:95:LEU:HD13	2.45	0.45
11:K:88:PRO:HA	11:K:92:ARG:CD	2.47	0.45
13:M:49:GLU:O	13:M:53:ASP:HB3	2.17	0.45
19:S:18:VAL:HB	19:S:43:MET:HE3	1.97	0.45
1:A:325:A:H2'	1:A:326:G:O4'	2.16	0.45
1:A:563:A:H2'	1:A:567:G:C8	2.50	0.45
1:A:708:C:H2'	1:A:709:U:H6	1.80	0.45
1:A:1231:G:H2'	1:A:1232:U:H6	1.80	0.45
1:A:1306:A:N6	1:A:1331:G:H1'	2.32	0.45
1:A:1348:U:H2'	1:A:1349:A:C8	2.51	0.45
2:B:56:LEU:O	2:B:59:ILE:HG13	2.16	0.45
2:B:145:ASN:HD22	2:B:145:ASN:HA	1.55	0.45
3:C:14:VAL:HG23	3:C:15:LYS:HG2	1.98	0.45
5:E:89:THR:HG21	5:E:134:ASN:HD21	1.81	0.45
9:I:79:ARG:O	9:I:83:THR:HG22	2.17	0.45
13:M:3:ILE:HA	13:M:56:ARG:HG2	1.98	0.45
13:M:75:SER:O	13:M:78:ARG:HB3	2.16	0.45
13:M:78:ARG:HE	13:M:79:LEU:HG	1.82	0.45
14:N:25:GLU:O	14:N:29:ILE:HG13	2.16	0.45
14:N:50:LEU:CG	14:N:51:PRO:HD3	2.46	0.45
14:N:74:ARG:HD3	14:N:74:ARG:C	2.41	0.45
20:T:23:ARG:HB2	20:T:65:LEU:HD11	1.98	0.45
1:A:384:G:H2'	1:A:385:C:H6	1.80	0.45
1:A:551:U:O2'	1:A:552:U:H5'	2.16	0.45
1:A:1348:U:H4'	9:I:121:ARG:HH11	1.79	0.45
3:C:131:ARG:HH22	3:C:135:ARG:CZ	2.29	0.45
3:C:146:LYS:HG3	3:C:202:PHE:CD2	2.51	0.45
4:D:54:LEU:C	4:D:54:LEU:HD13	2.41	0.45
5:E:35:LEU:HD23	5:E:36:THR:N	2.30	0.45
9:I:66:VAL:CG2	9:I:74:GLN:HG3	2.47	0.45
10:J:33:GLY:HA3	10:J:83:THR:OG1	2.16	0.45
16:P:42:ILE:CG2	16:P:43:ALA:H	2.20	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:54:GLN:N	20:T:55:PRO:CD	2.80	0.45
1:A:22:G:H2'	1:A:23:C:C6	2.52	0.45
1:A:123:U:H5''	1:A:311:C:O2'	2.16	0.45
1:A:620:C:C6	4:D:131:ILE:HD13	2.51	0.45
1:A:662:U:O2'	1:A:836:G:H5''	2.15	0.45
1:A:687:A:C2	1:A:704:A:C5	3.05	0.45
1:A:734:G:O2'	18:R:59:LYS:HD3	2.17	0.45
1:A:1101:A:O2'	1:A:1102:A:OP2	2.34	0.45
1:A:1126:U:O2'	1:A:1280:A:H2'	2.17	0.45
7:G:102:TRP:N	7:G:102:TRP:CD1	2.83	0.45
8:H:51:GLU:O	8:H:56:PRO:HA	2.16	0.45
10:J:89:ARG:HA	10:J:89:ARG:CZ	2.47	0.45
15:O:52:ARG:HG3	15:O:55:LEU:HD23	1.99	0.45
18:R:64:LEU:C	18:R:66:LEU:H	2.23	0.45
20:T:70:LYS:HA	20:T:73:ARG:CZ	2.47	0.45
21:U:5:VAL:HG22	21:U:19:LYS:NZ	2.31	0.45
1:A:832:G:C8	2:B:20:ARG:CD	3.00	0.45
1:A:1056:U:O2'	1:A:1057:G:H5'	2.16	0.45
1:A:1096:C:H2'	1:A:1097:C:H6	1.82	0.45
1:A:1237:C:H4'	1:A:1334:G:N2	2.31	0.45
1:A:1252:A:H2'	1:A:1253:G:H5''	1.98	0.45
3:C:41:TYR:HA	3:C:44:LYS:HD3	1.98	0.45
4:D:1:ALA:O	4:D:67:LEU:HD21	2.16	0.45
4:D:2:ARG:NH1	4:D:114:ARG:HD2	2.32	0.45
4:D:29:THR:OG1	4:D:30:LYS:HD3	2.17	0.45
4:D:99:ASN:ND2	4:D:110:ARG:NE	2.64	0.45
4:D:201:GLU:OE2	5:E:104:ILE:HG22	2.17	0.45
6:F:7:VAL:HG23	6:F:60:VAL:O	2.17	0.45
6:F:45:ARG:HG2	6:F:46:GLN:N	2.31	0.45
6:F:51:ILE:HG23	6:F:51:ILE:O	2.17	0.45
7:G:71:THR:O	7:G:72:VAL:HG13	2.16	0.45
9:I:115:VAL:HG21	10:J:62:ARG:HB2	1.98	0.45
13:M:10:ASP:HA	13:M:44:ILE:HD11	1.99	0.45
16:P:43:ALA:H	16:P:46:LYS:HD2	1.81	0.45
19:S:61:VAL:HA	19:S:65:MET:SD	2.56	0.45
1:A:87:C:H2'	1:A:88:U:C4'	2.44	0.45
1:A:155:A:H2'	1:A:156:C:O4'	2.16	0.45
1:A:244:U:O4	1:A:906:A:H1'	2.16	0.45
1:A:295:C:H2'	1:A:296:U:C6	2.52	0.45
1:A:652:U:H1'	1:A:653:U:C5	2.52	0.45
1:A:766:A:H2	1:A:1525:G:N3	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:778:G:O2'	1:A:779:C:H5'	2.16	0.45
1:A:1010:U:H2'	1:A:1011:C:C6	2.51	0.45
1:A:1230:C:H2'	1:A:1231:G:H8	1.81	0.45
3:C:8:GLY:HA2	3:C:11:LEU:CG	2.41	0.45
6:F:7:VAL:HG11	18:R:64:LEU:HD21	1.99	0.45
11:K:30:ILE:HG22	11:K:45:THR:CA	2.41	0.45
12:L:34:THR:HG21	12:L:53:ARG:CZ	2.47	0.45
20:T:49:ALA:O	20:T:52:GLU:HB3	2.16	0.45
1:A:123:U:OP1	1:A:312:C:H5'	2.16	0.45
1:A:232:G:H2'	1:A:233:C:O4'	2.17	0.45
1:A:373:A:H1'	1:A:481:G:H1'	1.99	0.45
1:A:627:G:H2'	1:A:628:G:C8	2.51	0.45
1:A:734:G:N2	18:R:63:TYR:CE2	2.84	0.45
1:A:828:U:N3	2:B:26:MET:SD	2.53	0.45
1:A:870:U:C2	2:B:27:LYS:CD	2.92	0.45
1:A:985:C:H2'	1:A:986:U:H6	1.82	0.45
1:A:1051:C:H2'	1:A:1052:U:H6	1.82	0.45
3:C:59:PRO:HD2	3:C:62:SER:O	2.17	0.45
4:D:64:TYR:N	4:D:64:TYR:CD1	2.84	0.45
4:D:100:VAL:HA	4:D:103:ARG:HD2	1.99	0.45
5:E:16:ALA:O	5:E:34:ALA:HA	2.17	0.45
5:E:82:HIS:CD2	8:H:95:MET:HG3	2.51	0.45
7:G:130:LYS:N	7:G:134:VAL:HG11	2.31	0.45
8:H:29:SER:HB3	8:H:32:LYS:CG	2.46	0.45
10:J:73:LEU:CD1	10:J:75:ASP:HB3	2.47	0.45
10:J:88:MET:HE3	10:J:88:MET:H	1.82	0.45
16:P:12:LYS:O	16:P:14:ARG:HG3	2.17	0.45
18:R:31:TYR:CG	18:R:54:LEU:HD21	2.52	0.45
1:A:454:G:O2'	1:A:455:G:H5'	2.17	0.45
1:A:463:U:H5'	1:A:464:U:OP2	2.17	0.45
1:A:647:C:O2'	1:A:648:A:H5'	2.16	0.45
1:A:1244:G:H2'	1:A:1245:C:H6	1.81	0.45
1:A:1514:G:C5'	22:V:222:ARG:NH1	2.80	0.45
1:A:1518:A:N3	22:V:186:LYS:N	2.62	0.45
3:C:40:GLN:CD	3:C:44:LYS:HD2	2.42	0.45
3:C:72:PRO:HG2	3:C:73:GLY:H	1.81	0.45
3:C:131:ARG:HB3	3:C:131:ARG:NH1	2.31	0.45
7:G:47:GLU:C	7:G:49:LEU:H	2.25	0.45
14:N:92:ILE:HG21	14:N:95:LEU:HD23	1.99	0.45
15:O:87:ARG:C	15:O:88:ARG:HG2	2.41	0.45
16:P:26:ASN:ND2	16:P:31:ARG:HB3	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:20:ILE:HG23	18:R:53:GLN:NE2	2.32	0.45
1:A:267:C:OP2	17:Q:68:LYS:HD2	2.17	0.45
1:A:429:U:H4'	1:A:430:A:O5'	2.16	0.45
1:A:448:A:H2'	1:A:449:G:C8	2.51	0.45
1:A:552:U:H5'	12:L:82:ARG:HH11	1.82	0.45
1:A:628:G:H2'	1:A:629:A:C8	2.51	0.45
2:B:119:GLN:O	2:B:125:PHE:HB3	2.17	0.45
9:I:38:PHE:O	9:I:39:GLY:C	2.59	0.45
9:I:51:LEU:HD12	9:I:51:LEU:N	2.32	0.45
12:L:43:LYS:N	12:L:44:PRO:CD	2.80	0.45
14:N:63:CYS:HB2	14:N:79:SER:OG	2.17	0.45
16:P:7:ALA:O	16:P:17:TYR:HA	2.17	0.45
17:Q:26:ARG:HH21	17:Q:39:ARG:NH2	2.15	0.45
1:A:71:A:N1	1:A:99:C:H1'	2.32	0.44
1:A:191:G:H2'	1:A:192:A:C8	2.52	0.44
1:A:336:A:O2'	1:A:337:G:H5'	2.17	0.44
1:A:382:A:H2'	1:A:383:A:C8	2.51	0.44
1:A:473:U:C2	1:A:474:G:N7	2.85	0.44
1:A:834:U:H2'	1:A:835:U:C6	2.52	0.44
1:A:1023:U:H2'	1:A:1024:G:H8	1.82	0.44
1:A:1325:C:O2'	1:A:1326:U:H5'	2.17	0.44
3:C:57:GLU:HB2	3:C:64:ARG:CB	2.45	0.44
3:C:176:THR:O	3:C:179:ALA:HB3	2.17	0.44
4:D:75:TYR:CE2	4:D:203:TYR:HB3	2.51	0.44
5:E:49:TYR:HE2	5:E:133:ILE:HG12	1.83	0.44
10:J:42:LEU:HB2	10:J:71:LEU:HD13	1.98	0.44
11:K:60:PHE:HA	11:K:63:GLN:CD	2.42	0.44
17:Q:80:LYS:HE3	17:Q:80:LYS:H	1.82	0.44
19:S:4:LEU:HD13	19:S:8:PRO:HA	1.99	0.44
19:S:4:LEU:C	19:S:5:LYS:HE3	2.42	0.44
20:T:10:ALA:O	20:T:13:SER:HB3	2.17	0.44
1:A:68:G:H5'	1:A:171:A:O2'	2.17	0.44
1:A:87:C:C2	1:A:88:U:H1'	2.51	0.44
1:A:175:C:H2'	1:A:176:C:H6	1.83	0.44
1:A:191:G:H2'	1:A:192:A:H8	1.83	0.44
1:A:238:A:C3'	1:A:239:U:H5''	2.47	0.44
1:A:1246:A:H2'	1:A:1247:U:O4'	2.17	0.44
1:A:1342:C:H5'	9:I:127:SER:HA	1.98	0.44
2:B:101:THR:HG23	2:B:102:ASN:N	2.32	0.44
3:C:19:SER:HB2	3:C:39:ARG:HH22	1.82	0.44
4:D:152:SER:O	4:D:155:LYS:HG3	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:38:ARG:HH21	6:F:96:VAL:HG11	1.81	0.44
8:H:40:LYS:HA	8:H:45:ILE:HG13	1.97	0.44
9:I:3:ASN:HB3	9:I:4:GLN:H	1.54	0.44
10:J:6:ILE:HG12	10:J:102:LEU:CD1	2.45	0.44
10:J:15:HIS:CD2	10:J:19:ASP:HB2	2.52	0.44
11:K:100:ASN:ND2	21:U:12:ASP:CG	2.76	0.44
13:M:21:ILE:C	13:M:23:GLY:H	2.25	0.44
15:O:78:THR:HA	15:O:81:ILE:CG1	2.46	0.44
16:P:70:ARG:O	16:P:74:LEU:HG	2.18	0.44
19:S:39:ILE:CG2	19:S:65:MET:HB3	2.46	0.44
19:S:48:ILE:HG22	19:S:49:ALA:N	2.33	0.44
1:A:138:G:O2'	1:A:139:A:H5'	2.17	0.44
1:A:811:C:O2'	1:A:901:A:N1	2.48	0.44
1:A:829:G:O3'	2:B:39:ILE:C	2.60	0.44
1:A:950:U:H2'	1:A:951:G:H8	1.81	0.44
1:A:1238:A:C8	1:A:1303:C:H1'	2.52	0.44
2:B:167:HIS:C	2:B:169:HIS:H	2.25	0.44
3:C:5:HIS:O	3:C:9:ILE:HG22	2.16	0.44
11:K:57:SER:O	11:K:58:THR:C	2.60	0.44
14:N:20:PHE:CG	14:N:24:ALA:HB2	2.51	0.44
17:Q:20:ILE:CD1	17:Q:45:VAL:HB	2.47	0.44
18:R:64:LEU:C	18:R:66:LEU:N	2.74	0.44
21:U:34:ARG:NH1	21:U:39:LYS:HE3	2.33	0.44
22:V:139:MET:HE1	22:V:176:VAL:HG21	1.99	0.44
1:A:93:U:H2'	1:A:95:C:H5	1.83	0.44
1:A:119:A:H4'	1:A:120:A:O4'	2.18	0.44
1:A:586:C:C2'	1:A:587:G:H5'	2.46	0.44
1:A:859:G:C3'	2:B:191:ASP:OD1	2.66	0.44
1:A:1081:A:P	5:E:22:LYS:N	2.66	0.44
2:B:31:PHE:CD2	2:B:41:ASN:HA	2.53	0.44
3:C:113:LYS:HE2	3:C:117:ASP:CG	2.42	0.44
3:C:205:GLU:HB2	3:C:206:ILE:H	1.52	0.44
4:D:191:SER:O	4:D:192:ALA:CB	2.65	0.44
5:E:81:GLN:OE1	5:E:81:GLN:N	2.50	0.44
6:F:79:ARG:HH21	6:F:87:SER:HB2	1.81	0.44
9:I:25:GLY:HA3	9:I:57:VAL:O	2.16	0.44
10:J:87:LEU:H	10:J:88:MET:CE	2.30	0.44
11:K:28:ASN:HD21	11:K:30:ILE:HG23	1.83	0.44
12:L:41:PRO:HG3	12:L:46:SER:O	2.18	0.44
12:L:52:CYS:SG	12:L:66:ILE:HD11	2.57	0.44
12:L:106:VAL:CG1	12:L:116:TYR:HB3	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:119:LYS:O	12:L:119:LYS:HG3	2.16	0.44
13:M:14:ALA:HB1	13:M:33:LEU:HD11	2.00	0.44
13:M:77:LYS:C	13:M:77:LYS:HD3	2.43	0.44
14:N:84:ARG:HH11	14:N:84:ARG:HG3	1.83	0.44
19:S:18:VAL:HG13	19:S:19:GLU:N	2.32	0.44
1:A:203:G:N2	1:A:205:A:H61	2.16	0.44
1:A:323:U:H2'	1:A:324:G:O4'	2.18	0.44
1:A:471:U:H2'	1:A:472:U:C6	2.52	0.44
1:A:771:G:H2'	1:A:772:U:C6	2.53	0.44
1:A:829:G:P	2:B:30:ILE:C	2.68	0.44
1:A:913:A:H1'	1:A:914:A:O4'	2.17	0.44
1:A:1081:A:C4	5:E:22:LYS:HD2	2.07	0.44
1:A:1239:A:H1'	1:A:1241:G:C5	2.52	0.44
1:A:1300:G:O2'	1:A:1301:U:P	2.75	0.44
2:B:67:LEU:HD23	2:B:160:LEU:CG	2.48	0.44
4:D:104:MET:SD	4:D:179:GLY:HA3	2.57	0.44
5:E:40:ASP:O	5:E:42:ASN:N	2.45	0.44
5:E:108:GLY:N	5:E:110:MET:HE1	2.28	0.44
9:I:48:ARG:HA	9:I:51:LEU:HD13	1.99	0.44
11:K:88:PRO:HD3	21:U:28:LEU:CD2	2.47	0.44
12:L:80:LEU:HD13	12:L:101:LEU:HD11	1.99	0.44
14:N:5:MET:C	14:N:7:ALA:H	2.24	0.44
14:N:20:PHE:HA	14:N:24:ALA:CB	2.47	0.44
1:A:113:G:O4'	1:A:354:G:H4'	2.18	0.44
1:A:284:C:H2'	1:A:285:C:H6	1.81	0.44
1:A:657:U:H4'	15:O:27:GLN:HG3	1.99	0.44
1:A:832:G:C8	2:B:20:ARG:CG	2.98	0.44
1:A:878:A:H2'	1:A:879:C:C6	2.53	0.44
1:A:1515:G:O2'	1:A:1516:G:H5'	2.17	0.44
3:C:112:ALA:HB1	3:C:199:VAL:CG2	2.47	0.44
4:D:137:SER:CB	4:D:138:PRO:HD2	2.47	0.44
6:F:7:VAL:HB	6:F:61:LEU:HD22	2.00	0.44
7:G:47:GLU:C	7:G:49:LEU:N	2.76	0.44
9:I:52:GLU:C	9:I:54:VAL:N	2.75	0.44
11:K:62:ALA:O	11:K:65:ALA:HB3	2.18	0.44
13:M:106:ARG:NH1	13:M:106:ARG:HG2	2.33	0.44
17:Q:62:GLU:HG3	17:Q:72:TRP:CH2	2.53	0.44
1:A:15:G:O2'	5:E:21:SER:HB2	2.18	0.44
1:A:25:C:H2'	1:A:26:A:C8	2.53	0.44
1:A:442:G:H2'	1:A:443:C:C6	2.53	0.44
1:A:554:A:H2'	1:A:555:U:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:601:G:H2'	1:A:602:A:H8	1.83	0.44
1:A:1074:G:H5''	5:E:65:LYS:NZ	2.33	0.44
1:A:1197:A:P	1:A:1197:A:H3'	2.57	0.44
2:B:67:LEU:HD23	2:B:160:LEU:HG	1.99	0.44
2:B:94:ARG:H	2:B:94:ARG:HG2	1.50	0.44
2:B:116:LEU:HD22	2:B:140:LEU:HG	1.99	0.44
2:B:132:GLU:HG3	2:B:136:ARG:HD2	1.99	0.44
5:E:57:ALA:O	5:E:60:GLN:HB2	2.16	0.44
6:F:10:VAL:CG1	6:F:83:ALA:HB1	2.48	0.44
6:F:45:ARG:C	6:F:56:LYS:HG2	2.42	0.44
9:I:57:VAL:C	9:I:59:LYS:H	2.25	0.44
1:A:41:G:H2'	1:A:42:G:H8	1.83	0.44
1:A:736:C:H2'	1:A:737:C:H6	1.82	0.44
1:A:921:U:C2	1:A:1080:A:N1	2.86	0.44
1:A:1256:A:O2'	1:A:1257:A:H5''	2.18	0.44
1:A:1291:U:O2'	1:A:1292:G:H5'	2.18	0.44
2:B:59:ILE:CD1	2:B:66:ILE:HD11	2.48	0.44
2:B:73:ARG:C	2:B:75:ALA:H	2.25	0.44
3:C:90:VAL:HA	3:C:93:ILE:CG2	2.48	0.44
4:D:109:THR:HG23	4:D:112:GLU:H	1.83	0.44
8:H:46:GLU:HB2	8:H:61:THR:OG1	2.18	0.44
9:I:9:GLY:HA2	9:I:80:HIS:CD2	2.53	0.44
11:K:88:PRO:CD	21:U:28:LEU:HD22	2.48	0.44
12:L:58:ASN:ND2	12:L:58:ASN:N	2.64	0.44
13:M:63:VAL:HB	13:M:68:LEU:HG	2.00	0.44
15:O:11:VAL:HA	15:O:26:VAL:HG13	1.98	0.44
16:P:34:GLU:CD	16:P:56:ARG:HD3	2.42	0.44
19:S:31:ARG:NH2	19:S:55:GLN:HE22	2.16	0.44
1:A:392:C:H2'	1:A:393:A:H8	1.82	0.44
1:A:408:A:OP1	4:D:109:THR:HG21	2.18	0.44
1:A:474:G:H2'	1:A:475:C:H6	1.83	0.44
1:A:803:G:H2'	1:A:804:U:H6	1.82	0.44
1:A:1008:U:H2'	1:A:1009:U:C4'	2.47	0.44
1:A:1314:C:H2'	1:A:1315:U:H6	1.81	0.44
1:A:1350:A:H2'	1:A:1351:U:C6	2.53	0.44
2:B:113:LEU:CG	2:B:143:LEU:HB3	2.47	0.44
2:B:121:GLN:HB3	2:B:121:GLN:HE21	1.64	0.44
2:B:150:ILE:CG1	2:B:153:MET:HE3	2.38	0.44
2:B:206:ILE:HD13	2:B:206:ILE:C	2.43	0.44
4:D:18:LEU:HD22	4:D:63:ILE:HG12	2.00	0.44
4:D:190:LEU:O	4:D:192:ALA:N	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:89:THR:HG22	5:E:90:GLY:N	2.33	0.44
7:G:148:LYS:HA	7:G:151:ALA:HB3	2.00	0.44
8:H:11:THR:HG23	8:H:14:ARG:NH1	2.33	0.44
8:H:98:LEU:H	8:H:98:LEU:HD12	1.82	0.44
15:O:15:GLY:C	15:O:17:ASP:H	2.26	0.44
16:P:7:ALA:HB1	16:P:29:ASN:CB	2.45	0.44
20:T:66:ILE:HG23	20:T:70:LYS:CD	2.48	0.44
1:A:22:G:H2'	1:A:23:C:H6	1.83	0.43
1:A:394:G:H2'	1:A:395:C:C6	2.53	0.43
1:A:394:G:H2'	1:A:395:C:H6	1.82	0.43
1:A:397:A:H5'	1:A:398:U:OP1	2.18	0.43
1:A:432:A:H2'	1:A:433:G:H5'	1.99	0.43
1:A:1007:U:H2'	1:A:1008:U:C6	2.52	0.43
1:A:1348:U:OP1	9:I:111:GLU:HB2	2.18	0.43
2:B:110:ILE:O	2:B:113:LEU:HB3	2.18	0.43
2:B:165:ALA:CB	2:B:186:VAL:HG12	2.48	0.43
3:C:39:ARG:HH21	3:C:56:ILE:HD12	1.83	0.43
5:E:33:THR:O	5:E:58:ALA:HB1	2.17	0.43
5:E:109:ALA:O	5:E:113:VAL:HG13	2.18	0.43
7:G:13:PRO:HA	7:G:23:ALA:HB2	2.00	0.43
10:J:80:THR:H	10:J:84:VAL:CG1	2.29	0.43
10:J:81:GLU:O	10:J:85:ASP:HB2	2.17	0.43
12:L:83:GLY:HA2	12:L:94:TYR:CD1	2.52	0.43
16:P:21:VAL:HG21	16:P:60:TRP:CD1	2.53	0.43
18:R:49:LYS:HA	18:R:52:ARG:HD2	2.00	0.43
22:V:145:VAL:HG21	22:V:190:ALA:HB3	2.00	0.43
1:A:501:C:O2'	1:A:502:A:H5'	2.17	0.43
1:A:619:U:C2	4:D:131:ILE:HD12	2.53	0.43
1:A:627:G:H2'	1:A:628:G:H8	1.83	0.43
1:A:661:G:O2'	1:A:662:U:H5'	2.18	0.43
1:A:692:U:H5	11:K:27:ASN:HD22	1.64	0.43
1:A:829:G:N3	2:B:188:THR:O	2.51	0.43
1:A:830:G:C4	2:B:22:TRP:CA	2.99	0.43
1:A:893:C:H2'	1:A:894:G:H8	1.83	0.43
1:A:924:C:H2'	1:A:925:G:H8	1.83	0.43
1:A:969:A:H2'	1:A:970:C:O2	2.18	0.43
1:A:1073:U:O3'	2:B:104:LYS:NZ	2.51	0.43
1:A:1124:G:C5'	10:J:38:GLY:HA3	2.49	0.43
1:A:1148:U:H5''	9:I:8:THR:HG23	1.99	0.43
1:A:1376:U:P	7:G:24:LYS:HD3	2.58	0.43
2:B:134:LEU:HA	2:B:137:THR:OG1	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:7:ARG:O	10:J:8:ILE:HD13	2.18	0.43
21:U:13:VAL:CG1	21:U:14:ALA:H	2.21	0.43
1:A:17:U:O5'	1:A:1079:G:O4'	2.35	0.43
1:A:19:A:OP1	5:E:134:ASN:ND2	2.51	0.43
1:A:611:C:H2'	1:A:612:C:H6	1.83	0.43
1:A:682:G:O2'	1:A:683:G:H5'	2.17	0.43
1:A:818:G:O2'	1:A:819:A:H5''	2.19	0.43
1:A:831:A:H5'	2:B:19:THR:HA	1.15	0.43
1:A:1082:A:O2'	1:A:1083:U:H5'	2.18	0.43
1:A:1254:A:H61	1:A:1283:U:H3	1.66	0.43
1:A:1517:G:C5'	22:V:144:VAL:CG2	2.96	0.43
4:D:36:ALA:C	4:D:38:GLY:N	2.76	0.43
7:G:55:LYS:HE2	7:G:57:GLU:OE1	2.18	0.43
9:I:12:LYS:N	9:I:109:GLN:HE22	2.07	0.43
9:I:51:LEU:C	9:I:56:MET:HG2	2.43	0.43
11:K:41:LEU:C	11:K:73:VAL:HG13	2.43	0.43
11:K:124:LYS:O	21:U:33:ARG:NH2	2.51	0.43
15:O:58:MET:HG2	15:O:58:MET:H	1.59	0.43
16:P:44:SER:O	16:P:45:GLU:C	2.61	0.43
17:Q:30:HIS:H	17:Q:35:LYS:H	1.65	0.43
19:S:68:HIS:NE2	19:S:72:GLU:HG3	2.33	0.43
1:A:15:G:H1'	1:A:1080:A:H1'	2.00	0.43
1:A:82:G:C6	1:A:88:U:O2	2.71	0.43
1:A:224:U:H2'	1:A:225:C:H6	1.82	0.43
1:A:261:U:H2'	1:A:263:A:OP2	2.18	0.43
1:A:669:G:O2'	1:A:670:G:H5'	2.18	0.43
1:A:740:U:O3'	15:O:38:LEU:HD21	2.18	0.43
1:A:1057:G:H2'	1:A:1058:G:O4'	2.19	0.43
1:A:1110:A:H2'	1:A:1111:A:H5'	1.99	0.43
2:B:147:LEU:O	2:B:151:LYS:HG3	2.17	0.43
2:B:164:ASP:OD2	2:B:203:ASP:HB2	2.18	0.43
3:C:71:ARG:HB3	3:C:74:ILE:CG2	2.47	0.43
4:D:14:GLU:OE2	4:D:58:GLN:HG3	2.18	0.43
4:D:154:VAL:HG13	4:D:155:LYS:N	2.33	0.43
4:D:169:TRP:CE2	4:D:185:PRO:HB3	2.54	0.43
7:G:29:LEU:HD12	7:G:104:VAL:CG1	2.48	0.43
9:I:23:GLY:N	9:I:60:LEU:HA	2.24	0.43
9:I:64:ILE:HD13	9:I:78:ILE:CG2	2.49	0.43
11:K:69:CYS:O	11:K:71:ASP:N	2.51	0.43
12:L:38:THR:HA	12:L:49:ARG:O	2.19	0.43
13:M:79:LEU:HD22	13:M:86:ARG:NH2	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:20:ASN:O	20:T:65:LEU:HD21	2.18	0.43
21:U:5:VAL:HG13	21:U:15:LEU:HD23	2.00	0.43
1:A:140:U:H2'	1:A:141:G:H8	1.82	0.43
1:A:210:C:H4'	1:A:211:G:H5''	2.01	0.43
1:A:383:A:H2'	1:A:384:G:O4'	2.18	0.43
1:A:489:C:H2'	1:A:490:C:H6	1.84	0.43
1:A:709:U:H2'	1:A:710:G:H8	1.83	0.43
1:A:973:G:O2'	10:J:56:HIS:HA	2.18	0.43
1:A:989:U:H2'	1:A:990:C:H6	1.84	0.43
1:A:1014:A:H2	1:A:1219:A:H1'	1.83	0.43
1:A:1114:C:H2'	1:A:1115:U:O4'	2.19	0.43
3:C:40:GLN:O	3:C:44:LYS:HG3	2.18	0.43
4:D:54:LEU:HA	4:D:202:LEU:HD22	2.01	0.43
4:D:89:LEU:O	4:D:92:LEU:HB2	2.18	0.43
4:D:147:LYS:HE3	4:D:147:LYS:N	2.34	0.43
7:G:29:LEU:HD21	7:G:41:ILE:CG2	2.48	0.43
8:H:24:VAL:HG13	8:H:60:LEU:HB2	2.00	0.43
9:I:24:ASN:C	9:I:26:LYS:H	2.26	0.43
9:I:56:MET:CA	9:I:59:LYS:HZ2	2.28	0.43
11:K:15:VAL:O	11:K:16:SER:HB2	2.17	0.43
12:L:98:ARG:HA	12:L:98:ARG:NE	2.29	0.43
16:P:67:ILE:CD1	16:P:72:ALA:HA	2.49	0.43
1:A:49:U:HO2'	1:A:50:A:H2'	1.83	0.43
1:A:179:A:H2'	1:A:180:U:H6	1.83	0.43
1:A:237:G:H2'	1:A:238:A:H8	1.84	0.43
1:A:251:G:H4'	1:A:252:U:C5'	2.48	0.43
1:A:473:U:N3	1:A:474:G:N7	2.67	0.43
1:A:538:G:OP2	12:L:111:GLN:HB2	2.18	0.43
1:A:740:U:O2'	1:A:741:G:H5'	2.19	0.43
1:A:847:G:H2'	1:A:848:C:C6	2.54	0.43
1:A:1099:G:H2'	1:A:1100:C:O4'	2.19	0.43
2:B:101:THR:HG22	2:B:174:GLU:OE1	2.18	0.43
4:D:77:GLU:OE1	4:D:80:ARG:NH2	2.48	0.43
4:D:100:VAL:HA	4:D:103:ARG:CD	2.48	0.43
4:D:125:ASN:HA	4:D:141:VAL:HG23	2.00	0.43
5:E:36:THR:O	5:E:48:GLY:N	2.51	0.43
5:E:106:ALA:HB1	5:E:110:MET:HB2	2.00	0.43
9:I:51:LEU:HD21	9:I:62:LEU:HG	2.01	0.43
9:I:56:MET:HA	9:I:59:LYS:NZ	2.31	0.43
10:J:30:LYS:HG3	10:J:36:VAL:HB	2.01	0.43
10:J:40:ILE:CG1	10:J:73:LEU:HB3	2.46	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:70:ALA:HA	11:K:74:LYS:HD3	1.99	0.43
11:K:81:LEU:O	11:K:106:ILE:HA	2.19	0.43
19:S:44:ILE:HA	19:S:61:VAL:CG1	2.48	0.43
21:U:40:PRO:HG2	21:U:41:THR:N	2.27	0.43
1:A:26:A:N6	1:A:558:G:H1'	2.33	0.43
1:A:143:A:H2	1:A:220:G:H22	1.65	0.43
1:A:224:U:H2'	1:A:225:C:C6	2.53	0.43
1:A:473:U:C2	1:A:474:G:C8	3.07	0.43
1:A:539:A:H2'	1:A:540:G:H8	1.78	0.43
1:A:599:C:O2'	1:A:600:A:H5'	2.19	0.43
1:A:859:G:H3'	2:B:191:ASP:OD1	2.18	0.43
1:A:1050:G:C2'	1:A:1051:C:H5'	2.49	0.43
1:A:1080:A:OP1	5:E:21:SER:N	2.48	0.43
4:D:163:GLN:N	4:D:163:GLN:OE1	2.51	0.43
5:E:17:VAL:HB	5:E:34:ALA:HB2	2.00	0.43
9:I:32:ARG:HG2	9:I:32:ARG:HH11	1.83	0.43
10:J:16:ARG:C	10:J:17:LEU:HD22	2.44	0.43
16:P:20:VAL:HG22	16:P:21:VAL:H	1.83	0.43
16:P:75:ILE:O	16:P:78:VAL:HG12	2.19	0.43
19:S:62:THR:OG1	19:S:65:MET:HE3	2.18	0.43
1:A:144:G:H2'	1:A:145:G:O4'	2.19	0.43
1:A:397:A:H3'	1:A:397:A:N3	2.33	0.43
1:A:644:U:O2'	1:A:645:G:H5'	2.19	0.43
1:A:697:U:H2'	1:A:698:G:H5'	2.00	0.43
1:A:777:A:H2'	1:A:778:G:C8	2.53	0.43
1:A:813:U:O2'	1:A:814:A:H5'	2.18	0.43
1:A:1324:A:H2'	1:A:1325:C:O4'	2.19	0.43
2:B:18:GLN:HG2	2:B:189:ASN:CG	2.44	0.43
2:B:116:LEU:CD1	2:B:139:GLU:HB3	2.44	0.43
6:F:88:MET:HE2	6:F:89:VAL:N	2.34	0.43
9:I:33:SER:C	9:I:35:GLU:N	2.77	0.43
12:L:22:ALA:HB1	12:L:29:LYS:HG3	2.00	0.43
13:M:56:ARG:C	13:M:59:VAL:HG12	2.44	0.43
13:M:84:CYS:SG	13:M:86:ARG:HB3	2.59	0.43
13:M:103:THR:O	13:M:104:ASN:C	2.61	0.43
16:P:18:GLN:NE2	16:P:35:ARG:HH11	2.16	0.43
17:Q:45:VAL:HG13	17:Q:60:ILE:CG2	2.48	0.43
19:S:16:LYS:HA	19:S:16:LYS:HD3	1.83	0.43
1:A:238:A:H3'	1:A:239:U:H5''	2.00	0.43
1:A:242:G:H2'	1:A:243:A:H5''	2.01	0.43
1:A:382:A:O2'	1:A:383:A:H5'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:478:A:H2'	1:A:479:U:O4'	2.19	0.43
1:A:488:C:H2'	1:A:489:C:H6	1.84	0.43
1:A:598:U:H2'	1:A:599:C:C6	2.53	0.43
2:B:163:ILE:CG2	2:B:164:ASP:N	2.64	0.43
4:D:159:GLU:HG3	4:D:160:LEU:HD13	2.01	0.43
5:E:145:ASN:O	5:E:146:MET:C	2.62	0.43
7:G:117:LEU:C	7:G:119:LEU:N	2.75	0.43
8:H:35:ILE:O	8:H:39:LEU:HD12	2.19	0.43
12:L:14:LYS:NZ	12:L:17:LYS:HE2	2.34	0.43
12:L:23:LEU:C	12:L:25:ALA:N	2.77	0.43
12:L:41:PRO:HD3	12:L:47:ALA:O	2.19	0.43
12:L:101:LEU:HB3	12:L:102:ASP:H	1.61	0.43
19:S:12:LEU:CD2	19:S:15:LEU:HD23	2.49	0.43
21:U:32:ARG:HB3	21:U:33:ARG:H	1.69	0.43
1:A:31:G:H2'	1:A:48:C:C5	2.53	0.43
1:A:177:G:N3	1:A:177:G:O4'	2.51	0.43
1:A:284:C:H2'	1:A:285:C:C6	2.53	0.43
1:A:415:A:N3	1:A:415:A:O4'	2.52	0.43
1:A:970:C:C5	1:A:1231:G:H1'	2.54	0.43
3:C:21:TRP:CH2	14:N:93:PRO:HG3	2.54	0.43
3:C:88:LYS:C	3:C:88:LYS:HD3	2.44	0.43
4:D:12:ARG:HG3	4:D:33:ILE:HA	2.00	0.43
5:E:30:PHE:CD1	5:E:30:PHE:N	2.87	0.43
5:E:105:ILE:HD12	5:E:123:LEU:HB3	2.00	0.43
5:E:114:LEU:HD13	5:E:122:VAL:HG21	2.01	0.43
8:H:69:ALA:HB3	8:H:72:GLU:OE2	2.19	0.43
19:S:16:LYS:HA	19:S:19:GLU:OE1	2.19	0.43
19:S:31:ARG:HG3	19:S:56:HIS:HE2	1.81	0.43
1:A:237:G:H2'	1:A:238:A:C8	2.54	0.42
1:A:564:C:H1'	17:Q:32:ILE:O	2.19	0.42
1:A:828:U:P	2:B:44:LYS:HE3	2.59	0.42
1:A:1033:G:H3'	1:A:1034:G:H5''	2.01	0.42
1:A:1052:U:H5'	1:A:1053:G:OP2	2.19	0.42
1:A:1072:G:H2'	1:A:1073:U:H6	1.84	0.42
1:A:1157:A:H4'	1:A:1158:C:O5'	2.19	0.42
1:A:1181:G:O4'	1:A:1181:G:P	2.77	0.42
1:A:1226:C:H4'	1:A:1227:A:OP1	2.19	0.42
1:A:1238:A:N7	1:A:1303:C:H1'	2.34	0.42
2:B:71:THR:HG22	2:B:94:ARG:HH21	1.84	0.42
2:B:224:ARG:H	2:B:224:ARG:HG2	1.61	0.42
4:D:84:ASN:OD1	5:E:101:GLY:HA2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:21:LYS:O	9:I:60:LEU:HB2	2.19	0.42
10:J:5:ARG:HG3	10:J:79:PRO:HD3	2.01	0.42
17:Q:17:GLU:C	17:Q:19:SER:N	2.77	0.42
19:S:28:LYS:H	19:S:28:LYS:HD3	1.84	0.42
21:U:11:PHE:O	21:U:11:PHE:HD1	2.02	0.42
1:A:859:G:H4'	2:B:190:SER:C	2.39	0.42
1:A:861:G:H2'	1:A:862:C:H6	1.84	0.42
1:A:914:A:O2'	1:A:915:A:H5'	2.19	0.42
1:A:1081:A:C3'	5:E:24:VAL:HG13	2.50	0.42
2:B:53:LEU:HD12	2:B:219:THR:CG2	2.49	0.42
3:C:39:ARG:NH2	3:C:56:ILE:HD12	2.35	0.42
4:D:49:ASP:O	4:D:52:VAL:HG22	2.19	0.42
5:E:85:LYS:HE2	5:E:92:ARG:HH11	1.82	0.42
10:J:59:LYS:C	10:J:61:ALA:H	2.28	0.42
12:L:8:ARG:CZ	12:L:9:LYS:HE3	2.50	0.42
12:L:56:LEU:HB2	12:L:60:PHE:O	2.19	0.42
13:M:47:LEU:HD23	13:M:51:GLN:C	2.45	0.42
15:O:34:GLN:HG2	15:O:58:MET:HE1	2.00	0.42
16:P:40:ASN:HA	16:P:41:PRO:HD3	1.73	0.42
17:Q:12:VAL:HG13	17:Q:21:VAL:HB	2.01	0.42
17:Q:23:ALA:C	17:Q:24:ILE:HD12	2.44	0.42
19:S:20:LYS:O	19:S:20:LYS:HD2	2.19	0.42
19:S:57:VAL:HG21	19:S:74:ALA:HB2	2.01	0.42
1:A:8:A:H1'	5:E:107:GLY:HA2	2.00	0.42
1:A:113:G:H21	1:A:353:A:H8	1.67	0.42
1:A:236:A:H2'	1:A:237:G:H8	1.85	0.42
1:A:1121:U:O2'	1:A:1122:U:H5'	2.20	0.42
1:A:1356:G:H2'	1:A:1357:A:C8	2.54	0.42
1:A:1519:A:H3'	1:A:1520:C:C5'	2.49	0.42
2:B:22:TRP:CG	2:B:23:ASN:N	2.81	0.42
3:C:139:ASN:C	3:C:141:MET:N	2.76	0.42
4:D:145:ARG:C	4:D:147:LYS:N	2.76	0.42
4:D:151:GLN:HB3	4:D:154:VAL:CG1	2.49	0.42
6:F:68:GLN:O	6:F:71:ILE:HG13	2.19	0.42
9:I:98:ARG:HA	9:I:103:VAL:HG22	2.02	0.42
9:I:119:LYS:C	9:I:121:ARG:H	2.28	0.42
12:L:21:PRO:HD2	12:L:94:TYR:OH	2.20	0.42
14:N:86:ALA:HB3	14:N:92:ILE:HD11	2.02	0.42
20:T:60:GLN:HE21	20:T:61:ALA:N	2.10	0.42
21:U:3:ILE:CG1	21:U:19:LYS:HG2	2.46	0.42
1:A:114:U:O2'	1:A:115:G:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:462:G:H2'	1:A:463:U:C6	2.55	0.42
1:A:538:G:H2'	1:A:539:A:C8	2.54	0.42
1:A:711:G:H2'	1:A:712:A:H8	1.85	0.42
1:A:972:C:H4'	10:J:59:LYS:HB3	2.02	0.42
1:A:1252:A:H2'	1:A:1253:G:C5'	2.49	0.42
3:C:102:ILE:C	3:C:102:ILE:HD12	2.45	0.42
3:C:135:ARG:C	3:C:137:VAL:N	2.77	0.42
3:C:156:LEU:H	3:C:156:LEU:CD1	2.31	0.42
3:C:185:THR:O	3:C:186:SER:HB2	2.19	0.42
4:D:48:SER:OG	4:D:49:ASP:N	2.52	0.42
7:G:44:SER:C	7:G:48:THR:HG23	2.45	0.42
9:I:10:ARG:HA	9:I:77:ALA:CB	2.50	0.42
9:I:11:ARG:NH1	9:I:106:ASP:OD2	2.53	0.42
9:I:26:LYS:H	9:I:26:LYS:HG2	1.56	0.42
9:I:83:THR:HG23	9:I:84:ARG:N	2.35	0.42
19:S:62:THR:HG22	19:S:63:ASP:N	2.33	0.42
20:T:19:HIS:O	20:T:23:ARG:HG2	2.18	0.42
1:A:421:U:H5'	1:A:422:C:C5	2.55	0.42
1:A:796:C:O2'	1:A:797:C:H5'	2.19	0.42
1:A:839:C:O2'	1:A:840:C:H5'	2.19	0.42
1:A:1029:U:H5''	1:A:1030:U:C5	2.47	0.42
1:A:1079:G:O3'	5:E:21:SER:N	2.51	0.42
1:A:1220:G:H21	19:S:53:GLY:HA2	1.84	0.42
2:B:61:SER:HA	2:B:224:ARG:CA	2.42	0.42
2:B:123:GLY:C	2:B:125:PHE:H	2.27	0.42
4:D:169:TRP:O	4:D:182:LYS:HB3	2.19	0.42
4:D:169:TRP:CB	4:D:183:ARG:HH21	2.32	0.42
5:E:101:GLY:N	5:E:121:ASN:HD21	2.14	0.42
9:I:4:GLN:HE21	9:I:21:LYS:HE3	1.84	0.42
9:I:20:ILE:HA	9:I:61:ASP:O	2.19	0.42
10:J:9:ARG:C	10:J:10:LEU:HD12	2.44	0.42
12:L:49:ARG:C	12:L:50:LYS:HE2	2.45	0.42
17:Q:50:ASN:C	17:Q:52:CYS:H	2.27	0.42
18:R:60:ARG:HA	18:R:63:TYR:CD1	2.54	0.42
20:T:57:VAL:O	20:T:61:ALA:HB2	2.19	0.42
22:V:66:GLU:O	22:V:89:GLN:HA	2.19	0.42
1:A:41:G:H2'	1:A:42:G:C8	2.54	0.42
1:A:93:U:H2'	1:A:95:C:C5	2.54	0.42
1:A:202:G:H1'	1:A:468:A:H8	1.85	0.42
1:A:321:A:H2'	1:A:322:C:H6	1.85	0.42
1:A:622:A:H2'	1:A:623:C:H5'	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1113:C:H2'	1:A:1114:C:C6	2.55	0.42
2:B:81:ASP:O	2:B:85:SER:HB2	2.19	0.42
3:C:55:VAL:HG12	3:C:56:ILE:H	1.84	0.42
4:D:84:ASN:ND2	4:D:86:GLY:N	2.67	0.42
6:F:11:HIS:CG	6:F:12:PRO:HD2	2.54	0.42
9:I:9:GLY:O	9:I:16:ALA:HB3	2.20	0.42
9:I:66:VAL:HG22	9:I:67:LYS:N	2.34	0.42
9:I:85:ALA:O	9:I:88:GLU:HB2	2.20	0.42
14:N:79:SER:O	14:N:80:ARG:C	2.62	0.42
14:N:93:PRO:O	14:N:94:GLY:C	2.63	0.42
17:Q:28:VAL:HG13	17:Q:28:VAL:O	2.19	0.42
17:Q:67:SER:HB2	17:Q:70:LYS:HB3	2.01	0.42
19:S:35:ARG:HB3	19:S:71:GLY:HA2	2.02	0.42
1:A:15:G:C6	1:A:1079:G:N2	2.88	0.42
1:A:373:A:C1'	1:A:481:G:H1'	2.50	0.42
1:A:432:A:C2'	1:A:433:G:H5'	2.49	0.42
1:A:557:G:H2'	1:A:558:G:O4'	2.20	0.42
1:A:818:G:C3'	1:A:819:A:H5''	2.50	0.42
1:A:857:C:H1'	2:B:21:TYR:HB3	2.02	0.42
1:A:918:A:N1	1:A:1078:U:C4	2.87	0.42
1:A:1271:A:H2'	1:A:1272:G:C8	2.55	0.42
1:A:1286:U:OP1	1:A:1286:U:C2	2.72	0.42
1:A:1374:A:H4'	7:G:30:MET:HE1	2.02	0.42
2:B:9:LEU:CD1	2:B:11:ALA:HB3	2.50	0.42
7:G:144:ALA:C	7:G:146:ALA:N	2.70	0.42
9:I:33:SER:C	9:I:35:GLU:H	2.27	0.42
9:I:56:MET:O	9:I:58:GLU:N	2.52	0.42
11:K:22:ILE:HD13	11:K:95:THR:HG21	2.01	0.42
12:L:113:ARG:HD3	12:L:121:PRO:HD3	2.02	0.42
16:P:68:SER:HB3	16:P:71:VAL:CG1	2.49	0.42
18:R:27:THR:O	18:R:28:LEU:HD12	2.20	0.42
19:S:51:HIS:C	19:S:53:GLY:H	2.28	0.42
19:S:64:GLU:O	19:S:66:VAL:HG23	2.20	0.42
21:U:22:CYS:O	21:U:23:GLU:HG2	2.20	0.42
21:U:28:LEU:C	21:U:30:GLU:N	2.76	0.42
1:A:255:G:H2'	1:A:256:U:H6	1.84	0.42
1:A:402:G:H2'	1:A:403:C:H6	1.84	0.42
1:A:411:A:C4	1:A:413:G:H1'	2.55	0.42
1:A:512:U:O2'	1:A:513:C:H5'	2.20	0.42
1:A:552:U:H4'	12:L:82:ARG:HG2	2.01	0.42
1:A:832:G:H8	2:B:20:ARG:HG3	1.79	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:999:C:O2'	1:A:1000:A:H5'	2.20	0.42
1:A:1151:A:HO2'	1:A:1152:A:H8	1.65	0.42
1:A:1273:C:H2'	1:A:1274:A:O4'	2.20	0.42
2:B:45:THR:HA	2:B:48:MET:CG	2.50	0.42
2:B:121:GLN:NE2	2:B:122:ASP:HB2	2.35	0.42
3:C:24:ASN:O	3:C:25:THR:C	2.62	0.42
3:C:160:GLU:HG2	3:C:160:GLU:O	2.19	0.42
3:C:172:VAL:HG11	3:C:200:TRP:HB3	2.02	0.42
5:E:105:ILE:HB	5:E:123:LEU:CA	2.42	0.42
6:F:40:GLU:CD	6:F:42:TRP:HE1	2.28	0.42
9:I:17:ARG:HE	9:I:65:THR:HB	1.85	0.42
9:I:82:ILE:HG22	9:I:86:LEU:HD21	2.01	0.42
10:J:15:HIS:HD2	10:J:18:ILE:CG2	2.31	0.42
13:M:58:GLU:HA	13:M:61:LYS:CE	2.50	0.42
16:P:25:ARG:HD3	16:P:25:ARG:N	2.34	0.42
16:P:39:PHE:HE2	16:P:70:ARG:NH2	2.18	0.42
1:A:358:U:H2'	1:A:359:G:C8	2.55	0.42
1:A:709:U:H2'	1:A:710:G:C8	2.54	0.42
1:A:920:U:O2'	1:A:921:U:H5'	2.19	0.42
1:A:957:U:O2	1:A:959:A:H8	2.03	0.42
1:A:1262:C:H2'	1:A:1263:C:O4'	2.19	0.42
1:A:1528:U:O5'	1:A:1528:U:H6	2.03	0.42
2:B:79:VAL:HG11	2:B:92:ASN:HB3	2.01	0.42
2:B:120:SER:HA	2:B:125:PHE:CB	2.44	0.42
3:C:41:TYR:HA	3:C:44:LYS:CD	2.49	0.42
3:C:111:ASP:OD2	3:C:114:LEU:HG	2.19	0.42
4:D:132:ALA:C	4:D:134:TYR:H	2.27	0.42
5:E:101:GLY:H	5:E:121:ASN:ND2	2.14	0.42
5:E:108:GLY:H	5:E:110:MET:CE	2.28	0.42
6:F:7:VAL:HA	6:F:60:VAL:O	2.20	0.42
9:I:62:LEU:N	9:I:62:LEU:HD22	2.35	0.42
10:J:48:ARG:HB3	10:J:66:GLU:HB3	2.01	0.42
1:A:5:U:H1'	1:A:6:G:N1	2.35	0.42
1:A:399:G:H2'	1:A:400:C:H6	1.85	0.42
1:A:405:U:OP2	4:D:114:ARG:NH2	2.53	0.42
1:A:605:U:H2'	1:A:606:G:C8	2.55	0.42
1:A:666:G:H5'	1:A:726:C:H1'	2.02	0.42
1:A:828:U:O2	2:B:29:PHE:HD2	1.83	0.42
1:A:844:G:H2'	1:A:845:A:H5''	2.00	0.42
1:A:896:C:O2'	1:A:897:C:H5'	2.20	0.42
1:A:920:U:C4	1:A:1079:G:O6	2.70	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1269:A:H1'	1:A:1326:U:O4'	2.20	0.42
2:B:61:SER:HB3	2:B:223:GLY:O	2.20	0.42
3:C:13:ILE:HG22	3:C:14:VAL:HG13	2.01	0.42
4:D:87:GLU:O	4:D:88:ASN:C	2.62	0.42
5:E:56:PRO:O	5:E:59:ILE:HG22	2.19	0.42
11:K:33:ILE:HG13	11:K:73:VAL:HG21	2.01	0.42
12:L:4:ASN:O	12:L:8:ARG:HG2	2.19	0.42
14:N:11:LYS:C	14:N:13:VAL:N	2.77	0.42
14:N:20:PHE:HA	14:N:24:ALA:H	1.85	0.42
18:R:21:ASP:CG	18:R:22:TYR:N	2.77	0.42
19:S:62:THR:N	19:S:65:MET:HE3	2.35	0.42
1:A:337:G:O2'	1:A:338:A:H5'	2.20	0.41
1:A:730:G:O2'	1:A:766:A:H5'	2.20	0.41
1:A:812:G:OP1	1:A:812:G:C4'	2.68	0.41
1:A:829:G:C2'	2:B:30:ILE:CG1	2.93	0.41
1:A:861:G:H2'	1:A:862:C:C6	2.55	0.41
1:A:1037:C:H2'	1:A:1038:C:C6	2.55	0.41
1:A:1300:G:O2'	1:A:1301:U:O5'	2.37	0.41
3:C:155:ARG:NH1	3:C:192:TYR:HB2	2.35	0.41
3:C:181:ILE:HG22	3:C:182:ASP:N	2.35	0.41
4:D:54:LEU:HA	4:D:57:LYS:HB3	2.01	0.41
5:E:35:LEU:HD12	5:E:133:ILE:HA	2.01	0.41
5:E:143:LEU:O	5:E:146:MET:HB2	2.20	0.41
6:F:64:VAL:CG1	6:F:65:GLU:N	2.82	0.41
7:G:115:MET:CE	7:G:119:LEU:HB2	2.50	0.41
9:I:49:GLN:HE21	9:I:49:GLN:HB3	1.70	0.41
9:I:66:VAL:HG21	9:I:74:GLN:HG3	2.02	0.41
11:K:57:SER:O	11:K:90:PRO:HG2	2.19	0.41
11:K:85:VAL:O	11:K:111:ASP:HA	2.20	0.41
12:L:117:GLY:O	12:L:118:VAL:HG13	2.19	0.41
14:N:73:LEU:O	14:N:75:LYS:N	2.52	0.41
15:O:17:ASP:HB2	15:O:18:ALA:H	1.59	0.41
1:A:9:G:OP2	5:E:125:LYS:HD3	2.20	0.41
1:A:113:G:H2'	1:A:114:U:C6	2.55	0.41
1:A:493:A:N3	1:A:493:A:O4'	2.52	0.41
1:A:542:G:O2'	1:A:543:U:H5'	2.20	0.41
1:A:585:G:O2'	1:A:586:C:H5'	2.20	0.41
1:A:923:A:H2'	1:A:924:C:C6	2.55	0.41
1:A:1238:A:H2	1:A:1241:G:H1'	1.82	0.41
1:A:1261:A:H2'	1:A:1262:C:O4'	2.20	0.41
5:E:37:VAL:HA	5:E:47:PHE:HA	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:84:TYR:HD1	7:G:84:TYR:HA	1.74	0.41
7:G:87:PRO:HB2	7:G:144:ALA:CB	2.50	0.41
7:G:94:ARG:NH1	7:G:98:LEU:HD21	2.34	0.41
9:I:25:GLY:HA2	9:I:60:LEU:O	2.19	0.41
9:I:86:LEU:HD13	9:I:86:LEU:N	2.34	0.41
12:L:120:ARG:HA	12:L:121:PRO:HD2	1.87	0.41
14:N:68:ARG:HH11	14:N:70:HIS:HB2	1.85	0.41
16:P:6:LEU:HD21	16:P:74:LEU:HD11	2.02	0.41
21:U:3:ILE:HG23	21:U:19:LYS:HE3	2.01	0.41
1:A:70:U:H1'	1:A:71:A:N7	2.36	0.41
1:A:152:A:N6	1:A:170:U:C2	2.88	0.41
1:A:408:A:OP1	4:D:111:ALA:HB3	2.20	0.41
1:A:581:G:OP1	15:O:64:LYS:HE3	2.20	0.41
1:A:978:A:O2'	1:A:1322:C:H5	2.02	0.41
1:A:1065:U:H1'	1:A:1066:C:OP2	2.19	0.41
2:B:42:LEU:O	2:B:46:VAL:HG12	2.20	0.41
3:C:40:GLN:OE1	3:C:44:LYS:HD2	2.19	0.41
3:C:54:ILE:O	3:C:54:ILE:HG12	2.19	0.41
4:D:19:PHE:CB	4:D:110:ARG:HH12	2.30	0.41
4:D:99:ASN:HB3	4:D:103:ARG:HH21	1.86	0.41
11:K:81:LEU:CD2	11:K:104:PHE:HB3	2.50	0.41
12:L:9:LYS:HG3	12:L:9:LYS:O	2.20	0.41
14:N:19:TYR:HD1	14:N:23:ARG:HD3	1.85	0.41
16:P:22:ALA:HB2	16:P:32:PHE:HB3	2.01	0.41
19:S:29:PRO:HB3	19:S:47:THR:HB	2.01	0.41
21:U:5:VAL:O	21:U:6:ARG:HB2	2.19	0.41
21:U:36:PHE:C	21:U:40:PRO:HD3	2.44	0.41
1:A:17:U:C4'	1:A:1079:G:C4'	2.68	0.41
1:A:60:A:H1'	1:A:61:G:O4'	2.20	0.41
1:A:328:C:H4'	1:A:329:A:H5''	2.02	0.41
1:A:343:U:H2'	1:A:345:C:C5	2.55	0.41
1:A:634:C:O2'	1:A:635:A:H5'	2.20	0.41
1:A:680:C:H2'	1:A:681:A:H8	1.85	0.41
1:A:691:G:H2'	1:A:692:U:C6	2.55	0.41
1:A:829:G:H3'	2:B:30:ILE:HD13	2.00	0.41
1:A:830:G:H3'	2:B:38:HIS:HD1	1.27	0.41
1:A:857:C:H1'	2:B:21:TYR:CB	2.50	0.41
1:A:1248:A:H2	9:I:71:ILE:HD11	1.85	0.41
1:A:1304:G:H2'	1:A:1305:G:C1'	2.51	0.41
1:A:1358:U:OP1	14:N:73:LEU:HA	2.20	0.41
1:A:1506:U:H4'	11:K:128:VAL:C	2.44	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:10:LYS:C	2:B:12:GLY:N	2.79	0.41
2:B:104:LYS:H	2:B:104:LYS:HG3	1.62	0.41
2:B:205:ALA:O	2:B:209:VAL:HG22	2.20	0.41
7:G:97:ALA:O	7:G:98:LEU:C	2.63	0.41
7:G:112:ASP:H	7:G:118:ARG:HD3	1.86	0.41
9:I:118:ARG:O	9:I:118:ARG:HG2	2.21	0.41
10:J:30:LYS:O	10:J:30:LYS:HD2	2.20	0.41
11:K:121:ARG:HA	11:K:122:PRO:HD2	1.93	0.41
15:O:52:ARG:HA	15:O:55:LEU:HB3	2.02	0.41
18:R:64:LEU:HB3	18:R:66:LEU:HG	2.01	0.41
19:S:31:ARG:HH11	19:S:31:ARG:HG2	1.86	0.41
1:A:16:A:H4'	5:E:21:SER:N	2.35	0.41
1:A:17:U:C1'	1:A:1079:G:C8	3.04	0.41
1:A:29:U:H5'	1:A:296:U:OP1	2.19	0.41
1:A:233:C:O2'	1:A:234:C:H5'	2.20	0.41
1:A:415:A:N1	1:A:428:G:O6	2.53	0.41
1:A:787:A:O2'	1:A:788:U:H5'	2.20	0.41
1:A:861:G:O2'	1:A:862:C:H5'	2.20	0.41
1:A:870:U:C6	2:B:27:LYS:HD2	2.37	0.41
1:A:959:A:H2'	1:A:960:U:O4'	2.21	0.41
1:A:1074:G:O2'	1:A:1075:U:H5'	2.21	0.41
1:A:1129:C:H5''	9:I:17:ARG:NH2	2.34	0.41
2:B:80:LYS:HB3	2:B:90:PHE:CE2	2.54	0.41
3:C:148:ILE:HA	3:C:200:TRP:O	2.20	0.41
4:D:84:ASN:ND2	4:D:87:GLU:N	2.64	0.41
4:D:187:ARG:HH11	4:D:187:ARG:HG3	1.86	0.41
5:E:155:LYS:HG3	8:H:65:PHE:HB2	2.01	0.41
7:G:46:LEU:O	7:G:46:LEU:HD13	2.20	0.41
12:L:30:ARG:HB3	12:L:57:THR:CG2	2.50	0.41
12:L:34:THR:HB	12:L:53:ARG:HB2	2.02	0.41
14:N:45:LEU:HD23	14:N:46:LYS:N	2.35	0.41
15:O:5:GLU:O	15:O:9:LYS:HB2	2.20	0.41
20:T:53:MET:SD	20:T:57:VAL:HG21	2.60	0.41
20:T:60:GLN:C	20:T:62:ALA:H	2.28	0.41
1:A:65:A:N7	1:A:381:C:C4	2.89	0.41
1:A:367:U:OP1	1:A:395:C:H1'	2.21	0.41
1:A:484:G:H4'	1:A:485:U:H5'	2.02	0.41
1:A:761:G:H2'	1:A:762:U:C6	2.55	0.41
1:A:921:U:O3'	1:A:1081:A:O2'	2.38	0.41
1:A:980:C:H2'	1:A:981:U:H5'	2.03	0.41
1:A:1098:C:H2'	1:A:1099:G:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1371:G:OP1	9:I:12:LYS:HG2	2.20	0.41
2:B:9:LEU:H	2:B:9:LEU:CD1	2.33	0.41
2:B:187:ASP:H	2:B:190:SER:HB2	1.85	0.41
5:E:35:LEU:CD1	5:E:133:ILE:HA	2.50	0.41
5:E:131:ASN:ND2	5:E:134:ASN:N	2.69	0.41
6:F:7:VAL:HG13	6:F:7:VAL:O	2.21	0.41
8:H:75:GLN:O	8:H:126:CYS:HB2	2.21	0.41
10:J:36:VAL:CG2	10:J:76:ILE:HG22	2.50	0.41
10:J:48:ARG:H	10:J:48:ARG:HG2	1.73	0.41
12:L:71:HIS:CG	12:L:72:ASN:N	2.86	0.41
12:L:113:ARG:O	12:L:114:SER:C	2.64	0.41
15:O:2:LEU:HD13	15:O:7:THR:HG23	2.02	0.41
16:P:52:LEU:HD22	16:P:52:LEU:N	2.36	0.41
17:Q:65:PRO:HA	17:Q:71:SER:OG	2.21	0.41
20:T:27:MET:O	20:T:31:ILE:HG13	2.21	0.41
21:U:52:VAL:HG13	21:U:53:LYS:N	2.34	0.41
22:V:68:ASP:OD1	22:V:70:ASP:HB2	2.21	0.41
1:A:162:A:H2'	1:A:163:C:O4'	2.20	0.41
1:A:319:G:O2'	1:A:320:A:H5'	2.20	0.41
1:A:441:A:N6	1:A:493:A:H62	2.15	0.41
1:A:612:C:H2'	1:A:613:C:C6	2.55	0.41
1:A:711:G:H2'	1:A:712:A:C8	2.56	0.41
1:A:993:G:C2'	1:A:995:C:H41	2.34	0.41
1:A:1219:A:OP1	14:N:52:ARG:HG2	2.21	0.41
1:A:1340:A:H2'	1:A:1341:U:H6	1.86	0.41
1:A:1351:U:H4'	7:G:32:ASP:OD2	2.21	0.41
1:A:1521:C:H2'	1:A:1522:U:C6	2.56	0.41
1:A:1529:G:H3'	1:A:1529:G:OP2	2.20	0.41
6:F:3:HIS:HB2	6:F:92:THR:OG1	2.21	0.41
6:F:44:ARG:HA	6:F:57:ALA:O	2.21	0.41
7:G:138:GLU:HA	7:G:141:HIS:HB2	2.02	0.41
7:G:141:HIS:O	7:G:144:ALA:O	2.39	0.41
9:I:52:GLU:N	9:I:56:MET:HG2	2.35	0.41
9:I:61:ASP:C	9:I:62:LEU:HD22	2.45	0.41
10:J:73:LEU:O	10:J:74:VAL:HB	2.21	0.41
12:L:6:LEU:O	12:L:10:PRO:HG3	2.19	0.41
14:N:1:ALA:O	14:N:2:LYS:HB2	2.20	0.41
14:N:5:MET:HE3	14:N:62:ARG:NH2	2.35	0.41
19:S:35:ARG:H	19:S:35:ARG:HG3	1.72	0.41
21:U:33:ARG:CZ	21:U:34:ARG:HG3	2.51	0.41
1:A:56:U:H6	1:A:56:U:O5'	2.04	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:154:U:H2'	1:A:155:A:C8	2.56	0.41
1:A:648:A:H2'	1:A:649:A:C8	2.56	0.41
1:A:777:A:H2'	1:A:778:G:H8	1.86	0.41
1:A:1123:U:C2'	1:A:1124:G:H5'	2.51	0.41
1:A:1217:C:H2'	1:A:1218:C:C6	2.56	0.41
1:A:1311:A:H2'	1:A:1312:G:O4'	2.21	0.41
2:B:131:LYS:O	2:B:134:LEU:HB2	2.21	0.41
4:D:26:ALA:O	4:D:27:ILE:O	2.38	0.41
6:F:53:LYS:HZ2	6:F:54:LEU:N	2.18	0.41
9:I:20:ILE:HD12	9:I:20:ILE:N	2.35	0.41
9:I:83:THR:HA	9:I:86:LEU:CD2	2.51	0.41
12:L:35:ARG:HE	12:L:35:ARG:CA	2.29	0.41
17:Q:26:ARG:NH2	17:Q:28:VAL:HG11	2.36	0.41
1:A:28:A:H2'	1:A:29:U:O4'	2.21	0.41
1:A:36:C:O2'	1:A:37:U:H5'	2.20	0.41
1:A:132:C:H5''	20:T:68:LYS:CE	2.47	0.41
1:A:236:A:H2'	1:A:237:G:C8	2.56	0.41
1:A:374:A:H2'	1:A:375:U:C6	2.55	0.41
1:A:425:G:O2'	1:A:426:U:H5'	2.21	0.41
1:A:502:A:O2'	1:A:503:C:H5'	2.20	0.41
1:A:591:U:H2'	1:A:592:G:C8	2.55	0.41
1:A:619:U:O2	4:D:129:VAL:HG13	2.20	0.41
1:A:676:A:O2'	1:A:677:U:H5'	2.21	0.41
1:A:790:A:H2	22:V:17:GLN:CB	2.32	0.41
1:A:821:G:H2'	1:A:822:U:C6	2.56	0.41
1:A:842:U:H3'	1:A:842:U:OP1	2.21	0.41
1:A:859:G:H8	2:B:23:ASN:CG	2.28	0.41
1:A:860:A:C3'	2:B:193:ASP:HA	2.38	0.41
1:A:893:C:H2'	1:A:894:G:C8	2.55	0.41
1:A:1057:G:O2'	1:A:1058:G:H5'	2.20	0.41
1:A:1081:A:O3'	5:E:24:VAL:HG13	2.04	0.41
1:A:1126:U:O2'	1:A:1127:G:H5'	2.21	0.41
1:A:1231:G:H2'	1:A:1232:U:C6	2.55	0.41
2:B:42:LEU:HA	2:B:45:THR:OG1	2.21	0.41
2:B:58:LYS:HD3	2:B:62:ARG:NH2	2.35	0.41
2:B:116:LEU:HD13	2:B:140:LEU:HD23	2.02	0.41
2:B:202:ASN:HD21	2:B:204:ASP:HB3	1.86	0.41
4:D:120:LYS:CB	4:D:145:ARG:HH21	2.32	0.41
4:D:160:LEU:HA	4:D:163:GLN:OE1	2.21	0.41
5:E:51:LYS:O	5:E:52:ALA:HB2	2.21	0.41
8:H:76:ARG:HG3	8:H:76:ARG:NH1	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:87:LEU:HD13	10:J:87:LEU:C	2.46	0.41
11:K:26:PHE:HE1	11:K:88:PRO:HG2	1.85	0.41
11:K:84:MET:HE2	11:K:110:THR:OG1	2.21	0.41
12:L:80:LEU:HD13	12:L:101:LEU:CD1	2.51	0.41
14:N:65:GLN:HE21	14:N:65:GLN:HA	1.86	0.41
14:N:89:ARG:HB2	14:N:91:GLU:HG3	2.02	0.41
16:P:12:LYS:C	16:P:14:ARG:N	2.75	0.41
16:P:53:ASP:O	16:P:54:LEU:C	2.64	0.41
17:Q:3:LYS:HD2	17:Q:3:LYS:O	2.20	0.41
17:Q:57:VAL:N	17:Q:79:GLU:HB3	2.35	0.41
17:Q:68:LYS:O	17:Q:69:THR:HB	2.21	0.41
17:Q:76:ARG:HE	17:Q:78:VAL:HG22	1.85	0.41
20:T:57:VAL:C	20:T:60:GLN:NE2	2.79	0.41
21:U:20:ARG:O	21:U:20:ARG:HG2	2.20	0.41
21:U:24:LYS:O	21:U:26:GLY:N	2.54	0.41
21:U:40:PRO:CG	21:U:41:THR:H	2.29	0.41
1:A:17:U:C6	1:A:1079:G:C4	3.09	0.41
1:A:219:U:H2'	1:A:220:G:H8	1.85	0.41
1:A:291:U:O2'	1:A:292:G:H5'	2.21	0.41
1:A:529:G:H22	12:L:47:ALA:HB2	1.85	0.41
1:A:547:A:H4'	1:A:548:G:O5'	2.21	0.41
1:A:635:A:H2'	1:A:636:U:C6	2.56	0.41
1:A:635:A:O2'	1:A:636:U:H5'	2.21	0.41
1:A:714:G:H2'	1:A:715:A:C8	2.56	0.41
1:A:1073:U:O2	2:B:102:ASN:ND2	2.53	0.41
1:A:1281:C:H3'	1:A:1282:C:H6	1.86	0.41
3:C:122:GLN:O	3:C:127:VAL:HG22	2.20	0.41
4:D:99:ASN:CB	4:D:103:ARG:HH21	2.34	0.41
5:E:43:GLY:HA2	5:E:75:LEU:HD12	2.03	0.41
6:F:62:MET:O	6:F:63:ASN:HB2	2.21	0.41
9:I:93:LEU:C	9:I:93:LEU:HD12	2.46	0.41
10:J:88:MET:SD	10:J:88:MET:N	2.85	0.41
12:L:42:LYS:HB3	12:L:44:PRO:HD2	2.03	0.41
12:L:79:ILE:C	12:L:79:ILE:HD12	2.46	0.41
13:M:103:THR:HG22	13:M:104:ASN:N	2.33	0.41
15:O:25:GLU:HA	15:O:80:LEU:CD1	2.51	0.41
1:A:8:A:H1'	5:E:106:ALA:C	2.46	0.40
1:A:35:G:H2'	1:A:36:C:H6	1.86	0.40
1:A:167:A:H2'	1:A:168:G:H8	1.86	0.40
1:A:177:G:C5'	20:T:59:ARG:HH21	2.33	0.40
1:A:426:U:O2'	1:A:427:U:H5'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:499:A:H4'	1:A:500:G:H5'	2.03	0.40
1:A:611:C:H2'	1:A:612:C:C6	2.56	0.40
1:A:657:U:O2'	1:A:658:C:H5'	2.21	0.40
1:A:847:G:H2'	1:A:848:C:H6	1.86	0.40
1:A:1337:G:H5''	1:A:1338:G:OP1	2.21	0.40
2:B:209:VAL:O	2:B:213:LEU:HB2	2.21	0.40
4:D:116:LEU:O	4:D:121:ALA:HB3	2.21	0.40
4:D:119:HIS:C	4:D:121:ALA:H	2.29	0.40
6:F:74:LEU:HG	6:F:78:PHE:CD2	2.55	0.40
9:I:64:ILE:HG22	9:I:65:THR:H	1.85	0.40
9:I:126:PHE:O	9:I:128:LYS:N	2.54	0.40
14:N:73:LEU:O	14:N:74:ARG:C	2.64	0.40
15:O:46:LYS:HE3	15:O:46:LYS:HB2	1.89	0.40
16:P:73:ALA:HB1	16:P:77:GLU:OE2	2.21	0.40
17:Q:4:ILE:H	17:Q:4:ILE:CD1	2.32	0.40
1:A:178:C:O2'	1:A:179:A:H5'	2.20	0.40
1:A:254:G:OP1	17:Q:68:LYS:O	2.39	0.40
1:A:738:C:H2'	1:A:739:C:C6	2.56	0.40
1:A:768:A:H4'	1:A:1523:G:N2	2.35	0.40
1:A:1195:C:H2'	1:A:1197:A:O4'	2.21	0.40
1:A:1225:A:H4'	19:S:77:ARG:CZ	2.51	0.40
1:A:1338:G:H2'	1:A:1339:A:H8	1.83	0.40
1:A:1347:G:N2	1:A:1373:G:H2'	2.35	0.40
2:B:96:LEU:N	2:B:99:MET:HE3	2.36	0.40
2:B:119:GLN:HE21	2:B:119:GLN:HB3	1.59	0.40
3:C:40:GLN:HE21	3:C:40:GLN:HB3	1.63	0.40
7:G:57:GLU:OE1	7:G:57:GLU:HA	2.22	0.40
7:G:101:ARG:HB3	7:G:105:GLU:OE2	2.20	0.40
7:G:148:LYS:C	7:G:150:PHE:N	2.78	0.40
8:H:77:VAL:HG12	8:H:84:ILE:HD13	2.03	0.40
9:I:18:VAL:HG22	9:I:64:ILE:CG2	2.50	0.40
9:I:126:PHE:O	9:I:127:SER:C	2.64	0.40
10:J:6:ILE:HA	10:J:102:LEU:CD2	2.51	0.40
10:J:37:ARG:N	10:J:77:VAL:HG22	2.36	0.40
12:L:56:LEU:HB3	12:L:58:ASN:HD21	1.84	0.40
12:L:71:HIS:CE1	12:L:73:LEU:H	2.39	0.40
13:M:16:ILE:CG2	13:M:17:ALA:N	2.84	0.40
14:N:75:LYS:HG3	14:N:76:PHE:CE1	2.57	0.40
17:Q:10:ARG:CZ	17:Q:56:ASP:N	2.84	0.40
18:R:28:LEU:C	18:R:30:ASN:N	2.79	0.40
19:S:35:ARG:C	19:S:37:SER:H	2.29	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:68:LYS:HA	20:T:68:LYS:HD3	1.96	0.40
1:A:841:C:H3'	1:A:843:U:P	2.60	0.40
1:A:880:C:H2'	1:A:881:G:H8	1.86	0.40
1:A:1047:G:O2'	1:A:1048:G:H5'	2.21	0.40
1:A:1067:A:H1'	1:A:1068:G:C8	2.55	0.40
1:A:1150:A:H1'	1:A:1280:A:N6	2.36	0.40
2:B:186:VAL:HG22	2:B:198:VAL:HG23	2.03	0.40
3:C:4:VAL:HG21	3:C:9:ILE:HD13	2.02	0.40
3:C:70:ALA:CB	3:C:108:PRO:HB3	2.52	0.40
4:D:158:LEU:HD23	4:D:158:LEU:N	2.36	0.40
5:E:71:ILE:HG12	5:E:72:ASN:H	1.86	0.40
6:F:18:VAL:HG11	6:F:58:HIS:CE1	2.57	0.40
7:G:112:ASP:HB3	7:G:113:LYS:H	1.66	0.40
8:H:110:MET:HB3	8:H:114:ALA:HB3	2.03	0.40
9:I:107:ALA:O	9:I:109:GLN:HG2	2.21	0.40
10:J:71:LEU:HD12	10:J:71:LEU:N	2.27	0.40
13:M:44:ILE:CA	13:M:47:LEU:HD13	2.46	0.40
15:O:70:LYS:HG2	15:O:77:TYR:CG	2.56	0.40
19:S:57:VAL:HG21	19:S:74:ALA:CB	2.51	0.40
22:V:257:TYR:HA	22:V:260:MET:HE3	2.03	0.40
1:A:108:G:N3	1:A:108:G:O4'	2.54	0.40
1:A:192:A:O2'	1:A:193:C:H5'	2.20	0.40
1:A:438:U:H2'	1:A:494:G:O6	2.21	0.40
1:A:797:C:O2'	1:A:798:U:H5'	2.21	0.40
1:A:812:G:O2'	1:A:813:U:H6	2.04	0.40
1:A:1084:G:H2'	1:A:1085:U:C5	2.56	0.40
1:A:1368:A:O2'	1:A:1369:C:H5'	2.21	0.40
1:A:1521:C:H2'	1:A:1522:U:H6	1.87	0.40
2:B:175:ALA:C	2:B:177:ASN:N	2.79	0.40
4:D:25:ARG:NH1	4:D:30:LYS:HE3	2.36	0.40
4:D:158:LEU:HD23	4:D:158:LEU:H	1.87	0.40
6:F:29:ILE:HG23	6:F:66:ALA:HB2	2.03	0.40
7:G:29:LEU:HD12	7:G:104:VAL:HG13	2.04	0.40
7:G:94:ARG:O	7:G:98:LEU:HD12	2.22	0.40
7:G:94:ARG:CZ	7:G:98:LEU:HD21	2.51	0.40
9:I:49:GLN:HB3	9:I:50:PRO:CD	2.51	0.40
9:I:118:ARG:HH12	9:I:122:ARG:HE	1.67	0.40
17:Q:30:HIS:N	17:Q:35:LYS:H	2.19	0.40
18:R:31:TYR:C	18:R:39:VAL:HG13	2.47	0.40
20:T:15:LYS:HE2	20:T:18:LYS:HZ1	1.86	0.40
1:A:68:G:C4'	1:A:171:A:H1'	2.52	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:140:U:H2'	1:A:141:G:C8	2.56	0.40
1:A:264:C:O2'	17:Q:65:PRO:O	2.39	0.40
1:A:314:C:O2'	1:A:315:A:H5'	2.21	0.40
1:A:492:C:C2'	1:A:493:A:H5''	2.51	0.40
1:A:633:G:H2'	1:A:634:C:H6	1.86	0.40
1:A:737:C:H2'	1:A:738:C:H6	1.86	0.40
1:A:754:C:O2	1:A:754:C:H3'	2.21	0.40
1:A:829:G:O2'	1:A:830:G:H5'	2.22	0.40
1:A:921:U:O3'	1:A:1082:A:H4'	2.22	0.40
1:A:945:G:N1	1:A:1337:G:C2	2.89	0.40
1:A:951:G:H1'	1:A:970:C:O2'	2.22	0.40
1:A:1036:A:N3	1:A:1036:A:H2'	2.36	0.40
1:A:1082:A:H2'	1:A:1083:U:C6	2.56	0.40
1:A:1202:U:H2'	1:A:1203:C:H5'	2.02	0.40
1:A:1225:A:H2'	1:A:1225:A:N3	2.37	0.40
1:A:1236:A:H2'	1:A:1237:C:O4'	2.22	0.40
1:A:1288:A:N1	1:A:1371:G:H1'	2.36	0.40
1:A:1319:A:H5''	19:S:3:SER:OG	2.21	0.40
3:C:6:PRO:HG2	3:C:183:TYR:CD2	2.57	0.40
3:C:54:ILE:O	3:C:54:ILE:HG23	2.22	0.40
4:D:106:PHE:N	4:D:106:PHE:CD1	2.88	0.40
4:D:138:PRO:C	4:D:140:ASP:H	2.29	0.40
4:D:196:GLU:HA	4:D:199:ILE:CD1	2.51	0.40
7:G:73:GLU:OE2	7:G:90:VAL:HG12	2.21	0.40
7:G:114:SER:O	7:G:118:ARG:HG3	2.21	0.40
9:I:41:GLU:H	9:I:44:ARG:CZ	2.34	0.40
11:K:22:ILE:HA	11:K:31:VAL:HG22	2.02	0.40
11:K:113:THR:O	11:K:115:ILE:HG13	2.22	0.40
16:P:4:ILE:HD12	16:P:66:THR:O	2.22	0.40
18:R:23:LYS:C	18:R:25:ILE:N	2.79	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 PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	B	216/240 (90%)	145 (67%)	53 (24%)	18 (8%)	0	9
3	C	204/232 (88%)	135 (66%)	49 (24%)	20 (10%)	0	7
4	D	203/205 (99%)	130 (64%)	55 (27%)	18 (9%)	0	8
5	E	148/166 (89%)	108 (73%)	33 (22%)	7 (5%)	2	16
6	F	98/135 (73%)	69 (70%)	23 (24%)	6 (6%)	1	13
7	G	148/178 (83%)	103 (70%)	37 (25%)	8 (5%)	1	15
8	H	127/129 (98%)	105 (83%)	19 (15%)	3 (2%)	4	27
9	I	125/129 (97%)	86 (69%)	28 (22%)	11 (9%)	0	8
10	J	96/103 (93%)	63 (66%)	21 (22%)	12 (12%)	0	4
11	K	115/128 (90%)	75 (65%)	27 (24%)	13 (11%)	0	5
12	L	121/123 (98%)	74 (61%)	30 (25%)	17 (14%)	0	3
13	M	112/117 (96%)	87 (78%)	14 (12%)	11 (10%)	0	7
14	N	92/100 (92%)	59 (64%)	24 (26%)	9 (10%)	0	7
15	O	86/89 (97%)	66 (77%)	18 (21%)	2 (2%)	5	28
16	P	80/82 (98%)	59 (74%)	17 (21%)	4 (5%)	1	16
17	Q	78/83 (94%)	48 (62%)	26 (33%)	4 (5%)	1	15
18	R	53/74 (72%)	27 (51%)	19 (36%)	7 (13%)	0	4
19	S	77/91 (85%)	57 (74%)	14 (18%)	6 (8%)	1	10
20	T	83/86 (96%)	69 (83%)	8 (10%)	6 (7%)	1	11
21	U	49/71 (69%)	22 (45%)	12 (24%)	15 (31%)	0	0
22	V	250/252 (99%)	247 (99%)	2 (1%)	1 (0%)	30	67
All	All	2561/2813 (91%)	1834 (72%)	529 (21%)	198 (8%)	1	10

All (198) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	19	THR
2	B	22	TRP
2	B	163	ILE
2	B	186	VAL
3	C	2	GLN
3	C	91	ALA
3	C	153	SER

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Mol	Chain	Res	Type
4	D	18	LEU
4	D	31	CYS
4	D	191	SER
6	F	92	THR
9	I	8	THR
9	I	43	ALA
10	J	57	VAL
11	K	56	LYS
11	K	126	ARG
12	L	10	PRO
12	L	23	LEU
13	M	6	ILE
13	M	14	ALA
14	N	52	ARG
21	U	14	ALA
21	U	22	CYS
2	B	18	GLN
3	C	19	SER
3	C	25	THR
3	C	54	ILE
3	C	81	GLU
3	C	100	ILE
3	C	180	ASP
4	D	25	ARG
4	D	107	GLY
4	D	152	SER
4	D	172	VAL
4	D	192	ALA
5	E	20	VAL
5	E	128	GLY
6	F	62	MET
6	F	64	VAL
6	F	65	GLU
7	G	84	TYR
7	G	129	ASN
9	I	57	VAL
9	I	71	ILE
9	I	108	ARG
10	J	75	ASP
10	J	92	LEU
11	K	50	GLY
11	K	53	GLY

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Mol	Chain	Res	Type
11	K	125	LYS
12	L	19	ASN
12	L	72	ASN
12	L	84	GLY
13	M	3	ILE
13	M	66	GLY
13	M	104	ASN
14	N	51	PRO
14	N	61	ASN
15	O	73	ASP
16	P	79	ASN
17	Q	6	THR
17	Q	34	GLY
18	R	32	ILE
19	S	5	LYS
20	T	85	LEU
21	U	32	ARG
21	U	34	ARG
2	B	20	ARG
2	B	76	SER
3	C	59	PRO
3	C	78	LYS
3	C	136	ALA
4	D	27	ILE
4	D	28	ASP
4	D	43	ARG
4	D	151	GLN
4	D	177	MET
5	E	43	GLY
6	F	94	HIS
7	G	89	GLU
9	I	44	ARG
9	I	55	ASP
9	I	127	SER
10	J	62	ARG
10	J	93	ALA
11	K	70	ALA
11	K	77	GLY
11	K	91	GLY
12	L	13	ARG
12	L	60	PHE
12	L	122	LYS

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Mol	Chain	Res	Type
13	M	7	ASN
13	M	22	TYR
13	M	65	GLU
13	M	98	GLY
14	N	21	ALA
14	N	74	ARG
14	N	80	ARG
17	Q	5	ARG
18	R	21	ASP
18	R	71	ASP
20	T	59	ARG
21	U	6	ARG
21	U	24	LYS
21	U	25	ALA
21	U	40	PRO
2	B	11	ALA
2	B	41	ASN
2	B	88	GLN
2	B	200	PRO
3	C	65	VAL
3	C	186	SER
4	D	29	THR
5	E	25	LYS
5	E	34	ALA
6	F	54	LEU
7	G	18	GLY
7	G	57	GLU
7	G	75	LYS
7	G	86	VAL
8	H	46	GLU
9	I	67	LYS
10	J	56	HIS
10	J	61	ALA
10	J	74	VAL
11	K	57	SER
11	K	108	ASN
12	L	14	LYS
12	L	15	VAL
12	L	47	ALA
12	L	56	LEU
12	L	67	GLY
12	L	120	ARG

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Mol	Chain	Res	Type
14	N	31	SER
14	N	94	GLY
16	P	42	ILE
17	Q	69	THR
18	R	22	TYR
18	R	47	ARG
19	S	27	LYS
19	S	36	ARG
19	S	65	MET
21	U	26	GLY
21	U	33	ARG
21	U	36	PHE
21	U	37	TYR
21	U	41	THR
22	V	130	THR
2	B	24	PRO
2	B	27	LYS
2	B	87	ASP
2	B	94	ARG
3	C	14	VAL
3	C	145	ALA
3	C	167	TYR
5	E	146	MET
9	I	122	ARG
10	J	36	VAL
11	K	127	ARG
12	L	42	LYS
12	L	121	PRO
13	M	105	ALA
15	O	17	ASP
18	R	20	ILE
19	S	8	PRO
20	T	5	SER
20	T	46	ALA
2	B	205	ALA
3	C	26	LYS
3	C	112	ALA
4	D	6	PRO
5	E	107	GLY
7	G	6	ILE
10	J	95	GLY
11	K	106	ILE

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Mol	Chain	Res	Type
14	N	33	VAL
19	S	39	ILE
21	U	13	VAL
2	B	157	PRO
3	C	90	VAL
4	D	63	ILE
4	D	175	GLY
11	K	119	GLY
16	P	41	PRO
16	P	49	GLY
20	T	3	ILE
4	D	37	PRO
8	H	71	VAL
10	J	41	PRO
10	J	96	VAL
12	L	62	VAL
13	M	23	GLY
20	T	41	GLY
21	U	52	VAL
2	B	150	ILE
8	H	77	VAL
9	I	110	VAL
18	R	43	ILE

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	B	180/198 (91%)	143 (79%)	37 (21%)	1	6
3	C	170/189 (90%)	145 (85%)	25 (15%)	3	13
4	D	172/172 (100%)	137 (80%)	35 (20%)	1	7
5	E	113/125 (90%)	93 (82%)	20 (18%)	2	9
6	F	87/116 (75%)	68 (78%)	19 (22%)	1	6
7	G	123/146 (84%)	101 (82%)	22 (18%)	2	9

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
8	H	104/104 (100%)	88 (85%)	16 (15%)	2	12
9	I	105/106 (99%)	83 (79%)	22 (21%)	1	6
10	J	86/90 (96%)	70 (81%)	16 (19%)	1	8
11	K	90/98 (92%)	74 (82%)	16 (18%)	2	9
12	L	103/103 (100%)	89 (86%)	14 (14%)	3	14
13	M	92/95 (97%)	72 (78%)	20 (22%)	1	6
14	N	79/83 (95%)	66 (84%)	13 (16%)	2	10
15	O	76/77 (99%)	70 (92%)	6 (8%)	11	32
16	P	65/65 (100%)	54 (83%)	11 (17%)	2	10
17	Q	74/77 (96%)	59 (80%)	15 (20%)	1	7
18	R	48/64 (75%)	42 (88%)	6 (12%)	4	16
19	S	70/78 (90%)	60 (86%)	10 (14%)	3	13
20	T	65/65 (100%)	57 (88%)	8 (12%)	4	17
21	U	44/61 (72%)	36 (82%)	8 (18%)	2	9
22	V	213/216 (99%)	207 (97%)	6 (3%)	38	60
All	All	2159/2328 (93%)	1814 (84%)	345 (16%)	4	11

All (345) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	9	LEU
2	B	18	GLN
2	B	22	TRP
2	B	26	MET
2	B	36	LYS
2	B	38	HIS
2	B	40	ILE
2	B	46	VAL
2	B	48	MET
2	B	56	LEU
2	B	57	ASN
2	B	58	LYS
2	B	67	LEU
2	B	69	VAL
2	B	73	ARG
2	B	81	ASP
2	B	88	GLN

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Mol	Chain	Res	Type
2	B	90	PHE
2	B	94	ARG
2	B	95	TRP
2	B	101	THR
2	B	116	LEU
2	B	121	GLN
2	B	122	ASP
2	B	125	PHE
2	B	127	LYS
2	B	128	LEU
2	B	145	ASN
2	B	158	ASP
2	B	162	VAL
2	B	185	ILE
2	B	188	THR
2	B	196	ASP
2	B	202	ASN
2	B	206	ILE
2	B	209	VAL
2	B	222	GLU
3	C	14	VAL
3	C	20	THR
3	C	26	LYS
3	C	31	ASN
3	C	40	GLN
3	C	42	LEU
3	C	69	THR
3	C	100	ILE
3	C	102	ILE
3	C	113	LYS
3	C	141	MET
3	C	143	LEU
3	C	146	LYS
3	C	156	LEU
3	C	164	THR
3	C	165	GLU
3	C	166	TRP
3	C	174	LEU
3	C	176	THR
3	C	180	ASP
3	C	185	THR
3	C	189	HIS

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Mol	Chain	Res	Type
3	C	190	THR
3	C	192	TYR
3	C	205	GLU
4	D	7	LYS
4	D	8	LEU
4	D	10	LEU
4	D	20	LEU
4	D	21	LYS
4	D	25	ARG
4	D	35	GLN
4	D	39	GLN
4	D	54	LEU
4	D	56	GLU
4	D	58	GLN
4	D	64	TYR
4	D	69	ARG
4	D	77	GLU
4	D	80	ARG
4	D	85	THR
4	D	87	GLU
4	D	94	GLU
4	D	131	ILE
4	D	133	SER
4	D	137	SER
4	D	147	LYS
4	D	150	LYS
4	D	153	ARG
4	D	154	VAL
4	D	155	LYS
4	D	158	LEU
4	D	160	LEU
4	D	172	VAL
4	D	176	LYS
4	D	177	MET
4	D	183	ARG
4	D	186	GLU
4	D	189	ASP
4	D	194	ILE
5	E	11	GLN
5	E	23	THR
5	E	25	LYS
5	E	32	PHE

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Mol	Chain	Res	Type
5	E	45	VAL
5	E	55	VAL
5	E	63	MET
5	E	68	ARG
5	E	81	GLN
5	E	92	ARG
5	E	102	THR
5	E	110	MET
5	E	119	VAL
5	E	122	VAL
5	E	123	LEU
5	E	125	LYS
5	E	139	THR
5	E	143	LEU
5	E	151	MET
5	E	158	LYS
6	F	37	HIS
6	F	38	ARG
6	F	39	LEU
6	F	46	GLN
6	F	53	LYS
6	F	54	LEU
6	F	55	HIS
6	F	61	LEU
6	F	65	GLU
6	F	69	GLU
6	F	71	ILE
6	F	73	GLU
6	F	75	GLU
6	F	76	THR
6	F	78	PHE
6	F	84	VAL
6	F	87	SER
6	F	88	MET
6	F	92	THR
7	G	3	ARG
7	G	10	LYS
7	G	11	ILE
7	G	14	ASP
7	G	16	LYS
7	G	19	SER
7	G	21	LEU

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Mol	Chain	Res	Type
7	G	22	LEU
7	G	26	VAL
7	G	29	LEU
7	G	42	VAL
7	G	46	LEU
7	G	52	ARG
7	G	68	VAL
7	G	72	VAL
7	G	74	VAL
7	G	84	TYR
7	G	89	GLU
7	G	94	ARG
7	G	112	ASP
7	G	114	SER
7	G	119	LEU
8	H	4	ASP
8	H	17	GLN
8	H	25	THR
8	H	30	LYS
8	H	37	ASN
8	H	45	ILE
8	H	55	LYS
8	H	61	THR
8	H	74	ILE
8	H	76	ARG
8	H	82	LEU
8	H	83	ARG
8	H	93	LYS
8	H	111	THR
8	H	113	ARG
8	H	120	LEU
9	I	3	ASN
9	I	26	LYS
9	I	30	ASN
9	I	35	GLU
9	I	36	GLN
9	I	38	PHE
9	I	41	GLU
9	I	44	ARG
9	I	53	LEU
9	I	56	MET
9	I	58	GLU

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Mol	Chain	Res	Type
9	I	59	LYS
9	I	60	LEU
9	I	61	ASP
9	I	84	ARG
9	I	86	LEU
9	I	87	MET
9	I	106	ASP
9	I	115	VAL
9	I	119	LYS
9	I	121	ARG
9	I	126	PHE
10	J	11	LYS
10	J	14	ASP
10	J	18	ILE
10	J	40	ILE
10	J	48	ARG
10	J	50	THR
10	J	57	VAL
10	J	71	LEU
10	J	73	LEU
10	J	75	ASP
10	J	81	GLU
10	J	88	MET
10	J	89	ARG
10	J	92	LEU
10	J	98	VAL
10	J	102	LEU
11	K	33	ILE
11	K	36	ARG
11	K	52	ARG
11	K	56	LYS
11	K	58	THR
11	K	71	ASP
11	K	73	VAL
11	K	74	LYS
11	K	83	VAL
11	K	84	MET
11	K	85	VAL
11	K	92	ARG
11	K	99	LEU
11	K	107	THR
11	K	108	ASN

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Mol	Chain	Res	Type
11	K	115	ILE
12	L	18	SER
12	L	20	VAL
12	L	28	GLN
12	L	30	ARG
12	L	33	CYS
12	L	35	ARG
12	L	38	THR
12	L	50	LYS
12	L	58	ASN
12	L	71	HIS
12	L	87	LYS
12	L	103	CYS
12	L	107	LYS
12	L	118	VAL
13	M	2	ARG
13	M	11	HIS
13	M	18	LEU
13	M	27	THR
13	M	41	ASP
13	M	43	LYS
13	M	44	ILE
13	M	57	ASP
13	M	62	PHE
13	M	64	VAL
13	M	67	ASP
13	M	68	LEU
13	M	81	ASP
13	M	90	HIS
13	M	91	ARG
13	M	97	ARG
13	M	99	GLN
13	M	101	THR
13	M	102	LYS
13	M	106	ARG
14	N	11	LYS
14	N	15	LEU
14	N	27	LYS
14	N	41	TRP
14	N	45	LEU
14	N	47	LEU
14	N	50	LEU

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Mol	Chain	Res	Type
14	N	53	ASP
14	N	59	GLN
14	N	65	GLN
14	N	73	LEU
14	N	74	ARG
14	N	81	ILE
15	O	7	THR
15	O	17	ASP
15	O	25	GLU
15	O	58	MET
15	O	64	LYS
15	O	70	LYS
16	P	4	ILE
16	P	5	ARG
16	P	19	VAL
16	P	26	ASN
16	P	29	ASN
16	P	31	ARG
16	P	34	GLU
16	P	46	LYS
16	P	48	GLU
16	P	55	ASP
16	P	63	GLN
17	Q	4	ILE
17	Q	10	ARG
17	Q	15	LYS
17	Q	20	ILE
17	Q	24	ILE
17	Q	25	GLU
17	Q	39	ARG
17	Q	45	VAL
17	Q	52	CYS
17	Q	60	ILE
17	Q	67	SER
17	Q	74	LEU
17	Q	76	ARG
17	Q	78	VAL
17	Q	80	LYS
18	R	20	ILE
18	R	30	ASN
18	R	43	ILE
18	R	52	ARG

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Mol	Chain	Res	Type
18	R	54	LEU
18	R	65	SER
19	S	5	LYS
19	S	12	LEU
19	S	14	LEU
19	S	20	LYS
19	S	28	LYS
19	S	36	ARG
19	S	40	PHE
19	S	47	THR
19	S	72	GLU
19	S	73	PHE
20	T	14	GLU
20	T	26	MET
20	T	29	THR
20	T	34	VAL
20	T	59	ARG
20	T	67	HIS
20	T	70	LYS
20	T	85	LEU
21	U	11	PHE
21	U	12	ASP
21	U	13	VAL
21	U	16	ARG
21	U	17	ARG
21	U	28	LEU
21	U	33	ARG
21	U	44	ARG
22	V	21	ASN
22	V	37	LYS
22	V	81	LEU
22	V	91	ASP
22	V	155	LYS
22	V	231	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (78) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	108	GLN
2	B	119	GLN
2	B	121	GLN
2	B	145	ASN

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Mol	Chain	Res	Type
2	B	167	HIS
2	B	202	ASN
3	C	2	GLN
3	C	5	HIS
3	C	40	GLN
3	C	68	HIS
3	C	122	GLN
3	C	139	ASN
3	C	184	ASN
4	D	35	GLN
4	D	84	ASN
4	D	99	ASN
4	D	115	GLN
4	D	125	ASN
4	D	135	GLN
4	D	151	GLN
4	D	195	ASN
5	E	60	GLN
5	E	69	ASN
5	E	72	ASN
5	E	82	HIS
5	E	120	HIS
5	E	121	ASN
5	E	131	ASN
5	E	134	ASN
6	F	14	GLN
6	F	17	GLN
6	F	46	GLN
6	F	58	HIS
7	G	67	ASN
7	G	85	GLN
7	G	121	ASN
7	G	147	ASN
8	H	3	GLN
8	H	17	GLN
8	H	20	ASN
9	I	4	GLN
9	I	24	ASN
9	I	30	ASN
9	I	31	GLN
9	I	36	GLN
9	I	49	GLN

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Mol	Chain	Res	Type
9	I	109	GLN
10	J	15	HIS
10	J	20	GLN
10	J	64	GLN
10	J	99	GLN
11	K	28	ASN
11	K	37	GLN
11	K	100	ASN
11	K	118	ASN
12	L	28	GLN
12	L	58	ASN
13	M	99	GLN
14	N	59	GLN
14	N	61	ASN
14	N	65	GLN
15	O	27	GLN
15	O	34	GLN
15	O	39	GLN
16	P	9	HIS
16	P	18	GLN
16	P	29	ASN
18	R	53	GLN
19	S	42	ASN
19	S	51	HIS
19	S	55	GLN
19	S	56	HIS
20	T	20	ASN
20	T	54	GLN
20	T	60	GLN
20	T	69	ASN
22	V	36	GLN
22	V	165	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1407/1542 (91%)	263 (18%)	24 (1%)

All (263) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	7	A
1	A	9	G
1	A	14	U
1	A	31	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	55	A
1	A	61	G
1	A	66	A
1	A	72	A
1	A	76	G
1	A	78	A
1	A	79	G
1	A	83	C
1	A	85	U
1	A	86	G
1	A	87	C
1	A	88	U
1	A	89	U
1	A	95	C
1	A	108	G
1	A	121	U
1	A	122	G
1	A	131	A
1	A	151	A
1	A	164	G
1	A	182	A
1	A	183	C
1	A	197	A
1	A	209	U
1	A	210	C
1	A	239	U
1	A	240	G
1	A	243	A
1	A	244	U
1	A	245	U
1	A	247	G
1	A	250	A
1	A	251	G

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Mol	Chain	Res	Type
1	A	253	A
1	A	257	G
1	A	258	G
1	A	266	G
1	A	267	C
1	A	280	C
1	A	289	G
1	A	316	C
1	A	324	G
1	A	328	C
1	A	329	A
1	A	330	C
1	A	332	G
1	A	345	C
1	A	352	C
1	A	354	G
1	A	367	U
1	A	372	C
1	A	373	A
1	A	381	C
1	A	382	A
1	A	397	A
1	A	398	U
1	A	406	G
1	A	408	A
1	A	411	A
1	A	412	A
1	A	414	A
1	A	415	A
1	A	421	U
1	A	422	C
1	A	424	G
1	A	429	U
1	A	430	A
1	A	434	U
1	A	435	A
1	A	438	U
1	A	459	A
1	A	461	A
1	A	462	G
1	A	463	U
1	A	464	U

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Mol	Chain	Res	Type
1	A	465	A
1	A	466	A
1	A	467	U
1	A	468	A
1	A	469	C
1	A	476	U
1	A	481	G
1	A	482	A
1	A	484	G
1	A	485	U
1	A	493	A
1	A	500	G
1	A	511	C
1	A	518	C
1	A	522	C
1	A	527	G
1	A	531	U
1	A	532	A
1	A	547	A
1	A	559	A
1	A	562	U
1	A	572	A
1	A	573	A
1	A	576	C
1	A	577	G
1	A	607	A
1	A	639	G
1	A	650	G
1	A	653	U
1	A	665	A
1	A	693	G
1	A	700	G
1	A	721	G
1	A	724	G
1	A	731	G
1	A	733	G
1	A	747	A
1	A	748	G
1	A	755	G
1	A	777	A
1	A	781	A
1	A	782	A

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Mol	Chain	Res	Type
1	A	793	U
1	A	794	A
1	A	812	G
1	A	815	A
1	A	817	C
1	A	818	G
1	A	819	A
1	A	828	U
1	A	829	G
1	A	841	C
1	A	842	U
1	A	843	U
1	A	844	G
1	A	845	A
1	A	902	G
1	A	914	A
1	A	926	G
1	A	927	G
1	A	931	C
1	A	934	C
1	A	935	A
1	A	960	U
1	A	961	U
1	A	966	G
1	A	968	A
1	A	969	A
1	A	971	G
1	A	974	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	1002	G
1	A	1004	A
1	A	1009	U
1	A	1022	A
1	A	1025	U
1	A	1026	G
1	A	1030	U
1	A	1031	C

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Mol	Chain	Res	Type
1	A	1034	G
1	A	1035	A
1	A	1043	G
1	A	1044	A
1	A	1045	C
1	A	1049	U
1	A	1050	G
1	A	1051	C
1	A	1053	G
1	A	1054	C
1	A	1055	A
1	A	1065	U
1	A	1066	C
1	A	1070	U
1	A	1094	G
1	A	1095	U
1	A	1101	A
1	A	1102	A
1	A	1108	G
1	A	1111	A
1	A	1112	C
1	A	1126	U
1	A	1130	A
1	A	1136	C
1	A	1137	C
1	A	1138	G
1	A	1139	G
1	A	1140	C
1	A	1158	C
1	A	1159	U
1	A	1168	U
1	A	1169	A
1	A	1174	G
1	A	1179	A
1	A	1181	G
1	A	1183	U
1	A	1196	A
1	A	1197	A
1	A	1201	A
1	A	1202	U
1	A	1209	C
1	A	1212	U

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Mol	Chain	Res	Type
1	A	1213	A
1	A	1214	C
1	A	1215	G
1	A	1225	A
1	A	1226	C
1	A	1227	A
1	A	1228	C
1	A	1238	A
1	A	1240	U
1	A	1241	G
1	A	1253	G
1	A	1256	A
1	A	1258	G
1	A	1261	A
1	A	1270	G
1	A	1278	G
1	A	1279	G
1	A	1280	A
1	A	1281	C
1	A	1285	A
1	A	1286	U
1	A	1287	A
1	A	1298	U
1	A	1300	G
1	A	1301	U
1	A	1305	G
1	A	1316	G
1	A	1317	C
1	A	1320	C
1	A	1322	C
1	A	1323	G
1	A	1336	C
1	A	1338	G
1	A	1346	A
1	A	1347	G
1	A	1353	G
1	A	1362	A
1	A	1363	A
1	A	1364	U
1	A	1378	C
1	A	1379	G
1	A	1380	U

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Mol	Chain	Res	Type
1	A	1381	U
1	A	1507	A
1	A	1517	G
1	A	1519	A
1	A	1520	C
1	A	1528	U
1	A	1529	G
1	A	1530	G
1	A	1533	C
1	A	1534	A

All (24) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	51	A
1	A	60	A
1	A	243	A
1	A	279	A
1	A	328	C
1	A	366	A
1	A	372	C
1	A	428	G
1	A	429	U
1	A	484	G
1	A	576	C
1	A	913	A
1	A	960	U
1	A	975	A
1	A	1025	U
1	A	1049	U
1	A	1065	U
1	A	1101	A
1	A	1181	G
1	A	1201	A
1	A	1226	C
1	A	1300	G
1	A	1302	C
1	A	1528	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 [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
21	U	2
1	A	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	929:G	O3'	930:C	P	7.59
1	U	25:ALA	C	26:GLY	N	1.16
1	U	15:LEU	C	16:ARG	N	0.99

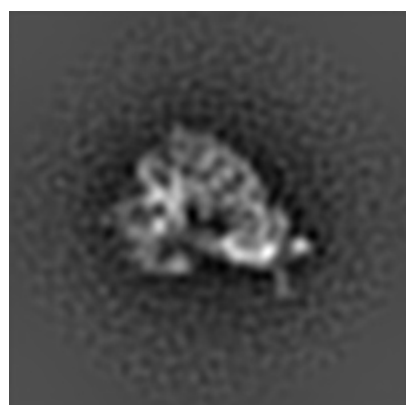
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-2017. These allow visual inspection of the internal detail of the map and identification of artifacts.

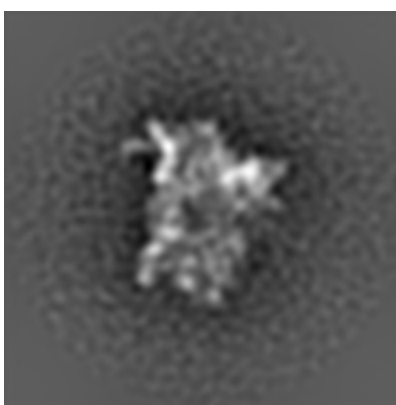
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

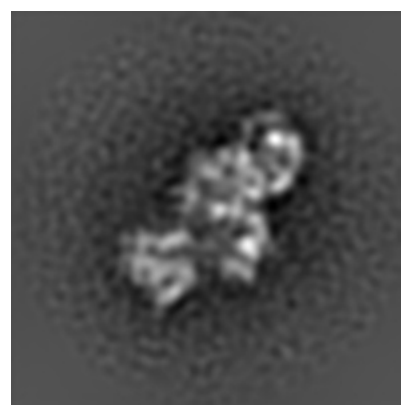
6.1.1 Primary map



X



Y

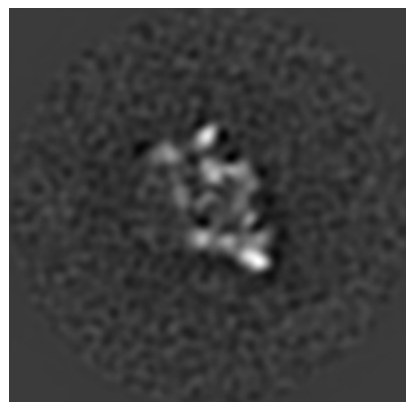


Z

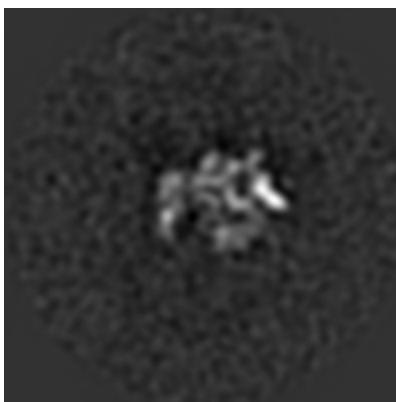
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

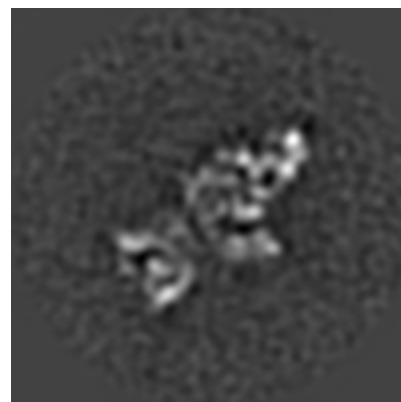
6.2.1 Primary map



X Index: 64



Y Index: 64

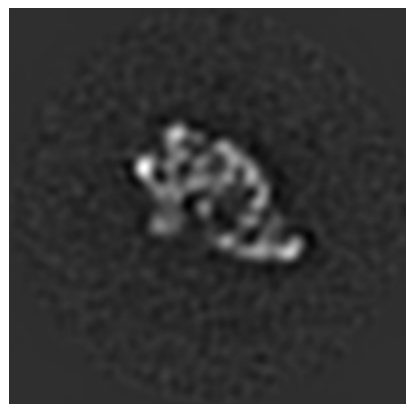


Z Index: 64

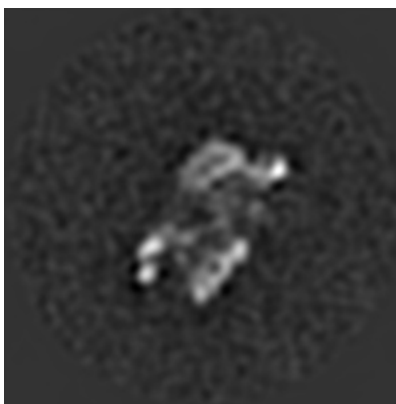
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

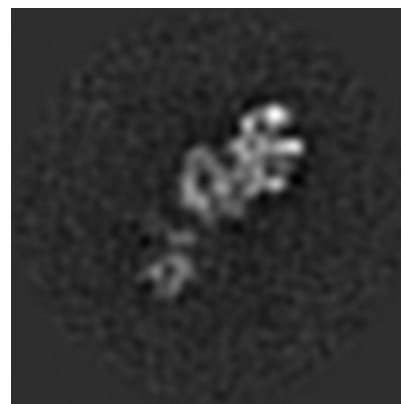
6.3.1 Primary map



X Index: 75



Y Index: 53

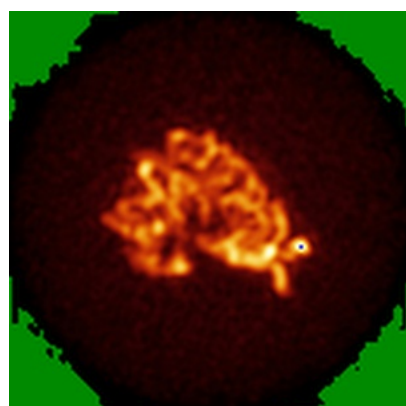


Z Index: 51

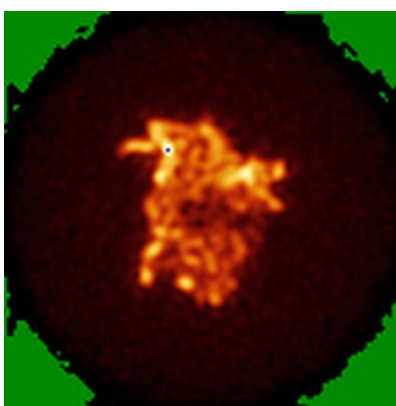
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

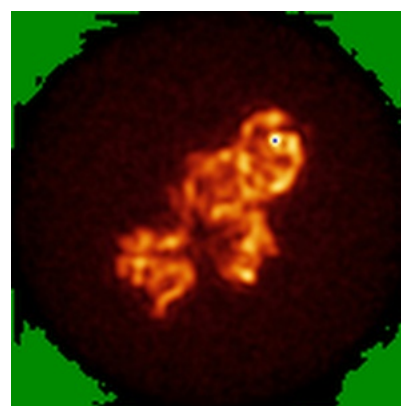
6.4.1 Primary map



X



Y

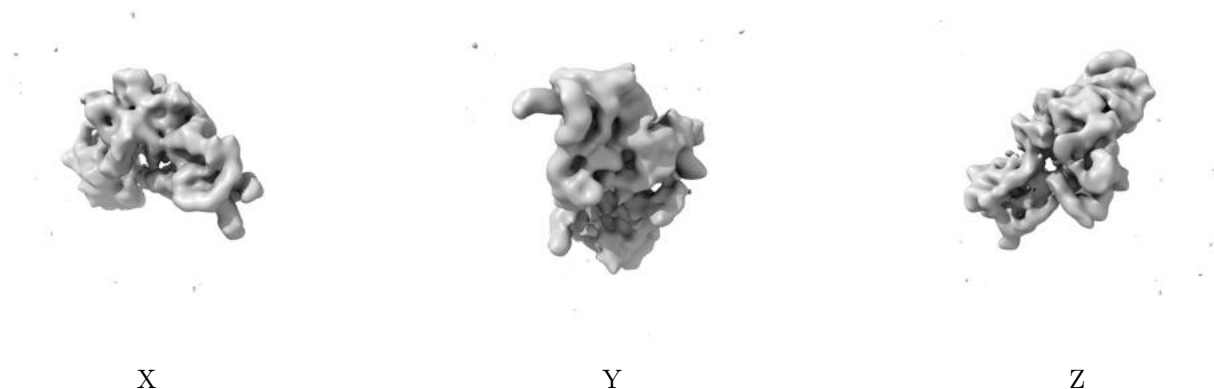


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 39.0. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

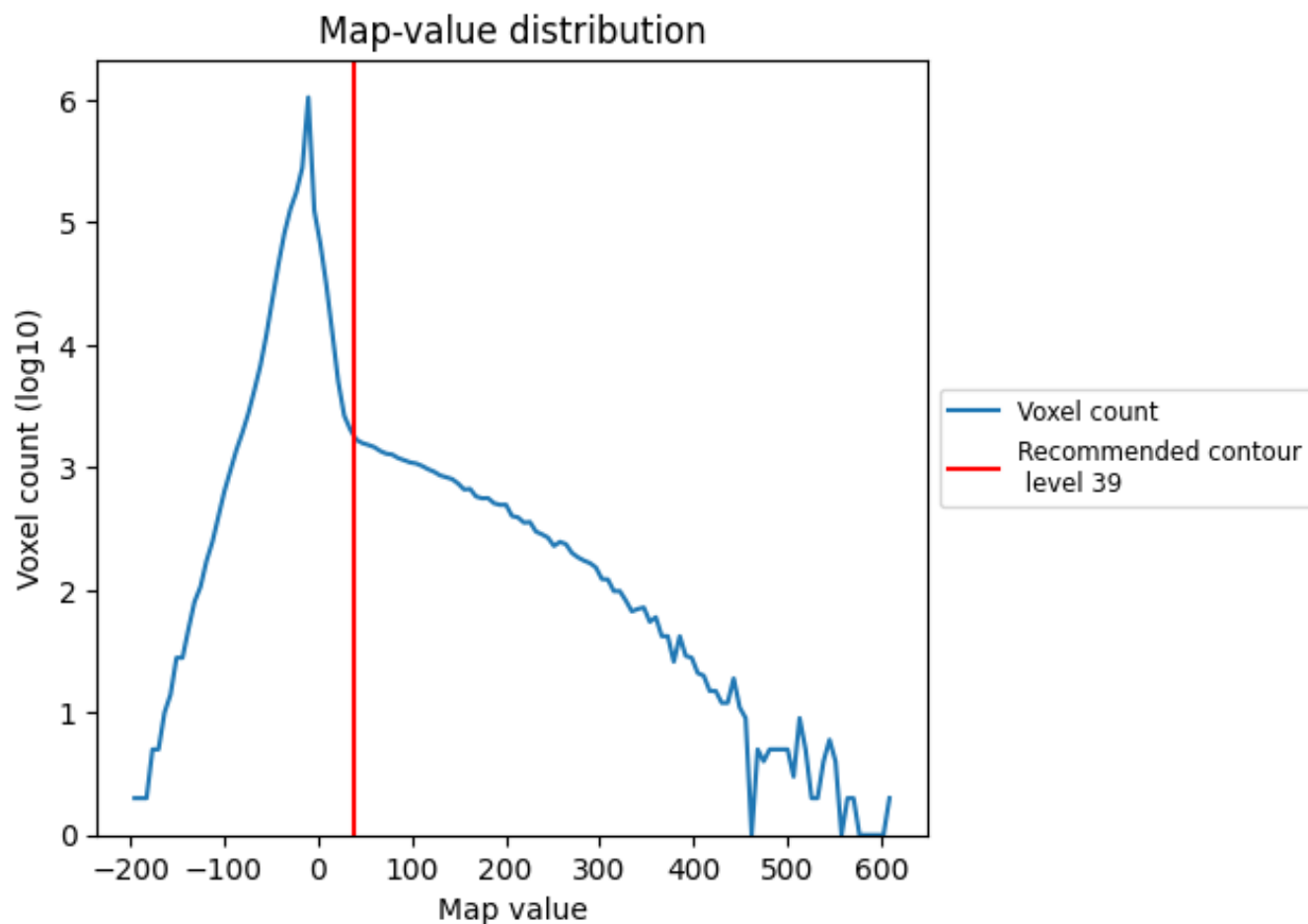
6.6 Mask visualisation [i](#)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis [i](#)

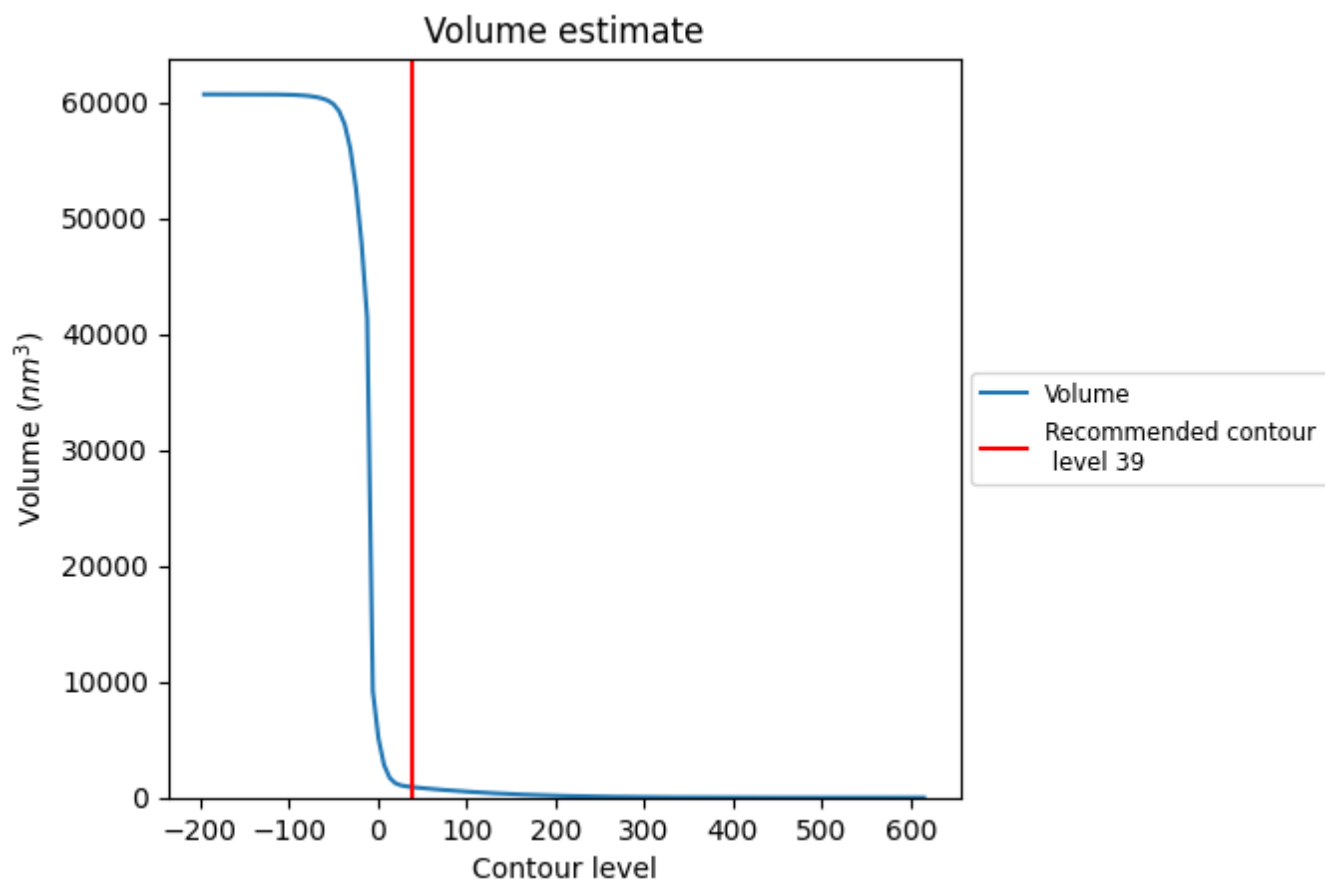
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

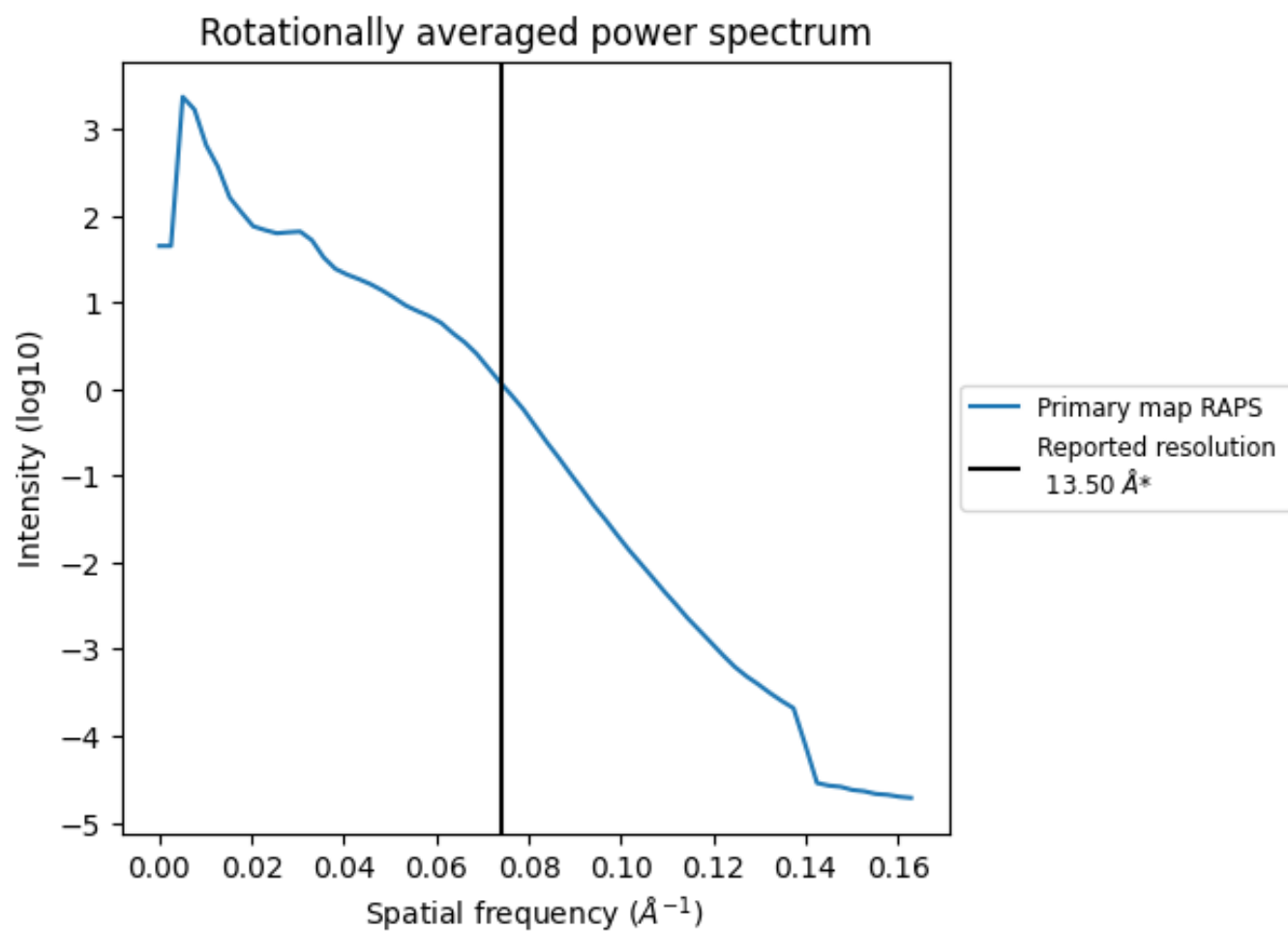
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 902 nm³; this corresponds to an approximate mass of 815 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum ⓘ



*Reported resolution corresponds to spatial frequency of 0.074 Å⁻¹

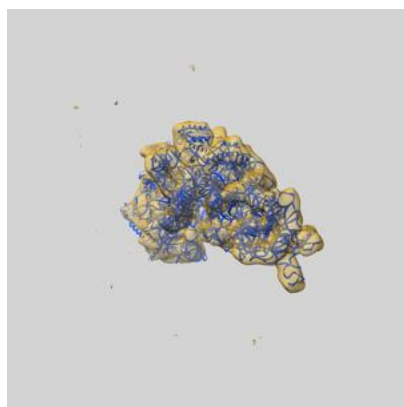
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

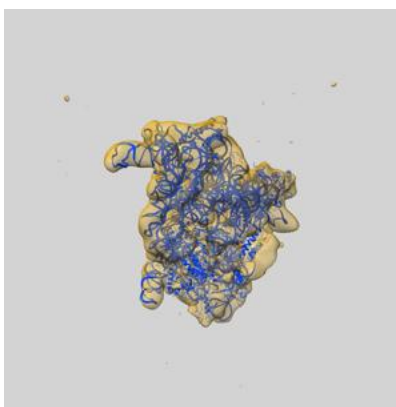
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-2017 and PDB model 4ADV. Per-residue inclusion information can be found in [section 3](#) on [page 8](#).

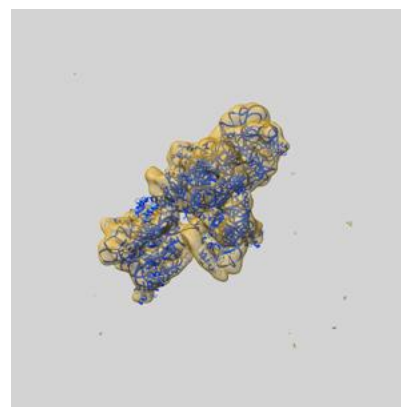
9.1 Map-model overlay [i](#)



X



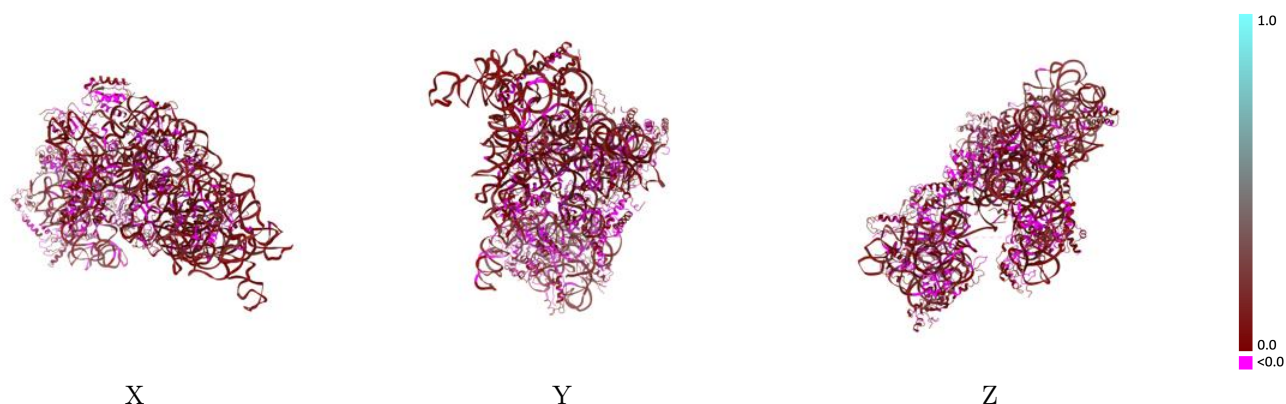
Y



Z

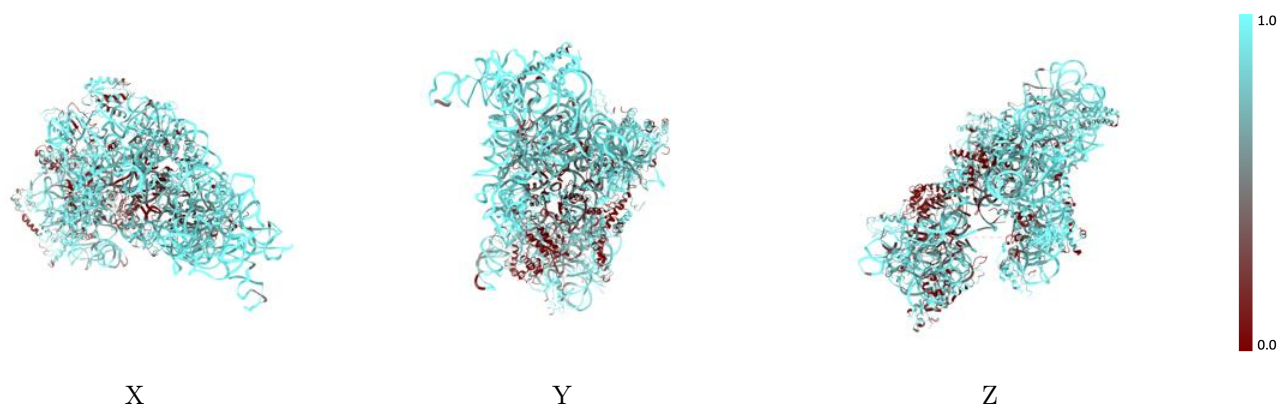
The images above show the 3D surface view of the map at the recommended contour level 39.0 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



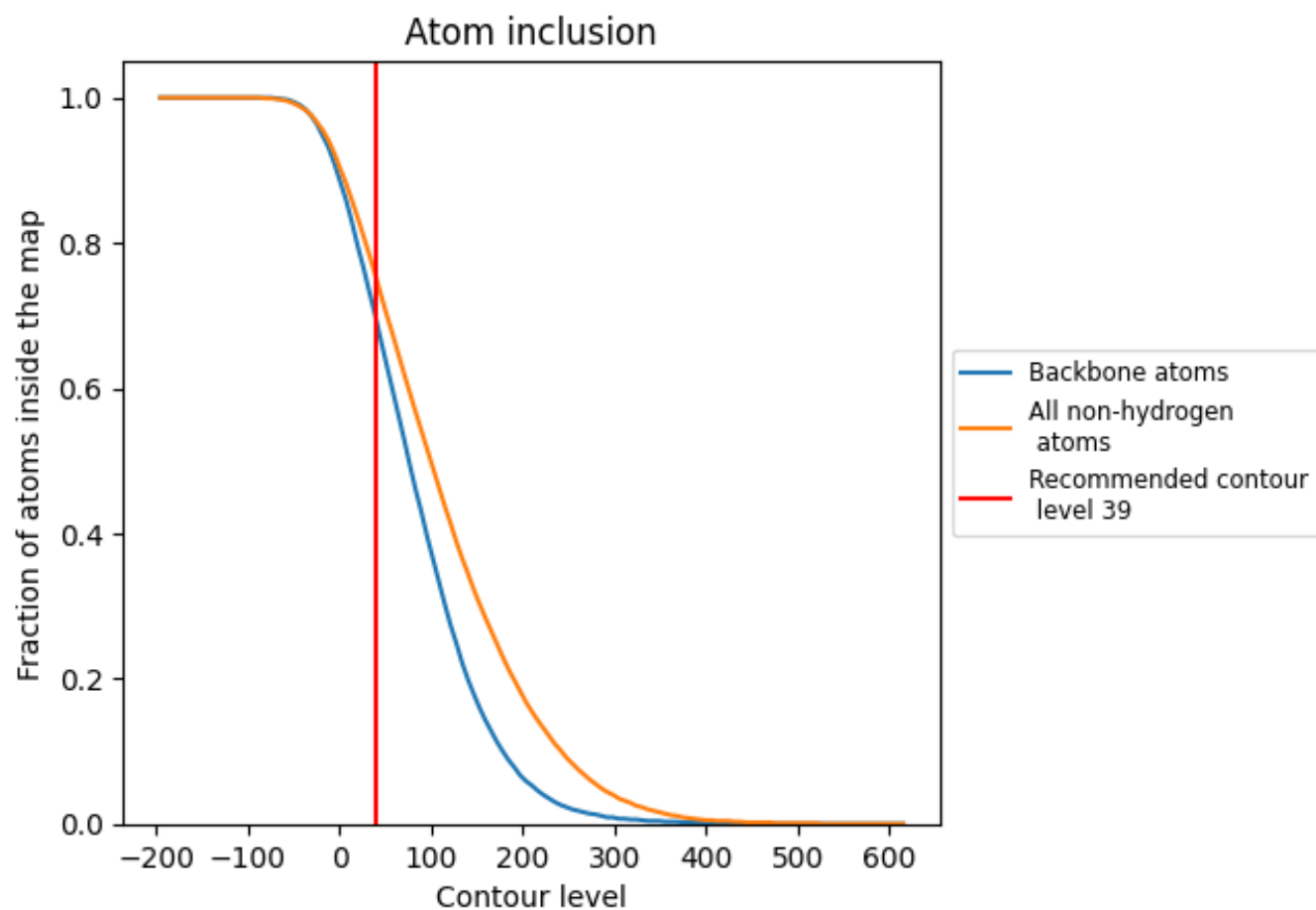
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (39).

9.4 Atom inclusion ⓘ



At the recommended contour level, 70% of all backbone atoms, 76% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (39) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7570	 0.0610
A	 0.8590	 0.0810
B	 0.4820	 0.0100
C	 0.1220	 0.0090
D	 0.6610	 0.0230
E	 0.4720	 0.0700
F	 0.7610	 0.0440
G	 0.4550	 0.0460
H	 0.7320	 0.0370
I	 0.6690	 0.0260
J	 0.6560	 0.0130
K	 0.7180	 0.0360
L	 0.6900	 0.0310
M	 0.6290	 0.0300
N	 0.3320	 -0.0020
O	 0.8220	 0.0540
P	 0.5890	 0.0130
Q	 0.6900	 0.0790
R	 0.6740	 0.0040
S	 0.8210	 0.0420
T	 0.8110	 0.0440
U	 0.2560	 0.0160
V	 0.8290	 0.0480

