



Full wwPDB EM Validation Report ⓘ

Aug 24, 2026 – 11:28 AM EDT

PDB ID : 9E16 / pdb_00009e16
EMDB ID : EMD-47384
Title : Cryo-EM structure of the ribosome-tunnel occluding hibernation factor bound to the Mycobacterium tuberculosis C- 70S ribosome carrying an E-tRNA
Authors : Majumdar, S.; Ojha, A.K.; Agrawal, R.K.
Deposited on : 2024-10-21
Resolution : 2.70 Å(reported)
Based on initial model : 7MT7

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:

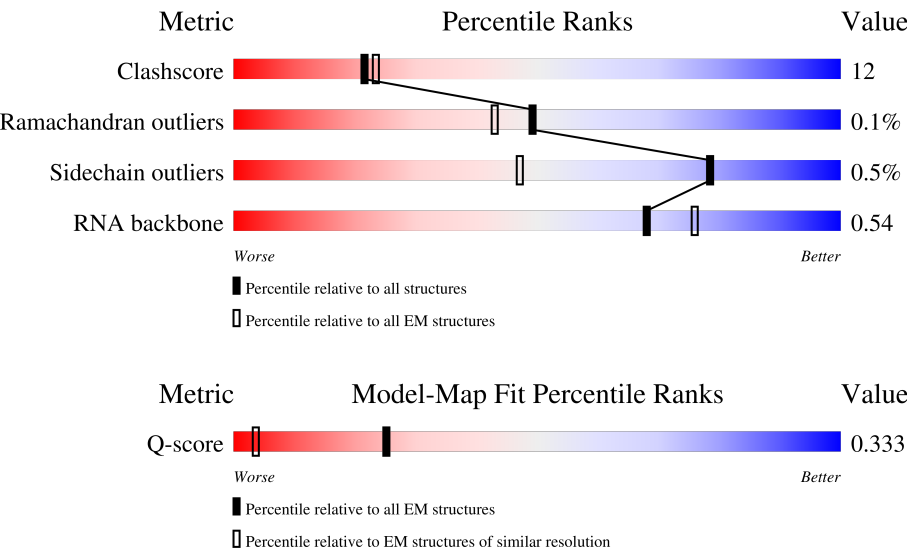
EMDB validation analysis : 0.0.1.dev133
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMD archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.50

1 Overall quality at a glance i

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

The reported resolution of this entry is 2.70 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	10327 (2.20 - 3.20)

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	n	77	
2	7	24	
3	1	62	

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Mol	Chain	Length	Quality of chain
4	0	57	
5	2	47	
6	3	64	
7	4	37	
8	6	80	
9	I	3138	
10	B	115	
11	C	280	
12	D	217	
13	E	223	
14	F	187	
15	G	179	
16	H	152	
17	J	195	
18	K	122	
19	L	146	
20	M	138	
21	N	180	
22	O	122	
23	P	113	
24	Q	129	
25	R	104	
26	S	197	
27	T	100	
28	U	105	

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Mol	Chain	Length	Quality of chain
29	V	215	
30	W	86	
31	Y	77	
32	Z	65	
33	y	78	
34	a	1537	
35	d	201	
36	e	220	
37	f	96	
38	h	132	
39	k	139	
40	l	124	
41	o	89	
42	p	162	
43	q	135	
44	t	86	
45	x	33	
46	r	88	
47	c	274	
48	g	156	
49	i	151	
50	j	101	
51	m	124	
52	s	93	
53	9	101	

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Mol	Chain	Length	Quality of chain
54	b	54	61% 30% 9%
55	X	26	8% 15% 73%

2 Entry composition

There are 55 unique types of molecules in this entry. The entry contains 146413 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 E-tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	n	77	Total	C	N	O	P	0	0
			1643	732	297	537	77		

- Molecule 2 is a protein called 50S ribosomal protein bL37.

Mol	Chain	Residues	Atoms				AltConf	Trace
2	7	22	Total	C	N	O	0	0
			186	111	47	28		

- Molecule 3 is a protein called Ribosome-tunnel occlusion factor (RTOF).

Mol	Chain	Residues	Atoms					AltConf	Trace
3	1	51	Total	C	N	O	S	0	0
			395	231	87	76	1		

- Molecule 4 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms				AltConf	Trace
4	0	53	Total	C	N	O	0	0
			421	262	93	66		

- Molecule 5 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	2	42	Total	C	N	O	S	0	0
			358	212	94	51	1		

- Molecule 6 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms				AltConf	Trace
6	3	62	Total	C	N	O	0	0
			494	298	112	84		

- Molecule 7 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	4	37	Total	C	N	O	S	0	0
			299	182	66	47	4		

- Molecule 8 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	6	45	Total	C	N	O	S	0	0
			345	214	60	66	5		

- Molecule 9 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I	3118	Total	C	N	O	P	0	0
			66956	29845	12340	21653	3118		

- Molecule 10 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	B	115	Total	C	N	O	P	0	0
			2458	1097	456	790	115		

- Molecule 11 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	C	272	Total	C	N	O	S	0	0
			2088	1277	437	369	5		

- Molecule 12 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	D	213	Total	C	N	O	S	0	0
			1590	985	307	292	6		

- Molecule 13 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	E	207	Total	C	N	O	S	0	0
			1552	958	303	289	2		

- Molecule 14 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	F	170	Total	C	N	O	S	0	0
			1335	834	254	242	5		

- Molecule 15 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	G	174	Total	C	N	O	S	0	0
			1330	836	249	244	1		

- Molecule 16 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	H	47	Total	C	N	O	S	0	0
			350	220	64	65	1		

- Molecule 17 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	J	146	Total	C	N	O	S	0	0
			1143	724	217	199	3		

- Molecule 18 is a protein called Large ribosomal subunit protein uL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	K	121	Total	C	N	O	S	0	0
			934	585	179	168	2		

- Molecule 19 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	L	142	Total	C	N	O	S	0	0
			1060	656	215	187	2		

- Molecule 20 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	M	134	Total	C	N	O	S	0	0
			1072	679	215	177	1		

- Molecule 21 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	N	116	Total	C	N	O	S	0	0
			908	574	175	158	1		

- Molecule 22 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	O	116	Total	C	N	O		0	0
			886	541	188	157			

- Molecule 23 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	P	112	Total	C	N	O	S	0	0
			907	573	174	159	1		

- Molecule 24 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	Q	122	Total	C	N	O		0	0
			980	608	205	167			

- Molecule 25 is a protein called Large ribosomal subunit protein bL21.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	R	98	Total	C	N	O		0	0
			742	472	136	134			

- Molecule 26 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	S	113	Total	C	N	O		0	0
			860	533	178	149			

- Molecule 27 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	T	95	Total	C	N	O		0	0
			741	469	138	134			

- Molecule 28 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	U	90	Total	C	N	O	S	0	0
			699	430	138	129	2		

- Molecule 29 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	V	177	Total	C	N	O		0	0
			1319	822	243	254			

- Molecule 30 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	W	74	Total	C	N	O		0	0
			546	336	111	99			

- Molecule 31 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	Y	65	Total	C	N	O	S	0	0
			541	331	106	103	1		

- Molecule 32 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Z	59	Total	C	N	O		0	0
			476	293	101	82			

- Molecule 33 is a protein called 50S ribosomal protein L28 C-.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	y	78	Total	C	N	O	S	0	0
			639	389	143	106	1		

- Molecule 34 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	a	1517	Total	C	N	O	P	0	0
			32565	14505	5951	10592	1517		

- Molecule 35 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	d	201	Total	C	N	O	S	0	0
			1658	1041	317	297	3		

- Molecule 36 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	e	160	Total	C	N	O	S	0	0
			1149	726	214	206	3		

- Molecule 37 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	f	95	Total	C	N	O	S	0	0
			757	480	133	141	3		

- Molecule 38 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	h	130	Total	C	N	O	S	0	0
			999	627	187	184	1		

- Molecule 39 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms				AltConf	Trace
39	k	117	Total	C	N	O	0	0
			873	540	175	158		

- Molecule 40 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	l	123	Total	C	N	O	S	0	0
			967	599	198	167	3		

- Molecule 41 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms				AltConf	Trace
41	o	87	Total	C	N	O	0	0
			718	449	144	125		

- Molecule 42 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	p	85	Total	C	N	O	S	0	0
			688	438	130	119	1		

- Molecule 43 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	q	94	Total	C	N	O	S	0	0
			763	477	151	132	3		

- Molecule 44 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	t	82	Total	C	N	O		0	0
			631	381	137	113			

- Molecule 45 is a protein called 30S ribosomal protein S22.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	x	30	Total	C	N	O	S	0	0
			253	156	63	33	1		

- Molecule 46 is a protein called 30S ribosomal protein S18 C-.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	r	71	Total	C	N	O	S	0	0
			560	345	110	104	1		

- Molecule 47 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	c	207	Total	C	N	O	S	0	0
			1654	1030	322	298	4		

- Molecule 48 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	g	152	Total	C	N	O	S	0	0
			1193	742	234	215	2		

- Molecule 49 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				AltConf	Trace
49	i	127	Total	C	N	O	0	0
			992	628	195	169		

- Molecule 50 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	j	99	Total	C	N	O	S	0	0
			789	496	146	144	3		

- Molecule 51 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	m	113	Total	C	N	O	S	0	0
			919	562	190	164	3		

- Molecule 52 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	s	81	Total	C	N	O	S	0	0
			657	421	123	112	1		

- Molecule 53 is a protein called 30S ribosomal protein S14 C-.

Mol	Chain	Residues	Atoms				AltConf	Trace
53	9	100	Total	C	N	O	0	0
			798	484	181	133		

- Molecule 54 is a protein called 50S ribosomal protein L33 C-.

Mol	Chain	Residues	Atoms				AltConf	Trace
54	b	49	Total	C	N	O	0	0
			424	263	89	72		

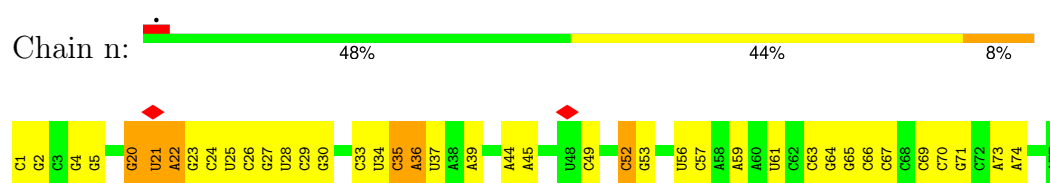
- Molecule 55 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	X	7	Total	C	N	O	P	0	0
			153	69	32	45	7		

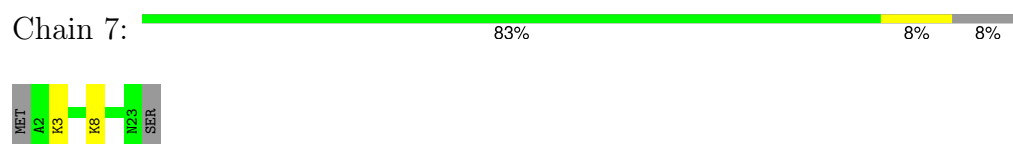
3 Residue-property plots [i](#)

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.

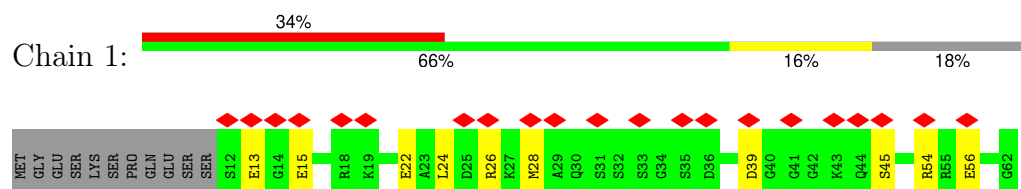
- Molecule 1: E-tRNA



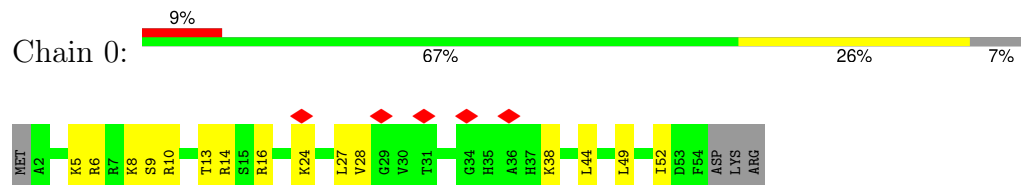
- Molecule 2: 50S ribosomal protein bL37



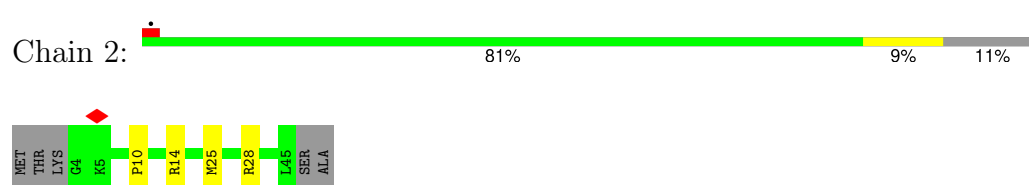
- Molecule 3: Ribosome-tunnel occlusion factor (RTOF)



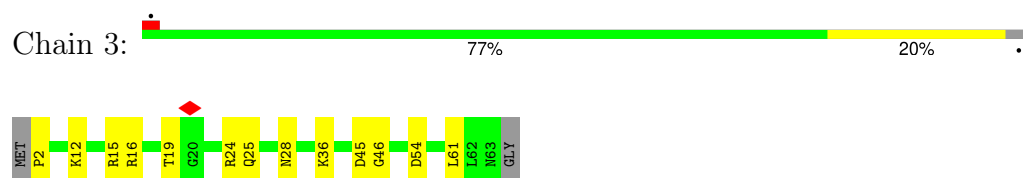
- Molecule 4: 50S ribosomal protein L32



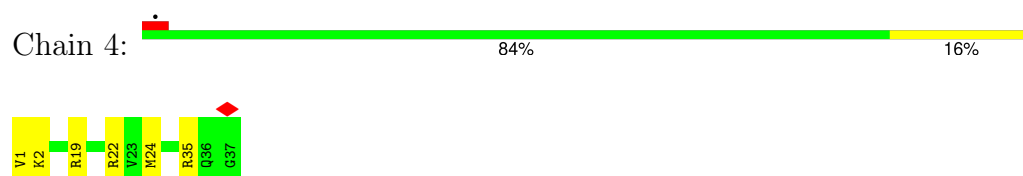
- Molecule 5: 50S ribosomal protein L34



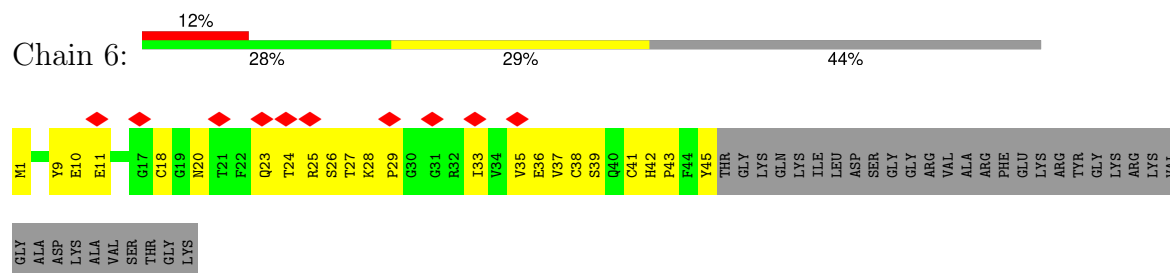
- Molecule 6: 50S ribosomal protein L35



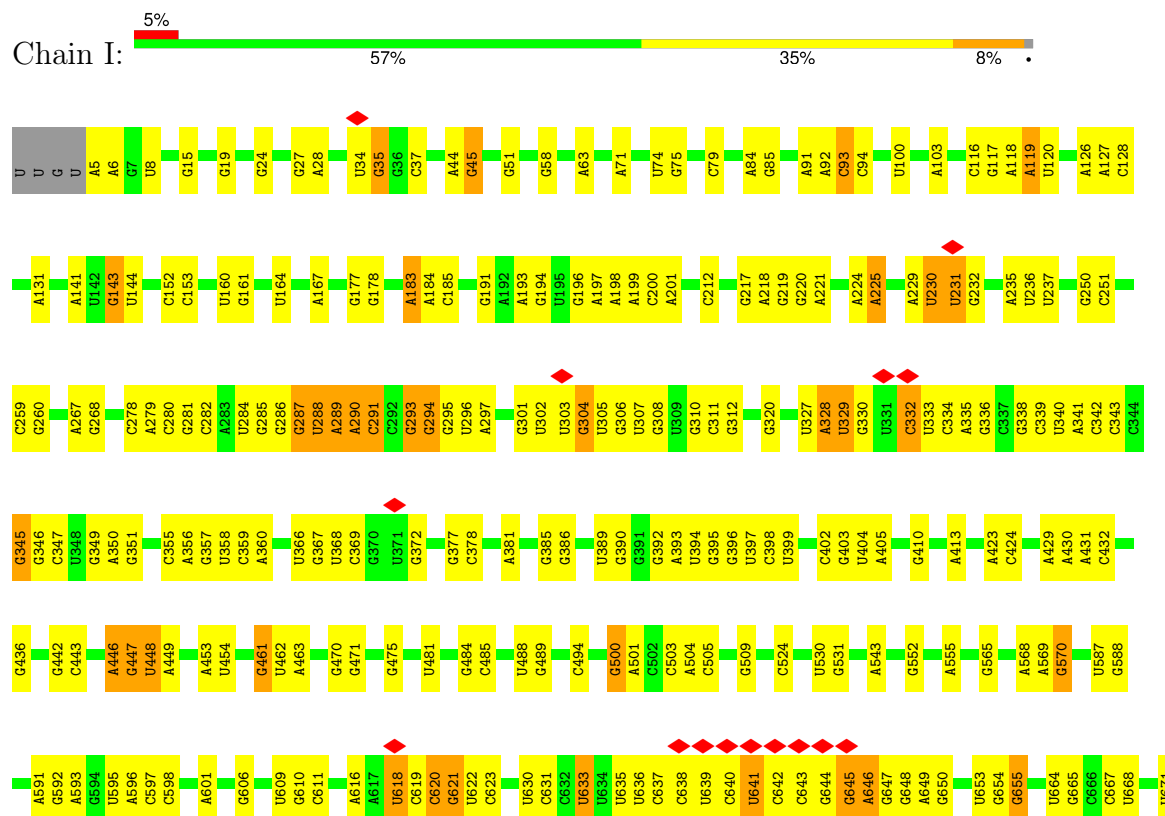
- Molecule 7: 50S ribosomal protein L36



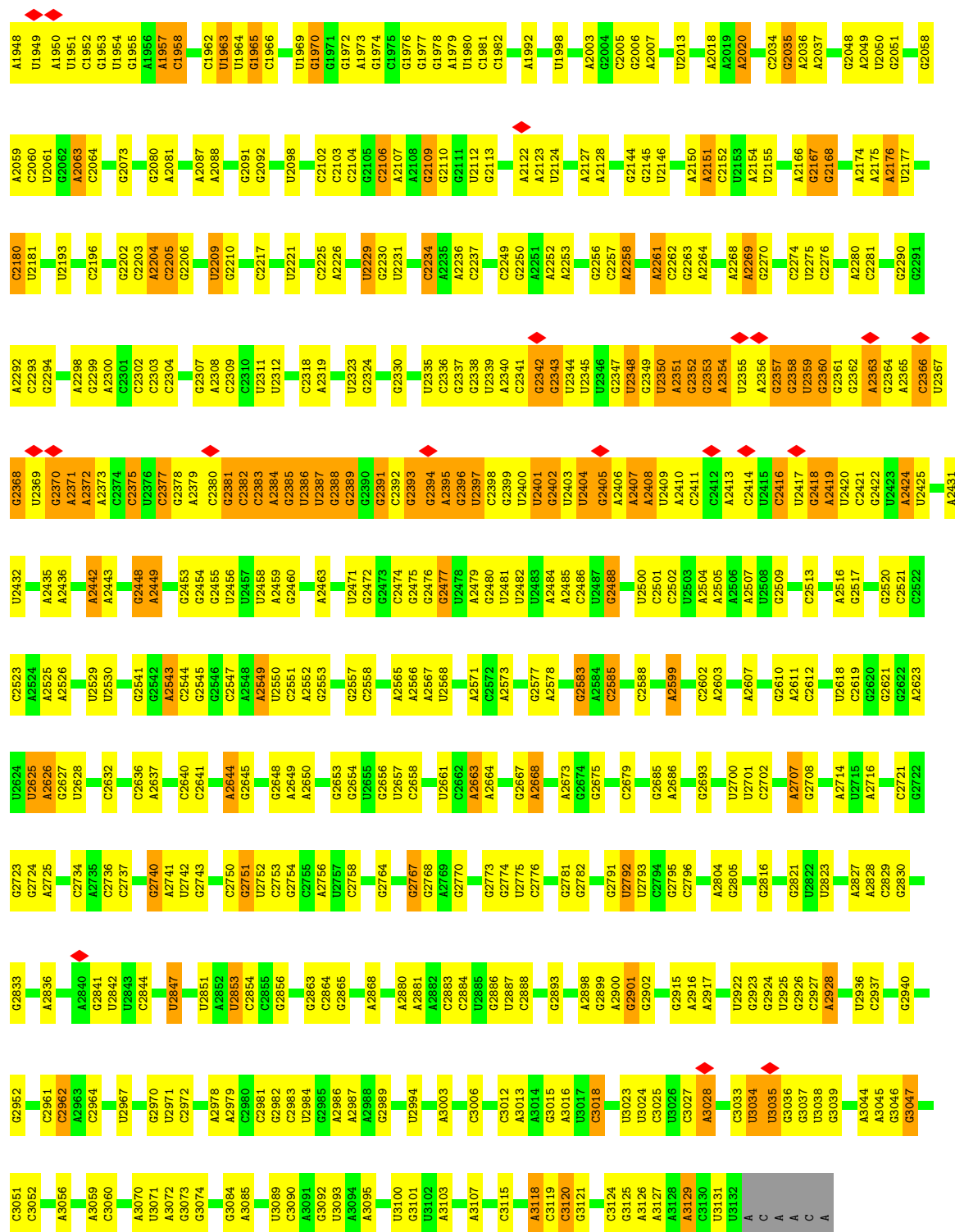
- Molecule 8: 50S ribosomal protein L31



- Molecule 9: 23S ribosomal RNA

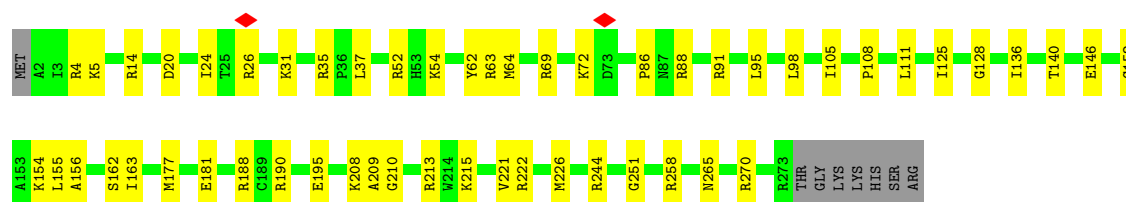






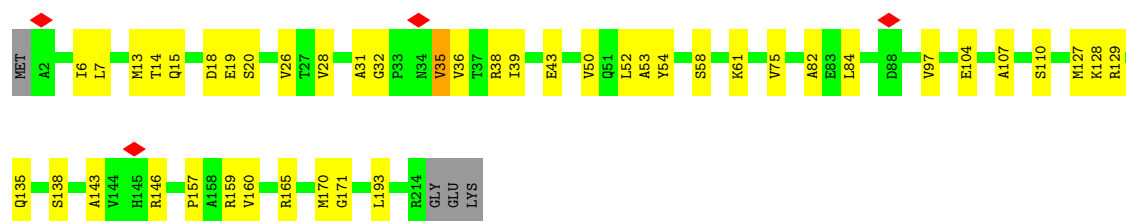
- Molecule 11: 50S ribosomal protein L2

Chain C: 



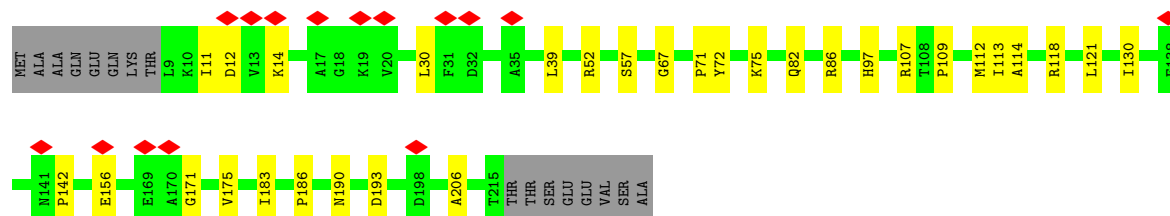
- Molecule 12: 50S ribosomal protein L3

Chain D: 



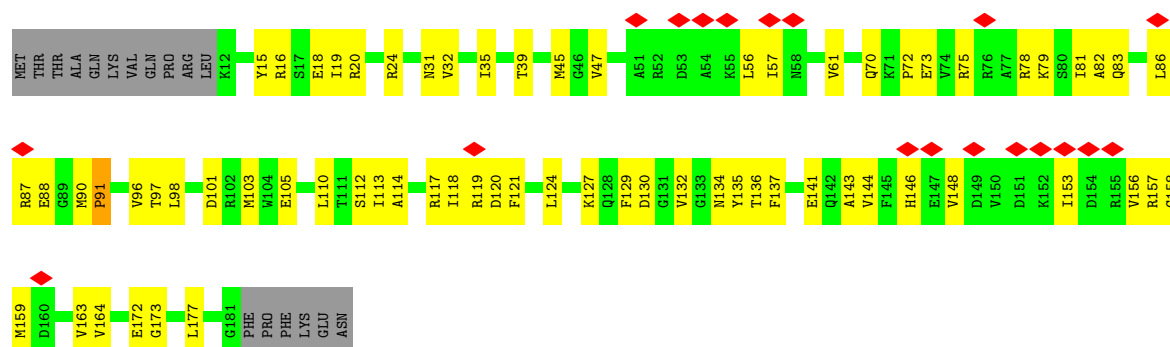
- Molecule 13: 50S ribosomal protein L4

Chain E: 

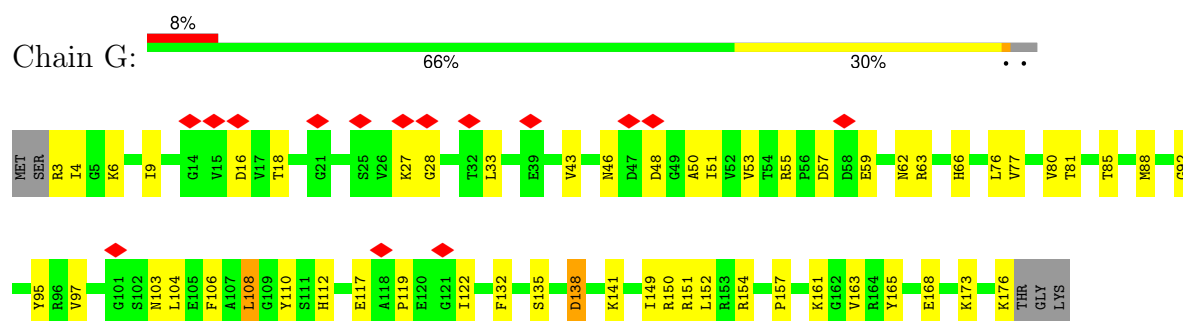


- Molecule 14: 50S ribosomal protein L5

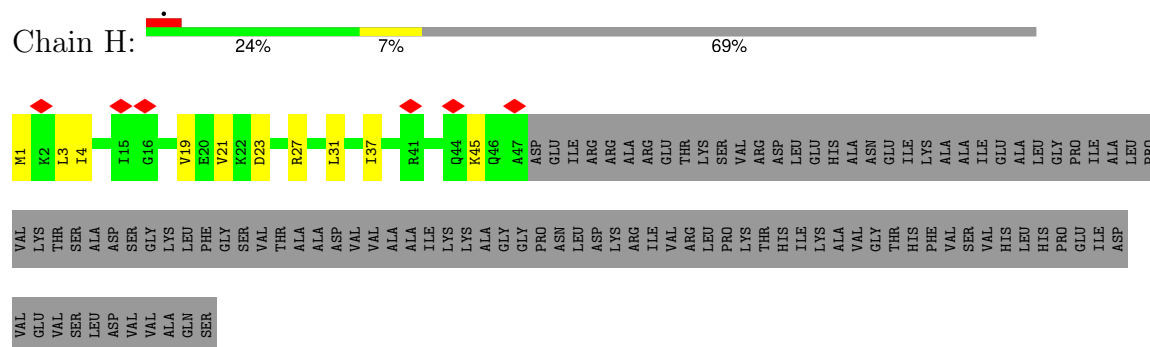
Chain F: 



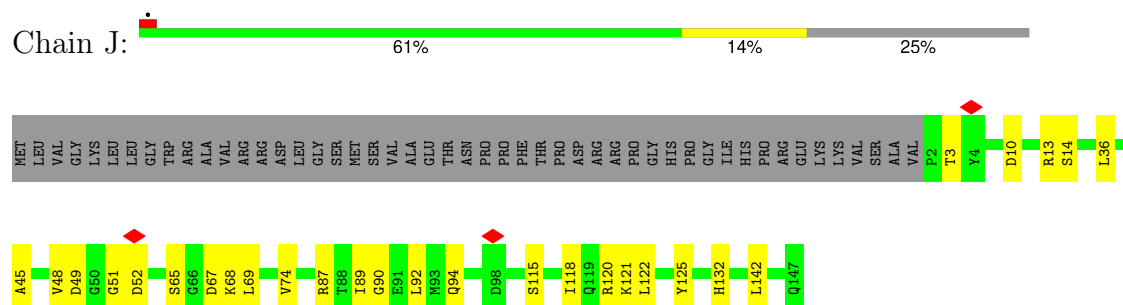
- Molecule 15: 50S ribosomal protein L6



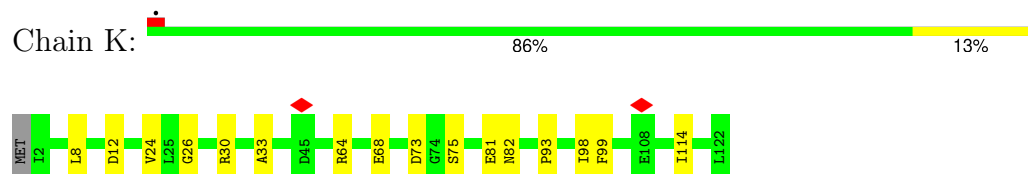
- Molecule 16: 50S ribosomal protein L9



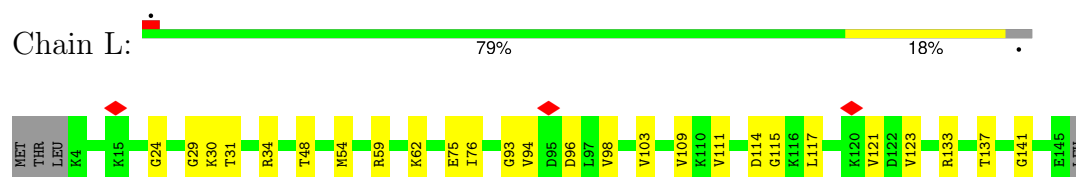
- Molecule 17: 50S ribosomal protein L13



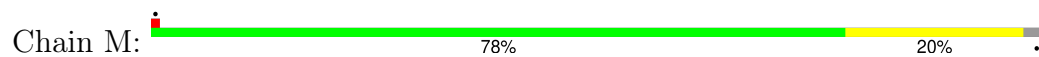
- Molecule 18: Large ribosomal subunit protein uL14



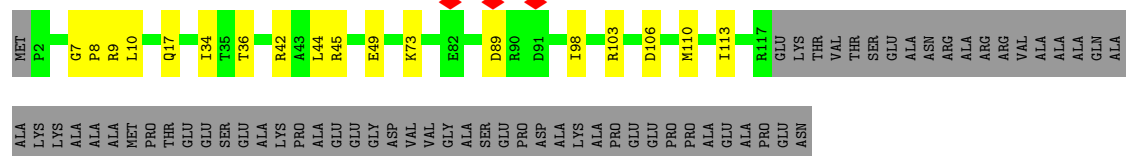
- Molecule 19: 50S ribosomal protein L15



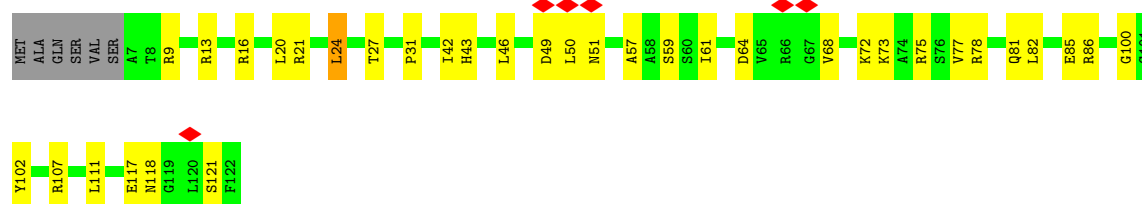
- Molecule 20: 50S ribosomal protein L16



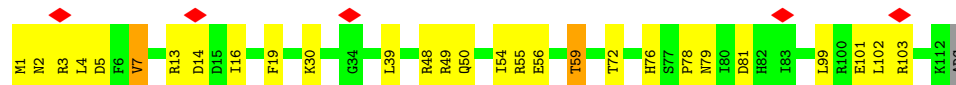
- Molecule 21: 50S ribosomal protein L17



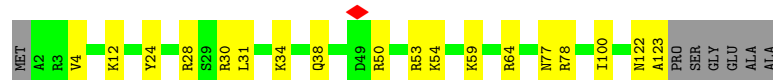
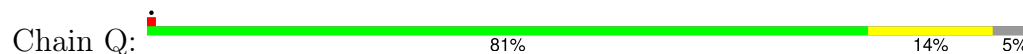
- Molecule 22: 50S ribosomal protein L18



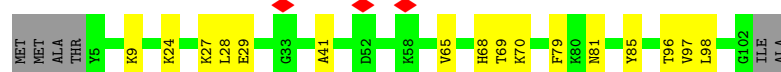
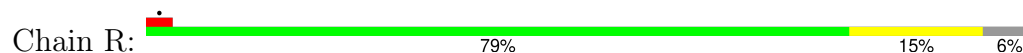
- Molecule 23: 50S ribosomal protein L19



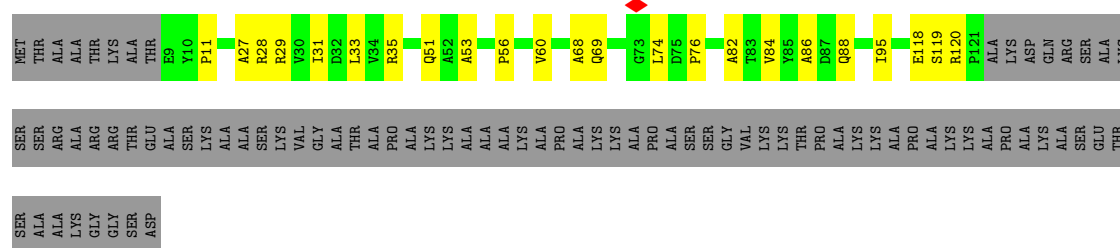
- Molecule 24: 50S ribosomal protein L20



- Molecule 25: Large ribosomal subunit protein bL21



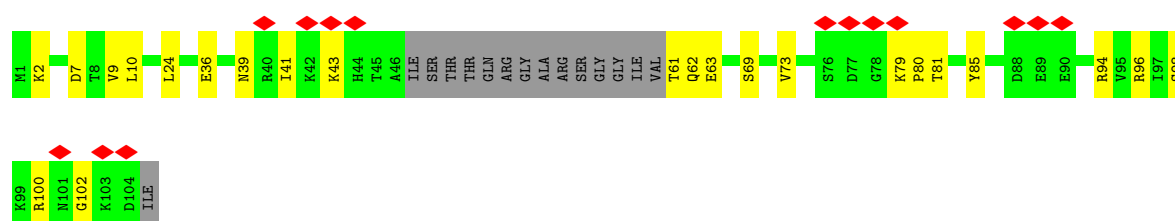
Chain S:



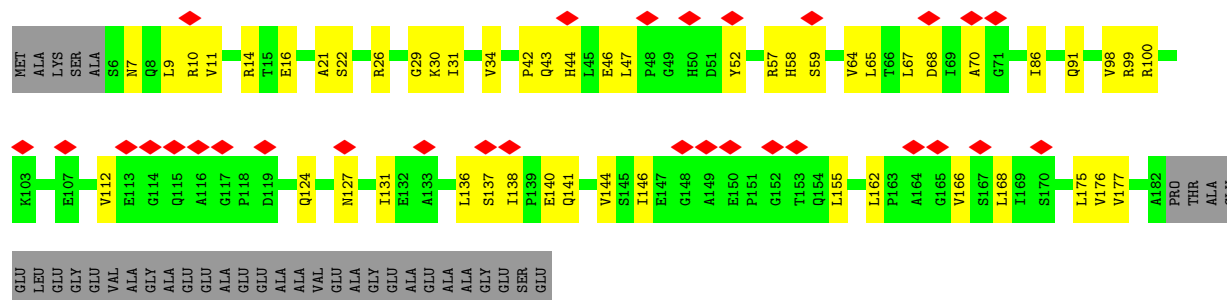
Chain T: 83% 12% 5%



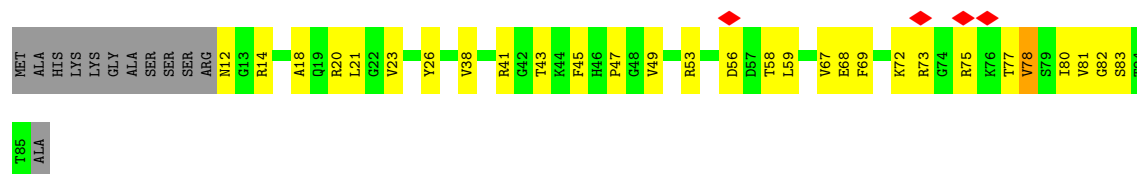
Chain U:



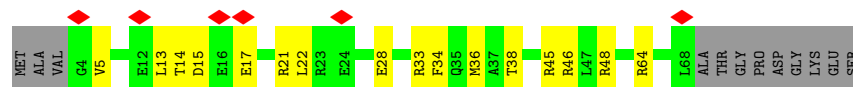
Chain V:



Chain W:



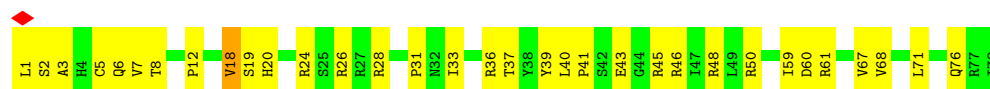
- Molecule 31: 50S ribosomal protein L29



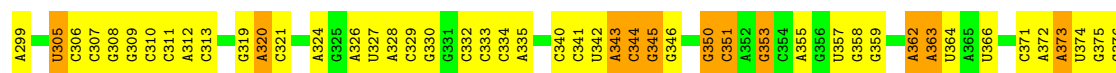
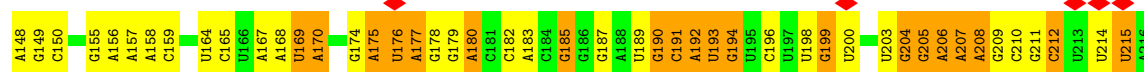
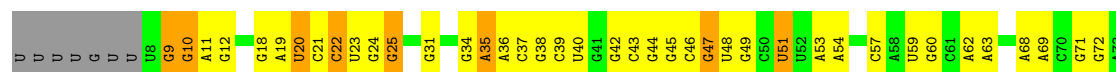
- Molecule 32: 50S ribosomal protein L30

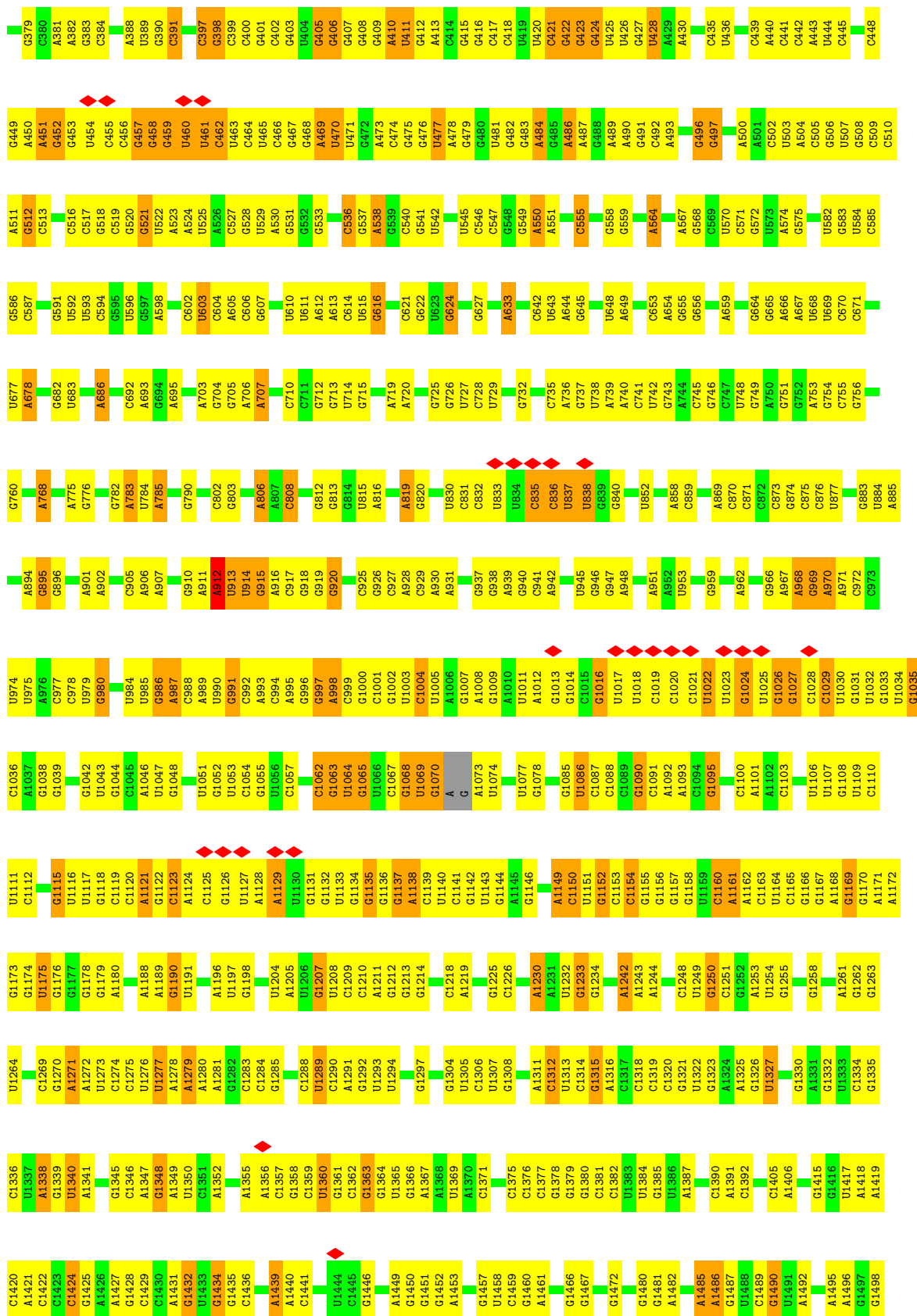


- Molecule 33: 50S ribosomal protein L28 C-



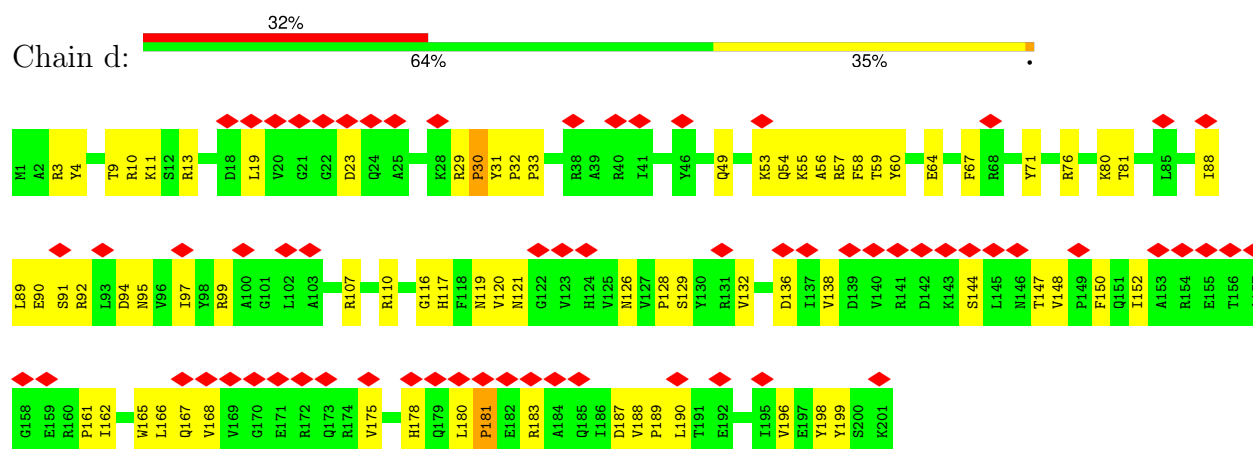
- Molecule 34: 16S ribosomal RNA



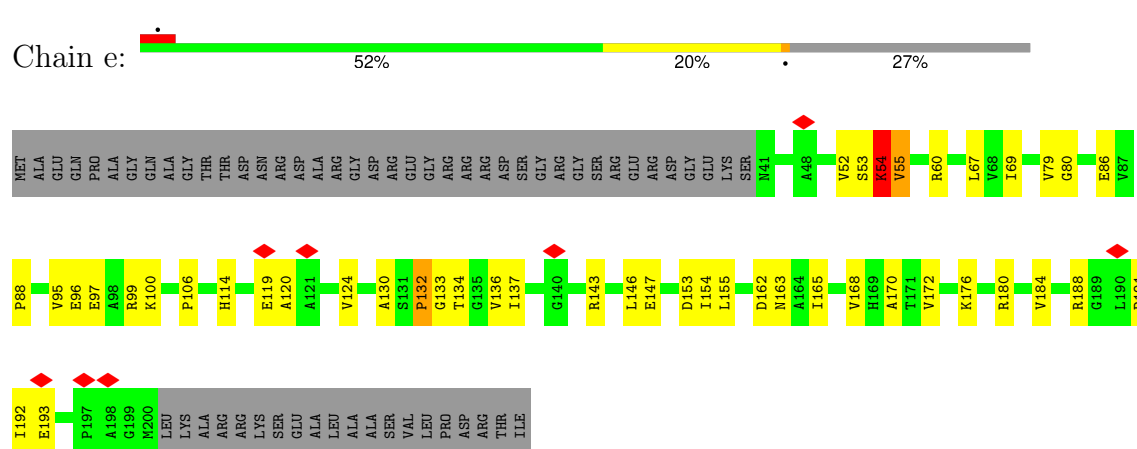




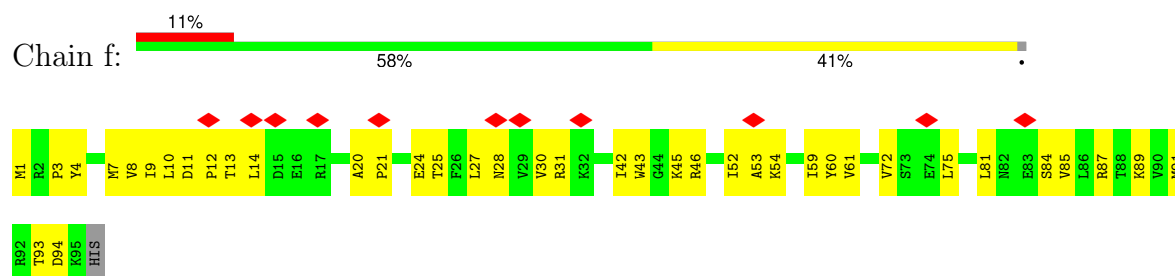
• Molecule 35: 30S ribosomal protein S4



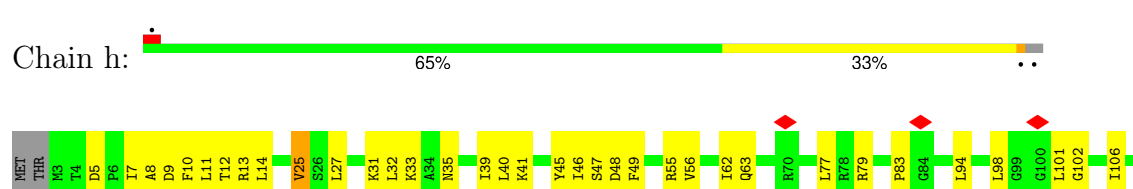
• Molecule 36: 30S ribosomal protein S5



• Molecule 37: 30S ribosomal protein S6



• Molecule 38: 30S ribosomal protein S8

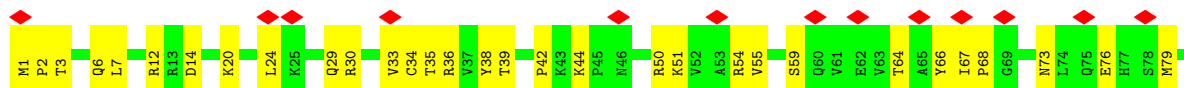




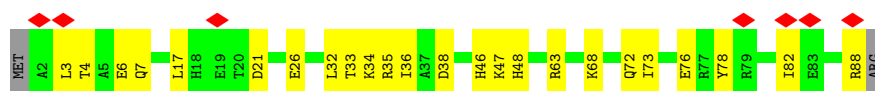
- Molecule 39: 30S ribosomal protein S11



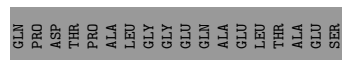
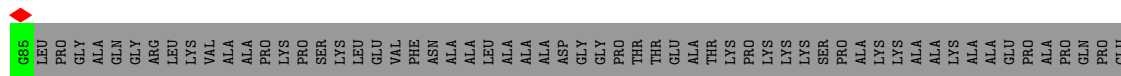
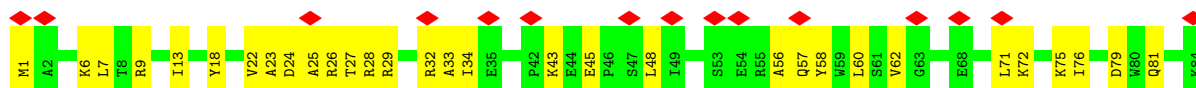
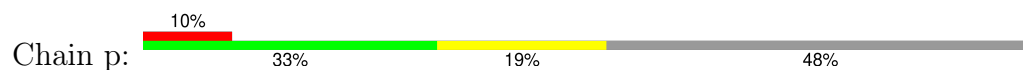
- Molecule 40: 30S ribosomal protein S12



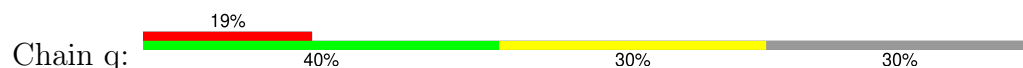
- Molecule 41: 30S ribosomal protein S15



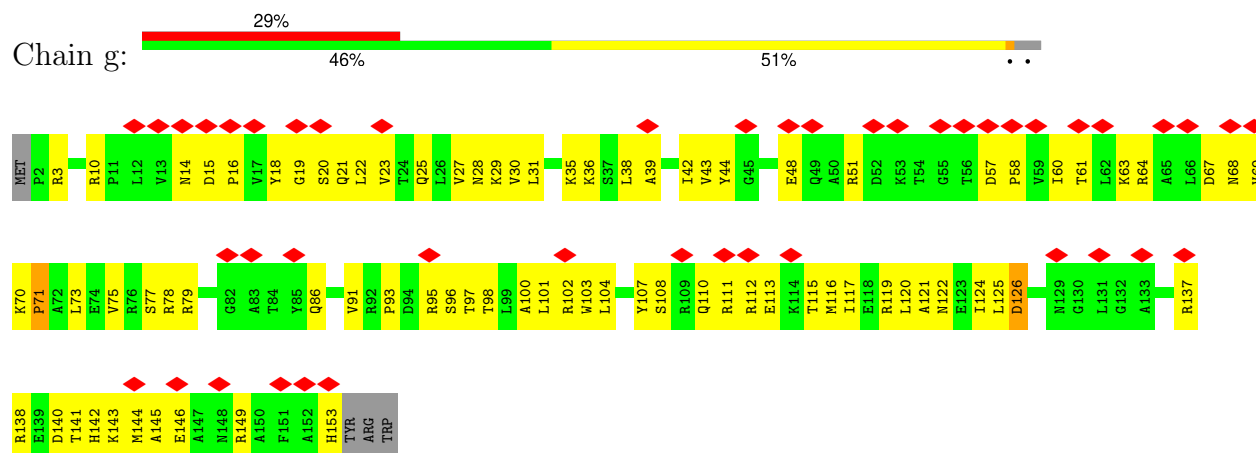
- Molecule 42: 30S ribosomal protein S16



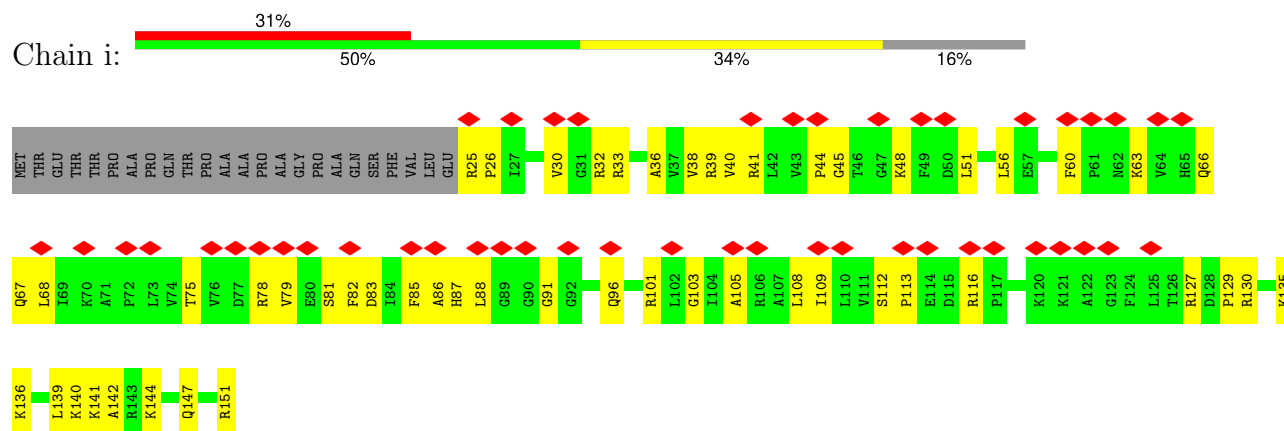
- Molecule 43: 30S ribosomal protein S17



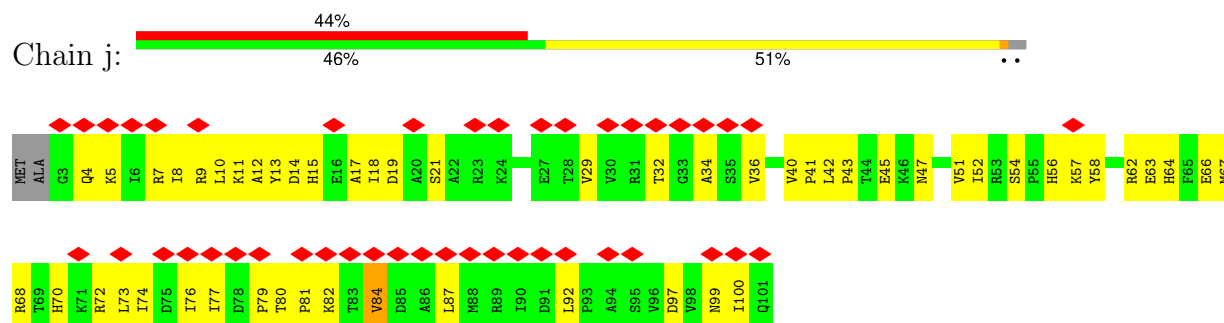
- Molecule 48: 30S ribosomal protein S7



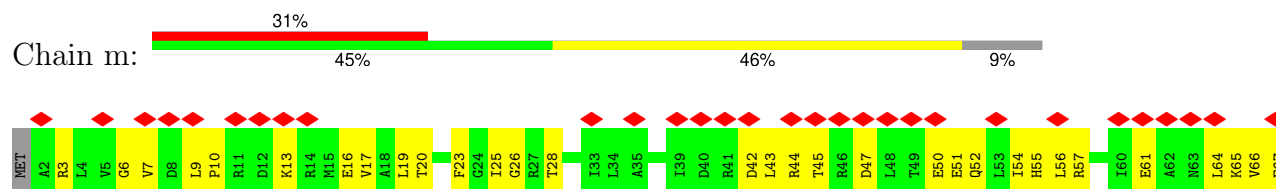
- Molecule 49: 30S ribosomal protein S9



- Molecule 50: 30S ribosomal protein S10

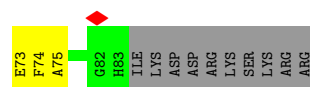
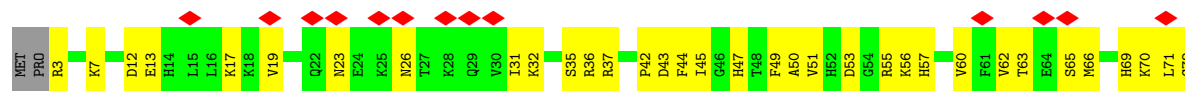


- Molecule 51: 30S ribosomal protein S13

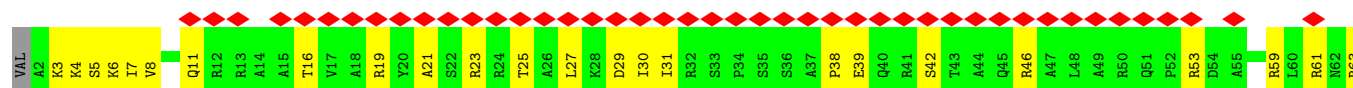
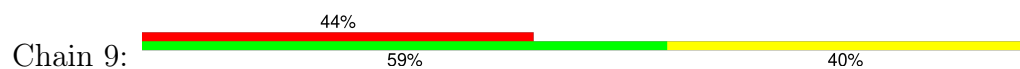




• Molecule 52: 30S ribosomal protein S19



• Molecule 53: 30S ribosomal protein S14 C-



• Molecule 54: 50S ribosomal protein L33 C-



• Molecule 55: mRNA



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	69195	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50.75	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	64000	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	1.409	Depositor
Minimum map value	-0.484	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.060	Depositor
Recommended contour level	0.18	Depositor
Map size (Å)	428.00003, 428.00003, 428.00003	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.07, 1.07, 1.07	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	n	0.14	0/1835	0.28	0/2859
2	7	0.21	0/188	0.28	0/243
3	1	0.13	0/399	0.34	0/522
4	0	0.21	0/427	0.34	0/570
5	2	0.20	0/361	0.31	0/473
6	3	0.18	0/499	0.32	0/664
7	4	0.21	0/303	0.36	0/402
8	6	0.20	0/353	0.52	0/478
9	I	0.20	0/74973	0.27	0/116979
10	B	0.15	0/2749	0.23	0/4284
11	C	0.19	0/2129	0.32	0/2861
12	D	0.21	0/1613	0.39	0/2174
13	E	0.20	0/1575	0.40	0/2129
14	F	0.20	0/1352	0.64	3/1817 (0.2%)
15	G	0.18	0/1351	0.42	0/1824
16	H	0.16	0/353	0.45	0/474
17	J	0.19	0/1170	0.29	0/1584
18	K	0.20	0/944	0.33	0/1268
19	L	0.19	0/1073	0.32	0/1432
20	M	0.20	0/1098	0.34	0/1481
21	N	0.20	0/925	0.32	0/1242
22	O	0.20	0/895	0.42	0/1202
23	P	0.19	0/922	0.38	0/1236
24	Q	0.20	0/992	0.31	0/1329
25	R	0.18	0/751	0.29	0/1009
26	S	0.19	0/874	0.32	0/1186
27	T	0.18	0/751	0.35	0/1012
28	U	0.17	0/705	0.45	0/941
29	V	0.16	0/1336	0.38	0/1820
30	W	0.23	0/551	0.53	0/735
31	Y	0.16	0/544	0.30	0/727
32	Z	0.19	0/480	0.36	0/645
33	y	0.19	0/649	0.34	0/868
34	a	0.16	1/36449 (0.0%)	0.29	2/56872 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	d	0.71	3/1691 (0.2%)	0.75	6/2279 (0.3%)
36	e	0.32	0/1165	0.67	4/1578 (0.3%)
37	f	0.21	0/767	0.57	0/1036
38	h	0.17	0/1014	0.44	0/1369
39	k	0.15	0/891	0.33	0/1204
40	l	0.16	0/978	0.44	0/1306
41	o	0.17	0/727	0.40	0/973
42	p	0.15	0/701	0.40	0/944
43	q	0.15	0/775	0.46	0/1035
44	t	0.20	0/633	0.53	0/838
45	x	0.17	0/253	0.42	0/327
46	r	0.25	0/564	0.41	0/755
47	c	0.15	0/1678	0.37	0/2254
48	g	0.25	0/1210	0.61	1/1631 (0.1%)
49	i	0.15	0/1010	0.43	0/1356
50	j	0.16	0/803	0.50	0/1086
51	m	0.17	0/927	0.84	2/1239 (0.2%)
52	s	0.17	0/674	0.40	0/906
53	9	0.13	0/810	0.35	0/1083
54	b	0.19	0/431	0.34	0/578
55	X	0.16	0/172	0.32	0/266
All	All	0.20	4/159443 (0.0%)	0.33	18/239385 (0.0%)

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	d	181	PRO	CG-CD	-25.06	0.65	1.50
35	d	181	PRO	N-CD	9.05	1.60	1.47
35	d	181	PRO	CB-CG	6.23	1.80	1.49
34	a	910	G	O3'-P	-5.79	1.52	1.61

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	d	181	PRO	N-CD-CG	-20.68	72.19	103.20
51	m	95	GLY	CA-C-N	18.21	154.51	122.28
51	m	95	GLY	C-N-CA	18.21	154.51	122.28
36	e	132	PRO	CA-N-CD	-11.64	95.71	112.00
48	g	71	PRO	CA-N-CD	-11.11	96.45	112.00
35	d	181	PRO	CA-N-CD	-10.94	96.69	112.00
35	d	30	PRO	CA-N-CD	-10.66	97.08	112.00
35	d	181	PRO	CA-CB-CG	-10.44	84.67	104.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
14	F	91	PRO	CA-N-CD	-9.84	98.22	112.00
35	d	181	PRO	N-CA-CB	-8.14	94.71	103.25
35	d	161	PRO	CA-N-CD	-6.74	102.57	112.00
36	e	55	VAL	N-CA-C	6.65	123.17	109.34
34	a	911	A	C4'-C3'-O3'	-6.60	103.09	113.00
14	F	91	PRO	N-CA-CB	-5.63	99.77	102.92
36	e	132	PRO	N-CD-CG	-5.50	94.94	103.20
34	a	912	A	C4'-C3'-O3'	-5.41	104.89	113.00
14	F	132	VAL	N-CA-C	-5.33	108.64	113.71
36	e	54	LYS	N-CA-C	5.08	121.23	113.61

There are no chirality outliers.

There are no planarity outliers.

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	n	1643	0	836	29	0
2	7	186	0	202	2	0
3	1	395	0	389	9	0
4	0	421	0	461	13	0
5	2	358	0	390	4	0
6	3	494	0	533	9	0
7	4	299	0	326	7	0
8	6	345	0	332	19	0
9	I	66956	0	33720	923	0
10	B	2458	0	1253	24	0
11	C	2088	0	2123	41	0
12	D	1590	0	1633	34	0
13	E	1552	0	1593	29	0
14	F	1335	0	1372	46	0
15	G	1330	0	1390	46	0
16	H	350	0	367	6	0
17	J	1143	0	1173	18	0
18	K	934	0	993	11	0
19	L	1060	0	1119	18	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
20	M	1072	0	1115	18	0
21	N	908	0	956	16	0
22	O	886	0	924	23	0
23	P	907	0	947	22	0
24	Q	980	0	1028	16	0
25	R	742	0	799	10	0
26	S	860	0	903	15	0
27	T	741	0	792	11	0
28	U	699	0	738	17	0
29	V	1319	0	1365	36	0
30	W	546	0	567	28	0
31	Y	541	0	551	13	0
32	Z	476	0	509	12	0
33	y	639	0	668	24	0
34	a	32565	0	16385	819	0
35	d	1658	0	1683	64	0
36	e	1149	0	1207	41	0
37	f	757	0	796	37	0
38	h	999	0	1034	39	0
39	k	873	0	887	22	0
40	l	967	0	1056	45	0
41	o	718	0	760	20	0
42	p	688	0	726	29	0
43	q	763	0	824	36	0
44	t	631	0	681	36	0
45	x	253	0	298	3	0
46	r	560	0	588	9	0
47	c	1654	0	1694	50	0
48	g	1193	0	1256	72	0
49	i	992	0	1052	59	0
50	j	789	0	821	53	0
51	m	919	0	961	43	0
52	s	657	0	671	34	0
53	9	798	0	845	37	0
54	b	424	0	442	12	0
55	X	153	0	77	5	0
All	All	146413	0	96811	2792	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 12.

All (2792) 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)
34:a:180:A:N6	34:a:204:G:C2	2.13	1.15
34:a:912:A:H5''	34:a:912:A:H8	1.23	1.03
34:a:1149:A:N6	34:a:1169:G:C2	2.31	0.98
34:a:830:U:H3	34:a:840:G:H1	1.12	0.97
9:I:1590:G:H1	9:I:1614:A:H61	1.10	0.97
9:I:635:U:H3	9:I:648:G:H1	1.02	0.96
34:a:912:A:H5''	34:a:912:A:C8	2.00	0.96
34:a:1149:A:N6	34:a:1169:G:N2	2.13	0.95
34:a:1149:A:H62	34:a:1169:G:N2	1.64	0.95
34:a:457:G:H1	34:a:465:U:H3	1.15	0.95
9:I:1011:G:H1	9:I:1023:U:H3	1.16	0.94
34:a:1156:G:H1	34:a:1164:U:H3	1.14	0.94
55:X:1:G:H1	55:X:3:A:N6	1.66	0.93
7:4:1:VAL:HG11	7:4:35:ARG:HH22	1.34	0.92
9:I:1566:G:H1	9:I:1637:U:H3	0.91	0.91
34:a:913:U:C6	34:a:913:U:H5''	2.07	0.89
34:a:966:G:H4'	50:j:57:LYS:HB2	1.51	0.89
49:i:127:ARG:HD2	49:i:129:PRO:HG3	1.55	0.89
9:I:1590:G:H1	9:I:1614:A:N6	1.71	0.88
40:l:51:LYS:HG3	40:l:67:ILE:HB	1.54	0.88
9:I:2339:U:H3	9:I:2424:A:H61	1.22	0.88
34:a:408:G:H5''	35:d:23:ASP:HB2	1.55	0.88
34:a:913:U:H5''	34:a:913:U:H6	1.37	0.87
34:a:212:C:N4	34:a:215:U:H3	1.73	0.86
34:a:1366:G:H5''	48:g:36:LYS:HE2	1.55	0.86
15:G:85:THR:HG1	15:G:135:SER:HG	1.17	0.85
34:a:221:U:H2'	34:a:222:G:H8	1.41	0.85
34:a:1149:A:N6	34:a:1169:G:N1	2.25	0.85
48:g:51:ARG:HB2	48:g:58:PRO:HG3	1.57	0.84
9:I:2418:G:OP1	9:I:2419:A:N6	2.11	0.84
34:a:1038:G:H5''	53:9:4:LYS:HD3	1.56	0.84
9:I:1582:A:H62	9:I:1622:G:H21	1.27	0.83
34:a:655:G:H22	34:a:732:G:H1	1.26	0.83
9:I:749:U:O2'	9:I:751:G:N7	2.12	0.83
36:e:132:PRO:HD2	36:e:133:GLY:H	1.44	0.82
51:m:91:ARG:HD2	51:m:96:MET:HG3	1.60	0.82
34:a:914:U:O2'	36:e:54:LYS:HD3	1.79	0.82
34:a:607:G:H1	34:a:615:U:H3	1.27	0.81
48:g:30:VAL:HG23	48:g:39:ALA:HB1	1.62	0.81
9:I:281:G:H1	9:I:307:U:H3	1.29	0.81
14:F:20:ARG:HG3	14:F:35:ILE:HD12	1.62	0.81
34:a:1320:C:H5''	51:m:28:THR:HG21	1.63	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:f:9:ILE:HG12	37:f:46:ARG:HH22	1.46	0.81
34:a:1047:U:H5''	47:c:163:SER:HB3	1.63	0.81
34:a:180:A:N6	34:a:204:G:N1	2.27	0.80
36:e:86:GLU:HG2	36:e:88:PRO:HD2	1.64	0.80
34:a:456:C:H42	34:a:466:C:H42	1.30	0.80
8:6:27:THR:HG22	8:6:28:LYS:H	1.44	0.80
9:I:1958:C:H42	9:I:1970:G:H1	1.30	0.79
35:d:49:GLN:HB3	35:d:198:TYR:HB2	1.63	0.79
44:t:30:THR:HA	44:t:33:ARG:HD3	1.65	0.78
47:c:31:TYR:HD2	47:c:58:ARG:HD3	1.48	0.77
3:l:39:ASP:HA	9:I:1453:A:H1'	1.65	0.77
17:J:125:TYR:HH	17:J:132:HIS:HE2	1.32	0.77
34:a:141:C:N4	34:a:208:A:OP2	2.17	0.77
34:a:63:A:C6	34:a:105:C:N4	2.53	0.77
34:a:915:G:H2'	34:a:916:A:C8	2.19	0.77
9:I:2174:A:H2	9:I:2181:U:H3	1.33	0.76
34:a:1258:G:N2	34:a:1261:A:OP2	2.16	0.76
37:f:53:ALA:O	37:f:54:LYS:HD3	1.85	0.76
48:g:42:ILE:HG21	48:g:116:MET:HG3	1.65	0.76
50:j:54:SER:O	53:9:81:ARG:NH2	2.16	0.76
34:a:144:G:H1	34:a:170:A:H61	1.33	0.76
9:I:637:C:O2	9:I:646:A:N6	2.19	0.76
48:g:113:GLU:HB2	48:g:119:ARG:HG3	1.68	0.76
34:a:18:G:N3	36:e:55:VAL:HG21	2.01	0.76
9:I:1201:C:H42	9:I:1222:G:H22	1.34	0.75
34:a:212:C:N4	34:a:215:U:N3	2.34	0.75
14:F:172:GLU:OE1	14:F:172:GLU:N	2.18	0.75
48:g:20:SER:HB3	48:g:23:VAL:HG12	1.66	0.75
40:l:34:CYS:H	40:l:55:VAL:HG23	1.50	0.75
55:X:1:G:N1	55:X:3:A:N6	2.34	0.75
34:a:233:C:O2'	43:q:125:ARG:NH1	2.19	0.75
34:a:1452:G:H5''	44:t:22:LYS:HE3	1.68	0.75
8:6:11:GLU:OE1	8:6:24:THR:HG22	1.87	0.74
54:b:9:VAL:HG13	54:b:51:GLU:HG3	1.69	0.74
34:a:148:A:N6	34:a:165:C:O2	2.20	0.74
34:a:808:C:H5	34:a:1522:G:H1	1.33	0.74
34:a:1432:G:OP1	44:t:33:ARG:NH1	2.20	0.74
35:d:120:VAL:HG12	35:d:121:ASN:H	1.53	0.74
9:I:638:C:O2	9:I:640:C:N4	2.21	0.74
34:a:1012:A:H3'	34:a:1013:G:H21	1.53	0.74
44:t:67:ILE:HG12	44:t:71:GLN:HB3	1.70	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:1558:A:H5'	9:I:1645:A:H61	1.53	0.73
34:a:1255:G:H1	34:a:1264:U:H3	1.34	0.73
38:h:5:ASP:HB2	38:h:83:PRO:HG3	1.70	0.73
41:o:76:GLU:N	41:o:76:GLU:OE1	2.21	0.73
9:I:338:G:N2	9:I:338:G:OP2	2.20	0.73
27:T:86:LEU:HD21	27:T:93:ILE:HD11	1.70	0.73
26:S:35:ARG:NH1	26:S:84:VAL:O	2.21	0.73
34:a:423:G:H2'	34:a:424:G:C8	2.24	0.73
49:i:51:LEU:HB2	49:i:85:PHE:HB3	1.70	0.73
47:c:22:TRP:HD1	47:c:24:ALA:H	1.34	0.73
9:I:1057:G:H21	32:Z:25:THR:HG22	1.54	0.72
9:I:2013:U:OP2	9:I:2018:A:N6	2.20	0.72
34:a:1026:G:OP1	34:a:1028:C:N4	2.21	0.72
47:c:82:GLU:HB3	47:c:85:ARG:HH21	1.53	0.72
22:O:68:VAL:HG21	22:O:75:ARG:HG2	1.69	0.72
9:I:378:C:H4'	28:U:94:ARG:HH12	1.54	0.72
9:I:91:A:H4'	9:I:92:A:H5'	1.71	0.72
31:Y:14:THR:O	31:Y:64:ARG:NH1	2.22	0.72
40:l:82:VAL:HG22	40:l:97:ILE:HG22	1.70	0.72
13:E:175:VAL:HG23	13:E:183:ILE:HD11	1.72	0.72
49:i:112:SER:O	49:i:116:ARG:NH1	2.22	0.72
18:K:93:PRO:HG3	18:K:114:ILE:HG12	1.70	0.72
35:d:166:LEU:HD13	35:d:175:VAL:HG13	1.70	0.72
9:I:946:C:H5	9:I:1322:G:H1	1.37	0.72
52:s:63:THR:HG22	52:s:65:SER:H	1.55	0.72
34:a:1340:U:O2	34:a:1367:A:N7	2.22	0.71
37:f:46:ARG:HE	37:f:60:TYR:HB2	1.55	0.71
9:I:1566:G:N2	9:I:1637:U:O2	2.19	0.71
9:I:787:G:H21	13:E:112:MET:HE1	1.55	0.71
9:I:1008:A:N6	9:I:1028:G:O4'	2.24	0.71
14:F:81:ILE:HG22	14:F:83:GLN:H	1.56	0.71
34:a:1167:G:H2'	34:a:1168:A:H8	1.52	0.71
9:I:2051:G:OP1	11:C:88:ARG:NH2	2.23	0.71
9:I:2566:A:H2'	9:I:2567:A:C8	2.25	0.71
30:W:47:PRO:O	30:W:73:ARG:NH2	2.23	0.71
34:a:806:A:N1	34:a:1502:C:O2'	2.23	0.71
34:a:1108:G:N3	49:i:127:ARG:NH1	2.38	0.71
39:k:74:GLN:HG2	39:k:109:SER:HB2	1.73	0.71
9:I:2342:G:OP1	9:I:2414:C:N4	2.25	0.70
34:a:1347:A:H2'	34:a:1348:G:H8	1.55	0.70
34:a:190:G:N2	34:a:194:G:OP2	2.23	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:875:C:N4	40:l:1:MET:SD	2.65	0.70
34:a:645:G:H1	34:a:745:C:H5	1.37	0.70
34:a:1138:A:O2'	49:i:41:ARG:NE	2.24	0.70
34:a:1348:G:H2'	34:a:1349:A:C8	2.26	0.70
48:g:107:TYR:HA	48:g:110:GLN:HB2	1.73	0.70
9:I:1242:U:OP1	15:G:3:ARG:NH1	2.25	0.69
48:g:116:MET:HE2	48:g:116:MET:HA	1.74	0.69
34:a:1277:U:H4'	34:a:1278:A:H5''	1.74	0.69
40:l:87:VAL:HG12	40:l:89:ASP:H	1.56	0.69
9:I:1675:G:HO2'	9:I:1755:G:HO2'	1.35	0.69
34:a:1141:C:H2'	34:a:1142:G:C8	2.28	0.69
34:a:1149:A:N6	34:a:1169:G:H22	1.88	0.69
34:a:1305:U:OP2	52:s:3:ARG:NH2	2.25	0.69
9:I:843:U:O2'	9:I:845:A:N7	2.25	0.69
9:I:3035:U:H3'	9:I:3036:G:H8	1.57	0.69
34:a:19:A:H2'	34:a:1070:G:H8	1.58	0.69
34:a:665:G:H2'	34:a:666:A:H8	1.56	0.69
34:a:1048:G:N3	47:c:195:ARG:NH2	2.41	0.69
35:d:55:LYS:O	35:d:59:THR:HG23	1.92	0.69
9:I:845:A:H5''	41:o:88:ARG:HH11	1.56	0.69
34:a:18:G:N3	36:e:55:VAL:CG2	2.54	0.69
44:t:24:VAL:O	44:t:28:LEU:HD12	1.92	0.69
9:I:2006:G:H1	9:I:2217:C:H5	1.39	0.69
15:G:112:HIS:ND1	15:G:112:HIS:O	2.26	0.69
51:m:68:GLY:H	51:m:71:ARG:HG3	1.57	0.69
9:I:284:U:O2	9:I:304:G:O6	2.11	0.68
44:t:12:ARG:O	44:t:16:ARG:HG3	1.94	0.68
49:i:26:PRO:HG2	49:i:41:ARG:HD3	1.75	0.68
14:F:15:TYR:HB3	14:F:19:ILE:HD11	1.74	0.68
34:a:705:G:H2'	34:a:706:A:C8	2.29	0.68
44:t:58:LEU:HD11	44:t:76:LYS:HD2	1.75	0.68
34:a:20:U:H5''	34:a:1070:G:C8	2.29	0.68
48:g:38:LEU:O	48:g:42:ILE:HD12	1.92	0.68
9:I:1567:U:O2'	9:I:1632:G:OP2	2.11	0.68
34:a:118:C:OP1	34:a:310:C:O2'	2.11	0.68
34:a:593:U:H3	34:a:627:G:H1	1.42	0.68
34:a:102:G:N7	44:t:10:ARG:NH2	2.38	0.68
9:I:1559:A:N6	9:I:1645:A:OP1	2.27	0.68
44:t:9:LYS:O	44:t:13:THR:HG23	1.94	0.68
11:C:24:ILE:HG22	11:C:26:ARG:H	1.58	0.68
51:m:25:ILE:HG22	51:m:64:LEU:HD11	1.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:D:128:LYS:HG2	12:D:170:MET:HE1	1.76	0.67
52:s:51:VAL:HG21	52:s:71:LEU:HB3	1.75	0.67
9:I:2236:A:OP2	12:D:146:ARG:NH2	2.27	0.67
50:j:11:LYS:HB2	50:j:97:ASP:HB3	1.75	0.67
34:a:207:A:H4'	34:a:208:A:H2'	1.75	0.67
36:e:133:GLY:HA3	36:e:153:ASP:HB3	1.75	0.67
8:6:20:ASN:ND2	8:6:38:CYS:SG	2.63	0.67
34:a:831:C:H2'	34:a:832:C:C6	2.30	0.67
36:e:54:LYS:HD2	36:e:54:LYS:O	1.93	0.67
34:a:1485:A:H5''	40:l:44:LYS:HB2	1.76	0.67
35:d:99:ARG:NH1	35:d:187:ASP:OD2	2.28	0.67
9:I:2343:G:H2'	9:I:2344:U:C6	2.29	0.67
25:R:27:LYS:HA	25:R:96:THR:HG23	1.75	0.67
34:a:704:G:H2'	34:a:705:G:C8	2.28	0.67
9:I:1201:C:O2	9:I:1222:G:O6	2.13	0.67
9:I:1517:C:H5	9:I:1532:G:H1	1.42	0.67
34:a:664:G:H2'	34:a:665:G:C8	2.30	0.67
9:I:1582:A:H62	9:I:1622:G:N2	1.92	0.67
27:T:8:ARG:O	31:Y:33:ARG:NH2	2.27	0.67
34:a:296:G:N2	34:a:299:A:OP2	2.27	0.67
34:a:410:A:N6	34:a:428:U:OP2	2.28	0.67
34:a:1051:U:OP1	53:9:85:ARG:NH2	2.26	0.67
41:o:6:GLU:OE1	41:o:6:GLU:N	2.23	0.67
3:1:28:MET:HE2	3:1:28:MET:HA	1.77	0.67
11:C:258:ARG:NH1	11:C:265:ASN:OD1	2.28	0.67
34:a:998:A:H5'	34:a:1029:C:H1'	1.77	0.67
38:h:46:ILE:HD12	38:h:62:ILE:HG23	1.77	0.67
21:N:103:ARG:HG3	21:N:110:MET:HE3	1.76	0.66
34:a:44:G:H2'	34:a:45:G:H8	1.60	0.66
34:a:1210:C:H2'	34:a:1211:A:C8	2.30	0.66
34:a:256:G:H1	34:a:268:U:H3	1.44	0.66
48:g:122:ASN:HA	48:g:125:LEU:HD12	1.78	0.66
1:n:52:C:O2	1:n:65:G:N2	2.28	0.66
9:I:193:A:H2'	9:I:194:G:H8	1.61	0.66
34:a:35:A:H2'	34:a:36:A:H8	1.60	0.66
34:a:175:A:H4'	34:a:176:U:H5'	1.78	0.66
47:c:35:ASP:HA	47:c:38:ILE:HD12	1.77	0.66
34:a:610:U:N3	35:d:126:ASN:OD1	2.28	0.66
9:I:677:A:OP2	9:I:2737:C:O2'	2.13	0.66
9:I:2523:C:OP2	54:b:6:ARG:NH1	2.29	0.66
9:I:2721:C:N3	20:M:124:LYS:NZ	2.44	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:140:U:H3	34:a:175:A:N6	1.93	0.66
7:4:24:MET:HE3	7:4:35:ARG:HG2	1.77	0.66
34:a:598:A:OP1	34:a:622:G:N2	2.27	0.66
47:c:31:TYR:CD2	47:c:58:ARG:HD3	2.31	0.66
9:I:193:A:H2'	9:I:194:G:C8	2.31	0.66
9:I:1201:C:N3	9:I:1222:G:N1	2.44	0.65
9:I:1558:A:N7	9:I:1647:U:O2	2.29	0.65
34:a:1161:A:H2'	34:a:1162:A:C8	2.31	0.65
34:a:1466:G:H2'	34:a:1467:G:C8	2.30	0.65
9:I:2309:C:H5	9:I:2675:G:H1	1.44	0.65
34:a:706:A:H2'	34:a:707:A:C8	2.31	0.65
51:m:51:GLU:HG3	51:m:55:HIS:CE1	2.31	0.65
9:I:2393:G:H2'	9:I:2394:G:H4'	1.77	0.65
9:I:2571:A:OP2	30:W:75:ARG:NH2	2.30	0.65
9:I:8:U:H3	9:I:3129:A:H62	1.45	0.65
36:e:132:PRO:HD2	36:e:133:GLY:N	2.05	0.65
9:I:679:G:O2'	9:I:1385:A:OP1	2.15	0.65
9:I:2402:G:O2'	9:I:2404:U:OP2	2.14	0.65
16:H:27:ARG:NH1	33:y:60:ASP:OD2	2.30	0.65
28:U:7:ASP:OD1	28:U:96:ARG:NH2	2.30	0.65
34:a:212:C:N3	34:a:215:U:O2	2.30	0.65
34:a:582:U:OP2	38:h:31:LYS:NZ	2.30	0.65
36:e:143:ARG:O	36:e:147:GLU:HG2	1.96	0.65
9:I:618:U:O2'	9:I:2274:C:OP1	2.07	0.65
34:a:1138:A:H4'	49:i:25:ARG:HH22	1.62	0.65
34:a:1232:U:OP1	48:g:119:ARG:NH2	2.29	0.65
34:a:492:C:H2'	34:a:493:A:C8	2.32	0.65
48:g:113:GLU:OE2	48:g:122:ASN:ND2	2.30	0.65
34:a:179:G:N2	34:a:223:U:O5'	2.29	0.65
41:o:3:LEU:HD13	41:o:35:ARG:HD2	1.78	0.65
50:j:66:GLU:HB3	53:9:99:ALA:HB2	1.79	0.65
34:a:939:A:H2'	34:a:940:G:C8	2.31	0.64
9:I:691:C:H2'	9:I:692:A:H8	1.61	0.64
15:G:138:ASP:HB2	15:G:141:LYS:HB2	1.78	0.64
34:a:35:A:H2'	34:a:36:A:C8	2.32	0.64
34:a:126:A:N6	34:a:194:G:OP1	2.31	0.64
49:i:66:GLN:OE1	49:i:66:GLN:N	2.25	0.64
10:B:55:U:H5'	14:F:31:ASN:HD21	1.61	0.64
12:D:36:VAL:HG21	12:D:75:VAL:HG11	1.78	0.64
23:P:19:PHE:O	23:P:49:ARG:NH1	2.30	0.64
31:Y:14:THR:OG1	31:Y:15:ASP:N	2.28	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1347:A:H2'	34:a:1348:G:C8	2.32	0.64
51:m:105:THR:OG1	51:m:106:ASN:OD1	2.15	0.64
9:I:1613:G:H2'	9:I:1614:A:H8	1.63	0.64
34:a:466:C:H2'	34:a:467:G:H8	1.62	0.64
34:a:1420:C:H2'	34:a:1421:A:H8	1.63	0.64
10:B:76:U:OP1	29:V:26:ARG:NH2	2.31	0.64
9:I:1007:G:H1	9:I:1028:G:H1'	1.63	0.64
34:a:137:A:O2'	34:a:177:A:N1	2.31	0.64
35:d:110:ARG:HH21	35:d:128:PRO:HG2	1.62	0.64
37:f:10:LEU:HD12	37:f:11:ASP:H	1.63	0.64
50:j:57:LYS:HD3	53:9:81:ARG:HE	1.63	0.64
51:m:75:GLN:HA	51:m:78:ILE:HD12	1.78	0.64
34:a:206:A:C8	34:a:221:U:H1'	2.33	0.64
34:a:415:G:H2'	34:a:416:G:H8	1.63	0.64
37:f:12:PRO:HB3	37:f:45:LYS:HE2	1.79	0.64
48:g:63:LYS:NZ	48:g:67:ASP:OD2	2.31	0.64
34:a:926:G:N7	48:g:3:ARG:NH1	2.45	0.64
11:C:188:ARG:O	11:C:190:ARG:NH1	2.29	0.64
30:W:68:GLU:H	30:W:81:VAL:HG23	1.63	0.64
40:l:100:GLY:N	40:l:104:THR:OG1	2.30	0.64
43:q:61:ARG:HH11	43:q:78:LEU:HD11	1.63	0.64
47:c:203:TYR:OH	47:c:206:ASP:OD1	2.16	0.64
51:m:79:ARG:O	51:m:83:GLU:HG3	1.98	0.64
51:m:80:ARG:O	51:m:84:ILE:HG12	1.97	0.64
9:I:2549:A:N7	14:F:87:ARG:NH2	2.45	0.63
29:V:26:ARG:NH1	29:V:91:GLN:O	2.32	0.63
34:a:1210:C:H2'	34:a:1211:A:H8	1.63	0.63
34:a:492:C:OP1	40:l:114:ARG:NH2	2.31	0.63
34:a:263:C:H2'	34:a:264:G:O4'	1.99	0.63
39:k:48:GLN:OE1	39:k:48:GLN:N	2.30	0.63
34:a:869:A:H1'	38:h:12:THR:HG21	1.80	0.63
34:a:1030:U:H2'	34:a:1031:G:C8	2.33	0.63
47:c:86:ILE:O	47:c:90:LEU:HD12	1.97	0.63
9:I:220:G:H22	9:I:237:U:H4'	1.62	0.63
9:I:3006:C:H4'	17:J:87:ARG:HH12	1.64	0.63
27:T:57:VAL:HG22	27:T:84:VAL:HG22	1.79	0.63
9:I:746:G:N2	9:I:749:U:O5'	2.31	0.63
9:I:1201:C:H42	9:I:1222:G:N2	1.97	0.63
9:I:2541:G:H4'	14:F:129:PHE:HB2	1.81	0.63
34:a:174:G:H2'	34:a:175:A:H8	1.64	0.63
34:a:1318:C:H2'	34:a:1319:C:H6	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:s:23:ASN:ND2	52:s:43:ASP:OD1	2.31	0.63
9:I:1194:U:N3	9:I:1198:A:OP2	2.26	0.63
11:C:155:LEU:HD13	11:C:177:MET:HE1	1.80	0.63
9:I:1036:C:O2'	20:M:101:ARG:NH2	2.32	0.62
9:I:1226:U:H3'	9:I:1227:A:H8	1.63	0.62
9:I:1638:C:H2'	9:I:1639:G:H8	1.62	0.62
9:I:2354:A:N6	9:I:2407:A:OP2	2.31	0.62
42:p:58:TYR:O	42:p:62:VAL:HG23	1.99	0.62
47:c:61:ASP:HA	47:c:96:LYS:HE3	1.81	0.62
4:0:14:ARG:NH1	9:I:606:G:OP2	2.32	0.62
9:I:768:A:O2'	9:I:770:A:N7	2.32	0.62
13:E:39:LEU:HD11	13:E:112:MET:HB3	1.81	0.62
14:F:78:ARG:HG2	14:F:79:LYS:H	1.64	0.62
34:a:428:U:OP1	35:d:9:THR:OG1	2.11	0.62
9:I:430:A:H2'	9:I:431:A:H8	1.64	0.62
34:a:263:C:O2'	43:q:119:PRO:O	2.16	0.62
50:j:63:GLU:OE2	53:9:85:ARG:NH1	2.32	0.62
9:I:1306:G:O2'	9:I:1308:G:N7	2.32	0.62
9:I:2060:C:O2'	9:I:2209:U:OP2	2.17	0.62
34:a:71:G:H21	34:a:148:A:H1'	1.64	0.62
52:s:37:ARG:O	52:s:70:LYS:NZ	2.31	0.62
9:I:644:G:H2'	9:I:645:G:H4'	1.82	0.62
9:I:1609:U:H2'	9:I:1610:G:C8	2.34	0.62
34:a:1074:U:O2'	34:a:1093:A:OP2	2.15	0.62
34:a:1213:G:OP1	52:s:36:ARG:NH1	2.32	0.62
9:I:79:C:HO2'	9:I:429:A:H8	1.48	0.62
14:F:118:ILE:HG22	14:F:144:VAL:HG11	1.82	0.62
23:P:2:ASN:OD1	23:P:3:ARG:N	2.26	0.62
29:V:42:PRO:O	29:V:43:GLN:NE2	2.32	0.62
31:Y:13:LEU:HB3	31:Y:17:GLU:HB2	1.82	0.62
34:a:180:A:N6	34:a:204:G:N2	2.46	0.62
34:a:400:C:O2'	34:a:612:A:N3	2.30	0.62
44:t:15:GLU:O	44:t:19:LEU:HG	1.99	0.62
49:i:63:LYS:O	49:i:67:GLN:NE2	2.31	0.62
51:m:50:GLU:O	51:m:54:ILE:HG12	2.00	0.62
54:b:35:ILE:HG13	54:b:50:ARG:HG3	1.81	0.62
9:I:306:G:H21	16:H:45:LYS:HE3	1.63	0.62
9:I:1930:G:N7	11:C:14:ARG:NH2	2.47	0.62
12:D:104:GLU:N	12:D:104:GLU:OE1	2.33	0.62
30:W:72:LYS:HD3	30:W:73:ARG:HG3	1.80	0.62
35:d:10:ARG:NH1	35:d:33:PRO:O	2.31	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:R:24:LYS:HG2	25:R:97:VAL:HG22	1.81	0.62
36:e:146:LEU:HD13	36:e:154:ILE:HG21	1.81	0.62
9:I:1201:C:N4	9:I:1222:G:H22	1.98	0.62
9:I:2371:A:N6	9:I:2395:A:H4'	2.15	0.62
22:O:27:THR:HG22	22:O:50:LEU:HD21	1.81	0.62
34:a:19:A:C4	34:a:1070:G:C8	2.88	0.62
34:a:20:U:O2	34:a:1070:G:H2'	2.00	0.62
34:a:402:C:H5''	35:d:128:PRO:HD2	1.80	0.62
40:l:24:LEU:HD23	40:l:30:ARG:HD2	1.81	0.62
9:I:2981:C:O2'	15:G:151:ARG:NH2	2.32	0.61
34:a:1360:U:H5''	49:i:135:LYS:HZ3	1.65	0.61
48:g:25:GLN:O	48:g:29:LYS:HG3	1.98	0.61
9:I:289:A:O2'	9:I:291:C:OP1	2.18	0.61
9:I:1627:C:H2'	9:I:1628:G:C8	2.35	0.61
34:a:20:U:O2'	34:a:21:C:O4'	2.18	0.61
34:a:38:G:H21	40:l:115:SER:HB2	1.63	0.61
34:a:1133:U:H2'	34:a:1134:G:H8	1.65	0.61
47:c:64:ARG:HA	47:c:99:GLN:HG2	1.81	0.61
9:I:294:G:H2'	9:I:295:G:H8	1.66	0.61
34:a:193:U:OP1	43:q:127:ARG:NH1	2.33	0.61
52:s:55:ARG:HG2	52:s:56:LYS:HE2	1.82	0.61
9:I:2488:G:O2'	9:I:2734:C:OP1	2.15	0.61
34:a:47:G:H1	34:a:397:C:H5	1.47	0.61
39:k:124:THR:O	46:r:80:ARG:NH2	2.34	0.61
42:p:57:GLN:NE2	42:p:79:ASP:OD1	2.33	0.61
48:g:97:THR:O	48:g:101:LEU:HG	1.99	0.61
9:I:2382:C:H3'	9:I:2383:C:H5'	1.81	0.61
9:I:117:G:OP2	9:I:119:A:O2'	2.16	0.61
9:I:381:A:N3	9:I:402:C:O2'	2.32	0.61
34:a:343:A:H5''	34:a:344:C:H5	1.65	0.61
43:q:123:THR:O	43:q:125:ARG:NE	2.34	0.61
6:3:12:LYS:NZ	9:I:251:C:O2	2.33	0.61
41:o:32:LEU:O	41:o:36:ILE:HG12	2.01	0.61
42:p:71:LEU:O	42:p:75:LYS:HD2	2.01	0.61
9:I:633:U:H3	9:I:650:G:H1	1.47	0.61
34:a:63:A:N6	34:a:105:C:C4	2.68	0.61
34:a:492:C:H2'	34:a:493:A:H8	1.66	0.61
34:a:1001:C:H2'	34:a:1002:G:C8	2.36	0.61
34:a:1440:A:P	34:a:1441:C:H41	2.23	0.61
14:F:130:ASP:OD2	14:F:134:ASN:ND2	2.33	0.61
29:V:141:GLN:OE1	29:V:141:GLN:N	2.32	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:78:U:H2'	34:a:79:C:C6	2.35	0.61
4:0:5:LYS:HE2	9:I:2292:A:H2'	1.83	0.61
9:I:588:G:N1	9:I:591:A:OP2	2.33	0.61
9:I:871:U:H2'	9:I:872:A:C8	2.35	0.61
9:I:1025:A:H5''	9:I:1026:C:H5	1.66	0.61
34:a:999:C:H2'	34:a:1000:G:H8	1.65	0.61
35:d:80:LYS:NZ	36:e:132:PRO:O	2.34	0.61
9:I:430:A:H2'	9:I:431:A:C8	2.36	0.60
9:I:2791:G:C2	9:I:2821:G:H1'	2.35	0.60
22:O:21:ARG:NH1	22:O:24:LEU:O	2.34	0.60
9:I:335:A:H2'	9:I:336:G:C8	2.36	0.60
9:I:2484:A:H2'	9:I:2485:A:C8	2.36	0.60
34:a:222:G:C2	34:a:223:U:H1'	2.36	0.60
38:h:9:ASP:OD2	38:h:13:ARG:NH1	2.32	0.60
34:a:939:A:H2'	34:a:940:G:H8	1.66	0.60
9:I:1564:C:H2'	9:I:1565:G:H8	1.66	0.60
13:E:156:GLU:OE1	13:E:156:GLU:N	2.34	0.60
29:V:59:SER:OG	29:V:140:GLU:OE1	2.16	0.60
34:a:444:U:H2'	34:a:445:C:C6	2.37	0.60
34:a:665:G:H2'	34:a:666:A:C8	2.36	0.60
36:e:188:ARG:NH1	38:h:45:TYR:OH	2.35	0.60
8:6:26:SER:OG	14:F:105:GLU:OE1	2.16	0.60
9:I:2269:A:N3	9:I:2693:G:O2'	2.30	0.60
12:D:35:VAL:HA	12:D:53:ALA:O	2.01	0.60
17:J:69:LEU:HD23	17:J:89:ILE:HG22	1.83	0.60
34:a:915:G:H2'	34:a:916:A:H8	1.63	0.60
49:i:26:PRO:O	49:i:41:ARG:NH1	2.34	0.60
43:q:120:LEU:H	43:q:124:LYS:HB3	1.64	0.60
44:t:29:ARG:O	44:t:33:ARG:HG3	2.02	0.60
9:I:1554:G:H2'	9:I:1555:A:C8	2.36	0.60
10:B:65:A:H4'	10:B:66:G:H5'	1.84	0.60
34:a:22:C:H2'	34:a:23:U:C6	2.37	0.60
34:a:79:C:H2'	34:a:80:U:C6	2.37	0.60
9:I:24:G:O2'	26:S:88:GLN:O	2.19	0.60
9:I:760:A:N6	9:I:781:A:O4'	2.35	0.60
9:I:1832:G:H5''	9:I:1833:C:H5'	1.83	0.60
9:I:2372:A:O2'	9:I:2397:U:N3	2.33	0.60
30:W:49:VAL:HG22	30:W:82:GLY:HA2	1.83	0.60
34:a:144:G:H1	34:a:170:A:N6	2.00	0.60
34:a:401:G:H5'	34:a:612:A:H1'	1.84	0.60
43:q:97:VAL:HB	43:q:126:TRP:CD1	2.37	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:t:28:LEU:O	44:t:32:VAL:HG23	2.01	0.60
1:n:20:G:OP1	1:n:61:U:N3	2.35	0.60
9:I:609:U:H2'	9:I:610:G:C8	2.37	0.59
9:I:1805:G:OP2	11:C:63:ARG:NH2	2.34	0.59
44:t:54:THR:HG22	44:t:58:LEU:HD23	1.83	0.59
48:g:71:PRO:HD2	48:g:71:PRO:O	2.01	0.59
51:m:69:ASP:HA	51:m:72:ARG:HG2	1.84	0.59
9:I:773:C:H2'	9:I:774:G:H8	1.67	0.59
9:I:1638:C:H2'	9:I:1639:G:C8	2.36	0.59
36:e:120:ALA:HB2	36:e:170:ALA:HA	1.84	0.59
48:g:93:PRO:O	48:g:97:THR:HG23	2.01	0.59
9:I:1581:A:OP2	9:I:1622:G:N2	2.36	0.59
9:I:2087:A:H2'	9:I:2088:A:C8	2.37	0.59
34:a:19:A:H2'	34:a:1070:G:C8	2.37	0.59
52:s:23:ASN:OD1	52:s:47:HIS:NE2	2.31	0.59
9:I:335:A:H2'	9:I:336:G:H8	1.66	0.59
9:I:530:U:H2'	9:I:531:G:C8	2.38	0.59
23:P:14:ASP:OD1	23:P:14:ASP:N	2.34	0.59
34:a:407:G:OP1	35:d:107:ARG:NH1	2.36	0.59
34:a:1248:C:N4	34:a:1270:G:OP2	2.35	0.59
9:I:786:U:H2'	9:I:787:G:C8	2.37	0.59
18:K:73:ASP:OD2	23:P:79:ASN:ND2	2.36	0.59
34:a:427:G:H4'	34:a:428:U:OP1	2.00	0.59
34:a:914:U:C5'	34:a:914:U:C6	2.85	0.59
34:a:1348:G:H2'	34:a:1349:A:H8	1.68	0.59
6:3:24:ARG:NH2	9:I:2599:A:OP2	2.36	0.59
34:a:451:A:C8	34:a:452:G:C8	2.90	0.59
34:a:1315:G:H2'	34:a:1316:A:C8	2.37	0.59
49:i:75:THR:H	49:i:78:ARG:HB3	1.66	0.59
50:j:9:ARG:HB2	50:j:99:ASN:O	2.02	0.59
9:I:1544:G:H2'	9:I:1545:G:C8	2.38	0.59
34:a:59:U:H2'	34:a:60:G:H8	1.67	0.59
35:d:144:SER:O	35:d:147:THR:OG1	2.20	0.59
42:p:45:GLU:HB3	42:p:48:LEU:HB2	1.83	0.59
34:a:108:G:H1'	34:a:353:G:H5'	1.83	0.59
34:a:1143:U:H2'	34:a:1144:G:C8	2.38	0.59
49:i:60:PHE:O	49:i:66:GLN:NE2	2.35	0.59
9:I:1123:C:OP1	24:Q:53:ARG:NH2	2.36	0.59
9:I:2378:G:N2	9:I:2389:G:OP1	2.30	0.59
9:I:2940:G:OP1	21:N:73:LYS:NZ	2.36	0.59
33:y:59:ILE:HG12	33:y:67:VAL:HG21	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1077:U:H2'	34:a:1078:G:H8	1.68	0.59
9:I:2109:G:H2'	9:I:2110:G:C8	2.38	0.59
34:a:468:G:H2'	34:a:469:A:H5''	1.85	0.59
34:a:1360:U:H5''	49:i:135:LYS:NZ	2.18	0.59
26:S:56:PRO:O	26:S:60:VAL:HG23	2.03	0.58
34:a:1167:G:H2'	34:a:1168:A:C8	2.38	0.58
37:f:43:TRP:HZ3	37:f:46:ARG:HB3	1.67	0.58
47:c:70:ALA:O	47:c:71:ARG:NH1	2.36	0.58
9:I:448:U:H2'	9:I:449:A:C8	2.39	0.58
9:I:1824:C:H2'	9:I:1825:A:H8	1.67	0.58
9:I:2816:G:H21	12:D:135:GLN:HE21	1.51	0.58
34:a:44:G:H2'	34:a:45:G:C8	2.37	0.58
34:a:1179:G:OP1	49:i:136:LYS:NZ	2.36	0.58
53:9:86:GLN:HG3	53:9:87:LEU:HD23	1.85	0.58
9:I:1554:G:H2'	9:I:1555:A:H8	1.67	0.58
9:I:2923:G:P	23:P:48:ARG:HH12	2.25	0.58
9:I:2987:A:H4'	15:G:63:ARG:HB3	1.85	0.58
29:V:10:ARG:HH12	29:V:70:ALA:H	1.51	0.58
34:a:1039:G:H4'	53:9:3:LYS:HE2	1.83	0.58
40:l:67:ILE:HD13	40:l:97:ILE:HD11	1.84	0.58
41:o:46:HIS:O	41:o:48:HIS:N	2.36	0.58
9:I:500:G:OP2	9:I:2644:A:O2'	2.17	0.58
9:I:552:G:N2	9:I:555:A:OP2	2.32	0.58
9:I:1569:C:N4	9:I:1633:A:OP2	2.36	0.58
15:G:46:ASN:ND2	15:G:48:ASP:OD1	2.36	0.58
34:a:143:G:H2'	34:a:144:G:C8	2.38	0.58
9:I:961:U:H2'	9:I:962:G:H8	1.68	0.58
9:I:1672:A:H2'	9:I:1673:A:H8	1.68	0.58
9:I:2386:U:O2'	9:I:2387:U:O4'	2.22	0.58
34:a:116:C:HO2'	34:a:117:A:H8	1.52	0.58
51:m:17:VAL:O	51:m:20:THR:OG1	2.18	0.58
34:a:53:A:O2'	34:a:359:G:N2	2.37	0.58
34:a:1196:A:N3	47:c:195:ARG:NH1	2.46	0.58
52:s:32:LYS:HA	52:s:50:ALA:HB3	1.84	0.58
1:n:70:C:H2'	1:n:71:G:H8	1.68	0.58
9:I:3052:C:OP1	21:N:42:ARG:NH2	2.37	0.58
34:a:40:U:O2'	34:a:538:A:N1	2.31	0.58
34:a:185:G:H1	34:a:198:U:H3	1.51	0.58
36:e:172:VAL:O	36:e:176:LYS:HG2	2.04	0.58
44:t:8:GLN:HA	44:t:11:ASN:OD1	2.03	0.58
50:j:21:SER:HB2	50:j:92:LEU:HD22	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:1568:A:H2	9:I:1636:U:H3	1.50	0.58
9:I:1593:C:H2'	9:I:1594:A:C8	2.38	0.58
11:C:72:LYS:HZ3	11:C:190:ARG:HE	1.51	0.58
14:F:101:ASP:O	14:F:105:GLU:HG3	2.04	0.58
34:a:802:C:O2'	34:a:894:A:N1	2.36	0.58
34:a:1029:C:H2'	34:a:1030:U:C6	2.38	0.58
9:I:2263:G:H2'	9:I:2264:A:C8	2.39	0.58
9:I:2371:A:N6	9:I:2393:G:O2'	2.34	0.58
9:I:2481:U:H2'	9:I:2482:U:C6	2.38	0.58
30:W:18:ALA:O	30:W:20:ARG:NH1	2.37	0.58
34:a:77:G:C2	34:a:91:A:C6	2.91	0.58
34:a:454:U:H2'	34:a:455:C:O4'	2.03	0.58
36:e:55:VAL:O	36:e:55:VAL:HG12	2.02	0.58
9:I:843:U:H3	41:o:88:ARG:HE	1.52	0.58
9:I:2392:C:H2'	9:I:2393:G:C4	2.39	0.58
11:C:162:SER:HB3	11:C:195:GLU:HB3	1.85	0.58
34:a:1149:A:N6	34:a:1169:G:H1	1.99	0.58
37:f:21:PRO:O	37:f:25:THR:HG23	2.04	0.58
9:I:1592:U:H2'	9:I:1593:C:C6	2.38	0.57
9:I:2364:G:O2'	9:I:2365:A:O4'	2.20	0.57
15:G:55:ARG:HD3	15:G:66:HIS:HB2	1.86	0.57
9:I:728:C:O2'	9:I:786:U:OP1	2.22	0.57
9:I:1270:U:O2	9:I:1272:A:N6	2.37	0.57
9:I:2106:C:N4	9:I:2109:G:N3	2.52	0.57
34:a:603:U:H2'	34:a:604:C:C6	2.40	0.57
40:l:73:ASN:HD21	40:l:105:GLN:H	1.52	0.57
47:c:120:ALA:HB1	47:c:189:ALA:HB2	1.86	0.57
6:3:45:ASP:OD1	6:3:46:GLY:N	2.37	0.57
9:I:961:U:H2'	9:I:962:G:C8	2.39	0.57
34:a:80:U:H2'	34:a:81:C:C6	2.38	0.57
34:a:334:C:H2'	34:a:335:A:H8	1.69	0.57
40:l:3:THR:O	40:l:6:GLN:N	2.37	0.57
51:m:10:PRO:HD2	51:m:45:THR:HG21	1.86	0.57
9:I:1201:C:O2	9:I:1222:G:C6	2.58	0.57
9:I:2916:A:H2'	9:I:2917:A:C8	2.38	0.57
12:D:138:SER:O	12:D:138:SER:OG	2.20	0.57
34:a:86:G:H2'	34:a:87:A:H8	1.68	0.57
34:a:999:C:OP2	34:a:1029:C:O2'	2.21	0.57
9:I:2509:G:H5'	30:W:20:ARG:HD3	1.86	0.57
13:E:72:TYR:OH	13:E:82:GLN:NE2	2.37	0.57
21:N:89:ASP:N	21:N:89:ASP:OD1	2.36	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1108:G:H21	49:i:127:ARG:HH22	1.52	0.57
34:a:1136:G:N2	34:a:1138:A:H62	2.03	0.57
37:f:43:TRP:HB3	37:f:60:TYR:CG	2.40	0.57
8:6:43:PRO:HB2	8:6:45:TYR:CE1	2.39	0.57
9:I:786:U:H2'	9:I:787:G:H8	1.69	0.57
9:I:2751:G:OP1	12:D:165:ARG:NH1	2.34	0.57
34:a:504:A:H2'	34:a:505:C:H6	1.70	0.57
9:I:1053:U:H2'	9:I:1054:G:H8	1.70	0.57
9:I:1197:G:H21	9:I:1225:A:H5'	1.69	0.57
9:I:2357:G:N2	9:I:2416:C:O4'	2.38	0.57
9:I:3092:G:N2	9:I:3095:A:OP2	2.32	0.57
23:P:103:ARG:NH1	34:a:1424:C:OP1	2.37	0.57
34:a:379:G:N2	34:a:382:A:OP2	2.35	0.57
34:a:1068:G:H21	34:a:1069:U:H3'	1.70	0.57
47:c:110:SER:O	47:c:204:LYS:NZ	2.38	0.57
9:I:2262:C:H2'	9:I:2263:G:H8	1.69	0.57
24:Q:28:ARG:NH1	24:Q:38:GLN:OE1	2.37	0.57
34:a:482:G:H2'	34:a:483:G:H8	1.70	0.57
34:a:1506:A:H2'	34:a:1507:C:C6	2.40	0.57
47:c:45:GLY:O	47:c:48:ARG:NH1	2.38	0.57
48:g:48:GLU:OE1	48:g:51:ARG:NH1	2.32	0.57
9:I:565:G:N1	9:I:568:A:OP2	2.36	0.57
15:G:77:VAL:O	15:G:81:THR:HG22	2.05	0.57
34:a:19:A:C2'	34:a:1070:G:H8	2.16	0.57
54:b:11:LEU:HB3	54:b:49:PHE:HB3	1.87	0.57
9:I:294:G:H2'	9:I:295:G:C8	2.40	0.57
9:I:706:A:H5''	9:I:784:A:H61	1.70	0.57
9:I:1553:U:H2'	9:I:1554:G:C8	2.40	0.57
9:I:1969:U:H2'	9:I:1970:G:C8	2.40	0.57
9:I:2740:G:H5''	9:I:2741:A:H5''	1.87	0.57
34:a:1377:C:H2'	34:a:1378:G:H8	1.70	0.57
34:a:1431:A:OP2	44:t:29:ARG:NH1	2.38	0.57
46:r:42:GLY:O	46:r:68:ARG:NH2	2.35	0.57
48:g:29:LYS:NZ	48:g:98:THR:O	2.38	0.57
9:I:773:C:H2'	9:I:774:G:C8	2.40	0.56
10:B:61:U:H2'	10:B:62:G:H8	1.69	0.56
31:Y:5:VAL:HG11	31:Y:21:ARG:HH22	1.70	0.56
34:a:1230:A:OP1	34:a:1327:U:O2'	2.20	0.56
40:l:14:ASP:OD1	40:l:14:ASP:N	2.34	0.56
53:9:3:LYS:HD2	53:9:6:LYS:HE3	1.86	0.56
9:I:334:C:H2'	9:I:335:A:H8	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:F:153:ILE:HD11	14:F:156:VAL:HA	1.87	0.56
26:S:28:ARG:NH1	26:S:86:ALA:O	2.37	0.56
34:a:31:G:O2'	34:a:295:U:OP1	2.21	0.56
34:a:481:U:H2'	34:a:482:G:H8	1.70	0.56
34:a:727:U:H2'	34:a:728:C:C6	2.41	0.56
34:a:918:G:O2'	34:a:920:G:OP1	2.21	0.56
34:a:1315:G:H2'	34:a:1316:A:H8	1.70	0.56
37:f:94:ASP:OD1	37:f:94:ASP:N	2.37	0.56
50:j:36:VAL:HG22	50:j:77:ILE:HG12	1.87	0.56
50:j:56:HIS:HD2	50:j:58:TYR:HB3	1.69	0.56
8:6:23:GLN:HB2	8:6:25:ARG:HH12	1.69	0.56
9:I:635:U:O4	9:I:648:G:O6	2.24	0.56
9:I:1051:C:H1'	30:W:26:TYR:HD2	1.70	0.56
9:I:1053:U:H2'	9:I:1054:G:C8	2.41	0.56
9:I:1484:A:H2'	9:I:1485:A:H8	1.70	0.56
9:I:1619:U:H2'	9:I:1620:G:H8	1.70	0.56
9:I:2378:G:C2	9:I:2379:A:H1'	2.40	0.56
12:D:107:ALA:O	12:D:110:SER:OG	2.20	0.56
17:J:74:VAL:HG21	17:J:92:LEU:HD12	1.87	0.56
36:e:106:PRO:HB3	36:e:180:ARG:HG2	1.86	0.56
38:h:35:ASN:O	38:h:39:ILE:HG22	2.06	0.56
47:c:55:GLU:OE2	47:c:68:HIS:NE2	2.38	0.56
48:g:21:GLN:O	48:g:25:GLN:HG3	2.05	0.56
53:9:21:ALA:HA	53:9:25:THR:HG22	1.86	0.56
5:2:14:ARG:NH2	9:I:899:G:OP2	2.38	0.56
34:a:388:A:H3'	34:a:389:U:H6	1.70	0.56
34:a:972:C:O2	53:9:59:ARG:HG2	2.06	0.56
36:e:96:GLU:OE1	36:e:100:LYS:NZ	2.33	0.56
9:I:1492:G:H2'	9:I:1493:C:C6	2.41	0.56
11:C:72:LYS:NZ	11:C:190:ARG:HE	2.02	0.56
20:M:37:LEU:HD11	20:M:130:ARG:HG3	1.87	0.56
34:a:36:A:N3	40:l:29:GLN:NE2	2.52	0.56
34:a:190:G:H2'	34:a:191:C:O4'	2.06	0.56
34:a:513:C:H41	40:l:50:ARG:NH2	2.04	0.56
47:c:157:LEU:HD23	47:c:196:ILE:HD13	1.88	0.56
9:I:1138:A:N3	9:I:1283:C:O2'	2.37	0.56
33:y:5:CYS:SG	33:y:8:THR:OG1	2.52	0.56
34:a:144:G:O2'	34:a:1439:A:N3	2.34	0.56
34:a:941:C:H2'	34:a:942:A:H8	1.69	0.56
9:I:91:A:H1'	9:I:92:A:C8	2.41	0.56
34:a:423:G:H2'	34:a:424:G:H8	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1172:A:H1'	49:i:127:ARG:HH21	1.71	0.56
37:f:52:ILE:C	37:f:54:LYS:H	2.13	0.56
9:I:979:A:H62	9:I:1056:U:H3	1.54	0.56
9:I:3071:U:H2'	9:I:3072:A:C8	2.40	0.56
33:y:19:SER:OG	33:y:20:HIS:N	2.39	0.56
34:a:1242:A:H5'	49:i:91:GLY:HA3	1.88	0.56
48:g:121:ALA:O	48:g:125:LEU:HG	2.06	0.56
9:I:1584:C:H2'	9:I:1585:G:H8	1.71	0.56
9:I:2302:C:H2'	9:I:2303:C:C6	2.41	0.56
12:D:38:ARG:HA	12:D:97:VAL:HG22	1.88	0.56
34:a:116:C:O2'	34:a:117:A:H8	1.88	0.56
34:a:389:U:H4'	42:p:29:ARG:HE	1.70	0.56
43:q:111:ARG:HB2	43:q:133:GLU:HB2	1.88	0.56
9:I:1191:G:H1	9:I:1205:C:H2'	1.71	0.56
9:I:1560:U:H5''	9:I:1561:C:H5	1.70	0.56
9:I:1586:G:H2'	9:I:1587:A:H8	1.70	0.56
9:I:1672:A:H2'	9:I:1673:A:C8	2.40	0.56
9:I:1707:A:H2'	9:I:1708:A:H8	1.70	0.56
9:I:1772:G:H2'	9:I:1775:G:H22	1.71	0.56
9:I:1980:U:H2'	9:I:1981:C:C6	2.41	0.56
9:I:2829:C:H2'	9:I:2830:G:H8	1.70	0.56
34:a:86:G:H2'	34:a:87:A:C8	2.41	0.56
34:a:466:C:H2'	34:a:467:G:C8	2.40	0.56
34:a:558:G:O6	40:l:1:MET:N	2.39	0.56
34:a:643:U:O4	34:a:743:G:O2'	2.18	0.56
34:a:1440:A:OP1	34:a:1441:C:N4	2.35	0.56
44:t:68:HIS:HD2	44:t:70:ASN:HB2	1.71	0.56
9:I:654:G:H2'	9:I:655:G:H5''	1.86	0.55
9:I:1618:C:H2'	9:I:1619:U:C6	2.41	0.55
9:I:1664:G:N7	11:C:31:LYS:NZ	2.54	0.55
9:I:2127:A:H2'	9:I:2128:A:C8	2.41	0.55
22:O:64:ASP:HB2	22:O:78:ARG:HG2	1.88	0.55
34:a:205:G:O2'	34:a:206:A:N3	2.31	0.55
34:a:1428:G:H2'	34:a:1429:C:C6	2.41	0.55
35:d:13:ARG:NH2	35:d:32:PRO:O	2.35	0.55
37:f:9:ILE:HG12	37:f:46:ARG:NH2	2.19	0.55
8:6:37:VAL:CG2	8:6:42:HIS:HB2	2.35	0.55
9:I:2529:U:H2'	9:I:2530:U:C6	2.41	0.55
29:V:11:VAL:HG21	29:V:67:LEU:HD23	1.87	0.55
34:a:1420:C:H2'	34:a:1421:A:C8	2.41	0.55
49:i:48:LYS:N	49:i:83:ASP:OD1	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:691:C:H2'	9:I:692:A:C8	2.40	0.55
9:I:1571:A:H2'	9:I:1572:A:O4'	2.07	0.55
9:I:3071:U:H2'	9:I:3072:A:H8	1.72	0.55
34:a:550:A:H4'	34:a:551:A:H3'	1.88	0.55
34:a:999:C:H2'	34:a:1000:G:C8	2.40	0.55
36:e:136:VAL:HA	36:e:154:ILE:HG22	1.88	0.55
53:9:4:LYS:O	53:9:8:VAL:HG12	2.06	0.55
30:W:12:ASN:HB3	30:W:14:ARG:HH12	1.70	0.55
34:a:1115:G:H4'	50:j:40:VAL:HG22	1.88	0.55
35:d:168:VAL:HG12	35:d:175:VAL:HG22	1.86	0.55
1:n:21:U:H2'	1:n:22:A:H4'	1.88	0.55
8:6:42:HIS:ND1	8:6:43:PRO:O	2.40	0.55
9:I:1613:G:H2'	9:I:1614:A:C8	2.40	0.55
9:I:1619:U:H2'	9:I:1620:G:C8	2.41	0.55
34:a:1405:C:H2'	34:a:1406:A:C8	2.41	0.55
43:q:80:ASP:OD1	43:q:81:ARG:N	2.37	0.55
9:I:781:A:H3'	9:I:782:A:C8	2.41	0.55
24:Q:122:ASN:OD1	24:Q:123:ALA:N	2.39	0.55
28:U:39:ASN:O	28:U:63:GLU:HA	2.06	0.55
28:U:80:PRO:O	28:U:100:ARG:NH2	2.39	0.55
34:a:19:A:HO2'	36:e:53:SER:H	1.51	0.55
34:a:140:U:N3	34:a:175:A:C6	2.75	0.55
34:a:727:U:H5''	37:f:91:MET:HE3	1.88	0.55
34:a:1141:C:H2'	34:a:1142:G:H8	1.72	0.55
9:I:2916:A:H2'	9:I:2917:A:H8	1.71	0.55
34:a:48:U:OP1	34:a:306:C:O2'	2.20	0.55
34:a:167:A:H2'	34:a:168:A:C8	2.42	0.55
34:a:1001:C:H2'	34:a:1002:G:H8	1.70	0.55
35:d:97:ILE:HD11	35:d:138:VAL:HG11	1.89	0.55
49:i:40:VAL:HG12	49:i:86:ALA:HA	1.87	0.55
49:i:66:GLN:HG2	49:i:67:GLN:NE2	2.21	0.55
9:I:682:C:H4'	24:Q:31:LEU:HD13	1.87	0.55
9:I:1157:A:N3	9:I:2724:G:O2'	2.36	0.55
9:I:1707:A:H2'	9:I:1708:A:C8	2.42	0.55
9:I:2366:C:H2'	9:I:2367:U:C6	2.41	0.55
9:I:2700:U:H2'	9:I:2701:U:C6	2.42	0.55
9:I:341:A:H2'	9:I:342:C:C6	2.42	0.55
22:O:13:ARG:NH1	22:O:100:GLY:O	2.40	0.55
27:T:11:ILE:O	31:Y:33:ARG:NH2	2.36	0.55
34:a:435:C:H2'	34:a:436:U:C6	2.42	0.55
4:0:24:LYS:NZ	26:S:33:LEU:O	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:1618:C:H2'	9:I:1619:U:H6	1.71	0.55
51:m:103:THR:HG22	51:m:107:ALA:HB3	1.89	0.55
9:I:191:G:OP2	33:y:26:ARG:NH2	2.40	0.54
9:I:1380:U:H4'	24:Q:4:VAL:HG21	1.88	0.54
9:I:1745:C:H5''	9:I:1746:U:H5	1.72	0.54
9:I:2380:C:H3'	9:I:2381:G:H8	1.72	0.54
9:I:2471:U:H2'	9:I:2472:G:C8	2.41	0.54
15:G:119:PRO:HG2	15:G:122:ILE:HG13	1.88	0.54
32:Z:23:LEU:HD22	32:Z:28:LEU:HD12	1.88	0.54
34:a:452:G:H2'	34:a:453:G:C8	2.42	0.54
34:a:458:G:C6	34:a:459:G:H1'	2.41	0.54
34:a:1490:G:H1'	34:a:1511:A:H2	1.72	0.54
39:k:41:ILE:HA	39:k:57:SER:HB3	1.88	0.54
41:o:33:THR:HG22	41:o:63:ARG:HH11	1.71	0.54
9:I:2484:A:H2'	9:I:2485:A:H8	1.72	0.54
29:V:10:ARG:NH1	29:V:68:ASP:O	2.34	0.54
34:a:436:U:O2'	35:d:117:HIS:NE2	2.34	0.54
34:a:1276:U:H3'	34:a:1277:U:H2'	1.88	0.54
35:d:167:GLN:OE1	35:d:178:HIS:NE2	2.41	0.54
10:B:111:G:H2'	10:B:112:A:C8	2.42	0.54
37:f:11:ASP:OD1	37:f:12:PRO:HD2	2.07	0.54
51:m:42:ASP:OD1	51:m:44:ARG:NH1	2.41	0.54
9:I:1955:G:N2	9:I:1974:G:C6	2.75	0.54
34:a:319:G:H2'	34:a:320:A:C8	2.43	0.54
34:a:513:C:OP2	40:l:66:TYR:OH	2.18	0.54
52:s:60:VAL:HG21	52:s:74:PHE:HB3	1.89	0.54
9:I:1223:U:H1'	9:I:1227:A:C6	2.43	0.54
14:F:15:TYR:O	14:F:19:ILE:HG13	2.06	0.54
20:M:116:ALA:O	20:M:120:ARG:HG2	2.08	0.54
34:a:376:G:H5''	42:p:25:ALA:HB1	1.88	0.54
4:O:8:LYS:HB3	4:O:13:THR:HG22	1.90	0.54
19:L:54:MET:O	19:L:59:ARG:NH1	2.40	0.54
27:T:86:LEU:HD11	27:T:93:ILE:HG13	1.90	0.54
34:a:254:G:H2'	34:a:255:U:C6	2.42	0.54
34:a:703:A:H2'	34:a:704:G:C8	2.42	0.54
34:a:914:U:C6	34:a:914:U:H5''	2.42	0.54
43:q:127:ARG:HH21	43:q:129:VAL:HG22	1.71	0.54
47:c:51:ILE:HG23	47:c:67:ILE:HG23	1.90	0.54
7:4:22:ARG:HH21	7:4:35:ARG:HD2	1.72	0.54
9:I:293:G:H8	9:I:338:G:H2'	1.72	0.54
9:I:648:G:H2'	9:I:649:A:H8	1.71	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:2370:G:O2'	9:I:2394:G:N2	2.35	0.54
9:I:2936:U:H2'	9:I:2937:C:C6	2.43	0.54
30:W:21:LEU:HD21	30:W:41:ARG:HH21	1.72	0.54
34:a:374:U:H2'	34:a:375:G:H8	1.72	0.54
34:a:1306:C:H2'	34:a:1307:U:C6	2.42	0.54
48:g:138:ARG:O	48:g:141:THR:OG1	2.22	0.54
51:m:82:ILE:HG23	51:m:93:ARG:HE	1.72	0.54
9:I:682:C:H2'	9:I:683:C:C6	2.43	0.54
9:I:2380:C:H3'	9:I:2381:G:C8	2.42	0.54
14:F:124:LEU:HB2	14:F:137:PHE:CZ	2.42	0.54
15:G:43:VAL:HG23	15:G:53:VAL:HG22	1.90	0.54
34:a:481:U:H2'	34:a:482:G:C8	2.43	0.54
34:a:1515:U:H5''	39:k:138:ARG:HH22	1.72	0.54
36:e:95:VAL:O	36:e:99:ARG:HG2	2.08	0.54
9:I:648:G:H2'	9:I:649:A:C8	2.43	0.54
9:I:1606:G:H2'	9:I:1607:G:C8	2.43	0.54
9:I:1641:U:H2'	9:I:1642:G:C8	2.43	0.54
9:I:2348:U:H5	9:I:2384:A:H8	1.54	0.54
14:F:73:GLU:OE2	14:F:75:ARG:NH1	2.36	0.54
34:a:653:C:H2'	34:a:654:A:C8	2.43	0.54
34:a:998:A:H3'	34:a:999:C:C6	2.43	0.54
34:a:1284:C:H2'	34:a:1285:G:H8	1.72	0.54
6:3:19:THR:OG1	9:I:755:G:OP1	2.26	0.54
9:I:1958:C:N4	9:I:1970:G:H1	2.02	0.54
28:U:24:LEU:HD21	28:U:36:GLU:HB3	1.89	0.54
34:a:311:C:H2'	34:a:312:A:C8	2.43	0.54
34:a:830:U:O4	34:a:840:G:O6	2.25	0.54
34:a:1377:C:H2'	34:a:1378:G:C8	2.42	0.54
9:I:943:C:H1'	9:I:1356:G:H21	1.73	0.53
9:I:1822:C:H2'	9:I:1823:A:C8	2.43	0.53
28:U:41:ILE:O	28:U:61:THR:N	2.41	0.53
34:a:182:C:H2'	34:a:183:A:C8	2.43	0.53
34:a:604:C:H2'	34:a:605:A:H8	1.73	0.53
34:a:832:C:H2'	34:a:835:C:C4	2.43	0.53
34:a:1016:G:N3	34:a:1016:G:H2'	2.23	0.53
34:a:1349:A:H61	34:a:1358:G:H1	1.55	0.53
9:I:787:G:H21	13:E:112:MET:CE	2.22	0.53
9:I:1196:A:O2'	9:I:1224:A:N1	2.40	0.53
9:I:1484:A:H2'	9:I:1485:A:C8	2.43	0.53
9:I:1582:A:N6	9:I:1622:G:H21	1.99	0.53
9:I:2566:A:H2'	9:I:2567:A:H8	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:444:U:H2'	34:a:445:C:H6	1.73	0.53
34:a:836:C:O3'	34:a:837:U:H2'	2.06	0.53
34:a:945:U:H2'	34:a:946:G:H8	1.72	0.53
35:d:81:THR:HB	36:e:134:THR:HG21	1.90	0.53
47:c:107:ASN:ND2	47:c:143:GLN:OE1	2.40	0.53
9:I:925:U:H2'	9:I:926:C:C6	2.43	0.53
9:I:2378:G:O6	9:I:2388:G:N2	2.41	0.53
9:I:2479:A:H2'	9:I:2480:G:C8	2.44	0.53
34:a:462:C:H2'	34:a:463:U:O4'	2.09	0.53
34:a:1120:C:H1'	34:a:1121:A:H2	1.73	0.53
34:a:1171:A:O2'	49:i:127:ARG:HG2	2.09	0.53
35:d:71:TYR:HE2	35:d:196:VAL:HA	1.73	0.53
37:f:10:LEU:H	37:f:59:ILE:HG12	1.73	0.53
52:s:50:ALA:HB1	52:s:57:HIS:HB3	1.89	0.53
52:s:55:ARG:O	52:s:56:LYS:HD3	2.08	0.53
9:I:1203:G:H2'	9:I:1204:C:C6	2.43	0.53
10:B:110:C:H2'	10:B:111:G:H8	1.74	0.53
19:L:30:LYS:HE3	19:L:31:THR:HG23	1.90	0.53
23:P:48:ARG:HH21	23:P:59:THR:HG21	1.72	0.53
29:V:140:GLU:HB3	29:V:141:GLN:OE1	2.09	0.53
34:a:268:U:H2'	34:a:269:A:C8	2.43	0.53
34:a:483:G:H2'	34:a:484:A:C8	2.43	0.53
34:a:1004:C:H2'	34:a:1005:U:C6	2.44	0.53
49:i:33:ARG:HG3	49:i:36:ALA:C	2.34	0.53
9:I:638:C:N4	9:I:641:U:O4	2.41	0.53
30:W:23:VAL:HG22	30:W:38:VAL:HG22	1.91	0.53
34:a:421:C:O2'	34:a:422:G:N2	2.41	0.53
34:a:971:A:C8	34:a:972:C:H5	2.25	0.53
34:a:1232:U:OP2	48:g:115:THR:OG1	2.27	0.53
34:a:1452:G:H2'	34:a:1453:A:H8	1.73	0.53
50:j:10:LEU:H	50:j:74:ILE:HD12	1.72	0.53
9:I:1298:U:H2'	9:I:1299:C:C6	2.44	0.53
9:I:1727:A:N6	11:C:98:LEU:O	2.42	0.53
9:I:2275:U:H2'	9:I:2276:C:C6	2.44	0.53
9:I:2456:U:OP1	33:y:46:ARG:NH1	2.40	0.53
9:I:2513:C:O2'	20:M:84:GLY:O	2.26	0.53
14:F:117:ARG:HH12	14:F:146:HIS:HB3	1.74	0.53
30:W:81:VAL:HG13	30:W:83:SER:H	1.74	0.53
33:y:67:VAL:O	33:y:71:LEU:HG	2.09	0.53
34:a:182:C:H2'	34:a:183:A:H8	1.73	0.53
34:a:1065:G:H22	34:a:1073:A:H2	1.55	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1425:G:O2'	34:a:1461:A:N6	2.42	0.53
43:q:128:LEU:HD21	43:q:131:ILE:HD11	1.91	0.53
49:i:135:LYS:HA	49:i:141:LYS:HA	1.91	0.53
9:I:1116:C:O2'	9:I:1129:A:N3	2.36	0.53
9:I:2372:A:OP2	9:I:2393:G:N2	2.39	0.53
30:W:43:THR:HG22	30:W:43:THR:O	2.08	0.53
41:o:68:LYS:O	41:o:72:GLN:HG2	2.09	0.53
48:g:73:LEU:HD23	48:g:145:ALA:HB1	1.91	0.53
49:i:79:VAL:HG21	49:i:108:LEU:HD11	1.91	0.53
49:i:109:ILE:HG12	49:i:116:ARG:HD3	1.91	0.53
50:j:41:PRO:HA	50:j:72:ARG:HB2	1.90	0.53
50:j:56:HIS:CD2	50:j:58:TYR:HB3	2.43	0.53
9:I:752:G:H2'	9:I:753:G:H8	1.73	0.53
9:I:1221:C:H2'	9:I:1222:G:O4'	2.09	0.53
9:I:2102:C:H2'	9:I:2103:C:C6	2.43	0.53
12:D:26:VAL:HG21	12:D:193:LEU:HB3	1.91	0.53
31:Y:34:PHE:O	31:Y:38:THR:HG23	2.09	0.53
34:a:49:G:O2'	34:a:364:U:O2	2.26	0.53
34:a:91:A:C6	34:a:92:C:C4	2.97	0.53
34:a:513:C:H41	40:l:50:ARG:HH21	1.57	0.53
34:a:736:A:H2'	34:a:737:G:H8	1.73	0.53
34:a:931:A:N3	34:a:1369:U:O2'	2.33	0.53
9:I:2307:G:H2'	9:I:2308:A:C8	2.42	0.53
9:I:2349:G:H2'	9:I:2350:U:C6	2.44	0.53
29:V:14:ARG:HG2	29:V:44:HIS:ND1	2.24	0.53
9:I:2367:U:H4'	9:I:2371:A:H1'	1.90	0.53
20:M:35:GLN:OE1	20:M:130:ARG:NH2	2.37	0.53
34:a:753:A:H2'	34:a:754:G:C8	2.43	0.53
38:h:114:THR:HG22	38:h:115:ASP:OD2	2.09	0.53
38:h:115:ASP:OD2	38:h:115:ASP:N	2.40	0.53
40:l:33:VAL:HG13	40:l:35:THR:HG23	1.91	0.53
9:I:160:U:H2'	9:I:161:G:O4'	2.09	0.52
9:I:355:C:H2'	9:I:356:A:H8	1.74	0.52
9:I:622:U:H2'	9:I:623:C:C6	2.44	0.52
9:I:1008:A:H2'	9:I:1009:U:O4'	2.09	0.52
9:I:1957:A:H61	9:I:1972:G:H1'	1.74	0.52
9:I:2225:C:H2'	9:I:2226:A:H8	1.73	0.52
18:K:64:ARG:NH1	18:K:81:GLU:OE2	2.42	0.52
34:a:22:C:H2'	34:a:23:U:H6	1.74	0.52
34:a:1379:G:H2'	34:a:1380:G:H8	1.74	0.52
42:p:71:LEU:HB3	42:p:75:LYS:HZ2	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:s:45:ILE:HA	52:s:62:VAL:HG23	1.90	0.52
9:I:333:U:H2'	9:I:334:C:C6	2.44	0.52
9:I:1873:C:O2	9:I:2936:U:O2'	2.27	0.52
9:I:2098:U:OP1	9:I:2648:G:O2'	2.25	0.52
9:I:2109:G:H2'	9:I:2110:G:H8	1.73	0.52
20:M:20:ILE:HD13	20:M:99:PRO:HB2	1.92	0.52
34:a:69:A:H5''	34:a:210:C:O2'	2.08	0.52
34:a:748:U:OP1	34:a:813:G:O2'	2.26	0.52
34:a:970:A:O2'	34:a:972:C:OP2	2.27	0.52
40:l:73:ASN:N	40:l:73:ASN:OD1	2.41	0.52
9:I:2375:C:N4	9:I:2391:G:O6	2.43	0.52
9:I:2541:G:H21	14:F:136:THR:HG21	1.74	0.52
18:K:73:ASP:OD1	18:K:75:SER:OG	2.19	0.52
34:a:978:C:H2'	34:a:979:U:H6	1.73	0.52
34:a:1127:U:H2'	34:a:1128:A:C8	2.44	0.52
38:h:25:VAL:HG22	38:h:62:ILE:HB	1.89	0.52
9:I:718:G:N1	13:E:193:ASP:OD1	2.42	0.52
9:I:1234:U:H2'	9:I:1235:G:H8	1.74	0.52
9:I:2418:G:H3'	9:I:2419:A:C8	2.44	0.52
9:I:2833:G:N2	9:I:2836:A:OP2	2.33	0.52
12:D:58:SER:HB3	12:D:61:LYS:HD2	1.92	0.52
34:a:979:U:O2'	52:s:55:ARG:O	2.27	0.52
34:a:997:G:H2'	34:a:998:A:O4'	2.09	0.52
34:a:1233:G:H2'	34:a:1234:G:H8	1.74	0.52
50:j:51:VAL:HG13	53:9:81:ARG:HB2	1.91	0.52
9:I:904:G:H5'	9:I:906:G:H1'	1.89	0.52
9:I:2256:G:O2'	24:Q:34:LYS:HE3	2.09	0.52
9:I:2351:A:H2'	9:I:2352:G:C8	2.44	0.52
15:G:149:ILE:HG22	15:G:163:VAL:HG11	1.89	0.52
15:G:157:PRO:HB2	15:G:173:LYS:HG2	1.91	0.52
34:a:121:G:H5'	34:a:624:G:N2	2.24	0.52
34:a:591:G:H2'	34:a:592:U:C6	2.44	0.52
42:p:72:LYS:HE3	42:p:76:ILE:HD11	1.91	0.52
47:c:69:THR:HG21	47:c:75:VAL:HG21	1.90	0.52
50:j:51:VAL:O	50:j:63:GLU:N	2.42	0.52
9:I:1548:G:O2'	9:I:1820:A:N1	2.37	0.52
9:I:2221:U:H4'	9:I:2844:C:H4'	1.90	0.52
34:a:482:G:H2'	34:a:483:G:C8	2.45	0.52
34:a:1424:C:H2'	34:a:1425:G:O4'	2.10	0.52
37:f:8:VAL:HG13	37:f:85:VAL:HG13	1.92	0.52
49:i:109:ILE:HA	49:i:116:ARG:HD2	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:334:C:H2'	9:I:335:A:C8	2.43	0.52
9:I:1576:C:H2'	9:I:1577:C:C6	2.44	0.52
9:I:2816:G:H21	12:D:135:GLN:NE2	2.07	0.52
11:C:156:ALA:HB2	11:C:163:ILE:HG13	1.92	0.52
22:O:43:HIS:ND1	22:O:59:SER:OG	2.42	0.52
34:a:428:U:H3	34:a:430:A:H62	1.55	0.52
34:a:997:G:N2	34:a:1019:C:N3	2.58	0.52
37:f:4:TYR:CD2	37:f:72:VAL:HG21	2.45	0.52
48:g:44:TYR:O	48:g:48:GLU:HG2	2.10	0.52
4:O:6:ARG:NE	9:I:2257:C:H41	2.08	0.52
9:I:488:U:H2'	9:I:489:G:O4'	2.09	0.52
9:I:2658:C:H5''	54:b:8:ILE:HD13	1.92	0.52
9:I:2773:G:H2'	9:I:2774:G:H8	1.74	0.52
43:q:100:HIS:HB2	43:q:124:LYS:HE2	1.91	0.52
45:x:21:LEU:HA	45:x:28:ARG:HH12	1.73	0.52
47:c:18:TRP:H	47:c:18:TRP:CD1	2.27	0.52
51:m:84:ILE:HG22	52:s:74:PHE:CE1	2.45	0.52
9:I:992:A:H2'	9:I:993:G:C8	2.45	0.52
9:I:1636:U:H2'	9:I:1637:U:C6	2.45	0.52
9:I:2353:G:N1	9:I:2397:U:O2'	2.43	0.52
14:F:113:ILE:HD12	14:F:114:ALA:N	2.25	0.52
15:G:27:LYS:HD2	15:G:28:GLY:H	1.74	0.52
34:a:978:C:H2'	34:a:979:U:C6	2.44	0.52
34:a:1339:G:N2	34:a:1367:A:OP2	2.34	0.52
9:I:1957:A:N6	9:I:1972:G:H1'	2.25	0.52
9:I:1980:U:H2'	9:I:1981:C:H6	1.74	0.52
9:I:2856:G:H21	12:D:160:VAL:HG21	1.75	0.52
34:a:435:C:H5''	35:d:148:VAL:HG21	1.91	0.52
34:a:452:G:H2'	34:a:453:G:H8	1.75	0.52
34:a:727:U:H2'	34:a:728:C:H6	1.74	0.52
34:a:1019:C:N4	34:a:1027:G:N3	2.58	0.52
34:a:1133:U:H2'	34:a:1134:G:C8	2.45	0.52
47:c:20:SER:HB2	47:c:22:TRP:CZ3	2.45	0.52
49:i:105:ALA:O	49:i:109:ILE:HG13	2.10	0.52
1:n:44:A:H2'	1:n:45:A:C8	2.45	0.51
9:I:974:G:OP2	9:I:974:G:N2	2.21	0.51
9:I:2775:U:H2'	9:I:2776:C:C6	2.45	0.51
10:B:61:U:H2'	10:B:62:G:C8	2.45	0.51
24:Q:50:ARG:O	24:Q:54:LYS:NZ	2.42	0.51
24:Q:77:ASN:OD1	24:Q:78:ARG:N	2.43	0.51
34:a:253:G:H2'	34:a:254:G:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:450:A:H1'	34:a:451:A:C2	2.45	0.51
34:a:1109:U:OP1	49:i:32:ARG:NH1	2.43	0.51
50:j:8:ILE:HA	50:j:100:ILE:HG12	1.92	0.51
53:9:64:ASP:OD1	53:9:65:ALA:N	2.43	0.51
9:I:296:U:O4	9:I:297:A:N6	2.43	0.51
9:I:1578:C:H2'	9:I:1579:A:H8	1.74	0.51
9:I:2853:U:H2'	9:I:2854:C:H6	1.75	0.51
22:O:73:LYS:O	22:O:77:VAL:HG23	2.10	0.51
22:O:81:GLN:O	22:O:85:GLU:HG2	2.09	0.51
29:V:10:ARG:HA	29:V:68:ASP:OD1	2.10	0.51
34:a:668:U:H3	34:a:704:G:H22	1.58	0.51
9:I:2829:C:H2'	9:I:2830:G:C8	2.45	0.51
28:U:81:THR:HG21	28:U:98:SER:HB2	1.92	0.51
34:a:1506:A:OP2	45:x:18:ARG:NH2	2.42	0.51
35:d:92:ARG:NH2	35:d:94:ASP:OD2	2.43	0.51
50:j:47:ASN:HB2	50:j:67:MET:HB3	1.93	0.51
9:I:988:G:O2'	9:I:1045:G:O6	2.26	0.51
9:I:1622:G:H2'	9:I:1623:G:O4'	2.11	0.51
34:a:426:U:OP2	34:a:427:G:O2'	2.27	0.51
34:a:504:A:H2'	34:a:505:C:C6	2.45	0.51
34:a:521:G:H5'	34:a:522:U:OP1	2.10	0.51
35:d:148:VAL:HG13	35:d:152:ILE:HG13	1.91	0.51
50:j:12:ALA:HB2	50:j:18:ILE:HD13	1.91	0.51
1:n:34:U:OP2	49:i:151:ARG:NH1	2.44	0.51
9:I:858:G:O2'	9:I:892:G:H4'	2.10	0.51
9:I:1586:G:H2'	9:I:1587:A:C8	2.45	0.51
9:I:2127:A:H2'	9:I:2128:A:H8	1.75	0.51
9:I:2387:U:H2'	9:I:2388:G:C8	2.46	0.51
34:a:77:G:H3'	34:a:78:U:C6	2.45	0.51
34:a:268:U:H2'	34:a:269:A:H8	1.75	0.51
34:a:426:U:OP1	35:d:13:ARG:NH1	2.44	0.51
34:a:1312:C:H2'	34:a:1313:U:C6	2.45	0.51
34:a:1334:C:H2'	34:a:1335:G:C8	2.46	0.51
35:d:132:VAL:HG13	35:d:136:ASP:HB3	1.92	0.51
36:e:67:LEU:HD22	36:e:165:ILE:HD13	1.93	0.51
9:I:1009:U:H2'	9:I:1010:G:O4'	2.10	0.51
9:I:1185:G:O2'	9:I:1232:A:N6	2.43	0.51
9:I:1578:C:H2'	9:I:1579:A:C8	2.45	0.51
9:I:1802:C:OP1	11:C:4:ARG:NH2	2.44	0.51
9:I:2252:A:H2'	9:I:2253:A:C8	2.46	0.51
10:B:47:C:H2'	10:B:48:C:H6	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:F:173:GLY:O	14:F:177:LEU:HG	2.11	0.51
34:a:68:A:H5'	34:a:211:G:H4'	1.91	0.51
34:a:210:C:H2'	34:a:211:G:C8	2.46	0.51
38:h:40:LEU:HD21	38:h:45:TYR:HB2	1.92	0.51
40:l:54:ARG:NH1	40:l:64:THR:OG1	2.33	0.51
47:c:119:VAL:HG13	47:c:132:ALA:HB1	1.91	0.51
51:m:70:LEU:O	51:m:73:GLU:HG2	2.10	0.51
9:I:503:C:H2'	9:I:504:A:H8	1.76	0.51
9:I:1808:A:H2'	9:I:1809:A:C8	2.45	0.51
34:a:180:A:C6	34:a:204:G:N2	2.79	0.51
34:a:998:A:H3'	34:a:999:C:H6	1.75	0.51
35:d:90:GLU:HA	35:d:95:ASN:ND2	2.26	0.51
47:c:49:ALA:HA	47:c:71:ARG:HB2	1.92	0.51
53:9:87:LEU:HB3	53:9:92:HIS:HB2	1.93	0.51
9:I:1564:C:H2'	9:I:1565:G:C8	2.44	0.51
9:I:1806:A:H2'	9:I:1807:A:C8	2.46	0.51
9:I:2661:U:H1'	9:I:2663:A:C5	2.45	0.51
9:I:2865:G:N2	9:I:3015:G:OP2	2.42	0.51
34:a:63:A:N6	34:a:105:C:N4	2.59	0.51
34:a:118:C:H5''	34:a:310:C:O2'	2.11	0.51
34:a:311:C:H2'	34:a:312:A:H8	1.76	0.51
41:o:4:THR:HG22	41:o:7:GLN:NE2	2.26	0.51
9:I:470:G:OP1	33:y:24:ARG:NH1	2.44	0.51
9:I:570:G:O2'	9:I:595:U:O4	2.24	0.51
9:I:699:U:H2'	9:I:700:G:H8	1.76	0.51
9:I:1214:A:H2'	9:I:1215:A:C8	2.45	0.51
9:I:1954:U:H2'	9:I:1955:G:C8	2.45	0.51
9:I:2049:A:OP2	11:C:54:LYS:NZ	2.42	0.51
9:I:2311:U:H2'	9:I:2312:U:C6	2.46	0.51
21:N:10:LEU:HB2	21:N:17:GLN:HG3	1.92	0.51
26:S:68:ALA:HB1	26:S:74:LEU:HD12	1.92	0.51
34:a:262:A:H2'	34:a:263:C:C6	2.46	0.51
48:g:75:VAL:HB	48:g:86:GLN:HB3	1.92	0.51
8:6:37:VAL:HG23	8:6:42:HIS:HB2	1.93	0.51
9:I:630:U:H2'	9:I:631:C:C6	2.46	0.51
9:I:2401:U:H3'	9:I:2402:G:C8	2.46	0.51
9:I:2602:C:HO2'	30:W:58:THR:HG1	1.53	0.51
33:y:31:PRO:HG2	33:y:33:ILE:HD11	1.93	0.51
34:a:59:U:H2'	34:a:60:G:C8	2.45	0.51
34:a:469:A:H3'	34:a:470:U:H4'	1.94	0.51
34:a:706:A:H2'	34:a:707:A:H8	1.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:912:A:C8	34:a:912:A:C5'	2.85	0.51
34:a:1121:A:C2	34:a:1138:A:C6	2.99	0.51
1:n:44:A:H2'	1:n:45:A:H8	1.76	0.50
9:I:690:U:H2'	9:I:691:C:C6	2.46	0.50
9:I:1577:C:H2'	9:I:1578:C:H6	1.76	0.50
9:I:1887:A:C6	21:N:8:PRO:HG2	2.46	0.50
9:I:2035:G:OP2	11:C:154:LYS:NZ	2.38	0.50
18:K:8:LEU:HD23	18:K:82:ASN:HB3	1.93	0.50
34:a:1134:G:C2	34:a:1135:G:H1'	2.46	0.50
37:f:10:LEU:HB3	37:f:59:ILE:HD11	1.93	0.50
48:g:137:ARG:HH11	48:g:137:ARG:HG2	1.75	0.50
9:I:832:U:H2'	9:I:833:G:O4'	2.11	0.50
9:I:1187:G:H2'	9:I:1188:G:H8	1.77	0.50
9:I:2080:G:H2'	9:I:2081:A:C8	2.46	0.50
17:J:90:GLY:O	17:J:94:GLN:HG2	2.11	0.50
18:K:12:ASP:HB3	18:K:98:ILE:HG22	1.92	0.50
23:P:30:LYS:NZ	23:P:78:PRO:O	2.44	0.50
25:R:65:VAL:HA	25:R:98:LEU:HD23	1.93	0.50
34:a:259:G:OP1	44:t:75:LYS:NZ	2.32	0.50
34:a:461:U:H3'	34:a:462:C:C6	2.46	0.50
34:a:546:C:H2'	34:a:547:C:H6	1.76	0.50
34:a:783:A:H1'	34:a:785:A:N7	2.26	0.50
36:e:184:VAL:HG21	38:h:101:LEU:HD23	1.93	0.50
39:k:45:THR:HG22	39:k:51:VAL:HG22	1.94	0.50
48:g:75:VAL:HG13	48:g:145:ALA:HA	1.93	0.50
54:b:17:THR:HG21	54:b:43:LEU:HG	1.93	0.50
9:I:307:U:H2'	9:I:308:G:H8	1.75	0.50
9:I:871:U:H2'	9:I:872:A:H8	1.75	0.50
9:I:2368:G:N1	9:I:2396:G:OP1	2.44	0.50
10:B:111:G:H2'	10:B:112:A:H8	1.76	0.50
12:D:127:MET:SD	12:D:146:ARG:HA	2.51	0.50
22:O:72:LYS:HB3	22:O:107:ARG:HD3	1.94	0.50
34:a:967:A:OP2	50:j:57:LYS:NZ	2.44	0.50
39:k:78:GLU:HG3	39:k:109:SER:OG	2.11	0.50
39:k:91:LYS:HG3	39:k:116:GLU:HB2	1.93	0.50
4:O:9:SER:O	4:O:13:THR:HG23	2.12	0.50
9:I:1207:C:H5''	9:I:1208:C:C6	2.46	0.50
9:I:1567:U:O2'	9:I:1568:A:OP2	2.25	0.50
9:I:1647:U:H2'	9:I:1648:A:H8	1.77	0.50
9:I:2364:G:OP2	9:I:2399:G:O2'	2.27	0.50
9:I:2481:U:H2'	9:I:2482:U:H6	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:F:135:TYR:CD1	14:F:163:VAL:HG22	2.46	0.50
34:a:938:G:C2	34:a:939:A:C8	2.99	0.50
34:a:1180:A:O3'	53:9:98:LYS:NZ	2.33	0.50
51:m:52:GLN:O	51:m:56:LEU:HG	2.11	0.50
52:s:13:GLU:O	52:s:17:LYS:HG3	2.11	0.50
1:n:63:C:H2'	1:n:64:G:C8	2.47	0.50
5:2:28:ARG:NH1	9:I:212:C:OP1	2.44	0.50
9:I:1952:C:H2'	9:I:1953:G:C8	2.47	0.50
34:a:389:U:H2'	34:a:390:G:H8	1.76	0.50
34:a:536:C:OP2	35:d:54:GLN:NE2	2.40	0.50
34:a:1154:C:H2'	34:a:1155:G:H8	1.77	0.50
34:a:1362:C:H2'	34:a:1363:G:C8	2.47	0.50
35:d:92:ARG:NH1	35:d:129:SER:OG	2.44	0.50
42:p:23:ALA:HB2	42:p:33:ALA:HA	1.94	0.50
47:c:71:ARG:O	47:c:75:VAL:HG23	2.11	0.50
49:i:38:VAL:HG13	49:i:88:LEU:HA	1.94	0.50
49:i:140:LYS:O	49:i:142:ALA:N	2.42	0.50
9:I:1917:C:H2'	9:I:1918:C:C6	2.47	0.50
15:G:103:ASN:ND2	15:G:117:GLU:OE2	2.33	0.50
34:a:24:G:H2'	34:a:25:G:C8	2.46	0.50
34:a:174:G:H2'	34:a:175:A:C8	2.45	0.50
34:a:668:U:O2	34:a:768:A:O2'	2.29	0.50
34:a:760:G:H4'	34:a:1506:A:H4'	1.94	0.50
34:a:1119:C:H2'	34:a:1120:C:C6	2.46	0.50
48:g:121:ALA:O	48:g:124:ILE:HG13	2.11	0.50
9:I:230:U:H4'	9:I:231:U:OP1	2.11	0.50
9:I:390:G:N1	9:I:393:A:OP2	2.43	0.50
9:I:738:G:H2'	9:I:739:C:C6	2.47	0.50
9:I:1698:C:O2	9:I:1700:C:N4	2.35	0.50
9:I:2353:G:H1	9:I:2397:U:HO2'	1.56	0.50
9:I:3027:C:O3'	9:I:3028:A:H8	1.94	0.50
15:G:53:VAL:O	15:G:66:HIS:HE1	1.95	0.50
19:L:24:GLY:O	19:L:29:GLY:HA2	2.11	0.50
34:a:205:G:O2'	34:a:206:A:O4'	2.29	0.50
34:a:324:A:H61	42:p:26:ARG:HH22	1.59	0.50
34:a:460:U:P	34:a:462:C:H42	2.35	0.50
34:a:555:C:OP1	40:l:12:ARG:NH1	2.44	0.50
34:a:884:U:H2'	34:a:885:A:H8	1.76	0.50
34:a:905:C:H2'	34:a:906:A:C8	2.47	0.50
34:a:998:A:C5	34:a:999:C:H1'	2.47	0.50
34:a:1139:C:H2'	34:a:1140:U:H6	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:m:84:ILE:HG22	52:s:74:PHE:HE1	1.76	0.50
9:I:503:C:H2'	9:I:504:A:C8	2.46	0.50
9:I:2091:G:N2	9:I:2124:U:O4	2.45	0.50
9:I:2348:U:C5	9:I:2384:A:H8	2.29	0.50
33:y:7:VAL:HG12	33:y:71:LEU:HD11	1.94	0.50
34:a:549:G:OP2	34:a:550:A:O2'	2.24	0.50
48:g:103:TRP:CH2	48:g:141:THR:HG21	2.47	0.50
9:I:947:G:N1	9:I:1320:U:OP2	2.31	0.50
9:I:1133:C:H2'	9:I:1140:G:H2'	1.94	0.50
9:I:2371:A:C6	9:I:2395:A:H4'	2.47	0.50
13:E:12:ASP:OD1	13:E:12:ASP:N	2.44	0.50
13:E:71:PRO:HG2	13:E:82:GLN:HG3	1.93	0.50
34:a:45:G:H2'	34:a:46:C:O4'	2.12	0.50
34:a:389:U:H2'	34:a:390:G:C8	2.47	0.50
34:a:510:C:H2'	34:a:511:A:C8	2.47	0.50
34:a:819:A:H2'	34:a:820:G:O4'	2.12	0.50
34:a:1121:A:C5	34:a:1122:G:N7	2.80	0.50
34:a:1500:A:H2'	34:a:1501:G:C8	2.47	0.50
37:f:7:MET:HA	37:f:61:VAL:O	2.12	0.50
48:g:16:PRO:HB3	49:i:67:GLN:HG2	1.93	0.50
50:j:4:GLN:HB3	50:j:76:ILE:HG21	1.93	0.50
51:m:10:PRO:HB2	51:m:13:LYS:HG3	1.94	0.50
9:I:221:A:N3	9:I:236:U:O2'	2.33	0.49
9:I:350:A:H2'	9:I:351:G:C8	2.47	0.49
9:I:778:G:H3'	9:I:781:A:H61	1.75	0.49
9:I:1222:G:H2'	9:I:1223:U:C6	2.46	0.49
9:I:2177:U:OP1	9:I:2842:U:O2'	2.29	0.49
9:I:2337:G:H2'	9:I:2338:G:C8	2.47	0.49
34:a:57:C:OP1	34:a:350:G:N2	2.45	0.49
34:a:209:G:H2'	34:a:210:C:H6	1.77	0.49
34:a:968:A:N1	34:a:1359:C:O2'	2.41	0.49
43:q:60:THR:HA	43:q:114:LEU:O	2.12	0.49
48:g:48:GLU:CD	48:g:51:ARG:HH12	2.19	0.49
48:g:111:ARG:NH1	48:g:126:ASP:OD2	2.45	0.49
9:I:1051:C:H1'	30:W:26:TYR:CD2	2.47	0.49
9:I:2661:U:C2	9:I:2663:A:C6	2.99	0.49
9:I:2750:C:H2'	9:I:2751:G:O4'	2.12	0.49
22:O:78:ARG:O	22:O:82:LEU:HG	2.12	0.49
34:a:527:C:H2'	34:a:528:G:H8	1.77	0.49
34:a:1304:G:C2	34:a:1318:C:C2	3.00	0.49
35:d:88:ILE:O	35:d:91:SER:OG	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:f:27:LEU:O	37:f:31:ARG:HG3	2.12	0.49
44:t:17:ALA:O	44:t:21:ASN:ND2	2.45	0.49
8:6:10:GLU:OE1	8:6:29:PRO:HD3	2.12	0.49
9:I:647:G:H2'	9:I:648:G:H8	1.77	0.49
9:I:775:C:N4	9:I:776:G:O6	2.45	0.49
9:I:942:U:H2'	9:I:943:C:C6	2.47	0.49
9:I:1640:C:H2'	9:I:1641:U:C6	2.47	0.49
9:I:2013:U:H5	9:I:2018:A:N7	2.09	0.49
14:F:118:ILE:HG13	14:F:121:PHE:HB2	1.94	0.49
17:J:142:LEU:H	17:J:142:LEU:HD12	1.77	0.49
24:Q:24:TYR:HB3	24:Q:28:ARG:HB2	1.93	0.49
34:a:408:G:H2'	34:a:409:G:O4'	2.12	0.49
34:a:421:C:O2'	34:a:422:G:H5''	2.12	0.49
34:a:491:G:H2'	34:a:492:C:C6	2.47	0.49
34:a:753:A:H2'	34:a:754:G:H8	1.77	0.49
34:a:913:U:C6	34:a:913:U:C5'	2.91	0.49
34:a:1032:U:H2'	34:a:1033:G:C8	2.47	0.49
34:a:1417:U:H2'	34:a:1418:A:C8	2.48	0.49
38:h:121:GLN:HB2	38:h:123:VAL:HG12	1.92	0.49
1:n:29:C:H2'	1:n:30:G:H8	1.77	0.49
4:0:27:LEU:HD11	4:0:44:LEU:HD13	1.94	0.49
9:I:281:G:N2	9:I:307:U:O2	2.38	0.49
9:I:285:G:N2	9:I:302:U:H3	2.10	0.49
9:I:1270:U:H1'	9:I:1272:A:C6	2.48	0.49
9:I:1625:U:H2'	9:I:1626:G:C8	2.47	0.49
9:I:1721:A:H2'	9:I:1722:G:C8	2.47	0.49
9:I:2520:G:C6	9:I:2663:A:H2	2.29	0.49
9:I:2795:G:H2'	9:I:2796:C:C6	2.47	0.49
17:J:13:ARG:NH2	17:J:49:ASP:O	2.37	0.49
34:a:977:C:H2'	34:a:978:C:H6	1.77	0.49
34:a:1008:A:H2'	34:a:1009:G:C8	2.47	0.49
34:a:1108:G:H21	49:i:127:ARG:NH2	2.10	0.49
34:a:1142:G:H1'	34:a:1272:A:N6	2.27	0.49
43:q:72:LYS:O	43:q:100:HIS:ND1	2.45	0.49
47:c:52:ALA:HB2	47:c:114:LEU:HD21	1.95	0.49
1:n:1:C:H42	1:n:73:A:H61	1.61	0.49
4:0:10:ARG:HH12	24:Q:30:ARG:HE	1.59	0.49
6:3:28:ASN:O	6:3:36:LYS:NZ	2.32	0.49
9:I:346:G:H2'	9:I:347:C:C6	2.47	0.49
9:I:1581:A:H3'	9:I:1582:A:H8	1.78	0.49
9:I:1593:C:H2'	9:I:1594:A:H8	1.75	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:2323:U:H2'	9:I:2324:G:C8	2.48	0.49
9:I:2372:A:N1	9:I:2393:G:O2'	2.44	0.49
9:I:2567:A:H2'	9:I:2568:U:C6	2.47	0.49
29:V:7:ASN:HD21	29:V:58:HIS:CD2	2.30	0.49
34:a:177:A:H3'	34:a:178:G:C8	2.47	0.49
34:a:334:C:H2'	34:a:335:A:C8	2.47	0.49
34:a:1318:C:H2'	34:a:1319:C:C6	2.45	0.49
37:f:10:LEU:HD13	37:f:84:SER:O	2.12	0.49
38:h:10:PHE:HD1	38:h:27:LEU:HD11	1.76	0.49
48:g:120:LEU:O	48:g:124:ILE:HG12	2.12	0.49
9:I:340:U:O4	9:I:341:A:N6	2.45	0.49
9:I:872:A:O2'	9:I:1894:U:OP1	2.30	0.49
9:I:1953:G:N2	9:I:1976:G:H22	2.11	0.49
16:H:19:VAL:HG12	16:H:21:VAL:HG23	1.95	0.49
23:P:59:THR:HG22	23:P:72:THR:HG23	1.94	0.49
31:Y:45:ARG:HH21	31:Y:48:ARG:NH2	2.11	0.49
34:a:18:G:N3	36:e:55:VAL:HG23	2.26	0.49
34:a:198:U:H2'	34:a:199:G:H8	1.78	0.49
34:a:510:C:N4	34:a:520:G:O2'	2.44	0.49
34:a:1022:U:H5''	34:a:1026:G:C5	2.47	0.49
36:e:80:GLY:HA3	36:e:97:GLU:HB3	1.94	0.49
43:q:70:MET:HB3	43:q:73:THR:HG22	1.94	0.49
53:9:4:LYS:O	53:9:7:ILE:HG22	2.12	0.49
1:n:24:C:H2'	1:n:25:U:H6	1.77	0.49
9:I:285:G:O2'	9:I:289:A:OP1	2.21	0.49
9:I:350:A:H2'	9:I:351:G:H8	1.77	0.49
9:I:1625:U:H2'	9:I:1626:G:H8	1.77	0.49
9:I:2151:A:N6	34:a:1486:A:O2'	2.45	0.49
9:I:2391:G:H3'	9:I:2392:C:H6	1.77	0.49
9:I:2636:C:H2'	9:I:2637:A:C8	2.48	0.49
34:a:209:G:H2'	34:a:210:C:C6	2.48	0.49
34:a:403:G:OP1	35:d:3:ARG:NH2	2.45	0.49
34:a:583:G:H2'	34:a:584:U:C6	2.48	0.49
34:a:984:U:O2'	34:a:986:G:N7	2.44	0.49
36:e:114:HIS:HB2	38:h:98:LEU:HD22	1.94	0.49
39:k:82:ARG:HH11	39:k:82:ARG:HG3	1.77	0.49
49:i:44:PRO:HA	49:i:82:PHE:HD1	1.76	0.49
53:9:7:ILE:O	53:9:11:GLN:HG2	2.12	0.49
9:I:683:C:H2'	9:I:684:U:C6	2.48	0.49
9:I:1884:G:O2'	21:N:106:ASP:OD2	2.23	0.49
9:I:2318:C:H2'	9:I:2319:A:H8	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:C:136:ILE:HG22	11:C:140:THR:HG21	1.94	0.49
14:F:141:GLU:CD	14:F:158:GLY:H	2.21	0.49
39:k:29:GLY:HA2	39:k:47:PRO:HD3	1.93	0.49
9:I:2370:G:H21	9:I:2394:G:H2'	1.78	0.49
9:I:2565:A:H2'	9:I:2566:A:C8	2.47	0.49
10:B:1:U:H2'	10:B:2:U:C6	2.48	0.49
29:V:16:GLU:N	29:V:16:GLU:OE1	2.45	0.49
32:Z:21:GLU:O	32:Z:25:THR:HG23	2.13	0.49
34:a:974:U:H4'	53:9:61:ARG:HG2	1.95	0.49
34:a:1250:G:H2'	34:a:1251:C:H6	1.77	0.49
35:d:53:LYS:NZ	35:d:64:GLU:OE1	2.46	0.49
42:p:75:LYS:HA	42:p:81:GLN:OE1	2.11	0.49
48:g:137:ARG:HA	48:g:140:ASP:OD2	2.12	0.49
53:9:38:PRO:O	53:9:42:SER:OG	2.30	0.49
1:n:65:G:H2'	1:n:66:C:O4'	2.12	0.49
9:I:442:G:H2'	9:I:443:C:C6	2.48	0.49
13:E:109:PRO:HG2	13:E:112:MET:HE3	1.95	0.49
13:E:171:GLY:O	13:E:175:VAL:HG22	2.13	0.49
14:F:70:GLN:NE2	14:F:97:THR:O	2.46	0.49
28:U:79:LYS:NZ	28:U:100:ARG:HD2	2.28	0.49
34:a:20:U:C2	34:a:1069:U:H1'	2.48	0.49
34:a:36:A:H2'	34:a:37:C:C6	2.48	0.49
44:t:62:ALA:HB1	44:t:69:LYS:HG2	1.94	0.49
9:I:2103:C:H2'	9:I:2104:C:O4'	2.12	0.48
9:I:2357:G:H1	9:I:2416:C:H5'	1.78	0.48
28:U:9:VAL:HG12	28:U:73:VAL:HA	1.95	0.48
34:a:229:G:H5'	42:p:24:ASP:OD2	2.13	0.48
34:a:546:C:H2'	34:a:547:C:C6	2.47	0.48
34:a:1142:G:H21	50:j:41:PRO:HD2	1.77	0.48
34:a:1243:A:H2'	34:a:1244:A:C8	2.48	0.48
35:d:147:THR:H	35:d:150:PHE:HE1	1.61	0.48
38:h:10:PHE:HB2	38:h:33:LYS:HD3	1.94	0.48
50:j:5:LYS:HD3	50:j:79:PRO:HB3	1.95	0.48
9:I:333:U:H2'	9:I:334:C:H6	1.77	0.48
9:I:1416:G:N2	9:I:1459:G:H5''	2.28	0.48
9:I:1628:G:H2'	9:I:1629:U:C6	2.48	0.48
9:I:2767:G:H5''	9:I:2768:G:H5''	1.94	0.48
12:D:14:THR:OG1	12:D:15:GLN:N	2.45	0.48
34:a:203:U:O2	34:a:204:G:N1	2.46	0.48
34:a:383:G:H2'	34:a:384:C:C6	2.48	0.48
34:a:415:G:H1	34:a:426:U:H3	1.60	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:d:60:TYR:OH	35:d:183:ARG:NE	2.46	0.48
9:I:1451:C:C5	9:I:1460:U:H5''	2.48	0.48
9:I:1562:A:H2'	9:I:1563:G:C8	2.48	0.48
9:I:1670:G:H2'	9:I:1671:G:O4'	2.12	0.48
9:I:3033:C:N4	9:I:3035:U:H5''	2.28	0.48
9:I:3044:A:H2'	9:I:3045:A:C8	2.49	0.48
10:B:48:C:H2'	10:B:49:G:H8	1.76	0.48
11:C:69:ARG:NH2	11:C:128:GLY:O	2.37	0.48
14:F:45:MET:HE3	14:F:159:MET:HE3	1.96	0.48
30:W:69:PHE:HA	30:W:80:ILE:O	2.13	0.48
34:a:516:C:H2'	34:a:517:C:C6	2.49	0.48
34:a:815:U:H2'	34:a:816:A:H8	1.77	0.48
38:h:8:ALA:HB2	38:h:79:ARG:HD3	1.96	0.48
9:I:329:U:H4'	9:I:446:A:H62	1.78	0.48
9:I:609:U:H2'	9:I:610:G:H8	1.78	0.48
9:I:2359:U:O2	9:I:2360:G:N2	2.46	0.48
9:I:2448:G:O2'	9:I:2449:A:OP1	2.27	0.48
14:F:82:ALA:HA	14:F:86:LEU:HA	1.96	0.48
29:V:22:SER:OG	29:V:26:ARG:NH2	2.46	0.48
34:a:373:A:N3	42:p:9:ARG:NH2	2.61	0.48
34:a:1320:C:C2	34:a:1321:G:C8	3.02	0.48
34:a:1498:G:N3	34:a:1498:G:H2'	2.28	0.48
40:l:36:ARG:HB2	40:l:54:ARG:HB2	1.95	0.48
9:I:1039:A:H2'	9:I:1040:A:C8	2.49	0.48
9:I:1198:A:N6	9:I:1202:A:OP1	2.43	0.48
9:I:1736:C:H2'	9:I:1737:G:H8	1.78	0.48
9:I:1808:A:H2'	9:I:1809:A:H8	1.79	0.48
12:D:32:GLY:HA3	12:D:54:TYR:HE1	1.77	0.48
20:M:63:LYS:HD3	20:M:65:TRP:CZ2	2.48	0.48
34:a:48:U:H2'	34:a:49:G:C8	2.49	0.48
34:a:180:A:C6	34:a:204:G:C2	2.95	0.48
47:c:6:ASN:OD1	47:c:9:GLY:N	2.36	0.48
50:j:54:SER:O	50:j:57:LYS:HG2	2.14	0.48
9:I:1558:A:H5'	9:I:1645:A:N6	2.27	0.48
9:I:1690:A:OP2	9:I:1691:G:H5'	2.12	0.48
9:I:2036:A:H2'	9:I:2037:A:C8	2.49	0.48
9:I:3100:U:OP2	9:I:3101:G:O2'	2.28	0.48
15:G:33:LEU:HB3	15:G:76:LEU:HD11	1.93	0.48
34:a:719:A:H2'	34:a:720:A:C8	2.48	0.48
1:n:35:C:H5''	49:i:151:ARG:HH21	1.78	0.48
3:1:22:GLU:HG2	3:1:26:ARG:HH12	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:305:U:C2	9:I:306:G:C8	3.01	0.48
9:I:635:U:H2'	9:I:636:U:C6	2.48	0.48
9:I:2752:U:H2'	9:I:2753:C:C6	2.48	0.48
13:E:30:LEU:HD23	13:E:121:LEU:HB3	1.94	0.48
14:F:141:GLU:OE1	14:F:157:ARG:HA	2.14	0.48
19:L:98:VAL:HG12	19:L:103:VAL:HG13	1.95	0.48
19:L:103:VAL:HG21	19:L:109:VAL:HG12	1.95	0.48
25:R:28:LEU:H	25:R:96:THR:HG21	1.79	0.48
30:W:21:LEU:HD11	30:W:41:ARG:HE	1.77	0.48
31:Y:45:ARG:HH21	31:Y:48:ARG:HH21	1.62	0.48
34:a:123:G:O3'	43:q:58:ARG:NH1	2.42	0.48
34:a:467:G:H2'	34:a:468:G:C8	2.49	0.48
34:a:496:G:O2'	34:a:497:G:H5'	2.14	0.48
34:a:602:C:C2	34:a:603:U:C5	3.02	0.48
34:a:612:A:H2'	34:a:613:A:C8	2.48	0.48
34:a:1208:U:H2'	34:a:1209:C:C6	2.48	0.48
34:a:1284:C:H2'	34:a:1285:G:C8	2.48	0.48
35:d:90:GLU:HG2	35:d:183:ARG:HD2	1.96	0.48
38:h:11:LEU:HD22	38:h:77:LEU:HD13	1.95	0.48
3:l:45:SER:HB2	26:S:95:ILE:HD12	1.94	0.48
9:I:290:A:H1'	9:I:291:C:C6	2.49	0.48
9:I:680:A:OP1	9:I:1386:U:O2'	2.29	0.48
30:W:67:VAL:HA	30:W:81:VAL:HG21	1.94	0.48
34:a:43:C:H2'	34:a:44:G:C8	2.49	0.48
34:a:79:C:H2'	34:a:80:U:H6	1.76	0.48
34:a:124:U:P	43:q:58:ARG:HH12	2.37	0.48
34:a:914:U:O5'	34:a:914:U:H6	1.97	0.48
34:a:1047:U:H2'	34:a:1048:G:H8	1.78	0.48
38:h:40:LEU:HD22	38:h:46:ILE:HG23	1.96	0.48
40:l:36:ARG:H	40:l:76:GLU:HG2	1.79	0.48
44:t:68:HIS:O	44:t:68:HIS:CG	2.67	0.48
46:r:38:ILE:HD11	46:r:64:ILE:HG21	1.94	0.48
1:n:4:G:H2'	1:n:5:G:C8	2.49	0.48
1:n:29:C:H2'	1:n:30:G:C8	2.49	0.48
9:I:225:A:O2'	9:I:509:G:N3	2.36	0.48
9:I:1565:G:H2'	9:I:1566:G:C8	2.49	0.48
9:I:1775:G:H3'	9:I:1776:A:C8	2.48	0.48
9:I:2585:C:HO2'	54:b:21:TYR:HH	1.61	0.48
9:I:2898:A:N7	15:G:176:LYS:NZ	2.50	0.48
9:I:2970:G:H5''	9:I:2971:U:C6	2.48	0.48
34:a:211:G:N2	34:a:215:U:H1'	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:937:G:N1	34:a:1330:G:OP2	2.45	0.48
48:g:42:ILE:HD12	48:g:42:ILE:H	1.79	0.48
48:g:107:TYR:O	48:g:110:GLN:C	2.57	0.48
48:g:144:MET:N	48:g:144:MET:SD	2.86	0.48
49:i:135:LYS:HD2	49:i:141:LYS:HB2	1.96	0.48
52:s:31:ILE:H	52:s:49:PHE:HA	1.77	0.48
7:4:1:VAL:HG13	9:I:2764:G:O2'	2.14	0.48
9:I:35:G:H1'	9:I:543:A:C4	2.48	0.48
9:I:746:G:H1'	9:I:749:U:C5	2.49	0.48
9:I:1512:G:H2'	9:I:1513:A:H5''	1.96	0.48
9:I:1570:U:HO2'	9:I:1633:A:H62	1.59	0.48
9:I:1624:C:H2'	9:I:1625:U:O4'	2.13	0.48
23:P:4:LEU:O	23:P:7:VAL:HG22	2.14	0.48
23:P:102:LEU:HD12	23:P:102:LEU:O	2.13	0.48
34:a:253:G:OP1	43:q:121:SER:OG	2.19	0.48
34:a:545:U:H2'	34:a:546:C:H6	1.79	0.48
34:a:1250:G:H2'	34:a:1251:C:C6	2.49	0.48
37:f:46:ARG:NH2	37:f:59:ILE:O	2.46	0.48
43:q:116:GLU:HA	43:q:125:ARG:O	2.14	0.48
46:r:15:LYS:O	46:r:15:LYS:HG2	2.14	0.48
9:I:366:U:H2'	9:I:367:G:C8	2.49	0.47
9:I:591:A:H4'	9:I:592:G:H3'	1.95	0.47
9:I:1647:U:H2'	9:I:1648:A:C8	2.49	0.47
9:I:2112:U:H2'	9:I:2113:G:O4'	2.14	0.47
9:I:2303:C:H2'	9:I:2304:C:H6	1.78	0.47
9:I:2388:G:N2	9:I:2389:G:O6	2.47	0.47
9:I:2887:U:H2'	9:I:2888:C:H6	1.78	0.47
11:C:181:GLU:HG3	11:C:270:ARG:O	2.14	0.47
14:F:39:THR:OG1	14:F:164:VAL:O	2.31	0.47
15:G:16:ASP:HB3	15:G:27:LYS:HB3	1.96	0.47
32:Z:47:ILE:HG22	32:Z:51:ARG:HD2	1.96	0.47
35:d:60:TYR:CE2	35:d:89:LEU:HB3	2.48	0.47
37:f:10:LEU:HD11	37:f:14:LEU:HD12	1.96	0.47
1:n:4:G:H2'	1:n:5:G:H8	1.79	0.47
9:I:751:G:H2'	9:I:752:G:O4'	2.14	0.47
9:I:1721:A:H2'	9:I:1722:G:H8	1.78	0.47
9:I:2405:G:H2'	9:I:2406:A:C8	2.49	0.47
26:S:69:GLN:OE1	26:S:76:PRO:HG3	2.14	0.47
34:a:1108:G:H1'	49:i:127:ARG:HH11	1.79	0.47
37:f:3:PRO:HB2	37:f:93:THR:OG1	2.13	0.47
40:l:73:ASN:ND2	40:l:105:GLN:OE1	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:i:109:ILE:HG12	49:i:116:ARG:CD	2.44	0.47
9:I:1298:U:H2'	9:I:1299:C:H6	1.78	0.47
9:I:1649:G:H2'	9:I:1650:U:C6	2.49	0.47
9:I:1741:C:H2'	9:I:1742:U:C6	2.49	0.47
9:I:1957:A:C2	9:I:1973:A:H1'	2.49	0.47
13:E:67:GLY:HA3	13:E:86:ARG:HG2	1.96	0.47
15:G:59:GLU:HB3	15:G:62:ASN:HD22	1.78	0.47
22:O:49:ASP:N	22:O:49:ASP:OD1	2.46	0.47
32:Z:50:VAL:HG13	32:Z:53:LEU:HD12	1.96	0.47
34:a:939:A:O2'	34:a:1325:A:N3	2.39	0.47
34:a:1319:C:H2'	34:a:1320:C:H6	1.79	0.47
34:a:1322:U:H2'	34:a:1323:G:O4'	2.14	0.47
47:c:82:GLU:O	47:c:86:ILE:HG12	2.14	0.47
48:g:138:ARG:HG2	48:g:142:HIS:CE1	2.49	0.47
9:I:342:C:H2'	9:I:343:C:C6	2.50	0.47
9:I:922:A:OP2	9:I:2308:A:O2'	2.31	0.47
9:I:2460:G:H5'	11:C:188:ARG:HH22	1.79	0.47
13:E:190:ASN:ND2	13:E:193:ASP:OD2	2.46	0.47
14:F:72:PRO:HB3	14:F:96:VAL:HB	1.96	0.47
34:a:415:G:H2'	34:a:416:G:C8	2.47	0.47
34:a:612:A:H2'	34:a:613:A:H8	1.80	0.47
34:a:735:C:H2'	34:a:736:A:H8	1.80	0.47
34:a:1019:C:H41	34:a:1026:G:H1	1.62	0.47
34:a:1026:G:H2'	34:a:1026:G:N3	2.30	0.47
34:a:1305:U:H2'	34:a:1306:C:C6	2.50	0.47
42:p:6:LYS:NZ	42:p:27:THR:OG1	2.40	0.47
42:p:9:ARG:HB3	42:p:29:ARG:NH1	2.30	0.47
48:g:68:ASN:O	48:g:138:ARG:NH1	2.47	0.47
52:s:31:ILE:O	52:s:50:ALA:N	2.41	0.47
52:s:69:HIS:HB3	52:s:73:GLU:OE1	2.14	0.47
2:7:8:LYS:NZ	9:I:1089:G:O6	2.47	0.47
9:I:310:G:H2'	9:I:311:C:C6	2.50	0.47
9:I:1539:U:H2'	9:I:1540:G:H8	1.80	0.47
9:I:1973:A:H2'	9:I:1974:G:C8	2.50	0.47
9:I:2583:G:N3	9:I:2619:C:H2'	2.29	0.47
14:F:18:GLU:N	14:F:18:GLU:OE2	2.48	0.47
34:a:255:U:H2'	34:a:256:G:H8	1.79	0.47
34:a:1290:C:O2'	48:g:112:ARG:NH1	2.47	0.47
35:d:162:ILE:HD11	35:d:166:LEU:HD11	1.97	0.47
53:9:16:THR:HA	53:9:19:ARG:HG2	1.96	0.47
9:I:219:G:H2'	9:I:220:G:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:2335:U:H2'	9:I:2336:C:C6	2.49	0.47
23:P:13:ARG:HB2	23:P:16:ILE:HD11	1.97	0.47
33:y:18:VAL:HG22	33:y:24:ARG:HG2	1.96	0.47
34:a:253:G:H2'	34:a:254:G:H8	1.79	0.47
34:a:307:C:C2	34:a:308:G:C8	3.03	0.47
34:a:1144:G:H5''	50:j:15:HIS:CD2	2.49	0.47
41:o:34:LYS:NZ	41:o:38:ASP:OD1	2.47	0.47
51:m:78:ILE:O	51:m:82:ILE:HG12	2.15	0.47
9:I:116:C:O2'	9:I:126:A:N3	2.45	0.47
9:I:293:G:C2	9:I:294:G:C5	3.03	0.47
9:I:305:U:H2'	9:I:306:G:H8	1.80	0.47
9:I:746:G:H1'	9:I:749:U:H5	1.80	0.47
9:I:778:G:H2'	9:I:778:G:N3	2.30	0.47
9:I:845:A:H5''	41:o:88:ARG:NH1	2.28	0.47
9:I:858:G:H5'	9:I:859:C:H5''	1.97	0.47
9:I:1098:G:H2'	9:I:1099:U:C6	2.49	0.47
9:I:1203:G:H2'	9:I:1204:C:O4'	2.13	0.47
9:I:1692:U:O2'	9:I:1693:G:N7	2.47	0.47
9:I:2048:G:OP2	9:I:2049:A:O2'	2.29	0.47
9:I:2421:C:H2'	9:I:2422:G:C8	2.50	0.47
9:I:2636:C:H2'	9:I:2637:A:H8	1.80	0.47
9:I:2886:G:H2'	9:I:2887:U:C6	2.49	0.47
9:I:3084:G:H4'	9:I:3085:A:H5'	1.95	0.47
15:G:132:PHE:HZ	15:G:149:ILE:HG21	1.80	0.47
22:O:117:GLU:OE2	22:O:118:ASN:HB3	2.15	0.47
29:V:98:VAL:O	29:V:100:ARG:NH1	2.48	0.47
30:W:72:LYS:HD3	30:W:73:ARG:N	2.29	0.47
32:Z:38:GLU:HG3	32:Z:39:ASP:H	1.80	0.47
34:a:997:G:C6	34:a:1018:U:H5'	2.50	0.47
34:a:1011:U:H2'	34:a:1012:A:C8	2.49	0.47
34:a:1171:A:H2'	34:a:1172:A:O4'	2.14	0.47
34:a:1506:A:H2'	34:a:1507:C:H6	1.79	0.47
38:h:48:ASP:OD1	38:h:49:PHE:N	2.48	0.47
41:o:78:TYR:CZ	41:o:82:ILE:HD11	2.50	0.47
50:j:40:VAL:HB	50:j:74:ILE:O	2.15	0.47
55:X:4:A:H2'	55:X:5:A:C8	2.50	0.47
1:n:59:A:O2'	1:n:61:U:OP2	2.29	0.47
9:I:1553:U:H2'	9:I:1554:G:H8	1.79	0.47
9:I:1667:G:H2'	9:I:1668:C:C6	2.50	0.47
9:I:2442:A:H2'	9:I:2443:A:C8	2.50	0.47
16:H:3:LEU:HD22	16:H:31:LEU:HD11	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:W:68:GLU:H	30:W:81:VAL:CG2	2.27	0.47
30:W:81:VAL:HG13	30:W:83:SER:N	2.30	0.47
33:y:6:GLN:O	33:y:76:GLN:NE2	2.40	0.47
33:y:33:ILE:HG21	33:y:50:ARG:HG2	1.96	0.47
34:a:97:G:H2'	34:a:98:U:H6	1.79	0.47
34:a:125:G:N3	43:q:55:ARG:NH1	2.58	0.47
34:a:503:U:H2'	34:a:504:A:H8	1.78	0.47
34:a:659:A:O2'	41:o:46:HIS:HB3	2.15	0.47
34:a:1053:U:H2'	34:a:1054:C:C6	2.50	0.47
34:a:1212:G:P	53:9:53:ARG:HH12	2.37	0.47
34:a:1490:G:H1'	34:a:1511:A:C2	2.50	0.47
37:f:12:PRO:HD3	37:f:45:LYS:HZ1	1.78	0.47
47:c:89:ASP:HA	47:c:92:LYS:HE2	1.96	0.47
50:j:29:VAL:O	50:j:32:THR:OG1	2.29	0.47
9:I:2092:G:N2	9:I:2122:A:H5'	2.30	0.47
10:B:83:C:H2'	10:B:84:C:O4'	2.15	0.47
17:J:36:LEU:O	17:J:51:GLY:HA3	2.15	0.47
29:V:16:GLU:HG2	29:V:21:ALA:HB1	1.97	0.47
29:V:112:VAL:HG13	29:V:146:ILE:HD11	1.96	0.47
34:a:357:U:H2'	34:a:358:G:H8	1.80	0.47
34:a:541:G:O2'	40:l:116:ARG:NH2	2.37	0.47
34:a:1162:A:H2'	34:a:1163:C:O4'	2.15	0.47
3:l:54:ARG:NH1	3:l:56:GLU:OE1	2.39	0.47
9:I:366:U:H2'	9:I:367:G:H8	1.79	0.47
9:I:395:G:H2'	9:I:396:G:H8	1.80	0.47
9:I:787:G:N2	13:E:112:MET:HE1	2.28	0.47
9:I:1187:G:H2'	9:I:1188:G:C8	2.50	0.47
9:I:1295:A:H2'	9:I:1296:C:C6	2.50	0.47
9:I:1584:C:H2'	9:I:1585:G:C8	2.48	0.47
9:I:2653:G:H2'	9:I:2654:G:H8	1.81	0.47
10:B:47:C:H2'	10:B:48:C:C6	2.49	0.47
17:J:49:ASP:OD2	17:J:121:LYS:NZ	2.48	0.47
34:a:391:C:O2'	34:a:474:C:O2'	2.19	0.47
34:a:668:U:H1'	39:k:131:VAL:HG21	1.97	0.47
34:a:775:A:H2'	34:a:776:G:H8	1.80	0.47
43:q:121:SER:OG	43:q:122:ALA:N	2.47	0.47
48:g:69:VAL:HG13	48:g:100:ALA:HB1	1.97	0.47
9:I:288:U:H4'	9:I:289:A:H5'	1.97	0.46
9:I:1040:A:N6	20:M:9:HIS:HB3	2.31	0.46
9:I:1208:C:N4	9:I:1218:G:OP1	2.48	0.46
9:I:1860:C:H2'	9:I:1861:A:O4'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:2262:C:H2'	9:I:2263:G:C8	2.48	0.46
9:I:2543:A:H2'	9:I:2544:C:C6	2.50	0.46
11:C:24:ILE:HD11	11:C:91:ARG:HD2	1.97	0.46
17:J:115:SER:HA	17:J:118:ILE:HB	1.97	0.46
34:a:19:A:H2'	34:a:1070:G:H1'	1.97	0.46
34:a:1276:U:OP2	34:a:1277:U:O2'	2.28	0.46
34:a:1517:C:H2'	34:a:1518:G:C8	2.49	0.46
49:i:40:VAL:CG1	49:i:87:HIS:H	2.29	0.46
51:m:43:LEU:HD11	51:m:47:ASP:HB2	1.97	0.46
53:9:29:ASP:O	53:9:31:ILE:N	2.41	0.46
8:6:39:SER:HB3	14:F:112:SER:HA	1.97	0.46
9:I:765:C:H2'	9:I:766:G:C8	2.50	0.46
9:I:980:C:H5''	32:Z:49:VAL:HG21	1.97	0.46
9:I:1898:U:O2'	9:I:2924:G:H4'	2.13	0.46
9:I:2180:C:OP2	9:I:2181:U:O2'	2.28	0.46
10:B:3:A:H2	10:B:112:A:N1	2.13	0.46
10:B:38:A:H2'	10:B:39:U:C6	2.50	0.46
13:E:190:ASN:OD1	13:E:190:ASN:N	2.47	0.46
14:F:91:PRO:HD2	14:F:91:PRO:O	2.14	0.46
15:G:150:ARG:NH2	15:G:168:GLU:OE1	2.48	0.46
21:N:44:LEU:HD23	21:N:113:ILE:HD13	1.96	0.46
30:W:41:ARG:CZ	30:W:41:ARG:HB3	2.43	0.46
34:a:124:U:H5'	34:a:125:G:H5'	1.96	0.46
34:a:261:G:H4'	44:t:68:HIS:CD2	2.50	0.46
34:a:492:C:H1'	34:a:540:C:H1'	1.97	0.46
34:a:529:U:H2'	34:a:530:A:H8	1.80	0.46
34:a:748:U:H2'	34:a:749:G:O4'	2.14	0.46
34:a:1033:G:H2'	34:a:1034:U:O4'	2.15	0.46
34:a:1118:G:H22	34:a:1137:G:H1	1.61	0.46
34:a:1378:G:H2'	34:a:1379:G:H8	1.79	0.46
52:s:12:ASP:OD2	52:s:35:SER:OG	2.25	0.46
9:I:991:G:H2'	9:I:992:A:O4'	2.14	0.46
9:I:2399:G:H4'	9:I:2408:A:H5''	1.96	0.46
34:a:23:U:H2'	34:a:24:G:O4'	2.16	0.46
34:a:169:U:H5''	34:a:208:A:O4'	2.16	0.46
34:a:655:G:N2	34:a:732:G:H1	2.06	0.46
34:a:1481:G:H2'	34:a:1482:A:H8	1.78	0.46
38:h:46:ILE:HG13	38:h:47:SER:O	2.16	0.46
39:k:81:ALA:O	39:k:85:GLN:HG2	2.15	0.46
44:t:15:GLU:HA	44:t:18:ARG:HG2	1.96	0.46
50:j:81:PRO:HA	50:j:84:VAL:HG12	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:n:23:G:H2'	1:n:24:C:C6	2.51	0.46
9:I:368:U:H2'	9:I:369:C:C6	2.50	0.46
9:I:2257:C:N4	9:I:2258:A:H62	2.13	0.46
9:I:2577:G:H2'	9:I:2578:A:H8	1.80	0.46
9:I:2989:G:H4'	15:G:4:ILE:HG12	1.96	0.46
14:F:20:ARG:HD2	14:F:20:ARG:N	2.31	0.46
15:G:9:ILE:HB	15:G:51:ILE:HB	1.97	0.46
33:y:12:PRO:HB3	33:y:28:ARG:HD3	1.97	0.46
34:a:298:G:H2'	34:a:299:A:C8	2.51	0.46
34:a:453:G:H2'	34:a:454:U:C6	2.50	0.46
34:a:490:A:H4'	34:a:491:G:H5'	1.96	0.46
34:a:1109:U:H2'	34:a:1110:C:C6	2.50	0.46
38:h:63:GLN:OE1	38:h:63:GLN:N	2.48	0.46
1:n:70:C:H2'	1:n:71:G:C8	2.48	0.46
9:I:1214:A:H1'	9:I:1234:U:H1'	1.98	0.46
9:I:1548:G:H2'	9:I:1549:C:H6	1.81	0.46
9:I:2338:G:H1	9:I:2425:U:H3	1.64	0.46
9:I:2887:U:H2'	9:I:2888:C:C6	2.50	0.46
25:R:69:THR:OG1	25:R:70:LYS:N	2.49	0.46
31:Y:5:VAL:HG11	31:Y:21:ARG:NH2	2.29	0.46
34:a:530:A:H2'	34:a:531:G:C8	2.50	0.46
34:a:1334:C:H2'	34:a:1335:G:H8	1.80	0.46
53:9:39:GLU:HA	53:9:42:SER:HB2	1.97	0.46
9:I:93:C:H2'	9:I:94:C:O4'	2.14	0.46
9:I:355:C:H2'	9:I:356:A:C8	2.51	0.46
9:I:2383:C:O2'	9:I:2384:A:H5''	2.16	0.46
9:I:2723:G:OP1	20:M:46:GLN:NE2	2.38	0.46
34:a:340:C:H2'	34:a:341:C:H6	1.81	0.46
34:a:449:G:H1'	42:p:43:LYS:HE2	1.97	0.46
34:a:507:U:H3'	34:a:508:G:C8	2.51	0.46
34:a:603:U:H2'	34:a:604:C:H6	1.79	0.46
34:a:1047:U:H5''	47:c:163:SER:CB	2.41	0.46
34:a:1068:G:N2	34:a:1069:U:H3'	2.30	0.46
34:a:1346:C:H2'	34:a:1347:A:H8	1.80	0.46
35:d:56:ALA:HB2	35:d:190:LEU:HD11	1.98	0.46
35:d:60:TYR:CD2	35:d:89:LEU:HB3	2.50	0.46
36:e:162:ASP:OD1	36:e:162:ASP:N	2.49	0.46
43:q:53:LYS:O	43:q:53:LYS:HD2	2.16	0.46
43:q:119:PRO:HG3	43:q:125:ARG:CZ	2.46	0.46
9:I:484:G:H2'	9:I:485:C:C6	2.51	0.46
9:I:620:C:H4'	9:I:621:G:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:758:C:O2'	9:I:759:C:O5'	2.33	0.46
9:I:980:C:H2'	9:I:981:C:C6	2.51	0.46
9:I:2401:U:H5'	9:I:2402:G:N7	2.31	0.46
11:C:125:ILE:HD13	37:f:81:LEU:HD22	1.96	0.46
13:E:11:ILE:HD13	13:E:130:ILE:HG22	1.97	0.46
14:F:124:LEU:HD23	14:F:124:LEU:H	1.80	0.46
15:G:106:PHE:HB3	15:G:108:LEU:HD11	1.96	0.46
34:a:38:G:H2'	34:a:39:C:C6	2.50	0.46
34:a:505:C:H2'	34:a:506:G:H8	1.80	0.46
34:a:1289:U:OP1	51:m:44:ARG:NH2	2.48	0.46
36:e:130:ALA:HB1	36:e:133:GLY:HA2	1.97	0.46
45:x:24:THR:O	45:x:28:ARG:HG2	2.16	0.46
8:6:36:GLU:N	8:6:36:GLU:OE2	2.49	0.46
9:I:743:U:H2'	9:I:744:C:C6	2.50	0.46
9:I:1597:C:H2'	9:I:1598:C:C6	2.51	0.46
9:I:1741:C:H2'	9:I:1742:U:H6	1.81	0.46
9:I:2003:A:O2'	9:I:2196:C:OP1	2.26	0.46
9:I:2307:G:H2'	9:I:2308:A:H8	1.81	0.46
15:G:95:TYR:CE2	15:G:108:LEU:HB3	2.51	0.46
34:a:178:G:H1'	34:a:179:G:N7	2.31	0.46
34:a:312:A:H2'	34:a:313:C:C6	2.51	0.46
34:a:951:A:C6	52:s:55:ARG:HB2	2.51	0.46
34:a:969:G:O5'	34:a:1350:U:O2'	2.34	0.46
34:a:1062:C:H2'	34:a:1063:G:C8	2.51	0.46
34:a:1248:C:H2'	34:a:1270:G:N1	2.31	0.46
35:d:11:LYS:HE3	35:d:58:PHE:HE2	1.81	0.46
37:f:53:ALA:C	37:f:54:LYS:HD3	2.41	0.46
49:i:113:PRO:HA	49:i:116:ARG:HG2	1.97	0.46
54:b:25:LYS:NZ	54:b:32:ASP:O	2.49	0.46
9:I:1349:A:H2'	9:I:1350:C:C6	2.50	0.46
9:I:1590:G:N2	9:I:1614:A:N1	2.53	0.46
9:I:2751:G:H2'	9:I:2752:U:C6	2.51	0.46
10:B:107:C:H2'	10:B:108:G:H8	1.81	0.46
24:Q:28:ARG:H	24:Q:28:ARG:HG2	1.59	0.46
28:U:2:LYS:O	28:U:96:ARG:NH1	2.47	0.46
34:a:222:G:N3	34:a:223:U:H1'	2.31	0.46
34:a:1179:G:H2'	34:a:1180:A:C8	2.51	0.46
34:a:1197:U:H2'	34:a:1198:G:H8	1.81	0.46
34:a:1378:G:H2'	34:a:1379:G:C8	2.51	0.46
46:r:68:ARG:HB3	46:r:75:TYR:CE1	2.51	0.46
49:i:26:PRO:HG2	49:i:41:ARG:HB3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:n:20:G:H4'	1:n:21:U:OP2	2.16	0.46
9:I:184:A:H2'	9:I:185:C:H6	1.81	0.46
9:I:356:A:O2'	9:I:357:G:H5'	2.16	0.46
9:I:858:G:C5	11:C:208:LYS:HB2	2.51	0.46
9:I:1409:C:H2'	9:I:1410:A:H8	1.81	0.46
9:I:1749:U:H2'	9:I:1750:C:C6	2.51	0.46
9:I:2551:C:H2'	9:I:2552:A:H8	1.81	0.46
9:I:2764:G:OP2	15:G:154:ARG:NH2	2.40	0.46
9:I:2971:U:H2'	9:I:2972:C:C6	2.51	0.46
13:E:14:LYS:H	13:E:14:LYS:HD2	1.79	0.46
34:a:120:U:H2'	34:a:121:G:C8	2.52	0.46
34:a:914:U:OP1	34:a:914:U:H4'	2.16	0.46
34:a:1111:U:H2'	34:a:1112:C:H6	1.81	0.46
35:d:90:GLU:CG	35:d:183:ARG:HD2	2.46	0.46
38:h:11:LEU:HB3	38:h:77:LEU:CD1	2.46	0.46
4:O:49:LEU:HD12	21:N:98:ILE:HD13	1.98	0.45
9:I:1007:G:H8	9:I:1007:G:OP2	2.00	0.45
9:I:1517:C:H2'	9:I:1518:G:H8	1.81	0.45
9:I:1539:U:H2'	9:I:1540:G:C8	2.51	0.45
9:I:1767:A:H2'	9:I:1768:G:O4'	2.16	0.45
9:I:1824:C:H2'	9:I:1825:A:C8	2.50	0.45
14:F:47:VAL:O	14:F:47:VAL:HG13	2.17	0.45
15:G:112:HIS:O	15:G:112:HIS:CG	2.68	0.45
15:G:150:ARG:HG3	15:G:151:ARG:H	1.81	0.45
34:a:185:G:C6	34:a:199:G:C6	3.04	0.45
34:a:520:G:H5'	34:a:521:G:H5''	1.97	0.45
34:a:806:A:C8	34:a:1520:C:H1'	2.52	0.45
34:a:815:U:H2'	34:a:816:A:C8	2.51	0.45
34:a:1087:C:H2'	34:a:1088:C:H6	1.80	0.45
34:a:1111:U:H2'	34:a:1112:C:C6	2.49	0.45
34:a:1149:A:C2	34:a:1173:G:C4	3.04	0.45
41:o:73:ILE:O	43:q:136:LYS:NZ	2.48	0.45
48:g:57:ASP:HB3	48:g:60:ILE:HB	1.97	0.45
51:m:87:TYR:OH	51:m:91:ARG:NH2	2.48	0.45
52:s:13:GLU:HG3	53:9:46:ARG:HG2	1.98	0.45
1:n:63:C:H2'	1:n:64:G:H8	1.81	0.45
8:6:27:THR:HG22	8:6:28:LYS:N	2.22	0.45
9:I:975:G:N3	9:I:975:G:H2'	2.31	0.45
9:I:1577:C:H2'	9:I:1578:C:C6	2.50	0.45
9:I:2230:G:N2	9:I:2234:C:O2'	2.49	0.45
9:I:2436:A:O2'	33:y:36:ARG:NH1	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:2915:G:H2'	9:I:2916:A:C8	2.51	0.45
13:E:114:ALA:O	13:E:118:ARG:HG2	2.16	0.45
14:F:15:TYR:HB3	14:F:19:ILE:CD1	2.45	0.45
17:J:36:LEU:HD11	17:J:122:LEU:HB2	1.98	0.45
22:O:31:PRO:HB2	22:O:46:LEU:HG	1.98	0.45
25:R:79:PHE:CZ	25:R:81:ASN:HA	2.51	0.45
34:a:19:A:H2	34:a:1070:G:HO2'	1.63	0.45
34:a:62:A:N6	34:a:330:G:H1'	2.31	0.45
34:a:175:A:C8	34:a:176:U:C4	3.04	0.45
34:a:570:U:H2'	34:a:571:C:C6	2.51	0.45
34:a:1190:G:H2'	34:a:1191:U:C6	2.51	0.45
34:a:1451:G:H4'	44:t:23:ALA:HB1	1.97	0.45
36:e:119:GLU:HG2	36:e:124:VAL:HG22	1.98	0.45
37:f:42:ILE:HA	37:f:60:TYR:O	2.16	0.45
43:q:121:SER:O	43:q:123:THR:N	2.49	0.45
48:g:142:HIS:O	48:g:146:GLU:HG2	2.17	0.45
9:I:199:A:H62	9:I:2668:A:H2'	1.81	0.45
9:I:1060:A:H1'	9:I:1061:A:H5''	1.97	0.45
9:I:1701:U:H2'	9:I:1702:G:H8	1.81	0.45
9:I:1743:C:C2	9:I:1744:A:C8	3.05	0.45
9:I:2020:A:H1'	9:I:2176:A:N6	2.31	0.45
9:I:2204:A:H8	9:I:2830:G:O2'	1.99	0.45
13:E:186:PRO:HG3	13:E:206:ALA:HB1	1.99	0.45
17:J:10:ASP:OD1	17:J:10:ASP:N	2.50	0.45
23:P:99:LEU:C	23:P:101:GLU:H	2.24	0.45
29:V:144:VAL:HB	29:V:155:LEU:HD21	1.98	0.45
29:V:176:VAL:HG12	29:V:177:VAL:HG23	1.97	0.45
34:a:36:A:H2'	34:a:37:C:H6	1.81	0.45
34:a:991:G:H2'	34:a:992:C:C6	2.51	0.45
34:a:1172:A:O2'	49:i:127:ARG:NH2	2.44	0.45
34:a:1434:G:H5''	34:a:1435:G:C8	2.51	0.45
35:d:3:ARG:HH12	35:d:110:ARG:HD3	1.81	0.45
40:l:39:THR:HA	40:l:50:ARG:O	2.16	0.45
44:t:57:LYS:HB3	44:t:57:LYS:HE2	1.58	0.45
48:g:14:ASN:HB3	48:g:19:GLY:HA2	1.98	0.45
9:I:616:A:C2	9:I:2280:A:H2'	2.51	0.45
9:I:744:C:H2'	9:I:745:U:C6	2.50	0.45
9:I:1979:A:H2'	9:I:1980:U:H6	1.81	0.45
9:I:2303:C:H2'	9:I:2304:C:C6	2.51	0.45
9:I:2351:A:H5''	9:I:2352:G:C8	2.50	0.45
9:I:2753:C:H2'	9:I:2754:G:H8	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:y:40:LEU:HD21	33:y:68:VAL:HG21	1.99	0.45
34:a:43:C:H2'	34:a:44:G:H8	1.82	0.45
34:a:178:G:N2	34:a:206:A:H61	2.14	0.45
34:a:407:G:H2'	34:a:408:G:C8	2.52	0.45
34:a:584:U:H2'	34:a:585:C:H6	1.80	0.45
34:a:670:C:H2'	34:a:671:C:H6	1.82	0.45
34:a:1211:A:H2'	34:a:1212:G:H8	1.81	0.45
35:d:31:TYR:O	35:d:33:PRO:HD3	2.17	0.45
39:k:98:GLY:O	39:k:103:ARG:NH2	2.49	0.45
42:p:56:ALA:O	42:p:60:LEU:HD23	2.17	0.45
9:I:1732:A:H2'	9:I:1733:A:C8	2.52	0.45
9:I:1902:G:O2'	9:I:2229:U:O4	2.26	0.45
9:I:2087:A:H2'	9:I:2088:A:H8	1.80	0.45
9:I:2341:C:H2'	9:I:2342:G:C8	2.50	0.45
9:I:2342:G:H3'	9:I:2343:G:H5''	1.98	0.45
9:I:2577:G:H2'	9:I:2578:A:C8	2.52	0.45
12:D:50:VAL:HG12	12:D:84:LEU:HB3	1.98	0.45
28:U:10:LEU:HD22	28:U:80:PRO:HG3	1.97	0.45
34:a:381:A:H2'	34:a:382:A:H8	1.82	0.45
34:a:968:A:H4'	34:a:969:G:H5'	1.99	0.45
34:a:1156:G:H2'	34:a:1157:G:C8	2.51	0.45
35:d:183:ARG:HH22	35:d:189:PRO:HD2	1.82	0.45
38:h:98:LEU:HB2	38:h:102:GLY:H	1.81	0.45
43:q:59:LYS:HA	43:q:59:LYS:HD3	1.77	0.45
8:6:43:PRO:HB2	8:6:45:TYR:HE1	1.81	0.45
9:I:1190:U:H4'	9:I:1199:A:H1'	1.99	0.45
9:I:1193:C:H3'	9:I:1194:U:H6	1.82	0.45
9:I:1204:C:H2'	9:I:1205:C:O4'	2.17	0.45
9:I:1749:U:H2'	9:I:1750:C:H6	1.82	0.45
9:I:2961:C:H2'	9:I:2962:C:O4'	2.17	0.45
26:S:31:ILE:HD13	26:S:84:VAL:HG22	1.98	0.45
34:a:669:U:H2'	34:a:670:C:C6	2.52	0.45
35:d:90:GLU:HG3	35:d:183:ARG:HB2	1.99	0.45
44:t:24:VAL:O	44:t:27:SER:OG	2.19	0.45
47:c:118:GLY:O	47:c:122:GLN:HG3	2.16	0.45
48:g:107:TYR:OH	48:g:137:ARG:HD2	2.17	0.45
49:i:40:VAL:HG12	49:i:87:HIS:H	1.81	0.45
51:m:7:VAL:O	51:m:9:LEU:HD23	2.17	0.45
51:m:65:LYS:HB3	51:m:69:ASP:OD1	2.16	0.45
3:1:13:GLU:HG2	3:1:15:GLU:H	1.81	0.45
9:I:44:A:H2'	9:I:45:G:O4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:943:C:H1'	9:I:1356:G:N2	2.32	0.45
9:I:1219:U:C2	9:I:1231:C:H1'	2.52	0.45
9:I:2353:G:H2'	9:I:2353:G:N3	2.32	0.45
9:I:2384:A:H2'	9:I:2385:G:C4	2.52	0.45
9:I:2386:U:O2'	9:I:2387:U:O5'	2.34	0.45
9:I:2485:A:H2'	9:I:2486:C:H6	1.81	0.45
23:P:1:MET:HE1	23:P:55:ARG:HH22	1.81	0.45
34:a:210:C:H2'	34:a:211:G:H8	1.81	0.45
34:a:464:C:OP1	42:p:75:LYS:HB3	2.16	0.45
50:j:19:ASP:HA	50:j:73:LEU:HD12	1.99	0.45
50:j:40:VAL:O	50:j:73:LEU:N	2.50	0.45
9:I:164:U:O4	9:I:2456:U:H4'	2.17	0.45
9:I:345:G:H2'	9:I:346:G:C8	2.52	0.45
9:I:893:A:H5'	11:C:210:GLY:HA2	1.98	0.45
9:I:980:C:H2'	9:I:981:C:H6	1.81	0.45
9:I:1198:A:C2	9:I:1201:C:H5''	2.52	0.45
9:I:1638:C:C2	9:I:1639:G:C8	3.05	0.45
9:I:1775:G:H3'	9:I:1776:A:H8	1.81	0.45
9:I:2371:A:H3'	9:I:2393:G:H21	1.81	0.45
9:I:2552:A:H2'	9:I:2553:G:H8	1.82	0.45
9:I:3073:G:C4	9:I:3074:G:C8	3.04	0.45
11:C:215:LYS:HE2	11:C:215:LYS:HB3	1.81	0.45
34:a:19:A:O2'	36:e:53:SER:N	2.29	0.45
34:a:416:G:H2'	34:a:417:C:C6	2.51	0.45
34:a:443:A:H2'	34:a:444:U:C6	2.51	0.45
34:a:604:C:H2'	34:a:605:A:C8	2.50	0.45
34:a:742:U:H2'	34:a:743:G:O4'	2.17	0.45
34:a:1365:U:OP1	49:i:96:GLN:N	2.50	0.45
40:l:79:MET:O	40:l:103:ASP:HB2	2.16	0.45
44:t:80:ALA:O	44:t:83:LEU:HG	2.17	0.45
49:i:45:GLY:O	49:i:81:SER:OG	2.26	0.45
9:I:446:A:O2'	9:I:447:G:OP2	2.34	0.45
9:I:701:U:H2'	9:I:702:C:C6	2.52	0.45
9:I:2768:G:N7	15:G:173:LYS:NZ	2.65	0.45
9:I:3033:C:H2'	9:I:3034:U:H3'	1.98	0.45
25:R:68:HIS:ND1	25:R:96:THR:HG22	2.32	0.45
34:a:503:U:H2'	34:a:504:A:C8	2.52	0.45
34:a:667:A:H5''	39:k:125:PRO:HB3	1.98	0.45
34:a:728:C:H2'	34:a:729:U:H6	1.81	0.45
38:h:40:LEU:CD2	38:h:45:TYR:HB2	2.47	0.45
47:c:87:ARG:HA	47:c:90:LEU:CD1	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:g:78:ARG:HE	48:g:153:HIS:HB2	1.81	0.45
48:g:108:SER:O	48:g:116:MET:HE1	2.17	0.45
7:4:19:ARG:NE	9:I:2994:U:OP2	2.49	0.45
9:I:311:C:H2'	9:I:312:G:H8	1.82	0.45
9:I:838:G:H2'	9:I:839:C:C6	2.52	0.45
9:I:1591:A:O2'	9:I:1592:U:H5'	2.17	0.45
9:I:1609:U:H2'	9:I:1610:G:H8	1.81	0.45
9:I:2166:A:H2'	9:I:2167:G:O4'	2.17	0.45
9:I:2357:G:H2'	9:I:2358:G:H5'	1.98	0.45
12:D:7:LEU:HD11	12:D:82:ALA:HB3	1.98	0.45
14:F:127:LYS:HA	14:F:129:PHE:CE2	2.52	0.45
21:N:45:ARG:O	21:N:49:GLU:HG3	2.17	0.45
34:a:237:G:H2'	34:a:238:G:C8	2.51	0.45
34:a:343:A:H5''	34:a:344:C:C5	2.49	0.45
34:a:450:A:H1'	34:a:451:A:C4	2.52	0.45
34:a:478:A:H3'	34:a:479:G:H8	1.82	0.45
34:a:895:G:H2'	34:a:896:G:H8	1.82	0.45
34:a:1116:U:H1'	50:j:40:VAL:HG11	1.99	0.45
34:a:1121:A:C8	34:a:1122:G:C8	3.05	0.45
34:a:1277:U:H4'	34:a:1278:A:C5'	2.44	0.45
34:a:1360:U:OP2	49:i:135:LYS:NZ	2.37	0.45
36:e:137:ILE:HB	36:e:155:LEU:HD23	1.98	0.45
47:c:23:TYR:HD2	47:c:23:TYR:O	2.00	0.45
48:g:100:ALA:O	48:g:104:LEU:HG	2.17	0.45
51:m:23:PHE:HD1	51:m:71:ARG:HE	1.65	0.45
3:1:56:GLU:OE2	9:I:2847:U:O2'	2.24	0.44
6:3:54:ASP:N	6:3:54:ASP:OD1	2.49	0.44
9:I:84:A:C2	9:I:103:A:C5	3.06	0.44
9:I:197:A:H61	9:I:200:C:H3'	1.81	0.44
9:I:398:C:H2'	9:I:399:U:O4'	2.17	0.44
9:I:689:G:H22	19:L:34:ARG:NE	2.15	0.44
9:I:1084:G:O4'	20:M:83:MET:HE1	2.17	0.44
9:I:1491:G:C8	9:I:1492:G:C8	3.06	0.44
9:I:1658:A:H3'	9:I:1659:G:H8	1.81	0.44
9:I:2552:A:H2'	9:I:2553:G:C8	2.52	0.44
27:T:4:LEU:HD23	31:Y:22:LEU:HD23	1.98	0.44
29:V:136:LEU:O	29:V:138:ILE:N	2.46	0.44
33:y:3:ALA:HB1	33:y:12:PRO:HG3	1.99	0.44
34:a:108:G:H2'	34:a:109:U:C6	2.52	0.44
34:a:224:G:H1'	43:q:47:HIS:HB2	1.99	0.44
34:a:405:G:N7	34:a:486:A:O2'	2.45	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1307:U:H2'	34:a:1308:G:C8	2.52	0.44
35:d:116:GLY:O	35:d:119:ASN:ND2	2.50	0.44
42:p:7:LEU:HB3	42:p:18:TYR:HD1	1.81	0.44
42:p:71:LEU:HB3	42:p:75:LYS:NZ	2.31	0.44
9:I:808:G:H2'	9:I:809:G:C8	2.52	0.44
9:I:1223:U:C4	9:I:1225:A:H5''	2.52	0.44
9:I:1234:U:H2'	9:I:1235:G:C8	2.52	0.44
9:I:1488:C:H2'	9:I:1489:G:O4'	2.16	0.44
9:I:2168:G:O2'	9:I:2206:G:O6	2.33	0.44
9:I:2880:A:H2'	9:I:2881:A:H8	1.82	0.44
9:I:2978:A:H2'	9:I:2979:A:C8	2.52	0.44
29:V:10:ARG:HD2	29:V:11:VAL:N	2.32	0.44
29:V:99:ARG:HA	29:V:100:ARG:CZ	2.47	0.44
34:a:34:G:O2'	34:a:51:U:O4	2.20	0.44
34:a:121:G:OP1	34:a:596:U:O2'	2.19	0.44
34:a:593:U:H2'	34:a:594:C:C6	2.51	0.44
34:a:598:A:C2	42:p:32:ARG:HG2	2.52	0.44
34:a:741:C:H2'	34:a:742:U:H6	1.83	0.44
34:a:1339:G:HO2'	34:a:1366:G:H1	1.65	0.44
35:d:10:ARG:NH1	35:d:10:ARG:HA	2.32	0.44
48:g:27:VAL:HG22	48:g:43:VAL:HG21	1.98	0.44
49:i:68:LEU:O	49:i:101:ARG:HG3	2.18	0.44
51:m:88:GLN:HA	51:m:98:VAL:HG21	1.99	0.44
53:9:29:ASP:HB3	53:9:30:ILE:H	1.68	0.44
4:0:6:ARG:HE	9:I:2257:C:H41	1.65	0.44
9:I:281:G:H2'	9:I:282:C:H6	1.82	0.44
9:I:636:U:H3	9:I:647:G:H22	1.66	0.44
9:I:2343:G:H2'	9:I:2344:U:H6	1.81	0.44
15:G:77:VAL:O	15:G:80:VAL:HG12	2.18	0.44
22:O:77:VAL:O	22:O:81:GLN:HG3	2.17	0.44
26:S:29:ARG:HD3	26:S:51:GLN:HG2	1.98	0.44
34:a:1007:G:H21	34:a:1211:A:H1'	1.81	0.44
34:a:1103:C:O2	47:c:179:ARG:HG2	2.17	0.44
34:a:1152:G:C6	34:a:1153:C:C4	3.05	0.44
34:a:1232:U:P	48:g:116:MET:H	2.41	0.44
34:a:1505:U:H2'	34:a:1506:A:C8	2.52	0.44
42:p:7:LEU:HB3	42:p:18:TYR:CD1	2.51	0.44
4:0:16:ARG:NH2	9:I:1395:G:OP1	2.44	0.44
9:I:992:A:H2'	9:I:993:G:H8	1.82	0.44
9:I:1649:G:H2'	9:I:1650:U:H6	1.81	0.44
9:I:2764:G:P	15:G:154:ARG:HH22	2.40	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:38:G:H1'	40:l:115:SER:O	2.18	0.44
34:a:424:G:H2'	34:a:425:U:C6	2.52	0.44
34:a:1108:G:H5''	49:i:32:ARG:NH2	2.32	0.44
35:d:180:LEU:HD22	35:d:180:LEU:H	1.82	0.44
35:d:196:VAL:HG11	36:e:134:THR:HG22	1.98	0.44
38:h:114:THR:HG22	38:h:115:ASP:H	1.83	0.44
39:k:57:SER:C	39:k:59:HIS:H	2.24	0.44
47:c:23:TYR:CE1	50:j:11:LYS:HB3	2.53	0.44
48:g:28:ASN:O	48:g:31:LEU:HB3	2.18	0.44
50:j:84:VAL:HA	50:j:87:LEU:HB3	2.00	0.44
51:m:16:GLU:O	51:m:20:THR:HG23	2.17	0.44
9:I:328:A:H2	9:I:447:G:O6	2.01	0.44
9:I:397:U:H2'	9:I:398:C:C6	2.53	0.44
9:I:1191:G:N1	9:I:1206:A:H1'	2.33	0.44
16:H:4:ILE:HB	16:H:37:ILE:HG13	2.00	0.44
26:S:27:ALA:O	26:S:31:ILE:HG13	2.17	0.44
34:a:583:G:H2'	34:a:584:U:H6	1.83	0.44
34:a:686:A:OP2	39:k:65:SER:N	2.47	0.44
34:a:916:A:H2'	34:a:917:C:C6	2.52	0.44
34:a:1064:U:H2'	34:a:1065:G:C8	2.52	0.44
34:a:1068:G:H1'	34:a:1069:U:H5''	1.99	0.44
34:a:1509:G:N1	34:a:1512:A:OP2	2.50	0.44
36:e:191:PRO:C	36:e:193:GLU:H	2.25	0.44
44:t:35:PHE:C	44:t:35:PHE:CD1	2.96	0.44
46:r:15:LYS:HE2	46:r:15:LYS:HB3	1.84	0.44
9:I:183:A:H1'	9:I:524:C:H5'	1.99	0.44
9:I:587:U:H2'	9:I:588:G:O4'	2.18	0.44
9:I:699:U:H2'	9:I:700:G:C8	2.51	0.44
9:I:1349:A:H2'	9:I:1350:C:H6	1.83	0.44
9:I:1770:C:H3'	9:I:1771:G:C8	2.52	0.44
9:I:2059:A:H2'	9:I:2060:C:C6	2.53	0.44
14:F:119:ARG:HD2	14:F:120:ASP:HB2	2.00	0.44
20:M:51:ARG:HD3	20:M:66:ILE:HD11	1.98	0.44
26:S:82:ALA:HB2	26:S:118:GLU:HG2	2.00	0.44
34:a:245:A:C2	34:a:281:A:C5	3.06	0.44
34:a:372:A:N1	34:a:390:G:O2'	2.45	0.44
34:a:473:A:H2'	34:a:474:C:O4'	2.17	0.44
34:a:615:U:H2'	34:a:616:G:H8	1.82	0.44
34:a:738:U:H2'	34:a:739:A:O4'	2.17	0.44
34:a:1248:C:H42	34:a:1270:G:P	2.40	0.44
34:a:1280:A:N1	34:a:1364:G:H1'	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1379:G:H2'	34:a:1380:G:C8	2.51	0.44
35:d:95:ASN:O	35:d:99:ARG:HG2	2.17	0.44
37:f:89:LYS:HD3	37:f:89:LYS:HA	1.78	0.44
50:j:57:LYS:HG2	53:9:81:ARG:HH21	1.83	0.44
1:n:1:C:H2'	1:n:2:G:H8	1.83	0.44
9:I:293:G:N3	9:I:293:G:H2'	2.32	0.44
9:I:346:G:H2'	9:I:347:C:H6	1.82	0.44
9:I:1129:A:H2'	9:I:1130:A:C8	2.53	0.44
9:I:1212:G:N2	9:I:1215:A:C8	2.86	0.44
9:I:1607:G:H2'	9:I:1608:G:C8	2.52	0.44
9:I:2102:C:H2'	9:I:2103:C:H6	1.81	0.44
9:I:2504:A:H4'	9:I:2505:A:N3	2.33	0.44
9:I:2781:G:H2'	9:I:2782:G:C8	2.53	0.44
12:D:129:ARG:HA	12:D:170:MET:HE2	2.00	0.44
14:F:56:LEU:H	14:F:56:LEU:HD12	1.83	0.44
19:L:121:VAL:O	19:L:141:GLY:HA3	2.17	0.44
23:P:101:GLU:O	23:P:103:ARG:N	2.43	0.44
30:W:68:GLU:HG3	30:W:81:VAL:HG23	2.00	0.44
34:a:37:C:H2'	34:a:38:G:H8	1.82	0.44
34:a:873:C:C2	34:a:874:G:C8	3.06	0.44
34:a:971:A:C2	34:a:1311:A:C4	3.06	0.44
34:a:1024:G:H2'	34:a:1025:U:O4'	2.17	0.44
34:a:1144:G:O4'	50:j:72:ARG:NH2	2.51	0.44
43:q:62:ILE:HG22	43:q:111:ARG:HD2	1.99	0.44
46:r:14:LYS:C	46:r:16:ASN:H	2.26	0.44
9:I:79:C:O2'	9:I:429:A:H8	1.99	0.44
9:I:682:C:H2'	9:I:683:C:H6	1.81	0.44
9:I:744:C:H2'	9:I:745:U:H6	1.83	0.44
9:I:766:G:C6	9:I:767:C:C4	3.06	0.44
9:I:1049:G:H21	9:I:2507:A:H8	1.65	0.44
9:I:2005:C:H2'	9:I:2006:G:C8	2.53	0.44
9:I:2627:G:H5''	9:I:2628:U:O4'	2.18	0.44
9:I:2922:U:O2'	18:K:68:GLU:OE1	2.36	0.44
21:N:106:ASP:OD1	21:N:106:ASP:N	2.50	0.44
34:a:775:A:H2'	34:a:776:G:C8	2.52	0.44
34:a:977:C:H2'	34:a:978:C:C6	2.52	0.44
34:a:1172:A:H1'	49:i:127:ARG:NH2	2.32	0.44
40:l:1:MET:HB3	40:l:7:LEU:HD21	2.00	0.44
41:o:33:THR:HG22	41:o:63:ARG:NH1	2.32	0.44
47:c:20:SER:OG	53:9:92:HIS:O	2.32	0.44
47:c:109:GLU:HB2	47:c:143:GLN:HG3	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:m:70:LEU:HA	51:m:73:GLU:OE1	2.18	0.44
9:I:196:G:H2'	9:I:197:A:O4'	2.18	0.44
9:I:404:U:H5'	13:E:142:PRO:HB2	2.00	0.44
9:I:736:A:H2'	9:I:737:A:C8	2.53	0.44
9:I:1319:G:H5''	25:R:85:TYR:CE1	2.52	0.44
9:I:1581:A:C8	9:I:1624:C:C4	3.06	0.44
9:I:1742:U:H2'	9:I:1743:C:H6	1.82	0.44
9:I:2367:U:H2'	9:I:2368:G:N7	2.33	0.44
12:D:28:VAL:HG22	12:D:193:LEU:HD22	2.00	0.44
12:D:39:ILE:HD13	12:D:50:VAL:HG23	2.00	0.44
12:D:127:MET:HE2	12:D:127:MET:HB3	1.88	0.44
15:G:132:PHE:CZ	15:G:149:ILE:HG21	2.53	0.44
22:O:59:SER:HB3	22:O:61:ILE:HG12	1.98	0.44
34:a:21:C:H3'	36:e:163:ASN:HD22	1.83	0.44
34:a:678:A:C2	34:a:695:A:C5	3.06	0.44
34:a:858:A:H2'	34:a:859:C:C6	2.53	0.44
34:a:1042:G:H2'	34:a:1043:U:C6	2.52	0.44
34:a:1262:G:C2	34:a:1263:G:N7	2.86	0.44
39:k:82:ARG:HG3	39:k:82:ARG:NH1	2.33	0.44
47:c:7:PRO:HD2	47:c:184:TYR:CD2	2.53	0.44
47:c:72:PRO:O	47:c:76:ILE:HG12	2.18	0.44
48:g:70:LYS:HG3	48:g:96:SER:HB3	1.99	0.44
50:j:52:ILE:HG13	50:j:62:ARG:HD3	1.99	0.44
51:m:3:ARG:HG3	51:m:6:GLY:O	2.18	0.44
9:I:378:C:O2'	28:U:94:ARG:NH1	2.51	0.43
9:I:949:A:H4'	9:I:965:G:N2	2.32	0.43
9:I:1191:G:N7	9:I:1199:A:H5'	2.33	0.43
9:I:1193:C:H5''	9:I:1194:U:H5	1.83	0.43
9:I:1495:G:N7	33:y:1:LEU:HB2	2.33	0.43
9:I:1742:U:H2'	9:I:1743:C:C6	2.53	0.43
9:I:2363:A:C4	9:I:2400:U:H1'	2.53	0.43
9:I:2407:A:H2	9:I:2409:U:H2'	1.83	0.43
9:I:2529:U:OP1	9:I:2618:U:O2'	2.36	0.43
9:I:2653:G:H2'	9:I:2654:G:C8	2.53	0.43
9:I:2915:G:H2'	9:I:2916:A:H8	1.81	0.43
11:C:108:PRO:HD2	11:C:111:LEU:HB2	1.99	0.43
12:D:157:PRO:O	12:D:159:ARG:N	2.47	0.43
15:G:57:ASP:OD1	15:G:57:ASP:N	2.51	0.43
22:O:121:SER:O	22:O:121:SER:OG	2.34	0.43
32:Z:23:LEU:HD21	32:Z:50:VAL:HG11	1.99	0.43
34:a:584:U:H2'	34:a:585:C:C6	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:987:A:C5	34:a:1208:U:H4'	2.53	0.43
34:a:1321:G:H5''	51:m:26:GLY:H	1.82	0.43
38:h:35:ASN:HB2	38:h:112:LEU:HD12	1.99	0.43
55:X:4:A:H8	55:X:4:A:OP2	2.01	0.43
9:I:5:A:H2'	9:I:6:A:C8	2.53	0.43
9:I:636:U:H3	9:I:647:G:H1	1.66	0.43
9:I:690:U:H1'	13:E:97:HIS:HB3	2.00	0.43
9:I:911:A:C2	11:C:226:MET:HG2	2.53	0.43
9:I:979:A:H1'	32:Z:25:THR:HG21	1.99	0.43
9:I:1194:U:H2'	9:I:1195:U:O4'	2.18	0.43
9:I:1614:A:C2	9:I:1615:G:H1'	2.53	0.43
9:I:1668:C:H2'	9:I:1669:A:C8	2.54	0.43
14:F:90:MET:HB2	14:F:91:PRO:HD3	2.00	0.43
19:L:111:VAL:HG21	19:L:123:VAL:HG11	2.00	0.43
19:L:114:ASP:OD1	19:L:115:GLY:N	2.52	0.43
20:M:16:ARG:HD3	20:M:18:ARG:HE	1.82	0.43
34:a:134:U:H2'	34:a:135:G:H8	1.83	0.43
34:a:211:G:H22	34:a:215:U:H1'	1.82	0.43
34:a:931:A:O3'	48:g:95:ARG:NH2	2.51	0.43
34:a:1190:G:H1'	50:j:58:TYR:OH	2.18	0.43
42:p:1:MET:SD	42:p:26:ARG:HD2	2.58	0.43
47:c:53:ASP:HB2	47:c:68:HIS:CD2	2.52	0.43
52:s:62:VAL:HA	52:s:66:MET:SD	2.59	0.43
8:6:18:CYS:HB3	8:6:41:CYS:HB2	2.00	0.43
9:I:1606:G:H2'	9:I:1607:G:H8	1.83	0.43
9:I:2365:A:N7	9:I:2366:C:C2	2.86	0.43
34:a:9:G:O2'	34:a:10:G:H5''	2.18	0.43
44:t:9:LYS:HE2	44:t:9:LYS:HB2	1.82	0.43
48:g:42:ILE:HG23	48:g:117:ILE:HG13	2.00	0.43
53:9:81:ARG:HG3	53:9:82:VAL:N	2.33	0.43
9:I:1036:C:HO2'	20:M:101:ARG:NH2	2.14	0.43
9:I:1164:U:H2'	9:I:1165:G:H8	1.82	0.43
9:I:1892:U:H2'	9:I:1893:A:H8	1.83	0.43
13:E:118:ARG:HE	13:E:118:ARG:HB3	1.65	0.43
14:F:143:ALA:HB1	14:F:148:VAL:HB	2.00	0.43
15:G:97:VAL:HG21	15:G:104:LEU:HD23	1.99	0.43
30:W:45:PHE:HD1	30:W:78:VAL:HB	1.84	0.43
34:a:19:A:H2	34:a:913:U:O2	2.01	0.43
34:a:34:G:N7	34:a:305:U:H1'	2.33	0.43
34:a:273:A:H1'	34:a:274:G:C8	2.54	0.43
34:a:406:G:C2	34:a:407:G:C5	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1115:G:N2	34:a:1116:U:O4	2.38	0.43
34:a:1248:C:H1'	34:a:1250:G:C6	2.53	0.43
34:a:1435:G:H2'	34:a:1436:C:C6	2.53	0.43
38:h:40:LEU:CD2	38:h:46:ILE:HG23	2.48	0.43
51:m:108:ARG:NH2	51:m:111:LYS:HD2	2.32	0.43
9:I:913:G:O2'	9:I:914:G:O5'	2.36	0.43
9:I:1203:G:P	9:I:1203:G:H8	2.40	0.43
9:I:1779:C:H2'	9:I:1780:G:O4'	2.18	0.43
9:I:2500:U:H2'	9:I:2501:C:H6	1.84	0.43
9:I:2529:U:H2'	9:I:2530:U:H6	1.81	0.43
9:I:2863:G:H2'	9:I:2864:C:C6	2.53	0.43
15:G:108:LEU:O	15:G:110:TYR:N	2.46	0.43
20:M:47:ILE:HD12	20:M:70:PRO:HG3	2.01	0.43
27:T:54:VAL:HG13	27:T:84:VAL:HG13	2.00	0.43
34:a:1312:C:O2	52:s:72:GLY:HA3	2.17	0.43
34:a:1435:G:H1	34:a:1453:A:H61	1.65	0.43
38:h:41:LYS:NZ	38:h:48:ASP:HA	2.33	0.43
48:g:58:PRO:O	48:g:61:THR:OG1	2.27	0.43
9:I:368:U:H3	9:I:436:G:H1	1.65	0.43
9:I:1832:G:OP2	27:T:43:LYS:NZ	2.51	0.43
9:I:1880:G:H5''	9:I:1881:U:H5'	2.01	0.43
9:I:2344:U:H2'	9:I:2345:U:C6	2.53	0.43
9:I:2971:U:H2'	9:I:2972:C:H6	1.83	0.43
11:C:5:LYS:HB3	11:C:5:LYS:HE2	1.79	0.43
34:a:381:A:H2'	34:a:382:A:C8	2.54	0.43
34:a:492:C:O2	34:a:540:C:O2'	2.32	0.43
34:a:869:A:H2'	34:a:870:C:C6	2.54	0.43
34:a:1063:G:C6	34:a:1095:G:C2	3.07	0.43
34:a:1142:G:H4'	50:j:43:PRO:HG3	1.99	0.43
34:a:1459:C:H2'	34:a:1460:G:O4'	2.17	0.43
35:d:29:ARG:HB3	35:d:30:PRO:HD3	2.01	0.43
49:i:135:LYS:HD2	49:i:141:LYS:CA	2.48	0.43
50:j:80:THR:HG22	50:j:82:LYS:HG2	2.00	0.43
1:n:28:U:H2'	1:n:29:C:C6	2.54	0.43
9:I:305:U:H2'	9:I:306:G:C8	2.53	0.43
9:I:689:G:H22	19:L:34:ARG:CZ	2.32	0.43
9:I:968:U:H2'	9:I:969:U:C6	2.54	0.43
9:I:976:U:H2'	9:I:976:U:O2	2.19	0.43
9:I:993:G:H2'	9:I:994:C:C6	2.54	0.43
9:I:1011:G:O6	9:I:1023:U:O4	2.37	0.43
9:I:2063:A:H3'	9:I:2064:C:H6	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:2249:C:H2'	9:I:2250:G:O4'	2.18	0.43
9:I:2477:G:H5'	11:C:251:GLY:HA3	2.00	0.43
9:I:3012:C:H2'	9:I:3013:A:O4'	2.19	0.43
11:C:37:LEU:HD13	11:C:62:TYR:HB2	2.00	0.43
29:V:124:GLN:HE21	29:V:127:ASN:HA	1.83	0.43
29:V:131:ILE:HD12	29:V:166:VAL:HB	2.00	0.43
30:W:75:ARG:O	30:W:77:THR:N	2.49	0.43
32:Z:38:GLU:CG	32:Z:39:ASP:H	2.31	0.43
32:Z:47:ILE:O	32:Z:50:VAL:C	2.61	0.43
34:a:1034:U:H2'	34:a:1035:G:C8	2.54	0.43
34:a:1046:A:C6	34:a:1198:G:C5	3.06	0.43
34:a:1503:C:H2'	34:a:1504:G:C8	2.54	0.43
43:q:71:GLN:O	43:q:72:LYS:HB2	2.17	0.43
50:j:14:ASP:OD2	50:j:17:ALA:HB3	2.17	0.43
8:6:33:ILE:HG22	8:6:35:VAL:HG22	2.01	0.43
9:I:471:G:H22	9:I:481:U:H3	1.65	0.43
9:I:637:C:H2'	9:I:638:C:C6	2.54	0.43
9:I:739:C:O2'	9:I:743:U:OP1	2.34	0.43
9:I:995:U:H3	9:I:1032:U:P	2.42	0.43
9:I:1178:C:C2	9:I:1179:A:C8	3.06	0.43
9:I:1406:A:N1	9:I:1426:C:O2'	2.47	0.43
9:I:1450:G:H2'	9:I:1451:C:C6	2.54	0.43
9:I:1871:U:H2'	9:I:1872:A:C8	2.53	0.43
9:I:2407:A:N3	9:I:2409:U:H5'	2.33	0.43
9:I:2637:A:H4'	54:b:12:ARG:HH12	1.83	0.43
17:J:14:SER:O	17:J:52:ASP:HB3	2.19	0.43
23:P:1:MET:HE2	23:P:5:ASP:OD1	2.18	0.43
34:a:156:A:H2'	34:a:157:A:O4'	2.19	0.43
34:a:228:U:H5''	42:p:34:ILE:HD13	2.01	0.43
34:a:669:U:H2'	34:a:670:C:H6	1.83	0.43
34:a:998:A:C5'	34:a:1029:C:H1'	2.44	0.43
34:a:1030:U:H2'	34:a:1031:G:H8	1.83	0.43
34:a:1169:G:H2'	34:a:1170:G:O4'	2.19	0.43
34:a:1209:C:H2'	34:a:1210:C:C6	2.54	0.43
41:o:4:THR:HG23	41:o:6:GLU:OE1	2.18	0.43
41:o:26:GLU:H	41:o:26:GLU:HG2	1.58	0.43
9:I:784:A:H4'	9:I:785:G:H5'	2.00	0.43
9:I:963:C:H2'	9:I:964:A:H8	1.84	0.43
9:I:1189:U:H1'	9:I:1217:A:C8	2.52	0.43
9:I:1954:U:H2'	9:I:1955:G:H8	1.84	0.43
9:I:3044:A:H2'	9:I:3045:A:H8	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:B:44:A:C4	10:B:45:A:C8	3.07	0.43
12:D:19:GLU:OE2	12:D:19:GLU:HA	2.19	0.43
30:W:56:ASP:HB3	30:W:58:THR:HG23	2.01	0.43
34:a:18:G:O2'	36:e:60:ARG:HD3	2.19	0.43
34:a:490:A:H1'	34:a:491:G:C8	2.54	0.43
34:a:508:G:H21	34:a:521:G:C5'	2.31	0.43
34:a:536:C:H2'	34:a:537:G:O4'	2.19	0.43
34:a:995:A:H2'	34:a:996:G:C8	2.54	0.43
34:a:1052:G:H2'	34:a:1053:U:C6	2.53	0.43
34:a:1086:U:H2'	34:a:1087:C:C6	2.52	0.43
34:a:1312:C:N4	52:s:37:ARG:HB3	2.34	0.43
34:a:1325:A:H2'	34:a:1326:G:O4'	2.19	0.43
34:a:1481:G:H2'	34:a:1482:A:C8	2.53	0.43
34:a:1520:C:H2'	34:a:1521:U:C6	2.54	0.43
40:l:24:LEU:HD21	40:l:59:SER:N	2.34	0.43
49:i:135:LYS:HE2	49:i:139:LEU:O	2.19	0.43
4:0:52:ILE:HD13	4:0:52:ILE:HA	1.87	0.43
6:3:15:ARG:HG2	6:3:16:ARG:N	2.34	0.43
9:I:27:G:O2'	9:I:28:A:OP2	2.35	0.43
9:I:332:C:H2'	9:I:333:U:C6	2.54	0.43
9:I:423:A:H2'	9:I:424:C:O4'	2.19	0.43
9:I:1148:U:O2'	9:I:1150:A:N7	2.47	0.43
9:I:1337:U:H2'	9:I:1338:U:C6	2.54	0.43
9:I:1517:C:H2'	9:I:1518:G:C8	2.53	0.43
9:I:1750:C:H2'	9:I:1751:C:C6	2.54	0.43
9:I:1953:G:H1	9:I:1976:G:H1	1.67	0.43
9:I:2453:G:H2'	9:I:2454:G:C8	2.54	0.43
9:I:2602:C:H2'	9:I:2603:A:O4'	2.19	0.43
12:D:18:ASP:OD2	12:D:18:ASP:C	2.61	0.43
12:D:36:VAL:O	12:D:52:LEU:HA	2.19	0.43
15:G:150:ARG:O	15:G:151:ARG:HG2	2.19	0.43
34:a:929:C:C2	34:a:930:A:C8	3.07	0.43
34:a:1002:G:H2'	34:a:1003:U:H6	1.84	0.43
34:a:1122:G:C5	34:a:1123:C:C6	3.07	0.43
34:a:1254:U:H2'	34:a:1255:G:C8	2.54	0.43
34:a:1275:C:H2'	34:a:1276:U:C6	2.54	0.43
39:k:78:GLU:O	39:k:82:ARG:HG2	2.19	0.43
43:q:61:ARG:HB3	43:q:78:LEU:HD13	2.01	0.43
49:i:30:VAL:HG22	49:i:39:ARG:NH1	2.34	0.43
50:j:29:VAL:HG12	50:j:34:ALA:HB3	2.01	0.43
50:j:45:GLU:N	50:j:45:GLU:OE2	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:7:3:LYS:NZ	9:I:1263:G:OP2	2.52	0.42
9:I:711:A:H2'	9:I:712:A:C8	2.54	0.42
9:I:957:U:H4'	9:I:960:G:N1	2.34	0.42
9:I:1272:A:C4	9:I:1274:G:N7	2.87	0.42
9:I:1668:C:H2'	9:I:1669:A:H8	1.84	0.42
9:I:2752:U:H2'	9:I:2753:C:H6	1.84	0.42
29:V:47:LEU:HD12	29:V:52:TYR:HB2	2.01	0.42
34:a:121:G:H5'	34:a:624:G:H22	1.84	0.42
34:a:204:G:H2'	34:a:205:G:C8	2.52	0.42
34:a:205:G:C8	34:a:206:A:H2	2.37	0.42
34:a:388:A:H3'	34:a:389:U:C6	2.52	0.42
34:a:417:C:H2'	34:a:418:C:C6	2.54	0.42
34:a:555:C:C4	43:q:86:LEU:HD11	2.54	0.42
34:a:871:C:H5'	38:h:83:PRO:HG2	2.01	0.42
34:a:971:A:H8	34:a:972:C:H5	1.66	0.42
34:a:1002:G:C2	34:a:1014:G:C2	3.07	0.42
34:a:1163:C:H2'	34:a:1164:U:C6	2.54	0.42
34:a:1232:U:C5	48:g:116:MET:HG2	2.54	0.42
34:a:1421:A:H2'	34:a:1422:C:C6	2.54	0.42
40:l:3:THR:HB	40:l:6:GLN:HB2	2.01	0.42
40:l:42:PRO:HA	40:l:90:LEU:HD23	2.01	0.42
48:g:138:ARG:HG2	48:g:142:HIS:NE2	2.34	0.42
51:m:91:ARG:HD2	51:m:96:MET:CG	2.41	0.42
52:s:42:PRO:O	52:s:45:ILE:HG13	2.19	0.42
9:I:667:C:H2'	9:I:668:U:C6	2.54	0.42
9:I:808:G:H2'	9:I:809:G:H8	1.83	0.42
9:I:2202:G:O2'	9:I:2205:C:OP1	2.36	0.42
9:I:2567:A:H2'	9:I:2568:U:H6	1.84	0.42
9:I:2656:G:H2'	9:I:2657:U:O4'	2.18	0.42
9:I:2853:U:H2'	9:I:2854:C:C6	2.54	0.42
9:I:3024:U:H2'	9:I:3025:C:H6	1.83	0.42
9:I:3046:G:H2'	9:I:3047:G:O4'	2.19	0.42
28:U:98:SER:OG	28:U:102:GLY:HA2	2.19	0.42
34:a:46:C:P	42:p:13:ILE:HD12	2.59	0.42
34:a:728:C:H2'	34:a:729:U:C6	2.54	0.42
34:a:940:G:H2'	34:a:941:C:C6	2.53	0.42
34:a:1139:C:H2'	34:a:1140:U:C6	2.53	0.42
34:a:1277:U:H5'	34:a:1278:A:C4	2.54	0.42
34:a:1321:G:H5''	51:m:26:GLY:N	2.35	0.42
35:d:19:LEU:HD23	35:d:19:LEU:HA	1.80	0.42
38:h:106:ILE:N	38:h:106:ILE:HD12	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:9:63:ARG:O	53:9:73:HIS:NE2	2.51	0.42
1:n:28:U:H2'	1:n:29:C:H6	1.84	0.42
8:6:1:MET:HE2	8:6:1:MET:HB3	1.94	0.42
9:I:19:G:OP2	24:Q:30:ARG:NH2	2.41	0.42
9:I:287:G:H1	9:I:302:U:HO2'	1.66	0.42
9:I:717:U:O2'	9:I:718:G:O5'	2.35	0.42
9:I:1007:G:N1	9:I:1028:G:N3	2.67	0.42
9:I:1359:C:OP1	24:Q:12:LYS:NZ	2.47	0.42
9:I:1412:G:H2'	9:I:1413:U:C6	2.55	0.42
9:I:2983:C:H2'	9:I:2984:U:C6	2.54	0.42
15:G:138:ASP:OD1	15:G:138:ASP:N	2.51	0.42
20:M:38:GLU:C	20:M:127:ILE:HD11	2.44	0.42
22:O:57:ALA:O	22:O:86:ARG:NH1	2.41	0.42
34:a:38:G:H21	40:l:115:SER:CB	2.31	0.42
34:a:156:A:N6	34:a:345:G:O6	2.52	0.42
34:a:592:U:H2'	34:a:593:U:H6	1.84	0.42
34:a:642:C:H2'	34:a:643:U:C6	2.55	0.42
34:a:986:G:H3'	34:a:988:C:OP2	2.19	0.42
34:a:993:A:H2'	34:a:994:C:C6	2.54	0.42
52:s:19:VAL:HG11	52:s:44:PHE:CD1	2.54	0.42
5:2:10:PRO:HG2	9:I:1440:G:H4'	2.01	0.42
6:3:2:PRO:O	9:I:693:G:N2	2.34	0.42
9:I:332:C:H2'	9:I:333:U:H6	1.85	0.42
9:I:389:U:H2'	9:I:390:G:O4'	2.19	0.42
9:I:1453:A:C2	9:I:1454:G:C8	3.07	0.42
9:I:1633:A:H2'	9:I:1634:A:O4'	2.20	0.42
9:I:1650:U:H2'	9:I:1651:C:C6	2.55	0.42
9:I:1701:U:H2'	9:I:1702:G:C8	2.55	0.42
9:I:2237:C:OP1	9:I:2961:C:O2'	2.38	0.42
9:I:2893:G:O2'	9:I:2902:G:O6	2.33	0.42
14:F:16:ARG:HA	14:F:20:ARG:HD3	2.00	0.42
25:R:29:GLU:H	25:R:29:GLU:HG2	1.57	0.42
26:S:51:GLN:C	26:S:53:ALA:H	2.28	0.42
34:a:398:G:H2'	34:a:399:C:C6	2.54	0.42
34:a:1000:G:H2'	34:a:1001:C:C6	2.55	0.42
34:a:1164:U:H2'	34:a:1165:C:C6	2.55	0.42
38:h:126:GLU:HG2	38:h:128:LEU:HD23	2.02	0.42
40:l:36:ARG:HB3	40:l:38:TYR:CE2	2.54	0.42
1:n:52:C:C2	1:n:65:G:N2	2.88	0.42
7:4:2:LYS:NZ	9:I:2716:A:OP2	2.53	0.42
9:I:385:G:H2'	9:I:386:G:H8	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:683:C:H2'	9:I:684:U:H6	1.85	0.42
9:I:1039:A:N3	9:I:2502:C:O2'	2.46	0.42
9:I:1556:C:H2'	9:I:1557:G:O4'	2.18	0.42
9:I:1595:C:H2'	9:I:1596:U:O4'	2.19	0.42
9:I:1673:A:H2'	9:I:1674:G:H8	1.84	0.42
11:C:95:LEU:HD11	11:C:105:ILE:HD13	2.01	0.42
11:C:146:GLU:HG2	11:C:152:GLY:C	2.44	0.42
15:G:6:LYS:HD2	15:G:55:ARG:HH21	1.84	0.42
23:P:13:ARG:HD3	23:P:76:HIS:HA	1.99	0.42
34:a:105:C:H2'	34:a:106:G:O4'	2.19	0.42
34:a:222:G:C5	34:a:223:U:C2	3.08	0.42
34:a:496:G:H2'	34:a:497:G:C8	2.54	0.42
34:a:559:G:O6	40:l:2:PRO:HD2	2.19	0.42
34:a:677:U:H4'	39:k:54:TRP:CG	2.55	0.42
34:a:1128:A:O2'	34:a:1129:A:O4'	2.38	0.42
34:a:1134:G:N1	34:a:1135:G:H1'	2.34	0.42
34:a:1179:G:H2'	34:a:1180:A:H8	1.85	0.42
34:a:1418:A:H2'	34:a:1419:A:O4'	2.19	0.42
47:c:27:GLN:OE1	47:c:27:GLN:N	2.53	0.42
4:0:28:VAL:HG22	4:0:38:LYS:HZ1	1.84	0.42
9:I:127:A:H5''	9:I:128:C:C6	2.54	0.42
9:I:294:G:C2	9:I:295:G:C5	3.08	0.42
9:I:461:G:H5''	33:y:61:ARG:HH21	1.84	0.42
9:I:1157:A:N6	9:I:1254:G:H2'	2.35	0.42
9:I:1517:C:H1'	9:I:1708:A:H1'	2.01	0.42
9:I:1673:A:H2'	9:I:1674:G:C8	2.54	0.42
9:I:1804:A:H2'	11:C:86:PRO:HG3	2.00	0.42
9:I:1978:G:H2'	9:I:1979:A:C8	2.54	0.42
9:I:2658:C:H5''	54:b:8:ILE:CD1	2.49	0.42
9:I:2770:G:N2	9:I:2901:G:O2'	2.53	0.42
15:G:165:TYR:HD2	15:G:168:GLU:OE2	2.02	0.42
19:L:76:ILE:HD13	19:L:76:ILE:HA	1.87	0.42
19:L:93:GLY:N	19:L:96:ASP:OD2	2.49	0.42
26:S:118:GLU:OE2	26:S:120:ARG:NE	2.40	0.42
34:a:362:A:H2'	34:a:363:A:C8	2.54	0.42
34:a:542:U:H5'	40:l:116:ARG:NH2	2.35	0.42
34:a:571:C:H2'	34:a:572:G:O4'	2.20	0.42
34:a:754:G:H2'	34:a:755:C:C6	2.54	0.42
34:a:1019:C:N4	34:a:1026:G:H1	2.16	0.42
34:a:1090:G:H3'	34:a:1091:C:C6	2.54	0.42
34:a:1489:C:H2'	34:a:1490:G:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:h:14:LEU:HD21	38:h:62:ILE:HD12	2.02	0.42
46:r:40:ASP:OD1	46:r:40:ASP:C	2.62	0.42
47:c:131:ARG:HD3	47:c:135:LYS:HE2	2.02	0.42
50:j:42:LEU:H	50:j:72:ARG:HA	1.84	0.42
50:j:67:MET:HE3	50:j:68:ARG:N	2.34	0.42
9:I:279:A:H2'	9:I:280:C:C6	2.54	0.42
9:I:1408:G:H2'	9:I:1409:C:C6	2.55	0.42
9:I:1495:G:OP2	33:y:2:SER:HB3	2.19	0.42
9:I:1559:A:N6	9:I:1647:U:O2	2.52	0.42
9:I:1799:U:H2'	9:I:1800:G:C8	2.55	0.42
9:I:2458:U:H2'	9:I:2459:A:H8	1.84	0.42
9:I:3120:C:H6	9:I:3120:C:H2'	1.73	0.42
12:D:13:MET:HE2	12:D:13:MET:HB3	1.90	0.42
20:M:15:PRO:HG2	20:M:41:TYR:CE1	2.55	0.42
28:U:62:GLN:OE1	28:U:62:GLN:HA	2.19	0.42
28:U:85:TYR:HB3	28:U:94:ARG:HG3	2.01	0.42
34:a:145:A:H1'	34:a:1439:A:C2	2.55	0.42
34:a:592:U:H2'	34:a:593:U:C6	2.53	0.42
34:a:603:U:P	35:d:76:ARG:HH12	2.43	0.42
34:a:966:G:O3'	50:j:57:LYS:HD2	2.19	0.42
34:a:1107:U:H2'	34:a:1108:G:C8	2.54	0.42
34:a:1152:G:O6	34:a:1174:G:O6	2.37	0.42
34:a:1214:G:OP2	34:a:1314:C:N4	2.44	0.42
34:a:1269:C:O2'	34:a:1271:A:N3	2.44	0.42
34:a:1283:C:C2	34:a:1284:C:C5	3.08	0.42
34:a:1321:G:C6	34:a:1322:U:C5	3.08	0.42
38:h:55:ARG:HE	38:h:56:VAL:HG12	1.85	0.42
48:g:91:VAL:HG13	48:g:95:ARG:HG2	2.02	0.42
51:m:57:ARG:HH11	51:m:61:GLU:HG3	1.84	0.42
51:m:87:TYR:O	51:m:91:ARG:HG2	2.20	0.42
3:1:22:GLU:HG2	3:1:26:ARG:HH22	1.84	0.42
9:I:410:G:N2	28:U:69:SER:OG	2.53	0.42
9:I:688:A:N1	9:I:938:G:O2'	2.41	0.42
9:I:1977:G:H2'	9:I:1978:G:C8	2.55	0.42
9:I:2827:A:H2'	9:I:2828:A:C8	2.54	0.42
14:F:98:LEU:C	14:F:103:MET:HB2	2.44	0.42
31:Y:36:MET:HE2	31:Y:36:MET:HB2	1.91	0.42
34:a:85:G:N2	34:a:86:G:N7	2.63	0.42
34:a:189:U:H2'	34:a:194:G:H22	1.84	0.42
34:a:233:C:H2'	34:a:234:C:C6	2.55	0.42
34:a:351:C:H4'	34:a:353:G:OP1	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:441:C:H2'	34:a:442:C:C6	2.55	0.42
34:a:536:C:H3'	34:a:537:G:H8	1.85	0.42
34:a:682:G:H2'	34:a:683:U:C6	2.55	0.42
34:a:1279:A:H2'	34:a:1280:A:C8	2.55	0.42
34:a:1384:U:H2'	34:a:1385:G:C8	2.55	0.42
37:f:20:ALA:O	37:f:24:GLU:HG2	2.19	0.42
41:o:17:LEU:HB3	41:o:21:ASP:OD2	2.20	0.42
48:g:35:LYS:HB3	48:g:38:LEU:HB3	2.01	0.42
1:n:34:U:O2'	1:n:36:A:N7	2.45	0.42
1:n:35:C:H5''	49:i:151:ARG:NH2	2.34	0.42
9:I:774:G:H2'	9:I:775:C:C6	2.55	0.42
9:I:2342:G:C6	9:I:2422:G:C2	3.08	0.42
9:I:2458:U:H2'	9:I:2459:A:C8	2.54	0.42
9:I:2649:A:H2'	9:I:2650:A:C8	2.55	0.42
9:I:2928:A:OP2	21:N:9:ARG:NE	2.37	0.42
13:E:109:PRO:HD2	13:E:112:MET:HE3	2.02	0.42
14:F:110:LEU:HA	14:F:114:ALA:HB3	2.02	0.42
29:V:9:LEU:HD22	29:V:65:LEU:HD12	2.01	0.42
29:V:31:ILE:HG13	29:V:47:LEU:HB2	2.02	0.42
29:V:162:LEU:HD11	29:V:168:LEU:HG	2.02	0.42
34:a:585:C:H2'	34:a:586:G:O4'	2.20	0.42
34:a:1109:U:H1'	34:a:1171:A:C5	2.55	0.42
34:a:1123:C:C2	34:a:1124:A:C8	3.07	0.42
34:a:1352:A:OP2	53:9:75:ARG:NH2	2.53	0.42
47:c:111:GLN:HG3	47:c:114:LEU:HG	2.02	0.42
9:I:645:G:H22	9:I:646:A:H62	1.68	0.42
9:I:2073:G:N3	9:I:2073:G:H2'	2.35	0.42
9:I:2357:G:H22	9:I:2416:C:H5''	1.85	0.42
9:I:2431:A:H2'	9:I:2432:U:C6	2.55	0.42
9:I:3089:U:H2'	9:I:3090:C:C6	2.54	0.42
10:B:102:G:H2'	10:B:103:A:O4'	2.20	0.42
16:H:1:MET:HE3	16:H:23:ASP:HA	2.01	0.42
18:K:26:GLY:HA3	18:K:30:ARG:HH11	1.84	0.42
23:P:39:LEU:HD11	23:P:81:ASP:HB2	2.02	0.42
29:V:9:LEU:HD12	29:V:9:LEU:HA	1.92	0.42
34:a:269:A:H2'	34:a:270:C:C6	2.55	0.42
34:a:332:C:H2'	34:a:333:C:H6	1.85	0.42
34:a:439:C:C2	34:a:440:A:C8	3.06	0.42
34:a:869:A:H2'	34:a:870:C:H6	1.85	0.42
34:a:914:U:C5'	34:a:914:U:H6	2.33	0.42
34:a:1051:U:OP2	47:c:2:GLY:HA2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:1290:C:H4'	34:a:1291:A:O4'	2.19	0.42
34:a:1375:C:H2'	34:a:1376:C:H6	1.84	0.42
36:e:134:THR:HG22	36:e:134:THR:O	2.20	0.42
48:g:60:ILE:O	48:g:64:ARG:HG2	2.20	0.42
49:i:140:LYS:HG2	49:i:144:LYS:O	2.20	0.42
50:j:81:PRO:O	50:j:84:VAL:HG12	2.20	0.42
9:I:327:U:O2	9:I:327:U:H2'	2.20	0.41
9:I:462:U:H2'	9:I:463:A:H8	1.85	0.41
9:I:610:G:H2'	9:I:611:C:C6	2.55	0.41
9:I:749:U:O2	9:I:750:A:N7	2.53	0.41
9:I:1594:A:C6	9:I:1612:G:N1	2.88	0.41
9:I:1842:C:N4	9:I:1857:G:OP2	2.28	0.41
11:C:209:ALA:O	11:C:213:ARG:HG2	2.19	0.41
19:L:133:ARG:O	19:L:137:THR:HG23	2.20	0.41
20:M:68:ILE:HD13	20:M:103:LEU:HD22	2.01	0.41
33:y:37:THR:HG22	33:y:48:ARG:HG2	2.02	0.41
34:a:38:G:H2'	34:a:39:C:H6	1.85	0.41
34:a:138:C:H1'	34:a:177:A:N6	2.34	0.41
34:a:155:G:N2	34:a:158:A:OP2	2.51	0.41
34:a:259:G:H2'	34:a:260:U:C6	2.55	0.41
34:a:372:A:H61	34:a:390:G:H1'	1.85	0.41
34:a:925:C:H2'	34:a:926:G:C8	2.55	0.41
34:a:1153:C:C2'	34:a:1154:C:H5'	2.50	0.41
34:a:1211:A:H2'	34:a:1212:G:C8	2.55	0.41
34:a:1338:A:O2'	48:g:10:ARG:NH1	2.53	0.41
35:d:183:ARG:NH1	35:d:188:VAL:HA	2.35	0.41
37:f:10:LEU:HD12	37:f:11:ASP:N	2.30	0.41
42:p:22:VAL:O	42:p:34:ILE:N	2.52	0.41
43:q:98:LYS:O	43:q:126:TRP:HB2	2.20	0.41
51:m:80:ARG:NH2	52:s:65:SER:O	2.47	0.41
53:9:63:ARG:HB3	53:9:68:GLY:HA2	2.02	0.41
3:1:24:LEU:HD21	27:T:17:SER:HA	2.01	0.41
8:6:9:TYR:CE1	8:6:27:THR:HA	2.55	0.41
9:I:37:C:O2'	13:E:57:SER:OG	2.37	0.41
9:I:143:G:H5'	9:I:144:U:OP2	2.20	0.41
9:I:220:G:N2	9:I:237:U:H4'	2.33	0.41
9:I:622:U:H2'	9:I:623:C:H6	1.84	0.41
9:I:720:G:H5'	13:E:113:ILE:HG21	2.01	0.41
9:I:2061:U:OP2	11:C:222:ARG:NH1	2.53	0.41
9:I:2302:C:H2'	9:I:2303:C:H6	1.84	0.41
13:E:75:LYS:HE3	13:E:75:LYS:HB3	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:G:46:ASN:N	15:G:50:ALA:O	2.44	0.41
17:J:65:SER:OG	17:J:67:ASP:OD1	2.26	0.41
33:y:43:GLU:OE1	33:y:45:ARG:HD3	2.19	0.41
34:a:20:U:O2	34:a:1070:G:H5'	2.20	0.41
34:a:206:A:C2'	34:a:207:A:H5'	2.51	0.41
34:a:297:A:H2'	34:a:298:G:C8	2.56	0.41
34:a:512:G:H5'	40:l:51:LYS:HZ1	1.85	0.41
34:a:545:U:H2'	34:a:546:C:C6	2.53	0.41
34:a:735:C:H2'	34:a:736:A:C8	2.55	0.41
34:a:782:G:O6	34:a:783:A:N6	2.52	0.41
34:a:1029:C:C4	34:a:1030:U:C4	3.08	0.41
37:f:12:PRO:HD3	37:f:45:LYS:NZ	2.35	0.41
37:f:91:MET:HE2	37:f:91:MET:HB3	1.95	0.41
47:c:11:ARG:O	47:c:16:THR:OG1	2.38	0.41
47:c:148:GLY:HA3	47:c:172:ARG:O	2.20	0.41
48:g:64:ARG:O	48:g:67:ASP:OD1	2.38	0.41
50:j:58:TYR:HD1	50:j:58:TYR:H	1.67	0.41
50:j:84:VAL:HG23	50:j:87:LEU:HD23	2.00	0.41
52:s:19:VAL:HG11	52:s:44:PHE:CE1	2.55	0.41
9:I:285:G:C6	9:I:304:G:C5	3.08	0.41
9:I:761:C:H1'	9:I:779:U:O4	2.21	0.41
9:I:827:C:O2'	9:I:863:A:N6	2.51	0.41
9:I:1548:G:H2'	9:I:1549:C:C6	2.54	0.41
9:I:2419:A:H2'	9:I:2420:U:O4'	2.20	0.41
9:I:2454:G:H2'	9:I:2455:G:H8	1.85	0.41
9:I:2707:A:H2'	9:I:2708:G:O4'	2.20	0.41
17:J:45:ALA:HB3	17:J:48:VAL:HG22	2.02	0.41
18:K:12:ASP:HA	18:K:98:ILE:HA	2.01	0.41
22:O:16:ARG:O	22:O:20:LEU:HG	2.20	0.41
23:P:54:ILE:HD12	23:P:54:ILE:HA	1.90	0.41
34:a:21:C:C2	34:a:22:C:C6	3.08	0.41
34:a:342:U:H2'	34:a:344:C:C5	2.55	0.41
34:a:831:C:C2	34:a:840:G:C2	3.09	0.41
34:a:837:U:O2'	34:a:838:U:O4'	2.37	0.41
34:a:929:C:C4	34:a:930:A:N7	2.88	0.41
34:a:1032:U:H2'	34:a:1033:G:H8	1.85	0.41
34:a:1269:C:H1'	34:a:1274:C:O2	2.21	0.41
35:d:165:TRP:CD2	35:d:181:PRO:HA	2.56	0.41
36:e:106:PRO:CB	36:e:180:ARG:HG2	2.49	0.41
38:h:7:ILE:HD11	38:h:32:LEU:HD23	2.02	0.41
44:t:35:PHE:HA	44:t:50:LEU:HD13	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:i:56:LEU:O	49:i:60:PHE:HB2	2.20	0.41
50:j:13:TYR:HA	50:j:70:HIS:H	1.86	0.41
51:m:23:PHE:C	51:m:23:PHE:CD2	2.97	0.41
54:b:23:THR:OG1	54:b:24:ARG:N	2.53	0.41
1:n:24:C:H2'	1:n:25:U:C6	2.55	0.41
7:4:1:VAL:N	9:I:2764:G:H21	2.18	0.41
9:I:911:A:N7	11:C:221:VAL:HG21	2.35	0.41
9:I:1261:U:H2'	9:I:1262:A:C8	2.55	0.41
9:I:1887:A:C5	21:N:8:PRO:HG2	2.55	0.41
9:I:2611:A:H2'	9:I:2612:C:C6	2.55	0.41
9:I:3051:C:O2	9:I:3118:A:O2'	2.36	0.41
11:C:20:ASP:N	11:C:20:ASP:OD1	2.53	0.41
23:P:103:ARG:NE	34:a:1424:C:H5''	2.36	0.41
34:a:20:U:C5	34:a:1070:G:N2	2.88	0.41
34:a:389:U:O3'	42:p:29:ARG:NH2	2.53	0.41
34:a:613:A:OP2	34:a:614:C:N4	2.44	0.41
34:a:736:A:H2'	34:a:737:G:C8	2.53	0.41
34:a:1003:U:H2'	34:a:1004:C:C6	2.56	0.41
34:a:1427:A:H2'	34:a:1428:G:O4'	2.20	0.41
35:d:31:TYR:N	35:d:32:PRO:HD3	2.35	0.41
35:d:57:ARG:HG2	35:d:67:PHE:CD2	2.55	0.41
43:q:67:SER:O	43:q:74:ILE:HG13	2.20	0.41
50:j:52:ILE:H	50:j:52:ILE:HD12	1.85	0.41
53:9:23:ARG:HB3	53:9:27:LEU:HD12	2.03	0.41
9:I:152:C:H2'	9:I:153:C:C6	2.56	0.41
9:I:1318:G:H2'	9:I:1319:G:O4'	2.21	0.41
9:I:1637:U:H2'	9:I:1638:C:C6	2.56	0.41
9:I:1892:U:H4'	12:D:143:ALA:HB1	2.02	0.41
9:I:2261:A:H2'	9:I:2262:C:C6	2.56	0.41
9:I:2367:U:H1'	9:I:2396:G:C6	2.56	0.41
19:L:75:GLU:HG2	19:L:103:VAL:HG23	2.02	0.41
22:O:64:ASP:OD2	22:O:64:ASP:C	2.63	0.41
34:a:148:A:C5	34:a:149:G:C8	3.08	0.41
34:a:320:A:H2'	34:a:321:C:H6	1.85	0.41
34:a:876:C:O2'	34:a:877:U:H5'	2.20	0.41
34:a:901:A:H2'	34:a:902:A:H8	1.86	0.41
34:a:1449:A:H2'	34:a:1450:G:O4'	2.21	0.41
35:d:81:THR:H	36:e:134:THR:HG21	1.85	0.41
44:t:48:ALA:HA	44:t:51:LEU:HG	2.02	0.41
48:g:140:ASP:HA	48:g:143:LYS:HB3	2.02	0.41
49:i:30:VAL:C	49:i:103:GLY:HA2	2.46	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:2:25:MET:HE3	5:2:25:MET:HB3	1.96	0.41
9:I:177:G:H2'	9:I:178:G:H8	1.86	0.41
9:I:635:U:H2'	9:I:636:U:H6	1.83	0.41
9:I:718:G:H3'	9:I:719:U:O4'	2.21	0.41
9:I:1223:U:N3	9:I:1226:U:OP2	2.44	0.41
9:I:1270:U:OP2	17:J:68:LYS:NZ	2.47	0.41
9:I:1621:G:C6	9:I:1622:G:C6	3.08	0.41
9:I:1756:A:C4	9:I:1757:G:C8	3.08	0.41
9:I:1826:C:H2'	9:I:1827:A:H8	1.85	0.41
9:I:2372:A:H3'	9:I:2373:A:H8	1.85	0.41
9:I:2377:C:H1'	9:I:2378:G:N7	2.35	0.41
21:N:34:ILE:HD13	21:N:34:ILE:HA	1.88	0.41
21:N:103:ARG:CG	21:N:110:MET:HE3	2.48	0.41
22:O:42:ILE:HG12	22:O:111:LEU:HD12	2.02	0.41
29:V:64:VAL:HG23	29:V:137:SER:HB3	2.01	0.41
34:a:253:G:C6	34:a:272:A:C6	3.08	0.41
34:a:506:G:H2'	34:a:507:U:C6	2.55	0.41
34:a:533:G:H5''	35:d:10:ARG:NH2	2.36	0.41
34:a:979:U:H2'	34:a:980:G:O4'	2.20	0.41
34:a:1174:G:H4'	34:a:1175:U:H5'	2.03	0.41
34:a:1207:G:C2	34:a:1208:U:H1'	2.55	0.41
34:a:1262:G:C2	34:a:1263:G:C5	3.09	0.41
34:a:1405:C:H2'	34:a:1406:A:H8	1.81	0.41
35:d:183:ARG:HH12	35:d:188:VAL:HA	1.85	0.41
36:e:67:LEU:HD21	36:e:168:VAL:HG21	2.03	0.41
51:m:19:LEU:HB3	51:m:25:ILE:HD11	2.01	0.41
9:I:184:A:H2'	9:I:185:C:C6	2.56	0.41
9:I:307:U:H2'	9:I:308:G:C8	2.54	0.41
9:I:774:G:C6	9:I:775:C:N4	2.88	0.41
9:I:945:C:H2'	9:I:946:C:O2	2.21	0.41
9:I:1397:G:O2'	9:I:2250:G:O6	2.31	0.41
9:I:1558:A:N7	9:I:1647:U:C2	2.88	0.41
9:I:1682:U:H2'	9:I:1683:A:H8	1.84	0.41
9:I:1775:G:H2'	9:I:1776:A:O4'	2.21	0.41
9:I:1826:C:H2'	9:I:1827:A:C8	2.56	0.41
9:I:1962:C:H4'	9:I:1963:U:C5	2.55	0.41
9:I:1979:A:H2'	9:I:1980:U:C6	2.55	0.41
9:I:2354:A:N1	9:I:2407:A:H5''	2.35	0.41
9:I:3059:A:H3'	9:I:3060:C:O2	2.21	0.41
10:B:45:A:C5	10:B:46:C:C5	3.09	0.41
11:C:35:ARG:NE	11:C:64:MET:SD	2.94	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:D:6:ILE:HD13	12:D:31:ALA:HB1	2.03	0.41
12:D:32:GLY:HA3	12:D:54:TYR:CE1	2.54	0.41
12:D:170:MET:HG2	12:D:171:GLY:N	2.35	0.41
24:Q:64:ARG:HD3	24:Q:100:ILE:HD11	2.02	0.41
29:V:46:GLU:H	29:V:46:GLU:CD	2.29	0.41
34:a:306:C:C2	34:a:307:C:C6	3.08	0.41
34:a:1117:U:OP1	50:j:7:ARG:NH2	2.53	0.41
34:a:1134:G:C6	34:a:1135:G:H1'	2.55	0.41
34:a:1232:U:OP1	48:g:116:MET:HB2	2.20	0.41
34:a:1319:C:C2	34:a:1320:C:C5	3.09	0.41
50:j:8:ILE:HD11	50:j:77:ILE:HG13	2.01	0.41
51:m:66:VAL:HG22	51:m:67:GLU:H	1.85	0.41
9:I:504:A:H2'	9:I:505:C:C6	2.56	0.41
9:I:773:C:C2	9:I:774:G:C8	3.09	0.41
9:I:774:G:H2'	9:I:775:C:H6	1.85	0.41
9:I:788:G:H4'	13:E:107:ARG:O	2.21	0.41
9:I:1201:C:N4	9:I:1226:U:OP2	2.54	0.41
9:I:1214:A:H2'	9:I:1215:A:H8	1.86	0.41
9:I:1228:G:C6	9:I:1229:C:C2	3.09	0.41
9:I:1750:C:H2'	9:I:1751:C:H6	1.86	0.41
9:I:2883:C:H4'	9:I:2970:G:O2'	2.20	0.41
10:B:1:U:H2'	10:B:2:U:H6	1.85	0.41
15:G:92:GLY:HA3	15:G:161:LYS:HG2	2.03	0.41
17:J:3:THR:HG1	24:Q:64:ARG:HH12	1.69	0.41
29:V:29:GLY:O	29:V:30:LYS:HD3	2.21	0.41
34:a:411:U:H3	34:a:430:A:H61	1.67	0.41
34:a:430:A:N3	34:a:430:A:H2'	2.36	0.41
34:a:591:G:H2'	34:a:592:U:H6	1.86	0.41
34:a:1457:G:H2'	34:a:1458:U:H6	1.86	0.41
40:l:1:MET:HE2	40:l:1:MET:HB2	1.77	0.41
40:l:68:PRO:HG2	40:l:99:ARG:HG2	2.03	0.41
49:i:40:VAL:HG22	49:i:41:ARG:N	2.36	0.41
55:X:1:G:N3	55:X:1:G:H2'	2.35	0.41
8:6:42:HIS:CD2	8:6:43:PRO:HD2	2.56	0.41
9:I:390:G:N2	9:I:392:G:H3'	2.36	0.41
9:I:403:G:H4'	9:I:405:A:N7	2.35	0.41
9:I:569:A:O3'	28:U:43:LYS:HG3	2.21	0.41
9:I:644:G:C2'	9:I:645:G:H4'	2.50	0.41
9:I:672:G:H2'	9:I:2268:A:N7	2.35	0.41
9:I:762:A:H2'	9:I:763:C:C6	2.56	0.41
9:I:774:G:C4	9:I:775:C:C5	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:791:U:H2'	9:I:792:G:H8	1.86	0.41
9:I:1069:A:C6	9:I:1070:G:C6	3.09	0.41
9:I:1283:C:H2'	9:I:1284:G:O4'	2.21	0.41
9:I:1525:U:H2'	9:I:1526:A:O4'	2.21	0.41
9:I:1597:C:H2'	9:I:1598:C:H6	1.85	0.41
9:I:1619:U:C2	9:I:1620:G:C8	3.09	0.41
9:I:3085:A:N7	9:I:3103:A:O2'	2.44	0.41
12:D:18:ASP:OD2	12:D:20:SER:N	2.54	0.41
14:F:57:ILE:O	14:F:61:VAL:HG13	2.21	0.41
15:G:152:LEU:HD23	15:G:152:LEU:HA	1.91	0.41
18:K:24:VAL:HG13	18:K:33:ALA:HB2	2.03	0.41
21:N:7:GLY:O	21:N:9:ARG:NH1	2.53	0.41
22:O:117:GLU:OE2	22:O:118:ASN:ND2	2.54	0.41
23:P:48:ARG:NH2	23:P:59:THR:HG21	2.35	0.41
29:V:7:ASN:HB2	29:V:65:LEU:HD13	2.02	0.41
31:Y:28:GLU:OE1	31:Y:46:ARG:NH2	2.54	0.41
33:y:2:SER:HA	33:y:50:ARG:HD3	2.03	0.41
34:a:20:U:H2'	34:a:21:C:C6	2.55	0.41
34:a:114:A:H3'	34:a:116:C:H42	1.85	0.41
34:a:142:G:H2'	34:a:143:G:C8	2.56	0.41
34:a:144:G:H2'	34:a:145:A:O4'	2.19	0.41
34:a:249:U:O2	34:a:251:U:N3	2.53	0.41
34:a:295:U:O2'	34:a:547:C:O2	2.37	0.41
34:a:611:U:C2	34:a:612:A:C8	3.09	0.41
34:a:712:G:H4'	34:a:713:G:O4'	2.20	0.41
34:a:1106:U:H2'	34:a:1107:U:C6	2.55	0.41
34:a:1116:U:N3	34:a:1118:G:C8	2.89	0.41
34:a:1149:A:H5'	34:a:1150:C:C6	2.56	0.41
34:a:1160:C:H5''	34:a:1161:A:OP2	2.21	0.41
34:a:1225:G:H2'	34:a:1226:C:C6	2.55	0.41
35:d:4:TYR:OH	35:d:57:ARG:O	2.39	0.41
35:d:117:HIS:ND1	35:d:144:SER:OG	2.30	0.41
36:e:69:ILE:HG22	36:e:79:VAL:HG22	2.03	0.41
39:k:44:ILE:HB	39:k:53:ALA:HB3	2.02	0.41
41:o:73:ILE:HD13	41:o:73:ILE:HA	1.85	0.41
44:t:58:LEU:HD13	44:t:72:ALA:HB1	2.02	0.41
47:c:92:LYS:HE2	47:c:92:LYS:HB3	1.88	0.41
48:g:22:LEU:HD13	48:g:22:LEU:HA	1.91	0.41
48:g:29:LYS:HZ3	48:g:102:ARG:N	2.18	0.41
52:s:53:ASP:HB3	52:s:75:ALA:HB1	2.03	0.41
54:b:35:ILE:N	54:b:35:ILE:HD12	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:28:A:H1'	9:I:601:A:C2	2.56	0.41
9:I:281:G:H2'	9:I:282:C:C6	2.55	0.41
9:I:431:A:H2'	9:I:432:C:C6	2.56	0.41
9:I:747:A:N1	9:I:2607:A:O2'	2.51	0.41
9:I:1328:C:H2'	9:I:1329:G:H8	1.85	0.41
9:I:1377:G:H4'	13:E:52:ARG:HH12	1.85	0.41
9:I:1450:G:O2'	9:I:1451:C:H5'	2.21	0.41
9:I:1747:A:H3'	9:I:1748:A:H8	1.86	0.41
9:I:1953:G:N2	9:I:1976:G:H1	2.19	0.41
9:I:1953:G:N2	9:I:1977:G:C4	2.88	0.41
9:I:1981:C:H2'	9:I:1982:C:C6	2.56	0.41
9:I:2625:U:H5''	9:I:2626:A:OP2	2.21	0.41
9:I:2925:U:H2'	9:I:2926:G:O4'	2.21	0.41
9:I:3018:C:OP2	17:J:120:ARG:HD3	2.21	0.41
15:G:16:ASP:O	15:G:18:THR:HG23	2.21	0.41
29:V:86:ILE:HD13	29:V:86:ILE:HA	1.87	0.41
34:a:174:G:OP1	44:t:56:ARG:NH2	2.54	0.41
34:a:477:U:H2'	34:a:478:A:H8	1.85	0.41
34:a:648:U:C2	34:a:649:A:C8	3.09	0.41
34:a:664:G:O3'	37:f:87:ARG:NH2	2.54	0.41
34:a:726:G:H2'	34:a:727:U:C6	2.56	0.41
34:a:756:G:N1	34:a:803:G:O2'	2.44	0.41
34:a:916:A:H2'	34:a:917:C:H6	1.86	0.41
34:a:989:A:H2'	34:a:990:U:O4'	2.21	0.41
34:a:1069:U:O2'	34:a:1070:G:OP2	2.34	0.41
34:a:1392:C:O2	34:a:1495:A:N6	2.54	0.41
37:f:28:ASN:OD1	37:f:31:ARG:NH1	2.54	0.41
38:h:47:SER:OG	38:h:48:ASP:N	2.53	0.41
39:k:92:VAL:O	39:k:118:GLY:HA3	2.21	0.41
43:q:78:LEU:HD12	43:q:79:GLU:H	1.86	0.41
44:t:8:GLN:O	44:t:12:ARG:HG2	2.21	0.41
47:c:69:THR:O	47:c:105:VAL:HG12	2.21	0.41
1:n:26:C:C2	1:n:27:G:C8	3.09	0.40
9:I:368:U:H2'	9:I:369:C:H6	1.85	0.40
9:I:741:A:H5''	19:L:114:ASP:HB2	2.03	0.40
9:I:942:U:H2'	9:I:943:C:H6	1.86	0.40
9:I:1008:A:H1'	9:I:1029:A:C4	2.56	0.40
9:I:1333:C:H2'	9:I:1334:U:H6	1.86	0.40
9:I:1430:G:H5''	9:I:1431:A:H5''	2.03	0.40
9:I:1688:U:H2'	9:I:1689:C:C6	2.56	0.40
9:I:1821:G:H2'	9:I:1822:C:O4'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:1825:A:H2'	9:I:1826:C:H6	1.86	0.40
9:I:1945:G:H4'	9:I:3093:U:O2	2.21	0.40
9:I:1981:C:H2'	9:I:1982:C:H6	1.86	0.40
9:I:2368:G:H5'	9:I:2395:A:C5	2.56	0.40
9:I:2477:G:P	11:C:244:ARG:HH22	2.44	0.40
9:I:2899:G:H2'	9:I:2900:A:O4'	2.20	0.40
14:F:24:ARG:HH12	14:F:32:VAL:HG12	1.86	0.40
15:G:88:MET:HB2	15:G:132:PHE:CE1	2.56	0.40
23:P:50:GLN:O	23:P:56:GLU:HG3	2.21	0.40
27:T:95:LEU:HA	27:T:95:LEU:HD23	1.78	0.40
34:a:149:G:H1	34:a:164:U:H3	1.70	0.40
34:a:174:G:O2'	34:a:175:A:OP1	2.24	0.40
34:a:205:G:OP1	44:t:60:LYS:NZ	2.33	0.40
34:a:1100:C:C2	34:a:1101:A:C8	3.09	0.40
34:a:1158:G:N1	34:a:1161:A:OP2	2.53	0.40
34:a:1381:C:H2'	34:a:1382:C:C6	2.56	0.40
34:a:1503:C:H2'	34:a:1504:G:H8	1.86	0.40
37:f:30:VAL:HG21	37:f:75:LEU:HD22	2.03	0.40
38:h:94:LEU:HD21	38:h:118:ALA:HB3	2.03	0.40
40:l:20:LYS:HB2	40:l:20:LYS:HE2	1.81	0.40
47:c:12:LEU:HD21	53:9:91:GLY:HA2	2.04	0.40
48:g:77:SER:HA	48:g:86:GLN:HA	2.03	0.40
48:g:79:ARG:HD2	48:g:79:ARG:HA	1.79	0.40
49:i:63:LYS:HA	49:i:66:GLN:CD	2.46	0.40
9:I:278:C:H2'	9:I:279:A:C8	2.56	0.40
9:I:1201:C:O2	9:I:1201:C:H2'	2.21	0.40
9:I:1928:U:O2'	11:C:14:ARG:NH2	2.54	0.40
9:I:1965:G:H2'	9:I:1966:C:H3'	2.03	0.40
9:I:2104:C:H6	9:I:2104:C:O5'	2.04	0.40
9:I:2661:U:H1'	9:I:2663:A:N7	2.36	0.40
9:I:2792:U:H2'	9:I:2793:U:H6	1.86	0.40
9:I:3124:C:H2'	9:I:3125:G:O4'	2.22	0.40
10:B:2:U:H2'	10:B:3:A:C8	2.56	0.40
10:B:46:C:OP2	22:O:9:ARG:NH1	2.54	0.40
10:B:73:U:O2	29:V:34:VAL:HG21	2.21	0.40
29:V:175:LEU:HD12	29:V:176:VAL:N	2.37	0.40
34:a:726:G:H2'	34:a:727:U:H6	1.86	0.40
34:a:1305:U:H2'	34:a:1306:C:H6	1.85	0.40
34:a:1517:C:H2'	34:a:1518:G:H8	1.86	0.40
38:h:98:LEU:O	38:h:101:LEU:N	2.52	0.40
42:p:9:ARG:HB2	42:p:18:TYR:CZ	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:s:7:LYS:HD3	52:s:7:LYS:N	2.36	0.40
52:s:26:ASN:OD1	52:s:26:ASN:N	2.54	0.40
53:9:53:ARG:O	53:9:59:ARG:HD3	2.21	0.40
9:I:349:G:H2'	9:I:350:A:H8	1.86	0.40
9:I:746:G:N3	9:I:749:U:H5	2.19	0.40
9:I:791:U:H2'	9:I:792:G:C8	2.56	0.40
9:I:1472:G:OP2	9:I:1525:U:O2'	2.28	0.40
9:I:1559:A:OP2	9:I:1645:A:N6	2.55	0.40
9:I:1658:A:H61	9:I:1815:U:H3	1.68	0.40
9:I:2474:C:H2'	9:I:2475:G:O4'	2.22	0.40
9:I:2632:C:H5''	19:L:62:LYS:HD3	2.03	0.40
9:I:2791:G:N3	9:I:2821:G:H1'	2.36	0.40
30:W:53:ARG:HA	30:W:59:LEU:HD12	2.03	0.40
34:a:127:U:H2'	34:a:128:C:C6	2.57	0.40
34:a:192:A:H5'	43:q:127:ARG:NH1	2.37	0.40
34:a:342:U:O3'	34:a:343:A:H8	2.04	0.40
34:a:503:U:C2	34:a:504:A:C8	3.10	0.40
34:a:574:A:H2'	34:a:575:G:O4'	2.21	0.40
34:a:947:G:H2'	34:a:948:A:C8	2.56	0.40
34:a:1154:C:H2'	34:a:1155:G:C8	2.57	0.40
35:d:71:TYR:CG	35:d:199:TYR:HD1	2.40	0.40
37:f:13:THR:OG1	37:f:14:LEU:N	2.55	0.40
39:k:108:ARG:NH2	48:g:149:ARG:HD3	2.36	0.40
40:l:88:LYS:HB2	40:l:88:LYS:HE2	1.79	0.40
6:3:61:LEU:HD21	19:L:48:THR:HG22	2.02	0.40
9:I:647:G:H2'	9:I:648:G:C8	2.56	0.40
9:I:653:U:C2	9:I:654:G:C8	3.09	0.40
9:I:654:G:C5	9:I:655:G:N2	2.89	0.40
9:I:1038:A:H2'	9:I:1041:C:H5	1.86	0.40
9:I:1536:C:H2'	9:I:1537:C:C6	2.56	0.40
9:I:1536:C:H2'	9:I:1537:C:H6	1.86	0.40
9:I:2203:C:H2'	9:I:2204:A:C2	2.56	0.40
10:B:8:G:C2	10:B:9:G:C8	3.10	0.40
18:K:64:ARG:NH2	18:K:99:PHE:O	2.54	0.40
19:L:94:VAL:O	19:L:98:VAL:HG13	2.22	0.40
22:O:13:ARG:HD2	22:O:102:TYR:CZ	2.57	0.40
26:S:11:PRO:HG2	26:S:119:SER:HB3	2.03	0.40
27:T:6:ASP:O	27:T:8:ARG:N	2.54	0.40
32:Z:5:LYS:NZ	32:Z:36:ILE:HD11	2.37	0.40
34:a:97:G:H2'	34:a:98:U:C6	2.56	0.40
34:a:104:A:C8	34:a:326:A:C4	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:a:275:G:O3'	43:q:98:LYS:NZ	2.55	0.40
34:a:461:U:H3'	34:a:462:C:C5	2.57	0.40
34:a:621:C:H2'	34:a:622:G:O4'	2.22	0.40
34:a:633:A:N7	38:h:109:SER:HA	2.37	0.40
34:a:1020:C:H1'	34:a:1026:G:N2	2.36	0.40
34:a:1288:C:H5''	51:m:44:ARG:HH22	1.86	0.40
34:a:1322:U:C4	34:a:1323:G:C6	3.09	0.40
40:l:29:GLN:HA	40:l:82:VAL:O	2.21	0.40
44:t:5:LYS:HB3	44:t:6:SER:H	1.71	0.40
44:t:44:LYS:HE3	44:t:44:LYS:HB3	1.92	0.40
48:g:15:ASP:HB3	48:g:18:TYR:O	2.21	0.40
53:9:78:GLY:O	53:9:79:LEU:HD23	2.22	0.40
9:I:229:A:C2	9:I:2645:G:H1'	2.57	0.40
9:I:259:C:H2'	9:I:260:G:O4'	2.22	0.40
9:I:671:U:O2'	9:I:1112:A:N1	2.44	0.40
9:I:749:U:O2	9:I:750:A:C5	2.75	0.40
9:I:1245:U:H2'	9:I:1246:U:C6	2.57	0.40
9:I:1656:G:O2'	9:I:1816:A:N6	2.54	0.40
9:I:1731:A:H2'	9:I:1732:A:C8	2.56	0.40
9:I:1903:A:H4'	9:I:1904:A:O5'	2.22	0.40
9:I:2058:G:OP1	11:C:52:ARG:HG3	2.21	0.40
9:I:2154:A:H2'	9:I:2155:U:O4'	2.21	0.40
12:D:43:GLU:OE1	12:D:43:GLU:N	2.54	0.40
15:G:150:ARG:NH1	15:G:163:VAL:O	2.54	0.40
24:Q:59:LYS:HB3	24:Q:59:LYS:HE3	1.72	0.40
25:R:9:LYS:HD2	25:R:41:ALA:HB2	2.02	0.40
30:W:38:VAL:HG11	30:W:45:PHE:HD2	1.86	0.40
33:y:39:TYR:O	33:y:41:PRO:HD3	2.22	0.40
34:a:23:U:O2'	34:a:564:A:N6	2.54	0.40
34:a:71:G:N7	34:a:72:G:C8	2.90	0.40
34:a:198:U:C2	34:a:199:G:C8	3.10	0.40
34:a:309:G:OP1	42:p:28:ARG:HD3	2.22	0.40
34:a:710:C:H1'	46:r:43:LYS:HG2	2.01	0.40
34:a:914:U:O2'	36:e:54:LYS:CD	2.61	0.40
34:a:1063:G:N3	34:a:1063:G:H2'	2.37	0.40
34:a:1150:C:C4	34:a:1152:G:C8	3.10	0.40
34:a:1335:G:H2'	34:a:1336:C:C6	2.56	0.40
34:a:1421:A:H2'	34:a:1422:C:H6	1.86	0.40
34:a:1505:U:H2'	34:a:1506:A:H8	1.85	0.40
35:d:126:ASN:OD1	35:d:126:ASN:N	2.53	0.40
37:f:46:ARG:HE	37:f:60:TYR:CB	2.31	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:l:51:LYS:CG	40:l:67:ILE:HB	2.38	0.40
50:j:57:LYS:CD	53:9:81:ARG:HE	2.31	0.40
52:s:49:PHE:HE2	52:s:71:LEU:HD22	1.86	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	7	20/24 (83%)	20 (100%)	0	0	100	100
3	1	49/62 (79%)	46 (94%)	3 (6%)	0	100	100
4	0	51/57 (90%)	46 (90%)	5 (10%)	0	100	100
5	2	40/47 (85%)	36 (90%)	4 (10%)	0	100	100
6	3	60/64 (94%)	56 (93%)	4 (7%)	0	100	100
7	4	35/37 (95%)	35 (100%)	0	0	100	100
8	6	43/80 (54%)	34 (79%)	9 (21%)	0	100	100
11	C	270/280 (96%)	257 (95%)	13 (5%)	0	100	100
12	D	211/217 (97%)	192 (91%)	19 (9%)	0	100	100
13	E	205/223 (92%)	197 (96%)	8 (4%)	0	100	100
14	F	168/187 (90%)	150 (89%)	17 (10%)	1 (1%)	21	44
15	G	172/179 (96%)	156 (91%)	16 (9%)	0	100	100
16	H	45/152 (30%)	42 (93%)	3 (7%)	0	100	100
17	J	144/195 (74%)	138 (96%)	6 (4%)	0	100	100
18	K	119/122 (98%)	117 (98%)	2 (2%)	0	100	100
19	L	140/146 (96%)	135 (96%)	5 (4%)	0	100	100
20	M	132/138 (96%)	126 (96%)	6 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
21	N	114/180 (63%)	107 (94%)	7 (6%)	0	100	100
22	O	114/122 (93%)	104 (91%)	10 (9%)	0	100	100
23	P	110/113 (97%)	103 (94%)	7 (6%)	0	100	100
24	Q	120/129 (93%)	115 (96%)	5 (4%)	0	100	100
25	R	96/104 (92%)	93 (97%)	3 (3%)	0	100	100
26	S	111/197 (56%)	108 (97%)	3 (3%)	0	100	100
27	T	93/100 (93%)	89 (96%)	4 (4%)	0	100	100
28	U	86/105 (82%)	78 (91%)	8 (9%)	0	100	100
29	V	175/215 (81%)	150 (86%)	24 (14%)	1 (1%)	21	44
30	W	72/86 (84%)	63 (88%)	9 (12%)	0	100	100
31	Y	63/77 (82%)	60 (95%)	3 (5%)	0	100	100
32	Z	57/65 (88%)	49 (86%)	8 (14%)	0	100	100
33	y	76/78 (97%)	72 (95%)	3 (4%)	1 (1%)	9	25
35	d	199/201 (99%)	178 (89%)	21 (11%)	0	100	100
36	e	158/220 (72%)	138 (87%)	19 (12%)	1 (1%)	21	44
37	f	93/96 (97%)	80 (86%)	13 (14%)	0	100	100
38	h	128/132 (97%)	115 (90%)	13 (10%)	0	100	100
39	k	115/139 (83%)	107 (93%)	8 (7%)	0	100	100
40	l	121/124 (98%)	99 (82%)	22 (18%)	0	100	100
41	o	85/89 (96%)	77 (91%)	7 (8%)	1 (1%)	10	27
42	p	83/162 (51%)	76 (92%)	7 (8%)	0	100	100
43	q	92/135 (68%)	81 (88%)	11 (12%)	0	100	100
44	t	80/86 (93%)	78 (98%)	2 (2%)	0	100	100
45	x	28/33 (85%)	27 (96%)	1 (4%)	0	100	100
46	r	69/88 (78%)	65 (94%)	4 (6%)	0	100	100
47	c	205/274 (75%)	191 (93%)	14 (7%)	0	100	100
48	g	150/156 (96%)	139 (93%)	11 (7%)	0	100	100
49	i	125/151 (83%)	108 (86%)	17 (14%)	0	100	100
50	j	97/101 (96%)	92 (95%)	5 (5%)	0	100	100
51	m	111/124 (90%)	104 (94%)	7 (6%)	0	100	100
52	s	79/93 (85%)	73 (92%)	6 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
53	9	98/101 (97%)	89 (91%)	9 (9%)	0	100	100
54	b	47/54 (87%)	46 (98%)	1 (2%)	0	100	100
All	All	5354/6340 (84%)	4937 (92%)	412 (8%)	5 (0%)	49	73

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
14	F	88	GLU
41	o	47	LYS
29	V	57	ARG
33	y	18	VAL
36	e	192	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	7	18/20 (90%)	18 (100%)	0	100	100
3	1	40/50 (80%)	40 (100%)	0	100	100
4	0	43/47 (92%)	43 (100%)	0	100	100
5	2	36/40 (90%)	36 (100%)	0	100	100
6	3	53/54 (98%)	52 (98%)	1 (2%)	50	77
7	4	35/35 (100%)	35 (100%)	0	100	100
8	6	40/66 (61%)	40 (100%)	0	100	100
11	C	212/219 (97%)	212 (100%)	0	100	100
12	D	163/166 (98%)	162 (99%)	1 (1%)	78	91
13	E	159/172 (92%)	159 (100%)	0	100	100
14	F	139/155 (90%)	139 (100%)	0	100	100
15	G	143/147 (97%)	141 (99%)	2 (1%)	59	82
16	H	36/121 (30%)	36 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
17	J	120/161 (74%)	120 (100%)	0	100	100
18	K	100/101 (99%)	100 (100%)	0	100	100
19	L	106/110 (96%)	105 (99%)	1 (1%)	70	87
20	M	110/114 (96%)	110 (100%)	0	100	100
21	N	94/139 (68%)	93 (99%)	1 (1%)	65	85
22	O	88/93 (95%)	86 (98%)	2 (2%)	44	73
23	P	98/99 (99%)	96 (98%)	2 (2%)	48	76
24	Q	95/99 (96%)	95 (100%)	0	100	100
25	R	79/83 (95%)	79 (100%)	0	100	100
26	S	87/140 (62%)	87 (100%)	0	100	100
27	T	81/83 (98%)	81 (100%)	0	100	100
28	U	77/88 (88%)	77 (100%)	0	100	100
29	V	142/164 (87%)	142 (100%)	0	100	100
30	W	54/62 (87%)	53 (98%)	1 (2%)	50	77
31	Y	58/66 (88%)	58 (100%)	0	100	100
32	Z	51/55 (93%)	51 (100%)	0	100	100
33	y	68/68 (100%)	68 (100%)	0	100	100
35	d	177/177 (100%)	177 (100%)	0	100	100
36	e	114/159 (72%)	112 (98%)	2 (2%)	51	78
37	f	84/85 (99%)	83 (99%)	1 (1%)	63	84
38	h	106/108 (98%)	105 (99%)	1 (1%)	70	87
39	k	90/107 (84%)	90 (100%)	0	100	100
40	l	105/105 (100%)	105 (100%)	0	100	100
41	o	77/79 (98%)	77 (100%)	0	100	100
42	p	72/125 (58%)	72 (100%)	0	100	100
43	q	84/105 (80%)	83 (99%)	1 (1%)	63	84
44	t	62/65 (95%)	62 (100%)	0	100	100
45	x	26/31 (84%)	26 (100%)	0	100	100
46	r	60/71 (84%)	59 (98%)	1 (2%)	53	79
47	c	170/210 (81%)	170 (100%)	0	100	100
48	g	127/131 (97%)	126 (99%)	1 (1%)	73	88

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
49	i	102/120 (85%)	100 (98%)	2 (2%)	48	76
50	j	89/90 (99%)	87 (98%)	2 (2%)	45	74
51	m	96/104 (92%)	96 (100%)	0	100	100
52	s	73/85 (86%)	73 (100%)	0	100	100
53	9	81/82 (99%)	80 (99%)	1 (1%)	63	84
54	b	46/50 (92%)	46 (100%)	0	100	100
All	All	4466/5106 (88%)	4443 (100%)	23 (0%)	78	92

All (23) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
6	3	25	GLN
12	D	35	VAL
15	G	108	LEU
15	G	138	ASP
19	L	117	LEU
21	N	36	THR
22	O	24	LEU
22	O	51	ASN
23	P	7	VAL
23	P	59	THR
30	W	78	VAL
36	e	52	VAL
36	e	54	LYS
37	f	1	MET
38	h	25	VAL
43	q	91	ILE
46	r	26	VAL
48	g	126	ASP
49	i	130	ARG
49	i	147	GLN
50	j	64	HIS
50	j	84	VAL
53	9	5	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (29) such sidechains are listed below:

Mol	Chain	Res	Type
2	7	23	ASN

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Mol	Chain	Res	Type
7	4	34	GLN
11	C	96	HIS
11	C	227	ASN
12	D	135	GLN
13	E	82	GLN
14	F	31	ASN
15	G	82	GLN
19	L	44	GLN
24	Q	39	GLN
27	T	27	ASN
28	U	25	GLN
29	V	58	HIS
33	y	22	HIS
35	d	77	GLN
35	d	121	ASN
35	d	173	GLN
36	e	152	HIS
37	f	78	GLN
39	k	87	HIS
41	o	7	GLN
44	t	71	GLN
47	c	113	GLN
48	g	68	ASN
49	i	87	HIS
51	m	52	GLN
51	m	63	ASN
52	s	83	HIS
53	9	51	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	n	76/77 (98%)	16 (21%)	0
10	B	114/115 (99%)	11 (9%)	0
34	a	1515/1537 (98%)	311 (20%)	0
55	X	6/26 (23%)	2 (33%)	0
9	I	3116/3138 (99%)	492 (15%)	10 (0%)
All	All	4827/4893 (98%)	832 (17%)	10 (0%)

All (832) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	n	20	G
1	n	21	U
1	n	22	A
1	n	33	C
1	n	35	C
1	n	36	A
1	n	37	U
1	n	39	A
1	n	49	C
1	n	52	C
1	n	53	G
1	n	56	U
1	n	57	C
1	n	67	C
1	n	69	C
1	n	74	A
9	I	15	G
9	I	34	U
9	I	35	G
9	I	45	G
9	I	51	G
9	I	58	G
9	I	63	A
9	I	71	A
9	I	74	U
9	I	75	G
9	I	85	G
9	I	93	C
9	I	100	U
9	I	118	A
9	I	119	A
9	I	120	U
9	I	131	A
9	I	141	A
9	I	143	G
9	I	167	A
9	I	183	A
9	I	198	A
9	I	201	A
9	I	217	G
9	I	218	A
9	I	224	A
9	I	225	A

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Mol	Chain	Res	Type
9	I	231	U
9	I	232	G
9	I	235	A
9	I	250	G
9	I	267	A
9	I	268	G
9	I	286	G
9	I	287	G
9	I	288	U
9	I	289	A
9	I	290	A
9	I	291	C
9	I	293	G
9	I	294	G
9	I	301	G
9	I	303	U
9	I	304	G
9	I	320	G
9	I	328	A
9	I	329	U
9	I	330	G
9	I	332	C
9	I	339	C
9	I	345	G
9	I	358	U
9	I	359	C
9	I	360	A
9	I	372	G
9	I	377	G
9	I	394	U
9	I	413	A
9	I	446	A
9	I	447	G
9	I	448	U
9	I	453	A
9	I	454	U
9	I	461	G
9	I	475	G
9	I	494	C
9	I	500	G
9	I	501	A
9	I	570	G

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Mol	Chain	Res	Type
9	I	593	A
9	I	596	A
9	I	597	C
9	I	598	C
9	I	618	U
9	I	619	C
9	I	620	C
9	I	621	G
9	I	633	U
9	I	639	U
9	I	641	U
9	I	642	C
9	I	643	C
9	I	645	G
9	I	646	A
9	I	655	G
9	I	664	U
9	I	665	G
9	I	675	G
9	I	676	A
9	I	677	A
9	I	691	C
9	I	692	A
9	I	693	G
9	I	695	G
9	I	706	A
9	I	707	G
9	I	718	G
9	I	719	U
9	I	720	G
9	I	738	G
9	I	741	A
9	I	742	G
9	I	749	U
9	I	750	A
9	I	757	C
9	I	759	C
9	I	760	A
9	I	761	C
9	I	764	G
9	I	768	A
9	I	772	G

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Mol	Chain	Res	Type
9	I	776	G
9	I	778	G
9	I	779	U
9	I	780	G
9	I	781	A
9	I	782	A
9	I	783	U
9	I	784	A
9	I	797	G
9	I	815	U
9	I	816	C
9	I	844	A
9	I	845	A
9	I	859	C
9	I	876	U
9	I	887	G
9	I	893	A
9	I	905	G
9	I	911	A
9	I	912	A
9	I	913	G
9	I	914	G
9	I	934	G
9	I	935	C
9	I	941	C
9	I	956	U
9	I	975	G
9	I	976	U
9	I	988	G
9	I	1007	G
9	I	1024	U
9	I	1025	A
9	I	1026	C
9	I	1028	G
9	I	1036	C
9	I	1039	A
9	I	1043	C
9	I	1059	A
9	I	1060	A
9	I	1061	A
9	I	1074	G
9	I	1081	G

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Mol	Chain	Res	Type
9	I	1086	U
9	I	1087	A
9	I	1089	G
9	I	1096	A
9	I	1097	C
9	I	1103	A
9	I	1112	A
9	I	1125	G
9	I	1142	G
9	I	1149	A
9	I	1155	G
9	I	1162	U
9	I	1186	A
9	I	1187	G
9	I	1189	U
9	I	1190	U
9	I	1191	G
9	I	1197	G
9	I	1198	A
9	I	1200	G
9	I	1206	A
9	I	1207	C
9	I	1208	C
9	I	1212	G
9	I	1216	G
9	I	1217	A
9	I	1218	G
9	I	1219	U
9	I	1224	A
9	I	1225	A
9	I	1226	U
9	I	1230	U
9	I	1239	A
9	I	1240	A
9	I	1241	G
9	I	1242	U
9	I	1243	G
9	I	1261	U
9	I	1262	A
9	I	1264	C
9	I	1271	C
9	I	1272	A

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Mol	Chain	Res	Type
9	I	1303	C
9	I	1304	U
9	I	1306	G
9	I	1312	G
9	I	1343	G
9	I	1370	G
9	I	1378	A
9	I	1386	U
9	I	1387	G
9	I	1402	G
9	I	1403	A
9	I	1404	C
9	I	1406	A
9	I	1418	A
9	I	1432	A
9	I	1437	C
9	I	1452	C
9	I	1457	C
9	I	1481	C
9	I	1483	U
9	I	1496	A
9	I	1499	G
9	I	1509	A
9	I	1510	U
9	I	1513	A
9	I	1515	A
9	I	1526	A
9	I	1551	C
9	I	1552	G
9	I	1558	A
9	I	1560	U
9	I	1561	C
9	I	1566	G
9	I	1567	U
9	I	1568	A
9	I	1569	C
9	I	1575	A
9	I	1580	A
9	I	1585	G
9	I	1589	C
9	I	1591	A
9	I	1594	A

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Mol	Chain	Res	Type
9	I	1602	U
9	I	1604	G
9	I	1605	G
9	I	1606	G
9	I	1607	G
9	I	1609	U
9	I	1615	G
9	I	1621	G
9	I	1622	G
9	I	1625	U
9	I	1628	G
9	I	1646	G
9	I	1647	U
9	I	1657	A
9	I	1658	A
9	I	1665	A
9	I	1666	C
9	I	1687	G
9	I	1691	G
9	I	1693	G
9	I	1697	A
9	I	1698	C
9	I	1699	A
9	I	1705	G
9	I	1714	U
9	I	1720	G
9	I	1727	A
9	I	1730	C
9	I	1731	A
9	I	1755	G
9	I	1763	G
9	I	1772	G
9	I	1773	U
9	I	1774	U
9	I	1776	A
9	I	1803	A
9	I	1807	A
9	I	1815	U
9	I	1817	G
9	I	1822	C
9	I	1842	C
9	I	1843	A

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Mol	Chain	Res	Type
9	I	1845	A
9	I	1869	C
9	I	1881	U
9	I	1883	C
9	I	1888	U
9	I	1892	U
9	I	1909	G
9	I	1910	C
9	I	1948	A
9	I	1949	U
9	I	1950	A
9	I	1951	U
9	I	1957	A
9	I	1958	C
9	I	1963	U
9	I	1964	U
9	I	1965	G
9	I	1970	G
9	I	1992	A
9	I	1998	U
9	I	2007	A
9	I	2020	A
9	I	2034	C
9	I	2035	G
9	I	2050	U
9	I	2063	A
9	I	2106	C
9	I	2107	A
9	I	2109	G
9	I	2123	A
9	I	2144	G
9	I	2145	G
9	I	2146	U
9	I	2150	A
9	I	2151	A
9	I	2152	C
9	I	2167	G
9	I	2168	G
9	I	2175	A
9	I	2176	A
9	I	2180	C
9	I	2193	U

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Mol	Chain	Res	Type
9	I	2204	A
9	I	2205	C
9	I	2209	U
9	I	2210	G
9	I	2229	U
9	I	2231	U
9	I	2234	C
9	I	2258	A
9	I	2261	A
9	I	2269	A
9	I	2270	G
9	I	2281	C
9	I	2290	G
9	I	2293	C
9	I	2294	G
9	I	2298	A
9	I	2299	G
9	I	2300	A
9	I	2330	G
9	I	2340	A
9	I	2342	G
9	I	2343	G
9	I	2347	G
9	I	2348	U
9	I	2350	U
9	I	2351	A
9	I	2352	G
9	I	2353	G
9	I	2354	A
9	I	2355	U
9	I	2356	A
9	I	2357	G
9	I	2358	G
9	I	2359	U
9	I	2360	G
9	I	2361	G
9	I	2362	G
9	I	2363	A
9	I	2366	C
9	I	2368	G
9	I	2369	U
9	I	2370	G

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Mol	Chain	Res	Type
9	I	2371	A
9	I	2372	A
9	I	2375	C
9	I	2377	C
9	I	2381	G
9	I	2382	C
9	I	2383	C
9	I	2384	A
9	I	2385	G
9	I	2386	U
9	I	2387	U
9	I	2389	G
9	I	2391	G
9	I	2393	G
9	I	2394	G
9	I	2395	A
9	I	2396	G
9	I	2397	U
9	I	2398	C
9	I	2401	U
9	I	2402	G
9	I	2403	U
9	I	2404	U
9	I	2405	G
9	I	2407	A
9	I	2408	A
9	I	2410	A
9	I	2411	C
9	I	2413	A
9	I	2416	C
9	I	2417	U
9	I	2418	G
9	I	2419	A
9	I	2424	A
9	I	2435	A
9	I	2442	A
9	I	2448	G
9	I	2449	A
9	I	2463	A
9	I	2476	G
9	I	2477	G
9	I	2488	G

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Mol	Chain	Res	Type
9	I	2516	A
9	I	2517	G
9	I	2521	C
9	I	2525	A
9	I	2526	A
9	I	2543	A
9	I	2545	G
9	I	2547	C
9	I	2549	A
9	I	2550	U
9	I	2557	G
9	I	2558	C
9	I	2573	A
9	I	2583	G
9	I	2585	C
9	I	2588	C
9	I	2599	A
9	I	2610	G
9	I	2621	G
9	I	2623	A
9	I	2625	U
9	I	2626	A
9	I	2640	C
9	I	2641	C
9	I	2644	A
9	I	2663	A
9	I	2664	A
9	I	2667	G
9	I	2668	A
9	I	2673	A
9	I	2679	C
9	I	2685	G
9	I	2686	A
9	I	2702	C
9	I	2707	A
9	I	2714	A
9	I	2725	A
9	I	2736	C
9	I	2740	G
9	I	2742	U
9	I	2743	G
9	I	2751	G

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Mol	Chain	Res	Type
9	I	2756	A
9	I	2758	C
9	I	2767	G
9	I	2792	U
9	I	2804	A
9	I	2805	G
9	I	2823	U
9	I	2841	G
9	I	2847	U
9	I	2851	U
9	I	2853	U
9	I	2868	A
9	I	2884	C
9	I	2901	G
9	I	2927	C
9	I	2928	A
9	I	2952	G
9	I	2962	C
9	I	2964	C
9	I	2967	U
9	I	2982	G
9	I	2986	A
9	I	3003	A
9	I	3016	A
9	I	3018	C
9	I	3023	U
9	I	3028	A
9	I	3034	U
9	I	3035	U
9	I	3037	G
9	I	3038	U
9	I	3039	G
9	I	3047	G
9	I	3056	A
9	I	3070	A
9	I	3107	A
9	I	3115	C
9	I	3118	A
9	I	3119	C
9	I	3120	C
9	I	3121	G
9	I	3126	A

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Mol	Chain	Res	Type
9	I	3127	A
9	I	3129	A
9	I	3131	U
10	B	8	G
10	B	34	U
10	B	40	U
10	B	41	C
10	B	52	A
10	B	65	A
10	B	66	G
10	B	88	G
10	B	101	G
10	B	105	A
10	B	115	A
34	a	9	G
34	a	10	G
34	a	11	A
34	a	12	G
34	a	20	U
34	a	22	C
34	a	25	G
34	a	35	A
34	a	42	G
34	a	47	G
34	a	51	U
34	a	54	A
34	a	74	A
34	a	77	G
34	a	78	U
34	a	82	U
34	a	89	A
34	a	90	U
34	a	92	C
34	a	114	A
34	a	115	A
34	a	116	C
34	a	122	G
34	a	125	G
34	a	126	A
34	a	127	U
34	a	138	C
34	a	140	U

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Mol	Chain	Res	Type
34	a	142	G
34	a	150	C
34	a	159	C
34	a	169	U
34	a	170	A
34	a	175	A
34	a	176	U
34	a	177	A
34	a	180	A
34	a	185	G
34	a	187	G
34	a	190	G
34	a	191	C
34	a	192	A
34	a	193	U
34	a	194	G
34	a	196	C
34	a	199	G
34	a	200	U
34	a	204	G
34	a	205	G
34	a	206	A
34	a	207	A
34	a	208	A
34	a	212	C
34	a	214	U
34	a	215	U
34	a	217	G
34	a	219	G
34	a	223	U
34	a	244	C
34	a	246	G
34	a	249	U
34	a	250	G
34	a	265	G
34	a	266	C
34	a	275	G
34	a	278	A
34	a	279	C
34	a	288	G
34	a	305	U
34	a	320	A

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Mol	Chain	Res	Type
34	a	327	U
34	a	328	A
34	a	329	C
34	a	343	A
34	a	344	C
34	a	345	G
34	a	346	G
34	a	350	G
34	a	351	C
34	a	353	G
34	a	355	A
34	a	362	A
34	a	363	A
34	a	366	U
34	a	371	C
34	a	373	A
34	a	391	C
34	a	397	C
34	a	398	G
34	a	405	G
34	a	406	G
34	a	410	A
34	a	411	U
34	a	412	G
34	a	413	A
34	a	420	U
34	a	421	C
34	a	422	G
34	a	423	G
34	a	424	G
34	a	428	U
34	a	448	C
34	a	451	A
34	a	452	G
34	a	457	G
34	a	458	G
34	a	459	G
34	a	460	U
34	a	461	U
34	a	462	C
34	a	469	A
34	a	470	U

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Mol	Chain	Res	Type
34	a	471	U
34	a	475	G
34	a	476	G
34	a	477	U
34	a	484	A
34	a	486	A
34	a	487	A
34	a	489	A
34	a	496	G
34	a	497	G
34	a	500	A
34	a	502	C
34	a	509	C
34	a	512	G
34	a	518	G
34	a	519	C
34	a	521	G
34	a	523	A
34	a	524	A
34	a	525	U
34	a	536	C
34	a	538	A
34	a	550	A
34	a	555	C
34	a	564	A
34	a	567	A
34	a	568	G
34	a	587	C
34	a	603	U
34	a	606	C
34	a	616	G
34	a	624	G
34	a	633	A
34	a	644	A
34	a	656	G
34	a	678	A
34	a	686	A
34	a	692	C
34	a	693	A
34	a	707	A
34	a	714	U
34	a	715	G

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Mol	Chain	Res	Type
34	a	725	G
34	a	740	A
34	a	746	G
34	a	751	G
34	a	768	A
34	a	783	A
34	a	784	U
34	a	785	A
34	a	790	G
34	a	806	A
34	a	808	C
34	a	812	G
34	a	819	A
34	a	833	U
34	a	835	C
34	a	836	C
34	a	837	U
34	a	838	U
34	a	852	U
34	a	883	G
34	a	895	G
34	a	907	A
34	a	912	A
34	a	913	U
34	a	914	U
34	a	915	G
34	a	919	G
34	a	920	G
34	a	927	C
34	a	928	A
34	a	953	U
34	a	959	G
34	a	962	A
34	a	968	A
34	a	969	G
34	a	970	A
34	a	975	U
34	a	980	G
34	a	985	U
34	a	986	G
34	a	987	A
34	a	991	G

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Mol	Chain	Res	Type
34	a	997	G
34	a	998	A
34	a	1004	C
34	a	1016	G
34	a	1017	U
34	a	1021	C
34	a	1022	U
34	a	1023	U
34	a	1024	G
34	a	1026	G
34	a	1027	G
34	a	1029	C
34	a	1035	G
34	a	1036	C
34	a	1044	G
34	a	1055	G
34	a	1057	C
34	a	1062	C
34	a	1063	G
34	a	1064	U
34	a	1065	G
34	a	1067	C
34	a	1068	G
34	a	1069	U
34	a	1070	G
34	a	1085	G
34	a	1086	U
34	a	1090	G
34	a	1092	A
34	a	1095	G
34	a	1115	G
34	a	1121	A
34	a	1123	C
34	a	1125	C
34	a	1126	G
34	a	1129	A
34	a	1131	G
34	a	1132	G
34	a	1135	G
34	a	1137	G
34	a	1138	A
34	a	1146	G

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Mol	Chain	Res	Type
34	a	1149	A
34	a	1150	C
34	a	1151	U
34	a	1152	G
34	a	1154	C
34	a	1160	C
34	a	1161	A
34	a	1166	G
34	a	1169	G
34	a	1175	U
34	a	1176	G
34	a	1178	G
34	a	1188	A
34	a	1189	A
34	a	1190	G
34	a	1204	U
34	a	1205	A
34	a	1207	G
34	a	1218	C
34	a	1219	A
34	a	1230	A
34	a	1233	G
34	a	1242	A
34	a	1249	U
34	a	1250	G
34	a	1253	A
34	a	1271	A
34	a	1273	U
34	a	1277	U
34	a	1279	A
34	a	1281	A
34	a	1289	U
34	a	1292	G
34	a	1293	U
34	a	1294	U
34	a	1297	G
34	a	1312	C
34	a	1315	G
34	a	1327	U
34	a	1332	G
34	a	1338	A
34	a	1340	U

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Mol	Chain	Res	Type
34	a	1341	A
34	a	1345	G
34	a	1348	G
34	a	1355	A
34	a	1356	A
34	a	1357	C
34	a	1360	U
34	a	1361	G
34	a	1363	G
34	a	1371	C
34	a	1387	A
34	a	1390	C
34	a	1391	A
34	a	1415	G
34	a	1424	C
34	a	1432	G
34	a	1434	G
34	a	1439	A
34	a	1446	G
34	a	1472	G
34	a	1480	G
34	a	1485	A
34	a	1486	A
34	a	1487	G
34	a	1490	G
34	a	1492	A
34	a	1496	A
34	a	1510	G
34	a	1512	A
34	a	1522	G
34	a	1523	G
55	X	3	A
55	X	7	A

All (10) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
9	I	230	U
9	I	758	C
9	I	913	G
9	I	1060	A
9	I	1086	U

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Mol	Chain	Res	Type
9	I	1567	U
9	I	1645	A
9	I	2388	G
9	I	2640	C
9	I	3034	U

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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](#)

There are no chain breaks in this entry.

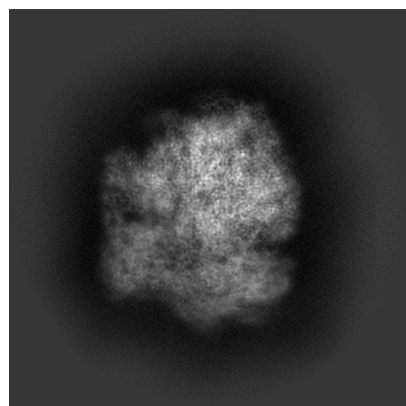
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-47384. These allow visual inspection of the internal detail of the map and identification of artifacts.

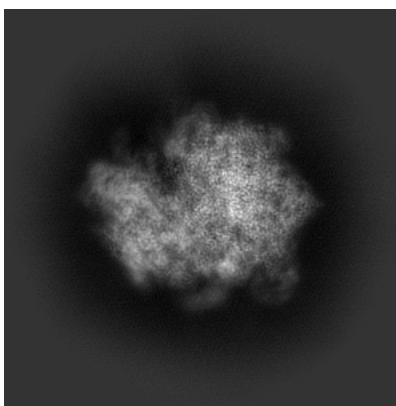
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

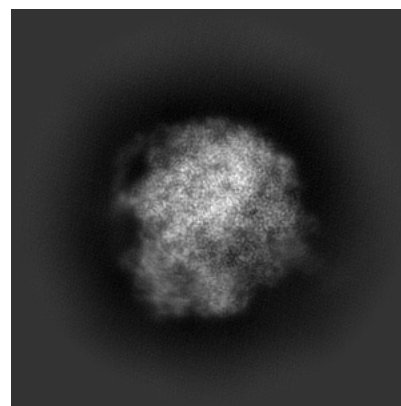
6.1.1 Primary map



X

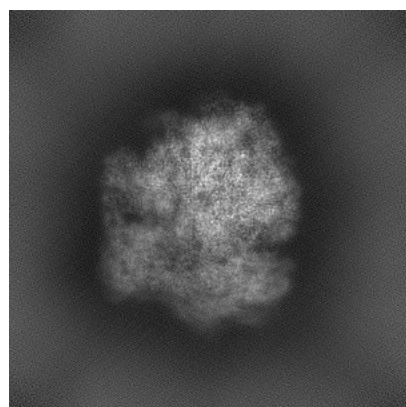


Y

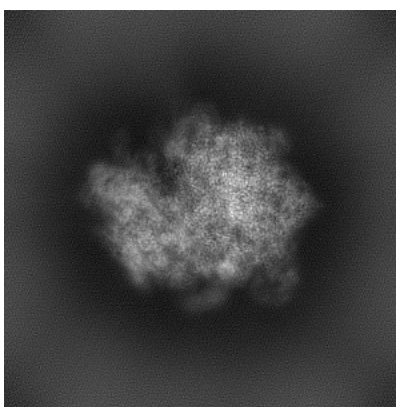


Z

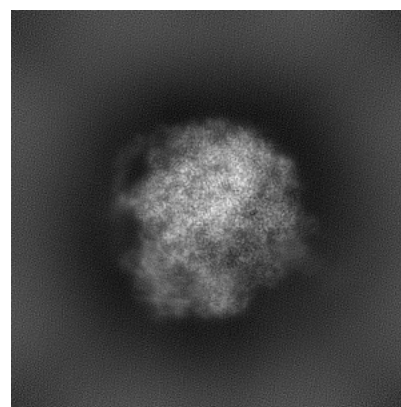
6.1.2 Raw map



X



Y

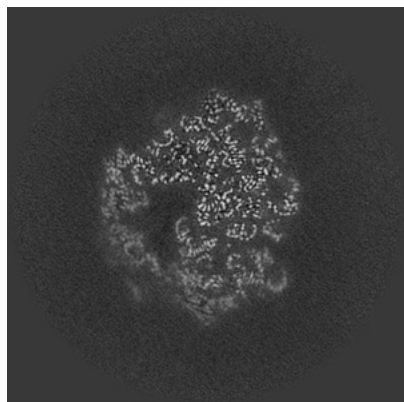


Z

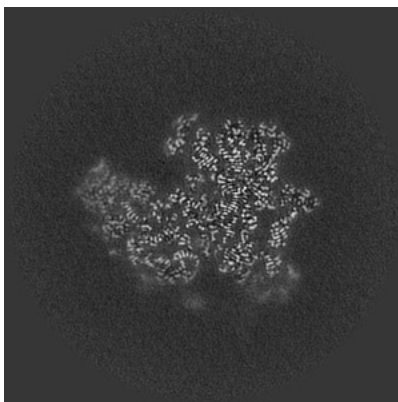
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

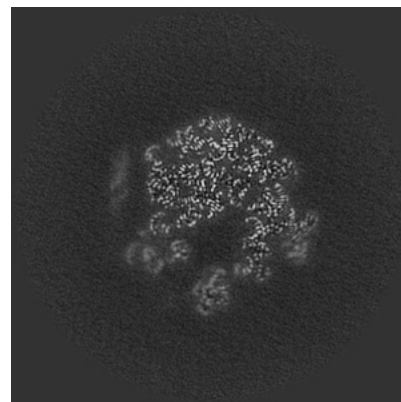
6.2.1 Primary map



X Index: 200

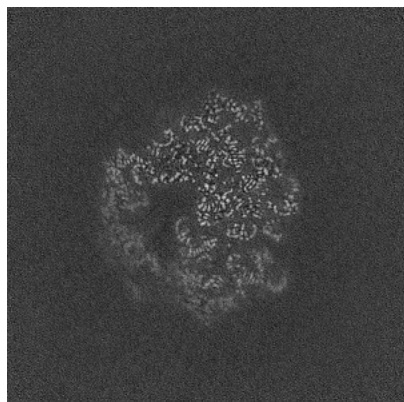


Y Index: 200

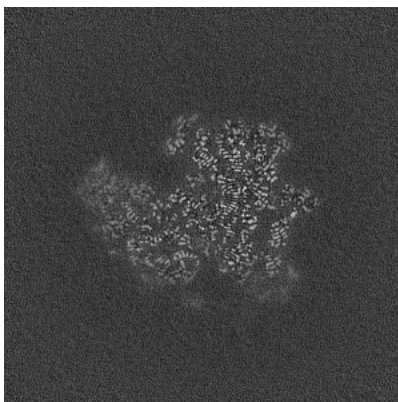


Z Index: 200

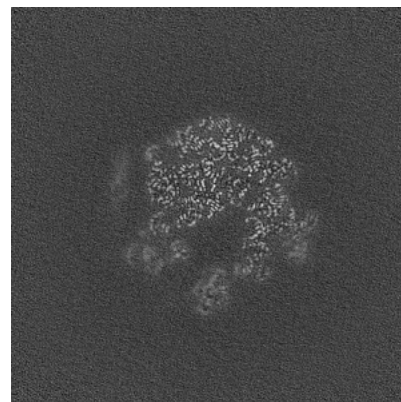
6.2.2 Raw map



X Index: 200



Y Index: 200

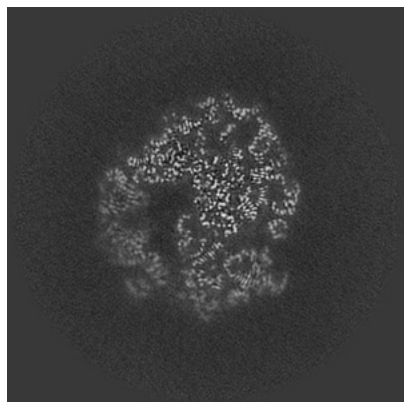


Z Index: 200

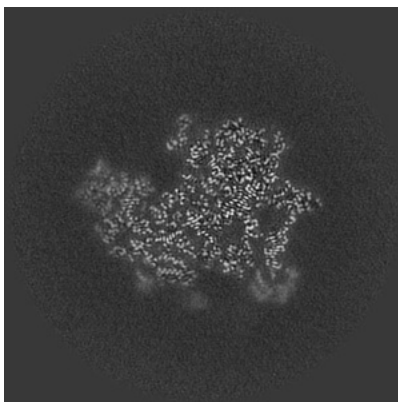
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

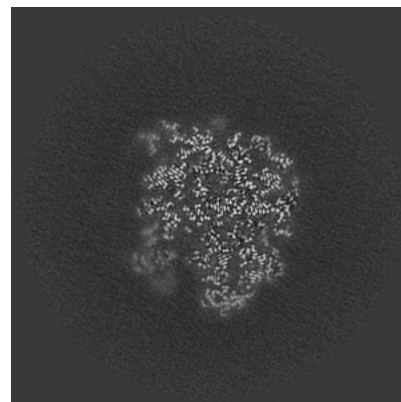
6.3.1 Primary map



X Index: 196

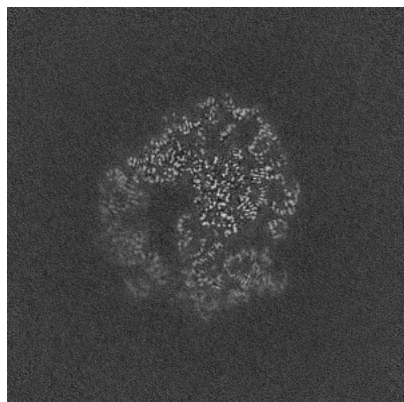


Y Index: 204

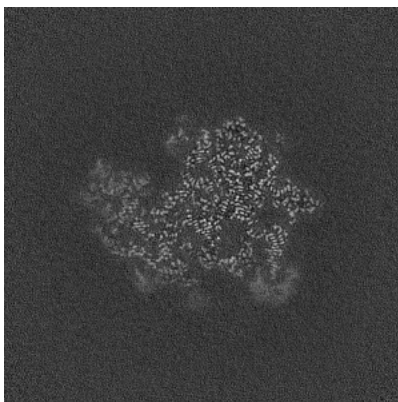


Z Index: 230

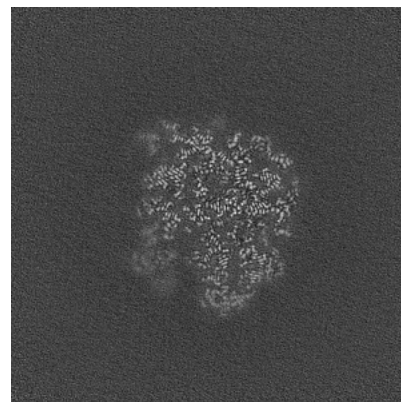
6.3.2 Raw map



X Index: 196



Y Index: 206

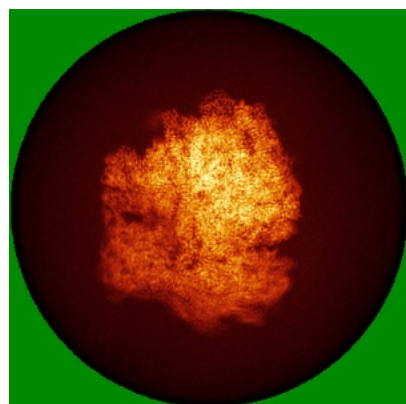


Z Index: 230

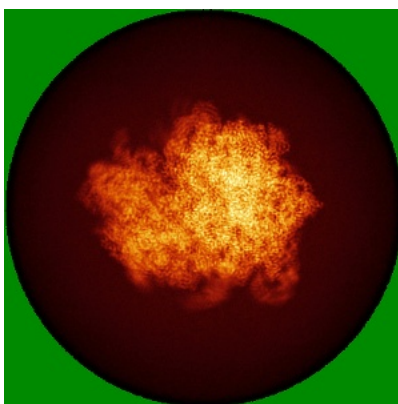
The images above show the largest variance slices of the map in three orthogonal directions.

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

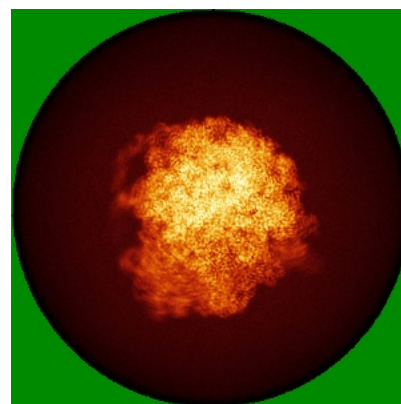
6.4.1 Primary map



X

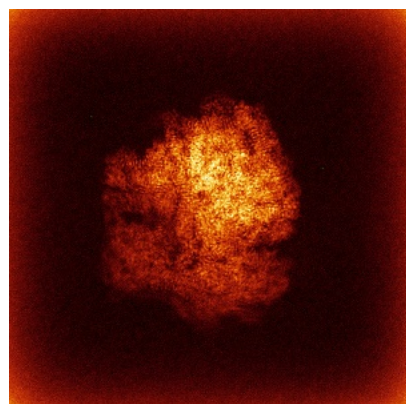


Y

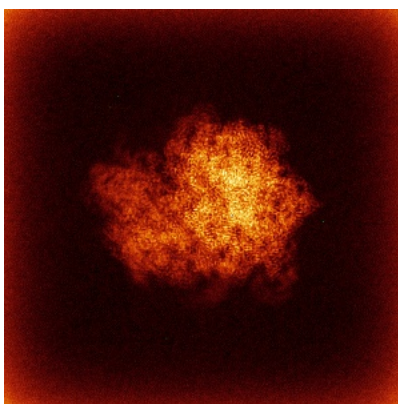


Z

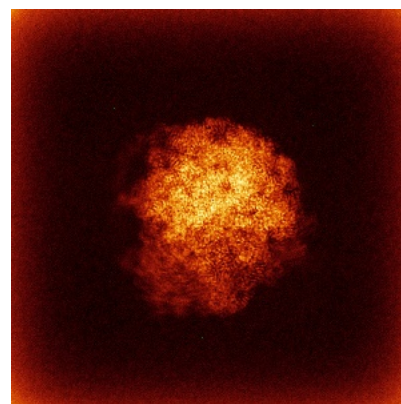
6.4.2 Raw map



X



Y

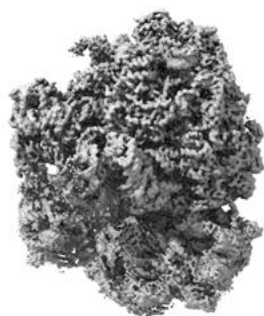


Z

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



X



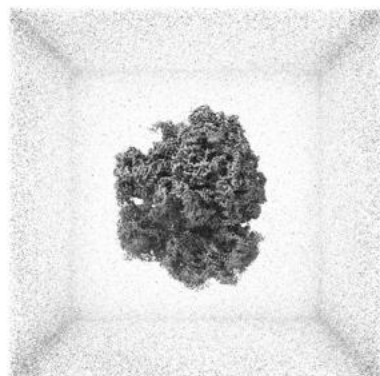
Y



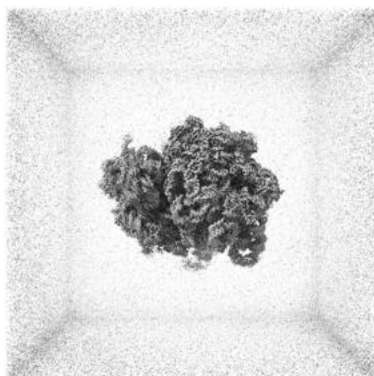
Z

The images above show the 3D surface view of the map at the recommended contour level 0.18. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

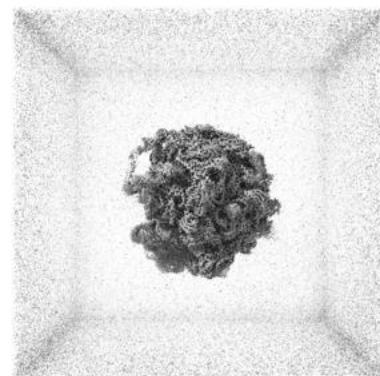
6.5.2 Raw map



X



Y



Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

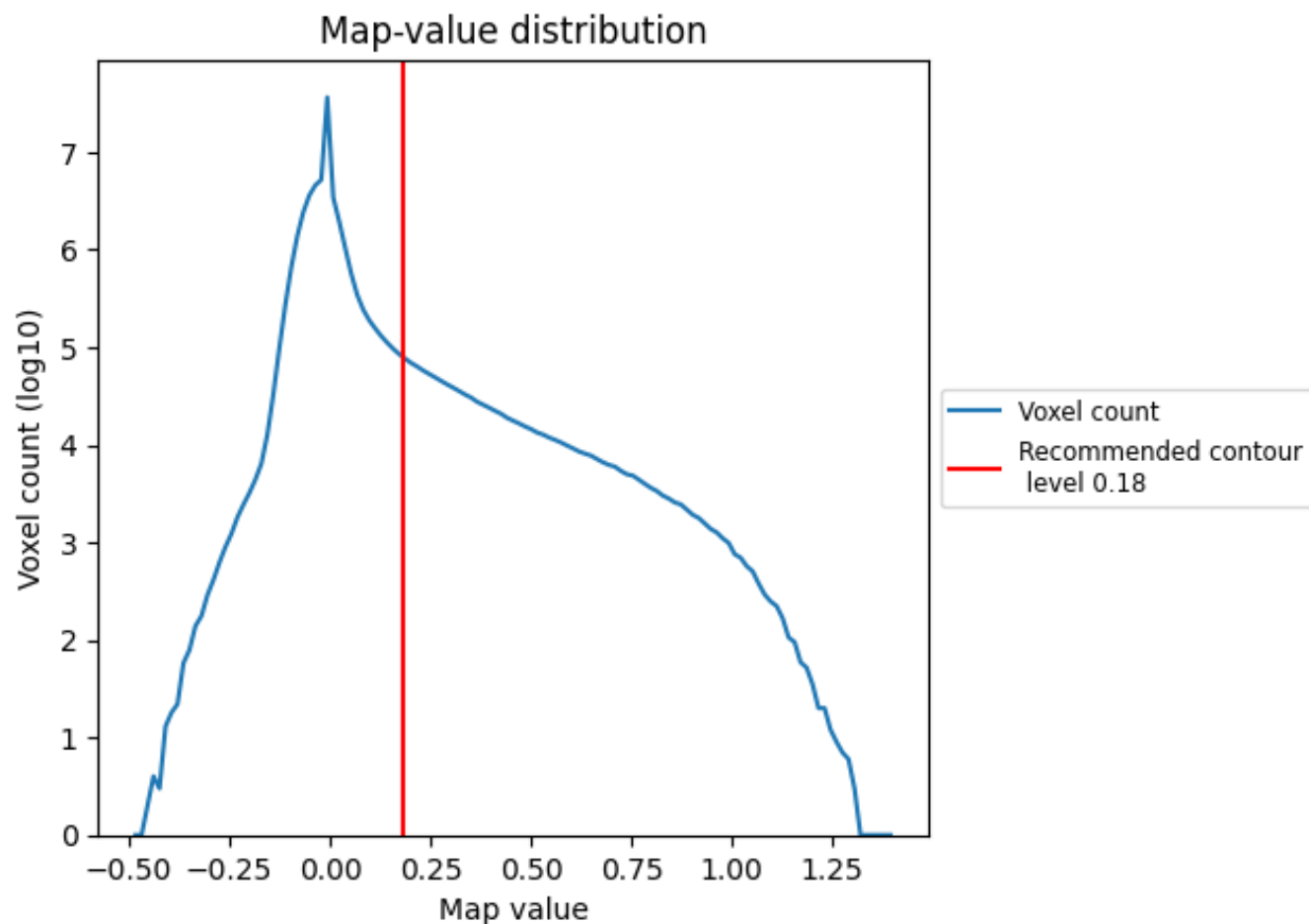
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

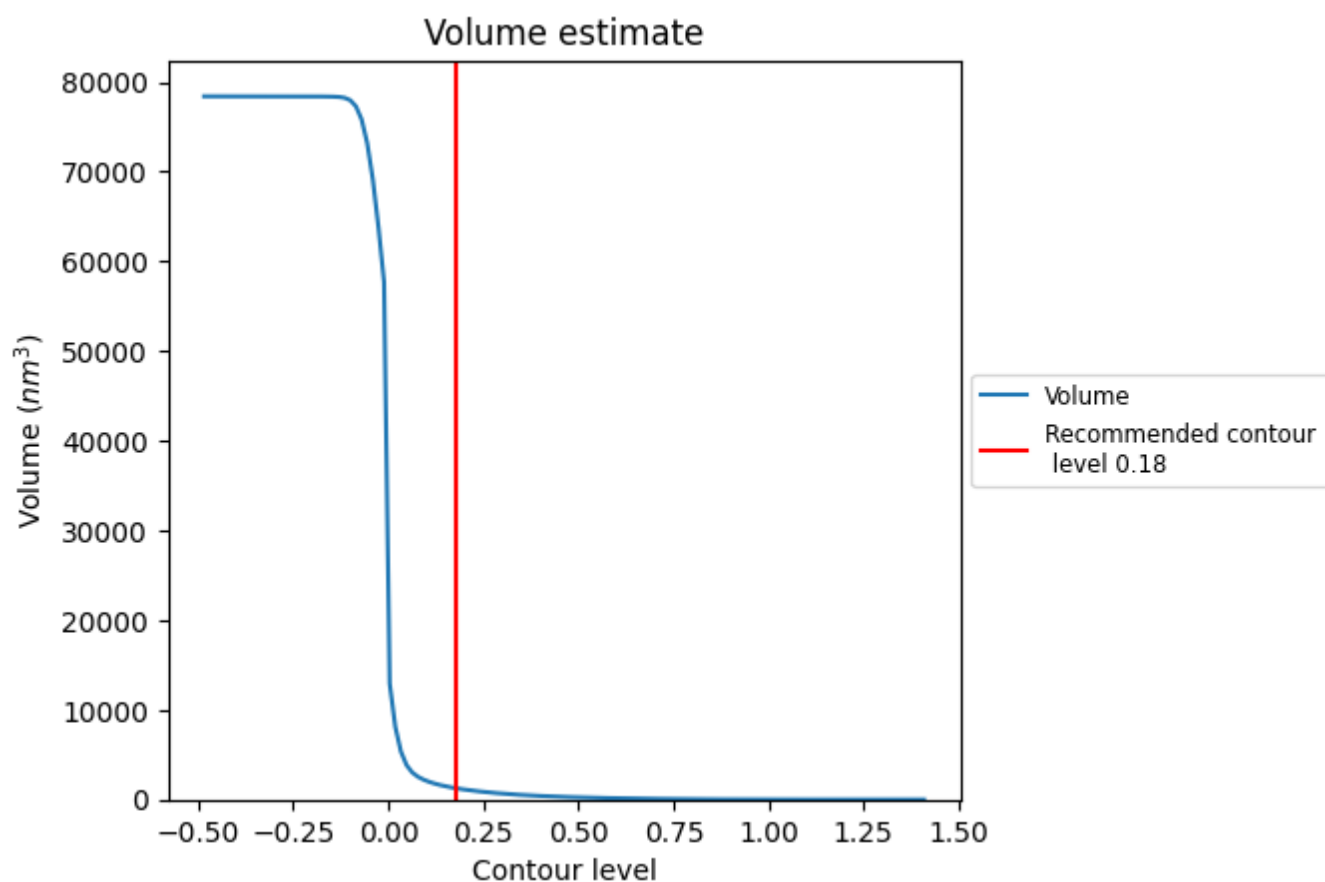
This section contains the results of statistical analysis of the map.

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.

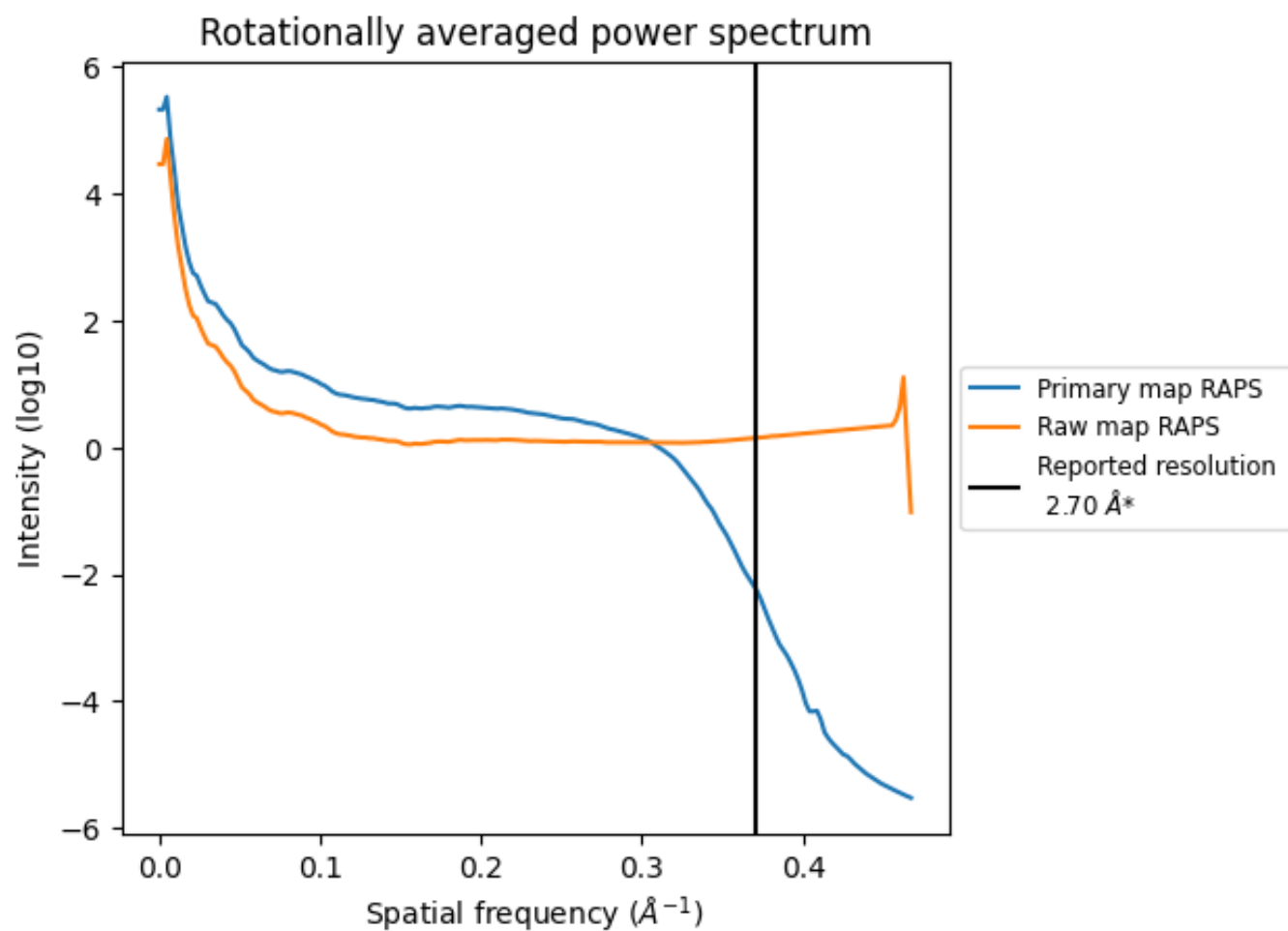
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1251 nm³; this corresponds to an approximate mass of 1130 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 ⓘ

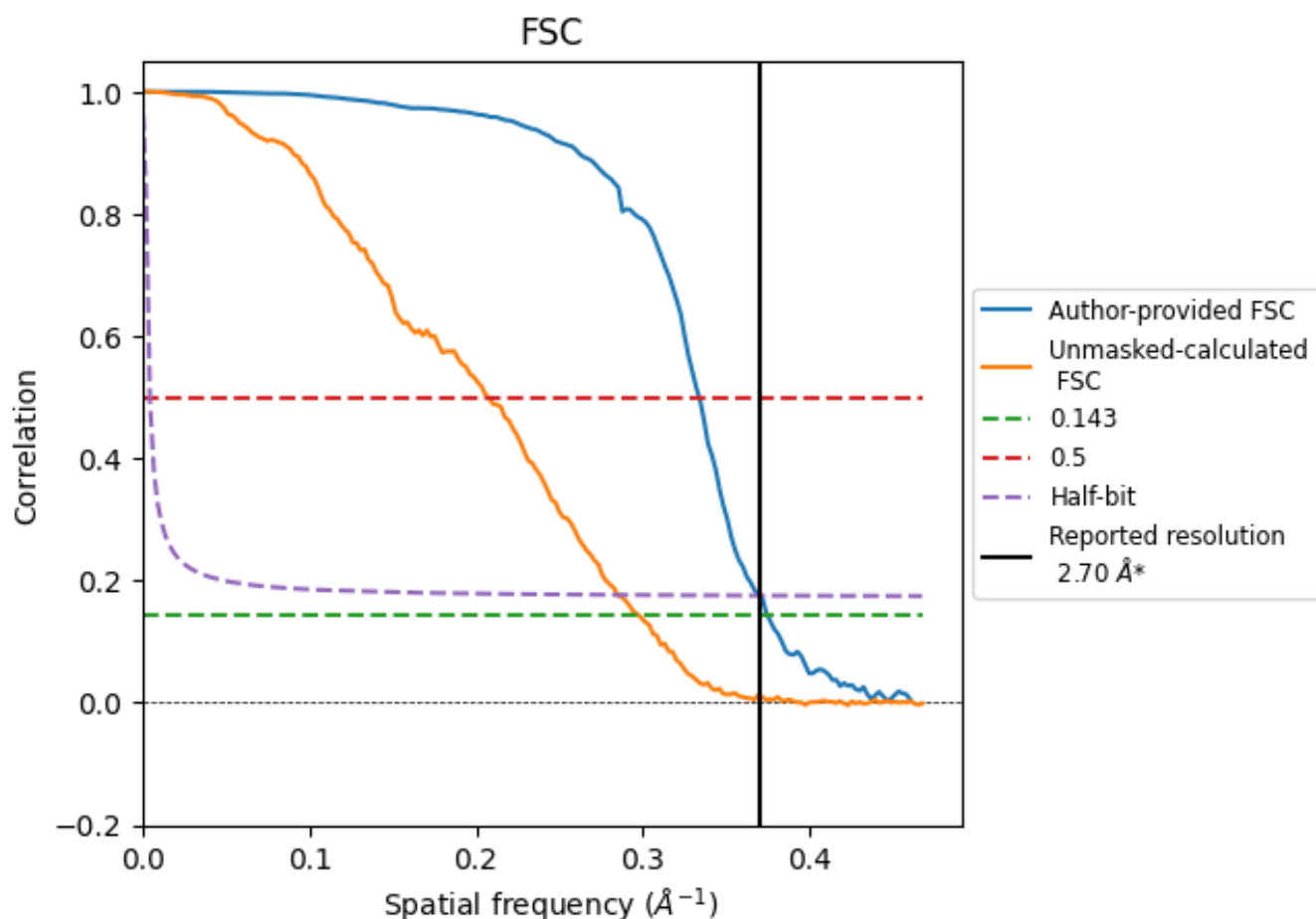


*Reported resolution corresponds to spatial frequency of 0.370 $\text{\AA}^{-1}$

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.370 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

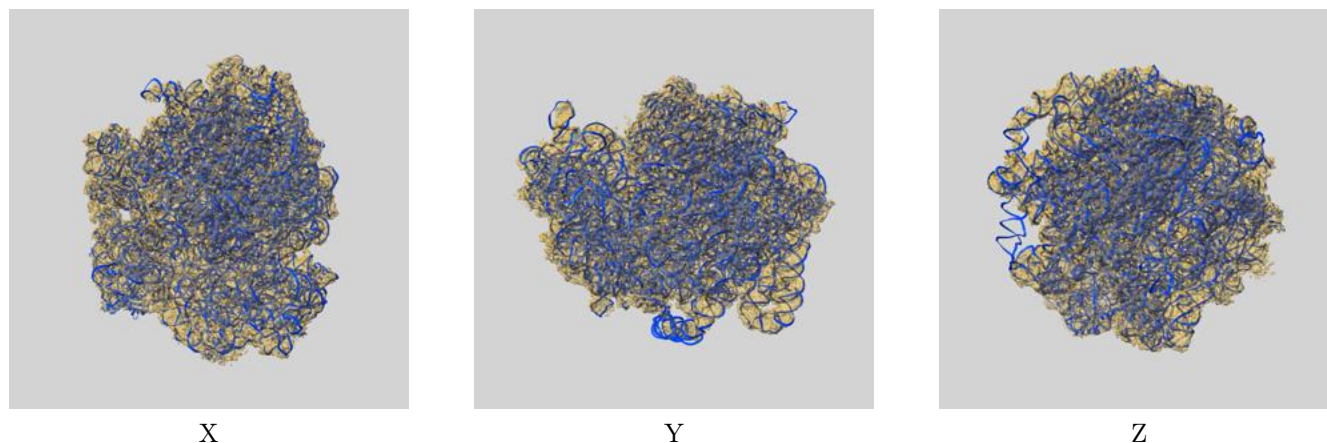
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.70	-	-
Author-provided FSC curve	2.67	3.00	2.71
Unmasked-calculated*	3.36	4.83	3.51

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.36 differs from the reported value 2.7 by more than 10 %

9 Map-model fit [i](#)

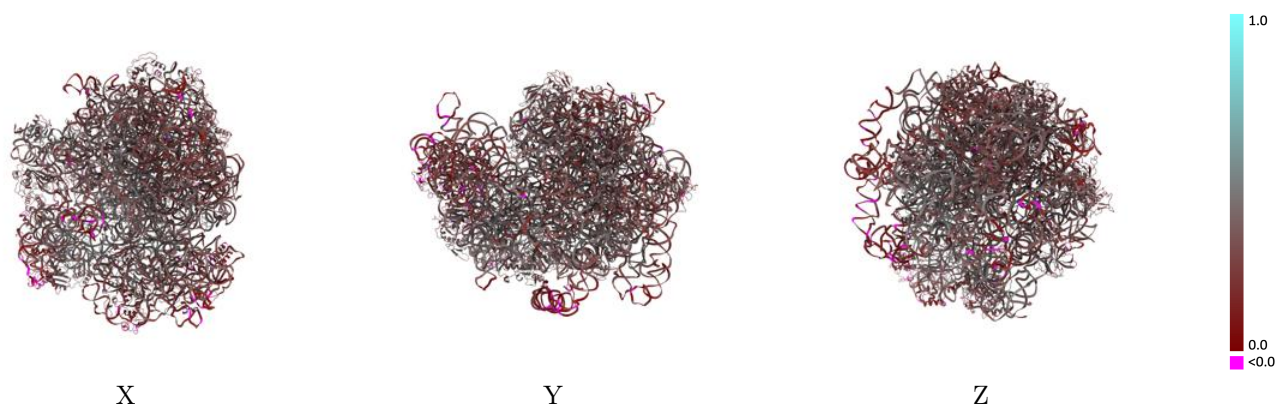
This section contains information regarding the fit between EMDB map EMD-47384 and PDB model 9E16. Per-residue inclusion information can be found in section 3 on page 14.

9.1 Map-model overlay [i](#)



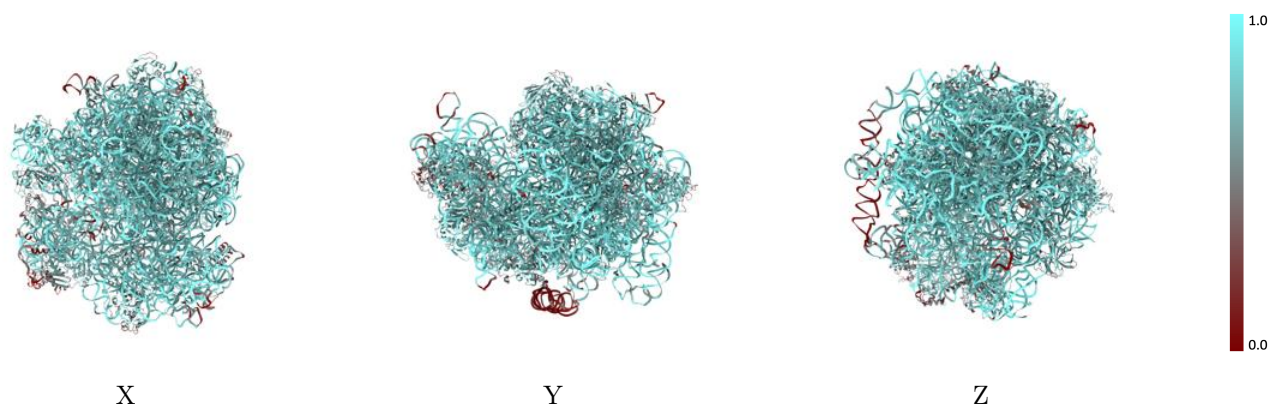
The images above show the 3D surface view of the map at the recommended contour level 0.18 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



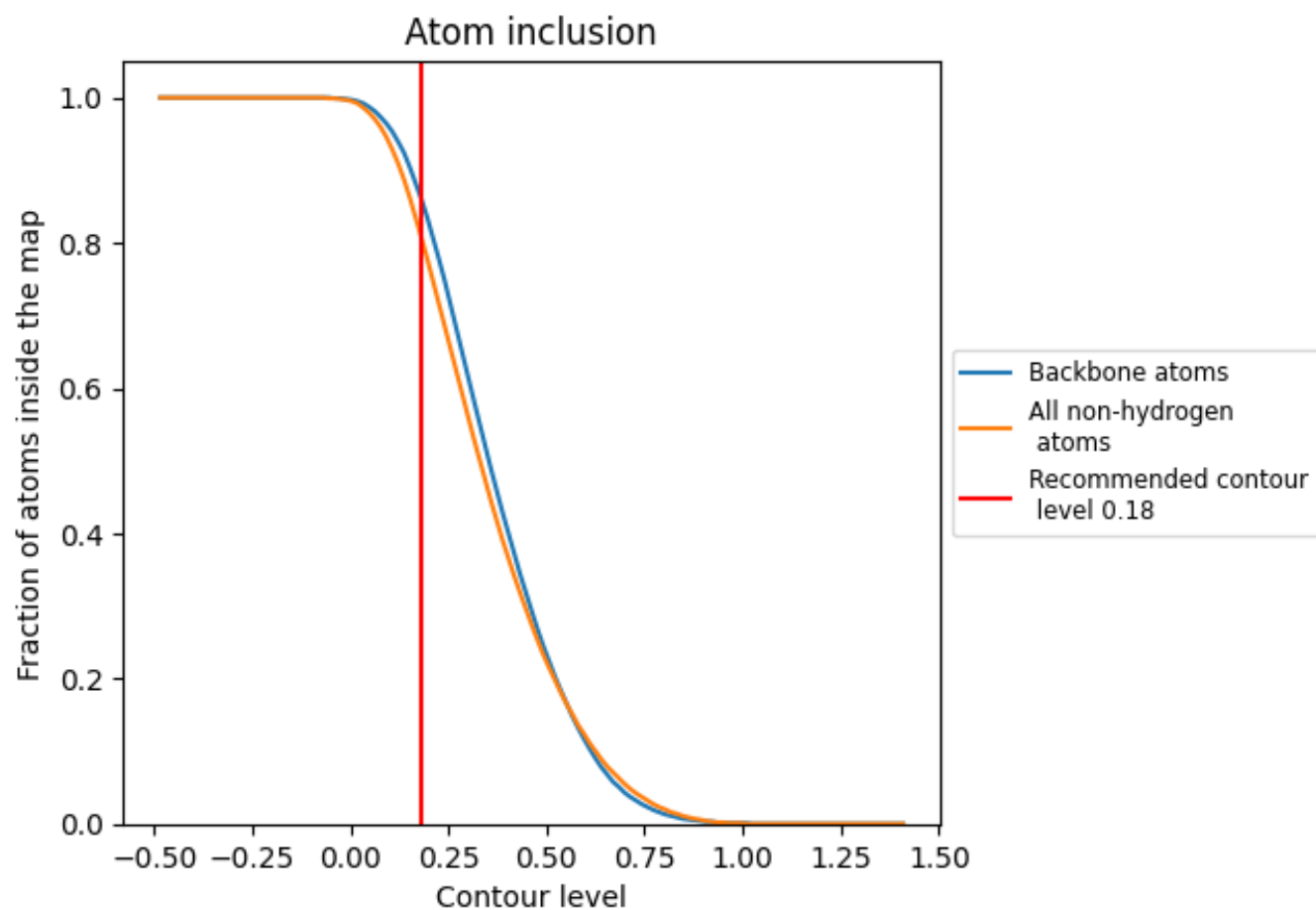
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.18).

9.4 Atom inclusion [i](#)



At the recommended contour level, 86% of all backbone atoms, 81% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.18) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8100	 0.3330
0	 0.7410	 0.3070
1	 0.5330	 0.3090
2	 0.8350	 0.3550
3	 0.8200	 0.3680
4	 0.7940	 0.3750
6	 0.6170	 0.2460
7	 0.8400	 0.3880
9	 0.4720	 0.2600
B	 0.9040	 0.3740
C	 0.8320	 0.3970
D	 0.7650	 0.3430
E	 0.7310	 0.3110
F	 0.7000	 0.3250
G	 0.7210	 0.3490
H	 0.6940	 0.3310
I	 0.8440	 0.3330
J	 0.7580	 0.3340
K	 0.7510	 0.3750
L	 0.7660	 0.3490
M	 0.7780	 0.3790
N	 0.7670	 0.3360
O	 0.7970	 0.3770
P	 0.7380	 0.3510
Q	 0.7760	 0.3100
R	 0.7490	 0.3440
S	 0.7560	 0.3440
T	 0.7500	 0.3180
U	 0.6240	 0.2720
V	 0.6300	 0.3090
W	 0.7620	 0.3430
X	 0.7970	 0.3480
Y	 0.7120	 0.3110
Z	 0.7540	 0.3140
a	 0.8720	 0.3430



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Chain	Atom inclusion	Q-score
b	 0.8150	 0.3920
c	 0.6560	 0.3490
d	 0.5240	 0.2030
e	 0.7630	 0.3760
f	 0.6650	 0.3550
g	 0.5550	 0.2490
h	 0.7940	 0.3830
i	 0.5110	 0.1940
j	 0.4510	 0.1940
k	 0.7860	 0.3980
l	 0.6490	 0.2710
m	 0.5180	 0.2370
n	 0.8900	 0.3750
o	 0.7520	 0.3570
p	 0.6500	 0.2420
q	 0.5910	 0.2400
r	 0.6860	 0.3660
s	 0.6250	 0.2920
t	 0.6250	 0.2270
x	 0.7720	 0.3860
y	 0.7950	 0.3670