



Full wwPDB EM Validation Report ⓘ

Mar 20, 2026 – 08:04 AM UTC

PDB ID : 7SSW / pdb_00007ssw
EMDB ID : EMD-25415
Title : Late translocation intermediate with EF-G dissociated (Structure VI)
Authors : Carbone, C.E.; Korostelev, A.A.
Deposited on : 2021-11-11
Resolution : 3.80 Å(reported)
Based on initial model : 5U9F

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

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

A user guide is available at

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

The types of validation reports are described at

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

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

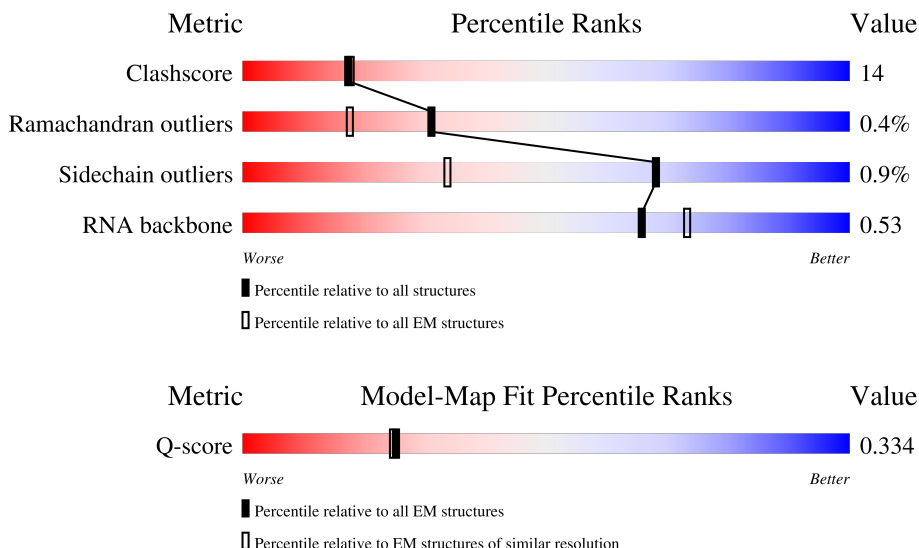
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh &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

1 Overall quality at a glance

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

The reported resolution of this entry is 3.80 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.



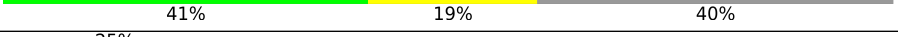
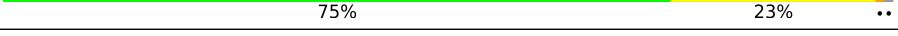
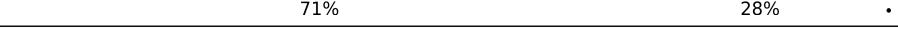
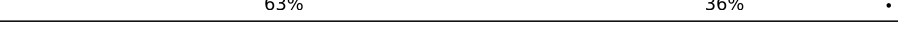
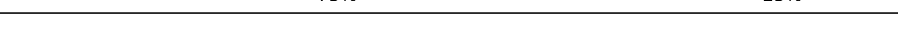
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	10198 (3.30 - 4.30)

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	3	1539	
2	1	2903	
3	2	120	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
4	6	77	
5	b	271	
6	c	209	
7	d	201	
8	e	177	
9	f	176	
10	g	149	
11	a	223	
12	i	142	
13	j	142	
14	k	122	
15	l	143	
16	m	136	
17	n	120	
18	o	116	
19	p	114	
20	q	117	
21	r	103	
22	s	110	
23	t	93	
24	u	102	
25	v	94	
26	w	75	
27	x	77	
28	y	63	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
29	z	58	
30	B	56	
31	C	50	
32	D	46	
33	E	64	
34	F	38	
35	4	39	
36	5	77	
37	G	225	
38	H	206	
39	I	205	
40	J	157	
41	K	100	
42	L	151	
43	M	129	
44	N	127	
45	O	98	
46	P	116	
47	Q	123	
48	R	114	
49	S	100	
50	T	88	
51	U	82	
52	V	80	
53	W	65	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
54	X	79	61% 38%
55	Y	85	67% 33%
56	Z	65	66% 31%

2 Entry composition [i](#)

There are 56 unique types of molecules in this entry. The entry contains 147596 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
1	3	1539	Total	C	N	O	P	0	0
			33012	14725	6052	10697	1538		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
2	1	2903	Total	C	N	O	P	0	0
			62317	27801	11468	20146	2902		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
1	747	C	U	conflict	GB 802133627

- Molecule 3 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	2	120	Total	C	N	O	P	0	0
			2568	1145	471	833	119		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
2	120	A	-	insertion	GB 1266961702

- Molecule 4 is a RNA chain called tRNA fMet.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	6	77	Total	C	N	O	P	0	0
			1640	732	297	535	76		

- Molecule 5 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	b	271	Total	C	N	O	S	0	0
			2083	1288	423	365	7		

- Molecule 6 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	c	209	Total	C	N	O	S	0	0
			1565	979	288	294	4		

- Molecule 7 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	d	201	Total	C	N	O	S	0	0
			1552	974	283	290	5		

- Molecule 8 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	e	177	Total	C	N	O	S	0	0
			1411	899	249	257	6		

- Molecule 9 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	f	176	Total	C	N	O	S	0	0
			1323	832	243	246	2		

- Molecule 10 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	g	149	Total	C	N	O	S	0	0
			1111	699	197	214	1		

- Molecule 11 is a protein called 50S ribosomal protein L1.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	a	134	Total	C	N	O	S	0	0
			1027	645	186	194	2		

- Molecule 12 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	i	141	Total	C	N	O	S	0	0
			1032	651	179	196	6		

- Molecule 13 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	j	142	Total	C	N	O	S	0	0
			1129	714	212	199	4		

- Molecule 14 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	k	122	Total	C	N	O	S	0	0
			939	587	180	166	6		

- Molecule 15 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	l	143	Total	C	N	O	S	0	0
			1045	649	206	189	1		

- Molecule 16 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	m	136	Total	C	N	O	S	0	0
			1074	686	205	177	6		

- Molecule 17 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	n	120	Total	C	N	O	S	0	0
			961	593	196	167	5		

- Molecule 18 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				AltConf	Trace
18	o	116	Total	C	N	O	0	0
			892	552	178	162		

- Molecule 19 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	p	114	Total	C	N	O	S	0	0
			917	574	179	163	1		

- Molecule 20 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	q	117	Total	C	N	O	S	0	0
			947	604	192	151			

- Molecule 21 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	r	103	Total	C	N	O	S	0	0
			816	516	153	145	2		

- Molecule 22 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	s	110	Total	C	N	O	S	0	0
			857	532	166	156	3		

- Molecule 23 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	t	93	Total	C	N	O	S	0	0
			739	466	139	132	2		

- Molecule 24 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	u	102	Total	C	N	O	S	0	0
			780	492	146	142			

- Molecule 25 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	v	94	Total	C	N	O	S	0	0
			753	479	137	134	3		

- Molecule 26 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	w	75	Total	C	N	O	S	0	0
			575	356	116	102	1		

- Molecule 27 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	x	77	Total	C	N	O	S	0	0
			625	388	129	106	2		

- Molecule 28 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	y	63	Total	C	N	O	S	0	0
			509	313	99	95	2		

- Molecule 29 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	z	58	Total	C	N	O	S	0	0
			449	281	87	79	2		

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

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

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

Mol	Chain	Residues	Atoms				AltConf	Trace
31	C	50	Total	C	N	O	0	0
			410	263	75	72		

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

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

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

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

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

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

- Molecule 35 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	4	20	Total	C	N	O	P	0	0
			436	195	87	134	20		

- Molecule 36 is a RNA chain called tRNA Pro.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	5	77	Total	C	N	O	P	0	0
			1647	733	295	542	77		

- Molecule 37 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	G	218	Total	C	N	O	S	0	0
			1705	1081	305	312	7		

- Molecule 38 is a protein called 30S ribosomal protein S3.

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

- Molecule 39 is a protein called 30S ribosomal protein S4.

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

- Molecule 40 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	J	157	Total	C	N	O	S	0	0
			1157	719	218	214	6		

- Molecule 41 is a protein called 30S ribosomal protein S6.

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

- Molecule 42 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	L	151	Total	C	N	O	S	0	0
			1182	735	227	216	4		

- Molecule 43 is a protein called 30S ribosomal protein S8.

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

- Molecule 44 is a protein called 30S ribosomal protein S9.

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

- Molecule 45 is a protein called 30S ribosomal protein S10.

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

- Molecule 46 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	P	116	Total	C	N	O	S	0	0
			870	535	173	159	3		

- Molecule 47 is a protein called 30S ribosomal protein S12.

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

- Molecule 48 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	R	114	Total	C	N	O	S	0	0
			884	546	178	157	3		

- Molecule 49 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	S	100	Total	C	N	O	S	0	0
			805	499	164	139	3		

- Molecule 50 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	T	88	Total	C	N	O	S	0	0
			714	439	144	130	1		

- Molecule 51 is a protein called 30S ribosomal protein S16.

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

- Molecule 52 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	V	80	Total	C	N	O	S	0	0
			649	411	121	114	3		

- Molecule 53 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	W	65	Total	C	N	O	S	0	0
			536	339	100	96	1		

- Molecule 54 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	X	79	Total	C	N	O	S	0	0
			638	408	120	108	2		

- Molecule 55 is a protein called 30S ribosomal protein S20.

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

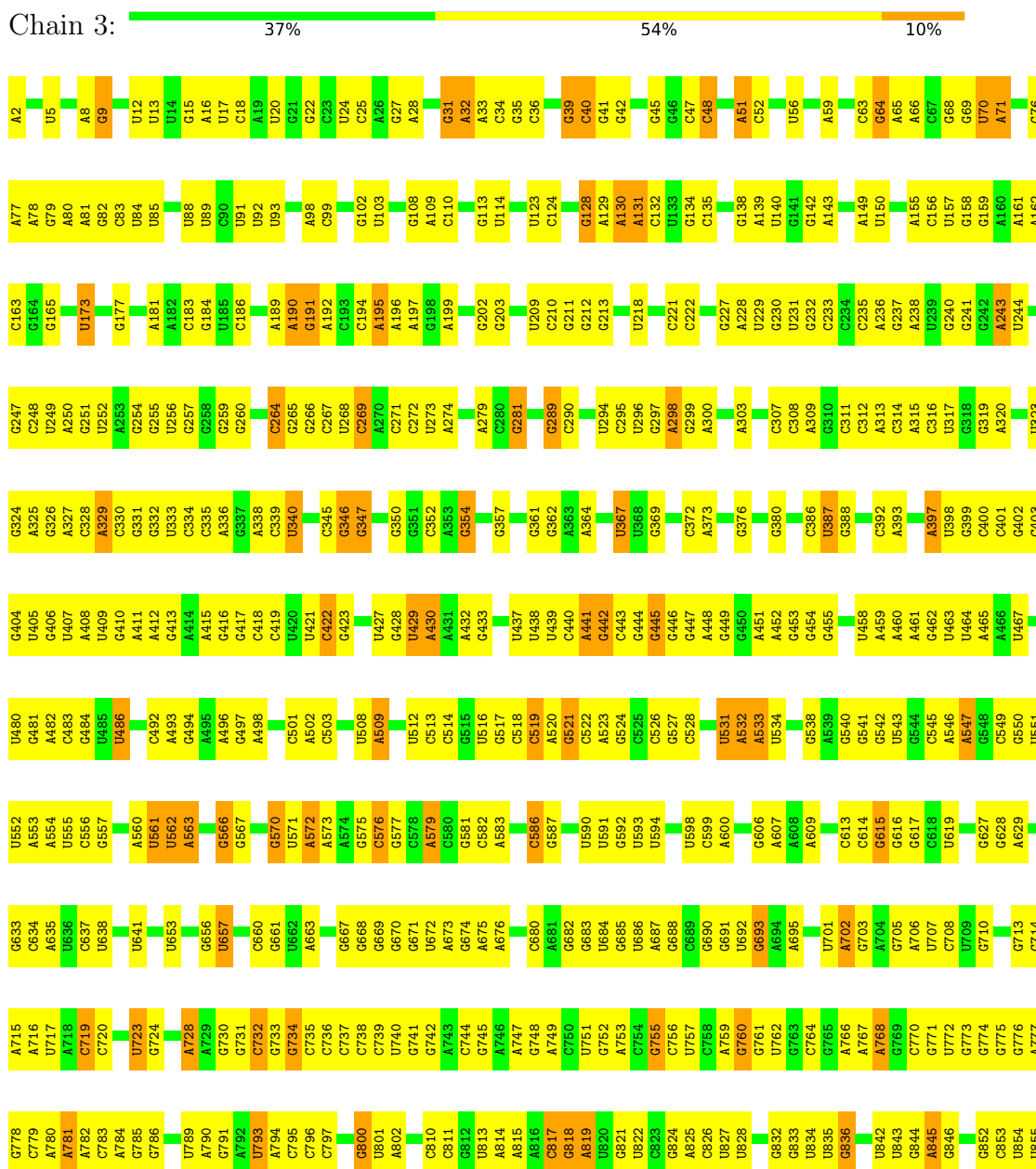
- Molecule 56 is a protein called 30S ribosomal protein S21.

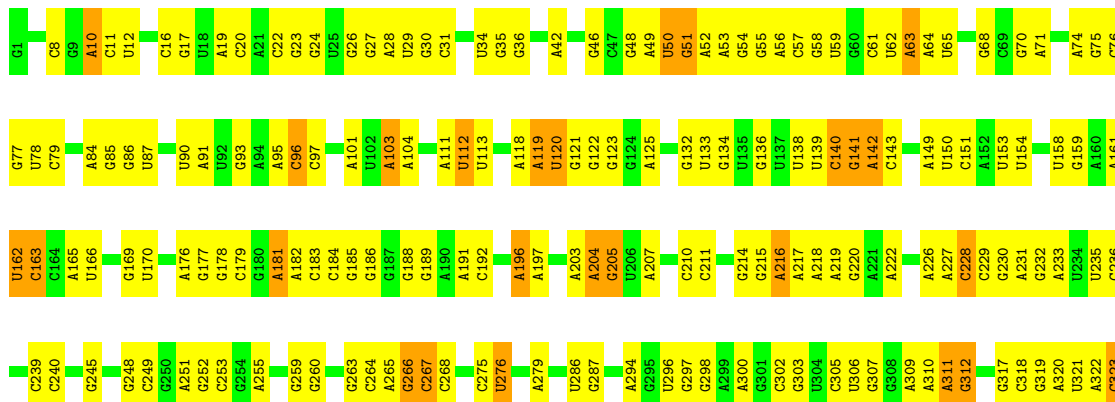
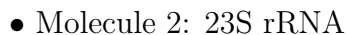
Mol	Chain	Residues	Atoms					AltConf	Trace
56	Z	65	Total	C	N	O	S	0	0
			545	335	117	92	1		

3 Residue-property plots

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

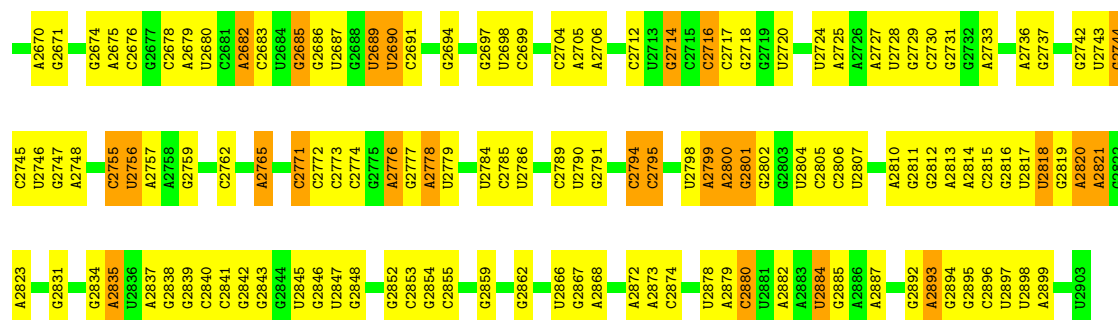
• Molecule 1: 16S rRNA



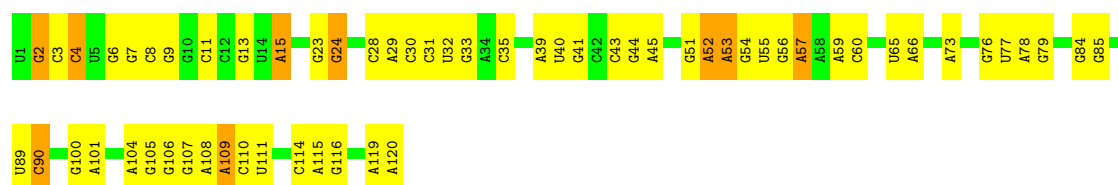








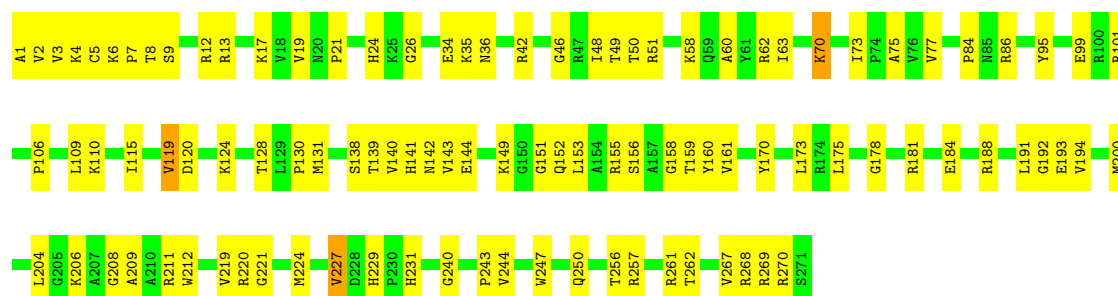
• Molecule 3: 5S rRNA



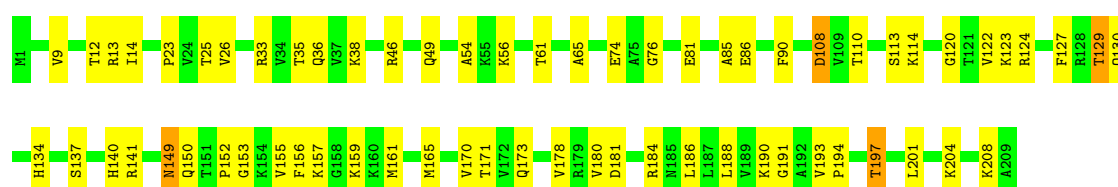
• Molecule 4: tRNA fMet



• Molecule 5: 50S ribosomal protein L2

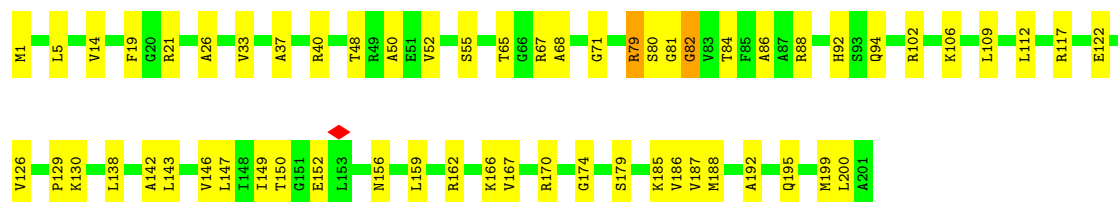


• Molecule 6: 50S ribosomal protein L3



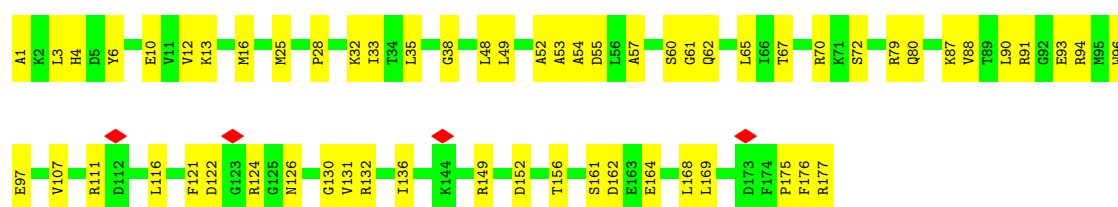
- Molecule 7: 50S ribosomal protein L4

Chain d:  71% 28%



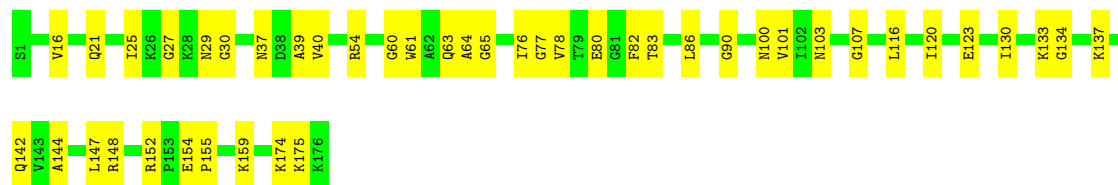
- Molecule 8: 50S ribosomal protein L5

Chain e:  66% 34%



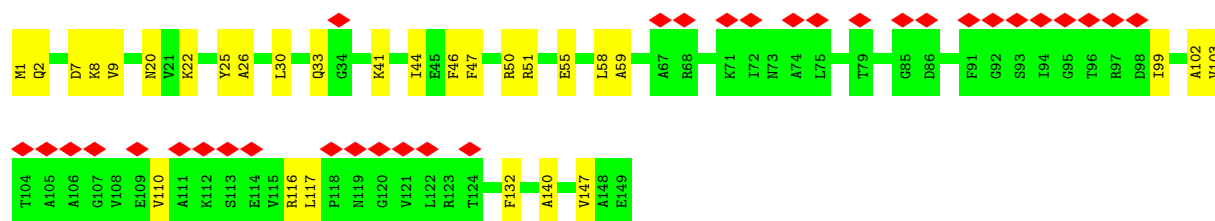
- Molecule 9: 50S ribosomal protein L6

Chain f:  75% 25%

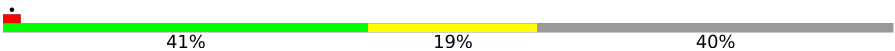


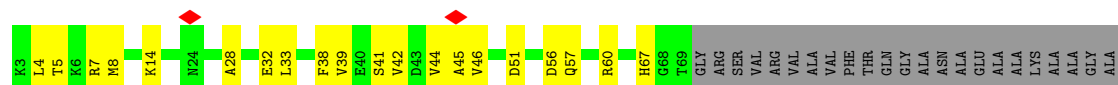
- Molecule 10: 50S ribosomal protein L9

Chain g:  22% 81% 19%



- Molecule 11: 50S ribosomal protein L1

Chain a:  41% 19% 40%



LEU VAL ASN GLY MET LYS GLU ASP LEU ALA ASP GLN ILE LYS LYS GLY GLU MET MET ASN PHE ASP VAL ILE ALA SER PRO ASP ALA MET MET ARG VAL VAL GLY GLN LEU GLY VAL LEU GLY PRO PRO ARG GLY THR VAL THR PRO PRO ASN VAL ALA ALA VAL

LYS ASN ALA LYS ALA G159 R162 Y163 R164 N165 D166 G169 I170 I171 H172 T173 T174 T175 G176 K177 V178 D179 K184 L185 N188 T202 Q203 G206 I209 V212 T216 T217 M218 D225

• Molecule 12: 50S ribosomal protein L11

Chain i: 25% 75% 23% ..

MET A1 V4 Q5 K9 Y12 A13 A14 G15 M16 M18 N18 P19 S20 P21 P22 A26 V32 F37 C38 K39 A40 F41 T45 D46 S47 I48 E49 K50 G51 L52 P53 I54 V55 V56 V57 I58 T59 V60 Y61 A62 D63 F68 K71 T72 P73 P74 A75 A76 V77 L78

• Molecule 13: 50S ribosomal protein L13

Chain j: 69% 31%

M1 T5 A6 K7 Y16 D19 K23 R27 R34 R35 L36 R37 G38 K41 Y44 T45 V48 D49 T50 Y53 I54 I55 V56 L57 V64 T65 K68 R69 V73 T78 G79 R80 I81 T88 F89 E90 E98 E102 G112 P113 L114 G115

• Molecule 14: 50S ribosomal protein L14

Chain k: 71% 28%

M1 D12 N13 V19 V24 L25 G26 H29 R30 R31 Y32 A33 G34 V35 G36 D37 I38 I39 K40 I43 K44 P48 R49 K53 L58 K59 R64 T65 G68 V69 D73 N82 N89 I99 R105 R108 M113 K114 E121 V122

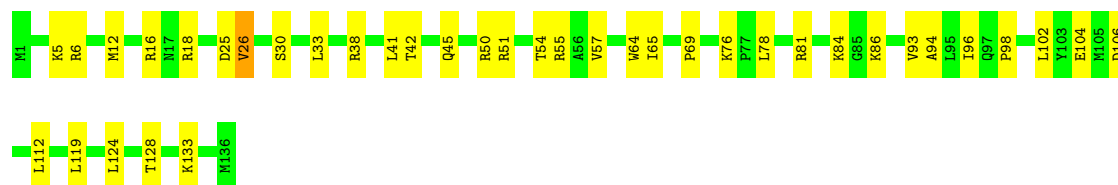
• Molecule 15: 50S ribosomal protein L15

Chain l: 74% 25%

R2 K13 L19 G22 I23 G28 K29 T30 H35 K36 G37 Q38 K39 R47 R48 Y58 F66 T67 S68 A71 A72 I73 L79 S80 D81 K84 V85 E86 G87 K86 I101 G102 I103 E106 V110 I111 L112 A113 G114 E115 V127 T128 E136

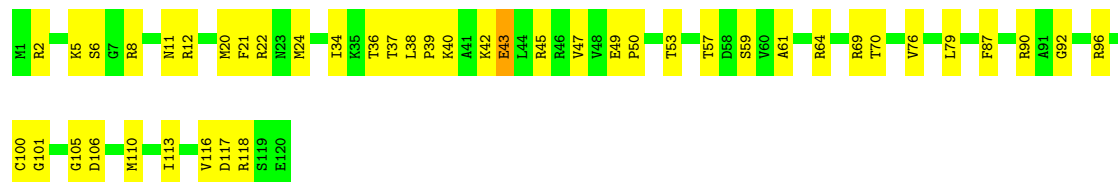
• Molecule 16: 50S ribosomal protein L16

Chain m: 72% 27%



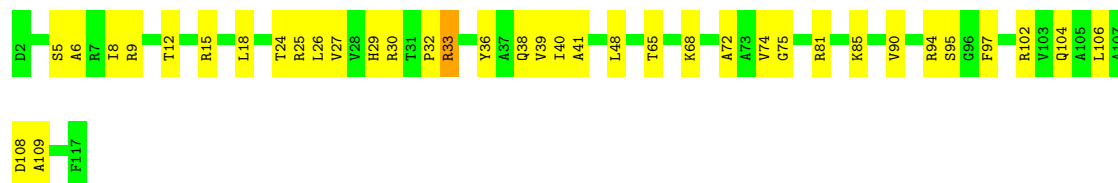
- Molecule 17: 50S ribosomal protein L17

Chain n: 63% 36%



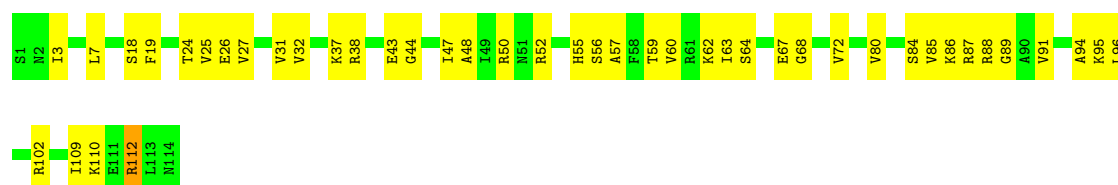
- Molecule 18: 50S ribosomal protein L18

Chain o: 68% 31%



- Molecule 19: 50S ribosomal protein L19

Chain p: 61% 38%



- Molecule 20: 50S ribosomal protein L20

Chain q: 68% 32%



- Molecule 21: 50S ribosomal protein L21

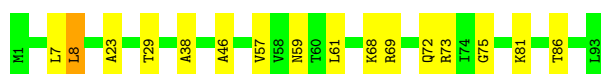
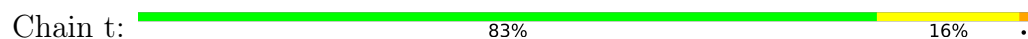
Chain r: 79% 21%



- Molecule 22: 50S ribosomal protein L22



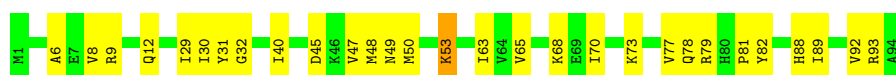
- Molecule 23: 50S ribosomal protein L23



- Molecule 24: 50S ribosomal protein L24



- Molecule 25: 50S ribosomal protein L25



- Molecule 26: 50S ribosomal protein L27



- Molecule 27: 50S ribosomal protein L28



- Molecule 28: 50S ribosomal protein L29





- Molecule 29: 50S ribosomal protein L30

Chain z: 62% 38%



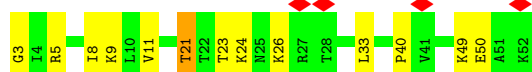
- Molecule 30: 50S ribosomal protein L32

Chain B: 71% 25%



- Molecule 31: 50S ribosomal protein L33

Chain C: 8% 74% 24%



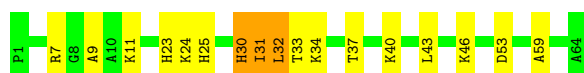
- Molecule 32: 50S ribosomal protein L34

Chain D: 76% 24%



- Molecule 33: 50S ribosomal protein L35

Chain E: 73% 22% 5%



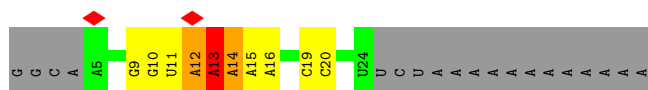
- Molecule 34: 50S ribosomal protein L36

Chain F: 66% 32%



- Molecule 35: mRNA

Chain 4: 5% 26% 18% 5% 49%



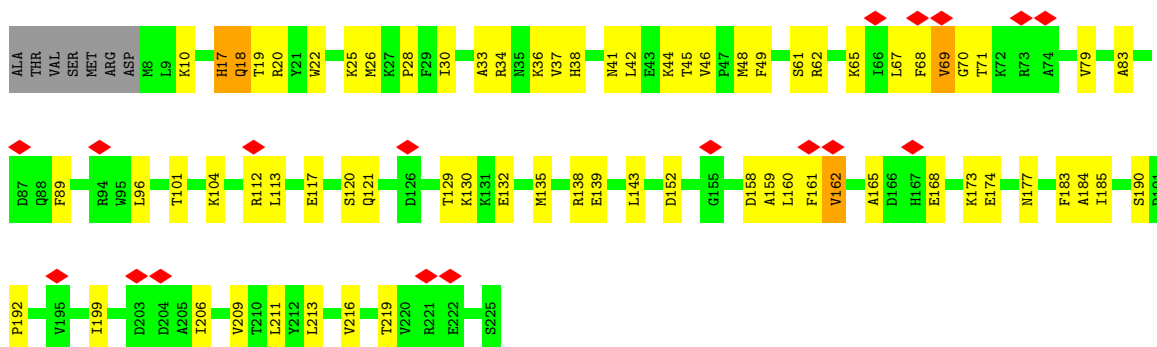
• Molecule 36: tRNA Pro

Chain 5: 43% 48% 9%



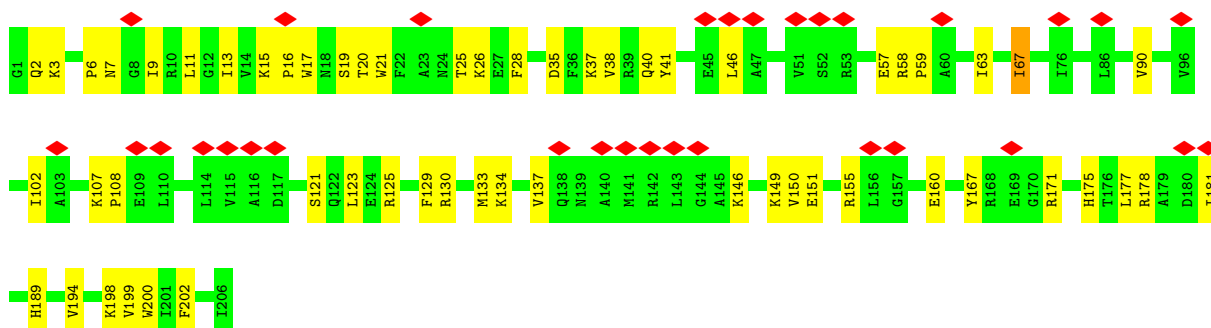
• Molecule 37: 30S ribosomal protein S2

Chain G: 8% 65% 30%



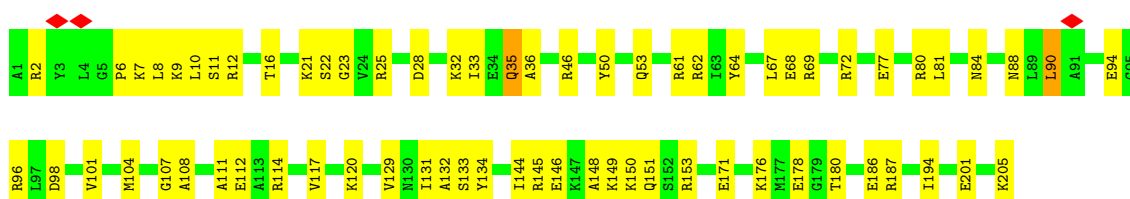
• Molecule 38: 30S ribosomal protein S3

Chain H: 15% 72% 27%

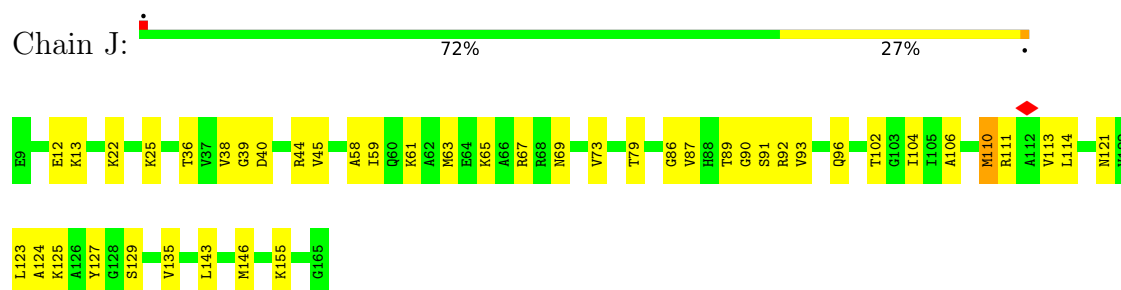


• Molecule 39: 30S ribosomal protein S4

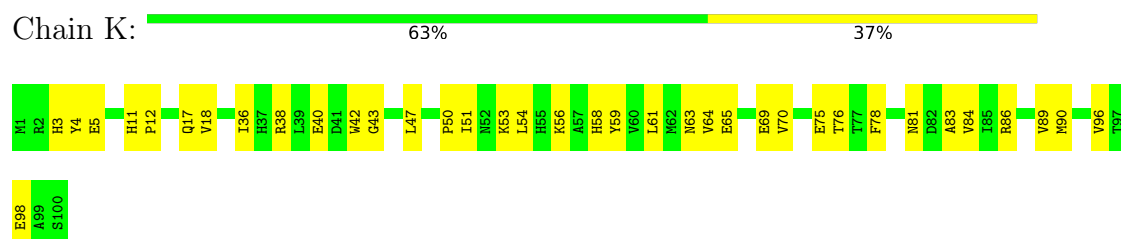
Chain I: 67% 32%



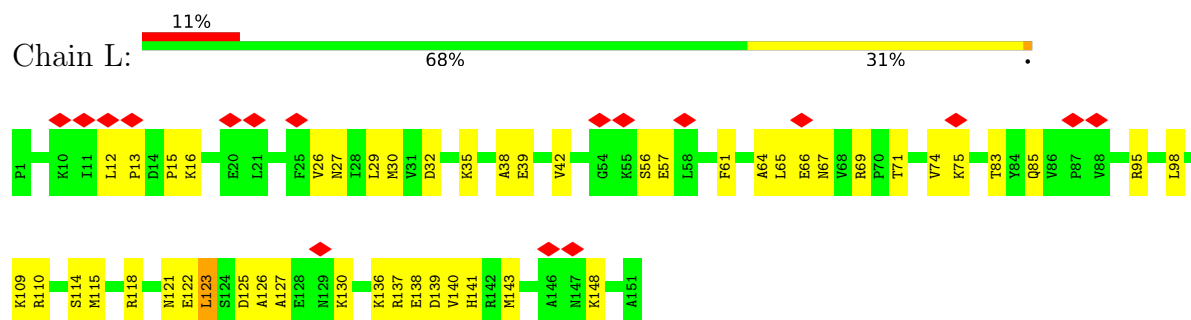
- Molecule 40: 30S ribosomal protein S5



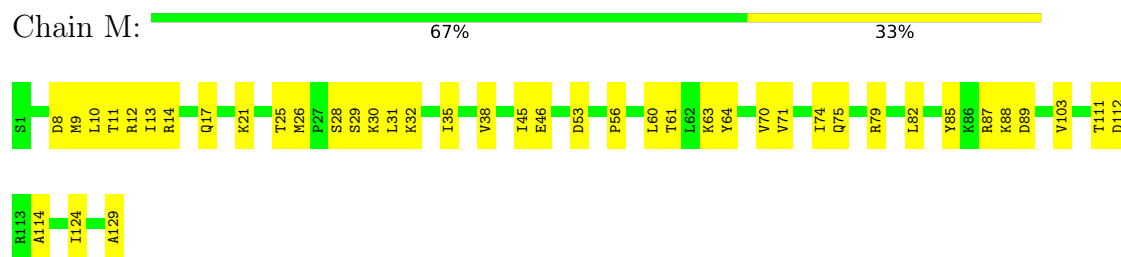
- Molecule 41: 30S ribosomal protein S6



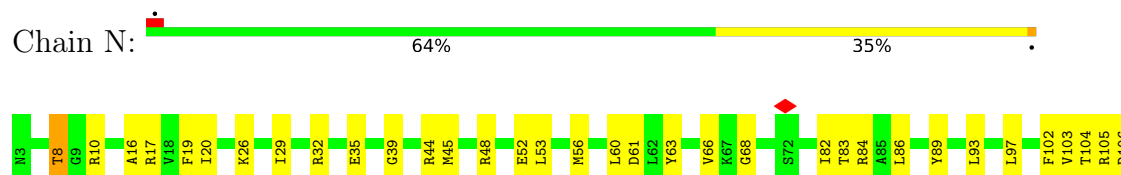
- Molecule 42: 30S ribosomal protein S7



- Molecule 43: 30S ribosomal protein S8



- Molecule 44: 30S ribosomal protein S9

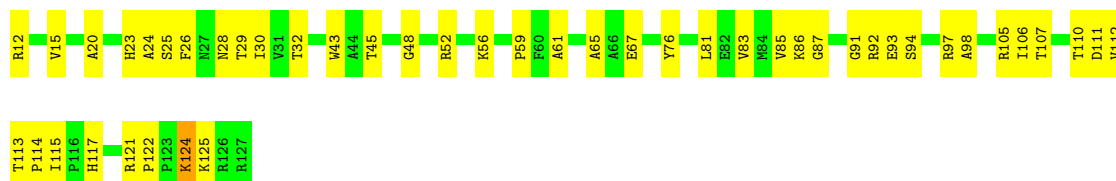




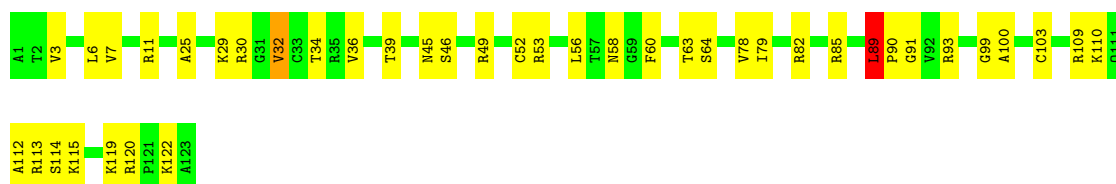
- Molecule 45: 30S ribosomal protein S10



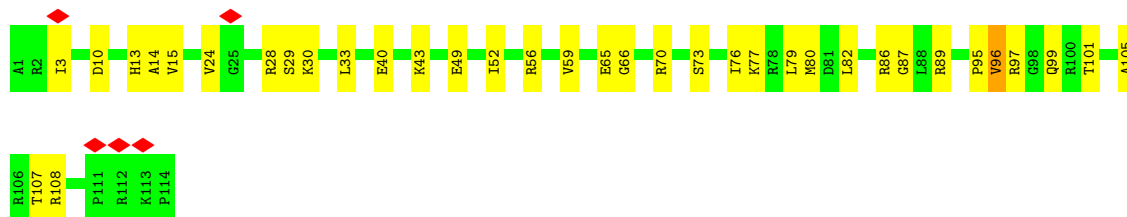
- Molecule 46: 30S ribosomal protein S11



- Molecule 47: 30S ribosomal protein S12



- Molecule 48: 30S ribosomal protein S13

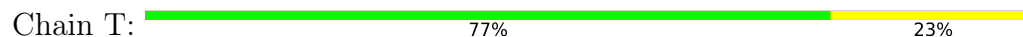


- Molecule 49: 30S ribosomal protein S14





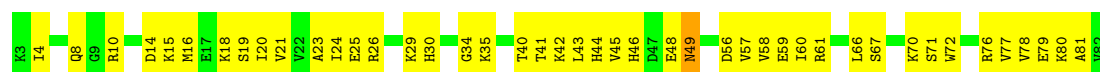
- Molecule 50: 30S ribosomal protein S15



- Molecule 51: 30S ribosomal protein S16



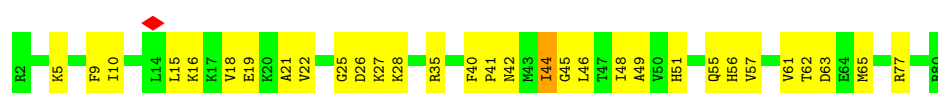
- Molecule 52: 30S ribosomal protein S17



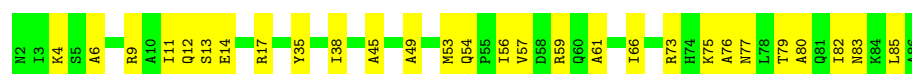
- Molecule 53: 30S ribosomal protein S18



- Molecule 54: 30S ribosomal protein S19

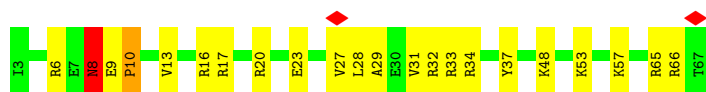


- Molecule 55: 30S ribosomal protein S20



- Molecule 56: 30S ribosomal protein S21





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	1163	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	47.6	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	20.281	Depositor
Minimum map value	-12.230	Depositor
Average map value	0.115	Depositor
Map value standard deviation	0.851	Depositor
Recommended contour level	0.5	Depositor
Map size (Å)	370.5408, 370.5408, 370.5408	wwPDB
Map dimensions	448, 448, 448	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.8271, 0.8271, 0.8271	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	3	0.55	0/36963	0.58	4/57662 (0.0%)
2	1	0.55	0/69796	0.59	21/108888 (0.0%)
3	2	0.55	0/2872	0.57	1/4479 (0.0%)
4	6	0.60	2/1832 (0.1%)	0.75	6/2855 (0.2%)
5	b	0.49	0/2122	0.96	7/2852 (0.2%)
6	c	0.40	0/1586	0.89	5/2134 (0.2%)
7	d	0.36	0/1571	0.82	4/2113 (0.2%)
8	e	0.34	0/1435	0.78	0/1926
9	f	0.29	0/1343	0.72	0/1816
10	g	0.30	0/1122	0.82	2/1515 (0.1%)
11	a	0.26	0/1034	0.69	1/1387 (0.1%)
12	i	0.32	0/1046	0.82	0/1410
13	j	0.39	0/1152	0.86	0/1551
14	k	0.44	0/948	0.96	0/1268
15	l	0.41	0/1054	0.99	2/1403 (0.1%)
16	m	0.42	0/1093	0.85	2/1460 (0.1%)
17	n	0.47	0/974	0.95	0/1301
18	o	0.31	0/902	0.72	2/1209 (0.2%)
19	p	0.39	0/929	0.81	1/1242 (0.1%)
20	q	0.42	0/960	0.74	0/1278
21	r	0.39	0/829	0.83	0/1107
22	s	0.38	0/864	0.81	0/1156
23	t	0.35	0/745	0.80	0/994
24	u	0.34	0/788	0.81	1/1051 (0.1%)
25	v	0.35	0/766	0.80	2/1025 (0.2%)
26	w	0.39	0/582	0.80	0/769
27	x	0.43	0/635	0.76	0/848
28	y	0.28	0/510	0.86	0/677
29	z	0.35	0/453	0.79	0/605
30	B	0.38	0/450	0.86	0/599
31	C	0.31	0/417	0.70	0/554
32	D	0.48	0/380	0.78	0/498
33	E	0.43	0/513	0.97	1/676 (0.1%)
34	F	0.35	0/303	0.88	2/397 (0.5%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	4	0.57	0/490	0.70	1/763 (0.1%)
36	5	0.58	0/1840	0.61	0/2868
37	G	0.35	0/1736	0.82	7/2338 (0.3%)
38	H	0.27	0/1652	0.71	2/2225 (0.1%)
39	I	0.28	0/1665	0.80	2/2227 (0.1%)
40	J	0.38	0/1170	0.90	1/1573 (0.1%)
41	K	0.40	1/836 (0.1%)	0.91	3/1128 (0.3%)
42	L	0.28	0/1196	0.78	2/1602 (0.1%)
43	M	0.34	0/989	0.84	0/1326
44	N	0.29	0/1034	0.81	2/1375 (0.1%)
45	O	0.35	0/797	0.84	1/1077 (0.1%)
46	P	0.36	0/886	0.82	0/1195
47	Q	0.42	0/969	0.97	2/1300 (0.2%)
48	R	0.33	0/893	0.85	3/1193 (0.3%)
49	S	0.30	0/817	0.81	0/1088
50	T	0.34	0/722	0.81	0/964
51	U	0.33	0/659	0.86	2/884 (0.2%)
52	V	0.37	0/658	0.90	2/881 (0.2%)
53	W	0.41	1/545 (0.2%)	0.81	2/731 (0.3%)
54	X	0.32	0/653	0.93	0/877
55	Y	0.30	0/671	0.72	0/888
56	Z	0.37	0/551	1.01	0/728
All	All	0.50	4/160398 (0.0%)	0.66	96/239936 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	3	1	4
2	1	1	12
5	b	0	2
6	c	0	2
7	d	0	1
8	e	0	1
10	g	0	1
12	i	0	1
14	k	0	3
15	l	0	4
17	n	0	1
18	o	0	1

Continued on next page...

Continued from previous page...

Mol	Chain	#Chirality outliers	#Planarity outliers
19	p	0	1
25	v	0	1
30	B	0	1
33	E	0	1
35	4	1	0
37	G	0	1
40	J	0	1
44	N	0	1
46	P	0	2
47	Q	0	2
51	U	0	1
52	V	0	2
56	Z	0	1
All	All	3	48

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	K	18	VAL	C-N	6.31	1.43	1.33
4	6	13	C	O3'-P	6.28	1.70	1.61
4	6	14	A	P-OP1	5.59	1.60	1.49
53	W	66	LEU	CA-C	-5.50	1.45	1.52

All (96) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	6	13	C	O3'-P-O5'	-19.06	75.40	104.00
1	3	1158	C	C3'-C2'-O2'	13.54	131.01	110.70
1	3	1158	C	C1'-C2'-O2'	11.66	125.89	108.40
4	6	13	C	OP1-P-O3'	11.38	142.15	108.00
2	1	1828	G	N9-C1'-C2'	8.63	124.94	112.00
37	G	17	HIS	N-CA-C	8.48	119.43	108.24
5	b	119	VAL	N-CA-C	-7.85	105.06	112.83
37	G	17	HIS	CA-C-N	7.25	135.38	121.54
37	G	17	HIS	C-N-CA	7.25	135.38	121.54
4	6	13	C	P-O3'-C3'	7.23	131.04	120.20
2	1	889	C	C3'-C2'-O2'	7.06	125.20	114.60
41	K	83	ALA	N-CA-C	-7.00	106.64	114.62
38	H	7	ASN	N-CA-C	-6.79	105.94	114.56
2	1	1730	C	C2'-C3'-O3'	6.73	119.59	109.50
38	H	26	LYS	N-CA-C	-6.63	107.06	114.62
52	V	48	GLU	CA-C-N	6.48	133.91	121.54

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	V	48	GLU	C-N-CA	6.48	133.91	121.54
37	G	18	GLN	N-CA-C	6.40	124.44	110.80
33	E	31	ILE	N-CA-C	6.21	122.26	109.34
7	d	50	ALA	N-CA-C	-6.15	107.00	114.75
2	1	1669	A	N9-C1'-C2'	6.14	121.21	112.00
1	3	1157	A	C2'-C3'-O3'	6.07	118.61	109.50
2	1	847	U	N1-C1'-C2'	6.07	121.11	112.00
7	d	81	GLY	N-CA-C	-6.04	105.52	112.29
48	R	96	VAL	N-CA-C	6.00	121.82	109.34
2	1	1328	A	N9-C1'-C2'	5.99	120.99	112.00
5	b	70	LYS	CA-C-N	5.95	131.26	122.82
5	b	70	LYS	C-N-CA	5.95	131.26	122.82
15	l	115	GLU	N-CA-C	5.93	117.95	110.24
2	1	2109	U	N1-C1'-C2'	5.88	120.83	112.00
39	I	46	ARG	CA-C-N	5.76	129.89	121.31
39	I	46	ARG	C-N-CA	5.76	129.89	121.31
4	6	13	C	C4'-C3'-O3'	-5.75	104.38	113.00
5	b	2	VAL	CA-C-N	5.75	128.42	120.49
5	b	2	VAL	C-N-CA	5.75	128.42	120.49
4	6	13	C	C2'-C3'-O3'	-5.73	105.10	113.70
1	3	563	A	N9-C1'-C2'	5.73	120.59	112.00
11	a	28	ALA	N-CA-C	-5.61	107.68	114.75
40	J	110	MET	N-CA-C	-5.60	106.50	113.38
34	F	36	ARG	CA-C-N	5.59	132.21	121.54
34	F	36	ARG	C-N-CA	5.59	132.21	121.54
10	g	8	LYS	CA-C-N	5.58	132.02	121.97
10	g	8	LYS	C-N-CA	5.58	132.02	121.97
6	c	90	PHE	N-CA-C	5.57	115.64	108.34
53	W	12	PHE	N-CA-C	5.55	117.13	111.14
15	l	140	GLY	N-CA-C	5.51	117.81	111.36
6	c	156	PHE	CA-C-N	5.51	129.52	121.31
6	c	156	PHE	C-N-CA	5.51	129.52	121.31
47	Q	100	ALA	CA-C-N	5.48	128.40	120.79
47	Q	100	ALA	C-N-CA	5.48	128.40	120.79
37	G	34	ARG	N-CA-C	5.43	116.89	110.97
44	N	89	TYR	CA-C-N	5.41	128.93	120.82
44	N	89	TYR	C-N-CA	5.41	128.93	120.82
18	o	40	ILE	CA-C-N	5.38	128.85	120.68
18	o	40	ILE	C-N-CA	5.38	128.85	120.68
45	O	35	GLN	CA-CB-CG	5.33	124.76	114.10
35	4	13	A	C5'-C4'-C3'	5.30	123.95	116.00
2	1	2001	C	N1-C1'-C2'	5.30	119.94	112.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	d	79	ARG	CA-C-N	5.30	129.20	121.31
7	d	79	ARG	C-N-CA	5.30	129.20	121.31
2	1	2671	G	N9-C1'-C2'	5.29	119.93	112.00
25	v	53	LYS	CA-C-N	5.26	128.06	120.38
25	v	53	LYS	C-N-CA	5.26	128.06	120.38
2	1	729	G	N9-C1'-C2'	5.24	119.86	112.00
2	1	555	G	N9-C1'-C2'	5.23	119.84	112.00
5	b	261	ARG	N-CA-C	-5.22	106.59	113.17
5	b	12	ARG	N-CA-C	-5.20	105.61	112.94
2	1	918	A	N9-C1'-C2'	5.18	119.77	112.00
2	1	1450	G	N9-C1'-C2'	5.16	119.75	112.00
4	6	42	G	N9-C1'-C2'	5.16	119.74	112.00
41	K	17	GLN	CA-C-N	5.16	124.45	120.33
41	K	17	GLN	C-N-CA	5.16	124.45	120.33
3	2	52	A	N9-C1'-C2'	5.14	119.70	112.00
2	1	933	A	N9-C1'-C2'	5.11	119.66	112.00
24	u	30	SER	N-CA-C	-5.11	107.60	113.88
19	p	56	SER	N-CA-C	5.10	116.87	110.24
42	L	29	LEU	CA-C-N	5.10	128.34	121.05
42	L	29	LEU	C-N-CA	5.10	128.34	121.05
2	1	2383	G	N9-C1'-C2'	5.09	119.64	112.00
2	1	2094	A	N9-C1'-C2'	5.09	119.63	112.00
53	W	18	GLN	CA-CB-CG	5.09	124.27	114.10
2	1	982	C	N1-C1'-C2'	5.07	119.61	112.00
37	G	162	VAL	CA-C-N	-5.05	116.54	122.14
37	G	162	VAL	C-N-CA	-5.05	116.54	122.14
2	1	2501	C	N1-C1'-C2'	5.04	119.57	112.00
2	1	1433	A	N9-C1'-C2'	5.04	119.56	112.00
16	m	26	VAL	CA-C-N	5.03	128.36	120.82
16	m	26	VAL	C-N-CA	5.03	128.36	120.82
6	c	155	VAL	CA-C-N	5.02	131.13	121.54
6	c	155	VAL	C-N-CA	5.02	131.13	121.54
48	R	3	ILE	CA-C-N	5.02	131.13	121.54
48	R	3	ILE	C-N-CA	5.02	131.13	121.54
2	1	858	G	N9-C1'-C2'	5.01	119.52	112.00
2	1	2795	C	N1-C1'-C2'	5.01	119.51	112.00
51	U	27	ALA	CA-C-N	5.00	129.15	121.19
51	U	27	ALA	C-N-CA	5.00	129.15	121.19

All (3) chirality outliers are listed below:

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atom
-----	-------	-----	------	------

Mol	Chain	Res	Type	Atom
1	3	1158	C	C2'
2	1	889	C	C2'
35	4	13	A	C4'

All (48) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	1	1328	A	Sidechain
2	1	1377	G	Sidechain
2	1	1432	G	Sidechain
2	1	1666	G	Sidechain
2	1	1828	G	Sidechain
2	1	1969	A	Sidechain
2	1	2109	U	Sidechain
2	1	2180	U	Sidechain
2	1	2447	G	Sidechain
2	1	370	G	Sidechain
2	1	775	G	Sidechain
2	1	889	C	Sidechain
1	3	1156	G	Sidechain
1	3	1158	C	Sidechain
1	3	1194	U	Sidechain
1	3	800	G	Sidechain
30	B	7	PRO	Peptide
33	E	30	HIS	Peptide
37	G	17	HIS	Peptide
40	J	86	GLY	Peptide
44	N	56	MET	Peptide
46	P	124	LYS	Peptide
46	P	125	LYS	Peptide
47	Q	46	SER	Peptide
47	Q	89	LEU	Peptide
51	U	44	SER	Peptide
52	V	42	LYS	Peptide
52	V	49	ASN	Peptide
56	Z	8	ASN	Peptide
5	b	46	GLY	Peptide
5	b	51	ARG	Peptide
6	c	149	ASN	Peptide
6	c	85	ALA	Peptide
7	d	82	GLY	Peptide

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
8	e	121	PHE	Peptide
10	g	7	ASP	Peptide
12	i	4	VAL	Peptide
14	k	13	ASN	Peptide
14	k	24	VAL	Peptide
14	k	29	HIS	Peptide
15	l	102	GLY	Peptide
15	l	23	ILE	Peptide
15	l	68	SER	Peptide
15	l	71	ALA	Peptide
17	n	43	GLU	Peptide
18	o	33	ARG	Peptide
19	p	112	ARG	Peptide
25	v	81	PRO	Peptide

5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	3	33012	0	16618	861	0
2	1	62317	0	31346	1381	0
3	2	2568	0	1303	66	0
4	6	1640	0	837	29	0
5	b	2083	0	2157	85	0
6	c	1565	0	1616	51	0
7	d	1552	0	1619	42	0
8	e	1411	0	1447	47	0
9	f	1323	0	1374	28	0
10	g	1111	0	1148	19	0
11	a	1027	0	1092	31	0
12	i	1032	0	1088	25	0
13	j	1129	0	1162	32	0
14	k	939	0	1012	32	0
15	l	1045	0	1117	29	0
16	m	1074	0	1157	30	0
17	n	961	0	1000	32	0
18	o	892	0	923	24	0
19	p	917	0	965	30	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
20	q	947	0	1022	32	0
21	r	816	0	839	22	0
22	s	857	0	922	21	0
23	t	739	0	807	11	0
24	u	780	0	834	18	0
25	v	753	0	780	21	0
26	w	575	0	592	15	0
27	x	625	0	655	21	0
28	y	509	0	543	14	0
29	z	449	0	491	18	0
30	B	444	0	461	17	0
31	C	410	0	440	10	0
32	D	377	0	418	9	0
33	E	504	0	574	14	0
34	F	302	0	343	9	0
35	4	436	0	218	10	0
36	5	1647	0	832	31	0
37	G	1705	0	1731	62	0
38	H	1625	0	1699	38	0
39	I	1643	0	1710	56	0
40	J	1157	0	1199	32	0
41	K	818	0	808	22	0
42	L	1182	0	1240	36	0
43	M	979	0	1034	34	0
44	N	1022	0	1070	41	0
45	O	787	0	828	27	0
46	P	870	0	878	39	0
47	Q	955	0	1019	37	0
48	R	884	0	944	45	0
49	S	805	0	847	26	0
50	T	714	0	737	16	0
51	U	649	0	666	19	0
52	V	649	0	691	30	0
53	W	536	0	552	20	0
54	X	638	0	665	26	0
55	Y	665	0	714	21	0
56	Z	545	0	579	18	0
All	All	147596	0	99363	3332	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 14.

All (3332) 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)
37:G:159:ALA:HB1	37:G:183:PHE:CE2	1.69	1.25
37:G:71:THR:OG1	37:G:168:GLU:OE2	1.53	1.25
1:3:656:G:H2'	1:3:657:U:H5''	1.32	1.08
1:3:440:C:H2'	1:3:441:A:H4'	1.29	1.08
1:3:1221:G:H2'	1:3:1222:G:H5''	1.34	1.08
2:1:2439:A:H4'	2:1:2440:C:H5'	1.33	1.07
1:3:835:U:H2'	1:3:836:G:H5''	1.37	1.06
1:3:268:U:H2'	1:3:269:C:H5''	1.35	1.04
1:3:1490:U:H2'	1:3:1491:G:H5''	1.34	1.03
1:3:614:C:H2'	1:3:615:G:H5''	1.40	1.00
1:3:674:G:H21	46:P:117:HIS:HB2	1.25	0.98
2:1:2553:G:H2'	2:1:2554:U:H4'	1.44	0.97
1:3:437:U:H5'	39:I:151:GLN:HB3	1.47	0.97
2:1:2800:A:H3'	2:1:2801:G:H5'	1.44	0.97
2:1:203:A:H3'	2:1:204:A:H5''	1.45	0.97
1:3:1307:U:H3'	48:R:97:ARG:H	1.28	0.96
3:2:3:C:H2'	3:2:4:C:H5''	1.44	0.96
2:1:2743:U:H4'	9:f:152:ARG:HH12	1.30	0.96
2:1:964:C:H2'	2:1:965:C:H5''	1.47	0.96
1:3:78:A:H61	1:3:91:U:H3	1.09	0.96
2:1:1789:A:H5'	5:b:219:VAL:HG22	1.46	0.95
2:1:1426:G:H3'	2:1:1427:A:H5''	1.48	0.95
2:1:161:A:H62	2:1:165:A:H2	1.15	0.94
2:1:2248:C:H2'	2:1:2249:U:H5'	1.50	0.94
2:1:1830:C:H42	2:1:1975:G:H1	1.00	0.94
3:2:56:G:H4'	3:2:57:A:H5'	1.50	0.93
2:1:2104:C:H42	2:1:2185:U:H3	1.16	0.93
1:3:688:G:H5'	46:P:48:GLY:HA2	1.50	0.93
37:G:159:ALA:CB	37:G:183:PHE:CE2	2.52	0.93
1:3:656:G:C2'	1:3:657:U:H5''	1.98	0.92
2:1:121:G:H4'	2:1:149:A:H5'	1.51	0.92
2:1:275:C:H2'	2:1:276:U:H4'	1.47	0.92
1:3:405:U:H3'	1:3:406:G:H5'	1.51	0.92
1:3:1512:U:H2'	1:3:1513:A:C8	2.04	0.92
2:1:1357:C:H42	2:1:1374:G:H1	1.17	0.91
2:1:1557:C:H3'	2:1:1558:C:H5''	1.53	0.90
2:1:713:G:H2'	2:1:714:U:H5''	1.54	0.89
1:3:1160:G:H1	1:3:1176:A:H61	1.13	0.89
1:3:692:U:H2'	1:3:693:G:H5''	1.52	0.89
37:G:65:LYS:HB2	37:G:158:ASP:OD1	1.73	0.89
2:1:1217:U:H2'	2:1:1218:G:H5''	1.54	0.89
1:3:181:A:H62	1:3:194:C:H2'	1.37	0.88

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:3:606:G:H3'	1:3:607:A:H5'	1.53	0.88
1:3:864:A:H5''	40:J:89:THR:HG22	1.56	0.87
2:1:2581:G:H22	2:1:2610:C:H2'	1.36	0.87
2:1:310:A:H2'	2:1:311:A:H5''	1.56	0.87
1:3:715:A:H2'	1:3:716:A:C8	2.09	0.87
1:3:439:U:H5''	39:I:120:LYS:HE2	1.57	0.86
2:1:215:G:H4'	2:1:216:A:H4'	1.55	0.86
37:G:159:ALA:HB1	37:G:183:PHE:HE2	1.32	0.86
1:3:575:G:H4'	1:3:576:C:H5''	1.56	0.86
37:G:101:THR:HG23	37:G:174:GLU:CG	2.05	0.86
1:3:268:U:C2'	1:3:269:C:H5''	2.05	0.86
1:3:1490:U:C2'	1:3:1491:G:H5''	2.05	0.86
2:1:1084:A:H3'	2:1:1085:A:H5''	1.58	0.86
35:4:11:U:H2'	35:4:12:A:H5''	1.58	0.86
2:1:914:G:H3'	2:1:915:C:H5''	1.56	0.85
2:1:1466:U:H5'	2:1:1467:U:H5'	1.56	0.85
37:G:159:ALA:CB	37:G:183:PHE:HE2	1.88	0.85
1:3:1221:G:C2'	1:3:1222:G:H5''	2.06	0.84
2:1:2094:A:H61	2:1:2195:U:H3	1.25	0.84
1:3:339:C:H2'	1:3:340:U:H5''	1.58	0.84
2:1:52:A:H2'	2:1:53:A:H8	1.42	0.84
1:3:663:A:H61	1:3:742:G:H1	1.25	0.84
2:1:805:G:H5'	2:1:806:C:C5	2.11	0.84
37:G:161:PHE:HA	37:G:183:PHE:HB2	1.60	0.84
1:3:1119:C:H42	1:3:1154:G:H1	1.21	0.83
2:1:1796:U:H2'	2:1:1797:G:H8	1.43	0.83
4:6:15:G:H3'	4:6:16:C:H5''	1.61	0.83
36:5:27:A:H61	36:5:43:U:H3	1.24	0.83
2:1:286:U:H2'	2:1:287:G:H8	1.43	0.83
1:3:1329:A:H5''	48:R:24:VAL:HA	1.61	0.83
1:3:386:C:H2'	1:3:387:U:H5''	1.59	0.83
35:4:13:A:H2'	35:4:14:A:O4'	1.78	0.83
1:3:407:U:H5''	39:I:111:ALA:HB1	1.61	0.82
1:3:1106:G:H4'	38:H:171:ARG:HG2	1.60	0.82
2:1:2262:U:H2'	2:1:2263:C:C6	2.13	0.82
1:3:1237:C:H4'	1:3:1334:G:H21	1.43	0.82
2:1:1103:A:H3'	2:1:1104:C:H5''	1.58	0.82
2:1:752:A:H62	2:1:2609:U:H3	1.26	0.82
2:1:1060:U:H4'	2:1:1061:U:H5'	1.60	0.82
2:1:590:A:H5'	7:d:88:ARG:HH11	1.44	0.82
37:G:159:ALA:HB1	37:G:183:PHE:CZ	2.14	0.81

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:3:494:G:H2'	1:3:496:A:H8	1.45	0.81
2:1:706:A:H62	2:1:725:G:H21	1.25	0.81
2:1:2812:G:H2'	2:1:2813:A:C8	2.15	0.81
2:1:906:U:H2'	2:1:907:G:H5''	1.63	0.81
1:3:520:A:H3'	1:3:521:G:H5''	1.60	0.81
1:3:932:C:H42	1:3:1385:G:H1	1.27	0.81
3:2:90:C:H5'	16:m:18:ARG:HB3	1.61	0.81
2:1:2485:G:H5''	16:m:45:GLN:HE21	1.46	0.81
2:1:1255:U:C5	7:d:68:ALA:HA	2.16	0.80
1:3:835:U:C2'	1:3:836:G:H5''	2.11	0.80
2:1:568:U:H2'	2:1:570:G:OP2	1.82	0.80
2:1:1066:U:H3'	2:1:1067:A:H5'	1.62	0.80
2:1:136:G:H1	2:1:143:C:H42	1.30	0.80
37:G:101:THR:HG23	37:G:174:GLU:HG2	1.62	0.80
1:3:36:C:H5''	47:Q:119:LYS:HD2	1.64	0.79
2:1:2530:A:H2'	2:1:2531:A:H5''	1.65	0.79
2:1:2619:C:H5''	6:c:157:LYS:HD3	1.62	0.79
1:3:1097:C:H4'	1:3:1170:A:H4'	1.65	0.79
2:1:310:A:C2'	2:1:311:A:H5''	2.12	0.79
1:3:1160:G:H1	1:3:1176:A:N6	1.81	0.79
1:3:781:A:H2'	1:3:782:A:H5'	1.65	0.79
2:1:805:G:H5'	2:1:806:C:H5	1.47	0.79
2:1:2498:C:H2'	2:1:2499:C:H5''	1.65	0.78
2:1:2134:A:H62	2:1:2156:G:H2'	1.47	0.78
2:1:52:A:H2'	2:1:53:A:C8	2.18	0.78
1:3:181:A:N6	1:3:194:C:H2'	1.98	0.78
2:1:2593:U:H3	2:1:2600:A:H61	1.30	0.78
1:3:376:G:H1	1:3:387:U:H3	1.32	0.77
1:3:376:G:H5''	51:U:5:ARG:HB2	1.65	0.77
1:3:1321:U:H3'	1:3:1322:C:H5''	1.63	0.77
2:1:1645:G:H5''	2:1:1646:C:H5'	1.65	0.77
2:1:2553:G:H2'	2:1:2554:U:C4'	2.14	0.77
1:3:1129:C:H42	1:3:1143:G:H1	1.33	0.77
1:3:1306:A:H2'	1:3:1307:U:C6	2.20	0.77
2:1:964:C:C2'	2:1:965:C:H5''	2.14	0.77
1:3:1251:A:O2'	1:3:1370:G:H5'	1.84	0.76
1:3:562:U:H4'	1:3:563:A:H5'	1.66	0.76
2:1:1059:G:H1	2:1:1079:C:H42	1.33	0.76
1:3:1317:C:H4'	49:S:47:LEU:HD13	1.66	0.76
2:1:1426:G:H3'	2:1:1427:A:C5'	2.16	0.76
1:3:1246:A:H2	1:3:1291:U:H3	1.30	0.76

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:3:430:A:OP2	39:I:7:LYS:HG2	1.85	0.76
1:3:614:C:C2'	1:3:615:G:H5''	2.14	0.76
2:1:876:C:H2'	2:1:877:A:O4'	1.86	0.76
2:1:890:C:C5	2:1:891:G:H1'	2.20	0.75
2:1:2800:A:H3'	2:1:2801:G:C5'	2.15	0.75
1:3:1388:C:H2'	1:3:1389:C:C6	2.21	0.75
37:G:160:LEU:O	37:G:183:PHE:N	2.19	0.75
4:6:21:A:N7	4:6:47:U:O2	2.20	0.75
37:G:162:VAL:N	37:G:183:PHE:O	2.17	0.75
2:1:2395:C:H42	2:1:2421:G:H1	1.33	0.75
1:3:451:A:H5'	51:U:70:ARG:HH22	1.52	0.74
2:1:1203:U:H3'	2:1:1204:A:H5''	1.67	0.74
2:1:2679:A:H5'	6:c:170:VAL:HG11	1.68	0.74
1:3:959:A:H2	1:3:1221:G:H21	1.34	0.74
1:3:1330:U:H3	48:R:97:ARG:HH22	1.36	0.74
2:1:1906:G:H2'	2:1:1907:G:H5''	1.68	0.74
1:3:759:A:H2'	1:3:760:G:H5''	1.69	0.74
2:1:1805:A:OP1	5:b:247:TRP:HB2	1.88	0.74
1:3:279:A:H5''	1:3:281:G:H5''	1.70	0.74
1:3:1494:G:H21	2:1:1912:A:H2	1.33	0.74
2:1:1345:C:H6	2:1:1345:C:H5'	1.53	0.73
1:3:995:C:H2'	1:3:996:A:H8	1.53	0.73
1:3:1073:U:H4'	37:G:104:LYS:NZ	2.03	0.73
35:4:11:U:C2'	35:4:12:A:H5''	2.17	0.73
2:1:658:U:H2'	2:1:659:G:H5''	1.71	0.73
2:1:1785:A:O2'	2:1:1786:A:H5'	1.89	0.73
2:1:185:G:H4'	2:1:218:A:H4'	1.69	0.73
2:1:2572:A:OP1	2:1:2574:G:H4'	1.89	0.73
2:1:2561:U:H4'	14:k:40:LYS:CD	2.19	0.72
1:3:313:A:H2'	1:3:314:C:C6	2.24	0.72
36:5:26:A:N6	36:5:44:G:H1	1.87	0.72
1:3:1227:A:H2'	1:3:1228:C:H5'	1.71	0.72
11:a:60:ARG:HE	11:a:162:ARG:HH11	1.37	0.72
2:1:2373:G:H2'	2:1:2374:C:C6	2.24	0.72
2:1:465:G:H21	2:1:684:G:H1'	1.54	0.72
1:3:357:G:OP1	1:3:367:U:H5''	1.89	0.72
2:1:176:A:H3'	2:1:177:G:N2	2.04	0.72
2:1:594:U:H3	2:1:663:G:H1	1.37	0.72
3:2:3:C:C2'	3:2:4:C:H5''	2.18	0.72
1:3:581:G:H5'	50:T:60:SER:HB2	1.71	0.72
2:1:946:C:H42	2:1:971:G:H1	1.35	0.72

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:1428:C:O2'	2:1:1429:G:H5'	1.90	0.72
2:1:680:C:H2'	2:1:681:G:H8	1.54	0.71
2:1:1217:U:C2'	2:1:1218:G:H5''	2.19	0.71
47:Q:53:ARG:HA	47:Q:63:THR:HA	1.71	0.71
2:1:1799:G:C6	5:b:175:LEU:HD12	2.25	0.71
2:1:2724:U:H2'	2:1:2725:A:C8	2.25	0.71
2:1:286:U:H2'	2:1:287:G:C8	2.24	0.71
1:3:720:C:H1'	53:W:38:ILE:HD13	1.72	0.71
2:1:360:U:H2'	2:1:361:G:C8	2.26	0.71
2:1:2469:A:H2'	2:1:2470:G:O4'	1.91	0.71
1:3:492:C:H2'	1:3:493:A:C8	2.26	0.71
1:3:688:G:C5'	46:P:48:GLY:HA2	2.21	0.71
1:3:1170:A:H2'	1:3:1171:A:O4'	1.89	0.71
2:1:688:U:H4'	2:1:1780:A:H2	1.53	0.71
1:3:317:U:H3	1:3:336:A:H61	1.38	0.71
1:3:1207:G:H5'	1:3:1207:G:H8	1.56	0.71
2:1:811:U:H5'	15:l:22:GLY:HA2	1.73	0.71
3:2:32:U:H1'	3:2:53:A:H61	1.56	0.71
14:k:26:GLY:HA3	14:k:30:ARG:HG2	1.73	0.71
1:3:211:G:H2'	1:3:212:G:H5'	1.73	0.71
1:3:401:C:H2'	1:3:402:G:C8	2.26	0.71
1:3:972:C:H2'	1:3:973:G:C8	2.26	0.71
2:1:2124:G:H21	11:a:217:THR:HG22	1.53	0.71
1:3:443:C:H2'	1:3:444:G:H8	1.54	0.70
2:1:2498:C:H6	2:1:2498:C:H5'	1.55	0.70
2:1:713:G:C2'	2:1:714:U:H5''	2.20	0.70
2:1:738:G:O2'	2:1:739:A:H5'	1.91	0.70
2:1:1597:A:H5''	2:1:1598:A:H5'	1.73	0.70
2:1:29:U:H5''	20:q:6:GLY:HA3	1.73	0.70
2:1:471:A:H5''	7:d:79:ARG:HH22	1.55	0.70
2:1:1414:C:H2'	2:1:1415:U:O4'	1.91	0.70
2:1:1082:U:H3'	2:1:1083:U:H5''	1.73	0.70
2:1:1565:C:O2'	2:1:1566:A:H5''	1.91	0.70
36:5:6:A:H2'	36:5:7:G:H5''	1.72	0.70
1:3:775:G:H2'	1:3:776:G:C8	2.27	0.70
2:1:2233:U:H2'	2:1:2234:G:C8	2.27	0.70
37:G:69:VAL:HG13	37:G:162:VAL:HA	1.72	0.70
1:3:1307:U:H3	48:R:108:ARG:HG3	1.57	0.70
2:1:2620:C:H2'	2:1:2621:G:O4'	1.92	0.70
1:3:70:U:H5''	1:3:71:A:OP1	1.92	0.70
2:1:889:C:H2'	2:1:890:C:O4'	1.92	0.70

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:1285:A:H2'	2:1:1286:A:H5'	1.74	0.70
2:1:1138:G:H2'	2:1:1139:G:O4'	1.92	0.70
1:3:1172:C:H2'	1:3:1173:U:H5'	1.72	0.69
17:n:8:ARG:HH22	17:n:42:LYS:HB3	1.57	0.69
1:3:1307:U:H3'	48:R:97:ARG:N	2.04	0.69
2:1:878:A:H3'	2:1:879:G:H8	1.57	0.69
1:3:190:A:H3'	1:3:191:G:O4'	1.92	0.69
2:1:1066:U:H3'	2:1:1067:A:C5'	2.23	0.69
5:b:160:TYR:HB3	5:b:193:GLU:HG2	1.73	0.69
1:3:273:U:H2'	1:3:274:A:H5'	1.75	0.69
1:3:1308:U:C6	48:R:97:ARG:HA	2.28	0.69
2:1:2142:A:H5''	46:P:12:ARG:HH22	1.57	0.69
17:n:22:ARG:HD2	17:n:70:THR:H	1.56	0.69
1:3:600:A:OP1	43:M:88:LYS:HB3	1.93	0.69
1:3:1229:A:H2'	1:3:1230:C:O4'	1.92	0.69
2:1:266:G:H3'	2:1:267:C:H5''	1.73	0.69
2:1:1469:A:H2'	2:1:1470:A:C8	2.26	0.69
1:3:984:C:H2'	1:3:985:C:C6	2.27	0.69
2:1:1789:A:OP1	5:b:220:ARG:HG3	1.90	0.69
2:1:1830:C:N4	2:1:1975:G:H1	1.84	0.69
36:5:17:U:H2'	36:5:17(A):U:C6	2.28	0.69
46:P:115:ILE:HG13	56:Z:28:LEU:HD12	1.74	0.69
1:3:676:A:H2	1:3:714:G:H22	1.38	0.69
2:1:1726:C:H2'	2:1:1727:C:C6	2.27	0.69
2:1:742:A:H2'	2:1:743:A:H8	1.58	0.69
2:1:1548:A:H2'	2:1:1549:A:C8	2.28	0.69
2:1:2812:G:H2'	2:1:2813:A:H8	1.56	0.69
2:1:161:A:H3'	2:1:162:U:H5''	1.75	0.68
2:1:688:U:H4'	2:1:1780:A:C2	2.27	0.68
2:1:1413:A:C3'	2:1:1414:C:H5''	2.22	0.68
1:3:1306:A:H2'	1:3:1307:U:C5	2.28	0.68
1:3:35:G:H21	47:Q:114:SER:HB3	1.59	0.68
2:1:2561:U:H4'	14:k:40:LYS:HE3	1.76	0.68
13:j:38:GLY:HA3	13:j:50:THR:HG23	1.75	0.68
37:G:70:GLY:HA3	37:G:79:VAL:HG21	1.75	0.68
2:1:1252:G:O2'	2:1:1253:A:H5''	1.93	0.68
2:1:2306:C:H3'	2:1:2307:G:H5''	1.74	0.68
2:1:2553:G:H3'	2:1:2554:U:H5''	1.74	0.68
1:3:1347:G:N2	1:3:1373:G:H2'	2.09	0.68
2:1:627:A:N7	15:l:111:ILE:HD12	2.08	0.68
2:1:1077:A:H2'	2:1:1078:U:H5'	1.75	0.68

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:1419:A:O2'	2:1:1420:A:H5''	1.94	0.68
2:1:2028:U:H2'	2:1:2029:G:C8	2.29	0.68
38:H:151:GLU:HB3	38:H:198:LYS:HB2	1.73	0.68
2:1:813:U:H2'	2:1:814:C:C6	2.27	0.68
40:J:87:VAL:HG12	40:J:92:ARG:HA	1.74	0.68
1:3:102:G:H2'	1:3:103:U:C6	2.29	0.68
2:1:502:A:H2'	2:1:503:A:H5'	1.76	0.68
2:1:532:A:H2'	20:q:27:ARG:NH2	2.09	0.68
2:1:1537:G:H2'	2:1:1538:G:H4'	1.76	0.68
4:6:21:A:N7	4:6:47:U:C2	2.62	0.68
1:3:451:A:H5'	51:U:70:ARG:NH2	2.09	0.67
1:3:1075:U:H3	1:3:1082:A:H61	1.40	0.67
2:1:1190:G:H2'	2:1:1191:G:H8	1.59	0.67
1:3:17:U:H1'	1:3:1080:A:H8	1.59	0.67
1:3:45:G:H5''	1:3:307:C:H1'	1.76	0.67
2:1:141:G:H5''	2:1:142:A:C8	2.29	0.67
2:1:340:A:H2'	2:1:341:C:O4'	1.94	0.67
2:1:2743:U:H4'	9:f:152:ARG:NH1	2.09	0.67
1:3:1392:G:H2'	1:3:1393:U:C6	2.29	0.67
2:1:881:G:H2'	2:1:882:G:C8	2.30	0.67
2:1:1084:A:C3'	2:1:1085:A:H5''	2.25	0.67
27:x:35:HIS:HB2	27:x:55:MET:HE1	1.75	0.67
1:3:1458:G:H2'	1:3:1459:G:H8	1.60	0.67
2:1:1750:G:H2'	2:1:1751:U:C6	2.29	0.67
2:1:2281:A:O2'	2:1:2282:G:H5'	1.94	0.67
1:3:452:A:H61	1:3:480:U:H3	1.41	0.67
2:1:966:G:H1'	2:1:2267:A:H62	1.60	0.67
2:1:1198:U:H2'	2:1:1199:U:H5''	1.76	0.67
1:3:1412:C:H2'	1:3:1413:A:C8	2.28	0.67
2:1:465:G:H2'	2:1:466:A:C8	2.29	0.67
1:3:250:A:H4'	1:3:252:U:C6	2.30	0.67
2:1:203:A:H3'	2:1:204:A:C5'	2.24	0.67
15:l:29:LYS:HD2	15:l:30:THR:HG23	1.77	0.67
1:3:386:C:C2'	1:3:387:U:H5''	2.25	0.67
2:1:184:C:H4'	2:1:217:A:C2	2.30	0.67
2:1:1165:A:H2'	2:1:1166:G:H8	1.60	0.67
2:1:2641:G:H5''	13:j:78:THR:HG22	1.77	0.67
4:6:27:U:H2'	4:6:28:C:C5	2.30	0.67
1:3:600:A:H61	1:3:638:U:H3	1.43	0.66
1:3:1318:A:H4'	54:X:9:PHE:CD2	2.30	0.66
2:1:548:G:H3'	2:1:549:G:H5''	1.76	0.66

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:1198:U:C2'	2:1:1199:U:H5''	2.26	0.66
4:6:13:C:C2'	4:6:14:A:H5''	2.25	0.66
1:3:1513:A:H61	1:3:1522:U:H3	1.44	0.66
2:1:465:G:N2	2:1:684:G:H1'	2.10	0.66
2:1:746:U:H4'	2:1:748:G:N3	2.11	0.66
2:1:95:A:H2'	2:1:96:C:C4'	2.26	0.66
1:3:186:C:H4'	55:Y:76:ALA:HB2	1.77	0.66
1:3:1218:C:H2'	1:3:1219:A:C8	2.30	0.66
37:G:162:VAL:HG23	37:G:184:ALA:HB2	1.77	0.66
2:1:150:U:H2'	2:1:151:C:C6	2.31	0.66
2:1:165:A:H2'	2:1:166:U:C6	2.30	0.66
22:s:19:LEU:HG	30:B:21:LEU:HB2	1.77	0.66
45:O:59:LYS:HG3	45:O:62:ARG:HH21	1.59	0.66
2:1:841:G:H2'	2:1:842:U:C6	2.31	0.66
2:1:2081:U:O2'	2:1:2082:A:H5'	1.95	0.66
22:s:75:PHE:HB2	22:s:104:THR:HB	1.78	0.66
41:K:38:ARG:HE	41:K:40:GLU:HB2	1.61	0.66
2:1:2534:A:H2'	2:1:2535:G:H5''	1.78	0.65
1:3:24:U:H2'	1:3:25:C:C6	2.31	0.65
18:o:29:HIS:HB3	18:o:36:TYR:HB2	1.77	0.65
1:3:980:C:H2'	1:3:981:U:H5'	1.77	0.65
2:1:768:G:N2	2:1:1379:U:H1'	2.11	0.65
2:1:2472:G:H2'	2:1:2475:C:N4	2.12	0.65
3:2:7:G:H1'	18:o:38:GLN:HE22	1.60	0.65
5:b:7:PRO:HB3	5:b:13:ARG:HA	1.77	0.65
14:k:65:THR:HG23	14:k:68:GLY:H	1.60	0.65
1:3:1516:G:H2'	1:3:1517:G:H5''	1.79	0.65
1:3:1519:A:C8	1:3:1520:C:H1'	2.31	0.65
2:1:1395:A:H2'	2:1:1396:U:H5''	1.79	0.65
2:1:1413:A:H2'	2:1:1414:C:H5''	1.78	0.65
2:1:2249:U:H3'	2:1:2250:G:C5'	2.26	0.65
9:f:148:ARG:HH12	9:f:152:ARG:HD3	1.61	0.65
1:3:221:C:H2'	1:3:222:C:C6	2.31	0.65
1:3:964:A:H2'	1:3:965:U:H5'	1.77	0.65
2:1:827:U:H4'	2:1:828:U:C6	2.32	0.65
1:3:1253:G:H5''	45:O:45:ARG:HD2	1.78	0.65
2:1:1340:U:H2'	23:t:61:LEU:HD13	1.78	0.65
23:t:38:ALA:O	23:t:81:LYS:NZ	2.29	0.65
50:T:21:THR:HA	50:T:26:VAL:HG11	1.77	0.65
1:3:12:U:H2'	1:3:13:U:H5''	1.78	0.65
2:1:505:A:H2'	2:1:506:G:H5'	1.77	0.65

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:581:C:H2'	2:1:582:A:H8	1.61	0.65
1:3:1418:A:H62	1:3:1482:G:H21	1.45	0.65
2:1:827:U:H4'	2:1:828:U:C5	2.31	0.65
2:1:1785:A:C2'	2:1:1786:A:H5'	2.27	0.65
1:3:416:G:H2'	1:3:417:G:H8	1.62	0.65
1:3:1251:A:H2'	1:3:1252:A:C8	2.32	0.65
1:3:1512:U:H2'	1:3:1513:A:H8	1.60	0.65
2:1:515:A:H2	2:1:1261:C:H1'	1.62	0.65
2:1:1557:C:H3'	2:1:1558:C:C5'	2.26	0.65
4:6:5:G:H2'	4:6:6:G:H8	1.62	0.65
5:b:267:VAL:HG12	5:b:268:ARG:HG2	1.78	0.65
1:3:899:C:H2'	1:3:900:A:O4'	1.97	0.65
2:1:2215:C:H2'	2:1:2216:G:C8	2.32	0.65
1:3:660:C:H42	1:3:745:G:H1	1.43	0.64
1:3:883:C:H2'	1:3:884:U:C6	2.32	0.64
1:3:972:C:H2'	1:3:973:G:H8	1.60	0.64
1:3:1497:G:H2'	1:3:1498:U:H5'	1.78	0.64
2:1:753:A:H5'	32:D:1:MET:HE3	1.79	0.64
36:5:6:A:C2'	36:5:7:G:H5''	2.26	0.64
51:U:3:THR:HA	51:U:65:ALA:HA	1.78	0.64
54:X:44:ILE:HG12	54:X:63:ASP:HA	1.79	0.64
1:3:339:C:C2'	1:3:340:U:H5''	2.27	0.64
2:1:687:C:H2'	2:1:688:U:H5'	1.77	0.64
2:1:1168:G:H2'	2:1:1169:A:H5''	1.79	0.64
8:e:90:LEU:HD11	8:e:94:ARG:HB2	1.80	0.64
1:3:418:C:H2'	1:3:419:C:C6	2.32	0.64
2:1:468:G:H5''	7:d:55:SER:HB3	1.78	0.64
2:1:1868:C:H2'	2:1:1869:G:H5'	1.78	0.64
43:M:17:GLN:HE21	43:M:71:VAL:H	1.45	0.64
2:1:1066:U:C3'	2:1:1067:A:H5'	2.27	0.64
2:1:90:U:H2'	2:1:91:A:C8	2.32	0.64
2:1:239:C:H1'	2:1:621:A:C2	2.33	0.64
2:1:1055:G:H1	2:1:1104:C:H42	1.43	0.64
11:a:166:ASP:HB3	11:a:169:GLY:H	1.62	0.64
42:L:69:ARG:HE	42:L:95:ARG:HD2	1.63	0.64
1:3:916:U:H2'	1:3:917:G:H8	1.63	0.64
2:1:59:U:H3	2:1:68:G:H1	1.44	0.64
2:1:515:A:C2	2:1:1261:C:H1'	2.32	0.64
8:e:33:ILE:HG22	8:e:90:LEU:HB3	1.80	0.64
37:G:101:THR:CG2	37:G:174:GLU:CG	2.75	0.64
1:3:1307:U:O2	48:R:95:PRO:HB3	1.98	0.64

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:F:27:CYS:SG	34:F:28:SER:N	2.67	0.64
1:3:482:A:H2'	1:3:483:C:H5'	1.80	0.64
1:3:1026:G:H2'	1:3:1027:C:O4'	1.98	0.64
5:b:211:ARG:NH1	5:b:211:ARG:O	2.31	0.64
1:3:1057:G:H2'	1:3:1058:G:O4'	1.98	0.63
2:1:404:A:H1'	2:1:406:G:H1'	1.78	0.63
2:1:1030:C:H42	2:1:1124:G:H1	1.43	0.63
4:6:37:A:H2'	4:6:38:A:O4'	1.98	0.63
25:v:77:VAL:HG12	25:v:89:ILE:HG12	1.79	0.63
1:3:759:A:C2'	1:3:760:G:H5''	2.29	0.63
1:3:1420:U:H3	1:3:1480:A:H61	1.43	0.63
1:3:1458:G:H2'	1:3:1459:G:C8	2.33	0.63
2:1:372:G:H5''	27:x:60:LYS:HD2	1.80	0.63
2:1:1889:A:H1'	2:1:2086:U:O2'	1.98	0.63
35:4:9:G:H4'	53:W:42:ARG:NH2	2.13	0.63
1:3:1060:U:H2'	1:3:1061:G:H8	1.63	0.63
2:1:419:U:H2'	2:1:420:C:C6	2.34	0.63
5:b:1:ALA:H1	5:b:21:PRO:HD3	1.63	0.63
2:1:1270:C:H5''	2:1:1271:G:H5'	1.80	0.63
2:1:2378:A:N7	2:1:2379:G:H1'	2.13	0.63
42:L:66:GLU:O	42:L:137:ARG:NH1	2.31	0.63
1:3:674:G:N2	46:P:117:HIS:HB2	2.05	0.63
2:1:558:U:H2'	2:1:559:G:H8	1.62	0.63
2:1:2306:C:C5	2:1:2307:G:H2'	2.32	0.63
11:a:44:VAL:HB	11:a:173:THR:HG23	1.80	0.63
1:3:156:C:H2'	1:3:157:U:H5'	1.81	0.63
1:3:719:C:H1'	53:W:37:LYS:HG3	1.80	0.63
2:1:1630:A:H2'	2:1:1631:G:H5'	1.80	0.63
2:1:2248:C:C2'	2:1:2249:U:H5'	2.25	0.63
2:1:2581:G:N2	2:1:2610:C:H2'	2.09	0.63
1:3:579:A:H1'	1:3:728:A:H2	1.64	0.63
1:3:1195:C:H2'	1:3:1197:A:H5'	1.79	0.63
2:1:239:C:H1'	2:1:621:A:H2	1.64	0.63
2:1:362:A:H2'	2:1:363:G:O4'	1.98	0.63
2:1:544:C:H42	2:1:549:G:H1	1.44	0.63
2:1:768:G:H21	2:1:1379:U:H1'	1.63	0.63
2:1:2472:G:H2'	2:1:2475:C:H42	1.64	0.63
32:D:34:ARG:NH1	32:D:41:ARG:O	2.31	0.63
39:I:144:ILE:HB	39:I:149:LYS:HE3	1.81	0.63
2:1:947:A:H2'	2:1:948:C:C6	2.34	0.63
2:1:2215:C:H2'	2:1:2216:G:H8	1.62	0.63

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:2563:U:C3'	2:1:2564:A:H5''	2.29	0.63
2:1:2577:A:H5''	2:1:2578:G:H5'	1.81	0.63
1:3:600:A:OP2	43:M:87:ARG:HB3	1.99	0.62
2:1:680:C:H2'	2:1:681:G:C8	2.32	0.62
2:1:1755:A:H61	2:1:2694:G:H21	1.47	0.62
2:1:2563:U:H2'	2:1:2564:A:H3'	1.81	0.62
27:x:6:VAL:HG13	27:x:7:THR:HG23	1.79	0.62
1:3:827:U:H5''	43:M:21:LYS:HD2	1.81	0.62
2:1:84:A:H62	2:1:101:A:H2	1.47	0.62
2:1:746:U:H4'	2:1:748:G:N2	2.15	0.62
3:2:2:G:H2'	3:2:3:C:C6	2.34	0.62
28:y:42:LEU:HA	28:y:45:GLN:HB2	1.81	0.62
37:G:71:THR:CB	37:G:168:GLU:OE2	2.45	0.62
1:3:20:U:H1'	1:3:572:A:C2	2.33	0.62
2:1:251:A:H5''	15:l:47:ARG:NE	2.14	0.62
2:1:881:G:H2'	2:1:882:G:H8	1.63	0.62
2:1:1449:G:H2'	2:1:1450:G:O4'	1.99	0.62
2:1:2139:U:H2'	2:1:2140:G:C8	2.34	0.62
2:1:2196:C:H2'	2:1:2197:U:C6	2.35	0.62
2:1:2334:U:H5'	18:o:12:THR:OG1	1.98	0.62
1:3:540:G:H2'	1:3:541:G:O4'	1.99	0.62
1:3:1307:U:H2'	48:R:96:VAL:N	2.14	0.62
2:1:2249:U:H3'	2:1:2250:G:H5'	1.82	0.62
2:1:1874:C:H2'	2:1:1875:G:O4'	2.00	0.62
1:3:36:C:H5''	47:Q:119:LYS:HA	1.79	0.62
2:1:746:U:H4'	2:1:748:G:H21	1.63	0.62
2:1:1499:C:H2'	2:1:1500:G:H8	1.64	0.62
27:x:4:CYS:HG	27:x:7:THR:HG1	1.46	0.62
1:3:240:G:H2'	1:3:241:G:C8	2.35	0.62
1:3:1113:C:H2'	1:3:1114:C:H5'	1.82	0.62
2:1:729:G:O2'	2:1:763:G:H4'	1.99	0.62
2:1:1662:U:O2	2:1:2687:U:H5''	1.99	0.62
2:1:2015:A:C2	30:B:2:VAL:HG22	2.34	0.62
1:3:1237:C:H4'	1:3:1334:G:N2	2.13	0.62
1:3:1412:C:H2'	1:3:1413:A:H8	1.65	0.62
2:1:245:G:O6	33:E:7:ARG:HG2	2.00	0.62
1:3:243:A:H62	1:3:281:G:H1'	1.65	0.62
1:3:1160:G:H2'	1:3:1161:C:C6	2.35	0.62
2:1:1860:G:H4'	11:a:206:GLY:HA2	1.82	0.62
2:1:1906:G:C2'	2:1:1907:G:H5''	2.30	0.62
2:1:2561:U:H4'	14:k:40:LYS:CE	2.29	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:n:106:ASP:N	17:n:106:ASP:OD1	2.30	0.62
36:5:67:U:H2'	36:5:68:C:C6	2.35	0.62
37:G:10:LYS:HB2	37:G:211:LEU:HD11	1.81	0.62
1:3:590:U:H2'	1:3:591:U:C6	2.34	0.61
1:3:761:G:H2'	1:3:762:U:C6	2.35	0.61
2:1:12:U:O2	2:1:12:U:H2'	1.98	0.61
2:1:1730:C:H1'	2:1:1731:G:OP2	2.00	0.61
17:n:117:ASP:HB3	17:n:118:ARG:HG3	1.82	0.61
2:1:49:A:H5'	2:1:51:G:O4'	2.00	0.61
2:1:1565:C:H5''	5:b:17:LYS:HD3	1.82	0.61
6:c:178:VAL:HB	6:c:188:LEU:HG	1.82	0.61
1:3:909:A:H2'	1:3:910:C:O4'	1.99	0.61
3:2:51:G:H2'	3:2:52:A:O4'	2.00	0.61
56:Z:8:ASN:HB2	56:Z:10:PRO:HD3	1.81	0.61
5:b:221:GLY:HA2	5:b:224:MET:HE3	1.82	0.61
29:z:19:HIS:NE2	29:z:49:ALA:O	2.33	0.61
46:P:85:VAL:HG12	46:P:92:ARG:HH22	1.65	0.61
1:3:715:A:H2'	1:3:716:A:H8	1.60	0.61
1:3:865:A:H2'	1:3:866:C:C6	2.36	0.61
2:1:416:U:H3	2:1:2407:A:H61	1.49	0.61
2:1:634:C:H2'	2:1:635:C:C6	2.35	0.61
2:1:848:C:H2'	2:1:849:A:C8	2.36	0.61
2:1:1168:G:C3'	2:1:1169:A:H5''	2.31	0.61
46:P:124:LYS:O	56:Z:34:ARG:NH1	2.34	0.61
1:3:158:G:H2'	1:3:159:G:C8	2.35	0.61
1:3:1488:G:H2'	1:3:1489:G:H8	1.64	0.61
2:1:2364:C:H2'	2:1:2365:G:H5'	1.83	0.61
50:T:76:ARG:HA	50:T:79:GLN:HB2	1.83	0.61
1:3:579:A:H1'	1:3:728:A:C2	2.34	0.61
1:3:904:U:H2'	1:3:905:U:C6	2.36	0.61
1:3:1228:C:C2'	1:3:1229:A:H5''	2.30	0.61
2:1:1097:U:H2'	2:1:1098:A:H5'	1.83	0.61
2:1:1255:U:C6	7:d:68:ALA:HA	2.36	0.61
2:1:1727:C:H2'	2:1:1728:C:O4'	1.99	0.61
2:1:2798:U:H4'	2:1:2799:A:C4	2.36	0.61
36:5:69:G:H3'	36:5:70:C:C6	2.35	0.61
2:1:74:A:H4'	2:1:75:G:H8	1.66	0.61
2:1:1210:G:H4'	2:1:1212:G:O4'	2.01	0.61
2:1:2590:A:H2'	2:1:2591:C:C6	2.36	0.61
3:2:90:C:H5'	16:m:18:ARG:CB	2.31	0.61
37:G:162:VAL:HG23	37:G:184:ALA:CB	2.30	0.61

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:3:736:C:H2'	1:3:737:C:C6	2.36	0.61
1:3:1108:G:H5'	38:H:175:HIS:HB2	1.83	0.61
1:3:1321:U:C3'	1:3:1322:C:H5''	2.31	0.61
2:1:2247:A:H2'	2:1:2248:C:C6	2.35	0.61
9:f:123:GLU:OE1	9:f:133:LYS:NZ	2.34	0.61
28:y:23:ARG:NH1	28:y:27:ASN:OD1	2.34	0.61
1:3:1202:U:H2'	1:3:1203:C:O4'	2.01	0.60
2:1:615:U:H5''	2:1:616:A:OP2	2.01	0.60
2:1:617:G:H5''	7:d:102:ARG:HH22	1.64	0.60
2:1:2676:C:H42	2:1:2731:G:H1	1.47	0.60
1:3:1115:U:H5'	45:O:68:ARG:HH12	1.67	0.60
2:1:23:G:H2'	2:1:24:G:H8	1.66	0.60
2:1:203:A:C3'	2:1:204:A:H5''	2.27	0.60
2:1:266:G:C3'	2:1:267:C:H5''	2.30	0.60
2:1:1133:A:H1'	2:1:2026:U:O2'	2.01	0.60
2:1:1710:G:H1'	2:1:2859:G:H21	1.66	0.60
1:3:768:A:H2	1:3:1512:U:H4'	1.66	0.60
1:3:1404:C:H1'	1:3:1499:A:C2	2.36	0.60
2:1:1507:C:O2'	2:1:1508:A:H4'	2.01	0.60
2:1:2455:G:H2'	2:1:2456:C:C6	2.36	0.60
1:3:674:G:H2'	1:3:675:A:C8	2.37	0.60
1:3:964:A:C3'	1:3:965:U:H5'	2.31	0.60
2:1:1197:G:H2'	2:1:1198:U:H6	1.67	0.60
2:1:2391:G:H1'	2:1:2429:G:N2	2.16	0.60
40:J:93:VAL:HG21	40:J:110:MET:HE1	1.82	0.60
1:3:852:G:H2'	1:3:853:C:C6	2.36	0.60
2:1:847:U:O2	2:1:847:U:H2'	2.01	0.60
2:1:2329:U:H2'	2:1:2330:G:O4'	2.02	0.60
30:B:8:THR:HG22	30:B:10:SER:H	1.66	0.60
40:J:79:THR:HB	40:J:121:ASN:HD22	1.65	0.60
1:3:1071:C:O2'	1:3:1072:G:H5'	2.01	0.60
15:l:73:ILE:HG23	15:l:106:GLU:H	1.67	0.60
1:3:928:G:H1	1:3:1389:C:H42	1.48	0.60
2:1:612:G:H1'	2:1:616:A:N6	2.16	0.60
2:1:631:A:H2'	2:1:632:A:O4'	2.01	0.60
2:1:2678:C:H2'	2:1:2679:A:C8	2.36	0.60
2:1:2810:A:H2'	2:1:2811:G:O4'	2.02	0.60
30:B:8:THR:HB	30:B:11:LYS:H	1.66	0.60
1:3:784:A:H2'	1:3:785:G:C8	2.37	0.60
2:1:61:C:OP2	28:y:47:ARG:NH1	2.34	0.60
2:1:893:C:H2'	2:1:894:U:O4'	2.02	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:910:A:H62	16:m:12:MET:HA	1.67	0.60
2:1:2257:U:O2'	2:1:2258:C:H5'	2.01	0.60
2:1:2266:A:H4'	2:1:2267:A:C2	2.37	0.60
2:1:2636:C:H4'	6:c:81:GLU:OE1	2.01	0.60
10:g:116:ARG:NH1	10:g:117:LEU:O	2.35	0.60
11:a:39:VAL:HG12	11:a:177:LYS:HG2	1.83	0.60
39:I:201:GLU:OE1	40:J:111:ARG:NH1	2.35	0.60
1:3:392:C:H2'	1:3:393:A:C8	2.36	0.60
1:3:554:A:H2'	1:3:555:U:C6	2.37	0.60
1:3:869:G:H4'	1:3:872:A:C8	2.37	0.60
1:3:1081:A:H5'	40:J:22:LYS:HD3	1.84	0.60
1:3:1228:C:O2'	1:3:1229:A:H5''	2.02	0.60
1:3:1301:U:O2	1:3:1301:U:H2'	2.01	0.60
1:3:1369:C:H2'	1:3:1370:G:C8	2.36	0.60
2:1:948:C:H2'	2:1:949:G:H8	1.67	0.60
2:1:1112:G:H2'	2:1:1113:U:C6	2.37	0.60
2:1:2224:G:H4'	2:1:2226:C:N3	2.17	0.60
2:1:2556:C:H2'	2:1:2557:G:O4'	2.02	0.60
20:q:46:TYR:O	20:q:50:ARG:NH1	2.35	0.60
21:r:1:MET:N	21:r:42:ALA:O	2.32	0.60
54:X:35:ARG:HD2	54:X:51:HIS:HB3	1.83	0.60
1:3:1015:G:H21	1:3:1218:C:H1'	1.67	0.60
1:3:1097:C:H5''	1:3:1098:C:OP2	2.01	0.60
2:1:706:A:H62	2:1:725:G:N2	1.95	0.60
2:1:1433:A:H61	2:1:1560:G:H1	1.49	0.60
2:1:2023:C:H2'	2:1:2024:G:H8	1.67	0.60
2:1:2439:A:C4'	2:1:2440:C:H5'	2.21	0.60
1:3:1052:U:H2'	1:3:1200:C:N4	2.17	0.59
1:3:1477:U:H2'	1:3:1478:U:C6	2.36	0.59
2:1:538:A:H5''	13:j:7:LYS:HE2	1.83	0.59
36:5:6:A:C3'	36:5:7:G:H5''	2.31	0.59
46:P:105:ARG:NH1	46:P:106:ILE:O	2.35	0.59
2:1:1413:A:C2'	2:1:1414:C:H5''	2.32	0.59
2:1:2512:C:H2'	2:1:2513:A:O4'	2.02	0.59
2:1:2619:C:H4'	6:c:157:LYS:HA	1.84	0.59
1:3:924:C:H2'	1:3:925:G:C8	2.38	0.59
1:3:936:C:H1'	1:3:1383:C:H41	1.66	0.59
1:3:1160:G:H2'	1:3:1161:C:H6	1.67	0.59
2:1:153:U:H2'	2:1:154:U:C6	2.36	0.59
2:1:1149:G:H2'	2:1:1150:C:C6	2.37	0.59
2:1:2800:A:C2	2:1:2895:G:H1'	2.36	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:I:145:ARG:HE	39:I:146:GLU:H	1.49	0.59
45:O:24:GLU:HG2	45:O:92:LEU:HD22	1.84	0.59
1:3:772:U:H2'	1:3:773:G:C8	2.37	0.59
1:3:1089:G:C2	1:3:1090:U:H1'	2.37	0.59
2:1:136:G:H1	2:1:143:C:N4	2.00	0.59
2:1:139:U:H3'	2:1:141:G:H1'	1.83	0.59
2:1:1398:C:H2'	2:1:1399:C:C6	2.37	0.59
2:1:2283:C:H5'	31:C:3:GLY:N	2.17	0.59
2:1:2334:U:H5'	18:o:12:THR:CB	2.31	0.59
11:a:5:THR:HG23	11:a:7:ARG:H	1.67	0.59
27:x:2:ARG:HH11	27:x:29:LEU:HD11	1.68	0.59
39:I:6:PRO:HB2	39:I:9:LYS:HB2	1.85	0.59
1:3:440:C:H2'	1:3:441:A:C4'	2.19	0.59
2:1:2413:G:H2'	2:1:2414:G:O4'	2.03	0.59
2:1:2625:G:H2'	2:1:2626:C:O4'	2.02	0.59
39:I:8:LEU:HD12	39:I:21:LYS:HB3	1.84	0.59
1:3:501:C:H2'	1:3:502:A:C8	2.37	0.59
1:3:1002:G:H1	1:3:1038:C:H42	1.51	0.59
2:1:1344:U:H5'	2:1:1384:A:C6	2.36	0.59
2:1:1548:A:H2'	2:1:1549:A:H8	1.67	0.59
2:1:2615:U:O2'	30:B:7:PRO:HG2	2.03	0.59
32:D:39:ARG:HG3	32:D:41:ARG:H	1.67	0.59
54:X:35:ARG:NH1	54:X:51:HIS:O	2.35	0.59
1:3:867:G:H21	1:3:873:A:H2	1.49	0.59
1:3:1314:C:H5''	54:X:5:LYS:HE2	1.83	0.59
1:3:1402:C:H2'	1:3:1403:C:O4'	2.03	0.59
2:1:48:G:H22	2:1:177:G:H22	1.51	0.59
2:1:189:G:H2'	2:1:205:G:N2	2.18	0.59
2:1:357:C:H2'	2:1:358:U:C6	2.37	0.59
2:1:779:U:OP1	5:b:48:ILE:HG22	2.03	0.59
2:1:807:U:H1'	2:1:2445:G:H5'	1.83	0.59
2:1:914:G:H3'	2:1:915:C:C5'	2.31	0.59
2:1:1694:C:H5'	2:1:1695:G:C4	2.38	0.59
2:1:2070:A:H2'	2:1:2071:A:O4'	2.03	0.59
30:B:24:VAL:HG22	30:B:26:SER:H	1.67	0.59
1:3:392:C:H2'	1:3:393:A:H8	1.68	0.59
2:1:119:A:H4'	2:1:120:U:H5'	1.84	0.59
2:1:500:G:H2'	2:1:501:A:H5''	1.85	0.59
2:1:2847:U:C2'	2:1:2848:G:H5'	2.33	0.59
3:2:6:G:H2'	3:2:7:G:H8	1.67	0.59
3:2:7:G:H5'	18:o:29:HIS:CE1	2.38	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:32:U:H1'	3:2:53:A:N6	2.18	0.59
10:g:46:PHE:HA	10:g:50:ARG:HE	1.67	0.59
46:P:25:SER:OG	46:P:26:PHE:N	2.35	0.59
1:3:81:A:H61	1:3:85:U:H4'	1.66	0.59
1:3:401:C:H2'	1:3:402:G:H8	1.66	0.59
1:3:673:A:H4'	41:K:86:ARG:NH1	2.17	0.59
2:1:435:C:H2'	2:1:436:C:H5'	1.83	0.59
13:j:69:ARG:NH1	13:j:90:GLU:OE2	2.36	0.59
23:t:8:LEU:HD22	28:y:21:LEU:HG	1.83	0.59
46:P:113:THR:HG22	56:Z:28:LEU:HD13	1.85	0.59
46:P:121:ARG:NH1	46:P:122:PRO:O	2.36	0.59
2:1:95:A:H2'	2:1:96:C:H4'	1.85	0.59
2:1:2105:U:H3	2:1:2184:A:H2	1.50	0.59
2:1:2520:C:C6	2:1:2567:G:H1'	2.38	0.59
25:v:48:MET:SD	25:v:49:ASN:ND2	2.75	0.59
2:1:580:U:H3	2:1:1260:A:H61	1.51	0.58
5:b:143:VAL:HB	5:b:153:LEU:HB3	1.85	0.58
25:v:30:ILE:HG12	25:v:40:ILE:HD11	1.84	0.58
1:3:199:A:H61	1:3:218:U:H3	1.51	0.58
1:3:599:C:H2'	1:3:600:A:O4'	2.03	0.58
1:3:1277:C:H5''	1:3:1281:C:N4	2.18	0.58
2:1:612:G:H1'	2:1:616:A:H61	1.68	0.58
2:1:1799:G:N2	5:b:153:LEU:HD12	2.17	0.58
23:t:72:GLN:OE1	23:t:73:ARG:NH2	2.35	0.58
37:G:165:ALA:HB3	37:G:190:SER:HB3	1.84	0.58
2:1:890:C:C6	2:1:891:G:H1'	2.37	0.58
1:3:41:G:H2'	1:3:42:G:C8	2.38	0.58
1:3:1488:G:H2'	1:3:1489:G:C8	2.39	0.58
2:1:383:C:H5''	2:1:385:C:OP2	2.04	0.58
2:1:738:G:C2'	2:1:739:A:H5'	2.33	0.58
2:1:1635:A:H2'	2:1:1636:U:O4'	2.03	0.58
2:1:2458:G:H2'	2:1:2490:G:O6	2.03	0.58
7:d:159:LEU:HA	7:d:162:ARG:HE	1.69	0.58
15:l:48:ARG:NH2	33:E:59:ALA:O	2.36	0.58
19:p:63:ILE:HA	19:p:68:GLY:HA2	1.84	0.58
29:z:45:GLY:HA2	29:z:48:ASN:HD22	1.68	0.58
37:G:162:VAL:CG2	37:G:184:ALA:HB2	2.33	0.58
1:3:338:A:H2'	1:3:339:C:O4'	2.04	0.58
2:1:2776:A:H4'	2:1:2778:A:OP1	2.02	0.58
3:2:115:A:H2'	3:2:116:G:C8	2.38	0.58
5:b:106:PRO:HA	5:b:194:VAL:HA	1.86	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:J:104:ILE:HB	40:J:111:ARG:HH22	1.67	0.58
44:N:35:GLU:HG3	44:N:39:GLY:HA3	1.85	0.58
1:3:418:C:H2'	1:3:419:C:H6	1.67	0.58
2:1:197:A:H4'	2:1:2069:G:OP2	2.02	0.58
2:1:1061:U:O4	12:i:76:ALA:HB3	2.02	0.58
1:3:131:A:H2'	1:3:132:C:C6	2.38	0.58
1:3:513:C:H2'	1:3:514:C:C6	2.39	0.58
1:3:738:C:H2'	1:3:739:C:C6	2.39	0.58
2:1:703:U:H2'	2:1:704:G:H5'	1.86	0.58
2:1:1061:U:C2	12:i:12:VAL:HG11	2.38	0.58
2:1:1368:G:OP1	32:D:25:LYS:HB2	2.02	0.58
2:1:1592:C:H2'	2:1:1593:A:H8	1.69	0.58
1:3:149:A:H2'	1:3:150:U:H6	1.69	0.58
1:3:818:G:H5'	1:3:819:A:OP2	2.04	0.58
1:3:1307:U:O2'	48:R:95:PRO:HB2	2.03	0.58
1:3:1421:G:H4'	14:k:53:LYS:NZ	2.18	0.58
1:3:1492:A:H5'	1:3:1493:A:OP2	2.04	0.58
2:1:530:G:H4'	2:1:532:A:H62	1.67	0.58
2:1:859:G:H22	2:1:916:G:H3'	1.69	0.58
2:1:1791:A:C2	2:1:1829:A:H4'	2.39	0.58
2:1:2520:C:C5	2:1:2567:G:H1'	2.39	0.58
4:6:14:A:H2'	4:6:15:G:O4'	2.02	0.58
50:T:73:ASP:HB3	50:T:76:ARG:HB2	1.85	0.58
1:3:948:C:OP1	48:R:105:ALA:HA	2.04	0.58
1:3:1329:A:H5''	48:R:24:VAL:CA	2.34	0.58
2:1:706:A:N6	2:1:725:G:H21	2.00	0.58
2:1:1652:A:H62	17:n:11:ASN:ND2	2.02	0.58
13:j:57:LEU:HD11	13:j:130:HIS:HD2	1.69	0.58
44:N:20:ILE:HD11	44:N:60:LEU:HB3	1.85	0.58
56:Z:53:LYS:HA	56:Z:57:LYS:HD3	1.86	0.58
1:3:149:A:H2'	1:3:150:U:C6	2.39	0.58
1:3:416:G:H2'	1:3:417:G:C8	2.39	0.58
1:3:1416:G:H2'	1:3:1417:G:O4'	2.03	0.58
2:1:687:C:C2'	2:1:688:U:H5'	2.33	0.58
2:1:1827:U:H2'	2:1:1828:G:O4'	2.04	0.58
2:1:1922:G:H2'	2:1:1923:U:C6	2.38	0.58
11:a:4:LEU:HD13	11:a:8:MET:HB3	1.85	0.58
55:Y:73:ARG:O	55:Y:77:ASN:ND2	2.34	0.58
1:3:941:G:C2	1:3:942:G:H1'	2.39	0.57
2:1:523:C:H2'	2:1:524:G:H8	1.69	0.57
2:1:746:U:H4'	2:1:748:G:C2	2.39	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:1038:G:H1	2:1:1117:C:H42	1.52	0.57
2:1:2706:A:O2'	17:n:64:ARG:HD3	2.04	0.57
13:j:36:LEU:HB3	13:j:118:MET:HE1	1.86	0.57
37:G:71:THR:CG2	37:G:168:GLU:OE2	2.52	0.57
1:3:1479:C:H2'	1:3:1480:A:C8	2.38	0.57
2:1:300:A:OP2	24:u:96:LYS:HD3	2.04	0.57
2:1:599:A:H4'	7:d:26:ALA:HB3	1.85	0.57
2:1:1190:G:H2'	2:1:1191:G:C8	2.39	0.57
2:1:1413:A:H3'	2:1:1414:C:H5''	1.84	0.57
2:1:2224:G:H4'	2:1:2226:C:C2	2.39	0.57
4:6:5:G:H2'	4:6:6:G:C8	2.38	0.57
4:6:13:C:O2'	4:6:14:A:H5''	2.04	0.57
29:z:26:LEU:HD22	29:z:46:MET:HE2	1.86	0.57
51:U:69:ASP:OD1	51:U:69:ASP:N	2.37	0.57
1:3:59:A:H3'	1:3:331:G:H22	1.68	0.57
1:3:211:G:C2'	1:3:212:G:H5'	2.34	0.57
2:1:279:A:N1	2:1:362:A:H4'	2.19	0.57
2:1:688:U:H2'	2:1:689:A:C8	2.40	0.57
2:1:715:A:H5''	50:T:88:ARG:HE	1.69	0.57
2:1:1165:A:H2'	2:1:1166:G:C8	2.39	0.57
2:1:1603:A:H2'	2:1:1603:A:N3	2.19	0.57
5:b:4:LYS:NZ	5:b:5:CYS:O	2.38	0.57
8:e:130:GLY:HA2	8:e:152:ASP:HA	1.85	0.57
39:I:25:ARG:NH1	39:I:28:ASP:O	2.37	0.57
52:V:58:VAL:HG12	52:V:77:VAL:HA	1.87	0.57
1:3:964:A:C2'	1:3:965:U:H5'	2.34	0.57
1:3:1146:A:H2'	1:3:1147:C:H5'	1.86	0.57
1:3:1307:U:C6	48:R:97:ARG:HB2	2.39	0.57
2:1:1906:G:C3'	2:1:1907:G:H5''	2.33	0.57
2:1:2032:G:C2	2:1:2454:G:H4'	2.40	0.57
2:1:2075:U:H1'	2:1:2597:G:N2	2.20	0.57
5:b:131:MET:HE1	5:b:173:LEU:HD21	1.86	0.57
36:5:26:A:H62	36:5:44:G:H1	1.53	0.57
1:3:227:G:H2'	1:3:228:A:O4'	2.04	0.57
1:3:407:U:H2'	1:3:408:A:H8	1.68	0.57
1:3:1042:A:H2'	1:3:1043:G:O4'	2.05	0.57
1:3:1188:A:H4'	49:S:97:LYS:HE3	1.87	0.57
2:1:2847:U:H2'	2:1:2848:G:H5'	1.86	0.57
25:v:32:GLY:O	25:v:93:ARG:NH1	2.37	0.57
41:K:98:GLU:O	53:W:23:LYS:NZ	2.38	0.57
52:V:56:ASP:HB3	52:V:81:ALA:HB2	1.85	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:3:1471:U:H2'	1:3:1472:U:C6	2.39	0.57
1:3:1537:U:H2'	1:3:1538:C:O4'	2.05	0.57
2:1:1476:U:H2'	2:1:1477:A:H8	1.69	0.57
4:6:13:C:C3'	4:6:14:A:C5'	2.67	0.57
1:3:995:C:H2'	1:3:996:A:C8	2.39	0.57
2:1:1198:U:C3'	2:1:1199:U:H5''	2.35	0.57
2:1:1330:C:H2'	2:1:1331:G:H8	1.70	0.57
2:1:1471:G:H1	2:1:1520:U:H3	1.52	0.57
2:1:1796:U:H2'	2:1:1797:G:C8	2.33	0.57
19:p:43:GLU:OE2	19:p:62:LYS:NZ	2.36	0.57
48:R:29:SER:OG	48:R:30:LYS:NZ	2.35	0.57
2:1:387:U:H5'	2:1:387:U:H6	1.70	0.57
2:1:563:A:H1'	20:q:36:GLN:NE2	2.19	0.57
2:1:727:A:O2'	2:1:728:G:H5'	2.05	0.57
2:1:996:A:H2'	2:1:997:G:H8	1.69	0.57
2:1:2036:C:H2'	2:1:2037:A:C8	2.40	0.57
3:2:105:G:O2'	3:2:106:G:H5'	2.05	0.57
13:j:56:VAL:HB	13:j:124:VAL:HG23	1.87	0.57
19:p:26:GLU:HB3	19:p:86:LYS:HZ1	1.69	0.57
42:L:110:ARG:NH1	42:L:125:ASP:OD2	2.38	0.57
1:3:108:G:N2	55:Y:6:ALA:HB1	2.20	0.57
1:3:1094:G:N3	1:3:1094:G:H2'	2.20	0.57
2:1:590:A:H5'	7:d:88:ARG:NH1	2.17	0.57
2:1:921:C:H2'	2:1:922:C:C6	2.39	0.57
2:1:1059:G:H1	2:1:1079:C:N4	2.03	0.57
2:1:1697:G:H4'	2:1:1978:A:H5''	1.86	0.57
3:2:56:G:H4'	3:2:57:A:C5'	2.31	0.57
26:w:66:GLU:HG3	26:w:68:LYS:H	1.68	0.57
43:M:12:ARG:NH1	43:M:25:THR:O	2.38	0.57
2:1:983:A:H5'	2:1:984:A:OP2	2.04	0.57
2:1:1297:C:H2'	2:1:1298:C:C6	2.40	0.57
2:1:2350:C:H2'	2:1:2351:G:O4'	2.04	0.57
33:E:7:ARG:O	33:E:11:LYS:NZ	2.38	0.57
42:L:61:PHE:HD1	42:L:123:LEU:HD13	1.70	0.57
1:3:1338:G:O2'	1:3:1339:A:H5'	2.04	0.56
2:1:779:U:P	5:b:48:ILE:HG22	2.45	0.56
5:b:138:SER:OG	5:b:139:THR:N	2.37	0.56
5:b:144:GLU:HA	5:b:151:GLY:HA2	1.87	0.56
1:3:289:G:H2'	1:3:290:C:C6	2.40	0.56
1:3:730:G:H2'	1:3:731:G:H5'	1.87	0.56
1:3:760:G:H2'	1:3:761:G:H5'	1.87	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:3:1031:C:H4'	1:3:1033:G:H21	1.68	0.56
1:3:1333:A:H3'	1:3:1334:G:C8	2.40	0.56
1:3:1386:G:H2'	1:3:1387:G:C8	2.40	0.56
2:1:674:G:H5''	7:d:71:GLY:HA2	1.86	0.56
2:1:742:A:H2'	2:1:743:A:C8	2.38	0.56
2:1:1563:U:H2'	2:1:1564:C:C6	2.40	0.56
2:1:1904:G:N2	2:1:1905:C:H1'	2.20	0.56
2:1:2015:A:C6	30:B:2:VAL:HG13	2.40	0.56
2:1:2534:A:H2'	2:1:2535:G:C5'	2.35	0.56
17:n:38:LEU:O	17:n:42:LYS:N	2.38	0.56
24:u:88:ASP:OD1	24:u:90:LYS:NZ	2.37	0.56
37:G:135:MET:HA	37:G:138:ARG:HB2	1.86	0.56
42:L:39:GLU:HA	42:L:42:VAL:HG22	1.87	0.56
53:W:46:THR:OG1	53:W:51:GLN:NE2	2.38	0.56
1:3:1364:U:O2'	1:3:1365:G:H5'	2.05	0.56
2:1:55:G:H2'	2:1:56:A:C8	2.40	0.56
2:1:455:C:H2'	2:1:472:A:H2	1.70	0.56
2:1:1255:U:P	2:1:2502:G:H22	2.29	0.56
2:1:1666:G:H1	2:1:1994:C:H42	1.51	0.56
2:1:1893:C:H2'	2:1:1894:C:H5'	1.85	0.56
2:1:1998:A:H2'	2:1:1999:C:O4'	2.04	0.56
18:o:33:ARG:NH2	18:o:65:THR:OG1	2.35	0.56
22:s:3:THR:OG1	22:s:107:VAL:O	2.23	0.56
36:5:27:A:N6	36:5:43:U:H3	2.00	0.56
39:I:187:ARG:NH2	39:I:194:ILE:O	2.38	0.56
44:N:19:PHE:HB2	44:N:63:TYR:HB3	1.87	0.56
1:3:197:A:C6	1:3:221:C:H4'	2.40	0.56
1:3:1150:A:C2	45:O:41:PRO:HG2	2.40	0.56
1:3:1464:U:H2'	1:3:1465:A:C8	2.40	0.56
2:1:505:A:C2'	2:1:506:G:H5'	2.34	0.56
2:1:566:U:H4'	2:1:809:G:OP2	2.05	0.56
2:1:1181:U:H2'	2:1:1182:G:H8	1.69	0.56
2:1:1690:A:H2'	2:1:1691:C:O4'	2.06	0.56
3:2:65:U:H2'	3:2:66:A:H5'	1.88	0.56
21:r:41:ILE:HB	21:r:47:VAL:HB	1.87	0.56
30:B:42:ILE:HG22	30:B:48:TYR:HB2	1.87	0.56
2:1:305:C:H42	2:1:312:G:H1	1.52	0.56
2:1:995:C:O2'	20:q:92:LYS:HE3	2.06	0.56
2:1:1986:C:H2'	2:1:1987:A:C8	2.41	0.56
2:1:2139:U:H2'	2:1:2140:G:H8	1.71	0.56
3:2:73:A:H61	25:v:31:TYR:HD2	1.53	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:b:8:THR:OG1	5:b:9:SER:N	2.38	0.56
11:a:33:LEU:HB3	11:a:216:THR:HG21	1.86	0.56
19:p:32:VAL:HA	19:p:37:LYS:HA	1.86	0.56
19:p:84:SER:OG	19:p:86:LYS:NZ	2.38	0.56
44:N:86:LEU:HB3	44:N:93:LEU:HD13	1.87	0.56
50:T:87:ARG:NH1	50:T:88:ARG:O	2.39	0.56
1:3:319:G:H1	1:3:334:C:H42	1.54	0.56
1:3:520:A:C3'	1:3:521:G:H5''	2.33	0.56
2:1:465:G:OP1	32:D:12:ARG:NH1	2.39	0.56
2:1:851:C:O2'	29:z:45:GLY:HA3	2.06	0.56
2:1:1760:C:H2'	2:1:1761:C:O4'	2.05	0.56
2:1:1775:U:H2'	2:1:1776:G:O4'	2.05	0.56
2:1:2063:C:O2'	36:5:76:A:H4'	2.06	0.56
8:e:60:SER:OG	8:e:61:GLY:N	2.39	0.56
14:k:64:ARG:NH2	19:p:67:GLU:OE1	2.38	0.56
19:p:44:GLY:HA3	19:p:60:VAL:HB	1.87	0.56
38:H:67:ILE:HG13	38:H:102:ILE:HA	1.87	0.56
47:Q:3:VAL:HA	47:Q:6:LEU:HB2	1.87	0.56
1:3:1111:A:H2'	1:3:1112:C:O4'	2.06	0.56
2:1:306:U:H3	2:1:310:A:H62	1.52	0.56
2:1:1097:U:C2'	2:1:1098:A:H5'	2.36	0.56
2:1:1506:U:H2'	2:1:1507:C:C6	2.40	0.56
2:1:2716:C:H2'	2:1:2717:C:C6	2.41	0.56
5:b:269:ARG:NH1	5:b:270:ARG:O	2.38	0.56
8:e:70:ARG:O	8:e:80:GLN:NE2	2.38	0.56
9:f:90:GLY:HA3	9:f:159:LYS:HE3	1.87	0.56
1:3:447:G:H2'	1:3:486:U:O4	2.06	0.56
1:3:656:G:C3'	1:3:657:U:H5''	2.35	0.56
1:3:1073:U:H4'	37:G:104:LYS:HZ3	1.71	0.56
1:3:1386:G:H2'	1:3:1387:G:H8	1.70	0.56
2:1:539:G:H2'	2:1:540:C:C6	2.40	0.56
2:1:687:C:H2'	2:1:688:U:C5'	2.35	0.56
2:1:2818:U:H2'	2:1:2819:G:C8	2.40	0.56
5:b:178:GLY:HA3	5:b:270:ARG:HG3	1.86	0.56
31:C:9:LYS:HA	31:C:21:THR:HA	1.87	0.56
46:P:59:PRO:HB3	46:P:91:GLY:HA2	1.88	0.56
46:P:83:VAL:HG23	46:P:110:THR:H	1.70	0.56
1:3:332:G:OP1	55:Y:4:LYS:NZ	2.38	0.56
1:3:1118:U:HO2'	1:3:1119:C:H5	1.53	0.56
1:3:1187:G:H2'	1:3:1188:A:H8	1.71	0.56
2:1:132:G:H2'	2:1:133:U:C6	2.40	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:1086:A:H3'	2:1:1086:A:N3	2.21	0.56
2:1:1665:A:O2'	14:k:1:MET:HB3	2.06	0.56
2:1:1791:A:N1	2:1:1829:A:H4'	2.20	0.56
1:3:1506:U:O2'	1:3:1507:A:H5'	2.06	0.56
3:2:6:G:H2'	3:2:7:G:C8	2.41	0.56
8:e:53:ALA:O	8:e:57:ALA:N	2.38	0.56
10:g:1:MET:N	10:g:1:MET:SD	2.78	0.56
21:r:69:GLY:O	21:r:90:ARG:NH1	2.39	0.56
37:G:45:THR:O	37:G:49:PHE:N	2.31	0.56
1:3:66:A:H61	1:3:103:U:H3	1.53	0.55
2:1:513:A:H2'	2:1:514:A:C8	2.41	0.55
2:1:1483:G:H1'	2:1:1509:A:C2	2.42	0.55
2:1:2298:A:H5''	8:e:70:ARG:NH1	2.20	0.55
3:2:84:G:H2'	3:2:85:G:C8	2.42	0.55
35:4:12:A:H3'	35:4:13:A:C5'	2.35	0.55
38:H:38:VAL:HG21	38:H:90:VAL:HG23	1.88	0.55
1:3:781:A:C2'	1:3:782:A:H5'	2.35	0.55
1:3:1392:G:H2'	1:3:1393:U:H6	1.71	0.55
1:3:1508:A:H2'	1:3:1509:C:C6	2.41	0.55
2:1:581:C:H2'	2:1:582:A:C8	2.41	0.55
2:1:962:G:H2'	2:1:963:U:C6	2.41	0.55
2:1:1101:U:H2'	2:1:1102:C:C6	2.41	0.55
2:1:2838:G:C2	2:1:2839:G:H1'	2.42	0.55
46:P:112:VAL:O	53:W:72:ARG:NH1	2.39	0.55
1:3:1354:U:H2'	1:3:1355:G:C8	2.42	0.55
2:1:443:A:N7	7:d:40:ARG:HB2	2.20	0.55
2:1:1279:G:H2'	2:1:1280:G:C8	2.42	0.55
2:1:1528:A:H2'	2:1:1529:G:O4'	2.06	0.55
2:1:2564:A:C2	2:1:2647:U:H4'	2.41	0.55
33:E:25:HIS:HD2	33:E:43:LEU:HA	1.72	0.55
42:L:39:GLU:OE2	44:N:44:ARG:NH1	2.38	0.55
42:L:110:ARG:NH1	42:L:122:GLU:OE1	2.39	0.55
43:M:29:SER:OG	43:M:30:LYS:N	2.38	0.55
1:3:1069:C:H42	1:3:1106:G:H1	1.54	0.55
2:1:252:G:O2'	2:1:253:C:H5'	2.06	0.55
2:1:494:G:H4'	22:s:6:LYS:CG	2.36	0.55
2:1:691:C:C4	2:1:692:C:C5	2.94	0.55
2:1:1326:U:H2'	2:1:1327:A:H8	1.71	0.55
2:1:2208:C:H2'	2:1:2209:G:C8	2.41	0.55
2:1:2420:C:OP2	33:E:33:THR:HB	2.06	0.55
6:c:124:ARG:HG2	6:c:165:MET:HB2	1.88	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:d:5:LEU:HD21	7:d:122:GLU:HB2	1.87	0.55
12:i:98:GLY:O	12:i:138:VAL:N	2.39	0.55
20:q:93:ILE:HD13	21:r:4:VAL:HG21	1.87	0.55
26:w:46:ASN:HB2	26:w:78:ILE:HB	1.88	0.55
38:H:15:LYS:HD2	38:H:16:PRO:HD2	1.89	0.55
2:1:478:A:H2'	2:1:479:A:H5'	1.89	0.55
2:1:999:U:H3	2:1:1155:A:H62	1.53	0.55
2:1:2071:A:H61	2:1:2438:U:H3	1.54	0.55
2:1:2259:U:H1'	2:1:2427:C:H2'	1.89	0.55
2:1:2295:C:O2'	2:1:2296:U:H5'	2.07	0.55
4:6:34:C:H2'	4:6:35:A:C8	2.42	0.55
1:3:1405:G:H1	1:3:1496:C:H42	1.53	0.55
2:1:918:A:H3'	2:1:919:U:H6	1.72	0.55
2:1:966:G:H1'	2:1:2267:A:N6	2.20	0.55
2:1:2017:U:O2'	30:B:5:ASN:HA	2.07	0.55
3:2:65:U:H3'	3:2:108:A:H61	1.71	0.55
40:J:40:ASP:N	40:J:44:ARG:O	2.39	0.55
1:3:692:U:C2'	1:3:693:G:H5''	2.30	0.55
1:3:1307:U:H2'	48:R:95:PRO:C	2.31	0.55
1:3:1394:A:H3'	1:3:1395:C:H5'	1.88	0.55
1:3:1504:G:H4'	1:3:1504:G:OP1	2.07	0.55
2:1:870:U:O2'	2:1:871:U:H5'	2.07	0.55
2:1:1042:G:H1	2:1:1113:U:H3	1.53	0.55
2:1:1168:G:C2'	2:1:1169:A:H5''	2.37	0.55
2:1:2018:G:H2'	2:1:2019:A:C8	2.41	0.55
3:2:7:G:H5'	18:o:29:HIS:ND1	2.21	0.55
1:3:40:C:H2'	1:3:41:G:C8	2.41	0.55
1:3:952:U:H3	1:3:1229:A:H61	1.53	0.55
2:1:616:A:H2'	2:1:617:G:O4'	2.07	0.55
2:1:832:U:H2'	2:1:833:A:C8	2.41	0.55
2:1:2286:G:H21	2:1:2287:A:H61	1.54	0.55
9:f:27:GLY:N	9:f:30:GLY:O	2.39	0.55
11:a:165:ASN:HA	11:a:171:ILE:HB	1.88	0.55
16:m:57:VAL:HB	16:m:112:LEU:HD21	1.89	0.55
37:G:117:GLU:O	37:G:121:GLN:NE2	2.36	0.55
54:X:18:VAL:O	54:X:22:VAL:N	2.39	0.55
1:3:236:A:H2'	1:3:237:G:C8	2.42	0.55
1:3:437:U:O2'	1:3:438:U:H5'	2.06	0.55
2:1:588:U:O4	2:1:670:A:H1'	2.07	0.55
2:1:878:A:H3'	2:1:879:G:C8	2.39	0.55
2:1:1259:G:H2'	2:1:1260:A:C8	2.42	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:1592:C:H2'	2:1:1593:A:C8	2.42	0.55
2:1:1868:C:C2'	2:1:1869:G:H5'	2.37	0.55
2:1:2353:G:H4'	26:w:28:LEU:HD23	1.89	0.55
8:e:4:HIS:ND1	8:e:93:GLU:OE1	2.40	0.55
13:j:57:LEU:HD21	13:j:130:HIS:HB3	1.89	0.55
47:Q:99:GLY:N	47:Q:103:CYS:O	2.38	0.55
52:V:14:ASP:OD1	52:V:14:ASP:N	2.40	0.55
1:3:723:U:H6	56:Z:48:LYS:HD3	1.72	0.55
1:3:1002:G:H2'	1:3:1003:G:O4'	2.07	0.55
2:1:627:A:C8	15:l:111:ILE:HD12	2.42	0.55
2:1:713:G:C3'	2:1:714:U:H5''	2.36	0.55
2:1:859:G:O2'	2:1:860:U:H5	1.90	0.55
2:1:954:G:OP2	16:m:16:ARG:NH1	2.37	0.55
2:1:974:G:H4'	21:r:78:ARG:NH1	2.22	0.55
2:1:2628:C:H3'	2:1:2629:U:H5'	1.89	0.55
2:1:2683:C:H5'	6:c:13:ARG:NH2	2.22	0.55
3:2:77:U:O2'	3:2:78:A:H5'	2.07	0.55
4:6:36:U:H2'	4:6:37:A:C8	2.42	0.55
6:c:33:ARG:NH1	6:c:74:GLU:O	2.40	0.55
20:q:16:ILE:HG13	20:q:38:VAL:HG21	1.88	0.55
24:u:27:VAL:HG12	24:u:33:VAL:HG12	1.87	0.55
36:5:15:G:C8	36:5:16:C:H5	2.25	0.55
38:H:25:THR:HA	38:H:28:PHE:HB2	1.88	0.55
40:J:39:GLY:HA3	40:J:45:VAL:HA	1.87	0.55
43:M:111:THR:HG23	43:M:114:ALA:H	1.71	0.55
1:3:41:G:H2'	1:3:42:G:H8	1.71	0.54
1:3:1444:U:H3	1:3:1458:G:H1	1.54	0.54
2:1:575:A:O2'	2:1:576:U:H5'	2.07	0.54
2:1:832:U:H5'	15:l:38:GLN:HB3	1.89	0.54
2:1:1484:U:H2'	2:1:1485:U:C6	2.42	0.54
2:1:2262:U:OP2	26:w:12:SER:HB2	2.07	0.54
7:d:170:ARG:NH2	7:d:174:GLY:O	2.39	0.54
15:l:110:VAL:HB	15:l:127:VAL:HG13	1.90	0.54
29:z:11:SER:OG	29:z:12:ALA:N	2.38	0.54
33:E:23:HIS:ND1	33:E:24:LYS:O	2.39	0.54
1:3:439:U:C5'	39:I:120:LYS:HG3	2.36	0.54
1:3:1368:A:H5''	44:N:113:LYS:HB3	1.88	0.54
2:1:1818:U:N3	5:b:152:GLN:HG3	2.22	0.54
2:1:2848:G:C8	19:p:94:ALA:HB2	2.42	0.54
7:d:1:MET:N	7:d:14:VAL:O	2.40	0.54
35:4:19:C:H2'	35:4:20:C:C6	2.42	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:W:33:THR:HG23	53:W:35:SER:H	1.73	0.54
1:3:744:C:H2'	1:3:745:G:H8	1.73	0.54
1:3:780:A:C2'	1:3:781:A:H5''	2.37	0.54
1:3:894:G:H2'	1:3:895:G:H8	1.72	0.54
1:3:1429:A:H2'	1:3:1430:A:H8	1.71	0.54
2:1:26:G:H4'	2:1:1260:A:O2'	2.07	0.54
2:1:695:G:H1	2:1:767:U:H3	1.53	0.54
2:1:2785:C:H4'	6:c:36:GLN:HE22	1.73	0.54
34:F:18:LYS:HD2	34:F:23:ILE:HG12	1.89	0.54
37:G:209:VAL:HG22	37:G:213:LEU:HB2	1.90	0.54
51:U:5:ARG:NH2	51:U:26:ASN:O	2.40	0.54
1:3:460:A:H2'	1:3:461:A:O4'	2.06	0.54
2:1:404:A:H1'	2:1:406:G:C1'	2.37	0.54
2:1:862:G:H2'	2:1:863:A:O4'	2.06	0.54
2:1:1479:G:H1	2:1:1512:C:H42	1.54	0.54
5:b:128:THR:HG22	5:b:188:ARG:HG2	1.89	0.54
15:l:96:LYS:HG2	15:l:101:ILE:HD11	1.88	0.54
18:o:26:LEU:HA	18:o:39:VAL:HA	1.89	0.54
49:S:26:LEU:HD22	49:S:46:LYS:HZ3	1.72	0.54
54:X:49:ALA:HB1	54:X:56:HIS:HB3	1.89	0.54
1:3:528:C:H41	47:Q:45:ASN:HB3	1.72	0.54
1:3:660:C:H2'	1:3:661:G:O4'	2.07	0.54
1:3:923:A:OP1	40:J:25:LYS:HE3	2.07	0.54
1:3:1086:U:H2'	1:3:1087:G:H8	1.73	0.54
1:3:1330:U:H3	48:R:97:ARG:NH2	2.05	0.54
2:1:1062:G:H21	12:i:134:SER:HB3	1.73	0.54
2:1:1268:A:H2'	2:1:1269:A:O4'	2.08	0.54
2:1:2230:G:H1'	27:x:31:ASN:HD22	1.72	0.54
5:b:257:ARG:NH2	5:b:262:THR:OG1	2.40	0.54
8:e:72:SER:HB2	8:e:80:GLN:HB2	1.88	0.54
29:z:36:GLU:O	29:z:37:ARG:NH1	2.33	0.54
41:K:3:HIS:HA	41:K:65:GLU:HA	1.89	0.54
45:O:5:ARG:HE	45:O:79:PRO:HB3	1.71	0.54
45:O:7:ARG:HD2	45:O:73:LEU:HD11	1.88	0.54
52:V:26:ARG:NH1	52:V:40:THR:O	2.40	0.54
1:3:1316:G:H2'	1:3:1317:C:H5''	1.89	0.54
2:1:409:G:H1	2:1:418:C:H42	1.54	0.54
2:1:859:G:N2	2:1:916:G:H3'	2.22	0.54
2:1:2008:C:H2'	2:1:2009:A:H8	1.72	0.54
2:1:2674:G:H2'	2:1:2675:A:C8	2.42	0.54
6:c:38:LYS:NZ	6:c:81:GLU:OE2	2.34	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:q:38:VAL:O	20:q:42:GLY:N	2.40	0.54
43:M:53:ASP:N	43:M:53:ASP:OD1	2.40	0.54
44:N:16:ALA:HA	44:N:66:VAL:HG12	1.89	0.54
45:O:88:MET:HG3	45:O:89:ARG:HE	1.73	0.54
55:Y:45:ALA:O	55:Y:49:ALA:N	2.39	0.54
1:3:162:A:H2'	1:3:163:C:O4'	2.07	0.54
1:3:346:G:O2'	1:3:347:G:H4'	2.07	0.54
2:1:306:U:H2'	2:1:307:G:O4'	2.08	0.54
2:1:706:A:H2'	2:1:707:G:O4'	2.08	0.54
2:1:1077:A:C2'	2:1:1078:U:H5'	2.37	0.54
2:1:1363:C:OP1	27:x:49:ARG:NH2	2.41	0.54
2:1:1676:A:H2'	2:1:1677:A:O4'	2.08	0.54
2:1:1872:A:H2'	2:1:1873:G:H5'	1.90	0.54
2:1:1930:G:O2'	2:1:1931:U:H6	1.90	0.54
2:1:2743:U:H3'	2:1:2744:G:H5''	1.90	0.54
13:j:1:MET:HE3	21:r:13:ARG:HH21	1.71	0.54
37:G:129:THR:HG23	37:G:132:GLU:H	1.71	0.54
39:I:10:LEU:HD13	39:I:62:ARG:HB3	1.89	0.54
1:3:357:G:OP1	1:3:367:U:H6	1.90	0.54
1:3:560:A:N1	1:3:566:G:H5'	2.23	0.54
1:3:759:A:C3'	1:3:760:G:H5''	2.37	0.54
1:3:1080:A:C2	1:3:1081:A:H1'	2.43	0.54
1:3:1347:G:H22	1:3:1373:G:H2'	1.72	0.54
1:3:1507:A:H61	1:3:1528:U:H3	1.56	0.54
2:1:487:C:H2'	2:1:488:G:O4'	2.07	0.54
2:1:948:C:H2'	2:1:949:G:C8	2.42	0.54
2:1:1186:G:H2'	2:1:1187:G:O4'	2.08	0.54
2:1:1798:U:C4	2:1:1819:A:C2	2.96	0.54
3:2:54:G:N2	8:e:25:MET:HE3	2.23	0.54
4:6:26:G:C2	4:6:27:U:H1'	2.43	0.54
6:c:46:ARG:HH21	6:c:86:GLU:HA	1.73	0.54
9:f:144:ALA:HA	9:f:147:LEU:HD12	1.89	0.54
12:i:112:LYS:HG2	12:i:124:MET:HE2	1.90	0.54
37:G:33:ALA:HB3	37:G:37:VAL:HG13	1.90	0.54
38:H:57:GLU:HG3	38:H:59:PRO:HD3	1.89	0.54
48:R:77:LYS:HA	48:R:80:MET:HE3	1.90	0.54
1:3:613:C:H2'	1:3:614:C:C6	2.42	0.54
1:3:616:G:H2'	1:3:617:G:H8	1.72	0.54
1:3:978:A:H61	1:3:1316:G:H21	1.54	0.54
1:3:1007:U:H2'	1:3:1008:U:C6	2.42	0.54
1:3:1366:C:H2'	1:3:1367:C:C6	2.43	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:3:1499:A:O2'	1:3:1520:C:H4'	2.07	0.54
2:1:245:G:OP1	15:l:67:THR:HB	2.08	0.54
2:1:2015:A:N1	30:B:2:VAL:HG13	2.22	0.54
2:1:2590:A:H2'	2:1:2591:C:H6	1.73	0.54
2:1:2593:U:O2	2:1:2600:A:N1	2.41	0.54
10:g:1:MET:O	10:g:2:GLN:NE2	2.41	0.54
21:r:60:LYS:O	21:r:99:THR:OG1	2.25	0.54
36:5:29:U:H2'	36:5:30:G:H8	1.73	0.54
42:L:64:ALA:HA	42:L:67:ASN:HD22	1.73	0.54
55:Y:54:GLN:HA	55:Y:57:VAL:HG22	1.90	0.54
1:3:64:G:H2'	1:3:99:C:H41	1.72	0.54
1:3:1379:G:H21	1:3:1382:C:H42	1.55	0.54
2:1:2262:U:H2'	2:1:2263:C:C5	2.43	0.54
2:1:2682:A:H2'	2:1:2682:A:N3	2.23	0.54
2:1:2757:A:H2'	2:1:2757:A:N3	2.23	0.54
2:1:2804:U:H2'	2:1:2805:C:C6	2.42	0.54
5:b:34:GLU:HG3	5:b:63:ILE:HD11	1.90	0.54
11:a:185:LEU:HA	11:a:188:ASN:HB2	1.89	0.54
41:K:50:PRO:HB3	41:K:53:LYS:HA	1.90	0.54
51:U:46:LYS:HZ3	51:U:48:GLU:H	1.56	0.54
1:3:538:G:OP1	47:Q:109:ARG:HG2	2.07	0.53
1:3:1422:G:H4'	14:k:48:PRO:HB3	1.89	0.53
2:1:500:G:C3'	2:1:501:A:H5''	2.38	0.53
2:1:771:G:OP1	32:D:14:ARG:HD3	2.08	0.53
2:1:803:U:H2'	2:1:804:A:H5'	1.90	0.53
2:1:2380:C:H2'	2:1:2381:A:C8	2.43	0.53
2:1:2575:C:H5'	6:c:149:ASN:HB2	1.90	0.53
5:b:140:VAL:HG12	5:b:191:LEU:HA	1.88	0.53
41:K:38:ARG:HH21	41:K:40:GLU:HG3	1.73	0.53
1:3:403:C:H2'	1:3:404:G:H8	1.72	0.53
1:3:939:G:H2'	1:3:940:C:C6	2.43	0.53
1:3:1100:C:N3	1:3:1102:A:H5'	2.22	0.53
1:3:1218:C:H2'	1:3:1219:A:H8	1.73	0.53
1:3:1235:U:H3'	1:3:1236:A:H5''	1.89	0.53
2:1:494:G:H4'	22:s:6:LYS:HG3	1.89	0.53
2:1:969:G:H2'	2:1:970:U:C6	2.42	0.53
5:b:60:ALA:O	5:b:62:ARG:NH1	2.40	0.53
5:b:130:PRO:HA	5:b:188:ARG:HA	1.90	0.53
39:I:69:ARG:HA	39:I:72:ARG:HD2	1.89	0.53
42:L:109:LYS:O	42:L:118:ARG:NH1	2.42	0.53
1:3:268:U:C3'	1:3:269:C:H5''	2.37	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:3:361:G:H2'	1:3:362:G:O4'	2.08	0.53
2:1:958:U:H5'	2:1:959:A:H5''	1.89	0.53
36:5:46:G:H2'	36:5:47:U:H4'	1.89	0.53
1:3:545:C:O2'	1:3:549:C:H5''	2.09	0.53
1:3:1015:G:H2'	1:3:1016:A:O4'	2.09	0.53
1:3:1060:U:H2'	1:3:1061:G:C8	2.44	0.53
1:3:1475:G:H4'	2:1:1689:A:H4'	1.91	0.53
2:1:79:C:O2'	2:1:346:A:H1'	2.07	0.53
2:1:1940:U:H3'	2:1:1940:U:OP2	2.08	0.53
2:1:2143:C:H2'	2:1:2144:G:O4'	2.08	0.53
2:1:2261:C:H1'	2:1:2388:A:N3	2.23	0.53
2:1:2632:A:H2'	2:1:2633:G:C8	2.44	0.53
3:2:32:U:H2'	3:2:33:G:C8	2.43	0.53
28:y:4:LYS:O	28:y:7:ARG:NH1	2.41	0.53
39:I:32:LYS:HB3	39:I:35:GLN:HB3	1.89	0.53
1:3:929:G:H2'	1:3:930:C:C6	2.44	0.53
1:3:1318:A:H4'	54:X:9:PHE:CE2	2.43	0.53
1:3:1477:U:H2'	1:3:1478:U:H6	1.71	0.53
2:1:35:G:H2'	2:1:36:G:O4'	2.08	0.53
2:1:660:C:H2'	2:1:661:A:H8	1.72	0.53
2:1:672:C:O2'	2:1:673:C:H5'	2.09	0.53
2:1:1599:U:H2'	2:1:1600:C:C6	2.44	0.53
2:1:2087:G:H2'	2:1:2088:A:C8	2.43	0.53
2:1:2213:U:H5''	2:1:2214:C:OP2	2.08	0.53
10:g:47:PHE:HA	10:g:51:ARG:HB3	1.90	0.53
16:m:25:ASP:N	16:m:25:ASP:OD1	2.39	0.53
22:s:54:ALA:O	22:s:58:ALA:N	2.41	0.53
24:u:12:VAL:HA	24:u:69:VAL:HA	1.91	0.53
39:I:64:TYR:O	39:I:96:ARG:NH1	2.42	0.53
41:K:69:GLU:HG2	41:K:70:VAL:HG13	1.90	0.53
50:T:38:LEU:HD22	50:T:55:LEU:HD13	1.90	0.53
1:3:826:C:H4'	43:M:12:ARG:HG2	1.91	0.53
1:3:1311:A:H2'	1:3:1312:G:O4'	2.08	0.53
2:1:639:U:H2'	2:1:640:C:C6	2.44	0.53
2:1:644:A:O2'	2:1:645:C:H5'	2.08	0.53
2:1:989:G:C6	29:z:13:ILE:HD11	2.44	0.53
2:1:1425:G:H2'	2:1:1426:G:C8	2.44	0.53
2:1:2075:U:H1'	2:1:2597:G:H21	1.74	0.53
3:2:119:A:H2'	3:2:120:A:O4'	2.09	0.53
5:b:120:ASP:N	5:b:120:ASP:OD1	2.39	0.53
11:a:56:ASP:O	11:a:203:GLN:NE2	2.41	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:C:33:LEU:HB3	31:C:50:GLU:HB3	1.90	0.53
40:J:155:LYS:NZ	43:M:70:VAL:O	2.41	0.53
42:L:16:LYS:HD2	44:N:44:ARG:HH21	1.73	0.53
47:Q:34:THR:N	47:Q:53:ARG:O	2.41	0.53
54:X:21:ALA:O	54:X:25:GLY:N	2.42	0.53
1:3:8:A:N7	39:I:205:LYS:HB3	2.23	0.53
1:3:1349:A:H2'	1:3:1350:A:O4'	2.07	0.53
2:1:178:G:H2'	2:1:179:C:C6	2.44	0.53
2:1:818:G:O2'	2:1:819:A:H5''	2.08	0.53
2:1:1150:C:H2'	2:1:1151:A:C8	2.44	0.53
2:1:1885:A:H2'	2:1:1886:U:H5'	1.91	0.53
2:1:2845:U:H2'	2:1:2846:G:C8	2.44	0.53
16:m:33:LEU:HD11	16:m:128:THR:HB	1.91	0.53
48:R:10:ASP:OD1	48:R:10:ASP:N	2.41	0.53
2:1:2755:C:H6	2:1:2755:C:H5'	1.74	0.53
6:c:25:THR:OG1	6:c:191:GLY:O	2.27	0.53
41:K:63:ASN:ND2	41:K:96:VAL:O	2.42	0.53
48:R:66:GLY:O	48:R:70:ARG:NH1	2.38	0.53
52:V:25:GLU:HA	52:V:40:THR:HA	1.91	0.53
1:3:297:G:H2'	1:3:298:A:H5''	1.90	0.53
1:3:916:U:H2'	1:3:917:G:C8	2.42	0.53
1:3:1531:A:O2'	1:3:1532:U:H5'	2.09	0.53
2:1:76:C:H2'	2:1:77:G:H8	1.73	0.53
2:1:788:A:H1'	32:D:4:THR:HG21	1.89	0.53
2:1:796:C:H2'	2:1:797:G:C8	2.44	0.53
2:1:1201:U:H2'	2:1:1202:G:C8	2.44	0.53
8:e:1:ALA:N	8:e:97:GLU:OE1	2.41	0.53
47:Q:89:LEU:O	47:Q:91:GLY:N	2.41	0.53
1:3:526:C:H2'	1:3:527:G:C4'	2.38	0.53
1:3:1528:U:H4'	1:3:1529:G:H21	1.74	0.53
2:1:1818:U:C5	5:b:155:ARG:CZ	2.92	0.53
2:1:2127:G:H4'	11:a:38:PHE:CE1	2.44	0.53
2:1:2449:U:O2'	2:1:2501:C:N4	2.41	0.53
5:b:141:HIS:ND1	5:b:192:GLY:O	2.42	0.53
22:s:77:ASP:N	22:s:77:ASP:OD1	2.41	0.53
38:H:6:PRO:HB2	38:H:181:ILE:HD11	1.90	0.53
47:Q:32:VAL:HA	47:Q:78:VAL:HA	1.91	0.53
1:3:18:C:H4'	1:3:1078:U:C5	2.43	0.52
1:3:1307:U:C3'	48:R:97:ARG:H	2.11	0.52
2:1:358:U:H2'	2:1:359:G:H8	1.74	0.52
2:1:1785:A:H2	2:1:2588:G:H21	1.55	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:H:11:LEU:HD11	49:S:88:MET:HA	1.91	0.52
45:O:36:VAL:HG12	45:O:76:ILE:HG23	1.91	0.52
1:3:409:U:OP1	39:I:23:GLY:HA3	2.09	0.52
1:3:428:G:OP2	39:I:9:LYS:NZ	2.41	0.52
1:3:509:A:H5'	39:I:50:TYR:HB3	1.90	0.52
1:3:1232:U:H5'	44:N:125:GLN:HB3	1.91	0.52
2:1:765:C:H2'	2:1:766:U:C6	2.45	0.52
2:1:1108:U:H2'	2:1:1109:C:O4'	2.09	0.52
2:1:1708:C:H2'	2:1:1709:U:C6	2.44	0.52
2:1:1981:A:H5''	2:1:1982:U:OP2	2.10	0.52
7:d:150:THR:OG1	7:d:152:GLU:OE2	2.28	0.52
23:t:57:VAL:H	23:t:86:THR:HG1	1.56	0.52
24:u:12:VAL:HG12	24:u:69:VAL:HG12	1.90	0.52
37:G:46:VAL:HA	37:G:49:PHE:HB3	1.90	0.52
40:J:104:ILE:O	40:J:111:ARG:NH1	2.40	0.52
43:M:112:ASP:N	43:M:112:ASP:OD1	2.42	0.52
1:3:821:G:H2'	1:3:822:U:C6	2.44	0.52
1:3:1073:U:H4'	37:G:104:LYS:HZ1	1.71	0.52
2:1:310:A:O2'	2:1:311:A:H5''	2.09	0.52
2:1:2720:U:H5''	19:p:52:ARG:HH21	1.74	0.52
2:1:2880:C:H1'	17:n:92:GLY:C	2.35	0.52
9:f:60:GLY:O	9:f:64:ALA:N	2.43	0.52
17:n:2:ARG:HH21	17:n:5:LYS:HB3	1.74	0.52
17:n:100:CYS:SG	17:n:101:GLY:N	2.83	0.52
20:q:18:LYS:HA	20:q:21:LYS:HG2	1.91	0.52
20:q:21:LYS:HA	20:q:28:SER:HB2	1.90	0.52
21:r:7:SER:OG	21:r:8:GLY:N	2.43	0.52
36:5:17:U:H2'	36:5:17(A):U:C5	2.44	0.52
1:3:12:U:C2'	1:3:13:U:H5''	2.38	0.52
1:3:443:C:H2'	1:3:444:G:C8	2.42	0.52
1:3:705:G:H2'	1:3:706:A:H5'	1.91	0.52
1:3:1089:G:N1	1:3:1090:U:H1'	2.25	0.52
2:1:215:G:C4'	2:1:216:A:H4'	2.35	0.52
2:1:822:G:H2'	2:1:823:C:C6	2.44	0.52
2:1:861:A:H2'	2:1:862:G:H8	1.73	0.52
2:1:935:C:H2'	2:1:936:A:H8	1.74	0.52
2:1:1076:C:H2'	2:1:1077:A:C8	2.44	0.52
2:1:1483:G:H1'	2:1:1509:A:H2	1.74	0.52
2:1:2291:U:H2'	2:1:2292:U:C6	2.44	0.52
3:2:76:G:H21	25:v:78:GLN:HE22	1.55	0.52
11:a:41:SER:HB2	11:a:177:LYS:HE3	1.90	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:V:10:ARG:HB3	52:V:23:ALA:HB3	1.92	0.52
1:3:483:C:H2'	1:3:484:G:C8	2.44	0.52
1:3:1510:C:H42	1:3:1525:G:H1	1.55	0.52
2:1:567:U:H4'	2:1:808:G:P	2.49	0.52
2:1:811:U:H5''	15:l:22:GLY:H	1.74	0.52
2:1:1182:G:H2'	2:1:1183:U:O4'	2.09	0.52
2:1:2742:G:H1	2:1:2762:C:H42	1.58	0.52
19:p:47:ILE:N	19:p:59:THR:O	2.39	0.52
20:q:48:ASP:HA	20:q:51:GLN:HB2	1.91	0.52
37:G:68:PHE:HD2	37:G:83:ALA:HB2	1.74	0.52
1:3:17:U:H2'	1:3:18:C:C6	2.44	0.52
1:3:195:A:H2'	1:3:196:A:C8	2.45	0.52
1:3:1058:G:OP1	38:H:198:LYS:HE3	2.10	0.52
2:1:326:G:H2'	2:1:327:G:C8	2.44	0.52
2:1:409:G:O2'	2:1:410:G:H5'	2.10	0.52
2:1:1039:A:H4'	25:v:45:ASP:OD2	2.09	0.52
2:1:1516:G:O2'	2:1:1517:G:H5'	2.09	0.52
2:1:2561:U:H4'	14:k:40:LYS:HD3	1.92	0.52
18:o:104:GLN:O	18:o:108:ASP:N	2.42	0.52
37:G:152:ASP:N	37:G:152:ASP:OD1	2.41	0.52
42:L:148:LYS:HE2	56:Z:13:VAL:HG13	1.92	0.52
48:R:49:GLU:HA	48:R:52:ILE:HB	1.91	0.52
52:V:16:MET:HE3	52:V:20:ILE:HA	1.91	0.52
1:3:494:G:H2'	1:3:496:A:C8	2.35	0.52
2:1:796:C:H2'	2:1:797:G:H8	1.73	0.52
2:1:1655:A:C2	2:1:2049:G:H4'	2.45	0.52
3:2:39:A:O2'	3:2:40:U:H5'	2.09	0.52
6:c:9:VAL:HB	6:c:26:VAL:HG23	1.91	0.52
7:d:37:ALA:HB1	7:d:92:HIS:HD2	1.75	0.52
14:k:30:ARG:NH2	14:k:37:ASP:OD1	2.42	0.52
16:m:38:ARG:HB3	16:m:98:PRO:HG3	1.90	0.52
17:n:37:THR:HG23	17:n:40:LYS:HB3	1.91	0.52
46:P:114:PRO:HB3	53:W:72:ARG:HH22	1.75	0.52
49:S:5:MET:HG3	49:S:62:ARG:HH22	1.74	0.52
1:3:945:G:H21	1:3:1334:G:H4'	1.75	0.52
1:3:1299:A:H2'	1:3:1300:G:H4'	1.92	0.52
2:1:64:A:H2'	2:1:65:U:C6	2.45	0.52
2:1:859:G:O2'	2:1:860:U:C5	2.61	0.52
2:1:995:C:H6	2:1:995:C:H5'	1.74	0.52
2:1:2294:G:O2'	2:1:2295:C:H5'	2.09	0.52
3:2:114:C:H2'	3:2:115:A:C8	2.45	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:6:13:C:C3'	4:6:14:A:H5''	2.16	0.52
7:d:170:ARG:NH1	7:d:179:SER:OG	2.43	0.52
19:p:31:VAL:O	19:p:38:ARG:N	2.42	0.52
25:v:9:ARG:HH21	25:v:12:GLN:HG2	1.74	0.52
39:I:107:GLY:HA2	39:I:112:GLU:HG3	1.91	0.52
1:3:790:A:H61	1:3:1497:G:H5'	1.74	0.52
1:3:905:U:H2'	1:3:906:A:O4'	2.10	0.52
1:3:1228:C:H2'	1:3:1229:A:H5''	1.91	0.52
1:3:1307:U:H6	48:R:97:ARG:HB2	1.73	0.52
2:1:974:G:H4'	21:r:78:ARG:NH2	2.25	0.52
2:1:1287:A:N7	17:n:105:GLY:HA3	2.25	0.52
2:1:1826:G:H2'	2:1:1827:U:C6	2.45	0.52
2:1:2345:G:N3	2:1:2381:A:H2'	2.24	0.52
2:1:2368:C:H2'	2:1:2369:A:H8	1.74	0.52
3:2:29:A:H2'	3:2:30:C:H6	1.75	0.52
6:c:110:THR:HG22	6:c:171:THR:HG23	1.91	0.52
13:j:98:GLU:OE2	13:j:126:ALA:N	2.42	0.52
14:k:40:LYS:HE2	14:k:59:LYS:HZ3	1.73	0.52
22:s:84:ARG:O	22:s:96:ILE:N	2.33	0.52
29:z:8:GLN:HB2	29:z:32:GLY:H	1.75	0.52
37:G:101:THR:HG23	37:G:174:GLU:CB	2.40	0.52
42:L:38:ALA:O	42:L:42:VAL:N	2.42	0.52
1:3:759:A:H3'	1:3:760:G:C5'	2.40	0.52
2:1:1168:G:H3'	2:1:1169:A:H5''	1.92	0.52
2:1:1395:A:O2'	2:1:1396:U:H3'	2.10	0.52
2:1:2512:C:H2'	2:1:2513:A:C1'	2.39	0.52
4:6:34:C:H2'	4:6:35:A:H8	1.75	0.52
19:p:62:LYS:HG3	19:p:64:SER:HB3	1.92	0.52
44:N:112:ARG:HH21	45:O:48:ARG:HH11	1.56	0.52
45:O:54:SER:OG	45:O:61:ALA:O	2.28	0.52
1:3:123:U:H5''	1:3:311:C:O2'	2.10	0.51
1:3:855:U:H2'	1:3:856:C:O4'	2.10	0.51
1:3:879:C:O2'	1:3:880:C:H5'	2.10	0.51
1:3:1347:G:H5''	44:N:108:ARG:HB3	1.92	0.51
2:1:764:A:OP2	5:b:212:TRP:HZ3	1.92	0.51
2:1:2806:C:H42	2:1:2892:G:H1	1.58	0.51
3:2:29:A:H2'	3:2:30:C:C6	2.45	0.51
22:s:10:ALA:O	22:s:101:SER:N	2.42	0.51
38:H:189:HIS:HB3	38:H:194:VAL:HG12	1.92	0.51
42:L:69:ARG:O	42:L:137:ARG:NH1	2.43	0.51
42:L:125:ASP:O	42:L:130:LYS:N	2.36	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:3:670:G:H2'	1:3:671:G:O4'	2.10	0.51
1:3:1124:G:H5''	1:3:1145:A:O2'	2.10	0.51
1:3:1190:G:OP2	1:3:1190:G:H8	1.93	0.51
1:3:1438:G:H1	1:3:1463:U:H3	1.58	0.51
2:1:563:A:H1'	20:q:36:GLN:HE21	1.74	0.51
2:1:766:U:H2'	2:1:767:U:C6	2.46	0.51
2:1:834:G:H1'	2:1:2358:A:N3	2.25	0.51
2:1:2018:G:C6	2:1:2019:A:C6	2.98	0.51
17:n:76:VAL:HA	17:n:79:LEU:HB2	1.92	0.51
37:G:41:ASN:O	37:G:45:THR:OG1	2.27	0.51
39:I:176:LYS:NZ	39:I:178:GLU:OE1	2.43	0.51
52:V:46:HIS:CG	52:V:66:LEU:HD22	2.45	0.51
1:3:1057:G:H3'	1:3:1058:G:H8	1.76	0.51
2:1:2369:A:H2'	2:1:2370:G:C8	2.45	0.51
8:e:111:ARG:NE	54:X:62:THR:OG1	2.42	0.51
9:f:37:ASN:HD22	9:f:39:ALA:H	1.57	0.51
43:M:8:ASP:HA	43:M:11:THR:HG22	1.92	0.51
1:3:237:G:H2'	1:3:238:A:O4'	2.09	0.51
2:1:361:G:O2'	2:1:362:A:H5'	2.10	0.51
2:1:458:G:N2	2:1:469:G:H2'	2.25	0.51
2:1:849:A:H2'	2:1:850:U:C6	2.46	0.51
2:1:1343:G:O4'	2:1:1597:A:H2'	2.10	0.51
2:1:2075:U:H3'	2:1:2238:G:N2	2.25	0.51
2:1:2743:U:C3'	2:1:2744:G:H5''	2.41	0.51
2:1:2835:A:H61	2:1:2878:U:H2'	1.76	0.51
2:1:2873:A:H5''	17:n:6:SER:HB2	1.93	0.51
16:m:51:ARG:HE	16:m:55:ARG:HH21	1.57	0.51
18:o:30:ARG:HD2	18:o:102:ARG:HH21	1.75	0.51
20:q:110:GLU:HA	20:q:113:LYS:HB2	1.92	0.51
37:G:67:LEU:HD12	37:G:89:PHE:O	2.11	0.51
1:3:17:U:H1'	1:3:1080:A:C8	2.43	0.51
1:3:256:U:H2'	1:3:257:G:C8	2.46	0.51
1:3:386:C:C3'	1:3:387:U:H5''	2.40	0.51
1:3:502:A:H4'	47:Q:115:LYS:HZ1	1.75	0.51
1:3:502:A:H4'	47:Q:115:LYS:NZ	2.26	0.51
1:3:545:C:OP1	39:I:68:GLU:HG2	2.09	0.51
2:1:445:C:OP1	20:q:1:ALA:N	2.44	0.51
2:1:782:A:H2'	5:b:219:VAL:HG11	1.92	0.51
2:1:964:C:C3'	2:1:965:C:H5''	2.41	0.51
2:1:994:C:H3'	20:q:53:LYS:HE2	1.91	0.51
2:1:1775:U:H2'	2:1:1776:G:C4'	2.40	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:1956:U:H2'	2:1:1957:C:H5'	1.92	0.51
2:1:2050:C:O2	6:c:161:MET:HE1	2.11	0.51
2:1:2086:U:H2'	2:1:2087:G:C8	2.46	0.51
2:1:2395:C:N4	2:1:2421:G:H1	2.06	0.51
2:1:2626:C:O2'	2:1:2627:G:H5'	2.10	0.51
28:y:49:ASP:HA	28:y:52:ARG:HB2	1.92	0.51
40:J:91:SER:OG	40:J:92:ARG:N	2.42	0.51
50:T:86:LEU:HD12	50:T:87:ARG:HB2	1.92	0.51
54:X:46:LEU:HB3	54:X:48:ILE:HG23	1.92	0.51
1:3:734:G:H2'	1:3:735:C:H6	1.76	0.51
2:1:1098:A:H4'	12:i:4:VAL:HG21	1.91	0.51
2:1:1197:G:H2'	2:1:1198:U:C6	2.45	0.51
2:1:1537:G:H2'	2:1:1538:G:C4'	2.40	0.51
2:1:1770:G:H4'	2:1:1938:A:OP1	2.11	0.51
2:1:2086:U:H2'	2:1:2087:G:H8	1.76	0.51
2:1:2306:C:H3'	2:1:2307:G:C5'	2.40	0.51
2:1:2563:U:H2'	2:1:2565:A:OP2	2.11	0.51
2:1:2852:G:H2'	2:1:2853:C:C6	2.46	0.51
2:1:2854:G:H2'	2:1:2855:C:H6	1.75	0.51
5:b:36:ASN:O	5:b:58:LYS:NZ	2.43	0.51
6:c:129:THR:OG1	6:c:130:GLN:N	2.42	0.51
7:d:138:LEU:HD22	7:d:146:VAL:HG11	1.92	0.51
13:j:19:ASP:O	13:j:23:LYS:NZ	2.41	0.51
13:j:53:TYR:HA	13:j:121:LYS:HG2	1.93	0.51
19:p:59:THR:HG22	19:p:72:VAL:HG12	1.93	0.51
50:T:1:SER:OG	50:T:34:GLN:NE2	2.40	0.51
1:3:579:A:O2'	50:T:53:ARG:NH2	2.43	0.51
1:3:680:C:H42	1:3:710:G:H1	1.59	0.51
1:3:964:A:H5''	1:3:965:U:C6	2.45	0.51
1:3:1233:G:H2'	1:3:1234:C:C6	2.46	0.51
2:1:176:A:H3'	2:1:177:G:H21	1.75	0.51
2:1:688:U:C4'	2:1:1780:A:H2	2.22	0.51
2:1:1076:C:H2'	2:1:1077:A:O4'	2.11	0.51
2:1:1162:G:H2'	2:1:1163:G:H8	1.75	0.51
42:L:121:ASN:O	42:L:125:ASP:N	2.40	0.51
1:3:18:C:H4'	1:3:1078:U:H5	1.76	0.51
1:3:264:C:H2'	1:3:265:G:O4'	2.11	0.51
1:3:1358:U:H5	1:3:1359:C:C4	2.29	0.51
2:1:531:C:O2'	2:1:563:A:H5''	2.11	0.51
2:1:862:G:N2	2:1:863:A:H1'	2.26	0.51
2:1:879:G:H2'	2:1:880:G:H8	1.74	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:974:G:H4'	21:r:78:ARG:HH12	1.76	0.51
2:1:2052:A:N3	6:c:153:GLY:O	2.43	0.51
2:1:2785:C:H2'	2:1:2786:U:O4'	2.11	0.51
3:2:115:A:H2'	3:2:116:G:H8	1.76	0.51
5:b:153:LEU:HD21	5:b:175:LEU:HD21	1.93	0.51
37:G:61:SER:OG	37:G:62:ARG:NH2	2.44	0.51
47:Q:56:LEU:HD13	47:Q:58:ASN:HD21	1.75	0.51
52:V:10:ARG:HG3	52:V:57:VAL:HG22	1.93	0.51
53:W:14:ALA:HA	53:W:50:TYR:HD2	1.76	0.51
1:3:139:A:H2'	1:3:140:U:H5'	1.92	0.51
1:3:964:A:H5''	1:3:965:U:C5	2.46	0.51
1:3:1432:G:H1'	1:3:1468:A:H62	1.76	0.51
2:1:85:G:C5'	24:u:27:VAL:HG23	2.41	0.51
2:1:191:A:O2'	2:1:192:C:H5'	2.11	0.51
2:1:433:C:H2'	2:1:434:U:C6	2.46	0.51
2:1:2485:G:H5''	16:m:45:GLN:NE2	2.20	0.51
2:1:2642:G:H4'	13:j:80:HIS:CE1	2.45	0.51
9:f:174:LYS:HG2	9:f:175:LYS:HD2	1.93	0.51
38:H:155:ARG:NH1	38:H:160:GLU:OE2	2.43	0.51
40:J:106:ALA:HB1	40:J:110:MET:HB3	1.93	0.51
44:N:29:ILE:N	44:N:32:ARG:O	2.41	0.51
55:Y:13:SER:O	55:Y:17:ARG:N	2.43	0.51
1:3:243:A:N6	1:3:281:G:H1'	2.26	0.51
1:3:723:U:OP1	56:Z:48:LYS:HB2	2.11	0.51
1:3:971:G:H2'	1:3:1365:G:O2'	2.11	0.51
1:3:1155:A:H2'	1:3:1156:G:C8	2.45	0.51
1:3:1376:U:O2'	1:3:1377:A:H5'	2.11	0.51
2:1:75:G:H22	2:1:111:A:H2	1.59	0.51
2:1:161:A:H2	2:1:2218:G:O4'	1.93	0.51
2:1:188:G:H2'	2:1:189:G:H5'	1.93	0.51
2:1:230:G:O2'	2:1:231:A:H5'	2.11	0.51
2:1:1602:U:O2'	2:1:1603:A:H5'	2.10	0.51
2:1:1820:U:C4	5:b:158:GLY:HA3	2.46	0.51
2:1:2087:G:H2'	2:1:2088:A:H8	1.75	0.51
2:1:2813:A:H2'	2:1:2814:A:O4'	2.11	0.51
3:2:30:C:H2'	3:2:31:C:H5'	1.91	0.51
6:c:35:THR:OG1	6:c:49:GLN:OE1	2.29	0.51
14:k:73:ASP:OD1	14:k:73:ASP:N	2.44	0.51
14:k:82:ASN:N	14:k:82:ASN:OD1	2.44	0.51
18:o:81:ARG:O	18:o:85:LYS:NZ	2.43	0.51
31:C:11:VAL:N	31:C:49:LYS:O	2.43	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:3:35:G:H2'	1:3:36:C:C6	2.46	0.50
1:3:509:A:H2	1:3:543:U:HO2'	1.59	0.50
1:3:550:G:H2'	1:3:551:U:C6	2.46	0.50
1:3:924:C:H2'	1:3:925:G:H8	1.76	0.50
1:3:956:U:H2'	1:3:957:U:O4'	2.10	0.50
1:3:1369:C:P	44:N:112:ARG:HB2	2.51	0.50
2:1:30:G:H2'	2:1:31:C:C6	2.46	0.50
2:1:1688:U:H2'	2:1:1698:A:C6	2.46	0.50
2:1:1951:U:H1'	2:1:1953:A:C8	2.47	0.50
2:1:2834:G:H2'	2:1:2879:A:H61	1.76	0.50
2:1:2892:G:H5''	2:1:2893:A:H5''	1.91	0.50
9:f:76:ILE:O	9:f:80:GLU:N	2.40	0.50
14:k:105:ARG:O	14:k:108:ARG:NH2	2.44	0.50
29:z:44:ARG:O	29:z:48:ASN:ND2	2.44	0.50
55:Y:75:LYS:O	55:Y:79:THR:OG1	2.27	0.50
2:1:2548:U:H2'	2:1:2549:G:O4'	2.11	0.50
2:1:2553:G:C2'	2:1:2554:U:H4'	2.29	0.50
5:b:49:THR:OG1	5:b:50:THR:N	2.41	0.50
26:w:45:ALA:HB3	26:w:77:SER:HB2	1.92	0.50
40:J:73:VAL:HG11	40:J:143:LEU:HD13	1.93	0.50
52:V:57:VAL:HB	52:V:79:GLU:HB2	1.92	0.50
1:3:1160:G:H22	1:3:1176:A:H61	1.59	0.50
2:1:185:G:H2'	2:1:186:G:O4'	2.10	0.50
2:1:358:U:H2'	2:1:359:G:C8	2.46	0.50
2:1:535:G:O2'	2:1:536:G:H5'	2.12	0.50
2:1:961:C:H1'	2:1:2031:A:H61	1.76	0.50
2:1:1086:A:H5'	2:1:1104:C:O2'	2.12	0.50
2:1:1300:G:C2	2:1:1626:A:N6	2.79	0.50
2:1:2391:G:H2'	2:1:2424:C:N4	2.26	0.50
11:a:45:ALA:HB1	11:a:170:ILE:HD11	1.94	0.50
43:M:46:GLU:O	43:M:61:THR:OG1	2.28	0.50
1:3:459:A:H2'	1:3:460:A:C8	2.47	0.50
1:3:852:G:H2'	1:3:853:C:H6	1.76	0.50
2:1:827:U:C5	2:1:2430:A:C5	2.99	0.50
2:1:1569:A:H2'	2:1:1570:A:C8	2.46	0.50
2:1:2297:A:H2	2:1:2322:A:H1'	1.76	0.50
2:1:2846:G:H5'	19:p:52:ARG:HH22	1.76	0.50
4:6:21:A:C8	4:6:47:U:O2	2.64	0.50
25:v:47:VAL:HA	25:v:50:MET:HB2	1.92	0.50
32:D:24:THR:OG1	32:D:25:LYS:N	2.43	0.50
44:N:104:THR:OG1	44:N:106:ASP:OD1	2.29	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:3:1157:A:C2	1:3:1181:G:C2	2.99	0.50
2:1:1310:G:H2'	2:1:1311:G:H5'	1.93	0.50
2:1:1329:U:H5''	2:1:1330:C:OP2	2.11	0.50
2:1:1466:U:C5'	2:1:1467:U:H5'	2.37	0.50
2:1:1851:U:H5''	4:6:3:C:O2'	2.11	0.50
2:1:1979:U:O2'	2:1:1980:G:H5'	2.12	0.50
2:1:2093:G:H5'	10:g:22:LYS:HB2	1.93	0.50
4:6:39:C:O2'	4:6:40:C:H5'	2.10	0.50
6:c:124:ARG:NH1	6:c:161:MET:O	2.44	0.50
13:j:112:GLY:O	13:j:116:ARG:NH2	2.44	0.50
17:n:12:ARG:NH2	17:n:20:MET:SD	2.83	0.50
17:n:43:GLU:OE1	17:n:45:ARG:NH2	2.45	0.50
37:G:69:VAL:CG1	37:G:162:VAL:HA	2.41	0.50
42:L:95:ARG:HA	42:L:98:LEU:HD12	1.94	0.50
1:3:386:C:H2'	1:3:387:U:C5'	2.38	0.50
1:3:454:G:H2'	1:3:455:G:H8	1.77	0.50
1:3:560:A:C3'	1:3:561:U:H5'	2.41	0.50
1:3:1290:G:H2'	1:3:1290:G:N3	2.26	0.50
2:1:494:G:H2'	2:1:495:G:H8	1.75	0.50
2:1:658:U:H2'	2:1:659:G:C5'	2.40	0.50
2:1:996:A:H2'	2:1:997:G:C8	2.46	0.50
2:1:2103:C:H2'	2:1:2104:C:C5	2.47	0.50
2:1:2193:G:H2'	2:1:2194:U:C6	2.47	0.50
2:1:2534:A:C2'	2:1:2535:G:H5''	2.42	0.50
7:d:92:HIS:NE2	7:d:94:GLN:OE1	2.42	0.50
39:I:129:VAL:HG13	39:I:131:ILE:HD12	1.93	0.50
54:X:45:GLY:N	54:X:61:VAL:O	2.44	0.50
1:3:113:G:H2'	1:3:114:U:C6	2.47	0.50
1:3:212:G:H2'	1:3:213:G:O4'	2.12	0.50
1:3:248:C:H2'	1:3:249:U:H5'	1.93	0.50
1:3:312:C:H2'	1:3:313:A:C8	2.47	0.50
1:3:1256:A:H5'	1:3:1258:G:H1'	1.94	0.50
1:3:1306:A:N1	48:R:108:ARG:NH2	2.60	0.50
2:1:407:G:H2'	2:1:408:G:H8	1.77	0.50
2:1:1843:C:H42	2:1:1897:G:H1	1.59	0.50
2:1:2368:C:H2'	2:1:2369:A:C8	2.46	0.50
2:1:2817:U:H3'	2:1:2818:U:H5''	1.94	0.50
18:o:5:SER:HA	18:o:8:ILE:HD12	1.94	0.50
36:5:23:C:H2'	36:5:24:G:C8	2.46	0.50
1:3:177:G:H5'	55:Y:59:ARG:NH2	2.27	0.50
1:3:319:G:H2'	1:3:320:A:C8	2.47	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:3:1429:A:H2'	1:3:1430:A:C8	2.47	0.50
2:1:1367:A:C5	2:1:1368:G:H1'	2.46	0.50
2:1:1989:G:H2'	2:1:1990:C:O4'	2.12	0.50
2:1:2078:C:H2'	2:1:2079:U:H6	1.77	0.50
2:1:2193:G:H2'	2:1:2194:U:H6	1.76	0.50
2:1:2298:A:OP1	8:e:70:ARG:NH1	2.45	0.50
7:d:149:ILE:HG23	7:d:188:MET:HA	1.92	0.50
9:f:29:ASN:ND2	9:f:77:GLY:O	2.45	0.50
43:M:10:LEU:HD22	43:M:74:ILE:HG21	1.93	0.50
49:S:42:ASN:HA	49:S:45:LEU:HG	1.94	0.50
1:3:78:A:N6	1:3:91:U:H3	1.93	0.50
1:3:482:A:C2'	1:3:483:C:H5'	2.41	0.50
1:3:599:C:OP1	43:M:87:ARG:HG2	2.11	0.50
1:3:962:C:H42	1:3:973:G:H1	1.59	0.50
1:3:1370:G:H2'	1:3:1371:G:H8	1.76	0.50
1:3:1408:A:H2'	1:3:1409:C:C6	2.47	0.50
1:3:1520:C:O2'	1:3:1521:C:H5'	2.12	0.50
2:1:267:C:H2'	2:1:268:C:C6	2.46	0.50
2:1:653:U:H3'	2:1:654:A:H5''	1.93	0.50
2:1:1498:C:H2'	2:1:1499:C:O4'	2.12	0.50
2:1:2309:A:H2'	2:1:2310:C:O4'	2.12	0.50
2:1:2454:G:H1	2:1:2498:C:H42	1.60	0.50
2:1:2712:C:OP1	2:1:2714:G:H4'	2.11	0.50
9:f:154:GLU:OE2	9:f:159:LYS:N	2.44	0.50
34:F:4:ARG:HH12	34:F:8:LYS:HZ1	1.59	0.50
39:I:171:GLU:HB3	39:I:180:THR:HB	1.94	0.50
43:M:21:LYS:O	43:M:64:TYR:OH	2.29	0.50
49:S:38:GLU:HG2	49:S:41:TRP:HE3	1.76	0.50
52:V:76:ARG:HH21	52:V:78:VAL:HG13	1.77	0.50
1:3:714:G:H2'	1:3:715:A:C8	2.47	0.49
1:3:913:A:H4'	1:3:914:A:H4'	1.93	0.49
1:3:1225:A:O2'	54:X:77:ARG:HG2	2.12	0.49
1:3:1368:A:OP2	44:N:113:LYS:HG3	2.12	0.49
1:3:1411:C:H2'	1:3:1412:C:C6	2.47	0.49
2:1:658:U:C2'	2:1:659:G:H5''	2.41	0.49
2:1:691:C:H2'	2:1:692:C:H5'	1.93	0.49
2:1:728:G:O2'	2:1:730:A:H8	1.95	0.49
2:1:834:G:O2'	2:1:835:C:H5'	2.12	0.49
2:1:1839:G:H1'	2:1:1927:A:N9	2.27	0.49
2:1:1935:G:H1'	2:1:1964:G:N2	2.27	0.49
2:1:1936:A:H5''	2:1:1937:A:O5'	2.11	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:l:58:TYR:HD2	33:E:9:ALA:HB2	1.77	0.49
20:q:90:ASP:OD1	21:r:11:GLN:NE2	2.45	0.49
24:u:73:ASN:HD22	24:u:76:THR:HG23	1.77	0.49
47:Q:79:ILE:HD12	47:Q:103:CYS:HB3	1.94	0.49
1:3:2:A:H61	1:3:627:G:H21	1.60	0.49
1:3:932:C:N4	1:3:1385:G:H1	2.04	0.49
1:3:1222:G:H2'	1:3:1223:C:O4'	2.11	0.49
1:3:1527:U:O2'	1:3:1528:U:H5'	2.11	0.49
2:1:53:A:H2'	2:1:54:G:H5'	1.94	0.49
2:1:554:U:H2'	2:1:555:G:O4'	2.12	0.49
2:1:753:A:O2'	2:1:754:U:H5'	2.12	0.49
2:1:1139:G:O2'	2:1:1140:C:H5'	2.12	0.49
2:1:1173:U:H2'	2:1:1174:U:C6	2.47	0.49
2:1:1476:U:H2'	2:1:1477:A:C8	2.48	0.49
2:1:1746:A:H2'	2:1:1747:U:C6	2.47	0.49
2:1:2023:C:H2'	2:1:2024:G:C8	2.47	0.49
2:1:2448:A:HO2'	2:1:2449:U:H5	1.60	0.49
2:1:2655:G:H1'	2:1:2664:G:O6	2.12	0.49
11:a:46:VAL:HG22	11:a:212:VAL:HG12	1.93	0.49
11:a:162:ARG:HH12	11:a:164:ARG:HB2	1.77	0.49
38:H:17:TRP:HB3	38:H:20:THR:HG22	1.92	0.49
39:I:90:LEU:O	39:I:94:GLU:N	2.45	0.49
47:Q:52:CYS:HG	47:Q:64:SER:HG	1.59	0.49
48:R:79:LEU:HB3	48:R:87:GLY:HA2	1.94	0.49
1:3:522:C:H2'	1:3:523:A:O4'	2.12	0.49
1:3:1418:A:H2	2:1:1948:G:H21	1.59	0.49
2:1:1386:C:O2'	2:1:1469:A:H1'	2.12	0.49
2:1:1931:U:H2'	2:1:1932:A:C8	2.47	0.49
2:1:1951:U:H2'	2:1:1953:A:OP2	2.13	0.49
19:p:91:VAL:HG11	19:p:96:LEU:HD21	1.94	0.49
38:H:121:SER:HB2	38:H:125:ARG:HH21	1.78	0.49
1:3:24:U:H2'	1:3:25:C:H6	1.77	0.49
1:3:634:C:H2'	1:3:635:A:H8	1.78	0.49
1:3:707:U:H2'	1:3:708:C:C6	2.47	0.49
1:3:1127:G:H1	1:3:1145:A:H2	1.60	0.49
1:3:1206:G:N3	1:3:1206:G:H2'	2.27	0.49
2:1:1651:G:H4'	17:n:39:PRO:HG2	1.93	0.49
2:1:1863:G:H4'	2:1:2411:A:H4'	1.94	0.49
12:i:98:GLY:HA3	12:i:137:LEU:HD13	1.95	0.49
13:j:114:LEU:O	13:j:118:MET:N	2.46	0.49
1:3:1165:U:C2'	1:3:1166:G:H5'	2.43	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:3:1323:G:OP1	48:R:99:GLN:HG2	2.12	0.49
1:3:1425:U:H2'	1:3:1426:G:H8	1.77	0.49
2:1:494:G:H2'	2:1:495:G:C8	2.48	0.49
2:1:1464:G:H2'	2:1:1465:G:C8	2.47	0.49
2:1:2183:A:H2'	2:1:2184:A:C8	2.47	0.49
2:1:2290:G:H2'	2:1:2291:U:O4'	2.12	0.49
2:1:2597:G:H5''	5:b:240:GLY:HA3	1.95	0.49
4:6:69:C:H2'	4:6:70:G:H8	1.77	0.49
5:b:119:VAL:HG22	5:b:130:PRO:HG2	1.94	0.49
8:e:35:LEU:HB2	8:e:88:VAL:HB	1.95	0.49
8:e:48:LEU:O	8:e:52:ALA:N	2.42	0.49
42:L:138:GLU:HA	42:L:141:HIS:HB2	1.94	0.49
44:N:114:LYS:HG3	44:N:117:LEU:HD13	1.95	0.49
1:3:335:C:H2'	1:3:336:A:H8	1.78	0.49
1:3:634:C:H2'	1:3:635:A:C8	2.47	0.49
1:3:705:G:C2'	1:3:706:A:H5'	2.43	0.49
1:3:751:U:H2'	1:3:752:G:H5'	1.94	0.49
1:3:1332:A:H2'	1:3:1333:A:O4'	2.12	0.49
1:3:1434:A:H2'	1:3:1435:G:O4'	2.12	0.49
2:1:1815:A:O4'	2:1:1817:G:H1'	2.11	0.49
8:e:124:ARG:O	8:e:126:ASN:ND2	2.46	0.49
16:m:5:LYS:HG2	16:m:6:ARG:HG2	1.93	0.49
16:m:30:SER:N	16:m:106:ASP:OD1	2.45	0.49
38:H:107:LYS:HD3	38:H:108:PRO:HD2	1.93	0.49
47:Q:52:CYS:SG	47:Q:64:SER:OG	2.65	0.49
53:W:65:SER:O	53:W:65:SER:OG	2.31	0.49
1:3:149:A:H1'	1:3:1446:A:H2	1.77	0.49
1:3:317:U:H3	1:3:336:A:N6	2.09	0.49
1:3:502:A:H61	1:3:543:U:H3	1.60	0.49
1:3:878:A:OP1	43:M:79:ARG:HG2	2.13	0.49
1:3:1323:G:H2'	1:3:1324:A:C8	2.47	0.49
1:3:1424:U:H2'	1:3:1425:U:O4'	2.13	0.49
2:1:983:A:C2	2:1:984:A:H1'	2.48	0.49
2:1:1341:G:H2'	2:1:1397:U:O2	2.13	0.49
2:1:1480:C:O2'	2:1:1481:U:H5'	2.13	0.49
14:k:113:MET:HG3	14:k:114:LYS:HE3	1.93	0.49
24:u:41:VAL:HG22	24:u:62:ALA:HB2	1.94	0.49
43:M:89:ASP:OD1	43:M:89:ASP:N	2.44	0.49
45:O:8:ILE:HB	45:O:74:VAL:HB	1.94	0.49
1:3:35:G:H21	47:Q:114:SER:CB	2.25	0.49
1:3:1165:U:H2'	1:3:1166:G:H5'	1.94	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:548:G:H2'	2:1:549:G:H4'	1.93	0.49
2:1:992:C:O2'	2:1:993:G:H5'	2.12	0.49
2:1:1112:G:H2'	2:1:1113:U:H6	1.75	0.49
2:1:2089:C:O2'	2:1:2090:A:H5'	2.12	0.49
2:1:2114:A:H2'	2:1:2114:A:N3	2.28	0.49
2:1:2615:U:H1'	30:B:3:GLN:HB3	1.94	0.49
8:e:32:LYS:HG2	8:e:156:THR:HG21	1.95	0.49
38:H:133:MET:HB3	38:H:134:LYS:HZ2	1.78	0.49
40:J:96:GLN:HE21	40:J:123:LEU:HD11	1.77	0.49
45:O:30:LYS:HE3	45:O:35:GLN:HA	1.95	0.49
52:V:8:GLN:HA	52:V:59:GLU:HA	1.93	0.49
55:Y:9:ARG:HA	55:Y:12:GLN:HB2	1.94	0.49
1:3:273:U:C2'	1:3:274:A:H5'	2.41	0.49
1:3:964:A:H4'	1:3:1198:G:H4'	1.95	0.49
1:3:1023:U:H2'	1:3:1024:G:O4'	2.12	0.49
1:3:1375:A:H2'	1:3:1376:U:C6	2.47	0.49
2:1:158:U:H2'	2:1:159:G:O4'	2.12	0.49
2:1:728:G:HO2'	2:1:730:A:H8	1.61	0.49
2:1:819:A:C4	2:1:1189:A:C2	3.00	0.49
2:1:991:C:OP2	2:1:1186:G:H5'	2.13	0.49
2:1:1321:A:N3	2:1:1321:A:H2'	2.28	0.49
3:2:54:G:H21	8:e:25:MET:HE3	1.76	0.49
21:r:68:ARG:HA	21:r:92:TRP:HA	1.93	0.49
30:B:37:HIS:HB3	30:B:43:THR:HG22	1.94	0.49
39:I:149:LYS:O	39:I:151:GLN:NE2	2.42	0.49
44:N:8:THR:H	44:N:84:ARG:HB2	1.78	0.49
46:P:67:GLU:HG3	46:P:98:ALA:HB1	1.94	0.49
1:3:138:G:H2'	1:3:139:A:H8	1.78	0.49
1:3:255:G:H2'	1:3:256:U:C6	2.47	0.49
1:3:1235:U:O2'	1:3:1305:G:H5'	2.12	0.49
1:3:1395:C:O2'	1:3:1396:A:H5'	2.13	0.49
1:3:1518:A:H4'	1:3:1518:A:OP1	2.13	0.49
2:1:1406:U:H3	2:1:1596:A:H61	1.60	0.49
2:1:1789:A:H2'	2:1:1790:C:O4'	2.13	0.49
2:1:2305:U:H5''	8:e:130:GLY:HA3	1.95	0.49
2:1:2348:U:H4'	31:C:40:PRO:HG3	1.95	0.49
4:6:46:G:H5'	4:6:47:U:OP2	2.13	0.49
39:I:148:ALA:O	39:I:153:ARG:NH2	2.46	0.49
42:L:26:VAL:HG13	42:L:42:VAL:HG11	1.95	0.49
48:R:13:HIS:HA	48:R:43:LYS:HA	1.94	0.49
1:3:271:C:H2'	1:3:272:C:O4'	2.12	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:324:A:N6	2:1:339:U:H5'	2.27	0.48
2:1:395:U:H2'	2:1:396:G:H8	1.76	0.48
2:1:977:G:N3	2:1:1001:A:H2	2.11	0.48
2:1:1082:U:H2'	2:1:1083:U:C4'	2.43	0.48
2:1:1770:G:C2'	2:1:1771:C:H5'	2.43	0.48
2:1:1799:G:O3'	5:b:181:ARG:NH2	2.46	0.48
2:1:2898:U:H2'	2:1:2899:A:C8	2.47	0.48
10:g:103:VAL:HG21	10:g:110:VAL:HB	1.95	0.48
13:j:73:VAL:HA	13:j:88:THR:HA	1.95	0.48
16:m:64:TRP:HB2	16:m:104:GLU:HB2	1.94	0.48
17:n:24:MET:HE1	17:n:40:LYS:HD3	1.95	0.48
42:L:114:SER:OG	42:L:115:MET:N	2.45	0.48
1:3:177:G:H5'	55:Y:59:ARG:CZ	2.43	0.48
1:3:519:C:H2'	1:3:520:A:H5'	1.95	0.48
1:3:676:A:H5''	46:P:114:PRO:HB2	1.95	0.48
1:3:901:A:C5	1:3:902:G:H1'	2.48	0.48
1:3:1363:A:H2'	1:3:1365:G:C8	2.47	0.48
2:1:48:G:N2	2:1:177:G:H22	2.10	0.48
2:1:528:A:C2	2:1:2043:C:H4'	2.48	0.48
2:1:606:U:H4'	2:1:658:U:O2'	2.13	0.48
2:1:1818:U:H5	5:b:155:ARG:NH1	2.11	0.48
5:b:206:LYS:HG2	5:b:208:GLY:H	1.76	0.48
22:s:13:SER:OG	22:s:99:ARG:O	2.25	0.48
38:H:150:VAL:HG22	38:H:199:VAL:HG12	1.95	0.48
1:3:894:G:H2'	1:3:895:G:C8	2.48	0.48
1:3:936:C:H42	1:3:1379:G:H1	1.59	0.48
1:3:1136:C:H2'	1:3:1138:G:O6	2.13	0.48
1:3:1154:G:O2'	1:3:1155:A:H5'	2.13	0.48
1:3:1173:U:C2'	1:3:1174:G:O5'	2.61	0.48
1:3:1253:G:H5''	45:O:45:ARG:CD	2.43	0.48
1:3:1441:A:N3	1:3:1441:A:H2'	2.28	0.48
2:1:122:G:H2'	2:1:123:G:O4'	2.13	0.48
2:1:383:C:H6	2:1:385:C:OP2	1.96	0.48
2:1:952:G:H3'	2:1:953:G:H5''	1.94	0.48
2:1:1005:C:H4'	2:1:1012:U:C6	2.48	0.48
2:1:1039:A:H4'	25:v:45:ASP:CG	2.38	0.48
2:1:1102:C:H2'	2:1:1103:A:H8	1.77	0.48
2:1:2008:C:H2'	2:1:2009:A:C8	2.48	0.48
6:c:186:LEU:HD11	19:p:3:ILE:HD12	1.94	0.48
8:e:161:SER:OG	8:e:162:ASP:N	2.44	0.48
14:k:58:LEU:HA	14:k:89:ASN:HD21	1.78	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:n:37:THR:HA	17:n:110:MET:HA	1.95	0.48
18:o:41:ALA:HB2	18:o:48:LEU:HD21	1.96	0.48
36:5:38:A:H2'	36:5:39:C:C6	2.48	0.48
1:3:139:A:C2'	1:3:140:U:H5'	2.44	0.48
1:3:915:A:H2'	1:3:916:U:H5'	1.96	0.48
2:1:76:C:H2'	2:1:77:G:C8	2.48	0.48
2:1:993:G:OP2	20:q:50:ARG:NH2	2.46	0.48
2:1:1775:U:O5'	2:1:1775:U:H6	1.96	0.48
2:1:1794:A:O2'	2:1:1795:C:H5'	2.13	0.48
2:1:2650:U:H3	2:1:2670:A:H61	1.61	0.48
2:1:2837:A:H2'	2:1:2838:G:H8	1.77	0.48
2:1:2855:C:H42	2:1:2862:G:H1	1.61	0.48
5:b:1:ALA:HB3	5:b:3:VAL:HG13	1.95	0.48
8:e:55:ASP:OD2	8:e:149:ARG:NH2	2.46	0.48
8:e:122:ASP:OD1	8:e:126:ASN:N	2.35	0.48
31:C:8:ILE:HD13	31:C:24:LYS:HD2	1.94	0.48
37:G:173:LYS:O	37:G:177:ASN:N	2.47	0.48
47:Q:56:LEU:HD12	47:Q:60:PHE:HB2	1.94	0.48
1:3:427:U:H2'	1:3:428:G:C8	2.48	0.48
1:3:566:G:H4'	1:3:567:G:H5'	1.96	0.48
1:3:764:C:H5''	50:T:49:HIS:CE1	2.49	0.48
1:3:1402:C:H3'	1:3:1403:C:C6	2.49	0.48
2:1:691:C:H1'	5:b:42:ARG:NH1	2.28	0.48
2:1:721:A:H2'	2:1:722:A:C8	2.49	0.48
2:1:980:A:C2	2:1:1136:G:H4'	2.49	0.48
2:1:1469:A:H2'	2:1:1470:A:H8	1.74	0.48
2:1:1479:G:H2'	2:1:1480:C:C6	2.49	0.48
2:1:1818:U:C5	5:b:155:ARG:HD3	2.49	0.48
2:1:1828:G:OP2	2:1:1828:G:H8	1.96	0.48
2:1:2250:G:P	2:1:2250:G:H8	2.36	0.48
2:1:2342:C:O2'	2:1:2374:C:H5''	2.13	0.48
2:1:2372:U:H2'	2:1:2373:G:C8	2.49	0.48
2:1:2498:C:C2'	2:1:2499:C:H5''	2.41	0.48
4:6:13:C:C3'	4:6:14:A:H5'	2.41	0.48
5:b:267:VAL:O	5:b:268:ARG:NE	2.45	0.48
9:f:21:GLN:NE2	9:f:37:ASN:O	2.46	0.48
9:f:101:VAL:HG13	9:f:103:ASN:HD21	1.79	0.48
20:q:89:ILE:O	20:q:91:ARG:NH2	2.47	0.48
52:V:45:VAL:HG11	52:V:60:ILE:HD12	1.94	0.48
55:Y:82:ILE:HG22	55:Y:85:LEU:HD11	1.94	0.48
1:3:15:G:H21	40:J:22:LYS:HA	1.78	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:3:551:U:H2'	1:3:552:U:H5'	1.95	0.48
1:3:930:C:H42	1:3:1387:G:H1	1.62	0.48
1:3:1207:G:H5'	1:3:1207:G:C8	2.43	0.48
2:1:162:U:H2'	2:1:163:C:H5'	1.96	0.48
2:1:326:G:H2'	2:1:327:G:H8	1.77	0.48
2:1:525:U:O2'	2:1:526:A:H5'	2.13	0.48
2:1:1999:C:O2	2:1:1999:C:H2'	2.13	0.48
2:1:2428:G:H5''	2:1:2429:G:O5'	2.13	0.48
2:1:2582:G:O2'	2:1:2583:G:H5'	2.13	0.48
6:c:122:VAL:HG12	6:c:127:PHE:HB2	1.95	0.48
16:m:26:VAL:HG21	16:m:133:LYS:HA	1.95	0.48
19:p:88:ARG:HB3	19:p:112:ARG:HB2	1.94	0.48
38:H:189:HIS:HA	38:H:194:VAL:HA	1.94	0.48
44:N:83:THR:HB	44:N:103:VAL:HG12	1.94	0.48
48:R:73:SER:O	48:R:77:LYS:N	2.36	0.48
1:3:751:U:C2'	1:3:752:G:H5'	2.44	0.48
1:3:774:G:H2'	1:3:775:G:H5'	1.96	0.48
1:3:795:C:H5'	1:3:1522:U:OP1	2.13	0.48
1:3:810:C:H2'	1:3:811:C:O4'	2.13	0.48
1:3:845:A:H1'	53:W:11:ARG:NE	2.29	0.48
1:3:1005:A:H2'	1:3:1006:G:O4'	2.13	0.48
1:3:1032:G:N2	1:3:1033:G:H4'	2.29	0.48
1:3:1158:C:O2	1:3:1158:C:C2'	2.62	0.48
1:3:1225:A:H2'	1:3:1225:A:N3	2.28	0.48
1:3:1394:A:H3'	1:3:1395:C:C5'	2.44	0.48
2:1:1301:A:O2'	2:1:1302:A:H5'	2.14	0.48
2:1:2305:U:H4'	8:e:132:ARG:HH22	1.78	0.48
5:b:156:SER:O	5:b:159:THR:OG1	2.26	0.48
27:x:16:ASN:HB2	27:x:26:ARG:HB3	1.94	0.48
38:H:35:ASP:HB2	38:H:58:ARG:HH12	1.79	0.48
42:L:136:LYS:HA	42:L:139:ASP:HB2	1.95	0.48
46:P:86:LYS:HB3	46:P:112:VAL:HG23	1.95	0.48
1:3:98:A:H2'	1:3:99:C:O4'	2.14	0.48
1:3:437:U:C2'	1:3:438:U:H5'	2.44	0.48
1:3:720:C:O2	53:W:55:ALA:HB1	2.14	0.48
1:3:759:A:H3'	1:3:760:G:H5''	1.95	0.48
1:3:801:U:O2'	1:3:802:A:H5'	2.14	0.48
1:3:918:A:H2'	1:3:919:A:C8	2.49	0.48
1:3:1220:G:H2'	1:3:1221:G:C8	2.47	0.48
2:1:432:A:H2'	2:1:433:C:O4'	2.14	0.48
2:1:1330:C:H2'	2:1:1331:G:C8	2.48	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:P:87:GLY:H	46:P:113:THR:HG23	1.79	0.48
1:3:690:G:H2'	1:3:691:G:O4'	2.13	0.48
1:3:744:C:H2'	1:3:745:G:C8	2.49	0.48
1:3:1446:A:O2'	1:3:1447:A:H5'	2.14	0.48
2:1:567:U:H4'	2:1:808:G:OP2	2.13	0.48
2:1:803:U:H2'	2:1:804:A:C5'	2.44	0.48
2:1:942:G:H2'	2:1:943:A:O4'	2.14	0.48
2:1:952:G:C3'	2:1:953:G:H5''	2.44	0.48
2:1:1181:U:H2'	2:1:1182:G:C8	2.47	0.48
2:1:1466:U:H5'	2:1:1467:U:C5'	2.34	0.48
2:1:2172:U:OP2	2:1:2173:A:H8	1.97	0.48
2:1:2728:U:O2'	2:1:2729:G:H8	1.97	0.48
7:d:199:MET:HG3	7:d:200:LEU:HD22	1.95	0.48
38:H:123:LEU:HD21	38:H:129:PHE:HA	1.96	0.48
51:U:79:ASN:HB3	51:U:82:ALA:HB3	1.95	0.48
1:3:295:C:H2'	1:3:296:U:O4'	2.13	0.48
1:3:783:C:N4	1:3:800:G:N2	2.62	0.48
1:3:1502:A:C8	1:3:1505:G:N2	2.82	0.48
1:3:1516:G:C2'	1:3:1517:G:H5''	2.42	0.48
2:1:121:G:C4'	2:1:149:A:H5'	2.32	0.48
2:1:634:C:H2'	2:1:635:C:H6	1.78	0.48
2:1:1447:C:H2'	2:1:1448:G:H8	1.79	0.48
2:1:1818:U:H5	5:b:155:ARG:CZ	2.27	0.48
2:1:2016:U:O2'	2:1:2017:U:H5'	2.14	0.48
2:1:2078:C:H2'	2:1:2079:U:C6	2.48	0.48
11:a:42:VAL:HG12	11:a:216:THR:HA	1.94	0.48
18:o:18:LEU:HD23	18:o:25:ARG:HG2	1.96	0.48
46:P:94:SER:HA	46:P:97:ARG:HB2	1.96	0.48
48:R:101:THR:HG21	54:X:77:ARG:HH21	1.79	0.48
52:V:24:ILE:O	52:V:41:THR:N	2.40	0.48
52:V:29:LYS:HD2	52:V:34:GLY:HA2	1.96	0.48
1:3:393:A:H5'	1:3:483:C:O2'	2.14	0.47
1:3:410:G:H2'	1:3:429:U:C4	2.50	0.47
1:3:571:U:H4'	1:3:819:A:C5	2.48	0.47
1:3:1158:C:C6	37:G:130:LYS:HE2	2.49	0.47
1:3:1430:A:H2'	1:3:1431:A:O4'	2.13	0.47
2:1:2032:G:O2'	2:1:2033:A:H5'	2.12	0.47
2:1:2037:A:H2'	2:1:2038:G:C8	2.49	0.47
16:m:51:ARG:HH21	16:m:55:ARG:HD3	1.79	0.47
26:w:25:GLU:HG2	26:w:27:VAL:HG13	1.96	0.47
27:x:9:LYS:HE2	27:x:53:LYS:HD3	1.96	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:G:101:THR:CG2	37:G:174:GLU:HG3	2.44	0.47
39:I:117:VAL:HG11	39:I:132:ALA:HA	1.95	0.47
41:K:36:ILE:HA	41:K:64:VAL:HG23	1.96	0.47
1:3:1344:C:H5''	44:N:121:ARG:HG3	1.95	0.47
2:1:214:G:O2'	2:1:215:G:H5'	2.14	0.47
2:1:404:A:H1'	2:1:406:G:N9	2.29	0.47
2:1:729:G:H5'	2:1:730:A:H5''	1.95	0.47
2:1:818:G:H5'	2:1:839:U:OP1	2.14	0.47
2:1:825:A:H2'	2:1:826:U:O4'	2.14	0.47
2:1:1818:U:C4	5:b:152:GLN:HG3	2.48	0.47
2:1:2534:A:H2'	2:1:2535:G:C4'	2.43	0.47
3:2:55:U:H2'	3:2:56:G:C8	2.49	0.47
10:g:1:MET:HA	10:g:20:ASN:HA	1.96	0.47
16:m:42:THR:HA	16:m:93:VAL:HA	1.96	0.47
35:4:11:U:C3'	35:4:12:A:H5''	2.44	0.47
1:3:783:C:OP1	1:3:1515:G:H4'	2.14	0.47
2:1:458:G:H22	2:1:469:G:H2'	1.79	0.47
2:1:587:C:H3'	2:1:588:U:H5'	1.96	0.47
2:1:1583:A:H4'	2:1:1585:C:N4	2.30	0.47
2:1:1818:U:H5	5:b:155:ARG:HD3	1.79	0.47
2:1:2303:G:H2'	2:1:2304:G:O4'	2.15	0.47
2:1:2560:A:H2'	2:1:2561:U:C6	2.48	0.47
2:1:2593:U:H3	2:1:2600:A:N6	2.06	0.47
2:1:2698:U:H2'	2:1:2699:C:C6	2.48	0.47
12:i:5:GLN:HE22	12:i:62:ALA:HB2	1.79	0.47
44:N:115:VAL:HB	45:O:62:ARG:HD3	1.97	0.47
46:P:24:ALA:HA	46:P:29:THR:HA	1.95	0.47
1:3:309:A:O5'	51:U:29:ASN:HB3	2.14	0.47
1:3:825:A:O2'	1:3:826:C:H5'	2.13	0.47
1:3:1097:C:H4'	1:3:1170:A:C4'	2.41	0.47
1:3:1420:U:H2'	1:3:1421:G:C8	2.48	0.47
1:3:1444:U:H2'	1:3:1445:U:O4'	2.14	0.47
2:1:562:U:O4'	2:1:2036:C:H5'	2.15	0.47
2:1:1982:U:O2'	2:1:1983:G:H5'	2.13	0.47
2:1:2077:A:OP1	2:1:2077:A:H3'	2.14	0.47
2:1:2269:G:H2'	2:1:2270:A:O4'	2.15	0.47
2:1:2378:A:C5	2:1:2379:G:H1'	2.49	0.47
2:1:2819:G:H2'	2:1:2821:A:N7	2.29	0.47
2:1:2882:A:H5'	17:n:96:ARG:HG3	1.95	0.47
9:f:61:TRP:O	9:f:65:GLY:N	2.47	0.47
9:f:100:ASN:OD1	9:f:100:ASN:N	2.46	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:i:55:PRO:HD3	12:i:73:PRO:HA	1.95	0.47
38:H:37:LYS:O	38:H:40:GLN:NE2	2.42	0.47
1:3:502:A:OP1	47:Q:112:ALA:HA	2.15	0.47
1:3:1121:U:H3	1:3:1152:A:H61	1.61	0.47
1:3:1221:G:C3'	1:3:1222:G:H5''	2.45	0.47
1:3:1323:G:H2'	1:3:1324:A:O4'	2.15	0.47
2:1:958:U:H5'	2:1:959:A:C5'	2.45	0.47
2:1:1434:A:H2'	2:1:1435:G:C8	2.49	0.47
2:1:1449:G:C2	2:1:1450:G:H1'	2.48	0.47
2:1:1776:G:N2	2:1:1777:U:H1'	2.29	0.47
2:1:2266:A:H4'	2:1:2267:A:N3	2.30	0.47
2:1:2773:C:H2'	2:1:2774:C:C6	2.50	0.47
21:r:69:GLY:N	21:r:91:GLN:O	2.41	0.47
28:y:31:GLN:HA	28:y:34:SER:HB2	1.96	0.47
1:3:64:G:H2'	1:3:99:C:N4	2.30	0.47
1:3:240:G:H2'	1:3:241:G:H8	1.78	0.47
1:3:1308:U:O5'	48:R:97:ARG:N	2.47	0.47
1:3:1421:G:H4'	14:k:53:LYS:HZ1	1.79	0.47
2:1:974:G:H4'	21:r:78:ARG:HH22	1.79	0.47
2:1:1977:A:H2'	2:1:1978:A:O4'	2.15	0.47
2:1:2522:U:O2'	2:1:2523:G:H5'	2.14	0.47
2:1:2646:C:N4	2:1:2674:G:H1	2.11	0.47
6:c:122:VAL:HA	6:c:127:PHE:H	1.79	0.47
9:f:16:VAL:HG22	9:f:25:ILE:HG22	1.97	0.47
14:k:48:PRO:HB2	14:k:49:ARG:HD3	1.97	0.47
22:s:35:ILE:HG12	30:B:24:VAL:HG12	1.97	0.47
40:J:106:ALA:HA	40:J:124:ALA:HB3	1.96	0.47
40:J:146:MET:HB3	40:J:146:MET:HE2	1.75	0.47
43:M:28:SER:HA	43:M:32:LYS:HD2	1.96	0.47
1:3:545:C:H5''	39:I:68:GLU:HG3	1.97	0.47
1:3:570:G:H5'	1:3:570:G:H8	1.80	0.47
1:3:775:G:H2'	1:3:776:G:H8	1.78	0.47
1:3:952:U:O2'	1:3:953:G:H5'	2.14	0.47
1:3:1171:A:H2'	1:3:1172:C:O4'	2.15	0.47
1:3:1535:C:H2'	1:3:1536:C:H5'	1.97	0.47
2:1:185:G:C4'	2:1:218:A:H4'	2.43	0.47
2:1:520:G:H2'	2:1:521:U:C6	2.50	0.47
2:1:660:C:H2'	2:1:661:A:C8	2.49	0.47
2:1:678:C:H2'	2:1:679:C:H6	1.80	0.47
2:1:741:U:H2'	2:1:742:A:C8	2.49	0.47
2:1:1060:U:H3	2:1:1088:A:H8	1.63	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:1124:G:H2'	2:1:1125:G:O4'	2.15	0.47
2:1:1141:U:OP1	13:j:27:ARG:NH1	2.48	0.47
2:1:1478:G:H22	2:1:1513:U:H3	1.62	0.47
2:1:1492:G:H5'	5:b:99:GLU:OE2	2.15	0.47
2:1:1564:C:O2'	2:1:1565:C:H5'	2.14	0.47
2:1:1772:A:H2'	2:1:1773:A:O3'	2.14	0.47
2:1:2097:A:H2'	2:1:2098:U:C6	2.50	0.47
2:1:2235:G:H2'	2:1:2236:U:C6	2.49	0.47
2:1:2443:C:H2'	2:1:2444:G:C8	2.50	0.47
2:1:2896:C:H2'	2:1:2897:U:C6	2.50	0.47
3:2:51:G:H2'	3:2:52:A:C1'	2.45	0.47
4:6:1:C:H2'	4:6:2:G:C8	2.49	0.47
5:b:77:VAL:HG21	5:b:109:LEU:HD13	1.97	0.47
11:a:184:LYS:O	11:a:188:ASN:N	2.48	0.47
12:i:87:SER:OG	12:i:135:MET:O	2.33	0.47
13:j:102:GLU:HB2	13:j:119:PHE:HZ	1.79	0.47
22:s:25:ARG:NH2	22:s:74:ILE:O	2.48	0.47
26:w:36:GLN:HE22	26:w:41:PHE:H	1.62	0.47
36:5:69:G:H3'	36:5:70:C:H6	1.80	0.47
37:G:68:PHE:CD2	37:G:83:ALA:HB2	2.50	0.47
41:K:5:GLU:HA	41:K:63:ASN:HA	1.97	0.47
46:P:15:VAL:N	46:P:76:TYR:O	2.47	0.47
48:R:56:ARG:HA	48:R:59:VAL:HG22	1.97	0.47
52:V:67:SER:HB2	52:V:70:LYS:HG2	1.97	0.47
1:3:9:G:OP2	40:J:125:LYS:HA	2.15	0.47
1:3:419:C:H4'	1:3:512:U:O2'	2.14	0.47
1:3:513:C:H2'	1:3:514:C:H6	1.78	0.47
1:3:526:C:H2'	1:3:527:G:H4'	1.96	0.47
1:3:770:C:O2'	1:3:771:G:H5'	2.15	0.47
1:3:1366:C:H2'	1:3:1367:C:O4'	2.15	0.47
2:1:565:C:H2'	2:1:566:U:C6	2.50	0.47
2:1:1310:G:C2'	2:1:1311:G:H5'	2.45	0.47
2:1:1447:C:H2'	2:1:1448:G:C8	2.50	0.47
2:1:1480:C:H2'	2:1:1481:U:O4'	2.15	0.47
2:1:1680:U:H3'	2:1:1681:G:C8	2.50	0.47
2:1:1791:A:H2	2:1:1829:A:HO2'	1.60	0.47
2:1:2558:C:O5'	2:1:2558:C:H6	1.97	0.47
2:1:2619:C:C5'	6:c:157:LYS:HD3	2.38	0.47
2:1:2884:U:H2'	2:1:2885:G:C8	2.50	0.47
11:a:7:ARG:HD3	11:a:218:MET:HE2	1.97	0.47
25:v:73:LYS:HB3	25:v:92:VAL:HG23	1.97	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:H:146:LYS:HD2	38:H:202:PHE:HE2	1.80	0.47
40:J:59:ILE:HG22	40:J:63:MET:HE2	1.96	0.47
42:L:74:VAL:HG11	42:L:85:GLN:HB2	1.96	0.47
1:3:685:G:H2'	1:3:686:U:C6	2.50	0.47
1:3:1343:G:H5''	44:N:123:ARG:HB3	1.96	0.47
2:1:226:A:H3'	2:1:227:A:C8	2.50	0.47
2:1:760:G:H2'	2:1:761:A:O4'	2.15	0.47
2:1:901:C:H2'	2:1:902:C:O4'	2.15	0.47
2:1:902:C:H2'	2:1:903:C:C6	2.50	0.47
2:1:940:G:H2'	2:1:941:A:O4'	2.14	0.47
2:1:1097:U:H2'	2:1:1098:A:C5'	2.44	0.47
2:1:2353:G:O3'	26:w:28:LEU:HD23	2.15	0.47
2:1:2534:A:C3'	2:1:2535:G:H5''	2.45	0.47
2:1:2558:C:H2'	2:1:2559:C:O4'	2.15	0.47
2:1:2839:G:O3'	17:n:49:GLU:HG2	2.15	0.47
14:k:12:ASP:HA	14:k:99:ILE:HA	1.97	0.47
14:k:24:VAL:HA	14:k:39:ILE:HG13	1.97	0.47
27:x:39:VAL:HA	27:x:63:ILE:HG12	1.97	0.47
29:z:8:GLN:HG2	29:z:28:LEU:HD21	1.96	0.47
38:H:146:LYS:HG2	38:H:171:ARG:HD3	1.97	0.47
1:3:552:U:H4'	47:Q:82:ARG:HD2	1.97	0.47
1:3:1307:U:H5	48:R:97:ARG:CD	2.28	0.47
1:3:1535:C:H2'	1:3:1536:C:O4'	2.15	0.47
2:1:633:A:H4'	2:1:2404:U:C5'	2.45	0.47
2:1:1779:U:O2	2:1:1783:A:C6	2.68	0.47
6:c:54:ALA:HA	6:c:76:GLY:HA2	1.97	0.47
10:g:26:ALA:HA	10:g:30:LEU:HB2	1.96	0.47
11:a:44:VAL:HG21	11:a:175:ILE:HG23	1.96	0.47
19:p:89:GLY:HA2	19:p:109:ILE:HD12	1.96	0.47
36:5:9:A:N3	36:5:45:G:H2'	2.30	0.47
39:I:84:ASN:OD1	40:J:102:THR:OG1	2.22	0.47
1:3:439:U:H5'	39:I:120:LYS:HG3	1.96	0.46
1:3:786:G:H1	1:3:796:C:H42	1.63	0.46
1:3:1129:C:N4	1:3:1143:G:H1	2.06	0.46
1:3:1301:U:O2	1:3:1301:U:C2'	2.63	0.46
2:1:49:A:H5''	2:1:50:U:H5''	1.97	0.46
2:1:161:A:N6	2:1:165:A:H2	1.98	0.46
2:1:517:C:O2'	22:s:18:ARG:NH2	2.48	0.46
2:1:903:C:H2'	2:1:904:G:C8	2.50	0.46
2:1:1937:A:N6	2:1:1940:U:H5	2.12	0.46
2:1:2528:U:O2'	2:1:2529:G:H3'	2.15	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:2648:G:H2'	2:1:2649:C:C6	2.50	0.46
3:2:65:U:C2'	3:2:66:A:H5'	2.45	0.46
3:2:90:C:H5''	16:m:18:ARG:HD2	1.96	0.46
8:e:116:LEU:HB3	8:e:176:PHE:HD1	1.80	0.46
12:i:9:LYS:HG3	12:i:57:VAL:HG13	1.98	0.46
27:x:31:ASN:OD1	27:x:33:HIS:NE2	2.48	0.46
39:I:11:SER:OG	39:I:16:THR:O	2.29	0.46
39:I:101:VAL:HA	39:I:104:MET:HB2	1.96	0.46
43:M:75:GLN:HE22	43:M:129:ALA:HB2	1.80	0.46
45:O:42:LEU:HG	45:O:71:LEU:HB3	1.97	0.46
1:3:885:G:H1	1:3:912:C:H42	1.63	0.46
1:3:1010:U:H2'	1:3:1011:C:O4'	2.15	0.46
1:3:1159:U:O4'	1:3:1182:G:N2	2.48	0.46
2:1:226:A:H3'	2:1:227:A:H8	1.81	0.46
2:1:929:U:H4'	29:z:37:ARG:HH21	1.80	0.46
2:1:1060:U:OP2	2:1:1060:U:H3'	2.16	0.46
2:1:1642:G:H2'	2:1:1643:G:O4'	2.15	0.46
2:1:1688:U:H2'	2:1:1698:A:N6	2.30	0.46
2:1:2297:A:C2	2:1:2322:A:H1'	2.50	0.46
8:e:10:GLU:HA	8:e:13:LYS:HB2	1.96	0.46
12:i:132:ALA:HA	12:i:135:MET:HB2	1.97	0.46
51:U:75:ILE:HG13	51:U:80:LYS:HE3	1.97	0.46
1:3:308:C:H2'	1:3:309:A:H8	1.81	0.46
1:3:397:A:H3'	1:3:397:A:N3	2.31	0.46
1:3:755:G:OP2	50:T:64:LYS:HE2	2.15	0.46
1:3:886:G:H2'	1:3:887:G:O4'	2.15	0.46
1:3:1052:U:H2'	1:3:1200:C:H41	1.79	0.46
1:3:1160:G:H5'	1:3:1160:G:H8	1.81	0.46
1:3:1307:U:O2	48:R:108:ARG:HB2	2.16	0.46
1:3:1307:U:OP2	48:R:97:ARG:HB3	2.15	0.46
2:1:500:G:C2'	2:1:501:A:H5''	2.44	0.46
2:1:1135:C:C6	2:1:1137:G:OP2	2.68	0.46
2:1:1337:G:H2'	2:1:1338:G:O4'	2.16	0.46
2:1:1472:C:H2'	2:1:1473:G:C8	2.50	0.46
6:c:173:GLN:HE21	6:c:208:LYS:HE2	1.81	0.46
7:d:129:PRO:HG3	7:d:156:ASN:HA	1.97	0.46
8:e:67:THR:HG22	8:e:87:LYS:HB3	1.97	0.46
13:j:37:ARG:NH1	13:j:44:TYR:OH	2.47	0.46
34:F:3:VAL:HG22	34:F:36:ARG:HD3	1.97	0.46
43:M:31:LEU:O	43:M:35:ILE:N	2.49	0.46
48:R:13:HIS:HD2	48:R:43:LYS:HG3	1.81	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:U:4:ILE:O	51:U:68:SER:OG	2.29	0.46
1:3:34:C:H2'	1:3:35:G:C8	2.50	0.46
1:3:279:A:C5'	1:3:281:G:H5''	2.44	0.46
2:1:557:C:O3'	13:j:113:PRO:HB2	2.15	0.46
2:1:559:G:H1'	20:q:55:GLN:HE22	1.80	0.46
2:1:608:A:H2'	2:1:609:A:C8	2.51	0.46
2:1:664:G:H4'	2:1:941:A:OP1	2.14	0.46
2:1:693:A:O2'	2:1:694:U:H5'	2.15	0.46
2:1:1326:U:H4'	2:1:2011:U:H4'	1.97	0.46
2:1:1470:A:H3'	2:1:1471:G:H8	1.80	0.46
2:1:1664:A:H2	14:k:1:MET:SD	2.39	0.46
2:1:1720:U:H2'	2:1:1721:G:O4'	2.15	0.46
2:1:2225:A:H4'	2:1:2226:C:O4'	2.14	0.46
2:1:2593:U:H2'	2:1:2594:C:C6	2.50	0.46
3:2:59:A:H2'	3:2:60:C:O4'	2.15	0.46
6:c:123:LYS:HA	6:c:123:LYS:HD2	1.79	0.46
18:o:15:ARG:HA	18:o:18:LEU:HB2	1.98	0.46
19:p:27:VAL:HG13	19:p:80:VAL:HG13	1.98	0.46
29:z:3:THR:OG1	29:z:36:GLU:OE2	2.33	0.46
49:S:1:ALA:N	49:S:66:THR:O	2.37	0.46
51:U:75:ILE:O	51:U:80:LYS:NZ	2.46	0.46
52:V:16:MET:HE1	52:V:21:VAL:HG13	1.96	0.46
54:X:10:ILE:HG21	54:X:15:LEU:HD13	1.97	0.46
1:3:22:G:H4'	1:3:885:G:C8	2.50	0.46
1:3:780:A:O2'	1:3:781:A:H5''	2.16	0.46
1:3:950:U:H2'	1:3:951:G:H8	1.81	0.46
1:3:951:G:H2'	1:3:952:U:C6	2.51	0.46
1:3:982:U:OP1	49:S:69:PRO:HG3	2.16	0.46
1:3:1100:C:H4'	56:Z:65:ARG:NH1	2.30	0.46
1:3:1188:A:O2'	49:S:97:LYS:HG2	2.16	0.46
2:1:455:C:H2'	2:1:472:A:C2	2.49	0.46
2:1:713:G:H2'	2:1:714:U:C5'	2.34	0.46
2:1:1041:G:H2'	2:1:1042:G:H8	1.81	0.46
2:1:1934:C:H2'	2:1:1935:G:O4'	2.16	0.46
6:c:157:LYS:HG3	13:j:79:GLY:O	2.16	0.46
31:C:5:ARG:NH2	31:C:23:THR:OG1	2.48	0.46
39:I:61:ARG:NH1	39:I:68:GLU:OE2	2.48	0.46
46:P:85:VAL:H	46:P:111:ASP:HA	1.79	0.46
1:3:8:A:N6	39:I:205:LYS:HE2	2.31	0.46
2:1:184:C:H2'	2:1:185:G:C8	2.50	0.46
2:1:425:G:O2'	2:1:426:C:H5'	2.16	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:781:A:H2	2:1:1777:U:O4'	1.99	0.46
2:1:1048:A:N6	2:1:1111:A:H1'	2.31	0.46
2:1:1152:C:H2'	2:1:1153:C:C6	2.51	0.46
2:1:1701:A:H2'	2:1:1702:G:H5'	1.98	0.46
2:1:1985:C:O2'	2:1:1986:C:H5'	2.15	0.46
2:1:2006:C:H5'	2:1:2049:G:OP1	2.15	0.46
2:1:2170:A:C2	2:1:2171:A:H1'	2.51	0.46
2:1:2198:A:H5'	10:g:33:GLN:NE2	2.31	0.46
2:1:2561:U:O3'	14:k:40:LYS:HE3	2.15	0.46
2:1:2729:G:H2'	2:1:2730:C:O4'	2.15	0.46
4:6:32:C:O2	4:6:32:C:H3'	2.16	0.46
12:i:32:VAL:HG13	12:i:60:VAL:HG11	1.97	0.46
22:s:23:LEU:HD11	30:B:21:LEU:HD22	1.98	0.46
26:w:43:ALA:HB2	26:w:55:LEU:HD22	1.98	0.46
29:z:3:THR:OG1	29:z:37:ARG:O	2.34	0.46
49:S:38:GLU:O	49:S:42:ASN:N	2.39	0.46
1:3:36:C:OP1	47:Q:119:LYS:HD3	2.16	0.46
1:3:562:U:O2'	47:Q:11:ARG:HG3	2.15	0.46
1:3:582:C:H2'	1:3:583:A:O4'	2.16	0.46
1:3:598:U:H4'	43:M:85:TYR:CD1	2.50	0.46
1:3:893:C:H2'	1:3:894:G:C8	2.51	0.46
1:3:1207:G:H2'	1:3:1208:C:O4'	2.15	0.46
2:1:1161:C:H2'	2:1:1162:G:C8	2.51	0.46
2:1:1570:A:H8	2:1:1570:A:O5'	1.98	0.46
2:1:1823:G:H2'	2:1:1824:G:O4'	2.16	0.46
2:1:2093:G:O3'	10:g:25:TYR:HB2	2.15	0.46
2:1:2327:A:H2'	2:1:2328:A:C8	2.50	0.46
2:1:2415:G:H4'	15:l:66:PHE:N	2.31	0.46
2:1:2756:U:H5''	34:F:19:ARG:HG2	1.98	0.46
37:G:44:LYS:HD2	37:G:48:MET:HE2	1.96	0.46
39:I:131:ILE:HG22	39:I:133:SER:H	1.80	0.46
43:M:63:LYS:HB3	43:M:70:VAL:HG21	1.97	0.46
49:S:55:SER:HB3	49:S:58:ARG:HG2	1.97	0.46
1:3:142:G:H2'	1:3:143:A:O4'	2.15	0.46
1:3:192:A:H2	55:Y:54:GLN:HE22	1.64	0.46
1:3:560:A:H5''	1:3:561:U:H5'	1.98	0.46
1:3:984:C:H2'	1:3:985:C:H6	1.80	0.46
2:1:320:A:H2	2:1:323:C:H5	1.63	0.46
2:1:562:U:H2'	2:1:572:A:O4'	2.16	0.46
2:1:996:A:OP2	20:q:92:LYS:HD2	2.16	0.46
2:1:1317:G:H2'	2:1:1318:U:H6	1.80	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:1328:A:H2'	2:1:1330:C:C4	2.51	0.46
2:1:1537:G:C4	2:1:1538:G:H1'	2.51	0.46
2:1:1821:A:O2'	2:1:1822:C:H5'	2.16	0.46
2:1:1825:U:H2'	2:1:1826:G:C8	2.50	0.46
2:1:2680:U:H5'	6:c:194:PRO:HA	1.97	0.46
5:b:229:HIS:CD2	5:b:231:HIS:H	2.34	0.46
11:a:41:SER:HA	11:a:177:LYS:HA	1.98	0.46
37:G:113:LEU:HD13	37:G:143:LEU:HB3	1.98	0.46
42:L:122:GLU:O	42:L:126:ALA:N	2.47	0.46
47:Q:39:THR:HG22	47:Q:49:ARG:HB2	1.98	0.46
1:3:113:G:H1'	1:3:354:G:H5'	1.98	0.46
1:3:134:G:H2'	1:3:135:C:O4'	2.16	0.46
1:3:734:G:O2'	1:3:735:C:H5'	2.16	0.46
2:1:678:C:H42	2:1:799:G:H1	1.62	0.46
2:1:948:C:H1'	2:1:984:A:O2'	2.15	0.46
2:1:1128:G:N7	2:1:1129:A:C6	2.83	0.46
2:1:1168:G:H2'	2:1:1169:A:O4'	2.16	0.46
2:1:1614:A:N6	22:s:87:PRO:HA	2.31	0.46
2:1:1668:A:N1	2:1:1676:A:N1	2.63	0.46
2:1:1817:G:H5''	5:b:86:ARG:HG2	1.98	0.46
2:1:2415:G:H4'	15:l:66:PHE:H	1.81	0.46
2:1:2729:G:H4'	6:c:190:LYS:HE2	1.97	0.46
3:2:32:U:H2'	3:2:33:G:H8	1.81	0.46
7:d:126:VAL:O	7:d:156:ASN:ND2	2.46	0.46
9:f:40:VAL:O	9:f:54:ARG:NH2	2.33	0.46
13:j:16:TYR:HB3	13:j:140:LEU:HB2	1.98	0.46
46:P:92:ARG:O	56:Z:16:ARG:NH1	2.48	0.46
49:S:8:ARG:O	49:S:12:ARG:NE	2.41	0.46
1:3:854:U:H2'	1:3:855:U:C6	2.51	0.46
1:3:1197:A:H3'	1:3:1197:A:OP2	2.16	0.46
1:3:1511:G:H2'	1:3:1512:U:O4'	2.15	0.46
2:1:183:C:C2'	2:1:184:C:H5'	2.46	0.46
2:1:890:C:H5'	8:e:177:ARG:HH22	1.81	0.46
2:1:920:A:O2'	2:1:921:C:H5'	2.16	0.46
2:1:1657:U:H2'	2:1:1658:C:H6	1.80	0.46
2:1:1698:A:O4'	2:1:1700:A:H4'	2.15	0.46
2:1:2334:U:H5'	18:o:12:THR:HB	1.97	0.46
2:1:2358:A:H2'	2:1:2359:C:O4'	2.15	0.46
2:1:2515:C:O2'	2:1:2516:A:H5'	2.16	0.46
9:f:142:GLN:O	9:f:142:GLN:NE2	2.49	0.46
36:5:8:U:H1'	36:5:21:A:H2	1.81	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:G:159:ALA:HB3	37:G:183:PHE:HE2	1.76	0.46
39:I:98:ASP:HA	39:I:101:VAL:HG22	1.97	0.46
1:3:427:U:H5''	1:3:542:G:OP1	2.17	0.45
1:3:451:A:H4'	1:3:452:A:O4'	2.15	0.45
1:3:720:C:H5''	53:W:40:PRO:HA	1.97	0.45
1:3:887:G:C2'	1:3:888:G:H5'	2.45	0.45
1:3:1101:A:H4'	1:3:1102:A:O5'	2.16	0.45
1:3:1156:G:H21	1:3:1179:A:H61	1.62	0.45
1:3:1308:U:OP2	48:R:86:ARG:NH2	2.49	0.45
1:3:1354:U:H2'	1:3:1355:G:H8	1.80	0.45
2:1:210:C:O2'	2:1:211:C:H5'	2.16	0.45
2:1:511:U:H4'	2:1:1235:G:H4'	1.97	0.45
2:1:558:U:H2'	2:1:559:G:C8	2.48	0.45
2:1:664:G:H1'	2:1:940:G:OP1	2.17	0.45
2:1:850:U:H3	2:1:928:A:H61	1.64	0.45
2:1:1621:U:H2'	2:1:1622:G:C8	2.51	0.45
2:1:1633:G:N7	2:1:1635:A:N7	2.65	0.45
2:1:1975:G:H2'	2:1:1976:U:O4'	2.16	0.45
2:1:2012:G:H4'	22:s:96:ILE:HD11	1.97	0.45
2:1:2204:G:O5'	5:b:149:LYS:HE2	2.17	0.45
2:1:2544:G:H2'	2:1:2545:G:H8	1.82	0.45
2:1:2563:U:C2'	2:1:2564:A:H5''	2.46	0.45
10:g:41:LYS:HD3	10:g:44:ILE:HD12	1.99	0.45
17:n:87:PHE:HE1	17:n:116:VAL:HB	1.80	0.45
44:N:19:PHE:O	44:N:63:TYR:N	2.45	0.45
45:O:48:ARG:HA	45:O:66:GLU:HG3	1.98	0.45
49:S:80:ARG:HA	49:S:83:VAL:HG12	1.97	0.45
1:3:79:G:H2'	1:3:80:A:H5'	1.97	0.45
1:3:422:C:H4'	1:3:423:G:C2	2.51	0.45
1:3:1478:U:O2'	1:3:1479:C:H5'	2.17	0.45
2:1:19:A:H2'	2:1:20:C:C6	2.51	0.45
2:1:235:U:H2'	2:1:236:C:C6	2.51	0.45
2:1:831:G:O2'	15:l:38:GLN:NE2	2.45	0.45
2:1:1141:U:H4'	2:1:1142:A:O4'	2.16	0.45
2:1:1227:G:H2'	2:1:1228:G:C8	2.52	0.45
2:1:1279:G:H2'	2:1:1280:G:H8	1.82	0.45
2:1:1353:A:H4'	5:b:35:LYS:HZ2	1.81	0.45
2:1:1365:A:OP1	27:x:27:ARG:NH2	2.45	0.45
2:1:1435:G:O2'	2:1:1436:G:H5'	2.16	0.45
2:1:1753:G:N2	2:1:1755:A:H3'	2.30	0.45
2:1:2004:G:H2'	2:1:2005:A:O4'	2.16	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:2563:U:H2'	2:1:2564:A:H5''	1.98	0.45
2:1:2689:U:H3'	2:1:2690:U:H5'	1.97	0.45
14:k:12:ASP:OD2	14:k:12:ASP:N	2.49	0.45
25:v:6:ALA:HB3	25:v:65:VAL:HB	1.99	0.45
34:F:14:CYS:HA	34:F:27:CYS:HB2	1.96	0.45
53:W:11:ARG:HH21	53:W:12:PHE:HA	1.81	0.45
1:3:327:A:N3	1:3:329:A:H1'	2.31	0.45
1:3:407:U:H2'	1:3:408:A:C8	2.50	0.45
1:3:740:U:H2'	1:3:741:G:H8	1.81	0.45
1:3:948:C:H2'	1:3:949:A:H8	1.81	0.45
1:3:1048:G:H2'	1:3:1050:G:H8	1.82	0.45
1:3:1283:U:H2'	1:3:1284:C:C6	2.51	0.45
2:1:96:C:H2'	2:1:97:C:C6	2.51	0.45
2:1:483:A:O4'	24:u:44:HIS:HB3	2.17	0.45
2:1:906:U:C2'	2:1:907:G:H5''	2.38	0.45
2:1:1825:U:H2'	2:1:1826:G:H8	1.81	0.45
2:1:1872:A:C2'	2:1:1873:G:H5'	2.47	0.45
2:1:2341:G:H2'	2:1:2342:C:O4'	2.16	0.45
2:1:2418:A:C2	2:1:2419:U:H1'	2.51	0.45
2:1:2674:G:H4'	14:k:30:ARG:HD3	1.98	0.45
14:k:121:GLU:HG3	14:k:122:VAL:HG23	1.97	0.45
20:q:89:ILE:HG13	20:q:93:ILE:HD11	1.97	0.45
36:5:69:G:H2'	36:5:70:C:O4'	2.16	0.45
40:J:90:GLY:O	40:J:129:SER:OG	2.31	0.45
1:3:325:A:N6	1:3:326:G:N1	2.65	0.45
1:3:614:C:C3'	1:3:615:G:H5''	2.45	0.45
1:3:1065:U:H1'	1:3:1066:C:H5	1.81	0.45
2:1:169:G:H2'	2:1:170:U:C6	2.52	0.45
2:1:786:C:O2'	2:1:787:C:H5'	2.16	0.45
2:1:841:G:H2'	2:1:842:U:H6	1.79	0.45
2:1:1754:A:O2'	19:p:102:ARG:NH2	2.49	0.45
15:l:79:LEU:H	15:l:113:ALA:HB3	1.81	0.45
24:u:82:VAL:HG13	24:u:93:ARG:HB3	1.98	0.45
41:K:78:PHE:HB3	41:K:84:VAL:HG11	1.97	0.45
43:M:35:ILE:HA	43:M:38:VAL:HG12	1.98	0.45
1:3:102:G:H2'	1:3:103:U:H6	1.80	0.45
1:3:691:G:O2'	1:3:797:C:H4'	2.17	0.45
1:3:1329:A:O2'	1:3:1330:U:H5'	2.17	0.45
1:3:1345:U:H4'	1:3:1346:A:H5''	1.97	0.45
1:3:1391:U:H2'	1:3:1392:G:C8	2.51	0.45
2:1:86:G:O2'	2:1:87:U:H5'	2.17	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:961:C:C1'	2:1:2031:A:H61	2.29	0.45
2:1:1699:G:O2'	2:1:1763:G:N2	2.50	0.45
2:1:1986:C:H2'	2:1:1987:A:H8	1.80	0.45
2:1:2044:C:H42	2:1:2624:G:H1	1.65	0.45
3:2:3:C:C3'	3:2:4:C:H5''	2.46	0.45
3:2:106:G:H2'	3:2:107:G:O4'	2.17	0.45
9:f:86:LEU:HB3	9:f:130:ILE:HB	1.99	0.45
12:i:55:PRO:HG2	12:i:71:LYS:HE3	1.99	0.45
15:l:29:LYS:HE3	21:r:82:HIS:CD2	2.51	0.45
24:u:88:ASP:OD1	24:u:88:ASP:N	2.48	0.45
37:G:22:TRP:HE1	37:G:38:HIS:CG	2.35	0.45
47:Q:120:ARG:O	47:Q:122:LYS:N	2.46	0.45
49:S:47:LEU:HA	49:S:50:LEU:HB2	1.99	0.45
55:Y:35:TYR:HA	55:Y:38:ILE:HD12	1.98	0.45
1:3:1042:A:O2'	1:3:1043:G:H5'	2.17	0.45
1:3:1369:C:OP1	44:N:112:ARG:HB2	2.17	0.45
2:1:745:G:O2'	2:1:748:G:H1'	2.17	0.45
2:1:903:C:H2'	2:1:904:G:H8	1.82	0.45
2:1:1652:A:C2'	2:1:1653:G:H5'	2.46	0.45
2:1:1765:U:H2'	2:1:1766:G:C8	2.51	0.45
2:1:1782:U:H6	2:1:1782:U:O5'	2.00	0.45
2:1:1856:U:H2'	2:1:1857:G:O4'	2.17	0.45
2:1:2038:G:O2'	2:1:2039:U:H5'	2.17	0.45
2:1:2386:A:H2'	2:1:2387:U:C6	2.51	0.45
2:1:2543:G:H2'	2:1:2544:G:O4'	2.16	0.45
2:1:2682:A:C2	6:c:23:PRO:HB3	2.52	0.45
2:1:2730:C:O2'	2:1:2731:G:H5'	2.17	0.45
2:1:2814:A:H2	2:1:2887:A:H61	1.64	0.45
49:S:30:ILE:O	49:S:40:ARG:NH2	2.49	0.45
56:Z:28:LEU:HA	56:Z:31:VAL:HG12	1.99	0.45
1:3:259:G:H2'	1:3:260:G:O4'	2.17	0.45
1:3:556:C:O2'	1:3:557:G:H5'	2.17	0.45
1:3:955:U:H2'	1:3:956:U:C6	2.52	0.45
1:3:1108:G:H5'	38:H:175:HIS:CB	2.45	0.45
1:3:1113:C:H42	1:3:1187:G:H1	1.64	0.45
1:3:1235:U:H2'	1:3:1236:A:O4'	2.17	0.45
1:3:1425:U:O2'	1:3:1426:G:H5'	2.16	0.45
2:1:27:G:N2	2:1:512:G:H1'	2.32	0.45
2:1:139:U:H2'	2:1:140:C:H5	1.82	0.45
2:1:560:C:H2'	2:1:561:G:O4'	2.17	0.45
2:1:862:G:C2	2:1:863:A:H1'	2.52	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:974:G:O5'	21:r:78:ARG:NH2	2.50	0.45
2:1:2313:C:H2'	2:1:2314:A:H8	1.81	0.45
2:1:2689:U:H4'	2:1:2690:U:OP2	2.15	0.45
2:1:2815:C:H2'	2:1:2816:G:H8	1.80	0.45
3:2:45:A:O4'	8:e:91:ARG:HD3	2.16	0.45
10:g:55:GLU:HA	10:g:58:LEU:HB2	1.98	0.45
16:m:41:LEU:HD11	16:m:124:LEU:HB3	1.98	0.45
20:q:101:ASP:OD1	20:q:104:ALA:N	2.48	0.45
38:H:13:ILE:HD12	38:H:177:LEU:HD11	1.97	0.45
46:P:114:PRO:HA	53:W:72:ARG:HH12	1.82	0.45
46:P:124:LYS:HB3	46:P:124:LYS:HE3	1.74	0.45
1:3:346:G:N3	1:3:346:G:H2'	2.30	0.45
1:3:437:U:C5'	39:I:151:GLN:HB3	2.32	0.45
1:3:928:G:H1	1:3:1389:C:N4	2.15	0.45
1:3:1178:G:N2	1:3:1181:G:C8	2.85	0.45
1:3:1404:C:H1'	1:3:1499:A:N1	2.31	0.45
2:1:766:U:H2'	2:1:767:U:O4'	2.17	0.45
2:1:1935:G:H2'	2:1:1962:C:H42	1.82	0.45
2:1:1977:A:O2'	2:1:1978:A:H5'	2.17	0.45
2:1:2014:A:H2'	2:1:2015:A:C8	2.51	0.45
2:1:2615:U:H2'	2:1:2616:C:H5'	1.99	0.45
2:1:2630:G:O4'	2:1:2894:G:H1'	2.17	0.45
9:f:60:GLY:HA2	9:f:63:GLN:HE21	1.81	0.45
12:i:78:LEU:HD23	12:i:128:ILE:HG21	1.98	0.45
18:o:6:ALA:HA	18:o:9:ARG:HG2	1.99	0.45
27:x:64:ASP:OD1	27:x:64:ASP:N	2.46	0.45
31:C:24:LYS:HE2	31:C:26:LYS:HD3	1.97	0.45
38:H:9:ILE:HD12	38:H:9:ILE:HA	1.87	0.45
39:I:96:ARG:HH21	39:I:132:ALA:HB1	1.82	0.45
44:N:48:ARG:O	44:N:52:GLU:N	2.35	0.45
1:3:158:G:H2'	1:3:159:G:H8	1.82	0.45
1:3:672:U:H2'	1:3:673:A:C8	2.51	0.45
1:3:734:G:H2'	1:3:735:C:C6	2.52	0.45
1:3:1519:A:H3'	1:3:1520:C:O4'	2.17	0.45
2:1:646:U:O4	2:1:2368:C:H1'	2.17	0.45
2:1:783:A:H2'	2:1:784:G:H5'	1.99	0.45
2:1:2529:G:H5''	2:1:2530:A:H5''	1.99	0.45
8:e:79:ARG:HH12	36:5:19:G:N2	2.15	0.45
10:g:132:PHE:HB2	10:g:140:ALA:HB3	1.99	0.45
12:i:79:LEU:HD11	12:i:105:LEU:HD12	1.99	0.45
38:H:2:GLN:HG3	38:H:3:LYS:HD3	1.99	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:O:31:ARG:HD2	45:O:32:THR:HG23	1.97	0.45
48:R:86:ARG:HH22	48:R:89:ARG:HH11	1.65	0.45
1:3:616:G:H2'	1:3:617:G:C8	2.52	0.45
1:3:1104:G:H2'	1:3:1105:A:O4'	2.17	0.45
1:3:1333:A:H3'	1:3:1334:G:H8	1.79	0.45
2:1:62:U:H2'	2:1:63:A:N7	2.32	0.45
2:1:631:A:H1'	2:1:2415:G:O2'	2.17	0.45
2:1:677:A:C2	2:1:678:C:C6	3.05	0.45
2:1:888:C:H2'	54:X:28:LYS:NZ	2.32	0.45
2:1:1604:C:H2'	2:1:1605:C:C6	2.52	0.45
2:1:1656:C:OP2	6:c:141:ARG:NH2	2.46	0.45
2:1:1906:G:H2'	2:1:1907:G:C5'	2.41	0.45
2:1:2633:G:H5'	2:1:2812:G:H5'	1.99	0.45
2:1:2638:G:H1'	2:1:2778:A:H61	1.81	0.45
3:2:84:G:H2'	3:2:85:G:H8	1.81	0.45
10:g:55:GLU:O	10:g:59:ALA:N	2.45	0.45
17:n:96:ARG:HH11	17:n:116:VAL:HG13	1.82	0.45
20:q:105:PHE:HA	20:q:108:LEU:HD12	1.99	0.45
28:y:31:GLN:HB3	28:y:37:LEU:HB2	1.98	0.45
36:5:48:C:H5''	36:5:50:G:P	2.56	0.45
41:K:42:TRP:HB2	41:K:59:TYR:HB2	1.99	0.45
43:M:10:LEU:HD23	43:M:10:LEU:HA	1.82	0.45
45:O:28:THR:HG22	45:O:31:ARG:HH21	1.82	0.45
46:P:45:THR:HG23	46:P:48:GLY:H	1.82	0.45
47:Q:89:LEU:H	47:Q:89:LEU:HG	1.51	0.45
52:V:71:SER:H	52:V:72:TRP:CD1	2.34	0.45
1:3:229:U:H5''	51:U:33:ILE:HD11	1.97	0.44
1:3:591:U:H2'	1:3:592:G:H8	1.81	0.44
1:3:817:C:H4'	1:3:818:G:H5''	1.99	0.44
2:1:383:C:C6	2:1:385:C:OP2	2.70	0.44
2:1:974:G:H4'	21:r:78:ARG:CZ	2.46	0.44
2:1:983:A:H2'	2:1:983:A:N3	2.31	0.44
2:1:1239:G:H2'	2:1:1240:U:O4'	2.16	0.44
2:1:1903:G:C2	2:1:1904:G:C8	3.04	0.44
2:1:2498:C:H5'	2:1:2498:C:C6	2.44	0.44
17:n:50:PRO:HA	17:n:53:THR:HG22	1.98	0.44
37:G:185:ILE:HA	37:G:199:ILE:HB	1.98	0.44
40:J:58:ALA:HA	40:J:61:LYS:HB3	2.00	0.44
1:3:156:C:C2'	1:3:157:U:H5'	2.47	0.44
1:3:432:A:H2'	1:3:433:G:H8	1.81	0.44
1:3:756:C:H2'	1:3:757:U:O4'	2.18	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:3:1060:U:H3	1:3:1197:A:H61	1.63	0.44
1:3:1118:U:O2'	1:3:1119:C:H5	2.01	0.44
1:3:1217:C:H2'	1:3:1218:C:C6	2.52	0.44
1:3:1291:U:H2'	1:3:1292:G:C8	2.52	0.44
1:3:1349:A:H1'	1:3:1374:A:N6	2.32	0.44
1:3:1492:A:H2'	1:3:1493:A:H2	1.81	0.44
2:1:90:U:H2'	2:1:91:A:N7	2.33	0.44
2:1:657:U:H2'	2:1:658:U:C6	2.52	0.44
2:1:1217:U:C3'	2:1:1218:G:H5''	2.47	0.44
2:1:1799:G:C2	5:b:153:LEU:HD12	2.52	0.44
2:1:1800:C:OP2	5:b:262:THR:HB	2.17	0.44
2:1:2416:C:H6	2:1:2416:C:O5'	2.00	0.44
2:1:2685:G:H2'	2:1:2686:G:H8	1.82	0.44
2:1:2771:C:O2'	2:1:2772:C:H5'	2.17	0.44
3:2:30:C:C2'	3:2:31:C:H5'	2.47	0.44
5:b:110:LYS:HB3	5:b:110:LYS:HE2	1.79	0.44
5:b:161:VAL:HG11	5:b:173:LEU:HD23	1.98	0.44
5:b:211:ARG:HA	5:b:211:ARG:HD2	1.85	0.44
33:E:7:ARG:HH21	33:E:11:LYS:HG3	1.82	0.44
36:5:71:C:O5'	36:5:71:C:H6	2.00	0.44
37:G:101:THR:HG23	37:G:174:GLU:HB3	1.98	0.44
37:G:159:ALA:CB	37:G:183:PHE:CZ	2.92	0.44
47:Q:29:LYS:HE3	47:Q:30:ARG:H	1.83	0.44
48:R:73:SER:HA	48:R:76:ILE:HB	2.00	0.44
1:3:410:G:H2'	1:3:429:U:C5	2.52	0.44
1:3:563:A:N3	47:Q:11:ARG:NH2	2.65	0.44
1:3:707:U:H2'	1:3:708:C:H6	1.82	0.44
1:3:955:U:H2'	1:3:956:U:H6	1.82	0.44
1:3:1329:A:C5'	48:R:24:VAL:HA	2.41	0.44
1:3:1366:C:H2'	1:3:1367:C:H6	1.83	0.44
2:1:1289:C:O2	2:1:1289:C:H2'	2.16	0.44
2:1:1516:G:C2'	2:1:1517:G:H5'	2.48	0.44
2:1:1567:G:H5''	5:b:84:PRO:CB	2.47	0.44
2:1:1655:A:O3'	6:c:120:GLY:HA3	2.18	0.44
2:1:1838:C:N4	2:1:1898:U:H2'	2.32	0.44
2:1:2036:C:H2'	2:1:2037:A:H8	1.81	0.44
2:1:2454:G:H1	2:1:2498:C:N4	2.15	0.44
8:e:3:LEU:HA	8:e:6:TYR:HB3	1.99	0.44
12:i:79:LEU:HD22	12:i:100:ILE:HD12	1.99	0.44
15:l:13:LYS:HA	15:l:13:LYS:HD3	1.75	0.44
15:l:81:ASP:HA	15:l:84:LYS:HE3	1.99	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:5:23:C:H2'	36:5:24:G:H8	1.82	0.44
40:J:110:MET:HE3	40:J:110:MET:HB2	1.91	0.44
43:M:45:ILE:HG12	43:M:60:LEU:HD12	2.00	0.44
44:N:10:ARG:O	44:N:105:ARG:NH2	2.51	0.44
44:N:116:GLY:H	45:O:62:ARG:NH1	2.16	0.44
49:S:12:ARG:HD2	49:S:59:GLN:HG2	1.99	0.44
1:3:227:G:H1'	51:U:63:GLN:NE2	2.32	0.44
1:3:572:A:H8	1:3:572:A:OP2	2.01	0.44
1:3:682:G:H2'	1:3:683:G:H8	1.81	0.44
1:3:1043:G:H2'	1:3:1044:A:C8	2.53	0.44
1:3:1165:U:H2'	1:3:1166:G:O4'	2.18	0.44
1:3:1184:G:H2'	1:3:1185:G:H5''	1.99	0.44
1:3:1496:C:H3'	1:3:1497:G:O4'	2.17	0.44
2:1:372:G:OP2	27:x:60:LYS:NZ	2.46	0.44
2:1:537:G:N2	2:1:555:G:H2'	2.33	0.44
2:1:614:A:H5'	2:1:616:A:N7	2.31	0.44
2:1:678:C:H2'	2:1:679:C:C6	2.52	0.44
2:1:810:U:C5	15:l:29:LYS:HB2	2.53	0.44
2:1:1652:A:H62	17:n:11:ASN:HD21	1.64	0.44
2:1:1655:A:H2	2:1:2049:G:H4'	1.83	0.44
2:1:2023:C:H42	2:1:2040:G:H1	1.66	0.44
2:1:2094:A:N6	2:1:2195:U:H3	2.03	0.44
2:1:2247:A:H2'	2:1:2248:C:H6	1.80	0.44
2:1:2453:A:H2'	2:1:2454:G:H8	1.82	0.44
2:1:2569:G:O2'	2:1:2570:G:H5'	2.17	0.44
2:1:2697:G:H2'	2:1:2698:U:O4'	2.17	0.44
2:1:2785:C:H4'	6:c:36:GLN:NE2	2.31	0.44
12:i:77:VAL:HA	12:i:80:LYS:HG3	1.99	0.44
47:Q:32:VAL:HG22	47:Q:78:VAL:HG22	1.99	0.44
54:X:18:VAL:HG12	54:X:22:VAL:HG23	1.99	0.44
1:3:502:A:H2'	1:3:503:C:O4'	2.17	0.44
2:1:48:G:H22	2:1:177:G:N2	2.15	0.44
2:1:153:U:H2'	2:1:154:U:H6	1.78	0.44
2:1:263:G:H2'	2:1:264:C:O4'	2.18	0.44
2:1:321:U:OP2	7:d:130:LYS:HA	2.16	0.44
2:1:407:G:H2'	2:1:408:G:C8	2.53	0.44
2:1:1319:C:O2'	2:1:1320:C:H5'	2.18	0.44
2:1:1442:U:H2'	2:1:1443:U:C6	2.53	0.44
2:1:1677:A:O2'	2:1:1678:A:H5'	2.17	0.44
2:1:1994:C:H2'	2:1:1995:U:C6	2.52	0.44
2:1:2142:A:H5''	46:P:12:ARG:NH2	2.29	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:2333:A:H4'	2:1:2334:U:H2'	2.00	0.44
2:1:2685:G:O2'	2:1:2686:G:H5'	2.17	0.44
2:1:2848:G:H8	19:p:94:ALA:HB2	1.82	0.44
24:u:83:GLY:N	24:u:94:PHE:O	2.44	0.44
25:v:49:ASN:O	25:v:53:LYS:NZ	2.45	0.44
27:x:4:CYS:HB3	27:x:9:LYS:H	1.81	0.44
37:G:112:ARG:NH2	37:G:139:GLU:OE2	2.51	0.44
46:P:61:ALA:O	46:P:65:ALA:N	2.44	0.44
47:Q:36:VAL:HG22	47:Q:52:CYS:HB3	1.99	0.44
54:X:55:GLN:HE22	54:X:57:VAL:HB	1.83	0.44
1:3:667:G:H4'	50:T:50:HIS:ND1	2.33	0.44
1:3:1213:A:C6	1:3:1215:G:H1'	2.52	0.44
1:3:1404:C:O2'	1:3:1405:G:H5'	2.17	0.44
2:1:528:A:N1	2:1:2042:A:H2'	2.32	0.44
2:1:1314:C:H2'	2:1:1314:C:O2	2.17	0.44
2:1:1695:G:H2'	2:1:1696:G:O4'	2.17	0.44
2:1:2105:U:H2'	2:1:2106:U:O4'	2.16	0.44
2:1:2615:U:C2	30:B:3:GLN:HA	2.53	0.44
2:1:2743:U:OP2	2:1:2755:C:N4	2.49	0.44
11:a:67:HIS:CG	11:a:184:LYS:HD3	2.53	0.44
12:i:105:LEU:HD21	12:i:128:ILE:HB	1.98	0.44
18:o:75:GLY:HA3	18:o:109:ALA:HB3	2.00	0.44
26:w:33:ILE:HG22	26:w:34:VAL:HG23	1.99	0.44
27:x:5:GLN:O	27:x:73:ARG:NH2	2.51	0.44
37:G:67:LEU:HA	37:G:89:PHE:O	2.17	0.44
39:I:146:GLU:HA	39:I:149:LYS:HB2	1.99	0.44
46:P:93:GLU:O	46:P:97:ARG:N	2.49	0.44
1:3:575:G:H4'	1:3:576:C:C5'	2.38	0.44
1:3:789:U:C2	1:3:791:G:H5''	2.53	0.44
1:3:948:C:H2'	1:3:949:A:C8	2.52	0.44
1:3:1067:A:H61	1:3:1109:C:H5'	1.83	0.44
1:3:1307:U:N3	48:R:108:ARG:HG3	2.29	0.44
1:3:1526:G:O2'	1:3:1527:U:H5'	2.17	0.44
1:3:1535:C:H42	35:4:10:G:H1	1.65	0.44
2:1:76:C:O5'	2:1:76:C:H6	2.00	0.44
2:1:1018:U:O2'	2:1:1019:U:H5'	2.18	0.44
2:1:1658:C:OP1	6:c:140:HIS:NE2	2.50	0.44
2:1:1795:C:H2'	2:1:1796:U:O4'	2.18	0.44
2:1:2009:A:O2'	2:1:2010:G:H5'	2.17	0.44
2:1:2403:C:O2'	2:1:2404:U:H5'	2.17	0.44
2:1:2451:A:H4'	36:5:76:A:C6	2.53	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:2801:G:H2'	2:1:2802:G:C8	2.53	0.44
8:e:49:LEU:O	8:e:53:ALA:N	2.50	0.44
13:j:118:MET:HE3	13:j:118:MET:HB3	1.67	0.44
17:n:21:PHE:HB3	17:n:47:VAL:HG21	2.00	0.44
19:p:48:ALA:HB1	19:p:95:LYS:HD2	2.00	0.44
43:M:9:MET:HA	43:M:26:MET:HE2	1.99	0.44
46:P:23:HIS:HB3	46:P:30:ILE:HG23	2.00	0.44
47:Q:110:LYS:O	47:Q:113:ARG:NH1	2.44	0.44
2:1:77:G:H2'	2:1:78:U:C6	2.53	0.44
2:1:381:G:H1	2:1:393:C:H42	1.64	0.44
2:1:861:A:H2'	2:1:862:G:C8	2.53	0.44
2:1:1000:A:C2	2:1:1155:A:C2	3.06	0.44
2:1:1468:U:H2'	2:1:1522:A:N6	2.33	0.44
2:1:1791:A:H2	2:1:1829:A:O2'	2.01	0.44
2:1:1795:C:C4	2:1:1796:U:C4	3.06	0.44
2:1:1798:U:H5''	5:b:257:ARG:HB2	1.99	0.44
2:1:2011:U:H2'	2:1:2012:G:O4'	2.17	0.44
2:1:2618:G:H2'	2:1:2619:C:C6	2.53	0.44
2:1:2666:C:N4	9:f:107:GLY:O	2.42	0.44
3:2:76:G:H21	25:v:78:GLN:NE2	2.16	0.44
6:c:36:GLN:HB2	6:c:49:GLN:HB3	2.00	0.44
14:k:34:GLY:N	14:k:37:ASP:OD2	2.48	0.44
14:k:65:THR:HA	14:k:82:ASN:HB3	1.99	0.44
15:l:28:GLY:HA3	21:r:82:HIS:CE1	2.52	0.44
29:z:19:HIS:CD2	29:z:50:VAL:HG12	2.53	0.44
40:J:91:SER:HB2	40:J:135:VAL:HG22	1.99	0.44
41:K:51:ILE:HG23	41:K:86:ARG:HE	1.83	0.44
1:3:303:A:O2'	1:3:555:U:H4'	2.18	0.44
1:3:333:U:H2'	1:3:334:C:C6	2.52	0.44
1:3:553:A:H2'	1:3:554:A:H8	1.82	0.44
1:3:691:G:O6	46:P:56:LYS:NZ	2.51	0.44
2:1:1629:U:O2	2:1:2698:U:H5''	2.18	0.44
2:1:2093:G:H5'	10:g:22:LYS:CB	2.48	0.44
2:1:2131:U:O5'	2:1:2133:G:H4'	2.18	0.44
2:1:2470:G:O2'	2:1:2471:A:H5'	2.18	0.44
2:1:2655:G:H4'	2:1:2656:U:H6	1.83	0.44
3:2:29:A:OP2	18:o:32:PRO:HD2	2.18	0.44
3:2:65:U:H3'	3:2:108:A:N6	2.33	0.44
27:x:58:ILE:HD12	27:x:58:ILE:HA	1.82	0.44
1:3:51:A:H4'	1:3:52:C:H5''	2.00	0.43
1:3:593:U:H2'	1:3:594:U:C6	2.53	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:3:637:C:H2'	1:3:638:U:C6	2.53	0.43
1:3:945:G:H2'	1:3:945:G:N3	2.32	0.43
2:1:969:G:H2'	2:1:970:U:H6	1.83	0.43
2:1:1277:G:H2'	2:1:1278:C:C6	2.53	0.43
2:1:1679:A:H2	2:1:1764:C:O4'	2.01	0.43
2:1:1770:G:O2'	2:1:1771:C:H5'	2.18	0.43
2:1:2056:G:C2	2:1:2057:G:C8	3.06	0.43
2:1:2789:C:H2'	2:1:2790:U:H5'	1.99	0.43
12:i:58:ILE:HG22	12:i:68:PHE:HE1	1.83	0.43
15:l:136:GLU:HA	15:l:140:GLY:HA3	1.99	0.43
23:t:7:LEU:HD22	23:t:46:ALA:HB2	2.01	0.43
24:u:38:ILE:HG13	24:u:39:ASN:H	1.82	0.43
26:w:62:LYS:HB2	26:w:79:GLU:HB3	2.00	0.43
35:4:9:G:H4'	53:W:42:ARG:HH22	1.80	0.43
37:G:26:MET:HB2	37:G:192:PRO:HG3	2.00	0.43
40:J:63:MET:O	40:J:67:ARG:NH1	2.51	0.43
46:P:20:ALA:HB2	46:P:81:LEU:HD12	1.99	0.43
47:Q:85:ARG:HA	47:Q:93:ARG:HB2	2.00	0.43
52:V:44:HIS:HB3	52:V:70:LYS:HZ2	1.82	0.43
1:3:582:C:H2'	1:3:583:A:C8	2.53	0.43
1:3:868:C:H2'	1:3:869:G:O4'	2.18	0.43
1:3:1252:A:C4'	1:3:1369:C:H4'	2.48	0.43
1:3:1403:C:H1'	1:3:1500:A:N1	2.33	0.43
1:3:1414:U:H2'	1:3:1415:G:H8	1.82	0.43
1:3:1490:U:C3'	1:3:1491:G:H5''	2.46	0.43
2:1:471:A:H2'	2:1:472:A:H5'	1.98	0.43
2:1:617:G:H2'	2:1:618:G:O4'	2.17	0.43
2:1:723:C:H2'	2:1:724:U:C6	2.54	0.43
2:1:1301:A:O2'	2:1:1302:A:C5'	2.66	0.43
2:1:1464:G:H2'	2:1:1465:G:H8	1.83	0.43
2:1:2124:G:H4'	11:a:174:THR:OG1	2.18	0.43
2:1:2560:A:C6	2:1:2561:U:O4	2.71	0.43
2:1:2560:A:C5	2:1:2561:U:C4	3.06	0.43
2:1:2624:G:H1'	30:B:18:HIS:CE1	2.53	0.43
2:1:2897:U:H2'	2:1:2898:U:C6	2.52	0.43
7:d:19:PHE:HE1	7:d:109:LEU:HD12	1.82	0.43
11:a:41:SER:OG	11:a:42:VAL:N	2.51	0.43
42:L:35:LYS:HE2	42:L:39:GLU:HB2	1.99	0.43
1:3:31:G:H2'	1:3:48:C:H41	1.83	0.43
1:3:907:A:H2'	1:3:908:A:O4'	2.18	0.43
1:3:917:G:H2'	1:3:918:A:C8	2.54	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:3:950:U:H2'	1:3:951:G:C8	2.53	0.43
2:1:118:A:N3	2:1:178:G:H1'	2.34	0.43
2:1:203:A:H8	2:1:204:A:H2'	1.82	0.43
2:1:2283:C:OP1	31:C:3:GLY:N	2.51	0.43
2:1:2366:A:H2'	2:1:2367:G:H5'	2.01	0.43
2:1:2441:U:H2'	2:1:2442:C:O4'	2.17	0.43
3:2:110:C:H2'	3:2:111:U:C6	2.54	0.43
55:Y:80:ALA:HA	55:Y:83:ASN:HB2	2.00	0.43
1:3:272:C:H2'	1:3:273:U:H6	1.83	0.43
1:3:560:A:H3'	1:3:561:U:H5'	2.00	0.43
1:3:737:C:H5'	41:K:89:VAL:HG23	2.00	0.43
1:3:856:C:O2	1:3:856:C:H2'	2.19	0.43
1:3:1167:A:C5	56:Z:66:ARG:HD2	2.53	0.43
1:3:1308:U:O4'	48:R:96:VAL:C	2.60	0.43
1:3:1453:G:H3'	1:3:1453:G:N3	2.33	0.43
2:1:74:A:H2'	2:1:74:A:N3	2.32	0.43
2:1:329:G:O6	24:u:16:LYS:N	2.51	0.43
2:1:435:C:C2'	2:1:436:C:H5'	2.48	0.43
2:1:437:U:H2'	2:1:438:G:C8	2.53	0.43
2:1:1680:U:H3'	2:1:1681:G:H8	1.84	0.43
2:1:2578:G:N2	2:1:2579:C:C2	2.86	0.43
3:2:28:C:H2'	3:2:29:A:C8	2.54	0.43
3:2:104:A:H2'	3:2:105:G:H5'	1.99	0.43
15:l:30:THR:HG21	15:l:35:HIS:HD2	1.83	0.43
45:O:17:LEU:HA	45:O:20:GLN:HE21	1.82	0.43
1:3:63:C:H4'	1:3:380:G:H4'	2.01	0.43
1:3:563:A:H3'	47:Q:11:ARG:NH2	2.34	0.43
1:3:668:G:O2'	1:3:669:G:H5'	2.18	0.43
1:3:1172:C:O2'	1:3:1173:U:H5''	2.18	0.43
1:3:1251:A:H2'	1:3:1252:A:H8	1.79	0.43
2:1:22:C:O5'	2:1:22:C:H6	2.02	0.43
2:1:48:G:N2	2:1:177:G:N2	2.65	0.43
2:1:296:U:O2'	2:1:297:G:H5'	2.18	0.43
2:1:302:C:H2'	2:1:303:G:H8	1.82	0.43
2:1:357:C:H2'	2:1:358:U:H6	1.81	0.43
2:1:381:G:OP1	27:x:15:ASN:HB2	2.17	0.43
2:1:457:A:N1	2:1:470:A:H5''	2.33	0.43
2:1:822:G:O2'	2:1:823:C:H5'	2.19	0.43
2:1:1047:G:H2'	2:1:1110:G:N2	2.33	0.43
2:1:1245:G:H4'	7:d:33:VAL:HG13	1.99	0.43
2:1:2073:C:O2'	2:1:2074:U:H5'	2.19	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:2530:A:N6	9:f:155:PRO:HG3	2.33	0.43
2:1:2746:U:H4'	9:f:137:LYS:HG2	2.00	0.43
2:1:2837:A:H2'	2:1:2838:G:C8	2.52	0.43
8:e:65:LEU:O	8:e:87:LYS:N	2.45	0.43
27:x:18:SER:HG	27:x:22:ASN:H	1.63	0.43
27:x:60:LYS:HD3	27:x:61:LYS:HG3	2.01	0.43
39:I:22:SER:OG	39:I:108:ALA:O	2.30	0.43
40:J:113:VAL:HG12	40:J:114:LEU:HD22	2.01	0.43
49:S:63:CYS:SG	49:S:64:ARG:N	2.91	0.43
1:3:66:A:H4'	1:3:173:U:C4	2.54	0.43
1:3:701:U:OP1	1:3:702:A:H2'	2.18	0.43
1:3:782:A:H2'	1:3:783:C:O4'	2.18	0.43
1:3:860:A:H2'	1:3:861:G:O4'	2.18	0.43
1:3:1474:U:H2'	1:3:1475:G:H8	1.81	0.43
1:3:1509:C:O2'	1:3:1510:C:H5'	2.19	0.43
2:1:1004:U:O2	2:1:1010:A:H2'	2.19	0.43
2:1:1006:C:OP1	13:j:34:ARG:NH2	2.48	0.43
2:1:1434:A:H2'	2:1:1435:G:H8	1.83	0.43
2:1:2312:U:O2'	8:e:67:THR:HG21	2.17	0.43
2:1:2636:C:H4'	6:c:81:GLU:CD	2.44	0.43
2:1:2784:U:O2'	2:1:2785:C:H5'	2.19	0.43
3:2:76:G:N2	25:v:78:GLN:HE22	2.15	0.43
7:d:79:ARG:HG2	7:d:80:SER:H	1.84	0.43
10:g:44:ILE:HA	10:g:47:PHE:HB3	2.01	0.43
11:a:41:SER:HA	11:a:177:LYS:HG3	2.00	0.43
14:k:19:VAL:HG12	14:k:43:ILE:HG23	2.00	0.43
16:m:76:LYS:NZ	16:m:84:LYS:O	2.39	0.43
28:y:12:GLU:O	28:y:16:THR:N	2.49	0.43
36:5:26:A:H61	36:5:44:G:H22	1.65	0.43
39:I:2:ARG:HE	39:I:114:ARG:HD3	1.83	0.43
39:I:149:LYS:HB3	39:I:150:LYS:HE3	2.01	0.43
41:K:12:PRO:HB3	41:K:56:LYS:HD2	2.00	0.43
42:L:71:THR:H	42:L:141:HIS:HE1	1.66	0.43
53:W:48:ALA:HB1	53:W:52:ARG:HH11	1.84	0.43
1:3:129:A:O2'	1:3:130:A:H5''	2.18	0.43
1:3:628:G:O2'	1:3:629:A:H5'	2.19	0.43
1:3:1173:U:H2'	1:3:1174:G:O5'	2.18	0.43
1:3:1314:C:H5''	54:X:5:LYS:CE	2.48	0.43
2:1:1070:A:H2'	2:1:1097:U:OP1	2.19	0.43
2:1:1438:U:O2'	2:1:1439:A:H5'	2.17	0.43
2:1:1788:C:OP1	5:b:220:ARG:NH2	2.52	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:2066:C:O2'	2:1:2067:G:H5'	2.19	0.43
2:1:2073:C:H5''	5:b:227:VAL:HG12	2.01	0.43
2:1:2387:U:O2'	26:w:15:LYS:NZ	2.52	0.43
2:1:2736:A:H2'	2:1:2737:G:C8	2.54	0.43
2:1:2744:G:O2'	2:1:2745:C:H5'	2.19	0.43
2:1:2845:U:H2'	2:1:2846:G:H8	1.81	0.43
7:d:117:ARG:NH2	15:l:2:ARG:HE	2.16	0.43
17:n:59:SER:OG	17:n:61:ALA:N	2.51	0.43
20:q:17:LEU:O	20:q:21:LYS:N	2.47	0.43
21:r:61:ALA:HB1	21:r:96:VAL:HB	2.01	0.43
24:u:94:PHE:HA	24:u:102:ILE:HG13	2.01	0.43
52:V:4:ILE:HD13	52:V:4:ILE:HA	1.88	0.43
1:3:441:A:H5'	1:3:442:G:N7	2.34	0.43
1:3:762:U:O5'	1:3:762:U:H6	2.02	0.43
1:3:908:A:H2'	1:3:909:A:C8	2.53	0.43
1:3:1048:G:OP1	49:S:2:LYS:HA	2.19	0.43
1:3:1069:C:N4	1:3:1106:G:H1	2.16	0.43
2:1:580:U:H2'	2:1:581:C:C6	2.54	0.43
2:1:730:A:O2'	2:1:731:C:H5'	2.19	0.43
2:1:772:C:O2'	2:1:773:U:H5'	2.19	0.43
2:1:1259:G:H2'	2:1:1260:A:H8	1.84	0.43
2:1:1328:A:H2'	2:1:1330:C:C5	2.53	0.43
2:1:1372:U:O2'	2:1:1373:A:H5'	2.19	0.43
2:1:2080:A:H2'	2:1:2081:U:C6	2.54	0.43
2:1:2456:C:O2'	2:1:2457:U:H5'	2.19	0.43
2:1:2619:C:O2'	2:1:2620:C:H5'	2.18	0.43
5:b:70:LYS:HD2	5:b:73:ILE:HD12	2.00	0.43
26:w:19:VAL:HG12	26:w:34:VAL:HG22	2.01	0.43
35:4:12:A:H3'	35:4:13:A:H5''	1.99	0.43
39:I:131:ILE:HB	39:I:134:TYR:HB2	2.00	0.43
46:P:107:THR:O	56:Z:6:ARG:NH1	2.52	0.43
48:R:14:ALA:HB3	48:R:40:GLU:HA	2.00	0.43
1:3:430:A:H5'	39:I:7:LYS:NZ	2.34	0.43
1:3:730:G:C2'	1:3:731:G:H5'	2.49	0.43
1:3:948:C:H5'	1:3:1306:A:O2'	2.19	0.43
1:3:1010:U:H2'	1:3:1011:C:C4'	2.48	0.43
1:3:1160:G:N2	1:3:1176:A:H61	2.16	0.43
1:3:1527:U:O5'	1:3:1527:U:H6	2.02	0.43
2:1:715:A:H5''	50:T:88:ARG:NE	2.33	0.43
2:1:1470:A:H2'	2:1:1471:G:O4'	2.18	0.43
2:1:1499:C:H2'	2:1:1500:G:C8	2.49	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:1569:A:O2'	5:b:35:LYS:HD3	2.18	0.43
2:1:2469:A:N6	2:1:2481:G:H1'	2.33	0.43
2:1:2516:A:O2'	2:1:2517:C:H5'	2.19	0.43
2:1:2518:A:H5'	2:1:2518:A:N3	2.33	0.43
3:2:78:A:H2'	3:2:79:G:O4'	2.19	0.43
9:f:83:THR:HG22	9:f:133:LYS:HG3	1.99	0.43
9:f:116:LEU:HB3	9:f:120:ILE:HB	2.00	0.43
28:y:23:ARG:HA	28:y:23:ARG:HD2	1.65	0.43
36:5:62:C:H2'	36:5:63:U:C6	2.53	0.43
38:H:21:TRP:CG	38:H:58:ARG:HB2	2.54	0.43
1:3:31:G:H2'	1:3:48:C:N4	2.34	0.43
1:3:230:G:H2'	1:3:231:U:C6	2.53	0.43
1:3:458:U:H2'	1:3:459:A:C8	2.54	0.43
1:3:793:U:O2	1:3:1516:G:H4'	2.18	0.43
1:3:1115:U:H5'	45:O:68:ARG:NH1	2.34	0.43
2:1:767:U:H2'	2:1:768:G:H8	1.84	0.43
2:1:1047:G:H2'	2:1:1110:G:C2	2.54	0.43
2:1:1303:G:H5''	2:1:1643:G:O2'	2.19	0.43
2:1:1675:C:H2'	2:1:1676:A:O4'	2.19	0.43
2:1:1869:G:H5'	2:1:1869:G:H8	1.83	0.43
7:d:21:ARG:NH2	7:d:106:LYS:O	2.52	0.43
23:t:23:ALA:HB1	23:t:29:THR:HB	2.00	0.43
25:v:63:ILE:HB	25:v:70:ILE:HB	2.01	0.43
34:F:10:LEU:HD23	34:F:33:HIS:CD2	2.54	0.43
37:G:20:ARG:HB3	37:G:36:LYS:HG3	2.00	0.43
41:K:43:GLY:HA2	41:K:58:HIS:CE1	2.54	0.43
42:L:122:GLU:HA	42:L:125:ASP:HB2	2.01	0.43
44:N:26:LYS:HG3	44:N:61:ASP:HB2	2.01	0.43
54:X:16:LYS:HD2	54:X:16:LYS:HA	1.71	0.43
1:3:123:U:H2'	1:3:124:C:C6	2.54	0.42
1:3:531:U:H5'	1:3:532:A:H2'	2.02	0.42
1:3:759:A:C3'	1:3:760:G:C5'	2.97	0.42
1:3:1172:C:C2'	1:3:1173:U:H5'	2.43	0.42
1:3:1332:A:C2	48:R:107:THR:HG21	2.54	0.42
2:1:10:A:H2'	2:1:11:C:H5'	2.01	0.42
2:1:479:A:N3	2:1:481:G:H5''	2.34	0.42
2:1:538:A:H4'	13:j:7:LYS:HG2	2.00	0.42
2:1:915:C:H6	2:1:915:C:H5'	1.85	0.42
2:1:938:G:H2'	2:1:939:G:H8	1.84	0.42
2:1:1103:A:C3'	2:1:1104:C:H5''	2.40	0.42
2:1:1255:U:H3'	7:d:68:ALA:HB2	2.01	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:1653:G:O6	17:n:11:ASN:N	2.46	0.42
2:1:1773:A:H2'	2:1:1774:C:O4'	2.19	0.42
2:1:1820:U:O2	5:b:200:MET:HB2	2.19	0.42
2:1:2569:G:H2'	2:1:2570:G:H8	1.84	0.42
2:1:2765:A:N3	2:1:2765:A:H2'	2.33	0.42
2:1:2773:C:H2'	2:1:2774:C:H6	1.84	0.42
3:2:109:A:H2'	3:2:110:C:O4'	2.19	0.42
5:b:204:LEU:HB3	5:b:209:ALA:HB3	2.01	0.42
7:d:138:LEU:O	7:d:142:ALA:N	2.52	0.42
12:i:100:ILE:HG12	12:i:137:LEU:HD12	2.01	0.42
15:l:19:LEU:HD12	15:l:19:LEU:HA	1.74	0.42
37:G:25:LYS:HZ3	37:G:25:LYS:HG2	1.58	0.42
42:L:56:SER:HG	42:L:57:GLU:H	1.67	0.42
44:N:97:LEU:HD11	44:N:102:PHE:HB2	2.01	0.42
54:X:19:GLU:OE2	54:X:42:ASN:ND2	2.49	0.42
1:3:161:A:H2'	1:3:162:A:O4'	2.19	0.42
1:3:448:A:H2'	1:3:449:G:O4'	2.18	0.42
1:3:1112:C:H4'	38:H:178:ARG:NH1	2.34	0.42
2:1:832:U:H2'	2:1:833:A:H8	1.84	0.42
2:1:851:C:H4'	29:z:45:GLY:O	2.18	0.42
2:1:1807:G:H2'	2:1:1809:A:N7	2.34	0.42
2:1:1957:C:H2'	2:1:1958:C:C6	2.54	0.42
2:1:2038:G:H2'	2:1:2039:U:O4'	2.19	0.42
2:1:2186:G:H2'	2:1:2187:U:O4'	2.20	0.42
2:1:2720:U:C5'	19:p:52:ARG:HH21	2.31	0.42
3:2:23:G:H2'	3:2:24:G:C8	2.54	0.42
6:c:108:ASP:HB2	6:c:204:LYS:HB2	2.01	0.42
8:e:13:LYS:HD2	8:e:13:LYS:HA	1.87	0.42
20:q:7:VAL:HG23	20:q:8:ILE:HG23	2.00	0.42
22:s:53:SER:O	22:s:57:ASN:N	2.49	0.42
25:v:29:ILE:H	25:v:88:HIS:CE1	2.37	0.42
28:y:21:LEU:HA	28:y:25:GLN:HB3	2.01	0.42
43:M:10:LEU:HB3	43:M:14:ARG:HH21	1.84	0.42
45:O:64:GLN:HB2	49:S:97:LYS:HE2	2.02	0.42
56:Z:23:GLU:HB3	56:Z:27:VAL:HG13	2.01	0.42
1:3:68:G:H2'	1:3:69:G:O4'	2.18	0.42
1:3:429:U:O2'	39:I:21:LYS:HE3	2.19	0.42
1:3:748:G:H2'	1:3:749:A:H8	1.84	0.42
1:3:1171:A:H2'	1:3:1172:C:C6	2.53	0.42
2:1:441:U:H2'	2:1:442:G:C8	2.55	0.42
2:1:515:A:H2	2:1:1261:C:C1'	2.31	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:777:G:N7	2:1:793:A:H2	2.17	0.42
2:1:847:U:O2	2:1:847:U:C2'	2.67	0.42
2:1:885:C:C5	2:1:887:U:O2'	2.71	0.42
2:1:1668:A:O4'	2:1:1669:A:C2	2.72	0.42
2:1:1727:C:H2'	2:1:1728:C:C4'	2.49	0.42
2:1:1727:C:C2'	2:1:1728:C:H5'	2.48	0.42
2:1:1829:A:H2'	2:1:1829:A:N3	2.34	0.42
2:1:2286:G:H4'	2:1:2287:A:O4'	2.19	0.42
2:1:2312:U:H4'	8:e:67:THR:CB	2.50	0.42
2:1:2615:U:C2'	2:1:2616:C:H5'	2.49	0.42
3:2:56:G:C4'	3:2:57:A:H5'	2.37	0.42
5:b:6:LYS:HA	5:b:7:PRO:HD3	1.78	0.42
11:a:179:ASP:OD2	11:a:179:ASP:N	2.46	0.42
18:o:27:VAL:HG13	18:o:95:SER:HB2	2.01	0.42
37:G:216:VAL:O	37:G:219:THR:OG1	2.28	0.42
38:H:59:PRO:HD2	38:H:63:ILE:HA	2.01	0.42
45:O:12:ALA:O	45:O:70:HIS:N	2.39	0.42
48:R:82:LEU:HG	54:X:65:MET:HG3	2.01	0.42
53:W:19:GLU:HB2	53:W:53:GLN:HG2	2.01	0.42
54:X:42:ASN:N	54:X:42:ASN:OD1	2.53	0.42
1:3:8:A:N7	39:I:205:LYS:CB	2.82	0.42
1:3:190:A:H2'	1:3:190:A:N3	2.33	0.42
1:3:254:G:H4'	52:V:19:SER:HB3	2.02	0.42
1:3:780:A:H2'	1:3:781:A:H5''	2.02	0.42
2:1:196:A:H62	15:l:38:GLN:HE22	1.65	0.42
2:1:317:G:H2'	2:1:318:C:O4'	2.20	0.42
2:1:464:U:C4	2:1:788:A:C5	3.07	0.42
2:1:814:C:H2'	2:1:815:C:C6	2.55	0.42
2:1:962:G:H4'	2:1:2496:C:O2'	2.19	0.42
2:1:1906:G:H3'	2:1:1907:G:H5''	2.02	0.42
2:1:2195:U:O2'	2:1:2196:C:H5'	2.20	0.42
2:1:2396:G:H1	2:1:2420:C:H42	1.66	0.42
2:1:2831:G:OP2	6:c:56:LYS:NZ	2.51	0.42
2:1:2854:G:H2'	2:1:2855:C:C6	2.53	0.42
3:2:2:G:H2'	3:2:3:C:H6	1.81	0.42
3:2:100:G:H2'	3:2:101:A:O4'	2.19	0.42
4:6:17(A):U:H3'	4:6:17(A):U:OP2	2.19	0.42
20:q:110:GLU:HG2	20:q:113:LYS:HD2	2.01	0.42
24:u:40:LEU:HD22	24:u:61:GLU:HG3	2.01	0.42
36:5:57:G:H2'	36:5:58:A:H5'	2.01	0.42
44:N:82:ILE:HG22	44:N:86:LEU:HG	2.00	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:3:235:C:H5'	52:V:71:SER:OG	2.20	0.42
1:3:399:G:H2'	1:3:400:C:C6	2.54	0.42
1:3:778:G:H21	46:P:121:ARG:CB	2.33	0.42
1:3:1095:U:H2'	1:3:1096:C:O4'	2.20	0.42
1:3:1405:G:H1	1:3:1496:C:N4	2.17	0.42
2:1:16:C:O2'	2:1:17:G:H5'	2.19	0.42
2:1:853:C:H2'	2:1:854:C:O4'	2.20	0.42
2:1:1340:U:H3'	23:t:61:LEU:HD22	2.00	0.42
2:1:1367:A:H2'	2:1:1368:G:H5'	2.01	0.42
2:1:1440:U:H2'	2:1:1441:G:C8	2.54	0.42
2:1:1657:U:H2'	2:1:1658:C:C6	2.54	0.42
2:1:1727:C:H2'	2:1:1728:C:C5'	2.49	0.42
3:2:52:A:H2'	3:2:52:A:N3	2.34	0.42
6:c:14:ILE:HD11	19:p:7:LEU:HD12	2.01	0.42
9:f:82:PHE:O	9:f:134:GLY:N	2.52	0.42
20:q:18:LYS:HE2	20:q:18:LYS:HB3	1.92	0.42
29:z:7:THR:O	29:z:55:LYS:N	2.52	0.42
37:G:162:VAL:HG23	37:G:184:ALA:CA	2.49	0.42
41:K:75:GLU:OE1	41:K:76:THR:OG1	2.38	0.42
1:3:33:A:O2'	1:3:34:C:H5'	2.19	0.42
1:3:330:C:C2'	1:3:331:G:H5'	2.49	0.42
1:3:833:G:H2'	1:3:834:U:C6	2.55	0.42
1:3:1351:U:H4'	42:L:32:ASP:OD1	2.18	0.42
2:1:57:C:H2'	2:1:58:G:O4'	2.20	0.42
2:1:866:A:H2'	2:1:867:C:O4'	2.19	0.42
2:1:889:C:H2'	2:1:890:C:C1'	2.49	0.42
2:1:998:C:H2'	2:1:999:U:O4'	2.19	0.42
2:1:1161:C:H2'	2:1:1162:G:H8	1.85	0.42
2:1:2354:C:O2'	2:1:2355:G:H5'	2.19	0.42
2:1:2553:G:C2	2:1:2554:U:H1'	2.54	0.42
2:1:2563:U:H3'	2:1:2564:A:H5''	1.98	0.42
5:b:231:HIS:NE2	5:b:243:PRO:HA	2.34	0.42
7:d:21:ARG:HH22	7:d:106:LYS:HB3	1.84	0.42
28:y:8:GLU:HB3	28:y:13:GLU:HB3	2.02	0.42
32:D:43:THR:OG1	32:D:44:VAL:N	2.53	0.42
33:E:37:THR:HA	33:E:40:LYS:HG2	2.01	0.42
38:H:123:LEU:HD11	38:H:129:PHE:HB3	2.02	0.42
1:3:553:A:H2'	1:3:554:A:C8	2.55	0.42
1:3:1535:C:C2'	1:3:1536:C:H5'	2.49	0.42
2:1:558:U:OP1	13:j:113:PRO:N	2.53	0.42
2:1:1042:G:H2'	2:1:1043:C:O4'	2.19	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:1341:G:O3'	23:t:59:ASN:HB3	2.19	0.42
2:1:2028:U:H2'	2:1:2029:G:O4'	2.19	0.42
2:1:2043:C:C2	2:1:2044:C:C5	3.08	0.42
2:1:2312:U:H1'	8:e:38:GLY:HA3	2.02	0.42
2:1:2315:G:H21	8:e:124:ARG:HH22	1.68	0.42
5:b:1:ALA:N	5:b:19:VAL:O	2.37	0.42
5:b:244:VAL:HA	5:b:250:GLN:HA	2.02	0.42
6:c:181:ASP:OD1	6:c:184:ARG:N	2.49	0.42
7:d:112:LEU:HD12	7:d:112:LEU:HA	1.90	0.42
8:e:116:LEU:HB3	8:e:176:PHE:HA	2.01	0.42
25:v:68:LYS:HE2	25:v:68:LYS:HB2	1.88	0.42
39:I:12:ARG:NE	39:I:36:ALA:O	2.36	0.42
42:L:27:ASN:HA	42:L:30:MET:HB2	2.01	0.42
1:3:294:U:H3	1:3:303:A:H61	1.67	0.42
1:3:1034:G:C5	1:3:1035:A:H1'	2.54	0.42
1:3:1147:C:O2	44:N:17:ARG:NH2	2.53	0.42
1:3:1184:G:H2'	1:3:1184:G:N3	2.34	0.42
1:3:1369:C:OP2	44:N:112:ARG:HB2	2.20	0.42
2:1:196:A:O2'	2:1:197:A:H5'	2.20	0.42
2:1:439:A:H2'	2:1:440:C:O4'	2.19	0.42
2:1:631:A:OP1	33:E:46:LYS:NZ	2.46	0.42
2:1:1383:A:H2	2:1:1406:U:H1'	1.85	0.42
2:1:1697:G:H3'	2:1:1698:A:H2'	2.01	0.42
2:1:1785:A:H2'	2:1:1786:A:H5'	2.01	0.42
2:1:1904:G:H2'	2:1:1905:C:O4'	2.20	0.42
2:1:1965:C:H5''	2:1:1966:A:H2'	2.02	0.42
2:1:2367:G:H2'	2:1:2368:C:C6	2.54	0.42
2:1:2390:U:O5'	33:E:34:LYS:HD3	2.19	0.42
2:1:2488:G:H2'	2:1:2489:U:C6	2.55	0.42
2:1:2637:U:H6	2:1:2637:U:O5'	2.03	0.42
5:b:95:TYR:OH	5:b:101:ARG:NH2	2.47	0.42
7:d:65:THR:HG22	7:d:67:ARG:H	1.84	0.42
8:e:28:PRO:HB3	8:e:164:GLU:HG2	2.01	0.42
8:e:168:LEU:HD23	8:e:169:LEU:HD22	2.01	0.42
11:a:173:THR:OG1	11:a:174:THR:N	2.52	0.42
12:i:73:PRO:HA	12:i:74:PRO:HD3	1.84	0.42
17:n:69:ARG:HB3	17:n:70:THR:HG23	2.02	0.42
18:o:68:LYS:O	18:o:72:ALA:N	2.53	0.42
38:H:17:TRP:CD1	38:H:19:SER:H	2.38	0.42
39:I:84:ASN:O	39:I:88:ASN:N	2.49	0.42
42:L:118:ARG:O	42:L:122:GLU:N	2.48	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Q:7:VAL:HG23	52:V:30:HIS:HE1	1.84	0.42
1:3:674:G:P	41:K:86:ARG:HH22	2.43	0.42
1:3:1090:U:O2	1:3:1090:U:H2'	2.20	0.42
1:3:1411:C:H2'	1:3:1412:C:H6	1.84	0.42
1:3:1435:G:H2'	1:3:1436:U:C6	2.55	0.42
1:3:1464:U:H2'	1:3:1465:A:H8	1.81	0.42
2:1:537:G:H4'	13:j:5:THR:HG21	2.01	0.42
2:1:608:A:H2'	2:1:609:A:H8	1.85	0.42
2:1:1030:C:N4	2:1:1124:G:H1	2.14	0.42
2:1:1402:U:H3'	2:1:1403:A:H5''	2.01	0.42
2:1:1893:C:C2'	2:1:1894:C:H5'	2.50	0.42
2:1:2468:A:H4'	16:m:119:LEU:HD11	2.02	0.42
2:1:2495:G:H5''	16:m:81:ARG:HA	2.02	0.42
2:1:2593:U:H2'	2:1:2594:C:C5	2.55	0.42
5:b:141:HIS:CD2	5:b:142:ASN:HB2	2.53	0.42
7:d:166:LYS:HG3	7:d:167:VAL:HG23	2.01	0.42
39:I:77:GLU:HA	39:I:80:ARG:HE	1.85	0.42
40:J:65:LYS:O	40:J:69:ASN:ND2	2.53	0.42
52:V:76:ARG:HE	52:V:78:VAL:HA	1.84	0.42
1:3:27:G:H2'	1:3:28:A:O4'	2.19	0.42
1:3:683:G:H2'	1:3:684:U:C6	2.55	0.42
1:3:890:G:H1'	1:3:906:A:N6	2.34	0.42
1:3:1342:C:O2'	44:N:125:GLN:HG3	2.20	0.42
1:3:1405:G:H21	1:3:1518:A:H8	1.68	0.42
2:1:112:U:H2'	2:1:113:U:H5'	2.01	0.42
2:1:252:G:N2	2:1:253:C:H1'	2.34	0.42
2:1:1675:C:N3	6:c:134:HIS:CE1	2.88	0.42
2:1:1727:C:H2'	2:1:1728:C:H5'	2.02	0.42
2:1:2066:C:C2'	2:1:2067:G:H5'	2.50	0.42
2:1:2204:G:H2'	2:1:2205:A:C8	2.55	0.42
2:1:2455:G:H2'	2:1:2456:C:H6	1.83	0.42
2:1:2646:C:H42	2:1:2674:G:H1	1.67	0.42
2:1:2704:C:H2'	2:1:2705:A:O4'	2.20	0.42
2:1:2820:A:C6	6:c:197:THR:HB	2.55	0.42
2:1:2835:A:N6	2:1:2878:U:H2'	2.34	0.42
3:2:30:C:H2'	3:2:31:C:C5'	2.50	0.42
7:d:48:THR:HB	7:d:86:ALA:HB3	2.01	0.42
16:m:50:ARG:O	16:m:54:THR:OG1	2.30	0.42
19:p:25:VAL:HG12	19:p:85:VAL:HA	2.02	0.42
20:q:78:PHE:CE1	20:q:109:VAL:HG22	2.54	0.42
22:s:85:ILE:HG22	22:s:95:ARG:HG2	2.02	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:y:48:ARG:O	28:y:52:ARG:N	2.52	0.42
36:5:61:C:H2'	36:5:62:C:C6	2.55	0.42
37:G:162:VAL:HG23	37:G:184:ALA:HA	2.02	0.42
39:I:9:LYS:HA	39:I:12:ARG:HG3	2.01	0.42
39:I:98:ASP:OD1	39:I:98:ASP:N	2.46	0.42
45:O:7:ARG:N	45:O:101:SER:O	2.53	0.42
1:3:36:C:C5'	47:Q:119:LYS:HA	2.47	0.41
1:3:77:A:H2	1:3:92:U:H3	1.68	0.41
1:3:778:G:H2'	1:3:779:C:O4'	2.19	0.41
1:3:976:G:C2	1:3:1362:A:H2'	2.55	0.41
1:3:1117:A:H4'	44:N:105:ARG:HD2	2.01	0.41
2:1:28:A:H1'	2:1:513:A:C2	2.55	0.41
2:1:822:G:H2'	2:1:823:C:H6	1.84	0.41
2:1:935:C:H2'	2:1:936:A:C8	2.53	0.41
2:1:1082:U:C3'	2:1:1083:U:H5''	2.47	0.41
2:1:2530:A:H2'	2:1:2531:A:C5'	2.41	0.41
2:1:2579:C:O3'	6:c:137:SER:OG	2.38	0.41
2:1:2834:G:H2'	2:1:2879:A:N6	2.34	0.41
2:1:2834:G:O6	2:1:2879:A:H2'	2.20	0.41
2:1:2847:U:O2'	2:1:2848:G:H5'	2.20	0.41
7:d:143:LEU:HB3	7:d:185:LYS:HG3	2.02	0.41
11:a:51:ASP:O	11:a:57:GLN:NE2	2.53	0.41
18:o:24:THR:HB	18:o:90:VAL:HA	2.02	0.41
25:v:79:ARG:HH11	25:v:79:ARG:HA	1.85	0.41
1:3:330:C:O2'	1:3:331:G:H5'	2.19	0.41
1:3:373:A:O4'	1:3:481:G:H5'	2.19	0.41
1:3:560:A:C4'	1:3:561:U:H5'	2.49	0.41
1:3:563:A:C2	47:Q:11:ARG:NH2	2.89	0.41
1:3:824:G:H2'	1:3:825:A:H8	1.85	0.41
1:3:835:U:C3'	1:3:836:G:H5''	2.49	0.41
1:3:1062:U:H2'	1:3:1063:C:C6	2.55	0.41
1:3:1175:G:H2'	1:3:1176:A:C8	2.54	0.41
2:1:251:A:H2'	2:1:252:G:O4'	2.20	0.41
2:1:318:C:H2'	2:1:319:G:C8	2.55	0.41
2:1:785:G:N3	2:1:785:G:H2'	2.34	0.41
2:1:1070:A:H61	12:i:26:ALA:HB2	1.85	0.41
2:1:1848:A:O2'	2:1:1849:G:H5'	2.20	0.41
2:1:2258:C:O2'	2:1:2426:A:H4'	2.19	0.41
2:1:2452:C:H2'	2:1:2453:A:O4'	2.20	0.41
6:c:113:SER:OG	6:c:114:LYS:N	2.53	0.41
15:l:39:LYS:HD3	15:l:39:LYS:HA	1.91	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:K:11:HIS:HE1	41:K:54:LEU:HD21	1.85	0.41
43:M:82:LEU:HD12	52:V:35:LYS:HD3	2.02	0.41
55:Y:56:ILE:HA	55:Y:59:ARG:HB2	2.01	0.41
1:3:76:G:H1	1:3:93:U:H3	1.69	0.41
1:3:465:A:H2'	1:3:465:A:N3	2.35	0.41
1:3:517:G:H2'	1:3:531:U:H1'	2.02	0.41
1:3:731:G:H2'	1:3:732:C:O4'	2.20	0.41
1:3:974:A:H4'	1:3:976:G:H4'	2.01	0.41
2:1:1170:C:H2'	2:1:1171:G:C8	2.56	0.41
2:1:1593:A:H2'	2:1:1594:U:O4'	2.21	0.41
2:1:1794:A:H2'	2:1:1795:C:C6	2.54	0.41
2:1:1805:A:H4'	5:b:247:TRP:CE2	2.54	0.41
2:1:1818:U:C5	5:b:155:ARG:NH1	2.89	0.41
2:1:2604:U:H2'	2:1:2605:U:C6	2.55	0.41
2:1:2801:G:OP2	2:1:2801:G:H8	2.03	0.41
5:b:75:ALA:HB3	5:b:115:ILE:HG13	2.03	0.41
18:o:74:VAL:HG23	18:o:106:LEU:HD13	2.01	0.41
55:Y:11:ILE:HA	55:Y:14:GLU:HG2	2.02	0.41
1:3:299:G:C6	1:3:300:A:C6	3.08	0.41
1:3:323:U:H2'	1:3:324:G:O4'	2.21	0.41
1:3:463:U:H2'	1:3:464:U:H5'	2.02	0.41
2:1:633:A:H4'	2:1:2404:U:H5''	2.02	0.41
2:1:676:A:H62	2:1:802:A:H61	1.69	0.41
2:1:869:G:H2'	2:1:870:U:C6	2.54	0.41
2:1:1056:G:N1	2:1:1102:C:OP2	2.48	0.41
2:1:1463:C:H2'	2:1:1464:G:C8	2.55	0.41
2:1:2013:A:H61	2:1:2613:U:H3	1.67	0.41
2:1:2025:C:H2'	2:1:2026:U:C6	2.55	0.41
2:1:2208:C:H2'	2:1:2209:G:H8	1.84	0.41
2:1:2242:G:H2'	2:1:2243:U:O4'	2.20	0.41
2:1:2650:U:H2'	2:1:2651:C:C6	2.56	0.41
3:2:7:G:H2'	3:2:8:C:O4'	2.20	0.41
7:d:200:LEU:HD13	7:d:200:LEU:HA	1.93	0.41
8:e:4:HIS:HB2	8:e:96:TRP:CG	2.56	0.41
8:e:107:VAL:HG21	8:e:175:PRO:HG2	2.01	0.41
11:a:14:LYS:HD3	11:a:32:GLU:HB3	2.02	0.41
13:j:36:LEU:HD12	13:j:54:ILE:HD12	2.02	0.41
16:m:78:LEU:HD13	16:m:78:LEU:HA	1.86	0.41
17:n:34:ILE:HD11	17:n:113:ILE:HD11	2.03	0.41
19:p:50:ARG:N	19:p:57:ALA:O	2.53	0.41
27:x:17:ARG:HD3	27:x:23:ALA:HB2	2.01	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:C:24:LYS:HB2	31:C:24:LYS:HE3	1.93	0.41
33:E:30:HIS:O	33:E:32:LEU:N	2.53	0.41
40:J:92:ARG:HB2	40:J:127:TYR:HB2	2.02	0.41
44:N:114:LYS:HD3	44:N:115:VAL:H	1.86	0.41
50:T:16:ARG:H	50:T:20:ASP:CG	2.28	0.41
1:3:405:U:H1'	1:3:498:A:H2'	2.01	0.41
1:3:445:G:H2'	1:3:445:G:N3	2.35	0.41
1:3:554:A:H5'	47:Q:25:ALA:HA	2.03	0.41
1:3:582:C:H42	1:3:759:A:H62	1.69	0.41
1:3:717:U:H2'	1:3:734:G:OP2	2.21	0.41
1:3:723:U:H3'	56:Z:48:LYS:HD3	2.03	0.41
1:3:1283:U:H2'	1:3:1284:C:H6	1.86	0.41
1:3:1291:U:H2'	1:3:1292:G:H8	1.86	0.41
1:3:1317:C:OP2	49:S:27:LYS:HE3	2.21	0.41
2:1:181:A:O2'	2:1:182:A:H5'	2.21	0.41
2:1:259:G:O2'	2:1:260:G:H5'	2.20	0.41
2:1:1709:U:H2'	2:1:1710:G:C8	2.55	0.41
2:1:1831:G:N2	2:1:1975:G:H1'	2.34	0.41
2:1:2421:G:H2'	4:6:76:A:H62	1.85	0.41
2:1:2648:G:H2'	2:1:2649:C:H6	1.85	0.41
10:g:99:ILE:HD12	10:g:102:ALA:HB3	2.02	0.41
14:k:35:VAL:HG22	14:k:69:VAL:HG22	2.03	0.41
17:n:90:ARG:HH12	17:n:116:VAL:HG11	1.85	0.41
18:o:94:ARG:NH2	18:o:97:PHE:O	2.44	0.41
19:p:24:THR:HB	19:p:87:ARG:HB3	2.00	0.41
20:q:58:GLN:HE21	20:q:58:GLN:HB2	1.67	0.41
33:E:11:LYS:HE2	33:E:11:LYS:HB2	1.95	0.41
42:L:15:PRO:HB2	44:N:45:MET:HB2	2.03	0.41
43:M:10:LEU:HD23	43:M:13:ILE:HD12	2.03	0.41
44:N:128:LYS:HA	44:N:128:LYS:HD3	1.89	0.41
45:O:80:THR:O	45:O:83:THR:OG1	2.37	0.41
53:W:47:ARG:CZ	53:W:48:ALA:H	2.34	0.41
54:X:26:ASP:O	54:X:28:LYS:N	2.54	0.41
1:3:79:G:C2'	1:3:80:A:H5'	2.50	0.41
1:3:177:G:H5'	55:Y:59:ARG:NH1	2.35	0.41
1:3:227:G:H1'	51:U:63:GLN:HE22	1.85	0.41
1:3:309:A:O3'	51:U:30:GLY:HA2	2.20	0.41
1:3:403:C:H2'	1:3:404:G:C8	2.55	0.41
1:3:454:G:H2'	1:3:455:G:C8	2.55	0.41
1:3:1187:G:C5'	44:N:114:LYS:HE3	2.51	0.41
1:3:1324:A:H2'	1:3:1325:C:H6	1.85	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:3:1332:A:H2	48:R:107:THR:HG21	1.85	0.41
2:1:103:A:H2'	2:1:104:A:O4'	2.20	0.41
2:1:140:C:H5	2:1:141:G:HO2'	1.67	0.41
2:1:362:A:H3'	2:1:363:G:H8	1.86	0.41
2:1:449:A:C4'	20:q:2:ARG:HH11	2.33	0.41
2:1:990:A:N6	21:r:78:ARG:HH11	2.18	0.41
2:1:1079:C:H2'	2:1:1080:A:O4'	2.20	0.41
2:1:1857:G:N2	2:1:1884:G:H2'	2.35	0.41
2:1:2162:G:H2'	2:1:2163:A:O4'	2.20	0.41
2:1:2230:G:H2'	2:1:2231:U:C6	2.55	0.41
2:1:2387:U:O4'	26:w:37:ARG:NH1	2.52	0.41
2:1:2466:C:H2'	2:1:2467:C:C6	2.54	0.41
2:1:2720:U:C4	2:1:2872:A:N1	2.88	0.41
5:b:124:LYS:HD2	5:b:124:LYS:HA	1.86	0.41
5:b:158:GLY:H	5:b:194:VAL:HG23	1.85	0.41
11:a:174:THR:HG22	11:a:176:GLY:H	1.85	0.41
12:i:56:VAL:HG12	12:i:58:ILE:HG23	2.02	0.41
16:m:12:MET:O	16:m:86:LYS:NZ	2.52	0.41
37:G:206:ILE:HA	37:G:209:VAL:HG12	2.03	0.41
45:O:57:VAL:HG23	45:O:58:ASN:HB2	2.02	0.41
50:T:19:ASN:OD1	50:T:19:ASN:N	2.49	0.41
55:Y:4:LYS:HG3	55:Y:6:ALA:H	1.85	0.41
1:3:452:A:H2'	1:3:453:G:O4'	2.21	0.41
1:3:766:A:C2'	1:3:767:A:H5'	2.51	0.41
1:3:859:G:H2'	1:3:860:A:C8	2.56	0.41
1:3:869:G:H4'	1:3:872:A:H1'	2.02	0.41
2:1:231:A:H2'	2:1:232:G:O4'	2.20	0.41
2:1:330:A:H8	2:1:1210:G:C5	2.38	0.41
2:1:656:G:H2'	2:1:657:U:C6	2.56	0.41
2:1:1128:G:C8	2:1:1129:A:C5	3.09	0.41
2:1:1567:G:H3'	5:b:84:PRO:HG3	2.02	0.41
2:1:1694:C:H5'	2:1:1695:G:C5	2.55	0.41
2:1:1710:G:H2'	2:1:1711:A:H8	1.86	0.41
2:1:1770:G:H2'	2:1:1771:C:H5'	2.02	0.41
2:1:2100:G:H2'	2:1:2101:A:H5'	2.02	0.41
2:1:2443:C:H2'	2:1:2444:G:H8	1.85	0.41
3:2:9:G:H1	3:2:111:U:H3	1.69	0.41
10:g:116:ARG:HA	10:g:116:ARG:HD2	1.90	0.41
13:j:41:LYS:HE3	13:j:41:LYS:HB2	1.90	0.41
16:m:96:ILE:HD12	16:m:102:LEU:HD21	2.02	0.41
24:u:25:LYS:HA	24:u:25:LYS:HD3	1.83	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:G:120:SER:OG	37:G:121:GLN:NE2	2.54	0.41
39:I:80:ARG:HG3	39:I:81:LEU:HD12	2.02	0.41
40:J:13:LYS:O	40:J:36:THR:OG1	2.24	0.41
42:L:12:LEU:HD12	42:L:13:PRO:HD2	2.03	0.41
48:R:15:VAL:HG13	48:R:33:LEU:HD22	2.02	0.41
1:3:1047:G:H5''	49:S:3:GLN:HG2	2.02	0.41
1:3:1048:G:H2'	1:3:1050:G:C8	2.56	0.41
1:3:1128:C:H2'	1:3:1129:C:C6	2.56	0.41
1:3:1190:G:C2'	38:H:2:GLN:HB2	2.50	0.41
2:1:765:C:H2'	2:1:766:U:H6	1.84	0.41
2:1:1725:U:H3	2:1:1735:A:H61	1.68	0.41
2:1:1737:G:H2'	2:1:1738:G:O4'	2.20	0.41
2:1:1893:C:H2'	2:1:1894:C:C5'	2.51	0.41
2:1:2291:U:O2'	2:1:2374:C:H1'	2.21	0.41
2:1:2293:G:H2'	2:1:2294:G:C8	2.55	0.41
2:1:2456:C:H2'	2:1:2457:U:O4'	2.20	0.41
3:2:13:G:O2'	3:2:15:A:H5''	2.21	0.41
13:j:64:VAL:HB	13:j:68:LYS:HZ3	1.86	0.41
16:m:41:LEU:O	16:m:94:ALA:N	2.36	0.41
22:s:10:ALA:N	22:s:101:SER:O	2.41	0.41
22:s:51:LEU:HG	22:s:105:VAL:HG11	2.03	0.41
43:M:53:ASP:HA	43:M:56:PRO:HG3	2.03	0.41
49:S:62:ARG:HD2	49:S:69:PRO:HA	2.03	0.41
52:V:4:ILE:HG23	52:V:61:ARG:HE	1.86	0.41
1:3:32:A:H2'	1:3:33:A:C8	2.55	0.41
1:3:59:A:H1'	1:3:354:G:N2	2.36	0.41
1:3:109:A:H2'	1:3:326:G:C2	2.55	0.41
1:3:128:G:H2'	1:3:129:A:C8	2.56	0.41
1:3:313:A:H2'	1:3:314:C:H6	1.81	0.41
1:3:403:C:H42	1:3:547:A:H5'	1.86	0.41
1:3:532:A:H4'	1:3:533:A:OP2	2.21	0.41
1:3:731:G:H2'	1:3:732:C:O5'	2.20	0.41
1:3:748:G:H2'	1:3:749:A:C8	2.56	0.41
1:3:887:G:H2'	1:3:888:G:H5'	2.03	0.41
1:3:1026:G:N1	1:3:1036:A:H2	2.18	0.41
1:3:1103:C:H5'	37:G:96:LEU:HD22	2.02	0.41
1:3:1160:G:H22	1:3:1176:A:N6	2.18	0.41
1:3:1206:G:H3'	1:3:1207:G:H5'	2.03	0.41
1:3:1383:C:H2'	1:3:1384:C:O4'	2.21	0.41
1:3:1469:C:H2'	1:3:1470:U:H5'	2.03	0.41
2:1:49:A:H2'	2:1:49:A:N3	2.35	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:53:A:C2'	2:1:54:G:H5'	2.51	0.41
2:1:207:A:O2'	2:1:799:G:H4'	2.21	0.41
2:1:617:G:H5''	7:d:102:ARG:NH2	2.31	0.41
2:1:879:G:H2'	2:1:880:G:C8	2.56	0.41
2:1:894:U:O2'	2:1:895:U:H5'	2.21	0.41
2:1:1104:C:H5''	2:1:1104:C:H6	1.86	0.41
2:1:1168:G:H2'	2:1:1169:A:C5'	2.49	0.41
2:1:1347:A:H2'	2:1:1348:C:O4'	2.21	0.41
2:1:1551:A:P	2:1:1719:G:H21	2.43	0.41
2:1:1661:G:H1	2:1:1999:C:H42	1.67	0.41
2:1:1661:G:H2'	2:1:1662:U:O4'	2.21	0.41
2:1:1726:C:H2'	2:1:1727:C:H6	1.79	0.41
2:1:2084:C:H2'	2:1:2085:U:H5'	2.03	0.41
2:1:2355:G:H2'	2:1:2356:U:H5'	2.02	0.41
2:1:2581:G:H2'	2:1:2581:G:N3	2.36	0.41
2:1:2606:C:H2'	2:1:2607:G:H8	1.86	0.41
2:1:2743:U:H2'	2:1:2744:G:O4'	2.21	0.41
2:1:2843:G:H1	2:1:2874:C:H42	1.69	0.41
4:6:21:A:N6	4:6:46:G:H2'	2.36	0.41
5:b:170:TYR:HA	5:b:184:GLU:HA	2.03	0.41
6:c:157:LYS:H	6:c:157:LYS:HG2	1.62	0.41
12:i:53:PRO:HB2	12:i:77:VAL:HG21	2.03	0.41
13:j:68:LYS:HE2	13:j:68:LYS:HB3	1.88	0.41
15:l:36:LYS:HE3	15:l:36:LYS:HB2	1.77	0.41
19:p:18:SER:OG	19:p:19:PHE:N	2.52	0.41
20:q:40:LYS:HD2	20:q:40:LYS:HA	1.74	0.41
36:5:29:U:H2'	36:5:30:G:C8	2.54	0.41
39:I:133:SER:O	39:I:133:SER:OG	2.33	0.41
42:L:123:LEU:O	42:L:127:ALA:N	2.54	0.41
42:L:140:VAL:HG23	42:L:143:MET:HE2	2.03	0.41
43:M:103:VAL:HG12	43:M:124:ILE:HG13	2.03	0.41
46:P:25:SER:N	46:P:28:ASN:O	2.54	0.41
52:V:18:LYS:HG3	52:V:49:ASN:HA	2.03	0.41
56:Z:29:ALA:HA	56:Z:32:ARG:HB2	2.03	0.41
1:3:232:G:O2'	1:3:233:C:H5'	2.20	0.41
1:3:415:A:H3'	1:3:416:G:H8	1.86	0.41
1:3:586:C:H2'	1:3:587:G:O4'	2.21	0.41
1:3:695:A:H5'	46:P:52:ARG:HH12	1.86	0.41
1:3:1084:G:H5''	1:3:1085:U:OP2	2.20	0.41
1:3:1351:U:H4'	42:L:32:ASP:CG	2.46	0.41
2:1:26:G:C6	2:1:27:G:N1	2.89	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:30:G:H2'	2:1:31:C:H6	1.84	0.41
2:1:746:U:C4'	2:1:748:G:H21	2.31	0.41
2:1:809:G:O2'	2:1:810:U:H5'	2.21	0.41
2:1:1301:A:C6	2:1:1303:G:C4	3.09	0.41
2:1:1317:G:H2'	2:1:1318:U:C6	2.56	0.41
2:1:2839:G:H2'	2:1:2840:C:C6	2.55	0.41
6:c:61:THR:O	6:c:65:ALA:N	2.54	0.41
7:d:52:VAL:HG21	7:d:82:GLY:H	1.86	0.41
8:e:12:VAL:O	8:e:16:MET:N	2.54	0.41
8:e:131:VAL:HG21	8:e:136:ILE:HD13	2.03	0.41
23:t:68:LYS:O	23:t:75:GLY:N	2.52	0.41
29:z:23:LEU:HD11	29:z:53:MET:HE3	2.03	0.41
41:K:4:TYR:O	41:K:64:VAL:N	2.50	0.41
42:L:61:PHE:O	42:L:65:LEU:N	2.54	0.41
43:M:9:MET:HB2	43:M:32:LYS:NZ	2.35	0.41
51:U:46:LYS:NZ	51:U:48:GLU:H	2.19	0.41
52:V:80:LYS:HG3	52:V:81:ALA:H	1.85	0.41
1:3:39:G:O6	1:3:547:A:H2'	2.21	0.40
1:3:835:U:OP2	53:W:47:ARG:NH2	2.55	0.40
1:3:917:G:C6	1:3:918:A:N6	2.89	0.40
1:3:1348:U:H5''	44:N:120:ALA:HB3	2.03	0.40
1:3:1474:U:H2'	1:3:1475:G:C8	2.55	0.40
1:3:1531:A:C2'	1:3:1532:U:H5'	2.51	0.40
2:1:203:A:C8	2:1:204:A:H2'	2.56	0.40
2:1:564:C:OP2	21:r:79:ARG:NH2	2.55	0.40
2:1:1322:A:N6	2:1:1333:G:H21	2.19	0.40
2:1:1340:U:O2	2:1:1340:U:O4'	2.39	0.40
2:1:1747:U:H2'	2:1:1748:C:C6	2.56	0.40
2:1:1797:G:C6	2:1:1798:U:C4	3.09	0.40
2:1:1823:G:C4	2:1:1824:G:C8	3.09	0.40
2:1:1939:U:C3'	2:1:1940:U:H5'	2.51	0.40
2:1:2231:U:H2'	2:1:2232:C:C6	2.56	0.40
2:1:2526:G:H2'	2:1:2527:C:C6	2.56	0.40
2:1:2747:G:H21	2:1:2757:A:H62	1.68	0.40
3:2:43:C:H4'	8:e:62:GLN:OE1	2.21	0.40
5:b:24:HIS:CD2	5:b:26:GLY:H	2.38	0.40
7:d:147:LEU:HB3	7:d:186:VAL:HA	2.03	0.40
8:e:54:ALA:HA	8:e:57:ALA:HB3	2.03	0.40
38:H:41:TYR:HD1	38:H:41:TYR:HA	1.82	0.40
41:K:5:GLU:H	41:K:90:MET:HB3	1.86	0.40
49:S:83:VAL:HG22	49:S:92:ILE:HD11	2.03	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:U:14:ARG:NH1	51:U:42:ILE:O	2.51	0.40
54:X:40:PHE:HD1	54:X:41:PRO:HD2	1.86	0.40
55:Y:61:ALA:HA	55:Y:66:ILE:HB	2.03	0.40
1:3:76:G:H2'	1:3:77:A:O4'	2.22	0.40
1:3:448:A:O2'	1:3:449:G:H5'	2.22	0.40
1:3:682:G:H2'	1:3:683:G:C8	2.56	0.40
1:3:1248:A:H2	1:3:1289:A:H62	1.68	0.40
1:3:1463:U:H5'	19:p:110:LYS:NZ	2.36	0.40
1:3:1522:U:H2'	1:3:1523:G:C8	2.55	0.40
2:1:297:G:H2'	2:1:298:G:O4'	2.21	0.40
2:1:888:C:H2'	54:X:28:LYS:HZ2	1.86	0.40
2:1:1334:G:O3'	23:t:69:ARG:NH2	2.54	0.40
2:1:2223:G:H21	2:1:2226:C:H42	1.69	0.40
2:1:2847:U:H2'	2:1:2848:G:C5'	2.48	0.40
3:2:11:C:OP2	26:w:68:LYS:HD2	2.21	0.40
4:6:13:C:C2'	4:6:14:A:C5'	2.96	0.40
13:j:45:THR:HB	13:j:48:VAL:HG22	2.02	0.40
24:u:26:ASN:OD1	24:u:26:ASN:N	2.54	0.40
33:E:53:ASP:OD1	33:E:53:ASP:N	2.34	0.40
43:M:103:VAL:HA	43:M:124:ILE:HA	2.03	0.40
52:V:43:LEU:HD21	52:V:72:TRP:CD2	2.56	0.40
56:Z:17:ARG:HA	56:Z:20:ARG:HB2	2.03	0.40
1:3:202:G:H2'	1:3:203:G:C8	2.56	0.40
1:3:740:U:H2'	1:3:741:G:C8	2.56	0.40
1:3:1092:A:N3	1:3:1092:A:H2'	2.36	0.40
1:3:1146:A:C2'	1:3:1147:C:H5'	2.51	0.40
1:3:1493:A:H2'	1:3:1493:A:N3	2.37	0.40
2:1:818:G:C2'	2:1:819:A:H5''	2.51	0.40
2:1:990:A:N6	21:r:78:ARG:NH1	2.70	0.40
2:1:1130:U:C4	6:c:152:PRO:HA	2.55	0.40
2:1:1775:U:H2'	2:1:1776:G:C5'	2.51	0.40
2:1:1880:U:H2'	2:1:1881:C:C6	2.56	0.40
2:1:1998:A:C6	2:1:1999:C:C5	3.08	0.40
2:1:2478:A:OP1	34:F:32:LYS:HD3	2.20	0.40
2:1:2742:G:OP1	34:F:36:ARG:HD2	2.21	0.40
3:2:4:C:H5'	3:2:4:C:H6	1.86	0.40
4:6:69:C:H2'	4:6:70:G:C8	2.55	0.40
7:d:192:ALA:HA	7:d:195:GLN:HG2	2.03	0.40
17:n:100:CYS:O	30:B:41:HIS:ND1	2.54	0.40
22:s:53:SER:O	22:s:57:ASN:ND2	2.54	0.40
29:z:3:THR:HA	29:z:38:GLU:HA	2.02	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:K:81:ASN:HD21	41:K:84:VAL:HG23	1.85	0.40
44:N:53:LEU:HD22	44:N:97:LEU:HD13	2.03	0.40
48:R:24:VAL:HG11	48:R:28:ARG:HG2	2.02	0.40
49:S:80:ARG:H	49:S:80:ARG:HG2	1.70	0.40
52:V:15:LYS:HB3	52:V:15:LYS:HE3	1.92	0.40
56:Z:33:ARG:HB2	56:Z:34:ARG:H	1.73	0.40
1:3:1067:A:OP2	1:3:1093:A:H4'	2.22	0.40
1:3:1250:A:H5'	44:N:68:GLY:HA2	2.03	0.40
2:1:227:A:O2'	2:1:228:C:H4'	2.21	0.40
2:1:440:C:H2'	2:1:441:U:H6	1.87	0.40
2:1:769:U:H2'	2:1:770:G:C8	2.57	0.40
2:1:873:C:H4'	16:m:64:TRP:NE1	2.36	0.40
2:1:1146:C:H2'	2:1:1147:A:H8	1.86	0.40
2:1:2251:G:OP1	16:m:81:ARG:NH1	2.55	0.40
2:1:2514:U:H2'	2:1:2515:C:C6	2.57	0.40
2:1:2519:U:C4	2:1:2542:A:N7	2.89	0.40
2:1:2561:U:C4'	14:k:40:LYS:HE3	2.50	0.40
3:2:76:G:H5'	25:v:9:ARG:HH12	1.86	0.40
6:c:159:LYS:HA	6:c:159:LYS:HD2	1.85	0.40
6:c:193:VAL:HG11	6:c:201:LEU:HD13	2.03	0.40
14:k:44:LYS:HA	14:k:44:LYS:HD3	1.99	0.40
25:v:8:VAL:HA	25:v:40:ILE:HA	2.02	0.40
28:y:5:GLU:HA	28:y:7:ARG:HH11	1.86	0.40
38:H:130:ARG:HA	38:H:134:LYS:HZ3	1.87	0.40
40:J:12:GLU:HA	40:J:38:VAL:HG22	2.03	0.40
46:P:32:THR:HG23	46:P:43:TRP:HB3	2.04	0.40
49:S:10:VAL:HA	49:S:13:VAL:HG12	2.03	0.40
51:U:1:MET:H3	51:U:24:SER:H	1.69	0.40
1:3:546:A:OP2	39:I:67:LEU:HB3	2.21	0.40
1:3:551:U:C2'	1:3:552:U:H5'	2.50	0.40
1:3:683:G:H2'	1:3:684:U:H6	1.86	0.40
1:3:1120:C:H2'	1:3:1121:U:C6	2.56	0.40
1:3:1187:G:H5''	44:N:114:LYS:HE3	2.03	0.40
1:3:1247:U:H1'	1:3:1290:G:O6	2.21	0.40
2:1:29:U:H3	2:1:511:U:H3	1.69	0.40
2:1:139:U:H2'	2:1:140:C:C5	2.56	0.40
2:1:219:A:H2'	2:1:220:G:O4'	2.22	0.40
2:1:239:C:H2'	2:1:240:C:H5'	2.04	0.40
2:1:955:U:OP1	16:m:86:LYS:NZ	2.51	0.40
2:1:1056:G:H5'	2:1:1057:A:O4'	2.22	0.40
2:1:1540:G:H2'	2:1:1541:C:C6	2.56	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:2298:A:H5''	8:e:70:ARG:HH12	1.84	0.40
2:1:2794:C:H2'	2:1:2795:C:O4'	2.22	0.40
2:1:2841:C:H2'	2:1:2842:G:O4'	2.22	0.40
6:c:12:THR:HG23	19:p:55:HIS:HE1	1.86	0.40
20:q:33:VAL:O	20:q:37:ALA:N	2.54	0.40
37:G:42:LEU:HD12	37:G:45:THR:HB	2.03	0.40
38:H:137:VAL:HG21	38:H:167:TYR:CD2	2.56	0.40
38:H:149:LYS:HB3	38:H:200:TRP:HB2	2.02	0.40
42:L:75:LYS:HA	42:L:75:LYS:HD2	1.90	0.40
55:Y:53:MET:HE2	55:Y:57:VAL:HG11	2.02	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
5	b	269/271 (99%)	221 (82%)	48 (18%)	0	100	100
6	c	207/209 (99%)	172 (83%)	33 (16%)	2 (1%)	12	43
7	d	199/201 (99%)	167 (84%)	32 (16%)	0	100	100
8	e	175/177 (99%)	144 (82%)	31 (18%)	0	100	100
9	f	174/176 (99%)	154 (88%)	20 (12%)	0	100	100
10	g	147/149 (99%)	131 (89%)	15 (10%)	1 (1%)	18	51
11	a	130/223 (58%)	113 (87%)	17 (13%)	0	100	100
12	i	139/142 (98%)	117 (84%)	22 (16%)	0	100	100
13	j	140/142 (99%)	126 (90%)	13 (9%)	1 (1%)	18	51
14	k	120/122 (98%)	92 (77%)	28 (23%)	0	100	100
15	l	141/143 (99%)	106 (75%)	32 (23%)	3 (2%)	5	31
16	m	134/136 (98%)	109 (81%)	24 (18%)	1 (1%)	18	51

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
17	n	118/120 (98%)	96 (81%)	22 (19%)	0	100	100
18	o	114/116 (98%)	106 (93%)	8 (7%)	0	100	100
19	p	112/114 (98%)	95 (85%)	17 (15%)	0	100	100
20	q	115/117 (98%)	108 (94%)	7 (6%)	0	100	100
21	r	101/103 (98%)	84 (83%)	17 (17%)	0	100	100
22	s	108/110 (98%)	98 (91%)	10 (9%)	0	100	100
23	t	91/93 (98%)	75 (82%)	16 (18%)	0	100	100
24	u	100/102 (98%)	87 (87%)	13 (13%)	0	100	100
25	v	92/94 (98%)	82 (89%)	9 (10%)	1 (1%)	11	41
26	w	73/75 (97%)	61 (84%)	12 (16%)	0	100	100
27	x	75/77 (97%)	65 (87%)	10 (13%)	0	100	100
28	y	61/63 (97%)	55 (90%)	5 (8%)	1 (2%)	7	35
29	z	56/58 (97%)	49 (88%)	7 (12%)	0	100	100
30	B	54/56 (96%)	42 (78%)	12 (22%)	0	100	100
31	C	48/50 (96%)	46 (96%)	2 (4%)	0	100	100
32	D	44/46 (96%)	42 (96%)	2 (4%)	0	100	100
33	E	62/64 (97%)	52 (84%)	8 (13%)	2 (3%)	3	24
34	F	36/38 (95%)	25 (69%)	11 (31%)	0	100	100
37	G	216/225 (96%)	187 (87%)	27 (12%)	2 (1%)	14	45
38	H	204/206 (99%)	184 (90%)	20 (10%)	0	100	100
39	I	203/205 (99%)	178 (88%)	25 (12%)	0	100	100
40	J	155/157 (99%)	130 (84%)	25 (16%)	0	100	100
41	K	98/100 (98%)	85 (87%)	13 (13%)	0	100	100
42	L	149/151 (99%)	139 (93%)	10 (7%)	0	100	100
43	M	127/129 (98%)	113 (89%)	14 (11%)	0	100	100
44	N	125/127 (98%)	107 (86%)	18 (14%)	0	100	100
45	O	96/98 (98%)	81 (84%)	15 (16%)	0	100	100
46	P	114/116 (98%)	98 (86%)	16 (14%)	0	100	100
47	Q	121/123 (98%)	93 (77%)	26 (22%)	2 (2%)	7	34
48	R	112/114 (98%)	94 (84%)	18 (16%)	0	100	100
49	S	98/100 (98%)	87 (89%)	10 (10%)	1 (1%)	12	43

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
50	T	86/88 (98%)	77 (90%)	9 (10%)	0	100	100
51	U	80/82 (98%)	63 (79%)	17 (21%)	0	100	100
52	V	78/80 (98%)	51 (65%)	27 (35%)	0	100	100
53	W	63/65 (97%)	57 (90%)	6 (10%)	0	100	100
54	X	77/79 (98%)	62 (80%)	14 (18%)	1 (1%)	9	38
55	Y	83/85 (98%)	79 (95%)	4 (5%)	0	100	100
56	Z	63/65 (97%)	41 (65%)	18 (29%)	4 (6%)	1	14
All	All	5783/5982 (97%)	4926 (85%)	835 (14%)	22 (0%)	31	62

All (22) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
33	E	31	ILE
56	Z	37	TYR
10	g	9	VAL
56	Z	10	PRO
15	l	103	ILE
15	l	128	THR
25	v	82	TYR
28	y	24	GLU
33	E	32	LEU
54	X	27	LYS
6	c	150	GLN
16	m	69	PRO
47	Q	90	PRO
56	Z	8	ASN
37	G	18	GLN
49	S	20	PHE
56	Z	9	GLU
6	c	129	THR
13	j	81	ILE
37	G	28	PRO
15	l	85	VAL
47	Q	32	VAL

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	
5	b	216/216 (100%)	214 (99%)	2 (1%)	70	74
6	c	164/164 (100%)	161 (98%)	3 (2%)	51	67
7	d	165/165 (100%)	163 (99%)	2 (1%)	63	72
8	e	148/148 (100%)	148 (100%)	0	100	100
9	f	137/137 (100%)	136 (99%)	1 (1%)	76	77
10	g	114/114 (100%)	113 (99%)	1 (1%)	70	74
11	a	110/174 (63%)	110 (100%)	0	100	100
12	i	109/110 (99%)	109 (100%)	0	100	100
13	j	116/116 (100%)	115 (99%)	1 (1%)	70	74
14	k	103/103 (100%)	101 (98%)	2 (2%)	50	66
15	l	102/102 (100%)	102 (100%)	0	100	100
16	m	109/109 (100%)	108 (99%)	1 (1%)	70	74
17	n	100/100 (100%)	98 (98%)	2 (2%)	48	65
18	o	86/86 (100%)	86 (100%)	0	100	100
19	p	99/99 (100%)	99 (100%)	0	100	100
20	q	89/89 (100%)	88 (99%)	1 (1%)	65	73
21	r	84/84 (100%)	83 (99%)	1 (1%)	63	72
22	s	93/93 (100%)	91 (98%)	2 (2%)	45	63
23	t	80/80 (100%)	79 (99%)	1 (1%)	61	71
24	u	83/83 (100%)	83 (100%)	0	100	100
25	v	78/78 (100%)	78 (100%)	0	100	100
26	w	57/57 (100%)	57 (100%)	0	100	100
27	x	67/67 (100%)	66 (98%)	1 (2%)	57	69
28	y	55/55 (100%)	55 (100%)	0	100	100
29	z	48/48 (100%)	48 (100%)	0	100	100
30	B	47/47 (100%)	46 (98%)	1 (2%)	47	64
31	C	45/45 (100%)	44 (98%)	1 (2%)	45	63
32	D	38/38 (100%)	38 (100%)	0	100	100
33	E	51/51 (100%)	51 (100%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
34	F	34/34 (100%)	34 (100%)	0	100	100
37	G	180/186 (97%)	177 (98%)	3 (2%)	53	67
38	H	170/170 (100%)	168 (99%)	2 (1%)	63	72
39	I	172/172 (100%)	167 (97%)	5 (3%)	37	58
40	J	119/119 (100%)	119 (100%)	0	100	100
41	K	87/87 (100%)	85 (98%)	2 (2%)	44	63
42	L	124/124 (100%)	122 (98%)	2 (2%)	55	68
43	M	104/104 (100%)	104 (100%)	0	100	100
44	N	105/105 (100%)	104 (99%)	1 (1%)	68	74
45	O	86/86 (100%)	85 (99%)	1 (1%)	63	72
46	P	89/89 (100%)	89 (100%)	0	100	100
47	Q	103/103 (100%)	102 (99%)	1 (1%)	68	74
48	R	92/92 (100%)	91 (99%)	1 (1%)	65	73
49	S	83/83 (100%)	83 (100%)	0	100	100
50	T	76/76 (100%)	76 (100%)	0	100	100
51	U	65/65 (100%)	65 (100%)	0	100	100
52	V	74/74 (100%)	74 (100%)	0	100	100
53	W	56/56 (100%)	56 (100%)	0	100	100
54	X	70/70 (100%)	69 (99%)	1 (1%)	59	70
55	Y	65/65 (100%)	65 (100%)	0	100	100
56	Z	55/55 (100%)	55 (100%)	0	100	100
All	All	4802/4873 (98%)	4760 (99%)	42 (1%)	68	74

All (42) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	b	227	VAL
5	b	256	THR
6	c	108	ASP
6	c	180	VAL
6	c	197	THR
7	d	84	THR
7	d	187	VAL
9	f	78	VAL
10	g	147	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
13	j	65	THR
14	k	24	VAL
14	k	32	TYR
16	m	65	ILE
17	n	36	THR
17	n	57	THR
20	q	94	LEU
21	r	64	VAL
22	s	74	ILE
22	s	76	VAL
23	t	8	LEU
27	x	32	LEU
30	B	2	VAL
31	C	21	THR
37	G	19	THR
37	G	30	ILE
37	G	69	VAL
38	H	46	LEU
38	H	67	ILE
39	I	33	ILE
39	I	35	GLN
39	I	53	GLN
39	I	90	LEU
39	I	186	GLU
41	K	47	LEU
41	K	61	LEU
42	L	83	THR
42	L	123	LEU
44	N	8	THR
45	O	40	ILE
47	Q	89	LEU
48	R	65	GLU
54	X	44	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (90) such sidechains are listed below:

Mol	Chain	Res	Type
5	b	20	ASN
5	b	24	HIS
5	b	59	GLN
5	b	85	ASN
5	b	238	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
6	c	36	GLN
6	c	173	GLN
7	d	9	GLN
8	e	20	ASN
9	f	63	GLN
9	f	103	ASN
9	f	138	GLN
10	g	28	ASN
10	g	43	ASN
12	i	5	GLN
13	j	67	ASN
13	j	130	HIS
13	j	132	HIS
13	j	135	GLN
14	k	9	ASN
15	l	35	HIS
15	l	38	GLN
16	m	22	GLN
17	n	9	GLN
17	n	11	ASN
18	o	38	GLN
18	o	104	GLN
19	p	2	ASN
19	p	11	GLN
19	p	65	ASN
20	q	36	GLN
20	q	55	GLN
20	q	58	GLN
20	q	80	ASN
21	r	11	GLN
21	r	91	GLN
23	t	59	ASN
24	u	73	ASN
25	v	5	ASN
25	v	44	HIS
25	v	49	ASN
25	v	78	GLN
26	w	42	HIS
26	w	53	HIS
26	w	72	ASN
27	x	5	GLN
28	y	15	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
28	y	31	GLN
29	z	8	GLN
29	z	48	ASN
31	C	44	GLN
32	D	16	HIS
32	D	29	GLN
33	E	25	HIS
33	E	27	ASN
34	F	33	HIS
37	G	121	GLN
37	G	176	ASN
38	H	2	GLN
38	H	31	ASN
39	I	88	ASN
39	I	139	ASN
40	J	72	ASN
40	J	82	HIS
40	J	96	GLN
40	J	131	ASN
41	K	17	GLN
41	K	68	GLN
42	L	67	ASN
43	M	17	GLN
43	M	37	ASN
43	M	75	GLN
45	O	20	GLN
46	P	80	ASN
47	Q	4	ASN
47	Q	58	ASN
48	R	7	ASN
48	R	13	HIS
49	S	3	GLN
49	S	59	GLN
50	T	34	GLN
51	U	63	GLN
52	V	30	HIS
53	W	51	GLN
54	X	52	ASN
54	X	55	GLN
55	Y	47	GLN
55	Y	51	ASN
55	Y	60	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
55	Y	81	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	3	1538/1539 (99%)	282 (18%)	4 (0%)
2	1	2902/2903 (99%)	512 (17%)	10 (0%)
3	2	119/120 (99%)	12 (10%)	0
35	4	19/39 (48%)	5 (26%)	1 (5%)
36	5	76/77 (98%)	15 (19%)	0
4	6	76/77 (98%)	16 (21%)	0
All	All	4730/4755 (99%)	842 (17%)	15 (0%)

All (842) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	3	5	U
1	3	9	G
1	3	16	A
1	3	31	G
1	3	32	A
1	3	39	G
1	3	40	C
1	3	47	C
1	3	48	C
1	3	51	A
1	3	56	U
1	3	64	G
1	3	65	A
1	3	71	A
1	3	82	G
1	3	83	C
1	3	84	U
1	3	88	U
1	3	89	U
1	3	110	C
1	3	128	G
1	3	130	A
1	3	131	A
1	3	155	A
1	3	165	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	3	173	U
1	3	183	C
1	3	184	G
1	3	189	A
1	3	190	A
1	3	191	G
1	3	195	A
1	3	209	U
1	3	210	C
1	3	243	A
1	3	244	U
1	3	247	G
1	3	251	G
1	3	264	C
1	3	266	G
1	3	267	C
1	3	269	C
1	3	281	G
1	3	289	G
1	3	298	A
1	3	315	A
1	3	316	C
1	3	328	C
1	3	329	A
1	3	340	U
1	3	345	C
1	3	346	G
1	3	347	G
1	3	350	G
1	3	352	C
1	3	354	G
1	3	364	A
1	3	367	U
1	3	369	G
1	3	372	C
1	3	387	U
1	3	388	G
1	3	397	A
1	3	398	U
1	3	411	A
1	3	412	A
1	3	413	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	3	421	U
1	3	422	C
1	3	429	U
1	3	430	A
1	3	441	A
1	3	442	G
1	3	445	G
1	3	446	G
1	3	462	G
1	3	467	U
1	3	486	U
1	3	497	G
1	3	508	U
1	3	509	A
1	3	516	U
1	3	518	C
1	3	519	C
1	3	521	G
1	3	524	G
1	3	531	U
1	3	532	A
1	3	533	A
1	3	534	U
1	3	547	A
1	3	561	U
1	3	562	U
1	3	566	G
1	3	570	G
1	3	572	A
1	3	573	A
1	3	576	C
1	3	577	G
1	3	579	A
1	3	586	C
1	3	609	A
1	3	615	G
1	3	619	U
1	3	633	G
1	3	641	U
1	3	653	U
1	3	657	U
1	3	687	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	3	693	G
1	3	702	A
1	3	703	G
1	3	713	G
1	3	719	C
1	3	723	U
1	3	724	G
1	3	728	A
1	3	732	C
1	3	733	G
1	3	734	G
1	3	747	A
1	3	753	A
1	3	755	G
1	3	760	G
1	3	768	A
1	3	777	A
1	3	781	A
1	3	793	U
1	3	794	A
1	3	813	U
1	3	814	A
1	3	815	A
1	3	817	C
1	3	818	G
1	3	819	A
1	3	828	U
1	3	832	G
1	3	836	G
1	3	842	U
1	3	843	U
1	3	844	G
1	3	845	A
1	3	846	G
1	3	871	U
1	3	872	A
1	3	873	A
1	3	874	G
1	3	902	G
1	3	915	A
1	3	926	G
1	3	927	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	3	934	C
1	3	938	A
1	3	960	U
1	3	961	U
1	3	965	U
1	3	966	G
1	3	969	A
1	3	971	G
1	3	973	G
1	3	975	A
1	3	976	G
1	3	977	A
1	3	978	A
1	3	979	C
1	3	989	U
1	3	992	U
1	3	993	G
1	3	994	A
1	3	1004	A
1	3	1012	A
1	3	1015	G
1	3	1028	C
1	3	1033	G
1	3	1035	A
1	3	1036	A
1	3	1037	C
1	3	1044	A
1	3	1053	G
1	3	1054	C
1	3	1055	A
1	3	1064	G
1	3	1065	U
1	3	1068	G
1	3	1070	U
1	3	1074	G
1	3	1080	A
1	3	1085	U
1	3	1091	U
1	3	1092	A
1	3	1094	G
1	3	1097	C
1	3	1101	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	3	1111	A
1	3	1115	U
1	3	1124	G
1	3	1136	C
1	3	1137	C
1	3	1138	G
1	3	1139	G
1	3	1157	A
1	3	1158	C
1	3	1159	U
1	3	1165	U
1	3	1168	U
1	3	1169	A
1	3	1173	U
1	3	1174	G
1	3	1179	A
1	3	1181	G
1	3	1182	G
1	3	1183	U
1	3	1185	G
1	3	1190	G
1	3	1192	C
1	3	1196	A
1	3	1197	A
1	3	1201	A
1	3	1202	U
1	3	1207	G
1	3	1212	U
1	3	1213	A
1	3	1221	G
1	3	1222	G
1	3	1224	U
1	3	1226	C
1	3	1227	A
1	3	1228	C
1	3	1229	A
1	3	1233	G
1	3	1236	A
1	3	1238	A
1	3	1241	G
1	3	1256	A
1	3	1257	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	3	1275	A
1	3	1278	G
1	3	1280	A
1	3	1281	C
1	3	1282	C
1	3	1286	U
1	3	1287	A
1	3	1290	G
1	3	1291	U
1	3	1300	G
1	3	1301	U
1	3	1304	G
1	3	1308	U
1	3	1317	C
1	3	1320	C
1	3	1322	C
1	3	1323	G
1	3	1338	G
1	3	1346	A
1	3	1347	G
1	3	1353	G
1	3	1363	A
1	3	1378	C
1	3	1385	G
1	3	1389	C
1	3	1394	A
1	3	1395	C
1	3	1401	G
1	3	1406	U
1	3	1419	G
1	3	1441	A
1	3	1446	A
1	3	1452	C
1	3	1480	A
1	3	1484	C
1	3	1491	G
1	3	1492	A
1	3	1493	A
1	3	1497	G
1	3	1503	A
1	3	1504	G
1	3	1513	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	3	1517	G
1	3	1518	A
1	3	1529	G
1	3	1530	G
1	3	1534	A
2	1	8	C
2	1	10	A
2	1	34	U
2	1	42	A
2	1	46	G
2	1	50	U
2	1	51	G
2	1	63	A
2	1	70	G
2	1	71	A
2	1	93	G
2	1	96	C
2	1	103	A
2	1	112	U
2	1	119	A
2	1	120	U
2	1	125	A
2	1	134	G
2	1	138	U
2	1	140	C
2	1	141	G
2	1	142	A
2	1	162	U
2	1	163	C
2	1	181	A
2	1	196	A
2	1	204	A
2	1	205	G
2	1	216	A
2	1	222	A
2	1	228	C
2	1	229	C
2	1	233	A
2	1	248	G
2	1	249	C
2	1	255	A
2	1	265	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	1	266	G
2	1	267	C
2	1	276	U
2	1	294	A
2	1	309	A
2	1	311	A
2	1	312	G
2	1	322	A
2	1	323	C
2	1	324	A
2	1	329	G
2	1	330	A
2	1	349	U
2	1	361	G
2	1	371	A
2	1	372	G
2	1	380	G
2	1	386	G
2	1	387	U
2	1	404	A
2	1	406	G
2	1	411	G
2	1	412	A
2	1	413	C
2	1	424	G
2	1	434	U
2	1	449	A
2	1	451	U
2	1	456	C
2	1	464	U
2	1	465	G
2	1	466	A
2	1	481	G
2	1	489	G
2	1	491	G
2	1	501	A
2	1	502	A
2	1	504	A
2	1	505	A
2	1	508	A
2	1	510	C
2	1	527	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	1	529	A
2	1	532	A
2	1	544	C
2	1	547	A
2	1	549	G
2	1	550	C
2	1	555	G
2	1	562	U
2	1	563	A
2	1	572	A
2	1	573	U
2	1	574	A
2	1	575	A
2	1	588	U
2	1	589	U
2	1	591	U
2	1	595	C
2	1	603	A
2	1	614	A
2	1	616	A
2	1	627	A
2	1	637	A
2	1	646	U
2	1	654	A
2	1	655	A
2	1	659	G
2	1	666	A
2	1	684	G
2	1	686	U
2	1	690	G
2	1	691	C
2	1	696	G
2	1	711	G
2	1	714	U
2	1	715	A
2	1	730	A
2	1	747	C
2	1	756	A
2	1	773	U
2	1	776	G
2	1	782	A
2	1	784	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	1	785	G
2	1	789	A
2	1	803	U
2	1	804	A
2	1	805	G
2	1	806	C
2	1	807	U
2	1	811	U
2	1	812	C
2	1	819	A
2	1	824	U
2	1	827	U
2	1	831	G
2	1	845	A
2	1	846	U
2	1	847	U
2	1	856	G
2	1	858	G
2	1	859	G
2	1	860	U
2	1	865	C
2	1	868	U
2	1	878	A
2	1	883	G
2	1	885	C
2	1	886	A
2	1	887	U
2	1	889	C
2	1	890	C
2	1	891	G
2	1	897	C
2	1	898	C
2	1	907	G
2	1	910	A
2	1	915	C
2	1	932	U
2	1	934	U
2	1	941	A
2	1	946	C
2	1	953	G
2	1	957	C
2	1	958	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	1	961	C
2	1	965	C
2	1	974	G
2	1	975	A
2	1	983	A
2	1	990	A
2	1	995	C
2	1	996	A
2	1	1009	A
2	1	1012	U
2	1	1013	C
2	1	1022	G
2	1	1033	U
2	1	1043	C
2	1	1045	C
2	1	1046	A
2	1	1051	G
2	1	1055	G
2	1	1060	U
2	1	1062	G
2	1	1065	U
2	1	1066	U
2	1	1067	A
2	1	1068	G
2	1	1069	A
2	1	1070	A
2	1	1071	G
2	1	1072	C
2	1	1079	C
2	1	1083	U
2	1	1085	A
2	1	1088	A
2	1	1089	A
2	1	1090	A
2	1	1094	U
2	1	1102	C
2	1	1104	C
2	1	1111	A
2	1	1128	G
2	1	1132	U
2	1	1133	A
2	1	1135	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	1	1142	A
2	1	1143	A
2	1	1169	A
2	1	1174	U
2	1	1175	A
2	1	1176	U
2	1	1177	G
2	1	1178	C
2	1	1180	U
2	1	1199	U
2	1	1204	A
2	1	1206	G
2	1	1211	C
2	1	1212	G
2	1	1218	G
2	1	1247	A
2	1	1248	G
2	1	1253	A
2	1	1255	U
2	1	1256	G
2	1	1272	A
2	1	1275	A
2	1	1289	C
2	1	1300	G
2	1	1301	A
2	1	1302	A
2	1	1321	A
2	1	1325	U
2	1	1326	U
2	1	1329	U
2	1	1344	U
2	1	1345	C
2	1	1361	G
2	1	1379	U
2	1	1380	G
2	1	1383	A
2	1	1396	U
2	1	1403	A
2	1	1414	C
2	1	1416	G
2	1	1419	A
2	1	1420	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	1	1428	C
2	1	1450	G
2	1	1452	G
2	1	1453	A
2	1	1454	C
2	1	1458	U
2	1	1461	C
2	1	1467	U
2	1	1475	G
2	1	1482	G
2	1	1490	A
2	1	1497	U
2	1	1515	A
2	1	1519	G
2	1	1521	G
2	1	1524	G
2	1	1535	A
2	1	1536	C
2	1	1537	G
2	1	1538	G
2	1	1555	G
2	1	1560	G
2	1	1566	A
2	1	1567	G
2	1	1585	C
2	1	1598	A
2	1	1608	A
2	1	1616	A
2	1	1617	C
2	1	1618	A
2	1	1627	G
2	1	1633	G
2	1	1643	G
2	1	1644	C
2	1	1646	C
2	1	1647	U
2	1	1648	U
2	1	1654	A
2	1	1662	U
2	1	1663	G
2	1	1674	G
2	1	1694	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	1	1699	G
2	1	1700	A
2	1	1703	G
2	1	1713	A
2	1	1714	U
2	1	1715	G
2	1	1729	U
2	1	1730	C
2	1	1731	G
2	1	1732	C
2	1	1733	G
2	1	1738	G
2	1	1757	A
2	1	1758	U
2	1	1764	C
2	1	1766	G
2	1	1773	A
2	1	1776	G
2	1	1780	A
2	1	1784	A
2	1	1785	A
2	1	1786	A
2	1	1791	A
2	1	1800	C
2	1	1801	A
2	1	1808	A
2	1	1811	G
2	1	1812	U
2	1	1816	C
2	1	1819	A
2	1	1820	U
2	1	1829	A
2	1	1869	G
2	1	1901	A
2	1	1903	G
2	1	1906	G
2	1	1907	G
2	1	1912	A
2	1	1913	A
2	1	1914	C
2	1	1929	G
2	1	1930	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	1	1937	A
2	1	1939	U
2	1	1940	U
2	1	1951	U
2	1	1955	U
2	1	1963	U
2	1	1967	C
2	1	1969	A
2	1	1970	A
2	1	1971	U
2	1	1972	G
2	1	1981	A
2	1	1982	U
2	1	1991	U
2	1	1993	U
2	1	1997	C
2	1	2001	C
2	1	2002	G
2	1	2022	U
2	1	2023	C
2	1	2030	A
2	1	2031	A
2	1	2032	G
2	1	2033	A
2	1	2034	U
2	1	2036	C
2	1	2043	C
2	1	2046	G
2	1	2055	C
2	1	2056	G
2	1	2060	A
2	1	2061	G
2	1	2062	A
2	1	2069	G
2	1	2072	C
2	1	2075	U
2	1	2100	G
2	1	2111	U
2	1	2112	G
2	1	2118	U
2	1	2119	A
2	1	2122	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	1	2126	A
2	1	2131	U
2	1	2132	U
2	1	2133	G
2	1	2134	A
2	1	2145	C
2	1	2146	C
2	1	2147	A
2	1	2154	A
2	1	2157	G
2	1	2158	A
2	1	2162	G
2	1	2165	C
2	1	2166	U
2	1	2167	U
2	1	2168	G
2	1	2169	A
2	1	2171	A
2	1	2172	U
2	1	2173	A
2	1	2198	A
2	1	2204	G
2	1	2207	C
2	1	2211	A
2	1	2225	A
2	1	2228	G
2	1	2238	G
2	1	2239	G
2	1	2246	G
2	1	2250	G
2	1	2259	U
2	1	2268	A
2	1	2269	G
2	1	2283	C
2	1	2287	A
2	1	2305	U
2	1	2307	G
2	1	2309	A
2	1	2311	A
2	1	2322	A
2	1	2325	G
2	1	2327	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	1	2331	G
2	1	2335	A
2	1	2336	A
2	1	2361	G
2	1	2382	G
2	1	2383	G
2	1	2385	C
2	1	2388	A
2	1	2390	U
2	1	2392	A
2	1	2395	C
2	1	2402	U
2	1	2406	A
2	1	2420	C
2	1	2422	C
2	1	2423	U
2	1	2425	A
2	1	2427	C
2	1	2429	G
2	1	2440	C
2	1	2441	U
2	1	2447	G
2	1	2448	A
2	1	2449	U
2	1	2475	C
2	1	2476	A
2	1	2490	G
2	1	2498	C
2	1	2499	C
2	1	2501	C
2	1	2502	G
2	1	2504	U
2	1	2505	G
2	1	2518	A
2	1	2520	C
2	1	2522	U
2	1	2529	G
2	1	2535	G
2	1	2547	A
2	1	2549	G
2	1	2554	U
2	1	2555	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	1	2556	C
2	1	2558	C
2	1	2564	A
2	1	2566	A
2	1	2567	G
2	1	2568	U
2	1	2572	A
2	1	2602	A
2	1	2609	U
2	1	2610	C
2	1	2613	U
2	1	2615	U
2	1	2621	G
2	1	2629	U
2	1	2646	C
2	1	2656	U
2	1	2663	G
2	1	2682	A
2	1	2685	G
2	1	2689	U
2	1	2690	U
2	1	2691	C
2	1	2714	G
2	1	2716	C
2	1	2718	G
2	1	2727	A
2	1	2733	A
2	1	2744	G
2	1	2748	A
2	1	2755	C
2	1	2756	U
2	1	2759	G
2	1	2765	A
2	1	2771	C
2	1	2776	A
2	1	2777	G
2	1	2778	A
2	1	2779	U
2	1	2791	G
2	1	2794	C
2	1	2799	A
2	1	2800	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	1	2801	G
2	1	2807	U
2	1	2818	U
2	1	2820	A
2	1	2821	A
2	1	2823	A
2	1	2835	A
2	1	2866	U
2	1	2867	G
2	1	2868	A
2	1	2880	C
2	1	2884	U
2	1	2893	A
3	2	2	G
3	2	4	C
3	2	15	A
3	2	24	G
3	2	35	C
3	2	41	G
3	2	44	G
3	2	53	A
3	2	57	A
3	2	89	U
3	2	90	C
3	2	109	A
4	6	4	G
4	6	7	G
4	6	8	U
4	6	9	G
4	6	10	G
4	6	14	A
4	6	16	C
4	6	17(A)	U
4	6	19	G
4	6	20	U
4	6	21	A
4	6	22	G
4	6	35	A
4	6	43	A
4	6	47	U
4	6	59	A
35	4	12	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
35	4	13	A
35	4	14	A
35	4	15	A
35	4	16	A
36	5	2	G
36	5	3	G
36	5	5	G
36	5	6	A
36	5	8	U
36	5	15	G
36	5	16	C
36	5	19	G
36	5	20	U
36	5	21	A
36	5	22	G
36	5	53	G
36	5	59	A
36	5	61	C
36	5	73	A

All (15) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	3	70	U
1	3	429	U
1	3	1157	A
1	3	1173	U
2	1	889	C
2	1	896	A
2	1	1343	G
2	1	1453	A
2	1	1626	A
2	1	1730	C
2	1	1970	A
2	1	2001	C
2	1	2061	G
2	1	2391	G
35	4	13	A

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

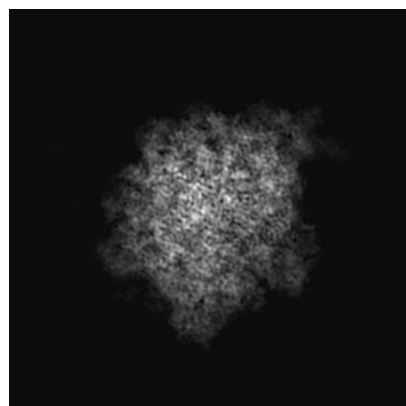
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-25415. These allow visual inspection of the internal detail of the map and identification of artifacts.

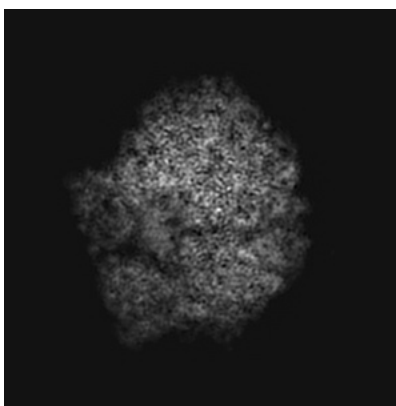
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

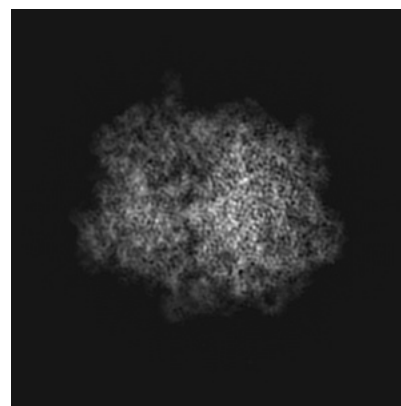
6.1.1 Primary map



X

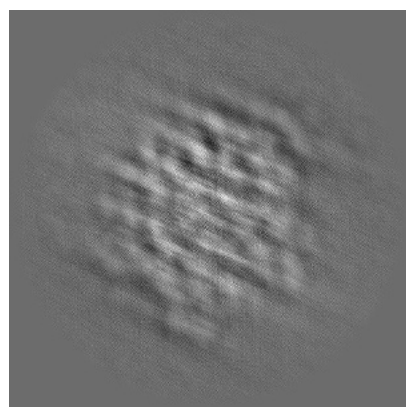


Y

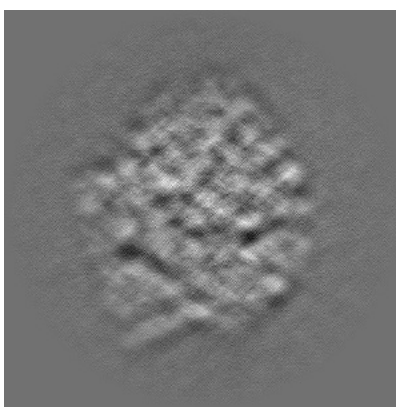


Z

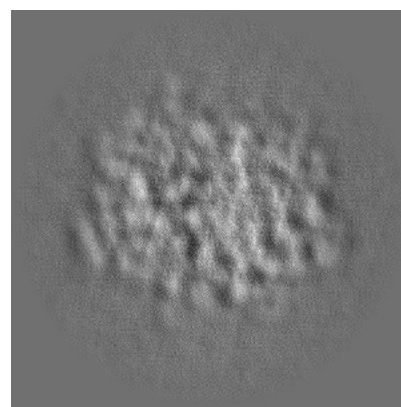
6.1.2 Raw map



X



Y

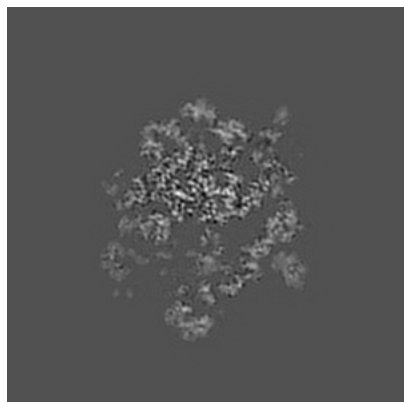


Z

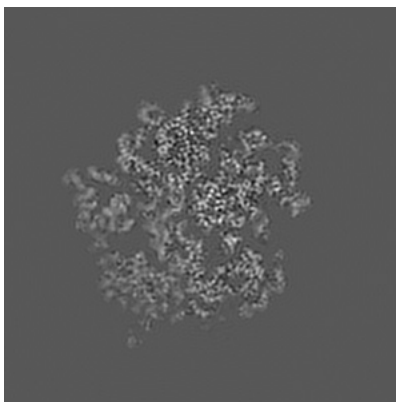
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

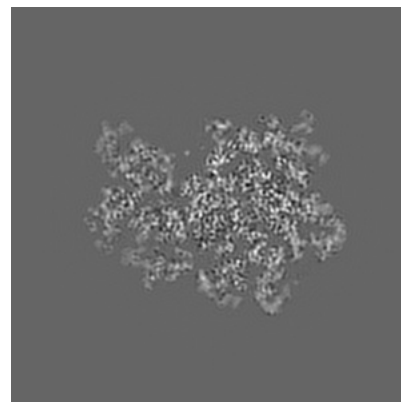
6.2.1 Primary map



X Index: 224

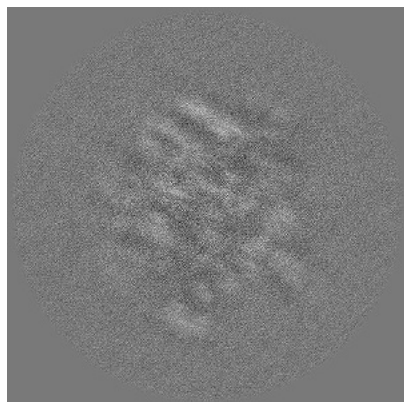


Y Index: 224

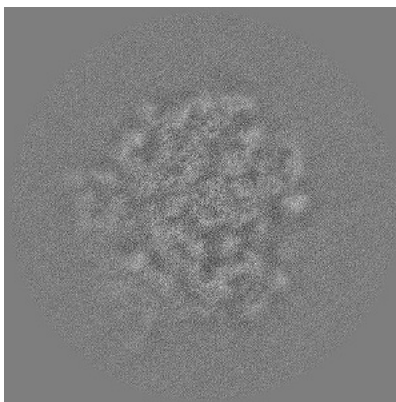


Z Index: 224

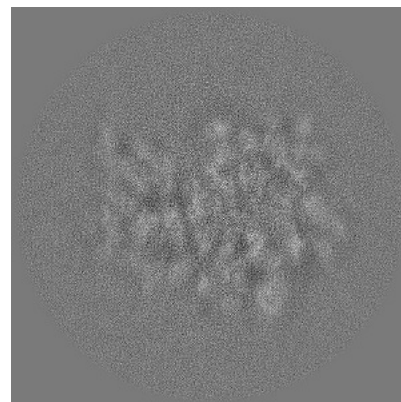
6.2.2 Raw map



X Index: 224



Y Index: 224

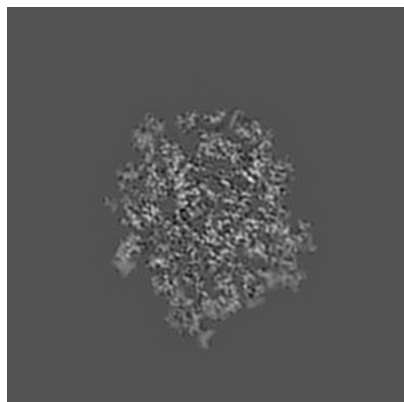


Z Index: 224

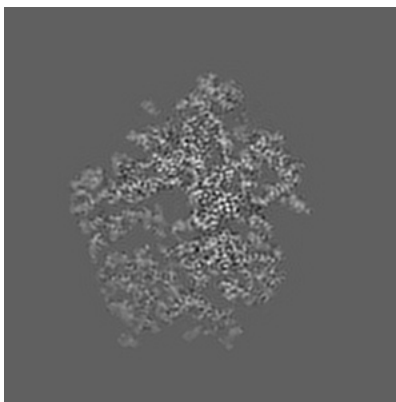
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

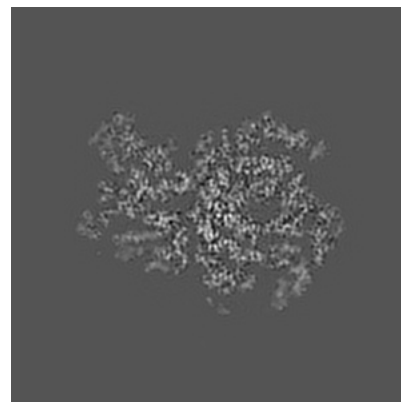
6.3.1 Primary map



X Index: 255

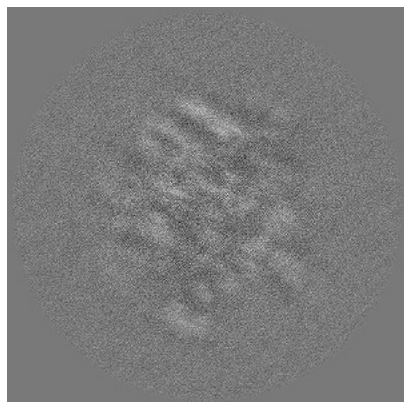


Y Index: 209

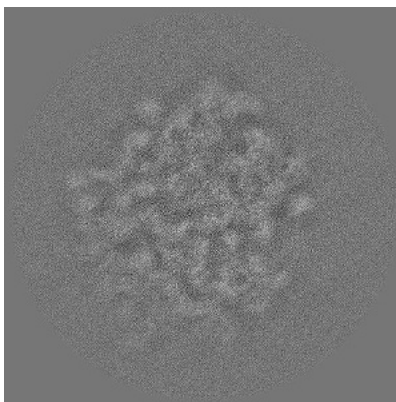


Z Index: 238

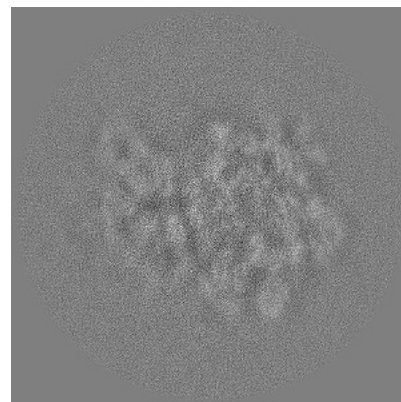
6.3.2 Raw map



X Index: 224



Y Index: 215

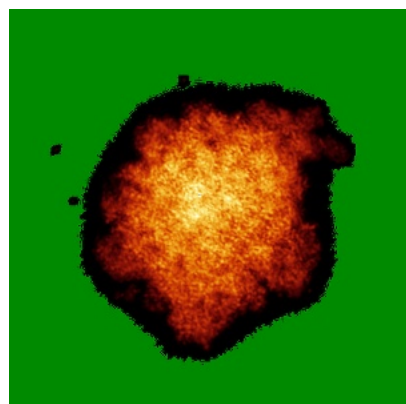


Z Index: 228

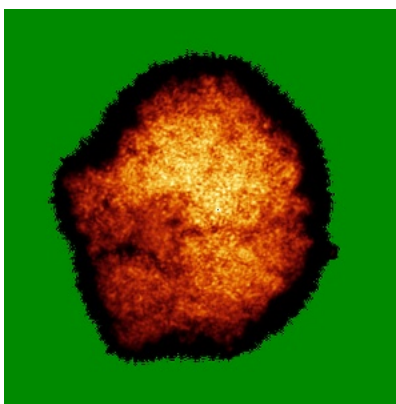
The images above show the largest variance slices of the map in three orthogonal directions.

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

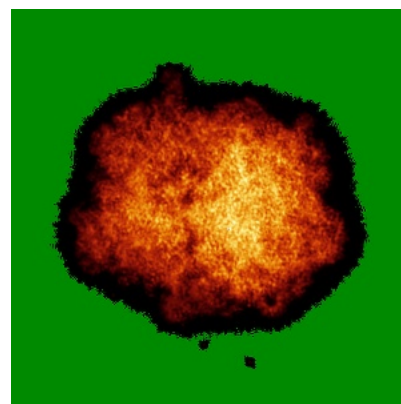
6.4.1 Primary map



X

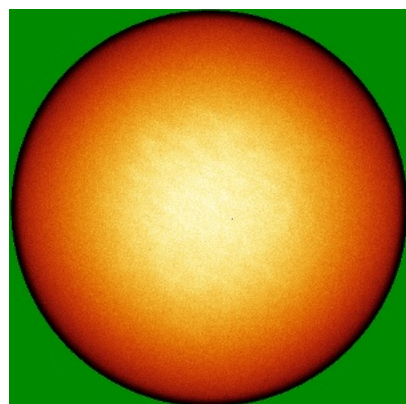


Y

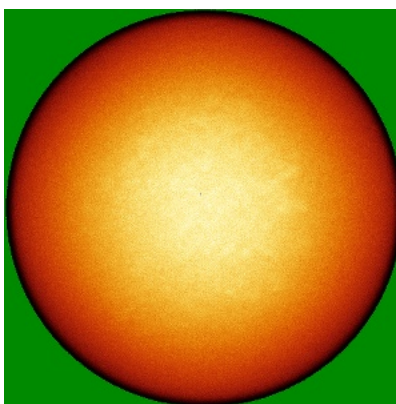


Z

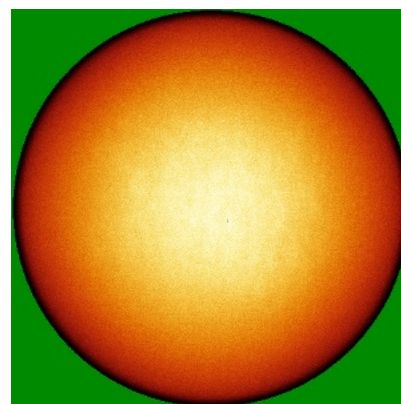
6.4.2 Raw map



X



Y

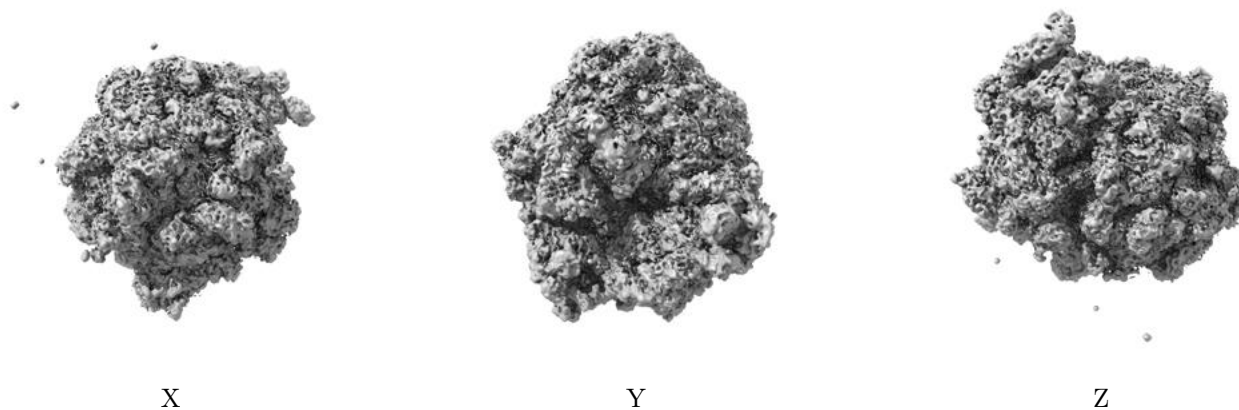


Z

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.

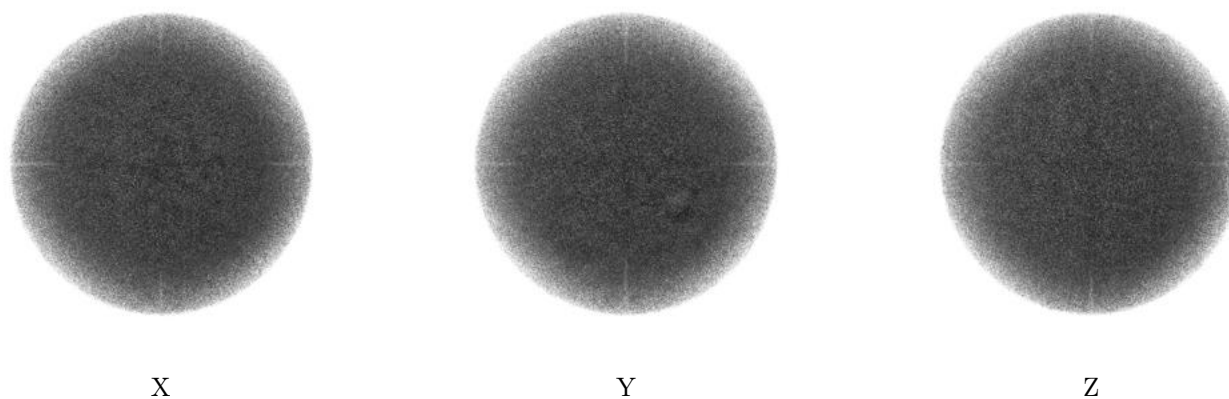
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.5. 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



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.

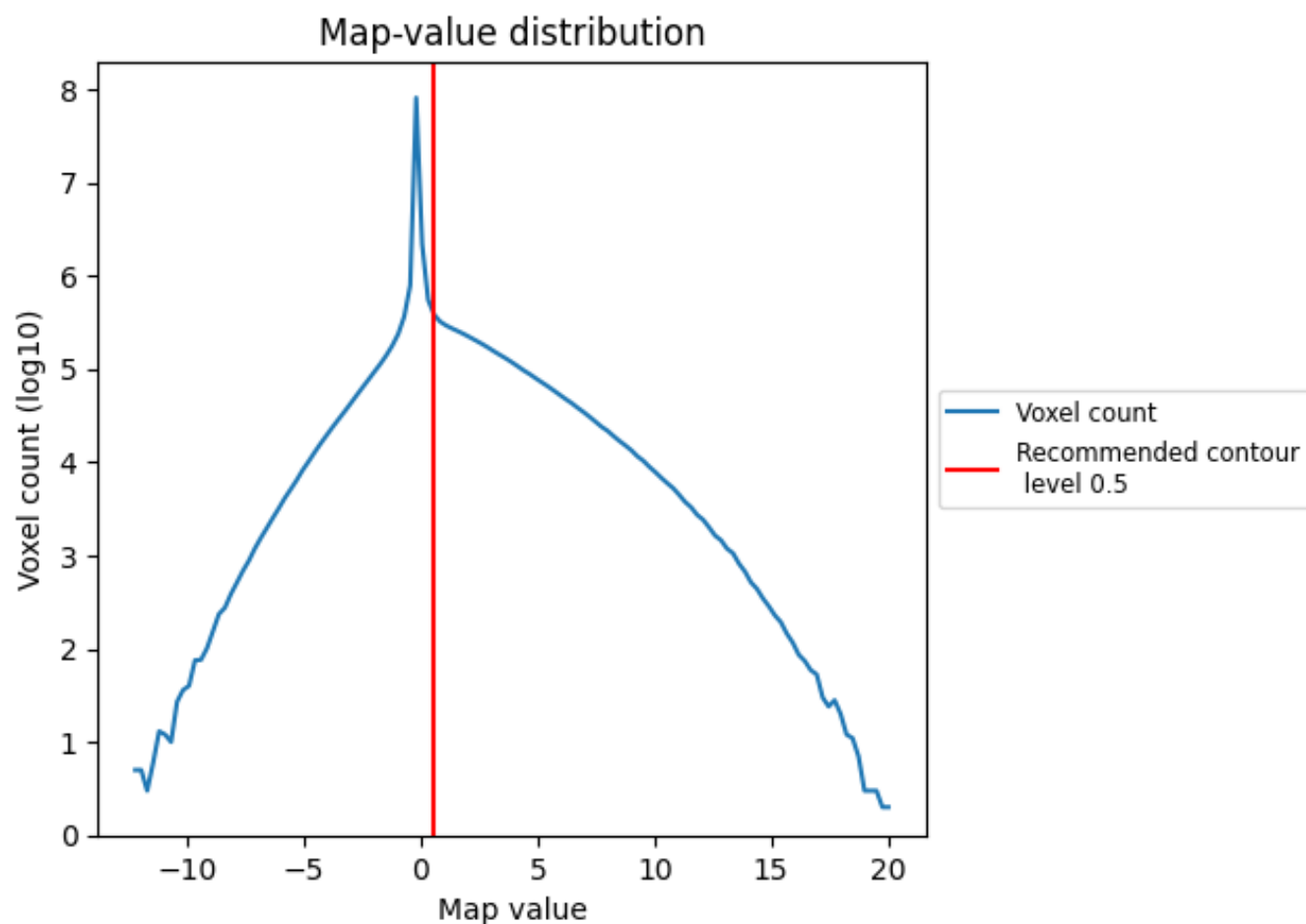
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

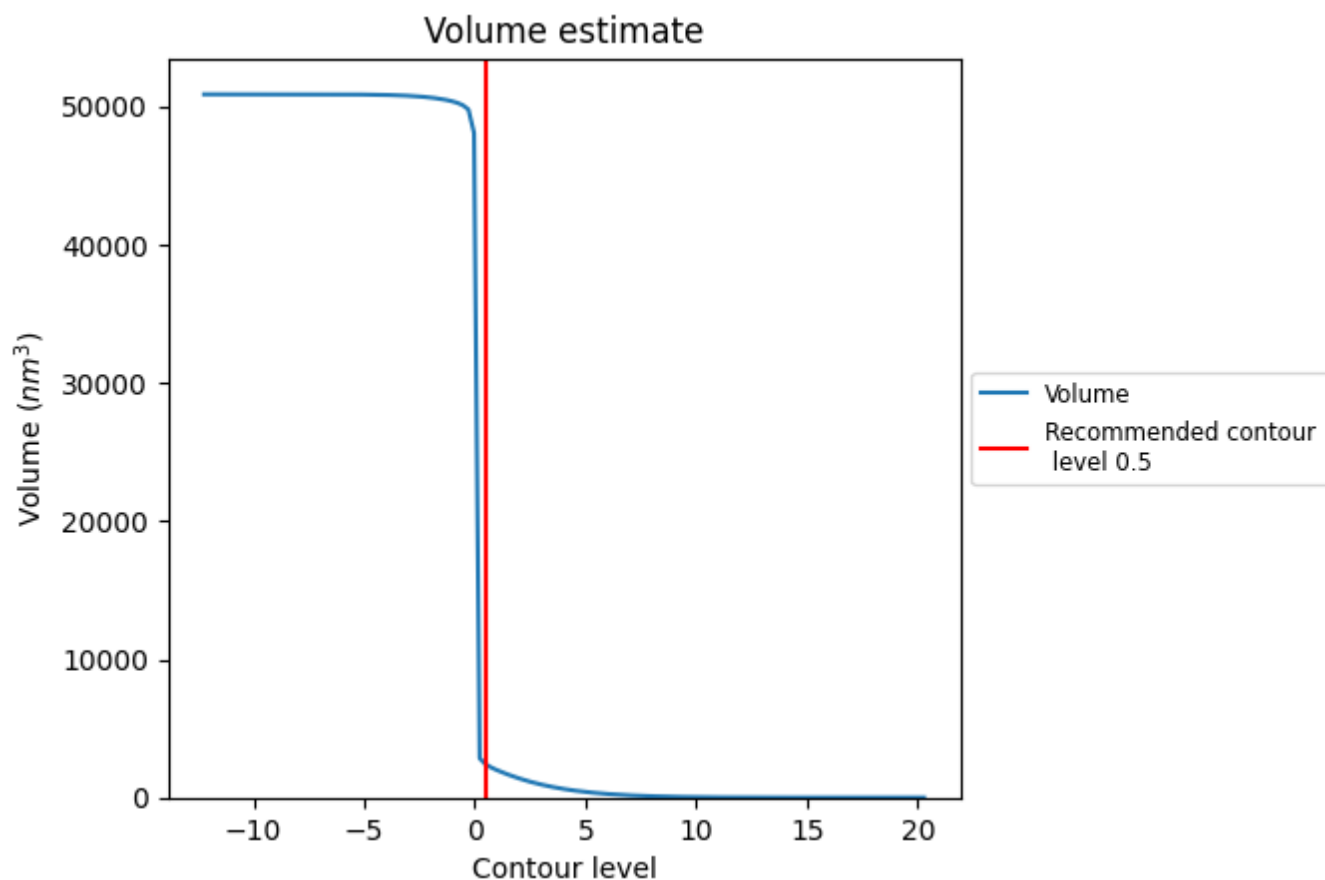
This section contains the results of statistical analysis of the map.

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.

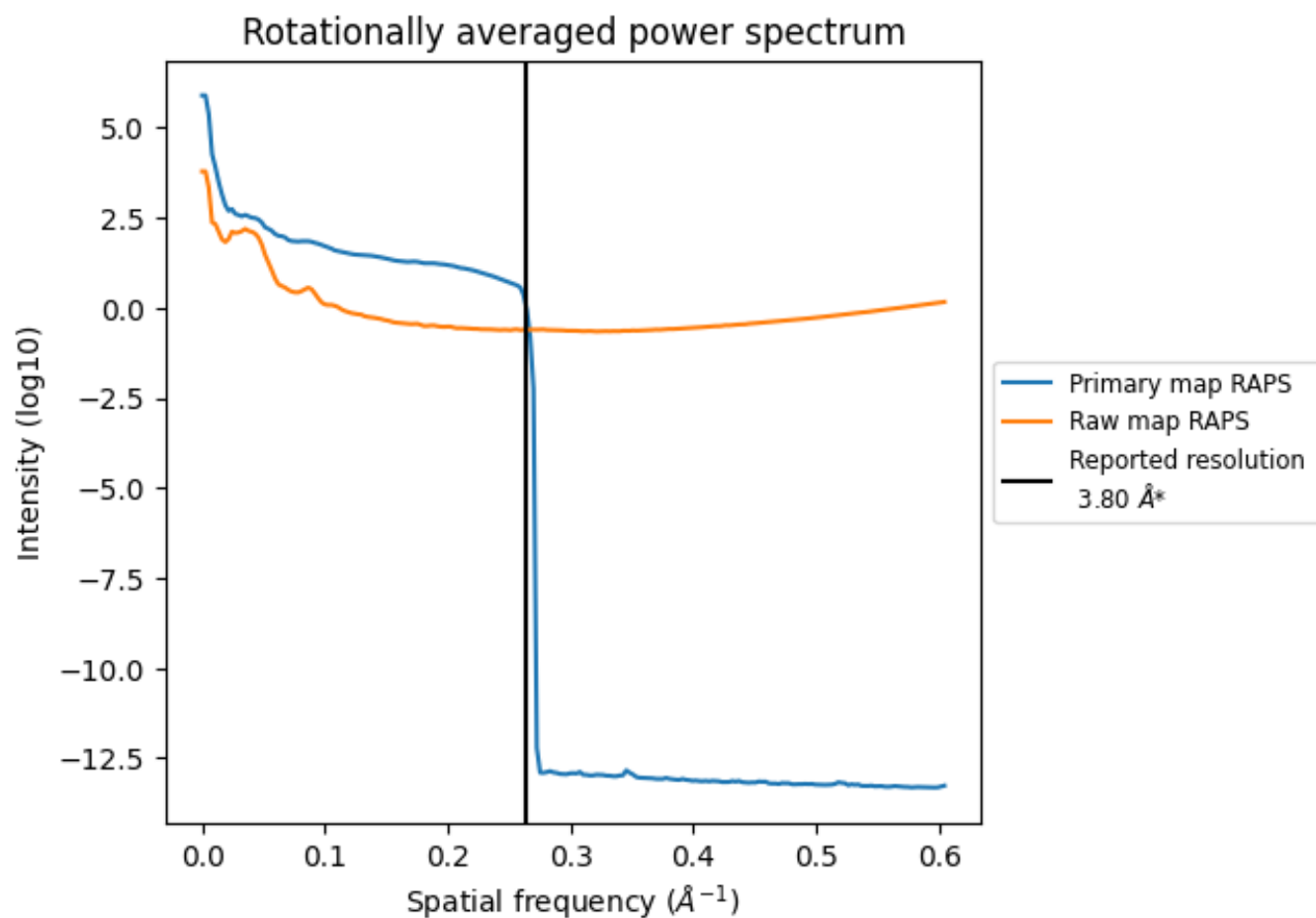
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2398 nm³; this corresponds to an approximate mass of 2166 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 ⓘ

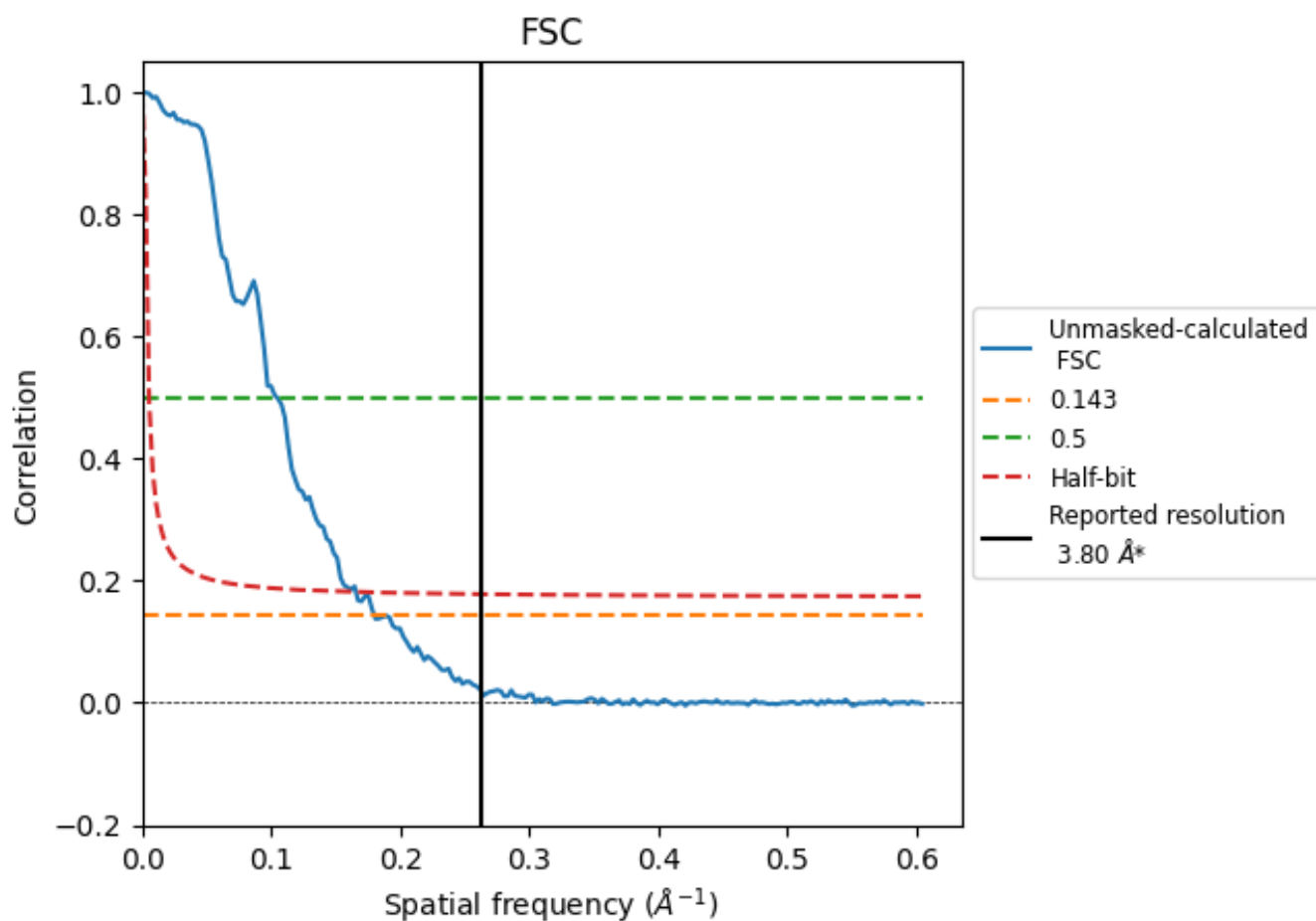


*Reported resolution corresponds to spatial frequency of 0.263 Å⁻¹

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 0.263 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

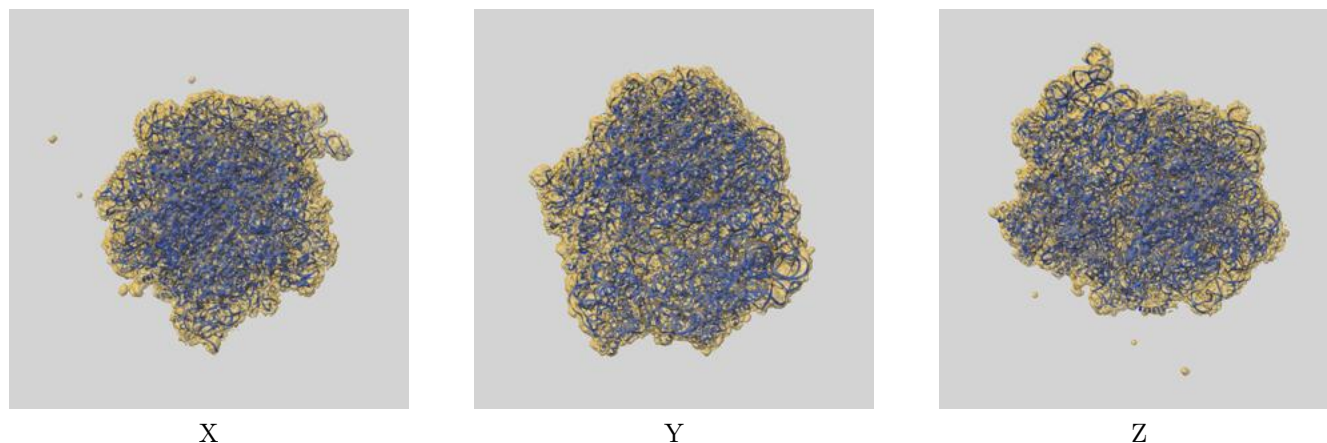
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.80	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	5.56	9.61	6.04

*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 5.56 differs from the reported value 3.8 by more than 10 %

9 Map-model fit [i](#)

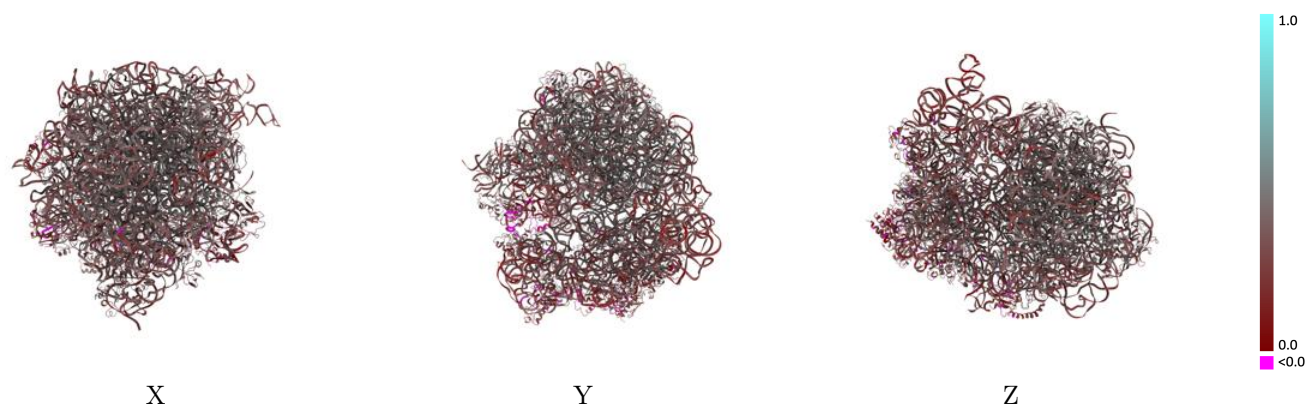
This section contains information regarding the fit between EMDB map EMD-25415 and PDB model 7SSW. Per-residue inclusion information can be found in section 3 on page 15.

9.1 Map-model overlay [i](#)



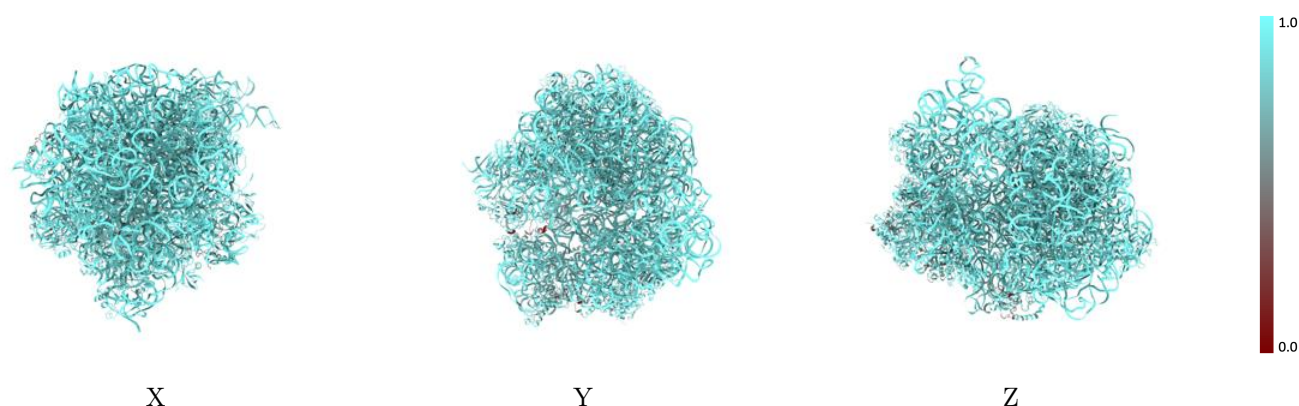
The images above show the 3D surface view of the map at the recommended contour level 0.5 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



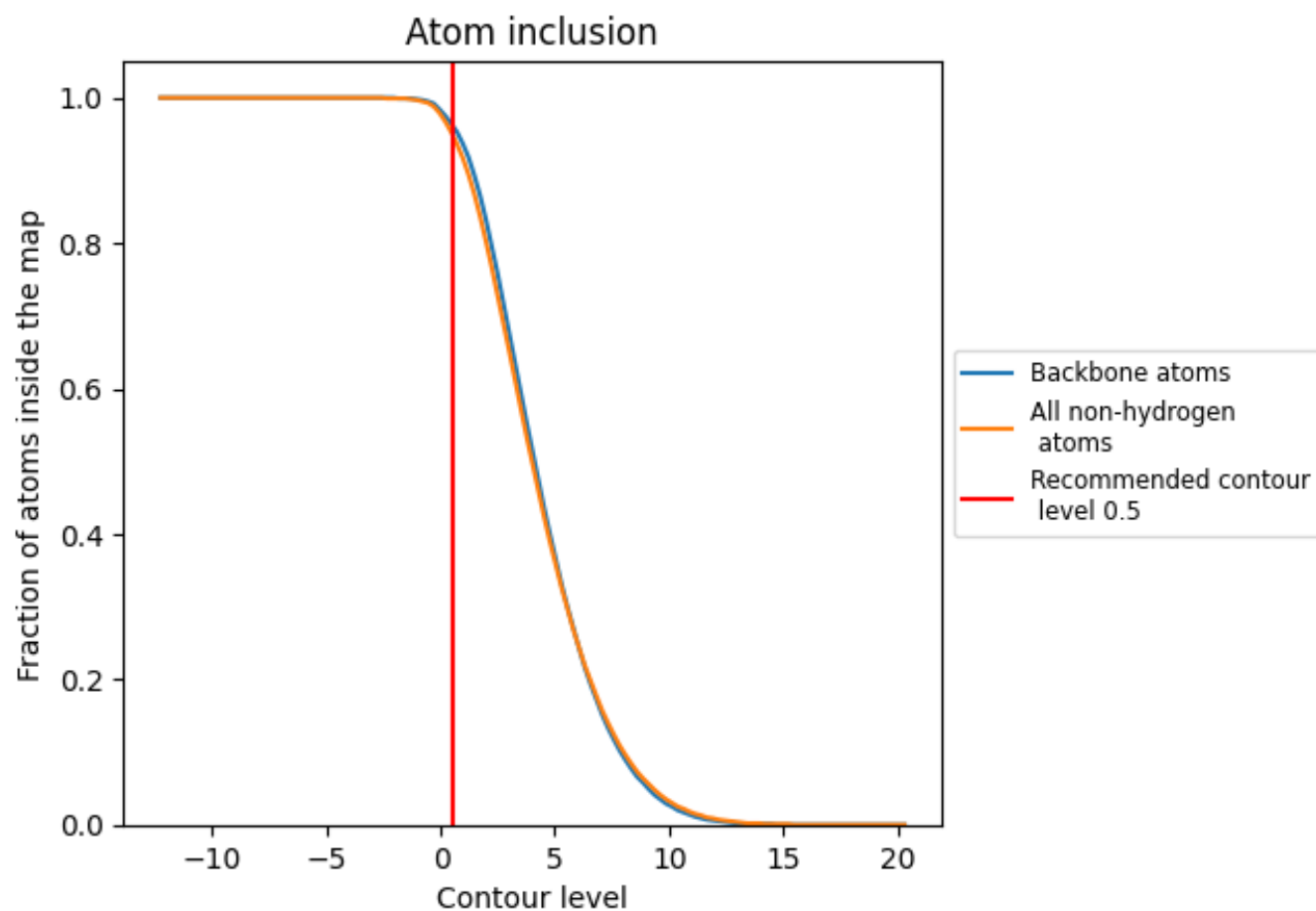
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.5).

9.4 Atom inclusion [i](#)



At the recommended contour level, 96% of all backbone atoms, 95% 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 (0.5) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9510	 0.3340
1	 0.9740	 0.3600
2	 0.9830	 0.3210
3	 0.9590	 0.2990
4	 0.8140	 0.1820
5	 0.9480	 0.2540
6	 0.9400	 0.2480
B	 0.9490	 0.4100
C	 0.8580	 0.3160
D	 0.9610	 0.4460
E	 0.9490	 0.4080
F	 0.9620	 0.4150
G	 0.7880	 0.1940
H	 0.7490	 0.2190
I	 0.9220	 0.2890
J	 0.9520	 0.3480
K	 0.9510	 0.3120
L	 0.8070	 0.2400
M	 0.9250	 0.3430
N	 0.8840	 0.2610
O	 0.8320	 0.2450
P	 0.9600	 0.3360
Q	 0.9250	 0.3340
R	 0.8740	 0.2500
S	 0.9250	 0.2820
T	 0.9590	 0.3580
U	 0.9390	 0.3280
V	 0.9180	 0.3250
W	 0.9670	 0.3470
X	 0.9230	 0.2950
Y	 0.9520	 0.3280
Z	 0.8820	 0.2900
a	 0.8750	 0.2070
b	 0.9600	 0.4350
c	 0.9660	 0.4080



Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
d	 0.9430	 0.3930
e	 0.9180	 0.2780
f	 0.9550	 0.3190
g	 0.7000	 0.2240
i	 0.6610	 0.1890
j	 0.9680	 0.4160
k	 0.9570	 0.4030
l	 0.9510	 0.4070
m	 0.9560	 0.3900
n	 0.9640	 0.4230
o	 0.9690	 0.3580
p	 0.9620	 0.4060
q	 0.9570	 0.4060
r	 0.9570	 0.3720
s	 0.9510	 0.3980
t	 0.9490	 0.4030
u	 0.9520	 0.3620
v	 0.9610	 0.3370
w	 0.9480	 0.4200
x	 0.9480	 0.4110
y	 0.9720	 0.3610
z	 0.9540	 0.3900