Full wwPDB EM Validation Report

Apr 23, 2024 – 06:10 PM EDT

PDB ID	:	8VSA
EMDB ID	:	EMD-43491
Title	:	Endogenous trans-translation complex with tmRNA*SmpB in the P site and alanyl-tRNA in the A site of E. coli 70S ribosome
Authors	:	Teran, D.; Zhang, Y.; Korostelev, A.A.
Deposited on	:	2024-01-23
Resolution	:	3.70 Å(reported)

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:

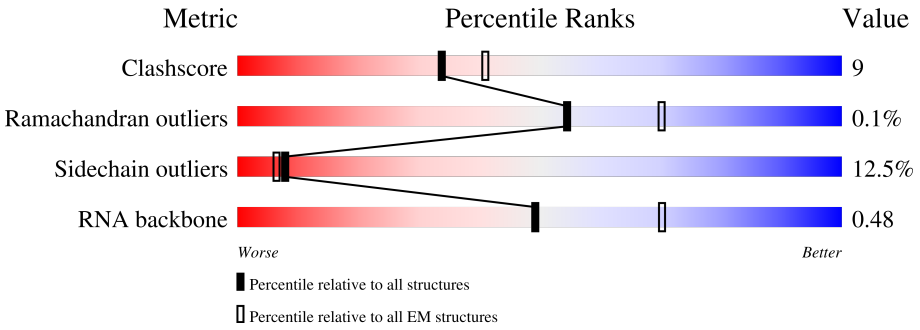
EMDB validation analysis	:	0.0.1.dev92
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36.2

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.70 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

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 <=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	L02	273	69% 26%
2	L03	209	72% 25%
3	L04	201	73% 25%
4	L05	179	60% 31% 8%
5	L06	177	65% 31%
6	L09	149	60% 70% 28%
7	L1	234	37% 18% 43%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
8	L10	165	18% 49% 25% 5% 21%
9	L11	142	8% 60% 35%
10	L13	142	71% 28%
11	L14	123	73% 23%
12	L15	144	70% 25%
13	L16	136	73% 23%
14	L17	127	67% 25% 6%
15	L18	117	60% 38%
16	L19	115	63% 33%
17	L20	118	71% 27%
18	L21	103	66% 29% 5%
19	L22	110	70% 28%
20	L23	100	64% 26% 7%
21	L24	104	71% 24%
22	L25	94	72% 24%
23	L27	85	62% 24% 12%
24	L28	78	71% 27%
25	L29	63	70% 25% 5%
26	L30	59	71% 27%
27	L31	45	56% 31% 13%
28	L32	57	77% 16% 5%
29	L33	55	58% 25% 7% 9%
30	L34	46	63% 33%
31	L35	65	75% 18% 5%
32	L36	38	63% 34%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
33	23S	2903	56% 37% 7%
34	5S	120	53% 38% 7%
35	TMRN	363	5% 50% 45%
36	16S	1539	51% 41% 8%
37	ATRN	76	74% 25%
38	S02	241	69% 19% 5% 7%
39	S03	233	55% 30% 12%
40	S04	206	54% 40% 6%
41	S05	167	62% 29% 6%
42	S06	135	44% 27% 26%
43	S07	179	60% 23% 16%
44	S08	130	68% 28%
45	S09	130	54% 38% 5%
46	S10	103	53% 35% 7% 5%
47	S11	129	57% 30% 10%
48	S12	124	65% 33%
49	S13	118	71% 23%
50	S14	101	50% 43% 7%
51	S15	89	75% 22%
52	S16	82	66% 29% 5%
53	S17	84	56% 33% 6% 5%
54	S18	75	67% 16% 13%
55	S19	92	54% 29% 14%
56	S20	87	71% 24%
57	S21	71	52% 35% 8%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
58	SMPB	150	

2 Entry composition

There are 58 unique types of molecules in this entry. The entry contains 155832 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 protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	L02	271	Total	C	N	O	S	0	0
			2082	1288	423	364	7		

- Molecule 2 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	L03	209	Total	C	N	O	S	0	0
			1565	979	288	294	4		

- Molecule 3 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	L04	201	Total	C	N	O	S	0	0
			1552	974	283	290	5		

- Molecule 4 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	L05	177	Total	C	N	O	S	0	0
			1410	899	249	256	6		

- Molecule 5 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	L06	176	Total	C	N	O	S	0	0
			1323	832	243	246	2		

- Molecule 6 is a protein called Large ribosomal subunit protein bL9.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	L09	149	Total	C	N	O	S	0	0
			1111	699	197	214	1		

- Molecule 7 is a protein called 50S ribosomal protein L1.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	L1	134	Total	C	N	O	S	0	0
			1026	645	186	193	2		

- Molecule 8 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	L10	131	Total	C	N	O	S	0	0
			988	625	175	183	5		

- Molecule 9 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	L11	141	Total	C	N	O	S	0	0
			1032	651	179	196	6		

- Molecule 10 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	L13	142	Total	C	N	O	S	0	0
			1129	714	212	199	4		

- Molecule 11 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	L14	122	Total	C	N	O	S	0	0
			938	587	180	165	6		

- Molecule 12 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	L15	143	Total	C	N	O	S	0	0
			1045	649	206	189	1		

- Molecule 13 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	L16	136	Total	C	N	O	S	0	0
			1074	686	205	177	6		

- Molecule 14 is a protein called Large ribosomal subunit protein bL17.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	L17	120	Total 960	C 593	N 196	O 166	S 5	0	0

- Molecule 15 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				AltConf	Trace
15	L18	116	Total 892	C 552	N 178	O 162	0	0

- Molecule 16 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	L19	114	Total 917	C 574	N 179	O 163	S 1	0	0

- Molecule 17 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms				AltConf	Trace
17	L20	117	Total 947	C 604	N 192	O 151	0	0

- Molecule 18 is a protein called Ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	L21	103	Total 816	C 516	N 153	O 145	S 2	0	0

- Molecule 19 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	L22	110	Total 857	C 532	N 166	O 156	S 3	0	0

- Molecule 20 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	L23	93	Total 738	C 466	N 139	O 131	S 2	0	0

- Molecule 21 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms				AltConf	Trace
21	L24	102	Total 779	C 492	N 146	O 141	0	0

- Molecule 22 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	L25	94	Total 753	C 479	N 137	O 134	S 3	0	0

- Molecule 23 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	L27	75	Total 575	C 356	N 116	O 102	S 1	0	0

- Molecule 24 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	L28	77	Total 625	C 388	N 129	O 106	S 2	0	0

- Molecule 25 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	L29	63	Total 509	C 313	N 99	O 95	S 2	0	0

- Molecule 26 is a protein called Large ribosomal subunit protein uL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	L30	58	Total 449	C 281	N 87	O 79	S 2	0	0

- Molecule 27 is a protein called Large ribosomal subunit protein bL31.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	L31	45	Total 351	C 219	N 61	O 65	S 6	0	0

- Molecule 28 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	L32	56	Total	C	N	O	S	0	0
			444	269	94	80	1		

- Molecule 29 is a protein called Large ribosomal subunit protein bL33.

Mol	Chain	Residues	Atoms				AltConf	Trace
29	L33	50	Total	C	N	O	0	0
			409	263	75	71		

- Molecule 30 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	L34	46	Total	C	N	O	S	0	0
			377	228	90	57	2		

- Molecule 31 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	L35	64	Total	C	N	O	S	0	0
			504	323	105	74	2		

- Molecule 32 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	L36	38	Total	C	N	O	S	0	0
			302	185	65	48	4		

- Molecule 33 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	23S	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
23S	747	C	U	variant	GB 1036415628

- Molecule 34 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	5S	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
5S	120	A	U	conflict	GB 1370526515

- Molecule 35 is a RNA chain called TMRN.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	TMRN	363	Total	C	N	O	P	0	0
			7758	3465	1410	2520	363		

- Molecule 36 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	16S	1539	Total	C	N	O	P	0	0
			33012	14725	6052	10697	1538		

- Molecule 37 is a RNA chain called A-tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	ATRN	76	Total	C	N	O	P	0	0
			1621	722	289	534	76		

- Molecule 38 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	S02	225	Total	C	N	O	S	0	0
			1756	1111	315	322	8		

- Molecule 39 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	S03	206	Total	C	N	O	S	0	0
			1624	1028	305	288	3		

- Molecule 40 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	S04	205	Total	C	N	O	S	0	0
			1643	1026	315	298	4		

- Molecule 41 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	S05	157	Total	C	N	O	S	0	0
			1156	719	218	213	6		

- Molecule 42 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	S06	100	Total	C	N	O	S	0	0
			817	515	148	148	6		

- Molecule 43 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	S07	151	Total	C	N	O	S	0	0
			1181	735	227	215	4		

- Molecule 44 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	S08	129	Total	C	N	O	S	0	0
			979	616	173	184	6		

- Molecule 45 is a protein called Small ribosomal subunit protein uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	S09	127	Total	C	N	O	S	0	0
			1022	634	206	179	3		

- Molecule 46 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	S10	98	Total	C	N	O	S	0	0
			786	493	150	142	1		

- Molecule 47 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	S11	116	Total	C	N	O	S	0	0
			869	535	173	158	3		

- Molecule 48 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	S12	123	Total	C	N	O	S	0	0
			955	590	196	165	4		

- Molecule 49 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	S13	114	Total	C	N	O	S	0	0
			883	546	178	156	3		

- Molecule 50 is a protein called Small ribosomal subunit protein uS14.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	S14	100	Total	C	N	O	S	0	0
			805	499	164	139	3		

- Molecule 51 is a protein called Small ribosomal subunit protein uS15.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	S15	88	Total	C	N	O	S	0	0
			714	439	144	130	1		

- Molecule 52 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	S16	82	Total	C	N	O	S	0	0
			649	406	128	114	1		

- Molecule 53 is a protein called Small ribosomal subunit protein uS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	S17	80	Total	C	N	O	S	0	0
			648	411	121	113	3		

- Molecule 54 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	S18	65	Total	C	N	O	S	0	0
			535	339	100	95	1		

- Molecule 55 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	S19	79	Total	C	N	O	S	0	0
			637	408	120	107	2		

- Molecule 56 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	S20	85	Total	C	N	O	S	0	0
			665	411	137	114	3		

- Molecule 57 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	S21	65	Total	C	N	O	S	0	0
			544	335	117	91	1		

- Molecule 58 is a protein called SsrA-binding protein.

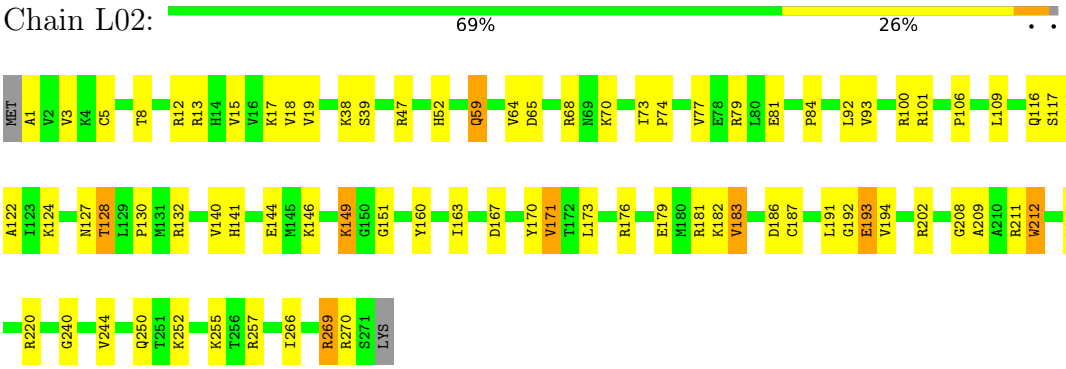
Mol	Chain	Residues	Atoms					AltConf	Trace
58	SMPB	150	Total	C	N	O	S	0	0
			1209	763	226	216	4		

3 Residue-property plots (i)

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

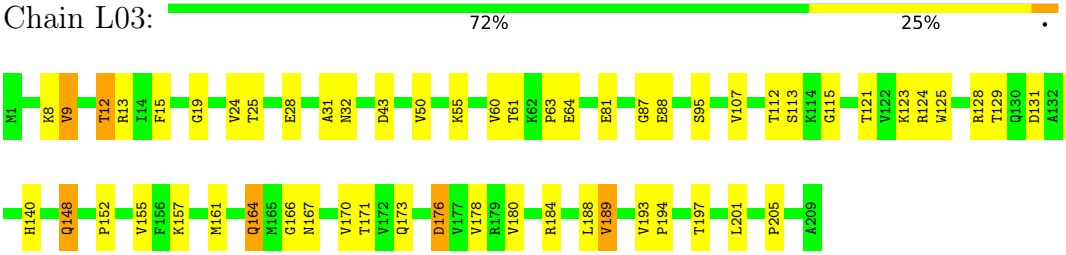
• Molecule 1: 50S ribosomal protein L2

Chain L02:



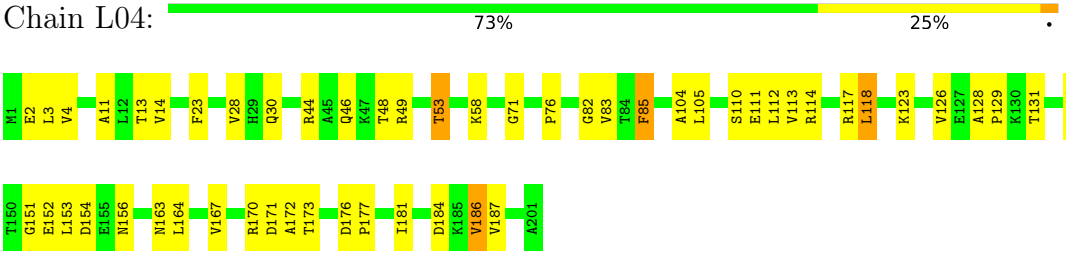
• Molecule 2: 50S ribosomal protein L3

Chain L03:



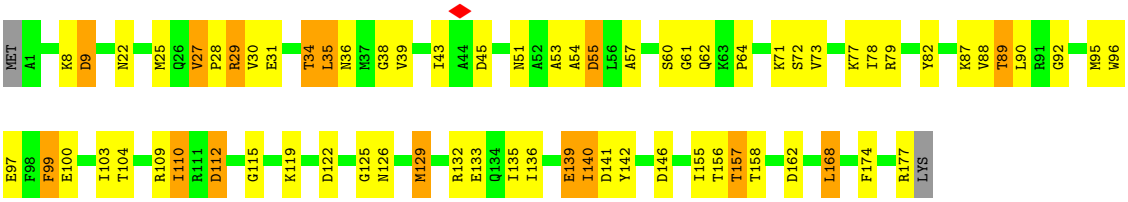
• Molecule 3: 50S ribosomal protein L4

Chain L04:



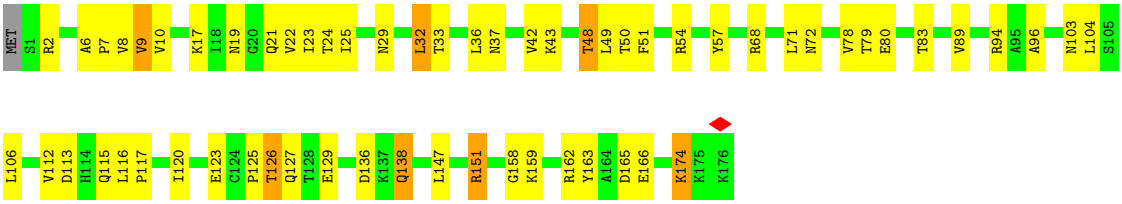
• Molecule 4: 50S ribosomal protein L5

Chain L05:



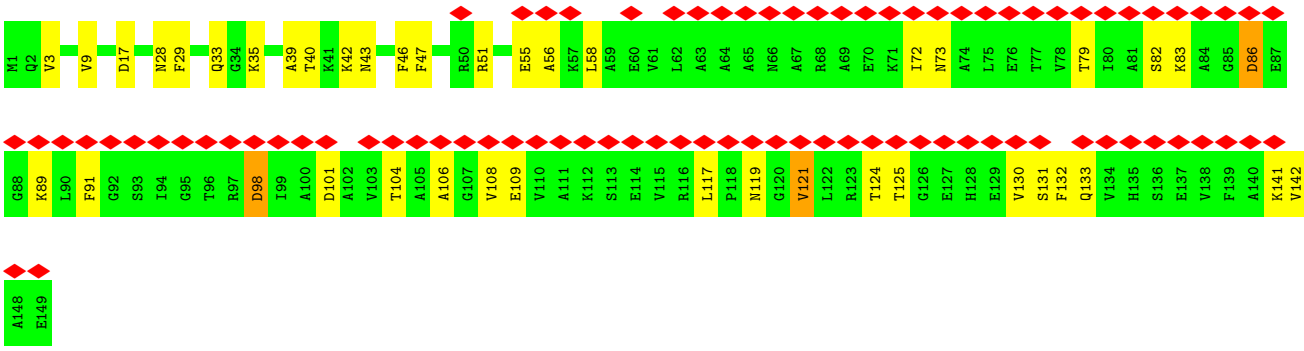
• Molecule 5: 50S ribosomal protein L6

Chain L06:



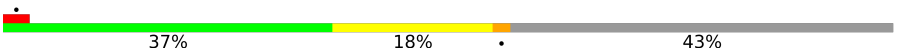
• Molecule 6: Large ribosomal subunit protein bL9

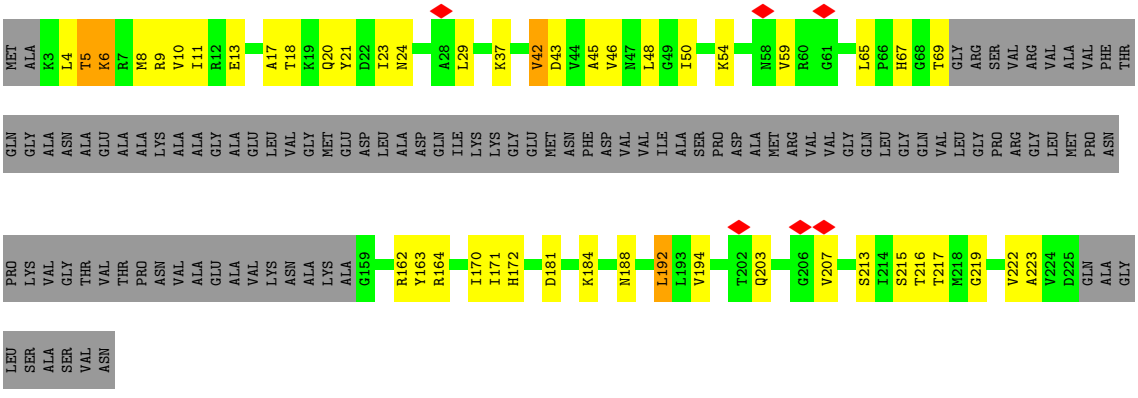
Chain L09:



• Molecule 7: 50S ribosomal protein L1

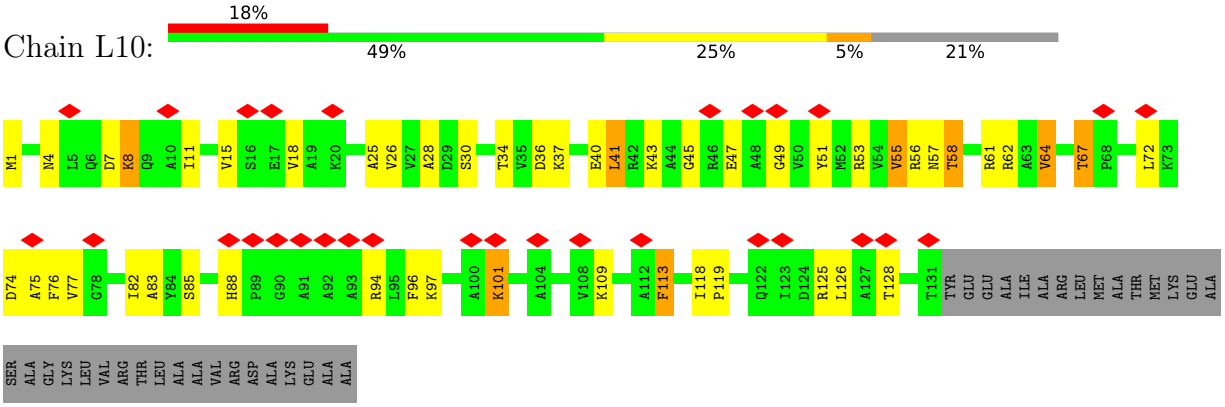
Chain L1:





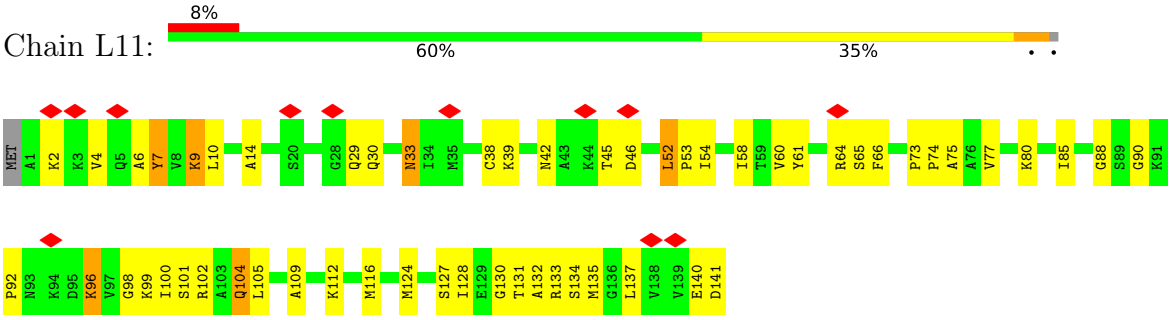
• Molecule 8: 50S ribosomal protein L10

Chain L10:



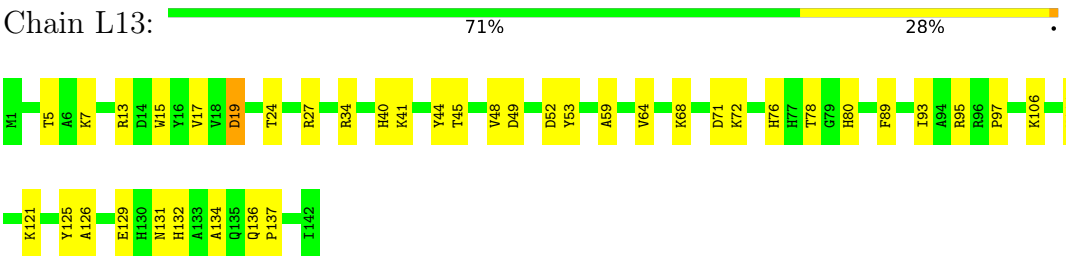
• Molecule 9: 50S ribosomal protein L11

Chain L11:



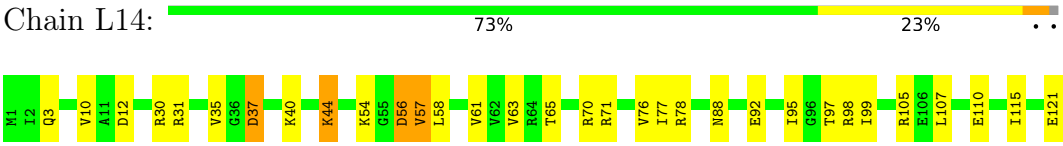
• Molecule 10: 50S ribosomal protein L13

Chain L13:



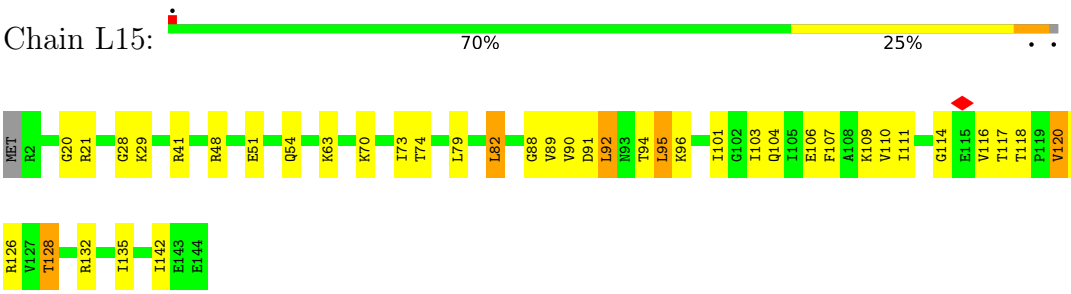
• Molecule 11: 50S ribosomal protein L14

Chain L14:



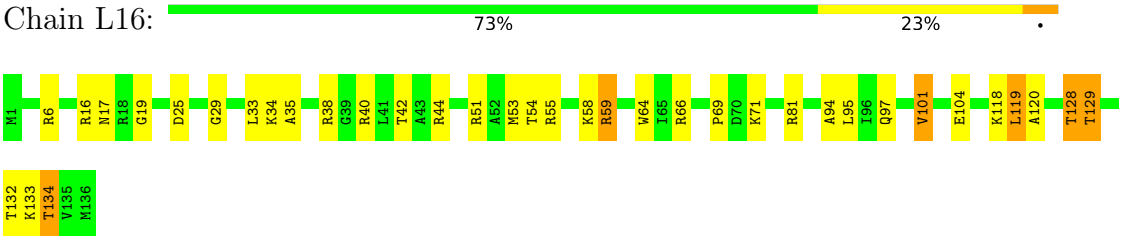
• Molecule 12: 50S ribosomal protein L15

Chain L15:



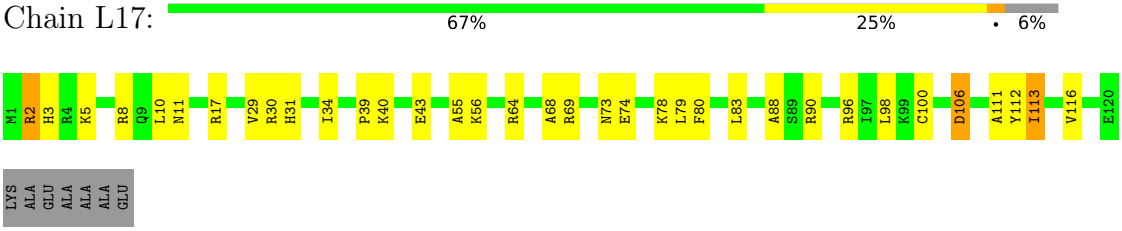
• Molecule 13: 50S ribosomal protein L16

Chain L16:



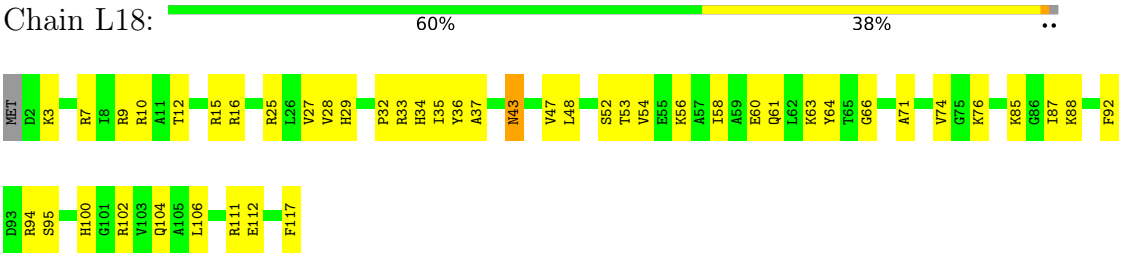
• Molecule 14: Large ribosomal subunit protein bL17

Chain L17:



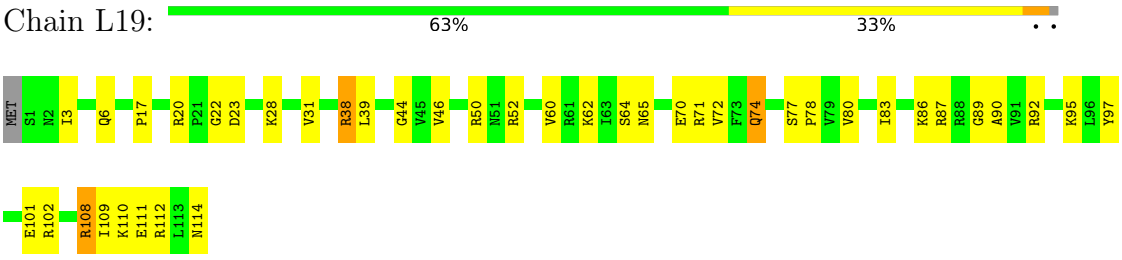
• Molecule 15: 50S ribosomal protein L18

Chain L18:



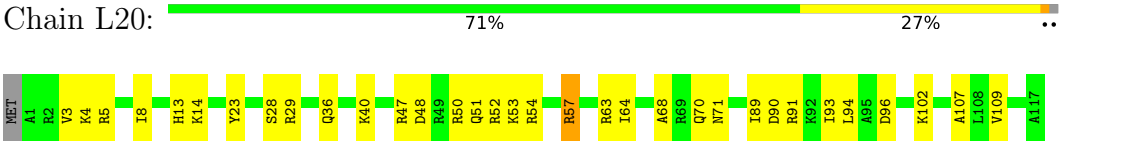
• Molecule 16: 50S ribosomal protein L19

Chain L19:



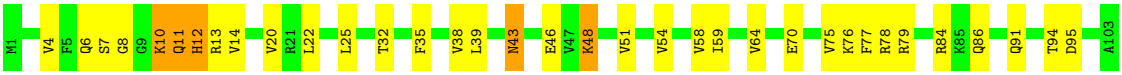
• Molecule 17: 50S ribosomal protein L20

Chain L20:

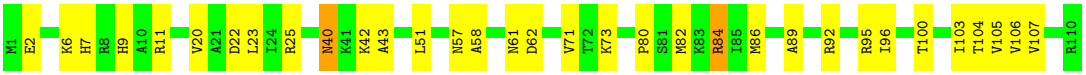


• Molecule 18: Ribosomal protein L21

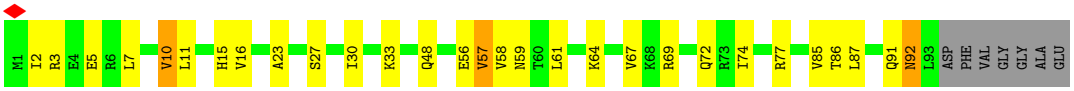
Chain L21:



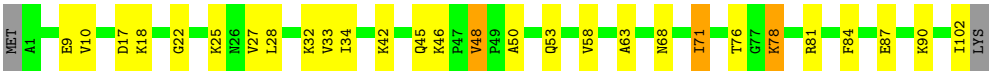
• Molecule 19: 50S ribosomal protein L22



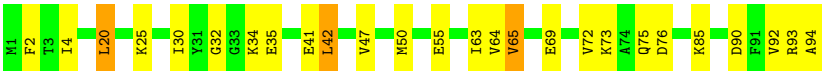
• Molecule 20: 50S ribosomal protein L23



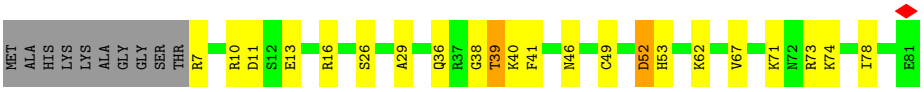
• Molecule 21: 50S ribosomal protein L24



• Molecule 22: 50S ribosomal protein L25

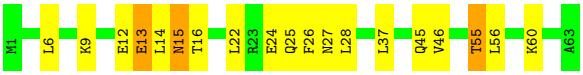


• Molecule 23: 50S ribosomal protein L27

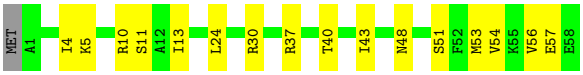


• Molecule 24: 50S ribosomal protein L28

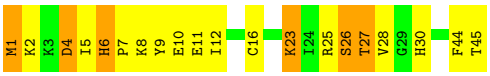
• Molecule 25: 50S ribosomal protein L29



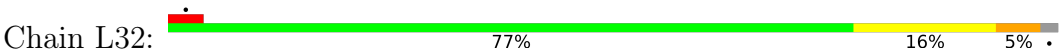
• Molecule 26: Large ribosomal subunit protein uL30

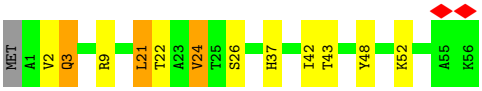


• Molecule 27: Large ribosomal subunit protein bL31



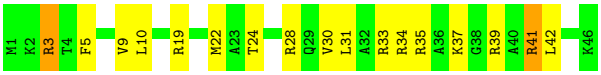
• Molecule 28: 50S ribosomal protein L32



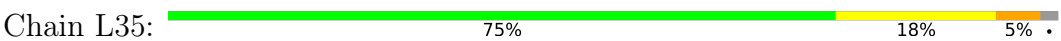


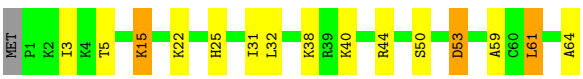
• Molecule 29: Large ribosomal subunit protein bL33

• Molecule 30: 50S ribosomal protein L34

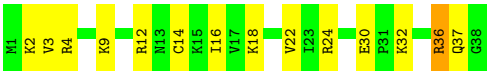


• Molecule 31: 50S ribosomal protein L35



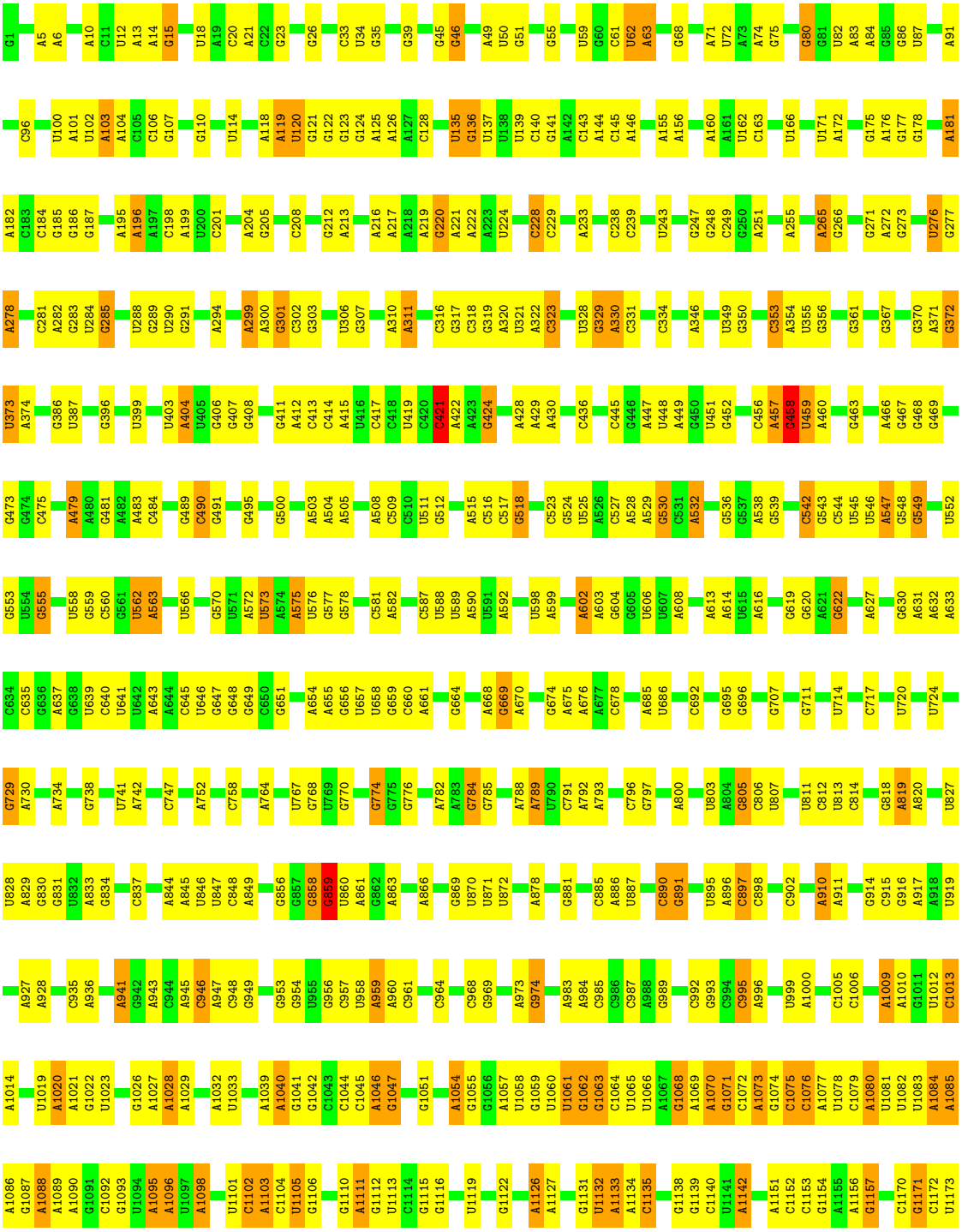


• Molecule 32: 50S ribosomal protein L36



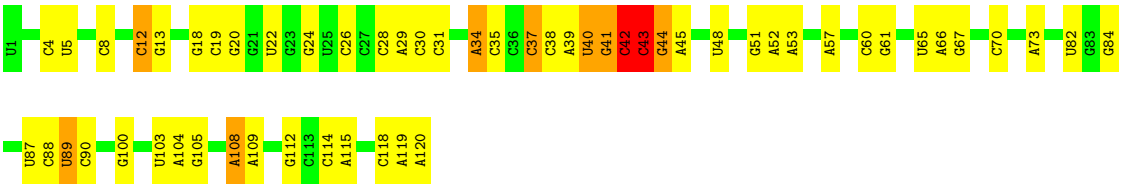
• Molecule 33: 23S ribosomal RNA

Chain 23S:



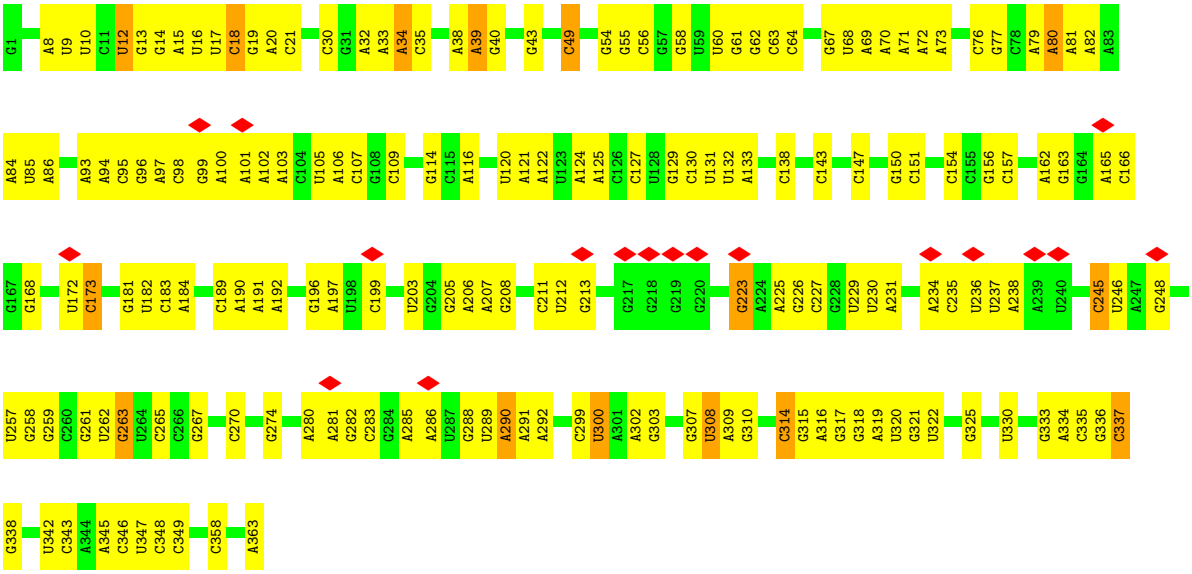
• Molecule 34: 5S ribosomal RNA

Chain 5S:



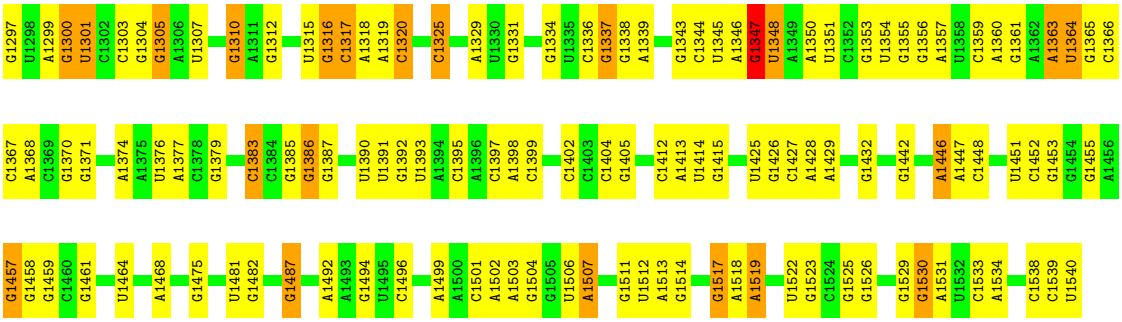
• Molecule 35: TMRN

Chain TMRN:



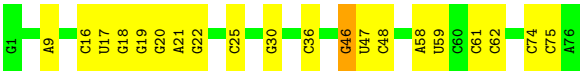
• Molecule 36: 16S ribosomal RNA

Chain 16S:



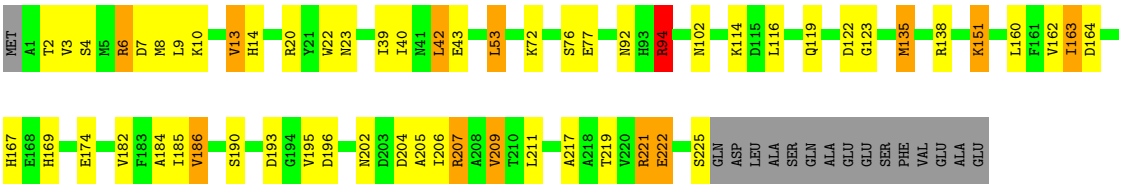
• Molecule 37: A-tRNA

Chain ATRN:



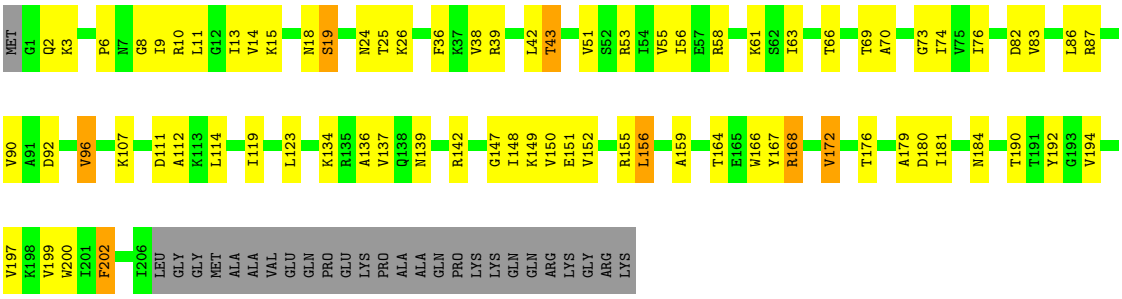
• Molecule 38: 30S ribosomal protein S2

Chain S02:



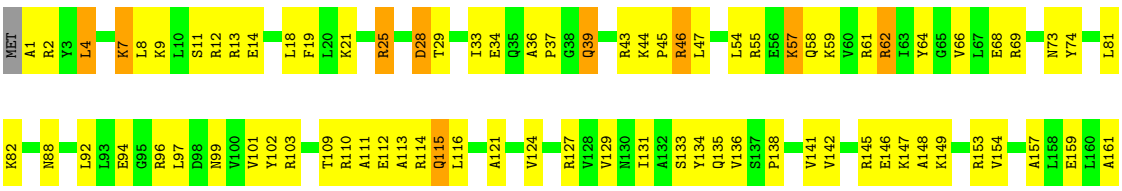
• Molecule 39: 30S ribosomal protein S3

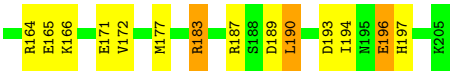
Chain S03:



• Molecule 40: 30S ribosomal protein S4

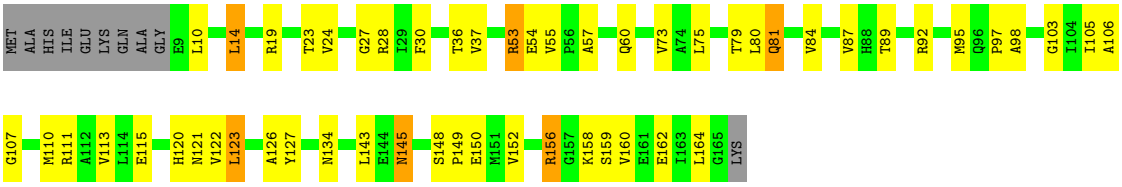
Chain S04:





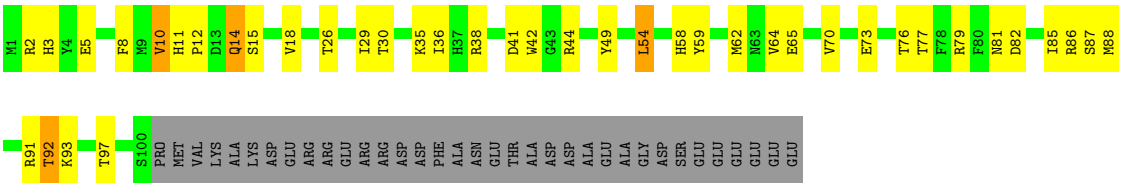
• Molecule 41: 30S ribosomal protein S5

Chain S05:



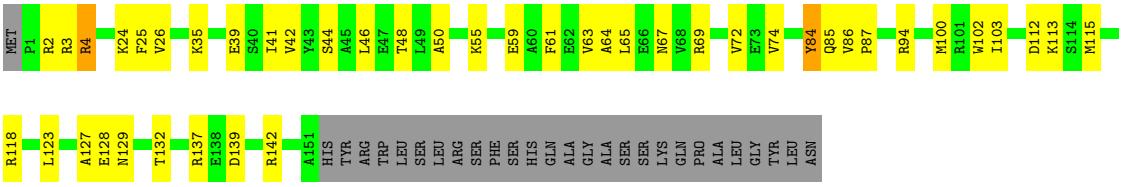
• Molecule 42: 30S ribosomal protein S6

Chain S06:



• Molecule 43: 30S ribosomal protein S7

Chain S07:

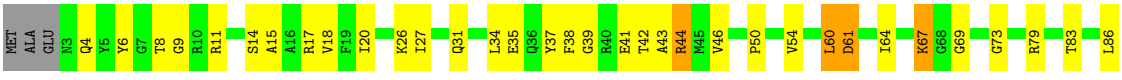


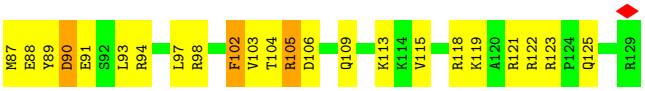
• Molecule 44: 30S ribosomal protein S8

Chain S08:

• Molecule 45: Small ribosomal subunit protein uS9

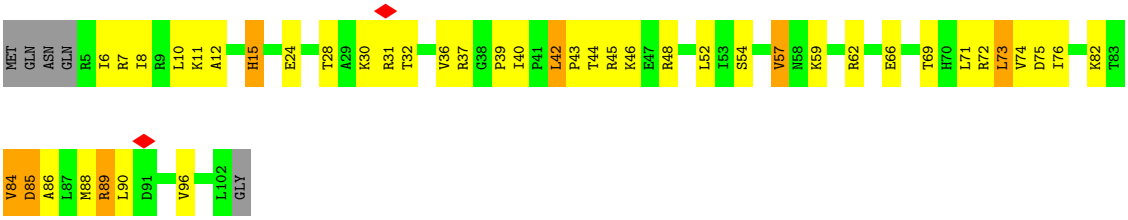
Chain S09:





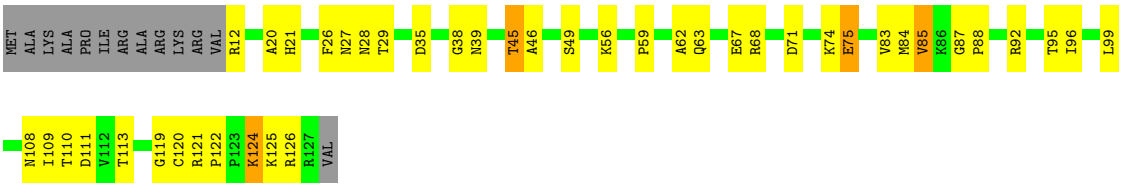
• Molecule 46: 30S ribosomal protein S10

Chain S10:



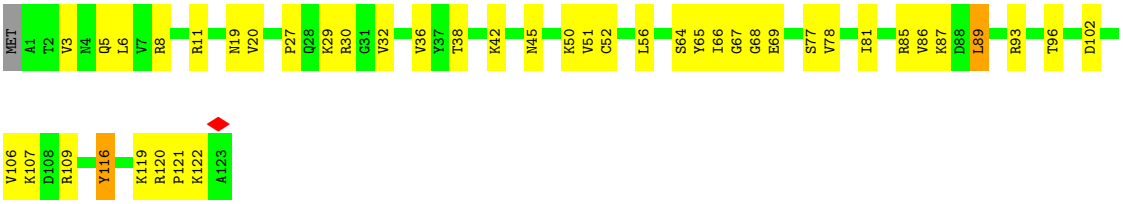
• Molecule 47: 30S ribosomal protein S11

Chain S11:



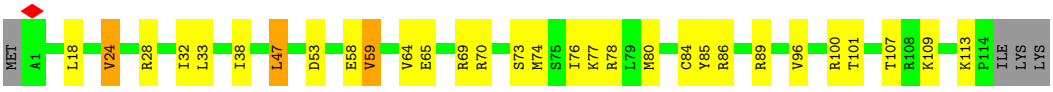
• Molecule 48: 30S ribosomal protein S12

Chain S12:



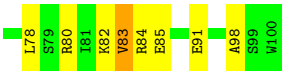
• Molecule 49: 30S ribosomal protein S13

Chain S13:



• Molecule 50: Small ribosomal subunit protein uS14

Chain S14:

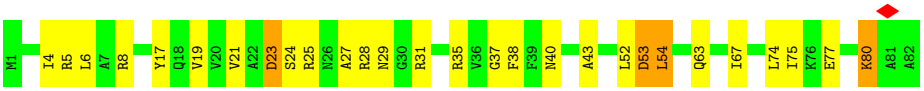


• Molecule 51: Small ribosomal subunit protein uS15

Chain S15:

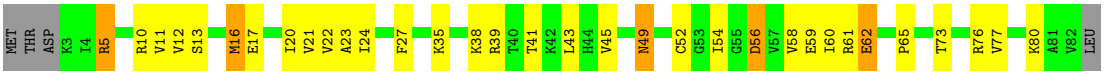
• Molecule 52: 30S ribosomal protein S16

Chain S16:



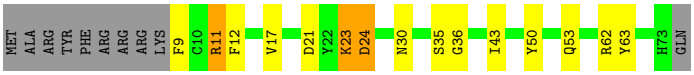
• Molecule 53: Small ribosomal subunit protein uS17

Chain S17:



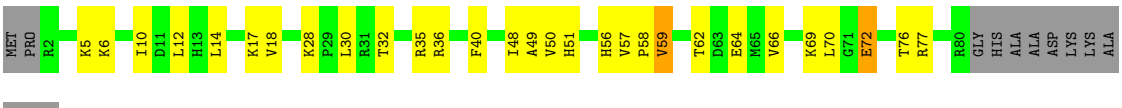
• Molecule 54: 30S ribosomal protein S18

Chain S18:



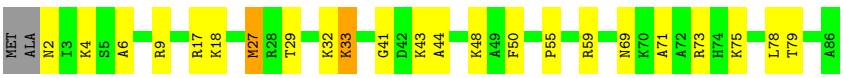
• Molecule 55: 30S ribosomal protein S19

Chain S19:



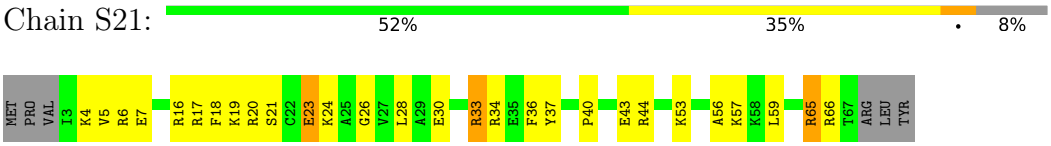
• Molecule 56: 30S ribosomal protein S20

Chain S20:



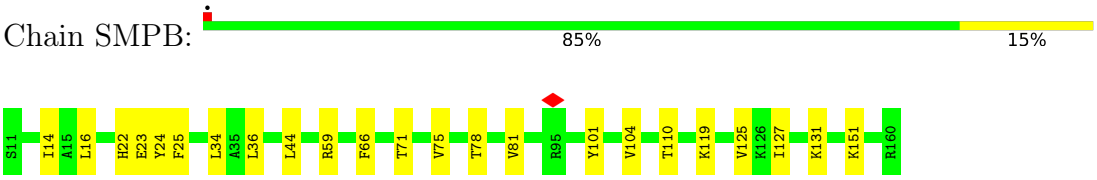
• Molecule 57: 30S ribosomal protein S21

Chain S21:



• Molecule 58: SsrA-binding protein

Chain SMPB:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	5956	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TALOS ARCTICA	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/Å^2$)	29.9	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	1100	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	24.823	Depositor
Minimum map value	-10.783	Depositor
Average map value	0.006	Depositor
Map value standard deviation	1.735	Depositor
Recommended contour level	3.0	Depositor
Map size (Å)	487.2, 487.2, 487.2	wwPDB
Map dimensions	560, 560, 560	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.87, 0.87, 0.87	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	L02	0.32	0/2121	0.60	0/2852
2	L03	0.31	0/1586	0.55	0/2134
3	L04	0.27	0/1571	0.52	0/2113
4	L05	0.29	0/1434	0.63	0/1926
5	L06	0.28	0/1343	0.54	0/1816
6	L09	0.27	0/1122	0.53	0/1515
7	L1	0.26	0/1033	0.56	0/1387
8	L10	0.29	0/1001	0.61	0/1350
9	L11	0.29	0/1046	0.55	0/1410
10	L13	0.30	0/1152	0.53	0/1551
11	L14	0.31	0/947	0.60	0/1268
12	L15	0.29	0/1054	0.63	0/1403
13	L16	0.31	0/1093	0.59	0/1460
14	L17	0.28	0/973	0.63	0/1301
15	L18	0.26	0/902	0.61	0/1209
16	L19	0.30	0/929	0.57	0/1242
17	L20	0.30	0/960	0.51	0/1278
18	L21	0.30	0/829	0.57	0/1107
19	L22	0.28	0/864	0.56	0/1156
20	L23	0.28	0/744	0.54	0/994
21	L24	0.29	0/787	0.58	0/1051
22	L25	0.30	0/766	0.54	0/1025
23	L27	0.31	0/582	0.56	0/769
24	L28	0.29	0/635	0.59	0/848
25	L29	0.26	0/510	0.56	0/677
26	L30	0.26	0/453	0.56	0/605
27	L31	0.31	0/358	0.69	0/480
28	L32	0.27	0/450	0.60	0/599
29	L33	0.29	0/416	0.53	0/554
30	L34	0.28	0/380	0.67	0/498
31	L35	0.30	0/513	0.60	0/676
32	L36	0.30	0/303	0.57	0/397
33	23S	0.49	0/69796	0.94	95/108888 (0.1%)
34	5S	0.43	0/2872	1.05	14/4479 (0.3%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
35	TMRN	0.37	0/8681	1.05	39/13532 (0.3%)
36	16S	0.42	0/36963	0.94	47/57662 (0.1%)
37	ATRN	0.44	0/1810	0.97	1/2820 (0.0%)
38	S02	0.27	0/1787	0.53	0/2408
39	S03	0.27	0/1651	0.54	0/2225
40	S04	0.28	0/1665	0.59	1/2227 (0.0%)
41	S05	0.29	0/1169	0.59	0/1573
42	S06	0.28	0/835	0.60	1/1128 (0.1%)
43	S07	0.27	0/1195	0.56	0/1602
44	S08	0.29	0/989	0.53	0/1326
45	S09	0.28	0/1034	0.67	0/1375
46	S10	0.25	0/796	0.61	0/1077
47	S11	0.29	0/885	0.59	0/1195
48	S12	0.31	0/969	0.67	0/1300
49	S13	0.27	0/892	0.61	0/1193
50	S14	0.27	0/817	0.59	0/1088
51	S15	0.26	0/722	0.59	0/964
52	S16	0.27	0/659	0.62	1/884 (0.1%)
53	S17	0.30	0/657	0.59	0/881
54	S18	0.28	0/544	0.58	0/731
55	S19	0.28	0/652	0.55	0/877
56	S20	0.25	0/671	0.51	0/888
57	S21	0.30	0/550	0.70	0/728
58	SMPB	0.31	0/1231	0.62	0/1655
All	All	0.41	0/169349	0.87	199/253357 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
4	L05	0	1
11	L14	0	1
27	L31	0	1
41	S05	0	2
All	All	0	5

There are no bond length outliers.

All (199) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
36	16S	1158	C	C2-N1-C1'	8.98	128.68	118.80
34	5S	12	C	N1-C2-O2	8.93	124.26	118.90
33	23S	2207	C	N3-C2-O2	-8.51	115.94	121.90
33	23S	1064	C	N1-C2-O2	8.51	124.00	118.90
33	23S	62	U	N1-C2-O2	8.47	128.73	122.80
33	23S	62	U	C2-N1-C1'	8.41	127.80	117.70
33	23S	1313	U	C2-N1-C1'	8.33	127.70	117.70
36	16S	386	C	N3-C2-O2	-8.16	116.19	121.90
33	23S	1909	C	N3-C2-O2	-8.08	116.25	121.90
33	23S	758	C	N1-C2-O2	8.02	123.71	118.90
34	5S	12	C	C2-N1-C1'	7.89	127.48	118.80
35	TMRN	343	C	N1-C2-O2	7.86	123.61	118.90
36	16S	1158	C	N1-C2-O2	7.78	123.57	118.90
33	23S	62	U	N3-C2-O2	-7.71	116.80	122.20
35	TMRN	12	U	N1-C2-O2	7.49	128.04	122.80
33	23S	758	C	N3-C2-O2	-7.49	116.66	121.90
33	23S	729	G	C4-N9-C1'	7.31	136.01	126.50
35	TMRN	245	C	C2-N1-C1'	7.31	126.84	118.80
33	23S	2300	C	N1-C2-O2	7.27	123.27	118.90
34	5S	12	C	N3-C2-O2	-7.27	116.81	121.90
35	TMRN	245	C	N1-C2-O2	7.16	123.19	118.90
35	TMRN	12	U	C2-N1-C1'	7.12	126.24	117.70
35	TMRN	307	G	N3-C4-N9	6.92	130.15	126.00
35	TMRN	308	U	P-O3'-C3'	6.86	127.93	119.70
34	5S	41	G	C4-N9-C1'	6.78	135.31	126.50
33	23S	2238	G	N3-C4-N9	6.77	130.06	126.00
34	5S	43	C	C6-N1-C2	-6.75	117.60	120.30
36	16S	614	C	N3-C2-O2	-6.75	117.18	121.90
35	TMRN	18	C	N1-C2-O2	6.71	122.93	118.90
35	TMRN	343	C	N3-C2-O2	-6.69	117.22	121.90
36	16S	1128	C	N1-C2-O2	6.68	122.91	118.90
35	TMRN	290	A	P-O3'-C3'	6.65	127.68	119.70
33	23S	1533	C	N1-C2-O2	6.60	122.86	118.90
33	23S	458	G	P-O3'-C3'	6.55	127.56	119.70
33	23S	758	C	C6-N1-C2	-6.54	117.69	120.30
36	16S	1158	C	C6-N1-C1'	-6.49	113.01	120.80
36	16S	932	C	N3-C2-O2	-6.46	117.38	121.90
35	TMRN	300	U	N1-C2-O2	6.45	127.32	122.80
36	16S	1132	C	N1-C2-O2	6.43	122.76	118.90
33	23S	729	G	N3-C4-C5	-6.42	125.39	128.60
33	23S	1313	U	N1-C2-O2	6.41	127.28	122.80
36	16S	754	C	C2-N1-C1'	6.36	125.79	118.80
33	23S	1064	C	N3-C2-O2	-6.28	117.50	121.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
33	23S	2207	C	C6-N1-C2	-6.25	117.80	120.30
33	23S	2122	U	C5-C6-N1	6.25	125.83	122.70
42	S06	54	LEU	CA-CB-CG	6.22	129.62	115.30
33	23S	436	C	N3-C2-O2	-6.21	117.55	121.90
33	23S	1020	A	P-O3'-C3'	6.17	127.10	119.70
35	TMRN	12	U	N3-C2-O2	-6.17	117.88	122.20
36	16S	1347	G	P-O3'-C3'	6.17	127.10	119.70
33	23S	729	G	C8-N9-C1'	-6.13	119.03	127.00
34	5S	41	G	N3-C4-N9	6.13	129.68	126.00
36	16S	1158	C	N3-C2-O2	-6.13	117.61	121.90
35	TMRN	307	G	N3-C4-C5	-6.12	125.54	128.60
33	23S	436	C	N1-C2-O2	6.12	122.57	118.90
35	TMRN	314	C	P-O3'-C3'	6.11	127.03	119.70
33	23S	1087	G	N1-C6-O6	-6.11	116.24	119.90
33	23S	890	C	N1-C2-O2	6.10	122.56	118.90
36	16S	1325	C	N3-C2-O2	-6.10	117.63	121.90
36	16S	221	C	N3-C2-O2	-6.07	117.65	121.90
36	16S	429	U	OP1-P-O3'	6.06	118.53	105.20
33	23S	1075	C	C5-C6-N1	6.03	124.01	121.00
35	TMRN	300	U	N3-C2-O2	-6.02	117.98	122.20
33	23S	2562	U	N1-C2-O2	6.00	127.00	122.80
35	TMRN	18	C	N3-C2-O2	-6.00	117.70	121.90
33	23S	1818	U	N1-C2-O2	5.99	126.99	122.80
33	23S	1915	U	N3-C2-O2	-5.99	118.01	122.20
34	5S	31	C	N1-C2-O2	5.98	122.49	118.90
35	TMRN	49	C	N1-C2-O2	5.98	122.49	118.90
33	23S	1313	U	C6-N1-C1'	-5.98	112.83	121.20
35	TMRN	245	C	N3-C2-O2	-5.96	117.73	121.90
33	23S	669	G	C4-N9-C1'	5.95	134.24	126.50
33	23S	372	G	P-O3'-C3'	5.94	126.83	119.70
33	23S	1915	U	N1-C2-O2	5.93	126.95	122.80
33	23S	974	G	C4-N9-C1'	5.91	134.19	126.50
35	TMRN	143	C	C2-N1-C1'	5.90	125.29	118.80
36	16S	932	C	C6-N1-C2	-5.87	117.95	120.30
35	TMRN	307	G	C4-N9-C1'	5.85	134.11	126.50
36	16S	1301	U	C2-N1-C1'	5.84	124.71	117.70
34	5S	41	G	C8-N9-C1'	-5.83	119.42	127.00
34	5S	41	G	N3-C4-C5	-5.81	125.69	128.60
36	16S	751	U	N3-C2-O2	-5.79	118.15	122.20
35	TMRN	337	C	C6-N1-C2	-5.75	118.00	120.30
33	23S	1818	U	N3-C2-O2	-5.75	118.17	122.20
33	23S	669	G	C8-N9-C1'	-5.72	119.57	127.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
33	23S	1075	C	C6-N1-C2	-5.71	118.01	120.30
36	16S	136	C	N1-C2-O2	5.71	122.33	118.90
33	23S	2300	C	N3-C2-O2	-5.71	117.90	121.90
33	23S	729	G	N3-C4-N9	5.70	129.42	126.00
33	23S	1818	U	C2-N1-C1'	5.70	124.54	117.70
36	16S	1190	G	P-O3'-C3'	5.69	126.53	119.70
36	16S	1383	C	N1-C2-O2	5.68	122.31	118.90
33	23S	1171	G	N1-C6-O6	-5.68	116.49	119.90
36	16S	163	C	C6-N1-C2	-5.67	118.03	120.30
36	16S	890	G	P-O3'-C3'	5.66	126.50	119.70
35	TMRN	173	C	N1-C2-O2	5.66	122.30	118.90
33	23S	1087	G	C5-C6-O6	5.63	131.98	128.60
33	23S	1915	U	C2-N1-C1'	5.62	124.45	117.70
33	23S	1064	C	C2-N1-C1'	5.62	124.98	118.80
33	23S	1629	U	N3-C2-O2	-5.59	118.28	122.20
33	23S	974	G	C8-N9-C1'	-5.59	119.74	127.00
33	23S	1533	C	N3-C2-O2	-5.58	117.99	121.90
33	23S	2655	G	P-O3'-C3'	5.57	126.38	119.70
33	23S	1931	U	C2-N1-C1'	5.57	124.38	117.70
36	16S	1225	A	N3-C4-N9	5.55	131.84	127.40
33	23S	1075	C	N1-C2-O2	5.54	122.23	118.90
33	23S	1092	C	N1-C2-O2	5.54	122.23	118.90
33	23S	859	G	P-O3'-C3'	5.54	126.35	119.70
33	23S	758	C	C2-N1-C1'	5.53	124.88	118.80
33	23S	1313	U	N3-C2-O2	-5.52	118.34	122.20
37	ATRN	46	G	C4-N9-C1'	-5.52	119.33	126.50
34	5S	12	C	C6-N1-C1'	-5.50	114.20	120.80
33	23S	669	G	N3-C4-N9	5.45	129.27	126.00
35	TMRN	263	G	C2-N3-C4	5.45	114.62	111.90
36	16S	932	C	C5-C4-N4	5.45	124.01	120.20
33	23S	2238	G	C4-N9-C1'	5.44	133.57	126.50
35	TMRN	223	G	C4-N9-C1'	5.44	133.57	126.50
33	23S	2072	C	N1-C2-O2	5.43	122.16	118.90
33	23S	62	U	C6-N1-C1'	-5.42	113.61	121.20
33	23S	2552	U	N3-C2-O2	-5.42	118.40	122.20
35	TMRN	349	C	N1-C2-O2	5.42	122.15	118.90
33	23S	1323	C	N3-C2-O2	-5.42	118.11	121.90
33	23S	2217	G	N3-C4-N9	5.42	129.25	126.00
33	23S	1087	G	N3-C4-N9	-5.41	122.75	126.00
35	TMRN	245	C	C6-N1-C2	-5.41	118.14	120.30
36	16S	932	C	C6-N1-C1'	5.40	127.28	120.80
36	16S	221	C	N1-C2-O2	5.40	122.14	118.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
33	23S	1930	G	P-O3'-C3'	5.39	126.17	119.70
33	23S	1105	U	N3-C2-O2	-5.39	118.43	122.20
36	16S	1141	C	C6-N1-C2	-5.39	118.15	120.30
35	TMRN	62	G	C4-N9-C1'	5.38	133.49	126.50
36	16S	1225	A	C4-N9-C1'	5.37	135.97	126.30
40	S04	4	LEU	CA-CB-CG	5.37	127.64	115.30
33	23S	1179	G	C4-N9-C1'	5.37	133.47	126.50
35	TMRN	143	C	N1-C2-O2	5.36	122.11	118.90
36	16S	1325	C	N1-C2-O2	5.32	122.09	118.90
36	16S	332	G	N1-C6-O6	-5.32	116.71	119.90
34	5S	43	C	O5'-P-OP2	-5.31	100.92	105.70
33	23S	2286	G	P-O3'-C3'	5.29	126.05	119.70
36	16S	932	C	N1-C2-N3	5.29	122.90	119.20
36	16S	1263	C	N1-C2-O2	5.28	122.07	118.90
33	23S	2902	C	N1-C2-O2	5.28	122.07	118.90
33	23S	2762	C	N3-C2-O2	-5.26	118.21	121.90
33	23S	421	C	P-O3'-C3'	5.25	126.00	119.70
36	16S	99	C	N1-C2-O2	5.24	122.05	118.90
33	23S	2238	G	C8-N9-C1'	-5.24	120.19	127.00
36	16S	413	G	C4-N9-C1'	5.24	133.31	126.50
36	16S	1386	G	N1-C6-O6	-5.23	116.76	119.90
33	23S	1075	C	C2-N1-C1'	5.23	124.55	118.80
35	TMRN	307	G	C8-N9-C1'	-5.23	120.20	127.00
36	16S	386	C	N1-C2-O2	5.23	122.04	118.90
36	16S	1334	G	C5-C6-O6	5.23	131.74	128.60
33	23S	1087	G	C6-C5-N7	5.21	133.53	130.40
35	TMRN	18	C	C2-N1-C1'	5.21	124.53	118.80
36	16S	1045	C	N1-C2-O2	5.21	122.02	118.90
34	5S	42	C	OP2-P-O3'	5.20	116.64	105.20
36	16S	563	A	O4'-C1'-N9	5.20	112.36	108.20
33	23S	2144	G	C8-N9-C4	-5.20	104.32	106.40
33	23S	1092	C	C2-N1-C1'	5.19	124.51	118.80
33	23S	208	C	C6-N1-C2	-5.18	118.23	120.30
35	TMRN	300	U	C2-N1-C1'	5.18	123.92	117.70
33	23S	1179	G	N3-C4-N9	5.17	129.10	126.00
33	23S	2149	U	N1-C2-O2	5.17	126.42	122.80
33	23S	2562	U	N3-C2-O2	-5.17	118.58	122.20
34	5S	42	C	P-O3'-C3'	5.16	125.89	119.70
33	23S	1531	C	N1-C2-O2	5.16	122.00	118.90
36	16S	1208	C	N3-C2-O2	-5.16	118.29	121.90
33	23S	490	C	P-O3'-C3'	5.14	125.87	119.70
36	16S	751	U	N1-C2-O2	5.14	126.40	122.80

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
36	16S	536	C	N3-C2-O2	-5.14	118.30	121.90
36	16S	163	C	N3-C2-O2	-5.13	118.31	121.90
35	TMRN	12	U	C5-C6-N1	5.12	125.26	122.70
36	16S	1128	C	N3-C2-O2	-5.12	118.31	121.90
33	23S	2884	U	C2-N1-C1'	5.12	123.84	117.70
35	TMRN	143	C	C5-C6-N1	5.12	123.56	121.00
35	TMRN	34	A	C2-N3-C4	5.11	113.16	110.60
33	23S	890	C	C2-N1-C1'	5.10	124.41	118.80
36	16S	1386	G	C5-C6-O6	5.10	131.66	128.60
36	16S	82	G	N1-C6-O6	-5.09	116.84	119.90
33	23S	1157	G	C6-C5-N7	-5.09	127.34	130.40
34	5S	70	C	N3-C2-O2	-5.09	118.34	121.90
35	TMRN	76	C	C5-C6-N1	5.08	123.54	121.00
33	23S	1221	C	N1-C2-O2	5.07	121.94	118.90
33	23S	1574	C	N3-C2-O2	-5.07	118.35	121.90
33	23S	542	C	N1-C2-O2	5.06	121.94	118.90
36	16S	722	G	C4-N9-C1'	5.06	133.08	126.50
33	23S	1102	C	C6-N1-C2	-5.06	118.28	120.30
33	23S	2238	G	N3-C4-C5	-5.05	126.07	128.60
35	TMRN	39	A	C2-N3-C4	5.04	113.12	110.60
35	TMRN	80	A	C2-N3-C4	5.04	113.12	110.60
33	23S	490	C	OP2-P-O3'	5.04	116.29	105.20
33	23S	1612	C	C5-C6-N1	5.04	123.52	121.00
52	S16	54	LEU	CA-CB-CG	5.03	126.87	115.30
33	23S	2350	C	N1-C2-O2	5.03	121.92	118.90
33	23S	635	C	C6-N1-C2	-5.02	118.29	120.30
35	TMRN	147	C	N3-C2-O2	-5.02	118.38	121.90
33	23S	2175	C	C6-N1-C2	-5.01	118.29	120.30
33	23S	484	C	C5-C6-N1	5.01	123.50	121.00
35	TMRN	56	C	C5-C6-N1	5.00	123.50	121.00

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
4	L05	61	GLY	Peptide
11	L14	92	GLU	Peptide
27	L31	1	MET	Peptide
41	S05	120	HIS	Peptide
41	S05	121	ASN	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	L02	2082	0	2157	55	0
2	L03	1565	0	1616	32	0
3	L04	1552	0	1619	28	0
4	L05	1410	0	1447	46	0
5	L06	1323	0	1374	32	0
6	L09	1111	0	1148	21	0
7	L1	1026	0	1092	25	0
8	L10	988	0	1025	26	0
9	L11	1032	0	1088	37	0
10	L13	1129	0	1162	25	0
11	L14	938	0	1012	19	0
12	L15	1045	0	1117	27	0
13	L16	1074	0	1157	23	0
14	L17	960	0	1000	24	0
15	L18	892	0	923	27	0
16	L19	917	0	965	35	0
17	L20	947	0	1022	24	0
18	L21	816	0	839	18	0
19	L22	857	0	922	19	0
20	L23	738	0	807	11	0
21	L24	779	0	834	13	0
22	L25	753	0	780	11	0
23	L27	575	0	592	16	0
24	L28	625	0	655	12	0
25	L29	509	0	543	12	0
26	L30	449	0	491	7	0
27	L31	351	0	350	16	0
28	L32	444	0	461	8	0
29	L33	409	0	440	10	0
30	L34	377	0	418	15	0
31	L35	504	0	574	12	0
32	L36	302	0	343	8	0
33	23S	62317	0	31346	666	0
34	5S	2568	0	1303	30	0
35	TMRN	7758	0	0	0	0
36	16S	33012	0	16618	453	0
37	ATRN	1621	0	0	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	S02	1756	0	1787	28	0
39	S03	1624	0	1699	38	0
40	S04	1643	0	1710	56	0
41	S05	1156	0	1199	24	0
42	S06	817	0	808	26	0
43	S07	1181	0	1240	20	0
44	S08	979	0	1034	24	0
45	S09	1022	0	1070	43	0
46	S10	786	0	828	32	0
47	S11	869	0	878	29	0
48	S12	955	0	1019	28	0
49	S13	883	0	944	16	0
50	S14	805	0	847	36	0
51	S15	714	0	737	10	0
52	S16	649	0	666	19	0
53	S17	648	0	691	21	0
54	S18	535	0	552	9	0
55	S19	637	0	665	18	0
56	S20	665	0	714	14	0
57	S21	544	0	579	21	0
58	SMPB	1209	0	0	0	0
All	All	155832	0	98907	2005	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 9.

All (2005) 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)
36:16S:978:A:N6	36:16S:1360:A:C2	2.19	1.10
33:23S:2104:C:N4	33:23S:2185:U:H3	1.51	1.06
36:16S:372:C:N4	36:16S:389:A:H62	1.53	1.05
36:16S:978:A:C2	36:16S:1316:G:N2	2.26	1.04
33:23S:1040:A:N6	33:23S:1115:G:H1	1.56	1.04
36:16S:978:A:N6	36:16S:1360:A:H2	1.53	1.03
33:23S:711:G:H1	33:23S:720:U:H3	1.01	1.01
33:23S:1072:C:H42	33:23S:1093:G:H22	0.99	0.98
36:16S:978:A:H2	36:16S:1316:G:H21	1.01	0.98
33:23S:2289:G:H1	33:23S:2343:U:H3	1.09	0.98
33:23S:1664:A:H61	33:23S:1996:C:H42	1.10	0.98
33:23S:1072:C:H42	33:23S:1093:G:N2	1.62	0.97

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:23S:1478:G:H1	33:23S:1513:U:H3	1.00	0.95
33:23S:307:G:H21	33:23S:330:A:H61	1.08	0.94
33:23S:1468:U:H3	33:23S:1524:G:H1	0.95	0.94
36:16S:372:C:H42	36:16S:389:A:H62	0.98	0.94
33:23S:2847:U:H3	33:23S:2869:G:H1	1.07	0.93
36:16S:978:A:H2	36:16S:1316:G:N2	1.65	0.93
33:23S:1664:A:H61	33:23S:1996:C:N4	1.67	0.92
33:23S:1415:U:H3	33:23S:1587:G:H1	0.95	0.89
36:16S:372:C:H42	36:16S:389:A:N6	1.72	0.88
36:16S:198:G:H1	36:16S:219:U:H3	1.19	0.88
33:23S:2457:U:H3	33:23S:2494:G:H1	0.90	0.87
36:16S:1009:U:H3	36:16S:1020:G:H1	0.90	0.87
33:23S:1907:G:H1	33:23S:1923:U:H3	1.19	0.87
33:23S:285:G:H1	33:23S:355:U:H3	1.20	0.87
36:16S:151:A:N6	36:16S:170:U:C2	2.44	0.85
33:23S:1408:G:H1	33:23S:1594:U:H3	1.21	0.85
36:16S:1006:G:H1	36:16S:1023:U:H3	0.87	0.85
36:16S:1319:A:H61	36:16S:1361:G:H21	1.24	0.84
36:16S:1348:U:N3	36:16S:1374:A:C8	2.46	0.83
33:23S:1072:C:N4	33:23S:1093:G:H22	1.77	0.83
33:23S:307:G:H21	33:23S:330:A:N6	1.76	0.83
33:23S:2291:U:H3	33:23S:2341:G:H1	0.85	0.82
36:16S:765:G:H1	36:16S:812:G:HO2’	1.27	0.81
36:16S:605:U:H3	36:16S:633:G:H1	1.25	0.80
33:23S:196:A:H61	33:23S:831:G:H21	1.26	0.79
33:23S:1040:A:H61	33:23S:1115:G:H1	0.81	0.79
36:16S:1319:A:H61	36:16S:1361:G:N2	1.80	0.78
36:16S:944:G:H21	36:16S:1339:A:H62	1.30	0.78
33:23S:307:G:N2	33:23S:330:A:H61	1.81	0.78
33:23S:1664:A:N6	33:23S:1996:C:H42	1.82	0.77
36:16S:151:A:N6	36:16S:170:U:N3	2.33	0.77
36:16S:1348:U:C2	36:16S:1374:A:N7	2.53	0.76
19:L22:42:LYS:HB2	33:23S:2010:G:H5”	1.68	0.75
36:16S:927:G:H1	36:16S:1390:U:H3	1.33	0.75
33:23S:59:U:H3	33:23S:68:G:H1	1.35	0.74
33:23S:602:A:HO2’	33:23S:604:G:HO2’	1.32	0.74
33:23S:404:A:N6	33:23S:421:C:C4	2.55	0.74
33:23S:2104:C:H42	33:23S:2185:U:H3	0.76	0.73
33:23S:2508:G:H1	33:23S:2580:U:H3	1.37	0.72
33:23S:1072:C:N3	33:23S:1093:G:N1	2.35	0.72
33:23S:562:U:C4	33:23S:572:A:N7	2.58	0.71

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:S21:23:GLU:HB2	57:S21:26:GLY:H	1.55	0.71
42:S06:42:TRP:HB2	42:S06:59:TYR:HB2	1.71	0.71
33:23S:196:A:N6	33:23S:831:G:H21	1.90	0.70
36:16S:1160:G:H1	36:16S:1176:A:H61	1.37	0.70
7:L1:37:LYS:HB2	33:23S:2127:G:H5'	1.73	0.70
33:23S:2107:G:H1	33:23S:2182:U:H3	1.39	0.70
33:23S:408:G:H1	33:23S:419:U:H3	1.40	0.70
36:16S:1160:G:H1	36:16S:1176:A:N6	1.89	0.69
33:23S:881:G:H1	33:23S:895:U:H3	0.78	0.69
33:23S:2514:U:H3	33:23S:2570:G:H1	1.40	0.69
36:16S:978:A:N1	36:16S:1316:G:N3	2.41	0.69
36:16S:1130:A:N6	36:16S:1144:G:N3	2.40	0.69
38:S02:186:VAL:HG23	38:S02:190:SER:HB2	1.75	0.69
11:L14:56:ASP:N	11:L14:56:ASP:OD1	2.26	0.69
33:23S:999:U:O2	33:23S:1157:G:C2	2.47	0.68
36:16S:978:A:N1	36:16S:1316:G:C2	2.62	0.68
33:23S:2165:C:N4	33:23S:2170:A:N6	2.42	0.67
33:23S:1319:C:N4	33:23S:1320:C:N4	2.42	0.67
9:L11:14:ALA:HB3	9:L11:54:ILE:H	1.58	0.67
36:16S:672:U:H3	36:16S:734:G:H1	1.39	0.67
7:L1:48:LEU:HD11	7:L1:171:ILE:HG22	1.77	0.67
33:23S:999:U:O2	33:23S:1157:G:N2	2.28	0.67
33:23S:15:G:H1	33:23S:525:U:H3	1.41	0.66
33:23S:196:A:H61	33:23S:831:G:N2	1.92	0.66
47:S11:20:ALA:HB3	47:S11:83:VAL:HA	1.77	0.66
12:L15:63:LYS:HE2	33:23S:2394:C:H5"	1.78	0.66
8:L10:58:THR:HG21	8:L10:82:ILE:H	1.59	0.66
33:23S:2117:A:N6	33:23S:2170:A:N1	2.43	0.66
40:S04:99:ASN:HA	40:S04:110:ARG:HH12	1.60	0.66
36:16S:1351:U:H3	36:16S:1371:G:H1	1.44	0.66
46:S10:88:MET:HG3	46:S10:89:ARG:HD3	1.77	0.66
36:16S:112:G:H21	36:16S:354:G:H5'	1.60	0.65
15:L18:7:ARG:HG3	15:L18:10:ARG:HH21	1.60	0.65
36:16S:991:U:O2	36:16S:1213:A:N7	2.29	0.65
30:L34:19:ARG:HG3	33:23S:126:A:H5'	1.79	0.65
47:S11:125:LYS:O	57:S21:34:ARG:NH2	2.29	0.65
43:S07:67:ASN:HB3	43:S07:129:ASN:HB3	1.78	0.65
45:S09:118:ARG:HB2	45:S09:122:ARG:HB3	1.78	0.65
9:L11:90:GLY:O	33:23S:1063:G:N2	2.28	0.65
13:L16:53:MET:HB2	13:L16:120:ALA:HB2	1.79	0.65
36:16S:151:A:N7	36:16S:170:U:O4	2.30	0.65

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:23S:2682:A:H61	33:23S:2728:U:H1'	1.61	0.65
36:16S:950:U:H3	36:16S:1231:G:H1	1.42	0.65
52:S16:53:ASP:N	52:S16:53:ASP:OD1	2.30	0.65
33:23S:1265:A:H61	33:23S:2013:A:H3'	1.62	0.65
34:5S:30:C:H1'	34:5S:57:A:H61	1.62	0.65
36:16S:888:G:H21	36:16S:909:A:H62	1.43	0.65
15:L18:33:ARG:NH1	34:5S:52:A:N7	2.44	0.64
33:23S:1936:A:H2	33:23S:1943:U:H3	1.44	0.64
46:S10:48:ARG:HG2	46:S10:66:GLU:HG2	1.79	0.64
36:16S:448:A:H62	36:16S:486:U:H3	1.46	0.64
36:16S:1319:A:N6	36:16S:1361:G:H21	1.94	0.64
36:16S:835:U:H3	36:16S:851:G:H1	1.45	0.64
10:L13:19:ASP:OD1	10:L13:19:ASP:N	2.31	0.64
36:16S:1237:C:O2'	36:16S:1300:G:N2	2.30	0.64
36:16S:674:G:OP1	42:S06:86:ARG:NH2	2.30	0.64
36:16S:1236:A:N6	36:16S:1337:G:C6	2.66	0.64
43:S07:3:ARG:HH11	43:S07:4:ARG:HH22	1.46	0.64
33:23S:1851:U:H3	33:23S:1891:G:H1	1.45	0.64
33:23S:1111:A:H2'	33:23S:1112:G:H4'	1.80	0.63
33:23S:1270:C:H5"	33:23S:1271:G:H5'	1.80	0.63
36:16S:1348:U:O2	36:16S:1374:A:N7	2.31	0.63
45:S09:61:ASP:OD1	45:S09:61:ASP:N	2.31	0.63
11:L14:63:VAL:HG12	11:L14:107:LEU:HD21	1.80	0.63
33:23S:814:C:H1'	33:23S:1225:G:H21	1.61	0.63
47:S11:87:GLY:H	47:S11:113:THR:HG22	1.63	0.63
36:16S:372:C:N4	36:16S:389:A:N6	2.37	0.63
18:L21:35:PHE:HB2	18:L21:59:ILE:HB	1.80	0.63
33:23S:707:G:H1	33:23S:724:U:H3	1.44	0.63
36:16S:119:A:N7	36:16S:287:U:O2	2.32	0.63
15:L18:100:HIS:O	15:L18:104:GLN:NE2	2.32	0.63
33:23S:1319:C:C4	33:23S:1320:C:N4	2.67	0.62
36:16S:778:G:HO2'	47:S11:120:CYS:HG	1.47	0.62
43:S07:74:VAL:HA	43:S07:87:PRO:HA	1.80	0.62
36:16S:216:U:H4'	36:16S:464:U:H4'	1.81	0.62
17:L20:91:ARG:NH2	33:23S:1153:C:OP1	2.32	0.62
33:23S:2134:A:N7	33:23S:2156:G:N1	2.48	0.62
36:16S:54:C:OP1	36:16S:351:G:N2	2.32	0.62
1:L02:266:ILE:HG21	1:L02:269:ARG:HG2	1.80	0.62
7:L1:17:ALA:O	7:L1:20:GLN:NE2	2.32	0.62
23:L27:39:THR:H	33:23S:2331:G:H4'	1.65	0.62
40:S04:124:VAL:HG22	40:S04:142:VAL:HG23	1.82	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:S06:15:SER:OG	42:S06:44:ARG:NH1	2.33	0.62
22:L25:20:LEU:HB2	22:L25:25:LYS:HB2	1.80	0.62
25:L29:55:THR:HG23	33:23S:72:U:H3	1.65	0.62
36:16S:1064:G:O2'	36:16S:1190:G:N2	2.30	0.62
3:L04:76:PRO:HA	3:L04:82:GLY:HA2	1.81	0.62
14:L17:2:ARG:HG2	14:L17:5:LYS:HB2	1.82	0.62
33:23S:729:G:H2'	33:23S:1775:U:H1'	1.81	0.62
33:23S:2121:G:O6	33:23S:2176:A:N6	2.32	0.62
36:16S:391:G:H5"	52:S16:8:ARG:HH21	1.65	0.62
26:L30:5:LYS:HB2	26:L30:57:GLU:HB3	1.82	0.62
36:16S:380:G:N2	36:16S:383:A:OP2	2.32	0.62
36:16S:1160:G:N1	36:16S:1176:A:N6	2.44	0.62
41:S05:98:ALA:HB3	41:S05:122:VAL:HA	1.82	0.62
4:L05:62:GLN:N	27:L31:6:HIS:O	2.20	0.61
33:23S:1300:G:H4'	33:23S:1301:A:H5"	1.81	0.61
34:5S:34:A:N6	34:5S:44:G:O2'	2.33	0.61
36:16S:126:G:OP1	36:16S:633:G:N2	2.33	0.61
36:16S:1496:C:HO2'	36:16S:1517:G:H1	1.45	0.61
36:16S:76:G:H1	36:16S:93:U:H3	0.77	0.61
33:23S:2406:A:OP2	33:23S:2411:A:N6	2.33	0.61
36:16S:1236:A:N6	36:16S:1337:G:N1	2.47	0.61
18:L21:79:ARG:NH1	33:23S:563:A:OP2	2.33	0.61
33:23S:373:U:H2'	33:23S:374:A:H8	1.65	0.61
33:23S:668:A:H2'	33:23S:670:A:H62	1.64	0.61
42:S06:38:ARG:HD3	42:S06:97:THR:HA	1.82	0.61
36:16S:51:A:N7	36:16S:114:U:O2'	2.33	0.61
41:S05:80:LEU:HD22	41:S05:122:VAL:HG21	1.82	0.61
42:S06:10:VAL:HG12	42:S06:58:HIS:HB3	1.82	0.61
33:23S:2107:G:N1	33:23S:2182:U:N3	2.43	0.61
39:S03:58:ARG:HE	39:S03:96:VAL:HG21	1.65	0.61
32:L36:3:VAL:HG13	32:L36:36:ARG:HD3	1.81	0.61
33:23S:1044:C:O2'	33:23S:1111:A:N6	2.32	0.61
33:23S:1268:A:H62	33:23S:2012:G:H21	1.46	0.61
47:S11:71:ASP:HA	47:S11:74:LYS:HG2	1.82	0.61
36:16S:741:G:OP1	51:S15:34:GLN:NE2	2.34	0.61
2:L03:25:THR:HB	2:L03:189:VAL:HG23	1.82	0.61
33:23S:1438:U:H2'	33:23S:1439:A:H8	1.65	0.61
8:L10:57:ASN:HB3	8:L10:62:ARG:HG2	1.83	0.60
33:23S:238:C:O2'	33:23S:608:A:N3	2.34	0.60
33:23S:2881:U:H2'	33:23S:2882:A:H8	1.65	0.60
36:16S:891:U:H2'	36:16S:892:A:H8	1.65	0.60

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:23S:475:C:O2	33:23S:479:A:N6	2.34	0.60
33:23S:2396:G:H2'	33:23S:2397:G:H8	1.67	0.60
48:S12:38:THR:HG22	48:S12:50:LYS:HG3	1.83	0.60
33:23S:2489:U:O2'	33:23S:2518:A:N6	2.34	0.60
14:L17:30:ARG:NH1	14:L17:74:GLU:OE1	2.35	0.60
44:S08:10:LEU:HD22	44:S08:74:ILE:HD11	1.83	0.60
33:23S:1173:U:O2	33:23S:1176:U:N3	2.35	0.60
45:S09:94:ARG:HA	45:S09:97:LEU:HB2	1.82	0.60
1:L02:144:GLU:HB2	1:L02:187:CYS:HB3	1.83	0.60
1:L02:270:ARG:NH2	33:23S:1798:U:OP2	2.35	0.60
36:16S:974:A:H4'	36:16S:975:A:H3'	1.84	0.60
8:L10:25:ALA:HB3	8:L10:85:SER:HB2	1.84	0.60
30:L34:41:ARG:HA	30:L34:41:ARG:HH11	1.66	0.60
33:23S:2083:G:H1	33:23S:2236:U:H3	1.50	0.60
33:23S:1072:C:N4	33:23S:1098:A:OP2	2.35	0.60
42:S06:92:THR:OG1	42:S06:93:LYS:N	2.35	0.60
12:L15:110:VAL:O	12:L15:128:THR:OG1	2.20	0.60
33:23S:458:G:N2	33:23S:459:U:O4	2.35	0.60
9:L11:53:PRO:HD2	9:L11:77:VAL:HG11	1.83	0.59
36:16S:323:U:H3	36:16S:327:A:H62	1.49	0.59
36:16S:944:G:N2	36:16S:1339:A:H62	1.99	0.59
9:L11:134:SER:O	33:23S:1062:G:N2	2.35	0.59
30:L34:37:LYS:NZ	33:23S:468:G:OP2	2.35	0.59
36:16S:1013:G:N2	36:16S:1016:A:OP2	2.36	0.59
33:23S:2530:A:O2'	33:23S:2534:A:N6	2.36	0.59
36:16S:263:A:OP1	56:S20:73:ARG:NH1	2.34	0.59
38:S02:206:ILE:HA	38:S02:209:VAL:HG12	1.85	0.59
42:S06:42:TRP:HZ2	54:S18:23:LYS:HE2	1.67	0.59
2:L03:31:ALA:HB1	2:L03:95:SER:HB3	1.84	0.59
5:L06:174:LYS:HD3	33:23S:2529:G:H4'	1.85	0.59
45:S09:18:VAL:HA	45:S09:64:ILE:HG23	1.84	0.59
15:L18:66:GLY:O	15:L18:102:ARG:NH1	2.36	0.59
33:23S:160:A:N3	33:23S:2208:C:O2'	2.34	0.59
36:16S:373:A:O2'	36:16S:451:A:N7	2.35	0.59
5:L06:96:ALA:HB3	5:L06:103:ASN:HB3	1.84	0.59
11:L14:31:ARG:NH1	33:23S:1996:C:OP1	2.36	0.59
33:23S:33:C:O2	33:23S:447:A:N6	2.35	0.59
33:23S:1478:G:N2	33:23S:1513:U:O2	2.31	0.59
36:16S:978:A:N7	36:16S:1360:A:N1	2.50	0.59
48:S12:64:SER:OG	48:S12:65:TYR:N	2.36	0.59
23:L27:16:ARG:HG3	33:23S:2271:G:H5'	1.85	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:23S:1779:U:OP2	33:23S:1784:A:N6	2.33	0.59
36:16S:202:G:O2'	36:16S:468:A:N3	2.35	0.59
36:16S:1009:U:O2	36:16S:1020:G:N2	2.34	0.59
36:16S:1015:G:N3	36:16S:1218:C:O2'	2.35	0.59
54:S18:11:ARG:NH1	54:S18:11:ARG:O	2.35	0.59
5:L06:7:PRO:O	5:L06:68:ARG:NH2	2.36	0.59
33:23S:228:C:N3	33:23S:417:C:O2'	2.35	0.59
48:S12:50:LYS:HB3	48:S12:66:ILE:HD12	1.85	0.59
2:L03:176:ASP:OD1	2:L03:176:ASP:N	2.36	0.59
53:S17:56:ASP:OD1	53:S17:56:ASP:N	2.35	0.59
27:L31:2:LYS:HB2	34:5S:42:C:H3'	1.85	0.59
30:L34:10:LEU:HD23	33:23S:770:G:H5"	1.85	0.59
33:23S:2472:G:H3'	33:23S:2475:C:H42	1.68	0.59
39:S03:190:THR:HG23	39:S03:192:TYR:H	1.68	0.59
13:L16:25:ASP:OD1	13:L16:34:LYS:NZ	2.36	0.58
43:S07:115:MET:HA	43:S07:118:ARG:HD2	1.85	0.58
22:L25:75:GLN:HE22	34:5S:104:A:H5'	1.68	0.58
33:23S:2345:G:H5'	33:23S:2347:C:H5'	1.84	0.58
36:16S:509:A:N3	36:16S:543:U:O2'	2.33	0.58
36:16S:1256:A:H62	36:16S:1278:G:H5'	1.68	0.58
40:S04:74:TYR:OH	40:S04:96:ARG:NH1	2.35	0.58
48:S12:32:VAL:HA	48:S12:78:VAL:HG12	1.85	0.58
9:L11:102:ARG:HB2	9:L11:141:ASP:HA	1.85	0.58
36:16S:975:A:N1	46:S10:62:ARG:NH2	2.51	0.58
36:16S:1234:C:OP1	45:S09:118:ARG:NH2	2.36	0.58
49:S13:89:ARG:HB2	49:S13:96:VAL:HG12	1.85	0.58
4:L05:110:ILE:HG13	4:L05:136:ILE:HG21	1.85	0.58
33:23S:1297:C:O2'	33:23S:1302:A:N1	2.36	0.58
36:16S:979:C:OP1	36:16S:1223:C:N4	2.36	0.58
55:S19:5:LYS:HE2	55:S19:6:LYS:HE3	1.84	0.58
4:L05:87:LYS:NZ	4:L05:89:THR:OG1	2.37	0.58
13:L16:44:ARG:NH1	33:23S:2484:G:OP1	2.37	0.58
33:23S:2155:U:OP1	33:23S:2157:G:N2	2.36	0.58
33:23S:2622:U:O2'	33:23S:2825:G:N7	2.36	0.58
36:16S:1221:G:OP1	55:S19:35:ARG:NH1	2.37	0.58
40:S04:94:GLU:O	40:S04:99:ASN:ND2	2.37	0.58
1:L02:59:GLN:NE2	1:L02:84:PRO:O	2.35	0.58
33:23S:2135:A:N6	33:23S:2156:G:O2'	2.37	0.58
36:16S:1305:G:H22	36:16S:1331:G:H2'	1.68	0.58
36:16S:1315:U:O2'	36:16S:1360:A:N3	2.33	0.58
36:16S:1344:C:H4'	45:S09:121:ARG:HB3	1.84	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:S10:66:GLU:HB2	50:S14:98:ALA:HB2	1.86	0.58
19:L22:6:LYS:HA	19:L22:104:THR:HA	1.83	0.58
33:23S:2443:C:H2'	33:23S:2444:G:H8	1.68	0.58
43:S07:64:ALA:HA	43:S07:127:ALA:HA	1.86	0.58
14:L17:69:ARG:NH2	33:23S:2871:U:OP1	2.35	0.58
15:L18:37:ALA:HB2	15:L18:106:LEU:HD11	1.85	0.58
18:L21:76:LYS:NZ	33:23S:992:C:OP1	2.35	0.58
33:23S:1306:C:N4	33:23S:1607:C:OP2	2.35	0.58
36:16S:203:G:O2'	36:16S:465:A:N1	2.36	0.58
36:16S:1316:G:N1	36:16S:1319:A:OP2	2.37	0.58
11:L14:76:VAL:H	16:L19:72:VAL:HG22	1.69	0.58
57:S21:65:ARG:O	57:S21:65:ARG:NH1	2.37	0.58
18:L21:77:PHE:O	18:L21:78:ARG:NH1	2.37	0.57
27:L31:10:GLU:H	27:L31:27:THR:HA	1.69	0.57
33:23S:1352:U:O2	33:23S:1380:G:C2	2.56	0.57
36:16S:975:A:N1	36:16S:1366:C:O2'	2.36	0.57
36:16S:1029:U:O2	36:16S:1033:G:N2	2.36	0.57
40:S04:92:LEU:O	40:S04:135:GLN:NE2	2.37	0.57
36:16S:434:U:H2'	36:16S:435:A:H8	1.69	0.57
36:16S:796:C:O3'	47:S11:126:ARG:NH2	2.37	0.57
36:16S:1166:G:N1	36:16S:1169:A:OP2	2.38	0.57
36:16S:1226:C:OP2	49:S13:89:ARG:NH1	2.33	0.57
36:16S:1279:G:OP2	46:S10:11:LYS:NZ	2.37	0.57
39:S03:39:ARG:O	39:S03:43:THR:OG1	2.21	0.57
46:S10:7:ARG:HA	46:S10:75:ASP:HA	1.86	0.57
17:L20:5:ARG:NH1	33:23S:1251:C:OP2	2.37	0.57
40:S04:82:LYS:O	40:S04:88:ASN:ND2	2.37	0.57
16:L19:102:ARG:NH2	33:23S:1754:A:O2'	2.38	0.57
36:16S:1011:C:H2'	36:16S:1012:A:H8	1.69	0.57
1:L02:220:ARG:NH2	33:23S:1788:C:OP1	2.37	0.57
4:L05:27:VAL:O	4:L05:29:ARG:NH1	2.38	0.57
21:L24:68:ASN:OD1	33:23S:328:U:O2'	2.23	0.57
33:23S:45:G:H5"	33:23S:46:G:H5'	1.86	0.57
36:16S:971:G:HO2'	36:16S:1365:G:HO2'	1.50	0.57
36:16S:1028:C:O2	36:16S:1033:G:N2	2.37	0.57
14:L17:106:ASP:N	14:L17:106:ASP:OD1	2.36	0.57
22:L25:32:GLY:O	22:L25:93:ARG:NH1	2.37	0.57
30:L34:42:LEU:HB3	33:23S:126:A:H61	1.69	0.57
33:23S:119:A:H4'	33:23S:120:U:H5'	1.86	0.57
36:16S:911:U:OP1	48:S12:93:ARG:NH1	2.38	0.57
45:S09:8:THR:OG1	45:S09:9:GLY:N	2.36	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:23S:881:G:N2	33:23S:895:U:O2	2.38	0.57
36:16S:516:U:O2'	36:16S:519:C:N3	2.34	0.57
36:16S:1216:A:H5"	50:S14:4:SER:HB3	1.86	0.57
7:L1:172:HIS:NE2	33:23S:2122:U:O2	2.32	0.57
12:L15:122:VAL:HG12	12:L15:142:ILE:HA	1.87	0.57
33:23S:530:G:N2	33:23S:2034:U:O2'	2.37	0.57
33:23S:1032:A:N1	33:23S:1122:G:O6	2.38	0.57
36:16S:407:U:O2	40:S04:153:ARG:NH1	2.37	0.57
20:L23:69:ARG:NH2	33:23S:1334:G:OP1	2.38	0.57
36:16S:1320:C:N3	55:S19:35:ARG:NH1	2.52	0.57
16:L19:20:ARG:NH1	33:23S:2849:U:O4	2.38	0.57
20:L23:64:LYS:NZ	33:23S:1601:G:OP1	2.38	0.57
33:23S:1415:U:O2	33:23S:1587:G:N2	2.33	0.57
36:16S:180:U:O2	36:16S:195:A:N7	2.38	0.57
36:16S:1351:U:O4	45:S09:119:LYS:NZ	2.38	0.57
54:S18:24:ASP:OD1	54:S18:24:ASP:N	2.37	0.57
33:23S:2204:G:O6	33:23S:2220:U:O2	2.22	0.56
5:L06:104:LEU:HB2	5:L06:112:VAL:HB	1.86	0.56
7:L1:45:ALA:HB3	7:L1:213:SER:HB2	1.87	0.56
28:L32:9:ARG:NH2	33:23S:516:C:OP1	2.37	0.56
33:23S:1952:A:N3	33:23S:2560:A:O2'	2.34	0.56
47:S11:85:VAL:HG11	57:S21:16:ARG:HH22	1.70	0.56
1:L02:122:ALA:O	1:L02:127:ASN:ND2	2.38	0.56
13:L16:25:ASP:O	13:L16:66:ARG:NH1	2.37	0.56
13:L16:81:ARG:NH1	33:23S:2251:G:OP1	2.38	0.56
16:L19:50:ARG:NH1	33:23S:2684:U:OP2	2.38	0.56
20:L23:10:VAL:HG13	20:L23:11:LEU:HD12	1.87	0.56
33:23S:1827:U:OP1	33:23S:1971:U:O2'	2.24	0.56
33:23S:2474:U:OP2	33:23S:2475:C:N4	2.33	0.56
4:L05:36:ASN:HA	4:L05:87:LYS:HA	1.86	0.56
8:L10:97:LYS:O	8:L10:101:LYS:N	2.36	0.56
9:L11:124:MET:SD	9:L11:127:SER:OG	2.63	0.56
15:L18:9:ARG:NH2	33:23S:2296:U:OP2	2.39	0.56
18:L21:91:GLN:NE2	33:23S:993:G:N3	2.52	0.56
22:L25:72:VAL:HA	22:L25:94:ALA:H	1.70	0.56
36:16S:151:A:OP2	36:16S:169:C:N4	2.33	0.56
36:16S:1222:G:H5"	55:S19:77:ARG:HH11	1.71	0.56
36:16S:1347:G:N7	45:S09:11:ARG:NH2	2.52	0.56
8:L10:28:ALA:HA	8:L10:56:ARG:HH22	1.70	0.56
10:L13:34:ARG:NH2	33:23S:1006:C:OP1	2.39	0.56
36:16S:401:C:O2'	36:16S:621:A:N3	2.38	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:L32:3:GLN:HE21	28:L32:3:GLN:H	1.53	0.56
30:L34:22:MET:O	30:L34:28:ARG:NH1	2.39	0.56
33:23S:793:A:N6	33:23S:2073:C:OP1	2.36	0.56
33:23S:885:C:H42	33:23S:891:G:H22	1.54	0.56
36:16S:390:U:O3'	52:S16:28:ARG:NH1	2.38	0.56
17:L20:50:ARG:NH1	33:23S:993:G:OP2	2.39	0.56
19:L22:61:ASN:OD1	33:23S:495:G:N2	2.36	0.56
22:L25:75:GLN:OE1	34:5S:103:U:O2'	2.23	0.56
33:23S:301:G:H5'	33:23S:317:G:H21	1.71	0.56
36:16S:112:G:H1	36:16S:315:A:H61	1.53	0.56
36:16S:227:G:O2'	52:S16:63:GLN:OE1	2.24	0.56
36:16S:338:A:N1	36:16S:351:G:O6	2.38	0.56
15:L18:25:ARG:NH2	34:5S:8:C:O3'	2.39	0.56
19:L22:40:ASN:N	19:L22:40:ASN:OD1	2.38	0.56
33:23S:2447:G:N2	33:23S:2450:A:OP2	2.38	0.56
36:16S:1386:G:H2'	36:16S:1387:G:H8	1.70	0.56
39:S03:149:LYS:HA	39:S03:168:ARG:HA	1.88	0.56
4:L05:100:GLU:O	4:L05:104:THR:OG1	2.23	0.56
7:L1:184:LYS:O	7:L1:188:ASN:ND2	2.39	0.56
13:L16:40:ARG:NH2	33:23S:958:U:OP1	2.39	0.56
23:L27:36:GLN:OE1	23:L27:40:LYS:N	2.39	0.56
33:23S:1275:A:OP2	33:23S:1646:C:N4	2.39	0.56
36:16S:37:U:OP1	48:S12:122:LYS:NZ	2.36	0.56
36:16S:671:G:O2'	42:S06:79:ARG:NH2	2.38	0.56
38:S02:23:ASN:ND2	38:S02:190:SER:O	2.39	0.56
42:S06:12:PRO:O	42:S06:44:ARG:NH1	2.36	0.56
46:S10:40:ILE:HD12	46:S10:73:LEU:HB3	1.86	0.56
3:L04:129:PRO:HG3	3:L04:156:ASN:HB2	1.88	0.56
6:L09:3:VAL:HA	6:L09:39:ALA:HB2	1.87	0.56
8:L10:62:ARG:NH2	33:23S:1047:G:OP1	2.39	0.56
33:23S:353:C:H2'	33:23S:354:A:H8	1.71	0.56
36:16S:62:U:OP1	36:16S:385:C:O2'	2.23	0.56
36:16S:1376:U:H2'	36:16S:1377:A:H8	1.71	0.56
40:S04:101:VAL:HG23	40:S04:113:ALA:HB1	1.87	0.56
5:L06:6:ALA:O	5:L06:68:ARG:NE	2.36	0.55
33:23S:1315:C:O2'	33:23S:1392:A:N3	2.37	0.55
36:16S:148:G:O6	36:16S:174:A:N1	2.39	0.55
2:L03:194:PRO:HA	33:23S:2680:U:H5'	1.88	0.55
10:L13:44:TYR:O	17:L20:63:ARG:NE	2.38	0.55
15:L18:111:ARG:NH1	15:L18:117:PHE:OXT	2.39	0.55
33:23S:956:G:N2	33:23S:960:A:OP2	2.38	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:16S:94:G:N2	36:16S:96:U:O4	2.39	0.55
36:16S:708:C:OP1	47:S11:21:HIS:NE2	2.39	0.55
47:S11:92:ARG:NH2	47:S11:111:ASP:OD1	2.38	0.55
4:L05:139:GLU:HA	27:L31:28:VAL:HG13	1.87	0.55
9:L11:133:ARG:O	33:23S:1077:A:O2'	2.23	0.55
20:L23:87:LEU:HD13	20:L23:91:GLN:HG3	1.88	0.55
22:L25:76:ASP:HB2	22:L25:90:ASP:HB2	1.87	0.55
23:L27:26:SER:HB2	23:L27:62:LYS:HG2	1.88	0.55
33:23S:177:G:OP2	33:23S:177:G:N2	2.35	0.55
33:23S:284:U:H3	33:23S:356:G:H1	1.54	0.55
33:23S:2110:G:H1	33:23S:2179:C:H42	1.52	0.55
36:16S:779:C:O2'	47:S11:121:ARG:NH1	2.39	0.55
50:S14:63:CYS:HG	50:S14:66:THR:HG1	1.53	0.55
1:L02:52:HIS:HA	1:L02:216:ARG:HG2	1.88	0.55
11:L14:70:ARG:NH2	33:23S:2683:C:O2	2.39	0.55
33:23S:805:G:N2	33:23S:829:A:OP1	2.39	0.55
15:L18:43:ASN:OD1	15:L18:43:ASN:N	2.36	0.55
17:L20:107:ALA:O	18:L21:48:LYS:NZ	2.39	0.55
20:L23:92:ASN:OD1	20:L23:92:ASN:N	2.40	0.55
22:L25:42:LEU:HD12	22:L25:47:VAL:HG11	1.88	0.55
33:23S:2099:U:O2	33:23S:2190:G:O6	2.25	0.55
36:16S:413:G:N2	36:16S:428:G:O2'	2.39	0.55
39:S03:155:ARG:NE	39:S03:159:ALA:O	2.38	0.55
8:L10:36:ASP:O	8:L10:40:GLU:N	2.36	0.55
33:23S:1077:A:N6	33:23S:1089:A:OP1	2.37	0.55
36:16S:280:C:O2'	53:S17:39:ARG:NH2	2.39	0.55
36:16S:812:G:H4'	36:16S:813:U:H5'	1.88	0.55
44:S08:11:THR:OG1	44:S08:15:ASN:ND2	2.39	0.55
9:L11:38:CYS:HA	9:L11:42:ASN:HB2	1.88	0.55
12:L15:51:GLU:OE2	12:L15:54:GLN:NE2	2.40	0.55
27:L31:26:SER:OG	27:L31:27:THR:N	2.40	0.55
33:23S:1801:A:H5"	33:23S:2203:U:H2'	1.89	0.55
36:16S:202:G:H21	36:16S:466:A:H61	1.52	0.55
36:16S:321:A:N6	36:16S:328:C:O2'	2.39	0.55
45:S09:90:ASP:OD1	45:S09:90:ASP:N	2.35	0.55
57:S21:20:ARG:HA	57:S21:24:LYS:HB2	1.89	0.55
12:L15:109:LYS:HG2	12:L15:126:ARG:HB2	1.89	0.55
30:L34:39:ARG:NH2	33:23S:469:G:O6	2.40	0.55
33:23S:1826:G:O2'	33:23S:1971:U:OP2	2.25	0.55
36:16S:564:C:OP2	48:S12:11:ARG:NH2	2.40	0.55
36:16S:878:A:OP1	44:S08:79:ARG:NH1	2.37	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:16S:1343:G:H4'	45:S09:123:ARG:HB2	1.89	0.55
57:S21:40:PRO:HA	57:S21:43:GLU:HG2	1.89	0.55
33:23S:1072:C:O2	33:23S:1093:G:O6	2.25	0.55
36:16S:409:U:OP1	40:S04:21:LYS:NZ	2.40	0.55
36:16S:709:U:H2'	36:16S:710:G:H8	1.72	0.55
53:S17:24:ILE:HB	53:S17:41:THR:HB	1.87	0.55
4:L05:9:ASP:N	4:L05:9:ASP:OD1	2.39	0.55
14:L17:34:ILE:HG13	14:L17:113:ILE:HG23	1.89	0.55
33:23S:578:G:OP1	33:23S:1255:U:O2'	2.23	0.55
33:23S:619:G:H3'	33:23S:620:G:H21	1.72	0.55
36:16S:707:U:O2'	47:S11:38:GLY:O	2.25	0.55
36:16S:958:A:N6	55:S19:76:THR:O	2.40	0.55
53:S17:10:ARG:HH11	53:S17:11:VAL:H	1.53	0.55
3:L04:163:ASN:ND2	33:23S:320:A:N3	2.54	0.54
33:23S:2202:U:O2'	33:23S:2204:G:OP1	2.25	0.54
34:5S:118:C:H2'	34:5S:119:A:H8	1.72	0.54
36:16S:579:A:O2'	51:S15:53:ARG:NH2	2.40	0.54
36:16S:1359:C:OP2	50:S14:74:ARG:NH1	2.40	0.54
1:L02:79:ARG:NH1	1:L02:81:GLU:OE1	2.40	0.54
11:L14:44:LYS:NZ	33:23S:1952:A:OP1	2.40	0.54
14:L17:3:HIS:O	33:23S:2722:G:O2'	2.24	0.54
18:L21:4:VAL:HB	18:L21:39:LEU:HB2	1.88	0.54
33:23S:2110:G:H5'	33:23S:2145:C:H41	1.71	0.54
36:16S:59:A:H3'	36:16S:331:G:H22	1.72	0.54
36:16S:410:G:H21	36:16S:432:A:H62	1.53	0.54
36:16S:643:C:OP1	44:S08:30:LYS:NZ	2.38	0.54
36:16S:1125:U:OP1	46:S10:37:ARG:NH1	2.40	0.54
36:16S:1414:U:H2'	36:16S:1415:G:H8	1.72	0.54
40:S04:187:ARG:NH1	40:S04:196:GLU:OE2	2.39	0.54
53:S17:49:ASN:OD1	53:S17:49:ASN:N	2.40	0.54
4:L05:92:GLY:O	4:L05:96:TRP:NE1	2.40	0.54
5:L06:37:ASN:ND2	33:23S:2758:A:O2'	2.40	0.54
13:L16:16:ARG:NH1	33:23S:954:G:OP2	2.38	0.54
21:L24:68:ASN:ND2	33:23S:329:G:OP2	2.40	0.54
33:23S:1054:A:H2'	33:23S:1055:G:H8	1.72	0.54
33:23S:1310:G:H1'	33:23S:1611:C:H5"	1.89	0.54
4:L05:25:MET:O	4:L05:29:ARG:NH2	2.40	0.54
4:L05:71:LYS:NZ	4:L05:72:SER:O	2.40	0.54
7:L1:181:ASP:H	7:L1:184:LYS:HD3	1.72	0.54
10:L13:106:LYS:O	10:L13:111:LYS:NZ	2.41	0.54
24:L28:9:LYS:HE3	24:L28:53:LYS:HB3	1.90	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:23S:789:A:N6	33:23S:1614:A:OP2	2.39	0.54
11:L14:30:ARG:HD2	33:23S:2674:G:H4'	1.89	0.54
33:23S:307:G:N1	33:23S:310:A:OP2	2.40	0.54
33:23S:1319:C:N4	33:23S:1320:C:H42	2.06	0.54
33:23S:2469:A:N6	33:23S:2481:G:O2'	2.40	0.54
36:16S:1016:A:HO2'	36:16S:1217:C:HO2'	1.55	0.54
39:S03:25:THR:HA	50:S14:75:LYS:HE3	1.90	0.54
40:S04:131:ILE:HG22	40:S04:133:SER:H	1.70	0.54
8:L10:61:ARG:HB3	33:23S:1046:A:H4'	1.89	0.54
12:L15:20:GLY:HA2	12:L15:28:GLY:HA2	1.90	0.54
12:L15:79:LEU:HD12	12:L15:114:GLY:H	1.73	0.54
14:L17:8:ARG:NH1	14:L17:43:GLU:OE1	2.39	0.54
33:23S:643:A:N1	33:23S:2369:A:O2'	2.35	0.54
34:5S:39:A:H2'	34:5S:40:U:C2	2.43	0.54
36:16S:549:C:OP1	40:S04:69:ARG:NH2	2.41	0.54
36:16S:1137:C:O2'	36:16S:1138:G:N2	2.41	0.54
40:S04:145:ARG:HH21	40:S04:148:ALA:HB2	1.70	0.54
2:L03:129:THR:OG1	2:L03:140:HIS:O	2.25	0.54
5:L06:21:GLN:NE2	5:L06:37:ASN:O	2.41	0.54
5:L06:123:GLU:HG3	5:L06:125:PRO:HD3	1.90	0.54
9:L11:75:ALA:HB1	9:L11:128:ILE:HG23	1.90	0.54
10:L13:125:TYR:OH	10:L13:132:HIS:NE2	2.41	0.54
33:23S:881:G:N2	33:23S:897:C:O2	2.40	0.54
33:23S:1853:A:N3	33:23S:2233:U:O2'	2.38	0.54
33:23S:2297:A:N6	33:23S:2318:G:N2	2.56	0.54
36:16S:1432:G:N2	36:16S:1468:A:OP2	2.41	0.54
41:S05:145:ASN:ND2	44:S08:72:GLU:OE2	2.36	0.54
5:L06:19:ASN:HB3	5:L06:22:VAL:HB	1.90	0.54
30:L34:30:VAL:HG22	30:L34:33:ARG:HH22	1.72	0.54
33:23S:1054:A:H2'	33:23S:1055:G:C8	2.42	0.54
33:23S:1945:G:N2	33:23S:1963:U:O4	2.41	0.54
45:S09:35:GLU:HA	45:S09:39:GLY:HA3	1.90	0.54
56:S20:41:GLY:O	56:S20:43:LYS:NZ	2.41	0.54
33:23S:959:A:N6	33:23S:2495:G:O2'	2.36	0.54
36:16S:1103:C:OP1	38:S02:94:ARG:NH2	2.41	0.54
36:16S:1414:U:O2	36:16S:1487:G:N2	2.41	0.54
50:S14:37:ASP:H	50:S14:40:ARG:HB2	1.72	0.54
9:L11:134:SER:OG	33:23S:1088:A:N6	2.40	0.54
15:L18:10:ARG:NH1	33:23S:2295:C:OP1	2.40	0.54
17:L20:51:GLN:HA	17:L20:54:ARG:HE	1.72	0.54
33:23S:863:A:O2'	34:5S:100:G:N3	2.39	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:23S:2474:U:O4	33:23S:2529:G:N2	2.41	0.54
36:16S:194:C:H5”	56:S20:59:ARG:HE	1.73	0.54
36:16S:1405:G:H21	36:16S:1518:A:H1’	1.73	0.54
36:16S:1405:G:N3	36:16S:1518:A:O2’	2.38	0.54
5:L06:8:VAL:O	5:L06:49:LEU:N	2.39	0.53
23:L27:46:ASN:HB2	23:L27:78:ILE:HB	1.89	0.53
33:23S:1770:G:H1	33:23S:1982:U:H3	1.56	0.53
36:16S:618:C:N4	36:16S:621:A:OP2	2.35	0.53
36:16S:811:C:H4’	36:16S:901:A:H61	1.72	0.53
41:S05:106:ALA:O	41:S05:111:ARG:NH2	2.41	0.53
1:L02:13:ARG:HH12	33:23S:1693:U:H1’	1.72	0.53
16:L19:46:VAL:HG22	16:L19:60:VAL:HG22	1.91	0.53
17:L20:93:ILE:HD12	18:L21:13:ARG:HB2	1.89	0.53
19:L22:23:LEU:HD11	28:L32:21:LEU:HD12	1.90	0.53
33:23S:2750:A:O2’	33:23S:2752:C:N4	2.41	0.53
36:16S:371:A:H1’	36:16S:373:A:H62	1.72	0.53
36:16S:913:A:OP1	48:S12:42:LYS:NZ	2.41	0.53
40:S04:64:TYR:HB2	40:S04:66:VAL:HG23	1.90	0.53
45:S09:20:ILE:HG12	45:S09:60:LEU:HD22	1.89	0.53
51:S15:28:VAL:HG11	51:S15:66:LEU:HD21	1.90	0.53
3:L04:48:THR:OG1	3:L04:49:ARG:N	2.42	0.53
5:L06:126:THR:HG23	5:L06:129:GLU:HB2	1.91	0.53
9:L11:101:SER:HA	9:L11:140:GLU:HG3	1.91	0.53
14:L17:8:ARG:N	14:L17:43:GLU:OE2	2.42	0.53
15:L18:15:ARG:NH2	34:5S:8:C:OP1	2.42	0.53
16:L19:87:ARG:HE	16:L19:111:GLU:HB3	1.73	0.53
17:L20:29:ARG:NH1	33:23S:18:U:OP1	2.39	0.53
31:L35:44:ARG:NH2	33:23S:2349:G:OP1	2.41	0.53
50:S14:45:LEU:HB3	55:S19:12:LEU:HD11	1.90	0.53
5:L06:21:GLN:OE1	5:L06:54:ARG:NH2	2.40	0.53
23:L27:13:GLU:OE2	23:L27:16:ARG:NH1	2.38	0.53
33:23S:1860:G:H1	33:23S:1882:U:H3	1.56	0.53
33:23S:2075:U:OP2	33:23S:2238:G:O2’	2.27	0.53
33:23S:2857:G:N2	33:23S:2860:A:OP2	2.32	0.53
36:16S:37:U:H2’	36:16S:38:G:H8	1.73	0.53
39:S03:55:VAL:HB	39:S03:66:THR:HB	1.89	0.53
3:L04:154:ASP:OD1	3:L04:154:ASP:N	2.41	0.53
4:L05:60:SER:N	27:L31:7:PRO:O	2.41	0.53
14:L17:56:LYS:NZ	14:L17:88:ALA:O	2.42	0.53
36:16S:589:U:C2	36:16S:650:G:O6	2.62	0.53
36:16S:1317:C:H4’	50:S14:47:LEU:HD23	1.91	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:S16:35:ARG:NH2	52:S16:37:GLY:O	2.41	0.53
10:L13:116:ARG:NH2	33:23S:529:A:OP2	2.41	0.53
17:L20:89:ILE:HG12	18:L21:39:LEU:HD23	1.90	0.53
29:L33:32:LYS:HB2	29:L33:50:GLU:HB3	1.91	0.53
36:16S:345:C:O2	36:16S:346:G:N1	2.42	0.53
36:16S:880:C:H2'	36:16S:881:G:H8	1.73	0.53
36:16S:1071:C:O3'	41:S05:53:ARG:NH1	2.41	0.53
43:S07:46:LEU:O	43:S07:50:ALA:N	2.41	0.53
44:S08:46:GLU:O	44:S08:61:THR:OG1	2.25	0.53
49:S13:76:ILE:O	49:S13:80:MET:N	2.30	0.53
1:L02:171:VAL:HG23	1:L02:183:VAL:HG23	1.91	0.53
4:L05:141:ASP:OD1	4:L05:141:ASP:N	2.40	0.53
5:L06:94:ARG:HD2	5:L06:127:GLN:HB3	1.89	0.53
17:L20:3:VAL:HG22	33:23S:1199:U:H1'	1.91	0.53
33:23S:1073:A:HO2'	33:23S:2474:U:HO2'	1.57	0.53
33:23S:2127:G:H21	33:23S:2173:A:H1'	1.74	0.53
34:5S:37:C:N3	34:5S:48:U:O2'	2.38	0.53
36:16S:422:C:O2'	36:16S:423:G:N2	2.42	0.53
45:S09:15:ALA:O	45:S09:67:LYS:NZ	2.39	0.53
50:S14:54:SER:O	50:S14:54:SER:OG	2.26	0.53
27:L31:8:LYS:HD3	27:L31:9:TYR:H	1.72	0.53
32:L36:22:VAL:HB	32:L36:37:GLN:HB3	1.91	0.53
33:23S:285:G:O6	33:23S:354:A:N6	2.42	0.53
33:23S:306:U:H3	33:23S:310:A:H62	1.57	0.53
33:23S:527:C:N4	33:23S:2779:U:OP2	2.42	0.53
33:23S:935:C:H2'	33:23S:936:A:H8	1.74	0.53
33:23S:1992:G:N2	33:23S:1996:C:O2'	2.41	0.53
33:23S:2515:C:H2'	33:23S:2516:A:H8	1.74	0.53
33:23S:2637:U:O2	33:23S:2776:A:N7	2.42	0.53
36:16S:880:C:OP1	48:S12:8:ARG:NH2	2.40	0.53
45:S09:98:ARG:HG3	45:S09:103:VAL:HG21	1.90	0.53
57:S21:5:VAL:HG22	57:S21:7:GLU:H	1.74	0.53
4:L05:62:GLN:HA	27:L31:8:LYS:HE2	1.91	0.53
13:L16:17:ASN:OD1	13:L16:97:GLN:NE2	2.42	0.53
18:L21:43:ASN:OD1	18:L21:43:ASN:N	2.42	0.53
33:23S:1047:G:O2'	33:23S:1111:A:N6	2.37	0.53
33:23S:1769:U:O2	33:23S:1983:G:O6	2.27	0.53
34:5S:65:U:H3'	34:5S:108:A:H61	1.74	0.53
49:S13:59:VAL:HG22	49:S13:64:VAL:HG11	1.91	0.53
15:L18:7:ARG:NH1	15:L18:95:SER:O	2.40	0.53
33:23S:2117:A:N6	33:23S:2166:U:O4	2.42	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:16S:436:C:O2	40:S04:153:ARG:NH1	2.39	0.53
36:16S:1125:U:H2'	36:16S:1126:U:H2'	1.90	0.53
4:L05:87:LYS:HD2	33:23S:2313:C:H5"	1.91	0.52
9:L11:135:MET:HB3	9:L11:137:LEU:HD13	1.90	0.52
36:16S:198:G:O6	36:16S:219:U:O4	2.26	0.52
8:L10:51:TYR:HH	8:L10:88:HIS:CG	2.26	0.52
16:L19:89:GLY:O	16:L19:112:ARG:NH1	2.41	0.52
22:L25:72:VAL:HG12	22:L25:93:ARG:HA	1.91	0.52
33:23S:1427:A:N6	33:23S:1571:A:OP2	2.41	0.52
33:23S:2033:A:O2'	33:23S:2035:G:OP2	2.22	0.52
36:16S:33:A:H1'	48:S12:27:PRO:HG3	1.91	0.52
36:16S:923:A:N6	36:16S:1392:G:O6	2.42	0.52
1:L02:208:GLY:O	1:L02:212:TRP:N	2.38	0.52
14:L17:17:ARG:NH2	33:23S:2002:G:OP1	2.32	0.52
33:23S:1040:A:N1	33:23S:1115:G:N2	2.52	0.52
57:S21:17:ARG:O	57:S21:21:SER:N	2.42	0.52
1:L02:252:LYS:NZ	33:23S:1825:U:O2	2.42	0.52
1:L02:255:LYS:NZ	33:23S:1844:C:O3'	2.42	0.52
14:L17:29:VAL:O	14:L17:78:LYS:NZ	2.38	0.52
17:L20:48:ASP:HA	17:L20:51:GLN:HB2	1.90	0.52
33:23S:1667:G:N1	33:23S:1992:G:OP2	2.31	0.52
48:S12:3:VAL:HG23	48:S12:6:LEU:HD12	1.91	0.52
15:L18:58:ILE:HA	15:L18:61:GLN:HE22	1.75	0.52
33:23S:819:A:HO2'	33:23S:837:C:HO2'	1.57	0.52
36:16S:127:G:O2'	53:S17:5:ARG:NH1	2.42	0.52
36:16S:490:C:OP1	40:S04:147:LYS:NZ	2.39	0.52
40:S04:13:ARG:HB2	40:S04:37:PRO:HB3	1.89	0.52
1:L02:13:ARG:NH1	33:23S:1693:U:O2	2.42	0.52
5:L06:79:THR:HG23	5:L06:80:GLU:HG3	1.91	0.52
6:L09:98:ASP:N	6:L09:98:ASP:OD1	2.42	0.52
36:16S:738:C:OP1	42:S06:2:ARG:NH1	2.43	0.52
36:16S:1286:U:H2'	36:16S:1287:A:H4'	1.91	0.52
36:16S:1366:C:O2'	46:S10:62:ARG:NH2	2.43	0.52
47:S11:45:THR:OG1	47:S11:46:ALA:N	2.41	0.52
1:L02:257:ARG:NH1	33:23S:1800:C:OP1	2.41	0.52
17:L20:90:ASP:OD1	17:L20:90:ASP:N	2.42	0.52
33:23S:1181:U:H2'	33:23S:1182:G:H8	1.75	0.52
36:16S:197:A:N1	36:16S:220:G:O2'	2.39	0.52
36:16S:545:C:OP1	40:S04:61:ARG:NH1	2.43	0.52
36:16S:1356:G:H2'	36:16S:1357:A:H8	1.74	0.52
40:S04:14:GLU:OE2	40:S04:55:ARG:NH1	2.41	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:S17:59:GLU:HG3	53:S17:76:ARG:HG2	1.92	0.52
1:L02:117:SER:OG	1:L02:118:GLY:N	2.43	0.52
2:L03:115:GLY:HA2	2:L03:166:GLY:HA3	1.92	0.52
12:L15:63:LYS:NZ	33:23S:249:C:O2	2.43	0.52
23:L27:52:ASP:OD1	23:L27:52:ASP:N	2.42	0.52
33:23S:101:A:O2'	33:23S:103:A:OP1	2.24	0.52
33:23S:959:A:N3	33:23S:2457:U:O2'	2.39	0.52
33:23S:2685:G:H1	33:23S:2724:U:H3	1.56	0.52
33:23S:2847:U:O2	33:23S:2869:G:N2	2.37	0.52
36:16S:222:C:H2'	36:16S:223:A:C8	2.45	0.52
36:16S:935:A:O2'	36:16S:1383:C:O2	2.27	0.52
1:L02:140:VAL:HG12	1:L02:191:LEU:HA	1.91	0.52
12:L15:91:ASP:N	12:L15:91:ASP:OD1	2.41	0.52
33:23S:1356:G:H1	33:23S:1375:U:H3	1.57	0.52
33:23S:1907:G:N2	33:23S:1923:U:O2	2.38	0.52
44:S08:112:ASP:OD2	44:S08:116:ARG:NH2	2.42	0.52
33:23S:1918:A:O2'	33:23S:1919:A:N7	2.43	0.52
33:23S:1969:A:O2'	33:23S:1972:G:N3	2.40	0.52
33:23S:2291:U:O4	33:23S:2341:G:O6	2.28	0.52
33:23S:2374:C:N4	33:23S:2375:G:O6	2.43	0.52
46:S10:85:ASP:O	46:S10:89:ARG:NH1	2.42	0.52
47:S11:124:LYS:O	57:S21:34:ARG:NH2	2.40	0.52
13:L16:133:LYS:NZ	13:L16:134:THR:O	2.43	0.51
36:16S:222:C:H2'	36:16S:223:A:H8	1.75	0.51
36:16S:404:G:N7	40:S04:1:ALA:N	2.45	0.51
36:16S:417:G:O6	36:16S:426:U:O2	2.27	0.51
36:16S:657:U:O2	51:S15:21:THR:OG1	2.25	0.51
8:L10:53:ARG:HB3	8:L10:55:VAL:HG22	1.90	0.51
14:L17:2:ARG:NH1	33:23S:2820:A:OP2	2.43	0.51
33:23S:2165:C:N4	33:23S:2170:A:C6	2.78	0.51
36:16S:1151:A:O2'	46:S10:72:ARG:NH2	2.43	0.51
38:S02:114:LYS:NZ	38:S02:151:LYS:O	2.43	0.51
40:S04:73:ASN:OD1	40:S04:73:ASN:N	2.44	0.51
41:S05:14:LEU:HA	41:S05:36:THR:HA	1.92	0.51
41:S05:149:PRO:HA	41:S05:152:VAL:HB	1.91	0.51
49:S13:73:SER:O	49:S13:77:LYS:N	2.39	0.51
56:S20:4:LYS:HB3	56:S20:6:ALA:H	1.74	0.51
1:L02:17:LYS:NZ	33:23S:1565:C:OP1	2.35	0.51
1:L02:65:ASP:OD2	1:L02:101:ARG:NH1	2.43	0.51
36:16S:123:U:OP1	36:16S:311:C:O2'	2.25	0.51
36:16S:1427:C:H2'	36:16S:1428:A:H8	1.76	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:S07:65:LEU:HD23	43:S07:69:ARG:HH21	1.75	0.51
2:L03:15:PHE:HB3	16:L19:78:PRO:HG3	1.92	0.51
33:23S:917:A:H5"	33:23S:2268:A:H61	1.74	0.51
33:23S:1429:G:H2'	33:23S:1430:G:H8	1.75	0.51
33:23S:2102:G:N2	33:23S:2187:U:O2	2.42	0.51
33:23S:2175:C:H2'	33:23S:2176:A:C8	2.46	0.51
33:23S:2531:A:H61	33:23S:2662:A:H61	1.58	0.51
36:16S:1425:U:H2'	36:16S:1426:G:H8	1.76	0.51
38:S02:163:ILE:HG23	38:S02:185:ILE:HB	1.92	0.51
13:L16:51:ARG:NH1	33:23S:2483:C:O2'	2.43	0.51
16:L19:50:ARG:NH2	33:23S:2683:C:OP1	2.36	0.51
16:L19:92:ARG:HD3	33:23S:1753:G:H5"	1.91	0.51
33:23S:788:A:OP1	33:23S:791:C:N4	2.40	0.51
33:23S:2258:C:O2'	33:23S:2427:C:OP2	2.26	0.51
34:5S:38:C:H2'	34:5S:39:A:C8	2.46	0.51
36:16S:1130:A:H4'	45:S09:4:GLN:HE22	1.75	0.51
38:S02:76:SER:OG	38:S02:92:ASN:ND2	2.44	0.51
45:S09:50:PRO:HG3	45:S09:79:ARG:HA	1.91	0.51
9:L11:65:SER:OG	9:L11:66:PHE:N	2.43	0.51
18:L21:75:VAL:HG22	18:L21:86:GLN:HG2	1.92	0.51
33:23S:711:G:N2	33:23S:720:U:O2	2.41	0.51
33:23S:807:U:O2'	33:23S:2060:A:N1	2.43	0.51
38:S02:4:SER:OG	38:S02:6:ARG:NH1	2.43	0.51
40:S04:109:THR:H	40:S04:112:GLU:HB3	1.74	0.51
2:L03:155:VAL:HG21	33:23S:2618:G:H21	1.75	0.51
4:L05:22:ASN:OD1	4:L05:22:ASN:N	2.40	0.51
6:L09:73:ASN:ND2	6:L09:106:ALA:O	2.43	0.51
11:L14:70:ARG:HG2	11:L14:76:VAL:HG12	1.92	0.51
33:23S:1268:A:H62	33:23S:2012:G:N2	2.07	0.51
33:23S:1412:U:H2'	33:23S:1413:A:C8	2.46	0.51
36:16S:23:C:OP2	36:16S:561:U:N3	2.39	0.51
36:16S:362:G:N2	36:16S:365:U:OP2	2.38	0.51
36:16S:933:G:N7	43:S07:2:ARG:NH2	2.52	0.51
38:S02:72:LYS:HE2	38:S02:204:ASP:HA	1.93	0.51
1:L02:12:ARG:HD2	1:L02:15:VAL:HG11	1.93	0.51
1:L02:47:ARG:NH1	33:23S:1807:G:OP1	2.44	0.51
36:16S:257:G:H2'	36:16S:258:G:H8	1.76	0.51
36:16S:1285:A:N6	36:16S:1354:U:O2'	2.44	0.51
46:S10:28:THR:O	46:S10:32:THR:OG1	2.27	0.51
54:S18:21:ASP:OD2	54:S18:23:LYS:NZ	2.36	0.51
7:L1:20:GLN:OE1	7:L1:223:ALA:N	2.42	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:L24:76:THR:HG23	21:L24:78:LYS:H	1.75	0.51
24:L28:67:LEU:O	24:L28:77:TYR:OH	2.26	0.51
33:23S:1667:G:O2'	33:23S:1991:U:O4	2.29	0.51
36:16S:745:G:OP1	36:16S:851:G:O2'	2.28	0.51
36:16S:1028:C:N3	36:16S:1033:G:N1	2.48	0.51
40:S04:97:LEU:HB2	40:S04:134:TYR:HB3	1.92	0.51
50:S14:68:ARG:NH1	50:S14:70:HIS:O	2.44	0.51
54:S18:36:GLY:O	54:S18:62:ARG:NH2	2.43	0.51
12:L15:48:ARG:NH2	31:L35:59:ALA:O	2.43	0.51
15:L18:34:HIS:ND1	15:L18:53:THR:OG1	2.37	0.51
16:L19:52:ARG:NH2	33:23S:2720:U:OP1	2.44	0.51
33:23S:2655:G:N2	33:23S:2665:A:OP2	2.44	0.51
36:16S:979:C:N4	50:S14:57:SER:OG	2.41	0.51
36:16S:1147:C:O2	45:S09:17:ARG:NH1	2.44	0.51
40:S04:161:ALA:HA	40:S04:164:ARG:HB2	1.92	0.51
49:S13:24:VAL:HG23	49:S13:28:ARG:HB3	1.93	0.51
53:S17:12:VAL:HB	53:S17:21:VAL:HG13	1.93	0.51
19:L22:7:HIS:N	19:L22:103:ILE:O	2.40	0.50
20:L23:30:ILE:HG22	20:L23:85:VAL:HB	1.93	0.50
36:16S:107:G:OP1	36:16S:325:A:N6	2.41	0.50
36:16S:434:U:H2'	36:16S:435:A:C8	2.46	0.50
36:16S:458:U:H2'	36:16S:459:A:C8	2.46	0.50
36:16S:589:U:O2	36:16S:650:G:O6	2.28	0.50
36:16S:1320:C:O2	55:S19:35:ARG:NH2	2.44	0.50
36:16S:1359:C:H5	50:S14:74:ARG:HH12	1.58	0.50
42:S06:77:THR:O	42:S06:81:ASN:N	2.39	0.50
49:S13:84:CYS:SG	49:S13:85:TYR:N	2.83	0.50
1:L02:100:ARG:NH2	33:23S:1501:G:OP1	2.41	0.50
10:L13:15:TRP:HB3	10:L13:137:PRO:HB3	1.93	0.50
33:23S:910:A:N3	33:23S:2264:C:O2'	2.39	0.50
33:23S:2572:A:H5"	33:23S:2574:G:H4'	1.94	0.50
36:16S:407:U:O2'	40:S04:112:GLU:OE1	2.29	0.50
36:16S:769:G:H4'	36:16S:1513:A:H4'	1.92	0.50
36:16S:1071:C:H2'	36:16S:1072:G:H8	1.76	0.50
53:S17:13:SER:OG	53:S17:16:MET:SD	2.69	0.50
1:L02:38:LYS:HB2	33:23S:692:C:H5"	1.93	0.50
13:L16:58:LYS:O	13:L16:59:ARG:NE	2.44	0.50
24:L28:17:ARG:HE	24:L28:23:ALA:HB2	1.76	0.50
33:23S:404:A:N6	33:23S:421:C:C5	2.80	0.50
33:23S:1716:U:H3	33:23S:1744:A:H62	1.56	0.50
33:23S:1724:G:O6	33:23S:1736:U:O2	2.29	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:23S:2100:G:H1	33:23S:2189:U:H3	1.59	0.50
36:16S:1269:A:N1	36:16S:1312:G:O2'	2.38	0.50
41:S05:37:VAL:HG11	41:S05:113:VAL:HA	1.93	0.50
46:S10:42:LEU:HD12	46:S10:71:LEU:HB3	1.94	0.50
31:L35:38:LYS:NZ	33:23S:2351:G:O6	2.45	0.50
33:23S:1539:U:H2'	33:23S:1540:G:H8	1.76	0.50
36:16S:430:A:OP2	40:S04:7:LYS:NZ	2.35	0.50
36:16S:837:U:H2'	36:16S:838:G:H8	1.76	0.50
36:16S:884:U:H4'	36:16S:885:G:H5"	1.94	0.50
2:L03:8:LYS:HB2	2:L03:201:LEU:HD11	1.92	0.50
28:L32:24:VAL:HG22	28:L32:26:SER:H	1.76	0.50
33:23S:239:C:O2'	33:23S:622:G:O2'	2.26	0.50
33:23S:1085:A:H2'	33:23S:1086:A:C4	2.46	0.50
33:23S:1636:U:H2'	33:23S:1637:A:H8	1.76	0.50
36:16S:959:A:O2'	36:16S:984:C:O2'	2.27	0.50
36:16S:1457:G:OP1	56:S20:33:LYS:NZ	2.42	0.50
40:S04:187:ARG:HD2	40:S04:190:LEU:HD11	1.92	0.50
53:S17:10:ARG:O	53:S17:23:ALA:N	2.44	0.50
3:L04:113:VAL:HG22	3:L04:118:LEU:HD22	1.94	0.50
9:L11:102:ARG:H	9:L11:141:ASP:HA	1.76	0.50
17:L20:48:ASP:O	17:L20:52:ARG:N	2.41	0.50
33:23S:429:A:H2'	33:23S:430:A:C4	2.47	0.50
36:16S:376:G:H2'	36:16S:377:G:H8	1.76	0.50
36:16S:1232:U:H5"	45:S09:125:GLN:HB3	1.93	0.50
36:16S:1307:U:O4	36:16S:1331:G:N2	2.45	0.50
36:16S:1356:G:H2'	36:16S:1357:A:C8	2.46	0.50
39:S03:9:ILE:HG23	39:S03:10:ARG:HG3	1.93	0.50
44:S08:29:SER:H	44:S08:32:LYS:HB2	1.76	0.50
48:S12:120:ARG:NH1	48:S12:121:PRO:O	2.45	0.50
1:L02:93:VAL:O	1:L02:100:ARG:HA	2.12	0.50
2:L03:12:THR:O	2:L03:24:VAL:N	2.38	0.50
14:L17:98:LEU:O	14:L17:112:TYR:N	2.42	0.50
16:L19:17:PRO:HD2	16:L19:83:ILE:HD12	1.94	0.50
17:L20:53:LYS:HA	33:23S:995:C:H5"	1.94	0.50
18:L21:8:GLY:O	18:L21:10:LYS:NZ	2.44	0.50
19:L22:58:ALA:HA	19:L22:62:ASP:HB2	1.93	0.50
23:L27:38:GLY:O	23:L27:53:HIS:ND1	2.43	0.50
33:23S:863:A:O3'	34:5S:100:G:N2	2.39	0.50
33:23S:948:C:O2	33:23S:984:A:O2'	2.24	0.50
33:23S:1028:A:N6	33:23S:1126:A:OP1	2.41	0.50
33:23S:1796:U:H2'	33:23S:1797:G:H8	1.76	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:23S:2202:U:H3	33:23S:2221:G:H1	1.60	0.50
36:16S:952:U:H2'	36:16S:953:G:H8	1.76	0.50
36:16S:1368:A:OP2	45:S09:113:LYS:NZ	2.43	0.50
39:S03:19:SER:OG	50:S14:91:GLU:O	2.28	0.50
40:S04:43:ARG:HH21	40:S04:46:ARG:HH12	1.60	0.50
42:S06:2:ARG:HG2	42:S06:91:ARG:HH22	1.77	0.50
44:S08:103:VAL:HB	44:S08:124:ILE:HG22	1.93	0.50
46:S10:36:VAL:HG13	46:S10:76:ILE:HA	1.94	0.50
10:L13:64:VAL:HB	10:L13:68:LYS:HE3	1.94	0.50
10:L13:134:ALA:O	33:23S:2898:U:O2'	2.28	0.50
24:L28:17:ARG:NH2	33:23S:201:C:OP1	2.44	0.50
33:23S:1068:G:N2	33:23S:1095:A:O2'	2.44	0.50
33:23S:2448:A:H3'	33:23S:2449:U:H2'	1.94	0.50
46:S10:84:VAL:O	46:S10:88:MET:N	2.44	0.50
4:L05:146:ASP:N	4:L05:146:ASP:OD1	2.45	0.50
8:L10:56:ARG:HG2	8:L10:83:ALA:HB2	1.94	0.50
24:L28:56:ARG:NH1	33:23S:399:U:OP2	2.45	0.50
27:L31:27:THR:OG1	27:L31:27:THR:O	2.29	0.50
33:23S:1131:G:N2	33:23S:1132:U:O4	2.38	0.50
36:16S:64:G:H22	36:16S:101:A:H61	1.59	0.50
36:16S:76:G:N2	36:16S:93:U:O2	2.39	0.50
36:16S:264:C:O2'	53:S17:65:PRO:O	2.29	0.50
36:16S:768:A:N3	36:16S:1512:U:O2'	2.44	0.50
56:S20:55:PRO:O	56:S20:59:ARG:N	2.39	0.50
3:L04:110:SER:HB2	3:L04:114:ARG:HH12	1.77	0.49
6:L09:79:THR:HA	6:L09:145:ASN:HB3	1.94	0.49
7:L1:6:LYS:HA	7:L1:9:ARG:HE	1.76	0.49
9:L11:9:LYS:NZ	33:23S:1071:G:OP2	2.45	0.49
9:L11:102:ARG:HH21	9:L11:105:LEU:HD13	1.77	0.49
33:23S:987:C:O2'	33:23S:1000:A:N3	2.42	0.49
36:16S:522:C:OP2	48:S12:65:TYR:OH	2.30	0.49
36:16S:925:G:H1	36:16S:1391:U:H3	1.59	0.49
36:16S:927:G:N2	36:16S:1390:U:O2	2.38	0.49
36:16S:1162:C:H2'	36:16S:1163:A:H8	1.77	0.49
36:16S:1279:G:N7	46:S10:45:ARG:NH1	2.59	0.49
33:23S:1908:C:N3	33:23S:1909:C:C4	2.80	0.49
33:23S:1999:C:O3'	33:23S:2722:G:N2	2.45	0.49
36:16S:186:C:O2'	56:S20:75:LYS:O	2.27	0.49
36:16S:426:U:O2'	40:S04:39:GLN:OE1	2.30	0.49
36:16S:758:C:H4'	36:16S:880:C:H4'	1.94	0.49
42:S06:36:ILE:HA	42:S06:64:VAL:HA	1.94	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:S08:103:VAL:HA	44:S08:124:ILE:HA	1.94	0.49
1:L02:244:VAL:HG12	1:L02:250:GLN:HA	1.95	0.49
4:L05:45:ASP:OD1	4:L05:45:ASP:N	2.44	0.49
4:L05:51:ASN:O	4:L05:55:ASP:N	2.42	0.49
10:L13:136:GLN:NE2	33:23S:2898:U:O2'	2.41	0.49
19:L22:9:HIS:O	19:L22:11:ARG:NH1	2.45	0.49
19:L22:86:MET:HB2	19:L22:96:ILE:HD13	1.93	0.49
36:16S:836:G:O6	36:16S:850:U:O2	2.30	0.49
43:S07:26:VAL:HG22	43:S07:42:VAL:HG11	1.93	0.49
9:L11:127:SER:OG	33:23S:1080:A:N3	2.39	0.49
13:L16:34:LYS:HA	13:L16:101:VAL:HA	1.94	0.49
14:L17:39:PRO:HG2	33:23S:1651:G:H4'	1.94	0.49
16:L19:22:GLY:N	16:L19:46:VAL:O	2.44	0.49
18:L21:25:LEU:HB2	18:L21:94:THR:HG21	1.93	0.49
31:L35:5:THR:HG22	31:L35:61:LEU:HA	1.94	0.49
31:L35:22:LYS:NZ	33:23S:631:A:OP2	2.40	0.49
32:L36:24:ARG:NH2	33:23S:2742:G:OP2	2.41	0.49
36:16S:963:G:H2'	36:16S:964:A:H8	1.77	0.49
49:S13:73:SER:HA	49:S13:76:ILE:HB	1.94	0.49
50:S14:36:SER:HA	50:S14:40:ARG:HD3	1.94	0.49
1:L02:119:VAL:HG13	1:L02:130:PRO:HG2	1.94	0.49
25:L29:6:LEU:HD13	25:L29:56:LEU:HD22	1.95	0.49
36:16S:160:A:N1	36:16S:343:U:O2'	2.38	0.49
36:16S:250:A:N6	36:16S:275:G:O6	2.45	0.49
36:16S:593:U:H3	36:16S:646:G:H1	1.61	0.49
36:16S:993:G:O2'	36:16S:994:A:N7	2.41	0.49
2:L03:140:HIS:NE2	33:23S:1658:C:OP1	2.45	0.49
4:L05:35:LEU:HB3	4:L05:88:VAL:HB	1.95	0.49
9:L11:92:PRO:HD2	33:23S:1076:C:H1'	1.94	0.49
10:L13:72:LYS:HB3	10:L13:89:PHE:HB2	1.94	0.49
12:L15:88:GLY:O	12:L15:121:THR:N	2.45	0.49
16:L19:87:ARG:NH2	16:L19:109:ILE:O	2.46	0.49
16:L19:92:ARG:NH2	33:23S:2849:U:OP1	2.34	0.49
24:L28:35:HIS:NE2	33:23S:2199:A:O2'	2.44	0.49
29:L33:22:THR:OG1	29:L33:23:THR:N	2.46	0.49
33:23S:14:A:N1	33:23S:2044:C:O2'	2.40	0.49
33:23S:2233:U:H2'	33:23S:2234:G:H8	1.77	0.49
36:16S:310:G:H5"	52:S16:31:ARG:HB2	1.94	0.49
36:16S:478:A:C2	36:16S:479:U:O2	2.65	0.49
36:16S:765:G:N1	36:16S:812:G:O2'	2.37	0.49
7:L1:67:HIS:HB3	7:L1:184:LYS:HE3	1.94	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:L30:10:ARG:HB2	26:L30:53:MET:HB3	1.94	0.49
33:23S:1278:C:H2'	33:23S:1279:G:H8	1.77	0.49
36:16S:323:U:O4	36:16S:327:A:N7	2.46	0.49
41:S05:79:THR:OG1	41:S05:80:LEU:N	2.44	0.49
46:S10:8:ILE:HB	46:S10:74:VAL:HB	1.94	0.49
48:S12:85:ARG:HH21	48:S12:87:LYS:HG3	1.77	0.49
13:L16:128:THR:OG1	13:L16:129:THR:N	2.46	0.49
23:L27:38:GLY:HA2	33:23S:2330:G:H21	1.77	0.49
33:23S:21:A:N6	33:23S:518:G:O6	2.46	0.49
36:16S:952:U:H5"	36:16S:964:A:H61	1.77	0.49
36:16S:1249:C:O2'	45:S09:69:GLY:O	2.31	0.49
40:S04:55:ARG:HA	40:S04:58:GLN:HB2	1.94	0.49
43:S07:139:ASP:HA	43:S07:142:ARG:HD2	1.93	0.49
44:S08:49:LYS:HB2	44:S08:59:GLU:HB3	1.94	0.49
4:L05:99:PHE:O	4:L05:103:ILE:N	2.37	0.49
10:L13:27:ARG:NH2	33:23S:1140:C:O2'	2.45	0.49
33:23S:106:C:H2'	33:23S:107:G:H8	1.77	0.49
33:23S:558:U:H2'	33:23S:559:G:H8	1.78	0.49
33:23S:1218:G:O6	33:23S:1231:U:O2	2.30	0.49
33:23S:2316:G:H2'	33:23S:2317:A:H8	1.77	0.49
36:16S:182:A:OP2	36:16S:193:C:N4	2.46	0.49
36:16S:1052:U:O2'	36:16S:1055:A:OP2	2.23	0.49
36:16S:1073:U:O2	38:S02:102:ASN:ND2	2.39	0.49
50:S14:10:VAL:HA	50:S14:13:VAL:HG12	1.95	0.49
3:L04:53:THR:O	3:L04:53:THR:OG1	2.25	0.49
4:L05:38:GLY:O	33:23S:2306:C:N4	2.46	0.49
5:L06:2:ARG:NH1	33:23S:1113:U:OP1	2.41	0.49
27:L31:1:MET:SD	34:5S:43:C:H2'	2.53	0.49
30:L34:34:ARG:NH2	33:23S:466:A:OP1	2.46	0.49
41:S05:89:THR:OG1	41:S05:134:ASN:OD1	2.30	0.49
42:S06:8:PHE:HB3	42:S06:87:SER:HB3	1.95	0.49
5:L06:163:TYR:HB2	5:L06:166:GLU:HB2	1.95	0.48
7:L1:37:LYS:HE2	33:23S:2127:G:H3'	1.95	0.48
9:L11:98:GLY:H	9:L11:137:LEU:HG	1.77	0.48
19:L22:80:PRO:O	19:L22:100:THR:OG1	2.24	0.48
20:L23:69:ARG:HB3	20:L23:74:ILE:HD13	1.95	0.48
21:L24:28:LEU:N	21:L24:32:LYS:O	2.43	0.48
29:L33:9:LYS:HB3	29:L33:51:ALA:HB3	1.93	0.48
33:23S:833:A:H2'	33:23S:834:G:C8	2.48	0.48
33:23S:1072:C:N4	33:23S:1093:G:N2	2.45	0.48
33:23S:1179:G:C2	33:23S:1180:U:H1'	2.47	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:23S:2289:G:O6	33:23S:2343:U:O4	2.31	0.48
36:16S:1496:C:O2	36:16S:1517:G:N2	2.41	0.48
46:S10:12:ALA:HB2	46:S10:96:VAL:HG13	1.94	0.48
5:L06:36:LEU:HD11	5:L06:71:LEU:HD11	1.94	0.48
9:L11:2:LYS:O	9:L11:7:TYR:OH	2.31	0.48
9:L11:131:THR:O	9:L11:135:MET:N	2.47	0.48
33:23S:1419:A:N6	33:23S:1421:G:N3	2.60	0.48
33:23S:2165:C:H42	33:23S:2170:A:N6	2.07	0.48
33:23S:2692:G:OP1	33:23S:2870:C:O2'	2.31	0.48
39:S03:8:GLY:HA2	39:S03:11:LEU:HG	1.95	0.48
52:S16:6:LEU:HB3	52:S16:17:TYR:HB3	1.94	0.48
52:S16:40:ASN:HB3	52:S16:43:ALA:HB2	1.95	0.48
6:L09:33:GLN:O	6:L09:35:LYS:NZ	2.42	0.48
8:L10:119:PRO:HB3	8:L10:126:LEU:HD12	1.95	0.48
11:L14:121:GLU:OE1	16:L19:64:SER:OG	2.32	0.48
29:L33:24:LYS:HD2	29:L33:26:LYS:HG3	1.96	0.48
32:L36:2:LYS:NZ	32:L36:32:LYS:O	2.45	0.48
33:23S:511:U:H4'	33:23S:1235:G:H4'	1.95	0.48
33:23S:1509:A:H2'	33:23S:1510:G:C8	2.48	0.48
33:23S:2102:G:C2	33:23S:2187:U:O2	2.66	0.48
33:23S:2155:U:H3'	33:23S:2156:G:H8	1.79	0.48
36:16S:309:A:H2'	36:16S:310:G:H8	1.78	0.48
36:16S:1160:G:N2	36:16S:1176:A:N1	2.60	0.48
39:S03:42:LEU:HD11	39:S03:90:VAL:HG11	1.95	0.48
40:S04:58:GLN:O	40:S04:62:ARG:N	2.46	0.48
40:S04:59:LYS:HA	40:S04:62:ARG:HB2	1.94	0.48
57:S21:33:ARG:HE	57:S21:34:ARG:HG2	1.77	0.48
9:L11:109:ALA:HA	9:L11:112:LYS:HB2	1.96	0.48
23:L27:36:GLN:HE22	23:L27:41:PHE:H	1.62	0.48
23:L27:71:LYS:HG3	23:L27:73:ARG:HG3	1.95	0.48
31:L35:40:LYS:NZ	33:23S:2419:U:OP1	2.34	0.48
31:L35:53:ASP:N	31:L35:53:ASP:OD1	2.46	0.48
33:23S:2297:A:N6	33:23S:2318:G:C2	2.81	0.48
36:16S:791:G:O6	36:16S:792:A:N6	2.46	0.48
39:S03:151:GLU:HA	39:S03:166:TRP:HA	1.94	0.48
40:S04:157:ALA:O	40:S04:164:ARG:NH2	2.46	0.48
45:S09:43:ALA:H	45:S09:44:ARG:HH21	1.62	0.48
7:L1:65:LEU:HD22	7:L1:188:ASN:HB3	1.96	0.48
18:L21:84:ARG:NH2	33:23S:813:U:OP1	2.46	0.48
33:23S:1800:C:N4	33:23S:1818:U:O2'	2.46	0.48
33:23S:2072:C:C4	33:23S:2073:C:N4	2.82	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:23S:2134:A:N6	33:23S:2157:G:O2'	2.46	0.48
33:23S:2581:G:OP2	33:23S:2581:G:N2	2.45	0.48
38:S02:217:ALA:O	38:S02:221:ARG:NH1	2.46	0.48
40:S04:28:ASP:OD1	40:S04:28:ASP:N	2.41	0.48
11:L14:30:ARG:NH2	11:L14:37:ASP:OD2	2.46	0.48
12:L15:95:LEU:HB2	12:L15:101:ILE:HG12	1.95	0.48
33:23S:741:U:H2'	33:23S:742:A:C8	2.48	0.48
33:23S:2521:C:O2'	33:23S:2564:A:N3	2.42	0.48
36:16S:456:A:H2'	36:16S:457:G:H8	1.79	0.48
36:16S:641:U:O2	36:16S:642:A:N6	2.40	0.48
36:16S:823:C:H2'	36:16S:824:G:H8	1.78	0.48
43:S07:41:ILE:HD13	43:S07:115:MET:HB2	1.95	0.48
50:S14:78:LEU:HD12	50:S14:83:VAL:HG23	1.94	0.48
3:L04:170:ARG:NH1	3:L04:176:ASP:OD2	2.45	0.48
16:L19:65:ASN:OD1	16:L19:65:ASN:N	2.43	0.48
29:L33:9:LYS:O	29:L33:51:ALA:N	2.45	0.48
33:23S:184:C:H2'	33:23S:185:G:C8	2.49	0.48
33:23S:1434:A:H2'	33:23S:1435:G:C8	2.48	0.48
33:23S:1908:C:N4	33:23S:1909:C:N4	2.62	0.48
33:23S:2818:U:H2'	33:23S:2819:G:H8	1.78	0.48
36:16S:403:C:H5'	40:S04:131:ILE:HG23	1.94	0.48
2:L03:157:LYS:NZ	33:23S:2619:C:OP1	2.41	0.48
15:L18:94:ARG:NH2	33:23S:2294:G:OP1	2.46	0.48
17:L20:47:ARG:NH1	33:23S:560:C:O2'	2.47	0.48
22:L25:2:PHE:HD2	22:L25:50:MET:HB3	1.79	0.48
33:23S:285:G:N2	33:23S:355:U:O2	2.36	0.48
33:23S:288:U:H2'	33:23S:289:G:H8	1.78	0.48
33:23S:630:G:N2	33:23S:633:A:OP2	2.32	0.48
33:23S:2719:G:H4'	33:23S:2846:G:H4'	1.96	0.48
34:5S:66:A:OP2	34:5S:108:A:N6	2.44	0.48
36:16S:203:G:H1'	36:16S:465:A:H61	1.78	0.48
36:16S:299:G:N2	36:16S:565:U:O2	2.47	0.48
36:16S:544:G:OP1	40:S04:58:GLN:NE2	2.47	0.48
36:16S:923:A:O2'	36:16S:1399:C:OP2	2.28	0.48
36:16S:1077:G:N2	36:16S:1080:A:OP2	2.44	0.48
39:S03:147:GLY:O	39:S03:202:PHE:N	2.42	0.48
40:S04:57:LYS:HZ3	40:S04:61:ARG:HD3	1.79	0.48
48:S12:29:LYS:O	48:S12:81:ILE:N	2.46	0.48
4:L05:34:THR:O	4:L05:34:THR:OG1	2.28	0.48
16:L19:28:LYS:HB3	16:L19:39:LEU:HD11	1.96	0.48
17:L20:57:ARG:NH1	33:23S:1154:G:OP2	2.47	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:L34:3:ARG:NE	33:23S:1613:G:OP1	2.42	0.48
33:23S:927:A:H2'	33:23S:928:A:C8	2.49	0.48
39:S03:112:ALA:HB3	39:S03:184:ASN:HD22	1.78	0.48
47:S11:12:ARG:HG3	47:S11:75:GLU:HB2	1.96	0.48
49:S13:32:ILE:HD12	49:S13:58:GLU:HB3	1.96	0.48
2:L03:148:GLN:HB2	2:L03:152:PRO:HG2	1.96	0.48
4:L05:135:ILE:HA	4:L05:140:ILE:HD13	1.96	0.48
5:L06:106:LEU:O	5:L06:151:ARG:NH2	2.37	0.48
10:L13:24:THR:HB	10:L13:27:ARG:HB2	1.95	0.48
33:23S:793:A:OP2	33:23S:2071:A:O2'	2.28	0.48
33:23S:1047:G:H2'	33:23S:1110:G:N1	2.29	0.48
33:23S:1088:A:H4'	33:23S:1089:A:H8	1.78	0.48
33:23S:1352:U:N3	33:23S:1380:G:N1	2.62	0.48
33:23S:1408:G:N2	33:23S:1594:U:O2	2.38	0.48
33:23S:1469:A:H2'	33:23S:1470:A:C8	2.49	0.48
36:16S:1071:C:H2'	36:16S:1072:G:C8	2.49	0.48
48:S12:36:VAL:HG13	48:S12:52:CYS:HB3	1.96	0.48
49:S13:65:GLU:OE2	49:S13:69:ARG:NH2	2.47	0.48
1:L02:70:LYS:HB3	1:L02:73:ILE:HD12	1.96	0.47
1:L02:141:HIS:ND1	1:L02:192:GLY:O	2.47	0.47
2:L03:197:THR:O	33:23S:2820:A:N6	2.47	0.47
33:23S:276:U:O2'	33:23S:278:A:N6	2.43	0.47
33:23S:463:G:N2	33:23S:466:A:OP2	2.47	0.47
33:23S:1181:U:H2'	33:23S:1182:G:C8	2.49	0.47
33:23S:1636:U:O2'	33:23S:1760:C:O2'	2.31	0.47
36:16S:689:C:OP1	47:S11:28:ASN:ND2	2.47	0.47
44:S08:8:ASP:OD2	44:S08:12:ARG:NE	2.45	0.47
15:L18:12:THR:O	15:L18:16:ARG:N	2.33	0.47
20:L23:23:ALA:HA	20:L23:27:SER:HB3	1.96	0.47
21:L24:81:ARG:HH12	33:23S:300:A:H3'	1.79	0.47
24:L28:51:SER:OG	24:L28:52:ALA:N	2.47	0.47
29:L33:22:THR:OG1	33:23S:2286:G:O6	2.29	0.47
36:16S:1093:A:O2'	36:16S:1095:U:OP1	2.28	0.47
36:16S:1301:U:OP2	36:16S:1303:C:N4	2.46	0.47
42:S06:35:LYS:HB2	42:S06:65:GLU:HB3	1.96	0.47
45:S09:37:TYR:HD2	45:S09:38:PHE:HD2	1.62	0.47
57:S21:18:PHE:HA	57:S21:21:SER:HB3	1.95	0.47
1:L02:176:ARG:HH21	33:23S:1820:U:H5	1.62	0.47
4:L05:51:ASN:HA	4:L05:54:ALA:HB3	1.96	0.47
4:L05:90:LEU:HD22	4:L05:95:MET:HB3	1.96	0.47
33:23S:49:A:N7	33:23S:120:U:N3	2.62	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:23S:83:A:O2'	33:23S:103:A:N6	2.47	0.47
33:23S:311:A:O2'	33:23S:331:C:O2'	2.31	0.47
33:23S:1449:G:H2'	33:23S:1450:G:H8	1.79	0.47
36:16S:102:G:O2'	36:16S:151:A:N3	2.41	0.47
36:16S:781:A:O2'	36:16S:1522:U:O2	2.31	0.47
45:S09:79:ARG:HD2	45:S09:102:PHE:HD1	1.79	0.47
48:S12:67:GLY:H	48:S12:96:THR:HG22	1.79	0.47
4:L05:122:ASP:HB3	33:23S:2315:G:H1'	1.97	0.47
7:L1:43:ASP:N	7:L1:215:SER:O	2.44	0.47
15:L18:29:HIS:HB3	15:L18:36:TYR:HB2	1.96	0.47
17:L20:64:ILE:O	17:L20:68:ALA:N	2.42	0.47
23:L27:67:VAL:HG22	23:L27:74:LYS:HG3	1.96	0.47
33:23S:212:G:H2'	33:23S:213:A:C8	2.49	0.47
33:23S:606:U:O2	33:23S:622:G:O6	2.32	0.47
33:23S:632:A:N6	33:23S:641:U:OP1	2.46	0.47
33:23S:1009:A:N3	33:23S:1153:C:O2'	2.43	0.47
33:23S:1962:C:O2'	33:23S:1964:G:OP2	2.28	0.47
36:16S:71:A:N1	36:16S:99:C:O2'	2.46	0.47
36:16S:952:U:H2'	36:16S:953:G:C8	2.49	0.47
36:16S:980:C:O3'	50:S14:12:ARG:NH1	2.41	0.47
36:16S:1002:G:H2'	36:16S:1003:G:C8	2.49	0.47
46:S10:82:LYS:HA	46:S10:85:ASP:HB3	1.96	0.47
11:L14:78:ARG:NH2	16:L19:70:GLU:OE2	2.43	0.47
13:L16:6:ARG:NH1	33:23S:870:U:OP1	2.42	0.47
25:L29:24:GLU:HA	25:L29:27:ASN:HB2	1.96	0.47
33:23S:1105:U:H2'	33:23S:1106:G:H8	1.79	0.47
33:23S:1589:U:O4	33:23S:1590:A:N6	2.48	0.47
43:S07:123:LEU:O	43:S07:127:ALA:N	2.48	0.47
45:S09:27:ILE:HG21	45:S09:34:LEU:HB3	1.97	0.47
5:L06:25:ILE:HG22	5:L06:78:VAL:HG21	1.96	0.47
7:L1:67:HIS:HB2	7:L1:188:ASN:HD21	1.78	0.47
26:L30:48:ASN:HA	26:L30:51:SER:HB3	1.97	0.47
33:23S:145:C:H2'	33:23S:146:A:H8	1.80	0.47
36:16S:321:A:OP2	36:16S:328:C:N4	2.47	0.47
36:16S:427:U:O2'	36:16S:541:G:OP1	2.32	0.47
36:16S:490:C:N4	36:16S:491:G:O6	2.48	0.47
36:16S:666:G:O6	36:16S:740:U:O2	2.31	0.47
36:16S:1270:G:H2'	36:16S:1271:A:H8	1.79	0.47
36:16S:1513:A:H2'	36:16S:1514:G:H8	1.79	0.47
39:S03:6:PRO:HG2	39:S03:200:TRP:HE1	1.80	0.47
41:S05:81:GLN:HE21	41:S05:148:SER:HA	1.80	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:S11:49:SER:HB3	47:S11:68:ARG:HG3	1.97	0.47
47:S11:83:VAL:HG11	47:S11:96:ILE:HG22	1.95	0.47
47:S11:88:PRO:HD3	57:S21:28:LEU:HD11	1.97	0.47
48:S12:5:GLN:HG2	48:S12:8:ARG:HH12	1.80	0.47
57:S21:30:GLU:OE2	57:S21:44:ARG:NH2	2.48	0.47
3:L04:117:ARG:NH1	3:L04:184:ASP:OD1	2.48	0.47
3:L04:153:LEU:HD13	3:L04:171:ASP:HB3	1.97	0.47
8:L10:30:SER:O	33:23S:1054:A:O2'	2.29	0.47
17:L20:71:ASN:HB3	17:L20:109:VAL:HG11	1.96	0.47
21:L24:45:GLN:NE2	21:L24:46:LYS:O	2.44	0.47
25:L29:12:GLU:O	25:L29:15:ASN:ND2	2.47	0.47
33:23S:13:A:O2'	33:23S:15:G:N7	2.39	0.47
33:23S:224:U:O4	33:23S:419:U:O2'	2.33	0.47
33:23S:1060:U:H1'	33:23S:1062:G:H5'	1.96	0.47
33:23S:1173:U:H2'	33:23S:1174:U:H4'	1.96	0.47
33:23S:1278:C:H2'	33:23S:1279:G:C8	2.50	0.47
33:23S:1283:G:N1	33:23S:1286:A:OP2	2.47	0.47
33:23S:1306:C:H2'	33:23S:1307:A:H8	1.79	0.47
36:16S:1031:C:H4'	36:16S:1033:G:H1'	1.95	0.47
36:16S:1350:A:N7	45:S09:119:LYS:NZ	2.63	0.47
36:16S:1357:A:H61	36:16S:1365:G:H1	1.62	0.47
39:S03:119:ILE:HG21	39:S03:197:VAL:HG11	1.97	0.47
48:S12:51:VAL:HG12	48:S12:65:TYR:HA	1.97	0.47
50:S14:59:GLN:O	50:S14:60:ARG:NH1	2.46	0.47
52:S16:4:ILE:HG12	52:S16:21:VAL:HG13	1.96	0.47
1:L02:146:LYS:HB2	1:L02:149:LYS:HB2	1.97	0.47
2:L03:194:PRO:HG3	33:23S:2679:A:H4'	1.97	0.47
3:L04:151:GLY:HA2	3:L04:172:ALA:HB2	1.96	0.47
33:23S:404:A:C6	33:23S:421:C:C4	3.03	0.47
33:23S:1720:U:O2	33:23S:1740:G:O6	2.32	0.47
33:23S:1980:G:O2'	33:23S:1982:U:OP2	2.33	0.47
33:23S:2087:G:H2'	33:23S:2088:A:H8	1.80	0.47
36:16S:875:U:O2'	44:S08:14:ARG:NH1	2.48	0.47
36:16S:893:C:N4	36:16S:894:G:O6	2.48	0.47
5:L06:42:VAL:HB	5:L06:51:PHE:HA	1.97	0.47
9:L11:100:ILE:HG23	9:L11:104:GLN:HB2	1.96	0.47
9:L11:132:ALA:HA	9:L11:135:MET:HB2	1.97	0.47
17:L20:4:LYS:NZ	33:23S:447:A:OP1	2.36	0.47
33:23S:62:U:O2'	33:23S:63:A:N7	2.47	0.47
33:23S:220:G:O2'	33:23S:233:A:N3	2.38	0.47
33:23S:1105:U:H2'	33:23S:1106:G:C8	2.50	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:23S:1133:A:H4'	33:23S:1134:A:H5"	1.97	0.47
36:16S:834:U:H3	36:16S:852:G:H1	1.62	0.47
38:S02:222:GLU:O	38:S02:225:SER:OG	2.30	0.47
55:S19:48:ILE:O	55:S19:59:VAL:N	2.39	0.47
55:S19:69:LYS:N	55:S19:72:GLU:OE1	2.48	0.47
1:L02:132:ARG:NH1	1:L02:186:ASP:OD1	2.48	0.47
33:23S:407:G:H2'	33:23S:408:G:H8	1.80	0.47
33:23S:1945:G:O6	33:23S:1960:A:N6	2.47	0.47
36:16S:333:U:OP1	56:S20:2:ASN:N	2.49	0.47
36:16S:422:C:H4'	36:16S:423:G:C2	2.50	0.47
36:16S:521:G:H4'	48:S12:69:GLU:HG2	1.97	0.47
40:S04:9:LYS:HA	40:S04:12:ARG:HE	1.80	0.47
47:S11:35:ASP:OD1	47:S11:39:ASN:N	2.48	0.47
50:S14:84:ARG:NE	50:S14:85:GLU:OE1	2.43	0.47
7:L1:8:MET:HA	7:L1:11:ILE:HB	1.98	0.46
7:L1:172:HIS:HB2	33:23S:2123:G:H4'	1.97	0.46
10:L13:17:VAL:HG23	10:L13:137:PRO:HB2	1.96	0.46
11:L14:99:ILE:HD13	11:L14:115:ILE:HG23	1.97	0.46
22:L25:73:LYS:O	22:L25:92:VAL:N	2.47	0.46
33:23S:1057:A:N7	33:23S:1086:A:H2'	2.30	0.46
33:23S:1073:A:O2'	33:23S:2474:U:O2'	2.30	0.46
40:S04:8:LEU:HD12	40:S04:11:SER:HB3	1.96	0.46
50:S14:29:ILE:HA	50:S14:32:ASP:HB2	1.96	0.46
2:L03:55:LYS:HD3	2:L03:60:VAL:HB	1.98	0.46
5:L06:8:VAL:HB	5:L06:49:LEU:HB2	1.98	0.46
29:L33:8:ILE:HG21	29:L33:24:LYS:HE3	1.97	0.46
33:23S:404:A:C6	33:23S:421:C:N3	2.83	0.46
33:23S:512:G:OP1	33:23S:1234:U:O2'	2.33	0.46
36:16S:411:A:OP1	40:S04:25:ARG:NH2	2.35	0.46
36:16S:981:U:OP1	50:S14:8:ARG:NH1	2.44	0.46
33:23S:767:U:H2'	33:23S:768:G:H8	1.79	0.46
33:23S:1378:A:O2'	33:23S:1380:G:OP2	2.33	0.46
33:23S:1715:G:N2	33:23S:1716:U:O4	2.49	0.46
33:23S:2217:G:H2'	33:23S:2218:G:C8	2.50	0.46
36:16S:195:A:H2'	36:16S:196:A:C4	2.50	0.46
36:16S:888:G:N2	36:16S:909:A:H62	2.10	0.46
36:16S:1130:A:O2'	45:S09:4:GLN:OE1	2.28	0.46
46:S10:82:LYS:O	46:S10:86:ALA:N	2.43	0.46
52:S16:37:GLY:HA2	52:S16:52:LEU:HA	1.96	0.46
6:L09:132:PHE:HE2	6:L09:142:VAL:HB	1.80	0.46
8:L10:34:THR:O	33:23S:1057:A:O2'	2.33	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L16:69:PRO:HA	13:L16:94:ALA:HB2	1.97	0.46
24:L28:34:SER:HA	24:L28:49:ARG:HA	1.97	0.46
33:23S:319:G:H1	33:23S:323:C:H41	1.63	0.46
33:23S:539:G:O6	33:23S:555:G:N2	2.48	0.46
33:23S:1579:A:H2'	33:23S:1580:A:C8	2.51	0.46
33:23S:2457:U:O2	33:23S:2494:G:N2	2.45	0.46
33:23S:2515:C:H2'	33:23S:2516:A:C8	2.51	0.46
36:16S:640:A:H1'	44:S08:106:SER:HB3	1.97	0.46
36:16S:716:A:H1'	47:S11:119:GLY:HA2	1.96	0.46
36:16S:1329:A:H5"	49:S13:24:VAL:HA	1.98	0.46
42:S06:11:HIS:HB3	42:S06:14:GLN:HB2	1.97	0.46
3:L04:112:LEU:HD13	3:L04:186:VAL:HG21	1.98	0.46
4:L05:34:THR:HG21	33:23S:2314:A:H4'	1.97	0.46
4:L05:157:THR:OG1	4:L05:158:THR:N	2.49	0.46
12:L15:88:GLY:HA2	12:L15:120:VAL:HG12	1.98	0.46
15:L18:48:LEU:O	15:L18:85:LYS:NZ	2.47	0.46
33:23S:581:C:H2'	33:23S:582:A:C8	2.51	0.46
33:23S:1127:A:N7	33:23S:2488:G:O2'	2.48	0.46
33:23S:1590:A:H2'	33:23S:1591:A:C8	2.51	0.46
33:23S:1909:C:H2'	33:23S:1910:G:H8	1.81	0.46
36:16S:9:G:H5'	41:S05:107:GLY:HA3	1.97	0.46
36:16S:166:U:H2'	36:16S:167:A:C8	2.50	0.46
36:16S:297:G:N2	36:16S:300:A:OP2	2.46	0.46
36:16S:597:G:N2	44:S08:85:TYR:OH	2.48	0.46
43:S07:35:LYS:O	43:S07:39:GLU:N	2.49	0.46
44:S08:105:THR:OG1	44:S08:110:MET:SD	2.68	0.46
4:L05:8:LYS:HB2	4:L05:8:LYS:HE3	1.80	0.46
8:L10:64:VAL:HG13	8:L10:75:ALA:HA	1.98	0.46
9:L11:80:LYS:HE3	9:L11:88:GLY:HA2	1.98	0.46
9:L11:130:GLY:HA2	9:L11:133:ARG:HG2	1.97	0.46
13:L16:29:GLY:N	13:L16:104:GLU:OE1	2.46	0.46
33:23S:20:C:H2'	33:23S:21:A:H8	1.81	0.46
33:23S:353:C:H2'	33:23S:354:A:C8	2.49	0.46
33:23S:573:U:O2'	33:23S:575:A:OP1	2.31	0.46
33:23S:1019:U:H3	33:23S:1142:A:H62	1.62	0.46
33:23S:2523:G:H2'	33:23S:2524:G:H8	1.80	0.46
34:5S:38:C:H2'	34:5S:39:A:H8	1.80	0.46
36:16S:535:A:OP1	36:16S:536:C:N4	2.44	0.46
53:S17:61:ARG:HG3	53:S17:73:THR:HB	1.98	0.46
8:L10:62:ARG:HH21	33:23S:1046:A:H2'	1.81	0.46
33:23S:818:G:N1	33:23S:1188:U:OP2	2.32	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:23S:1447:C:O2'	33:23S:1544:A:N3	2.40	0.46
33:23S:2297:A:H62	33:23S:2318:G:N2	2.14	0.46
36:16S:81:A:N1	36:16S:87:C:N4	2.64	0.46
36:16S:145:G:N2	36:16S:178:C:N3	2.64	0.46
36:16S:750:C:O2'	51:S15:20:ASP:OD1	2.33	0.46
39:S03:10:ARG:HB2	39:S03:15:LYS:HG2	1.98	0.46
2:L03:63:PRO:HG3	33:23S:2787:C:H1'	1.98	0.46
4:L05:43:ILE:HD12	4:L05:77:LYS:HB3	1.96	0.46
12:L15:21:ARG:NH1	33:23S:587:C:OP2	2.45	0.46
14:L17:11:ASN:OD1	33:23S:1652:A:N6	2.40	0.46
18:L21:7:SER:HB3	18:L21:12:HIS:HE1	1.80	0.46
33:23S:299:A:N3	33:23S:319:G:O2'	2.40	0.46
33:23S:1079:C:N4	33:23S:1088:A:O4'	2.49	0.46
36:16S:766:A:H61	36:16S:1511:G:H1'	1.81	0.46
36:16S:1166:G:O2'	36:16S:1169:A:N6	2.49	0.46
36:16S:1496:C:O2'	36:16S:1517:G:N1	2.44	0.46
36:16S:1525:G:H2'	36:16S:1526:G:H8	1.81	0.46
38:S02:42:LEU:H	38:S02:42:LEU:HG	1.46	0.46
1:L02:144:GLU:HA	1:L02:151:GLY:HA2	1.97	0.46
33:23S:220:G:N2	33:23S:428:A:OP2	2.46	0.46
36:16S:497:G:H2'	36:16S:498:A:C8	2.51	0.46
52:S16:23:ASP:OD1	52:S16:25:ARG:NE	2.42	0.46
33:23S:639:U:H2'	33:23S:640:C:C6	2.51	0.46
33:23S:948:C:H2'	33:23S:949:G:H8	1.81	0.46
33:23S:958:U:O2	34:5S:89:U:O2'	2.30	0.46
33:23S:1491:G:H2'	33:23S:1492:G:C8	2.51	0.46
33:23S:2692:G:H1'	33:23S:2847:U:H1'	1.97	0.46
36:16S:34:C:H2'	36:16S:35:G:C8	2.51	0.46
36:16S:542:G:OP1	40:S04:9:LYS:NZ	2.44	0.46
36:16S:1009:U:O4	36:16S:1020:G:O6	2.34	0.46
38:S02:116:LEU:HA	38:S02:119:GLN:HB2	1.98	0.46
40:S04:81:LEU:HD23	40:S04:88:ASN:HB3	1.97	0.46
45:S09:27:ILE:HG21	45:S09:34:LEU:HD23	1.97	0.46
51:S15:9:LYS:HE3	51:S15:9:LYS:HB2	1.80	0.46
56:S20:75:LYS:O	56:S20:79:THR:OG1	2.26	0.46
1:L02:181:ARG:NH2	33:23S:1800:C:OP2	2.50	0.45
8:L10:43:LYS:O	8:L10:47:GLU:N	2.49	0.45
9:L11:131:THR:HA	33:23S:1088:A:H61	1.81	0.45
11:L14:63:VAL:HA	11:L14:107:LEU:HD11	1.97	0.45
19:L22:89:ALA:O	19:L22:92:ARG:NH1	2.49	0.45
33:23S:228:C:H42	33:23S:417:C:H1'	1.81	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:23S:598:U:H2'	33:23S:599:A:C8	2.51	0.45
33:23S:1041:G:H2'	33:23S:1042:G:H8	1.80	0.45
33:23S:1709:U:O2'	33:23S:2859:G:N3	2.42	0.45
33:23S:1791:A:N6	33:23S:1828:G:O2'	2.40	0.45
33:23S:2039:U:H2'	33:23S:2040:G:C8	2.52	0.45
54:S18:35:SER:HB3	57:S21:18:PHE:HE2	1.80	0.45
1:L02:39:SER:OG	33:23S:1814:G:OP1	2.28	0.45
12:L15:73:ILE:O	12:L15:106:GLU:N	2.48	0.45
30:L34:34:ARG:HB3	30:L34:42:LEU:HD12	1.98	0.45
33:23S:2208:C:H2'	33:23S:2209:G:C8	2.51	0.45
33:23S:2220:U:H2'	33:23S:2221:G:C8	2.50	0.45
33:23S:2329:U:H2'	33:23S:2330:G:H8	1.80	0.45
33:23S:2533:U:OP1	33:23S:2665:A:O2'	2.28	0.45
36:16S:64:G:H5"	36:16S:65:A:H3'	1.98	0.45
36:16S:769:G:OP2	36:16S:803:G:O2'	2.31	0.45
36:16S:1354:U:H2'	36:16S:1355:G:H8	1.82	0.45
38:S02:122:ASP:OD1	38:S02:123:GLY:N	2.49	0.45
1:L02:92:LEU:HD11	1:L02:100:ARG:HB3	1.97	0.45
9:L11:52:LEU:HD22	9:L11:73:PRO:HG3	1.98	0.45
10:L13:78:THR:HB	33:23S:2641:G:H5"	1.98	0.45
12:L15:82:LEU:HD12	12:L15:90:VAL:HG21	1.99	0.45
14:L17:2:ARG:NH2	33:23S:2820:A:OP1	2.49	0.45
22:L25:63:ILE:HG22	22:L25:65:VAL:HG22	1.98	0.45
33:23S:1668:A:H61	33:23S:1676:A:H61	1.65	0.45
33:23S:2241:A:H2'	33:23S:2242:G:C8	2.51	0.45
36:16S:36:C:OP1	48:S12:119:LYS:NZ	2.45	0.45
36:16S:1255:G:O2'	36:16S:1258:G:N3	2.42	0.45
36:16S:1317:C:O2	55:S19:36:ARG:NH2	2.38	0.45
44:S08:42:GLU:HG3	44:S08:100:ILE:HG21	1.98	0.45
46:S10:45:ARG:O	46:S10:69:THR:OG1	2.34	0.45
1:L02:74:PRO:HA	1:L02:116:GLN:HB3	1.97	0.45
6:L09:47:PHE:HA	6:L09:51:ARG:HB2	1.98	0.45
33:23S:2052:A:H2'	33:23S:2053:G:H8	1.81	0.45
33:23S:2243:U:H2'	33:23S:2244:U:H6	1.81	0.45
36:16S:110:C:O2'	52:S16:25:ARG:O	2.26	0.45
36:16S:252:U:O4	36:16S:253:A:N6	2.43	0.45
36:16S:691:G:N7	47:S11:27:ASN:ND2	2.64	0.45
36:16S:1123:U:O2'	46:S10:39:PRO:O	2.33	0.45
36:16S:1354:U:H2'	36:16S:1355:G:C8	2.52	0.45
36:16S:1412:C:H2'	36:16S:1413:A:C8	2.52	0.45
36:16S:1481:U:H2'	36:16S:1482:G:H8	1.82	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L02:47:ARG:HH21	33:23S:774:G:H5”	1.82	0.45
1:L02:208:GLY:HA2	1:L02:211:ARG:HB2	1.99	0.45
2:L03:13:ARG:NH2	16:L19:74:GLN:OE1	2.43	0.45
3:L04:112:LEU:HD21	3:L04:117:ARG:HH21	1.81	0.45
33:23S:489:G:N2	33:23S:1321:A:OP1	2.48	0.45
33:23S:2165:C:N4	33:23S:2170:A:H62	2.13	0.45
36:16S:300:A:O2’	36:16S:564:C:N3	2.46	0.45
36:16S:358:U:H2’	36:16S:359:G:H8	1.81	0.45
36:16S:831:A:H5’	38:S02:20:ARG:HG3	1.99	0.45
49:S13:70:ARG:O	49:S13:74:MET:N	2.46	0.45
2:L03:19:GLY:HA2	16:L19:78:PRO:HG2	1.99	0.45
3:L04:131:THR:HG23	33:23S:321:U:H5”	1.99	0.45
6:L09:131:SER:HA	6:L09:141:LYS:HG2	1.99	0.45
9:L11:29:GLN:OE1	33:23S:1096:A:N6	2.36	0.45
33:23S:349:U:H2’	33:23S:350:G:H8	1.82	0.45
33:23S:370:G:O2’	33:23S:424:G:OP1	2.34	0.45
33:23S:675:A:N7	33:23S:803:U:O2	2.50	0.45
33:23S:1386:C:O2’	33:23S:1469:A:O2’	2.35	0.45
33:23S:1908:C:C4	33:23S:1909:C:N4	2.84	0.45
36:16S:376:G:H5”	52:S16:5:ARG:HB2	1.98	0.45
36:16S:450:G:H5”	36:16S:451:A:H5”	1.97	0.45
36:16S:1137:C:H4’	36:16S:1138:G:C2	2.52	0.45
1:L02:160:TYR:HB3	1:L02:193:GLU:HB3	1.98	0.45
8:L10:55:VAL:HA	33:23S:1084:A:H4’	1.99	0.45
12:L15:79:LEU:HD13	12:L15:116:VAL:HB	1.99	0.45
33:23S:302:C:H2’	33:23S:303:G:C8	2.52	0.45
33:23S:414:C:H1’	33:23S:1864:U:H1’	1.98	0.45
33:23S:675:A:N3	33:23S:2443:C:O2’	2.47	0.45
33:23S:2085:U:O2	33:23S:2234:G:O6	2.34	0.45
33:23S:2163:A:OP1	33:23S:2171:A:N6	2.50	0.45
33:23S:2291:U:O2’	33:23S:2374:C:O2	2.31	0.45
33:23S:2292:U:H2’	33:23S:2293:G:H8	1.81	0.45
36:16S:106:C:H2’	36:16S:107:G:H8	1.82	0.45
41:S05:57:ALA:HA	41:S05:60:GLN:HE21	1.81	0.45
41:S05:57:ALA:O	41:S05:60:GLN:NE2	2.50	0.45
44:S08:48:PHE:HB2	44:S08:58:LEU:HD11	1.98	0.45
45:S09:14:SER:OG	45:S09:73:GLY:O	2.33	0.45
45:S09:91:GLU:HA	45:S09:94:ARG:HB2	1.99	0.45
50:S14:26:LEU:HD11	50:S14:46:LYS:HG2	1.99	0.45
50:S14:30:ILE:HG22	50:S14:40:ARG:HA	1.98	0.45
3:L04:123:LYS:HD2	3:L04:123:LYS:HA	1.75	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L16:71:LYS:HE3	13:L16:95:LEU:HD11	1.99	0.45
15:L18:32:PRO:O	15:L18:64:TYR:OH	2.32	0.45
15:L18:52:SER:HB2	15:L18:54:VAL:HG12	1.99	0.45
33:23S:1027:A:H2	33:23S:2488:G:H5"	1.82	0.45
33:23S:1491:G:H2'	33:23S:1492:G:H8	1.82	0.45
33:23S:2680:U:H2'	33:23S:2681:C:H6	1.82	0.45
36:16S:403:C:H2'	36:16S:404:G:H8	1.81	0.45
36:16S:1032:G:N2	36:16S:1033:G:O2'	2.49	0.45
36:16S:1193:G:N7	39:S03:2:GLN:NE2	2.62	0.45
1:L02:5:CYS:SG	1:L02:12:ARG:NH1	2.89	0.45
4:L05:126:ASN:HB3	4:L05:156:THR:HA	1.98	0.45
7:L1:54:LYS:HD3	7:L1:203:GLN:HG2	1.98	0.45
9:L11:9:LYS:HE3	33:23S:1061:U:H5"	1.98	0.45
15:L18:12:THR:HA	15:L18:15:ARG:HB2	1.99	0.45
16:L19:38:ARG:NE	36:16S:345:C:OP2	2.41	0.45
32:L36:9:LYS:HG2	32:L36:14:CYS:HB2	1.98	0.45
33:23S:813:U:O2'	33:23S:1225:G:O2'	2.29	0.45
36:16S:151:A:N6	36:16S:170:U:H3	2.11	0.45
36:16S:908:A:H2'	36:16S:909:A:C8	2.51	0.45
36:16S:1162:C:H2'	36:16S:1163:A:C8	2.52	0.45
38:S02:202:ASN:OD1	38:S02:205:ALA:N	2.39	0.45
6:L09:72:ILE:H	6:L09:108:VAL:HG22	1.82	0.45
33:23S:26:G:H1'	33:23S:515:A:H61	1.82	0.45
33:23S:1401:G:H21	33:23S:1469:A:H2	1.65	0.45
33:23S:1677:A:H2'	33:23S:1678:A:C8	2.52	0.45
33:23S:2788:C:O2'	33:23S:2809:A:N3	2.40	0.45
36:16S:28:A:O2'	36:16S:296:U:OP1	2.32	0.45
36:16S:128:G:O2'	53:S17:62:GLU:OE2	2.29	0.45
36:16S:149:A:H61	36:16S:172:A:H62	1.65	0.45
36:16S:152:A:OP2	36:16S:153:C:N4	2.43	0.45
36:16S:169:C:H2'	36:16S:170:U:H6	1.82	0.45
36:16S:212:G:H2'	36:16S:213:G:H8	1.82	0.45
36:16S:376:G:H2'	36:16S:377:G:C8	2.51	0.45
36:16S:1504:G:OP2	36:16S:1507:A:O2'	2.33	0.45
36:16S:1530:G:H2'	36:16S:1531:A:C8	2.52	0.45
39:S03:137:VAL:HA	39:S03:148:ILE:HD13	1.97	0.45
39:S03:176:THR:HG22	39:S03:179:ALA:H	1.82	0.45
43:S07:61:PHE:HZ	43:S07:100:MET:HG2	1.82	0.45
47:S11:59:PRO:O	47:S11:63:GLN:N	2.50	0.45
47:S11:122:PRO:HB2	57:S21:33:ARG:HA	1.99	0.45
21:L24:34:ILE:HG12	21:L24:63:ALA:HB2	1.98	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:L30:4:ILE:N	26:L30:37:ARG:O	2.44	0.44
29:L33:5:ARG:HH12	33:23S:2285:C:H3'	1.82	0.44
33:23S:784:G:O6	33:23S:2072:C:O2'	2.34	0.44
33:23S:1102:C:H2'	33:23S:1103:A:H8	1.80	0.44
33:23S:1889:A:N3	33:23S:2086:U:O2'	2.42	0.44
33:23S:2119:A:N1	33:23S:2169:A:N6	2.65	0.44
33:23S:2266:A:N6	33:23S:2273:A:OP2	2.46	0.44
36:16S:1458:G:H2'	36:16S:1459:G:H8	1.82	0.44
38:S02:14:HIS:HB2	38:S02:40:ILE:H	1.82	0.44
43:S07:67:ASN:O	43:S07:137:ARG:NE	2.43	0.44
44:S08:6:ILE:HD13	44:S08:32:LYS:HD3	1.99	0.44
4:L05:73:VAL:H	4:L05:78:ILE:HG22	1.81	0.44
6:L09:40:THR:OG1	6:L09:43:ASN:OD1	2.31	0.44
11:L14:12:ASP:OD1	11:L14:12:ASP:N	2.51	0.44
11:L14:40:LYS:HD2	11:L14:57:VAL:HG23	1.98	0.44
33:23S:500:G:N1	33:23S:503:A:OP2	2.50	0.44
33:23S:1013:C:H2'	33:23S:1014:A:C8	2.52	0.44
33:23S:1047:G:N2	33:23S:1111:A:OP2	2.51	0.44
33:23S:2789:C:H3'	33:23S:2893:A:H62	1.83	0.44
36:16S:528:C:H41	48:S12:45:ASN:HD21	1.64	0.44
44:S08:76:ARG:NH2	44:S08:78:SER:O	2.51	0.44
50:S14:23:ARG:HE	50:S14:26:LEU:HD22	1.82	0.44
1:L02:68:ARG:HG3	1:L02:128:THR:HG21	1.99	0.44
2:L03:32:ASN:HB3	2:L03:50:VAL:HB	2.00	0.44
4:L05:28:PRO:HA	4:L05:158:THR:HG1	1.83	0.44
4:L05:112:ASP:N	4:L05:112:ASP:OD1	2.50	0.44
24:L28:2:ARG:NH1	33:23S:1365:A:OP1	2.43	0.44
33:23S:445:C:O2'	33:23S:449:A:N3	2.45	0.44
33:23S:1853:A:N7	33:23S:1889:A:N6	2.65	0.44
33:23S:2602:A:H5"	33:23S:2603:G:H5"	1.98	0.44
36:16S:1233:G:H21	36:16S:1364:U:H3	1.65	0.44
38:S02:6:ARG:NH1	38:S02:7:ASP:OD1	2.46	0.44
45:S09:86:LEU:HB3	45:S09:89:TYR:HB2	2.00	0.44
5:L06:158:GLY:O	5:L06:162:ARG:NH2	2.50	0.44
16:L19:89:GLY:HA2	16:L19:111:GLU:HA	1.99	0.44
24:L28:22:ASN:OD1	33:23S:2079:U:O2'	2.33	0.44
25:L29:13:GLU:O	25:L29:16:THR:OG1	2.34	0.44
33:23S:86:G:O2'	33:23S:104:A:O2'	2.23	0.44
33:23S:1079:C:H2'	33:23S:1080:A:C8	2.53	0.44
33:23S:2327:A:H2'	33:23S:2328:A:C8	2.51	0.44
36:16S:574:A:HO2'	36:16S:882:C:HO2'	1.61	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:16S:1238:A:N7	36:16S:1299:A:N6	2.65	0.44
39:S03:24:ASN:OD1	39:S03:24:ASN:N	2.39	0.44
39:S03:83:VAL:HA	39:S03:86:LEU:HD12	2.00	0.44
10:L13:40:HIS:CE1	10:L13:41:LYS:HG3	2.53	0.44
24:L28:6:VAL:HA	24:L28:70:LEU:HD21	1.98	0.44
27:L31:23:LYS:HE2	27:L31:23:LYS:HB2	1.87	0.44
33:23S:1631:G:N2	33:23S:1634:A:OP2	2.44	0.44
33:23S:2735:G:H2'	33:23S:2736:A:H8	1.82	0.44
36:16S:718:A:OP1	36:16S:720:C:N4	2.51	0.44
39:S03:152:VAL:HG12	39:S03:197:VAL:HG22	2.00	0.44
45:S09:11:ARG:HD3	45:S09:106:ASP:HB3	2.00	0.44
45:S09:14:SER:HB3	45:S09:69:GLY:HA3	1.99	0.44
5:L06:106:LEU:HD12	5:L06:112:VAL:HG21	2.00	0.44
14:L17:79:LEU:HD23	14:L17:83:LEU:HB2	1.99	0.44
16:L19:77:SER:HB3	16:L19:80:VAL:HG22	2.00	0.44
19:L22:22:ASP:OD1	19:L22:25:ARG:NH1	2.50	0.44
19:L22:73:LYS:HB2	19:L22:106:VAL:HB	2.00	0.44
23:L27:10:ARG:O	33:23S:2278:A:N6	2.51	0.44
33:23S:1223:G:N2	33:23S:1226:A:OP2	2.47	0.44
33:23S:2564:A:OP1	33:23S:2648:G:O2'	2.31	0.44
34:5S:22:U:O2	34:5S:61:G:N2	2.42	0.44
36:16S:254:G:O2'	53:S17:17:GLU:O	2.33	0.44
36:16S:401:C:H2'	36:16S:402:G:H8	1.82	0.44
36:16S:1006:G:N2	36:16S:1023:U:O2	2.46	0.44
36:16S:1376:U:H2'	36:16S:1377:A:C8	2.53	0.44
41:S05:110:MET:HE1	41:S05:126:ALA:HB2	1.99	0.44
51:S15:29:ALA:HA	51:S15:84:LEU:HD21	1.99	0.44
6:L09:28:ASN:ND2	33:23S:2092:U:OP2	2.42	0.44
10:L13:93:ILE:HA	10:L13:97:PRO:HB3	2.00	0.44
19:L22:51:LEU:HD13	19:L22:105:VAL:HG11	1.99	0.44
33:23S:145:C:H2'	33:23S:146:A:C8	2.53	0.44
33:23S:532:A:N1	33:23S:2020:A:H1'	2.32	0.44
33:23S:2133:G:O6	33:23S:2157:G:N1	2.51	0.44
36:16S:776:G:N2	36:16S:802:A:OP2	2.45	0.44
36:16S:832:G:H1	36:16S:854:U:H3	1.65	0.44
39:S03:73:GLY:HA2	39:S03:76:ILE:HG22	2.00	0.44
49:S13:53:ASP:N	49:S13:53:ASP:OD1	2.48	0.44
1:L02:211:ARG:HD3	1:L02:217:PRO:HD3	1.99	0.44
15:L18:63:LYS:NZ	34:5S:52:A:OP2	2.50	0.44
33:23S:660:C:H2'	33:23S:661:A:H8	1.83	0.44
33:23S:1920:C:H2'	33:23S:1921:G:H8	1.82	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:23S:2300:C:C4	33:23S:2301:C:N4	2.85	0.44
33:23S:2451:A:OP1	33:23S:2497:A:N6	2.51	0.44
36:16S:1251:A:H2'	36:16S:1252:A:O4'	2.18	0.44
36:16S:1317:C:N3	50:S14:52:ARG:NE	2.65	0.44
36:16S:1481:U:H2'	36:16S:1482:G:C8	2.52	0.44
47:S11:28:ASN:HB2	47:S11:56:LYS:HE3	1.99	0.44
47:S11:111:ASP:HB2	57:S21:19:LYS:HE2	2.00	0.44
3:L04:126:VAL:HG12	3:L04:128:ALA:H	1.83	0.44
5:L06:138:GLN:OE1	33:23S:2759:G:N2	2.48	0.44
6:L09:86:ASP:N	6:L09:86:ASP:OD1	2.51	0.44
7:L1:164:ARG:HH22	33:23S:2122:U:H4'	1.83	0.44
8:L10:67:THR:HG22	8:L10:72:LEU:HA	2.00	0.44
9:L11:46:ASP:OD1	9:L11:46:ASP:N	2.50	0.44
12:L15:74:THR:HB	12:L15:107:PHE:HB2	2.00	0.44
24:L28:6:VAL:HG11	24:L28:58:ILE:HD11	1.99	0.44
29:L33:36:LYS:HD3	29:L33:45:HIS:HB3	2.00	0.44
32:L36:9:LYS:HG3	32:L36:16:ILE:HD11	1.98	0.44
33:23S:171:U:H2'	33:23S:172:A:H8	1.83	0.44
33:23S:1039:A:H2	33:23S:1116:G:H22	1.64	0.44
33:23S:1387:A:H2'	33:23S:1388:G:H8	1.83	0.44
33:23S:1539:U:H2'	33:23S:1540:G:C8	2.53	0.44
40:S04:44:LYS:NZ	40:S04:45:PRO:O	2.43	0.44
41:S05:98:ALA:HB2	41:S05:123:LEU:HD12	1.99	0.44
46:S10:54:SER:O	50:S14:80:ARG:NH1	2.48	0.44
48:S12:77:SER:HB2	48:S12:102:ASP:HB3	1.99	0.44
56:S20:71:ALA:O	56:S20:75:LYS:N	2.44	0.44
4:L05:99:PHE:HD1	4:L05:99:PHE:HA	1.71	0.43
6:L09:42:LYS:O	6:L09:46:PHE:N	2.50	0.43
8:L10:37:LYS:HB2	8:L10:41:LEU:HB2	1.98	0.43
10:L13:71:ASP:OD1	10:L13:71:ASP:N	2.51	0.43
15:L18:9:ARG:O	15:L18:12:THR:OG1	2.34	0.43
33:23S:155:A:H2'	33:23S:156:A:C8	2.53	0.43
33:23S:184:C:H2'	33:23S:185:G:H8	1.82	0.43
33:23S:184:C:O2'	33:23S:217:A:N3	2.49	0.43
33:23S:1527:G:N1	33:23S:1544:A:OP2	2.41	0.43
36:16S:453:G:O6	36:16S:479:U:N3	2.51	0.43
36:16S:1038:C:H2'	36:16S:1039:G:C8	2.52	0.43
36:16S:1513:A:H2'	36:16S:1514:G:C8	2.53	0.43
39:S03:55:VAL:N	39:S03:66:THR:O	2.47	0.43
40:S04:44:LYS:HE3	40:S04:44:LYS:HB3	1.82	0.43
43:S07:84:TYR:HD1	43:S07:84:TYR:HA	1.71	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:S18:50:TYR:HA	54:S18:53:GLN:HB2	1.99	0.43
55:S19:17:LYS:HB3	55:S19:30:LEU:HD11	1.99	0.43
1:L02:1:ALA:N	1:L02:19:VAL:O	2.40	0.43
5:L06:23:ILE:HG13	5:L06:36:LEU:HD22	2.00	0.43
6:L09:51:ARG:O	6:L09:56:ALA:N	2.51	0.43
10:L13:76:HIS:NE2	33:23S:2641:G:OP1	2.41	0.43
25:L29:60:LYS:HE3	25:L29:60:LYS:HB3	1.75	0.43
36:16S:728:A:H2'	36:16S:729:A:C8	2.53	0.43
36:16S:1367:C:H5"	45:S09:115:VAL:HG13	2.00	0.43
38:S02:13:VAL:O	38:S02:202:ASN:N	2.51	0.43
2:L03:171:THR:HG22	2:L03:173:GLN:HG2	1.99	0.43
10:L13:7:LYS:HG2	33:23S:538:A:H4'	1.99	0.43
33:23S:349:U:H2'	33:23S:350:G:C8	2.53	0.43
33:23S:859:G:N2	33:23S:917:A:OP2	2.31	0.43
33:23S:2669:G:H2'	33:23S:2670:A:C8	2.54	0.43
52:S16:75:ILE:O	52:S16:80:LYS:NZ	2.39	0.43
53:S17:10:ARG:NH1	53:S17:11:VAL:H	2.15	0.43
55:S19:49:ALA:HA	55:S19:58:PRO:HA	1.99	0.43
6:L09:29:PHE:HB2	33:23S:2198:A:N3	2.34	0.43
30:L34:31:LEU:O	30:L34:35:ARG:NH1	2.52	0.43
33:23S:589:U:H2'	33:23S:590:A:C8	2.54	0.43
33:23S:820:A:N3	33:23S:943:A:O2'	2.47	0.43
33:23S:1548:A:H2'	33:23S:1549:A:C8	2.54	0.43
33:23S:1853:A:H2'	33:23S:1854:A:C8	2.54	0.43
33:23S:2834:G:H2'	33:23S:2879:A:N6	2.34	0.43
36:16S:34:C:H2'	36:16S:35:G:H8	1.84	0.43
36:16S:426:U:H5"	40:S04:36:ALA:HB1	2.01	0.43
39:S03:139:ASN:OD1	39:S03:142:ARG:NE	2.49	0.43
39:S03:150:VAL:HG23	39:S03:199:VAL:HG13	2.00	0.43
40:S04:102:TYR:HD2	40:S04:103:ARG:HD3	1.84	0.43
18:L21:6:GLN:HA	18:L21:11:GLN:HG3	2.00	0.43
20:L23:77:ARG:NE	33:23S:63:A:O2'	2.50	0.43
21:L24:25:LYS:N	21:L24:34:ILE:O	2.51	0.43
25:L29:28:LEU:HB3	25:L29:37:LEU:HD22	1.98	0.43
27:L31:8:LYS:O	27:L31:27:THR:OG1	2.36	0.43
28:L32:9:ARG:H	28:L32:9:ARG:HG3	1.52	0.43
33:23S:910:A:H2'	33:23S:911:A:C8	2.54	0.43
33:23S:1429:G:H2'	33:23S:1430:G:C8	2.53	0.43
33:23S:2111:U:O4	33:23S:2144:G:O2'	2.35	0.43
34:5S:19:C:H2'	34:5S:20:G:H8	1.82	0.43
36:16S:218:U:H2'	36:16S:219:U:C6	2.54	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:16S:701:U:H5"	36:16S:703:G:H1'	2.00	0.43
39:S03:136:ALA:HA	39:S03:139:ASN:HB2	2.01	0.43
41:S05:148:SER:OG	41:S05:150:GLU:OE1	2.25	0.43
45:S09:39:GLY:HA2	45:S09:44:ARG:HB3	2.00	0.43
2:L03:167:ASN:ND2	33:23S:2821:A:O3'	2.40	0.43
4:L05:129:MET:HA	33:23S:2304:G:H4'	2.00	0.43
5:L06:24:THR:HG22	5:L06:33:THR:HG23	1.99	0.43
8:L10:8:LYS:HA	8:L10:11:ILE:HB	1.99	0.43
13:L16:64:TRP:HB2	13:L16:104:GLU:HB2	2.00	0.43
19:L22:57:ASN:OD1	19:L22:61:ASN:ND2	2.51	0.43
30:L34:28:ARG:HA	30:L34:31:LEU:HB2	2.00	0.43
33:23S:177:G:H3'	33:23S:178:G:H8	1.83	0.43
36:16S:107:G:O6	56:S20:9:ARG:NH1	2.48	0.43
36:16S:111:G:O6	36:16S:330:C:N4	2.51	0.43
36:16S:517:G:N2	36:16S:533:A:OP2	2.51	0.43
39:S03:61:LYS:HD3	39:S03:61:LYS:HA	1.86	0.43
49:S13:78:ARG:NH2	55:S19:64:GLU:O	2.52	0.43
1:L02:77:VAL:HG21	1:L02:109:LEU:HD21	2.01	0.43
2:L03:124:ARG:NH1	2:L03:164:GLN:O	2.52	0.43
8:L10:101:LYS:HE3	8:L10:101:LYS:HB3	1.91	0.43
9:L11:116:MET:HG2	33:23S:1059:G:H4'	1.99	0.43
12:L15:92:LEU:O	12:L15:96:LYS:NZ	2.52	0.43
19:L22:82:MET:HB3	19:L22:84:ARG:NH1	2.33	0.43
33:23S:5:A:H2'	33:23S:6:A:C8	2.53	0.43
33:23S:221:A:N1	33:23S:265:A:O2'	2.50	0.43
33:23S:796:C:H2'	33:23S:797:G:C8	2.54	0.43
33:23S:2408:U:H2'	33:23S:2409:G:C8	2.54	0.43
36:16S:335:C:H2'	36:16S:336:A:H8	1.84	0.43
36:16S:1101:A:N6	38:S02:174:GLU:OE2	2.52	0.43
36:16S:1152:A:H5'	46:S10:15:HIS:CE1	2.53	0.43
39:S03:149:LYS:HB2	39:S03:172:VAL:HG11	2.00	0.43
39:S03:149:LYS:HB3	39:S03:200:TRP:HB2	2.01	0.43
39:S03:156:LEU:H	39:S03:156:LEU:HG	1.66	0.43
41:S05:87:VAL:HA	41:S05:92:ARG:HA	2.00	0.43
48:S12:56:LEU:HD23	48:S12:56:LEU:HA	1.92	0.43
52:S16:4:ILE:HD12	52:S16:67:ILE:HG12	1.99	0.43
4:L05:132:ARG:HH22	33:23S:2306:C:H1'	1.84	0.43
5:L06:17:LYS:HB3	5:L06:17:LYS:HE3	1.85	0.43
5:L06:32:LEU:HD11	5:L06:136:ASP:HB2	2.01	0.43
10:L13:59:ALA:HB3	10:L13:126:ALA:HA	2.00	0.43
15:L18:60:GLU:H	15:L18:60:GLU:HG3	1.69	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:L29:13:GLU:H	25:L29:13:GLU:HG2	1.62	0.43
33:23S:546:U:C4	33:23S:547:A:H1'	2.54	0.43
33:23S:1336:A:H2'	33:23S:1337:G:C8	2.54	0.43
33:23S:2372:U:H2'	33:23S:2373:G:H8	1.84	0.43
33:23S:2699:C:H2'	33:23S:2700:A:H8	1.82	0.43
36:16S:106:C:H2'	36:16S:107:G:C8	2.54	0.43
41:S05:84:VAL:HG12	41:S05:95:MET:HB2	2.01	0.43
10:L13:45:THR:HB	10:L13:48:VAL:HB	2.01	0.43
14:L17:96:ARG:HH21	33:23S:2881:U:H5"	1.84	0.43
17:L20:96:ASP:OD2	18:L21:13:ARG:NE	2.51	0.43
29:L33:5:ARG:HH21	29:L33:25:ASN:H	1.66	0.43
31:L35:15:LYS:NZ	31:L35:64:ALA:OXT	2.52	0.43
33:23S:964:C:O2'	33:23S:2273:A:N3	2.45	0.43
33:23S:2881:U:H2'	33:23S:2882:A:C8	2.51	0.43
45:S09:18:VAL:HA	45:S09:64:ILE:HD12	1.99	0.43
56:S20:27:MET:H	56:S20:27:MET:HG3	1.63	0.43
57:S21:53:LYS:HA	57:S21:56:ALA:HB3	2.01	0.43
1:L02:84:PRO:HG3	33:23S:1567:G:H3'	2.01	0.43
4:L05:139:GLU:HG3	27:L31:28:VAL:HG22	2.01	0.43
8:L10:4:ASN:HA	8:L10:7:ASP:HB2	2.01	0.43
9:L11:96:LYS:HB2	9:L11:99:LYS:HE3	2.00	0.43
16:L19:90:ALA:HB2	16:L19:112:ARG:HA	2.00	0.43
19:L22:84:ARG:NH2	33:23S:1322:A:O3'	2.51	0.43
26:L30:43:ILE:HD13	26:L30:43:ILE:HA	1.94	0.43
33:23S:171:U:H2'	33:23S:172:A:C8	2.54	0.43
33:23S:459:U:H2'	33:23S:460:A:H8	1.84	0.43
33:23S:2112:G:H5'	33:23S:2113:U:C5	2.54	0.43
36:16S:202:G:H2'	36:16S:203:G:H8	1.83	0.43
36:16S:1351:U:O2	36:16S:1371:G:N2	2.41	0.43
42:S06:3:HIS:HB2	42:S06:92:THR:HA	2.00	0.43
42:S06:29:ILE:HD12	42:S06:36:ILE:HB	2.01	0.43
48:S12:109:ARG:HD2	48:S12:109:ARG:HA	1.84	0.43
9:L11:6:ALA:HA	9:L11:30:GLN:HB3	2.01	0.42
12:L15:29:LYS:HE3	33:23S:566:U:H5"	2.01	0.42
12:L15:128:THR:O	12:L15:132:ARG:N	2.51	0.42
16:L19:44:GLY:HA3	16:L19:62:LYS:HB2	2.00	0.42
33:23S:135:U:H2'	33:23S:136:G:C8	2.54	0.42
33:23S:552:U:H2'	33:23S:553:G:C8	2.54	0.42
33:23S:946:C:H2'	33:23S:947:A:H8	1.83	0.42
33:23S:999:U:N3	33:23S:1157:G:N1	2.67	0.42
33:23S:1299:G:N1	33:23S:1640:A:OP2	2.45	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:23S:2699:C:H2'	33:23S:2700:A:C8	2.54	0.42
36:16S:415:A:N7	36:16S:428:G:O6	2.52	0.42
36:16S:932:C:H2'	36:16S:933:G:C8	2.54	0.42
36:16S:951:G:N3	36:16S:970:C:O2'	2.45	0.42
39:S03:111:ASP:HB3	39:S03:114:LEU:HG	2.00	0.42
42:S06:73:GLU:O	42:S06:76:THR:OG1	2.37	0.42
46:S10:54:SER:OG	46:S10:57:VAL:O	2.26	0.42
53:S17:35:LYS:HE2	53:S17:35:LYS:HB3	1.92	0.42
53:S17:52:CYS:HA	53:S17:80:LYS:HZ1	1.83	0.42
1:L02:59:GLN:HA	33:23S:1568:G:H5'	1.99	0.42
7:L1:217:THR:O	33:23S:2124:G:N2	2.52	0.42
9:L11:7:TYR:HD2	9:L11:60:VAL:H	1.67	0.42
9:L11:33:ASN:OD1	9:L11:33:ASN:N	2.53	0.42
11:L14:105:ARG:HA	11:L14:105:ARG:HD3	1.89	0.42
16:L19:95:LYS:HB3	16:L19:97:TYR:HD2	1.83	0.42
17:L20:23:TYR:HB2	17:L20:28:SER:HB2	2.02	0.42
33:23S:290:U:H2'	33:23S:291:G:C8	2.54	0.42
33:23S:546:U:H2'	33:23S:547:A:H4'	2.01	0.42
33:23S:1013:C:H2'	33:23S:1014:A:H8	1.83	0.42
33:23S:2165:C:C4	33:23S:2170:A:N6	2.86	0.42
36:16S:737:C:H2'	36:16S:738:C:C6	2.55	0.42
36:16S:1096:C:O2	36:16S:1170:A:O2'	2.36	0.42
36:16S:1287:A:H2	36:16S:1353:G:H1'	1.84	0.42
42:S06:88:MET:HB2	54:S18:63:TYR:HE2	1.84	0.42
57:S21:53:LYS:O	57:S21:57:LYS:N	2.46	0.42
14:L17:64:ARG:O	14:L17:68:ALA:N	2.45	0.42
17:L20:52:ARG:NH1	33:23S:536:G:OP1	2.52	0.42
33:23S:195:A:N6	33:23S:198:C:OP2	2.53	0.42
33:23S:1222:U:O2	33:23S:1227:G:O6	2.36	0.42
33:23S:1796:U:H2'	33:23S:1797:G:C8	2.54	0.42
36:16S:363:A:OP2	48:S12:30:ARG:NH2	2.53	0.42
36:16S:709:U:H2'	36:16S:710:G:C8	2.51	0.42
36:16S:1180:A:OP2	45:S09:98:ARG:NH2	2.44	0.42
41:S05:79:THR:OG1	41:S05:97:PRO:O	2.37	0.42
53:S17:45:VAL:HG21	53:S17:60:ILE:HD12	2.00	0.42
1:L02:255:LYS:HD3	1:L02:269:ARG:HH22	1.84	0.42
2:L03:161:MET:SD	33:23S:2619:C:O2'	2.74	0.42
5:L06:43:LYS:HB2	5:L06:43:LYS:HE2	1.84	0.42
6:L09:104:THR:HG22	6:L09:109:GLU:HA	2.01	0.42
11:L14:71:ARG:HH22	11:L14:105:ARG:HB3	1.83	0.42
16:L19:64:SER:OG	16:L19:65:ASN:OD1	2.35	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:23S:186:G:H2'	33:23S:187:G:H8	1.85	0.42
33:23S:941:A:O2'	33:23S:1190:G:O3'	2.37	0.42
33:23S:1842:G:H1	33:23S:1898:U:H3	1.67	0.42
34:5S:60:C:H2'	34:5S:61:G:C8	2.54	0.42
36:16S:1249:C:N4	36:16S:1288:A:OP2	2.52	0.42
38:S02:8:MET:HB3	38:S02:13:VAL:HG11	2.01	0.42
50:S14:62:ARG:HG2	50:S14:69:PRO:HA	2.02	0.42
3:L04:28:VAL:HG12	3:L04:104:ALA:HB1	2.01	0.42
6:L09:82:SER:N	6:L09:147:VAL:O	2.53	0.42
8:L10:45:GLY:HA2	8:L10:49:GLY:HA2	2.00	0.42
11:L14:77:ILE:HG23	16:L19:71:ARG:HB2	2.02	0.42
28:L32:48:TYR:OH	33:23S:2883:A:OP1	2.34	0.42
34:5S:22:U:H3	34:5S:61:G:H1	1.68	0.42
34:5S:114:C:H2'	34:5S:115:A:C8	2.54	0.42
36:16S:166:U:H2'	36:16S:167:A:H8	1.84	0.42
36:16S:352:C:O2	36:16S:355:C:N4	2.49	0.42
36:16S:385:C:H2'	36:16S:386:C:C6	2.54	0.42
36:16S:1099:G:H5'	57:S21:66:ARG:HH11	1.85	0.42
36:16S:1345:U:OP1	45:S09:121:ARG:NH1	2.52	0.42
40:S04:116:LEU:HG	40:S04:121:ALA:HB3	2.01	0.42
45:S09:54:VAL:HG11	45:S09:93:LEU:HD21	2.02	0.42
50:S14:6:LYS:HA	50:S14:6:LYS:HD2	1.87	0.42
50:S14:11:LYS:HE3	50:S14:11:LYS:HB2	1.87	0.42
55:S19:51:HIS:HB2	55:S19:56:HIS:CE1	2.54	0.42
3:L04:71:GLY:N	33:23S:674:G:H5"	2.34	0.42
4:L05:57:ALA:HA	27:L31:7:PRO:HB3	2.01	0.42
7:L1:219:GLY:O	33:23S:2175:C:O2'	2.38	0.42
10:L13:95:ARG:NH2	33:23S:2768:U:O2'	2.52	0.42
12:L15:48:ARG:HH12	31:L35:3:ILE:HG22	1.85	0.42
13:L16:35:ALA:HA	13:L16:128:THR:HB	2.01	0.42
13:L16:118:LYS:HE3	13:L16:118:LYS:HB3	1.91	0.42
15:L18:92:PHE:HB2	15:L18:117:PHE:CD2	2.55	0.42
23:L27:7:ARG:HA	23:L27:7:ARG:HD3	1.86	0.42
28:L32:42:ILE:HG22	28:L32:48:TYR:HB2	2.01	0.42
33:23S:452:G:N2	33:23S:457:A:O2'	2.52	0.42
33:23S:657:U:H2'	33:23S:658:U:C6	2.54	0.42
38:S02:10:LYS:O	38:S02:207:ARG:NH1	2.53	0.42
42:S06:41:ASP:OD1	42:S06:42:TRP:N	2.52	0.42
42:S06:82:ASP:N	42:S06:82:ASP:OD1	2.53	0.42
50:S14:30:ILE:H	50:S14:30:ILE:HG12	1.71	0.42
14:L17:10:LEU:HD13	14:L17:40:LYS:HG2	2.02	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:L35:32:LEU:N	33:23S:2420:C:OP2	2.42	0.42
33:23S:576:U:H2'	33:23S:577:G:C8	2.54	0.42
33:23S:1837:C:H2'	33:23S:1899:A:H61	1.84	0.42
33:23S:2104:C:N4	33:23S:2185:U:N3	2.31	0.42
33:23S:2136:G:N2	33:23S:2155:U:O4	2.51	0.42
33:23S:2292:U:H2'	33:23S:2293:G:C8	2.54	0.42
34:5S:118:C:H2'	34:5S:119:A:C8	2.52	0.42
36:16S:1393:U:HO2'	36:16S:1501:C:HO2'	1.60	0.42
36:16S:1404:C:O2	36:16S:1519:A:O2'	2.30	0.42
40:S04:138:PRO:HB3	40:S04:183:ARG:HA	2.02	0.42
40:S04:197:HIS:CE1	41:S05:103:GLY:HA3	2.54	0.42
48:S12:68:GLY:HA2	48:S12:116:TYR:CZ	2.54	0.42
50:S14:61:ASN:OD1	50:S14:61:ASN:N	2.51	0.42
1:L02:77:VAL:HA	1:L02:93:VAL:HG12	2.01	0.42
6:L09:43:ASN:O	6:L09:47:PHE:N	2.51	0.42
14:L17:73:ASN:HB3	33:23S:1453:A:N7	2.35	0.42
17:L20:93:ILE:HG23	18:L21:13:ARG:HB2	2.02	0.42
30:L34:5:PHE:O	33:23S:1612:C:O2'	2.37	0.42
33:23S:858:G:O2'	33:23S:859:G:OP1	2.34	0.42
33:23S:1028:A:H2'	33:23S:1029:A:C8	2.55	0.42
33:23S:1258:U:H2'	33:23S:1259:G:C8	2.55	0.42
33:23S:2076:U:H3	33:23S:2596:U:H1'	1.85	0.42
33:23S:2286:G:H4'	33:23S:2287:A:O4'	2.20	0.42
33:23S:2818:U:H2'	33:23S:2819:G:C8	2.53	0.42
36:16S:77:A:H2'	36:16S:78:A:C8	2.54	0.42
36:16S:832:G:N2	36:16S:854:U:O2	2.43	0.42
36:16S:861:G:HO2'	36:16S:874:G:HO2'	1.57	0.42
36:16S:1105:A:H2'	36:16S:1106:G:H8	1.84	0.42
36:16S:1530:G:H2'	36:16S:1531:A:H8	1.85	0.42
42:S06:35:LYS:HA	42:S06:35:LYS:HD3	1.80	0.42
45:S09:26:LYS:HG2	45:S09:61:ASP:HB3	2.02	0.42
50:S14:1:ALA:N	50:S14:3:GLN:OE1	2.43	0.42
53:S17:58:VAL:HG12	53:S17:77:VAL:HG22	2.02	0.42
2:L03:81:GLU:OE1	33:23S:2635:A:O2'	2.37	0.42
15:L18:87:ILE:O	15:L18:88:LYS:NZ	2.48	0.42
16:L19:108:ARG:NH2	36:16S:1464:U:OP2	2.46	0.42
23:L27:29:ALA:O	33:23S:2353:G:O2'	2.25	0.42
33:23S:59:U:O2	33:23S:68:G:N2	2.41	0.42
33:23S:729:G:N2	33:23S:1774:C:C2	2.78	0.42
33:23S:1434:A:H2'	33:23S:1435:G:H8	1.84	0.42
36:16S:501:C:H2'	36:16S:502:A:C8	2.54	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:16S:1018:G:H2'	36:16S:1019:A:C8	2.55	0.42
40:S04:62:ARG:HA	40:S04:62:ARG:HD3	1.87	0.42
44:S08:76:ARG:NH1	44:S08:125:ILE:HG23	2.35	0.42
45:S09:83:THR:HG21	45:S09:102:PHE:HB2	2.01	0.42
56:S20:44:ALA:O	56:S20:48:LYS:NZ	2.38	0.42
2:L03:184:ARG:HH22	16:L19:6:GLN:HB2	1.85	0.42
7:L1:42:VAL:HA	7:L1:216:THR:HA	2.02	0.42
33:23S:523:C:H2'	33:23S:524:G:H8	1.84	0.42
33:23S:548:G:C5	33:23S:549:G:H1'	2.55	0.42
33:23S:848:C:H2'	33:23S:849:A:C8	2.55	0.42
33:23S:1387:A:H2'	33:23S:1388:G:C8	2.55	0.42
33:23S:1769:U:H2'	33:23S:1770:G:H8	1.85	0.42
33:23S:2139:U:H2'	33:23S:2140:G:H8	1.85	0.42
36:16S:801:U:H2'	36:16S:802:A:C8	2.55	0.42
36:16S:1064:G:OP2	36:16S:1385:G:O2'	2.35	0.42
44:S08:65:PHE:CD2	44:S08:66:GLN:HG2	2.54	0.42
47:S11:29:THR:HG21	47:S11:62:ALA:HB2	2.02	0.42
2:L03:125:TRP:NE1	2:L03:161:MET:O	2.46	0.41
21:L24:9:GLU:OE2	21:L24:22:GLY:N	2.48	0.41
25:L29:24:GLU:HG2	25:L29:46:VAL:HG11	2.01	0.41
33:23S:1057:A:C8	33:23S:1086:A:H2'	2.55	0.41
33:23S:2815:C:H2'	33:23S:2816:G:H8	1.85	0.41
36:16S:137:U:H2'	36:16S:138:G:C8	2.55	0.41
36:16S:1143:G:H2'	36:16S:1144:G:C8	2.55	0.41
39:S03:39:ARG:NE	50:S14:91:GLU:OE1	2.52	0.41
40:S04:161:ALA:HB1	40:S04:166:LYS:HE3	2.02	0.41
46:S10:6:ILE:O	46:S10:76:ILE:N	2.53	0.41
51:S15:22:GLY:O	51:S15:27:GLN:NE2	2.51	0.41
52:S16:6:LEU:HD13	52:S16:17:TYR:CG	2.55	0.41
4:L05:57:ALA:O	27:L31:8:LYS:N	2.52	0.41
6:L09:51:ARG:HA	6:L09:55:GLU:HB2	2.01	0.41
36:16S:24:U:O3'	36:16S:524:G:O2'	2.38	0.41
36:16S:977:A:O2'	36:16S:1223:C:N4	2.54	0.41
39:S03:56:ILE:HG23	39:S03:63:ILE:HD11	2.01	0.41
41:S05:92:ARG:HH21	41:S05:127:TYR:HB3	1.86	0.41
52:S16:5:ARG:NH2	52:S16:27:ALA:O	2.53	0.41
2:L03:61:THR:N	2:L03:64:GLU:OE1	2.39	0.41
3:L04:30:GLN:OE1	33:23S:659:G:N2	2.48	0.41
4:L05:125:GLY:HA2	4:L05:162:ASP:HA	2.01	0.41
5:L06:9:VAL:HA	5:L06:48:THR:HA	2.01	0.41
7:L1:46:VAL:HB	7:L1:171:ILE:HG23	2.02	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:L32:37:HIS:HB3	28:L32:43:THR:HG22	2.03	0.41
33:23S:2141:G:H2'	33:23S:2142:A:C8	2.55	0.41
33:23S:2516:A:N6	33:23S:2567:G:O6	2.53	0.41
36:16S:632:U:H5"	36:16S:633:G:C8	2.55	0.41
36:16S:1319:A:H5"	55:S19:69:LYS:HE3	2.02	0.41
41:S05:24:VAL:N	41:S05:27:GLY:O	2.53	0.41
46:S10:7:ARG:HB3	46:S10:73:LEU:HD21	2.03	0.41
47:S11:95:THR:O	47:S11:99:LEU:N	2.53	0.41
2:L03:87:GLY:N	2:L03:88:GLU:OE1	2.54	0.41
4:L05:62:GLN:HG3	27:L31:4:ASP:HA	2.01	0.41
5:L06:165:ASP:OD1	5:L06:165:ASP:N	2.53	0.41
12:L15:41:ARG:NH2	33:23S:807:U:OP2	2.51	0.41
14:L17:100:CYS:H	14:L17:111:ALA:HA	1.84	0.41
16:L19:23:ASP:OD1	16:L19:89:GLY:N	2.52	0.41
33:23S:80:G:H4'	33:23S:346:A:H1'	2.03	0.41
33:23S:318:C:H2'	33:23S:319:G:H8	1.85	0.41
33:23S:1407:G:H2'	33:23S:1408:G:H8	1.85	0.41
33:23S:1827:U:H5'	33:23S:1971:U:H4'	2.02	0.41
36:16S:202:G:H2'	36:16S:203:G:C8	2.56	0.41
36:16S:262:A:H4'	56:S20:69:ASN:HB2	2.01	0.41
36:16S:634:C:H2'	36:16S:635:A:C8	2.56	0.41
36:16S:991:U:C2	36:16S:1213:A:N7	2.88	0.41
38:S02:184:ALA:HB2	38:S02:195:VAL:HG21	2.02	0.41
42:S06:26:THR:O	42:S06:30:THR:OG1	2.31	0.41
44:S08:26:MET:O	44:S08:58:LEU:N	2.53	0.41
1:L02:106:PRO:HD2	1:L02:109:LEU:HD22	2.03	0.41
3:L04:44:ARG:HH21	3:L04:46:GLN:HE22	1.69	0.41
7:L1:65:LEU:HD21	7:L1:192:LEU:HD13	2.02	0.41
10:L13:13:ARG:NH1	10:L13:53:TYR:OH	2.54	0.41
19:L22:20:VAL:HG21	19:L22:43:ALA:HB3	2.02	0.41
30:L34:19:ARG:HH21	33:23S:124:G:H3'	1.86	0.41
32:L36:4:ARG:NH1	33:23S:2477:U:O2	2.35	0.41
33:23S:121:G:H2'	33:23S:122:G:H8	1.85	0.41
33:23S:558:U:H2'	33:23S:559:G:C8	2.55	0.41
33:23S:1674:G:N2	33:23S:1991:U:O2	2.54	0.41
33:23S:2721:A:H3'	33:23S:2722:G:H8	1.85	0.41
34:5S:5:U:OP1	34:5S:61:G:O2'	2.33	0.41
36:16S:257:G:H2'	36:16S:258:G:C8	2.54	0.41
36:16S:401:C:H2'	36:16S:402:G:C8	2.54	0.41
36:16S:553:A:H2'	36:16S:554:A:H8	1.85	0.41
36:16S:662:U:H2'	36:16S:663:A:C8	2.54	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:S02:72:LYS:O	38:S02:76:SER:N	2.52	0.41
38:S02:164:ASP:HB3	38:S02:167:HIS:HB3	2.02	0.41
48:S12:86:VAL:HG21	48:S12:89:LEU:HD12	2.03	0.41
57:S21:16:ARG:H	57:S21:16:ARG:HG2	1.52	0.41
2:L03:178:VAL:N	2:L03:188:LEU:O	2.53	0.41
3:L04:4:VAL:HA	3:L04:11:ALA:HA	2.02	0.41
3:L04:58:LYS:NZ	33:23S:675:A:OP1	2.38	0.41
21:L24:10:VAL:HA	21:L24:71:ILE:HA	2.02	0.41
31:L35:50:SER:OG	31:L35:53:ASP:OD1	2.35	0.41
32:L36:22:VAL:HG23	32:L36:24:ARG:HG3	2.03	0.41
33:23S:175:G:H2'	33:23S:176:A:C8	2.56	0.41
33:23S:523:C:H2'	33:23S:524:G:C8	2.55	0.41
33:23S:1071:G:O2'	33:23S:1088:A:O3'	2.38	0.41
33:23S:1135:C:N4	33:23S:1138:G:OP2	2.44	0.41
34:5S:65:U:H3'	34:5S:108:A:N6	2.34	0.41
36:16S:129:A:H61	36:16S:232:G:H1	1.68	0.41
36:16S:385:C:N3	36:16S:386:C:C4	2.89	0.41
36:16S:1203:C:H2'	36:16S:1204:A:H8	1.86	0.41
36:16S:1427:C:H2'	36:16S:1428:A:C8	2.55	0.41
39:S03:69:THR:OG1	39:S03:70:ALA:N	2.54	0.41
40:S04:111:ALA:O	40:S04:115:GLN:N	2.54	0.41
45:S09:105:ARG:NH2	45:S09:109:GLN:OE1	2.44	0.41
1:L02:106:PRO:HG2	1:L02:109:LEU:HB2	2.02	0.41
1:L02:240:GLY:HA3	33:23S:2597:G:H5'	2.03	0.41
2:L03:107:VAL:HA	2:L03:205:PRO:HA	2.02	0.41
3:L04:23:PHE:HB2	3:L04:111:GLU:HB2	2.03	0.41
4:L05:53:ALA:HB1	4:L05:64:PRO:HB2	2.03	0.41
12:L15:95:LEU:HD12	12:L15:101:ILE:HD13	2.02	0.41
36:16S:184:G:O6	36:16S:192:A:N6	2.53	0.41
36:16S:456:A:H2'	36:16S:457:G:C8	2.55	0.41
36:16S:505:G:H2'	36:16S:506:G:C8	2.56	0.41
36:16S:920:U:H2'	36:16S:921:U:C6	2.56	0.41
36:16S:1018:G:H2'	36:16S:1019:A:H8	1.85	0.41
36:16S:1173:U:H2'	36:16S:1174:G:C8	2.55	0.41
43:S07:113:LYS:HA	43:S07:113:LYS:HD3	1.96	0.41
46:S10:52:LEU:HD11	46:S10:59:LYS:HA	2.02	0.41
51:S15:47:LYS:HA	51:S15:47:LYS:HD3	1.91	0.41
55:S19:14:LEU:HD13	55:S19:32:THR:HG21	2.01	0.41
26:L30:11:SER:HB3	26:L30:13:ILE:HG12	2.01	0.41
33:23S:1061:U:H4'	33:23S:1070:A:H1'	2.03	0.41
36:16S:254:G:H2'	36:16S:255:G:H8	1.86	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:16S:322:C:N4	36:16S:329:A:N7	2.69	0.41
36:16S:1250:A:H2'	36:16S:1251:A:C4	2.56	0.41
40:S04:146:GLU:HA	40:S04:149:LYS:HB2	2.02	0.41
46:S10:30:LYS:HD2	46:S10:31:ARG:HH12	1.85	0.41
47:S11:108:ASN:OD1	47:S11:110:THR:OG1	2.37	0.41
49:S13:38:ILE:HG12	49:S13:47:LEU:HD22	2.03	0.41
53:S17:80:LYS:HE3	53:S17:80:LYS:HB3	1.95	0.41
1:L02:170:TYR:HD2	1:L02:182:LYS:HB3	1.86	0.41
3:L04:146:VAL:HG22	3:L04:167:VAL:HG22	2.03	0.41
6:L09:117:LEU:HD13	6:L09:121:VAL:HG13	2.03	0.41
6:L09:119:ASN:N	6:L09:119:ASN:OD1	2.54	0.41
7:L1:5:THR:HG23	7:L1:8:MET:HB2	2.02	0.41
11:L14:97:THR:OG1	11:L14:98:ARG:N	2.54	0.41
14:L17:55:ALA:HA	14:L17:80:PHE:CE1	2.55	0.41
15:L18:35:ILE:HG21	15:L18:71:ALA:HA	2.02	0.41
21:L24:90:LYS:HE2	21:L24:90:LYS:HB3	1.86	0.41
23:L27:11:ASP:OD1	33:23S:2263:C:N4	2.37	0.41
25:L29:9:LYS:HB3	25:L29:12:GLU:HG2	2.02	0.41
25:L29:14:LEU:HD23	25:L29:14:LEU:HA	1.87	0.41
33:23S:181:A:H2'	33:23S:182:A:C8	2.55	0.41
33:23S:282:A:H2'	33:23S:283:G:C8	2.56	0.41
33:23S:284:U:O2	33:23S:356:G:N2	2.42	0.41
33:23S:302:C:H2'	33:23S:303:G:H8	1.86	0.41
33:23S:552:U:H2'	33:23S:553:G:H8	1.85	0.41
33:23S:633:A:O2'	33:23S:2404:U:OP1	2.31	0.41
33:23S:871:U:H2'	33:23S:872:U:C6	2.55	0.41
33:23S:897:C:H2'	33:23S:898:C:H6	1.86	0.41
33:23S:1152:C:H2'	33:23S:1153:C:C6	2.56	0.41
33:23S:1171:G:N2	33:23S:1179:G:N7	2.69	0.41
33:23S:1597:A:H5"	33:23S:1598:A:H5'	2.03	0.41
33:23S:1865:U:O2'	33:23S:1875:G:N2	2.54	0.41
33:23S:2329:U:H2'	33:23S:2330:G:C8	2.55	0.41
33:23S:2591:C:H2'	33:23S:2592:G:C8	2.56	0.41
33:23S:2898:U:H2'	33:23S:2899:A:C8	2.56	0.41
36:16S:169:C:H2'	36:16S:170:U:C6	2.56	0.41
36:16S:193:C:H2'	36:16S:194:C:C6	2.56	0.41
36:16S:385:C:C4	36:16S:386:C:N4	2.89	0.41
36:16S:754:C:OP1	51:S15:71:ARG:NH2	2.36	0.41
36:16S:766:A:OP2	36:16S:812:G:N2	2.52	0.41
36:16S:783:C:H2'	36:16S:784:A:C8	2.56	0.41
36:16S:1280:A:N3	46:S10:43:PRO:HG3	2.36	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:16S:1291:U:H2'	36:16S:1292:G:C8	2.56	0.41
36:16S:1310:G:OP2	49:S13:86:ARG:NH2	2.54	0.41
36:16S:1363:A:H2'	36:16S:1365:G:C8	2.56	0.41
39:S03:15:LYS:HZ1	39:S03:181:ILE:H	1.69	0.41
40:S04:196:GLU:H	40:S04:196:GLU:HG2	1.56	0.41
42:S06:49:TYR:OH	54:S18:62:ARG:O	2.32	0.41
45:S09:6:TYR:HE1	45:S09:17:ARG:HA	1.85	0.41
47:S11:75:GLU:H	47:S11:75:GLU:HG2	1.60	0.41
2:L03:9:VAL:HG11	16:L19:3:ILE:HD12	2.03	0.41
8:L10:74:ASP:HA	8:L10:77:VAL:HB	2.02	0.41
10:L13:49:ASP:OD1	10:L13:121:LYS:NZ	2.48	0.41
13:L16:34:LYS:HE2	13:L16:101:VAL:HG22	2.03	0.41
16:L19:64:SER:OG	16:L19:65:ASN:N	2.54	0.41
20:L23:57:VAL:H	20:L23:86:THR:HG1	1.61	0.41
21:L24:48:VAL:HG22	21:L24:50:ALA:H	1.86	0.41
26:L30:51:SER:HA	26:L30:54:VAL:HG22	2.02	0.41
31:L35:32:LEU:O	31:L35:40:LYS:NZ	2.40	0.41
33:23S:201:C:O2'	33:23S:251:A:N1	2.44	0.41
33:23S:272:A:H2'	33:23S:273:G:C8	2.56	0.41
33:23S:861:A:H62	33:23S:916:G:H21	1.69	0.41
33:23S:968:C:H2'	33:23S:969:G:H8	1.86	0.41
36:16S:227:G:N2	52:S16:63:GLN:O	2.35	0.41
36:16S:994:A:O2'	50:S14:11:LYS:NZ	2.54	0.41
36:16S:1237:C:OP1	36:16S:1303:C:O2'	2.35	0.41
38:S02:53:LEU:HB3	38:S02:219:THR:HG21	2.03	0.41
46:S10:44:THR:HG22	46:S10:46:LYS:HG3	2.03	0.41
1:L02:163:ILE:HG12	1:L02:173:LEU:HD22	2.03	0.40
1:L02:209:ALA:HA	1:L02:212:TRP:NE1	2.37	0.40
3:L04:171:ASP:OD2	3:L04:173:THR:OG1	2.35	0.40
7:L1:10:VAL:HA	7:L1:13:GLU:HB2	2.02	0.40
8:L10:113:PHE:HD2	8:L10:125:ARG:HD2	1.85	0.40
9:L11:74:PRO:HG2	9:L11:77:VAL:HG12	2.03	0.40
33:23S:413:C:H2'	33:23S:414:C:C6	2.56	0.40
33:23S:1010:A:N3	33:23S:1153:C:H1'	2.36	0.40
36:16S:73:C:H41	36:16S:94:G:H1	1.69	0.40
36:16S:76:G:O6	36:16S:93:U:O4	2.39	0.40
36:16S:149:A:H1'	36:16S:1446:A:H2	1.86	0.40
36:16S:177:G:OP2	36:16S:177:G:N2	2.51	0.40
36:16S:212:G:H2'	36:16S:213:G:C8	2.56	0.40
36:16S:861:G:O2'	36:16S:874:G:O2'	2.29	0.40
36:16S:959:A:N6	55:S19:77:ARG:HG2	2.35	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:16S:1163:A:H2'	36:16S:1164:G:H8	1.85	0.40
42:S06:62:MET:HB3	42:S06:64:VAL:HG13	2.03	0.40
46:S10:52:LEU:HB3	50:S14:80:ARG:HH11	1.85	0.40
1:L02:179:GLU:HG3	1:L02:269:ARG:HA	2.03	0.40
4:L05:115:GLY:HA3	4:L05:177:ARG:HB2	2.03	0.40
4:L05:168:LEU:HD22	4:L05:168:LEU:HA	1.91	0.40
33:23S:306:U:H3	33:23S:310:A:N6	2.18	0.40
33:23S:948:C:H2'	33:23S:949:G:C8	2.56	0.40
33:23S:1667:G:H22	33:23S:1992:G:H5'	1.87	0.40
33:23S:2519:U:O4'	33:23S:2542:A:N6	2.55	0.40
34:5S:18:G:O6	34:5S:65:U:O2	2.38	0.40
34:5S:28:C:H2'	34:5S:29:A:C8	2.56	0.40
36:16S:182:A:N1	36:16S:223:A:O2'	2.53	0.40
36:16S:1141:C:H2'	36:16S:1142:G:H8	1.86	0.40
57:S21:4:LYS:HE2	57:S21:4:LYS:HB3	1.80	0.40
3:L04:85:PHE:CG	33:23S:588:U:H1'	2.56	0.40
5:L06:117:PRO:HD2	5:L06:120:ILE:HG13	2.03	0.40
12:L15:70:LYS:HE2	12:L15:70:LYS:HB2	1.92	0.40
13:L16:119:LEU:HD22	13:L16:119:LEU:HA	1.97	0.40
33:23S:247:G:OP2	33:23S:249:C:N4	2.49	0.40
33:23S:1629:U:H1'	33:23S:2698:U:H5"	2.03	0.40
33:23S:2099:U:H2'	33:23S:2100:G:C8	2.56	0.40
36:16S:70:U:H1'	36:16S:71:A:N7	2.36	0.40
36:16S:235:C:H2'	36:16S:236:A:C8	2.56	0.40
36:16S:1140:C:H2'	36:16S:1141:C:C6	2.56	0.40
36:16S:1151:A:H2'	36:16S:1152:A:C8	2.56	0.40
36:16S:1270:G:H2'	36:16S:1271:A:C8	2.55	0.40
36:16S:1374:A:OP1	43:S07:35:LYS:NZ	2.36	0.40
36:16S:1512:U:H3	36:16S:1523:G:H1	1.69	0.40
41:S05:152:VAL:O	41:S05:156:ARG:N	2.54	0.40
43:S07:44:SER:O	43:S07:48:THR:OG1	2.28	0.40
44:S08:87:ARG:H	44:S08:90:GLU:HB3	1.85	0.40
12:L15:110:VAL:HG11	12:L15:135:ILE:HD11	2.04	0.40
12:L15:117:THR:HG23	12:L15:118:THR:HG23	2.03	0.40
14:L17:90:ARG:HD3	14:L17:90:ARG:HA	1.92	0.40
17:L20:13:HIS:ND1	33:23S:582:A:OP1	2.42	0.40
19:L22:71:VAL:HA	19:L22:107:VAL:HG12	2.03	0.40
21:L24:18:LYS:H	21:L24:18:LYS:HG2	1.55	0.40
33:23S:143:C:H2'	33:23S:144:A:H8	1.86	0.40
33:23S:414:C:H2'	33:23S:415:A:C8	2.57	0.40
33:23S:570:G:N7	33:23S:2030:A:N6	2.69	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:23S:1384:A:N3	33:23S:1405:U:H1'	2.36	0.40
33:23S:1864:U:OP1	33:23S:2410:G:O2'	2.35	0.40
33:23S:2345:G:N3	33:23S:2381:A:H2'	2.37	0.40
36:16S:830:G:H2'	36:16S:831:A:H8	1.87	0.40
36:16S:1175:G:H2'	36:16S:1176:A:H8	1.87	0.40
36:16S:1192:C:OP2	39:S03:3:LYS:NZ	2.38	0.40
36:16S:1291:U:H2'	36:16S:1292:G:H8	1.87	0.40
38:S02:135:MET:HA	38:S02:138:ARG:HH21	1.86	0.40
40:S04:47:LEU:HD12	40:S04:47:LEU:HA	1.94	0.40
40:S04:54:LEU:O	40:S04:58:GLN:N	2.50	0.40
43:S07:55:LYS:HB3	43:S07:59:GLU:HG3	2.02	0.40
50:S14:9:GLU:OE1	50:S14:62:ARG:NH2	2.54	0.40
52:S16:29:ASN:OD1	52:S16:29:ASN:N	2.54	0.40
55:S19:57:VAL:HA	55:S19:58:PRO:HD3	1.95	0.40
3:L04:105:LEU:HD21	3:L04:177:PRO:HG3	2.04	0.40
13:L16:19:GLY:O	13:L16:38:ARG:NH2	2.48	0.40
16:L19:28:LYS:HD3	16:L19:39:LEU:HD21	2.03	0.40
20:L23:11:LEU:HB2	25:L29:26:PHE:HZ	1.86	0.40
33:23S:648:G:H2'	33:23S:649:G:H8	1.86	0.40
33:23S:848:C:H2'	33:23S:849:A:H8	1.87	0.40
33:23S:2204:G:C6	33:23S:2220:U:O2	2.75	0.40
33:23S:2443:C:H2'	33:23S:2444:G:C8	2.52	0.40
36:16S:64:G:H22	36:16S:101:A:N6	2.19	0.40
36:16S:356:A:N3	36:16S:368:U:O2'	2.39	0.40
53:S17:38:LYS:HB2	53:S17:38:LYS:HE3	1.81	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	L02	269/273 (98%)	243 (90%)	26 (10%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	L03	207/209 (99%)	197 (95%)	10 (5%)	0	100	100
3	L04	199/201 (99%)	187 (94%)	11 (6%)	1 (0%)	29	66
4	L05	175/179 (98%)	152 (87%)	23 (13%)	0	100	100
5	L06	174/177 (98%)	162 (93%)	12 (7%)	0	100	100
6	L09	147/149 (99%)	129 (88%)	17 (12%)	1 (1%)	22	59
7	L1	130/234 (56%)	117 (90%)	13 (10%)	0	100	100
8	L10	129/165 (78%)	100 (78%)	28 (22%)	1 (1%)	19	56
9	L11	139/142 (98%)	118 (85%)	21 (15%)	0	100	100
10	L13	140/142 (99%)	132 (94%)	8 (6%)	0	100	100
11	L14	120/123 (98%)	106 (88%)	14 (12%)	0	100	100
12	L15	141/144 (98%)	125 (89%)	16 (11%)	0	100	100
13	L16	134/136 (98%)	125 (93%)	9 (7%)	0	100	100
14	L17	118/127 (93%)	106 (90%)	12 (10%)	0	100	100
15	L18	114/117 (97%)	109 (96%)	5 (4%)	0	100	100
16	L19	112/115 (97%)	105 (94%)	7 (6%)	0	100	100
17	L20	115/118 (98%)	114 (99%)	1 (1%)	0	100	100
18	L21	101/103 (98%)	89 (88%)	11 (11%)	1 (1%)	15	51
19	L22	108/110 (98%)	98 (91%)	10 (9%)	0	100	100
20	L23	91/100 (91%)	85 (93%)	6 (7%)	0	100	100
21	L24	100/104 (96%)	84 (84%)	16 (16%)	0	100	100
22	L25	92/94 (98%)	87 (95%)	5 (5%)	0	100	100
23	L27	73/85 (86%)	69 (94%)	4 (6%)	0	100	100
24	L28	75/78 (96%)	72 (96%)	3 (4%)	0	100	100
25	L29	61/63 (97%)	56 (92%)	5 (8%)	0	100	100
26	L30	56/59 (95%)	53 (95%)	3 (5%)	0	100	100
27	L31	43/45 (96%)	35 (81%)	8 (19%)	0	100	100
28	L32	54/57 (95%)	52 (96%)	2 (4%)	0	100	100
29	L33	48/55 (87%)	45 (94%)	3 (6%)	0	100	100
30	L34	44/46 (96%)	43 (98%)	1 (2%)	0	100	100
31	L35	62/65 (95%)	55 (89%)	6 (10%)	1 (2%)	9	43
32	L36	36/38 (95%)	31 (86%)	5 (14%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
38	S02	223/241 (92%)	212 (95%)	10 (4%)	1 (0%)	34	69
39	S03	204/233 (88%)	195 (96%)	9 (4%)	0	100	100
40	S04	203/206 (98%)	180 (89%)	23 (11%)	0	100	100
41	S05	155/167 (93%)	138 (89%)	17 (11%)	0	100	100
42	S06	98/135 (73%)	81 (83%)	17 (17%)	0	100	100
43	S07	149/179 (83%)	141 (95%)	8 (5%)	0	100	100
44	S08	127/130 (98%)	122 (96%)	5 (4%)	0	100	100
45	S09	125/130 (96%)	107 (86%)	18 (14%)	0	100	100
46	S10	96/103 (93%)	84 (88%)	12 (12%)	0	100	100
47	S11	114/129 (88%)	98 (86%)	16 (14%)	0	100	100
48	S12	121/124 (98%)	100 (83%)	21 (17%)	0	100	100
49	S13	112/118 (95%)	101 (90%)	11 (10%)	0	100	100
50	S14	98/101 (97%)	88 (90%)	10 (10%)	0	100	100
51	S15	86/89 (97%)	73 (85%)	12 (14%)	1 (1%)	13	48
52	S16	80/82 (98%)	71 (89%)	9 (11%)	0	100	100
53	S17	78/84 (93%)	65 (83%)	13 (17%)	0	100	100
54	S18	63/75 (84%)	60 (95%)	3 (5%)	0	100	100
55	S19	77/92 (84%)	70 (91%)	7 (9%)	0	100	100
56	S20	83/87 (95%)	80 (96%)	3 (4%)	0	100	100
57	S21	63/71 (89%)	42 (67%)	21 (33%)	0	100	100
58	SMPB	148/150 (99%)	124 (84%)	23 (16%)	1 (1%)	22	59
All	All	6110/6579 (93%)	5513 (90%)	589 (10%)	8 (0%)	54	83

All (8) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
8	L10	118	ILE
31	L35	31	ILE
58	SMPB	81	VAL
38	S02	94	ARG
3	L04	83	VAL
18	L21	54	VAL
51	S15	46	LYS
6	L09	9	VAL

5.3.2 Protein sidechains (i)

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
1	L02	216/218 (99%)	197 (91%)	19 (9%)	10 38
2	L03	164/164 (100%)	145 (88%)	19 (12%)	5 27
3	L04	165/165 (100%)	152 (92%)	13 (8%)	12 42
4	L05	148/150 (99%)	121 (82%)	27 (18%)	1 11
5	L06	137/138 (99%)	118 (86%)	19 (14%)	3 20
6	L09	114/114 (100%)	101 (89%)	13 (11%)	5 27
7	L1	110/181 (61%)	91 (83%)	19 (17%)	2 12
8	L10	100/123 (81%)	83 (83%)	17 (17%)	2 13
9	L11	109/110 (99%)	95 (87%)	14 (13%)	4 23
10	L13	116/116 (100%)	110 (95%)	6 (5%)	23 55
11	L14	103/104 (99%)	89 (86%)	14 (14%)	3 21
12	L15	102/103 (99%)	91 (89%)	11 (11%)	6 29
13	L16	109/109 (100%)	98 (90%)	11 (10%)	7 31
14	L17	100/103 (97%)	95 (95%)	5 (5%)	24 55
15	L18	86/87 (99%)	77 (90%)	9 (10%)	7 30
16	L19	99/100 (99%)	91 (92%)	8 (8%)	11 41
17	L20	89/90 (99%)	81 (91%)	8 (9%)	9 37
18	L21	84/84 (100%)	68 (81%)	16 (19%)	1 9
19	L22	93/93 (100%)	89 (96%)	4 (4%)	29 58
20	L23	80/84 (95%)	63 (79%)	17 (21%)	1 7
21	L24	83/85 (98%)	71 (86%)	12 (14%)	3 18
22	L25	78/78 (100%)	66 (85%)	12 (15%)	2 17
23	L27	57/63 (90%)	54 (95%)	3 (5%)	22 54
24	L28	67/68 (98%)	61 (91%)	6 (9%)	9 37
25	L29	55/55 (100%)	49 (89%)	6 (11%)	6 29
26	L30	48/49 (98%)	44 (92%)	4 (8%)	11 40

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
27	L31	42/42 (100%)	29 (69%)	13 (31%)	0 2
28	L32	47/48 (98%)	41 (87%)	6 (13%)	4 23
29	L33	45/49 (92%)	36 (80%)	9 (20%)	1 8
30	L34	38/38 (100%)	34 (90%)	4 (10%)	7 30
31	L35	51/52 (98%)	47 (92%)	4 (8%)	12 42
32	L36	34/34 (100%)	30 (88%)	4 (12%)	5 26
38	S02	186/199 (94%)	159 (86%)	27 (14%)	3 18
39	S03	170/190 (90%)	144 (85%)	26 (15%)	2 17
40	S04	172/173 (99%)	139 (81%)	33 (19%)	1 9
41	S05	119/126 (94%)	96 (81%)	23 (19%)	1 9
42	S06	87/116 (75%)	79 (91%)	8 (9%)	9 36
43	S07	124/147 (84%)	110 (89%)	14 (11%)	6 28
44	S08	104/105 (99%)	96 (92%)	8 (8%)	13 43
45	S09	105/107 (98%)	91 (87%)	14 (13%)	4 22
46	S10	86/90 (96%)	76 (88%)	10 (12%)	5 27
47	S11	89/99 (90%)	81 (91%)	8 (9%)	9 37
48	S12	103/104 (99%)	97 (94%)	6 (6%)	20 52
49	S13	92/96 (96%)	82 (89%)	10 (11%)	6 29
50	S14	83/84 (99%)	68 (82%)	15 (18%)	1 11
51	S15	76/77 (99%)	68 (90%)	8 (10%)	7 30
52	S16	65/65 (100%)	56 (86%)	9 (14%)	3 21
53	S17	74/78 (95%)	64 (86%)	10 (14%)	4 21
54	S18	56/65 (86%)	48 (86%)	8 (14%)	3 19
55	S19	70/79 (89%)	60 (86%)	10 (14%)	3 19
56	S20	65/66 (98%)	57 (88%)	8 (12%)	4 24
57	S21	55/61 (90%)	48 (87%)	7 (13%)	4 23
58	SMPB	125/125 (100%)	103 (82%)	22 (18%)	2 12
All	All	5075/5349 (95%)	4439 (88%)	636 (12%)	8 23

All (636) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	L02	3	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	L02	8	THR
1	L02	18	VAL
1	L02	59	GLN
1	L02	64	VAL
1	L02	119	VAL
1	L02	124	LYS
1	L02	128	THR
1	L02	149	LYS
1	L02	167	ASP
1	L02	171	VAL
1	L02	183	VAL
1	L02	193	GLU
1	L02	194	VAL
1	L02	202	ARG
1	L02	212	TRP
1	L02	215	VAL
1	L02	216	ARG
1	L02	269	ARG
2	L03	9	VAL
2	L03	12	THR
2	L03	28	GLU
2	L03	43	ASP
2	L03	112	THR
2	L03	113	SER
2	L03	121	THR
2	L03	123	LYS
2	L03	128	ARG
2	L03	131	ASP
2	L03	133	THR
2	L03	136	ASN
2	L03	148	GLN
2	L03	164	GLN
2	L03	170	VAL
2	L03	176	ASP
2	L03	180	VAL
2	L03	189	VAL
2	L03	193	VAL
3	L04	2	GLU
3	L04	3	LEU
3	L04	13	THR
3	L04	14	VAL
3	L04	53	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
3	L04	85	PHE
3	L04	118	LEU
3	L04	149	ILE
3	L04	152	GLU
3	L04	164	LEU
3	L04	181	ILE
3	L04	186	VAL
3	L04	187	VAL
4	L05	9	ASP
4	L05	27	VAL
4	L05	29	ARG
4	L05	30	VAL
4	L05	31	GLU
4	L05	34	THR
4	L05	35	LEU
4	L05	39	VAL
4	L05	55	ASP
4	L05	79	ARG
4	L05	82	TYR
4	L05	89	THR
4	L05	97	GLU
4	L05	99	PHE
4	L05	109	ARG
4	L05	110	ILE
4	L05	112	ASP
4	L05	119	LYS
4	L05	129	MET
4	L05	133	GLU
4	L05	139	GLU
4	L05	140	ILE
4	L05	142	TYR
4	L05	155	ILE
4	L05	157	THR
4	L05	168	LEU
4	L05	174	PHE
5	L06	9	VAL
5	L06	10	VAL
5	L06	29	ASN
5	L06	32	LEU
5	L06	48	THR
5	L06	50	THR
5	L06	57	TYR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
5	L06	72	ASN
5	L06	83	THR
5	L06	89	VAL
5	L06	113	ASP
5	L06	115	GLN
5	L06	116	LEU
5	L06	126	THR
5	L06	138	GLN
5	L06	147	LEU
5	L06	151	ARG
5	L06	159	LYS
5	L06	174	LYS
6	L09	17	ASP
6	L09	58	LEU
6	L09	83	LYS
6	L09	86	ASP
6	L09	89	LYS
6	L09	91	PHE
6	L09	98	ASP
6	L09	101	ASP
6	L09	121	VAL
6	L09	124	THR
6	L09	125	THR
6	L09	130	VAL
6	L09	133	GLN
7	L1	4	LEU
7	L1	5	THR
7	L1	6	LYS
7	L1	18	THR
7	L1	21	TYR
7	L1	23	ILE
7	L1	24	ASN
7	L1	29	LEU
7	L1	42	VAL
7	L1	50	ILE
7	L1	59	VAL
7	L1	69	THR
7	L1	162	ARG
7	L1	163	TYR
7	L1	170	ILE
7	L1	192	LEU
7	L1	194	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
7	L1	207	VAL
7	L1	222	VAL
8	L10	1	MET
8	L10	8	LYS
8	L10	15	VAL
8	L10	18	VAL
8	L10	26	VAL
8	L10	41	LEU
8	L10	55	VAL
8	L10	58	THR
8	L10	64	VAL
8	L10	67	THR
8	L10	76	PHE
8	L10	94	ARG
8	L10	96	PHE
8	L10	101	LYS
8	L10	109	LYS
8	L10	113	PHE
8	L10	128	THR
9	L11	4	VAL
9	L11	7	TYR
9	L11	9	LYS
9	L11	10	LEU
9	L11	33	ASN
9	L11	39	LYS
9	L11	45	THR
9	L11	52	LEU
9	L11	58	ILE
9	L11	61	TYR
9	L11	64	ARG
9	L11	85	ILE
9	L11	96	LYS
9	L11	104	GLN
10	L13	5	THR
10	L13	19	ASP
10	L13	52	ASP
10	L13	80	HIS
10	L13	129	GLU
10	L13	131	ASN
11	L14	3	GLN
11	L14	10	VAL
11	L14	35	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
11	L14	37	ASP
11	L14	44	LYS
11	L14	54	LYS
11	L14	56	ASP
11	L14	57	VAL
11	L14	58	LEU
11	L14	61	VAL
11	L14	65	THR
11	L14	88	ASN
11	L14	95	ILE
11	L14	110	GLU
12	L15	82	LEU
12	L15	89	VAL
12	L15	92	LEU
12	L15	94	THR
12	L15	95	LEU
12	L15	103	ILE
12	L15	104	GLN
12	L15	111	ILE
12	L15	120	VAL
12	L15	122	VAL
12	L15	128	THR
13	L16	33	LEU
13	L16	42	THR
13	L16	54	THR
13	L16	55	ARG
13	L16	59	ARG
13	L16	101	VAL
13	L16	119	LEU
13	L16	128	THR
13	L16	129	THR
13	L16	132	THR
13	L16	134	THR
14	L17	2	ARG
14	L17	31	HIS
14	L17	106	ASP
14	L17	113	ILE
14	L17	116	VAL
15	L18	3	LYS
15	L18	27	VAL
15	L18	28	VAL
15	L18	43	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
15	L18	47	VAL
15	L18	56	LYS
15	L18	74	VAL
15	L18	76	LYS
15	L18	112	GLU
16	L19	31	VAL
16	L19	38	ARG
16	L19	74	GLN
16	L19	86	LYS
16	L19	101	GLU
16	L19	108	ARG
16	L19	110	LYS
16	L19	114	ASN
17	L20	8	ILE
17	L20	14	LYS
17	L20	36	GLN
17	L20	40	LYS
17	L20	57	ARG
17	L20	70	GLN
17	L20	94	LEU
17	L20	102	LYS
18	L21	10	LYS
18	L21	11	GLN
18	L21	12	HIS
18	L21	14	VAL
18	L21	20	VAL
18	L21	22	LEU
18	L21	32	THR
18	L21	38	VAL
18	L21	43	ASN
18	L21	46	GLU
18	L21	48	LYS
18	L21	51	VAL
18	L21	58	VAL
18	L21	64	VAL
18	L21	70	GLU
18	L21	95	ASP
19	L22	2	GLU
19	L22	40	ASN
19	L22	84	ARG
19	L22	95	ARG
20	L23	2	ILE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
20	L23	3	ARG
20	L23	5	GLU
20	L23	7	LEU
20	L23	10	VAL
20	L23	15	HIS
20	L23	16	VAL
20	L23	33	LYS
20	L23	48	GLN
20	L23	56	GLU
20	L23	57	VAL
20	L23	58	VAL
20	L23	59	ASN
20	L23	61	LEU
20	L23	67	VAL
20	L23	72	GLN
20	L23	92	ASN
21	L24	17	ASP
21	L24	27	VAL
21	L24	33	VAL
21	L24	42	LYS
21	L24	48	VAL
21	L24	53	GLN
21	L24	58	VAL
21	L24	71	ILE
21	L24	78	LYS
21	L24	84	PHE
21	L24	87	GLU
21	L24	102	ILE
22	L25	4	ILE
22	L25	20	LEU
22	L25	30	ILE
22	L25	34	LYS
22	L25	35	GLU
22	L25	41	GLU
22	L25	42	LEU
22	L25	55	GLU
22	L25	64	VAL
22	L25	65	VAL
22	L25	69	GLU
22	L25	85	LYS
23	L27	39	THR
23	L27	49	CYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
23	L27	52	ASP
24	L28	24	THR
24	L28	43	LYS
24	L28	46	VAL
24	L28	53	LYS
24	L28	63	ILE
24	L28	71	ARG
25	L29	13	GLU
25	L29	15	ASN
25	L29	22	LEU
25	L29	25	GLN
25	L29	45	GLN
25	L29	55	THR
26	L30	24	LEU
26	L30	30	ARG
26	L30	40	THR
26	L30	56	VAL
27	L31	4	ASP
27	L31	5	ILE
27	L31	6	HIS
27	L31	11	GLU
27	L31	12	ILE
27	L31	16	CYS
27	L31	23	LYS
27	L31	25	ARG
27	L31	26	SER
27	L31	27	THR
27	L31	30	HIS
27	L31	44	PHE
27	L31	45	THR
28	L32	2	VAL
28	L32	3	GLN
28	L32	21	LEU
28	L32	22	THR
28	L32	24	VAL
28	L32	52	LYS
29	L33	5	ARG
29	L33	11	VAL
29	L33	16	THR
29	L33	18	HIS
29	L33	19	PHE
29	L33	22	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
29	L33	29	LYS
29	L33	32	LYS
29	L33	45	HIS
30	L34	3	ARG
30	L34	9	VAL
30	L34	24	THR
30	L34	41	ARG
31	L35	15	LYS
31	L35	25	HIS
31	L35	53	ASP
31	L35	61	LEU
32	L36	12	ARG
32	L36	18	LYS
32	L36	30	GLU
32	L36	36	ARG
38	S02	2	THR
38	S02	3	VAL
38	S02	6	ARG
38	S02	9	LEU
38	S02	13	VAL
38	S02	22	TRP
38	S02	39	ILE
38	S02	42	LEU
38	S02	43	GLU
38	S02	53	LEU
38	S02	77	GLU
38	S02	94	ARG
38	S02	135	MET
38	S02	151	LYS
38	S02	160	LEU
38	S02	162	VAL
38	S02	163	ILE
38	S02	169	HIS
38	S02	182	VAL
38	S02	186	VAL
38	S02	193	ASP
38	S02	196	ASP
38	S02	207	ARG
38	S02	209	VAL
38	S02	211	LEU
38	S02	221	ARG
38	S02	222	GLU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
39	S03	13	ILE
39	S03	14	VAL
39	S03	18	ASN
39	S03	19	SER
39	S03	26	LYS
39	S03	36	PHE
39	S03	38	VAL
39	S03	43	THR
39	S03	51	VAL
39	S03	53	ARG
39	S03	74	ILE
39	S03	82	ASP
39	S03	87	ARG
39	S03	92	ASP
39	S03	96	VAL
39	S03	107	LYS
39	S03	123	LEU
39	S03	134	LYS
39	S03	156	LEU
39	S03	164	THR
39	S03	167	TYR
39	S03	168	ARG
39	S03	172	VAL
39	S03	180	ASP
39	S03	194	VAL
39	S03	202	PHE
40	S04	2	ARG
40	S04	4	LEU
40	S04	7	LYS
40	S04	18	LEU
40	S04	19	PHE
40	S04	25	ARG
40	S04	28	ASP
40	S04	29	THR
40	S04	33	ILE
40	S04	34	GLU
40	S04	39	GLN
40	S04	46	ARG
40	S04	57	LYS
40	S04	62	ARG
40	S04	68	GLU
40	S04	114	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	S04	115	GLN
40	S04	127	ARG
40	S04	129	VAL
40	S04	136	VAL
40	S04	141	VAL
40	S04	154	VAL
40	S04	159	GLU
40	S04	165	GLU
40	S04	171	GLU
40	S04	172	VAL
40	S04	177	MET
40	S04	183	ARG
40	S04	189	ASP
40	S04	190	LEU
40	S04	193	ASP
40	S04	194	ILE
40	S04	196	GLU
41	S05	10	LEU
41	S05	14	LEU
41	S05	19	ARG
41	S05	23	THR
41	S05	28	ARG
41	S05	30	PHE
41	S05	53	ARG
41	S05	54	GLU
41	S05	55	VAL
41	S05	73	VAL
41	S05	75	LEU
41	S05	81	GLN
41	S05	105	ILE
41	S05	115	GLU
41	S05	123	LEU
41	S05	143	LEU
41	S05	145	ASN
41	S05	156	ARG
41	S05	158	LYS
41	S05	159	SER
41	S05	160	VAL
41	S05	162	GLU
41	S05	164	LEU
42	S06	5	GLU
42	S06	10	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
42	S06	14	GLN
42	S06	18	VAL
42	S06	54	LEU
42	S06	70	VAL
42	S06	85	ILE
42	S06	92	THR
43	S07	4	ARG
43	S07	24	LYS
43	S07	25	PHE
43	S07	63	VAL
43	S07	72	VAL
43	S07	84	TYR
43	S07	85	GLN
43	S07	86	VAL
43	S07	94	ARG
43	S07	102	TRP
43	S07	103	ILE
43	S07	112	ASP
43	S07	128	GLU
43	S07	132	THR
44	S08	8	ASP
44	S08	32	LYS
44	S08	39	LEU
44	S08	45	ILE
44	S08	60	LEU
44	S08	70	VAL
44	S08	74	ILE
44	S08	103	VAL
45	S09	31	GLN
45	S09	41	GLU
45	S09	42	THR
45	S09	44	ARG
45	S09	46	VAL
45	S09	60	LEU
45	S09	61	ASP
45	S09	67	LYS
45	S09	87	MET
45	S09	88	GLU
45	S09	90	ASP
45	S09	102	PHE
45	S09	104	THR
45	S09	105	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
46	S10	10	LEU
46	S10	15	HIS
46	S10	24	GLU
46	S10	42	LEU
46	S10	57	VAL
46	S10	73	LEU
46	S10	84	VAL
46	S10	85	ASP
46	S10	89	ARG
46	S10	90	LEU
47	S11	26	PHE
47	S11	45	THR
47	S11	67	GLU
47	S11	75	GLU
47	S11	84	MET
47	S11	85	VAL
47	S11	109	ILE
47	S11	124	LYS
48	S12	19	ASN
48	S12	20	VAL
48	S12	89	LEU
48	S12	106	VAL
48	S12	107	LYS
48	S12	116	TYR
49	S13	18	LEU
49	S13	24	VAL
49	S13	33	LEU
49	S13	47	LEU
49	S13	59	VAL
49	S13	100	ARG
49	S13	101	THR
49	S13	107	THR
49	S13	109	LYS
49	S13	113	LYS
50	S14	20	PHE
50	S14	25	GLU
50	S14	30	ILE
50	S14	32	ASP
50	S14	48	GLN
50	S14	52	ARG
50	S14	53	ASP
50	S14	55	SER

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
50	S14	60	ARG
50	S14	61	ASN
50	S14	63	CYS
50	S14	65	GLN
50	S14	73	LEU
50	S14	82	LYS
50	S14	83	VAL
51	S15	4	THR
51	S15	5	GLU
51	S15	23	SER
51	S15	39	GLN
51	S15	46	LYS
51	S15	56	LEU
51	S15	65	LEU
51	S15	87	ARG
52	S16	19	VAL
52	S16	23	ASP
52	S16	24	SER
52	S16	38	PHE
52	S16	53	ASP
52	S16	54	LEU
52	S16	74	LEU
52	S16	77	GLU
52	S16	80	LYS
53	S17	5	ARG
53	S17	16	MET
53	S17	20	ILE
53	S17	22	VAL
53	S17	27	PHE
53	S17	43	LEU
53	S17	49	ASN
53	S17	54	ILE
53	S17	56	ASP
53	S17	62	GLU
54	S18	9	PHE
54	S18	11	ARG
54	S18	12	PHE
54	S18	17	VAL
54	S18	23	LYS
54	S18	24	ASP
54	S18	30	ASN
54	S18	43	ILE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
55	S19	10	ILE
55	S19	18	VAL
55	S19	28	LYS
55	S19	40	PHE
55	S19	50	VAL
55	S19	59	VAL
55	S19	62	THR
55	S19	66	VAL
55	S19	70	LEU
55	S19	72	GLU
56	S20	17	ARG
56	S20	18	LYS
56	S20	27	MET
56	S20	29	THR
56	S20	32	LYS
56	S20	33	LYS
56	S20	50	PHE
56	S20	78	LEU
57	S21	6	ARG
57	S21	23	GLU
57	S21	33	ARG
57	S21	36	PHE
57	S21	37	TYR
57	S21	59	LEU
57	S21	65	ARG
58	SMPB	14	ILE
58	SMPB	16	LEU
58	SMPB	22	HIS
58	SMPB	23	GLU
58	SMPB	24	TYR
58	SMPB	25	PHE
58	SMPB	34	LEU
58	SMPB	36	LEU
58	SMPB	44	LEU
58	SMPB	59	ARG
58	SMPB	66	PHE
58	SMPB	71	THR
58	SMPB	75	VAL
58	SMPB	78	THR
58	SMPB	101	TYR
58	SMPB	104	VAL
58	SMPB	110	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
58	SMPB	119	LYS
58	SMPB	125	VAL
58	SMPB	127	ILE
58	SMPB	131	LYS
58	SMPB	151	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
33	23S	2902/2903 (99%)	618 (21%)	14 (0%)
34	5S	119/120 (99%)	29 (24%)	1 (0%)
35	TMRN	362/363 (99%)	168 (46%)	13 (3%)
36	16S	1538/1539 (99%)	321 (20%)	5 (0%)
37	ATRN	75/76 (98%)	20 (26%)	1 (1%)
All	All	4996/5001 (99%)	1156 (23%)	34 (0%)

All (1156) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
33	23S	10	A
33	23S	12	U
33	23S	15	G
33	23S	23	G
33	23S	34	U
33	23S	35	G
33	23S	39	G
33	23S	46	G
33	23S	50	U
33	23S	51	G
33	23S	55	G
33	23S	61	C
33	23S	63	A
33	23S	71	A
33	23S	74	A
33	23S	75	G
33	23S	80	G
33	23S	82	U
33	23S	84	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
33	23S	87	U
33	23S	91	A
33	23S	96	C
33	23S	100	U
33	23S	102	U
33	23S	103	A
33	23S	110	G
33	23S	114	U
33	23S	118	A
33	23S	119	A
33	23S	120	U
33	23S	123	G
33	23S	125	A
33	23S	128	C
33	23S	135	U
33	23S	136	G
33	23S	137	U
33	23S	139	U
33	23S	140	C
33	23S	141	G
33	23S	162	U
33	23S	163	C
33	23S	166	U
33	23S	181	A
33	23S	196	A
33	23S	199	A
33	23S	204	A
33	23S	205	G
33	23S	216	A
33	23S	219	A
33	23S	220	G
33	23S	222	A
33	23S	228	C
33	23S	229	C
33	23S	243	U
33	23S	248	G
33	23S	255	A
33	23S	265	A
33	23S	266	G
33	23S	271	G
33	23S	276	U
33	23S	277	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
33	23S	278	A
33	23S	281	C
33	23S	285	G
33	23S	294	A
33	23S	299	A
33	23S	301	G
33	23S	311	A
33	23S	316	C
33	23S	322	A
33	23S	323	C
33	23S	329	G
33	23S	330	A
33	23S	334	C
33	23S	353	C
33	23S	361	G
33	23S	367	G
33	23S	371	A
33	23S	372	G
33	23S	373	U
33	23S	386	G
33	23S	387	U
33	23S	396	G
33	23S	403	U
33	23S	404	A
33	23S	406	G
33	23S	411	G
33	23S	412	A
33	23S	422	A
33	23S	424	G
33	23S	448	U
33	23S	451	U
33	23S	456	C
33	23S	457	A
33	23S	458	G
33	23S	459	U
33	23S	467	G
33	23S	473	G
33	23S	479	A
33	23S	481	G
33	23S	483	A
33	23S	490	C
33	23S	491	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
33	23S	504	A
33	23S	505	A
33	23S	508	A
33	23S	509	C
33	23S	517	C
33	23S	518	G
33	23S	528	A
33	23S	530	G
33	23S	532	A
33	23S	542	C
33	23S	543	G
33	23S	544	C
33	23S	545	U
33	23S	547	A
33	23S	549	G
33	23S	555	G
33	23S	562	U
33	23S	563	A
33	23S	573	U
33	23S	575	A
33	23S	592	A
33	23S	602	A
33	23S	603	A
33	23S	613	A
33	23S	614	A
33	23S	616	A
33	23S	622	G
33	23S	627	A
33	23S	637	A
33	23S	645	C
33	23S	646	U
33	23S	647	G
33	23S	651	G
33	23S	654	A
33	23S	655	A
33	23S	656	G
33	23S	664	G
33	23S	669	G
33	23S	676	A
33	23S	678	C
33	23S	685	A
33	23S	686	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
33	23S	695	G
33	23S	696	G
33	23S	714	U
33	23S	717	C
33	23S	730	A
33	23S	734	A
33	23S	738	G
33	23S	747	C
33	23S	752	A
33	23S	764	A
33	23S	774	G
33	23S	776	G
33	23S	782	A
33	23S	784	G
33	23S	785	G
33	23S	789	A
33	23S	792	A
33	23S	800	A
33	23S	805	G
33	23S	806	C
33	23S	811	U
33	23S	812	C
33	23S	819	A
33	23S	827	U
33	23S	828	U
33	23S	830	G
33	23S	844	A
33	23S	845	A
33	23S	846	U
33	23S	847	U
33	23S	856	G
33	23S	859	G
33	23S	860	U
33	23S	866	A
33	23S	869	G
33	23S	878	A
33	23S	886	A
33	23S	887	U
33	23S	890	C
33	23S	891	G
33	23S	896	A
33	23S	897	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
33	23S	902	C
33	23S	910	A
33	23S	914	G
33	23S	915	C
33	23S	919	U
33	23S	941	A
33	23S	945	A
33	23S	946	C
33	23S	953	G
33	23S	957	C
33	23S	959	A
33	23S	961	C
33	23S	973	A
33	23S	974	G
33	23S	983	A
33	23S	985	C
33	23S	989	G
33	23S	995	C
33	23S	996	A
33	23S	1005	C
33	23S	1009	A
33	23S	1012	U
33	23S	1013	C
33	23S	1020	A
33	23S	1021	A
33	23S	1022	G
33	23S	1023	U
33	23S	1026	G
33	23S	1028	A
33	23S	1033	U
33	23S	1040	A
33	23S	1045	C
33	23S	1046	A
33	23S	1047	G
33	23S	1051	G
33	23S	1054	A
33	23S	1058	U
33	23S	1061	U
33	23S	1062	G
33	23S	1063	G
33	23S	1065	U
33	23S	1066	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
33	23S	1068	G
33	23S	1069	A
33	23S	1070	A
33	23S	1071	G
33	23S	1073	A
33	23S	1074	G
33	23S	1075	C
33	23S	1076	C
33	23S	1078	U
33	23S	1080	A
33	23S	1081	U
33	23S	1082	U
33	23S	1083	U
33	23S	1084	A
33	23S	1085	A
33	23S	1088	A
33	23S	1090	A
33	23S	1095	A
33	23S	1096	A
33	23S	1098	A
33	23S	1101	U
33	23S	1103	A
33	23S	1104	C
33	23S	1111	A
33	23S	1119	U
33	23S	1126	A
33	23S	1132	U
33	23S	1133	A
33	23S	1135	C
33	23S	1139	G
33	23S	1142	A
33	23S	1151	A
33	23S	1156	A
33	23S	1170	C
33	23S	1172	C
33	23S	1174	U
33	23S	1175	A
33	23S	1177	G
33	23S	1178	C
33	23S	1180	U
33	23S	1186	G
33	23S	1206	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
33	23S	1212	G
33	23S	1227	G
33	23S	1237	A
33	23S	1252	G
33	23S	1253	A
33	23S	1255	U
33	23S	1256	G
33	23S	1262	A
33	23S	1271	G
33	23S	1272	A
33	23S	1273	U
33	23S	1294	U
33	23S	1300	G
33	23S	1301	A
33	23S	1302	A
33	23S	1305	C
33	23S	1306	C
33	23S	1314	C
33	23S	1321	A
33	23S	1329	U
33	23S	1330	C
33	23S	1332	G
33	23S	1344	U
33	23S	1345	C
33	23S	1360	G
33	23S	1365	A
33	23S	1368	G
33	23S	1374	G
33	23S	1378	A
33	23S	1379	U
33	23S	1383	A
33	23S	1386	C
33	23S	1394	U
33	23S	1395	A
33	23S	1403	A
33	23S	1412	U
33	23S	1414	C
33	23S	1416	G
33	23S	1419	A
33	23S	1420	A
33	23S	1427	A
33	23S	1428	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
33	23S	1433	A
33	23S	1451	C
33	23S	1453	A
33	23S	1458	U
33	23S	1461	C
33	23S	1468	U
33	23S	1475	G
33	23S	1482	G
33	23S	1483	G
33	23S	1488	C
33	23S	1490	A
33	23S	1491	G
33	23S	1497	U
33	23S	1504	A
33	23S	1509	A
33	23S	1515	A
33	23S	1522	A
33	23S	1524	G
33	23S	1525	A
33	23S	1529	G
33	23S	1530	G
33	23S	1534	U
33	23S	1535	A
33	23S	1536	C
33	23S	1537	G
33	23S	1554	U
33	23S	1559	U
33	23S	1560	G
33	23S	1566	A
33	23S	1569	A
33	23S	1578	U
33	23S	1581	G
33	23S	1584	U
33	23S	1588	G
33	23S	1607	C
33	23S	1608	A
33	23S	1611	C
33	23S	1613	G
33	23S	1616	A
33	23S	1646	C
33	23S	1647	U
33	23S	1648	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
33	23S	1649	G
33	23S	1660	G
33	23S	1668	A
33	23S	1669	A
33	23S	1674	G
33	23S	1676	A
33	23S	1677	A
33	23S	1715	G
33	23S	1729	U
33	23S	1730	C
33	23S	1732	C
33	23S	1733	G
33	23S	1735	A
33	23S	1738	G
33	23S	1758	U
33	23S	1759	A
33	23S	1764	C
33	23S	1773	A
33	23S	1780	A
33	23S	1782	U
33	23S	1784	A
33	23S	1785	A
33	23S	1786	A
33	23S	1787	A
33	23S	1791	A
33	23S	1800	C
33	23S	1801	A
33	23S	1802	A
33	23S	1808	A
33	23S	1809	A
33	23S	1815	A
33	23S	1816	C
33	23S	1820	U
33	23S	1829	A
33	23S	1847	A
33	23S	1857	G
33	23S	1866	A
33	23S	1870	C
33	23S	1871	A
33	23S	1884	G
33	23S	1901	A
33	23S	1906	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
33	23S	1907	G
33	23S	1912	A
33	23S	1915	U
33	23S	1918	A
33	23S	1919	A
33	23S	1929	G
33	23S	1930	G
33	23S	1931	U
33	23S	1933	G
33	23S	1937	A
33	23S	1938	A
33	23S	1944	U
33	23S	1955	U
33	23S	1960	A
33	23S	1966	A
33	23S	1967	C
33	23S	1970	A
33	23S	1971	U
33	23S	1972	G
33	23S	1981	A
33	23S	1982	U
33	23S	1991	U
33	23S	1993	U
33	23S	1997	C
33	23S	2015	A
33	23S	2020	A
33	23S	2022	U
33	23S	2023	C
33	23S	2030	A
33	23S	2031	A
33	23S	2032	G
33	23S	2033	A
33	23S	2034	U
33	23S	2043	C
33	23S	2052	A
33	23S	2055	C
33	23S	2056	G
33	23S	2060	A
33	23S	2061	G
33	23S	2062	A
33	23S	2063	C
33	23S	2069	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
33	23S	2077	A
33	23S	2093	G
33	23S	2096	C
33	23S	2098	U
33	23S	2100	G
33	23S	2107	G
33	23S	2110	G
33	23S	2112	G
33	23S	2113	U
33	23S	2114	A
33	23S	2115	G
33	23S	2116	G
33	23S	2118	U
33	23S	2119	A
33	23S	2125	G
33	23S	2126	A
33	23S	2131	U
33	23S	2132	U
33	23S	2133	G
33	23S	2139	U
33	23S	2144	G
33	23S	2145	C
33	23S	2147	A
33	23S	2149	U
33	23S	2151	U
33	23S	2152	G
33	23S	2157	G
33	23S	2158	A
33	23S	2162	G
33	23S	2163	A
33	23S	2164	C
33	23S	2166	U
33	23S	2167	U
33	23S	2170	A
33	23S	2171	A
33	23S	2172	U
33	23S	2173	A
33	23S	2178	C
33	23S	2182	U
33	23S	2184	A
33	23S	2189	U
33	23S	2190	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
33	23S	2197	U
33	23S	2198	A
33	23S	2203	U
33	23S	2204	G
33	23S	2211	A
33	23S	2212	A
33	23S	2223	G
33	23S	2225	A
33	23S	2226	C
33	23S	2238	G
33	23S	2239	G
33	23S	2250	G
33	23S	2278	A
33	23S	2279	G
33	23S	2283	C
33	23S	2287	A
33	23S	2288	A
33	23S	2295	C
33	23S	2297	A
33	23S	2305	U
33	23S	2308	G
33	23S	2309	A
33	23S	2311	A
33	23S	2312	U
33	23S	2320	U
33	23S	2327	A
33	23S	2333	A
33	23S	2334	U
33	23S	2335	A
33	23S	2339	C
33	23S	2345	G
33	23S	2350	C
33	23S	2354	C
33	23S	2379	G
33	23S	2383	G
33	23S	2385	C
33	23S	2392	A
33	23S	2402	U
33	23S	2403	C
33	23S	2406	A
33	23S	2410	G
33	23S	2423	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
33	23S	2424	C
33	23S	2425	A
33	23S	2428	G
33	23S	2429	G
33	23S	2430	A
33	23S	2435	A
33	23S	2439	A
33	23S	2441	U
33	23S	2445	G
33	23S	2447	G
33	23S	2448	A
33	23S	2449	U
33	23S	2475	C
33	23S	2476	A
33	23S	2478	A
33	23S	2480	C
33	23S	2482	A
33	23S	2498	C
33	23S	2502	G
33	23S	2503	A
33	23S	2504	U
33	23S	2505	G
33	23S	2506	U
33	23S	2513	A
33	23S	2518	A
33	23S	2520	C
33	23S	2525	G
33	23S	2534	A
33	23S	2535	G
33	23S	2547	A
33	23S	2549	G
33	23S	2554	U
33	23S	2562	U
33	23S	2566	A
33	23S	2567	G
33	23S	2572	A
33	23S	2573	C
33	23S	2585	U
33	23S	2586	U
33	23S	2603	G
33	23S	2609	U
33	23S	2610	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
33	23S	2613	U
33	23S	2615	U
33	23S	2623	G
33	23S	2629	U
33	23S	2646	C
33	23S	2655	G
33	23S	2656	U
33	23S	2659	G
33	23S	2660	A
33	23S	2682	A
33	23S	2685	G
33	23S	2689	U
33	23S	2690	U
33	23S	2714	G
33	23S	2718	G
33	23S	2722	G
33	23S	2726	A
33	23S	2733	A
33	23S	2744	G
33	23S	2748	A
33	23S	2757	A
33	23S	2764	A
33	23S	2765	A
33	23S	2776	A
33	23S	2778	A
33	23S	2779	U
33	23S	2796	U
33	23S	2797	U
33	23S	2798	U
33	23S	2800	A
33	23S	2808	G
33	23S	2809	A
33	23S	2818	U
33	23S	2820	A
33	23S	2821	A
33	23S	2832	U
33	23S	2833	U
33	23S	2834	G
33	23S	2849	U
33	23S	2861	U
33	23S	2866	U
33	23S	2867	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
33	23S	2871	U
33	23S	2872	A
33	23S	2873	A
33	23S	2874	C
33	23S	2877	G
33	23S	2879	A
33	23S	2880	C
33	23S	2885	G
33	23S	2891	U
33	23S	2901	C
33	23S	2902	C
34	5S	4	C
34	5S	12	C
34	5S	13	G
34	5S	24	G
34	5S	26	C
34	5S	34	A
34	5S	35	C
34	5S	37	C
34	5S	40	U
34	5S	41	G
34	5S	42	C
34	5S	43	C
34	5S	44	G
34	5S	45	A
34	5S	51	G
34	5S	53	A
34	5S	67	G
34	5S	73	A
34	5S	82	U
34	5S	84	G
34	5S	87	U
34	5S	88	C
34	5S	89	U
34	5S	90	C
34	5S	105	G
34	5S	108	A
34	5S	109	A
34	5S	112	G
34	5S	120	A
35	TMRN	8	A
35	TMRN	9	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
35	TMRN	10	U
35	TMRN	12	U
35	TMRN	13	G
35	TMRN	14	G
35	TMRN	15	A
35	TMRN	16	U
35	TMRN	17	U
35	TMRN	18	C
35	TMRN	19	G
35	TMRN	20	A
35	TMRN	21	C
35	TMRN	30	C
35	TMRN	32	A
35	TMRN	33	A
35	TMRN	34	A
35	TMRN	35	C
35	TMRN	39	A
35	TMRN	40	G
35	TMRN	43	G
35	TMRN	49	C
35	TMRN	54	G
35	TMRN	55	G
35	TMRN	58	G
35	TMRN	61	G
35	TMRN	63	C
35	TMRN	64	C
35	TMRN	67	G
35	TMRN	68	U
35	TMRN	69	A
35	TMRN	70	A
35	TMRN	71	A
35	TMRN	72	A
35	TMRN	73	A
35	TMRN	77	G
35	TMRN	79	A
35	TMRN	80	A
35	TMRN	81	A
35	TMRN	82	A
35	TMRN	84	A
35	TMRN	85	U
35	TMRN	86	A
35	TMRN	94	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
35	TMRN	95	C
35	TMRN	96	G
35	TMRN	97	A
35	TMRN	98	C
35	TMRN	99	G
35	TMRN	100	A
35	TMRN	101	A
35	TMRN	102	A
35	TMRN	103	A
35	TMRN	105	U
35	TMRN	106	A
35	TMRN	107	C
35	TMRN	109	C
35	TMRN	114	G
35	TMRN	116	A
35	TMRN	120	U
35	TMRN	121	A
35	TMRN	122	A
35	TMRN	124	A
35	TMRN	125	A
35	TMRN	127	C
35	TMRN	129	G
35	TMRN	130	C
35	TMRN	131	U
35	TMRN	132	U
35	TMRN	133	A
35	TMRN	138	C
35	TMRN	150	G
35	TMRN	151	C
35	TMRN	154	C
35	TMRN	156	G
35	TMRN	157	C
35	TMRN	162	A
35	TMRN	163	G
35	TMRN	165	A
35	TMRN	166	C
35	TMRN	168	G
35	TMRN	172	U
35	TMRN	173	C
35	TMRN	181	G
35	TMRN	182	U
35	TMRN	183	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
35	TMRN	184	A
35	TMRN	189	C
35	TMRN	190	A
35	TMRN	191	A
35	TMRN	192	A
35	TMRN	196	G
35	TMRN	197	A
35	TMRN	199	C
35	TMRN	203	U
35	TMRN	205	G
35	TMRN	206	A
35	TMRN	207	A
35	TMRN	208	G
35	TMRN	211	C
35	TMRN	212	U
35	TMRN	213	G
35	TMRN	223	G
35	TMRN	225	A
35	TMRN	226	G
35	TMRN	227	C
35	TMRN	229	U
35	TMRN	230	U
35	TMRN	231	A
35	TMRN	234	A
35	TMRN	235	C
35	TMRN	236	U
35	TMRN	237	U
35	TMRN	238	A
35	TMRN	245	C
35	TMRN	246	U
35	TMRN	248	G
35	TMRN	257	U
35	TMRN	258	G
35	TMRN	259	G
35	TMRN	261	G
35	TMRN	262	U
35	TMRN	263	G
35	TMRN	265	C
35	TMRN	267	G
35	TMRN	270	C
35	TMRN	274	G
35	TMRN	280	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
35	TMRN	281	A
35	TMRN	282	G
35	TMRN	283	C
35	TMRN	285	A
35	TMRN	286	A
35	TMRN	288	G
35	TMRN	289	U
35	TMRN	290	A
35	TMRN	291	A
35	TMRN	292	A
35	TMRN	299	C
35	TMRN	300	U
35	TMRN	302	A
35	TMRN	303	G
35	TMRN	308	U
35	TMRN	309	A
35	TMRN	310	G
35	TMRN	315	G
35	TMRN	316	A
35	TMRN	317	G
35	TMRN	318	G
35	TMRN	319	A
35	TMRN	320	U
35	TMRN	321	G
35	TMRN	322	U
35	TMRN	325	G
35	TMRN	330	U
35	TMRN	333	G
35	TMRN	334	A
35	TMRN	335	C
35	TMRN	336	G
35	TMRN	337	C
35	TMRN	338	G
35	TMRN	342	U
35	TMRN	345	A
35	TMRN	346	C
35	TMRN	347	U
35	TMRN	348	C
35	TMRN	358	C
35	TMRN	363	A
36	16S	6	G
36	16S	7	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
36	16S	8	A
36	16S	9	G
36	16S	13	U
36	16S	22	G
36	16S	32	A
36	16S	39	G
36	16S	47	C
36	16S	48	C
36	16S	71	A
36	16S	75	G
36	16S	79	G
36	16S	81	A
36	16S	82	G
36	16S	83	C
36	16S	87	C
36	16S	88	U
36	16S	90	C
36	16S	94	G
36	16S	99	C
36	16S	100	G
36	16S	121	U
36	16S	122	G
36	16S	130	A
36	16S	132	C
36	16S	149	A
36	16S	153	C
36	16S	161	A
36	16S	162	A
36	16S	163	C
36	16S	174	A
36	16S	181	A
36	16S	183	C
36	16S	184	G
36	16S	191	G
36	16S	204	G
36	16S	208	U
36	16S	209	U
36	16S	211	G
36	16S	212	G
36	16S	214	C
36	16S	215	C
36	16S	223	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
36	16S	240	G
36	16S	245	U
36	16S	247	G
36	16S	250	A
36	16S	251	G
36	16S	266	G
36	16S	267	C
36	16S	275	G
36	16S	276	G
36	16S	279	A
36	16S	281	G
36	16S	289	G
36	16S	301	G
36	16S	306	A
36	16S	315	A
36	16S	316	C
36	16S	327	A
36	16S	328	C
36	16S	329	A
36	16S	343	U
36	16S	344	A
36	16S	345	C
36	16S	346	G
36	16S	347	G
36	16S	348	G
36	16S	351	G
36	16S	352	C
36	16S	363	A
36	16S	367	U
36	16S	368	U
36	16S	372	C
36	16S	373	A
36	16S	379	C
36	16S	385	C
36	16S	388	G
36	16S	390	U
36	16S	392	C
36	16S	397	A
36	16S	398	U
36	16S	406	G
36	16S	411	A
36	16S	412	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
36	16S	413	G
36	16S	417	G
36	16S	421	U
36	16S	422	C
36	16S	424	G
36	16S	428	G
36	16S	430	A
36	16S	438	U
36	16S	453	G
36	16S	455	G
36	16S	462	G
36	16S	465	A
36	16S	467	U
36	16S	468	A
36	16S	479	U
36	16S	484	G
36	16S	486	U
36	16S	493	A
36	16S	494	G
36	16S	496	A
36	16S	497	G
36	16S	508	U
36	16S	509	A
36	16S	510	A
36	16S	511	C
36	16S	521	G
36	16S	524	G
36	16S	528	C
36	16S	530	G
36	16S	531	U
36	16S	532	A
36	16S	533	A
36	16S	534	U
36	16S	547	A
36	16S	548	G
36	16S	559	A
36	16S	561	U
36	16S	562	U
36	16S	564	C
36	16S	570	G
36	16S	572	A
36	16S	573	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
36	16S	575	G
36	16S	576	C
36	16S	577	G
36	16S	579	A
36	16S	596	A
36	16S	604	G
36	16S	615	G
36	16S	639	G
36	16S	642	A
36	16S	652	U
36	16S	661	G
36	16S	665	A
36	16S	666	G
36	16S	682	G
36	16S	702	A
36	16S	703	G
36	16S	713	G
36	16S	723	U
36	16S	724	G
36	16S	731	G
36	16S	747	A
36	16S	748	G
36	16S	755	G
36	16S	777	A
36	16S	799	G
36	16S	812	G
36	16S	815	A
36	16S	817	C
36	16S	818	G
36	16S	819	A
36	16S	821	G
36	16S	829	G
36	16S	832	G
36	16S	836	G
36	16S	842	U
36	16S	843	U
36	16S	844	G
36	16S	846	G
36	16S	871	U
36	16S	872	A
36	16S	876	C
36	16S	884	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
36	16S	889	A
36	16S	890	G
36	16S	891	U
36	16S	902	G
36	16S	914	A
36	16S	926	G
36	16S	933	G
36	16S	934	C
36	16S	935	A
36	16S	939	G
36	16S	960	U
36	16S	961	U
36	16S	966	G
36	16S	969	A
36	16S	971	G
36	16S	975	A
36	16S	976	G
36	16S	977	A
36	16S	983	A
36	16S	984	C
36	16S	987	G
36	16S	989	U
36	16S	991	U
36	16S	992	U
36	16S	993	G
36	16S	994	A
36	16S	997	U
36	16S	1004	A
36	16S	1011	C
36	16S	1016	A
36	16S	1017	U
36	16S	1020	G
36	16S	1023	U
36	16S	1026	G
36	16S	1028	C
36	16S	1031	C
36	16S	1033	G
36	16S	1050	G
36	16S	1053	G
36	16S	1067	A
36	16S	1078	U
36	16S	1084	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
36	16S	1085	U
36	16S	1086	U
36	16S	1089	G
36	16S	1094	G
36	16S	1098	C
36	16S	1101	A
36	16S	1108	G
36	16S	1110	A
36	16S	1124	G
36	16S	1125	U
36	16S	1130	A
36	16S	1131	G
36	16S	1132	C
36	16S	1136	C
36	16S	1137	C
36	16S	1138	G
36	16S	1139	G
36	16S	1140	C
36	16S	1145	A
36	16S	1158	C
36	16S	1159	U
36	16S	1160	G
36	16S	1165	U
36	16S	1168	U
36	16S	1169	A
36	16S	1182	G
36	16S	1184	G
36	16S	1191	A
36	16S	1193	G
36	16S	1196	A
36	16S	1197	A
36	16S	1201	A
36	16S	1212	U
36	16S	1215	G
36	16S	1225	A
36	16S	1226	C
36	16S	1227	A
36	16S	1228	C
36	16S	1229	A
36	16S	1238	A
36	16S	1240	U
36	16S	1241	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
36	16S	1249	C
36	16S	1253	G
36	16S	1256	A
36	16S	1258	G
36	16S	1260	G
36	16S	1261	A
36	16S	1274	A
36	16S	1275	A
36	16S	1278	G
36	16S	1279	G
36	16S	1280	A
36	16S	1281	C
36	16S	1282	C
36	16S	1287	A
36	16S	1297	G
36	16S	1300	G
36	16S	1304	G
36	16S	1305	G
36	16S	1310	G
36	16S	1316	G
36	16S	1317	C
36	16S	1318	A
36	16S	1320	C
36	16S	1325	C
36	16S	1336	C
36	16S	1337	G
36	16S	1338	G
36	16S	1346	A
36	16S	1347	G
36	16S	1348	U
36	16S	1363	A
36	16S	1364	U
36	16S	1370	G
36	16S	1379	G
36	16S	1395	C
36	16S	1397	C
36	16S	1398	A
36	16S	1402	C
36	16S	1429	A
36	16S	1442	G
36	16S	1446	A
36	16S	1447	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
36	16S	1448	C
36	16S	1451	U
36	16S	1452	C
36	16S	1453	G
36	16S	1455	G
36	16S	1457	G
36	16S	1461	G
36	16S	1475	G
36	16S	1487	G
36	16S	1492	A
36	16S	1494	G
36	16S	1499	A
36	16S	1502	A
36	16S	1503	A
36	16S	1506	U
36	16S	1507	A
36	16S	1517	G
36	16S	1519	A
36	16S	1529	G
36	16S	1530	G
36	16S	1533	C
36	16S	1534	A
36	16S	1538	C
36	16S	1539	C
36	16S	1540	U
37	ATRN	9	A
37	ATRN	16	C
37	ATRN	17	U
37	ATRN	18	G
37	ATRN	19	G
37	ATRN	20	G
37	ATRN	21	A
37	ATRN	22	G
37	ATRN	25	C
37	ATRN	30	G
37	ATRN	36	C
37	ATRN	46	G
37	ATRN	47	U
37	ATRN	48	C
37	ATRN	58	A
37	ATRN	59	U
37	ATRN	61	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
37	ATRN	62	C
37	ATRN	74	C
37	ATRN	75	C

All (34) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
33	23S	372	G
33	23S	421	C
33	23S	458	G
33	23S	490	C
33	23S	858	G
33	23S	859	G
33	23S	1020	A
33	23S	1865	U
33	23S	1930	G
33	23S	2286	G
33	23S	2326	C
33	23S	2391	G
33	23S	2655	G
33	23S	2756	U
34	5S	42	C
35	TMRN	17	U
35	TMRN	38	A
35	TMRN	60	U
35	TMRN	93	A
35	TMRN	130	C
35	TMRN	212	U
35	TMRN	229	U
35	TMRN	261	G
35	TMRN	290	A
35	TMRN	308	U
35	TMRN	314	C
35	TMRN	334	A
35	TMRN	337	C
36	16S	70	U
36	16S	890	G
36	16S	982	U
36	16S	1190	G
36	16S	1347	G
37	ATRN	16	C

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

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

5.5 Carbohydrates (i)

There are no monosaccharides 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.

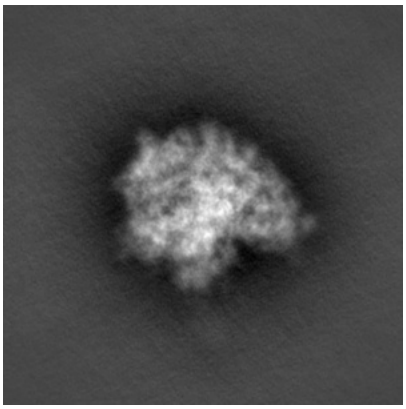
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-43491. These allow visual inspection of the internal detail of the map and identification of artifacts.

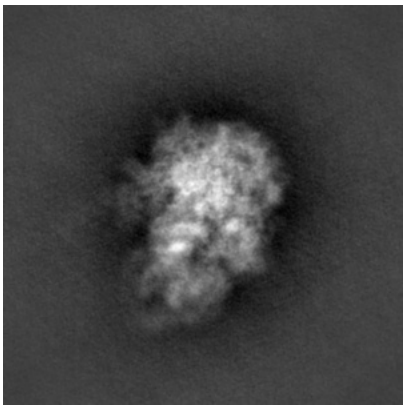
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

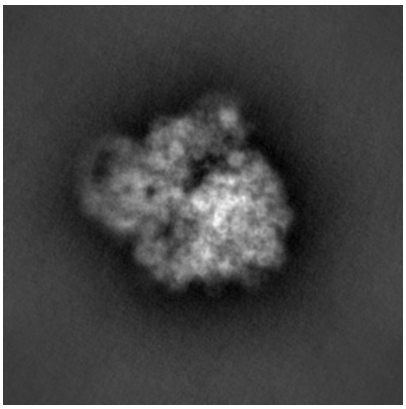
6.1.1 Primary map



X

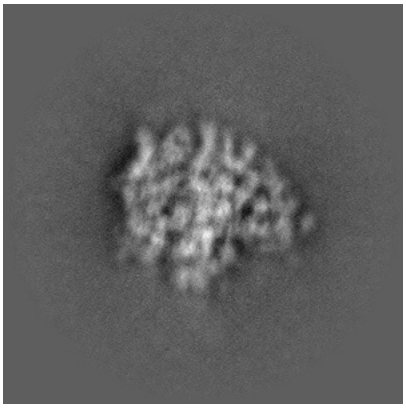


Y

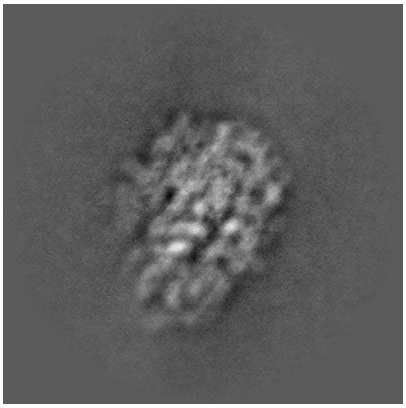


Z

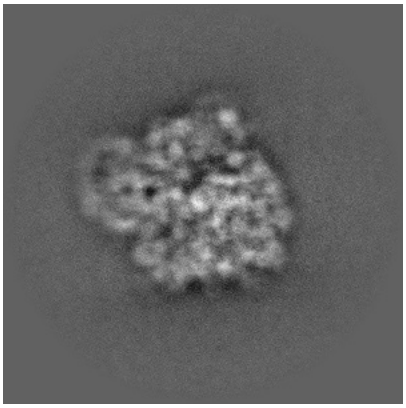
6.1.2 Raw map



X



Y

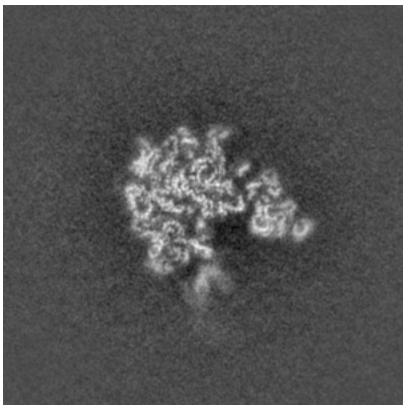


Z

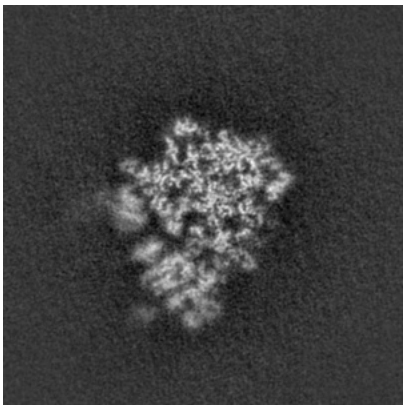
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

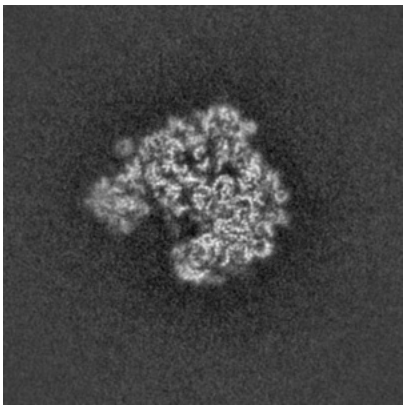
6.2.1 Primary map



X Index: 280

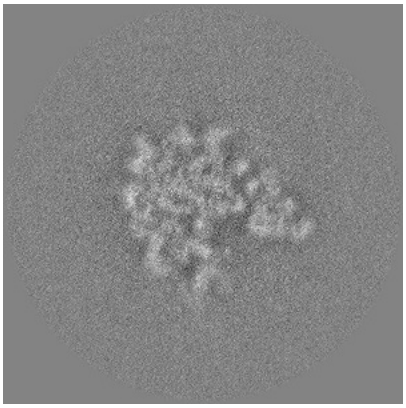


Y Index: 280

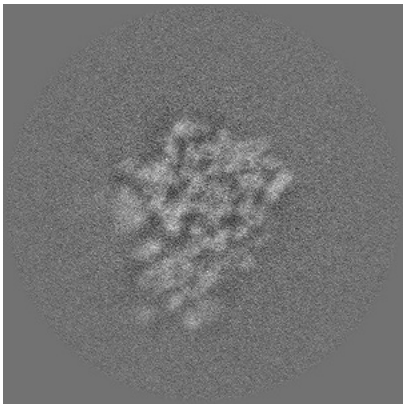


Z Index: 280

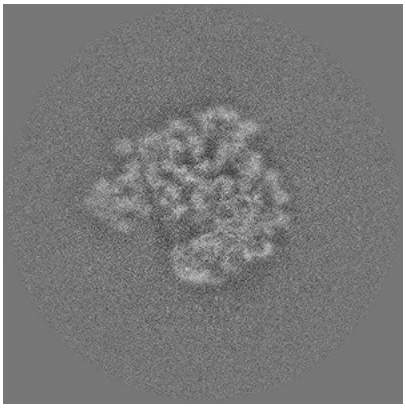
6.2.2 Raw map



X Index: 280



Y Index: 280

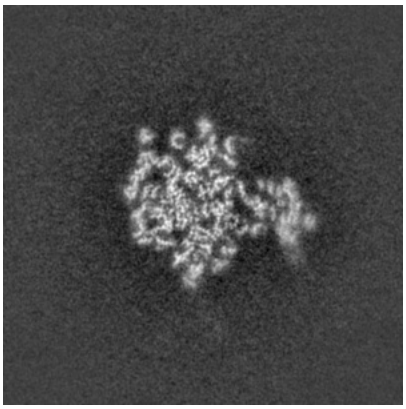


Z Index: 280

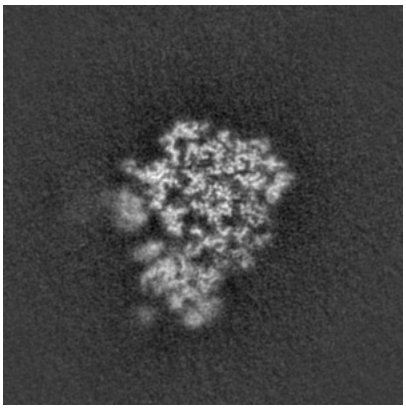
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

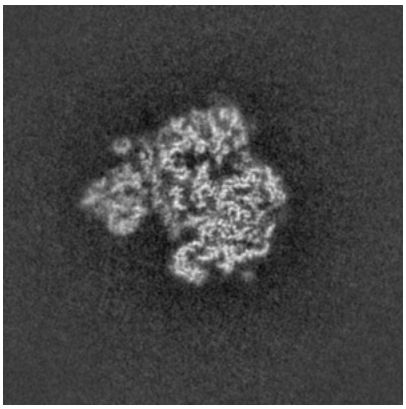
6.3.1 Primary map



X Index: 310

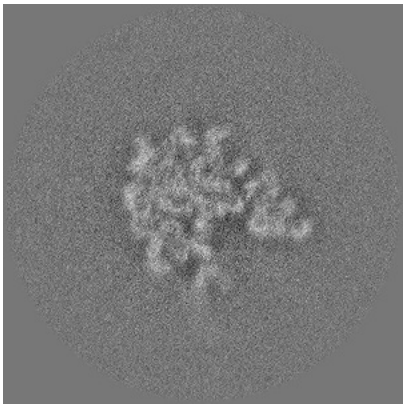


Y Index: 284

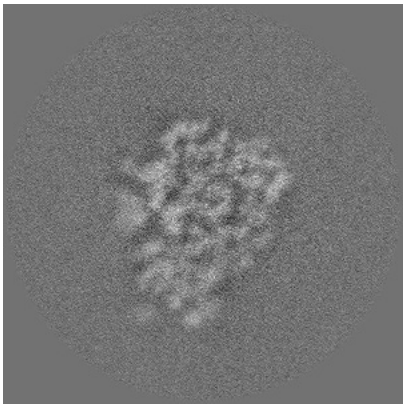


Z Index: 273

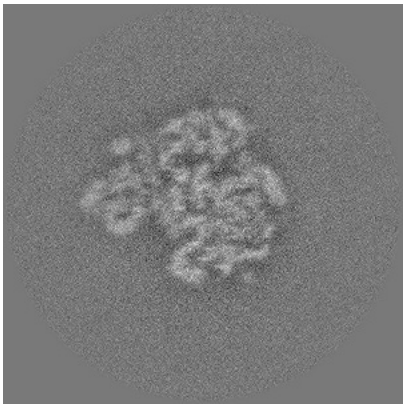
6.3.2 Raw map



X Index: 279



Y Index: 283

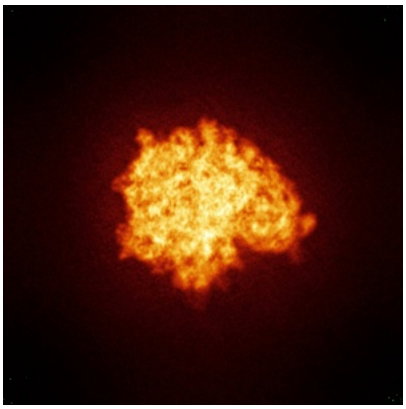


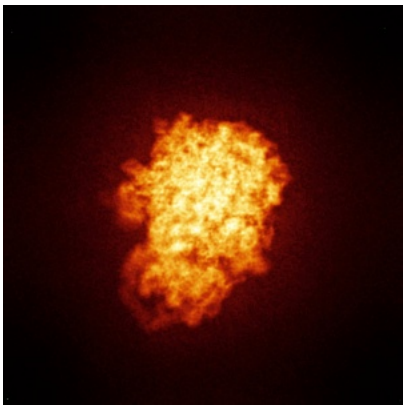
Z Index: 271

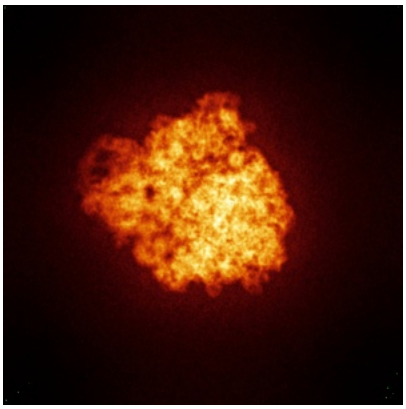
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

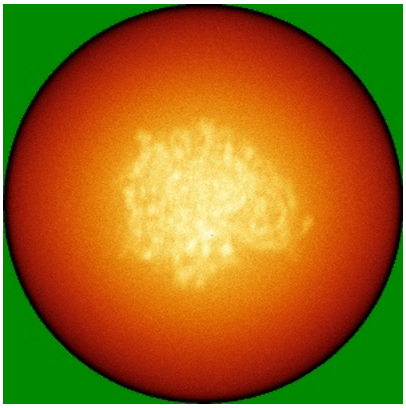
6.4.1 Primary map

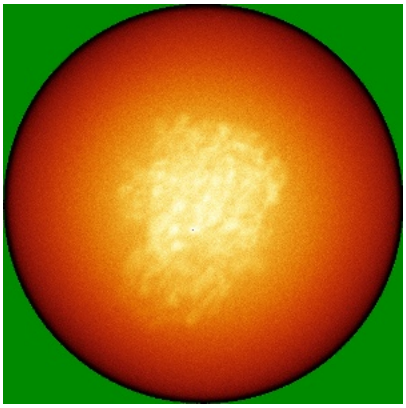

X

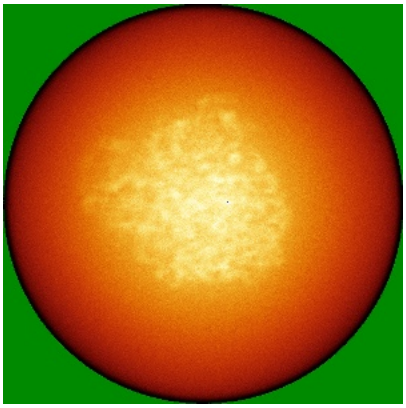

Y


Z

6.4.2 Raw map


X


Y


Z

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

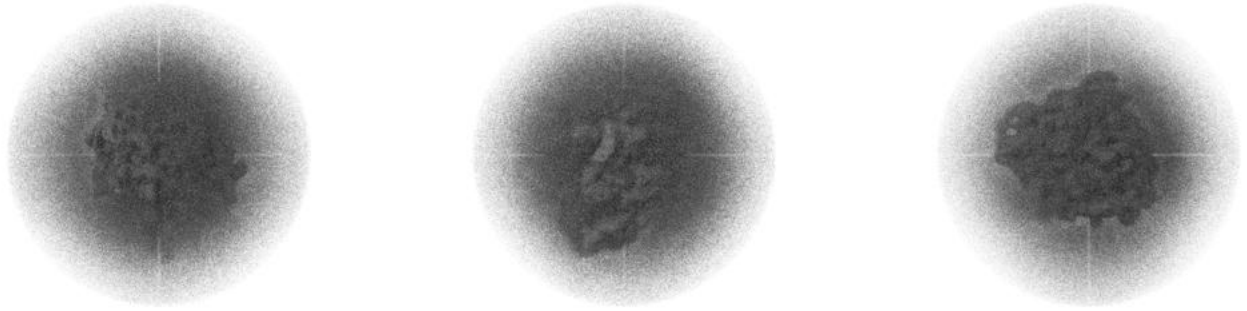
6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 3.0. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

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

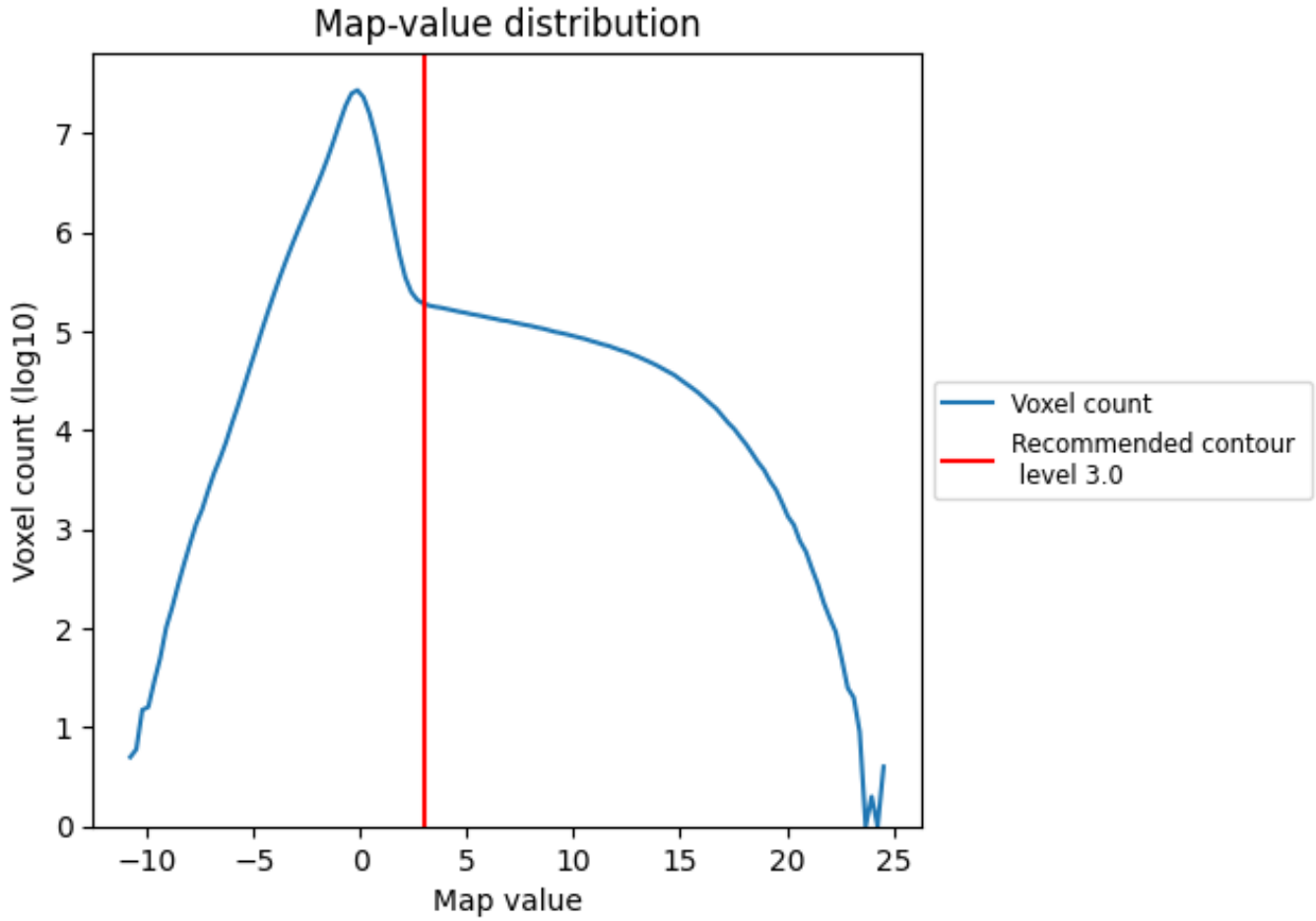
6.6 Mask visualisation (i)

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

7 Map analysis

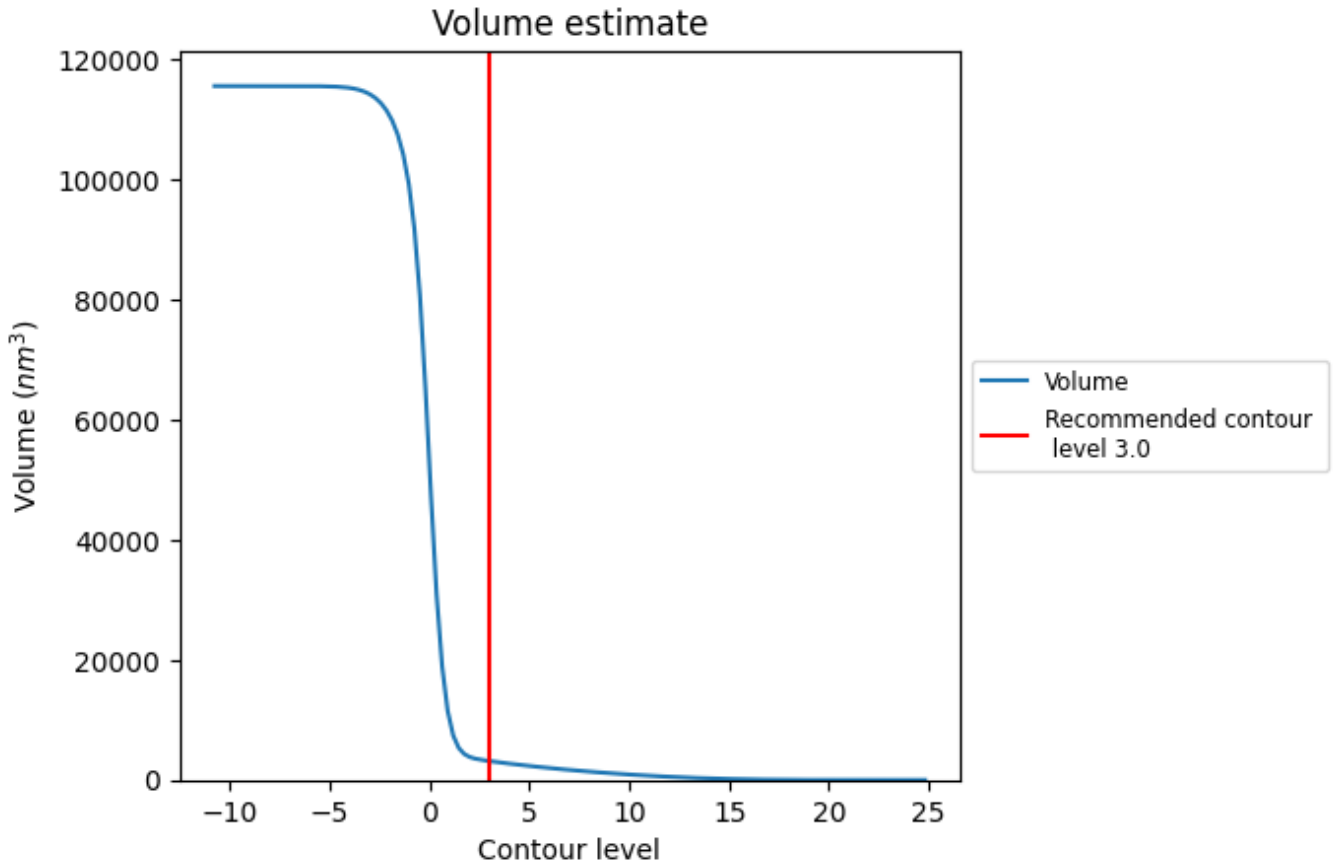
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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.

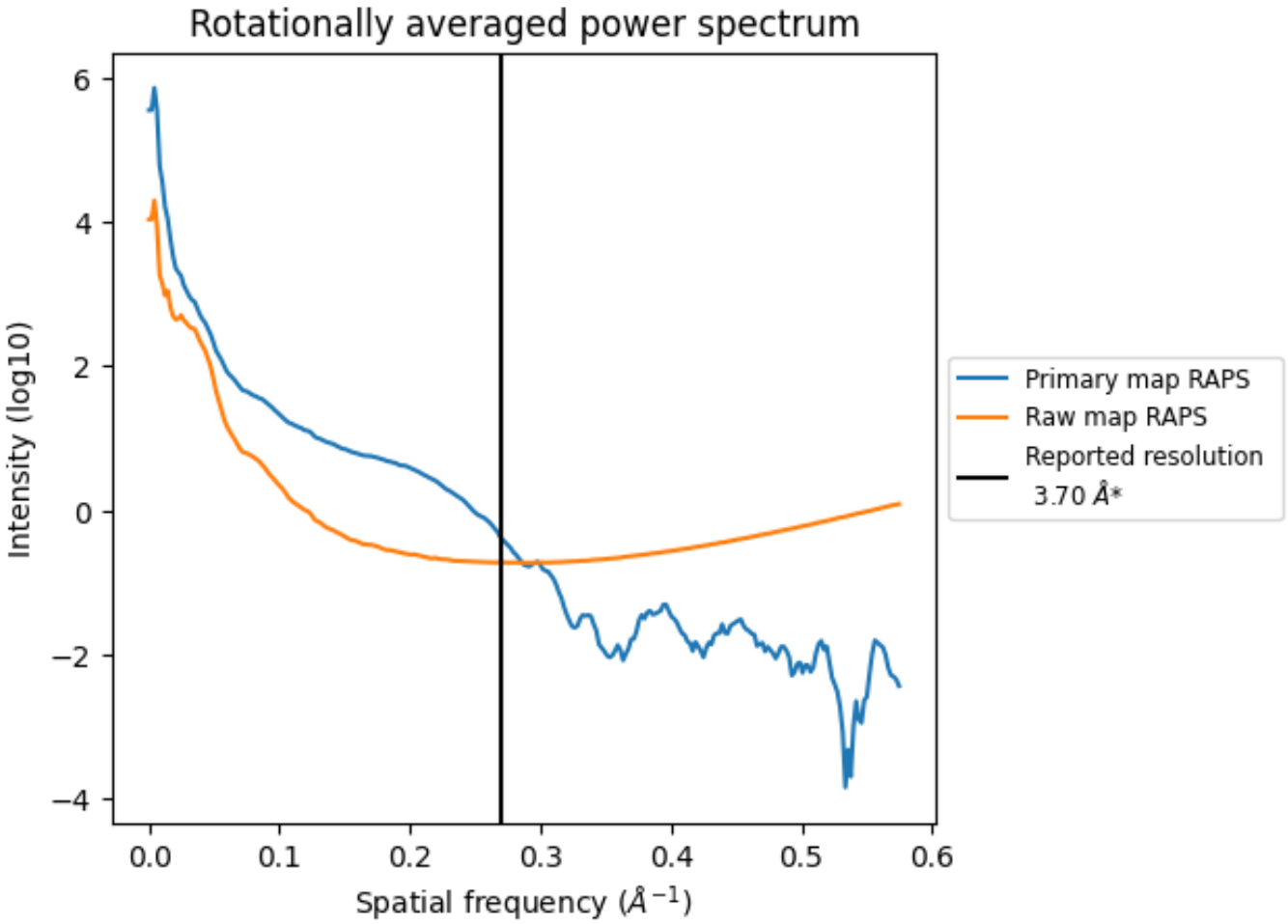
7.2 Volume estimate



The volume at the recommended contour level is 3143 nm^3; this corresponds to an approximate mass of 2839 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 (i)

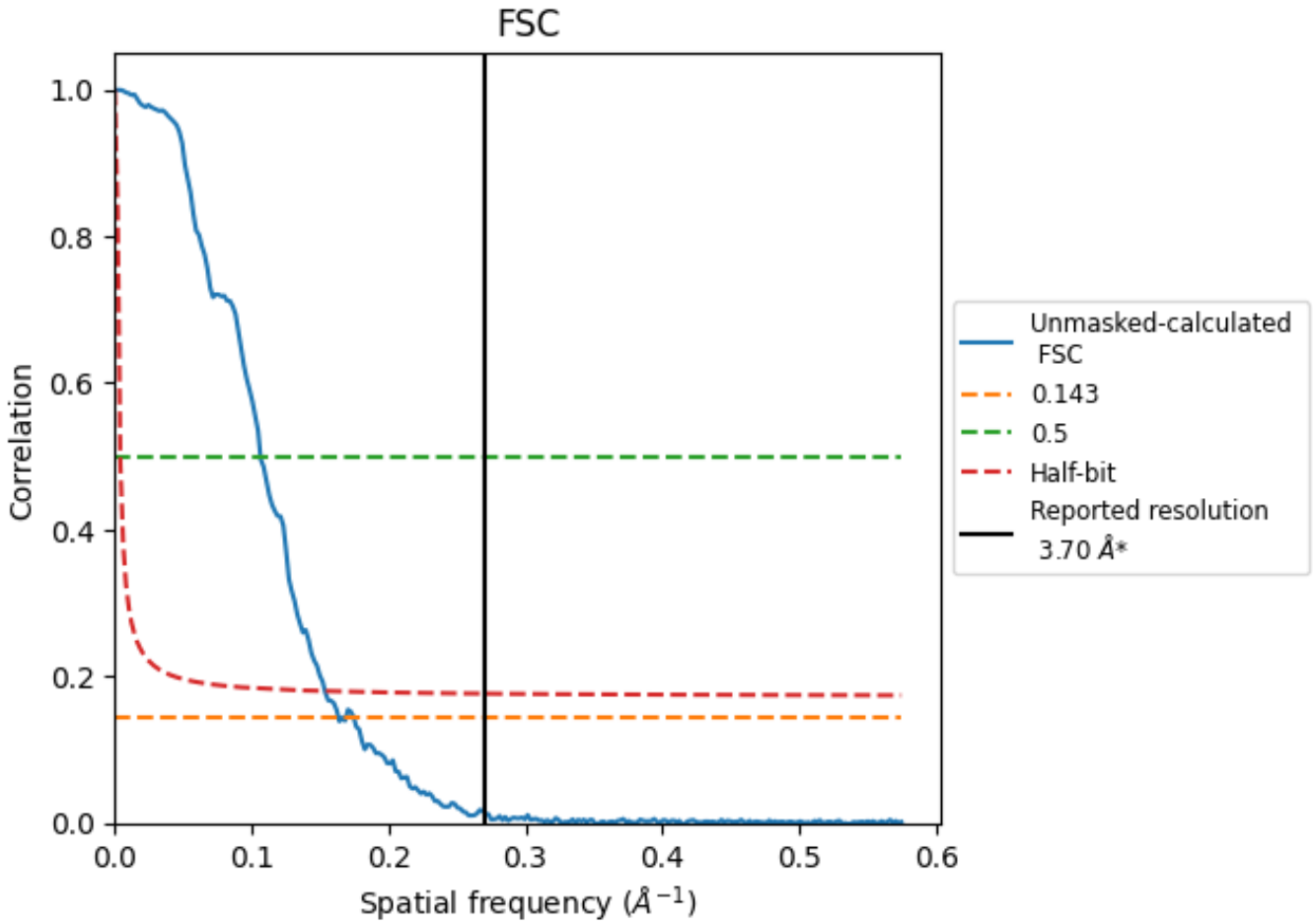


*Reported resolution corresponds to spatial frequency of 0.270 Å^{-1}

8 Fourier-Shell correlation

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



*Reported resolution corresponds to spatial frequency of 0.270 Å^{-1}

8.2 Resolution estimates (i)

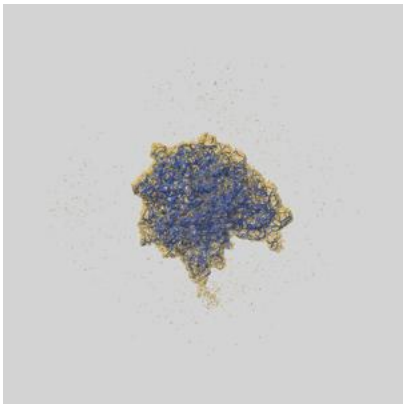
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.70	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	6.12	9.39	6.51

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 6.12 differs from the reported value 3.7 by more than 10 %

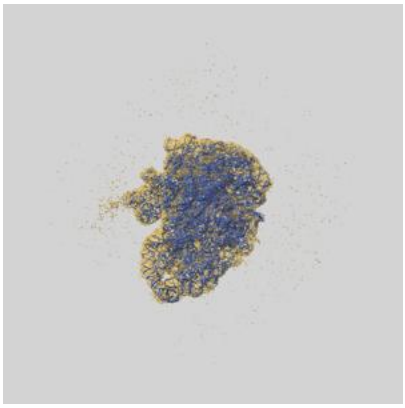
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-43491 and PDB model 8VSA. Per-residue inclusion information can be found in section 3 on page 15.

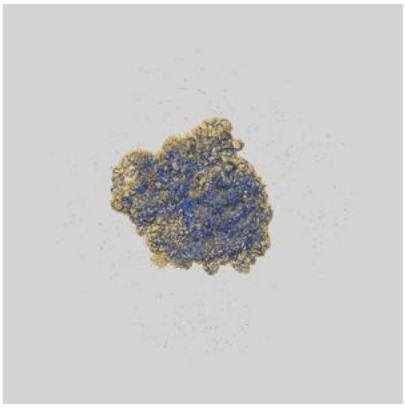
9.1 Map-model overlay



X



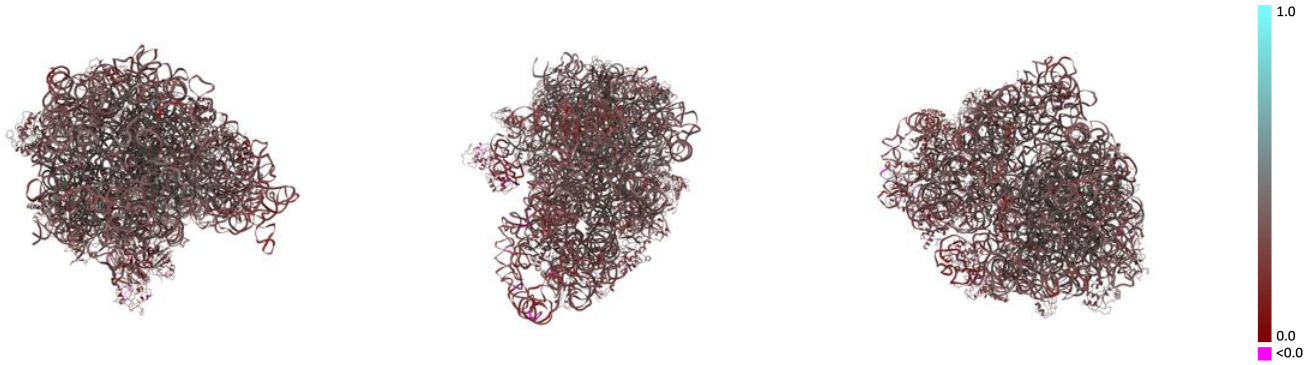
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 3.0 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

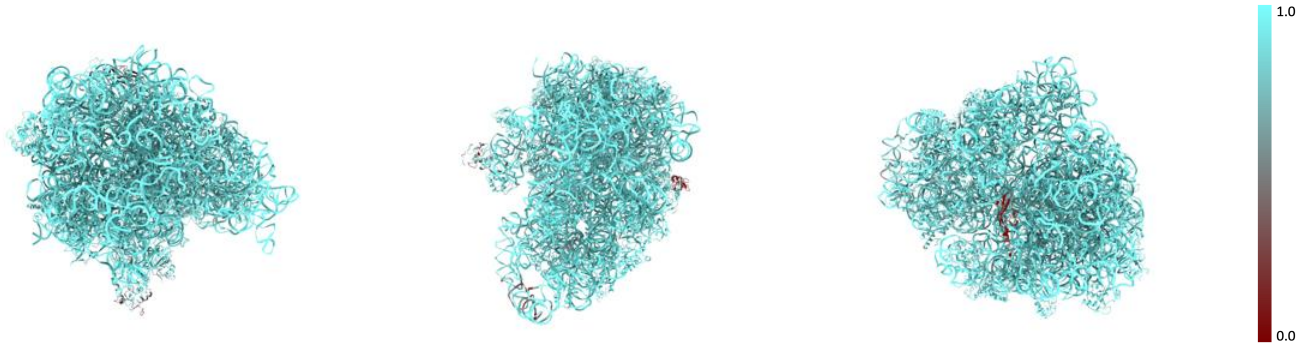
9.2 Q-score mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according 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.

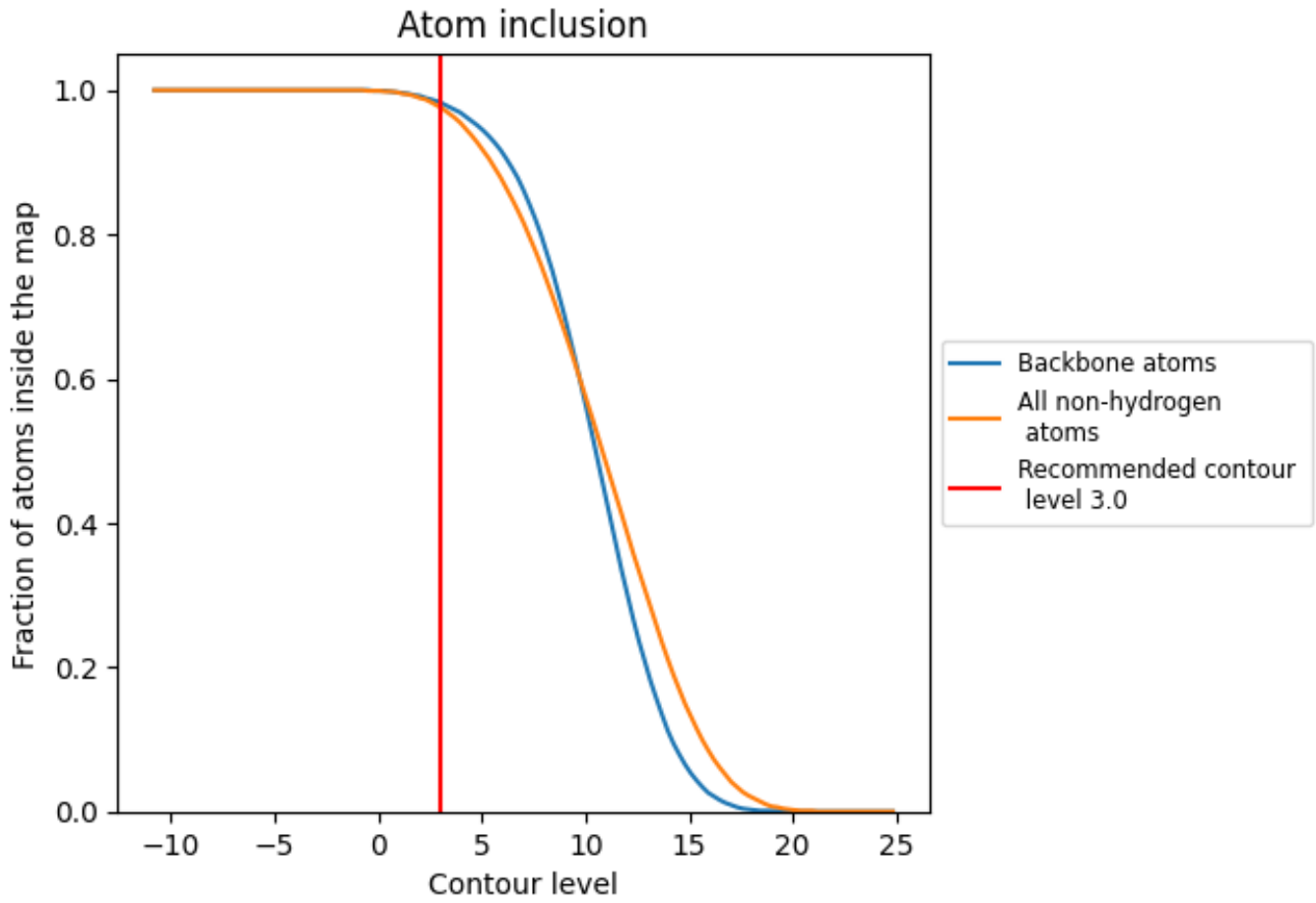
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

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 (3.0).

9.4 Atom inclusion (i)



At the recommended contour level, 98% of all backbone atoms, 98% 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 (3.0) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9760	0.3370
16S	0.9980	0.3320
23S	0.9980	0.3620
5S	0.9980	0.3300
ATRN	0.9940	0.3320
L02	0.9710	0.3920
L03	0.9700	0.3820
L04	0.9680	0.3500
L05	0.9770	0.2830
L06	0.9710	0.3240
L09	0.4100	0.2890
L1	0.8880	0.2150
L10	0.7050	0.1920
L11	0.8460	0.1940
L13	0.9770	0.3650
L14	0.9310	0.3940
L15	0.9700	0.3610
L16	0.9600	0.3710
L17	0.9860	0.3570
L18	0.9940	0.3270
L19	0.9490	0.3740
L20	0.9750	0.3470
L21	0.9800	0.3670
L22	0.9430	0.3630
L23	0.9570	0.3590
L24	0.9640	0.3390
L25	0.9730	0.3490
L27	0.9710	0.3670
L28	0.9630	0.3520
L29	0.9640	0.3020
L30	0.9540	0.3510
L31	0.9680	0.2220
L32	0.9440	0.3740
L33	0.9800	0.3490
L34	0.9800	0.3680

Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
L35	0.9880	0.3820
L36	0.9930	0.3920
S02	0.9310	0.3190
S03	0.9590	0.3150
S04	0.9740	0.2870
S05	0.9700	0.3560
S06	0.9370	0.3290
S07	0.9390	0.2910
S08	0.9600	0.3370
S09	0.9780	0.2780
S10	0.9440	0.3130
S11	0.9810	0.3520
S12	0.9350	0.3450
S13	0.9680	0.2790
S14	0.9790	0.2980
S15	0.9750	0.3180
S16	0.9860	0.3290
S17	0.9730	0.3180
S18	0.9770	0.3310
S19	0.9920	0.3040
S20	0.9740	0.2690
S21	0.9280	0.3050
SMPB	0.9220	0.3130
TMRN	0.9060	0.2300