Full wwPDB EM Validation Report ⓘ

May 13, 2025 – 08:36 AM EDT

PDB ID	:	7JQC / pdb_00007jqc
EMDB ID	:	EMD-22433
Title	:	SARS-CoV-2 Nsp1, CrPV IRES and rabbit 40S ribosome complex
Authors	:	Yuan, S.; Xiong, Y.
Deposited on	:	2020-08-10
Resolution	:	3.30 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:

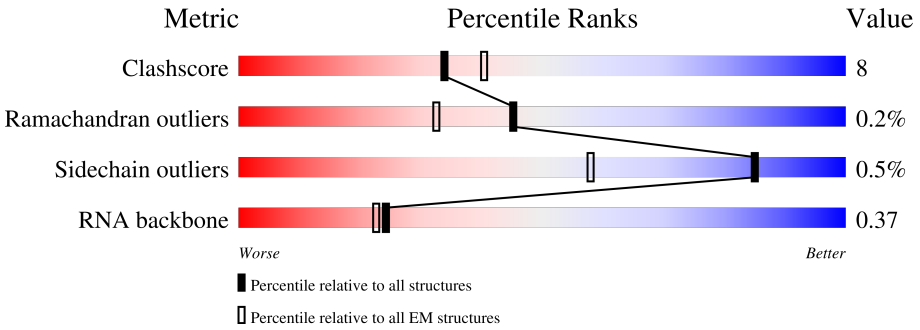
EMDB validation analysis	:	0.0.1.dev118
MolProbity	:	4-5-2 with Phenix2.0rc1
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.43.1

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 3.30 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.



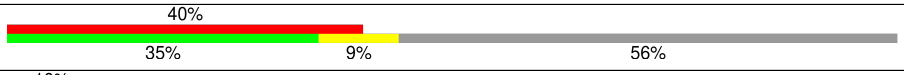
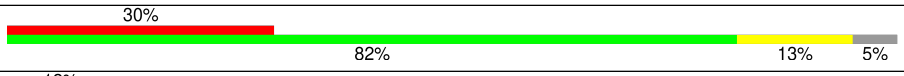
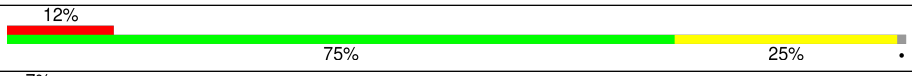
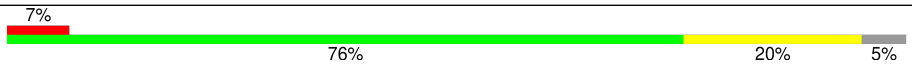
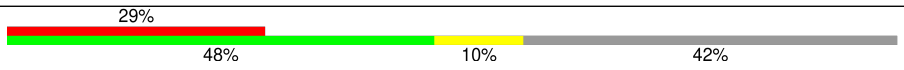
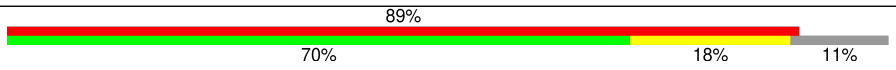
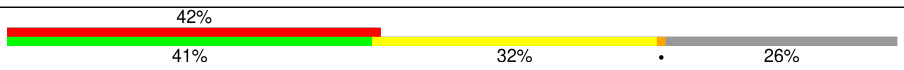
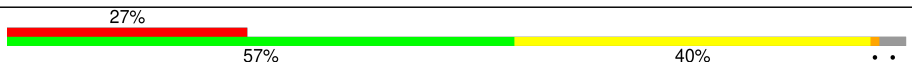
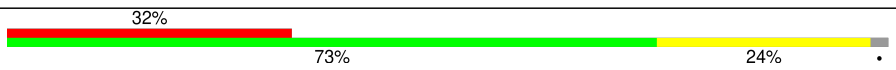
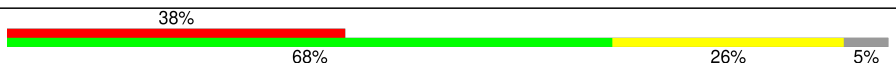
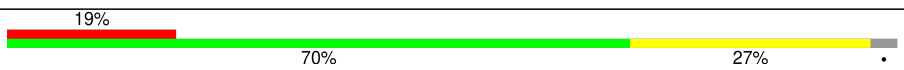
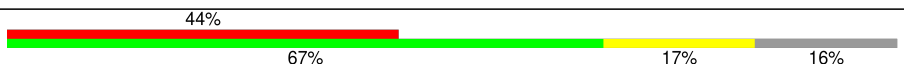
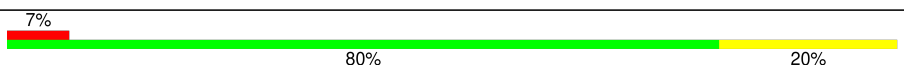
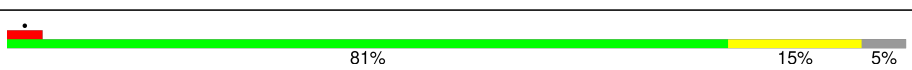
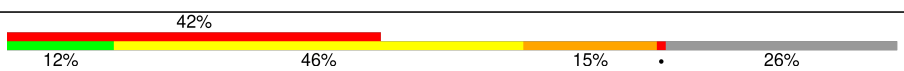
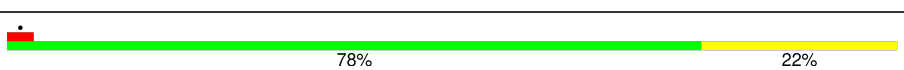
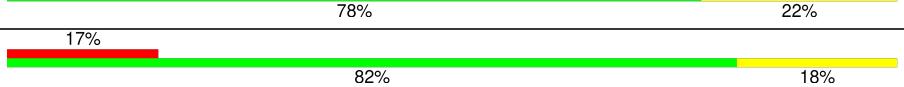
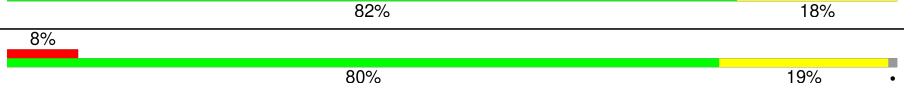
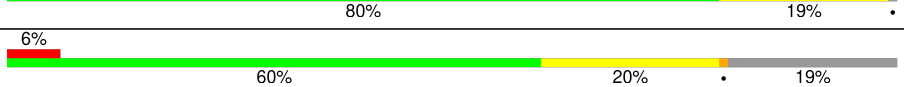
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

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	A	1869	6% 52% 32% 7% 9%
2	a	125	10% 41% 19% 40%
3	B	295	10% 63% 11% 26%
4	b	115	71% 17% 12%
5	C	264	60% 20% 19%
6	D	293	65% 10% 25%
7	d	69	10% 65% 25% 10%

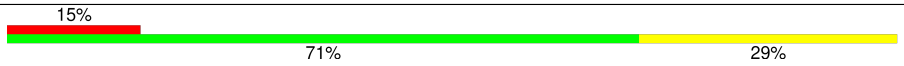
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
8	E	243	
9	f	133	
10	G	204	
11	g	156	
12	H	249	
13	h	317	
14	I	194	
15	J	208	
16	K	194	
17	L	165	
18	N	132	
19	Q	145	
20	R	146	
21	S	135	
22	T	152	
23	U	145	
24	V	119	
25	W	83	
26	Z	130	
27	F	36	
28	i	192	
29	M	263	
30	O	158	
31	P	151	
32	X	168	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
33	Y	130	
34	c	143	
35	e	84	

2 Entry composition

There are 35 unique types of molecules in this entry. The entry contains 77823 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	A	1697	36229	16171	6507	11855	1696	0	0

- Molecule 2 is a protein called eS25.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	a	75	598	382	111	104	1	0	0

- Molecule 3 is a protein called 40S ribosomal protein SA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	B	217	1710	1086	300	316	8	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	114	THR	ALA	conflict	UNP G1TLT8

- Molecule 4 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	b	101	814	507	170	132	5	0	0

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
b	28	ARG	CYS	conflict	UNP G1TFE8
b	56	ALA	VAL	conflict	UNP G1TFE8
b	109	ARG	PRO	conflict	UNP G1TFE8

- Molecule 5 is a protein called eS1.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	C	213	Total	C	N	O	S	0	0
			1729	1098	309	308	14		

- Molecule 6 is a protein called uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	D	221	Total	C	N	O	S	0	0
			1716	1111	295	301	9		

- Molecule 7 is a protein called eS28.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	d	62	Total	C	N	O	S	0	0
			488	297	97	92	2		

- Molecule 8 is a protein called Ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	E	228	Total	C	N	O	S	0	0
			1768	1126	318	316	8		

- Molecule 9 is a protein called eS30.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	f	57	Total	C	N	O	S	0	0
			457	282	101	73	1		

- Molecule 10 is a protein called uS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	G	185	Total	C	N	O	S	0	0
			1461	917	277	260	7		

- Molecule 11 is a protein called eS31.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	g	68	Total	C	N	O	S	0	0
			555	351	103	94	7		

- Molecule 12 is a protein called eS6.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	H	237	Total	C	N	O	S	0	0
			1923	1200	387	329	7		

- Molecule 13 is a protein called RACK1.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	h	313	Total	C	N	O	S	0	0
			2436	1535	424	465	12		

- Molecule 14 is a protein called eS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	I	185	Total	C	N	O	S	0	0
			1488	952	271	264	1		

- Molecule 15 is a protein called eS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	J	206	Total	C	N	O	S	0	0
			1686	1058	332	291	5		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
J	47	ARG	GLY	conflict	UNP G1TJW1

- Molecule 16 is a protein called uS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	K	185	Total	C	N	O	S	0	0
			1525	969	306	248	2		

- Molecule 17 is a protein called S10_plectin domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	L	96	Total	C	N	O	S	0	0
			810	530	143	131	6		

- Molecule 18 is a protein called eS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	N	117	Total	C	N	O	S	0	0
			908	570	161	169	8		

- Molecule 19 is a protein called uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	Q	107	Total	C	N	O	S	0	0
			889	563	167	152	7		

- Molecule 20 is a protein called Uncharacterized protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	R	142	Total	C	N	O	S	0	0
			1128	717	213	195	3		

- Molecule 21 is a protein called eS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	S	132	Total	C	N	O	S	0	0
			1068	670	199	195	4		

- Molecule 22 is a protein called uS13.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	T	144	Total	C	N	O	S	0	0
			1190	746	241	202	1		

- Molecule 23 is a protein called Uncharacterized protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	U	141	Total	C	N	O	S	0	0
			1097	688	211	195	3		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
U	119	GLY	TRP	conflict	UNP G1TN62

- Molecule 24 is a protein called uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	V	100	Total	C	N	O	S	0	0
			795	498	152	141	4		

- Molecule 25 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	W	83	Total	C	N	O	S	0	0
			636	393	117	121	5		

There are 7 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
W	3	ASN	SER	conflict	UNP G1TM82
W	4	ASP	ASN	conflict	UNP G1TM82
W	33	GLN	PRO	conflict	UNP G1TM82
W	50	PHE	SER	conflict	UNP G1TM82
W	75	ALA	SER	conflict	UNP G1TM82
W	76	ASP	HIS	conflict	UNP G1TM82
W	81	LYS	GLN	conflict	UNP G1TM82

- Molecule 26 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	Z	124	Total	C	N	O	S	0	0
			1011	640	198	168	5		

- Molecule 27 is a protein called Host translation inhibitor nsp1.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	F	36	Total	C	N	O	S	0	0
			280	171	50	58	1		

- Molecule 28 is a RNA chain called Cricket paralysis virus IRES RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	i	143	Total	C	N	O	P	0	0
			3026	1356	518	1009	143		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
i	6176	C	U	conflict	GB 8895506

- Molecule 29 is a protein called 40S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	M	263	Total	C	N	O	S	0	0
			2083	1329	385	359	10		

- Molecule 30 is a protein called uS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	O	158	Total	C	N	O	S	0	0
			1296	827	241	221	7		

- Molecule 31 is a protein called uS15.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	P	150	Total	C	N	O	S	0	0
			1208	773	229	205	1		

- Molecule 32 is a protein called Uncharacterized protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	X	136	Total	C	N	O	S	0	0
			1016	621	199	190	6		

- Molecule 33 is a protein called uS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Y	129	Total	C	N	O	S	0	0
			1034	659	193	176	6		

- Molecule 34 is a protein called Uncharacterized protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	c	142	Total	C	N	O	S	0	0
			1106	698	220	184	4		

- Molecule 35 is a protein called eS27.

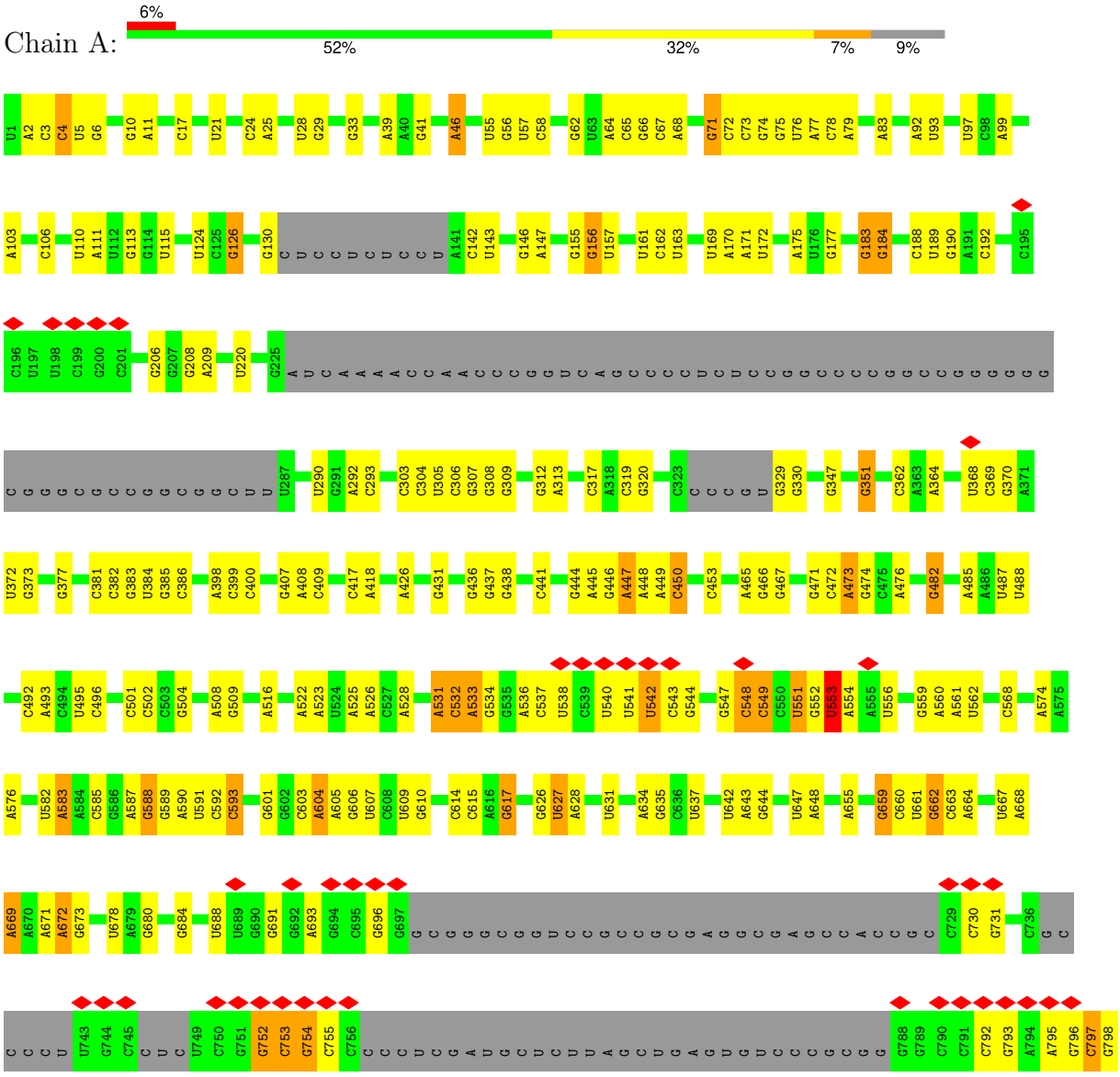
Mol	Chain	Residues	Atoms					AltConf	Trace
35	e	84	Total	C	N	O	S	0	0
			659	413	122	116	8		

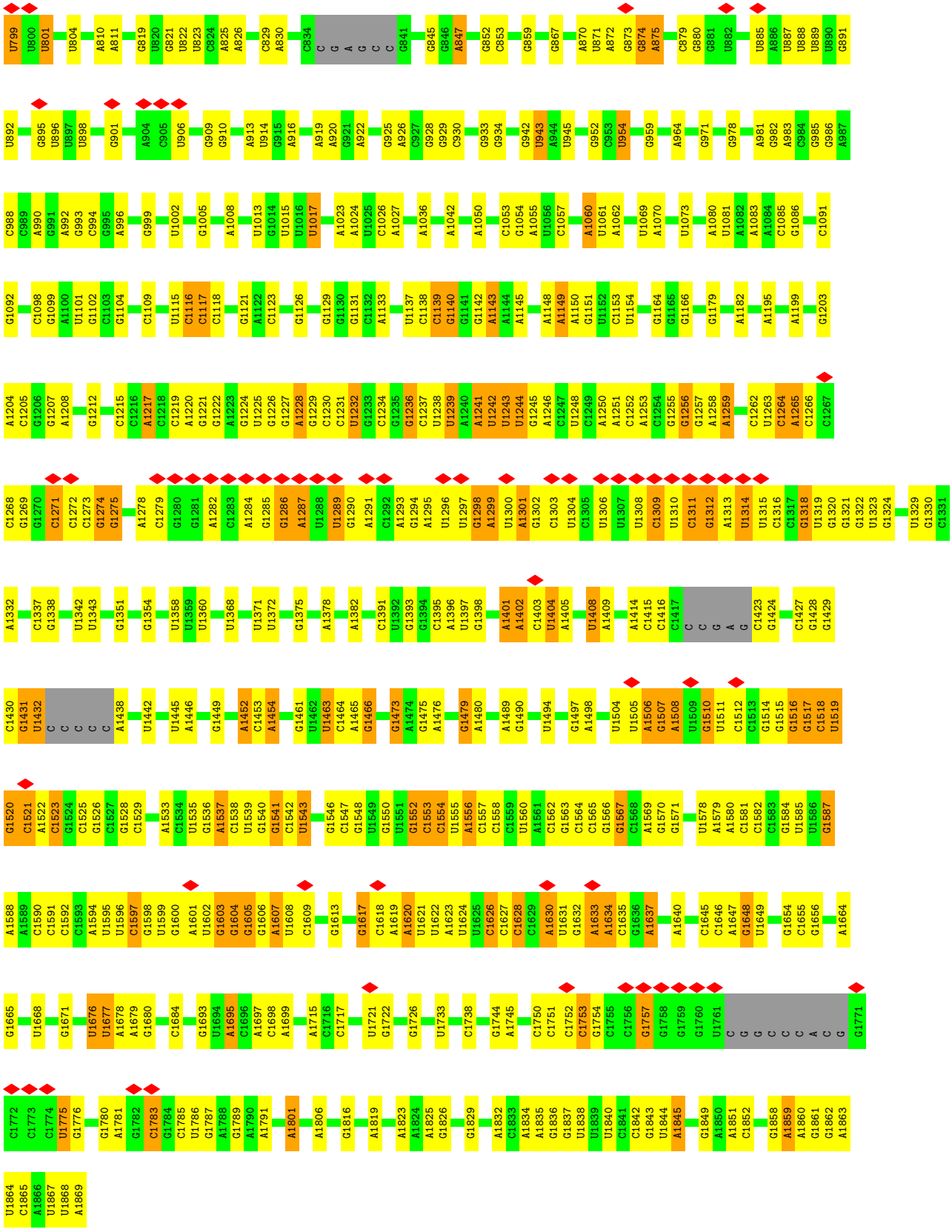
3 Residue-property plots (i)

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: rRNA

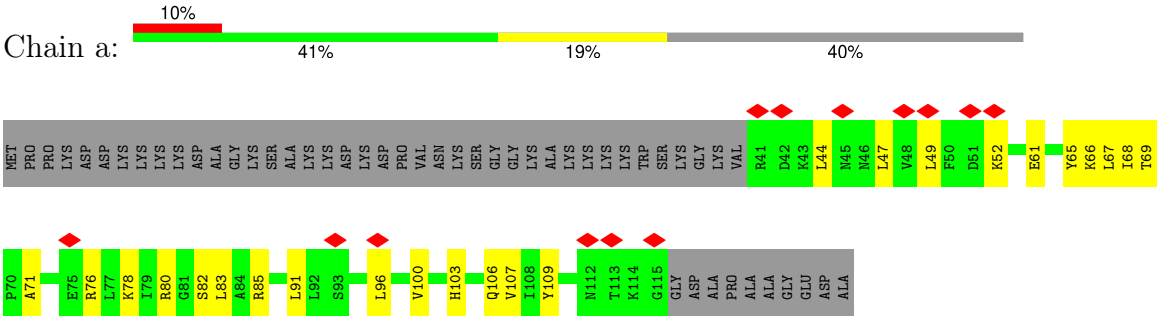
Chain A:





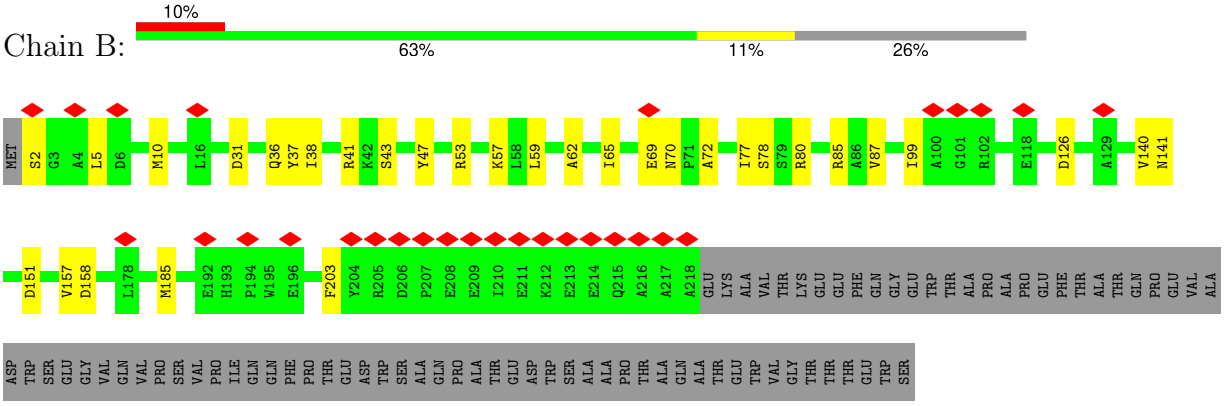
• Molecule 2: eS25

Chain a:



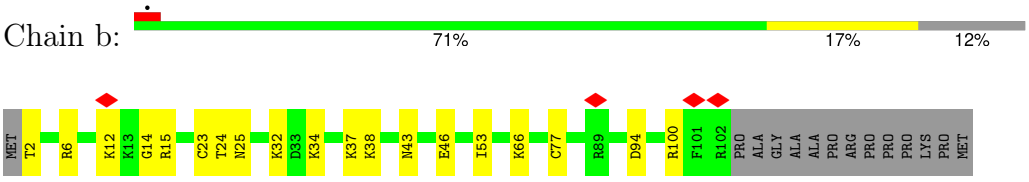
• Molecule 3: 40S ribosomal protein SA

Chain B:



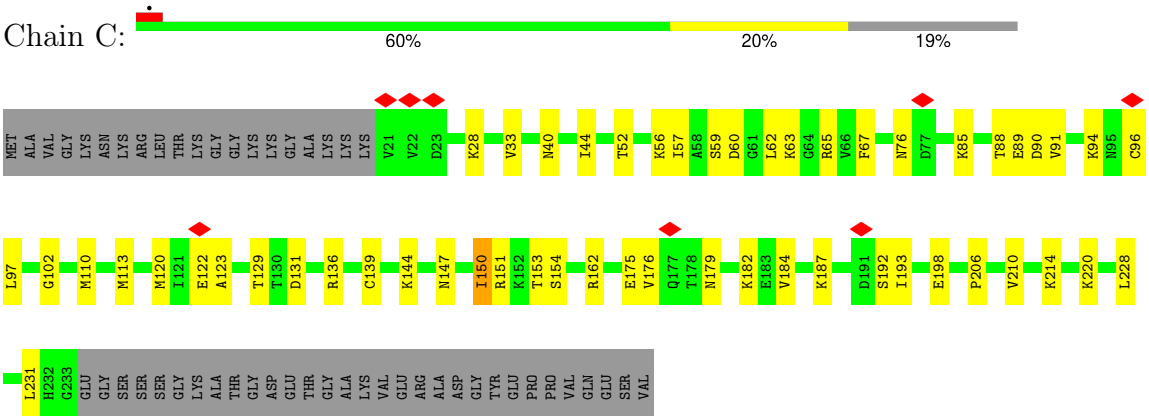
• Molecule 4: 40S ribosomal protein S26

Chain b:



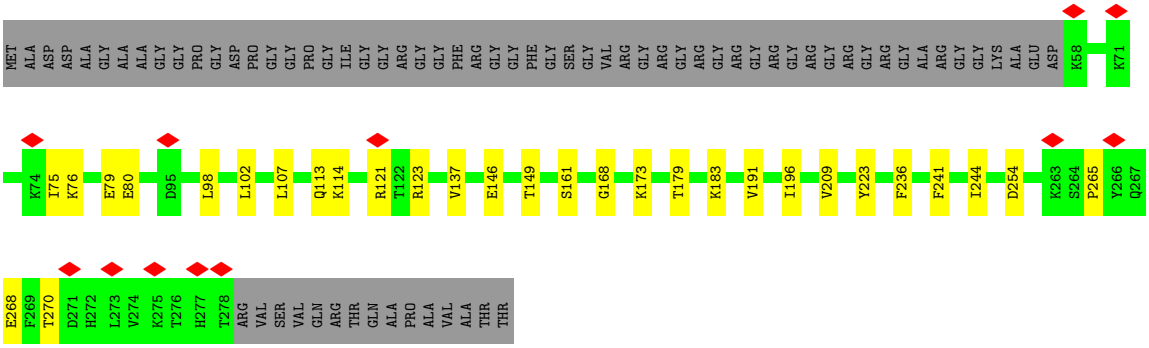
• Molecule 5: eS1

Chain C:



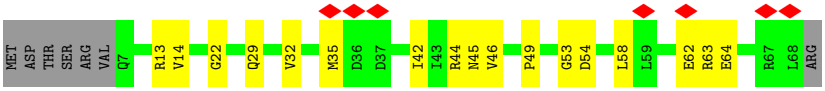
• Molecule 6: uS5

Chain D:



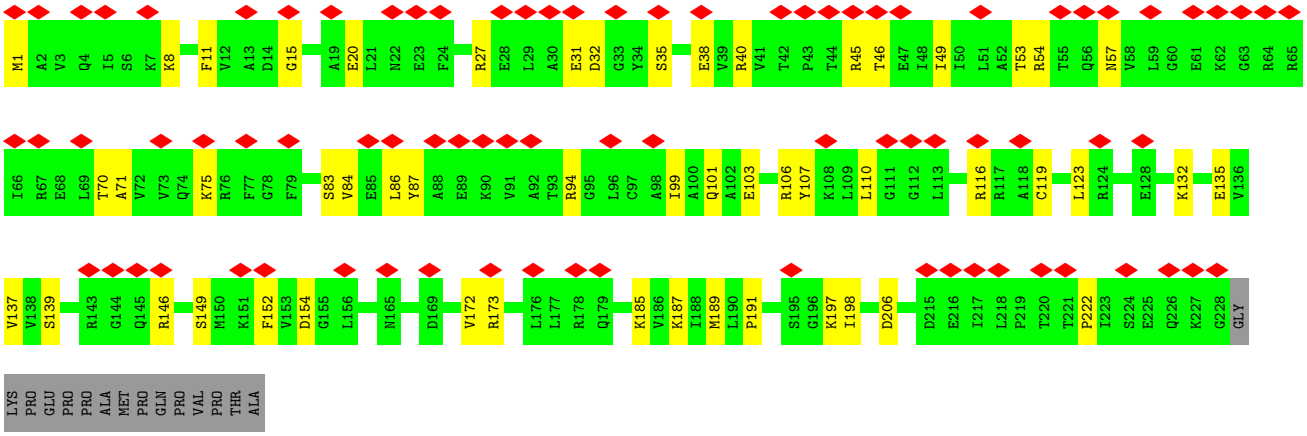
• Molecule 7: eS28

Chain d:



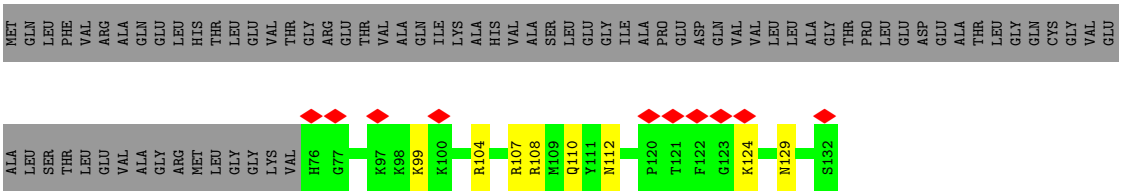
• Molecule 8: Ribosomal protein S3

Chain E:



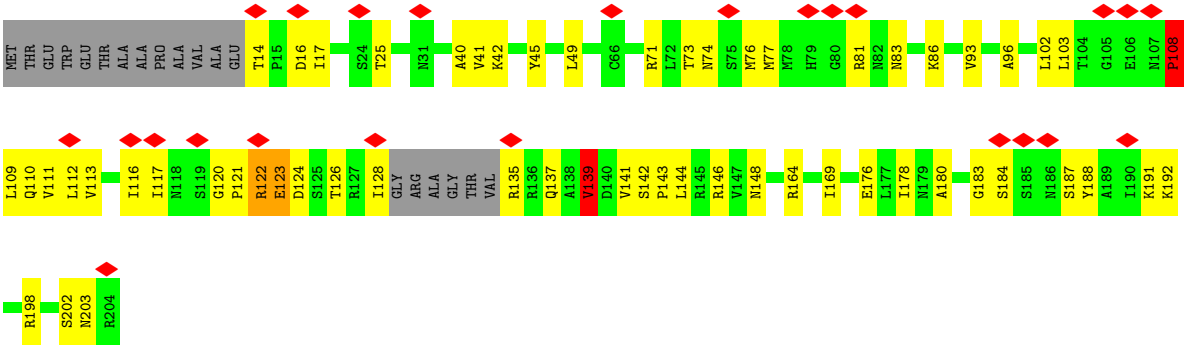
• Molecule 9: eS30

Chain f:



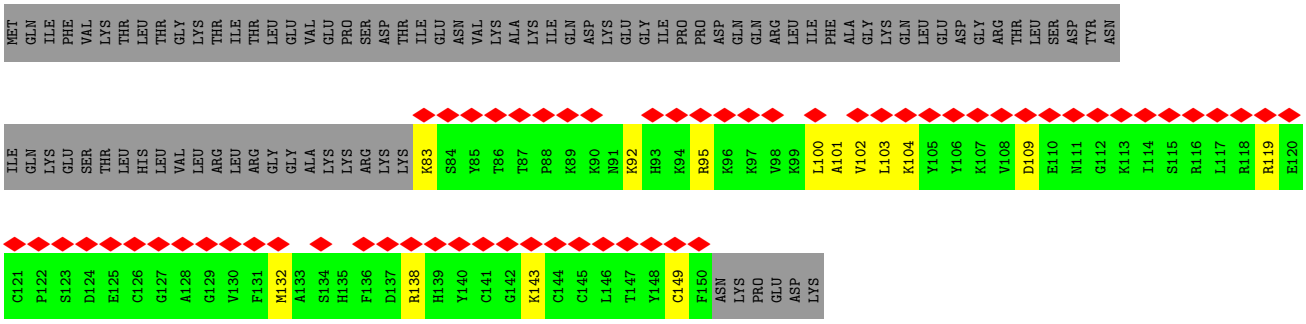
• Molecule 10: uS7

Chain G:



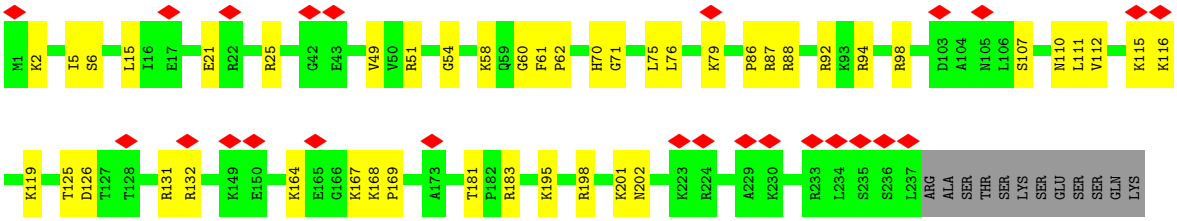
• Molecule 11: eS31

Chain g:



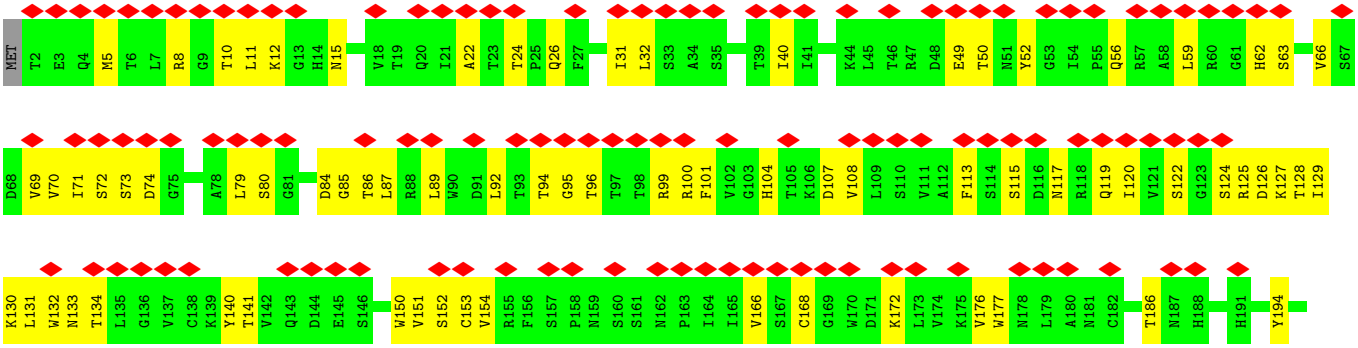
• Molecule 12: eS6

Chain H:



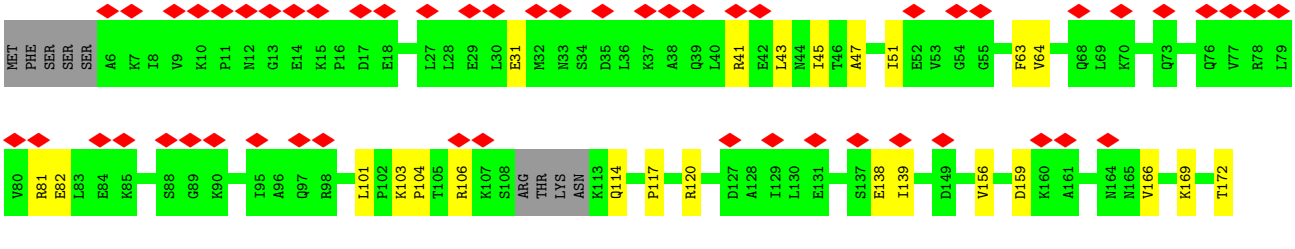
• Molecule 13: RACK1

Chain h:



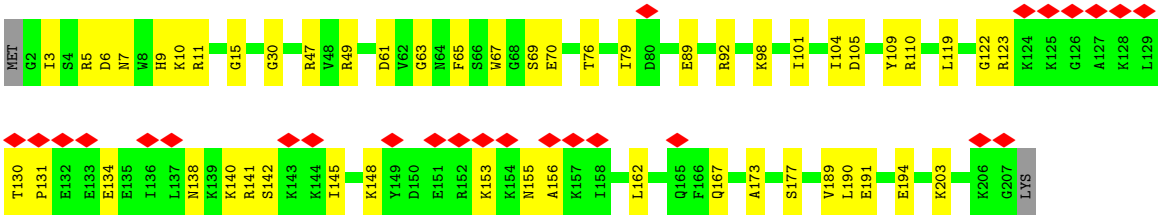
• Molecule 14: eS7

Chain I:



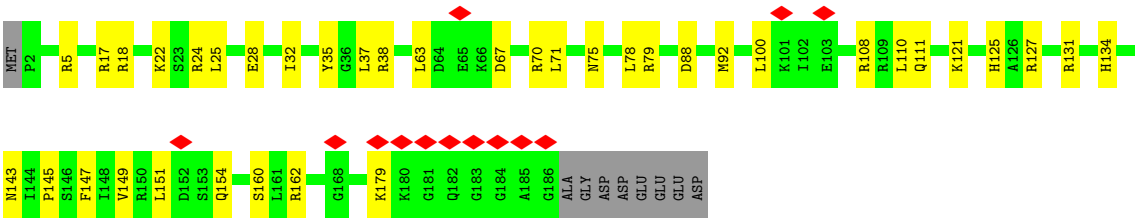
• Molecule 15: eS8

Chain J:



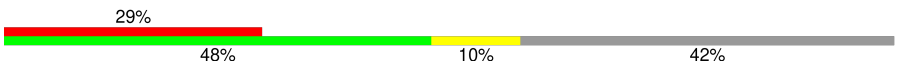
• Molecule 16: uS4

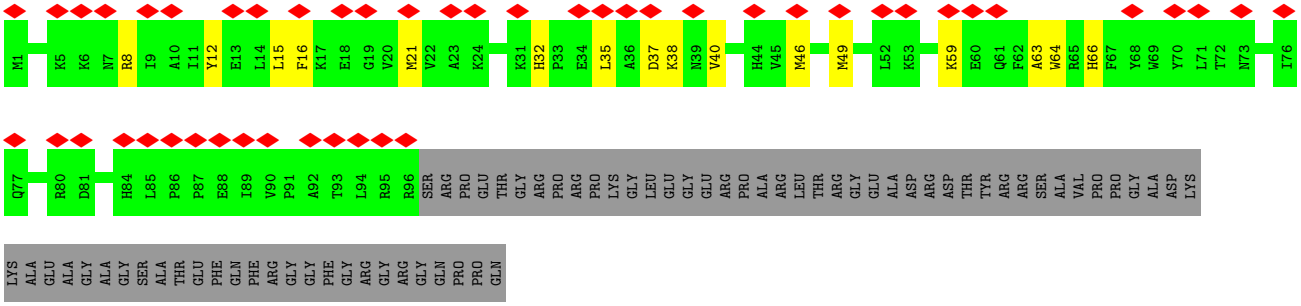
Chain K:



• Molecule 17: S10_plectin domain-containing protein

Chain L:



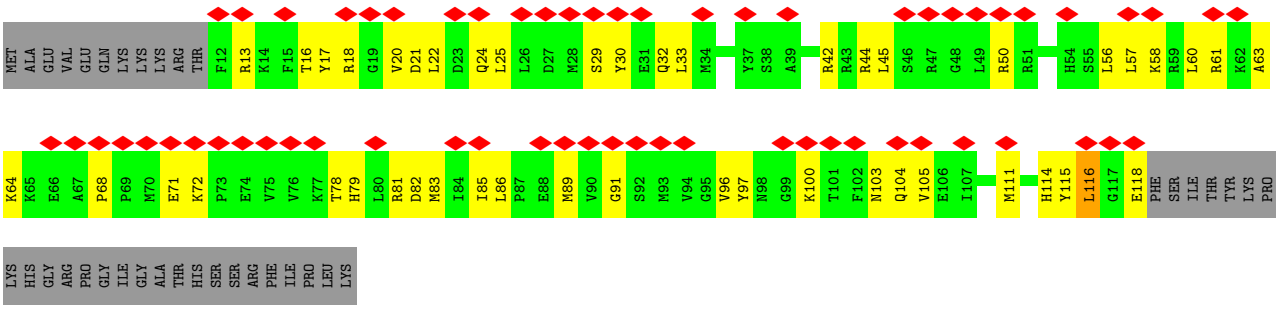


• Molecule 18: eS12

Chain N:

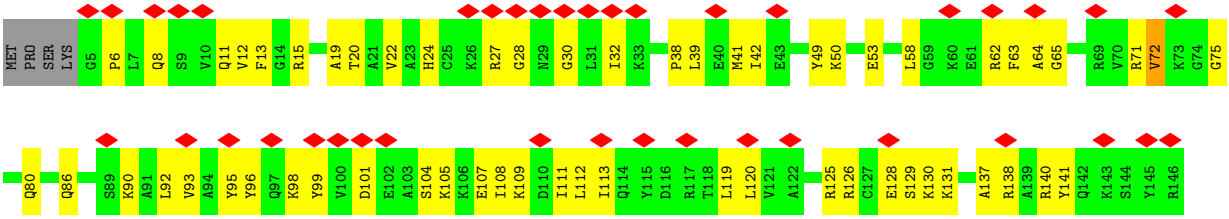
• Molecule 19: uS19

Chain Q:



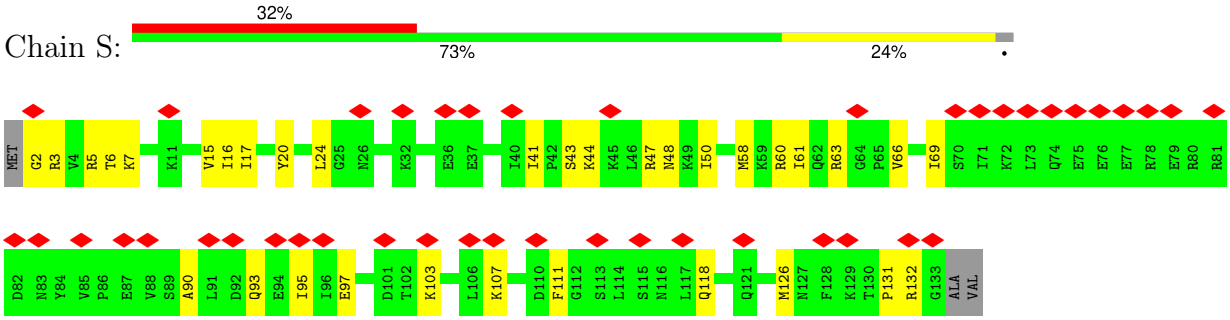
• Molecule 20: Uncharacterized protein

Chain R:



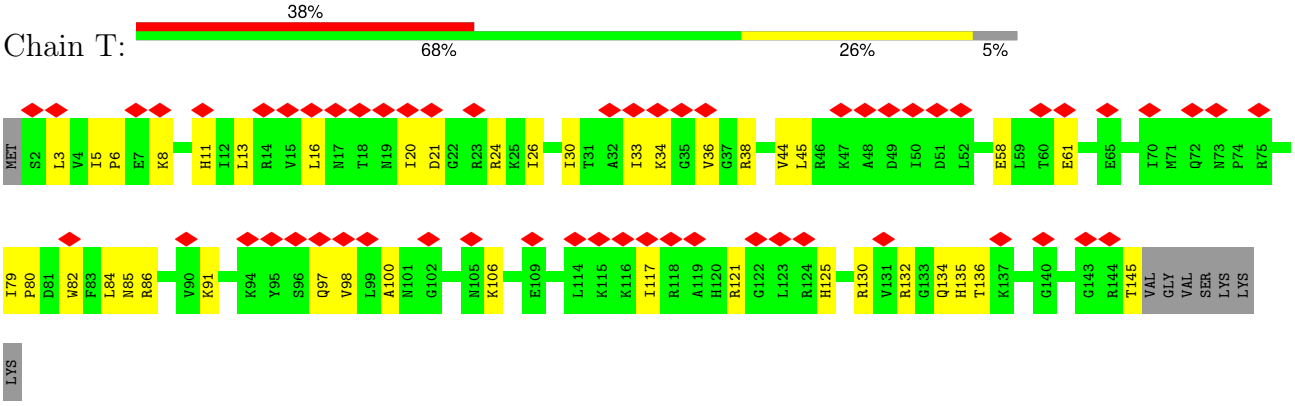
• Molecule 21: eS17

Chain S:



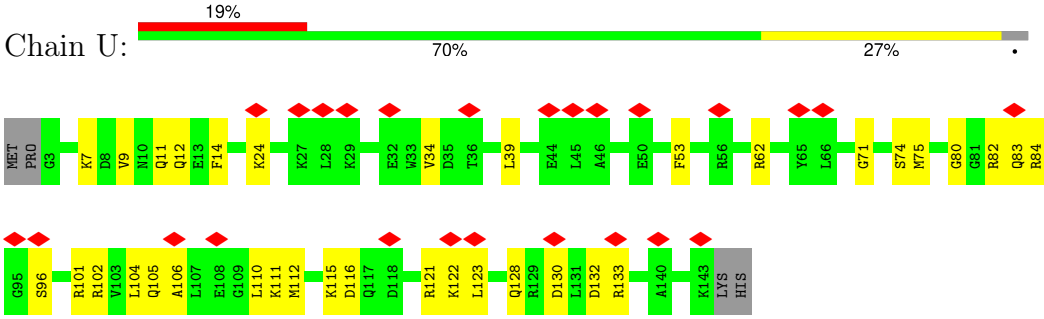
• Molecule 22: uS13

Chain T:



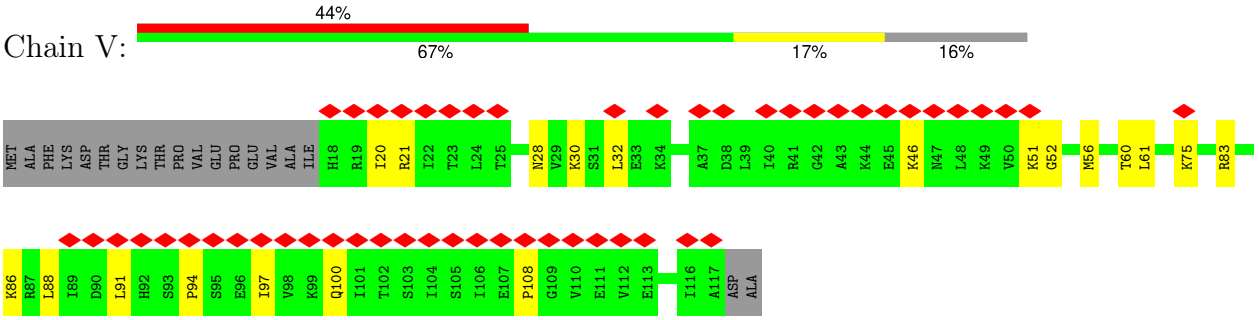
• Molecule 23: Uncharacterized protein

Chain U:



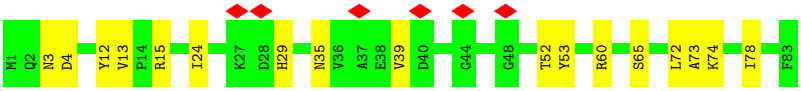
• Molecule 24: uS10

Chain V:



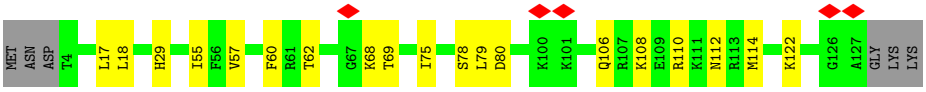
• Molecule 25: 40S ribosomal protein S21

Chain W:



• Molecule 26: 40S ribosomal protein S24

Chain Z:

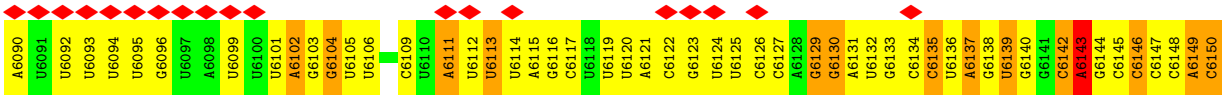


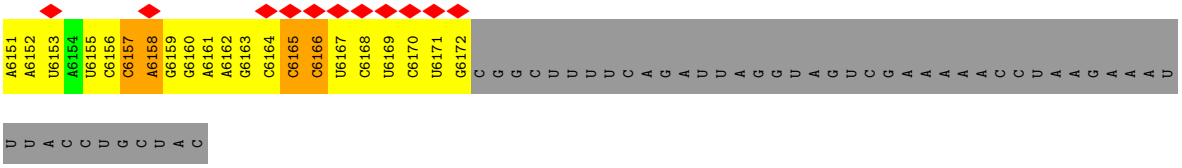
• Molecule 27: Host translation inhibitor nsp1

Chain F:

• Molecule 28: Cricket paralysis virus IRES RNA

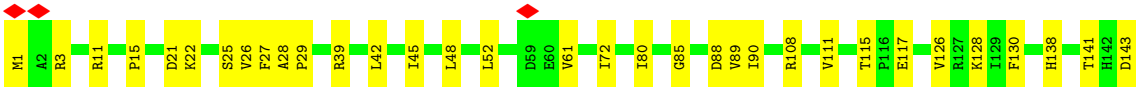
Chain i:

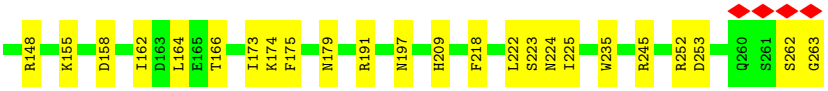




• Molecule 29: 40S ribosomal protein S4

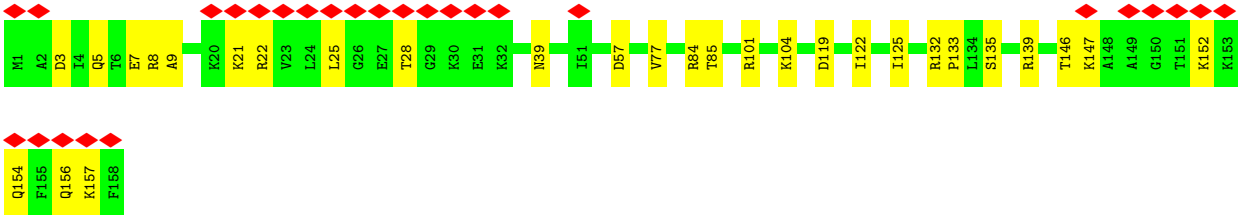
Chain M:



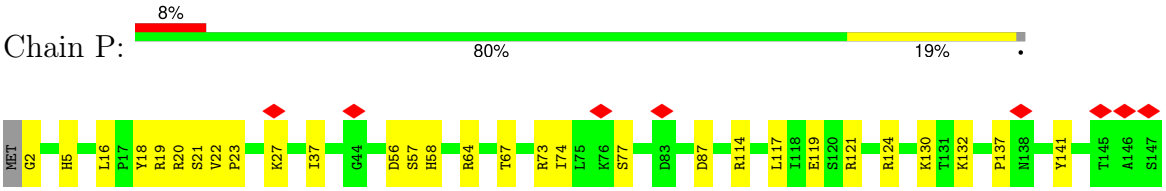


• Molecule 30: uS17

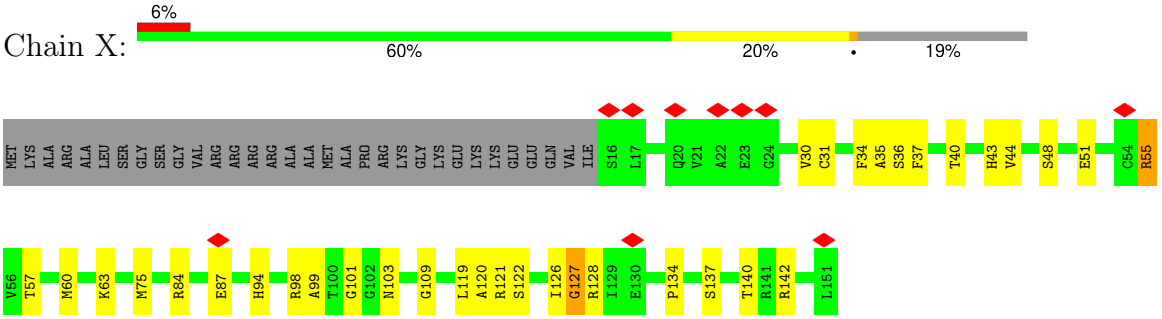
Chain O:



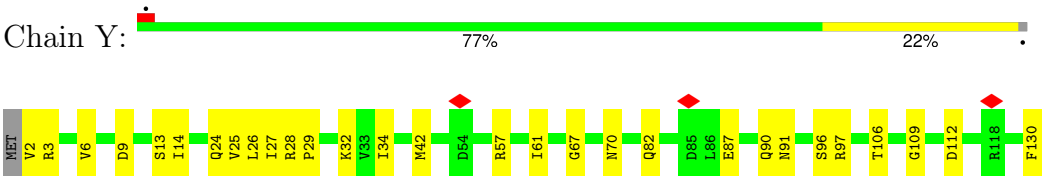
• Molecule 31: uS15



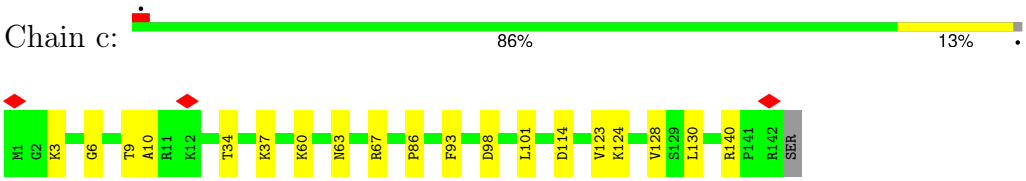
• Molecule 32: Uncharacterized protein



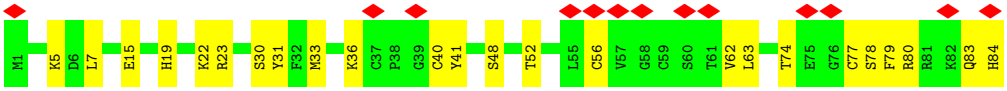
• Molecule 33: uS8



• Molecule 34: Uncharacterized protein



• Molecule 35: eS27


M1
K5
D6
L7
E15
H19
K22
R23
S30
Y31
F32
M33
K36
C37
P38
G39
C40
Y41
S48
T52
L55
C56
V57
G58
C59
S60
T61
V62
L63
T74
E75
G76
C77
S78
F79
R80
R81
K82
Q83
H84

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	48689	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.462	Depositor
Minimum map value	-0.196	Depositor
Average map value	0.003	Depositor
Map value standard deviation	0.025	Depositor
Recommended contour level	0.1	Depositor
Map size (Å)	341.75998, 341.75998, 341.75998	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.068, 1.068, 1.068	Depositor

5 Model quality

5.1 Standard geometry

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
1	A	0.31	0/40509	0.41	3/63128 (0.0%)
2	a	0.26	0/604	0.68	2/810 (0.2%)
3	B	0.28	0/1747	0.53	1/2374 (0.0%)
4	b	0.32	0/828	0.57	0/1109
5	C	0.30	0/1756	0.55	1/2350 (0.0%)
6	D	0.33	0/1753	0.51	0/2369
7	d	0.29	0/490	0.64	0/656
8	E	0.29	0/1796	0.59	0/2417
9	f	0.29	0/462	0.56	0/607
10	G	0.31	0/1482	0.78	2/1992 (0.1%)
11	g	0.24	0/567	0.62	0/753
12	H	0.25	0/1946	0.54	0/2590
13	h	0.27	0/2493	0.63	0/3394
14	I	0.26	0/1510	0.60	0/2022
15	J	0.32	0/1715	0.57	0/2287
16	K	0.30	0/1550	0.56	0/2069
17	L	0.22	0/834	0.55	0/1125
18	N	0.26	0/918	0.70	2/1233 (0.2%)
19	Q	0.25	0/904	0.65	0/1205
20	R	0.30	0/1146	0.70	0/1534
21	S	0.26	0/1082	0.60	1/1452 (0.1%)
22	T	0.27	0/1208	0.75	0/1618
23	U	0.27	0/1115	0.61	0/1493
24	V	0.25	0/805	0.57	0/1081
25	W	0.27	0/643	0.49	0/860
26	Z	0.28	0/1028	0.55	0/1366
27	F	0.23	0/285	0.48	0/384
28	i	0.22	0/3380	0.46	1/5259 (0.0%)
29	M	0.34	0/2125	0.63	1/2856 (0.0%)
30	O	0.37	0/1319	0.73	0/1761
31	P	0.30	0/1232	0.57	0/1656
32	X	0.34	0/1029	0.76	0/1380
33	Y	0.40	0/1051	0.59	0/1406
34	c	0.35	0/1124	0.70	0/1500

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
35	e	0.30	0/673	0.60	0/902
All	All	0.30	0/83109	0.51	14/120998 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
3	B	0	1
10	G	0	5
18	N	0	1
19	Q	0	1
20	R	0	2
22	T	0	1
31	P	0	1
32	X	0	4
34	c	0	1
35	e	0	1
All	All	0	18

There are no bond length outliers.

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	a	61	GLU	CA-C-N	7.13	124.73	120.24
2	a	61	GLU	C-N-CA	7.13	124.73	120.24
10	G	139	VAL	CA-C-N	6.66	133.69	121.70
10	G	139	VAL	C-N-CA	6.66	133.69	121.70
28	i	6143	A	P-O3'-C3'	5.75	128.82	120.20
21	S	15	VAL	N-CA-C	-5.74	107.90	113.53
1	A	752	G	P-O3'-C3'	5.34	128.20	120.20
1	A	627	U	P-O3'-C3'	5.30	128.16	120.20
5	C	150	ILE	N-CA-C	-5.26	107.27	113.42
3	B	140	VAL	N-CA-C	-5.23	101.86	109.29
29	M	26	VAL	N-CA-C	-5.17	105.79	113.39
18	N	54	SER	CA-C-N	5.11	131.31	121.54
18	N	54	SER	C-N-CA	5.11	131.31	121.54
1	A	553	U	P-O3'-C3'	5.04	127.76	120.20

There are no chirality outliers.

All (18) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	B	43	SER	Peptide
10	G	108	PRO	Peptide
10	G	117	ILE	Peptide
10	G	121	PRO	Peptide
10	G	135	ARG	Peptide
10	G	142	SER	Peptide
18	N	76	LEU	Peptide
31	P	22	VAL	Peptide
19	Q	85	ILE	Peptide
20	R	101	ASP	Peptide
20	R	99	TYR	Peptide
22	T	134	GLN	Peptide
32	X	126	ILE	Peptide
32	X	127	GLY	Peptide
32	X	137	SER	Peptide
32	X	55	ARG	Peptide
34	c	86	PRO	Peptide
35	e	62	VAL	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	A	36229	0	18300	313	0
2	a	598	0	656	19	0
3	B	1710	0	1708	21	0
4	b	814	0	867	15	0
5	C	1729	0	1803	37	0
6	D	1716	0	1806	22	0
7	d	488	0	514	14	0
8	E	1768	0	1866	36	0
9	f	457	0	502	7	0
10	G	1461	0	1514	42	0
11	g	555	0	567	12	0
12	H	1923	0	2089	36	0
13	h	2436	0	2393	69	0
14	I	1488	0	1582	17	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
15	J	1686	0	1772	36	0
16	K	1525	0	1640	32	0
17	L	810	0	836	12	0
18	N	908	0	939	14	0
19	Q	889	0	932	35	0
20	R	1128	0	1195	44	0
21	S	1068	0	1121	24	0
22	T	1190	0	1249	33	0
23	U	1097	0	1132	35	0
24	V	795	0	862	16	0
25	W	636	0	637	13	0
26	Z	1011	0	1083	11	0
27	F	280	0	250	4	0
28	i	3026	0	1525	37	0
29	M	2083	0	2189	38	0
30	O	1296	0	1374	21	0
31	P	1208	0	1294	21	0
32	X	1016	0	1039	25	0
33	Y	1034	0	1080	20	0
34	c	1106	0	1179	12	0
35	e	659	0	683	15	0
All	All	77823	0	60178	948	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 8.

All (948) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1656:G:H1	1:A:1668:U:H3	1.25	0.80
1:A:880:G:H1	1:A:906:U:H3	1.31	0.75
1:A:1533:A:H61	1:A:1597:C:H2'	1.56	0.71
1:A:1243:U:H4'	1:A:1518:C:H2'	1.71	0.71
10:G:108:PRO:HB2	10:G:111:VAL:H	1.56	0.70
32:X:30:VAL:HG12	32:X:94:HIS:HB2	1.75	0.69
1:A:1242:U:H4'	1:A:1518:C:H3'	1.75	0.68
1:A:885:U:H3	1:A:901:G:H22	1.40	0.67
1:A:925:G:H1	1:A:1017:U:H3	1.40	0.67
1:A:1268:C:H42	1:A:1514:G:H1	1.39	0.67
1:A:1473:G:H2'	1:A:1475:G:H22	1.60	0.67
18:N:50:CYS:H	18:N:124:ILE:HG21	1.59	0.66

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:22:LEU:HA	19:Q:25:LEU:HB3	1.78	0.66
13:h:56:GLN:NE2	20:R:96:TYR:O	2.29	0.66
29:M:197:ASN:HB2	29:M:209:HIS:HB2	1.77	0.66
30:O:152:LYS:HD3	30:O:156:GLN:H	1.61	0.65
25:W:15:ARG:HH21	25:W:24:ILE:HG21	1.60	0.65
13:h:32:LEU:HD23	13:h:59:LEU:HD21	1.78	0.65
1:A:1555:U:H4'	1:A:1556:A:H5'	1.78	0.65
14:I:139:ILE:HD13	14:I:156:VAL:HG13	1.78	0.64
1:A:1566:G:N7	23:U:101:ARG:NH2	2.44	0.64
19:Q:96:VAL:HG12	19:Q:116:LEU:HB3	1.80	0.64
1:A:11:A:H5'	6:D:113:GLN:HE21	1.63	0.64
13:h:250:ALA:HB3	13:h:257:LYS:HB2	1.80	0.63
28:i:6165:C:H5'	28:i:6166:C:H4'	1.79	0.63
10:G:126:THR:OG1	10:G:137:GLN:NE2	2.32	0.63
12:H:58:LYS:HA	12:H:107:SER:HB3	1.81	0.63
20:R:27:ARG:NH1	20:R:65:GLY:O	2.32	0.63
28:i:6057:A:N6	28:i:6126:C:O2'	2.32	0.62
16:K:110:LEU:HB2	16:K:147:PHE:HB3	1.79	0.62
26:Z:114:MET:HE3	26:Z:122:LYS:HB3	1.82	0.62
35:e:40:CYS:SG	35:e:41:TYR:N	2.73	0.62
13:h:40:ILE:HD11	13:h:66:VAL:HG21	1.82	0.62
3:B:38:ILE:HD11	3:B:47:TYR:HB3	1.82	0.62
13:h:89:LEU:HB2	13:h:99:ARG:HB2	1.82	0.62
15:J:173:ALA:HA	15:J:189:VAL:HA	1.82	0.61
29:M:11:ARG:HD2	29:M:25:SER:HB3	1.82	0.61
1:A:1521:C:N4	22:T:136:THR:O	2.32	0.61
1:A:1273:C:H4'	1:A:1274:G:H5'	1.82	0.61
1:A:1562:C:H2'	1:A:1563:G:H8	1.65	0.61
1:A:1537:A:O2'	23:U:82:ARG:NH1	2.34	0.60
1:A:672:A:N6	1:A:1027:A:OP1	2.34	0.60
13:h:24:THR:HB	13:h:71:ILE:HB	1.82	0.60
12:H:79:LYS:HB2	12:H:86:PRO:HG3	1.83	0.60
20:R:24:HIS:HD2	20:R:71:ARG:HE	1.49	0.60
1:A:1232:U:O4	1:A:1526:G:N1	2.35	0.60
31:P:5:HIS:HB3	31:P:117:LEU:HD13	1.84	0.60
31:P:18:TYR:O	31:P:20:ARG:NH1	2.35	0.60
17:L:32:HIS:HB3	17:L:35:LEU:HB2	1.83	0.60
1:A:351:G:OP1	15:J:7:ASN:ND2	2.35	0.59
19:Q:20:VAL:HG12	19:Q:25:LEU:HB2	1.84	0.59
19:Q:104:GLN:NE2	19:Q:105:VAL:O	2.34	0.59
23:U:115:LYS:HA	23:U:121:ARG:HG2	1.84	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:637:U:O2	9:f:129:ASN:ND2	2.34	0.59
1:A:1091:C:HO2'	33:Y:2:VAL:N	2.01	0.59
1:A:925:G:OP1	31:P:121:ARG:NH2	2.35	0.59
14:I:117:PRO:HG2	14:I:120:ARG:HD2	1.84	0.59
1:A:819:G:OP1	16:K:79:ARG:NH2	2.35	0.59
1:A:1273:C:N4	1:A:1508:A:OP1	2.36	0.59
7:d:44:ARG:NH1	7:d:63:ARG:O	2.36	0.59
16:K:88:ASP:OD1	16:K:88:ASP:N	2.36	0.59
20:R:27:ARG:HH11	20:R:28:GLY:H	1.51	0.59
1:A:1222:G:H5"	10:G:77:MET:HB2	1.84	0.59
8:E:8:LYS:HB3	24:V:61:LEU:HD21	1.84	0.59
1:A:661:U:OP2	34:c:3:LYS:NZ	2.36	0.58
13:h:15:ASN:HA	13:h:305:ASN:HD21	1.67	0.58
1:A:496:C:H5'	29:M:29:PRO:HA	1.85	0.58
1:A:919:A:OP2	31:P:64:ARG:NH2	2.35	0.58
2:a:68:ILE:HG23	2:a:109:TYR:HB2	1.85	0.58
1:A:10:G:O2'	6:D:113:GLN:NE2	2.37	0.58
10:G:41:VAL:HG23	10:G:42:LYS:HG3	1.85	0.58
1:A:1605:G:O2'	1:A:1633:A:N6	2.36	0.58
17:L:15:LEU:HD22	17:L:49:MET:HE1	1.84	0.58
28:i:6109:C:O2	28:i:6116:G:N2	2.37	0.58
1:A:1179:G:N2	1:A:1182:A:OP2	2.37	0.58
1:A:1398:G:O2'	13:h:100:ARG:NH2	2.36	0.58
1:A:1543:U:OP1	23:U:62:ARG:NH1	2.37	0.58
1:A:1566:G:O2'	1:A:1567:G:N2	2.36	0.58
32:X:103:ASN:ND2	32:X:140:THR:O	2.36	0.58
1:A:604:A:H4'	16:K:22:LYS:HD3	1.86	0.58
1:A:1542:C:OP1	23:U:62:ARG:NH2	2.37	0.58
1:A:1024:A:OP2	31:P:124:ARG:NH2	2.36	0.58
1:A:1092:G:OP1	31:P:2:GLY:N	2.37	0.58
1:A:1205:C:O2'	1:A:1834:A:N6	2.37	0.58
5:C:63:LYS:HE2	5:C:90:ASP:HA	1.85	0.58
13:h:56:GLN:OE1	20:R:104:SER:N	2.37	0.58
28:i:6103:G:N7	28:i:6104:G:N2	2.51	0.58
32:X:98:ARG:NH1	32:X:99:ALA:O	2.36	0.58
1:A:1262:C:OP2	1:A:1517:G:N1	2.37	0.57
1:A:1466:G:OP2	21:S:5:ARG:NH2	2.37	0.57
12:H:71:GLY:O	12:H:98:ARG:NH1	2.37	0.57
20:R:13:PHE:O	20:R:86:GLN:NE2	2.37	0.57
32:X:119:LEU:HA	32:X:122:SER:HB3	1.85	0.57
1:A:1753:C:H2'	1:A:1754:G:H8	1.68	0.57

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:196:ILE:HB	6:D:223:TYR:HB2	1.85	0.57
13:h:119:GLN:NE2	13:h:133:ASN:OD1	2.37	0.57
1:A:377:G:H5'	15:J:98:LYS:HB3	1.85	0.57
22:T:86:ARG:HH12	22:T:106:LYS:HB3	1.68	0.57
1:A:1533:A:OP2	10:G:164:ARG:NH2	2.38	0.57
25:W:35:ASN:HD22	25:W:52:THR:HG22	1.70	0.57
12:H:51:ARG:HB3	12:H:112:VAL:HG23	1.87	0.57
1:A:943:U:OP1	5:C:214:LYS:NZ	2.34	0.57
5:C:57:ILE:HG22	5:C:59:SER:H	1.70	0.57
8:E:137:VAL:HB	8:E:185:LYS:HB2	1.87	0.57
19:Q:33:LEU:HD21	19:Q:86:LEU:HD22	1.85	0.57
3:B:36:GLN:O	3:B:53:ARG:NH1	2.36	0.57
1:A:1603:G:H1	22:T:24:ARG:HH22	1.53	0.57
1:A:1677:U:OP1	10:G:71:ARG:NH2	2.38	0.57
4:b:43:ASN:HA	4:b:66:LYS:HA	1.86	0.57
13:h:297:THR:HG23	13:h:309:VAL:HG23	1.87	0.57
1:A:548:C:H5'	1:A:549:C:H5"	1.87	0.57
1:A:954:U:O2	32:X:55:ARG:NH2	2.36	0.57
1:A:1310:U:H4'	11:g:143:LYS:HB2	1.86	0.57
4:b:23:CYS:O	32:X:142:ARG:NH1	2.38	0.57
8:E:94:ARG:O	8:E:101:GLN:NE2	2.37	0.57
8:E:116:ARG:HB2	27:F:155:GLU:HB2	1.86	0.57
13:h:249:CYS:SG	13:h:250:ALA:N	2.78	0.57
13:h:153:CYS:SG	13:h:154:VAL:N	2.78	0.56
29:M:115:THR:OG1	29:M:117:GLU:O	2.21	0.56
1:A:447:A:OP1	15:J:49:ARG:NH1	2.39	0.56
5:C:62:LEU:HD23	5:C:91:VAL:HG11	1.87	0.56
13:h:95:GLY:HA3	20:R:98:LYS:HA	1.87	0.56
19:Q:18:ARG:NH2	22:T:91:LYS:O	2.38	0.56
1:A:1604:G:O6	1:A:1635:C:N4	2.39	0.56
33:Y:112:ASP:OD1	33:Y:112:ASP:N	2.38	0.56
35:e:19:HIS:HB3	35:e:22:LYS:HG3	1.88	0.56
1:A:1252:C:OP1	24:V:75:LYS:NZ	2.38	0.56
1:A:1337:C:H2'	1:A:1338:G:H8	1.71	0.56
1:A:1757:G:H1	1:A:1775:U:H3	1.52	0.56
19:Q:60:LEU:HG	19:Q:64:LYS:HB3	1.87	0.56
1:A:1550:G:O2'	1:A:1558:C:O2	2.24	0.56
8:E:132:LYS:HE3	8:E:191:PRO:HA	1.87	0.56
33:Y:24:GLN:NE2	35:e:5:LYS:O	2.39	0.56
1:A:1606:G:N2	1:A:1607:A:N7	2.40	0.56
7:d:29:GLN:NE2	7:d:45:ASN:OD1	2.39	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:c:101:LEU:HD13	34:c:124:LYS:HD3	1.88	0.56
1:A:847:A:OP1	29:M:108:ARG:NH1	2.39	0.56
20:R:11:GLN:NE2	20:R:12:VAL:O	2.39	0.56
1:A:799:U:H3	1:A:867:G:H21	1.52	0.56
1:A:583:A:OP1	16:K:162:ARG:NH2	2.39	0.56
1:A:928:G:H1	1:A:1013:U:H3	1.54	0.55
1:A:1498:A:OP2	8:E:27:ARG:NH2	2.39	0.55
6:D:137:VAL:HG11	6:D:244:ILE:HD13	1.87	0.55
34:c:93:PHE:O	34:c:140:ARG:NH1	2.39	0.55
1:A:93:U:OP1	29:M:1:MET:N	2.36	0.55
31:P:16:LEU:O	33:Y:57:ARG:NH2	2.39	0.55
1:A:1738:C:OP1	12:H:92:ARG:NH1	2.36	0.55
5:C:175:GLU:O	5:C:187:LYS:NZ	2.36	0.55
5:C:182:LYS:HD3	5:C:231:LEU:HD23	1.89	0.55
13:h:283:PRO:O	13:h:285:GLN:NE2	2.39	0.55
19:Q:56:LEU:HB3	19:Q:89:MET:HE2	1.88	0.55
1:A:1564:C:OP1	23:U:121:ARG:NH1	2.40	0.55
1:A:1569:A:N6	1:A:1613:G:O2'	2.40	0.55
20:R:131:LYS:HB2	20:R:140:ARG:HH12	1.70	0.55
22:T:34:LYS:HB2	22:T:100:ALA:HA	1.88	0.55
1:A:126:G:OP2	12:H:195:LYS:NZ	2.39	0.55
33:Y:6:VAL:HG13	33:Y:29:PRO:HD2	1.89	0.55
1:A:1116:C:H1'	1:A:1117:C:H5	1.70	0.55
1:A:1562:C:H5"	23:U:71:GLY:HA3	1.87	0.55
4:b:32:LYS:O	4:b:37:LYS:NZ	2.39	0.55
20:R:15:ARG:NH1	20:R:20:THR:OG1	2.39	0.55
34:c:98:ASP:OD1	34:c:140:ARG:NH2	2.39	0.55
7:d:62:GLU:OE1	32:X:121:ARG:NH2	2.40	0.55
13:h:49:GLU:HG3	13:h:50:THR:HG23	1.89	0.55
15:J:134:GLU:O	15:J:138:ASN:ND2	2.40	0.55
23:U:116:ASP:H	23:U:121:ARG:HA	1.71	0.55
35:e:33:MET:HB2	35:e:79:PHE:HB2	1.88	0.55
1:A:1148:A:OP1	4:b:6:ARG:NH2	2.39	0.55
16:K:35:TYR:O	16:K:111:GLN:NE2	2.40	0.55
1:A:1314:U:O2'	17:L:8:ARG:NH2	2.39	0.54
23:U:80:GLY:O	23:U:93:SER:OG	2.25	0.54
1:A:1275:G:O4'	1:A:1506:A:N6	2.40	0.54
7:d:46:VAL:HA	10:G:141:VAL:H	1.71	0.54
20:R:62:ARG:NH1	20:R:107:GLU:OE2	2.40	0.54
34:c:63:ASN:HD22	34:c:114:ASP:HB3	1.72	0.54
3:B:62:ALA:HA	3:B:65:ILE:HD12	1.90	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:16:THR:O	19:Q:18:ARG:NH2	2.40	0.54
21:S:90:ALA:O	21:S:93:GLN:NE2	2.39	0.54
1:A:1415:C:O2'	23:U:132:ASP:OD2	2.25	0.54
1:A:1566:G:N2	1:A:1569:A:OP2	2.40	0.54
2:a:69:THR:HG22	2:a:71:ALA:H	1.72	0.54
5:C:123:ALA:HB3	5:C:139:CYS:HB3	1.87	0.54
6:D:183:LYS:HE2	6:D:196:ILE:HG23	1.90	0.54
18:N:52:LEU:HD13	18:N:65:VAL:HG11	1.89	0.54
13:h:70:VAL:HB	13:h:113:PHE:H	1.73	0.54
29:M:130:PHE:HB2	29:M:138:HIS:HB2	1.90	0.54
30:O:101:ARG:HB2	34:c:10:ALA:HB2	1.89	0.54
30:O:135:SER:O	30:O:139:ARG:NH1	2.38	0.54
1:A:1298:G:OP1	19:Q:79:HIS:NE2	2.41	0.54
1:A:1368:U:O3'	21:S:2:GLY:N	2.41	0.54
2:a:49:LEU:HG	2:a:83:LEU:HD13	1.89	0.54
30:O:3:ASP:OD1	30:O:3:ASP:N	2.40	0.54
1:A:642:U:OP2	9:f:107:ARG:NH2	2.39	0.54
1:A:930:C:O2'	1:A:1104:G:OP1	2.23	0.54
1:A:1102:G:OP2	5:C:151:ARG:NH1	2.40	0.54
7:d:32:VAL:HG23	7:d:42:ILE:HG13	1.90	0.54
32:X:36:SER:OG	32:X:37:PHE:O	2.26	0.54
1:A:126:G:OP1	12:H:198:ARG:NH2	2.40	0.54
1:A:1005:G:OP2	5:C:162:ARG:NH1	2.41	0.54
12:H:116:LYS:HE2	12:H:125:THR:HB	1.90	0.54
15:J:153:LYS:HA	15:J:156:ALA:HB2	1.89	0.54
23:U:39:LEU:O	23:U:96:SER:OG	2.24	0.54
32:X:43:HIS:HE1	32:X:55:ARG:HH11	1.55	0.54
9:f:124:LYS:HG3	27:F:176:GLU:HG3	1.90	0.53
21:S:43:SER:OG	21:S:44:LYS:N	2.41	0.53
10:G:188:TYR:HA	10:G:191:LYS:HG2	1.91	0.53
20:R:125:ARG:O	20:R:126:ARG:NH2	2.39	0.53
28:i:6056:A:N6	28:i:6126:C:O2'	2.41	0.53
1:A:593:C:H4'	9:f:99:LYS:HE3	1.89	0.53
25:W:53:TYR:HB3	25:W:72:LEU:HD13	1.91	0.53
1:A:449:A:N1	12:H:88:ARG:NH1	2.56	0.53
1:A:582:U:OP1	16:K:162:ARG:NH1	2.42	0.53
35:e:56:CYS:HB2	35:e:63:LEU:HD13	1.89	0.53
1:A:1579:A:H4'	1:A:1581:C:H5	1.74	0.53
8:E:38:GLU:HB3	8:E:49:ILE:HB	1.90	0.53
2:a:80:ARG:NH2	2:a:82:SER:OG	2.42	0.53
9:f:108:ARG:O	9:f:112:ASN:ND2	2.41	0.53

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:h:100:ARG:NH1	13:h:101:PHE:O	2.42	0.53
2:a:65:TYR:OH	2:a:76:ARG:NE	2.42	0.53
5:C:179:ASN:OD1	5:C:187:LYS:NZ	2.41	0.53
1:A:1529:C:O2'	23:U:87:VAL:O	2.24	0.53
1:A:1668:U:OP2	20:R:141:TYR:OH	2.26	0.53
18:N:36:ARG:O	18:N:36:ARG:NH1	2.42	0.53
11:g:102:VAL:HG11	18:N:35:ILE:HG12	1.91	0.52
22:T:6:PRO:HG3	22:T:58:GLU:HA	1.90	0.52
23:U:122:LYS:NZ	23:U:123:LEU:O	2.41	0.52
24:V:56:MET:HB2	24:V:86:LYS:HB3	1.89	0.52
26:Z:108:LYS:O	26:Z:112:ASN:ND2	2.42	0.52
28:i:6148:C:N3	28:i:6149:A:N6	2.54	0.52
29:M:222:LEU:HD12	29:M:225:ILE:HD11	1.91	0.52
1:A:453:C:O2'	12:H:92:ARG:O	2.28	0.52
1:A:1255:G:OP1	1:A:1256:G:O2'	2.26	0.52
1:A:1268:C:H4'	19:Q:100:LYS:HG3	1.90	0.52
12:H:54:GLY:O	12:H:110:ASN:ND2	2.42	0.52
16:K:63:LEU:O	16:K:70:ARG:NH1	2.42	0.52
24:V:21:ARG:HD3	24:V:88:LEU:HD13	1.90	0.52
5:C:67:PHE:HE2	5:C:88:THR:HG23	1.74	0.52
13:h:289:LEU:HA	13:h:300:ALA:HA	1.91	0.52
19:Q:44:ARG:O	19:Q:44:ARG:NH1	2.42	0.52
35:e:80:ARG:O	35:e:83:GLN:NE2	2.42	0.52
20:R:19:ALA:HB2	20:R:75:GLY:HA3	1.92	0.52
1:A:156:G:OP1	12:H:2:LYS:NZ	2.43	0.52
1:A:1351:G:H1	1:A:1360:U:H3	1.57	0.52
1:A:1834:A:H2	1:A:1837:G:H1	1.56	0.52
22:T:13:LEU:HB2	22:T:20:ILE:HB	1.91	0.52
28:i:6149:A:H3'	28:i:6150:C:H4'	1.90	0.52
1:A:1620:A:N6	1:A:1624:U:O2	2.43	0.52
28:i:6139:U:H3	28:i:6149:A:H61	1.57	0.52
31:P:87:ASP:OD1	31:P:87:ASP:N	2.41	0.52
1:A:522:A:H5"	16:K:145:PRO:HD2	1.91	0.52
13:h:5:MET:HE1	13:h:291:TRP:HZ2	1.74	0.52
15:J:190:LEU:HD12	15:J:194:GLU:HG2	1.92	0.52
29:M:21:ASP:N	29:M:21:ASP:OD1	2.42	0.52
1:A:1101:U:OP1	21:S:132:ARG:NH1	2.42	0.52
1:A:1139:C:H5	1:A:1149:A:H62	1.56	0.52
1:A:1297:U:O2'	1:A:1298:G:N2	2.42	0.52
8:E:40:ARG:HA	24:V:108:PRO:HB3	1.92	0.52
8:E:172:VAL:O	8:E:173:ARG:NH1	2.37	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:79:ILE:HD11	15:J:105:ASP:HB3	1.92	0.52
22:T:130:ARG:HD3	22:T:136:THR:HB	1.92	0.52
13:h:22:ALA:HB2	13:h:69:VAL:HG13	1.91	0.52
1:A:1520:G:OP1	22:T:136:THR:OG1	2.29	0.51
1:A:1609:C:O3'	22:T:125:HIS:NE2	2.42	0.51
1:A:1868:U:O2	4:b:100:ARG:NH1	2.43	0.51
7:d:49:PRO:HG2	10:G:144:LEU:HD23	1.92	0.51
21:S:41:ILE:HG13	21:S:47:ARG:HB3	1.91	0.51
1:A:1465:A:OP1	21:S:60:ARG:NH1	2.41	0.51
3:B:77:ILE:HG12	3:B:99:ILE:HB	1.92	0.51
13:h:127:LYS:HG3	13:h:150:TRP:HA	1.92	0.51
19:Q:111:MET:HG2	22:T:117:ILE:HD12	1.91	0.51
20:R:32:ILE:HB	20:R:39:LEU:HG	1.93	0.51
1:A:495:U:O2'	29:M:25:SER:OG	2.27	0.51
1:A:1515:G:H21	19:Q:97:TYR:HE2	1.58	0.51
1:A:588:G:OP2	1:A:588:G:N2	2.43	0.51
5:C:28:LYS:NZ	32:X:51:GLU:OE1	2.44	0.51
23:U:102:ARG:O	23:U:106:ALA:N	2.42	0.51
1:A:964:A:N3	1:A:1054:G:O2'	2.43	0.51
2:a:106:GLN:NE2	2:a:107:VAL:O	2.43	0.51
8:E:45:ARG:NH2	8:E:84:VAL:O	2.44	0.51
13:h:242:SER:OG	13:h:244:ASN:OD1	2.29	0.51
23:U:9:VAL:O	23:U:11:GLN:NE2	2.42	0.51
1:A:1860:A:N7	4:b:34:LYS:NZ	2.59	0.51
10:G:77:MET:HG2	10:G:83:ASN:HA	1.93	0.51
10:G:120:GLY:O	10:G:146:ARG:NH1	2.44	0.51
22:T:85:ASN:HD21	22:T:97:GLN:HB3	1.74	0.51
1:A:183:G:O2'	1:A:184:G:O4'	2.29	0.51
1:A:1587:G:N2	23:U:74:SER:O	2.44	0.51
12:H:49:VAL:HB	12:H:115:LYS:HB3	1.93	0.51
16:K:121:LYS:H	16:K:125:HIS:HD2	1.59	0.51
18:N:66:GLU:HA	18:N:69:CYS:HB3	1.93	0.51
33:Y:96:SER:OG	33:Y:97:ARG:N	2.40	0.51
28:i:6053:U:O2	28:i:6159:G:O2'	2.29	0.51
28:i:6102:A:O4'	28:i:6137:A:N6	2.44	0.51
1:A:1464:C:OP2	21:S:63:ARG:NH1	2.44	0.50
3:B:157:VAL:O	25:W:65:SER:OG	2.29	0.50
3:B:158:ASP:OD2	25:W:60:ARG:NH2	2.44	0.50
16:K:67:ASP:OD2	16:K:70:ARG:N	2.44	0.50
26:Z:29:HIS:NE2	26:Z:69:THR:OG1	2.39	0.50
1:A:39:A:OP2	16:K:5:ARG:NH1	2.44	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:156:G:O2'	12:H:107:SER:OG	2.29	0.50
6:D:183:LYS:NZ	33:Y:91:ASN:O	2.41	0.50
19:Q:57:LEU:HG	19:Q:61:ARG:HH21	1.76	0.50
22:T:86:ARG:HH21	22:T:98:VAL:HG21	1.76	0.50
1:A:156:G:N2	12:H:60:GLY:O	2.44	0.50
1:A:220:U:H5'	15:J:177:SER:HB3	1.94	0.50
1:A:384:U:O4	15:J:5:ARG:NH2	2.31	0.50
1:A:526:A:O2'	16:K:125:HIS:ND1	2.42	0.50
10:G:16:ASP:OD1	10:G:16:ASP:N	2.40	0.50
23:U:11:GLN:HA	23:U:14:PHE:HB3	1.94	0.50
30:O:154:GLN:HE22	31:P:137:PRO:HD2	1.77	0.50
9:f:104:ARG:HB3	16:K:38:ARG:HA	1.94	0.50
1:A:169:U:OP1	12:H:131:ARG:NH1	2.44	0.50
1:A:986:G:OP2	1:A:988:C:N4	2.45	0.50
1:A:993:G:N7	4:b:15:ARG:NH2	2.60	0.50
13:h:250:ALA:N	13:h:257:LYS:O	2.44	0.50
14:I:81:ARG:NH1	14:I:82:GLU:OE2	2.44	0.50
19:Q:63:ALA:HB3	19:Q:91:GLY:HA3	1.93	0.50
31:P:56:ASP:OD2	35:e:52:THR:OG1	2.25	0.50
34:c:34:THR:HA	34:c:37:LYS:HG2	1.94	0.50
1:A:829:C:OP1	29:M:22:LYS:N	2.42	0.50
1:A:994:C:N4	4:b:14:GLY:O	2.45	0.50
1:A:1403:C:OP2	1:A:1405:A:N6	2.41	0.50
8:E:35:SER:HA	8:E:99:ILE:HB	1.92	0.50
8:E:197:LYS:HG3	8:E:198:ILE:HG23	1.94	0.50
20:R:50:LYS:HA	20:R:53:GLU:HG2	1.93	0.50
32:X:84:ARG:HA	32:X:87:GLU:HB3	1.92	0.50
1:A:1695:A:N1	1:A:1832:A:O2'	2.43	0.50
20:R:112:LEU:HD22	20:R:119:LEU:HD13	1.93	0.50
21:S:16:ILE:O	21:S:20:TYR:N	2.40	0.50
29:M:85:GLY:N	29:M:88:ASP:OD2	2.38	0.50
1:A:531:A:H61	1:A:553:U:H3	1.60	0.50
1:A:1259:A:N1	22:T:135:HIS:NE2	2.60	0.50
2:a:69:THR:HG23	2:a:106:GLN:HE22	1.76	0.50
7:d:63:ARG:NH1	7:d:64:GLU:O	2.45	0.50
8:E:11:PHE:O	8:E:15:GLY:N	2.45	0.50
14:I:138:GLU:OE2	31:P:21:SER:OG	2.29	0.50
15:J:110:ARG:HH22	15:J:123:ARG:H	1.59	0.50
16:K:108:ARG:NH1	16:K:154:GLN:OE1	2.37	0.50
1:A:1324:G:HO2'	1:A:1510:G:HO2'	1.57	0.50
1:A:1475:G:OP2	1:A:1475:G:N2	2.45	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:a:100:VAL:HG21	10:G:102:LEU:HD11	1.94	0.50
1:A:1649:U:OP1	20:R:128:GLU:N	2.41	0.49
15:J:11:ARG:NH1	15:J:15:GLY:O	2.45	0.49
1:A:1401:A:H4'	24:V:52:GLY:HA3	1.94	0.49
1:A:1733:U:H3	1:A:1801:A:H61	1.59	0.49
15:J:122:GLY:O	15:J:167:GLN:NE2	2.45	0.49
1:A:106:C:OP1	1:A:431:G:O2'	2.27	0.49
7:d:58:LEU:HD21	10:G:139:VAL:HG21	1.92	0.49
10:G:176:GLU:OE2	10:G:187:SER:OG	2.25	0.49
13:h:85:GLY:HA2	13:h:108:VAL:H	1.78	0.49
1:A:604:A:H5'	16:K:22:LYS:HB2	1.93	0.49
1:A:1452:A:H5"	21:S:48:ASN:HD21	1.78	0.49
13:h:108:VAL:HA	13:h:124:SER:HA	1.93	0.49
16:K:71:LEU:O	16:K:75:ASN:ND2	2.37	0.49
13:h:166:VAL:HG13	13:h:176:VAL:HG22	1.95	0.49
22:T:30:ILE:HG13	22:T:36:VAL:HG11	1.94	0.49
29:M:45:ILE:HA	29:M:61:VAL:HG11	1.94	0.49
30:O:57:ASP:H	30:O:84:ARG:HH22	1.60	0.49
22:T:8:LYS:HE3	22:T:61:GLU:H	1.78	0.49
23:U:110:LEU:HD12	23:U:112:MET:HE3	1.94	0.49
29:M:158:ASP:HB3	29:M:175:PHE:H	1.77	0.49
34:c:123:VAL:HG12	34:c:124:LYS:HG3	1.94	0.49
1:A:1239:U:H3	1:A:1520:G:H1'	1.76	0.49
1:A:1473:G:N1	1:A:1476:A:OP2	2.39	0.49
10:G:112:LEU:HD11	10:G:178:ILE:HD13	1.94	0.49
22:T:13:LEU:H	22:T:20:ILE:H	1.61	0.49
22:T:20:ILE:HG21	22:T:30:ILE:HG22	1.95	0.49
28:i:6143:A:OP1	28:i:6146:C:N4	2.33	0.49
32:X:35:ALA:HA	32:X:40:THR:HA	1.95	0.49
33:Y:14:ILE:HG22	33:Y:25:VAL:HG21	1.95	0.49
10:G:14:THR:OG1	10:G:17:ILE:O	2.29	0.49
13:h:63:SER:OG	13:h:84:ASP:OD2	2.30	0.49
13:h:213:ASP:OD2	13:h:215:GLN:NE2	2.46	0.49
28:i:6080:A:N1	28:i:6081:A:N6	2.61	0.49
14:I:103:LYS:HD2	14:I:104:PRO:HD2	1.95	0.49
14:I:159:ASP:OD2	31:P:19:ARG:NH2	2.45	0.49
28:i:6140:G:N2	28:i:6148:C:O2	2.46	0.49
1:A:290:U:N3	1:A:293:C:OP2	2.37	0.49
1:A:1217:A:O2'	1:A:1684:C:O2	2.30	0.49
6:D:114:LYS:HD3	6:D:121:ARG:HE	1.78	0.49
6:D:168:GLY:N	6:D:179:THR:O	2.39	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:G:144:LEU:O	10:G:148:ASN:ND2	2.46	0.49
17:L:21:MET:HG2	17:L:49:MET:HG3	1.95	0.49
19:Q:13:ARG:HE	19:Q:18:ARG:HH11	1.60	0.49
20:R:109:LYS:O	20:R:113:ILE:N	2.44	0.49
33:Y:26:LEU:HB2	35:e:7:LEU:HD13	1.95	0.49
1:A:1479:G:OP1	20:R:138:ARG:NH2	2.45	0.48
1:A:1595:U:H5"	2:a:85:ARG:HH12	1.78	0.48
2:a:44:LEU:HB3	2:a:78:LYS:HE3	1.95	0.48
3:B:37:TYR:OH	3:B:57:LYS:NZ	2.35	0.48
3:B:78:SER:HB2	3:B:87:VAL:HG21	1.94	0.48
21:S:103:LYS:O	21:S:107:LYS:N	2.45	0.48
1:A:922:A:OP1	33:Y:28:ARG:NH1	2.46	0.48
2:a:91:LEU:HD22	2:a:96:LEU:HD12	1.94	0.48
13:h:40:ILE:HB	13:h:59:LEU:HB2	1.94	0.48
20:R:38:PRO:HG2	20:R:41:MET:HG2	1.94	0.48
23:U:130:ASP:OD1	23:U:133:ARG:NH2	2.46	0.48
1:A:1403:C:N4	1:A:1432:U:OP2	2.46	0.48
1:A:1541:G:N2	23:U:12:GLN:OE1	2.44	0.48
3:B:151:ASP:N	3:B:151:ASP:OD1	2.45	0.48
3:B:185:MET:HE2	25:W:39:VAL:HG21	1.95	0.48
13:h:288:SER:O	13:h:301:GLY:N	2.46	0.48
20:R:72:VAL:HG11	20:R:80:GLN:HG3	1.94	0.48
24:V:60:THR:O	24:V:60:THR:OG1	2.32	0.48
28:i:6037:U:O2'	28:i:6039:A:OP2	2.31	0.48
28:i:6111:A:C8	32:X:75:MET:HG3	2.48	0.48
29:M:252:ARG:NH2	29:M:253:ASP:OD1	2.45	0.48
1:A:1204:A:N6	1:A:1693:G:O6	2.46	0.48
1:A:1234:C:H42	1:A:1523:C:H42	1.61	0.48
1:A:1535:U:H5	10:G:169:ILE:HG12	1.78	0.48
28:i:6056:A:N6	28:i:6127:C:O4'	2.46	0.48
1:A:57:U:OP1	1:A:504:G:O2'	2.30	0.48
6:D:254:ASP:OD1	6:D:254:ASP:N	2.46	0.48
13:h:131:LEU:HD12	13:h:140:TYR:HB3	1.94	0.48
19:Q:30:TYR:HB3	19:Q:45:LEU:HD13	1.95	0.48
21:S:17:ILE:HD13	21:S:69:ILE:HD13	1.94	0.48
1:A:801:U:O4	14:I:106:ARG:NH2	2.40	0.48
1:A:1013:U:OP1	1:A:1129:G:O2'	2.30	0.48
7:d:22:GLY:HA2	10:G:128:ILE:HD11	1.96	0.48
11:g:109:ASP:OD1	11:g:109:ASP:N	2.46	0.48
13:h:56:GLN:HG3	20:R:105:LYS:HE3	1.95	0.48
13:h:86:THR:HG23	13:h:100:ARG:HH22	1.78	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:i:6076:U:O2'	28:i:6130:G:O2'	2.29	0.48
1:A:383:G:H4'	30:O:132:ARG:HD2	1.96	0.48
5:C:89:GLU:OE2	5:C:220:LYS:NZ	2.47	0.48
8:E:49:ILE:HG12	8:E:87:TYR:HB2	1.95	0.48
13:h:79:LEU:HD13	13:h:120:ILE:HD13	1.96	0.48
21:S:24:LEU:HD23	21:S:58:MET:HE2	1.95	0.48
28:i:6150:C:H2'	28:i:6151:A:H8	1.79	0.48
1:A:317:C:OP2	12:H:183:ARG:NH1	2.47	0.48
1:A:437:G:N2	1:A:1801:A:OP1	2.44	0.48
14:I:159:ASP:OD1	14:I:159:ASP:N	2.43	0.48
16:K:131:ARG:NH1	16:K:143:ASN:O	2.46	0.48
32:X:128:ARG:HD3	32:X:128:ARG:HA	1.73	0.48
1:A:525:A:H2'	1:A:526:A:H8	1.79	0.48
1:A:1605:G:O3'	23:U:84:ARG:NH1	2.47	0.48
8:E:54:ARG:HB3	8:E:57:ASN:HB2	1.95	0.48
29:M:143:ASP:OD1	29:M:143:ASP:N	2.39	0.48
1:A:1271:C:O2'	1:A:1512:C:N4	2.47	0.47
1:A:1402:A:H5'	24:V:51:LYS:HD3	1.96	0.47
1:A:1753:C:O2	1:A:1780:G:N2	2.47	0.47
28:i:6134:C:N4	28:i:6135:C:O2	2.47	0.47
32:X:31:CYS:HA	32:X:44:VAL:HA	1.95	0.47
35:e:30:SER:OG	35:e:31:TYR:N	2.47	0.47
1:A:476:A:N3	1:A:488:U:O2'	2.43	0.47
1:A:659:G:HO2'	1:A:662:G:HO2'	1.60	0.47
3:B:70:ASN:HD21	3:B:72:ALA:HB3	1.79	0.47
5:C:110:MET:HA	5:C:113:MET:HE2	1.96	0.47
13:h:26:GLN:HE22	13:h:73:SER:HA	1.79	0.47
13:h:214:GLY:HA3	13:h:233:GLY:H	1.79	0.47
15:J:101:ILE:HD12	15:J:190:LEU:HD21	1.95	0.47
1:A:21:U:O2'	16:K:17:ARG:O	2.28	0.47
1:A:64:A:H2	1:A:83:A:H62	1.62	0.47
1:A:1445:U:O4	1:A:1446:A:N6	2.48	0.47
1:A:659:G:O2'	1:A:662:G:O2'	2.28	0.47
1:A:1745:A:N6	1:A:1789:G:O2'	2.47	0.47
5:C:85:LYS:N	5:C:102:GLY:O	2.47	0.47
13:h:31:ILE:HA	13:h:71:ILE:HD11	1.96	0.47
23:U:34:VAL:HG21	23:U:53:PHE:HE2	1.80	0.47
1:A:482:G:N1	1:A:485:A:OP2	2.44	0.47
1:A:1086:G:OP2	4:b:12:LYS:NZ	2.48	0.47
8:E:123:LEU:HD22	8:E:152:PHE:HB3	1.97	0.47
19:Q:18:ARG:HH22	22:T:91:LYS:HB2	1.80	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:495:U:H4'	29:M:25:SER:HB2	1.97	0.47
12:H:76:LEU:HA	12:H:94:ARG:HA	1.95	0.47
13:h:10:THR:OG1	13:h:12:LYS:NZ	2.44	0.47
23:U:104:LEU:HD13	23:U:121:ARG:HD2	1.96	0.47
35:e:15:GLU:O	35:e:23:ARG:NE	2.36	0.47
1:A:1279:C:H42	1:A:1318:G:H22	1.62	0.47
1:A:1563:G:OP1	23:U:121:ARG:NH2	2.47	0.47
1:A:1791:A:H4'	12:H:75:LEU:HD11	1.97	0.47
5:C:52:THR:HG23	5:C:57:ILE:HA	1.96	0.47
8:E:103:GLU:OE1	8:E:106:ARG:NH1	2.43	0.47
15:J:67:TRP:NE1	15:J:191:GLU:OE2	2.47	0.47
20:R:93:VAL:HG11	20:R:120:LEU:HD11	1.97	0.47
24:V:94:PRO:HD2	24:V:97:ILE:HD11	1.97	0.47
1:A:540:U:O2'	1:A:543:C:N4	2.46	0.47
1:A:1259:A:H61	22:T:135:HIS:CG	2.32	0.47
1:A:1605:G:N2	1:A:1634:A:OP2	2.48	0.47
5:C:153:THR:OG1	5:C:154:SER:N	2.48	0.47
14:I:45:ILE:HG22	14:I:64:VAL:HG12	1.96	0.47
20:R:92:LEU:O	20:R:96:TYR:N	2.45	0.47
27:F:156:ASP:OD1	27:F:156:ASP:N	2.48	0.47
1:A:161:U:O2'	12:H:87:ARG:NH2	2.47	0.47
1:A:450:C:OP1	29:M:3:ARG:NH2	2.37	0.47
1:A:1199:A:H5"	4:b:2:THR:HB	1.95	0.47
1:A:1628:C:O2'	22:T:82:TRP:O	2.33	0.47
2:a:52:LYS:HE3	22:T:3:LEU:HD11	1.97	0.47
4:b:23:CYS:SG	4:b:24:THR:N	2.87	0.47
17:L:35:LEU:HD22	17:L:38:LYS:HD2	1.97	0.47
18:N:34:GLY:O	18:N:38:ALA:N	2.47	0.47
32:X:35:ALA:O	32:X:109:GLY:N	2.41	0.47
1:A:1142:G:N2	1:A:1145:A:OP2	2.46	0.47
5:C:120:MET:HE1	5:C:122:GLU:HB2	1.97	0.47
10:G:73:THR:HA	10:G:76:MET:HB2	1.96	0.47
35:e:36:LYS:HB2	35:e:78:SER:H	1.80	0.47
1:A:617:G:N7	34:c:67:ARG:NH2	2.64	0.46
1:A:1311:C:N4	1:A:1312:G:N3	2.63	0.46
5:C:40:ASN:HD21	5:C:76:ASN:H	1.63	0.46
5:C:65:ARG:HB3	32:X:48:SER:HB2	1.96	0.46
7:d:54:ASP:OD1	7:d:54:ASP:N	2.37	0.46
12:H:126:ASP:OD1	12:H:126:ASP:N	2.43	0.46
14:I:101:LEU:HD13	14:I:120:ARG:HB3	1.97	0.46
1:A:1316:C:H5'	11:g:92:LYS:HG2	1.96	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:129:THR:OG1	5:C:131:ASP:OD1	2.30	0.46
12:H:21:GLU:O	12:H:25:ARG:N	2.46	0.46
13:h:107:ASP:HB2	13:h:125:ARG:HB2	1.97	0.46
17:L:37:ASP:N	17:L:37:ASP:OD1	2.46	0.46
1:A:445:A:H5"	15:J:47:ARG:HH11	1.79	0.46
3:B:141:ASN:ND2	25:W:29:HIS:O	2.48	0.46
6:D:98:LEU:O	6:D:102:LEU:N	2.46	0.46
6:D:146:GLU:O	6:D:149:THR:OG1	2.33	0.46
28:i:6042:U:O2	28:i:6085:G:N2	2.44	0.46
1:A:1226:G:H1	1:A:1640:A:H61	1.63	0.46
1:A:1278:A:N6	1:A:1319:U:O4	2.48	0.46
5:C:176:VAL:HG23	5:C:184:VAL:HG21	1.95	0.46
6:D:75:ILE:HG23	6:D:80:GLU:HB2	1.98	0.46
13:h:11:LEU:HB2	13:h:307:VAL:HG13	1.97	0.46
29:M:126:VAL:HA	29:M:141:THR:HA	1.97	0.46
31:P:74:ILE:O	31:P:77:SER:OG	2.32	0.46
15:J:140:LYS:O	15:J:141:ARG:NH2	2.49	0.46
21:S:95:ILE:HD11	21:S:118:GLN:HB2	1.97	0.46
33:Y:106:THR:OG1	33:Y:109:GLY:O	2.30	0.46
1:A:1519:U:H3'	1:A:1520:G:C8	2.50	0.46
1:A:1609:C:OP2	22:T:132:ARG:NH2	2.49	0.46
1:A:1655:C:OP1	23:U:92:PHE:N	2.49	0.46
1:A:1858:G:H2'	1:A:1859:A:H8	1.80	0.46
13:h:177:TRP:NE1	13:h:186:THR:H	2.13	0.46
29:M:15:PRO:HG3	29:M:39:ARG:HD3	1.97	0.46
30:O:7:GLU:OE1	30:O:9:ALA:N	2.44	0.46
30:O:119:ASP:O	30:O:147:LYS:NZ	2.49	0.46
1:A:1408:U:OP1	20:R:24:HIS:NE2	2.48	0.46
5:C:60:ASP:OD1	5:C:60:ASP:N	2.48	0.46
10:G:103:LEU:HD23	28:i:6142:C:H41	1.81	0.46
15:J:89:GLU:HG3	15:J:92:ARG:HH22	1.80	0.46
20:R:90:LYS:HA	20:R:93:VAL:HB	1.98	0.46
28:i:6050:A:N6	28:i:6076:U:O4	2.49	0.46
28:i:6074:A:H4'	28:i:6157:C:H1'	1.97	0.46
1:A:916:A:O2'	31:P:73:ARG:NH1	2.49	0.46
1:A:1289:U:H5"	11:g:95:ARG:HH21	1.81	0.46
29:M:162:ILE:HG22	29:M:164:LEU:H	1.81	0.46
1:A:647:U:H2'	1:A:648:A:H8	1.81	0.46
1:A:934:G:OP2	1:A:993:G:N2	2.42	0.46
1:A:1461:G:H3'	1:A:1463:U:H3	1.81	0.46
8:E:20:GLU:HA	17:L:64:TRP:HZ3	1.81	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:g:103:LEU:HA	18:N:64:LEU:HD22	1.98	0.46
18:N:33:ARG:HE	18:N:91:LEU:HB2	1.80	0.46
19:Q:81:ARG:HD2	19:Q:96:VAL:HB	1.96	0.46
19:Q:96:VAL:HG21	19:Q:118:GLU:HG3	1.98	0.46
28:i:6053:U:H3'	28:i:6054:A:H4'	1.98	0.46
4:b:94:ASP:OD1	4:b:94:ASP:N	2.45	0.46
26:Z:78:SER:OG	26:Z:79:LEU:N	2.49	0.46
28:i:6103:G:O6	28:i:6135:C:O2'	2.34	0.46
1:A:874:G:N3	14:I:114:GLN:NE2	2.57	0.45
1:A:1337:C:H2'	1:A:1338:G:C8	2.51	0.45
1:A:1506:A:H4'	1:A:1507:G:H8	1.80	0.45
15:J:130:THR:HG23	15:J:131:PRO:HD3	1.97	0.45
33:Y:42:MET:HE2	33:Y:42:MET:HB3	1.81	0.45
1:A:383:G:O2'	30:O:133:PRO:O	2.32	0.45
8:E:70:THR:HG22	8:E:86:LEU:HB2	1.99	0.45
8:E:132:LYS:HB3	8:E:189:MET:HG2	1.98	0.45
17:L:12:TYR:O	17:L:16:PHE:N	2.45	0.45
19:Q:82:ASP:HA	19:Q:83:MET:HE2	1.97	0.45
1:A:1290:G:H2'	1:A:1291:A:H8	1.81	0.45
1:A:1617:G:N2	1:A:1620:A:O5'	2.49	0.45
19:Q:83:MET:SD	19:Q:115:TYR:OH	2.67	0.45
1:A:292:A:O2'	30:O:39:ASN:O	2.31	0.45
1:A:952:G:OP1	5:C:56:LYS:NZ	2.49	0.45
7:d:13:ARG:HD3	7:d:35:MET:HG2	1.99	0.45
23:U:88:MET:HE3	23:U:88:MET:HB3	1.81	0.45
26:Z:80:ASP:OD1	26:Z:80:ASP:N	2.48	0.45
26:Z:106:GLN:O	26:Z:110:ARG:N	2.44	0.45
28:i:6058:U:N3	28:i:6125:U:O2	2.50	0.45
1:A:669:A:N3	1:A:1164:G:O2'	2.44	0.45
1:A:1036:A:N3	1:A:1844:U:O2'	2.45	0.45
1:A:1453:C:OP1	21:S:48:ASN:ND2	2.50	0.45
8:E:135:GLU:O	8:E:187:LYS:N	2.48	0.45
8:E:139:SER:HA	8:E:149:SER:HA	1.97	0.45
13:h:130:LYS:HG3	13:h:141:THR:HG23	1.99	0.45
28:i:6157:C:H2'	28:i:6158:A:H4'	1.98	0.45
1:A:66:G:H4'	12:H:132:ARG:HH12	1.82	0.45
1:A:1565:C:OP2	23:U:101:ARG:NH1	2.48	0.45
7:d:14:VAL:HG13	7:d:53:GLY:H	1.82	0.45
16:K:24:ARG:NH1	16:K:28:GLU:OE2	2.50	0.45
31:P:132:LYS:HA	31:P:132:LYS:HD3	1.77	0.45
1:A:4:C:O2'	16:K:18:ARG:NH1	2.50	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:i:6074:A:O2'	28:i:6157:C:O2	2.33	0.45
29:M:155:LYS:HA	29:M:155:LYS:HD3	1.65	0.45
1:A:493:A:H1'	1:A:574:A:H5'	1.99	0.45
1:A:1140:G:HO2'	1:A:1151:G:HO2'	1.62	0.45
1:A:1781:A:N7	1:A:1783:C:N4	2.64	0.45
6:D:241:PHE:HA	6:D:244:ILE:HG22	1.99	0.45
12:H:181:THR:HG22	12:H:183:ARG:H	1.80	0.45
16:K:121:LYS:H	16:K:125:HIS:CD2	2.35	0.45
33:Y:70:ASN:ND2	33:Y:130:PHE:OXT	2.42	0.45
1:A:372:U:OP2	15:J:10:LYS:NZ	2.50	0.45
1:A:663:C:OP2	34:c:3:LYS:NZ	2.39	0.45
3:B:31:ASP:HB2	3:B:151:ASP:HA	1.98	0.45
13:h:94:THR:HG23	13:h:96:THR:H	1.82	0.45
20:R:22:VAL:HG23	20:R:71:ARG:HG3	1.99	0.45
22:T:11:HIS:HA	22:T:21:ASP:HA	1.99	0.45
31:P:57:SER:OG	31:P:58:HIS:N	2.50	0.45
1:A:436:G:O3'	1:A:473:A:N6	2.50	0.44
1:A:1286:G:OP2	11:g:100:LEU:N	2.45	0.44
1:A:1298:G:H4'	19:Q:78:THR:HA	1.98	0.44
5:C:198:GLU:HB2	5:C:210:VAL:HG11	1.98	0.44
21:S:97:GLU:HA	21:S:118:GLN:HB3	1.98	0.44
7:d:14:VAL:HA	7:d:32:VAL:HG12	1.99	0.44
13:h:152:SER:HG	13:h:168:CYS:HG	1.65	0.44
20:R:96:TYR:HB3	20:R:105:LYS:HB2	1.99	0.44
8:E:32:ASP:OD1	8:E:32:ASP:N	2.50	0.44
20:R:108:ILE:HA	20:R:111:ILE:HB	1.99	0.44
29:M:223:SER:OG	29:M:224:ASN:OD1	2.33	0.44
1:A:792:C:H2'	1:A:793:G:C8	2.52	0.44
3:B:85:ARG:NH1	3:B:203:PHE:O	2.51	0.44
14:I:31:GLU:OE2	14:I:41:ARG:NH1	2.51	0.44
1:A:1098:C:H2'	1:A:1099:G:C8	2.53	0.44
3:B:158:ASP:OD1	25:W:60:ARG:NE	2.51	0.44
8:E:154:ASP:OD1	8:E:154:ASP:N	2.50	0.44
10:G:187:SER:OG	10:G:188:TYR:N	2.51	0.44
19:Q:20:VAL:O	19:Q:24:GLN:NE2	2.47	0.44
22:T:132:ARG:HA	22:T:132:ARG:HD3	1.75	0.44
29:M:11:ARG:HA	29:M:28:ALA:HB2	1.99	0.44
10:G:122:ARG:HH21	10:G:124:ASP:HA	1.83	0.44
13:h:8:ARG:NH1	13:h:311:GLN:HB3	2.32	0.44
29:M:72:ILE:HG12	29:M:90:ILE:HG12	1.98	0.44
1:A:523:A:OP1	16:K:127:ARG:NE	2.44	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:551:U:H2'	1:A:552:G:H8	1.81	0.44
1:A:795:A:N6	1:A:797:C:N3	2.65	0.44
1:A:1596:U:OP2	2:a:85:ARG:NH1	2.50	0.44
1:A:1786:U:H2'	1:A:1787:G:C8	2.53	0.44
5:C:144:LYS:HE3	5:C:206:PRO:HB2	1.99	0.44
10:G:74:ASN:HD21	10:G:86:LYS:HA	1.82	0.44
10:G:122:ARG:HB3	10:G:123:GLU:H	1.65	0.44
15:J:3:ILE:O	15:J:30:GLY:N	2.51	0.44
17:L:46:MET:HE2	17:L:46:MET:HB3	1.94	0.44
20:R:30:GLY:HA3	20:R:64:ALA:HA	1.99	0.44
28:i:6044:G:N3	28:i:6084:A:N6	2.56	0.44
1:A:28:U:H2'	1:A:29:G:H8	1.82	0.44
5:C:175:GLU:HG2	5:C:193:ILE:HG12	1.99	0.44
8:E:206:ASP:OD1	8:E:206:ASP:N	2.42	0.44
10:G:192:LYS:HA	10:G:192:LYS:HD3	1.73	0.44
17:L:63:ALA:HB3	17:L:66:HIS:HB2	2.00	0.44
1:A:71:G:O6	1:A:72:C:N4	2.51	0.44
1:A:1241:A:H3'	1:A:1518:C:H5'	1.99	0.44
1:A:1287:A:H62	1:A:1311:C:H42	1.66	0.44
1:A:1454:A:H3'	21:S:5:ARG:HH11	1.83	0.44
1:A:1648:G:N7	20:R:125:ARG:NE	2.66	0.44
11:g:100:LEU:HB3	11:g:103:LEU:HB2	1.99	0.44
16:K:32:ILE:HG23	16:K:37:LEU:HB2	1.99	0.44
17:L:38:LYS:HG3	17:L:40:VAL:HG12	1.99	0.44
19:Q:29:SER:OG	19:Q:32:GLN:NE2	2.50	0.44
35:e:36:LYS:HD2	35:e:36:LYS:HA	1.72	0.44
1:A:1454:A:O4'	21:S:3:ARG:NH1	2.51	0.43
10:G:113:VAL:HA	10:G:116:ILE:HG12	2.00	0.43
13:h:85:GLY:HA2	13:h:108:VAL:HG13	2.00	0.43
14:I:47:ALA:HB3	14:I:63:PHE:HB2	2.00	0.43
20:R:27:ARG:HA	20:R:27:ARG:HD2	1.76	0.43
24:V:28:ASN:HD21	24:V:30:LYS:HE3	1.83	0.43
29:M:25:SER:OG	29:M:27:PHE:O	2.35	0.43
1:A:929:G:N2	1:A:1013:U:O2	2.47	0.43
1:A:1057:C:N4	1:A:1060:A:OP2	2.52	0.43
1:A:1553:C:O2'	1:A:1554:C:O4'	2.35	0.43
2:a:66:LYS:O	28:i:6142:C:N4	2.49	0.43
5:C:97:LEU:HB3	5:C:228:LEU:HD21	1.99	0.43
8:E:46:THR:OG1	8:E:83:SER:O	2.31	0.43
23:U:24:LYS:HA	23:U:24:LYS:HD3	1.88	0.43
25:W:73:ALA:HB1	25:W:78:ILE:HB	2.00	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:945:U:H3	1:A:981:A:H61	1.67	0.43
20:R:129:SER:O	20:R:131:LYS:NZ	2.48	0.43
29:M:191:ARG:HD2	29:M:218:PHE:CE1	2.53	0.43
31:P:27:LYS:HA	31:P:27:LYS:HD3	1.83	0.43
33:Y:27:ILE:HD11	33:Y:61:ILE:HD12	2.00	0.43
1:A:804:U:H5"	33:Y:82:GLN:HG2	1.99	0.43
15:J:69:SER:OG	15:J:191:GLU:OE2	2.36	0.43
28:i:6052:A:H61	28:i:6129:G:H21	1.66	0.43
30:O:22:ARG:HA	30:O:22:ARG:HD3	1.73	0.43
33:Y:3:ARG:NH1	33:Y:29:PRO:HD3	2.34	0.43
1:A:399:C:N3	30:O:104:LYS:NZ	2.47	0.43
1:A:678:U:OP2	1:A:1026:C:N4	2.34	0.43
1:A:1243:U:O2'	1:A:1244:U:O4'	2.36	0.43
1:A:1299:A:N6	1:A:1301:A:N1	2.66	0.43
1:A:1525:C:N3	1:A:1526:G:N1	2.67	0.43
3:B:69:GLU:OE2	6:D:270:THR:OG1	2.35	0.43
5:C:187:LYS:O	5:C:192:SER:OG	2.36	0.43
12:H:119:LYS:HE3	12:H:119:LYS:HB2	1.85	0.43
13:h:32:LEU:HD21	13:h:92:LEU:HD11	2.00	0.43
19:Q:44:ARG:HH22	19:Q:50:ARG:HG2	1.83	0.43
22:T:44:VAL:HG23	22:T:45:LEU:HD12	2.00	0.43
1:A:926:A:H61	1:A:1015:U:H3	1.66	0.43
20:R:95:TYR:HA	20:R:98:LYS:HD3	2.01	0.43
24:V:20:ILE:O	24:V:91:LEU:N	2.44	0.43
28:i:6123:G:OP2	28:i:6123:G:N2	2.48	0.43
33:Y:6:VAL:HG12	33:Y:34:ILE:HD11	1.99	0.43
1:A:1109:C:H42	21:S:126:MET:H	1.67	0.43
12:H:164:LYS:HB3	12:H:167:LYS:HD2	2.00	0.43
12:H:202:ASN:OD1	29:M:148:ARG:NH2	2.51	0.43
14:I:169:LYS:O	14:I:172:THR:OG1	2.31	0.43
22:T:106:LYS:HD3	22:T:106:LYS:HA	1.86	0.43
1:A:124:U:OP1	12:H:201:LYS:NZ	2.52	0.43
10:G:49:LEU:HD23	20:R:49:TYR:HB2	2.00	0.43
13:h:115:SER:O	13:h:117:ASN:ND2	2.52	0.43
26:Z:55:ILE:HG23	26:Z:75:ILE:HG22	2.01	0.43
28:i:6148:C:H2'	28:i:6149:A:C8	2.53	0.43
1:A:446:G:OP2	15:J:47:ARG:NH1	2.35	0.43
1:A:1552:G:OP1	1:A:1578:U:N3	2.51	0.43
1:A:1676:U:H5'	10:G:71:ARG:HE	1.83	0.43
4:b:25:ASN:HD21	4:b:77:CYS:HB3	1.82	0.43
6:D:79:GLU:HG2	25:W:12:TYR:HB3	2.00	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:130:LYS:HA	20:R:137:ALA:HA	2.00	0.43
22:T:20:ILE:HD11	22:T:33:ILE:HG13	2.01	0.43
29:M:174:LYS:O	29:M:179:ASN:ND2	2.51	0.43
1:A:1226:G:O6	1:A:1640:A:N6	2.51	0.43
4:b:53:ILE:HD13	32:X:120:ALA:HB2	2.00	0.43
5:C:62:LEU:HA	5:C:65:ARG:HE	1.84	0.43
13:h:72:SER:OG	13:h:74:ASP:OD1	2.28	0.43
13:h:226:HIS:NE2	13:h:228:TYR:O	2.51	0.43
13:h:244:ASN:HD21	13:h:296:GLN:HG2	1.84	0.43
16:K:78:LEU:HD13	16:K:92:MET:HG2	2.01	0.43
18:N:69:CYS:SG	18:N:70:ALA:N	2.92	0.43
18:N:78:LYS:HA	18:N:78:LYS:HD3	1.68	0.43
20:R:50:LYS:HA	20:R:50:LYS:HD2	1.87	0.43
29:M:262:SER:OG	29:M:263:GLY:N	2.51	0.43
1:A:1432:U:O2'	1:A:1438:A:OP2	2.35	0.42
1:A:1617:G:N1	1:A:1620:A:OP2	2.52	0.42
2:a:47:LEU:O	2:a:80:ARG:N	2.52	0.42
5:C:91:VAL:HG12	5:C:96:CYS:HA	2.01	0.42
8:E:32:ASP:O	8:E:53:THR:N	2.50	0.42
16:K:134:HIS:O	16:K:160:SER:N	2.42	0.42
20:R:58:LEU:HB2	20:R:63:PHE:HE1	1.84	0.42
32:X:101:GLY:HA3	32:X:134:PRO:HG2	2.00	0.42
26:Z:17:LEU:HD23	26:Z:17:LEU:HA	1.91	0.42
1:A:189:U:OP2	15:J:148:LYS:NZ	2.52	0.42
1:A:1613:G:OP1	19:Q:42:ARG:NH1	2.48	0.42
2:a:103:HIS:HE1	2:a:106:GLN:HB3	1.83	0.42
7:d:44:ARG:HH21	7:d:58:LEU:HD23	1.84	0.42
8:E:1:MET:HE3	8:E:1:MET:HB2	1.89	0.42
8:E:71:ALA:O	8:E:75:LYS:N	2.43	0.42
10:G:71:ARG:HH22	10:G:148:ASN:HB3	1.83	0.42
15:J:61:ASP:OD1	15:J:61:ASP:N	2.49	0.42
19:Q:68:PRO:HG2	19:Q:71:GLU:HB2	2.00	0.42
29:M:173:ILE:HD11	29:M:235:TRP:CD2	2.54	0.42
30:O:77:VAL:HG13	30:O:122:ILE:HA	2.01	0.42
1:A:819:G:H5"	16:K:79:ARG:HH22	1.83	0.42
1:A:1101:U:H2'	1:A:1102:G:C8	2.54	0.42
1:A:1227:G:N2	1:A:1228:A:N7	2.68	0.42
10:G:202:SER:OG	10:G:203:ASN:OD1	2.35	0.42
29:M:191:ARG:HH11	29:M:245:ARG:HD3	1.83	0.42
32:X:34:PHE:CD1	32:X:98:ARG:HD3	2.54	0.42
32:X:34:PHE:HA	32:X:98:ARG:HB3	2.01	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:119:CYS:O	8:E:123:LEU:N	2.43	0.42
9:f:107:ARG:HH11	9:f:110:GLN:HE22	1.68	0.42
18:N:49:LEU:HD22	18:N:111:VAL:HG23	2.02	0.42
20:R:11:GLN:NE2	20:R:22:VAL:HG12	2.34	0.42
25:W:4:ASP:OD1	25:W:4:ASP:N	2.50	0.42
25:W:74:LYS:HB2	25:W:74:LYS:HE3	1.78	0.42
26:Z:62:THR:OG1	26:Z:68:LYS:O	2.33	0.42
28:i:6055:C:OP1	28:i:6160:G:O2'	2.31	0.42
1:A:993:G:OP1	1:A:1131:G:N2	2.49	0.42
1:A:1587:G:H22	23:U:75:MET:HA	1.84	0.42
1:A:1752:C:H42	1:A:1780:G:H1	1.68	0.42
28:i:6047:U:O4	28:i:6081:A:N6	2.52	0.42
1:A:1042:A:H61	1:A:1073:U:H3	1.67	0.42
1:A:1053:C:H2'	1:A:1054:G:C8	2.55	0.42
1:A:1404:U:O4	24:V:86:LYS:NZ	2.43	0.42
10:G:40:ALA:HB1	10:G:45:TYR:CG	2.55	0.42
11:g:101:ALA:O	11:g:104:LYS:NZ	2.52	0.42
11:g:119:ARG:HB2	11:g:132:MET:HB3	2.01	0.42
13:h:5:MET:HG2	13:h:312:VAL:HG22	2.02	0.42
15:J:69:SER:OG	15:J:70:GLU:OE2	2.35	0.42
17:L:59:LYS:HD2	17:L:59:LYS:HA	1.77	0.42
31:P:130:LYS:HD3	31:P:137:PRO:HA	2.01	0.42
33:Y:87:GLU:HA	33:Y:90:GLN:HG2	2.02	0.42
35:e:74:THR:OG1	35:e:77:CYS:SG	2.75	0.42
1:A:1239:U:H2'	1:A:1241:A:H5'	2.02	0.42
15:J:155:ASN:HB3	30:O:22:ARG:HG3	2.02	0.42
30:O:125:ILE:HB	30:O:146:THR:HB	2.01	0.42
30:O:157:LYS:HE3	30:O:157:LYS:HB2	1.81	0.42
1:A:528:A:O5'	16:K:121:LYS:NZ	2.51	0.42
1:A:753:C:O2'	1:A:754:G:O4'	2.34	0.42
1:A:1312:G:O6	18:N:36:ARG:NE	2.53	0.42
1:A:1563:G:O3'	23:U:115:LYS:NZ	2.45	0.42
5:C:33:VAL:HA	5:C:96:CYS:HB2	2.02	0.42
21:S:6:THR:OG1	21:S:7:LYS:N	2.53	0.42
21:S:61:ILE:HD12	21:S:66:VAL:HG13	2.02	0.42
1:A:329:G:H2'	1:A:330:G:H8	1.85	0.42
1:A:444:G:N7	15:J:47:ARG:NH2	2.68	0.42
1:A:601:G:OP1	27:F:171:ARG:NH2	2.52	0.42
1:A:647:U:H2'	1:A:648:A:C8	2.55	0.42
1:A:1053:C:H2'	1:A:1054:G:H8	1.85	0.42
1:A:1264:C:H1'	1:A:1265:A:C6	2.55	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:31:GLU:HA	8:E:107:TYR:HE2	1.85	0.42
13:h:79:LEU:HD11	13:h:87:LEU:HB3	2.01	0.42
16:K:179:LYS:HB2	16:K:179:LYS:HE3	1.87	0.42
23:U:7:LYS:HE3	23:U:7:LYS:HB3	1.80	0.42
24:V:32:LEU:HD12	24:V:32:LEU:HA	1.91	0.42
1:A:46:A:N7	1:A:97:U:O2'	2.46	0.41
2:a:67:LEU:HD12	2:a:67:LEU:HA	1.85	0.41
14:I:51:ILE:HG13	14:I:179:LYS:HG2	2.02	0.41
28:i:6113:U:H6	28:i:6113:U:H2'	1.71	0.41
28:i:6125:U:H3	28:i:6161:A:H61	1.68	0.41
1:A:399:C:N4	1:A:680:G:OP1	2.53	0.41
3:B:80:ARG:HH12	3:B:126:ASP:HB3	1.83	0.41
12:H:2:LYS:HD3	12:H:15:LEU:HD21	2.02	0.41
13:h:8:ARG:HB3	13:h:311:GLN:HE22	1.84	0.41
13:h:297:THR:HA	13:h:311:GLN:HA	2.02	0.41
15:J:76:THR:HG21	15:J:104:ILE:HD12	2.01	0.41
15:J:203:LYS:HB3	15:J:203:LYS:HE2	1.85	0.41
30:O:25:LEU:H	30:O:28:THR:HG1	1.67	0.41
1:A:1230:C:N3	1:A:1528:G:N2	2.69	0.41
1:A:1279:C:H42	1:A:1318:G:H1	1.67	0.41
5:C:147:ASN:OD1	5:C:147:ASN:N	2.53	0.41
5:C:150:ILE:HG23	21:S:131:PRO:HA	2.02	0.41
10:G:141:VAL:HG12	10:G:143:PRO:HD3	2.01	0.41
11:g:138:ARG:HB2	11:g:149:CYS:HA	2.02	0.41
29:M:39:ARG:HD3	29:M:39:ARG:HA	1.85	0.41
1:A:373:G:H4'	30:O:85:THR:HG21	2.03	0.41
1:A:801:U:H5	14:I:106:ARG:HH12	1.68	0.41
1:A:1391:C:O3'	24:V:83:ARG:NH2	2.53	0.41
2:a:67:LEU:HD11	10:G:102:LEU:HD13	2.02	0.41
8:E:146:ARG:HA	8:E:146:ARG:HD2	1.84	0.41
13:h:126:ASP:OD1	13:h:126:ASP:N	2.52	0.41
32:X:57:THR:HG23	32:X:60:MET:HE3	2.01	0.41
1:A:609:U:H2'	1:A:610:G:H8	1.85	0.41
1:A:1126:G:OP1	3:B:41:ARG:NH1	2.49	0.41
1:A:1290:G:N1	1:A:1309:C:N3	2.46	0.41
1:A:1358:U:OP2	6:D:123:ARG:NH1	2.54	0.41
1:A:1637:A:N6	10:G:81:ARG:HH22	2.18	0.41
1:A:1844:U:H2'	1:A:1845:A:C8	2.55	0.41
6:D:173:LYS:HD3	25:W:3:ASN:HA	2.03	0.41
12:H:168:LYS:HA	12:H:169:PRO:HD3	1.93	0.41
13:h:62:HIS:CD2	13:h:80:SER:HB2	2.56	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:75:G:H22	1:A:78:C:P	2.43	0.41
1:A:916:A:C4	31:P:73:ARG:HD3	2.55	0.41
1:A:1069:U:H2'	1:A:1070:A:H8	1.86	0.41
1:A:1842:C:H2'	1:A:1843:G:C8	2.55	0.41
3:B:2:SER:HA	3:B:59:LEU:HD13	2.02	0.41
5:C:44:ILE:HD13	5:C:44:ILE:HA	1.92	0.41
8:E:135:GLU:HB3	8:E:187:LYS:HB2	2.03	0.41
8:E:222:PRO:HD2	13:h:226:HIS:ND1	2.35	0.41
13:h:229:THR:OG1	13:h:230:LEU:N	2.54	0.41
15:J:63:GLY:O	15:J:76:THR:N	2.43	0.41
19:Q:17:TYR:HB2	19:Q:21:ASP:H	1.86	0.41
20:R:8:GLN:HG3	20:R:95:TYR:CD1	2.55	0.41
20:R:63:PHE:HB3	20:R:92:LEU:HD22	2.02	0.41
30:O:8:ARG:H	30:O:8:ARG:HG2	1.69	0.41
1:A:1416:C:N3	1:A:1423:C:N4	2.69	0.41
1:A:1430:C:H2'	1:A:1431:G:C8	2.55	0.41
6:D:107:LEU:HA	6:D:107:LEU:HD23	1.90	0.41
12:H:61:PHE:HA	12:H:62:PRO:HD3	1.90	0.41
13:h:212:LYS:HA	13:h:235:ILE:HG13	2.03	0.41
15:J:6:ASP:OD1	15:J:9:HIS:ND1	2.53	0.41
30:O:21:LYS:HD2	30:O:21:LYS:HA	1.90	0.41
1:A:1329:U:O2'	1:A:1332:A:OP2	2.33	0.41
1:A:1613:G:P	19:Q:42:ARG:HH12	2.43	0.41
2:a:49:LEU:HA	2:a:83:LEU:HD22	2.03	0.41
6:D:76:LYS:HA	6:D:76:LYS:HD3	1.87	0.41
11:g:83:LYS:HA	11:g:83:LYS:HD3	1.84	0.41
13:h:87:LEU:HD22	13:h:104:HIS:CE1	2.56	0.41
13:h:107:ASP:HB2	13:h:125:ARG:HE	1.85	0.41
18:N:77:ILE:H	18:N:127:TYR:HB3	1.85	0.41
19:Q:114:HIS:CE1	22:T:121:ARG:HB2	2.55	0.41
20:R:6:PRO:HB2	20:R:27:ARG:HE	1.86	0.41
1:A:982:G:H2'	1:A:983:A:C8	2.56	0.41
1:A:1236:G:O2'	1:A:1520:G:N2	2.51	0.41
1:A:1239:U:O4	1:A:1241:A:O2'	2.30	0.41
1:A:1473:G:H2'	1:A:1475:G:N2	2.33	0.41
1:A:1523:C:O5'	22:T:145:THR:OG1	2.35	0.41
8:E:173:ARG:HA	8:E:173:ARG:HD3	1.89	0.41
10:G:108:PRO:HG2	10:G:110:GLN:H	1.86	0.41
13:h:8:ARG:NE	13:h:52:TYR:OH	2.54	0.41
13:h:122:SER:OG	13:h:132:TRP:NE1	2.53	0.41
13:h:127:LYS:HA	13:h:151:VAL:H	1.86	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:h:172:LYS:HG2	13:h:194:TYR:HA	2.03	0.41
15:J:162:LEU:HD11	15:J:191:GLU:HG2	2.02	0.41
16:K:25:LEU:HD23	16:K:25:LEU:HA	1.90	0.41
16:K:151:LEU:HD23	16:K:151:LEU:HA	1.89	0.41
19:Q:96:VAL:HG22	19:Q:103:ASN:HB2	2.03	0.41
24:V:56:MET:HE3	24:V:88:LEU:HD12	2.02	0.41
29:M:128:LYS:HE3	29:M:128:LYS:HB3	1.92	0.41
32:X:63:LYS:HD3	32:X:63:LYS:HA	1.85	0.41
32:X:94:HIS:ND1	32:X:127:GLY:O	2.48	0.41
33:Y:9:ASP:O	33:Y:13:SER:OG	2.31	0.41
34:c:6:GLY:O	34:c:9:THR:OG1	2.32	0.41
34:c:60:LYS:HB2	34:c:60:LYS:HE3	1.94	0.41
1:A:155:G:H4'	12:H:15:LEU:HD22	2.03	0.41
1:A:177:G:H1	1:A:313:A:P	2.44	0.41
1:A:875:A:N6	1:A:910:G:O6	2.54	0.41
1:A:942:G:OP1	5:C:136:ARG:NH2	2.54	0.41
1:A:996:A:OP1	31:P:114:ARG:NH1	2.54	0.41
1:A:1630:A:P	22:T:38:ARG:H	2.44	0.41
10:G:116:ILE:HD12	10:G:180:ALA:HB3	2.02	0.41
12:H:5:ILE:HG13	12:H:111:LEU:HB2	2.02	0.41
12:H:6:SER:HB3	12:H:112:VAL:HG12	2.01	0.41
15:J:65:PHE:O	15:J:109:TYR:OH	2.39	0.41
15:J:119:LEU:HD23	15:J:119:LEU:HA	1.95	0.41
19:Q:58:LYS:HE3	19:Q:58:LYS:HB3	1.85	0.41
23:U:111:LYS:HD3	23:U:111:LYS:HA	1.86	0.41
24:V:46:LYS:HE3	24:V:100:GLN:HE21	1.85	0.41
26:Z:18:LEU:HD23	26:Z:18:LEU:HA	1.92	0.41
33:Y:32:LYS:HE3	33:Y:32:LYS:HB2	1.87	0.41
35:e:78:SER:OG	35:e:79:PHE:N	2.54	0.41
1:A:532:C:H2'	1:A:533:A:H8	1.85	0.40
1:A:1239:U:C5	1:A:1241:A:H4'	2.56	0.40
1:A:1515:G:H2'	1:A:1516:G:C8	2.56	0.40
6:D:265:PRO:HA	6:D:268:GLU:HG2	2.03	0.40
10:G:25:THR:HB	10:G:109:LEU:HD13	2.03	0.40
10:G:93:VAL:HA	10:G:96:ALA:HB3	2.02	0.40
13:h:225:LYS:HA	13:h:225:LYS:HD2	1.83	0.40
15:J:142:SER:H	15:J:145:ILE:HG12	1.86	0.40
31:P:119:GLU:HG2	31:P:141:TYR:HE2	1.87	0.40
1:A:540:U:N3	1:A:542:U:OP1	2.54	0.40
1:A:1414:A:O2'	23:U:128:GLN:OE1	2.29	0.40
3:B:10:MET:HB2	21:S:111:PHE:CZ	2.57	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:b:38:LYS:HD2	4:b:38:LYS:HA	1.84	0.40
6:D:161:SER:O	6:D:161:SER:OG	2.31	0.40
23:U:83:GLN:HB2	23:U:93:SER:HB3	2.03	0.40
23:U:102:ARG:HA	23:U:105:GLN:HB2	2.04	0.40
32:X:40:THR:O	32:X:40:THR:OG1	2.36	0.40
1:A:5:U:H2'	1:A:6:G:H8	1.86	0.40
6:D:191:VAL:HG11	6:D:236:PHE:HA	2.03	0.40
20:R:42:ILE:HD13	20:R:42:ILE:HA	1.91	0.40
22:T:79:ILE:HA	22:T:80:PRO:HD3	1.87	0.40
22:T:84:LEU:HD23	22:T:84:LEU:HA	1.94	0.40
29:M:42:LEU:HD23	29:M:42:LEU:HA	1.88	0.40
1:A:667:U:O4	1:A:1143:A:N6	2.54	0.40
1:A:1569:A:O2'	1:A:1626:C:O2	2.35	0.40
1:A:1751:C:H42	1:A:1781:A:H61	1.70	0.40
1:A:1858:G:H2'	1:A:1859:A:C8	2.56	0.40
3:B:5:LEU:HD12	3:B:5:LEU:HA	1.89	0.40
8:E:106:ARG:O	8:E:110:LEU:N	2.44	0.40
10:G:198:ARG:HA	10:G:198:ARG:HD3	1.77	0.40
12:H:70:HIS:C	12:H:98:ARG:HH12	2.28	0.40
12:H:76:LEU:HD21	12:H:92:ARG:HB3	2.04	0.40
13:h:128:THR:OG1	13:h:129:ILE:N	2.54	0.40
14:I:43:LEU:HD23	14:I:43:LEU:HA	1.92	0.40
18:N:75:ASN:HA	18:N:128:PHE:HB3	2.04	0.40
19:Q:72:LYS:HB2	19:Q:72:LYS:HE2	1.89	0.40
29:M:48:LEU:HA	29:M:52:LEU:HB2	2.02	0.40
29:M:89:VAL:HG11	29:M:164:LEU:HD11	2.03	0.40
29:M:158:ASP:OD1	29:M:158:ASP:N	2.35	0.40
35:e:31:TYR:H	35:e:48:SER:HG	1.68	0.40
1:A:825:A:H2'	1:A:826:A:H8	1.87	0.40
5:C:94:LYS:HE3	5:C:94:LYS:HB3	1.92	0.40
10:G:183:GLY:HA3	10:G:184:SER:HA	1.58	0.40
16:K:100:LEU:HD23	16:K:100:LEU:HA	1.92	0.40
21:S:47:ARG:HA	21:S:50:ILE:HB	2.03	0.40
26:Z:57:VAL:HB	26:Z:60:PHE:HE2	1.86	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	a	73/125 (58%)	66 (90%)	7 (10%)	0	100	100
3	B	215/295 (73%)	207 (96%)	8 (4%)	0	100	100
4	b	99/115 (86%)	94 (95%)	5 (5%)	0	100	100
5	C	211/264 (80%)	198 (94%)	13 (6%)	0	100	100
6	D	219/293 (75%)	215 (98%)	4 (2%)	0	100	100
7	d	60/69 (87%)	56 (93%)	4 (7%)	0	100	100
8	E	226/243 (93%)	216 (96%)	10 (4%)	0	100	100
9	f	55/133 (41%)	51 (93%)	4 (7%)	0	100	100
10	G	181/204 (89%)	154 (85%)	24 (13%)	3 (2%)	7	31
11	g	66/156 (42%)	58 (88%)	8 (12%)	0	100	100
12	H	235/249 (94%)	230 (98%)	5 (2%)	0	100	100
13	h	311/317 (98%)	275 (88%)	36 (12%)	0	100	100
14	I	181/194 (93%)	175 (97%)	6 (3%)	0	100	100
15	J	204/208 (98%)	189 (93%)	15 (7%)	0	100	100
16	K	183/194 (94%)	177 (97%)	6 (3%)	0	100	100
17	L	94/165 (57%)	87 (93%)	7 (7%)	0	100	100
18	N	115/132 (87%)	107 (93%)	7 (6%)	1 (1%)	14	44
19	Q	105/145 (72%)	88 (84%)	17 (16%)	0	100	100
20	R	140/146 (96%)	122 (87%)	18 (13%)	0	100	100
21	S	130/135 (96%)	120 (92%)	10 (8%)	0	100	100
22	T	142/152 (93%)	119 (84%)	23 (16%)	0	100	100
23	U	139/145 (96%)	130 (94%)	9 (6%)	0	100	100
24	V	98/119 (82%)	96 (98%)	2 (2%)	0	100	100
25	W	81/83 (98%)	80 (99%)	1 (1%)	0	100	100
26	Z	122/130 (94%)	119 (98%)	3 (2%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
27	F	34/36 (94%)	32 (94%)	2 (6%)	0	100	100
29	M	261/263 (99%)	230 (88%)	31 (12%)	0	100	100
30	O	156/158 (99%)	136 (87%)	19 (12%)	1 (1%)	22	53
31	P	148/151 (98%)	138 (93%)	9 (6%)	1 (1%)	19	50
32	X	134/168 (80%)	112 (84%)	22 (16%)	0	100	100
33	Y	127/130 (98%)	119 (94%)	7 (6%)	1 (1%)	16	46
34	c	140/143 (98%)	130 (93%)	9 (6%)	1 (1%)	19	50
35	e	82/84 (98%)	73 (89%)	9 (11%)	0	100	100
All	All	4767/5544 (86%)	4399 (92%)	360 (8%)	8 (0%)	45	71

All (8) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
10	G	123	GLU
31	P	23	PRO
18	N	55	ASN
10	G	122	ARG
34	c	130	LEU
10	G	108	PRO
30	O	5	GLN
33	Y	67	GLY

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	
2	a	66/103 (64%)	66 (100%)	0	100	100
3	B	180/245 (74%)	180 (100%)	0	100	100
4	b	88/98 (90%)	87 (99%)	1 (1%)	70	82
5	C	194/231 (84%)	194 (100%)	0	100	100
6	D	187/225 (83%)	186 (100%)	1 (0%)	86	91

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
7	d	55/62 (89%)	55 (100%)	0	100	100
8	E	190/202 (94%)	190 (100%)	0	100	100
9	f	47/106 (44%)	47 (100%)	0	100	100
10	G	155/170 (91%)	154 (99%)	1 (1%)	84	90
11	g	61/140 (44%)	61 (100%)	0	100	100
12	H	207/218 (95%)	207 (100%)	0	100	100
13	h	272/275 (99%)	269 (99%)	3 (1%)	70	82
14	I	165/174 (95%)	164 (99%)	1 (1%)	84	90
15	J	178/180 (99%)	178 (100%)	0	100	100
16	K	161/168 (96%)	160 (99%)	1 (1%)	84	90
17	L	87/136 (64%)	87 (100%)	0	100	100
18	N	99/108 (92%)	99 (100%)	0	100	100
19	Q	97/130 (75%)	96 (99%)	1 (1%)	73	84
20	R	117/121 (97%)	116 (99%)	1 (1%)	75	85
21	S	119/121 (98%)	119 (100%)	0	100	100
22	T	125/132 (95%)	122 (98%)	3 (2%)	44	68
23	U	111/115 (96%)	111 (100%)	0	100	100
24	V	92/107 (86%)	92 (100%)	0	100	100
25	W	67/67 (100%)	66 (98%)	1 (2%)	60	77
26	Z	107/112 (96%)	107 (100%)	0	100	100
27	F	29/31 (94%)	29 (100%)	0	100	100
29	M	225/225 (100%)	222 (99%)	3 (1%)	65	79
30	O	142/142 (100%)	142 (100%)	0	100	100
31	P	130/131 (99%)	128 (98%)	2 (2%)	60	77
32	X	106/130 (82%)	106 (100%)	0	100	100
33	Y	112/113 (99%)	112 (100%)	0	100	100
34	c	114/115 (99%)	113 (99%)	1 (1%)	75	85
35	e	76/76 (100%)	75 (99%)	1 (1%)	65	79
All	All	4161/4709 (88%)	4140 (100%)	21 (0%)	85	91

All (21) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	b	46	GLU
6	D	209	VAL
10	G	139	VAL
13	h	134	THR
13	h	268	ASP
13	h	309	VAL
14	I	166	VAL
16	K	149	VAL
19	Q	116	LEU
20	R	72	VAL
22	T	5	ILE
22	T	16	LEU
22	T	26	ILE
25	W	13	VAL
29	M	80	ILE
29	M	111	VAL
29	M	166	THR
31	P	37	ILE
31	P	67	THR
34	c	128	VAL
35	e	84	HIS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (64) such sidechains are listed below:

Mol	Chain	Res	Type
2	a	64	ASN
2	a	106	GLN
3	B	9	GLN
3	B	70	ASN
3	B	132	GLN
3	B	141	ASN
4	b	17	HIS
5	C	101	HIS
5	C	157	GLN
5	C	158	HIS
5	C	163	GLN
6	D	113	GLN
6	D	134	ASN
7	d	7	GLN
7	d	29	GLN
7	d	45	ASN
10	G	36	GLN
10	G	74	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
10	G	137	GLN
10	G	148	ASN
12	H	110	ASN
12	H	146	ASN
12	H	197	GLN
13	h	76	GLN
13	h	104	HIS
13	h	215	GLN
13	h	272	GLN
13	h	285	GLN
15	J	165	GLN
16	K	111	GLN
18	N	55	ASN
18	N	72	HIS
18	N	75	ASN
19	Q	32	GLN
19	Q	54	HIS
19	Q	104	GLN
20	R	142	GLN
21	S	29	HIS
21	S	48	ASN
21	S	62	GLN
22	T	17	ASN
22	T	42	HIS
22	T	101	ASN
22	T	105	ASN
23	U	126	GLN
24	V	18	HIS
24	V	28	ASN
25	W	35	ASN
26	Z	19	GLN
27	F	160	ASN
27	F	178	ASN
29	M	50	ASN
29	M	142	HIS
29	M	197	ASN
30	O	5	GLN
30	O	19	ASN
30	O	154	GLN
31	P	90	HIS
31	P	123	HIS
32	X	38	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
33	Y	90	GLN
34	c	61	GLN
35	e	26	GLN
35	e	51	GLN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1685/1869 (90%)	473 (28%)	16 (0%)
28	i	142/192 (73%)	98 (69%)	0
All	All	1827/2061 (88%)	571 (31%)	16 (0%)

All (571) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	2	A
1	A	3	C
1	A	4	C
1	A	17	C
1	A	25	A
1	A	33	G
1	A	41	G
1	A	46	A
1	A	55	U
1	A	56	G
1	A	58	C
1	A	62	G
1	A	65	C
1	A	67	C
1	A	68	A
1	A	71	G
1	A	73	C
1	A	74	G
1	A	76	U
1	A	77	A
1	A	79	A
1	A	92	A
1	A	99	A
1	A	103	A
1	A	110	U
1	A	111	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	113	G
1	A	115	U
1	A	126	G
1	A	130	G
1	A	142	C
1	A	143	U
1	A	146	G
1	A	147	A
1	A	156	G
1	A	157	U
1	A	162	C
1	A	163	U
1	A	170	A
1	A	171	A
1	A	172	U
1	A	175	A
1	A	183	G
1	A	184	G
1	A	188	C
1	A	190	G
1	A	192	C
1	A	206	G
1	A	208	G
1	A	209	A
1	A	304	C
1	A	305	U
1	A	306	C
1	A	307	G
1	A	308	G
1	A	309	G
1	A	312	G
1	A	319	C
1	A	320	G
1	A	347	G
1	A	351	G
1	A	362	C
1	A	364	A
1	A	368	U
1	A	369	C
1	A	370	G
1	A	381	C
1	A	382	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	385	G
1	A	386	C
1	A	398	A
1	A	400	C
1	A	407	G
1	A	408	A
1	A	409	C
1	A	417	C
1	A	418	A
1	A	426	A
1	A	438	G
1	A	441	C
1	A	447	A
1	A	448	A
1	A	450	C
1	A	465	A
1	A	466	G
1	A	467	G
1	A	471	G
1	A	472	C
1	A	473	A
1	A	474	G
1	A	482	G
1	A	487	U
1	A	492	C
1	A	501	C
1	A	502	C
1	A	508	A
1	A	509	G
1	A	516	A
1	A	531	A
1	A	532	C
1	A	533	A
1	A	534	G
1	A	536	A
1	A	537	C
1	A	538	U
1	A	541	U
1	A	542	U
1	A	544	G
1	A	547	G
1	A	548	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	549	C
1	A	551	U
1	A	554	A
1	A	556	U
1	A	559	G
1	A	560	A
1	A	561	A
1	A	562	U
1	A	568	C
1	A	576	A
1	A	583	A
1	A	585	C
1	A	587	A
1	A	588	G
1	A	589	G
1	A	590	A
1	A	591	U
1	A	592	C
1	A	593	C
1	A	603	C
1	A	604	A
1	A	605	A
1	A	606	G
1	A	607	U
1	A	614	C
1	A	615	C
1	A	617	G
1	A	626	G
1	A	627	U
1	A	628	A
1	A	631	U
1	A	634	A
1	A	635	G
1	A	643	A
1	A	644	G
1	A	655	A
1	A	659	G
1	A	660	C
1	A	662	G
1	A	664	A
1	A	668	A
1	A	669	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	671	A
1	A	672	A
1	A	673	G
1	A	684	G
1	A	688	U
1	A	691	G
1	A	693	A
1	A	696	G
1	A	730	C
1	A	731	G
1	A	752	G
1	A	753	C
1	A	754	G
1	A	755	C
1	A	796	G
1	A	797	C
1	A	798	G
1	A	799	U
1	A	801	U
1	A	810	A
1	A	811	A
1	A	821	G
1	A	822	U
1	A	823	U
1	A	830	A
1	A	845	G
1	A	847	A
1	A	852	G
1	A	853	C
1	A	859	G
1	A	870	A
1	A	871	U
1	A	872	A
1	A	873	G
1	A	874	G
1	A	875	A
1	A	879	C
1	A	887	U
1	A	888	U
1	A	889	U
1	A	891	G
1	A	892	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	895	G
1	A	896	U
1	A	898	U
1	A	909	G
1	A	913	A
1	A	914	U
1	A	920	A
1	A	933	G
1	A	943	U
1	A	954	U
1	A	959	G
1	A	971	G
1	A	978	G
1	A	985	G
1	A	990	A
1	A	992	A
1	A	999	G
1	A	1002	U
1	A	1008	A
1	A	1017	U
1	A	1023	A
1	A	1050	A
1	A	1055	A
1	A	1060	A
1	A	1061	U
1	A	1062	A
1	A	1080	A
1	A	1081	U
1	A	1083	A
1	A	1085	C
1	A	1115	U
1	A	1116	C
1	A	1117	C
1	A	1118	C
1	A	1121	G
1	A	1123	C
1	A	1133	A
1	A	1138	C
1	A	1139	C
1	A	1140	G
1	A	1143	A
1	A	1149	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1150	A
1	A	1153	C
1	A	1154	U
1	A	1166	G
1	A	1195	A
1	A	1203	G
1	A	1207	G
1	A	1208	A
1	A	1212	G
1	A	1215	C
1	A	1217	A
1	A	1219	C
1	A	1220	A
1	A	1221	G
1	A	1224	G
1	A	1225	U
1	A	1228	A
1	A	1229	G
1	A	1231	C
1	A	1232	U
1	A	1236	G
1	A	1237	C
1	A	1238	U
1	A	1239	U
1	A	1241	A
1	A	1242	U
1	A	1243	U
1	A	1244	U
1	A	1245	G
1	A	1246	A
1	A	1248	U
1	A	1250	A
1	A	1251	A
1	A	1253	A
1	A	1256	G
1	A	1257	G
1	A	1258	A
1	A	1259	A
1	A	1263	U
1	A	1264	C
1	A	1265	A
1	A	1266	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1269	G
1	A	1271	C
1	A	1272	C
1	A	1274	G
1	A	1275	G
1	A	1282	A
1	A	1284	A
1	A	1285	G
1	A	1286	G
1	A	1287	A
1	A	1289	U
1	A	1293	A
1	A	1294	G
1	A	1295	A
1	A	1296	U
1	A	1298	G
1	A	1299	A
1	A	1300	U
1	A	1301	A
1	A	1302	G
1	A	1303	C
1	A	1304	U
1	A	1306	U
1	A	1308	U
1	A	1309	C
1	A	1311	C
1	A	1312	G
1	A	1313	A
1	A	1314	U
1	A	1315	U
1	A	1318	G
1	A	1320	G
1	A	1321	G
1	A	1322	G
1	A	1323	U
1	A	1330	G
1	A	1342	U
1	A	1343	U
1	A	1354	G
1	A	1371	U
1	A	1372	U
1	A	1375	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1378	A
1	A	1382	A
1	A	1393	G
1	A	1396	A
1	A	1397	U
1	A	1401	A
1	A	1402	A
1	A	1404	U
1	A	1408	U
1	A	1409	A
1	A	1424	G
1	A	1427	C
1	A	1428	G
1	A	1429	G
1	A	1431	G
1	A	1432	U
1	A	1442	U
1	A	1449	G
1	A	1452	A
1	A	1454	A
1	A	1463	U
1	A	1466	G
1	A	1473	G
1	A	1479	G
1	A	1480	A
1	A	1489	A
1	A	1490	G
1	A	1494	U
1	A	1497	G
1	A	1504	U
1	A	1505	U
1	A	1506	A
1	A	1507	G
1	A	1508	A
1	A	1510	G
1	A	1511	U
1	A	1516	G
1	A	1517	G
1	A	1518	C
1	A	1519	U
1	A	1520	G
1	A	1521	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1522	A
1	A	1523	C
1	A	1536	G
1	A	1537	A
1	A	1538	C
1	A	1539	U
1	A	1540	G
1	A	1541	G
1	A	1543	U
1	A	1546	G
1	A	1547	C
1	A	1548	G
1	A	1552	G
1	A	1553	C
1	A	1554	C
1	A	1556	A
1	A	1557	C
1	A	1560	U
1	A	1567	G
1	A	1570	G
1	A	1571	G
1	A	1580	A
1	A	1582	C
1	A	1584	G
1	A	1585	U
1	A	1587	G
1	A	1588	A
1	A	1590	C
1	A	1591	C
1	A	1592	C
1	A	1594	A
1	A	1597	C
1	A	1598	G
1	A	1599	U
1	A	1600	G
1	A	1601	A
1	A	1602	U
1	A	1603	G
1	A	1604	G
1	A	1605	G
1	A	1607	A
1	A	1608	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1617	G
1	A	1618	C
1	A	1619	A
1	A	1620	A
1	A	1621	U
1	A	1622	U
1	A	1623	A
1	A	1626	C
1	A	1627	C
1	A	1628	C
1	A	1630	A
1	A	1631	U
1	A	1632	G
1	A	1633	A
1	A	1634	A
1	A	1637	A
1	A	1646	C
1	A	1647	A
1	A	1648	G
1	A	1654	G
1	A	1664	A
1	A	1665	G
1	A	1671	G
1	A	1676	U
1	A	1677	U
1	A	1678	A
1	A	1679	A
1	A	1680	G
1	A	1695	A
1	A	1697	A
1	A	1698	C
1	A	1699	A
1	A	1715	A
1	A	1717	C
1	A	1721	U
1	A	1722	G
1	A	1726	G
1	A	1744	G
1	A	1750	C
1	A	1753	C
1	A	1757	G
1	A	1775	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1776	G
1	A	1783	C
1	A	1785	C
1	A	1801	A
1	A	1806	A
1	A	1816	G
1	A	1819	A
1	A	1823	A
1	A	1825	A
1	A	1826	G
1	A	1829	G
1	A	1835	A
1	A	1836	G
1	A	1838	U
1	A	1840	U
1	A	1845	A
1	A	1849	G
1	A	1851	A
1	A	1852	C
1	A	1859	A
1	A	1861	G
1	A	1862	G
1	A	1863	A
1	A	1864	U
1	A	1865	C
1	A	1867	U
1	A	1869	A
28	i	6031	A
28	i	6034	A
28	i	6035	U
28	i	6037	U
28	i	6038	G
28	i	6039	A
28	i	6040	U
28	i	6041	C
28	i	6043	U
28	i	6045	C
28	i	6046	U
28	i	6049	U
28	i	6051	A
28	i	6052	A
28	i	6053	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
28	i	6054	A
28	i	6056	A
28	i	6057	A
28	i	6058	U
28	i	6059	U
28	i	6060	U
28	i	6061	U
28	i	6062	G
28	i	6063	A
28	i	6064	G
28	i	6067	G
28	i	6068	U
28	i	6069	U
28	i	6071	A
28	i	6072	U
28	i	6073	A
28	i	6075	A
28	i	6076	U
28	i	6078	A
28	i	6080	A
28	i	6082	G
28	i	6084	A
28	i	6085	G
28	i	6087	G
28	i	6089	U
28	i	6090	A
28	i	6092	U
28	i	6093	U
28	i	6094	U
28	i	6095	U
28	i	6096	G
28	i	6099	U
28	i	6101	U
28	i	6102	A
28	i	6104	G
28	i	6105	U
28	i	6106	U
28	i	6111	A
28	i	6112	U
28	i	6113	U
28	i	6114	U
28	i	6115	A

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
28	i	6117	C
28	i	6119	U
28	i	6120	U
28	i	6121	A
28	i	6122	C
28	i	6124	U
28	i	6129	G
28	i	6130	G
28	i	6131	A
28	i	6132	U
28	i	6133	G
28	i	6135	C
28	i	6136	U
28	i	6137	A
28	i	6138	G
28	i	6139	U
28	i	6142	C
28	i	6143	A
28	i	6144	G
28	i	6145	C
28	i	6146	C
28	i	6147	C
28	i	6149	A
28	i	6150	C
28	i	6152	A
28	i	6153	U
28	i	6155	U
28	i	6156	C
28	i	6157	C
28	i	6158	A
28	i	6162	A
28	i	6163	G
28	i	6164	C
28	i	6165	C
28	i	6166	C
28	i	6167	U
28	i	6168	C
28	i	6169	U
28	i	6170	C
28	i	6171	U
28	i	6172	G

All (16) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	24	C
1	A	110	U
1	A	303	C
1	A	368	U
1	A	465	A
1	A	532	C
1	A	553	U
1	A	561	A
1	A	627	U
1	A	752	G
1	A	870	A
1	A	874	G
1	A	1137	U
1	A	1395	C
1	A	1520	G
1	A	1645	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 oligosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

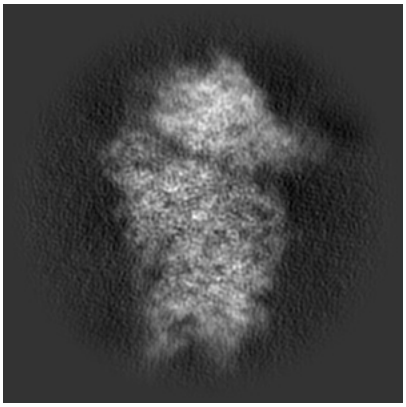
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-22433. These allow visual inspection of the internal detail of the map and identification of artifacts.

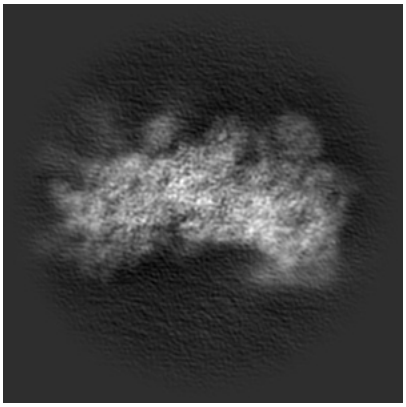
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

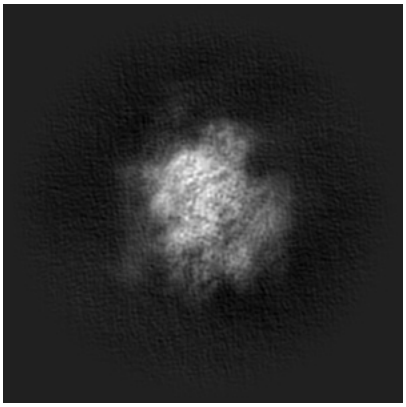
6.1.1 Primary map



X



Y

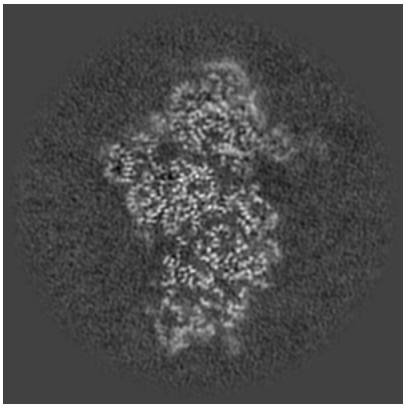


Z

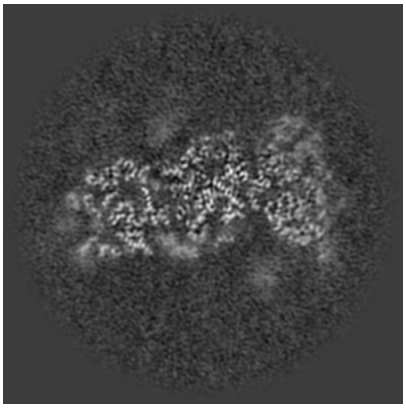
The images above show the map projected in three orthogonal directions.

6.2 Central slices

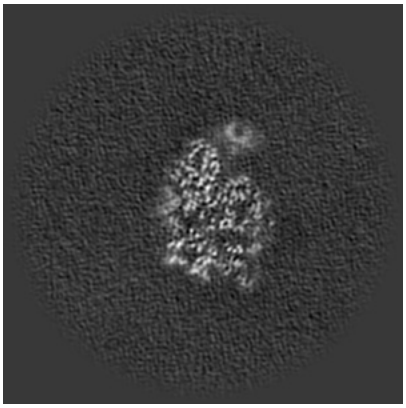
6.2.1 Primary map



X Index: 160



Y Index: 160

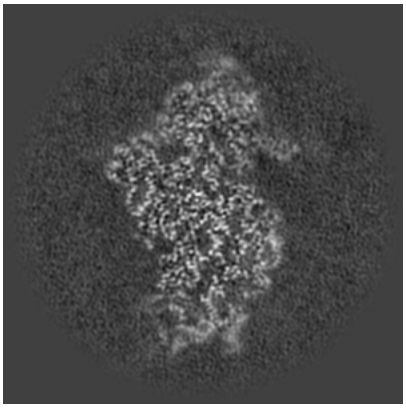


Z Index: 160

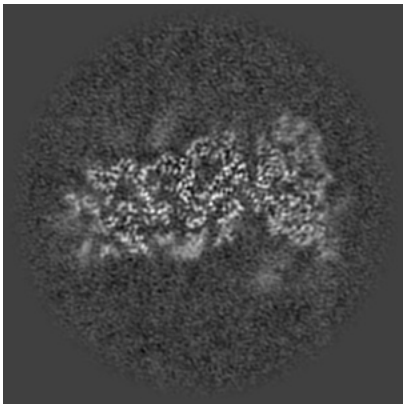
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

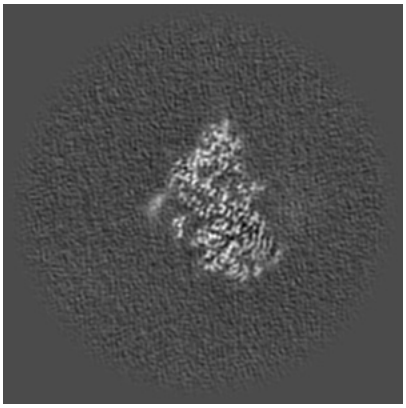
6.3.1 Primary map



X Index: 164



Y Index: 158

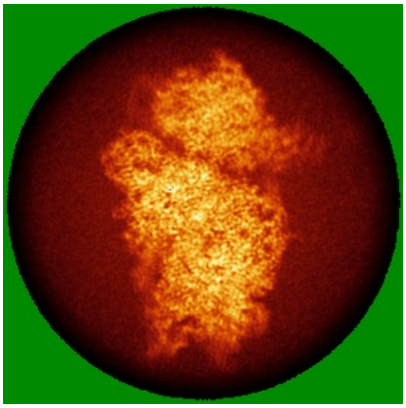


Z Index: 142

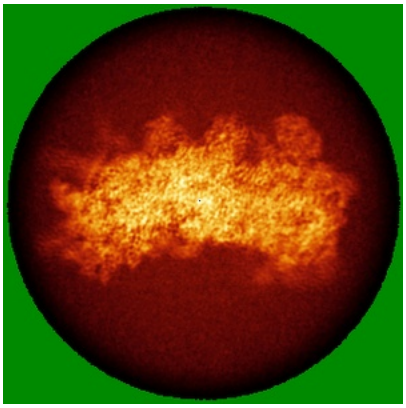
The images above show the largest variance slices of the map in three orthogonal directions.

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

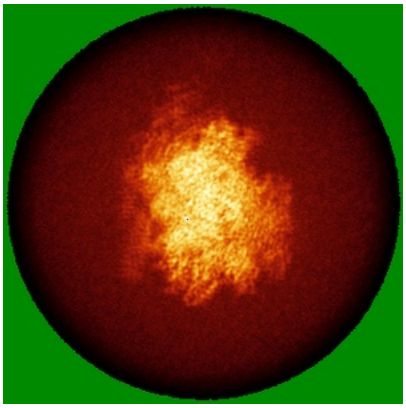
6.4.1 Primary map



X



Y



Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.1. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

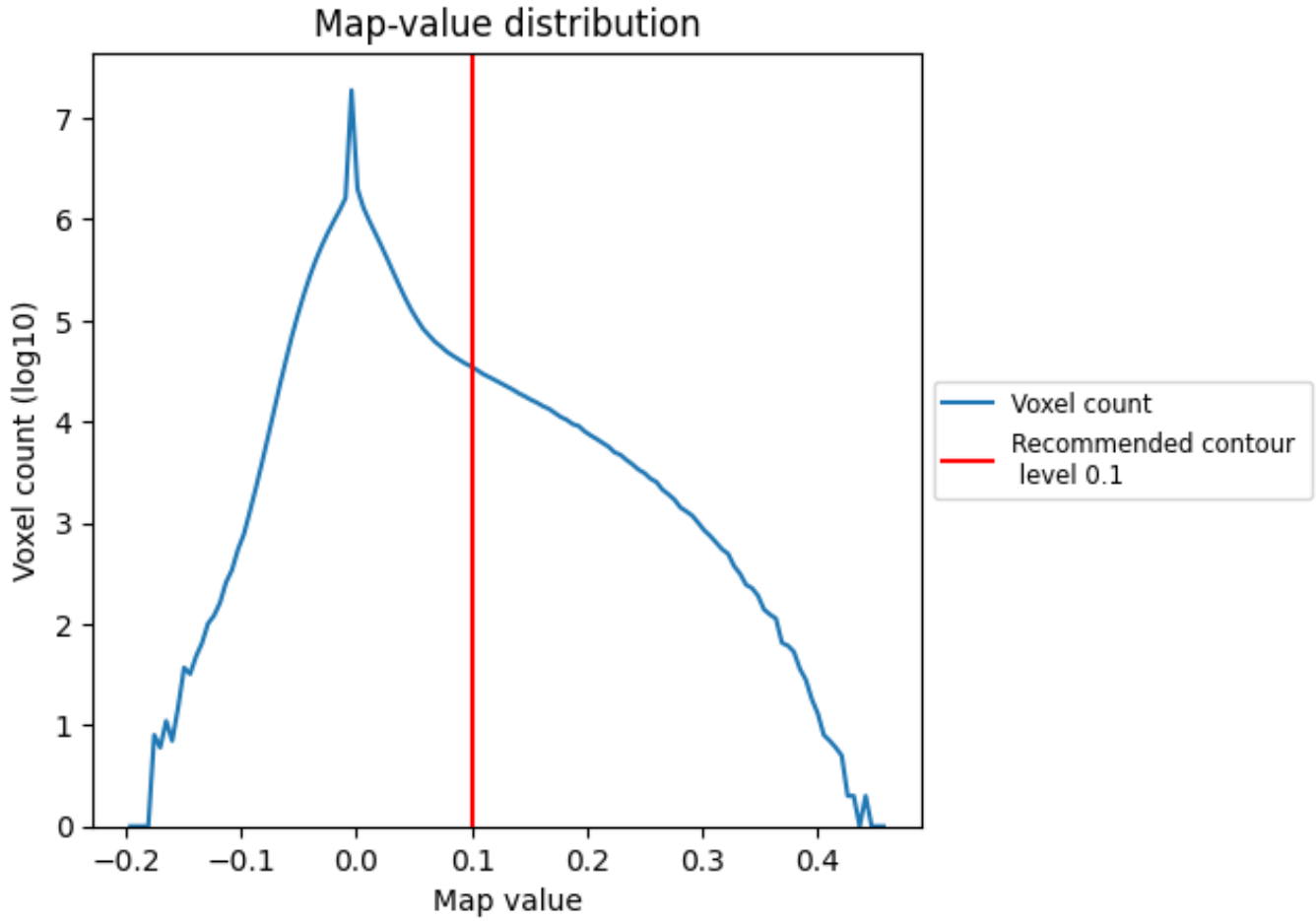
6.6 Mask visualisation (i)

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

7 Map analysis

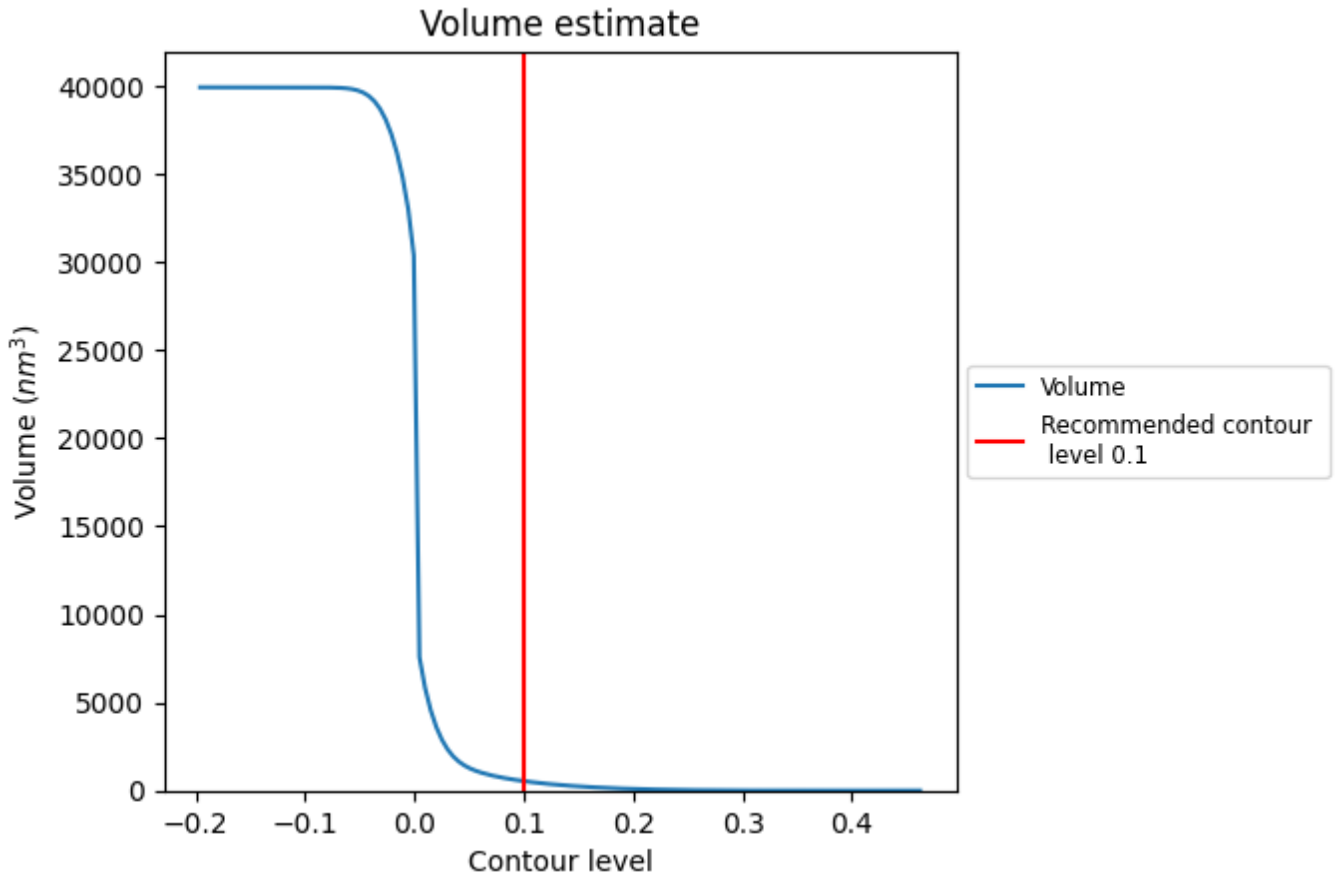
This section contains the results of statistical analysis of the map.

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.

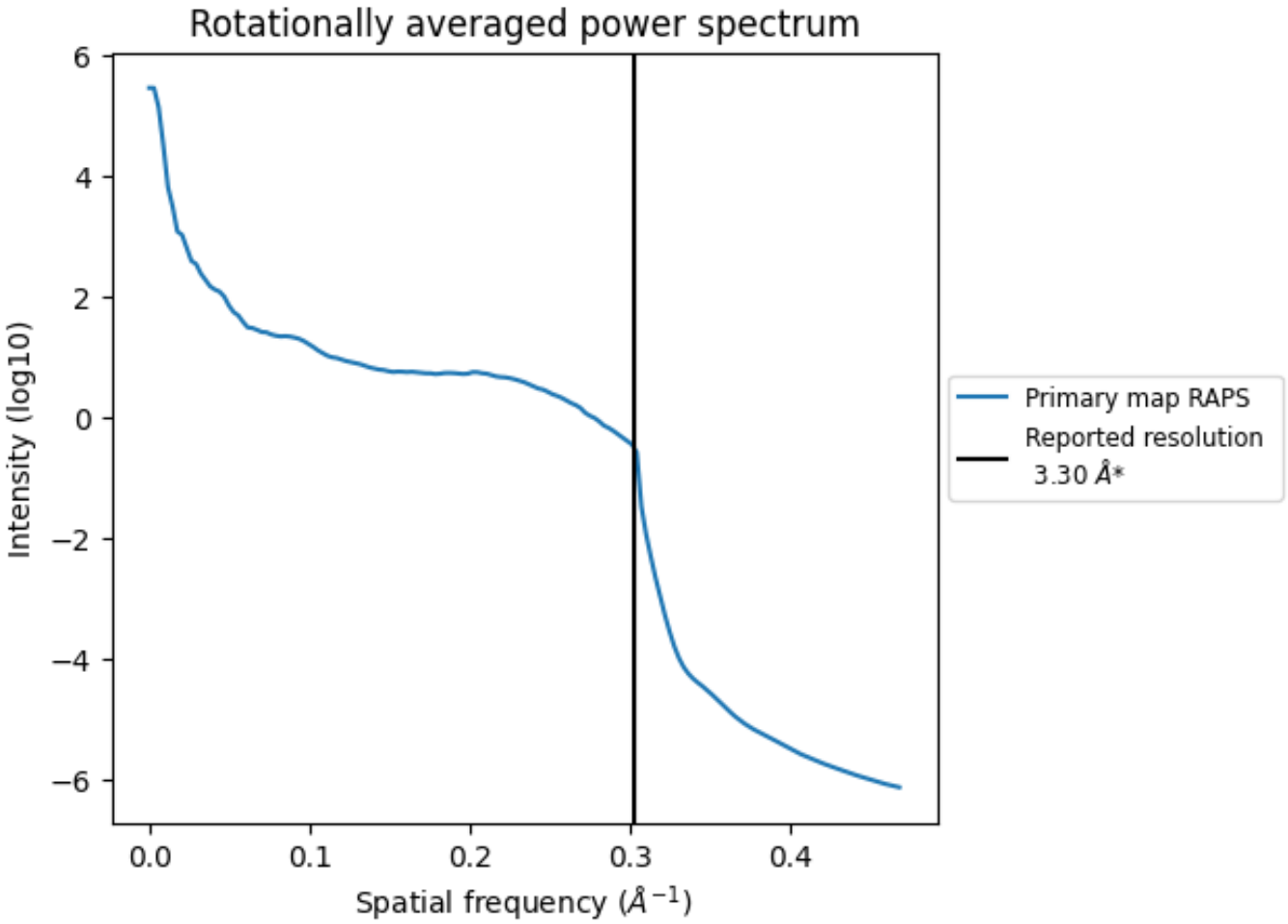
7.2 Volume estimate



The volume at the recommended contour level is 537 nm^3; this corresponds to an approximate mass of 485 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 0.303 Å^{-1}

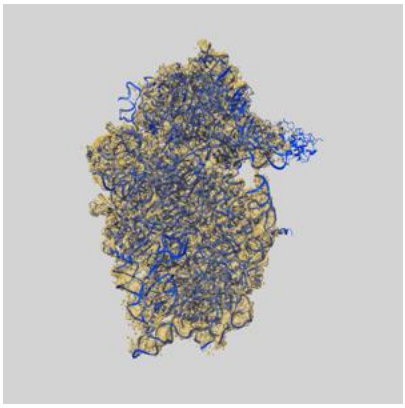
8 Fourier-Shell correlation

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

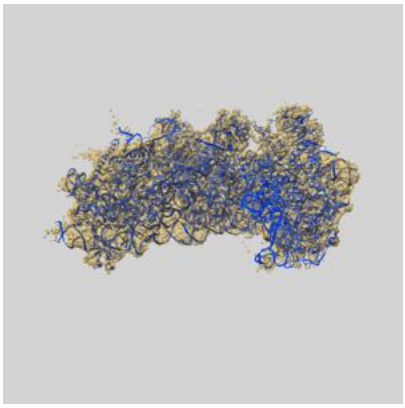
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-22433 and PDB model 7JQC. Per-residue inclusion information can be found in section 3 on page 11.

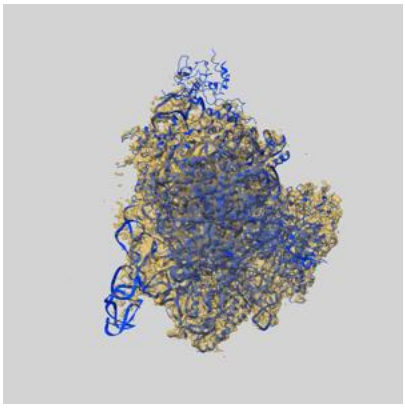
9.1 Map-model overlay



X



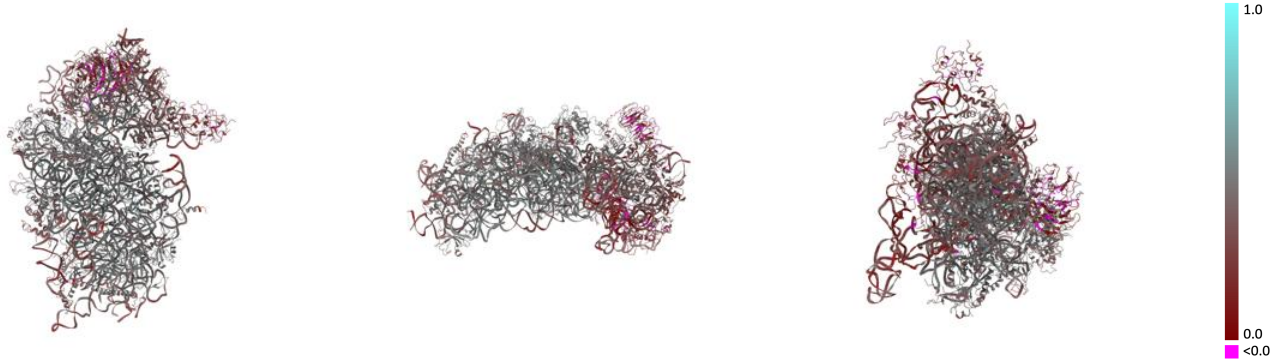
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.1 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.

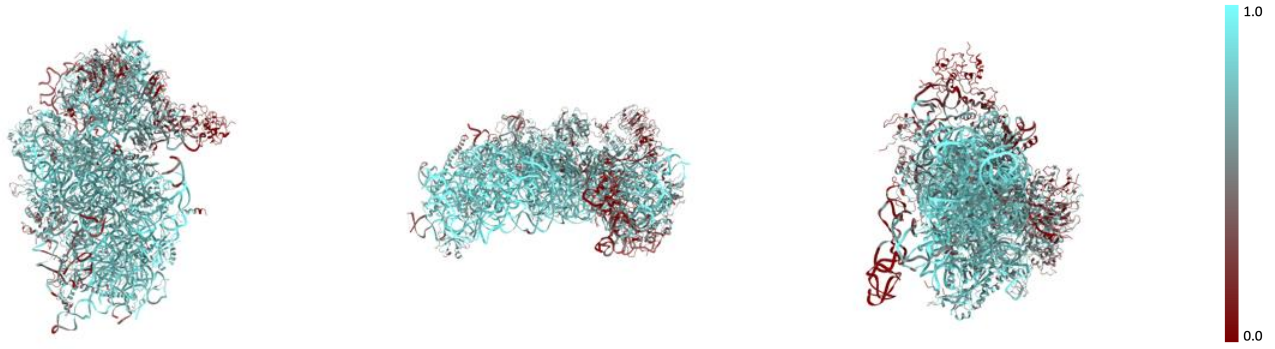
9.2 Q-score mapped to coordinate model



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.

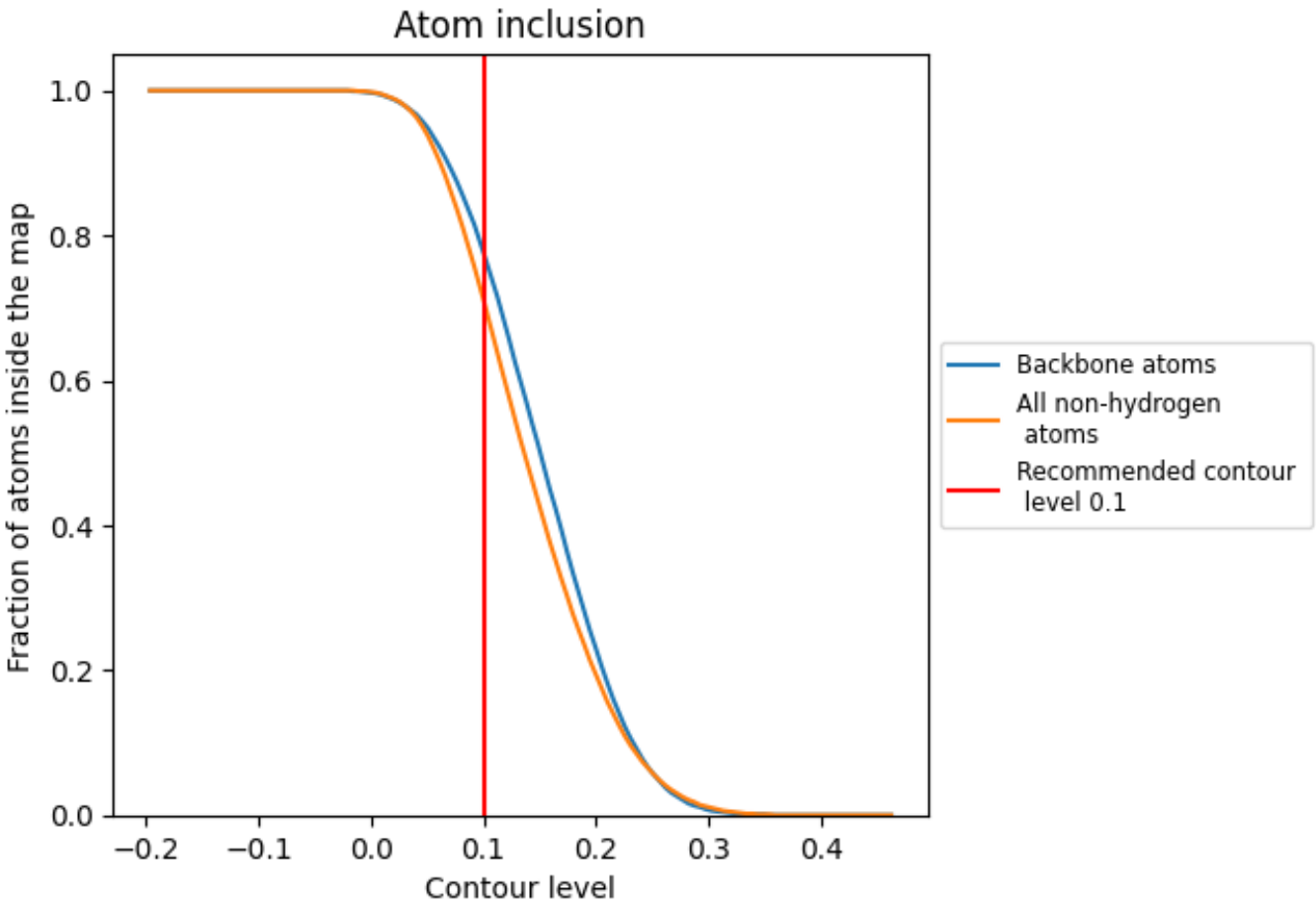
9.3 Atom inclusion mapped to coordinate model



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 (0.1).

9.4 Atom inclusion (i)



At the recommended contour level, 78% of all backbone atoms, 71% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.1) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7120	0.3990
A	0.8530	0.4170
B	0.6600	0.4520
C	0.7390	0.4440
D	0.7140	0.4750
E	0.4960	0.3640
F	0.5290	0.4300
G	0.6690	0.3560
H	0.6910	0.4210
I	0.4940	0.3990
J	0.6950	0.4440
K	0.7430	0.4610
L	0.4060	0.3260
M	0.7810	0.4730
N	0.0080	0.2270
O	0.6190	0.4400
P	0.7250	0.4560
Q	0.3800	0.2580
R	0.5670	0.3310
S	0.5360	0.4120
T	0.4810	0.2520
U	0.6250	0.3080
V	0.3770	0.3610
W	0.6720	0.4610
X	0.7540	0.4390
Y	0.7460	0.4940
Z	0.8020	0.4510
a	0.6550	0.3090
b	0.7660	0.4830
c	0.7650	0.4840
d	0.6980	0.4230
e	0.6340	0.4420
f	0.6610	0.4430
g	0.0960	0.2380
h	0.3290	0.1990
i	0.3690	0.2450