Full wwPDB EM Validation Report ⓘ

May 4, 2025 – 12:24 PM EDT

PDB ID	:	8ETH / pdb_00008eth
EMDB ID	:	EMD-24409
Title	:	Ytm1 associated 60S nascent ribosome State 1B
Authors	:	Zhou, X.; Bilokapic, S.; Deshmukh, A.A.; Halic, M.
Deposited on	:	2022-10-17
Resolution	:	3.80 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:

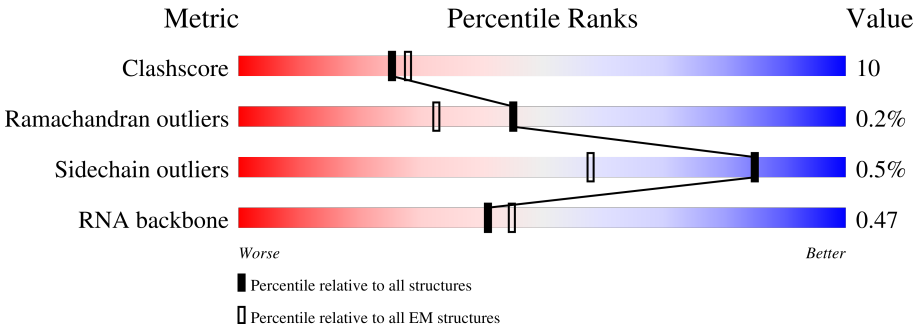
EMDB validation analysis	:	0.0.1.dev118
MolProbity	:	4-5-2 with Phenix2.0rc1
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (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 3.80 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
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	1	3497	22% 12% 63%
2	2	165	50% 21% 7% 21%
3	3	302	47% 16% 37%
4	4	217	74% 22%
5	5	387	62% 25% 13%
6	6	300	6% 9% 10% 75%
7	A	295	5% 53% 30% 17%

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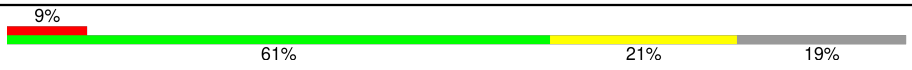
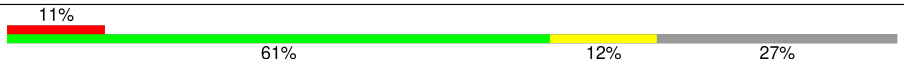
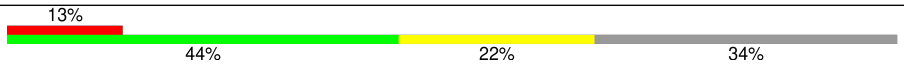
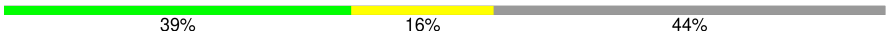
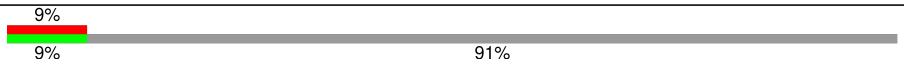
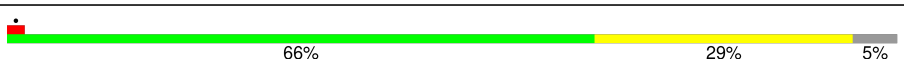
Mol	Chain	Length	Quality of chain
8	B	388	
9	C	363	
10	D	578	
11	E	195	
12	F	250	
13	G	259	
14	H	190	
15	J	333	
16	K	373	
17	L	208	
18	M	134	
19	N	201	
20	O	197	
21	P	187	
22	Q	187	
23	S	176	
24	V	139	
25	Y	126	
26	b	642	
27	e	127	
28	f	108	
29	h	122	
30	i	99	
31	j	91	
32	m	740	

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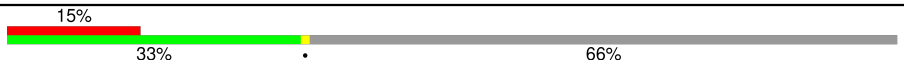
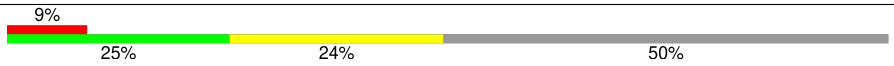
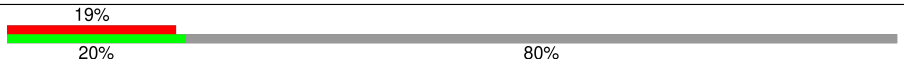
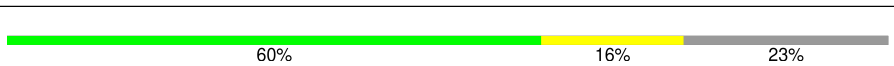
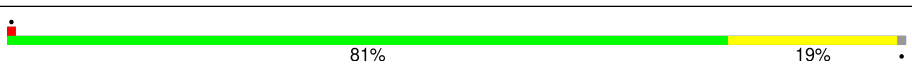
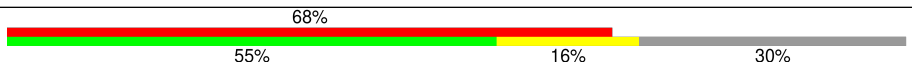
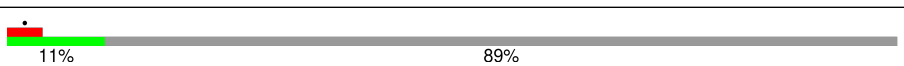
Mol	Chain	Length	Quality of chain
33	n	607	
34	o	276	
35	r	260	
36	t	249	
37	u	192	
38	v	209	
39	x	306	
40	y	244	
41	T	160	

2 Entry composition (i)

There are 42 unique types of molecules in this entry. The entry contains 77577 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 RNA (1263-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	1	1303	27887	12455	5042	9087	1303	0	0

- Molecule 2 is a RNA chain called RNA (130-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	2	130	2764	1237	489	908	130	0	0

- Molecule 3 is a protein called Protein mak16.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	3	191	1572	995	301	269	7	0	0

- Molecule 4 is a protein called Ribosomal RNA-processing protein 1 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	4	209	1756	1145	301	302	8	0	0

- Molecule 5 is a protein called Ribosome biogenesis protein nsa1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	5	336	2640	1690	463	476	11	0	0

- Molecule 6 is a RNA chain called RNA (75-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
6	6	75	1587	712	270	530	75	0	0

- Molecule 7 is a protein called Ribosome biogenesis protein brx1.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	A	246	Total	C	N	O	S	0	0
			1981	1256	360	357	8		

- Molecule 8 is a protein called 60S ribosomal protein L3-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
8	B	316	Total	C	N	O	0	0
			1557	925	316	316		

- Molecule 9 is a protein called 60S ribosomal protein L4-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	C	328	Total	C	N	O	S	0	0
			2564	1627	486	448	3		

- Molecule 10 is a protein called ATP-dependent RNA helicase has1.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	D	422	Total	C	N	O	S	0	0
			3095	1993	535	557	10		

- Molecule 11 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	E	170	Total	C	N	O	S	0	0
			1328	854	243	228	3		

- Molecule 12 is a protein called 60S ribosomal protein L7-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	F	239	Total	C	N	O	S	0	0
			1939	1247	355	334	3		

- Molecule 13 is a protein called 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	G	163	Total	C	N	O	S	2	0
			1277	818	224	233	2		

- Molecule 14 is a protein called 60S ribosomal protein L9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	H	87	Total	C	N	O	S	0	0
			542	328	107	106	1		

- Molecule 15 is a protein called Probable rRNA-processing protein ebp2.

Mol	Chain	Residues	Atoms				AltConf	Trace
15	J	83	Total	C	N	O	0	0
			414	248	83	83		

- Molecule 16 is a protein called Putative ribosome biogenesis protein C8F11.04.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	K	247	Total	C	N	O	S	0	0
			1845	1181	321	338	5		

- Molecule 17 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	L	116	Total	C	N	O	S	0	0
			942	592	198	151	1		

- Molecule 18 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	M	123	Total	C	N	O	S	0	0
			989	630	189	166	4		

- Molecule 19 is a protein called 60S ribosomal protein L15-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	N	166	Total	C	N	O	S	0	0
			1406	883	291	229	3		

- Molecule 20 is a protein called 60S ribosomal protein L16-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	O	185	Total	C	N	O	S	0	0
			1464	944	276	241	3		

- Molecule 21 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	P	130	Total	C	N	O	S	0	0
			1034	660	187	184	3		

- Molecule 22 is a protein called 60S ribosomal protein L18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	Q	135	Total	C	N	O	S	0	0
			1033	652	198	182	1		

- Molecule 23 is a protein called 60S ribosomal protein L20-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	S	161	Total	C	N	O	S	0	0
			1172	745	220	202	5		

- Molecule 24 is a protein called 60S ribosomal protein L23-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
24	V	43	Total	C	N	O	0	0
			210	124	43	43		

- Molecule 25 is a protein called 60S ribosomal protein L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	Y	125	Total	C	N	O	S	0	0
			998	622	201	173	2		

- Molecule 26 is a protein called Probable nucleolar GTP-binding protein 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
26	b	57	Total	C	N	O	0	0
			282	168	57	57		

- Molecule 27 is a protein called 60S ribosomal protein L32-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	e	124	Total	C	N	O	S	0	0
			993	619	202	167	5		

- Molecule 28 is a protein called 60S ribosomal protein L33-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	f	106	Total	C	N	O	S	0	0
			839	534	162	140	3		

- Molecule 29 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms				AltConf	Trace
29	h	116	Total	C	N	O	0	0
			960	608	188	164		

- Molecule 30 is a protein called 60S ribosomal protein L36-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	i	98	Total	C	N	O	S	0	0
			767	478	159	129	1		

- Molecule 31 is a protein called 60S ribosomal protein L37-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	j	71	Total	C	N	O	S	0	0
			559	343	120	90	6		

- Molecule 32 is a protein called Ribosome biogenesis protein erb1.

Mol	Chain	Residues	Atoms				AltConf	Trace
32	m	76	Total	C	N	O	0	0
			622	386	113	123		

- Molecule 33 is a protein called Pescadillo homolog.

Mol	Chain	Residues	Atoms				AltConf	Trace
33	n	208	Total	C	N	O	0	0
			1029	613	208	208		

- Molecule 34 is a protein called Uncharacterized RNA-binding protein C1827.05c.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	o	137	Total	C	N	O	S	0	0
			1043	669	193	176	5		

- Molecule 35 is a protein called Ribosome biogenesis protein nsa2.

Mol	Chain	Residues	Atoms				AltConf	Trace
35	r	51	Total	C	N	O	0	0
			254	152	51	51		

- Molecule 36 is a protein called 60S ribosomal protein L7-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	t	184	Total	C	N	O	S	0	0
			1228	763	244	218	3		

- Molecule 37 is a protein called Ribosome biogenesis protein rlp24.

Mol	Chain	Residues	Atoms				AltConf	Trace
37	u	58	Total	C	N	O	0	0
			287	171	58	58		

- Molecule 38 is a protein called Nucleolar protein 16.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	v	161	Total	C	N	O	S	0	0
			1288	811	243	231	3		

- Molecule 39 is a protein called Brix domain-containing protein C4F8.04.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	x	304	Total	C	N	O	S	0	0
			2497	1568	462	460	7		

- Molecule 40 is a protein called Eukaryotic translation initiation factor 6.

Mol	Chain	Residues	Atoms				AltConf	Trace
40	y	171	Total	C	N	O	0	0
			842	500	171	171		

- Molecule 41 is a protein called 60S ribosomal protein L21-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
41	T	18	Total	C	N	O	0	0
			90	54	18	18		

- Molecule 42 is ZINC ION (CCD ID: ZN) (formula: Zn).

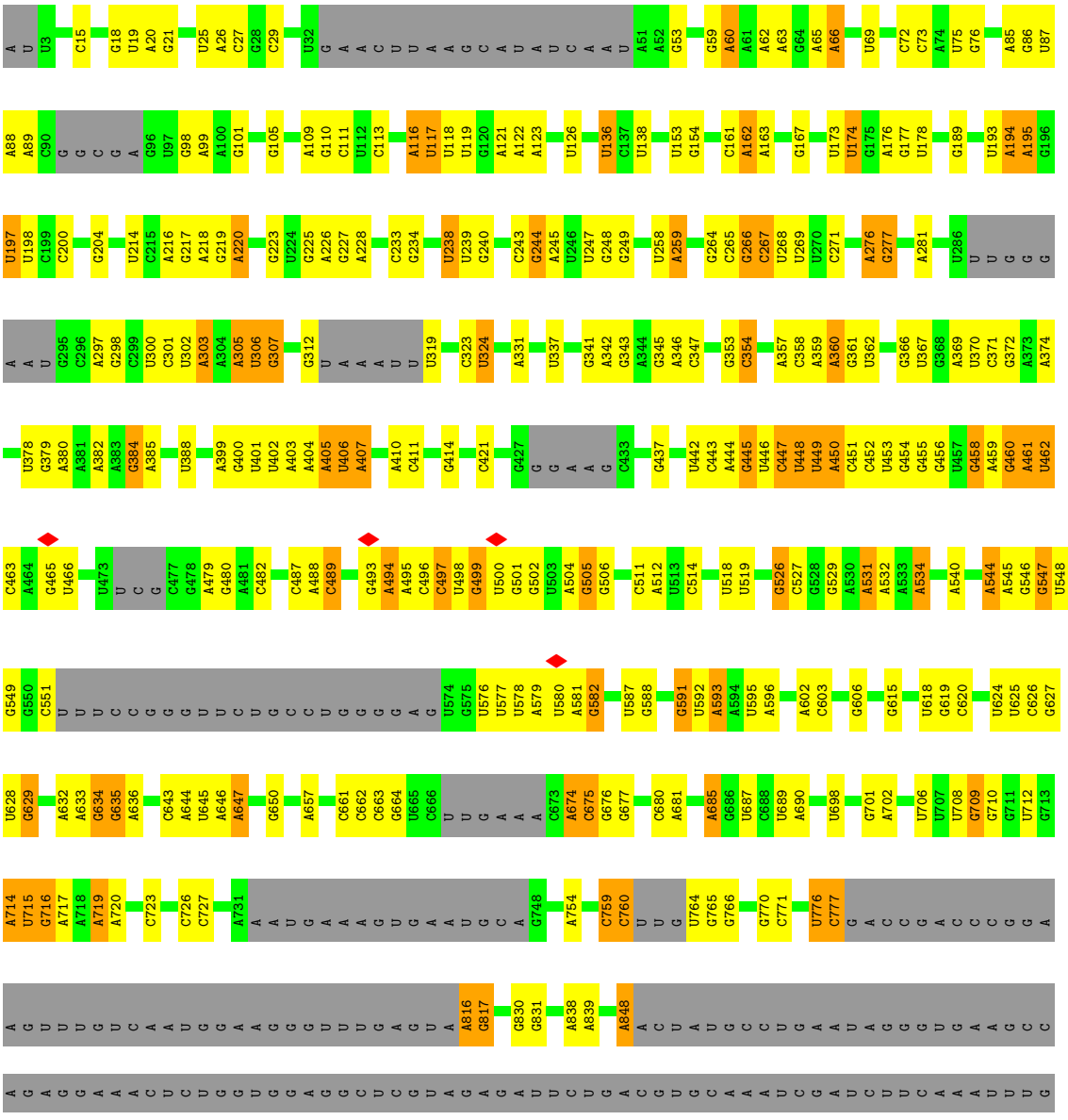
Mol	Chain	Residues	Atoms		AltConf
42	j	1	Total	Zn	0
			1	1	

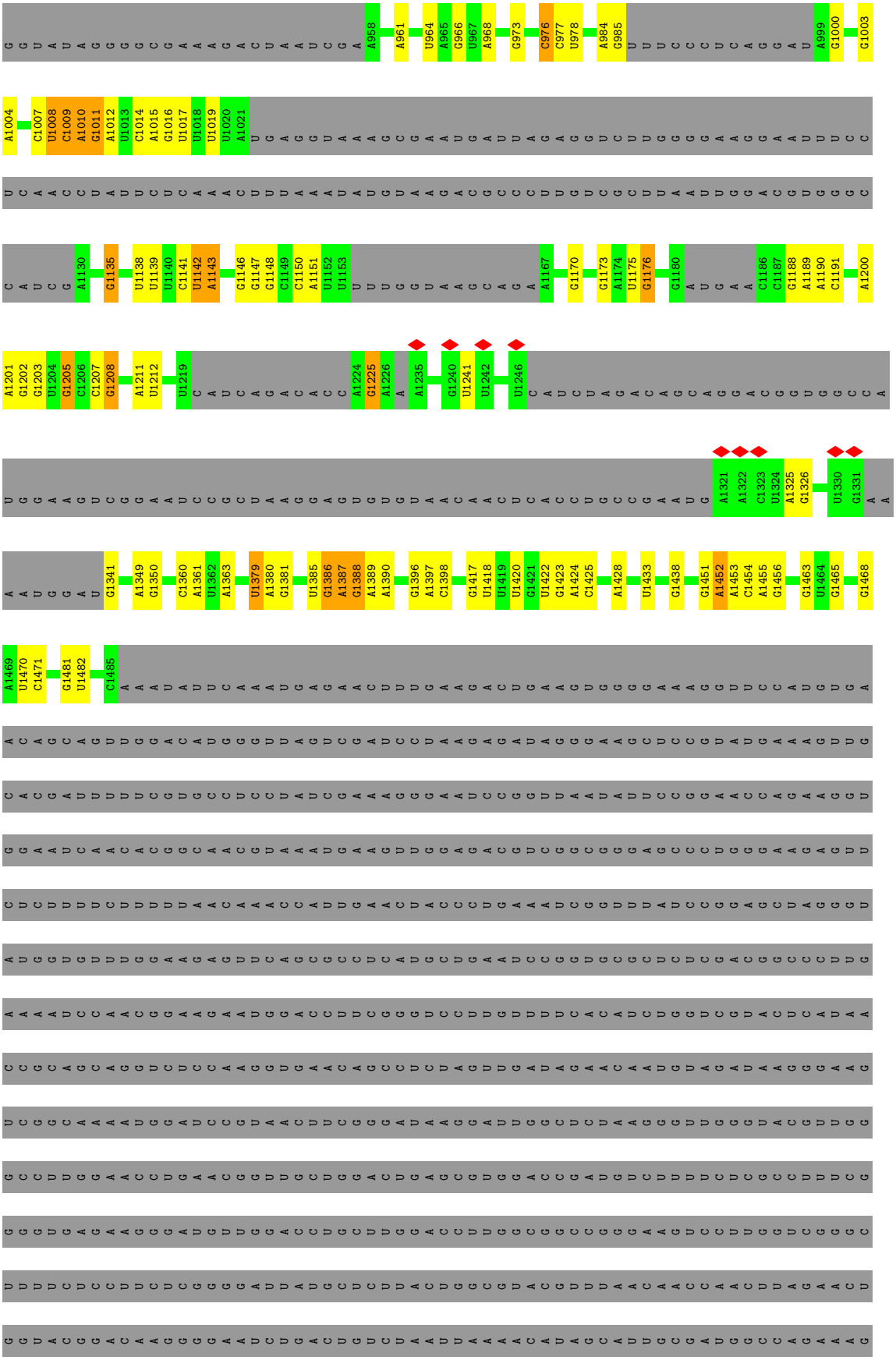
3 Residue-property plots (i)

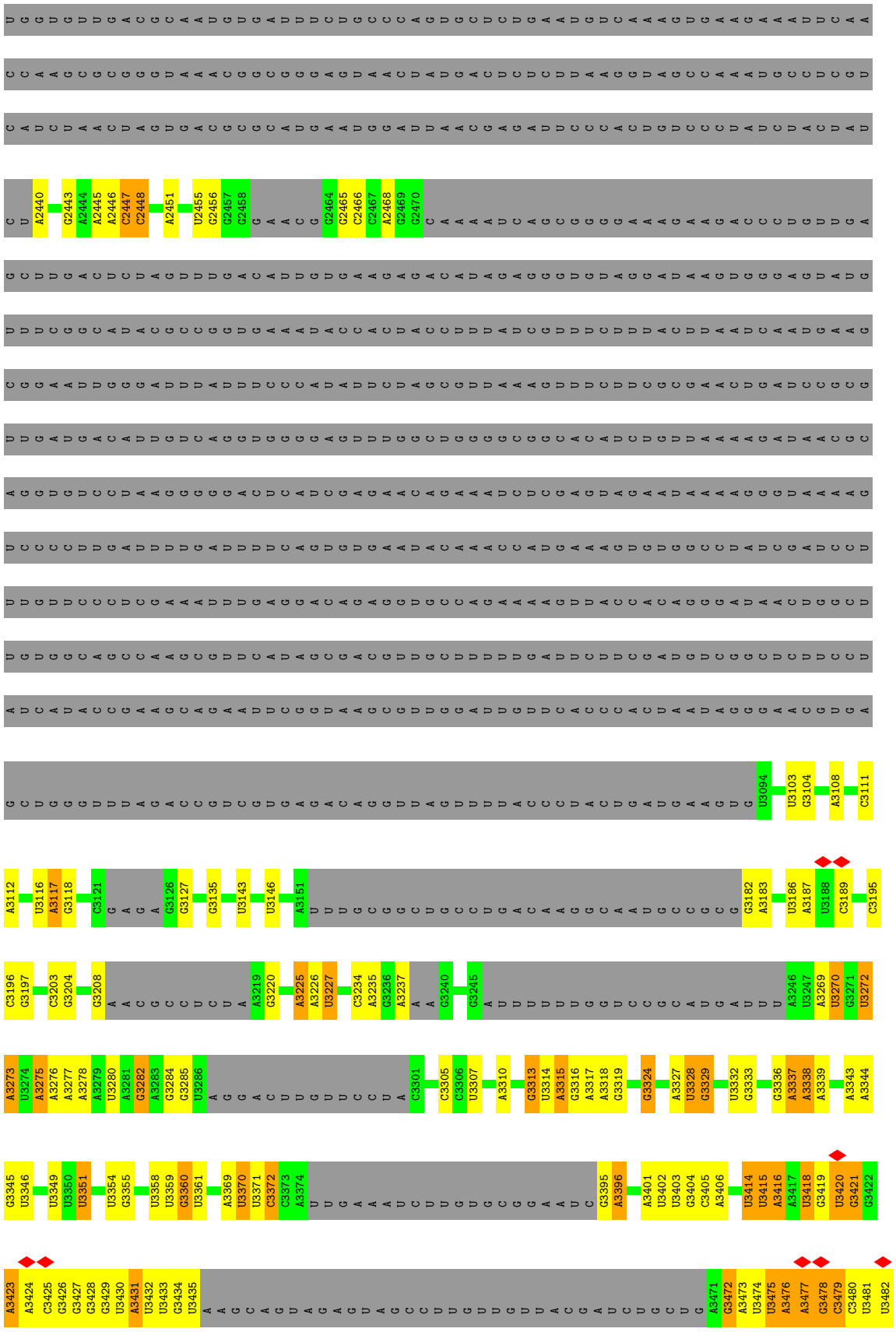
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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.

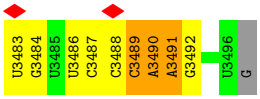
- Molecule 1: RNA (1263-MER)

Chain 1:



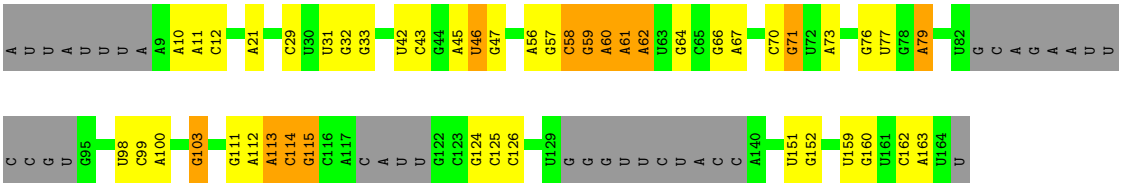






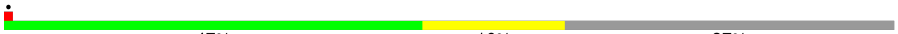
• Molecule 2: RNA (130-MER)

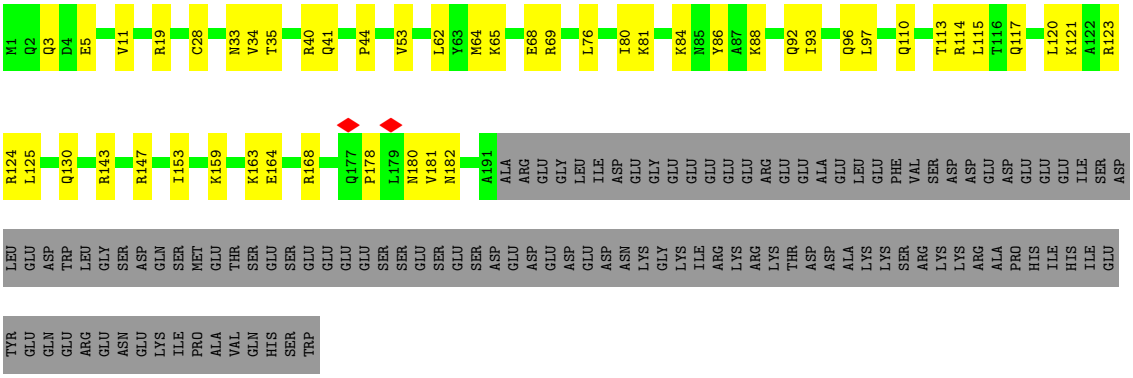
Chain 2:



• Molecule 3: Protein mak16

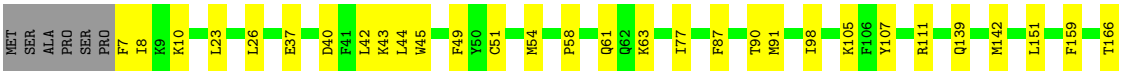
Chain 3:





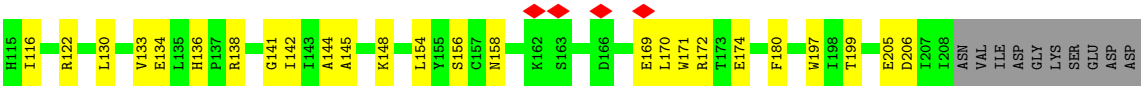
• Molecule 4: Ribosomal RNA-processing protein 1 homolog

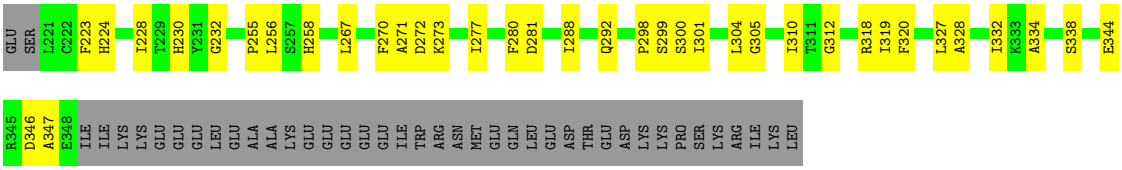
Chain 4:



• Molecule 5: Ribosome biogenesis protein nsa1

Chain 5:



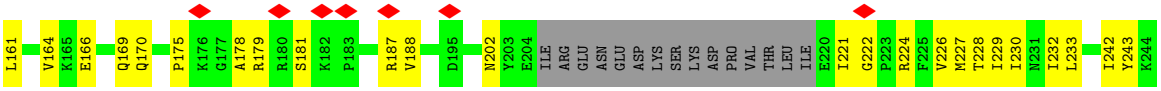


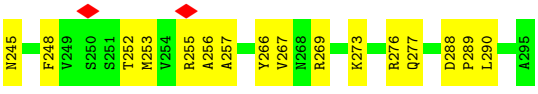
• Molecule 6: RNA (75-MER)

Chain 6:

• Molecule 7: Ribosome biogenesis protein brx1

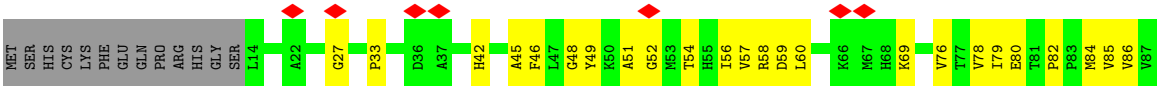
Chain A:

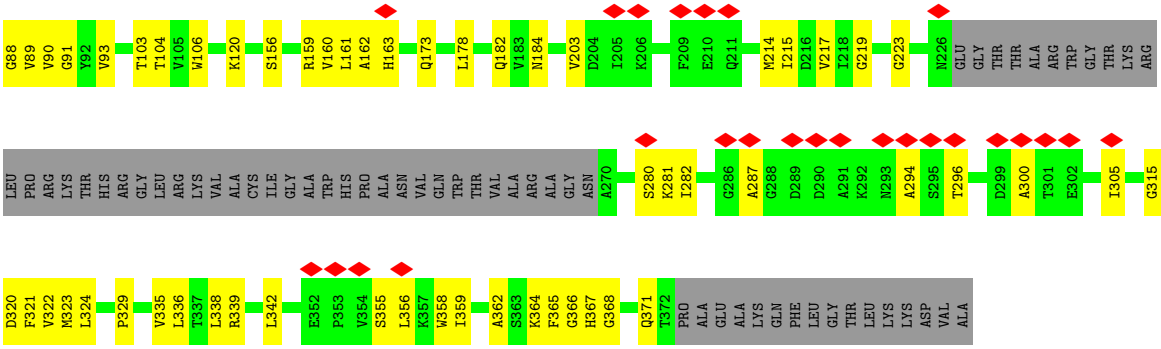




• Molecule 8: 60S ribosomal protein L3-A

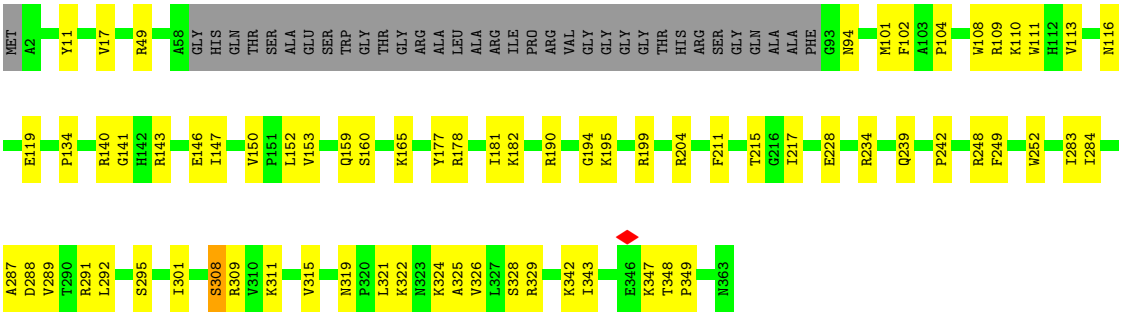
Chain B:





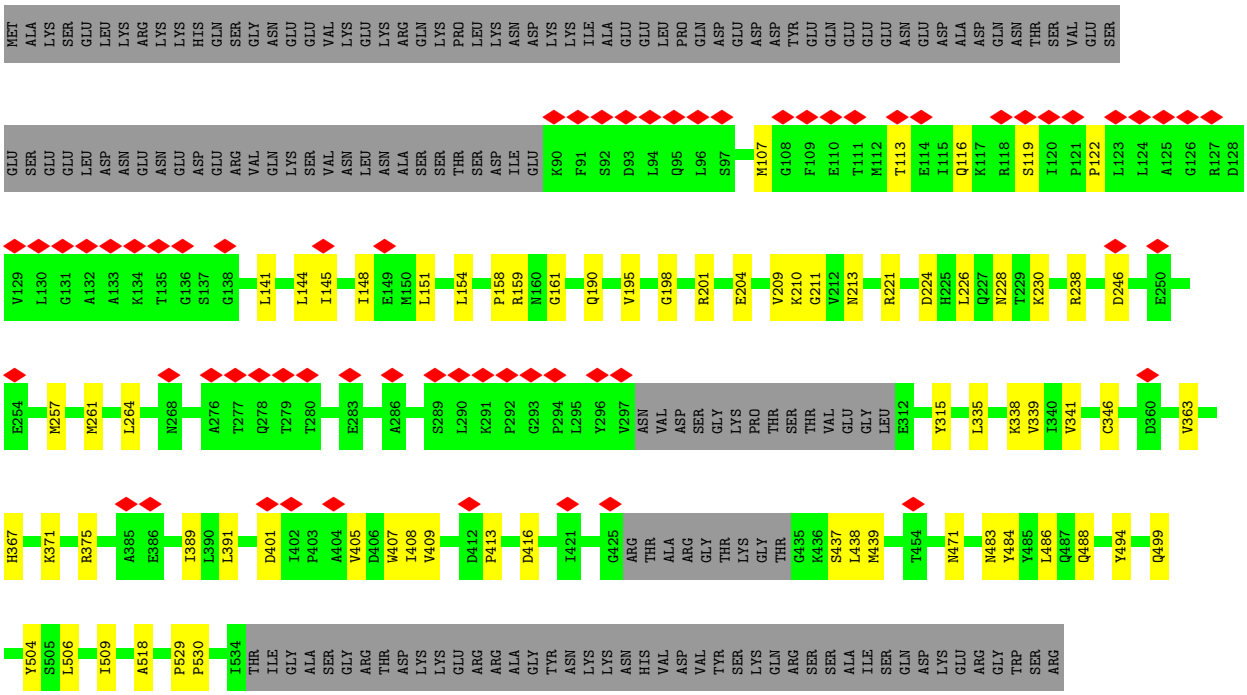
• Molecule 9: 60S ribosomal protein L4-B

Chain C:



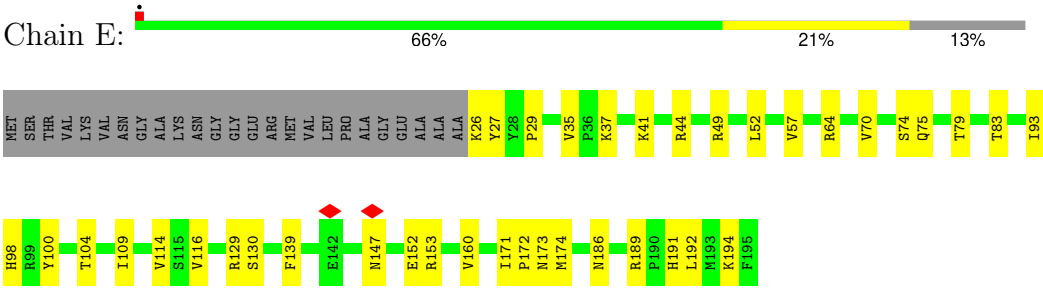
• Molecule 10: ATP-dependent RNA helicase has1

Chain D:



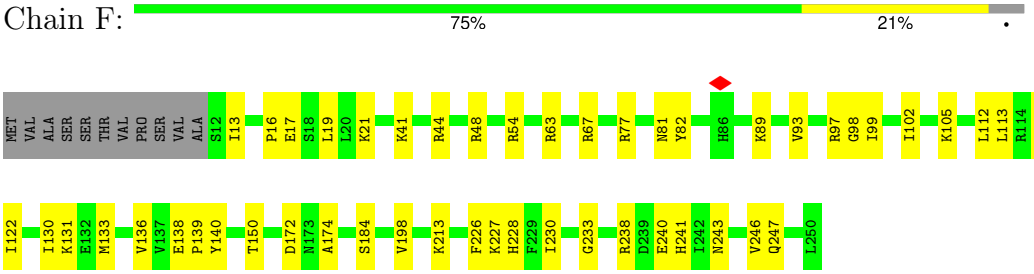
• Molecule 11: 60S ribosomal protein L6

Chain E:



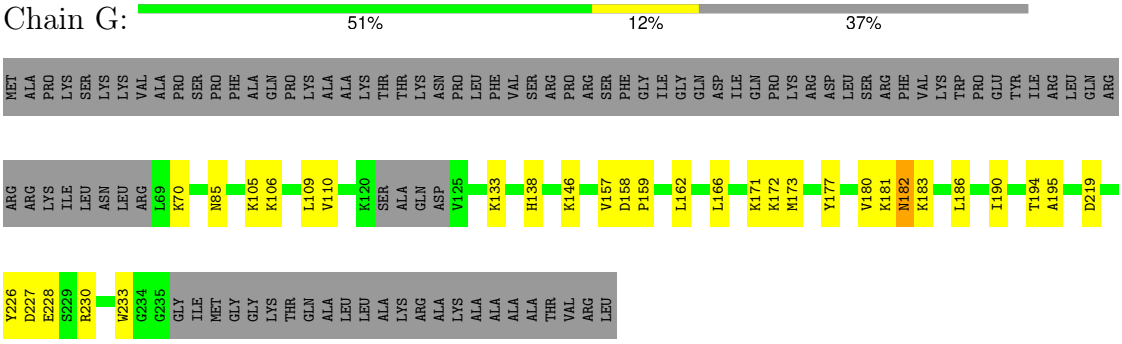
• Molecule 12: 60S ribosomal protein L7-B

Chain F:



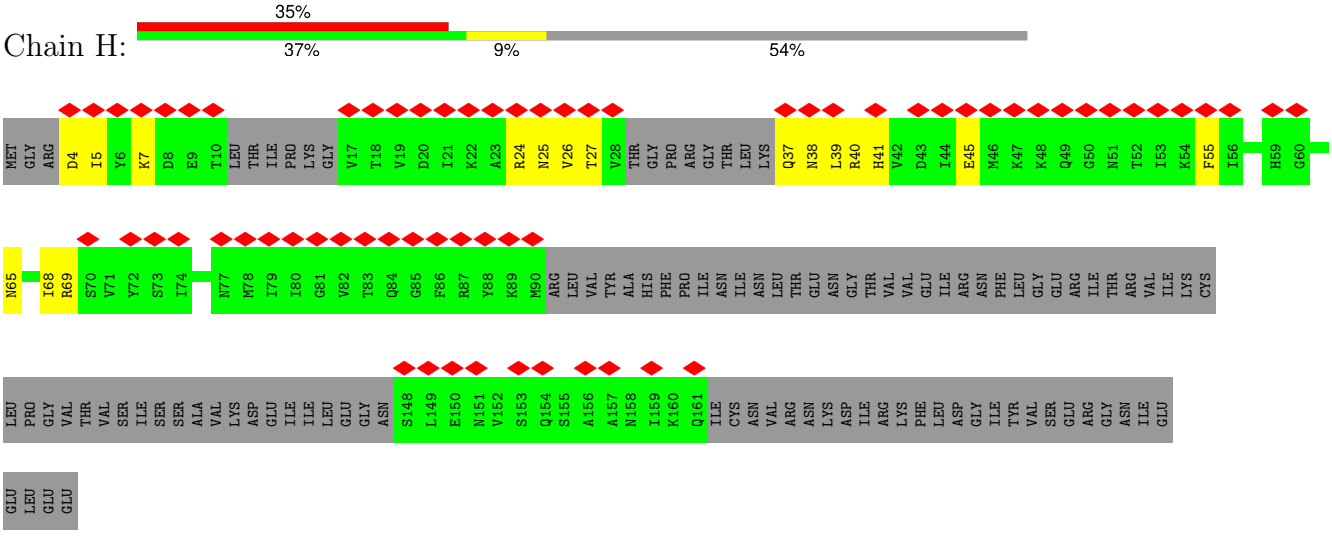
• Molecule 13: 60S ribosomal protein L8

Chain G:



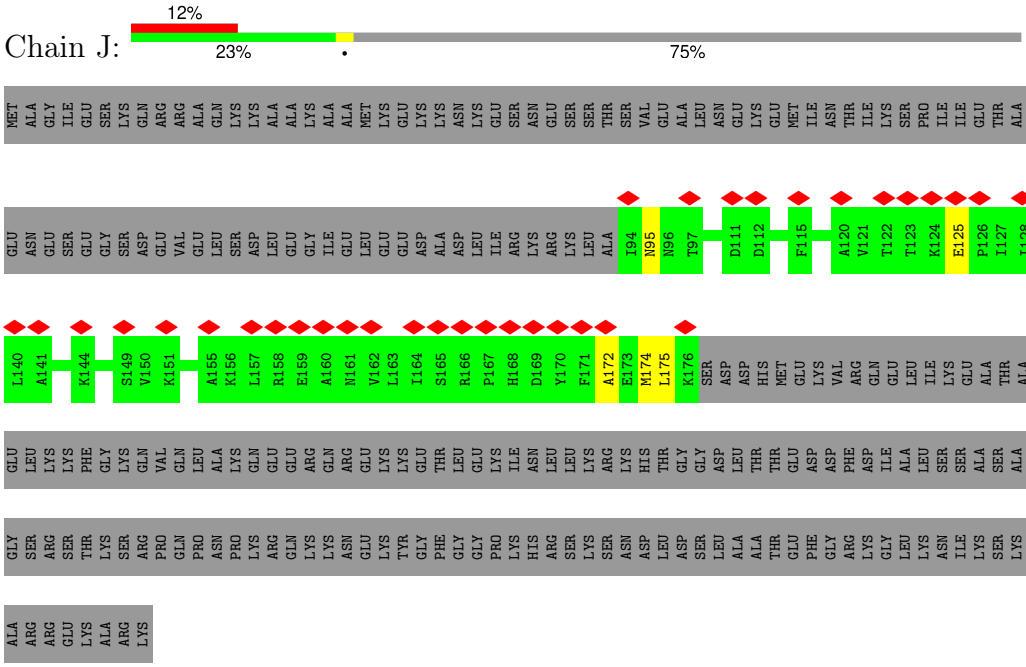
• Molecule 14: 60S ribosomal protein L9-A

Chain H:



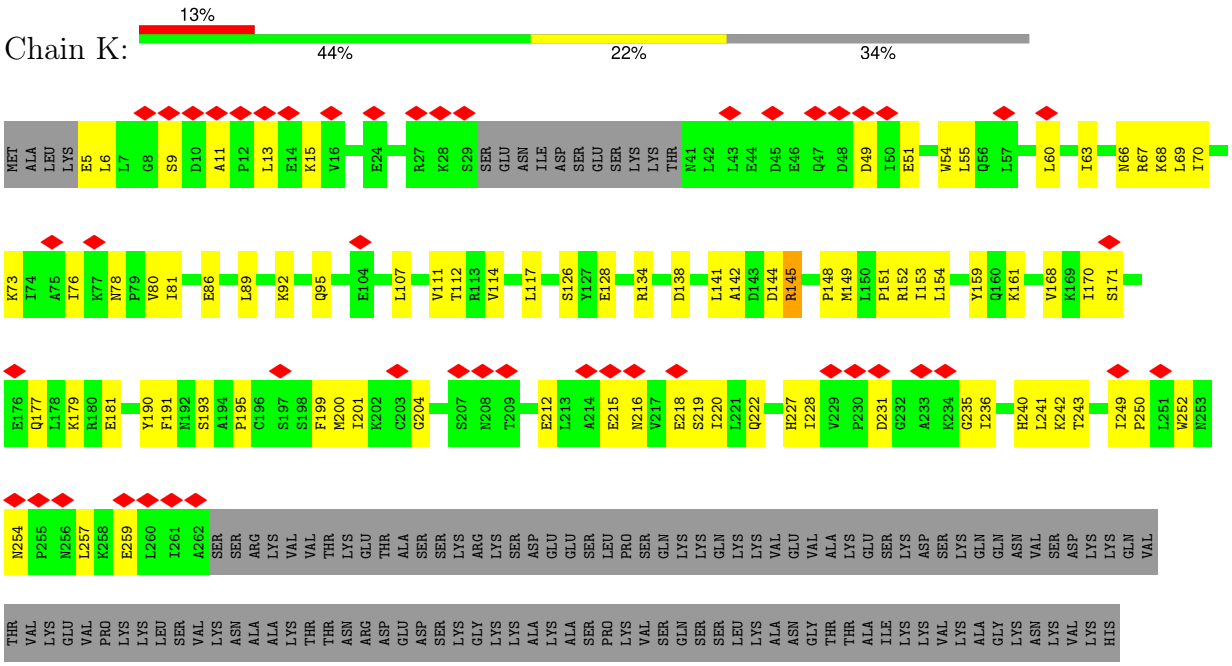
• Molecule 15: Probable rRNA-processing protein ebp2

Chain J:



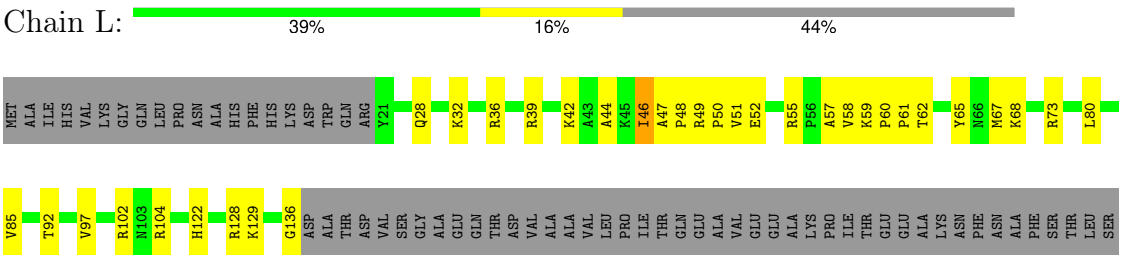
• Molecule 16: Putative ribosome biogenesis protein C8F11.04

Chain K:



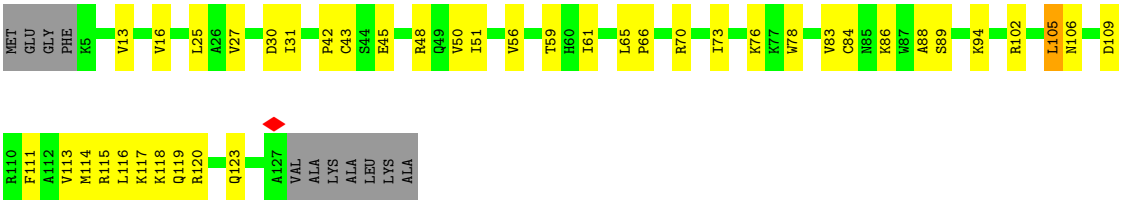
• Molecule 17: 60S ribosomal protein L13

Chain L:



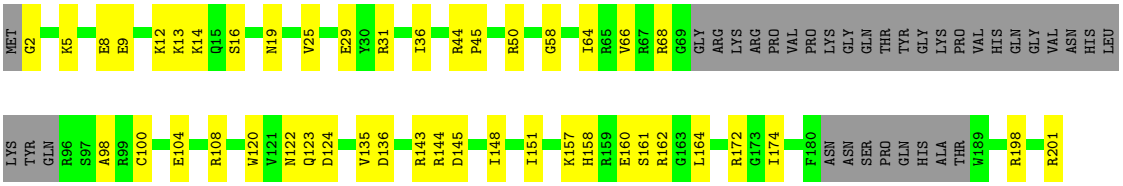
• Molecule 18: 60S ribosomal protein L14

Chain M:



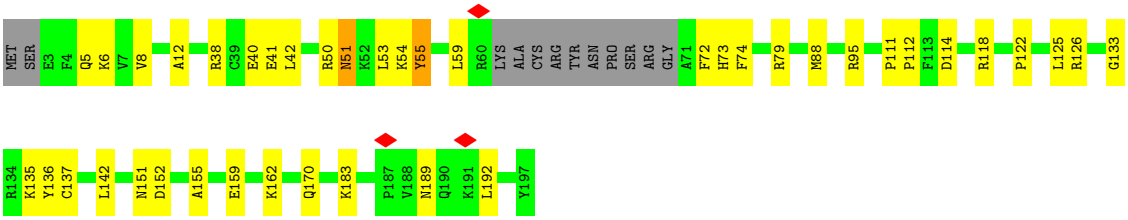
• Molecule 19: 60S ribosomal protein L15-A

Chain N:



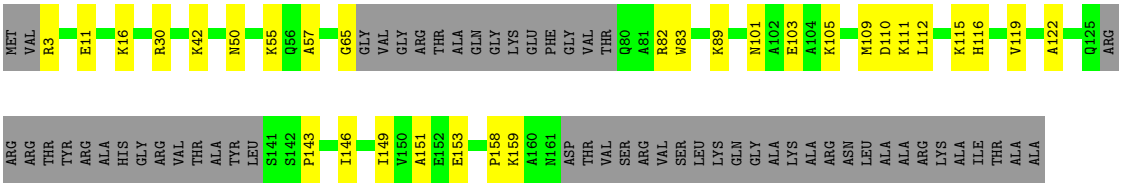
• Molecule 20: 60S ribosomal protein L16-B

Chain O:



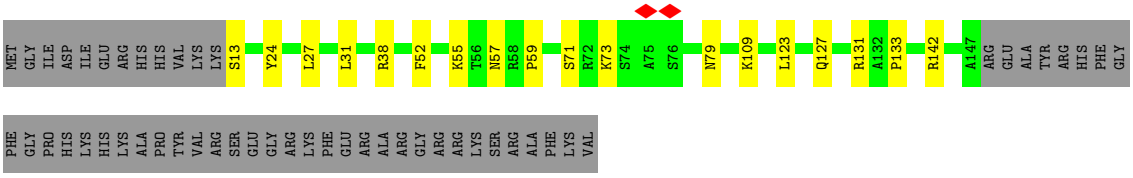
• Molecule 21: 60S ribosomal protein L17-A

Chain P:



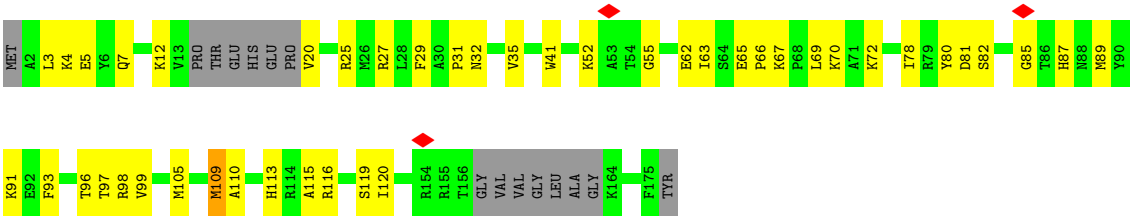
• Molecule 22: 60S ribosomal protein L18-A

Chain Q:



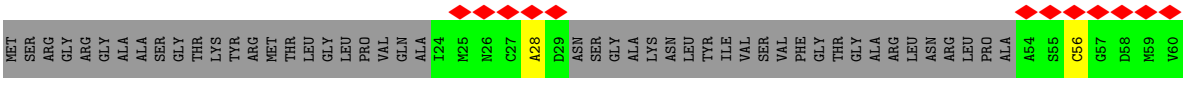
• Molecule 23: 60S ribosomal protein L20-A

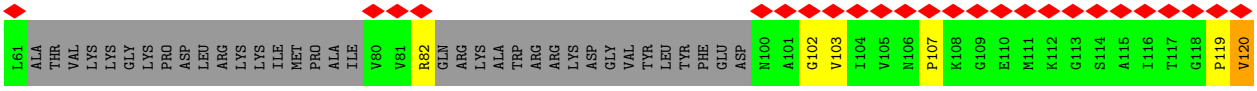
Chain S:

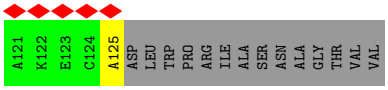


• Molecule 24: 60S ribosomal protein L23-A

Chain V:

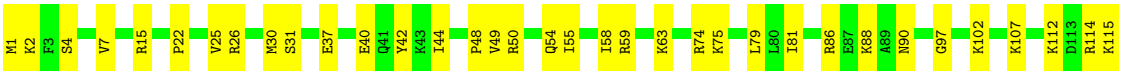


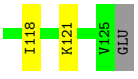




• Molecule 25: 60S ribosomal protein L26

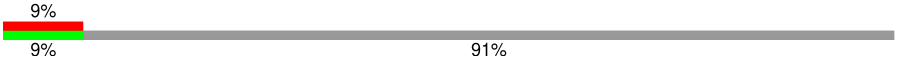
Chain Y:

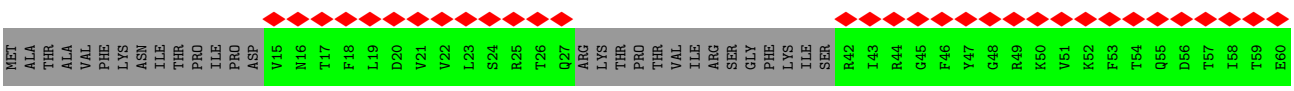


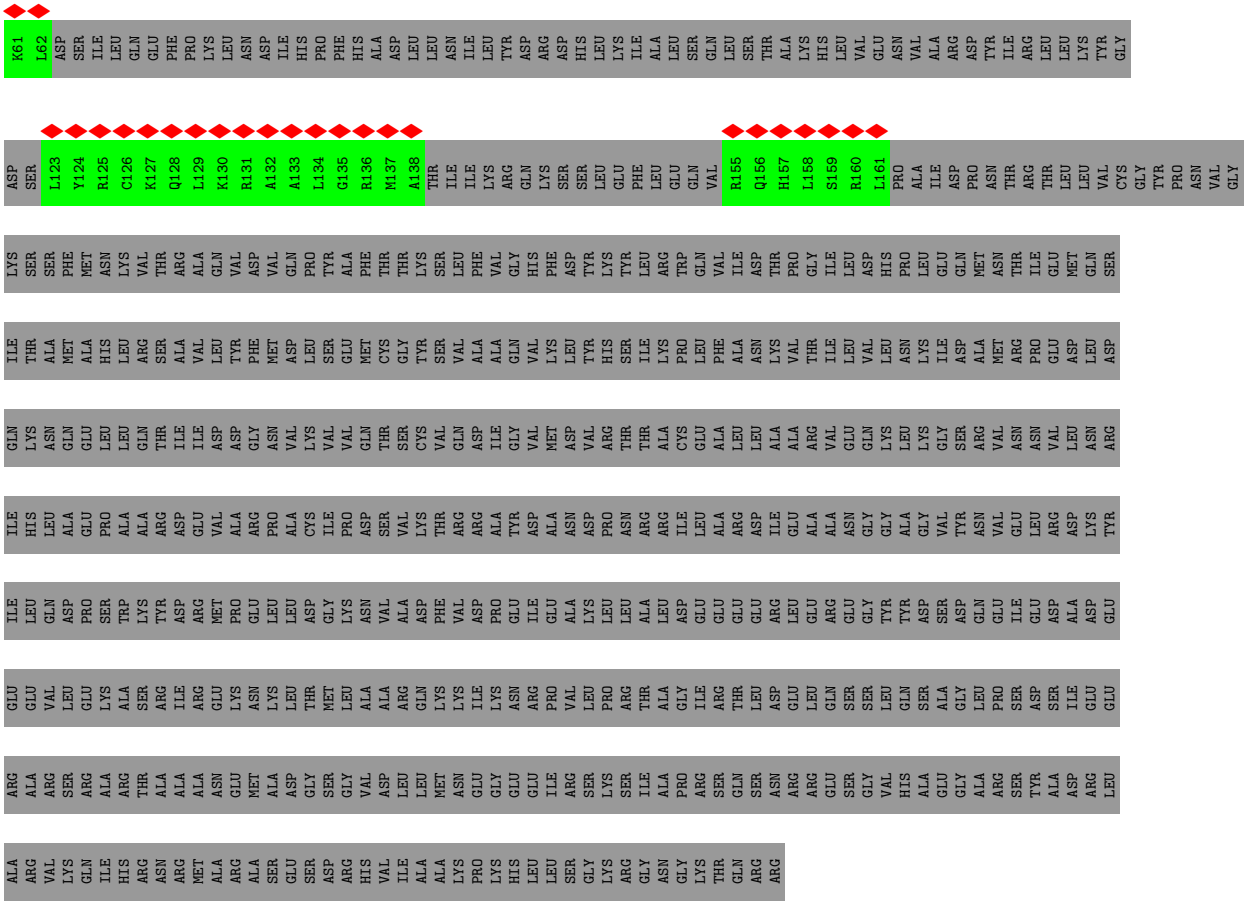


• Molecule 26: Probable nucleolar GTP-binding protein 1

Chain b:

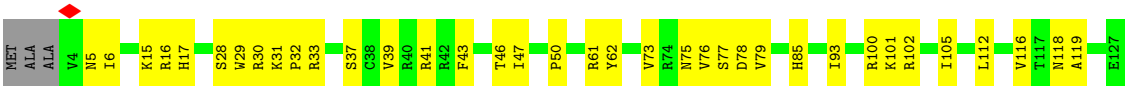






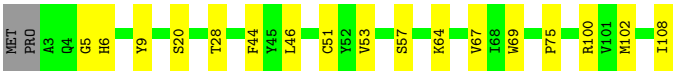
• Molecule 27: 60S ribosomal protein L32-A

Chain e:



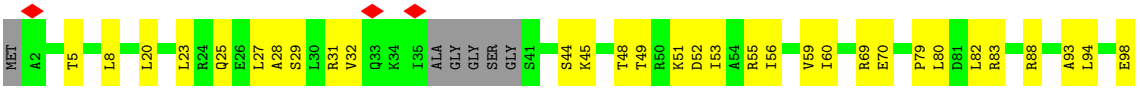
• Molecule 28: 60S ribosomal protein L33-B

Chain f:



• Molecule 29: 60S ribosomal protein L35

Chain h:

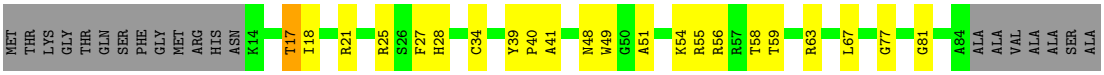


• Molecule 30: 60S ribosomal protein L36-B

Chain i:

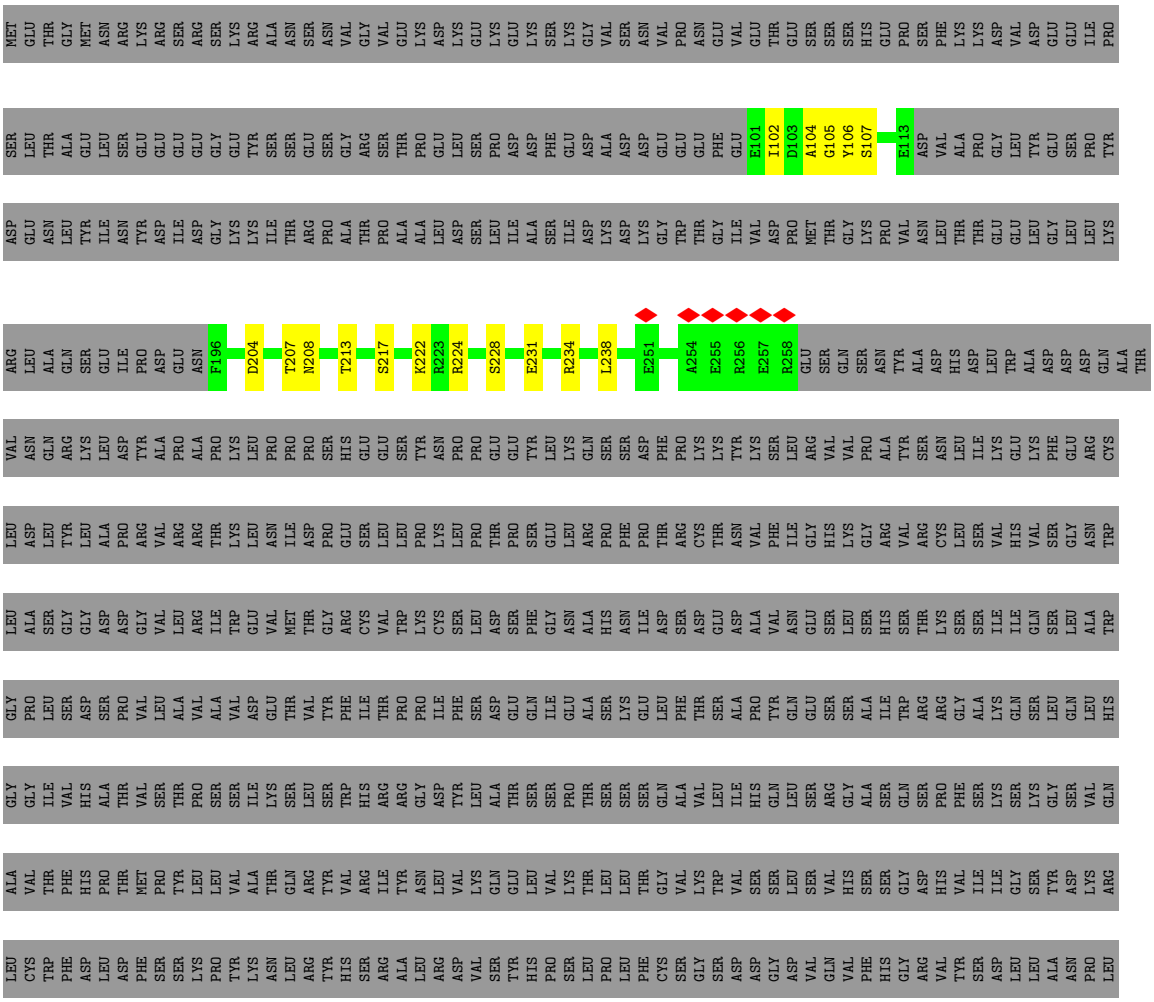
• Molecule 31: 60S ribosomal protein L37-B

Chain j:



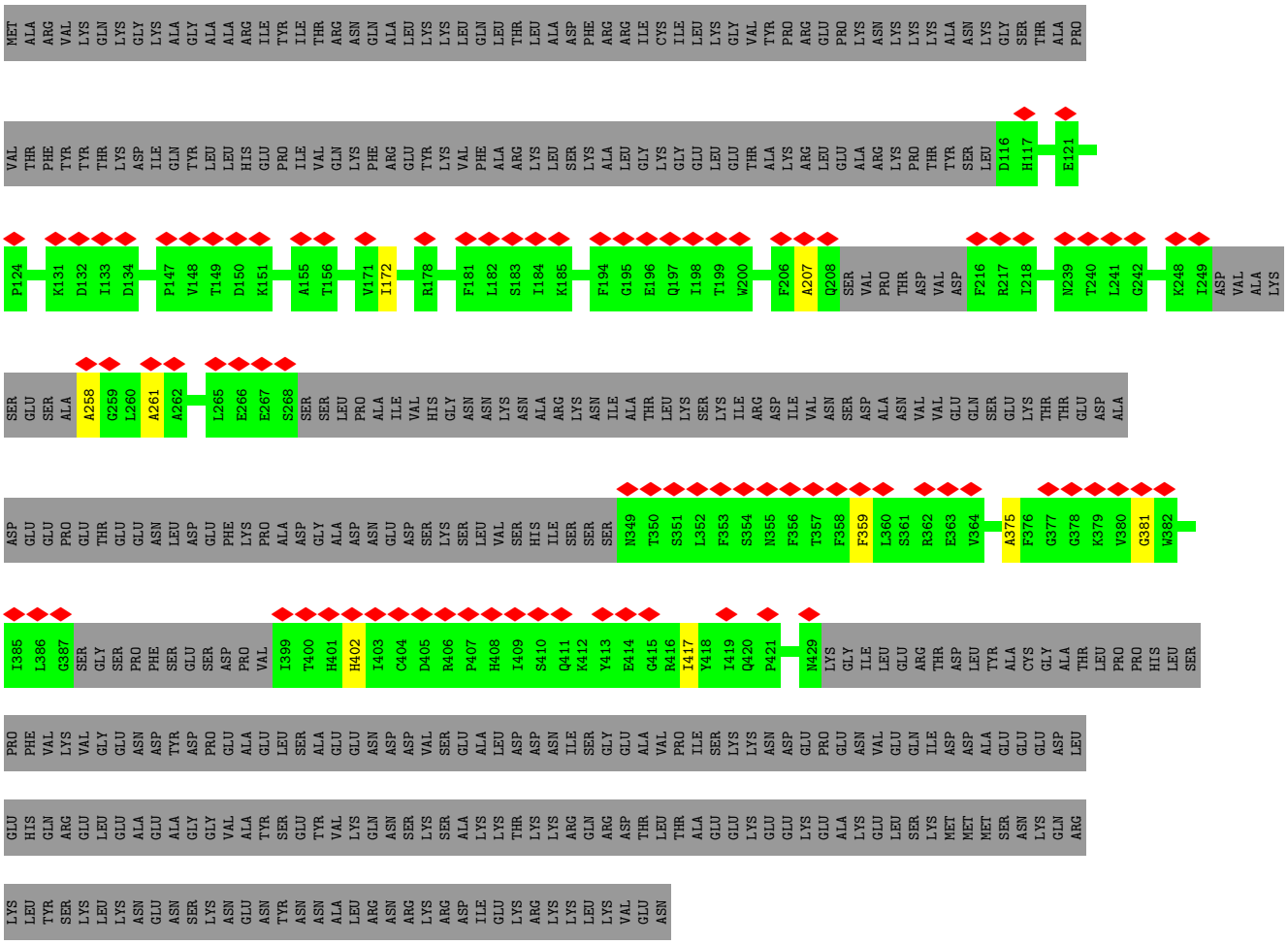
• Molecule 32: Ribosome biogenesis protein erb1

Chain m:



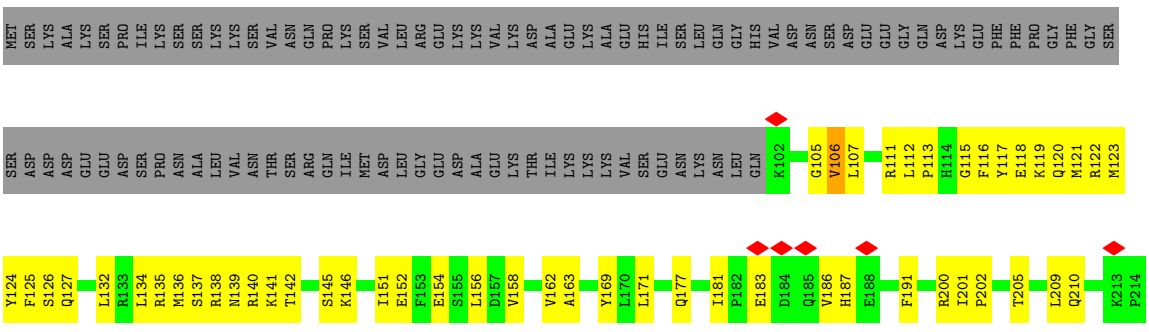
• Molecule 33: Pescadillo homolog

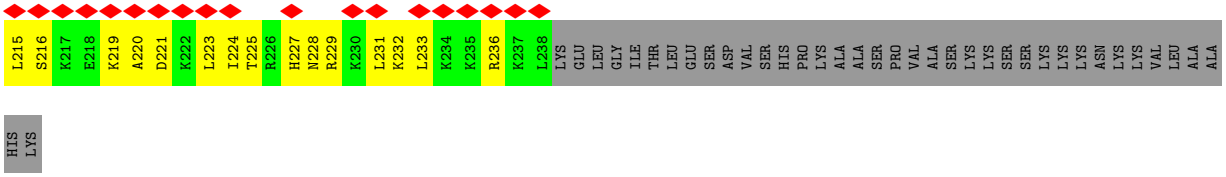
Chain n:



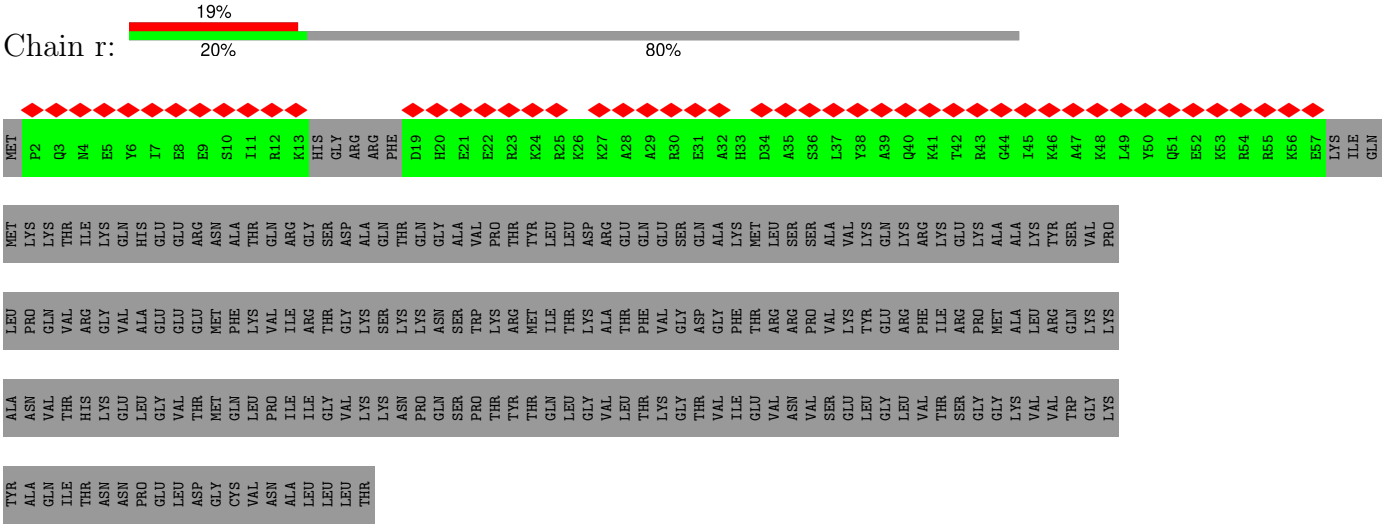
• Molecule 34: Uncharacterized RNA-binding protein C1827.05c

Chain o:

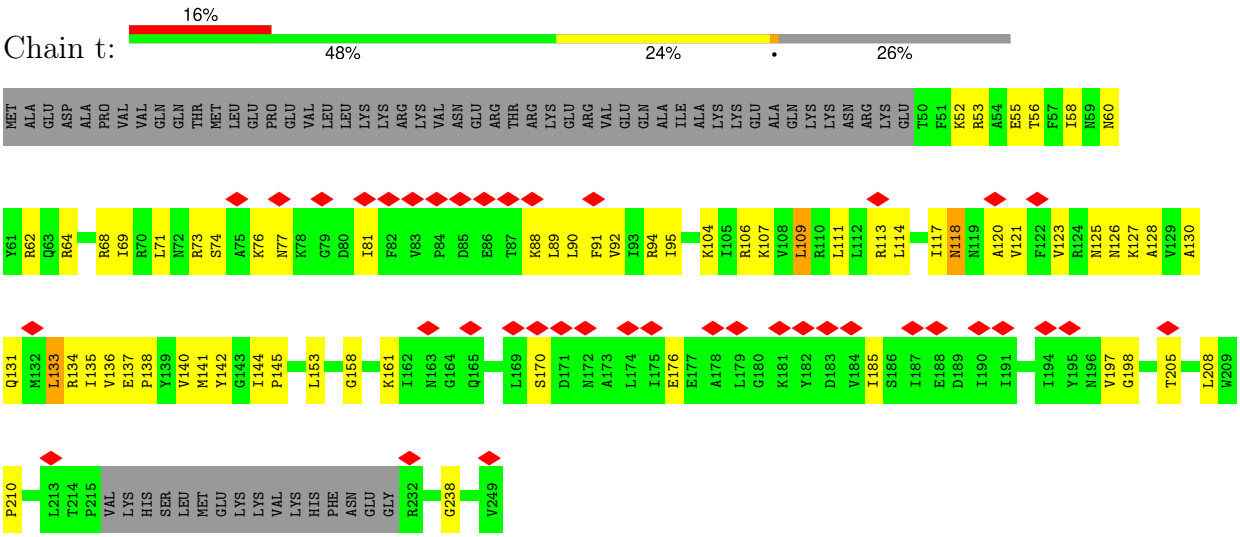




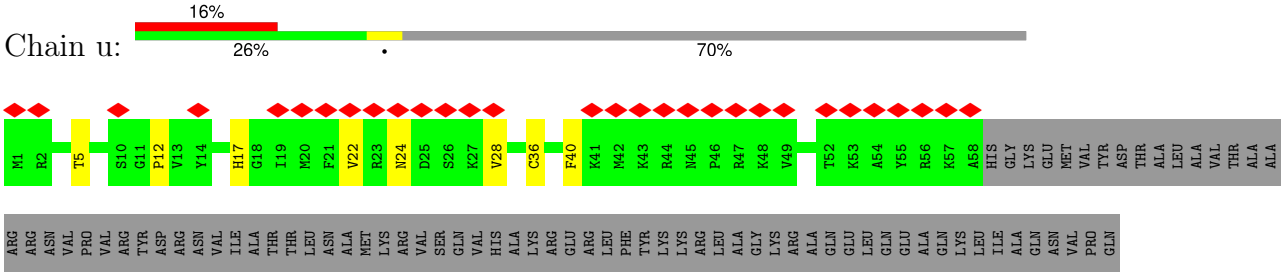
• Molecule 35: Ribosome biogenesis protein nsa2

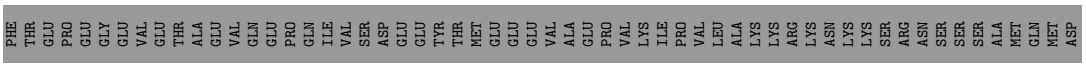


• Molecule 36: 60S ribosomal protein L7-A



• Molecule 37: Ribosome biogenesis protein rlp24



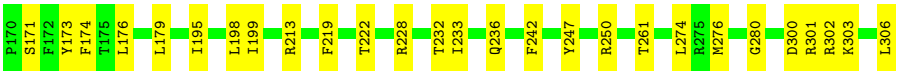


• Molecule 38: Nucleolar protein 16

Chain v:

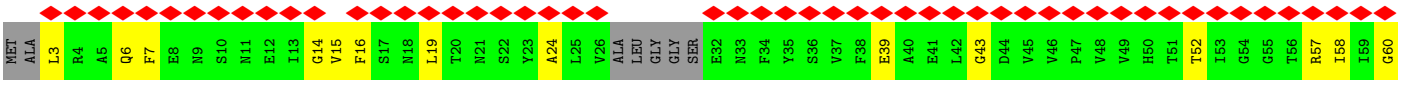
• Molecule 39: Brix domain-containing protein C4F8.04

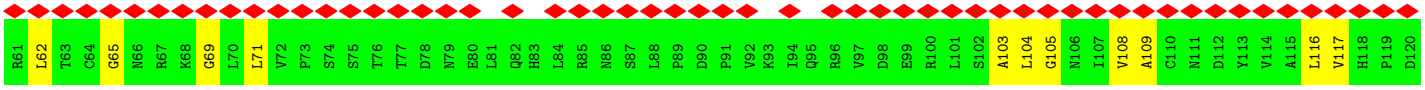
Chain x:

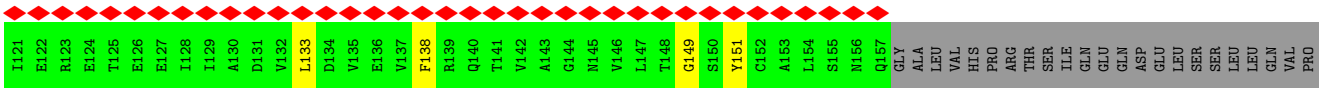


• Molecule 40: Eukaryotic translation initiation factor 6

Chain y:

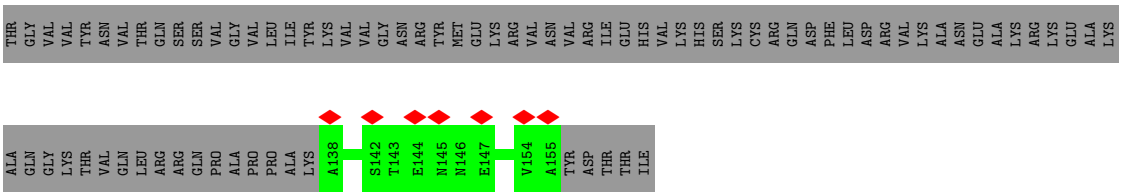






• Molecule 41: 60S ribosomal protein L21-A

Chain T:


THR GLY VAL VAL TYR ASN VAL THR GLN SER SER VAL GLY VAL LEU ILE TYR LYS VAL VAL GLY ASN ARG TYR MET GLU LYS ARG VAL ASN VAL ARG ILE GLU HIS VAL LYS HIS SER LYS CYS ARG GLN ASP PHE LEU ASP ARG VAL LYS ALA ASN GLU ALA LYS ARG LYS GLU ALA LYS
ALA GLN GLY LYS THR VAL GLN LEU ARG ARG GLN PRO ALA PRO PRO ALA LYS A138 S142 T143 E144 N145 N146 E147 V154 A155 TYR ASP THR THR ILE

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	14000	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	60	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.909	Depositor
Minimum map value	-0.524	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.011	Depositor
Recommended contour level	0.05	Depositor
Map size (Å)	542.72, 542.72, 542.72	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.06, 1.06, 1.06	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: ZN

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	1	0.30	0/31189	0.32	0/48556
2	2	0.30	0/3087	0.30	0/4799
3	3	0.36	0/1602	0.39	0/2154
4	4	0.26	0/1802	0.33	0/2434
5	5	0.20	0/2693	0.34	0/3642
6	6	0.16	0/1770	0.32	0/2745
7	A	0.16	0/2020	0.33	0/2724
8	B	0.11	0/1555	0.28	0/2160
9	C	0.36	0/2610	0.40	0/3521
10	D	0.15	0/3150	0.28	0/4278
11	E	0.20	0/1356	0.35	0/1829
12	F	0.25	0/1977	0.31	0/2651
13	G	0.31	0/1295	0.37	0/1748
14	H	0.14	0/543	0.43	0/740
15	J	0.06	0/413	0.19	0/576
16	K	0.15	0/1878	0.36	0/2550
17	L	0.36	0/960	0.48	2/1288 (0.2%)
18	M	0.13	0/1005	0.29	0/1349
19	N	0.35	0/1436	0.35	0/1920
20	O	0.16	0/1492	0.29	0/2000
21	P	0.19	0/1054	0.27	0/1414
22	Q	0.33	0/1044	0.37	0/1406
23	S	0.16	0/1191	0.31	0/1607
24	V	0.13	0/206	0.48	0/279
25	Y	0.27	0/1008	0.35	0/1341
26	b	0.05	0/278	0.15	0/381
27	e	0.32	0/1007	0.37	0/1342
28	f	0.26	0/859	0.31	0/1152
29	h	0.28	0/968	0.36	0/1288
30	i	0.26	0/774	0.33	0/1029
31	j	0.22	0/571	0.30	0/757
32	m	0.24	0/635	0.32	0/855

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	n	0.06	0/1024	0.22	0/1419
34	o	0.18	0/1066	0.43	0/1439
35	r	0.04	0/252	0.15	0/349
36	t	0.16	0/1239	0.46	0/1681
37	u	0.12	0/286	0.30	0/397
38	v	0.26	0/1308	0.37	0/1754
39	x	0.23	0/2542	0.33	0/3406
40	y	0.11	0/839	0.40	0/1162
41	T	0.08	0/89	0.25	0/123
All	All	0.26	0/82073	0.33	2/118245 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
17	L	47	ALA	CA-C-N	-6.48	113.05	120.04
17	L	47	ALA	C-N-CA	-6.48	113.05	120.04

There are no chirality outliers.

There are no planarity outliers.

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	1	27887	0	14042	355	0
2	2	2764	0	1399	30	0
3	3	1572	0	1621	47	0
4	4	1756	0	1774	37	0
5	5	2640	0	2698	68	0
6	6	1587	0	800	68	0
7	A	1981	0	1997	71	0
8	B	1557	0	710	54	0
9	C	2564	0	2698	53	0
10	D	3095	0	2963	49	0
11	E	1328	0	1408	32	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
12	F	1939	0	2030	38	0
13	G	1277	0	1350	22	0
14	H	542	0	388	11	0
15	J	414	0	190	5	0
16	K	1845	0	1828	70	0
17	L	942	0	1012	32	0
18	M	989	0	1054	34	0
19	N	1406	0	1441	34	0
20	O	1464	0	1550	35	0
21	P	1034	0	1050	25	0
22	Q	1033	0	1108	18	0
23	S	1172	0	1059	33	0
24	V	210	0	103	4	0
25	Y	998	0	1090	29	0
26	b	282	0	122	0	0
27	e	993	0	1052	27	0
28	f	839	0	866	10	0
29	h	960	0	1049	28	0
30	i	767	0	832	27	0
31	j	559	0	567	16	0
32	m	622	0	594	18	0
33	n	1029	0	455	5	0
34	o	1043	0	1003	59	0
35	r	254	0	119	0	0
36	t	1228	0	1037	59	0
37	u	287	0	127	5	0
38	v	1288	0	1327	30	0
39	x	2497	0	2500	40	0
40	y	842	0	386	22	0
41	T	90	0	39	0	0
42	j	1	0	0	0	0
All	All	77577	0	59438	1326	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 10.

All (1326) 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)
6:6:82:A:HO2'	6:6:83:A:H8	1.05	0.96
10:D:346:CYS:HG	10:D:367:HIS:HD1	1.11	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:o:106:VAL:HA	34:o:152:GLU:HA	1.59	0.83
22:Q:123:LEU:HD11	22:Q:131:ARG:HH21	1.46	0.81
6:6:106:A:H4'	6:6:188:G:H5'	1.63	0.81
36:t:113:ARG:HB3	36:t:121:VAL:HG11	1.61	0.80
1:1:238:U:H5'	1:1:240:G:H5'	1.63	0.79
1:1:3336:G:H1	1:1:3351:U:H3	1.27	0.79
19:N:158:HIS:HB3	19:N:161:SER:HB3	1.66	0.77
24:V:56:CYS:HA	24:V:82:ARG:HA	1.68	0.75
38:v:33:ASN:HD22	38:v:36:ILE:HG12	1.51	0.75
1:1:3369:A:OP2	11:E:64:ARG:NH2	2.20	0.75
1:1:1190:A:H2'	12:F:99:ILE:HD11	1.69	0.74
1:1:305:A:H8	30:i:29:GLY:HA2	1.52	0.74
1:1:527:C:H5"	9:C:343:ILE:HG12	1.69	0.74
36:t:109:LEU:O	36:t:114:LEU:N	2.20	0.74
1:1:366:G:N2	1:1:369:A:OP2	2.21	0.73
6:6:11:C:H3'	6:6:12:A:H8	1.52	0.73
5:5:255:PRO:HG2	5:5:273:LYS:HD3	1.69	0.73
1:1:303:A:N3	30:i:80:ARG:NH1	2.35	0.73
8:B:287:ALA:HA	8:B:320:ASP:HA	1.70	0.73
10:D:195:VAL:HG12	10:D:204:GLU:HG2	1.69	0.73
40:y:69:GLY:H	40:y:133:LEU:HA	1.53	0.73
17:L:44:ALA:HA	38:v:30:ILE:HD13	1.69	0.73
4:4:194:HIS:O	22:Q:79:ASN:ND2	2.22	0.72
19:N:157:LYS:O	19:N:162:ARG:NH2	2.20	0.72
25:Y:55:ILE:HD11	25:Y:81:ILE:HG12	1.72	0.72
23:S:5:GLU:OE2	23:S:98:ARG:NH1	2.22	0.72
34:o:137:SER:HB3	34:o:146:LYS:HE3	1.71	0.72
13:G:172:LYS:HB2	32:m:207:THR:HG22	1.72	0.71
9:C:49:ARG:NH1	9:C:111:TRP:O	2.24	0.71
3:3:28:CYS:HB2	3:3:33:ASN:HD22	1.56	0.71
1:1:498:U:H3'	1:1:499:G:H5"	1.72	0.71
36:t:81:ILE:HD12	36:t:130:ALA:HB3	1.73	0.71
7:A:122:VAL:HG13	7:A:232:ILE:HG12	1.72	0.70
5:5:281:ASP:HB2	5:5:288:ILE:HG12	1.73	0.70
1:1:123:A:OP1	13:G:105:LYS:NZ	2.21	0.70
1:1:3431:A:H4'	8:B:367:HIS:H	1.56	0.70
1:1:3477:A:H3'	1:1:3478:G:H3'	1.72	0.70
28:f:57:SER:O	28:f:64:LYS:NZ	2.23	0.70
1:1:354:C:N3	38:v:7:ARG:NH2	2.40	0.70
25:Y:54:GLN:HB3	25:Y:107:LYS:HB3	1.74	0.70
3:3:80:ILE:HD13	3:3:96:GLN:HG3	1.72	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:632:A:OP1	11:E:44:ARG:NH2	2.25	0.70
34:o:136:MET:SD	34:o:145:SER:OG	2.48	0.70
1:1:404:A:OP1	3:3:147:ARG:NH1	2.25	0.69
8:B:364:LYS:HA	8:B:368:GLY:HA2	1.74	0.69
1:1:634:G:N7	9:C:311:LYS:NZ	2.40	0.69
1:1:816:A:O2'	1:1:817:G:OP2	2.09	0.69
6:6:48:G:O6	16:K:69:LEU:N	2.25	0.69
6:6:7:U:O2'	16:K:148:PRO:HB2	1.92	0.69
29:h:94:LEU:HD22	29:h:98:GLU:HG3	1.74	0.69
16:K:145:ARG:NH2	16:K:171:SER:HA	2.07	0.69
9:C:141:GLY:O	9:C:143:ARG:NH1	2.26	0.69
30:i:49:ALA:HB3	30:i:52:GLU:HG3	1.73	0.69
7:A:115:ARG:HB3	7:A:119:GLY:HA3	1.75	0.69
10:D:341:VAL:HB	10:D:391:LEU:HD23	1.73	0.69
5:5:76:LEU:HD21	5:5:79:LEU:HB2	1.74	0.69
1:1:754:A:N6	1:1:770:G:O2'	2.26	0.68
7:A:148:ILE:HB	7:A:188:VAL:HG22	1.74	0.68
17:L:129:LYS:NZ	38:v:152:GLN:OE1	2.24	0.68
39:x:120:PRO:HG2	39:x:195:ILE:HG12	1.75	0.68
34:o:117:TYR:HA	34:o:136:MET:HE1	1.74	0.68
1:1:1176:G:OP1	27:e:41:ARG:NH1	2.26	0.68
1:1:726:C:H5'	7:A:266:TYR:CE2	2.28	0.68
1:1:619:G:N1	1:1:634:G:OP1	2.23	0.68
1:1:451:C:P	3:3:124:ARG:HH12	2.16	0.68
6:6:6:C:N3	6:6:48:G:O2'	2.22	0.68
23:S:110:ALA:HA	23:S:115:ALA:H	1.59	0.67
7:A:266:TYR:HE1	7:A:269:ARG:HD3	1.58	0.67
9:C:116:ASN:HB2	9:C:119:GLU:HG3	1.75	0.67
1:1:312:G:H1	1:1:319:U:H3	1.41	0.67
1:1:53:G:OP2	31:j:48:ASN:ND2	2.28	0.67
1:1:461:A:O2'	1:1:463:C:N4	2.27	0.67
6:6:12:A:H1'	6:6:43:G:C2	2.29	0.67
1:1:709:G:OP2	17:L:28:GLN:NE2	2.28	0.67
19:N:66:VAL:HG21	19:N:98:ALA:HB1	1.75	0.67
1:1:371:C:OP2	31:j:56:ARG:NH2	2.27	0.67
1:1:514:C:O2	11:E:41:LYS:NZ	2.24	0.67
34:o:139:ASN:OD1	34:o:140:ARG:N	2.27	0.67
1:1:714:A:H4'	1:1:715:U:C5	2.30	0.66
1:1:1188:G:H5"	12:F:226:PHE:HE2	1.59	0.66
12:F:138:GLU:HG3	12:F:139:PRO:HD3	1.78	0.66
1:1:1189:A:H2'	1:1:1190:A:H5"	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:4:193:SER:O	4:4:199:ARG:NH1	2.28	0.66
23:S:115:ALA:HB1	23:S:120:ILE:HD11	1.78	0.66
1:1:3418:U:O2	1:1:3419:G:N1	2.29	0.66
4:4:173:TYR:HB2	4:4:177:VAL:HG12	1.78	0.66
6:6:104:U:H3	6:6:187:U:H3	1.43	0.66
1:1:459:A:N6	1:1:460:G:O6	2.29	0.66
4:4:43:LYS:NZ	7:A:289:PRO:O	2.27	0.66
5:5:54:ASN:ND2	5:5:66:CYS:SG	2.67	0.66
1:1:176:A:OP2	29:h:111:ARG:NH1	2.27	0.66
22:Q:123:LEU:HD12	22:Q:127:GLN:HB3	1.78	0.66
8:B:56:ILE:HA	8:B:359:ILE:HA	1.78	0.65
8:B:217:VAL:HA	8:B:338:LEU:HA	1.77	0.65
1:1:976:C:O5'	27:e:33:ARG:NH2	2.28	0.65
38:v:37:GLN:OE1	38:v:38:GLN:NE2	2.30	0.65
1:1:3490:A:H4'	1:1:3491:A:H8	1.61	0.65
16:K:51:GLU:OE2	16:K:51:GLU:N	2.27	0.65
1:1:1387:A:C8	3:3:40:ARG:HG2	2.31	0.65
34:o:183:GLU:OE1	34:o:183:GLU:N	2.24	0.65
40:y:16:PHE:HA	40:y:58:ILE:HA	1.79	0.65
7:A:115:ARG:HG3	7:A:117:PRO:HD2	1.78	0.65
8:B:163:HIS:HA	8:B:178:LEU:HA	1.77	0.65
1:1:3332:U:H3	1:1:3355:G:H1	1.45	0.65
5:5:256:LEU:HD23	5:5:272:ASP:HB3	1.79	0.65
1:1:3490:A:H5'	1:1:3491:A:H5'	1.78	0.65
1:1:1387:A:H8	3:3:40:ARG:HG2	1.62	0.65
14:H:5:ILE:HD12	14:H:5:ILE:H	1.61	0.65
1:1:3361:U:OP1	18:M:119:GLN:NE2	2.30	0.64
1:1:362:U:O2'	2:2:61:A:N3	2.31	0.64
1:1:3428:G:O6	1:1:3480:C:N4	2.20	0.64
1:1:1463:G:OP2	9:C:109:ARG:NH2	2.31	0.64
34:o:134:LEU:HG	34:o:151:ILE:HD12	1.78	0.64
1:1:1176:G:H5'	27:e:43:PHE:HE1	1.63	0.64
6:6:93:A:H2	16:K:126:SER:HA	1.63	0.64
14:H:7:LYS:HD2	14:H:68:ILE:HG21	1.80	0.64
7:A:147:PRO:HB3	7:A:187:ARG:HG3	1.80	0.63
38:v:39:ASN:O	38:v:52:ARG:NH2	2.25	0.63
1:1:219:G:OP2	25:Y:1:MET:N	2.25	0.63
1:1:498:U:H3'	1:1:499:G:C5'	2.28	0.63
1:1:712:U:OP2	17:L:36:ARG:NH2	2.31	0.63
1:1:3315:A:OP2	18:M:118:LYS:NZ	2.31	0.63
2:2:64:G:H21	2:2:70:C:H5'	1.62	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:5:267:LEU:HD21	5:5:288:ILE:HD11	1.80	0.63
1:1:689:U:H2'	1:1:690:A:C8	2.33	0.63
6:6:180:A:H5"	6:6:181:C:H4'	1.79	0.63
18:M:59:THR:HG22	18:M:61:ILE:H	1.64	0.63
3:3:11:VAL:O	3:3:19:ARG:NH2	2.26	0.63
4:4:151:LEU:O	22:Q:131:ARG:NH1	2.31	0.63
7:A:51:ARG:HD2	7:A:78:ASP:HA	1.80	0.63
1:1:461:A:HO2'	1:1:463:C:N4	1.95	0.63
17:L:55:ARG:NH1	17:L:73:ARG:O	2.27	0.63
38:v:3:ASN:HB2	38:v:6:GLN:HG2	1.81	0.63
20:O:51:ASN:HA	20:O:54:LYS:HD2	1.81	0.62
1:1:267:C:OP2	10:D:210:LYS:NZ	2.29	0.62
36:t:71:LEU:HD11	36:t:135:ILE:HG23	1.80	0.62
10:D:107:MET:HE1	10:D:141:LEU:HD21	1.81	0.62
13:G:106:LYS:O	13:G:110:VAL:HG23	1.98	0.62
1:1:3431:A:H2'	1:1:3432:U:C6	2.33	0.62
28:f:44:PHE:HE1	28:f:108:ILE:HG13	1.64	0.62
34:o:229:ARG:HA	34:o:232:LYS:HE3	1.80	0.62
1:1:359:A:H5"	2:2:59:G:H22	1.64	0.62
32:m:204:ASP:O	32:m:208:ASN:ND2	2.32	0.62
4:4:111:ARG:NH1	4:4:168:GLU:OE2	2.32	0.62
7:A:125:HIS:HB3	7:A:228:THR:HB	1.81	0.62
9:C:284:ILE:HD11	22:Q:24:TYR:HD1	1.64	0.62
1:1:1146:G:N2	1:1:1146:G:OP2	2.33	0.62
7:A:40:PRO:HA	32:m:105:GLY:HA2	1.81	0.62
39:x:274:LEU:HD23	39:x:306:LEU:HD21	1.80	0.62
8:B:282:ILE:HA	8:B:324:LEU:HA	1.82	0.62
18:M:120:ARG:NH1	20:O:189:ASN:OD1	2.32	0.62
1:1:3431:A:H4'	8:B:366:GLY:HA3	1.82	0.61
6:6:188:G:N2	36:t:106:ARG:HB3	2.15	0.61
21:P:111:LYS:HB3	21:P:153:GLU:H	1.65	0.61
17:L:48:PRO:HG3	38:v:33:ASN:HB2	1.82	0.61
27:e:73:VAL:HG13	27:e:78:ASP:HB2	1.80	0.61
1:1:300:U:OP1	19:N:68:ARG:NH2	2.32	0.61
1:1:3428:G:N1	1:1:3480:C:N3	2.42	0.61
5:5:122:ARG:NH2	5:5:170:LEU:O	2.33	0.61
5:5:17:ILE:HD11	5:5:328:ALA:HB1	1.82	0.61
10:D:159:ARG:NH2	38:v:125:ASP:OD1	2.33	0.61
1:1:136:U:N3	31:j:77:GLY:O	2.33	0.61
21:P:16:LYS:O	21:P:101:ASN:ND2	2.32	0.61
40:y:197:LEU:HA	40:y:206:ALA:HA	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:y:199:VAL:HA	40:y:204:ALA:HA	1.82	0.61
16:K:95:GLN:NE2	16:K:114:VAL:O	2.34	0.61
38:v:6:GLN:O	38:v:10:GLN:NE2	2.33	0.61
10:D:346:CYS:SG	10:D:367:HIS:ND1	2.62	0.61
20:O:74:PHE:HD2	20:O:79:ARG:HD3	1.64	0.61
40:y:108:VAL:HA	40:y:117:VAL:HA	1.82	0.61
8:B:85:VAL:O	8:B:163:HIS:N	2.33	0.61
34:o:105:GLY:HA2	34:o:156:LEU:HD23	1.82	0.61
1:1:200:C:OP1	5:5:292:GLN:NE2	2.32	0.61
4:4:142:MET:HE3	4:4:142:MET:HA	1.82	0.61
36:t:153:LEU:O	36:t:158:GLY:N	2.34	0.61
1:1:463:C:O2'	1:1:489:C:N3	2.29	0.60
4:4:37:GLU:HG2	4:4:40:ASP:HB2	1.83	0.60
10:D:518:ALA:HA	10:D:529:PRO:HG3	1.83	0.60
23:S:80:TYR:HB3	23:S:87:HIS:HB3	1.82	0.60
39:x:56:GLU:OE2	39:x:236:GLN:NE2	2.31	0.60
4:4:8:ILE:HD12	4:4:44:LEU:HA	1.83	0.60
5:5:4:LEU:HD12	5:5:48:MET:HE1	1.83	0.60
8:B:159:ARG:HA	8:B:182:GLN:HA	1.83	0.60
10:D:224:ASP:OD1	10:D:228:ASN:ND2	2.35	0.60
7:A:57:GLN:HG2	7:A:109:LEU:HD12	1.83	0.60
1:1:1417:G:H4'	9:C:242:PRO:HB2	1.83	0.60
6:6:106:A:O2'	6:6:107:A:O4'	2.13	0.60
8:B:362:ALA:HA	8:B:371:GLN:HA	1.83	0.60
40:y:198:VAL:N	40:y:205:PHE:O	2.35	0.60
1:1:62:A:H5"	19:N:164:LEU:HD21	1.84	0.60
1:1:3269:A:O5'	1:1:3272:U:N3	2.34	0.60
2:2:29:C:OP1	9:C:195:LYS:NZ	2.33	0.60
16:K:236:ILE:O	16:K:254:ASN:ND2	2.34	0.60
1:1:367:U:O3'	31:j:25:ARG:NH2	2.34	0.60
1:1:689:U:H2'	1:1:690:A:H8	1.64	0.60
8:B:49:TYR:HA	8:B:335:VAL:HA	1.84	0.60
4:4:49:PHE:HZ	4:4:98:ILE:HD11	1.67	0.60
8:B:52:GLY:O	8:B:78:VAL:N	2.35	0.60
9:C:284:ILE:HD12	9:C:287:ALA:HA	1.82	0.60
39:x:81:ASP:OD2	39:x:213:ARG:NH1	2.35	0.60
8:B:33:PRO:HA	8:B:342:LEU:HA	1.82	0.59
1:1:358:C:H4'	39:x:5:LYS:HG3	1.84	0.59
1:1:976:C:O2'	27:e:30:ARG:NH1	2.35	0.59
7:A:97:ASN:OD1	7:A:115:ARG:NH1	2.35	0.59
7:A:253:MET:HA	7:A:256:ALA:HB3	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:C:326:VAL:HG13	9:C:329:ARG:HH21	1.67	0.59
36:t:69:ILE:O	36:t:73:ARG:HG3	2.01	0.59
1:1:445:G:H22	1:1:647:A:H61	1.50	0.59
1:1:3480:C:H4'	8:B:315:GLY:HA2	1.84	0.59
3:3:44:PRO:O	3:3:65:LYS:NZ	2.23	0.59
7:A:202:ASN:HB3	7:A:221:ILE:HB	1.84	0.59
40:y:104:LEU:O	40:y:108:VAL:N	2.32	0.59
39:x:95:LYS:H	39:x:146:THR:HG22	1.68	0.59
18:M:65:LEU:HD12	18:M:66:PRO:HD2	1.85	0.59
7:A:143:LYS:HG3	15:J:175:LEU:HA	1.83	0.59
27:e:39:VAL:HG13	27:e:46:THR:HB	1.84	0.59
34:o:202:PRO:HB2	34:o:205:THR:OG1	2.03	0.59
6:6:93:A:C2	16:K:126:SER:HA	2.38	0.59
10:D:529:PRO:HB2	32:m:213:THR:HG22	1.84	0.59
21:P:122:ALA:HB3	21:P:143:PRO:HB2	1.84	0.59
34:o:139:ASN:HD22	34:o:142:THR:HG22	1.66	0.59
6:6:9:C:H2'	6:6:10:U:C6	2.38	0.59
11:E:57:VAL:O	11:E:104:THR:OG1	2.21	0.58
29:h:79:PRO:HD2	29:h:82:LEU:HD12	1.83	0.58
31:j:27:PHE:HA	31:j:34:CYS:HA	1.85	0.58
1:1:277:G:H5"	19:N:14:LYS:HE3	1.84	0.58
38:v:143:GLU:O	38:v:147:LYS:HD3	2.04	0.58
1:1:63:A:OP1	19:N:172:ARG:NH2	2.37	0.58
5:5:51:HIS:O	5:5:51:HIS:ND1	2.36	0.58
23:S:70:LYS:O	23:S:72:LYS:NZ	2.36	0.58
31:j:48:ASN:OD1	31:j:54:LYS:NZ	2.35	0.58
1:1:402:U:OP2	39:x:301:ARG:NH1	2.36	0.58
40:y:19:LEU:HA	40:y:24:ALA:HA	1.86	0.58
1:1:1241:U:H3	1:1:1326:G:H1	1.50	0.58
2:2:45:A:OP2	29:h:88:ARG:NH1	2.34	0.58
9:C:239:GLN:O	9:C:248:ARG:HD3	2.03	0.58
13:G:226:TYR:O	13:G:228:GLU:N	2.37	0.58
34:o:232:LYS:HD3	34:o:236:ARG:HH22	1.69	0.58
36:t:94:ARG:HH11	36:t:109:LEU:HD22	1.68	0.58
40:y:65:GLY:HA3	40:y:71:LEU:H	1.69	0.58
1:1:323:C:OP1	17:L:102:ARG:NH2	2.30	0.58
7:A:35:SER:OG	7:A:36:ALA:N	2.37	0.58
9:C:110:LYS:HE3	19:N:201:ARG:HG3	1.85	0.58
13:G:190:ILE:HD11	13:G:195:ALA:HB2	1.85	0.58
39:x:42:LYS:HA	39:x:45:LEU:HB3	1.84	0.58
1:1:3324:G:H1	1:1:3361:U:H3	1.50	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:F:41:LYS:HG2	12:F:44:ARG:HH21	1.68	0.58
25:Y:49:VAL:HG21	25:Y:79:LEU:HD21	1.85	0.58
1:1:1188:G:O2'	1:1:1200:A:N3	2.35	0.58
1:1:3369:A:N1	11:E:153:ARG:NE	2.52	0.58
8:B:88:GLY:HA3	8:B:106:TRP:HA	1.84	0.58
1:1:544:A:H2	1:1:582:G:H22	1.50	0.57
16:K:78:ASN:ND2	16:K:216:ASN:OD1	2.37	0.57
27:e:61:ARG:NH1	27:e:62:TYR:OH	2.37	0.57
28:f:53:VAL:HG22	28:f:67:VAL:HG22	1.85	0.57
1:1:759:C:O2'	1:1:760:C:OP1	2.23	0.57
1:1:1481:G:O2'	1:1:2443:G:O6	2.21	0.57
27:e:93:ILE:HG21	27:e:102:ARG:HG2	1.86	0.57
1:1:710:G:OP1	17:L:39:ARG:NH2	2.32	0.57
1:1:3406:A:OP1	8:B:223:GLY:N	2.35	0.57
3:3:86:TYR:OH	3:3:113:THR:OG1	2.23	0.57
4:4:49:PHE:CZ	4:4:98:ILE:HD11	2.40	0.57
4:4:151:LEU:HB3	22:Q:131:ARG:NH1	2.20	0.57
5:5:61:ASN:ND2	5:5:63:THR:OG1	2.38	0.57
5:5:136:HIS:HB2	5:5:142:ILE:HB	1.86	0.57
8:B:58:ARG:HA	8:B:356:LEU:HA	1.86	0.57
1:1:461:A:HO2'	1:1:463:C:H41	1.50	0.57
34:o:225:THR:O	34:o:229:ARG:HG3	2.05	0.57
1:1:455:G:H2'	1:1:456:G:H8	1.68	0.57
3:3:120:LEU:HD22	11:E:26:LYS:HD3	1.86	0.57
19:N:13:LYS:O	19:N:19:ASN:ND2	2.38	0.57
30:i:20:LEU:HD12	30:i:20:LEU:H	1.68	0.57
36:t:133:LEU:O	36:t:137:GLU:N	2.38	0.57
1:1:259:A:H2	38:v:157:LEU:HD11	1.69	0.57
7:A:130:HIS:HB2	7:A:224:ARG:HB2	1.87	0.57
39:x:53:ALA:HB1	39:x:58:LYS:HD2	1.87	0.57
1:1:1341:G:HO2'	1:1:2468:A:HO2'	1.53	0.57
10:D:154:LEU:HD11	10:D:238:ARG:HH11	1.70	0.57
10:D:161:GLY:O	10:D:213:ASN:ND2	2.38	0.57
17:L:62:THR:HG23	17:L:65:TYR:H	1.68	0.57
16:K:149:MET:HE3	16:K:149:MET:HA	1.86	0.56
34:o:107:LEU:HD11	34:o:163:ALA:HB2	1.87	0.56
2:2:59:G:C6	39:x:4:ILE:HG23	2.40	0.56
6:6:8:U:H4'	6:6:9:C:H4'	1.86	0.56
6:6:106:A:H4'	6:6:188:G:H3'	1.86	0.56
8:B:27:GLY:HA3	8:B:219:GLY:HA2	1.87	0.56
34:o:118:GLU:OE1	34:o:138:ARG:NH2	2.34	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:v:171:ILE:HD11	38:v:202:TYR:HD1	1.69	0.56
1:1:265:C:O2'	1:1:266:G:O5'	2.23	0.56
1:1:1379:U:OP1	22:Q:38:ARG:NH1	2.39	0.56
7:A:125:HIS:ND1	7:A:127:GLU:OE1	2.39	0.56
12:F:243:ASN:O	12:F:247:GLN:HG2	2.05	0.56
21:P:158:PRO:O	39:x:228:ARG:NH2	2.37	0.56
40:y:62:LEU:C	40:y:105:GLY:H	2.14	0.56
5:5:19:LYS:HE2	5:5:327:LEU:HD22	1.88	0.56
8:B:88:GLY:O	8:B:161:LEU:N	2.39	0.56
27:e:79:VAL:HG11	27:e:105:ILE:HG23	1.87	0.56
1:1:595:U:H2'	1:1:596:A:H8	1.71	0.56
11:E:74:SER:HB3	11:E:116:VAL:HG21	1.87	0.56
29:h:23:LEU:HB3	29:h:53:ILE:HG22	1.87	0.56
1:1:259:A:C2	38:v:157:LEU:HD11	2.41	0.56
21:P:82:ARG:HG3	21:P:83:TRP:H	1.71	0.56
21:P:115:LYS:HG3	21:P:151:ALA:HB3	1.88	0.56
38:v:130:ILE:HG22	38:v:131:ALA:H	1.71	0.56
1:1:726:C:H5'	7:A:266:TYR:HE2	1.71	0.56
4:4:196:VAL:HG12	4:4:199:ARG:HH21	1.70	0.56
16:K:73:LYS:NZ	16:K:190:TYR:OH	2.39	0.56
36:t:53:ARG:O	36:t:56:THR:OG1	2.23	0.56
3:3:125:LEU:O	3:3:130:GLN:NE2	2.28	0.56
3:3:65:LYS:HD3	3:3:76:LEU:HD21	1.88	0.55
9:C:328:SER:O	12:F:48:ARG:NH2	2.40	0.55
12:F:150:THR:HG23	12:F:246:VAL:HG11	1.88	0.55
17:L:57:ALA:HB2	30:i:5:LEU:HD11	1.88	0.55
18:M:88:ALA:O	18:M:94:LYS:NZ	2.40	0.55
34:o:216:SER:O	34:o:220:ALA:N	2.30	0.55
1:1:121:A:OP2	32:m:228:SER:HB2	2.07	0.55
5:5:49:LEU:HD22	5:5:95:MET:HG2	1.89	0.55
37:u:22:VAL:HA	37:u:28:VAL:H	1.70	0.55
1:1:1141:C:O2'	1:1:1142:U:H5'	2.06	0.55
3:3:34:VAL:HG23	3:3:35:THR:HG23	1.88	0.55
18:M:78:TRP:NE1	18:M:84:CYS:SG	2.72	0.55
1:1:664:G:OP1	27:e:37:SER:OG	2.25	0.55
1:1:720:A:H2	9:C:234:ARG:HD2	1.71	0.55
5:5:111:LEU:HB3	5:5:113:PHE:HE1	1.70	0.55
6:6:44:A:OP1	16:K:227:HIS:ND1	2.40	0.55
31:j:21:ARG:NH1	31:j:41:ALA:O	2.40	0.55
33:n:402:HIS:N	33:n:417:ILE:O	2.33	0.55
1:1:3278:A:OP1	20:O:38:ARG:NH1	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:68:LYS:HG2	16:K:70:ILE:HG12	1.89	0.55
1:1:1422:U:OP1	27:e:101:LYS:HE3	2.07	0.55
12:F:113:LEU:O	12:F:122:ILE:HD13	2.07	0.55
16:K:259:GLU:OE1	16:K:259:GLU:N	2.24	0.55
17:L:50:PRO:HG3	29:h:120:LEU:HD12	1.88	0.55
1:1:450:A:O3'	3:3:124:ARG:NH1	2.38	0.55
1:1:1188:G:H5"	12:F:226:PHE:CE2	2.41	0.55
1:1:3475:U:H4'	1:1:3477:A:H61	1.71	0.55
10:D:363:VAL:HG13	10:D:389:ILE:HG12	1.89	0.55
16:K:117:LEU:HD21	16:K:149:MET:HG3	1.89	0.55
10:D:408:ILE:HG13	10:D:437:SER:HA	1.88	0.55
1:1:1385:U:OP2	1:1:1386:G:O2'	2.22	0.54
4:4:170:ARG:NH1	4:4:212:TYR:OH	2.41	0.54
4:4:196:VAL:HG12	4:4:199:ARG:NH2	2.22	0.54
20:O:59:LEU:HA	20:O:73:HIS:HD2	1.71	0.54
28:f:5:GLY:O	28:f:6:HIS:ND1	2.39	0.54
10:D:113:THR:HG23	10:D:116:GLN:H	1.72	0.54
1:1:3402:U:H2'	1:1:3403:U:C6	2.43	0.54
6:6:189:U:H4'	36:t:107:LYS:NZ	2.22	0.54
34:o:106:VAL:HG13	34:o:181:ILE:HG23	1.90	0.54
4:4:58:PRO:HB2	12:F:13:ILE:HD12	1.89	0.54
14:H:4:ASP:HB2	14:H:65:ASN:HD21	1.73	0.54
4:4:26:LEU:HD21	4:4:44:LEU:HD11	1.90	0.54
5:5:270:PHE:HE1	5:5:280:PHE:HB2	1.72	0.54
11:E:83:THR:HB	11:E:93:ILE:HA	1.90	0.54
1:1:455:G:N2	1:1:498:U:H1'	2.23	0.54
5:5:154:LEU:HD13	5:5:223:PHE:CD2	2.43	0.54
9:C:11:TYR:CE2	9:C:17:VAL:HG22	2.43	0.54
11:E:49:ARG:NH1	11:E:98:HIS:O	2.37	0.54
18:M:78:TRP:CE2	18:M:83:VAL:HB	2.43	0.54
18:M:105:LEU:HB3	18:M:109:ASP:HB2	1.90	0.54
1:1:116:A:OP1	30:i:34:ARG:NH2	2.40	0.54
16:K:254:ASN:HB3	16:K:257:LEU:HB3	1.90	0.54
20:O:74:PHE:CD2	20:O:79:ARG:HD3	2.42	0.54
39:x:301:ARG:HG3	39:x:302:ARG:HD3	1.90	0.54
1:1:445:G:N2	1:1:647:A:H61	2.05	0.53
1:1:454:G:H2'	1:1:455:G:H8	1.73	0.53
1:1:961:A:O2'	31:j:49:TRP:O	2.26	0.53
5:5:2:LYS:HZ3	5:5:347:ALA:HA	1.73	0.53
5:5:57:VAL:HB	5:5:65:GLU:HG3	1.89	0.53
10:D:371:LYS:O	10:D:375:ARG:HG3	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:312:G:OP1	7:A:105:ARG:NH1	2.41	0.53
1:1:529:G:OP1	12:F:77:ARG:NH2	2.41	0.53
2:2:103:G:O2'	31:j:81:GLY:O	2.25	0.53
1:1:494:A:H5"	3:3:123:ARG:NH2	2.24	0.53
5:5:96:LYS:HD2	5:5:134:GLU:HA	1.91	0.53
1:1:2440:A:P	21:P:82:ARG:HE	2.30	0.53
5:5:169:GLU:HA	5:5:172:ARG:HH22	1.73	0.53
6:6:84:U:O2'	16:K:195:PRO:O	2.26	0.53
7:A:59:HIS:HD2	7:A:131:THR:HB	1.74	0.53
10:D:483:ASN:HB3	10:D:486:LEU:HB2	1.89	0.53
25:Y:44:ILE:HD11	25:Y:118:ILE:HA	1.90	0.53
34:o:135:ARG:HD3	34:o:191:PHE:HA	1.90	0.53
1:1:3480:C:H2'	1:1:3481:U:O4'	2.09	0.53
5:5:154:LEU:HD13	5:5:223:PHE:HD2	1.73	0.53
10:D:198:GLY:O	10:D:499:GLN:NE2	2.41	0.53
14:H:24:ARG:HE	14:H:40:ARG:HA	1.73	0.53
4:4:107:TYR:HB3	12:F:17:GLU:HG3	1.90	0.53
11:E:52:LEU:O	11:E:75:GLN:NE2	2.42	0.53
11:E:79:THR:HG22	11:E:97:ASN:HA	1.89	0.53
34:o:140:ARG:HA	34:o:140:ARG:HH11	1.73	0.53
4:4:58:PRO:HA	4:4:61:GLN:HG2	1.91	0.53
5:5:141:GLY:HA2	5:5:171:TRP:CH2	2.44	0.53
20:O:51:ASN:ND2	20:O:137:CYS:SG	2.79	0.53
36:t:91:PHE:CD1	36:t:145:PRO:HB3	2.43	0.53
1:1:138:U:N3	29:h:70:GLU:OE1	2.42	0.53
2:2:59:G:O2'	2:2:60:A:O5'	2.27	0.53
13:G:171:LYS:HE2	13:G:177:TYR:HE1	1.73	0.53
19:N:145:ASP:HB3	19:N:148:ILE:HG22	1.91	0.53
1:1:1418:U:OP1	9:C:140:ARG:NH2	2.42	0.53
37:u:36:CYS:O	37:u:40:PHE:N	2.39	0.53
1:1:443:C:H2'	1:1:444:A:C8	2.43	0.52
6:6:92:G:H1	34:o:111:ARG:NH2	2.07	0.52
12:F:97:ARG:HD3	12:F:140:TYR:CD1	2.44	0.52
39:x:233:ILE:HD11	39:x:242:PHE:HD2	1.74	0.52
18:M:48:ARG:HH12	18:M:70:ARG:HA	1.74	0.52
19:N:104:GLU:O	19:N:108:ARG:HG3	2.08	0.52
36:t:126:ASN:HD21	36:t:128:ALA:HB3	1.74	0.52
5:5:169:GLU:HG3	5:5:172:ARG:HH12	1.74	0.52
5:5:232:GLY:HA2	5:5:256:LEU:HG	1.91	0.52
5:5:300:SER:HB2	5:5:338:SER:HA	1.91	0.52
8:B:89:VAL:HA	8:B:160:VAL:HA	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:C:288:ASP:OD2	9:C:291:ARG:HB2	2.10	0.52
16:K:134:ARG:HH12	16:K:161:LYS:HE2	1.74	0.52
23:S:65:GLU:HB2	23:S:97:THR:HG23	1.92	0.52
34:o:223:LEU:HG	34:o:227:HIS:CE1	2.43	0.52
34:o:233:LEU:HA	34:o:236:ARG:HH12	1.74	0.52
1:1:545:A:N6	1:1:547:G:N3	2.58	0.52
1:1:1003:G:H2'	1:1:1004:A:H8	1.74	0.52
10:D:506:LEU:HB3	10:D:509:ILE:HB	1.90	0.52
11:E:97:ASN:HB3	11:E:100:TYR:HD1	1.74	0.52
12:F:240:GLU:O	12:F:243:ASN:ND2	2.42	0.52
1:1:379:G:H4'	1:1:404:A:N1	2.25	0.52
5:5:15:ILE:HG13	5:5:33:ILE:HG12	1.90	0.52
6:6:12:A:H1'	6:6:43:G:N2	2.24	0.52
9:C:228:GLU:OE1	9:C:248:ARG:NH1	2.40	0.52
12:F:117:GLN:OE1	12:F:213:LYS:NZ	2.42	0.52
13:G:110:VAL:HG22	32:m:238:LEU:HD22	1.92	0.52
16:K:63:ILE:HD12	16:K:228:ILE:HD11	1.92	0.52
19:N:44:ARG:NH1	19:N:120:TRP:O	2.42	0.52
1:1:3395:G:O2'	1:1:3396:A:O5'	2.25	0.52
2:2:162:C:H2'	2:2:163:A:C8	2.45	0.52
3:3:114:ARG:NH2	27:e:112:LEU:O	2.43	0.52
6:6:2:C:N4	13:G:85:ASN:OD1	2.41	0.52
8:B:46:PHE:N	8:B:338:LEU:O	2.40	0.52
34:o:228:ASN:O	34:o:232:LYS:HG3	2.09	0.52
1:1:442:U:H2'	1:1:443:C:H6	1.75	0.52
1:1:480:G:H5'	3:3:81:LYS:HB2	1.91	0.52
8:B:80:GLU:HA	8:B:321:PHE:HA	1.92	0.52
11:E:152:GLU:OE2	11:E:152:GLU:N	2.26	0.52
14:H:25:ASN:OD1	14:H:38:ASN:ND2	2.36	0.52
30:i:43:ARG:NH2	30:i:47:GLY:O	2.41	0.52
2:2:111:G:OP2	2:2:113:A:O2'	2.26	0.52
30:i:11:LYS:HG2	30:i:12:GLY:N	2.24	0.52
36:t:88:LYS:O	36:t:88:LYS:HG2	2.10	0.52
39:x:71:ASP:OD1	39:x:73:GLU:N	2.43	0.52
1:1:88:A:H61	1:1:98:G:H1'	1.75	0.52
12:F:81:ASN:OD1	12:F:82:TYR:N	2.43	0.52
25:Y:2:LYS:HD3	25:Y:7:VAL:HG23	1.91	0.52
11:E:173:ASN:OD1	18:M:115:ARG:NH1	2.43	0.52
24:V:28:ALA:HB3	37:u:24:ASN:HA	1.92	0.52
24:V:28:ALA:H	24:V:102:GLY:H	1.58	0.52
16:K:242:LYS:NZ	16:K:243:THR:O	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:172:ARG:HG3	19:N:174:ILE:HG12	1.92	0.51
20:O:133:GLY:O	20:O:135:LYS:NZ	2.42	0.51
5:5:199:THR:HG21	5:5:256:LEU:O	2.10	0.51
5:5:258:HIS:NE2	5:5:301:ILE:HD12	2.25	0.51
7:A:266:TYR:HD2	17:L:68:LYS:HZ3	1.58	0.51
8:B:84:MET:O	8:B:203:VAL:N	2.42	0.51
11:E:189:ARG:HB3	11:E:191:HIS:CE1	2.45	0.51
1:1:458:G:H22	1:1:494:A:H2	1.59	0.51
1:1:3402:U:O2	1:1:3415:U:N3	2.44	0.51
16:K:168:VAL:HG13	16:K:181:GLU:HB3	1.91	0.51
23:S:29:PHE:HD2	23:S:99:VAL:HG23	1.75	0.51
1:1:633:A:H5'	9:C:325:ALA:HB3	1.91	0.51
1:1:3490:A:H4'	1:1:3491:A:C8	2.42	0.51
6:6:102:G:H21	6:6:184:C:H41	1.58	0.51
8:B:59:ASP:N	8:B:355:SER:O	2.43	0.51
13:G:183:LYS:HD3	13:G:194:THR:HG23	1.93	0.51
1:1:75:U:H5"	17:L:58:VAL:HB	1.91	0.51
1:1:635:G:C8	9:C:315:VAL:HG11	2.45	0.51
1:1:1003:G:H2'	1:1:1004:A:C8	2.45	0.51
3:3:143:ARG:O	3:3:147:ARG:HG2	2.10	0.51
1:1:18:G:OP1	29:h:83:ARG:NH1	2.38	0.51
11:E:139:PHE:HE1	39:x:127:ARG:HA	1.75	0.51
20:O:183:LYS:O	20:O:189:ASN:ND2	2.36	0.51
24:V:120:VAL:HA	24:V:125:ALA:HA	1.91	0.51
1:1:494:A:H5"	3:3:123:ARG:CZ	2.41	0.51
1:1:984:A:H2'	1:1:985:G:O4'	2.10	0.51
1:1:3369:A:H4'	1:1:3370:U:H5'	1.92	0.51
3:3:93:ILE:O	3:3:97:LEU:HB2	2.11	0.51
1:1:401:U:O3'	25:Y:86:ARG:NH2	2.43	0.51
1:1:1176:G:H5'	27:e:43:PHE:CE1	2.45	0.51
6:6:11:C:H3'	6:6:12:A:C8	2.41	0.51
23:S:7:GLN:HB2	23:S:63:ILE:HD11	1.91	0.51
23:S:20:VAL:HG23	23:S:20:VAL:O	2.11	0.51
1:1:548:U:H2'	1:1:549:G:H8	1.76	0.51
1:1:1425:C:C2	27:e:100:ARG:HG3	2.46	0.50
2:2:45:A:H5"	2:2:47:G:O4'	2.11	0.50
5:5:319:ILE:HG22	5:5:327:LEU:HB2	1.93	0.50
6:6:182:C:O2	6:6:186:U:O2'	2.27	0.50
12:F:115:LEU:HD21	12:F:122:ILE:HG12	1.93	0.50
18:M:45:GLU:H	18:M:45:GLU:CD	2.18	0.50
20:O:5:GLN:NE2	20:O:8:VAL:HG12	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:S:89:MET:HE1	23:S:113:HIS:CD2	2.47	0.50
36:t:117:ILE:HG12	36:t:118:ASN:OD1	2.11	0.50
37:u:5:THR:HA	37:u:12:PRO:HA	1.93	0.50
1:1:2445:A:H2'	1:1:2446:A:C8	2.46	0.50
1:1:3473:A:H2'	1:1:3474:U:C6	2.46	0.50
5:5:1:MET:HE1	5:5:19:LYS:HB2	1.93	0.50
5:5:22:ASP:O	5:5:28:SER:OG	2.30	0.50
5:5:130:LEU:HD11	5:5:145:ALA:HB1	1.93	0.50
6:6:189:U:H4'	36:t:107:LYS:HZ1	1.77	0.50
7:A:143:LYS:NZ	15:J:174:MET:O	2.35	0.50
9:C:301:ILE:HD11	22:Q:133:PRO:HB2	1.94	0.50
12:F:16:PRO:HD2	12:F:19:LEU:HD23	1.93	0.50
30:i:66:ARG:NH2	32:m:107:SER:OG	2.45	0.50
1:1:161:C:H5"	1:1:162:A:H2'	1.94	0.50
1:1:3402:U:O2'	1:1:3423:A:H5"	2.11	0.50
6:6:92:G:H1	34:o:111:ARG:CZ	2.25	0.50
7:A:56:ARG:HB3	7:A:129:LEU:HD13	1.94	0.50
36:t:71:LEU:HD21	36:t:104:LYS:HD2	1.93	0.50
36:t:92:VAL:HG23	36:t:114:LEU:HD21	1.92	0.50
1:1:582:G:OP1	18:M:76:LYS:NZ	2.44	0.50
7:A:266:TYR:HD2	17:L:68:LYS:NZ	2.09	0.50
10:D:413:PRO:HG2	10:D:504:TYR:HE2	1.76	0.50
1:1:174:U:H5"	17:L:128:ARG:NH2	2.26	0.50
1:1:216:A:H4'	1:1:218:A:N7	2.27	0.50
1:1:3414:U:O3'	8:B:173:GLN:HA	2.12	0.50
8:B:90:VAL:N	8:B:159:ARG:O	2.42	0.50
23:S:12:LYS:HA	23:S:55:GLY:HA2	1.93	0.50
1:1:3416:A:N6	8:B:120:LYS:O	2.45	0.50
5:5:80:TRP:HB3	5:5:114:ARG:NH2	2.27	0.50
21:P:82:ARG:HG3	21:P:83:TRP:N	2.26	0.50
1:1:1225:G:HO2'	1:1:1350:G:HO2'	1.56	0.50
6:6:62:U:H5'	34:o:210:GLN:O	2.11	0.50
7:A:166:GLU:O	7:A:170:GLN:HG3	2.12	0.50
1:1:685:A:N1	1:1:973:G:O2'	2.44	0.49
8:B:51:ALA:N	8:B:78:VAL:O	2.45	0.49
10:D:257:MET:HE3	10:D:257:MET:HA	1.94	0.49
27:e:31:LYS:HD2	27:e:32:PRO:HD2	1.94	0.49
6:6:180:A:H4'	34:o:200:ARG:HH12	1.77	0.49
8:B:214:MET:HA	8:B:281:LYS:HA	1.94	0.49
13:G:183:LYS:HD3	13:G:194:THR:CG2	2.42	0.49
23:S:41:TRP:HB3	23:S:52:LYS:HD3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:o:158:VAL:O	34:o:162:VAL:HG23	2.12	0.49
36:t:133:LEU:HD11	36:t:142:TYR:HB3	1.95	0.49
1:1:1424:A:N6	1:1:1452:A:O2'	2.43	0.49
1:1:3225:A:N6	1:1:3227:U:O2	2.45	0.49
1:1:455:G:H2'	1:1:456:G:C8	2.46	0.49
1:1:1205:G:N2	20:O:88:MET:HE2	2.28	0.49
1:1:3282:G:H1	1:1:3305:C:N4	2.09	0.49
2:2:66:G:O6	31:j:63:ARG:NH1	2.46	0.49
7:A:277:GLN:N	7:A:277:GLN:OE1	2.44	0.49
8:B:91:GLY:N	8:B:103:THR:O	2.44	0.49
40:y:15:VAL:O	40:y:60:GLY:N	2.45	0.49
1:1:445:G:H1	1:1:647:A:N6	2.09	0.49
1:1:518:U:H2'	1:1:519:U:C6	2.47	0.49
1:1:715:U:H4'	1:1:716:G:H4'	1.94	0.49
2:2:59:G:O2'	2:2:60:A:N3	2.35	0.49
12:F:130:ILE:O	12:F:133:MET:HE3	2.13	0.49
13:G:133:LYS:HD2	13:G:138:HIS:HE1	1.76	0.49
18:M:116:LEU:HD12	20:O:192:LEU:HB2	1.95	0.49
29:h:25:GLN:HA	29:h:28:ALA:HB3	1.95	0.49
30:i:44:GLU:OE1	32:m:204:ASP:HA	2.12	0.49
1:1:25:U:O2'	1:1:27:C:N4	2.35	0.49
1:1:342:A:OP1	38:v:18:THR:OG1	2.29	0.49
1:1:848:A:OP2	31:j:28:HIS:NE2	2.42	0.49
3:3:113:THR:O	3:3:117:GLN:HG3	2.12	0.49
13:G:146:LYS:NZ	13:G:173:MET:O	2.45	0.49
1:1:1010:A:H5"	1:1:1011:G:H3'	1.94	0.49
6:6:96:U:O2	34:o:181:ILE:HD12	2.12	0.49
6:6:188:G:H1'	36:t:107:LYS:NZ	2.27	0.49
16:K:152:ARG:C	16:K:154:LEU:H	2.20	0.49
1:1:244:G:H2'	1:1:245:A:O4'	2.13	0.49
7:A:125:HIS:HB2	7:A:230:ILE:HD11	1.94	0.49
23:S:116:ARG:O	23:S:120:ILE:HG12	2.13	0.49
6:6:181:C:H2'	36:t:68:ARG:HH12	1.76	0.49
7:A:155:PHE:HA	7:A:161:LEU:HB3	1.95	0.49
39:x:198:LEU:HD13	39:x:219:PHE:CE1	2.48	0.49
1:1:3284:G:H2'	1:1:3285:G:C8	2.48	0.49
4:4:194:HIS:HB3	22:Q:79:ASN:HD22	1.78	0.49
6:6:8:U:H3	16:K:92:LYS:HB2	1.78	0.49
6:6:9:C:H5"	16:K:145:ARG:HG3	1.94	0.49
8:B:51:ALA:H	8:B:79:ILE:HA	1.78	0.49
23:S:105:MET:HE1	23:S:120:ILE:HG21	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:305:A:C8	30:i:29:GLY:HA2	2.41	0.48
1:1:595:U:H2'	1:1:596:A:C8	2.47	0.48
1:1:3234:C:H2'	1:1:3235:A:H8	1.77	0.48
1:1:3489:C:H3'	1:1:3491:A:H5"	1.95	0.48
2:2:57:G:C4	2:2:58:C:H1'	2.47	0.48
4:4:7:PHE:HA	4:4:10:LYS:HE2	1.94	0.48
4:4:45:TRP:HB3	4:4:90:THR:HG21	1.95	0.48
12:F:54:ARG:NH1	12:F:184:SER:O	2.46	0.48
7:A:166:GLU:HA	7:A:169:GLN:NE2	2.28	0.48
9:C:292:LEU:O	9:C:295:SER:OG	2.29	0.48
20:O:5:GLN:N	20:O:5:GLN:OE1	2.46	0.48
33:n:258:ALA:HB1	33:n:261:ALA:HB3	1.94	0.48
1:1:73:C:H5'	30:i:15:LEU:HD11	1.95	0.48
1:1:116:A:OP2	19:N:2:GLY:N	2.46	0.48
1:1:353:G:O2'	2:2:33:G:N3	2.45	0.48
1:1:1360:C:H4'	28:f:20:SER:HB3	1.95	0.48
18:M:102:ARG:HA	18:M:105:LEU:HD11	1.95	0.48
1:1:1225:G:O2'	1:1:1350:G:O2'	2.25	0.48
1:1:3431:A:O2'	8:B:366:GLY:HA2	2.14	0.48
6:6:106:A:C4'	6:6:188:G:H5'	2.39	0.48
9:C:147:ILE:HD12	9:C:152:LEU:HD22	1.95	0.48
9:C:194:GLY:O	9:C:199:ARG:HB2	2.13	0.48
12:F:172:ASP:OD1	12:F:174:ALA:N	2.41	0.48
16:K:215:GLU:HA	16:K:218:GLU:HG3	1.95	0.48
39:x:250:ARG:HG2	39:x:250:ARG:HH11	1.77	0.48
1:1:243:C:H2'	1:1:244:G:H5"	1.95	0.48
16:K:80:VAL:HG12	16:K:204:GLY:HA2	1.96	0.48
1:1:361:G:OP2	38:v:11:ARG:NH1	2.46	0.48
3:3:180:ASN:OD1	3:3:181:VAL:N	2.46	0.48
5:5:299:SER:H	5:5:312:GLY:HA2	1.78	0.48
16:K:231:ASP:OD1	16:K:231:ASP:N	2.37	0.48
34:o:139:ASN:ND2	34:o:142:THR:HG22	2.27	0.48
36:t:128:ALA:HA	36:t:131:GLN:HE22	1.78	0.48
1:1:19:U:H2'	1:1:20:A:C8	2.49	0.48
1:1:223:G:OP1	25:Y:15:ARG:NH1	2.44	0.48
3:3:159:LYS:NZ	21:P:105:LYS:O	2.45	0.48
6:6:188:G:O3'	36:t:107:LYS:NZ	2.46	0.48
16:K:219:SER:O	16:K:222:GLN:NE2	2.46	0.48
34:o:113:PRO:HG3	34:o:171:LEU:HG	1.94	0.48
1:1:452:C:OP1	11:E:27:TYR:OH	2.25	0.48
1:1:460:G:H1'	1:1:461:A:OP1	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:B:296:THR:H	8:B:300:ALA:H	1.61	0.48
9:C:153:VAL:HG22	9:C:252:TRP:HB2	1.95	0.48
9:C:319:ASN:HD22	9:C:322:LYS:HE2	1.79	0.48
20:O:122:PRO:HA	20:O:125:LEU:HD12	1.94	0.48
22:Q:57:ASN:C	22:Q:59:PRO:HD3	2.38	0.48
31:j:17:THR:HG22	31:j:18:ILE:H	1.78	0.48
30:i:85:ILE:O	30:i:89:THR:OG1	2.29	0.48
1:1:385:A:H1'	1:1:400:G:N2	2.28	0.48
1:1:765:G:H2'	1:1:766:G:H8	1.78	0.48
1:1:1423:G:OP2	27:e:101:LYS:HE2	2.14	0.48
5:5:228:ILE:HD12	5:5:256:LEU:HB3	1.96	0.48
5:5:332:ILE:O	5:5:334:ALA:N	2.44	0.48
7:A:81:ASP:OD1	7:A:81:ASP:N	2.41	0.48
20:O:51:ASN:HD22	20:O:142:LEU:HD22	1.77	0.48
34:o:107:LEU:HD12	34:o:107:LEU:HA	1.75	0.48
40:y:3:LEU:O	40:y:206:ALA:N	2.47	0.48
1:1:449:U:H4'	1:1:450:A:OP1	2.14	0.47
1:1:1396:G:H2'	1:1:1397:A:C8	2.49	0.47
3:3:62:LEU:HB3	3:3:80:ILE:HG12	1.96	0.47
6:6:93:A:OP1	16:K:126:SER:OG	2.31	0.47
7:A:253:MET:O	7:A:257:ALA:N	2.47	0.47
13:G:133:LYS:HB3	13:G:138:HIS:CE1	2.49	0.47
21:P:112:LEU:HD23	21:P:112:LEU:HA	1.75	0.47
40:y:6:GLN:HA	40:y:208:LEU:HA	1.95	0.47
1:1:3433:U:H3	1:1:3472:G:H1	1.61	0.47
7:A:121:THR:HB	7:A:233:LEU:HB2	1.96	0.47
12:F:228:HIS:CE1	12:F:230:ILE:HG12	2.49	0.47
12:F:228:HIS:ND1	12:F:230:ILE:HG12	2.29	0.47
19:N:5:LYS:HG2	30:i:38:VAL:HG11	1.95	0.47
25:Y:79:LEU:O	25:Y:97:GLY:HA2	2.14	0.47
1:1:3146:U:O3'	37:u:17:HIS:HA	2.14	0.47
4:4:23:LEU:HD11	4:4:51:CYS:SG	2.53	0.47
6:6:181:C:H2'	36:t:68:ARG:NH1	2.28	0.47
16:K:89:LEU:HD12	16:K:111:VAL:HG11	1.96	0.47
20:O:40:GLU:OE2	20:O:41:GLU:HG2	2.13	0.47
1:1:459:A:C6	1:1:460:G:C6	3.02	0.47
1:1:3111:C:H2'	1:1:3112:A:H8	1.80	0.47
2:2:114:C:H4'	2:2:115:G:H5"	1.97	0.47
6:6:82:A:H1'	6:6:83:A:H5'	1.97	0.47
6:6:97:C:H5	34:o:187:HIS:ND1	2.13	0.47
8:B:42:HIS:O	8:B:184:ASN:N	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:122:ASN:OD1	19:N:123:GLN:N	2.48	0.47
27:e:16:ARG:HB2	27:e:28:SER:O	2.14	0.47
38:v:139:ARG:O	38:v:143:GLU:HG2	2.14	0.47
2:2:99:C:H2'	2:2:100:A:C8	2.49	0.47
23:S:32:ASN:OD1	23:S:35:VAL:HG23	2.13	0.47
25:Y:75:LYS:HD2	25:Y:75:LYS:O	2.14	0.47
1:1:1388:G:OP2	3:3:41:GLN:HG3	2.14	0.47
1:1:3269:A:P	1:1:3272:U:H3	2.37	0.47
20:O:111:PRO:N	20:O:112:PRO:HD2	2.30	0.47
1:1:445:G:H22	1:1:647:A:N6	2.12	0.47
1:1:1418:U:P	9:C:140:ARG:HH22	2.38	0.47
1:1:3475:U:H4'	1:1:3477:A:N6	2.30	0.47
5:5:11:GLN:NE2	39:x:73:GLU:OE2	2.46	0.47
16:K:240:HIS:HA	16:K:250:PRO:HA	1.96	0.47
34:o:221:ASP:HA	34:o:224:ILE:HD12	1.96	0.47
1:1:312:G:OP1	7:A:105:ARG:HG2	2.15	0.47
1:1:591:G:C2	1:1:593:A:H1'	2.50	0.47
1:1:698:U:O4	22:Q:55:LYS:NZ	2.32	0.47
7:A:82:ARG:HE	7:A:84:TYR:HB3	1.80	0.47
18:M:45:GLU:OE2	18:M:45:GLU:N	2.29	0.47
39:x:152:ASN:HB3	39:x:160:ALA:HB3	1.97	0.47
1:1:727:C:OP1	17:L:65:TYR:OH	2.30	0.47
8:B:57:VAL:N	8:B:358:TRP:O	2.48	0.47
17:L:59:LYS:HZ3	30:i:11:LYS:HB3	1.80	0.47
36:t:58:ILE:O	36:t:62:ARG:HG2	2.15	0.47
39:x:111:PHE:CD1	39:x:179:LEU:HD21	2.49	0.47
1:1:454:G:H2'	1:1:455:G:C8	2.49	0.47
1:1:526:G:O5'	9:C:342:LYS:NZ	2.43	0.47
1:1:1397:A:H2'	1:1:1398:C:O4'	2.15	0.47
4:4:166:THR:HG21	4:4:207:ASP:OD1	2.15	0.47
5:5:205:GLU:HB3	5:5:224:HIS:HB2	1.97	0.47
7:A:124:PHE:CG	7:A:227:MET:HE1	2.50	0.47
9:C:177:TYR:CE2	9:C:181:ILE:HD11	2.50	0.47
17:L:104:ARG:HA	30:i:20:LEU:HD11	1.96	0.47
23:S:78:ILE:HD12	23:S:120:ILE:HG23	1.97	0.47
29:h:49:THR:HA	29:h:52:ASP:HB2	1.97	0.47
34:o:225:THR:O	34:o:229:ARG:N	2.36	0.47
36:t:109:LEU:HA	36:t:114:LEU:HB2	1.97	0.47
1:1:3272:U:H3'	1:1:3273:A:H5'	1.97	0.46
5:5:138:ARG:HH22	5:5:206:ASP:HB3	1.80	0.46
6:6:87:A:H4'	16:K:54:TRP:CZ2	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:142:LEU:HD11	15:J:172:ALA:HB3	1.97	0.46
9:C:165:LYS:HA	9:C:165:LYS:HD3	1.66	0.46
23:S:78:ILE:HD11	23:S:109:MET:SD	2.55	0.46
27:e:17:HIS:ND1	27:e:47:ILE:HD11	2.30	0.46
1:1:592:U:H4'	9:C:348:THR:OG1	2.16	0.46
1:1:3314:U:N3	18:M:114:MET:HE1	2.29	0.46
5:5:197:TRP:HB3	5:5:230:HIS:HB3	1.97	0.46
6:6:8:U:H4'	6:6:9:C:C4'	2.45	0.46
8:B:79:ILE:O	8:B:322:VAL:N	2.48	0.46
39:x:164:VAL:HG12	39:x:171:SER:HB3	1.97	0.46
1:1:276:A:OP1	19:N:50:ARG:NH1	2.48	0.46
1:1:359:A:O2'	1:1:360:A:H5'	2.15	0.46
1:1:615:G:O2'	11:E:35:VAL:O	2.31	0.46
1:1:674:A:O2'	1:1:675:C:OP1	2.28	0.46
1:1:1007:C:HO2'	1:1:1008:U:H6	1.62	0.46
1:1:1455:A:H2'	1:1:1456:G:H8	1.80	0.46
3:3:159:LYS:O	3:3:163:LYS:HG2	2.15	0.46
7:A:74:ASP:OD1	7:A:75:SER:N	2.45	0.46
23:S:65:GLU:OE2	23:S:66:PRO:HD2	2.15	0.46
23:S:82:SER:H	23:S:85:GLY:HA2	1.80	0.46
27:e:102:ARG:HH22	27:e:118:ASN:ND2	2.14	0.46
29:h:5:THR:HA	29:h:8:LEU:HD12	1.96	0.46
1:1:402:U:O2'	1:1:404:A:N7	2.46	0.46
8:B:93:VAL:HA	8:B:156:SER:H	1.81	0.46
16:K:67:ARG:HG2	16:K:195:PRO:HD2	1.97	0.46
20:O:50:ARG:HG2	20:O:54:LYS:HE3	1.97	0.46
27:e:5:ASN:OD1	27:e:6:ILE:N	2.48	0.46
33:n:172:ILE:HA	33:n:375:ALA:HA	1.96	0.46
36:t:137:GLU:N	36:t:138:PRO:HD2	2.30	0.46
39:x:91:ARG:HH21	39:x:222:THR:HG23	1.79	0.46
40:y:14:GLY:O	40:y:60:GLY:HA3	2.16	0.46
1:1:3372:C:OP2	11:E:95:ARG:NE	2.35	0.46
6:6:189:U:C2	36:t:111:LEU:HD23	2.51	0.46
13:G:70:LYS:HG3	13:G:233:TRP:HB3	1.97	0.46
16:K:13:LEU:O	16:K:15:LYS:N	2.47	0.46
23:S:31:PRO:HG2	23:S:35:VAL:HG21	1.96	0.46
39:x:63:GLU:CD	39:x:63:GLU:H	2.24	0.46
2:2:11:A:H2'	2:2:12:C:O4'	2.15	0.46
6:6:188:G:OP2	36:t:104:LYS:NZ	2.47	0.46
16:K:151:PRO:HA	16:K:159:TYR:CE1	2.51	0.46
19:N:135:VAL:HG21	19:N:151:ILE:HG21	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:103:GLU:HG3	21:P:109:MET:CE	2.45	0.46
39:x:300:ASP:HB3	39:x:303:LYS:HB3	1.97	0.46
3:3:53:VAL:HG12	3:3:115:LEU:HD12	1.97	0.46
6:6:105:G:H22	6:6:179:U:H3	1.64	0.46
7:A:179:ARG:HD2	32:m:106:TYR:CE1	2.51	0.46
13:G:180:VAL:HG21	13:G:186:LEU:HD21	1.97	0.46
19:N:31:ARG:NH1	19:N:124:ASP:OD2	2.49	0.46
21:P:103:GLU:HG3	21:P:109:MET:HE2	1.98	0.46
25:Y:22:PRO:HG2	25:Y:25:VAL:HG23	1.97	0.46
29:h:56:ILE:O	29:h:60:ILE:HD12	2.15	0.46
34:o:125:PHE:HD1	34:o:151:ILE:HG21	1.80	0.46
1:1:3337:A:O2'	1:1:3338:A:OP1	2.26	0.46
8:B:294:ALA:HB2	8:B:305:ILE:HA	1.96	0.46
13:G:181:LYS:HA	13:G:181:LYS:HD2	1.78	0.46
16:K:107:LEU:HD21	16:K:179:LYS:HE3	1.98	0.46
19:N:58:GLY:O	19:N:136:ASP:N	2.45	0.46
20:O:59:LEU:HA	20:O:73:HIS:CD2	2.50	0.46
20:O:170:GLN:HA	20:O:170:GLN:OE1	2.16	0.46
34:o:132:LEU:HD21	34:o:154:GLU:HA	1.98	0.46
1:1:448:U:H4'	1:1:449:U:H5'	1.96	0.46
1:1:534:A:H62	1:1:593:A:H61	1.63	0.46
1:1:548:U:H2'	1:1:549:G:C8	2.50	0.46
1:1:3491:A:H2'	1:1:3492:G:C8	2.51	0.46
6:6:87:A:H4'	16:K:54:TRP:CE2	2.51	0.46
16:K:201:ILE:HG21	16:K:220:ILE:HG21	1.97	0.46
5:5:154:LEU:HB2	5:5:180:PHE:HB3	1.98	0.46
5:5:271:ALA:HB1	5:5:298:PRO:HG2	1.98	0.46
12:F:97:ARG:HD3	12:F:140:TYR:HD1	1.80	0.46
22:Q:13:SER:N	22:Q:52:PHE:O	2.50	0.46
36:t:89:LEU:HA	36:t:123:VAL:O	2.16	0.46
36:t:131:GLN:O	36:t:135:ILE:HG12	2.16	0.46
40:y:116:LEU:HA	40:y:138:PHE:N	2.31	0.46
5:5:111:LEU:HD23	5:5:111:LEU:HA	1.70	0.45
7:A:132:MET:HA	7:A:137:MET:SD	2.56	0.45
18:M:113:VAL:O	18:M:117:LYS:HG2	2.15	0.45
27:e:75:ASN:OD1	27:e:77:SER:OG	2.33	0.45
34:o:119:LYS:O	34:o:123:MET:HE3	2.15	0.45
5:5:103:MET:HE2	5:5:103:MET:HB3	1.88	0.45
7:A:125:HIS:N	7:A:228:THR:O	2.46	0.45
9:C:190:ARG:NE	9:C:199:ARG:O	2.39	0.45
10:D:246:ASP:N	10:D:246:ASP:OD1	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:55:LEU:O	16:K:201:ILE:N	2.44	0.45
1:1:447:C:H1'	1:1:505:G:N2	2.31	0.45
1:1:977:C:H2'	1:1:978:U:C6	2.50	0.45
25:Y:26:ARG:O	25:Y:30:MET:HG3	2.16	0.45
2:2:57:G:H1	2:2:62:A:N6	2.14	0.45
2:2:125:C:H2'	2:2:126:C:C6	2.51	0.45
4:4:190:ILE:HD13	4:4:203:PRO:HD3	1.98	0.45
10:D:401:ASP:OD1	10:D:401:ASP:N	2.48	0.45
12:F:227:LYS:HB2	12:F:233:GLY:HA3	1.97	0.45
28:f:51:CYS:HB3	28:f:69:TRP:CE3	2.52	0.45
1:1:189:G:H1	1:1:243:C:H5	1.65	0.45
1:1:3182:G:H4'	8:B:366:GLY:HA2	1.99	0.45
4:4:63:LYS:HB3	4:4:63:LYS:HE2	1.84	0.45
6:6:62:U:H5	34:o:223:LEU:HD21	1.81	0.45
9:C:159:GLN:HA	9:C:217:ILE:HB	1.97	0.45
25:Y:30:MET:HE2	25:Y:74:ARG:HG2	1.97	0.45
29:h:20:LEU:HB2	29:h:56:ILE:HG21	1.98	0.45
34:o:106:VAL:HG11	34:o:186:VAL:HG21	1.99	0.45
36:t:176:GLU:HA	36:t:185:ILE:HA	1.99	0.45
40:y:39:GLU:HA	40:y:43:GLY:HA3	1.99	0.45
1:1:29:C:O2	19:N:162:ARG:HG2	2.16	0.45
1:1:2455:U:H2'	1:1:2456:G:C8	2.52	0.45
7:A:178:ALA:O	7:A:181:SER:OG	2.28	0.45
8:B:60:LEU:O	8:B:69:LYS:N	2.46	0.45
17:L:32:LYS:O	17:L:36:ARG:HG3	2.17	0.45
18:M:115:ARG:O	18:M:119:GLN:HG2	2.17	0.45
20:O:126:ARG:HD2	20:O:136:TYR:CD2	2.52	0.45
28:f:9:TYR:CE1	28:f:100:ARG:HG2	2.51	0.45
1:1:264:G:C6	1:1:265:C:C4	3.04	0.45
1:1:3333:G:H1	1:1:3354:U:H3	1.62	0.45
2:2:151:U:H2'	2:2:152:G:O4'	2.17	0.45
11:E:109:ILE:HD11	11:E:174:MET:SD	2.57	0.45
12:F:130:ILE:HB	12:F:133:MET:CE	2.46	0.45
16:K:54:TRP:HA	16:K:54:TRP:CE3	2.52	0.45
17:L:51:VAL:HG13	17:L:52:GLU:HG2	1.99	0.45
17:L:80:LEU:HD11	17:L:97:VAL:HG22	1.98	0.45
22:Q:71:SER:O	22:Q:73:LYS:N	2.49	0.45
23:S:67:LYS:O	23:S:72:LYS:NZ	2.50	0.45
33:n:207:ALA:H	36:t:170:SER:HA	1.82	0.45
36:t:95:ILE:HD11	36:t:141:MET:HB2	1.99	0.45
2:2:59:G:C5	39:x:4:ILE:HD12	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:68:GLU:OE2	4:4:105:LYS:NZ	2.43	0.45
10:D:339:VAL:HG13	10:D:407:TRP:HB2	1.98	0.45
10:D:494:TYR:CE2	10:D:530:PRO:HD2	2.51	0.45
12:F:238:ARG:HB2	12:F:241:HIS:HB2	1.98	0.45
18:M:50:VAL:HG21	23:S:96:THR:HG21	1.98	0.45
25:Y:37:GLU:HA	25:Y:40:GLU:HG2	1.99	0.45
25:Y:112:LYS:HA	25:Y:115:LYS:HD2	1.98	0.45
34:o:229:ARG:HA	34:o:232:LYS:CE	2.46	0.45
1:1:680:C:H2'	1:1:681:A:C8	2.52	0.45
2:2:56:A:O2'	2:2:57:G:H8	2.00	0.45
8:B:86:VAL:HA	8:B:162:ALA:HA	1.98	0.45
27:e:116:VAL:HB	27:e:119:ALA:HB2	1.99	0.45
1:1:117:U:O2'	1:1:119:U:OP2	2.33	0.45
1:1:312:G:O3'	7:A:104:ARG:NH2	2.50	0.45
7:A:137:MET:HE3	7:A:222:GLY:HA3	1.98	0.45
10:D:338:LYS:HG2	10:D:405:VAL:HG12	1.99	0.45
17:L:46:ILE:HG21	17:L:49:ARG:HH21	1.81	0.45
32:m:102:ILE:C	32:m:104:ALA:H	2.25	0.45
1:1:1455:A:H2'	1:1:1456:G:C8	2.51	0.44
1:1:1482:U:H5'	21:P:65:GLY:O	2.17	0.44
1:1:3182:G:H4'	8:B:366:GLY:CA	2.46	0.44
2:2:71:G:O2'	29:h:51:LYS:NZ	2.48	0.44
5:5:49:LEU:HB3	5:5:56:PHE:HB2	1.99	0.44
7:A:59:HIS:CD2	7:A:131:THR:HB	2.52	0.44
16:K:5:GLU:HA	16:K:9:SER:HA	1.97	0.44
18:M:73:ILE:HD12	18:M:76:LYS:HD3	1.98	0.44
1:1:460:G:O2'	1:1:461:A:N3	2.50	0.44
3:3:88:LYS:O	3:3:92:GLN:HG3	2.18	0.44
9:C:134:PRO:HG3	9:C:150:VAL:HB	1.98	0.44
10:D:438:LEU:HD12	10:D:438:LEU:HA	1.81	0.44
16:K:73:LYS:HG2	16:K:190:TYR:HE2	1.82	0.44
28:f:44:PHE:CE1	28:f:108:ILE:HG13	2.48	0.44
30:i:57:GLU:HG3	30:i:58:LEU:N	2.32	0.44
34:o:124:TYR:HA	34:o:127:GLN:HE21	1.82	0.44
36:t:125:ASN:OD1	36:t:125:ASN:C	2.60	0.44
38:v:170:LEU:HB3	38:v:182:MET:HE3	1.98	0.44
1:1:220:A:O4'	25:Y:1:MET:HA	2.18	0.44
1:1:3203:C:H2'	1:1:3204:G:C8	2.52	0.44
2:2:46:U:H5'	29:h:80:LEU:HD13	2.00	0.44
4:4:179:LYS:HA	4:4:179:LYS:HD3	1.76	0.44
5:5:305:GLY:HA3	5:5:344:GLU:OE1	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:142:LEU:HD23	7:A:145:SER:HB3	1.99	0.44
18:M:86:LYS:O	18:M:89:SER:OG	2.23	0.44
23:S:81:ASP:HB3	23:S:119:SER:HB2	1.99	0.44
39:x:30:LYS:HA	39:x:30:LYS:HD2	1.79	0.44
1:1:341:G:OP2	38:v:9:LYS:NZ	2.50	0.44
1:1:1207:C:H2'	1:1:1208:G:N2	2.32	0.44
1:1:1325:A:H2'	1:1:1326:G:H8	1.82	0.44
1:1:3402:U:H4'	1:1:3423:A:H4'	1.98	0.44
2:2:10:A:H2'	2:2:11:A:C8	2.52	0.44
5:5:174:GLU:H	5:5:174:GLU:HG2	1.60	0.44
5:5:267:LEU:HD12	5:5:267:LEU:HA	1.78	0.44
8:B:48:GLY:C	8:B:336:LEU:H	2.24	0.44
12:F:93:VAL:O	12:F:121:GLY:HA2	2.16	0.44
34:o:111:ARG:HD2	34:o:177:GLN:CG	2.47	0.44
34:o:215:LEU:HD11	34:o:223:LEU:HD22	2.00	0.44
1:1:153:U:C4	13:G:157:VAL:HG13	2.52	0.44
4:4:42:LEU:HD12	7:A:290:LEU:HD21	2.00	0.44
7:A:273:LYS:HD2	7:A:276:ARG:HH12	1.82	0.44
12:F:89:LYS:HE2	12:F:198:VAL:HB	1.99	0.44
23:S:3:LEU:HD22	23:S:29:PHE:HB3	2.00	0.44
23:S:78:ILE:HD12	23:S:120:ILE:CG2	2.47	0.44
34:o:115:GLY:O	34:o:120:GLN:HG3	2.17	0.44
36:t:74:SER:HB2	36:t:134:ARG:HD2	2.00	0.44
36:t:94:ARG:HB2	36:t:114:LEU:HD12	2.00	0.44
36:t:126:ASN:OD1	36:t:127:LYS:N	2.51	0.44
38:v:159:LEU:HD23	38:v:159:LEU:HA	1.80	0.44
39:x:99:THR:HG23	39:x:127:ARG:HB2	1.99	0.44
40:y:52:THR:HA	40:y:57:ARG:HA	1.98	0.44
1:1:248:G:H2'	1:1:249:G:O4'	2.18	0.44
1:1:357:A:C4	2:2:32:G:H1'	2.53	0.44
1:1:504:A:N7	11:E:129:ARG:NH2	2.63	0.44
1:1:3489:C:H4'	1:1:3490:A:OP2	2.16	0.44
3:3:3:GLN:C	3:3:5:GLU:H	2.26	0.44
5:5:81:GLN:OE1	5:5:81:GLN:HA	2.18	0.44
16:K:170:ILE:HA	16:K:177:GLN:HE21	1.83	0.44
19:N:9:GLU:OE1	19:N:12:LYS:NZ	2.37	0.44
28:f:46:LEU:HD11	28:f:75:PRO:HD3	1.98	0.44
29:h:44:SER:O	29:h:48:THR:HG23	2.18	0.44
36:t:52:LYS:HD3	36:t:52:LYS:HA	1.81	0.44
1:1:233:C:H2'	1:1:234:G:O4'	2.17	0.44
1:1:305:A:C8	1:1:307:G:H1'	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:445:G:H8	1:1:445:G:OP2	2.01	0.44
1:1:1208:G:OP2	20:O:95:ARG:NH2	2.51	0.44
5:5:156:SER:OG	5:5:158:ASN:O	2.34	0.44
6:6:96:U:H4'	6:6:97:C:H5"	1.98	0.44
7:A:45:VAL:HG22	7:A:97:ASN:HB2	2.00	0.44
7:A:101:PHE:CE1	7:A:111:LEU:HD13	2.52	0.44
11:E:70:VAL:HG13	11:E:83:THR:C	2.43	0.44
25:Y:114:ARG:O	25:Y:118:ILE:N	2.47	0.44
36:t:91:PHE:CD2	36:t:120:ALA:HB1	2.53	0.44
39:x:36:GLU:HG2	39:x:42:LYS:HG3	1.98	0.44
1:1:547:G:O2'	1:1:576:U:O4	2.23	0.44
8:B:78:VAL:HA	8:B:323:MET:HA	1.99	0.44
9:C:321:LEU:O	9:C:324:LYS:NZ	2.42	0.44
10:D:119:SER:O	10:D:122:PRO:HD2	2.17	0.44
10:D:141:LEU:O	10:D:145:ILE:HG12	2.17	0.44
16:K:66:ASN:C	16:K:195:PRO:HD3	2.43	0.44
16:K:89:LEU:HD23	16:K:141:LEU:HB2	1.99	0.44
36:t:109:LEU:HD12	36:t:109:LEU:H	1.83	0.44
36:t:144:ILE:HG12	36:t:238:GLY:C	2.43	0.44
1:1:69:U:HO2'	1:1:101:G:HO2'	1.65	0.44
1:1:402:U:OP2	39:x:302:ARG:NH1	2.50	0.44
1:1:442:U:H2'	1:1:443:C:C6	2.52	0.44
1:1:1438:G:H5"	27:e:61:ARG:HG2	2.00	0.44
1:1:3328:U:O2'	1:1:3329:G:OP2	2.32	0.44
6:6:90:U:OP2	16:K:134:ARG:NH2	2.51	0.44
6:6:102:G:H21	6:6:184:C:N4	2.16	0.44
9:C:11:TYR:HE2	9:C:17:VAL:HG22	1.83	0.44
1:1:119:U:H5"	32:m:224:ARG:HG2	2.00	0.43
1:1:126:U:OP1	19:N:144:ARG:NH1	2.51	0.43
1:1:1385:U:H5'	1:1:1386:G:H2'	2.00	0.43
1:1:1387:A:O2'	1:1:1388:G:H5'	2.18	0.43
1:1:3203:C:H2'	1:1:3204:G:H8	1.82	0.43
6:6:52:A:H2'	6:6:53:A:H8	1.83	0.43
40:y:15:VAL:N	40:y:195:ALA:O	2.37	0.43
1:1:587:U:H2'	1:1:588:G:H8	1.82	0.43
12:F:116:LEU:HD23	12:F:116:LEU:HA	1.69	0.43
17:L:42:LYS:O	17:L:46:ILE:HG13	2.17	0.43
18:M:48:ARG:HG2	23:S:69:LEU:HD12	2.01	0.43
23:S:4:LYS:NZ	23:S:62:GLU:HB2	2.34	0.43
29:h:31:ARG:HA	29:h:31:ARG:HD3	1.80	0.43
39:x:115:LEU:HD23	39:x:115:LEU:HA	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:86:G:H1'	1:1:87:U:H5	1.83	0.43
1:1:421:C:OP1	21:P:30:ARG:NH2	2.50	0.43
1:1:3275:A:O2'	20:O:118:ARG:NH2	2.51	0.43
16:K:142:ALA:O	16:K:168:VAL:N	2.48	0.43
21:P:110:ASP:OD1	21:P:111:LYS:HG3	2.19	0.43
1:1:1142:U:O2'	1:1:1143:A:O5'	2.35	0.43
1:1:3431:A:H4'	8:B:367:HIS:N	2.28	0.43
4:4:198:LEU:O	4:4:202:LEU:HB2	2.17	0.43
5:5:11:GLN:HE21	5:5:13:LYS:HD2	1.83	0.43
9:C:101:MET:HE2	9:C:104:PRO:HA	2.00	0.43
20:O:111:PRO:HA	20:O:114:ASP:OD1	2.19	0.43
29:h:69:ARG:HG2	29:h:82:LEU:HD22	2.00	0.43
1:1:121:A:O2'	32:m:231:GLU:OE2	2.32	0.43
1:1:402:U:P	25:Y:86:ARG:HH22	2.42	0.43
3:3:110:GLN:HG2	11:E:29:PRO:O	2.18	0.43
18:M:13:VAL:HA	18:M:27:VAL:HA	2.01	0.43
21:P:50:ASN:HB3	21:P:55:LYS:HB2	2.00	0.43
25:Y:50:ARG:HD3	25:Y:114:ARG:NH1	2.32	0.43
31:j:58:THR:OG1	31:j:59:THR:N	2.51	0.43
34:o:111:ARG:HD2	34:o:177:GLN:HG2	2.01	0.43
34:o:227:HIS:O	34:o:231:LEU:N	2.50	0.43
1:1:85:A:H61	1:1:99:A:H3'	1.83	0.43
1:1:88:A:H2'	1:1:89:A:O4'	2.19	0.43
1:1:458:G:H1	1:1:494:A:H2	1.65	0.43
1:1:643:C:H2'	1:1:644:A:C8	2.54	0.43
1:1:771:C:O2'	22:Q:142:ARG:N	2.45	0.43
1:1:2447:C:O2'	1:1:2448:C:OP1	2.31	0.43
2:2:76:G:H2'	2:2:77:U:C6	2.53	0.43
12:F:98:GLY:O	12:F:102:ILE:HD11	2.18	0.43
17:L:122:HIS:HA	29:h:121:LYS:HE2	1.99	0.43
17:L:136:GLY:HA3	38:v:160:SER:HB3	2.01	0.43
39:x:174:PHE:CE1	39:x:274:LEU:HD13	2.54	0.43
1:1:406:U:H5'	21:P:3:ARG:HH12	1.83	0.43
3:3:117:GLN:HG2	11:E:26:LYS:HG2	2.00	0.43
6:6:188:G:H21	36:t:107:LYS:HG3	1.84	0.43
10:D:416:ASP:OD1	10:D:416:ASP:N	2.49	0.43
16:K:60:LEU:HD12	16:K:235:GLY:HA2	1.99	0.43
20:O:12:ALA:HB1	20:O:42:LEU:HG	2.00	0.43
1:1:3284:G:H2'	1:1:3285:G:H8	1.83	0.43
3:3:35:THR:O	27:e:85:HIS:NE2	2.50	0.43
3:3:182:ASN:OD1	3:3:182:ASN:N	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:124:PHE:CD1	7:A:227:MET:HE1	2.54	0.43
7:A:127:GLU:HG2	7:A:226:VAL:HB	2.00	0.43
1:1:271:C:OP1	32:m:217:SER:OG	2.25	0.43
1:1:531:A:N1	9:C:349:PRO:HD2	2.34	0.43
1:1:675:C:H2'	1:1:676:G:C8	2.53	0.43
1:1:838:A:H2'	1:1:839:A:C2	2.53	0.43
1:1:3272:U:H3'	1:1:3273:A:C5'	2.49	0.43
7:A:116:ALA:HB3	32:m:102:ILE:HG13	2.00	0.43
10:D:413:PRO:HG2	10:D:504:TYR:CE2	2.54	0.43
20:O:50:ARG:O	20:O:53:LEU:HG	2.19	0.43
25:Y:88:LYS:HE3	25:Y:90:ASN:HD21	1.83	0.43
29:h:29:SER:O	29:h:32:VAL:HG22	2.19	0.43
34:o:121:MET:HB3	34:o:134:LEU:HD11	2.00	0.43
34:o:233:LEU:HA	34:o:236:ARG:NH1	2.34	0.43
1:1:776:U:O4	1:1:777:C:N4	2.52	0.43
1:1:3282:G:H1	1:1:3305:C:H42	1.67	0.43
1:1:3486:U:H2'	1:1:3487:C:C6	2.54	0.43
4:4:54:MET:HE3	4:4:54:MET:HB3	1.93	0.43
5:5:206:ASP:OD1	5:5:206:ASP:N	2.52	0.43
5:5:318:ARG:HB3	5:5:320:PHE:CE2	2.54	0.43
6:6:10:U:H2'	6:6:11:C:C6	2.53	0.43
6:6:44:A:H2'	6:6:45:G:O4'	2.19	0.43
7:A:252:THR:HA	7:A:255:ARG:HE	1.84	0.43
10:D:341:VAL:HG13	10:D:409:VAL:HB	2.00	0.43
16:K:212:GLU:H	16:K:212:GLU:HG3	1.68	0.43
1:1:197:U:H2'	25:Y:59:ARG:HH22	1.84	0.42
1:1:497:C:H2'	1:1:498:U:O4'	2.19	0.42
1:1:1201:A:H2'	1:1:1202:G:O4'	2.19	0.42
3:3:114:ARG:HD2	3:3:114:ARG:HA	1.82	0.42
7:A:266:TYR:CE1	7:A:269:ARG:HD3	2.46	0.42
10:D:471:ASN:OD1	10:D:471:ASN:N	2.52	0.42
13:G:227[B]:ASP:O	13:G:230:ARG:HG2	2.18	0.42
16:K:49:ASP:OD1	16:K:49:ASP:N	2.49	0.42
23:S:89:MET:HE1	23:S:113:HIS:HD2	1.84	0.42
29:h:23:LEU:HD23	29:h:23:LEU:HA	1.79	0.42
33:n:359:PHE:HA	33:n:381:GLY:HA3	2.00	0.42
38:v:166:TYR:OH	38:v:189:ASN:OD1	2.30	0.42
1:1:830:G:H2'	1:1:831:G:O4'	2.20	0.42
5:5:58:ALA:HB2	5:5:95:MET:HE1	2.00	0.42
8:B:90:VAL:HA	8:B:104:THR:HA	2.01	0.42
10:D:158:PRO:O	10:D:211:GLY:HA3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:200:MET:HE3	16:K:200:MET:HB2	1.83	0.42
19:N:104:GLU:HA	19:N:160:GLU:HG3	2.00	0.42
21:P:159:LYS:HE2	21:P:159:LYS:HB2	1.69	0.42
27:e:76:VAL:O	27:e:79:VAL:HG22	2.19	0.42
30:i:15:LEU:HD23	30:i:15:LEU:HA	1.81	0.42
36:t:88:LYS:NZ	36:t:198:GLY:O	2.51	0.42
38:v:176:THR:HB	38:v:202:TYR:CE1	2.54	0.42
1:1:405:A:H5"	1:1:407:A:OP1	2.19	0.42
5:5:80:TRP:CZ3	5:5:114:ARG:HG2	2.54	0.42
7:A:113:ILE:HD12	7:A:124:PHE:HE2	1.83	0.42
7:A:243:TYR:CZ	7:A:245:ASN:HA	2.54	0.42
12:F:230:ILE:HG23	23:S:35:VAL:HG13	2.01	0.42
16:K:11:ALA:HA	16:K:252:TRP:HB2	2.02	0.42
17:L:122:HIS:CE1	30:i:3:PRO:HG3	2.54	0.42
19:N:16:SER:HB2	30:i:46:ALA:O	2.19	0.42
1:1:29:C:H4'	1:1:62:A:H4'	2.02	0.42
1:1:2447:C:H2'	1:1:2448:C:C6	2.53	0.42
1:1:3369:A:O2'	11:E:147:ASN:O	2.23	0.42
1:1:3401:A:C2	1:1:3416:A:H1'	2.54	0.42
4:4:37:GLU:OE1	4:4:37:GLU:N	2.29	0.42
7:A:72:LYS:HG2	7:A:93:TYR:HD2	1.85	0.42
11:E:171:ILE:HG13	11:E:172:PRO:HD2	2.00	0.42
13:G:109:LEU:HD13	32:m:234:ARG:HG2	2.01	0.42
13:G:162:LEU:HD11	19:N:45:PRO:HG3	2.00	0.42
17:L:42:LYS:HE3	17:L:51:VAL:HG22	2.00	0.42
31:j:51:ALA:O	31:j:55:ARG:HG3	2.19	0.42
34:o:107:LEU:N	34:o:151:ILE:O	2.39	0.42
39:x:71:ASP:OD1	39:x:71:ASP:C	2.62	0.42
39:x:165:HIS:HB3	39:x:169:GLY:HA3	2.01	0.42
1:1:3314:U:C2	18:M:114:MET:HE1	2.54	0.42
1:1:3428:G:N2	1:1:3481:U:H1'	2.34	0.42
4:4:87:PHE:CE1	4:4:91:MET:HE3	2.55	0.42
10:D:261:MET:HE3	10:D:261:MET:HA	2.02	0.42
10:D:315:TYR:HA	10:D:439:MET:HB3	2.02	0.42
21:P:119:VAL:HG22	21:P:146:ILE:HG12	2.02	0.42
36:t:109:LEU:HB3	36:t:114:LEU:O	2.19	0.42
38:v:192:LEU:HD12	38:v:192:LEU:HA	1.70	0.42
40:y:62:LEU:HA	40:y:103:ALA:HA	2.01	0.42
1:1:1015:A:H2	12:F:112:LEU:HD11	1.85	0.42
6:6:92:G:H4'	16:K:128:GLU:OE2	2.19	0.42
7:A:153:LYS:HE2	15:J:125:GLU:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:86:GLU:OE1	16:K:112:THR:OG1	2.36	0.42
21:P:57:ALA:HB2	21:P:83:TRP:CE2	2.55	0.42
34:o:215:LEU:HD13	34:o:219:LYS:HD3	2.02	0.42
39:x:173:TYR:HB3	39:x:276:MET:HB3	2.01	0.42
1:1:708:U:H5'	19:N:198:ARG:NE	2.35	0.42
1:1:3234:C:H2'	1:1:3235:A:C8	2.55	0.42
3:3:121:LYS:HB2	3:3:121:LYS:HE3	1.84	0.42
4:4:139:GLN:HA	4:4:142:MET:HG2	2.02	0.42
4:4:159:PHE:HB3	4:4:205:ARG:NE	2.34	0.42
5:5:133:VAL:HA	5:5:144:ALA:O	2.20	0.42
6:6:107:A:N6	6:6:176:U:O4	2.53	0.42
6:6:189:U:N3	36:t:111:LEU:HD23	2.34	0.42
9:C:211:PHE:HB3	9:C:217:ILE:HD13	2.01	0.42
14:H:26:VAL:HG23	14:H:37:GLN:HB3	2.02	0.42
16:K:191:PHE:CE2	16:K:199:PHE:HB2	2.55	0.42
17:L:60:PRO:HA	17:L:61:PRO:HD3	1.92	0.42
17:L:80:LEU:HB3	17:L:85:VAL:O	2.20	0.42
18:M:42:PRO:HG3	18:M:78:TRP:CD2	2.54	0.42
20:O:72:PHE:HB3	20:O:74:PHE:CE1	2.55	0.42
36:t:113:ARG:NH1	36:t:205:THR:O	2.52	0.42
1:1:177:G:C2	1:1:178:U:C2	3.08	0.42
1:1:204:G:N2	1:1:380:A:C8	2.88	0.42
1:1:1007:C:O2'	1:1:1008:U:H5'	2.19	0.42
9:C:289:VAL:HG13	22:Q:31:LEU:HB2	2.01	0.42
12:F:130:ILE:HB	12:F:133:MET:HE2	2.02	0.42
18:M:16:VAL:HA	18:M:56:VAL:HG12	2.00	0.42
20:O:55:TYR:HD1	20:O:55:TYR:HA	1.63	0.42
20:O:135:LYS:HA	20:O:135:LYS:HD3	1.82	0.42
30:i:74:ARG:HD3	30:i:74:ARG:HA	1.89	0.42
36:t:88:LYS:C	36:t:125:ASN:HB3	2.45	0.42
1:1:587:U:H2'	1:1:588:G:C8	2.55	0.42
1:1:620:C:O2	9:C:329:ARG:NH1	2.50	0.42
1:1:3277:A:H4'	20:O:162:LYS:HE3	2.01	0.42
5:5:272:ASP:OD1	5:5:272:ASP:N	2.53	0.42
5:5:277:ILE:HD13	5:5:310:ILE:HG12	2.02	0.42
7:A:124:PHE:HE1	7:A:229:ILE:HG12	1.84	0.42
9:C:160:SER:HA	9:C:215:THR:HG23	2.02	0.42
13:G:166:LEU:HD23	13:G:166:LEU:HA	1.92	0.42
27:e:29:TRP:CZ2	27:e:50:PRO:HD2	2.54	0.42
29:h:55:ARG:O	29:h:59:VAL:HG23	2.19	0.42
34:o:141:LYS:N	34:o:141:LYS:HD3	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:452:C:C4	1:1:453:U:C4	3.08	0.42
8:B:54:THR:O	8:B:76:VAL:N	2.33	0.42
8:B:215:ILE:O	8:B:280:SER:N	2.52	0.42
10:D:335:LEU:HD23	10:D:335:LEU:H	1.84	0.42
14:H:45:GLU:O	14:H:55:PHE:HA	2.19	0.42
19:N:36:ILE:HG12	19:N:64:ILE:HG13	2.02	0.42
19:N:124:ASP:OD1	19:N:124:ASP:N	2.50	0.42
36:t:76:LYS:HG3	36:t:77:ASN:ND2	2.35	0.42
40:y:109:ALA:HA	40:y:149:GLY:HA2	2.01	0.42
1:1:306:U:C5	30:i:30:HIS:HB2	2.55	0.41
3:3:86:TYR:HH	3:3:113:THR:HG1	1.58	0.41
16:K:73:LYS:HA	16:K:190:TYR:HE2	1.85	0.41
16:K:80:VAL:HG23	16:K:81:ILE:HD12	2.02	0.41
18:M:25:LEU:HG	18:M:78:TRP:HH2	1.85	0.41
18:M:43:CYS:HB3	18:M:45:GLU:OE1	2.20	0.41
19:N:5:LYS:HD2	30:i:34:ARG:HH21	1.85	0.41
25:Y:121:LYS:HE3	25:Y:121:LYS:HB3	1.85	0.41
1:1:534:A:H62	1:1:593:A:N6	2.19	0.41
1:1:3433:U:H2'	1:1:3434:G:O4'	2.20	0.41
2:2:73:A:H5"	29:h:5:THR:HG21	2.00	0.41
3:3:64:MET:HB2	3:3:64:MET:HE3	1.82	0.41
4:4:151:LEU:C	22:Q:131:ARG:HH12	2.26	0.41
6:6:9:C:H41	16:K:144:ASP:HB3	1.85	0.41
6:6:100:U:H3'	6:6:101:U:O4'	2.20	0.41
9:C:289:VAL:HA	9:C:292:LEU:HD12	2.02	0.41
18:M:30:ASP:OD1	18:M:31:ILE:N	2.52	0.41
29:h:27:LEU:O	29:h:31:ARG:HG2	2.20	0.41
34:o:122:ARG:O	34:o:126:SER:HB3	2.20	0.41
1:1:195:A:HO2'	1:1:214:U:HO2'	1.63	0.41
1:1:301:C:H2'	1:1:302:U:O4'	2.19	0.41
1:1:454:G:N2	1:1:498:U:O2	2.51	0.41
1:1:462:U:C6	3:3:81:LYS:HD2	2.55	0.41
1:1:1010:A:H4'	1:1:1011:G:O5'	2.20	0.41
1:1:3402:U:H2'	1:1:3403:U:H6	1.84	0.41
1:1:3424:A:H8	1:1:3424:A:OP2	2.03	0.41
1:1:3481:U:H2'	1:1:3482:U:C6	2.55	0.41
7:A:267:VAL:HG22	17:L:67:MET:HE2	2.02	0.41
8:B:215:ILE:N	8:B:280:SER:O	2.44	0.41
11:E:186:ASN:OD1	11:E:186:ASN:N	2.52	0.41
14:H:24:ARG:O	14:H:39:LEU:HB3	2.21	0.41
16:K:76:ILE:HG13	16:K:78:ASN:H	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:136:TYR:CD1	20:O:136:TYR:C	2.97	0.41
23:S:91:LYS:HG2	23:S:93:PHE:CZ	2.55	0.41
25:Y:4:SER:HB3	25:Y:7:VAL:HG22	2.03	0.41
25:Y:42:TYR:O	25:Y:44:ILE:HG13	2.20	0.41
1:1:388:U:OP1	39:x:46:ARG:NH1	2.44	0.41
1:1:723:C:H1'	38:v:65:GLY:HA3	2.02	0.41
1:1:3183:A:H5'	8:B:365:PHE:HA	2.02	0.41
1:1:3186:U:H2'	1:1:3187:A:C8	2.55	0.41
1:1:3313:G:C6	1:1:3314:U:C4	3.09	0.41
1:1:3476:A:C2	1:1:3479:C:H5'	2.55	0.41
6:6:181:C:O4'	34:o:200:ARG:NH1	2.53	0.41
7:A:79:SER:HB3	7:A:81:ASP:OD1	2.20	0.41
9:C:289:VAL:HG21	22:Q:27:LEU:HB3	2.01	0.41
14:H:39:LEU:HA	14:H:41:HIS:CE1	2.55	0.41
16:K:86:GLU:N	16:K:138:ASP:OD2	2.36	0.41
16:K:170:ILE:O	16:K:170:ILE:HG13	2.19	0.41
18:M:42:PRO:HG3	18:M:78:TRP:CG	2.55	0.41
32:m:222:LYS:HE2	38:v:192:LEU:HG	2.02	0.41
1:1:59:G:H4'	1:1:60:A:H4'	2.02	0.41
1:1:281:A:O3'	7:A:75:SER:HB2	2.20	0.41
1:1:361:G:O2'	1:1:372:G:O6	2.34	0.41
1:1:511:C:H2'	1:1:512:A:C8	2.55	0.41
1:1:723:C:H1'	38:v:65:GLY:H	1.86	0.41
1:1:3358:U:O2'	1:1:3360:G:OP1	2.28	0.41
3:3:113:THR:HG23	11:E:26:LYS:HA	2.02	0.41
4:4:197:VAL:O	4:4:201:THR:HG22	2.20	0.41
6:6:82:A:C4	6:6:83:A:C8	3.09	0.41
6:6:188:G:H1'	36:t:107:LYS:CE	2.50	0.41
19:N:143:ARG:NH2	29:h:93:ALA:O	2.54	0.41
30:i:65:LYS:HE2	30:i:65:LYS:HB3	1.93	0.41
36:t:69:ILE:HD13	36:t:69:ILE:HA	1.87	0.41
36:t:161:LYS:H	36:t:208:LEU:C	2.29	0.41
39:x:199:ILE:HG13	39:x:232:THR:HG23	2.03	0.41
1:1:451:C:H2'	1:1:452:C:O4'	2.21	0.41
1:1:462:U:C4	3:3:84:LYS:HG3	2.56	0.41
1:1:1428:A:H4'	1:1:1454:C:H4'	2.02	0.41
1:1:3401:A:H2	1:1:3416:A:H1'	1.85	0.41
5:5:39:LEU:HD12	5:5:39:LEU:HA	1.95	0.41
5:5:95:MET:HA	5:5:103:MET:O	2.21	0.41
23:S:25:ARG:HH22	23:S:27:ARG:HD2	1.86	0.41
1:1:85:A:N1	1:1:99:A:H5"	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:382:A:N3	1:1:384:G:H5”	2.35	0.41
1:1:3208:G:O2’	14:H:69:ARG:NH2	2.53	0.41
1:1:3420:U:H3’	1:1:3421:G:C5’	2.51	0.41
5:5:346:ASP:OD1	5:5:347:ALA:N	2.46	0.41
9:C:347:LYS:HD2	9:C:349:PRO:HG3	2.02	0.41
18:M:111:PHE:O	18:M:114:MET:HB3	2.21	0.41
18:M:123:GLN:H	18:M:123:GLN:HG3	1.61	0.41
25:Y:102:LYS:HD3	25:Y:102:LYS:HA	1.84	0.41
34:o:116:PHE:O	34:o:121:MET:HE2	2.20	0.41
39:x:107:LYS:HD3	39:x:107:LYS:HA	1.87	0.41
39:x:161:LEU:HB3	39:x:176:LEU:HD21	2.03	0.41
40:y:7:PHE:H	40:y:208:LEU:CB	2.34	0.41
40:y:151:TYR:HA	40:y:192:VAL:HA	2.03	0.41
1:1:717:A:H5”	1:1:719:A:C5	2.55	0.41
1:1:764:U:H2’	1:1:765:G:O4’	2.20	0.41
7:A:61:LEU:HD12	7:A:101:PHE:CD2	2.56	0.41
7:A:242:ILE:O	15:J:95:ASN:N	2.54	0.41
10:D:151:LEU:HB3	10:D:190:GLN:HG2	2.03	0.41
10:D:204:GLU:OE1	10:D:221:ARG:NH1	2.54	0.41
10:D:484:TYR:OH	10:D:488:GLN:NE2	2.40	0.41
12:F:131:LYS:HA	12:F:131:LYS:HD2	1.84	0.41
16:K:259:GLU:H	16:K:259:GLU:CD	2.21	0.41
20:O:155:ALA:O	20:O:159:GLU:HG2	2.20	0.41
21:P:42:LYS:NZ	21:P:109:MET:O	2.48	0.41
29:h:25:GLN:O	29:h:29:SER:N	2.30	0.41
38:v:157:LEU:HD23	38:v:157:LEU:HA	1.91	0.41
1:1:66:A:H3’	1:1:324:U:H5”	2.03	0.41
1:1:194:A:O2’	1:1:195:A:O5’	2.38	0.41
1:1:657:A:OP1	20:O:95:ARG:N	2.53	0.41
1:1:1010:A:O5’	1:1:1135:G:N2	2.53	0.41
1:1:3103:U:H2’	1:1:3104:G:H8	1.86	0.41
1:1:3270:U:OP1	20:O:6:LYS:NZ	2.28	0.41
1:1:3429:G:C2	1:1:3430:U:H1’	2.56	0.41
3:3:153:ILE:HG23	21:P:11:GLU:HG2	2.03	0.41
3:3:164:GLU:OE2	3:3:168:ARG:NH2	2.36	0.41
5:5:53:MET:HE2	5:5:53:MET:HA	2.03	0.41
5:5:116:ILE:HD13	5:5:116:ILE:HA	1.81	0.41
5:5:304:LEU:HD23	5:5:344:GLU:HB2	2.02	0.41
6:6:8:U:H4’	6:6:9:C:O5’	2.20	0.41
6:6:9:C:C5’	16:K:145:ARG:HG3	2.51	0.41
6:6:102:G:C4	34:o:201:ILE:HG12	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A:288:ASP:O	7:A:290:LEU:N	2.54	0.41
9:C:182:LYS:HE3	9:C:204:ARG:HB2	2.03	0.41
10:D:209:VAL:HG11	30:i:21:PRO:HB3	2.02	0.41
10:D:226:LEU:HD23	10:D:226:LEU:HA	1.89	0.41
12:F:17:GLU:O	12:F:21:LYS:HG3	2.21	0.41
12:F:105:LYS:HE2	12:F:136:VAL:HG21	2.02	0.41
13:G:158:ASP:HB3	13:G:159:PRO:HD3	2.02	0.41
16:K:241:LEU:O	16:K:249:ILE:N	2.52	0.41
17:L:80:LEU:HD22	17:L:85:VAL:HB	2.02	0.41
20:O:151:ASN:OD1	20:O:152:ASP:N	2.53	0.41
21:P:89:LYS:HA	21:P:89:LYS:HD2	1.82	0.41
25:Y:30:MET:CE	25:Y:74:ARG:HG2	2.51	0.41
28:f:51:CYS:SG	28:f:102:MET:HE2	2.61	0.41
29:h:45:LYS:O	29:h:49:THR:HG23	2.20	0.41
30:i:84:LYS:HE2	30:i:84:LYS:HB2	1.74	0.41
31:j:39:TYR:CD1	31:j:40:PRO:HA	2.55	0.41
34:o:156:LEU:HD23	34:o:156:LEU:HA	1.92	0.41
36:t:60:ASN:HB3	36:t:64:ARG:HH21	1.86	0.41
36:t:136:VAL:O	36:t:140:VAL:HG22	2.21	0.41
39:x:171:SER:OG	39:x:280:GLY:O	2.27	0.41
1:1:1150:C:H2'	1:1:1151:A:C8	2.56	0.41
3:3:69:ARG:NH2	3:3:76:LEU:O	2.39	0.41
8:B:45:ALA:HA	8:B:339:ARG:HA	2.03	0.41
9:C:146:GLU:OE1	9:C:178:ARG:HD3	2.21	0.41
9:C:283:ILE:HD13	9:C:283:ILE:HA	1.76	0.41
10:D:144:LEU:HD22	10:D:148:ILE:HD11	2.02	0.41
10:D:484:TYR:CZ	32:m:222:LYS:HG2	2.56	0.41
11:E:114:VAL:HG21	11:E:160:VAL:HG22	2.03	0.41
11:E:194:LYS:O	18:M:106:ASN:HA	2.21	0.41
14:H:27:THR:HA	14:H:37:GLN:N	2.36	0.41
23:S:65:GLU:OE2	23:S:65:GLU:HA	2.21	0.41
34:o:169:TYR:HD1	34:o:171:LEU:HB2	1.85	0.41
36:t:90:LEU:HA	36:t:145:PRO:HD3	2.03	0.41
39:x:247:TYR:HB2	39:x:261:THR:OG1	2.20	0.41
1:1:674:A:H2'	1:1:675:C:C6	2.56	0.40
1:1:1202:G:H2'	1:1:1203:G:O4'	2.21	0.40
3:3:65:LYS:HA	3:3:69:ARG:NH2	2.36	0.40
6:6:43:G:C2	6:6:44:A:C4	3.09	0.40
6:6:87:A:H4'	16:K:54:TRP:NE1	2.36	0.40
6:6:181:C:H2'	36:t:68:ARG:NH2	2.36	0.40
10:D:257:MET:O	10:D:261:MET:HG2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:E:191:HIS:CD2	11:E:192:LEU:HG	2.56	0.40
16:K:73:LYS:HE3	16:K:73:LYS:HB3	1.93	0.40
19:N:25:VAL:O	19:N:29:GLU:HG3	2.21	0.40
21:P:42:LYS:HA	21:P:42:LYS:HD3	1.87	0.40
21:P:116:HIS:ND1	21:P:149:ILE:HD12	2.37	0.40
27:e:15:LYS:HE2	27:e:15:LYS:HB3	1.58	0.40
31:j:67:LEU:HD23	31:j:67:LEU:HA	1.79	0.40
34:o:205:THR:O	34:o:209:LEU:HG	2.22	0.40
1:1:624:U:H1'	1:1:629:G:N2	2.36	0.40
1:1:677:G:OP1	1:1:1470:U:O2'	2.34	0.40
1:1:701:G:OP1	22:Q:109:LYS:HG3	2.21	0.40
7:A:110:TYR:HD2	7:A:123:LYS:HD3	1.85	0.40
7:A:124:PHE:CE1	7:A:229:ILE:HG12	2.55	0.40
8:B:48:GLY:O	8:B:336:LEU:N	2.49	0.40
9:C:94:ASN:HD22	9:C:102:PHE:HB2	1.86	0.40
10:D:201:ARG:NH2	10:D:228:ASN:HB2	2.37	0.40
10:D:230:LYS:O	30:i:21:PRO:HA	2.21	0.40
12:F:63:ARG:O	12:F:67:ARG:HG2	2.21	0.40
19:N:100:CYS:O	19:N:104:GLU:HG3	2.21	0.40
36:t:144:ILE:HG12	36:t:238:GLY:O	2.21	0.40
1:1:167:G:H5'	32:m:222:LYS:HD2	2.03	0.40
1:1:3111:C:H2'	1:1:3112:A:C8	2.56	0.40
2:2:79:A:OP2	25:Y:50:ARG:NE	2.52	0.40
3:3:178:PRO:HB2	3:3:181:VAL:HG12	2.04	0.40
5:5:148:LYS:HA	5:5:197:TRP:HA	2.02	0.40
7:A:122:VAL:HG11	7:A:164:VAL:HG22	2.02	0.40
9:C:108:TRP:CD1	9:C:108:TRP:H	2.39	0.40
9:C:248:ARG:HG3	9:C:249:PHE:N	2.36	0.40
9:C:308:SER:O	9:C:309:ARG:C	2.62	0.40
10:D:264:LEU:HD23	10:D:264:LEU:HA	1.85	0.40
16:K:68:LYS:HB3	16:K:193:SER:OG	2.21	0.40
16:K:168:VAL:HG12	16:K:170:ILE:CG2	2.52	0.40
36:t:92:VAL:O	36:t:120:ALA:HA	2.21	0.40
36:t:121:VAL:HG12	36:t:210:PRO:HA	2.04	0.40
38:v:70:TYR:O	38:v:72:ASP:N	2.54	0.40
1:1:297:A:H2'	1:1:298:G:H8	1.86	0.40
1:1:709:G:H2'	1:1:710:G:H8	1.87	0.40
1:1:1009:C:H2'	1:1:1135:G:H1	1.86	0.40
1:1:3116:U:H5"	1:1:3117:A:H2'	2.04	0.40
3:3:115:LEU:HD23	3:3:115:LEU:HA	1.94	0.40
7:A:43:GLN:HB2	7:A:175:PRO:HG3	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:D:107:MET:HE3	10:D:107:MET:HB3	1.96	0.40
16:K:67:ARG:N	16:K:195:PRO:HD3	2.36	0.40
16:K:145:ARG:HE	16:K:145:ARG:HB2	1.50	0.40
19:N:8:GLU:HG3	19:N:9:GLU:N	2.36	0.40
25:Y:31:SER:HA	25:Y:48:PRO:HA	2.04	0.40
1:1:3143:U:H5'	8:B:329:PRO:HA	2.03	0.40
5:5:169:GLU:HA	5:5:172:ARG:NH2	2.36	0.40
11:E:37:LYS:HE2	11:E:37:LYS:HB2	1.82	0.40
17:L:92:THR:HG21	29:h:113:PHE:HB3	2.04	0.40
23:S:5:GLU:HG3	23:S:29:PHE:CE2	2.57	0.40
25:Y:58:ILE:O	25:Y:63:LYS:HG3	2.21	0.40
34:o:112:LEU:HD23	34:o:116:PHE:HD2	1.87	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	
3	3	189/302 (63%)	184 (97%)	5 (3%)	0	100	100
4	4	207/217 (95%)	201 (97%)	6 (3%)	0	100	100
5	5	332/387 (86%)	314 (95%)	18 (5%)	0	100	100
7	A	242/295 (82%)	224 (93%)	17 (7%)	1 (0%)	30	63
8	B	312/388 (80%)	277 (89%)	34 (11%)	1 (0%)	37	69
9	C	324/363 (89%)	305 (94%)	18 (6%)	1 (0%)	37	69
10	D	416/578 (72%)	409 (98%)	7 (2%)	0	100	100
11	E	168/195 (86%)	148 (88%)	19 (11%)	1 (1%)	22	55
12	F	237/250 (95%)	228 (96%)	9 (4%)	0	100	100
13	G	161/259 (62%)	154 (96%)	5 (3%)	2 (1%)	11	40

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	H	79/190 (42%)	68 (86%)	11 (14%)	0	100	100
15	J	81/333 (24%)	79 (98%)	2 (2%)	0	100	100
16	K	243/373 (65%)	229 (94%)	12 (5%)	2 (1%)	16	49
17	L	114/208 (55%)	109 (96%)	5 (4%)	0	100	100
18	M	121/134 (90%)	116 (96%)	5 (4%)	0	100	100
19	N	160/201 (80%)	156 (98%)	4 (2%)	0	100	100
20	O	181/197 (92%)	180 (99%)	1 (1%)	0	100	100
21	P	124/187 (66%)	116 (94%)	8 (6%)	0	100	100
22	Q	133/187 (71%)	124 (93%)	9 (7%)	0	100	100
23	S	155/176 (88%)	146 (94%)	9 (6%)	0	100	100
24	V	35/139 (25%)	21 (60%)	10 (29%)	4 (11%)	0	5
25	Y	123/126 (98%)	121 (98%)	2 (2%)	0	100	100
26	b	49/642 (8%)	49 (100%)	0	0	100	100
27	e	122/127 (96%)	118 (97%)	4 (3%)	0	100	100
28	f	104/108 (96%)	101 (97%)	3 (3%)	0	100	100
29	h	112/122 (92%)	110 (98%)	2 (2%)	0	100	100
30	i	96/99 (97%)	91 (95%)	5 (5%)	0	100	100
31	j	69/91 (76%)	65 (94%)	4 (6%)	0	100	100
32	m	72/740 (10%)	68 (94%)	4 (6%)	0	100	100
33	n	198/607 (33%)	189 (96%)	9 (4%)	0	100	100
34	o	135/276 (49%)	133 (98%)	2 (2%)	0	100	100
35	r	47/260 (18%)	46 (98%)	1 (2%)	0	100	100
36	t	180/249 (72%)	160 (89%)	19 (11%)	1 (1%)	22	55
37	u	56/192 (29%)	51 (91%)	5 (9%)	0	100	100
38	v	157/209 (75%)	148 (94%)	8 (5%)	1 (1%)	22	55
39	x	302/306 (99%)	294 (97%)	8 (3%)	0	100	100
40	y	165/244 (68%)	141 (86%)	24 (14%)	0	100	100
41	T	16/160 (10%)	15 (94%)	1 (6%)	0	100	100
All	All	6017/10117 (60%)	5688 (94%)	315 (5%)	14 (0%)	45	74

All (14) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
7	A	248	PHE
8	B	82	PRO
24	V	107	PRO
24	V	119	PRO
16	K	6	LEU
38	v	130	ILE
9	C	308	SER
11	E	130	SER
16	K	153	ILE
24	V	103	VAL
24	V	120	VAL
13	G	182[A]	ASN
13	G	182[B]	ASN
36	t	197	VAL

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	3	165/271 (61%)	165 (100%)	0	100	100
4	4	188/197 (95%)	187 (100%)	1 (0%)	86	90
5	5	293/345 (85%)	292 (100%)	1 (0%)	91	92
7	A	217/266 (82%)	217 (100%)	0	100	100
9	C	274/297 (92%)	273 (100%)	1 (0%)	89	91
10	D	294/505 (58%)	294 (100%)	0	100	100
11	E	139/155 (90%)	139 (100%)	0	100	100
12	F	201/210 (96%)	201 (100%)	0	100	100
13	G	136/212 (64%)	133 (98%)	3 (2%)	47	64
14	H	32/170 (19%)	32 (100%)	0	100	100
16	K	190/333 (57%)	189 (100%)	1 (0%)	86	90
17	L	97/167 (58%)	96 (99%)	1 (1%)	73	80
18	M	106/113 (94%)	104 (98%)	2 (2%)	52	69
19	N	146/176 (83%)	146 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
20	O	150/162 (93%)	148 (99%)	2 (1%)	65 76
21	P	108/149 (72%)	108 (100%)	0	100 100
22	Q	110/159 (69%)	110 (100%)	0	100 100
23	S	96/154 (62%)	95 (99%)	1 (1%)	73 80
25	Y	110/111 (99%)	110 (100%)	0	100 100
27	e	105/107 (98%)	105 (100%)	0	100 100
28	f	89/91 (98%)	88 (99%)	1 (1%)	70 79
29	h	101/107 (94%)	101 (100%)	0	100 100
30	i	78/84 (93%)	77 (99%)	1 (1%)	65 76
31	j	57/71 (80%)	56 (98%)	1 (2%)	54 71
32	m	67/659 (10%)	67 (100%)	0	100 100
34	o	99/246 (40%)	98 (99%)	1 (1%)	73 80
36	t	85/223 (38%)	81 (95%)	4 (5%)	22 46
38	v	134/181 (74%)	134 (100%)	0	100 100
39	x	267/273 (98%)	266 (100%)	1 (0%)	89 91
All	All	4134/6194 (67%)	4112 (100%)	22 (0%)	85 90

All (22) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	4	77	ILE
5	5	104	LEU
9	C	113	VAL
13	G	182[A]	ASN
13	G	182[B]	ASN
13	G	219	ASP
16	K	145	ARG
17	L	46	ILE
18	M	51	ILE
18	M	105	LEU
20	O	51	ASN
20	O	55	TYR
23	S	109	MET
28	f	28	THR
30	i	57	GLU
31	j	17	THR
34	o	106	VAL

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Mol	Chain	Res	Type
36	t	55	GLU
36	t	109	LEU
36	t	118	ASN
36	t	133	LEU
39	x	121	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (38) such sidechains are listed below:

Mol	Chain	Res	Type
3	3	2	GLN
3	3	78	GLN
4	4	122	GLN
4	4	150	ASN
5	5	110	ASN
7	A	140	ASN
7	A	270	GLN
7	A	282	GLN
7	A	292	ASN
9	C	159	GLN
9	C	272	GLN
11	E	127	GLN
12	F	148	HIS
13	G	89	GLN
13	G	107	GLN
16	K	222	GLN
16	K	240	HIS
19	N	19	ASN
19	N	153	ASN
20	O	27	GLN
20	O	51	ASN
20	O	73	HIS
20	O	104	GLN
20	O	176	GLN
21	P	25	HIS
22	Q	57	ASN
23	S	113	HIS
25	Y	62	ASN
29	h	21	GLN
29	h	99	GLN
34	o	168	ASN
36	t	77	ASN
38	v	21	ASN

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Mol	Chain	Res	Type
38	v	33	ASN
38	v	38	GLN
38	v	39	ASN
39	x	229	GLN
39	x	264	GLN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	1	1272/3497 (36%)	273 (21%)	21 (1%)
2	2	126/165 (76%)	22 (17%)	0
6	6	72/300 (24%)	46 (63%)	2 (2%)
All	All	1470/3962 (37%)	341 (23%)	23 (1%)

All (341) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	1	15	C
1	1	21	G
1	1	26	A
1	1	60	A
1	1	65	A
1	1	66	A
1	1	72	C
1	1	76	G
1	1	105	G
1	1	109	A
1	1	110	G
1	1	111	C
1	1	113	C
1	1	116	A
1	1	117	U
1	1	118	U
1	1	122	A
1	1	136	U
1	1	154	G
1	1	162	A
1	1	163	A
1	1	173	U
1	1	174	U
1	1	193	U

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Mol	Chain	Res	Type
1	1	194	A
1	1	195	A
1	1	197	U
1	1	198	U
1	1	217	G
1	1	220	A
1	1	225	G
1	1	226	A
1	1	227	G
1	1	228	A
1	1	238	U
1	1	239	U
1	1	244	G
1	1	247	U
1	1	258	U
1	1	259	A
1	1	266	G
1	1	267	C
1	1	268	U
1	1	269	U
1	1	276	A
1	1	277	G
1	1	303	A
1	1	305	A
1	1	306	U
1	1	307	G
1	1	324	U
1	1	331	A
1	1	337	U
1	1	343	G
1	1	345	G
1	1	346	A
1	1	347	C
1	1	354	C
1	1	360	A
1	1	370	U
1	1	374	A
1	1	378	U
1	1	384	G
1	1	399	A
1	1	403	A
1	1	405	A

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Mol	Chain	Res	Type
1	1	406	U
1	1	407	A
1	1	410	A
1	1	411	C
1	1	437	G
1	1	445	G
1	1	446	U
1	1	447	C
1	1	448	U
1	1	449	U
1	1	450	A
1	1	458	G
1	1	461	A
1	1	462	U
1	1	465	G
1	1	466	U
1	1	479	A
1	1	482	C
1	1	488	A
1	1	489	C
1	1	493	G
1	1	494	A
1	1	495	A
1	1	497	C
1	1	499	G
1	1	500	U
1	1	501	G
1	1	502	G
1	1	505	G
1	1	506	G
1	1	526	G
1	1	531	A
1	1	532	A
1	1	534	A
1	1	540	A
1	1	544	A
1	1	546	G
1	1	547	G
1	1	551	C
1	1	577	U
1	1	578	U
1	1	579	A

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Mol	Chain	Res	Type
1	1	580	U
1	1	581	A
1	1	582	G
1	1	591	G
1	1	593	A
1	1	602	A
1	1	603	C
1	1	606	G
1	1	618	U
1	1	625	U
1	1	626	C
1	1	627	G
1	1	628	U
1	1	629	G
1	1	634	G
1	1	635	G
1	1	636	A
1	1	645	U
1	1	646	A
1	1	647	A
1	1	650	G
1	1	661	C
1	1	662	C
1	1	663	C
1	1	675	C
1	1	685	A
1	1	687	U
1	1	702	A
1	1	706	U
1	1	709	G
1	1	714	A
1	1	715	U
1	1	716	G
1	1	719	A
1	1	760	C
1	1	776	U
1	1	777	C
1	1	817	G
1	1	848	A
1	1	964	U
1	1	966	G
1	1	968	A

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Mol	Chain	Res	Type
1	1	976	C
1	1	1000	G
1	1	1008	U
1	1	1009	C
1	1	1010	A
1	1	1011	G
1	1	1012	A
1	1	1014	C
1	1	1016	G
1	1	1017	U
1	1	1019	U
1	1	1135	G
1	1	1138	U
1	1	1139	U
1	1	1142	U
1	1	1143	A
1	1	1147	G
1	1	1148	G
1	1	1170	G
1	1	1173	G
1	1	1175	U
1	1	1176	G
1	1	1191	C
1	1	1205	G
1	1	1208	G
1	1	1211	A
1	1	1212	U
1	1	1225	G
1	1	1349	A
1	1	1361	A
1	1	1363	A
1	1	1379	U
1	1	1380	A
1	1	1381	G
1	1	1386	G
1	1	1387	A
1	1	1388	G
1	1	1389	A
1	1	1390	A
1	1	1420	U
1	1	1433	U
1	1	1451	G

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Mol	Chain	Res	Type
1	1	1452	A
1	1	1453	A
1	1	1465	G
1	1	1468	G
1	1	1471	C
1	1	2448	C
1	1	2451	A
1	1	2465	G
1	1	2466	C
1	1	3108	A
1	1	3117	A
1	1	3118	G
1	1	3127	G
1	1	3135	G
1	1	3189	C
1	1	3195	C
1	1	3196	C
1	1	3197	G
1	1	3220	G
1	1	3225	A
1	1	3226	A
1	1	3227	U
1	1	3237	A
1	1	3270	U
1	1	3272	U
1	1	3273	A
1	1	3275	A
1	1	3276	A
1	1	3280	U
1	1	3282	G
1	1	3307	U
1	1	3310	A
1	1	3313	G
1	1	3315	A
1	1	3316	G
1	1	3317	A
1	1	3318	A
1	1	3319	G
1	1	3324	G
1	1	3327	A
1	1	3329	G
1	1	3337	A

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Mol	Chain	Res	Type
1	1	3338	A
1	1	3339	A
1	1	3343	A
1	1	3344	A
1	1	3345	G
1	1	3346	U
1	1	3349	U
1	1	3351	U
1	1	3359	U
1	1	3360	G
1	1	3370	U
1	1	3371	U
1	1	3372	C
1	1	3396	A
1	1	3404	G
1	1	3405	C
1	1	3414	U
1	1	3415	U
1	1	3416	A
1	1	3418	U
1	1	3420	U
1	1	3421	G
1	1	3423	A
1	1	3425	C
1	1	3426	G
1	1	3427	G
1	1	3431	A
1	1	3435	U
1	1	3472	G
1	1	3475	U
1	1	3476	A
1	1	3477	A
1	1	3478	G
1	1	3479	C
1	1	3483	U
1	1	3484	G
1	1	3489	C
1	1	3490	A
1	1	3491	A
2	2	21	A
2	2	31	U
2	2	42	U

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Mol	Chain	Res	Type
2	2	43	C
2	2	46	U
2	2	58	C
2	2	59	G
2	2	60	A
2	2	61	A
2	2	62	A
2	2	67	A
2	2	71	G
2	2	79	A
2	2	98	U
2	2	103	G
2	2	112	A
2	2	113	A
2	2	114	C
2	2	115	G
2	2	124	G
2	2	159	U
2	2	160	G
6	6	2	C
6	6	5	U
6	6	6	C
6	6	7	U
6	6	8	U
6	6	9	C
6	6	10	U
6	6	11	C
6	6	43	G
6	6	45	G
6	6	47	U
6	6	48	G
6	6	57	A
6	6	60	U
6	6	82	A
6	6	83	A
6	6	84	U
6	6	85	U
6	6	87	A
6	6	88	G
6	6	89	U
6	6	92	G
6	6	93	A

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Mol	Chain	Res	Type
6	6	94	A
6	6	95	A
6	6	96	U
6	6	97	C
6	6	98	G
6	6	99	A
6	6	100	U
6	6	101	U
6	6	102	G
6	6	105	G
6	6	108	A
6	6	177	U
6	6	178	U
6	6	179	U
6	6	180	A
6	6	181	C
6	6	182	C
6	6	183	A
6	6	184	C
6	6	185	U
6	6	187	U
6	6	188	G
6	6	189	U

All (23) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	1	217	G
1	1	414	G
1	1	449	U
1	1	460	G
1	1	487	C
1	1	488	A
1	1	493	G
1	1	496	C
1	1	500	U
1	1	505	G
1	1	674	A
1	1	715	U
1	1	759	C
1	1	816	A
1	1	1010	A

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Mol	Chain	Res	Type
1	1	1389	A
1	1	2447	C
1	1	3318	A
1	1	3328	U
1	1	3337	A
1	1	3488	C
6	6	1	A
6	6	8	U

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 1 ligands modelled in this entry, 1 is monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	1	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	3247:U	O3’	3269:A	P	35.09

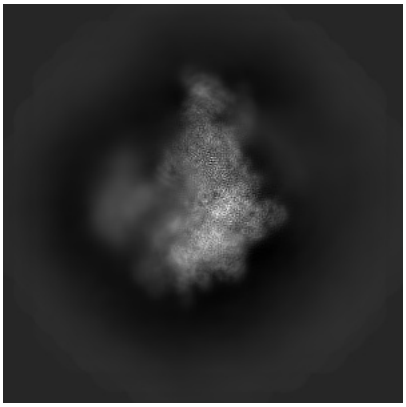
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-24409. These allow visual inspection of the internal detail of the map and identification of artifacts.

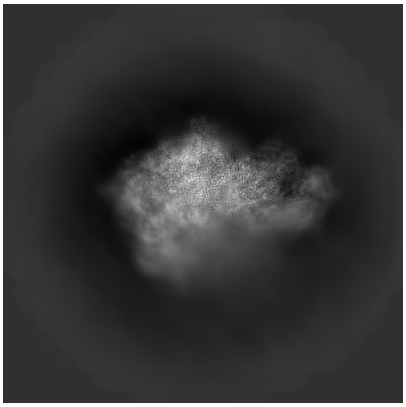
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

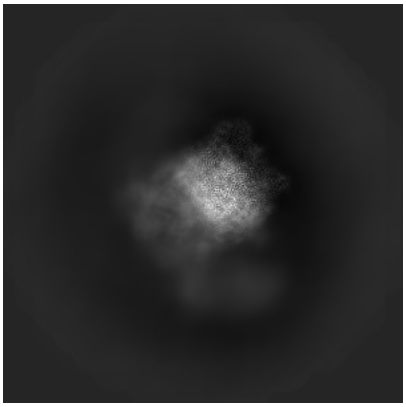
6.1.1 Primary map



X



Y

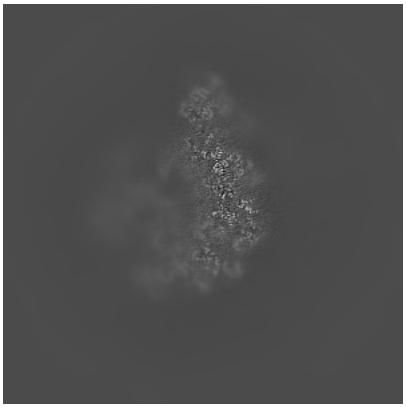


Z

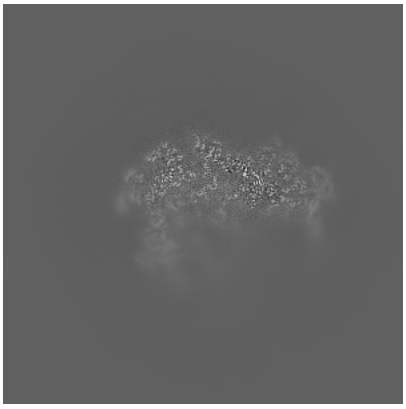
The images above show the map projected in three orthogonal directions.

6.2 Central slices

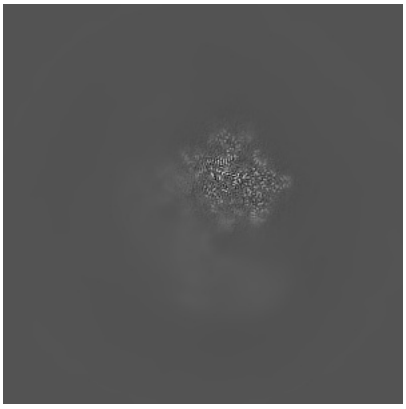
6.2.1 Primary map



X Index: 256



Y Index: 256

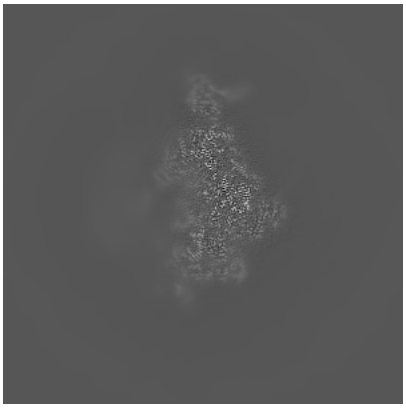


Z Index: 256

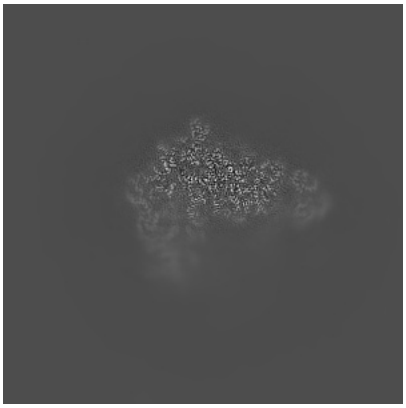
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

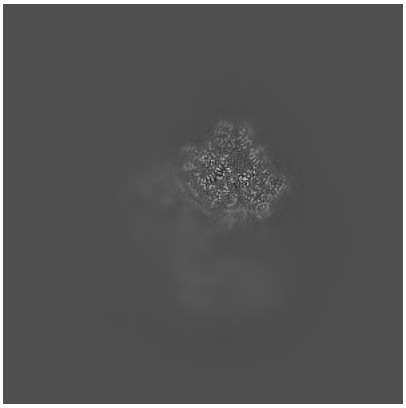
6.3.1 Primary map



X Index: 282



Y Index: 274

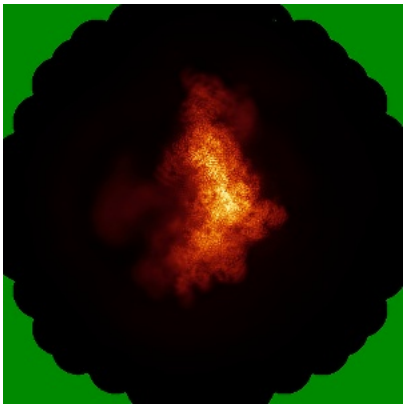


Z Index: 249

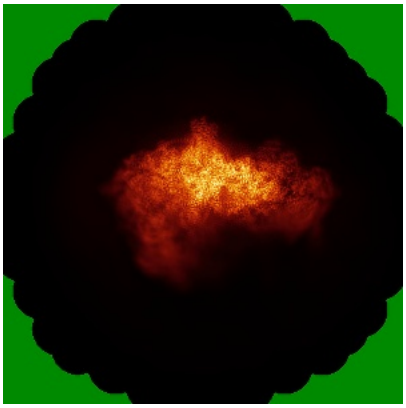
The images above show the largest variance slices of the map in three orthogonal directions.

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

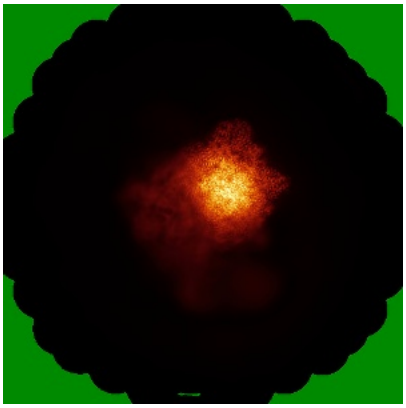
6.4.1 Primary map



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 0.05. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

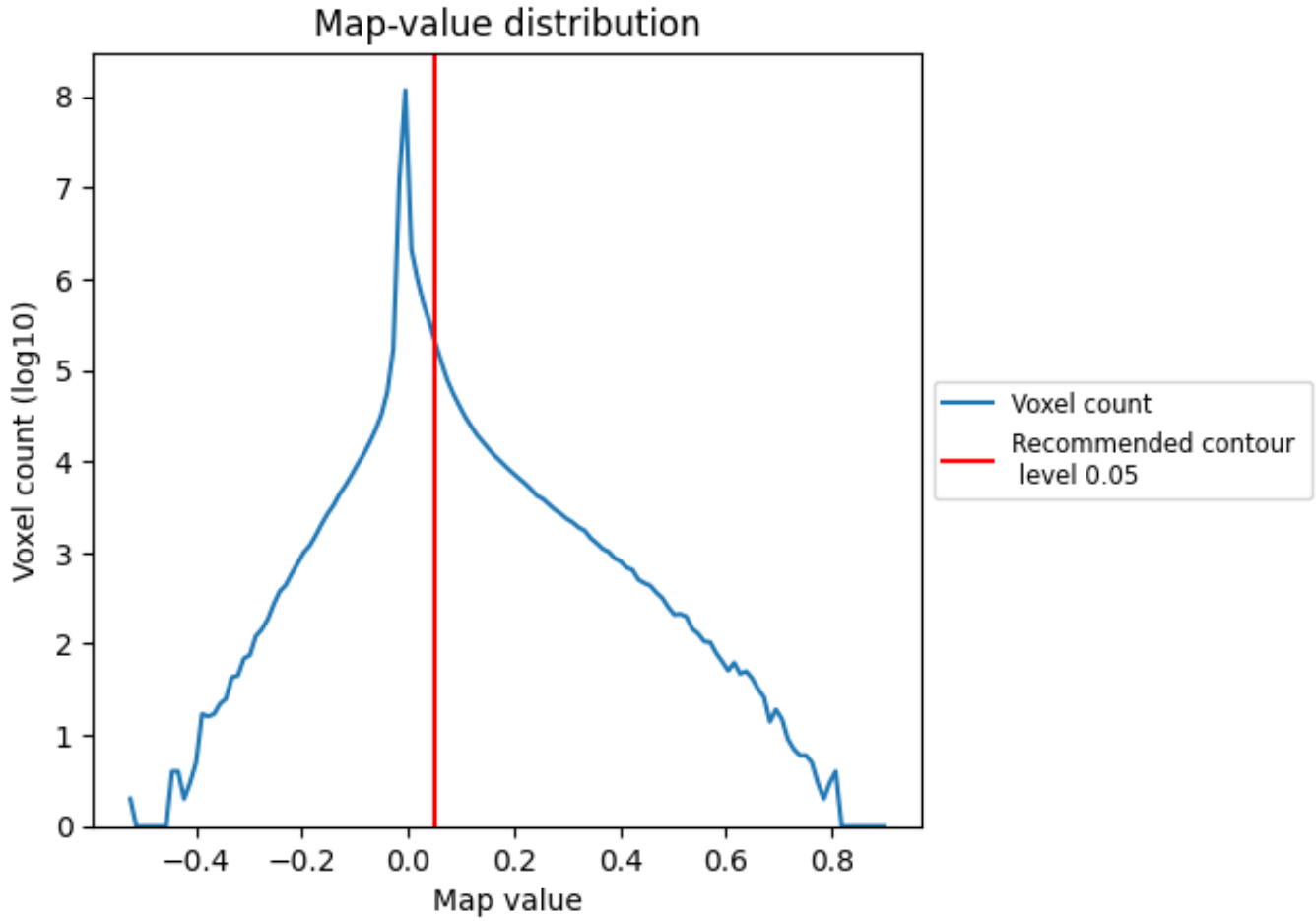
6.6 Mask visualisation (i)

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

7 Map analysis

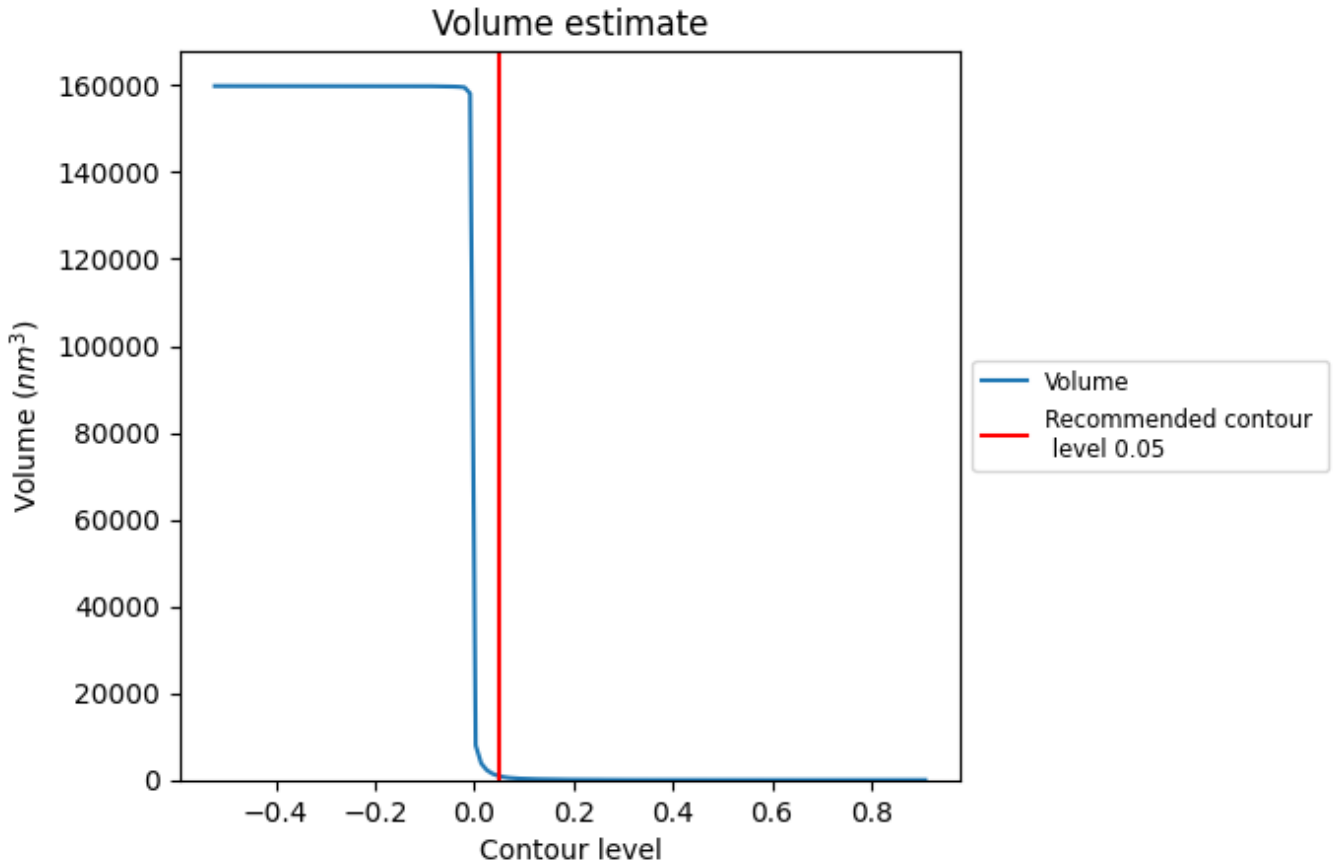
This section contains the results of statistical analysis of the map.

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.

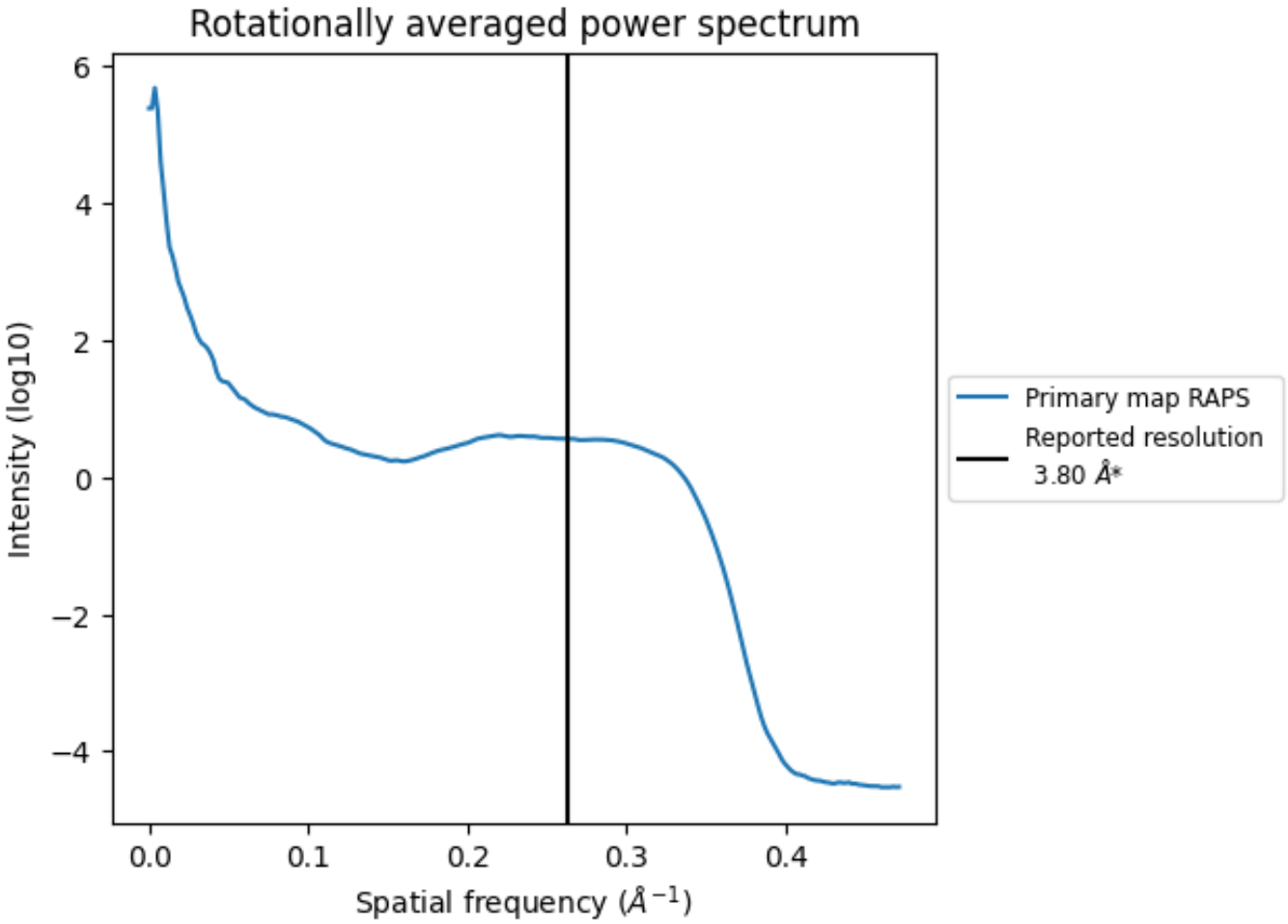
7.2 Volume estimate



The volume at the recommended contour level is 896 nm^3; this corresponds to an approximate mass of 809 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 0.263 Å^{-1}

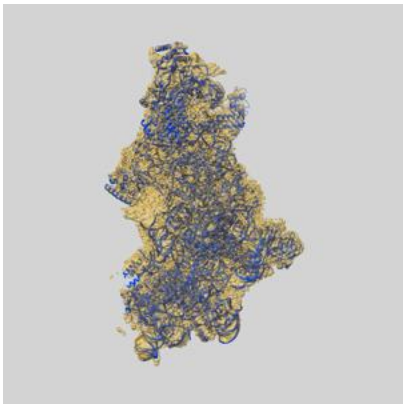
8 Fourier-Shell correlation

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

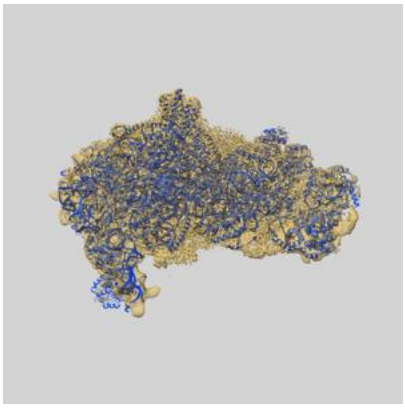
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-24409 and PDB model 8ETH. Per-residue inclusion information can be found in section 3 on page 12.

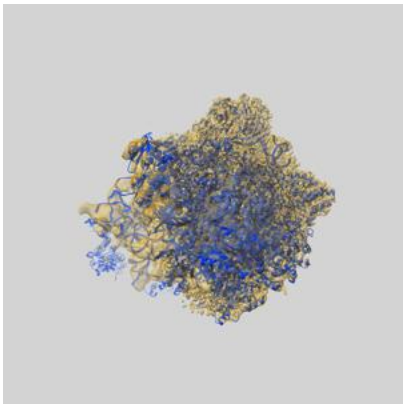
9.1 Map-model overlay



X



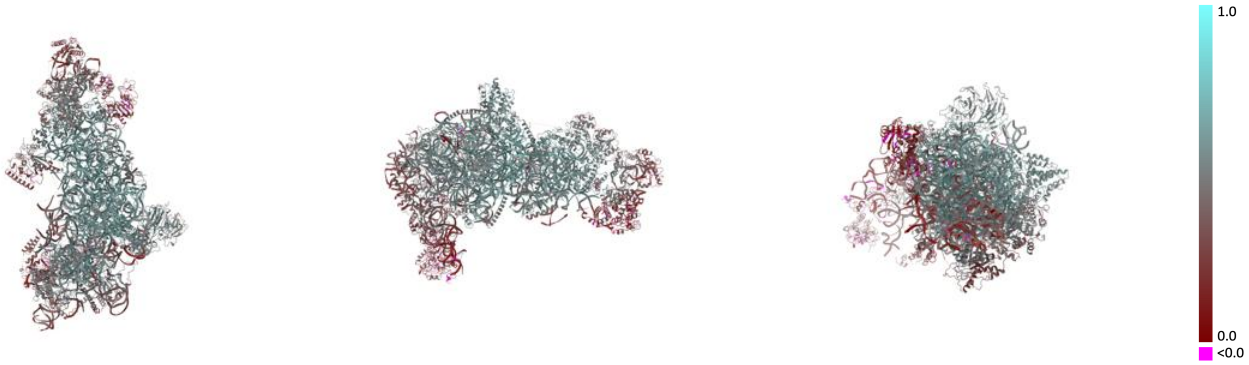
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.05 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

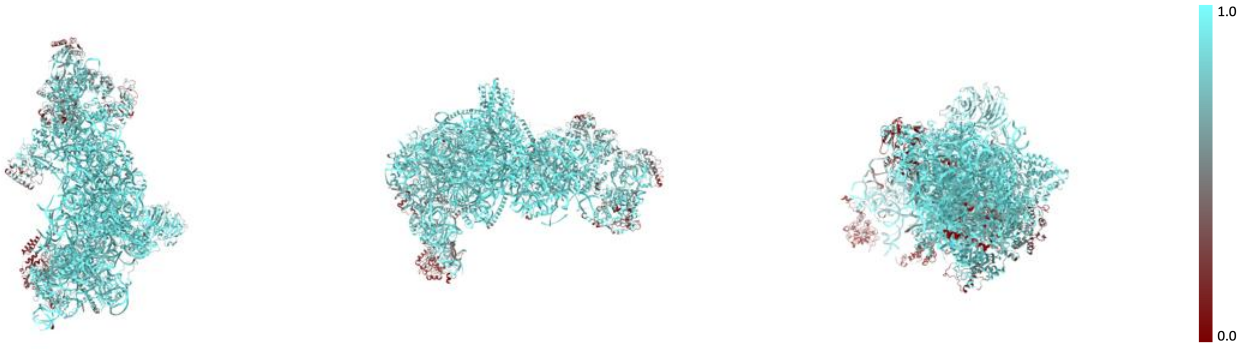
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

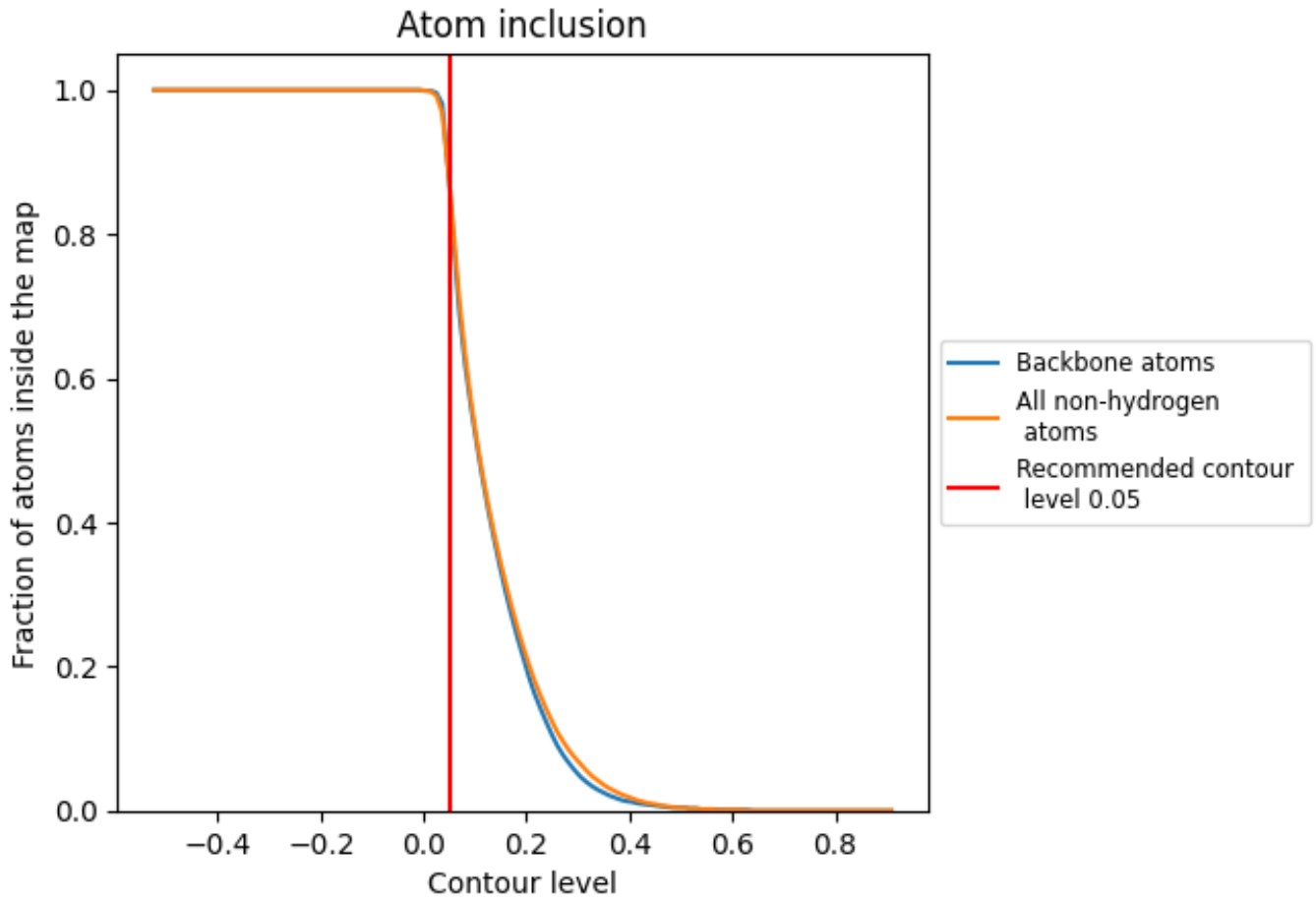
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.05).

9.4 Atom inclusion (i)



At the recommended contour level, 87% of all backbone atoms, 87% 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 (0.05) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8720	0.4800
1	0.9370	0.4840
2	0.9550	0.5180
3	0.9470	0.5910
4	0.9220	0.5660
5	0.8750	0.5220
6	0.8350	0.2840
A	0.7750	0.3680
B	0.8300	0.2820
C	0.9690	0.6090
D	0.7300	0.4780
E	0.8870	0.4940
F	0.9240	0.5410
G	0.9670	0.5800
H	0.2530	0.2410
J	0.5020	0.2830
K	0.6710	0.3730
L	0.9830	0.6220
M	0.8860	0.4510
N	0.9850	0.6140
O	0.8800	0.4600
P	0.9570	0.5580
Q	0.9710	0.5900
S	0.8770	0.4520
T	0.4780	0.3320
V	0.0430	0.2120
Y	0.9620	0.5860
b	0.0000	0.2610
e	0.9660	0.5940
f	0.9600	0.5770
h	0.9090	0.5260
i	0.9490	0.5620
j	0.9760	0.5810
m	0.8580	0.5040
n	0.5480	0.1740

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Chain	Atom inclusion	Q-score
o	0.7130	0.3980
r	0.0670	0.2140
t	0.7230	0.2860
u	0.4600	0.1470
v	0.9300	0.5560
x	0.9030	0.5440
y	0.0440	0.1850