



Full wwPDB EM Validation Report ⓘ

Mar 17, 2026 – 10:14 PM UTC

PDB ID : 8AGW / pdb_00008agw
EMDB ID : EMD-15426
Title : Yeast RQC complex in state D
Authors : Tesina, P.; Buschauer, R.; Beckmann, R.
Deposited on : 2022-07-20
Resolution : 2.60 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:

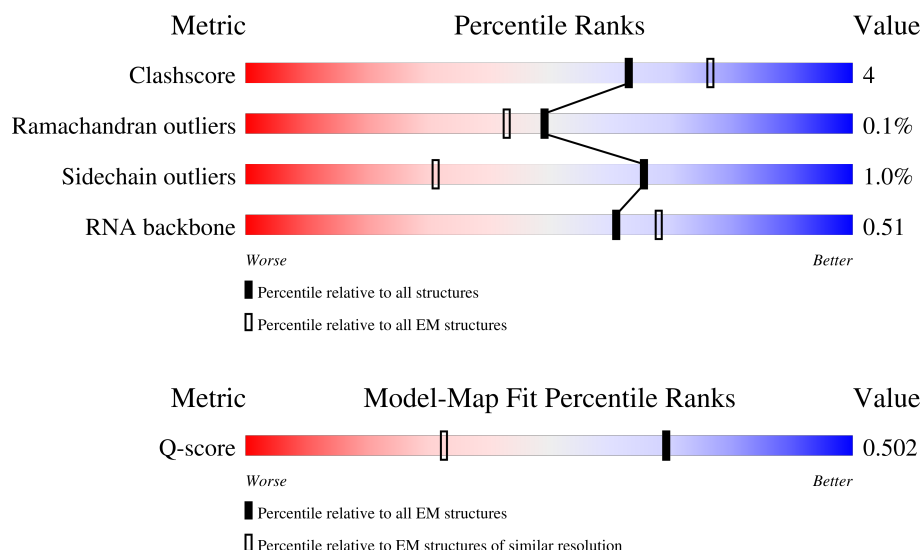
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

1 Overall quality at a glance

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

The reported resolution of this entry is 2.60 Å.

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



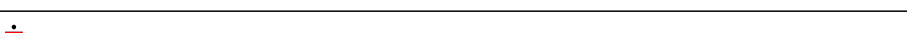
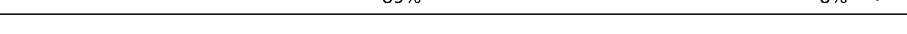
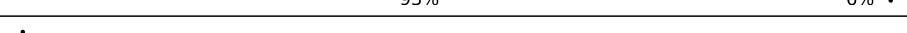
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	8728 (2.10 - 3.10)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	204	
2	B	199	
3	C	184	

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Mol	Chain	Length	Quality of chain
4	D	186	 89% 11% .
5	E	189	 73% 10% 17%
6	F	172	 85% 15% .
7	G	160	 88% 11% .
8	H	121	 74% 9% 17%
9	I	137	 88% 11% .
10	J	155	 35% 5% 59%
11	K	142	 85% . 15%
12	L	127	 91% 8% .
13	M	136	 91% 8% .
14	N	149	 87% 13% .
15	O	59	 81% 15% . .
16	P	105	 85% 7% 9%
17	Q	113	 5% 80% 17% .
18	R	130	 89% 8% .
19	S	107	 93% 6% .
20	T	121	 85% 7% . 7%
21	U	120	 92% 7% .
22	V	100	 89% 10% .
23	W	88	 75% 17% 8%
24	X	78	 90% 9% .
25	Y	51	 92% 6% .
26	Z	128	 38% . 59%
27	b	106	 81% 16% .
28	c	92	 90% 9% .

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Mol	Chain	Length	Quality of chain
29	d	25	
30	f	3395	
31	h	121	
32	i	158	
33	j	254	
34	k	387	
35	l	362	
36	m	297	
37	n	176	
38	o	244	
39	p	256	
40	q	191	
41	r	221	
42	s	174	
43	t	199	
44	u	138	
45	a	1038	
46	e	1562	
47	g	245	
48	x	76	
48	y	76	
49	z	165	
50	0	312	
51	1	17	
52	w	217	

2 Entry composition

There are 55 unique types of molecules in this entry. The entry contains 150269 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 60S ribosomal protein L15-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	203	Total	C	N	O	S	0	0
			1720	1077	361	281	1		

- Molecule 2 is a protein called 60S ribosomal protein L16-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	197	Total	C	N	O	S	197	0
			1555	1003	289	262	1		

- Molecule 3 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	183	Total	C	N	O		0	0
			1416	879	284	253			

- Molecule 4 is a protein called 60S ribosomal protein L18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	185	Total	C	N	O	S	0	0
			1441	908	290	241	2		

- Molecule 5 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	156	Total	C	N	O		0	0
			1258	781	265	212			

- Molecule 6 is a protein called 60S ribosomal protein L20-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	171	Total	C	N	O	S	0	0
			1437	925	266	243	3		

- Molecule 7 is a protein called 60S ribosomal protein L21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	159	Total	C	N	O	S	0	0
			1272	802	245	221	4		

- Molecule 8 is a protein called 60S ribosomal protein L22-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	100	Total	C	N	O	S	0	0
			796	516	131	149			

- Molecule 9 is a protein called 60S ribosomal protein L23-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I	136	Total	C	N	O	S	0	0
			1003	628	189	179	7		

- Molecule 10 is a protein called 60S ribosomal protein L24-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	J	63	Total	C	N	O	S	0	0
			518	333	102	82	1		

- Molecule 11 is a protein called 60S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	K	121	Total	C	N	O	S	0	0
			964	620	169	173	2		

- Molecule 12 is a protein called 60S ribosomal protein L26-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	L	125	Total	C	N	O	S	0	0
			984	620	191	173			

- Molecule 13 is a protein called 60S ribosomal protein L27-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	M	135	Total	C	N	O	S	0	0
			1080	701	199	180			

- Molecule 14 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	N	148	Total	C	N	O	S	0	0
			1169	747	231	188	3		

- Molecule 15 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	O	58	Total	C	N	O	S	0	0
			462	289	100	73			

- Molecule 16 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	P	96	Total	C	N	O	S	0	0
			737	476	123	137	1		

- Molecule 17 is a protein called 60S ribosomal protein L31-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	Q	109	Total	C	N	O	S	0	0
			876	556	167	152	1		

- Molecule 18 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	R	127	Total	C	N	O	S	0	0
			1013	642	205	165	1		

- Molecule 19 is a protein called 60S ribosomal protein L33-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	S	106	Total	C	N	O	S	0	0
			850	540	165	144	1		

- Molecule 20 is a protein called 60S ribosomal protein L34-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	T	112	Total	C	N	O	S	0	0
			880	545	179	152	4		

- Molecule 21 is a protein called 60S ribosomal protein L35-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	U	119	Total	C	N	O	S	0	0
			969	615	186	167	1		

- Molecule 22 is a protein called 60S ribosomal protein L36-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	V	99	Total	C	N	O	S	0	0
			766	478	154	132	2		

- Molecule 23 is a protein called 60S ribosomal protein L37-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	W	81	Total	C	N	O	S	0	0
			645	393	141	106	5		

- Molecule 24 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	X	77	Total	C	N	O		0	0
			612	391	115	106			

- Molecule 25 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	Y	50	Total	C	N	O	S	0	0
			436	272	97	65	2		

- Molecule 26 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	Z	52	Total	C	N	O	S	0	0
			410	254	86	65	5		

- Molecule 27 is a protein called 60S ribosomal protein L42-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	b	103	Total	C	N	O	S	0	0
			824	517	167	135	5		

- Molecule 28 is a protein called 60S ribosomal protein L43-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	c	91	Total	C	N	O	S	0	0
			694	429	138	121	6		

- Molecule 29 is a protein called 60S ribosomal protein L41-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	d	22	Total	C	N	O	S	0	0
			207	127	56	23	1		

- Molecule 30 is a RNA chain called 25S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	f	3216	Total	C	N	O	P	1	0
			68802	30732	12391	22462	3217		

- Molecule 31 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	h	121	Total	C	N	O	P	0	0
			2579	1152	461	845	121		

- Molecule 32 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	i	158	Total	C	N	O	P	0	0
			3353	1500	586	1109	158		

- Molecule 33 is a protein called 60S ribosomal protein L2-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	j	246	Total	C	N	O	S	0	0
			1874	1168	380	325	1		

- Molecule 34 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	k	386	Total	C	N	O	S	0	0
			3075	1950	584	533	8		

- Molecule 35 is a protein called 60S ribosomal protein L4-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	l	361	Total	C	N	O	S	0	0
			2748	1729	522	494	3		

- Molecule 36 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	m	294	Total	C	N	O	S	0	0
			2351	1484	410	455	2		

- Molecule 37 is a protein called 60S ribosomal protein L6-B.

Mol	Chain	Residues	Atoms				AltConf	Trace
37	n	167	Total	C	N	O	0	0
			1307	843	234	230		

- Molecule 38 is a protein called 60S ribosomal protein L7-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	o	222	Total	C	N	O	S	0	0
			1784	1151	324	308	1		

- Molecule 39 is a protein called 60S ribosomal protein L8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	p	233	Total	C	N	O	S	0	0
			1804	1151	323	327	3		

- Molecule 40 is a protein called 60S ribosomal protein L9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	q	191	Total	C	N	O	S	0	0
			1508	957	274	273	4		

- Molecule 41 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	r	218	Total	C	N	O	S	0	0
			1764	1117	334	306	7		

- Molecule 42 is a protein called 60S ribosomal protein L11-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	s	169	Total	C	N	O	S	0	0
			1346	843	252	247	4		

- Molecule 43 is a protein called 60S ribosomal protein L13-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	t	193	Total	C	N	O		0	0
			1543	962	315	266			

- Molecule 44 is a protein called 60S ribosomal protein L14-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	u	136	Total	C	N	O	S	0	0
			1053	675	199	177	2		

- Molecule 45 is a protein called RQC2 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	a	848	Total	C	N	O	S	0	0
			6573	4191	1139	1226	17		

- Molecule 46 is a protein called E3 ubiquitin-protein ligase listerin.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	e	1527	Total	C	N	O	S	0	0
			11512	7356	1937	2181	38		

- Molecule 47 is a protein called Eukaryotic translation initiation factor 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	g	225	Total	C	N	O	S	0	0
			1651	1030	282	332	7		

- Molecule 48 is a RNA chain called Ala tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	x	74	Total	C	N	O	P	0	0
			1579	702	278	525	74		
48	y	73	Total	C	N	O	P	0	0
			1556	692	273	518	73		

- Molecule 49 is a protein called 60S ribosomal protein L12-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
49	z	148	Total	C	N	O	0	0
			728	432	148	148		

- Molecule 50 is a protein called 60S acidic ribosomal protein P0.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	0	121	Total	C	N	O	S	0	0
			961	618	167	173	3		

- Molecule 51 is a protein called CAT-tailed nascent peptide.

Mol	Chain	Residues	Atoms				AltConf	Trace
51	1	17	Total	C	N	O	0	0
			85	51	17	17		

- Molecule 52 is a protein called 60S ribosomal protein L1-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	w	216	Total	C	N	O	S	0	0
			1709	1092	298	310	9		

- Molecule 53 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
53	A	1	Total	Mg	0
			1	1	
53	C	1	Total	Mg	0
			1	1	
53	E	1	Total	Mg	0
			1	1	
53	I	1	Total	Mg	0
			1	1	
53	R	1	Total	Mg	0
			1	1	
53	T	1	Total	Mg	0
			1	1	
53	f	3	Total	Mg	0
			3	3	
53	h	1	Total	Mg	0
			1	1	
53	j	2	Total	Mg	0
			2	2	

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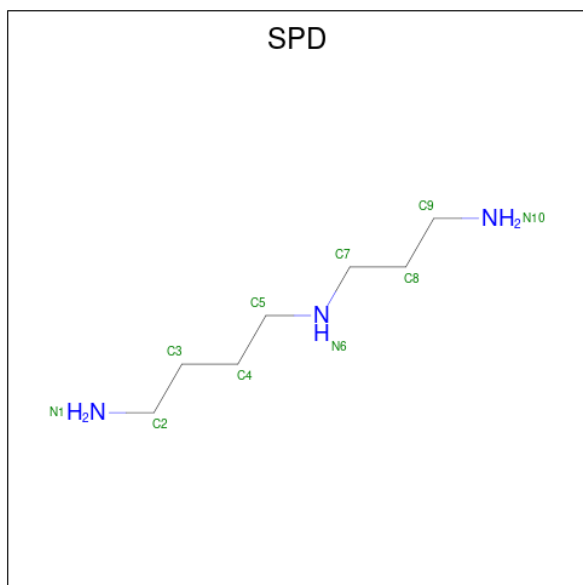
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Mol	Chain	Residues	Atoms		AltConf
53	k	1	Total	Mg	0
			1	1	

- Molecule 54 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
54	T	1	Total	Zn	0
			1	1	
54	W	1	Total	Zn	0
			1	1	
54	Z	1	Total	Zn	0
			1	1	
54	b	1	Total	Zn	0
			1	1	
54	c	1	Total	Zn	0
			1	1	
54	e	2	Total	Zn	0
			2	2	

- Molecule 55 is SPERMIDINE (CCD ID: SPD) (formula: C₇H₁₉N₃).



Mol	Chain	Residues	Atoms			AltConf
55	f	1	Total	C	N	0
			10	7	3	

3 Residue-property plots

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

- Molecule 1: 60S ribosomal protein L15-A

Chain A: 



- Molecule 2: 60S ribosomal protein L16-A

Chain B: 



- Molecule 3: 60S ribosomal protein L17-A

Chain C: 



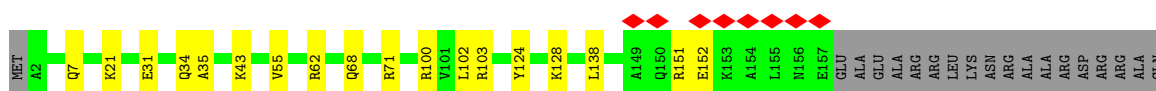
- Molecule 4: 60S ribosomal protein L18-A

Chain D: 



- Molecule 5: 60S ribosomal protein L19-A

Chain E: 

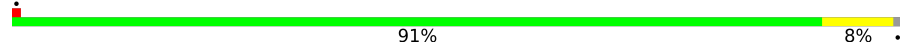


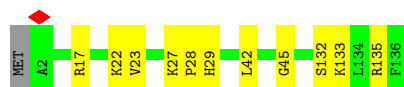
- Molecule 12: 60S ribosomal protein L26-A

Chain L:  91% 8%



- Molecule 13: 60S ribosomal protein L27-A

Chain M:  91% 8%



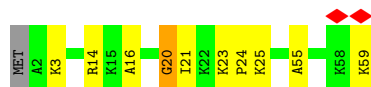
- Molecule 14: 60S ribosomal protein L28

Chain N:  87% 13%



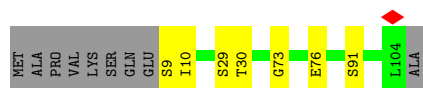
- Molecule 15: 60S ribosomal protein L29

Chain O:  81% 15%



- Molecule 16: 60S ribosomal protein L30

Chain P:  85% 7% 9%



- Molecule 17: 60S ribosomal protein L31-A

Chain Q:  5% 80% 17%



- Molecule 18: 60S ribosomal protein L32

Chain R:  89% 8%



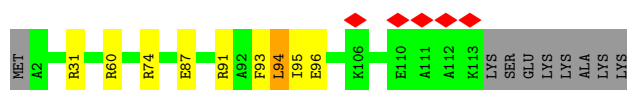
- Molecule 19: 60S ribosomal protein L33-A

Chain S: 93% 6%



- Molecule 20: 60S ribosomal protein L34-A

Chain T: 85% 7% 7%



- Molecule 21: 60S ribosomal protein L35-A

Chain U: 92% 7%



- Molecule 22: 60S ribosomal protein L36-A

Chain V: 89% 10%



- Molecule 23: 60S ribosomal protein L37-A

Chain W: 75% 17% 8%



- Molecule 24: 60S ribosomal protein L38

Chain X: 90% 9%



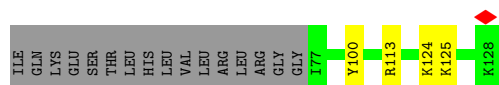
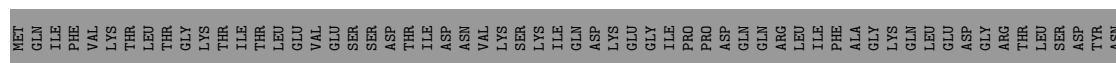
- Molecule 25: 60S ribosomal protein L39

Chain Y:  92% 6% .



- Molecule 26: Ubiquitin-60S ribosomal protein L40

Chain Z:  38% 59% .



- Molecule 27: 60S ribosomal protein L42-A

Chain b:  81% 16% .



- Molecule 28: 60S ribosomal protein L43-A

Chain c:  90% 9% .



- Molecule 29: 60S ribosomal protein L41-A

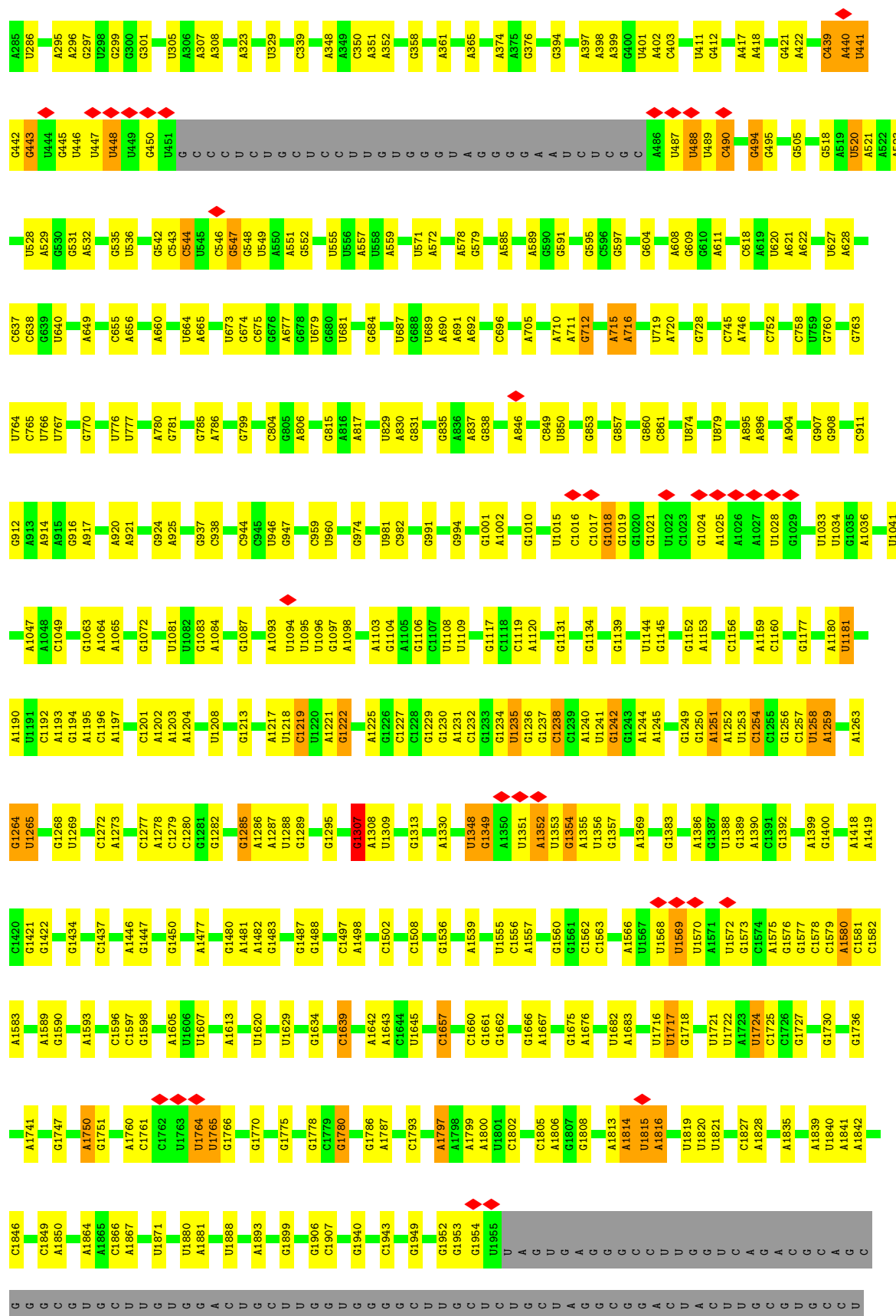
Chain d:  32% 72% 12% 12% .

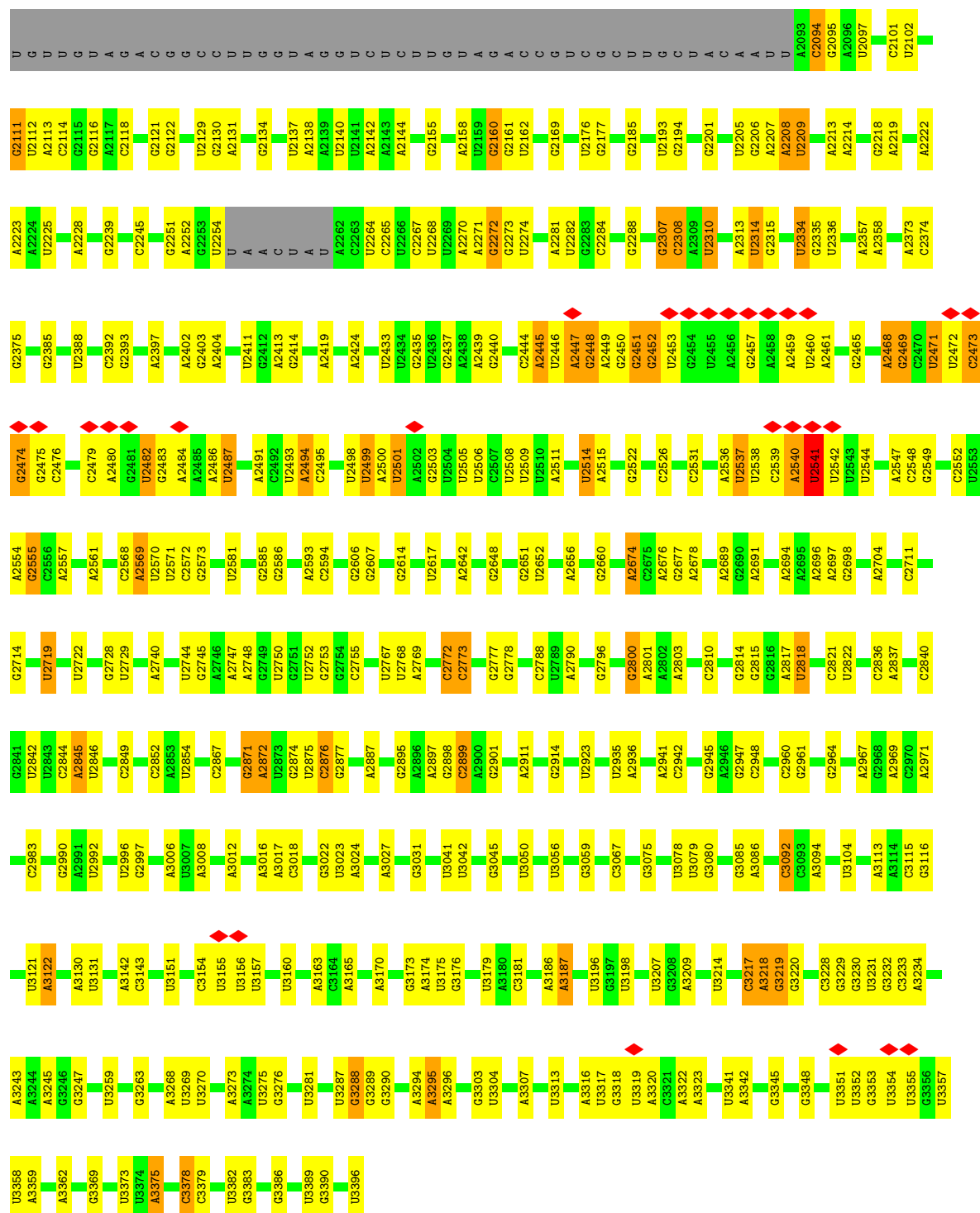


- Molecule 30: 25S rRNA

Chain f:  67% 24% 5% .

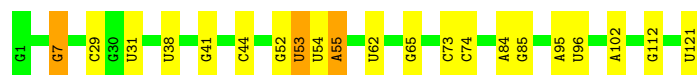






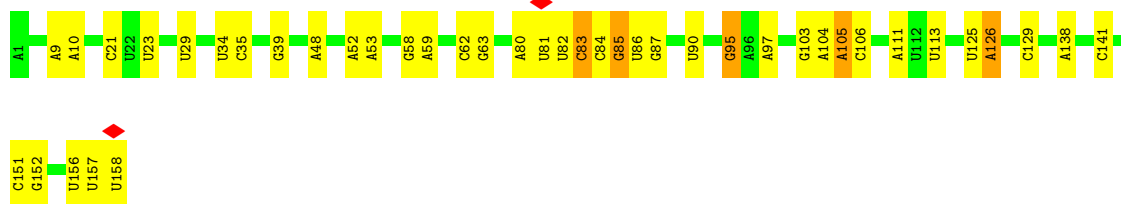
• Molecule 31: 5S rRNA

Chain h: 83% 15% .



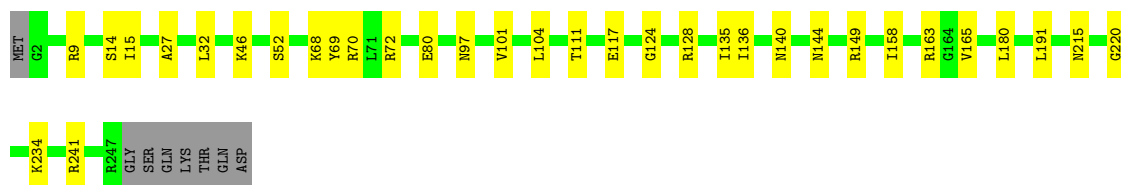
• Molecule 32: 5.8S rRNA

Chain i:  73% 23%



- Molecule 33: 60S ribosomal protein L2-A

Chain j:  84% 13%



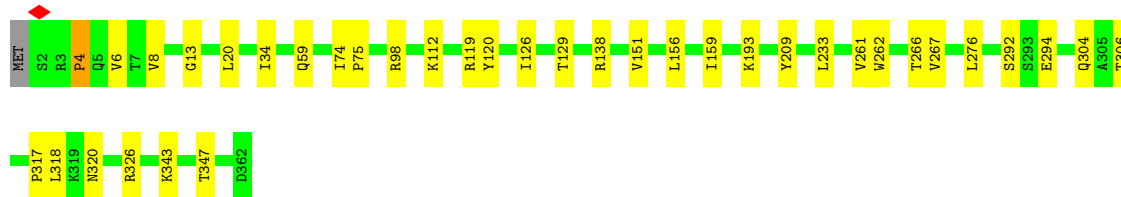
- Molecule 34: 60S ribosomal protein L3

Chain k:  91% 8%



- Molecule 35: 60S ribosomal protein L4-A

Chain l:  90% 10%



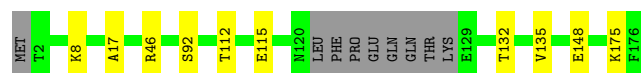
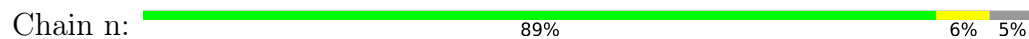
- Molecule 36: 60S ribosomal protein L5

Chain m:  82% 16%

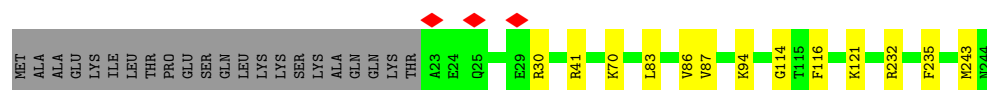
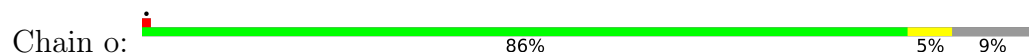




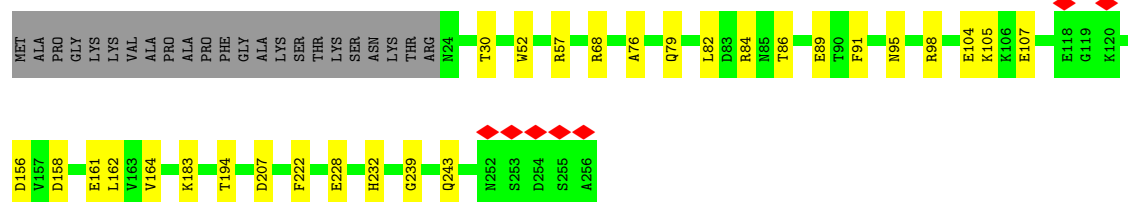
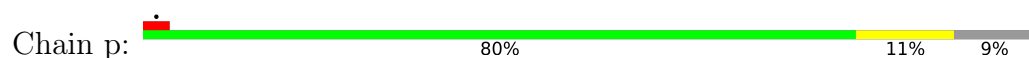
- Molecule 37: 60S ribosomal protein L6-B



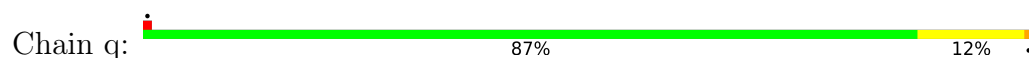
- Molecule 38: 60S ribosomal protein L7-A



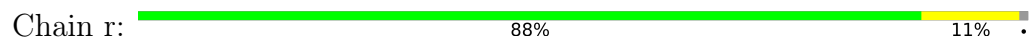
- Molecule 39: 60S ribosomal protein L8-A



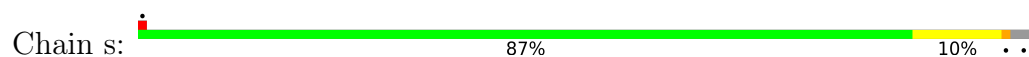
- Molecule 40: 60S ribosomal protein L9-A



- Molecule 41: 60S ribosomal protein L10

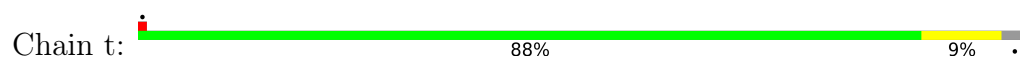


- Molecule 42: 60S ribosomal protein L11-A

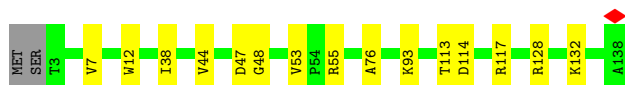
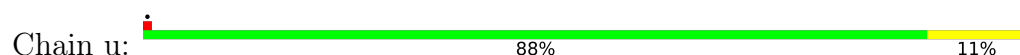




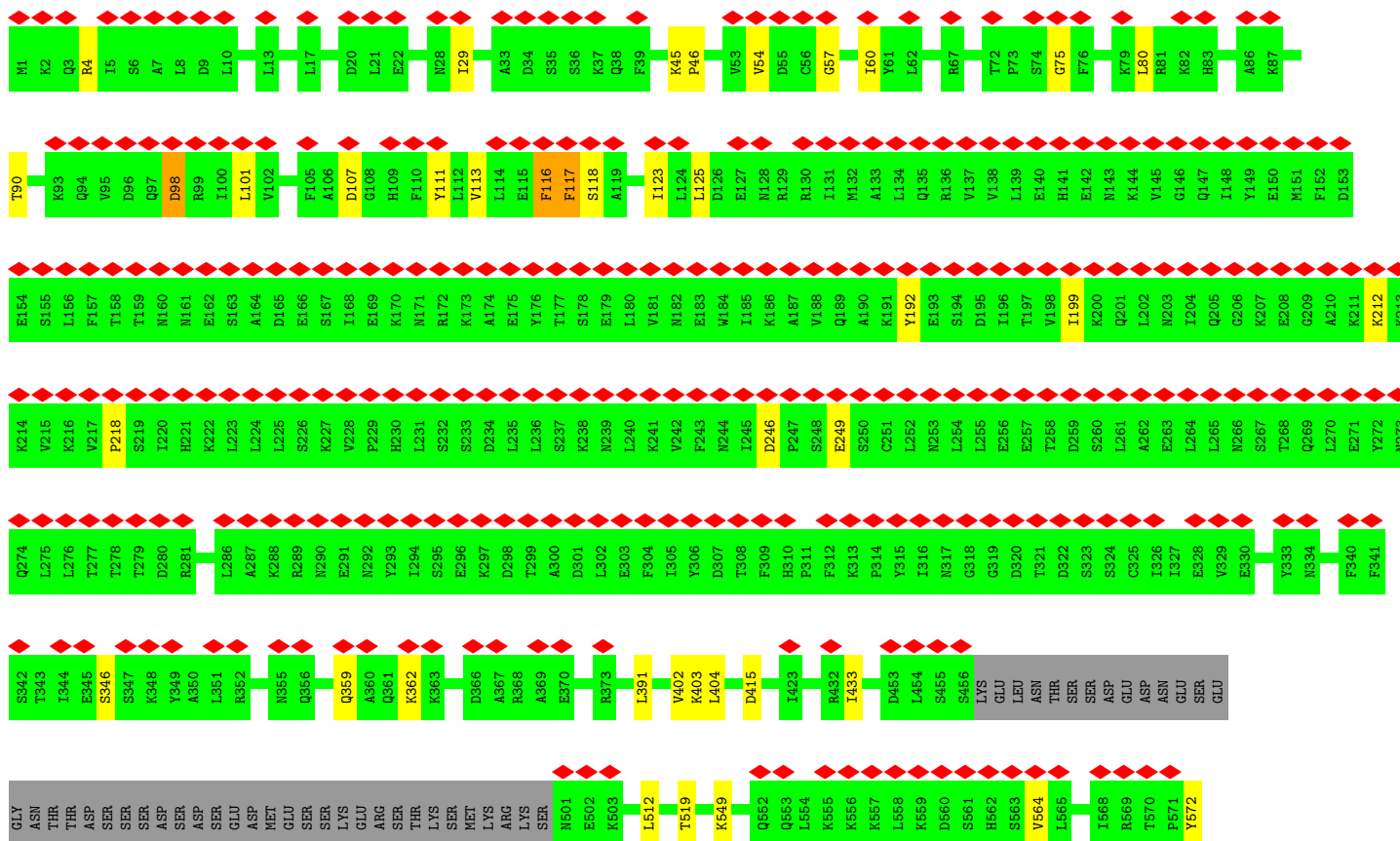
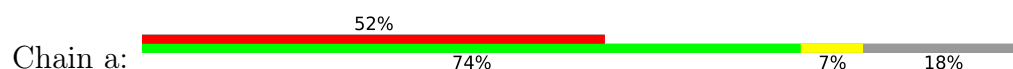
- Molecule 43: 60S ribosomal protein L13-A

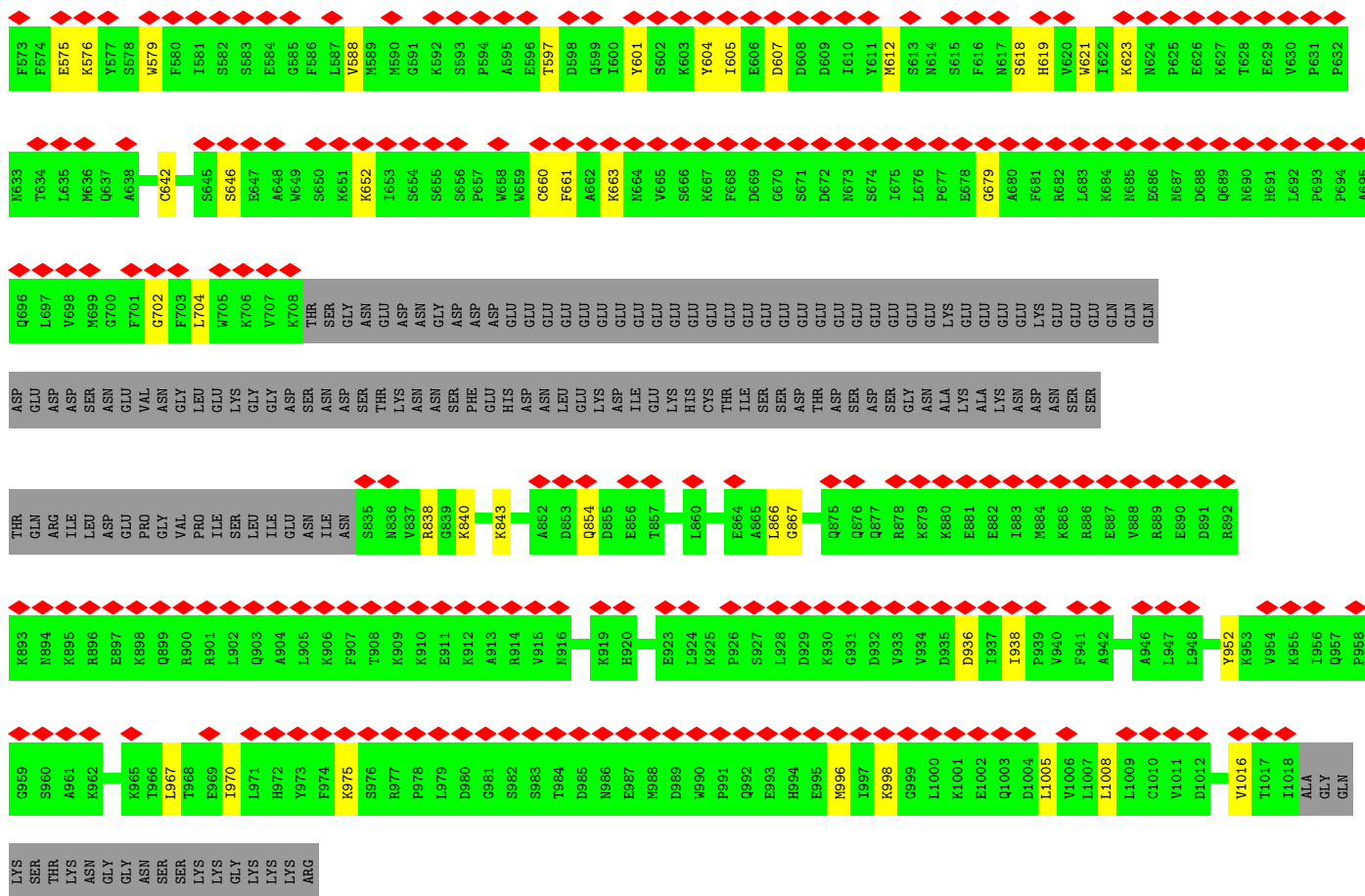


- Molecule 44: 60S ribosomal protein L14-A

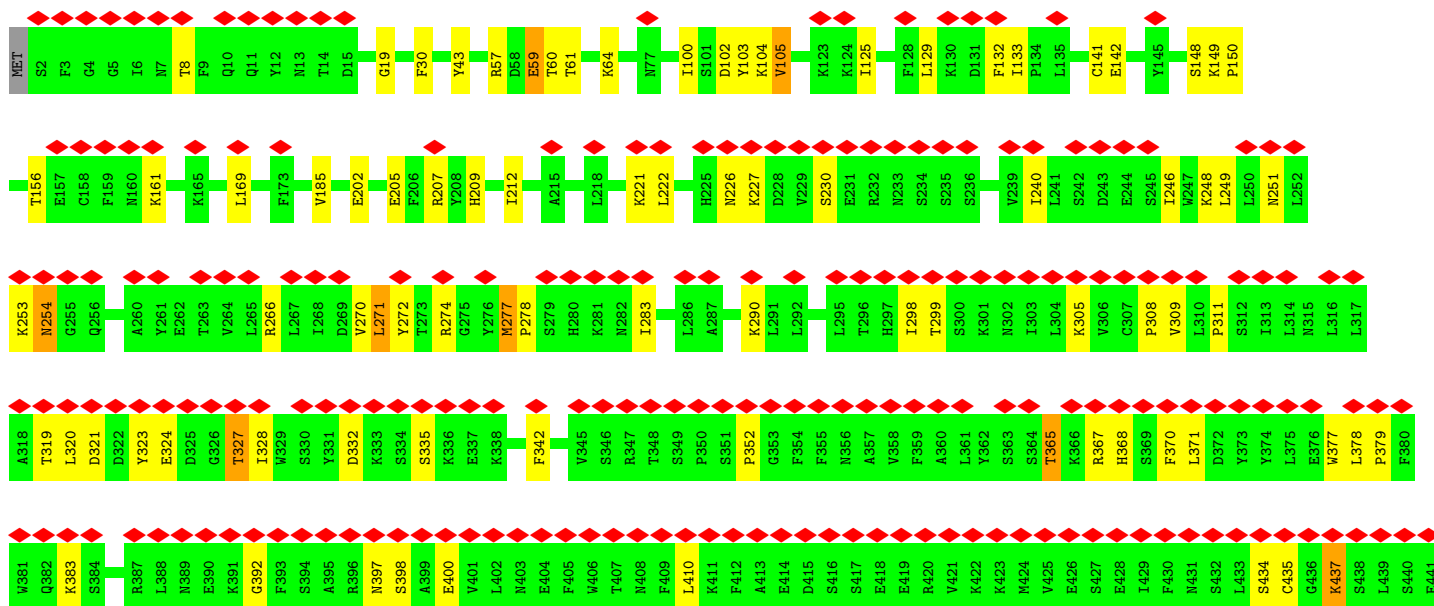
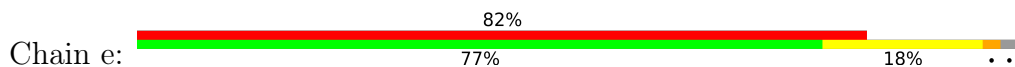


- Molecule 45: RQC2 isoform 1

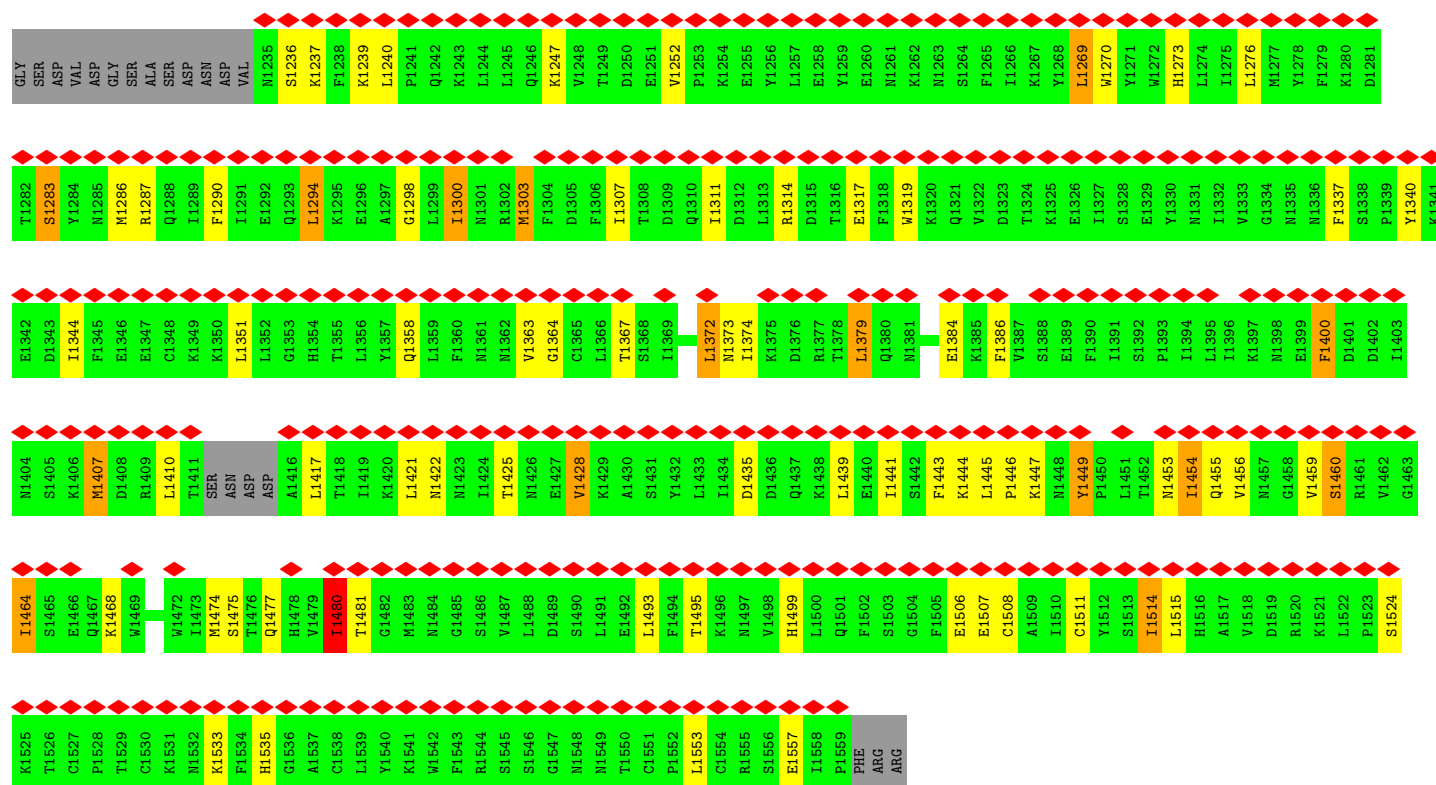




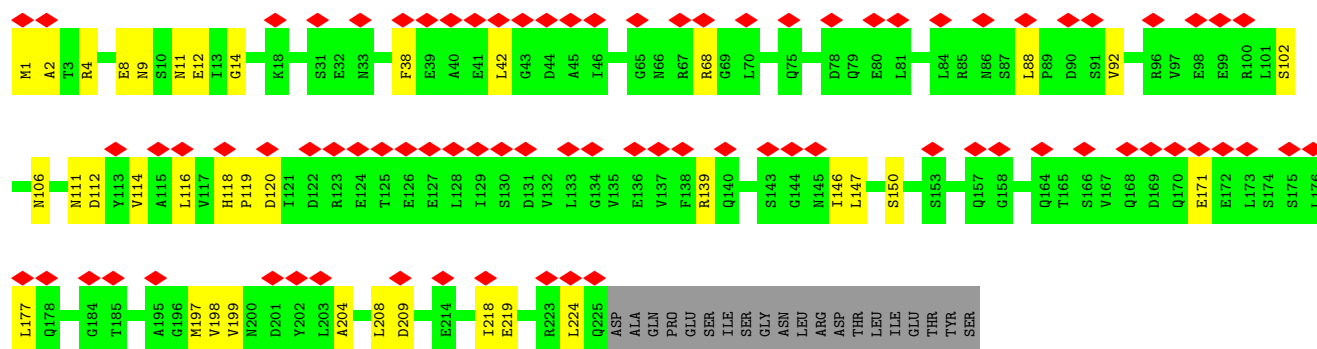
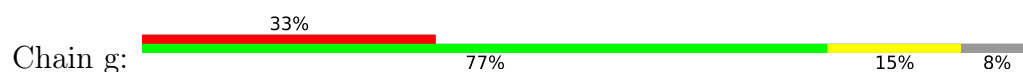
• Molecule 46: E3 ubiquitin-protein ligase listerin



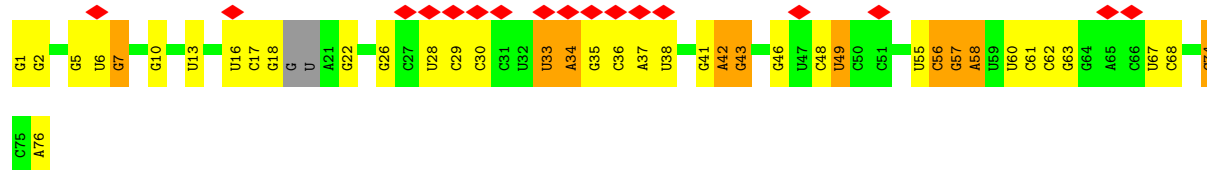
M162	E1103	E1042	S982	K802	A742	F882	E522	G562	D502	Y442
E163	L1103	P1043	Q983	P803	K743	F883	L623	I563	F503	T443
L1164	N1104	S1044	L984	T804	E744	S884	E24	M564	F504	K444
K1165	L1105	F1045	I985	N805	K745	T885	L625	A565	V505	L445
K1166	Y1106	G986	S925	L806	K746	L886	Y626	Q566	Q506	N446
L1167	E1107	T1046	S926	K807	V747	L887	I627	Y567	L507	Q447
E1168	T1108	V1047	T927	N808	V748	L888	E28	S568	I508	T448
S1169	L1109	R1049	L929	M809	H749	N889	D629	N569	E509	L449
Q1170	S1110	L1050	N930	Q810	A750	T930	F30	S570	T510	S450
I1171	Q1111	L1051	G931	K811	V751	D691	M631	K571	D511	G451
K1172	GLY	L1052	L932	L812	E752	F992	K632	F572	P512	V452
R1173	VAL	L1053	L933	L813	L753	L693	N633	F573	S513	F453
I1174	LYS	D1054	A934	R814	I754	S894	Y634	K574	N514	P454
F1175	ASN	F1055	S935	Y815	N755	C995	K635	M575	V515	P455
E1176	GLY	F1056	V936	A816	G756	A996	F636	N576	F516	D456
V1177	GLU	T1057	E937	L817	C757	L697	D637	T577	N517	K457
I1178	ILE	K1058	S938	F818	N758	Y998	D638	D578	K518	W458
L1179	SER	L1059	F939	L819	D759	E999	S639	E579	E459	R460
M1180	E1172	M1060	V940	D820	T760	V700	G840	I580	D520	R460
D1181	Y1123	R1061	T941	A821	S761	S701	E641	T581	G521	E461
K1182	G1124	F1062	K942	L822	Q762	E702	I642	S582	V522	I462
D1183	D1125	E1063	T943	L823	I763	D703	F643	L583	Y523	E463
I1184	E1126	G1064	Y944	D824	F764	T704	K644	E584	D524	D464
G1185	I1127	V1065	R945	A825	F765	N705	G645	D585	A525	Y465
S1186	Q1128	L1066	D946	L826	P766	E706	N646	F586	L526	F466
I1187	E1129	D1067	Q947	P827	K767	K707	N647	F587	N527	T467
N1188	E1130	M1068	K948	E828	N768	L708	K648	I588	Y528	S468
I1189	L1131	G1069	S949	R829	A769	F709	F649	V589	F529	D469
I1132	Y1101	T1070	T950	N830	I770	K710	N650	A590	E470	E470
E1133	E1101	I1071	D951	W831	E771	L711	L651	D531	D301	D471
L1134	L1102	A1072	K952	N832	V772	S712	Q852	S532	S32	I472
M1135	D1013	F1073	D953	H833	F773	L713	R653	F593	D533	R473
F1136	K1014	E1074	Y954	L834	A774	Q714	T854	N594	M534	K474
L1137	L1015	T1075	L955	W835	R775	L715	I655	I535	I535	I475
N1138	F1016	S1076	L956	A836	Y776	A716	T856	P596	F536	K476
F1139	V1017	E1077	C957	P837	N777	K717	T657	K597	L537	V477
N1140	P1018	R1078	A958	L838	F778	G718	L658	T598	N538	S478
Q1141	I1019	L1079	I959	T839	A779	N719	Y659	I599	G539	F479
E1142	A1020	L1080	L960	W840	I780	S720	R660	I600	K540	E480
R1143	P1021	D1081	L961	V841	D781	E721	S661	L601	I541	K481
N1144	R1022	A1082	L962	S842	V782	I722	A662	A602	G542	L482
N1145	R1023	S1083	M963	E843	K783	A723	V663	T603	K543	L483
Q1146	L1024	F1084	F964	L844	S784	N724	A664	M604	F544	F484
V1147	N1025	S1085	N965	W845	S785	K725	N665	N605	I545	A485
S1148	M1026	M1086	R966	T846	L786	L726	G866	E606	N546	L486
T1149	C1087	C1087	S967	D847	V787	A727	Q667	L607	E547	L487
L1150	Q1088	Q1088	N968	Y848	S788	Q728	V668	D608	I548	V488
F1151	I1089	R1089	S969	Y849	S789	V729	E669	N609	P549	T489
Y1152	S1030	D1090	K970	C850	L790	I730	Q870	D610	T550	S490
Q1153	I1031	D1091	D971	L851	S791	Q732	F671	I611	L551	P491
K1154	L1032	T1092	E972	S852	T792	Q732	C572	Y612	V552	N492
Y1155	K1033	L1093	L973	E853	N793	H733	A673	Q613	Q553	N493
K1156	W1034	Y1094	T974	E854	T794	A734	V674	Q614	E554	E494
L1157	L1035	L1095	K975	P855	H795	Q735	L675	L615	S555	S495
V1158	D1036	L1096	L976	N856	L796	V736	S676	M616	T556	A496
I1159	S1037	E1097	R977	D857	L797	V737	K677	K617	Y557	I497
S1160	D1038	L1098	T978	L858	L798	F738	L678	S618	Q558	S498
S1161	L1039	R1099	L979	Y859	T799	F739	D679	D619	R499	R499
	A1040	S1100	L980	Y860	D800	F740	E880	S620	F560	L500
	Y1041	S1101	A981	D861	D801	G741	T681	L621	A561	F501



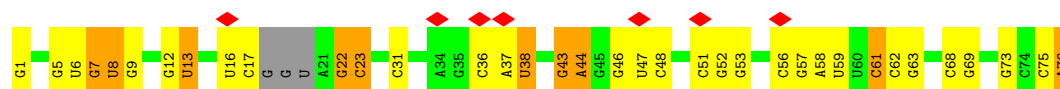
• Molecule 47: Eukaryotic translation initiation factor 6



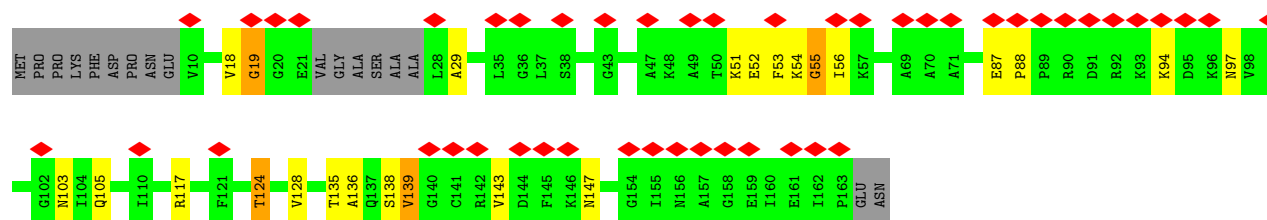
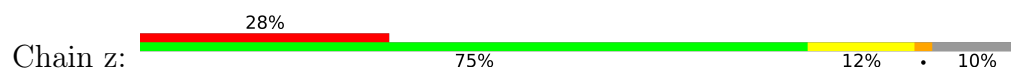
• Molecule 48: Ala tRNA



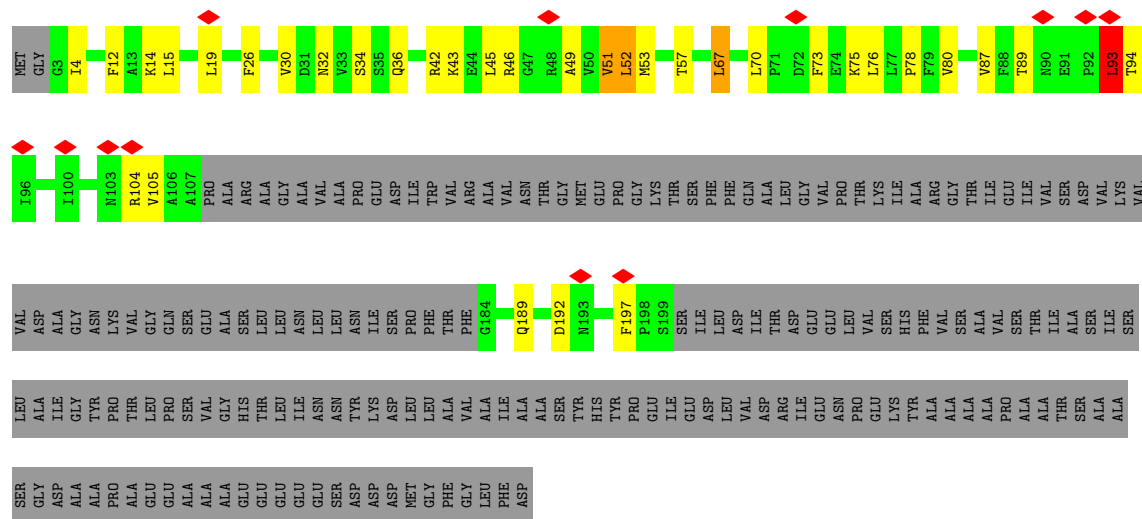
• Molecule 48: Ala tRNA



• Molecule 49: 60S ribosomal protein L12-A



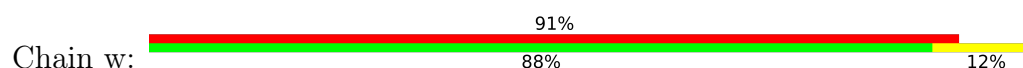
• Molecule 50: 60S acidic ribosomal protein P0



• Molecule 51: CAT-tailed nascent peptide



• Molecule 52: 60S ribosomal protein L1-A





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	58513	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	46	Depositor
Minimum defocus (nm)	400	Depositor
Maximum defocus (nm)	4000	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	3.793	Depositor
Minimum map value	-0.656	Depositor
Average map value	0.021	Depositor
Map value standard deviation	0.131	Depositor
Recommended contour level	0.55	Depositor
Map size (Å)	476.55002, 476.55002, 476.55002	wwPDB
Map dimensions	450, 450, 450	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.059, 1.059, 1.059	Depositor

5 Model quality

5.1 Standard geometry

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z > 5$	RMSZ	# $ Z > 5$
1	A	0.31	0/1757	0.54	0/2354
2	B	0.31	0/1585	0.54	0/2128
3	C	0.29	0/1439	0.61	0/1938
4	D	0.28	0/1465	0.57	0/1965
5	E	0.29	0/1275	0.56	0/1702
6	F	0.31	0/1473	0.56	0/1980
7	G	0.27	0/1296	0.56	0/1739
8	H	0.29	0/812	0.75	2/1099 (0.2%)
9	I	0.27	0/1018	0.50	0/1369
10	J	0.27	0/530	0.52	0/703
11	K	0.31	0/979	0.57	0/1321
12	L	0.27	0/995	0.53	0/1329
13	M	0.27	0/1106	0.56	0/1485
14	N	0.32	0/1200	0.56	1/1607 (0.1%)
15	O	0.25	0/473	0.62	0/629
16	P	0.26	0/745	0.60	0/1001
17	Q	0.31	0/890	0.68	2/1196 (0.2%)
18	R	0.25	0/1034	0.47	0/1385
19	S	0.30	0/868	0.47	0/1168
20	T	0.29	0/890	0.58	2/1189 (0.2%)
21	U	0.27	0/978	0.53	0/1301
22	V	0.28	0/772	0.57	0/1026
23	W	0.32	0/660	0.60	0/875
24	X	0.29	0/618	0.65	1/826 (0.1%)
25	Y	0.29	0/443	0.46	0/588
26	Z	0.28	0/416	0.60	0/553
27	b	0.28	0/836	0.53	0/1104
28	c	0.27	0/701	0.56	0/934
29	d	0.22	0/208	0.81	2/267 (0.7%)
30	f	0.31	0/77011	0.40	4/120065 (0.0%)
31	h	0.26	0/2883	0.32	0/4491
32	i	0.30	0/3746	0.36	0/5832

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	j	0.31	0/1908	0.53	0/2564
34	k	0.29	0/3146	0.53	0/4228
35	l	0.29	0/2800	0.57	4/3790 (0.1%)
36	m	0.27	0/2400	0.57	0/3239
37	n	0.28	0/1329	0.60	0/1794
38	o	0.31	0/1821	0.58	0/2451
39	p	0.27	0/1836	0.58	1/2481 (0.0%)
40	q	0.30	0/1529	0.63	2/2060 (0.1%)
41	r	0.25	0/1801	0.49	0/2416
42	s	0.26	0/1367	0.69	4/1834 (0.2%)
43	t	0.29	0/1568	0.62	1/2106 (0.0%)
44	u	0.30	0/1068	0.53	0/1438
45	a	0.26	0/6683	0.55	2/9016 (0.0%)
46	e	0.62	0/11711	0.92	57/15903 (0.4%)
47	g	0.24	0/1672	0.58	1/2281 (0.0%)
48	x	0.35	0/1761	0.61	0/2742
48	y	0.37	0/1735	0.64	0/2701
49	z	0.67	0/726	1.24	13/1006 (1.3%)
50	0	0.49	0/976	0.94	3/1313 (0.2%)
52	w	0.27	0/1736	0.61	1/2332 (0.0%)
All	All	0.34	0/160675	0.53	103/234844 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
15	O	0	1
21	U	0	1
34	k	0	1
35	l	0	2
39	p	0	3
40	q	0	1
44	u	0	1
46	e	0	1
47	g	0	1
All	All	0	12

There are no bond length outliers.

All (103) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	e	1364	GLY	N-CA-C	12.28	127.34	112.49
46	e	1460	SER	N-CA-C	10.07	122.34	111.36
46	e	1181	ASP	N-CA-C	8.80	120.88	111.28
46	e	1141	GLN	N-CA-C	8.76	120.83	111.28
46	e	793	ASN	N-CA-C	-8.72	102.65	113.28
46	e	994	ASP	N-CA-C	7.93	119.55	111.07
8	H	51	GLY	CA-C-N	7.88	136.58	121.54
8	H	51	GLY	C-N-CA	7.88	136.58	121.54
46	e	437	LYS	N-CA-C	-7.77	94.25	110.80
45	a	116	PHE	N-CA-C	-7.76	103.88	112.72
46	e	901	SER	N-CA-C	7.61	119.57	111.28
46	e	870	GLY	N-CA-C	-7.59	105.34	115.21
46	e	666	GLY	N-CA-C	-7.46	104.91	115.43
49	z	87	GLU	CA-C-N	-7.35	112.81	120.38
49	z	87	GLU	C-N-CA	-7.35	112.81	120.38
46	e	1447	LYS	N-CA-C	-7.32	100.87	110.53
49	z	138	SER	N-CA-C	-7.27	103.29	111.14
46	e	435	CYS	N-CA-C	-7.26	103.30	111.14
46	e	1298	GLY	N-CA-C	-7.24	105.22	115.43
46	e	1449	TYR	CA-C-N	-7.04	111.23	119.05
46	e	1449	TYR	C-N-CA	-7.04	111.23	119.05
45	a	117	PHE	N-CA-CB	-7.01	100.33	110.36
46	e	434	SER	N-CA-C	6.95	118.64	111.14
46	e	43	TYR	N-CA-C	6.85	118.75	111.28
49	z	94	LYS	N-CA-C	-6.77	103.98	111.36
35	l	4	PRO	CA-C-N	6.74	134.40	121.54
35	l	4	PRO	C-N-CA	6.74	134.40	121.54
46	e	57	ARG	N-CA-C	6.66	118.53	111.28
46	e	1182	LYS	N-CA-C	6.49	118.02	111.07
14	N	66	ALA	N-CA-C	-6.41	106.42	114.56
46	e	667	GLN	N-CA-C	-6.35	105.48	112.72
46	e	148	SER	N-CA-C	6.30	117.95	111.14
40	q	138	THR	CA-C-N	6.27	133.51	121.54
40	q	138	THR	C-N-CA	6.27	133.51	121.54
46	e	132	PHE	N-CA-C	6.27	118.19	111.36
46	e	1283	SER	N-CA-C	-6.25	99.98	109.85
46	e	1445	LEU	N-CA-C	-6.20	100.62	109.24
29	d	4	MET	CA-C-N	6.19	133.37	121.54
29	d	4	MET	C-N-CA	6.19	133.37	121.54
46	e	736	VAL	N-CA-C	6.14	116.92	110.72
46	e	365	THR	N-CA-C	5.95	118.72	111.82
46	e	185	VAL	N-CA-C	5.91	116.09	110.53
49	z	124	THR	N-CA-C	5.89	117.70	111.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	e	383	LYS	N-CA-C	-5.87	104.88	111.28
46	e	202	GLU	N-CA-C	-5.85	102.99	110.53
46	e	1317	GLU	N-CA-C	5.78	117.26	111.07
46	e	1069	GLY	N-CA-C	5.78	118.42	110.56
46	e	787	VAL	N-CA-C	5.74	116.51	110.72
30	f	2541	U	P-O3'-C3'	5.69	128.73	120.20
47	g	171	GLU	N-CA-CB	5.65	119.04	110.28
42	s	114	ILE	CA-C-N	5.62	132.28	121.54
42	s	114	ILE	C-N-CA	5.62	132.28	121.54
46	e	462	ILE	N-CA-C	-5.57	104.94	110.62
42	s	7	ASN	N-CA-C	5.53	117.54	109.30
46	e	490	SER	N-CA-C	5.52	116.65	109.64
46	e	517	ASN	N-CA-C	5.50	117.08	111.14
43	t	136	GLU	CA-CB-CG	5.48	125.06	114.10
46	e	1557	GLU	N-CA-C	5.45	118.18	110.50
20	T	94	LEU	CA-C-N	-5.44	112.75	121.35
20	T	94	LEU	C-N-CA	-5.44	112.75	121.35
42	s	108	GLU	CA-CB-CG	5.41	124.93	114.10
46	e	788	SER	N-CA-C	5.41	117.07	110.41
46	e	19	GLY	N-CA-C	5.39	118.87	111.54
49	z	19	GLY	N-CA-C	5.36	119.40	112.54
46	e	691	ASP	N-CA-C	-5.36	106.52	113.16
46	e	896	PHE	N-CA-C	5.35	117.19	111.36
49	z	29	ALA	N-CA-C	-5.35	105.57	113.16
50	0	94	THR	N-CA-C	5.34	117.11	111.28
30	f	282	G	C2'-C3'-O3'	5.32	121.68	113.70
30	f	1815	U	P-O3'-C3'	5.32	128.18	120.20
46	e	1480	ILE	N-CA-C	5.32	116.09	110.72
30	f	1307	G	P-O3'-C3'	5.31	128.17	120.20
46	e	133	ILE	CA-C-N	-5.31	113.16	119.05
46	e	133	ILE	C-N-CA	-5.31	113.16	119.05
17	Q	83	GLU	CA-C-N	5.30	131.67	121.54
17	Q	83	GLU	C-N-CA	5.30	131.67	121.54
46	e	1314	ARG	N-CA-C	5.30	117.80	111.71
46	e	548	ILE	CB-CA-C	-5.28	108.75	114.35
46	e	30	PHE	N-CA-C	5.26	117.02	111.28
49	z	117	ARG	N-CA-C	-5.22	105.58	111.28
46	e	1459	VAL	CB-CA-C	-5.21	107.28	111.71
46	e	142	GLU	N-CA-C	-5.21	101.39	109.72
49	z	18	VAL	N-CA-C	-5.20	102.87	109.58
39	p	79	GLN	CA-CB-CG	5.18	124.46	114.10
46	e	59	GLU	N-CA-C	5.17	117.00	111.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	l	317	PRO	CA-C-N	5.17	131.41	121.54
35	l	317	PRO	C-N-CA	5.17	131.41	121.54
46	e	1524	SER	N-CA-C	5.16	116.98	111.36
50	0	89	THR	N-CA-C	5.16	117.83	109.06
46	e	450	SER	N-CA-C	5.15	116.58	111.07
46	e	570	SER	N-CA-C	5.14	117.32	110.53
49	z	103	ASN	N-CA-C	5.14	117.00	109.24
49	z	139	VAL	N-CA-C	5.13	115.36	110.53
49	z	147	ASN	CA-C-N	-5.12	114.30	119.83
49	z	147	ASN	C-N-CA	-5.12	114.30	119.83
46	e	1252	VAL	CA-C-N	-5.12	114.14	120.79
46	e	1252	VAL	C-N-CA	-5.12	114.14	120.79
50	0	104	ARG	N-CA-C	5.11	118.49	111.54
46	e	1453	ASN	N-CA-C	5.08	117.67	110.50
46	e	796	LEU	N-CA-C	-5.07	105.75	111.28
24	X	67	GLN	N-CA-CB	5.06	118.65	110.40
46	e	1459	VAL	N-CA-C	5.01	116.19	111.48
52	w	15	GLU	N-CA-CB	5.00	118.03	110.28

There are no chirality outliers.

All (12) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
15	O	20	GLY	Peptide
21	U	83	LYS	Peptide
46	e	392	GLY	Peptide
47	g	8	GLU	Peptide
34	k	141	GLY	Peptide
35	l	13	GLY	Peptide
35	l	318	LEU	Peptide
39	p	158	ASP	Peptide
39	p	30	THR	Peptide
39	p	76	ALA	Peptide
40	q	21	LYS	Peptide
44	u	12	TRP	Peptide

5.2 Too-close contacts

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

the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1720	0	1779	19	0
2	B	1555	0	1659	17	0
3	C	1416	0	1433	14	0
4	D	1441	0	1543	15	0
5	E	1258	0	1342	13	0
6	F	1437	0	1475	19	0
7	G	1272	0	1312	13	0
8	H	796	0	812	6	0
9	I	1003	0	1048	10	0
10	J	518	0	542	6	0
11	K	964	0	1025	1	0
12	L	984	0	1075	7	0
13	M	1080	0	1122	7	0
14	N	1169	0	1211	14	0
15	O	462	0	491	8	0
16	P	737	0	792	4	0
17	Q	876	0	912	10	0
18	R	1013	0	1077	8	0
19	S	850	0	880	4	0
20	T	880	0	942	8	0
21	U	969	0	1078	5	0
22	V	766	0	842	8	0
23	W	645	0	645	13	0
24	X	612	0	682	6	0
25	Y	436	0	475	2	0
26	Z	410	0	442	4	0
27	b	824	0	888	11	0
28	c	694	0	734	9	0
29	d	207	0	250	3	0
30	f	68802	0	34573	373	0
31	h	2579	0	1304	9	0
32	i	3353	0	1695	13	0
33	j	1874	0	1943	25	0
34	k	3075	0	3142	20	0
35	l	2748	0	2859	24	0
36	m	2351	0	2294	31	0
37	n	1307	0	1377	7	0
38	o	1784	0	1862	9	0
39	p	1804	0	1877	16	0
40	q	1508	0	1572	16	0
41	r	1764	0	1804	16	0
42	s	1346	0	1370	9	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
43	t	1543	0	1608	14	0
44	u	1053	0	1149	11	0
45	a	6573	0	6471	57	0
46	e	11512	0	10772	274	0
47	g	1651	0	1613	22	0
48	x	1579	0	800	25	0
48	y	1556	0	788	17	0
49	z	728	0	337	20	0
50	0	961	0	979	45	0
51	1	85	0	21	1	0
52	w	1709	0	1797	15	0
53	A	1	0	0	0	0
53	C	1	0	0	0	0
53	E	1	0	0	0	0
53	I	1	0	0	0	0
53	R	1	0	0	0	0
53	T	1	0	0	0	0
53	f	3	0	0	0	0
53	h	1	0	0	0	0
53	j	2	0	0	0	0
53	k	1	0	0	0	0
54	T	1	0	0	0	0
54	W	1	0	0	0	0
54	Z	1	0	0	0	0
54	b	1	0	0	0	0
54	c	1	0	0	0	0
54	e	2	0	0	0	0
55	f	10	0	19	1	0
All	All	150269	0	112534	1092	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 4.

All (1092) 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)
46:e:272:TYR:HA	46:e:277:MET:SD	1.28	1.65
46:e:277:MET:SD	46:e:278:PRO:HD3	1.34	1.61
46:e:751:VAL:HA	46:e:754:ILE:CD1	1.30	1.60
46:e:272:TYR:HD1	46:e:277:MET:CE	1.13	1.55
46:e:371:LEU:HD12	46:e:377:TRP:CZ2	1.39	1.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:e:272:TYR:CD1	46:e:277:MET:HE1	1.39	1.54
46:e:371:LEU:HB2	46:e:377:TRP:NE1	1.19	1.48
48:y:76:A:O3'	51:1:57:UNK:C	1.64	1.46
30:f:1259:A:C8	50:0:53:MET:HB2	1.51	1.46
46:e:1303:MET:HA	46:e:1303:MET:CE	1.48	1.42
46:e:277:MET:SD	46:e:278:PRO:CD	2.07	1.42
46:e:1456:VAL:CG2	46:e:1480:ILE:HD11	1.51	1.41
30:f:1258:U:H4'	50:0:42:ARG:NH1	1.26	1.40
46:e:751:VAL:CA	46:e:754:ILE:HD11	1.53	1.37
46:e:323:TYR:CE1	46:e:324:GLU:CG	2.07	1.37
30:f:1258:U:C4'	50:0:42:ARG:HH12	1.36	1.35
46:e:323:TYR:CE1	46:e:324:GLU:HG3	1.61	1.31
46:e:809:MET:CE	46:e:844:LEU:HD21	1.59	1.30
46:e:272:TYR:CA	46:e:277:MET:SD	2.18	1.29
46:e:751:VAL:O	46:e:754:ILE:HG13	1.28	1.28
46:e:371:LEU:HD12	46:e:377:TRP:CE2	1.71	1.25
46:e:371:LEU:CB	46:e:377:TRP:NE1	2.01	1.23
48:x:56:C:O2'	48:x:57:G:H5''	1.30	1.23
46:e:1303:MET:HE2	46:e:1303:MET:CA	1.63	1.21
46:e:272:TYR:CD1	46:e:277:MET:CE	2.05	1.21
46:e:750:ALA:O	46:e:754:ILE:HG12	1.37	1.20
30:f:1257:C:H5'	49:z:124:THR:CB	1.74	1.18
48:x:56:C:O2'	48:x:57:G:C5'	1.93	1.16
46:e:323:TYR:CE1	46:e:324:GLU:HG2	1.77	1.14
30:f:1259:A:C8	50:0:53:MET:CB	2.32	1.12
46:e:1456:VAL:HG23	46:e:1480:ILE:CD1	1.79	1.12
46:e:882:ASN:O	46:e:885:GLN:O	1.69	1.11
46:e:1477:GLN:HE22	46:e:1481:THR:CB	1.65	1.10
46:e:1477:GLN:NE2	46:e:1481:THR:OG1	1.84	1.10
46:e:751:VAL:HA	46:e:754:ILE:CG1	1.80	1.10
46:e:1477:GLN:NE2	46:e:1481:THR:CG2	2.15	1.09
46:e:371:LEU:CD1	46:e:377:TRP:CZ2	2.34	1.09
30:f:1221:A:C2	50:0:12:PHE:HE2	1.69	1.08
46:e:809:MET:HE3	46:e:844:LEU:HD21	1.19	1.08
46:e:713:LEU:O	46:e:717:LYS:HG3	1.55	1.07
46:e:809:MET:CE	46:e:844:LEU:CD2	2.32	1.07
46:e:371:LEU:CB	46:e:377:TRP:HE1	1.63	1.06
46:e:989:GLU:O	46:e:1039:LEU:CD2	2.03	1.05
46:e:1456:VAL:CG2	46:e:1480:ILE:CD1	2.34	1.04
46:e:989:GLU:C	46:e:1039:LEU:CD2	2.32	1.03
46:e:731:LEU:HD12	46:e:732:GLN:N	1.73	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:e:323:TYR:CZ	46:e:324:GLU:CG	2.44	1.00
30:f:1259:A:N7	50:0:53:MET:CB	2.25	0.99
46:e:323:TYR:CD1	46:e:324:GLU:HG2	1.98	0.98
46:e:371:LEU:CD1	46:e:377:TRP:CE2	2.46	0.98
30:f:2473:C:C2	30:f:2475:G:H1'	1.98	0.97
46:e:809:MET:HE2	46:e:844:LEU:HD21	1.42	0.97
30:f:1259:A:H8	50:0:53:MET:HB2	1.29	0.97
46:e:1456:VAL:HG23	46:e:1480:ILE:HD11	0.96	0.96
46:e:989:GLU:O	46:e:1039:LEU:HD21	1.65	0.96
30:f:1258:U:P	50:0:46:ARG:HH22	1.89	0.95
46:e:731:LEU:HD12	46:e:731:LEU:C	1.90	0.95
46:e:1477:GLN:NE2	46:e:1481:THR:HG21	1.80	0.94
46:e:1477:GLN:HE22	46:e:1481:THR:CG2	1.77	0.94
46:e:751:VAL:CA	46:e:754:ILE:CG1	2.46	0.94
30:f:1257:C:O3'	50:0:46:ARG:NH2	2.02	0.93
46:e:751:VAL:C	46:e:754:ILE:HG13	1.93	0.93
46:e:989:GLU:C	46:e:1039:LEU:HD22	1.93	0.93
46:e:323:TYR:CZ	46:e:324:GLU:HG2	2.02	0.92
15:O:16:ALA:O	15:O:20:GLY:HA3	1.69	0.90
46:e:809:MET:HE2	46:e:844:LEU:CD2	2.00	0.90
46:e:751:VAL:O	46:e:754:ILE:CG1	2.19	0.90
46:e:809:MET:HE3	46:e:844:LEU:CD2	1.99	0.90
30:f:1222:G:OP2	50:0:57:THR:OG1	1.90	0.89
46:e:277:MET:SD	46:e:278:PRO:HD2	2.12	0.89
30:f:1258:U:O5'	50:0:42:ARG:NH1	2.04	0.89
30:f:1258:U:C5'	50:0:42:ARG:HH12	1.86	0.87
48:y:8:U:H2'	48:y:8:U:O2	1.71	0.87
46:e:371:LEU:HB2	46:e:377:TRP:CD1	2.12	0.85
46:e:804:ILE:HD12	46:e:809:MET:SD	2.17	0.85
30:f:1221:A:C2	50:0:12:PHE:CE2	2.62	0.84
46:e:277:MET:CE	46:e:278:PRO:HD3	2.06	0.84
46:e:323:TYR:CD1	46:e:324:GLU:CG	2.59	0.84
30:f:1259:A:N7	50:0:53:MET:HG3	1.92	0.83
30:f:1258:U:H4'	50:0:42:ARG:HH12	0.66	0.83
46:e:324:GLU:O	46:e:327:THR:OG1	1.93	0.83
46:e:222:LEU:HD12	46:e:226:ASN:ND2	1.94	0.82
46:e:751:VAL:C	46:e:754:ILE:CG1	2.53	0.82
46:e:1444:LYS:HD2	46:e:1455:GLN:HE21	1.45	0.81
30:f:1229:G:H4'	50:0:32:ASN:OD1	1.79	0.81
48:x:56:C:HO2'	48:x:57:G:C5'	1.85	0.81
48:x:58:A:H8	48:x:58:A:OP2	1.63	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:f:1222:G:N7	50:0:57:THR:HB	1.95	0.81
46:e:371:LEU:CB	46:e:377:TRP:CD1	2.65	0.79
48:x:26:G:O6	48:x:43:G:O6	2.01	0.78
46:e:222:LEU:CD1	46:e:226:ASN:ND2	2.47	0.78
30:f:1258:U:C5'	50:0:42:ARG:NH1	2.46	0.77
46:e:141:CYS:SG	46:e:221:LYS:HD2	2.24	0.77
46:e:937:GLU:HG2	46:e:976:LEU:HG	1.67	0.76
46:e:1477:GLN:CD	46:e:1481:THR:OG1	2.28	0.76
30:f:1259:A:N7	50:0:53:MET:CG	2.47	0.76
46:e:272:TYR:CE1	46:e:277:MET:HE1	2.17	0.75
46:e:272:TYR:CD1	46:e:277:MET:HE3	2.16	0.74
30:f:1258:U:C4'	50:0:42:ARG:NH1	2.13	0.74
46:e:272:TYR:HD1	46:e:277:MET:HE1	0.57	0.74
15:O:16:ALA:O	15:O:20:GLY:CA	2.36	0.73
46:e:266:ARG:O	46:e:270:VAL:HG23	1.88	0.73
46:e:149:LYS:HB3	46:e:150:PRO:HD3	1.69	0.73
46:e:272:TYR:CB	46:e:277:MET:SD	2.76	0.73
46:e:1477:GLN:HE21	46:e:1481:THR:HG21	1.53	0.72
30:f:2444:C:H2'	30:f:2445:A:H8	1.51	0.72
46:e:731:LEU:C	46:e:731:LEU:CD1	2.62	0.72
49:z:105:GLN:HA	49:z:143:VAL:HA	1.71	0.72
46:e:989:GLU:HB2	46:e:1039:LEU:CD2	2.20	0.72
48:x:58:A:OP2	48:x:58:A:C8	2.43	0.72
46:e:323:TYR:CZ	46:e:324:GLU:HG3	2.16	0.72
30:f:2473:C:N3	30:f:2475:G:H1'	2.04	0.72
46:e:691:ASP:O	46:e:695:CYS:N	2.21	0.72
46:e:365:THR:HB	46:e:370:PHE:HB3	1.72	0.71
49:z:19:GLY:HA3	49:z:55:GLY:HA2	1.72	0.71
46:e:105:VAL:HG22	47:g:1:MET:HE1	1.72	0.71
40:q:92:TYR:HB2	40:q:142:ASP:HB3	1.73	0.71
30:f:2473:C:N4	30:f:2475:G:N3	2.40	0.70
46:e:1508:CYS:HA	46:e:1533:LYS:O	1.92	0.70
46:e:1456:VAL:HG21	46:e:1480:ILE:HD11	1.64	0.70
30:f:1018:G:H1	30:f:1034:U:H3	1.38	0.69
46:e:1145:ASN:HB2	46:e:1147:VAL:HG22	1.72	0.69
30:f:1219:C:OP1	50:0:4:ILE:HG21	1.92	0.69
46:e:323:TYR:HE1	46:e:324:GLU:HG3	1.44	0.69
48:x:1:G:H2'	48:x:2:G:C8	2.27	0.69
46:e:272:TYR:CD1	46:e:277:MET:SD	2.86	0.69
23:W:21:ARG:HE	23:W:39:TYR:HB2	1.58	0.69
46:e:272:TYR:HA	46:e:277:MET:CG	2.23	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:0:26:PHE:HB2	50:0:87:VAL:HB	1.73	0.69
30:f:2193:U:H5'	30:f:2194:G:H5'	1.75	0.69
46:e:987:ILE:HD13	46:e:996:GLU:HG3	1.75	0.68
52:w:138:VAL:HG23	52:w:147:LYS:HD2	1.75	0.68
46:e:222:LEU:HD12	46:e:226:ASN:HD21	1.57	0.68
30:f:2254:U:H5''	45:a:75:GLY:HA3	1.73	0.68
2:B:46[A]:GLU:HB3	2:B:49[A]:ARG:HG3	1.75	0.68
30:f:1222:G:C8	50:0:57:THR:HB	2.29	0.68
30:f:2472:U:H2'	30:f:2474:G:H22	1.59	0.67
45:a:90:THR:HG21	45:a:107:ASP:OD1	1.94	0.67
30:f:2473:C:N4	30:f:2475:G:C2	2.62	0.67
46:e:104:LYS:H	47:g:1:MET:HE3	1.58	0.67
46:e:751:VAL:HA	46:e:754:ILE:HD11	0.68	0.67
30:f:1222:G:C8	50:0:57:THR:CB	2.79	0.66
30:f:1240:A:OP1	49:z:97:ASN:O	2.14	0.66
30:f:1254:C:O2	49:z:135:THR:CB	2.43	0.66
30:f:1222:G:C8	50:0:57:THR:HG21	2.31	0.66
30:f:1258:U:P	50:0:46:ARG:NH2	2.64	0.66
46:e:989:GLU:HB2	46:e:1039:LEU:HD23	1.77	0.66
30:f:1940:G:H21	30:f:3362:A:H8	1.44	0.66
46:e:253:LYS:C	46:e:254:ASN:OD1	2.39	0.66
30:f:1221:A:N3	50:0:12:PHE:HE2	1.93	0.65
30:f:1238:C:H4'	49:z:139:VAL:CB	2.27	0.65
30:f:2969:A:N7	33:j:215:ASN:ND2	2.42	0.65
30:f:3018:C:OP1	47:g:9:ASN:ND2	2.29	0.65
23:W:2:GLY:N	30:f:2138:A:HO2'	1.94	0.65
30:f:687:U:OP2	43:t:36:ARG:NH2	2.30	0.65
30:f:2836:C:H5	30:f:2852:C:H42	1.44	0.65
46:e:751:VAL:CA	46:e:754:ILE:CD1	2.27	0.65
46:e:1475:SER:OG	46:e:1493:LEU:HD21	1.96	0.65
30:f:2473:C:C5	30:f:2474:G:N2	2.63	0.64
46:e:320:LEU:HB3	46:e:328:ILE:HG21	1.79	0.64
7:G:84:TYR:HB2	15:O:24:PRO:HD3	1.78	0.64
46:e:371:LEU:HB3	46:e:377:TRP:CD1	2.32	0.64
30:f:2472:U:H2'	30:f:2474:G:N2	2.13	0.64
46:e:1086:MET:HB2	46:e:1092:THR:HG21	1.80	0.64
5:E:128:LYS:NZ	30:f:1724:U:OP2	2.31	0.64
30:f:2474:G:H1'	30:f:2475:G:C8	2.32	0.64
46:e:59:GLU:HG2	46:e:103:TYR:CD1	2.33	0.64
46:e:1236:SER:HA	46:e:1239:LYS:HE3	1.80	0.64
48:y:8:U:O2	48:y:8:U:C2'	2.46	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:e:60:THR:O	46:e:64:LYS:HG3	1.98	0.64
46:e:1303:MET:HA	46:e:1303:MET:HE2	0.69	0.64
46:e:1477:GLN:NE2	46:e:1481:THR:HG23	2.12	0.63
2:B:27[A]:LEU:HD21	2:B:102[A]:LEU:HB2	1.80	0.63
9:I:12:ARG:NH1	30:f:3041:U:OP1	2.32	0.63
46:e:807:LYS:CE	46:e:808:ASN:OD1	2.47	0.63
47:g:111:ASN:ND2	47:g:114:VAL:O	2.32	0.63
46:e:222:LEU:CD1	46:e:226:ASN:HD21	2.08	0.63
48:y:62:C:H2'	48:y:63:G:C8	2.34	0.63
28:c:87:ARG:NH1	33:j:97:ASN:OD1	2.33	0.62
45:a:403:LYS:NZ	45:a:512:LEU:O	2.28	0.62
46:e:1192:ARG:HG2	46:e:1270:TRP:CH2	2.34	0.62
13:M:27:LYS:HB3	13:M:42:LEU:HB2	1.81	0.62
29:d:4:MET:N	30:f:1802:C:OP1	2.32	0.62
46:e:1024:LEU:HD11	46:e:1059:LEU:HD21	1.82	0.62
49:z:54:LYS:C	49:z:56:ILE:H	2.07	0.62
30:f:1232:C:O2'	50:0:36:GLN:NE2	2.31	0.62
46:e:1477:GLN:CD	46:e:1481:THR:HG1	2.06	0.62
49:z:51:LYS:O	49:z:52:GLU:C	2.43	0.62
46:e:989:GLU:OE1	46:e:1039:LEU:HB2	2.00	0.62
5:E:43:LYS:NZ	30:f:1764:U:OP1	2.31	0.62
9:I:14:SER:O	9:I:81:GLN:NE2	2.33	0.62
46:e:1439:LEU:HA	46:e:1460:SER:HB2	1.83	0.61
23:W:21:ARG:HG2	32:i:103:G:H4'	1.82	0.61
30:f:1221:A:N3	50:0:12:PHE:CE2	2.67	0.61
46:e:1477:GLN:OE1	46:e:1481:THR:OG1	2.18	0.61
30:f:3348:G:H1	30:f:3357:U:H3	1.48	0.61
46:e:809:MET:CE	46:e:844:LEU:HD23	2.30	0.61
30:f:1235:U:O4	49:z:136:ALA:HA	2.00	0.61
30:f:1348:U:O2	30:f:1349:G:N2	2.34	0.61
36:m:50:ARG:NH1	36:m:147:ASP:OD2	2.34	0.61
46:e:1319:TRP:CD1	46:e:1386:PHE:HE1	2.18	0.61
48:x:56:C:O2'	48:x:57:G:O5'	2.05	0.61
30:f:2254:U:C5'	45:a:75:GLY:HA3	2.31	0.61
38:o:87:VAL:HG11	38:o:243:MET:HE1	1.83	0.61
46:e:102:ASP:OD1	46:e:207:ARG:HD2	1.99	0.60
36:m:294:ALA:HB1	41:r:217:PHE:HB3	1.83	0.60
48:y:1:G:C6	48:y:73:G:C2	2.88	0.60
20:T:74:ARG:NH2	30:f:1639:C:OP2	2.31	0.60
46:e:1340:TYR:O	46:e:1344:ILE:HG12	2.02	0.60
3:C:173:ARG:NH2	30:f:618:C:OP1	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:38:ARG:NH2	30:f:1348:U:OP2	2.34	0.60
46:e:149:LYS:HB3	46:e:150:PRO:CD	2.31	0.60
14:N:21:ARG:NH2	30:f:640:U:OP1	2.32	0.60
30:f:1253:U:H5''	30:f:1254:C:H5'	1.83	0.60
6:F:80:ARG:HH21	6:F:87:THR:HG21	1.66	0.60
40:q:89:LYS:HG2	40:q:145:VAL:HG22	1.84	0.60
1:A:201:ARG:NH2	30:f:692:A:OP1	2.35	0.60
23:W:55:ARG:NH2	35:l:59:GLN:OE1	2.34	0.60
43:t:27:ASP:O	43:t:31:LYS:HB2	2.01	0.60
46:e:807:LYS:NZ	46:e:808:ASN:OD1	2.35	0.60
46:e:731:LEU:HD12	46:e:732:GLN:CA	2.32	0.59
46:e:750:ALA:C	46:e:754:ILE:HG12	2.25	0.59
50:0:192:ASP:HB2	50:0:197:PHE:HE2	1.67	0.59
31:h:31:U:O2'	36:m:218:ARG:NH1	2.35	0.59
46:e:990:VAL:N	46:e:1039:LEU:HD22	2.17	0.59
6:F:8:GLN:HB3	6:F:64:ILE:HD11	1.85	0.59
36:m:277:LEU:HG	36:m:281:GLU:HG3	1.83	0.59
22:V:66:GLU:OE2	52:w:199:GLN:NE2	2.35	0.59
30:f:2471:U:O2	30:f:2474:G:C2	2.56	0.59
45:a:975:LYS:HE2	45:a:998:LYS:HA	1.84	0.59
1:A:183:THR:HG22	1:A:187:ARG:HB2	1.85	0.59
45:a:4:ARG:NH1	45:a:57:GLY:O	2.35	0.59
30:f:439:C:O2'	30:f:494:G:N2	2.34	0.59
31:h:52:G:H21	42:s:9:MET:HE1	1.68	0.59
33:j:27:ALA:O	33:j:128:ARG:NH2	2.36	0.59
30:f:1268:G:O2'	30:f:1273:A:N6	2.36	0.58
14:N:21:ARG:NH1	30:f:1369:A:OP1	2.36	0.58
30:f:804:C:OP1	35:l:98:ARG:NH2	2.35	0.58
45:a:619:HIS:NE2	45:a:679:GLY:O	2.36	0.58
46:e:277:MET:CG	46:e:278:PRO:HD3	2.31	0.58
46:e:751:VAL:CB	46:e:754:ILE:HD11	2.29	0.58
21:U:5:LYS:HB2	21:U:8:GLU:HG2	1.84	0.58
28:c:4:ARG:NH1	30:f:837:A:OP2	2.36	0.58
5:E:100:ARG:NH1	30:f:1722:U:OP1	2.36	0.58
30:f:1354:G:N3	37:n:8:LYS:NZ	2.51	0.58
46:e:100:ILE:HG22	46:e:207:ARG:HH21	1.69	0.58
46:e:776:TYR:HB2	46:e:812:LEU:HG	1.85	0.58
48:y:62:C:H2'	48:y:63:G:H8	1.68	0.58
52:w:65:ILE:HG12	52:w:109:ALA:HB3	1.84	0.58
6:F:77:VAL:HG22	6:F:126:VAL:HG23	1.85	0.58
28:c:17:ARG:NH1	30:f:860:G:OP1	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:f:2254:U:H5''	45:a:75:GLY:CA	2.32	0.58
14:N:42:ARG:NH2	30:f:2800:G:O6	2.37	0.58
46:e:1276:LEU:HD13	46:e:1358:GLN:HG2	1.86	0.58
30:f:1259:A:N7	50:0:53:MET:HB3	2.15	0.58
41:r:205:SER:OG	41:r:208:ASN:OD1	2.21	0.58
46:e:1303:MET:CE	46:e:1303:MET:CA	2.30	0.58
32:i:21:C:OP1	35:l:193:LYS:NZ	2.36	0.58
50:0:43:LYS:HA	50:0:46:ARG:HG2	1.86	0.57
30:f:3187:A:OP1	40:q:23:ARG:NH1	2.37	0.57
45:a:359:GLN:HA	45:a:362:LYS:HD2	1.85	0.57
11:K:50:ALA:HB1	21:U:66:VAL:HG11	1.86	0.57
36:m:166:ALA:HB1	36:m:171:LEU:HD12	1.85	0.57
2:B:60[A]:LYS:HE3	30:f:1307:G:H5'	1.86	0.57
36:m:64:ILE:HG13	36:m:109:THR:HG21	1.87	0.57
45:a:936:ASP:HA	45:a:996:MET:HE1	1.86	0.57
26:Z:125:LYS:O	40:q:173:ARG:NH1	2.35	0.57
46:e:1477:GLN:NE2	46:e:1481:THR:HG1	1.97	0.57
46:e:156:THR:HG22	46:e:161:LYS:HA	1.86	0.57
28:c:4:ARG:NH2	30:f:838:G:O6	2.38	0.57
46:e:1152:TYR:HD1	46:e:1193:LEU:HD12	1.68	0.57
30:f:1390:A:N6	30:f:1418:A:O2'	2.38	0.56
34:k:59:ASP:HB2	34:k:357:LYS:HE3	1.87	0.56
37:n:132:THR:HA	37:n:135:VAL:HG12	1.87	0.56
4:D:43:PRO:HB2	30:f:728:G:H5''	1.86	0.56
13:M:17:ARG:NH1	30:f:1634:G:N7	2.53	0.56
30:f:2491:A:H1'	52:w:207:LYS:HE2	1.88	0.56
17:Q:4:LEU:O	17:Q:79:ARG:NH2	2.38	0.56
22:V:68:ARG:NH2	30:f:2219:A:OP2	2.38	0.56
26:Z:100:TYR:O	30:f:2895:G:O2'	2.24	0.56
28:c:49:ARG:NH2	30:f:1793:C:OP2	2.38	0.56
30:f:2472:U:C2'	30:f:2474:G:N2	2.68	0.56
47:g:118:HIS:HD1	47:g:120:ASP:H	1.52	0.56
30:f:1231:A:H5''	30:f:1232:C:H5'	1.86	0.56
17:Q:55:LEU:HB2	17:Q:95:PRO:HD3	1.86	0.56
25:Y:5:LYS:HE2	25:Y:13:MET:HE1	1.87	0.56
30:f:542:G:H1	30:f:549:U:H3	1.52	0.56
34:k:66:LYS:O	34:k:70:ARG:NH2	2.39	0.56
46:e:937:GLU:HG2	46:e:976:LEU:CG	2.35	0.56
30:f:2447:A:H2'	30:f:2448:G:O4'	2.06	0.56
30:f:2482:U:H2'	30:f:2483:G:C8	2.41	0.56
20:T:87:GLU:OE1	20:T:91:ARG:NH1	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:m:75:LEU:O	36:m:112:LYS:NZ	2.40	0.55
46:e:323:TYR:CG	46:e:324:GLU:HG2	2.40	0.55
41:r:143:SER:C	41:r:144:ASN:HD22	2.14	0.55
45:a:90:THR:HG21	45:a:107:ASP:H	1.70	0.55
46:e:980:LEU:O	46:e:984:LEU:HG	2.06	0.55
18:R:19:ARG:HD3	18:R:33:ARG:HB2	1.89	0.55
46:e:332:ASP:HB3	46:e:335:SER:HB3	1.89	0.55
50:0:42:ARG:HG2	50:0:51:VAL:HG11	1.88	0.55
33:j:111:THR:HB	33:j:136:ILE:HD13	1.87	0.55
46:e:989:GLU:O	46:e:1039:LEU:HD23	2.03	0.55
46:e:1132:ILE:HG21	46:e:1170:GLN:HG3	1.89	0.55
14:N:44:ASN:ND2	43:t:4:SER:O	2.40	0.55
46:e:1156:TYR:HB2	46:e:1193:LEU:HD21	1.89	0.55
30:f:394:G:N1	30:f:397:A:OP2	2.39	0.55
33:j:70:ARG:HD2	33:j:72:ARG:HE	1.72	0.55
46:e:104:LYS:N	47:g:1:MET:HE3	2.22	0.55
30:f:3042:U:OP2	30:f:3092:C:N4	2.38	0.55
30:f:3045:G:OP1	34:k:19:ARG:NH2	2.39	0.55
46:e:222:LEU:HD11	46:e:226:ASN:ND2	2.22	0.55
2:B:157[A]:GLU:OE1	2:B:160[A]:ARG:NH2	2.40	0.55
45:a:1005:LEU:HA	45:a:1008:LEU:HD12	1.89	0.55
48:x:55:U:H2'	48:x:56:C:H2'	1.88	0.55
46:e:272:TYR:CA	46:e:277:MET:CG	2.85	0.54
30:f:3231:U:H2'	30:f:3232:G:H8	1.72	0.54
30:f:1222:G:C8	50:0:57:THR:CG2	2.91	0.54
40:q:57:VAL:HG12	40:q:68:LEU:HD22	1.88	0.54
41:r:61:SER:OG	41:r:63:GLU:OE1	2.25	0.54
30:f:1352:A:H4'	30:f:1353:U:H5'	1.88	0.54
52:w:48:ARG:HG2	52:w:159:LEU:HD23	1.89	0.54
40:q:23:ARG:HE	40:q:39:LYS:HA	1.71	0.54
46:e:712:SER:O	46:e:716:ALA:N	2.28	0.54
17:Q:9:THR:HG23	17:Q:109:VAL:HG23	1.88	0.54
30:f:1256:G:O2'	49:z:124:THR:CB	2.55	0.54
30:f:2674:A:H5''	42:s:105:GLY:HA3	1.89	0.54
46:e:1307:ILE:O	46:e:1311:ILE:HG12	2.06	0.54
8:H:90:ARG:NH1	30:f:1682:U:O4	2.40	0.54
46:e:365:THR:HB	46:e:370:PHE:CB	2.37	0.54
36:m:236:LEU:HA	36:m:239:ILE:HG12	1.90	0.54
30:f:68:C:OP2	30:f:301:G:N2	2.40	0.54
14:N:95:SER:OG	14:N:98:THR:OG1	2.25	0.54
30:f:76:G:O2'	43:t:100:ARG:NH1	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:f:2162:U:OP1	33:j:234:LYS:NZ	2.39	0.54
30:f:2473:C:H2'	30:f:2474:G:H4'	1.89	0.54
36:m:270:LYS:HG2	36:m:273:ARG:HE	1.73	0.54
8:H:56:VAL:HG12	8:H:65:VAL:HG22	1.88	0.53
30:f:1221:A:C4	50:0:12:PHE:CE2	2.96	0.53
30:f:1221:A:C4	50:0:12:PHE:CZ	2.95	0.53
30:f:2473:C:H5	30:f:2474:G:N2	2.05	0.53
30:f:3268:A:OP1	37:n:46:ARG:NH2	2.35	0.53
34:k:140:ASP:OD1	34:k:141:GLY:N	2.36	0.53
48:x:1:G:H2'	48:x:2:G:H8	1.72	0.53
7:G:17:ARG:HG2	7:G:22:HIS:HA	1.90	0.53
30:f:3115:C:OP1	40:q:62:ARG:NH2	2.41	0.53
48:x:7:G:C6	48:x:49:U:C4	2.97	0.53
30:f:1256:G:H4'	49:z:128:VAL:CB	2.39	0.53
10:J:44:LYS:HD2	30:f:2111:G:H1'	1.90	0.53
30:f:1156:C:OP2	38:o:94:LYS:NZ	2.40	0.53
30:f:1242:G:H1	45:a:519:THR:HG22	1.73	0.53
46:e:323:TYR:CE2	46:e:324:GLU:HG2	2.42	0.53
46:e:1422:ASN:HB2	46:e:1425:THR:HG22	1.90	0.53
30:f:3375:A:O2'	30:f:3378:C:OP2	2.26	0.53
34:k:284:ARG:NH1	34:k:293:ASN:O	2.42	0.53
10:J:6:ASP:OD1	10:J:32:GLN:N	2.40	0.53
23:W:52:LYS:NZ	35:l:59:GLN:O	2.39	0.53
42:s:32:ARG:HD2	42:s:120:ILE:HA	1.91	0.53
45:a:607:ASP:HB3	45:a:663:LYS:HB3	1.90	0.53
2:B:21[A]:SER:OG	30:f:1181:U:O4	2.27	0.53
2:B:75[A]:ALA:HB3	2:B:78[A]:ARG:HG2	1.91	0.53
30:f:1257:C:C5'	49:z:124:THR:CB	2.68	0.53
30:f:2493:U:H2'	30:f:2494:A:C8	2.44	0.53
30:f:2245:C:O2'	33:j:220:GLY:O	2.26	0.53
36:m:120:LYS:O	36:m:248:ARG:NH2	2.42	0.53
20:T:31:ARG:NH2	30:f:1598:G:OP2	2.42	0.53
45:a:604:TYR:O	45:a:623:LYS:NZ	2.39	0.53
46:e:1060:MET:HE1	46:e:1072:ALA:HB1	1.91	0.53
6:F:96:ASP:OD1	6:F:97:VAL:N	2.38	0.52
30:f:831:G:O2'	30:f:1864:A:N3	2.39	0.52
2:B:61[A]:ALA:HA	2:B:70[A]:PRO:HD2	1.90	0.52
8:H:44:GLU:OE2	8:H:49:ASN:ND2	2.41	0.52
30:f:2473:C:H5	30:f:2474:G:C2	2.27	0.52
46:e:882:ASN:O	46:e:885:GLN:C	2.50	0.52
10:J:47:ARG:HH21	10:J:58:HIS:HB2	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:f:3230:G:H4'	44:u:132:LYS:HD3	1.92	0.52
46:e:968:ASN:HA	46:e:973:ILE:HG13	1.91	0.52
6:F:77:VAL:HG11	6:F:106:LEU:HD22	1.92	0.52
30:f:1288:U:H2'	30:f:1289:G:H8	1.74	0.52
46:e:1495:THR:O	46:e:1499:HIS:CD2	2.63	0.52
7:G:158:THR:OG1	41:r:169:LYS:NZ	2.42	0.52
46:e:1511:CYS:SG	46:e:1535:HIS:CE1	3.03	0.52
27:b:2:VAL:N	27:b:90:HIS:O	2.42	0.52
30:f:2177:G:OP2	33:j:128:ARG:NH1	2.43	0.52
45:a:612:MET:HE1	45:a:642:CYS:HB2	1.92	0.52
46:e:271:LEU:C	46:e:277:MET:HG3	2.34	0.52
6:F:80:ARG:HB2	6:F:122:HIS:HB2	1.91	0.52
17:Q:102:LYS:NZ	30:f:3373:U:OP2	2.38	0.52
24:X:44:LYS:NZ	30:f:1750:A:OP1	2.37	0.52
45:a:111:TYR:HB2	45:a:125:LEU:HB2	1.91	0.52
2:B:74[A]:ARG:O	2:B:142[A]:SER:OG	2.23	0.52
3:C:118:GLN:NE2	3:C:147:GLU:OE2	2.39	0.52
9:I:94:TYR:OH	10:J:41:LYS:NZ	2.39	0.52
46:e:985:ILE:HD11	46:e:1023:ARG:HG3	1.92	0.52
14:N:100:PRO:HG2	14:N:123:VAL:HG23	1.93	0.51
30:f:3160:U:H3	30:f:3290:G:H1	1.58	0.51
45:a:618:SER:OG	45:a:646:SER:OG	2.26	0.51
46:e:711:LEU:O	46:e:715:LEU:HG	2.10	0.51
48:y:6:U:H2'	48:y:7:G:C8	2.45	0.51
7:G:136:ARG:HD2	7:G:139:ARG:HH12	1.74	0.51
10:J:16:GLY:O	30:f:3050:U:O2'	2.28	0.51
36:m:54:ARG:NH1	36:m:147:ASP:O	2.42	0.51
42:s:49:LYS:HG3	42:s:64:LYS:HD3	1.92	0.51
46:e:209:HIS:HA	46:e:212:ILE:HG22	1.91	0.51
30:f:2473:C:C5	30:f:2474:G:N3	2.78	0.51
30:f:2557:A:OP1	33:j:69:TYR:OH	2.24	0.51
27:b:41:ARG:NH1	30:f:284:A:OP2	2.40	0.51
30:f:1234:G:N2	49:z:135:THR:CB	2.73	0.51
30:f:1778:G:O2'	30:f:1780:G:OP2	2.28	0.51
36:m:50:ARG:NH2	36:m:72:ASP:OD2	2.43	0.51
46:e:272:TYR:HB2	46:e:277:MET:HE3	1.92	0.51
46:e:1287:ARG:HA	46:e:1290:PHE:HD2	1.76	0.51
27:b:75:VAL:HG23	27:b:76:LYS:HD2	1.93	0.51
29:d:20:ARG:HA	29:d:23:VAL:HG12	1.92	0.51
30:f:2540:A:N3	30:f:2541:U:N3	2.59	0.51
30:f:3027:A:O2'	45:a:415:ASP:OD1	2.29	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:l:266:THR:HG23	35:l:267:VAL:HG13	1.92	0.51
40:q:22:SER:OG	40:q:39:LYS:NZ	2.44	0.51
47:g:68:ARG:NH2	47:g:112:ASP:O	2.44	0.51
21:U:67:ARG:NH2	32:i:97:A:OP1	2.44	0.51
30:f:123:A:OP1	39:p:105:LYS:NZ	2.37	0.51
39:p:207:ASP:OD1	39:p:207:ASP:N	2.44	0.51
20:T:96:GLU:OE2	30:f:2555:G:N1	2.42	0.51
35:l:156:LEU:HD12	35:l:159:ILE:HD12	1.93	0.51
45:a:704:LEU:HB3	45:a:938:ILE:HG13	1.91	0.51
46:e:352:PRO:HG3	46:e:397:ASN:ND2	2.26	0.51
19:S:70:LYS:HD2	30:f:585:A:H5''	1.92	0.51
30:f:591:G:O2'	37:n:17:ALA:O	2.28	0.51
30:f:1661:G:H2'	30:f:1662:G:C8	2.46	0.51
46:e:371:LEU:HD12	46:e:377:TRP:HZ2	1.49	0.51
52:w:50:SER:HA	52:w:157:PHE:O	2.11	0.51
30:f:1256:G:O3'	49:z:124:THR:CB	2.59	0.51
33:j:241:ARG:HD3	45:a:866:LEU:HD21	1.92	0.51
52:w:59:PRO:HD2	52:w:153:SER:HA	1.93	0.51
1:A:103:GLU:HG3	1:A:160:GLU:HB2	1.93	0.50
15:O:23:LYS:HG3	15:O:24:PRO:HD2	1.93	0.50
30:f:544:C:H2'	30:f:547:G:H1	1.76	0.50
32:i:29:U:H5''	43:t:27:ASP:HB3	1.92	0.50
35:l:126:ILE:O	35:l:129:THR:OG1	2.30	0.50
36:m:206:GLN:NE2	36:m:210:GLU:OE2	2.44	0.50
39:p:52:TRP:O	39:p:57:ARG:NH1	2.44	0.50
45:a:579:TRP:HA	45:a:588:VAL:O	2.11	0.50
3:C:107:LEU:HD12	3:C:152:GLU:HG3	1.92	0.50
21:U:118:ILE:HD11	43:t:145:PHE:HE2	1.76	0.50
30:f:110:G:OP2	43:t:73:ARG:NH2	2.42	0.50
39:p:161:GLU:HA	39:p:164:VAL:HG22	1.93	0.50
46:e:1179:LEU:HD22	46:e:1247:LYS:HZ3	1.76	0.50
14:N:26:ARG:NH1	30:f:938:C:OP2	2.44	0.50
30:f:655:C:H2'	30:f:656:A:H8	1.76	0.50
30:f:2307:G:O2'	30:f:2310:U:OP2	2.28	0.50
30:f:2471:U:H2'	30:f:2474:G:N2	2.26	0.50
46:e:1159:ILE:HG21	46:e:1197:LEU:HD11	1.93	0.50
46:e:1507:GLU:HG2	46:e:1514:ILE:HG12	1.93	0.50
30:f:2897:A:H2'	30:f:2899:C:H5''	1.93	0.50
30:f:3214:U:OP2	44:u:128:ARG:NH1	2.34	0.50
3:C:65:SER:OG	30:f:1447:G:OP1	2.28	0.50
30:f:664:U:H2'	30:f:665:A:C8	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:f:2948:C:OP1	34:k:244:ARG:NH2	2.36	0.50
5:E:62:ARG:HH22	30:f:3067:C:H3'	1.77	0.50
30:f:2137:U:OP2	30:f:2142:A:N6	2.40	0.50
45:a:29:ILE:HD12	45:a:80:LEU:HB3	1.94	0.50
28:c:18:TYR:HB3	33:j:180:LEU:HD22	1.93	0.50
31:h:44:C:H4'	36:m:152:ARG:HG3	1.93	0.50
45:a:192:TYR:HE1	45:a:218:PRO:HD2	1.76	0.50
52:w:138:VAL:HG21	52:w:144:LEU:HD23	1.94	0.50
46:e:753:LEU:HG	46:e:760:THR:HG21	1.94	0.49
1:A:125:SER:HB3	30:f:2433:U:H1'	1.93	0.49
7:G:99:SER:HG	7:G:101:CYS:HG	1.60	0.49
46:e:989:GLU:HB2	46:e:1039:LEU:HD22	1.94	0.49
47:g:116:LEU:HG	47:g:177:LEU:HD21	1.94	0.49
17:Q:77:ARG:HD2	17:Q:89:LEU:HD13	1.94	0.49
24:X:2:ALA:N	30:f:1613:A:OP1	2.46	0.49
3:C:60:PHE:HB3	3:C:64:ASN:HB3	1.93	0.49
32:i:156:U:OP2	39:p:84:ARG:NH2	2.45	0.49
48:x:62:C:H2'	48:x:63:G:C8	2.48	0.49
2:B:46[A]:GLU:HG3	2:B:48[A]:PHE:H	1.77	0.49
3:C:62:ARG:NH1	30:f:412:G:OP1	2.45	0.49
30:f:1569:U:H5'	30:f:1570:U:H5''	1.94	0.49
36:m:90:HIS:NE2	36:m:229:ASP:OD2	2.41	0.49
1:A:83:LYS:NZ	30:f:36:C:OP2	2.42	0.49
16:P:30:THR:HG23	16:P:91:SER:HB2	1.95	0.49
30:f:348:A:N3	30:f:352:A:O2'	2.46	0.49
30:f:2444:C:H2'	30:f:2445:A:C8	2.41	0.49
35:l:292:SER:OG	35:l:294:GLU:OE1	2.31	0.49
30:f:505:G:OP1	35:l:320:ASN:ND2	2.43	0.49
30:f:1019:G:H1	30:f:1033:U:H3	1.59	0.49
30:f:1264:G:N2	30:f:1265:U:O4	2.40	0.49
42:s:90:GLN:NE2	42:s:170:ASP:OD1	2.45	0.49
45:a:970:ILE:HD11	45:a:1016:VAL:HG11	1.95	0.49
46:e:1206:GLN:O	46:e:1210:ILE:HG13	2.13	0.49
46:e:1373:ASN:O	46:e:1374:ILE:C	2.55	0.49
6:F:155:ARG:HB2	6:F:172:TYR:HD1	1.77	0.49
16:P:9:SER:OG	16:P:10:ILE:N	2.39	0.49
18:R:104:ASN:ND2	30:f:1389:G:OP1	2.42	0.49
30:f:2185:G:O2'	30:f:2314:U:OP2	2.28	0.49
4:D:56:LYS:NZ	30:f:674:G:O6	2.46	0.49
14:N:94:ALA:HA	14:N:121:VAL:HG23	1.95	0.49
46:e:212:ILE:HG23	46:e:249:LEU:HD21	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:108:ARG:O	7:G:112:ASN:HB2	2.12	0.48
27:b:7:THR:OG1	27:b:22:GLN:NE2	2.36	0.48
30:f:2901:G:O2'	30:f:3024:A:N1	2.44	0.48
46:e:751:VAL:CG2	46:e:754:ILE:HD11	2.42	0.48
17:Q:80:ASN:OD1	17:Q:81:GLU:N	2.45	0.48
27:b:30:ALA:O	30:f:2767:U:O2'	2.29	0.48
37:n:92:SER:OG	37:n:148:GLU:OE1	2.30	0.48
47:g:197:MET:HE3	47:g:218:ILE:HD12	1.95	0.48
4:D:131:ALA:HB1	4:D:135:GLN:H	1.79	0.48
30:f:2854:U:OP2	41:r:3:ARG:NH2	2.47	0.48
39:p:91:PHE:O	39:p:95:ASN:ND2	2.46	0.48
48:y:8:U:O2	48:y:13:U:O4	2.32	0.48
15:O:3:LYS:HD3	30:f:2617:U:H3'	1.95	0.48
19:S:49:ILE:HD11	19:S:71:VAL:HG22	1.96	0.48
30:f:1814:A:H4'	30:f:1815:U:H5'	1.95	0.48
34:k:145:GLU:HA	34:k:148:LEU:HB2	1.95	0.48
46:e:1477:GLN:OE1	46:e:1477:GLN:C	2.56	0.48
30:f:520:U:OP2	38:o:70:LYS:NZ	2.45	0.48
46:e:757:CYS:HB2	46:e:760:THR:HG23	1.95	0.48
49:z:52:GLU:O	49:z:53:PHE:C	2.55	0.48
4:D:102:ALA:HA	4:D:122:ILE:O	2.14	0.48
13:M:133:LYS:HE3	13:M:135:ARG:HD3	1.96	0.48
30:f:1477:A:OP1	30:f:3075:G:O2'	2.31	0.48
32:i:9:A:H2'	32:i:10:A:C8	2.49	0.48
40:q:18:VAL:HG12	40:q:27:VAL:HG22	1.94	0.48
30:f:2209:U:C4	45:a:838:ARG:HD2	2.49	0.48
30:f:2568:C:O2'	30:f:2569:A:O4'	2.27	0.48
42:s:38:GLU:HB2	42:s:45:PRO:HD3	1.95	0.48
46:e:937:GLU:HA	46:e:976:LEU:HD11	1.95	0.48
47:g:146:ILE:HG13	47:g:147:LEU:HD12	1.96	0.48
30:f:2155:G:OP1	33:j:241:ARG:NH1	2.46	0.48
35:l:304:GLN:NE2	35:l:306:THR:O	2.42	0.48
6:F:93:GLU:HG3	6:F:140:VAL:HG11	1.95	0.48
27:b:45:ARG:NH1	30:f:283:G:OP1	2.46	0.48
30:f:1383:G:O3'	35:l:138:ARG:NH2	2.47	0.48
30:f:1805:C:H2'	30:f:1806:A:H8	1.79	0.48
30:f:3198:U:O2	40:q:21:LYS:N	2.44	0.48
40:q:47:LYS:H	44:u:7:VAL:HG21	1.78	0.48
45:a:402:VAL:HG22	45:a:433:ILE:HG23	1.95	0.48
46:e:277:MET:SD	46:e:278:PRO:CG	2.94	0.48
46:e:807:LYS:HE3	46:e:808:ASN:OD1	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:e:1240:LEU:HG	46:e:1290:PHE:HD1	1.78	0.48
46:e:1477:GLN:NE2	46:e:1481:THR:CB	2.43	0.48
4:D:16:ARG:HB2	30:f:974:G:H5'	1.95	0.47
13:M:23:VAL:HG12	13:M:45:GLY:HA3	1.94	0.47
30:f:1230:G:H4'	50:0:34:SER:HA	1.96	0.47
33:j:117:GLU:HG2	33:j:124:GLY:H	1.79	0.47
34:k:85:VAL:HG22	34:k:202:THR:HG22	1.95	0.47
43:t:76:THR:HG22	43:t:78:ALA:H	1.80	0.47
46:e:1174:ILE:HG22	46:e:1198:LEU:HD13	1.95	0.47
3:C:22:LEU:HD12	3:C:146:ILE:HD12	1.97	0.47
17:Q:75:ILE:HG12	17:Q:93:VAL:HG22	1.96	0.47
19:S:99:ARG:NH1	30:f:3275:U:O2'	2.48	0.47
34:k:219:ALA:HB2	34:k:336:VAL:HG23	1.96	0.47
46:e:989:GLU:C	46:e:1039:LEU:HD23	2.30	0.47
46:e:1443:PHE:HB3	46:e:1454:ILE:HD11	1.94	0.47
26:Z:124:LYS:NZ	30:f:2897:A:OP2	2.47	0.47
30:f:655:C:H2'	30:f:656:A:C8	2.49	0.47
46:e:981:ALA:HB1	46:e:1027:ILE:HD11	1.95	0.47
47:g:14:GLY:HA2	47:g:198:VAL:HG13	1.96	0.47
47:g:88:LEU:HD12	47:g:92:VAL:HG21	1.96	0.47
4:D:19:PRO:HB3	4:D:53:PHE:HA	1.96	0.47
30:f:411:U:H2'	30:f:412:G:H8	1.79	0.47
30:f:1480:G:O2'	30:f:1871:U:O4	2.27	0.47
46:e:864:HIS:HA	46:e:869:HIS:HB3	1.96	0.47
46:e:797:LEU:HD11	46:e:955:LEU:HD22	1.97	0.47
48:x:56:C:HO2'	48:x:57:G:P	2.38	0.47
50:0:26:PHE:HZ	50:0:93:LEU:HA	1.80	0.47
9:I:18:PRO:HA	9:I:51:ALA:HA	1.97	0.47
23:W:81:GLY:O	32:i:95:G:O2'	2.32	0.47
30:f:712:G:OP1	43:t:174:ARG:NH1	2.47	0.47
30:f:829:U:H3	30:f:895:A:H62	1.63	0.47
32:i:103:G:OP2	32:i:105:A:O2'	2.33	0.47
46:e:1444:LYS:HD2	46:e:1455:GLN:NE2	2.22	0.47
5:E:21:LYS:HE3	5:E:55:VAL:HA	1.97	0.47
5:E:151:ARG:NH2	5:E:152:GLU:OE2	2.45	0.47
7:G:116:ARG:NH2	30:f:1096:U:OP2	2.48	0.47
30:f:358:G:N2	30:f:361:A:OP2	2.42	0.47
30:f:2451:G:H2'	30:f:2452:G:C8	2.50	0.47
32:i:126:A:O2'	32:i:129:C:N4	2.48	0.47
33:j:32:LEU:HD13	33:j:163:ARG:HD3	1.96	0.47
36:m:163:LEU:HD11	36:m:175:HIS:HB3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:r:54:SER:HB3	41:r:135:ILE:HD11	1.97	0.47
41:r:66:GLU:OE1	41:r:69:ARG:NH2	2.47	0.47
4:D:170:ARG:HD2	14:N:57:GLY:HA3	1.97	0.47
34:k:211:GLN:NE2	34:k:283:TYR:O	2.45	0.47
39:p:228:GLU:O	39:p:232:HIS:ND1	2.43	0.47
45:a:572:TYR:HB2	45:a:575:GLU:HG3	1.95	0.47
1:A:5:LYS:HE2	22:V:40:VAL:HG21	1.97	0.47
5:E:128:LYS:NZ	30:f:1721:U:O4	2.39	0.47
30:f:627:U:H2'	30:f:628:A:C8	2.50	0.47
30:f:2874:G:O6	30:f:2945:G:H2'	2.15	0.47
44:u:55:ARG:NH2	44:u:76:ALA:O	2.48	0.47
46:e:937:GLU:CG	46:e:976:LEU:HG	2.41	0.47
4:D:180:ARG:NH2	30:f:2790:A:OP1	2.42	0.47
14:N:115:LYS:HA	30:f:715:A:H5''	1.97	0.47
30:f:912:G:OP2	33:j:9:ARG:NH2	2.45	0.47
30:f:1907:C:O2	34:k:240:ARG:NH2	2.45	0.47
44:u:38:ILE:HA	44:u:44:VAL:HG12	1.96	0.47
46:e:368:HIS:CE1	46:e:370:PHE:HB2	2.50	0.47
30:f:835:G:O2'	30:f:857:G:N2	2.37	0.46
30:f:2473:C:C5	30:f:2474:G:C2	3.03	0.46
45:a:4:ARG:HD2	48:x:33:U:H4'	1.97	0.46
46:e:1083:SER:HA	46:e:1086:MET:HE2	1.96	0.46
47:g:219:GLU:HA	47:g:224:LEU:HD12	1.96	0.46
30:f:2499:U:H2'	30:f:2500:A:C8	2.51	0.46
36:m:234:ASP:OD1	36:m:234:ASP:N	2.47	0.46
45:a:660:CYS:SG	45:a:661:PHE:N	2.88	0.46
3:C:67:ILE:HD11	3:C:80:LYS:HB3	1.98	0.46
30:f:2473:C:C4	30:f:2475:G:N3	2.83	0.46
30:f:2815:G:N2	30:f:2818:U:O2	2.45	0.46
5:E:68:GLN:OE1	5:E:71:ARG:NH2	2.43	0.46
15:O:55:ALA:O	15:O:59:LYS:HB3	2.16	0.46
30:f:86:G:O2'	30:f:98:G:O6	2.32	0.46
30:f:297:G:OP2	30:f:297:G:N2	2.41	0.46
35:l:326:ARG:O	38:o:41:ARG:NH2	2.48	0.46
2:B:59[A]:ARG:NH1	30:f:1307:G:OP1	2.48	0.46
12:L:55:GLU:HB2	12:L:108:LYS:HB3	1.98	0.46
41:r:54:SER:OG	41:r:130:ASP:O	2.33	0.46
46:e:371:LEU:HB2	46:e:377:TRP:HE1	0.67	0.46
36:m:119:TYR:OH	36:m:139:PRO:O	2.33	0.46
42:s:131:MET:HE3	42:s:131:MET:HB3	1.82	0.46
48:y:43:G:H3'	48:y:44:A:H8	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:35:PHE:HE1	30:f:1348:U:H5'	1.80	0.46
12:L:74:TYR:HB3	12:L:77:LYS:HB2	1.98	0.46
13:M:28:PRO:O	13:M:29:HIS:ND1	2.48	0.46
18:R:9:ILE:HG12	18:R:63:THR:HG23	1.97	0.46
36:m:207:TYR:HA	36:m:210:GLU:HG2	1.97	0.46
44:u:48:GLY:HA3	44:u:53:VAL:HB	1.98	0.46
45:a:4:ARG:NH1	45:a:118:SER:HA	2.30	0.46
45:a:576:LYS:HB2	48:y:31:C:H5'	1.98	0.46
2:B:39[A]:GLU:HG2	2:B:40[A]:GLU:HG2	1.97	0.46
18:R:60:ASN:HB3	18:R:63:THR:HB	1.97	0.46
20:T:95:ILE:HD11	30:f:2555:G:N7	2.30	0.46
30:f:1152:G:OP2	30:f:1152:G:N2	2.44	0.46
30:f:1949:G:H1	30:f:2097:U:H3	1.63	0.46
30:f:2875[B]:U:O2'	48:x:76:A:H4'	2.15	0.46
46:e:298:ILE:HD13	46:e:342:PHE:CE1	2.51	0.46
46:e:1506:GLU:HB2	46:e:1533:LYS:HD2	1.97	0.46
47:g:11:ASN:ND2	47:g:209:ASP:OD2	2.49	0.46
13:M:133:LYS:NZ	30:f:1808:G:OP2	2.44	0.46
14:N:96:LYS:HB2	14:N:96:LYS:HE2	1.70	0.46
30:f:696:C:OP2	35:l:119:ARG:NH2	2.49	0.46
30:f:1717:U:H2'	30:f:1718:G:C8	2.50	0.46
30:f:2239:G:O2'	45:a:867:GLY:O	2.30	0.46
30:f:2498:U:H2'	30:f:2499:U:C6	2.51	0.46
30:f:3023:U:OP1	46:e:61:THR:HG21	2.16	0.46
39:p:156:ASP:OD1	39:p:156:ASP:N	2.47	0.46
46:e:254:ASN:OD1	46:e:254:ASN:N	2.49	0.46
46:e:770:ILE:HD12	46:e:901:SER:HB2	1.98	0.46
46:e:804:ILE:CD1	46:e:809:MET:SD	2.96	0.46
46:e:1269:LEU:HD23	46:e:1351:LEU:HB3	1.98	0.46
30:f:40:A:OP1	55:f:3401:SPD:N10	2.48	0.46
38:o:86:VAL:O	38:o:114:GLY:HA2	2.16	0.46
15:O:25:LYS:NZ	30:f:1106:G:O3'	2.44	0.45
30:f:2876:C:H2'	30:f:2877:G:O4'	2.16	0.45
33:j:68:LYS:HE2	33:j:70:ARG:HH21	1.80	0.45
45:a:101:LEU:HB2	45:a:116:PHE:HE2	1.81	0.45
1:A:159:ARG:HB3	1:A:164:LEU:HB2	1.98	0.45
6:F:22:PRO:O	7:G:146:ASN:ND2	2.38	0.45
12:L:16:ARG:NH1	30:f:216:G:OP1	2.45	0.45
13:M:22:LYS:NZ	13:M:132:SER:O	2.47	0.45
19:S:14:LEU:HD11	19:S:31:LYS:HB2	1.98	0.45
46:e:773:PHE:HA	46:e:812:LEU:HD11	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:x:67:U:H2'	48:x:68:C:C6	2.52	0.45
49:z:54:LYS:C	49:z:56:ILE:N	2.71	0.45
1:A:62:TYR:OH	32:i:141:C:O3'	2.34	0.45
1:A:202:TYR:HB3	35:l:112:LYS:HG3	1.97	0.45
17:Q:44:MET:O	17:Q:77:ARG:NH1	2.49	0.45
30:f:494:G:H2'	30:f:495:G:H8	1.82	0.45
30:f:2392:C:O2'	34:k:266:ARG:NH2	2.48	0.45
36:m:65:ILE:HG12	36:m:74:VAL:HG22	1.99	0.45
36:m:83:LEU:HB3	36:m:88:ILE:HB	1.98	0.45
46:e:272:TYR:HE1	46:e:323:TYR:HB2	1.81	0.45
46:e:272:TYR:N	46:e:277:MET:CG	2.79	0.45
30:f:1497:C:H2'	30:f:1498:A:H8	1.81	0.45
30:f:2218:G:H2'	30:f:2219:A:H8	1.80	0.45
30:f:2697:A:H2'	30:f:2698:G:C8	2.52	0.45
30:f:3022:G:O2'	30:f:3031:G:O6	2.32	0.45
30:f:3116:G:OP1	30:f:3116:G:N2	2.43	0.45
31:h:7:G:OP1	36:m:33:ARG:NH1	2.48	0.45
45:a:346:SER:HB2	45:a:564:VAL:HG13	1.98	0.45
46:e:1400:PHE:HE1	46:e:1428:VAL:HG22	1.81	0.45
46:e:1446:PRO:HD3	46:e:1454:ILE:HA	1.98	0.45
30:f:307:A:H2'	30:f:308:A:C8	2.51	0.45
30:f:1119:C:H2'	30:f:1120:A:H8	1.81	0.45
37:n:175:LYS:O	44:u:117:ARG:NH2	2.50	0.45
46:e:1283:SER:OG	46:e:1286:MET:HG2	2.17	0.45
48:x:6:U:H2'	48:x:7:G:C8	2.51	0.45
30:f:2473:C:C6	30:f:2474:G:N3	2.84	0.45
33:j:140:ASN:O	33:j:144:ASN:HA	2.16	0.45
46:e:844:LEU:HD23	46:e:844:LEU:O	2.16	0.45
48:x:26:G:C6	48:x:43:G:O6	2.69	0.45
30:f:448:U:O2	30:f:488:U:O2'	2.33	0.45
30:f:1134:G:O2'	30:f:2642:A:N3	2.44	0.45
31:h:62:U:O2'	36:m:285:ARG:NH2	2.50	0.45
33:j:14:SER:OG	33:j:15:ILE:N	2.50	0.45
33:j:104:LEU:HD12	33:j:158:ILE:HD11	1.98	0.45
46:e:397:ASN:O	46:e:398:SER:C	2.60	0.45
46:e:992:LEU:HD11	46:e:1000:LEU:HD11	1.99	0.45
23:W:30:GLN:NE2	30:f:904:A:OP2	2.50	0.45
29:d:21:ARG:HA	29:d:21:ARG:HD2	1.80	0.45
38:o:83:LEU:HD11	38:o:116:PHE:HB3	1.99	0.45
46:e:1057:THR:HG22	46:e:1105:LEU:HA	1.99	0.45
46:e:1477:GLN:CD	46:e:1477:GLN:O	2.59	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:180:ARG:HH22	30:f:2719:U:H5''	1.82	0.45
30:f:528:U:H2'	30:f:529:A:C8	2.51	0.45
30:f:571:U:H2'	30:f:572:A:H8	1.81	0.45
30:f:2094:C:H2'	30:f:2095:G:H8	1.81	0.45
35:l:8:VAL:HG23	35:l:151:VAL:HG12	1.98	0.45
38:o:232:ARG:O	38:o:235:PHE:N	2.48	0.45
45:a:199:ILE:HG12	45:a:212:LYS:HE3	1.99	0.45
46:e:272:TYR:CG	46:e:277:MET:CE	2.86	0.45
46:e:1079:LEU:HA	46:e:1079:LEU:HD23	1.61	0.45
22:V:53:TYR:HA	22:V:56:ARG:HG2	1.99	0.45
30:f:2472:U:C2'	30:f:2474:G:H22	2.27	0.45
40:q:41:ILE:HD13	40:q:71:VAL:HB	1.99	0.45
46:e:751:VAL:CA	46:e:754:ILE:HG12	2.38	0.45
46:e:968:ASN:HD22	46:e:1009:ILE:HG12	1.81	0.45
47:g:106:ASN:OD1	47:g:150:SER:OG	2.34	0.45
30:f:520:U:O4	35:l:347:THR:OG1	2.34	0.44
30:f:2268:U:H3	30:f:2272:G:H22	1.65	0.44
46:e:1008:ASP:HA	46:e:1061:ARG:HH22	1.82	0.44
1:A:7:LEU:HD11	39:p:162:LEU:HA	1.99	0.44
30:f:2840:C:N4	30:f:2845:A:O2'	2.50	0.44
46:e:882:ASN:C	46:e:885:GLN:O	2.53	0.44
25:Y:37:TYR:O	30:f:351:A:N6	2.48	0.44
30:f:2964:G:N2	30:f:2967:A:OP2	2.41	0.44
34:k:215:ILE:HD12	34:k:338:LEU:HD12	1.98	0.44
45:a:704:LEU:HD23	45:a:938:ILE:HD11	2.00	0.44
9:I:38:ALA:HB3	9:I:59:MET:HB2	1.99	0.44
24:X:10:GLN:HA	24:X:13:GLU:HG2	1.99	0.44
30:f:2468:A:H4'	30:f:2469:G:H4'	2.00	0.44
30:f:2660:G:OP1	30:f:2750:U:O2'	2.35	0.44
39:p:95:ASN:OD1	39:p:98:ARG:NH2	2.51	0.44
40:q:120:ASP:OD1	40:q:120:ASP:N	2.44	0.44
9:I:128:ARG:NE	47:g:12:GLU:OE2	2.50	0.44
30:f:19:U:H2'	30:f:20:A:C8	2.52	0.44
30:f:1899:G:O2'	30:f:2334:U:O4	2.25	0.44
45:a:404:LEU:HD23	45:a:404:LEU:HA	1.90	0.44
46:e:1196:THR:CG2	46:e:1197:LEU:N	2.80	0.44
48:x:41:G:H2'	48:x:42:A:C8	2.53	0.44
2:B:74[A]:ARG:NH1	30:f:3008:A:OP2	2.51	0.44
30:f:1786:G:H2'	30:f:1787:A:C8	2.52	0.44
30:f:2960:C:H2'	30:f:2961:G:C8	2.53	0.44
33:j:135:ILE:HD12	33:j:149:ARG:HE	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:112:ASP:OD2	32:i:85:G:N1	2.49	0.44
30:f:1888:U:H5''	34:k:247:ARG:HB2	2.00	0.44
30:f:2284:C:N4	30:f:2308:C:OP2	2.50	0.44
30:f:2676:A:OP1	45:a:652:LYS:NZ	2.46	0.44
30:f:3379:C:H4'	34:k:315:GLY:HA2	1.98	0.44
47:g:2:ALA:HA	47:g:204:ALA:O	2.16	0.44
48:x:29:C:H2'	48:x:30:C:C6	2.52	0.44
2:B:127[A]:LEU:HD22	6:F:156:VAL:HG13	2.00	0.44
30:f:799:G:O2'	43:t:18:TRP:NE1	2.47	0.44
31:h:38:U:N3	31:h:41:G:OP2	2.41	0.44
33:j:101:VAL:HG22	33:j:165:VAL:HG22	2.00	0.44
46:e:1294:LEU:HB3	46:e:1300:ILE:HG12	1.99	0.44
48:x:62:C:H2'	48:x:63:G:H8	1.82	0.44
6:F:80:ARG:HG3	6:F:124:LEU:HD21	1.99	0.44
6:F:80:ARG:HD2	7:G:155:PRO:HA	2.00	0.44
9:I:129:VAL:O	9:I:133:SER:HB3	2.17	0.44
14:N:36:GLY:HA3	14:N:40:HIS:CE1	2.53	0.44
22:V:9:ILE:HD12	43:t:174:ARG:HB2	1.99	0.44
30:f:2270:A:H2'	30:f:2271:A:C8	2.53	0.44
30:f:2357:A:H2'	30:f:2358:A:C8	2.53	0.44
36:m:205:SER:HB3	36:m:236:LEU:HD21	2.00	0.44
46:e:1477:GLN:OE1	46:e:1477:GLN:O	2.36	0.44
50:O:45:LEU:HB3	50:O:49:ALA:HB3	1.99	0.44
17:Q:46:THR:HG22	17:Q:48:ASP:H	1.82	0.43
30:f:710:A:H2'	30:f:711:A:C8	2.53	0.43
30:f:911:C:OP1	33:j:14:SER:OG	2.32	0.43
30:f:1259:A:N3	30:f:1280:C:O2'	2.50	0.43
30:f:2116:G:OP1	30:f:2118:C:N4	2.51	0.43
30:f:3322:A:H2'	30:f:3323:A:C8	2.53	0.43
35:l:74:ILE:HD12	35:l:75:PRO:HD2	2.00	0.43
39:p:104:GLU:HA	39:p:107:GLU:HG3	2.00	0.43
41:r:184:LYS:HE2	41:r:184:LYS:HB2	1.86	0.43
46:e:914:TYR:HD1	46:e:959:ILE:HG23	1.82	0.43
15:O:14:ARG:NH2	30:f:1139:G:OP2	2.51	0.43
23:W:63:ARG:NH1	32:i:58:G:O6	2.50	0.43
30:f:1222:G:N2	30:f:1285:G:O2'	2.51	0.43
30:f:1657:C:O2'	30:f:1797:A:OP2	2.30	0.43
30:f:3016:A:H2'	30:f:3017:A:H8	1.83	0.43
30:f:3295:A:H2'	30:f:3296:A:C8	2.53	0.43
39:p:82:LEU:HD13	39:p:222:PHE:HE2	1.84	0.43
49:z:51:LYS:O	49:z:55:GLY:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:133:ALA:HB3	38:o:121:LYS:HB2	2.00	0.43
30:f:595:G:OP2	38:o:30:ARG:NH1	2.51	0.43
30:f:1813:A:O2'	30:f:1816:A:N3	2.46	0.43
30:f:2768:U:H2'	30:f:2769:A:H8	1.83	0.43
46:e:936:VAL:O	46:e:940:VAL:HG23	2.19	0.43
47:g:119:PRO:O	47:g:139:ARG:NH1	2.50	0.43
4:D:161:LYS:HA	4:D:161:LYS:HD3	1.82	0.43
8:H:20:SER:HA	8:H:23:THR:HG22	2.00	0.43
23:W:58:THR:OG1	23:W:59:THR:N	2.51	0.43
30:f:2473:C:H2'	30:f:2474:G:C4'	2.47	0.43
36:m:258:LYS:O	36:m:265:TYR:OH	2.31	0.43
39:p:239:GLY:O	39:p:243:GLN:HB2	2.19	0.43
45:a:117:PHE:CD1	45:a:118:SER:N	2.86	0.43
46:e:1240:LEU:HG	46:e:1290:PHE:CD1	2.53	0.43
50:0:15:LEU:O	50:0:19:LEU:HG	2.18	0.43
30:f:1237:G:H22	30:f:1251:A:H2	1.66	0.43
30:f:1666:G:H2'	30:f:1667:A:H8	1.83	0.43
39:p:86:THR:HA	39:p:89:GLU:HG2	2.00	0.43
46:e:989:GLU:H	46:e:989:GLU:HG3	1.51	0.43
1:A:12:ARG:NH1	30:f:297:G:O6	2.46	0.43
9:I:117:PRO:HA	9:I:135:VAL:HG13	2.00	0.43
46:e:1164:LEU:HG	46:e:1165:LYS:HD3	2.00	0.43
50:0:75:LYS:O	50:0:78:PRO:HD2	2.19	0.43
4:D:124:LEU:HD13	4:D:127:LEU:HD23	2.01	0.43
6:F:70:THR:OG1	44:u:55:ARG:NH1	2.51	0.43
23:W:27:PHE:HA	23:W:34:CYS:HA	2.01	0.43
24:X:2:ALA:N	24:X:51:LEU:O	2.51	0.43
28:c:66:GLY:HA2	33:j:80:GLU:HG3	2.00	0.43
30:f:2514:U:OP2	30:f:2586:G:N2	2.49	0.43
45:a:391:LEU:HD23	45:a:391:LEU:HA	1.87	0.43
46:e:321:ASP:HA	46:e:328:ILE:HG12	1.99	0.43
46:e:704:THR:O	46:e:707:LYS:HG3	2.19	0.43
46:e:1009:ILE:HB	46:e:1012:ALA:HB2	1.99	0.43
52:w:18:LYS:HE2	52:w:18:LYS:HB3	1.85	0.43
1:A:68:ARG:HA	1:A:98:LEU:HD21	2.01	0.43
1:A:158:HIS:HB3	1:A:161:ALA:HB3	2.00	0.43
3:C:56:ARG:NH2	3:C:75:GLU:OE2	2.51	0.43
10:J:34:SER:OG	30:f:3085:G:OP1	2.33	0.43
30:f:716:A:OP1	30:f:752:C:O2'	2.37	0.43
30:f:1288:U:H2'	30:f:1289:G:C8	2.54	0.43
30:f:2218:G:H2'	30:f:2219:A:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:f:2459:A:H61	30:f:2487:U:H3	1.67	0.43
30:f:2514:U:H5'	39:p:68:ARG:HG3	2.00	0.43
30:f:3121:U:H1'	30:f:3122:A:H5''	2.01	0.43
30:f:3358:U:H2'	30:f:3359:A:H8	1.84	0.43
33:j:46:LYS:HD2	33:j:46:LYS:HA	1.81	0.43
41:r:106:ALA:CB	48:x:74:C:H5''	2.49	0.43
46:e:129:LEU:HD23	46:e:129:LEU:HA	1.77	0.43
46:e:272:TYR:CG	46:e:277:MET:SD	3.12	0.43
46:e:1007:LEU:HD13	46:e:1059:LEU:HD13	2.01	0.43
46:e:1083:SER:HA	46:e:1086:MET:HG2	2.00	0.43
47:g:38:PHE:O	47:g:42:LEU:HB2	2.19	0.43
30:f:1675:G:H2'	30:f:1676:A:H8	1.83	0.43
30:f:2129:U:H2'	30:f:2130:G:C8	2.54	0.43
30:f:2745:G:N2	30:f:2748:A:OP2	2.47	0.43
46:e:1060:MET:HE3	46:e:1076:SER:HB3	1.99	0.43
48:x:56:C:O2'	48:x:57:G:P	2.76	0.43
49:z:54:LYS:O	49:z:56:ILE:N	2.52	0.43
2:B:54[A]:TYR:OH	2:B:73[A]:PHE:O	2.37	0.43
5:E:102:LEU:HD22	5:E:138:LEU:HD22	2.01	0.43
18:R:3:SER:OG	18:R:4:LEU:N	2.51	0.43
46:e:1165:LYS:HB2	46:e:1165:LYS:HE2	1.81	0.43
23:W:45:ARG:NH2	30:f:361:A:O3'	2.52	0.42
30:f:2213:A:H2'	30:f:2214:A:C8	2.54	0.42
30:f:2747:A:H2'	30:f:2748:A:C8	2.54	0.42
44:u:93:LYS:HE3	44:u:93:LYS:HB2	1.87	0.42
45:a:54:VAL:HG22	45:a:60:ILE:HG13	2.00	0.42
46:e:1379:LEU:HD22	46:e:1379:LEU:HA	1.72	0.42
46:e:1456:VAL:HG22	46:e:1480:ILE:CD1	2.42	0.42
52:w:43:PRO:HD3	52:w:163:LEU:HD21	2.01	0.42
3:C:179:GLN:HA	3:C:182:ILE:HG22	2.00	0.42
9:I:80:ARG:HB2	9:I:99:ALA:HB3	2.00	0.42
12:L:86:THR:OG1	12:L:94:SER:OG	2.36	0.42
30:f:2160:G:H2'	30:f:2161:G:H8	1.84	0.42
41:r:72:ALA:HB2	41:r:155:ALA:HB2	2.01	0.42
44:u:47:ASP:HB2	44:u:55:ARG:HG3	2.02	0.42
45:a:549:LYS:HA	45:a:549:LYS:HD3	1.73	0.42
46:e:713:LEU:HD12	46:e:713:LEU:HA	1.90	0.42
6:F:95:ARG:HB2	6:F:140:VAL:HG23	2.00	0.42
27:b:28:TYR:HB3	27:b:69:VAL:HB	2.01	0.42
30:f:417:A:H2'	30:f:418:A:C8	2.54	0.42
30:f:3233:C:H2'	30:f:3234:A:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:a:117:PHE:HD1	45:a:118:SER:O	2.02	0.42
46:e:240:ILE:HG22	46:e:246:ILE:HD11	2.00	0.42
46:e:1446:PRO:HD2	46:e:1449:TYR:HD1	1.84	0.42
48:y:37:A:H3'	48:y:38:U:H4'	2.01	0.42
30:f:2268:U:H3	30:f:2272:G:H1	1.68	0.42
36:m:6:ASP:OD1	36:m:6:ASP:N	2.48	0.42
46:e:1099:ARG:HE	46:e:1099:ARG:HB3	1.48	0.42
48:y:68:C:H2'	48:y:69:G:C8	2.54	0.42
50:0:14:LYS:HE3	50:0:52:LEU:HD11	2.00	0.42
50:0:70:LEU:HB3	50:0:73:PHE:CD1	2.55	0.42
52:w:37:GLY:O	52:w:202:GLY:N	2.51	0.42
18:R:45:ARG:O	30:f:1145:G:O2'	2.36	0.42
21:U:78:LYS:HA	21:U:81:ARG:HG2	2.00	0.42
22:V:18:THR:HG23	43:t:106:GLN:HB3	2.01	0.42
28:c:44:LYS:NZ	30:f:1727:G:OP1	2.51	0.42
30:f:673:U:H2'	30:f:674:G:C8	2.55	0.42
30:f:1666:G:H2'	30:f:1667:A:C8	2.54	0.42
36:m:200:PHE:HB3	36:m:237:GLU:HG2	2.01	0.42
42:s:96:PHE:HB2	42:s:156:LYS:HE3	2.01	0.42
45:a:840:LYS:HA	45:a:840:LYS:HD3	1.91	0.42
45:a:967:LEU:HD13	45:a:1005:LEU:HB2	2.01	0.42
46:e:410:LEU:HD23	46:e:410:LEU:HA	1.91	0.42
46:e:735:GLN:HG2	46:e:815:TYR:HB2	2.01	0.42
46:e:1372:LEU:HD13	46:e:1372:LEU:HA	1.93	0.42
6:F:32:SER:HB2	6:F:36:ILE:HD12	2.01	0.42
30:f:760:G:O2'	30:f:770:G:N2	2.43	0.42
30:f:1579:C:H2'	30:f:1580:A:C8	2.55	0.42
30:f:2876:C:H5'	48:x:76:A:H4'	2.01	0.42
34:k:83:PRO:O	34:k:165:GLN:NE2	2.47	0.42
39:p:183:LYS:HB2	39:p:194:THR:HG23	2.01	0.42
45:a:98:ASP:HA	48:x:34:A:H61	1.84	0.42
45:a:601:TYR:HA	45:a:605:ILE:HB	2.02	0.42
46:e:298:ILE:HD13	46:e:342:PHE:HE1	1.85	0.42
8:H:41:ILE:HG21	8:H:54:VAL:HG21	2.02	0.42
24:X:33:LYS:HA	24:X:33:LYS:HD3	1.84	0.42
27:b:10:THR:HG21	27:b:72:LEU:HD13	2.01	0.42
30:f:1203:A:H2'	30:f:1204:A:C8	2.55	0.42
30:f:3016:A:H2'	30:f:3017:A:C8	2.55	0.42
30:f:3023:U:H2'	30:f:3024:A:H8	1.84	0.42
45:a:45:LYS:HG2	45:a:46:PRO:HD2	2.00	0.42
46:e:272:TYR:CB	46:e:277:MET:CE	2.97	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:e:1196:THR:HG23	46:e:1197:LEU:N	2.35	0.42
47:g:199:VAL:HG23	47:g:204:ALA:HB2	2.01	0.42
48:y:61:C:H2'	48:y:62:C:C6	2.54	0.42
50:0:67:LEU:HD22	50:0:67:LEU:HA	1.85	0.42
52:w:96:ASN:HD21	52:w:99:LEU:HD12	1.83	0.42
3:C:182:ILE:HD12	3:C:182:ILE:HA	1.85	0.42
6:F:137:ARG:HH21	30:f:1213:G:H5'	1.85	0.42
16:P:73:GLY:N	16:P:76:GLU:OE2	2.42	0.42
30:f:158:G:H2'	30:f:159:A:H8	1.85	0.42
35:l:276:LEU:HD23	35:l:276:LEU:HA	1.91	0.42
46:e:911:ARG:O	46:e:915:LYS:HG2	2.20	0.42
46:e:1075:LEU:HD23	46:e:1075:LEU:HA	1.80	0.42
46:e:1189:ASN:ND2	46:e:1337:PHE:HB3	2.34	0.42
46:e:1193:LEU:HD23	46:e:1193:LEU:HA	1.63	0.42
1:A:90:ASN:ND2	30:f:2424:A:OP1	2.50	0.42
20:T:95:ILE:HD13	20:T:95:ILE:HG21	1.81	0.42
30:f:1660:C:H2'	30:f:1661:G:H8	1.85	0.42
34:k:106:TRP:O	34:k:137:TYR:OH	2.24	0.42
35:l:261:VAL:HG23	35:l:262:TRP:CD1	2.55	0.42
36:m:95:TRP:CE3	36:m:198:TYR:HB3	2.54	0.42
36:m:144:VAL:HG11	36:m:171:LEU:HD13	2.01	0.42
46:e:1237:LYS:HB2	46:e:1237:LYS:HE3	1.76	0.42
46:e:1400:PHE:CE1	46:e:1428:VAL:HG22	2.55	0.42
46:e:1407:MET:HE2	46:e:1407:MET:HB2	1.68	0.42
30:f:129:U:H2'	30:f:130:A:C8	2.55	0.42
30:f:296:A:N3	30:f:299:G:O2'	2.53	0.42
30:f:440:A:N7	30:f:441:U:O2'	2.49	0.42
30:f:1194:G:H2'	30:f:1195:A:C8	2.55	0.42
30:f:2413:A:H2'	30:f:2414:G:H8	1.85	0.42
34:k:214:MET:HE3	34:k:214:MET:HB3	1.94	0.42
46:e:1193:LEU:O	46:e:1196:THR:HG22	2.20	0.42
3:C:116:HIS:HB3	3:C:149:VAL:HB	2.02	0.41
27:b:10:THR:HA	27:b:20:HIS:HD2	1.84	0.41
30:f:531:G:H2'	30:f:532:A:C8	2.55	0.41
30:f:2711:C:O2'	30:f:2744:U:OP1	2.38	0.41
30:f:2772:C:H4'	30:f:2773:C:H5'	2.02	0.41
30:f:3163:A:N6	30:f:3288:G:O6	2.53	0.41
36:m:266:ALA:O	36:m:270:LYS:HB2	2.20	0.41
37:n:112:THR:HG23	37:n:115:GLU:H	1.85	0.41
45:a:113:VAL:HB	45:a:123:ILE:HB	2.01	0.41
46:e:305:LYS:HB3	46:e:305:LYS:HE2	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:29:SER:OG	30:f:1730:G:O6	2.37	0.41
27:b:61:LYS:NZ	27:b:63:LYS:O	2.53	0.41
30:f:443:G:O6	30:f:490:C:N4	2.53	0.41
30:f:2457:G:H2'	30:f:2459:A:C2	2.55	0.41
30:f:3218:A:H5''	30:f:3219:G:C5	2.55	0.41
35:l:6:VAL:N	35:l:20:LEU:O	2.48	0.41
45:a:576:LYS:HD3	48:y:31:C:H5''	2.02	0.41
46:e:989:GLU:CB	46:e:1039:LEU:HD23	2.47	0.41
52:w:25:LYS:HD2	52:w:25:LYS:HA	1.88	0.41
1:A:98:LEU:HD22	1:A:128:LYS:HD2	2.02	0.41
20:T:60:ARG:NH1	30:f:1593:A:OP1	2.53	0.41
30:f:2508:U:H2'	30:f:2509:U:C6	2.56	0.41
46:e:1477:GLN:CD	46:e:1477:GLN:C	2.88	0.41
48:y:12:G:H2'	48:y:13:U:O4'	2.20	0.41
6:F:110:MET:HE3	6:F:110:MET:HB3	1.95	0.41
7:G:88:ARG:O	30:f:2722:U:O2'	2.35	0.41
30:f:675:C:O2'	30:f:679:U:OP1	2.34	0.41
30:f:1577:G:H2'	30:f:1578:C:H6	1.85	0.41
30:f:2471:U:O3'	30:f:2472:U:H6	2.03	0.41
30:f:2500:A:H4'	30:f:2501:U:OP1	2.20	0.41
30:f:3198:U:H1'	40:q:21:LYS:HB2	2.01	0.41
4:D:36:LEU:O	4:D:40:THR:OG1	2.27	0.41
7:G:102:ARG:HD2	7:G:102:ARG:HA	1.77	0.41
12:L:63:LYS:HA	12:L:63:LYS:HD3	1.92	0.41
30:f:20:A:H2'	30:f:21:G:C8	2.56	0.41
30:f:1497:C:H2'	30:f:1498:A:C8	2.56	0.41
30:f:2205:U:O4	45:a:854:GLN:NE2	2.42	0.41
41:r:52:LEU:HB3	41:r:136:PHE:HB2	2.02	0.41
46:e:227:LYS:HA	46:e:227:LYS:HD3	1.85	0.41
46:e:378:LEU:O	46:e:379:PRO:C	2.60	0.41
46:e:759:ASP:O	46:e:762:GLN:HG3	2.21	0.41
30:f:689:U:O4	35:l:209:TYR:OH	2.35	0.41
30:f:745:C:H2'	30:f:746:A:H8	1.85	0.41
30:f:1221:A:C4	50:0:12:PHE:HZ	2.38	0.41
30:f:2871:G:H5''	30:f:2872:A:H5'	2.02	0.41
31:h:53:U:O2'	31:h:55:A:N7	2.53	0.41
34:k:284:ARG:HB3	34:k:323:MET:HB3	2.01	0.41
35:l:343:LYS:HE2	35:l:343:LYS:HB2	1.92	0.41
46:e:251:ASN:HD21	46:e:253:LYS:HB2	1.85	0.41
46:e:290:LYS:HA	46:e:290:LYS:HD2	1.86	0.41
46:e:879:ILE:H	46:e:879:ILE:HG13	1.67	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:122:ALA:HB3	3:C:143:PRO:HB2	2.01	0.41
8:H:92:TRP:CZ2	46:e:1474:MET:HB2	2.55	0.41
9:I:135:VAL:HG23	47:g:102:SER:HB3	2.02	0.41
22:V:5:THR:HG23	22:V:12:ASN:HB2	2.03	0.41
27:b:100:LYS:HE3	27:b:100:LYS:HB3	1.90	0.41
30:f:1421:G:H2'	30:f:1422:G:H8	1.85	0.41
30:f:1764:U:H3'	30:f:1765:U:H4'	2.03	0.41
30:f:2473:C:C2'	30:f:2474:G:H4'	2.50	0.41
45:a:246:ASP:HB2	45:a:249:GLU:HB2	2.02	0.41
45:a:702:GLY:HA2	45:a:952:TYR:O	2.21	0.41
46:e:1273:HIS:HA	46:e:1276:LEU:HG	2.02	0.41
2:B:8[A]:VAL:HG12	2:B:117[A]:ARG:HG3	2.03	0.41
3:C:131:ARG:HG3	3:C:137:ASN:ND2	2.36	0.41
5:E:103:ARG:NH1	30:f:1722:U:OP2	2.53	0.41
30:f:352:A:H61	30:f:365:A:H5''	1.86	0.41
30:f:1083:G:H2'	30:f:1084:A:C8	2.56	0.41
40:q:9:GLN:HB3	40:q:52:LEU:HD11	2.01	0.41
42:s:75:LYS:O	42:s:79:ILE:HG13	2.21	0.41
43:t:57:VAL:HG23	43:t:147:ILE:HD12	2.03	0.41
44:u:113:THR:OG1	44:u:114:ASP:N	2.52	0.41
46:e:222:LEU:CD1	46:e:226:ASN:HD22	2.32	0.41
46:e:1181:ASP:O	46:e:1185:GLY:N	2.45	0.41
52:w:113:SER:HB3	52:w:116:LEU:HG	2.03	0.41
1:A:155:VAL:HG12	30:f:58:G:H4'	2.03	0.41
5:E:7:GLN:NE2	5:E:35:ALA:O	2.53	0.41
6:F:90:MET:HE3	30:f:1213:G:H4'	2.03	0.41
14:N:75:LEU:HD23	14:N:75:LEU:HA	1.92	0.41
18:R:99:ASN:O	30:f:1388:U:O2'	2.36	0.41
23:W:31:LYS:NZ	30:f:815:G:OP2	2.52	0.41
30:f:63:A:N3	30:f:78:U:O2'	2.43	0.41
30:f:2471:U:O3'	30:f:2472:U:C6	2.74	0.41
34:k:218:ILE:HG12	34:k:276:THR:HG23	2.03	0.41
35:l:34:ILE:HG21	35:l:120:TYR:HD2	1.85	0.41
41:r:44:ASP:OD1	41:r:44:ASP:N	2.48	0.41
45:a:597:THR:HG23	45:a:621:TRP:HE1	1.86	0.41
46:e:248:LYS:HD3	46:e:248:LYS:HA	1.76	0.41
46:e:323:TYR:CD1	46:e:323:TYR:C	2.99	0.41
46:e:1070:ILE:HG13	46:e:1074:GLU:HG3	2.03	0.41
48:y:22:G:H2'	48:y:23:C:C6	2.56	0.41
1:A:9:GLU:HG3	22:V:44:VAL:HG21	2.03	0.41
2:B:121[A]:PRO:HA	2:B:124[A]:LEU:HD12	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:114:GLY:O	14:N:137:LYS:NZ	2.54	0.41
17:Q:20:LEU:HD11	17:Q:32:ALA:HB2	2.03	0.41
18:R:4:LEU:HD12	18:R:5:PRO:HD2	2.01	0.41
30:f:946:U:H2'	30:f:947:G:H8	1.86	0.41
30:f:1660:C:H2'	30:f:1661:G:C8	2.56	0.41
30:f:2264:U:H2'	30:f:2265:C:C6	2.56	0.41
30:f:2357:A:H2'	30:f:2358:A:H8	1.85	0.41
30:f:2836:C:H2'	30:f:2837:A:O4'	2.21	0.41
30:f:3092:C:O2'	30:f:3094:A:OP2	2.28	0.41
30:f:3217:C:C5	30:f:3220:G:H1'	2.56	0.41
31:h:84:A:H2'	31:h:85:G:C8	2.56	0.41
40:q:90:MET:HE3	40:q:179:ILE:HG22	2.01	0.41
45:a:601:TYR:HA	45:a:605:ILE:HD12	2.03	0.41
46:e:875:ASN:O	46:e:879:ILE:HG13	2.21	0.41
46:e:1109:LEU:HD23	46:e:1109:LEU:HA	1.89	0.41
46:e:1435:ASP:HB2	46:e:1515:LEU:HD12	2.03	0.41
52:w:204:LEU:HB2	52:w:216:LEU:O	2.21	0.41
1:A:174:ILE:HG21	30:f:63:A:H5''	2.04	0.40
2:B:189[A]:ASP:OD1	2:B:190[A]:VAL:N	2.53	0.40
4:D:155:MET:HE2	4:D:163:PRO:HB3	2.03	0.40
24:X:2:ALA:HB1	30:f:1747:G:H21	1.86	0.40
30:f:129:U:H3	30:f:139:G:H1	1.69	0.40
41:r:181:TYR:CE2	41:r:185:ARG:HD2	2.56	0.40
46:e:1464:ILE:HG22	46:e:1468:LYS:HB3	2.03	0.40
48:y:1:G:C5	48:y:73:G:N2	2.90	0.40
1:A:18:VAL:HG13	1:A:19:LEU:HD12	2.02	0.40
6:F:43:TYR:OH	31:h:96:U:OP1	2.35	0.40
20:T:93:PHE:HD2	20:T:94:LEU:HD22	1.86	0.40
30:f:1249:G:H2'	30:f:1250:G:H8	1.86	0.40
33:j:52:SER:HB3	33:j:191:LEU:HD23	2.02	0.40
36:m:108:ARG:CZ	36:m:253:PHE:HB2	2.51	0.40
41:r:144:ASN:HD22	41:r:144:ASN:N	2.18	0.40
43:t:189:GLU:HA	43:t:192:GLU:HG3	2.03	0.40
46:e:274:ARG:HA	46:e:274:ARG:HD2	1.83	0.40
46:e:1029:ARG:HH22	46:e:1071:THR:HB	1.85	0.40
5:E:124:TYR:OH	30:f:1721:U:OP2	2.37	0.40
12:L:51:ARG:NH2	32:i:83:C:O2	2.54	0.40
26:Z:113:ARG:NH2	30:f:1190:A:H4'	2.36	0.40
30:f:1108:U:H2'	30:f:1109:U:C6	2.56	0.40
30:f:1238:C:C4'	49:z:139:VAL:CB	2.98	0.40
30:f:1596:C:H2'	30:f:1597:C:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:e:1172:LYS:HB3	46:e:1173:ARG:NH2	2.35	0.40
46:e:1410:LEU:HG	46:e:1417:LEU:HD11	2.03	0.40
5:E:31:GLU:HA	5:E:34:GLN:HB2	2.03	0.40
23:W:43:LYS:HB2	23:W:43:LYS:HE3	1.91	0.40
30:f:94:G:H2'	30:f:95:A:C8	2.57	0.40
30:f:182:U:H2'	30:f:183:G:H8	1.85	0.40
30:f:1799:A:H2'	30:f:1800:A:C8	2.56	0.40
46:e:819:LEU:O	46:e:823:LEU:HG	2.21	0.40
46:e:1204:LYS:HA	46:e:1204:LYS:HD3	1.95	0.40
46:e:1495:THR:O	46:e:1499:HIS:HD2	2.02	0.40
7:G:73:GLY:HA2	7:G:89:LEU:O	2.21	0.40
28:c:2:ALA:N	30:f:853:G:O6	2.55	0.40
30:f:1827:C:H2'	30:f:1828:A:C8	2.57	0.40
30:f:2208:A:H62	45:a:843:LYS:NZ	2.18	0.40
30:f:2536:A:H2'	30:f:2537:U:C4	2.56	0.40
35:l:233:LEU:HD23	35:l:233:LEU:HA	1.90	0.40
46:e:308:PRO:O	46:e:311:PRO:HD2	2.21	0.40
46:e:367:ARG:H	46:e:367:ARG:HG3	1.54	0.40
46:e:1030:SER:O	46:e:1033:LYS:HG2	2.21	0.40
47:g:4:ARG:HD2	47:g:208:LEU:HA	2.04	0.40
49:z:51:LYS:O	49:z:54:LYS:N	2.54	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	201/204 (98%)	190 (94%)	11 (6%)	0	100	100
2	B	195/199 (98%)	192 (98%)	3 (2%)	0	100	100
3	C	181/184 (98%)	172 (95%)	9 (5%)	0	100	100
4	D	183/186 (98%)	176 (96%)	7 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
5	E	154/189 (82%)	151 (98%)	3 (2%)	0	100	100
6	F	169/172 (98%)	163 (96%)	6 (4%)	0	100	100
7	G	157/160 (98%)	149 (95%)	8 (5%)	0	100	100
8	H	98/121 (81%)	93 (95%)	5 (5%)	0	100	100
9	I	134/137 (98%)	132 (98%)	2 (2%)	0	100	100
10	J	61/155 (39%)	61 (100%)	0	0	100	100
11	K	119/142 (84%)	118 (99%)	1 (1%)	0	100	100
12	L	123/127 (97%)	119 (97%)	4 (3%)	0	100	100
13	M	133/136 (98%)	126 (95%)	7 (5%)	0	100	100
14	N	146/149 (98%)	136 (93%)	10 (7%)	0	100	100
15	O	56/59 (95%)	52 (93%)	3 (5%)	1 (2%)	6	14
16	P	94/105 (90%)	93 (99%)	1 (1%)	0	100	100
17	Q	107/113 (95%)	98 (92%)	9 (8%)	0	100	100
18	R	125/130 (96%)	123 (98%)	2 (2%)	0	100	100
19	S	104/107 (97%)	101 (97%)	3 (3%)	0	100	100
20	T	110/121 (91%)	108 (98%)	2 (2%)	0	100	100
21	U	117/120 (98%)	112 (96%)	5 (4%)	0	100	100
22	V	97/100 (97%)	93 (96%)	4 (4%)	0	100	100
23	W	79/88 (90%)	75 (95%)	4 (5%)	0	100	100
24	X	75/78 (96%)	74 (99%)	1 (1%)	0	100	100
25	Y	48/51 (94%)	46 (96%)	2 (4%)	0	100	100
26	Z	50/128 (39%)	47 (94%)	3 (6%)	0	100	100
27	b	101/106 (95%)	95 (94%)	6 (6%)	0	100	100
28	c	89/92 (97%)	85 (96%)	4 (4%)	0	100	100
29	d	20/25 (80%)	19 (95%)	1 (5%)	0	100	100
33	j	244/254 (96%)	226 (93%)	18 (7%)	0	100	100
34	k	384/387 (99%)	363 (94%)	21 (6%)	0	100	100
35	l	359/362 (99%)	329 (92%)	29 (8%)	1 (0%)	36	58
36	m	292/297 (98%)	277 (95%)	15 (5%)	0	100	100
37	n	163/176 (93%)	155 (95%)	8 (5%)	0	100	100
38	o	220/244 (90%)	207 (94%)	13 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
39	p	231/256 (90%)	220 (95%)	11 (5%)	0	100	100
40	q	189/191 (99%)	174 (92%)	14 (7%)	1 (0%)	24	46
41	r	216/221 (98%)	206 (95%)	10 (5%)	0	100	100
42	s	167/174 (96%)	161 (96%)	5 (3%)	1 (1%)	21	42
43	t	191/199 (96%)	174 (91%)	16 (8%)	1 (0%)	24	46
44	u	134/138 (97%)	125 (93%)	9 (7%)	0	100	100
45	a	842/1038 (81%)	827 (98%)	15 (2%)	0	100	100
46	e	1519/1562 (97%)	1497 (99%)	20 (1%)	2 (0%)	48	70
47	g	223/245 (91%)	215 (96%)	8 (4%)	0	100	100
49	z	144/165 (87%)	135 (94%)	7 (5%)	2 (1%)	9	19
50	o	117/312 (38%)	116 (99%)	0	1 (1%)	14	30
52	w	214/217 (99%)	211 (99%)	3 (1%)	0	100	100
All	All	9175/10122 (91%)	8817 (96%)	348 (4%)	10 (0%)	49	70

All (10) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
49	z	88	PRO
46	e	437	LYS
46	e	855	PRO
35	l	4	PRO
40	q	107	ASP
42	s	108	GLU
50	o	93	LEU
15	O	21	ILE
43	t	47	ALA
49	z	55	GLY

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	175/176 (99%)	175 (100%)	0	100	100
2	B	160/162 (99%)	160 (100%)	0	100	100
3	C	138/146 (94%)	138 (100%)	0	100	100
4	D	150/151 (99%)	150 (100%)	0	100	100
5	E	129/154 (84%)	129 (100%)	0	100	100
6	F	155/156 (99%)	155 (100%)	0	100	100
7	G	135/137 (98%)	135 (100%)	0	100	100
8	H	87/107 (81%)	87 (100%)	0	100	100
9	I	104/105 (99%)	104 (100%)	0	100	100
10	J	54/129 (42%)	54 (100%)	0	100	100
11	K	104/118 (88%)	104 (100%)	0	100	100
12	L	108/110 (98%)	108 (100%)	0	100	100
13	M	112/116 (97%)	112 (100%)	0	100	100
14	N	117/119 (98%)	117 (100%)	0	100	100
15	O	46/47 (98%)	46 (100%)	0	100	100
16	P	81/88 (92%)	81 (100%)	0	100	100
17	Q	92/97 (95%)	92 (100%)	0	100	100
18	R	107/111 (96%)	107 (100%)	0	100	100
19	S	90/91 (99%)	90 (100%)	0	100	100
20	T	95/103 (92%)	95 (100%)	0	100	100
21	U	104/105 (99%)	104 (100%)	0	100	100
22	V	80/82 (98%)	80 (100%)	0	100	100
23	W	67/71 (94%)	67 (100%)	0	100	100
24	X	68/69 (99%)	68 (100%)	0	100	100
25	Y	45/46 (98%)	45 (100%)	0	100	100
26	Z	45/116 (39%)	45 (100%)	0	100	100
27	b	87/91 (96%)	87 (100%)	0	100	100
28	c	71/72 (99%)	71 (100%)	0	100	100
29	d	20/23 (87%)	20 (100%)	0	100	100
33	j	189/196 (96%)	189 (100%)	0	100	100
34	k	320/323 (99%)	320 (100%)	0	100	100
35	l	288/289 (100%)	288 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
36	m	241/245 (98%)	241 (100%)	0	100	100
37	n	139/155 (90%)	139 (100%)	0	100	100
38	o	186/205 (91%)	186 (100%)	0	100	100
39	p	187/208 (90%)	187 (100%)	0	100	100
40	q	168/171 (98%)	168 (100%)	0	100	100
41	r	185/187 (99%)	184 (100%)	1 (0%)	81	92
42	s	145/150 (97%)	145 (100%)	0	100	100
43	t	154/159 (97%)	154 (100%)	0	100	100
44	u	107/109 (98%)	107 (100%)	0	100	100
45	a	677/949 (71%)	676 (100%)	1 (0%)	88	96
46	e	1151/1451 (79%)	1090 (95%)	61 (5%)	20	43
47	g	180/211 (85%)	180 (100%)	0	100	100
50	0	104/254 (41%)	94 (90%)	10 (10%)	8	17
52	w	197/198 (100%)	197 (100%)	0	100	100
All	All	7444/8558 (87%)	7371 (99%)	73 (1%)	65	86

All (73) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
41	r	112	GLN
45	a	98	ASP
46	e	8	THR
46	e	105	VAL
46	e	125	ILE
46	e	169	LEU
46	e	205	GLU
46	e	230	SER
46	e	254	ASN
46	e	271	LEU
46	e	277	MET
46	e	283	ILE
46	e	299	THR
46	e	309	VAL
46	e	319	THR
46	e	327	THR
46	e	400	GLU
46	e	731	LEU

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Mol	Chain	Res	Type
46	e	733	HIS
46	e	754	ILE
46	e	763	ILE
46	e	770	ILE
46	e	780	ILE
46	e	797	LEU
46	e	799	THR
46	e	806	LEU
46	e	826	LEU
46	e	853	GLU
46	e	867	PHE
46	e	904	VAL
46	e	910	SER
46	e	924	VAL
46	e	933	LEU
46	e	978	THR
46	e	989	GLU
46	e	1017	VAL
46	e	1032	LEU
46	e	1059	LEU
46	e	1102	CYS
46	e	1142	GLU
46	e	1149	THR
46	e	1164	LEU
46	e	1179	LEU
46	e	1184	ILE
46	e	1269	LEU
46	e	1294	LEU
46	e	1300	ILE
46	e	1303	MET
46	e	1363	VAL
46	e	1367	THR
46	e	1372	LEU
46	e	1379	LEU
46	e	1384	GLU
46	e	1400	PHE
46	e	1407	MET
46	e	1421	LEU
46	e	1428	VAL
46	e	1441	ILE
46	e	1454	ILE
46	e	1464	ILE

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Mol	Chain	Res	Type
46	e	1480	ILE
46	e	1514	ILE
46	e	1553	LEU
50	0	30	VAL
50	0	51	VAL
50	0	52	LEU
50	0	67	LEU
50	0	76	LEU
50	0	80	VAL
50	0	93	LEU
50	0	95	GLU
50	0	105	VAL
50	0	189	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (83) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	95	GLN
2	B	193[A]	GLN
3	C	55	GLN
3	C	97	ASN
4	D	5	HIS
5	E	150	GLN
7	G	66	ASN
7	G	149	GLN
8	H	87	ASN
8	H	101	ASN
11	K	65	GLN
11	K	85	GLN
13	M	122	HIS
13	M	127	ASN
14	N	38	GLN
15	O	12	GLN
15	O	17	HIS
17	Q	15	ASN
17	Q	21	HIS
18	R	35	GLN
18	R	49	ASN
20	T	61	GLN
21	U	16	GLN
21	U	59	ASN
21	U	99	GLN

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Mol	Chain	Res	Type
23	W	12	HIS
23	W	13	ASN
25	Y	4	GLN
25	Y	20	ASN
27	b	3	ASN
27	b	102	GLN
34	k	139	GLN
34	k	198	HIS
34	k	224	HIS
35	l	5	GLN
35	l	196	ASN
35	l	213	ASN
35	l	316	ASN
38	o	64	GLN
38	o	225	GLN
38	o	244	ASN
39	p	77	GLN
40	q	49	ASN
40	q	169	ASN
40	q	183	HIS
41	r	51	HIS
41	r	208	ASN
42	s	43	GLN
42	s	62	ASN
42	s	90	GLN
44	u	62	GLN
45	a	94	GLN
45	a	121	ASN
45	a	147	GLN
45	a	382	GLN
45	a	395	ASN
45	a	417	ASN
45	a	438	ASN
45	a	562	HIS
45	a	599	GLN
46	e	79	ASN
46	e	160	ASN
46	e	174	GLN
46	e	189	ASN
46	e	226	ASN
46	e	233	ASN
46	e	251	ASN

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Mol	Chain	Res	Type
46	e	397	ASN
46	e	403	ASN
46	e	408	ASN
46	e	805	ASN
46	e	888	ASN
46	e	1141	GLN
46	e	1288	GLN
46	e	1455	GLN
46	e	1457	ASN
46	e	1477	GLN
46	e	1478	HIS
46	e	1499	HIS
46	e	1532	ASN
47	g	9	ASN
47	g	75	GLN
50	0	36	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
30	f	3211/3395 (94%)	601 (18%)	0
31	h	120/121 (99%)	12 (10%)	0
32	i	157/158 (99%)	32 (20%)	0
48	x	72/76 (94%)	26 (36%)	0
48	y	71/76 (93%)	26 (36%)	0
All	All	3631/3826 (94%)	697 (19%)	0

All (697) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
30	f	6	A
30	f	13	A
30	f	14	U
30	f	26	A
30	f	40	A
30	f	43	A
30	f	49	A
30	f	59	G
30	f	60	A
30	f	65	A
30	f	66	A

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Mol	Chain	Res	Type
30	f	92	G
30	f	99	A
30	f	109	A
30	f	110	G
30	f	111	C
30	f	116	A
30	f	120	G
30	f	121	A
30	f	122	A
30	f	133	U
30	f	134	U
30	f	135	C
30	f	136	G
30	f	156	G
30	f	157	A
30	f	165	A
30	f	166	C
30	f	172	G
30	f	173	G
30	f	187	A
30	f	190	U
30	f	191	U
30	f	200	C
30	f	206	G
30	f	210	U
30	f	211	A
30	f	213	A
30	f	218	G
30	f	219	A
30	f	234	G
30	f	240	U
30	f	241	G
30	f	242	C
30	f	243	G
30	f	245	U
30	f	249	U
30	f	252	U
30	f	269	G
30	f	283	G
30	f	286	U
30	f	295	A
30	f	305	U

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Mol	Chain	Res	Type
30	f	323	A
30	f	329	U
30	f	339	C
30	f	350	C
30	f	374	A
30	f	376	G
30	f	398	A
30	f	399	A
30	f	401	U
30	f	402	A
30	f	403	C
30	f	421	G
30	f	422	A
30	f	439	C
30	f	440	A
30	f	441	U
30	f	442	G
30	f	443	G
30	f	445	G
30	f	446	U
30	f	447	U
30	f	448	U
30	f	450	G
30	f	487	U
30	f	488	U
30	f	489	U
30	f	490	C
30	f	494	G
30	f	518	G
30	f	520	U
30	f	521	A
30	f	523	A
30	f	535	G
30	f	536	U
30	f	543	C
30	f	544	C
30	f	546	C
30	f	547	G
30	f	548	G
30	f	551	A
30	f	552	G
30	f	555	U

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Mol	Chain	Res	Type
30	f	557	A
30	f	559	A
30	f	578	A
30	f	579	G
30	f	589	A
30	f	597	G
30	f	604	G
30	f	608	A
30	f	609	G
30	f	611	A
30	f	620	U
30	f	621	A
30	f	622	A
30	f	637	C
30	f	638	C
30	f	649	A
30	f	660	A
30	f	677	A
30	f	681	U
30	f	684	G
30	f	690	A
30	f	691	A
30	f	705	A
30	f	712	G
30	f	715	A
30	f	716	A
30	f	719	U
30	f	720	A
30	f	758	C
30	f	763	G
30	f	764	U
30	f	765	C
30	f	766	U
30	f	767	U
30	f	776	U
30	f	777	U
30	f	780	A
30	f	781	G
30	f	785	G
30	f	786	A
30	f	806	A
30	f	817	A

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Mol	Chain	Res	Type
30	f	830	A
30	f	846	A
30	f	849	C
30	f	850	U
30	f	861	C
30	f	874	U
30	f	879	U
30	f	896	A
30	f	907	G
30	f	908	G
30	f	914	A
30	f	916	G
30	f	917	A
30	f	920	A
30	f	921	A
30	f	924	G
30	f	925	A
30	f	937	G
30	f	944	C
30	f	959	C
30	f	960	U
30	f	981	U
30	f	982	C
30	f	991	G
30	f	994	G
30	f	1001	G
30	f	1002	A
30	f	1010	G
30	f	1015	U
30	f	1016	C
30	f	1017	C
30	f	1018	G
30	f	1021	G
30	f	1024	G
30	f	1025	A
30	f	1028	U
30	f	1036	A
30	f	1041	U
30	f	1047	A
30	f	1049	C
30	f	1063	G
30	f	1064	A

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Mol	Chain	Res	Type
30	f	1065	A
30	f	1072	G
30	f	1081	U
30	f	1087	G
30	f	1093	A
30	f	1094	U
30	f	1095	U
30	f	1097	G
30	f	1098	A
30	f	1103	A
30	f	1104	G
30	f	1117	G
30	f	1131	G
30	f	1144	U
30	f	1153	A
30	f	1159	A
30	f	1160	C
30	f	1177	G
30	f	1180	A
30	f	1181	U
30	f	1192	C
30	f	1193	A
30	f	1196	C
30	f	1197	A
30	f	1201	C
30	f	1202	A
30	f	1208	U
30	f	1217	A
30	f	1218	U
30	f	1219	C
30	f	1222	G
30	f	1225	A
30	f	1227	C
30	f	1235	U
30	f	1236	G
30	f	1238	C
30	f	1241	U
30	f	1242	G
30	f	1244	A
30	f	1245	A
30	f	1251	A
30	f	1252	A

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Mol	Chain	Res	Type
30	f	1254	C
30	f	1258	U
30	f	1259	A
30	f	1263	A
30	f	1264	G
30	f	1265	U
30	f	1269	U
30	f	1272	C
30	f	1277	C
30	f	1278	A
30	f	1279	C
30	f	1282	G
30	f	1285	G
30	f	1286	A
30	f	1287	A
30	f	1295	G
30	f	1307	G
30	f	1308	A
30	f	1309	U
30	f	1313	G
30	f	1330	A
30	f	1348	U
30	f	1349	G
30	f	1351	U
30	f	1352	A
30	f	1354	G
30	f	1355	A
30	f	1356	U
30	f	1357	G
30	f	1386	A
30	f	1392	G
30	f	1399	A
30	f	1400	G
30	f	1419	A
30	f	1434	G
30	f	1437	C
30	f	1446	A
30	f	1450	G
30	f	1481	A
30	f	1482	A
30	f	1483	G
30	f	1487	G

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Mol	Chain	Res	Type
30	f	1488	G
30	f	1502	C
30	f	1508	C
30	f	1536	G
30	f	1539	A
30	f	1555	U
30	f	1556	C
30	f	1557	A
30	f	1560	G
30	f	1562	C
30	f	1563	C
30	f	1566	A
30	f	1568	U
30	f	1569	U
30	f	1572	U
30	f	1573	G
30	f	1575	A
30	f	1576	G
30	f	1580	A
30	f	1581	C
30	f	1582	C
30	f	1583	A
30	f	1589	A
30	f	1590	G
30	f	1605	A
30	f	1607	U
30	f	1620	U
30	f	1629	U
30	f	1639	C
30	f	1642	A
30	f	1643	A
30	f	1645	U
30	f	1657	C
30	f	1683	A
30	f	1716	U
30	f	1717	U
30	f	1724	U
30	f	1725	C
30	f	1736	G
30	f	1741	A
30	f	1750	A
30	f	1751	G

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Mol	Chain	Res	Type
30	f	1760	A
30	f	1761	C
30	f	1764	U
30	f	1765	U
30	f	1766	G
30	f	1770	G
30	f	1775	G
30	f	1780	G
30	f	1797	A
30	f	1814	A
30	f	1816	A
30	f	1819	U
30	f	1820	U
30	f	1821	U
30	f	1835	A
30	f	1839	A
30	f	1840	U
30	f	1841	A
30	f	1842	A
30	f	1846	C
30	f	1849	C
30	f	1850	A
30	f	1866	C
30	f	1867	A
30	f	1880	U
30	f	1881	A
30	f	1893	A
30	f	1906	G
30	f	1943	C
30	f	1952	G
30	f	1953	G
30	f	1954	G
30	f	2094	C
30	f	2101	C
30	f	2102	U
30	f	2111	G
30	f	2112	U
30	f	2113	A
30	f	2114	C
30	f	2121	G
30	f	2122	G
30	f	2131	A

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Mol	Chain	Res	Type
30	f	2134	G
30	f	2140	U
30	f	2144	A
30	f	2158	A
30	f	2160	G
30	f	2169	G
30	f	2176	U
30	f	2201	G
30	f	2206	G
30	f	2207	A
30	f	2208	A
30	f	2209	U
30	f	2222	A
30	f	2223	A
30	f	2225	U
30	f	2228	A
30	f	2251	G
30	f	2252	A
30	f	2267	C
30	f	2272	G
30	f	2273	G
30	f	2274	U
30	f	2281	A
30	f	2282	U
30	f	2288	G
30	f	2307	G
30	f	2308	C
30	f	2310	U
30	f	2313	A
30	f	2314	U
30	f	2315	G
30	f	2334	U
30	f	2335	G
30	f	2336	U
30	f	2373	A
30	f	2374	C
30	f	2375	G
30	f	2385	G
30	f	2388	U
30	f	2393	G
30	f	2397	A
30	f	2402	A

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Mol	Chain	Res	Type
30	f	2403	G
30	f	2404	A
30	f	2411	U
30	f	2419	A
30	f	2435	G
30	f	2437	G
30	f	2439	A
30	f	2440	G
30	f	2445	A
30	f	2446	U
30	f	2447	A
30	f	2448	G
30	f	2449	A
30	f	2450	G
30	f	2451	G
30	f	2452	G
30	f	2453	U
30	f	2460	U
30	f	2461	A
30	f	2465	G
30	f	2468	A
30	f	2469	G
30	f	2471	U
30	f	2473	C
30	f	2474	G
30	f	2476	C
30	f	2479	C
30	f	2480	A
30	f	2482	U
30	f	2484	A
30	f	2486	A
30	f	2487	U
30	f	2494	A
30	f	2495	C
30	f	2499	U
30	f	2501	U
30	f	2503	G
30	f	2505	U
30	f	2506	U
30	f	2511	A
30	f	2514	U
30	f	2515	A

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Mol	Chain	Res	Type
30	f	2522	G
30	f	2526	C
30	f	2531	C
30	f	2537	U
30	f	2538	U
30	f	2539	C
30	f	2540	A
30	f	2541	U
30	f	2542	U
30	f	2544	U
30	f	2547	A
30	f	2548	C
30	f	2549	G
30	f	2552	C
30	f	2554	A
30	f	2555	G
30	f	2561	A
30	f	2569	A
30	f	2570	U
30	f	2571	U
30	f	2572	C
30	f	2573	G
30	f	2581	U
30	f	2585	G
30	f	2593	A
30	f	2594	C
30	f	2606	G
30	f	2607	G
30	f	2614	G
30	f	2648	G
30	f	2651	G
30	f	2652	U
30	f	2656	A
30	f	2674	A
30	f	2677	G
30	f	2678	A
30	f	2689	A
30	f	2691	A
30	f	2694	A
30	f	2696	A
30	f	2704	A
30	f	2714	G

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Mol	Chain	Res	Type
30	f	2719	U
30	f	2728	G
30	f	2729	U
30	f	2740	A
30	f	2752	U
30	f	2753	G
30	f	2755	C
30	f	2772	C
30	f	2773	C
30	f	2777	G
30	f	2778	G
30	f	2788	C
30	f	2796	G
30	f	2800	G
30	f	2801	A
30	f	2803	A
30	f	2810	C
30	f	2814	G
30	f	2817	A
30	f	2818	U
30	f	2821	C
30	f	2822	U
30	f	2842	U
30	f	2844	C
30	f	2845	A
30	f	2846	U
30	f	2849	C
30	f	2867	C
30	f	2871	G
30	f	2872	A
30	f	2876	C
30	f	2887	A
30	f	2898	G
30	f	2899	C
30	f	2911	A
30	f	2914	G
30	f	2923	U
30	f	2935	U
30	f	2936	A
30	f	2941	A
30	f	2942	C
30	f	2947	G

Continued on next page...

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Mol	Chain	Res	Type
30	f	2971	A
30	f	2983	C
30	f	2990	G
30	f	2992	U
30	f	2996	U
30	f	2997	G
30	f	3006	A
30	f	3012	A
30	f	3056	U
30	f	3059	G
30	f	3078	U
30	f	3079	U
30	f	3080	G
30	f	3086	A
30	f	3092	C
30	f	3104	U
30	f	3113	A
30	f	3122	A
30	f	3130	A
30	f	3131	U
30	f	3142	A
30	f	3143	C
30	f	3151	U
30	f	3154	C
30	f	3155	U
30	f	3156	U
30	f	3157	U
30	f	3165	A
30	f	3170	A
30	f	3173	G
30	f	3174	A
30	f	3175	U
30	f	3176	G
30	f	3179	U
30	f	3181	C
30	f	3186	A
30	f	3187	A
30	f	3196	U
30	f	3207	U
30	f	3209	A
30	f	3217	C
30	f	3218	A

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Mol	Chain	Res	Type
30	f	3219	G
30	f	3228	C
30	f	3229	G
30	f	3243	A
30	f	3245	A
30	f	3247	G
30	f	3259	U
30	f	3263	G
30	f	3269	U
30	f	3270	U
30	f	3273	A
30	f	3276	G
30	f	3281	U
30	f	3287	U
30	f	3288	G
30	f	3289	G
30	f	3294	A
30	f	3295	A
30	f	3303	G
30	f	3304	U
30	f	3307	A
30	f	3313	U
30	f	3316	A
30	f	3317	U
30	f	3318	G
30	f	3319	U
30	f	3320	A
30	f	3341	U
30	f	3342	A
30	f	3345	G
30	f	3351	U
30	f	3352	U
30	f	3353	G
30	f	3354	U
30	f	3355	U
30	f	3369	G
30	f	3375	A
30	f	3378	C
30	f	3382	U
30	f	3383	G
30	f	3386	G
30	f	3389	U

Continued on next page...

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Mol	Chain	Res	Type
30	f	3390	G
30	f	3396	U
31	h	7	G
31	h	29	C
31	h	53	U
31	h	54	U
31	h	55	A
31	h	65	G
31	h	73	C
31	h	74	C
31	h	95	A
31	h	102	A
31	h	112	G
31	h	121	U
32	i	23	U
32	i	34	U
32	i	35	C
32	i	39	G
32	i	48	A
32	i	52	A
32	i	53	A
32	i	59	A
32	i	62	C
32	i	63	G
32	i	80	A
32	i	81	U
32	i	82	U
32	i	83	C
32	i	84	C
32	i	85	G
32	i	86	U
32	i	87	G
32	i	90	U
32	i	95	G
32	i	104	A
32	i	105	A
32	i	106	C
32	i	111	A
32	i	113	U
32	i	125	U
32	i	126	A
32	i	138	A

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Mol	Chain	Res	Type
32	i	151	C
32	i	152	G
32	i	157	U
32	i	158	U
48	x	5	G
48	x	7	G
48	x	10	G
48	x	13	U
48	x	16	U
48	x	17	C
48	x	18	G
48	x	22	G
48	x	28	U
48	x	33	U
48	x	34	A
48	x	35	G
48	x	36	C
48	x	37	A
48	x	38	U
48	x	42	A
48	x	43	G
48	x	46	G
48	x	48	C
48	x	49	U
48	x	56	C
48	x	57	G
48	x	58	A
48	x	60	U
48	x	61	C
48	x	74	C
48	y	5	G
48	y	7	G
48	y	8	U
48	y	9	G
48	y	13	U
48	y	16	U
48	y	17	C
48	y	22	G
48	y	23	C
48	y	36	C
48	y	38	U
48	y	43	G

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Mol	Chain	Res	Type
48	y	44	A
48	y	46	G
48	y	47	U
48	y	48	C
48	y	51	C
48	y	52	G
48	y	53	G
48	y	56	C
48	y	57	G
48	y	58	A
48	y	59	U
48	y	61	C
48	y	75	C
48	y	76	A

There are no RNA pucker outliers to report.

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 21 ligands modelled in this entry, 20 are monoatomic - leaving 1 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
55	SPD	f	3401	-	9,9,9	0.31	0	8,8,8	0.85	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
55	SPD	f	3401	-	-	5/7/7/7	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (5) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
55	f	3401	SPD	C3-C4-C5-N6
55	f	3401	SPD	N6-C7-C8-C9
55	f	3401	SPD	C2-C3-C4-C5
55	f	3401	SPD	C4-C5-N6-C7
55	f	3401	SPD	C8-C7-N6-C5

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
55	f	3401	SPD	1	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

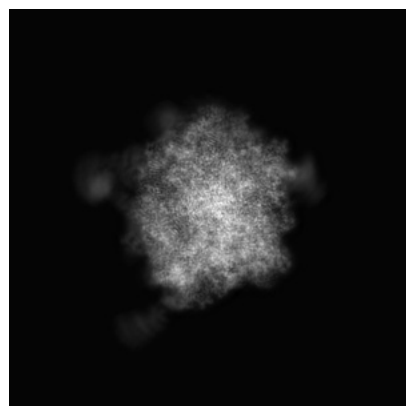
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-15426. These allow visual inspection of the internal detail of the map and identification of artifacts.

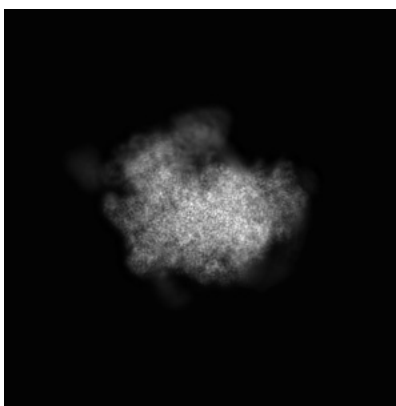
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

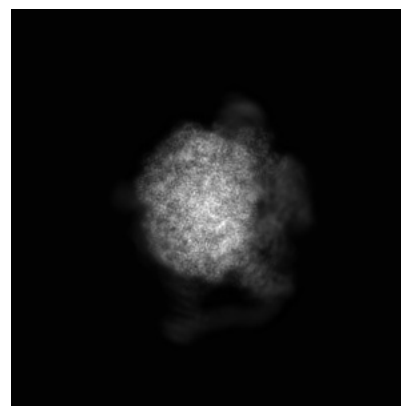
6.1.1 Primary map



X

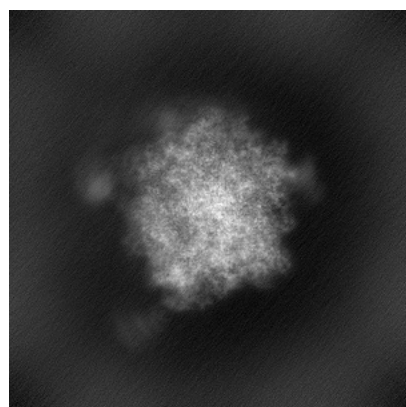


Y

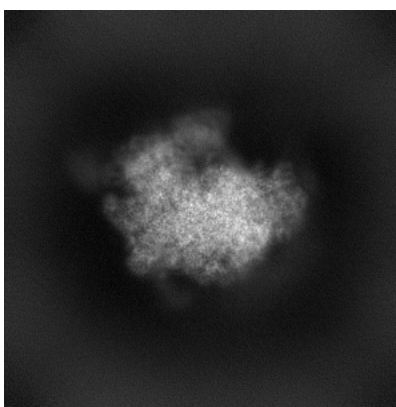


Z

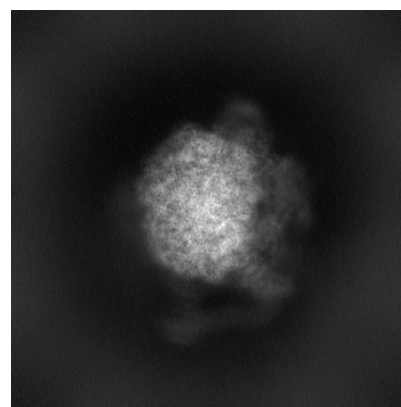
6.1.2 Raw map



X



Y

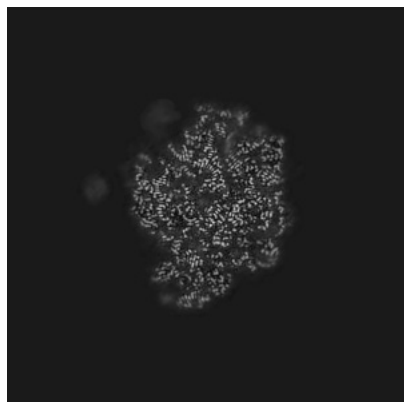


Z

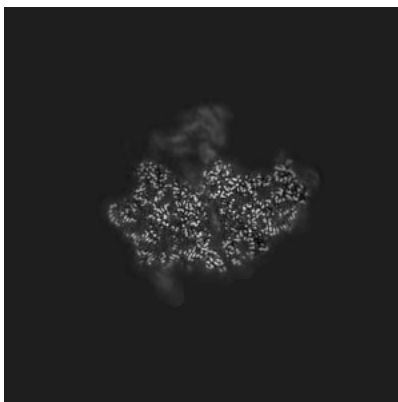
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

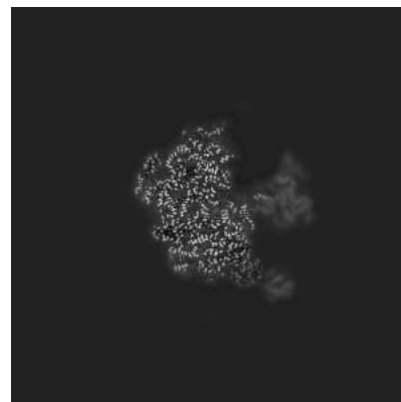
6.2.1 Primary map



X Index: 225

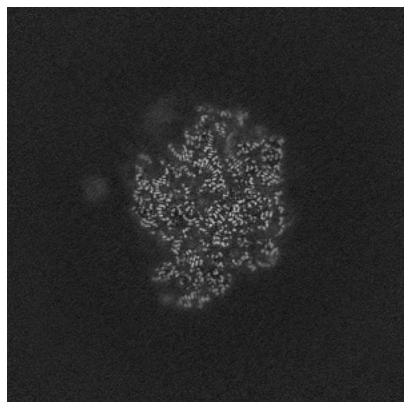


Y Index: 225

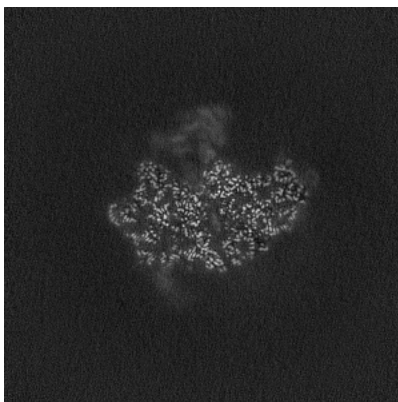


Z Index: 225

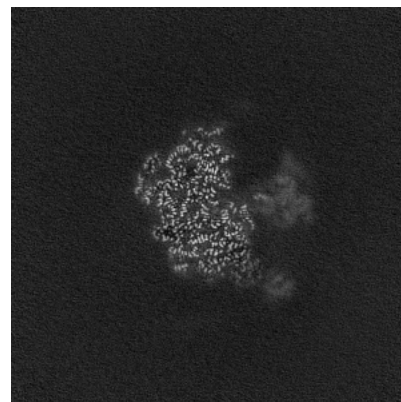
6.2.2 Raw map



X Index: 225



Y Index: 225

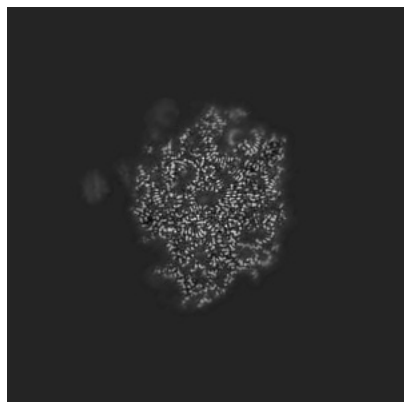


Z Index: 225

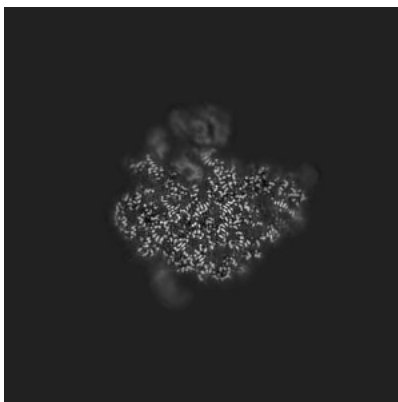
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

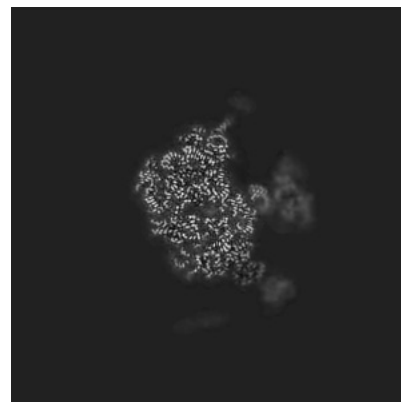
6.3.1 Primary map



X Index: 219

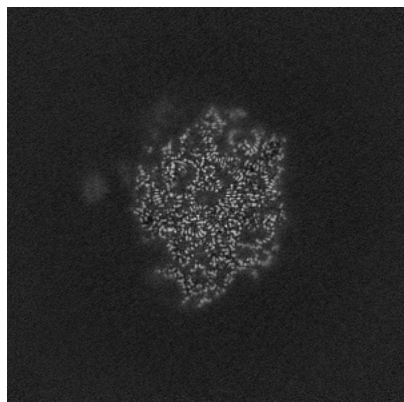


Y Index: 237

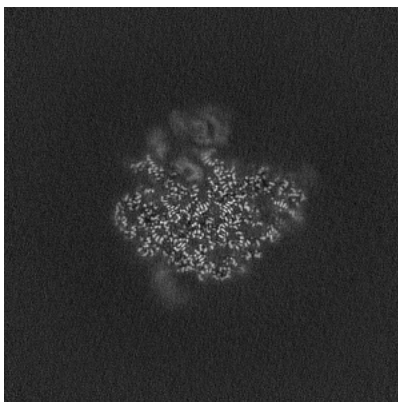


Z Index: 230

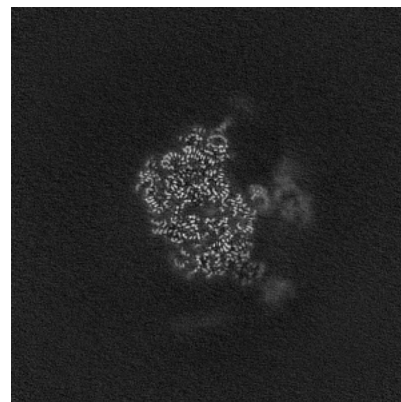
6.3.2 Raw map



X Index: 219



Y Index: 237

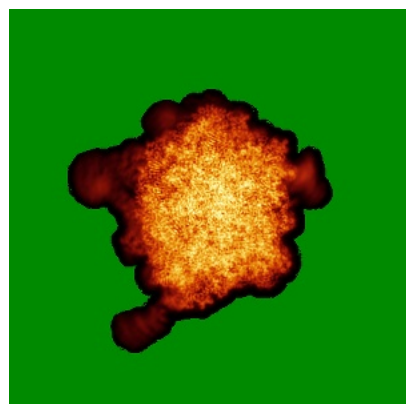


Z Index: 230

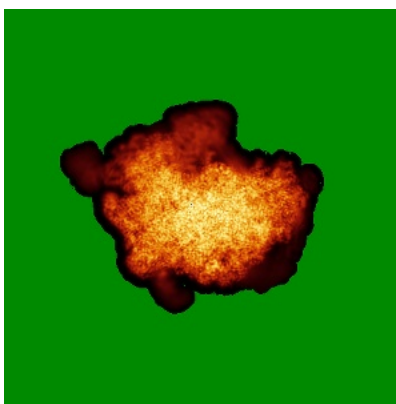
The images above show the largest variance slices of the map in three orthogonal directions.

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

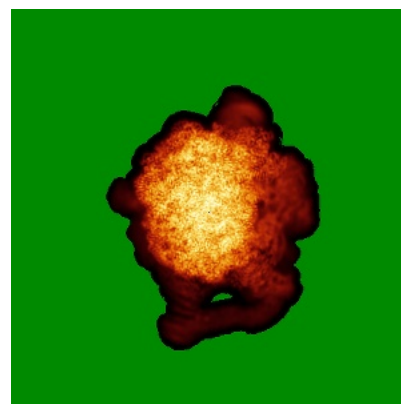
6.4.1 Primary map



X

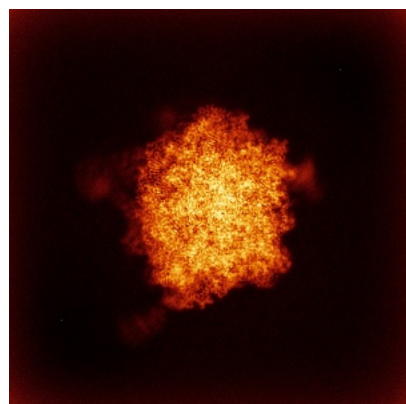


Y

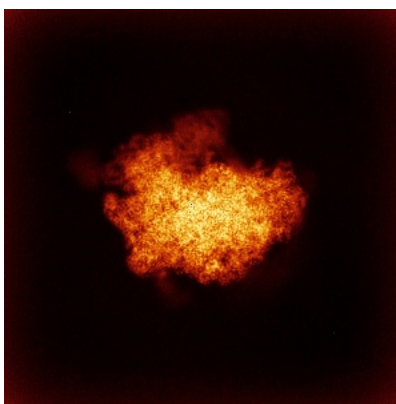


Z

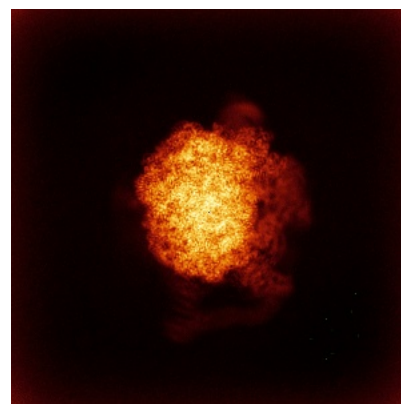
6.4.2 Raw map



X



Y

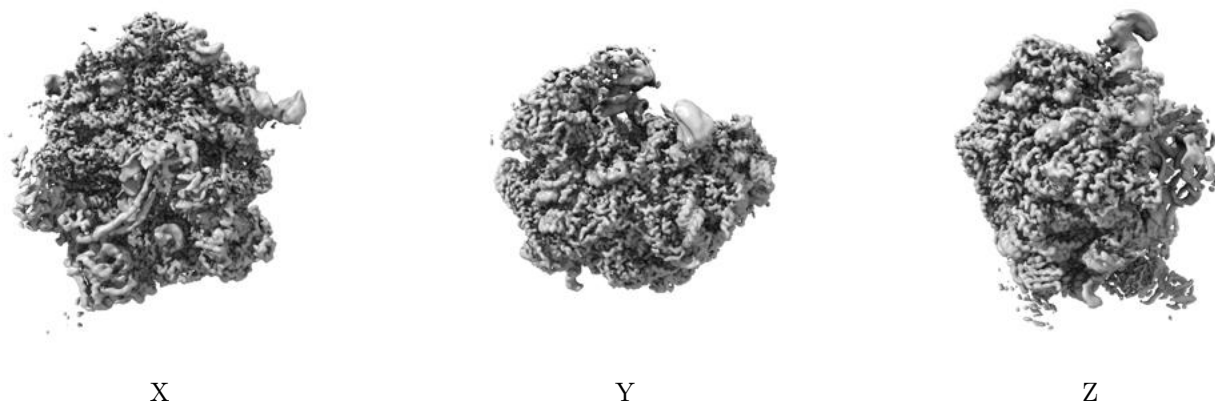


Z

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

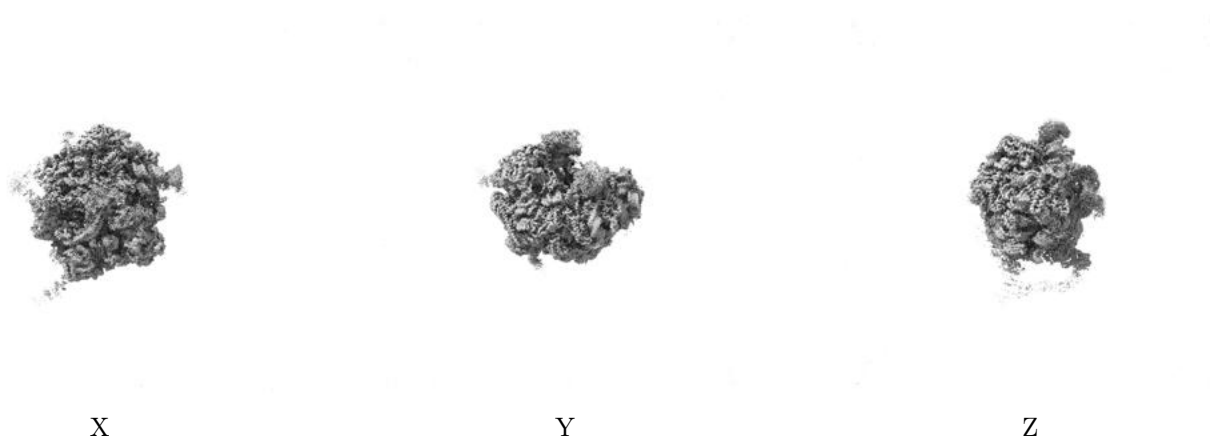
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.55. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

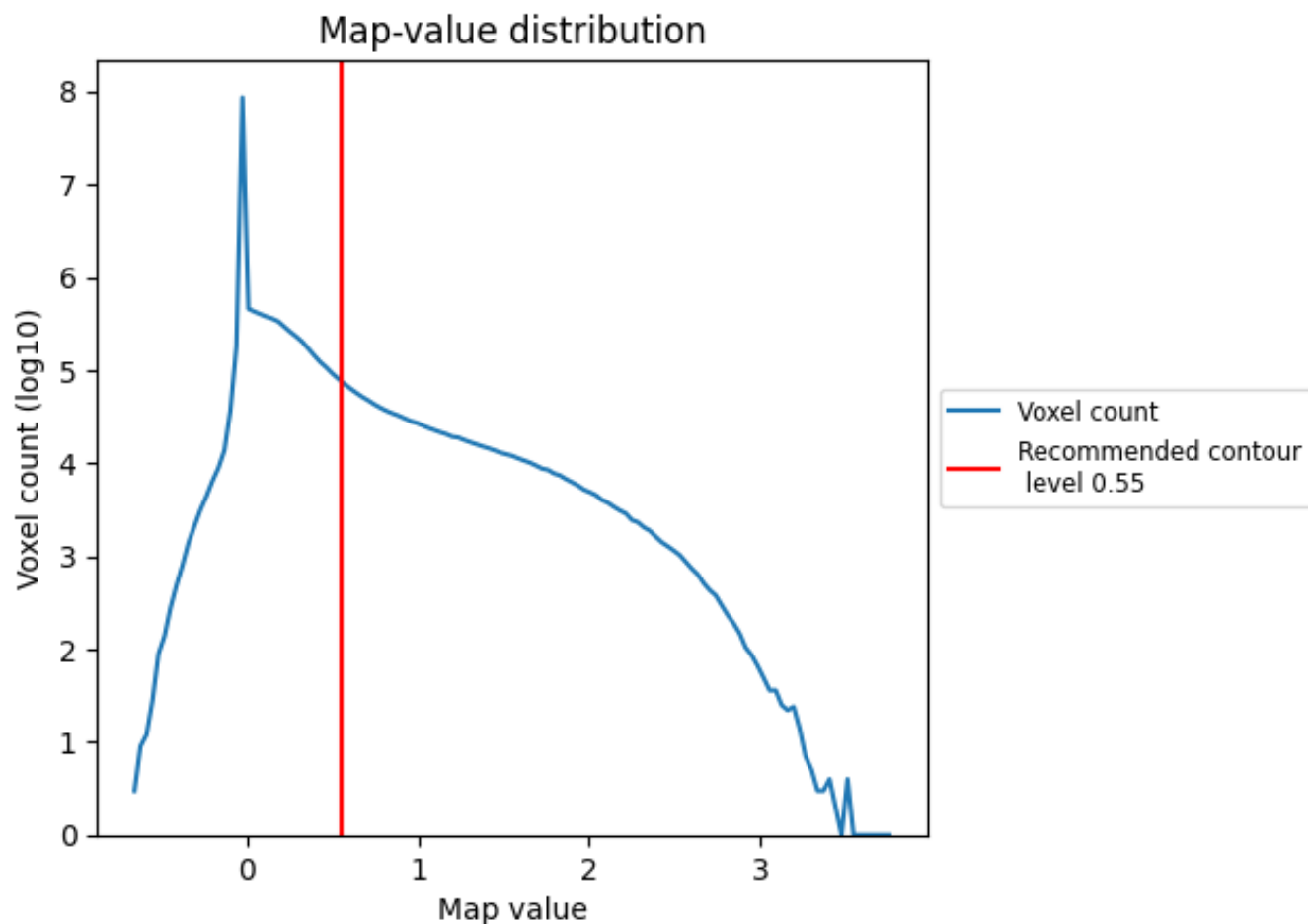
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

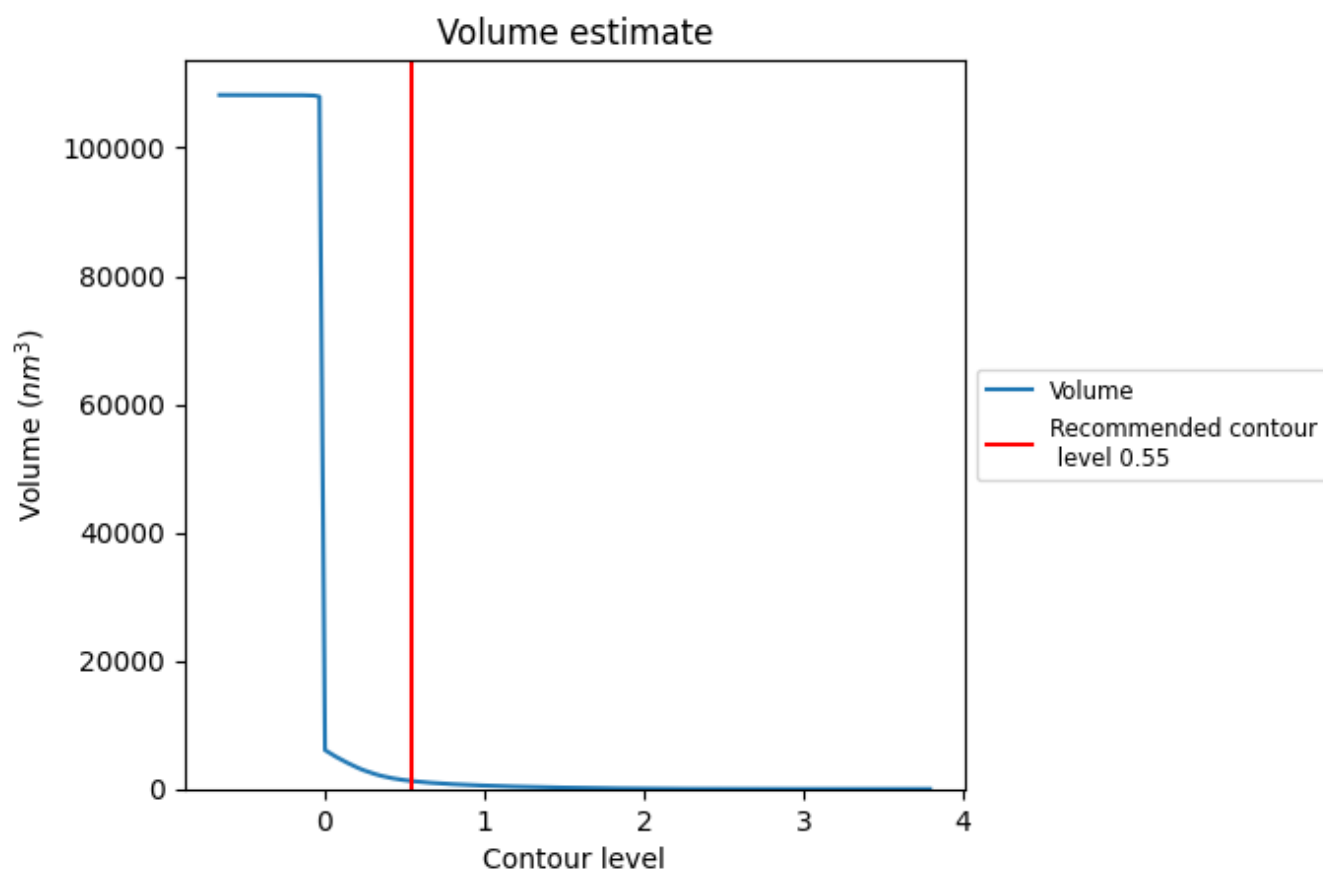
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

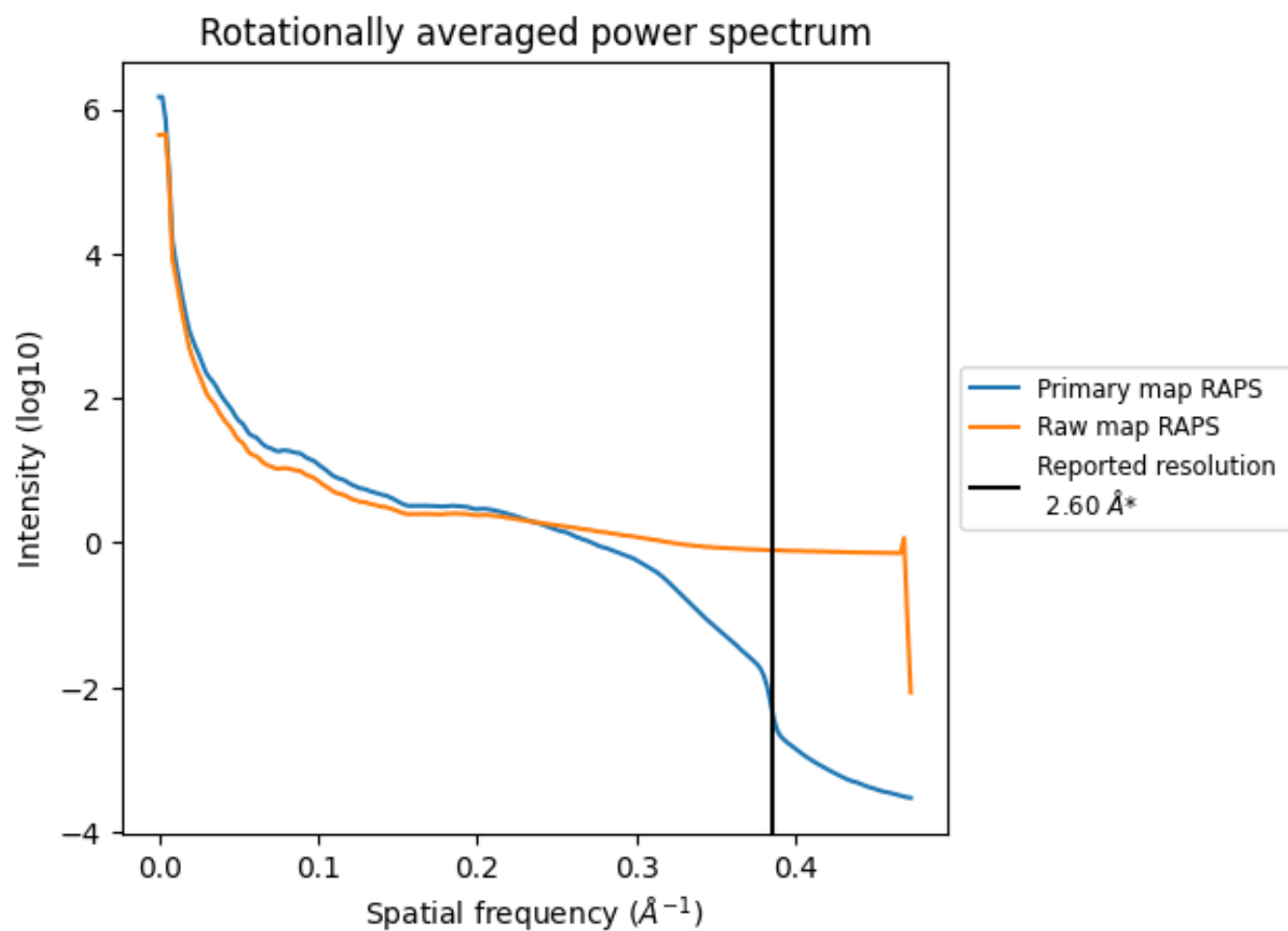
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1231 nm^3 ; this corresponds to an approximate mass of 1112 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum ⓘ

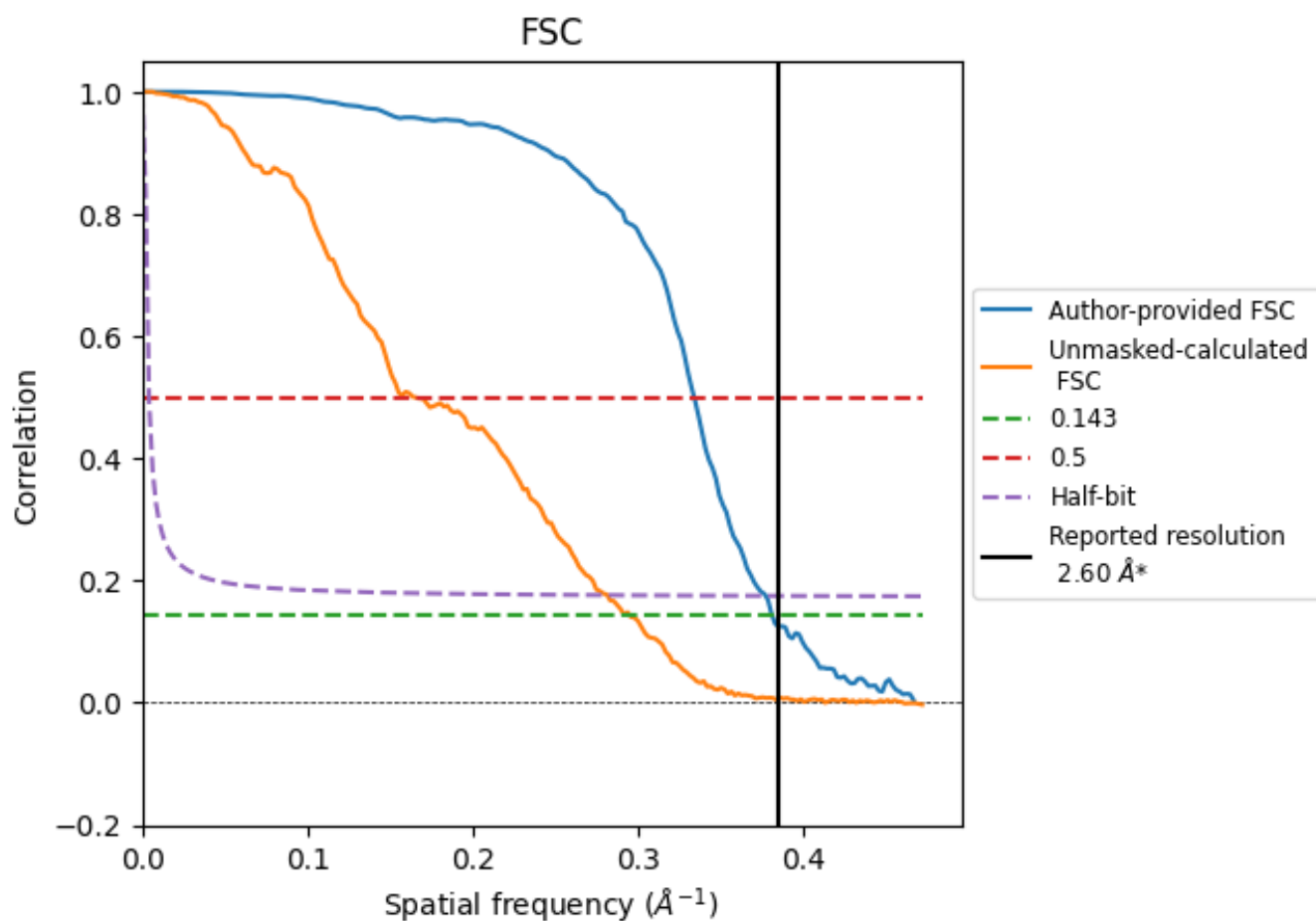


*Reported resolution corresponds to spatial frequency of $0.385 \text{ \AA}^{-1}$

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.385 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

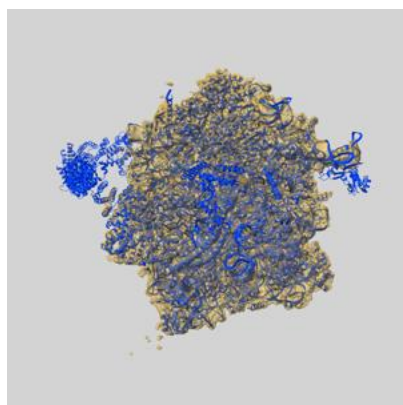
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.60	-	-
Author-provided FSC curve	2.62	2.99	2.65
Unmasked-calculated*	3.39	6.07	3.55

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.39 differs from the reported value 2.6 by more than 10 %

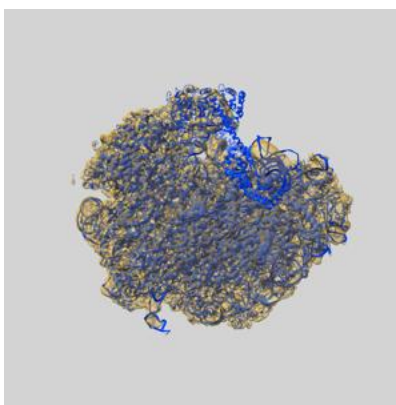
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-15426 and PDB model 8AGW. Per-residue inclusion information can be found in section [3](#) on page [14](#).

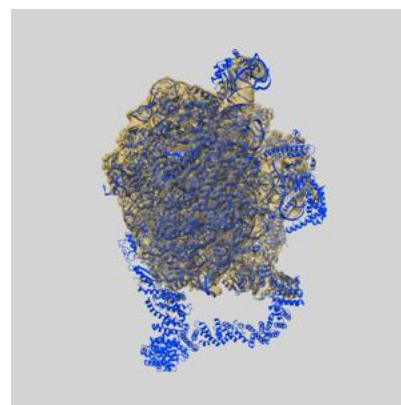
9.1 Map-model overlay [i](#)



X



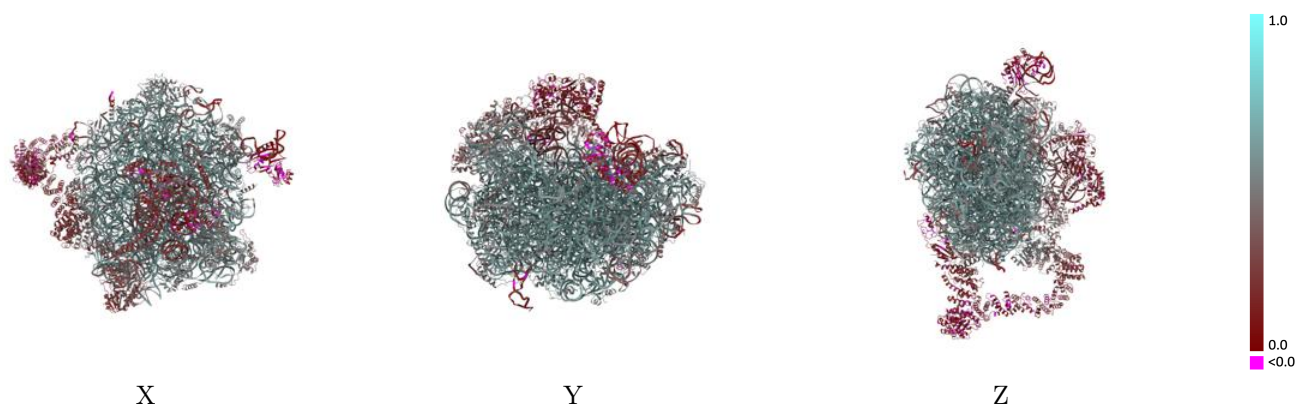
Y



Z

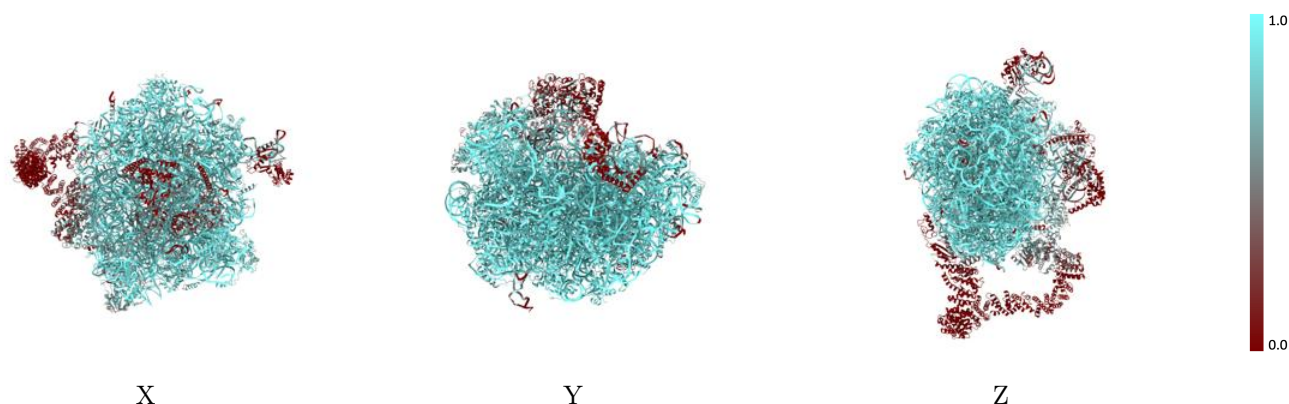
The images above show the 3D surface view of the map at the recommended contour level 0.55 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



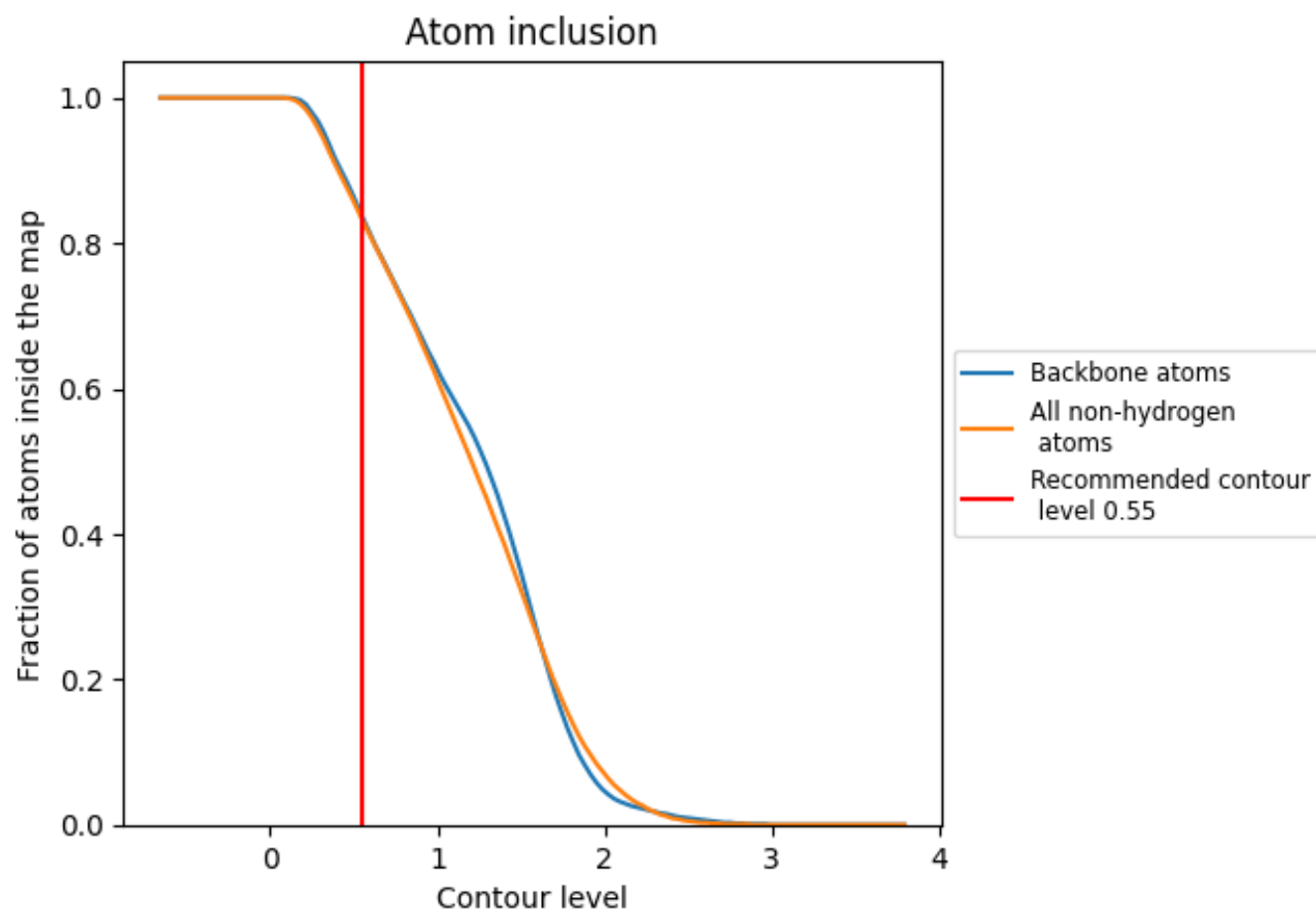
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.55).

9.4 Atom inclusion [i](#)



At the recommended contour level, 84% of all backbone atoms, 83% 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 (0.55) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8320	 0.5020
0	 0.6230	 0.2810
1	 0.9060	 0.4570
A	 0.9790	 0.6090
B	 0.9510	 0.5820
C	 0.9320	 0.5860
D	 0.9490	 0.5800
E	 0.8870	 0.5450
F	 0.9340	 0.5750
G	 0.9110	 0.5620
H	 0.8130	 0.4670
I	 0.9220	 0.5690
J	 0.9220	 0.5700
K	 0.9200	 0.5680
L	 0.9350	 0.5660
M	 0.8800	 0.5230
N	 0.9480	 0.5880
O	 0.9090	 0.5330
P	 0.8540	 0.5240
Q	 0.8820	 0.5500
R	 0.9510	 0.5960
S	 0.9670	 0.6090
T	 0.9210	 0.5680
U	 0.9180	 0.5520
V	 0.9030	 0.5180
W	 0.9950	 0.6250
X	 0.8130	 0.4940
Y	 0.9710	 0.5990
Z	 0.9290	 0.5650
a	 0.2800	 0.1930
b	 0.9090	 0.5700
c	 0.9160	 0.5660
d	 0.5000	 0.3930
e	 0.1380	 0.1850
f	 0.9680	 0.5670



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Chain	Atom inclusion	Q-score
g	 0.4690	 0.4560
h	 0.9930	 0.5710
i	 0.9830	 0.5960
j	 0.9590	 0.6030
k	 0.9460	 0.5800
l	 0.9370	 0.5730
m	 0.8560	 0.4820
n	 0.8820	 0.5280
o	 0.9390	 0.5660
p	 0.8780	 0.5160
q	 0.9110	 0.5430
r	 0.9040	 0.5460
s	 0.8140	 0.4390
t	 0.9210	 0.5600
u	 0.9270	 0.5460
w	 0.0770	 0.0750
x	 0.5600	 0.2560
y	 0.7970	 0.2340
z	 0.6130	 0.3040