



Full wwPDB EM Validation Report ⓘ

Nov 12, 2024 – 07:38 PM EST

PDB ID : 8UKB
EMDB ID : EMD-42351
Title : In situ HHT and CHX treated human hibernating state without E-tRNA 80S ribosome
Authors : Wei, Z.; Yong, X.
Deposited on : 2023-10-12
Resolution : 3.05 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:

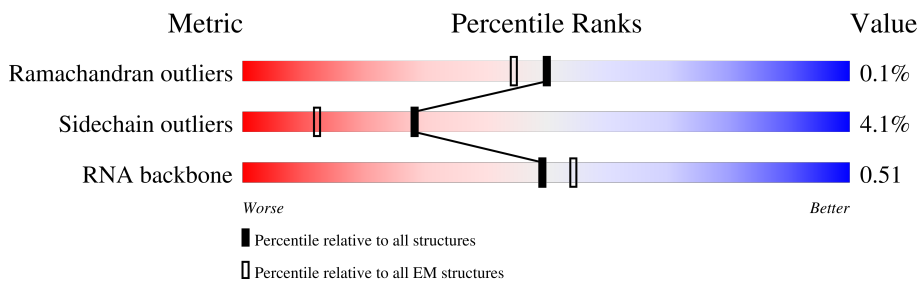
EMDB validation analysis : 0.0.1.dev113
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.39

1 Overall quality at a glance

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

The reported resolution of this entry is 3.05 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.



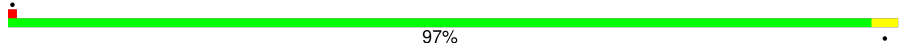

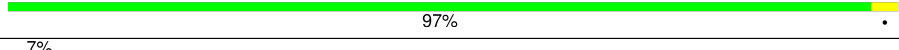
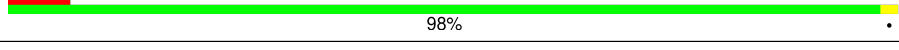
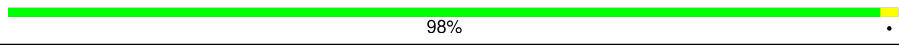
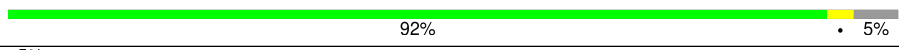
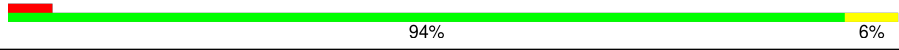
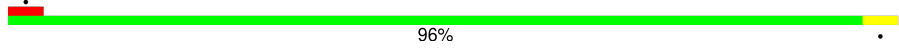
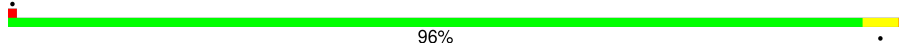
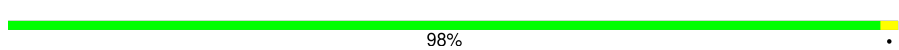
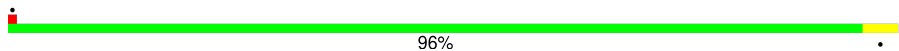
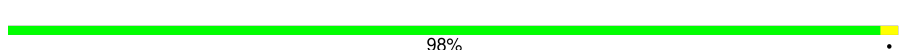
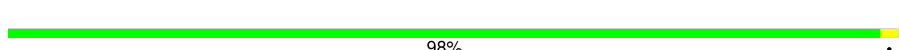
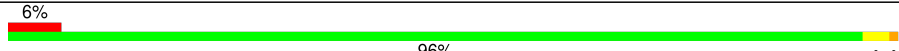
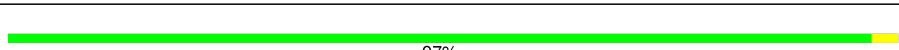
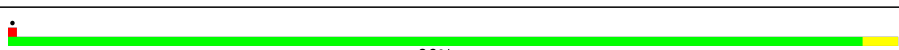
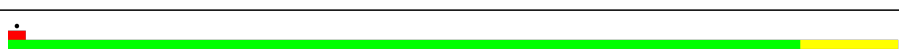

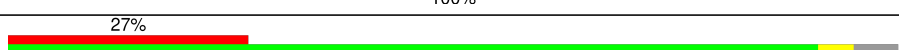

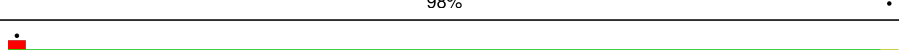
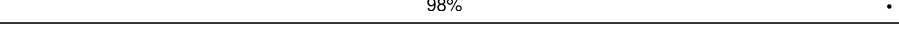
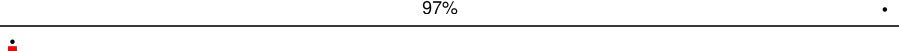
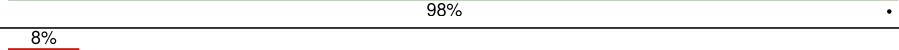
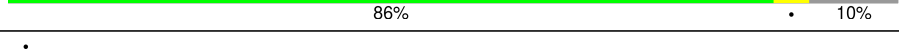
Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	CB	856	
2	CD	55	
3	L5	3740	
4	L7	120	
5	L8	156	
6	LA	248	
7	LB	402	
8	LC	368	

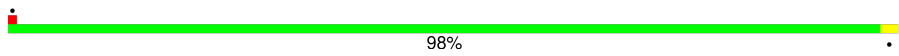
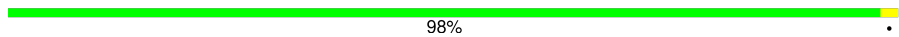
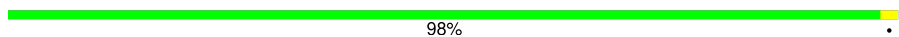
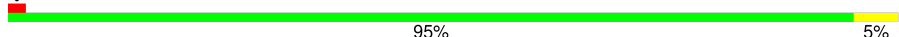
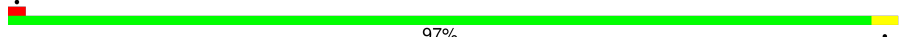
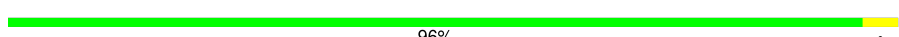




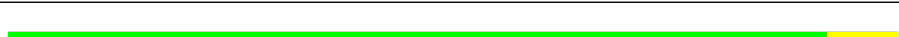


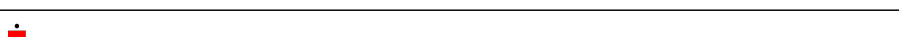
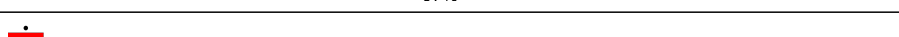
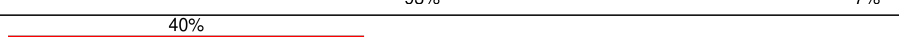
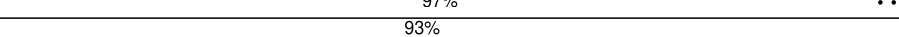
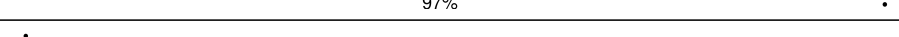

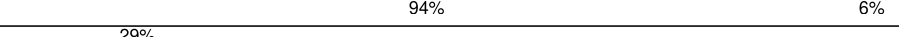
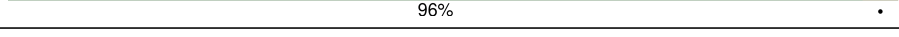
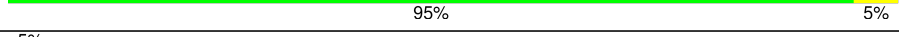
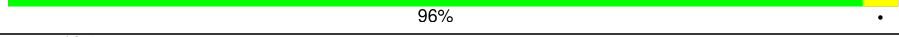
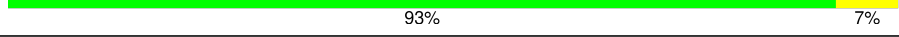
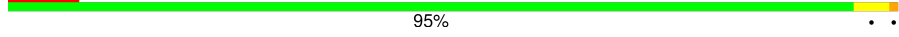
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Mol	Chain	Length	Quality of chain
9	LD	293	 97%
10	LE	247	 91%
11	LF	225	 97%
12	LG	241	 98%
13	LH	190	 98%
14	LI	213	 92%
15	LJ	176	 94%
16	LL	210	 96%
17	LM	139	 96%
18	LN	203	 98%
19	LO	201	 96%
20	LP	153	 98%
21	LQ	187	 98%
22	LR	187	 96%
23	LS	175	 97%
24	LT	159	 96%
25	LU	101	 89%
26	LV	131	 100%
27	LW	124	 91%
28	LX	120	 98%
29	LY	134	 98%
30	LZ	135	 97%
31	La	147	 98%
32	Lb	121	 86%
33	Lc	98	 98%

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Mol	Chain	Length	Quality of chain
34	Ld	107	 98%
35	Le	128	 98%
36	Lf	109	 98%
37	Lg	114	 95% 5%
38	Lh	122	 97%
39	Li	102	 96%
40	Lj	86	 95% 5%
41	Lk	69	 97%
42	Ll	50	 98%
43	Lm	52	 94% 6%
44	Ln	24	 92% 8%
45	Lo	105	 94% 6%
46	Lp	91	 98%
47	Lr	125	 97%
48	Ls	196	 93% 7%
49	Lt	141	 40% 97%
50	Lz	217	 93% 97%
51	S2	1740	 70% 28%
52	SA	221	 12% 94% 6%
53	SB	214	 29% 96%
54	SC	222	 95% 5%
55	SD	227	 5% 96%
56	SE	262	 16% 93% 7%
57	SF	189	 8% 95%
58	SG	237	 31% 93% 7%

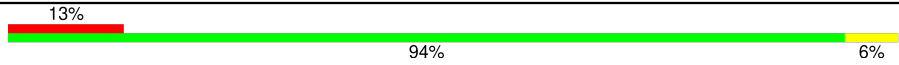
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Mol	Chain	Length	Quality of chain
59	SH	189	33% 95%
60	SI	206	18% 95%
61	SJ	185	7% 96%
62	SK	98	• 92% 8%
63	SL	153	16% 93% 7%
64	SM	122	32% 91% 7%
65	SN	150	7% 93% 6%
66	SO	140	29% 94% 5%
67	SP	121	• 97% •
68	SQ	144	6% 92% 8%
69	SR	135	18% 95% •
70	SS	145	14% 96% •
71	ST	143	7% 94% 6%
72	SU	104	9% 93% 7%
73	SV	83	• 94% 5%
74	SW	129	• 93% 6%
75	SX	141	• 96% •
76	SY	131	24% 91% 9%
77	SZ	75	19% 91% 9%
78	Sa	102	8% 91% 8%
79	Sb	83	29% 95% •
80	Sc	64	14% 97% •
81	Sd	55	• 96% •
82	Se	58	12% 98% •
83	Sf	67	21% 93% 7%

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Mol	Chain	Length	Quality of chain
84	Sg	313	 <p>A horizontal bar chart representing the quality of chain. The bar is divided into three segments: a red segment on the left labeled '13%', a large green segment in the middle labeled '94%', and a small yellow segment on the right labeled '6%'.</p>

2 Entry composition [i](#)

There are 88 unique types of molecules in this entry. The entry contains 226649 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 Elongation factor 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	CB	846	6605	4193	1136	1232	44	0	0

- Molecule 2 is a protein called Serbp1.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
2	CD	55	440	263	87	90	0	0

- Molecule 3 is a RNA chain called 28S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
3	L5	3740	79860	35549	14585	25987	3739	0	0

- Molecule 4 is a RNA chain called 5S rRNA [Homo sapiens].

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
4	L7	120	2561	1141	456	844	120	0	0

- Molecule 5 is a RNA chain called 5.8S rRNA [Homo sapiens].

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
5	L8	156	3314	1480	585	1094	155	0	0

- Molecule 6 is a protein called 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	LA	248	1898	1189	389	314	6	0	0

- Molecule 7 is a protein called Large ribosomal subunit protein uL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	LB	402	3238	2060	608	556	14	0	0

- Molecule 8 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	LC	368	2927	1840	583	489	15	0	0

- Molecule 9 is a protein called Large ribosomal subunit protein uL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	LD	293	2382	1507	434	427	14	0	0

- Molecule 10 is a protein called Large ribosomal subunit protein eL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	LE	236	1904	1222	361	317	4	0	0

- Molecule 11 is a protein called 60S ribosomal protein L7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	LF	225	1870	1202	358	301	9	0	0

- Molecule 12 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	LG	241	1927	1228	371	324	4	0	0

- Molecule 13 is a protein called 60S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	LH	190	1518	956	284	272	6	0	0

- Molecule 14 is a protein called Ribosomal protein uL16-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
14	LI	202	1634	1037	314	269	14	0	0

- Molecule 15 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
15	LJ	176	1410	888	263	253	6	0	0

- Molecule 16 is a protein called Large ribosomal subunit protein eL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
16	LL	210	1701	1064	352	281	4	0	0

- Molecule 17 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
17	LM	139	1138	730	218	183	7	0	0

- Molecule 18 is a protein called 60S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
18	LN	203	1701	1072	359	266	4	0	0

- Molecule 19 is a protein called 60S ribosomal protein L13a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
19	LO	201	1650	1063	321	261	5	0	0

- Molecule 20 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
20	LP	153	1242	776	241	216	9	0	0

- Molecule 21 is a protein called 60S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
21	LQ	187	1513	944	314	250	5	0	0

- Molecule 22 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
22	LR	187	1566	971	336	250	9	0	0

- Molecule 23 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
23	LS	175	1453	925	283	235	10	0	0

- Molecule 24 is a protein called 60S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
24	LT	159	1298	823	252	217	6	0	0

- Molecule 25 is a protein called Heparin-binding protein HBp15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	LU	101	825	529	144	150	2	0	0

- Molecule 26 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
26	LV	131	979	618	184	172	5	0	0

- Molecule 27 is a protein called Ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
27	LW	118	965	604	199	158	4	0	0

- Molecule 28 is a protein called 60S ribosomal protein L23a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
28	LX	120	985	630	185	169	1	0	0

- Molecule 29 is a protein called 60S ribosomal protein L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
29	LY	134	1115	700	226	186	3	0	0

- Molecule 30 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
30	LZ	135	1107	714	208	182	3	0	0

- Molecule 31 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
31	La	147	1162	736	237	186	3	0	0

- Molecule 32 is a protein called Large ribosomal subunit protein eL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
32	Lb	109	876	546	189	137	4	0	0

- Molecule 33 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
33	Lc	98	764	485	135	138	6	0	0

- Molecule 34 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
34	Ld	107	888	560	171	155	2	0	0

- Molecule 35 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
35	Le	128	1053	667	216	165	5	0	0

- Molecule 36 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
36	Lf	109	876	555	174	144	3	0	0

- Molecule 37 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
37	Lg	114	906	566	187	147	6	0	0

- Molecule 38 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
38	Lh	122	1015	641	205	168	1	0	0

- Molecule 39 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
39	Li	102	832	521	177	129	5	0	0

- Molecule 40 is a protein called 60S ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
40	Lj	86	705	434	155	111	5	0	0

- Molecule 41 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
41	Lk	69	569	366	103	99	1	0	0

- Molecule 42 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	Ll	50	Total	C	N	O	S	0	0
			444	281	98	64	1		

- Molecule 43 is a protein called Large ribosomal subunit protein eL40.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	Lm	52	Total	C	N	O	S	0	0
			429	266	90	67	6		

- Molecule 44 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	Ln	24	Total	C	N	O	S	0	0
			230	139	62	26	3		

- Molecule 45 is a protein called 60S ribosomal protein L36a.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	Lo	105	Total	C	N	O	S	0	0
			862	542	175	139	6		

- Molecule 46 is a protein called 60S ribosomal protein L37a.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	Lp	91	Total	C	N	O	S	0	0
			708	445	136	120	7		

- Molecule 47 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	Lr	125	Total	C	N	O	S	0	0
			1002	622	207	168	5		

- Molecule 48 is a protein called 60S acidic ribosomal protein P0.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	Ls	196	Total	C	N	O	S	0	0
			1496	952	259	276	9		

- Molecule 49 is a protein called 60S ribosomal protein L12 [Homo sapiens].

Mol	Chain	Residues	Atoms					AltConf	Trace
49	Lt	141	Total	C	N	O	S	0	0
			1046	652	191	199	4		

- Molecule 50 is a protein called 60S ribosomal protein L10a.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	Lz	217	Total	C	N	O	S	0	0
			1741	1113	312	307	9		

- Molecule 51 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	S2	1740	Total	C	N	O	P	0	0
			36898	16459	6599	12101	1739		

- Molecule 52 is a protein called 40S ribosomal protein SA.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	SA	221	Total	C	N	O	S	0	0
			1741	1106	305	322	8		

- Molecule 53 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	SB	214	Total	C	N	O	S	0	0
			1738	1103	310	311	14		

- Molecule 54 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	SC	222	Total	C	N	O	S	0	0
			1725	1115	298	302	10		

- Molecule 55 is a protein called Small ribosomal subunit protein uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	SD	227	Total	C	N	O	S	0	0
			1765	1125	317	315	8		

- Molecule 56 is a protein called Small ribosomal subunit protein eS4, X isoform.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	SE	262	Total	C	N	O	S	0	0
			2076	1324	386	358	8		

- Molecule 57 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	SF	189	Total	C	N	O	S	0	0
			1495	934	284	270	7		

- Molecule 58 is a protein called 40S ribosomal protein S6.

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

- Molecule 59 is a protein called Small ribosomal subunit protein eS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	SH	186	Total	C	N	O	S	0	0
			1497	956	274	266	1		

- Molecule 60 is a protein called 40S ribosomal protein S8.

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

- Molecule 61 is a protein called 40S ribosomal protein S9.

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

- Molecule 62 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	SK	98	Total	C	N	O	S	0	0
			827	539	148	134	6		

- Molecule 63 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
63	SL	153	1247	793	234	214	6	0	0

- Molecule 64 is a protein called Small ribosomal subunit protein eS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
64	SM	122	940	590	164	177	9	0	0

- Molecule 65 is a protein called 40S ribosomal protein S13.

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

- Molecule 66 is a protein called Small ribosomal subunit protein uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
66	SO	140	1049	642	204	197	6	0	0

- Molecule 67 is a protein called Small ribosomal subunit protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
67	SP	121	985	623	185	170	7	0	0

- Molecule 68 is a protein called Small ribosomal subunit protein uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
68	SQ	144	1142	726	216	197	3	0	0

- Molecule 69 is a protein called 40S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
69	SR	135	1090	685	202	198	5	0	0

- Molecule 70 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
70	SS	145	1198	751	242	203	2	0	0

- Molecule 71 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
71	ST	143	1112	697	214	198	3	0	0

- Molecule 72 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
72	SU	104	821	514	155	148	4	0	0

- Molecule 73 is a protein called 40S ribosomal protein S21.

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

- Molecule 74 is a protein called 40S ribosomal protein S15a.

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

- Molecule 75 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
75	SX	141	1098	693	219	183	3	0	0

- Molecule 76 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
76	SY	131	1065	673	209	178	5	0	0

- Molecule 77 is a protein called Small ribosomal subunit protein eS25.

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

- Molecule 78 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	Sa	102	Total	C	N	O	S	0	0
			821	512	171	133	5		

- Molecule 79 is a protein called Small ribosomal subunit protein eS27.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	Sb	83	Total	C	N	O	S	0	0
			651	408	121	115	7		

- Molecule 80 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	Sc	64	Total	C	N	O	S	0	0
			506	308	102	94	2		

- Molecule 81 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	Sd	55	Total	C	N	O	S	0	0
			459	286	94	74	5		

- Molecule 82 is a protein called Small ribosomal subunit protein eS30.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	Se	58	Total	C	N	O	S	0	0
			459	284	100	74	1		

- Molecule 83 is a protein called Ubiquitin-40S ribosomal protein S27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	Sf	67	Total	C	N	O	S	0	0
			548	346	102	93	7		

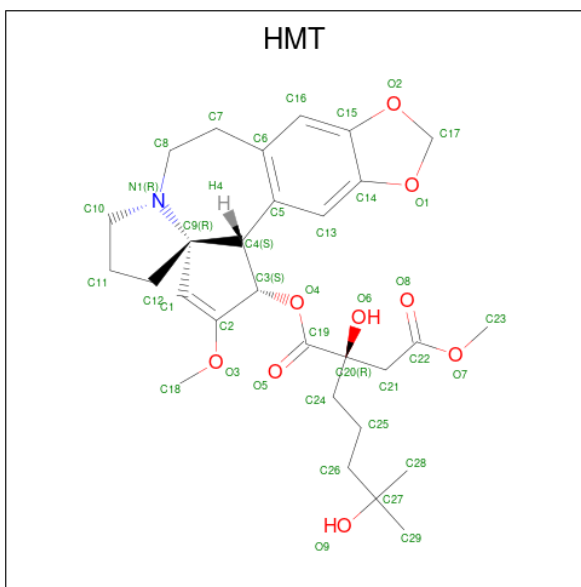
- Molecule 84 is a protein called Receptor of activated protein C kinase 1.

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

- Molecule 85 is MAGNESIUM ION (three-letter code: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

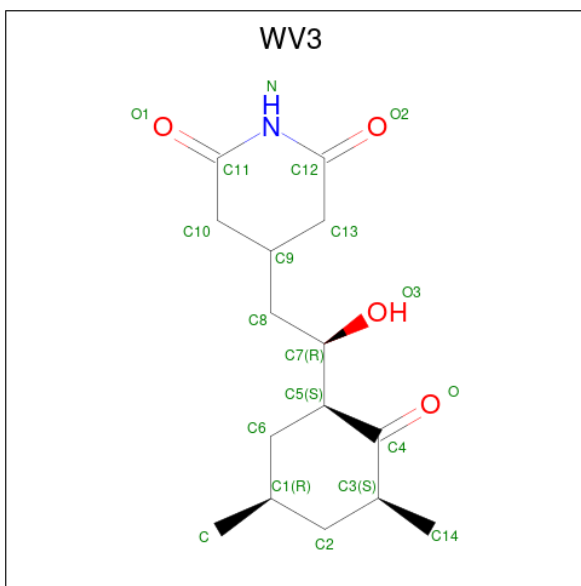
Mol	Chain	Residues	Atoms		AltConf
85	L5	212	Total	Mg	0
			212	212	
85	L7	3	Total	Mg	0
			3	3	
85	L8	4	Total	Mg	0
			4	4	
85	LA	1	Total	Mg	0
			1	1	
85	LI	1	Total	Mg	0
			1	1	
85	LP	1	Total	Mg	0
			1	1	
85	LV	1	Total	Mg	0
			1	1	
85	Le	1	Total	Mg	0
			1	1	
85	Lj	1	Total	Mg	0
			1	1	
85	S2	30	Total	Mg	0
			30	30	

- Molecule 86 is (3beta)-O 3 -[(2R)-2,6-dihydroxy-2-(2-methoxy-2-oxoethyl)-6-methylheptanoyl]cephalotaxine (three-letter code: HMT) (formula: C₂₉H₃₉NO₉) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
86	L5	1	39	29	1	9	0

- Molecule 87 is 4-{(2R)-2-[(1R,3S,5S)-3,5-dimethyl-2-oxocyclohexyl]-2-hydroxyethyl}piperidine-2,6-dione (three-letter code: WV3) (formula: $C_{15}H_{23}NO_4$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
87	L5	1	20	15	1	4	0

- Molecule 88 is ZINC ION (three-letter code: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

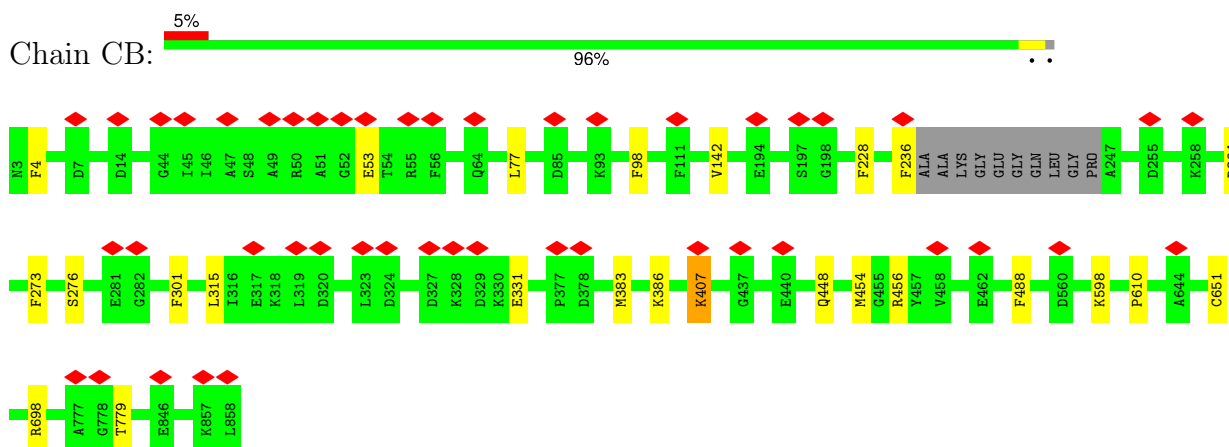
Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
88	Lg	1	Total 1	Zn 1	0
88	Lj	1	Total 1	Zn 1	0
88	Lm	1	Total 1	Zn 1	0
88	Lo	1	Total 1	Zn 1	0
88	Lp	1	Total 1	Zn 1	0
88	Sa	1	Total 1	Zn 1	0

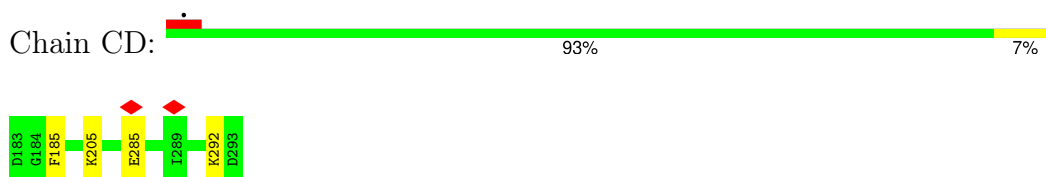
3 Residue-property plots [i](#)

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

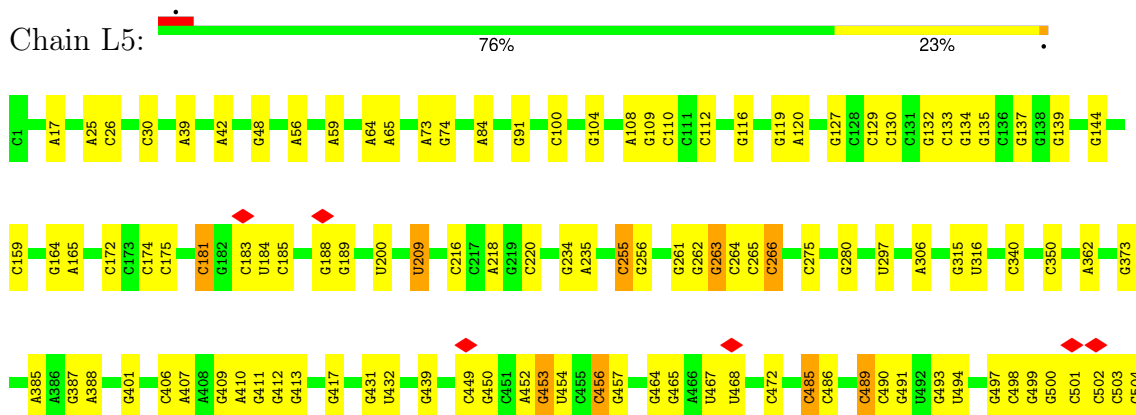
- Molecule 1: Elongation factor 2

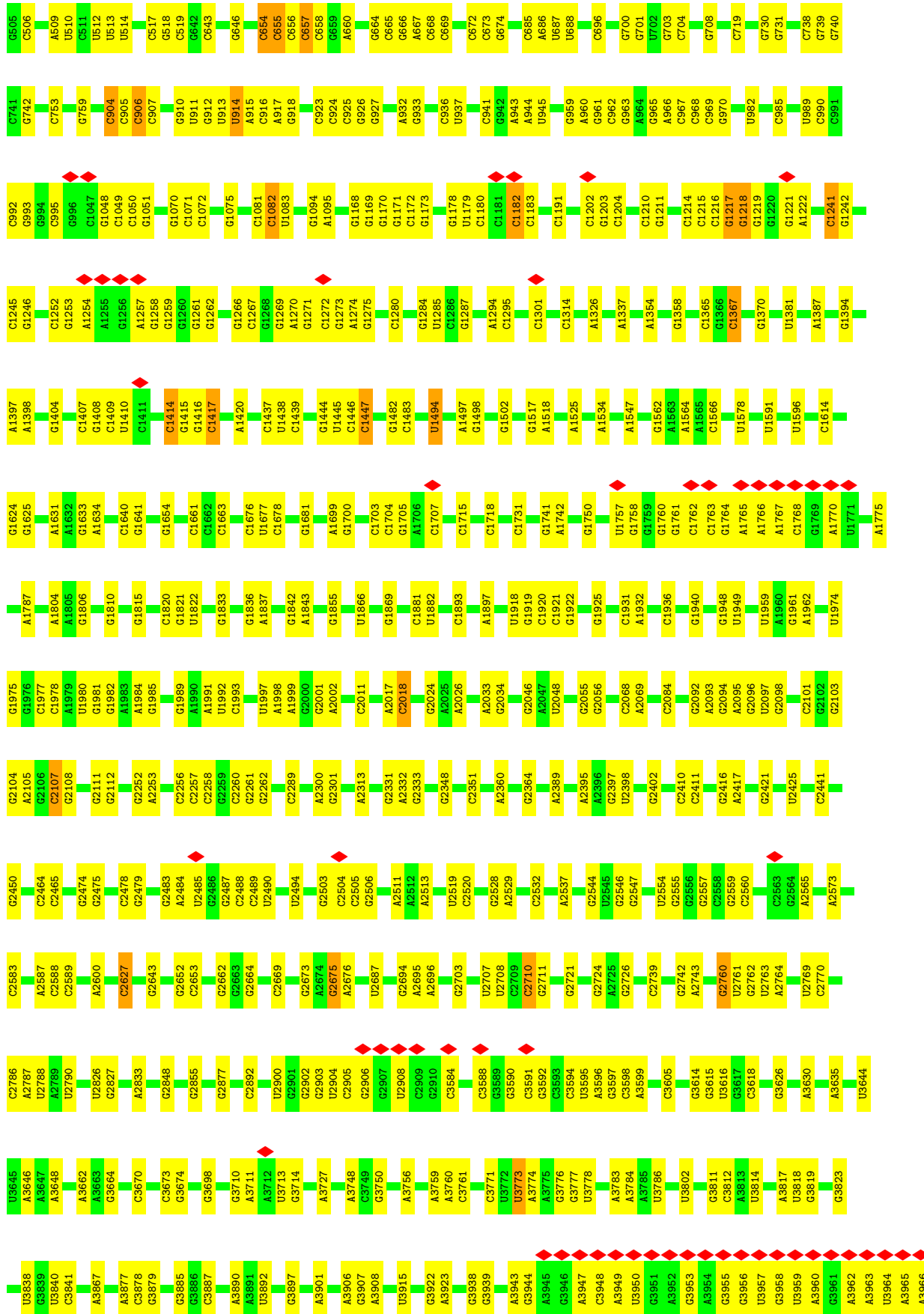


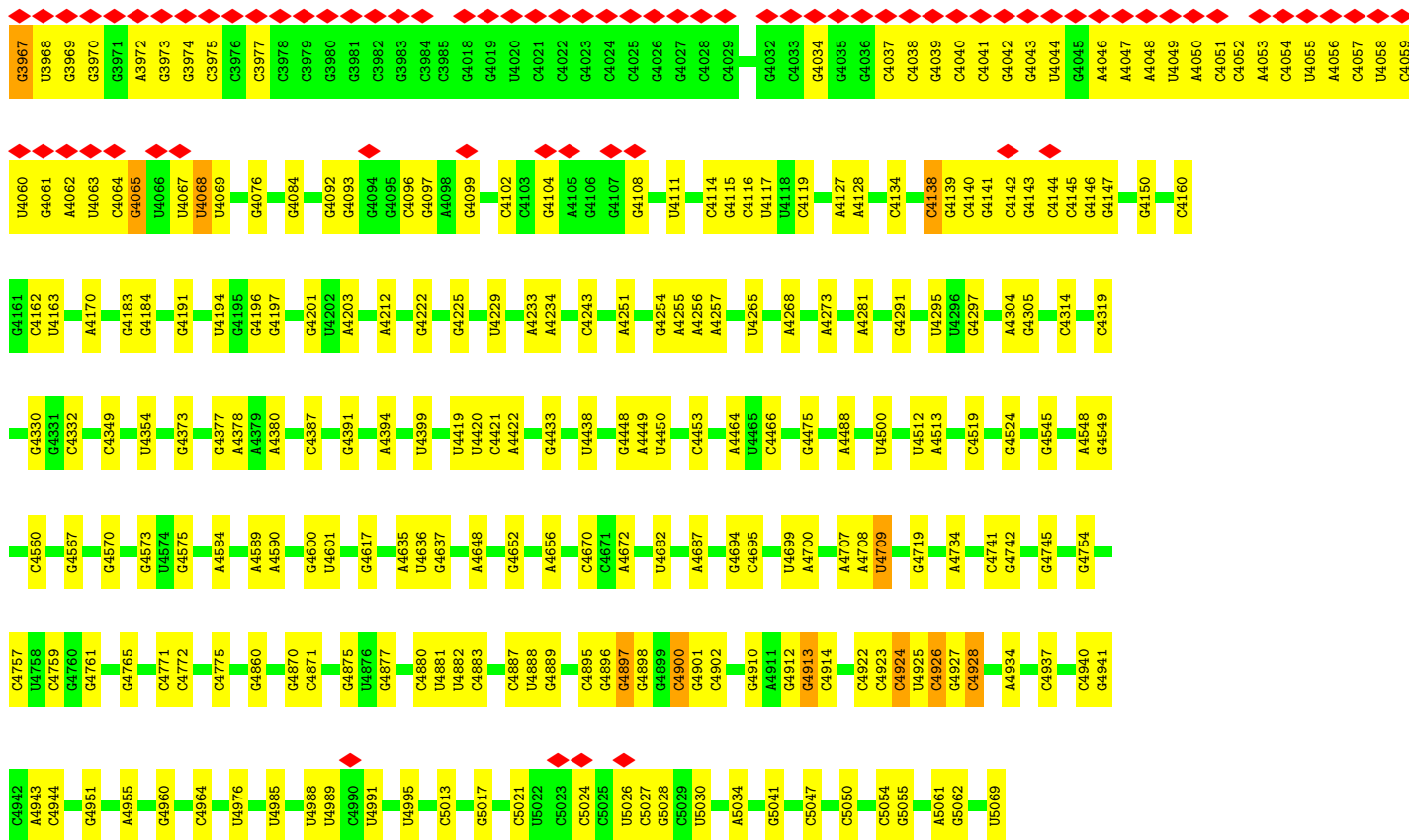
- Molecule 2: Serbp1



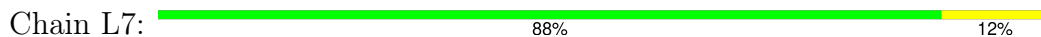
- Molecule 3: 28S rRNA



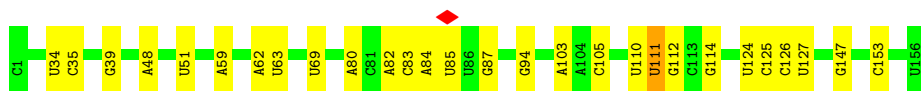
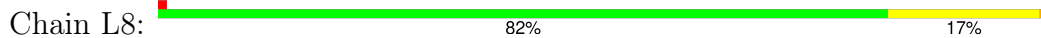




● Molecule 4: 5S rRNA [Homo sapiens]



● Molecule 5: 5.8S rRNA [Homo sapiens]

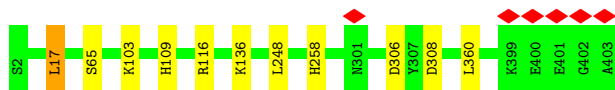


● Molecule 6: 60S ribosomal protein L8



● Molecule 7: Large ribosomal subunit protein uL3

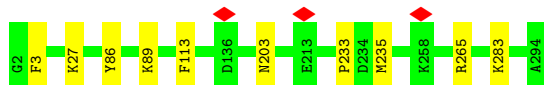




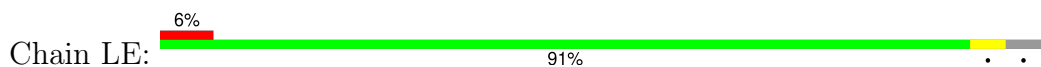
- Molecule 8: 60S ribosomal protein L4



- Molecule 9: Large ribosomal subunit protein uL18



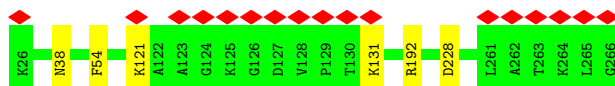
- Molecule 10: Large ribosomal subunit protein eL6



- Molecule 11: 60S ribosomal protein L7



- Molecule 12: 60S ribosomal protein L7a

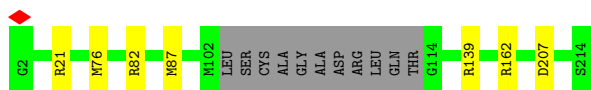


- Molecule 13: 60S ribosomal protein L9



- Molecule 14: Ribosomal protein uL16-like

Chain LI:  92% 5%



- Molecule 15: 60S ribosomal protein L11

Chain LJ:  5% 94% 6%



- Molecule 16: Large ribosomal subunit protein eL13

Chain LL:  96%



- Molecule 17: 60S ribosomal protein L14

Chain LM:  96%



- Molecule 18: 60S ribosomal protein L15

Chain LN:  98%



- Molecule 19: 60S ribosomal protein L13a

Chain LO:  96%



- Molecule 20: 60S ribosomal protein L17

Chain LP:  98%



- Molecule 21: 60S ribosomal protein L18

Chain LQ:  98%



- Molecule 22: 60S ribosomal protein L19

Chain LR:  6% 96%



- Molecule 23: 60S ribosomal protein L18a

Chain LS:  97%



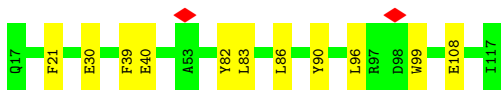
- Molecule 24: 60S ribosomal protein L21

Chain LT:  96%



- Molecule 25: Heparin-binding protein HBp15

Chain LU:  89% 11%

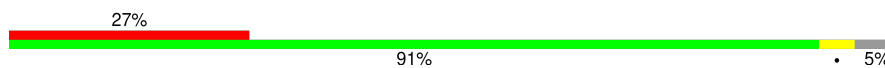


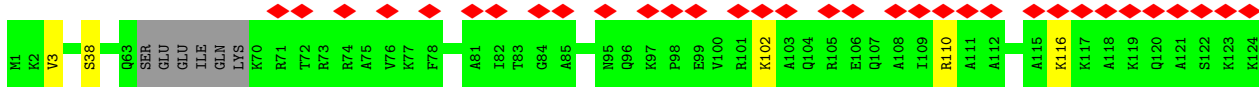
- Molecule 26: 60S ribosomal protein L23

Chain LV:  100%



- Molecule 27: Ribosomal protein L24

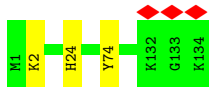
Chain LW:  27% 91% 5%



- Molecule 28: 60S ribosomal protein L23a



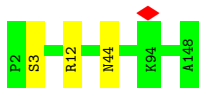
- Molecule 29: 60S ribosomal protein L26



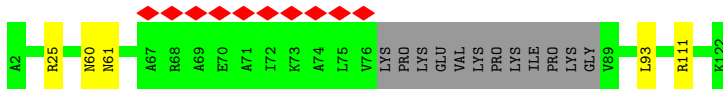
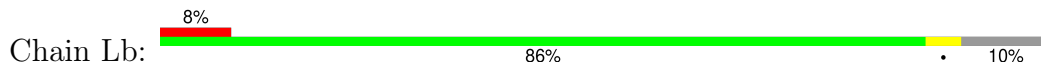
- Molecule 30: 60S ribosomal protein L27



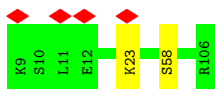
- Molecule 31: 60S ribosomal protein L27a



- Molecule 32: Large ribosomal subunit protein eL29

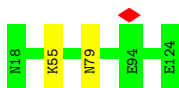


- Molecule 33: 60S ribosomal protein L30



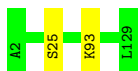
- Molecule 34: 60S ribosomal protein L31

Chain Ld:  98%



- Molecule 35: 60S ribosomal protein L32

Chain Le:  98%



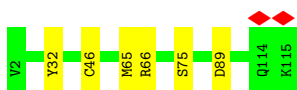
- Molecule 36: 60S ribosomal protein L35a

Chain Lf:  98%



- Molecule 37: 60S ribosomal protein L34

Chain Lg:  95% 5%



- Molecule 38: 60S ribosomal protein L35

Chain Lh:  97%



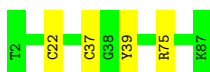
- Molecule 39: 60S ribosomal protein L36

Chain Li:  96%

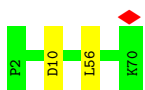


- Molecule 40: 60S ribosomal protein L37

Chain Lj:  95% 5%



- Molecule 41: 60S ribosomal protein L38



- Molecule 42: 60S ribosomal protein L39



- Molecule 43: Large ribosomal subunit protein eL40



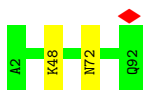
- Molecule 44: 60S ribosomal protein L41



- Molecule 45: 60S ribosomal protein L36a



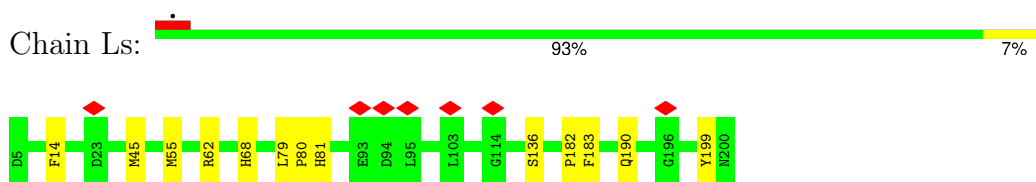
- Molecule 46: 60S ribosomal protein L37a



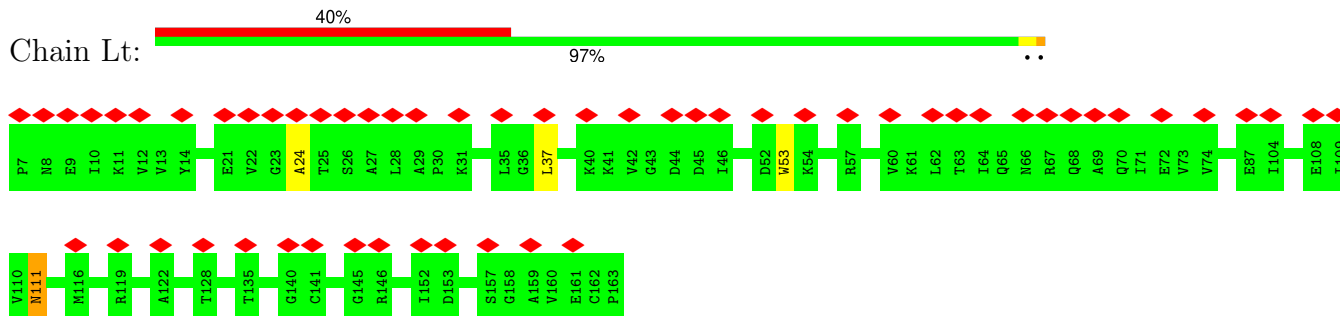
- Molecule 47: 60S ribosomal protein L28



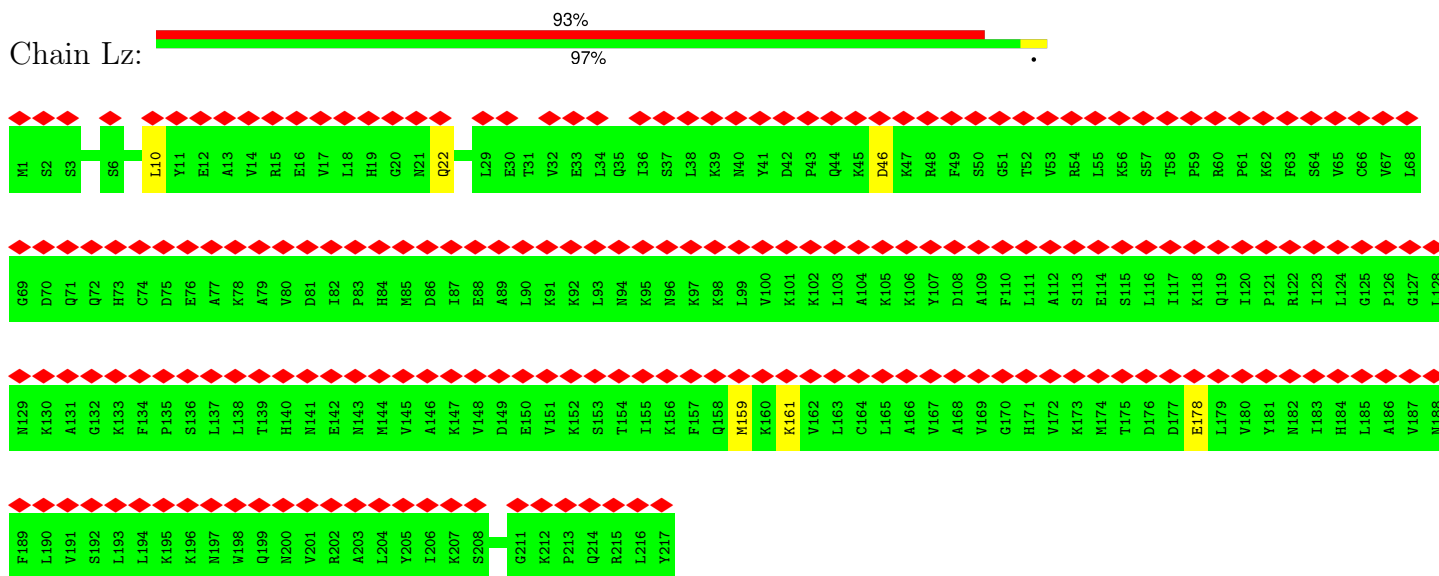
- Molecule 48: 60S acidic ribosomal protein P0



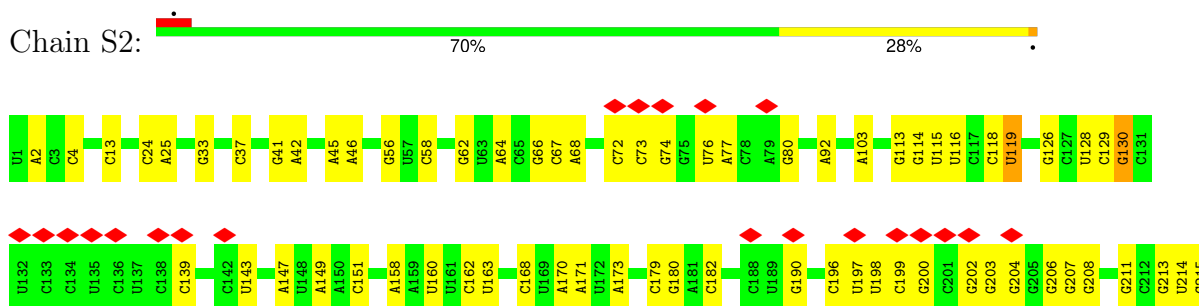
- Molecule 49: 60S ribosomal protein L12 [Homo sapiens]

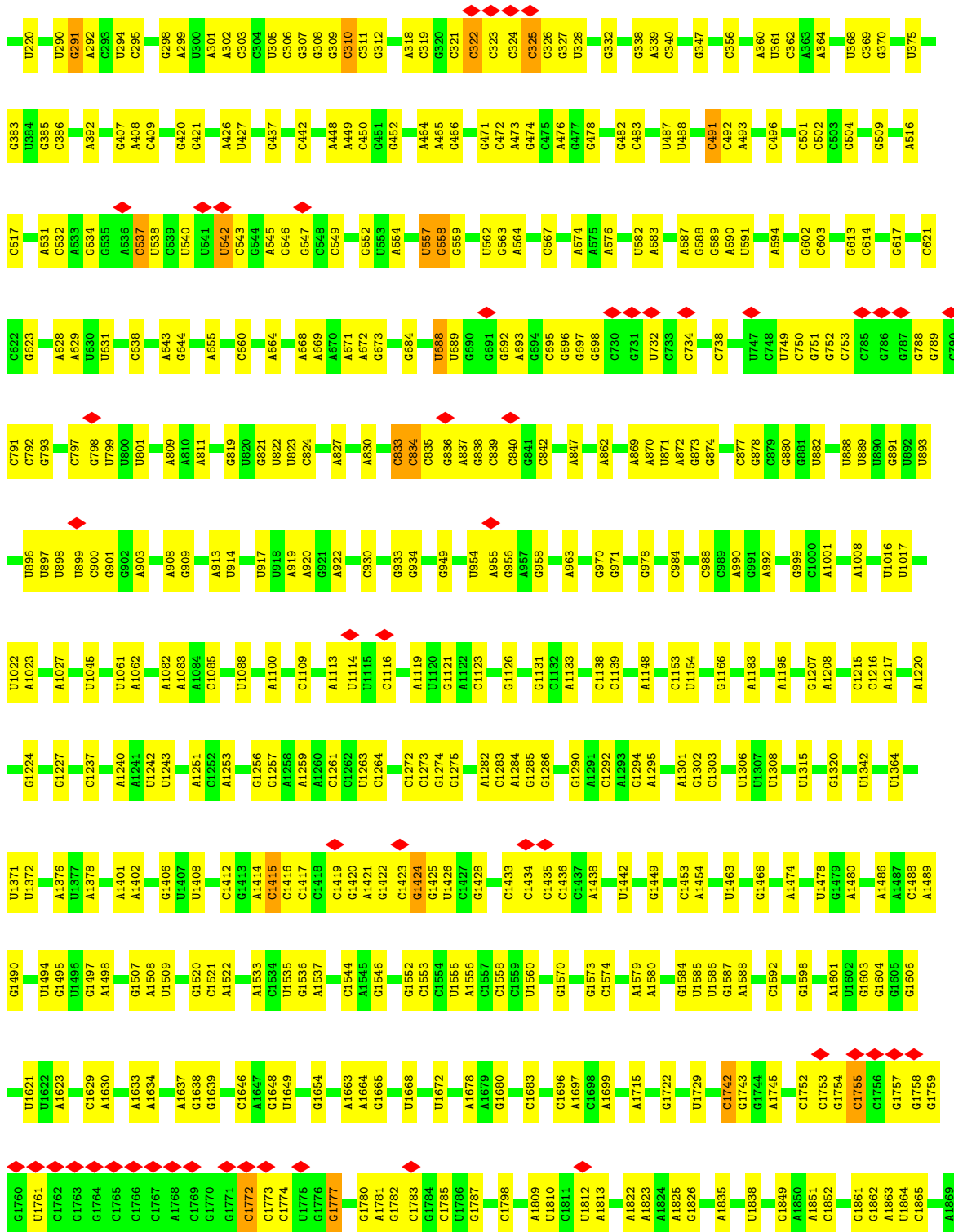


- Molecule 50: 60S ribosomal protein L10a



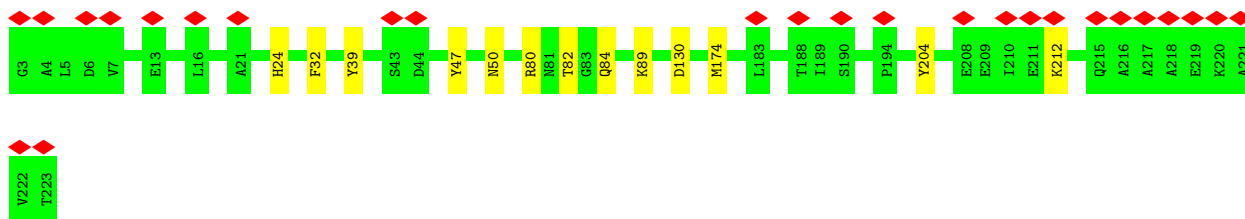
- Molecule 51: 18S rRNA



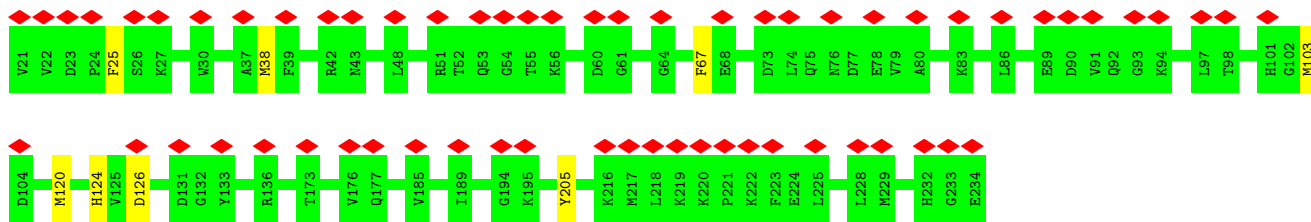


• Molecule 52: 40S ribosomal protein SA





- Molecule 53: 40S ribosomal protein S3a



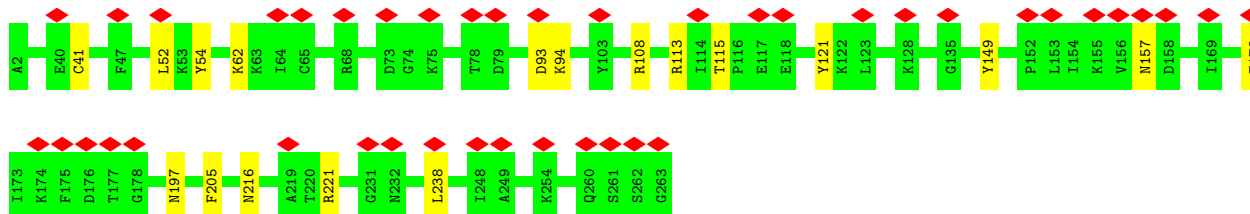
- Molecule 54: 40S ribosomal protein S2



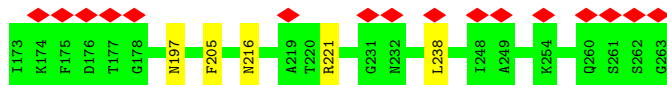
- Molecule 55: Small ribosomal subunit protein uS3

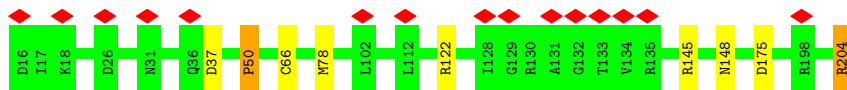


- Molecule 56: Small ribosomal subunit protein eS4, X isoform

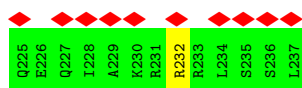
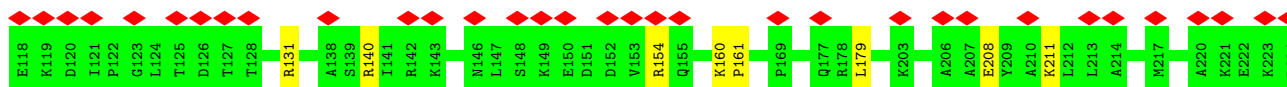
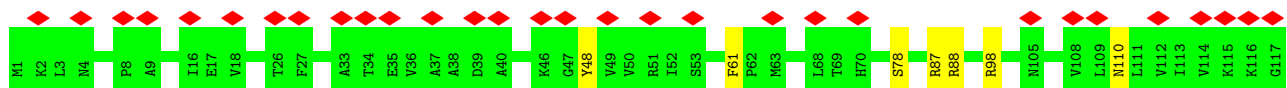


- Molecule 57: 40S ribosomal protein S5

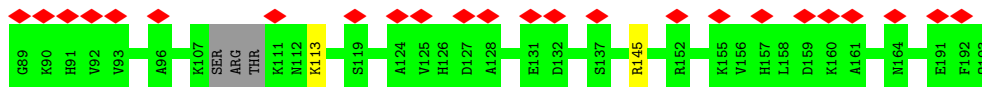
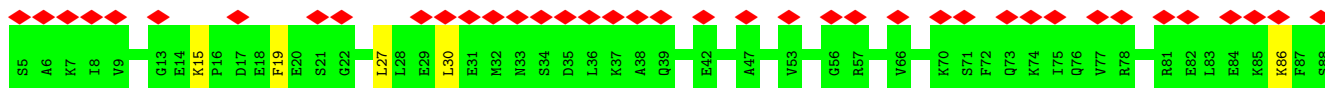




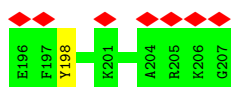
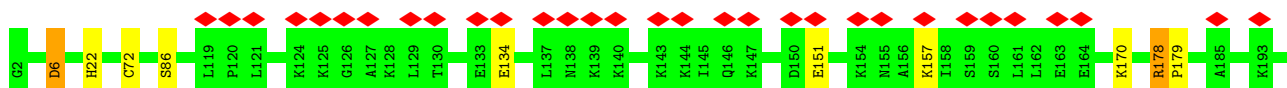
- Molecule 58: 40S ribosomal protein S6



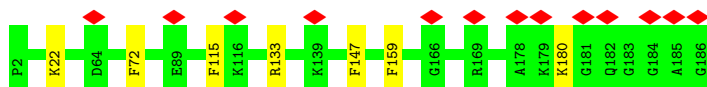
- Molecule 59: Small ribosomal subunit protein eS7



- Molecule 60: 40S ribosomal protein S8

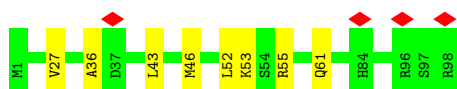


- Molecule 61: 40S ribosomal protein S9



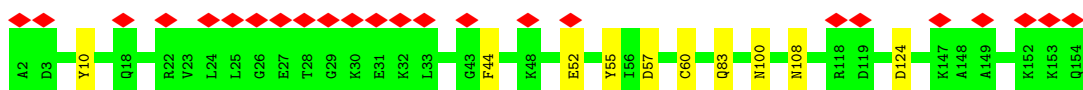
- Molecule 62: 40S ribosomal protein S10

Chain SK:  92% 8%



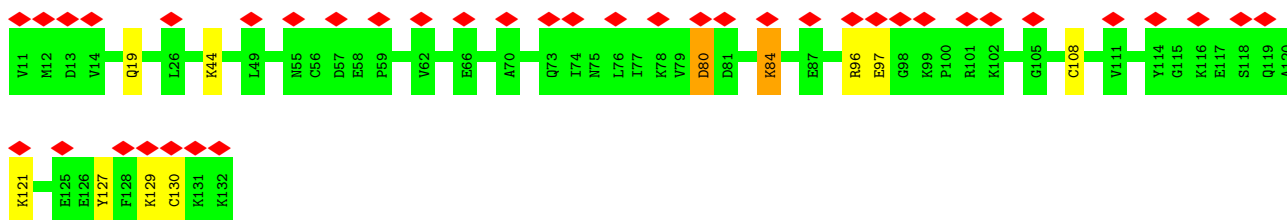
- Molecule 63: 40S ribosomal protein S11

Chain SL:  16% 93% 7%



- Molecule 64: Small ribosomal subunit protein eS12

Chain SM:  32% 91% 7%



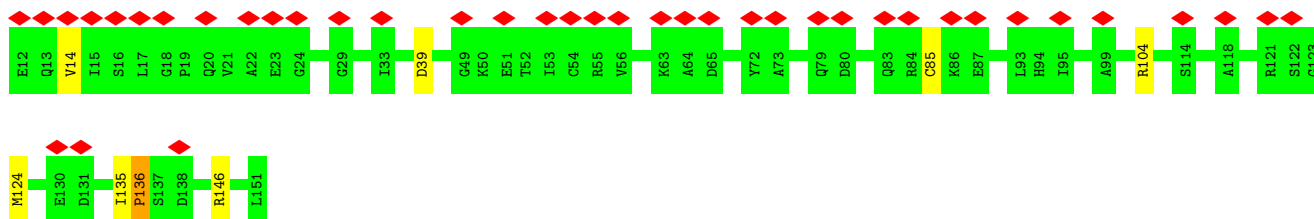
- Molecule 65: 40S ribosomal protein S13

Chain SN:  7% 93% 6%



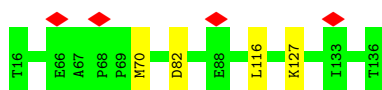
- Molecule 66: Small ribosomal subunit protein uS11

Chain SO:  29% 94% 5%

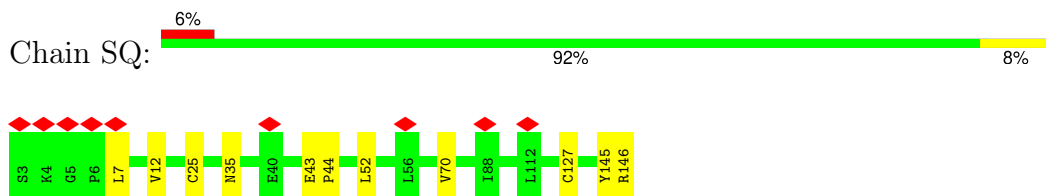


- Molecule 67: Small ribosomal subunit protein uS19

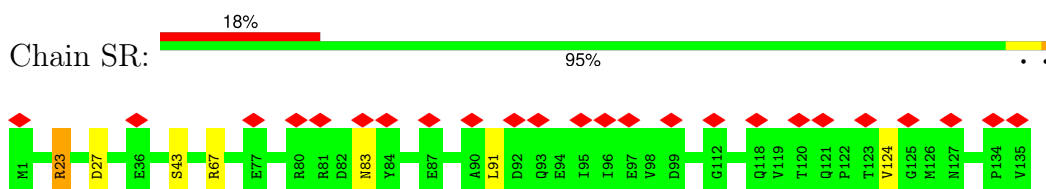
Chain SP:  97%



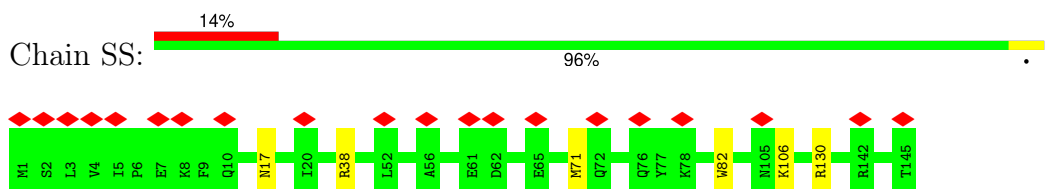
- Molecule 68: Small ribosomal subunit protein uS9



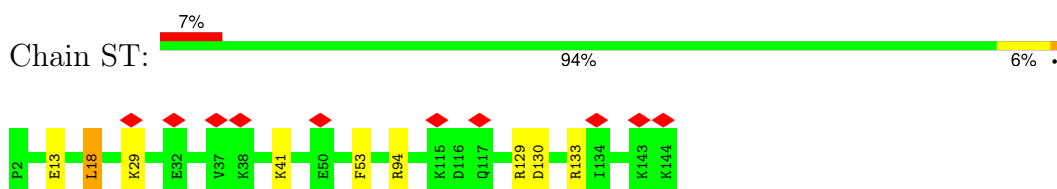
- Molecule 69: 40S ribosomal protein S17



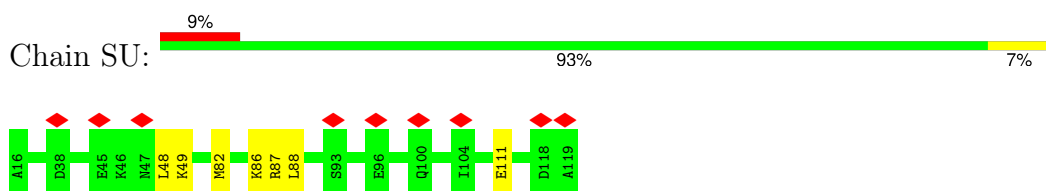
- Molecule 70: 40S ribosomal protein S18



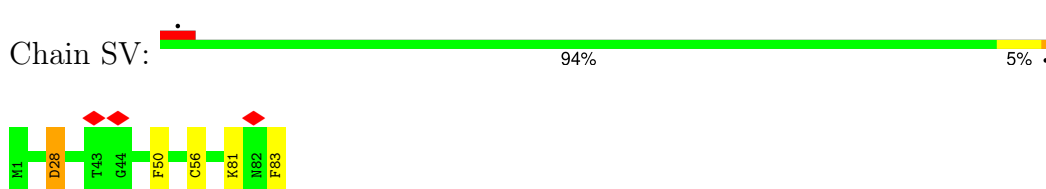
- Molecule 71: 40S ribosomal protein S19



- Molecule 72: 40S ribosomal protein S20



- Molecule 73: 40S ribosomal protein S21

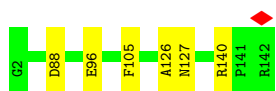


- Molecule 74: 40S ribosomal protein S15a

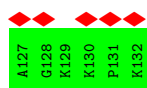
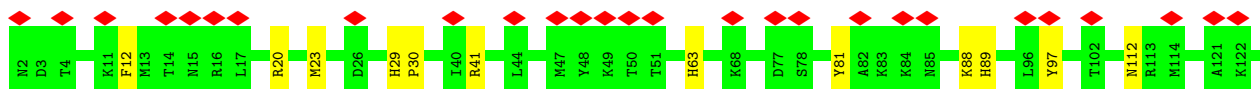
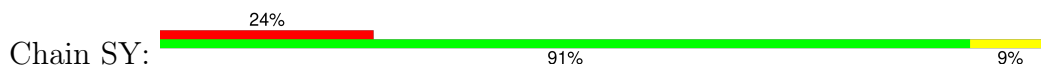




- Molecule 75: 40S ribosomal protein S23



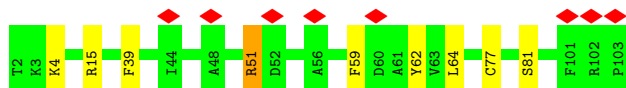
- Molecule 76: 40S ribosomal protein S24



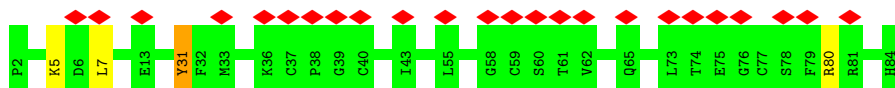
- Molecule 77: Small ribosomal subunit protein eS25



- Molecule 78: 40S ribosomal protein S26

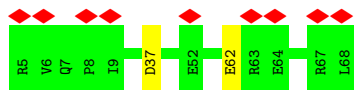


- Molecule 79: Small ribosomal subunit protein eS27



- Molecule 80: 40S ribosomal protein S28

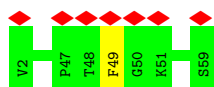




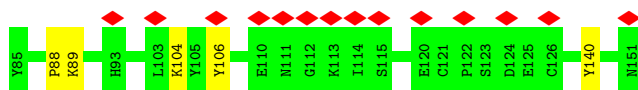
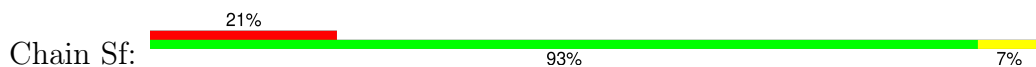
- Molecule 81: 40S ribosomal protein S29



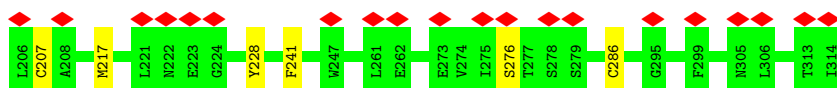
- Molecule 82: Small ribosomal subunit protein eS30



- Molecule 83: Ubiquitin-40S ribosomal protein S27a



- Molecule 84: Receptor of activated protein C kinase 1



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	52735	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.024	Depositor
Minimum map value	-0.475	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.045	Depositor
Recommended contour level	0.134	Depositor
Map size (\AA)	546.816, 546.816, 546.816	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.068, 1.068, 1.068	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: MG, WV3, ZN, HMT

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	CB	0.37	1/6734 (0.0%)	0.57	1/9094 (0.0%)
2	CD	0.34	0/447	0.60	0/592
3	L5	0.50	0/89313	0.90	146/139291 (0.1%)
4	L7	0.48	0/2861	0.82	1/4459 (0.0%)
5	L8	0.49	0/3701	0.83	5/5766 (0.1%)
6	LA	0.40	0/1936	0.63	0/2596
7	LB	0.35	0/3306	0.58	2/4424 (0.0%)
8	LC	0.35	0/2981	0.60	2/4002 (0.0%)
9	LD	0.39	1/2428 (0.0%)	0.58	1/3252 (0.0%)
10	LE	0.39	1/1942 (0.1%)	0.60	1/2606 (0.0%)
11	LF	0.34	0/1905	0.55	0/2539
12	LG	0.33	0/1960	0.55	0/2637
13	LH	0.47	1/1537 (0.1%)	0.66	1/2066 (0.0%)
14	LI	0.34	0/1673	0.55	0/2233
15	LJ	0.38	1/1433 (0.1%)	0.63	0/1915
16	LL	0.41	2/1732 (0.1%)	0.61	1/2315 (0.0%)
17	LM	0.33	0/1161	0.55	0/1554
18	LN	0.35	0/1746	0.59	0/2338
19	LO	0.35	0/1682	0.54	0/2250
20	LP	0.35	0/1268	0.56	0/1701
21	LQ	0.34	0/1537	0.59	0/2052
22	LR	0.49	2/1582 (0.1%)	0.74	4/2091 (0.2%)
23	LS	0.45	0/1493	0.62	0/2003
24	LT	0.38	0/1326	0.59	0/1770
25	LU	0.62	1/839 (0.1%)	0.74	2/1126 (0.2%)
26	LV	0.36	0/993	0.55	0/1332
27	LW	0.48	1/979 (0.1%)	0.60	1/1295 (0.1%)
28	LX	0.33	0/1002	0.59	0/1345
29	LY	0.34	0/1132	0.55	0/1504
30	LZ	0.36	0/1130	0.58	0/1507
31	La	0.35	0/1191	0.55	0/1591
32	Lb	0.29	0/889	0.56	0/1175

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	Lc	0.38	0/774	0.55	0/1038
34	Ld	0.35	0/903	0.63	0/1216
35	Le	0.38	0/1071	0.57	0/1429
36	Lf	0.40	0/895	0.62	0/1198
37	Lg	0.37	0/916	0.61	0/1220
38	Lh	0.29	0/1023	0.55	0/1351
39	Li	0.33	0/843	0.60	0/1115
40	Lj	0.35	0/720	0.61	0/952
41	Lk	0.37	0/575	0.59	1/761 (0.1%)
42	Ll	0.29	0/454	0.61	0/599
43	Lm	0.33	0/435	0.65	1/575 (0.2%)
44	Ln	0.26	0/231	0.70	0/294
45	Lo	0.39	0/876	0.60	1/1156 (0.1%)
46	Lp	0.36	0/718	0.55	0/953
47	Lr	0.34	0/1017	0.58	0/1364
48	Ls	0.41	0/1519	0.65	2/2052 (0.1%)
49	Lt	0.48	1/1058 (0.1%)	0.69	1/1430 (0.1%)
50	Lz	0.27	0/1769	0.54	0/2371
51	S2	0.38	0/41243	0.90	85/64259 (0.1%)
52	SA	0.37	0/1778	0.63	0/2416
53	SB	0.27	0/1765	0.56	0/2362
54	SC	0.74	8/1762 (0.5%)	0.66	3/2381 (0.1%)
55	SD	0.32	0/1793	0.58	0/2414
56	SE	0.31	0/2118	0.61	2/2849 (0.1%)
57	SF	0.56	2/1516 (0.1%)	0.75	4/2037 (0.2%)
58	SG	0.81	5/1946 (0.3%)	0.85	4/2590 (0.2%)
59	SH	0.40	2/1519 (0.1%)	0.67	1/2033 (0.0%)
60	SI	0.70	4/1715 (0.2%)	1.01	6/2287 (0.3%)
61	SJ	0.37	0/1550	0.66	0/2069
62	SK	0.69	1/851 (0.1%)	0.75	3/1147 (0.3%)
63	SL	0.32	0/1268	0.61	0/1696
64	SM	0.70	3/950 (0.3%)	0.77	3/1275 (0.2%)
65	SN	1.04	8/1232 (0.6%)	1.32	10/1656 (0.6%)
66	SO	0.53	3/1062 (0.3%)	0.87	4/1425 (0.3%)
67	SP	0.33	0/1003	0.65	0/1342
68	SQ	0.42	1/1160 (0.1%)	0.68	2/1553 (0.1%)
69	SR	0.34	0/1105	0.69	2/1484 (0.1%)
70	SS	0.32	0/1216	0.63	0/1628
71	ST	0.41	1/1131 (0.1%)	0.67	2/1515 (0.1%)
72	SU	0.46	1/831 (0.1%)	0.65	0/1115
73	SV	0.33	0/643	0.70	1/860 (0.1%)
74	SW	0.63	3/1051 (0.3%)	0.79	6/1406 (0.4%)
75	SX	0.34	0/1116	0.57	0/1490

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	SY	0.39	0/1083	0.79	2/1438 (0.1%)
77	SZ	0.37	0/604	0.68	0/810
78	Sa	0.36	0/836	0.63	1/1121 (0.1%)
79	Sb	0.46	1/665 (0.2%)	0.62	0/891
80	Sc	0.43	1/508 (0.2%)	0.72	0/680
81	Sd	0.55	1/470 (0.2%)	0.65	0/623
82	Se	0.28	0/465	0.61	0/612
83	Sf	0.47	1/560 (0.2%)	0.85	5/745 (0.7%)
84	Sg	0.45	3/2493 (0.1%)	0.71	3/3394 (0.1%)
All	All	0.45	61/242644 (0.0%)	0.80	323/355098 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
6	LA	0	1
7	LB	0	2
17	LM	0	2
19	LO	0	1
22	LR	0	1
24	LT	0	1
36	Lf	0	1
38	Lh	0	1
40	Lj	0	1
57	SF	0	1
59	SH	0	2
67	SP	0	2
68	SQ	0	1
75	SX	0	1
All	All	0	18

All (61) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
58	SG	160	LYS	C-N	28.37	1.88	1.34
65	SN	23	PRO	CG-CD	-19.67	0.85	1.50
60	SI	179	PRO	N-CD	-17.11	1.24	1.47
60	SI	179	PRO	CB-CG	16.79	2.33	1.50
54	SC	256	TRP	CD2-CE3	-15.80	1.16	1.40
62	SK	27	VAL	CB-CG2	-14.92	1.21	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
65	SN	23	PRO	CB-CG	14.79	2.23	1.50
64	SM	84	LYS	CD-CE	-14.41	1.15	1.51
1	CB	142	VAL	CB-CG2	-12.66	1.26	1.52
57	SF	204	ARG	CZ-NH2	-12.45	1.16	1.33
74	SW	68	ARG	CG-CD	11.81	1.81	1.51
58	SG	161	PRO	CG-CD	-11.78	1.11	1.50
22	LR	172	ARG	CZ-NH1	-10.83	1.19	1.33
54	SC	256	TRP	CZ2-CH2	-10.17	1.18	1.37
25	LU	40	GLU	CG-CD	-10.15	1.36	1.51
13	LH	143	GLU	CD-OE2	-10.00	1.14	1.25
27	LW	3	VAL	CB-CG1	-9.85	1.32	1.52
65	SN	23	PRO	CA-CB	-9.76	1.34	1.53
65	SN	23	PRO	N-CD	9.65	1.61	1.47
66	SO	135	ILE	C-N	9.62	1.52	1.34
54	SC	65	LYS	CE-NZ	-9.40	1.25	1.49
54	SC	256	TRP	CZ3-CH2	-9.38	1.25	1.40
72	SU	82	MET	SD-CE	-9.26	1.26	1.77
49	Lt	111	ASN	CG-ND2	-9.11	1.10	1.32
84	Sg	101	PHE	CD1-CE1	-9.01	1.21	1.39
10	LE	244	GLU	CD-OE1	-8.82	1.16	1.25
65	SN	23	PRO	N-CA	-8.70	1.32	1.47
65	SN	22	VAL	C-N	8.66	1.50	1.34
64	SM	84	LYS	CE-NZ	8.65	1.70	1.49
65	SN	22	VAL	C-O	8.40	1.39	1.23
16	LL	59	VAL	CB-CG1	-8.19	1.35	1.52
65	SN	17	PRO	CG-CD	-8.19	1.23	1.50
54	SC	256	TRP	CE3-CZ3	8.15	1.52	1.38
60	SI	179	PRO	CG-CD	-7.97	1.24	1.50
54	SC	256	TRP	CG-CD1	-7.92	1.25	1.36
83	Sf	88	PRO	CG-CD	-6.71	1.28	1.50
84	Sg	101	PHE	CE2-CZ	-6.71	1.24	1.37
22	LR	99	MET	SD-CE	-6.59	1.41	1.77
15	LJ	38	LYS	CE-NZ	-6.57	1.32	1.49
66	SO	136	PRO	CG-CD	-6.47	1.29	1.50
59	SH	30	LEU	CG-CD2	-6.44	1.28	1.51
80	Sc	62	GLU	CD-OE1	-6.33	1.18	1.25
81	Sd	52	PHE	CE1-CZ	6.32	1.49	1.37
74	SW	68	ARG	CD-NE	6.30	1.57	1.46
64	SM	84	LYS	CG-CD	-6.29	1.31	1.52
58	SG	161	PRO	N-CA	-6.16	1.36	1.47
54	SC	256	TRP	CG-CD2	-6.12	1.33	1.43
68	SQ	12	VAL	CB-CG1	-6.09	1.40	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
58	SG	48	TYR	CG-CD2	-6.02	1.31	1.39
71	ST	18	LEU	CG-CD1	-6.00	1.29	1.51
9	LD	113	PHE	CD2-CE2	-5.86	1.27	1.39
59	SH	113	LYS	CE-NZ	-5.80	1.34	1.49
16	LL	154	VAL	CB-CG1	-5.59	1.41	1.52
79	Sb	31	TYR	CE1-CZ	-5.39	1.31	1.38
74	SW	111	MET	CB-CG	-5.37	1.34	1.51
66	SO	136	PRO	N-CD	-5.29	1.40	1.47
58	SG	48	TYR	CE2-CZ	-5.23	1.31	1.38
57	SF	50	PRO	N-CD	-5.19	1.40	1.47
84	Sg	24	THR	CB-CG2	-5.17	1.35	1.52
54	SC	128	VAL	CB-CG1	-5.13	1.42	1.52
60	SI	179	PRO	CA-CB	5.12	1.63	1.53

All (323) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
65	SN	23	PRO	CB-CG-CD	-27.30	0.04	106.50
60	SI	179	PRO	CA-N-CD	-26.87	73.89	111.50
65	SN	23	PRO	CA-N-CD	-21.74	81.07	111.50
65	SN	22	VAL	C-N-CD	21.25	173.03	128.40
58	SG	160	LYS	C-N-CD	18.79	167.87	128.40
60	SI	179	PRO	CB-CG-CD	-17.73	37.34	106.50
84	Sg	29	ASP	CB-CG-OD2	-16.79	103.19	118.30
66	SO	136	PRO	CA-N-CD	-16.69	88.14	111.50
58	SG	161	PRO	CA-N-CD	-14.96	90.56	111.50
51	S2	909	G	O5'-P-OP2	-14.62	92.54	105.70
64	SM	80	ASP	CB-CG-OD1	-13.82	105.86	118.30
22	LR	172	ARG	NE-CZ-NH1	-13.60	113.50	120.30
1	CB	315	LEU	CB-CG-CD1	-13.45	88.13	111.00
60	SI	178	ARG	C-N-CD	13.45	156.64	128.40
22	LR	99	MET	CG-SD-CE	-12.71	79.87	100.20
84	Sg	29	ASP	CB-CG-OD1	12.17	129.26	118.30
76	SY	30	PRO	CA-N-CD	-11.96	94.75	111.50
60	SI	179	PRO	N-CD-CG	11.32	120.18	103.20
65	SN	17	PRO	CA-N-CD	-11.17	95.86	111.50
48	Ls	80	PRO	CA-N-CD	-10.94	96.19	111.50
3	L5	2710	C	N1-C2-O2	10.74	125.35	118.90
3	L5	174	C	N3-C2-O2	-10.54	114.52	121.90
3	L5	2710	C	C2-N1-C1'	10.47	130.32	118.80
57	SF	204	ARG	NE-CZ-NH1	10.41	125.50	120.30
3	L5	1081	C	N3-C2-O2	-10.39	114.62	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
57	SF	204	ARG	NE-CZ-NH2	-10.33	115.14	120.30
3	L5	485	C	C2-N1-C1'	10.32	130.15	118.80
3	L5	129	C	N3-C2-O2	-10.26	114.72	121.90
65	SN	22	VAL	CA-C-O	-10.01	99.09	120.10
51	S2	1772	C	N1-C2-O2	9.65	124.69	118.90
51	S2	1772	C	N3-C2-O2	-9.46	115.28	121.90
62	SK	27	VAL	CG1-CB-CG2	-9.05	96.43	110.90
65	SN	23	PRO	N-CA-CB	-8.85	92.68	103.30
66	SO	135	ILE	C-N-CD	8.79	146.85	128.40
51	S2	310	C	N3-C2-O2	-8.74	115.78	121.90
3	L5	209	U	C2-N1-C1'	8.62	128.05	117.70
57	SF	50	PRO	CA-N-CD	-8.54	99.54	111.50
3	L5	654	C	N1-C2-O2	8.36	123.91	118.90
3	L5	2710	C	N3-C2-O2	-8.32	116.08	121.90
3	L5	485	C	N1-C2-O2	8.27	123.86	118.90
62	SK	43	LEU	CB-CG-CD1	8.26	125.04	111.00
51	S2	491	C	N3-C2-O2	-8.17	116.18	121.90
51	S2	325	C	C2-N1-C1'	8.16	127.78	118.80
3	L5	456	C	O4'-C1'-N1	8.10	114.68	108.20
65	SN	22	VAL	CA-C-N	8.01	139.53	117.10
51	S2	325	C	N1-C2-O2	7.94	123.66	118.90
51	S2	1453	C	C2-N1-C1'	7.90	127.49	118.80
3	L5	1414	C	N1-C2-O2	7.88	123.63	118.90
51	S2	1416	C	N3-C2-O2	-7.88	116.39	121.90
3	L5	1082	C	N3-C2-O2	-7.87	116.39	121.90
3	L5	130	C	N3-C2-O2	-7.87	116.39	121.90
74	SW	111	MET	CG-SD-CE	-7.87	87.61	100.20
3	L5	255	C	N3-C2-O2	-7.83	116.42	121.90
3	L5	4138	C	N3-C2-O2	-7.83	116.42	121.90
3	L5	4037	C	C5-C6-N1	7.82	124.91	121.00
51	S2	621	C	N3-C2-O2	-7.82	116.43	121.90
3	L5	1252	C	N3-C2-O2	-7.80	116.44	121.90
62	SK	27	VAL	CA-CB-CG2	-7.79	99.21	110.90
3	L5	654	C	C2-N1-C1'	7.79	127.37	118.80
64	SM	80	ASP	CB-CG-OD2	7.72	125.25	118.30
3	L5	485	C	C6-N1-C1'	-7.71	111.55	120.80
51	S2	1453	C	N1-C2-O2	7.63	123.48	118.90
51	S2	537	C	C2-N1-C1'	7.63	127.19	118.80
8	LC	2	ALA	C-N-CA	7.55	140.58	121.70
65	SN	23	PRO	CA-CB-CG	-7.55	89.66	104.00
3	L5	1082	C	O4'-C1'-N1	7.50	114.20	108.20
3	L5	925	C	N1-C2-O2	7.49	123.39	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	490	C	N3-C2-O2	-7.49	116.66	121.90
3	L5	2710	C	C6-N1-C1'	-7.41	111.91	120.80
9	LD	233	PRO	CA-N-CD	-7.39	101.16	111.50
3	L5	456	C	N3-C2-O2	-7.29	116.80	121.90
3	L5	3773	U	N3-C2-O2	-7.29	117.10	122.20
3	L5	209	U	N1-C2-O2	7.29	127.90	122.80
83	Sf	88	PRO	CA-CB-CG	-7.26	90.20	104.00
51	S2	310	C	C6-N1-C2	-7.19	117.42	120.30
83	Sf	88	PRO	N-CD-CG	-7.16	92.46	103.20
48	Ls	79	LEU	C-N-CD	7.15	143.41	128.40
66	SO	14	VAL	C-N-CA	7.12	139.51	121.70
60	SI	179	PRO	CA-CB-CG	-7.11	90.49	104.00
3	L5	175	C	N3-C2-O2	-7.08	116.94	121.90
56	SE	238	LEU	CA-CB-CG	7.06	131.54	115.30
60	SI	6	ASP	CB-CG-OD1	7.01	124.61	118.30
51	S2	557	U	N3-C2-O2	-6.98	117.31	122.20
54	SC	256	TRP	CZ3-CH2-CZ2	-6.98	113.22	121.60
3	L5	4037	C	N1-C2-O2	6.95	123.07	118.90
51	S2	834	C	N3-C2-O2	-6.94	117.05	121.90
3	L5	181	C	N1-C2-O2	6.91	123.05	118.90
3	L5	100	C	C2-N1-C1'	6.91	126.40	118.80
3	L5	4709	U	C2-N1-C1'	6.90	125.98	117.70
5	L8	111	U	C2-N1-C1'	6.90	125.98	117.70
74	SW	68	ARG	CB-CA-C	6.87	124.14	110.40
51	S2	557	U	N1-C2-O2	6.87	127.61	122.80
51	S2	356	C	C2-N1-C1'	6.86	126.34	118.80
73	SV	28	ASP	CB-CG-OD1	6.85	124.46	118.30
51	S2	179	C	N1-C2-O2	6.82	122.99	118.90
3	L5	4147	G	C5-C6-O6	6.79	132.68	128.60
3	L5	1414	C	N3-C2-O2	-6.78	117.16	121.90
3	L5	3773	U	N1-C2-O2	6.77	127.54	122.80
3	L5	654	C	C6-N1-C1'	-6.76	112.68	120.80
43	Lm	92	ASP	CB-CG-OD1	6.73	124.36	118.30
3	L5	3761	C	C2-N1-C1'	6.72	126.19	118.80
25	LU	40	GLU	OE1-CD-OE2	6.71	131.35	123.30
76	SY	29	HIS	C-N-CD	6.67	142.42	128.40
51	S2	1755	C	N1-C2-O2	6.67	122.90	118.90
3	L5	1170	G	N1-C6-O6	-6.67	115.90	119.90
3	L5	3761	C	N1-C2-O2	6.61	122.87	118.90
3	L5	266	C	O5'-P-OP1	-6.57	99.79	105.70
3	L5	129	C	C6-N1-C2	-6.55	117.68	120.30
51	S2	325	C	N3-C2-O2	-6.52	117.33	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L5	1367	C	C2-N1-C1'	6.50	125.94	118.80
3	L5	4928	C	C2-N1-C1'	6.48	125.93	118.80
51	S2	1772	C	C2-N1-C1'	6.47	125.92	118.80
58	SG	161	PRO	O-C-N	-6.45	112.39	122.70
3	L5	4147	G	N1-C6-O6	-6.40	116.06	119.90
3	L5	4898	G	C5-C6-O6	6.35	132.41	128.60
3	L5	2710	C	C6-N1-C2	-6.33	117.77	120.30
3	L5	3773	U	C2-N1-C1'	6.33	125.29	117.70
3	L5	209	U	N3-C2-O2	-6.32	117.78	122.20
3	L5	174	C	N1-C2-O2	6.29	122.67	118.90
7	LB	360	LEU	CA-CB-CG	6.28	129.75	115.30
51	S2	1016	U	N1-C2-O2	6.27	127.19	122.80
3	L5	655	C	C6-N1-C1'	6.27	128.33	120.80
3	L5	925	C	N3-C2-O2	-6.27	117.51	121.90
3	L5	209	U	C6-N1-C1'	-6.25	112.45	121.20
51	S2	1424	G	N3-C4-N9	6.24	129.75	126.00
3	L5	4037	C	C6-N1-C2	-6.23	117.81	120.30
51	S2	1139	C	C2-N1-C1'	6.20	125.62	118.80
51	S2	909	G	O5'-P-OP1	6.18	118.11	110.70
5	L8	111	U	N1-C2-O2	6.17	127.12	122.80
51	S2	118	C	C2-N1-C1'	6.16	125.57	118.80
3	L5	489	C	N1-C2-O2	6.14	122.58	118.90
3	L5	657	C	N1-C2-O2	6.13	122.58	118.90
51	S2	834	C	N1-C2-O2	6.13	122.58	118.90
51	S2	356	C	N1-C2-O2	6.13	122.58	118.90
51	S2	537	C	C6-N1-C1'	-6.13	113.45	120.80
51	S2	1697	A	N1-C2-N3	6.12	132.36	129.30
51	S2	1139	C	N1-C2-O2	6.12	122.57	118.90
78	Sa	51	ARG	NE-CZ-NH2	-6.11	117.24	120.30
3	L5	4928	C	N1-C2-O2	6.10	122.56	118.90
3	L5	1447	C	C2-N1-C1'	6.10	125.51	118.80
51	S2	602	G	N3-C4-N9	-6.06	122.36	126.00
51	S2	1520	G	C4-N9-C1'	6.05	134.36	126.50
3	L5	1216	C	C2-N1-C1'	6.04	125.45	118.80
51	S2	1016	U	C2-N1-C1'	6.03	124.94	117.70
45	Lo	33	LEU	CA-CB-CG	6.02	129.15	115.30
3	L5	485	C	N3-C2-O2	-6.01	117.69	121.90
51	S2	1453	C	N3-C2-O2	-5.98	117.72	121.90
51	S2	1273	C	N3-C2-O2	-5.96	117.73	121.90
51	S2	1772	C	C6-N1-C2	-5.96	117.92	120.30
3	L5	472	C	C2-N1-C1'	5.94	125.33	118.80
83	Sf	88	PRO	N-CA-CB	-5.94	96.07	102.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
51	S2	179	C	C2-N1-C1'	5.92	125.32	118.80
3	L5	181	C	N3-C2-O2	-5.92	117.76	121.90
3	L5	2018	C	C5-C6-N1	5.91	123.95	121.00
16	LL	103	ARG	NE-CZ-NH1	5.89	123.24	120.30
51	S2	1016	U	N3-C2-O2	-5.89	118.08	122.20
3	L5	262	G	C8-N9-C4	-5.88	104.05	106.40
3	L5	4924	C	N3-C2-O2	-5.88	117.79	121.90
51	S2	908	A	OP2-P-O3'	5.88	118.13	105.20
3	L5	1417	C	C2-N1-C1'	5.87	125.26	118.80
5	L8	111	U	N3-C2-O2	-5.87	118.09	122.20
3	L5	963	G	C4-N9-C1'	5.85	134.10	126.50
51	S2	1742	C	C2-N1-C1'	5.85	125.23	118.80
3	L5	1245	C	C2-N1-C1'	5.85	125.23	118.80
3	L5	1367	C	N1-C2-O2	5.84	122.41	118.90
3	L5	664	G	C5-C6-O6	5.84	132.10	128.60
3	L5	1218	G	N1-C2-N2	-5.83	110.96	116.20
51	S2	537	C	N1-C2-O2	5.82	122.39	118.90
3	L5	417	G	O4'-C1'-N9	5.81	112.85	108.20
3	L5	181	C	C2-N1-C1'	5.80	125.19	118.80
74	SW	68	ARG	NE-CZ-NH1	-5.79	117.40	120.30
3	L5	904	C	C2-N1-C1'	5.79	125.17	118.80
51	S2	1273	C	C6-N1-C2	-5.78	117.99	120.30
3	L5	2410	C	C2-N1-C1'	5.76	125.14	118.80
3	L5	1414	C	C2-N1-C1'	5.76	125.13	118.80
3	L5	4420	U	C2-N1-C1'	5.74	124.59	117.70
51	S2	118	C	N1-C2-O2	5.74	122.34	118.90
49	Lt	37	LEU	CA-CB-CG	5.72	128.47	115.30
51	S2	1520	G	N3-C4-N9	5.72	129.43	126.00
3	L5	4709	U	C5-C4-O4	-5.72	122.47	125.90
41	Lk	56	LEU	CA-CB-CG	5.72	128.46	115.30
3	L5	4898	G	N1-C6-O6	-5.72	116.47	119.90
71	ST	133	ARG	NE-CZ-NH2	-5.70	117.45	120.30
3	L5	4420	U	N1-C2-O2	5.69	126.78	122.80
51	S2	310	C	N1-C2-O2	5.67	122.31	118.90
51	S2	1272	C	N1-C2-O2	5.66	122.30	118.90
3	L5	664	G	N1-C6-O6	-5.66	116.50	119.90
51	S2	427	U	C2-N1-C1'	5.65	124.48	117.70
84	Sg	101	PHE	CD1-CE1-CZ	5.65	126.88	120.10
3	L5	174	C	C6-N1-C2	-5.64	118.04	120.30
68	SQ	7	LEU	CA-CB-CG	5.62	128.22	115.30
3	L5	130	C	C6-N1-C2	-5.59	118.06	120.30
3	L5	1082	C	P-O3'-C3'	5.59	126.41	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
51	S2	325	C	C6-N1-C1'	-5.57	114.11	120.80
3	L5	3584	C	N1-C2-O2	5.57	122.24	118.90
51	S2	1415	C	N1-C2-O2	5.56	122.24	118.90
51	S2	322	C	N1-C2-O2	5.56	122.23	118.90
71	ST	130	ASP	CB-CG-OD2	5.55	123.30	118.30
10	LE	244	GLU	OE1-CD-OE2	-5.55	116.64	123.30
22	LR	172	ARG	CD-NE-CZ	-5.55	115.83	123.60
3	L5	262	G	N1-C6-O6	-5.53	116.58	119.90
3	L5	3598	C	C2-N1-C1'	5.52	124.88	118.80
3	L5	3771	C	N3-C2-O2	-5.52	118.03	121.90
83	Sf	88	PRO	CB-CG-CD	-5.52	84.98	106.50
3	L5	3761	C	N3-C2-O2	-5.51	118.04	121.90
3	L5	1182	C	N1-C2-O2	5.50	122.20	118.90
3	L5	2710	C	C5-C6-N1	5.49	123.75	121.00
3	L5	4068	U	C2-N1-C1'	5.49	124.29	117.70
51	S2	119	U	N3-C2-O2	-5.49	118.35	122.20
51	S2	688	U	P-O3'-C3'	5.49	126.29	119.70
3	L5	1081	C	N1-C2-O2	5.48	122.19	118.90
3	L5	2627	C	N1-C2-O2	5.48	122.19	118.90
51	S2	179	C	N3-C2-O2	-5.48	118.06	121.90
51	S2	325	C	C6-N1-C2	-5.48	118.11	120.30
51	S2	1780	G	O4'-C1'-N9	5.47	112.58	108.20
3	L5	2675	G	P-O3'-C3'	5.47	126.26	119.70
3	L5	2528	G	C4-N9-C1'	5.46	133.60	126.50
3	L5	4419	U	C2-N1-C1'	5.46	124.25	117.70
56	SE	52	LEU	CA-CB-CG	5.46	127.86	115.30
64	SM	84	LYS	CA-CB-CG	5.46	125.41	113.40
74	SW	111	MET	CB-CG-SD	5.46	128.78	112.40
22	LR	172	ARG	NE-CZ-NH2	5.46	123.03	120.30
58	SG	160	LYS	C-N-CA	-5.46	99.08	122.00
59	SH	27	LEU	CA-CB-CG	5.45	127.84	115.30
51	S2	1424	G	C4-N9-C1'	5.42	133.55	126.50
3	L5	255	C	C5-C4-N4	5.42	123.99	120.20
3	L5	4924	C	C6-N1-C1'	5.42	127.30	120.80
65	SN	119	GLU	OE1-CD-OE2	-5.42	116.80	123.30
54	SC	256	TRP	CD2-CE3-CZ3	-5.41	111.76	118.80
68	SQ	70	VAL	CG1-CB-CG2	-5.41	102.24	110.90
3	L5	4420	U	N3-C2-O2	-5.41	118.41	122.20
3	L5	657	C	C2-N1-C1'	5.41	124.75	118.80
51	S2	1453	C	C6-N1-C1'	-5.40	114.31	120.80
51	S2	130	G	C4-N9-C1'	5.39	133.50	126.50
51	S2	833	C	N1-C2-O2	5.39	122.13	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
51	S2	1755	C	N3-C2-O2	-5.37	118.14	121.90
51	S2	321	C	C5-C6-N1	5.37	123.69	121.00
3	L5	1191	C	N3-C2-O2	-5.36	118.15	121.90
13	LH	143	GLU	OE1-CD-OE2	-5.36	116.87	123.30
3	L5	26	C	C2-N1-C1'	5.35	124.68	118.80
3	L5	4709	U	C6-N1-C1'	-5.35	113.71	121.20
27	LW	3	VAL	CA-CB-CG1	-5.34	102.88	110.90
7	LB	306	ASP	CB-CG-OD1	5.33	123.10	118.30
69	SR	23	ARG	NE-CZ-NH2	-5.32	117.64	120.30
3	L5	1182	C	C2-N1-C1'	5.31	124.64	118.80
51	S2	1139	C	N3-C2-O2	-5.30	118.19	121.90
3	L5	3967	G	C4-N9-C1'	5.30	133.39	126.50
3	L5	112	C	C2-N1-C1'	5.29	124.62	118.80
3	L5	2262	G	C4-N9-C1'	5.29	133.38	126.50
3	L5	485	C	C5-C6-N1	5.29	123.64	121.00
3	L5	2760	G	P-O3'-C3'	5.28	126.03	119.70
3	L5	1216	C	N1-C2-O2	5.27	122.06	118.90
3	L5	2018	C	C6-N1-C2	-5.27	118.19	120.30
51	S2	542	U	N1-C2-O2	5.27	126.49	122.80
51	S2	1022	U	C2-N1-C1'	5.27	124.02	117.70
3	L5	4897	G	C5-C6-O6	5.27	131.76	128.60
83	Sf	88	PRO	CA-N-CD	-5.26	104.13	111.50
3	L5	1217	G	N3-C4-N9	5.26	129.16	126.00
51	S2	119	U	N1-C2-O2	5.26	126.48	122.80
3	L5	4924	C	C2-N1-C1'	-5.25	113.02	118.80
74	SW	111	MET	CA-CB-CG	-5.25	104.37	113.30
51	S2	1453	C	C6-N1-C2	-5.25	118.20	120.30
51	S2	1416	C	C6-N1-C2	-5.25	118.20	120.30
51	S2	542	U	C2-N1-C1'	5.25	123.99	117.70
74	SW	68	ARG	N-CA-CB	-5.24	101.16	110.60
3	L5	914	U	P-O3'-C3'	5.23	125.98	119.70
3	L5	1241	C	C2-N1-C1'	5.22	124.55	118.80
3	L5	904	C	N1-C2-O2	5.22	122.03	118.90
3	L5	1367	C	N3-C2-O2	-5.22	118.25	121.90
3	L5	129	C	N1-C2-N3	5.22	122.85	119.20
69	SR	91	LEU	CB-CG-CD1	5.21	119.86	111.00
3	L5	4926	C	C2-N1-C1'	5.21	124.53	118.80
25	LU	30	GLU	OE1-CD-OE2	-5.20	117.06	123.30
3	L5	1241	C	N1-C2-O2	5.20	122.02	118.90
3	L5	655	C	C6-N1-C2	-5.19	118.22	120.30
51	S2	356	C	N3-C2-O2	-5.19	118.27	121.90
51	S2	1261	C	N1-C2-O2	5.19	122.01	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	L7	4	U	C2-N1-C1'	5.18	123.92	117.70
3	L5	4913	G	P-O3'-C3'	5.18	125.92	119.70
8	LC	101	MET	CG-SD-CE	-5.18	91.91	100.20
54	SC	256	TRP	CG-CD1-NE1	5.17	115.27	110.10
3	L5	1259	G	N1-C6-O6	-5.17	116.80	119.90
51	S2	119	U	C2-N1-C1'	5.16	123.89	117.70
3	L5	139	G	C5-C6-O6	5.16	131.69	128.60
3	L5	485	C	C6-N1-C2	-5.16	118.24	120.30
3	L5	2107	C	N1-C2-O2	5.15	121.99	118.90
51	S2	509	G	N3-C4-N9	5.15	129.09	126.00
51	S2	1520	G	C8-N9-C1'	-5.15	120.30	127.00
3	L5	2627	C	C2-N1-C1'	5.14	124.45	118.80
51	S2	291	G	P-O3'-C3'	5.14	125.86	119.70
57	SF	145	ARG	NE-CZ-NH1	5.14	122.87	120.30
51	S2	558	G	O4'-C1'-N9	5.13	112.31	108.20
3	L5	906	C	C2-N1-C1'	5.13	124.45	118.80
3	L5	655	C	C5-C4-N4	5.12	123.79	120.20
3	L5	1494	U	N1-C2-O2	5.12	126.39	122.80
51	S2	1123	C	N3-C2-O2	-5.12	118.32	121.90
51	S2	1424	G	C8-N9-C1'	-5.12	120.35	127.00
3	L5	2532	C	C2-N1-C1'	5.11	124.42	118.80
51	S2	321	C	C2-N1-C1'	5.10	124.41	118.80
3	L5	4926	C	N1-C2-O2	5.10	121.96	118.90
3	L5	453	G	N3-C4-C5	-5.09	126.06	128.60
3	L5	4065	G	C4-N9-C1'	5.09	133.12	126.50
51	S2	930	C	C2-N1-C1'	5.08	124.39	118.80
51	S2	179	C	C6-N1-C2	-5.08	118.27	120.30
3	L5	3584	C	N3-C2-O2	-5.08	118.35	121.90
3	L5	263	G	N1-C2-N2	-5.06	111.64	116.20
3	L5	1494	U	C2-N1-C1'	5.05	123.77	117.70
3	L5	701	G	N1-C6-O6	-5.05	116.87	119.90
51	S2	1520	G	N3-C4-C5	-5.05	126.08	128.60
3	L5	262	G	N1-C2-N2	-5.04	111.66	116.20
51	S2	130	G	N3-C4-C5	-5.04	126.08	128.60
65	SN	16	LEU	C-N-CD	5.04	138.98	128.40
3	L5	129	C	N1-C2-O2	5.03	121.92	118.90
66	SO	136	PRO	N-CA-CB	-5.03	97.06	102.60
3	L5	914	U	C5-C4-O4	-5.03	122.88	125.90
3	L5	4900	C	N1-C2-O2	5.03	121.92	118.90
3	L5	456	C	C6-N1-C2	-5.02	118.29	120.30
51	S2	130	G	N3-C4-N9	5.02	129.01	126.00
5	L8	51	U	N3-C2-O2	-5.01	118.69	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
51	S2	1777	G	N3-C2-N2	5.01	123.41	119.90
3	L5	2257	C	C2-N1-C1'	5.01	124.31	118.80
5	L8	51	U	N1-C2-O2	5.00	126.30	122.80
3	L5	4887	C	N1-C2-O2	5.00	121.90	118.90

There are no chirality outliers.

All (18) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
6	LA	13	GLY	Peptide
7	LB	17	LEU	Peptide
7	LB	258	HIS	Peptide
17	LM	87	ALA	Peptide
17	LM	88	ALA	Peptide
19	LO	110	PRO	Peptide
22	LR	172	ARG	Sidechain
24	LT	136	ARG	Peptide
36	Lf	106	TYR	Peptide
38	Lh	86	LYS	Peptide
40	Lj	39	TYR	Peptide
57	SF	78	MET	Peptide
59	SH	145	ARG	Sidechain
59	SH	15	LYS	Peptide
67	SP	127	LYS	Peptide
67	SP	70	MET	Peptide
68	SQ	43	GLU	Peptide
75	SX	126	ALA	Peptide

5.2 Too-close contacts [i](#)

Due to software issues we are unable to calculate clashes - this section is therefore empty.

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	CB	842/856 (98%)	792 (94%)	46 (6%)	4 (0%)	25	54
2	CD	51/55 (93%)	48 (94%)	3 (6%)	0	100	100
6	LA	246/248 (99%)	223 (91%)	23 (9%)	0	100	100
7	LB	400/402 (100%)	379 (95%)	21 (5%)	0	100	100
8	LC	366/368 (100%)	341 (93%)	25 (7%)	0	100	100
9	LD	291/293 (99%)	275 (94%)	16 (6%)	0	100	100
10	LE	232/247 (94%)	211 (91%)	21 (9%)	0	100	100
11	LF	223/225 (99%)	215 (96%)	8 (4%)	0	100	100
12	LG	239/241 (99%)	225 (94%)	14 (6%)	0	100	100
13	LH	188/190 (99%)	172 (92%)	16 (8%)	0	100	100
14	LI	198/213 (93%)	186 (94%)	12 (6%)	0	100	100
15	LJ	174/176 (99%)	159 (91%)	15 (9%)	0	100	100
16	LL	208/210 (99%)	193 (93%)	15 (7%)	0	100	100
17	LM	137/139 (99%)	129 (94%)	7 (5%)	1 (1%)	19	46
18	LN	201/203 (99%)	190 (94%)	10 (5%)	1 (0%)	25	54
19	LO	199/201 (99%)	188 (94%)	11 (6%)	0	100	100
20	LP	151/153 (99%)	143 (95%)	8 (5%)	0	100	100
21	LQ	185/187 (99%)	179 (97%)	6 (3%)	0	100	100
22	LR	185/187 (99%)	181 (98%)	4 (2%)	0	100	100
23	LS	173/175 (99%)	163 (94%)	10 (6%)	0	100	100
24	LT	157/159 (99%)	142 (90%)	15 (10%)	0	100	100
25	LU	99/101 (98%)	82 (83%)	17 (17%)	0	100	100
26	LV	129/131 (98%)	125 (97%)	4 (3%)	0	100	100
27	LW	114/124 (92%)	109 (96%)	5 (4%)	0	100	100
28	LX	118/120 (98%)	115 (98%)	3 (2%)	0	100	100
29	LY	132/134 (98%)	127 (96%)	5 (4%)	0	100	100
30	LZ	133/135 (98%)	122 (92%)	11 (8%)	0	100	100
31	La	145/147 (99%)	137 (94%)	8 (6%)	0	100	100
32	Lb	105/121 (87%)	97 (92%)	8 (8%)	0	100	100
33	Lc	96/98 (98%)	88 (92%)	8 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
34	Ld	105/107 (98%)	97 (92%)	8 (8%)	0	100	100
35	Le	126/128 (98%)	120 (95%)	6 (5%)	0	100	100
36	Lf	107/109 (98%)	99 (92%)	8 (8%)	0	100	100
37	Lg	112/114 (98%)	110 (98%)	2 (2%)	0	100	100
38	Lh	120/122 (98%)	119 (99%)	1 (1%)	0	100	100
39	Li	100/102 (98%)	97 (97%)	3 (3%)	0	100	100
40	Lj	84/86 (98%)	78 (93%)	6 (7%)	0	100	100
41	Lk	67/69 (97%)	65 (97%)	2 (3%)	0	100	100
42	Ll	48/50 (96%)	44 (92%)	4 (8%)	0	100	100
43	Lm	50/52 (96%)	49 (98%)	1 (2%)	0	100	100
44	Ln	22/24 (92%)	22 (100%)	0	0	100	100
45	Lo	103/105 (98%)	99 (96%)	4 (4%)	0	100	100
46	Lp	89/91 (98%)	85 (96%)	4 (4%)	0	100	100
47	Lr	123/125 (98%)	115 (94%)	8 (6%)	0	100	100
48	Ls	194/196 (99%)	182 (94%)	12 (6%)	0	100	100
49	Lt	137/141 (97%)	105 (77%)	31 (23%)	1 (1%)	19	46
50	Lz	215/217 (99%)	171 (80%)	44 (20%)	0	100	100
52	SA	219/221 (99%)	200 (91%)	19 (9%)	0	100	100
53	SB	212/214 (99%)	203 (96%)	9 (4%)	0	100	100
54	SC	220/222 (99%)	208 (94%)	12 (6%)	0	100	100
55	SD	225/227 (99%)	204 (91%)	21 (9%)	0	100	100
56	SE	260/262 (99%)	234 (90%)	26 (10%)	0	100	100
57	SF	187/189 (99%)	164 (88%)	22 (12%)	1 (0%)	25	54
58	SG	235/237 (99%)	213 (91%)	22 (9%)	0	100	100
59	SH	182/189 (96%)	167 (92%)	15 (8%)	0	100	100
60	SI	204/206 (99%)	190 (93%)	14 (7%)	0	100	100
61	SJ	183/185 (99%)	169 (92%)	14 (8%)	0	100	100
62	SK	96/98 (98%)	89 (93%)	6 (6%)	1 (1%)	13	38
63	SL	151/153 (99%)	139 (92%)	12 (8%)	0	100	100
64	SM	120/122 (98%)	110 (92%)	9 (8%)	1 (1%)	16	43
65	SN	148/150 (99%)	142 (96%)	6 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
66	SO	138/140 (99%)	123 (89%)	14 (10%)	1 (1%)	19	46
67	SP	119/121 (98%)	108 (91%)	11 (9%)	0	100	100
68	SQ	142/144 (99%)	127 (89%)	14 (10%)	1 (1%)	19	46
69	SR	133/135 (98%)	119 (90%)	13 (10%)	1 (1%)	16	43
70	SS	143/145 (99%)	137 (96%)	6 (4%)	0	100	100
71	ST	141/143 (99%)	131 (93%)	9 (6%)	1 (1%)	19	46
72	SU	102/104 (98%)	96 (94%)	6 (6%)	0	100	100
73	SV	81/83 (98%)	72 (89%)	9 (11%)	0	100	100
74	SW	127/129 (98%)	122 (96%)	5 (4%)	0	100	100
75	SX	139/141 (99%)	124 (89%)	14 (10%)	1 (1%)	19	46
76	SY	129/131 (98%)	121 (94%)	8 (6%)	0	100	100
77	SZ	73/75 (97%)	62 (85%)	11 (15%)	0	100	100
78	Sa	100/102 (98%)	93 (93%)	7 (7%)	0	100	100
79	Sb	81/83 (98%)	71 (88%)	10 (12%)	0	100	100
80	Sc	62/64 (97%)	53 (86%)	9 (14%)	0	100	100
81	Sd	53/55 (96%)	50 (94%)	3 (6%)	0	100	100
82	Se	56/58 (97%)	49 (88%)	7 (12%)	0	100	100
83	Sf	65/67 (97%)	56 (86%)	9 (14%)	0	100	100
84	Sg	311/313 (99%)	278 (89%)	33 (11%)	0	100	100
All	All	12756/12985 (98%)	11817 (93%)	924 (7%)	15 (0%)	50	77

All (15) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	CB	779	THR
1	CB	407	LYS
18	LN	124	ASP
49	Lt	24	ALA
75	SX	127	ASN
1	CB	53	GLU
17	LM	88	ALA
57	SF	50	PRO
62	SK	36	ALA
69	SR	124	VAL
64	SM	96	ARG

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Mol	Chain	Res	Type
71	ST	41	LYS
1	CB	610	PRO
68	SQ	44	PRO
66	SO	136	PRO

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	CB	722/728 (99%)	702 (97%)	20 (3%)	38 63
2	CD	46/46 (100%)	42 (91%)	4 (9%)	8 27
6	LA	190/190 (100%)	188 (99%)	2 (1%)	70 83
7	LB	348/348 (100%)	340 (98%)	8 (2%)	45 67
8	LC	306/306 (100%)	299 (98%)	7 (2%)	45 67
9	LD	246/247 (100%)	238 (97%)	8 (3%)	33 59
10	LE	209/220 (95%)	199 (95%)	10 (5%)	21 48
11	LF	194/194 (100%)	188 (97%)	6 (3%)	35 60
12	LG	203/205 (99%)	197 (97%)	6 (3%)	36 61
13	LH	169/169 (100%)	166 (98%)	3 (2%)	54 74
14	LI	172/180 (96%)	165 (96%)	7 (4%)	26 53
15	LJ	148/148 (100%)	138 (93%)	10 (7%)	13 36
16	LL	176/176 (100%)	170 (97%)	6 (3%)	32 59
17	LM	118/118 (100%)	114 (97%)	4 (3%)	32 59
18	LN	171/171 (100%)	168 (98%)	3 (2%)	54 74
19	LO	173/173 (100%)	166 (96%)	7 (4%)	27 55
20	LP	134/134 (100%)	131 (98%)	3 (2%)	47 68
21	LQ	164/164 (100%)	160 (98%)	4 (2%)	44 67
22	LR	166/166 (100%)	161 (97%)	5 (3%)	36 61
23	LS	156/156 (100%)	151 (97%)	5 (3%)	34 60

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
24	LT	139/139 (100%)	134 (96%)	5 (4%)	30	57
25	LU	91/91 (100%)	82 (90%)	9 (10%)	6	21
26	LV	101/101 (100%)	101 (100%)	0	100	100
27	LW	97/103 (94%)	93 (96%)	4 (4%)	26	53
28	LX	108/108 (100%)	106 (98%)	2 (2%)	52	72
29	LY	124/124 (100%)	121 (98%)	3 (2%)	44	67
30	LZ	117/117 (100%)	113 (97%)	4 (3%)	32	59
31	La	120/120 (100%)	117 (98%)	3 (2%)	42	66
32	Lb	88/101 (87%)	83 (94%)	5 (6%)	17	42
33	Lc	83/83 (100%)	81 (98%)	2 (2%)	44	67
34	Ld	98/98 (100%)	96 (98%)	2 (2%)	50	71
35	Le	114/114 (100%)	112 (98%)	2 (2%)	54	74
36	Lf	88/88 (100%)	87 (99%)	1 (1%)	70	83
37	Lg	98/98 (100%)	92 (94%)	6 (6%)	15	40
38	Lh	109/109 (100%)	106 (97%)	3 (3%)	38	63
39	Li	86/86 (100%)	82 (95%)	4 (5%)	22	49
40	Lj	73/73 (100%)	70 (96%)	3 (4%)	26	53
41	Lk	64/64 (100%)	63 (98%)	1 (2%)	58	76
42	Ll	47/47 (100%)	46 (98%)	1 (2%)	48	69
43	Lm	48/48 (100%)	46 (96%)	2 (4%)	25	52
44	Ln	23/23 (100%)	21 (91%)	2 (9%)	8	27
45	Lo	93/93 (100%)	88 (95%)	5 (5%)	18	44
46	Lp	74/74 (100%)	72 (97%)	2 (3%)	40	64
47	Lr	109/109 (100%)	105 (96%)	4 (4%)	29	56
48	Ls	162/164 (99%)	151 (93%)	11 (7%)	13	36
49	Lt	112/115 (97%)	110 (98%)	2 (2%)	54	74
50	Lz	195/196 (100%)	189 (97%)	6 (3%)	35	60
52	SA	183/183 (100%)	170 (93%)	13 (7%)	12	35
53	SB	195/195 (100%)	187 (96%)	8 (4%)	26	53
54	SC	188/188 (100%)	181 (96%)	7 (4%)	29	56
55	SD	190/190 (100%)	180 (95%)	10 (5%)	19	44

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
56	SE	224/224 (100%)	208 (93%)	16 (7%)	12	35
57	SF	159/159 (100%)	153 (96%)	6 (4%)	28	55
58	SG	207/207 (100%)	194 (94%)	13 (6%)	15	39
59	SH	166/169 (98%)	164 (99%)	2 (1%)	67	82
60	SI	178/178 (100%)	168 (94%)	10 (6%)	17	43
61	SJ	161/161 (100%)	154 (96%)	7 (4%)	25	51
62	SK	89/89 (100%)	84 (94%)	5 (6%)	17	43
63	SL	137/137 (100%)	127 (93%)	10 (7%)	11	34
64	SM	102/104 (98%)	92 (90%)	10 (10%)	6	22
65	SN	130/130 (100%)	124 (95%)	6 (5%)	23	49
66	SO	110/110 (100%)	105 (96%)	5 (4%)	23	50
67	SP	107/107 (100%)	105 (98%)	2 (2%)	52	72
68	SQ	119/119 (100%)	113 (95%)	6 (5%)	20	47
69	SR	122/122 (100%)	117 (96%)	5 (4%)	26	53
70	SS	126/126 (100%)	120 (95%)	6 (5%)	21	48
71	ST	113/113 (100%)	107 (95%)	6 (5%)	19	44
72	SU	94/94 (100%)	88 (94%)	6 (6%)	14	38
73	SV	67/67 (100%)	62 (92%)	5 (8%)	11	33
74	SW	112/112 (100%)	104 (93%)	8 (7%)	12	35
75	SX	113/113 (100%)	109 (96%)	4 (4%)	31	58
76	SY	113/113 (100%)	103 (91%)	10 (9%)	8	27
77	SZ	66/66 (100%)	59 (89%)	7 (11%)	5	19
78	Sa	89/89 (100%)	80 (90%)	9 (10%)	6	20
79	Sb	75/75 (100%)	71 (95%)	4 (5%)	19	44
80	Sc	57/57 (100%)	56 (98%)	1 (2%)	54	74
81	Sd	48/48 (100%)	47 (98%)	1 (2%)	48	69
82	Se	47/47 (100%)	46 (98%)	1 (2%)	48	69
83	Sf	60/60 (100%)	56 (93%)	4 (7%)	13	37
84	Sg	272/272 (100%)	255 (94%)	17 (6%)	15	39
All	All	11091/11149 (100%)	10639 (96%)	452 (4%)	28	53

All (452) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	CB	4	PHE
1	CB	77	LEU
1	CB	98	PHE
1	CB	228	PHE
1	CB	236	PHE
1	CB	264	ARG
1	CB	273	PHE
1	CB	276	SER
1	CB	301	PHE
1	CB	331	GLU
1	CB	383	MET
1	CB	386	LYS
1	CB	407	LYS
1	CB	448	GLN
1	CB	454	MET
1	CB	456	ARG
1	CB	488	PHE
1	CB	598	LYS
1	CB	651	CYS
1	CB	698	ARG
2	CD	185	PHE
2	CD	205	LYS
2	CD	285	GLU
2	CD	292	LYS
6	LA	86	GLN
6	LA	92	LYS
7	LB	17	LEU
7	LB	65	SER
7	LB	103	LYS
7	LB	109	HIS
7	LB	116	ARG
7	LB	136	LYS
7	LB	248	LEU
7	LB	308	ASP
8	LC	55	SER
8	LC	57	LEU
8	LC	78	ARG
8	LC	80	ARG
8	LC	95	MET
8	LC	155	GLU
8	LC	348	LYS
9	LD	3	PHE
9	LD	27	LYS

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Mol	Chain	Res	Type
9	LD	86	TYR
9	LD	89	LYS
9	LD	203	ASN
9	LD	235	MET
9	LD	265	ARG
9	LD	283	LYS
10	LE	99	ASP
10	LE	128	HIS
10	LE	130	LYS
10	LE	191	GLN
10	LE	214	ASP
10	LE	222	LEU
10	LE	240	TYR
10	LE	247	LYS
10	LE	249	ASP
10	LE	279	ASN
11	LF	96	ARG
11	LF	99	ASN
11	LF	152	GLU
11	LF	189	ASP
11	LF	220	MET
11	LF	221	LYS
12	LG	38	ASN
12	LG	54	PHE
12	LG	121	LYS
12	LG	131	LYS
12	LG	192	ARG
12	LG	228	ASP
13	LH	8	GLN
13	LH	37	ASP
13	LH	142	ASP
14	LI	21	ARG
14	LI	76	MET
14	LI	82	ARG
14	LI	87	MET
14	LI	139	ARG
14	LI	162	ARG
14	LI	207	ASP
15	LJ	5	GLN
15	LJ	10	ASN
15	LJ	19	LYS
15	LJ	29	SER

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Mol	Chain	Res	Type
15	LJ	60	PHE
15	LJ	65	ASN
15	LJ	90	ARG
15	LJ	95	ARG
15	LJ	120	ASP
15	LJ	140	SER
16	LL	37	LYS
16	LL	60	ARG
16	LL	67	HIS
16	LL	79	GLU
16	LL	104	ASN
16	LL	155	MET
17	LM	4	ARG
17	LM	39	ASP
17	LM	42	CYS
17	LM	46	ARG
18	LN	67	ARG
18	LN	100	SER
18	LN	194	ARG
19	LO	38	CYS
19	LO	49	ARG
19	LO	116	LYS
19	LO	117	ARG
19	LO	140	ARG
19	LO	141	LEU
19	LO	158	GLU
20	LP	5	SER
20	LP	69	ARG
20	LP	87	SER
21	LQ	53	MET
21	LQ	124	ASP
21	LQ	140	SER
21	LQ	150	ARG
22	LR	63	CYS
22	LR	108	ARG
22	LR	111	GLU
22	LR	117	ARG
22	LR	144	LYS
23	LS	8	ARG
23	LS	29	ARG
23	LS	42	SER
23	LS	84	TYR

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Mol	Chain	Res	Type
23	LS	176	PHE
24	LT	16	SER
24	LT	35	LYS
24	LT	83	LYS
24	LT	104	SER
24	LT	113	ASP
25	LU	21	PHE
25	LU	39	PHE
25	LU	82	TYR
25	LU	83	LEU
25	LU	86	LEU
25	LU	90	TYR
25	LU	96	LEU
25	LU	99	TRP
25	LU	108	GLU
27	LW	38	SER
27	LW	102	LYS
27	LW	110	ARG
27	LW	116	LYS
28	LX	53	ARG
28	LX	68	ARG
29	LY	2	LYS
29	LY	24	HIS
29	LY	74	TYR
30	LZ	57	MET
30	LZ	84	ARG
30	LZ	85	TYR
30	LZ	99	ASP
31	La	3	SER
31	La	12	ARG
31	La	44	ASN
32	Lb	25	ARG
32	Lb	60	ASN
32	Lb	61	ASN
32	Lb	93	LEU
32	Lb	111	ARG
33	Lc	23	LYS
33	Lc	58	SER
34	Ld	55	LYS
34	Ld	79	ASN
35	Le	25	SER
35	Le	93	LYS

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Mol	Chain	Res	Type
36	Lf	47	CYS
37	Lg	32	TYR
37	Lg	46	CYS
37	Lg	65	MET
37	Lg	66	ARG
37	Lg	75	SER
37	Lg	89	ASP
38	Lh	23	ASP
38	Lh	48	ARG
38	Lh	74	LYS
39	Li	29	ARG
39	Li	42	ASP
39	Li	43	MET
39	Li	48	CYS
40	Lj	22	CYS
40	Lj	37	CYS
40	Lj	75	ARG
41	Lk	10	ASP
42	Ll	41	ARG
43	Lm	81	SER
43	Lm	114	LYS
44	Ln	2	ARG
44	Ln	24	SER
45	Lo	14	LYS
45	Lo	77	CYS
45	Lo	79	SER
45	Lo	81	ARG
45	Lo	99	ARG
46	Lp	48	LYS
46	Lp	72	ASN
47	Lr	20	ARG
47	Lr	21	ASN
47	Lr	31	ASN
47	Lr	122	LYS
48	Ls	14	PHE
48	Ls	45	MET
48	Ls	55	MET
48	Ls	62	ARG
48	Ls	68	HIS
48	Ls	81	HIS
48	Ls	136	SER
48	Ls	182	PRO

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Mol	Chain	Res	Type
48	Ls	183	PHE
48	Ls	190	GLN
48	Ls	199	TYR
49	Lt	53	TRP
49	Lt	111	ASN
50	Lz	10	LEU
50	Lz	22	GLN
50	Lz	46	ASP
50	Lz	159	MET
50	Lz	161	LYS
50	Lz	178	GLU
52	SA	24	HIS
52	SA	32	PHE
52	SA	39	TYR
52	SA	47	TYR
52	SA	50	ASN
52	SA	80	ARG
52	SA	82	THR
52	SA	84	GLN
52	SA	89	LYS
52	SA	130	ASP
52	SA	174	MET
52	SA	204	TYR
52	SA	212	LYS
53	SB	25	PHE
53	SB	38	MET
53	SB	67	PHE
53	SB	103	MET
53	SB	120	MET
53	SB	124	HIS
53	SB	126	ASP
53	SB	205	TYR
54	SC	60	TRP
54	SC	96	PHE
54	SC	167	ARG
54	SC	248	TYR
54	SC	250	TYR
54	SC	263	LYS
54	SC	277	HIS
55	SD	6	SER
55	SD	10	LYS
55	SD	24	PHE

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Mol	Chain	Res	Type
55	SD	35	SER
55	SD	83	SER
55	SD	143	ARG
55	SD	149	SER
55	SD	157	MET
55	SD	167	TYR
55	SD	193	ASP
56	SE	41	CYS
56	SE	54	TYR
56	SE	62	LYS
56	SE	93	ASP
56	SE	94	LYS
56	SE	108	ARG
56	SE	113	ARG
56	SE	115	THR
56	SE	121	TYR
56	SE	149	TYR
56	SE	157	ASN
56	SE	172	PHE
56	SE	197	ASN
56	SE	205	PHE
56	SE	216	ASN
56	SE	221	ARG
57	SF	37	ASP
57	SF	66	CYS
57	SF	122	ARG
57	SF	148	ASN
57	SF	175	ASP
57	SF	204	ARG
58	SG	61	PHE
58	SG	78	SER
58	SG	87	ARG
58	SG	88	ARG
58	SG	98	ARG
58	SG	110	ASN
58	SG	131	ARG
58	SG	140	ARG
58	SG	154	ARG
58	SG	179	LEU
58	SG	208	GLU
58	SG	211	LYS
58	SG	232	ARG

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Mol	Chain	Res	Type
59	SH	19	PHE
59	SH	86	LYS
60	SI	6	ASP
60	SI	22	HIS
60	SI	72	CYS
60	SI	86	SER
60	SI	134	GLU
60	SI	151	GLU
60	SI	157	LYS
60	SI	170	LYS
60	SI	178	ARG
60	SI	198	TYR
61	SJ	22	LYS
61	SJ	72	PHE
61	SJ	115	PHE
61	SJ	133	ARG
61	SJ	147	PHE
61	SJ	159	PHE
61	SJ	180	LYS
62	SK	46	MET
62	SK	52	LEU
62	SK	53	LYS
62	SK	55	ARG
62	SK	61	GLN
63	SL	10	TYR
63	SL	44	PHE
63	SL	52	GLU
63	SL	55	TYR
63	SL	57	ASP
63	SL	60	CYS
63	SL	83	GLN
63	SL	100	ASN
63	SL	108	ASN
63	SL	124	ASP
64	SM	19	GLN
64	SM	44	LYS
64	SM	80	ASP
64	SM	84	LYS
64	SM	97	GLU
64	SM	108	CYS
64	SM	121	LYS
64	SM	127	TYR

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Mol	Chain	Res	Type
64	SM	129	LYS
64	SM	130	CYS
65	SN	16	LEU
65	SN	57	SER
65	SN	67	THR
65	SN	89	TYR
65	SN	105	ASN
65	SN	120	SER
66	SO	39	ASP
66	SO	85	CYS
66	SO	104	ARG
66	SO	124	MET
66	SO	146	ARG
67	SP	82	ASP
67	SP	116	LEU
68	SQ	25	CYS
68	SQ	35	ASN
68	SQ	52	LEU
68	SQ	127	CYS
68	SQ	145	TYR
68	SQ	146	ARG
69	SR	23	ARG
69	SR	27	ASP
69	SR	43	SER
69	SR	67	ARG
69	SR	83	ASN
70	SS	17	ASN
70	SS	38	ARG
70	SS	71	MET
70	SS	82	TRP
70	SS	106	LYS
70	SS	130	ARG
71	ST	13	GLU
71	ST	18	LEU
71	ST	29	LYS
71	ST	53	PHE
71	ST	94	ARG
71	ST	129	ARG
72	SU	48	LEU
72	SU	49	LYS
72	SU	86	LYS
72	SU	87	ARG

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Mol	Chain	Res	Type
72	SU	88	LEU
72	SU	111	GLU
73	SV	28	ASP
73	SV	50	PHE
73	SV	56	CYS
73	SV	81	LYS
73	SV	83	PHE
74	SW	9	ASP
74	SW	28	ARG
74	SW	49	GLU
74	SW	57	ARG
74	SW	80	ASP
74	SW	96	SER
74	SW	111	MET
74	SW	112	ASP
75	SX	88	ASP
75	SX	96	GLU
75	SX	105	PHE
75	SX	140	ARG
76	SY	12	PHE
76	SY	20	ARG
76	SY	23	MET
76	SY	41	ARG
76	SY	63	HIS
76	SY	81	TYR
76	SY	88	LYS
76	SY	89	HIS
76	SY	97	TYR
76	SY	112	ASN
77	SZ	44	LEU
77	SZ	50	PHE
77	SZ	52	LYS
77	SZ	60	LYS
77	SZ	65	TYR
77	SZ	83	LEU
77	SZ	96	LEU
78	Sa	4	LYS
78	Sa	15	ARG
78	Sa	39	PHE
78	Sa	51	ARG
78	Sa	59	PHE
78	Sa	62	TYR

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Mol	Chain	Res	Type
78	Sa	64	LEU
78	Sa	77	CYS
78	Sa	81	SER
79	Sb	5	LYS
79	Sb	7	LEU
79	Sb	31	TYR
79	Sb	80	ARG
80	Sc	37	ASP
81	Sd	4	GLN
82	Se	49	PHE
83	Sf	89	LYS
83	Sf	104	LYS
83	Sf	106	TYR
83	Sf	140	TYR
84	Sg	3	GLU
84	Sg	27	PHE
84	Sg	30	MET
84	Sg	44	LYS
84	Sg	48	ASP
84	Sg	65	PHE
84	Sg	84	ASP
84	Sg	113	PHE
84	Sg	125	ARG
84	Sg	127	LYS
84	Sg	194	TYR
84	Sg	207	CYS
84	Sg	217	MET
84	Sg	228	TYR
84	Sg	241	PHE
84	Sg	276	SER
84	Sg	286	CYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (44) such sidechains are listed below:

Mol	Chain	Res	Type
1	CB	91	GLN
1	CB	145	GLN
1	CB	468	ASN
7	LB	175	GLN
8	LC	116	ASN
13	LH	156	ASN
14	LI	144	ASN

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Mol	Chain	Res	Type
17	LM	44	GLN
21	LQ	188	ASN
32	Lb	12	GLN
33	Lc	19	GLN
35	Le	107	ASN
46	Lp	72	ASN
47	Lr	31	ASN
48	Ls	105	ASN
48	Ls	139	GLN
49	Lt	111	ASN
53	SB	159	GLN
54	SC	115	GLN
56	SE	98	ASN
57	SF	149	GLN
58	SG	4	ASN
59	SH	73	GLN
59	SH	168	HIS
61	SJ	124	HIS
63	SL	5	GLN
65	SN	36	GLN
66	SO	103	ASN
66	SO	113	GLN
67	SP	46	ASN
69	SR	74	GLN
70	SS	87	GLN
71	ST	51	ASN
71	ST	83	GLN
71	ST	85	ASN
73	SV	21	ASN
76	SY	19	GLN
76	SY	89	HIS
77	SZ	106	GLN
79	Sb	49	HIS
81	Sd	4	GLN
82	Se	39	ASN
84	Sg	26	GLN
84	Sg	117	ASN

5.3.3 RNA

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
3	L5	3705/3740 (99%)	851 (22%)	21 (0%)
4	L7	119/120 (99%)	13 (10%)	1 (0%)
5	L8	155/156 (99%)	27 (17%)	0
51	S2	1716/1740 (98%)	490 (28%)	7 (0%)
All	All	5695/5756 (98%)	1381 (24%)	29 (0%)

All (1381) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
3	L5	17	A
3	L5	25	A
3	L5	30	C
3	L5	39	A
3	L5	42	A
3	L5	48	G
3	L5	56	A
3	L5	59	A
3	L5	64	A
3	L5	65	A
3	L5	73	A
3	L5	74	G
3	L5	84	A
3	L5	91	G
3	L5	104	G
3	L5	108	A
3	L5	109	G
3	L5	110	C
3	L5	116	G
3	L5	119	G
3	L5	120	A
3	L5	127	G
3	L5	132	G
3	L5	133	C
3	L5	134	G
3	L5	135	G
3	L5	137	G
3	L5	144	G
3	L5	159	C
3	L5	164	G
3	L5	165	A
3	L5	172	C

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Mol	Chain	Res	Type
3	L5	181	C
3	L5	183	C
3	L5	184	U
3	L5	185	C
3	L5	188	G
3	L5	189	G
3	L5	200	U
3	L5	209	U
3	L5	216	C
3	L5	218	A
3	L5	220	C
3	L5	234	G
3	L5	235	A
3	L5	255	C
3	L5	256	G
3	L5	261	G
3	L5	263	G
3	L5	264	C
3	L5	265	C
3	L5	266	C
3	L5	275	C
3	L5	280	G
3	L5	297	U
3	L5	306	A
3	L5	315	G
3	L5	316	U
3	L5	340	C
3	L5	350	C
3	L5	362	A
3	L5	373	G
3	L5	385	A
3	L5	387	G
3	L5	388	A
3	L5	401	G
3	L5	407	A
3	L5	409	G
3	L5	410	A
3	L5	411	G
3	L5	412	G
3	L5	413	G
3	L5	431	G
3	L5	432	U

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Mol	Chain	Res	Type
3	L5	439	G
3	L5	449	C
3	L5	450	G
3	L5	452	A
3	L5	453	G
3	L5	454	U
3	L5	456	C
3	L5	457	G
3	L5	464	G
3	L5	465	G
3	L5	467	U
3	L5	468	U
3	L5	485	C
3	L5	486	C
3	L5	489	C
3	L5	491	G
3	L5	493	G
3	L5	494	U
3	L5	497	G
3	L5	498	C
3	L5	499	G
3	L5	500	G
3	L5	501	C
3	L5	502	C
3	L5	503	C
3	L5	504	G
3	L5	506	C
3	L5	509	A
3	L5	510	U
3	L5	512	U
3	L5	513	U
3	L5	514	U
3	L5	517	C
3	L5	518	G
3	L5	519	C
3	L5	643	C
3	L5	646	G
3	L5	654	C
3	L5	655	C
3	L5	656	C
3	L5	657	C
3	L5	658	C

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Mol	Chain	Res	Type
3	L5	660	A
3	L5	665	C
3	L5	666	G
3	L5	667	A
3	L5	668	C
3	L5	669	C
3	L5	672	C
3	L5	673	C
3	L5	674	G
3	L5	685	C
3	L5	686	A
3	L5	687	U
3	L5	688	U
3	L5	696	C
3	L5	700	G
3	L5	703	G
3	L5	704	C
3	L5	708	G
3	L5	719	C
3	L5	730	G
3	L5	731	G
3	L5	738	C
3	L5	739	G
3	L5	740	G
3	L5	742	G
3	L5	753	C
3	L5	759	G
3	L5	904	C
3	L5	905	C
3	L5	906	C
3	L5	907	C
3	L5	910	G
3	L5	911	U
3	L5	912	G
3	L5	913	U
3	L5	914	U
3	L5	915	A
3	L5	916	C
3	L5	917	A
3	L5	918	G
3	L5	923	C
3	L5	924	C

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Mol	Chain	Res	Type
3	L5	926	G
3	L5	927	G
3	L5	932	A
3	L5	933	G
3	L5	936	C
3	L5	937	U
3	L5	941	C
3	L5	943	A
3	L5	944	A
3	L5	945	U
3	L5	959	G
3	L5	960	A
3	L5	961	G
3	L5	962	C
3	L5	965	G
3	L5	966	A
3	L5	967	C
3	L5	968	C
3	L5	969	C
3	L5	970	G
3	L5	982	U
3	L5	985	C
3	L5	989	U
3	L5	990	C
3	L5	992	C
3	L5	993	G
3	L5	995	C
3	L5	1048	G
3	L5	1049	C
3	L5	1050	C
3	L5	1051	G
3	L5	1070	G
3	L5	1071	C
3	L5	1072	C
3	L5	1075	G
3	L5	1082	C
3	L5	1083	U
3	L5	1094	G
3	L5	1095	A
3	L5	1168	G
3	L5	1169	G
3	L5	1171	G

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Mol	Chain	Res	Type
3	L5	1172	C
3	L5	1173	G
3	L5	1178	G
3	L5	1179	U
3	L5	1180	C
3	L5	1182	C
3	L5	1183	C
3	L5	1202	C
3	L5	1203	G
3	L5	1204	C
3	L5	1210	C
3	L5	1211	G
3	L5	1214	C
3	L5	1215	C
3	L5	1217	G
3	L5	1218	G
3	L5	1219	G
3	L5	1221	G
3	L5	1222	A
3	L5	1241	C
3	L5	1242	G
3	L5	1246	G
3	L5	1253	G
3	L5	1254	A
3	L5	1257	A
3	L5	1258	G
3	L5	1261	G
3	L5	1262	G
3	L5	1266	G
3	L5	1267	C
3	L5	1269	G
3	L5	1270	A
3	L5	1271	G
3	L5	1272	C
3	L5	1273	G
3	L5	1274	A
3	L5	1275	G
3	L5	1280	C
3	L5	1284	G
3	L5	1285	U
3	L5	1287	G
3	L5	1294	A

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Mol	Chain	Res	Type
3	L5	1295	C
3	L5	1301	C
3	L5	1314	C
3	L5	1326	A
3	L5	1337	A
3	L5	1354	A
3	L5	1358	G
3	L5	1365	C
3	L5	1367	C
3	L5	1370	G
3	L5	1381	U
3	L5	1387	A
3	L5	1394	G
3	L5	1397	A
3	L5	1398	A
3	L5	1404	G
3	L5	1407	C
3	L5	1408	G
3	L5	1409	C
3	L5	1410	U
3	L5	1414	C
3	L5	1415	G
3	L5	1416	G
3	L5	1417	C
3	L5	1420	A
3	L5	1437	C
3	L5	1438	U
3	L5	1439	C
3	L5	1444	G
3	L5	1445	U
3	L5	1446	C
3	L5	1447	C
3	L5	1482	G
3	L5	1483	C
3	L5	1494	U
3	L5	1497	A
3	L5	1498	G
3	L5	1502	G
3	L5	1517	G
3	L5	1518	A
3	L5	1525	A
3	L5	1534	A

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Mol	Chain	Res	Type
3	L5	1547	A
3	L5	1562	G
3	L5	1564	A
3	L5	1566	C
3	L5	1578	U
3	L5	1591	U
3	L5	1596	U
3	L5	1614	C
3	L5	1624	G
3	L5	1625	G
3	L5	1631	A
3	L5	1633	G
3	L5	1634	A
3	L5	1640	C
3	L5	1641	G
3	L5	1654	G
3	L5	1661	C
3	L5	1663	C
3	L5	1676	C
3	L5	1677	U
3	L5	1678	C
3	L5	1681	G
3	L5	1699	A
3	L5	1700	G
3	L5	1703	C
3	L5	1704	C
3	L5	1705	G
3	L5	1707	C
3	L5	1715	C
3	L5	1718	C
3	L5	1731	C
3	L5	1741	G
3	L5	1742	A
3	L5	1750	G
3	L5	1757	U
3	L5	1758	G
3	L5	1760	G
3	L5	1761	G
3	L5	1762	C
3	L5	1763	C
3	L5	1764	G
3	L5	1765	A

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Mol	Chain	Res	Type
3	L5	1766	A
3	L5	1767	A
3	L5	1768	C
3	L5	1770	A
3	L5	1775	A
3	L5	1787	A
3	L5	1804	A
3	L5	1806	G
3	L5	1810	G
3	L5	1815	G
3	L5	1820	C
3	L5	1821	G
3	L5	1822	U
3	L5	1833	G
3	L5	1836	G
3	L5	1837	A
3	L5	1842	G
3	L5	1843	A
3	L5	1855	G
3	L5	1866	U
3	L5	1869	G
3	L5	1881	C
3	L5	1882	U
3	L5	1893	C
3	L5	1897	A
3	L5	1918	U
3	L5	1919	G
3	L5	1920	C
3	L5	1921	C
3	L5	1922	G
3	L5	1925	G
3	L5	1931	C
3	L5	1932	A
3	L5	1936	C
3	L5	1940	G
3	L5	1948	G
3	L5	1949	U
3	L5	1959	U
3	L5	1961	G
3	L5	1962	A
3	L5	1974	U
3	L5	1975	G

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Mol	Chain	Res	Type
3	L5	1978	C
3	L5	1980	U
3	L5	1981	G
3	L5	1982	G
3	L5	1984	A
3	L5	1985	G
3	L5	1989	G
3	L5	1991	A
3	L5	1992	U
3	L5	1993	C
3	L5	1997	U
3	L5	1998	A
3	L5	1999	A
3	L5	2001	G
3	L5	2002	A
3	L5	2011	C
3	L5	2017	A
3	L5	2018	C
3	L5	2024	G
3	L5	2026	A
3	L5	2033	A
3	L5	2034	G
3	L5	2046	G
3	L5	2048	U
3	L5	2055	G
3	L5	2056	G
3	L5	2068	C
3	L5	2069	A
3	L5	2084	C
3	L5	2092	G
3	L5	2093	A
3	L5	2094	G
3	L5	2095	A
3	L5	2096	G
3	L5	2097	U
3	L5	2098	G
3	L5	2101	C
3	L5	2104	G
3	L5	2105	A
3	L5	2107	C
3	L5	2108	G
3	L5	2111	G

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Mol	Chain	Res	Type
3	L5	2112	G
3	L5	2252	G
3	L5	2253	A
3	L5	2256	C
3	L5	2258	C
3	L5	2260	C
3	L5	2261	G
3	L5	2289	C
3	L5	2300	A
3	L5	2301	G
3	L5	2313	A
3	L5	2331	G
3	L5	2332	A
3	L5	2333	G
3	L5	2348	G
3	L5	2351	C
3	L5	2360	A
3	L5	2364	G
3	L5	2389	A
3	L5	2395	A
3	L5	2397	G
3	L5	2398	U
3	L5	2402	G
3	L5	2411	C
3	L5	2417	A
3	L5	2421	G
3	L5	2425	U
3	L5	2441	C
3	L5	2450	G
3	L5	2464	C
3	L5	2465	C
3	L5	2474	G
3	L5	2475	G
3	L5	2478	C
3	L5	2479	G
3	L5	2483	G
3	L5	2484	A
3	L5	2485	U
3	L5	2487	G
3	L5	2488	C
3	L5	2489	C
3	L5	2490	U

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Mol	Chain	Res	Type
3	L5	2494	U
3	L5	2503	G
3	L5	2504	C
3	L5	2505	C
3	L5	2506	G
3	L5	2511	A
3	L5	2513	A
3	L5	2519	U
3	L5	2520	C
3	L5	2529	A
3	L5	2537	A
3	L5	2544	G
3	L5	2546	G
3	L5	2547	G
3	L5	2554	U
3	L5	2555	G
3	L5	2557	G
3	L5	2559	G
3	L5	2560	C
3	L5	2565	A
3	L5	2573	A
3	L5	2583	C
3	L5	2587	A
3	L5	2588	C
3	L5	2589	C
3	L5	2600	A
3	L5	2627	C
3	L5	2643	G
3	L5	2652	G
3	L5	2653	C
3	L5	2662	G
3	L5	2664	G
3	L5	2669	C
3	L5	2673	G
3	L5	2676	A
3	L5	2687	U
3	L5	2694	G
3	L5	2695	A
3	L5	2696	A
3	L5	2703	G
3	L5	2707	U
3	L5	2708	U

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Mol	Chain	Res	Type
3	L5	2710	C
3	L5	2711	G
3	L5	2721	G
3	L5	2724	G
3	L5	2726	G
3	L5	2739	C
3	L5	2742	G
3	L5	2743	A
3	L5	2761	U
3	L5	2762	G
3	L5	2763	U
3	L5	2764	A
3	L5	2769	U
3	L5	2770	C
3	L5	2787	A
3	L5	2788	U
3	L5	2790	U
3	L5	2826	U
3	L5	2827	G
3	L5	2833	A
3	L5	2848	G
3	L5	2855	G
3	L5	2877	G
3	L5	2892	C
3	L5	2900	U
3	L5	2902	G
3	L5	2903	G
3	L5	2904	U
3	L5	2905	C
3	L5	2906	G
3	L5	2908	U
3	L5	3588	C
3	L5	3590	G
3	L5	3591	C
3	L5	3592	G
3	L5	3594	C
3	L5	3595	U
3	L5	3596	A
3	L5	3597	G
3	L5	3599	A
3	L5	3605	C
3	L5	3615	G

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Mol	Chain	Res	Type
3	L5	3616	U
3	L5	3618	C
3	L5	3626	G
3	L5	3630	A
3	L5	3635	A
3	L5	3644	U
3	L5	3646	A
3	L5	3648	A
3	L5	3662	A
3	L5	3664	G
3	L5	3670	C
3	L5	3673	C
3	L5	3674	G
3	L5	3698	G
3	L5	3710	G
3	L5	3711	A
3	L5	3713	U
3	L5	3714	G
3	L5	3727	A
3	L5	3748	A
3	L5	3750	G
3	L5	3756	A
3	L5	3759	A
3	L5	3760	A
3	L5	3773	U
3	L5	3774	A
3	L5	3776	G
3	L5	3777	G
3	L5	3778	U
3	L5	3783	A
3	L5	3784	A
3	L5	3786	U
3	L5	3802	U
3	L5	3811	G
3	L5	3812	C
3	L5	3814	U
3	L5	3817	A
3	L5	3818	U
3	L5	3819	G
3	L5	3823	G
3	L5	3838	U
3	L5	3840	U

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Mol	Chain	Res	Type
3	L5	3841	C
3	L5	3867	A
3	L5	3877	A
3	L5	3878	C
3	L5	3879	G
3	L5	3885	G
3	L5	3887	C
3	L5	3890	A
3	L5	3892	U
3	L5	3897	G
3	L5	3901	A
3	L5	3906	A
3	L5	3907	G
3	L5	3908	A
3	L5	3915	U
3	L5	3922	G
3	L5	3923	A
3	L5	3938	G
3	L5	3939	G
3	L5	3943	A
3	L5	3944	G
3	L5	3947	A
3	L5	3948	C
3	L5	3949	A
3	L5	3950	U
3	L5	3953	G
3	L5	3955	G
3	L5	3956	G
3	L5	3957	U
3	L5	3958	G
3	L5	3959	U
3	L5	3960	A
3	L5	3962	A
3	L5	3963	A
3	L5	3964	U
3	L5	3965	A
3	L5	3966	A
3	L5	3967	G
3	L5	3968	U
3	L5	3969	G
3	L5	3970	G
3	L5	3972	A

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Mol	Chain	Res	Type
3	L5	3973	G
3	L5	3974	G
3	L5	3975	C
3	L5	3977	C
3	L5	4034	G
3	L5	4038	C
3	L5	4039	G
3	L5	4040	C
3	L5	4041	C
3	L5	4042	G
3	L5	4043	G
3	L5	4044	U
3	L5	4046	A
3	L5	4047	A
3	L5	4048	A
3	L5	4049	U
3	L5	4050	A
3	L5	4051	C
3	L5	4052	C
3	L5	4053	A
3	L5	4054	C
3	L5	4055	U
3	L5	4056	A
3	L5	4057	C
3	L5	4058	U
3	L5	4059	C
3	L5	4060	U
3	L5	4061	G
3	L5	4062	A
3	L5	4063	U
3	L5	4064	C
3	L5	4065	G
3	L5	4067	U
3	L5	4068	U
3	L5	4069	U
3	L5	4076	G
3	L5	4084	G
3	L5	4092	G
3	L5	4093	G
3	L5	4096	C
3	L5	4097	G
3	L5	4099	G

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Mol	Chain	Res	Type
3	L5	4102	C
3	L5	4104	G
3	L5	4108	G
3	L5	4111	U
3	L5	4114	C
3	L5	4115	G
3	L5	4116	C
3	L5	4117	U
3	L5	4119	C
3	L5	4127	A
3	L5	4128	A
3	L5	4134	C
3	L5	4138	C
3	L5	4139	G
3	L5	4140	C
3	L5	4141	G
3	L5	4142	C
3	L5	4143	G
3	L5	4144	C
3	L5	4145	C
3	L5	4146	G
3	L5	4150	G
3	L5	4160	C
3	L5	4162	C
3	L5	4163	U
3	L5	4170	A
3	L5	4183	G
3	L5	4184	G
3	L5	4191	G
3	L5	4194	U
3	L5	4196	G
3	L5	4197	G
3	L5	4201	G
3	L5	4203	A
3	L5	4212	A
3	L5	4222	G
3	L5	4225	G
3	L5	4229	U
3	L5	4233	A
3	L5	4234	A
3	L5	4243	C
3	L5	4251	A

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Mol	Chain	Res	Type
3	L5	4254	G
3	L5	4255	A
3	L5	4256	A
3	L5	4257	A
3	L5	4265	U
3	L5	4268	A
3	L5	4273	A
3	L5	4281	A
3	L5	4291	G
3	L5	4295	U
3	L5	4297	G
3	L5	4304	A
3	L5	4305	G
3	L5	4314	C
3	L5	4319	C
3	L5	4330	G
3	L5	4332	C
3	L5	4349	C
3	L5	4354	U
3	L5	4373	G
3	L5	4377	G
3	L5	4378	A
3	L5	4380	A
3	L5	4387	C
3	L5	4391	G
3	L5	4394	A
3	L5	4399	U
3	L5	4421	C
3	L5	4422	A
3	L5	4433	G
3	L5	4438	U
3	L5	4448	G
3	L5	4449	A
3	L5	4450	U
3	L5	4453	C
3	L5	4464	A
3	L5	4466	C
3	L5	4475	G
3	L5	4488	A
3	L5	4500	U
3	L5	4512	U
3	L5	4513	A

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Mol	Chain	Res	Type
3	L5	4519	C
3	L5	4524	G
3	L5	4545	G
3	L5	4548	A
3	L5	4549	G
3	L5	4560	C
3	L5	4567	G
3	L5	4570	G
3	L5	4573	G
3	L5	4575	G
3	L5	4584	A
3	L5	4589	A
3	L5	4590	A
3	L5	4600	G
3	L5	4601	U
3	L5	4617	G
3	L5	4635	A
3	L5	4636	U
3	L5	4637	G
3	L5	4648	A
3	L5	4652	G
3	L5	4656	A
3	L5	4670	C
3	L5	4672	A
3	L5	4682	U
3	L5	4687	A
3	L5	4694	G
3	L5	4695	C
3	L5	4700	A
3	L5	4707	A
3	L5	4708	A
3	L5	4709	U
3	L5	4719	G
3	L5	4734	A
3	L5	4741	C
3	L5	4742	G
3	L5	4745	G
3	L5	4754	G
3	L5	4757	C
3	L5	4759	C
3	L5	4761	G
3	L5	4765	G

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Mol	Chain	Res	Type
3	L5	4771	C
3	L5	4772	C
3	L5	4775	C
3	L5	4860	G
3	L5	4870	G
3	L5	4871	C
3	L5	4875	G
3	L5	4877	G
3	L5	4880	C
3	L5	4881	U
3	L5	4882	U
3	L5	4883	C
3	L5	4888	U
3	L5	4889	G
3	L5	4895	C
3	L5	4896	G
3	L5	4897	G
3	L5	4900	C
3	L5	4901	G
3	L5	4902	C
3	L5	4910	G
3	L5	4912	G
3	L5	4914	C
3	L5	4922	C
3	L5	4923	C
3	L5	4924	C
3	L5	4925	U
3	L5	4926	C
3	L5	4927	G
3	L5	4928	C
3	L5	4934	A
3	L5	4937	C
3	L5	4940	C
3	L5	4941	G
3	L5	4943	A
3	L5	4944	C
3	L5	4951	G
3	L5	4955	A
3	L5	4960	G
3	L5	4964	C
3	L5	4976	U
3	L5	4985	U

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Mol	Chain	Res	Type
3	L5	4988	U
3	L5	4989	U
3	L5	4991	U
3	L5	4995	U
3	L5	5013	C
3	L5	5017	G
3	L5	5021	C
3	L5	5024	C
3	L5	5026	U
3	L5	5027	C
3	L5	5028	G
3	L5	5030	U
3	L5	5034	A
3	L5	5041	G
3	L5	5047	C
3	L5	5050	C
3	L5	5054	C
3	L5	5055	G
3	L5	5061	A
3	L5	5062	G
3	L5	5069	U
4	L7	5	A
4	L7	7	G
4	L7	11	A
4	L7	22	A
4	L7	33	U
4	L7	38	U
4	L7	53	U
4	L7	54	A
4	L7	63	C
4	L7	64	G
4	L7	97	G
4	L7	100	A
4	L7	110	G
5	L8	34	U
5	L8	35	C
5	L8	39	G
5	L8	48	A
5	L8	59	A
5	L8	62	A
5	L8	63	U
5	L8	69	U

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Mol	Chain	Res	Type
5	L8	80	A
5	L8	82	A
5	L8	83	C
5	L8	84	A
5	L8	85	U
5	L8	87	G
5	L8	94	G
5	L8	103	A
5	L8	105	C
5	L8	110	U
5	L8	111	U
5	L8	112	G
5	L8	114	G
5	L8	124	U
5	L8	125	C
5	L8	126	C
5	L8	127	U
5	L8	147	G
5	L8	153	C
51	S2	2	A
51	S2	4	C
51	S2	13	C
51	S2	24	C
51	S2	25	A
51	S2	33	G
51	S2	37	C
51	S2	41	G
51	S2	42	A
51	S2	45	A
51	S2	46	A
51	S2	56	G
51	S2	58	C
51	S2	62	G
51	S2	64	A
51	S2	66	G
51	S2	67	C
51	S2	68	A
51	S2	72	C
51	S2	73	C
51	S2	74	G
51	S2	76	U
51	S2	77	A

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Mol	Chain	Res	Type
51	S2	80	G
51	S2	92	A
51	S2	103	A
51	S2	113	G
51	S2	114	G
51	S2	115	U
51	S2	116	U
51	S2	119	U
51	S2	126	G
51	S2	128	U
51	S2	129	C
51	S2	130	G
51	S2	139	C
51	S2	143	U
51	S2	147	A
51	S2	149	A
51	S2	151	C
51	S2	158	A
51	S2	160	U
51	S2	162	C
51	S2	163	U
51	S2	168	C
51	S2	170	A
51	S2	171	A
51	S2	173	A
51	S2	180	G
51	S2	182	C
51	S2	190	G
51	S2	196	C
51	S2	197	U
51	S2	198	U
51	S2	199	C
51	S2	200	G
51	S2	202	G
51	S2	203	G
51	S2	204	G
51	S2	206	G
51	S2	207	G
51	S2	208	G
51	S2	211	G
51	S2	213	G
51	S2	214	U

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Mol	Chain	Res	Type
51	S2	215	G
51	S2	220	U
51	S2	290	U
51	S2	291	G
51	S2	292	A
51	S2	294	U
51	S2	295	C
51	S2	298	G
51	S2	299	A
51	S2	301	A
51	S2	302	A
51	S2	303	C
51	S2	305	U
51	S2	306	C
51	S2	307	G
51	S2	308	G
51	S2	309	G
51	S2	310	C
51	S2	311	C
51	S2	312	G
51	S2	318	A
51	S2	319	C
51	S2	322	C
51	S2	323	C
51	S2	324	C
51	S2	325	C
51	S2	326	C
51	S2	327	G
51	S2	328	U
51	S2	332	G
51	S2	338	G
51	S2	339	A
51	S2	340	C
51	S2	347	G
51	S2	360	A
51	S2	361	U
51	S2	362	C
51	S2	364	A
51	S2	368	U
51	S2	369	C
51	S2	370	G
51	S2	375	U

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Mol	Chain	Res	Type
51	S2	383	G
51	S2	385	G
51	S2	386	C
51	S2	392	A
51	S2	407	G
51	S2	408	A
51	S2	409	C
51	S2	421	G
51	S2	426	A
51	S2	437	G
51	S2	442	C
51	S2	448	A
51	S2	449	A
51	S2	450	C
51	S2	452	G
51	S2	464	A
51	S2	465	A
51	S2	466	G
51	S2	471	G
51	S2	472	C
51	S2	473	A
51	S2	474	G
51	S2	476	A
51	S2	478	G
51	S2	482	G
51	S2	483	C
51	S2	487	U
51	S2	488	U
51	S2	491	C
51	S2	492	C
51	S2	493	A
51	S2	496	C
51	S2	501	C
51	S2	502	C
51	S2	504	G
51	S2	516	A
51	S2	517	C
51	S2	531	A
51	S2	532	C
51	S2	534	G
51	S2	537	C
51	S2	538	U

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Mol	Chain	Res	Type
51	S2	540	U
51	S2	542	U
51	S2	543	C
51	S2	545	A
51	S2	546	G
51	S2	547	G
51	S2	549	C
51	S2	552	G
51	S2	554	A
51	S2	557	U
51	S2	558	G
51	S2	559	G
51	S2	562	U
51	S2	563	G
51	S2	564	A
51	S2	567	C
51	S2	574	A
51	S2	576	A
51	S2	582	U
51	S2	583	A
51	S2	587	A
51	S2	588	G
51	S2	589	G
51	S2	590	A
51	S2	591	U
51	S2	594	A
51	S2	603	C
51	S2	613	G
51	S2	614	C
51	S2	617	G
51	S2	623	G
51	S2	628	A
51	S2	629	A
51	S2	631	U
51	S2	638	C
51	S2	643	A
51	S2	644	G
51	S2	655	A
51	S2	660	C
51	S2	664	A
51	S2	668	A
51	S2	669	A

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Mol	Chain	Res	Type
51	S2	671	A
51	S2	672	A
51	S2	673	G
51	S2	684	G
51	S2	688	U
51	S2	689	U
51	S2	692	G
51	S2	693	A
51	S2	695	C
51	S2	696	G
51	S2	697	G
51	S2	698	G
51	S2	732	U
51	S2	734	C
51	S2	738	C
51	S2	749	U
51	S2	750	C
51	S2	751	G
51	S2	752	G
51	S2	753	C
51	S2	788	G
51	S2	789	G
51	S2	791	C
51	S2	792	C
51	S2	793	G
51	S2	797	C
51	S2	798	G
51	S2	799	U
51	S2	801	U
51	S2	809	A
51	S2	811	A
51	S2	819	G
51	S2	821	G
51	S2	822	U
51	S2	823	U
51	S2	824	C
51	S2	827	A
51	S2	830	A
51	S2	833	C
51	S2	834	C
51	S2	835	C
51	S2	836	G

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Mol	Chain	Res	Type
51	S2	837	A
51	S2	838	G
51	S2	839	C
51	S2	840	C
51	S2	842	C
51	S2	847	A
51	S2	862	A
51	S2	869	A
51	S2	870	A
51	S2	871	U
51	S2	872	A
51	S2	873	G
51	S2	874	G
51	S2	877	C
51	S2	878	G
51	S2	880	G
51	S2	882	U
51	S2	888	U
51	S2	889	U
51	S2	891	G
51	S2	893	U
51	S2	896	U
51	S2	897	U
51	S2	898	U
51	S2	899	U
51	S2	900	C
51	S2	901	G
51	S2	903	A
51	S2	913	A
51	S2	914	U
51	S2	917	U
51	S2	919	A
51	S2	920	A
51	S2	922	A
51	S2	933	G
51	S2	934	G
51	S2	949	G
51	S2	954	U
51	S2	955	A
51	S2	956	G
51	S2	958	G
51	S2	963	A

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Mol	Chain	Res	Type
51	S2	970	G
51	S2	971	G
51	S2	978	G
51	S2	984	C
51	S2	988	C
51	S2	990	A
51	S2	992	A
51	S2	999	G
51	S2	1001	A
51	S2	1008	A
51	S2	1017	U
51	S2	1023	A
51	S2	1027	A
51	S2	1045	U
51	S2	1061	U
51	S2	1062	A
51	S2	1082	A
51	S2	1083	A
51	S2	1085	C
51	S2	1088	U
51	S2	1100	A
51	S2	1109	C
51	S2	1113	A
51	S2	1114	U
51	S2	1116	C
51	S2	1119	A
51	S2	1121	G
51	S2	1126	G
51	S2	1131	G
51	S2	1133	A
51	S2	1138	C
51	S2	1148	A
51	S2	1153	C
51	S2	1154	U
51	S2	1166	G
51	S2	1183	A
51	S2	1195	A
51	S2	1207	G
51	S2	1208	A
51	S2	1215	C
51	S2	1216	C
51	S2	1217	A

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Mol	Chain	Res	Type
51	S2	1220	A
51	S2	1224	G
51	S2	1227	G
51	S2	1237	C
51	S2	1240	A
51	S2	1242	U
51	S2	1243	U
51	S2	1251	A
51	S2	1253	A
51	S2	1256	G
51	S2	1257	G
51	S2	1259	A
51	S2	1263	U
51	S2	1264	C
51	S2	1274	G
51	S2	1275	G
51	S2	1282	A
51	S2	1283	C
51	S2	1284	A
51	S2	1285	G
51	S2	1286	G
51	S2	1290	G
51	S2	1292	C
51	S2	1294	G
51	S2	1295	A
51	S2	1301	A
51	S2	1302	G
51	S2	1303	C
51	S2	1306	U
51	S2	1308	U
51	S2	1315	U
51	S2	1320	G
51	S2	1342	U
51	S2	1364	U
51	S2	1371	U
51	S2	1372	U
51	S2	1376	A
51	S2	1378	A
51	S2	1401	A
51	S2	1402	A
51	S2	1406	G
51	S2	1408	U

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Mol	Chain	Res	Type
51	S2	1412	C
51	S2	1414	A
51	S2	1415	C
51	S2	1417	C
51	S2	1419	C
51	S2	1420	G
51	S2	1421	A
51	S2	1422	G
51	S2	1423	C
51	S2	1424	G
51	S2	1425	G
51	S2	1426	U
51	S2	1428	G
51	S2	1433	C
51	S2	1435	C
51	S2	1436	C
51	S2	1438	A
51	S2	1442	U
51	S2	1449	G
51	S2	1454	A
51	S2	1463	U
51	S2	1466	G
51	S2	1474	A
51	S2	1478	U
51	S2	1480	A
51	S2	1486	A
51	S2	1488	C
51	S2	1489	A
51	S2	1490	G
51	S2	1494	U
51	S2	1495	G
51	S2	1497	G
51	S2	1498	A
51	S2	1507	G
51	S2	1508	A
51	S2	1509	U
51	S2	1521	C
51	S2	1522	A
51	S2	1533	A
51	S2	1535	U
51	S2	1536	G
51	S2	1537	A

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Mol	Chain	Res	Type
51	S2	1544	C
51	S2	1546	G
51	S2	1552	G
51	S2	1553	C
51	S2	1555	U
51	S2	1556	A
51	S2	1558	C
51	S2	1560	U
51	S2	1570	G
51	S2	1573	G
51	S2	1574	C
51	S2	1579	A
51	S2	1580	A
51	S2	1584	G
51	S2	1585	U
51	S2	1586	U
51	S2	1587	G
51	S2	1588	A
51	S2	1592	C
51	S2	1598	G
51	S2	1601	A
51	S2	1603	G
51	S2	1604	G
51	S2	1606	G
51	S2	1621	U
51	S2	1623	A
51	S2	1629	C
51	S2	1630	A
51	S2	1633	A
51	S2	1634	A
51	S2	1637	A
51	S2	1638	G
51	S2	1639	G
51	S2	1646	C
51	S2	1648	G
51	S2	1649	U
51	S2	1654	G
51	S2	1663	A
51	S2	1664	A
51	S2	1665	G
51	S2	1668	U
51	S2	1672	U

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Mol	Chain	Res	Type
51	S2	1678	A
51	S2	1680	G
51	S2	1683	C
51	S2	1696	C
51	S2	1699	A
51	S2	1715	A
51	S2	1722	G
51	S2	1729	U
51	S2	1742	C
51	S2	1743	G
51	S2	1745	A
51	S2	1752	C
51	S2	1753	C
51	S2	1754	G
51	S2	1755	C
51	S2	1757	G
51	S2	1758	G
51	S2	1759	G
51	S2	1761	U
51	S2	1772	C
51	S2	1773	C
51	S2	1774	C
51	S2	1777	G
51	S2	1781	A
51	S2	1782	G
51	S2	1783	C
51	S2	1785	C
51	S2	1787	G
51	S2	1798	C
51	S2	1809	A
51	S2	1810	U
51	S2	1812	U
51	S2	1813	A
51	S2	1822	A
51	S2	1823	A
51	S2	1825	A
51	S2	1826	G
51	S2	1835	A
51	S2	1838	U
51	S2	1849	G
51	S2	1851	A
51	S2	1852	C

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Mol	Chain	Res	Type
51	S2	1861	G
51	S2	1862	G
51	S2	1863	A
51	S2	1864	U
51	S2	1865	C

All (29) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
3	L5	183	C
3	L5	265	C
3	L5	406	C
3	L5	493	G
3	L5	914	U
3	L5	1082	C
3	L5	1633	G
3	L5	1977	C
3	L5	2033	A
3	L5	2103	G
3	L5	2416	G
3	L5	2675	G
3	L5	2760	G
3	L5	2786	C
3	L5	3614	G
3	L5	3673	C
3	L5	3948	C
3	L5	4061	G
3	L5	4600	G
3	L5	4699	U
3	L5	4913	G
4	L7	109	U
51	S2	291	G
51	S2	420	G
51	S2	531	A
51	S2	563	G
51	S2	688	U
51	S2	1434	C
51	S2	1781	A

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 263 ligands modelled in this entry, 261 are monoatomic - leaving 2 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$
87	WV3	L5	5314	3	21,21,21	1.78	7 (33%)	23,30,30	2.13	10 (43%)
86	HMT	L5	5313	3	41,43,43	2.24	12 (29%)	43,66,66	1.77	9 (20%)

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
87	WV3	L5	5314	3	-	3/8/36/36	0/2/2/2
86	HMT	L5	5313	3	-	7/27/74/74	0/5/5/5

All (19) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
86	L5	5313	HMT	O4-C19	6.74	1.47	1.34
86	L5	5313	HMT	C1-C2	5.26	1.40	1.32
86	L5	5313	HMT	C12-C9	-4.51	1.47	1.54
87	L5	5314	WV3	C5-C4	4.13	1.56	1.51
86	L5	5313	HMT	O4-C3	-3.94	1.37	1.44
86	L5	5313	HMT	C10-N1	3.86	1.52	1.47
86	L5	5313	HMT	C21-C20	-3.84	1.49	1.54
87	L5	5314	WV3	C3-C4	2.99	1.56	1.51
86	L5	5313	HMT	C9-C1	-2.73	1.48	1.51
86	L5	5313	HMT	C26-C27	2.65	1.61	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
87	L5	5314	WV3	C11-N	2.53	1.41	1.37
86	L5	5313	HMT	O3-C2	2.48	1.40	1.35
87	L5	5314	WV3	C8-C9	-2.44	1.49	1.53
87	L5	5314	WV3	O2-C12	-2.42	1.18	1.23
87	L5	5314	WV3	O1-C11	-2.39	1.18	1.23
87	L5	5314	WV3	C12-N	2.36	1.41	1.37
86	L5	5313	HMT	O1-C14	2.27	1.41	1.38
86	L5	5313	HMT	O2-C15	2.22	1.41	1.38
86	L5	5313	HMT	C7-C6	2.08	1.55	1.51

All (19) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
86	L5	5313	HMT	O7-C22-C21	5.15	120.20	111.16
86	L5	5313	HMT	O4-C19-C20	4.66	119.79	111.24
87	L5	5314	WV3	C6-C5-C4	4.19	115.22	108.29
87	L5	5314	WV3	C2-C3-C4	4.05	117.72	109.66
87	L5	5314	WV3	C11-N-C12	-3.53	121.62	125.87
87	L5	5314	WV3	C13-C12-N	-3.43	111.76	115.92
86	L5	5313	HMT	O2-C15-C16	3.26	132.20	127.86
86	L5	5313	HMT	C25-C24-C20	-2.99	108.38	115.34
86	L5	5313	HMT	O1-C14-C13	2.97	131.81	127.86
87	L5	5314	WV3	C14-C3-C4	-2.60	109.57	112.48
87	L5	5314	WV3	C6-C1-C2	2.59	113.80	110.02
86	L5	5313	HMT	C17-O1-C14	2.46	108.61	105.32
87	L5	5314	WV3	O2-C12-N	2.30	123.85	120.30
87	L5	5314	WV3	C9-C8-C7	-2.23	111.19	116.64
87	L5	5314	WV3	C-C1-C6	-2.15	107.61	111.17
86	L5	5313	HMT	C17-O2-C15	2.12	108.15	105.32
86	L5	5313	HMT	C25-C26-C27	-2.11	109.08	116.07
86	L5	5313	HMT	C16-C15-C14	-2.05	119.46	122.03
87	L5	5314	WV3	C-C1-C2	-2.03	107.80	111.17

There are no chirality outliers.

All (10) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
86	L5	5313	HMT	C1-C2-O3-C18
86	L5	5313	HMT	C3-C2-O3-C18
86	L5	5313	HMT	C25-C26-C27-C28
86	L5	5313	HMT	C25-C26-C27-C29
86	L5	5313	HMT	C25-C26-C27-O9

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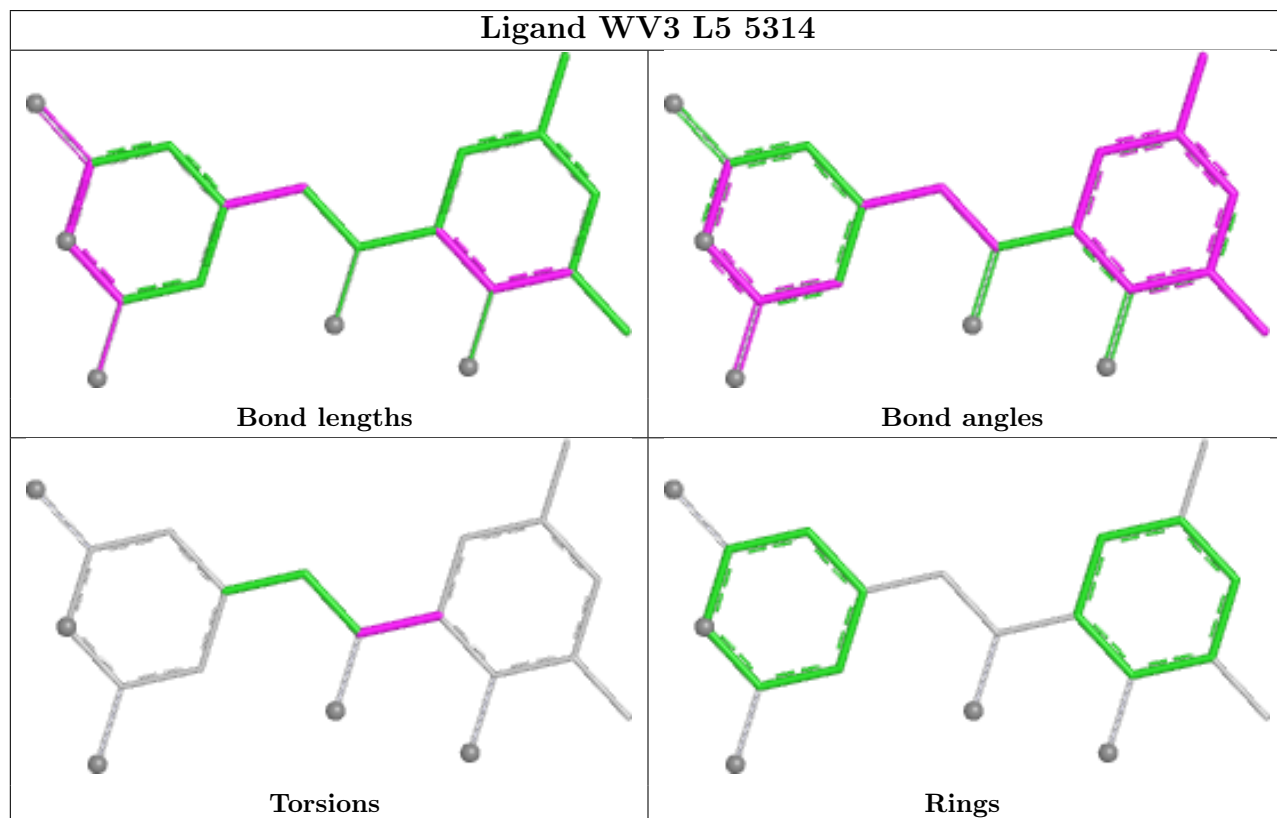
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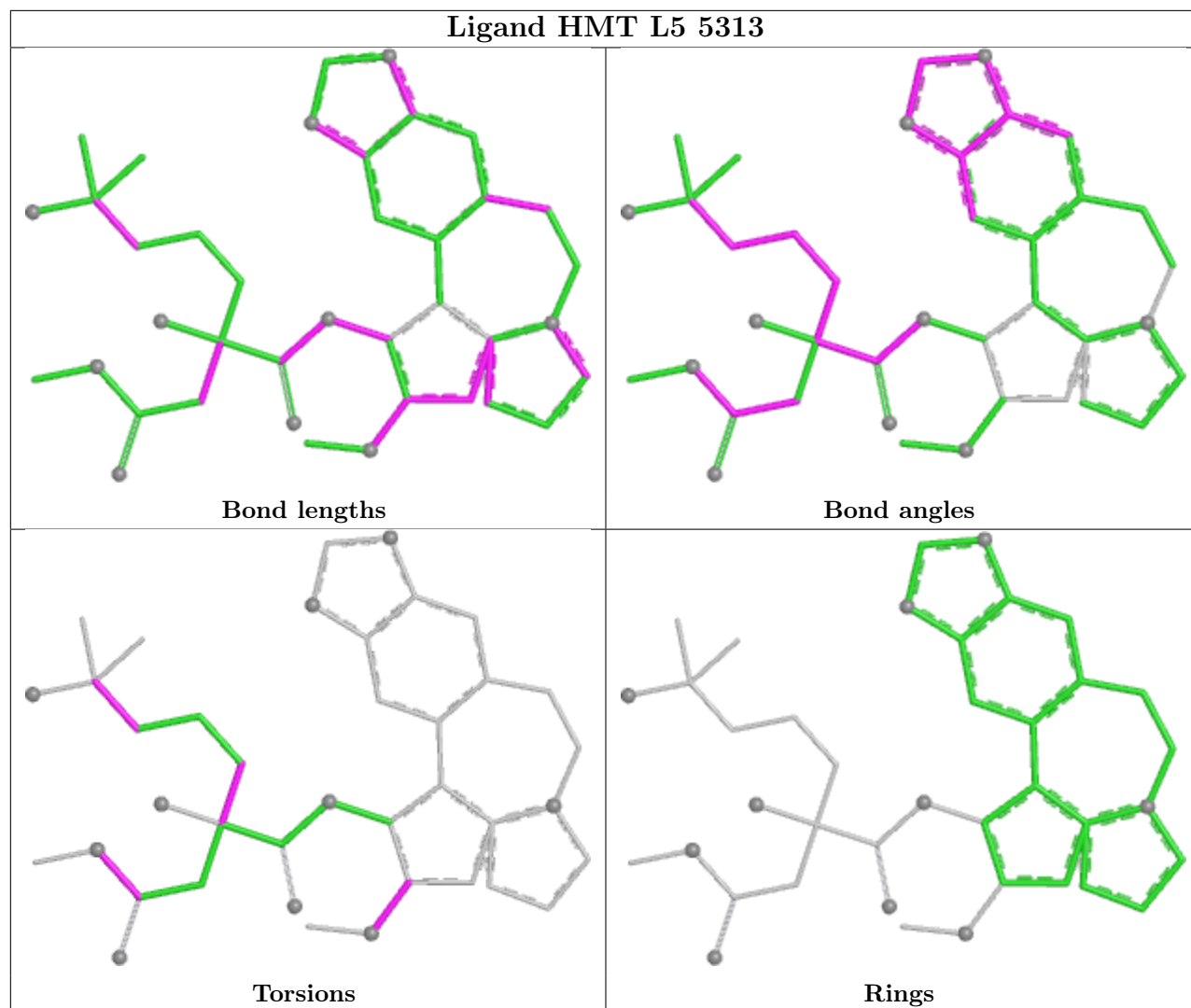
Mol	Chain	Res	Type	Atoms
87	L5	5314	WV3	C4-C5-C7-O3
87	L5	5314	WV3	C6-C5-C7-C8
87	L5	5314	WV3	C6-C5-C7-O3
86	L5	5313	HMT	C21-C20-C24-C25
86	L5	5313	HMT	C21-C22-O7-C23

There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.





5.7 Other polymers [\(i\)](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [\(i\)](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
3	L5	11
51	S2	5
2	CD	1
49	Lt	1
58	SG	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	CD	225:LEU	C	282:THR	N	57.52
1	S2	753:C	O3'	785:C	P	27.35
1	L5	2910:G	O3'	3584:C	P	20.24
1	S2	698:G	O3'	730:C	P	16.90
1	L5	760:G	O3'	903:C	P	16.83
1	L5	4776:G	O3'	4858:C	P	15.93
1	L5	519:C	O3'	642:G	P	14.60
1	L5	2112:G	O3'	2249:C	P	14.56
1	L5	996:G	O3'	1047:C	P	13.67
1	S2	739:C	O3'	746:C	P	13.52
1	L5	1222:A	O3'	1234:G	P	10.40
1	Lt	87:GLU	C	104:ILE	N	9.97
1	L5	1051:G	O3'	1064:G	P	8.47
1	S2	225:G	O3'	287:U	P	6.69
1	L5	1100:U	O3'	1167:C	P	6.21
1	L5	1709:C	O3'	1714:C	P	6.15
1	L5	3985:C	O3'	4018:G	P	3.76
1	S2	1210:G	O3'	1211:G	P	3.29
1	SG	160:LYS	C	161:PRO	N	1.88

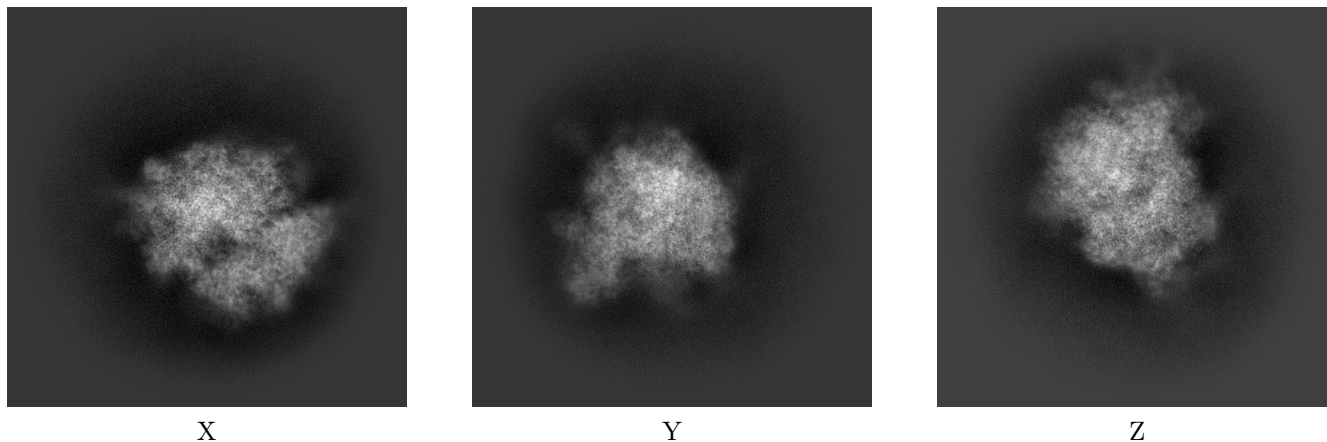
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-42351. These allow visual inspection of the internal detail of the map and identification of artifacts.

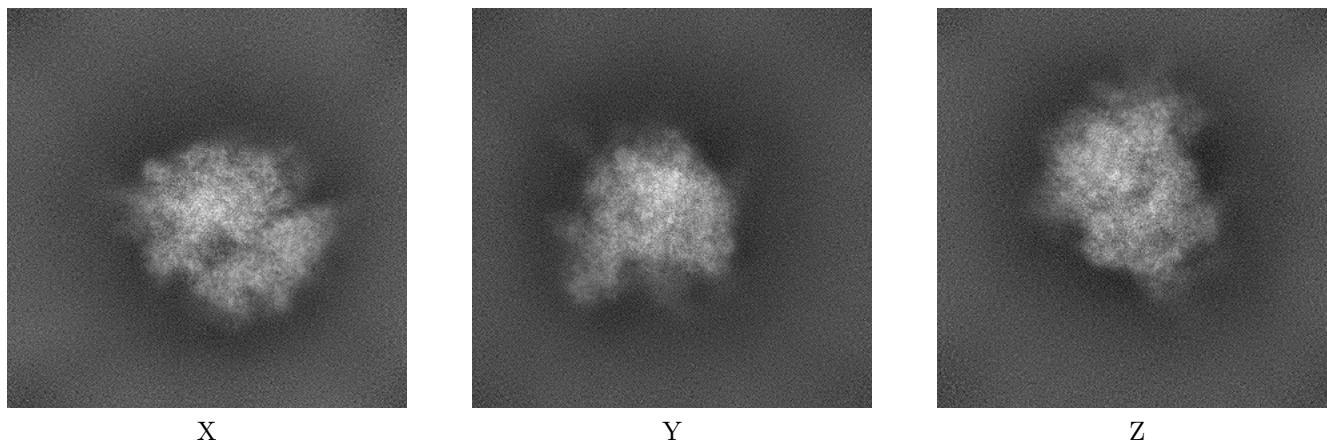
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

6.1.1 Primary map



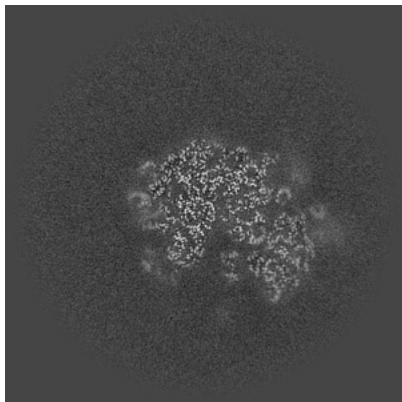
6.1.2 Raw map



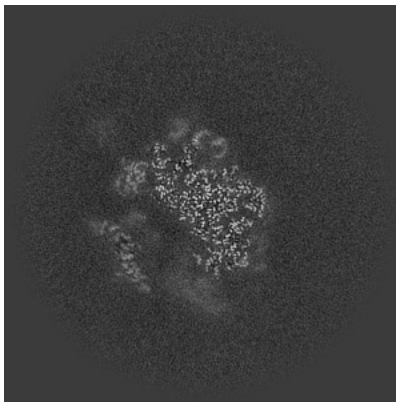
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

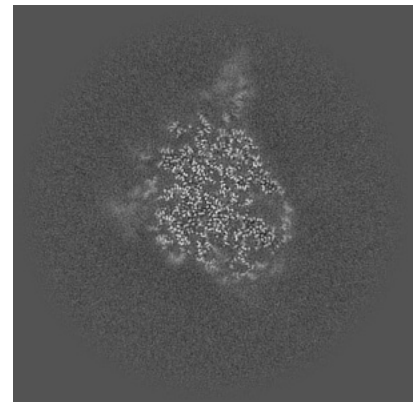
6.2.1 Primary map



X Index: 256

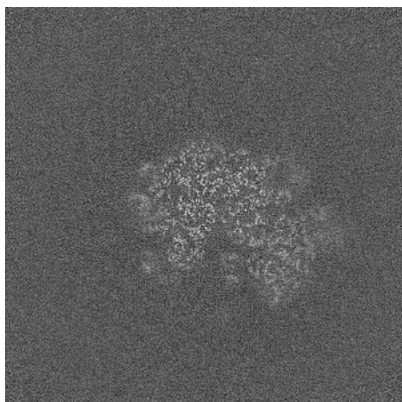


Y Index: 256

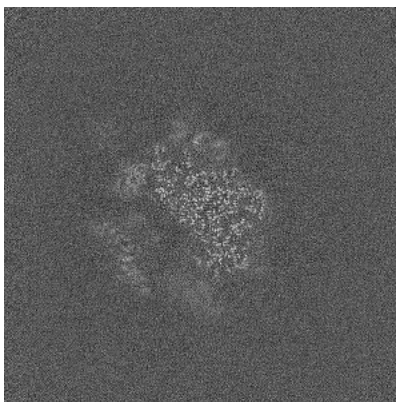


Z Index: 256

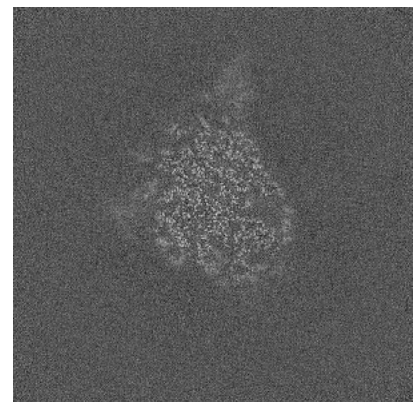
6.2.2 Raw map



X Index: 256



Y Index: 256

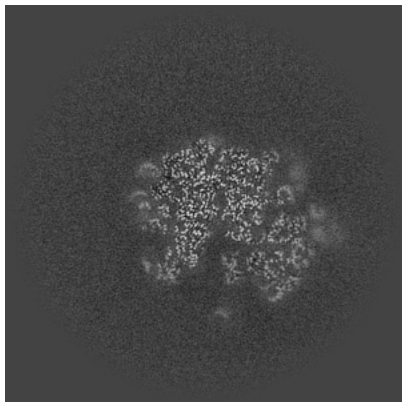


Z Index: 256

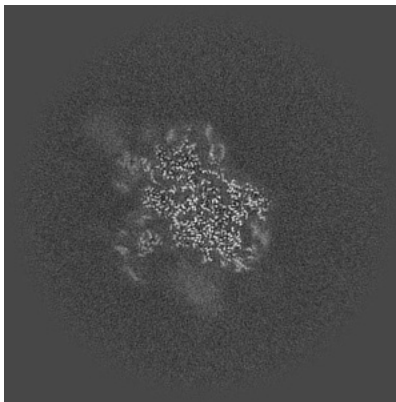
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

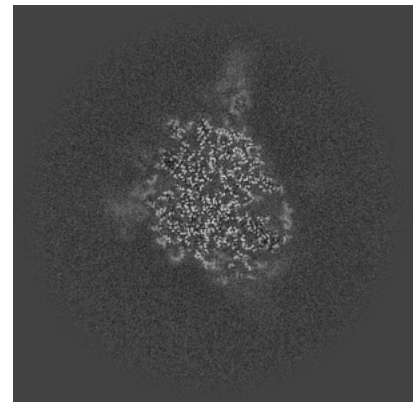
6.3.1 Primary map



X Index: 253

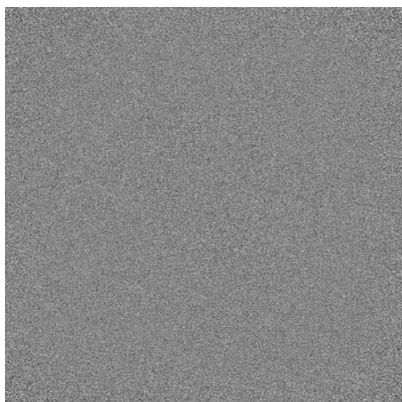


Y Index: 243

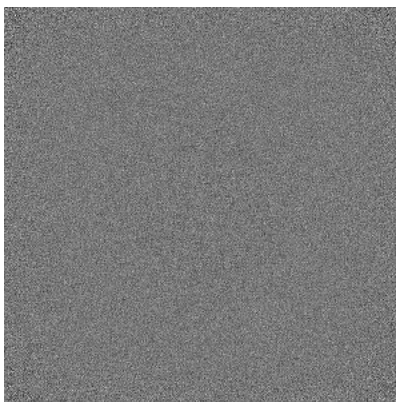


Z Index: 258

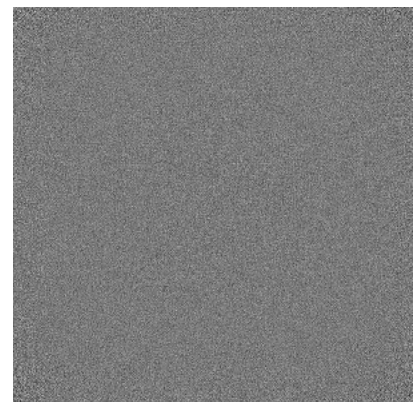
6.3.2 Raw map



X Index: 0



Y Index: 0

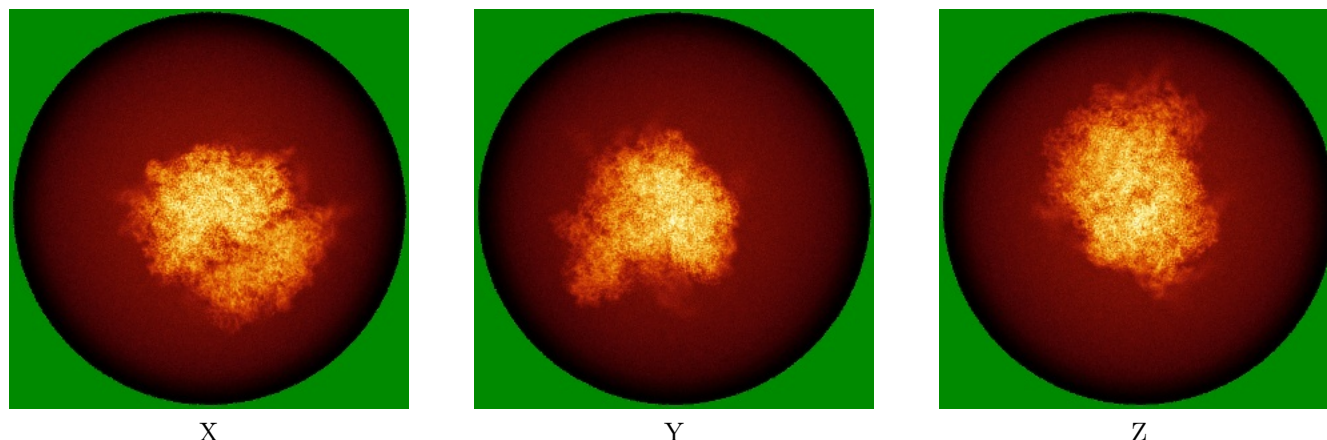


Z Index: 0

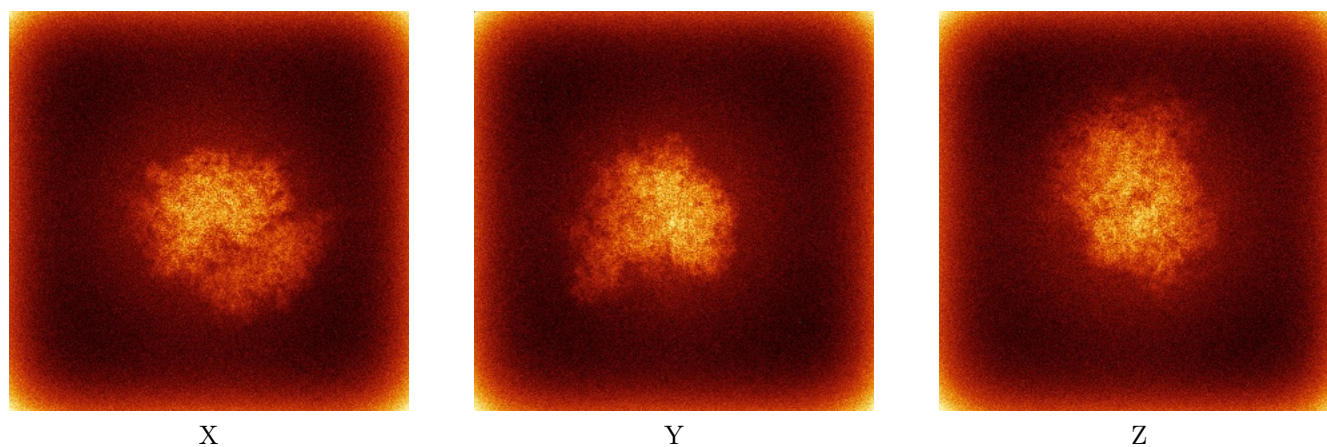
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map



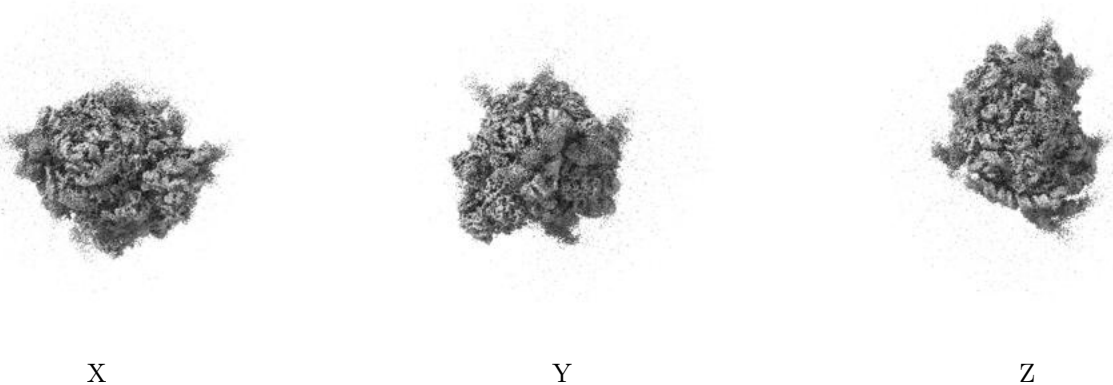
6.4.2 Raw map



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.

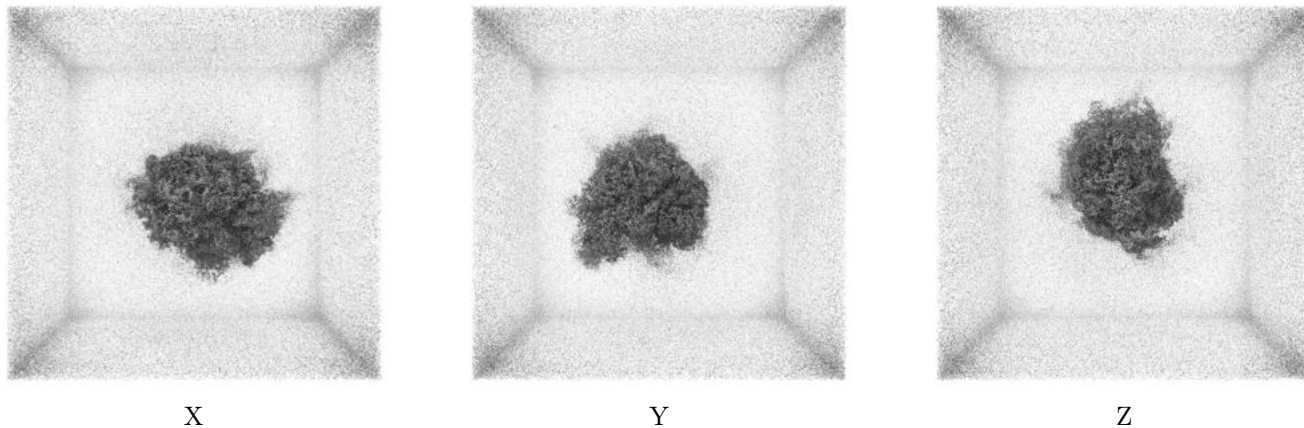
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.134. 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.

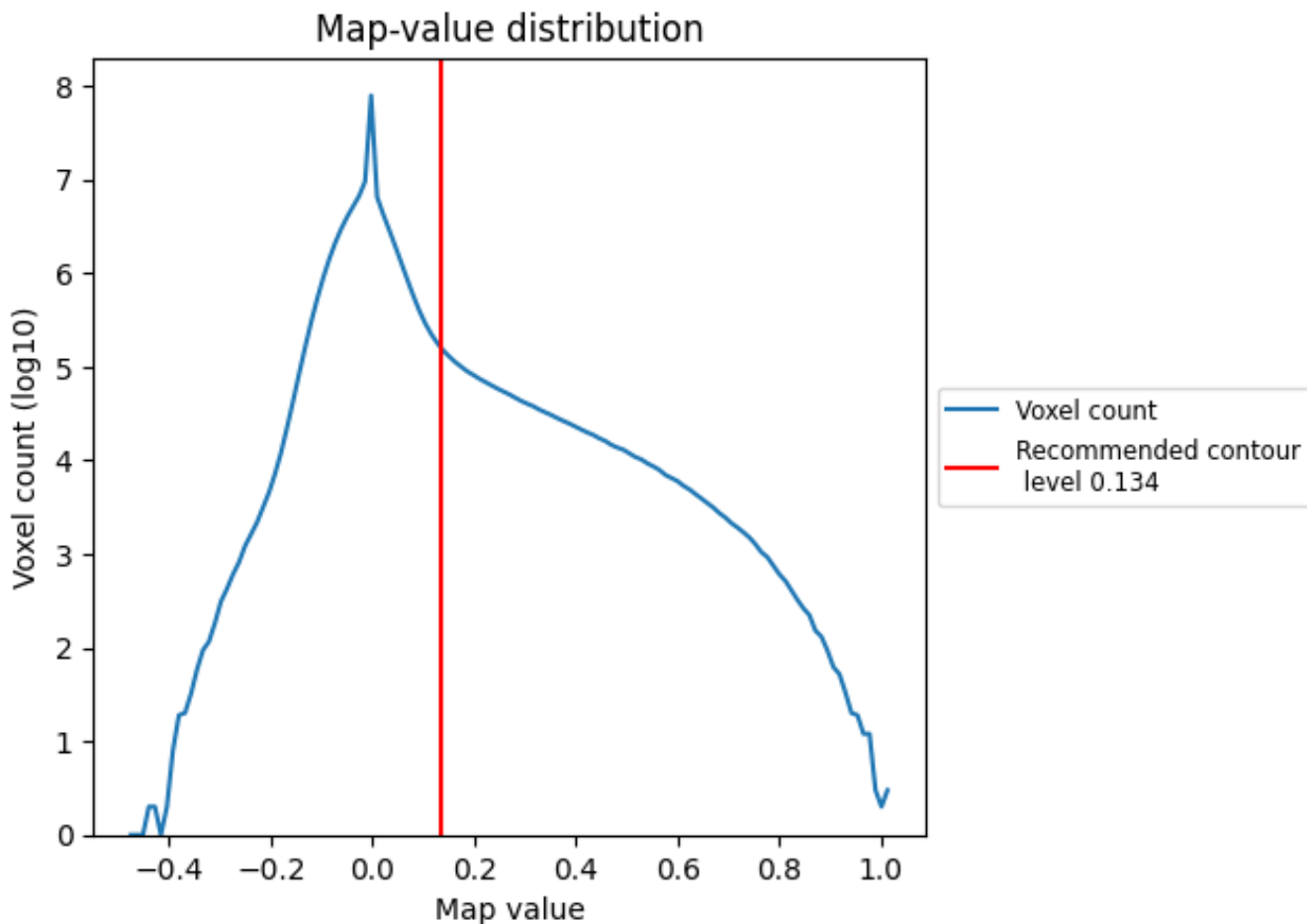
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

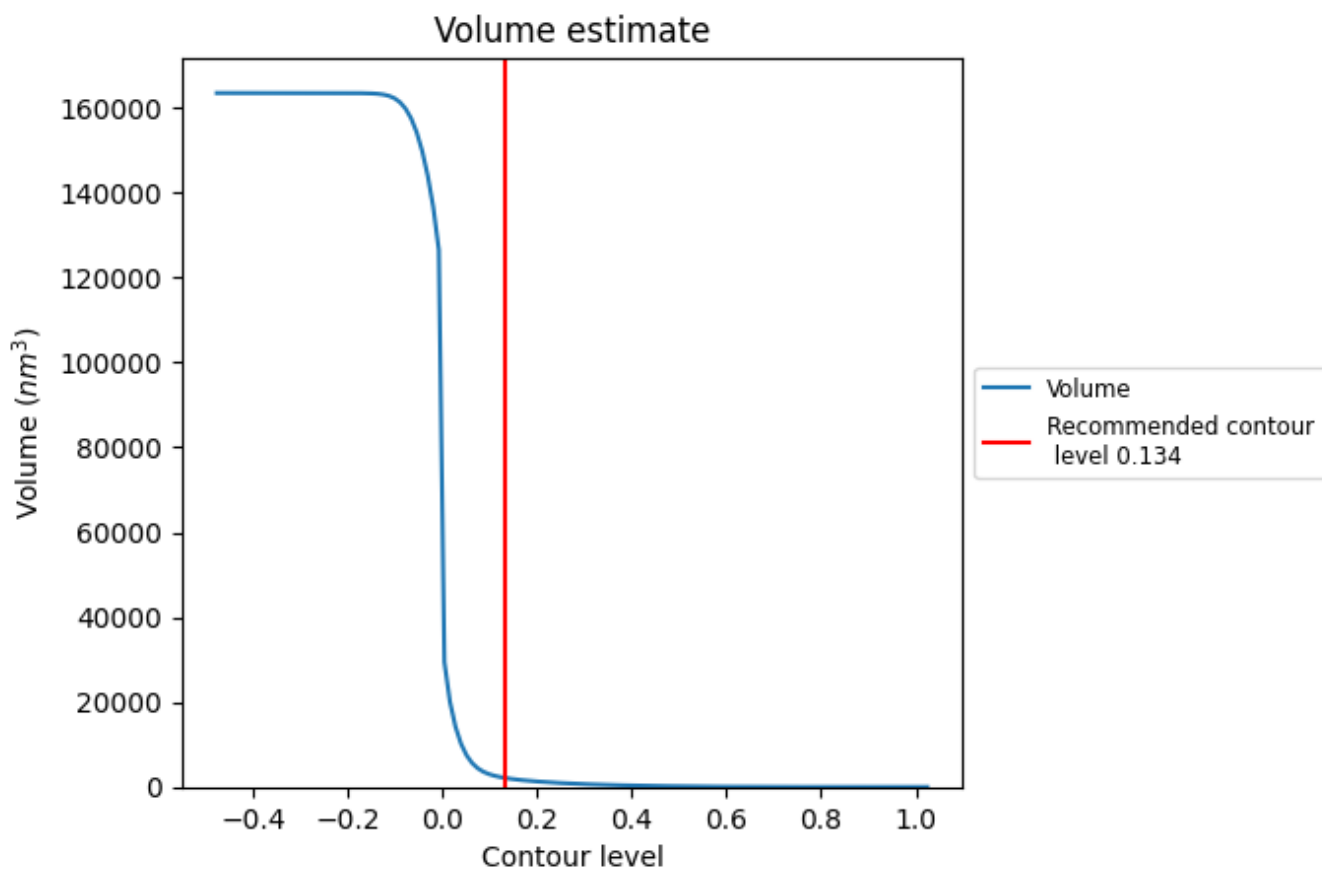
This section contains the results of statistical analysis of the map.

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.

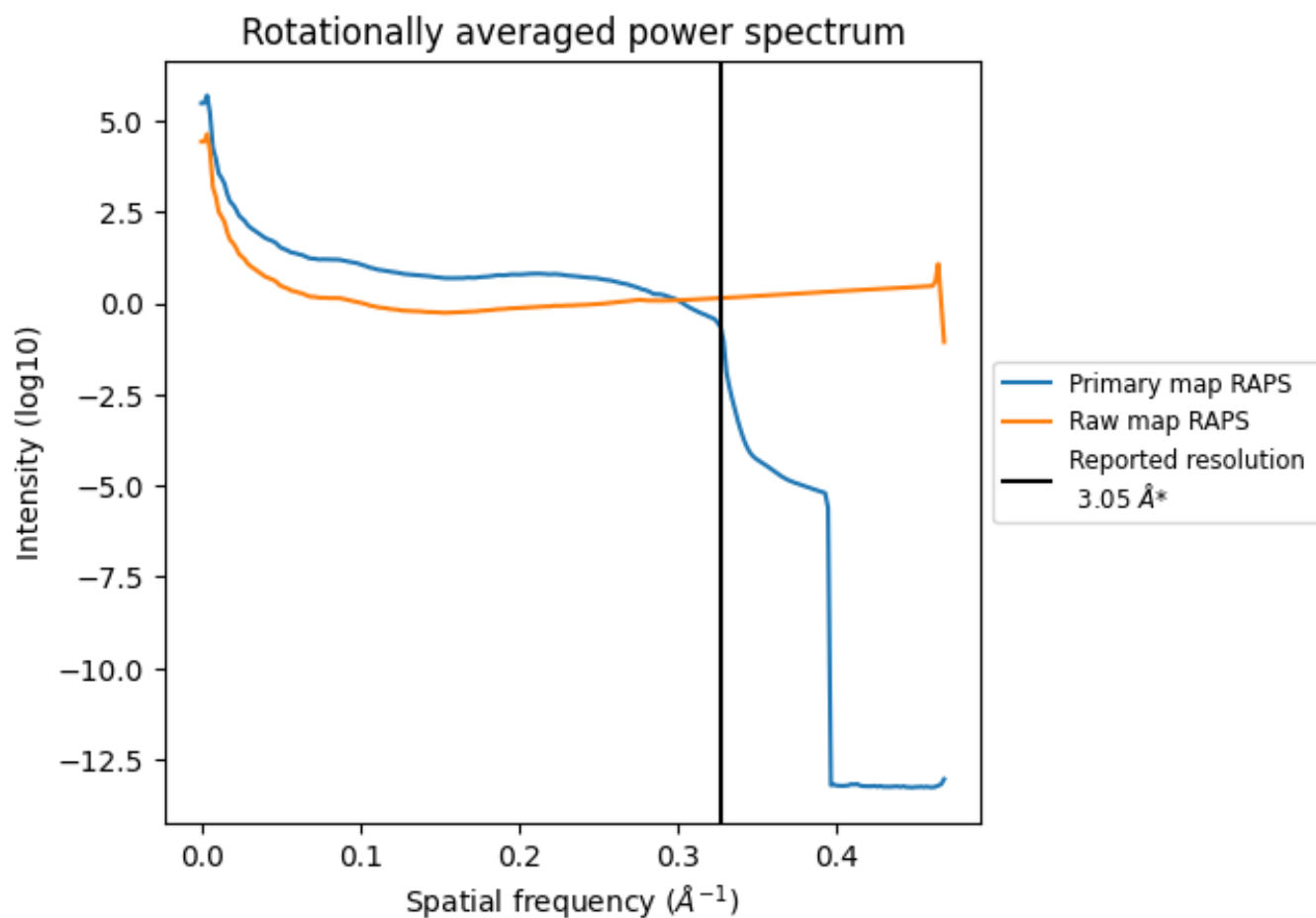
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 2106 nm^3 ; this corresponds to an approximate mass of 1903 kDa.

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

7.3 Rotationally averaged power spectrum [i](#)

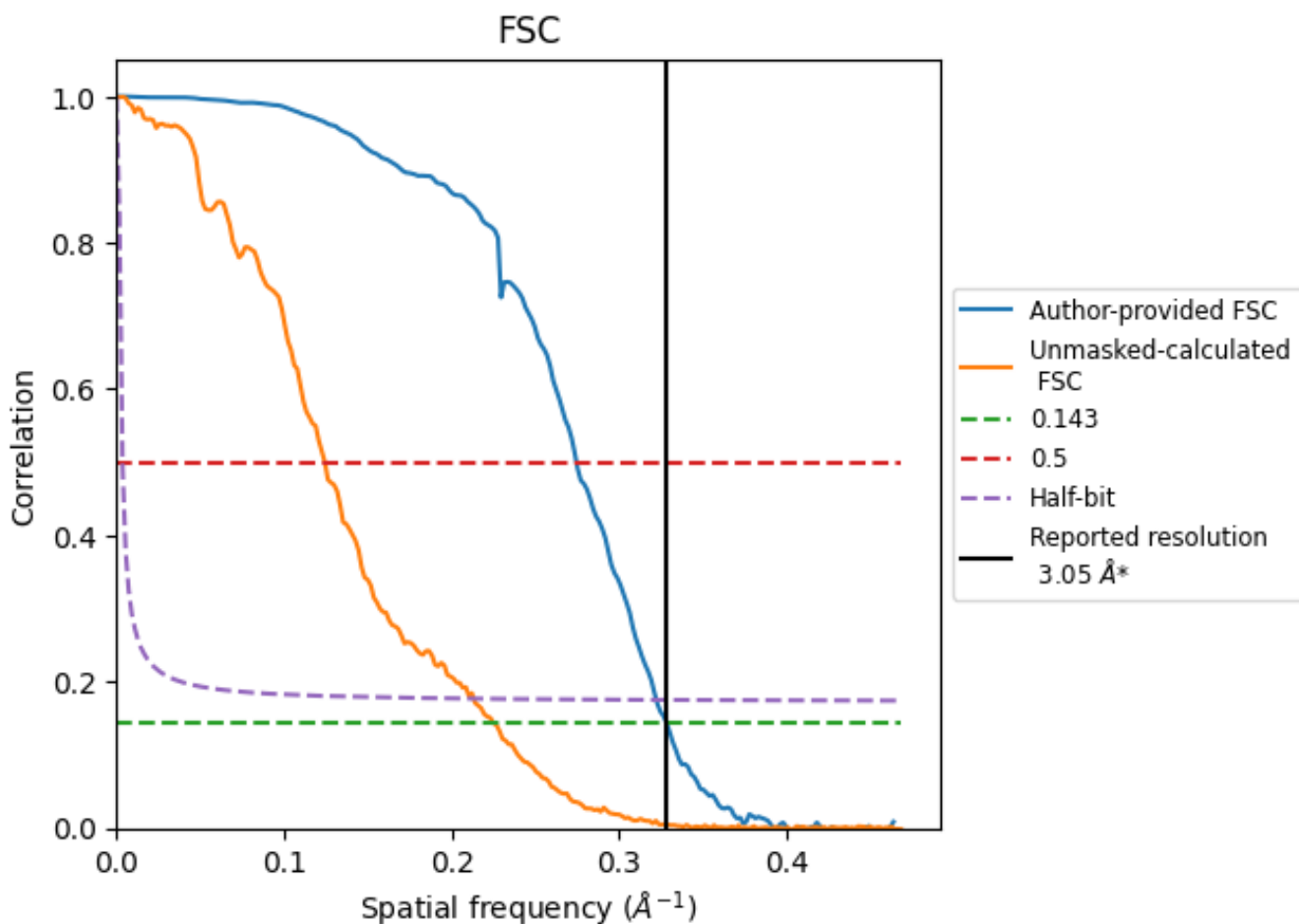


*Reported resolution corresponds to spatial frequency of 0.328 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.328 Å⁻¹

8.2 Resolution estimates [i](#)

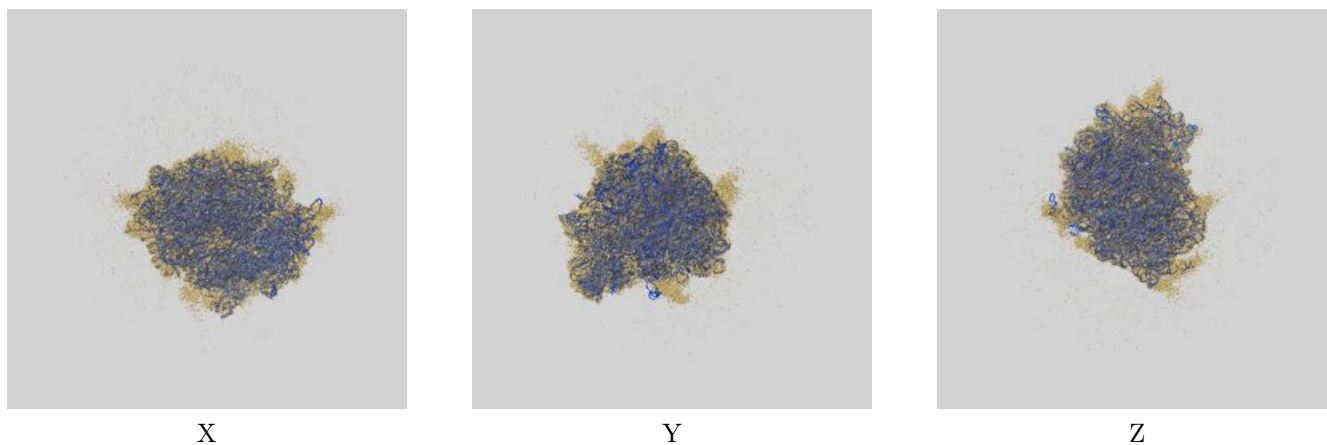
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.05	-	-
Author-provided FSC curve	3.05	3.64	3.10
Unmasked-calculated*	4.44	8.05	4.69

*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 4.44 differs from the reported value 3.05 by more than 10 %

9 Map-model fit [i](#)

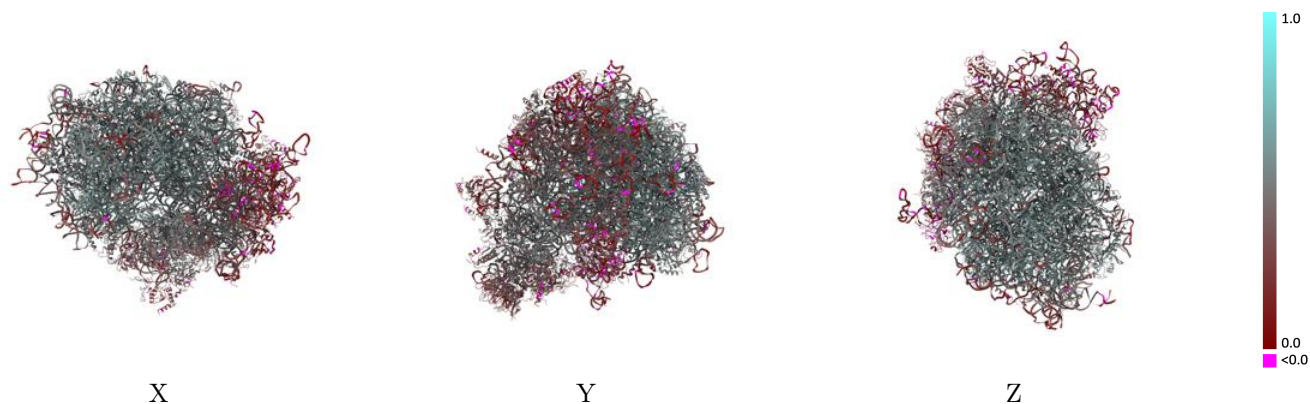
This section contains information regarding the fit between EMDB map EMD-42351 and PDB model 8UKB. Per-residue inclusion information can be found in section [3](#) on page [22](#).

9.1 Map-model overlay [i](#)



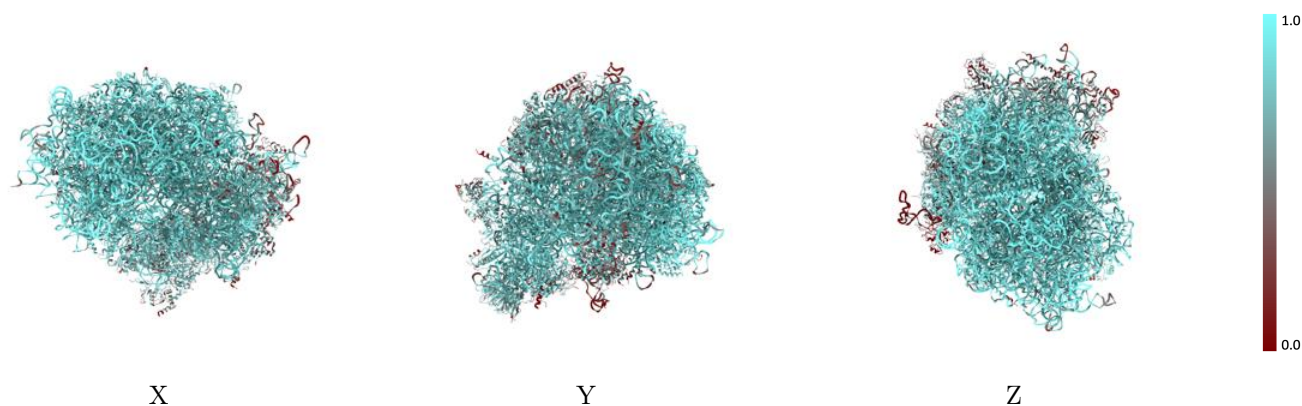
The images above show the 3D surface view of the map at the recommended contour level 0.134 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



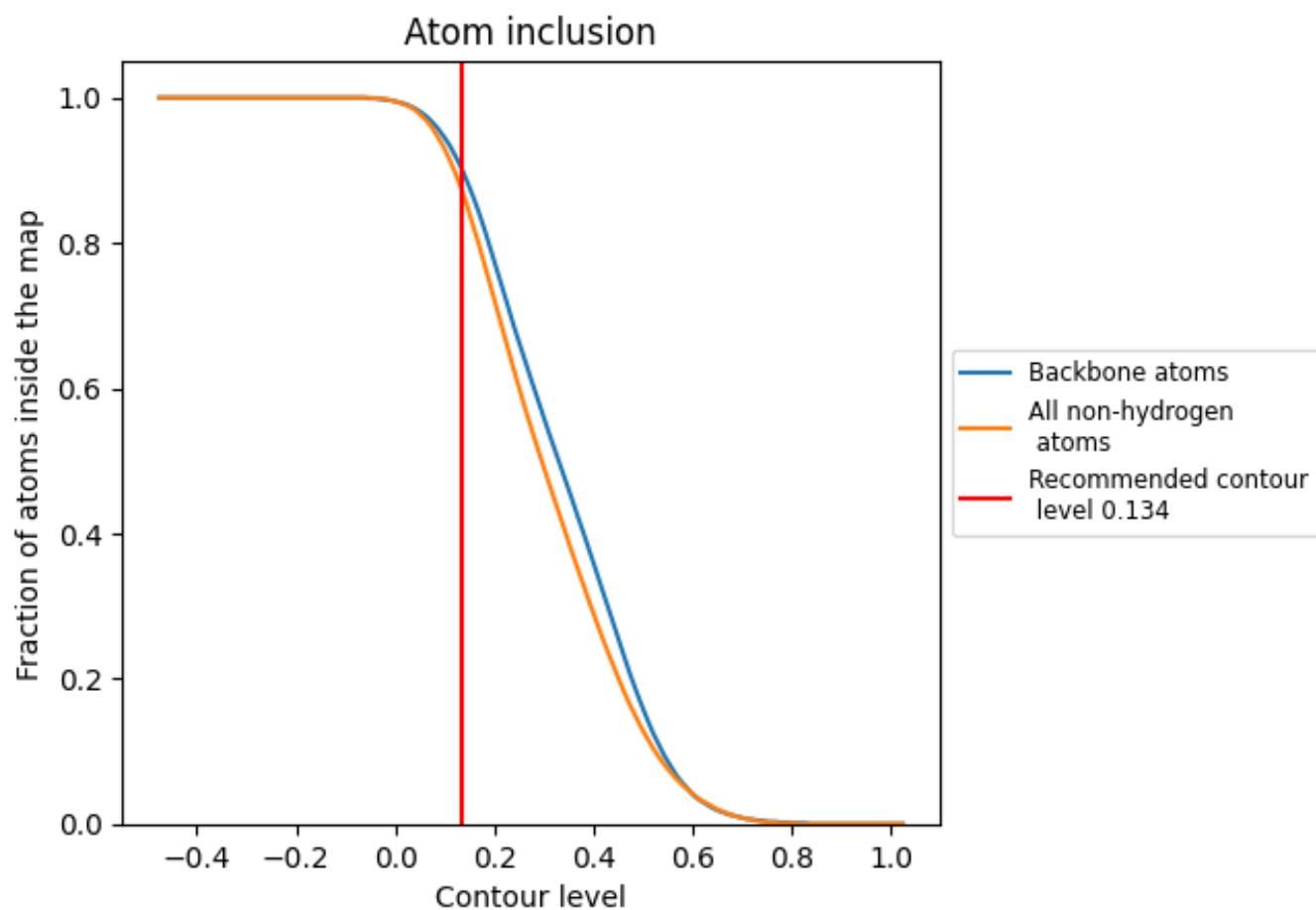
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.134).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 90% of all backbone atoms, 87% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary





















































































The table lists the average atom inclusion at the recommended contour level (0.134) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8740	 0.4440
CB	 0.7680	 0.4310
CD	 0.8250	 0.4340
L5	 0.9340	 0.4700
L7	 0.9880	 0.5150
L8	 0.9640	 0.4960
LA	 0.9490	 0.5570
LB	 0.9130	 0.5410
LC	 0.9200	 0.5410
LD	 0.8900	 0.5060
LE	 0.8660	 0.4940
LF	 0.9320	 0.5440
LG	 0.8560	 0.4880
LH	 0.9110	 0.5280
LI	 0.9100	 0.5400
LJ	 0.8260	 0.4620
LL	 0.8890	 0.5140
LM	 0.9350	 0.5300
LN	 0.9690	 0.5690
LO	 0.9390	 0.5470
LP	 0.9440	 0.5560
LQ	 0.9480	 0.5610
LR	 0.8810	 0.5060
LS	 0.9550	 0.5620
LT	 0.9180	 0.5330
LU	 0.8650	 0.4620
LV	 0.9210	 0.5510
LW	 0.6700	 0.3570
LX	 0.9090	 0.5270
LY	 0.9190	 0.5350
LZ	 0.9260	 0.5240
La	 0.9560	 0.5620
Lb	 0.8480	 0.4780
Lc	 0.8880	 0.4960
Ld	 0.9040	 0.5240



















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Chain	Atom inclusion	Q-score
Le	 0.9560	 0.5600
Lf	 0.9470	 0.5600
Lg	 0.9330	 0.5450
Lh	 0.9220	 0.5380
Li	 0.9220	 0.5180
Lj	 0.9670	 0.5580
Lk	 0.8550	 0.4800
Ll	 0.9620	 0.5580
Lm	 0.9250	 0.5480
Ln	 0.9380	 0.5460
Lo	 0.9080	 0.5320
Lp	 0.9320	 0.5410
Lr	 0.9290	 0.5450
Ls	 0.7400	 0.3930
Lt	 0.4870	 0.2210
Lz	 0.0810	 0.1110
S2	 0.9030	 0.3840
SA	 0.7510	 0.3810
SB	 0.5890	 0.2450
SC	 0.8710	 0.4860
SD	 0.7960	 0.4290
SE	 0.6830	 0.2840
SF	 0.7580	 0.3660
SG	 0.5730	 0.2010
SH	 0.5380	 0.2180
SI	 0.7190	 0.3420
SJ	 0.7870	 0.4000
SK	 0.8160	 0.4080
SL	 0.7520	 0.4020
SM	 0.5130	 0.2420
SN	 0.7950	 0.3970
SO	 0.6020	 0.2480
SP	 0.8100	 0.4190
SQ	 0.7870	 0.3870
SR	 0.6800	 0.3350
SS	 0.7340	 0.3700
ST	 0.7880	 0.3760
SU	 0.7590	 0.3770
SV	 0.8260	 0.4270
SW	 0.8970	 0.4860
SX	 0.8710	 0.5050
SY	 0.6310	 0.2400

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Chain	Atom inclusion	Q-score
SZ	 0.6480	 0.3060
Sa	 0.8300	 0.4230
Sb	 0.6230	 0.2550
Sc	 0.6870	 0.3710
Sd	 0.8960	 0.4620
Se	 0.7480	 0.4350
Sf	 0.6400	 0.2430
Sg	 0.6790	 0.3080