wwPDB EM Validation Summary Report (i)

Apr 21, 2025 – 04:53 PM EDT

PDB ID	:	8UJB / pdb_00008ujb
EMDB ID	:	EMD-42317
Title	:	In situ human 80S ribosome with EBP1 (consensus map)
Authors	:	Wei, Z.; Yong, X.
Deposited on	:	2023-10-11
Resolution	:	2.67 Å(reported)

This is a wwPDB EM Validation Summary 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 (i) 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 (i)) were used in the production of this report:

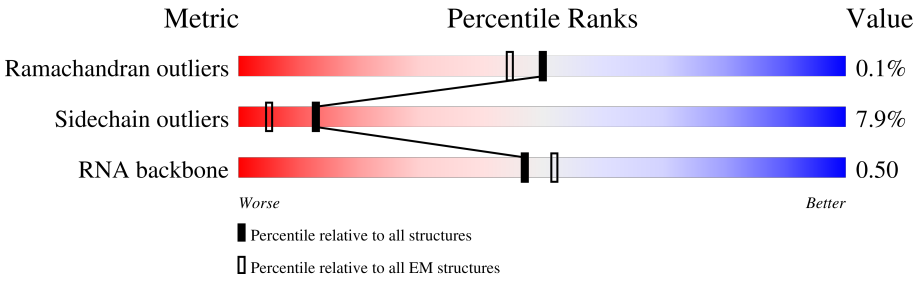
EMDB validation analysis	:	0.0.1.dev117
MolProbity	:	4.02b-467
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.42

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.67 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 <=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	S2	1740	12% 76% 23%
2	LW	124	65% 88% 7% 5%
3	SE	262	23% 94% 6%
4	SI	206	28% 93% 7%
5	SL	153	24% 92% 8%
6	SX	141	6% 91% 9%
7	SG	237	45% 94% 6%
8	SJ	185	19% 92% 8%

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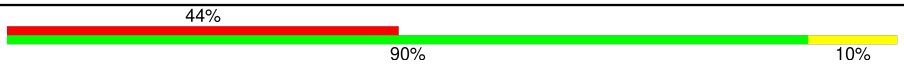
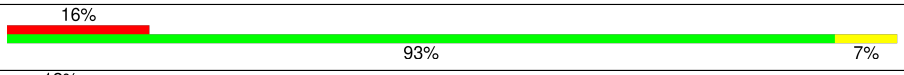
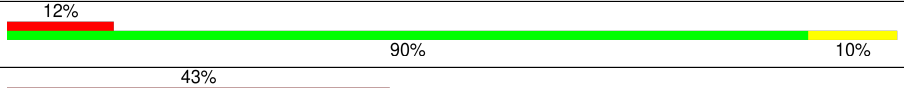
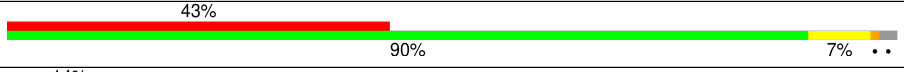
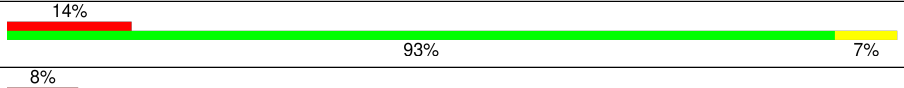
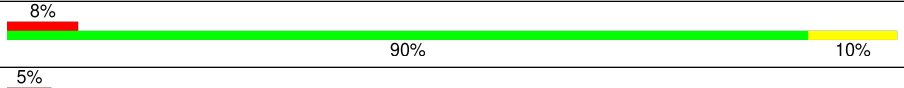
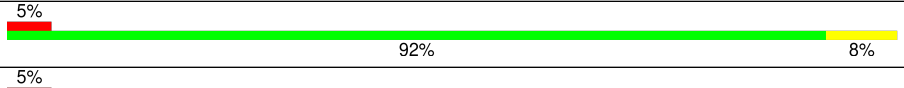
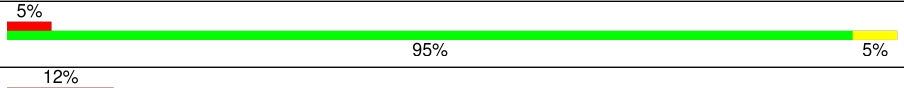
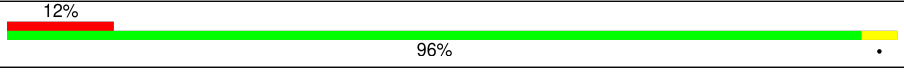
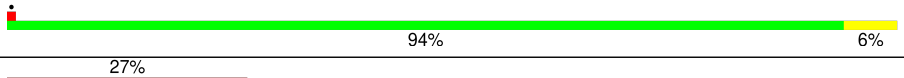
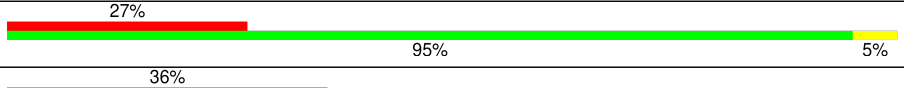
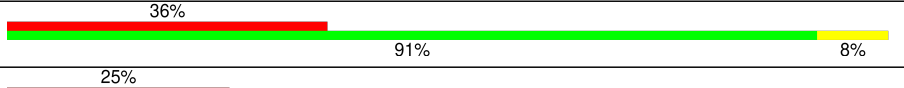
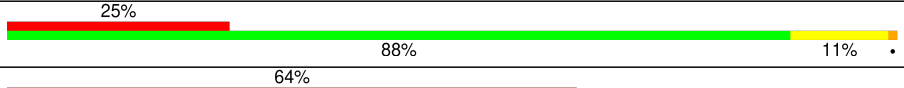
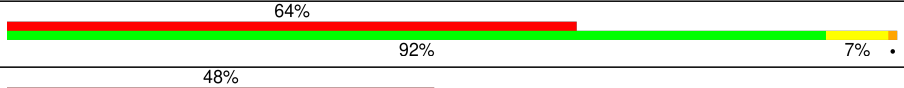
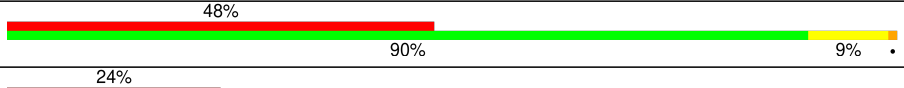
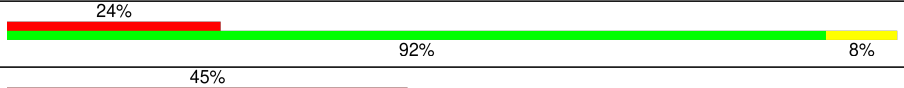
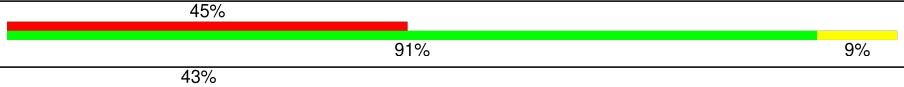
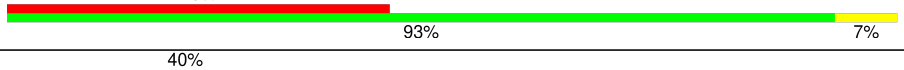
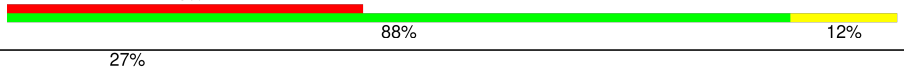
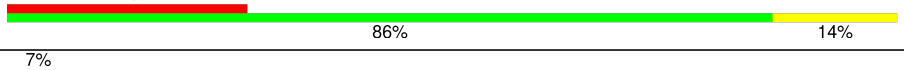
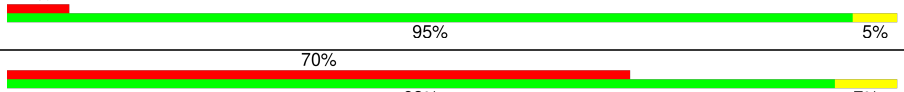
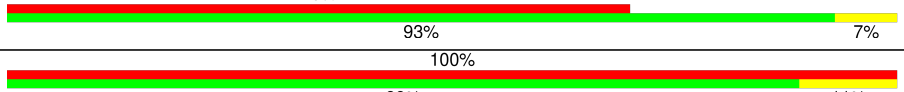
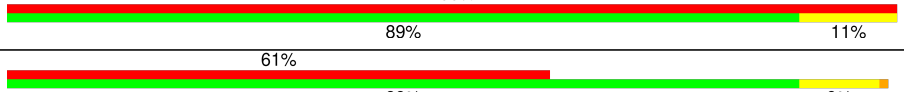
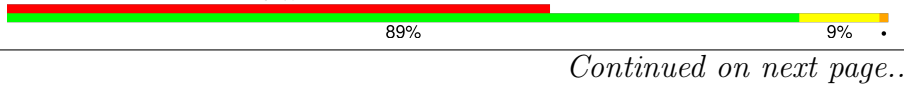
Mol	Chain	Length	Quality of chain
9	SY	131	
10	Se	58	
11	SA	221	
12	SB	214	
13	SH	189	
14	SV	83	
15	Sa	102	
16	SC	222	
17	SN	150	
18	SO	140	
19	SW	129	
20	Sb	83	
21	SD	227	
22	SF	189	
23	SK	98	
24	SP	121	
25	SQ	144	
26	SS	145	
27	ST	143	
28	SU	104	
29	Sc	64	
30	Sd	55	
31	Sg	313	
32	SM	122	
33	SZ	75	

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Mol	Chain	Length	Quality of chain
34	Sf	67	84% 90% 10%
35	CD	55	22% 22% 78%
36	SR	135	43% 90% 10%
37	L5	3740	75% 22%
38	L7	120	91% 9%
39	L8	156	80% 19%
40	LA	248	93% 7%
41	LB	402	93% 6%
42	LC	368	93% 7%
43	LD	293	94% 6%
44	LE	247	8% 88% 7%
45	LF	225	94% 6%
46	LG	241	9% 94% 6%
47	LH	190	93% 7%
48	LI	213	89% 6% 5%
49	LJ	176	6% 93% 7%
50	LL	210	94% 6%
51	LM	139	94% 5%
52	LN	203	96%
53	LO	201	95% 5%
54	LP	153	93% 7%
55	LQ	187	96%
56	LR	187	13% 92% 8%
57	LS	175	95% 5%
58	LT	159	92% 8%

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Mol	Chain	Length	Quality of chain
59	LU	101	86% 14%
60	LV	131	97%
61	LX	120	96%
62	LY	134	94% 6%
63	LZ	135	92% 8%
64	La	147	95% 5%
65	Lb	121	7% 81% 9% 10%
66	Lc	98	92% 8%
67	Ld	107	95% 5%
68	Le	128	93% 7%
69	Lf	109	92% 8%
70	Lg	114	95% 5%
71	Lh	122	97%
72	Li	102	89% 11%
73	Lj	86	91% 9%
74	Lk	69	96%
75	Ll	50	88% 12%
76	Lm	52	96%
77	Ln	24	92% 8%
78	Lo	105	95% 5%
79	Lp	91	90% 10%
80	Lr	125	90% 10%
81	Ls	196	59% 93% 7%
82	Lt	141	86% 94% 6%
83	CA	356	54% 92% 6%

2 Entry composition (i)

There are 85 unique types of molecules in this entry. The entry contains 219039 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 18S rRNA.

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

- Molecule 2 is a protein called Ribosomal protein L24.

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

- Molecule 3 is a protein called Small ribosomal subunit protein eS4, X isoform.

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

- Molecule 4 is a protein called 40S ribosomal protein S8.

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

- Molecule 5 is a protein called 40S ribosomal protein S11.

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

- Molecule 6 is a protein called 40S ribosomal protein S23.

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

- Molecule 7 is a protein called 40S ribosomal protein S6.

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

- Molecule 8 is a protein called 40S ribosomal protein S9.

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

- Molecule 9 is a protein called 40S ribosomal protein S24.

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

- Molecule 10 is a protein called Small ribosomal subunit protein eS30.

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

- Molecule 11 is a protein called 40S ribosomal protein SA.

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

- Molecule 12 is a protein called 40S ribosomal protein S3a.

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

- Molecule 13 is a protein called Small ribosomal subunit protein eS7.

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

- Molecule 14 is a protein called 40S ribosomal protein S21.

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

- Molecule 15 is a protein called 40S ribosomal protein S26.

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

- Molecule 16 is a protein called 40S ribosomal protein S2.

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

- Molecule 17 is a protein called 40S ribosomal protein S13.

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

- Molecule 18 is a protein called Small ribosomal subunit protein uS11.

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

- Molecule 19 is a protein called 40S ribosomal protein S15a.

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

- Molecule 20 is a protein called Small ribosomal subunit protein eS27.

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

- Molecule 21 is a protein called Small ribosomal subunit protein uS3.

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

- Molecule 22 is a protein called 40S ribosomal protein S5.

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

- Molecule 23 is a protein called 40S ribosomal protein S10.

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

- Molecule 24 is a protein called Small ribosomal subunit protein uS19.

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

- Molecule 25 is a protein called Small ribosomal subunit protein uS9.

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

- Molecule 26 is a protein called 40S ribosomal protein S18.

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

- Molecule 27 is a protein called 40S ribosomal protein S19.

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

- Molecule 28 is a protein called 40S ribosomal protein S20.

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

- Molecule 29 is a protein called 40S ribosomal protein S28.

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

- Molecule 30 is a protein called 40S ribosomal protein S29.

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

- Molecule 31 is a protein called Receptor of activated protein C kinase 1.

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

- Molecule 32 is a protein called Small ribosomal subunit protein eS12.

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

- Molecule 33 is a protein called Small ribosomal subunit protein eS25.

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

- Molecule 34 is a protein called Ubiquitin-40S ribosomal protein S27a.

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

- Molecule 35 is a protein called Serbp1.

Mol	Chain	Residues	Atoms				AltConf	Trace
35	CD	12	Total	C	N	O	0	0
			102	64	17	21		

- Molecule 36 is a protein called 40S ribosomal protein S17.

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

- Molecule 37 is a RNA chain called 28S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	L5	3649	Total	C	N	O	P	0	0
			78229	34837	14317	25427	3648		

- Molecule 38 is a RNA chain called 5S rRNA.

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

- Molecule 39 is a RNA chain called 5.8S rRNA.

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

- Molecule 40 is a protein called 60S ribosomal protein L8.

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

- Molecule 41 is a protein called Large ribosomal subunit protein uL3.

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

- Molecule 42 is a protein called 60S ribosomal protein L4.

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

- Molecule 43 is a protein called Large ribosomal subunit protein uL18.

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

- Molecule 44 is a protein called Large ribosomal subunit protein eL6.

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

- Molecule 45 is a protein called 60S ribosomal protein L7.

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

- Molecule 46 is a protein called 60S ribosomal protein L7a.

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

- Molecule 47 is a protein called 60S ribosomal protein L9.

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

- Molecule 48 is a protein called Ribosomal protein uL16-like.

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

- Molecule 49 is a protein called 60S ribosomal protein L11.

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

- Molecule 50 is a protein called Large ribosomal subunit protein eL13.

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

- Molecule 51 is a protein called 60S ribosomal protein L14.

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

- Molecule 52 is a protein called 60S ribosomal protein L15.

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

- Molecule 53 is a protein called 60S ribosomal protein L13a.

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

- Molecule 54 is a protein called 60S ribosomal protein L17.

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

- Molecule 55 is a protein called 60S ribosomal protein L18.

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

- Molecule 56 is a protein called 60S ribosomal protein L19.

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

- Molecule 57 is a protein called 60S ribosomal protein L18a.

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

- Molecule 58 is a protein called 60S ribosomal protein L21.

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

- Molecule 59 is a protein called Heparin-binding protein HBp15.

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

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

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

- Molecule 61 is a protein called 60S ribosomal protein L23a.

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

- Molecule 62 is a protein called 60S ribosomal protein L26.

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

- Molecule 63 is a protein called 60S ribosomal protein L27.

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

- Molecule 64 is a protein called 60S ribosomal protein L27a.

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

- Molecule 65 is a protein called Large ribosomal subunit protein eL29.

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

- Molecule 66 is a protein called 60S ribosomal protein L30.

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

- Molecule 67 is a protein called 60S ribosomal protein L31.

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

- Molecule 68 is a protein called 60S ribosomal protein L32.

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

- Molecule 69 is a protein called 60S ribosomal protein L35a.

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

- Molecule 70 is a protein called 60S ribosomal protein L34.

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

- Molecule 71 is a protein called 60S ribosomal protein L35.

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

- Molecule 72 is a protein called 60S ribosomal protein L36.

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

- Molecule 73 is a protein called 60S ribosomal protein L37.

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

- Molecule 74 is a protein called 60S ribosomal protein L38.

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

- Molecule 75 is a protein called 60S ribosomal protein L39.

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

- Molecule 76 is a protein called Large ribosomal subunit protein eL40.

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

- Molecule 77 is a protein called 60S ribosomal protein L41.

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

- Molecule 78 is a protein called 60S ribosomal protein L36a.

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

- Molecule 79 is a protein called 60S ribosomal protein L37a.

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

- Molecule 80 is a protein called 60S ribosomal protein L28.

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

- Molecule 81 is a protein called 60S acidic ribosomal protein P0.

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

- Molecule 82 is a protein called 60S ribosomal protein L12.

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

- Molecule 83 is a protein called Proliferation-associated protein 2G4.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	CA	354	Total	C	N	O	S	4	0
			2764	1744	475	528	17		

- Molecule 84 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	AltConf
84	S2	27	Total Mg 27 27	0
84	SG	1	Total Mg 1 1	0
84	SO	1	Total Mg 1 1	0
84	L5	211	Total Mg 211 211	0
84	L7	3	Total Mg 3 3	0
84	L8	4	Total Mg 4 4	0
84	LA	1	Total Mg 1 1	0
84	LI	1	Total Mg 1 1	0
84	LP	1	Total Mg 1 1	0
84	LV	1	Total Mg 1 1	0
84	LX	1	Total Mg 1 1	0
84	Le	1	Total Mg 1 1	0
84	Lg	1	Total Mg 1 1	0
84	Lj	1	Total Mg 1 1	0

- Molecule 85 is ZINC ION (CCD ID: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

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

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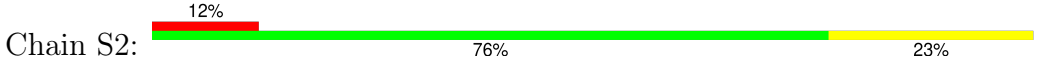
Mol	Chain	Residues	Atoms		AltConf
			Total	Zn	
85	Lp	1	1	1	0

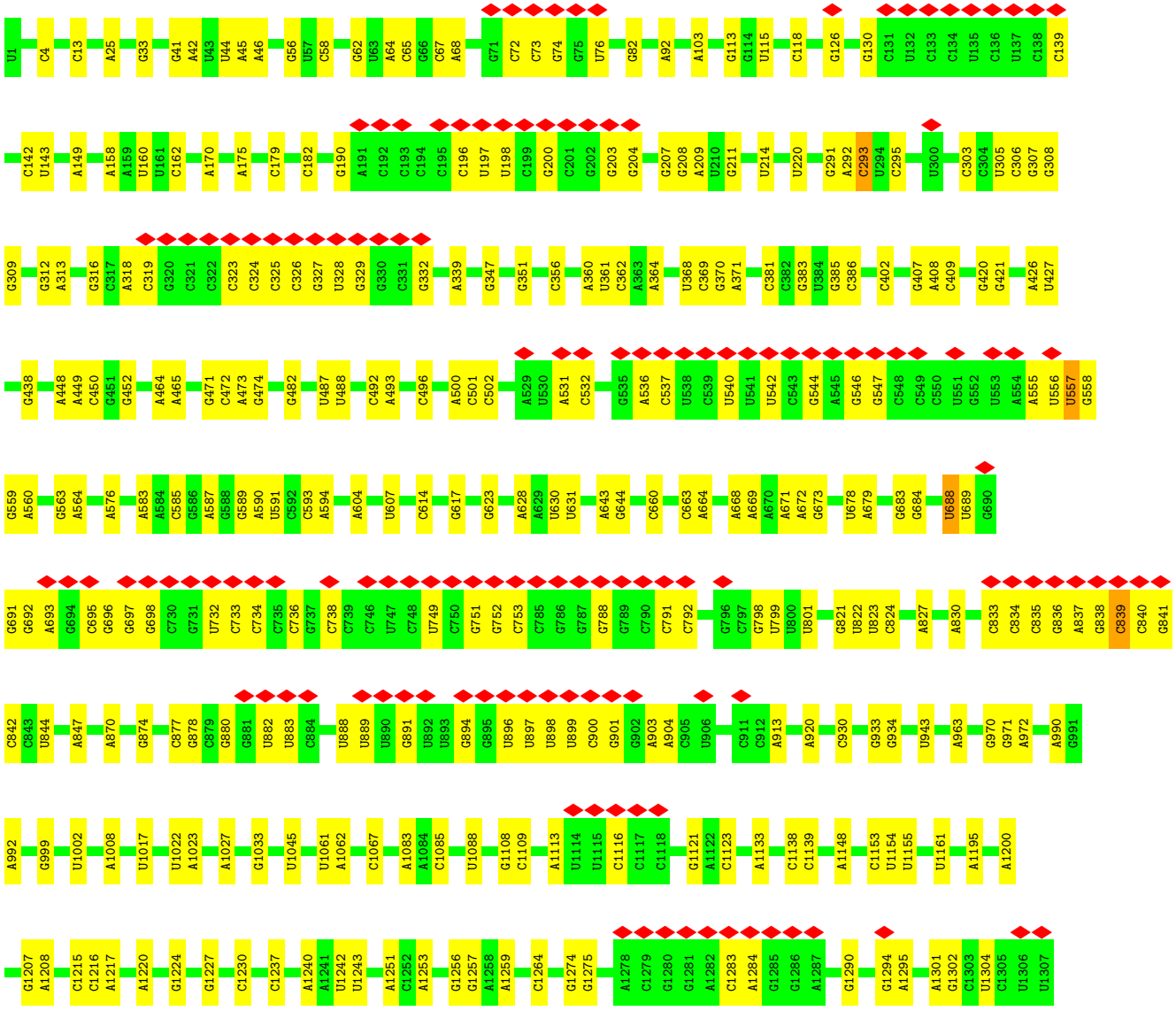
3 Residue-property plots (i)

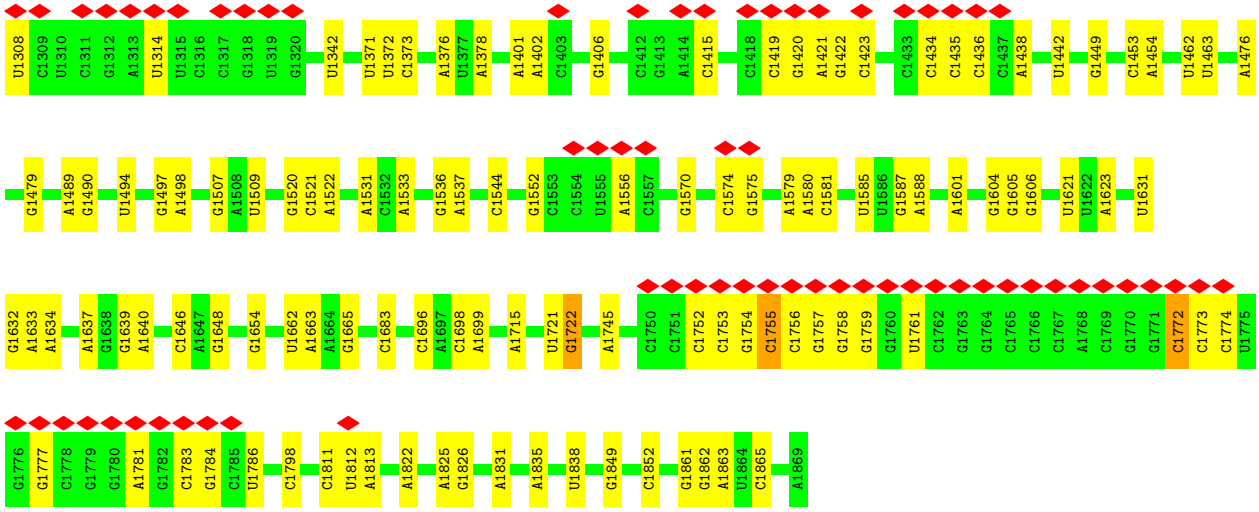
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: 18S rRNA

Chain S2:

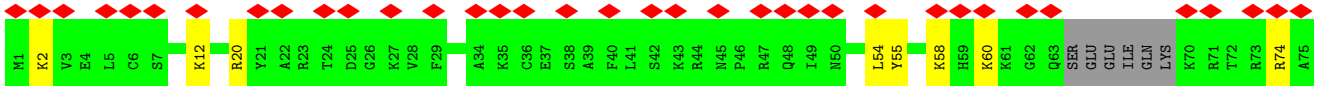


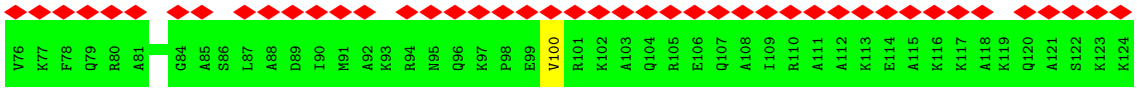




• Molecule 2: Ribosomal protein L24

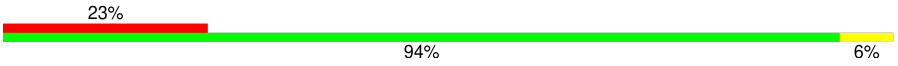
Chain LW:

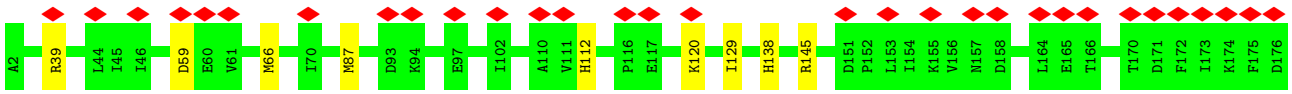


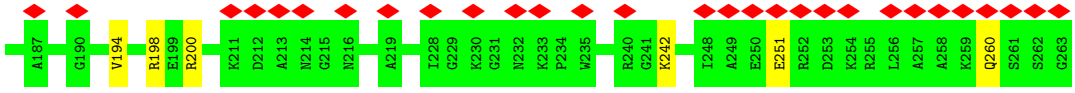


• Molecule 3: Small ribosomal subunit protein eS4, X isoform

Chain SE:

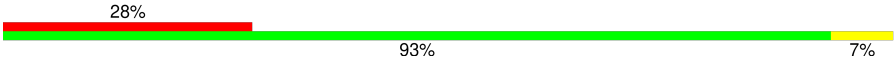


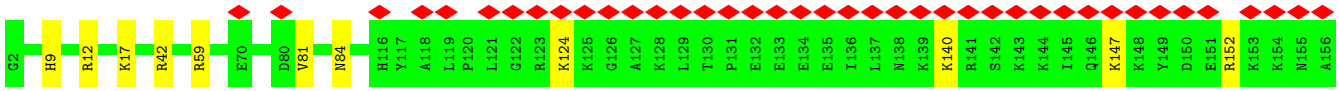


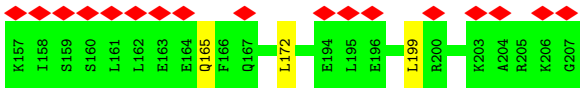


• Molecule 4: 40S ribosomal protein S8

Chain SI:

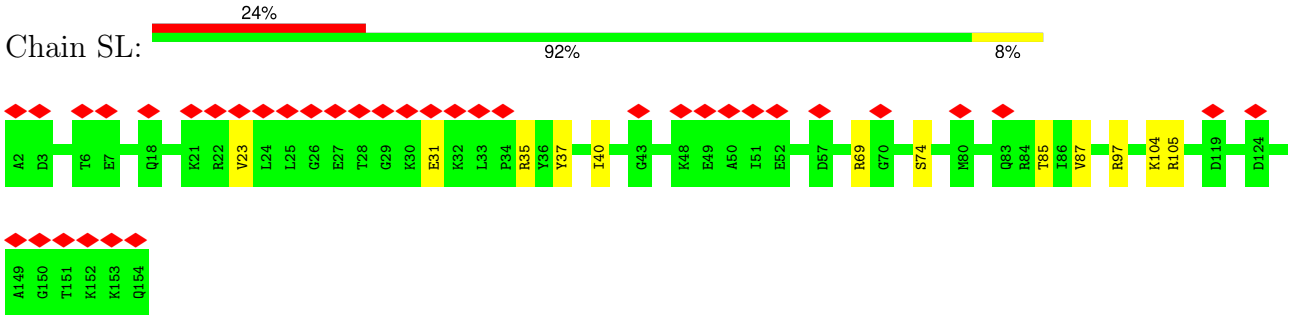






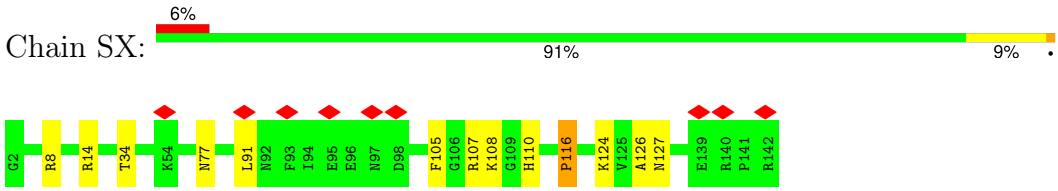
• Molecule 5: 40S ribosomal protein S11

Chain SL:



• Molecule 6: 40S ribosomal protein S23

Chain SX:

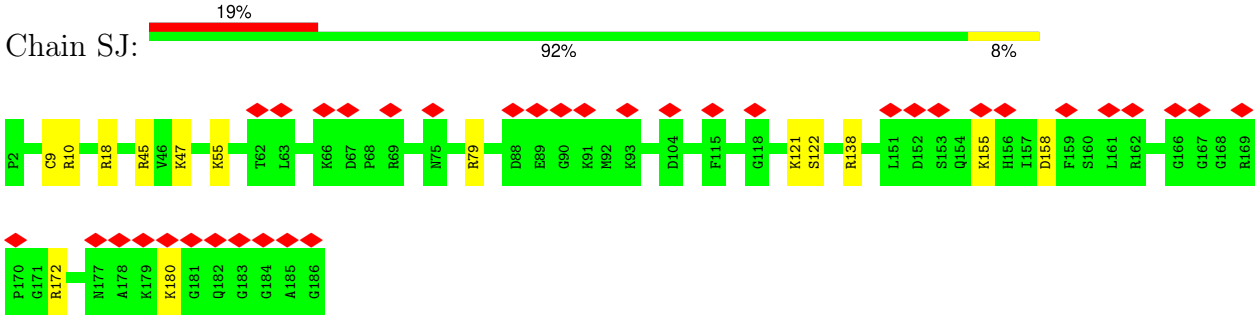


• Molecule 7: 40S ribosomal protein S6

Chain SG:

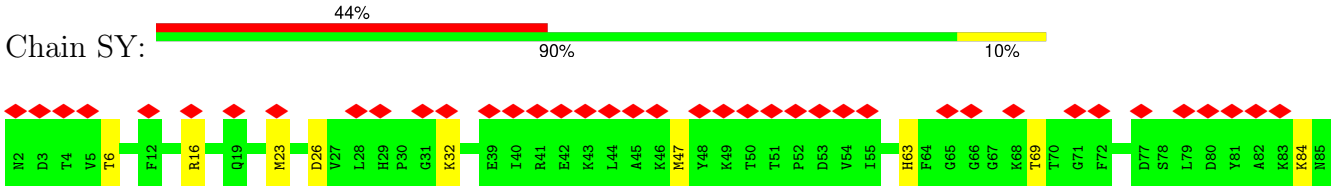
• Molecule 8: 40S ribosomal protein S9

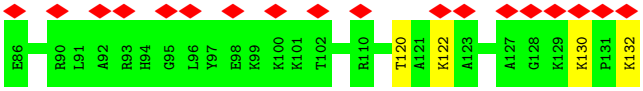
Chain SJ:



• Molecule 9: 40S ribosomal protein S24

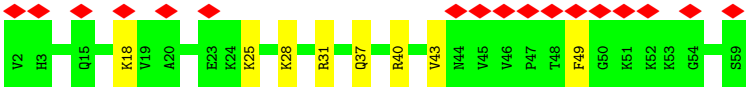
Chain SY:





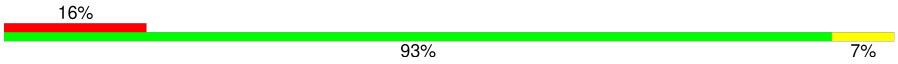
• Molecule 10: Small ribosomal subunit protein eS30

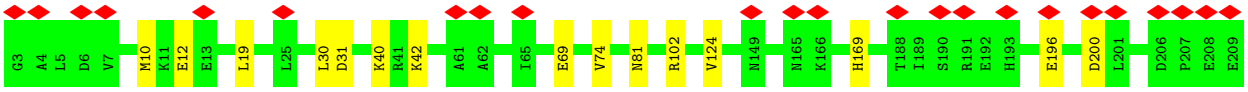
Chain Se:

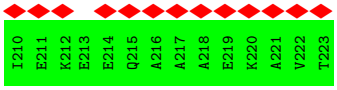


• Molecule 11: 40S ribosomal protein SA

Chain SA:

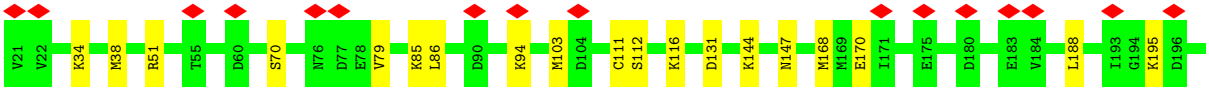


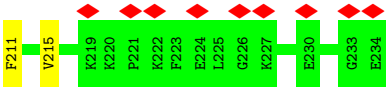




• Molecule 12: 40S ribosomal protein S3a

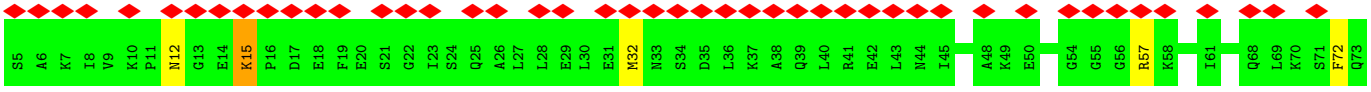
Chain SB:

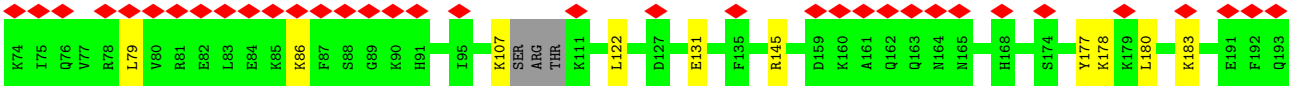




• Molecule 13: Small ribosomal subunit protein eS7

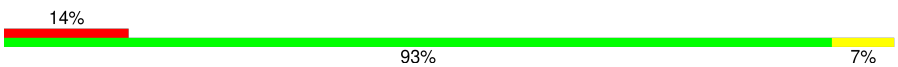
Chain SH:

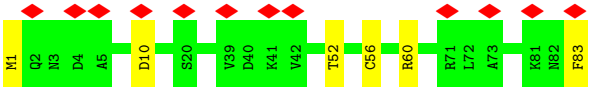




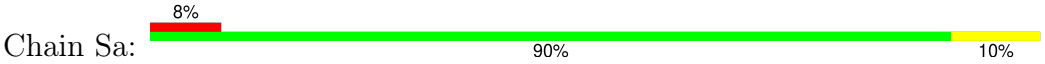
• Molecule 14: 40S ribosomal protein S21

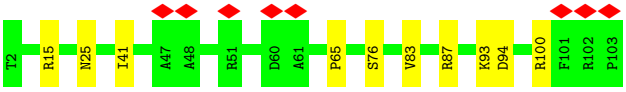
Chain SV:





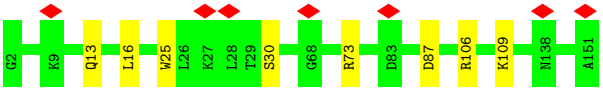
• Molecule 15: 40S ribosomal protein S26



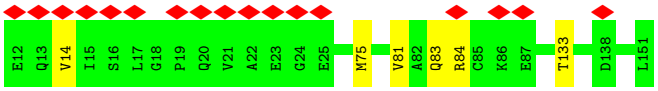


• Molecule 16: 40S ribosomal protein S2

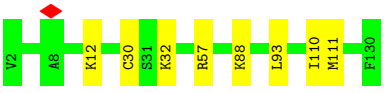
• Molecule 17: 40S ribosomal protein S13



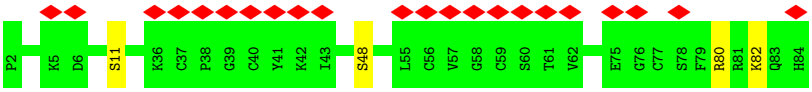
• Molecule 18: Small ribosomal subunit protein uS11



• Molecule 19: 40S ribosomal protein S15a

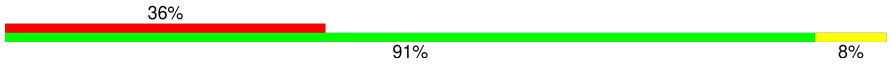


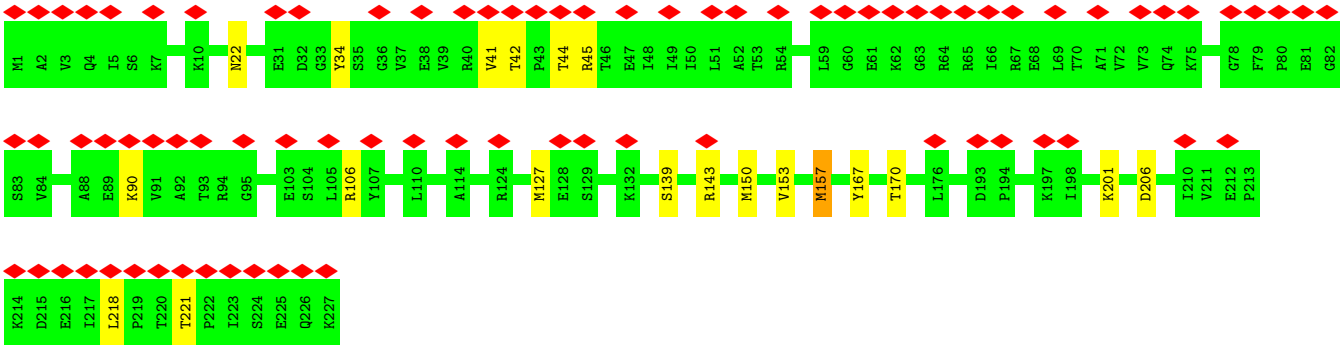
• Molecule 20: Small ribosomal subunit protein eS27



• Molecule 21: Small ribosomal subunit protein uS3

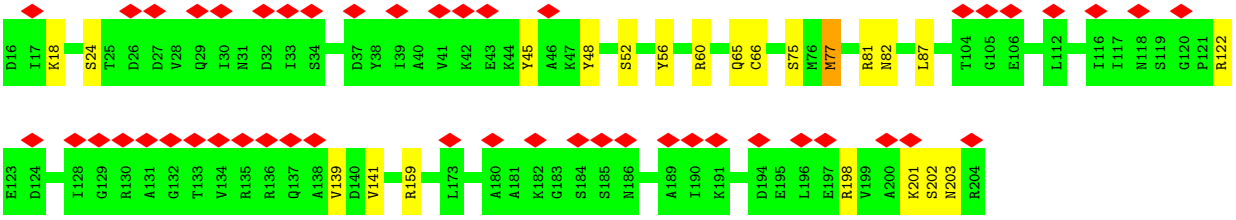
Chain SD:





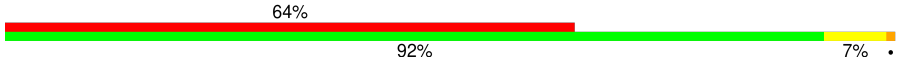
• Molecule 22: 40S ribosomal protein S5

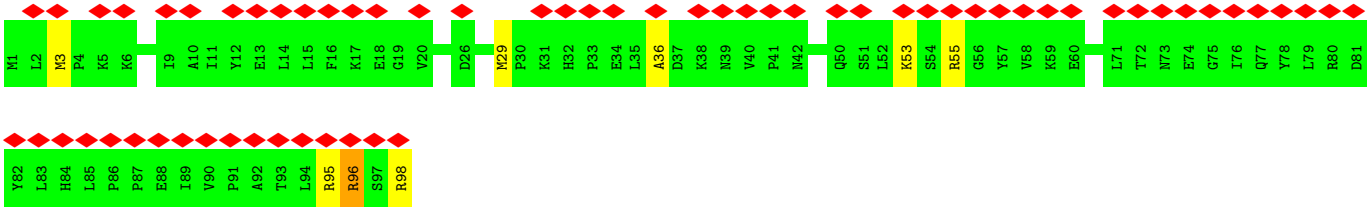
Chain SF:



• Molecule 23: 40S ribosomal protein S10

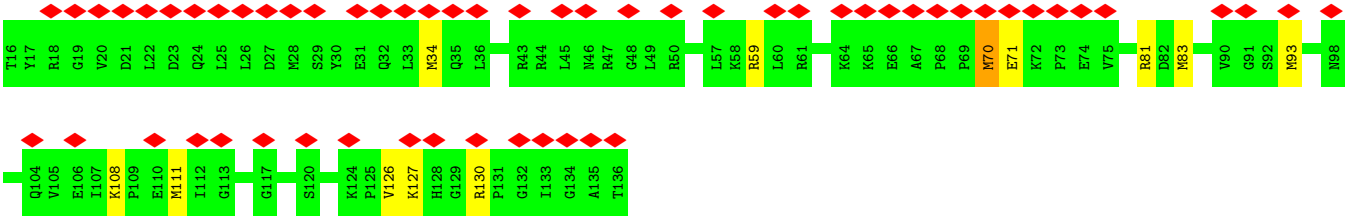
Chain SK:





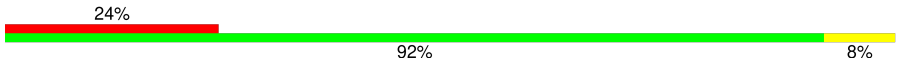
• Molecule 24: Small ribosomal subunit protein uS19

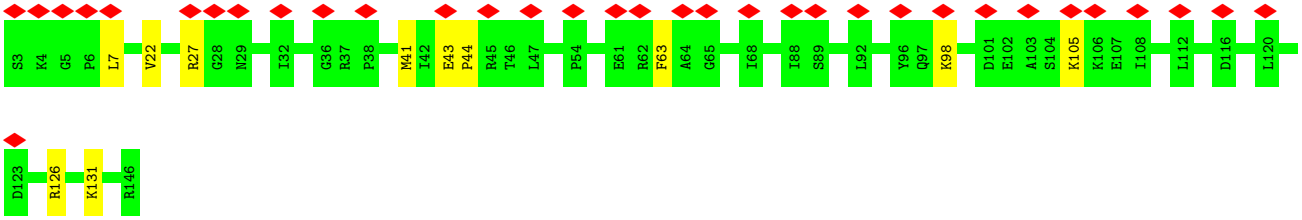
Chain SP:



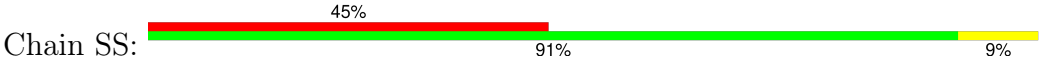
• Molecule 25: Small ribosomal subunit protein uS9

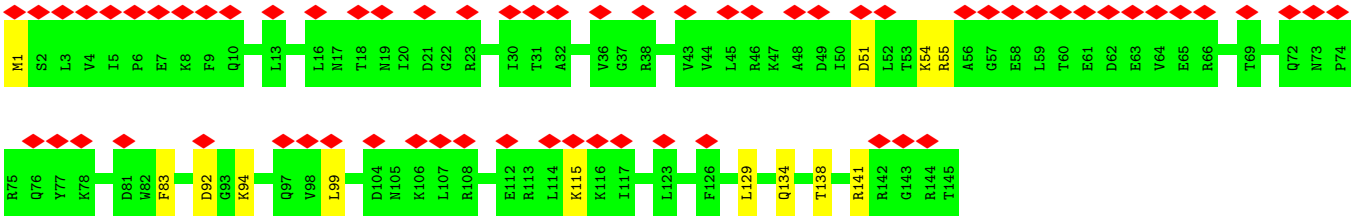
Chain SQ:



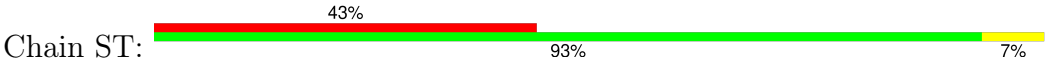


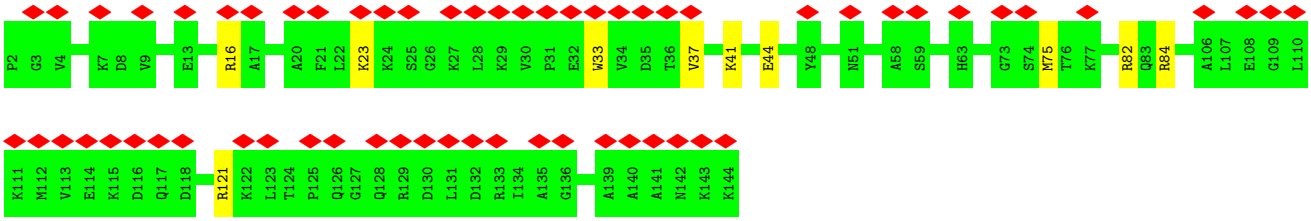
• Molecule 26: 40S ribosomal protein S18



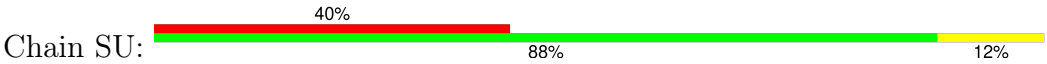


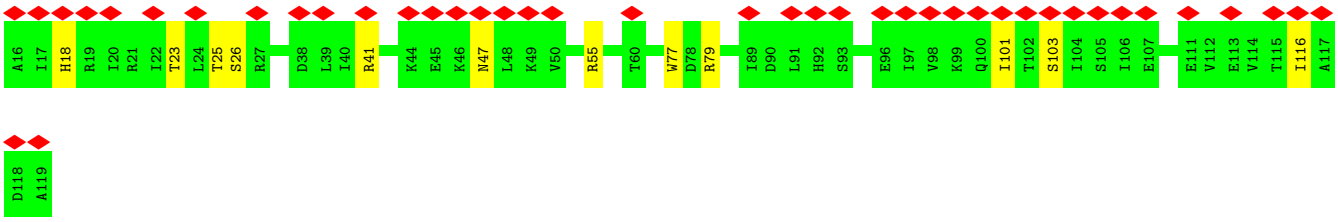
• Molecule 27: 40S ribosomal protein S19



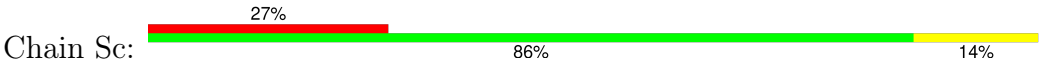


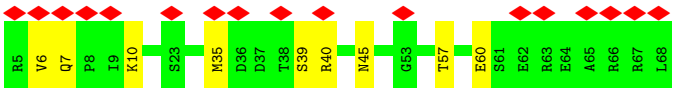
• Molecule 28: 40S ribosomal protein S20





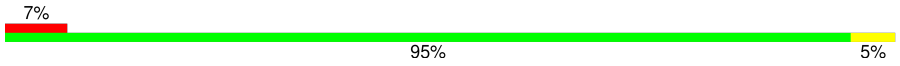
• Molecule 29: 40S ribosomal protein S28





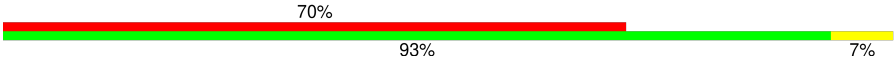
• Molecule 30: 40S ribosomal protein S29

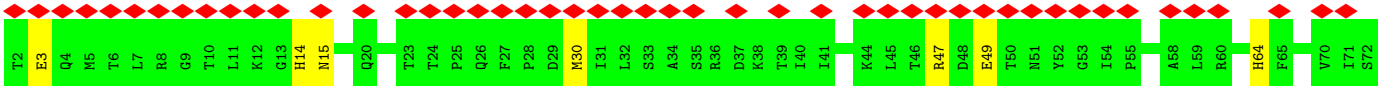
Chain Sd:

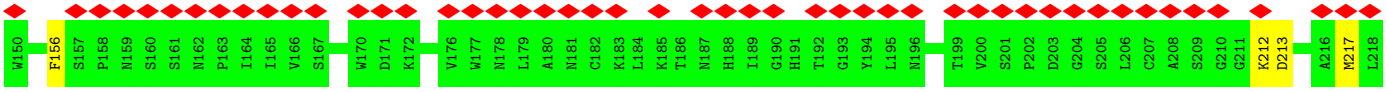


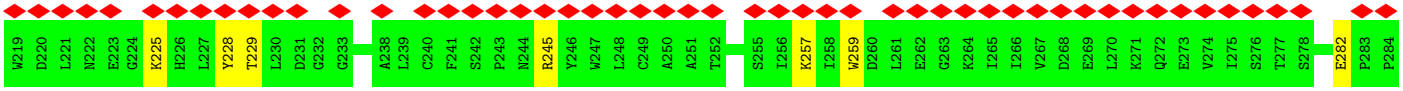
• Molecule 31: Receptor of activated protein C kinase 1

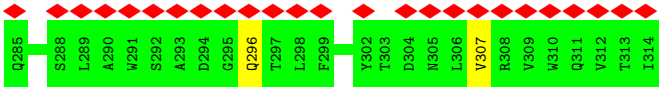
Chain Sg:





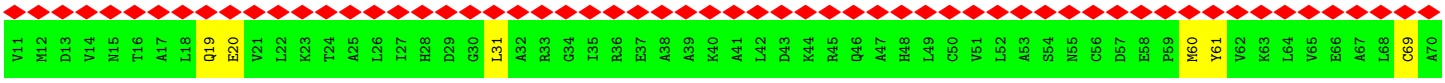


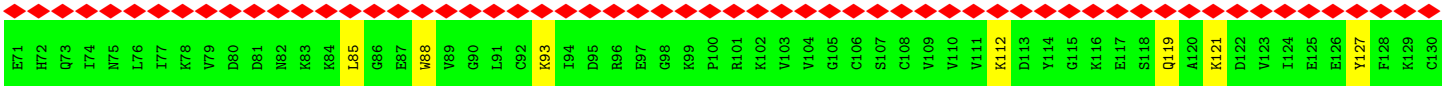




• Molecule 32: Small ribosomal subunit protein eS12

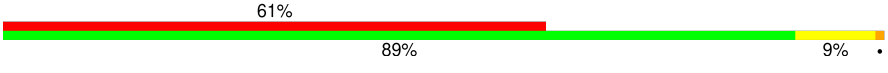
Chain SM:

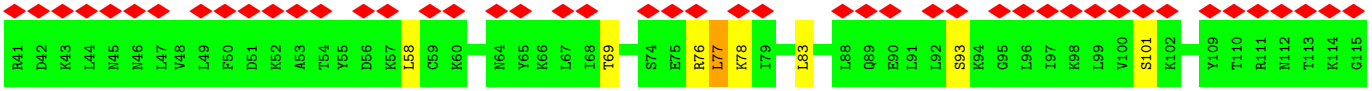




• Molecule 33: Small ribosomal subunit protein eS25

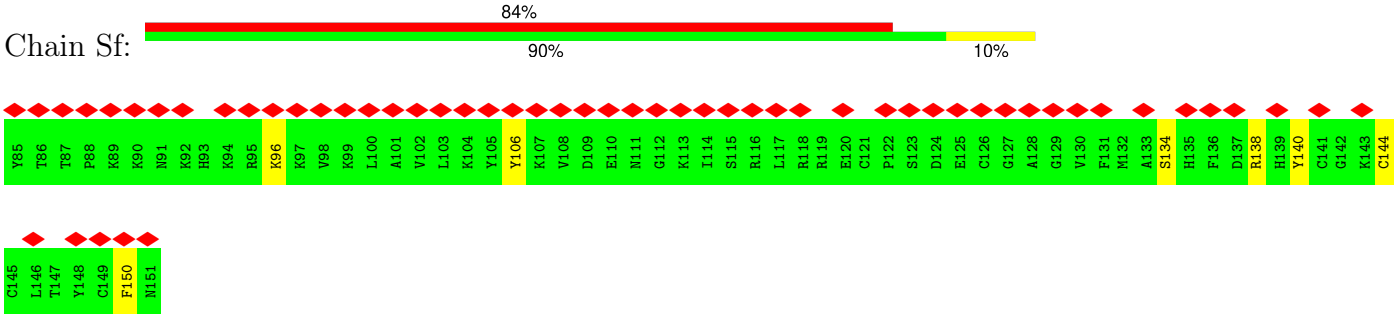
Chain SZ:





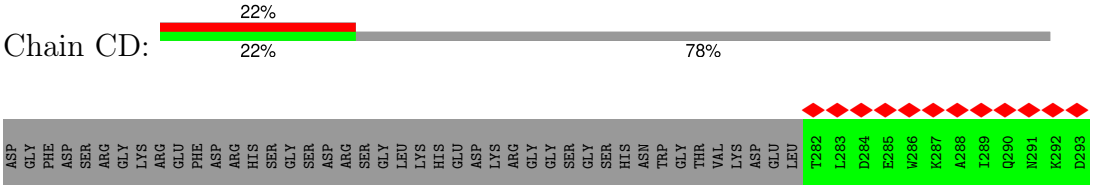
• Molecule 34: Ubiquitin-40S ribosomal protein S27a

Chain Sf:



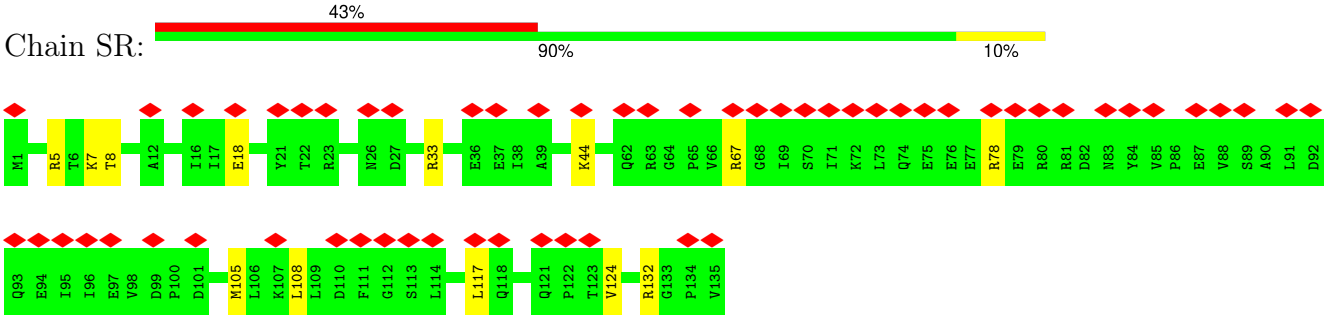
• Molecule 35: Serbp1

Chain CD:



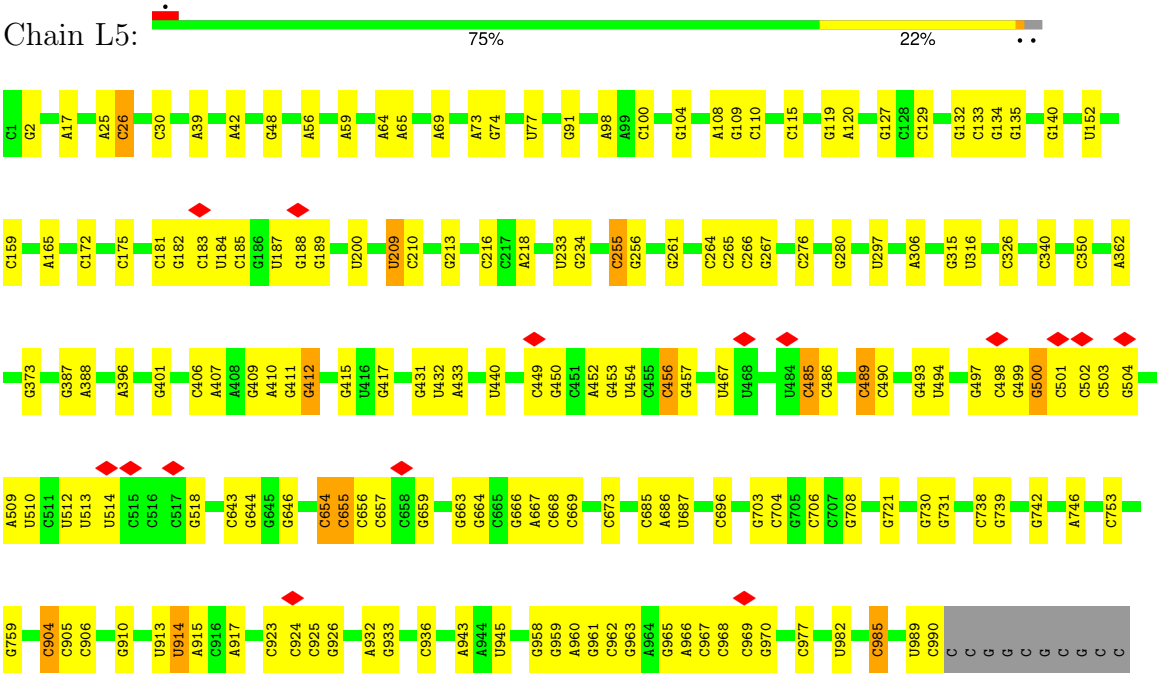
• Molecule 36: 40S ribosomal protein S17

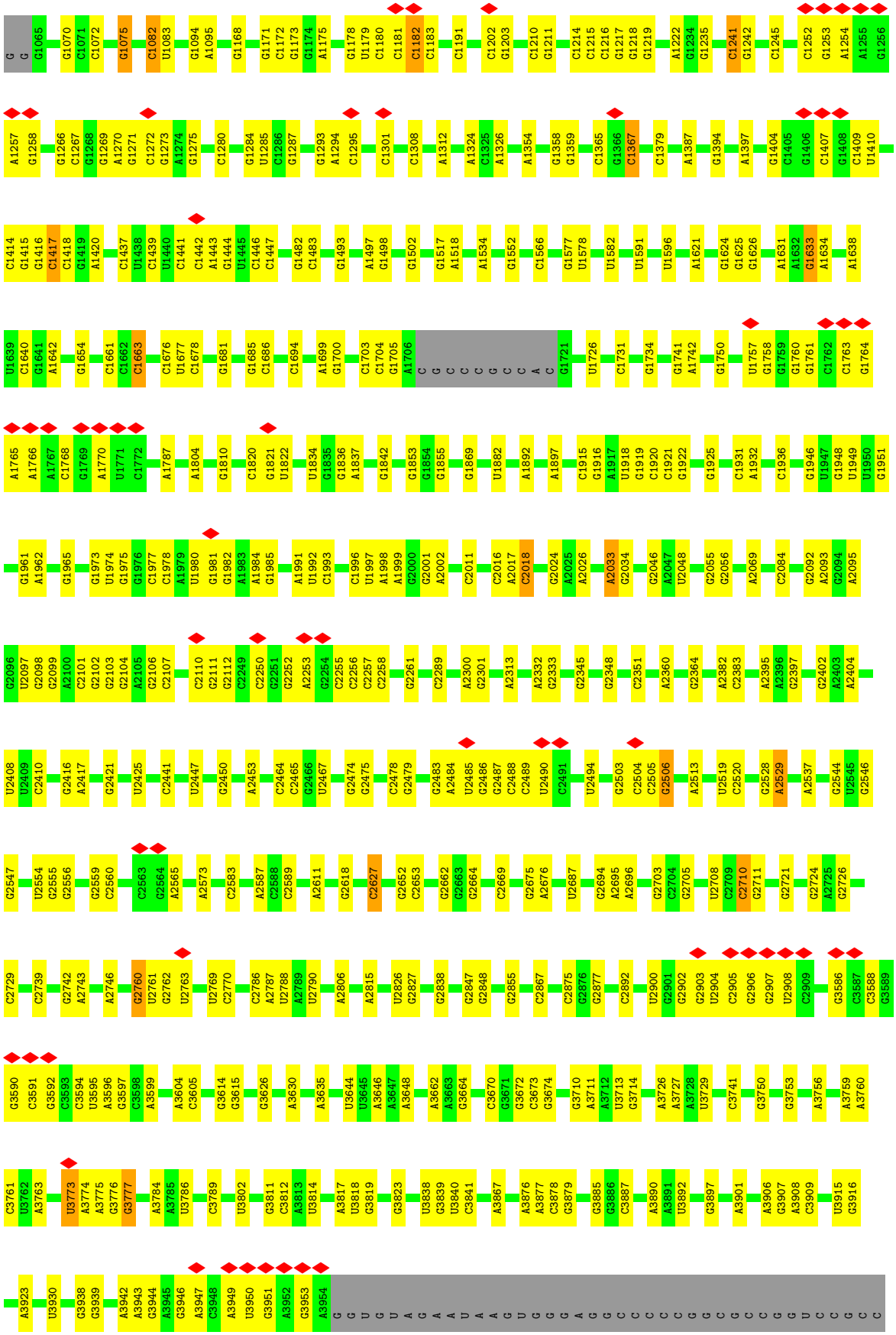
Chain SR:

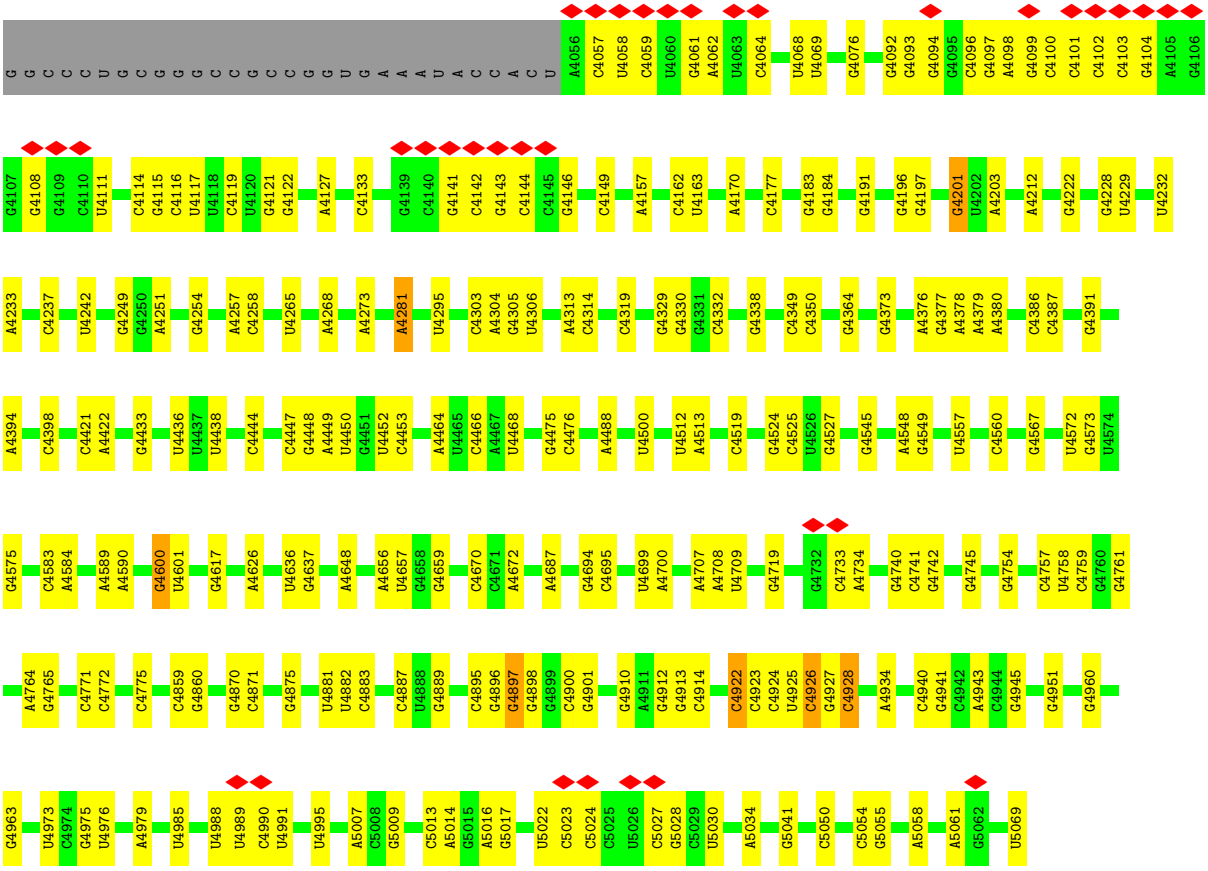


• Molecule 37: 28S rRNA

Chain L5:

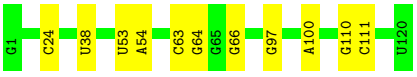






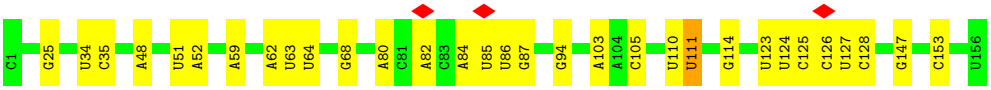
• Molecule 38: 5S rRNA

Chain L7:



• Molecule 39: 5.8S rRNA

Chain L8:

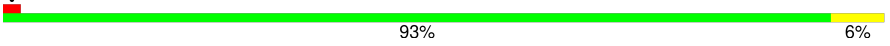


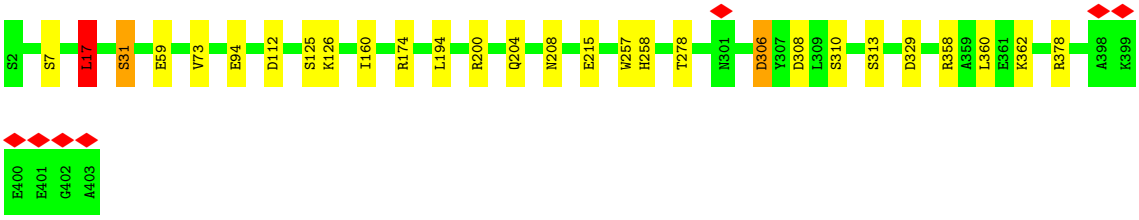
• Molecule 40: 60S ribosomal protein L8

Chain LA:

• Molecule 41: Large ribosomal subunit protein uL3

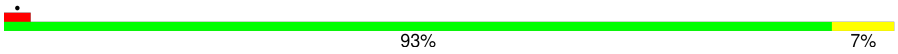
Chain LB:

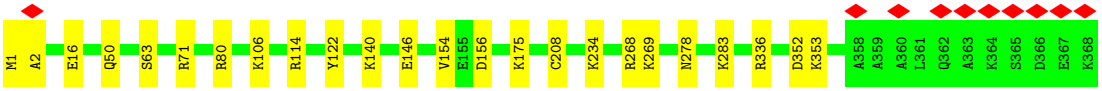




• Molecule 42: 60S ribosomal protein L4

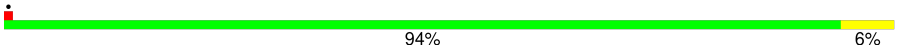
Chain LC:





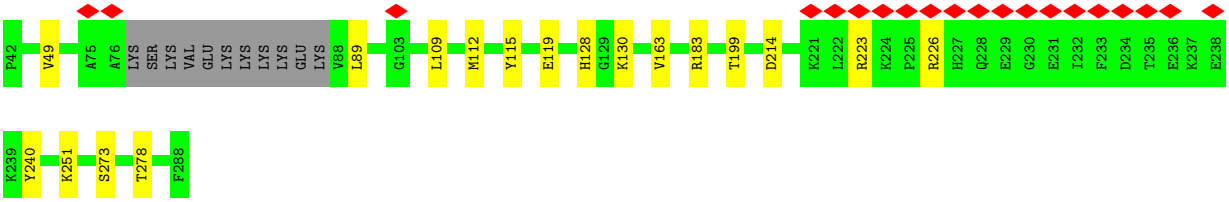
• Molecule 43: Large ribosomal subunit protein uL18

Chain LD:



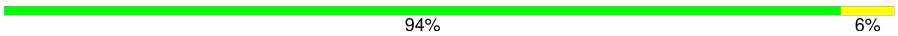
• Molecule 44: Large ribosomal subunit protein eL6

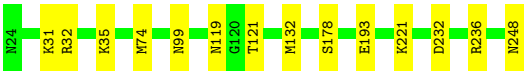
Chain LE:



• Molecule 45: 60S ribosomal protein L7

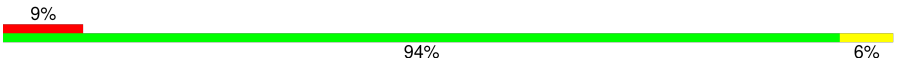
Chain LF:

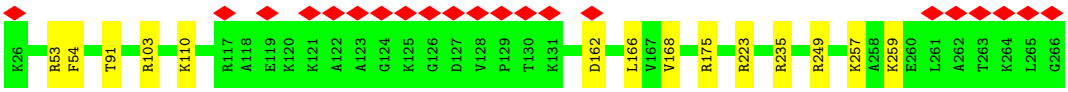




• Molecule 46: 60S ribosomal protein L7a

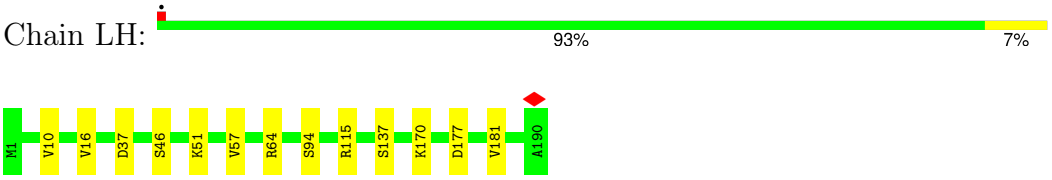
Chain LG:





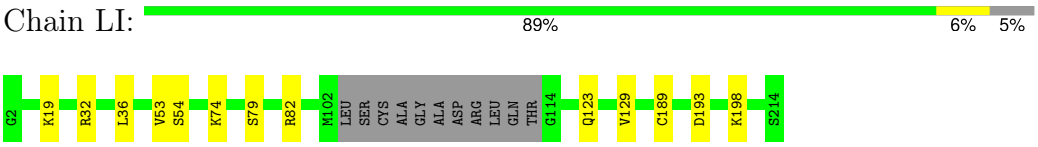
• Molecule 47: 60S ribosomal protein L9

Chain LH:



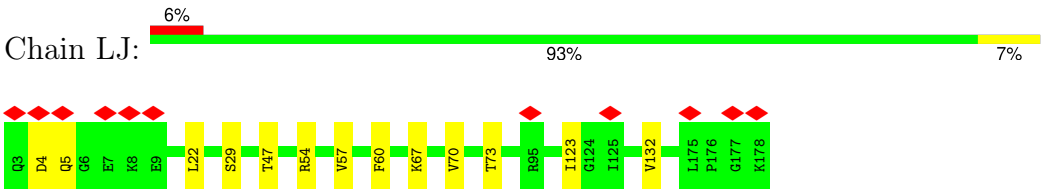
• Molecule 48: Ribosomal protein uL16-like

Chain LI:



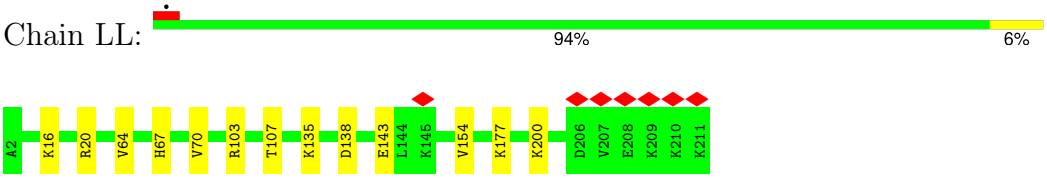
• Molecule 49: 60S ribosomal protein L11

Chain LJ:



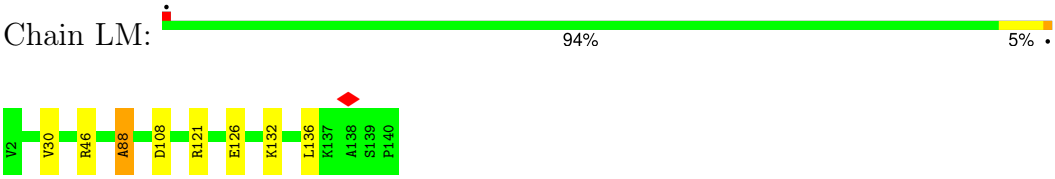
• Molecule 50: Large ribosomal subunit protein eL13

Chain LL:



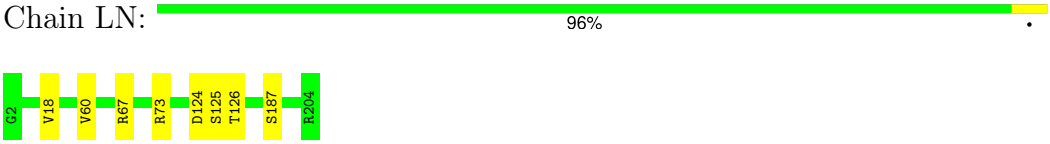
• Molecule 51: 60S ribosomal protein L14

Chain LM:



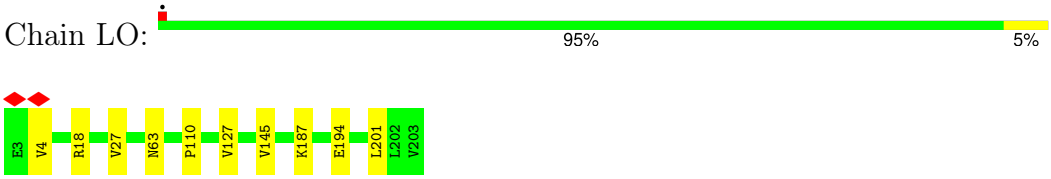
• Molecule 52: 60S ribosomal protein L15

Chain LN:



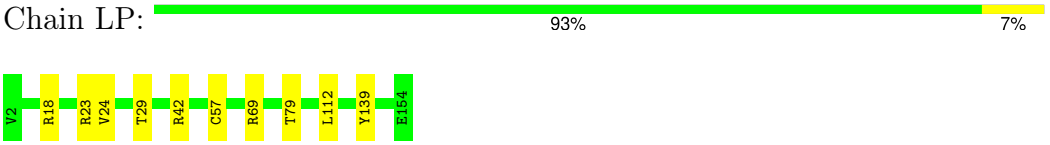
• Molecule 53: 60S ribosomal protein L13a

Chain LO:



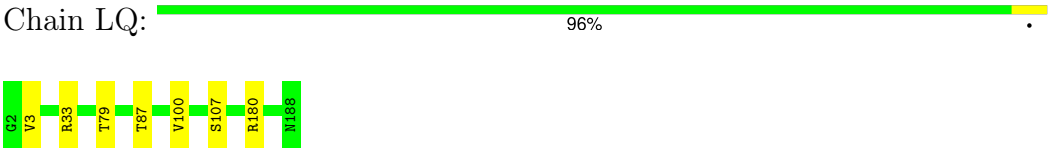
• Molecule 54: 60S ribosomal protein L17

Chain LP:



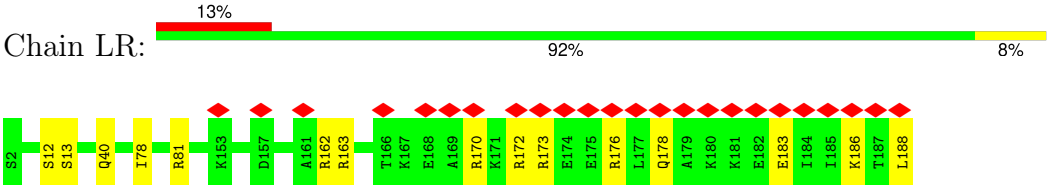
• Molecule 55: 60S ribosomal protein L18

Chain LQ:



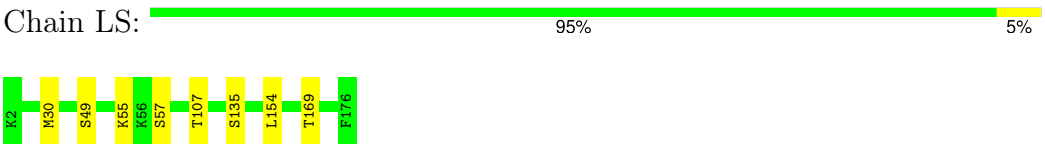
• Molecule 56: 60S ribosomal protein L19

Chain LR:



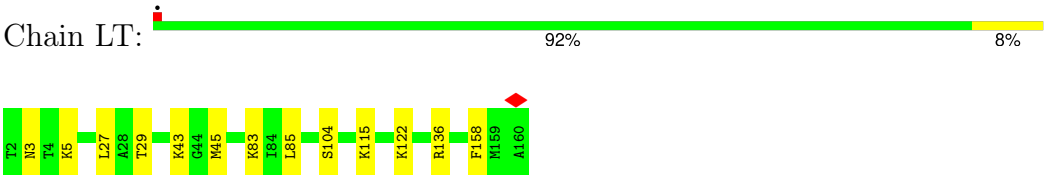
• Molecule 57: 60S ribosomal protein L18a

Chain LS:



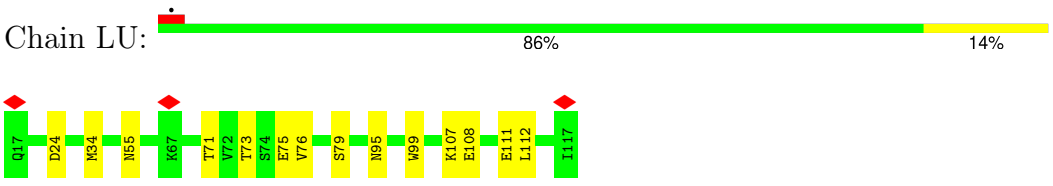
• Molecule 58: 60S ribosomal protein L21

Chain LT:



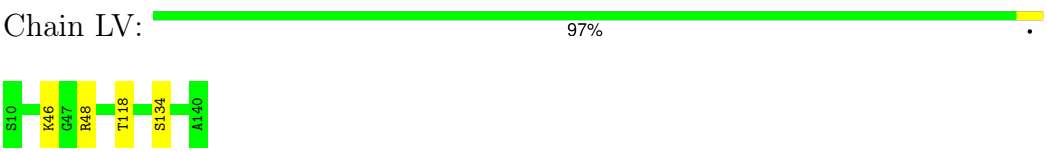
• Molecule 59: Heparin-binding protein HBp15

Chain LU:



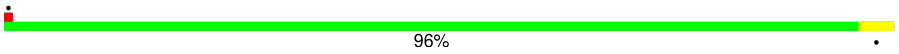
• Molecule 60: 60S ribosomal protein L23

Chain LV:



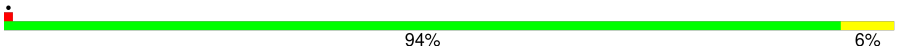
• Molecule 61: 60S ribosomal protein L23a

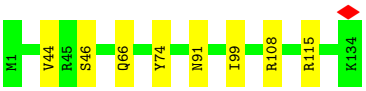
Chain LX:



• Molecule 62: 60S ribosomal protein L26

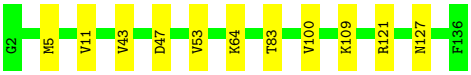
Chain LY:





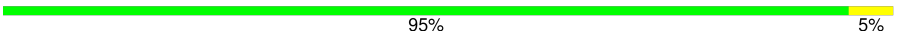
• Molecule 63: 60S ribosomal protein L27

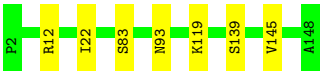
Chain LZ:



• Molecule 64: 60S ribosomal protein L27a

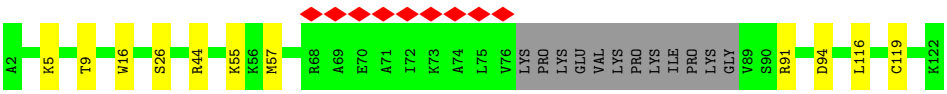
Chain La:





• Molecule 65: Large ribosomal subunit protein eL29

Chain Lb:

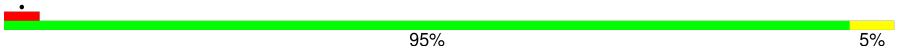


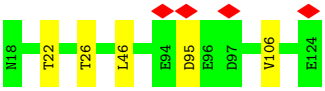
• Molecule 66: 60S ribosomal protein L30

Chain Lc:

• Molecule 67: 60S ribosomal protein L31

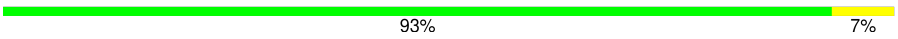
Chain Ld:

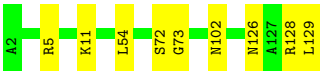




• Molecule 68: 60S ribosomal protein L32

Chain Le:



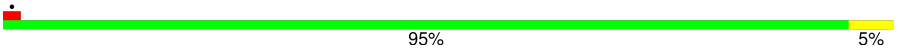


• Molecule 69: 60S ribosomal protein L35a

Chain Lf:

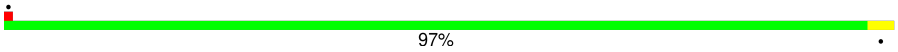
• Molecule 70: 60S ribosomal protein L34

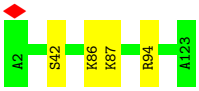
Chain Lg:



• Molecule 71: 60S ribosomal protein L35

Chain Lh:



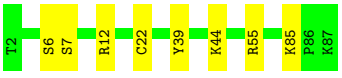


• Molecule 72: 60S ribosomal protein L36

Chain Li:

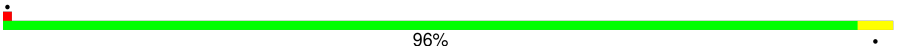
• Molecule 73: 60S ribosomal protein L37

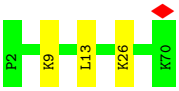
Chain Lj:



• Molecule 74: 60S ribosomal protein L38

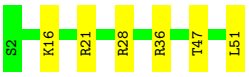
Chain Lk:





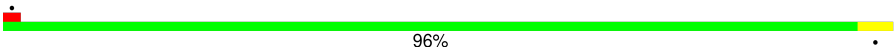
• Molecule 75: 60S ribosomal protein L39

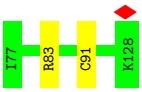
Chain Ll:



• Molecule 76: Large ribosomal subunit protein eL40

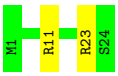
Chain Lm:





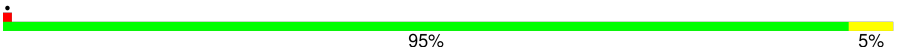
• Molecule 77: 60S ribosomal protein L41

Chain Ln:



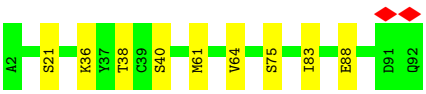
• Molecule 78: 60S ribosomal protein L36a

Chain Lo:



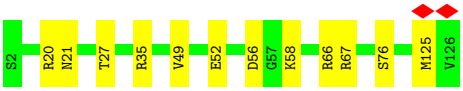
• Molecule 79: 60S ribosomal protein L37a

Chain Lp:



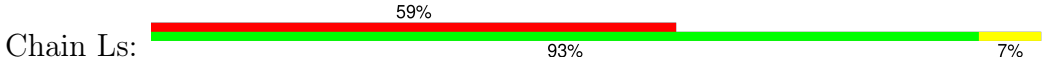
• Molecule 80: 60S ribosomal protein L28

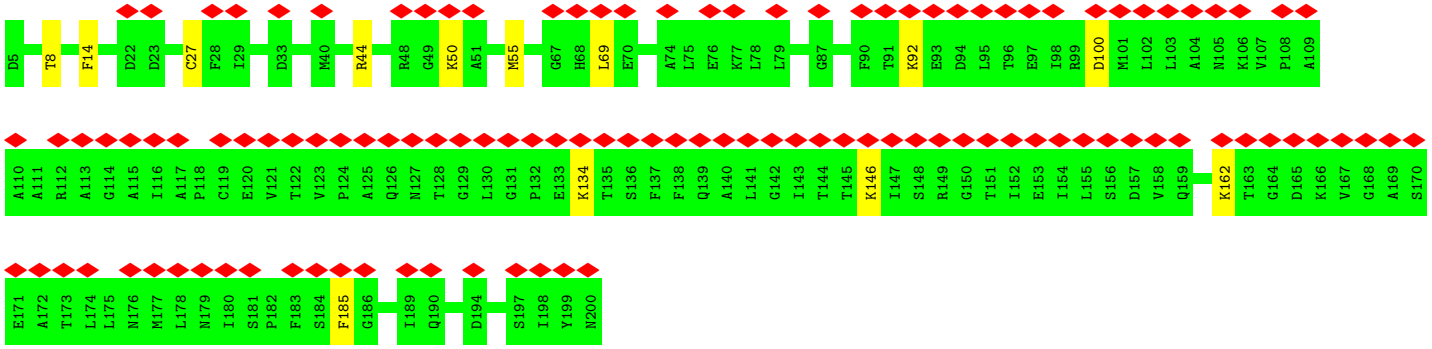
Chain Lr:



• Molecule 81: 60S acidic ribosomal protein P0

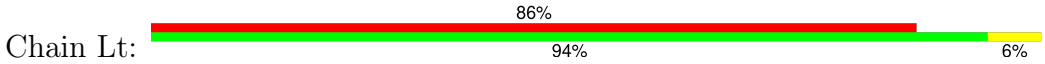
Chain Ls:

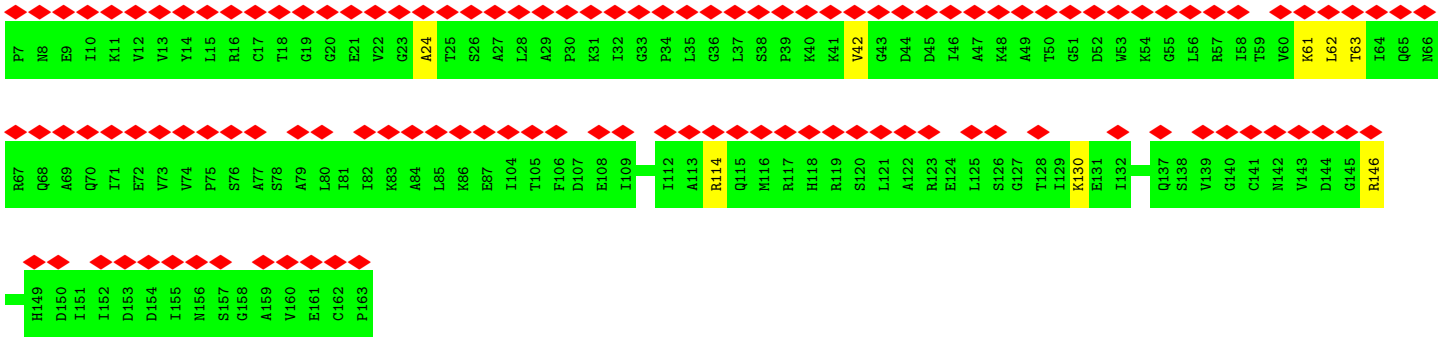




• Molecule 82: 60S ribosomal protein L12

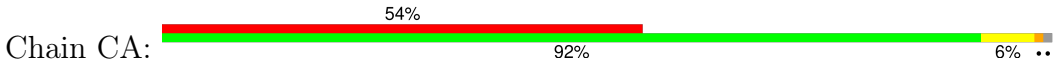
Chain Lt:

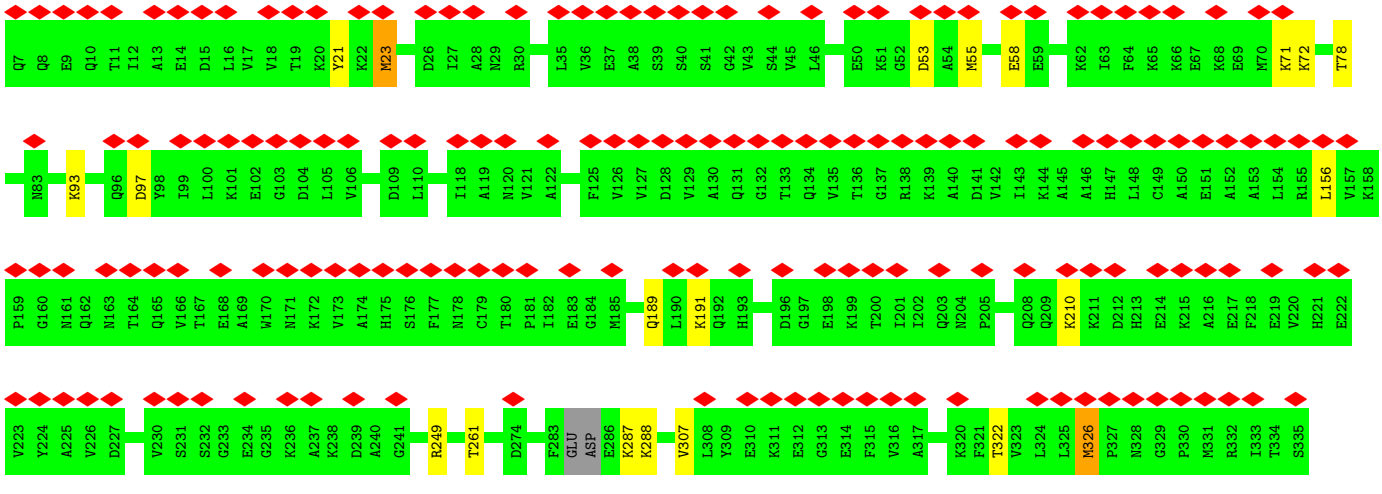


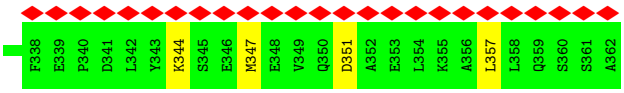


• Molecule 83: Proliferation-associated protein 2G4

Chain CA:






F338
E339
P340
D341
L342
Y343
K344
S345
E346
M347
E348
V349
Q350
D351
A352
E353
L354
K355
A356
L357
L358
Q359
S360
S361
A362

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	221164	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 ($e^-/Å^2$)	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	1.817	Depositor
Minimum map value	-0.725	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.051	Depositor
Recommended contour level	0.153	Depositor
Map size (Å)	546.816, 546.816, 546.816	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.068, 1.068, 1.068	Depositor

5 Model quality

5.1 Standard geometry

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

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	S2	0.48	0/41242	0.88	64/64255 (0.1%)
2	LW	0.45	0/979	0.74	1/1295 (0.1%)
3	SE	0.29	0/2118	0.60	0/2849
4	SI	0.31	0/1715	0.61	0/2287
5	SL	0.35	0/1268	0.62	0/1696
6	SX	0.47	1/1116 (0.1%)	0.77	3/1490 (0.2%)
7	SG	0.30	0/1946	0.66	0/2590
8	SJ	0.29	0/1550	0.61	0/2069
9	SY	0.28	0/1083	0.60	0/1438
10	Se	0.29	0/465	0.59	0/612
11	SA	0.34	0/1778	0.66	0/2416
12	SB	0.31	0/1765	0.59	1/2362 (0.0%)
13	SH	0.29	0/1519	0.64	1/2033 (0.0%)
14	SV	0.31	0/643	0.56	0/860
15	Sa	0.69	2/836 (0.2%)	1.00	5/1121 (0.4%)
16	SC	0.32	0/1762	0.60	0/2381
17	SN	0.32	0/1232	0.58	0/1656
18	SO	0.33	0/1062	0.67	1/1425 (0.1%)
19	SW	0.33	0/1051	0.63	0/1406
20	Sb	0.29	0/665	0.53	0/891
21	SD	0.29	0/1793	0.59	2/2414 (0.1%)
22	SF	0.28	0/1516	0.58	1/2037 (0.0%)
23	SK	0.27	0/851	0.56	0/1147
24	SP	0.33	0/1003	0.70	1/1342 (0.1%)
25	SQ	0.31	0/1160	0.66	1/1553 (0.1%)
26	SS	0.29	0/1216	0.72	1/1628 (0.1%)
27	ST	0.27	0/1131	0.56	0/1515
28	SU	0.27	0/831	0.60	0/1115
29	Sc	0.32	0/508	0.69	0/680
30	Sd	0.31	0/470	0.56	0/623
31	Sg	0.27	0/2493	0.58	0/3394
32	SM	0.27	0/950	0.53	0/1275

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	SZ	0.30	0/604	0.77	2/810 (0.2%)
34	Sf	0.27	0/560	0.62	0/745
35	CD	0.21	0/103	0.41	0/138
36	SR	0.29	0/1105	0.64	0/1484
37	L5	1.12	7/87512 (0.0%)	0.97	175/136518 (0.1%)
38	L7	1.10	0/2861	0.89	0/4459
39	L8	1.13	0/3701	0.91	6/5766 (0.1%)
40	LA	0.59	0/1936	0.68	0/2596
41	LB	0.59	1/3306 (0.0%)	0.66	5/4424 (0.1%)
42	LC	0.55	0/2981	0.66	1/4002 (0.0%)
43	LD	0.52	0/2428	0.62	1/3252 (0.0%)
44	LE	0.48	0/1942	0.65	0/2606
45	LF	0.58	0/1905	0.61	0/2539
46	LG	0.50	0/1960	0.61	0/2637
47	LH	0.51	0/1537	0.62	0/2066
48	LI	0.54	0/1673	0.65	1/2233 (0.0%)
49	LJ	0.42	0/1433	0.62	0/1915
50	LL	0.52	0/1732	0.62	0/2315
51	LM	0.54	0/1161	0.62	1/1554 (0.1%)
52	LN	0.61	0/1746	0.65	0/2338
53	LO	0.58	0/1682	0.60	0/2250
54	LP	0.56	0/1268	0.58	0/1701
55	LQ	0.59	0/1537	0.67	0/2052
56	LR	0.46	0/1582	0.63	0/2091
57	LS	0.62	0/1493	0.61	0/2003
58	LT	0.58	0/1326	0.62	0/1770
59	LU	0.49	0/839	0.69	1/1126 (0.1%)
60	LV	0.57	0/993	0.61	0/1332
61	LX	0.52	0/1002	0.61	1/1345 (0.1%)
62	LY	0.53	0/1132	0.61	0/1504
63	LZ	0.54	0/1130	0.64	1/1507 (0.1%)
64	La	0.60	0/1191	0.60	0/1591
65	Lb	0.42	0/889	0.61	0/1175
66	Lc	0.53	0/774	0.62	0/1038
67	Ld	0.55	0/903	0.66	1/1216 (0.1%)
68	Le	0.63	1/1071 (0.1%)	0.62	0/1429
69	Lf	0.61	0/895	0.70	0/1198
70	Lg	0.54	0/916	0.62	0/1220
71	Lh	0.50	0/1023	0.63	0/1351
72	Li	0.47	0/843	0.64	0/1115
73	Lj	0.64	0/720	0.66	0/952
74	Lk	0.50	0/575	0.62	1/761 (0.1%)
75	Ll	0.49	0/454	0.63	0/599

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
76	Lm	0.51	0/435	0.57	0/575
77	Ln	0.35	0/231	0.74	0/294
78	Lo	0.58	0/876	0.63	1/1156 (0.1%)
79	Lp	0.59	0/718	0.61	0/953
80	Lr	0.57	0/1017	0.65	0/1364
81	Ls	0.28	0/1519	0.59	1/2052 (0.0%)
82	Lt	0.26	0/1058	0.60	1/1430 (0.1%)
83	CA	0.33	0/2810	0.64	2/3780 (0.1%)
All	All	0.80	12/234805 (0.0%)	0.84	284/344182 (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	SX	0	1
13	SH	0	1
19	SW	0	1
24	SP	0	1
25	SQ	0	1
33	SZ	0	1
40	LA	0	1
41	LB	0	2
50	LL	0	1
51	LM	0	1
53	LO	0	1
58	LT	0	1
64	La	0	1
69	Lf	0	3
71	Lh	0	1
73	Lj	0	1
All	All	0	19

The worst 5 of 12 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
15	Sa	65	PRO	CG-CD	-15.32	1.00	1.50
6	SX	116	PRO	CG-CD	-8.31	1.23	1.50
41	LB	31	SER	C-N	-7.05	1.17	1.34
15	Sa	65	PRO	N-CD	6.47	1.56	1.47
68	Le	72	SER	CA-CB	-6.15	1.43	1.52

The worst 5 of 284 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
15	Sa	65	PRO	N-CD-CG	-18.65	75.22	103.20
15	Sa	65	PRO	CA-CB-CG	-11.97	81.25	104.00
1	S2	293	C	N1-C2-O2	11.07	125.54	118.90
6	SX	116	PRO	N-CD-CG	-11.01	86.68	103.20
37	L5	485	C	C2-N1-C1'	10.93	130.83	118.80

There are no chirality outliers.

5 of 19 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
13	SH	15	LYS	Peptide
24	SP	127	LYS	Peptide
25	SQ	43	GLU	Peptide
19	SW	110	ILE	Peptide
6	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
2	LW	114/124 (92%)	102 (90%)	12 (10%)	0	100 100
3	SE	260/262 (99%)	241 (93%)	19 (7%)	0	100 100
4	SI	204/206 (99%)	193 (95%)	11 (5%)	0	100 100
5	SL	151/153 (99%)	141 (93%)	10 (7%)	0	100 100
6	SX	139/141 (99%)	124 (89%)	14 (10%)	1 (1%)	19 38
7	SG	235/237 (99%)	221 (94%)	14 (6%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
8	SJ	183/185 (99%)	174 (95%)	9 (5%)	0	100	100
9	SY	129/131 (98%)	122 (95%)	7 (5%)	0	100	100
10	Se	56/58 (97%)	50 (89%)	6 (11%)	0	100	100
11	SA	219/221 (99%)	198 (90%)	20 (9%)	1 (0%)	25	46
12	SB	212/214 (99%)	197 (93%)	15 (7%)	0	100	100
13	SH	182/189 (96%)	160 (88%)	22 (12%)	0	100	100
14	SV	81/83 (98%)	75 (93%)	6 (7%)	0	100	100
15	Sa	100/102 (98%)	94 (94%)	6 (6%)	0	100	100
16	SC	220/222 (99%)	204 (93%)	16 (7%)	0	100	100
17	SN	148/150 (99%)	141 (95%)	7 (5%)	0	100	100
18	SO	138/140 (99%)	125 (91%)	13 (9%)	0	100	100
19	SW	127/129 (98%)	121 (95%)	6 (5%)	0	100	100
20	Sb	81/83 (98%)	69 (85%)	12 (15%)	0	100	100
21	SD	225/227 (99%)	208 (92%)	17 (8%)	0	100	100
22	SF	187/189 (99%)	170 (91%)	17 (9%)	0	100	100
23	SK	96/98 (98%)	86 (90%)	8 (8%)	2 (2%)	5	14
24	SP	119/121 (98%)	109 (92%)	10 (8%)	0	100	100
25	SQ	142/144 (99%)	125 (88%)	16 (11%)	1 (1%)	19	38
26	SS	143/145 (99%)	129 (90%)	14 (10%)	0	100	100
27	ST	141/143 (99%)	131 (93%)	10 (7%)	0	100	100
28	SU	102/104 (98%)	96 (94%)	6 (6%)	0	100	100
29	Sc	62/64 (97%)	56 (90%)	6 (10%)	0	100	100
30	Sd	53/55 (96%)	47 (89%)	6 (11%)	0	100	100
31	Sg	311/313 (99%)	284 (91%)	27 (9%)	0	100	100
32	SM	120/122 (98%)	109 (91%)	11 (9%)	0	100	100
33	SZ	73/75 (97%)	57 (78%)	16 (22%)	0	100	100
34	Sf	65/67 (97%)	58 (89%)	7 (11%)	0	100	100
35	CD	10/55 (18%)	10 (100%)	0	0	100	100
36	SR	133/135 (98%)	118 (89%)	14 (10%)	1 (1%)	16	35
40	LA	246/248 (99%)	220 (89%)	25 (10%)	1 (0%)	30	52
41	LB	400/402 (100%)	378 (94%)	22 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
42	LC	366/368 (100%)	338 (92%)	28 (8%)	0	100	100
43	LD	291/293 (99%)	276 (95%)	15 (5%)	0	100	100
44	LE	232/247 (94%)	208 (90%)	24 (10%)	0	100	100
45	LF	223/225 (99%)	210 (94%)	13 (6%)	0	100	100
46	LG	239/241 (99%)	224 (94%)	15 (6%)	0	100	100
47	LH	188/190 (99%)	174 (93%)	14 (7%)	0	100	100
48	LI	198/213 (93%)	187 (94%)	11 (6%)	0	100	100
49	LJ	174/176 (99%)	160 (92%)	14 (8%)	0	100	100
50	LL	208/210 (99%)	194 (93%)	14 (7%)	0	100	100
51	LM	137/139 (99%)	129 (94%)	7 (5%)	1 (1%)	19	38
52	LN	201/203 (99%)	190 (94%)	10 (5%)	1 (0%)	25	46
53	LO	199/201 (99%)	191 (96%)	8 (4%)	0	100	100
54	LP	151/153 (99%)	144 (95%)	7 (5%)	0	100	100
55	LQ	185/187 (99%)	172 (93%)	13 (7%)	0	100	100
56	LR	185/187 (99%)	180 (97%)	5 (3%)	0	100	100
57	LS	173/175 (99%)	161 (93%)	12 (7%)	0	100	100
58	LT	157/159 (99%)	146 (93%)	11 (7%)	0	100	100
59	LU	99/101 (98%)	84 (85%)	15 (15%)	0	100	100
60	LV	129/131 (98%)	122 (95%)	7 (5%)	0	100	100
61	LX	118/120 (98%)	117 (99%)	1 (1%)	0	100	100
62	LY	132/134 (98%)	128 (97%)	4 (3%)	0	100	100
63	LZ	133/135 (98%)	123 (92%)	10 (8%)	0	100	100
64	La	145/147 (99%)	137 (94%)	8 (6%)	0	100	100
65	Lb	105/121 (87%)	97 (92%)	8 (8%)	0	100	100
66	Lc	96/98 (98%)	85 (88%)	11 (12%)	0	100	100
67	Ld	105/107 (98%)	97 (92%)	8 (8%)	0	100	100
68	Le	126/128 (98%)	118 (94%)	7 (6%)	1 (1%)	16	35
69	Lf	107/109 (98%)	97 (91%)	9 (8%)	1 (1%)	14	32
70	Lg	112/114 (98%)	111 (99%)	1 (1%)	0	100	100
71	Lh	120/122 (98%)	118 (98%)	2 (2%)	0	100	100
72	Li	100/102 (98%)	95 (95%)	5 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
73	Lj	84/86 (98%)	79 (94%)	5 (6%)	0	100 100
74	Lk	67/69 (97%)	64 (96%)	3 (4%)	0	100 100
75	Ll	48/50 (96%)	46 (96%)	2 (4%)	0	100 100
76	Lm	50/52 (96%)	50 (100%)	0	0	100 100
77	Ln	22/24 (92%)	22 (100%)	0	0	100 100
78	Lo	103/105 (98%)	98 (95%)	5 (5%)	0	100 100
79	Lp	89/91 (98%)	85 (96%)	4 (4%)	0	100 100
80	Lr	123/125 (98%)	115 (94%)	8 (6%)	0	100 100
81	Ls	194/196 (99%)	180 (93%)	14 (7%)	0	100 100
82	Lt	137/141 (97%)	106 (77%)	30 (22%)	1 (1%)	19 38
83	CA	350/356 (98%)	329 (94%)	21 (6%)	0	100 100
All	All	12008/12268 (98%)	11130 (93%)	866 (7%)	12 (0%)	50 71

5 of 12 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
23	SK	96	ARG
36	SR	124	VAL
52	LN	124	ASP
6	SX	127	ASN
11	SA	12	GLU

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	LW	97/103 (94%)	89 (92%)	8 (8%)	9 21
3	SE	224/224 (100%)	209 (93%)	15 (7%)	13 30
4	SI	178/178 (100%)	164 (92%)	14 (8%)	10 23
5	SL	137/137 (100%)	125 (91%)	12 (9%)	8 18
6	SX	113/113 (100%)	102 (90%)	11 (10%)	6 15

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
7	SG	207/207 (100%)	193 (93%)	14 (7%)	13 29
8	SJ	161/161 (100%)	147 (91%)	14 (9%)	8 18
9	SY	113/113 (100%)	100 (88%)	13 (12%)	4 10
10	Se	47/47 (100%)	39 (83%)	8 (17%)	1 3
11	SA	183/183 (100%)	169 (92%)	14 (8%)	10 24
12	SB	195/195 (100%)	175 (90%)	20 (10%)	6 13
13	SH	166/169 (98%)	152 (92%)	14 (8%)	9 19
14	SV	67/67 (100%)	61 (91%)	6 (9%)	8 17
15	Sa	89/89 (100%)	81 (91%)	8 (9%)	8 17
16	SC	188/188 (100%)	171 (91%)	17 (9%)	8 17
17	SN	130/130 (100%)	122 (94%)	8 (6%)	15 33
18	SO	110/110 (100%)	105 (96%)	5 (4%)	23 47
19	SW	112/112 (100%)	105 (94%)	7 (6%)	15 32
20	Sb	75/75 (100%)	71 (95%)	4 (5%)	19 40
21	SD	190/190 (100%)	171 (90%)	19 (10%)	6 14
22	SF	159/159 (100%)	137 (86%)	22 (14%)	3 6
23	SK	89/89 (100%)	82 (92%)	7 (8%)	10 23
24	SP	107/107 (100%)	96 (90%)	11 (10%)	6 13
25	SQ	119/119 (100%)	111 (93%)	8 (7%)	13 30
26	SS	126/126 (100%)	114 (90%)	12 (10%)	7 15
27	ST	113/113 (100%)	103 (91%)	10 (9%)	8 18
28	SU	94/94 (100%)	82 (87%)	12 (13%)	3 7
29	Sc	57/57 (100%)	48 (84%)	9 (16%)	2 4
30	Sd	48/48 (100%)	45 (94%)	3 (6%)	15 32
31	Sg	272/272 (100%)	250 (92%)	22 (8%)	9 21
32	SM	102/104 (98%)	89 (87%)	13 (13%)	3 8
33	SZ	66/66 (100%)	60 (91%)	6 (9%)	7 17
34	Sf	60/60 (100%)	53 (88%)	7 (12%)	4 9
35	CD	11/46 (24%)	11 (100%)	0	100 100
36	SR	122/122 (100%)	110 (90%)	12 (10%)	6 14
40	LA	190/190 (100%)	175 (92%)	15 (8%)	10 23

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
41	LB	348/348 (100%)	323 (93%)	25 (7%)	12 27
42	LC	306/306 (100%)	283 (92%)	23 (8%)	11 25
43	LD	246/247 (100%)	227 (92%)	19 (8%)	10 24
44	LE	209/220 (95%)	191 (91%)	18 (9%)	8 19
45	LF	194/194 (100%)	180 (93%)	14 (7%)	12 27
46	LG	203/205 (99%)	189 (93%)	14 (7%)	13 28
47	LH	169/169 (100%)	156 (92%)	13 (8%)	10 24
48	LI	172/180 (96%)	160 (93%)	12 (7%)	12 28
49	LJ	148/148 (100%)	135 (91%)	13 (9%)	8 18
50	LL	176/176 (100%)	164 (93%)	12 (7%)	13 29
51	LM	118/118 (100%)	112 (95%)	6 (5%)	20 42
52	LN	171/171 (100%)	164 (96%)	7 (4%)	26 50
53	LO	173/173 (100%)	164 (95%)	9 (5%)	19 41
54	LP	134/134 (100%)	124 (92%)	10 (8%)	11 25
55	LQ	164/164 (100%)	157 (96%)	7 (4%)	25 49
56	LR	166/166 (100%)	151 (91%)	15 (9%)	8 17
57	LS	156/156 (100%)	148 (95%)	8 (5%)	20 42
58	LT	139/139 (100%)	127 (91%)	12 (9%)	8 19
59	LU	91/91 (100%)	78 (86%)	13 (14%)	2 6
60	LV	101/101 (100%)	97 (96%)	4 (4%)	27 51
61	LX	108/108 (100%)	104 (96%)	4 (4%)	29 55
62	LY	124/124 (100%)	116 (94%)	8 (6%)	14 31
63	LZ	117/117 (100%)	107 (92%)	10 (8%)	8 19
64	La	120/120 (100%)	114 (95%)	6 (5%)	20 42
65	Lb	88/101 (87%)	77 (88%)	11 (12%)	3 8
66	Lc	83/83 (100%)	75 (90%)	8 (10%)	7 15
67	Ld	98/98 (100%)	94 (96%)	4 (4%)	26 50
68	Le	114/114 (100%)	107 (94%)	7 (6%)	15 34
69	Lf	88/88 (100%)	83 (94%)	5 (6%)	17 37
70	Lg	98/98 (100%)	92 (94%)	6 (6%)	15 34
71	Lh	109/109 (100%)	106 (97%)	3 (3%)	38 65

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
72	Li	86/86 (100%)	75 (87%)	11 (13%)	3 7
73	Lj	73/73 (100%)	66 (90%)	7 (10%)	7 15
74	Lk	64/64 (100%)	62 (97%)	2 (3%)	35 61
75	Ll	47/47 (100%)	41 (87%)	6 (13%)	3 7
76	Lm	48/48 (100%)	46 (96%)	2 (4%)	25 49
77	Ln	23/23 (100%)	21 (91%)	2 (9%)	8 18
78	Lo	93/93 (100%)	89 (96%)	4 (4%)	25 49
79	Lp	74/74 (100%)	65 (88%)	9 (12%)	4 8
80	Lr	109/109 (100%)	97 (89%)	12 (11%)	5 11
81	Ls	162/164 (99%)	150 (93%)	12 (7%)	11 25
82	Lt	112/115 (97%)	106 (95%)	6 (5%)	18 39
83	CA	303/305 (99%)	278 (92%)	25 (8%)	9 20
All	All	10442/10530 (99%)	9618 (92%)	824 (8%)	13 23

5 of 824 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
43	LD	256	LYS
52	LN	125	SER
83	CA	21	TYR
44	LE	183	ARG
43	LD	249	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 14 such sidechains are listed below:

Mol	Chain	Res	Type
36	SR	26	ASN
40	LA	162	ASN
83	CA	318	GLN
68	Le	92	ASN
81	Ls	41	GLN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	S2	1715/1740 (98%)	397 (23%)	7 (0%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
37	L5	3638/3740 (97%)	803 (22%)	18 (0%)
38	L7	119/120 (99%)	11 (9%)	0
39	L8	155/156 (99%)	28 (18%)	0
All	All	5627/5756 (97%)	1239 (22%)	25 (0%)

5 of 1239 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	S2	4	C
1	S2	13	C
1	S2	25	A
1	S2	33	G
1	S2	41	G

5 of 25 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
37	L5	2416	G
37	L5	2760	G
37	L5	4913	G
37	L5	2675	G
37	L5	2786	C

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 261 ligands modelled in this entry, 261 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

The following chains have linkage breaks:

Mol	Chain	Number of breaks
37	L5	7
1	S2	6
82	Lt	1
41	LB	1

The worst 5 of 15 chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	S2	753:C	O3'	785:C	P	27.44
1	L5	2910:G	O3'	3584:C	P	21.27
1	L5	760:G	O3'	903:C	P	17.40
1	S2	698:G	O3'	730:C	P	16.57
1	L5	4776:G	O3'	4858:C	P	16.53

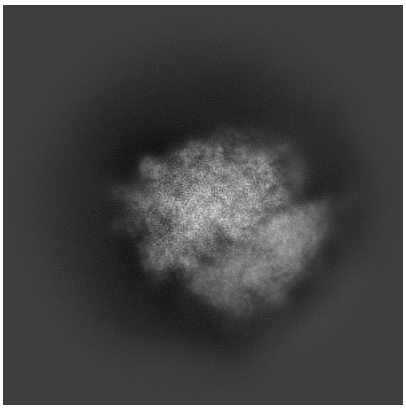
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-42317. These allow visual inspection of the internal detail of the map and identification of artifacts.

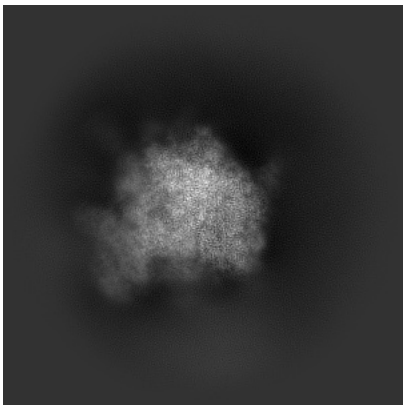
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

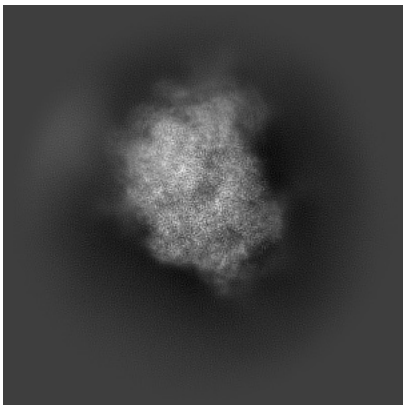
6.1.1 Primary map



X

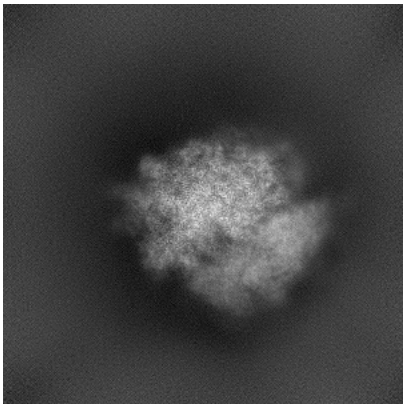


Y

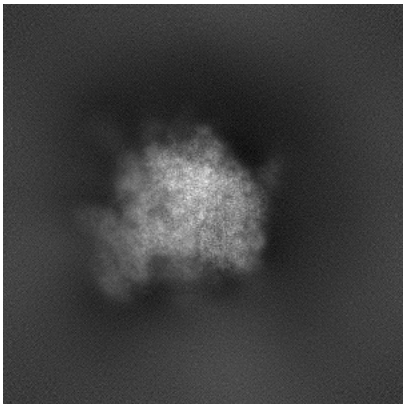


Z

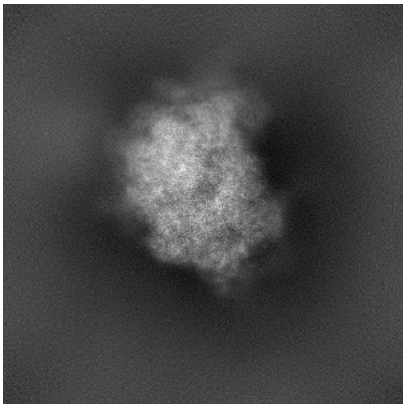
6.1.2 Raw map



X



Y

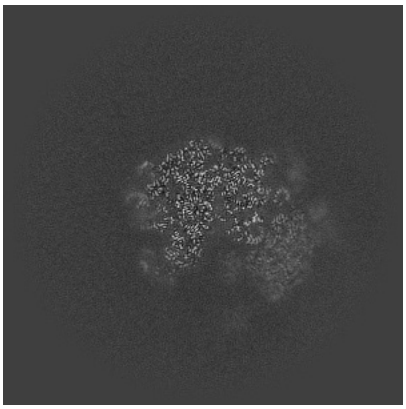


Z

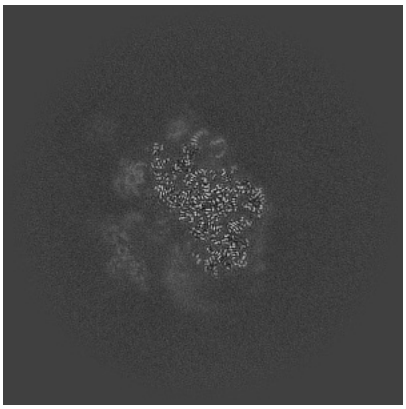
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

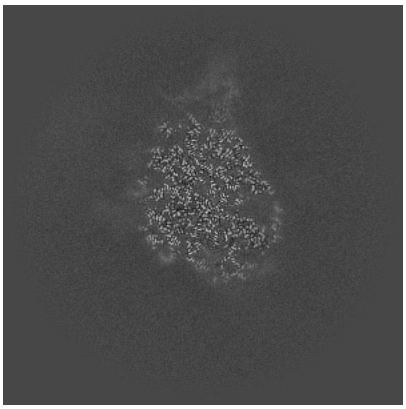
6.2.1 Primary map



X Index: 256

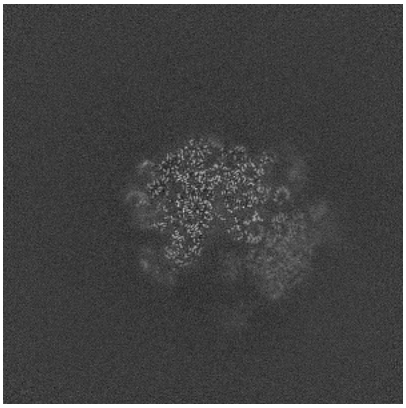


Y Index: 256

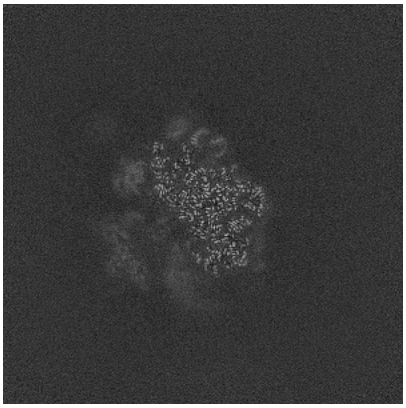


Z Index: 256

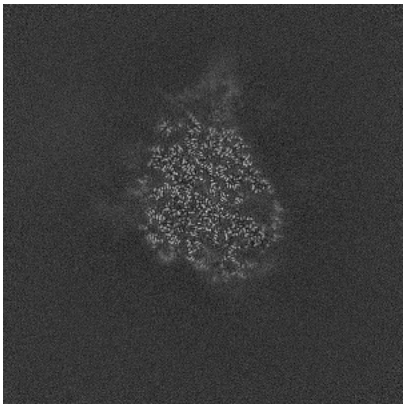
6.2.2 Raw map



X Index: 256



Y Index: 256

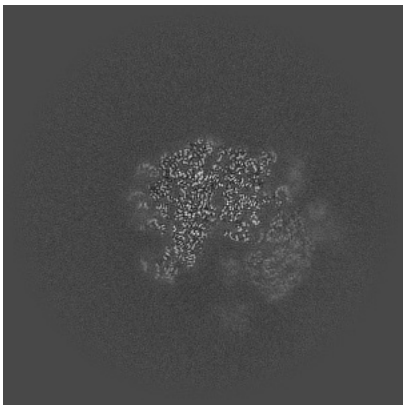


Z Index: 256

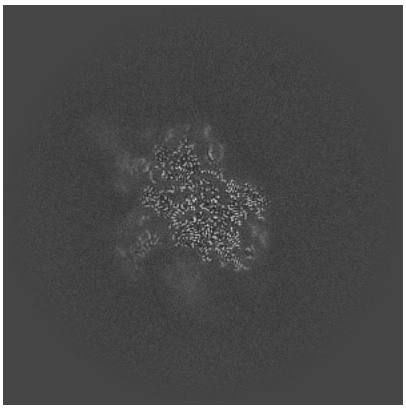
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

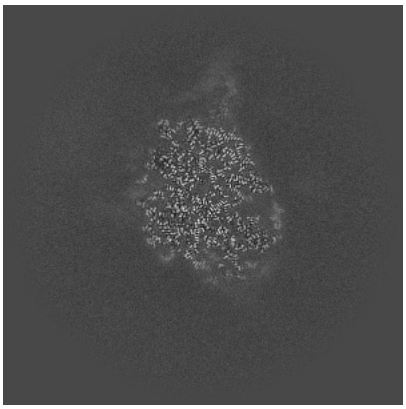
6.3.1 Primary map



X Index: 253

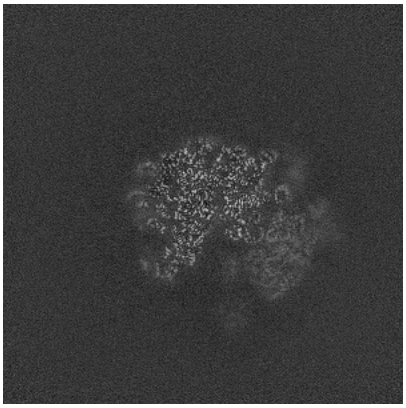


Y Index: 243

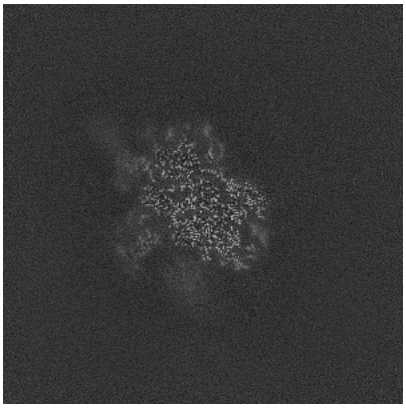


Z Index: 258

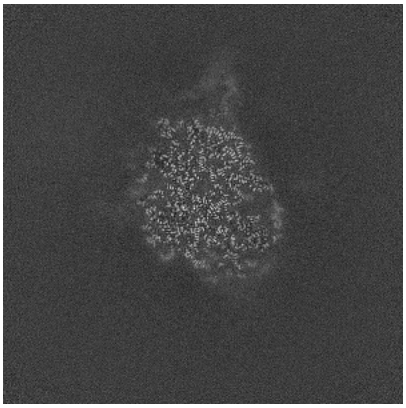
6.3.2 Raw map



X Index: 254



Y Index: 243

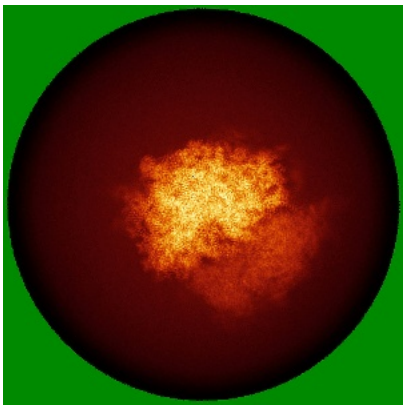


Z Index: 258

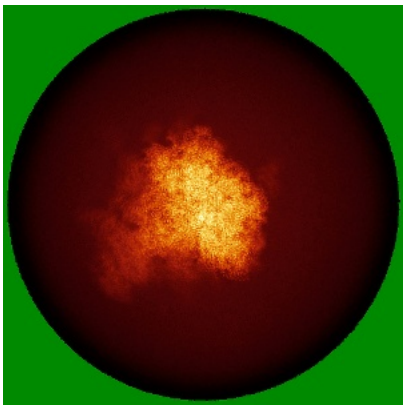
The images above show the largest variance slices of the map in three orthogonal directions.

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

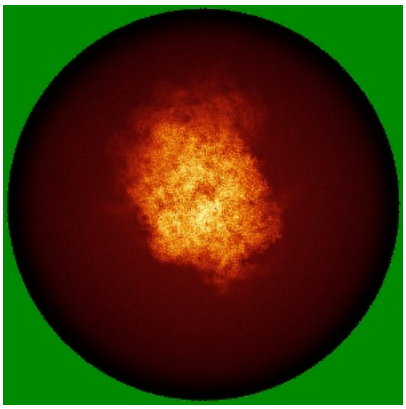
6.4.1 Primary map



X

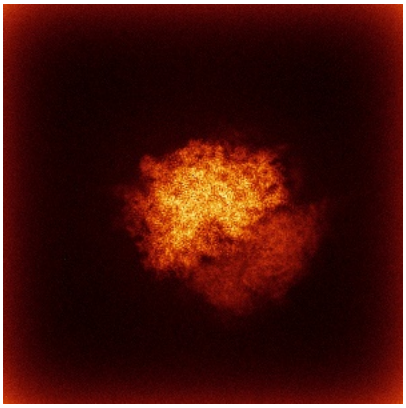


Y

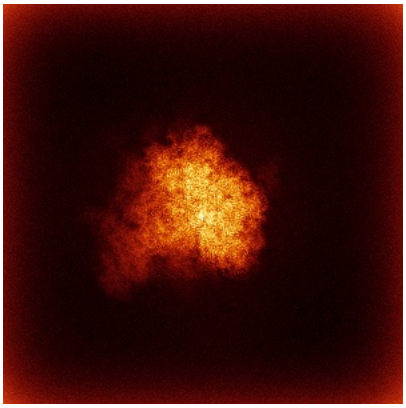


Z

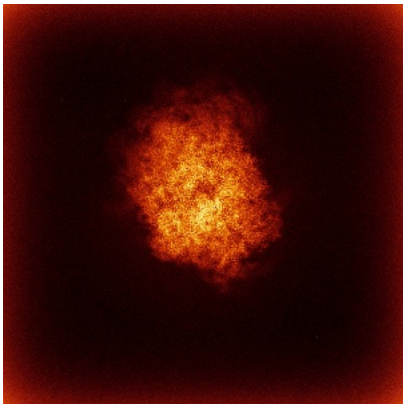
6.4.2 Raw map



X



Y



Z

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

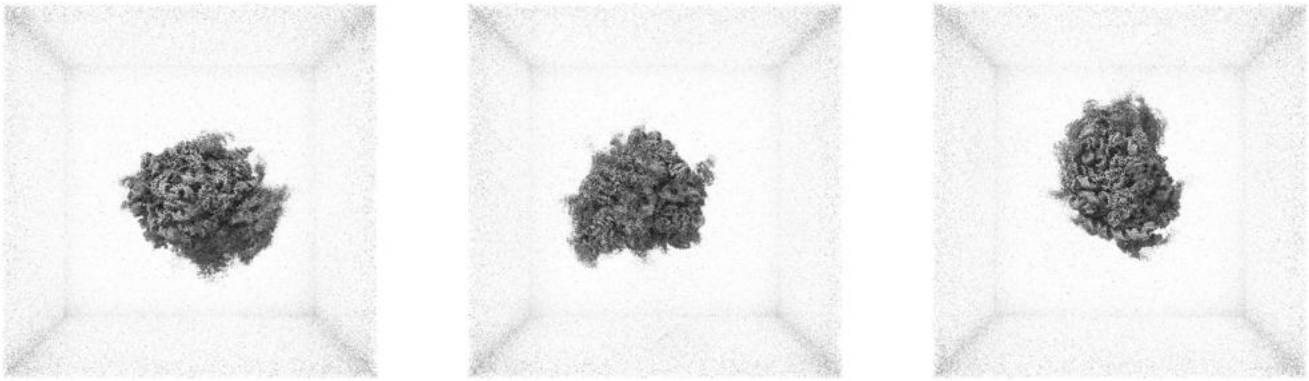
6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.153. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

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

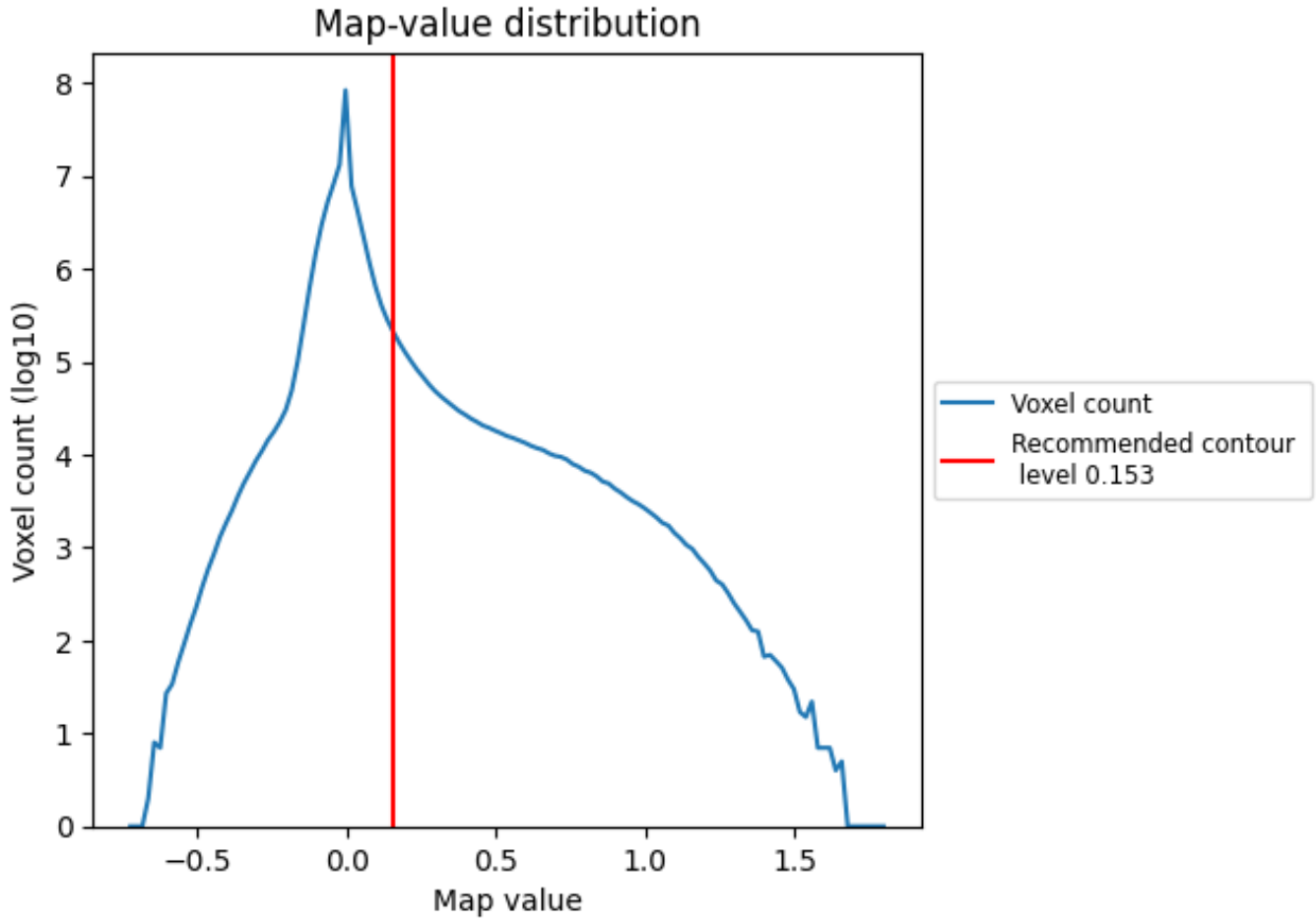
6.6 Mask visualisation (i)

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

7 Map analysis

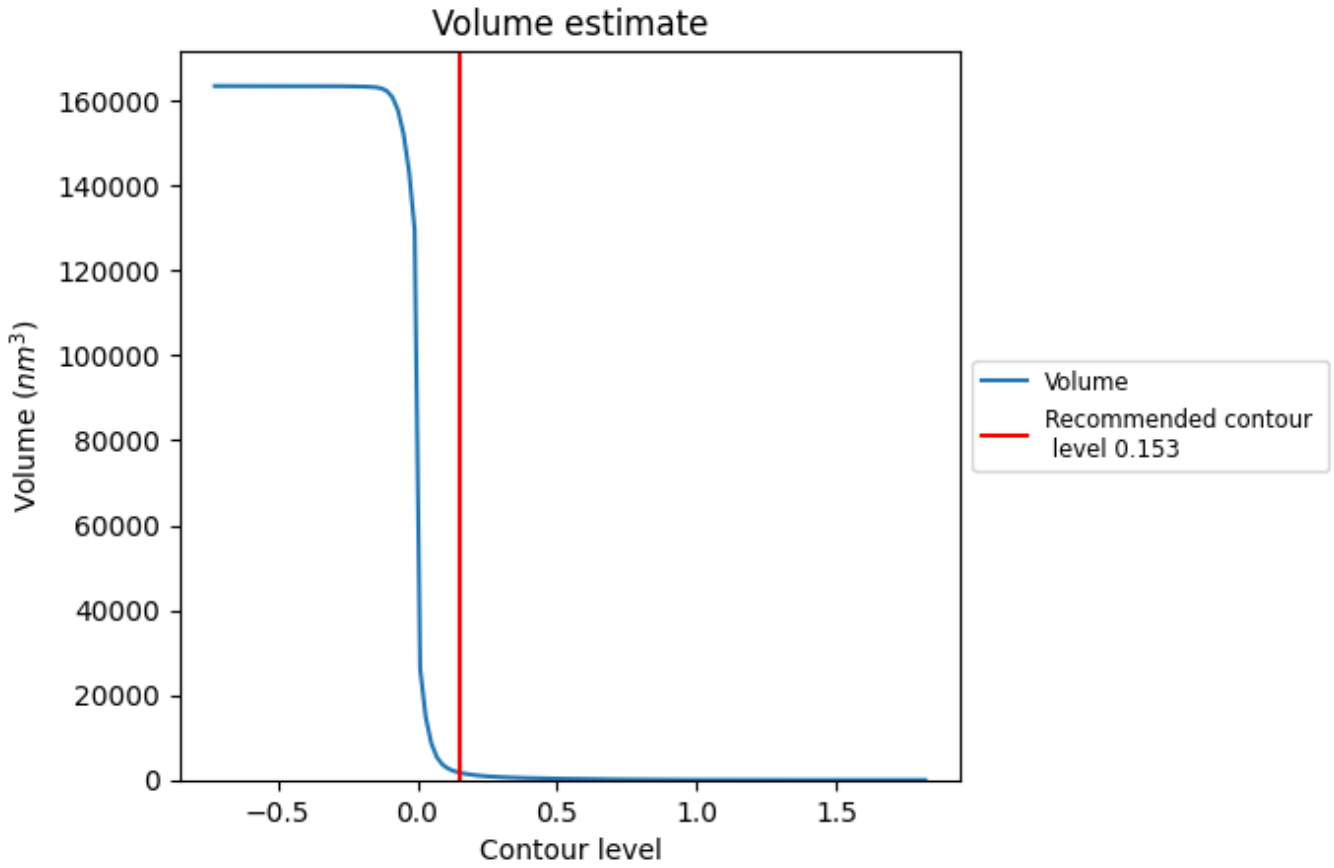
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

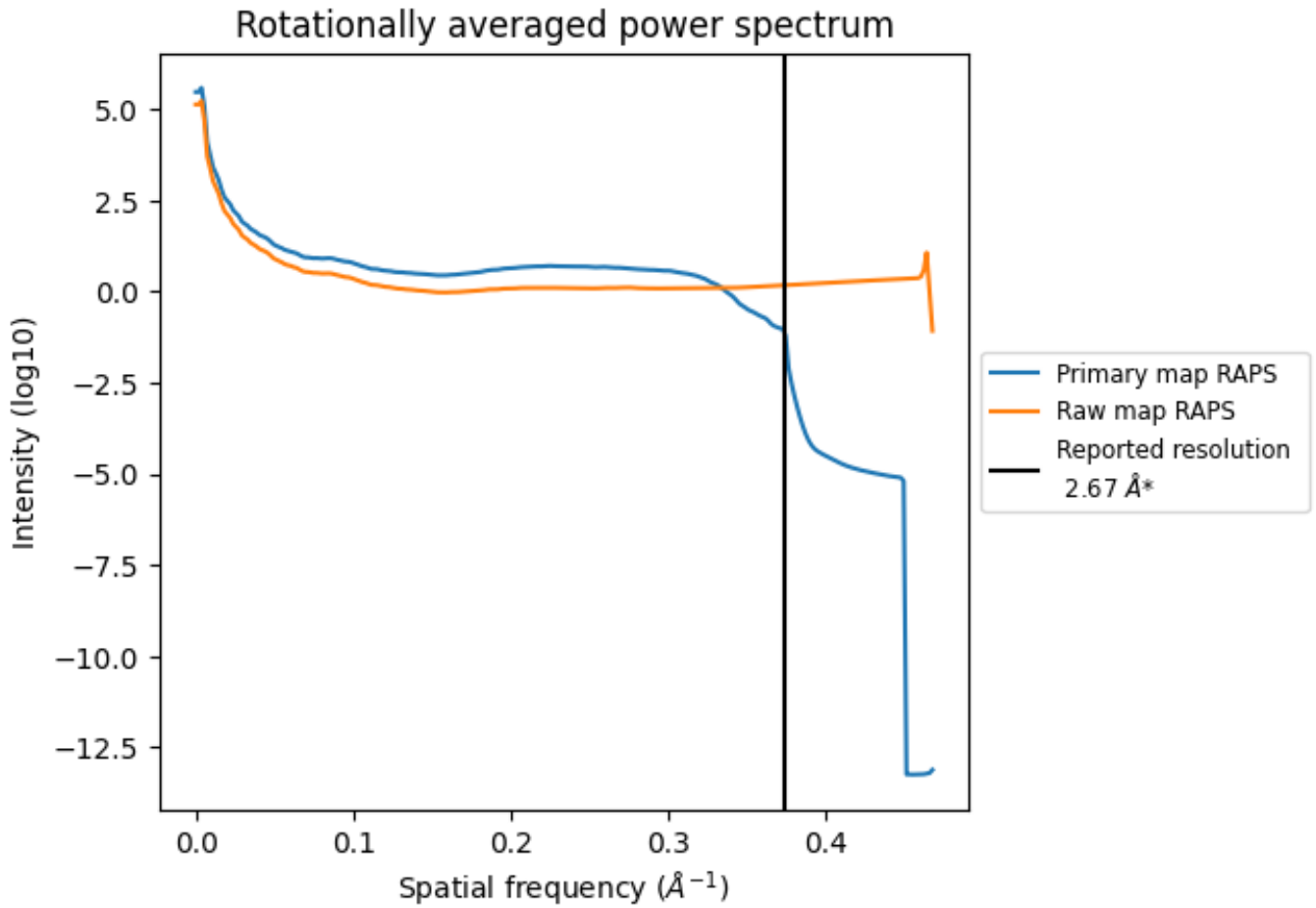
7.2 Volume estimate



The volume at the recommended contour level is 1701 nm^3; this corresponds to an approximate mass of 1536 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)

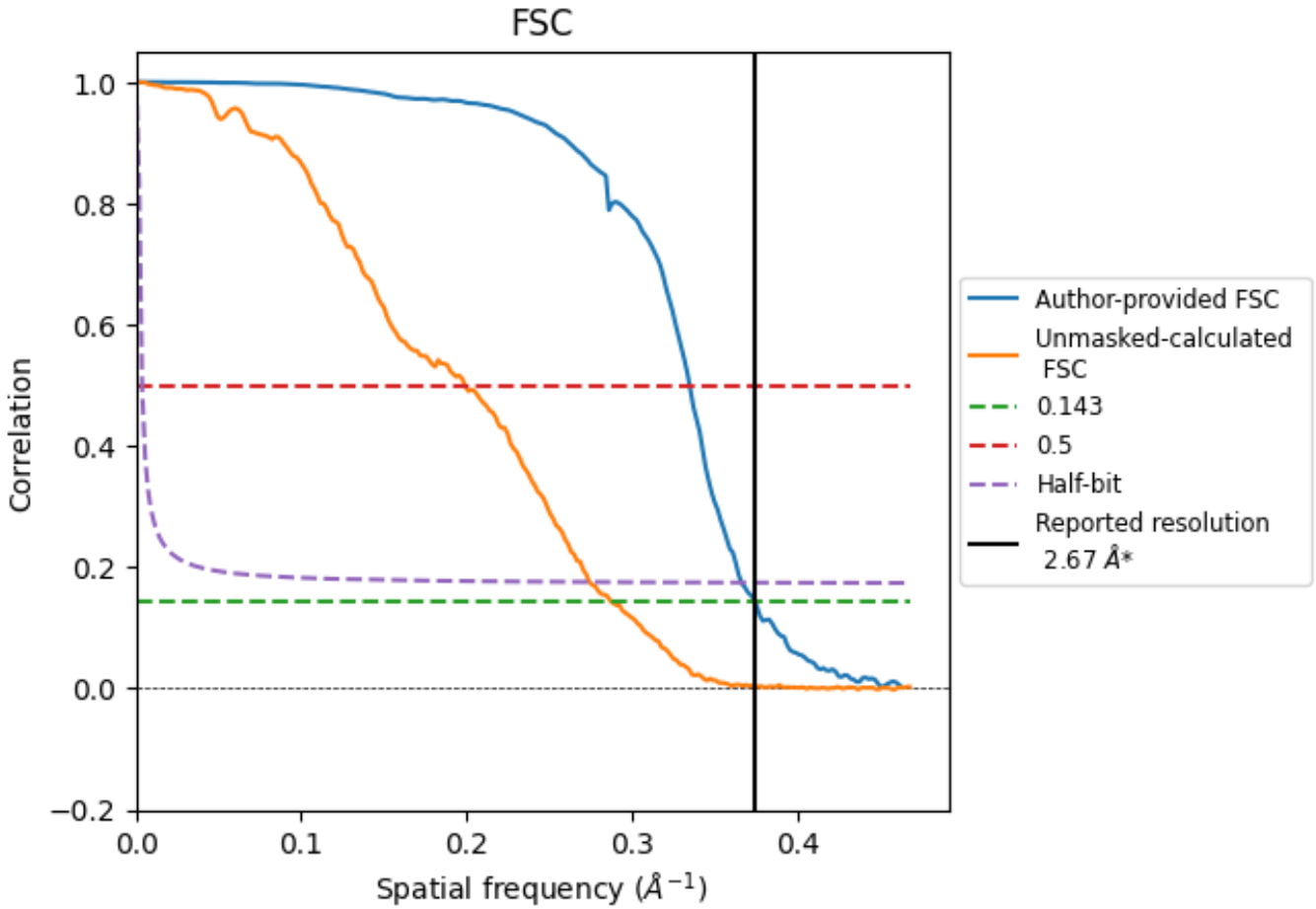


*Reported resolution corresponds to spatial frequency of 0.375 $Å^{-1}$

8 Fourier-Shell correlation

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

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.375 Å^{-1}

8.2 Resolution estimates (i)

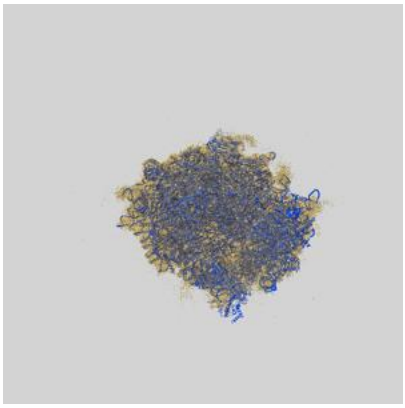
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.67	-	-
Author-provided FSC curve	2.67	2.99	2.73
Unmasked-calculated*	3.48	5.03	3.65

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.48 differs from the reported value 2.67 by more than 10 %

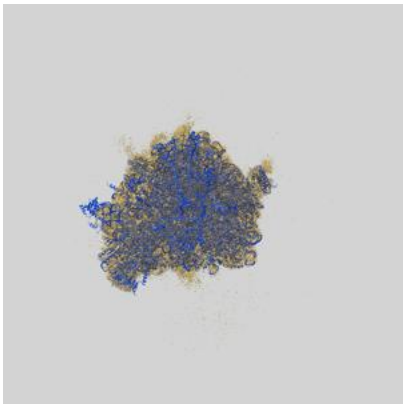
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-42317 and PDB model 8UJB. Per-residue inclusion information can be found in section 3 on page 20.

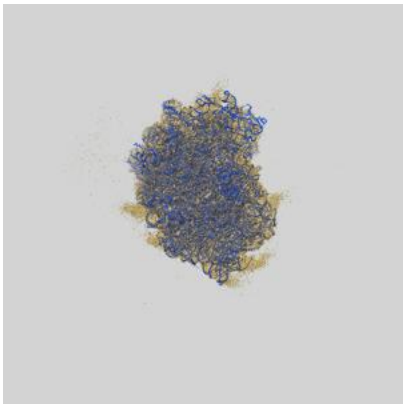
9.1 Map-model overlay



X



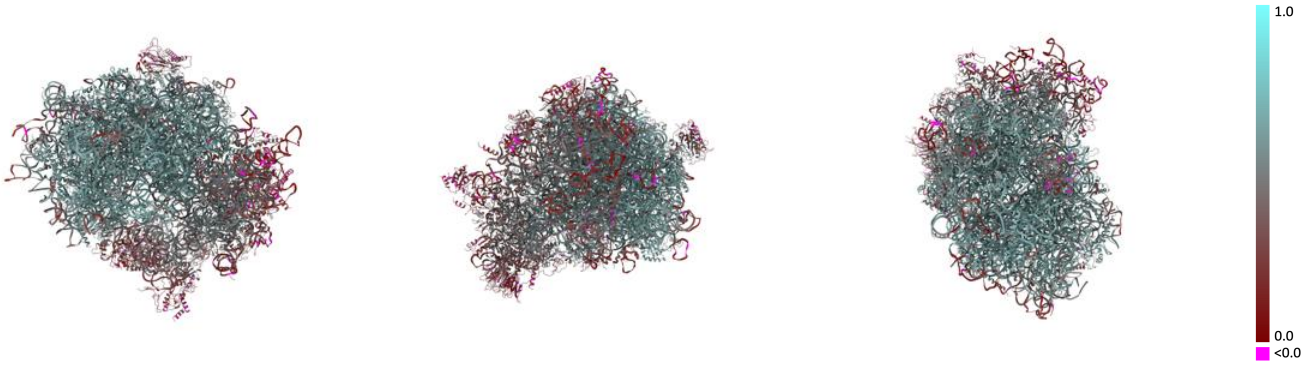
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.153 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

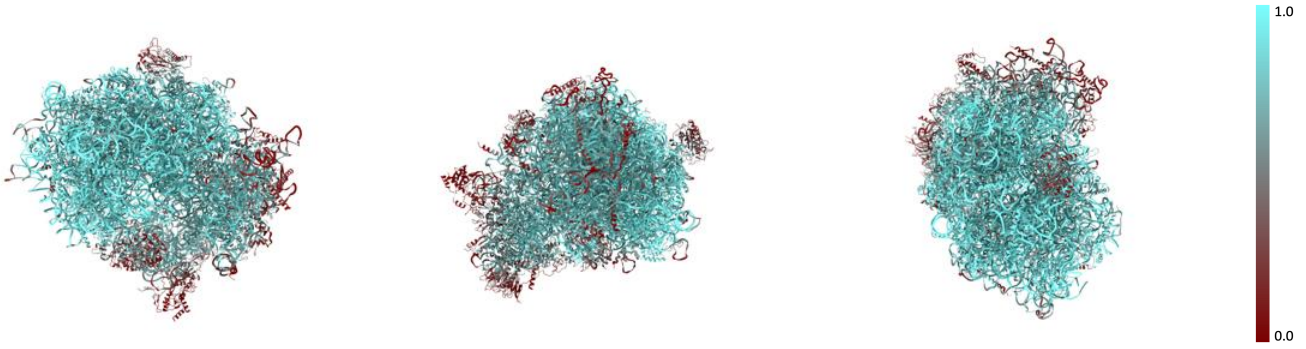
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

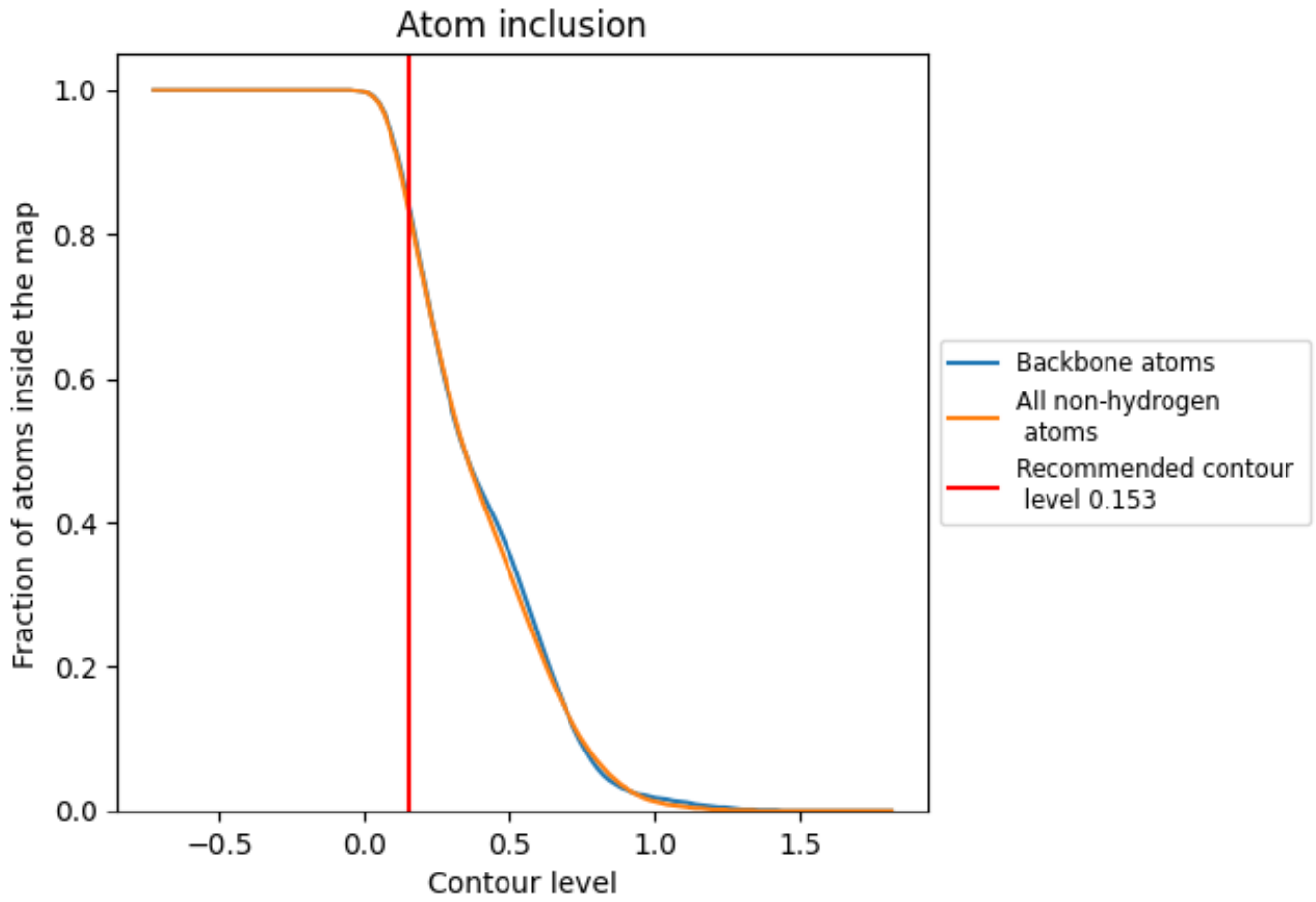
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.153).

9.4 Atom inclusion (i)



At the recommended contour level, 84% of all backbone atoms, 83% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (0.153) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8340	0.5180
CA	0.3920	0.3530
CD	0.0100	0.1960
L5	0.9390	0.5680
L7	0.9940	0.6210
L8	0.9600	0.5950
LA	0.9810	0.6330
LB	0.9550	0.6210
LC	0.9520	0.6140
LD	0.9330	0.5930
LE	0.8740	0.5590
LF	0.9670	0.6230
LG	0.8760	0.5740
LH	0.9580	0.6160
LI	0.9690	0.6250
LJ	0.8390	0.5360
LL	0.9080	0.5900
LM	0.9480	0.6060
LN	0.9940	0.6420
LO	0.9700	0.6280
LP	0.9690	0.6330
LQ	0.9830	0.6410
LR	0.8430	0.5620
LS	0.9850	0.6370
LT	0.9390	0.6060
LU	0.8720	0.5360
LV	0.9670	0.6250
LW	0.3190	0.2110
LX	0.9470	0.6140
LY	0.9490	0.6160
LZ	0.9600	0.6100
La	0.9740	0.6370
Lb	0.8830	0.5710
Lc	0.9420	0.5910
Ld	0.9390	0.6020

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Chain	Atom inclusion	Q-score
Le	0.9860	0.6370
Lf	0.9770	0.6360
Lg	0.9440	0.6080
Lh	0.9370	0.6100
Li	0.9400	0.6080
Lj	0.9840	0.6340
Lk	0.8550	0.5670
Ll	0.9880	0.6240
Lm	0.9500	0.6200
Ln	0.9670	0.6160
Lo	0.9500	0.6180
Lp	0.9700	0.6170
Lr	0.9640	0.6250
Ls	0.3820	0.3290
Lt	0.1770	0.1960
S2	0.8030	0.4400
SA	0.6720	0.4540
SB	0.7110	0.4800
SC	0.7830	0.4880
SD	0.5110	0.3920
SE	0.6270	0.4050
SF	0.6180	0.3750
SG	0.4580	0.3260
SH	0.4590	0.3410
SI	0.6370	0.4680
SJ	0.6320	0.4270
SK	0.3540	0.3150
SL	0.6630	0.4940
SM	0.0210	0.1790
SN	0.7820	0.5190
SO	0.7250	0.4950
SP	0.4180	0.3290
SQ	0.6190	0.3630
SR	0.4800	0.3480
SS	0.4760	0.3300
ST	0.4780	0.3470
SU	0.5050	0.3400
SV	0.6850	0.4490
SW	0.8370	0.5000
SX	0.7750	0.4810
SY	0.4710	0.2930
SZ	0.3290	0.2350

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Chain	Atom inclusion	Q-score
Sa	0.8090	0.5050
Sb	0.6120	0.4250
Sc	0.5600	0.3700
Sd	0.7280	0.4230
Se	0.5950	0.3880
Sf	0.1760	0.2160
Sg	0.2910	0.2800