wwPDB EM Validation Summary Report

May 12, 2025 – 04:13 AM JST

PDB ID	:	8ZHC / pdb_00008zhc
EMDB ID	:	EMD-60098
Title	:	pre-frameshift complex of yeast 80S ribosome with eRF1 and mRNA of WNV
Authors	:	Wu, M.; Yuan, S.
Deposited on	:	2024-05-10
Resolution	:	2.30 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 ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references ⓘ) were used in the production of this report:

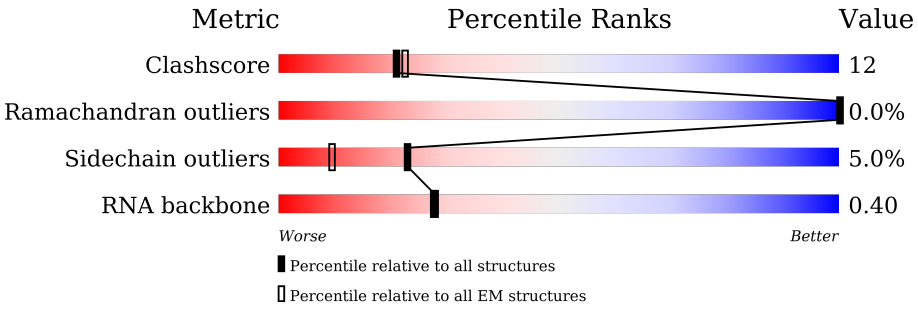
EMDB validation analysis	:	0.0.1.dev118
MolProbity	:	4-5-2 with Phenix2.0rc1
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline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

1 Overall quality at a glance

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

The reported resolution of this entry is 2.30 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	LA	3393	7%, 43%, 42%, 9%, 6%
2	LB	121	50%, 40%, 9%
3	LC	158	37%, 50%, 13%
4	LD	251	72%, 27%
5	LE	386	63%, 36%
6	LF	361	68%, 30%
7	LG	294	15%, 69%, 30%

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Mol	Chain	Length	Quality of chain
8	LH	175	7% 59% 34% 5%
9	LI	222	71% 27%
10	LJ	233	8% 65% 33%
11	LK	191	5% 63% 33%
12	LL	218	66% 33%
13	LM	169	62% 34%
14	LN	193	64% 32%
15	LO	136	58% 38%
16	LP	203	68% 31%
17	LQ	197	73% 26%
18	LR	183	6% 75% 25%
19	LS	185	72% 28%
20	LT	188	7% 72% 27%
21	LU	171	65% 33%
22	LV	159	66% 33%
23	LW	100	8% 62% 34%
24	LX	136	75% 25%
25	LY	65	74% 23%
26	LZ	121	66% 32%
27	La	125	17% 57% 38% 5%
28	Lb	135	69% 27%
29	Lc	148	66% 33%
30	Ld	58	71% 28%
31	Le	96	73% 23%
32	Lf	109	8% 66% 32%

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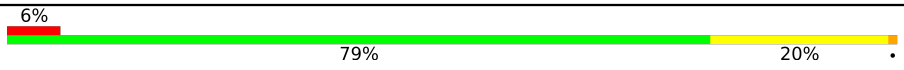
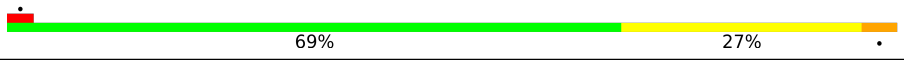
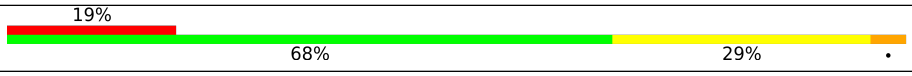
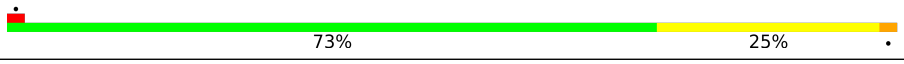
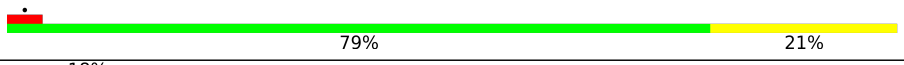
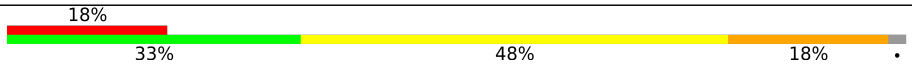
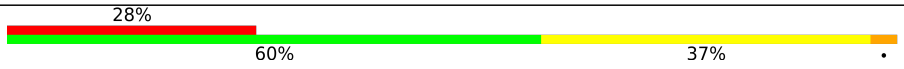
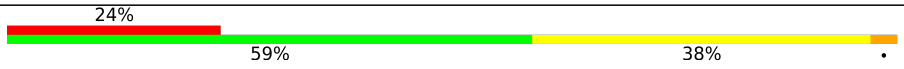
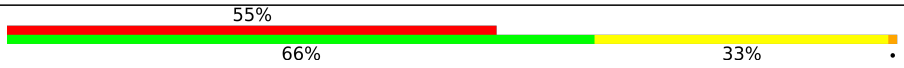
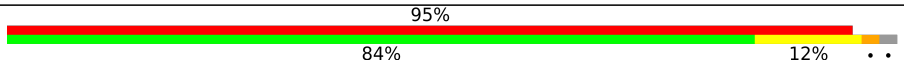
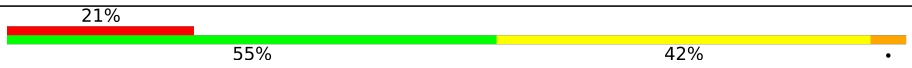
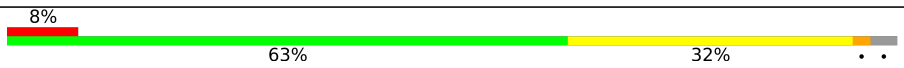
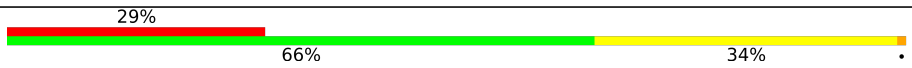
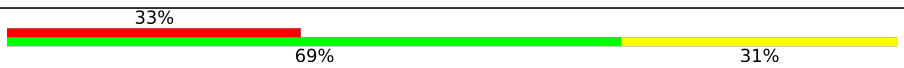
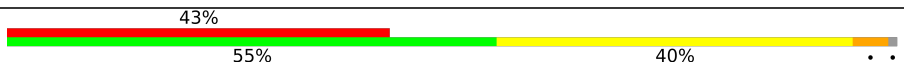
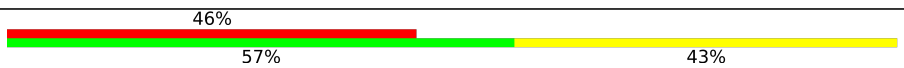
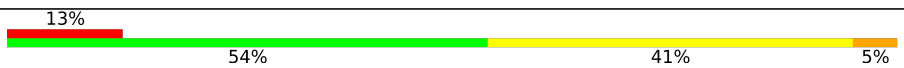
Mol	Chain	Length	Quality of chain
33	Lg	127	
34	Lh	106	
35	Li	112	
36	Lj	119	
37	Lk	99	
38	Ll	81	
39	Lm	77	
40	Ln	50	
41	Lo	52	
42	Lp	25	
43	Lq	103	
44	Lr	91	
45	S2	1799	
46	SA	223	
47	SB	206	
48	SC	92	
49	SD	124	
50	SE	117	
51	SF	141	
52	SG	125	
53	SH	145	
54	SI	143	
55	SJ	101	
56	SK	82	
57	SL	63	

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Mol	Chain	Length	Quality of chain
58	SM	53	17% 64% 34%
59	SN	73	97% 77% 23%
60	SO	312	55% 61% 38%
61	SP	206	66% 33%
62	SQ	232	5% 56% 38%
63	SR	217	67% 29%
64	SS	260	65% 31%
65	ST	228	15% 66% 33%
66	SU	185	10% 68% 29%
67	SV	199	57% 35% 6%
68	SW	185	9% 56% 42%
69	SX	146	5% 71% 24%
70	SY	150	74% 24%
71	SZ	128	65% 32%
72	Sa	87	67% 32%
73	Sb	129	71% 29%
74	Sc	144	69% 31%
75	Sd	134	8% 66% 34%
76	Se	97	73% 27%
77	Sf	81	7% 74% 23%
78	Sg	57	21% 72% 28%
79	Ta	77	16% 40% 47% 13%
80	eR	446	79% 70% 23% 6%
81	mR	25	40% 60%
82	pp	32	62% 38% 44% 12%

2 Entry composition (i)

There are 82 unique types of molecules in this entry. The entry contains 204434 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 25S rRNA (3393-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	LA	3184	68091	30415	12259	22233	3184	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LA	?	-	G	deletion	GB 1262303

- Molecule 2 is a RNA chain called 5S rRNA (121-MER).

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

- Molecule 3 is a RNA chain called 5.8S rRNA (158-MER).

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

- Molecule 4 is a protein called Large ribosomal subunit protein uL2A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	LD	251	1899	1182	385	331	1	0	0

- Molecule 5 is a protein called Large ribosomal subunit protein uL3.

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

- Molecule 6 is a protein called Large ribosomal subunit protein uL4A.

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

- Molecule 7 is a protein called Large ribosomal subunit protein uL18.

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

- Molecule 8 is a protein called Large ribosomal subunit protein eL6B.

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

- Molecule 9 is a protein called Large ribosomal subunit protein uL30A.

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

- Molecule 10 is a protein called Large ribosomal subunit protein eL8A.

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

- Molecule 11 is a protein called Large ribosomal subunit protein uL6A.

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

- Molecule 12 is a protein called Large ribosomal subunit protein uL16.

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

- Molecule 13 is a protein called Large ribosomal subunit protein uL5B.

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

- Molecule 14 is a protein called Large ribosomal subunit protein eL13A.

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

- Molecule 15 is a protein called Large ribosomal subunit protein eL14A.

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

- Molecule 16 is a protein called Large ribosomal subunit protein eL15A.

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

- Molecule 17 is a protein called Large ribosomal subunit protein uL13A.

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

- Molecule 18 is a protein called Large ribosomal subunit protein uL22A.

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

- Molecule 19 is a protein called Large ribosomal subunit protein eL18A.

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

- Molecule 20 is a protein called Large ribosomal subunit protein eL19A.

Mol	Chain	Residues	Atoms				AltConf	Trace
20	LT	188	Total 1515	C 932	N 323	O 260	0	0

- Molecule 21 is a protein called Large ribosomal subunit protein eL20A.

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

- Molecule 22 is a protein called Large ribosomal subunit protein eL21A.

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

- Molecule 23 is a protein called Large ribosomal subunit protein eL22A.

Mol	Chain	Residues	Atoms				AltConf	Trace
23	LW	100	Total 796	C 516	N 131	O 149	0	0

- Molecule 24 is a protein called Large ribosomal subunit protein uL14A.

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

- Molecule 25 is a protein called Large ribosomal subunit protein eL24A.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	LY	65	Total 528	C 339	N 104	O 84	S 1	0	0

- Molecule 26 is a protein called Large ribosomal subunit protein uL23.

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

- Molecule 27 is a protein called Large ribosomal subunit protein uL24A.

Mol	Chain	Residues	Atoms				AltConf	Trace
27	La	125	Total 984	C 620	N 191	O 173	0	0

- Molecule 28 is a protein called Large ribosomal subunit protein eL27A.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	Lb	135	Total 1080	C 701	N 199	O 180	0	0

- Molecule 29 is a protein called Large ribosomal subunit protein uL15.

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

- Molecule 30 is a protein called Large ribosomal subunit protein eL29.

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

- Molecule 31 is a protein called Large ribosomal subunit protein eL30.

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

- Molecule 32 is a protein called Large ribosomal subunit protein eL31A.

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

- Molecule 33 is a protein called Large ribosomal subunit protein eL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Lg	127	Total 1017	C 644	N 205	O 167	S 1	0	0

- Molecule 34 is a protein called Large ribosomal subunit protein eL33A.

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

- Molecule 35 is a protein called Large ribosomal subunit protein eL34A.

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

- Molecule 36 is a protein called Large ribosomal subunit protein uL29A.

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

- Molecule 37 is a protein called Large ribosomal subunit protein eL36A.

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

- Molecule 38 is a protein called Large ribosomal subunit protein eL37A.

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

- Molecule 39 is a protein called Large ribosomal subunit protein eL38.

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

- Molecule 40 is a protein called Large ribosomal subunit protein eL39.

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

- Molecule 41 is a protein called Large ribosomal subunit protein eL40A.

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

- Molecule 42 is a protein called Large ribosomal subunit protein eL41A.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	Lp	25	Total	C	N	O	S	0	0
			229	139	62	27	1		

- Molecule 43 is a protein called Large ribosomal subunit protein eL42A.

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

- Molecule 44 is a protein called Large ribosomal subunit protein eL43A.

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

- Molecule 45 is a RNA chain called chain 2 18S rRNA (1799-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
45	S2	1771	Total	C	N	O	P	0	0
			37739	16872	6683	12413	1771		

- Molecule 46 is a protein called Small ribosomal subunit protein uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	SA	222	Total	C	N	O	S	0	0
			1729	1098	312	313	6		

- Molecule 47 is a protein called Small ribosomal subunit protein uS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	SB	206	Total	C	N	O	S	0	0
			1605	1005	299	298	3		

- Molecule 48 is a protein called Small ribosomal subunit protein eS10A.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	SC	92	Total 752	C 487	N 122	O 141	S 2	0	0

- Molecule 49 is a protein called Small ribosomal subunit protein eS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	SD	121	Total 875	C 551	N 153	O 169	S 2	0	0

- Molecule 50 is a protein called Small ribosomal subunit protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	SE	117	Total 916	C 583	N 171	O 155	S 7	0	0

- Molecule 51 is a protein called Small ribosomal subunit protein uS9A.

Mol	Chain	Residues	Atoms				AltConf	Trace
51	SF	141	Total 1105	C 708	N 203	O 194	0	0

- Molecule 52 is a protein called Small ribosomal subunit protein eS17A.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	SG	121	Total 948	C 596	N 179	O 171	S 2	0	0

- Molecule 53 is a protein called Small ribosomal subunit protein uS13A.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	SH	145	Total 1188	C 741	N 237	O 208	S 2	0	0

- Molecule 54 is a protein called Small ribosomal subunit protein eS19A.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	SI	143	Total 1112	C 694	N 208	O 208	S 2	0	0

- Molecule 55 is a protein called Small ribosomal subunit protein uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	SJ	100	Total	C	N	O	S	0	0
			797	506	144	146	1		

- Molecule 56 is a protein called Small ribosomal subunit protein eS25A.

Mol	Chain	Residues	Atoms				AltConf	Trace
56	SK	82	Total	C	N	O	0	0
			651	416	123	112		

- Molecule 57 is a protein called Small ribosomal subunit protein eS28A.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	SL	63	Total	C	N	O	S	0	0
			491	303	96	91	1		

- Molecule 58 is a protein called Small ribosomal subunit protein uS14A.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	SM	53	Total	C	N	O	S	0	0
			442	274	92	72	4		

- Molecule 59 is a protein called Small ribosomal subunit protein eS31.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	SN	73	Total	C	N	O	S	0	0
			556	352	105	95	4		

- Molecule 60 is a protein called Small ribosomal subunit protein RACK1.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	SO	312	Total	C	N	O	S	0	0
			2383	1514	409	452	8		

- Molecule 61 is a protein called Small ribosomal subunit protein uS2A.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	SP	206	Total	C	N	O	S	0	0
			1603	1030	284	287	2		

- Molecule 62 is a protein called Small ribosomal subunit protein eS1A.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	SQ	226	Total	C	N	O	S	0	0
			1798	1139	330	325	4		

- Molecule 63 is a protein called Small ribosomal subunit protein uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	SR	216	Total	C	N	O	S	0	0
			1626	1042	287	295	2		

- Molecule 64 is a protein called Small ribosomal subunit protein eS4A.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	SS	258	Total	C	N	O	S	0	0
			2056	1308	387	358	3		

- Molecule 65 is a protein called Small ribosomal subunit protein eS6A.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	ST	228	Total	C	N	O	S	0	0
			1815	1138	351	323	3		

- Molecule 66 is a protein called Small ribosomal subunit protein eS7A.

Mol	Chain	Residues	Atoms				AltConf	Trace
66	SU	184	Total	C	N	O	0	0
			1473	946	263	264		

- Molecule 67 is a protein called Small ribosomal subunit protein eS8A.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	SV	187	Total	C	N	O	S	0	0
			1476	916	295	263	2		

- Molecule 68 is a protein called Small ribosomal subunit protein uS4A.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	SW	184	Total	C	N	O	S	0	0
			1479	935	285	258	1		

- Molecule 69 is a protein called Small ribosomal subunit protein uS17A.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	SX	142	Total	C	N	O	S	0	0
			1142	733	217	189	3		

- Molecule 70 is a protein called Small ribosomal subunit protein uS15.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	SY	150	Total	C	N	O	S	0	0
			1192	759	224	207	2		

- Molecule 71 is a protein called Small ribosomal subunit protein uS11B.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	SZ	127	Total	C	N	O	S	0	0
			923	568	185	167	3		

- Molecule 72 is a protein called Small ribosomal subunit protein eS21A.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	Sa	87	Total	C	N	O	S	0	0
			673	415	125	131	2		

- Molecule 73 is a protein called Small ribosomal subunit protein uS8A.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	Sb	129	Total	C	N	O	S	0	0
			1021	650	188	180	3		

- Molecule 74 is a protein called Small ribosomal subunit protein uS12A.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	Sc	144	Total	C	N	O	S	0	0
			1121	708	220	191	2		

- Molecule 75 is a protein called Small ribosomal subunit protein eS24A.

Mol	Chain	Residues	Atoms				AltConf	Trace
75	Sd	134	Total	C	N	O	0	0
			1032	651	195	186		

- Molecule 76 is a protein called Small ribosomal subunit protein eS26B.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	Se	97	Total	C	N	O	S	0	0
			765	473	160	127	5		

- Molecule 77 is a protein called Small ribosomal subunit protein eS27A.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	Sf	81	Total	C	N	O	S	0	0
			610	382	110	113	5		

- Molecule 78 is a protein called Small ribosomal subunit protein eS30A.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	Sg	57	Total	C	N	O	S	0	0
			451	284	93	73	1		

- Molecule 79 is a RNA chain called tRNA (77-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
79	Ta	77	Total	C	N	O	P	0	0
			1650	734	303	536	77		

- Molecule 80 is a protein called Eukaryotic peptide chain release factor subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	eR	419	Total	C	N	O	S	0	0
			3309	2106	562	629	12		

There are 11 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
eR	-8	MET	-	initiating methionine	UNP P62495
eR	-7	HIS	-	expression tag	UNP P62495
eR	-6	HIS	-	expression tag	UNP P62495
eR	-5	HIS	-	expression tag	UNP P62495
eR	-4	HIS	-	expression tag	UNP P62495
eR	-3	HIS	-	expression tag	UNP P62495
eR	-2	HIS	-	expression tag	UNP P62495
eR	-1	GLY	-	expression tag	UNP P62495
eR	0	SER	-	expression tag	UNP P62495
eR	183	ALA	GLY	conflict	UNP P62495
eR	184	ALA	GLY	conflict	UNP P62495

- Molecule 81 is a RNA chain called RNA (5'-R(P*GP*AP*CP*CP*CP*UP*UP*AP*AP*C)-3').

Mol	Chain	Residues	Atoms					AltConf	Trace
81	mR	10	Total	C	N	O	P	0	0
			209	94	36	69	10		

- Molecule 82 is a protein called Peptide 2k.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	pp	28	Total	C	N	O	S	0	0
			229	139	42	46	2		

There are 2 discrepancies between the modelled and reference sequences:

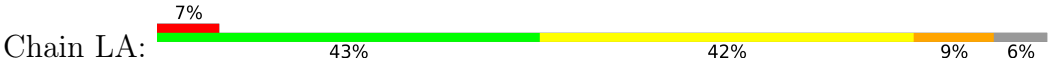
Chain	Residue	Modelled	Actual	Comment	Reference
pp	4362	GLN	THR	conflict	UNP P06935
pp	4373	GLN	ARG	conflict	UNP P06935

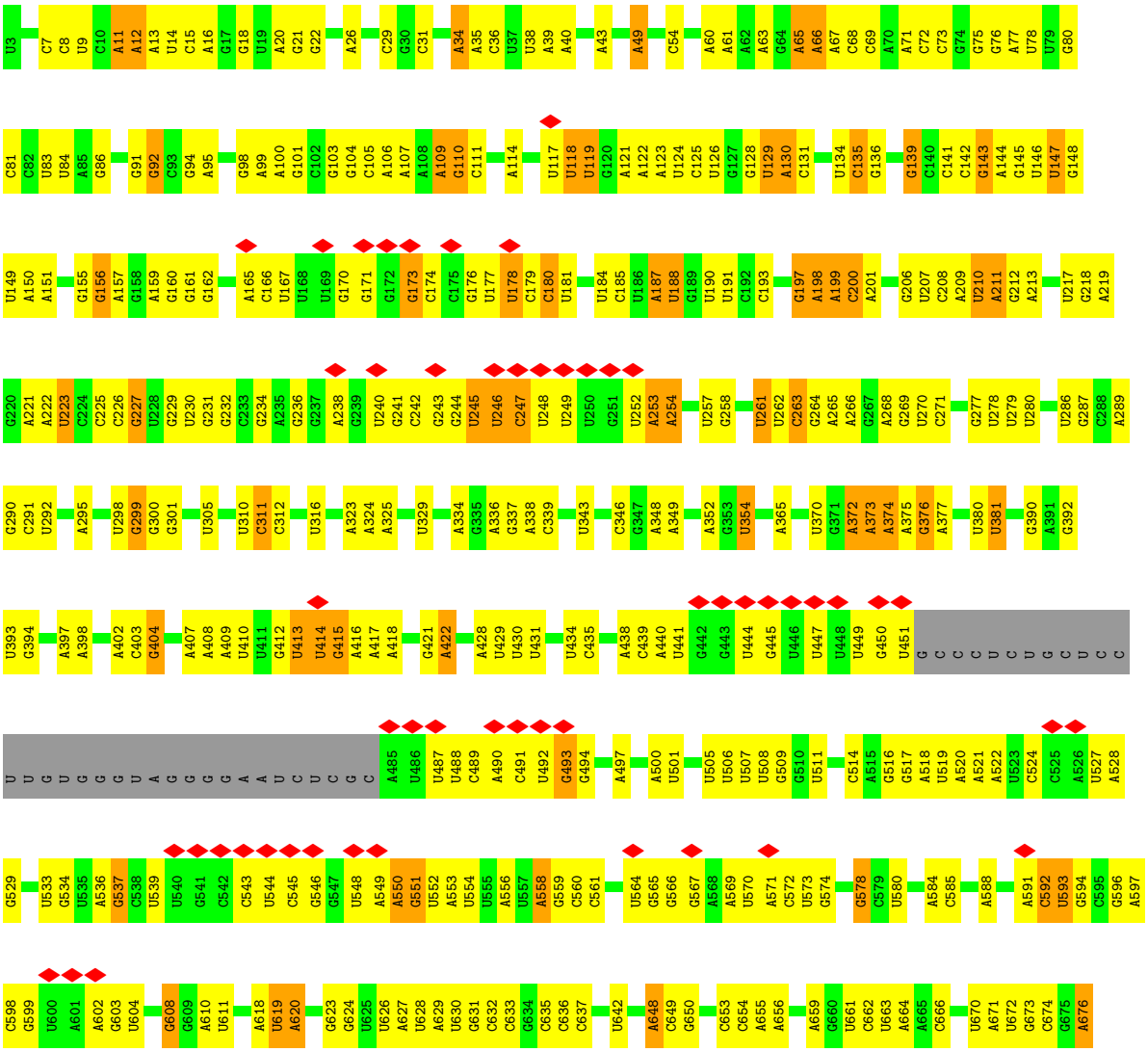
3 Residue-property plots (i)

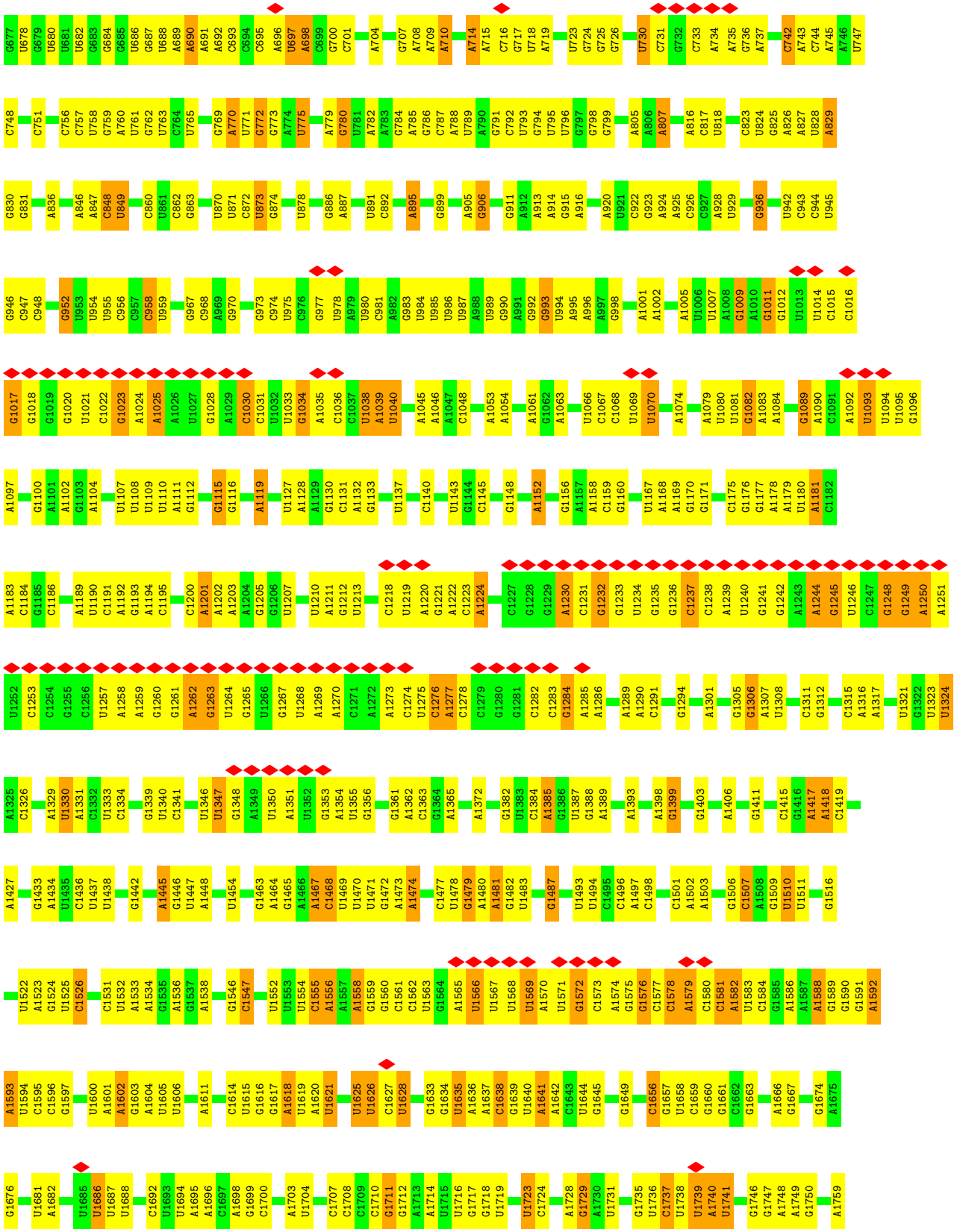
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

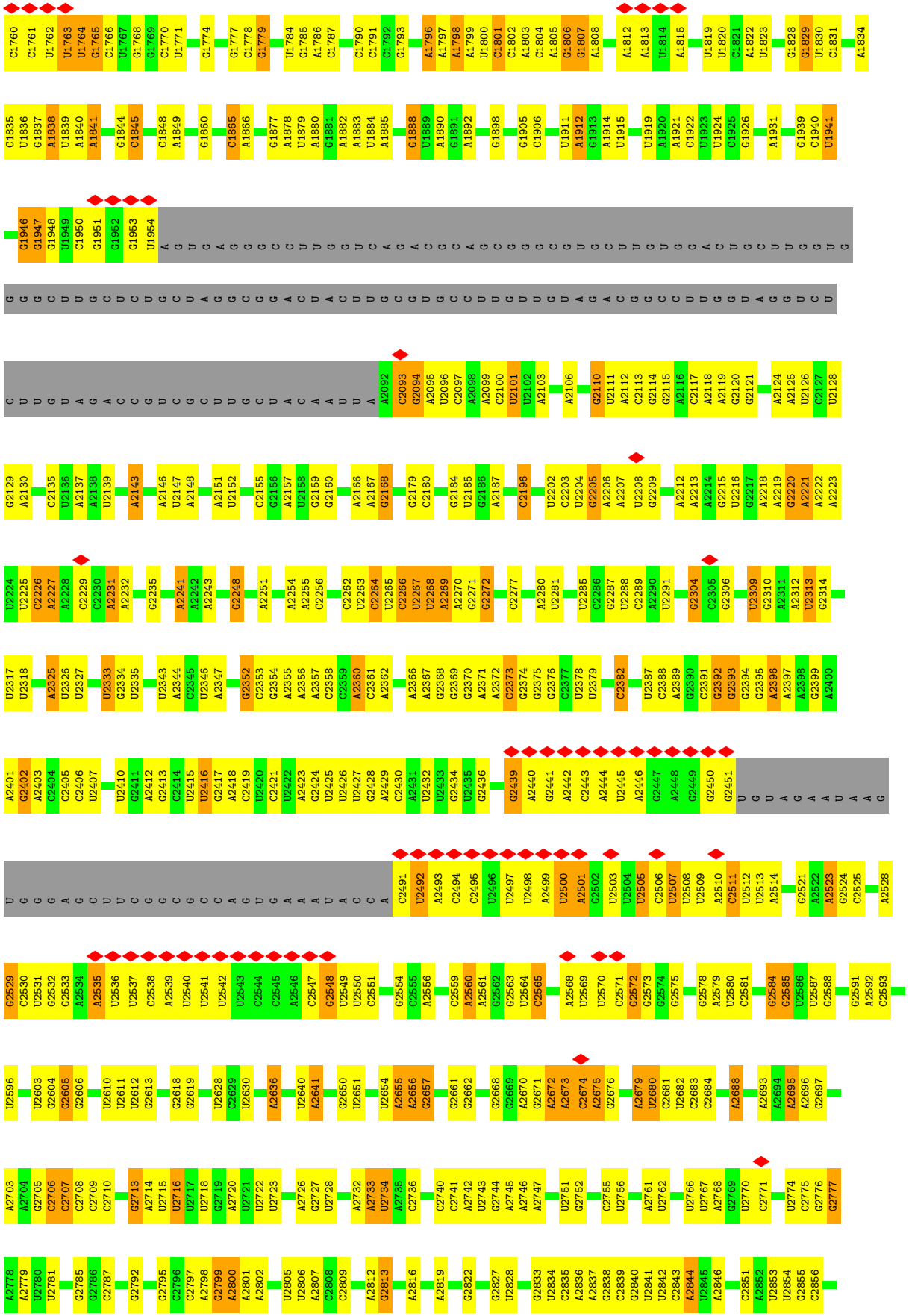
- Molecule 1: 25S rRNA (3393-MER)

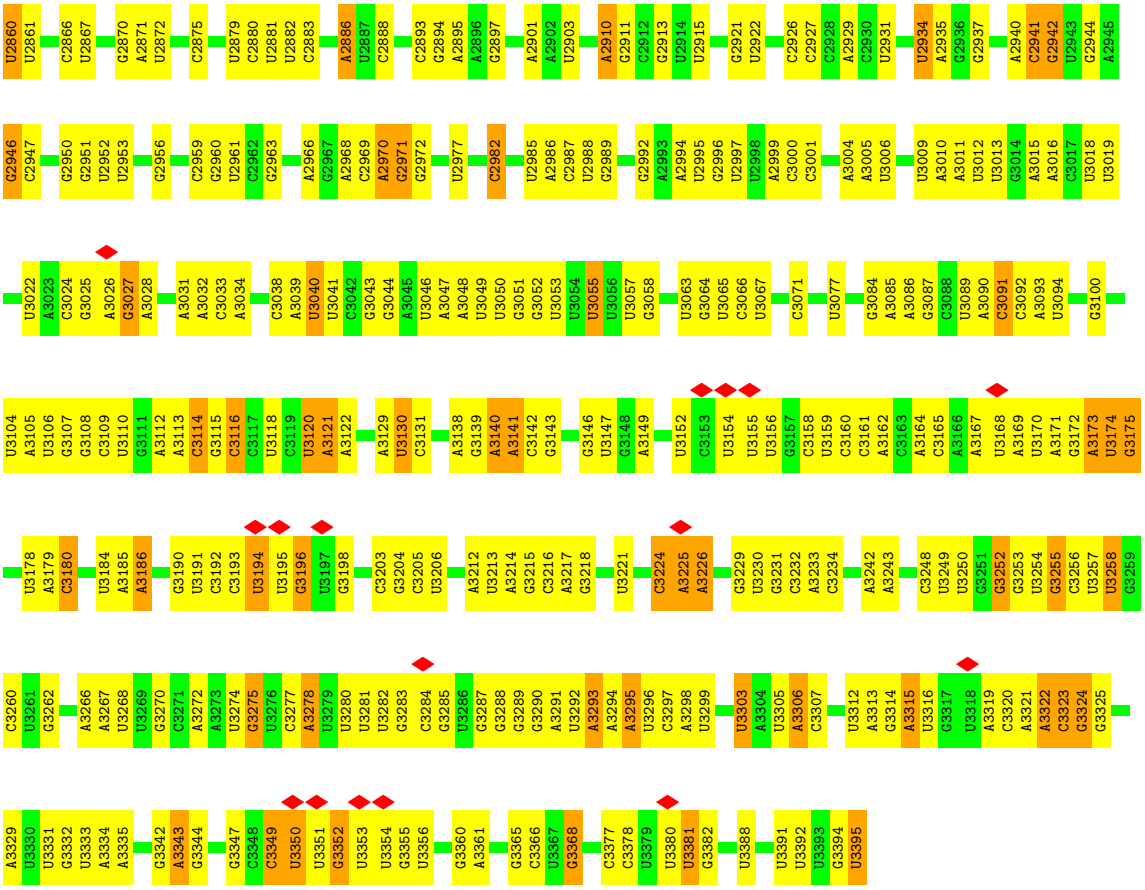
Chain LA:





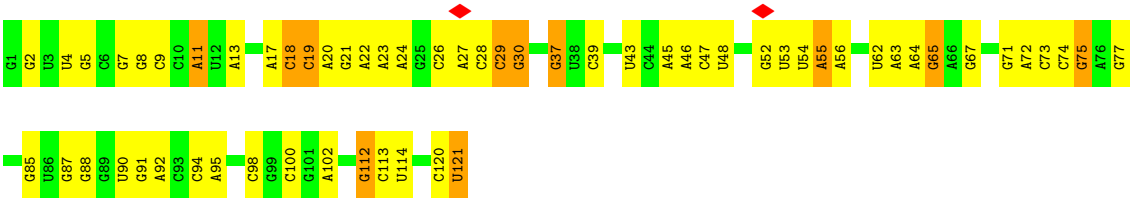

G677 U678 G679 U680 U681 U682 G683 G684 G685 U686 G687 U688 A689 A690 A691 A692 C693 C694 C695 A696 U697 A698 C699 G700 C701 A704 G707 A708 A709 A710 A714 A715 C716 G717 U718 A719 U723 G724 G725 G726 U730 C731 G732 C733 A734 A735 G736 A737 C742 A743 C744 A745 A746 U747
C748 C751 C756 C757 U758 G759 A760 U761 G762 U763 C764 U765 G769 A770 U771 G772 G773 A774 U775 A779 G780 U781 A782 A783 G784 A785 G786 C787 A788 U789 A790 G791 C792 U793 G794 U795 U796 G797 G798 G799 A805 A806 A807 A816 C817 U818 C823 U824 G825 A826 A827 U828 A829
G830 G831 A836 A846 A847 C848 U849 C860 U861 C862 G863 U870 U871 C872 U873 G874 U878 G886 A887 U891 C892 A895 G899 A905 G906 G911 A912 A913 A914 G915 A916 A920 U921 C922 G923 A924 A925 C926 C927 A928 U929 G936 U942 C943 C944 U945
G946 C947 C948 G952 U953 U954 U955 C956 C957 C958 U959 G967 C968 A969 G970 G973 C974 U975 C976 G977 U978 A979 U980 C981 A982 G983 U984 U985 U986 U987 A988 U989 G990 A991 G992 G993 U994 A995 A996 A997 G998 A1001 A1002 A1005 U1006 U1007 A1008 G1009 A1010 G1011 G1012 U1013 U1014 C1015 C1016
G1017 G1018 G1019 G1020 U1021 C1022 G1023 A1024 A1025 A1026 U1027 G1028 A1029 C1030 C1031 U1032 U1033 G1034 A1035 C1036 C1037 U1038 A1039 U1040 A1045 A1046 A1047 C1048 A1053 A1054 A1061 G1062 A1063 U1066 C1067 C1068 U1069 U1070 A1074 A1079 U1080 U1081 G1082 A1083 A1084 G1089 A1090 C1091 A1092 U1093 U1094 U1095 G1096
A1097 G1100 A1101 A1102 G1103 A1104 U1107 U1108 U1109 U1110 A1111 G1112 G1115 G1116 A1119 U1127 A1128 A1129 G1130 C1131 A1132 G1133 U1137 C1140 U1143 G1144 C1145 G1148 A1152 G1156 A1157 A1158 C1159 G1160 U1167 A1168 A1169 G1170 G1171 C1175 G1176 G1177 A1178 A1179 U1180 A1181 C1182
A1183 C1184 G1185 C1186 A1189 U1190 C1191 A1192 G1193 A1194 C1195 C1200 A1201 A1202 A1203 A1204 G1205 G1206 U1207 U1210 A1211 G1212 U1213 C1218 U1219 A1220 G1221 A1222 C1223 A1224 C1227 G1228 G1229 A1230 C1231 G1232 G1233 U1234 G1235 G1236 C1237 C1238 A1239 U1240 G1241 G1242 A1243 A1244 G1245 U1246 C1247 G1248 G1249 A1250 A1251
U1252 C1253 C1254 G1255 C1256 U1257 A1258 A1259 G1260 G1261 A1262 G1263 U1264 G1265 U1266 G1267 U1268 A1269 A1270 C1271 A1272 A1273 C1274 U1275 C1276 A1277 C1278 C1279 G1280 G1281 C1282 C1283 G1284 A1285 A1286 A1289 A1290 C1291 G1294 A1301 G1305 G1306 A1307 U1308 C1311 G1312 C1315 A1316 A1317 U1321 G1322 U1323 U1324
A1325 C1326 A1329 U1330 A1331 C1332 U1333 C1334 G1339 U1340 C1341 U1346 U1347 G1348 A1349 U1350 A1351 U1352 G1353 A1354 U1355 G1356 G1361 A1362 C1363 G1364 A1365 A1372 G1382 U1383 C1384 A1385 G1386 U1387 G1388 A1389 A1393 A1398 G1399 G1403 A1406 G1411 C1415 G1416 A1417 A1418 C1419
A1427 G1433 A1434 U1435 C1436 U1437 U1438 G1442 A1445 G1446 U1447 A1448 U1454 G1463 A1464 G1465 A1466 A1467 C1468 U1469 U1470 U1471 G1472 A1473 A1474 C1477 U1478 G1479 A1480 A1481 G1482 U1483 G1487 U1493 U1494 C1495 C1496 A1497 C1498 C1501 A1502 A1503 G1506 C1507 A1508 G1509 U1510 U1511 G1516
U1522 A1523 G1524 U1525 C1526 C1531 U1532 A1533 A1534 G1535 A1536 G1537 A1538 G1546 C1547 U1552 U1553 U1554 C1555 A1556 A1557 A1558 G1559 G1560 C1561 C1562 U1563 G1564 A1565 U1566 U1567 U1568 U1569 A1570 U1571 G1572 C1573 A1574 G1575 G1576 C1577 C1578 A1579 C1580 C1581 A1582 U1583 C1584 G1585 A1586 A1587 A1588 G1589 G1590 G1591 A1592
A1593 U1594 C1595 C1596 G1597 U1600 A1601 A1602 G1603 A1604 U1605 U1606 A1611 C1614 U1615 G1616 U1617 A1618 U1619 A1620 U1621 U1625 U1626 C1627 U1628 G1633 G1634 U1635 A1636 A1637 C1638 G1639 U1640 A1641 A1642 C1643 U1644 G1645 G1649 C1656 G1657 U1658 C1659 G1660 G1661 C1662 G1663 A1666 G1667 G1674 A1675
G1676 U1681 A1682 U1685 U1686 U1687 U1688 C1692 U1693 U1694 A1695 A1696 C1697 A1698 G1699 C1700 A1703 U1704 C1707 C1708 C1709 C1710 G1711 G1712 A1713 A1714 U1715 U1716 G1717 G1718 U1719 U1723 C1724 A1728 G1729 A1730 U1731 G1735 U1736 C1737 U1738 U1739 A1740 U1741 G1746 G1747 A1748 A1749 G1750 A1759





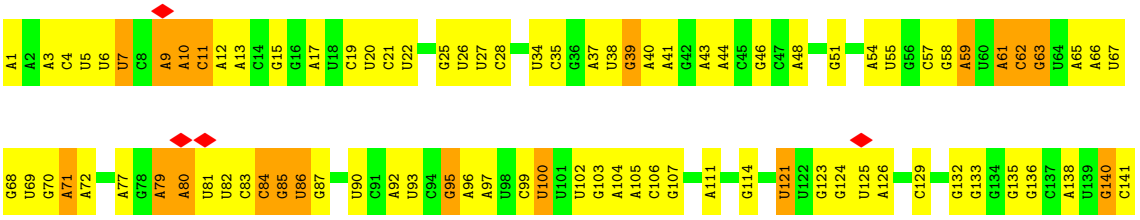
• Molecule 2: 5S rRNA (121-MER)

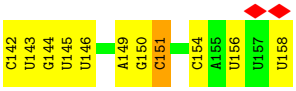
Chain LB:



• Molecule 3: 5.8S rRNA (158-MER)

Chain LC:



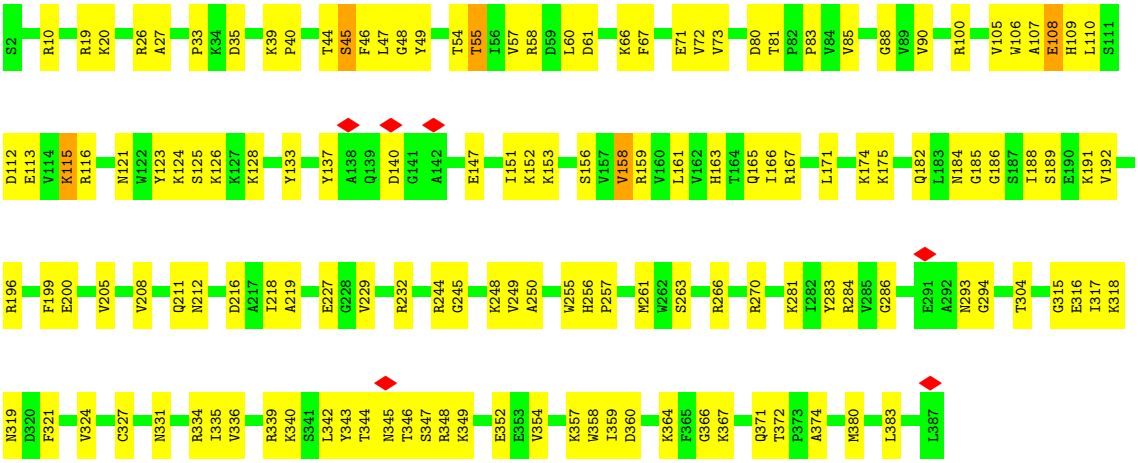


• Molecule 4: Large ribosomal subunit protein uL2A

Chain LD:

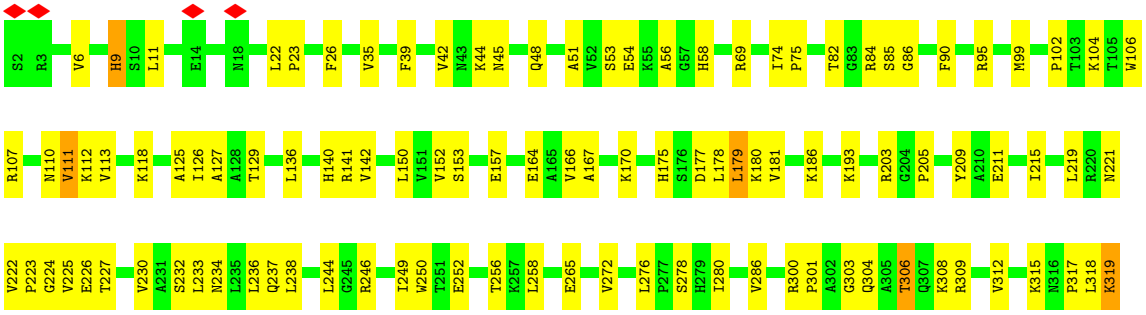
• Molecule 5: Large ribosomal subunit protein uL3

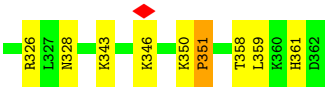
Chain LE:



• Molecule 6: Large ribosomal subunit protein uL4A

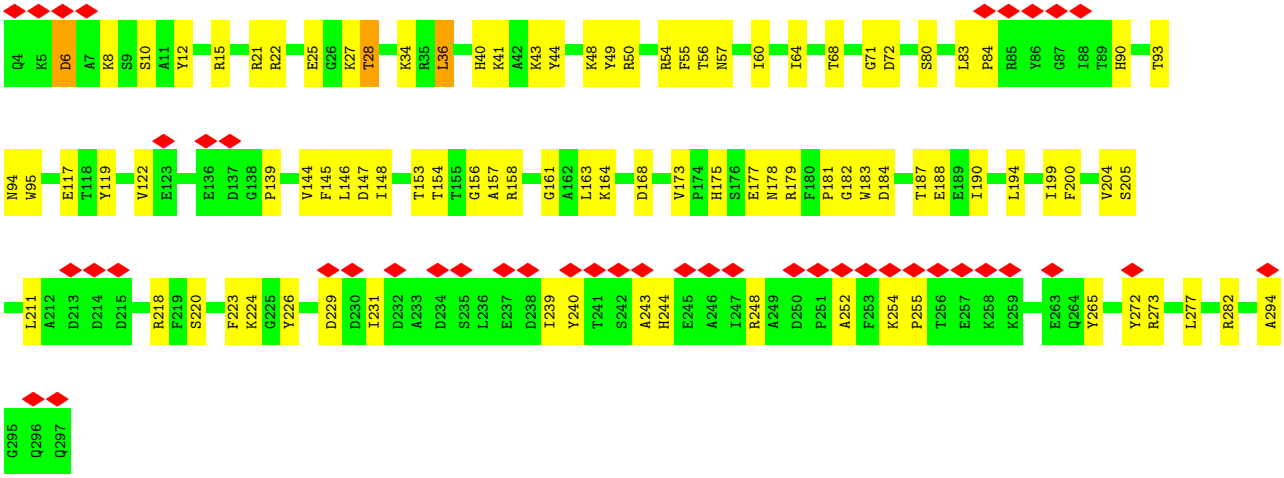
Chain LF:





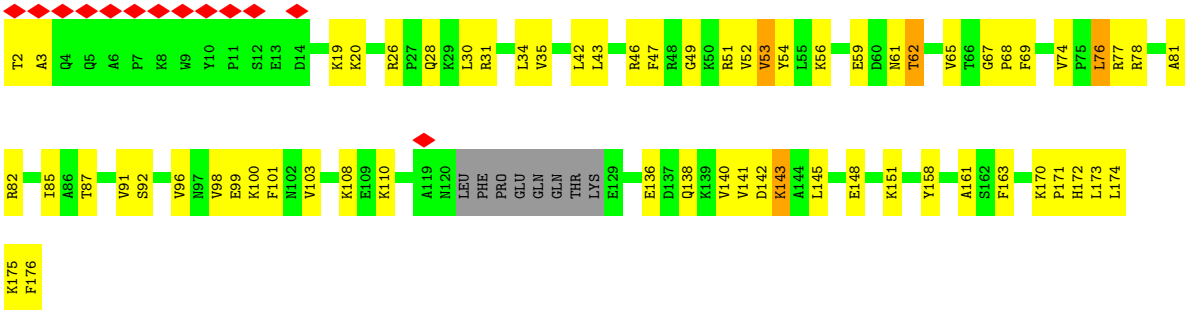
• Molecule 7: Large ribosomal subunit protein uL18

Chain LG:



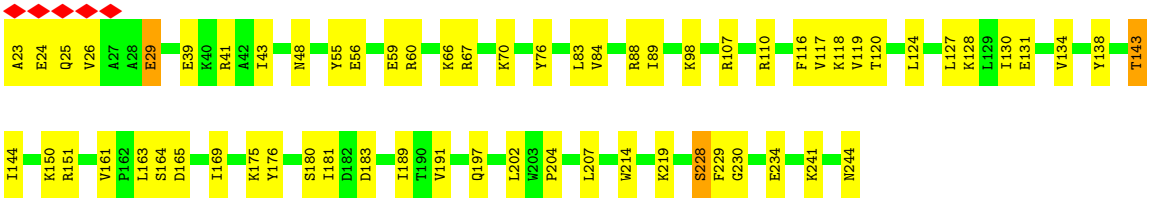
• Molecule 8: Large ribosomal subunit protein eL6B

Chain LH:



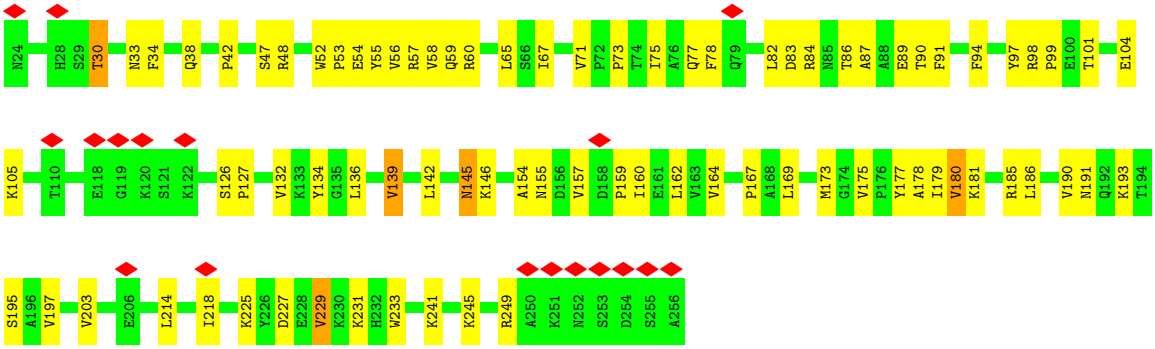
• Molecule 9: Large ribosomal subunit protein uL30A

Chain LI:

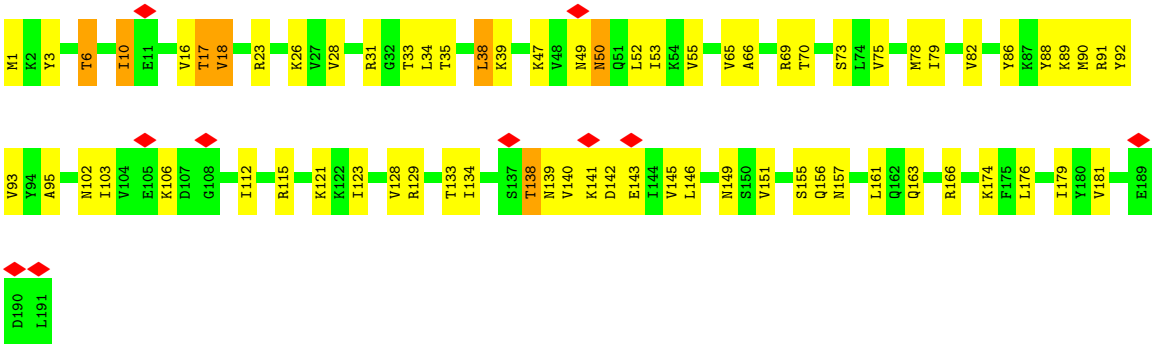


• Molecule 10: Large ribosomal subunit protein eL8A

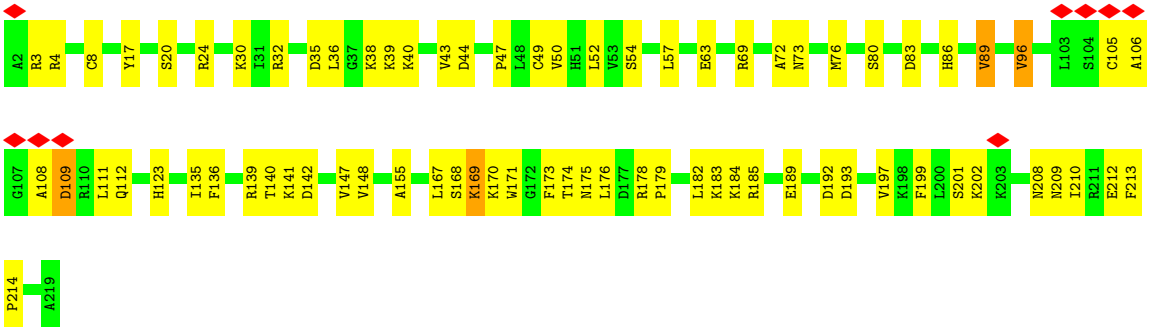
Chain LJ:



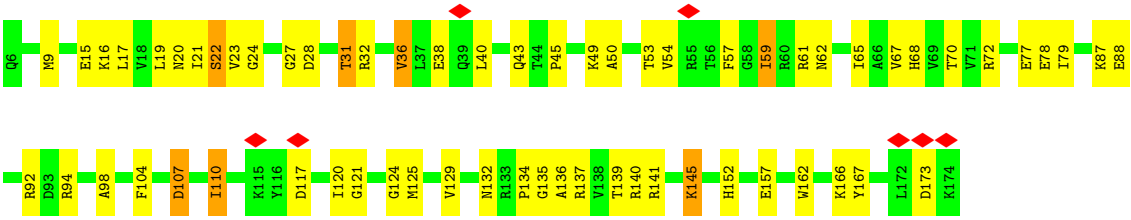
• Molecule 11: Large ribosomal subunit protein uL6A



• Molecule 12: Large ribosomal subunit protein uL16

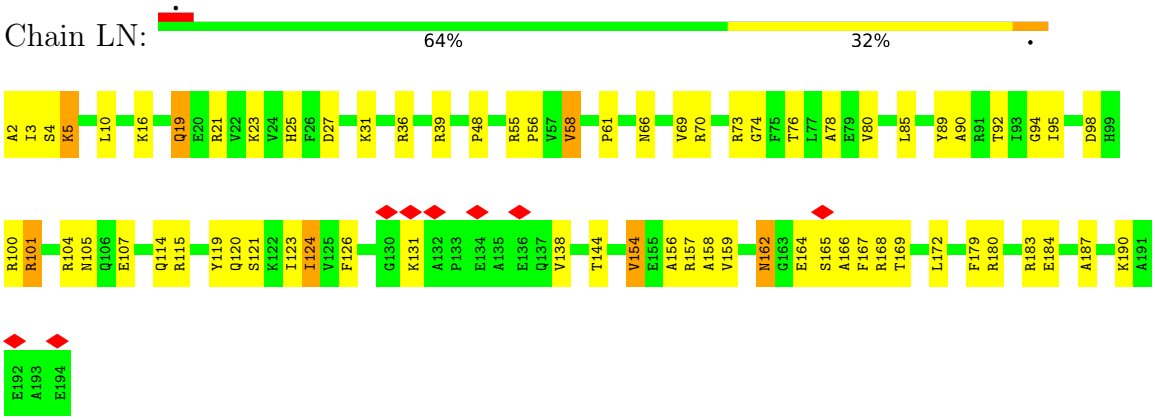


• Molecule 13: Large ribosomal subunit protein uL5B



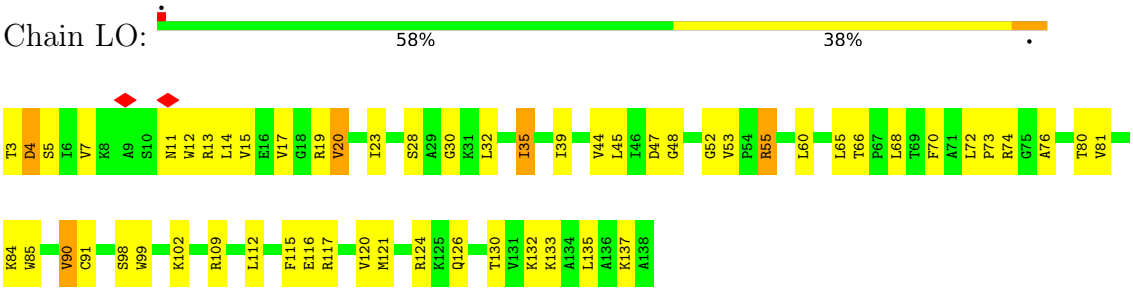
• Molecule 14: Large ribosomal subunit protein eL13A

Chain LN:



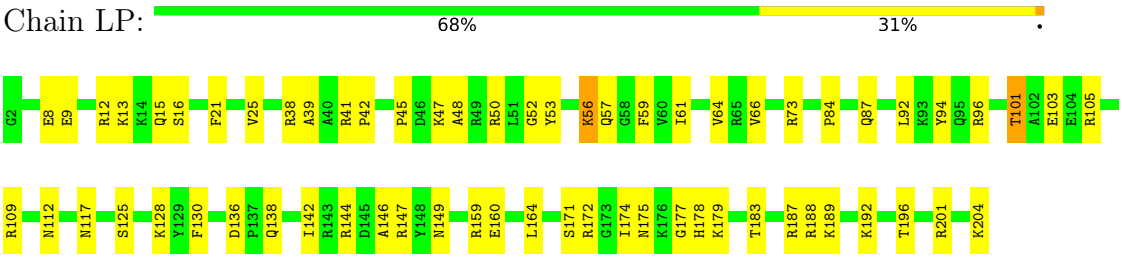
• Molecule 15: Large ribosomal subunit protein eL14A

Chain LO:



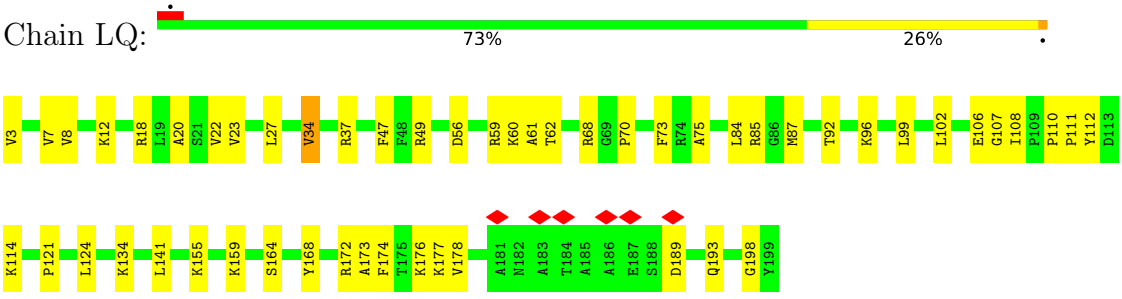
• Molecule 16: Large ribosomal subunit protein eL15A

Chain LP:



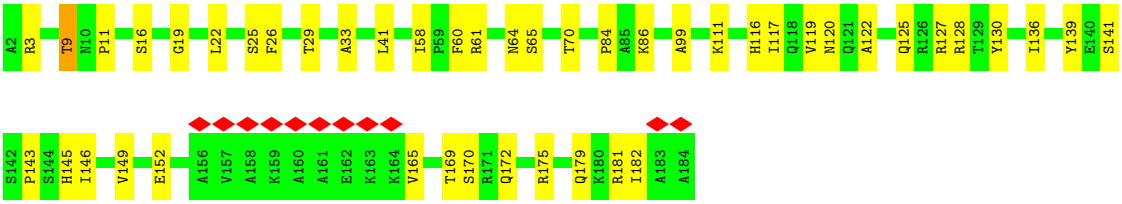
• Molecule 17: Large ribosomal subunit protein uL13A

Chain LQ:

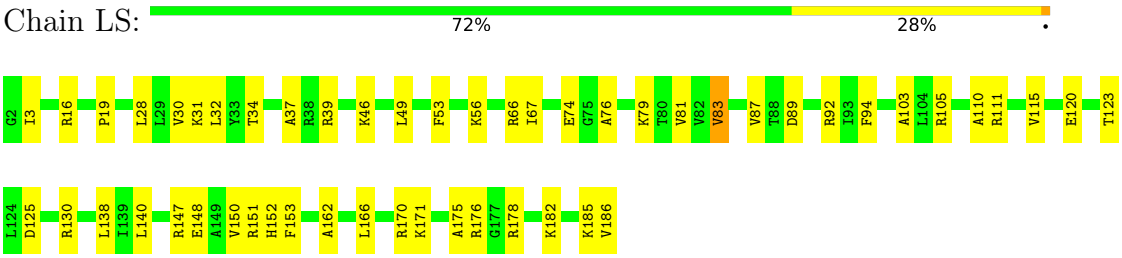


• Molecule 18: Large ribosomal subunit protein uL22A

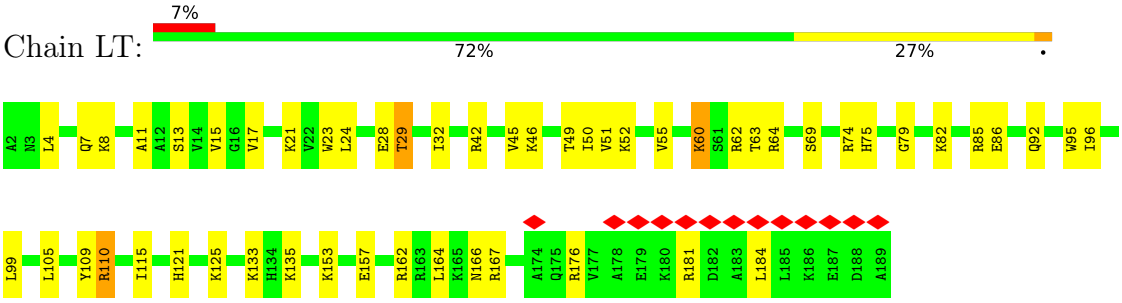
Chain LR:



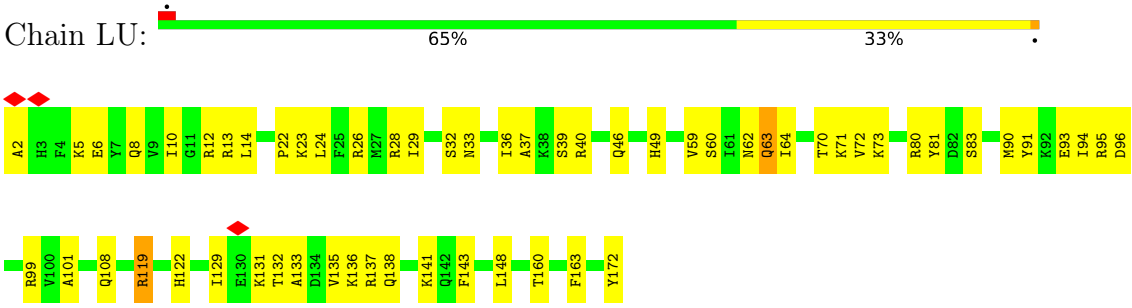
• Molecule 19: Large ribosomal subunit protein eL18A



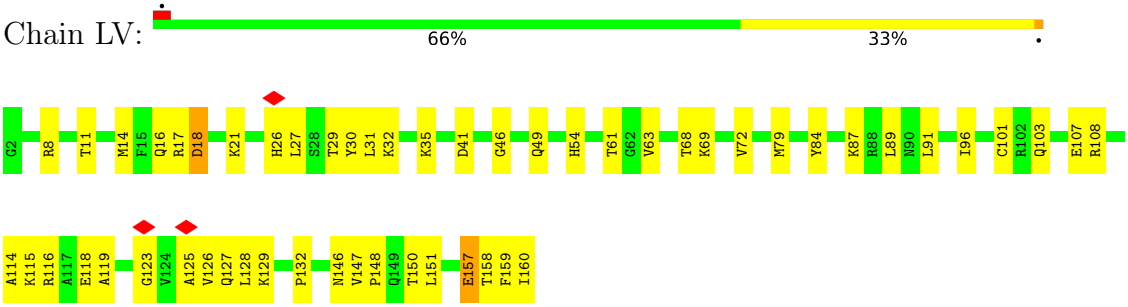
• Molecule 20: Large ribosomal subunit protein eL19A



• Molecule 21: Large ribosomal subunit protein eL20A

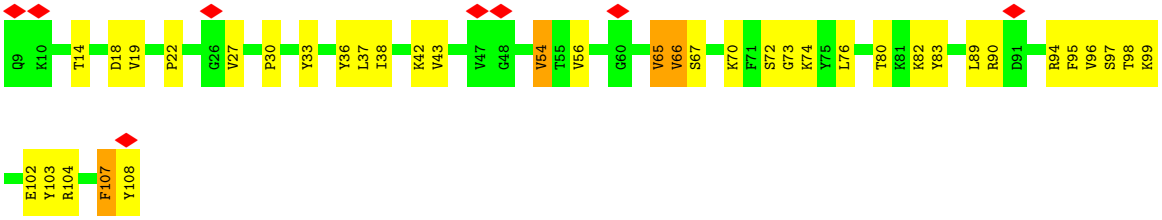


• Molecule 22: Large ribosomal subunit protein eL21A



• Molecule 23: Large ribosomal subunit protein eL22A

Chain LW:

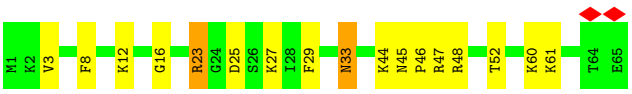


• Molecule 24: Large ribosomal subunit protein uL14A

Chain LX:

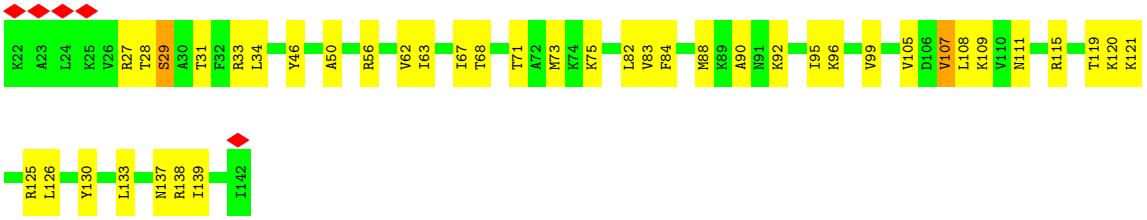
• Molecule 25: Large ribosomal subunit protein eL24A

Chain LY:



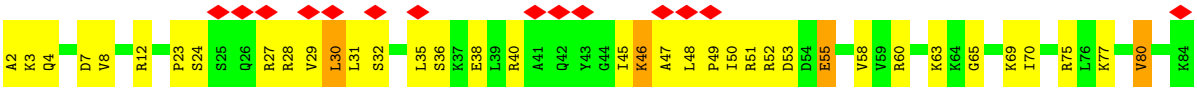
• Molecule 26: Large ribosomal subunit protein uL23

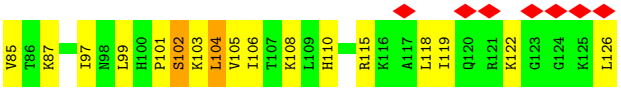
Chain LZ:



• Molecule 27: Large ribosomal subunit protein uL24A

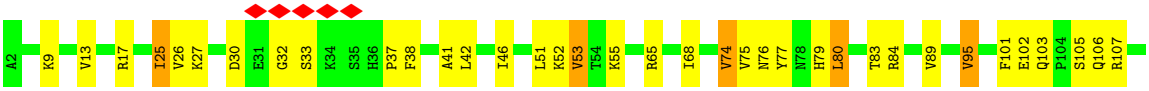
Chain La:





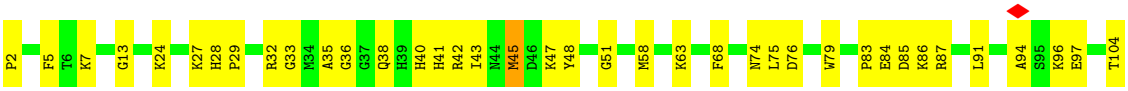
• Molecule 28: Large ribosomal subunit protein eL27A

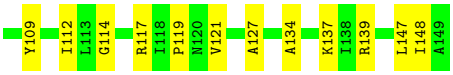
Chain Lb:



• Molecule 29: Large ribosomal subunit protein uL15

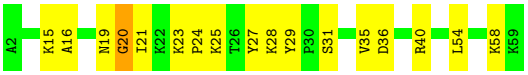
Chain Lc:





• Molecule 30: Large ribosomal subunit protein eL29

Chain Ld:

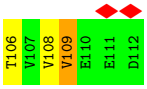


• Molecule 31: Large ribosomal subunit protein eL30

Chain Le:

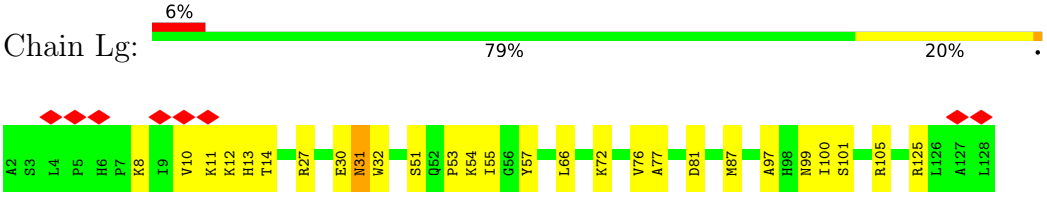
• Molecule 32: Large ribosomal subunit protein eL31A

Chain Lf:



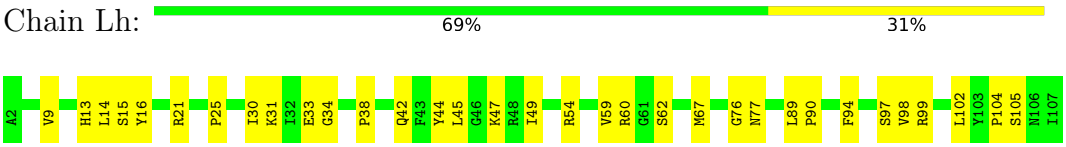
• Molecule 33: Large ribosomal subunit protein eL32

Chain Lg:



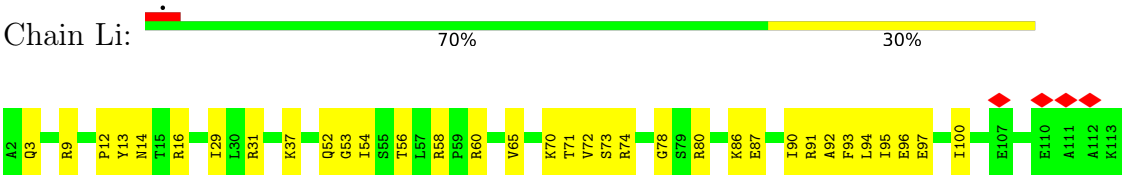
• Molecule 34: Large ribosomal subunit protein eL33A

Chain Lh:



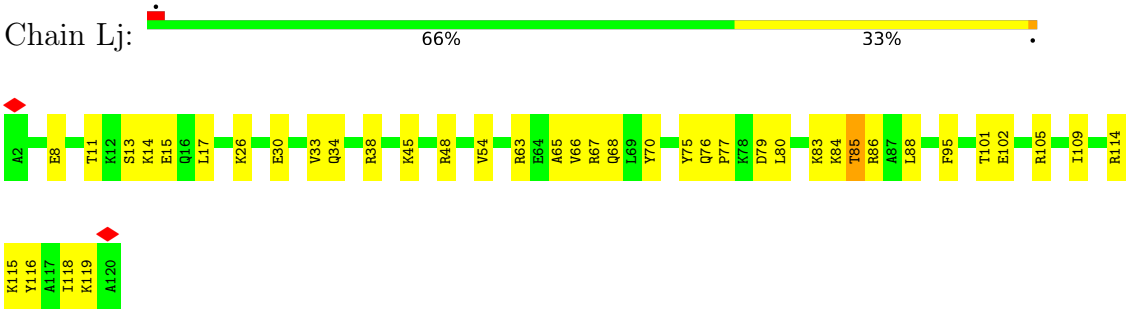
• Molecule 35: Large ribosomal subunit protein eL34A

Chain Li:



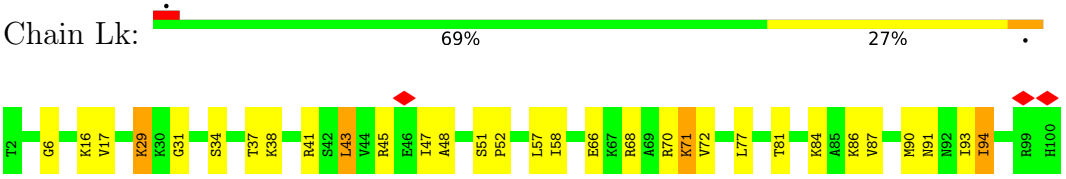
• Molecule 36: Large ribosomal subunit protein uL29A

Chain Lj:



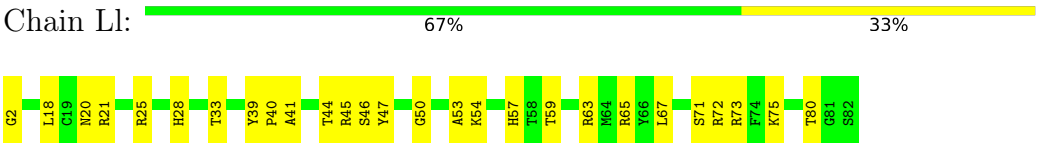
• Molecule 37: Large ribosomal subunit protein eL36A

Chain Lk:



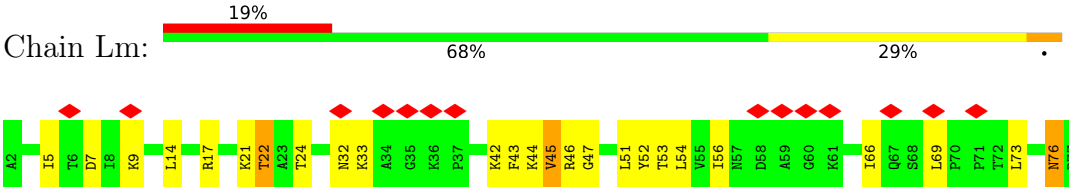
• Molecule 38: Large ribosomal subunit protein eL37A

Chain Ll:



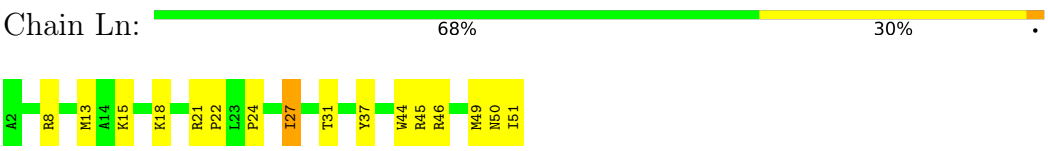
• Molecule 39: Large ribosomal subunit protein eL38

Chain Lm:



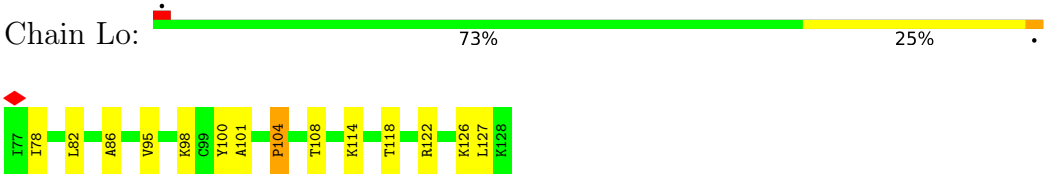
• Molecule 40: Large ribosomal subunit protein eL39

Chain Ln:



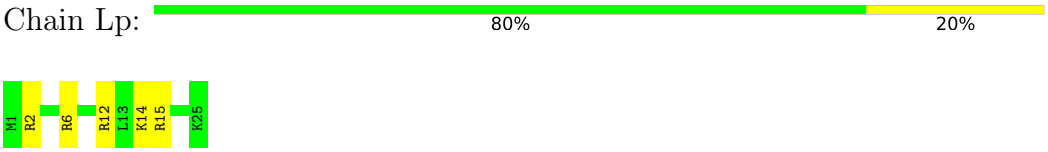
• Molecule 41: Large ribosomal subunit protein eL40A

Chain Lo:



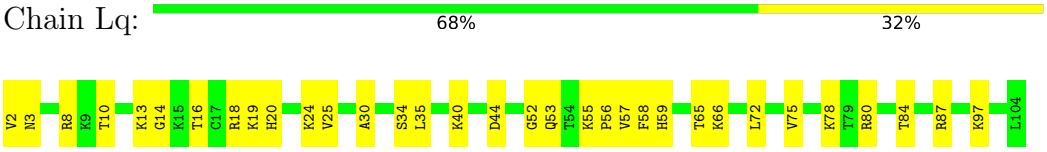
• Molecule 42: Large ribosomal subunit protein eL41A

Chain Lp:



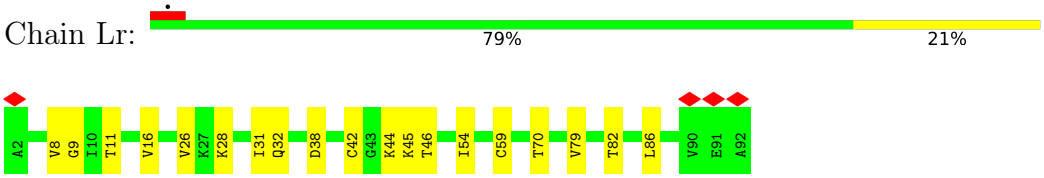
• Molecule 43: Large ribosomal subunit protein eL42A

Chain Lq:



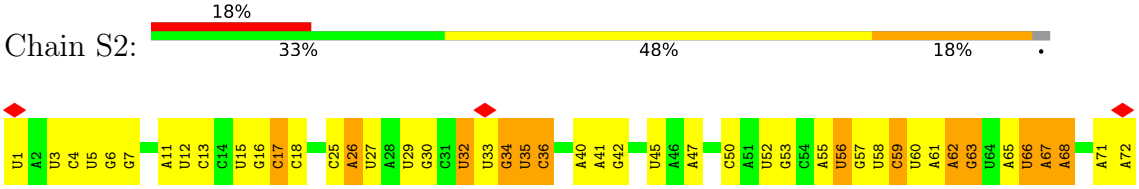
• Molecule 44: Large ribosomal subunit protein eL43A

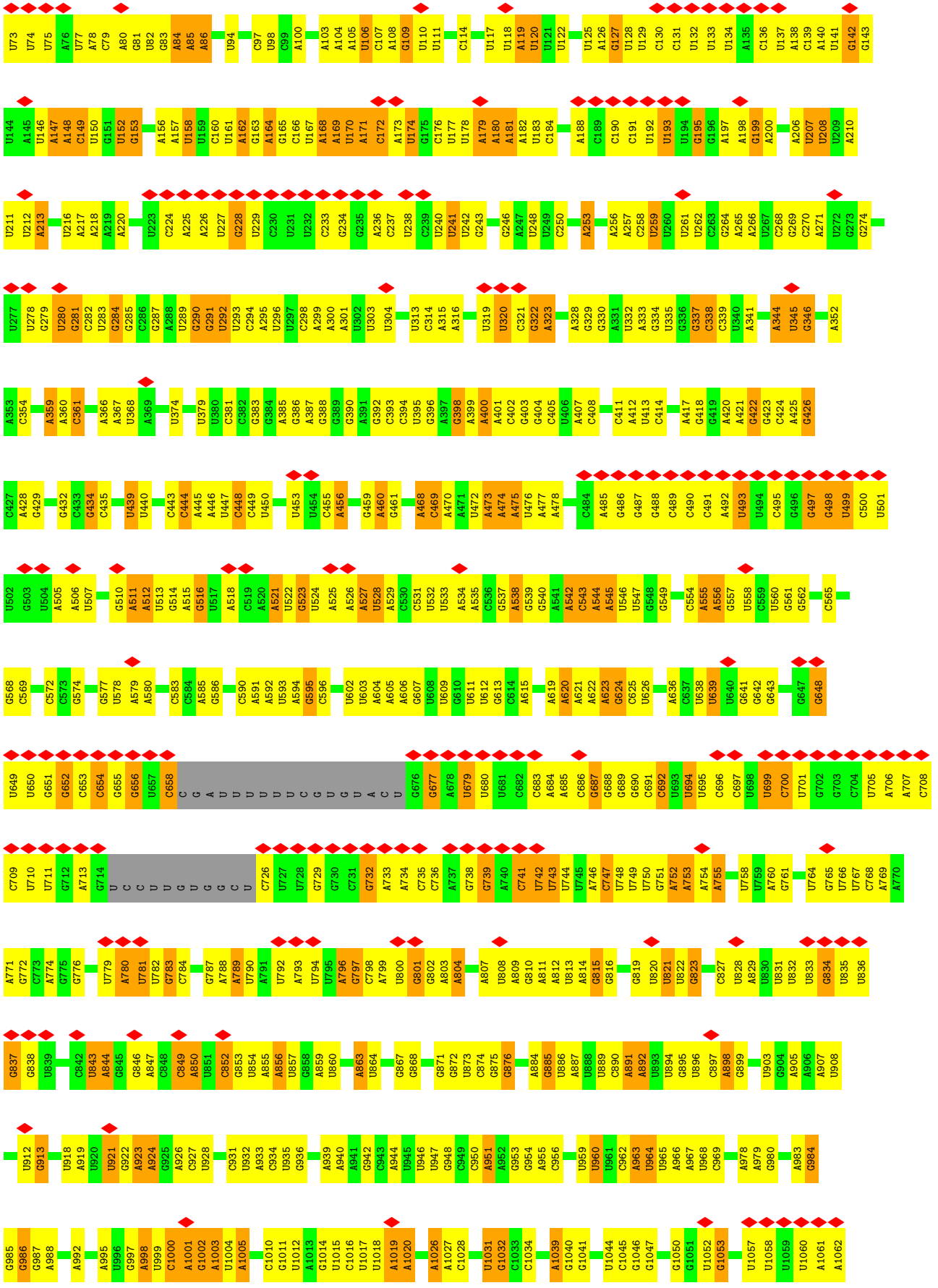
Chain Lr:

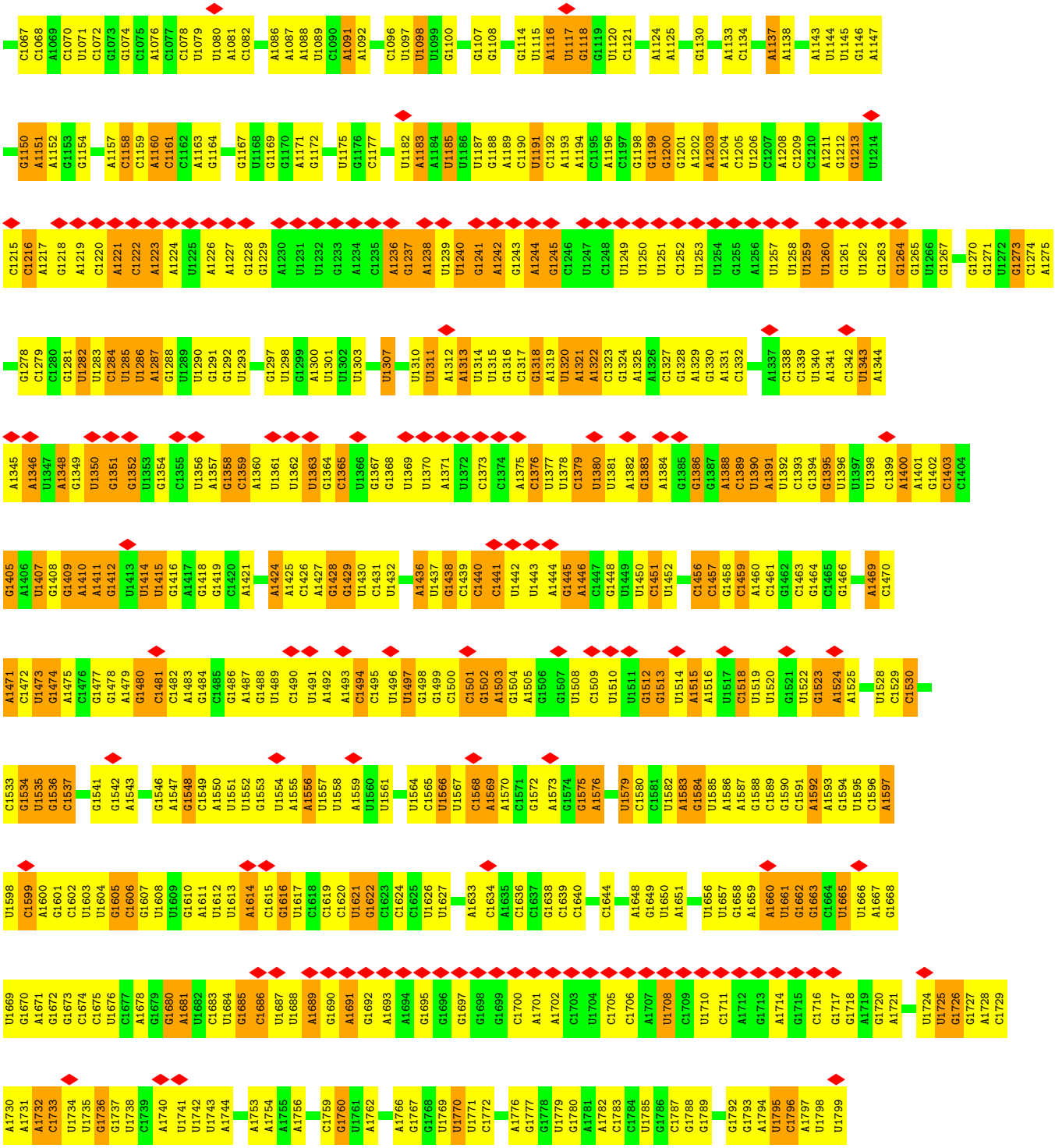


• Molecule 45: chain 2 18S rRNA (1799-MER)

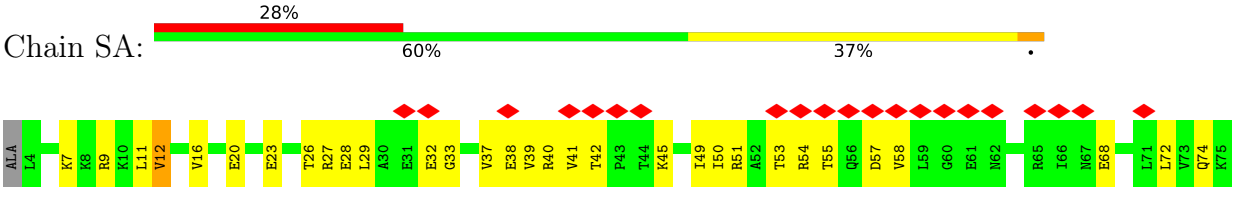
Chain S2:

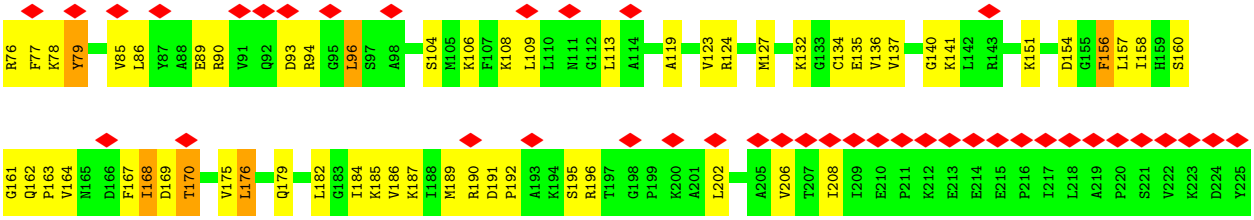




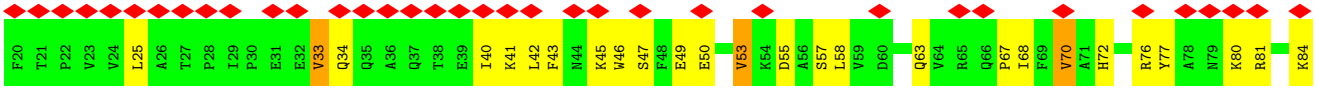


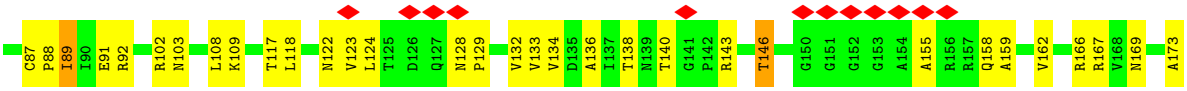
• Molecule 46: Small ribosomal subunit protein uS3

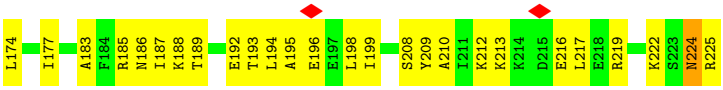




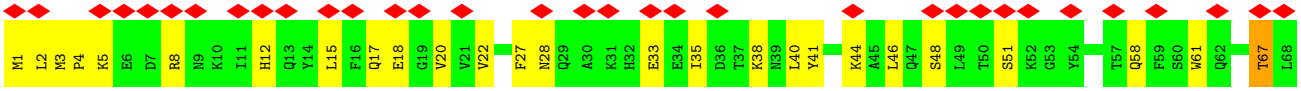
• Molecule 47: Small ribosomal subunit protein uS7

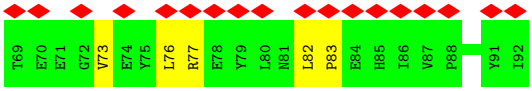




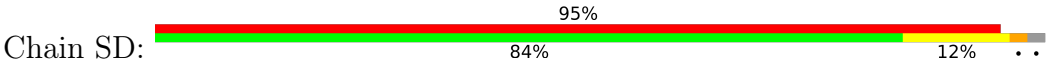


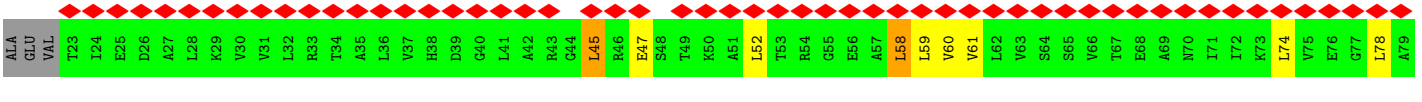
• Molecule 48: Small ribosomal subunit protein eS10A

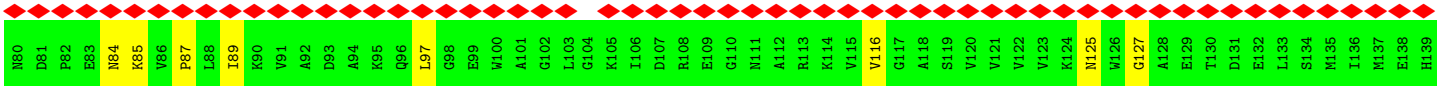


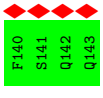


• Molecule 49: Small ribosomal subunit protein eS12



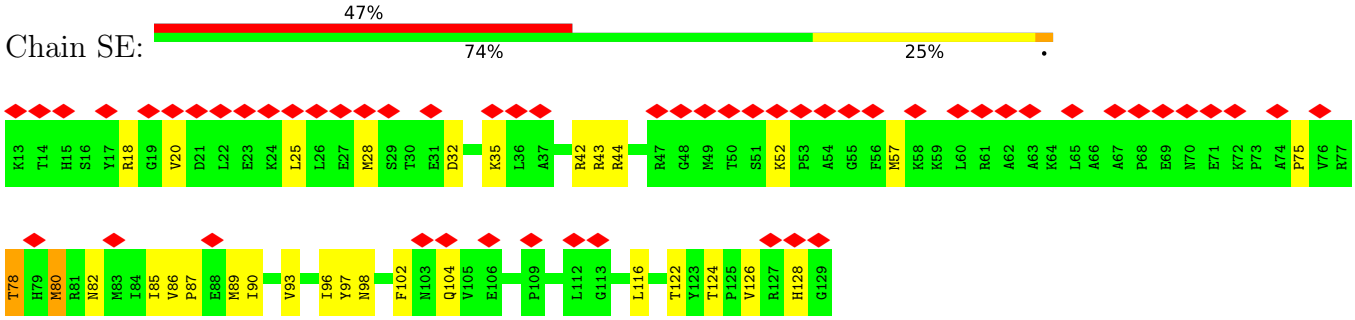






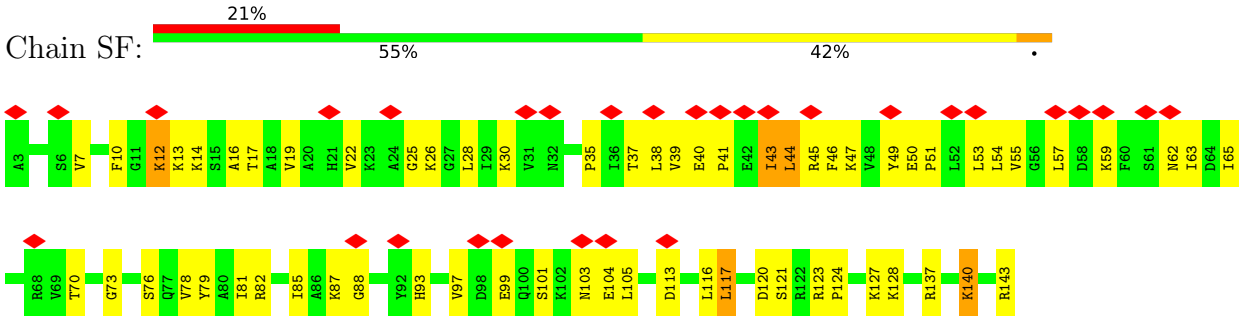
• Molecule 50: Small ribosomal subunit protein uS19

Chain SE:



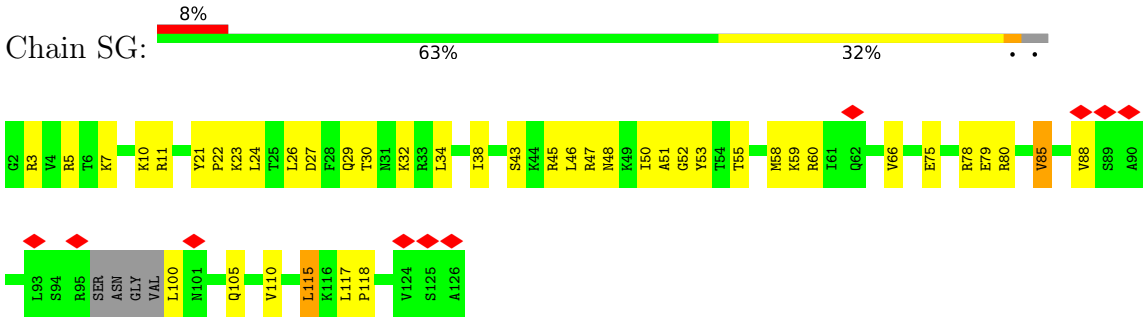
• Molecule 51: Small ribosomal subunit protein uS9A

Chain SF:



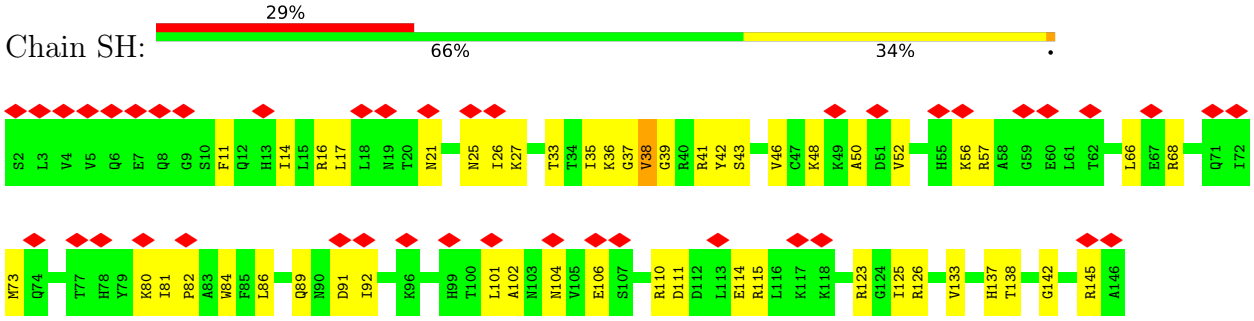
• Molecule 52: Small ribosomal subunit protein eS17A

Chain SG:



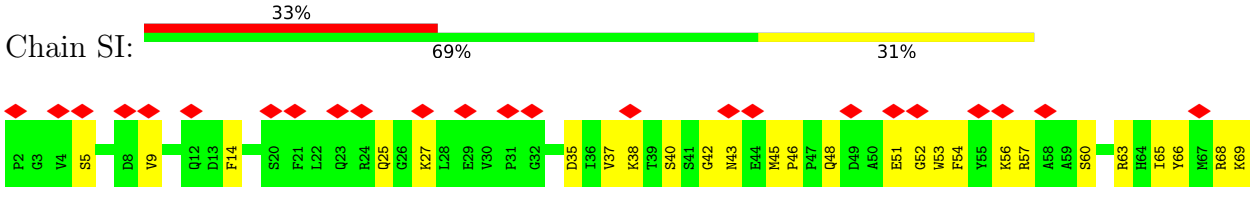
• Molecule 53: Small ribosomal subunit protein uS13A

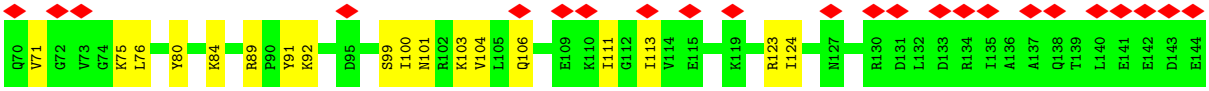
Chain SH:



• Molecule 54: Small ribosomal subunit protein eS19A

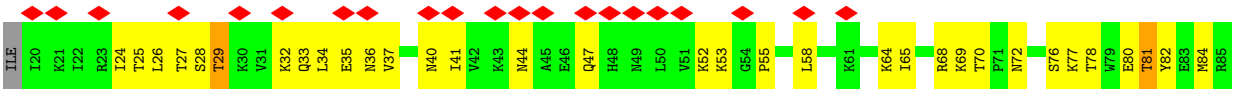
Chain SI:

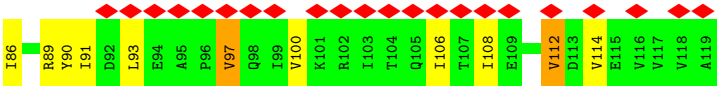




• Molecule 55: Small ribosomal subunit protein uS10

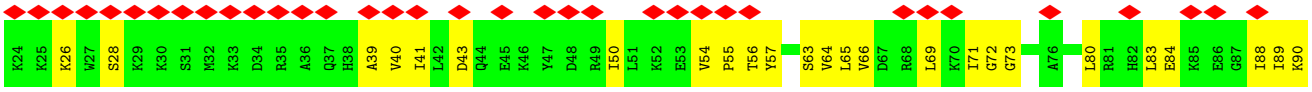
Chain SJ:

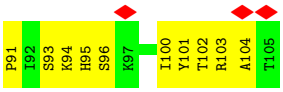




• Molecule 56: Small ribosomal subunit protein eS25A

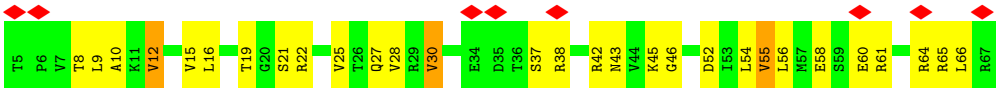
Chain SK:





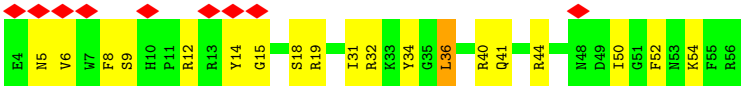
• Molecule 57: Small ribosomal subunit protein eS28A

Chain SL:



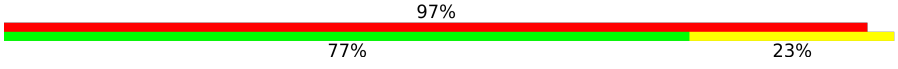
• Molecule 58: Small ribosomal subunit protein uS14A

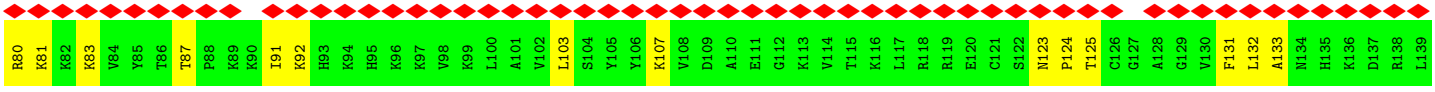
Chain SM:

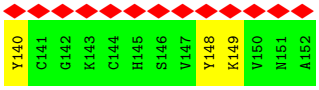


• Molecule 59: Small ribosomal subunit protein eS31

Chain SN:

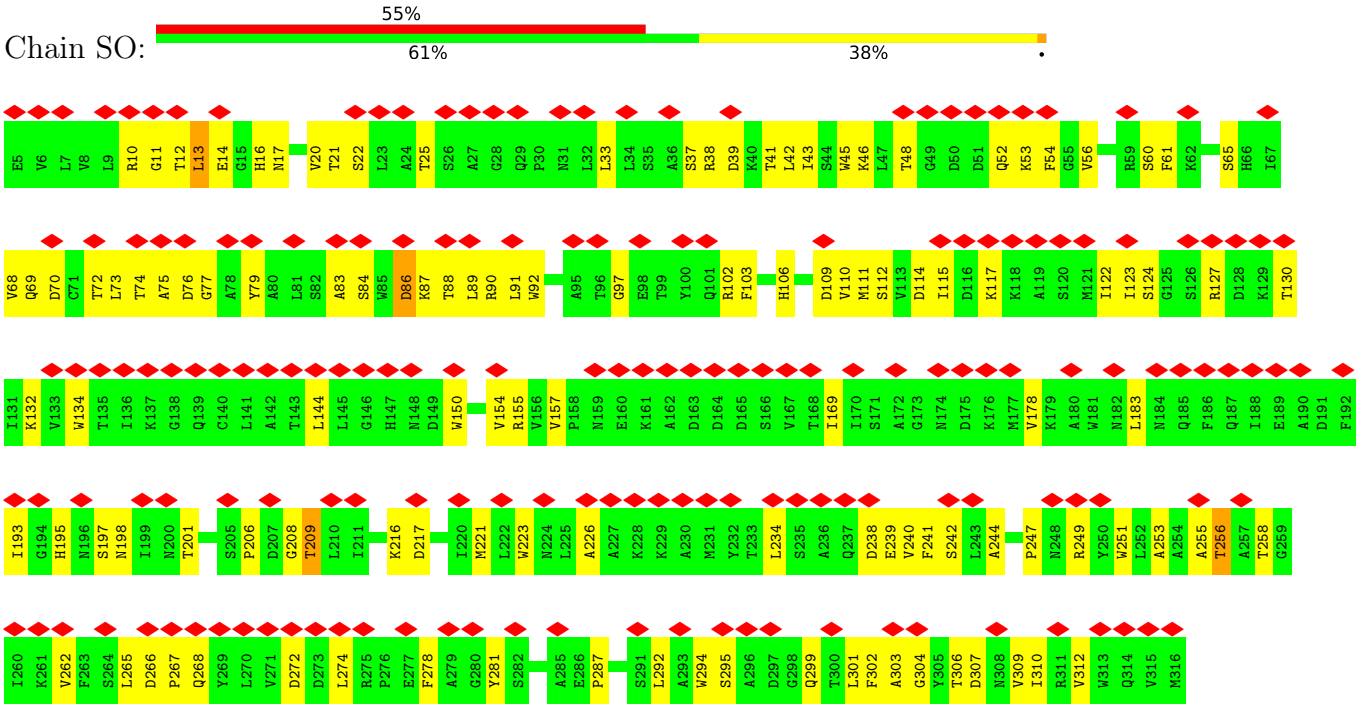






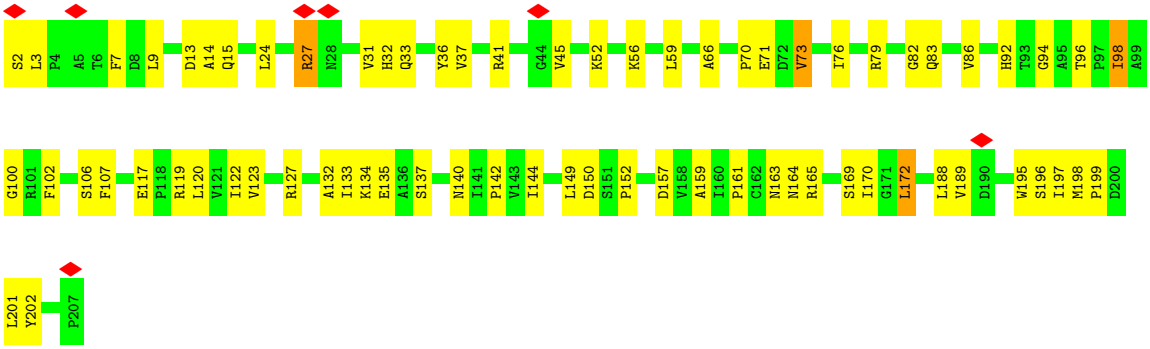
• Molecule 60: Small ribosomal subunit protein RACK1

Chain SO:



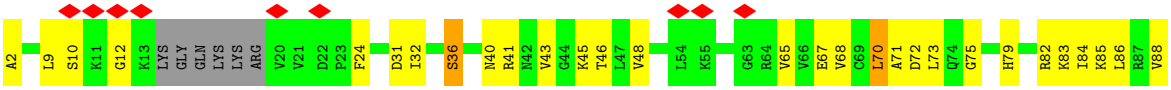
• Molecule 61: Small ribosomal subunit protein uS2A

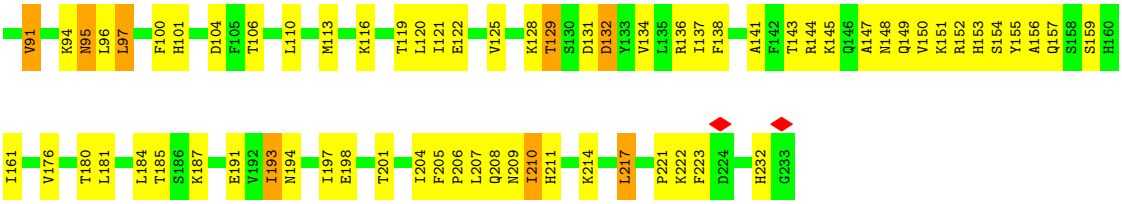
Chain SP:



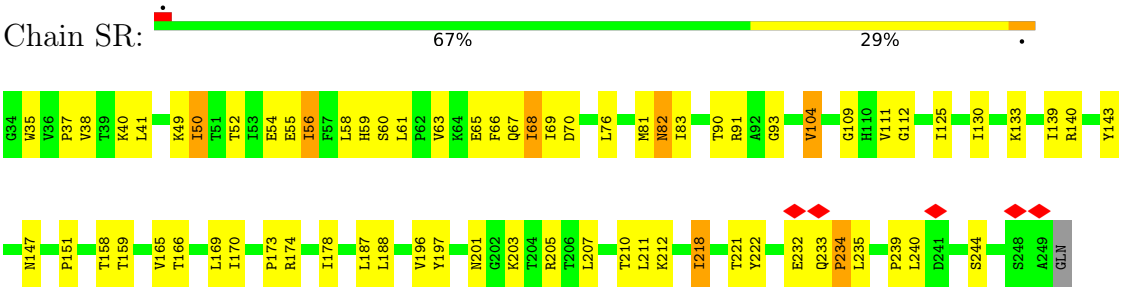
• Molecule 62: Small ribosomal subunit protein eS1A

Chain SQ:

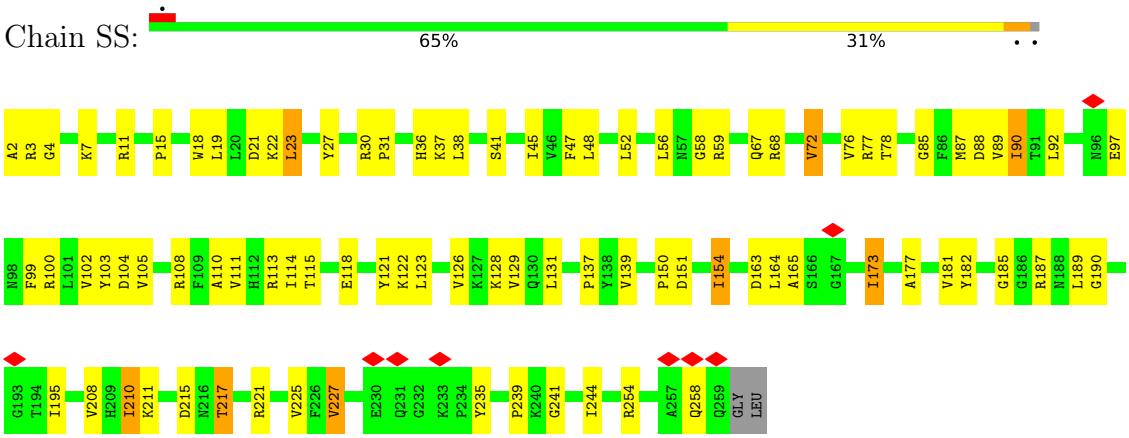




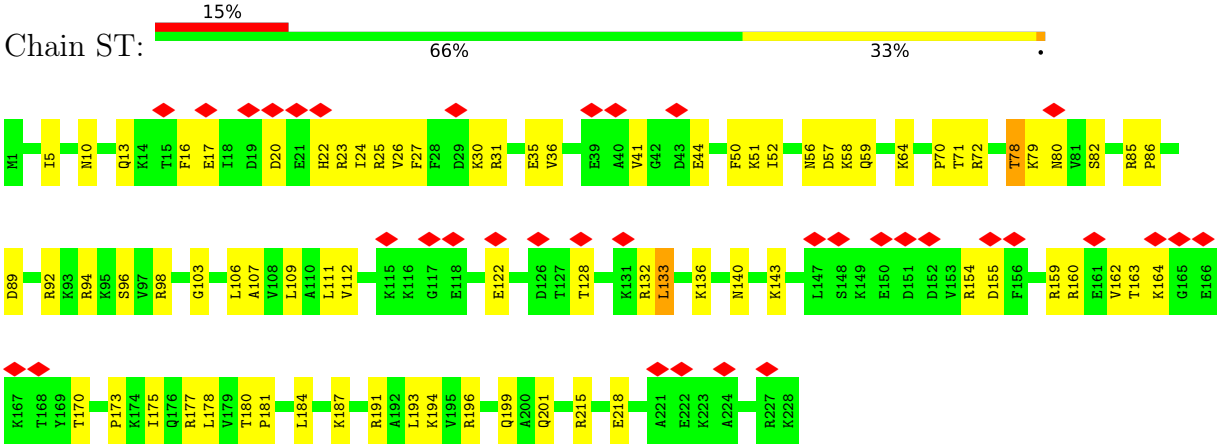
• Molecule 63: Small ribosomal subunit protein uS5



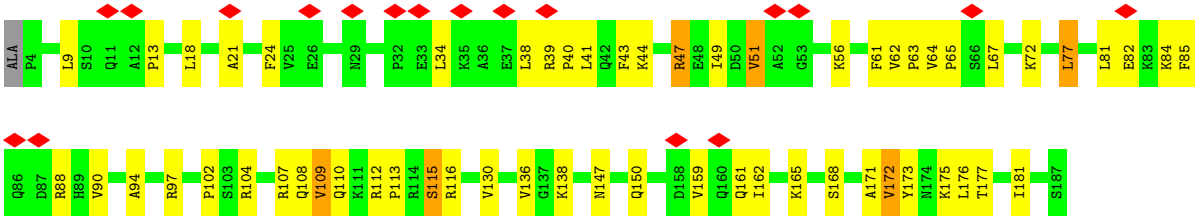
• Molecule 64: Small ribosomal subunit protein eS4A



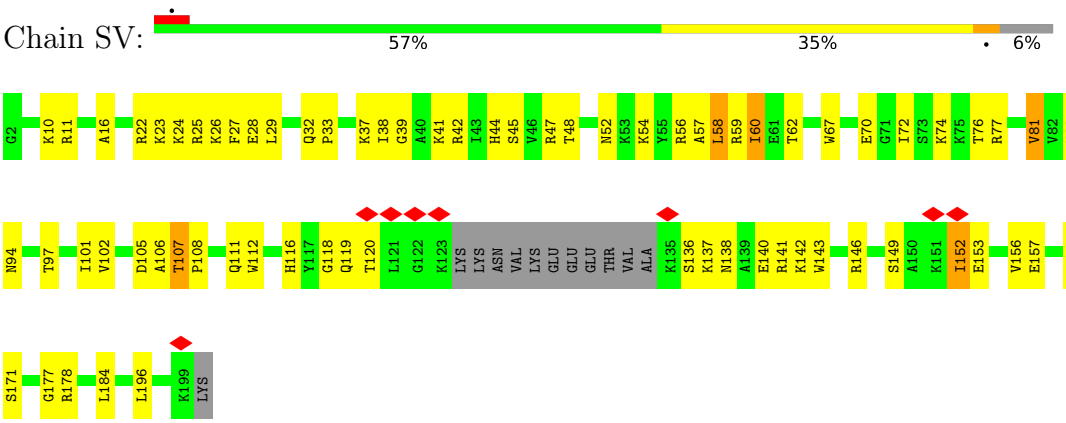
• Molecule 65: Small ribosomal subunit protein eS6A



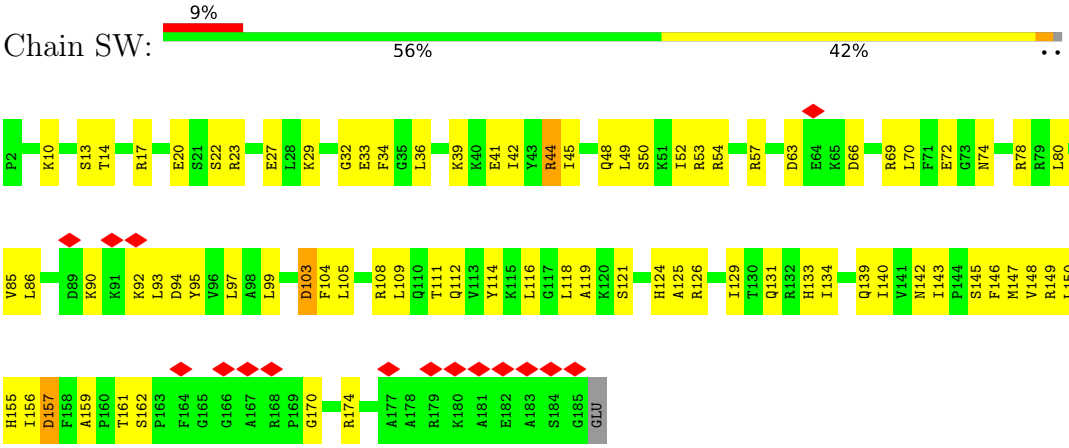
• Molecule 66: Small ribosomal subunit protein eS7A



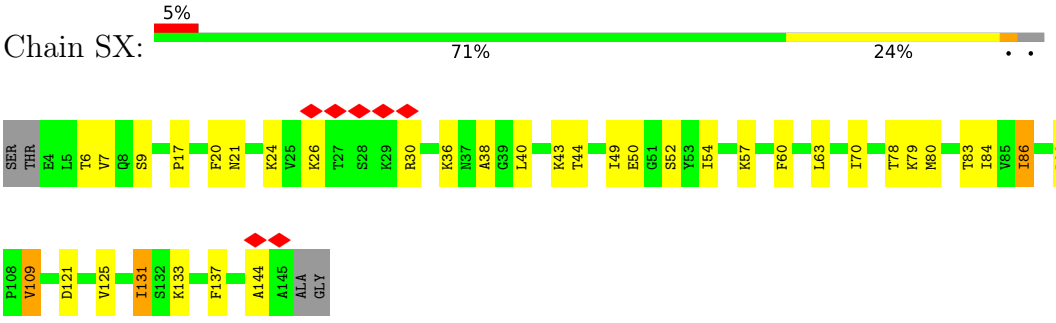
• Molecule 67: Small ribosomal subunit protein eS8A



• Molecule 68: Small ribosomal subunit protein uS4A

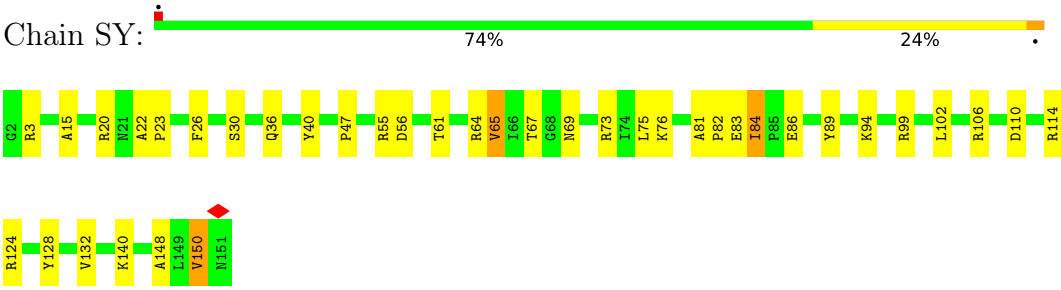


• Molecule 69: Small ribosomal subunit protein uS17A



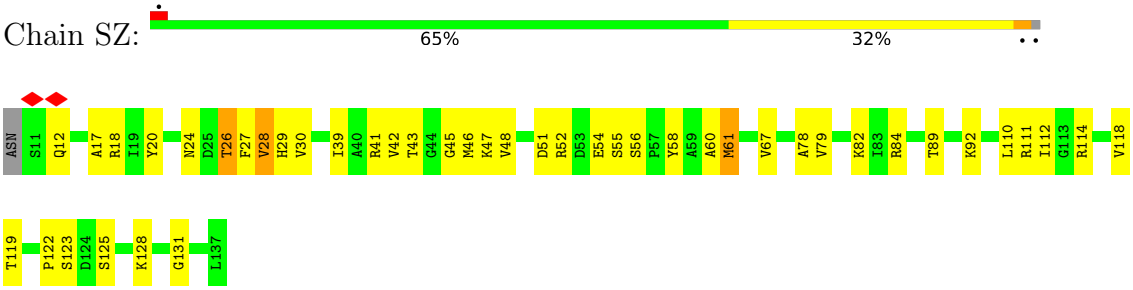
• Molecule 70: Small ribosomal subunit protein uS15

Chain SY:



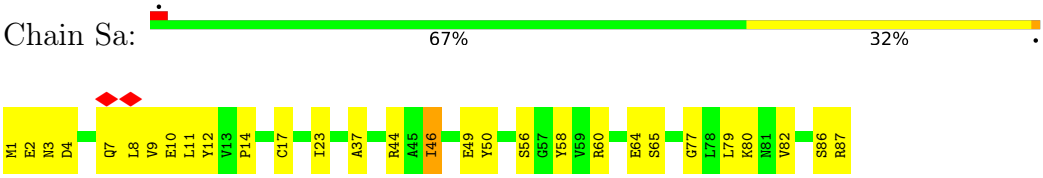
• Molecule 71: Small ribosomal subunit protein uS11B

Chain SZ:



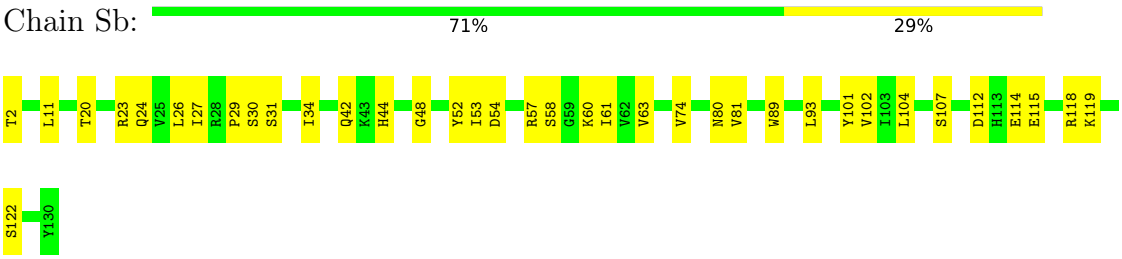
• Molecule 72: Small ribosomal subunit protein eS21A

Chain Sa:



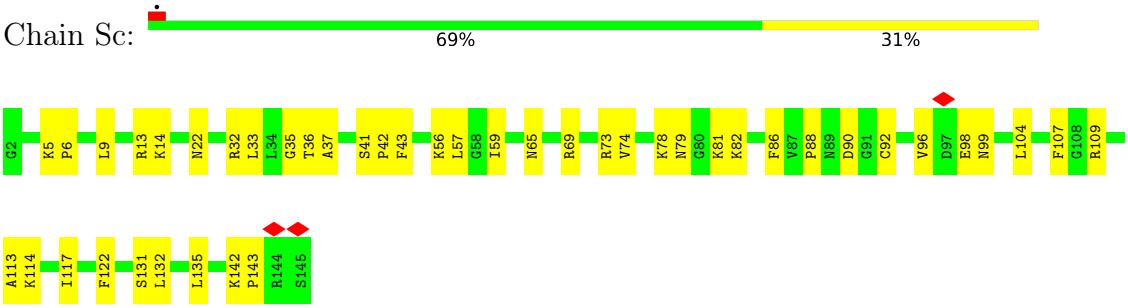
• Molecule 73: Small ribosomal subunit protein uS8A

Chain Sb:



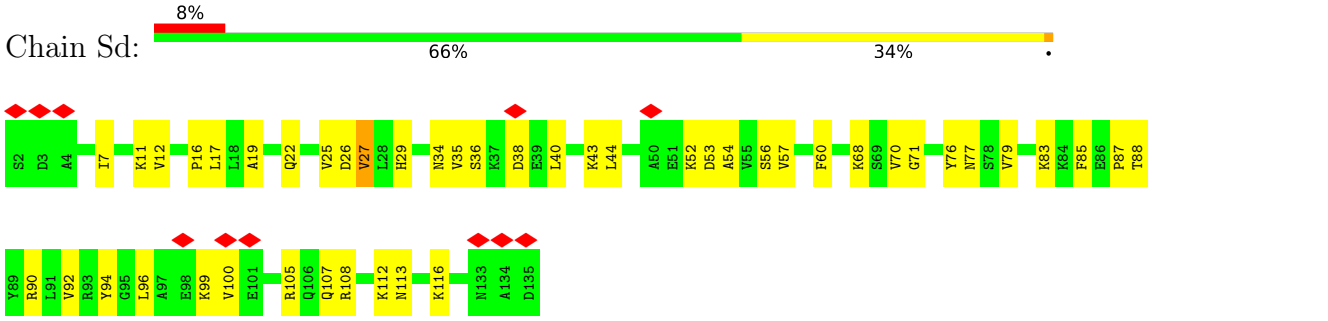
• Molecule 74: Small ribosomal subunit protein uS12A

Chain Sc:



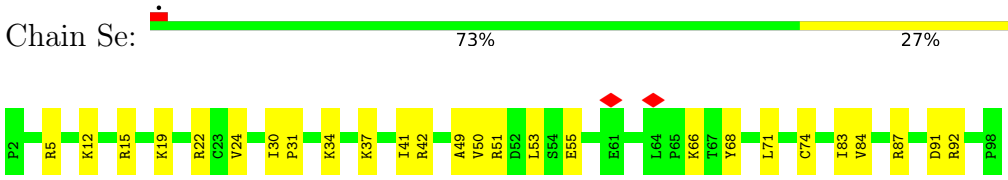
• Molecule 75: Small ribosomal subunit protein eS24A

Chain Sd:



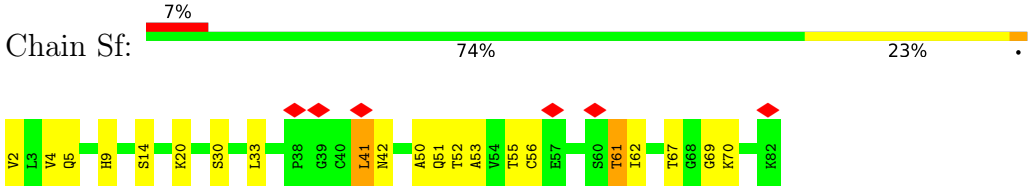
• Molecule 76: Small ribosomal subunit protein eS26B

Chain Se:



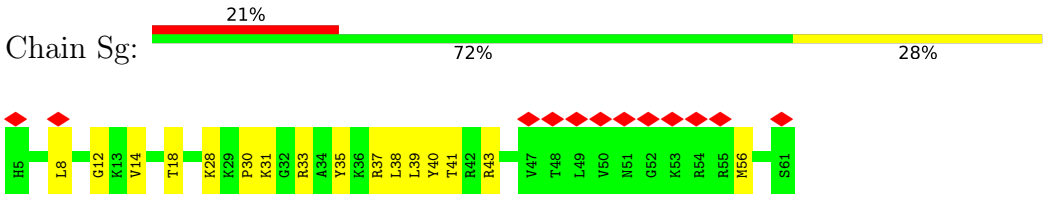
• Molecule 77: Small ribosomal subunit protein eS27A

Chain Sf:



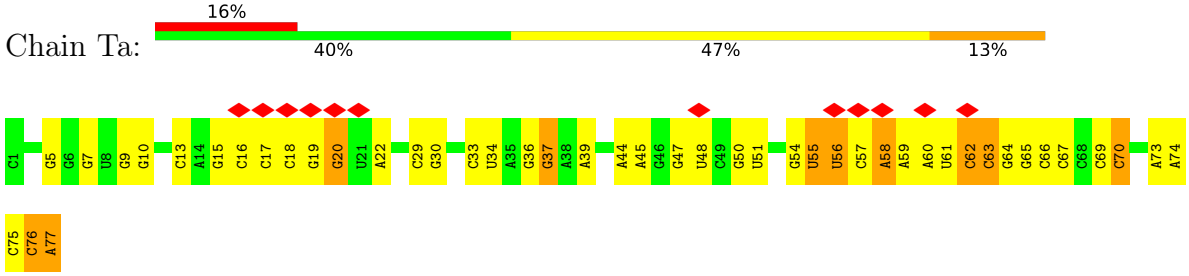
• Molecule 78: Small ribosomal subunit protein eS30A

Chain Sg:



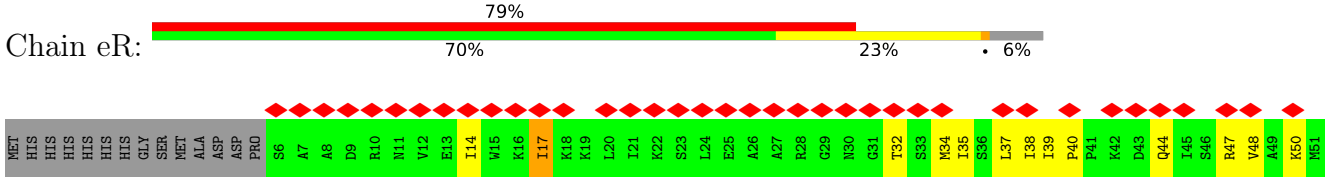
• Molecule 79: tRNA (77-MER)

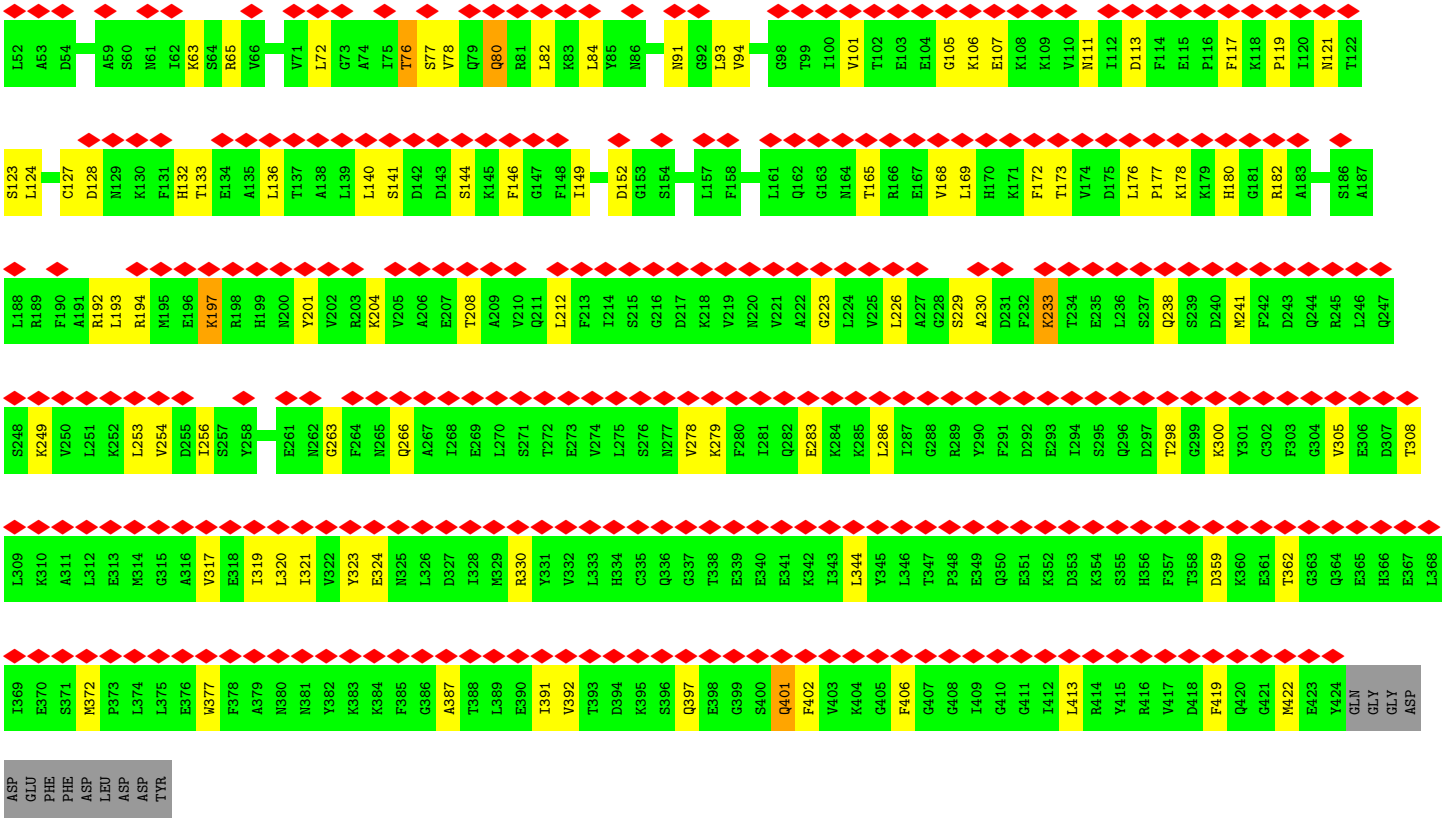
Chain Ta:



• Molecule 80: Eukaryotic peptide chain release factor subunit 1

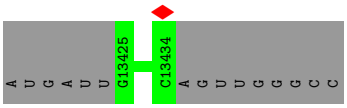
Chain eR:





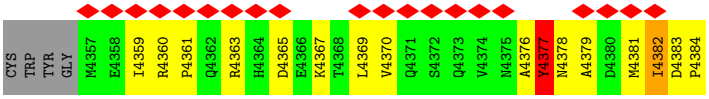
- Molecule 81: RNA (5'-R(P*GP*AP*CP*CP*CP*UP*UP*AP*AP*C)-3')

Chain mR:



- Molecule 82: Peptide 2k

Chain pp:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	460403	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	JEOL CRYO ARM 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	5.439	Depositor
Minimum map value	-2.709	Depositor
Average map value	-0.002	Depositor
Map value standard deviation	0.110	Depositor
Recommended contour level	0.26	Depositor
Map size (Å)	570.0, 570.0, 570.0	wwPDB
Map dimensions	600, 600, 600	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.95, 0.95, 0.95	Depositor

5 Model quality

5.1 Standard geometry

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	LA	0.41	0/76214	0.38	0/118821
2	LB	0.32	0/2883	0.33	0/4491
3	LC	0.36	0/3746	0.39	0/5832
4	LD	0.34	0/1933	0.42	0/2598
5	LE	0.31	0/3146	0.38	0/4228
6	LF	0.38	1/2800 (0.0%)	0.52	4/3790 (0.1%)
7	LG	0.24	0/2400	0.37	0/3239
8	LH	0.24	0/1329	0.36	0/1794
9	LI	0.33	0/1821	0.43	0/2451
10	LJ	0.24	0/1836	0.41	0/2481
11	LK	0.27	0/1529	0.41	0/2060
12	LL	0.28	0/1801	0.37	0/2416
13	LM	0.21	0/1367	0.38	0/1834
14	LN	0.27	0/1568	0.40	0/2106
15	LO	0.25	0/1068	0.38	0/1438
16	LP	0.34	0/1757	0.40	0/2354
17	LQ	0.31	0/1585	0.44	0/2128
18	LR	0.32	0/1439	0.38	0/1938
19	LS	0.32	0/1465	0.41	0/1965
20	LT	0.28	0/1532	0.36	0/2043
21	LU	0.30	0/1473	0.42	0/1980
22	LV	0.38	0/1296	0.40	1/1739 (0.1%)
23	LW	0.20	0/812	0.38	0/1099
24	LX	0.31	0/1018	0.36	0/1369
25	LY	0.29	0/540	0.35	0/717
26	LZ	0.25	0/979	0.37	0/1321
27	La	0.30	0/995	0.53	0/1329
28	Lb	0.24	0/1106	0.40	0/1485
29	Lc	0.35	0/1200	0.45	0/1607
30	Ld	0.30	0/473	0.44	0/629
31	Le	0.28	0/745	0.33	0/1001
32	Lf	0.27	0/890	0.37	0/1196
33	Lg	0.30	0/1038	0.41	0/1390
34	Lh	0.32	0/868	0.38	0/1168

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
35	Li	0.31	0/890	0.41	0/1189
36	Lj	0.24	0/978	0.37	0/1301
37	Lk	0.27	0/772	0.42	0/1026
38	Ll	0.38	0/660	0.44	0/875
39	Lm	0.20	0/618	0.38	0/826
40	Ln	0.31	0/443	0.44	0/588
41	Lo	0.37	1/416 (0.2%)	0.37	0/553
42	Lp	0.27	0/230	0.30	0/296
43	Lq	0.79	5/836 (0.6%)	0.57	3/1104 (0.3%)
44	Lr	0.30	0/701	0.41	0/934
45	S2	0.30	0/42211	0.35	0/65773
46	SA	0.27	0/1754	0.40	0/2361
47	SB	0.19	0/1625	0.39	0/2197
48	SC	0.15	0/769	0.40	0/1039
49	SD	0.14	0/883	0.39	0/1199
50	SE	0.16	0/936	0.34	0/1259
51	SF	0.19	0/1125	0.42	0/1510
52	SG	0.17	0/957	0.34	0/1283
53	SH	0.14	0/1207	0.32	0/1623
54	SI	0.17	0/1130	0.35	0/1517
55	SJ	0.16	0/807	0.33	0/1091
56	SK	0.16	0/661	0.34	0/888
57	SL	0.21	0/493	0.33	0/663
58	SM	0.18	0/452	0.33	0/600
59	SN	0.12	0/567	0.31	0/764
60	SO	0.15	0/2436	0.37	0/3318
61	SP	0.22	0/1644	0.38	0/2249
62	SQ	0.26	0/1823	0.47	0/2447
63	SR	0.27	0/1656	0.46	1/2251 (0.0%)
64	SS	0.24	0/2097	0.41	0/2823
65	ST	0.18	0/1839	0.34	0/2460
66	SU	0.21	0/1498	0.38	0/2019
67	SV	0.27	0/1501	0.38	0/2006
68	SW	0.25	0/1504	0.36	0/2016
69	SX	0.29	0/1168	0.35	0/1575
70	SY	0.28	0/1215	0.43	0/1638
71	SZ	0.29	0/934	0.43	0/1257
72	Sa	0.23	0/682	0.34	0/921
73	Sb	0.32	0/1038	0.42	0/1395
74	Sc	0.27	0/1139	0.37	0/1518
75	Sd	0.19	0/1046	0.35	0/1401
76	Se	0.30	0/778	0.45	0/1042
77	Sf	0.23	0/620	0.38	0/838

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
78	Sg	0.19	0/459	0.38	0/611
79	Ta	0.19	0/1844	0.27	0/2873
80	eR	0.13	0/3363	0.30	0/4523
82	pp	0.27	0/232	0.65	1/313 (0.3%)
All	All	0.33	7/219289 (0.0%)	0.38	10/321990 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
7	LG	0	1
10	LJ	0	1
27	La	0	2
30	Ld	0	2
36	Lj	0	1
63	SR	0	1
All	All	0	8

The worst 5 of 7 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	LF	351	PRO	CG-CD	-10.47	1.15	1.50
43	Lq	56	PRO	CA-C	-8.07	1.42	1.52
43	Lq	52	GLY	CA-C	-6.21	1.43	1.51
43	Lq	57	VAL	C-O	-5.70	1.17	1.24
41	Lo	104	PRO	CA-C	5.25	1.54	1.51

The worst 5 of 10 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	LF	351	PRO	N-CD-CG	-12.26	84.82	103.20
6	LF	351	PRO	CA-CB-CG	-11.07	83.46	104.50
82	pp	4377	TYR	CB-CA-C	-6.17	109.44	116.54
43	Lq	59	HIS	CB-CA-C	-5.61	101.92	109.16
63	SR	234	PRO	CA-N-CD	-5.57	104.21	112.00

There are no chirality outliers.

5 of 8 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
7	LG	252	ALA	Peptide
10	LJ	30	THR	Peptide
27	La	30	LEU	Peptide
27	La	46	LYS	Peptide
30	Ld	19	ASN	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	LA	68091	0	34217	1057	0
2	LB	2579	0	1304	49	0
3	LC	3353	0	1695	81	0
4	LD	1899	0	1957	48	0
5	LE	3075	0	3142	100	0
6	LF	2748	0	2859	90	0
7	LG	2351	0	2294	72	0
8	LH	1307	0	1377	45	0
9	LI	1784	0	1862	45	0
10	LJ	1804	0	1877	66	0
11	LK	1508	0	1572	58	0
12	LL	1764	0	1804	51	0
13	LM	1346	0	1370	54	0
14	LN	1543	0	1608	61	0
15	LO	1053	0	1149	47	0
16	LP	1720	0	1779	56	0
17	LQ	1555	0	1659	40	0
18	LR	1416	0	1433	35	0
19	LS	1441	0	1543	41	0
20	LT	1515	0	1606	45	0
21	LU	1437	0	1475	54	0
22	LV	1272	0	1312	46	0
23	LW	796	0	812	25	0
24	LX	1003	0	1048	26	0
25	LY	528	0	546	12	0
26	LZ	964	0	1025	32	0
27	La	984	0	1075	50	0
28	Lb	1080	0	1122	32	0
29	Lc	1169	0	1211	44	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
30	Ld	462	0	491	14	0
31	Le	737	0	792	21	0
32	Lf	876	0	912	22	0
33	Lg	1017	0	1081	18	0
34	Lh	850	0	880	21	0
35	Li	880	0	945	33	0
36	Lj	969	0	1078	39	0
37	Lk	766	0	844	28	0
38	Ll	645	0	649	21	0
39	Lm	612	0	682	20	0
40	Ln	436	0	475	20	0
41	Lo	410	0	446	11	0
42	Lp	229	0	273	5	0
43	Lq	824	0	892	18	0
44	Lr	694	0	738	14	0
45	S2	37739	0	18988	749	0
46	SA	1729	0	1812	66	0
47	SB	1605	0	1669	65	0
48	SC	752	0	719	22	0
49	SD	875	0	878	11	0
50	SE	916	0	941	23	0
51	SF	1105	0	1166	52	0
52	SG	948	0	990	42	0
53	SH	1188	0	1218	40	0
54	SI	1112	0	1124	32	0
55	SJ	797	0	863	36	0
56	SK	651	0	682	26	0
57	SL	491	0	524	22	0
58	SM	442	0	432	25	0
59	SN	556	0	549	15	0
60	SO	2383	0	2332	74	0
61	SP	1603	0	1610	51	0
62	SQ	1798	0	1890	72	0
63	SR	1626	0	1715	52	0
64	SS	2056	0	2140	62	0
65	ST	1815	0	1894	62	0
66	SU	1473	0	1555	35	0
67	SV	1476	0	1501	58	0
68	SW	1479	0	1556	68	0
69	SX	1142	0	1209	27	0
70	SY	1192	0	1255	31	0
71	SZ	923	0	948	39	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
72	Sa	673	0	662	25	0
73	Sb	1021	0	1060	27	0
74	Sc	1121	0	1196	33	0
75	Sd	1032	0	1044	35	0
76	Se	765	0	814	22	0
77	Sf	610	0	633	15	0
78	Sg	451	0	494	15	0
79	Ta	1650	0	838	32	0
80	eR	3309	0	3350	74	0
81	mR	209	0	0	0	0
82	pp	229	0	219	17	0
All	All	204434	0	151381	4107	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 12.

The worst 5 of 4107 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2215:G:H1	1:LA:2227:A:N6	1.55	1.03
1:LA:1532:U:HO2'	1:LA:1797:A:H8	1.05	1.01
1:LA:3233:A:H61	1:LA:3252:G:H1	1.01	1.00
74:Sc:57:LEU:HD21	74:Sc:73:ARG:HG2	1.44	1.00
45:S2:1039:A:N6	45:S2:1091:A:N7	2.10	0.99

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
4	LD	249/251 (99%)	236 (95%)	13 (5%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
5	LE	384/386 (100%)	360 (94%)	24 (6%)	0	100	100
6	LF	359/361 (99%)	340 (95%)	19 (5%)	0	100	100
7	LG	292/294 (99%)	273 (94%)	19 (6%)	0	100	100
8	LH	163/175 (93%)	154 (94%)	9 (6%)	0	100	100
9	LI	220/222 (99%)	210 (96%)	10 (4%)	0	100	100
10	LJ	231/233 (99%)	217 (94%)	14 (6%)	0	100	100
11	LK	189/191 (99%)	174 (92%)	15 (8%)	0	100	100
12	LL	216/218 (99%)	203 (94%)	13 (6%)	0	100	100
13	LM	167/169 (99%)	157 (94%)	10 (6%)	0	100	100
14	LN	191/193 (99%)	173 (91%)	18 (9%)	0	100	100
15	LO	134/136 (98%)	129 (96%)	5 (4%)	0	100	100
16	LP	201/203 (99%)	192 (96%)	9 (4%)	0	100	100
17	LQ	195/197 (99%)	192 (98%)	3 (2%)	0	100	100
18	LR	181/183 (99%)	170 (94%)	11 (6%)	0	100	100
19	LS	183/185 (99%)	177 (97%)	6 (3%)	0	100	100
20	LT	186/188 (99%)	182 (98%)	4 (2%)	0	100	100
21	LU	169/171 (99%)	161 (95%)	8 (5%)	0	100	100
22	LV	157/159 (99%)	148 (94%)	9 (6%)	0	100	100
23	LW	98/100 (98%)	87 (89%)	11 (11%)	0	100	100
24	LX	134/136 (98%)	130 (97%)	4 (3%)	0	100	100
25	LY	63/65 (97%)	63 (100%)	0	0	100	100
26	LZ	119/121 (98%)	116 (98%)	3 (2%)	0	100	100
27	La	123/125 (98%)	109 (89%)	12 (10%)	2 (2%)	8	7
28	Lb	133/135 (98%)	119 (90%)	14 (10%)	0	100	100
29	Lc	146/148 (99%)	133 (91%)	13 (9%)	0	100	100
30	Ld	56/58 (97%)	51 (91%)	5 (9%)	0	100	100
31	Le	94/96 (98%)	94 (100%)	0	0	100	100
32	Lf	107/109 (98%)	101 (94%)	6 (6%)	0	100	100
33	Lg	125/127 (98%)	116 (93%)	9 (7%)	0	100	100
34	Lh	104/106 (98%)	102 (98%)	2 (2%)	0	100	100
35	Li	110/112 (98%)	108 (98%)	2 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
36	Lj	117/119 (98%)	112 (96%)	5 (4%)	0	100	100
37	Lk	97/99 (98%)	93 (96%)	4 (4%)	0	100	100
38	Ll	79/81 (98%)	73 (92%)	6 (8%)	0	100	100
39	Lm	75/77 (97%)	75 (100%)	0	0	100	100
40	Ln	48/50 (96%)	47 (98%)	1 (2%)	0	100	100
41	Lo	50/52 (96%)	48 (96%)	2 (4%)	0	100	100
42	Lp	23/25 (92%)	23 (100%)	0	0	100	100
43	Lq	101/103 (98%)	91 (90%)	10 (10%)	0	100	100
44	Lr	89/91 (98%)	85 (96%)	4 (4%)	0	100	100
46	SA	220/223 (99%)	214 (97%)	6 (3%)	0	100	100
47	SB	204/206 (99%)	192 (94%)	12 (6%)	0	100	100
48	SC	90/92 (98%)	83 (92%)	7 (8%)	0	100	100
49	SD	119/124 (96%)	96 (81%)	23 (19%)	0	100	100
50	SE	115/117 (98%)	106 (92%)	9 (8%)	0	100	100
51	SF	139/141 (99%)	131 (94%)	8 (6%)	0	100	100
52	SG	117/125 (94%)	113 (97%)	4 (3%)	0	100	100
53	SH	143/145 (99%)	137 (96%)	6 (4%)	0	100	100
54	SI	141/143 (99%)	133 (94%)	8 (6%)	0	100	100
55	SJ	98/101 (97%)	96 (98%)	2 (2%)	0	100	100
56	SK	80/82 (98%)	69 (86%)	11 (14%)	0	100	100
57	SL	61/63 (97%)	58 (95%)	3 (5%)	0	100	100
58	SM	51/53 (96%)	50 (98%)	1 (2%)	0	100	100
59	SN	71/73 (97%)	55 (78%)	16 (22%)	0	100	100
60	SO	310/312 (99%)	284 (92%)	26 (8%)	0	100	100
61	SP	204/206 (99%)	182 (89%)	22 (11%)	0	100	100
62	SQ	222/232 (96%)	205 (92%)	17 (8%)	0	100	100
63	SR	214/217 (99%)	199 (93%)	15 (7%)	0	100	100
64	SS	256/260 (98%)	236 (92%)	20 (8%)	0	100	100
65	ST	226/228 (99%)	219 (97%)	7 (3%)	0	100	100
66	SU	182/185 (98%)	170 (93%)	12 (7%)	0	100	100
67	SV	183/199 (92%)	173 (94%)	10 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
68	SW	182/185 (98%)	176 (97%)	6 (3%)	0	100	100
69	SX	140/146 (96%)	134 (96%)	6 (4%)	0	100	100
70	SY	148/150 (99%)	140 (95%)	8 (5%)	0	100	100
71	SZ	125/128 (98%)	113 (90%)	12 (10%)	0	100	100
72	Sa	85/87 (98%)	76 (89%)	9 (11%)	0	100	100
73	Sb	127/129 (98%)	119 (94%)	8 (6%)	0	100	100
74	Sc	142/144 (99%)	133 (94%)	9 (6%)	0	100	100
75	Sd	132/134 (98%)	126 (96%)	6 (4%)	0	100	100
76	Se	95/97 (98%)	87 (92%)	8 (8%)	0	100	100
77	Sf	79/81 (98%)	74 (94%)	5 (6%)	0	100	100
78	Sg	55/57 (96%)	48 (87%)	7 (13%)	0	100	100
80	eR	417/446 (94%)	405 (97%)	11 (3%)	1 (0%)	44	55
82	pp	26/32 (81%)	22 (85%)	4 (15%)	0	100	100
All	All	11357/11593 (98%)	10678 (94%)	676 (6%)	3 (0%)	100	100

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
27	La	28	ARG
27	La	31	LEU
80	eR	317	VAL

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	LD	190/193 (98%)	181 (95%)	9 (5%)	22	32
5	LE	318/322 (99%)	307 (96%)	11 (4%)	31	46
6	LF	288/288 (100%)	273 (95%)	15 (5%)	19	28
7	LG	241/243 (99%)	235 (98%)	6 (2%)	42	60

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
8	LH	139/154 (90%)	130 (94%)	9 (6%)	14 20
9	LI	186/186 (100%)	181 (97%)	5 (3%)	40 57
10	LJ	187/191 (98%)	178 (95%)	9 (5%)	21 32
11	LK	168/171 (98%)	155 (92%)	13 (8%)	10 14
12	LL	185/185 (100%)	178 (96%)	7 (4%)	28 42
13	LM	145/147 (99%)	135 (93%)	10 (7%)	13 18
14	LN	154/154 (100%)	140 (91%)	14 (9%)	7 9
15	LO	107/107 (100%)	98 (92%)	9 (8%)	9 11
16	LP	175/175 (100%)	169 (97%)	6 (3%)	32 47
17	LQ	160/160 (100%)	157 (98%)	3 (2%)	52 69
18	LR	138/145 (95%)	133 (96%)	5 (4%)	30 44
19	LS	150/150 (100%)	148 (99%)	2 (1%)	65 79
20	LT	152/153 (99%)	145 (95%)	7 (5%)	23 33
21	LU	155/155 (100%)	149 (96%)	6 (4%)	27 41
22	LV	135/136 (99%)	130 (96%)	5 (4%)	29 43
23	LW	87/87 (100%)	78 (90%)	9 (10%)	6 7
24	LX	104/104 (100%)	104 (100%)	0	100 100
25	LY	54/57 (95%)	50 (93%)	4 (7%)	11 15
26	LZ	104/105 (99%)	97 (93%)	7 (7%)	13 19
27	La	108/108 (100%)	103 (95%)	5 (5%)	23 33
28	Lb	112/115 (97%)	104 (93%)	8 (7%)	12 17
29	Lc	117/118 (99%)	114 (97%)	3 (3%)	41 58
30	Ld	46/46 (100%)	44 (96%)	2 (4%)	25 36
31	Le	81/81 (100%)	76 (94%)	5 (6%)	15 22
32	Lf	92/96 (96%)	86 (94%)	6 (6%)	14 20
33	Lg	108/109 (99%)	105 (97%)	3 (3%)	38 55
34	Lh	90/90 (100%)	86 (96%)	4 (4%)	24 35
35	Li	95/95 (100%)	91 (96%)	4 (4%)	25 37
36	Lj	104/104 (100%)	102 (98%)	2 (2%)	52 69
37	Lk	80/81 (99%)	74 (92%)	6 (8%)	11 15
38	Ll	67/67 (100%)	63 (94%)	4 (6%)	16 23

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
39	Lm	68/68 (100%)	64 (94%)	4 (6%)	16 23
40	Ln	45/45 (100%)	44 (98%)	1 (2%)	47 65
41	Lo	45/47 (96%)	43 (96%)	2 (4%)	24 35
42	Lp	22/23 (96%)	21 (96%)	1 (4%)	23 34
43	Lq	87/88 (99%)	85 (98%)	2 (2%)	45 63
44	Lr	71/71 (100%)	69 (97%)	2 (3%)	38 55
46	SA	182/182 (100%)	167 (92%)	15 (8%)	9 12
47	SB	172/173 (99%)	160 (93%)	12 (7%)	12 17
48	SC	77/85 (91%)	76 (99%)	1 (1%)	65 79
49	SD	88/100 (88%)	85 (97%)	3 (3%)	32 47
50	SE	95/98 (97%)	92 (97%)	3 (3%)	34 50
51	SF	117/117 (100%)	106 (91%)	11 (9%)	7 9
52	SG	101/113 (89%)	96 (95%)	5 (5%)	20 30
53	SH	127/128 (99%)	124 (98%)	3 (2%)	44 61
54	SI	115/115 (100%)	111 (96%)	4 (4%)	31 46
55	SJ	93/94 (99%)	86 (92%)	7 (8%)	11 15
56	SK	67/73 (92%)	66 (98%)	1 (2%)	60 76
57	SL	55/56 (98%)	51 (93%)	4 (7%)	11 16
58	SM	47/47 (100%)	45 (96%)	2 (4%)	25 36
59	SN	56/64 (88%)	55 (98%)	1 (2%)	54 71
60	SO	250/257 (97%)	232 (93%)	18 (7%)	12 16
61	SP	170/173 (98%)	164 (96%)	6 (4%)	31 46
62	SQ	200/205 (98%)	186 (93%)	14 (7%)	12 17
63	SR	175/176 (99%)	165 (94%)	10 (6%)	17 25
64	SS	220/221 (100%)	204 (93%)	16 (7%)	11 16
65	ST	189/195 (97%)	180 (95%)	9 (5%)	21 32
66	SU	163/165 (99%)	147 (90%)	16 (10%)	6 8
67	SV	148/160 (92%)	136 (92%)	12 (8%)	9 13
68	SW	156/158 (99%)	147 (94%)	9 (6%)	17 24
69	SX	126/129 (98%)	123 (98%)	3 (2%)	44 61
70	SY	127/127 (100%)	119 (94%)	8 (6%)	15 21

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
71	SZ	90/97 (93%)	87 (97%)	3 (3%)	33 48
72	Sa	71/74 (96%)	68 (96%)	3 (4%)	25 37
73	Sb	110/110 (100%)	107 (97%)	3 (3%)	40 57
74	Sc	119/119 (100%)	117 (98%)	2 (2%)	56 72
75	Sd	102/112 (91%)	97 (95%)	5 (5%)	21 31
76	Se	82/83 (99%)	79 (96%)	3 (4%)	29 43
77	Sf	70/70 (100%)	66 (94%)	4 (6%)	17 25
78	Sg	48/49 (98%)	47 (98%)	1 (2%)	48 66
80	eR	361/384 (94%)	342 (95%)	19 (5%)	19 28
82	pp	26/29 (90%)	24 (92%)	2 (8%)	10 14
All	All	9555/9758 (98%)	9082 (95%)	473 (5%)	23 30

5 of 473 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
43	Lq	2	VAL
75	Sd	107	GLN
53	SH	52	VAL
74	Sc	56	LYS
67	SV	60	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 103 such sidechains are listed below:

Mol	Chain	Res	Type
50	SE	70	ASN
61	SP	49	ASN
80	eR	199	HIS
53	SH	44	ASN
57	SL	27	GLN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	LA	3180/3393 (93%)	814 (25%)	33 (1%)
2	LB	120/121 (99%)	17 (14%)	1 (0%)
3	LC	157/158 (99%)	42 (26%)	1 (0%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
45	S2	1768/1799 (98%)	709 (40%)	30 (1%)
79	Ta	76/77 (98%)	20 (26%)	0
81	mR	0/25	-	-
All	All	5301/5573 (95%)	1602 (30%)	65 (1%)

5 of 1602 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	LA	11	A
1	LA	12	A
1	LA	14	U
1	LA	15	C
1	LA	16	A

5 of 65 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
45	S2	1351	G
45	S2	1411	A
1	LA	2540	U
1	LA	2500	U
45	S2	1440	C

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

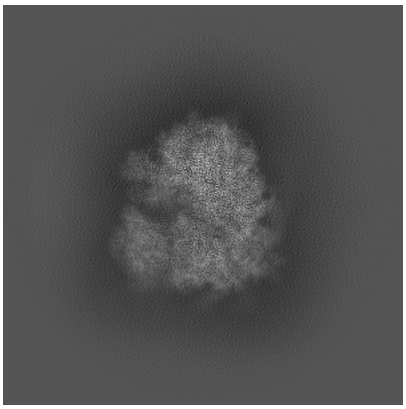
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-60098. These allow visual inspection of the internal detail of the map and identification of artifacts.

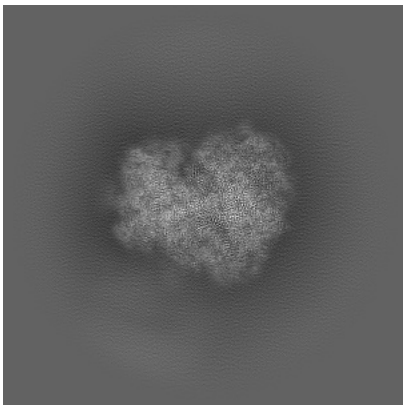
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

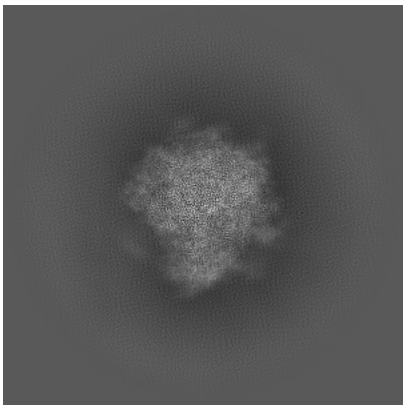
6.1.1 Primary map



X

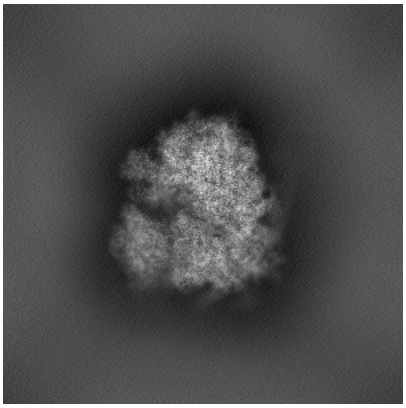


Y

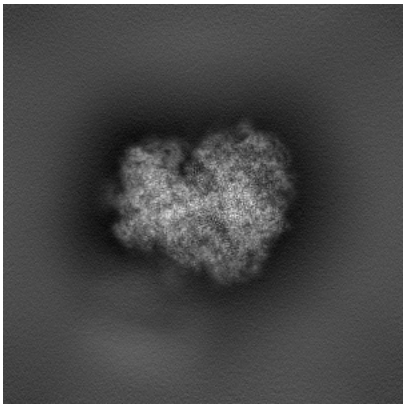


Z

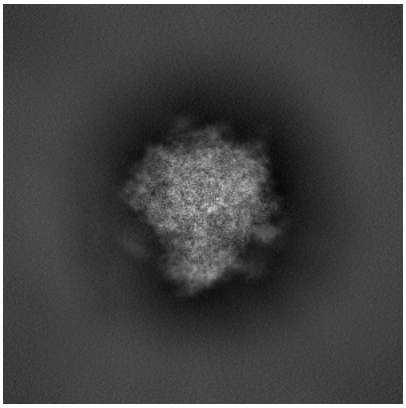
6.1.2 Raw map



X



Y

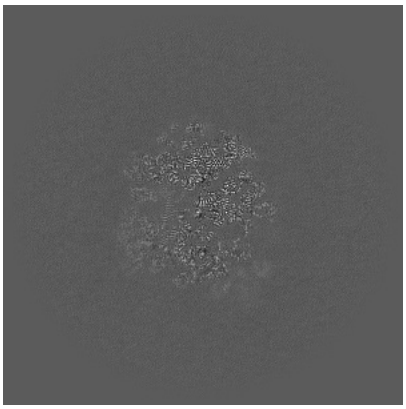


Z

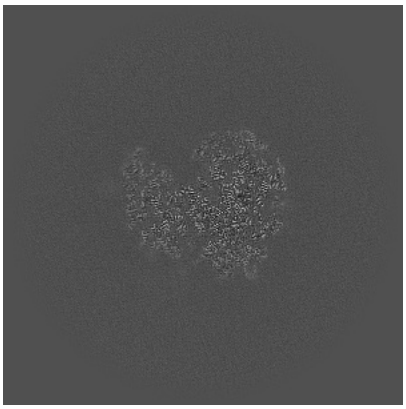
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

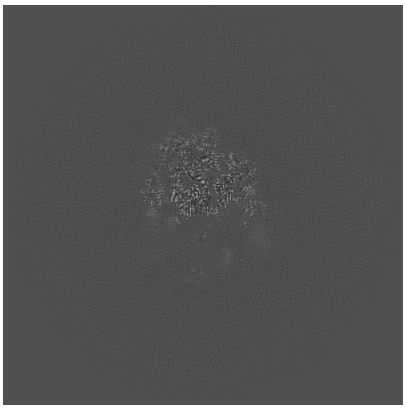
6.2.1 Primary map



X Index: 300

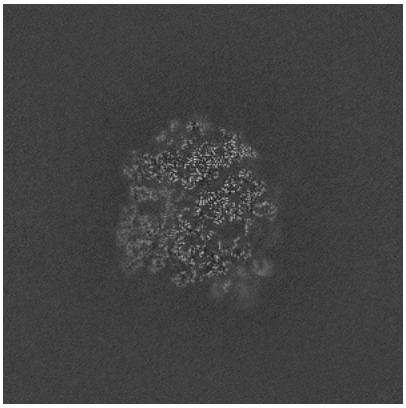


Y Index: 300

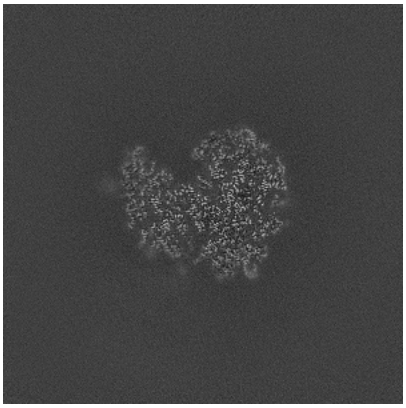


Z Index: 300

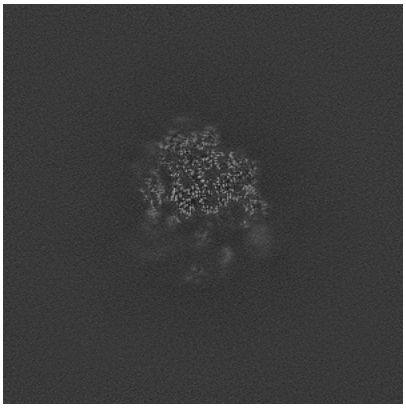
6.2.2 Raw map



X Index: 300



Y Index: 300

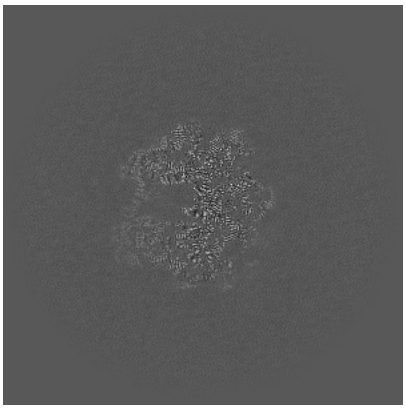


Z Index: 300

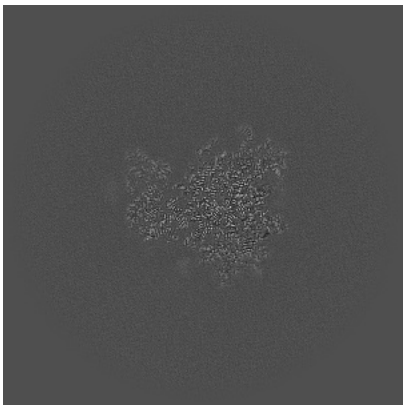
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

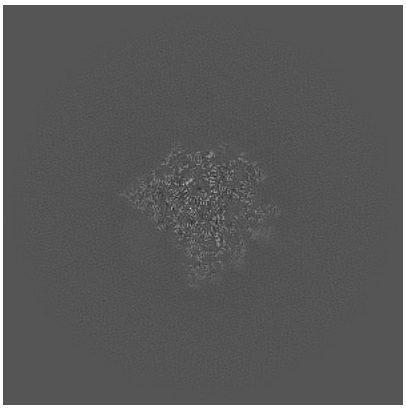
6.3.1 Primary map



X Index: 288

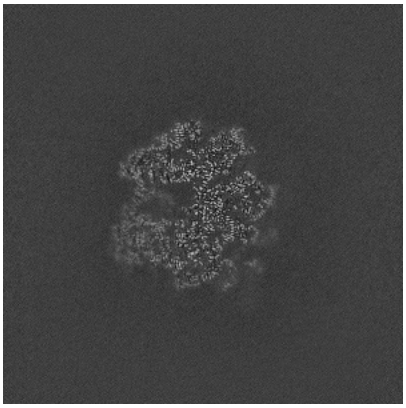


Y Index: 309

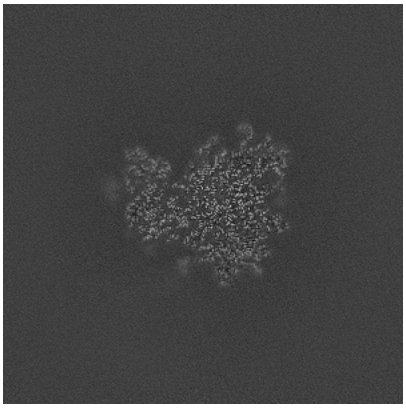


Z Index: 341

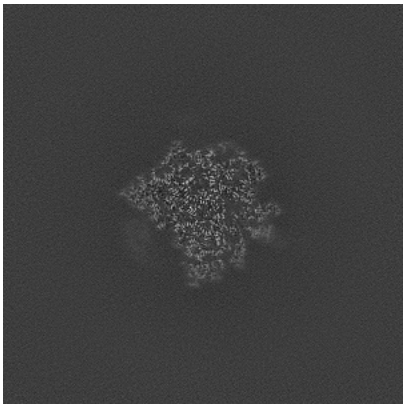
6.3.2 Raw map



X Index: 289



Y Index: 309

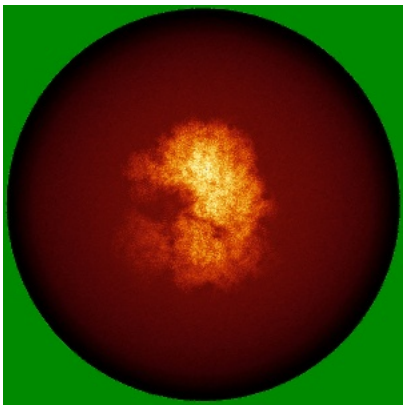


Z Index: 341

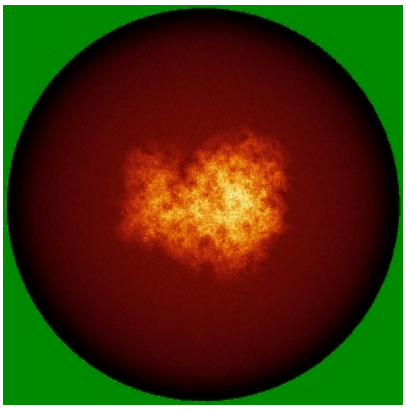
The images above show the largest variance slices of the map in three orthogonal directions.

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

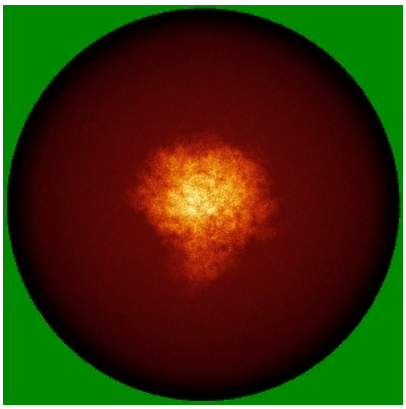
6.4.1 Primary map



X

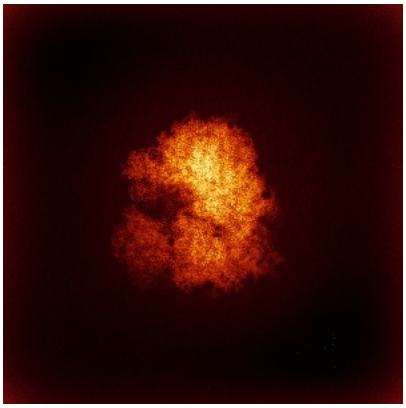


Y

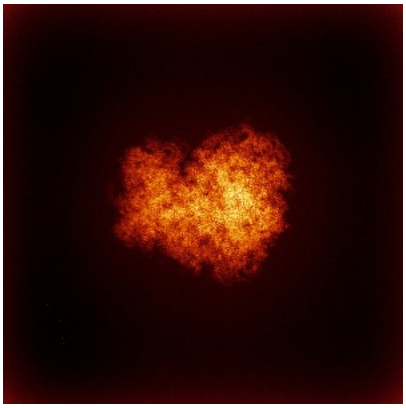


Z

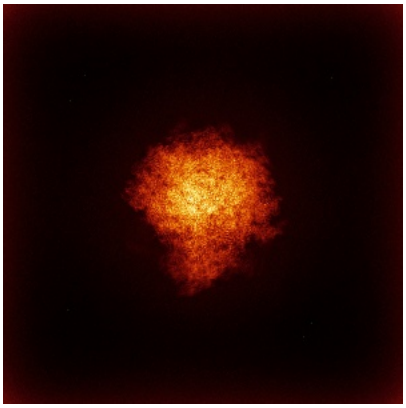
6.4.2 Raw map



X



Y

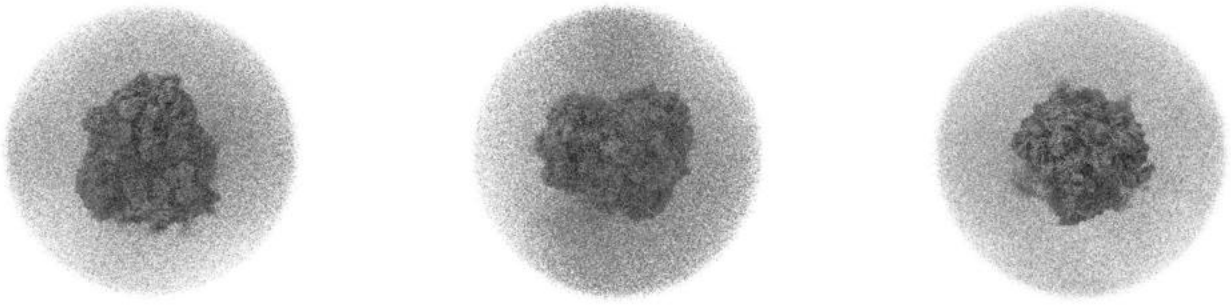


Z

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)

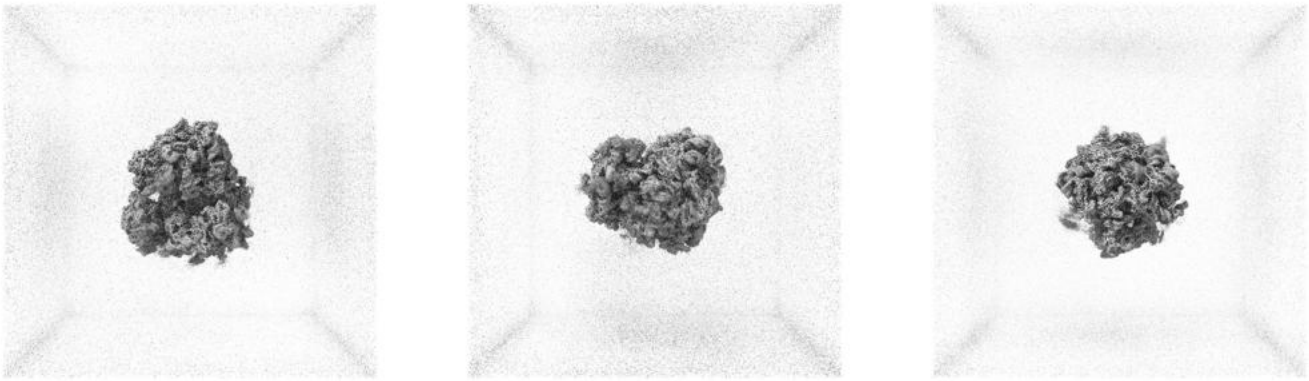
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.26. 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.

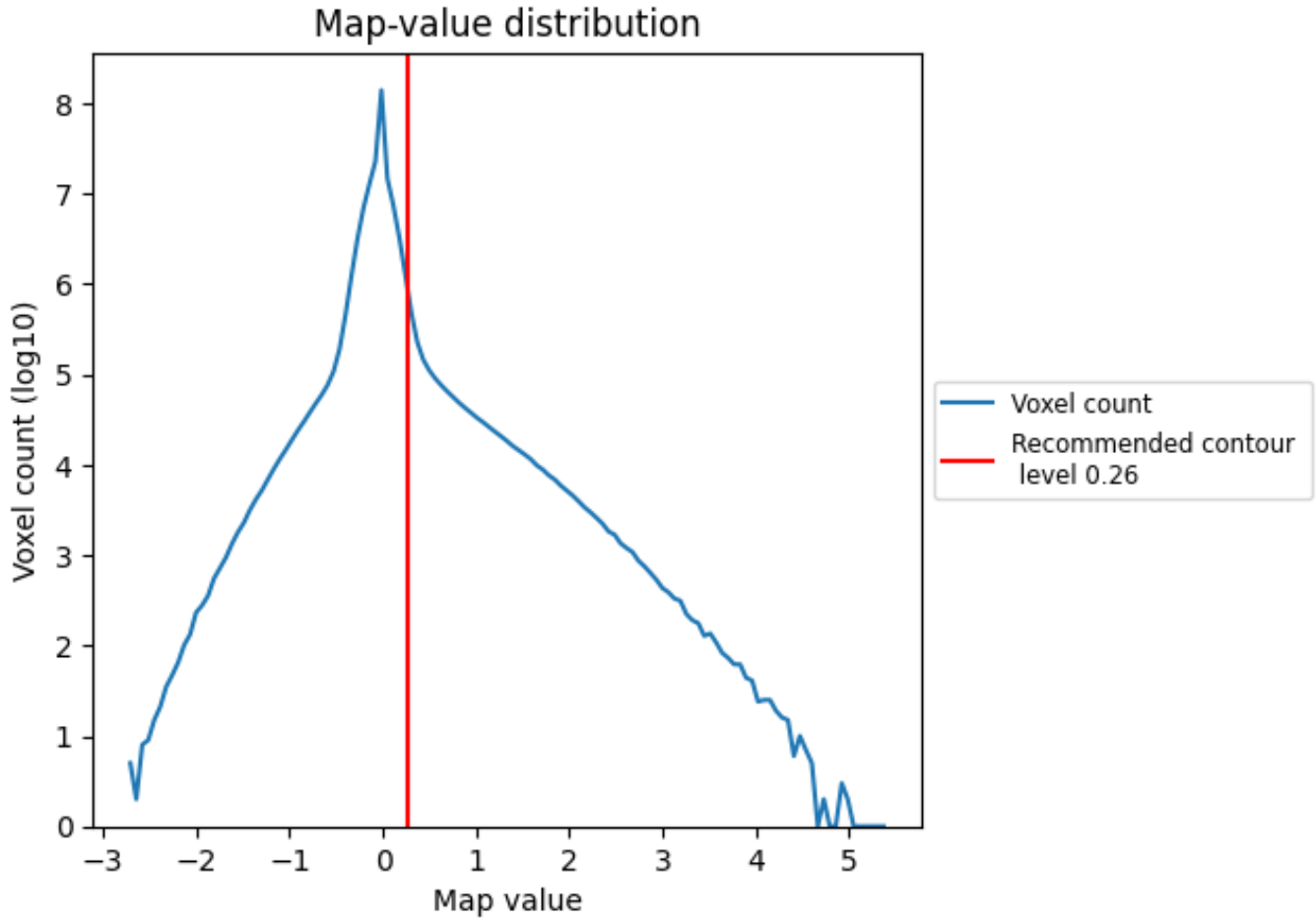
6.6 Mask visualisation (i)

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

7 Map analysis

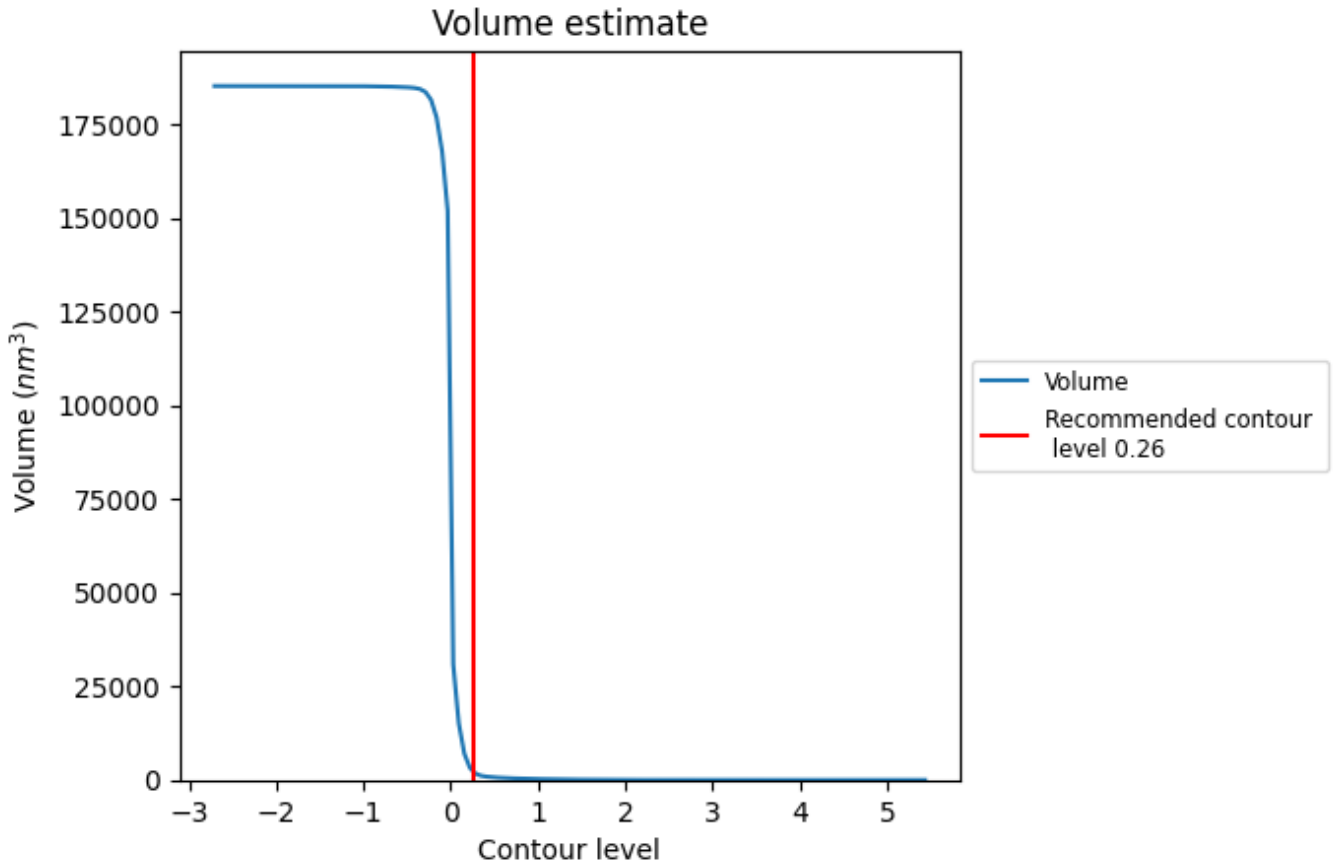
This section contains the results of statistical analysis of the map.

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.

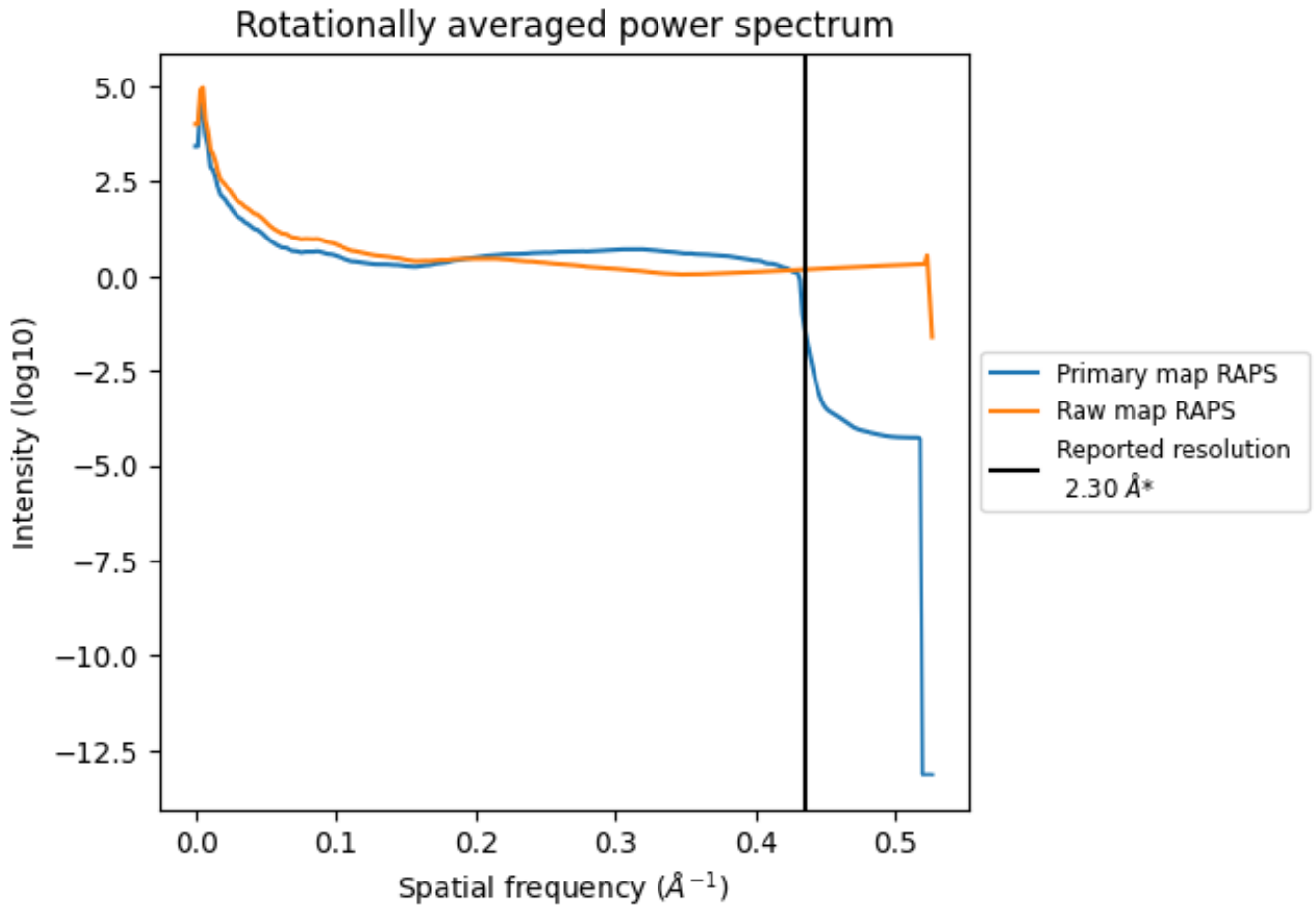
7.2 Volume estimate



The volume at the recommended contour level is 2267 nm^3; this corresponds to an approximate mass of 2048 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)

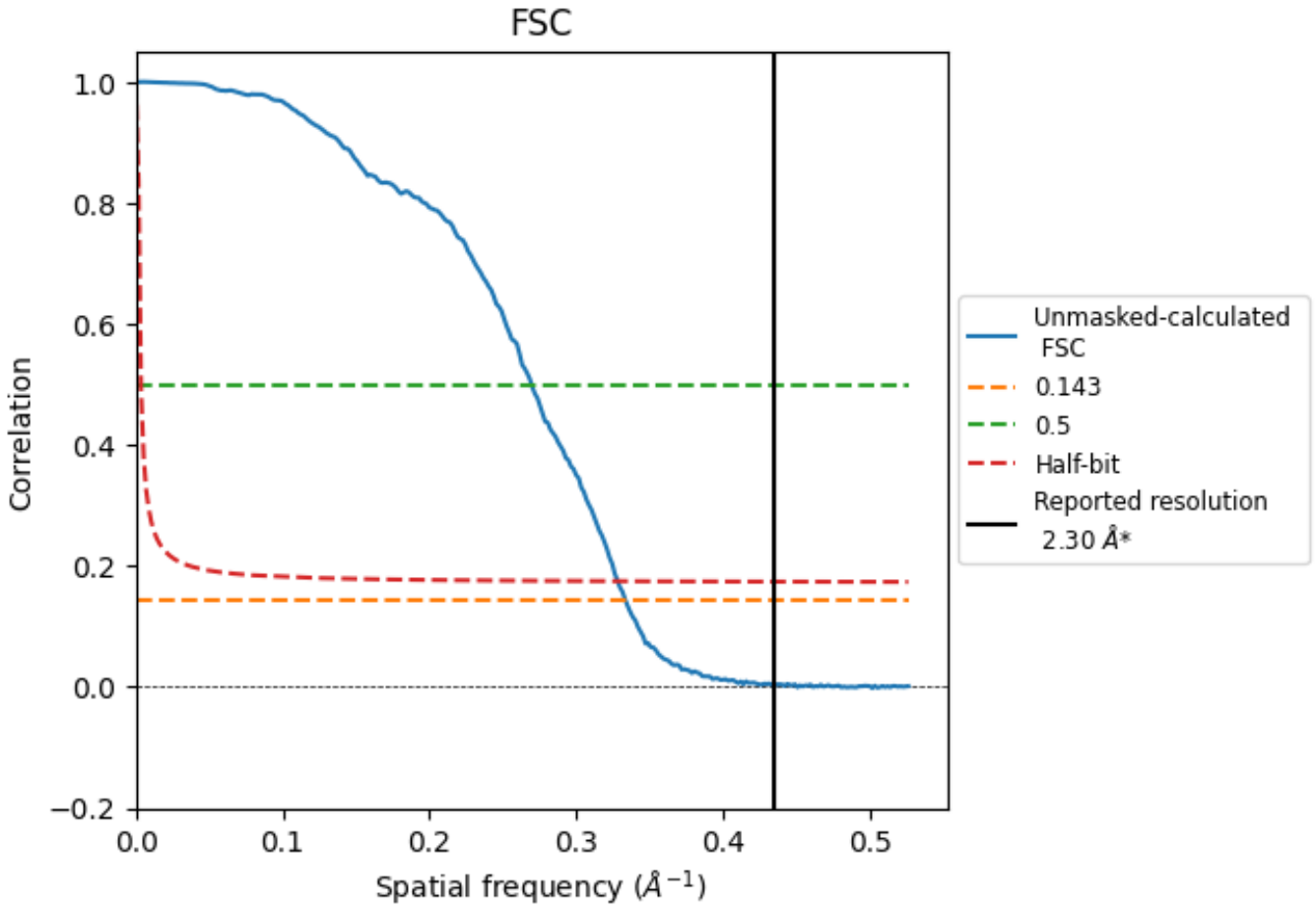


*Reported resolution corresponds to spatial frequency of 0.435 $Å^{-1}$

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 0.435 Å^{-1}

8.2 Resolution estimates (i)

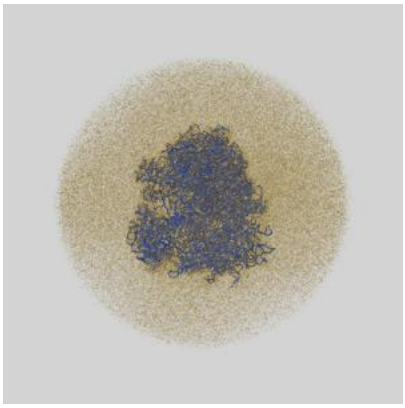
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.30	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.00	3.71	3.05

*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 3.00 differs from the reported value 2.3 by more than 10 %

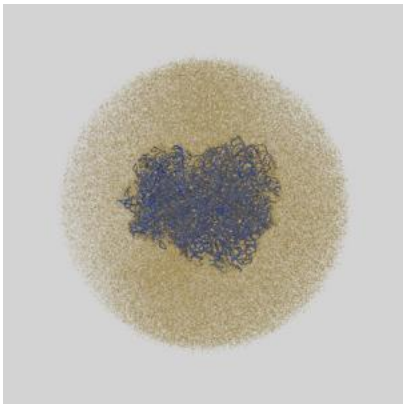
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-60098 and PDB model 8ZHC. Per-residue inclusion information can be found in section 3 on page 19.

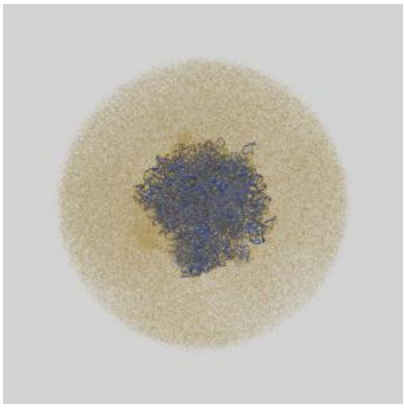
9.1 Map-model overlay



X



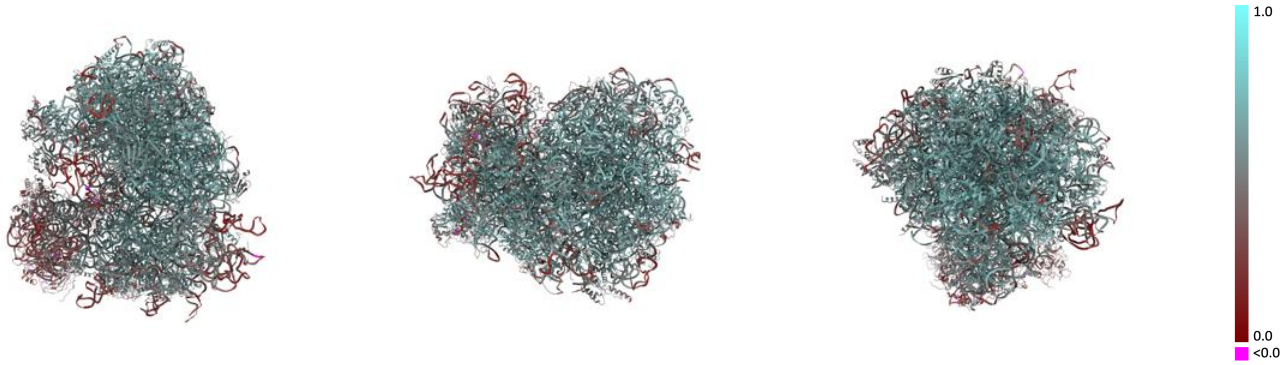
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.26 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.

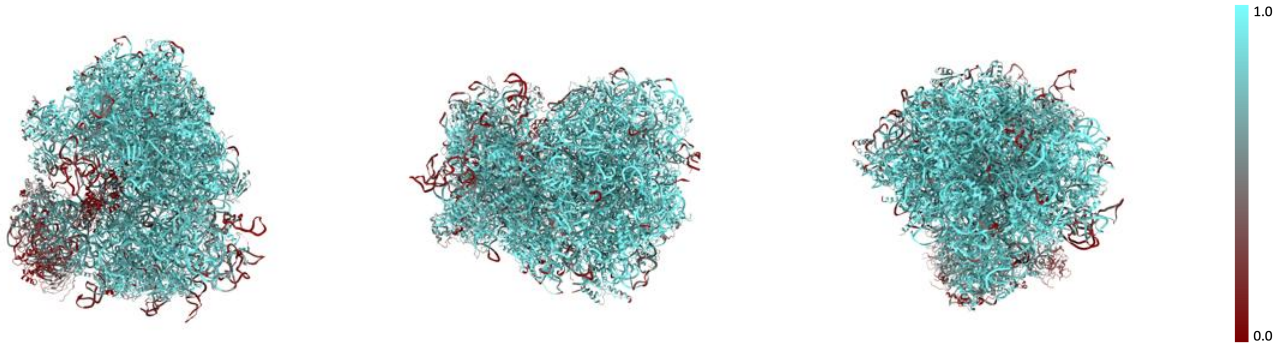
9.2 Q-score mapped to coordinate model (i)



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.

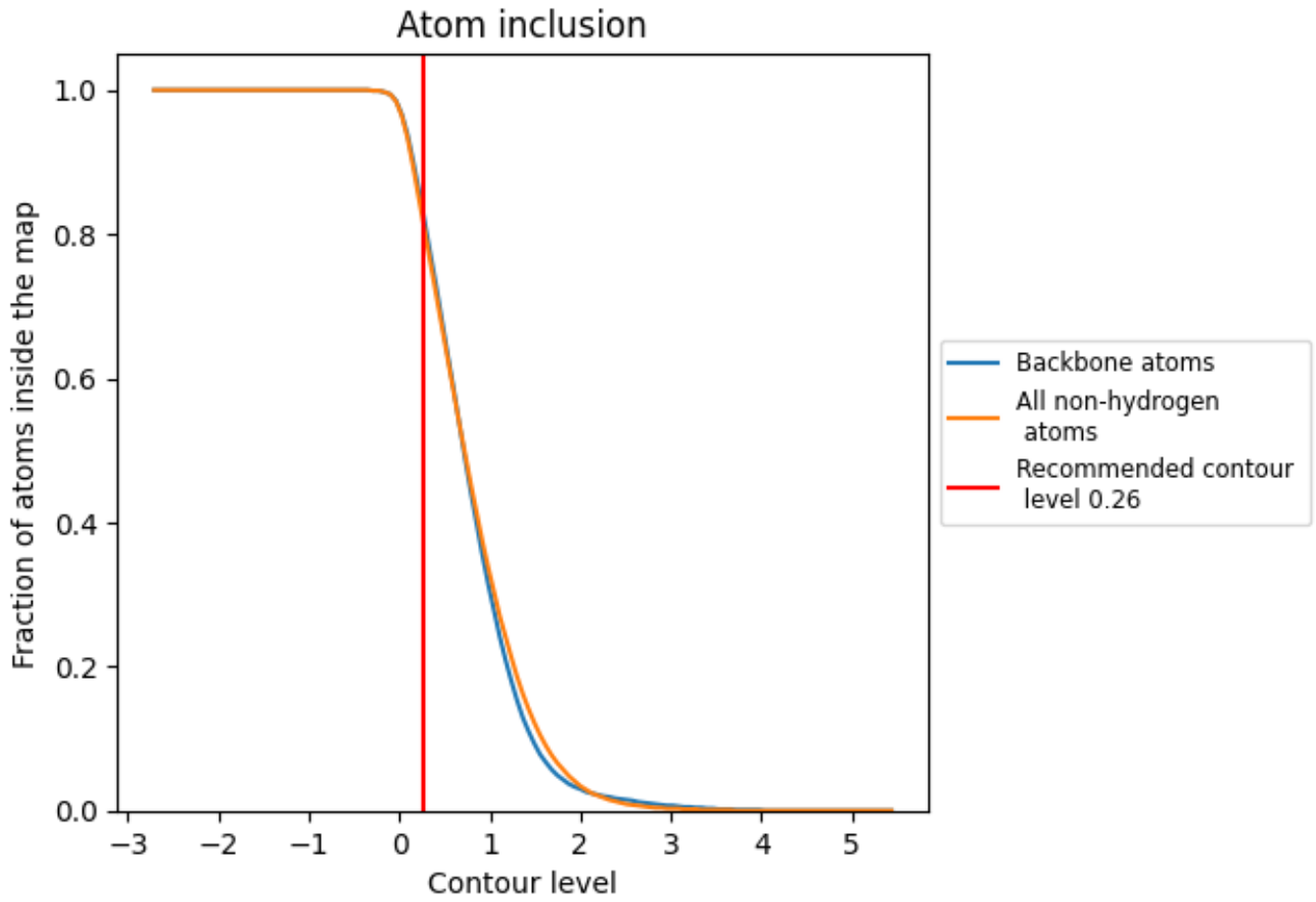
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.26).

9.4 Atom inclusion (i)



At the recommended contour level, 83% of all backbone atoms, 82% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.26) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8190	0.5570
LA	0.8920	0.5980
LB	0.9120	0.5770
LC	0.9180	0.5870
LD	0.9700	0.6810
LE	0.9440	0.6400
LF	0.9390	0.6420
LG	0.7670	0.5190
LH	0.8390	0.5710
LI	0.9460	0.6660
LJ	0.7810	0.4980
LK	0.8490	0.5560
LL	0.8910	0.6020
LM	0.8100	0.5200
LN	0.8840	0.5890
LO	0.8990	0.5730
LP	0.9760	0.6360
LQ	0.9300	0.6280
LR	0.9310	0.6470
LS	0.9710	0.6810
LT	0.8800	0.6180
LU	0.9260	0.6260
LV	0.9430	0.6540
LW	0.7750	0.5140
LX	0.9420	0.6610
LY	0.9350	0.6510
LZ	0.8740	0.5800
La	0.7780	0.4820
Lb	0.8410	0.5510
Lc	0.9610	0.6560
Ld	0.9540	0.6530
Le	0.9520	0.6430
Lf	0.9060	0.6130
Lg	0.8950	0.6380
Lh	0.9780	0.6750

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Chain	Atom inclusion	Q-score
Li	0.9150	0.6180
Lj	0.9230	0.5850
Lk	0.8730	0.5490
Ll	0.9770	0.6640
Lm	0.6880	0.4830
Ln	0.9300	0.6260
Lo	0.9220	0.6230
Lp	0.9860	0.6930
Lq	0.9430	0.6430
Lr	0.9360	0.6680
S2	0.7500	0.4860
SA	0.5590	0.4480
SB	0.6060	0.4300
SC	0.3930	0.3600
SD	0.0650	0.2560
SE	0.4580	0.3670
SF	0.5870	0.4300
SG	0.7080	0.4990
SH	0.5630	0.4260
SI	0.5450	0.3860
SJ	0.4710	0.3900
SK	0.4100	0.3530
SL	0.6640	0.4730
SM	0.6880	0.4630
SN	0.0880	0.2520
SO	0.3730	0.3430
SP	0.8430	0.5560
SQ	0.8490	0.5660
SR	0.8990	0.6000
SS	0.8670	0.5760
ST	0.6900	0.4860
SU	0.7600	0.5420
SV	0.9110	0.6150
SW	0.7910	0.5200
SX	0.9240	0.6560
SY	0.9330	0.6460
SZ	0.9070	0.5840
Sa	0.8640	0.5790
Sb	0.9680	0.6710
Sc	0.9140	0.6270
Sd	0.7380	0.4920
Se	0.9420	0.6300

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Chain	Atom inclusion	Q-score
Sf	0.8600	0.5920
Sg	0.6760	0.4690
Ta	0.6870	0.4670
eR	0.1680	0.3890
mR	0.7510	0.5490
pp	0.2900	0.3350