



## wwPDB EM Validation Summary Report ⓘ

Nov 20, 2022 – 08:06 am GMT

PDB ID : 6GZX  
EMDB ID : EMD-0104  
Title : T. thermophilus hibernating 100S ribosome (ice)  
Authors : Flygaard, R.K.; Jenner, L.B.  
Deposited on : 2018-07-05  
Resolution : 4.57 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](mailto: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>.

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

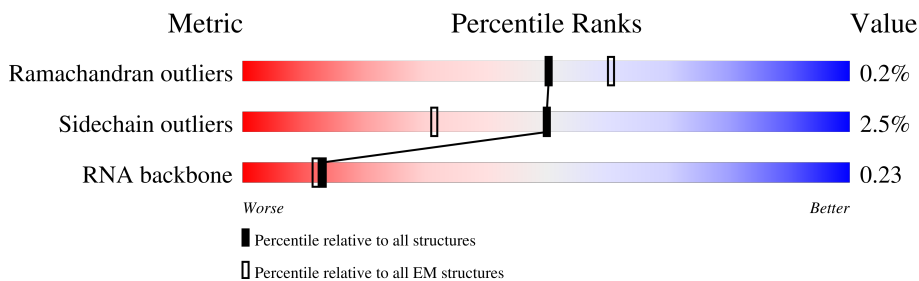
EMDB validation analysis : 0.0.1.dev43  
MolProbity : 4.02b-467  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
MapQ : 1.9.9  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.31.2

# 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 4.57 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

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  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion  $< 40\%$ ). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	C1	272	
1	C2	272	
2	D1	205	
2	D2	205	
3	E1	208	
3	E2	208	
4	F1	181	
4	F2	181	

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Mol	Chain	Length	Quality of chain
5	G1	170	25% 95% 5%
5	G2	170	27% 96% .
6	H1	50	54% 98% .
6	H2	50	60% 100%
7	I1	138	16% 96% .
7	I2	138	21% 94% 6%
8	J1	122	30% 97% .
8	J2	122	27% 97% .
9	K1	150	26% 97% .
9	K2	150	25% 98% .
10	L1	141	26% 99% .
10	L2	141	26% 99% .
11	M1	117	28% 98% .
11	M2	117	27% 95% 5%
12	N1	111	19% 96% .
12	N2	111	14% 97% .
13	O1	137	40% 93% 7%
13	O2	137	43% 95% 5%
14	P1	117	33% 95% 5%
14	P2	117	35% 96% .
15	Q1	101	50% 98% .
15	Q2	101	50% 95% 5%
16	R1	113	45% 96% .
16	R2	113	43% 93% 7%
17	S1	92	24% 99% .



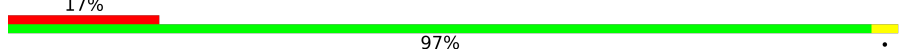
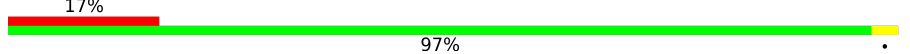
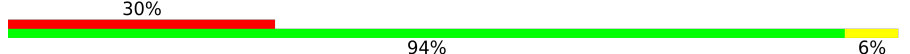
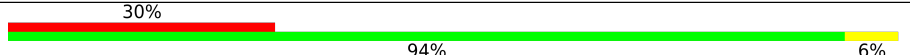
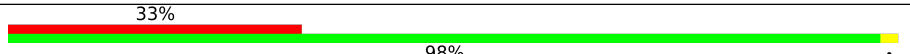
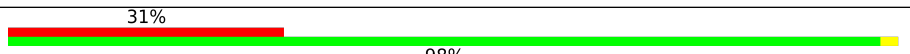
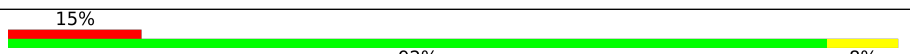
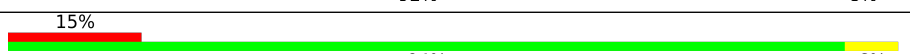
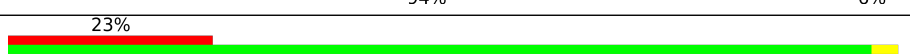
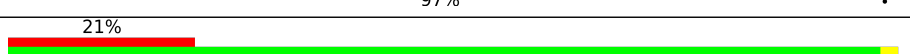
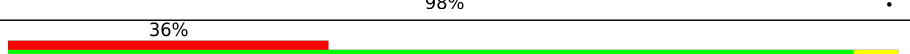
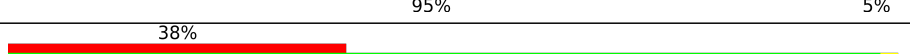
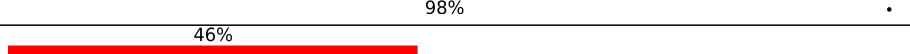
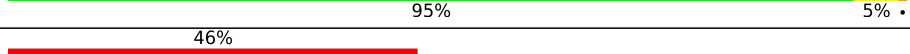
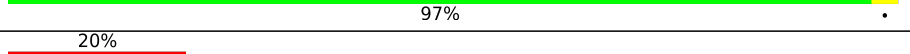
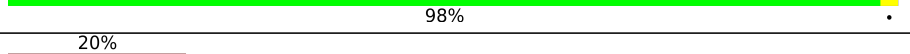
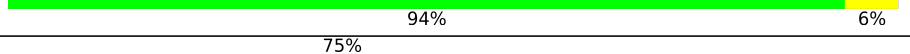
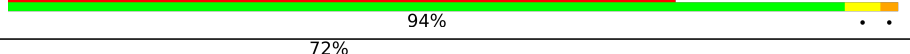
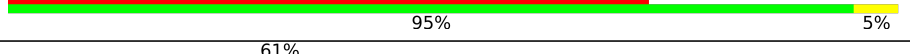
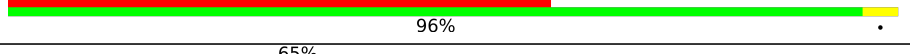
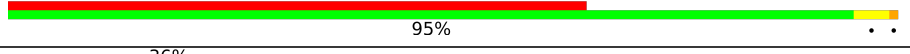
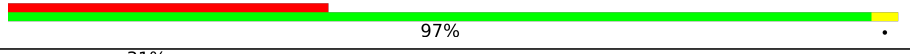
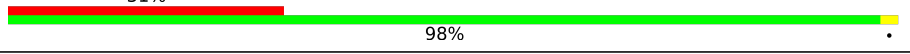
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Mol	Chain	Length	Quality of chain
17	S2	92	29% 96%
18	T1	102	46% 94% 6%
18	T2	102	47% 96%
19	U1	179	55% 98%
19	U2	179	52% 96%
20	V1	77	31% 96%
20	V2	77	30% 96%
21	W1	97	34% 95% 5%
21	W2	97	36% 96%
22	X1	69	19% 97%
22	X2	69	14% 97%
23	Y1	59	56% 98%
23	Y2	59	47% 100%
24	Z1	63	17% 86% 11%
24	Z2	63	21% 94% 6%
25	a1	59	29% 100%
25	a2	59	32% 97%
26	b1	45	9% 89% 11%
26	b2	45	13% 89% 9%
27	c1	49	35% 94% 6%
27	c2	49	33% 98%
28	d1	61	49% 93% 7%
28	d2	61	46% 98%
29	A1	2912	5% 36% 51% 13%
29	A2	2912	5% 36% 50% 14%

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Mol	Chain	Length	Quality of chain
30	B1	122	
30	B2	122	
31	e1	36	
31	e2	36	
32	B3	237	
32	B4	237	
33	C3	206	
33	C4	206	
34	D3	208	
34	D4	208	
35	E3	151	
35	E4	151	
36	F3	101	
36	F4	101	
37	G3	155	
37	G4	155	
38	H3	138	
38	H4	138	
39	I3	127	
39	I4	127	
40	J3	99	
40	J4	99	
41	K3	118	
41	K4	118	
42	L3	125	

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Mol	Chain	Length	Quality of chain
42	L4	125	22% 94% 6%
43	M3	117	33% 93% 7%
43	M4	117	35% 92% 7%
44	N3	60	35% 95% 5%
44	N4	60	35% 95% 5%
45	O3	88	17% 97% .
45	O4	88	22% 93% 7%
46	P3	84	25% 96% .
46	P4	84	19% 99% .
47	Q3	100	30% 97% .
47	Q4	100	29% 92% 8%
48	R3	62	26% 94% 6%
48	R4	62	26% 90% 10%
49	S3	78	47% 97% .
49	S4	78	37% 96% .
50	T3	99	15% 98% .
50	T4	99	17% 96% .
51	U3	25	64% 92% 8%
51	U4	25	68% 96% .
52	W4	57	14% 95% 5%
52	X3	57	14% 96% .
53	A3	1506	. 35% 51% 14%
53	A4	1506	. 34% 51% 15%
54	V3	119	23% 93% 6%
54	V4	119	25% 95% .

## 2 Entry composition [i](#)

There are 54 unique types of molecules in this entry. The entry contains 289188 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	C1	272	Total	C	N	O	S	0	0
			2116	1335	420	358	3		
1	C2	272	Total	C	N	O	S	0	0
			2116	1335	420	358	3		

- Molecule 2 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	D1	205	Total	C	N	O	S	0	0
			1569	991	300	272	6		
2	D2	205	Total	C	N	O	S	0	0
			1569	991	300	272	6		

- Molecule 3 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	E1	208	Total	C	N	O	S	0	0
			1628	1037	304	284	3		
3	E2	208	Total	C	N	O	S	0	0
			1628	1037	304	284	3		

- Molecule 4 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	F1	181	Total	C	N	O	S	0	0
			1474	942	268	260	4		
4	F2	181	Total	C	N	O	S	0	0
			1474	942	268	260	4		

- Molecule 5 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	G1	170	Total	C	N	O	S	0	0
			1308	829	245	233	1		
5	G2	170	Total	C	N	O	S	0	0
			1308	829	245	233	1		

- Molecule 6 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	H1	50	Total	C	N	O	S	0	0
			383	245	66	71	1		
6	H2	50	Total	C	N	O	S	0	0
			383	245	66	71	1		

- Molecule 7 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	I1	138	Total	C	N	O	S	0	0
			1105	712	206	183	4		
7	I2	138	Total	C	N	O	S	0	0
			1105	712	206	183	4		

- Molecule 8 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	J1	122	Total	C	N	O	S	0	0
			933	588	171	170	4		
8	J2	122	Total	C	N	O	S	0	0
			933	588	171	170	4		

- Molecule 9 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	K1	150	Total	C	N	O	S	0	0
			1145	712	232	198	3		
9	K2	150	Total	C	N	O	S	0	0
			1145	712	232	198	3		

- Molecule 10 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	L1	141	Total	C	N	O	S	0	0
			1122	715	212	188	7		

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	L2	141	1122	715	212	188	7	0	0

- Molecule 11 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
11	M1	117	960	599	202	159	0	0
11	M2	117	960	599	202	159	0	0

- Molecule 12 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
12	N1	111	882	556	176	150	0	0
12	N2	111	882	556	176	150	0	0

- Molecule 13 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	O1	137	1142	710	234	197	1	0	0
13	O2	137	1142	710	234	197	1	0	0

- Molecule 14 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
14	P1	117	964	610	202	151	1	0	0
14	P2	117	964	610	202	151	1	0	0

- Molecule 15 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
15	Q1	101	779	501	142	135	1	0	0
15	Q2	101	779	501	142	135	1	0	0

- Molecule 16 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	R1	113	Total	C	N	O	S	0	0
			900	566	177	155	2		
16	R2	113	Total	C	N	O	S	0	0
			900	566	177	155	2		

- Molecule 17 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms				AltConf	Trace
17	S1	92	Total	C	N	O	0	0
			726	471	131	124		
17	S2	92	Total	C	N	O	0	0
			726	471	131	124		

- Molecule 18 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	T1	102	Total	C	N	O	S	0	0
			786	505	150	126	5		
18	T2	102	Total	C	N	O	S	0	0
			786	505	150	126	5		

- Molecule 19 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	U1	179	Total	C	N	O	S	0	0
			1429	911	255	260	3		
19	U2	179	Total	C	N	O	S	0	0
			1429	911	255	260	3		

- Molecule 20 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	V1	77	Total	C	N	O	S	0	0
			613	379	129	104	1		
20	V2	77	Total	C	N	O	S	0	0
			613	379	129	104	1		

- Molecule 21 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	W1	97	Total	C	N	O	S	0	0
			763	481	150	131	1		
21	W2	97	Total	C	N	O	S	0	0
			763	481	150	131	1		

- Molecule 22 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	X1	69	Total	C	N	O	S	0	0
			581	358	118	104	1		
22	X2	69	Total	C	N	O	S	0	0
			581	358	118	104	1		

- Molecule 23 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				AltConf	Trace
23	Y1	59	Total	C	N	O	0	0
			469	298	90	81		
23	Y2	59	Total	C	N	O	0	0
			469	298	90	81		

- Molecule 24 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	Z1	63	Total	C	N	O	S	0	0
			516	326	93	92	5		
24	Z2	63	Total	C	N	O	S	0	0
			516	326	93	92	5		

- Molecule 25 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	a1	59	Total	C	N	O	S	0	0
			459	288	90	76	5		
25	a2	59	Total	C	N	O	S	0	0
			459	288	90	76	5		

- Molecule 26 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	b1	45	Total	C	N	O	S	0	0
			390	241	79	66	4		

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
26	b2	45	390	241	79	66	4	0	0

- Molecule 27 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
27	c1	49	430	263	108	57	2	0	0
27	c2	49	430	263	108	57	2	0	0

- Molecule 28 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
28	d1	61	489	312	99	76	2	0	0
28	d2	61	489	312	99	76	2	0	0

- Molecule 29 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
29	A1	2912	62707	27911	11722	20163	2911	0	0
29	A2	2912	62707	27911	11722	20163	2911	0	0

There are 14 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A1	156	U	UNK	conflict	GB 55771382
A1	682	A	G	conflict	GB 55771382
A1	686	C	G	conflict	GB 55771382
A1	697	G	C	conflict	GB 55771382
A1	701	A	C	conflict	GB 55771382
A1	1106	U	G	conflict	GB 55771382
A1	1128	A	C	conflict	GB 55771382
A2	156	U	UNK	conflict	GB 55771382
A2	682	A	G	conflict	GB 55771382
A2	686	C	G	conflict	GB 55771382
A2	697	G	C	conflict	GB 55771382
A2	701	A	C	conflict	GB 55771382

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Chain	Residue	Modelled	Actual	Comment	Reference
A2	1106	U	G	conflict	GB 55771382
A2	1128	A	C	conflict	GB 55771382

- Molecule 30 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	B1	122	Total	C	N	O	P	0	0
			2617	1166	486	844	121		
30	B2	122	Total	C	N	O	P	0	0
			2617	1166	486	844	121		

- Molecule 31 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	e1	36	Total	C	N	O	S	0	0
			299	183	67	46	3		
31	e2	36	Total	C	N	O	S	0	0
			299	183	67	46	3		

- Molecule 32 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	B3	237	Total	C	N	O	S	0	0
			1925	1228	344	348	5		
32	B4	237	Total	C	N	O	S	0	0
			1925	1228	344	348	5		

- Molecule 33 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	C3	206	Total	C	N	O	S	0	0
			1613	1016	314	282	1		
33	C4	206	Total	C	N	O	S	0	0
			1613	1016	314	282	1		

- Molecule 34 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	D3	208	Total	C	N	O	S	0	0
			1703	1066	339	291	7		
34	D4	208	Total	C	N	O	S	0	0
			1703	1066	339	291	7		

- Molecule 35 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	E3	151	Total	C	N	O	S	0	0
			1156	729	218	205	4		
35	E4	151	Total	C	N	O	S	0	0
			1156	729	218	205	4		

- Molecule 36 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	F3	101	Total	C	N	O	S	0	0
			843	531	155	154	3		
36	F4	101	Total	C	N	O	S	0	0
			843	531	155	154	3		

- Molecule 37 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	G3	155	Total	C	N	O	S	0	0
			1257	781	252	218	6		
37	G4	155	Total	C	N	O	S	0	0
			1257	781	252	218	6		

- Molecule 38 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	H3	138	Total	C	N	O	S	0	0
			1116	705	215	193	3		
38	H4	138	Total	C	N	O	S	0	0
			1116	705	215	193	3		

- Molecule 39 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				AltConf	Trace
39	I3	127	Total	C	N	O	0	0
			1010	639	197	174		
39	I4	127	Total	C	N	O	0	0
			1010	639	197	174		

- Molecule 40 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	J3	99	Total	C	N	O	S	0	0
			802	504	157	140	1		
40	J4	99	Total	C	N	O	S	0	0
			802	504	157	140	1		

- Molecule 41 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	K3	118	Total	C	N	O	S	0	0
			879	546	167	163	3		
41	K4	118	Total	C	N	O	S	0	0
			879	546	167	163	3		

- Molecule 42 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	L3	125	Total	C	N	O	S	0	0
			976	614	196	165	1		
42	L4	125	Total	C	N	O	S	0	0
			976	614	196	165	1		

- Molecule 43 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	M3	117	Total	C	N	O	S	0	0
			934	577	192	163	2		
43	M4	117	Total	C	N	O	S	0	0
			934	577	192	163	2		

- Molecule 44 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	N3	60	Total	C	N	O	S	0	0
			492	312	104	72	4		
44	N4	60	Total	C	N	O	S	0	0
			492	312	104	72	4		

- Molecule 45 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	O3	88	Total	C	N	O	S	0	0
			734	459	147	126	2		

*Continued on next page...*

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Mol	Chain	Residues	Atoms					AltConf	Trace
45	O4	88	Total	C	N	O	S	0	0
			734	459	147	126	2		

- Molecule 46 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	P3	84	Total	C	N	O	S	0	0
			706	446	140	119	1		
46	P4	84	Total	C	N	O	S	0	0
			706	446	140	119	1		

- Molecule 47 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	Q3	100	Total	C	N	O	S	0	0
			835	534	155	144	2		
47	Q4	100	Total	C	N	O	S	0	0
			835	534	155	144	2		

- Molecule 48 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				AltConf	Trace
48	R3	62	Total	C	N	O	0	0
			515	328	101	86		
48	R4	62	Total	C	N	O	0	0
			515	328	101	86		

- Molecule 49 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	S3	78	Total	C	N	O	S	0	0
			625	398	115	110	2		
49	S4	78	Total	C	N	O	S	0	0
			625	398	115	110	2		

- Molecule 50 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	T3	99	Total	C	N	O	S	0	0
			763	470	162	129	2		
50	T4	99	Total	C	N	O	S	0	0
			763	470	162	129	2		



- Molecule 51 is a protein called 30S ribosomal protein Thx.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
51	U3	25	218	134	52	32	0	0
51	U4	25	218	134	52	32	0	0

- Molecule 52 is a protein called Ribosome hibernation promoting factor.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
52	X3	57	476	304	85	84	3	0	0
52	W4	57	476	304	85	84	3	0	0

- Molecule 53 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
53	A3	1506	32369	14408	5997	10459	1505	0	0
53	A4	1506	32369	14408	5997	10459	1505	0	0

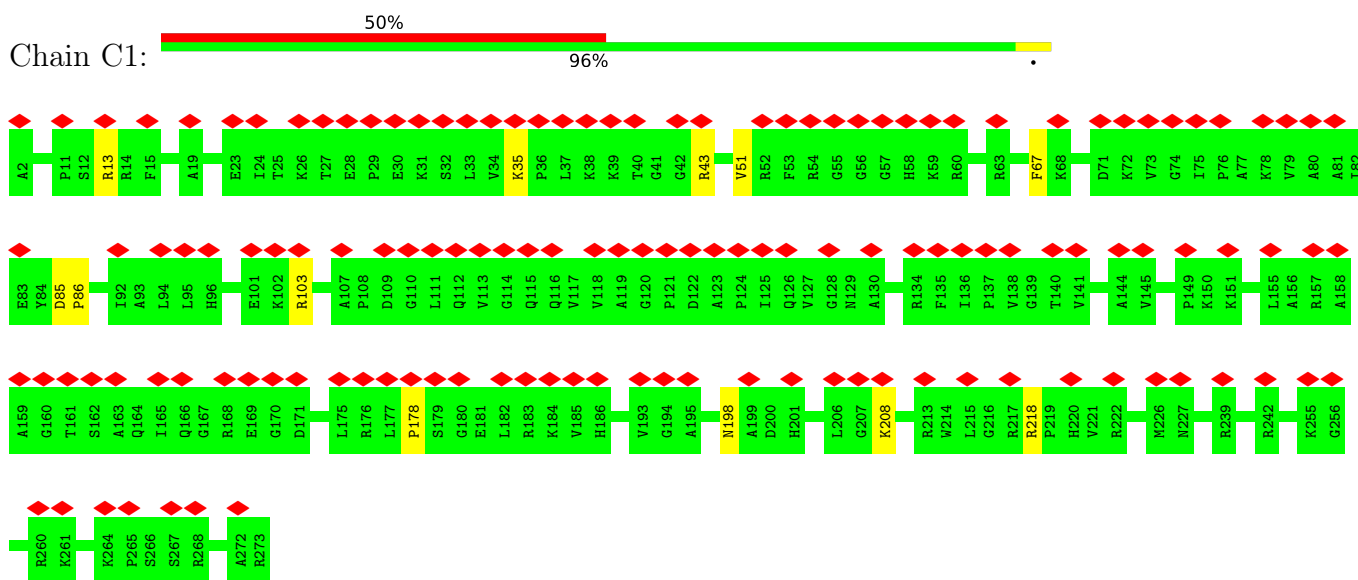
- Molecule 54 is a protein called Ribosome hibernation promoting factor.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
54	V3	119	963	603	179	180	1	0	0
54	V4	119	963	603	179	180	1	0	0

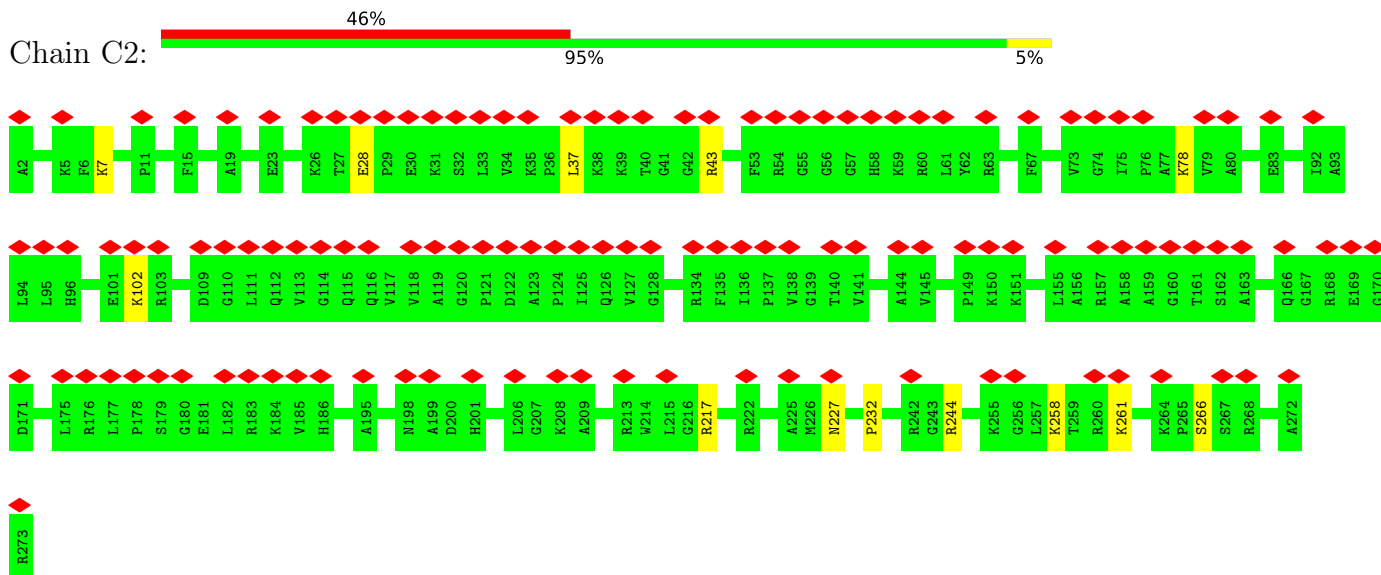
### 3 Residue-property plots [i](#)

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

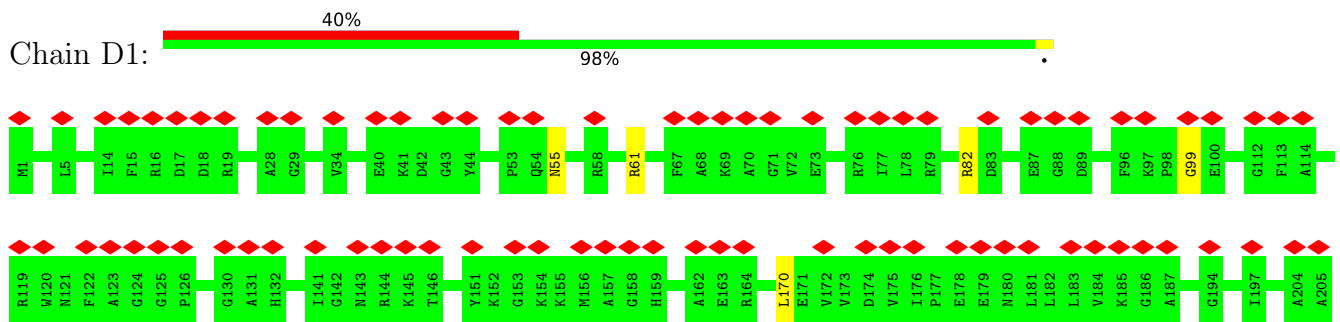
- Molecule 1: 50S ribosomal protein L2



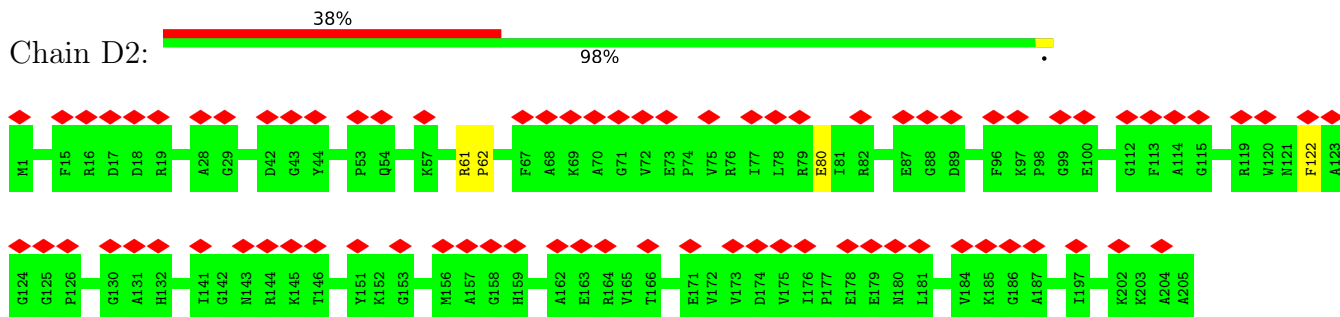
- Molecule 1: 50S ribosomal protein L2



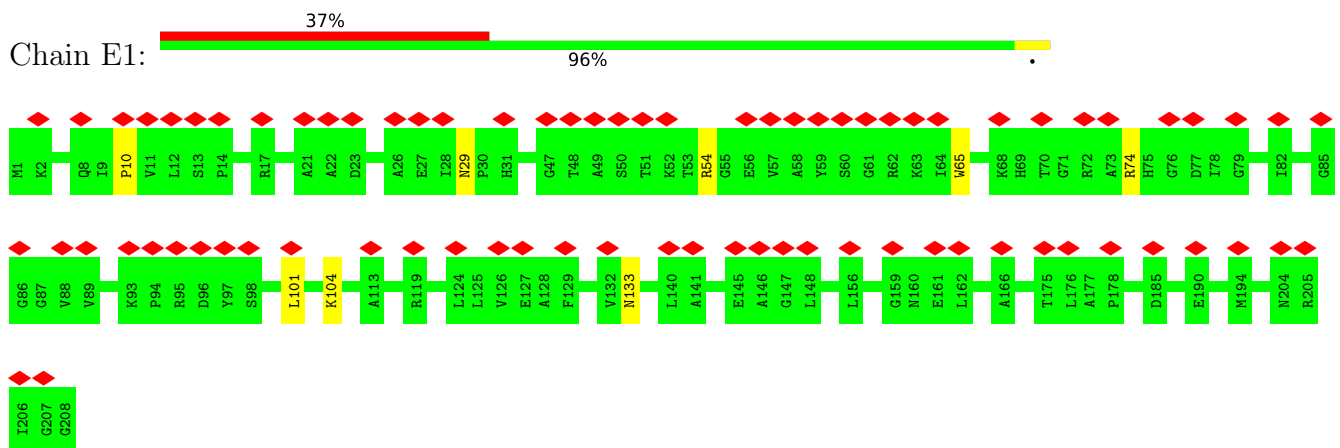
- Molecule 2: 50S ribosomal protein L3



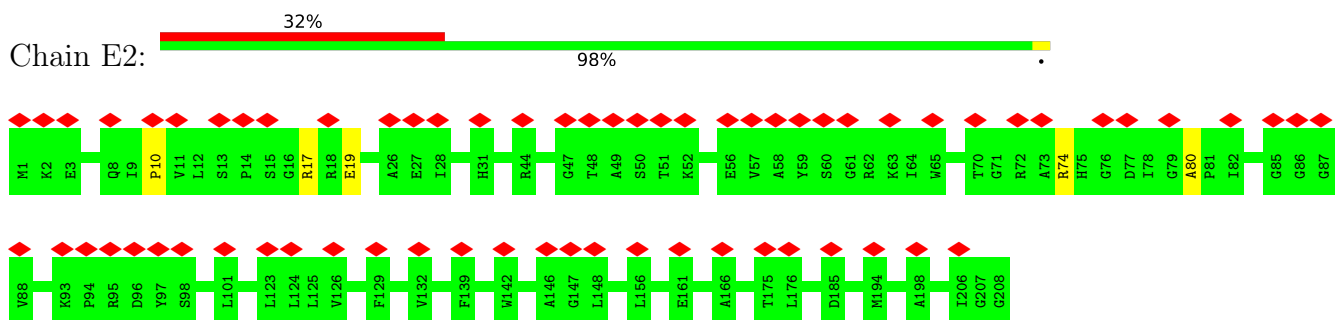
• Molecule 2: 50S ribosomal protein L3



• Molecule 3: 50S ribosomal protein L4

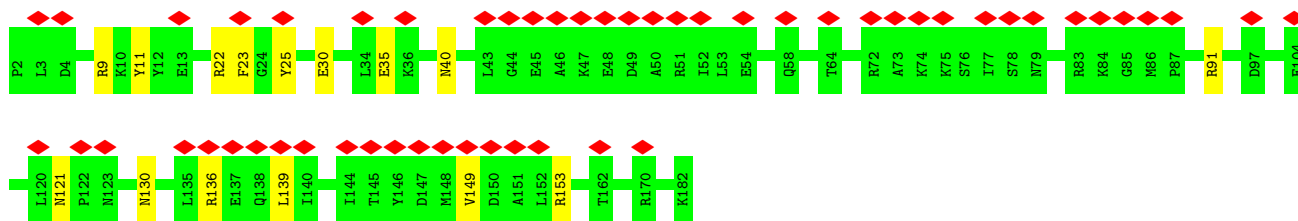


• Molecule 3: 50S ribosomal protein L4

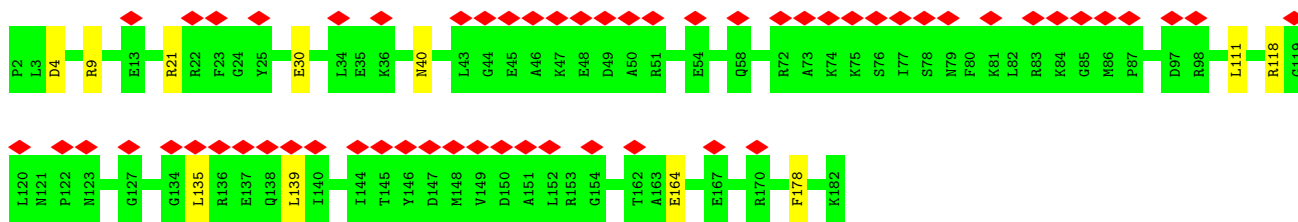


• Molecule 4: 50S ribosomal protein L5

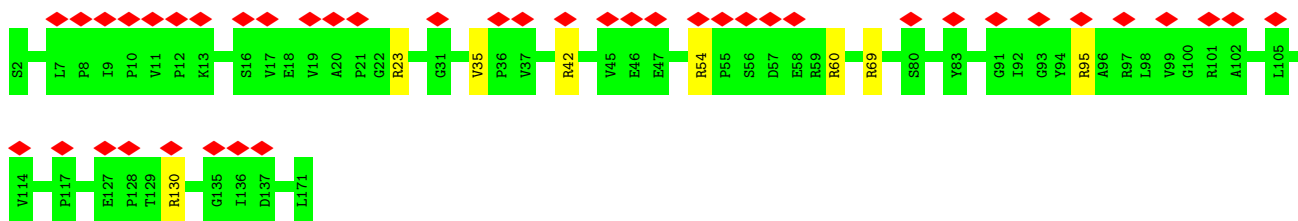




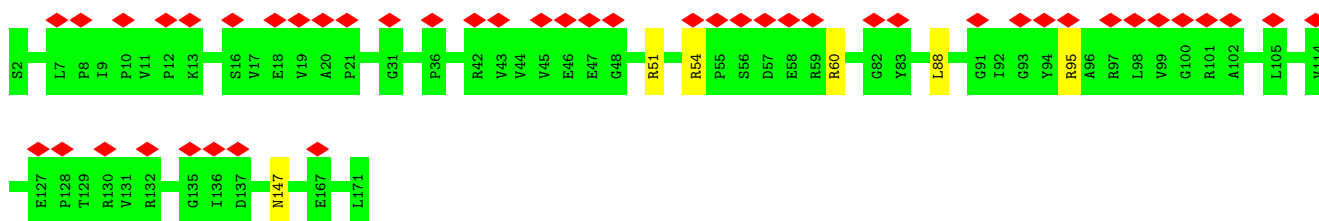
- Molecule 4: 50S ribosomal protein L5



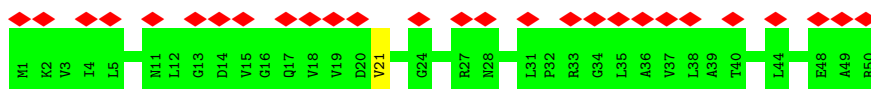
- Molecule 5: 50S ribosomal protein L6



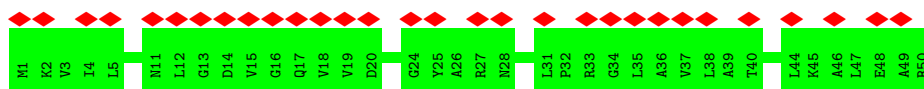
- Molecule 5: 50S ribosomal protein L6



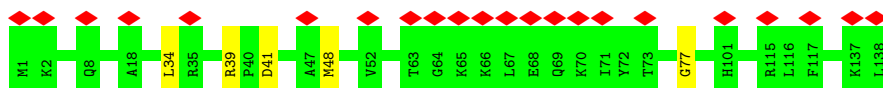
- Molecule 6: 50S ribosomal protein L9



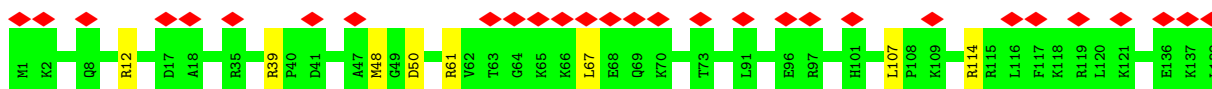
- Molecule 6: 50S ribosomal protein L9



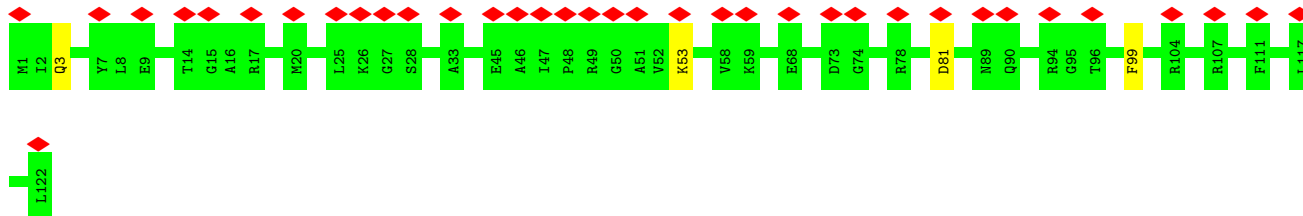
- Molecule 7: 50S ribosomal protein L13



- Molecule 7: 50S ribosomal protein L13



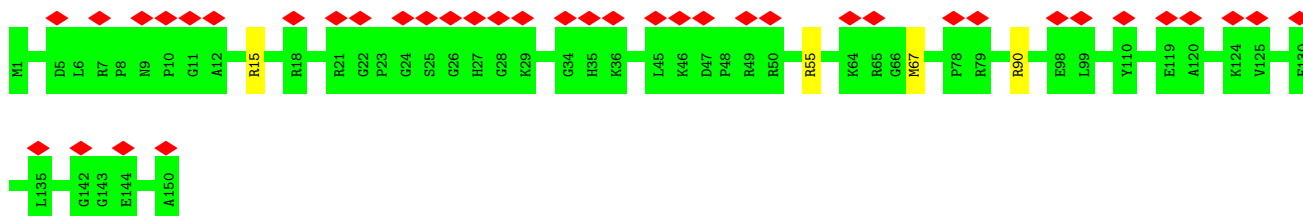
- Molecule 8: 50S ribosomal protein L14



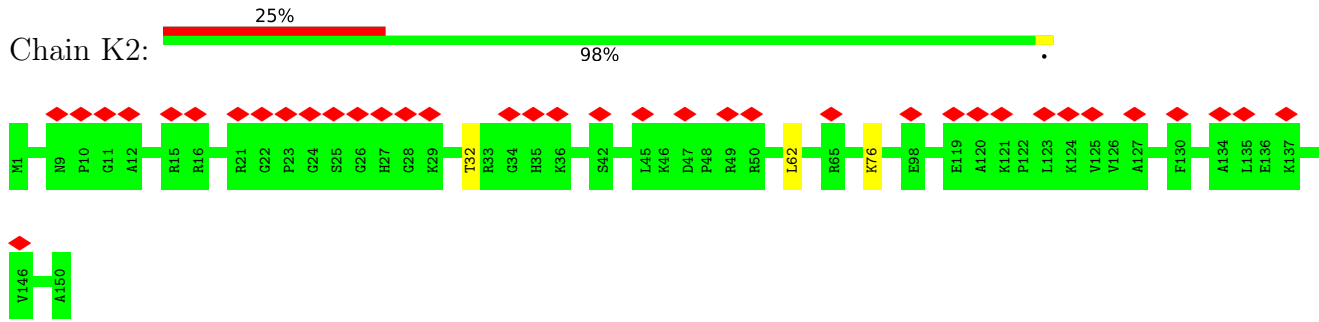
- Molecule 8: 50S ribosomal protein L14



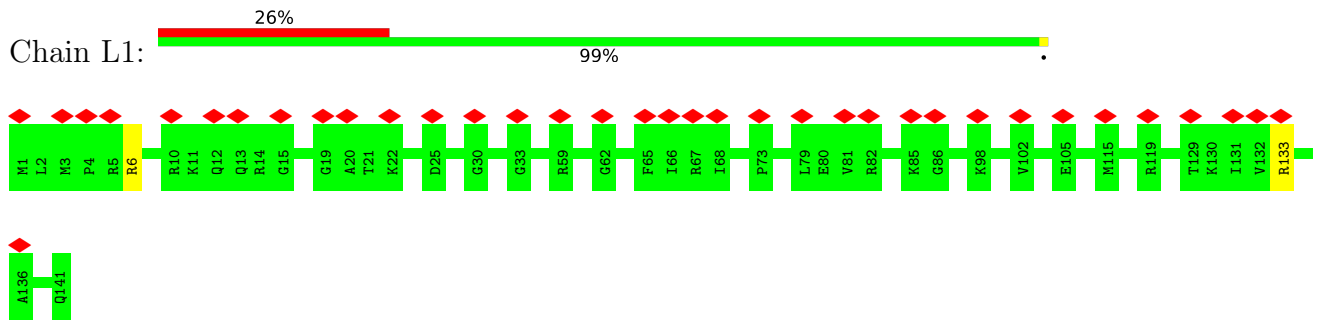
- Molecule 9: 50S ribosomal protein L15



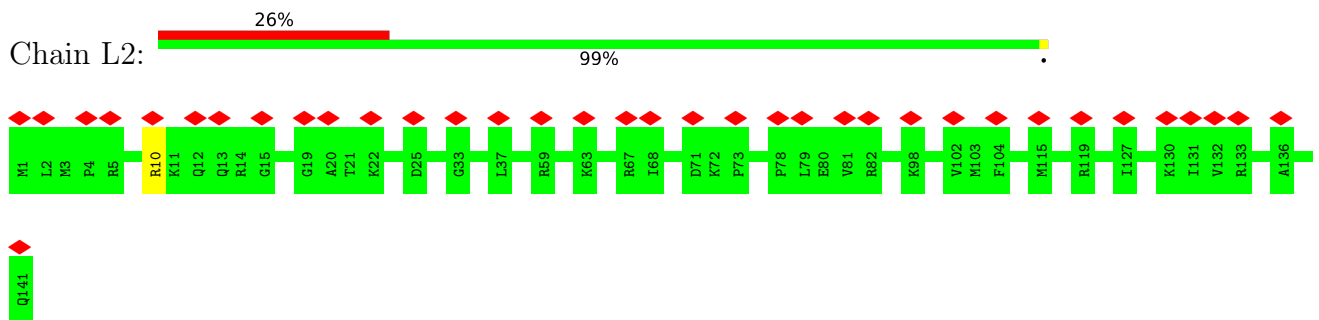
- Molecule 9: 50S ribosomal protein L15



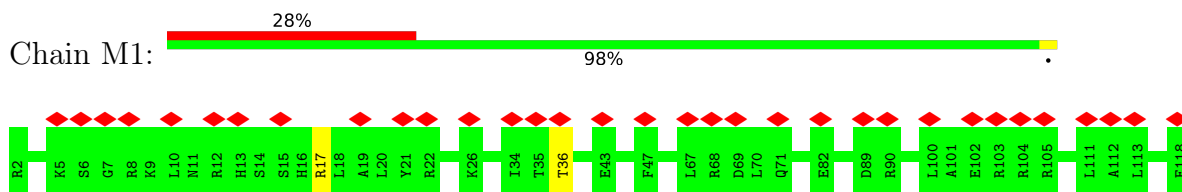
- Molecule 10: 50S ribosomal protein L16



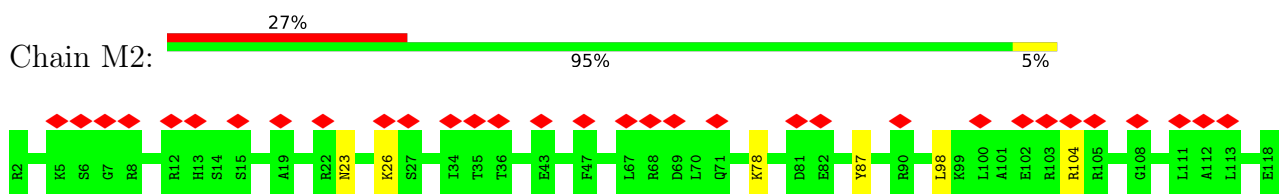
- Molecule 10: 50S ribosomal protein L16



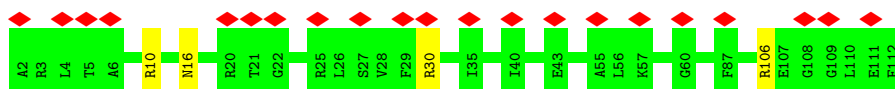
- Molecule 11: 50S ribosomal protein L17



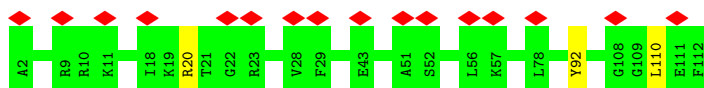
- Molecule 11: 50S ribosomal protein L17



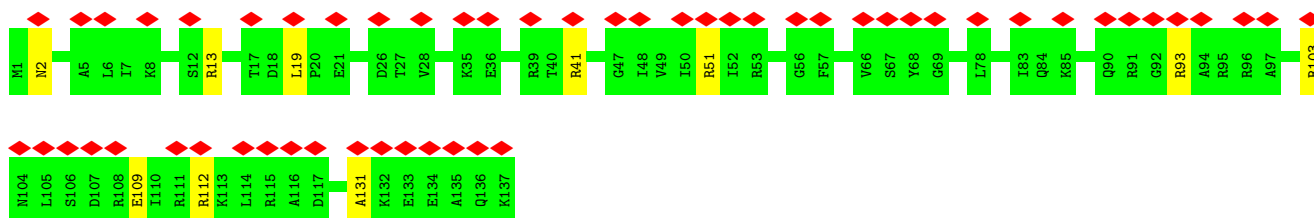
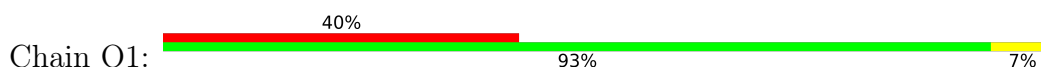
- Molecule 12: 50S ribosomal protein L18



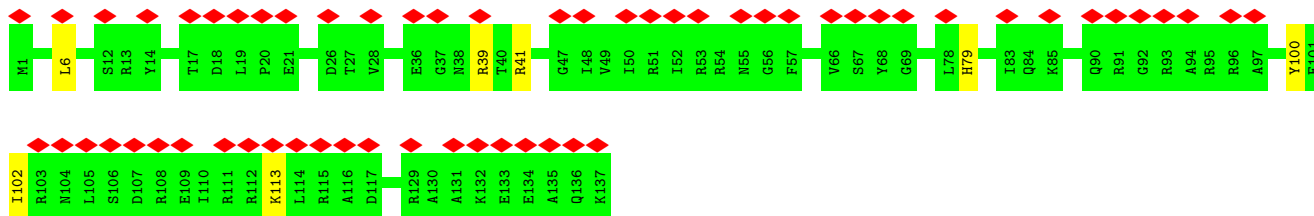
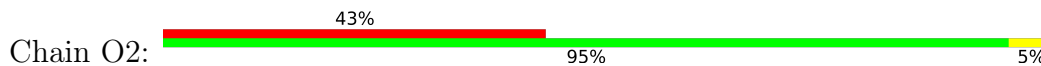
- Molecule 12: 50S ribosomal protein L18



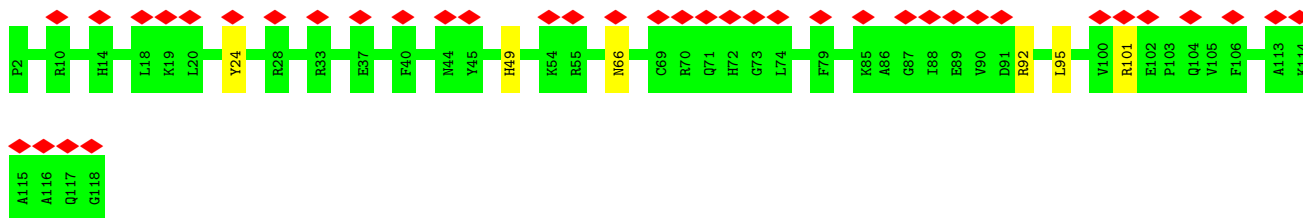
- Molecule 13: 50S ribosomal protein L19



- Molecule 13: 50S ribosomal protein L19

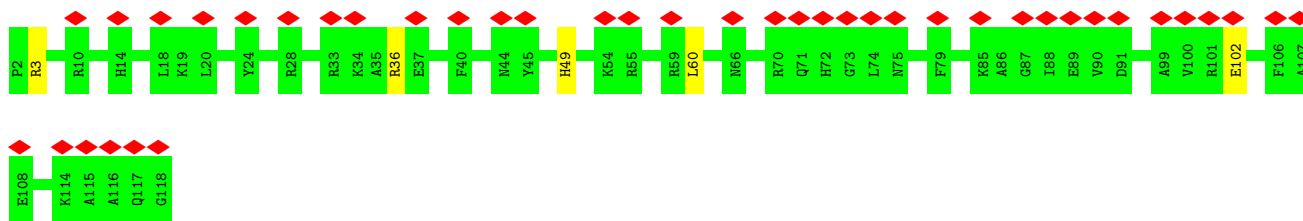


- Molecule 14: 50S ribosomal protein L20



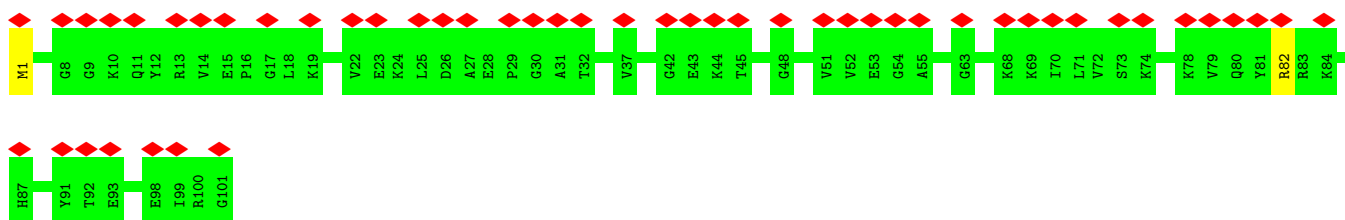
- Molecule 14: 50S ribosomal protein L20





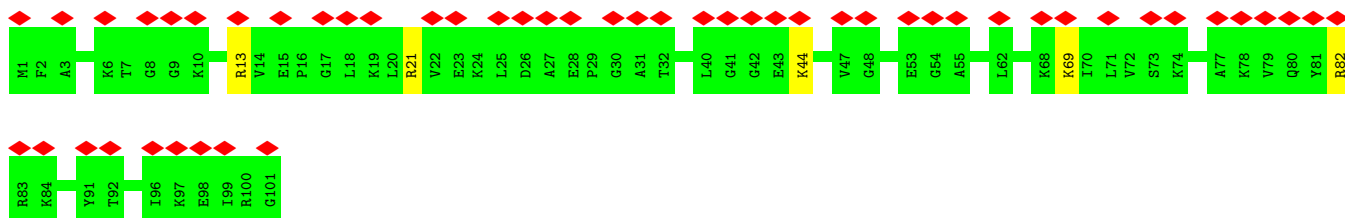
- Molecule 15: 50S ribosomal protein L21

Chain Q1: 50% 98%



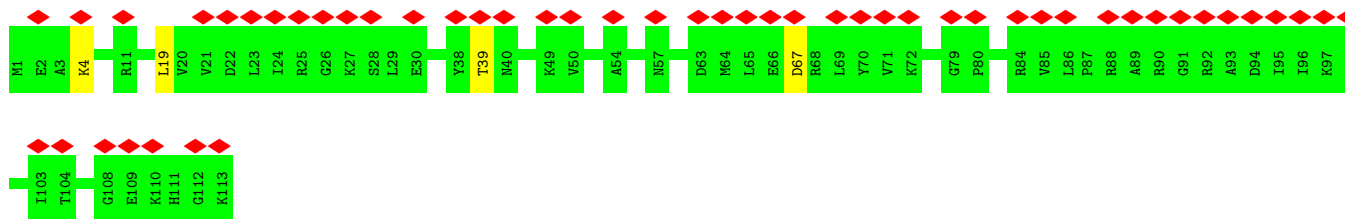
- Molecule 15: 50S ribosomal protein L21

Chain Q2: 50% 95% 5%



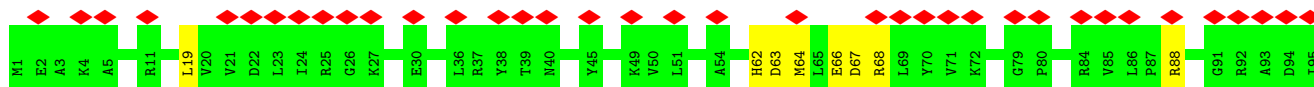
- Molecule 16: 50S ribosomal protein L22

Chain R1: 45% 96%

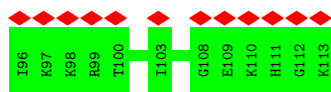


- Molecule 16: 50S ribosomal protein L22

Chain R2: 43% 93% 7%



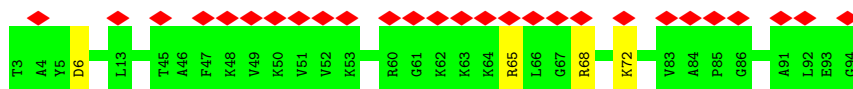




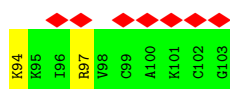
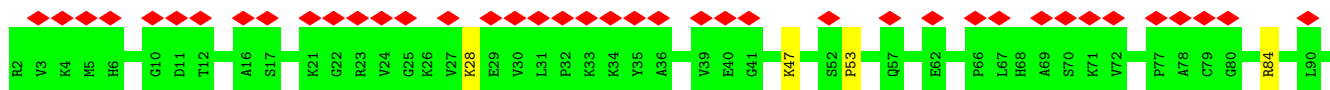
- Molecule 17: 50S ribosomal protein L23



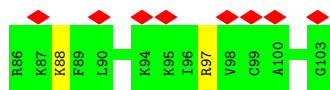
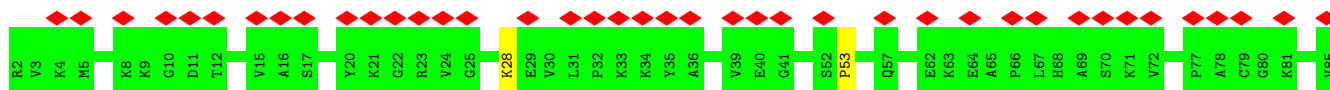
- Molecule 17: 50S ribosomal protein L23



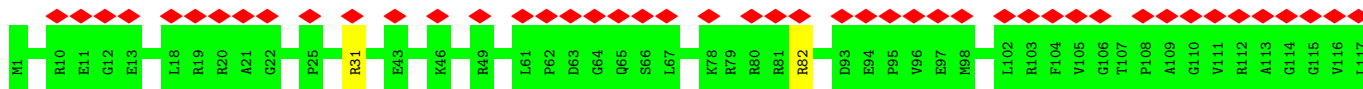
- Molecule 18: 50S ribosomal protein L24

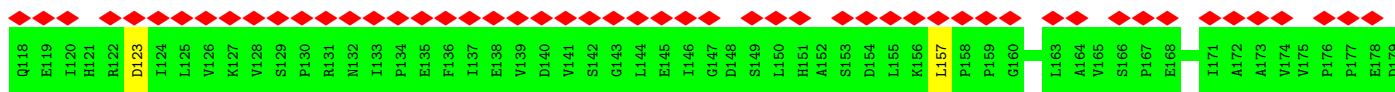


- Molecule 18: 50S ribosomal protein L24



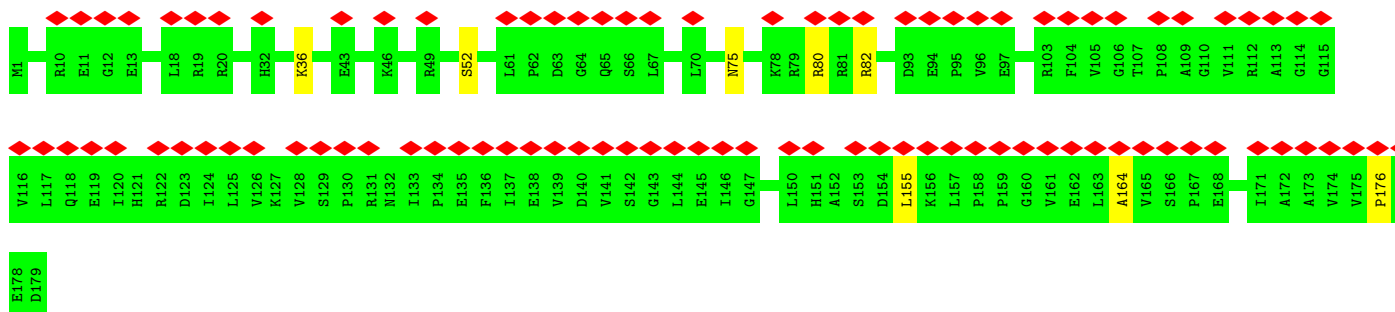
- Molecule 19: 50S ribosomal protein L25





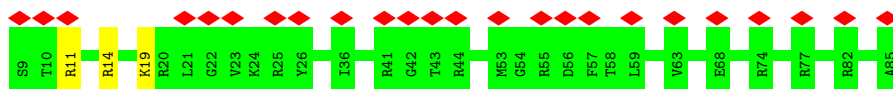
- Molecule 19: 50S ribosomal protein L25

Chain U2:



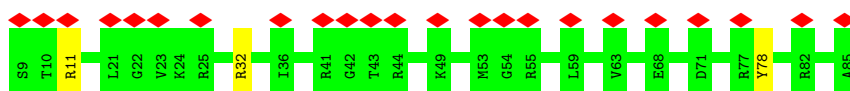
- Molecule 20: 50S ribosomal protein L27

Chain V1:



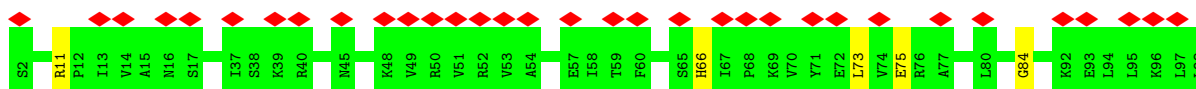
- Molecule 20: 50S ribosomal protein L27

Chain V2:



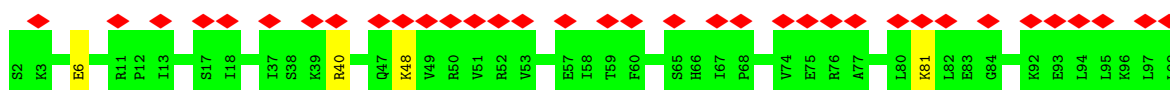
- Molecule 21: 50S ribosomal protein L28

Chain W1:

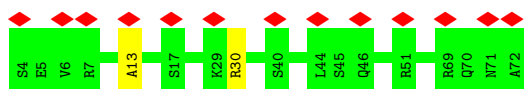


- Molecule 21: 50S ribosomal protein L28

Chain W2:



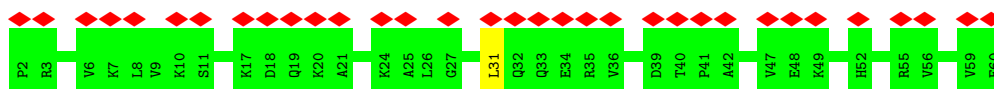
- Molecule 22: 50S ribosomal protein L29



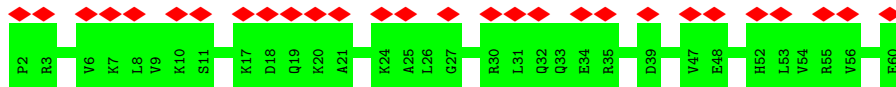
- Molecule 22: 50S ribosomal protein L29



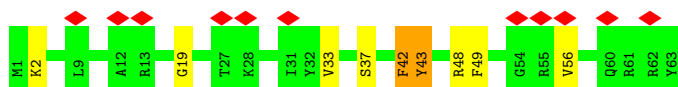
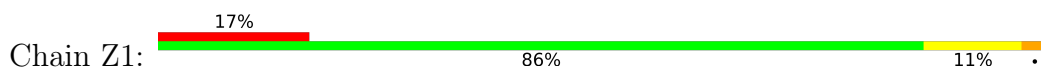
- Molecule 23: 50S ribosomal protein L30



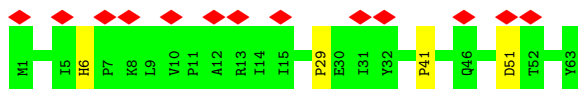
- Molecule 23: 50S ribosomal protein L30



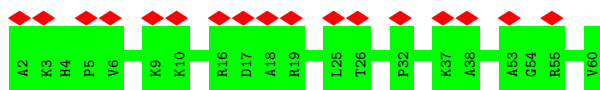
- Molecule 24: 50S ribosomal protein L31



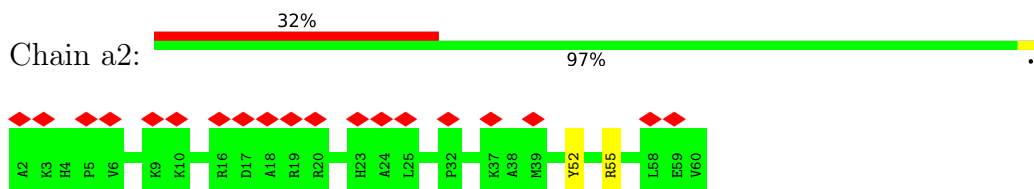
- Molecule 24: 50S ribosomal protein L31



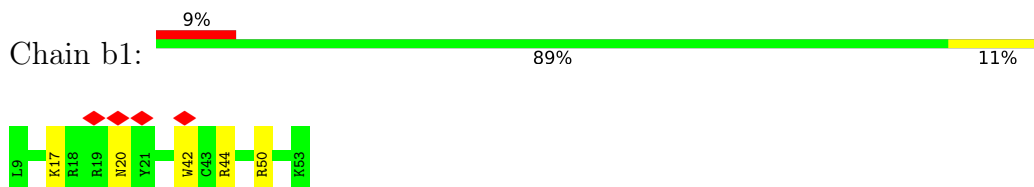
- Molecule 25: 50S ribosomal protein L32



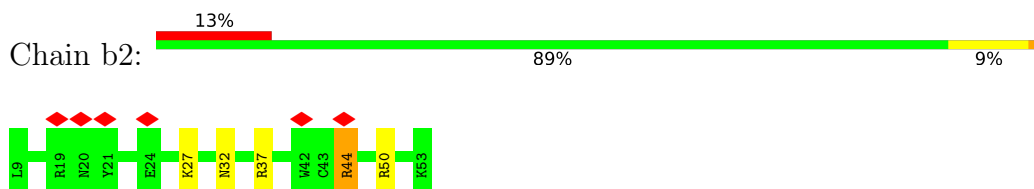
- Molecule 25: 50S ribosomal protein L32



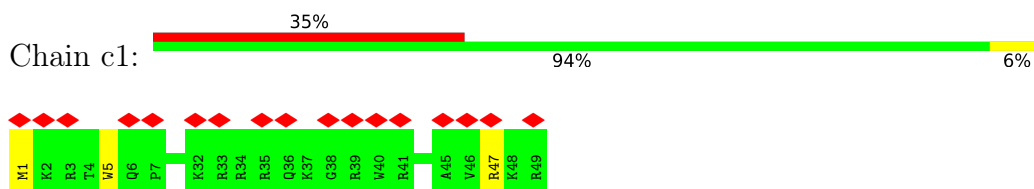
- Molecule 26: 50S ribosomal protein L33



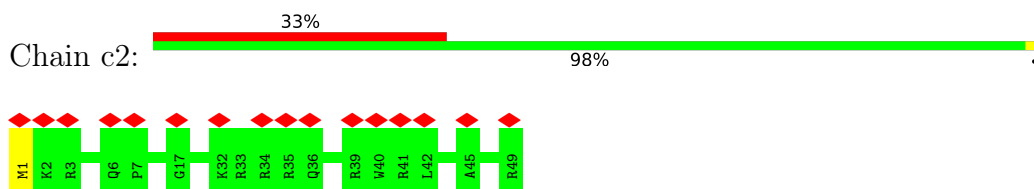
- Molecule 26: 50S ribosomal protein L33



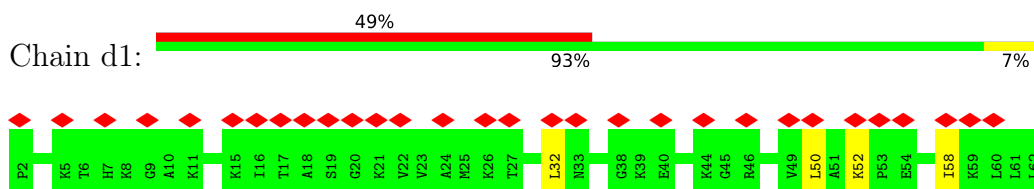
- Molecule 27: 50S ribosomal protein L34



- Molecule 27: 50S ribosomal protein L34

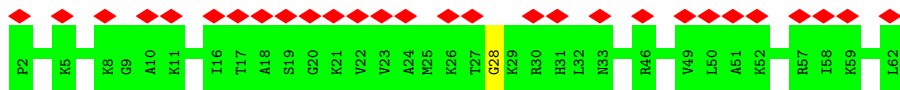


- Molecule 28: 50S ribosomal protein L35

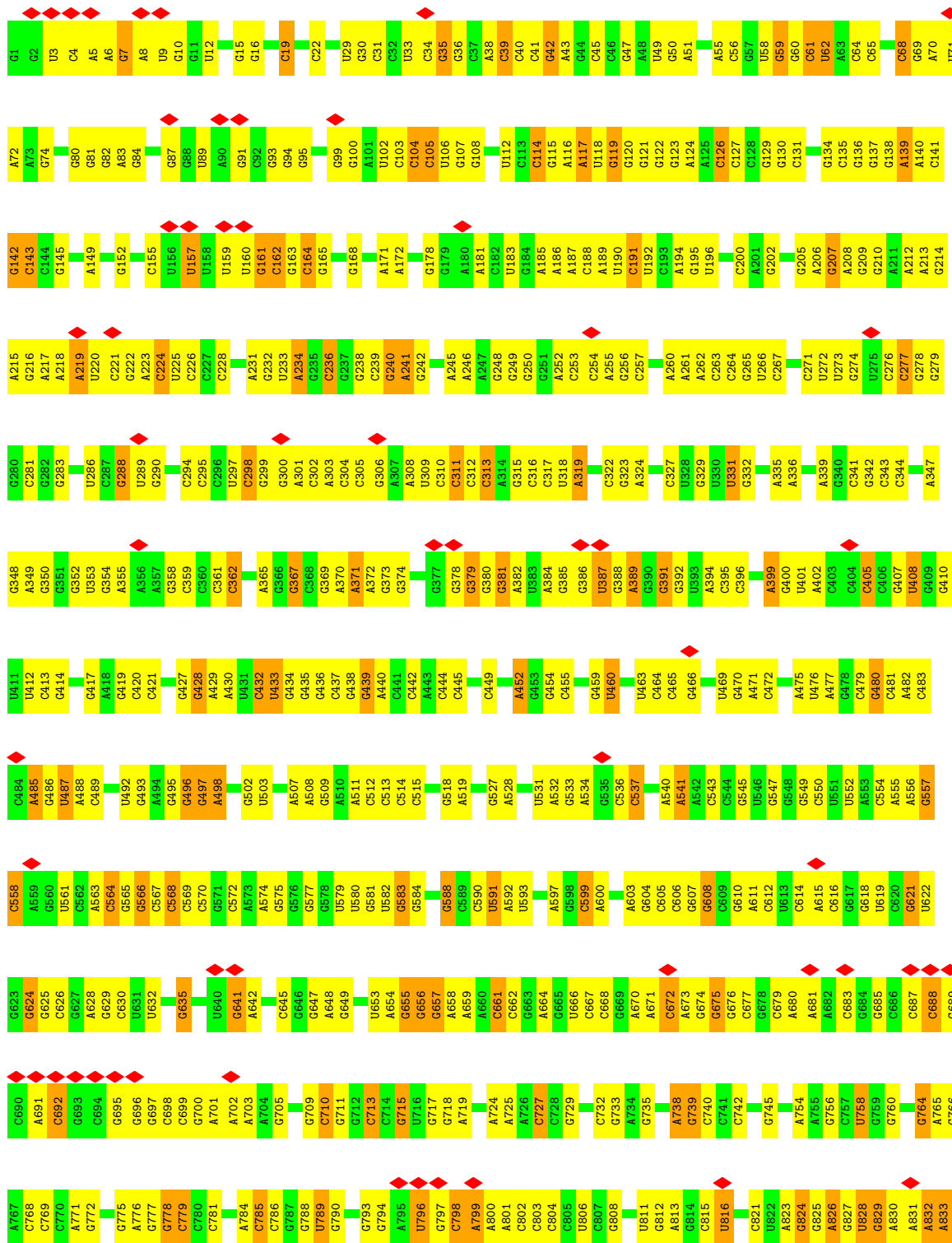


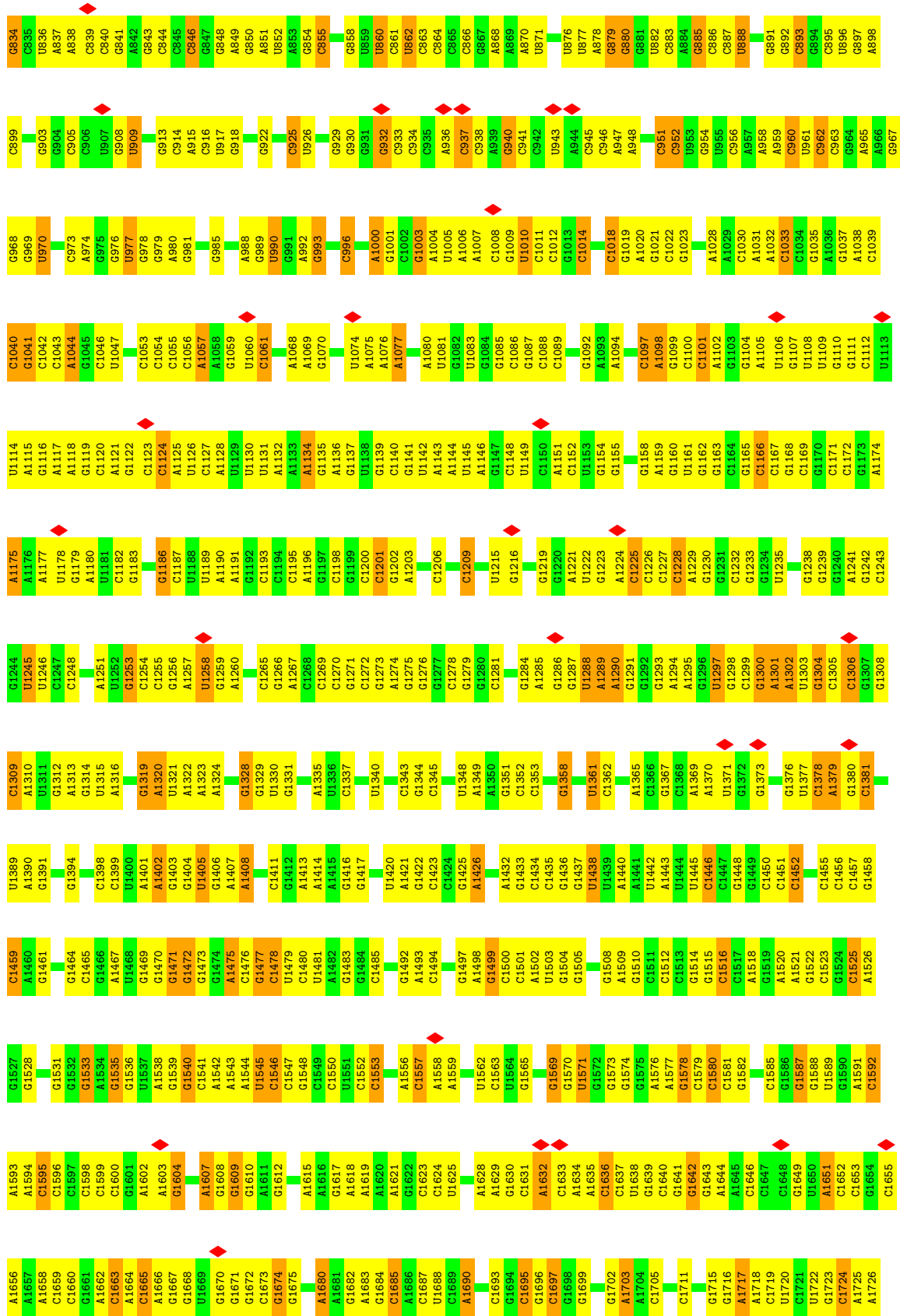
- Molecule 28: 50S ribosomal protein L35





• Molecule 29: 23S ribosomal RNA

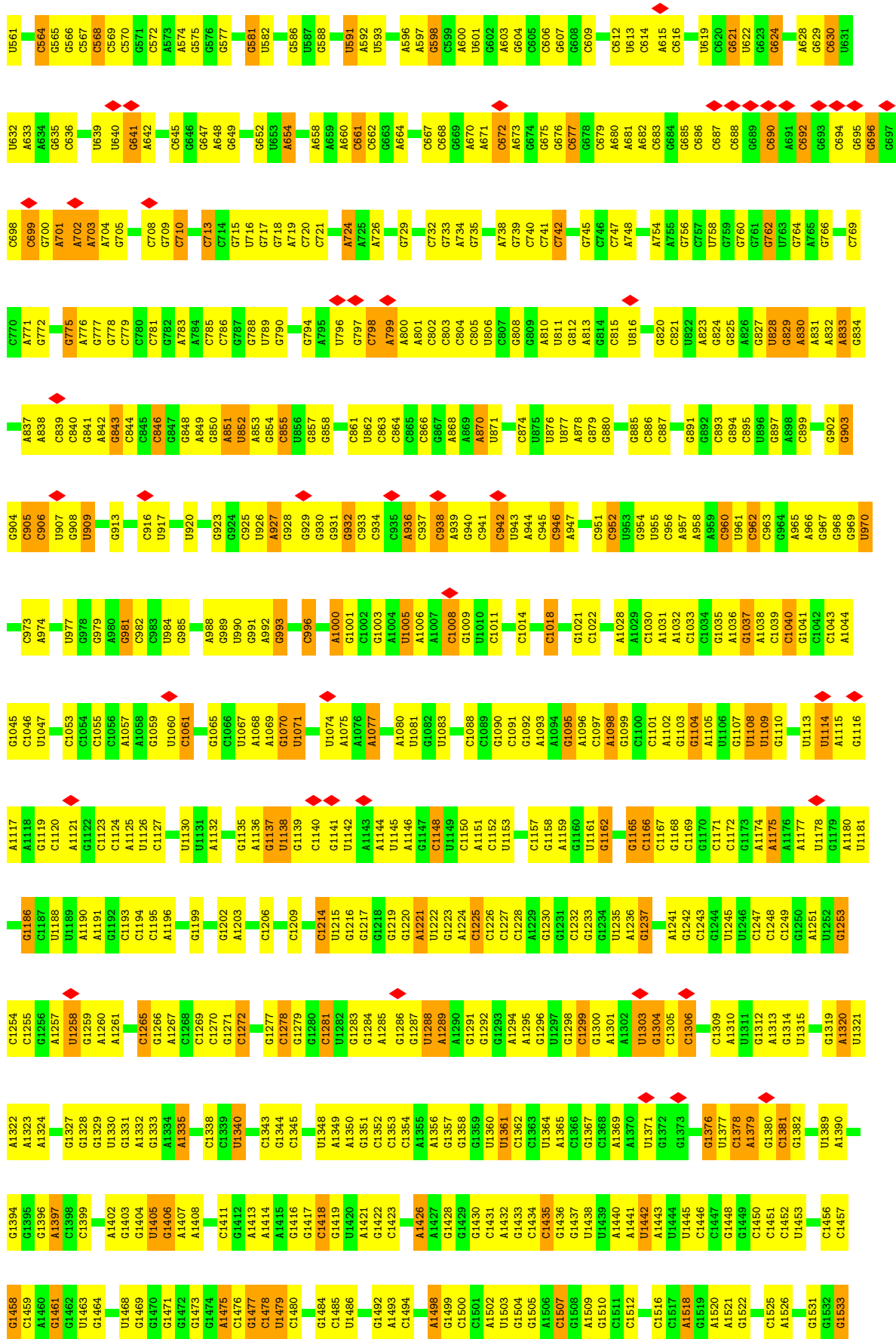


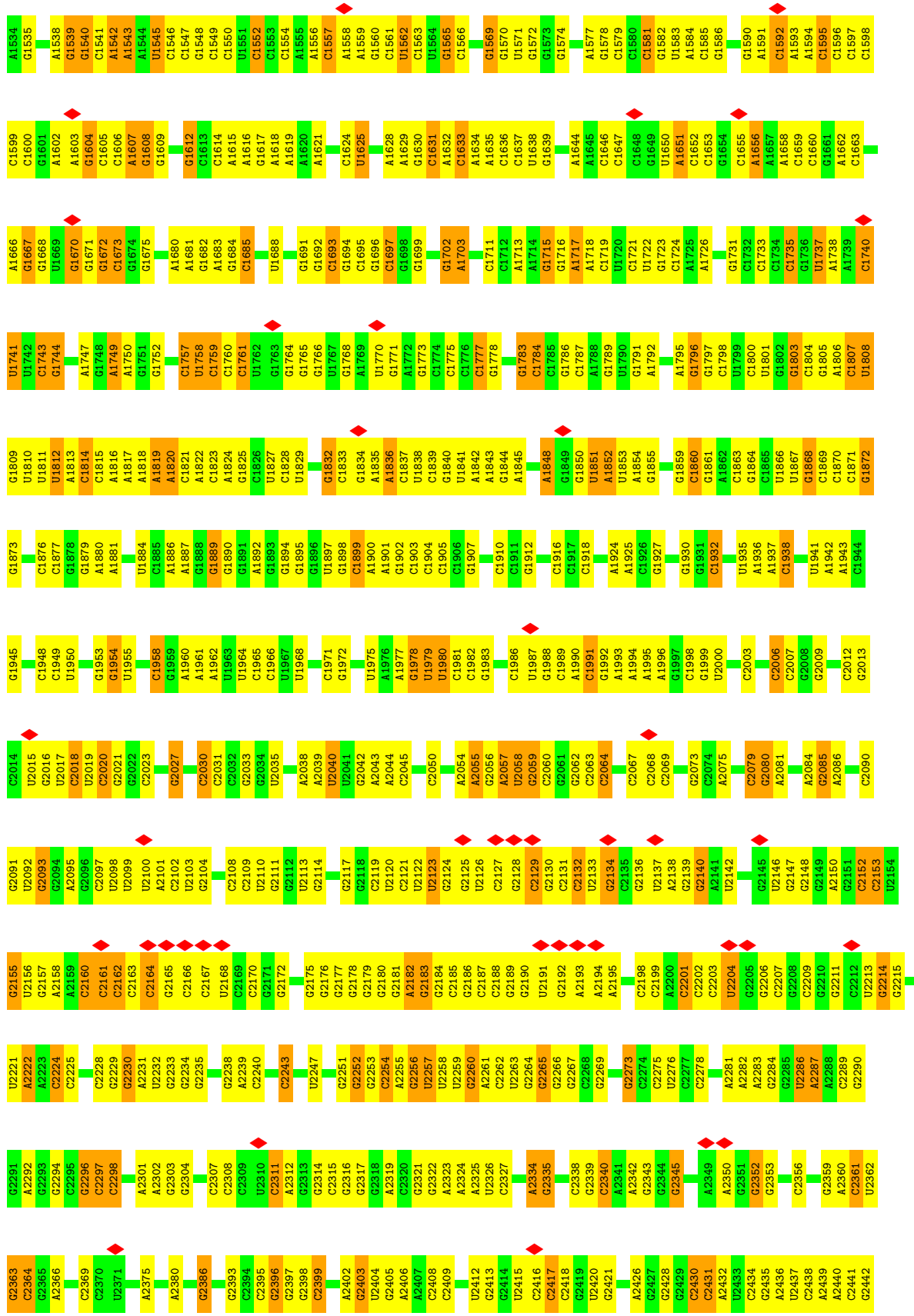


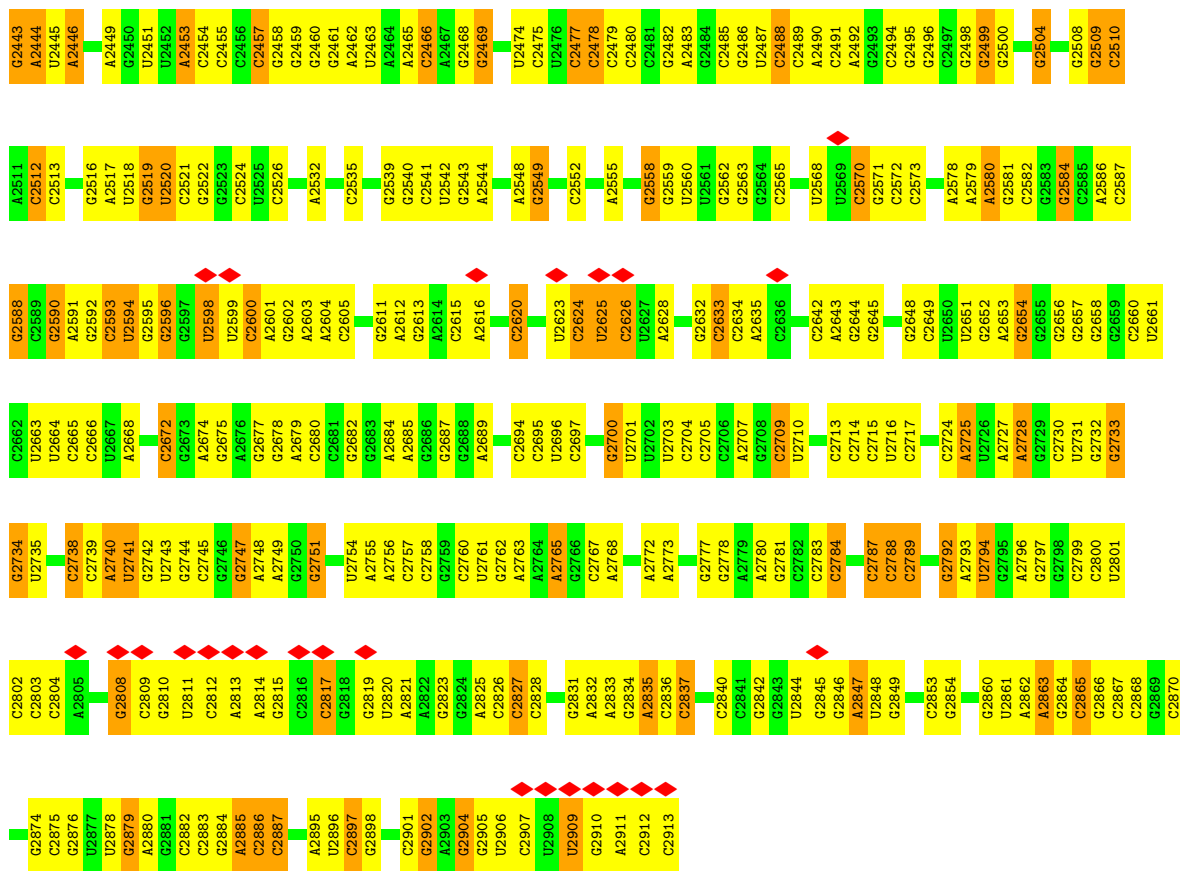




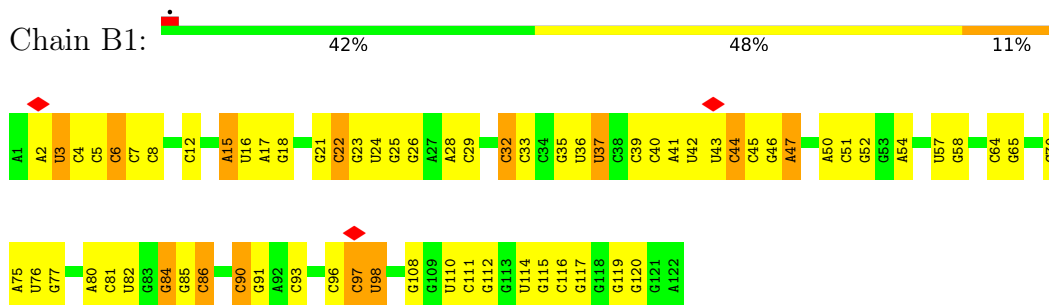




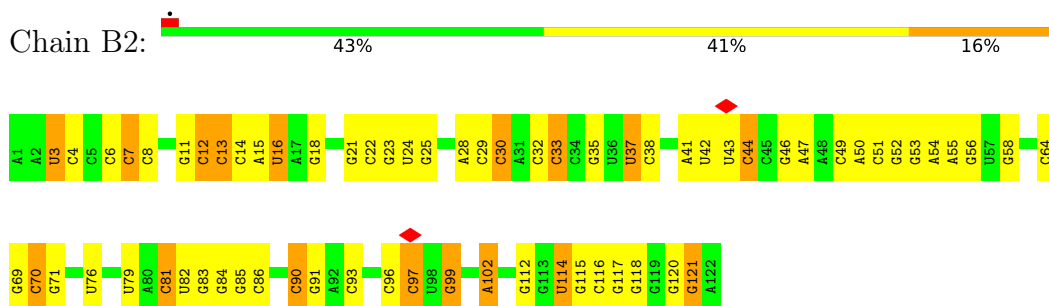




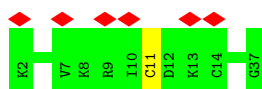
• Molecule 30: 5S ribosomal RNA



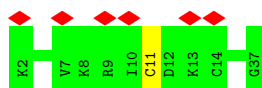
• Molecule 30: 5S ribosomal RNA



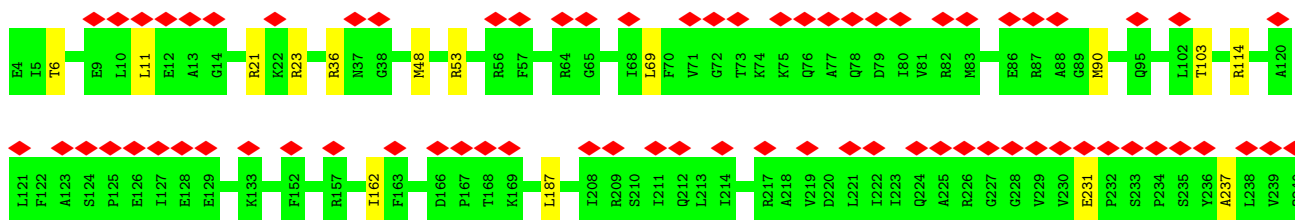
• Molecule 31: 50S ribosomal protein L36



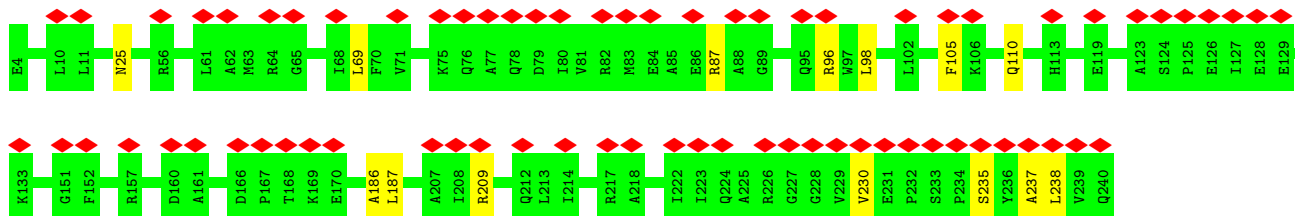
- Molecule 31: 50S ribosomal protein L36



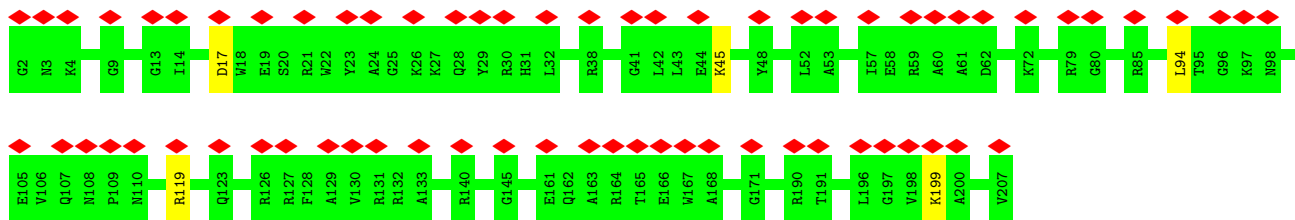
- Molecule 32: 30S ribosomal protein S2



- Molecule 32: 30S ribosomal protein S2

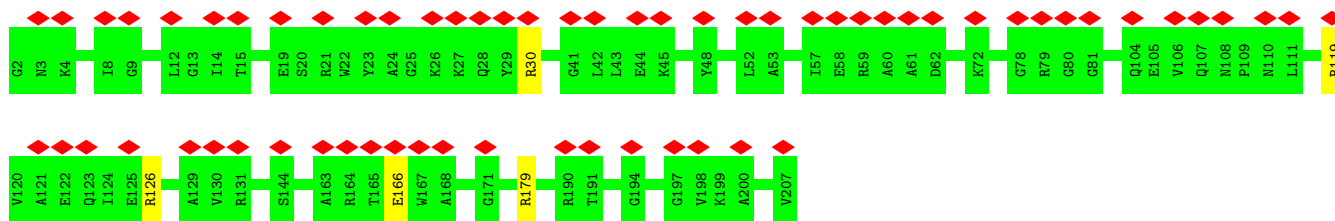


- Molecule 33: 30S ribosomal protein S3

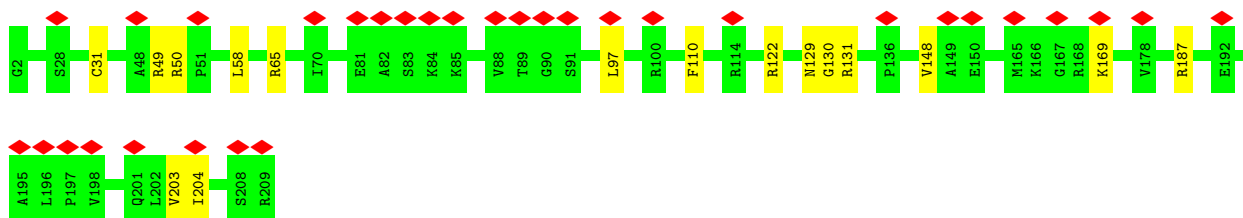
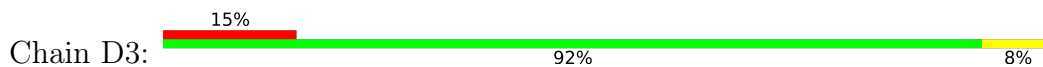


- Molecule 33: 30S ribosomal protein S3

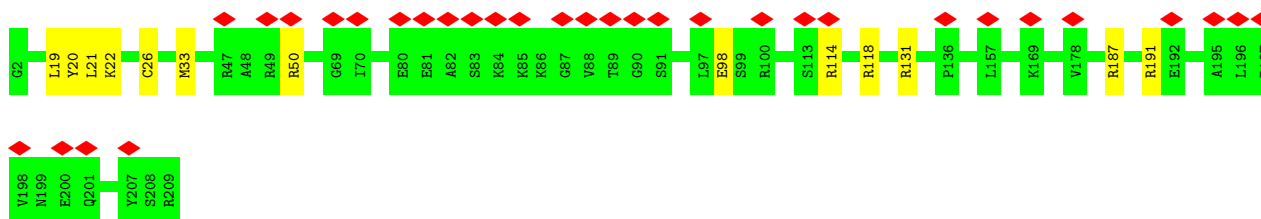




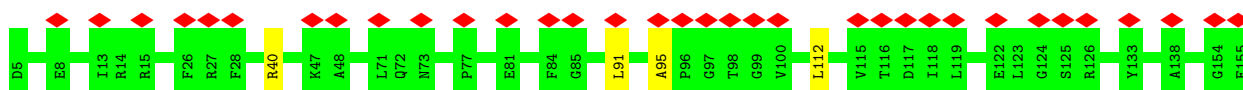
- Molecule 34: 30S ribosomal protein S4



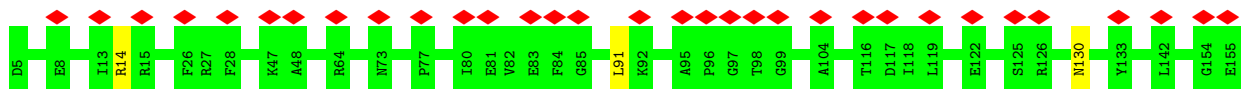
- Molecule 34: 30S ribosomal protein S4



- Molecule 35: 30S ribosomal protein S5



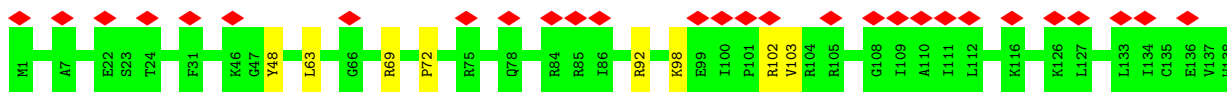
- Molecule 35: 30S ribosomal protein S5



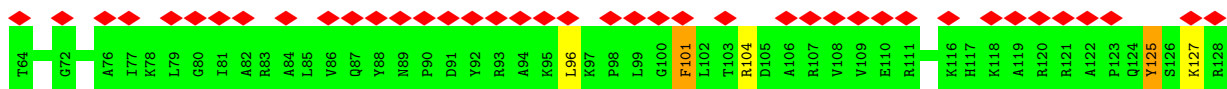
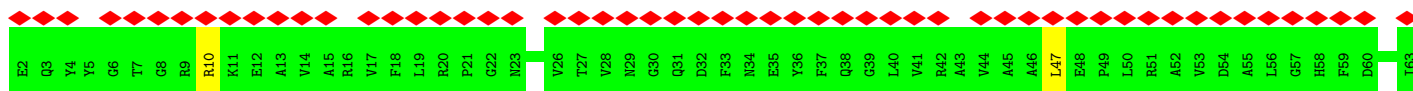
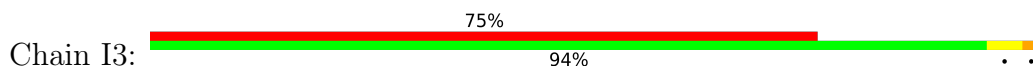
- Molecule 36: 30S ribosomal protein S6



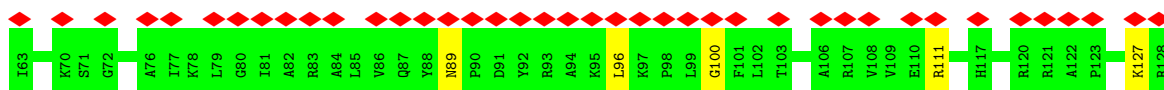
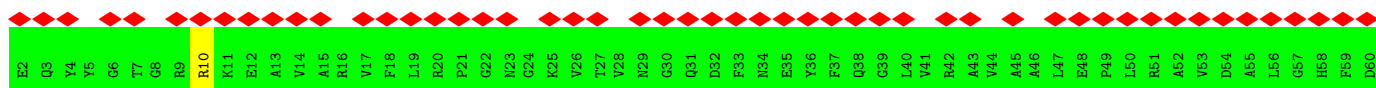




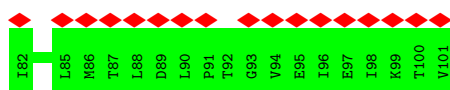
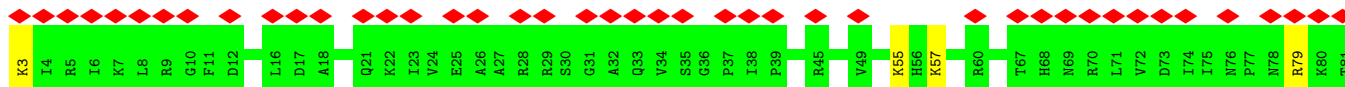
- Molecule 39: 30S ribosomal protein S9



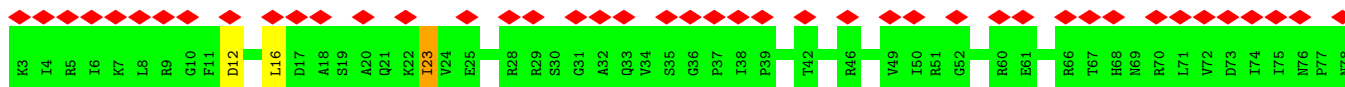
- Molecule 39: 30S ribosomal protein S9



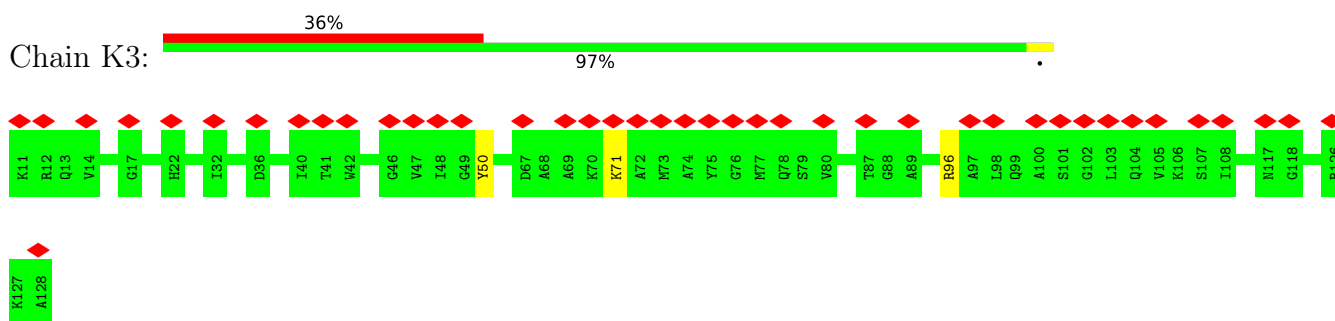
- Molecule 40: 30S ribosomal protein S10



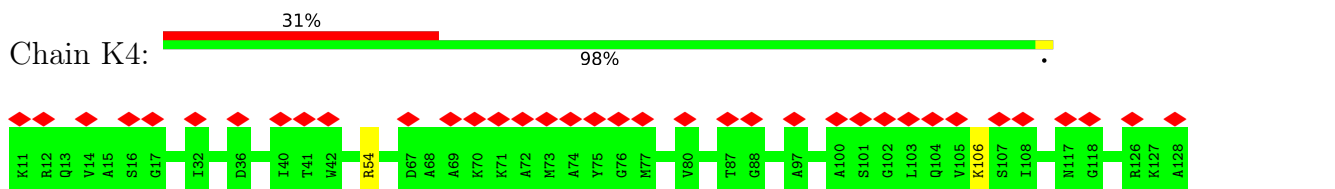
- Molecule 40: 30S ribosomal protein S10



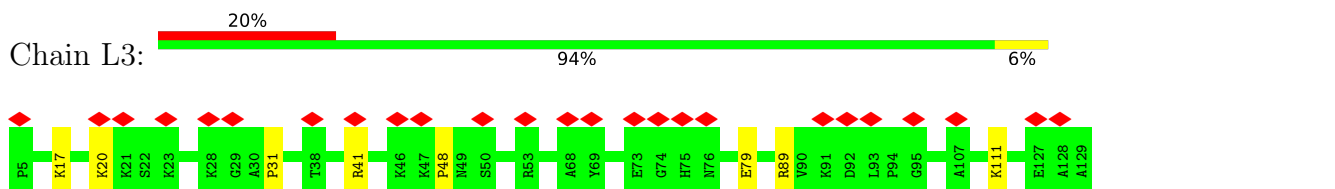
- Molecule 41: 30S ribosomal protein S11



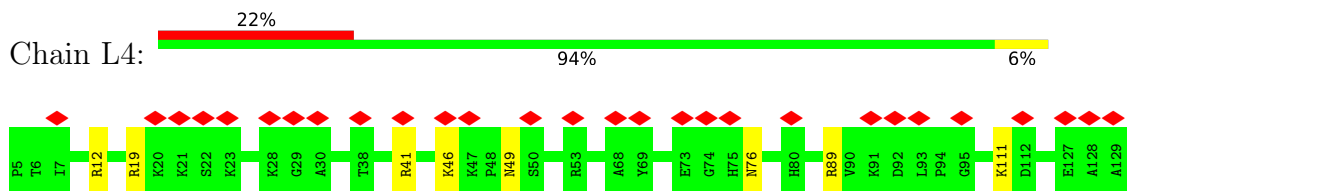
- Molecule 41: 30S ribosomal protein S11



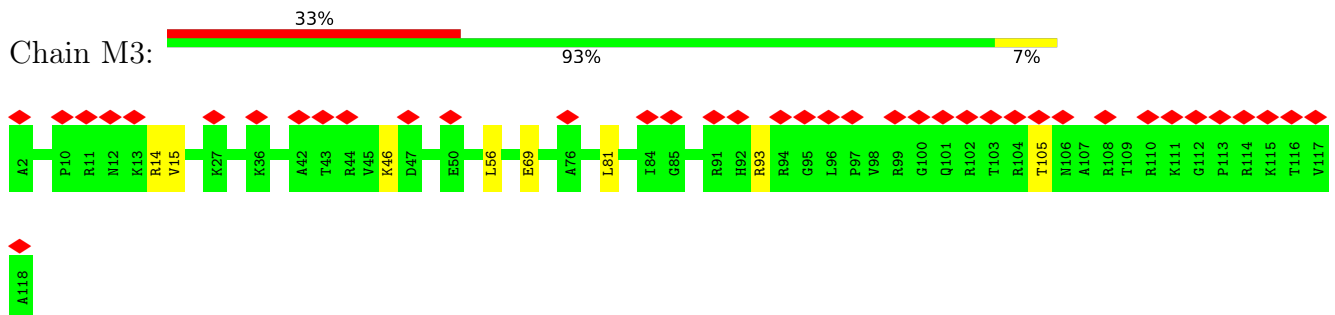
- Molecule 42: 30S ribosomal protein S12



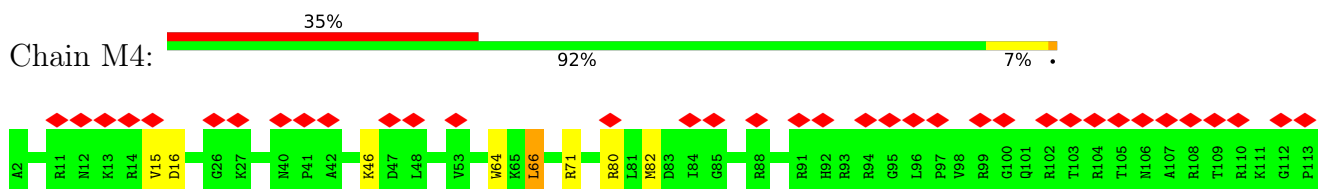
- Molecule 42: 30S ribosomal protein S12



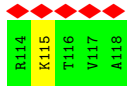
- Molecule 43: 30S ribosomal protein S13



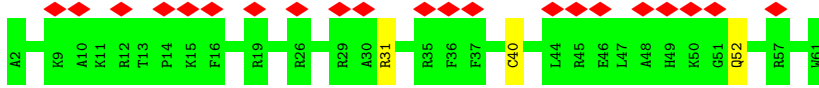
- Molecule 43: 30S ribosomal protein S13



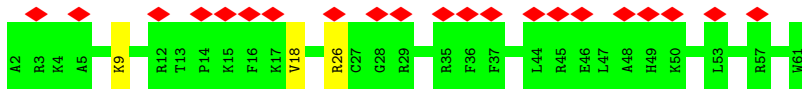




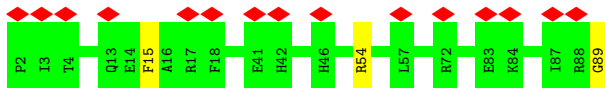
- Molecule 44: 30S ribosomal protein S14 type Z



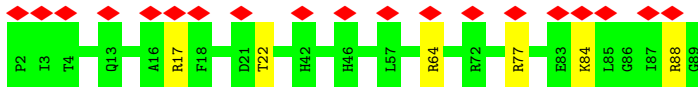
- Molecule 44: 30S ribosomal protein S14 type Z



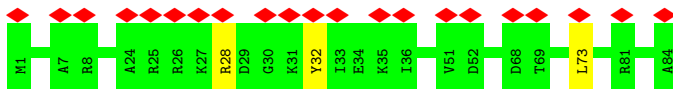
- Molecule 45: 30S ribosomal protein S15



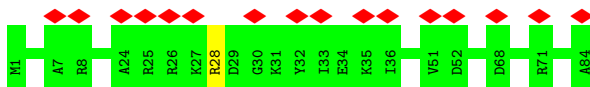
- Molecule 45: 30S ribosomal protein S15



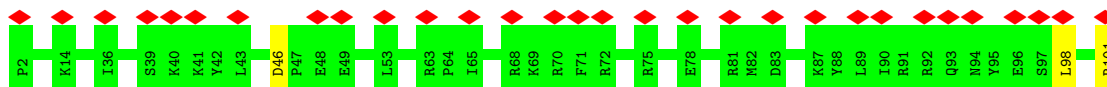
- Molecule 46: 30S ribosomal protein S16



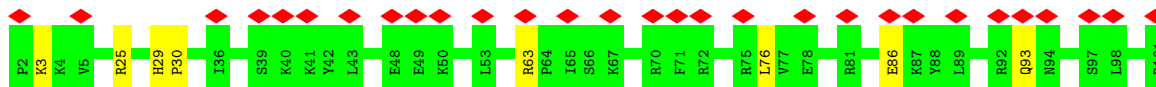
- Molecule 46: 30S ribosomal protein S16



- Molecule 47: 30S ribosomal protein S17



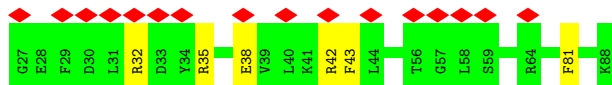
- Molecule 47: 30S ribosomal protein S17



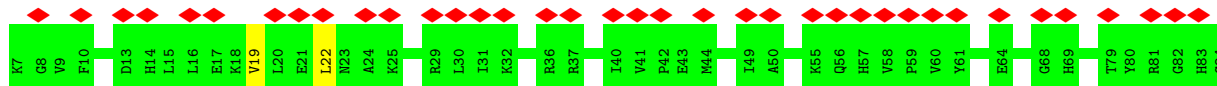
- Molecule 48: 30S ribosomal protein S18



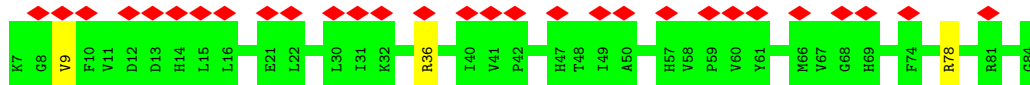
- Molecule 48: 30S ribosomal protein S18



- Molecule 49: 30S ribosomal protein S19

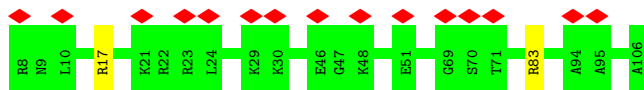


- Molecule 49: 30S ribosomal protein S19

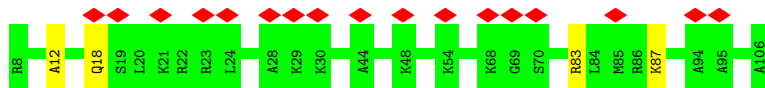


- Molecule 50: 30S ribosomal protein S20

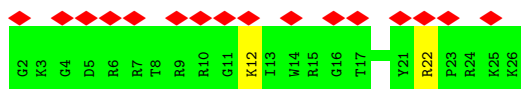
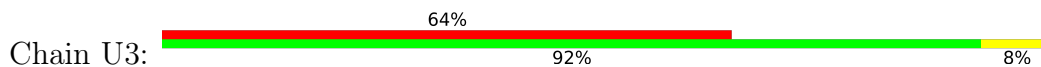




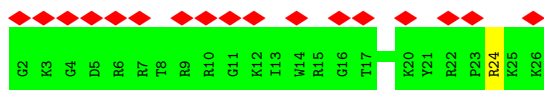
- Molecule 50: 30S ribosomal protein S20



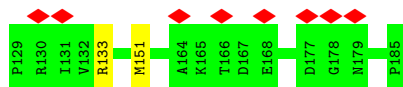
- Molecule 51: 30S ribosomal protein Thx



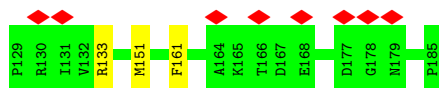
- Molecule 51: 30S ribosomal protein Thx



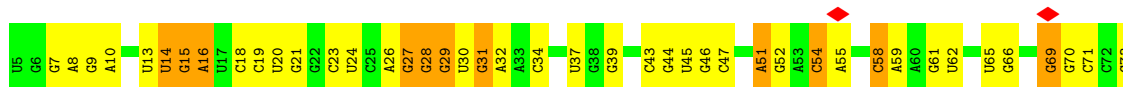
- Molecule 52: Ribosome hibernation promoting factor

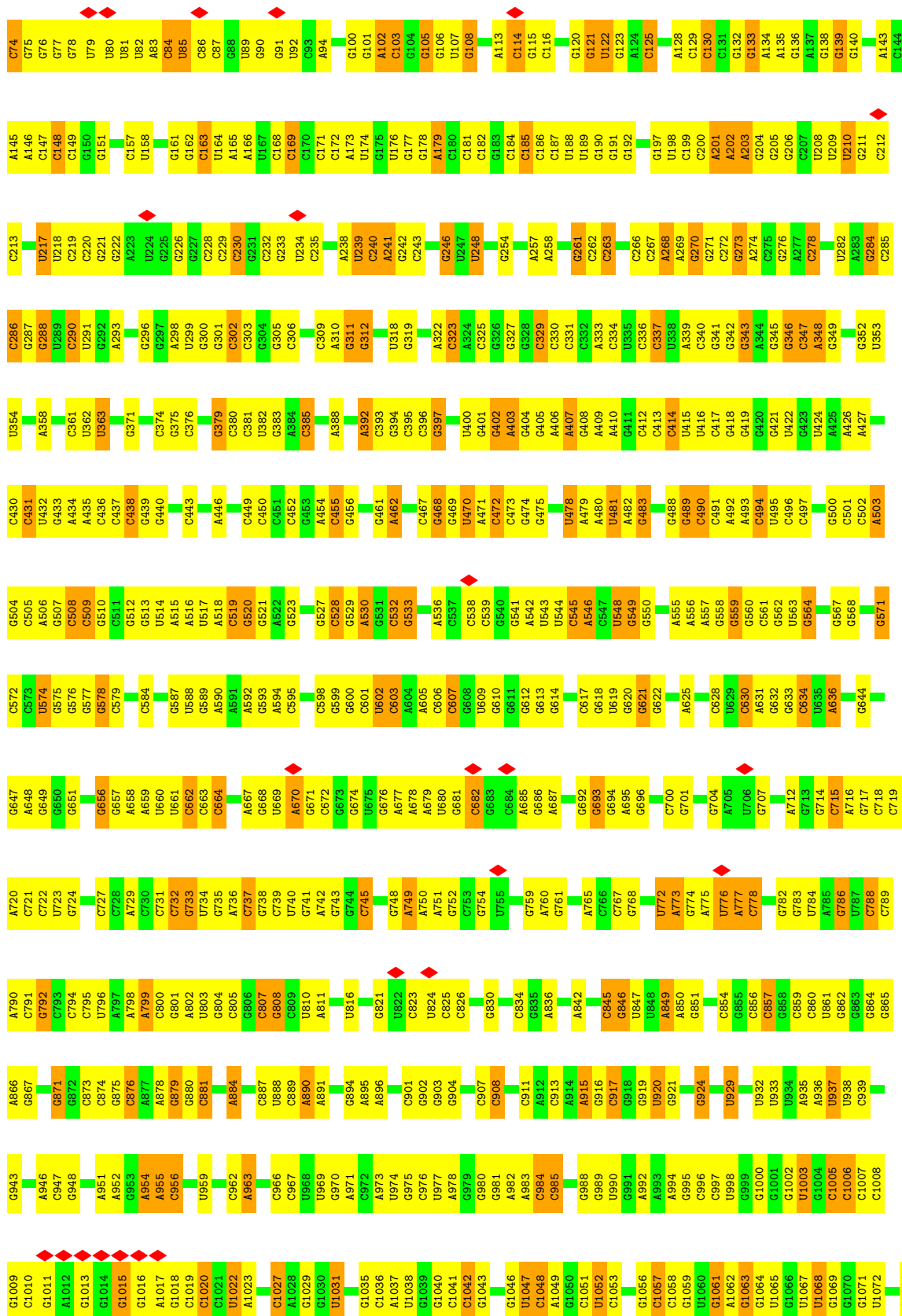


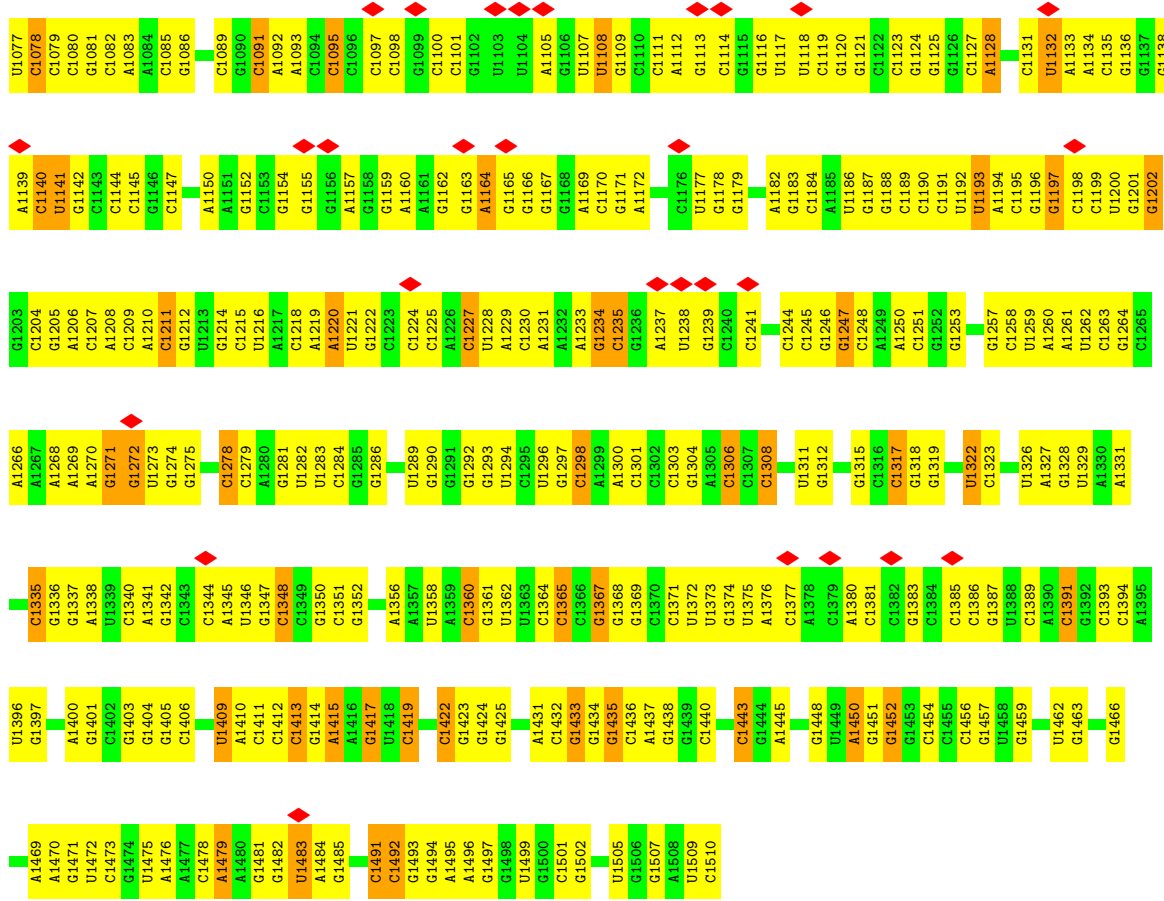
- Molecule 52: Ribosome hibernation promoting factor



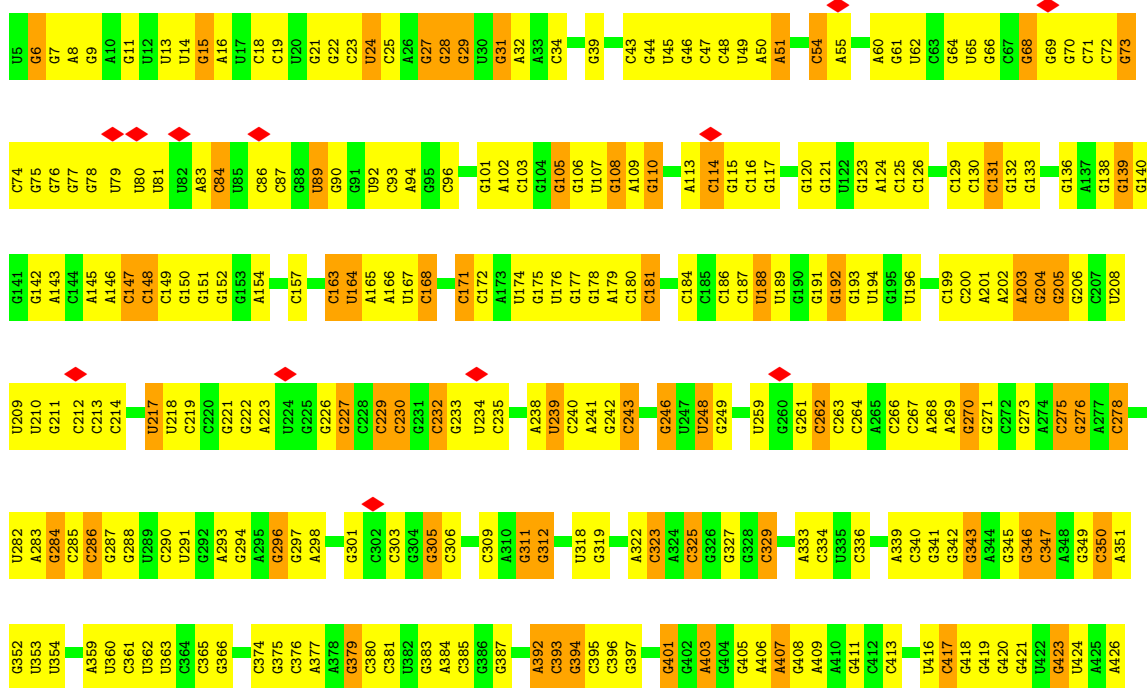
- Molecule 53: 16S ribosomal RNA

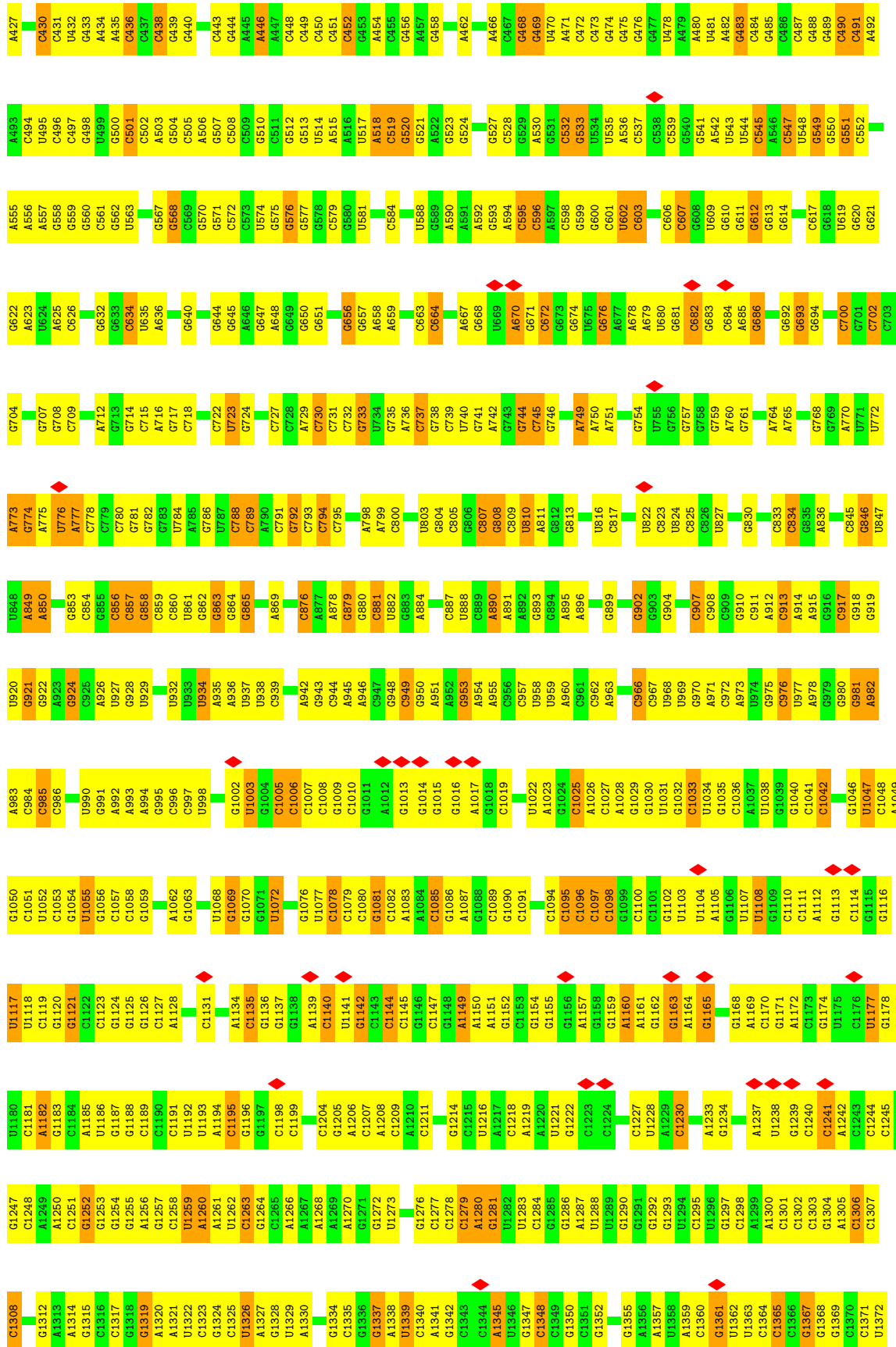


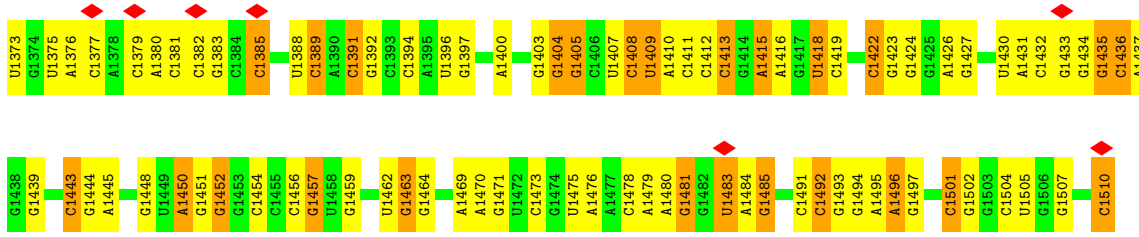




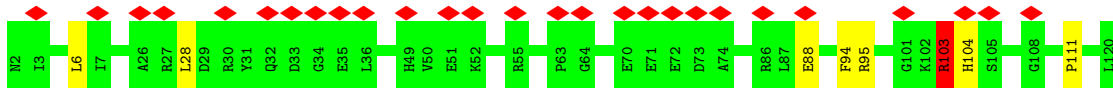
• Molecule 53: 16S ribosomal RNA



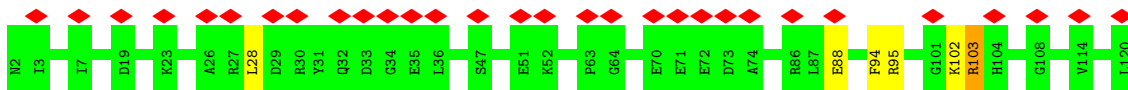




• Molecule 54: Ribosome hibernation promoting factor



• Molecule 54: Ribosome hibernation promoting factor



## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	25368	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	1.06	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	11.760	Depositor
Minimum map value	-5.930	Depositor
Average map value	0.024	Depositor
Map value standard deviation	0.355	Depositor
Recommended contour level	2.3	Depositor
Map size ( $\text{\AA}$ )	770.0, 770.0, 770.0	wwPDB
Map dimensions	700, 700, 700	wwPDB
Map angles ( $^\circ$ )	90.0, 90.0, 90.0	wwPDB
Pixel spacing ( $\text{\AA}$ )	1.1, 1.1, 1.1	Depositor



## 5 Model quality i

### 5.1 Standard geometry i

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	C1	0.57	1/2166 (0.0%)	0.77	0/2919
1	C2	0.55	0/2166	0.77	2/2919 (0.1%)
2	D1	0.49	0/1602	0.77	0/2160
2	D2	0.49	0/1602	0.71	0/2160
3	E1	0.52	1/1663 (0.1%)	0.74	0/2249
3	E2	0.50	0/1663	0.75	0/2249
4	F1	0.46	0/1499	0.76	1/2016 (0.0%)
4	F2	0.44	0/1499	0.78	3/2016 (0.1%)
5	G1	0.42	0/1333	0.73	0/1802
5	G2	0.44	0/1333	0.74	1/1802 (0.1%)
6	H1	0.43	0/387	0.73	0/523
6	H2	0.42	0/387	0.79	0/523
7	I1	0.45	0/1132	0.68	0/1525
7	I2	0.45	0/1132	0.73	1/1525 (0.1%)
8	J1	0.55	0/943	0.73	0/1269
8	J2	0.54	0/943	0.71	0/1269
9	K1	0.47	0/1162	0.84	0/1544
9	K2	0.44	0/1162	0.80	1/1544 (0.1%)
10	L1	0.54	0/1143	0.75	0/1527
10	L2	0.53	0/1143	0.70	0/1527
11	M1	0.43	0/974	0.78	0/1302
11	M2	0.44	0/974	0.73	1/1302 (0.1%)
12	N1	0.44	0/892	0.79	0/1187
12	N2	0.42	0/892	0.76	0/1187
13	O1	0.52	0/1156	0.76	1/1542 (0.1%)
13	O2	0.53	0/1156	0.76	1/1542 (0.1%)
14	P1	0.41	0/982	0.71	1/1306 (0.1%)
14	P2	0.42	0/982	0.71	1/1306 (0.1%)
15	Q1	0.46	0/790	0.72	0/1057
15	Q2	0.44	0/790	0.75	0/1057
16	R1	0.44	0/911	0.74	1/1220 (0.1%)
16	R2	0.45	0/911	0.74	3/1220 (0.2%)
17	S1	0.48	0/740	0.76	0/993
17	S2	0.46	0/740	0.74	0/993

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
18	T1	0.41	0/799	0.73	0/1064
18	T2	0.40	0/799	0.72	0/1064
19	U1	0.42	0/1461	0.73	1/1982 (0.1%)
19	U2	0.44	0/1461	0.71	0/1982
20	V1	0.45	0/621	0.74	0/827
20	V2	0.46	0/621	0.74	0/827
21	W1	0.48	0/770	0.85	1/1022 (0.1%)
21	W2	0.47	0/770	0.72	0/1022
22	X1	0.40	0/583	0.69	0/771
22	X2	0.43	0/583	0.72	0/771
23	Y1	0.41	0/474	0.77	1/635 (0.2%)
23	Y2	0.41	0/474	0.74	0/635
24	Z1	0.48	0/528	0.84	0/709
24	Z2	0.50	0/528	0.88	1/709 (0.1%)
25	a1	0.45	0/473	0.70	0/639
25	a2	0.47	0/473	0.72	0/639
26	b1	0.48	0/397	0.76	0/529
26	b2	0.51	0/397	0.86	0/529
27	c1	0.60	1/438 (0.2%)	0.71	0/575
27	c2	0.55	0/438	0.68	0/575
28	d1	0.48	0/495	0.82	1/649 (0.2%)
28	d2	0.52	0/495	0.85	0/649
29	A1	1.43	52/70233 (0.1%)	1.57	1459/109643 (1.3%)
29	A2	1.08	52/70233 (0.1%)	1.58	1543/109643 (1.4%)
30	B1	0.87	1/2928 (0.0%)	1.44	38/4568 (0.8%)
30	B2	0.87	0/2928	1.48	61/4568 (1.3%)
31	e1	0.49	0/302	0.67	0/397
31	e2	0.49	0/302	0.68	0/397
32	B3	0.48	0/1960	0.82	5/2642 (0.2%)
32	B4	0.47	0/1960	0.76	4/2642 (0.2%)
33	C3	0.47	0/1637	0.74	0/2205
33	C4	0.48	0/1637	0.78	0/2205
34	D3	0.50	0/1731	0.79	1/2312 (0.0%)
34	D4	0.47	0/1733	0.80	0/2318
35	E3	0.47	0/1172	0.78	3/1576 (0.2%)
35	E4	0.45	0/1172	0.75	1/1576 (0.1%)
36	F3	0.50	0/856	0.76	1/1154 (0.1%)
36	F4	0.52	0/856	0.75	0/1154
37	G3	0.47	0/1276	0.71	0/1709
37	G4	0.46	0/1276	0.71	1/1709 (0.1%)
38	H3	0.48	0/1136	0.74	0/1527
38	H4	0.47	0/1136	0.75	0/1527
39	I3	0.49	0/1029	0.82	4/1379 (0.3%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
39	I4	0.46	0/1029	0.78	2/1379 (0.1%)
40	J3	0.42	0/815	0.72	0/1095
40	J4	0.42	0/815	0.75	2/1095 (0.2%)
41	K3	0.49	0/894	0.71	0/1205
41	K4	0.49	0/894	0.74	0/1205
42	L3	0.49	0/992	0.80	2/1327 (0.2%)
42	L4	0.50	0/992	0.76	0/1327
43	M3	0.41	0/944	0.75	0/1265
43	M4	0.44	0/944	0.92	5/1265 (0.4%)
44	N3	0.45	0/501	0.75	0/664
44	N4	0.45	0/501	0.74	0/664
45	O3	3.89	1/745 (0.1%)	0.81	1/992 (0.1%)
45	O4	0.44	0/745	0.77	0/992
46	P3	0.47	0/722	0.74	0/970
46	P4	0.42	0/722	0.69	0/970
47	Q3	0.50	0/848	0.78	2/1131 (0.2%)
47	Q4	0.51	0/848	0.81	1/1131 (0.1%)
48	R3	0.47	0/520	0.79	0/690
48	R4	0.48	0/520	0.77	0/690
49	S3	0.46	0/639	0.77	1/860 (0.1%)
49	S4	0.44	0/639	0.76	0/860
50	T3	0.41	0/765	0.70	0/1007
50	T4	0.39	0/765	0.70	0/1007
51	U3	0.37	0/222	0.81	0/288
51	U4	0.38	0/222	0.83	0/288
52	W4	0.49	0/487	0.80	0/650
52	X3	0.50	0/487	0.81	0/650
53	A3	1.05	25/36234 (0.1%)	1.60	792/56554 (1.4%)
53	A4	1.05	28/36234 (0.1%)	1.61	839/56554 (1.5%)
54	V3	0.51	0/977	0.82	1/1316 (0.1%)
54	V4	0.51	0/977	0.81	1/1316 (0.1%)
All	All	1.04	162/314160 (0.1%)	1.40	4793/469344 (1.0%)

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
1	C1	0	6
1	C2	0	6
2	D1	0	4

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Mol	Chain	#Chirality outliers	#Planarity outliers
2	D2	0	2
3	E1	0	1
3	E2	0	2
4	F1	0	6
4	F2	0	4
5	G2	0	1
6	H1	0	1
7	I1	0	2
7	I2	0	2
8	J1	0	2
8	J2	0	2
9	K1	0	2
9	K2	0	1
11	M2	0	1
12	N1	0	2
12	N2	0	1
13	O1	0	2
13	O2	0	3
14	P1	0	1
14	P2	0	3
15	Q2	0	2
16	R1	0	1
16	R2	0	5
17	S2	0	1
18	T1	0	1
18	T2	0	1
19	U1	0	1
19	U2	0	4
20	V1	0	1
20	V2	0	1
21	W1	0	3
21	W2	0	1
22	X1	0	1
22	X2	0	2
24	Z1	0	8
24	Z2	0	1
25	a2	0	1
26	b1	0	2
26	b2	0	2
27	c1	0	1
28	d1	0	2
28	d2	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
31	e1	0	1
31	e2	0	1
32	B3	0	7
32	B4	0	6
33	C3	0	1
33	C4	0	1
34	D3	0	8
34	D4	0	5
35	E3	0	1
35	E4	0	1
36	F3	0	2
36	F4	0	1
37	G3	0	3
37	G4	0	3
38	H3	0	1
38	H4	0	4
39	I3	0	2
40	J3	0	1
40	J4	0	3
41	K3	0	2
42	L3	0	3
42	L4	0	3
43	M3	0	4
43	M4	0	2
44	N3	0	2
44	N4	0	2
45	O3	0	1
46	P3	0	2
47	Q4	0	5
48	R3	0	2
48	R4	0	3
49	S3	0	1
50	T3	0	2
50	T4	0	2
51	U3	0	1
51	U4	0	1
52	W4	0	1
54	V3	0	2
54	V4	0	1
All	All	0	194

The worst 5 of 162 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	A1	764	G	C8-N7	128.76	2.08	1.30
29	A1	764	G	N7-C5	125.41	2.14	1.39
29	A1	764	G	N9-C8	112.11	2.16	1.37
45	O3	89	GLY	C-OXT	105.47	3.23	1.23
29	A1	764	G	N9-C4	95.43	2.14	1.38

The worst 5 of 4793 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	A1	764	G	N7-C8-N9	-24.77	100.72	113.10
29	A1	764	G	C5-N7-C8	17.48	113.04	104.30
29	A1	764	G	C6-N1-C2	17.13	135.38	125.10
29	A1	764	G	N3-C4-C5	-14.98	121.11	128.60
29	A1	764	G	C8-N9-C4	14.82	112.33	106.40

There are no chirality outliers.

5 of 194 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	C1	13	ARG	Peptide
1	C1	178	PRO	Peptide
1	C1	51	VAL	Peptide
1	C1	67	PHE	Peptide
1	C1	86	PRO	Peptide

## 5.2 Too-close contacts [i](#)

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

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	C1	270/272 (99%)	208 (77%)	62 (23%)	0	100	100
1	C2	270/272 (99%)	214 (79%)	56 (21%)	0	100	100
2	D1	203/205 (99%)	159 (78%)	44 (22%)	0	100	100
2	D2	203/205 (99%)	153 (75%)	48 (24%)	2 (1%)	15	54
3	E1	206/208 (99%)	157 (76%)	48 (23%)	1 (0%)	29	68
3	E2	206/208 (99%)	148 (72%)	57 (28%)	1 (0%)	29	68
4	F1	179/181 (99%)	141 (79%)	38 (21%)	0	100	100
4	F2	179/181 (99%)	139 (78%)	40 (22%)	0	100	100
5	G1	168/170 (99%)	126 (75%)	42 (25%)	0	100	100
5	G2	168/170 (99%)	130 (77%)	38 (23%)	0	100	100
6	H1	48/50 (96%)	37 (77%)	11 (23%)	0	100	100
6	H2	48/50 (96%)	36 (75%)	12 (25%)	0	100	100
7	I1	136/138 (99%)	113 (83%)	22 (16%)	1 (1%)	22	62
7	I2	136/138 (99%)	112 (82%)	24 (18%)	0	100	100
8	J1	120/122 (98%)	98 (82%)	22 (18%)	0	100	100
8	J2	120/122 (98%)	93 (78%)	27 (22%)	0	100	100
9	K1	148/150 (99%)	119 (80%)	29 (20%)	0	100	100
9	K2	148/150 (99%)	106 (72%)	42 (28%)	0	100	100
10	L1	139/141 (99%)	107 (77%)	32 (23%)	0	100	100
10	L2	139/141 (99%)	104 (75%)	35 (25%)	0	100	100
11	M1	115/117 (98%)	100 (87%)	15 (13%)	0	100	100
11	M2	115/117 (98%)	100 (87%)	15 (13%)	0	100	100
12	N1	109/111 (98%)	87 (80%)	22 (20%)	0	100	100
12	N2	109/111 (98%)	86 (79%)	23 (21%)	0	100	100
13	O1	135/137 (98%)	105 (78%)	30 (22%)	0	100	100
13	O2	135/137 (98%)	96 (71%)	39 (29%)	0	100	100
14	P1	115/117 (98%)	96 (84%)	19 (16%)	0	100	100
14	P2	115/117 (98%)	102 (89%)	13 (11%)	0	100	100
15	Q1	99/101 (98%)	79 (80%)	20 (20%)	0	100	100
15	Q2	99/101 (98%)	72 (73%)	27 (27%)	0	100	100
16	R1	111/113 (98%)	96 (86%)	15 (14%)	0	100	100
16	R2	111/113 (98%)	91 (82%)	20 (18%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
17	S1	90/92 (98%)	73 (81%)	17 (19%)	0	100	100
17	S2	90/92 (98%)	74 (82%)	16 (18%)	0	100	100
18	T1	100/102 (98%)	76 (76%)	23 (23%)	1 (1%)	15	54
18	T2	100/102 (98%)	80 (80%)	19 (19%)	1 (1%)	15	54
19	U1	177/179 (99%)	140 (79%)	37 (21%)	0	100	100
19	U2	177/179 (99%)	141 (80%)	36 (20%)	0	100	100
20	V1	75/77 (97%)	63 (84%)	12 (16%)	0	100	100
20	V2	75/77 (97%)	61 (81%)	14 (19%)	0	100	100
21	W1	95/97 (98%)	73 (77%)	22 (23%)	0	100	100
21	W2	95/97 (98%)	69 (73%)	26 (27%)	0	100	100
22	X1	67/69 (97%)	53 (79%)	14 (21%)	0	100	100
22	X2	67/69 (97%)	55 (82%)	12 (18%)	0	100	100
23	Y1	57/59 (97%)	46 (81%)	11 (19%)	0	100	100
23	Y2	57/59 (97%)	50 (88%)	7 (12%)	0	100	100
24	Z1	61/63 (97%)	31 (51%)	28 (46%)	2 (3%)	4	30
24	Z2	61/63 (97%)	36 (59%)	23 (38%)	2 (3%)	4	30
25	a1	57/59 (97%)	45 (79%)	12 (21%)	0	100	100
25	a2	57/59 (97%)	46 (81%)	11 (19%)	0	100	100
26	b1	43/45 (96%)	30 (70%)	13 (30%)	0	100	100
26	b2	43/45 (96%)	29 (67%)	14 (33%)	0	100	100
27	c1	47/49 (96%)	39 (83%)	8 (17%)	0	100	100
27	c2	47/49 (96%)	38 (81%)	9 (19%)	0	100	100
28	d1	59/61 (97%)	38 (64%)	21 (36%)	0	100	100
28	d2	59/61 (97%)	41 (70%)	18 (30%)	0	100	100
31	e1	34/36 (94%)	27 (79%)	7 (21%)	0	100	100
31	e2	34/36 (94%)	28 (82%)	6 (18%)	0	100	100
32	B3	235/237 (99%)	170 (72%)	65 (28%)	0	100	100
32	B4	235/237 (99%)	186 (79%)	49 (21%)	0	100	100
33	C3	204/206 (99%)	158 (78%)	46 (22%)	0	100	100
33	C4	204/206 (99%)	153 (75%)	51 (25%)	0	100	100
34	D3	202/208 (97%)	171 (85%)	30 (15%)	1 (0%)	29	68

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
34	D4	206/208 (99%)	156 (76%)	50 (24%)	0	100	100
35	E3	149/151 (99%)	117 (78%)	32 (22%)	0	100	100
35	E4	149/151 (99%)	122 (82%)	27 (18%)	0	100	100
36	F3	99/101 (98%)	82 (83%)	17 (17%)	0	100	100
36	F4	99/101 (98%)	84 (85%)	15 (15%)	0	100	100
37	G3	153/155 (99%)	125 (82%)	28 (18%)	0	100	100
37	G4	153/155 (99%)	130 (85%)	23 (15%)	0	100	100
38	H3	136/138 (99%)	115 (85%)	21 (15%)	0	100	100
38	H4	136/138 (99%)	110 (81%)	25 (18%)	1 (1%)	22	62
39	I3	125/127 (98%)	96 (77%)	29 (23%)	0	100	100
39	I4	125/127 (98%)	101 (81%)	24 (19%)	0	100	100
40	J3	97/99 (98%)	74 (76%)	23 (24%)	0	100	100
40	J4	97/99 (98%)	79 (81%)	18 (19%)	0	100	100
41	K3	116/118 (98%)	90 (78%)	26 (22%)	0	100	100
41	K4	116/118 (98%)	88 (76%)	28 (24%)	0	100	100
42	L3	123/125 (98%)	93 (76%)	29 (24%)	1 (1%)	19	60
42	L4	123/125 (98%)	96 (78%)	26 (21%)	1 (1%)	19	60
43	M3	115/117 (98%)	85 (74%)	30 (26%)	0	100	100
43	M4	115/117 (98%)	91 (79%)	24 (21%)	0	100	100
44	N3	58/60 (97%)	46 (79%)	12 (21%)	0	100	100
44	N4	58/60 (97%)	45 (78%)	13 (22%)	0	100	100
45	O3	86/88 (98%)	67 (78%)	19 (22%)	0	100	100
45	O4	86/88 (98%)	71 (83%)	15 (17%)	0	100	100
46	P3	82/84 (98%)	64 (78%)	18 (22%)	0	100	100
46	P4	82/84 (98%)	68 (83%)	14 (17%)	0	100	100
47	Q3	98/100 (98%)	80 (82%)	18 (18%)	0	100	100
47	Q4	98/100 (98%)	74 (76%)	24 (24%)	0	100	100
48	R3	60/62 (97%)	45 (75%)	15 (25%)	0	100	100
48	R4	60/62 (97%)	47 (78%)	13 (22%)	0	100	100
49	S3	76/78 (97%)	53 (70%)	23 (30%)	0	100	100
49	S4	76/78 (97%)	59 (78%)	17 (22%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
50	T3	97/99 (98%)	83 (86%)	14 (14%)	0	100	100
50	T4	97/99 (98%)	83 (86%)	14 (14%)	0	100	100
51	U3	23/25 (92%)	15 (65%)	8 (35%)	0	100	100
51	U4	23/25 (92%)	16 (70%)	7 (30%)	0	100	100
52	W4	55/57 (96%)	39 (71%)	16 (29%)	0	100	100
52	X3	55/57 (96%)	39 (71%)	16 (29%)	0	100	100
54	V3	117/119 (98%)	89 (76%)	26 (22%)	2 (2%)	9	43
54	V4	117/119 (98%)	89 (76%)	26 (22%)	2 (2%)	9	43
All	All	11542/11750 (98%)	9036 (78%)	2487 (22%)	19 (0%)	50	81

5 of 19 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
54	V3	103	ARG
54	V3	104	HIS
38	H4	103	VAL
3	E1	10	PRO
24	Z1	43	TYR

### 5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	C1	214/214 (100%)	209 (98%)	5 (2%)	50	70
1	C2	214/214 (100%)	209 (98%)	5 (2%)	50	70
2	D1	165/165 (100%)	164 (99%)	1 (1%)	86	92
2	D2	165/165 (100%)	165 (100%)	0	100	100
3	E1	165/165 (100%)	160 (97%)	5 (3%)	41	63
3	E2	165/165 (100%)	163 (99%)	2 (1%)	71	84
4	F1	155/155 (100%)	147 (95%)	8 (5%)	23	50
4	F2	155/155 (100%)	151 (97%)	4 (3%)	46	67

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
5	G1	142/142 (100%)	134 (94%)	8 (6%)	21	48
5	G2	142/142 (100%)	138 (97%)	4 (3%)	43	65
6	H1	41/41 (100%)	41 (100%)	0	100	100
6	H2	41/41 (100%)	41 (100%)	0	100	100
7	I1	117/117 (100%)	115 (98%)	2 (2%)	60	78
7	I2	117/117 (100%)	112 (96%)	5 (4%)	29	54
8	J1	100/100 (100%)	98 (98%)	2 (2%)	55	73
8	J2	100/100 (100%)	98 (98%)	2 (2%)	55	73
9	K1	116/116 (100%)	114 (98%)	2 (2%)	60	78
9	K2	116/116 (100%)	115 (99%)	1 (1%)	78	87
10	L1	111/111 (100%)	109 (98%)	2 (2%)	59	77
10	L2	111/111 (100%)	110 (99%)	1 (1%)	78	87
11	M1	100/100 (100%)	98 (98%)	2 (2%)	55	73
11	M2	100/100 (100%)	96 (96%)	4 (4%)	31	56
12	N1	87/87 (100%)	85 (98%)	2 (2%)	50	70
12	N2	87/87 (100%)	85 (98%)	2 (2%)	50	70
13	O1	120/120 (100%)	113 (94%)	7 (6%)	20	47
13	O2	120/120 (100%)	117 (98%)	3 (2%)	47	68
14	P1	93/93 (100%)	89 (96%)	4 (4%)	29	54
14	P2	93/93 (100%)	92 (99%)	1 (1%)	73	85
15	Q1	82/82 (100%)	80 (98%)	2 (2%)	49	69
15	Q2	82/82 (100%)	79 (96%)	3 (4%)	34	59
16	R1	92/92 (100%)	90 (98%)	2 (2%)	52	71
16	R2	92/92 (100%)	92 (100%)	0	100	100
17	S1	74/74 (100%)	73 (99%)	1 (1%)	67	81
17	S2	74/74 (100%)	71 (96%)	3 (4%)	30	56
18	T1	85/85 (100%)	81 (95%)	4 (5%)	26	52
18	T2	85/85 (100%)	83 (98%)	2 (2%)	49	69
19	U1	158/158 (100%)	156 (99%)	2 (1%)	69	82
19	U2	158/158 (100%)	154 (98%)	4 (2%)	47	68
20	V1	62/62 (100%)	60 (97%)	2 (3%)	39	62

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
20	V2	62/62 (100%)	60 (97%)	2 (3%)	39	62
21	W1	82/82 (100%)	81 (99%)	1 (1%)	71	84
21	W2	82/82 (100%)	79 (96%)	3 (4%)	34	59
22	X1	64/64 (100%)	63 (98%)	1 (2%)	62	79
22	X2	64/64 (100%)	64 (100%)	0	100	100
23	Y1	51/51 (100%)	51 (100%)	0	100	100
23	Y2	51/51 (100%)	51 (100%)	0	100	100
24	Z1	57/57 (100%)	56 (98%)	1 (2%)	59	77
24	Z2	57/57 (100%)	57 (100%)	0	100	100
25	a1	51/51 (100%)	51 (100%)	0	100	100
25	a2	51/51 (100%)	50 (98%)	1 (2%)	55	73
26	b1	44/44 (100%)	41 (93%)	3 (7%)	16	42
26	b2	44/44 (100%)	40 (91%)	4 (9%)	9	32
27	c1	42/42 (100%)	41 (98%)	1 (2%)	49	69
27	c2	42/42 (100%)	41 (98%)	1 (2%)	49	69
28	d1	51/51 (100%)	50 (98%)	1 (2%)	55	73
28	d2	51/51 (100%)	51 (100%)	0	100	100
31	e1	33/33 (100%)	33 (100%)	0	100	100
31	e2	33/33 (100%)	33 (100%)	0	100	100
32	B3	205/205 (100%)	201 (98%)	4 (2%)	55	73
32	B4	205/205 (100%)	201 (98%)	4 (2%)	55	73
33	C3	160/160 (100%)	156 (98%)	4 (2%)	47	68
33	C4	160/160 (100%)	156 (98%)	4 (2%)	47	68
34	D3	180/180 (100%)	174 (97%)	6 (3%)	38	61
34	D4	180/180 (100%)	172 (96%)	8 (4%)	28	54
35	E3	116/116 (100%)	115 (99%)	1 (1%)	78	87
35	E4	116/116 (100%)	115 (99%)	1 (1%)	78	87
36	F3	90/90 (100%)	88 (98%)	2 (2%)	52	71
36	F4	90/90 (100%)	89 (99%)	1 (1%)	73	85
37	G3	126/126 (100%)	120 (95%)	6 (5%)	25	52
37	G4	126/126 (100%)	125 (99%)	1 (1%)	81	89

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
38	H3	119/119 (100%)	117 (98%)	2 (2%)	60	78
38	H4	119/119 (100%)	116 (98%)	3 (2%)	47	68
39	I3	98/98 (100%)	95 (97%)	3 (3%)	40	62
39	I4	98/98 (100%)	94 (96%)	4 (4%)	30	56
40	J3	89/89 (100%)	86 (97%)	3 (3%)	37	60
40	J4	89/89 (100%)	88 (99%)	1 (1%)	73	85
41	K3	89/89 (100%)	88 (99%)	1 (1%)	73	85
41	K4	89/89 (100%)	87 (98%)	2 (2%)	52	71
42	L3	104/104 (100%)	101 (97%)	3 (3%)	42	64
42	L4	104/104 (100%)	100 (96%)	4 (4%)	33	58
43	M3	94/94 (100%)	90 (96%)	4 (4%)	29	54
43	M4	94/94 (100%)	90 (96%)	4 (4%)	29	54
44	N3	49/49 (100%)	48 (98%)	1 (2%)	55	73
44	N4	49/49 (100%)	48 (98%)	1 (2%)	55	73
45	O3	79/79 (100%)	78 (99%)	1 (1%)	69	82
45	O4	79/79 (100%)	73 (92%)	6 (8%)	13	39
46	P3	72/72 (100%)	71 (99%)	1 (1%)	67	81
46	P4	72/72 (100%)	71 (99%)	1 (1%)	67	81
47	Q3	95/95 (100%)	94 (99%)	1 (1%)	73	85
47	Q4	95/95 (100%)	93 (98%)	2 (2%)	53	72
48	R3	55/55 (100%)	53 (96%)	2 (4%)	35	59
48	R4	55/55 (100%)	52 (94%)	3 (6%)	21	49
49	S3	67/67 (100%)	67 (100%)	0	100	100
49	S4	67/67 (100%)	64 (96%)	3 (4%)	27	53
50	T3	76/76 (100%)	76 (100%)	0	100	100
50	T4	76/76 (100%)	74 (97%)	2 (3%)	46	67
51	U3	20/20 (100%)	19 (95%)	1 (5%)	24	51
51	U4	20/20 (100%)	20 (100%)	0	100	100
52	W4	50/50 (100%)	48 (96%)	2 (4%)	31	56
52	X3	50/50 (100%)	48 (96%)	2 (4%)	31	56
54	V3	101/101 (100%)	96 (95%)	5 (5%)	24	51

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
54	V4	101/101 (100%)	98 (97%)	3 (3%)	41	63
All	All	9776/9776 (100%)	9535 (98%)	241 (2%)	50	68

5 of 241 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
19	U2	80	ARG
45	O4	64	ARG
36	F3	7	ASN
45	O4	17	ARG
52	W4	133	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 125 such sidechains are listed below:

Mol	Chain	Res	Type
11	M2	31	HIS
36	F4	84	ASN
22	X2	70	GLN
35	E4	141	GLN
42	L4	76	ASN

### 5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
29	A1	2911/2912 (99%)	1509 (51%)	28 (0%)
29	A2	2911/2912 (99%)	1483 (50%)	30 (1%)
30	B1	121/122 (99%)	62 (51%)	0
30	B2	121/122 (99%)	58 (47%)	1 (0%)
53	A3	1505/1506 (99%)	788 (52%)	26 (1%)
53	A4	1505/1506 (99%)	795 (52%)	16 (1%)
All	All	9074/9080 (99%)	4695 (51%)	101 (1%)

5 of 4695 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
29	A1	3	U
29	A1	4	C
29	A1	5	A
29	A1	6	A
29	A1	7	G

5 of 101 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
29	A2	2792	G
53	A3	670	A
53	A4	1305	A
53	A3	133	G
53	A3	382	U

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

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

#### 5.5 Carbohydrates [i](#)

There are no monosaccharides 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](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
34	D3	2

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	D3	10:ARG	C	11:LEU	N	4.44
1	D3	8:VAL	C	9:CYS	N	3.57

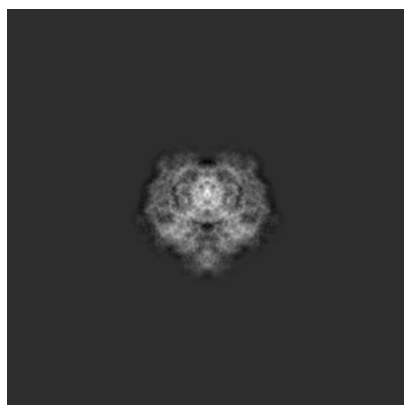
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-0104. These allow visual inspection of the internal detail of the map and identification of artifacts.

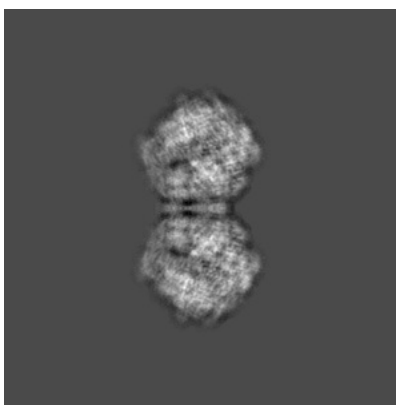
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

### 6.1 Orthogonal projections [i](#)

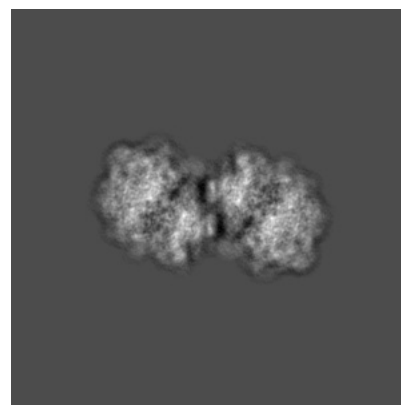
#### 6.1.1 Primary map



X



Y

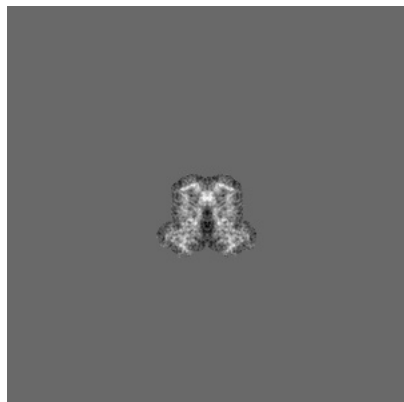


Z

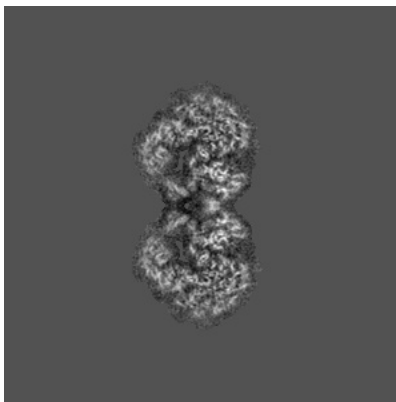
The images above show the map projected in three orthogonal directions.

### 6.2 Central slices [i](#)

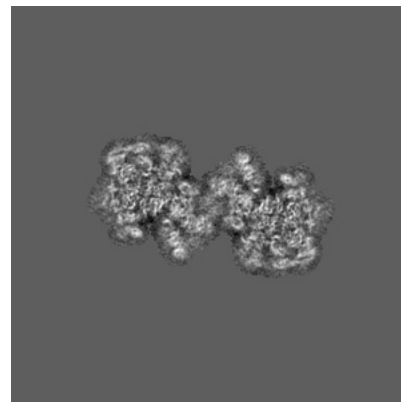
#### 6.2.1 Primary map



X Index: 350



Y Index: 350



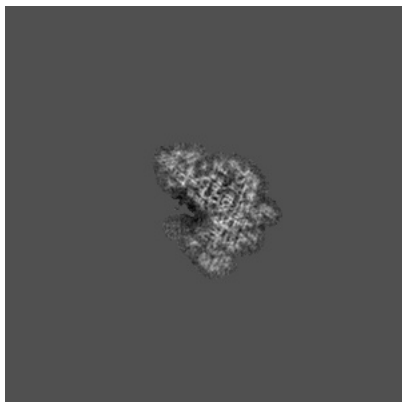
Z Index: 350



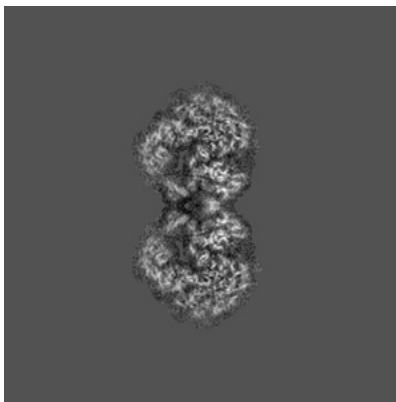
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices [i](#)

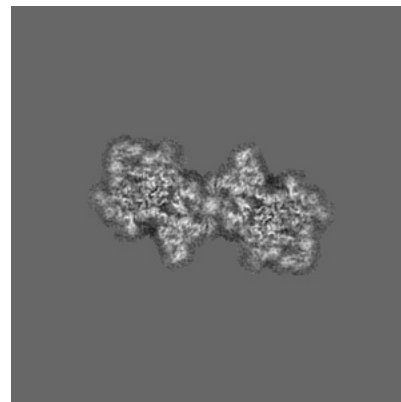
### 6.3.1 Primary map



X Index: 242



Y Index: 350

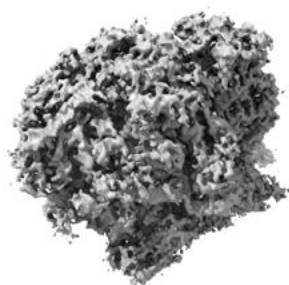


Z Index: 362

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

## 6.4 Orthogonal surface views [i](#)

### 6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 2.3. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

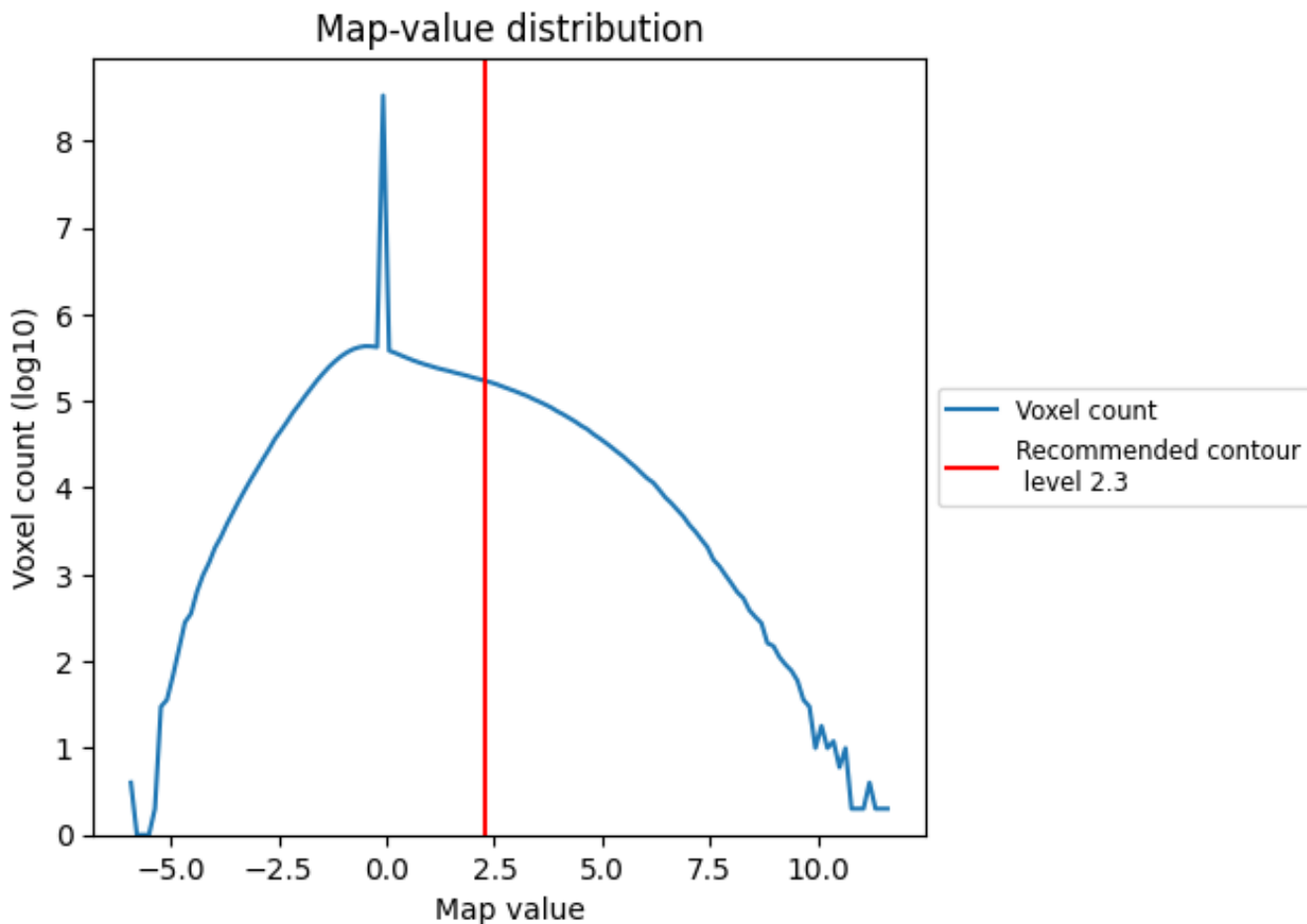
## 6.5 Mask visualisation

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

## 7 Map analysis [i](#)

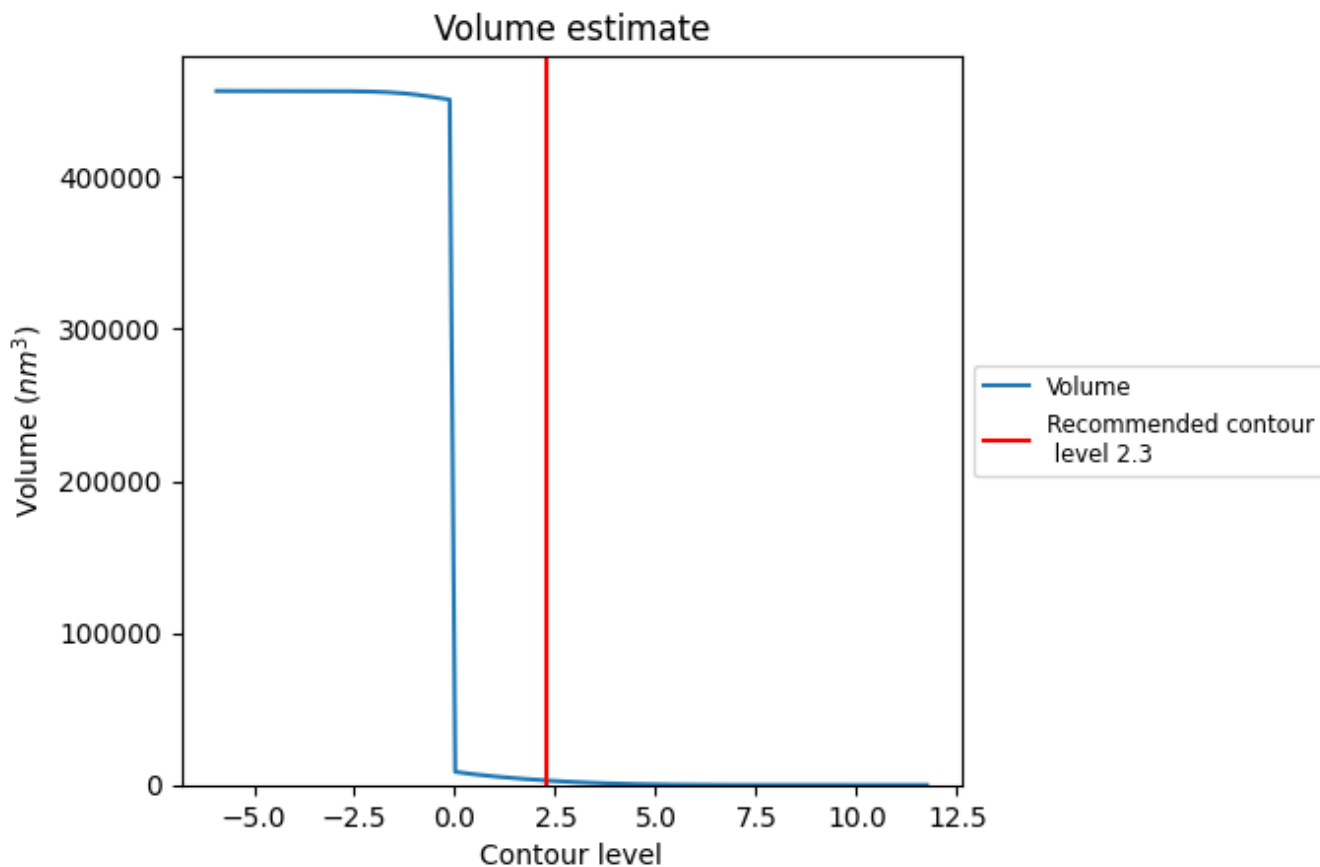
This section contains the results of statistical analysis of the map.

### 7.1 Map-value distribution [i](#)



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

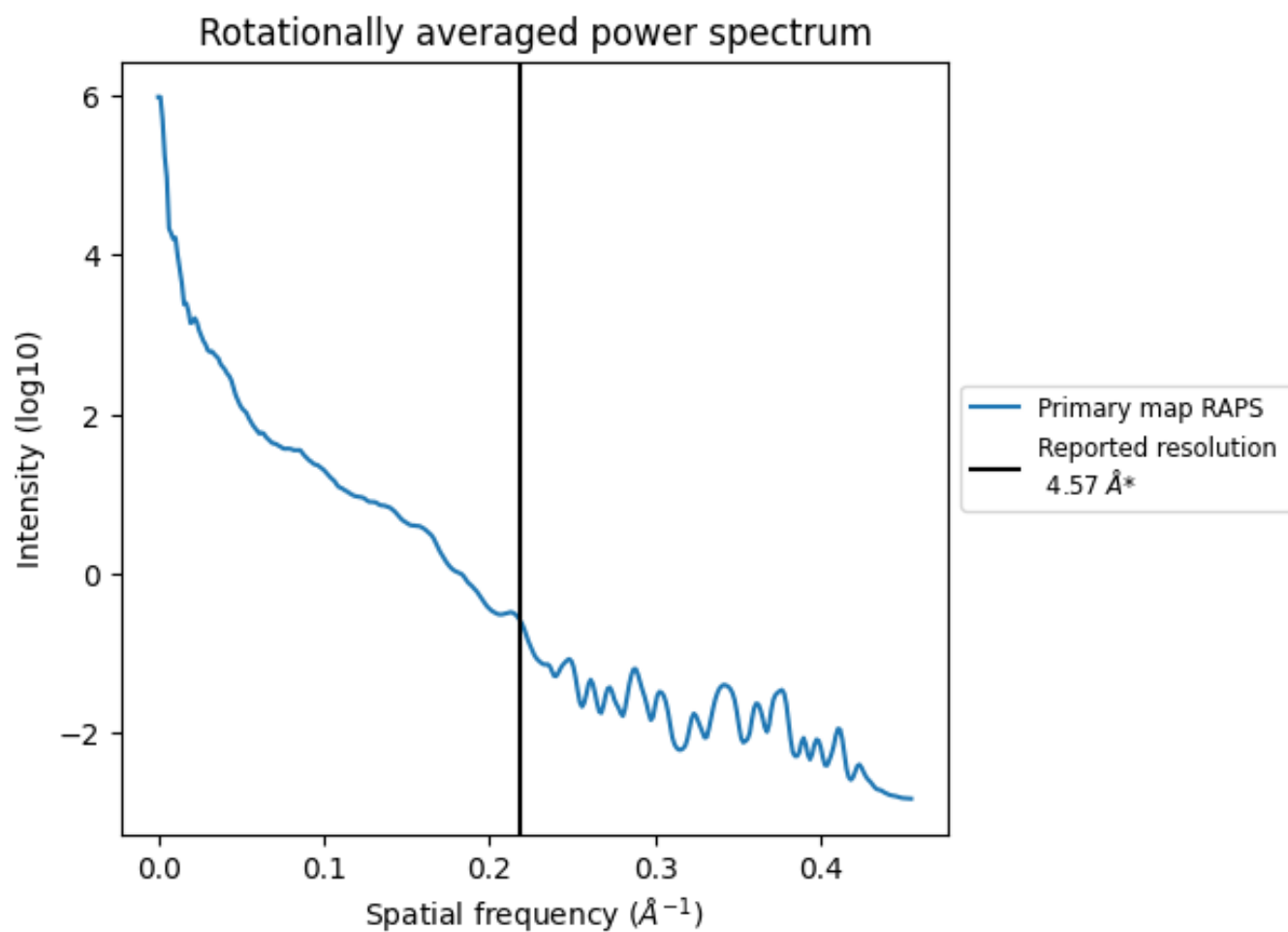
## 7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 2918 nm<sup>3</sup>; this corresponds to an approximate mass of 2636 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  $0.219 \text{\AA}^{-1}$

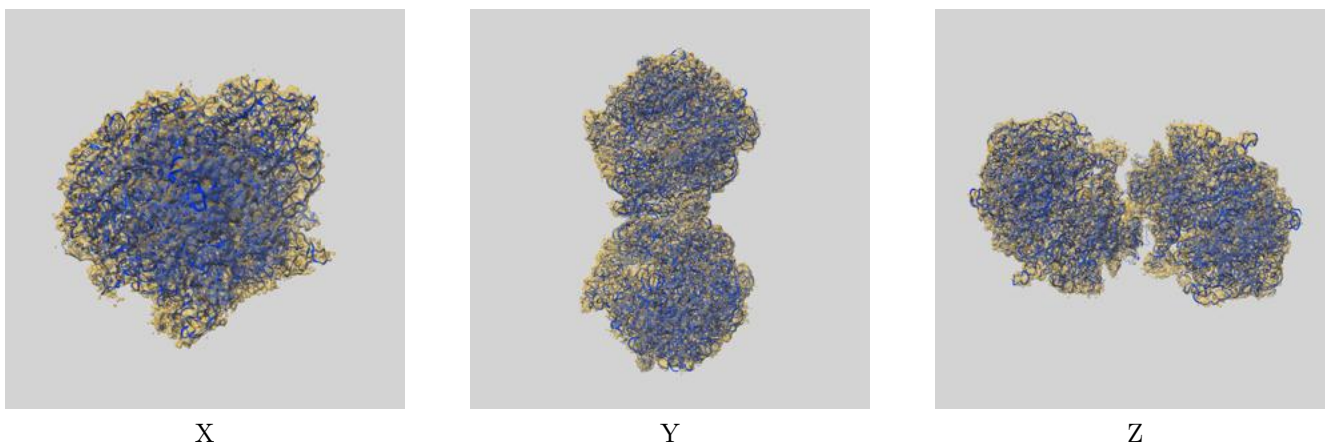
## 8 Fourier-Shell correlation

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

## 9 Map-model fit [i](#)

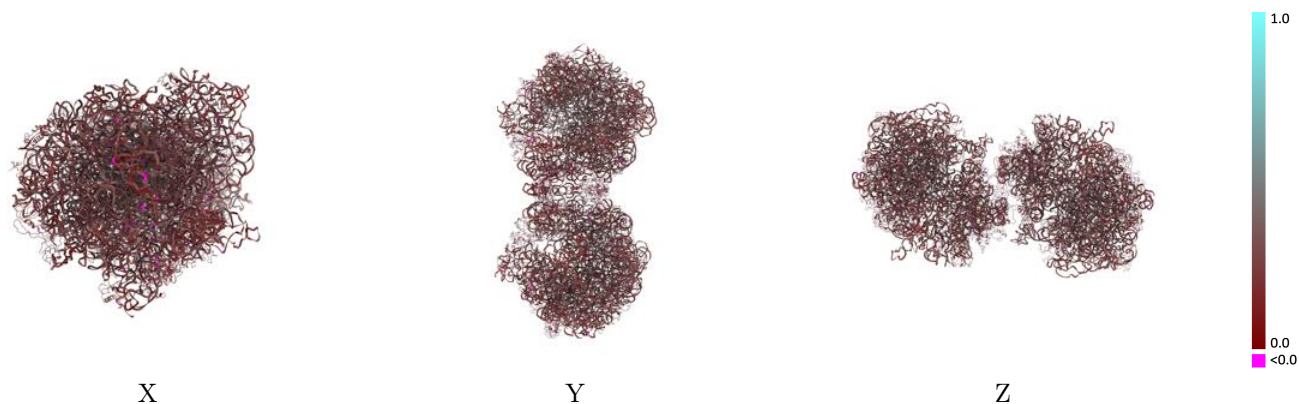
This section contains information regarding the fit between EMDB map EMD-0104 and PDB model 6GZX. Per-residue inclusion information can be found in section 3 on page 18.

### 9.1 Map-model overlay [i](#)



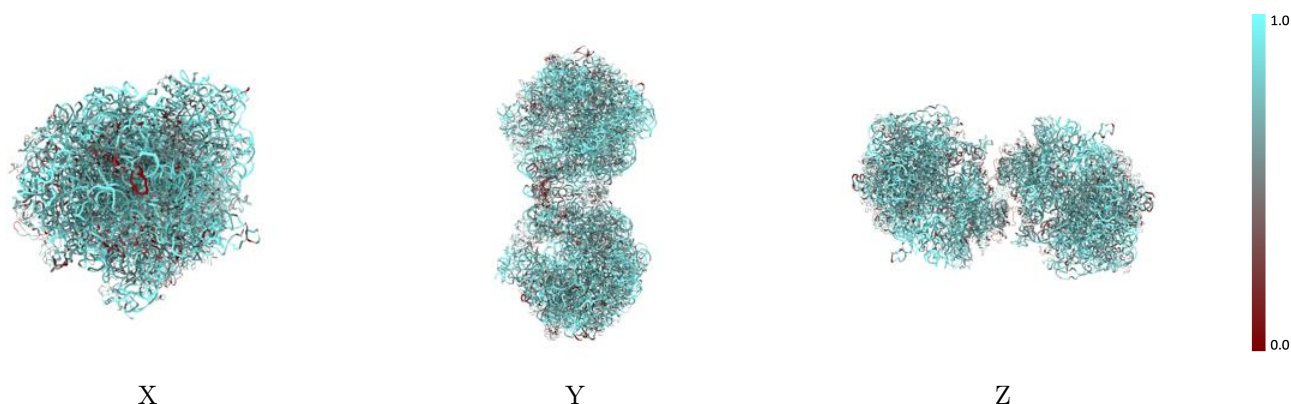
The images above show the 3D surface view of the map at the recommended contour level 2.3 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



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

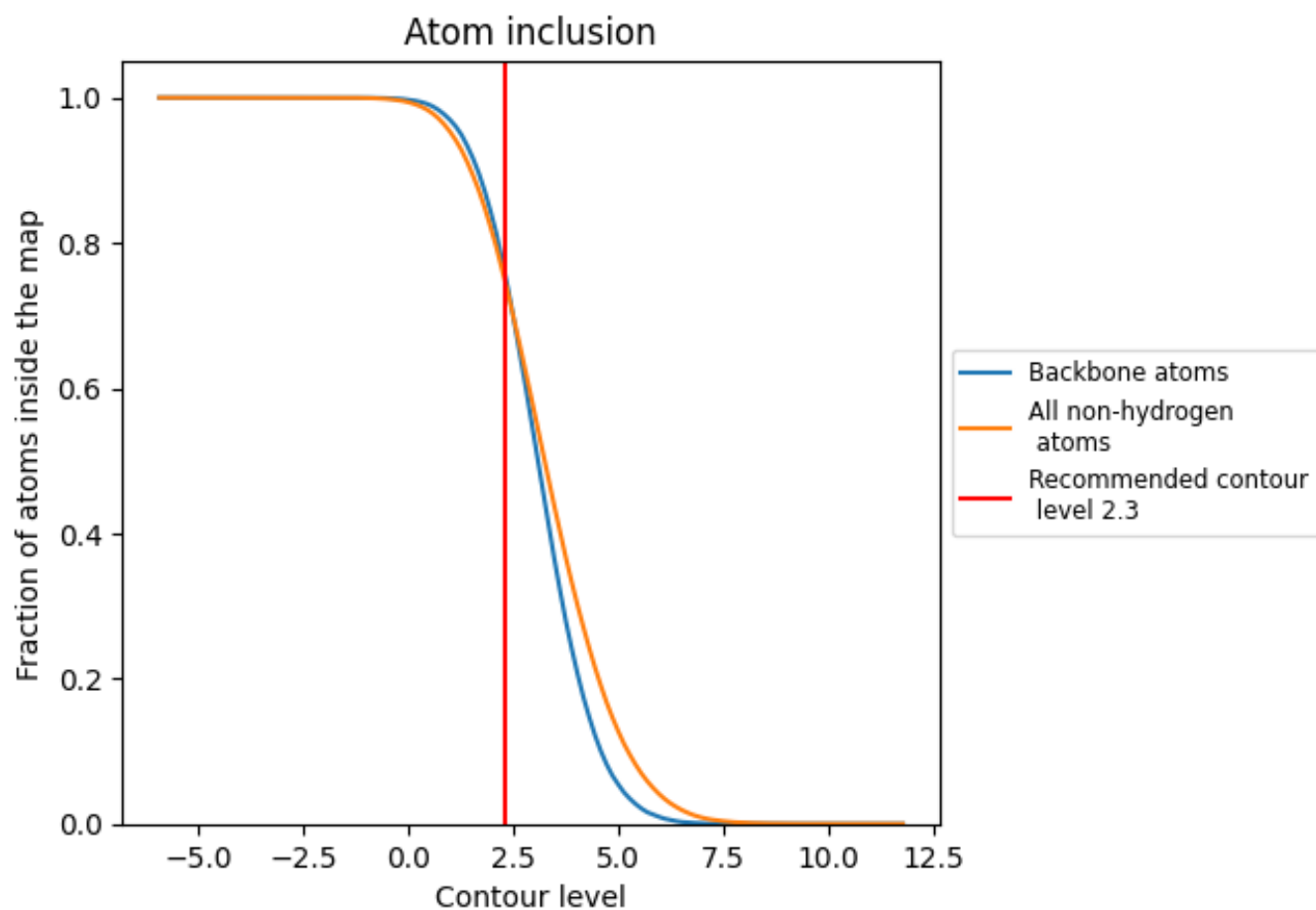
## 9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (2.3).









































































## 9.4 Atom inclusion [i](#)



At the recommended contour level, 76% of all backbone atoms, 75% 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 (2.3) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7458	 0.2820
A1	 0.8228	 0.2990
A2	 0.8253	 0.2990
A3	 0.8549	 0.2850
A4	 0.8538	 0.2860
B1	 0.8789	 0.2750
B2	 0.8750	 0.2760
B3	 0.5857	 0.2420
B4	 0.5830	 0.2420
C1	 0.4362	 0.2870
C2	 0.4381	 0.2860
C3	 0.5892	 0.2660
C4	 0.5828	 0.2630
D1	 0.5049	 0.2730
D2	 0.5036	 0.2750
D3	 0.6900	 0.2630
D4	 0.7066	 0.2690
E1	 0.5561	 0.2520
E2	 0.5580	 0.2580
E3	 0.6334	 0.2680
E4	 0.6503	 0.2620
F1	 0.5788	 0.2320
F2	 0.5893	 0.2290
F3	 0.5301	 0.2490
F4	 0.5215	 0.2570
G1	 0.6186	 0.2530
G2	 0.5910	 0.2480
G3	 0.4570	 0.2270
G4	 0.4594	 0.2270
H1	 0.3493	 0.2650
H2	 0.3653	 0.2600
H3	 0.6333	 0.2460
H4	 0.6286	 0.2450
I1	 0.6227	 0.2690
I2	 0.6199	 0.2780



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Chain	Atom inclusion	Q-score
I3	0.2531	0.2330
I4	0.2603	0.2390
J1	0.5510	0.2980
J2	0.5532	0.2920
J3	0.3689	0.2480
J4	0.3625	0.2500
K1	0.6186	0.2640
K2	0.6276	0.2620
K3	0.5671	0.2410
K4	0.5799	0.2380
L1	0.5797	0.2770
L2	0.5530	0.2670
L3	0.6267	0.2870
L4	0.6235	0.2910
M1	0.5898	0.2560
M2	0.5963	0.2510
M3	0.5769	0.2410
M4	0.5746	0.2180
N1	0.7052	0.2510
N2	0.7205	0.2280
N3	0.5546	0.2620
N4	0.5375	0.2520
O1	0.4982	0.2610
O2	0.5046	0.2590
O3	0.6412	0.2460
O4	0.6314	0.2580
P1	0.5445	0.2360
P2	0.5369	0.2490
P3	0.6166	0.2640
P4	0.6315	0.2500
Q1	0.4029	0.2710
Q2	0.3924	0.2880
Q3	0.5433	0.2730
Q4	0.5297	0.2810
R1	0.4913	0.2620
R2	0.4971	0.2530
R3	0.5911	0.2450
R4	0.5972	0.2440
S1	0.5541	0.2700
S2	0.5443	0.2660
S3	0.4435	0.2380
S4	0.5025	0.2200

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Chain	Atom inclusion	Q-score
T1	0.4304	0.2670
T2	0.4434	0.2660
T3	0.6563	0.2670
T4	0.6604	0.2630
U1	0.4162	0.2300
U2	0.4213	0.2370
U3	0.3582	0.2330
U4	0.3781	0.2370
V1	0.5675	0.2580
V2	0.5573	0.2580
V3	0.5834	0.2360
V4	0.5867	0.2420
W1	0.5358	0.2550
W2	0.5182	0.2580
W4	0.8074	0.2120
X1	0.6381	0.2670
X2	0.6684	0.2580
X3	0.7987	0.2120
Y1	0.3925	0.2650
Y2	0.3925	0.2680
Z1	0.6860	0.2450
Z2	0.6940	0.2510
a1	0.5705	0.2730
a2	0.5615	0.2640
b1	0.7733	0.2610
b2	0.7787	0.2590
c1	0.5402	0.2870
c2	0.5477	0.2890
d1	0.4644	0.2500
d2	0.4644	0.2400
e1	0.6399	0.2860
e2	0.6364	0.2770