wwPDB EM Validation Summary Report

Jun 8, 2026 – 06:12 PM EDT

PDB ID	:	9Q2M / pdb_00009q2m
EMDB ID	:	EMD-72168
Title	:	Rabbit ribosomal 80S elongation complex with eEF2, partial P site Ala-tRNA, E site Ala-tRNA on NediV ORF
Authors	:	De, S.; Altomare, C.G.; Abaeva, I.S.; Dadhwal, P.; Garg, P.; Acosta-Reyes, F.; Brown, Z.P.; Pestova, T.V.; Hellen, C.U.T.; Frank, J.
Deposited on	:	2025-08-15
Resolution	:	3.30 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 (i) symbol.

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

The following versions of software and data (see references (1)) were used in the production of this report:

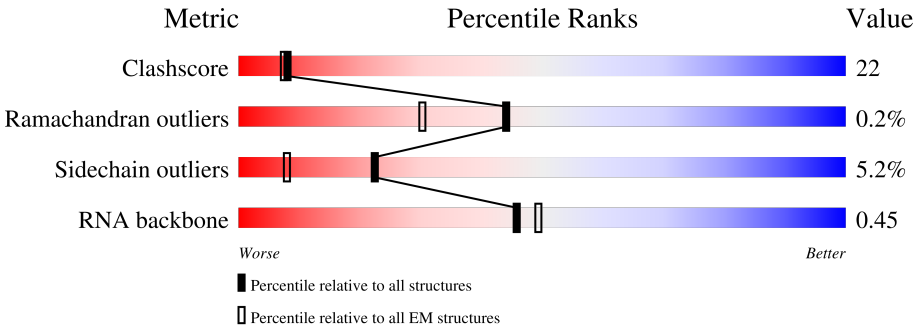
EMDB validation analysis	:	0.0.1.dev132
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13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

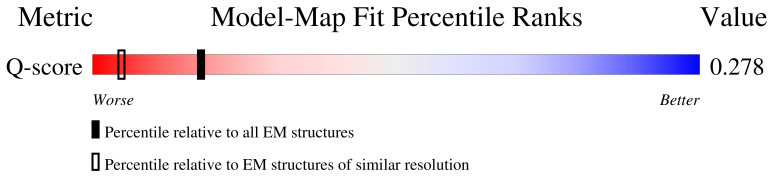
1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.30 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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	15087 (2.80 - 3.80)

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	R	180	48% 49%
2	W	106	20% 38% 41%
3	9	1670	28% 59% 14%

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Mol	Chain	Length	Quality of chain
4	AA	217	8% 34% 54% 8%
5	BB	213	45% 52%
6	CC	221	51% 48%
7	EE	262	43% 56%
8	GG	237	9% 35% 50% 10% 5%
9	HH	189	28% 47% 48%
10	II	206	53% 46%
11	JJ	185	43% 57%
12	LL	151	50% 43% 5%
13	NN	149	48% 50%
14	OO	136	46% 52%
15	VV	83	11% 48% 52%
16	WW	129	45% 54%
17	XX	141	47% 50%
18	YY	124	15% 51% 45%
19	aa	101	54% 44%
20	bb	83	53% 43%
21	ee	57	61% 35%
22	DD	228	9% 58% 41%
23	FF	191	48% 46%
24	KK	96	46% 51%
25	MM	117	39% 50% 47%
26	PP	115	48% 49%
27	QQ	141	28% 49% 49%
28	RR	132	33% 42% 52% 5%

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Mol	Chain	Length	Quality of chain
29	SS	144	42% 55%
30	TT	141	33% 49% 49%
31	UU	100	36% 48% 51%
32	ZZ	75	67% 32%
33	cc	62	60% 40%
34	dd	55	75% 24%
35	ff	68	16% 69% 29%
36	A	248	50% 46%
37	B	394	56% 42%
38	C	362	51% 47%
39	D	293	61% 38%
40	E	216	18% 51% 45%
41	F	225	44% 53%
42	G	240	52% 43%
43	H	190	51% 46%
44	I	213	56% 37%
45	J	170	52% 45%
46	L	210	56% 42%
47	M	138	50% 46%
48	N	203	54% 45%
49	O	199	45% 52%
50	P	153	58% 41%
51	Q	187	56% 42%
52	S	176	52% 47%
53	T	159	57% 40%

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Mol	Chain	Length	Quality of chain
54	U	99	64% 34%
55	V	139	55% 41%
56	X	118	60% 39%
57	Y	134	46% 50%
58	Z	135	53% 47%
59	a	147	51% 48%
60	b	104	66% 33%
61	c	98	56% 42%
62	d	107	57% 38% 5%
63	e	128	54% 43%
64	f	109	61% 38%
65	g	114	57% 39%
66	h	122	54% 46%
67	i	102	61% 37%
68	j	86	53% 45%
69	k	69	57% 39%
70	l	50	52% 46%
71	m	52	58% 40%
72	n	25	60% 32% 8%
73	o	104	53% 42% 5%
74	p	91	53% 45%
75	r	124	59% 40%
76	s	196	41% 55%
77	t	153	6% 15% 52% 27% 5%
78	5	3543	31% 55% 13%

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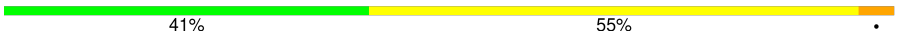
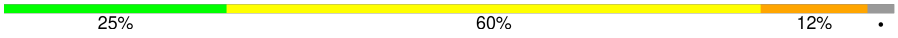
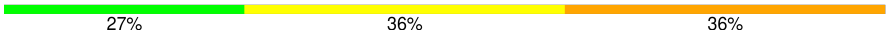
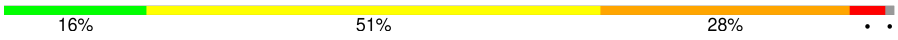
Mol	Chain	Length	Quality of chain
79	7	119	
80	8	156	
81	EF	855	
82	1	11	
83	PT	11	
84	ET	76	

2 Entry composition (i)

There are 86 unique types of molecules in this entry. The entry contains 223342 atoms, of which 6717 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	R	180	Total	C	N	O	S	0	0
			1508	933	328	238	9		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
R	38	ARG	HIS	conflict	UNP G1TYL6
R	151	ARG	HIS	conflict	UNP G1TYL6

- Molecule 2 is a protein called uL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	W	63	Total	C	N	O	S	0	0
			528	337	103	85	3		

- Molecule 3 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	9	1670	Total	C	N	O	P	0	0
			35655	15916	6405	11665	1669		

- Molecule 4 is a protein called 40S_SA_C domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	AA	209	Total	C	N	O	S	0	0
			1650	1051	290	301	8		

- Molecule 5 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	BB	213	Total	C	N	O	S	0	0
			1729	1098	309	308	14		

- Molecule 6 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	CC	221	Total	C	N	O	S	0	0
			1716	1111	295	301	9		

- Molecule 7 is a protein called 40S ribosomal protein S4.

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

- Molecule 8 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	GG	226	Total	C	N	O	S	0	0
			1831	1144	365	315	7		

- Molecule 9 is a protein called Small ribosomal subunit protein eS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	HH	185	Total	C	N	O	S	0	0
			1488	952	271	264	1		

- Molecule 10 is a protein called 40S ribosomal protein S8.

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

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
II	47	ARG	GLY	conflict	UNP G1TJW1

- Molecule 11 is a protein called 40S ribosomal protein S9.

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

- Molecule 12 is a protein called Small ribosomal subunit protein uS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	LL	143	Total	C	N	O	S	0	0
			1175	749	222	198	6		

- Molecule 13 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	NN	149	Total	C	N	O	S	0	0
			1202	770	228	203	1		

- Molecule 14 is a protein called Small ribosomal subunit protein uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	OO	136	Total	C	N	O	S	0	0
			1016	621	199	190	6		

- Molecule 15 is a protein called eS21.

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

There are 7 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
VV	3	ASN	SER	conflict	UNP G1TM82
VV	4	ASP	ASN	conflict	UNP G1TM82
VV	33	GLN	PRO	conflict	UNP G1TM82
VV	50	PHE	SER	conflict	UNP G1TM82
VV	75	ALA	SER	conflict	UNP G1TM82
VV	76	ASP	HIS	conflict	UNP G1TM82
VV	81	LYS	GLN	conflict	UNP G1TM82

- Molecule 16 is a protein called 40S ribosomal protein S15a.

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

- Molecule 17 is a protein called 40S ribosomal protein S23.

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

- Molecule 18 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	YY	124	Total	C	N	O	S	0	0
			1011	640	198	168	5		

- Molecule 19 is a protein called eS26.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	aa	101	Total	C	N	O	S	0	0
			814	507	170	132	5		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
aa	28	ARG	CYS	conflict	UNP G1TFE8
aa	56	ALA	VAL	conflict	UNP G1TFE8

- Molecule 20 is a protein called 40S ribosomal protein S27.

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

- Molecule 21 is a protein called Small ribosomal subunit protein eS30.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	ee	57	Total	C	N	O	S	0	0
			457	282	101	73	1		

- Molecule 22 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	DD	228	Total	C	N	O	S	0	0
			1768	1126	318	316	8		

- Molecule 23 is a protein called Small ribosomal subunit protein uS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	FF	185	Total	C	N	O	S	0	0
			1471	921	277	266	7		

- Molecule 24 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	KK	96	Total	C	N	O	S	0	0
			810	530	143	131	6		

- Molecule 25 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	MM	117	Total	C	N	O	S	0	0
			908	570	161	169	8		

- Molecule 26 is a protein called Small ribosomal subunit protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	PP	115	Total	C	N	O	S	0	0
			956	610	176	163	7		

- Molecule 27 is a protein called Small ribosomal subunit protein uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	QQ	141	Total	C	N	O	S	0	0
			1116	711	209	193	3		

- Molecule 28 is a protein called 40S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	RR	132	Total	C	N	O	S	0	0
			1068	670	199	195	4		

- Molecule 29 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	SS	144	Total	C	N	O	S	0	0
			1190	746	241	202	1		

- Molecule 30 is a protein called Small ribosomal subunit protein eS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	TT	141	Total	C	N	O	S	0	0
			1097	688	211	195	3		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
TT	119	GLY	TRP	conflict	UNP G1TN62

- Molecule 31 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	UU	100	Total	C	N	O	S	0	0
			795	498	152	141	4		

- Molecule 32 is a protein called 40S ribosomal protein S25.

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

- Molecule 33 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	cc	62	Total	C	N	O	S	0	0
			488	297	97	92	2		

- Molecule 34 is a protein called 40S ribosomal protein S29.

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

- Molecule 35 is a protein called 40S ribosomal protein S27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	ff	68	Total	C	N	O	S	0	0
			555	351	103	94	7		

- Molecule 36 is a protein called 60S ribosomal protein L8.

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

- Molecule 37 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	B	394	Total	C	N	O	S	0	0
			3172	2020	597	542	13		

- Molecule 38 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	C	362	Total	C	N	O	S	0	0
			2883	1812	577	480	14		

- Molecule 39 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	D	293	Total	C	N	O	S	0	0
			2391	1512	438	427	14		

- Molecule 40 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	E	216	Total	C	N	O	S	0	0
			1729	1115	329	282	3		

- Molecule 41 is a protein called 60S ribosomal protein L7.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	F	225	Total	C	N	O	S	0	0
			1875	1205	358	303	9		

- Molecule 42 is a protein called Large ribosomal subunit protein eL8.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	G	233	Total	C	N	O	S	0	0
			1879	1199	361	315	4		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
G	244	GLY	CYS	conflict	UNP G1STW0

- Molecule 43 is a protein called 60S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	H	190	Total	C	N	O	S	0	0
			1516	954	284	272	6		

- Molecule 44 is a protein called Ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	I	205	Total	C	N	O	S	0	0
			1664	1056	321	274	13		

- Molecule 45 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	J	170	Total	C	N	O	S	0	0
			1362	861	254	241	6		

- Molecule 46 is a protein called Large ribosomal subunit protein eL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	L	210	Total	C	N	O	S	0	0
			1702	1065	354	279	4		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
L	74	ARG	HIS	conflict	UNP G1TKB3
L	190	ARG	HIS	conflict	UNP G1TKB3

- Molecule 47 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	M	138	Total	C	N	O	S	0	0
			1137	727	221	182	7		

- Molecule 48 is a protein called 60S ribosomal protein L15.

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

- Molecule 49 is a protein called Large ribosomal subunit protein uL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	O	199	Total	C	N	O	S	0	0
			1630	1051	319	255	5		

- Molecule 50 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	P	153	Total	C	N	O	S	0	0
			1242	777	241	215	9		

- Molecule 51 is a protein called Large ribosomal subunit protein eL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	Q	187	Total	C	N	O	S	0	0
			1515	946	315	250	4		

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Q	4	ASP	ASN	conflict	UNP G1TFE0
Q	14	ARG	TRP	conflict	UNP G1TFE0
Q	53	MET	LEU	conflict	UNP G1TFE0
Q	58	ARG	TRP	conflict	UNP G1TFE0
Q	75	ARG	GLN	conflict	UNP G1TFE0
Q	80	ALA	PRO	conflict	UNP G1TFE0
Q	86	VAL	ILE	conflict	UNP G1TFE0
Q	104	ARG	HIS	conflict	UNP G1TFE0
Q	110	ARG	CYS	conflict	UNP G1TFE0
Q	137	VAL	GLY	conflict	UNP G1TFE0
Q	157	GLY	ARG	conflict	UNP G1TFE0
Q	181	ARG	TRP	conflict	UNP G1TFE0

- Molecule 52 is a protein called eL20.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	S	176	Total	C	N	O	S	0	0
			1462	930	285	236	11		

- Molecule 53 is a protein called 60S ribosomal protein L21.

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

- Molecule 54 is a protein called Large ribosomal subunit protein eL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	U	99	Total	C	N	O	S	0	0
			809	519	141	147	2		

There are 10 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
U	18	LEU	VAL	conflict	UNP G1TSG1
U	32	GLY	ARG	conflict	UNP G1TSG1
U	36	ALA	GLU	conflict	UNP G1TSG1
U	39	PHE	SER	conflict	UNP G1TSG1
U	54	GLY	ARG	conflict	UNP G1TSG1
U	60	VAL	ALA	conflict	UNP G1TSG1
U	62	SER	THR	conflict	UNP G1TSG1
U	63	LEU	ILE	conflict	UNP G1TSG1
U	97	ARG	HIS	conflict	UNP G1TSG1
U	106	THR	SER	conflict	UNP G1TSG1

- Molecule 55 is a protein called Large ribosomal subunit protein uL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	V	139	Total	C	N	O	S	0	0
			1034	648	199	182	5		

- Molecule 56 is a protein called Large ribosomal subunit protein uL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	X	118	Total	C	N	O	S	0	0
			967	618	181	167	1		

- Molecule 57 is a protein called 60S ribosomal protein L26.

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

- Molecule 58 is a protein called 60S ribosomal protein L27.

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

- Molecule 59 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	a	147	Total	C	N	O	S	0	0
			1162	734	239	185	4		

- Molecule 60 is a protein called eL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	b	104	Total	C	N	O	S	0	0
			848	527	189	129	3		

- Molecule 61 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	c	98	Total	C	N	O	S	0	0
			761	481	134	140	6		

- Molecule 62 is a protein called 60S ribosomal protein L31.

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

- Molecule 63 is a protein called Large ribosomal subunit protein eL32.

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

There are 7 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
e	3	ALA	SER	conflict	UNP G1TUN8
e	13	VAL	ILE	conflict	UNP G1TUN8
e	16	ARG	TRP	conflict	UNP G1TUN8
e	81	ASN	SER	conflict	UNP G1TUN8

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Chain	Residue	Modelled	Actual	Comment	Reference
e	98	GLU	LYS	conflict	UNP G1TUN8
e	108	ARG	CYS	conflict	UNP G1TUN8
e	115	ALA	VAL	conflict	UNP G1TUN8

- Molecule 64 is a protein called Large ribosomal subunit protein eL33.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	f	109	Total	C	N	O	S	0	0
			876	555	174	143	4		

- Molecule 65 is a protein called 60S ribosomal protein L34.

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

- Molecule 66 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	h	122	Total	C	N	O	S	0	0
			1013	640	204	168	1		

- Molecule 67 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	i	102	Total	C	N	O	S	0	0
			830	520	176	129	5		

- Molecule 68 is a protein called 60S ribosomal protein L37.

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

- Molecule 69 is a protein called Large ribosomal subunit protein eL38.

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

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
k	24	LYS	ASN	conflict	UNP G1U001

- Molecule 70 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	l	50	Total	C	N	O	S	0	0
			447	286	96	64	1		

- Molecule 71 is a protein called Large ribosomal subunit protein eL40.

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

- Molecule 72 is a protein called eL41.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	n	25	Total	C	N	O	S	0	0
			239	145	64	27	3		

- Molecule 73 is a protein called eL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	o	104	Total	C	N	O	S	0	0
			851	533	174	138	6		

- Molecule 74 is a protein called 60S ribosomal protein L37a.

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

- Molecule 75 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	r	124	Total	C	N	O	S	0	0
			994	616	205	167	6		

- Molecule 76 is a protein called 60S acidic ribosomal protein P0.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	s	196	Total	C	N	O	S	0	0
			1507	959	263	276	9		

- Molecule 77 is a protein called uL11.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	t	153	Total	C	N	O	S	0	0
			1160	722	218	217	3		

- Molecule 78 is a RNA chain called 28S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	5	3512	Total	C	N	O	P	0	0
			75293	33533	13777	24471	3512		

- Molecule 79 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	7	119	Total	C	N	O	P	0	0
			2538	1132	454	834	118		

- Molecule 80 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	8	151	Total	C	N	O	P	0	0
			3208	1432	564	1062	150		

- Molecule 81 is a protein called Elongation factor 2.

Mol	Chain	Residues	Atoms						AltConf	Trace
81	EF	835	Total	C	H	N	O	S	0	0
			13123	4144	6607	1117	1211	44		

- Molecule 82 is a RNA chain called NediV ORF.

Mol	Chain	Residues	Atoms						AltConf	Trace
82	1	11	Total	C	H	N	O	P	0	0
			339	103	110	39	76	11		

- Molecule 83 is a RNA chain called P site Ala-tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	PT	11	Total	C	N	O	P	0	0
			233	104	40	78	11		

- Molecule 84 is a RNA chain called E site Ala-tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
84	ET	75	Total	C	N	O	P	0	0
			1595	712	285	524	74		

- Molecule 85 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
85	aa	1	Total	Mg	0
			1	1	
85	A	1	Total	Mg	0
			1	1	
85	P	1	Total	Mg	0
			1	1	
85	V	1	Total	Mg	0
			1	1	
85	g	1	Total	Mg	0
			1	1	
85	5	190	Total	Mg	0
			190	190	
85	7	6	Total	Mg	0
			6	6	
85	8	4	Total	Mg	0
			4	4	
85	EF	1	Total	Mg	0
			1	1	

- Molecule 86 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
86	aa	1	Total	Zn	0
			1	1	
86	dd	1	Total	Zn	0
			1	1	
86	ff	1	Total	Zn	0
			1	1	
86	g	1	Total	Zn	0
			1	1	

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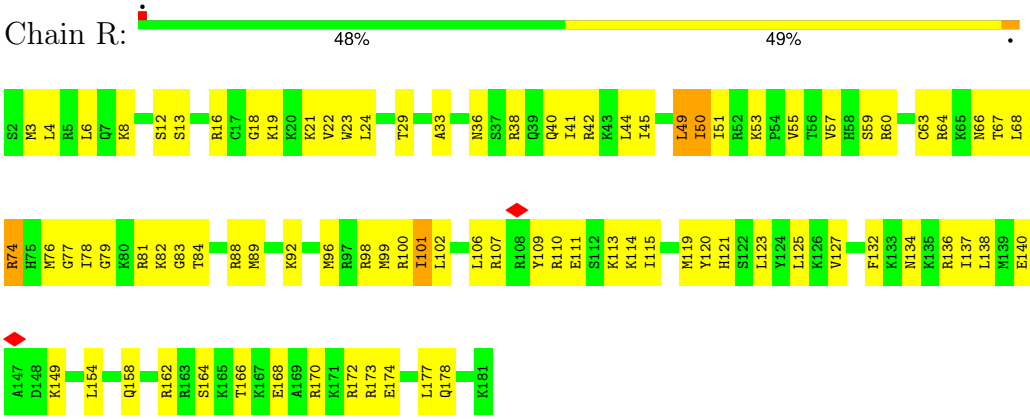
Mol	Chain	Residues	Atoms	AltConf
86	j	1	Total Zn 1 1	0
86	m	1	Total Zn 1 1	0
86	o	1	Total Zn 1 1	0
86	p	1	Total Zn 1 1	0

3 Residue-property plots (i)

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

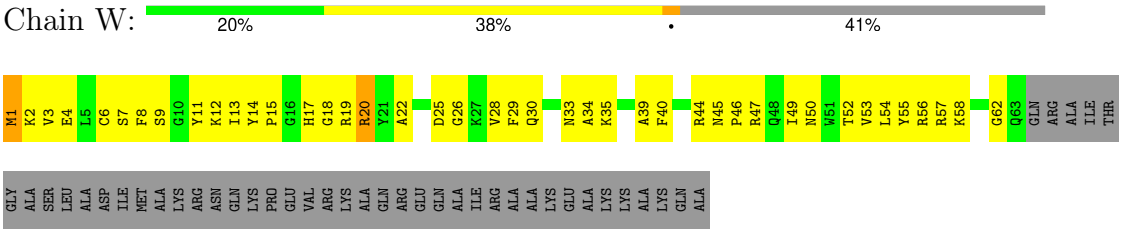
• Molecule 1: 60S ribosomal protein L19

Chain R:



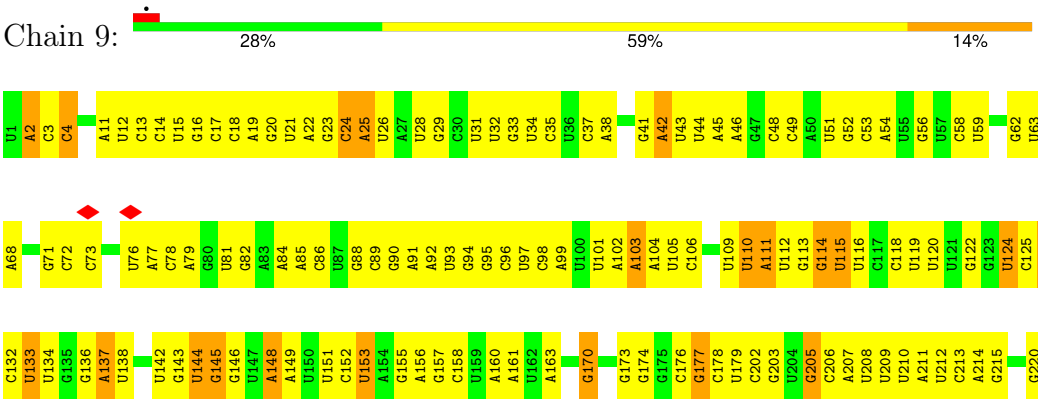
• Molecule 2: uL24

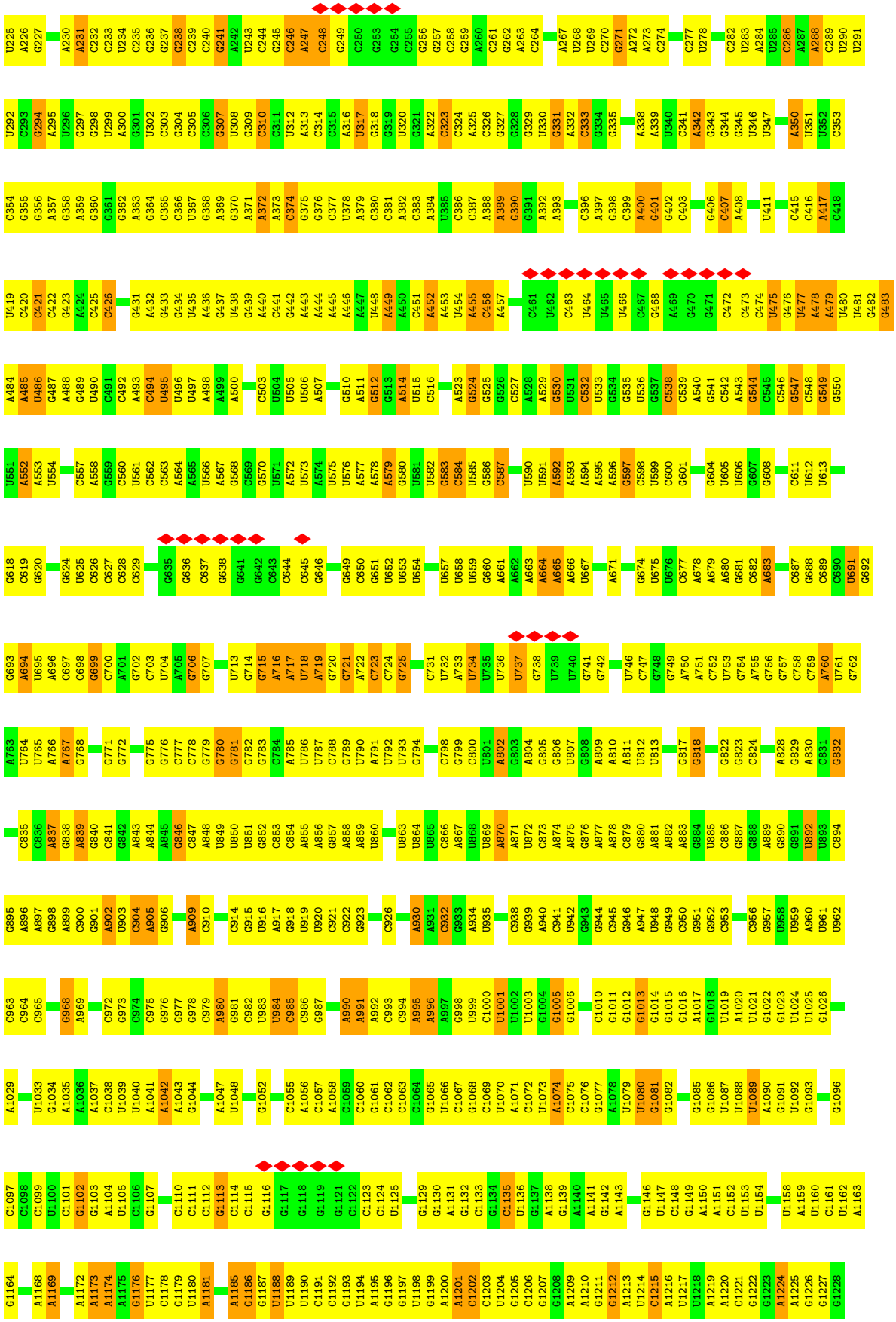
Chain W:

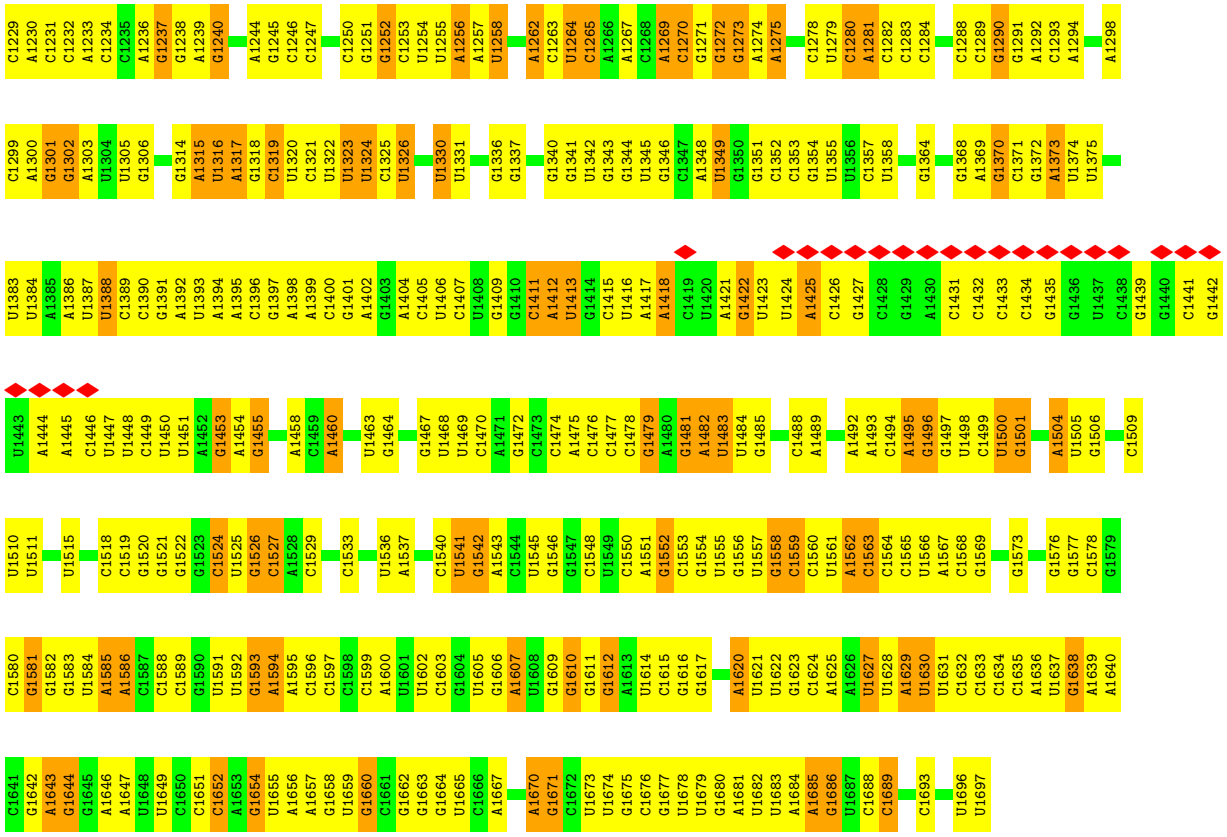


• Molecule 3: 18S rRNA

Chain 9:





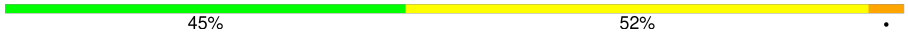


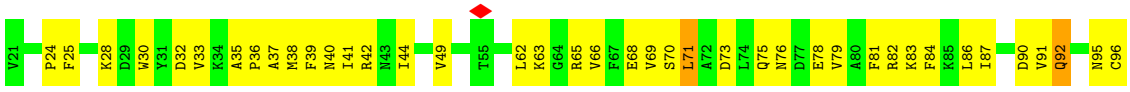
• Molecule 4: 40S_SA_C domain-containing protein

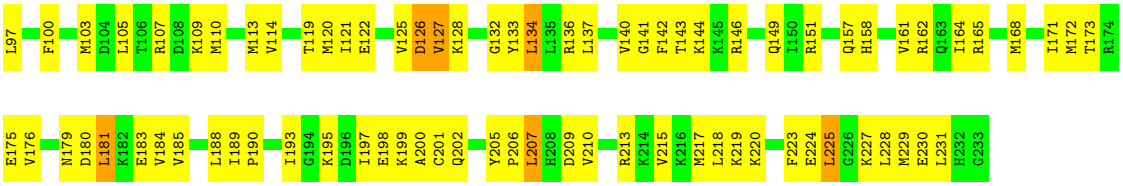
Chain AA:

• Molecule 5: 40S ribosomal protein S3a

Chain BB:

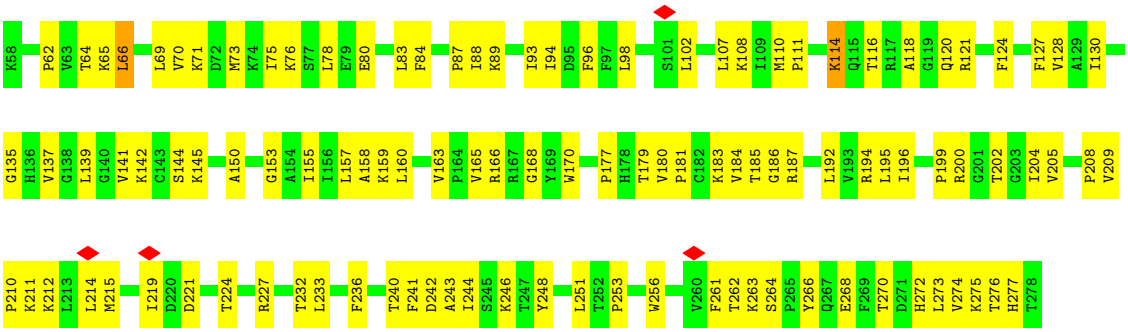






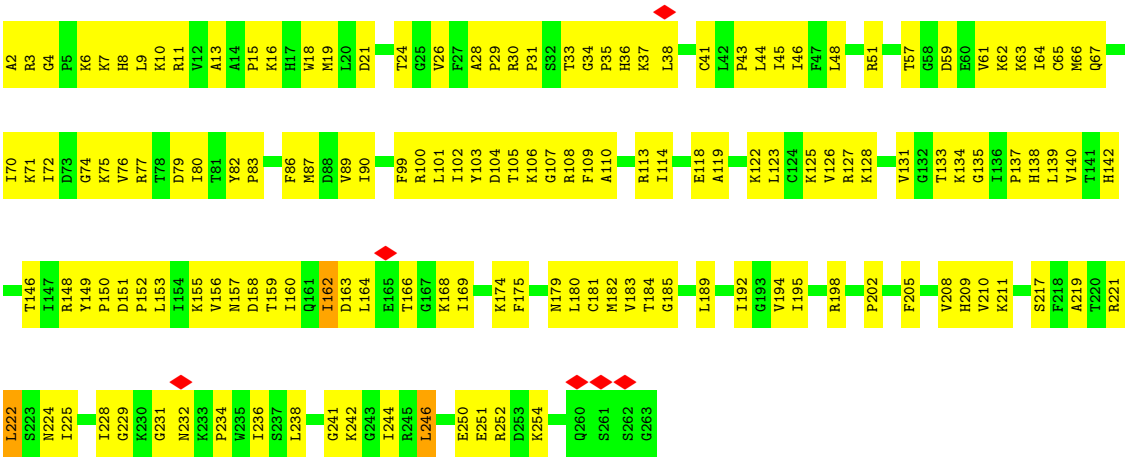
• Molecule 6: 40S ribosomal protein S2

Chain CC:



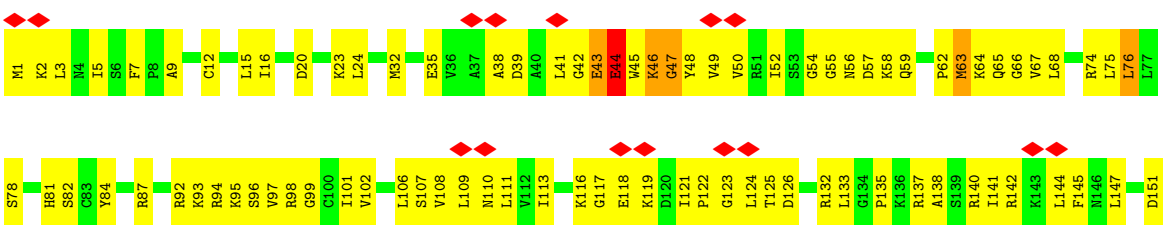
• Molecule 7: 40S ribosomal protein S4

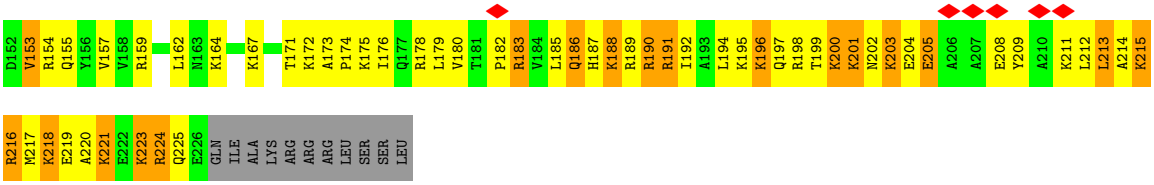
Chain EE:



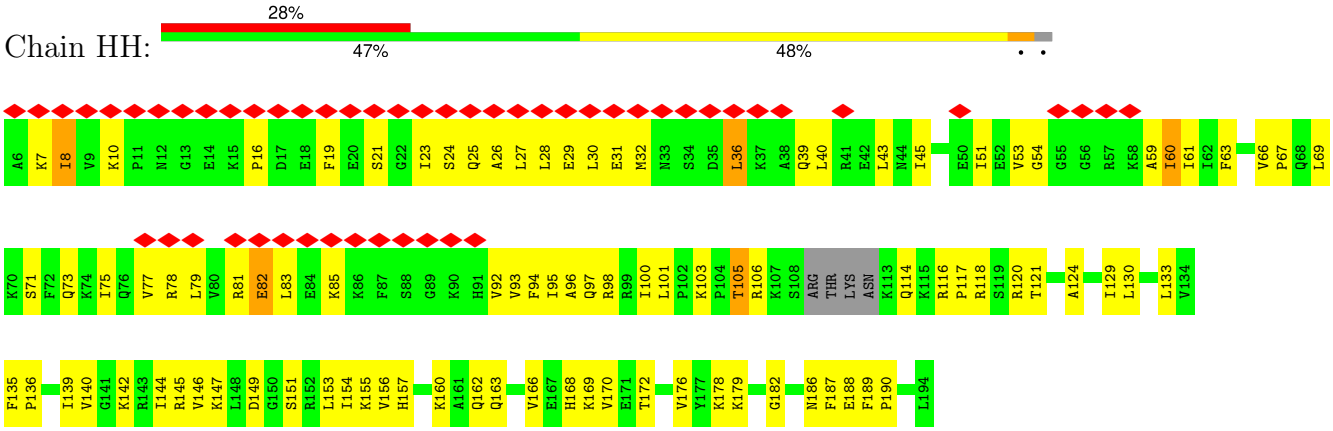
• Molecule 8: 40S ribosomal protein S6

Chain GG:

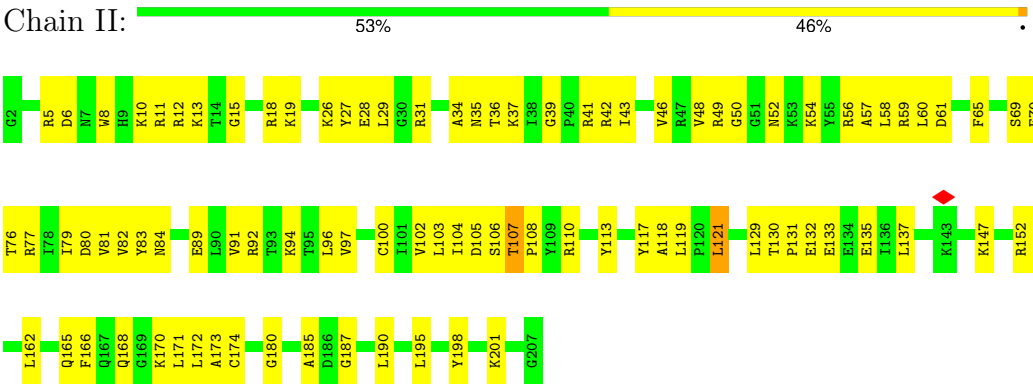




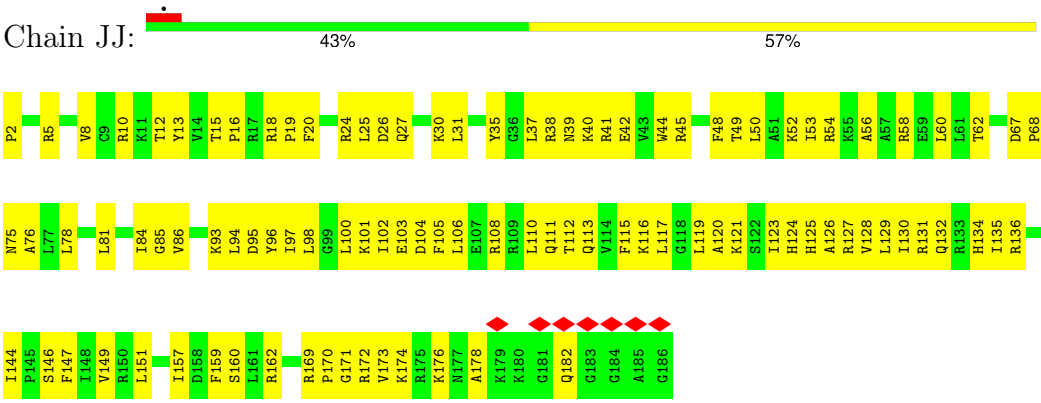
• Molecule 9: Small ribosomal subunit protein eS7



• Molecule 10: 40S ribosomal protein S8

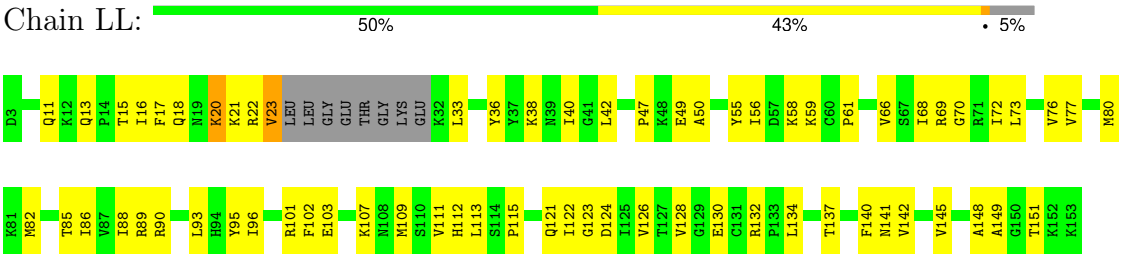


• Molecule 11: 40S ribosomal protein S9



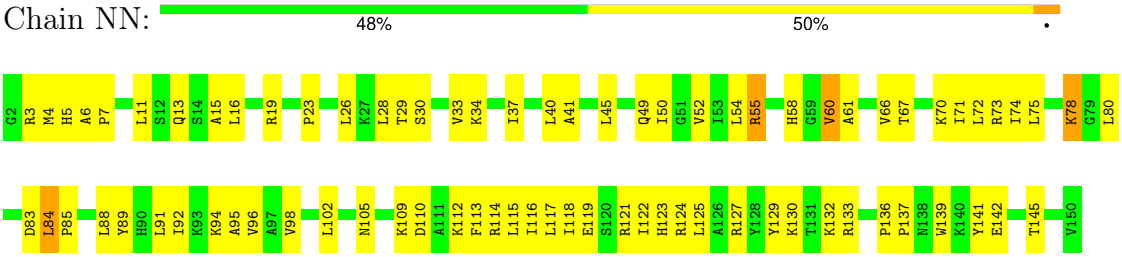
• Molecule 12: Small ribosomal subunit protein uS17

Chain LL:



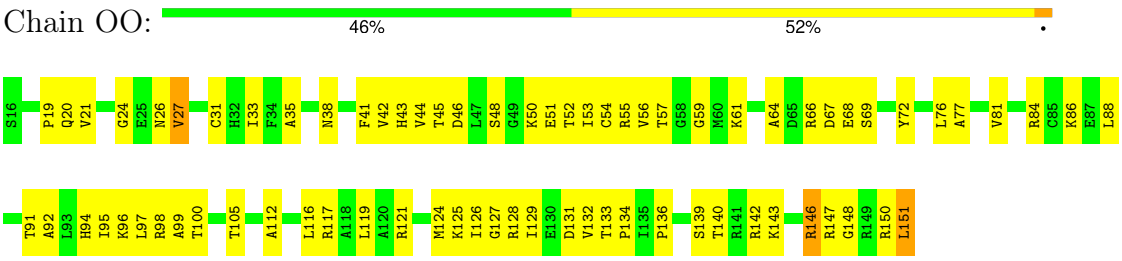
• Molecule 13: 40S ribosomal protein S13

Chain NN:



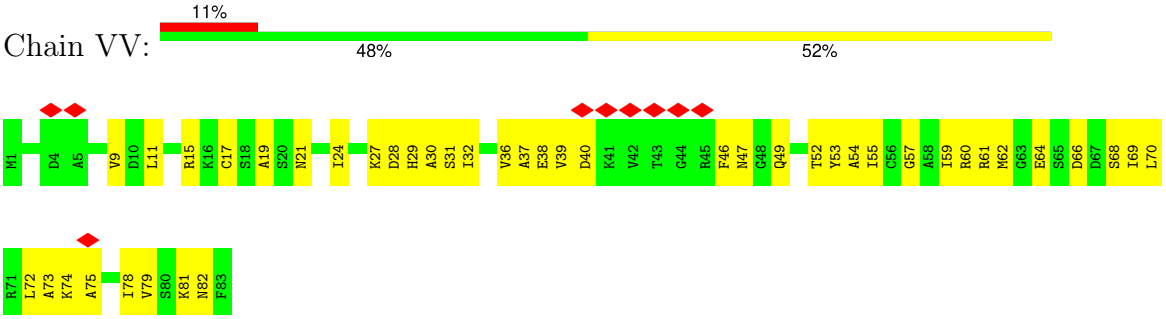
• Molecule 14: Small ribosomal subunit protein uS11

Chain OO:



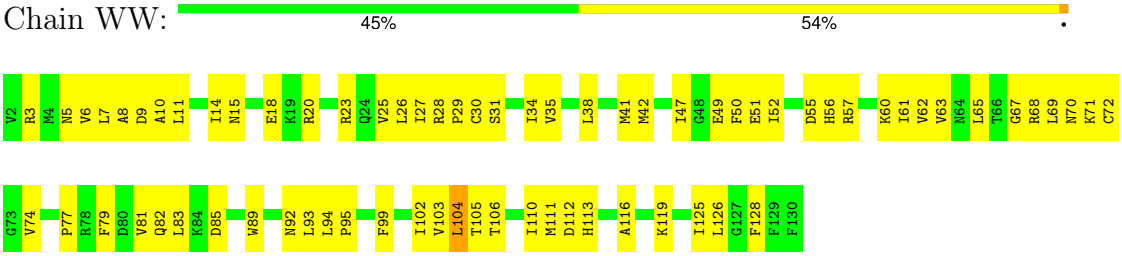
• Molecule 15: eS21

Chain VV:



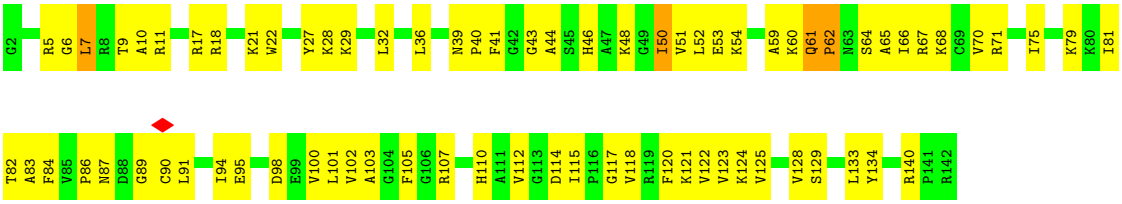
• Molecule 16: 40S ribosomal protein S15a

Chain WW:



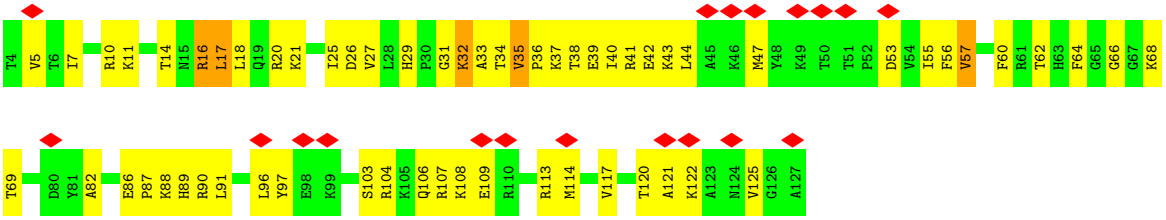
• Molecule 17: 40S ribosomal protein S23

Chain XX:



• Molecule 18: 40S ribosomal protein S24

Chain YY:



• Molecule 19: eS26

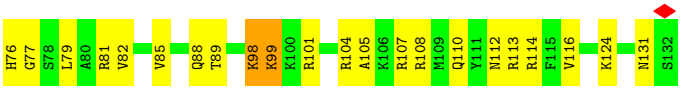
Chain aa:

• Molecule 20: 40S ribosomal protein S27

Chain bb:

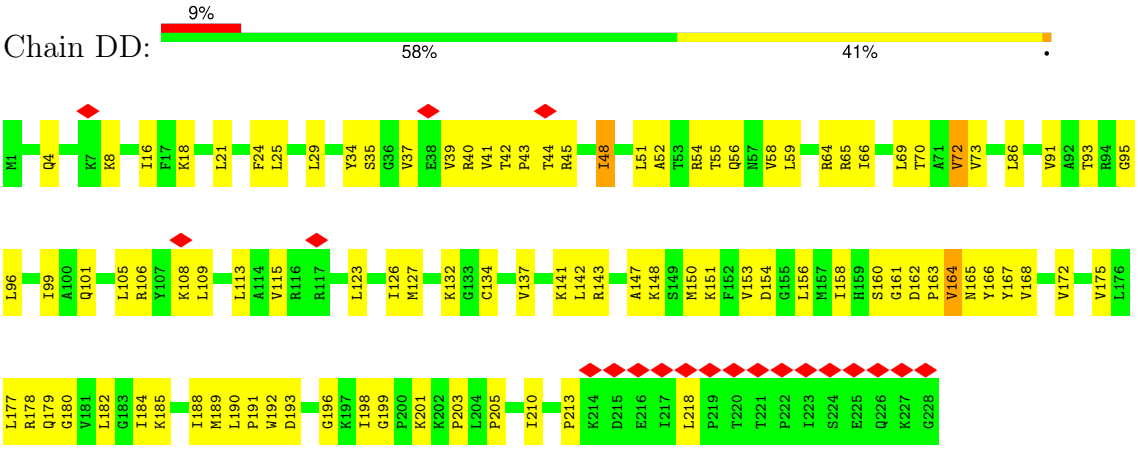
• Molecule 21: Small ribosomal subunit protein eS30

Chain ee:



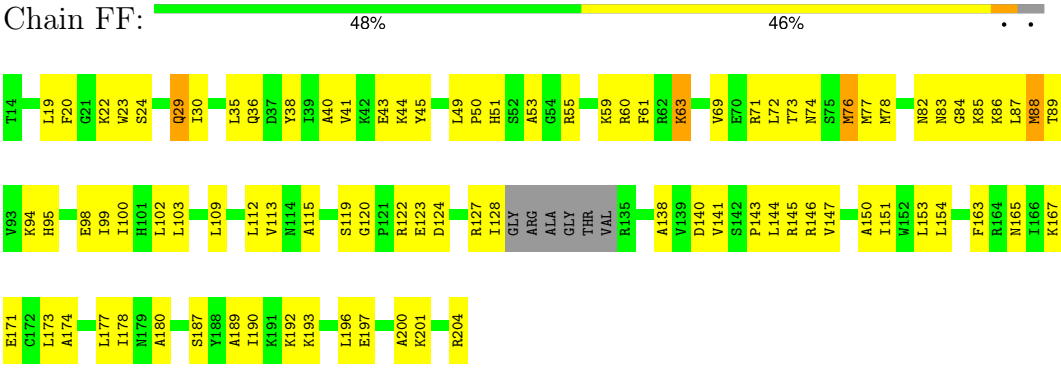
• Molecule 22: 40S ribosomal protein S3

Chain DD:



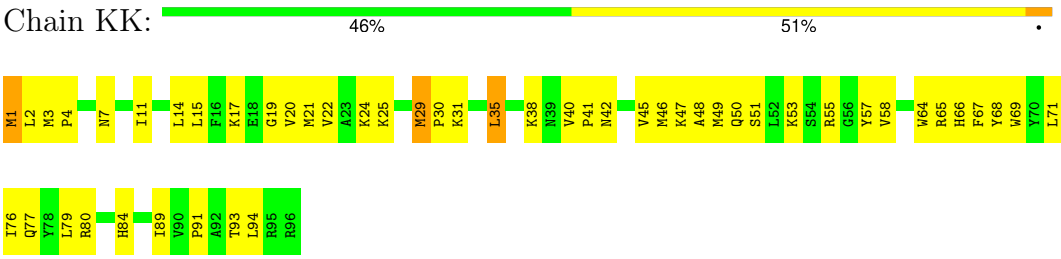
• Molecule 23: Small ribosomal subunit protein uS7

Chain FF:



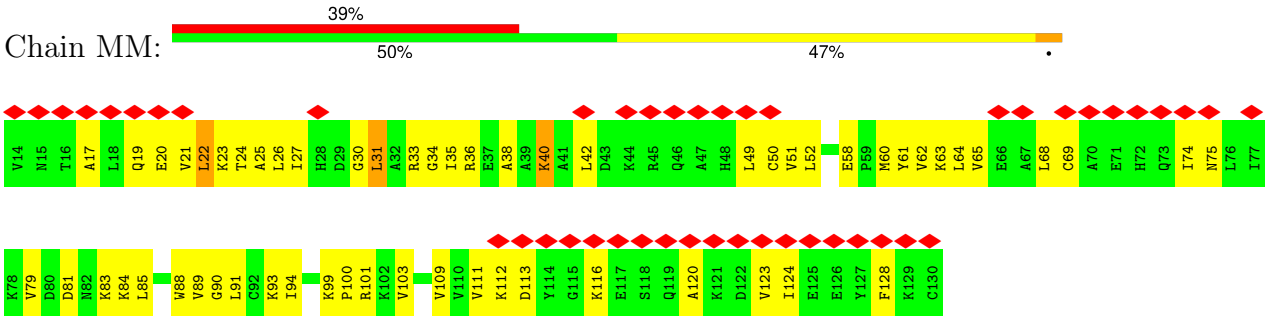
• Molecule 24: 40S ribosomal protein S10

Chain KK:



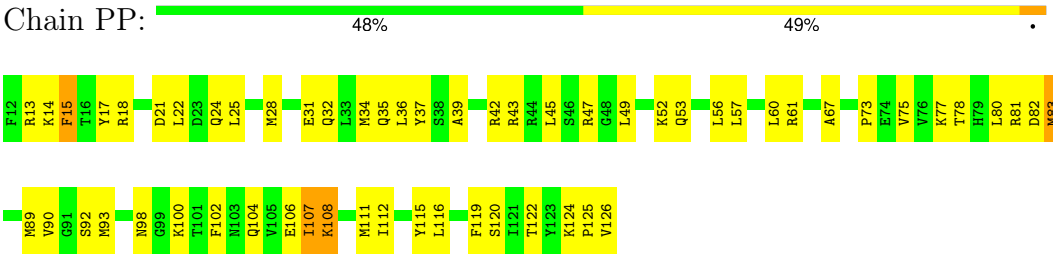
• Molecule 25: 40S ribosomal protein S12

Chain MM:



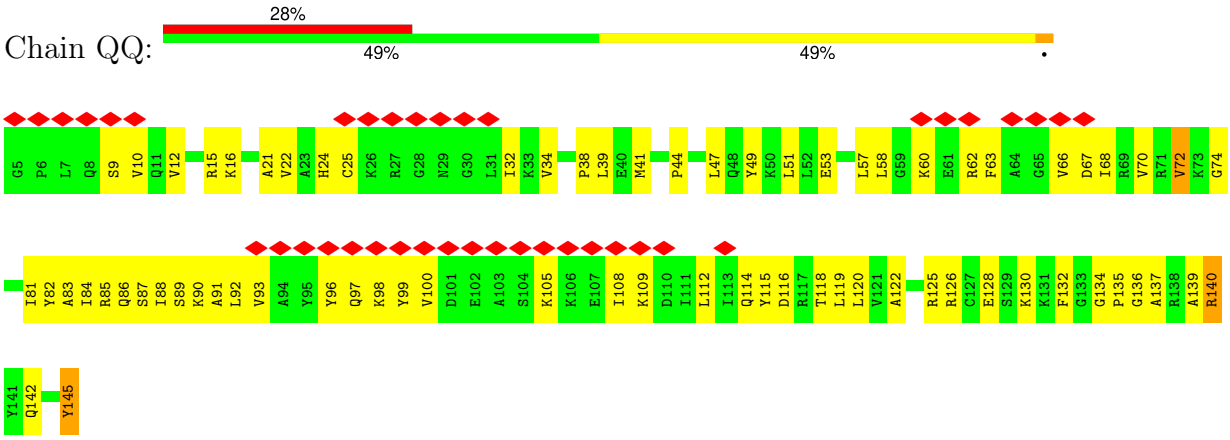
• Molecule 26: Small ribosomal subunit protein uS19

Chain PP:



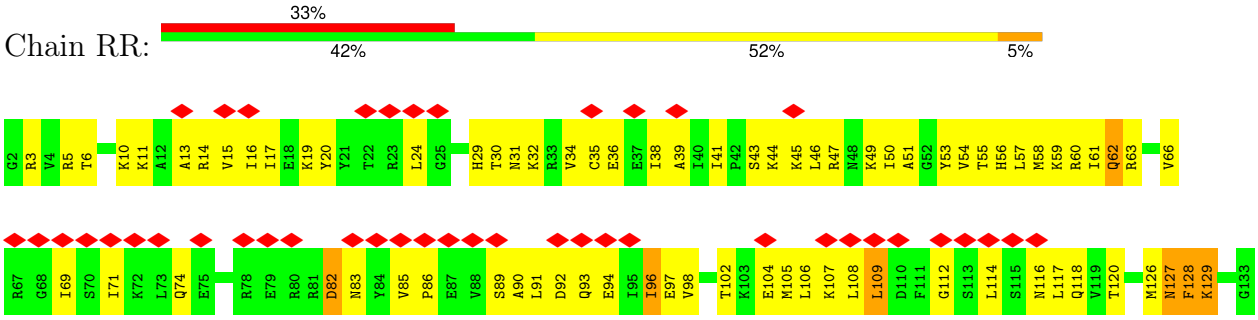
• Molecule 27: Small ribosomal subunit protein uS9

Chain QQ:



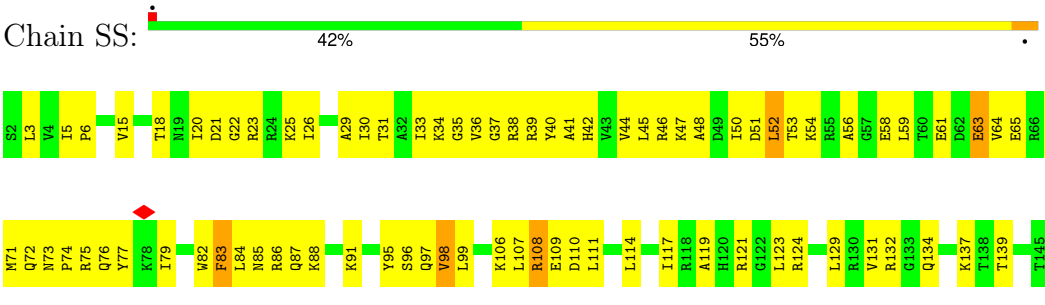
• Molecule 28: 40S ribosomal protein S17

Chain RR:



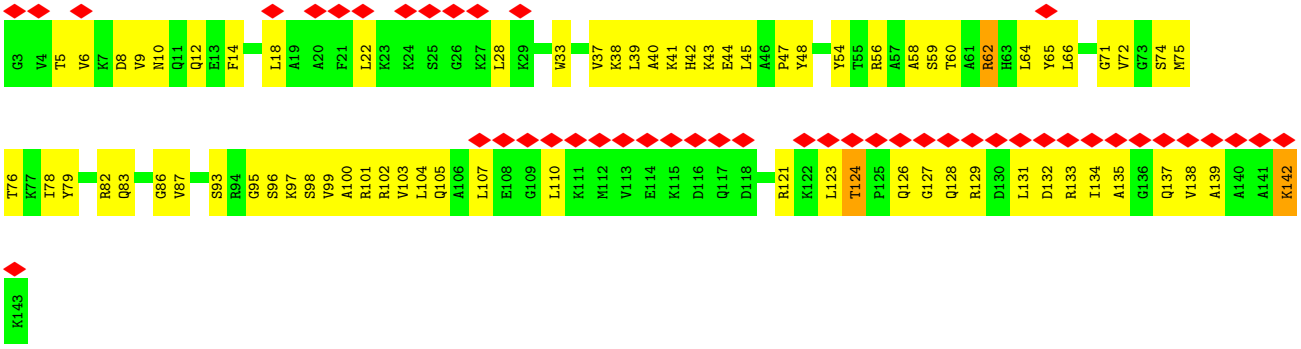
• Molecule 29: 40S ribosomal protein S18

Chain SS:

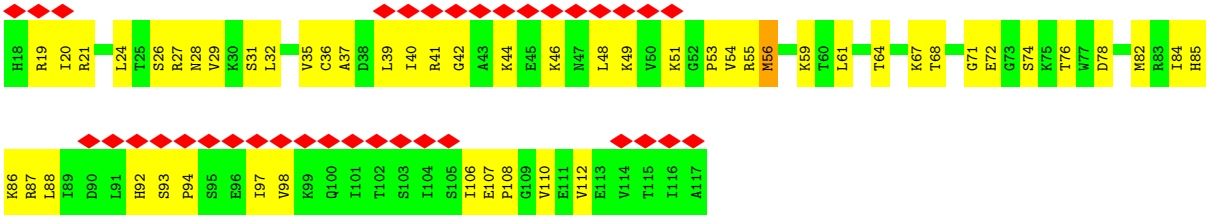


• Molecule 30: Small ribosomal subunit protein eS19

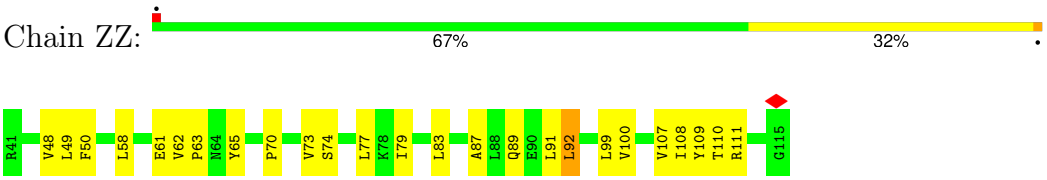
Chain TT:



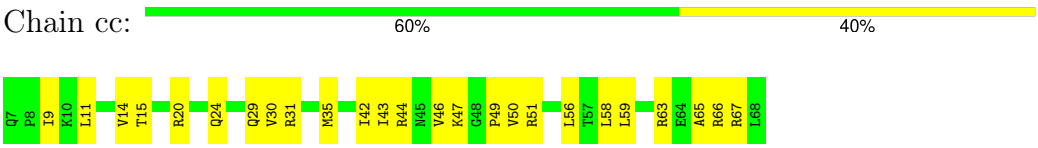
• Molecule 31: 40S ribosomal protein S20



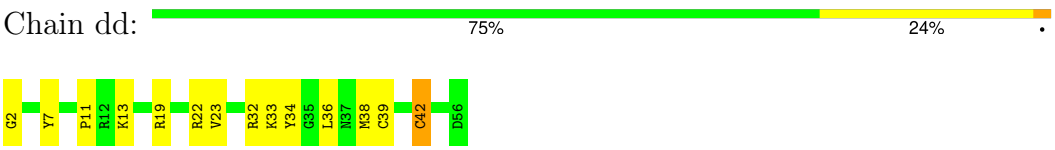
• Molecule 32: 40S ribosomal protein S25



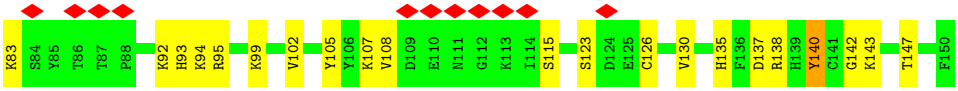
• Molecule 33: 40S ribosomal protein S28



• Molecule 34: 40S ribosomal protein S29

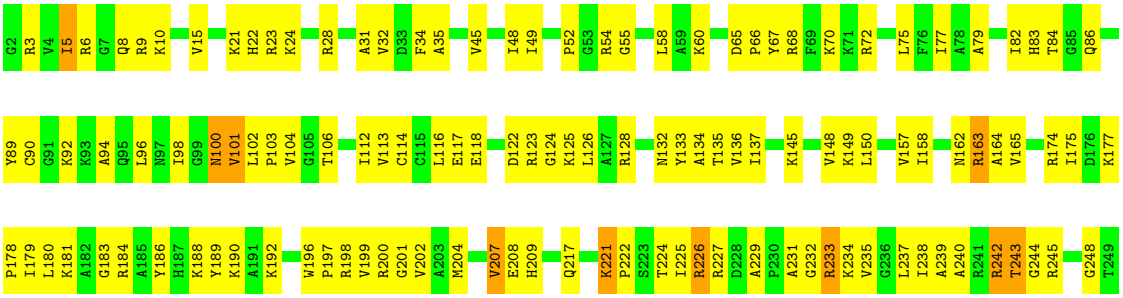


• Molecule 35: 40S ribosomal protein S27a



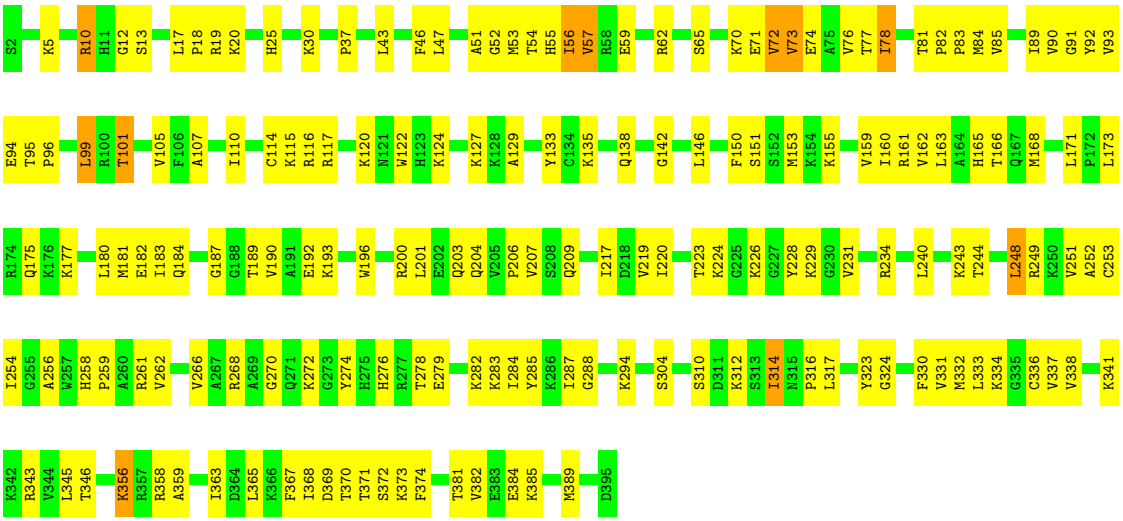
• Molecule 36: 60S ribosomal protein L8

Chain A:



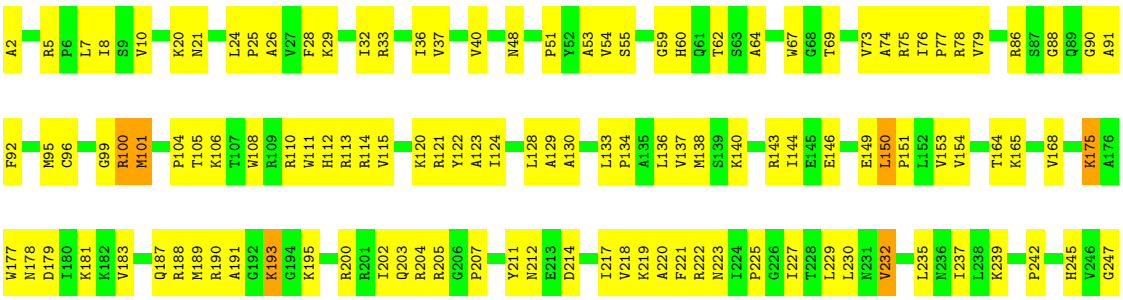
• Molecule 37: 60S ribosomal protein L3

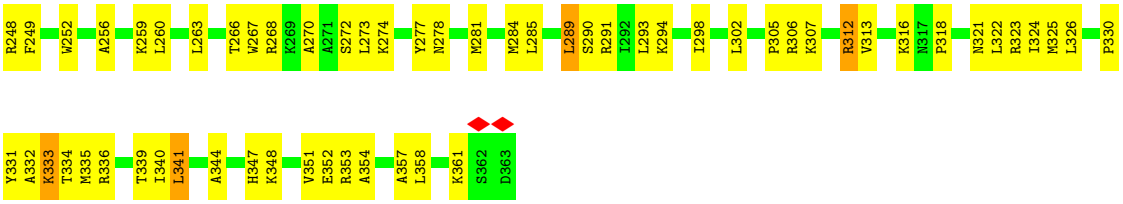
Chain B:



• Molecule 38: 60S ribosomal protein L4

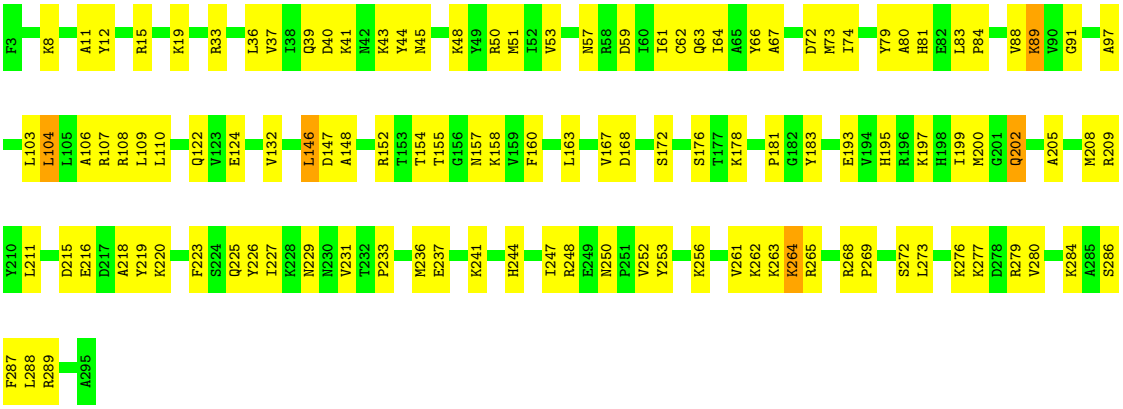
Chain C:





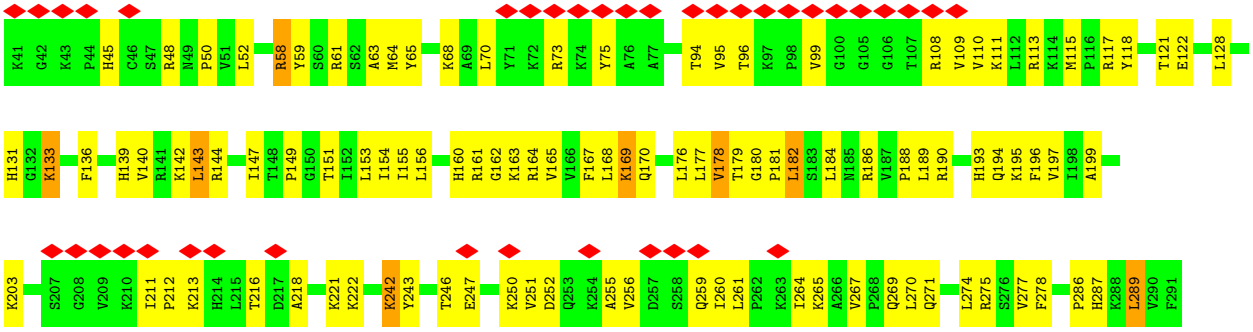
• Molecule 39: 60S ribosomal protein L5

Chain D:



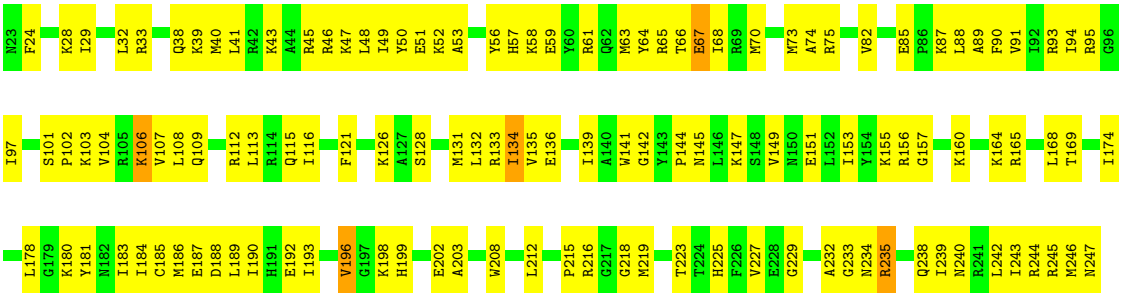
• Molecule 40: 60S ribosomal protein L6

Chain E:



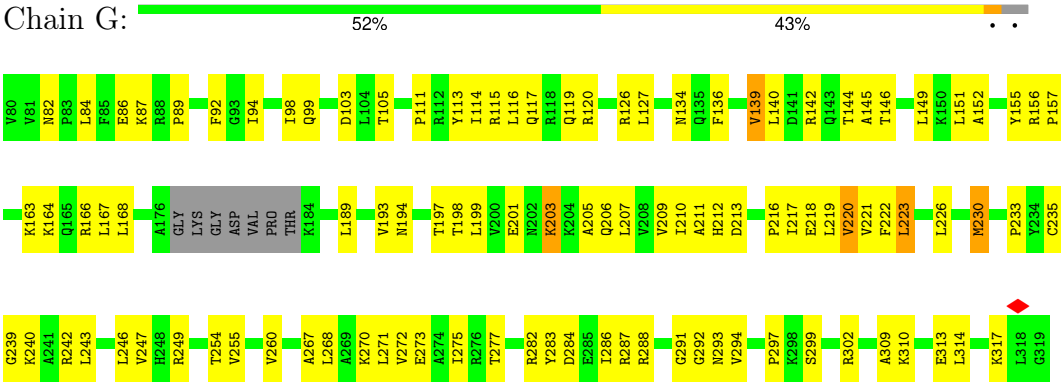
• Molecule 41: 60S ribosomal protein L7

Chain F:



• Molecule 42: Large ribosomal subunit protein eL8

Chain G:

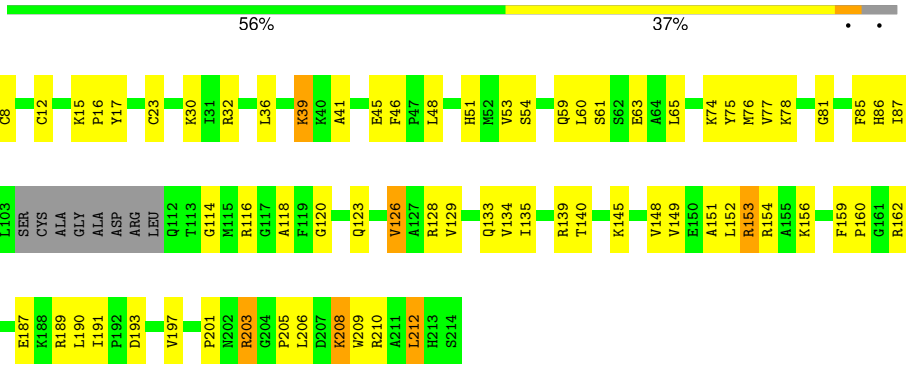


• Molecule 43: 60S ribosomal protein L9

Chain H:

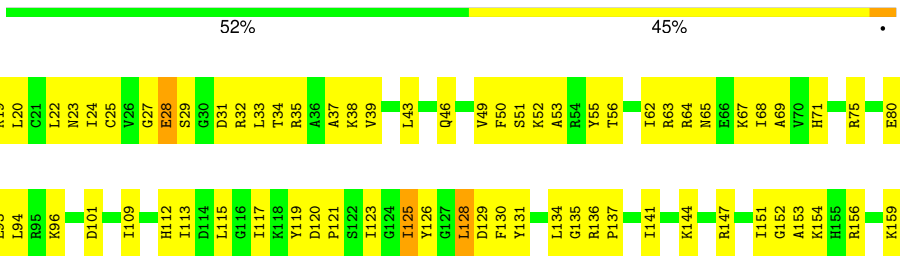
• Molecule 44: Ribosomal protein L10

Chain I:



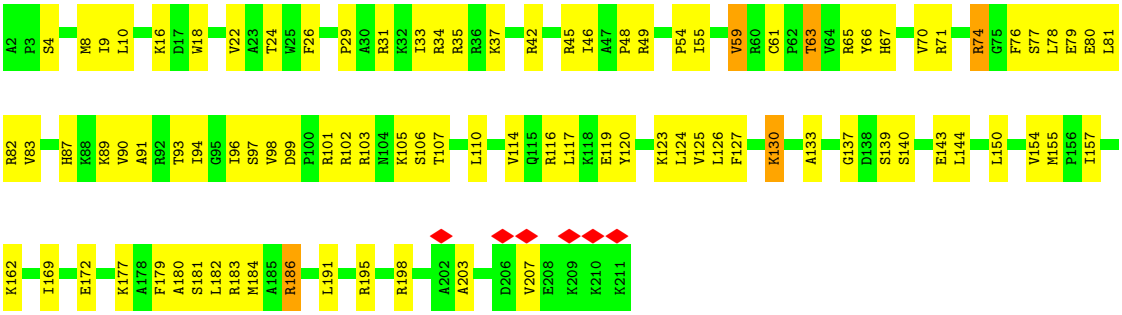
• Molecule 45: 60S ribosomal protein L11

Chain J:



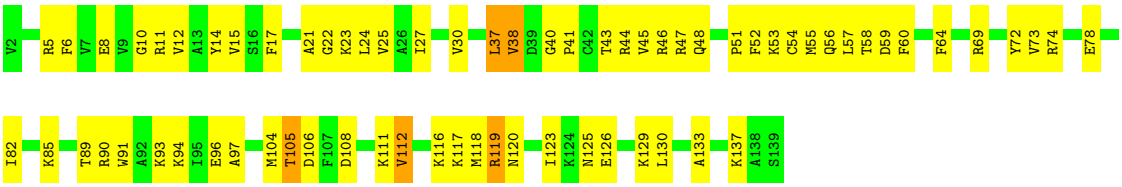
• Molecule 46: Large ribosomal subunit protein eL13

Chain L:



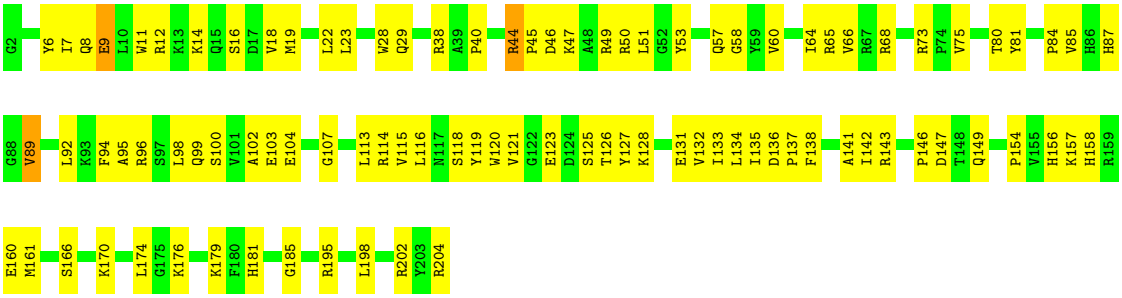
• Molecule 47: 60S ribosomal protein L14

Chain M:



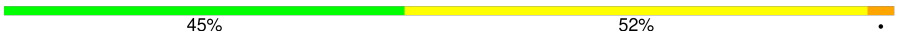
• Molecule 48: 60S ribosomal protein L15

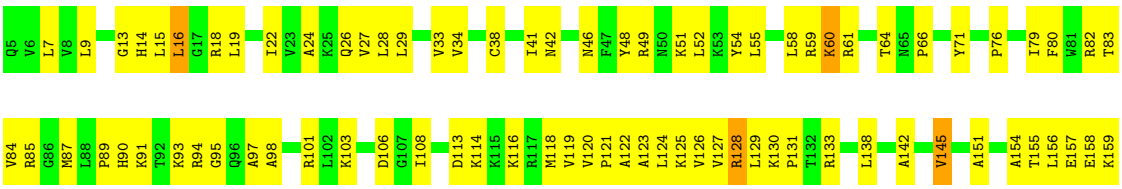
Chain N:

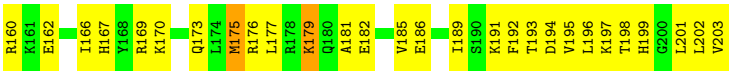


• Molecule 49: Large ribosomal subunit protein uL13

Chain O:

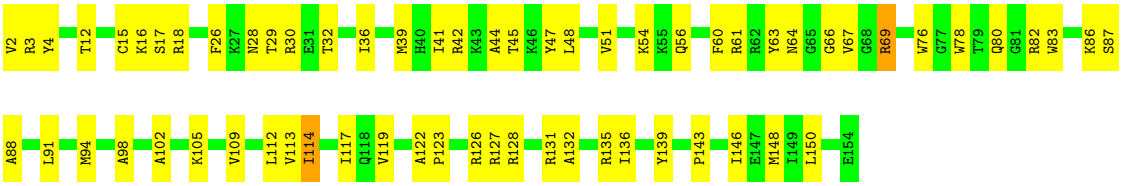






• Molecule 50: 60S ribosomal protein L17

Chain P:

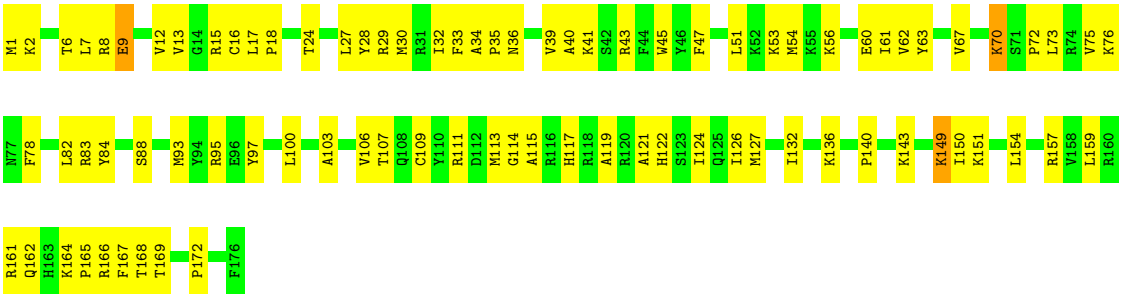


• Molecule 51: Large ribosomal subunit protein eL18

Chain Q:

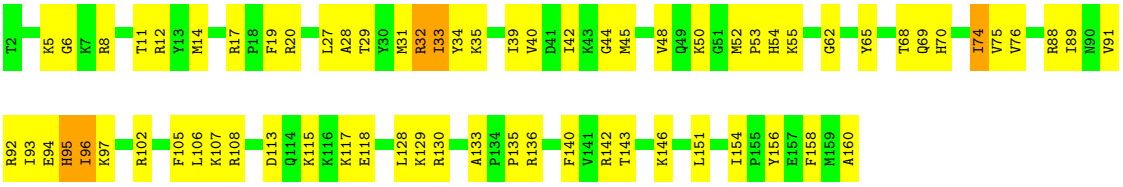
• Molecule 52: eL20

Chain S:



• Molecule 53: 60S ribosomal protein L21

Chain T:

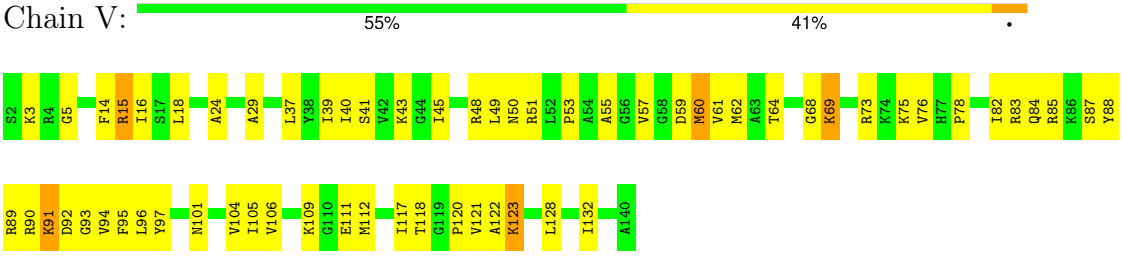


• Molecule 54: Large ribosomal subunit protein eL22

Chain U:

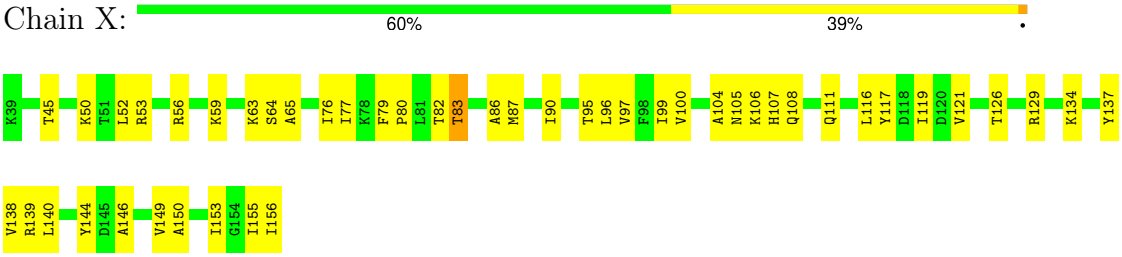
• Molecule 55: Large ribosomal subunit protein uL14

Chain V:



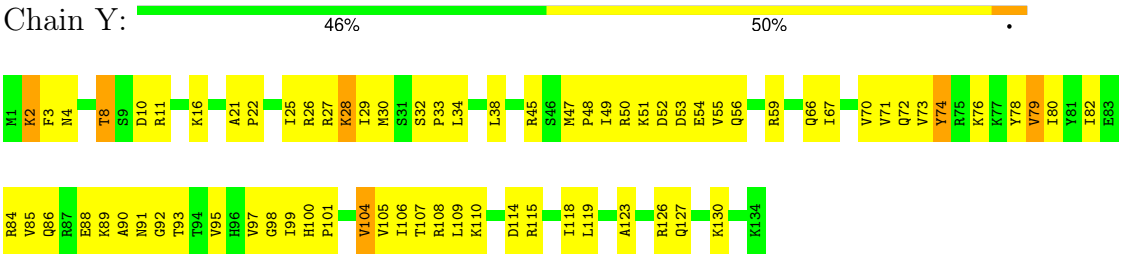
• Molecule 56: Large ribosomal subunit protein uL23

Chain X:



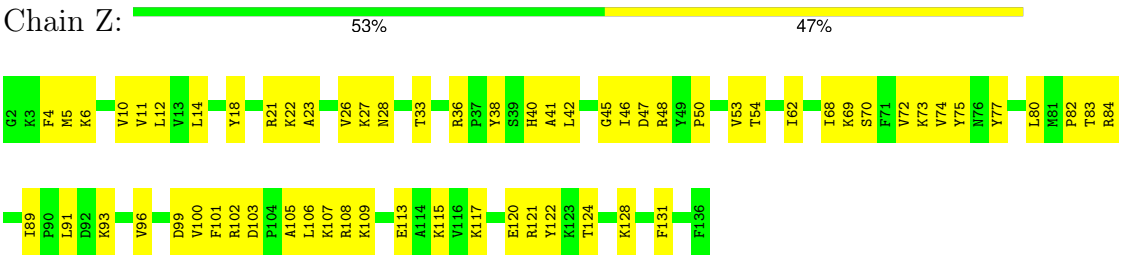
• Molecule 57: 60S ribosomal protein L26

Chain Y:



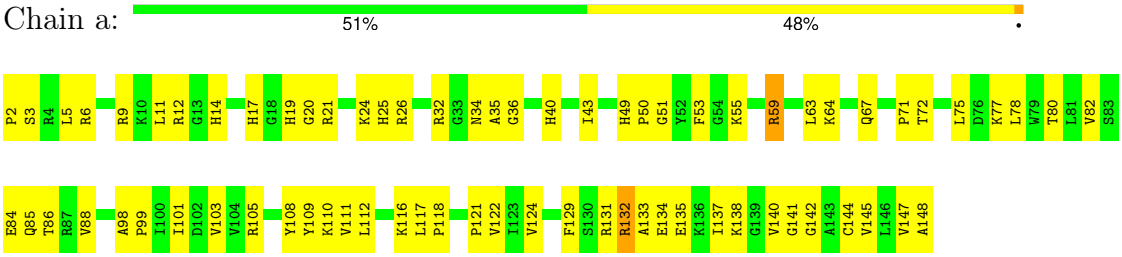
• Molecule 58: 60S ribosomal protein L27

Chain Z:



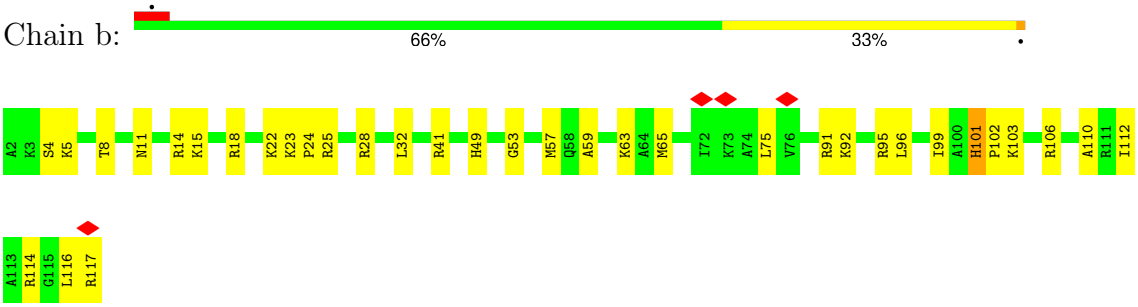
• Molecule 59: 60S ribosomal protein L27a

Chain a:



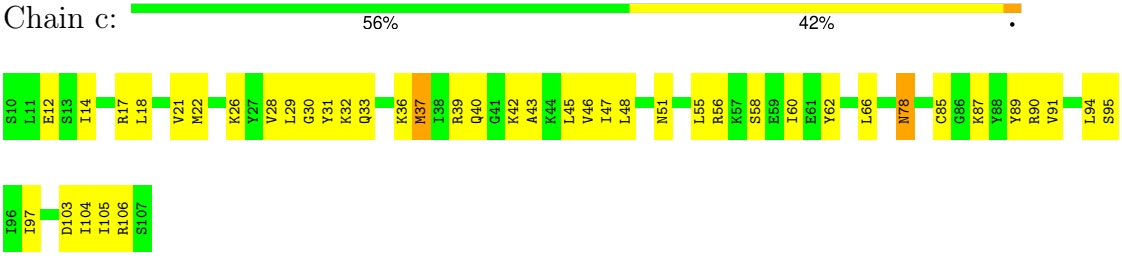
• Molecule 60: eL29

Chain b:



• Molecule 61: 60S ribosomal protein L30

Chain c:

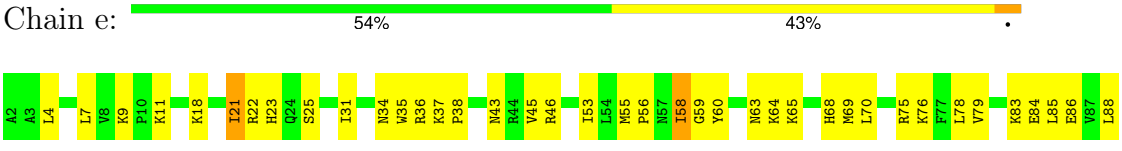


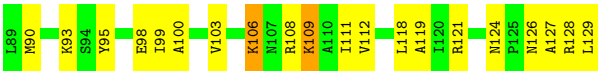
• Molecule 62: 60S ribosomal protein L31

Chain d:

• Molecule 63: Large ribosomal subunit protein eL32

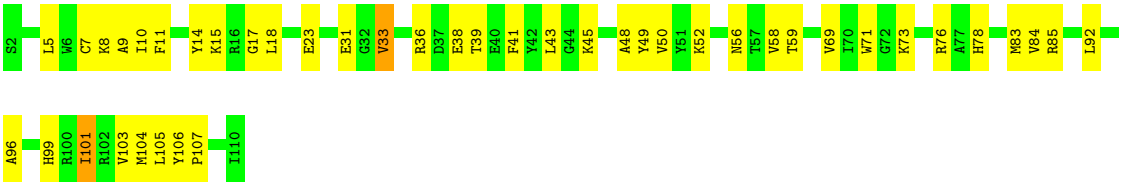
Chain e:





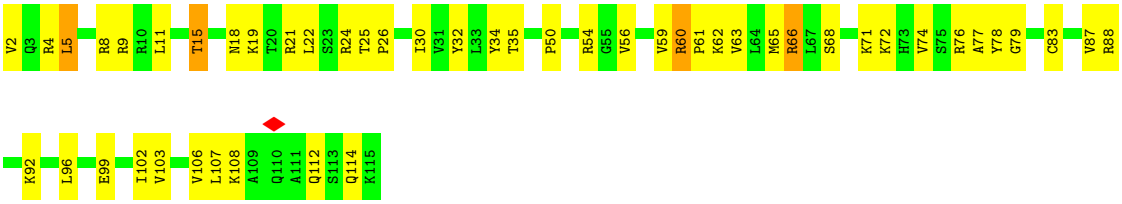
• Molecule 64: Large ribosomal subunit protein eL33

Chain f:



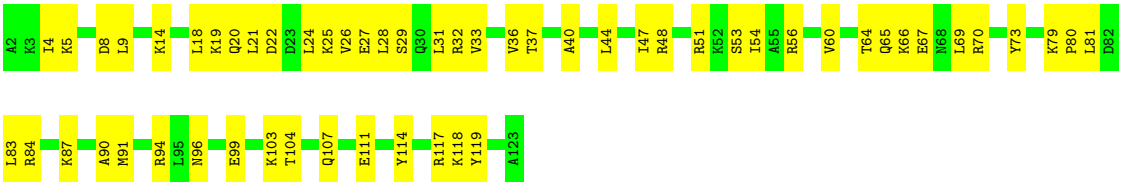
• Molecule 65: 60S ribosomal protein L34

Chain g:



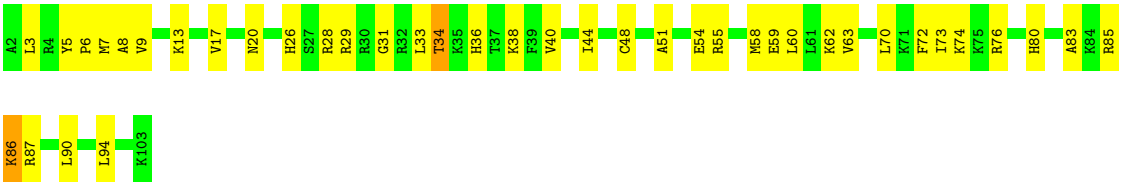
• Molecule 66: 60S ribosomal protein L35

Chain h:



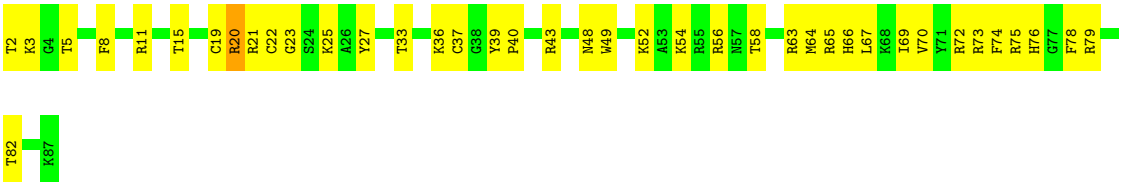
• Molecule 67: 60S ribosomal protein L36

Chain i:



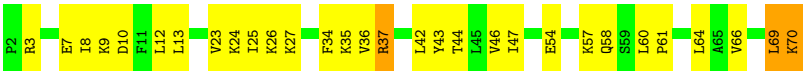
• Molecule 68: 60S ribosomal protein L37

Chain j:



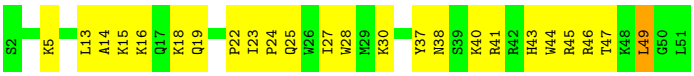
• Molecule 69: Large ribosomal subunit protein eL38

Chain k:



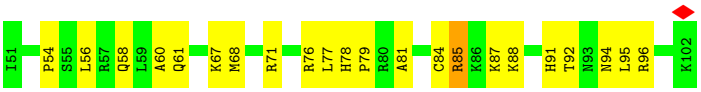
• Molecule 70: 60S ribosomal protein L39

Chain l:



• Molecule 71: Large ribosomal subunit protein eL40

Chain m:



• Molecule 72: eL41

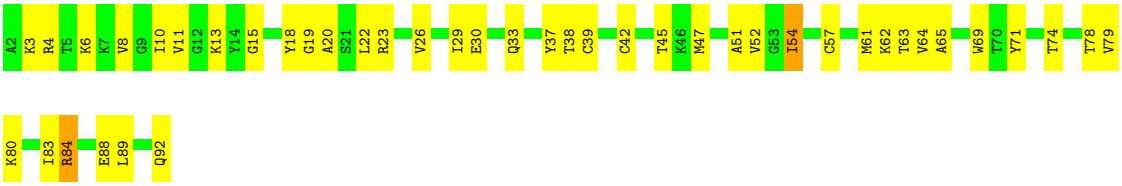
Chain n:

• Molecule 73: eL42

Chain o:

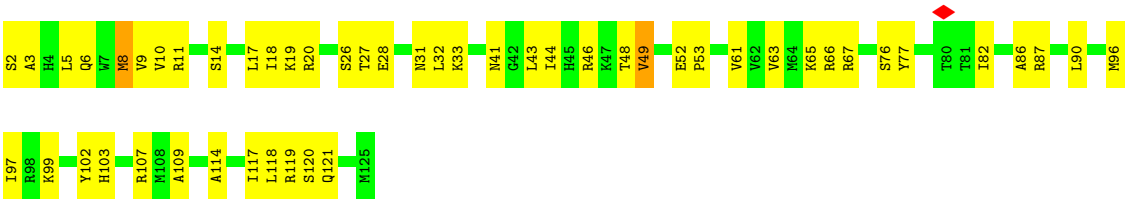
• Molecule 74: 60S ribosomal protein L37a

Chain p:



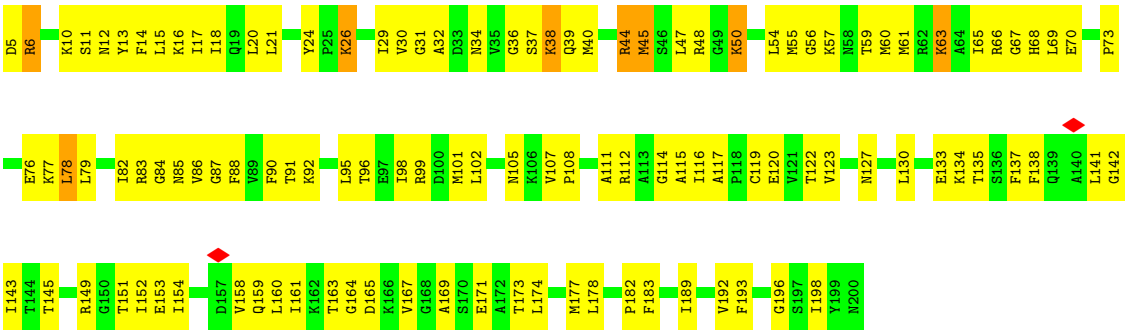
• Molecule 75: 60S ribosomal protein L28

Chain r:



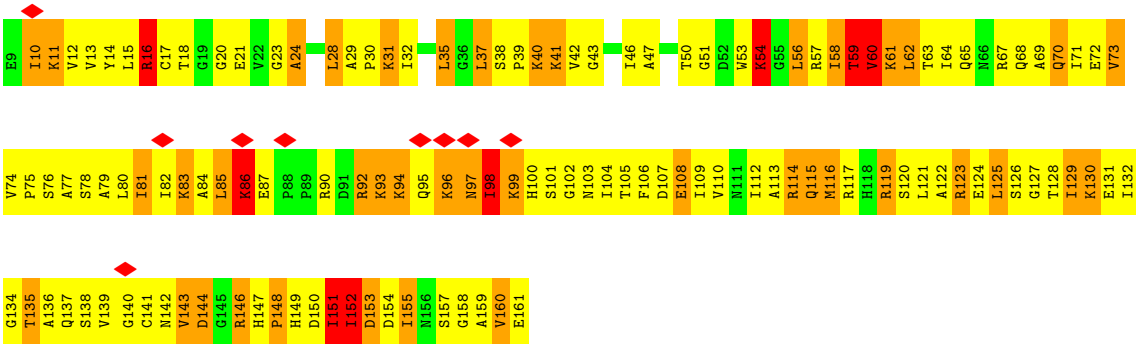
• Molecule 76: 60S acidic ribosomal protein P0

Chain s:



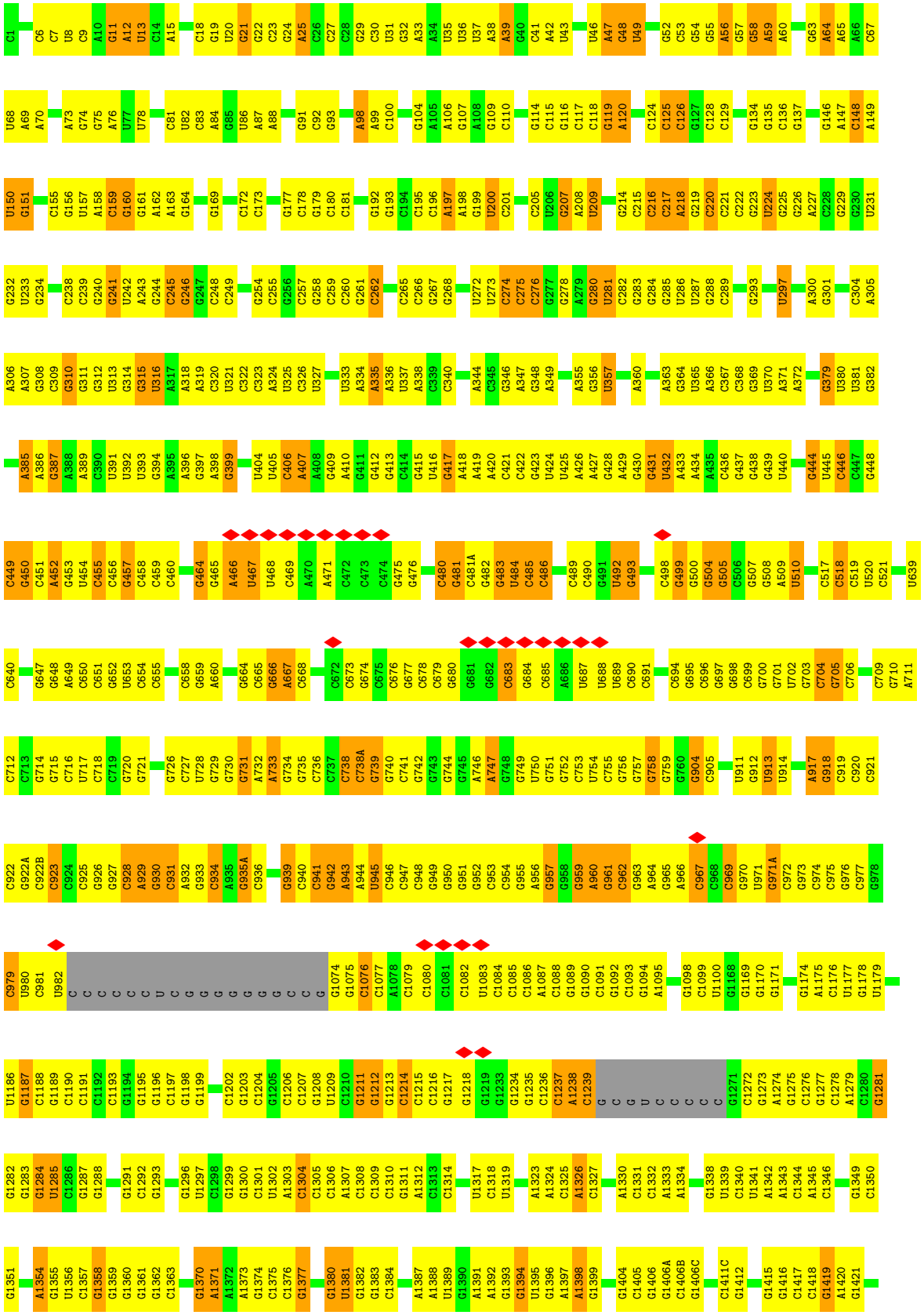
• Molecule 77: uL11

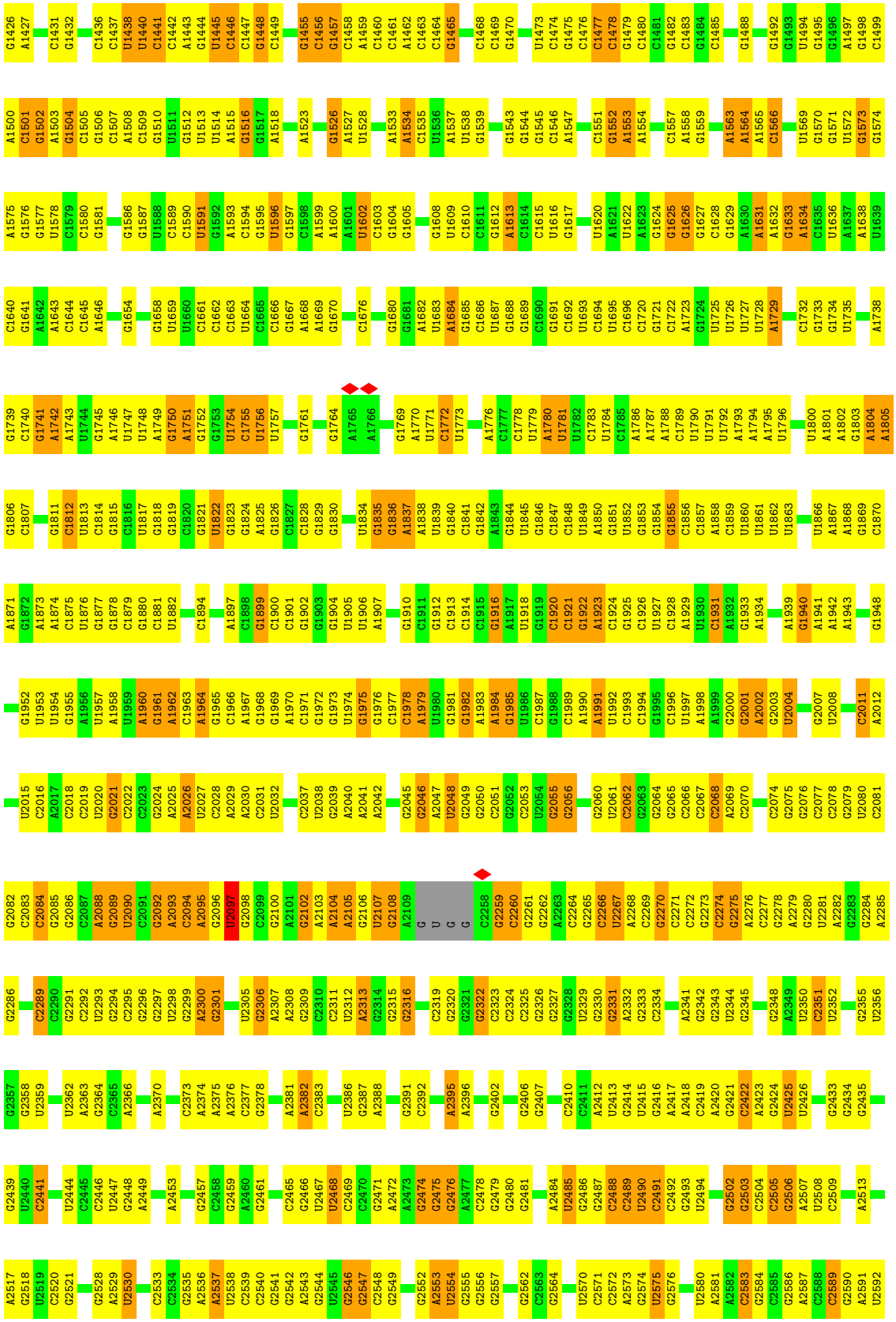
Chain t:

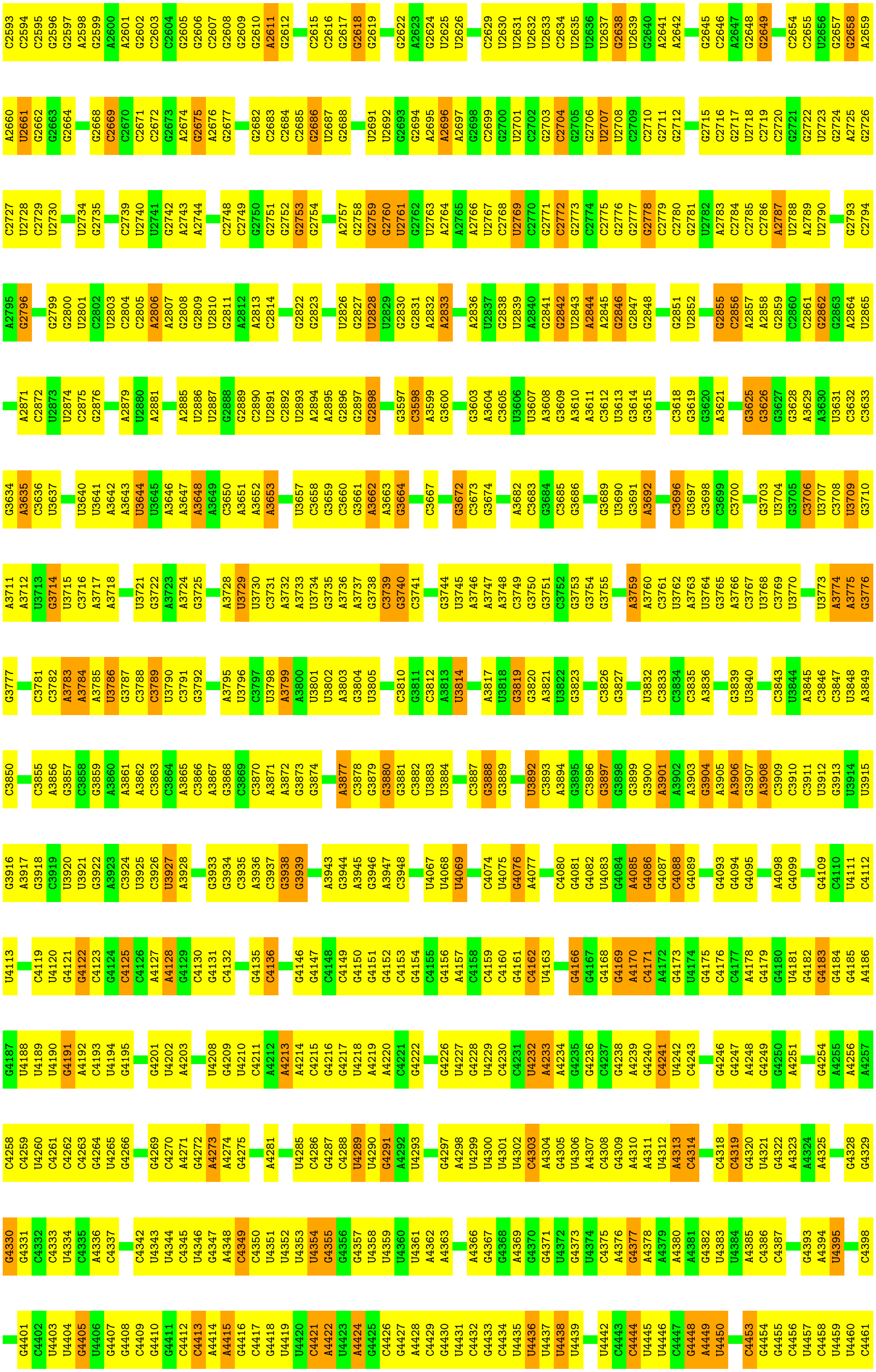


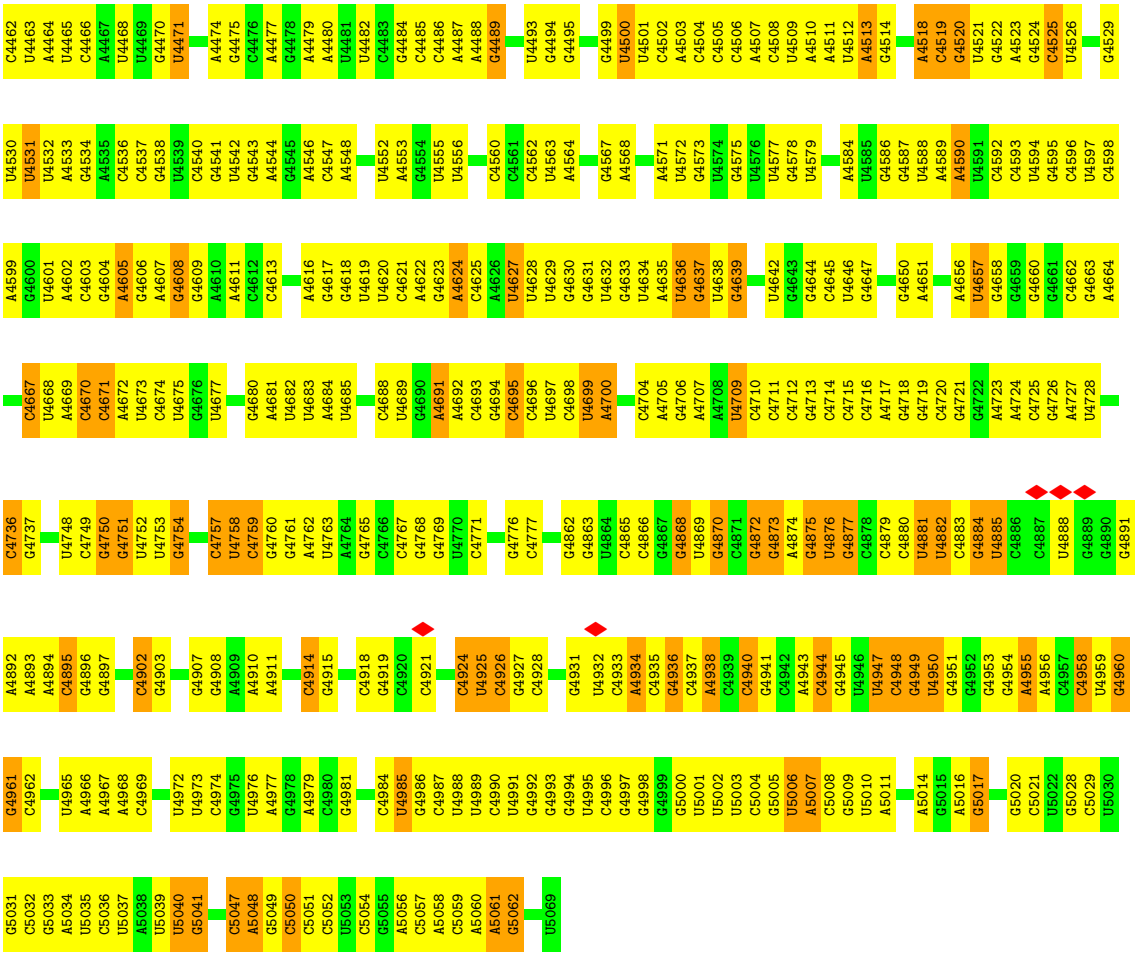
• Molecule 78: 28S rRNA

Chain 5:



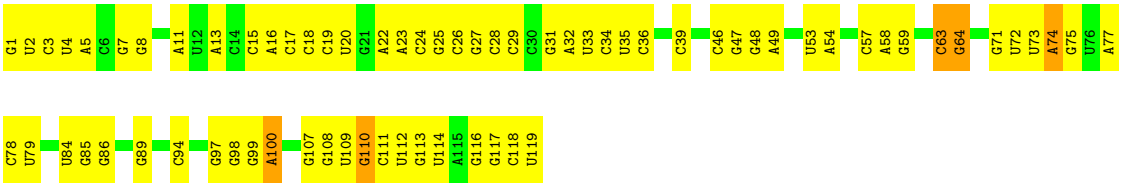






• Molecule 79: 5S rRNA

Chain 7:

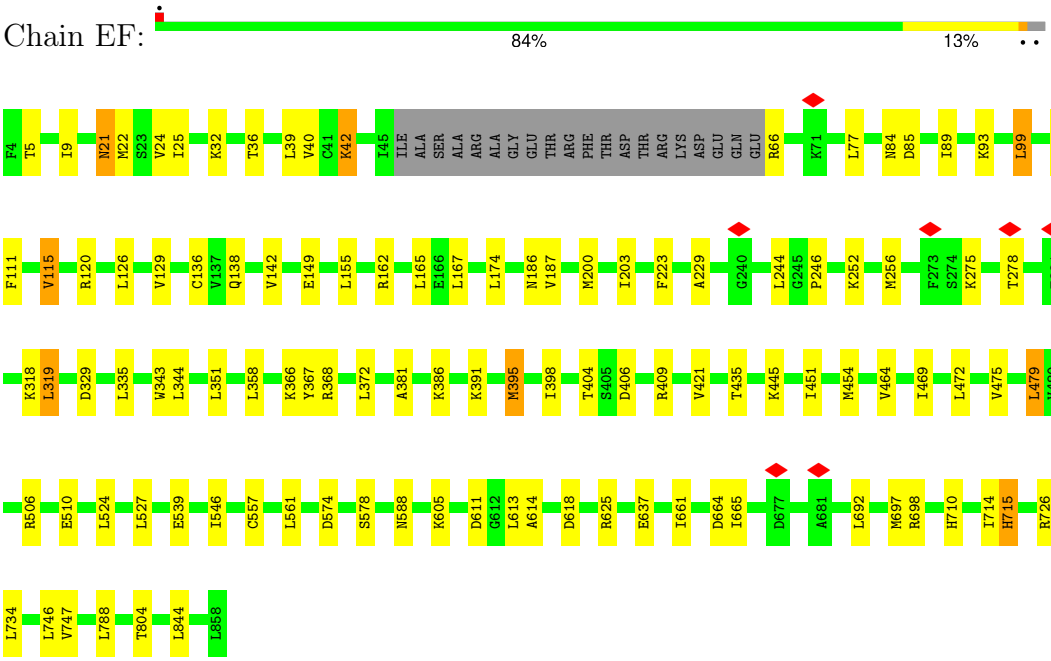


• Molecule 80: 5.8S rRNA

Chain 8:

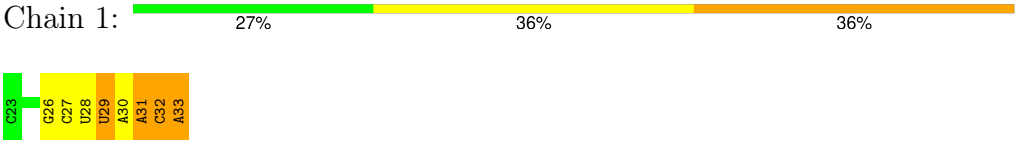
- Molecule 81: Elongation factor 2

Chain EF:



- Molecule 82: NediV ORF

Chain 1:

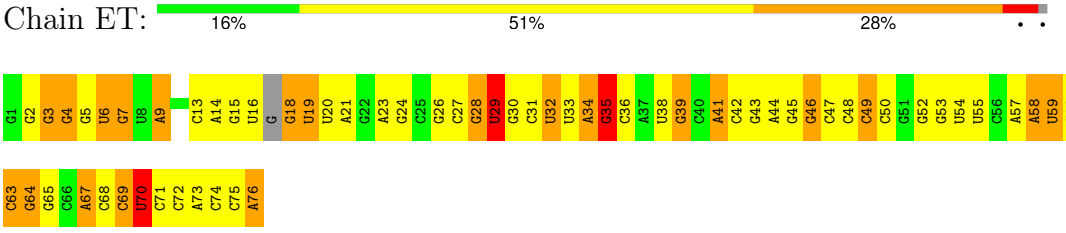


- Molecule 83: P site Ala-tRNA

Chain PT:

- Molecule 84: E site Ala-tRNA

Chain ET:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	34773	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI POLARA 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	64	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	3500	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.648	Depositor
Minimum map value	-0.225	Depositor
Average map value	0.029	Depositor
Map value standard deviation	0.060	Depositor
Recommended contour level	0.05	Depositor
Map size (Å)	298.8, 298.8, 298.8	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.83, 0.83, 0.83	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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

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	R	0.14	0/1524	0.30	0/2013
2	W	0.16	0/541	0.37	0/720
3	9	0.12	0/39860	0.27	0/62094
4	AA	0.15	0/1687	0.37	1/2294 (0.0%)
5	BB	0.11	0/1756	0.29	0/2350
6	CC	0.11	0/1753	0.28	0/2369
7	EE	0.11	0/2118	0.27	0/2849
8	GG	0.25	0/1854	0.50	2/2469 (0.1%)
9	HH	0.13	0/1510	0.24	0/2022
10	II	0.11	0/1715	0.27	0/2287
11	JJ	0.09	0/1550	0.25	0/2069
12	LL	0.11	0/1195	0.28	0/1597
13	NN	0.11	0/1226	0.24	0/1649
14	OO	0.10	0/1029	0.26	0/1380
15	VV	0.09	0/643	0.23	0/860
16	WW	0.12	0/1051	0.29	0/1406
17	XX	0.14	0/1116	0.31	0/1490
18	YY	0.10	0/1028	0.25	0/1366
19	aa	0.12	0/828	0.29	0/1109
20	bb	0.10	0/665	0.26	0/891
21	ee	0.09	0/462	0.26	0/607
22	DD	0.11	0/1796	0.30	0/2417
23	FF	0.10	0/1492	0.27	0/2005
24	KK	0.11	0/834	0.28	0/1125
25	MM	0.13	0/918	0.32	0/1233
26	PP	0.11	0/974	0.29	0/1301
27	QQ	0.09	0/1134	0.24	0/1520
28	RR	0.13	0/1082	0.35	0/1452
29	SS	0.10	0/1208	0.28	0/1618
30	TT	0.09	0/1115	0.25	0/1493
31	UU	0.10	0/805	0.28	0/1081
32	ZZ	0.10	0/604	0.26	0/810

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\|>5$	RMSZ	$\#\|Z\|>5$
33	cc	0.09	0/490	0.25	0/656
34	dd	0.09	0/470	0.25	0/623
35	ff	0.10	0/567	0.26	0/753
36	A	0.16	0/1936	0.32	0/2596
37	B	0.14	0/3240	0.32	0/4339
38	C	0.13	0/2937	0.30	0/3946
39	D	0.12	0/2437	0.27	0/3264
40	E	0.10	0/1762	0.25	0/2362
41	F	0.13	0/1911	0.31	0/2549
42	G	0.12	0/1910	0.27	0/2569
43	H	0.13	0/1535	0.29	0/2063
44	I	0.13	0/1702	0.25	0/2272
45	J	0.12	0/1385	0.29	0/1852
46	L	0.13	0/1733	0.28	0/2316
47	M	0.12	0/1158	0.27	0/1547
48	N	0.15	0/1746	0.30	0/2338
49	O	0.15	0/1662	0.30	0/2222
50	P	0.14	0/1268	0.32	0/1700
51	Q	0.15	0/1539	0.31	0/2054
52	S	0.13	0/1501	0.29	0/2012
53	T	0.14	0/1326	0.27	0/1770
54	U	0.11	0/823	0.28	0/1104
55	V	0.13	0/1048	0.29	0/1402
56	X	0.12	0/984	0.27	0/1323
57	Y	0.12	0/1132	0.26	0/1504
58	Z	0.13	0/1130	0.30	0/1507
59	a	0.15	0/1191	0.30	0/1590
60	b	0.12	0/861	0.28	0/1138
61	c	0.11	0/771	0.25	0/1034
62	d	0.14	0/903	0.28	0/1216
63	e	0.15	0/1071	0.32	0/1429
64	f	0.15	0/895	0.34	0/1198
65	g	0.13	0/916	0.29	0/1220
66	h	0.12	0/1021	0.26	0/1348
67	i	0.12	0/841	0.28	0/1112
68	j	0.16	0/720	0.32	0/952
69	k	0.12	0/575	0.28	0/761
70	l	0.14	0/459	0.27	0/608
71	m	0.11	0/435	0.28	0/575
72	n	0.12	0/240	0.21	0/305
73	o	0.13	0/864	0.28	0/1140
74	p	0.13	0/718	0.29	0/953
75	r	0.12	0/1010	0.28	0/1354

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
76	s	0.14	0/1530	0.32	0/2064
77	t	0.51	0/1174	0.92	10/1582 (0.6%)
78	5	0.16	10/84212 (0.0%)	0.29	0/131319
79	7	0.12	0/2836	0.23	0/4421
80	8	0.14	0/3581	0.27	0/5577
81	EF	0.32	1/6623 (0.0%)	0.60	1/8943 (0.0%)
82	1	0.62	2/254 (0.8%)	0.32	0/392
83	PT	0.42	0/259	0.76	0/401
84	ET	0.76	16/1780 (0.9%)	0.50	0/2771
All	All	0.17	29/232145 (0.0%)	0.31	14/339992 (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
17	XX	0	1
28	RR	0	2
37	B	0	1
64	f	0	1
81	EF	0	1
All	All	0	6

The worst 5 of 29 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
84	ET	39	G	C1'-N9	-7.44	1.36	1.48
84	ET	2	G	C1'-N9	-7.38	1.36	1.48
84	ET	4	G	C1'-N9	-7.26	1.37	1.48
84	ET	64	G	C1'-N9	-7.23	1.37	1.48
84	ET	3	G	C1'-N9	-7.18	1.37	1.48

The worst 5 of 14 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	GG	44	GLU	N-CA-C	-8.52	102.15	112.54
8	GG	47	GLY	N-CA-C	-7.63	104.50	115.64
77	t	83	LYS	N-CA-C	-7.10	103.58	111.82
77	t	144	ASP	N-CA-C	-6.22	103.09	111.54
77	t	151	ILE	N-CA-C	-6.16	104.28	111.00

There are no chirality outliers.

5 of 6 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
37	B	258	HIS	Peptide
28	RR	127	ASN	Peptide
28	RR	129	LYS	Peptide
17	XX	61	GLN	Peptide
64	f	106	TYR	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	R	1508	0	1664	88	0
2	W	528	0	541	53	0
3	9	35655	0	18015	1209	0
4	AA	1650	0	1654	196	0
5	BB	1729	0	1803	128	0
6	CC	1716	0	1806	102	0
7	EE	2076	0	2177	159	0
8	GG	1831	0	1978	223	0
9	HH	1488	0	1582	85	0
10	II	1686	0	1772	96	0
11	JJ	1525	0	1640	115	0
12	LL	1175	0	1249	66	0
13	NN	1202	0	1289	93	0
14	OO	1016	0	1039	82	0
15	VV	636	0	637	46	0
16	WW	1034	0	1080	84	0
17	XX	1098	0	1167	82	0
18	YY	1011	0	1083	64	0
19	aa	814	0	863	56	0
20	bb	651	0	672	35	0
21	ee	457	0	502	32	0
22	DD	1768	0	1866	105	0
23	FF	1471	0	1522	109	0
24	KK	810	0	836	50	0
25	MM	908	0	939	58	0
26	PP	956	0	1002	66	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
27	QQ	1116	0	1182	75	0
28	RR	1068	0	1121	123	0
29	SS	1190	0	1249	94	0
30	TT	1097	0	1132	81	0
31	UU	795	0	862	52	0
32	ZZ	598	0	656	29	0
33	cc	488	0	514	30	0
34	dd	459	0	448	19	0
35	ff	555	0	563	21	0
36	A	1898	0	1993	137	0
37	B	3172	0	3310	190	0
38	C	2883	0	3053	163	0
39	D	2391	0	2424	110	0
40	E	1729	0	1887	112	0
41	F	1875	0	1995	120	0
42	G	1879	0	2027	99	0
43	H	1516	0	1597	94	0
44	I	1664	0	1712	95	0
45	J	1362	0	1399	73	0
46	L	1702	0	1820	95	0
47	M	1137	0	1211	72	0
48	N	1701	0	1749	95	0
49	O	1630	0	1778	109	0
50	P	1242	0	1274	58	0
51	Q	1515	0	1634	91	0
52	S	1462	0	1508	92	0
53	T	1298	0	1366	76	0
54	U	809	0	833	33	0
55	V	1034	0	1097	64	0
56	X	967	0	1040	40	0
57	Y	1115	0	1205	77	0
58	Z	1107	0	1182	55	0
59	a	1162	0	1209	85	0
60	b	848	0	920	32	0
61	c	761	0	794	44	0
62	d	888	0	930	40	0
63	e	1053	0	1147	51	0
64	f	876	0	912	34	0
65	g	906	0	998	52	0
66	h	1013	0	1147	52	0
67	i	830	0	916	48	0
68	j	705	0	737	47	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
69	k	569	0	637	35	0
70	l	447	0	480	28	0
71	m	429	0	465	23	0
72	n	239	0	289	19	0
73	o	851	0	920	44	0
74	p	708	0	756	50	0
75	r	994	0	1051	49	0
76	s	1507	0	1564	142	0
77	t	1160	0	1215	272	0
78	5	75293	0	38042	2167	0
79	7	2538	0	1286	72	0
80	8	3208	0	1629	115	0
81	EF	6516	6607	6604	38	0
82	1	229	110	120	12	0
83	PT	233	0	119	80	0
84	ET	1595	0	810	79	0
85	5	190	0	0	0	0
85	7	6	0	0	0	0
85	8	4	0	0	0	0
85	A	1	0	0	0	0
85	EF	1	0	0	0	0
85	P	1	0	0	0	0
85	V	1	0	0	0	0
85	aa	1	0	0	0	0
85	g	1	0	0	0	0
86	aa	1	0	0	0	0
86	dd	1	0	0	0	0
86	ff	1	0	0	0	0
86	g	1	0	0	0	0
86	j	1	0	0	0	0
86	m	1	0	0	0	0
86	o	1	0	0	0	0
86	p	1	0	0	0	0
All	All	216625	6717	162896	8355	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 22.

The worst 5 of 8355 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)
8:GG:221:LYS:CA	8:GG:224:ARG:HH12	1.11	1.57
8:GG:221:LYS:HA	8:GG:224:ARG:CZ	1.47	1.40
77:t:92:ARG:NH1	77:t:93:LYS:HD3	1.47	1.28
77:t:154:ASP:HA	77:t:158:GLY:CA	1.67	1.25
8:GG:221:LYS:HA	8:GG:224:ARG:NH1	0.93	1.23

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	R	178/180 (99%)	174 (98%)	4 (2%)	0	100	100
2	W	61/106 (58%)	58 (95%)	3 (5%)	0	100	100
4	AA	207/217 (95%)	198 (96%)	9 (4%)	0	100	100
5	BB	211/213 (99%)	200 (95%)	11 (5%)	0	100	100
6	CC	219/221 (99%)	216 (99%)	3 (1%)	0	100	100
7	EE	260/262 (99%)	251 (96%)	9 (4%)	0	100	100
8	GG	224/237 (94%)	220 (98%)	4 (2%)	0	100	100
9	HH	181/189 (96%)	177 (98%)	4 (2%)	0	100	100
10	II	204/206 (99%)	197 (97%)	7 (3%)	0	100	100
11	JJ	183/185 (99%)	181 (99%)	2 (1%)	0	100	100
12	LL	139/151 (92%)	134 (96%)	5 (4%)	0	100	100
13	NN	147/149 (99%)	145 (99%)	2 (1%)	0	100	100
14	OO	134/136 (98%)	131 (98%)	3 (2%)	0	100	100
15	VV	81/83 (98%)	80 (99%)	1 (1%)	0	100	100
16	WW	127/129 (98%)	122 (96%)	5 (4%)	0	100	100
17	XX	139/141 (99%)	134 (96%)	4 (3%)	1 (1%)	18	49

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
18	YY	122/124 (98%)	122 (100%)	0	0	100	100
19	aa	99/101 (98%)	98 (99%)	1 (1%)	0	100	100
20	bb	81/83 (98%)	78 (96%)	3 (4%)	0	100	100
21	ee	55/57 (96%)	54 (98%)	1 (2%)	0	100	100
22	DD	226/228 (99%)	222 (98%)	3 (1%)	1 (0%)	30	60
23	FF	181/191 (95%)	176 (97%)	5 (3%)	0	100	100
24	KK	94/96 (98%)	92 (98%)	2 (2%)	0	100	100
25	MM	115/117 (98%)	107 (93%)	8 (7%)	0	100	100
26	PP	113/115 (98%)	108 (96%)	5 (4%)	0	100	100
27	QQ	139/141 (99%)	135 (97%)	4 (3%)	0	100	100
28	RR	130/132 (98%)	125 (96%)	5 (4%)	0	100	100
29	SS	142/144 (99%)	138 (97%)	4 (3%)	0	100	100
30	TT	139/141 (99%)	138 (99%)	1 (1%)	0	100	100
31	UU	98/100 (98%)	96 (98%)	2 (2%)	0	100	100
32	ZZ	73/75 (97%)	73 (100%)	0	0	100	100
33	cc	60/62 (97%)	56 (93%)	4 (7%)	0	100	100
34	dd	53/55 (96%)	53 (100%)	0	0	100	100
35	ff	66/68 (97%)	63 (96%)	3 (4%)	0	100	100
36	A	246/248 (99%)	230 (94%)	16 (6%)	0	100	100
37	B	392/394 (100%)	380 (97%)	12 (3%)	0	100	100
38	C	360/362 (99%)	350 (97%)	10 (3%)	0	100	100
39	D	291/293 (99%)	280 (96%)	11 (4%)	0	100	100
40	E	208/216 (96%)	206 (99%)	2 (1%)	0	100	100
41	F	223/225 (99%)	214 (96%)	8 (4%)	1 (0%)	30	60
42	G	229/240 (95%)	224 (98%)	5 (2%)	0	100	100
43	H	188/190 (99%)	185 (98%)	3 (2%)	0	100	100
44	I	201/213 (94%)	193 (96%)	8 (4%)	0	100	100
45	J	168/170 (99%)	164 (98%)	4 (2%)	0	100	100
46	L	208/210 (99%)	202 (97%)	6 (3%)	0	100	100
47	M	136/138 (99%)	126 (93%)	10 (7%)	0	100	100
48	N	201/203 (99%)	197 (98%)	4 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
49	O	197/199 (99%)	192 (98%)	5 (2%)	0	100	100
50	P	151/153 (99%)	145 (96%)	6 (4%)	0	100	100
51	Q	185/187 (99%)	175 (95%)	10 (5%)	0	100	100
52	S	174/176 (99%)	170 (98%)	4 (2%)	0	100	100
53	T	157/159 (99%)	149 (95%)	8 (5%)	0	100	100
54	U	97/99 (98%)	96 (99%)	1 (1%)	0	100	100
55	V	137/139 (99%)	132 (96%)	5 (4%)	0	100	100
56	X	116/118 (98%)	111 (96%)	5 (4%)	0	100	100
57	Y	132/134 (98%)	128 (97%)	4 (3%)	0	100	100
58	Z	133/135 (98%)	128 (96%)	5 (4%)	0	100	100
59	a	145/147 (99%)	138 (95%)	7 (5%)	0	100	100
60	b	100/104 (96%)	98 (98%)	2 (2%)	0	100	100
61	c	96/98 (98%)	94 (98%)	2 (2%)	0	100	100
62	d	105/107 (98%)	98 (93%)	7 (7%)	0	100	100
63	e	126/128 (98%)	120 (95%)	6 (5%)	0	100	100
64	f	107/109 (98%)	104 (97%)	3 (3%)	0	100	100
65	g	112/114 (98%)	109 (97%)	3 (3%)	0	100	100
66	h	120/122 (98%)	118 (98%)	2 (2%)	0	100	100
67	i	100/102 (98%)	97 (97%)	3 (3%)	0	100	100
68	j	84/86 (98%)	80 (95%)	4 (5%)	0	100	100
69	k	67/69 (97%)	67 (100%)	0	0	100	100
70	l	48/50 (96%)	44 (92%)	4 (8%)	0	100	100
71	m	50/52 (96%)	49 (98%)	1 (2%)	0	100	100
72	n	23/25 (92%)	23 (100%)	0	0	100	100
73	o	102/104 (98%)	100 (98%)	2 (2%)	0	100	100
74	p	89/91 (98%)	86 (97%)	3 (3%)	0	100	100
75	r	122/124 (98%)	116 (95%)	6 (5%)	0	100	100
76	s	194/196 (99%)	183 (94%)	11 (6%)	0	100	100
77	t	151/153 (99%)	114 (76%)	24 (16%)	13 (9%)	0	4
81	EF	830/855 (97%)	762 (92%)	65 (8%)	3 (0%)	30	60
All	All	11982/12272 (98%)	11529 (96%)	434 (4%)	19 (0%)	44	71

5 of 19 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
17	XX	62	PRO
77	t	60	VAL
77	t	98	ILE
77	t	143	VAL
77	t	24	ALA

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	R	159/159 (100%)	146 (92%)	13 (8%)	10 35
2	W	55/86 (64%)	53 (96%)	2 (4%)	31 58
4	AA	175/181 (97%)	157 (90%)	18 (10%)	7 25
5	BB	194/194 (100%)	185 (95%)	9 (5%)	24 53
6	CC	187/187 (100%)	181 (97%)	6 (3%)	34 60
7	EE	224/224 (100%)	217 (97%)	7 (3%)	35 60
8	GG	197/207 (95%)	173 (88%)	24 (12%)	5 19
9	HH	165/169 (98%)	159 (96%)	6 (4%)	31 58
10	II	178/178 (100%)	173 (97%)	5 (3%)	38 62
11	JJ	161/161 (100%)	160 (99%)	1 (1%)	78 81
12	LL	130/136 (96%)	124 (95%)	6 (5%)	24 53
13	NN	130/130 (100%)	125 (96%)	5 (4%)	29 57
14	OO	106/106 (100%)	103 (97%)	3 (3%)	38 62
15	VV	67/67 (100%)	66 (98%)	1 (2%)	57 72
16	WW	112/112 (100%)	110 (98%)	2 (2%)	51 70
17	XX	113/113 (100%)	109 (96%)	4 (4%)	32 58
18	YY	107/107 (100%)	99 (92%)	8 (8%)	12 38
19	aa	88/88 (100%)	83 (94%)	5 (6%)	18 47
20	bb	75/75 (100%)	71 (95%)	4 (5%)	20 49

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
21	ee	47/47 (100%)	44 (94%)	3 (6%)	16	44
22	DD	190/190 (100%)	183 (96%)	7 (4%)	30	58
23	FF	158/161 (98%)	152 (96%)	6 (4%)	29	57
24	KK	87/87 (100%)	82 (94%)	5 (6%)	18	47
25	MM	99/99 (100%)	94 (95%)	5 (5%)	21	50
26	PP	105/105 (100%)	100 (95%)	5 (5%)	23	52
27	QQ	116/116 (100%)	111 (96%)	5 (4%)	26	54
28	RR	119/119 (100%)	113 (95%)	6 (5%)	22	50
29	SS	125/125 (100%)	120 (96%)	5 (4%)	28	56
30	TT	111/111 (100%)	106 (96%)	5 (4%)	24	53
31	UU	92/92 (100%)	90 (98%)	2 (2%)	45	66
32	ZZ	66/66 (100%)	64 (97%)	2 (3%)	36	61
33	cc	55/55 (100%)	55 (100%)	0	100	100
34	dd	48/48 (100%)	47 (98%)	1 (2%)	47	67
35	ff	61/61 (100%)	58 (95%)	3 (5%)	22	51
36	A	190/190 (100%)	179 (94%)	11 (6%)	18	47
37	B	342/342 (100%)	327 (96%)	15 (4%)	25	54
38	C	302/302 (100%)	285 (94%)	17 (6%)	19	47
39	D	247/247 (100%)	240 (97%)	7 (3%)	38	62
40	E	190/190 (100%)	179 (94%)	11 (6%)	18	47
41	F	196/196 (100%)	185 (94%)	11 (6%)	19	47
42	G	200/205 (98%)	192 (96%)	8 (4%)	28	56
43	H	169/169 (100%)	161 (95%)	8 (5%)	23	52
44	I	175/180 (97%)	167 (95%)	8 (5%)	24	53
45	J	143/143 (100%)	135 (94%)	8 (6%)	19	47
46	L	175/175 (100%)	169 (97%)	6 (3%)	32	59
47	M	117/117 (100%)	110 (94%)	7 (6%)	17	46
48	N	171/171 (100%)	165 (96%)	6 (4%)	32	58
49	O	171/171 (100%)	163 (95%)	8 (5%)	23	52
50	P	134/134 (100%)	132 (98%)	2 (2%)	57	72
51	Q	164/164 (100%)	156 (95%)	8 (5%)	22	51

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
52	S	157/157 (100%)	151 (96%)	6 (4%)	29	57
53	T	139/139 (100%)	131 (94%)	8 (6%)	18	47
54	U	89/89 (100%)	85 (96%)	4 (4%)	24	53
55	V	106/106 (100%)	99 (93%)	7 (7%)	15	43
56	X	106/106 (100%)	101 (95%)	5 (5%)	23	52
57	Y	124/124 (100%)	116 (94%)	8 (6%)	15	43
58	Z	117/117 (100%)	115 (98%)	2 (2%)	53	71
59	a	119/119 (100%)	116 (98%)	3 (2%)	42	64
60	b	84/84 (100%)	81 (96%)	3 (4%)	31	58
61	c	84/84 (100%)	81 (96%)	3 (4%)	31	58
62	d	98/98 (100%)	92 (94%)	6 (6%)	17	45
63	e	114/114 (100%)	105 (92%)	9 (8%)	11	36
64	f	88/88 (100%)	83 (94%)	5 (6%)	18	47
65	g	98/98 (100%)	92 (94%)	6 (6%)	17	45
66	h	109/109 (100%)	107 (98%)	2 (2%)	51	70
67	i	86/86 (100%)	84 (98%)	2 (2%)	44	66
68	j	73/73 (100%)	71 (97%)	2 (3%)	39	63
69	k	64/64 (100%)	60 (94%)	4 (6%)	16	44
70	l	47/47 (100%)	46 (98%)	1 (2%)	47	67
71	m	48/48 (100%)	47 (98%)	1 (2%)	47	67
72	n	24/24 (100%)	22 (92%)	2 (8%)	10	34
73	o	92/92 (100%)	86 (94%)	6 (6%)	15	43
74	p	74/74 (100%)	72 (97%)	2 (3%)	39	63
75	r	108/108 (100%)	105 (97%)	3 (3%)	38	62
76	s	164/164 (100%)	155 (94%)	9 (6%)	19	48
77	t	126/126 (100%)	82 (65%)	44 (35%)	0	1
81	EF	710/726 (98%)	650 (92%)	60 (8%)	10	33
All	All	10436/10522 (99%)	9893 (95%)	543 (5%)	22	49

5 of 543 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
77	t	94	LYS

Continued on next page...

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Mol	Chain	Res	Type
77	t	133	LEU
77	t	93	LYS
81	EF	481	LYS
36	A	207	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 169 such sidechains are listed below:

Mol	Chain	Res	Type
49	O	14	HIS
63	e	43	ASN
50	P	80	GLN
56	X	105	ASN
68	j	16	HIS

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
3	9	1653/1670 (98%)	354 (21%)	19 (1%)
78	5	3488/3543 (98%)	747 (21%)	59 (1%)
79	7	118/119 (99%)	9 (7%)	0
80	8	149/156 (95%)	30 (20%)	1 (0%)
82	1	10/11 (90%)	4 (40%)	0
83	PT	10/11 (90%)	9 (90%)	0
84	ET	73/76 (96%)	21 (28%)	1 (1%)
All	All	5501/5586 (98%)	1174 (21%)	80 (1%)

5 of 1174 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
3	9	2	A
3	9	3	C
3	9	4	C
3	9	14	C
3	9	25	A

5 of 80 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
78	5	2266	C
78	5	4699	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
78	5	2474	G
78	5	3904	G
78	5	4936	G

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

1 non-standard protein/DNA/RNA residue is modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
81	DDE	EF	715	81	18,20,21	1.03	1 (5%)	17,28,30	1.08	1 (5%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
81	DDE	EF	715	81	-	5/20/21/23	0/1/1/1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
81	EF	715	DDE	CD2-CG	2.68	1.41	1.36

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
81	EF	715	DDE	CAU-CBW-CBI	-3.36	104.65	111.22

There are no chirality outliers.

All (5) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
81	EF	715	DDE	CA-CB-CG-ND1
81	EF	715	DDE	OAG-CBI-CBW-CAU
81	EF	715	DDE	CA-CB-CG-CD2
81	EF	715	DDE	NAD-CBI-CBW-CAU
81	EF	715	DDE	CAT-CAU-CBW-CBI

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
81	EF	715	DDE	1	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 214 ligands modelled in this entry, 214 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers (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
78	5	26
3	9	20

Continued on next page...

Continued from previous page...

Mol	Chain	Number of breaks
40	E	3
60	b	1

The worst 5 of 50 chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	9	1219:A	O3'	1220:A	P	46.96
1	b	76:VAL	C	89:VAL	N	37.07
1	E	77:ALA	C	92:LEU	N	30.34
1	5	1219:G	O3'	1233:G	P	22.45
1	9	1119:G	O3'	1121:G	P	19.74

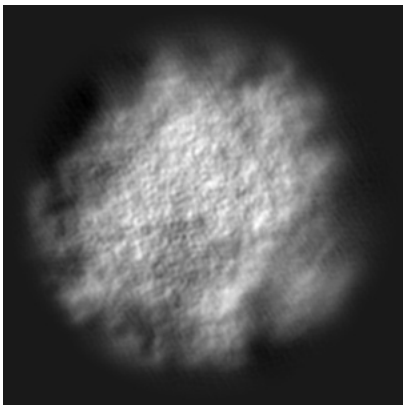
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-72168. These allow visual inspection of the internal detail of the map and identification of artifacts.

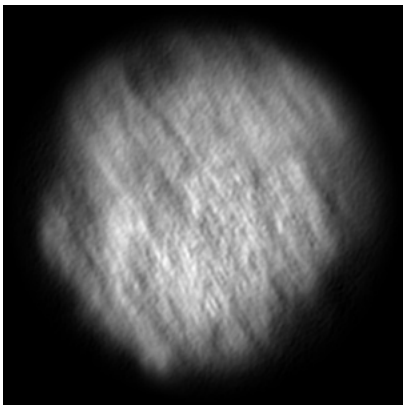
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

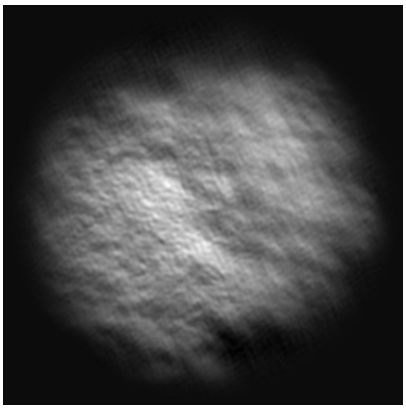
6.1.1 Primary map



X

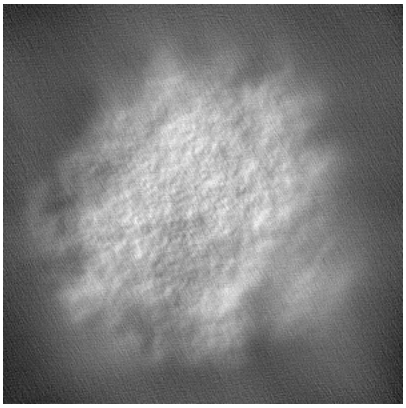


Y

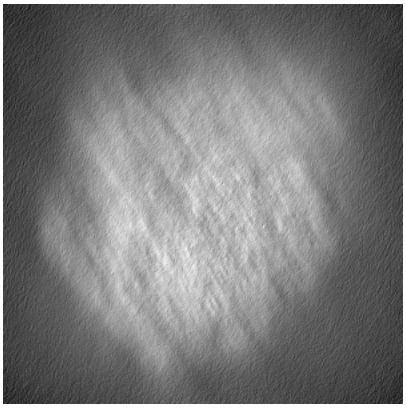


Z

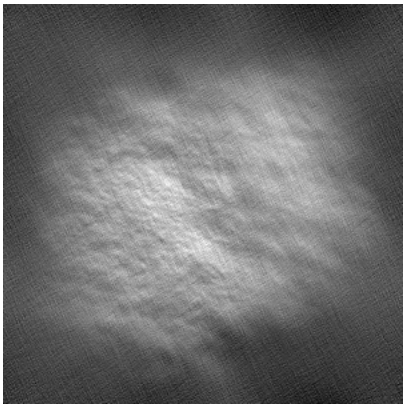
6.1.2 Raw map



X



Y

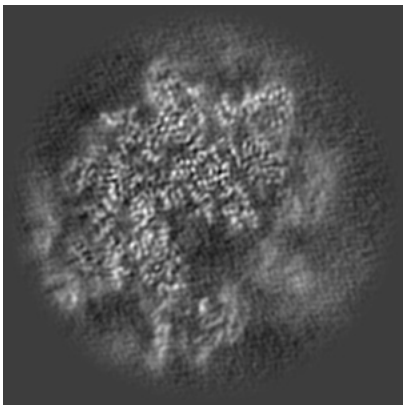


Z

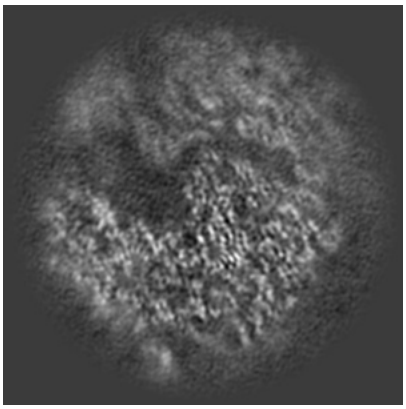
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

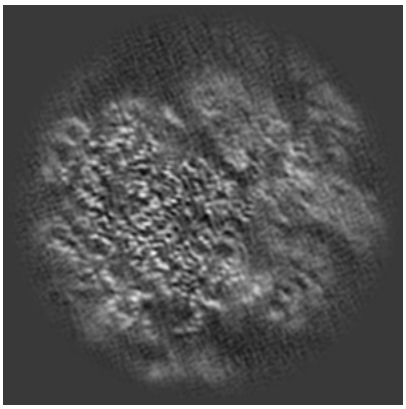
6.2.1 Primary map



X Index: 180

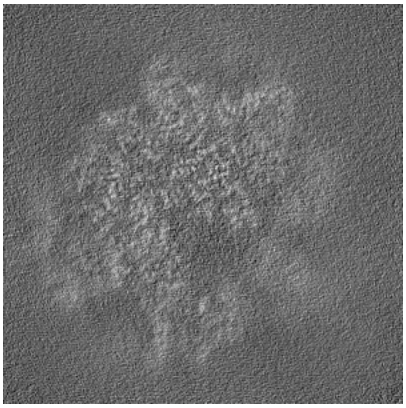


Y Index: 180

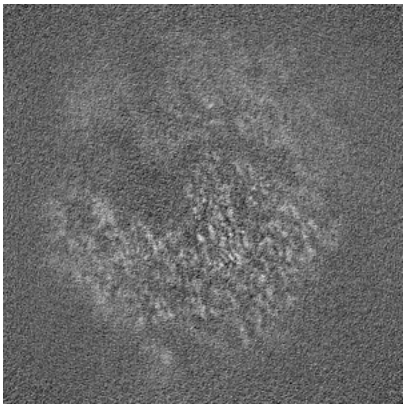


Z Index: 180

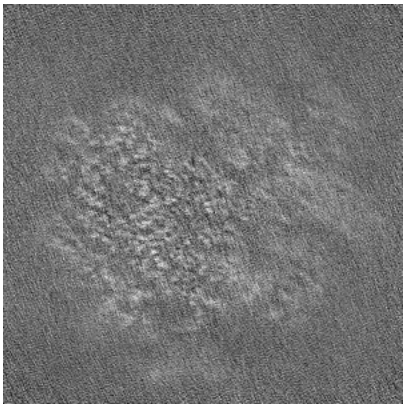
6.2.2 Raw map



X Index: 180



Y Index: 180

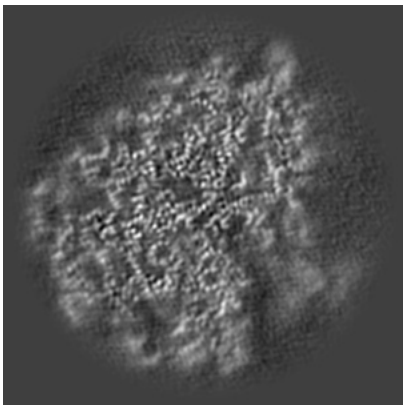


Z Index: 180

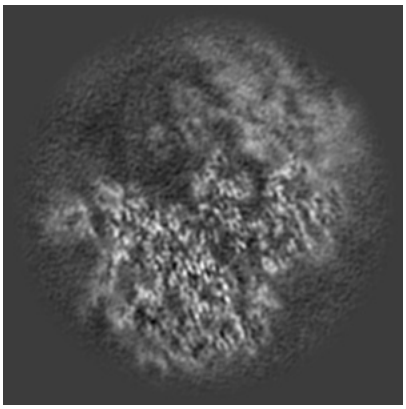
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

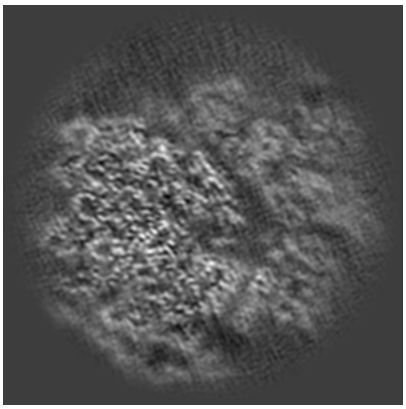
6.3.1 Primary map



X Index: 148

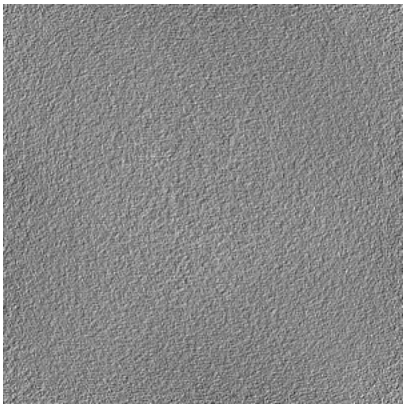


Y Index: 149

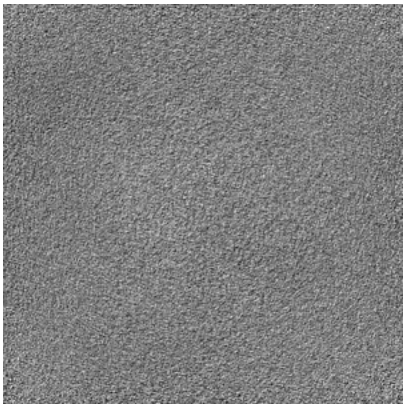


Z Index: 171

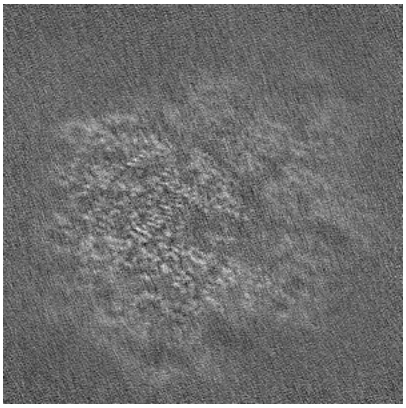
6.3.2 Raw map



X Index: 0



Y Index: 0

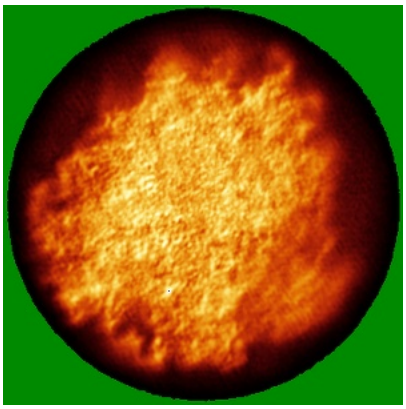


Z Index: 174

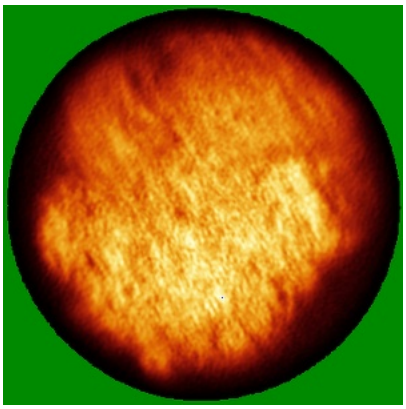
The images above show the largest variance slices of the map in three orthogonal directions.

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

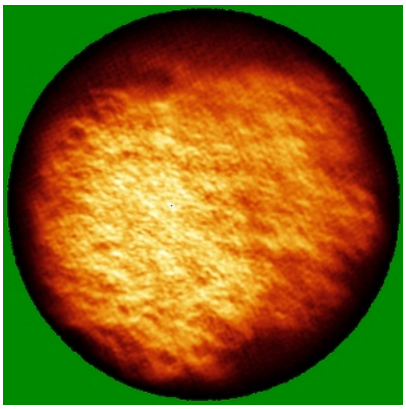
6.4.1 Primary map



X

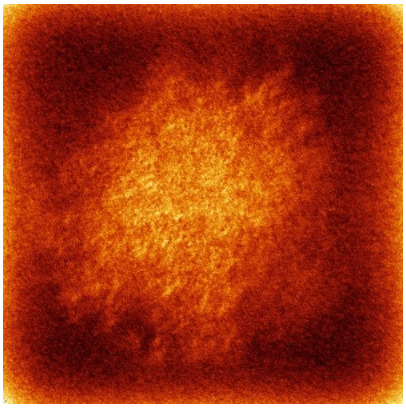


Y

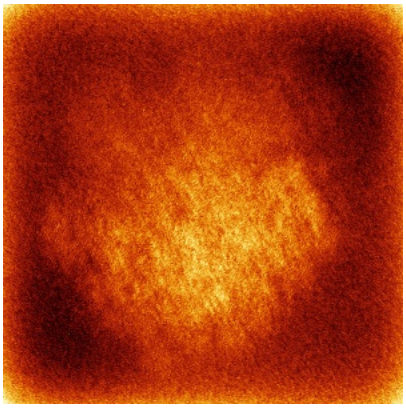


Z

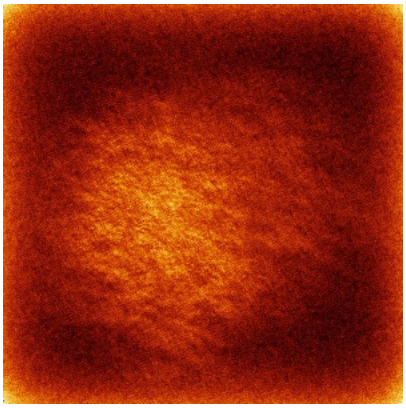
6.4.2 Raw map



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.

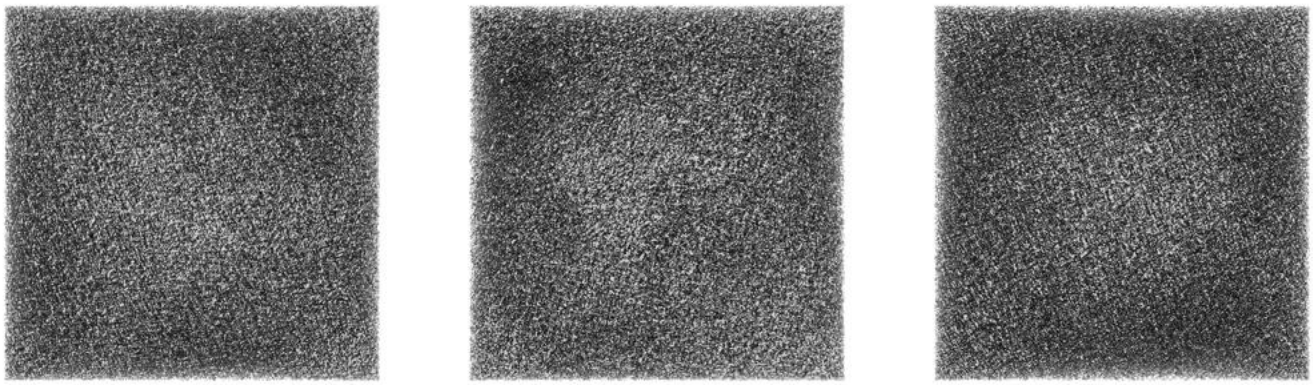
6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.05. 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.

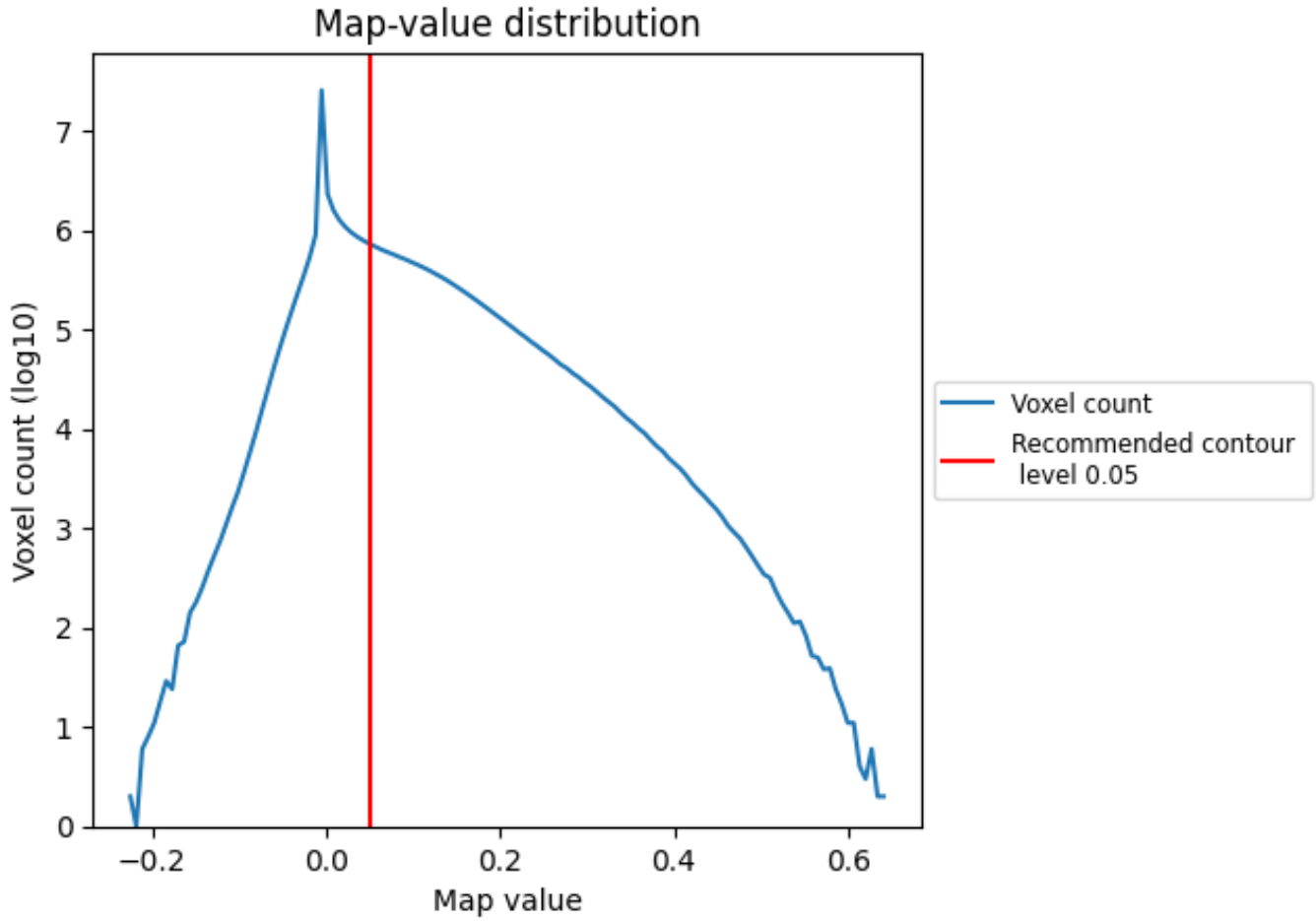
6.6 Mask visualisation (i)

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

7 Map analysis

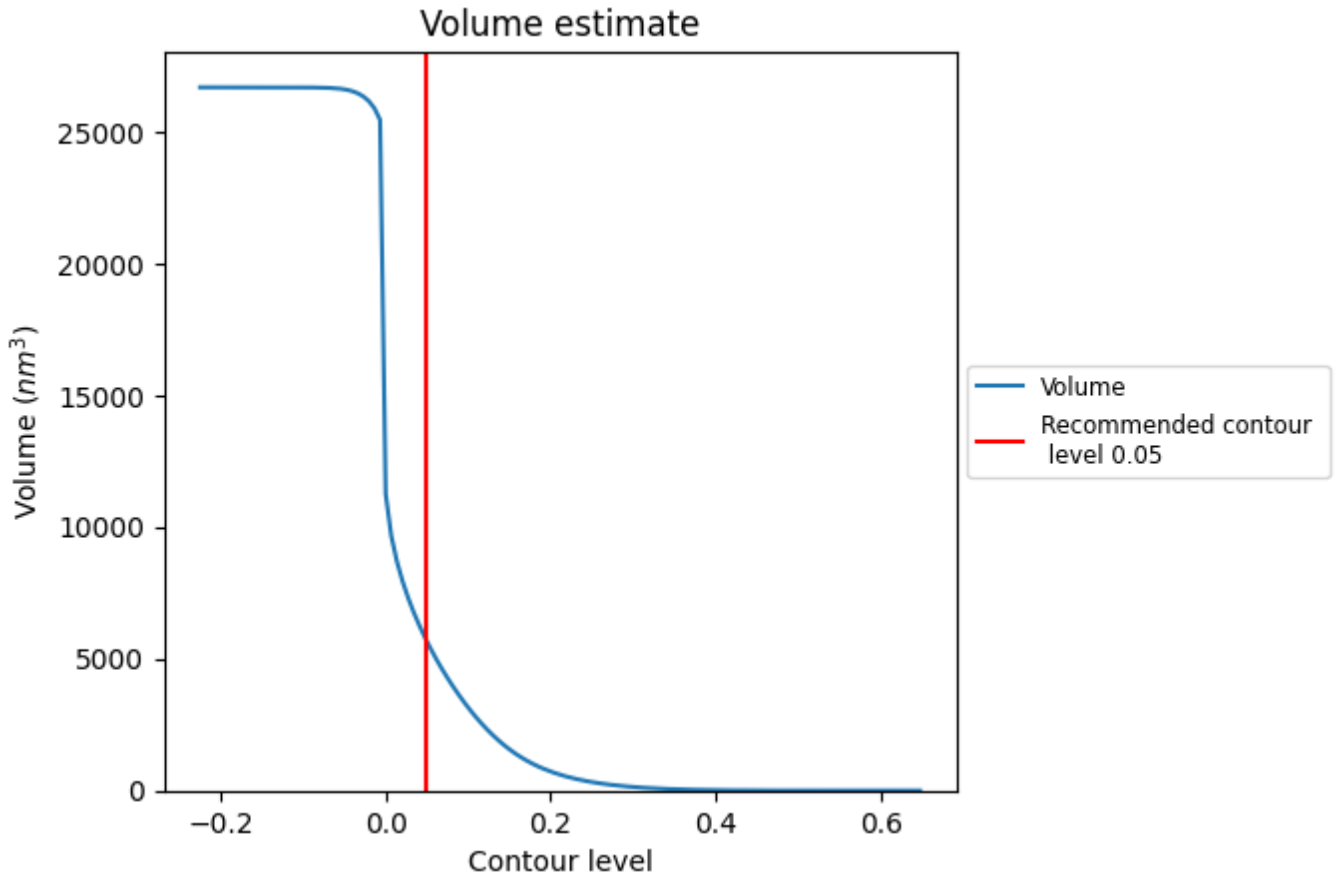
This section contains the results of statistical analysis of the map.

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.

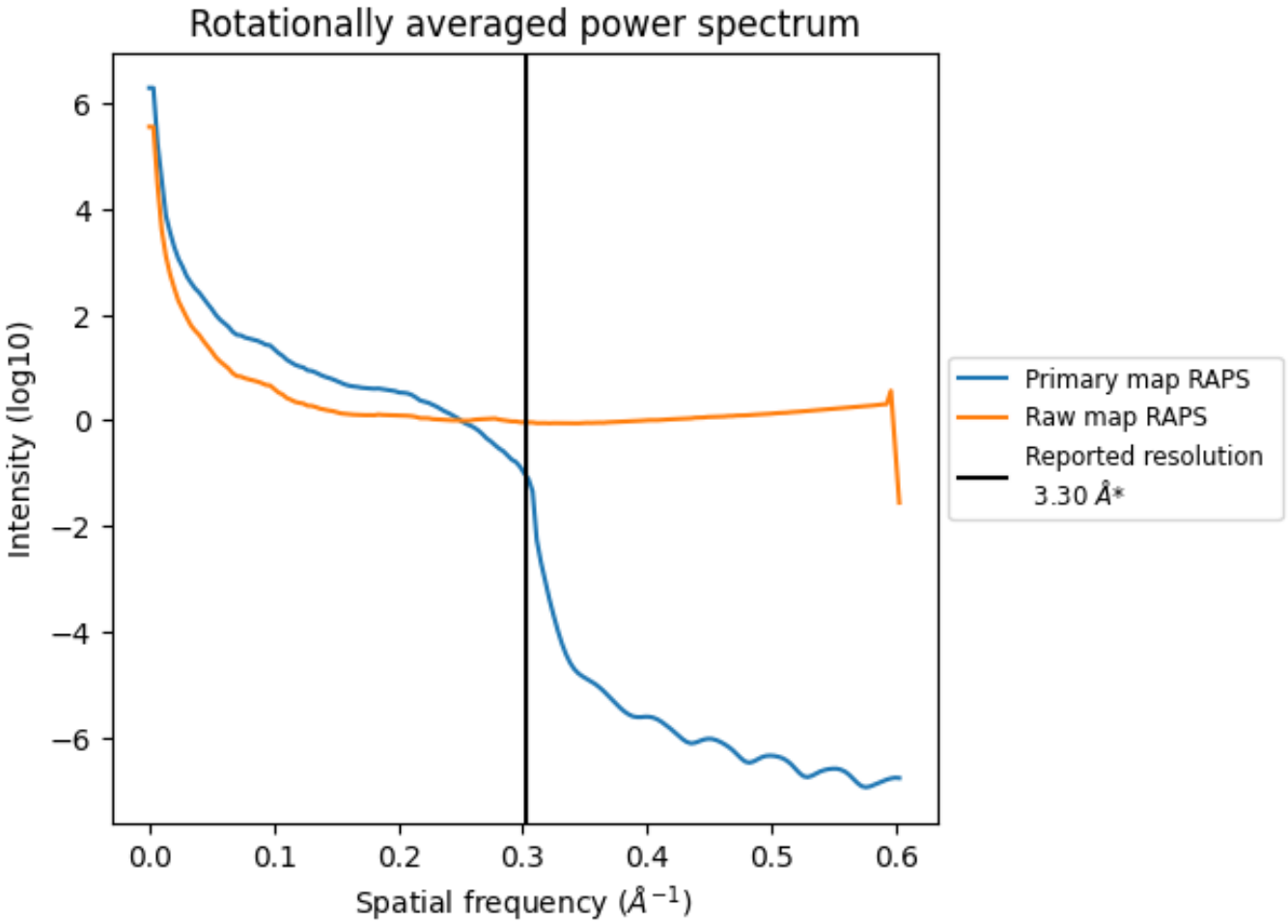
7.2 Volume estimate (i)



The volume at the recommended contour level is 5668 nm^3; this corresponds to an approximate mass of 5120 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)

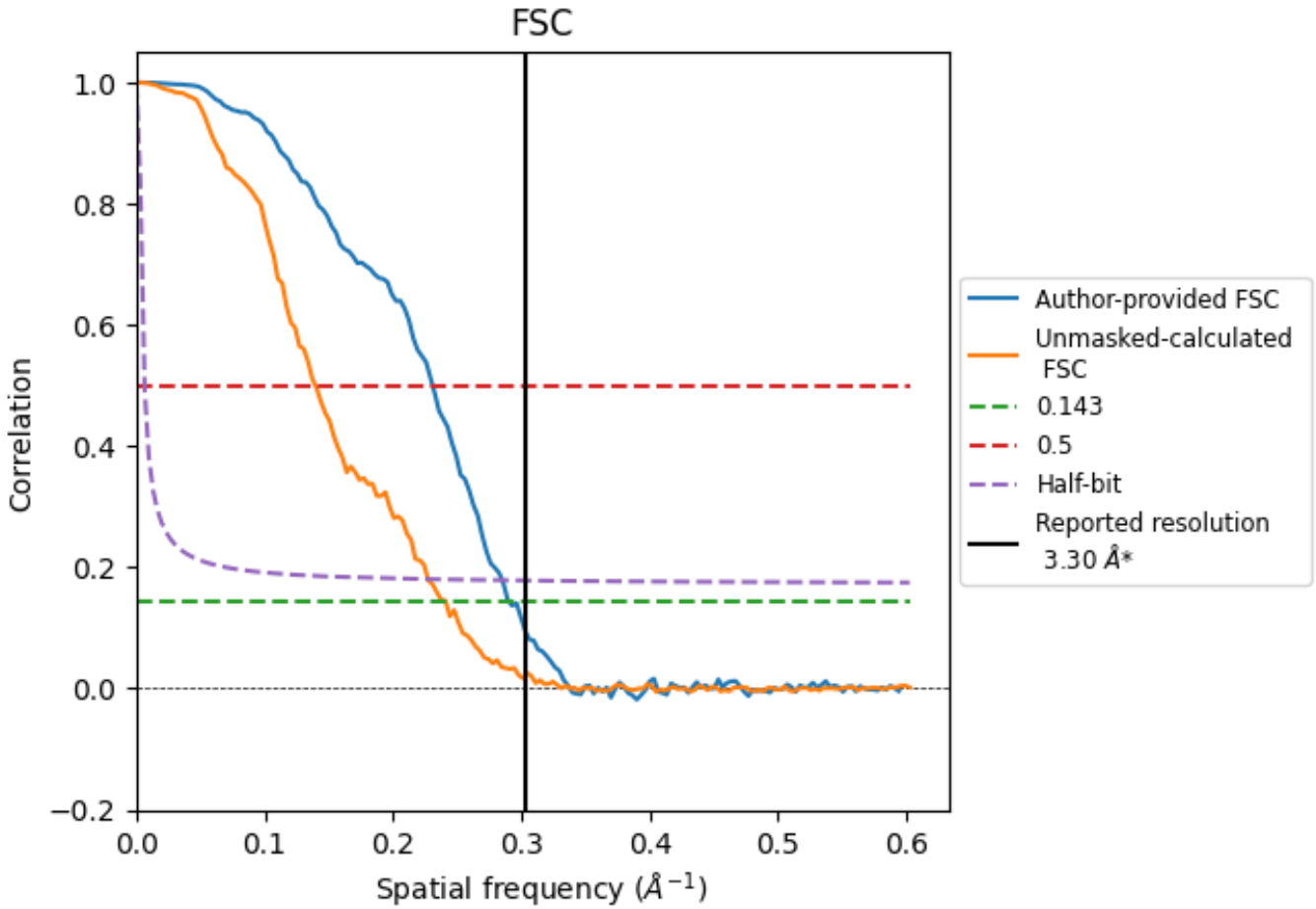


*Reported resolution corresponds to spatial frequency of 0.303 Å^{-1}

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 0.303 Å^{-1}

8.2 Resolution estimates (i)

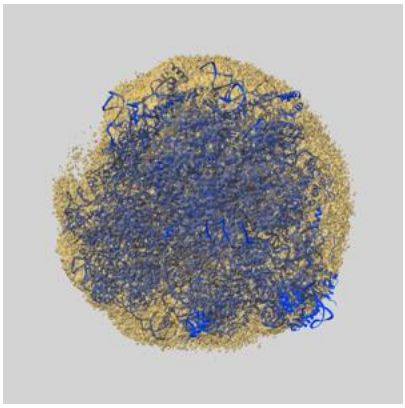
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.30	-	-
Author-provided FSC curve	3.44	4.33	3.51
Unmasked-calculated*	4.15	7.16	4.40

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.15 differs from the reported value 3.3 by more than 10 %

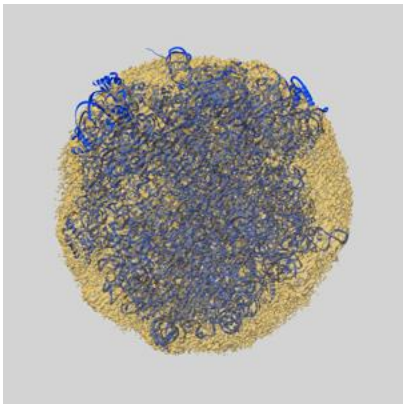
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-72168 and PDB model 9Q2M. Per-residue inclusion information can be found in section 3 on page 23.

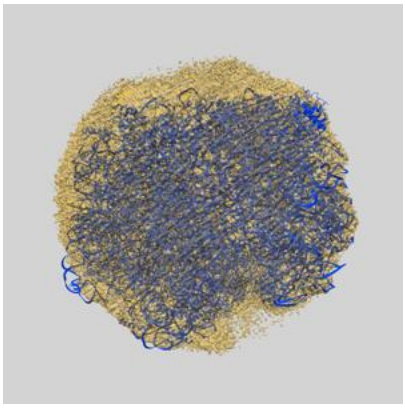
9.1 Map-model overlay



X



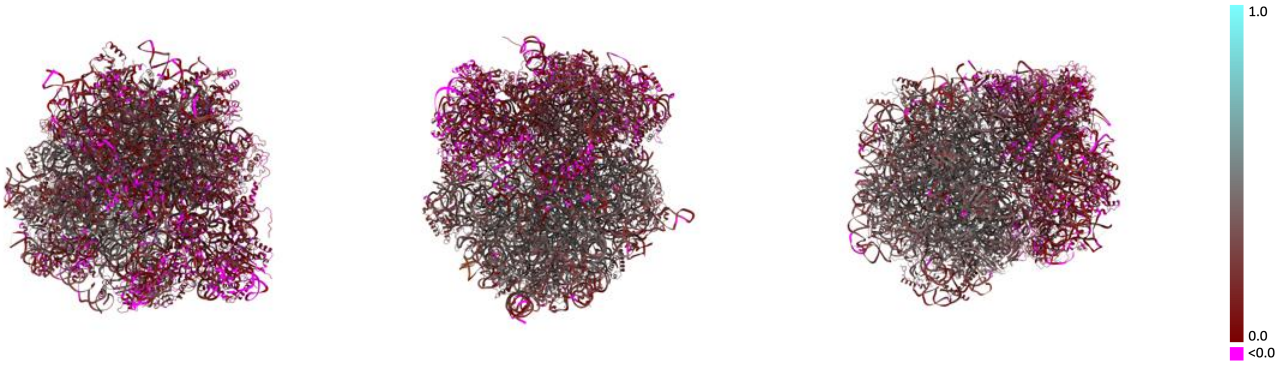
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.05 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.

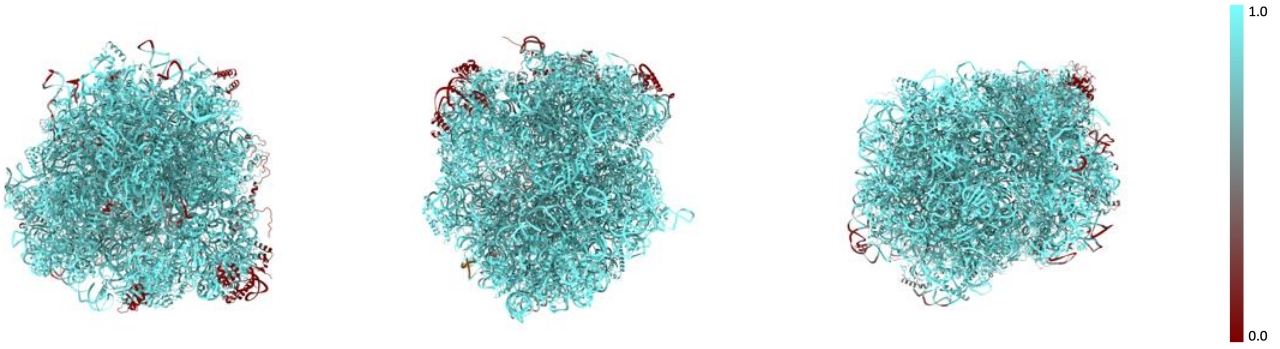
9.2 Q-score mapped to coordinate model



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.

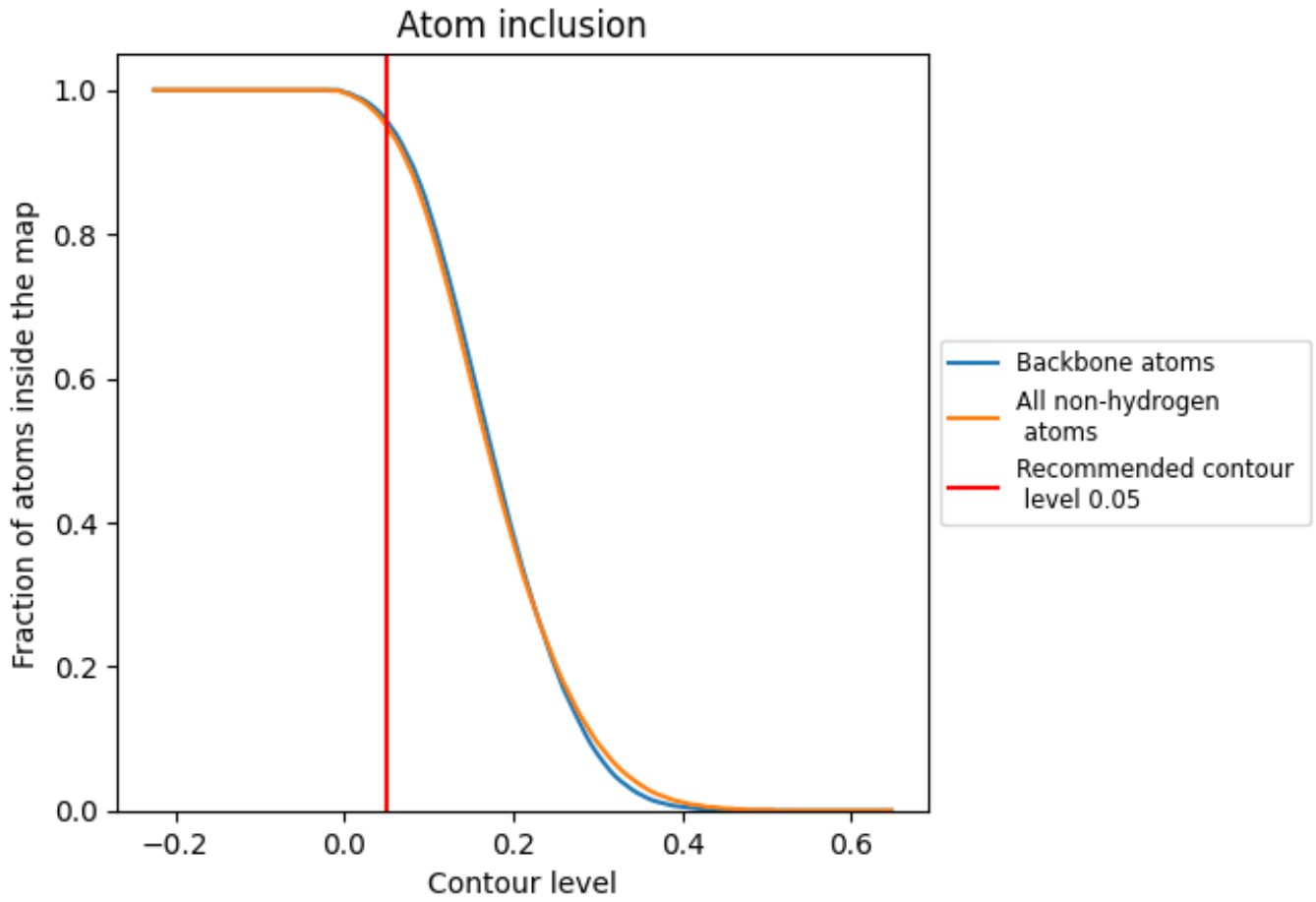
9.3 Atom inclusion mapped to coordinate model



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 (0.05).

9.4 Atom inclusion (i)



At the recommended contour level, 96% of all backbone atoms, 95% 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 (0.05) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9510	0.2780
1	0.9430	0.1730
5	0.9790	0.3520
7	0.9920	0.3590
8	0.9950	0.3710
9	0.9450	0.1810
A	0.9680	0.3900
AA	0.8540	0.1920
B	0.9700	0.3820
BB	0.9760	0.0870
C	0.9680	0.3730
CC	0.9090	0.1970
D	0.9830	0.3030
DD	0.8770	0.1030
E	0.7700	0.2930
EE	0.9460	0.1610
EF	0.9390	0.2080
ET	0.9420	0.0930
F	0.9580	0.3560
FF	0.9880	0.1000
G	0.9740	0.3170
GG	0.8190	0.1420
H	0.9340	0.3240
HH	0.6760	0.1420
I	0.9670	0.3520
II	0.9810	0.1700
J	0.9570	0.2690
JJ	0.9320	0.1260
KK	0.9520	0.0600
L	0.9580	0.3490
LL	0.9810	0.2480
M	0.9690	0.3240
MM	0.5670	0.0520
N	0.9760	0.3990
NN	0.9730	0.1570

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Chain	Atom inclusion	Q-score
O	0.9580	0.3700
OO	0.9760	0.1390
P	0.9810	0.3960
PP	0.9630	0.1520
PT	0.9490	0.0930
Q	0.9720	0.3850
QQ	0.7060	0.1050
R	0.9530	0.1800
RR	0.6030	0.0970
S	0.9680	0.3700
SS	0.9560	0.1170
T	0.9800	0.3770
TT	0.6630	0.0940
U	0.9850	0.3120
UU	0.5890	0.0670
V	0.9840	0.3520
VV	0.7880	0.2030
W	0.9290	0.1080
WW	0.9400	0.2480
X	0.9750	0.3660
XX	0.9330	0.2070
Y	0.9650	0.3500
YY	0.7850	0.0730
Z	0.9910	0.3350
ZZ	0.9910	0.0980
a	0.9900	0.3910
aa	0.9900	0.2380
b	0.9390	0.2990
bb	0.9830	0.1560
c	0.9990	0.3380
cc	0.9920	0.0700
d	0.9840	0.4010
dd	0.9910	0.1640
e	0.9820	0.3950
ee	0.9270	0.1400
f	0.9660	0.3940
ff	0.8230	0.0960
g	0.9780	0.3680
h	0.9600	0.3200
i	0.9900	0.3450
j	0.9790	0.4160
k	0.9710	0.3150

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Chain	Atom inclusion	Q-score
l	0.9720	0.3660
m	0.9760	0.3410
n	0.9730	0.3070
o	0.9630	0.3450
p	0.9620	0.3590
r	0.9350	0.3420
s	0.9280	0.1750
t	0.8480	0.1390