



wwPDB EM Validation Summary Report ⓘ

Jul 6, 2026 – 07:00 PM JST

PDB ID : 9VTI / pdb_00009vti
EMDB ID : EMD-65329
Title : cryoEM structure of tobacco mosaic virus tRNA-like structure complexed with tobacco 80S
Authors : Lu, G.; Lin, J.
Deposited on : 2025-07-10
Resolution : 2.96 Å(reported)

This is a wwPDB EM Validation Summary Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at
<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

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

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

EMDB validation analysis : 0.0.1.dev133
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) : 2.50

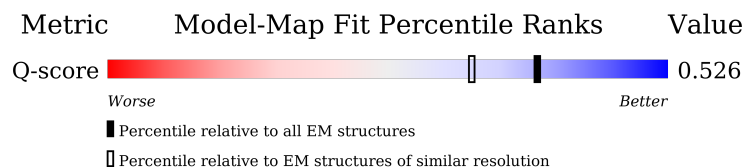
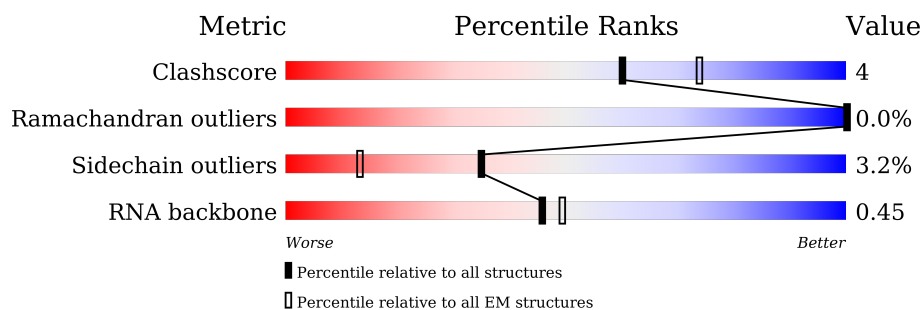
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 2.96 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	13155 (2.46 - 3.46)

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

Mol	Chain	Length	Quality of chain
1	SA	257	
2	SB	248	
3	SC	187	

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Mol	Chain	Length	Quality of chain
4	SD	280	
5	SE	210	
6	SF	130	
7	SG	147	
8	SH	122	
9	SI	150	
10	SJ	142	
11	SK	141	
12	SL	56	
13	SM	151	
14	SN	159	
15	SO	152	
16	SP	261	
17	SQ	264	
18	SR	249	
19	SS	191	
20	ST	212	
21	SU	118	
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23	SW	131	
24	SX	143	
25	SY	82	
26	SZ	133	
27	Sa	74	
28	Sb	113	

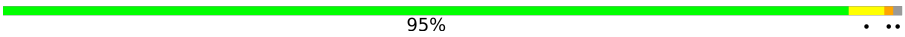
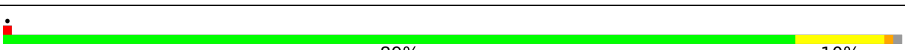
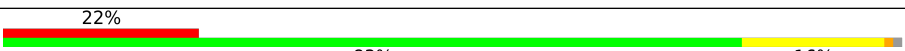
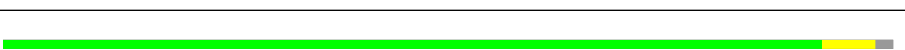
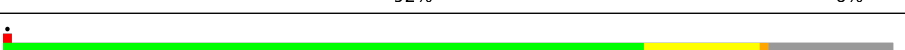
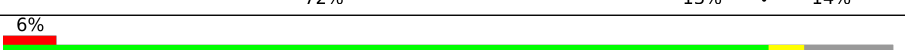
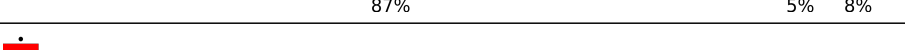
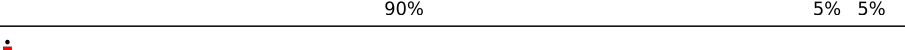
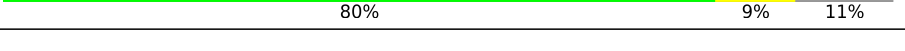
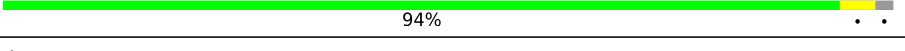
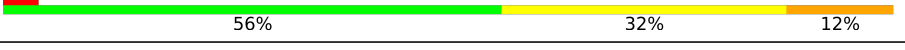
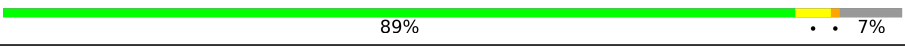
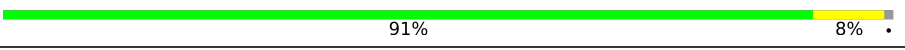
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Mol	Chain	Length	Quality of chain
29	Sc	85	
30	Sd	65	
31	Se	62	
32	Sf	156	
33	LA	217	
34	LB	260	
35	LC	389	
36	LD	405	
37	LE	181	
38	LF	194	
39	LG	206	
40	LH	140	
41	LI	148	
42	LJ	219	
43	LK	293	
44	LL	175	
45	LM	154	
46	LN	146	
47	LO	123	
48	LP	242	
49	LQ	230	
50	LR	237	
51	LS	200	
52	LT	130	
53	LU	204	

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Mol	Chain	Length	Quality of chain
54	LV	187	
55	LW	211	
56	LX	178	
57	LY	164	
58	LZ	108	
59	La	164	
60	Lb	135	
61	Lc	143	
62	Ld	50	
63	Le	113	
64	Lf	120	
65	Lg	133	
66	Lh	112	
67	Li	120	
68	Lj	110	
69	Lk	95	
70	Ll	69	
71	Lm	51	
72	Ln	128	
73	Lo	25	
74	Lp	105	
75	Lq	77	
76	10	204	
77	11	1808	
78	12	119	

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Mol	Chain	Length	Quality of chain
79	13	163	 69% 28%
80	14	3390	 67% 23% 7%

2 Entry composition

There are 82 unique types of molecules in this entry. The entry contains 199397 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 Small ribosomal subunit protein uS2.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	SA	202	Total	C	N	O	S	0	0
			1603	1019	286	288	10		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
SA	214	GLU	GLN	conflict	UNP A0A1U7W513
SA	230	GLY	ALA	conflict	UNP A0A1U7W513

- Molecule 2 is a protein called 30S ribosomal protein S3, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	SB	211	Total	C	N	O	S	0	0
			1645	1044	299	294	8		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
SB	95	ASN	SER	conflict	UNP A0A1U7WQT4
SB	215	SER	PRO	conflict	UNP A0A1U7WQT4
SB	220	LYS	GLU	conflict	UNP A0A1U7WQT4

- Molecule 3 is a protein called 40S ribosomal protein S9-2-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	SC	183	Total	C	N	O	S	0	0
			1501	952	291	253	5		

- Molecule 4 is a protein called Small ribosomal subunit protein uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	SD	217	Total	C	N	O	S	0	0
			1686	1089	300	289	8		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
SD	268	SER	PRO	conflict	UNP A0A1U7Y544
SD	269	THR	ALA	conflict	UNP A0A1U7Y544

- Molecule 5 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	SE	194	Total	C	N	O	S	0	0
			1520	948	284	280	8		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
SE	16	SER	ASN	conflict	UNP A0A1S4AYA1

- Molecule 6 is a protein called Small ribosomal subunit protein uS8c.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	SF	129	Total	C	N	O	S	0	0
			1032	659	188	180	5		

- Molecule 7 is a protein called 40S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	SG	141	Total	C	N	O	S	0	0
			1135	722	221	188	4		

- Molecule 8 is a protein called 40S ribosomal protein S20-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	SH	102	Total	C	N	O	S	0	0
			804	505	151	145	3		

- Molecule 9 is a protein called 40S ribosomal protein S14-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	SI	132	Total	C	N	O	S	0	0
			998	611	197	185	5		

- Molecule 10 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	SJ	141	Total	C	N	O	S	0	0
			1100	695	215	187	3		

- Molecule 11 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	SK	141	Total	C	N	O	S	0	0
			1144	712	225	201	6		

- Molecule 12 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	SL	55	Total	C	N	O	S	0	0
			441	274	90	71	6		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
13	SM	149	Total	C	N	O	S	0	0
			1189	762	223	202	2		

- Molecule 14 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	SN	145	Total	C	N	O	S	0	0
			1155	734	222	194	5		

- Molecule 15 is a protein called 40S ribosomal protein S15-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	SO	131	Total	C	N	O	S	0	0
			1057	679	199	174	5		

- Molecule 16 is a protein called Small ribosomal subunit protein eS1.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	SP	216	Total	C	N	O	S	0	0
			1760	1118	314	320	8		

- Molecule 17 is a protein called 40S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	SQ	259	Total	C	N	O	S	0	0
			2068	1320	384	357	7		

- Molecule 18 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	SR	230	Total	C	N	O	S	0	0
			1826	1143	355	320	8		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
SR	170	THR	ASN	conflict	UNP A0A1S3Z3Y7

- Molecule 19 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	SS	188	Total	C	N	O	S	0	0
			1533	976	280	274	3		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
SS	22	PHE	SER	conflict	UNP A0A1S3Z906
SS	29	ALA	ASP	conflict	UNP A0A1S3Z906
SS	50	MET	VAL	conflict	UNP A0A1S3Z906
SS	63	LEU	ILE	conflict	UNP A0A1S3Z906
SS	144	HIS	ARG	conflict	UNP A0A1S3Z906
SS	183	LEU	VAL	conflict	UNP A0A1S3Z906

- Molecule 20 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	ST	185	Total	C	N	O	S	0	0
			1504	938	298	264	4		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
ST	20	SER	ALA	conflict	UNP A0A1S4CZK3
ST	40	SER	ALA	conflict	UNP A0A1S4CZK3

- Molecule 21 is a protein called 40S ribosomal protein S10-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	SU	91	Total	C	N	O	S	0	0
			769	506	124	135	4		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
SU	12	ARG	TRP	conflict	UNP A0A1S4DHU6

- Molecule 22 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	SV	85	Total	C	N	O	S	0	0
			602	374	110	112	6		

- Molecule 23 is a protein called 40S ribosomal protein S17-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	SW	82	Total	C	N	O	S	0	0
			675	421	134	118	2		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
SW	93	ILE	THR	conflict	UNP A0A1S3Z9G2
SW	109	MET	LEU	conflict	UNP A0A1S3Z9G2
SW	126	VAL	ALA	conflict	UNP A0A1S3Z9G2
SW	127	MET	ILE	conflict	UNP A0A1S3Z9G2

- Molecule 24 is a protein called 40S ribosomal protein S19-3-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	SX	136	Total	C	N	O	S	0	0
			1081	676	211	190	4		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
SX	142	ALA	SER	conflict	UNP A0A1S4CYT7

- Molecule 25 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	SY	82	Total	C	N	O	S	0	0
			651	401	120	126	4		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
SY	67	GLY	ALA	conflict	UNP A0A1S4C2G0

- Molecule 26 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	SZ	127	Total	C	N	O	S	0	0
			1000	638	189	170	3		

- Molecule 27 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	Sa	73	Total	C	N	O	S	0	0
			574	359	107	105	3		

- Molecule 28 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	Sb	98	Total	C	N	O	S	0	0
			789	491	161	129	8		

- Molecule 29 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	Sc	84	Total	C	N	O	S	0	0
			650	401	122	119	8		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Sc	2	GLY	VAL	conflict	UNP A0A1S4BH20
Sc	9	MET	SER	conflict	UNP A0A1S4BH20

- Molecule 30 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	Sd	61	Total	C	N	O	S	0	0
			493	303	102	86	2		

- Molecule 31 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	Se	45	Total	C	N	O	S	0	0
			353	216	78	58	1		

- Molecule 32 is a protein called Ubiquitin-40S ribosomal protein S27a-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Sf	69	Total	C	N	O	S	0	0
			562	360	103	94	5		

- Molecule 33 is a protein called Ribosomal protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	LA	215	Total	C	N	O	S	0	0
			1702	1086	298	307	11		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LA	2	SER	-	insertion	UNP A0A1S3Y379
LA	216	ILE	VAL	conflict	UNP A0A1S3Y379

- Molecule 34 is a protein called 60S ribosomal protein L8-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	LB	245	Total	C	N	O	S	0	0
			1880	1174	381	315	10		

- Molecule 35 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	LC	386	Total	C	N	O	S	0	0
			3107	1983	577	532	15		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LC	200	SER	GLY	conflict	UNP A0A1S3ZLI9
LC	308	GLU	ASP	conflict	UNP A0A1S3ZLI9
LC	381	GLU	GLN	conflict	UNP A0A1S3ZLI9

- Molecule 36 is a protein called 60S ribosomal protein L4-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	LD	398	Total	C	N	O	S	0	0
			3087	1952	577	548	10		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LD	27	VAL	LEU	conflict	UNP A0A1S4BWA4

- Molecule 37 is a protein called 60S ribosomal protein L11-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	LE	169	Total	C	N	O	S	0	0
			1362	862	254	239	7		

- Molecule 38 is a protein called 60S ribosomal protein L9-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	LF	191	Total	C	N	O	S	0	0
			1520	966	274	275	5		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LF	125	LYS	ARG	conflict	UNP A0A1S4CJ62
LF	191	VAL	ALA	conflict	UNP A0A1S4CJ62

- Molecule 39 is a protein called 60S ribosomal protein L13a-4.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	LG	205	Total	C	N	O	S	0	0
			1644	1046	320	270	8		

- Molecule 40 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	LH	131	Total	C	N	O	S	0	0
			985	623	183	170	9		

- Molecule 41 is a protein called 60s ribosomal protein l27a-3.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	LI	147	Total	C	N	O	S	0	0
			1155	735	226	191	3		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LI	94	SER	ASN	conflict	UNP A0A1J6IJF4

- Molecule 42 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	LJ	209	Total	C	N	O	S	0	0
			1671	1058	329	273	11		

- Molecule 43 is a protein called 60S ribosomal protein L5-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	LK	288	Total	C	N	O	S	0	0
			2339	1481	428	425	5		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LK	85	ARG	GLN	conflict	UNP A0A1S3XE16
LK	126	THR	SER	conflict	UNP A0A1S3XE16
LK	150	VAL	ILE	conflict	UNP A0A1S3XE16
LK	218	PHE	TYR	conflict	UNP A0A1S3XE16

- Molecule 44 is a protein called 60S ribosomal protein L17-1 isoform X2.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	LL	154	Total	C	N	O	S	0	0
			1236	769	245	217	5		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LL	46	LYS	ARG	conflict	UNP A0A1S4DQP0
LL	168	SER	PRO	conflict	UNP A0A1S4DQP0

- Molecule 45 is a protein called Large ribosomal subunit protein uL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	LM	117	Total	C	N	O	S	0	0
			950	609	170	169	2		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LM	31	PHE	LEU	conflict	UNP Q07761

- Molecule 46 is a protein called 60S ribosomal protein L26-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	LN	126	Total	C	N	O	S	0	0
			1023	635	209	176	3		

- Molecule 47 is a protein called 60S ribosomal protein L35-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	LO	122	Total	C	N	O	S	0	0
			997	640	191	165	1		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LO	100	ALA	VAL	conflict	UNP A0A1S3WY31

- Molecule 48 is a protein called 60S ribosomal protein L7-4-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	LP	238	Total	C	N	O	S	0	0
			1958	1255	361	338	4		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LP	7	PRO	LEU	conflict	UNP A0A1U7X2X8
LP	64	ARG	GLN	conflict	UNP A0A1U7X2X8

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Chain	Residue	Modelled	Actual	Comment	Reference
LP	157	ASP	GLU	conflict	UNP A0A1U7X2X8

- Molecule 49 is a protein called 60S ribosomal protein L6-like isoform X1.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	LQ	207	Total	C	N	O	S	0	0
			1600	1040	285	272	3		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LQ	60	ILE	PHE	conflict	UNP A0A1U7WD54
LQ	97	LYS	ARG	conflict	UNP A0A1U7WD54
LQ	144	VAL	ILE	conflict	UNP A0A1U7WD54
LQ	148	SER	ASN	conflict	UNP A0A1U7WD54
LQ	152	PHE	ILE	conflict	UNP A0A1U7WD54
LQ	187	GLU	GLY	conflict	UNP A0A1U7WD54

- Molecule 50 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	LR	233	Total	C	N	O	S	0	0
			1874	1206	343	318	7		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LR	108	ILE	VAL	conflict	UNP A0A1U7XNI3
LR	110	LYS	ARG	conflict	UNP A0A1U7XNI3

- Molecule 51 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	LS	200	Total	C	N	O	S	0	0
			1608	1010	324	270	4		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LS	139	VAL	ALA	conflict	UNP A0A1S4CSN1
LS	163	GLU	ASP	conflict	UNP A0A1S4CSN1

- Molecule 52 is a protein called 60S ribosomal protein L14-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	LT	129	Total	C	N	O	S	0	0
			1046	673	195	175	3		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LT	82	THR	ASN	conflict	UNP A0A1U7UYX7
LT	86	ASN	SER	conflict	UNP A0A1U7UYX7
LT	101	ALA	SER	conflict	UNP A0A1U7UYX7

- Molecule 53 is a protein called Ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	LU	203	Total	C	N	O	S	0	0
			1701	1072	350	276	3		

- Molecule 54 is a protein called 60S ribosomal protein L18-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	LV	186	Total	C	N	O	S	0	0
			1462	931	283	245	3		

- Molecule 55 is a protein called Ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	LW	182	Total	C	N	O	S	0	0
			1519	940	323	247	9		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LW	190	VAL	ALA	conflict	UNP A0A1S4A7M5
LW	195	SER	PRO	conflict	UNP A0A1S4A7M5
LW	197	THR	ALA	conflict	UNP A0A1S4A7M5
LW	198	PRO	SER	conflict	UNP A0A1S4A7M5

- Molecule 56 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	LX	177	Total	C	N	O	S	0	0
			1505	969	277	251	8		

- Molecule 57 is a protein called 60S ribosomal protein L21-1-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	LY	163	Total	C	N	O	S	0	0
			1306	823	255	224	4		

- Molecule 58 is a protein called Large ribosomal subunit protein eL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	LZ	98	Total	C	N	O	S	0	0
			799	510	140	147	2		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
LZ	61	ALA	THR	conflict	UNP A0A1S4BSU3
LZ	63	ALA	THR	conflict	UNP A0A1S4BSU3

- Molecule 59 is a protein called 60S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	La	62	Total	C	N	O	S	0	0
			526	341	101	81	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
60	Lb	134	Total	C	N	O	S	0	0
			1097	707	206	182	2		

- Molecule 61 is a protein called 60S ribosomal protein L28-1-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	Lc	142	Total	C	N	O	S	0	0
			1114	706	206	200	2		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Lc	53	TYR	ASN	conflict	UNP A0A1U7WYY1
Lc	98	ALA	THR	conflict	UNP A0A1U7WYY1

- Molecule 62 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	Ld	49	Total	C	N	O	S	0	0
			407	249	87	70	1		

- Molecule 63 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	Le	97	Total	C	N	O	S	0	0
			745	475	130	135	5		

- Molecule 64 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	Lf	108	Total	C	N	O	S	0	0
			875	549	168	156	2		

- Molecule 65 is a protein called 60S ribosomal protein L32-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	Lg	126	Total	C	N	O	S	0	0
			1034	653	206	170	5		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Lg	9	THR	LYS	conflict	UNP A0A1U7YAK1

- Molecule 66 is a protein called 60S ribosomal protein L35a-3-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	Lh	103	Total	C	N	O	S	0	0
			836	534	155	142	5		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Lh	57	VAL	ILE	conflict	UNP A0A1S4AHL7

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Chain	Residue	Modelled	Actual	Comment	Reference
Lh	91	LYS	ASN	conflict	UNP A0A1S4AHL7

- Molecule 67 is a protein called Large ribosomal subunit protein eL34.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	Li	114	Total	C	N	O	S	0	0
			926	579	193	153	1		

- Molecule 68 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	Lj	98	Total	C	N	O	S	0	0
			784	491	162	129	2		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Lj	45	SER	GLY	conflict	UNP A0A1U7VXX3

- Molecule 69 is a protein called Ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	Lk	86	Total	C	N	O	S	0	0
			701	429	155	112	5		

- Molecule 70 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	Ll	68	Total	C	N	O	S	0	0
			558	358	99	98	3		

- Molecule 71 is a protein called 60S ribosomal protein L39-3.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	Lm	50	Total	C	N	O	S	0	0
			448	286	96	64	2		

- Molecule 72 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	Ln	51	Total	C	N	O	S	0	0
			420	261	88	65	6		

- Molecule 73 is a protein called 60s ribosomal protein l41-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	Lo	25	Total	C	N	O	S	0	0
			233	139	64	27	3		

- Molecule 74 is a protein called 60S ribosomal protein L44.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	Lp	98	Total	C	N	O	S	0	0
			785	493	157	131	4		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Lp	17	GLY	CYS	conflict	UNP A0A1U7YPT7

- Molecule 75 is a protein called 60S ribosomal protein L37a.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	Lq	76	Total	C	N	O	S	0	0
			586	371	109	101	5		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Lq	8	THR	ALA	conflict	UNP A0A1U7XSD1
Lq	35	ASN	SER	conflict	UNP A0A1U7XSD1
Lq	59	TYR	ASP	conflict	UNP A0A1U7XSD1
Lq	62	ASN	LYS	conflict	UNP A0A1U7XSD1
Lq	65	VAL	ALA	conflict	UNP A0A1U7XSD1
Lq	76	ASP	ALA	conflict	UNP A0A1U7XSD1

- Molecule 76 is a RNA chain called 25S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	10	158	Total	C	N	O	P	0	0
			3359	1500	590	1111	158		

- Molecule 77 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	11	1626	Total	C	N	O	P	0	0
			34688	15501	6194	11367	1626		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
11	794	U	C	conflict	GB 806909817
11	1134	A	U	conflict	GB 806909817

- Molecule 78 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	12	119	Total	C	N	O	P	0	0
			2538	1133	457	829	119		

- Molecule 79 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	13	163	Total	C	N	O	P	0	0
			3478	1553	628	1134	163		

- Molecule 80 is a RNA chain called 25S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	14	3142	Total	C	N	O	P	0	0
			67280	30009	12243	21886	3142		

- Molecule 81 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
81	10	7	Total	Mg	0
			7	7	
81	14	2	Total	Mg	0
			2	2	

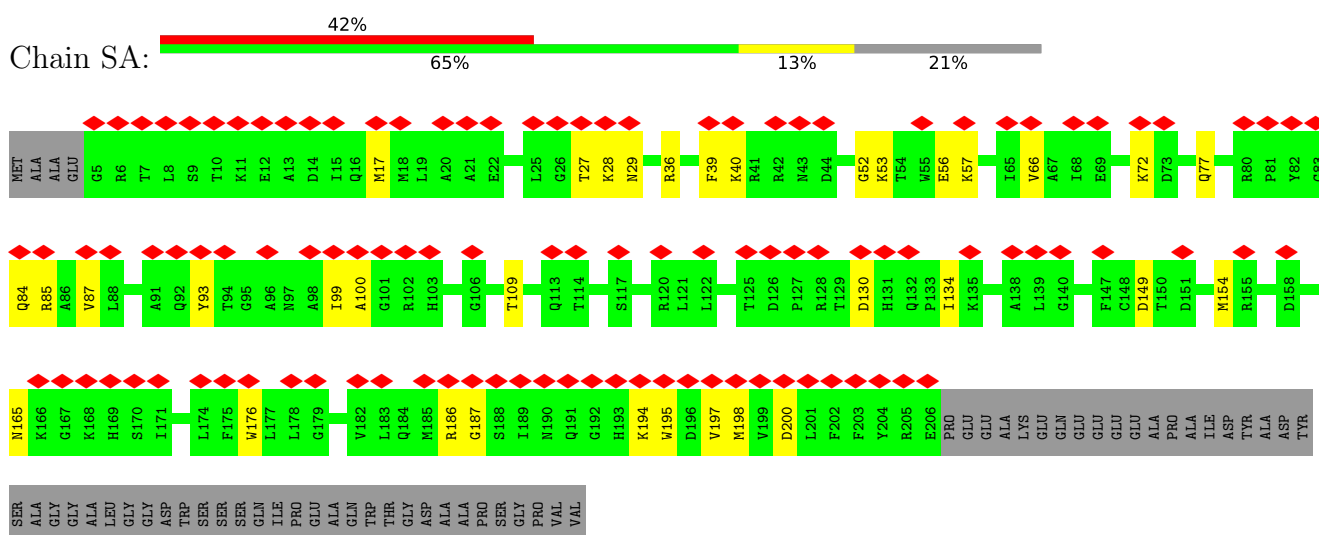
- Molecule 82 is water.

Mol	Chain	Residues	Atoms		AltConf
82	10	20	Total	O	0
			20	20	
82	14	14	Total	O	0
			14	14	

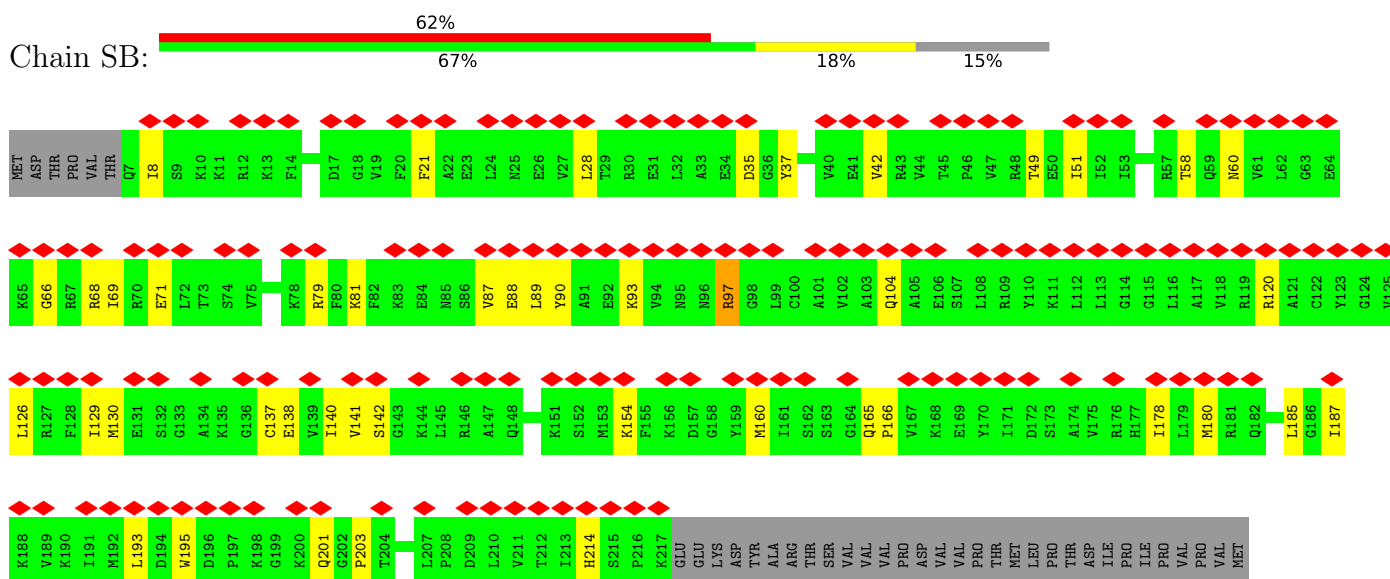
3 Residue-property plots

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.

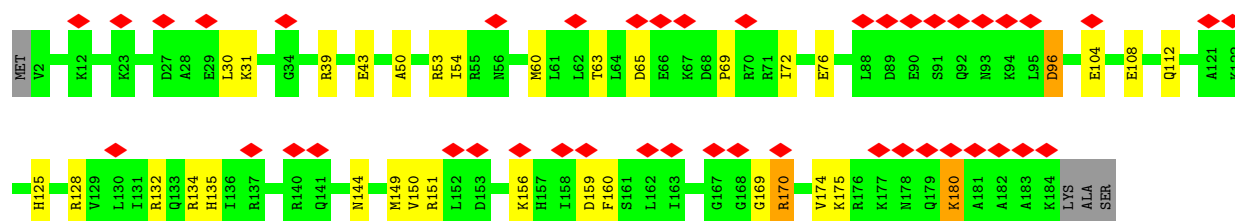
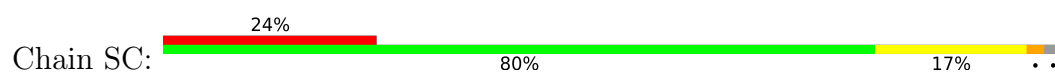
- Molecule 1: Small ribosomal subunit protein uS2



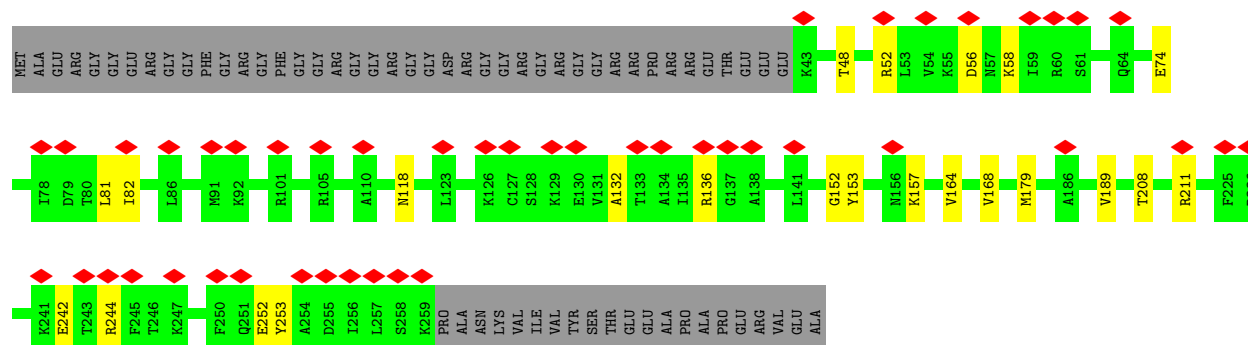
- Molecule 2: 30S ribosomal protein S3, chloroplastic



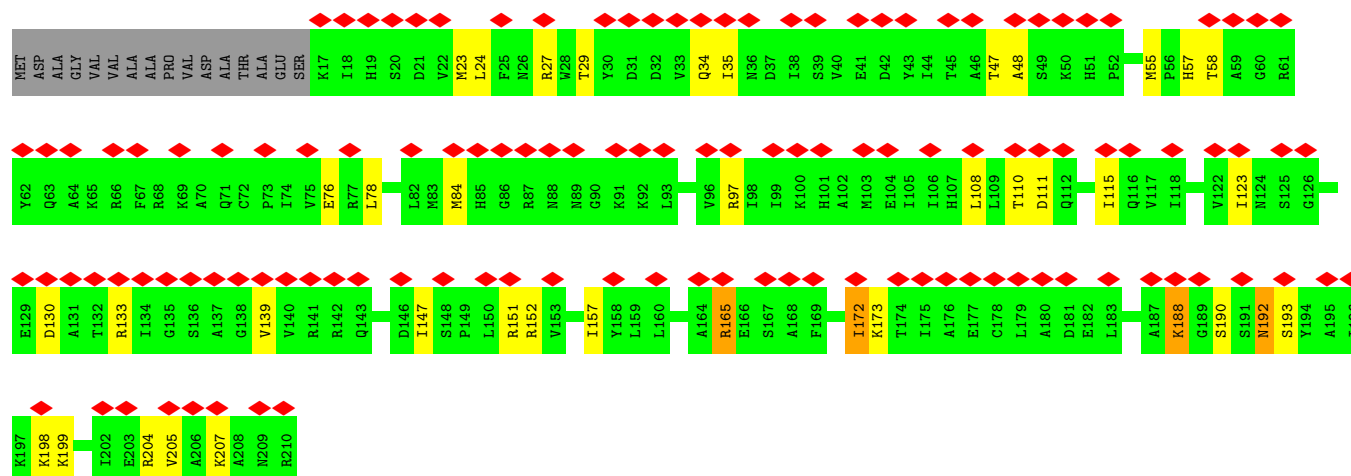
- Molecule 3: 40S ribosomal protein S9-2-like



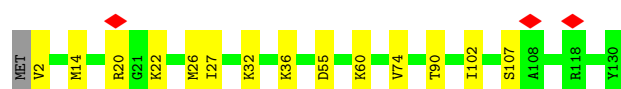
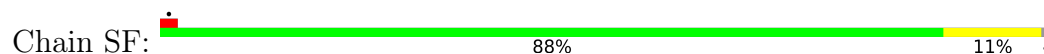
• Molecule 4: Small ribosomal subunit protein uS5



• Molecule 5: 40S ribosomal protein S5

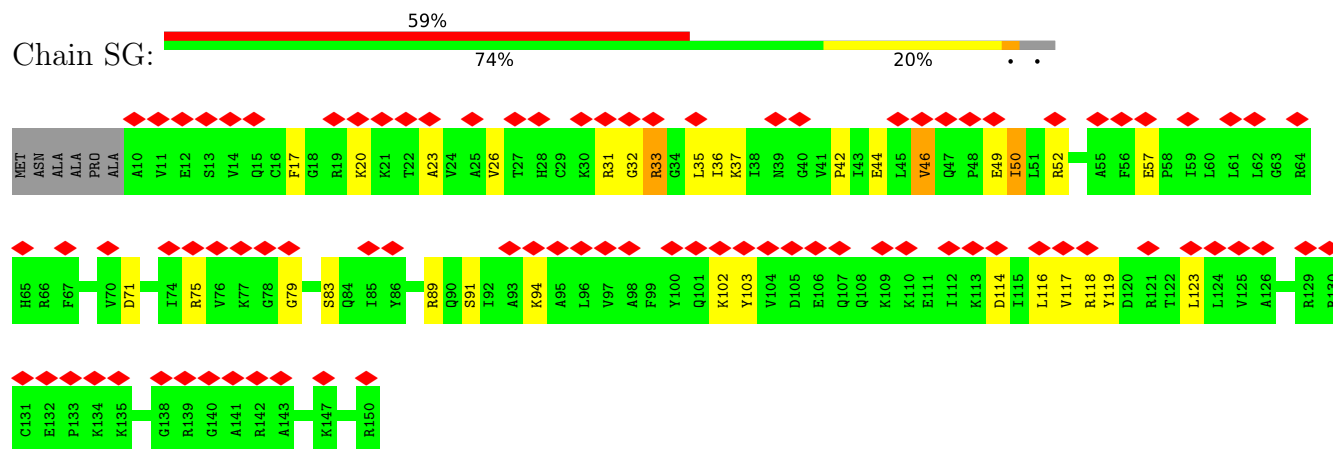


• Molecule 6: Small ribosomal subunit protein uS8c



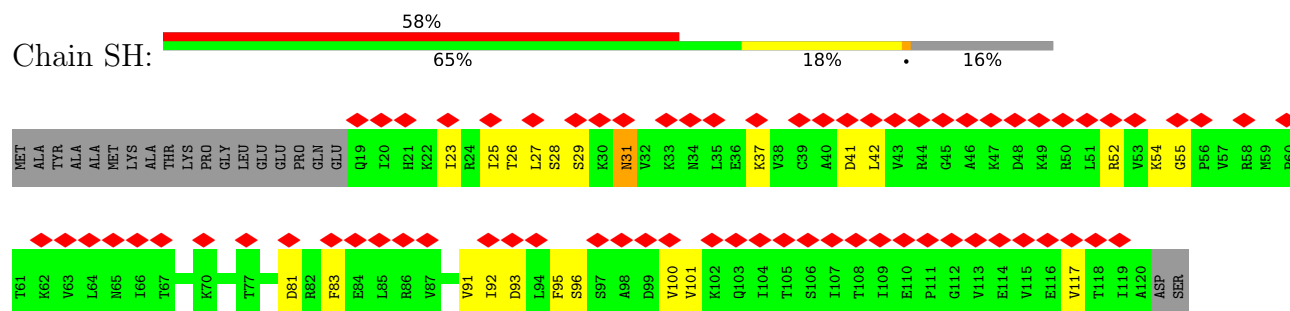
- Molecule 7: 40S ribosomal protein S16

Chain SG:



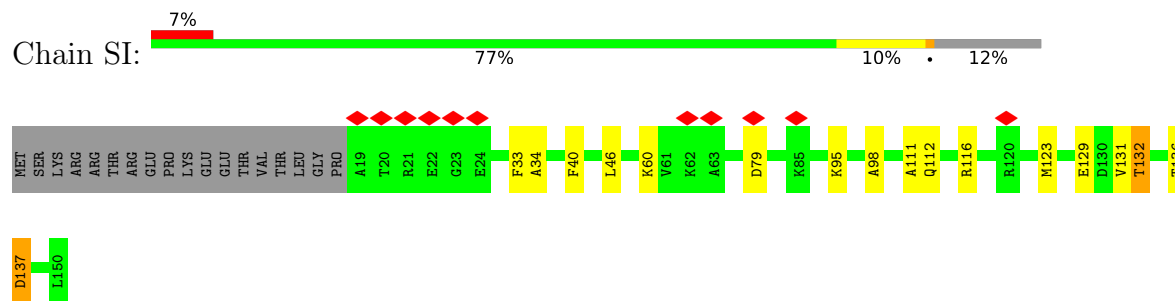
- Molecule 8: 40S ribosomal protein S20-2

Chain SH:



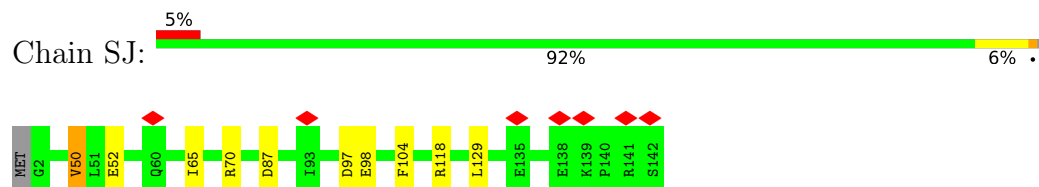
- Molecule 9: 40S ribosomal protein S14-2

Chain SI:



- Molecule 10: 40S ribosomal protein S23

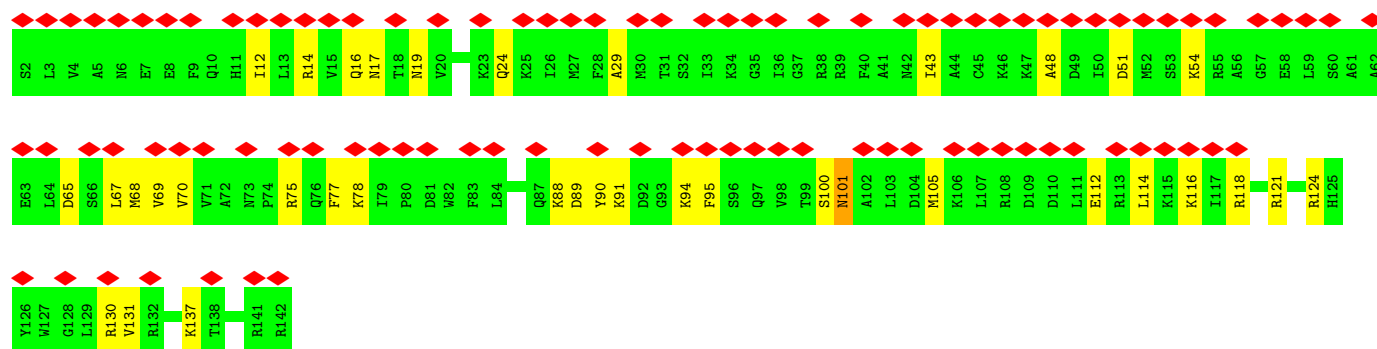
Chain SJ:



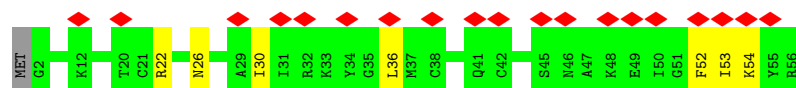
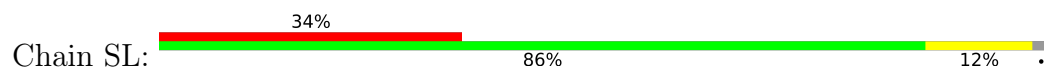
- Molecule 11: 40S ribosomal protein S18

Chain SK:

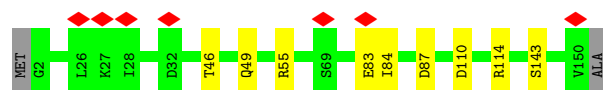




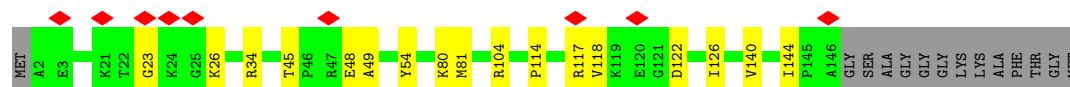
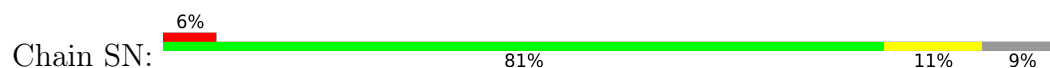
- Molecule 12: 40S ribosomal protein S29



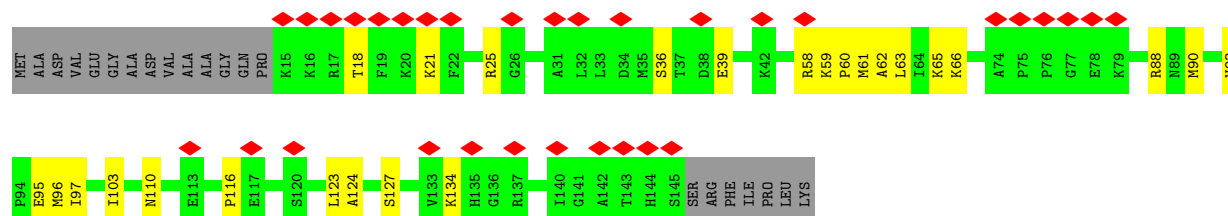
- Molecule 13: 40S ribosomal protein S13



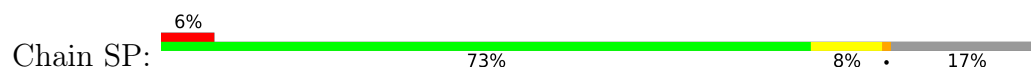
- Molecule 14: 40S ribosomal protein S11

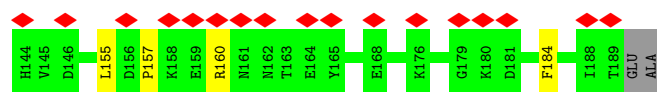


- Molecule 15: 40S ribosomal protein S15-like

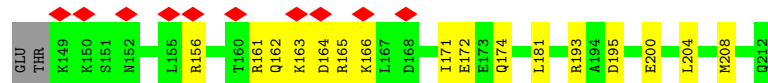
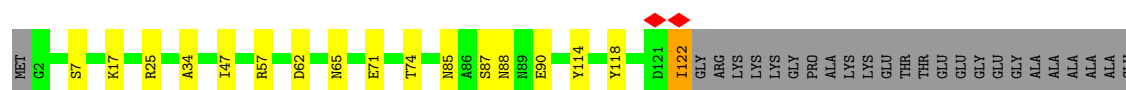
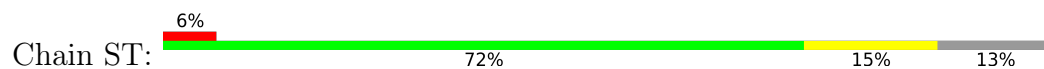


- Molecule 16: Small ribosomal subunit protein eS1

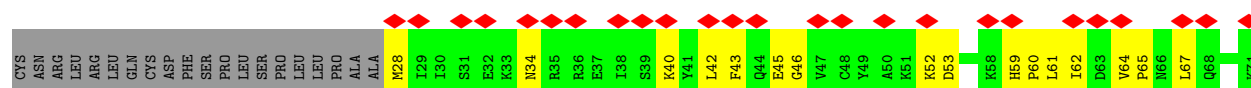




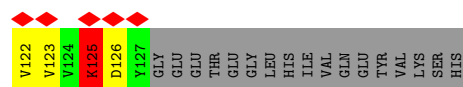
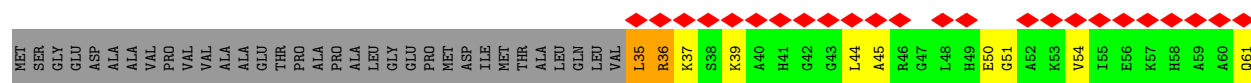
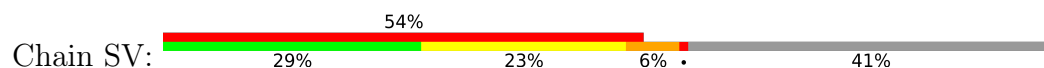
- Molecule 20: 40S ribosomal protein S8



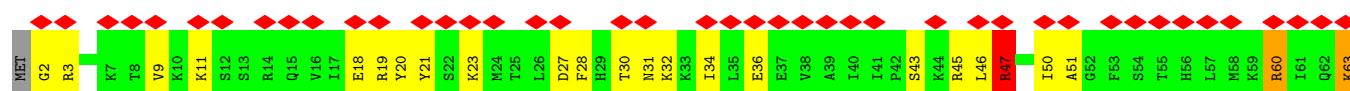
- Molecule 21: 40S ribosomal protein S10-1

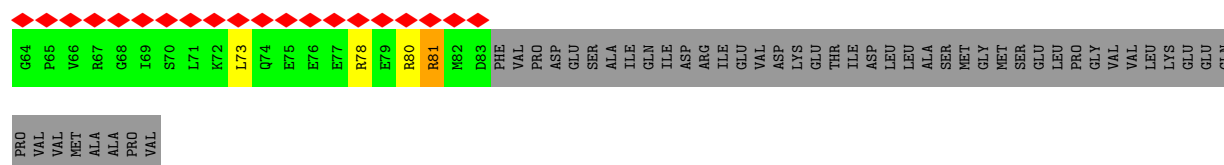


- Molecule 22: 40S ribosomal protein S12

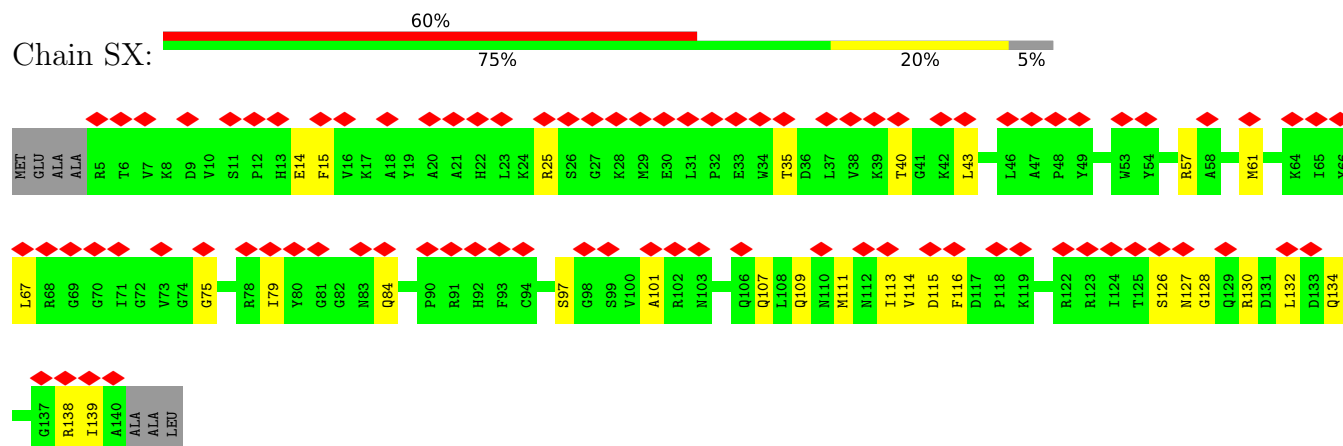


- Molecule 23: 40S ribosomal protein S17-like

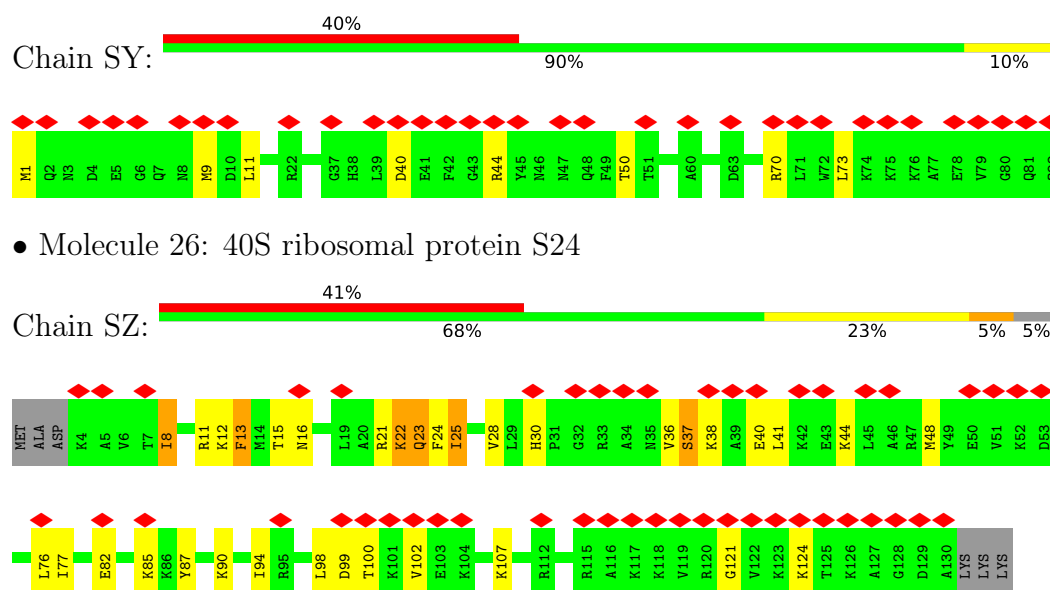




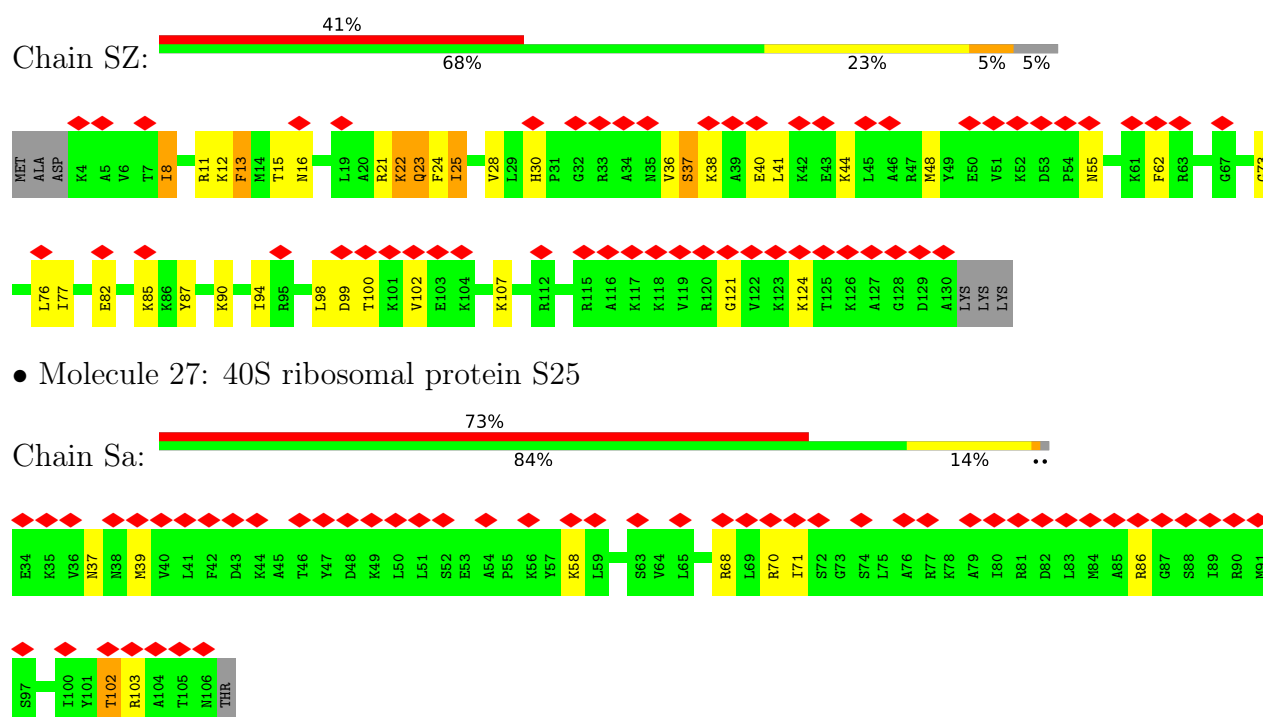
- Molecule 24: 40S ribosomal protein S19-3-like



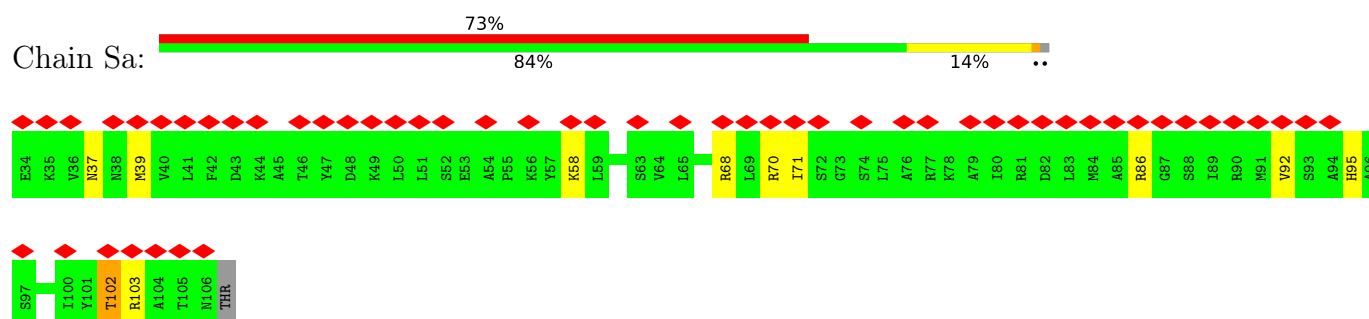
- Molecule 25: 40S ribosomal protein S21

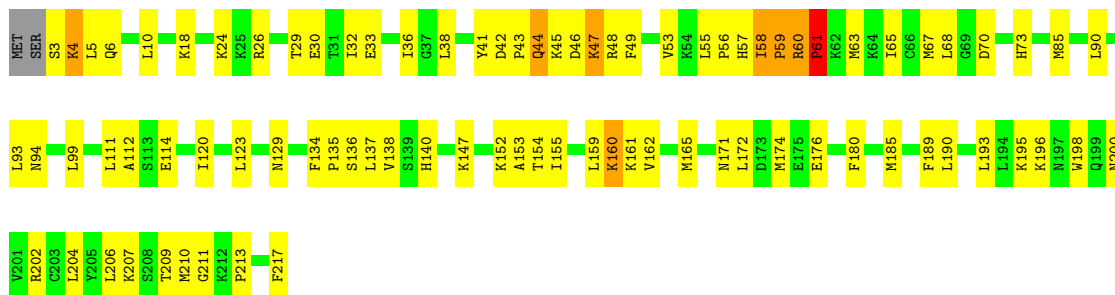


- Molecule 26: 40S ribosomal protein S24



- Molecule 27: 40S ribosomal protein S25





- Molecule 34: 60S ribosomal protein L8-like

Chain LB: 89% 5% 6%



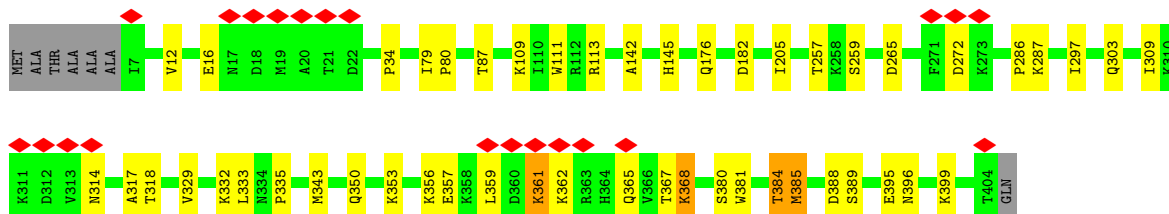
- Molecule 35: 60S ribosomal protein L3

Chain LC: 92% 7% .



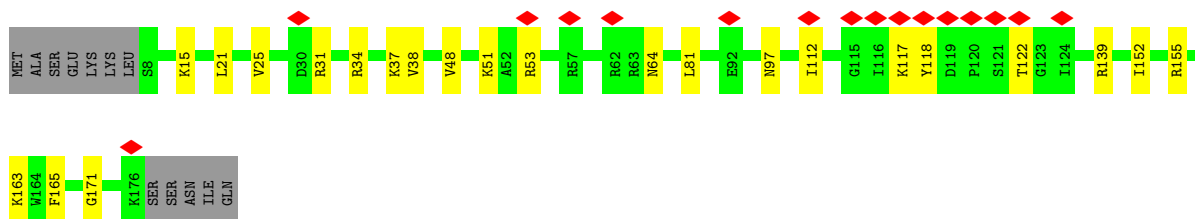
- Molecule 36: 60S ribosomal protein L4-like

Chain LD: 5% 86% 11% ..



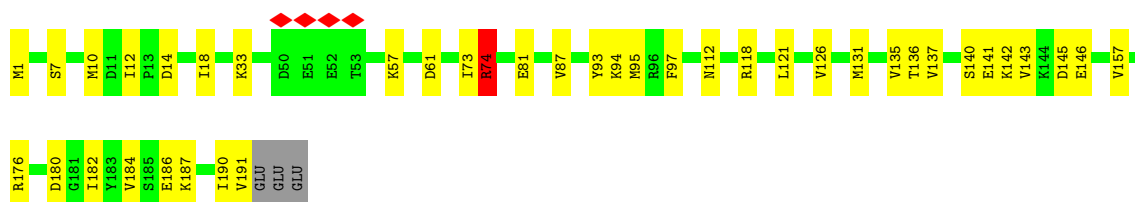
- Molecule 37: 60S ribosomal protein L11-1

Chain LE: 9% 81% 13% 7%



- Molecule 38: 60S ribosomal protein L9-1

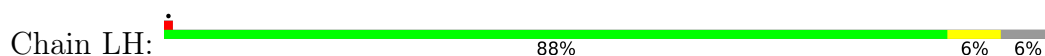
Chain LF: 78% 20% ..



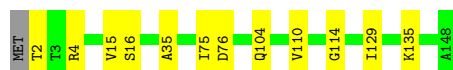
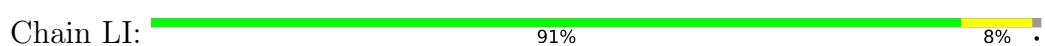
- Molecule 39: 60S ribosomal protein L13a-4



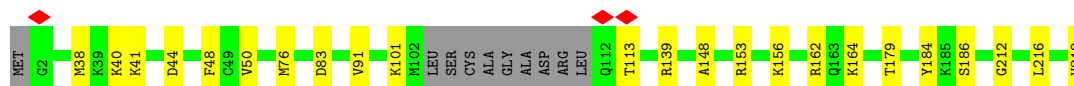
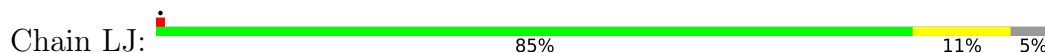
- Molecule 40: 60S ribosomal protein L23



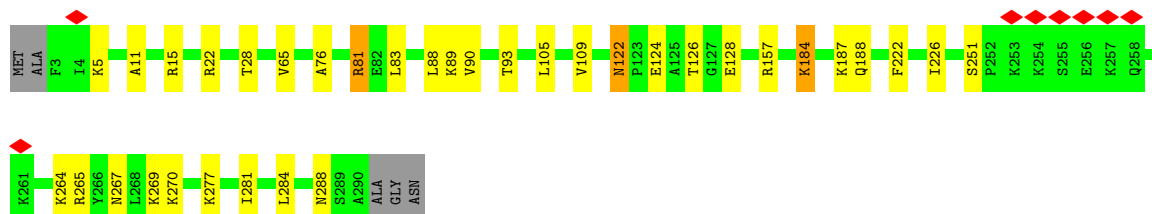
- Molecule 41: 60S ribosomal protein L27a-3



- Molecule 42: 60S ribosomal protein L10



- Molecule 43: 60S ribosomal protein L5-like



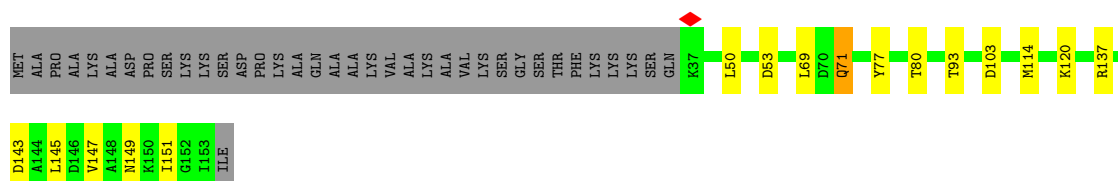
- Molecule 44: 60S ribosomal protein L17-1 isoform X2

Chain LL:  81% 7% 12%



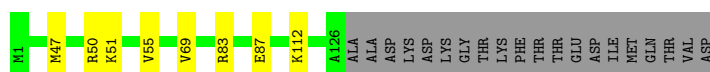
- Molecule 45: Large ribosomal subunit protein uL23

Chain LM:  66% 10% 24%



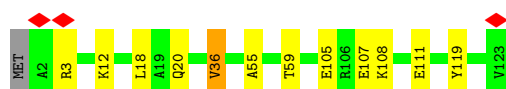
- Molecule 46: 60S ribosomal protein L26-1

Chain LN:  81% 5% 14%



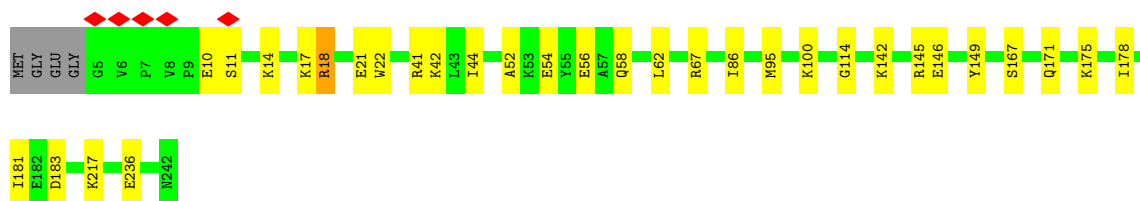
- Molecule 47: 60S ribosomal protein L35-like

Chain LO:  89% 9% 2%



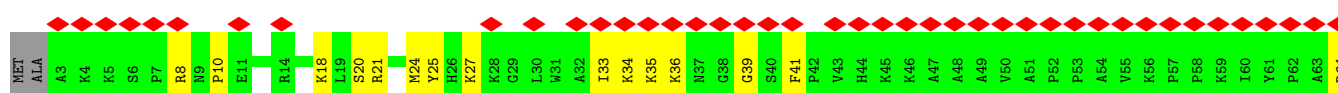
- Molecule 48: 60S ribosomal protein L7-4-like

Chain LP:  85% 13% 2%

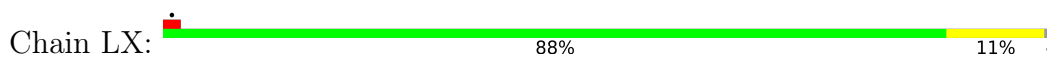


- Molecule 49: 60S ribosomal protein L6-like isoform X1

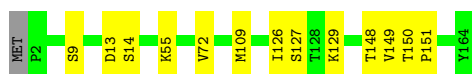
Chain LQ:  20% 78% 12% 10%



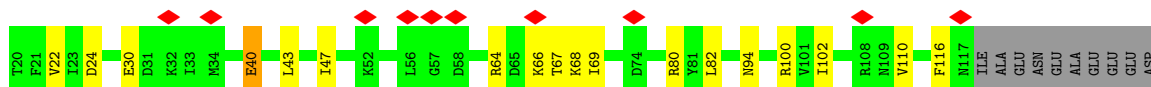
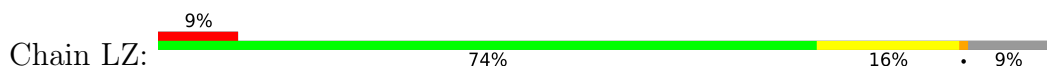
- Molecule 56: 60S ribosomal protein L18a



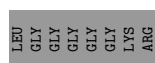
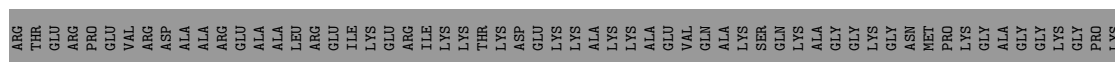
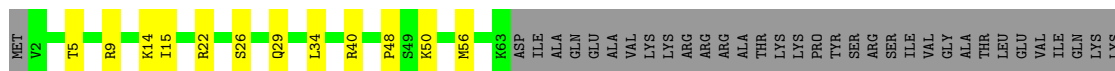
- Molecule 57: 60S ribosomal protein L21-1-like



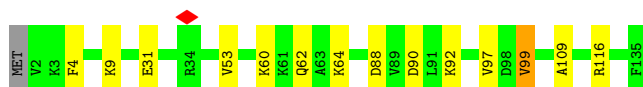
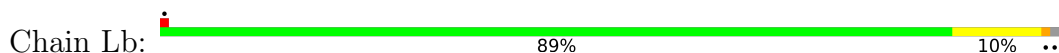
- Molecule 58: Large ribosomal subunit protein eL22



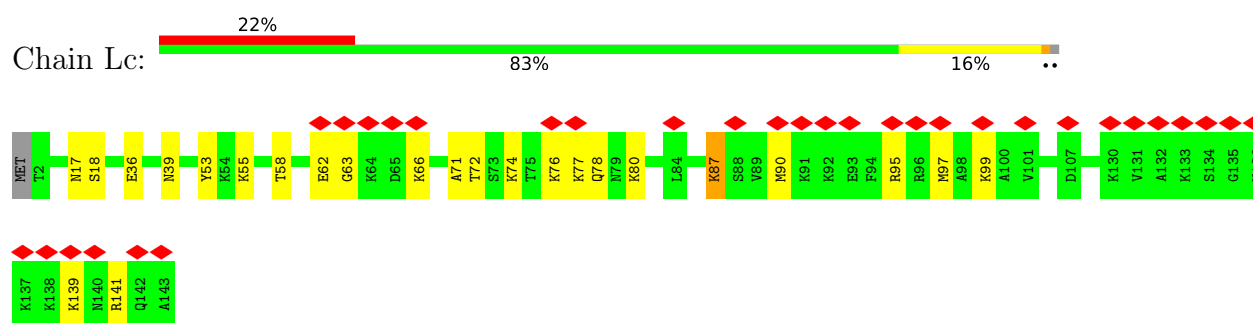
- Molecule 59: 60S ribosomal protein L24



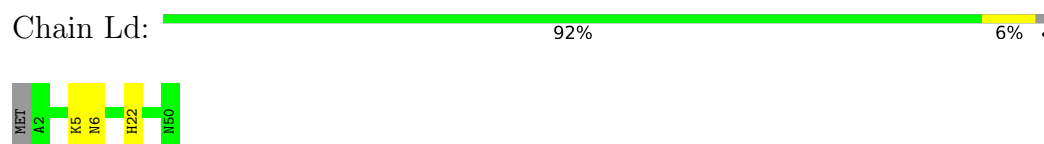
- Molecule 60: 60S ribosomal protein L27



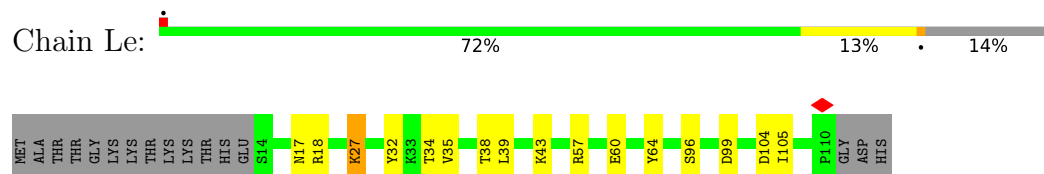
- Molecule 61: 60S ribosomal protein L28-1-like



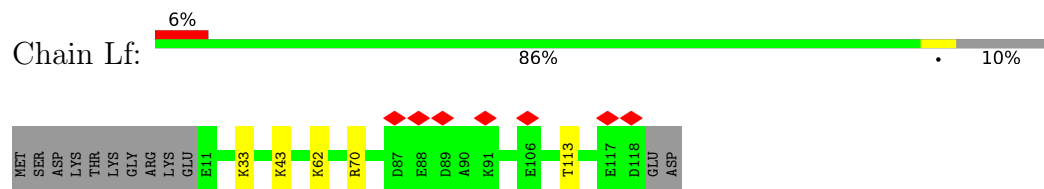
- Molecule 62: 60S ribosomal protein L29



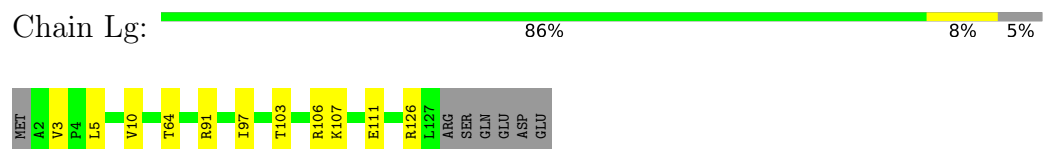
- Molecule 63: 60S ribosomal protein L30



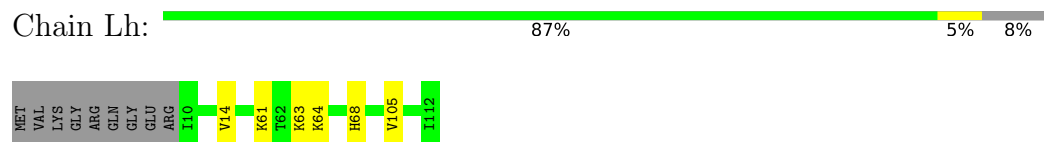
- Molecule 64: 60S ribosomal protein L31



- Molecule 65: 60S ribosomal protein L32-1

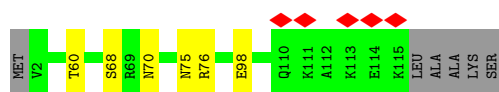


- Molecule 66: 60S ribosomal protein L35a-3-like

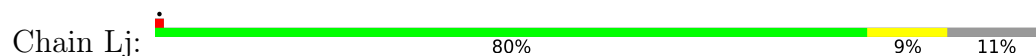


- Molecule 67: Large ribosomal subunit protein eL34





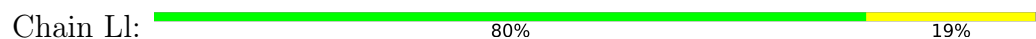
- Molecule 68: 60S ribosomal protein L36



- Molecule 69: Ribosomal protein L37



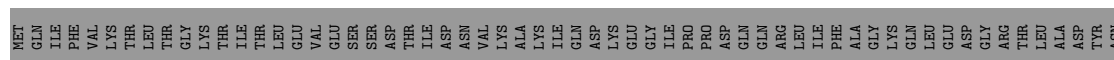
- Molecule 70: 60S ribosomal protein L38



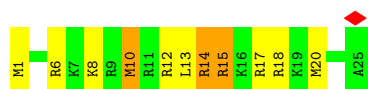
- Molecule 71: 60S ribosomal protein L39-3



- Molecule 72: Ubiquitin-60S ribosomal protein L40

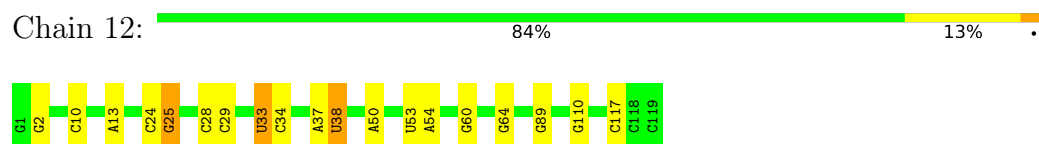


- Molecule 73: 60s ribosomal protein l41-like

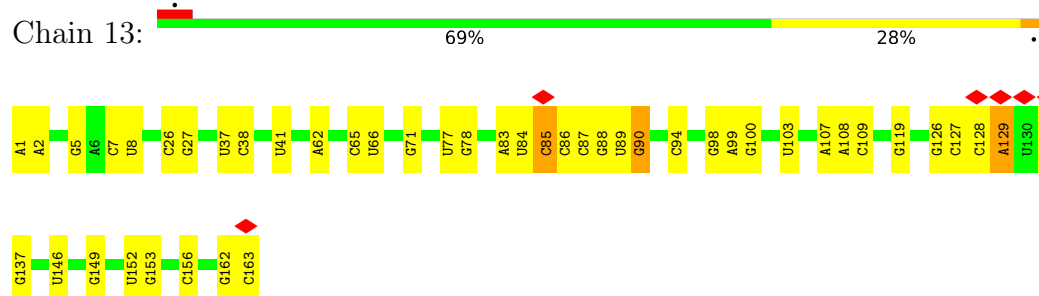




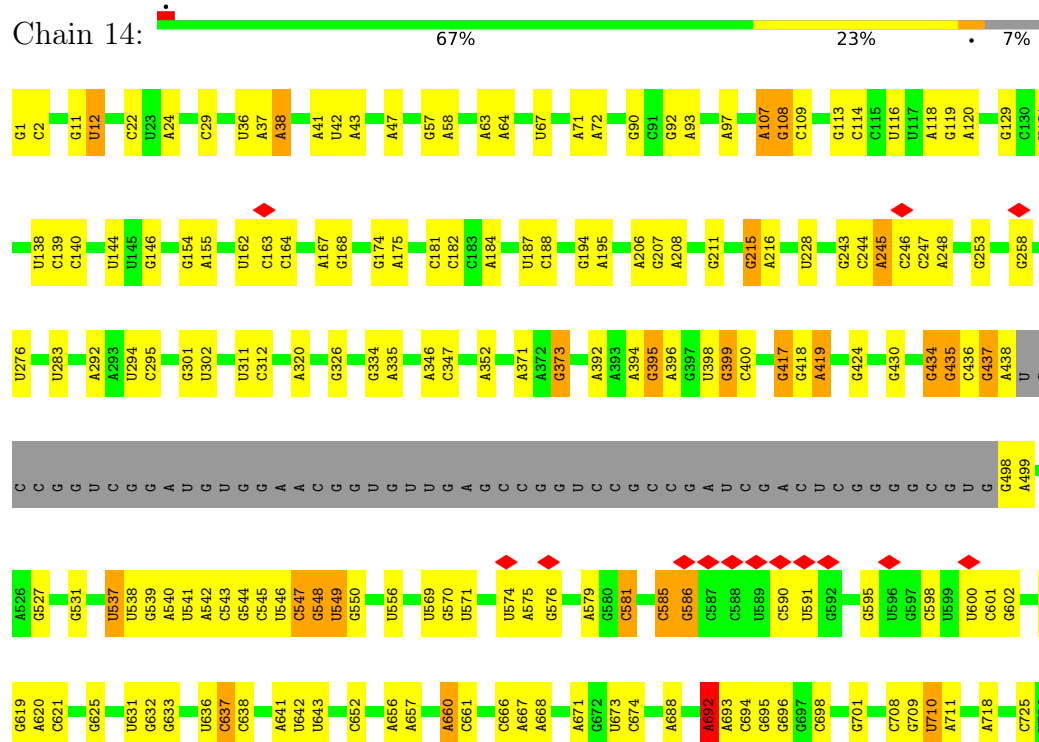
- Molecule 78: 5S rRNA



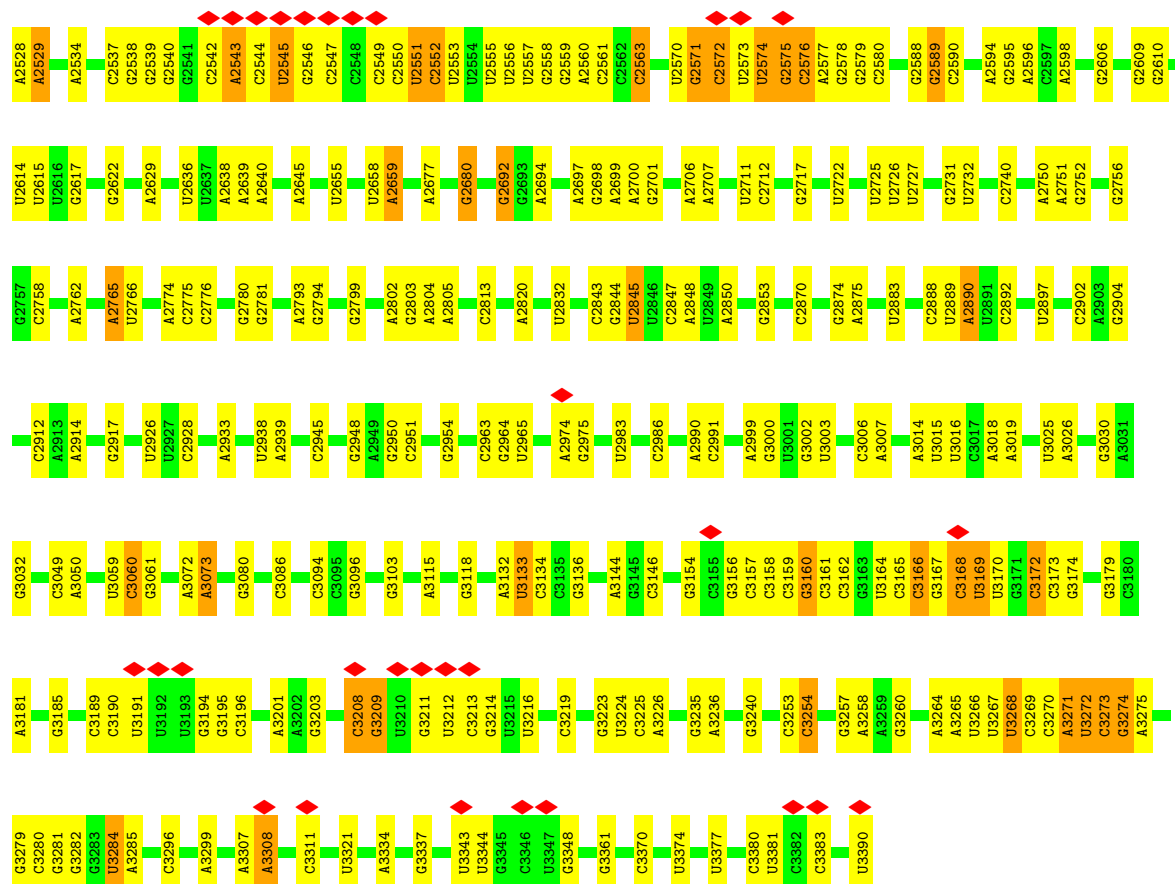
- Molecule 79: 5.8S rRNA



- Molecule 80: 25S rRNA



G2445	C2309	A2153	U1861	G1679	A1501	C1340	U	U1132	A1027	C883	G731
A2446	G2310	A2162	G	A1680	A1508	U1341	G	U1133	U1028	U884	C743
C2447	U2313	U2163	A	G1696	A1509	A1342	U	A1140	C1029	U889	U744
U2448	G	G2164	U	U1697	C1508	A1343	C	G1141	G1030	U894	G745
G2450	A	A2165	U	U1698	G1513	A1344	A	U1142	G1031	A894	A746
A2451	C	A2201	C	U1699	U1534	G1357	U	G1145	G1032	G897	G747
G2452	C	U2208	C	A1700	C1538	A1360	G	A1146	G1033	U898	G752
A2453	U	U2209	U	A1701	C1539	A1361	A	U1155	G1034	U899	G753
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U2456	U	A1912	G	G1709	U1544	G1363	U	U1164	G1036	A907	A765
G2457	C	A1914	C	G1729	A1545	U1364	G	A1165	C1037	G917	G770
U2461	C	A1921	U	G1733	A1546	C1365	C	C1166	A1038	G918	A771
A2462	U	U1922	U	G1734	G1547	A1366	G	G1169	A1039	G919	U775
U2463	U	G1933	C	U1748	U1550	C1373	A	A1170	C1040	G920	U776
A2464	C	C1949	C	G1749	G1551	G1374	A	A1171	G1041	A924	C776
G2465	G	G1968	C	A1755	G1563	A1403	U	C1185	C1042	U925	U777
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G2467	C	G	C	G1766	G1571	G1413	C	A1189	U1045	A931	G785
A2468	U	C	A	U1767	U1577	G1423	A	A1190	G1046	U932	U786
U2469	U	C	C	U1768	U1578	G1430	A	C1191	A1047	C933	U787
C2470	C	G	G	G1769	U1585	G1438	G	G1192	G1048	G934	G791
G2471	C	G	C	G1770	A1586	U1449	A	U1193	C1049	A935	U795
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A2475	C	C	C	G1774	A1592	C1448	A	A1075	C1077	C954	C803
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G2477	C	C	C	U1792	A1594	U1450	A	A1077	C1077	C956	U805
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U2485	C	C	C	G1822	C1643	G1477	C	G1107	G1108	G990	A857
G2486	C	C	C	C1824	U1646	U1481	C	G1108	C1109	G991	C858
A2487	C	C	C	U1827	G1649	A1486	U	A1114	A1115	C993	C859
C2488	C	C	C	C1828	G1652	U1491	C	G1115	C1115	G1006	G867
U2489	C	C	C	A1847	U1653	A1492	C	U1119	C1119	C1013	G870
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U2575	C	C	C	C1855	C1855	G1494	C	C1207	C1208	C1022	G879
G2576	C	C	C	C1855	C1855	G1494	C	C1208	C1209	C1022	G879
A2577	C	C	C	C1855	C1855	G1494	C	C1209	C1210	C1022	G879
U2578	C	C	C	C1855	C1855	G1494	C	C1210	C1211	C1022	G879
G2579	C	C	C	C1855	C1855	G1494	C	C1211	C1212	C1022	G879
A2580	C	C	C	C1855	C1855	G1494	C	C1212	C1213	C1022	G879
U2581	C	C	C	C1855	C1855	G1494	C	C1213	C1214	C1022	G879



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	422599	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	FEI FALCON I (4k x 4k)	Depositor
Maximum map value	2.131	Depositor
Minimum map value	-0.895	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.047	Depositor
Recommended contour level	0.18	Depositor
Map size (Å)	537.04, 537.04, 537.04	wwPDB
Map dimensions	560, 560, 560	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.95899993, 0.95899993, 0.95899993	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	SA	0.30	0/1637	0.45	0/2214
2	SB	0.34	0/1668	0.56	0/2238
3	SC	0.36	0/1528	0.52	0/2048
4	SD	0.27	0/1721	0.44	0/2320
5	SE	0.60	0/1542	0.82	0/2082
6	SF	0.26	0/1050	0.41	0/1405
7	SG	0.31	0/1154	0.49	0/1542
8	SH	0.20	0/813	0.46	0/1095
9	SI	0.36	0/1010	0.56	1/1352 (0.1%)
10	SJ	0.24	0/1119	0.40	0/1487
11	SK	0.25	0/1161	0.47	0/1550
12	SL	0.19	0/453	0.31	0/605
13	SM	0.24	0/1214	0.34	0/1632
14	SN	0.26	0/1180	0.43	0/1579
15	SO	0.26	0/1080	0.55	0/1445
16	SP	0.26	0/1790	0.41	0/2402
17	SQ	0.27	0/2108	0.44	0/2830
18	SR	0.35	0/1850	0.55	0/2465
19	SS	0.19	0/1561	0.44	0/2098
20	ST	0.29	0/1528	0.44	0/2041
21	SU	0.45	0/790	0.72	0/1069
22	SV	0.93	0/609	1.12	1/825 (0.1%)
23	SW	0.60	0/682	0.81	0/906
24	SX	0.32	0/1103	0.49	0/1480
25	SY	0.21	0/661	0.39	0/888
26	SZ	0.34	0/1015	0.58	0/1352
27	Sa	0.22	0/580	0.46	0/778
28	Sb	0.25	0/802	0.37	0/1072
29	Sc	0.19	0/661	0.30	0/888
30	Sd	0.19	0/496	0.36	0/661
31	Se	0.21	0/357	0.50	0/470
32	Sf	0.46	0/574	0.70	0/763

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	LA	0.75	0/1727	1.15	1/2310 (0.0%)
34	LB	0.31	0/1924	0.51	0/2585
35	LC	0.29	0/3175	0.47	0/4253
36	LD	0.45	0/3149	0.66	0/4249
37	LE	0.25	0/1384	0.46	0/1852
38	LF	0.27	0/1539	0.47	0/2058
39	LG	0.28	0/1673	0.42	0/2241
40	LH	0.28	0/1001	0.47	0/1345
41	LI	0.38	0/1183	0.52	0/1581
42	LJ	0.25	0/1707	0.39	0/2283
43	LK	0.35	0/2384	0.50	0/3197
44	LL	0.33	0/1261	0.51	0/1693
45	LM	0.27	0/965	0.45	0/1295
46	LN	0.26	0/1037	0.42	0/1385
47	LO	0.25	0/1007	0.37	0/1340
48	LP	0.29	0/1993	0.49	0/2672
49	LQ	0.20	0/1634	0.37	0/2196
50	LR	0.24	0/1907	0.36	0/2555
51	LS	0.26	0/1638	0.42	0/2198
52	LT	0.25	0/1059	0.40	0/1415
53	LU	0.32	0/1740	0.49	0/2333
54	LV	0.29	0/1487	0.45	0/1989
55	LW	0.28	0/1538	0.45	0/2031
56	LX	0.30	0/1544	0.41	0/2071
57	LY	0.30	0/1331	0.44	0/1784
58	LZ	0.39	0/810	0.61	0/1085
59	La	0.24	0/539	0.40	0/716
60	Lb	0.26	0/1116	0.39	0/1489
61	Lc	0.33	0/1130	0.56	0/1514
62	Ld	0.40	0/417	0.61	0/555
63	Le	0.27	0/757	0.42	0/1018
64	Lf	0.27	0/885	0.38	0/1184
65	Lg	0.30	0/1051	0.49	0/1407
66	Lh	0.29	0/856	0.43	0/1149
67	Li	0.27	0/939	0.42	0/1251
68	Lj	0.24	0/793	0.45	0/1050
69	Lk	0.33	0/714	0.54	0/949
70	Ll	0.22	0/566	0.34	0/752
71	Lm	0.29	0/460	0.42	0/611
72	Ln	0.17	0/426	0.37	0/561
73	Lo	0.77	0/234	1.21	0/300
74	Lp	0.43	0/799	0.56	0/1055
75	Lq	0.33	0/595	0.48	0/791

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	10	0.67	0/3752	1.06	4/5844 (0.1%)
77	11	0.36	0/38798	0.48	2/60451 (0.0%)
78	12	0.31	0/2837	0.35	0/4420
79	13	0.37	0/3889	0.43	0/6060
80	14	0.42	0/75291	0.53	2/117423 (0.0%)
All	All	0.38	0/214138	0.53	11/314128 (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
2	SB	0	1
5	SE	0	4
7	SG	0	1
18	SR	0	2
22	SV	0	1
23	SW	0	6
24	SX	0	1
32	Sf	0	1
33	LA	0	4
37	LE	0	1
38	LF	0	1
73	Lo	0	6
All	All	0	29

There are no bond length outliers.

The worst 5 of 11 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	LA	61	PRO	N-CA-CB	-8.12	94.72	103.25
76	10	164	C	C2'-C3'-O3'	-6.79	103.52	113.70
9	SI	136	THR	N-CA-C	-6.06	103.84	111.11
80	14	1093	U	C2'-C3'-O3'	-6.05	104.62	113.70
76	10	160	A	C2'-C3'-O3'	5.97	118.46	109.50

There are no chirality outliers.

5 of 29 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	SB	97	ARG	Sidechain
5	SE	151	ARG	Sidechain
5	SE	152	ARG	Sidechain
5	SE	165	ARG	Sidechain
5	SE	27	ARG	Sidechain

5.2 Too-close contacts

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	SA	1603	0	1611	22	0
2	SB	1645	0	1726	34	0
3	SC	1501	0	1551	22	0
4	SD	1686	0	1789	17	0
5	SE	1520	0	1553	21	0
6	SF	1032	0	1068	12	0
7	SG	1135	0	1198	15	0
8	SH	804	0	865	15	0
9	SI	998	0	1028	10	0
10	SJ	1100	0	1165	5	0
11	SK	1144	0	1171	23	0
12	SL	441	0	434	5	0
13	SM	1189	0	1278	6	0
14	SN	1155	0	1210	9	0
15	SO	1057	0	1127	22	0
16	SP	1760	0	1820	14	0
17	SQ	2068	0	2170	30	0
18	SR	1826	0	1929	46	0
19	SS	1533	0	1587	21	0
20	ST	1504	0	1557	19	0
21	SU	769	0	770	24	0
22	SV	602	0	586	27	0
23	SW	675	0	719	21	0
24	SX	1081	0	1091	21	0
25	SY	651	0	630	6	0
26	SZ	1000	0	1047	28	0
27	Sa	574	0	607	8	0
28	Sb	789	0	824	7	0
29	Sc	650	0	649	3	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
30	Sd	493	0	524	4	0
31	Se	353	0	376	8	0
32	Sf	562	0	584	23	0
33	LA	1702	0	1790	55	0
34	LB	1880	0	1915	9	0
35	LC	3107	0	3232	19	0
36	LD	3087	0	3207	25	0
37	LE	1362	0	1405	14	0
38	LF	1520	0	1614	25	0
39	LG	1644	0	1773	6	0
40	LH	985	0	1046	6	0
41	LI	1155	0	1197	7	0
42	LJ	1671	0	1731	14	0
43	LK	2339	0	2377	22	0
44	LL	1236	0	1262	7	0
45	LM	950	0	1029	11	0
46	LN	1023	0	1105	6	0
47	LO	997	0	1136	7	0
48	LP	1958	0	2057	21	0
49	LQ	1600	0	1731	24	0
50	LR	1874	0	2030	17	0
51	LS	1608	0	1697	13	0
52	LT	1046	0	1144	13	0
53	LU	1701	0	1771	15	0
54	LV	1462	0	1581	5	0
55	LW	1519	0	1630	16	0
56	LX	1505	0	1557	13	0
57	LY	1306	0	1367	8	0
58	LZ	799	0	836	10	0
59	La	526	0	554	10	0
60	Lb	1097	0	1182	6	0
61	Lc	1114	0	1189	15	0
62	Ld	407	0	393	2	0
63	Le	745	0	783	9	0
64	Lf	875	0	934	3	0
65	Lg	1034	0	1110	7	0
66	Lh	836	0	865	4	0
67	Li	926	0	1013	4	0
68	Lj	784	0	871	7	0
69	Lk	701	0	729	13	0
70	Ll	558	0	604	9	0
71	Lm	448	0	480	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
72	Ln	420	0	461	5	0
73	Lo	233	0	270	3	0
74	Lp	785	0	844	3	0
75	Lq	586	0	611	5	0
76	10	3359	0	1699	97	0
77	11	34688	0	17477	254	0
78	12	2538	0	1286	6	0
79	13	3478	0	1761	20	0
80	14	67280	0	33921	293	0
81	10	7	0	0	0	0
81	14	2	0	0	0	0
82	10	20	0	0	1	0
82	14	14	0	0	0	0
All	All	199397	0	148501	1513	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 4.

The worst 5 of 1513 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)
33:LA:204:LEU:HB2	33:LA:217:PHE:HB3	1.50	0.93
77:11:1594:G:H1	77:11:1614:U:H3	1.13	0.90
57:LY:129:LYS:HB3	80:14:1109:A:H5'	1.51	0.89
33:LA:171:ASN:OD1	33:LA:174:MET:HG3	1.74	0.88
33:LA:36:ILE:HG21	33:LA:190:LEU:HD21	1.58	0.86

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	SA	200/257 (78%)	196 (98%)	4 (2%)	0	100	100
2	SB	209/248 (84%)	201 (96%)	8 (4%)	0	100	100
3	SC	181/187 (97%)	175 (97%)	6 (3%)	0	100	100
4	SD	215/280 (77%)	211 (98%)	4 (2%)	0	100	100
5	SE	192/210 (91%)	176 (92%)	16 (8%)	0	100	100
6	SF	127/130 (98%)	124 (98%)	3 (2%)	0	100	100
7	SG	139/147 (95%)	137 (99%)	2 (1%)	0	100	100
8	SH	100/122 (82%)	97 (97%)	3 (3%)	0	100	100
9	SI	130/150 (87%)	125 (96%)	5 (4%)	0	100	100
10	SJ	139/142 (98%)	135 (97%)	4 (3%)	0	100	100
11	SK	139/141 (99%)	133 (96%)	6 (4%)	0	100	100
12	SL	53/56 (95%)	53 (100%)	0	0	100	100
13	SM	147/151 (97%)	146 (99%)	1 (1%)	0	100	100
14	SN	143/159 (90%)	141 (99%)	2 (1%)	0	100	100
15	SO	129/152 (85%)	127 (98%)	2 (2%)	0	100	100
16	SP	214/261 (82%)	211 (99%)	3 (1%)	0	100	100
17	SQ	257/264 (97%)	254 (99%)	3 (1%)	0	100	100
18	SR	228/249 (92%)	222 (97%)	6 (3%)	0	100	100
19	SS	186/191 (97%)	180 (97%)	6 (3%)	0	100	100
20	ST	181/212 (85%)	178 (98%)	3 (2%)	0	100	100
21	SU	89/118 (75%)	85 (96%)	4 (4%)	0	100	100
22	SV	81/143 (57%)	66 (82%)	14 (17%)	1 (1%)	10	28
23	SW	80/131 (61%)	76 (95%)	4 (5%)	0	100	100
24	SX	134/143 (94%)	133 (99%)	1 (1%)	0	100	100
25	SY	80/82 (98%)	76 (95%)	4 (5%)	0	100	100
26	SZ	125/133 (94%)	124 (99%)	1 (1%)	0	100	100
27	Sa	71/74 (96%)	70 (99%)	1 (1%)	0	100	100
28	Sb	96/113 (85%)	95 (99%)	1 (1%)	0	100	100
29	Sc	82/85 (96%)	80 (98%)	2 (2%)	0	100	100
30	Sd	59/65 (91%)	59 (100%)	0	0	100	100
31	Se	41/62 (66%)	41 (100%)	0	0	100	100
32	Sf	67/156 (43%)	63 (94%)	4 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
33	LA	213/217 (98%)	196 (92%)	15 (7%)	2 (1%)	14	34
34	LB	243/260 (94%)	231 (95%)	12 (5%)	0	100	100
35	LC	384/389 (99%)	372 (97%)	12 (3%)	0	100	100
36	LD	396/405 (98%)	382 (96%)	14 (4%)	0	100	100
37	LE	167/181 (92%)	164 (98%)	3 (2%)	0	100	100
38	LF	189/194 (97%)	183 (97%)	6 (3%)	0	100	100
39	LG	203/206 (98%)	201 (99%)	2 (1%)	0	100	100
40	LH	129/140 (92%)	127 (98%)	2 (2%)	0	100	100
41	LI	145/148 (98%)	140 (97%)	4 (3%)	1 (1%)	18	40
42	LJ	205/219 (94%)	201 (98%)	4 (2%)	0	100	100
43	LK	286/293 (98%)	278 (97%)	8 (3%)	0	100	100
44	LL	152/175 (87%)	150 (99%)	2 (1%)	0	100	100
45	LM	115/154 (75%)	114 (99%)	1 (1%)	0	100	100
46	LN	124/146 (85%)	122 (98%)	2 (2%)	0	100	100
47	LO	120/123 (98%)	115 (96%)	5 (4%)	0	100	100
48	LP	236/242 (98%)	229 (97%)	7 (3%)	0	100	100
49	LQ	203/230 (88%)	198 (98%)	5 (2%)	0	100	100
50	LR	231/237 (98%)	228 (99%)	3 (1%)	0	100	100
51	LS	198/200 (99%)	192 (97%)	6 (3%)	0	100	100
52	LT	127/130 (98%)	122 (96%)	5 (4%)	0	100	100
53	LU	201/204 (98%)	195 (97%)	6 (3%)	0	100	100
54	LV	184/187 (98%)	180 (98%)	4 (2%)	0	100	100
55	LW	180/211 (85%)	179 (99%)	1 (1%)	0	100	100
56	LX	175/178 (98%)	174 (99%)	1 (1%)	0	100	100
57	LY	161/164 (98%)	157 (98%)	4 (2%)	0	100	100
58	LZ	96/108 (89%)	94 (98%)	2 (2%)	0	100	100
59	La	60/164 (37%)	59 (98%)	1 (2%)	0	100	100
60	Lb	132/135 (98%)	130 (98%)	2 (2%)	0	100	100
61	Lc	140/143 (98%)	137 (98%)	3 (2%)	0	100	100
62	Ld	47/50 (94%)	47 (100%)	0	0	100	100
63	Le	95/113 (84%)	93 (98%)	2 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
64	Lf	106/120 (88%)	105 (99%)	1 (1%)	0	100	100
65	Lg	124/133 (93%)	123 (99%)	1 (1%)	0	100	100
66	Lh	101/112 (90%)	100 (99%)	1 (1%)	0	100	100
67	Li	112/120 (93%)	111 (99%)	1 (1%)	0	100	100
68	Lj	96/110 (87%)	94 (98%)	2 (2%)	0	100	100
69	Lk	84/95 (88%)	83 (99%)	1 (1%)	0	100	100
70	Ll	66/69 (96%)	65 (98%)	1 (2%)	0	100	100
71	Lm	48/51 (94%)	45 (94%)	3 (6%)	0	100	100
72	Ln	49/128 (38%)	49 (100%)	0	0	100	100
73	Lo	23/25 (92%)	23 (100%)	0	0	100	100
74	Lp	96/105 (91%)	93 (97%)	3 (3%)	0	100	100
75	Lq	74/77 (96%)	70 (95%)	4 (5%)	0	100	100
All	All	10830/12105 (90%)	10541 (97%)	285 (3%)	4 (0%)	100	100

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
33	LA	59	PRO
22	SV	93	PRO
33	LA	61	PRO
41	LI	15	VAL

5.3.2 Protein sidechains ⓘ

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	SA	170/209 (81%)	168 (99%)	2 (1%)	63	79
2	SB	176/215 (82%)	173 (98%)	3 (2%)	53	73
3	SC	157/164 (96%)	150 (96%)	7 (4%)	24	50
4	SD	184/225 (82%)	183 (100%)	1 (0%)	81	90

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
5	SE	163/175 (93%)	152 (93%)	11 (7%)	15	36
6	SF	111/112 (99%)	110 (99%)	1 (1%)	70	83
7	SG	116/120 (97%)	107 (92%)	9 (8%)	11	30
8	SH	93/108 (86%)	89 (96%)	4 (4%)	26	52
9	SI	103/120 (86%)	99 (96%)	4 (4%)	28	54
10	SJ	113/114 (99%)	109 (96%)	4 (4%)	32	57
11	SK	121/122 (99%)	117 (97%)	4 (3%)	33	58
12	SL	46/47 (98%)	46 (100%)	0	100	100
13	SM	130/131 (99%)	129 (99%)	1 (1%)	73	85
14	SN	124/131 (95%)	121 (98%)	3 (2%)	43	67
15	SO	114/130 (88%)	114 (100%)	0	100	100
16	SP	195/228 (86%)	190 (97%)	5 (3%)	40	65
17	SQ	224/228 (98%)	218 (97%)	6 (3%)	39	64
18	SR	193/213 (91%)	186 (96%)	7 (4%)	31	56
19	SS	167/170 (98%)	164 (98%)	3 (2%)	51	72
20	ST	159/176 (90%)	152 (96%)	7 (4%)	25	51
21	SU	84/109 (77%)	78 (93%)	6 (7%)	13	33
22	SV	60/112 (54%)	41 (68%)	19 (32%)	0	0
23	SW	74/119 (62%)	70 (95%)	4 (5%)	20	44
24	SX	111/114 (97%)	107 (96%)	4 (4%)	31	56
25	SY	69/69 (100%)	66 (96%)	3 (4%)	26	52
26	SZ	101/113 (89%)	92 (91%)	9 (9%)	9	24
27	Sa	63/64 (98%)	60 (95%)	3 (5%)	23	48
28	Sb	86/100 (86%)	85 (99%)	1 (1%)	63	79
29	Sc	75/76 (99%)	73 (97%)	2 (3%)	39	64
30	Sd	54/57 (95%)	50 (93%)	4 (7%)	13	32
31	Se	36/49 (74%)	35 (97%)	1 (3%)	38	62
32	Sf	60/134 (45%)	50 (83%)	10 (17%)	2	6
33	LA	190/196 (97%)	170 (90%)	20 (10%)	6	19
34	LB	190/197 (96%)	188 (99%)	2 (1%)	65	80
35	LC	331/333 (99%)	327 (99%)	4 (1%)	63	79

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
36	LD	325/331 (98%)	301 (93%)	24 (7%)	13	32
37	LE	145/157 (92%)	143 (99%)	2 (1%)	59	77
38	LF	167/170 (98%)	161 (96%)	6 (4%)	31	56
39	LG	174/175 (99%)	170 (98%)	4 (2%)	44	67
40	LH	103/109 (94%)	101 (98%)	2 (2%)	50	71
41	LI	119/120 (99%)	117 (98%)	2 (2%)	53	73
42	LJ	173/180 (96%)	167 (96%)	6 (4%)	32	57
43	LK	243/246 (99%)	233 (96%)	10 (4%)	27	53
44	LL	133/151 (88%)	131 (98%)	2 (2%)	57	76
45	LM	106/134 (79%)	104 (98%)	2 (2%)	50	71
46	LN	115/132 (87%)	114 (99%)	1 (1%)	70	83
47	LO	108/109 (99%)	106 (98%)	2 (2%)	50	71
48	LP	207/209 (99%)	202 (98%)	5 (2%)	43	67
49	LQ	174/194 (90%)	172 (99%)	2 (1%)	65	80
50	LR	201/205 (98%)	193 (96%)	8 (4%)	28	53
51	LS	166/166 (100%)	166 (100%)	0	100	100
52	LT	112/113 (99%)	109 (97%)	3 (3%)	39	64
53	LU	176/177 (99%)	173 (98%)	3 (2%)	53	73
54	LV	154/155 (99%)	151 (98%)	3 (2%)	50	71
55	LW	158/180 (88%)	152 (96%)	6 (4%)	29	55
56	LX	163/164 (99%)	160 (98%)	3 (2%)	51	72
57	LY	140/141 (99%)	137 (98%)	3 (2%)	47	69
58	LZ	89/97 (92%)	85 (96%)	4 (4%)	24	50
59	La	57/133 (43%)	56 (98%)	1 (2%)	51	72
60	Lb	116/117 (99%)	112 (97%)	4 (3%)	32	58
61	Lc	122/123 (99%)	118 (97%)	4 (3%)	33	58
62	Ld	42/43 (98%)	41 (98%)	1 (2%)	43	67
63	Le	85/98 (87%)	83 (98%)	2 (2%)	43	67
64	Lf	95/106 (90%)	93 (98%)	2 (2%)	47	69
65	Lg	114/121 (94%)	114 (100%)	0	100	100
66	Lh	92/99 (93%)	92 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
67	Li	100/104 (96%)	99 (99%)	1 (1%)	68	82
68	Lj	84/91 (92%)	83 (99%)	1 (1%)	63	79
69	Lk	72/77 (94%)	72 (100%)	0	100	100
70	Ll	64/65 (98%)	63 (98%)	1 (2%)	55	75
71	Lm	47/48 (98%)	46 (98%)	1 (2%)	47	69
72	Ln	46/114 (40%)	46 (100%)	0	100	100
73	Lo	22/23 (96%)	17 (77%)	5 (23%)	1	2
74	Lp	85/91 (93%)	83 (98%)	2 (2%)	43	67
75	Lq	60/62 (97%)	58 (97%)	2 (3%)	33	58
All	All	9397/10310 (91%)	9093 (97%)	304 (3%)	35	59

5 of 304 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
44	LL	91	ILE
62	Ld	22	HIS
48	LP	42	LYS
54	LV	162	THR
74	Lp	24	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 150 such sidechains are listed below:

Mol	Chain	Res	Type
54	LV	143	ASN
69	Lk	77	ASN
56	LX	107	GLN
63	Le	17	ASN
25	SY	46	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
76	10	158/204 (77%)	96 (60%)	16 (10%)
77	11	1618/1808 (89%)	300 (18%)	21 (1%)
78	12	118/119 (99%)	12 (10%)	0
79	13	162/163 (99%)	34 (20%)	0
80	14	3138/3390 (92%)	587 (18%)	28 (0%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
All	All	5194/5684 (91%)	1029 (19%)	65 (1%)

5 of 1029 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
76	10	48	G
76	10	49	U
76	10	50	G
76	10	53	G
76	10	54	C

5 of 65 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
80	14	2376	A
80	14	2552	C
77	11	819	G
77	11	581	U
80	14	2573	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 oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 9 ligands modelled in this entry, 9 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](#)

There are no chain breaks in this entry.

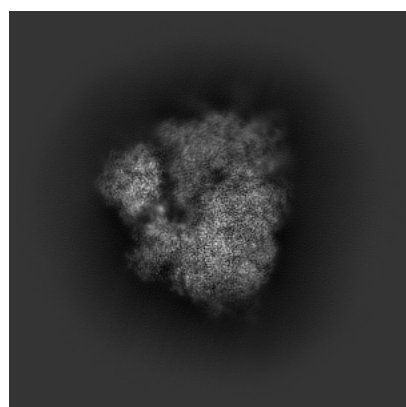
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-65329. These allow visual inspection of the internal detail of the map and identification of artifacts.

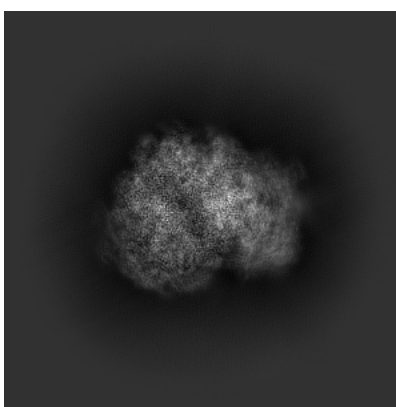
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

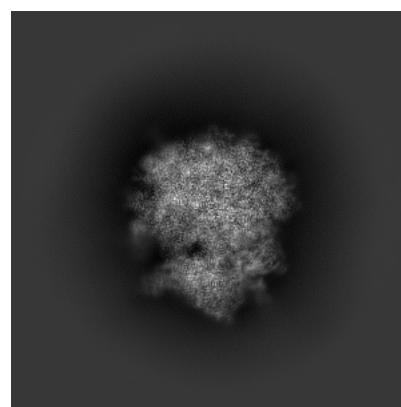
6.1.1 Primary map



X



Y

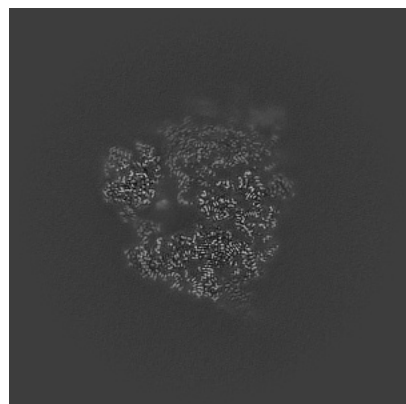


Z

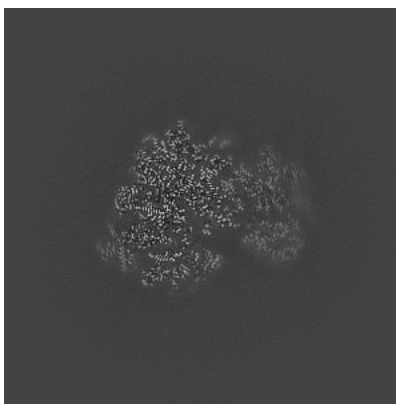
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

6.2.1 Primary map



X Index: 280



Y Index: 280

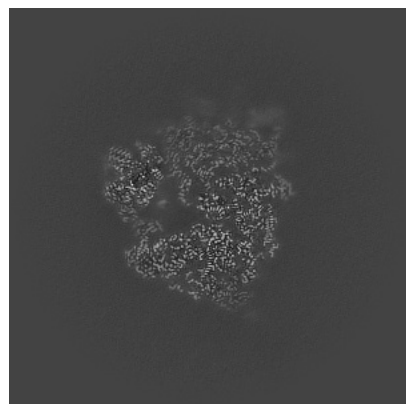


Z Index: 280

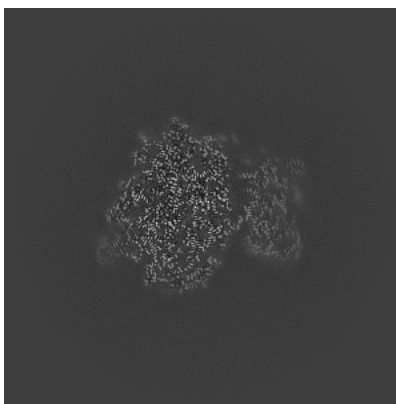
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

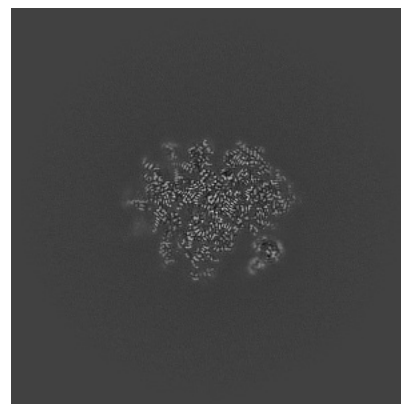
6.3.1 Primary map



X Index: 277



Y Index: 291

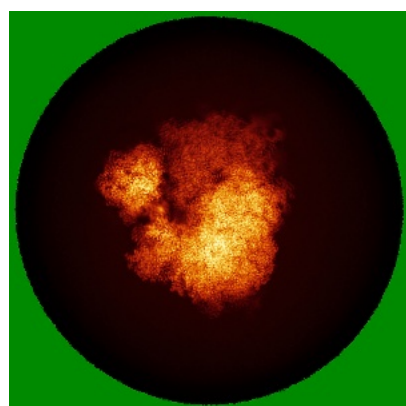


Z Index: 233

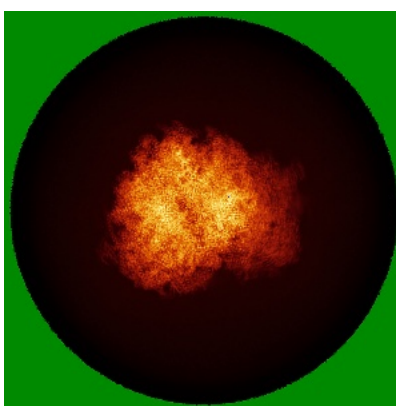
The images above show the largest variance slices of the map in three orthogonal directions.

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

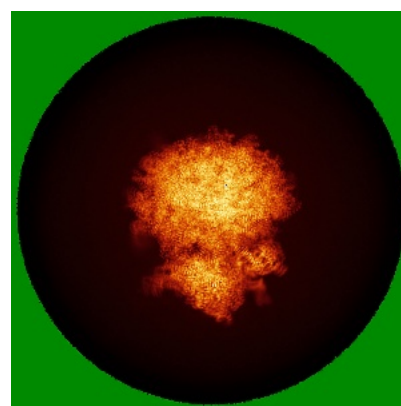
6.4.1 Primary map



X



Y

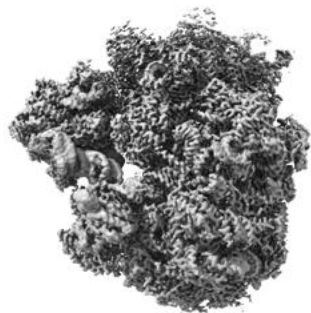


Z

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 0.18. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

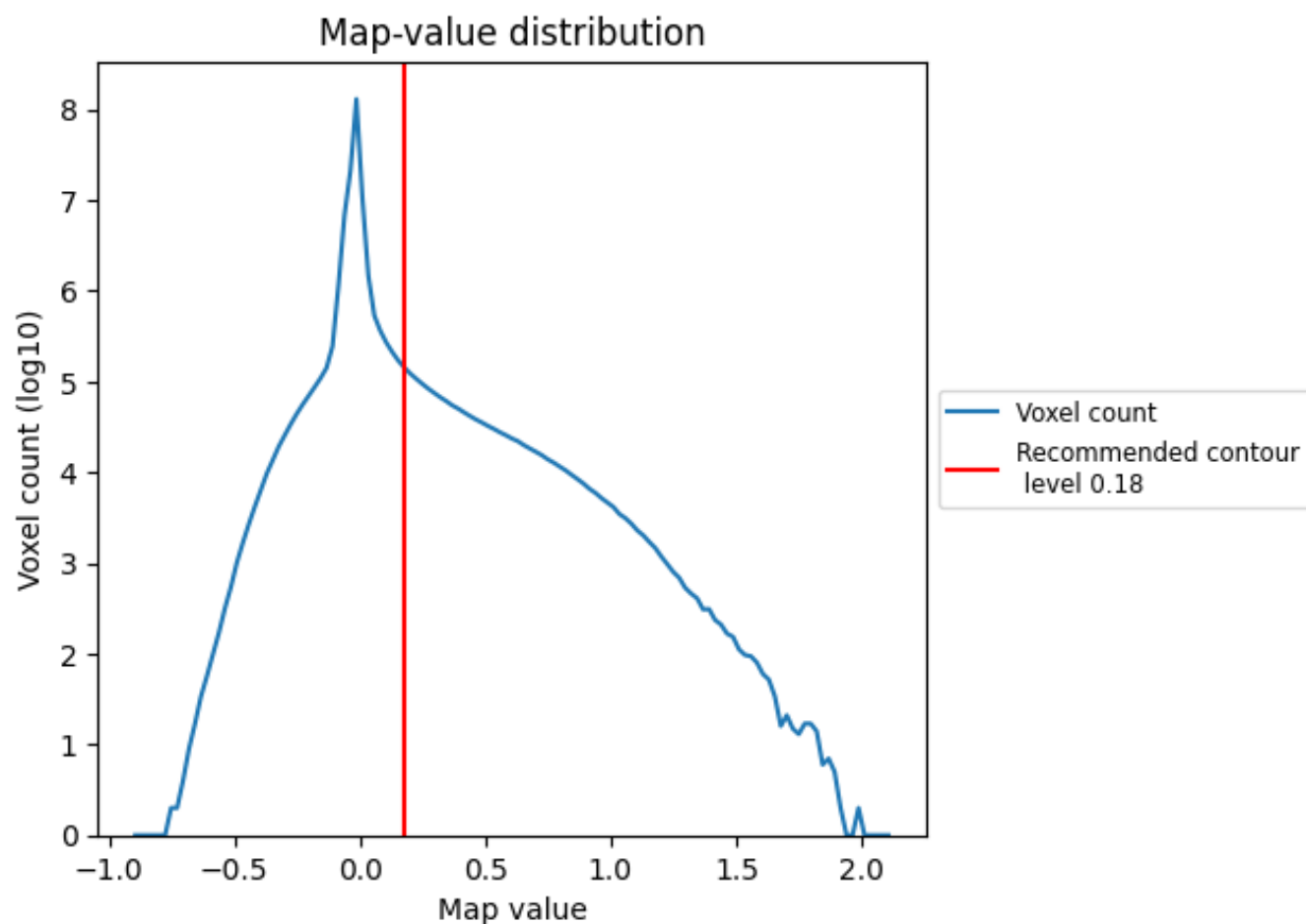
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

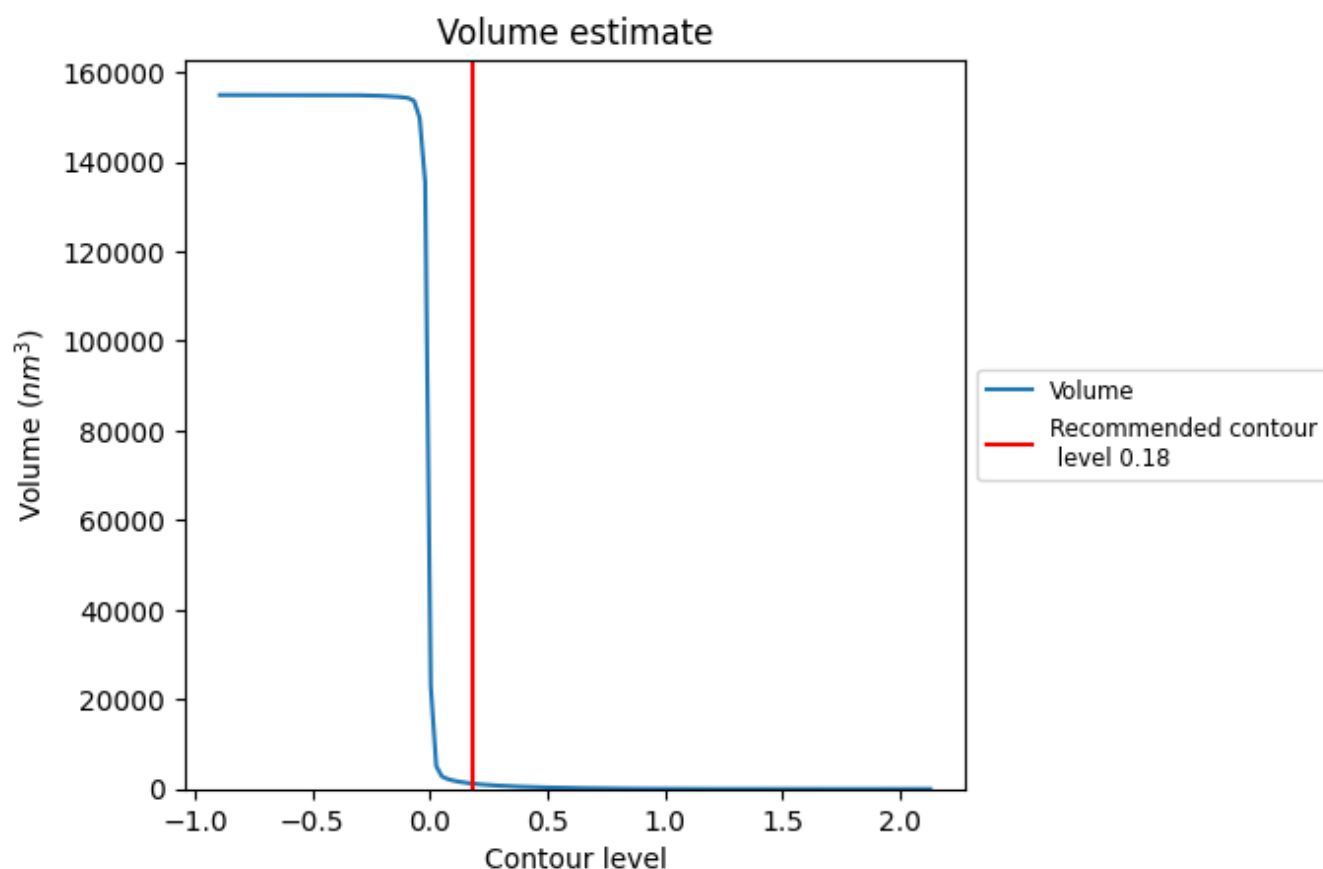
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

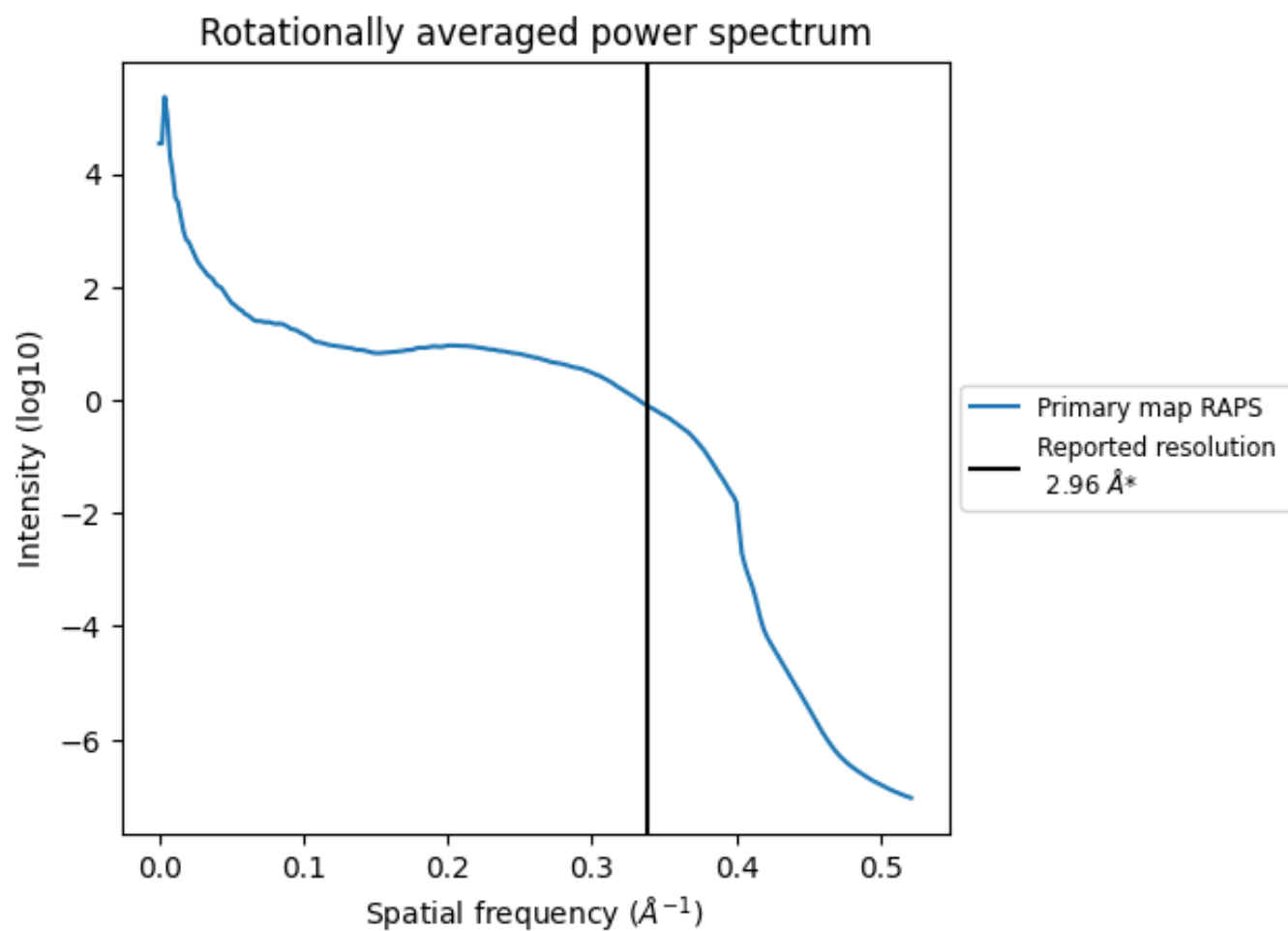
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1206 nm³; this corresponds to an approximate mass of 1089 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 0.338 Å⁻¹

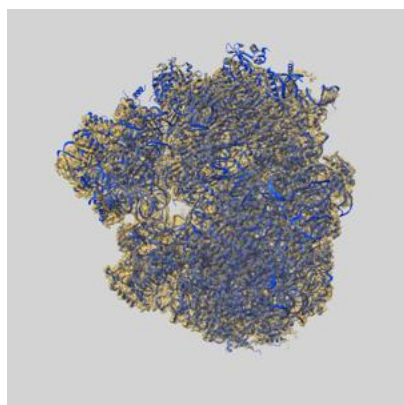
8 Fourier-Shell correlation ⓘ

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

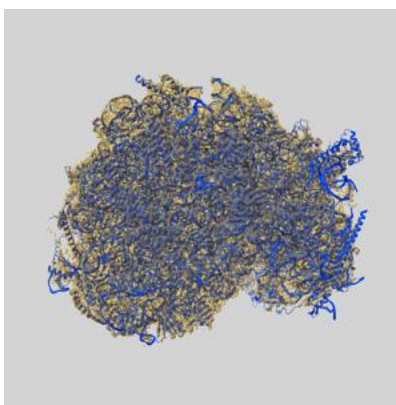
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-65329 and PDB model 9VTI. Per-residue inclusion information can be found in section [3](#) on page [24](#).

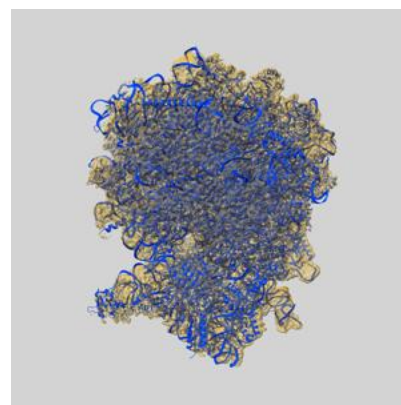
9.1 Map-model overlay [i](#)



X



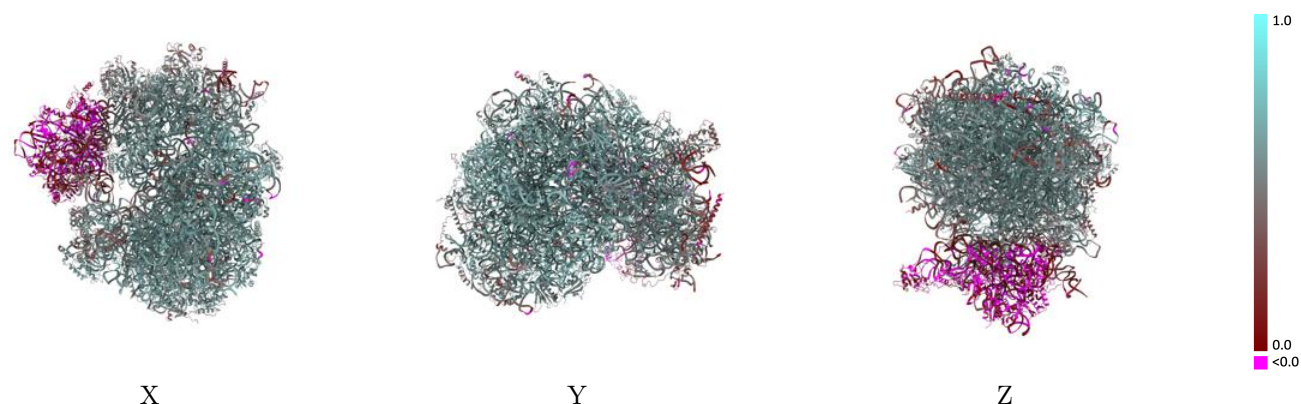
Y



Z

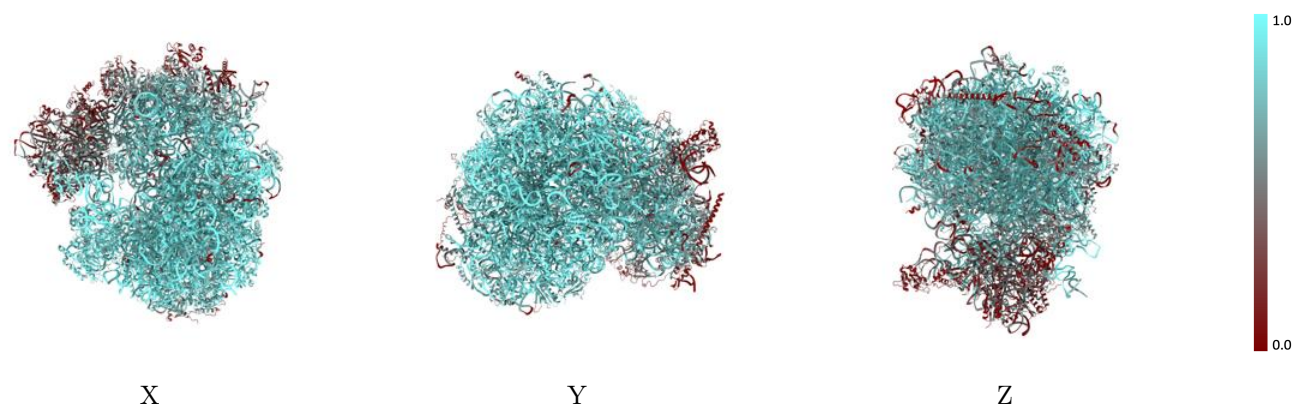
The images above show the 3D surface view of the map at the recommended contour level 0.18 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



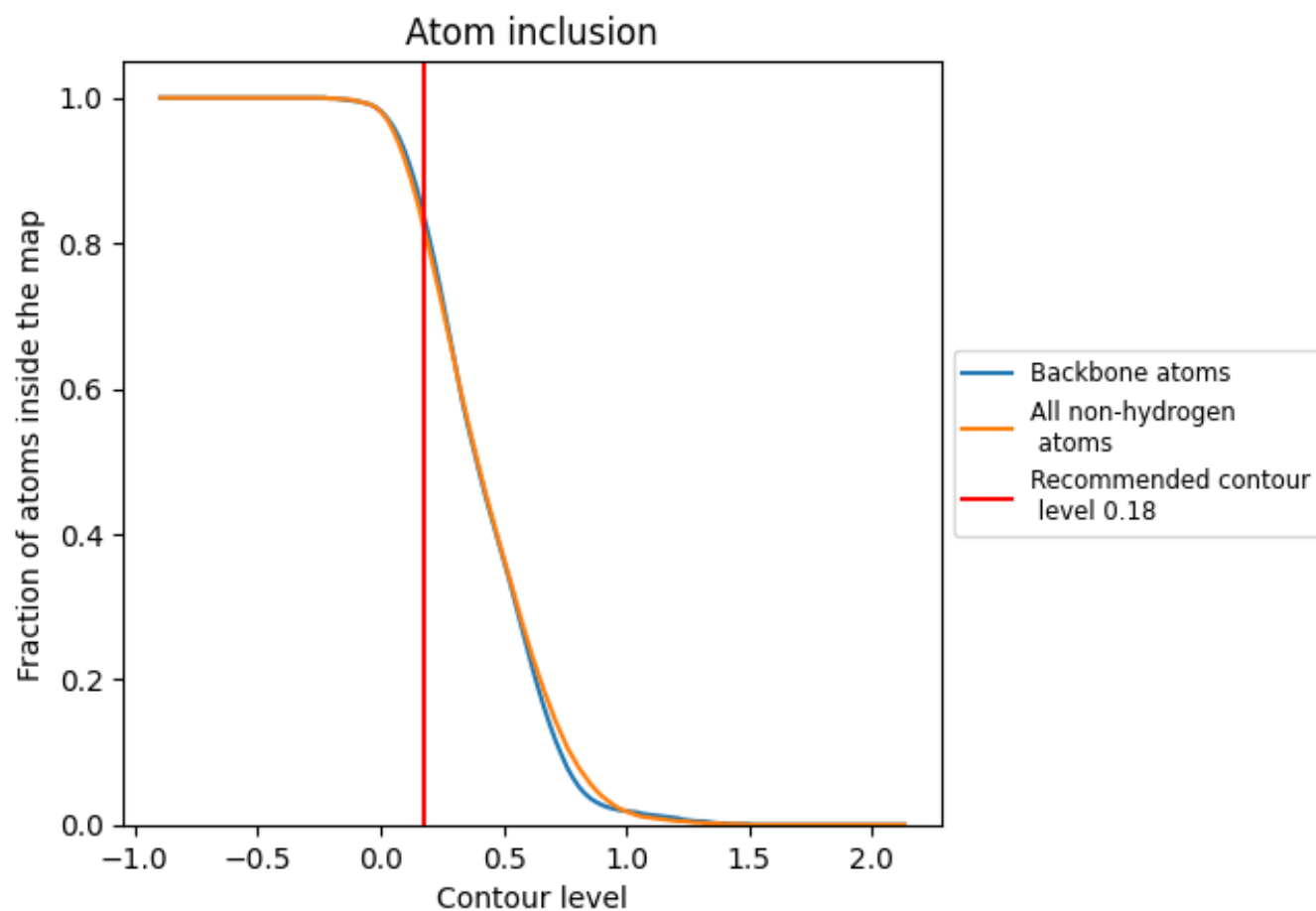
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.18).

9.4 Atom inclusion [i](#)



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

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.18) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8160	 0.5260
10	 0.9260	 0.3450
11	 0.7410	 0.4230
12	 0.9930	 0.6340
13	 0.9320	 0.5970
14	 0.9510	 0.6120
LA	 0.7940	 0.3630
LB	 0.9760	 0.6520
LC	 0.9510	 0.6460
LD	 0.8620	 0.5990
LE	 0.7320	 0.5150
LF	 0.8340	 0.5770
LG	 0.9310	 0.6250
LH	 0.9540	 0.6430
LI	 0.9540	 0.6380
LJ	 0.9220	 0.6190
LK	 0.8750	 0.5870
LL	 0.9470	 0.6350
LM	 0.9030	 0.6140
LN	 0.9310	 0.6140
LO	 0.8680	 0.5860
LP	 0.8820	 0.6060
LQ	 0.6510	 0.5090
LR	 0.8170	 0.5610
LS	 0.9110	 0.6100
LT	 0.8780	 0.5950
LU	 0.9750	 0.6520
LV	 0.9640	 0.6400
LW	 0.8020	 0.5870
LX	 0.9400	 0.6300
LY	 0.9270	 0.6270
LZ	 0.6920	 0.5300
La	 0.9350	 0.6410
Lb	 0.9060	 0.6130
Lc	 0.5790	 0.5590



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Chain	Atom inclusion	Q-score
Ld	 0.9140	 0.5950
Le	 0.9080	 0.6110
Lf	 0.8880	 0.5980
Lg	 0.9400	 0.6300
Lh	 0.9530	 0.6490
Li	 0.9020	 0.6060
Lj	 0.8770	 0.5950
Lk	 0.9740	 0.6510
Ll	 0.8360	 0.5710
Lm	 0.9720	 0.6410
Ln	 0.7730	 0.6120
Lo	 0.7710	 0.6060
Lp	 0.9400	 0.6400
Lq	 0.9250	 0.6420
SA	 0.3960	 0.4570
SB	 0.2770	 0.0150
SC	 0.5900	 0.5070
SD	 0.5950	 0.5230
SE	 0.3510	 0.0350
SF	 0.7300	 0.5790
SG	 0.3360	 0.0070
SH	 0.2780	 0.0360
SI	 0.7220	 0.5780
SJ	 0.7260	 0.5700
SK	 0.3100	 0.0360
SL	 0.5200	 0.1340
SM	 0.7610	 0.5930
SN	 0.7830	 0.6000
SO	 0.6210	 0.3080
SP	 0.7090	 0.5700
SQ	 0.6070	 0.5390
SR	 0.3440	 0.3850
SS	 0.3020	 0.4460
ST	 0.7480	 0.5720
SU	 0.2730	 -0.0330
SV	 0.1240	 0.0590
SW	 0.2210	 0.0130
SX	 0.3340	 -0.0030
SY	 0.4540	 0.4800
SZ	 0.4380	 0.4270
Sa	 0.2510	 0.0830
Sb	 0.7540	 0.5800

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Chain	Atom inclusion	Q-score
Sc	 0.5600	 0.5300
Sd	 0.3260	 0.0710
Se	 0.3680	 0.3920
Sf	 0.1250	 0.0210