Full wwPDB EM Validation Report

Nov 6, 2022 – 10:02 AM EST

PDB ID	:	7TM3
EMDB ID	:	EMD-25994
Title	:	Structure of the rabbit 80S ribosome stalled on a 2-TMD Rhodopsin intermediate in complex with the multipass translocon
Authors	:	Kim, M.K.; Lewis, A.J.O.; Keenan, R.J.; Hegde, R.S.
Deposited on	:	2022-01-19
Resolution	:	3.25 Å(reported)

This is a Full wwPDB EM Validation 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:

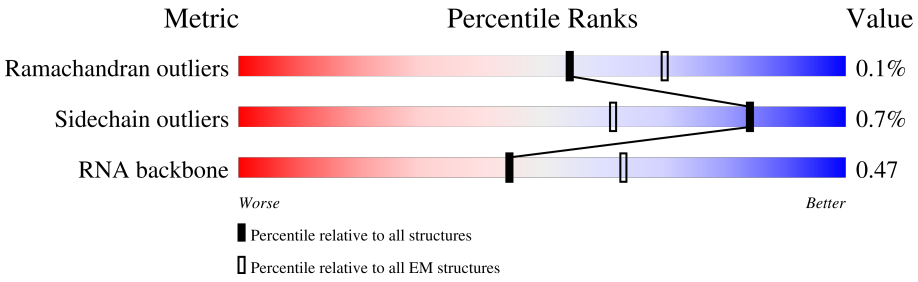
EMDB validation analysis	:	0.0.1.dev43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

1 Overall quality at a glance

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

The reported resolution of this entry is 3.25 Å.

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



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

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=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	A	257	96%
2	B	229	11% 88%
3	C	425	85% 15%
4	D	297	99%
5	E	291	79% 20%
6	F	247	91% 9%
7	G	319	73% 27%
8	H	192	99%

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Mol	Chain	Length	Quality of chain
9	I	214	96%
10	J	178	96%
11	L	211	98%
12	M	218	63% 37%
13	N	204	98%
14	O	203	97%
15	P	184	83% 17%
16	Q	188	99%
17	R	196	79% 21%
18	S	176	99%
19	T	160	99%
20	U	128	79% 20%
21	V	140	93% 6%
22	W	157	40% 60%
23	X	156	74% 24%
24	Y	145	91% 8%
25	Z	136	99%
26	a	148	99%
27	b	226	46% 54%
28	c	115	84% 15%
29	d	125	83% 14%
30	e	135	94% 5%
31	f	110	99%
32	g	116	98%
33	h	123	99%

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Mol	Chain	Length	Quality of chain
34	i	105	97%
35	j	97	87% 11%
36	k	70	99%
37	l	51	98%
38	m	102	51% 49%
39	n	25	100%
40	o	106	98%
41	p	92	97%
42	q	77	79% 18%
43	r	137	91% 9%
44	u	120	88% 11%
45	v	156	76% 24%
46	w	403	97%
47	1	476	97%
48	2	96	30% 70%
49	3	68	97%
50	4	483	70% 29%
51	5	106	6% 85% 15%
52	7	563	51% 93% 7%
53	6	224	99%
54	K	3543	76% 24%

2 Entry composition

There are 56 unique types of molecules in this entry. The entry contains 261738 atoms, of which 111794 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 uL2.

Mol	Chain	Residues	Atoms						AltConf	Trace
1	A	248	Total	C	H	N	O	S	0	0
			3891	1189	1993	389	314	6		

- Molecule 2 is a protein called Nascent chain.

Mol	Chain	Residues	Atoms						AltConf	Trace
2	B	27	Total	C	H	N	O	S	0	0
			351	112	171	31	36	1		

- Molecule 3 is a protein called uL4.

Mol	Chain	Residues	Atoms						AltConf	Trace
3	C	362	Total	C	H	N	O	S	0	0
			5936	1812	3053	577	480	14		

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	378	LYS	-	insertion	UNP G1SVW5
C	379	VAL	-	insertion	UNP G1SVW5
C	380	LYS	-	insertion	UNP G1SVW5
C	381	LYS	-	insertion	UNP G1SVW5
C	382	PRO	-	insertion	UNP G1SVW5
C	383	ARG	-	insertion	UNP G1SVW5
C	384	ALA	-	insertion	UNP G1SVW5
C	385	VAL	-	insertion	UNP G1SVW5
C	386	GLY	-	insertion	UNP G1SVW5
C	387	ILE	-	insertion	UNP G1SVW5
C	388	LYS	-	insertion	UNP G1SVW5
C	389	GLN	-	insertion	UNP G1SVW5

- Molecule 4 is a protein called uL18.

Mol	Chain	Residues	Atoms						AltConf	Trace
4	D	293	Total	C	H	N	O	S	0	0
			4815	1512	2424	438	427	14		

- Molecule 5 is a protein called eL6.

Mol	Chain	Residues	Atoms						AltConf	Trace
5	E	233	Total	C	H	N	O	S	0	0
			3908	1206	2031	357	311	3		

- Molecule 6 is a protein called uL30.

Mol	Chain	Residues	Atoms						AltConf	Trace
6	F	225	Total	C	H	N	O	S	0	0
			3870	1205	1995	358	303	9		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
F	61	ARG	GLY	conflict	UNP G1TUB1
F	93	ARG	GLY	conflict	UNP G1TUB1
F	131	MET	VAL	conflict	UNP G1TUB1
F	153	ILE	VAL	conflict	UNP G1TUB1

- Molecule 7 is a protein called eL8.

Mol	Chain	Residues	Atoms						AltConf	Trace
7	G	233	Total	C	H	N	O	S	0	0
			3906	1199	2027	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 8 is a protein called uL6.

Mol	Chain	Residues	Atoms						AltConf	Trace
8	H	190	Total	C	H	N	O	S	0	0
			3113	954	1597	284	272	6		

- Molecule 9 is a protein called uL16.

Mol	Chain	Residues	Atoms						AltConf	Trace
9	I	205	Total	C	H	N	O	S	0	0
			3376	1056	1712	321	274	13		

- Molecule 10 is a protein called uL5.

Mol	Chain	Residues	Atoms						AltConf	Trace
10	J	170	Total	C	H	N	O	S	0	0
			2761	861	1399	254	241	6		

- Molecule 11 is a protein called eL13.

Mol	Chain	Residues	Atoms						AltConf	Trace
11	L	210	Total	C	H	N	O	S	0	0
			3522	1065	1820	354	279	4		

There are 9 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
L	46	ILE	-	insertion	UNP G1TPV0
L	47	ALA	-	insertion	UNP G1TPV0
L	48	PRO	-	insertion	UNP G1TPV0
L	49	ARG	-	insertion	UNP G1TPV0
L	50	PRO	-	insertion	UNP G1TPV0
L	51	ALA	-	insertion	UNP G1TPV0
L	52	ALA	-	insertion	UNP G1TPV0
L	53	GLY	-	insertion	UNP G1TPV0
L	54	PRO	-	insertion	UNP G1TPV0

- Molecule 12 is a protein called eL14.

Mol	Chain	Residues	Atoms						AltConf	Trace
12	M	138	Total	C	H	N	O	S	0	0
			2348	727	1211	221	182	7		

- Molecule 13 is a protein called eL15.

Mol	Chain	Residues	Atoms						AltConf	Trace
13	N	202	Total	C	H	N	O	S	0	0
			3440	1069	1744	358	265	4		

- Molecule 14 is a protein called uL13.

Mol	Chain	Residues	Atoms						AltConf	Trace
14	O	199	Total	C	H	N	O	S	0	0
			3408	1051	1778	319	255	5		

- Molecule 15 is a protein called uL22.

Mol	Chain	Residues	Atoms						AltConf	Trace
15	P	153	Total	C	H	N	O	S	0	0
			2516	777	1274	241	215	9		

- Molecule 16 is a protein called eL18.

Mol	Chain	Residues	Atoms						AltConf	Trace
16	Q	187	Total	C	H	N	O	S	0	0
			3148	946	1634	315	249	4		

- Molecule 17 is a protein called eL19.

Mol	Chain	Residues	Atoms						AltConf	Trace
17	R	155	Total	C	H	N	O	S	0	0
			2728	808	1434	278	199	9		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
R	38	ARG	CYS	conflict	UNP G1TJR3
R	64	ARG	GLN	conflict	UNP G1TJR3
R	94	THR	LYS	conflict	UNP G1TJR3

- Molecule 18 is a protein called eL20.

Mol	Chain	Residues	Atoms						AltConf	Trace
18	S	176	Total	C	H	N	O	S	0	0
			2970	930	1508	285	236	11		

- Molecule 19 is a protein called eL21.

Mol	Chain	Residues	Atoms						AltConf	Trace
19	T	159	Total	C	H	N	O	S	0	0
			2665	823	1367	252	217	6		

- Molecule 20 is a protein called eL22.

Mol	Chain	Residues	Atoms						AltConf	Trace
20	U	102	Total	C	H	N	O	S	0	0
			1692	534	858	146	152	2		

There are 11 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
U	126	GLU	ASP	conflict	UNP G1TSG1

- Molecule 21 is a protein called uL14.

Mol	Chain	Residues	Atoms						AltConf	Trace
21	V	131	Total	C	H	N	O	S	0	0
			2018	618	1039	184	172	5		

- Molecule 22 is a protein called eL24.

Mol	Chain	Residues	Atoms						AltConf	Trace
22	W	63	Total	C	H	N	O	S	0	0
			1069	337	541	103	85	3		

- Molecule 23 is a protein called uL23.

Mol	Chain	Residues	Atoms						AltConf	Trace
23	X	118	Total	C	H	N	O	S	0	0
			2007	618	1040	181	167	1		

- Molecule 24 is a protein called uL24.

Mol	Chain	Residues	Atoms						AltConf	Trace
24	Y	134	Total	C	H	N	O	S	0	0
			2320	700	1205	226	186	3		

- Molecule 25 is a protein called eL27.

Mol	Chain	Residues	Atoms						AltConf	Trace
25	Z	135	Total	C	H	N	O	S	0	0
			2289	714	1182	208	182	3		

- Molecule 26 is a protein called uL15.

Mol	Chain	Residues	Atoms						AltConf	Trace
26	a	147	Total	C	H	N	O	S	0	0
			2371	734	1209	239	185	4		

- Molecule 27 is a protein called eL29.

Mol	Chain	Residues	Atoms						AltConf	Trace
27	b	104	Total	C	H	N	O	S	0	0
			1768	527	920	189	129	3		

- Molecule 28 is a protein called eL30.

Mol	Chain	Residues	Atoms						AltConf	Trace
28	c	98	Total	C	H	N	O	S	0	0
			1555	481	794	134	140	6		

- Molecule 29 is a protein called eL31.

Mol	Chain	Residues	Atoms						AltConf	Trace
29	d	107	Total	C	H	N	O	S	0	0
			1818	560	930	171	155	2		

- Molecule 30 is a protein called eL32.

Mol	Chain	Residues	Atoms						AltConf	Trace
30	e	128	Total	C	H	N	O	S	0	0
			2200	667	1147	216	165	5		

- Molecule 31 is a protein called eL33.

Mol	Chain	Residues	Atoms						AltConf	Trace
31	f	109	Total	C	H	N	O	S	0	0
			1788	555	912	174	143	4		

- Molecule 32 is a protein called eL34.

Mol	Chain	Residues	Atoms						AltConf	Trace
32	g	114	Total	C	H	N	O	S	0	0
			1904	566	998	187	147	6		

- Molecule 33 is a protein called uL29.

Mol	Chain	Residues	Atoms						AltConf	Trace
33	h	122	Total	C	H	N	O	S	0	0
			2145	637	1136	203	168	1		

- Molecule 34 is a protein called eL36.

Mol	Chain	Residues	Atoms						AltConf	Trace
34	i	102	Total	C	H	N	O	S	0	0
			1746	520	916	176	129	5		

- Molecule 35 is a protein called eL37.

Mol	Chain	Residues	Atoms						AltConf	Trace
35	j	86	Total	C	H	N	O	S	0	0
			1442	434	737	155	111	5		

- Molecule 36 is a protein called eL38.

Mol	Chain	Residues	Atoms						AltConf	Trace
36	k	69	Total	C	H	N	O	S	0	0
			1206	366	637	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 37 is a protein called eL39.

Mol	Chain	Residues	Atoms						AltConf	Trace
37	l	50	Total	C	H	N	O	S	0	0
			927	286	480	96	64	1		

- Molecule 38 is a protein called eL40.

Mol	Chain	Residues	Atoms						AltConf	Trace
38	m	52	Total	C	H	N	O	S	0	0
			895	266	466	90	67	6		

- Molecule 39 is a protein called eL41.

Mol	Chain	Residues	Atoms						AltConf	Trace
39	n	25	Total	C	H	N	O	S	0	0
			528	145	289	64	27	3		

- Molecule 40 is a protein called eL42.

Mol	Chain	Residues	Atoms						AltConf	Trace
40	o	104	Total	C	H	N	O	S	0	0
			1773	533	922	174	138	6		

- Molecule 41 is a protein called eL43.

Mol	Chain	Residues	Atoms						AltConf	Trace
41	p	91	Total	C	H	N	O	S	0	0
			1465	445	757	136	120	7		

- Molecule 42 is a RNA chain called P-site tRNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
42	q	76	Total	C	H	N	O	P	0	0
			2439	723	823	291	527	75		

- Molecule 43 is a protein called eL28.

Mol	Chain	Residues	Atoms						AltConf	Trace
43	r	124	Total	C	H	N	O	S	0	0
			2045	616	1051	205	167	6		

- Molecule 44 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
44	u	120	Total	C	H	N	O	P	0	0
			3854	1141	1296	456	842	119		

There are 7 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
u	2	U	N	conflict	GB X06789.1
u	36	C	N	conflict	GB X06789.1
u	102	U	N	conflict	GB X06789.1
u	112	U	N	conflict	GB X06789.1
u	114	U	N	conflict	GB X06789.1
u	119	U	C	conflict	GB X06789.1
u	120	U	N	conflict	GB X06789.1

- Molecule 45 is a RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
45	v	156	Total	C	H	N	O	P	0	0
			4997	1480	1683	585	1094	155		

- Molecule 46 is a protein called uL3.

Mol	Chain	Residues	Atoms						AltConf	Trace
46	w	394	Total	C	H	N	O	S	0	0
			6482	2020	3310	597	542	13		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
w	1	MET	-	insertion	UNP G1TL06

- Molecule 47 is a protein called Protein transport protein Sec61 subunit alpha isoform 1.

Mol	Chain	Residues	Atoms						AltConf	Trace
47	1	465	Total	C	H	N	O	S	0	0
			7320	2360	3722	580	634	24		

- Molecule 48 is a protein called Protein transport protein Sec61 subunit beta.

Mol	Chain	Residues	Atoms						AltConf	Trace
48	2	29	Total	C	H	N	O	S	0	0
			475	157	245	36	35	2		

- Molecule 49 is a protein called Protein transport protein Sec61 gamma.

Mol	Chain	Residues	Atoms						AltConf	Trace
49	3	68	Total	C	H	N	O	S	0	0
			1120	355	577	94	89	5		

- Molecule 50 is a protein called Coiled-coil domain containing 47.

Mol	Chain	Residues	Atoms						AltConf	Trace
50	4	342	Total	C	H	N	O	S	0	0
			5597	1738	2819	495	522	23		

- Molecule 51 is a protein called PAT complex subunit Asterix.

Mol	Chain	Residues	Atoms						AltConf	Trace
51	5	90	Total	C	H	N	O	S	0	0
			1421	456	710	115	128	12		

- Molecule 52 is a protein called Nicalin.

Mol	Chain	Residues	Atoms						AltConf	Trace
52	7	521	Total	C	H	N	O	S	0	0
			8260	2625	4121	726	771	17		

- Molecule 53 is a protein called Transmembrane protein 147.

Mol	Chain	Residues	Atoms						AltConf	Trace
53	6	224	Total	C	H	N	O	S	0	0
			3575	1190	1792	277	300	16		

- Molecule 54 is a RNA chain called 28S ribosomal RNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
54	K	3543	Total	C	H	N	O	P	0	0
			114330	33833	38358	13910	24686	3543		

- Molecule 55 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
55	P	2	Total	Mg	0
			2	2	
55	V	1	Total	Mg	0
			1	1	
55	a	1	Total	Mg	0
			1	1	
55	g	1	Total	Mg	0
			1	1	
55	j	1	Total	Mg	0
			1	1	

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Mol	Chain	Residues	Atoms	AltConf
55	u	7	Total Mg 7 7	0
55	v	6	Total Mg 6 6	0
55	K	201	Total Mg 201 201	0

- Molecule 56 is ZINC ION (three-letter code: ZN) (formula: Zn).

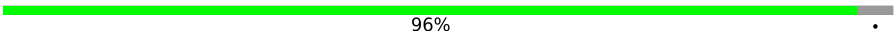
Mol	Chain	Residues	Atoms	AltConf
56	g	1	Total Zn 1 1	0
56	j	1	Total Zn 1 1	0
56	m	1	Total Zn 1 1	0
56	o	1	Total Zn 1 1	0
56	p	1	Total Zn 1 1	0

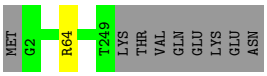
3 Residue-property plots (i)

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: uL2

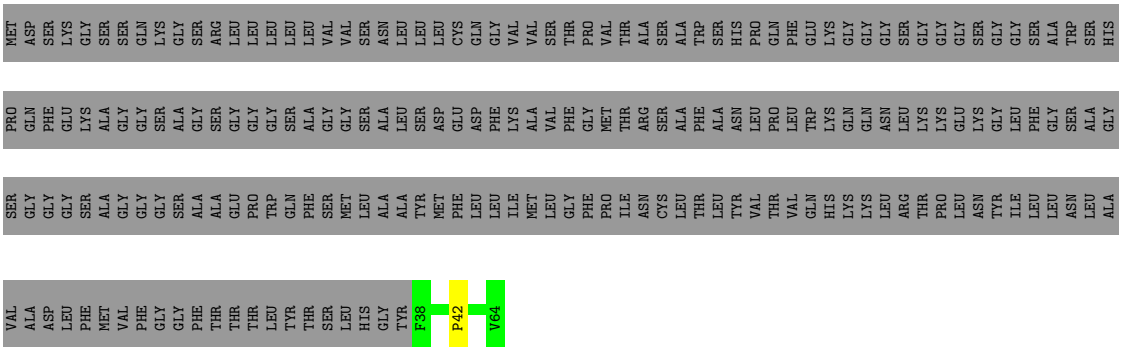
Chain A:





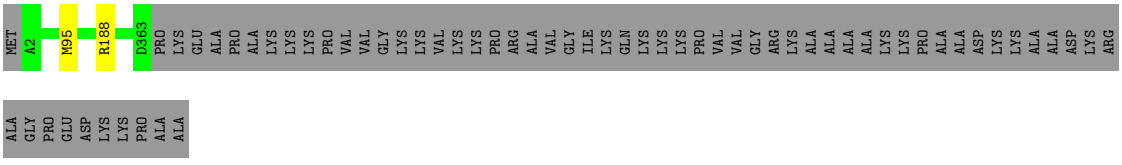
- Molecule 2: Nascent chain

Chain B:



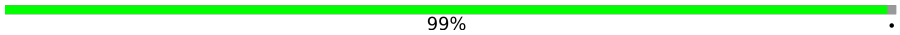
- Molecule 3: uL4

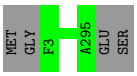
Chain C:



- Molecule 4: uL18

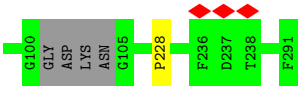
Chain D:





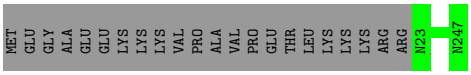
• Molecule 5: eL6

Chain E:



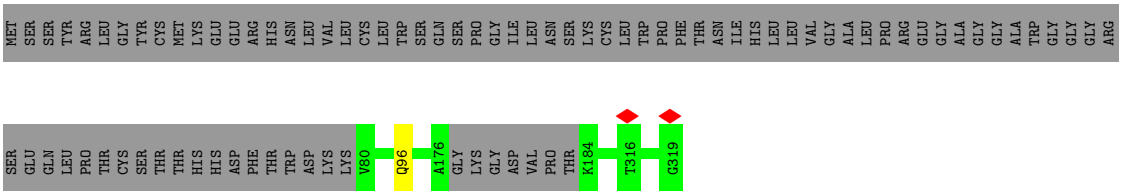
• Molecule 6: uL30

Chain F:



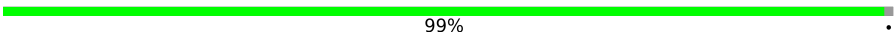
• Molecule 7: eL8

Chain G:



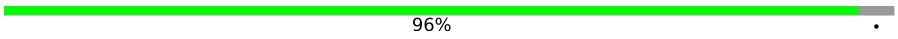
• Molecule 8: uL6

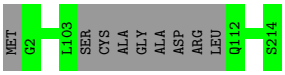
Chain H:



• Molecule 9: uL16

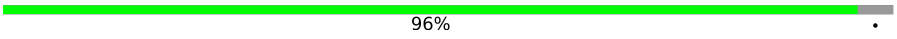
Chain I:

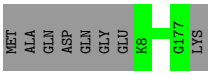




• Molecule 10: uL5

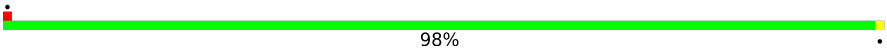
Chain J:

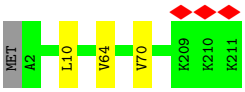




• Molecule 11: eL13

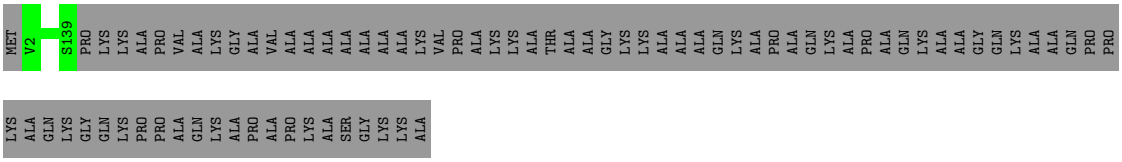
Chain L:





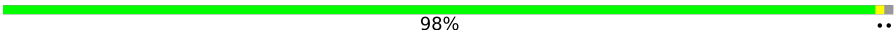
• Molecule 12: eL14

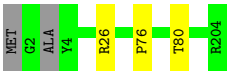
Chain M:



• Molecule 13: eL15

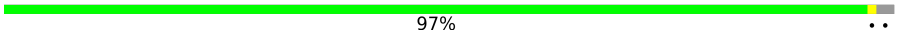
Chain N:

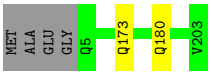




• Molecule 14: uL13

Chain O:



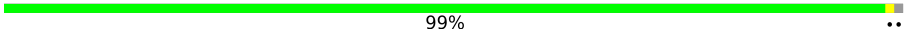


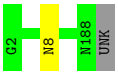
• Molecule 15: uL22

Chain P:

• Molecule 16: eL18

Chain Q:



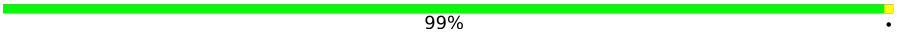


• Molecule 17: eL19

Chain R:

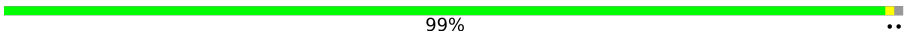
• Molecule 18: eL20

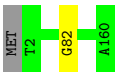
Chain S:



• Molecule 19: eL21

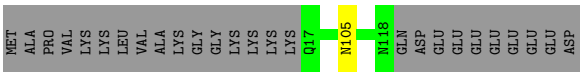
Chain T:





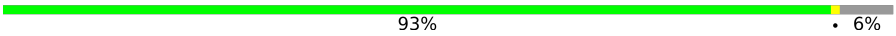
• Molecule 20: eL22

Chain U:



• Molecule 21: uL14

Chain V:

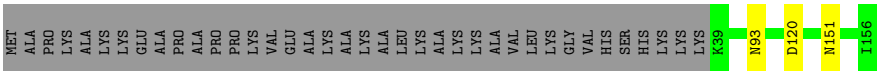


• Molecule 22: eL24

Chain W:

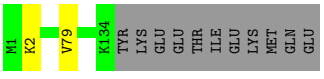
• Molecule 23: uL23

Chain X:



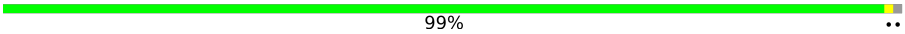
• Molecule 24: uL24

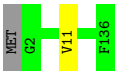
Chain Y:



• Molecule 25: eL27

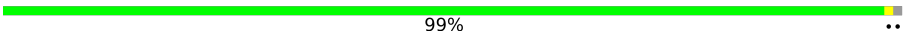
Chain Z:





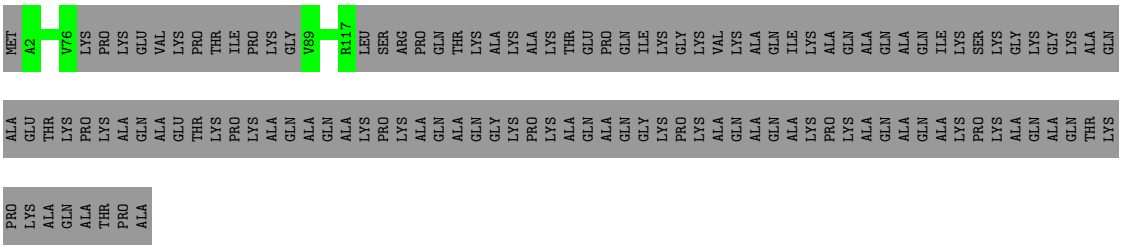
• Molecule 26: uL15

Chain a:



• Molecule 27: eL29

Chain b:

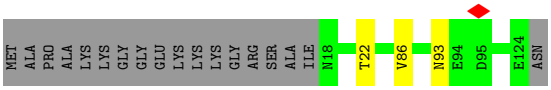


• Molecule 28: eL30

Chain c:

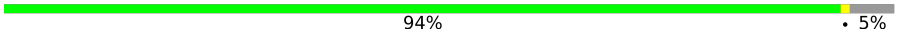
• Molecule 29: eL31

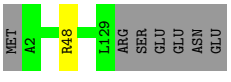
Chain d:



• Molecule 30: eL32

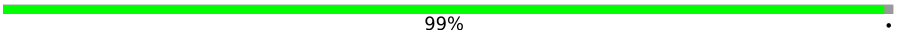
Chain e:





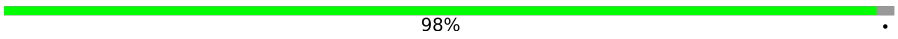
• Molecule 31: eL33

Chain f:



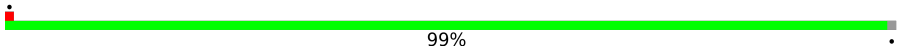
• Molecule 32: eL34

Chain g:



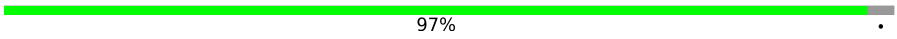
• Molecule 33: uL29

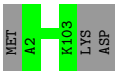
Chain h:



• Molecule 34: eL36

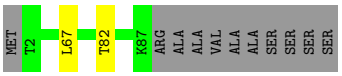
Chain i:





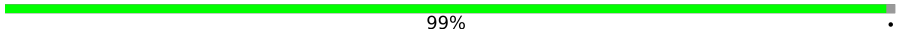
• Molecule 35: eL37

Chain j:



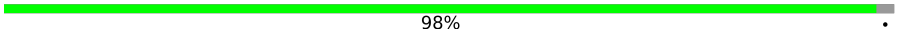
• Molecule 36: eL38

Chain k:



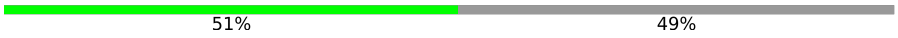
• Molecule 37: eL39

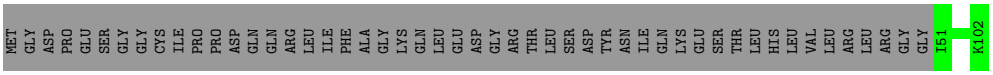
Chain l:



• Molecule 38: eL40

Chain m:



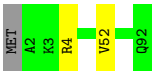


• Molecule 39: eL41

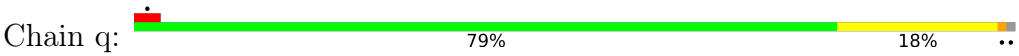
There are no outlier residues recorded for this chain.

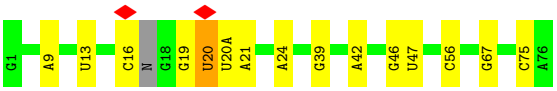
• Molecule 40: eL42

• Molecule 41: eL43

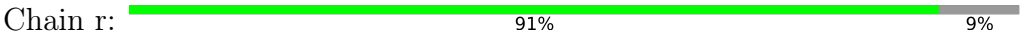


• Molecule 42: P-site tRNA

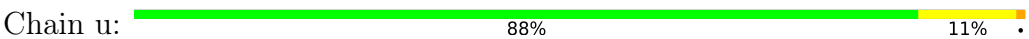


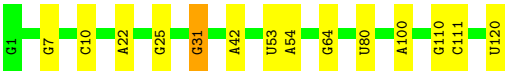


• Molecule 43: eL28

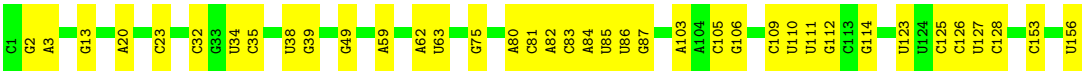


• Molecule 44: 5S ribosomal RNA



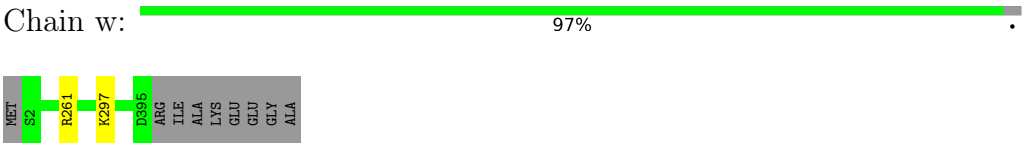


• Molecule 45: 5.8S ribosomal RNA



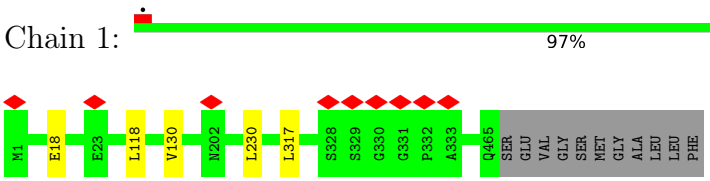
• Molecule 46: uL3

Chain w:



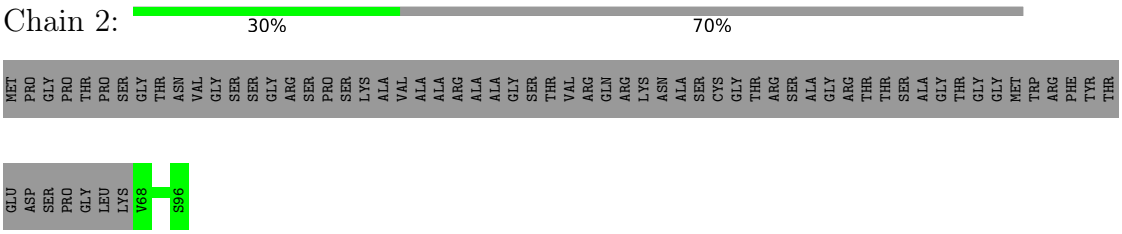
• Molecule 47: Protein transport protein Sec61 subunit alpha isoform 1

Chain 1:



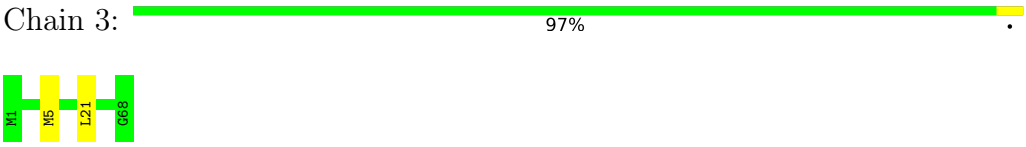
• Molecule 48: Protein transport protein Sec61 subunit beta

Chain 2:



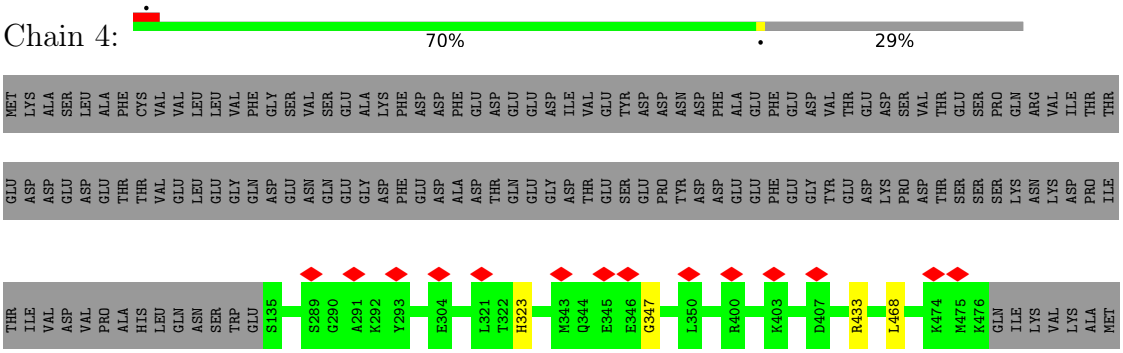
• Molecule 49: Protein transport protein Sec61 gamma

Chain 3:



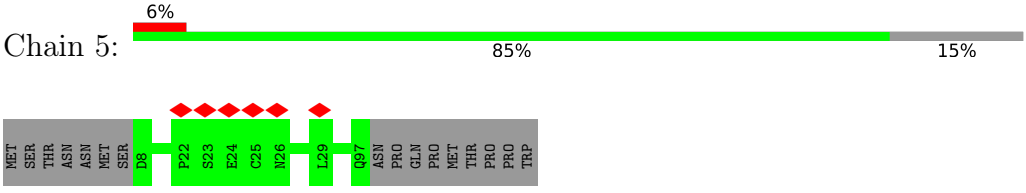
• Molecule 50: Coiled-coil domain containing 47

Chain 4:



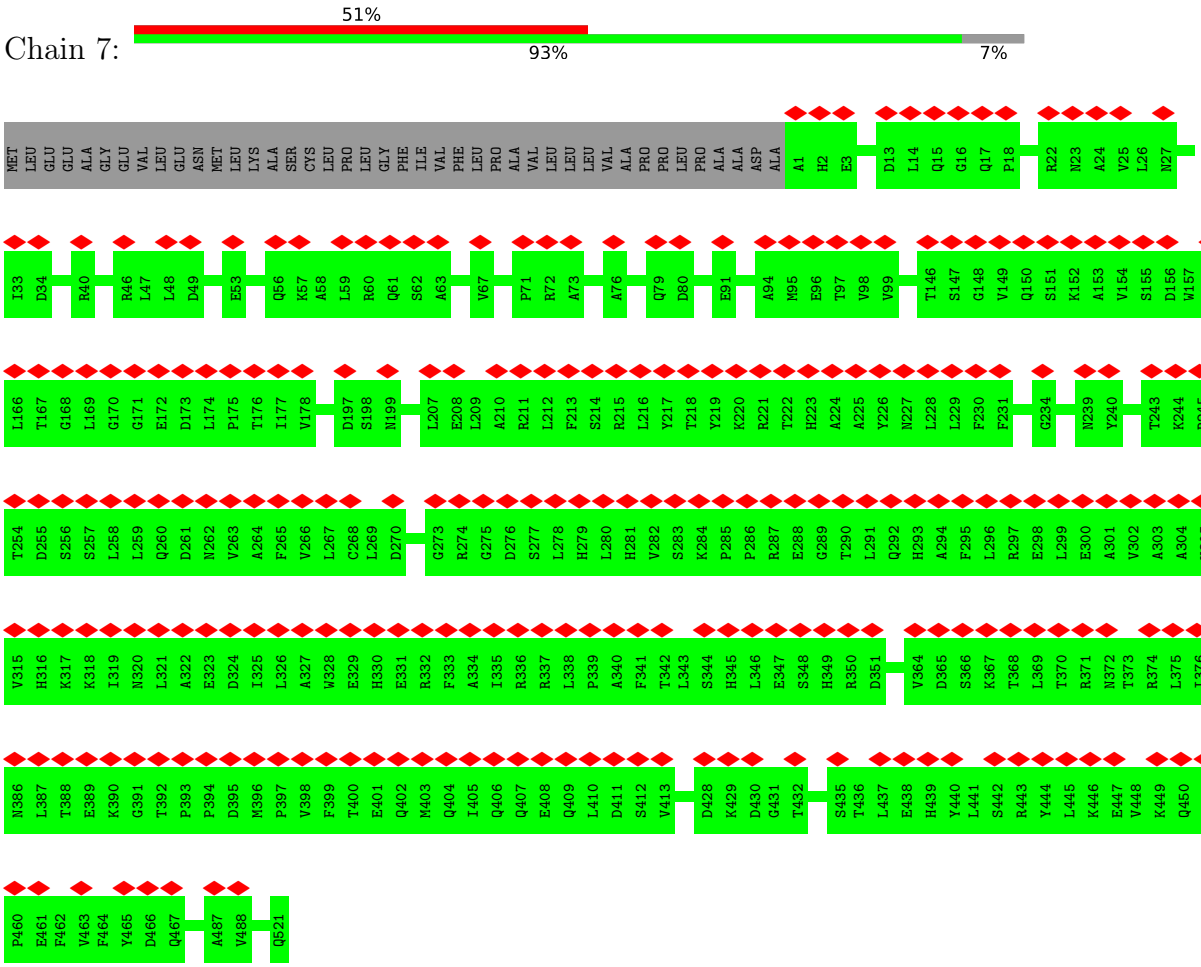
• Molecule 51: PAT complex subunit Asterix

Chain 5:



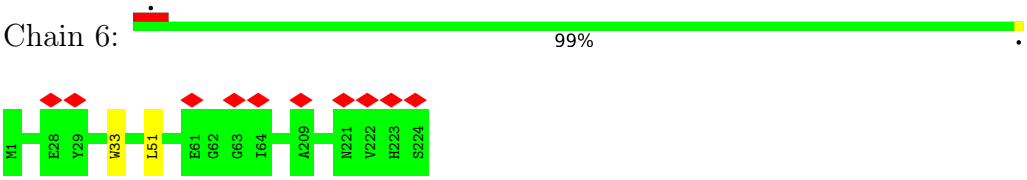
• Molecule 52: Nicalin

Chain 7:



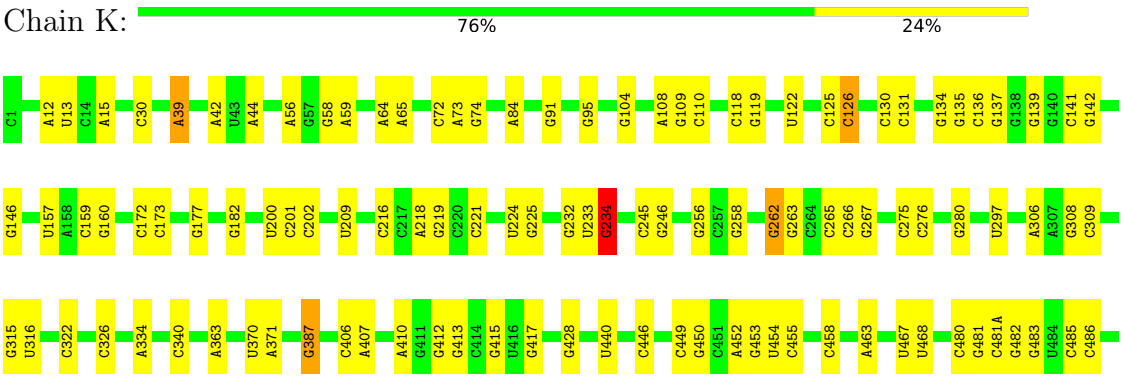
• Molecule 53: Transmembrane protein 147

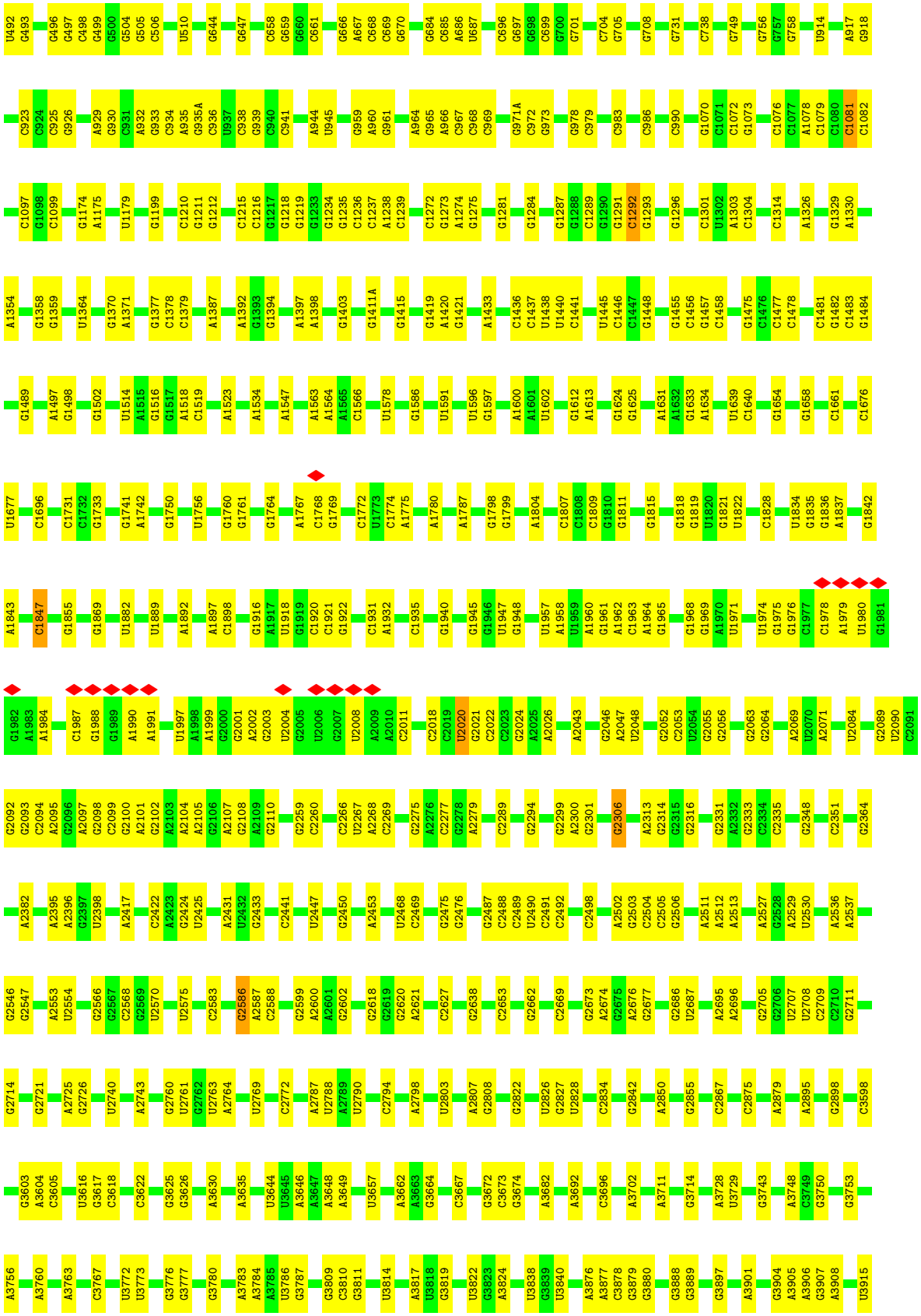
Chain 6:

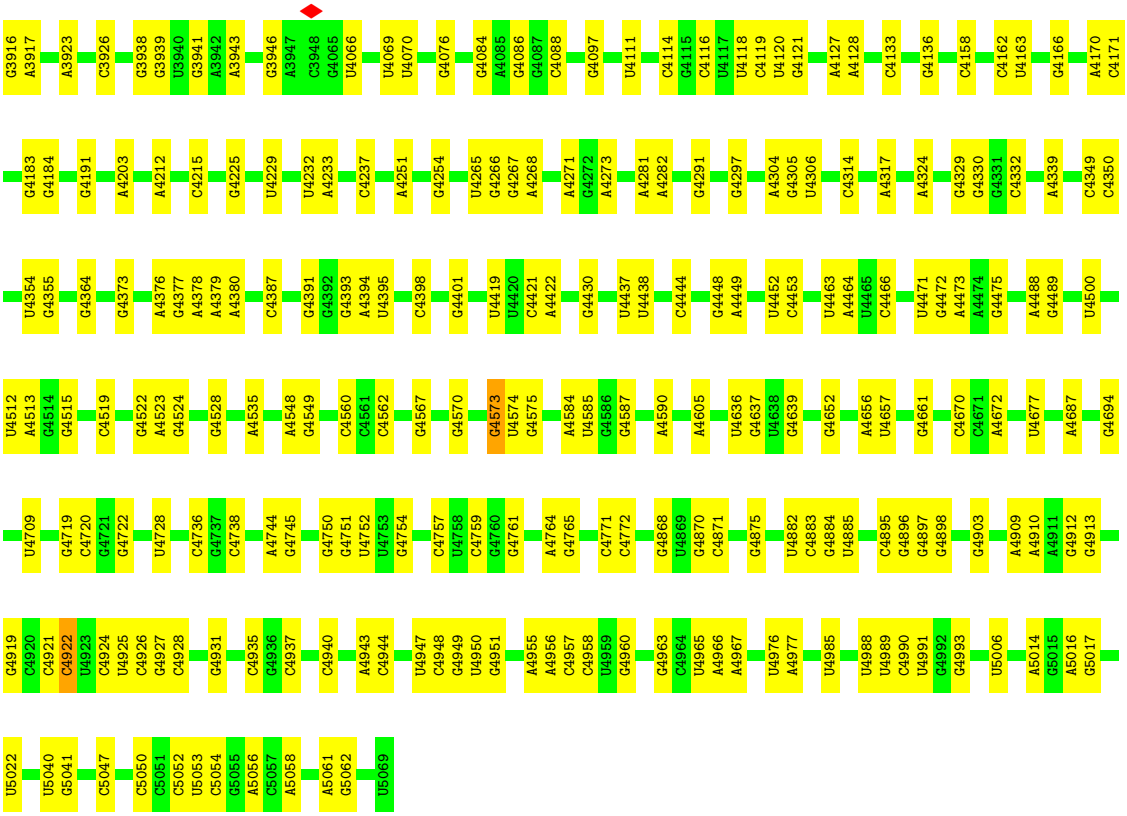


• Molecule 54: 28S ribosomal RNA

Chain K:






G3916 A3917 A3923 C3926 G3938 G3939 U3940 G3941 A3942 A3943 C3946 A3947 C3948 G4065 U4066 U4069 U4070 G4076 C4084 A4085 G4086 G4087 C4088 C4097 U4111 C4114 G4115 C4116 U4117 U4118 C4119 U4120 G4121 A4127 A4128 C4133 G4136 C4158 C4162 U4163 G4166 A4170 C4171
G4183 G4184 G4191 A4203 A4212 C4215 G4225 U4229 U4232 A4233 C4237 A4251 G4254 U4265 G4266 G4267 A4268 A4271 G4272 A4273 A4281 A4282 G4291 G4297 A4304 G4305 U4306 C4314 A4317 A4324 G4329 G4330 G4331 C4332 A4339 C4349 C4350
U4354 G4355 G4364 G4373 A4376 G4377 A4378 A4379 A4380 C4387 G4391 G4392 G4393 A4394 U4395 C4398 G4401 U4419 U4420 C4421 A4422 G4430 U4437 U4438 C4444 G4448 A4449 U4452 C4453 U4463 A4464 U4465 C4466 U4471 G4472 A4473 A4474 G4475 A4488 G4489 U4500
U4512 A4513 G4514 G4515 C4519 G4522 A4523 G4524 G4528 A4535 A4548 G4549 C4560 C4561 C4562 G4567 G4570 G4573 U4574 G4575 A4584 U4585 C4586 G4587 A4590 A4605 U4636 G4637 U4638 G4639 G4652 A4656 U4657 G4661 C4670 C4671 A4672 U4677 A4687 G4694
U4709 G4719 C4720 G4721 G4722 U4728 C4736 G4737 C4738 A4744 G4745 G4750 G4751 U4752 U4753 G4754 C4757 U4758 C4759 G4760 G4761 A4764 G4765 C4771 C4772 G4868 U4869 G4870 C4871 G4875 U4882 C4883 G4884 U4885 C4895 G4896 G4897 G4898 G4903 A4909 A4910 A4911 G4912 G4913
G4919 C4920 C4921 C4922 U4923 C4924 U4925 C4926 C4927 C4928 G4931 C4935 G4936 C4937 C4940 A4943 C4944 U4947 C4948 G4949 U4950 G4951 A4955 A4956 C4957 C4958 U4959 G4960 G4963 C4964 U4965 A4966 A4967 U4976 A4977 U4985 U4988 U4989 C4990 U4991 G4992 G4993 U5006 A5014 G5015 A5016 G5017
U5022 U5040 G5041 C5047 C5050 C5051 C5052 U5053 C5054 G5055 A5056 C5057 A5058 A5061 G5062 U5069

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	1665551	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	54	Depositor
Minimum defocus (nm)	1900	Depositor
Maximum defocus (nm)	2700	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.070	Depositor
Minimum map value	-0.021	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.007	Depositor
Map size (Å)	552.0, 552.0, 552.0	wwPDB
Map dimensions	412, 412, 412	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.3398058, 1.3398058, 1.3398058	Depositor

5 Model quality

5.1 Standard geometry

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|>5$	RMSZ	#$\|Z\|>5$
1	A	0.26	0/1936	0.58	0/2596
2	B	0.27	0/186	0.52	0/254
3	C	0.26	0/2937	0.57	0/3946
4	D	0.27	0/2437	0.54	0/3264
5	E	0.26	0/1914	0.56	0/2566
6	F	0.26	0/1911	0.54	0/2549
7	G	0.26	0/1910	0.55	0/2569
8	H	0.26	0/1535	0.55	0/2063
9	I	0.26	0/1702	0.55	0/2272
10	J	0.25	0/1385	0.56	0/1852
11	L	0.25	0/1733	0.61	0/2316
12	M	0.27	0/1158	0.56	0/1547
13	N	0.27	0/1740	0.60	0/2328
14	O	0.27	0/1662	0.55	0/2222
15	P	0.27	0/1268	0.56	0/1700
16	Q	0.26	0/1538	0.61	0/2054
17	R	0.25	0/1310	0.61	0/1734
18	S	0.27	0/1501	0.59	0/2012
19	T	0.26	0/1326	0.53	0/1770
20	U	0.26	0/848	0.51	0/1138
21	V	0.26	0/993	0.54	0/1332
22	W	0.27	0/541	0.54	0/720
23	X	0.26	0/984	0.54	0/1323
24	Y	0.25	0/1132	0.57	0/1504
25	Z	0.27	0/1130	0.55	0/1507
26	a	0.26	0/1191	0.55	0/1590
27	b	0.24	0/861	0.57	0/1138
28	c	0.27	0/771	0.50	0/1034
29	d	0.25	0/903	0.58	0/1216
30	e	0.25	0/1071	0.57	0/1429
31	f	0.27	0/895	0.59	0/1198
32	g	0.26	0/916	0.61	0/1220

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	h	0.25	0/1017	0.56	0/1344
34	i	0.25	0/841	0.58	0/1112
35	j	0.25	0/720	0.61	0/952
36	k	0.26	0/575	0.54	0/761
37	l	0.25	0/459	0.58	0/608
38	m	0.24	0/435	0.56	0/575
39	n	0.26	0/240	0.75	0/305
40	o	0.26	0/864	0.55	0/1140
41	p	0.26	0/718	0.54	0/953
42	q	0.24	0/1805	0.86	1/2809 (0.0%)
43	r	0.25	0/1010	0.60	0/1354
44	u	0.28	0/2858	0.82	1/4455 (0.0%)
45	v	0.27	0/3701	0.82	1/5766 (0.0%)
46	w	0.26	0/3240	0.52	0/4339
47	1	0.26	0/3677	0.47	0/4986
48	2	0.25	0/237	0.39	0/321
49	3	0.27	0/553	0.46	0/738
50	4	0.25	0/2819	0.49	0/3772
51	5	0.26	0/730	0.42	0/988
52	7	0.24	0/4224	0.47	0/5728
53	6	0.25	0/1835	0.41	0/2495
54	K	0.31	0/84978	0.88	47/132528 (0.0%)
All	All	0.29	0/160861	0.77	50/235992 (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
13	N	0	1
50	4	0	1
54	K	0	1
All	All	0	3

There are no bond length outliers.

All (50) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
54	K	234	G	C8-N9-C4	-13.40	101.04	106.40
54	K	139	G	N3-C4-N9	-10.38	119.77	126.00
54	K	234	G	N3-C4-N9	-8.71	120.78	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
54	K	234	G	C8-N9-C1'	-8.62	115.79	127.00
45	v	39	G	O4'-C1'-N9	8.60	115.08	108.20
54	K	1219	G	N3-C4-N9	-7.76	121.34	126.00
54	K	234	G	N9-C4-C5	7.42	108.37	105.40
54	K	1081	C	N3-C2-O2	-6.67	117.23	121.90
42	q	20	U	O5'-P-OP2	-6.23	100.09	105.70
54	K	139	G	N3-C4-C5	6.23	131.71	128.60
54	K	3941	G	C8-N9-C1'	-6.19	118.95	127.00
54	K	387	G	O4'-C1'-N9	6.14	113.11	108.20
54	K	1219	G	C5-C6-O6	6.14	132.28	128.60
54	K	3667	C	N1-C2-O2	-6.11	115.23	118.90
54	K	126	C	C6-N1-C2	-6.10	117.86	120.30
54	K	4573	G	O4'-C1'-N9	6.08	113.06	108.20
54	K	3941	G	C4-N9-C1'	6.05	134.37	126.50
54	K	130	C	C6-N1-C2	-6.02	117.89	120.30
54	K	234	G	C4-N9-C1'	6.02	134.32	126.50
54	K	139	G	C5-C6-O6	5.94	132.16	128.60
54	K	4350	C	N1-C2-O2	-5.82	115.41	118.90
54	K	139	G	N9-C4-C5	5.77	107.71	105.40
54	K	4114	C	N3-C2-O2	-5.77	117.86	121.90
54	K	1292	C	C2-N1-C1'	5.74	125.11	118.80
54	K	130	C	N3-C2-O2	-5.60	117.98	121.90
54	K	39	A	O4'-C1'-N9	5.53	112.62	108.20
54	K	1639	U	C2-N1-C1'	5.48	124.28	117.70
54	K	1218	G	N3-C4-N9	5.46	129.28	126.00
54	K	2898	G	C4-N9-C1'	5.39	133.51	126.50
54	K	986	C	N1-C2-O2	-5.38	115.67	118.90
54	K	2586	G	O4'-C1'-N9	-5.37	103.90	108.20
54	K	139	G	C2-N3-C4	-5.36	109.22	111.90
54	K	4922	C	N3-C2-O2	-5.30	118.19	121.90
54	K	1097	C	N1-C2-O2	-5.29	115.73	118.90
54	K	1847	C	C2-N1-C1'	5.28	124.61	118.80
54	K	2306	G	O4'-C1'-N9	5.27	112.41	108.20
54	K	262	G	C8-N9-C1'	-5.27	120.15	127.00
54	K	2898	G	C8-N9-C1'	-5.26	120.16	127.00
54	K	458	C	C6-N1-C2	-5.26	118.20	120.30
54	K	202	C	C2-N1-C1'	5.19	124.51	118.80
54	K	4898	G	N3-C4-N9	-5.17	122.90	126.00
54	K	234	G	N7-C8-N9	5.15	115.68	113.10
54	K	219	G	C4-N9-C1'	5.12	133.16	126.50
54	K	1219	G	C8-N9-C4	-5.10	104.36	106.40
54	K	1219	G	N9-C4-C5	5.09	107.44	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
54	K	4463	U	O4'-C1'-N1	5.09	112.28	108.20
54	K	4898	G	C8-N9-C1'	5.07	133.60	127.00
54	K	978	G	O4'-C1'-N9	5.03	112.23	108.20
44	u	31	G	C4-N9-C1'	5.00	133.00	126.50
54	K	2020	U	C5-C4-O4	-5.00	122.90	125.90

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
50	4	433	ARG	Sidechain
54	K	234	G	Sidechain
13	N	76	PRO	Peptide

5.2 Too-close contacts (i)

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

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	246/257 (96%)	219 (89%)	27 (11%)	0	100 100
2	B	25/229 (11%)	22 (88%)	2 (8%)	1 (4%)	3 17
3	C	360/425 (85%)	335 (93%)	25 (7%)	0	100 100
4	D	291/297 (98%)	269 (92%)	22 (8%)	0	100 100
5	E	227/291 (78%)	217 (96%)	9 (4%)	1 (0%)	34 67
6	F	223/247 (90%)	205 (92%)	18 (8%)	0	100 100
7	G	229/319 (72%)	213 (93%)	16 (7%)	0	100 100
8	H	188/192 (98%)	176 (94%)	12 (6%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
9	I	201/214 (94%)	181 (90%)	20 (10%)	0	100	100
10	J	168/178 (94%)	158 (94%)	10 (6%)	0	100	100
11	L	208/211 (99%)	193 (93%)	14 (7%)	1 (0%)	29	62
12	M	136/218 (62%)	125 (92%)	11 (8%)	0	100	100
13	N	199/204 (98%)	183 (92%)	16 (8%)	0	100	100
14	O	197/203 (97%)	186 (94%)	11 (6%)	0	100	100
15	P	151/184 (82%)	143 (95%)	8 (5%)	0	100	100
16	Q	185/188 (98%)	171 (92%)	14 (8%)	0	100	100
17	R	153/196 (78%)	144 (94%)	9 (6%)	0	100	100
18	S	174/176 (99%)	159 (91%)	15 (9%)	0	100	100
19	T	157/160 (98%)	139 (88%)	17 (11%)	1 (1%)	25	59
20	U	100/128 (78%)	90 (90%)	10 (10%)	0	100	100
21	V	129/140 (92%)	121 (94%)	8 (6%)	0	100	100
22	W	61/157 (39%)	55 (90%)	6 (10%)	0	100	100
23	X	116/156 (74%)	106 (91%)	10 (9%)	0	100	100
24	Y	132/145 (91%)	124 (94%)	8 (6%)	0	100	100
25	Z	133/136 (98%)	122 (92%)	11 (8%)	0	100	100
26	a	145/148 (98%)	132 (91%)	13 (9%)	0	100	100
27	b	100/226 (44%)	96 (96%)	4 (4%)	0	100	100
28	c	96/115 (84%)	90 (94%)	6 (6%)	0	100	100
29	d	105/125 (84%)	94 (90%)	11 (10%)	0	100	100
30	e	126/135 (93%)	118 (94%)	8 (6%)	0	100	100
31	f	107/110 (97%)	99 (92%)	8 (8%)	0	100	100
32	g	112/116 (97%)	104 (93%)	8 (7%)	0	100	100
33	h	120/123 (98%)	116 (97%)	4 (3%)	0	100	100
34	i	100/105 (95%)	95 (95%)	5 (5%)	0	100	100
35	j	84/97 (87%)	83 (99%)	1 (1%)	0	100	100
36	k	67/70 (96%)	63 (94%)	4 (6%)	0	100	100
37	l	48/51 (94%)	38 (79%)	10 (21%)	0	100	100
38	m	50/102 (49%)	46 (92%)	4 (8%)	0	100	100
39	n	23/25 (92%)	23 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
40	o	102/106 (96%)	90 (88%)	12 (12%)	0	100 100
41	p	89/92 (97%)	83 (93%)	6 (7%)	0	100 100
43	r	122/137 (89%)	112 (92%)	10 (8%)	0	100 100
46	w	392/403 (97%)	360 (92%)	32 (8%)	0	100 100
47	1	463/476 (97%)	460 (99%)	3 (1%)	0	100 100
48	2	27/96 (28%)	27 (100%)	0	0	100 100
49	3	66/68 (97%)	66 (100%)	0	0	100 100
50	4	340/483 (70%)	338 (99%)	1 (0%)	1 (0%)	41 72
51	5	88/106 (83%)	87 (99%)	1 (1%)	0	100 100
52	7	519/563 (92%)	512 (99%)	7 (1%)	0	100 100
53	6	222/224 (99%)	222 (100%)	0	0	100 100
All	All	8102/9553 (85%)	7610 (94%)	487 (6%)	5 (0%)	54 82

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
11	L	64	VAL
50	4	347	GLY
2	B	42	PRO
5	E	228	PRO
19	T	82	GLY

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	A	190/199 (96%)	189 (100%)	1 (0%)	88 93
2	B	21/172 (12%)	21 (100%)	0	100 100
3	C	302/347 (87%)	300 (99%)	2 (1%)	84 90
4	D	247/250 (99%)	247 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
5	E	206/251 (82%)	205 (100%)	1 (0%)	88 93
6	F	196/215 (91%)	196 (100%)	0	100 100
7	G	200/272 (74%)	199 (100%)	1 (0%)	88 93
8	H	169/171 (99%)	169 (100%)	0	100 100
9	I	175/181 (97%)	175 (100%)	0	100 100
10	J	143/149 (96%)	143 (100%)	0	100 100
11	L	175/176 (99%)	173 (99%)	2 (1%)	73 84
12	M	117/161 (73%)	117 (100%)	0	100 100
13	N	171/172 (99%)	169 (99%)	2 (1%)	71 83
14	O	171/173 (99%)	169 (99%)	2 (1%)	71 83
15	P	134/163 (82%)	133 (99%)	1 (1%)	84 90
16	Q	164/164 (100%)	163 (99%)	1 (1%)	86 91
17	R	138/175 (79%)	137 (99%)	1 (1%)	84 90
18	S	157/157 (100%)	155 (99%)	2 (1%)	69 82
19	T	139/140 (99%)	139 (100%)	0	100 100
20	U	92/114 (81%)	91 (99%)	1 (1%)	73 84
21	V	101/107 (94%)	100 (99%)	1 (1%)	76 85
22	W	55/126 (44%)	55 (100%)	0	100 100
23	X	106/134 (79%)	103 (97%)	3 (3%)	43 69
24	Y	124/135 (92%)	122 (98%)	2 (2%)	62 79
25	Z	117/118 (99%)	116 (99%)	1 (1%)	78 87
26	a	119/120 (99%)	118 (99%)	1 (1%)	81 89
27	b	84/172 (49%)	84 (100%)	0	100 100
28	c	84/98 (86%)	83 (99%)	1 (1%)	71 83
29	d	98/110 (89%)	95 (97%)	3 (3%)	40 67
30	e	114/121 (94%)	113 (99%)	1 (1%)	78 87
31	f	88/89 (99%)	88 (100%)	0	100 100
32	g	98/99 (99%)	98 (100%)	0	100 100
33	h	108/110 (98%)	108 (100%)	0	100 100
34	i	86/89 (97%)	86 (100%)	0	100 100
35	j	73/80 (91%)	71 (97%)	2 (3%)	44 70

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
36	k	64/65 (98%)	64 (100%)	0	100 100
37	l	47/48 (98%)	47 (100%)	0	100 100
38	m	48/90 (53%)	48 (100%)	0	100 100
39	n	24/24 (100%)	24 (100%)	0	100 100
40	o	92/94 (98%)	92 (100%)	0	100 100
41	p	74/75 (99%)	72 (97%)	2 (3%)	44 70
43	r	108/121 (89%)	108 (100%)	0	100 100
46	w	342/348 (98%)	340 (99%)	2 (1%)	86 91
47	1	390/398 (98%)	385 (99%)	5 (1%)	69 82
48	2	26/74 (35%)	26 (100%)	0	100 100
49	3	59/59 (100%)	57 (97%)	2 (3%)	37 64
50	4	306/435 (70%)	304 (99%)	2 (1%)	84 90
51	5	83/99 (84%)	83 (100%)	0	100 100
52	7	443/476 (93%)	443 (100%)	0	100 100
53	6	187/187 (100%)	185 (99%)	2 (1%)	73 84
All	All	7055/8103 (87%)	7008 (99%)	47 (1%)	84 90

All (47) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	64	ARG
3	C	95	MET
3	C	188	ARG
5	E	58	ARG
7	G	96	GLN
11	L	10	LEU
11	L	70	VAL
13	N	26	ARG
13	N	80	THR
14	O	173	GLN
14	O	180	GLN
15	P	118	GLN
16	Q	8	ASN
17	R	71	ARG
18	S	67	VAL
18	S	90	THR
20	U	105	ASN

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Mol	Chain	Res	Type
21	V	48	ARG
23	X	93	ASN
23	X	120	ASP
23	X	151	ASN
24	Y	2	LYS
24	Y	79	VAL
25	Z	11	VAL
26	a	122	VAL
28	c	17	ARG
29	d	22	THR
29	d	86	VAL
29	d	93	ASN
30	e	48	ARG
35	j	67	LEU
35	j	82	THR
41	p	4	ARG
41	p	52	VAL
46	w	261	ARG
46	w	297	LYS
47	1	18	GLU
47	1	118	LEU
47	1	130	VAL
47	1	230	LEU
47	1	317	LEU
49	3	5	MET
49	3	21	LEU
50	4	323	HIS
50	4	468	LEU
53	6	33	TRP
53	6	51	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (2) such sidechains are listed below:

Mol	Chain	Res	Type
17	R	58	HIS
47	1	294	GLN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
42	q	74/77 (96%)	15 (20%)	0
44	u	119/120 (99%)	14 (11%)	0
45	v	155/156 (99%)	37 (23%)	0
54	K	3518/3543 (99%)	821 (23%)	58 (1%)
All	All	3866/3896 (99%)	887 (22%)	58 (1%)

All (887) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
42	q	9	A
42	q	13	U
42	q	16	C
42	q	19	G
42	q	20	U
42	q	20(A)	U
42	q	21	A
42	q	24	A
42	q	39	G
42	q	42	A
42	q	46	G
42	q	47	U
42	q	56	C
42	q	67	G
42	q	75	C
44	u	7	G
44	u	10	C
44	u	22	A
44	u	25	G
44	u	31	G
44	u	42	A
44	u	53	U
44	u	54	A
44	u	64	G
44	u	80	U
44	u	100	A
44	u	110	G
44	u	111	C
44	u	120	U
45	v	2	G
45	v	3	A
45	v	13	G
45	v	20	A
45	v	23	C

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Mol	Chain	Res	Type
45	v	32	C
45	v	34	U
45	v	35	C
45	v	38	U
45	v	49	G
45	v	59	A
45	v	62	A
45	v	63	U
45	v	75	G
45	v	80	A
45	v	81	C
45	v	82	A
45	v	83	C
45	v	84	A
45	v	85	U
45	v	86	U
45	v	87	G
45	v	103	A
45	v	105	C
45	v	106	G
45	v	109	C
45	v	110	U
45	v	111	U
45	v	112	G
45	v	114	G
45	v	123	U
45	v	125	C
45	v	126	C
45	v	127	U
45	v	128	C
45	v	153	C
45	v	156	U
54	K	12	A
54	K	13	U
54	K	15	A
54	K	30	C
54	K	39	A
54	K	42	A
54	K	44	A
54	K	56	A
54	K	58	G
54	K	59	A

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Mol	Chain	Res	Type
54	K	64	A
54	K	65	A
54	K	72	C
54	K	73	A
54	K	74	G
54	K	84	A
54	K	91	G
54	K	95	G
54	K	104	G
54	K	108	A
54	K	109	G
54	K	110	C
54	K	118	C
54	K	119	G
54	K	122	U
54	K	126	C
54	K	131	C
54	K	134	G
54	K	135	G
54	K	136	C
54	K	137	G
54	K	141	C
54	K	142	G
54	K	146	G
54	K	157	U
54	K	159	C
54	K	160	G
54	K	172	C
54	K	173	C
54	K	177	G
54	K	182	G
54	K	200	U
54	K	201	C
54	K	209	U
54	K	216	C
54	K	218	A
54	K	221	C
54	K	224	U
54	K	225	G
54	K	232	G
54	K	233	U
54	K	234	G

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Mol	Chain	Res	Type
54	K	246	G
54	K	256	G
54	K	258	G
54	K	262	G
54	K	263	G
54	K	265	C
54	K	266	C
54	K	267	G
54	K	276	C
54	K	280	G
54	K	297	U
54	K	306	A
54	K	308	G
54	K	309	C
54	K	315	G
54	K	316	U
54	K	322	C
54	K	326	C
54	K	334	A
54	K	340	C
54	K	363	A
54	K	370	U
54	K	371	A
54	K	387	G
54	K	407	A
54	K	410	A
54	K	412	G
54	K	413	G
54	K	415	G
54	K	417	G
54	K	428	G
54	K	440	U
54	K	446	C
54	K	449	C
54	K	450	G
54	K	452	A
54	K	453	G
54	K	454	U
54	K	455	C
54	K	463	A
54	K	467	U
54	K	468	U

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Mol	Chain	Res	Type
54	K	481	G
54	K	481(A)	C
54	K	482	G
54	K	483	G
54	K	485	C
54	K	486	C
54	K	492	U
54	K	493	G
54	K	496	G
54	K	497	G
54	K	498	C
54	K	499	G
54	K	505	G
54	K	506	C
54	K	510	U
54	K	644	G
54	K	647	G
54	K	658	C
54	K	659	G
54	K	661	C
54	K	666	G
54	K	667	A
54	K	668	C
54	K	669	C
54	K	670	G
54	K	685	C
54	K	686	A
54	K	687	U
54	K	696	C
54	K	697	G
54	K	699	C
54	K	701	G
54	K	704	C
54	K	705	G
54	K	708	G
54	K	731	G
54	K	738	C
54	K	749	G
54	K	756	G
54	K	758	G
54	K	914	U
54	K	917	A

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Mol	Chain	Res	Type
54	K	918	G
54	K	923	C
54	K	925	C
54	K	926	G
54	K	929	A
54	K	930	G
54	K	932	A
54	K	933	G
54	K	934	C
54	K	935	A
54	K	935(A)	G
54	K	936	C
54	K	938	C
54	K	939	G
54	K	941	C
54	K	944	A
54	K	945	U
54	K	959	G
54	K	960	A
54	K	961	G
54	K	964	A
54	K	965	G
54	K	966	A
54	K	967	C
54	K	968	C
54	K	969	C
54	K	971(A)	G
54	K	972	C
54	K	973	G
54	K	979	C
54	K	983	C
54	K	990	C
54	K	1070	G
54	K	1072	C
54	K	1073	G
54	K	1076	C
54	K	1078	A
54	K	1079	C
54	K	1081	C
54	K	1082	C
54	K	1099	C
54	K	1175	A

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Mol	Chain	Res	Type
54	K	1179	U
54	K	1199	G
54	K	1210	C
54	K	1211	G
54	K	1212	G
54	K	1215	C
54	K	1216	C
54	K	1234	G
54	K	1235	G
54	K	1236	C
54	K	1237	C
54	K	1238	A
54	K	1239	C
54	K	1272	C
54	K	1273	G
54	K	1274	A
54	K	1275	G
54	K	1281	G
54	K	1284	G
54	K	1287	G
54	K	1289	C
54	K	1291	G
54	K	1292	C
54	K	1293	G
54	K	1296	G
54	K	1301	C
54	K	1303	A
54	K	1304	C
54	K	1314	C
54	K	1326	A
54	K	1330	A
54	K	1354	A
54	K	1358	G
54	K	1359	G
54	K	1364	U
54	K	1370	G
54	K	1371	A
54	K	1377	G
54	K	1378	C
54	K	1379	C
54	K	1387	A
54	K	1392	A

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Mol	Chain	Res	Type
54	K	1394	G
54	K	1397	A
54	K	1398	A
54	K	1403	G
54	K	1411(A)	G
54	K	1415	G
54	K	1419	G
54	K	1420	A
54	K	1421	G
54	K	1433	A
54	K	1436	C
54	K	1437	C
54	K	1438	U
54	K	1440	U
54	K	1441	C
54	K	1445	U
54	K	1446	C
54	K	1448	G
54	K	1456	C
54	K	1457	G
54	K	1458	C
54	K	1475	G
54	K	1478	C
54	K	1481	C
54	K	1482	G
54	K	1483	C
54	K	1484	G
54	K	1489	G
54	K	1497	A
54	K	1498	G
54	K	1502	G
54	K	1514	U
54	K	1516	G
54	K	1518	A
54	K	1519	C
54	K	1523	A
54	K	1534	A
54	K	1547	A
54	K	1563	A
54	K	1564	A
54	K	1566	C
54	K	1578	U

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Mol	Chain	Res	Type
54	K	1586	G
54	K	1591	U
54	K	1596	U
54	K	1597	G
54	K	1600	A
54	K	1602	U
54	K	1612	G
54	K	1613	A
54	K	1624	G
54	K	1625	G
54	K	1631	A
54	K	1633	G
54	K	1634	A
54	K	1640	C
54	K	1654	G
54	K	1658	G
54	K	1661	C
54	K	1676	C
54	K	1677	U
54	K	1696	C
54	K	1731	C
54	K	1733	G
54	K	1741	G
54	K	1742	A
54	K	1750	G
54	K	1756	U
54	K	1760	G
54	K	1761	G
54	K	1764	G
54	K	1767	A
54	K	1768	C
54	K	1769	G
54	K	1772	C
54	K	1774	C
54	K	1775	A
54	K	1780	A
54	K	1787	A
54	K	1798	G
54	K	1799	G
54	K	1804	A
54	K	1807	C
54	K	1809	C

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Mol	Chain	Res	Type
54	K	1811	G
54	K	1815	G
54	K	1818	G
54	K	1819	G
54	K	1821	G
54	K	1822	U
54	K	1828	C
54	K	1834	U
54	K	1835	G
54	K	1836	G
54	K	1837	A
54	K	1842	G
54	K	1843	A
54	K	1847	C
54	K	1855	G
54	K	1869	G
54	K	1882	U
54	K	1889	U
54	K	1892	A
54	K	1897	A
54	K	1898	C
54	K	1916	G
54	K	1918	U
54	K	1920	C
54	K	1921	C
54	K	1922	G
54	K	1931	C
54	K	1932	A
54	K	1935	C
54	K	1940	G
54	K	1945	G
54	K	1947	U
54	K	1948	G
54	K	1957	U
54	K	1958	A
54	K	1960	A
54	K	1961	G
54	K	1962	A
54	K	1963	C
54	K	1964	A
54	K	1965	G
54	K	1968	G

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Mol	Chain	Res	Type
54	K	1969	G
54	K	1971	U
54	K	1974	U
54	K	1975	G
54	K	1976	G
54	K	1978	C
54	K	1979	A
54	K	1980	U
54	K	1984	A
54	K	1987	C
54	K	1988	G
54	K	1990	A
54	K	1991	A
54	K	1997	U
54	K	1999	A
54	K	2001	G
54	K	2002	A
54	K	2003	G
54	K	2004	U
54	K	2008	U
54	K	2011	C
54	K	2018	C
54	K	2020	U
54	K	2021	G
54	K	2022	C
54	K	2024	G
54	K	2026	A
54	K	2043	A
54	K	2046	G
54	K	2047	A
54	K	2048	U
54	K	2052	G
54	K	2053	C
54	K	2055	G
54	K	2056	G
54	K	2063	G
54	K	2064	G
54	K	2069	A
54	K	2071	A
54	K	2084	U
54	K	2090	U
54	K	2092	G

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Mol	Chain	Res	Type
54	K	2093	G
54	K	2094	C
54	K	2095	A
54	K	2097	A
54	K	2098	G
54	K	2099	C
54	K	2100	G
54	K	2101	A
54	K	2102	G
54	K	2104	A
54	K	2105	A
54	K	2107	A
54	K	2108	G
54	K	2110	G
54	K	2259	G
54	K	2260	C
54	K	2267	U
54	K	2268	A
54	K	2269	C
54	K	2275	G
54	K	2277	C
54	K	2279	A
54	K	2289	C
54	K	2294	G
54	K	2299	G
54	K	2300	A
54	K	2301	G
54	K	2306	G
54	K	2313	A
54	K	2314	G
54	K	2316	G
54	K	2331	G
54	K	2333	G
54	K	2335	C
54	K	2348	G
54	K	2351	C
54	K	2364	G
54	K	2382	A
54	K	2395	A
54	K	2396	A
54	K	2398	U
54	K	2417	A

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Mol	Chain	Res	Type
54	K	2422	C
54	K	2424	G
54	K	2425	U
54	K	2431	A
54	K	2433	G
54	K	2441	C
54	K	2447	U
54	K	2450	G
54	K	2453	A
54	K	2469	C
54	K	2475	G
54	K	2476	G
54	K	2487	G
54	K	2488	C
54	K	2489	C
54	K	2490	U
54	K	2491	C
54	K	2492	C
54	K	2498	C
54	K	2503	G
54	K	2504	C
54	K	2505	C
54	K	2506	G
54	K	2511	A
54	K	2512	A
54	K	2513	A
54	K	2527	A
54	K	2529	A
54	K	2530	U
54	K	2536	A
54	K	2537	A
54	K	2546	G
54	K	2547	G
54	K	2553	A
54	K	2554	U
54	K	2566	G
54	K	2568	C
54	K	2570	U
54	K	2575	U
54	K	2583	C
54	K	2586	G
54	K	2587	A

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Mol	Chain	Res	Type
54	K	2588	C
54	K	2599	G
54	K	2600	A
54	K	2602	G
54	K	2618	G
54	K	2620	G
54	K	2621	A
54	K	2627	C
54	K	2638	G
54	K	2653	C
54	K	2662	G
54	K	2669	C
54	K	2673	G
54	K	2674	A
54	K	2676	A
54	K	2677	G
54	K	2686	G
54	K	2687	U
54	K	2695	A
54	K	2696	A
54	K	2705	G
54	K	2707	U
54	K	2708	U
54	K	2709	C
54	K	2711	G
54	K	2714	G
54	K	2721	G
54	K	2725	A
54	K	2726	G
54	K	2740	U
54	K	2743	A
54	K	2760	G
54	K	2761	U
54	K	2763	U
54	K	2764	A
54	K	2769	U
54	K	2772	C
54	K	2787	A
54	K	2788	U
54	K	2790	U
54	K	2794	C
54	K	2798	A

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Mol	Chain	Res	Type
54	K	2803	U
54	K	2807	A
54	K	2808	G
54	K	2822	G
54	K	2826	U
54	K	2827	G
54	K	2828	U
54	K	2834	C
54	K	2842	G
54	K	2850	A
54	K	2855	G
54	K	2867	C
54	K	2875	C
54	K	2879	A
54	K	2895	A
54	K	3598	C
54	K	3603	G
54	K	3604	A
54	K	3605	C
54	K	3616	U
54	K	3617	G
54	K	3618	C
54	K	3622	C
54	K	3625	G
54	K	3626	G
54	K	3630	A
54	K	3635	A
54	K	3644	U
54	K	3646	A
54	K	3648	A
54	K	3649	A
54	K	3657	U
54	K	3662	A
54	K	3664	G
54	K	3672	G
54	K	3673	C
54	K	3674	G
54	K	3682	A
54	K	3692	A
54	K	3696	C
54	K	3702	A
54	K	3711	A

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Mol	Chain	Res	Type
54	K	3714	G
54	K	3728	A
54	K	3729	U
54	K	3743	G
54	K	3748	A
54	K	3750	G
54	K	3753	G
54	K	3756	A
54	K	3760	A
54	K	3763	A
54	K	3767	C
54	K	3772	U
54	K	3773	U
54	K	3776	G
54	K	3777	G
54	K	3780	G
54	K	3783	A
54	K	3784	A
54	K	3786	U
54	K	3787	G
54	K	3809	G
54	K	3810	C
54	K	3811	G
54	K	3814	U
54	K	3817	A
54	K	3819	G
54	K	3822	U
54	K	3824	A
54	K	3838	U
54	K	3840	U
54	K	3876	A
54	K	3877	A
54	K	3878	C
54	K	3879	G
54	K	3880	G
54	K	3889	G
54	K	3897	G
54	K	3901	A
54	K	3905	A
54	K	3906	A
54	K	3907	G
54	K	3908	A

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Mol	Chain	Res	Type
54	K	3915	U
54	K	3916	G
54	K	3917	A
54	K	3923	A
54	K	3926	C
54	K	3938	G
54	K	3939	G
54	K	3943	A
54	K	3946	G
54	K	4066	U
54	K	4069	U
54	K	4070	U
54	K	4076	G
54	K	4084	G
54	K	4086	G
54	K	4088	C
54	K	4097	G
54	K	4111	U
54	K	4116	C
54	K	4118	U
54	K	4119	C
54	K	4120	U
54	K	4121	G
54	K	4127	A
54	K	4128	A
54	K	4133	C
54	K	4136	G
54	K	4158	C
54	K	4162	C
54	K	4163	U
54	K	4166	G
54	K	4170	A
54	K	4171	C
54	K	4183	G
54	K	4184	G
54	K	4191	G
54	K	4203	A
54	K	4212	A
54	K	4215	C
54	K	4225	G
54	K	4229	U
54	K	4233	A

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Mol	Chain	Res	Type
54	K	4237	C
54	K	4251	A
54	K	4254	G
54	K	4265	U
54	K	4266	G
54	K	4267	G
54	K	4268	A
54	K	4271	A
54	K	4273	A
54	K	4281	A
54	K	4282	A
54	K	4291	G
54	K	4297	G
54	K	4304	A
54	K	4305	G
54	K	4306	U
54	K	4314	C
54	K	4317	A
54	K	4324	A
54	K	4329	G
54	K	4330	G
54	K	4332	C
54	K	4339	A
54	K	4349	C
54	K	4354	U
54	K	4355	G
54	K	4364	G
54	K	4373	G
54	K	4376	A
54	K	4377	G
54	K	4378	A
54	K	4379	A
54	K	4380	A
54	K	4387	C
54	K	4391	G
54	K	4393	G
54	K	4394	A
54	K	4395	U
54	K	4398	C
54	K	4401	G
54	K	4419	U
54	K	4421	C

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Mol	Chain	Res	Type
54	K	4422	A
54	K	4430	G
54	K	4437	U
54	K	4438	U
54	K	4444	C
54	K	4448	G
54	K	4449	A
54	K	4452	U
54	K	4453	C
54	K	4464	A
54	K	4466	C
54	K	4471	U
54	K	4472	G
54	K	4473	A
54	K	4475	G
54	K	4488	A
54	K	4489	G
54	K	4500	U
54	K	4512	U
54	K	4513	A
54	K	4515	G
54	K	4519	C
54	K	4522	G
54	K	4523	A
54	K	4524	G
54	K	4528	G
54	K	4535	A
54	K	4548	A
54	K	4549	G
54	K	4560	C
54	K	4562	C
54	K	4567	G
54	K	4570	G
54	K	4573	G
54	K	4574	U
54	K	4575	G
54	K	4584	A
54	K	4585	U
54	K	4587	G
54	K	4590	A
54	K	4605	A
54	K	4636	U

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Mol	Chain	Res	Type
54	K	4637	G
54	K	4639	G
54	K	4652	G
54	K	4656	A
54	K	4657	U
54	K	4661	G
54	K	4670	C
54	K	4672	A
54	K	4677	U
54	K	4687	A
54	K	4694	G
54	K	4709	U
54	K	4719	G
54	K	4720	C
54	K	4722	G
54	K	4728	U
54	K	4736	C
54	K	4738	C
54	K	4744	A
54	K	4745	G
54	K	4750	G
54	K	4751	G
54	K	4752	U
54	K	4754	G
54	K	4757	C
54	K	4759	C
54	K	4761	G
54	K	4764	A
54	K	4765	G
54	K	4771	C
54	K	4772	C
54	K	4868	G
54	K	4870	G
54	K	4871	C
54	K	4875	G
54	K	4882	U
54	K	4883	C
54	K	4885	U
54	K	4895	C
54	K	4896	G
54	K	4897	G
54	K	4903	G

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Mol	Chain	Res	Type
54	K	4909	A
54	K	4910	A
54	K	4912	G
54	K	4913	G
54	K	4919	G
54	K	4921	C
54	K	4922	C
54	K	4924	C
54	K	4925	U
54	K	4926	C
54	K	4927	G
54	K	4928	C
54	K	4931	G
54	K	4935	C
54	K	4937	C
54	K	4940	C
54	K	4943	A
54	K	4944	C
54	K	4948	C
54	K	4949	G
54	K	4950	U
54	K	4951	G
54	K	4955	A
54	K	4956	A
54	K	4957	C
54	K	4958	C
54	K	4960	G
54	K	4963	G
54	K	4965	U
54	K	4966	A
54	K	4967	A
54	K	4976	U
54	K	4977	A
54	K	4985	U
54	K	4988	U
54	K	4989	U
54	K	4990	C
54	K	4991	U
54	K	4993	G
54	K	5006	U
54	K	5014	A
54	K	5016	A

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Mol	Chain	Res	Type
54	K	5017	G
54	K	5022	U
54	K	5040	U
54	K	5041	G
54	K	5047	C
54	K	5050	C
54	K	5052	C
54	K	5053	U
54	K	5054	C
54	K	5056	A
54	K	5058	A
54	K	5061	A
54	K	5062	G

All (58) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
54	K	12	A
54	K	125	C
54	K	134	G
54	K	245	C
54	K	265	C
54	K	275	C
54	K	406	C
54	K	449	C
54	K	480	C
54	K	485	C
54	K	498	C
54	K	504	G
54	K	684	G
54	K	685	C
54	K	696	C
54	K	704	C
54	K	935(A)	G
54	K	959	G
54	K	971(A)	G
54	K	1072	C
54	K	1174	G
54	K	1211	G
54	K	1236	C
54	K	1238	A
54	K	1329	G

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Mol	Chain	Res	Type
54	K	1370	G
54	K	1440	U
54	K	1445	U
54	K	1455	G
54	K	1477	C
54	K	1482	G
54	K	1633	G
54	K	1818	G
54	K	2046	G
54	K	2089	G
54	K	2266	C
54	K	2468	U
54	K	2488	C
54	K	2502	A
54	K	2546	G
54	K	2695	A
54	K	3603	G
54	K	3625	G
54	K	3876	A
54	K	3888	G
54	K	3904	G
54	K	4119	C
54	K	4170	A
54	K	4232	U
54	K	4354	U
54	K	4378	A
54	K	4448	G
54	K	4719	G
54	K	4884	G
54	K	4921	C
54	K	4925	U
54	K	4947	U
54	K	4989	U

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry

Of 225 ligands modelled in this entry, 225 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

The following chains have linkage breaks:

Mol	Chain	Number of breaks
54	K	25

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	K	2113:G	O3'	2258:C	P	40.63
1	K	1252:C	O3'	1271:G	P	36.90
1	K	1219:G	O3'	1233:G	P	19.23
1	K	3948:C	O3'	4065:G	P	18.79
1	K	4138:C	O3'	4146:G	P	18.12
1	K	990:C	O3'	1064:G	P	17.54
1	K	1696:C	O3'	1720:C	P	16.44
1	K	523:C	O3'	638:G	P	16.21
1	K	4777:C	O3'	4859:C	P	16.19
1	K	5022:U	O3'	5028:G	P	16.09
1	K	1406(C):G	O3'	1411:C	P	15.82
1	K	4101:C	O3'	4107:G	P	15.03
1	K	760:G	O3'	904:C	P	13.89
1	K	1364:U	O3'	1368:A	P	13.51
1	K	182:G	O3'	189:G	P	12.54
1	K	2901:G	O3'	3597:G	P	12.45

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	K	4729:A	O3'	4735:G	P	9.07
1	K	1180:C	O3'	1183:C	P	8.56
1	K	1100:U	O3'	1168:G	P	8.11
1	K	512:U	O3'	515:C	P	6.98
1	K	500:G	O3'	504:G	P	5.70
1	K	4740:G	O3'	4743:G	P	4.85
1	K	1239:C	O3'	1244:G	P	4.61
1	K	4899:G	O3'	4902:C	P	3.31
1	K	751:G	O3'	752:G	P	2.87

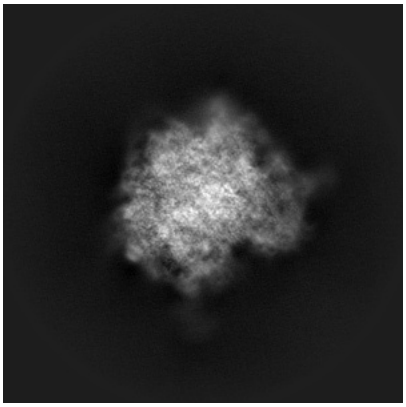
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-25994. These allow visual inspection of the internal detail of the map and identification of artifacts.

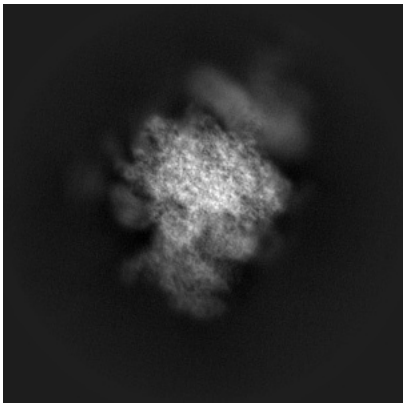
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

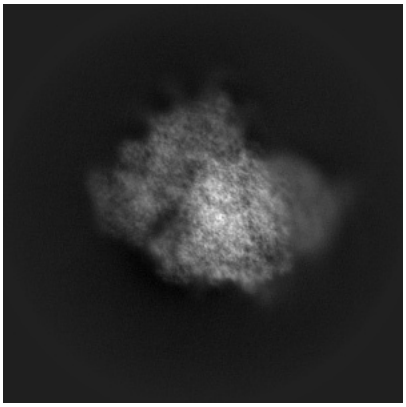
6.1.1 Primary map



X



Y

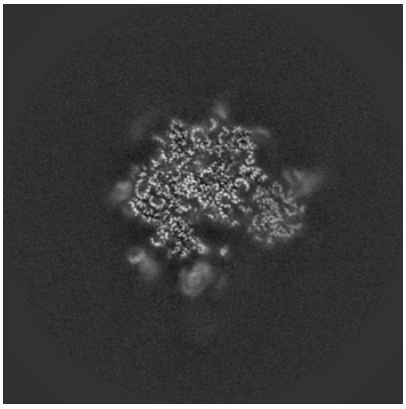


Z

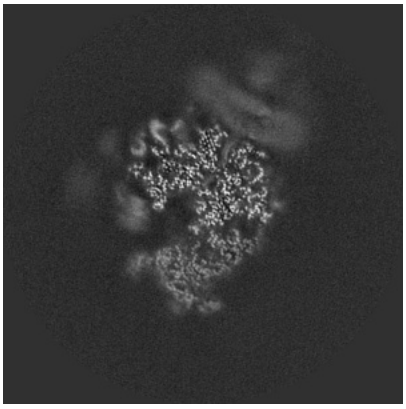
The images above show the map projected in three orthogonal directions.

6.2 Central slices

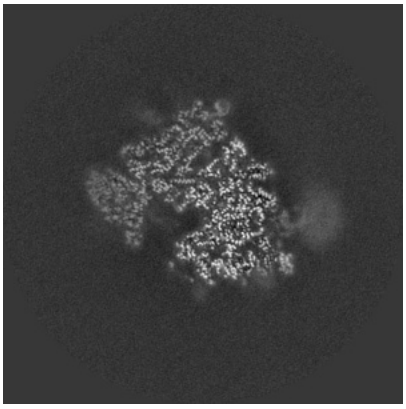
6.2.1 Primary map



X Index: 206



Y Index: 206

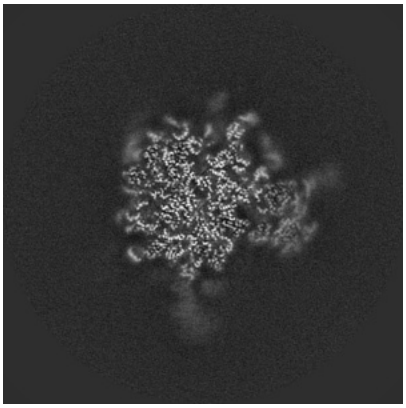


Z Index: 206

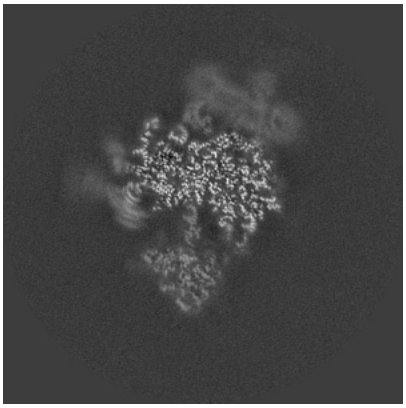
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

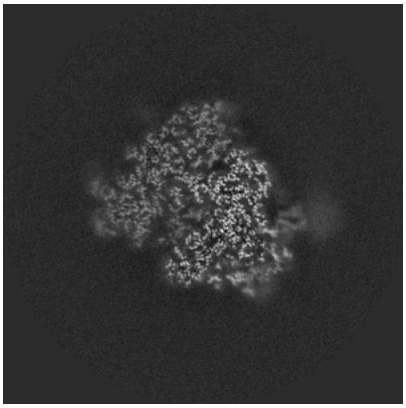
6.3.1 Primary map



X Index: 224



Y Index: 193

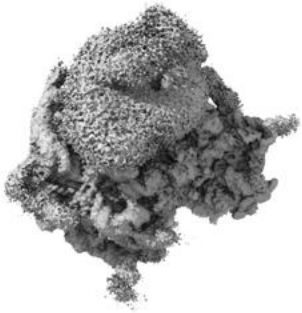


Z Index: 196

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

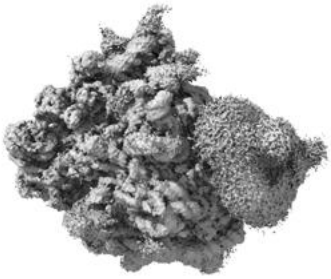
6.4 Orthogonal surface views (i)

6.4.1 Primary map



X

Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.007. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

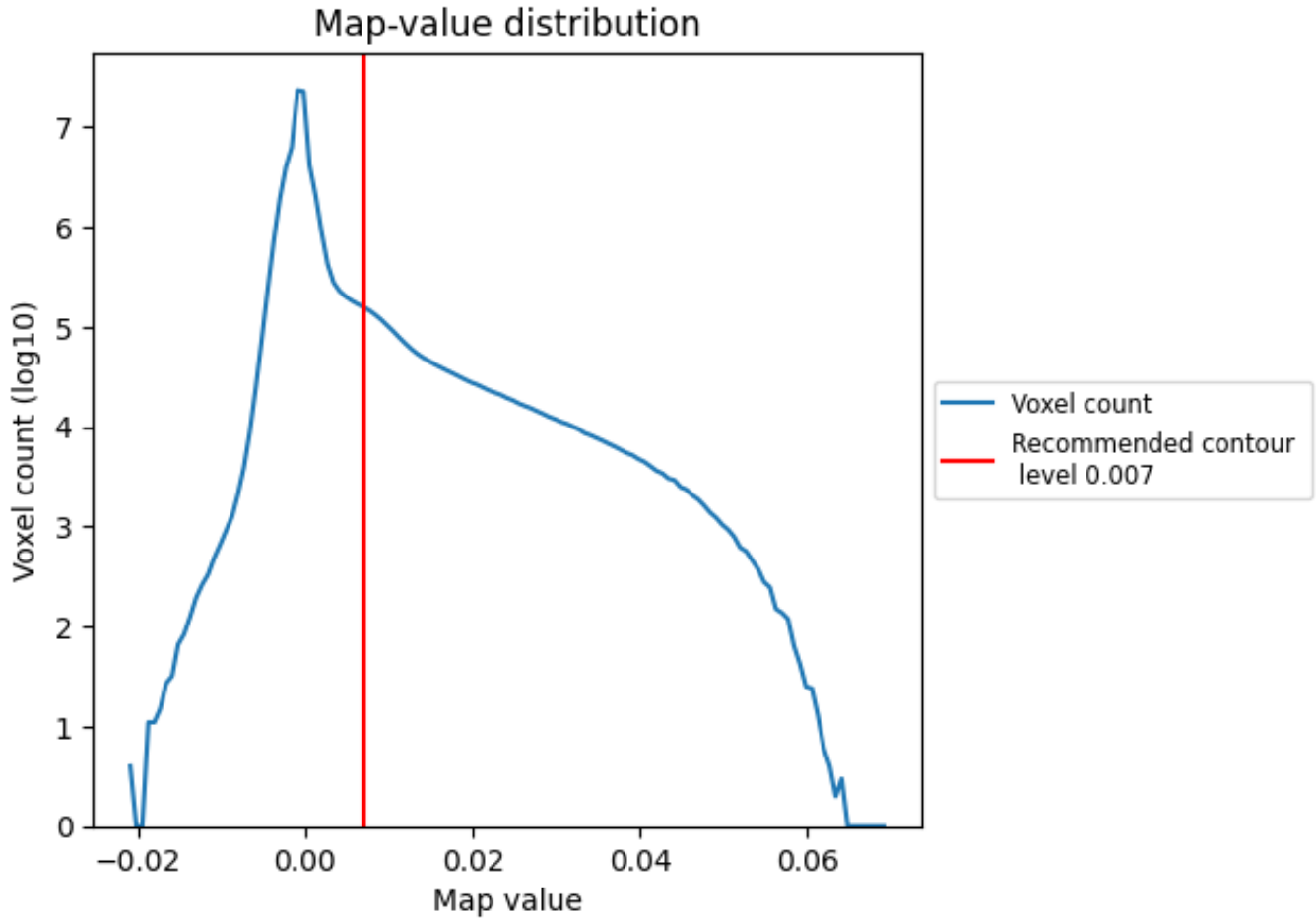
6.5 Mask visualisation (i)

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

7 Map analysis

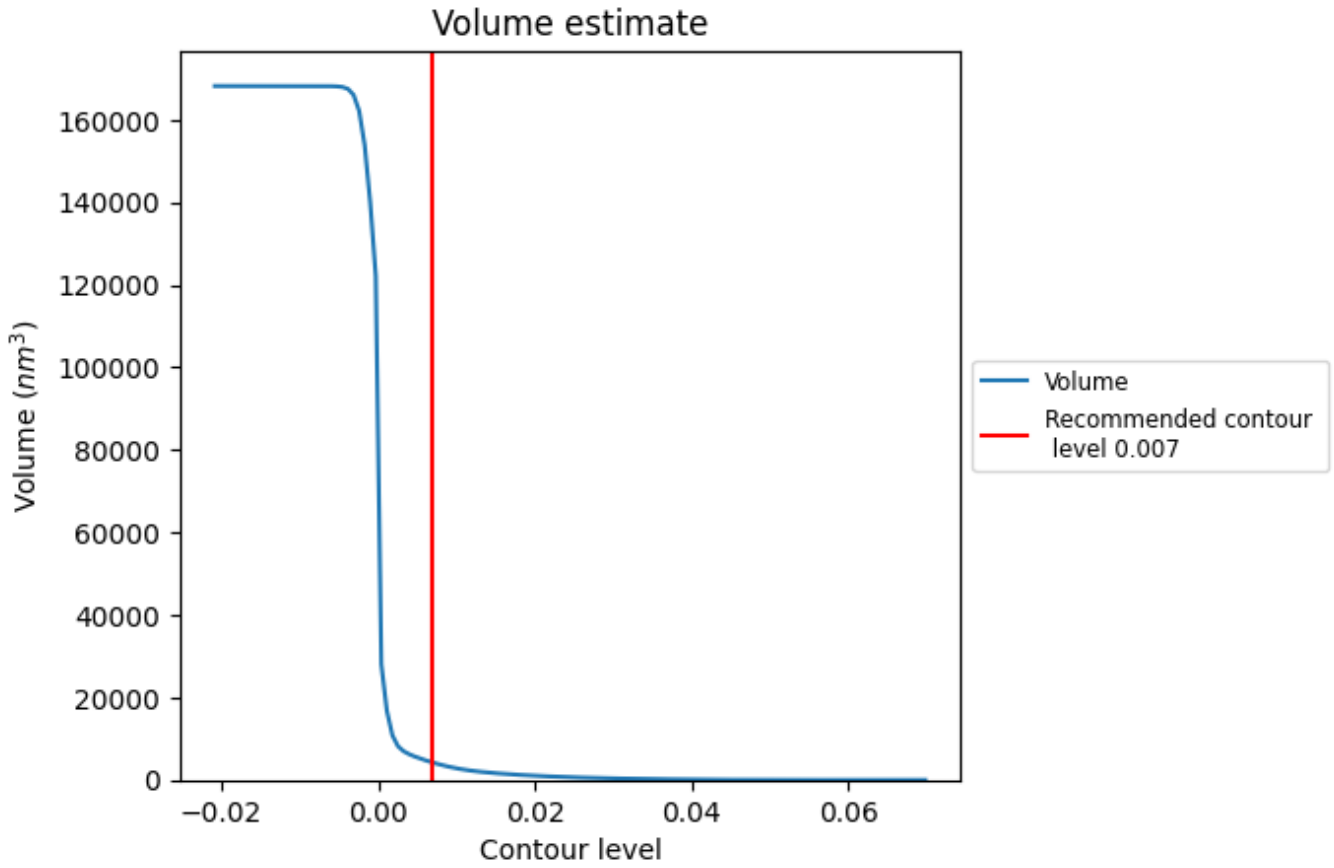
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

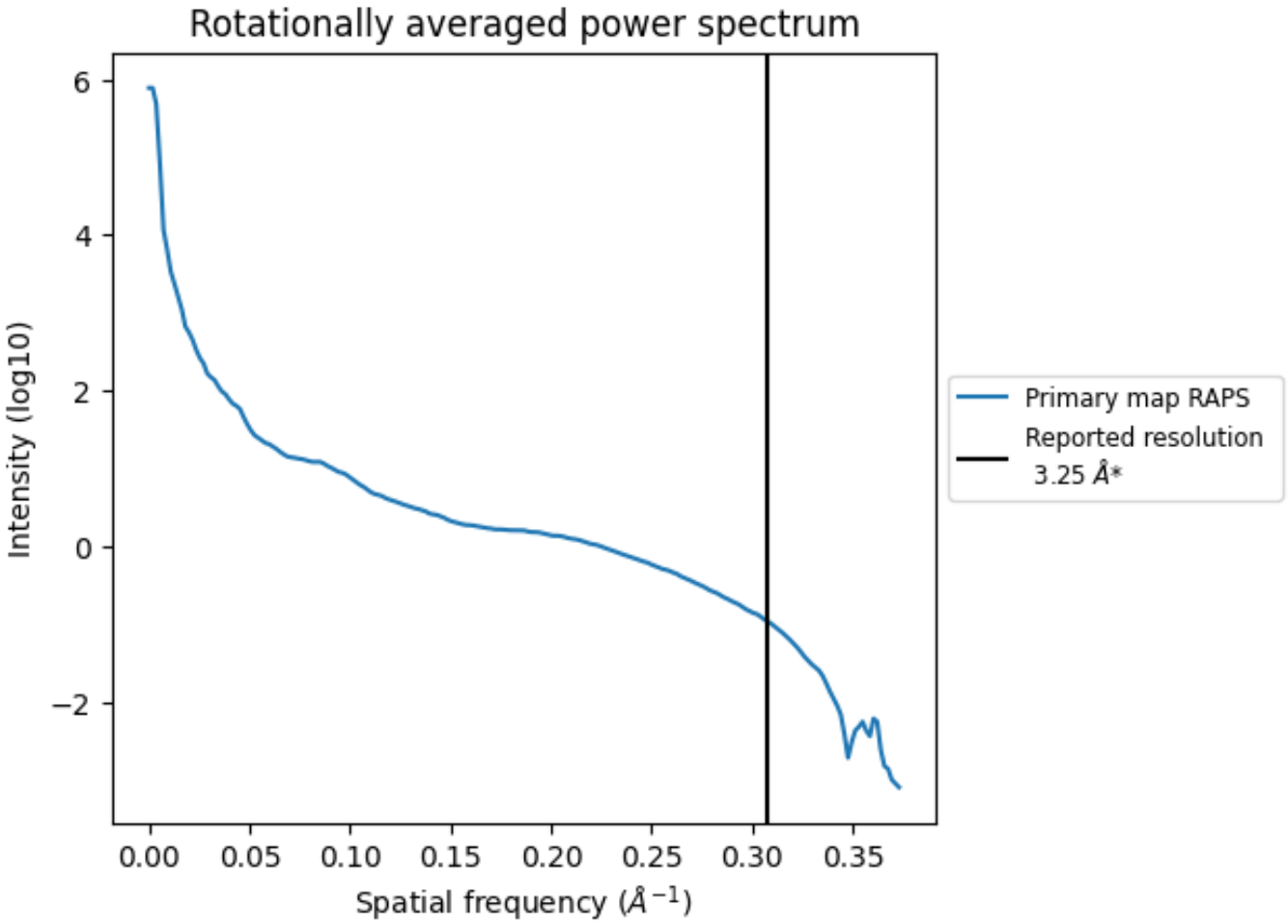
7.2 Volume estimate



The volume at the recommended contour level is 4210 nm^3; this corresponds to an approximate mass of 3803 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 0.308 Å^{-1}

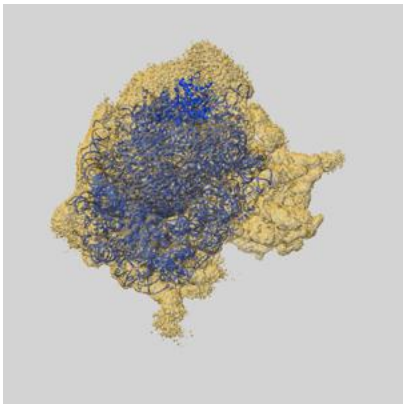
8 Fourier-Shell correlation (i)

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

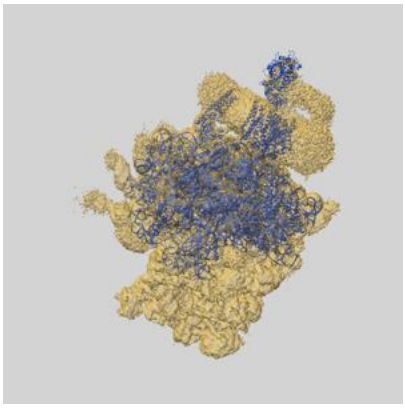
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-25994 and PDB model 7TM3. Per-residue inclusion information can be found in section 3 on page 16.

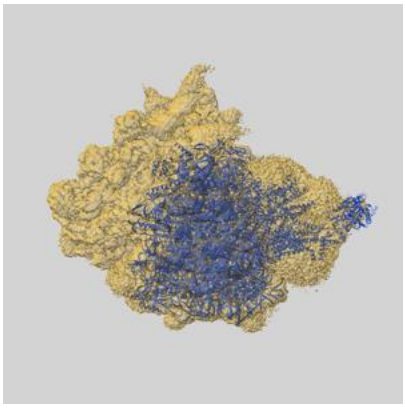
9.1 Map-model overlay



X



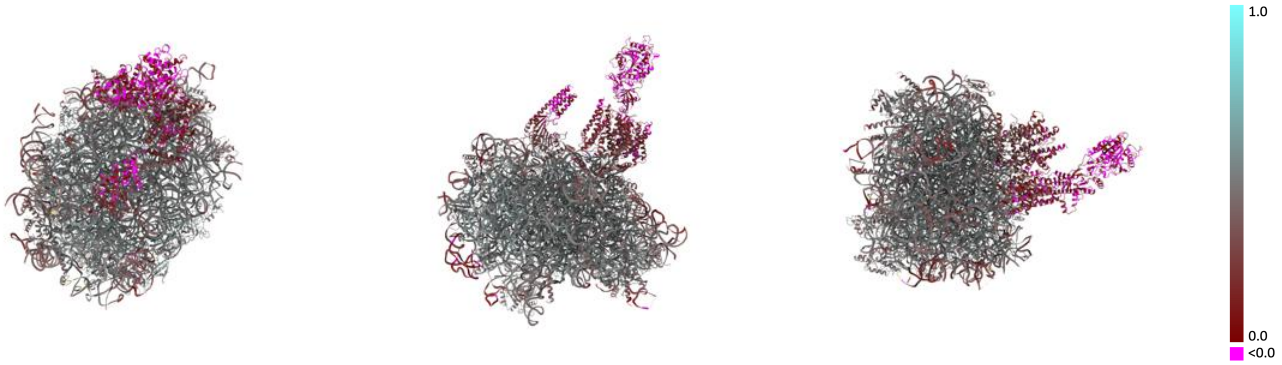
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.007 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

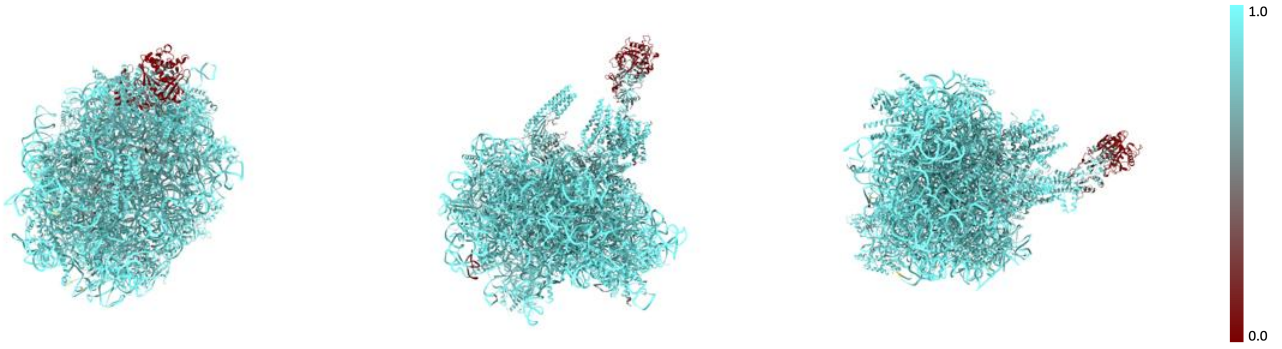
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

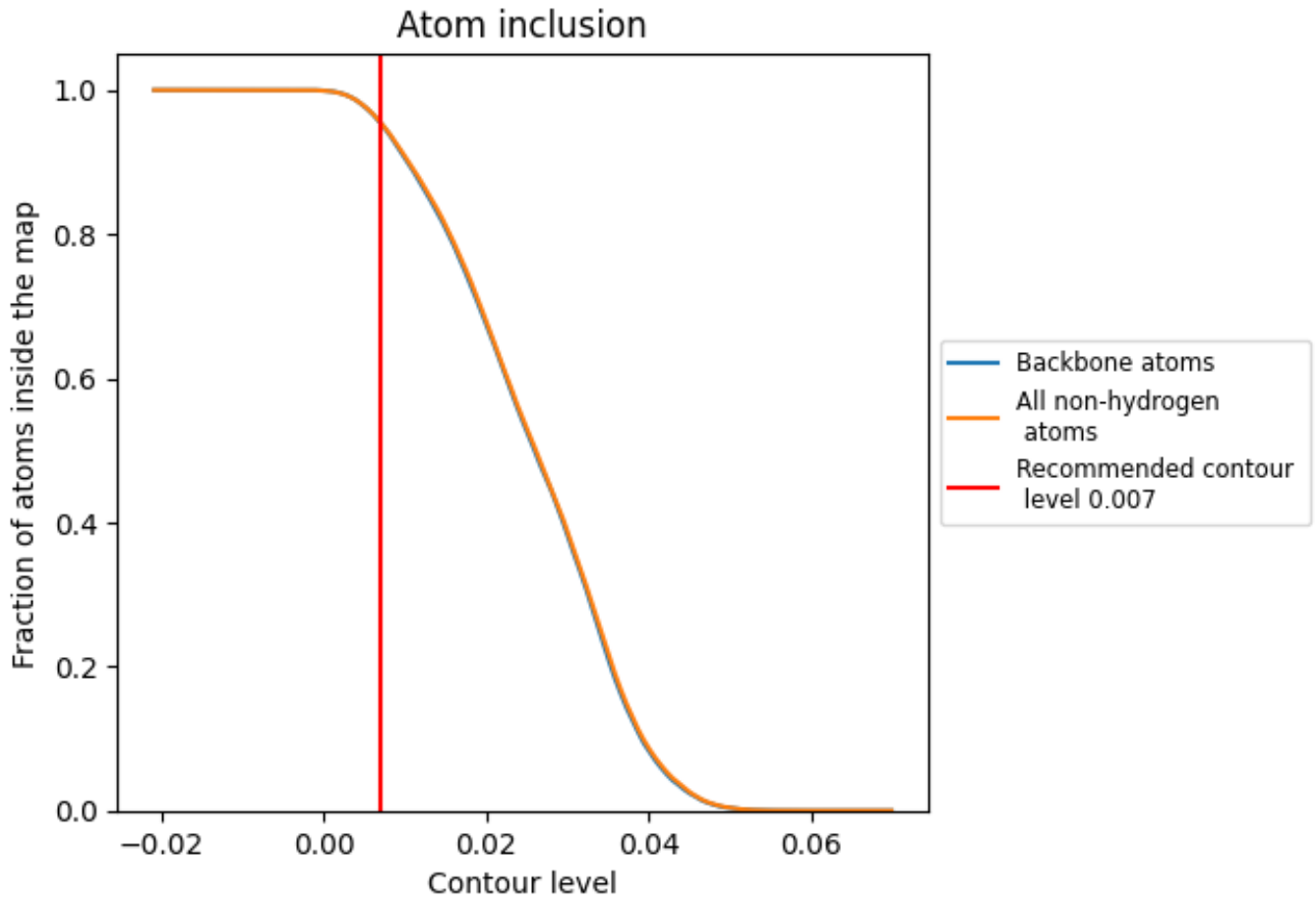
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.007).

9.4 Atom inclusion (i)



At the recommended contour level, 95% 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 (0.007) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9549	0.4340
1	0.8865	0.2370
2	0.9159	0.1090
3	0.8916	0.2370
4	0.7886	0.2040
5	0.8895	0.0330
6	0.8761	0.1460
7	0.3911	0.0360
A	0.9695	0.5070
B	0.9382	0.3230
C	0.9759	0.4970
D	0.9685	0.4510
E	0.9578	0.4530
F	0.9664	0.4930
G	0.9436	0.4320
H	0.9594	0.4780
I	0.9690	0.4940
J	0.9584	0.4330
K	0.9919	0.4550
L	0.9517	0.4610
M	0.9700	0.4770
N	0.9746	0.5040
O	0.9708	0.4930
P	0.9545	0.4920
Q	0.9772	0.5040
R	0.9556	0.4660
S	0.9759	0.5050
T	0.9620	0.4830
U	0.9350	0.3940
V	0.9676	0.5100
W	0.9607	0.4900
X	0.9489	0.4690
Y	0.9314	0.4710
Z	0.9683	0.4620
a	0.9805	0.5030

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Chain	Atom inclusion	Q-score
b	0.9460	0.4210
c	0.9489	0.4500
d	0.9463	0.4690
e	0.9705	0.5100
f	0.9786	0.5240
g	0.9529	0.4730
h	0.9344	0.4560
i	0.9523	0.4510
j	0.9807	0.5080
k	0.8887	0.4190
l	0.9649	0.4830
m	0.9712	0.4900
n	0.8991	0.3980
o	0.9649	0.4910
p	0.9550	0.4660
q	0.9480	0.4000
r	0.9749	0.4960
u	0.9969	0.4790
v	0.9973	0.4530
w	0.9719	0.5050