Full wwPDB EM Validation Report ⓘ

Sep 30, 2023 – 12:37 PM EDT

PDB ID	:	8T4S
EMDB ID	:	EMD-41039
Title	:	MERS-CoV Nsp1 protein bound to the Human 40S Ribosomal subunit
Authors	:	Devarkar, S.C.; Xiong, Y.
Deposited on	:	2023-06-09
Resolution	:	2.60 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:

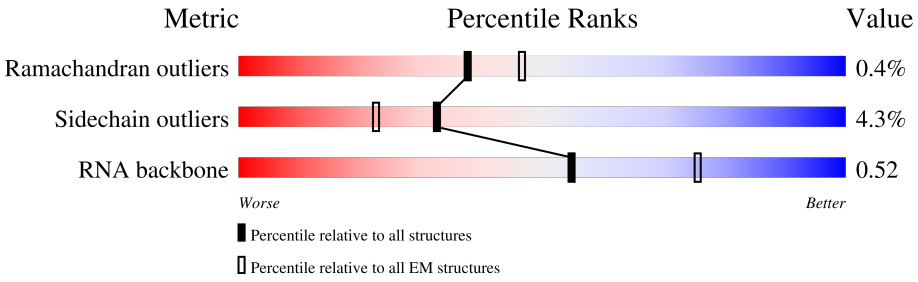
EMDB validation analysis	:	0.0.1.dev50
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35.1

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.60 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	2	1869	65% 24% 11%
2	A	295	70% 28%
3	B	264	76% 5% 19%
4	C	293	73% 26%
5	D	243	89% 7%
6	E	263	98%
7	F	204	87% 5% 7%
8	G	249	90% 8%

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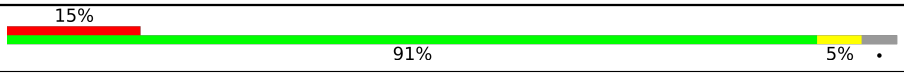
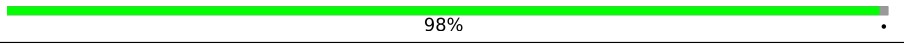
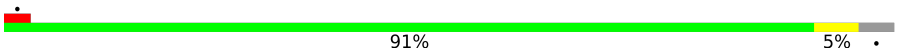
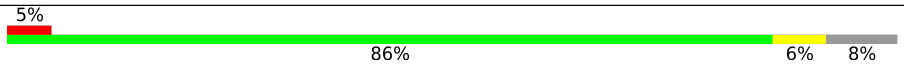
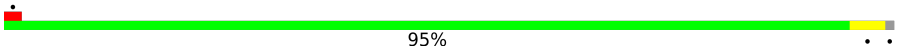
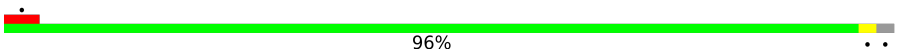
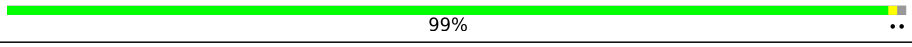
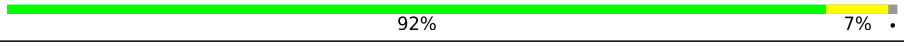
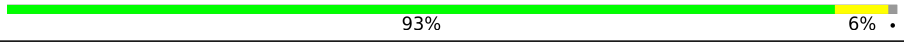
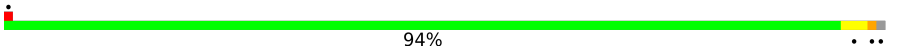
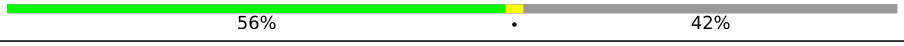
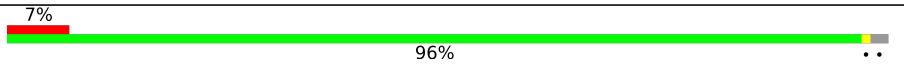
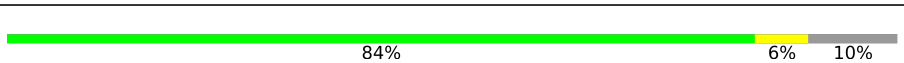
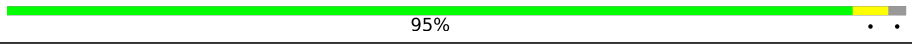
Mol	Chain	Length	Quality of chain
9	H	194	
10	I	208	
11	J	194	
12	K	165	
13	L	158	
14	M	132	
15	N	151	
16	O	151	
17	P	145	
18	Q	146	
19	R	135	
20	S	152	
21	T	145	
22	U	119	
23	V	83	
24	W	130	
25	X	143	
26	Y	133	
27	Z	125	
28	a	115	
29	b	84	
30	c	69	
31	d	56	
32	e	133	
33	f	156	

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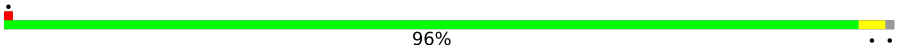
Mol	Chain	Length	Quality of chain
34	g	317	
35	h	25	
36	n	193	

2 Entry composition

There are 39 unique types of molecules in this entry. The entry contains 74894 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	2	1671	35677	15925	6406	11675	1671	0	0

- Molecule 2 is a protein called 40S ribosomal protein SA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	A	213	1686	1072	295	311	8	0	0

- Molecule 3 is a protein called 40S ribosomal protein S3a.

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

- Molecule 4 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	C	218	1690	1094	289	297	10	0	0

- Molecule 5 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	D	225	1752	1117	315	313	7	0	0

- Molecule 6 is a protein called 40S ribosomal protein S4, X isoform.

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

- Molecule 7 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	F	189	Total	C	N	O	S	0	0
			1495	934	284	270	7		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
8	G	230	Total	C	N	O	S	0	0
			1864	1164	373	320	7		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
G	221	ARG	LYS	variant	UNP P62753

- Molecule 9 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	H	186	Total	C	N	O	S	0	0
			1501	957	276	267	1		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
10	I	205	Total	C	N	O	S	0	0
			1682	1056	331	290	5		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
11	J	180	Total	C	N	O	S	0	0
			1499	955	300	242	2		

- Molecule 12 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	K	97	Total	C	N	O	S	0	0
			816	533	144	133	6		

- Molecule 13 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	L	151	Total	C	N	O	S	0	0
			1229	782	230	211	6		

- Molecule 14 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	M	121	Total	C	N	O	S	0	0
			935	586	165	175	9		

- Molecule 15 is a protein called 40S ribosomal protein S13.

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

- Molecule 16 is a protein called 40S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	O	135	Total	C	N	O	S	0	0
			1010	618	198	188	6		

- Molecule 17 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	P	126	Total	C	N	O	S	0	0
			1037	659	196	175	7		

- Molecule 18 is a protein called 40S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	Q	138	Total	C	N	O	S	0	0
			1097	698	206	190	3		

- Molecule 19 is a protein called 40S ribosomal protein S17.

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

- Molecule 20 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	S	143	Total	C	N	O	S	0	0
			1184	743	240	200	1		

- Molecule 21 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	T	144	Total	C	N	O	S	0	0
			1122	703	217	199	3		

- Molecule 22 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	U	101	Total	C	N	O	S	0	0
			803	504	153	142	4		

- Molecule 23 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	V	82	Total	C	N	O	S	0	0
			625	384	116	120	5		

- Molecule 24 is a protein called 40S ribosomal protein S15a.

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

- Molecule 25 is a protein called 40S ribosomal protein S23.

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
26	Y	124	Total	C	N	O	S	0	0
			1014	641	198	170	5		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
27	Z	72	Total	C	N	O	S	0	0
			574	368	104	101	1		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
28	a	99	Total	C	N	O	S	0	0
			794	494	165	130	5		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
a	78	VAL	ALA	conflict	UNP P62854

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

Mol	Chain	Residues	Atoms					AltConf	Trace
29	b	82	Total	C	N	O	S	0	0
			640	402	118	113	7		

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

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

- Molecule 31 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	d	55	Total	C	N	O	S	0	0
			458	286	94	73	5		

- Molecule 32 is a protein called FAU ubiquitin-like and ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	e	56	Total	C	N	O	S	0	0
			442	273	96	72	1		

- Molecule 33 is a protein called Ubiquitin-40S ribosomal protein S27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	f	74	Total	C	N	O	S	0	0
			610	385	117	101	7		

- Molecule 34 is a protein called Receptor of activated protein C kinase 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	g	314	Total	C	N	O	S	0	0
			2440	1537	425	466	12		

- Molecule 35 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	h	22	Total	C	N	O	S	0	0
			213	130	57	23	3		

- Molecule 36 is a protein called Replicase polyprotein 1ab.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	n	25	Total	C	N	O	S	0	0
			206	134	32	38	2		

- Molecule 37 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
37	2	96	Total	Mg	0
			96	96	
37	I	1	Total	Mg	0
			1	1	

- Molecule 38 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
38	a	1	Total	Zn	0
			1	1	
38	d	1	Total	Zn	0
			1	1	
38	f	1	Total	Zn	0
			1	1	

- Molecule 39 is water.

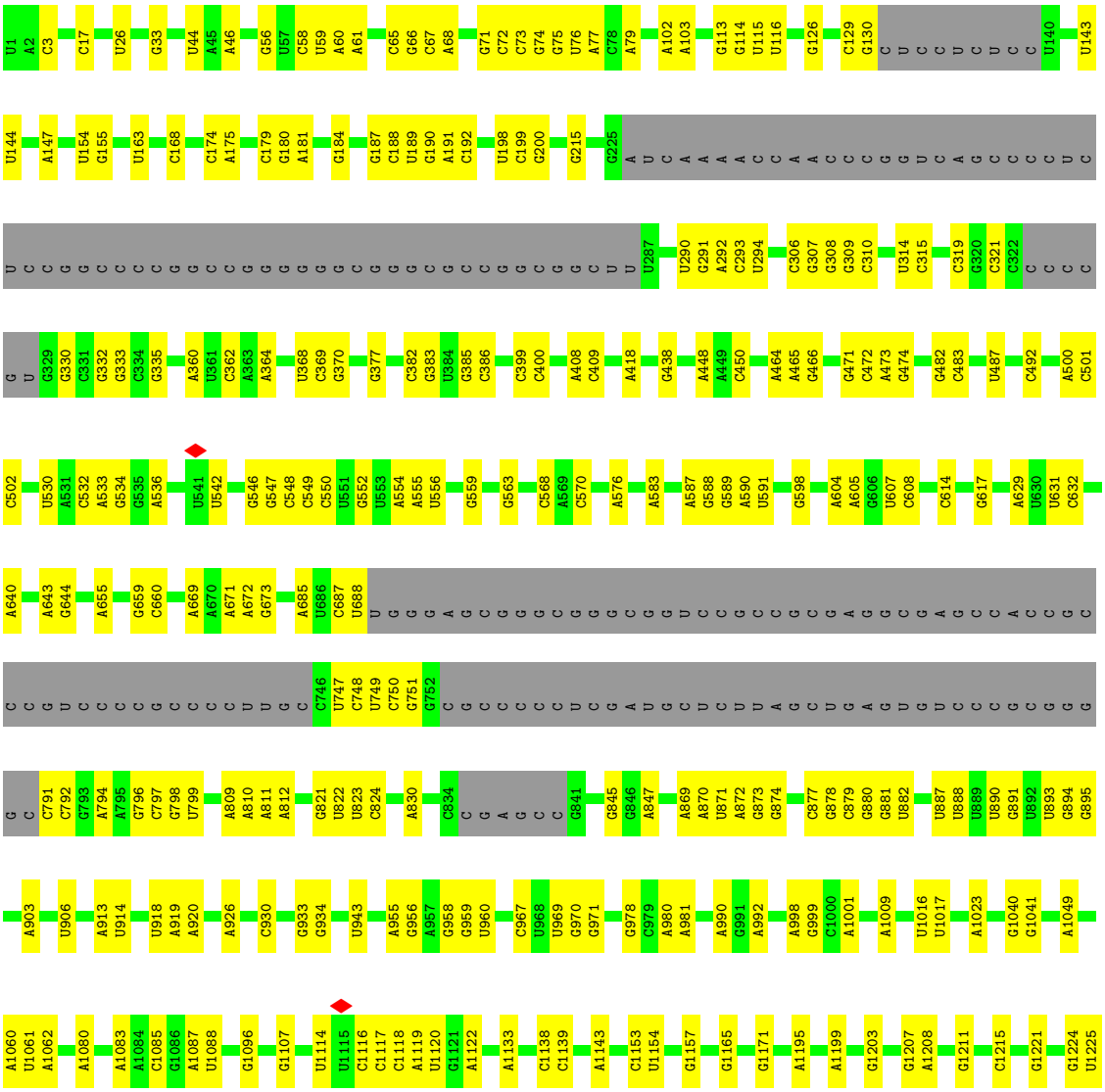
Mol	Chain	Residues	Atoms		AltConf
39	2	4	Total	O	0
			4	4	

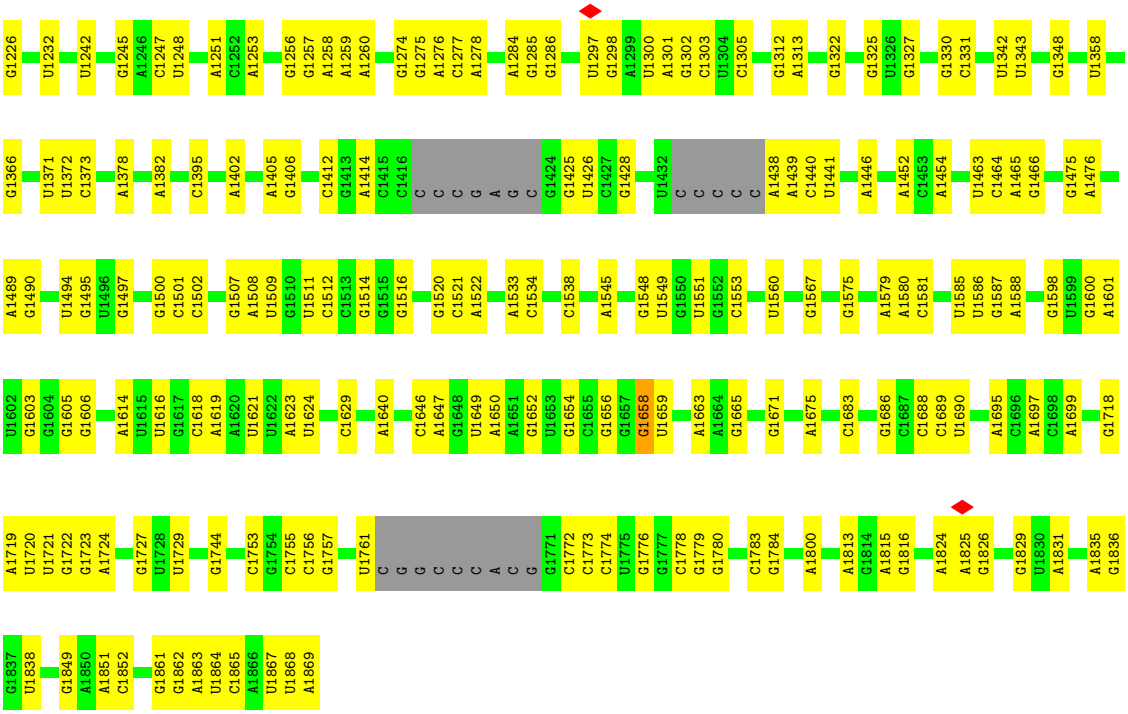
3 Residue-property plots (i)

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: 18S rRNA

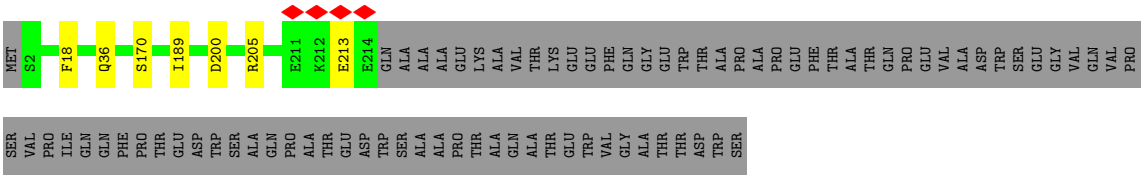
Chain 2:





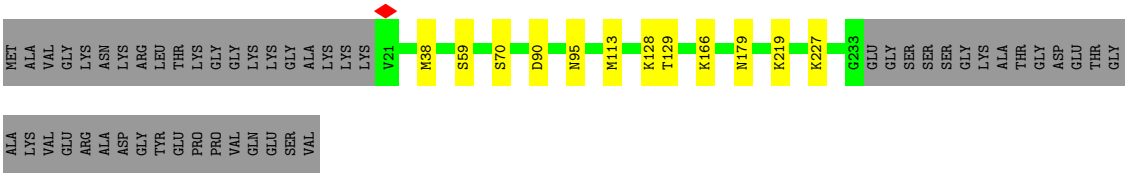
• Molecule 2: 40S ribosomal protein SA

Chain A:



• Molecule 3: 40S ribosomal protein S3a

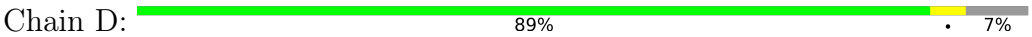
Chain B:

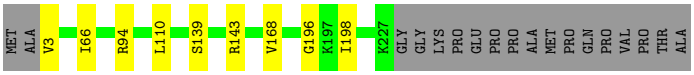


• Molecule 4: 40S ribosomal protein S2

Chain C:

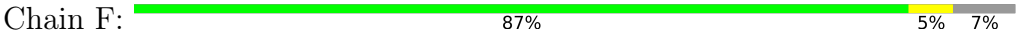
• Molecule 5: 40S ribosomal protein S3

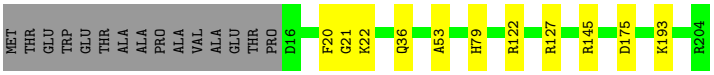




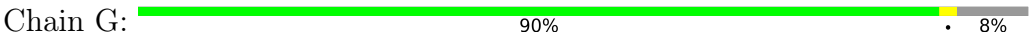
• Molecule 6: 40S ribosomal protein S4, X isoform

• Molecule 7: 40S ribosomal protein S5

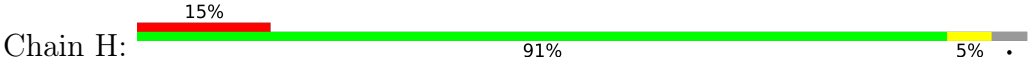


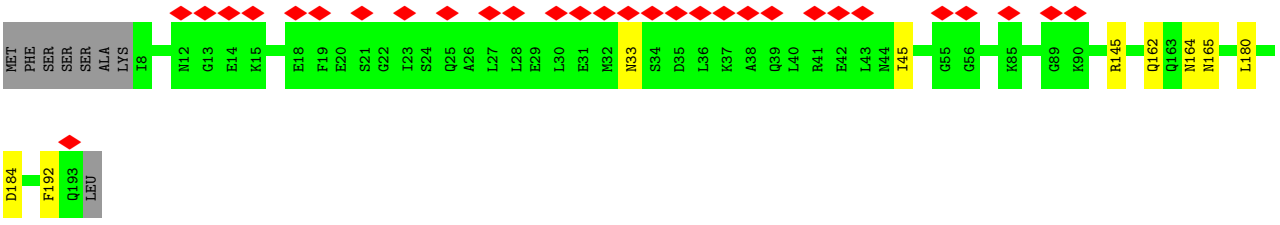


• Molecule 8: 40S ribosomal protein S6

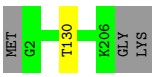


• Molecule 9: 40S ribosomal protein S7



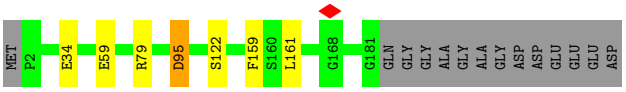


• Molecule 10: 40S ribosomal protein S8



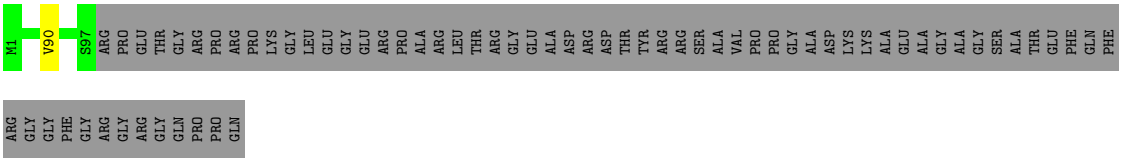
• Molecule 11: 40S ribosomal protein S9

Chain J:



• Molecule 12: 40S ribosomal protein S10

Chain K:

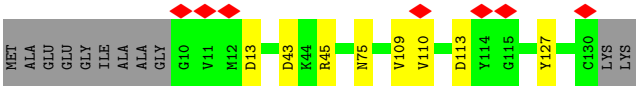


• Molecule 13: 40S ribosomal protein S11

Chain L:

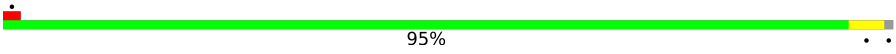
• Molecule 14: 40S ribosomal protein S12

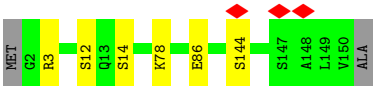
Chain M:



• Molecule 15: 40S ribosomal protein S13

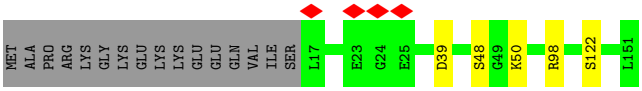
Chain N:





• Molecule 16: 40S ribosomal protein S14

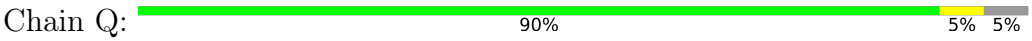
Chain O:



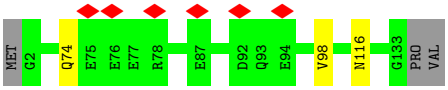
• Molecule 17: 40S ribosomal protein S15

Chain P:

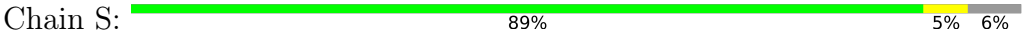
• Molecule 18: 40S ribosomal protein S16

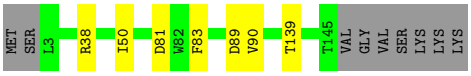


• Molecule 19: 40S ribosomal protein S17

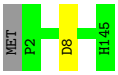


• Molecule 20: 40S ribosomal protein S18

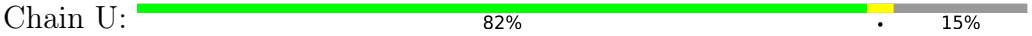




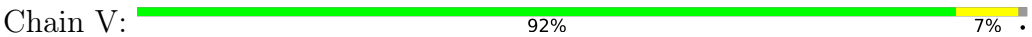
• Molecule 21: 40S ribosomal protein S19



• Molecule 22: 40S ribosomal protein S20



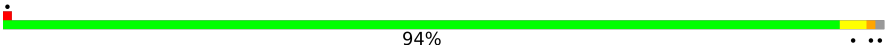
• Molecule 23: 40S ribosomal protein S21

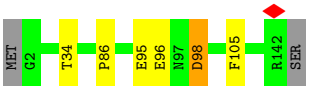


• Molecule 24: 40S ribosomal protein S15a

• Molecule 25: 40S ribosomal protein S23

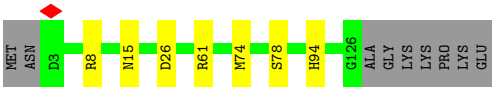
Chain X:





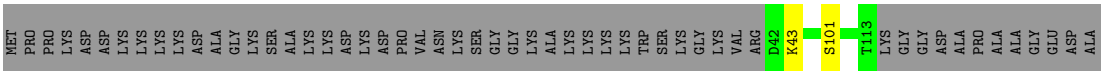
• Molecule 26: 40S ribosomal protein S24

Chain Y:



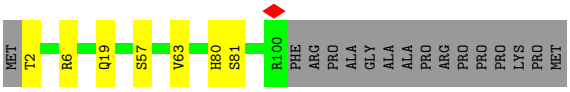
• Molecule 27: 40S ribosomal protein S25

Chain Z:



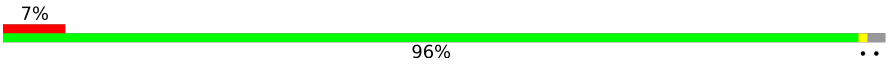
• Molecule 28: 40S ribosomal protein S26

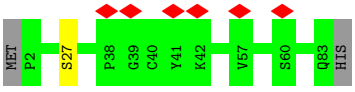
Chain a:



• Molecule 29: 40S ribosomal protein S27

Chain b:



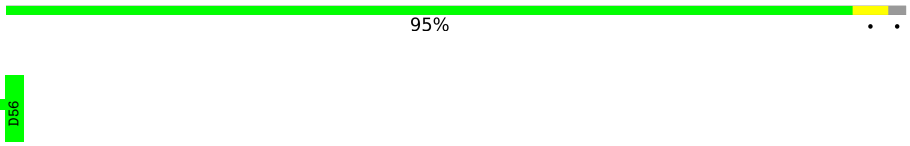


• Molecule 30: 40S ribosomal protein S28

Chain c:

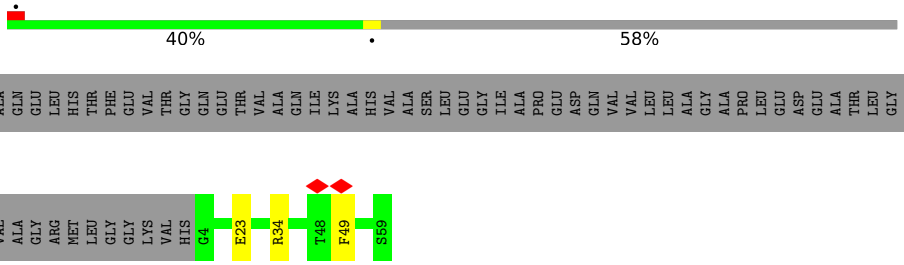
• Molecule 31: 40S ribosomal protein S29

Chain d:



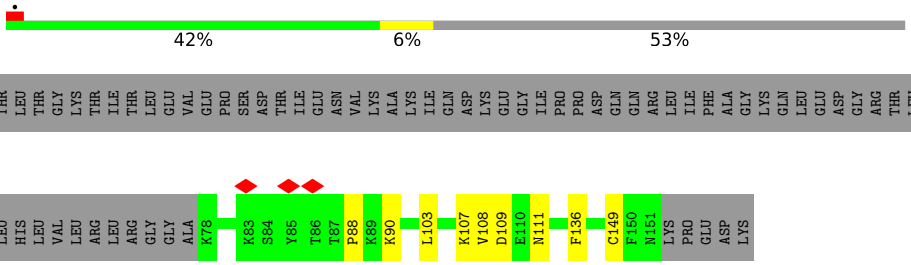
• Molecule 32: FAU ubiquitin-like and ribosomal protein S30

Chain e:



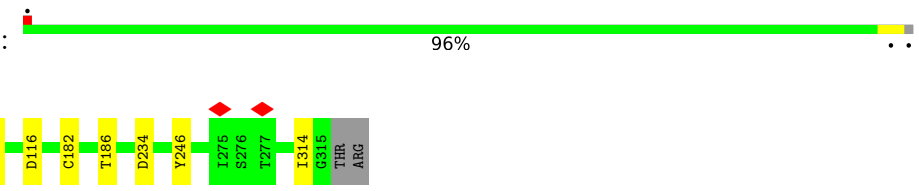
• Molecule 33: Ubiquitin-40S ribosomal protein S27a

Chain f:



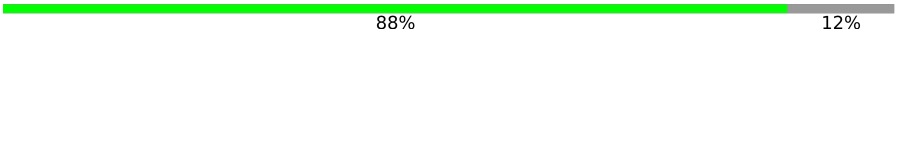
• Molecule 34: Receptor of activated protein C kinase 1

Chain g:



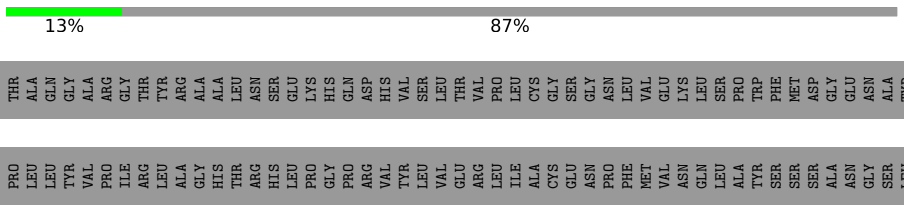
• Molecule 35: 60S ribosomal protein L41

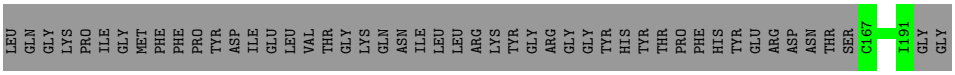
Chain h:



• Molecule 36: Replicase polyprotein 1ab

Chain n:




LEU GLN GLY LYS PRO ILE GLY MET PHE PHE PRO TYR ASP ILE GLU LEU VAL THR GLY LYS GLN ASN ILE LEU LEU ARG LYS TYR GLY ARG GLY GLY TYR HIS TYR THR PRO PHE HIS TYR GLU ARG ASP ASN THR SER C167 I191 GLY GLY

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	267551	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 ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	1800	Depositor
Magnification	81000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.809	Depositor
Minimum map value	-0.270	Depositor
Average map value	0.008	Depositor
Map value standard deviation	0.052	Depositor
Recommended contour level	0.14	Depositor
Map size (Å)	406.6, 406.6, 406.6	wwPDB
Map dimensions	380, 380, 380	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.07, 1.07, 1.07	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	2	0.51	0/39895	0.78	1/62174 (0.0%)
2	A	0.31	0/1723	0.52	0/2341
3	B	0.28	0/1756	0.50	0/2350
4	C	0.33	0/1726	0.50	0/2332
5	D	0.33	0/1780	0.56	0/2397
6	E	0.34	0/2118	0.55	0/2849
7	F	0.38	0/1516	0.62	0/2037
8	G	0.30	0/1887	0.58	0/2513
9	H	0.28	0/1524	0.54	0/2042
10	I	0.33	0/1711	0.57	0/2282
11	J	0.35	0/1524	0.60	1/2035 (0.0%)
12	K	0.35	0/840	0.54	0/1133
13	L	0.35	0/1250	0.57	0/1673
14	M	0.29	0/945	0.54	0/1269
15	N	0.30	0/1226	0.53	0/1649
16	O	0.28	0/1023	0.58	0/1372
17	P	0.37	0/1058	0.62	0/1414
18	Q	0.35	0/1114	0.58	0/1492
19	R	0.30	0/1082	0.56	0/1452
20	S	0.32	0/1202	0.60	0/1610
21	T	0.32	0/1142	0.52	0/1530
22	U	0.30	0/813	0.58	0/1092
23	V	0.33	0/631	0.61	1/844 (0.1%)
24	W	0.40	0/1051	0.56	0/1406
25	X	0.35	0/1116	0.59	1/1490 (0.1%)
26	Y	0.34	0/1031	0.57	0/1370
27	Z	0.31	0/580	0.58	0/780
28	a	0.30	0/807	0.55	0/1082
29	b	0.27	0/653	0.51	0/876
30	c	0.34	0/490	0.72	0/656
31	d	0.39	0/469	0.56	0/623
32	e	0.42	0/447	0.55	0/587

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\|>5$	RMSZ	$\#\|Z\|>5$
33	f	0.40	0/622	0.54	0/822
34	g	0.33	0/2497	0.53	0/3399
35	h	0.25	0/214	0.83	0/272
36	n	0.26	0/211	0.37	0/283
All	All	0.43	0/79674	0.69	4/115528 (0.0%)

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	2	1658	G	C2'-C3'-O3'	6.57	124.21	113.70
25	X	98	ASP	CB-CG-OD1	5.18	122.96	118.30
23	V	40	ASP	CB-CG-OD1	5.16	122.94	118.30
11	J	95	ASP	CB-CG-OD1	5.02	122.82	118.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

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
2	A	211/295 (72%)	202 (96%)	8 (4%)	1 (0%)	29 52
3	B	211/264 (80%)	205 (97%)	6 (3%)	0	100 100
4	C	216/293 (74%)	210 (97%)	6 (3%)	0	100 100
5	D	223/243 (92%)	217 (97%)	5 (2%)	1 (0%)	34 57

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
6	E	260/263 (99%)	256 (98%)	4 (2%)	0	100 100
7	F	187/204 (92%)	169 (90%)	15 (8%)	3 (2%)	9 19
8	G	228/249 (92%)	221 (97%)	7 (3%)	0	100 100
9	H	184/194 (95%)	169 (92%)	15 (8%)	0	100 100
10	I	203/208 (98%)	198 (98%)	5 (2%)	0	100 100
11	J	178/194 (92%)	170 (96%)	7 (4%)	1 (1%)	25 47
12	K	95/165 (58%)	91 (96%)	4 (4%)	0	100 100
13	L	149/158 (94%)	142 (95%)	7 (5%)	0	100 100
14	M	119/132 (90%)	99 (83%)	18 (15%)	2 (2%)	9 18
15	N	147/151 (97%)	146 (99%)	1 (1%)	0	100 100
16	O	133/151 (88%)	128 (96%)	5 (4%)	0	100 100
17	P	124/145 (86%)	113 (91%)	8 (6%)	3 (2%)	6 10
18	Q	136/146 (93%)	125 (92%)	11 (8%)	0	100 100
19	R	130/135 (96%)	126 (97%)	4 (3%)	0	100 100
20	S	141/152 (93%)	129 (92%)	11 (8%)	1 (1%)	22 43
21	T	142/145 (98%)	134 (94%)	8 (6%)	0	100 100
22	U	99/119 (83%)	94 (95%)	5 (5%)	0	100 100
23	V	80/83 (96%)	77 (96%)	3 (4%)	0	100 100
24	W	127/130 (98%)	123 (97%)	4 (3%)	0	100 100
25	X	139/143 (97%)	135 (97%)	3 (2%)	1 (1%)	22 43
26	Y	122/133 (92%)	116 (95%)	6 (5%)	0	100 100
27	Z	70/125 (56%)	69 (99%)	1 (1%)	0	100 100
28	a	97/115 (84%)	95 (98%)	1 (1%)	1 (1%)	15 32
29	b	80/84 (95%)	75 (94%)	5 (6%)	0	100 100
30	c	60/69 (87%)	56 (93%)	4 (7%)	0	100 100
31	d	53/56 (95%)	52 (98%)	1 (2%)	0	100 100
32	e	54/133 (41%)	50 (93%)	4 (7%)	0	100 100
33	f	72/156 (46%)	61 (85%)	8 (11%)	3 (4%)	3 3
34	g	312/317 (98%)	293 (94%)	18 (6%)	1 (0%)	41 64
35	h	20/25 (80%)	19 (95%)	1 (5%)	0	100 100
36	n	23/193 (12%)	23 (100%)	0	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	4825/5768 (84%)	4588 (95%)	219 (4%)	18 (0%)	38 57

All (18) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
14	M	110	VAL
33	f	88	PRO
2	A	189	ILE
11	J	161	LEU
20	S	38	ARG
7	F	20	PHE
17	P	40	ARG
33	f	108	VAL
34	g	314	ILE
7	F	53	ALA
14	M	109	VAL
17	P	133	ILE
33	f	107	LYS
17	P	87	PRO
28	a	63	VAL
7	F	21	GLY
5	D	196	GLY
25	X	86	PRO

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
2	A	179/243 (74%)	173 (97%)	6 (3%)	37 63
3	B	194/231 (84%)	182 (94%)	12 (6%)	18 37
4	C	184/225 (82%)	179 (97%)	5 (3%)	44 71
5	D	189/202 (94%)	181 (96%)	8 (4%)	30 55
6	E	224/225 (100%)	220 (98%)	4 (2%)	59 80
7	F	159/170 (94%)	151 (95%)	8 (5%)	24 47

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
8	G	200/218 (92%)	195 (98%)	5 (2%)	47 73
9	H	167/174 (96%)	158 (95%)	9 (5%)	22 44
10	I	178/180 (99%)	177 (99%)	1 (1%)	86 95
11	J	160/168 (95%)	154 (96%)	6 (4%)	33 59
12	K	88/136 (65%)	87 (99%)	1 (1%)	73 88
13	L	135/142 (95%)	127 (94%)	8 (6%)	19 39
14	M	102/108 (94%)	96 (94%)	6 (6%)	19 39
15	N	130/131 (99%)	124 (95%)	6 (5%)	27 51
16	O	105/119 (88%)	100 (95%)	5 (5%)	25 49
17	P	112/130 (86%)	100 (89%)	12 (11%)	6 12
18	Q	114/121 (94%)	107 (94%)	7 (6%)	18 38
19	R	119/122 (98%)	116 (98%)	3 (2%)	47 73
20	S	124/132 (94%)	118 (95%)	6 (5%)	25 49
21	T	114/115 (99%)	113 (99%)	1 (1%)	78 91
22	U	93/107 (87%)	89 (96%)	4 (4%)	29 54
23	V	66/67 (98%)	61 (92%)	5 (8%)	13 26
24	W	112/113 (99%)	104 (93%)	8 (7%)	14 29
25	X	113/115 (98%)	108 (96%)	5 (4%)	28 53
26	Y	108/115 (94%)	101 (94%)	7 (6%)	17 34
27	Z	64/103 (62%)	62 (97%)	2 (3%)	40 66
28	a	87/99 (88%)	81 (93%)	6 (7%)	15 31
29	b	74/76 (97%)	73 (99%)	1 (1%)	67 85
30	c	55/62 (89%)	51 (93%)	4 (7%)	14 28
31	d	48/49 (98%)	46 (96%)	2 (4%)	30 55
32	e	45/104 (43%)	42 (93%)	3 (7%)	16 33
33	f	67/140 (48%)	61 (91%)	6 (9%)	9 18
34	g	272/275 (99%)	264 (97%)	8 (3%)	42 68
35	h	21/24 (88%)	21 (100%)	0	100 100
36	n	22/161 (14%)	22 (100%)	0	100 100
All	All	4224/4902 (86%)	4044 (96%)	180 (4%)	33 54

All (180) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	A	18	PHE
2	A	36	GLN
2	A	170	SER
2	A	200	ASP
2	A	205	ARG
2	A	213	GLU
3	B	38	MET
3	B	59	SER
3	B	70	SER
3	B	90	ASP
3	B	95	ASN
3	B	113	MET
3	B	128	LYS
3	B	129	THR
3	B	166	LYS
3	B	179	ASN
3	B	219	LYS
3	B	227	LYS
4	C	161	SER
4	C	227	ARG
4	C	236	PHE
4	C	248	TYR
4	C	259	THR
5	D	3	VAL
5	D	66	ILE
5	D	94	ARG
5	D	110	LEU
5	D	139	SER
5	D	143	ARG
5	D	168	VAL
5	D	198	ILE
6	E	91	SER
6	E	143	ASP
6	E	146	THR
6	E	174	LYS
7	F	22	LYS
7	F	36	GLN
7	F	79	HIS
7	F	122	ARG
7	F	127	ARG
7	F	145	ARG
7	F	175	ASP
7	F	193	LYS

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Mol	Chain	Res	Type
8	G	39	ASP
8	G	53	SER
8	G	79	LYS
8	G	95	LYS
8	G	201	LYS
9	H	33	ASN
9	H	45	ILE
9	H	145	ARG
9	H	162	GLN
9	H	164	ASN
9	H	165	ASN
9	H	180	LEU
9	H	184	ASP
9	H	192	PHE
10	I	130	THR
11	J	34	GLU
11	J	59	GLU
11	J	79	ARG
11	J	95	ASP
11	J	122	SER
11	J	159	PHE
12	K	90	VAL
13	L	31	GLU
13	L	45	LYS
13	L	59	LYS
13	L	67	SER
13	L	124	ASP
13	L	141	ASN
13	L	146	THR
13	L	152	LYS
14	M	13	ASP
14	M	43	ASP
14	M	45	ARG
14	M	75	ASN
14	M	113	ASP
14	M	127	TYR
15	N	3	ARG
15	N	12	SER
15	N	14	SER
15	N	78	LYS
15	N	86	GLU
15	N	144	SER

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Mol	Chain	Res	Type
16	O	39	ASP
16	O	48	SER
16	O	50	LYS
16	O	98	ARG
16	O	122	SER
17	P	16	THR
17	P	21	ASP
17	P	31	GLU
17	P	50	ARG
17	P	51	ARG
17	P	64	LYS
17	P	74	GLU
17	P	75	VAL
17	P	76	VAL
17	P	81	ARG
17	P	84	ILE
17	P	86	LEU
18	Q	13	PHE
18	Q	57	LEU
18	Q	105	LYS
18	Q	114	GLN
18	Q	117	ARG
18	Q	118	THR
18	Q	138	ARG
19	R	74	GLN
19	R	98	VAL
19	R	116	ASN
20	S	50	ILE
20	S	81	ASP
20	S	83	PHE
20	S	89	ASP
20	S	90	VAL
20	S	139	THR
21	T	8	ASP
22	U	30	LYS
22	U	38	ASP
22	U	49	LYS
22	U	91	LEU
23	V	13	VAL
23	V	31	SER
23	V	52	THR
23	V	68	SER

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Mol	Chain	Res	Type
23	V	80	SER
24	W	26	LEU
24	W	27	ILE
24	W	30	CYS
24	W	31	SER
24	W	57	ARG
24	W	74	VAL
24	W	78	ARG
24	W	80	ASP
25	X	34	THR
25	X	95	GLU
25	X	96	GLU
25	X	98	ASP
25	X	105	PHE
26	Y	8	ARG
26	Y	15	ASN
26	Y	26	ASP
26	Y	61	ARG
26	Y	74	MET
26	Y	78	SER
26	Y	94	HIS
27	Z	43	LYS
27	Z	101	SER
28	a	2	THR
28	a	6	ARG
28	a	19	GLN
28	a	57	SER
28	a	80	HIS
28	a	81	SER
29	b	27	SER
30	c	10	LYS
30	c	33	GLU
30	c	46	VAL
30	c	51	ARG
31	d	14	PHE
31	d	40	ARG
32	e	23	GLU
32	e	34	ARG
32	e	49	PHE
33	f	90	LYS
33	f	103	LEU
33	f	109	ASP

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Mol	Chain	Res	Type
33	f	111	ASN
33	f	136	PHE
33	f	149	CYS
34	g	2	THR
34	g	48	ASP
34	g	113	PHE
34	g	116	ASP
34	g	182	CYS
34	g	186	THR
34	g	234	ASP
34	g	246	TYR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (7) such sidechains are listed below:

Mol	Chain	Res	Type
2	A	193	HIS
6	E	214	ASN
12	K	84	HIS
21	T	12	GLN
30	c	29	GLN
31	d	10	HIS
34	g	51	ASN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	2	1663/1869 (88%)	433 (26%)	53 (3%)

All (433) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	2	3	C
1	2	17	C
1	2	26	U
1	2	33	G
1	2	44	U
1	2	46	A
1	2	56	G
1	2	58	C
1	2	59	U

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Mol	Chain	Res	Type
1	2	60	A
1	2	61	A
1	2	65	C
1	2	66	G
1	2	67	C
1	2	68	A
1	2	71	G
1	2	72	C
1	2	73	C
1	2	74	G
1	2	75	G
1	2	76	U
1	2	77	A
1	2	79	A
1	2	103	A
1	2	113	G
1	2	114	G
1	2	115	U
1	2	116	U
1	2	126	G
1	2	129	C
1	2	130	G
1	2	143	U
1	2	144	U
1	2	147	A
1	2	154	U
1	2	155	G
1	2	163	U
1	2	168	C
1	2	174	C
1	2	175	A
1	2	179	C
1	2	181	A
1	2	184	G
1	2	187	G
1	2	188	C
1	2	189	U
1	2	190	G
1	2	191	A
1	2	192	C
1	2	198	U
1	2	199	C

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Mol	Chain	Res	Type
1	2	200	G
1	2	215	G
1	2	290	U
1	2	291	G
1	2	292	A
1	2	294	U
1	2	307	G
1	2	308	G
1	2	309	G
1	2	310	C
1	2	315	C
1	2	319	C
1	2	321	C
1	2	330	G
1	2	332	G
1	2	333	G
1	2	335	G
1	2	360	A
1	2	362	C
1	2	364	A
1	2	368	U
1	2	369	C
1	2	370	G
1	2	377	G
1	2	383	G
1	2	385	G
1	2	386	C
1	2	399	C
1	2	400	C
1	2	408	A
1	2	409	C
1	2	418	A
1	2	438	G
1	2	448	A
1	2	450	C
1	2	464	A
1	2	465	A
1	2	466	G
1	2	471	G
1	2	472	C
1	2	473	A
1	2	474	G

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Mol	Chain	Res	Type
1	2	482	G
1	2	483	C
1	2	487	U
1	2	492	C
1	2	501	C
1	2	502	C
1	2	530	U
1	2	532	C
1	2	533	A
1	2	534	G
1	2	536	A
1	2	542	U
1	2	546	G
1	2	547	G
1	2	548	C
1	2	549	C
1	2	550	C
1	2	552	G
1	2	554	A
1	2	555	A
1	2	556	U
1	2	559	G
1	2	563	G
1	2	568	C
1	2	570	C
1	2	576	A
1	2	583	A
1	2	587	A
1	2	588	G
1	2	589	G
1	2	590	A
1	2	591	U
1	2	598	G
1	2	604	A
1	2	605	A
1	2	607	U
1	2	608	C
1	2	614	C
1	2	617	G
1	2	629	A
1	2	631	U
1	2	632	C

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Mol	Chain	Res	Type
1	2	640	A
1	2	643	A
1	2	644	G
1	2	655	A
1	2	659	G
1	2	660	C
1	2	669	A
1	2	671	A
1	2	672	A
1	2	673	G
1	2	685	A
1	2	687	C
1	2	688	U
1	2	747	U
1	2	749	U
1	2	750	C
1	2	751	G
1	2	792	C
1	2	794	A
1	2	796	G
1	2	797	C
1	2	798	G
1	2	799	U
1	2	809	A
1	2	810	A
1	2	811	A
1	2	812	A
1	2	821	G
1	2	822	U
1	2	823	U
1	2	824	C
1	2	830	A
1	2	845	G
1	2	847	A
1	2	869	A
1	2	870	A
1	2	871	U
1	2	872	A
1	2	873	G
1	2	874	G
1	2	877	C
1	2	878	G

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Mol	Chain	Res	Type
1	2	879	C
1	2	880	G
1	2	881	G
1	2	882	U
1	2	887	U
1	2	888	U
1	2	890	U
1	2	891	G
1	2	893	U
1	2	894	G
1	2	895	G
1	2	903	A
1	2	906	U
1	2	913	A
1	2	914	U
1	2	918	U
1	2	919	A
1	2	920	A
1	2	926	A
1	2	930	C
1	2	933	G
1	2	934	G
1	2	943	U
1	2	955	A
1	2	956	G
1	2	959	G
1	2	960	U
1	2	967	C
1	2	969	U
1	2	970	G
1	2	971	G
1	2	978	G
1	2	981	A
1	2	990	A
1	2	992	A
1	2	998	A
1	2	999	G
1	2	1001	A
1	2	1009	A
1	2	1017	U
1	2	1023	A
1	2	1040	G

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Mol	Chain	Res	Type
1	2	1041	G
1	2	1049	A
1	2	1060	A
1	2	1061	U
1	2	1062	A
1	2	1080	A
1	2	1083	A
1	2	1085	C
1	2	1087	A
1	2	1088	U
1	2	1096	G
1	2	1107	G
1	2	1114	U
1	2	1116	C
1	2	1117	C
1	2	1118	C
1	2	1119	A
1	2	1120	U
1	2	1122	A
1	2	1133	A
1	2	1138	C
1	2	1139	C
1	2	1143	A
1	2	1153	C
1	2	1154	U
1	2	1157	G
1	2	1171	G
1	2	1195	A
1	2	1199	A
1	2	1203	G
1	2	1207	G
1	2	1208	A
1	2	1211	G
1	2	1215	C
1	2	1221	G
1	2	1224	G
1	2	1225	U
1	2	1226	G
1	2	1232	U
1	2	1242	U
1	2	1245	G
1	2	1247	C

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Mol	Chain	Res	Type
1	2	1248	U
1	2	1251	A
1	2	1253	A
1	2	1256	G
1	2	1257	G
1	2	1258	A
1	2	1259	A
1	2	1260	A
1	2	1274	G
1	2	1275	G
1	2	1276	A
1	2	1278	A
1	2	1284	A
1	2	1285	G
1	2	1286	G
1	2	1297	U
1	2	1298	G
1	2	1300	U
1	2	1301	A
1	2	1302	G
1	2	1303	C
1	2	1305	C
1	2	1312	G
1	2	1313	A
1	2	1322	G
1	2	1325	G
1	2	1327	G
1	2	1331	C
1	2	1342	U
1	2	1343	U
1	2	1348	G
1	2	1358	U
1	2	1366	G
1	2	1371	U
1	2	1372	U
1	2	1373	C
1	2	1378	A
1	2	1382	A
1	2	1395	C
1	2	1402	A
1	2	1405	A
1	2	1406	G

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Mol	Chain	Res	Type
1	2	1412	C
1	2	1414	A
1	2	1426	U
1	2	1428	G
1	2	1439	A
1	2	1441	U
1	2	1446	A
1	2	1452	A
1	2	1454	A
1	2	1463	U
1	2	1465	A
1	2	1466	G
1	2	1475	G
1	2	1476	A
1	2	1489	A
1	2	1490	G
1	2	1494	U
1	2	1495	G
1	2	1497	G
1	2	1500	G
1	2	1501	C
1	2	1502	C
1	2	1507	G
1	2	1508	A
1	2	1509	U
1	2	1511	U
1	2	1512	C
1	2	1514	G
1	2	1516	G
1	2	1520	G
1	2	1521	C
1	2	1522	A
1	2	1533	A
1	2	1534	C
1	2	1538	C
1	2	1545	A
1	2	1549	U
1	2	1551	U
1	2	1553	C
1	2	1560	U
1	2	1567	G
1	2	1575	G

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Mol	Chain	Res	Type
1	2	1579	A
1	2	1580	A
1	2	1581	C
1	2	1585	U
1	2	1586	U
1	2	1588	A
1	2	1598	G
1	2	1600	G
1	2	1601	A
1	2	1603	G
1	2	1605	G
1	2	1606	G
1	2	1614	A
1	2	1616	U
1	2	1618	C
1	2	1619	A
1	2	1621	U
1	2	1623	A
1	2	1624	U
1	2	1629	C
1	2	1640	A
1	2	1646	C
1	2	1647	A
1	2	1649	U
1	2	1650	A
1	2	1652	G
1	2	1654	G
1	2	1656	G
1	2	1658	G
1	2	1659	U
1	2	1663	A
1	2	1665	G
1	2	1671	G
1	2	1675	A
1	2	1683	C
1	2	1686	G
1	2	1688	C
1	2	1689	C
1	2	1690	U
1	2	1695	A
1	2	1697	A
1	2	1699	A

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Mol	Chain	Res	Type
1	2	1719	A
1	2	1720	U
1	2	1721	U
1	2	1722	G
1	2	1723	G
1	2	1724	A
1	2	1727	G
1	2	1729	U
1	2	1744	G
1	2	1753	C
1	2	1755	C
1	2	1756	C
1	2	1757	G
1	2	1761	U
1	2	1772	C
1	2	1773	C
1	2	1774	C
1	2	1776	G
1	2	1778	C
1	2	1779	G
1	2	1780	G
1	2	1783	C
1	2	1784	G
1	2	1800	A
1	2	1813	A
1	2	1815	A
1	2	1816	G
1	2	1824	A
1	2	1825	A
1	2	1826	G
1	2	1829	G
1	2	1831	A
1	2	1835	A
1	2	1836	G
1	2	1838	U
1	2	1849	G
1	2	1851	A
1	2	1852	C
1	2	1861	G
1	2	1862	G
1	2	1863	A
1	2	1864	U

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Mol	Chain	Res	Type
1	2	1865	C
1	2	1867	U
1	2	1868	U
1	2	1869	A

All (53) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	2	60	A
1	2	65	C
1	2	71	G
1	2	102	A
1	2	114	G
1	2	143	U
1	2	180	G
1	2	189	U
1	2	291	G
1	2	293	C
1	2	306	C
1	2	314	U
1	2	332	G
1	2	368	U
1	2	382	C
1	2	465	A
1	2	500	A
1	2	554	A
1	2	589	G
1	2	591	U
1	2	604	A
1	2	748	C
1	2	750	C
1	2	791	C
1	2	797	C
1	2	811	A
1	2	821	G
1	2	893	U
1	2	958	G
1	2	980	A
1	2	1016	U
1	2	1138	C
1	2	1165	G
1	2	1277	C

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Mol	Chain	Res	Type
1	2	1312	G
1	2	1330	G
1	2	1342	U
1	2	1425	G
1	2	1438	A
1	2	1440	C
1	2	1464	C
1	2	1494	U
1	2	1548	G
1	2	1585	U
1	2	1587	G
1	2	1603	G
1	2	1618	C
1	2	1649	U
1	2	1658	G
1	2	1718	G
1	2	1721	U
1	2	1773	C
1	2	1825	A

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 100 ligands modelled in this entry, 100 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.

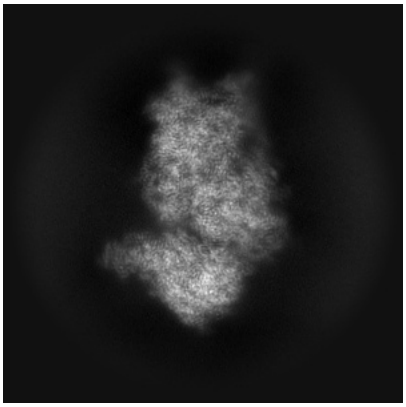
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-41039. These allow visual inspection of the internal detail of the map and identification of artifacts.

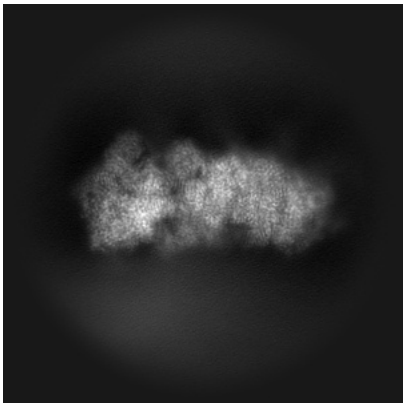
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

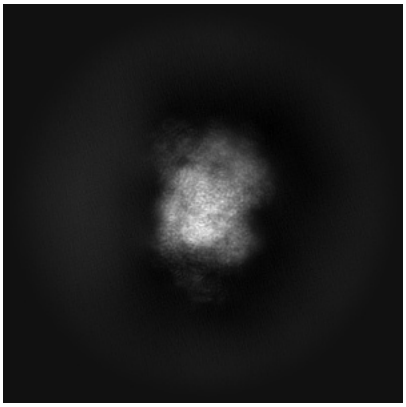
6.1.1 Primary map



X



Y

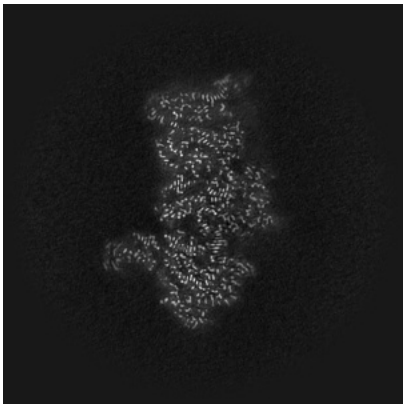


Z

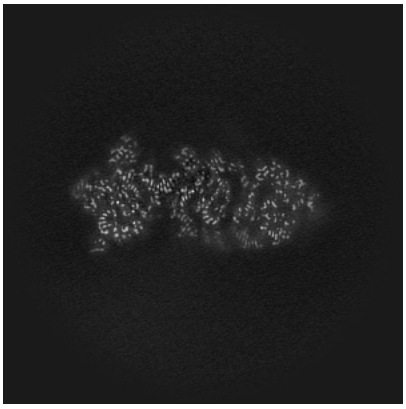
The images above show the map projected in three orthogonal directions.

6.2 Central slices

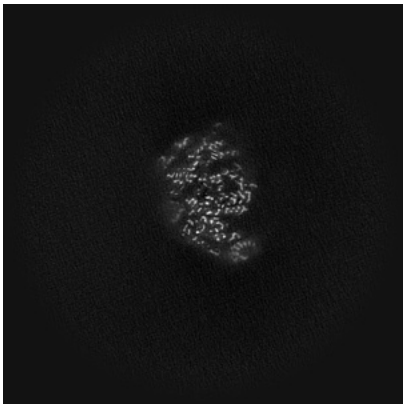
6.2.1 Primary map



X Index: 190



Y Index: 190

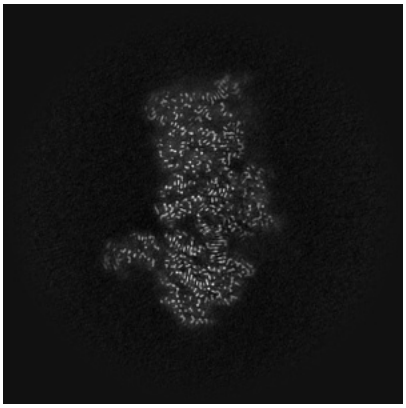


Z Index: 190

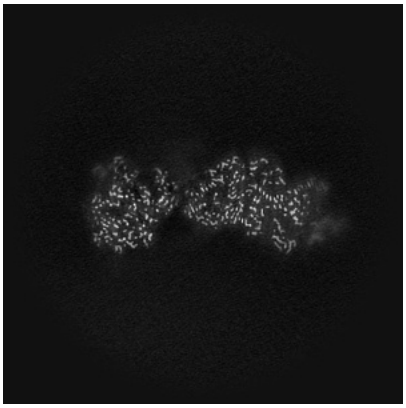
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

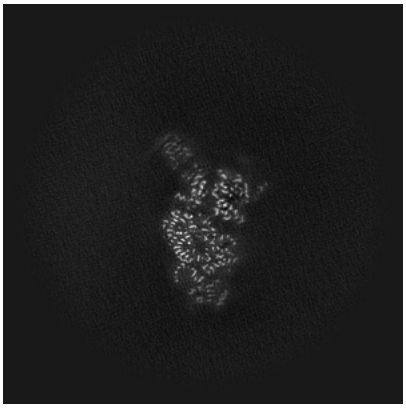
6.3.1 Primary map



X Index: 189



Y Index: 165

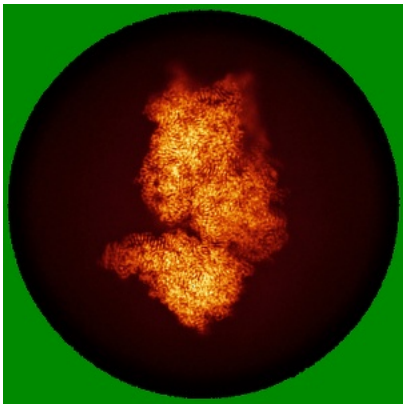


Z Index: 138

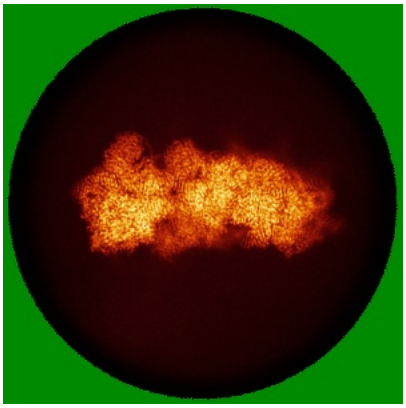
The images above show the largest variance slices of the map in three orthogonal directions.

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

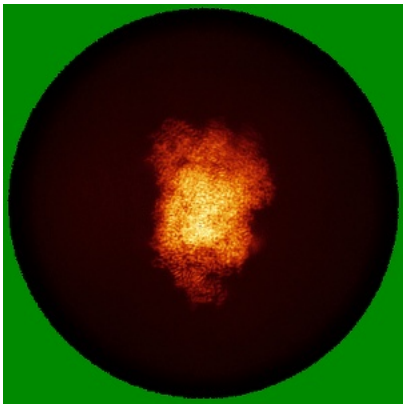
6.4.1 Primary map



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

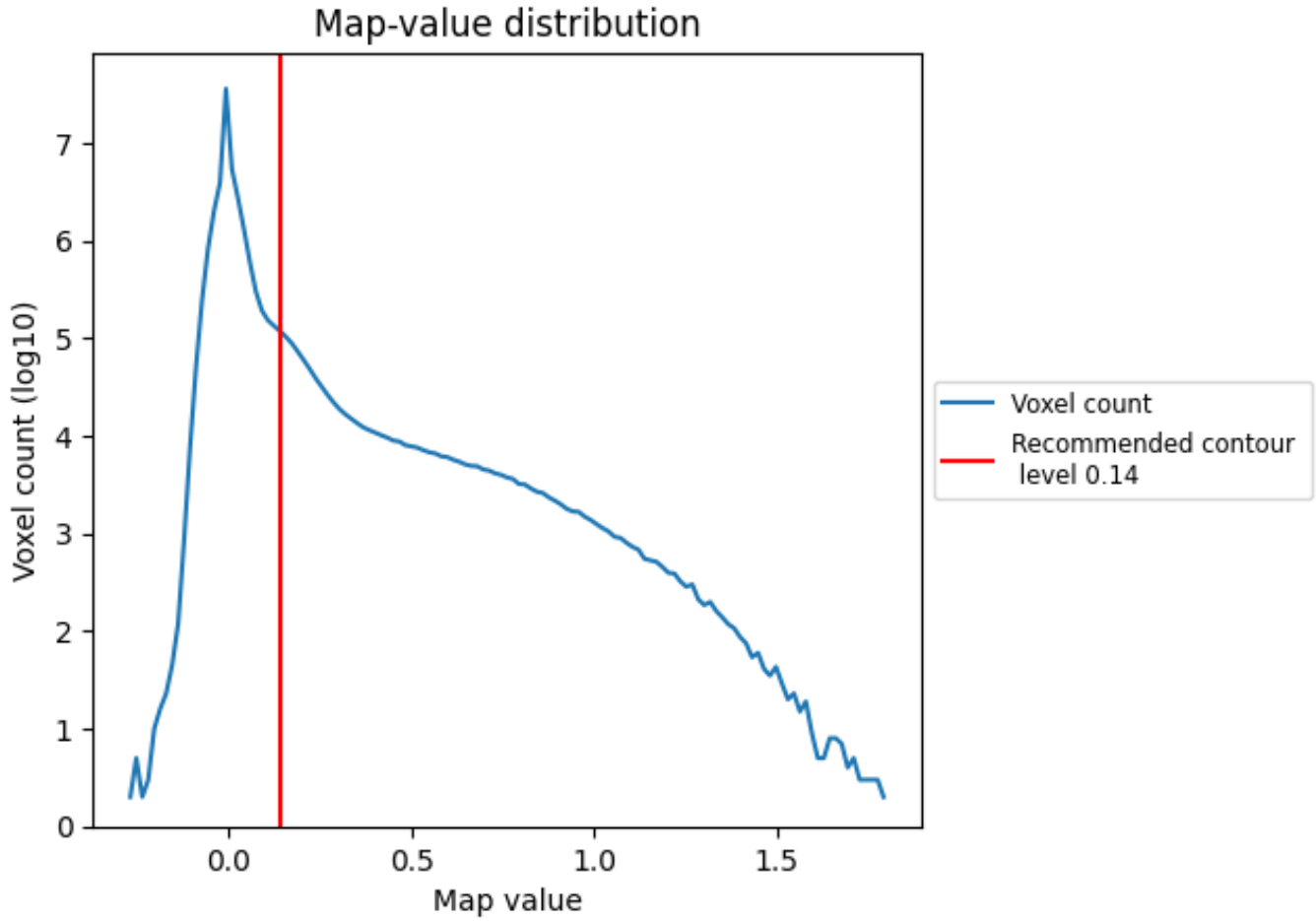
6.6 Mask visualisation (i)

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

7 Map analysis

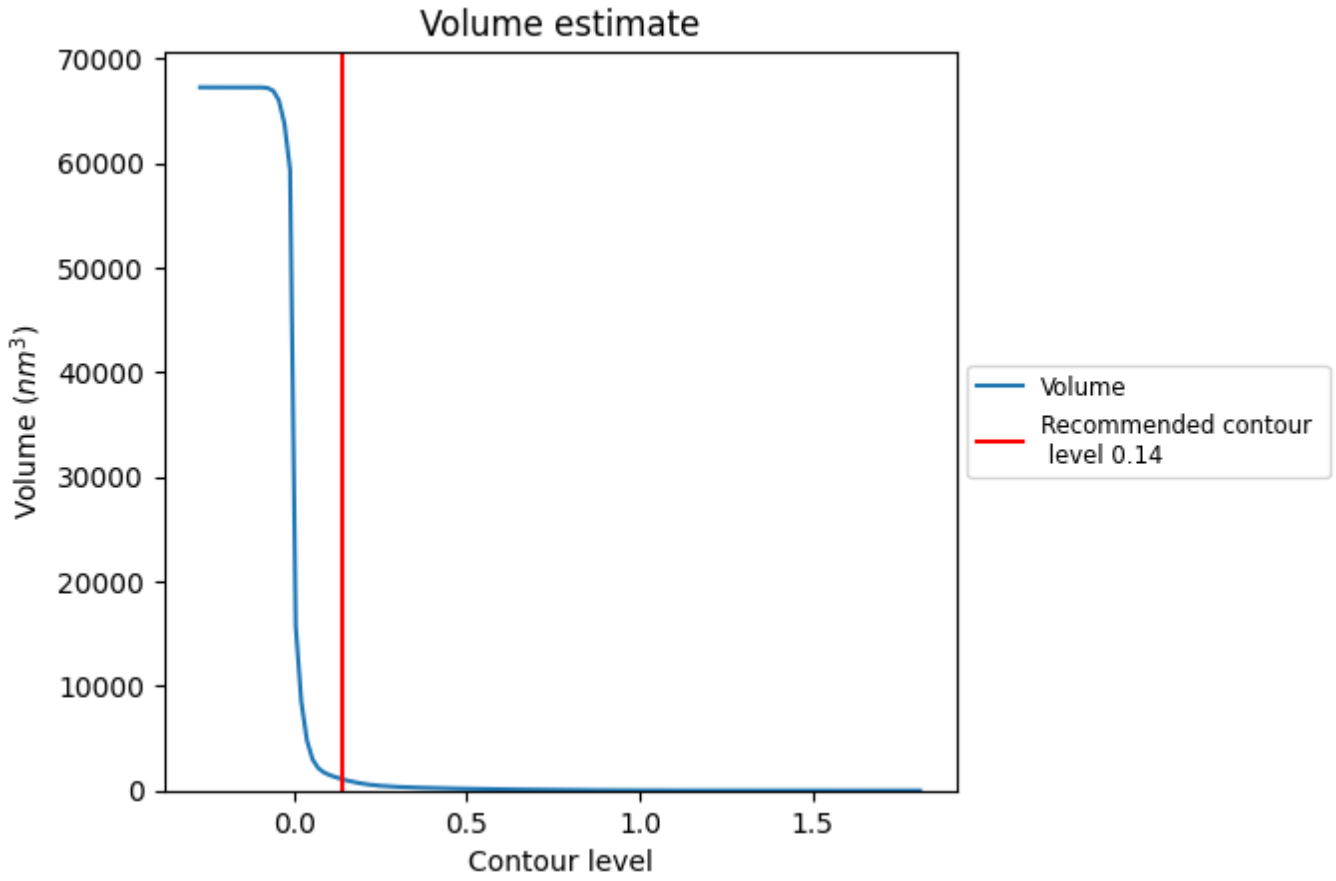
This section contains the results of statistical analysis of the map.

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.

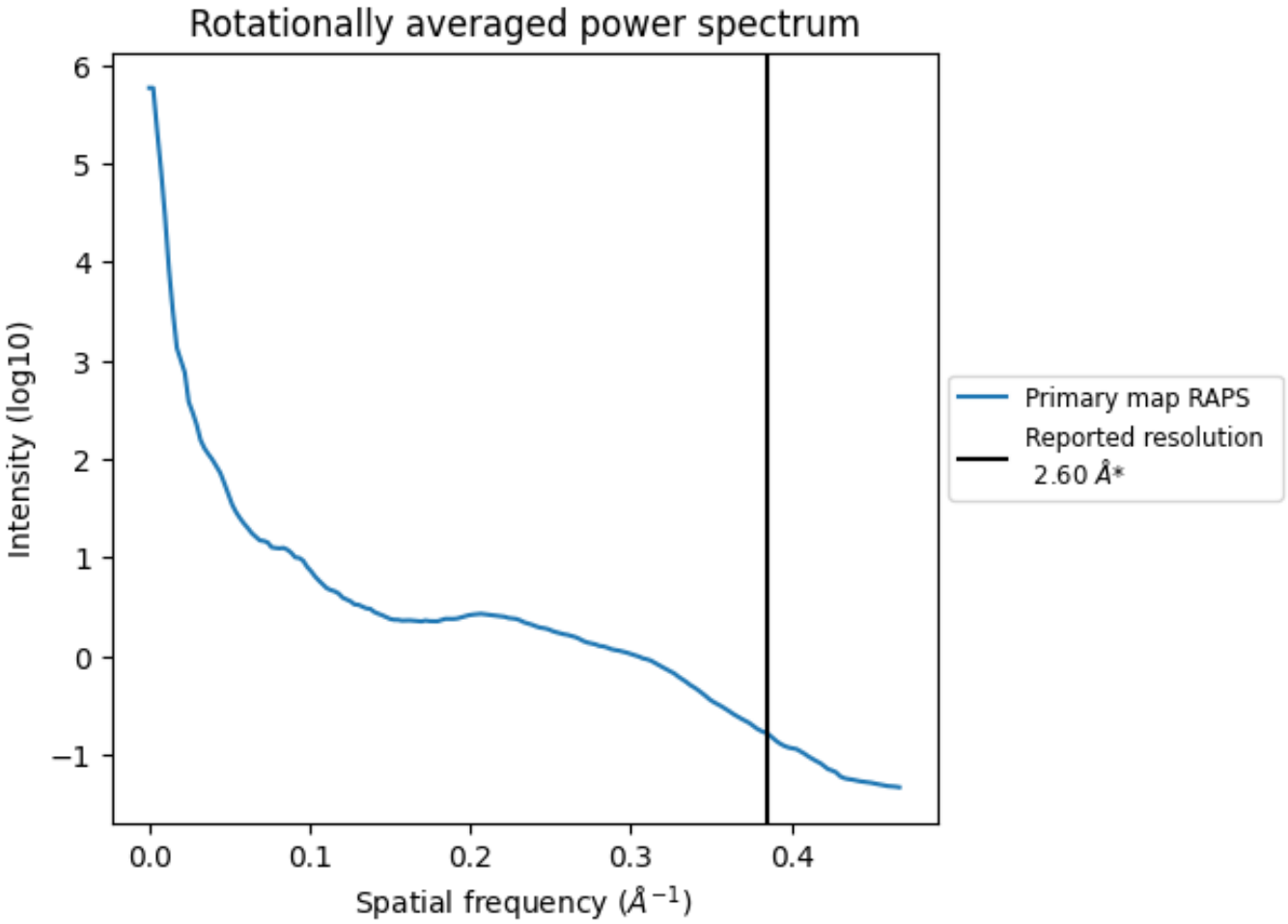
7.2 Volume estimate



The volume at the recommended contour level is 1093 nm^3; this corresponds to an approximate mass of 987 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)

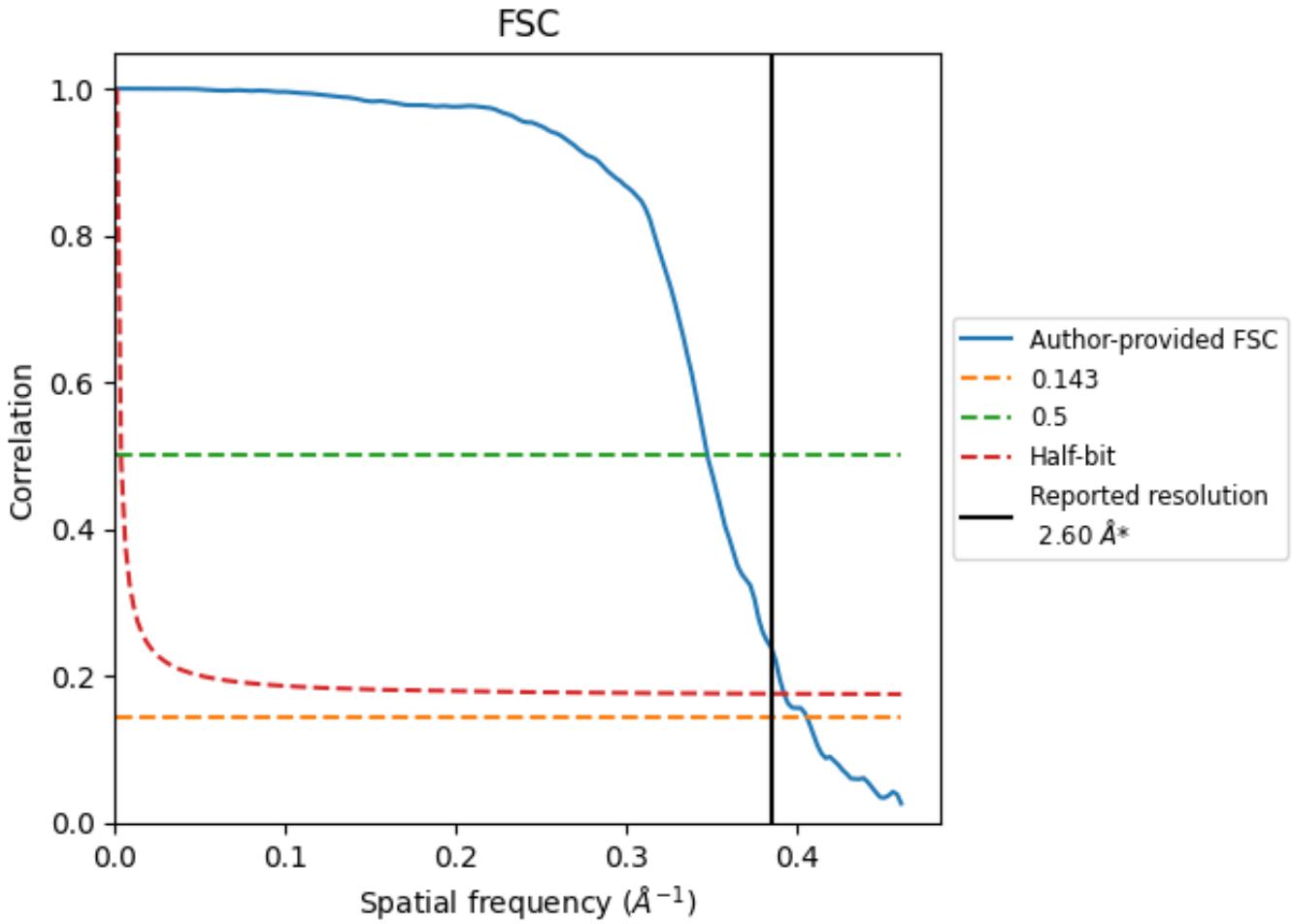


*Reported resolution corresponds to spatial frequency of 0.385 $Å^{-1}$

8 Fourier-Shell correlation

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.385 Å^{-1}

8.2 Resolution estimates (i)

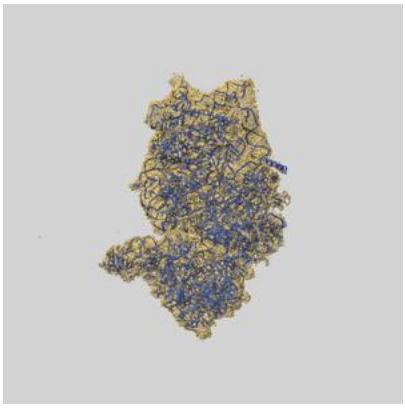
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.60	-	-
Author-provided FSC curve	2.46	2.88	2.55
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

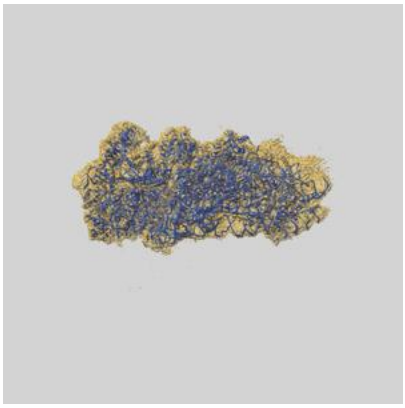
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-41039 and PDB model 8T4S. Per-residue inclusion information can be found in section 3 on page 12.

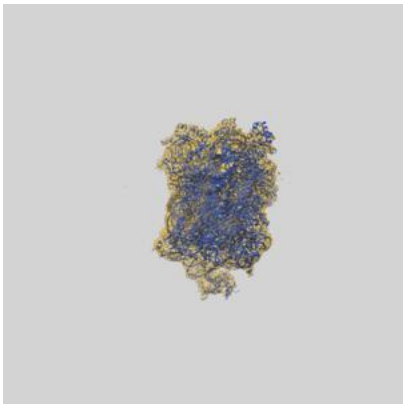
9.1 Map-model overlay



X



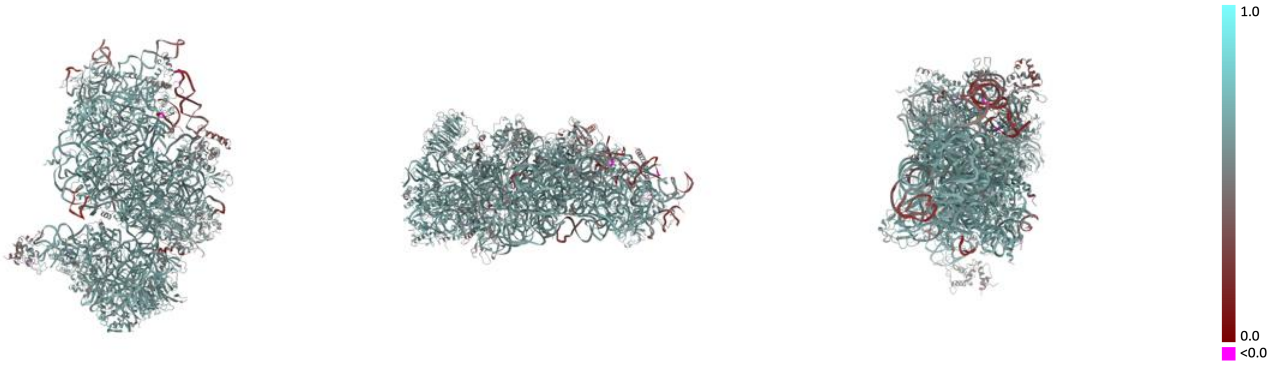
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.14 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.

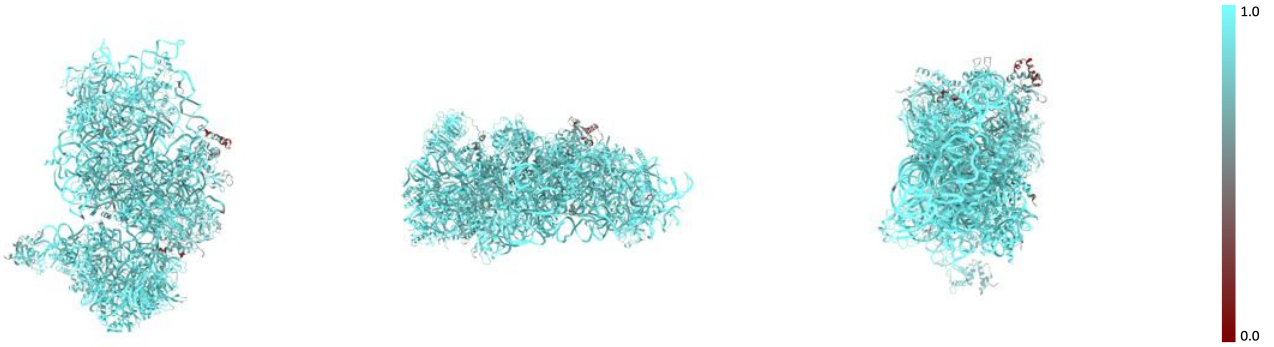
9.2 Q-score mapped to coordinate model (i)



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.

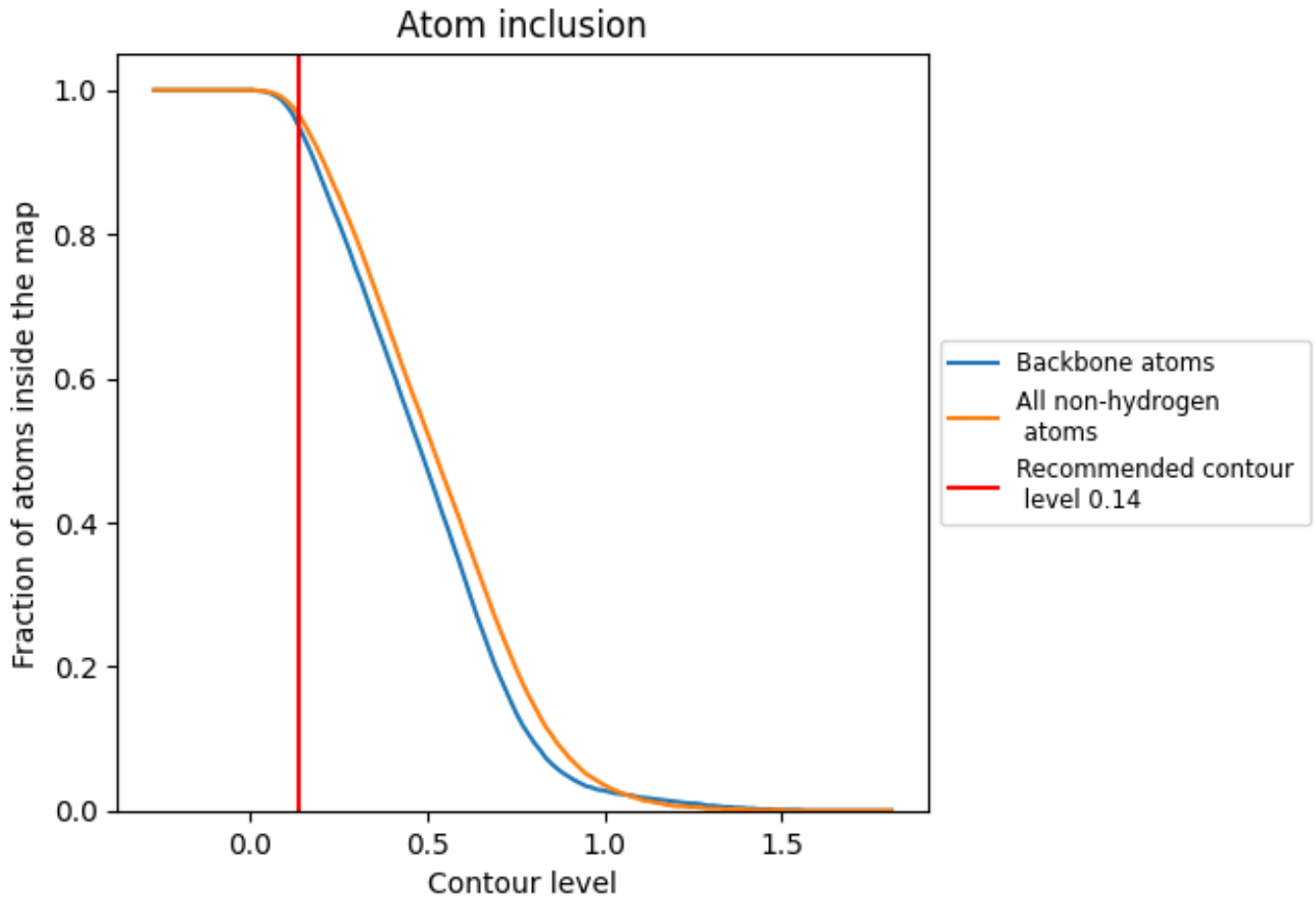
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.14).

9.4 Atom inclusion (i)



At the recommended contour level, 95% of all backbone atoms, 96% 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 (0.14) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9640	0.5900
2	0.9880	0.5930
A	0.9560	0.5880
B	0.9130	0.5600
C	0.9840	0.6260
D	0.9610	0.5890
E	0.9830	0.6260
F	0.9820	0.6110
G	0.9690	0.5790
H	0.7250	0.4640
I	0.9720	0.6090
J	0.9760	0.6220
K	0.9850	0.6190
L	0.9620	0.6240
M	0.7820	0.4390
N	0.9360	0.5760
O	0.9130	0.5350
P	0.9550	0.6060
Q	0.9980	0.6410
R	0.8580	0.5380
S	0.9640	0.5910
T	0.9840	0.6230
U	0.9540	0.5830
V	0.9710	0.5890
W	0.9810	0.6230
X	0.9800	0.6220
Y	0.9750	0.6110
Z	0.9720	0.6090
a	0.9230	0.5890
b	0.8380	0.5630
c	0.9470	0.5570
d	0.9840	0.6520
e	0.9180	0.5820
f	0.8490	0.5060
g	0.9520	0.5840

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Chain	Atom inclusion	Q-score
h	0.9170	0.5610
n	0.9360	0.5800