



Full wwPDB EM Validation Report ⓘ

Mar 9, 2026 – 04:57 AM UTC

PDB ID : 8GTC / pdb_00008gtc
EMDB ID : EMD-34249
Title : Cryo-EM model of the marine siphophage vB_DshS-R4C baseplate-tail complex
Authors : Huang, Y.; Sun, H.; Wei, S.; Zheng, Q.; Li, S.; Zhang, R.; Xia, N.
Deposited on : 2022-09-08
Resolution : 4.50 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.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

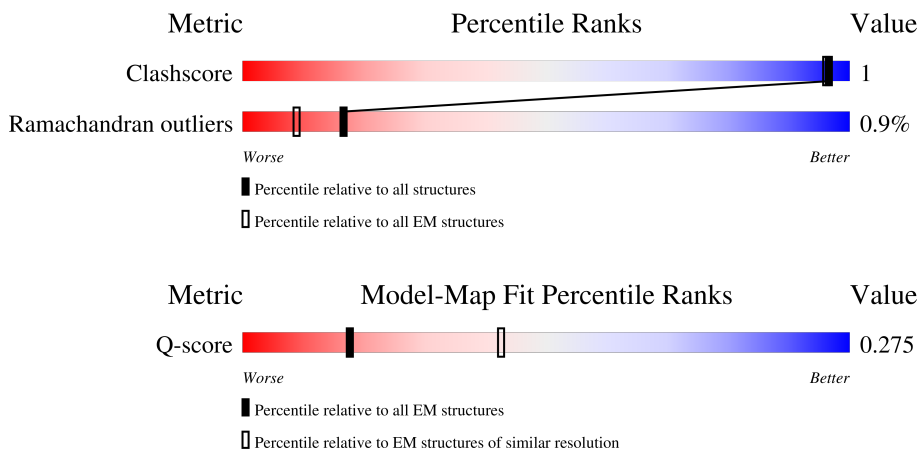
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

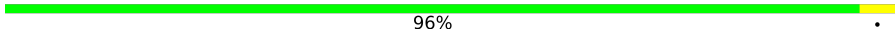
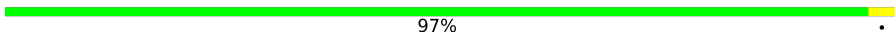
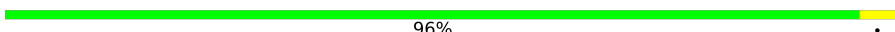
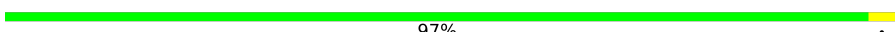
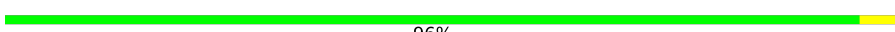
The reported resolution of this entry is 4.50 Å.

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



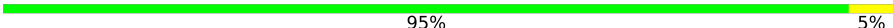
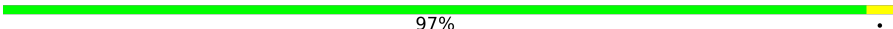
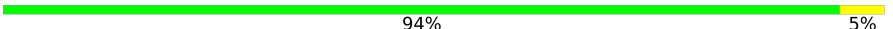
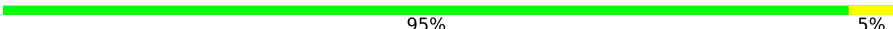
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Q-score	-	25397	2937 (4.00 - 5.00)

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

Mol	Chain	Length	Quality of chain
1	A	130	 96% .
1	B	130	 97% .
1	C	130	 96% .
1	D	130	 97% .
1	E	130	 96% .

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Mol	Chain	Length	Quality of chain
1	F	130	 95% 5%
2	G	214	 97% .
2	H	214	 94% 5%
2	I	214	 95% 5%
2	J	214	 94% 6%
2	K	214	 95% 5%
2	L	214	 93% 6%
3	M	1447	 93% 5% .
3	N	1447	 93% 5% .
3	O	1447	 93% 5% .
4	P	291	 89% . 8%
4	Q	291	 88% . 8%
4	R	291	 89% . 8%
5	S	230	 88% . 8%
5	T	230	 89% . 8%
5	U	230	 88% . 8%
5	V	230	 90% . 8%
5	W	230	 89% . 8%
5	X	230	 88% . 8%
5	Y	230	 90% . 8%
5	Z	230	 89% . 8%
5	a	230	 87% . 8%

2 Entry composition [i](#)

There are 5 unique types of molecules in this entry. The entry contains 36147 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Major tail protein.

Mol	Chain	Residues	Atoms				AltConf	Trace
1	A	130	Total	C	N	O	0	0
			520	260	130	130		
1	B	130	Total	C	N	O	0	0
			520	260	130	130		
1	C	130	Total	C	N	O	0	0
			520	260	130	130		
1	D	130	Total	C	N	O	0	0
			520	260	130	130		
1	E	130	Total	C	N	O	0	0
			520	260	130	130		
1	F	130	Total	C	N	O	0	0
			520	260	130	130		

- Molecule 2 is a protein called Distal tail protein.

Mol	Chain	Residues	Atoms				AltConf	Trace
2	G	214	Total	C	N	O	0	0
			857	428	214	215		
2	H	214	Total	C	N	O	0	0
			857	428	214	215		
2	I	214	Total	C	N	O	0	0
			857	428	214	215		
2	J	214	Total	C	N	O	0	0
			857	428	214	215		
2	K	214	Total	C	N	O	0	0
			857	428	214	215		
2	L	214	Total	C	N	O	0	0
			857	428	214	215		

- Molecule 3 is a protein called Megatron protein.

Mol	Chain	Residues	Atoms				AltConf	Trace
3	M	1420	Total	C	N	O	0	0
			5680	2840	1420	1420		

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Mol	Chain	Residues	Atoms				AltConf	Trace
3	N	1420	Total	C	N	O	0	0
			5680	2840	1420	1420		
3	O	1420	Total	C	N	O	0	0
			5680	2840	1420	1420		

- Molecule 4 is a protein called Hub protein.

Mol	Chain	Residues	Atoms				AltConf	Trace
4	P	267	Total	C	N	O	0	0
			1068	534	267	267		
4	Q	267	Total	C	N	O	0	0
			1068	534	267	267		
4	R	267	Total	C	N	O	0	0
			1068	534	267	267		

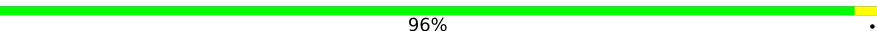
- Molecule 5 is a protein called Ribonuclease III.

Mol	Chain	Residues	Atoms				AltConf	Trace
5	S	212	Total	C	N	O	0	0
			849	424	212	213		
5	T	212	Total	C	N	O	0	0
			849	424	212	213		
5	U	212	Total	C	N	O	0	0
			849	424	212	213		
5	V	212	Total	C	N	O	0	0
			849	424	212	213		
5	W	212	Total	C	N	O	0	0
			849	424	212	213		
5	X	212	Total	C	N	O	0	0
			849	424	212	213		
5	Y	212	Total	C	N	O	0	0
			849	424	212	213		
5	Z	212	Total	C	N	O	0	0
			849	424	212	213		
5	a	212	Total	C	N	O	0	0
			849	424	212	213		

3 Residue-property plots [i](#)

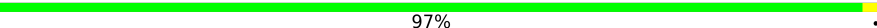
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: Major tail protein

Chain A:  96%

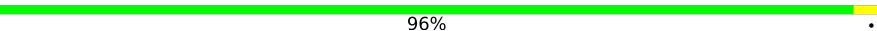


- Molecule 1: Major tail protein

Chain B:  97%

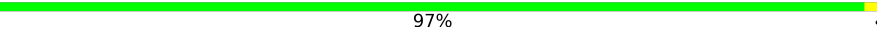


- Molecule 1: Major tail protein

Chain C:  96%

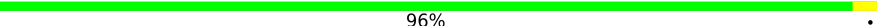


- Molecule 1: Major tail protein

Chain D:  97%

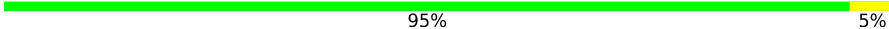


- Molecule 1: Major tail protein

Chain E:  96%

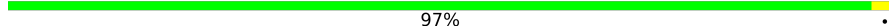


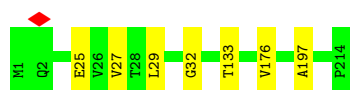
- Molecule 1: Major tail protein

Chain F:  95% 5%

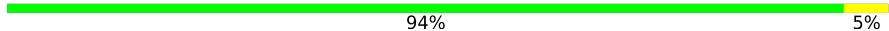


- Molecule 2: Distal tail protein

Chain G:  97% .



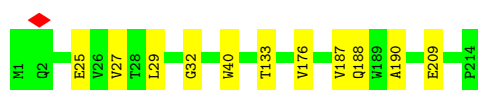
- Molecule 2: Distal tail protein

Chain H:  94% 5%

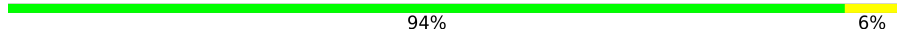


- Molecule 2: Distal tail protein

Chain I:  95% 5%

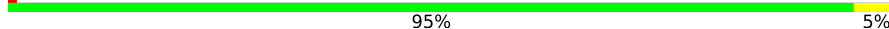


- Molecule 2: Distal tail protein

Chain J:  94% 6%

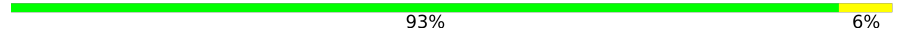


- Molecule 2: Distal tail protein

Chain K:  95% 5%

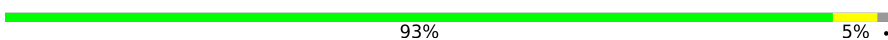


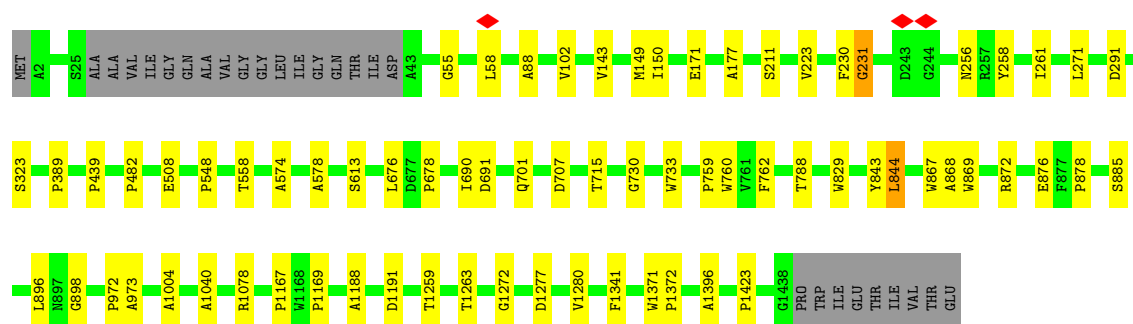
- Molecule 2: Distal tail protein

Chain L:  93% 6%

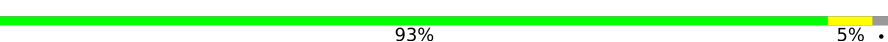


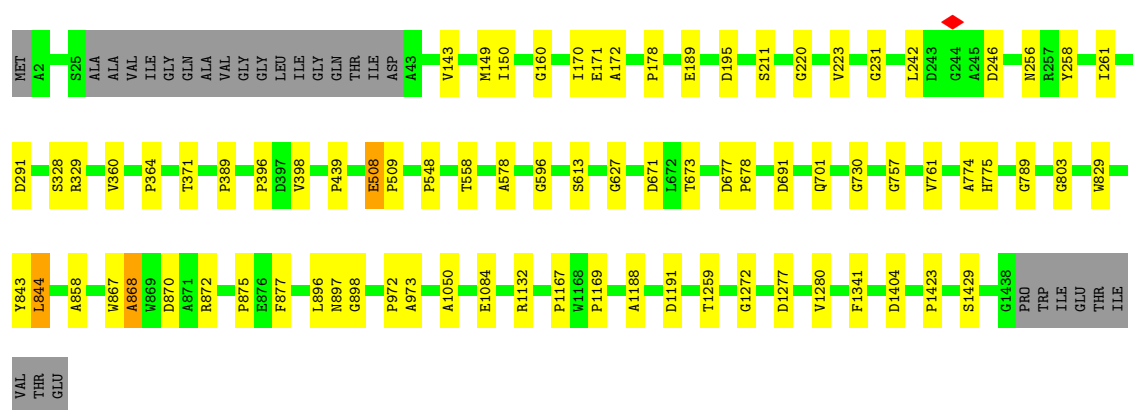
- Molecule 3: Megatron protein

Chain M:  93% 5%

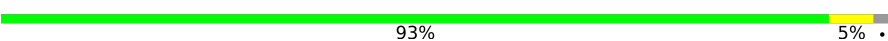


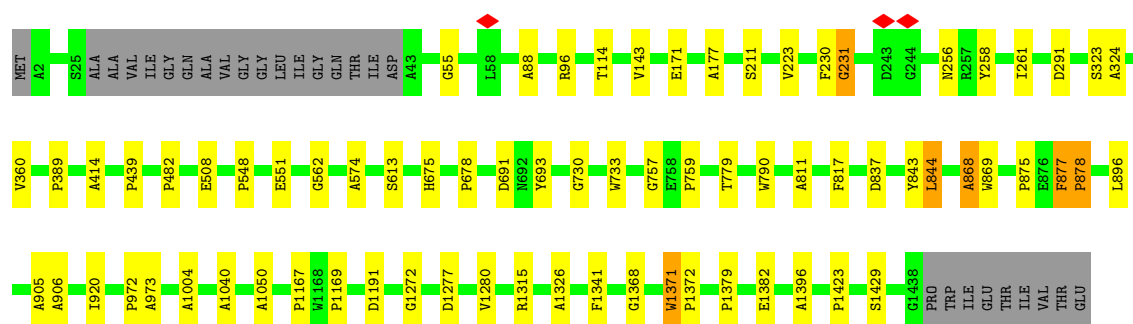
• Molecule 3: Megatron protein

Chain N:  93% 5%



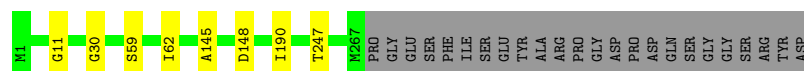
• Molecule 3: Megatron protein

Chain O:  93% 5%

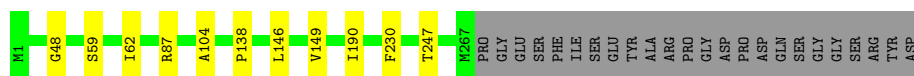


• Molecule 4: Hub protein

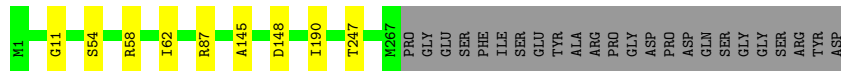
Chain P:  89% 8%



● Molecule 4: Hub protein

Chain Q:  88% 8%

● Molecule 4: Hub protein

Chain R:  89% 8%

● Molecule 5: Ribonuclease III

Chain S:  88% 8%

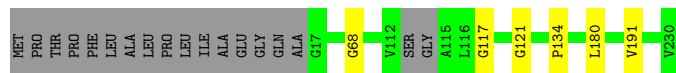
● Molecule 5: Ribonuclease III

Chain T:  89% 8%

● Molecule 5: Ribonuclease III

Chain U:  88% 8%

● Molecule 5: Ribonuclease III

Chain V:  90% 8%

● Molecule 5: Ribonuclease III

Chain W:  89% 8%

● Molecule 5: Ribonuclease III

Chain X:

88%

• 8%



• Molecule 5: Ribonuclease III

Chain Y:

90%

• 8%



• Molecule 5: Ribonuclease III

Chain Z:

89%

• 8%



• Molecule 5: Ribonuclease III

Chain a:

87%

• 8%



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C3	Depositor
Number of particles used	11598	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TECNAI F30	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	30	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2200	Depositor
Magnification	Not provided	
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	1.781	Depositor
Minimum map value	-0.404	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.082	Depositor
Recommended contour level	0.25	Depositor
Map size (Å)	448.0, 448.0, 448.0	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.12, 1.12, 1.12	Depositor

5 Model quality

5.1 Standard geometry

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	0.59	0/519	1.36	3/647 (0.5%)
1	B	0.62	0/519	1.33	3/647 (0.5%)
1	C	0.61	0/519	1.39	3/647 (0.5%)
1	D	0.61	0/519	1.39	3/647 (0.5%)
1	E	0.60	0/519	1.41	3/647 (0.5%)
1	F	0.62	0/519	1.44	6/647 (0.9%)
2	G	0.64	0/856	1.43	5/1067 (0.5%)
2	H	0.64	0/856	1.44	5/1067 (0.5%)
2	I	0.64	0/856	1.45	8/1067 (0.7%)
2	J	0.64	0/856	1.49	10/1067 (0.9%)
2	K	0.64	0/856	1.43	8/1067 (0.7%)
2	L	0.64	0/856	1.48	8/1067 (0.7%)
3	M	0.63	0/5678	1.39	49/7094 (0.7%)
3	N	0.62	0/5678	1.38	63/7094 (0.9%)
3	O	0.65	0/5678	1.38	50/7094 (0.7%)
4	P	0.69	0/1067	1.38	8/1332 (0.6%)
4	Q	0.64	0/1067	1.42	11/1332 (0.8%)
4	R	0.69	0/1067	1.43	9/1332 (0.7%)
5	S	0.65	0/847	1.44	6/1054 (0.6%)
5	T	0.66	0/847	1.34	3/1054 (0.3%)
5	U	0.71	0/847	1.46	8/1054 (0.8%)
5	V	0.64	0/847	1.39	4/1054 (0.4%)
5	W	0.66	0/847	1.33	3/1054 (0.3%)
5	X	0.71	0/847	1.46	9/1054 (0.9%)
5	Y	0.63	0/847	1.39	4/1054 (0.4%)
5	Z	0.66	0/847	1.33	3/1054 (0.3%)
5	a	0.69	0/847	1.44	8/1054 (0.8%)
All	All	0.64	0/36108	1.40	303/45048 (0.7%)

There are no bond length outliers.

All (303) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	M	876	GLU	N-CA-C	-13.24	96.84	111.14
4	Q	149	VAL	N-CA-C	-12.81	98.12	110.42
3	N	150	ILE	N-CA-C	-10.96	101.99	112.29
4	R	62	ILE	N-CA-C	-10.55	99.86	110.62
4	Q	190	ILE	N-CA-C	-10.36	101.30	113.42
3	N	761	VAL	N-CA-C	-9.85	103.45	112.90
4	R	190	ILE	N-CA-C	-9.43	102.39	113.42
2	J	31	SER	N-CA-C	-9.39	100.77	112.88
3	M	258	TYR	N-CA-C	-9.35	100.45	112.23
3	M	868	ALA	N-CA-C	9.34	124.54	108.76
4	P	62	ILE	N-CA-C	-9.31	101.31	110.72
2	L	31	SER	N-CA-C	-9.07	101.53	112.59
2	H	31	SER	N-CA-C	-8.93	101.69	112.59
5	S	117	GLY	N-CA-C	-8.86	101.25	114.90
3	O	733	TRP	N-CA-C	-8.77	101.01	112.68
5	X	117	GLY	N-CA-C	-8.72	103.29	115.32
5	a	117	GLY	N-CA-C	-8.66	103.37	115.32
3	N	701	GLN	N-CA-C	-8.49	101.93	112.88
3	M	733	TRP	N-CA-C	-8.44	101.46	112.68
3	M	256	ASN	N-CA-C	-8.40	100.51	113.02
5	U	117	GLY	N-CA-C	-8.37	103.77	115.32
4	P	190	ILE	N-CA-C	-8.24	101.27	113.39
3	O	790	TRP	N-CA-C	7.87	122.11	111.24
2	L	176	VAL	N-CA-C	7.83	116.30	109.02
3	O	323	SER	N-CA-C	7.78	119.84	111.36
4	R	148	ASP	N-CA-C	-7.64	103.52	112.92
2	H	176	VAL	N-CA-C	7.62	116.11	109.02
2	J	176	VAL	N-CA-C	7.62	116.10	109.02
3	M	150	ILE	N-CA-C	-7.56	103.91	111.77
1	E	37	GLY	N-CA-C	-7.45	103.01	112.54
3	N	691	ASP	N-CA-C	-7.44	96.44	108.41
1	A	5	LYS	N-CA-C	-7.38	103.32	111.36
1	F	41	ASP	N-CA-C	7.32	119.26	111.28
4	P	145	ALA	N-CA-C	7.32	119.26	111.28
1	B	3	LYS	N-CA-C	7.30	119.03	111.14
3	N	627	GLY	N-CA-C	7.28	122.39	111.18
3	N	868	ALA	N-CA-C	7.19	126.11	110.80
4	R	247	THR	N-CA-C	-7.17	98.63	110.17
5	S	112	VAL	N-CA-C	7.11	118.11	107.80
3	N	1259	THR	N-CA-C	-7.05	105.21	113.88
4	Q	48	GLY	N-CA-C	-6.97	103.20	112.82
3	M	896	LEU	N-CA-C	6.94	119.72	108.34
3	O	1341	PHE	CA-C-N	-6.93	113.24	120.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	O	1341	PHE	C-N-CA	-6.93	113.24	120.38
3	M	678	PRO	N-CA-C	-6.89	104.35	113.65
3	M	898	GLY	N-CA-C	6.88	120.98	112.73
3	N	829	TRP	N-CA-C	6.80	118.69	111.28
3	N	258	TYR	N-CA-C	-6.77	103.98	111.36
3	M	867	TRP	N-CA-C	6.76	118.65	111.28
3	M	691	ASP	N-CA-C	-6.75	96.12	107.99
1	C	5	LYS	N-CA-C	-6.70	104.05	111.36
2	J	42	ASP	N-CA-C	6.67	114.25	108.78
2	L	42	ASP	N-CA-C	6.67	114.25	108.78
5	S	121	GLY	N-CA-C	6.66	119.15	111.36
3	M	1341	PHE	CA-C-N	-6.65	113.53	120.38
3	M	1341	PHE	C-N-CA	-6.65	113.53	120.38
4	Q	59	SER	N-CA-C	-6.65	98.93	109.23
3	N	170	ILE	N-CA-C	-6.62	105.26	111.48
3	M	261	ILE	N-CA-C	-6.61	102.84	110.05
3	O	868	ALA	N-CA-C	6.61	124.87	110.80
3	N	246	ASP	N-CA-C	-6.60	100.51	110.28
3	N	678	PRO	N-CA-C	-6.60	104.74	113.65
4	R	145	ALA	N-CA-C	6.59	118.46	111.28
5	U	70	GLY	N-CA-C	-6.58	106.36	114.92
3	O	508	GLU	CA-C-N	-6.58	112.73	119.83
3	O	508	GLU	C-N-CA	-6.58	112.73	119.83
3	M	291	ASP	N-CA-C	6.57	119.20	110.53
3	N	508	GLU	N-CA-C	-6.57	100.41	110.32
5	W	104	GLY	N-CA-C	-6.56	106.68	115.21
5	Z	104	GLY	N-CA-C	-6.56	106.68	115.21
2	K	176	VAL	N-CA-C	6.53	115.38	107.61
3	N	973	ALA	N-CA-C	-6.53	104.46	112.88
4	Q	62	ILE	N-CA-C	-6.52	104.13	110.72
5	T	104	GLY	N-CA-C	-6.52	106.73	115.21
1	B	109	GLY	N-CA-C	6.50	120.38	111.54
3	O	143	VAL	N-CA-C	6.49	116.96	107.75
1	E	109	GLY	N-CA-C	6.48	120.35	111.54
2	G	176	VAL	N-CA-C	6.48	115.32	107.61
3	M	973	ALA	N-CA-C	-6.47	105.01	113.17
3	M	143	VAL	N-CA-C	6.46	116.93	107.75
3	N	671	ASP	N-CA-C	-6.46	103.92	113.61
1	C	109	GLY	N-CA-C	6.45	120.31	111.54
1	C	37	GLY	N-CA-C	-6.45	104.29	112.54
2	G	133	THR	N-CA-C	-6.44	105.05	113.17
3	O	291	ASP	N-CA-C	6.42	118.81	110.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	I	176	VAL	N-CA-C	6.41	115.24	107.61
3	O	256	ASN	N-CA-C	-6.41	104.00	113.61
1	F	3	LYS	N-CA-C	6.40	118.06	111.14
5	X	176	PHE	N-CA-C	-6.39	100.75	110.14
3	N	171	GLU	N-CA-C	-6.38	104.41	111.36
3	O	678	PRO	N-CA-C	-6.36	105.07	113.65
5	X	36	VAL	N-CA-C	-6.36	101.35	109.30
3	O	691	ASP	N-CA-C	-6.35	97.52	108.56
3	M	676	LEU	N-CA-C	-6.32	100.68	110.10
3	O	1396	ALA	N-CA-C	-6.31	101.70	109.65
3	N	261	ILE	N-CA-C	-6.31	100.68	109.45
2	L	16	CYS	N-CA-C	6.30	119.36	110.23
5	U	176	PHE	N-CA-C	-6.30	100.38	110.14
1	A	109	GLY	N-CA-C	6.28	120.08	111.54
2	G	27	VAL	N-CA-C	6.25	117.28	110.21
2	J	16	CYS	N-CA-C	6.25	119.30	110.23
2	K	133	THR	N-CA-C	-6.22	105.33	113.17
1	F	39	GLY	N-CA-C	-6.21	106.67	115.43
5	a	36	VAL	N-CA-C	-6.20	101.56	109.30
4	P	148	ASP	N-CA-C	-6.19	105.66	112.72
2	L	24	ASP	N-CA-C	6.17	119.91	111.39
1	E	5	LYS	N-CA-C	-6.17	104.63	111.36
3	N	508	GLU	CA-C-N	-6.15	113.18	119.83
3	N	508	GLU	C-N-CA	-6.15	113.18	119.83
3	O	757	GLY	N-CA-C	-6.12	106.81	115.43
3	N	803	GLY	N-CA-C	6.11	118.25	112.08
2	I	27	VAL	N-CA-C	6.10	117.11	110.21
3	M	558	THR	N-CA-C	-6.09	102.67	110.53
5	Y	117	GLY	N-CA-C	-6.08	107.28	115.36
2	I	133	THR	N-CA-C	-6.07	105.52	113.17
3	N	360	VAL	N-CA-C	6.07	116.90	108.89
3	O	1368	GLY	N-CA-C	-6.07	105.85	112.04
5	Z	97	GLY	N-CA-C	-6.06	106.95	115.32
5	X	22	HIS	N-CA-C	-6.06	104.67	111.28
5	T	97	GLY	N-CA-C	-6.06	106.96	115.32
3	O	1280	VAL	N-CA-C	6.03	116.77	110.62
3	N	143	VAL	N-CA-C	6.03	116.31	107.75
3	O	261	ILE	N-CA-C	-6.02	103.49	110.05
5	W	97	GLY	N-CA-C	-6.02	107.02	115.32
3	M	223	VAL	N-CA-C	6.01	116.80	110.72
5	a	22	HIS	N-CA-C	-5.98	104.76	111.28
3	M	1280	VAL	N-CA-C	5.97	116.75	110.72

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	P	59	SER	N-CA-C	-5.95	99.30	109.24
3	N	291	ASP	N-CA-C	5.94	118.87	110.50
3	O	905	ALA	N-CA-C	5.94	117.83	111.36
5	U	22	HIS	N-CA-C	-5.93	104.81	111.28
5	X	70	GLY	N-CA-C	-5.93	106.91	115.27
3	M	701	GLN	N-CA-C	-5.91	104.74	113.61
4	P	247	THR	N-CA-C	-5.90	102.18	110.50
3	N	558	THR	N-CA-C	-5.89	102.59	110.55
5	V	117	GLY	N-CA-C	-5.86	107.56	115.36
3	M	508	GLU	CA-C-N	-5.85	113.51	119.83
3	M	508	GLU	C-N-CA	-5.85	113.51	119.83
3	N	398	VAL	N-CA-C	5.85	116.03	110.42
3	O	574	ALA	N-CA-C	-5.85	105.46	112.59
2	K	27	VAL	N-CA-C	5.84	116.81	110.21
5	a	65	GLY	N-CA-C	-5.83	105.93	114.90
5	V	121	GLY	N-CA-C	5.80	118.15	111.36
5	X	65	GLY	N-CA-C	-5.79	105.97	114.90
5	a	176	PHE	N-CA-C	-5.79	101.89	110.46
4	P	11	GLY	N-CA-C	-5.78	107.69	115.21
2	G	29	LEU	N-CA-C	5.78	117.52	110.41
3	O	973	ALA	N-CA-C	-5.78	105.89	113.17
5	a	70	GLY	N-CA-C	-5.77	107.14	115.27
4	Q	247	THR	N-CA-C	-5.75	101.76	110.28
3	O	223	VAL	N-CA-C	5.75	116.53	110.72
3	N	195	ASP	N-CA-C	-5.74	105.11	111.36
3	N	872	ARG	CA-C-N	-5.72	114.86	120.98
3	N	872	ARG	C-N-CA	-5.72	114.86	120.98
3	N	898	GLY	N-CA-C	5.72	119.60	112.73
3	N	223	VAL	N-CA-C	5.71	116.49	110.72
3	O	896	LEU	N-CA-C	5.70	118.78	108.69
2	H	24	ASP	N-CA-C	5.69	119.25	111.39
5	U	65	GLY	N-CA-C	-5.68	106.15	114.90
3	O	414	ALA	N-CA-C	5.67	118.49	110.50
1	D	21	LEU	N-CA-C	5.66	117.62	108.34
3	M	829	TRP	N-CA-C	5.66	117.44	111.28
3	N	896	LEU	N-CA-C	5.65	117.62	108.41
3	N	1341	PHE	CA-C-N	-5.64	114.57	120.38
3	N	1341	PHE	C-N-CA	-5.64	114.57	120.38
3	M	1259	THR	N-CA-C	-5.63	106.76	113.97
3	O	817	PHE	N-CA-C	-5.63	98.00	108.02
3	O	562	GLY	N-CA-C	-5.62	105.68	112.48
3	M	715	THR	N-CA-C	5.62	117.40	111.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	N	371	THR	N-CA-C	5.61	117.98	110.35
3	N	256	ASN	N-CA-C	-5.60	106.22	113.16
5	S	191	VAL	N-CA-C	5.60	115.95	108.11
4	R	54	SER	N-CA-C	5.59	117.05	111.07
3	N	1084	GLU	N-CA-C	-5.58	100.14	109.24
3	N	1188	ALA	N-CA-C	5.58	117.76	108.99
1	A	37	GLY	N-CA-C	-5.58	103.96	111.54
3	N	1132	ARG	N-CA-C	5.57	118.17	108.76
5	V	191	VAL	N-CA-C	5.57	115.96	108.17
1	F	21	LEU	N-CA-C	5.56	117.46	108.34
3	M	88	ALA	N-CA-C	-5.56	102.05	110.28
3	M	1078	ARG	CA-C-N	-5.53	114.06	119.76
3	M	1078	ARG	C-N-CA	-5.53	114.06	119.76
4	Q	146	LEU	N-CA-C	5.53	118.25	110.23
3	M	58	LEU	N-CA-C	5.53	117.42	108.08
3	M	762	PHE	N-CA-C	-5.52	106.43	112.72
4	R	11	GLY	N-CA-C	-5.51	108.04	115.21
3	N	897	ASN	N-CA-C	5.51	117.36	111.36
2	K	29	LEU	N-CA-C	5.50	117.18	110.41
2	J	204	SER	N-CA-C	5.50	118.98	111.39
5	V	180	LEU	N-CA-C	-5.50	99.33	108.34
3	O	1050	ALA	N-CA-C	-5.50	105.69	112.72
5	Y	180	LEU	N-CA-C	-5.49	99.33	108.34
3	M	788	THR	N-CA-C	-5.48	102.77	110.50
3	N	1280	VAL	N-CA-C	5.48	116.21	110.62
3	O	693	TYR	N-CA-C	-5.47	105.30	112.41
3	N	673	THR	N-CA-C	-5.45	102.32	110.23
5	a	68	GLY	CA-C-N	-5.45	114.14	119.76
5	a	68	GLY	C-N-CA	-5.45	114.14	119.76
1	F	109	GLY	N-CA-C	5.45	118.95	111.54
3	M	574	ALA	N-CA-C	-5.45	106.51	112.72
3	O	88	ALA	N-CA-C	-5.45	102.33	110.23
5	X	68	GLY	CA-C-N	-5.44	114.16	119.76
5	X	68	GLY	C-N-CA	-5.44	114.16	119.76
3	O	1429	SER	N-CA-C	-5.43	100.38	109.24
3	N	875	PRO	N-CA-C	5.42	120.97	113.65
2	K	15	GLY	N-CA-C	5.41	122.79	115.32
3	M	707	ASP	N-CA-C	-5.41	106.27	112.92
3	N	870	ASP	N-CA-C	5.41	117.21	108.34
5	Y	191	VAL	N-CA-C	5.40	115.73	108.17
2	J	49	ALA	N-CA-C	5.40	118.07	109.65
3	M	690	ILE	N-CA-C	5.40	115.66	108.11

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	N	1404	ASP	N-CA-C	-5.39	105.40	111.28
3	N	774	ALA	N-CA-C	-5.39	102.31	110.28
2	H	154	GLY	N-CA-C	-5.38	107.82	115.30
4	Q	87	ARG	N-CA-C	-5.38	105.42	111.28
3	O	1191	ASP	N-CA-C	5.38	116.82	111.07
3	M	872	ARG	N-CA-C	5.37	121.68	109.81
1	D	109	GLY	N-CA-C	5.37	118.84	111.54
3	N	677	ASP	N-CA-C	5.36	116.64	109.83
4	P	30	GLY	N-CA-C	5.34	118.70	112.50
2	L	154	GLY	N-CA-C	-5.34	107.88	115.30
3	N	220	GLY	N-CA-C	5.34	118.91	110.96
2	I	209	GLU	N-CA-C	-5.33	102.16	110.10
3	N	1191	ASP	N-CA-C	5.33	117.08	111.28
5	S	180	LEU	N-CA-C	-5.33	99.61	108.34
5	Z	66	GLY	N-CA-C	-5.33	106.34	112.73
1	D	9	VAL	N-CA-C	-5.32	99.59	107.51
3	M	1004	ALA	N-CA-C	-5.32	105.48	111.28
5	W	66	GLY	N-CA-C	-5.31	106.36	112.73
4	R	58	ARG	N-CA-C	5.31	116.81	109.54
3	M	1396	ALA	N-CA-C	-5.30	101.87	109.24
3	O	906	ALA	N-CA-C	5.30	117.06	111.28
3	O	96	ARG	N-CA-C	5.29	117.05	111.28
5	T	66	GLY	N-CA-C	-5.29	106.38	112.73
2	J	154	GLY	N-CA-C	-5.29	107.95	115.30
2	J	24	ASP	N-CA-C	5.28	118.68	111.39
2	K	209	GLU	N-CA-C	-5.28	102.04	109.96
3	N	877	PHE	CA-C-N	-5.28	114.13	119.83
3	N	877	PHE	C-N-CA	-5.28	114.13	119.83
3	N	877	PHE	N-CA-C	-5.27	97.10	107.91
1	B	9	VAL	N-CA-C	-5.25	99.69	107.51
3	N	242	LEU	N-CA-C	-5.25	102.28	110.10
3	M	323	SER	N-CA-C	5.24	116.99	111.28
3	O	171	GLU	N-CA-C	-5.24	107.06	113.50
3	N	578	ALA	N-CA-C	-5.23	105.66	111.36
3	N	596	GLY	N-CA-C	5.23	117.24	110.45
3	O	675	HIS	N-CA-C	-5.22	106.68	113.16
2	J	32	GLY	N-CA-C	-5.21	108.03	115.64
3	M	1188	ALA	N-CA-C	5.21	117.18	108.99
3	O	779	THR	N-CA-C	5.21	117.73	109.96
5	U	68	GLY	CA-C-N	-5.21	114.39	119.76
5	U	68	GLY	C-N-CA	-5.21	114.39	119.76
3	M	171	GLU	N-CA-C	-5.21	107.09	113.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	K	187	VAL	N-CA-C	5.21	115.35	107.75
5	U	171	GLY	N-CA-C	-5.20	108.89	115.08
3	N	1429	SER	N-CA-C	-5.20	100.70	109.07
3	O	1371	TRP	CA-C-N	-5.20	114.22	119.83
3	O	1371	TRP	C-N-CA	-5.20	114.22	119.83
2	L	204	SER	N-CA-C	5.19	118.55	111.39
3	M	149	MET	N-CA-C	5.19	117.53	108.76
3	M	1191	ASP	N-CA-C	5.19	116.62	111.07
2	I	187	VAL	N-CA-C	5.18	115.37	108.11
3	M	102	VAL	N-CA-C	-5.17	107.43	112.29
3	N	189	GLU	N-CA-C	5.17	117.33	108.90
5	X	171	GLY	N-CA-C	-5.16	108.94	115.08
3	N	757	GLY	N-CA-C	-5.16	108.15	115.43
3	O	837	ASP	N-CA-C	-5.15	106.50	112.89
2	G	32	GLY	N-CA-C	-5.15	107.58	115.00
3	O	1326	ALA	N-CA-C	-5.15	99.42	108.69
3	N	867	TRP	N-CA-C	5.15	117.02	109.24
3	O	258	TYR	N-CA-C	-5.15	105.67	111.28
3	N	858	ALA	N-CA-C	-5.14	105.67	111.28
1	F	9	VAL	N-CA-C	-5.14	100.49	107.99
5	S	209	GLY	N-CA-C	-5.14	105.98	113.48
5	Y	49	PRO	N-CA-C	-5.14	104.43	110.70
2	K	32	GLY	N-CA-C	-5.13	107.61	115.00
3	N	172	ALA	N-CA-C	5.13	116.87	111.28
3	O	877	PHE	N-CA-C	-5.13	99.46	108.69
4	R	87	ARG	N-CA-C	-5.13	105.69	111.28
2	J	198	GLY	N-CA-C	-5.12	105.31	112.18
3	M	869	TRP	N-CA-C	-5.12	100.96	108.99
4	Q	230	PHE	CA-C-N	-5.11	114.36	120.13
4	Q	230	PHE	C-N-CA	-5.11	114.36	120.13
3	N	872	ARG	N-CA-C	5.10	119.68	112.75
3	O	114	THR	N-CA-C	5.10	117.62	110.23
3	M	578	ALA	N-CA-C	-5.09	107.06	113.28
3	O	1004	ALA	N-CA-C	-5.09	105.81	111.36
2	I	32	GLY	N-CA-C	-5.08	107.69	115.00
2	L	32	GLY	N-CA-C	-5.07	108.24	115.64
3	O	1382	GLU	N-CA-C	-5.07	106.41	112.59
2	H	204	SER	N-CA-C	5.07	118.58	111.74
3	N	1050	ALA	N-CA-C	-5.07	105.94	112.68
3	M	1263	THR	N-CA-C	5.06	117.87	109.46
3	O	811	ALA	N-CA-C	-5.06	105.77	111.28
2	I	188	GLN	N-CA-C	-5.05	100.18	108.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	I	29	LEU	N-CA-C	5.05	116.62	110.41
3	N	149	MET	N-CA-C	5.04	116.63	108.41
3	O	360	VAL	N-CA-C	5.04	115.94	108.23
3	M	271	LEU	N-CA-C	-5.04	105.68	111.07
4	Q	104	ALA	N-CA-C	5.02	116.75	111.28
3	O	1315	ARG	N-CA-C	-5.01	102.44	109.96
3	O	869	TRP	N-CA-C	-5.01	99.47	108.48
3	O	324	ALA	N-CA-C	5.00	117.60	109.79

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	520	0	160	1	0
1	B	520	0	160	1	0
1	C	520	0	160	1	0
1	D	520	0	160	1	0
1	E	520	0	160	1	0
1	F	520	0	160	0	0
2	G	857	0	236	0	0
2	H	857	0	236	2	0
2	I	857	0	236	0	0
2	J	857	0	236	0	0
2	K	857	0	236	0	0
2	L	857	0	236	2	0
3	M	5680	0	1606	6	0
3	N	5680	0	1606	5	0
3	O	5680	0	1606	7	0
4	P	1068	0	316	0	0
4	Q	1068	0	316	0	0
4	R	1068	0	316	0	0
5	S	849	0	248	0	0
5	T	849	0	248	2	0
5	U	849	0	248	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	V	849	0	248	0	0
5	W	849	0	248	2	0
5	X	849	0	248	1	0
5	Y	849	0	248	0	0
5	Z	849	0	248	2	0
5	a	849	0	248	2	0
All	All	36147	0	10374	35	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 1.

All (35) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:55:GLY:HA3	3:O:1040:ALA:H	1.55	0.71
5:T:117:GLY:HA2	5:T:230:VAL:H	1.62	0.65
5:W:117:GLY:HA2	5:W:230:VAL:H	1.62	0.63
5:Z:117:GLY:HA2	5:Z:230:VAL:H	1.64	0.61
1:A:7:GLY:HA2	1:A:80:TYR:O	2.04	0.57
1:C:7:GLY:HA2	1:C:80:TYR:O	2.06	0.56
3:N:775:HIS:H	3:N:789:GLY:HA3	1.71	0.56
1:E:7:GLY:HA2	1:E:80:TYR:O	2.08	0.54
5:a:221:ALA:O	5:a:222:SER:C	2.52	0.52
3:M:55:GLY:HA3	3:M:1040:ALA:H	1.77	0.48
3:M:759:PRO:O	3:M:760:TRP:C	2.54	0.48
3:O:877:PHE:O	3:O:878:PRO:C	2.55	0.48
3:M:843:TYR:O	3:M:844:LEU:C	2.58	0.45
3:O:843:TYR:O	3:O:844:LEU:C	2.59	0.45
3:N:843:TYR:O	3:N:844:LEU:C	2.59	0.44
5:a:229:PRO:O	5:a:230:VAL:C	2.60	0.44
1:D:39:GLY:H	2:L:195:GLY:HA3	1.82	0.44
1:B:38:MET:O	2:H:195:GLY:HA3	2.18	0.44
2:H:25:GLU:O	2:H:26:VAL:C	2.60	0.44
3:O:55:GLY:HA3	3:O:1040:ALA:N	2.30	0.44
5:X:229:PRO:O	5:X:230:VAL:C	2.60	0.44
2:L:25:GLU:O	2:L:26:VAL:C	2.60	0.43
5:W:176:PHE:O	5:W:177:GLY:C	2.61	0.43
3:O:230:PHE:O	3:O:231:GLY:C	2.61	0.43
3:N:1272:GLY:HA2	3:N:1277:ASP:H	1.84	0.43
3:N:508:GLU:O	3:N:509:PRO:C	2.61	0.42
5:U:229:PRO:O	5:U:230:VAL:C	2.61	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:1371:TRP:O	3:O:1372:PRO:C	2.63	0.42
3:M:230:PHE:O	3:M:231:GLY:C	2.63	0.41
5:Z:176:PHE:O	5:Z:177:GLY:C	2.61	0.41
3:M:1371:TRP:O	3:M:1372:PRO:C	2.64	0.41
3:O:1272:GLY:HA2	3:O:1277:ASP:H	1.86	0.41
3:N:328:SER:O	3:N:329:ARG:C	2.63	0.40
3:M:1272:GLY:HA2	3:M:1277:ASP:H	1.86	0.40
5:T:176:PHE:O	5:T:177:GLY:C	2.62	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	128/130 (98%)	126 (98%)	2 (2%)	0	100	100
1	B	128/130 (98%)	126 (98%)	2 (2%)	0	100	100
1	C	128/130 (98%)	124 (97%)	4 (3%)	0	100	100
1	D	128/130 (98%)	128 (100%)	0	0	100	100
1	E	128/130 (98%)	124 (97%)	4 (3%)	0	100	100
1	F	128/130 (98%)	128 (100%)	0	0	100	100
2	G	212/214 (99%)	198 (93%)	12 (6%)	2 (1%)	14	49
2	H	212/214 (99%)	190 (90%)	17 (8%)	5 (2%)	4	27
2	I	212/214 (99%)	198 (93%)	11 (5%)	3 (1%)	9	39
2	J	212/214 (99%)	195 (92%)	14 (7%)	3 (1%)	9	39
2	K	212/214 (99%)	195 (92%)	15 (7%)	2 (1%)	14	49
2	L	212/214 (99%)	194 (92%)	14 (7%)	4 (2%)	6	32
3	M	1416/1447 (98%)	1316 (93%)	84 (6%)	16 (1%)	11	45

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	N	1416/1447 (98%)	1333 (94%)	66 (5%)	17 (1%)	10	43
3	O	1416/1447 (98%)	1304 (92%)	91 (6%)	21 (2%)	8	38
4	P	265/291 (91%)	254 (96%)	11 (4%)	0	100	100
4	Q	265/291 (91%)	254 (96%)	10 (4%)	1 (0%)	30	67
4	R	265/291 (91%)	251 (95%)	14 (5%)	0	100	100
5	S	208/230 (90%)	199 (96%)	6 (3%)	3 (1%)	9	39
5	T	208/230 (90%)	194 (93%)	13 (6%)	1 (0%)	24	63
5	U	208/230 (90%)	203 (98%)	5 (2%)	0	100	100
5	V	208/230 (90%)	199 (96%)	7 (3%)	2 (1%)	12	47
5	W	208/230 (90%)	193 (93%)	14 (7%)	1 (0%)	24	63
5	X	208/230 (90%)	203 (98%)	5 (2%)	0	100	100
5	Y	208/230 (90%)	198 (95%)	8 (4%)	2 (1%)	12	47
5	Z	208/230 (90%)	194 (93%)	13 (6%)	1 (0%)	24	63
5	a	208/230 (90%)	199 (96%)	8 (4%)	1 (0%)	24	63
All	All	8955/9348 (96%)	8420 (94%)	450 (5%)	85 (1%)	16	49

All (85) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	H	26	VAL
2	H	144	PRO
2	J	144	PRO
2	L	26	VAL
2	L	144	PRO
3	M	231	GLY
3	M	439	PRO
3	M	548	PRO
3	M	844	LEU
3	M	878	PRO
3	M	972	PRO
3	M	1167	PRO
3	N	178	PRO
3	N	231	GLY
3	N	439	PRO
3	N	548	PRO
3	N	844	LEU
3	N	972	PRO

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Mol	Chain	Res	Type
3	N	1167	PRO
3	O	177	ALA
3	O	231	GLY
3	O	439	PRO
3	O	548	PRO
3	O	844	LEU
3	O	875	PRO
3	O	878	PRO
3	O	972	PRO
3	O	1167	PRO
3	M	211	SER
3	M	730	GLY
3	M	885	SER
3	N	211	SER
3	N	730	GLY
3	O	211	SER
3	O	551	GLU
3	O	730	GLY
5	S	68	GLY
5	V	68	GLY
5	Y	68	GLY
5	a	222	SER
2	G	25	GLU
2	H	190	ALA
2	I	25	GLU
2	I	190	ALA
2	J	190	ALA
2	K	25	GLU
2	K	190	ALA
2	L	190	ALA
3	M	613	SER
3	N	160	GLY
3	N	389	PRO
3	N	396	PRO
3	N	613	SER
3	O	613	SER
3	O	759	PRO
5	S	118	SER
2	G	197	ALA
2	J	40	TRP
2	L	40	TRP
3	M	482	PRO

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Mol	Chain	Res	Type
3	N	868	ALA
3	N	1169	PRO
3	O	482	PRO
3	O	868	ALA
5	S	134	PRO
5	T	134	PRO
5	V	134	PRO
5	W	134	PRO
5	Y	134	PRO
5	Z	134	PRO
2	H	40	TRP
2	H	206	PRO
3	M	177	ALA
3	M	389	PRO
3	N	364	PRO
2	I	40	TRP
3	M	1423	PRO
3	O	1169	PRO
3	O	1423	PRO
3	M	1169	PRO
3	O	920	ILE
4	Q	138	PRO
3	O	389	PRO
3	O	1379	PRO
3	N	1423	PRO

5.3.2 Protein sidechains [i](#)

There are no protein residues with a non-rotameric sidechain to report in this entry.

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-34249. These allow visual inspection of the internal detail of the map and identification of artifacts.

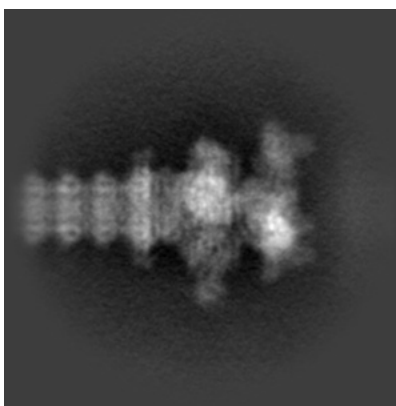
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

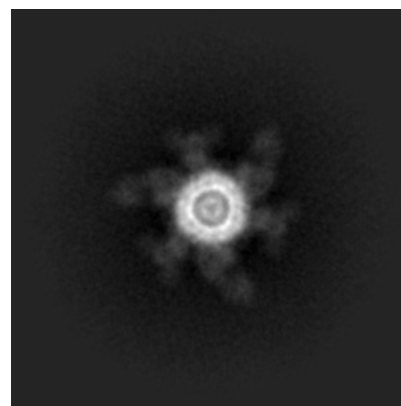
6.1.1 Primary map



X



Y

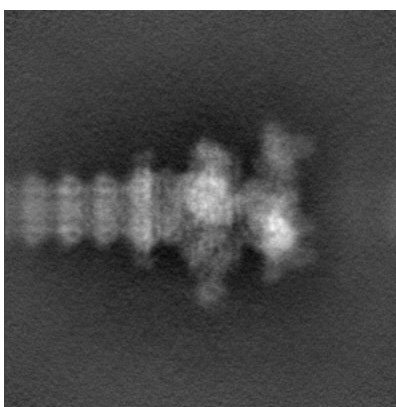


Z

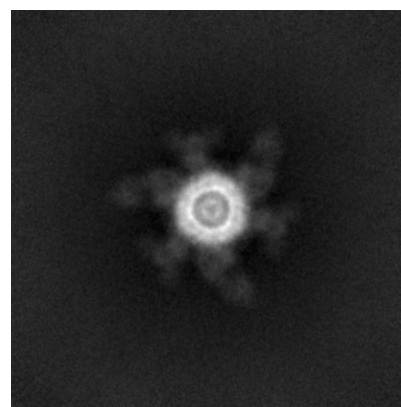
6.1.2 Raw map



X



Y

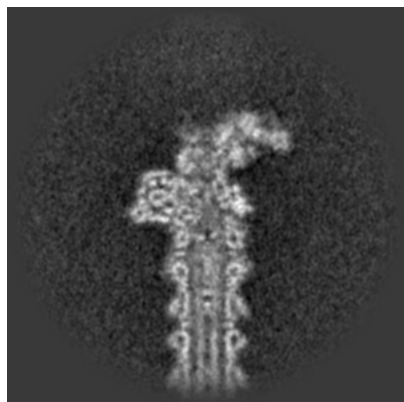


Z

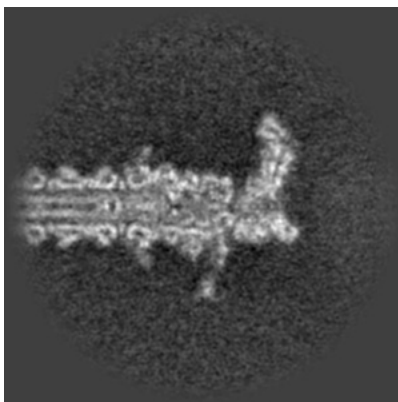
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

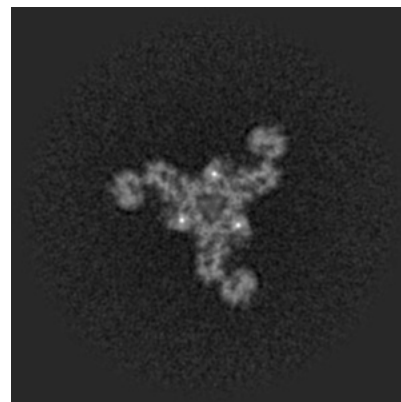
6.2.1 Primary map



X Index: 200

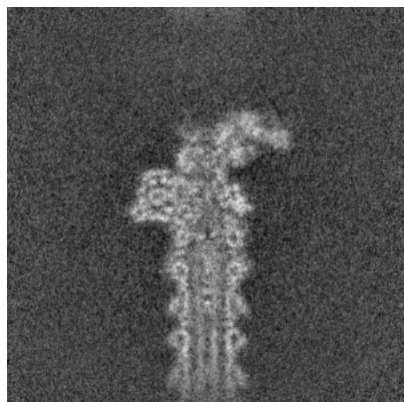


Y Index: 200

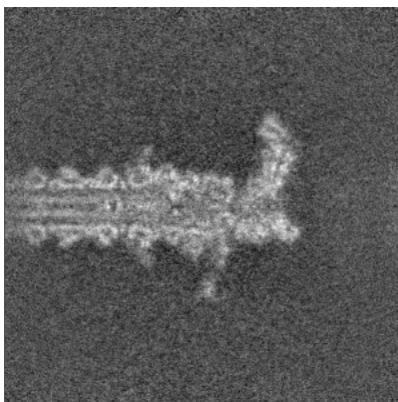


Z Index: 200

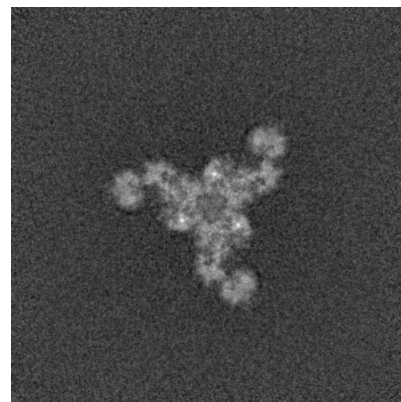
6.2.2 Raw map



X Index: 200



Y Index: 200

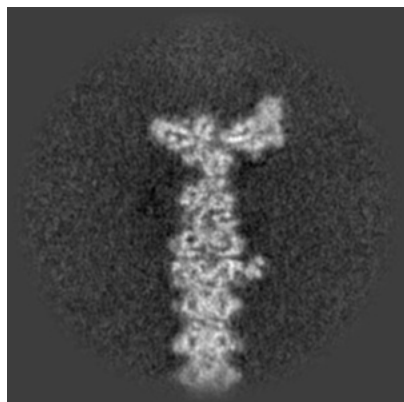


Z Index: 200

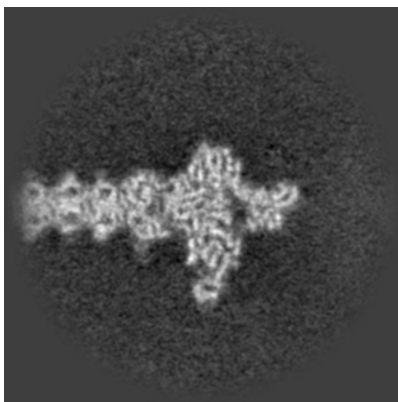
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

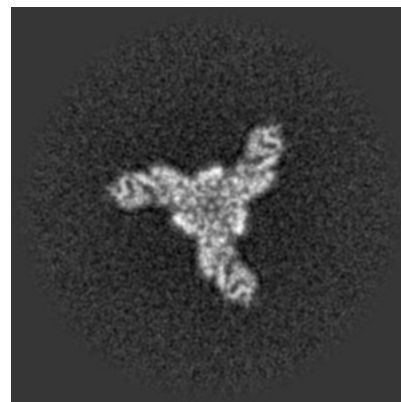
6.3.1 Primary map



X Index: 180

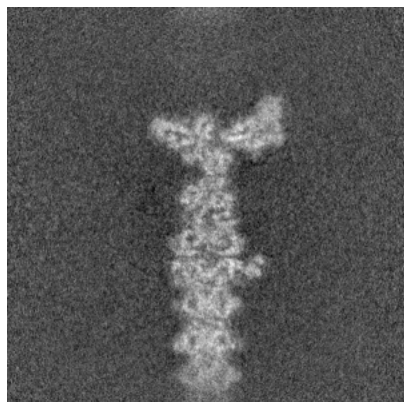


Y Index: 221

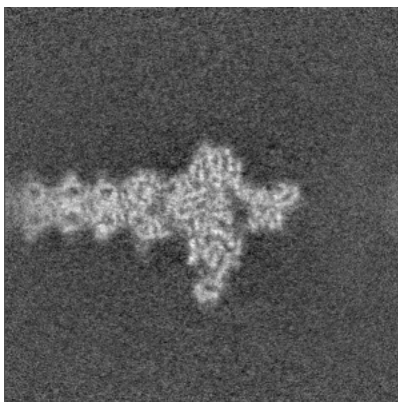


Z Index: 206

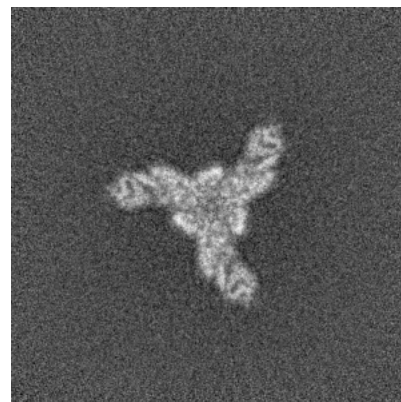
6.3.2 Raw map



X Index: 180



Y Index: 221

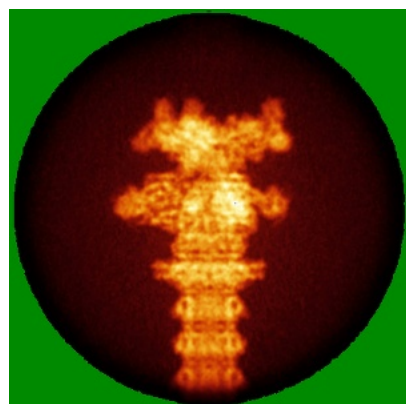


Z Index: 207

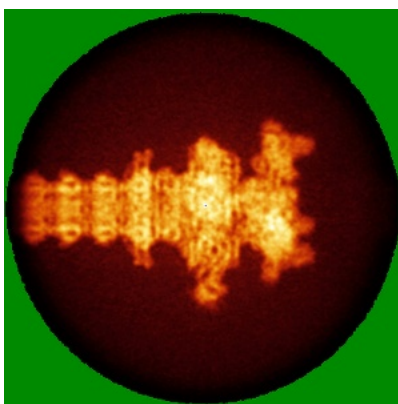
The images above show the largest variance slices of the map in three orthogonal directions.

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

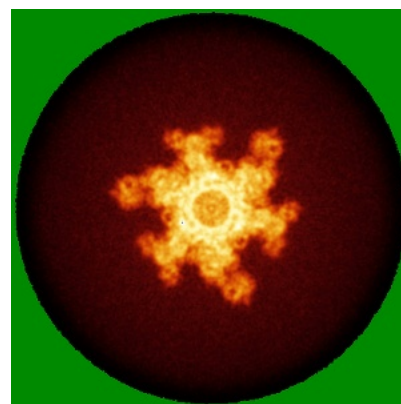
6.4.1 Primary map



X

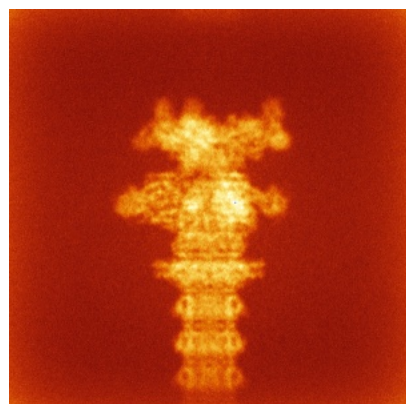


Y

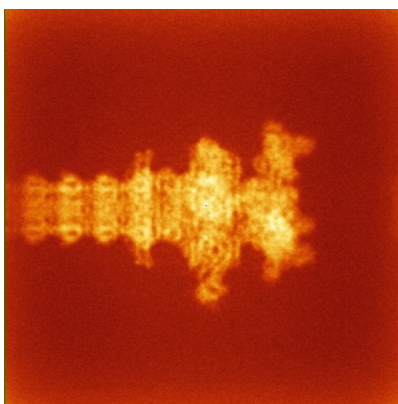


Z

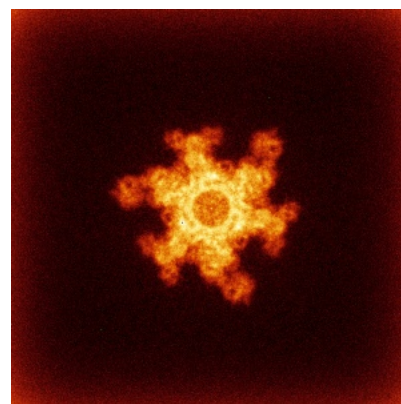
6.4.2 Raw map



X



Y

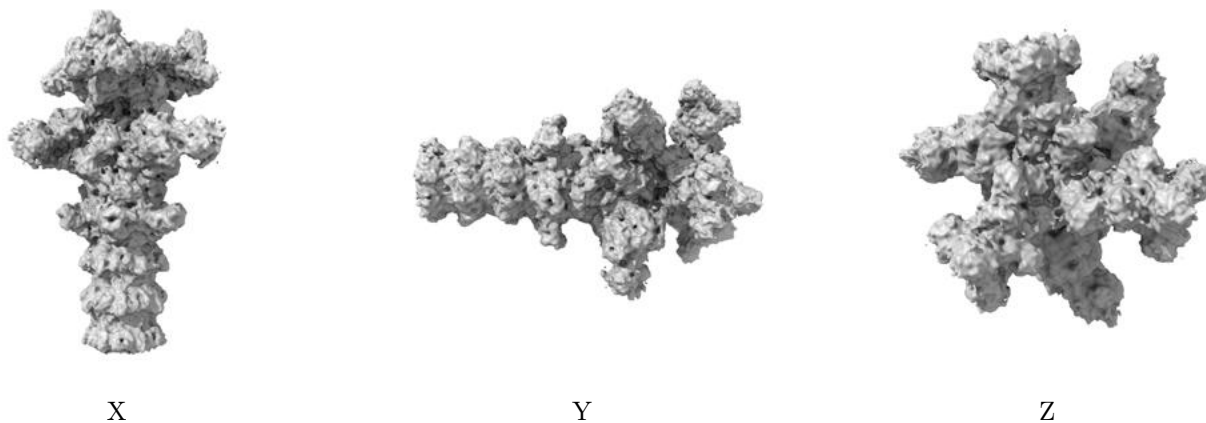


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

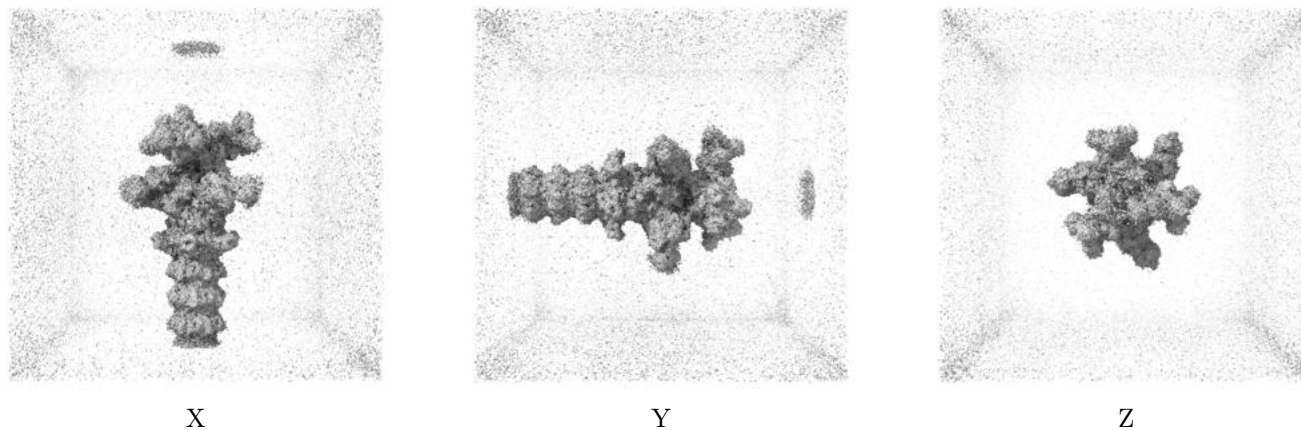
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.25. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

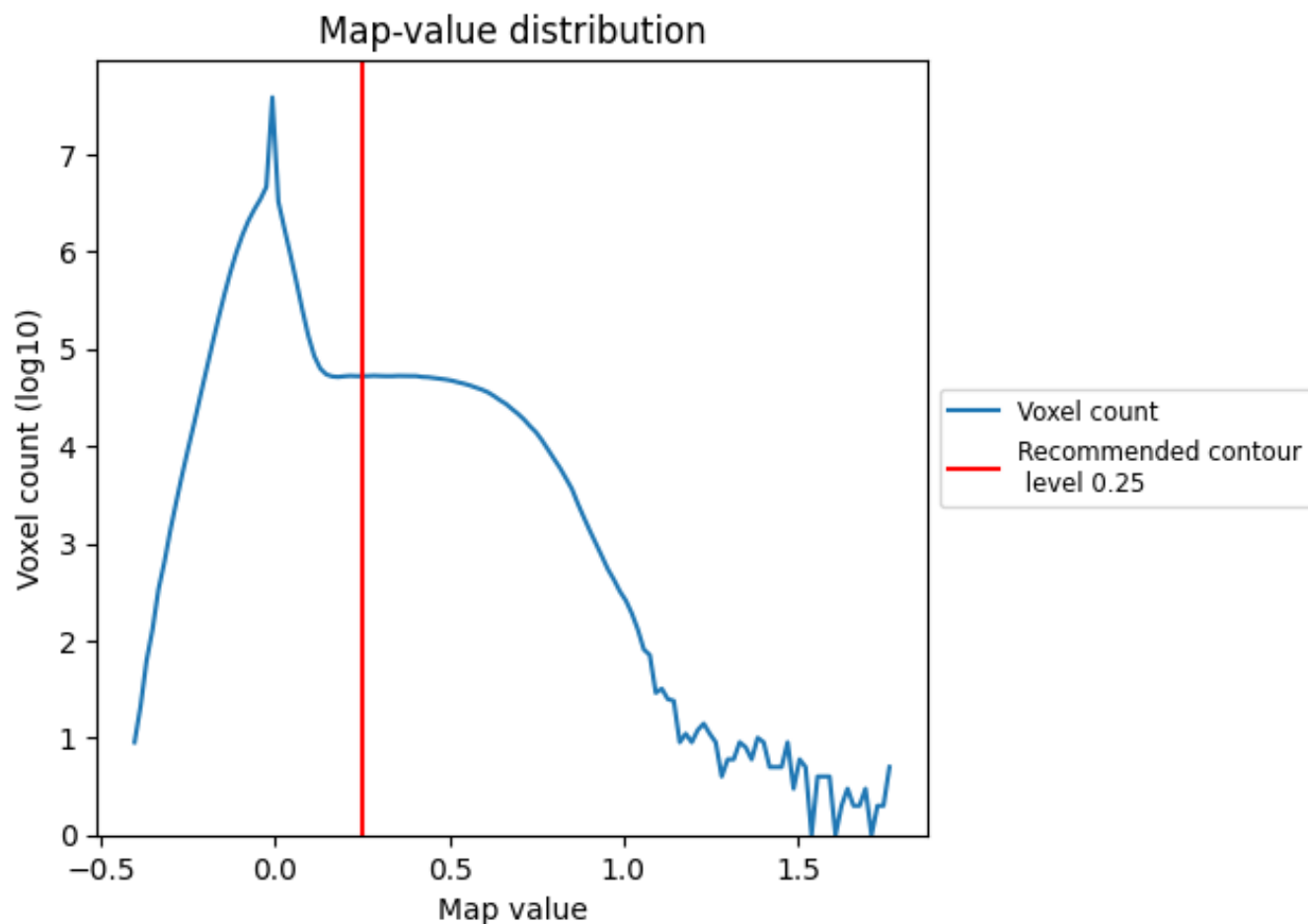
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

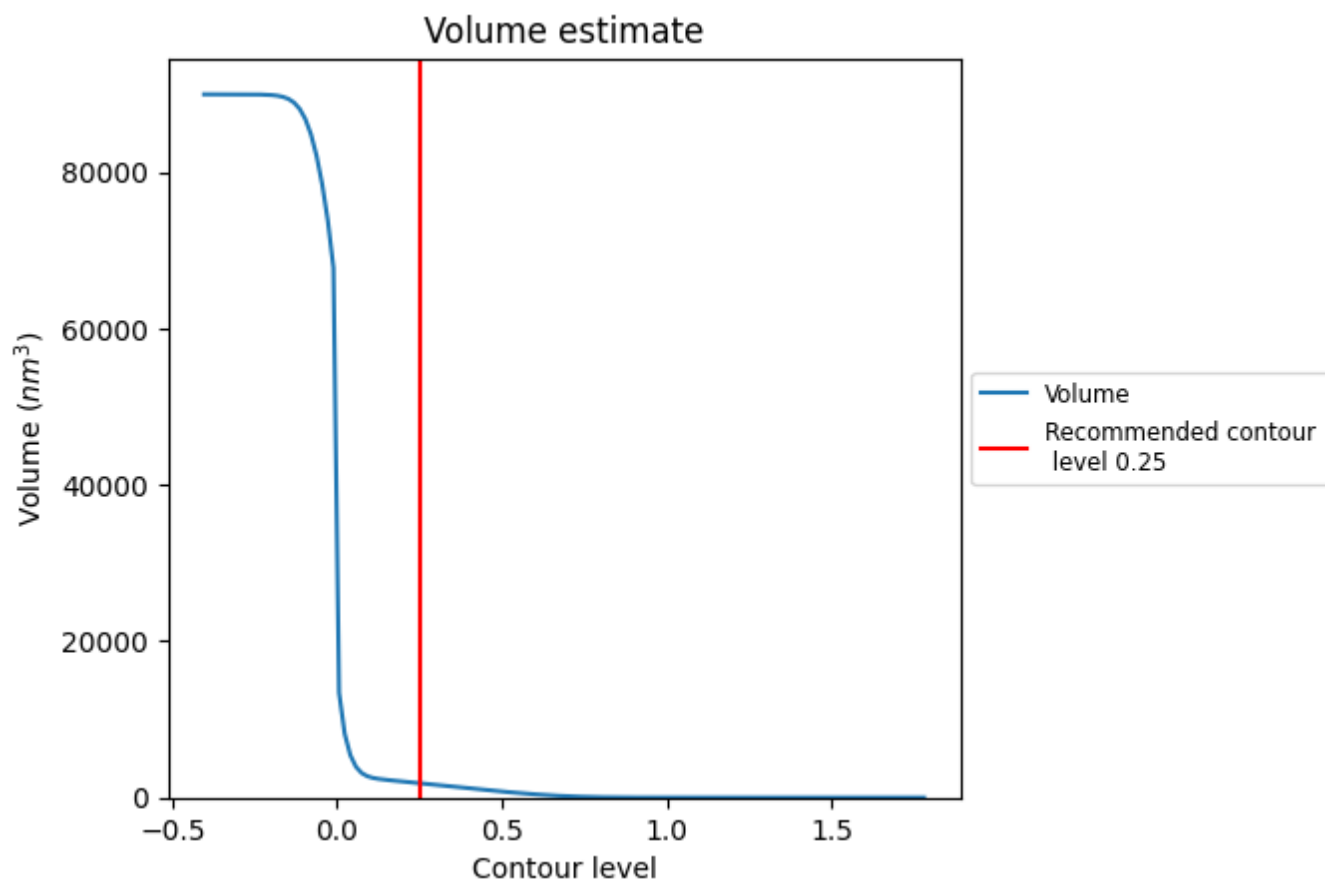
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

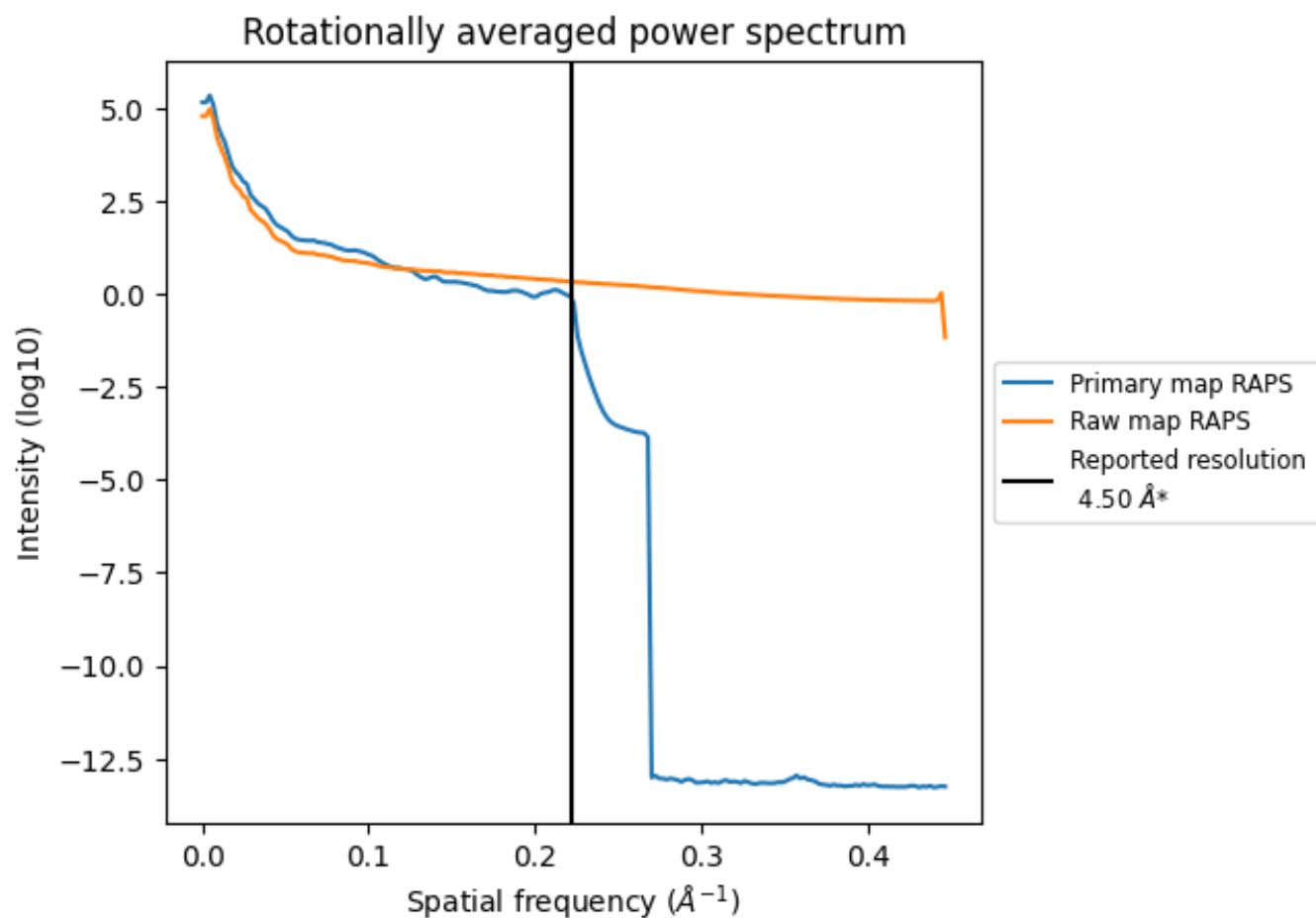
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1831 nm³; this corresponds to an approximate mass of 1654 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 ⓘ

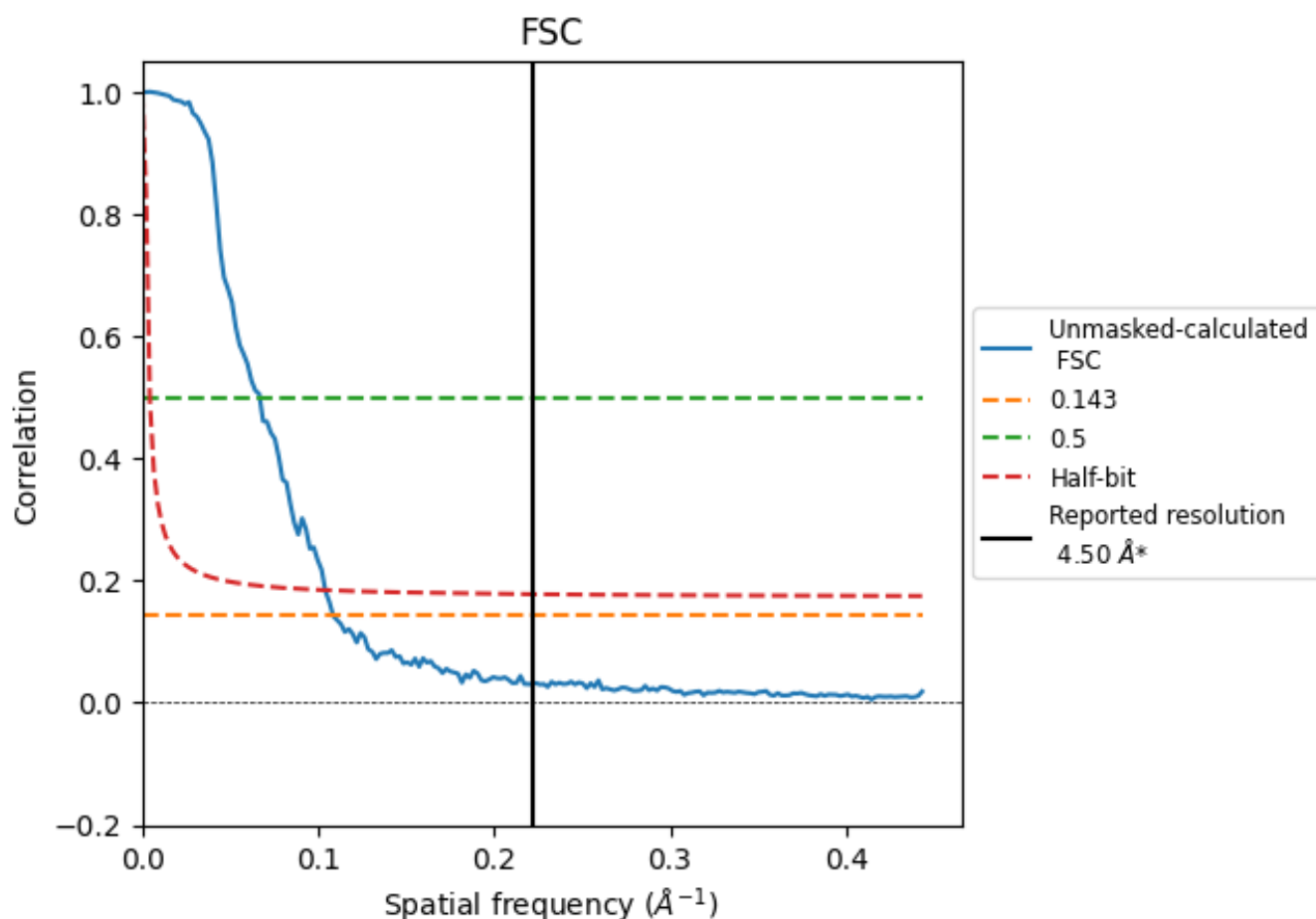


*Reported resolution corresponds to spatial frequency of 0.222 Å⁻¹

8 Fourier-Shell correlation [i](#)

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 [i](#)



*Reported resolution corresponds to spatial frequency of 0.222 Å⁻¹

8.2 Resolution estimates [i](#)

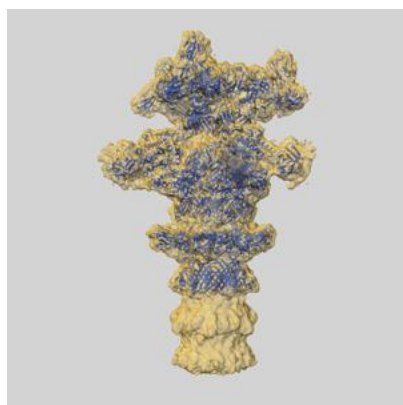
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.50	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	9.22	14.97	9.62

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 9.22 differs from the reported value 4.5 by more than 10 %

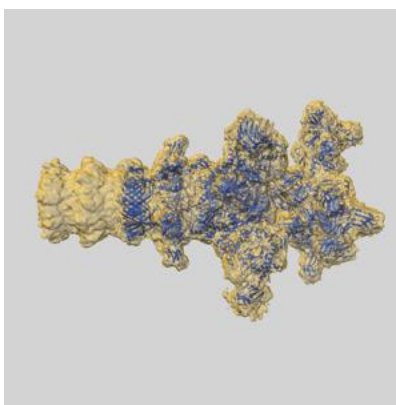
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-34249 and PDB model 8GTC. Per-residue inclusion information can be found in section [3](#) on page [6](#).

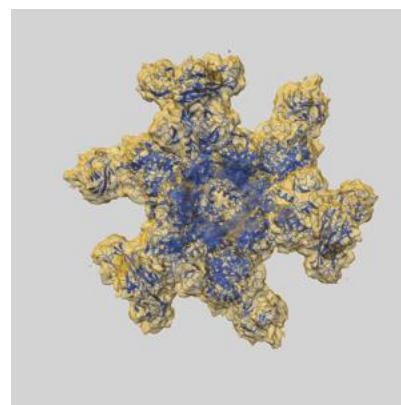
9.1 Map-model overlay [i](#)



X



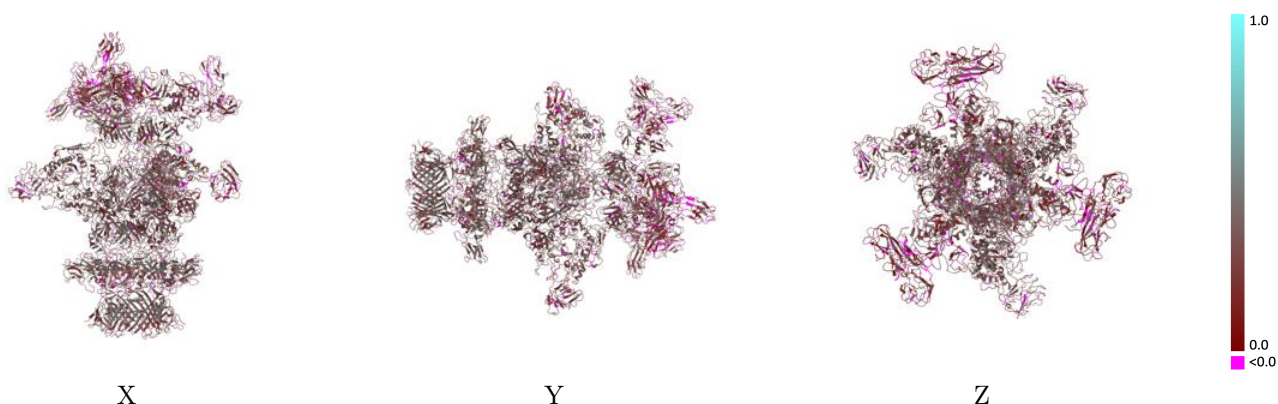
Y



Z

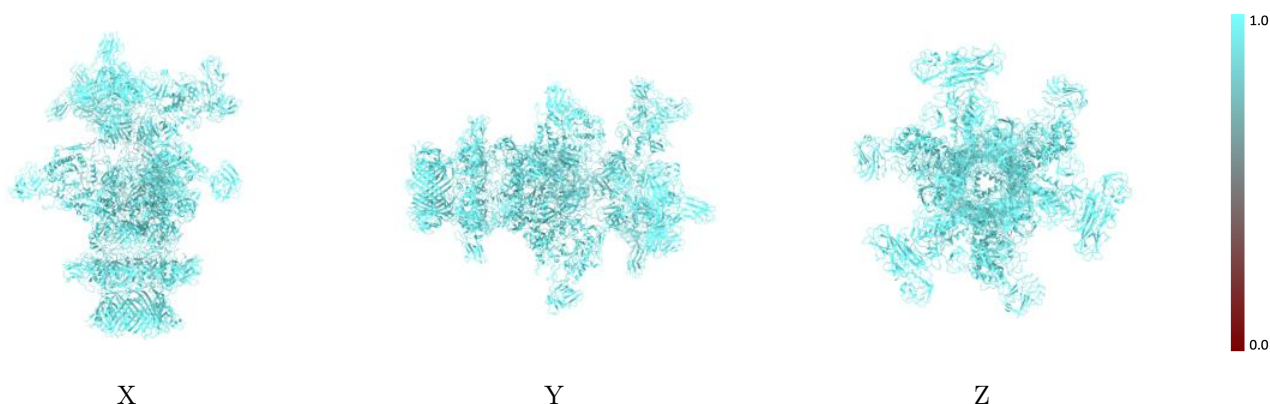
The images above show the 3D surface view of the map at the recommended contour level 0.25 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



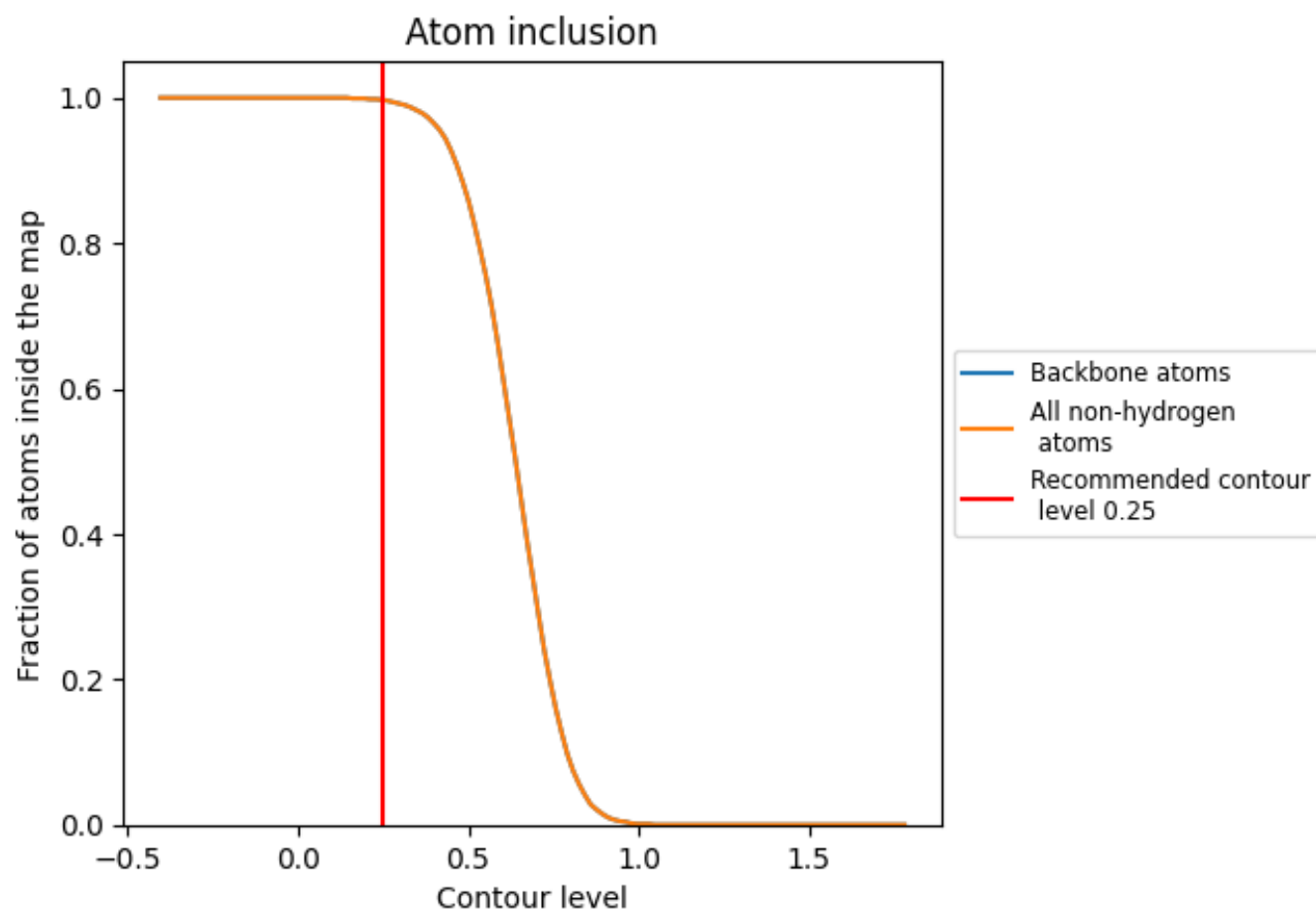
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.25).

9.4 Atom inclusion [i](#)



At the recommended contour level, 100% of all backbone atoms, 100% 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 (0.25) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9970	 0.2750
A	 1.0000	 0.3300
B	 1.0000	 0.3210
C	 1.0000	 0.3260
D	 1.0000	 0.3260
E	 1.0000	 0.3290
F	 1.0000	 0.3210
G	 0.9920	 0.2950
H	 0.9980	 0.2980
I	 0.9930	 0.2920
J	 0.9990	 0.2980
K	 0.9920	 0.2940
L	 0.9990	 0.2980
M	 0.9960	 0.2860
N	 0.9980	 0.3020
O	 0.9960	 0.2760
P	 1.0000	 0.2920
Q	 0.9980	 0.3120
R	 0.9990	 0.2920
S	 0.9940	 0.1620
T	 0.9990	 0.2200
U	 0.9970	 0.2220
V	 0.9940	 0.1640
W	 0.9990	 0.2180
X	 0.9950	 0.2190
Y	 0.9950	 0.1660
Z	 0.9990	 0.2160
a	 0.9950	 0.2200

