



wwPDB EM Validation Summary Report ⓘ

Jul 24, 2025 – 01:21 PM EDT

PDB ID : 9OPV / pdb_00009opv
EMDB ID : EMD-70725
Title : Herpes simplex virus type 1 (HSV-1) C-Capsid portal turrets
Authors : Crofut, E.H.; Kashyap, S.; Stevens, A.; Jih, J.; Liu, Y.-T.; Zhou, Z.H.
Deposited on : 2025-05-20
Resolution : 3.40 Å(reported)

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

EMDB validation analysis : 0.0.1.dev118
MolProbity : 4-5-2 with Phenix2.0rc1
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.44

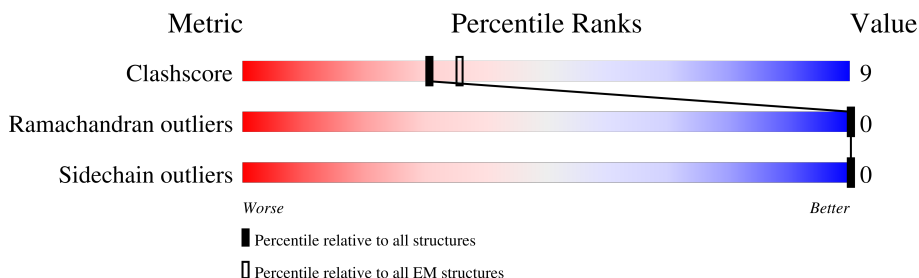
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.40 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)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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	M	676	
1	N	676	
1	O	676	
1	P	676	
1	Q	676	
1	R	676	
1	S	676	
1	T	676	

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Mol	Chain	Length	Quality of chain
1	U	676	 9% • 89%
1	V	676	 9% • 88%

2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 6145 atoms, of which 0 are hydrogens and 0 are deuteriums.

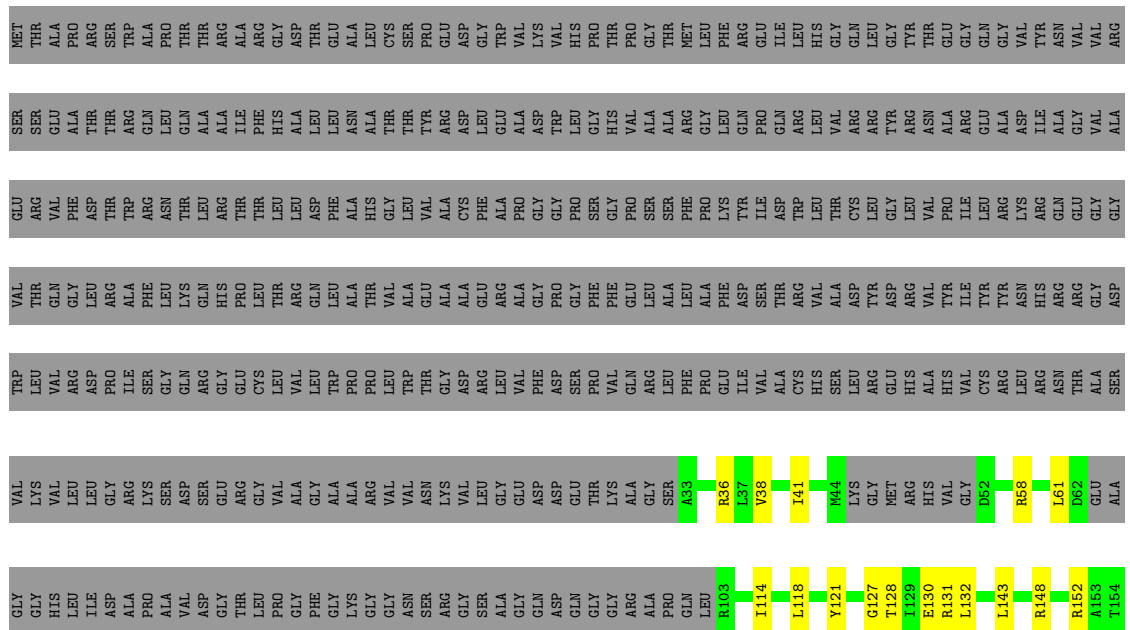
In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Capsid portal protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	M	75	Total	C	N	O	S	0	0
			603	369	119	114	1		
1	N	81	Total	C	N	O		0	0
			626	379	122	125			
1	O	75	Total	C	N	O	S	0	0
			603	369	119	114	1		
1	P	81	Total	C	N	O		0	0
			626	379	122	125			
1	Q	75	Total	C	N	O	S	0	0
			603	369	119	114	1		
1	R	81	Total	C	N	O		0	0
			626	379	122	125			
1	S	75	Total	C	N	O	S	0	0
			603	369	119	114	1		
1	T	81	Total	C	N	O		0	0
			626	379	122	125			
1	U	75	Total	C	N	O	S	0	0
			603	369	119	114	1		
1	V	81	Total	C	N	O		0	0
			626	379	122	125			

There are 10 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
M	59	SER	ALA	conflict	UNP H9E912
N	59	SER	ALA	conflict	UNP H9E912
O	59	SER	ALA	conflict	UNP H9E912
P	59	SER	ALA	conflict	UNP H9E912
Q	59	SER	ALA	conflict	UNP H9E912
R	59	SER	ALA	conflict	UNP H9E912
S	59	SER	ALA	conflict	UNP H9E912
T	59	SER	ALA	conflict	UNP H9E912
U	59	SER	ALA	conflict	UNP H9E912
V	59	SER	ALA	conflict	UNP H9E912



GLY ALA	GLY SER	ALA PRO	ARG GLY	ARG GLY	SER SER	SER ASP	SER VAL	ARG ILE	SER LEU	PRO GLY	GLY GLU	ALA GLU	THR GLU	ALA LEU	PRO TRP	GLY ASP	GLY VAL	ALA ALA	GLY PHE	GLY LYS	GLY SER	GLY ARG	GLY PRO	GLY ALA	GLY ASN	ASP ASN	GLY GLN	GLY GLU	GLY ARG	ALA ALA	GLY GLY	ASP ASP	ASP TYR	ASP ILE	ASP TYR	ASP THR	ASP VAL	ASP SER	ASP LYS	ASP SER	ASP MET	ASP ASP	ASP ASP	ASP THR	ASP TYR	ASP VAL	ASP ASN	ASP SER	ASP PHE	ASP HIS	ASP PRO	ASP PRO	ASP TYR
VAL	GLY	ALA	THR	GLY	SER	ASP	VAL	ILE	LEU	GLY	GLU	GLU	GLU	LEU	TRP	ASP	VAL	ALA	VAL	PHE	LYS	LYS	SER	ARG	HIS	ASN	ASN	GLN	GLY	GLU	THR	ASP	ILE	SER	SER	GLY	ILE	ALA	PHE	VAL	GLY	VAL	SER	GLU	SER	VAL	LEU	ARG	ALA	PRO	ARG		
GLY ALA	SER SER	PRO PRO	ARG GLY	ARG GLY	SER SER	ASP ASP	SER VAL	ARG ILE	SER LEU	PRO GLY	GLY GLU	ALA GLU	THR GLU	ALA LEU	PRO TRP	GLY ASP	GLY VAL	ALA ALA	GLY PHE	GLY LYS	GLY SER	GLY ARG	GLY PRO	GLY ALA	GLY ASN	ASP ASN	GLY GLN	GLY GLU	GLY GLU	THR THR	ASP ILE	ASP ALA	ASP ALA	ASP LEU	ASP VAL	ASP GLN	ASP HIS	ASP ALA	ASP PHE	ASP LEU	ASP PRO	ASP PRO	ASP PRO	ASP SER	ASP VAL	ASP GLY	ASP PHE	ASP HIS	ASP PRO	ASP PRO			
ALA	GLY	ALA	LEU	ARG	GLN	ARG	ALA	ASP	ASP	LEU	TRP	ALA	SER	LEU	LEU	VAL	ARG	CYS	PHE	LYS	SER	ARG	PRO	GLY	ALA	ASP	LEU	GLY	GLU	ASP	TYR	ILE	ASP	VAL	SER	GLY	ILE	ALA	PHE	VAL	GLY	VAL	SER	ASN	ALA	THR	TYR	ALA	GLY				

- Molecule 1: Capsid portal protein

Chain P: 9% . 88%

E145	HIS	VAL	TRP	VAL	SER	MET
R146	LEU	LYS	LEU	THR	ARG	THR
D147	LEU	VAL	VAL	GLN	VAL	ALA
R148	ILE	LEU	ARG	GLY	PHE	PRO
E149	ASP	LEU	ASP	LEU	THR	SER
L150	ALA	GLY	PRO	ARG	THR	TRP
R151	PRO	ARG	ILE	ALA	TRP	ALA
R152	ALA	LYS	SER	PHE	ASN	PRO
G153	VAL	SER	GLY	LEU	LEU	THR
A154	ASP	ASP	GLN	LYS	THR	ALA
A155	THR	SER	ARG	GLN	LEU	THR
G156	GLY	GLU	GLY	HIS	ARG	ALA
SER	LEU	ARG	GLU	PRO	THR	ALA
VAL	PRO	GLY	CYS	LEU	THR	ARG
THR	GLY	VAL	LEU	THR	LEU	HIS
GLY	PHE	ALA	VAL	ARG	LEU	ASP
CYS	GLY	GLY	LEU	GLN	ASP	THR
SER	LYS	ALA	TRP	LEU	PHE	GLU
GLY	GLY	ALA	PRO	ALA	ALA	ALA
ARG	GLY	ARG	PRO	THR	HIS	LEU
PRO	ASN	VAL	LEU	VAL	GLY	CYS
ALA	SER	VAL	TRP	ALA	LEU	THR
GLY	ARG	ASN	THR	GLU	VAL	PRO
ALA	GLY	LYS	GLY	ALA	GLY	GLY
ASP	SER	VAL	ASP	ALA	CYS	ASP
LEU	ALA	LEU	ARG	GLU	PHE	GLY
LEU	GLY	GLY	LEU	ARG	ALA	VAL
ARG	GLN	GLU	PHE	GLY	GLY	LYS
ALA	ASP	ASP	ASP	PRO	GLY	TRP
ASP	GLN	ASP	ASP	GLY	PRO	LEU
TYR	GLY	GLU	SER	THR	LEU	HIS
ASP	GLY	THR	PRO	PHE	SER	PRO
ILE	ARG	LYS	VAL	PHE	GLY	THR
ILE	ALA	ALA	GLN	GLU	PRO	PRO
ASP	PRO	GLY	ARG	LEU	SER	GLY
VAL	GLN	SER	LEU	ALA	SER	THR
SER	LEU	ALA	PHE	LEU	PHE	MET
LYS	ARG	ALA	PRO	ALA	PRO	LEU
SER	GLN	SER	GLU	PHE	LYS	PHE
MET	ASN	MET	ILE	ASP	TVR	GLN
ASP	LEU	LEU	VAL	SER	ILE	GLU
ASP	VAL	VAL	ALA	THR	ASP	ILE
ASP	ARG	ARG	CYS	ARG	TRP	LEU
THR	LEU	LEU	HIS	VAL	LEU	HIS
TYR	TYR	ILE	SER	ALA	THR	GLN
VAL	VAL	ILE	LEU	ASP	CYS	GLN
ALA	ASN	ASN	ARG	TYR	LEU	LEU
ASN	MET	MET	GLU	ASP	GLY	TYR
SER	GLY	GLY	HIS	ARG	LEU	ARG
PHE	GLN	GLY	ALA	VAL	VAL	THR
GLN	HIS	MET	HIS	THR	PRO	GLU
HIS	R133	ARG	VAL	ILE	ILE	GLY
PRO	E134	HIS	CYS	TYR	LEU	GLN
TYR		Y60	ARG	TYR	ARG	GLY
ILE		Y60	LEU	ASN	ASP	ALA
PRO		Y60	ARG	HIS	LYS	VAL
SER		E63	ASN	ARG	ARG	THR
TYR		A64	THR	ARG	GLY	VAL
ALA			ALA	SER	GLY	ARG

[illegible]

- Molecule 1: Capsid portal protein

Chain Q: 10% . 89%

MET	THR	ALA	ALA	PRO	ARG	SER	TRP	ALA	ALA	PRO	THR	THR	THR	ARG	ALA	GLY	ASP	THR	THR	GLU	ALA	LEU	CYS	SER	PRO	PRO	GLU	ASP	GLY	TRP	LVS	VAL	LVS	VAL	HIS	THR	THR	PRO	PRO	GLY	THR	MET	LEU	PHE	ARG	GLU	ILE	HIS	LEU	GLY	GLN	GLY	LEU	GLY	TYP	THR	GLU	GLU	GLN	ASN	VAL	VAL	VAL	ARG
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4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	252150	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	45	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	81000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.524	Depositor
Minimum map value	-0.280	Depositor
Average map value	0.003	Depositor
Map value standard deviation	0.042	Depositor
Recommended contour level	0.09	Depositor
Map size (Å)	528.0, 528.0, 528.0	wwPDB
Map dimensions	480, 480, 480	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.1, 1.1, 1.1	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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	M	0.11	0/604	0.28	0/811
1	N	0.14	0/628	0.28	0/846
1	O	0.15	0/604	0.38	0/811
1	P	0.18	0/628	0.43	0/846
1	Q	0.12	0/604	0.29	0/811
1	R	0.16	0/628	0.31	0/846
1	S	0.10	0/604	0.24	0/811
1	T	0.15	0/628	0.32	0/846
1	U	0.10	0/604	0.26	0/811
1	V	0.17	0/628	0.31	0/846
All	All	0.14	0/6160	0.31	0/8285

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	M	603	0	612	13	0
1	N	626	0	616	15	0
1	O	603	0	612	13	0
1	P	626	0	616	18	0
1	Q	603	0	612	8	0
1	R	626	0	616	17	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	S	603	0	612	14	0
1	T	626	0	616	12	0
1	U	603	0	612	19	0
1	V	626	0	616	19	0
All	All	6145	0	6140	107	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 9.

The worst 5 of 107 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)
1:R:53:ILE:HD13	1:S:58:ARG:HH21	1.52	0.74
1:S:122:ILE:HD13	1:T:118:LEU:HD12	1.71	0.73
1:S:132:LEU:HD22	1:T:132:LEU:HB3	1.73	0.69
1:Q:132:LEU:HD13	1:R:132:LEU:HD13	1.78	0.66
1:S:118:LEU:HD12	1:T:115:ASN:HB2	1.81	0.63

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	M	69/676 (10%)	69 (100%)	0	0	100	100
1	N	77/676 (11%)	77 (100%)	0	0	100	100
1	O	69/676 (10%)	69 (100%)	0	0	100	100
1	P	77/676 (11%)	77 (100%)	0	0	100	100
1	Q	69/676 (10%)	69 (100%)	0	0	100	100
1	R	77/676 (11%)	77 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	S	69/676 (10%)	69 (100%)	0	0	100	100
1	T	77/676 (11%)	77 (100%)	0	0	100	100
1	U	69/676 (10%)	69 (100%)	0	0	100	100
1	V	77/676 (11%)	77 (100%)	0	0	100	100
All	All	730/6760 (11%)	730 (100%)	0	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	M	64/535 (12%)	64 (100%)	0	100	100
1	N	62/535 (12%)	62 (100%)	0	100	100
1	O	64/535 (12%)	64 (100%)	0	100	100
1	P	62/535 (12%)	62 (100%)	0	100	100
1	Q	64/535 (12%)	64 (100%)	0	100	100
1	R	62/535 (12%)	62 (100%)	0	100	100
1	S	64/535 (12%)	64 (100%)	0	100	100
1	T	62/535 (12%)	62 (100%)	0	100	100
1	U	64/535 (12%)	64 (100%)	0	100	100
1	V	62/535 (12%)	62 (100%)	0	100	100
All	All	630/5350 (12%)	630 (100%)	0	100	100

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

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (4) such sidechains are listed below:

Mol	Chain	Res	Type
1	M	136	ASN

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Mol	Chain	Res	Type
1	N	144	GLN
1	V	113	ASN
1	V	161	GLN

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.

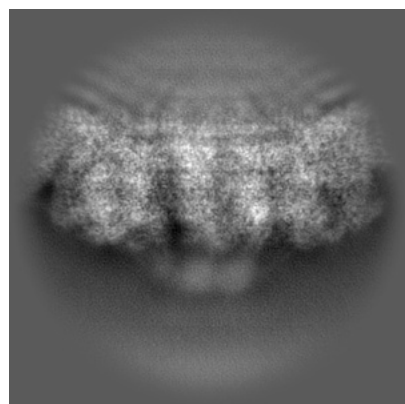
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-70725. These allow visual inspection of the internal detail of the map and identification of artifacts.

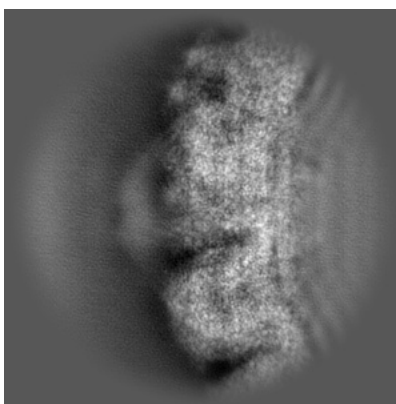
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

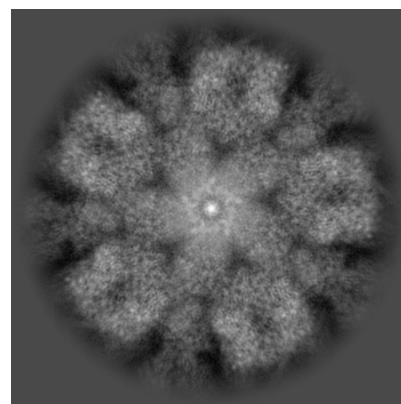
6.1.1 Primary map



X

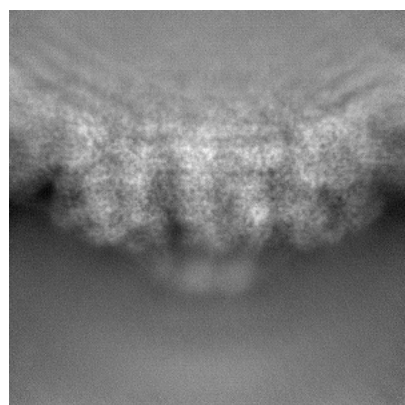


Y

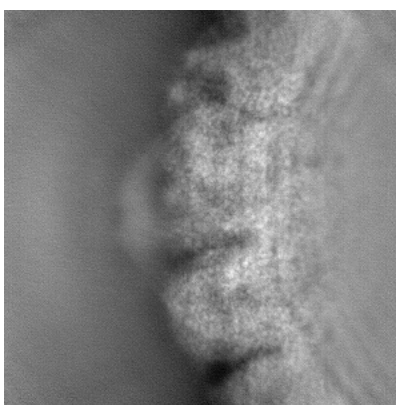


Z

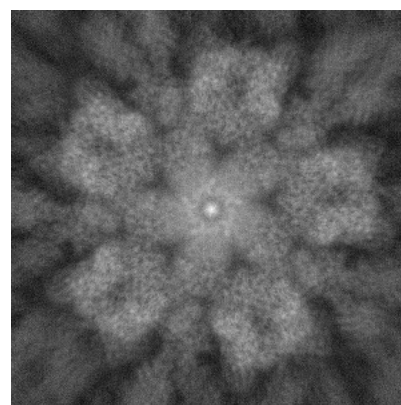
6.1.2 Raw map



X



Y

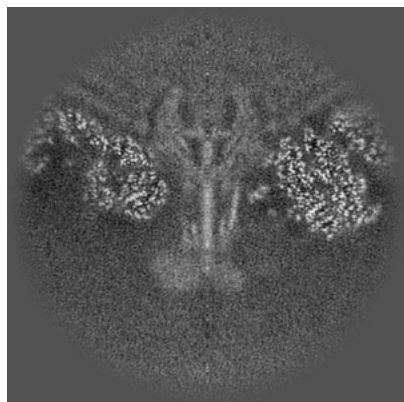


Z

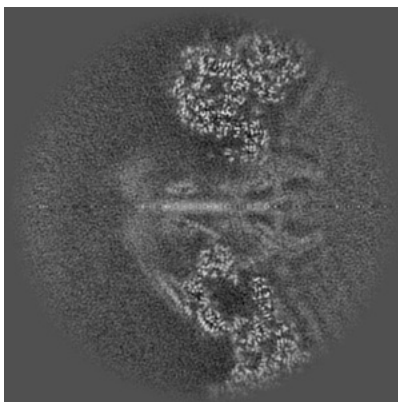
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

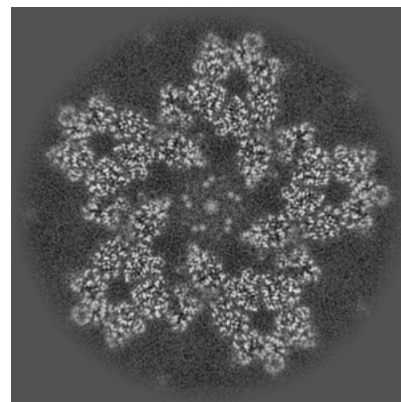
6.2.1 Primary map



X Index: 240



Y Index: 240

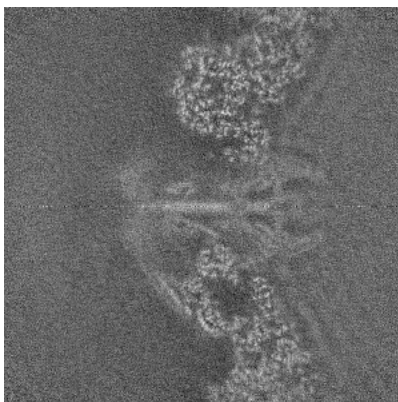


Z Index: 240

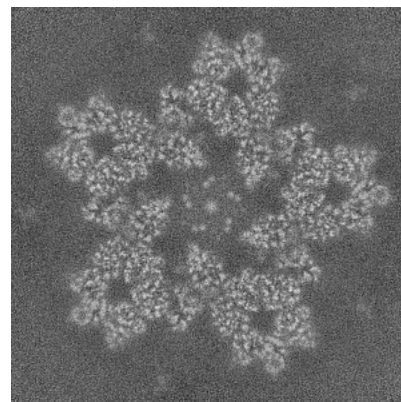
6.2.2 Raw map



X Index: 240



Y Index: 240

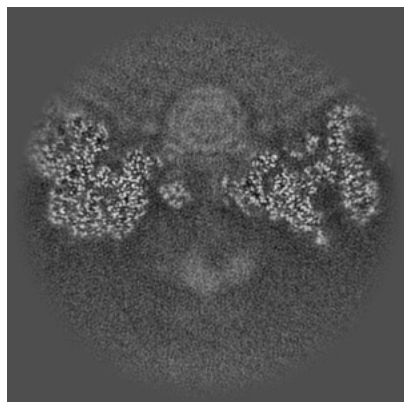


Z Index: 240

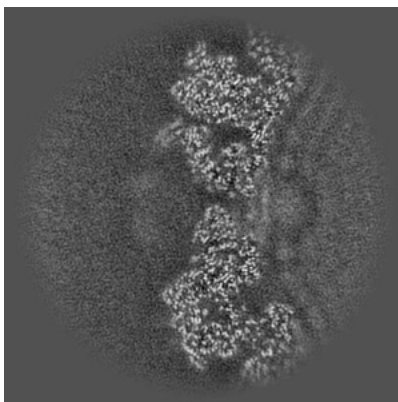
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

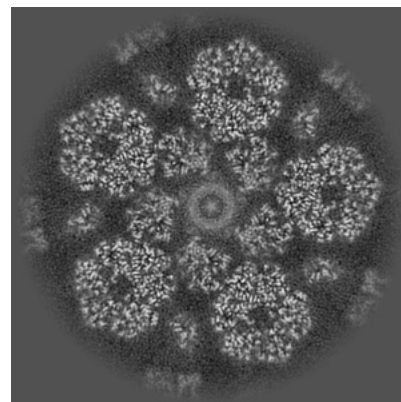
6.3.1 Primary map



X Index: 278

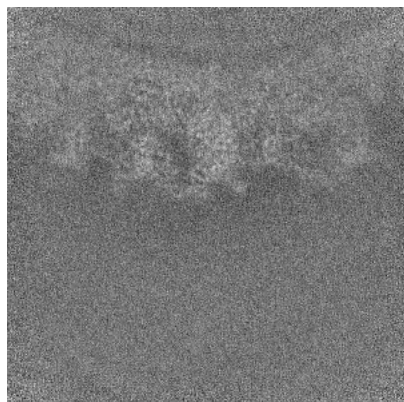


Y Index: 297

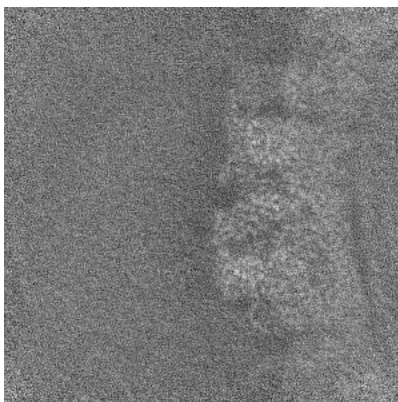


Z Index: 266

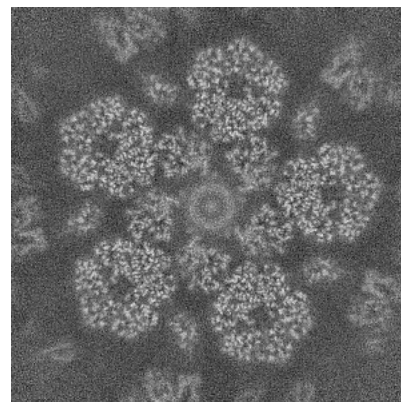
6.3.2 Raw map



X Index: 0



Y Index: 0

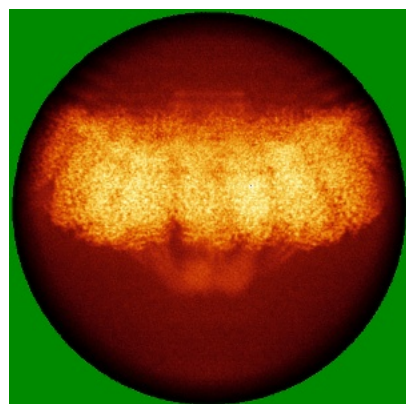


Z Index: 266

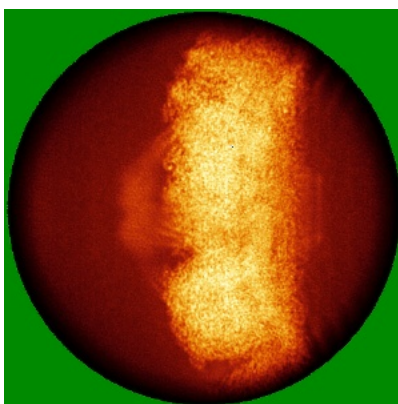
The images above show the largest variance slices of the map in three orthogonal directions.

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

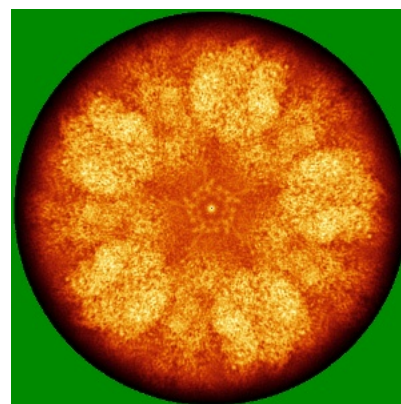
6.4.1 Primary map



X

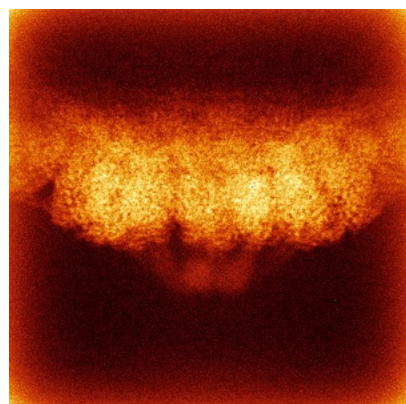


Y

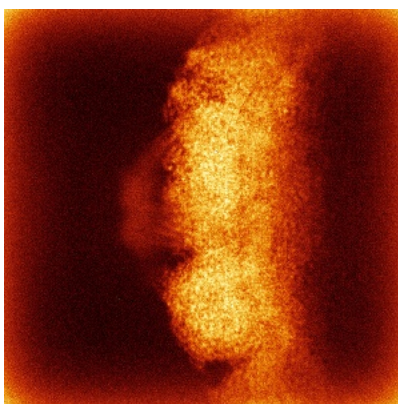


Z

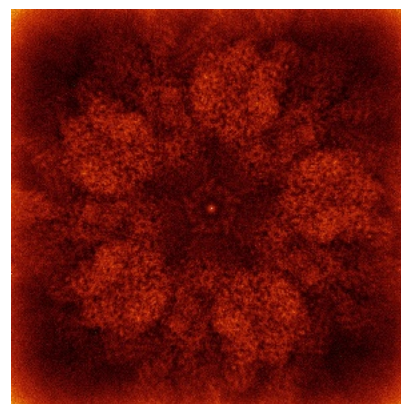
6.4.2 Raw map



X



Y

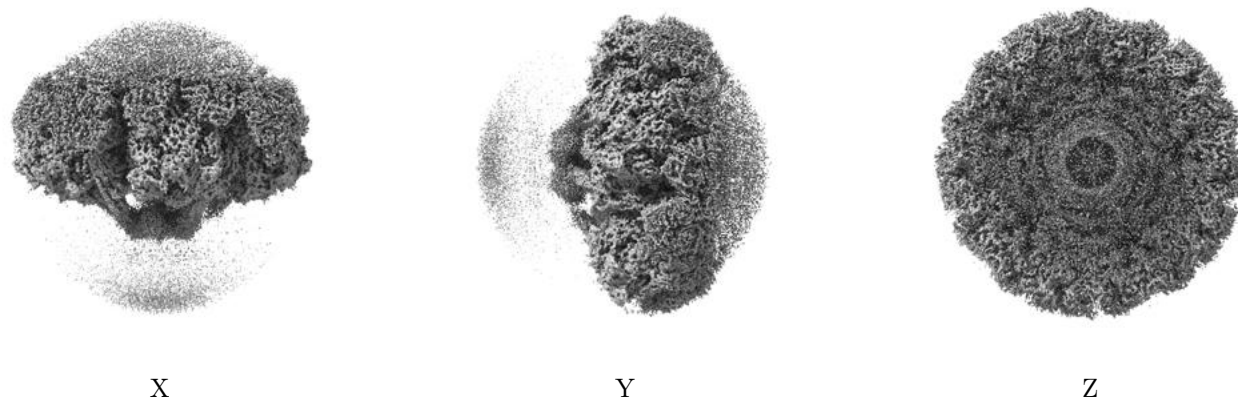


Z

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.

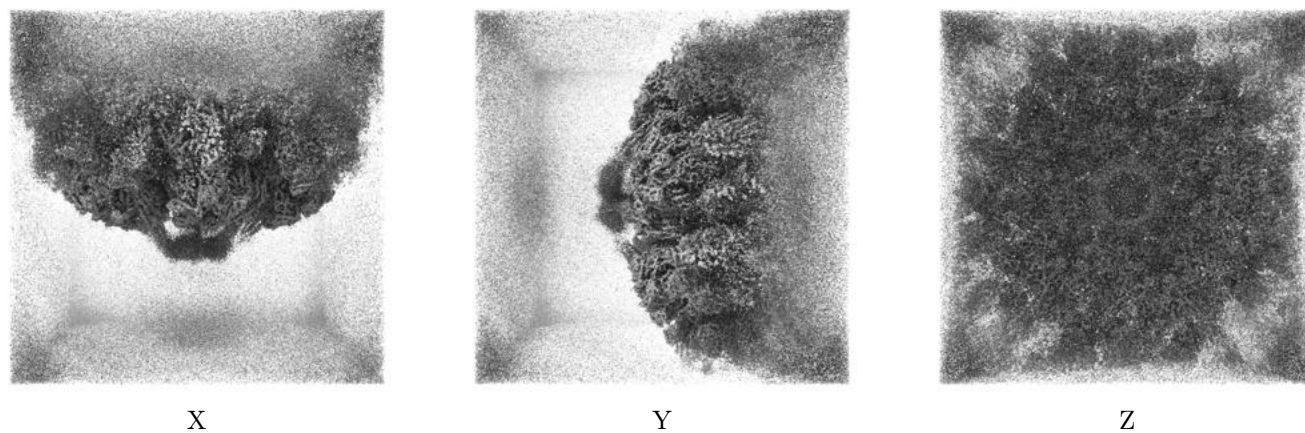
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.09. 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.

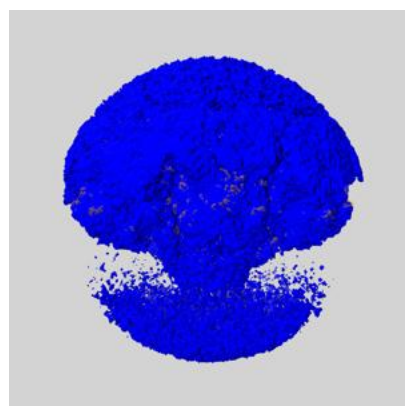
6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

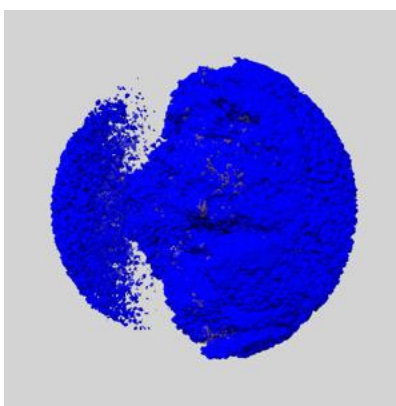
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

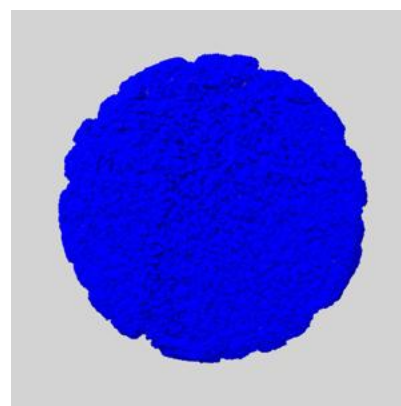
6.6.1 emd_70725_msk_1.map [i](#)



X



Y

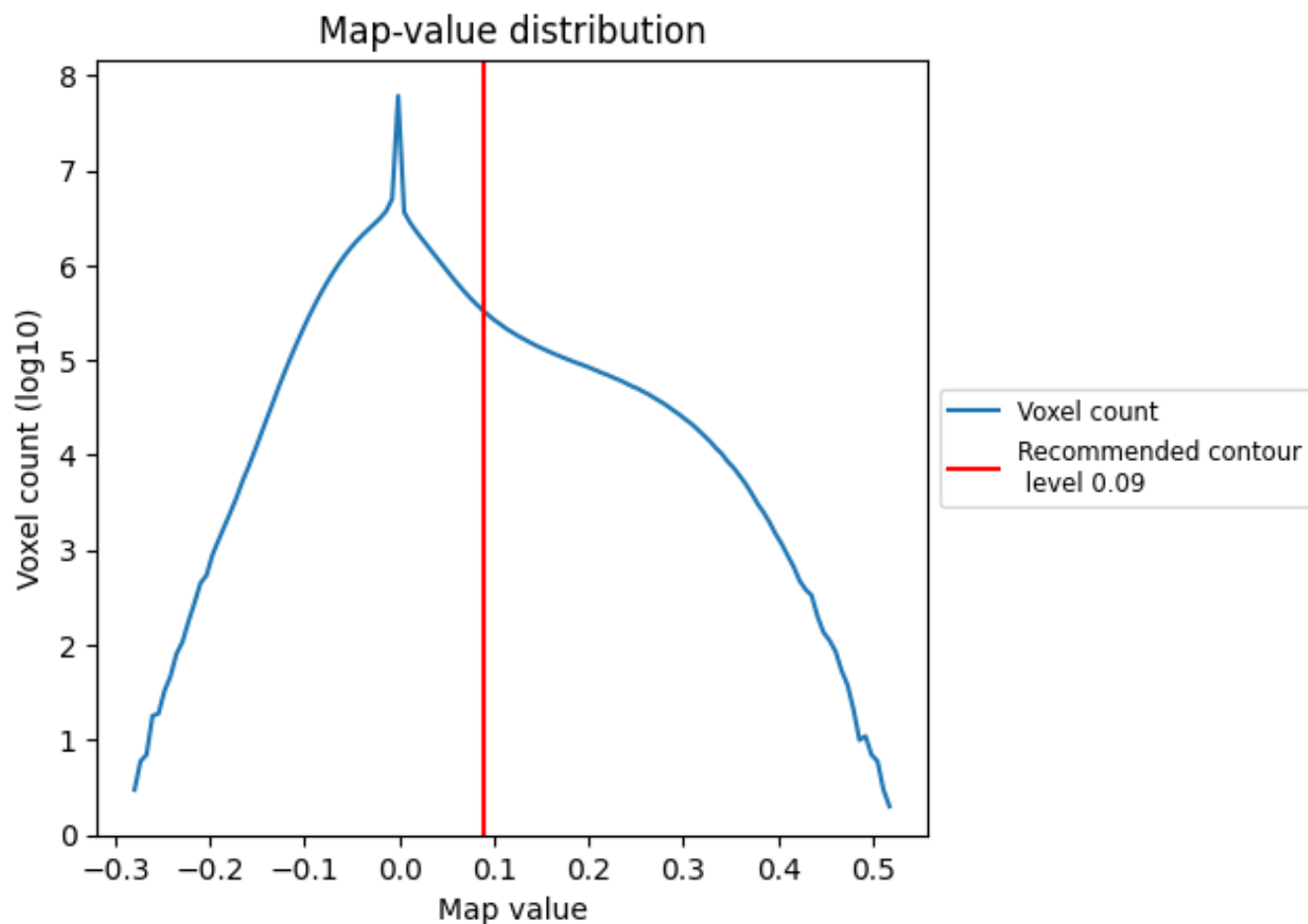


Z

7 Map analysis [i](#)

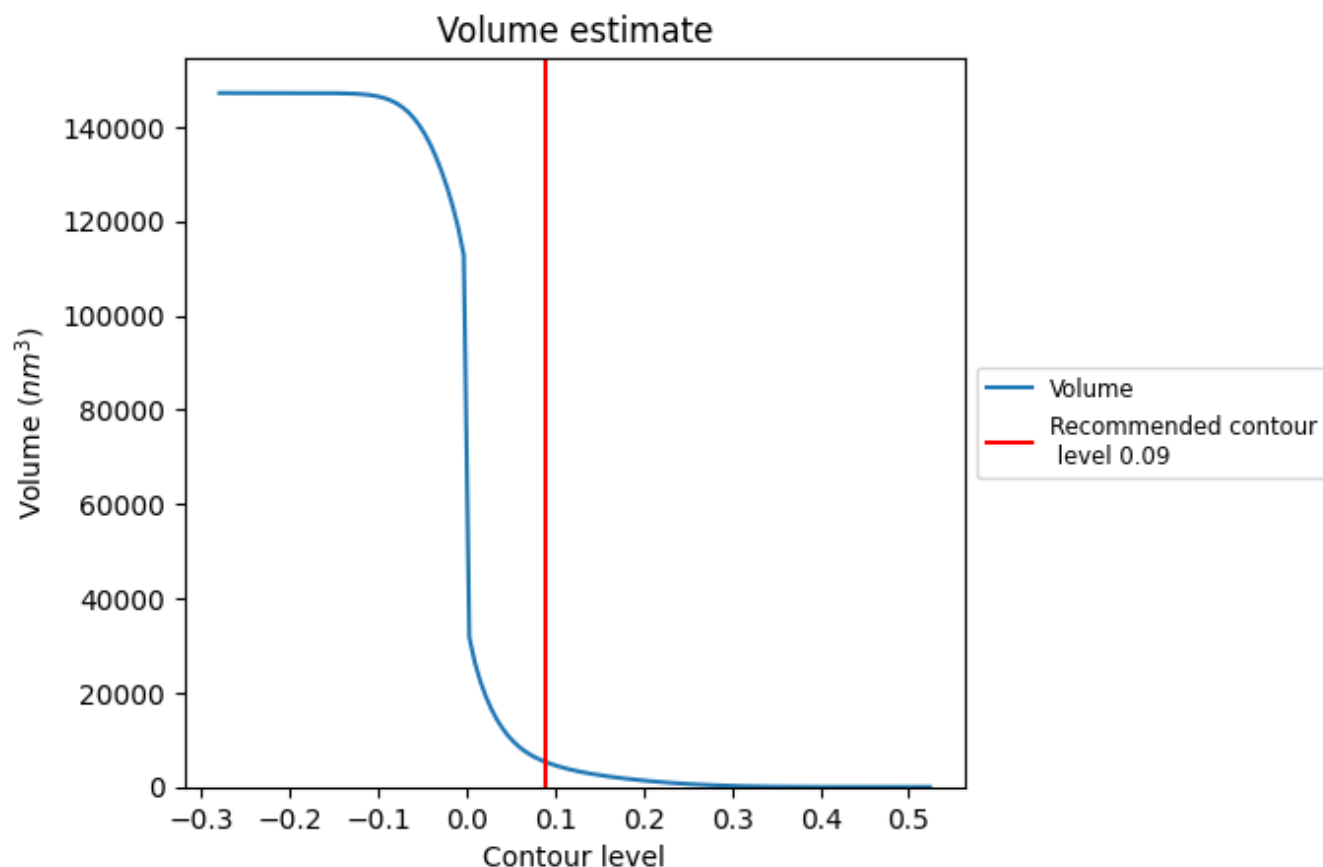
This section contains the results of statistical analysis of the map.

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.

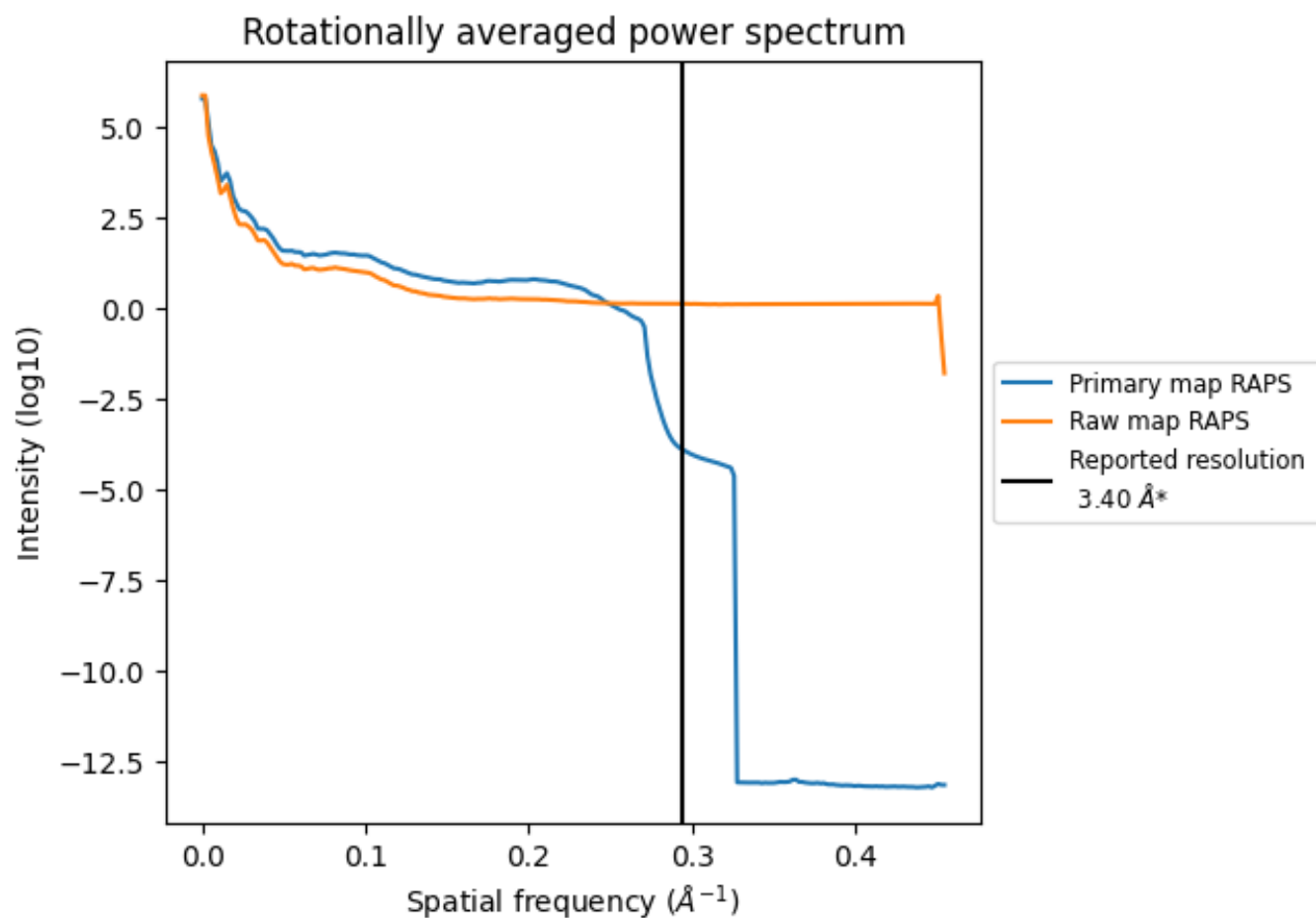
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 5233 nm³; this corresponds to an approximate mass of 4727 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 ⓘ

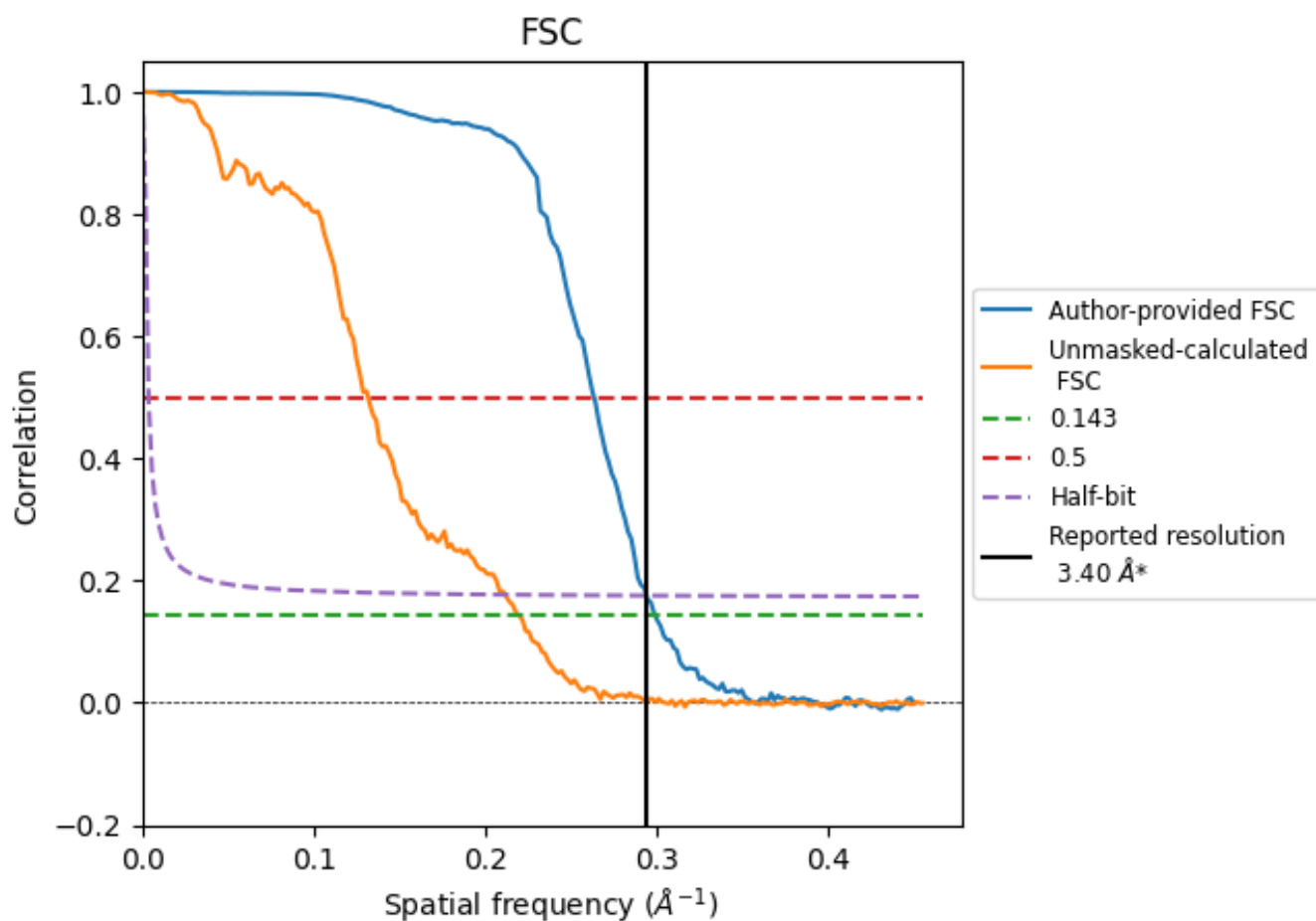


*Reported resolution corresponds to spatial frequency of 0.294 Å⁻¹

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 0.294 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

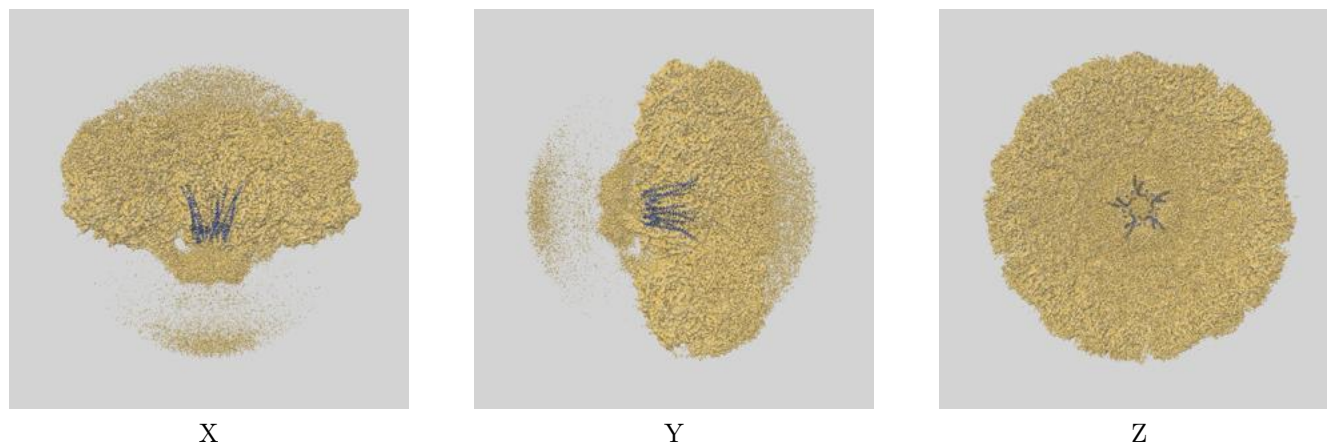
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.40	-	-
Author-provided FSC curve	3.35	3.80	3.40
Unmasked-calculated*	4.56	7.60	4.73

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.56 differs from the reported value 3.4 by more than 10 %

9 Map-model fit [i](#)

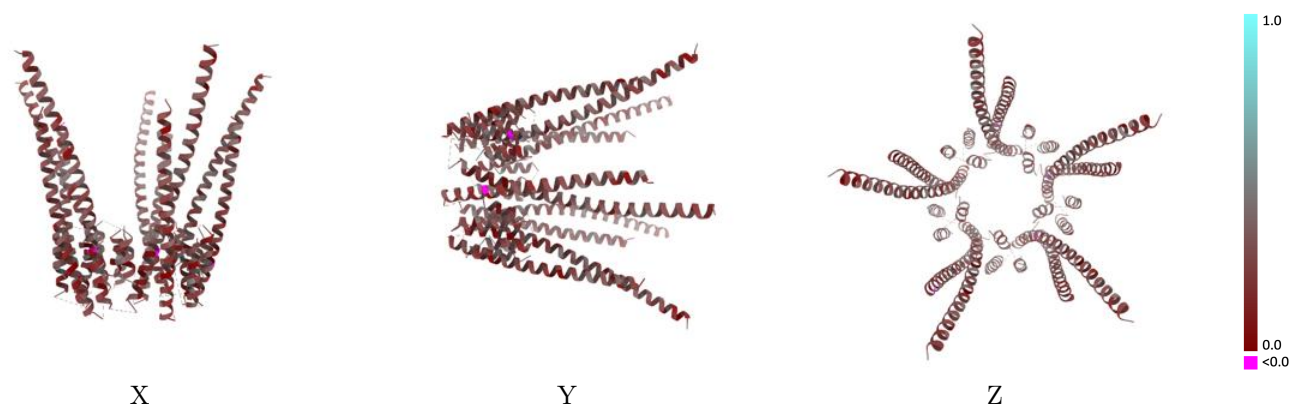
This section contains information regarding the fit between EMDB map EMD-70725 and PDB model 9OPV. Per-residue inclusion information can be found in [section 3](#) on [page 5](#).

9.1 Map-model overlay [i](#)



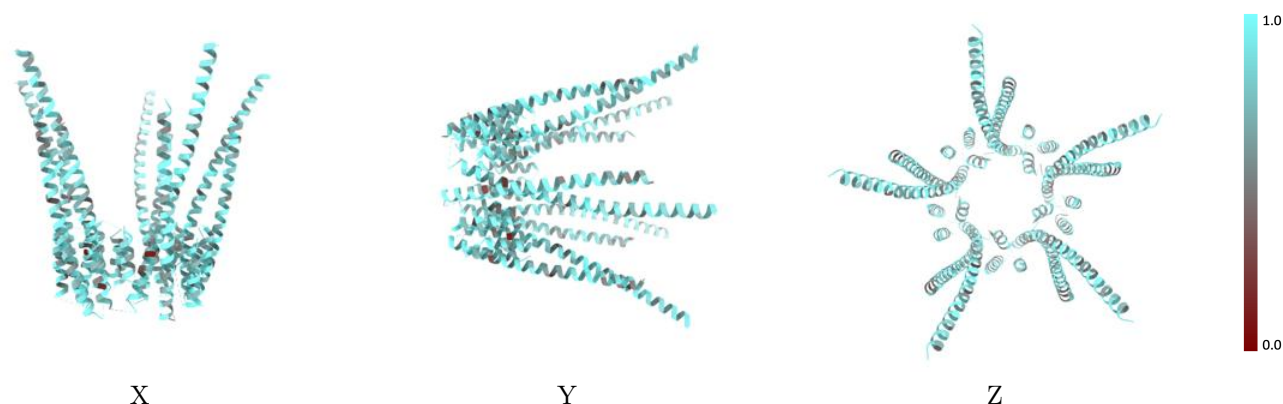
The images above show the 3D surface view of the map at the recommended contour level 0.09 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



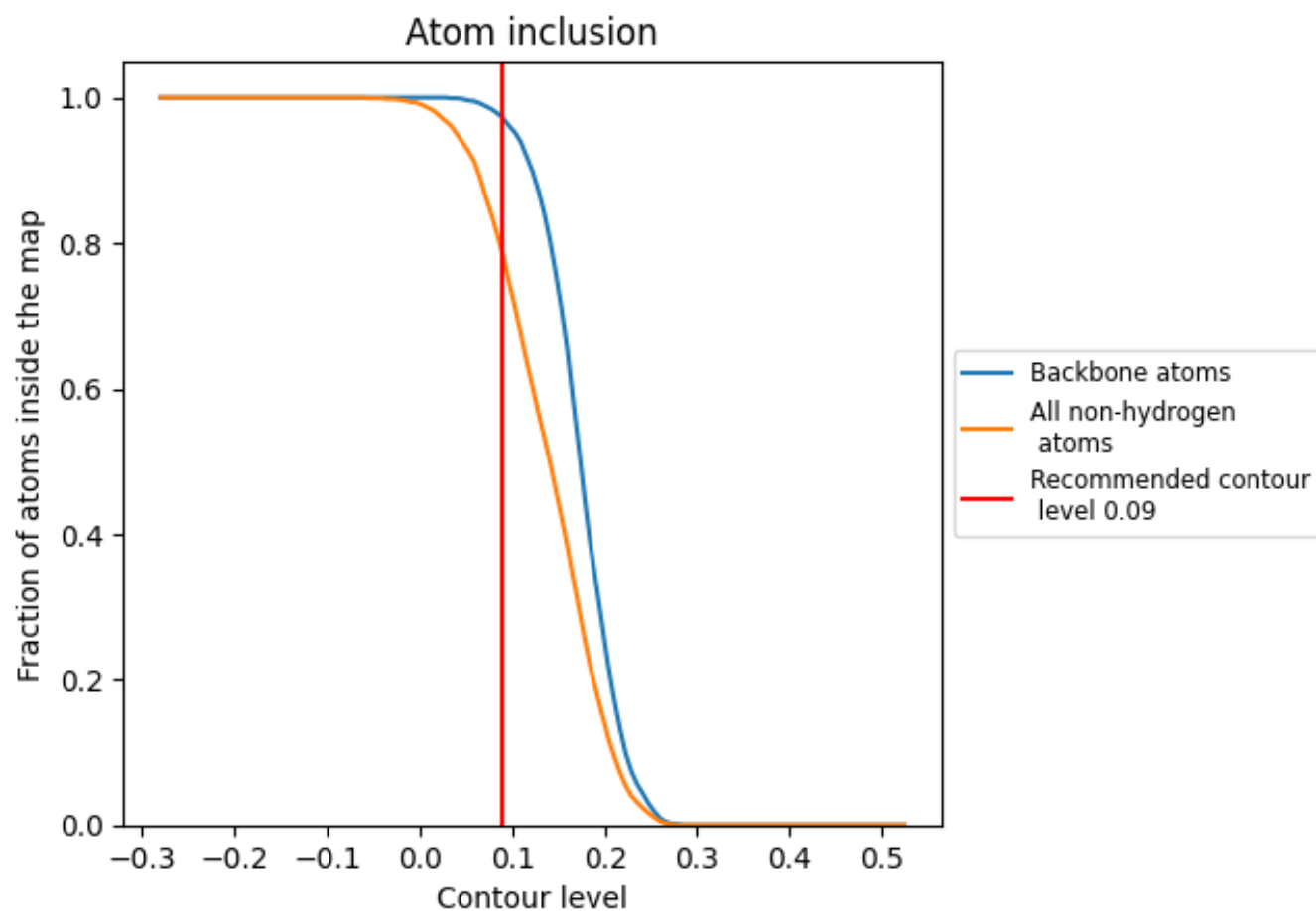
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.09).

9.4 Atom inclusion [i](#)



At the recommended contour level, 97% of all backbone atoms, 79% 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 (0.09) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7860	0.2740
M	0.7960	0.2730
N	0.7700	0.2700
O	0.7860	0.2680
P	0.7620	0.2640
Q	0.7770	0.2630
R	0.8030	0.2880
S	0.7840	0.2680
T	0.7780	0.2690
U	0.8010	0.2750
V	0.8000	0.3000

1.0

0.0

<0.0