Full wwPDB EM Validation Report ⓘ

May 11, 2026 – 07:11 pm BST

PDB ID	:	9TIG / pdb_00009tig
EMDB ID	:	EMD-55955
Title	:	Phage 812 baseplate in the pre-contraction state - lower arm (segment A)
Authors	:	Binovsky, J.; Plevka, P.
Deposited on	:	2025-12-05
Resolution	:	4.00 Å(reported)

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

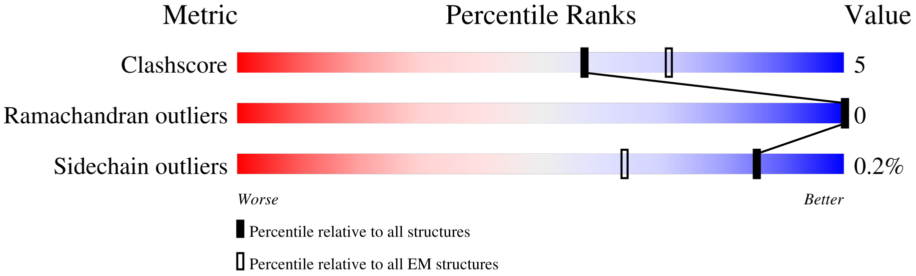
EMDB validation analysis	:	0.0.1.dev132
MolProbity	:	4-5-2 with Phenix2.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

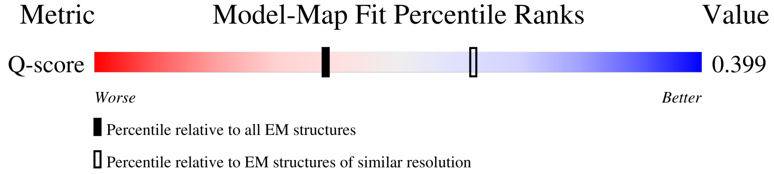
1 Overall quality at a glance (i)

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

The reported resolution of this entry is 4.00 Å.

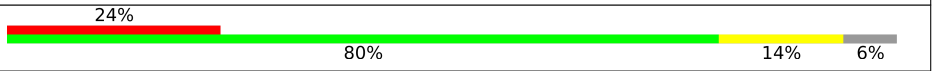
Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.





Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
Q-score	-	25397	7587 (3.50 - 4.50)

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

Mol	Chain	Length	Quality of chain
1	A	1152	
1	B	1152	
1	D	1152	
2	C	173	

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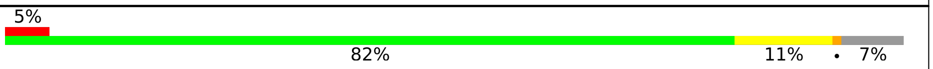
Mol	Chain	Length	Quality of chain
2	F	173	
3	H	1019	

2 Entry composition ⓘ

There are 3 unique types of molecules in this entry. The entry contains 7377 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 ORF65.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	168	1327	834	215	275	3	0	0
			Total	C	N	O	S		
1	B	168	1327	834	215	275	3	0	0
			Total	C	N	O	S		
1	D	167	1319	830	213	273	3	0	0

- Molecule 2 is a protein called ORF64.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	C	163	1277	817	208	251	1	0	0
			Total	C	N	O	S		
2	F	161	1266	809	207	249	1	0	0

- Molecule 3 is a protein called ORF63.

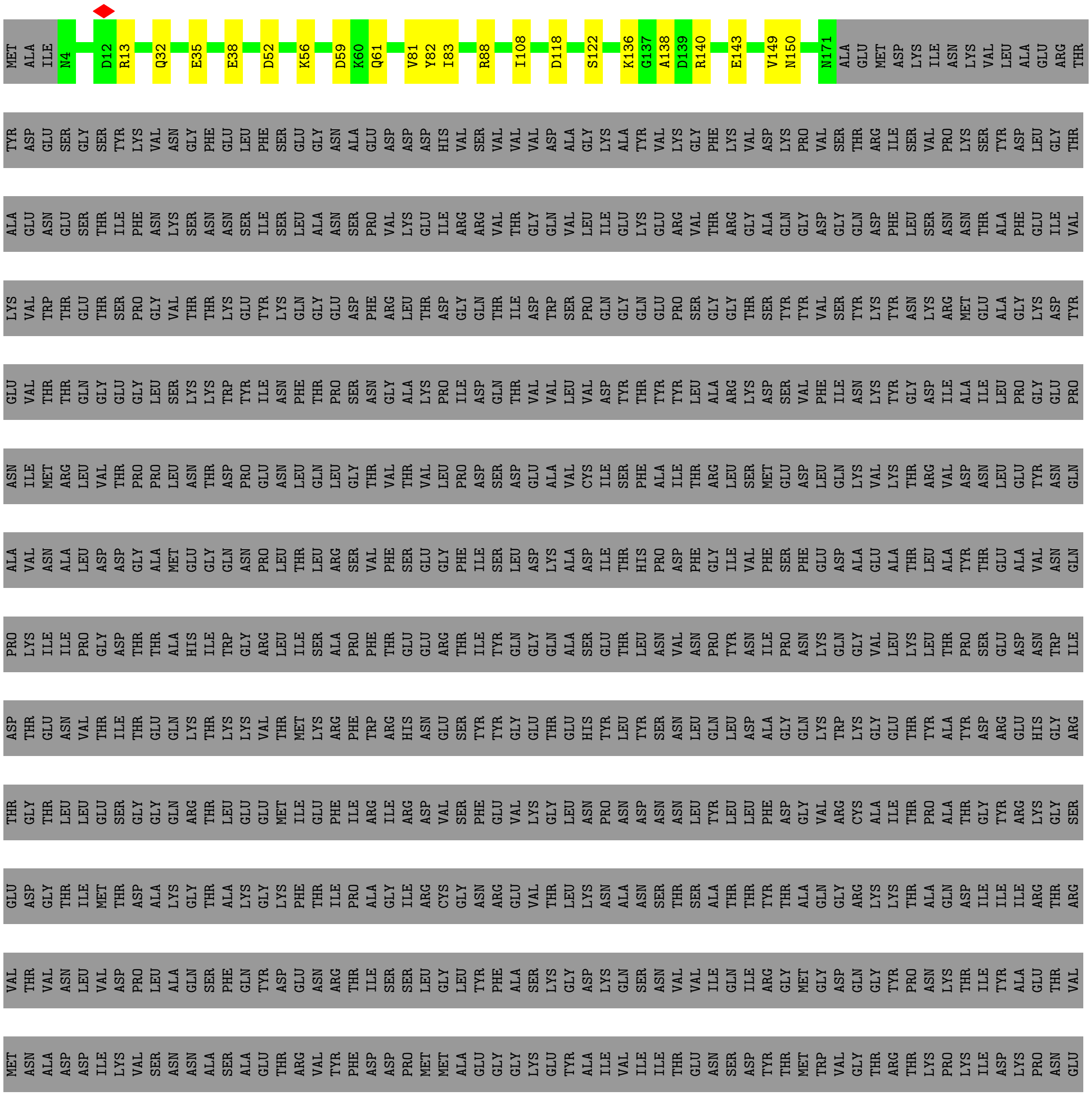
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	H	107	861	561	134	165	1	0	0

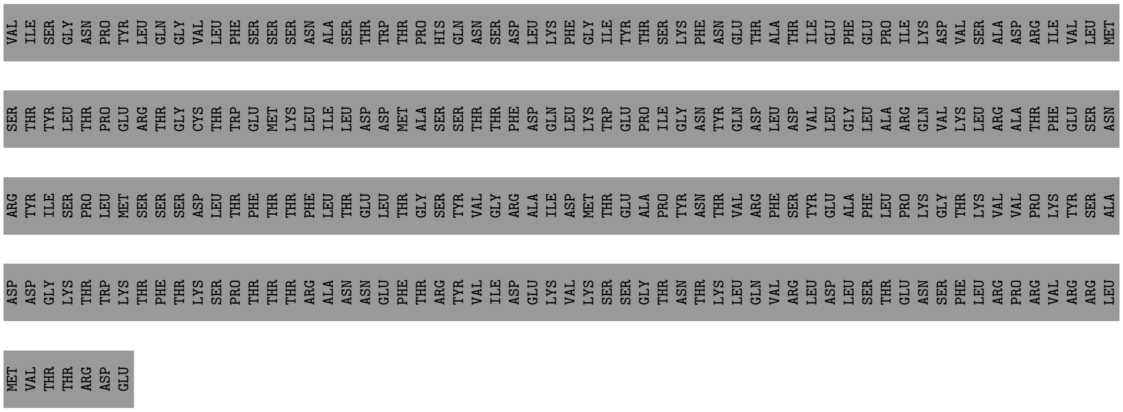
3 Residue-property plots ⓘ

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

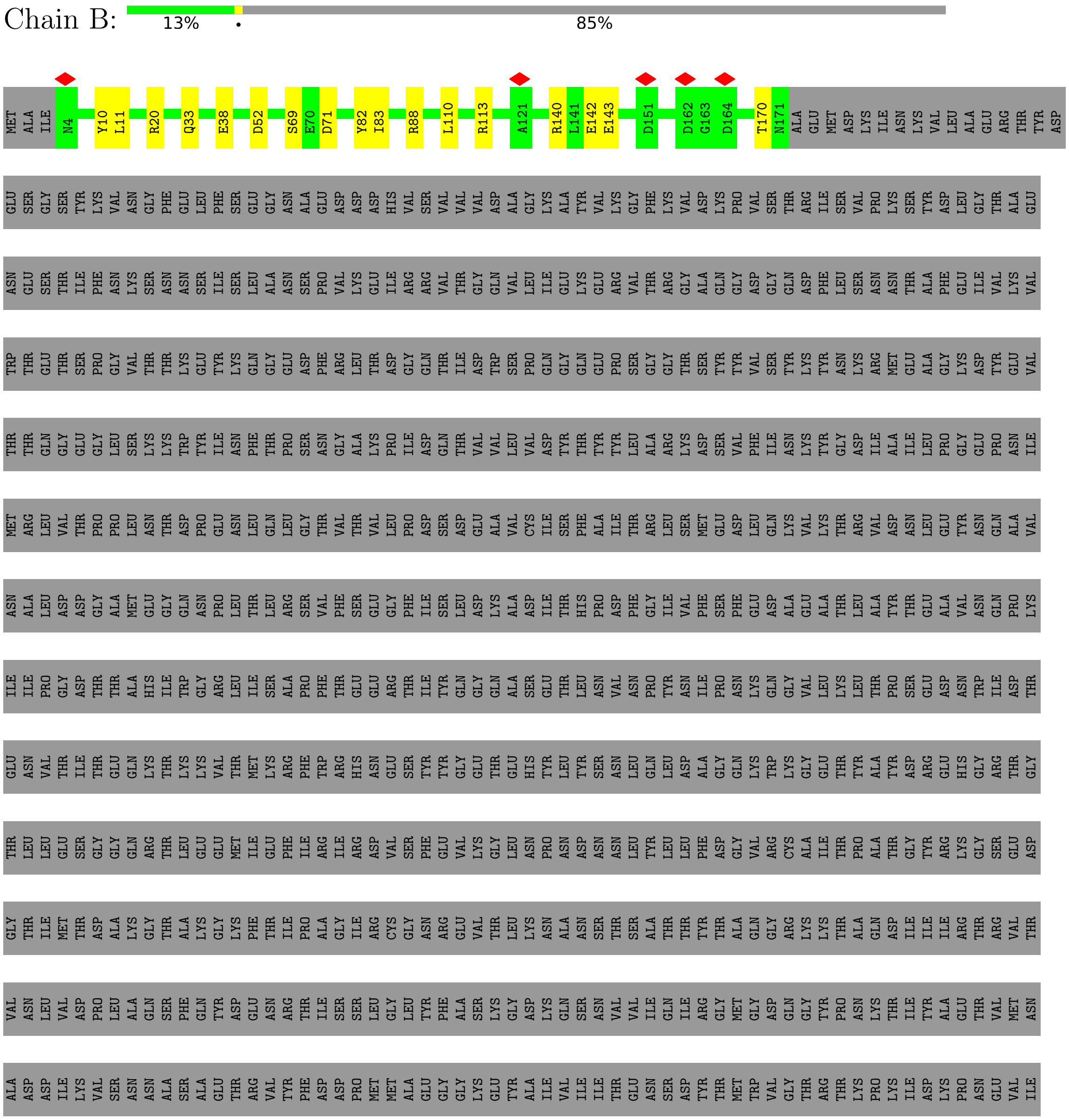
- Molecule 1: ORF65

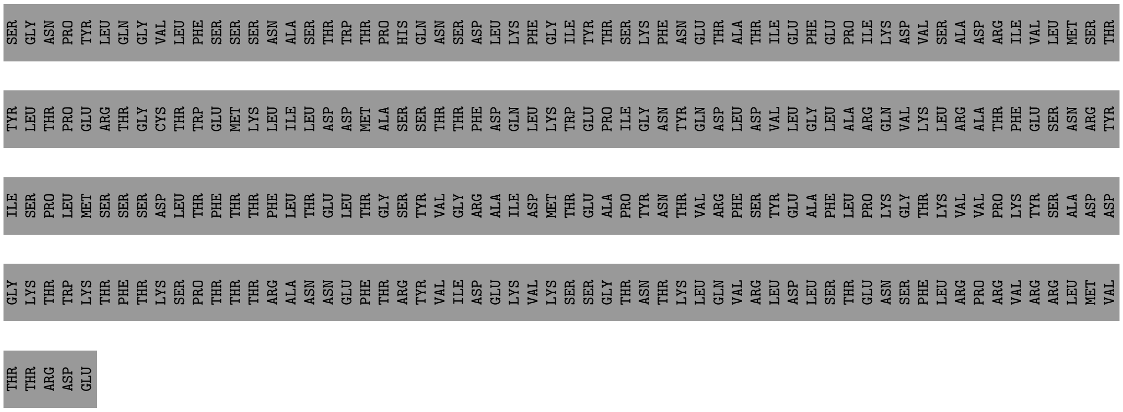
Chain A:



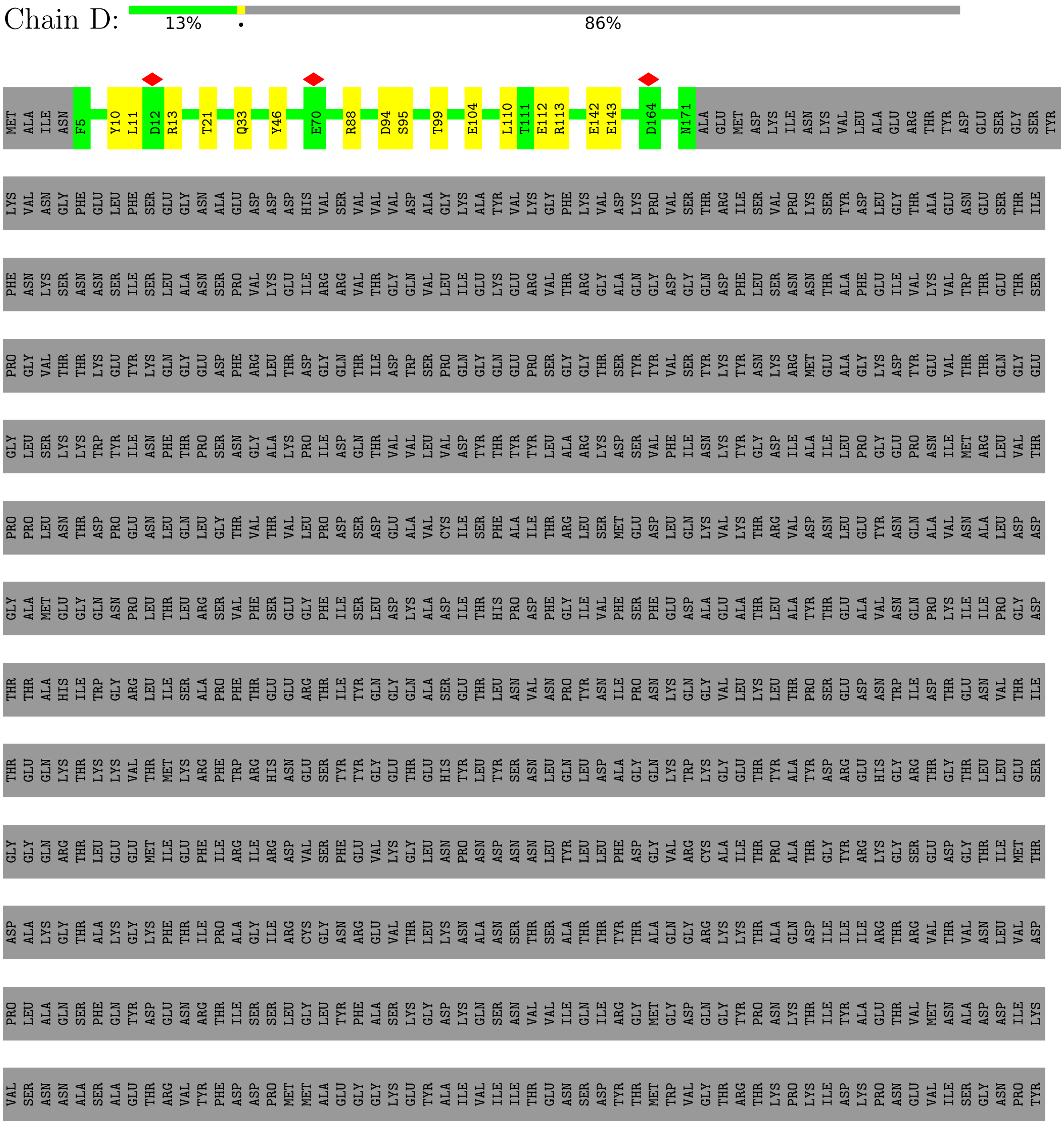


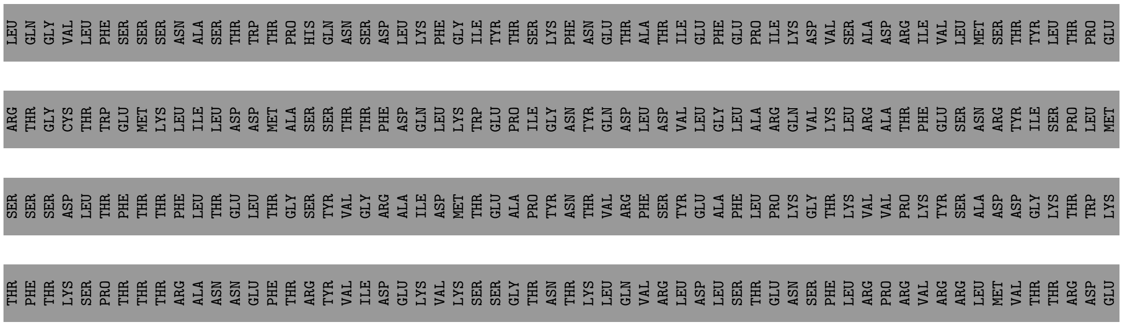
- Molecule 1: ORF65





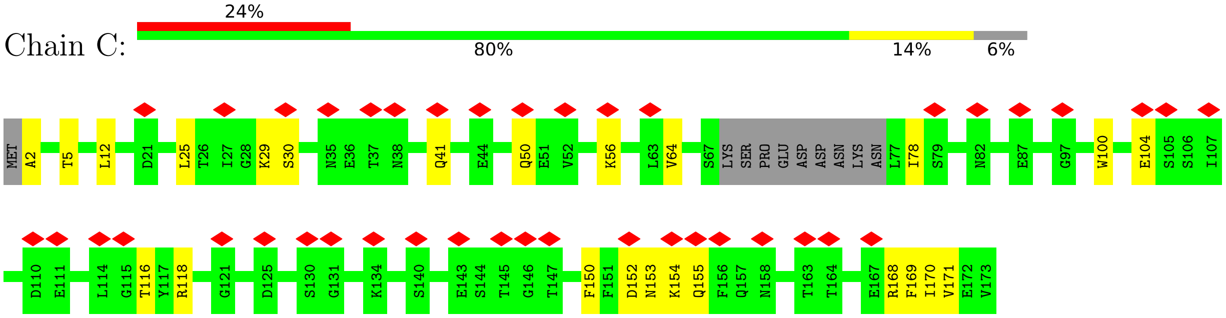
- Molecule 1: ORF65





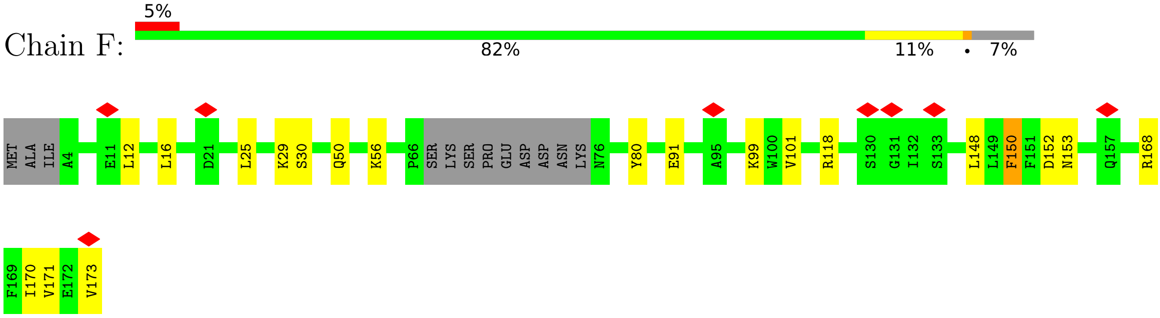
- Molecule 2: ORF64

Chain C:



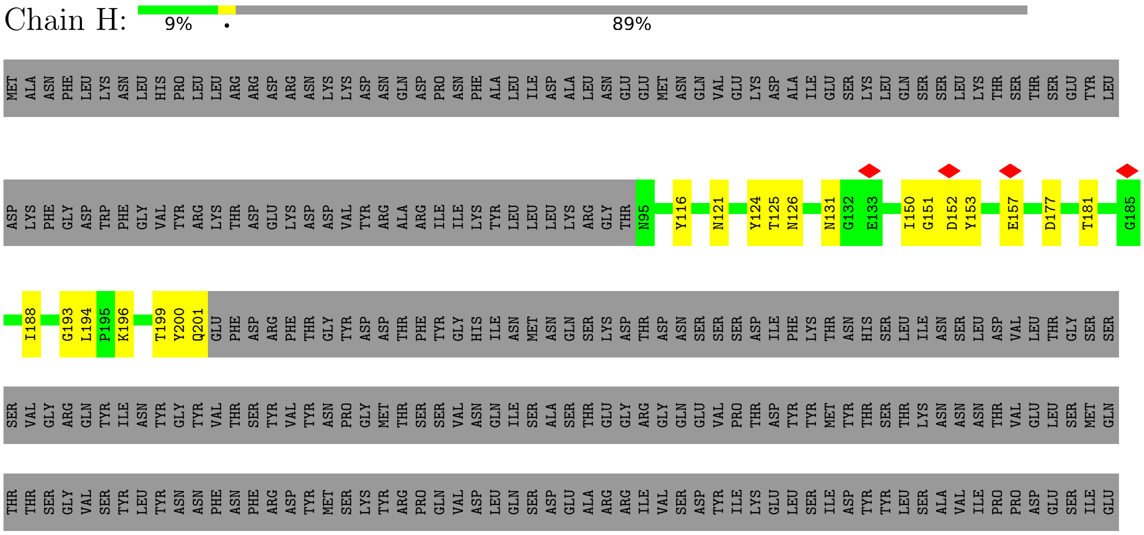
- Molecule 2: ORF64

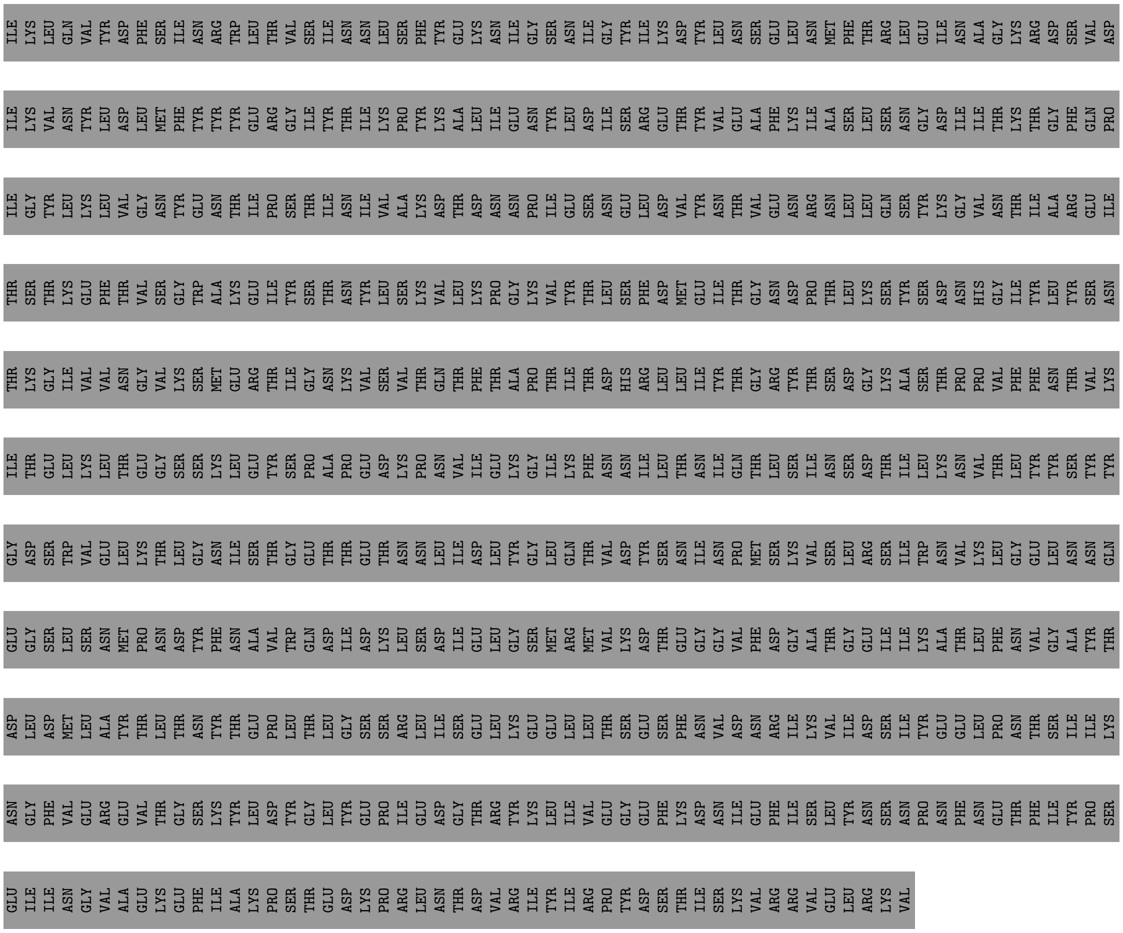
Chain F:



- Molecule 3: ORF63

Chain H:




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

4 Experimental information ⓘ

Property	**Value**	**Source**
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	19338	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose $(e^-/\text{Å}^2)$	40.8	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	105000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.209	Depositor
Minimum map value	-0.132	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.004	Depositor
Recommended contour level	0.03	Depositor
Map size (Å)	300.096, 300.096, 300.096	wwPDB
Map dimensions	180, 180, 180	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.6672001, 1.6672001, 1.6672001	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	A	0.10	0/1351	0.31	0/1829
1	B	0.11	0/1351	0.30	0/1829
1	D	0.12	0/1343	0.32	0/1818
2	C	0.10	0/1303	0.28	0/1771
2	F	0.10	0/1292	0.25	0/1756
3	H	0.11	0/883	0.27	0/1203
All	All	0.11	0/7523	0.29	0/10206

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	A	1327	0	1285	13	0
1	B	1327	0	1285	11	0
1	D	1319	0	1279	11	0
2	C	1277	0	1274	19	0
2	F	1266	0	1259	12	0
3	H	861	0	830	15	0
All	All	7377	0	7212	70	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 5.

All (70) 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:D:99:THR:OG1	1:D:104:GLU:OE2	2.03	0.75
2:F:30:SER:O	2:F:118:ARG:NH1	2.21	0.73
1:A:122:SER:O	1:D:13:ARG:NH1	2.23	0.72
2:F:168:ARG:NH2	3:H:177:ASP:OD2	2.24	0.70
1:B:83:ILE:O	1:B:88:ARG:NH1	2.27	0.68
3:H:116:TYR:OH	3:H:121:ASN:OD1	2.06	0.64
1:D:112:GLU:N	1:D:112:GLU:OE1	2.32	0.62
1:B:33:GLN:OE1	1:B:33:GLN:N	2.31	0.62
3:H:157:GLU:N	3:H:157:GLU:OE1	2.33	0.61
2:C:104:GLU:OE1	2:C:168:ARG:NH2	2.33	0.61
2:C:30:SER:O	2:C:118:ARG:NH1	2.33	0.60
1:B:69:SER:OG	1:B:71:ASP:OD1	2.10	0.59
1:A:35:GLU:OE1	1:B:140:ARG:NH1	2.35	0.59
3:H:151:GLY:O	3:H:181:THR:OG1	2.19	0.59
1:D:33:GLN:N	1:D:33:GLN:OE1	2.34	0.59
2:C:155:GLN:OE1	2:C:155:GLN:N	2.37	0.58
2:F:25:LEU:N	2:F:56:LYS:O	2.34	0.58
1:D:88:ARG:NH1	1:D:143:GLU:OE1	2.36	0.57
2:F:152:ASP:OD1	2:F:153:ASN:N	2.38	0.57
1:A:52:ASP:OD1	1:A:82:TYR:OH	2.22	0.56
2:F:29:LYS:N	2:F:50:GLN:O	2.36	0.56
2:F:91:GLU:OE1	2:F:91:GLU:N	2.38	0.56
1:A:83:ILE:O	1:A:88:ARG:NH1	2.40	0.55
1:A:118:ASP:OD1	1:A:136:LYS:NZ	2.40	0.55
1:A:88:ARG:NH2	1:A:143:GLU:OE1	2.39	0.54
2:C:152:ASP:OD1	2:C:153:ASN:N	2.40	0.54
2:C:64:VAL:N	2:C:100:TRP:O	2.39	0.53
3:H:150:ILE:HG22	3:H:152:ASP:H	1.73	0.53
3:H:152:ASP:OD1	3:H:153:TYR:N	2.42	0.52
2:C:5:THR:OG1	2:F:148:LEU:O	2.23	0.52
2:C:41:GLN:OE1	2:C:41:GLN:N	2.38	0.51
1:D:21:THR:HG22	1:D:46:TYR:OH	2.10	0.51
2:C:25:LEU:N	2:C:56:LYS:O	2.43	0.51
2:C:116:THR:OG1	2:C:118:ARG:NH1	2.42	0.51
2:F:99:LYS:O	2:F:173:VAL:N	2.44	0.51
1:D:94:ASP:OD1	1:D:95:SER:N	2.46	0.49
1:D:113:ARG:NH1	1:D:142:GLU:OE1	2.45	0.49
2:C:2:ALA:HB3	3:H:188:ILE:HD13	1.96	0.48
2:C:169:PHE:C	2:C:170:ILE:HD12	2.40	0.47
1:D:33:GLN:OE1	3:H:131:ASN:ND2	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:56:LYS:N	1:A:59:ASP:OD2	2.43	0.47
1:A:61:GLN:N	1:A:61:GLN:OE1	2.48	0.46
2:C:154:LYS:NZ	3:H:199:THR:OG1	2.43	0.46
2:C:170:ILE:HD13	3:H:200:TYR:HE2	1.80	0.46
1:A:38:GLU:OE1	1:B:140:ARG:NH1	2.49	0.46
1:B:20:ARG:NH1	1:B:38:GLU:OE2	2.48	0.45
1:A:138:ALA:O	1:A:140:ARG:NH1	2.49	0.45
1:B:52:ASP:OD1	1:B:82:TYR:OH	2.28	0.45
2:F:150:PHE:CE2	2:F:171:VAL:HG21	2.52	0.45
1:A:13:ARG:NH2	1:A:32:GLN:OE1	2.46	0.45
1:A:149:VAL:HG12	1:A:150:ASN:ND2	2.32	0.45
2:C:78:ILE:HD12	2:C:78:ILE:N	2.32	0.45
2:C:150:PHE:CE2	2:C:171:VAL:HG11	2.52	0.44
2:F:16:LEU:HD12	2:F:101:VAL:HG21	2.00	0.44
1:B:170:THR:O	1:B:170:THR:HG22	2.18	0.44
1:B:10:TYR:O	1:B:11:LEU:C	2.61	0.43
2:C:169:PHE:CG	3:H:199:THR:HG22	2.53	0.43
1:B:113:ARG:NH2	1:B:142:GLU:OE1	2.52	0.43
2:C:12:LEU:O	2:C:12:LEU:HD23	2.18	0.43
2:C:29:LYS:N	2:C:50:GLN:O	2.47	0.43
3:H:125:THR:OG1	3:H:126:ASN:N	2.52	0.43
1:D:10:TYR:O	1:D:11:LEU:C	2.61	0.42
3:H:201:GLN:N	3:H:201:GLN:OE1	2.52	0.42
2:F:80:TYR:CD2	2:F:170:ILE:HD12	2.55	0.41
1:A:81:VAL:HG21	1:A:108:ILE:HD12	2.03	0.41
2:C:12:LEU:HD21	2:F:12:LEU:HD22	2.02	0.41
3:H:193:GLY:O	3:H:194:LEU:C	2.64	0.41
3:H:124:TYR:O	3:H:125:THR:OG1	2.39	0.41
1:D:110:LEU:C	1:D:110:LEU:HD23	2.46	0.41
1:B:110:LEU:HD11	1:B:143:GLU:HB3	2.04	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	166/1152 (14%)	164 (99%)	2 (1%)	0	100	100
1	B	166/1152 (14%)	162 (98%)	4 (2%)	0	100	100
1	D	165/1152 (14%)	162 (98%)	3 (2%)	0	100	100
2	C	159/173 (92%)	156 (98%)	3 (2%)	0	100	100
2	F	157/173 (91%)	155 (99%)	2 (1%)	0	100	100
3	H	105/1019 (10%)	101 (96%)	4 (4%)	0	100	100
All	All	918/4821 (19%)	900 (98%)	18 (2%)	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	A	150/1010 (15%)	150 (100%)	0	100	100
1	B	150/1010 (15%)	150 (100%)	0	100	100
1	D	149/1010 (15%)	149 (100%)	0	100	100
2	C	143/153 (94%)	143 (100%)	0	100	100
2	F	142/153 (93%)	141 (99%)	1 (1%)	76	79
3	H	92/928 (10%)	91 (99%)	1 (1%)	65	74
All	All	826/4264 (19%)	824 (100%)	2 (0%)	85	87

All (2) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	F	150	PHE
3	H	196	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (8) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	77	ASN
1	A	150	ASN
1	A	168	GLN
1	B	32	GLN
2	F	45	ASN
2	F	76	ASN
3	H	126	ASN
3	H	163	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

There are no ligands in this entry.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

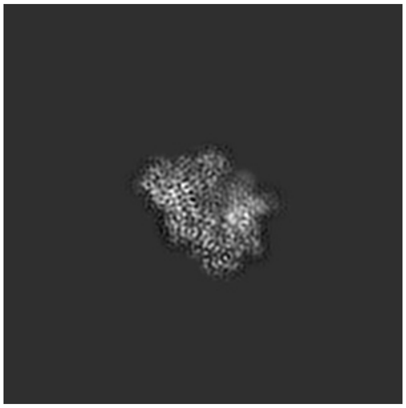
6 Map visualisation

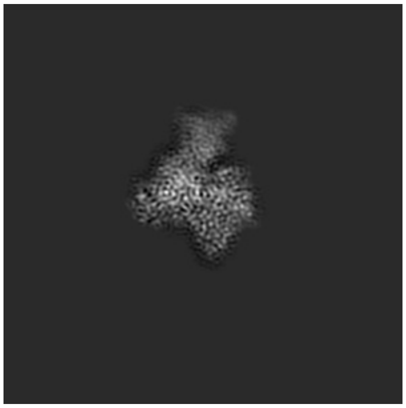
This section contains visualisations of the EMDB entry EMD-55955. These allow visual inspection of the internal detail of the map and identification of artifacts.

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

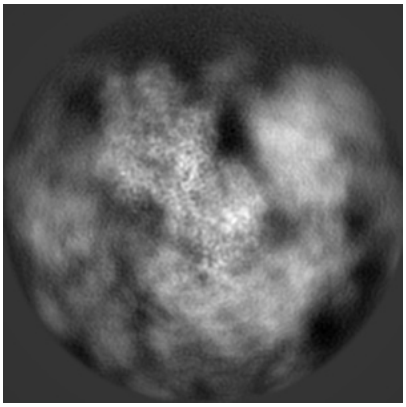
6.1.1 Primary map

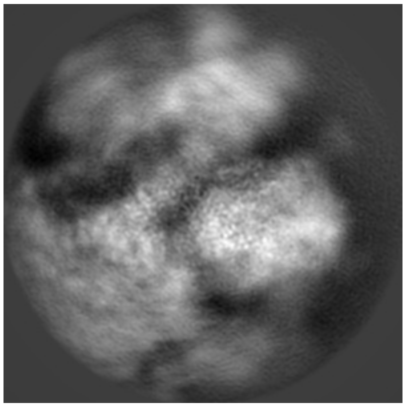

X

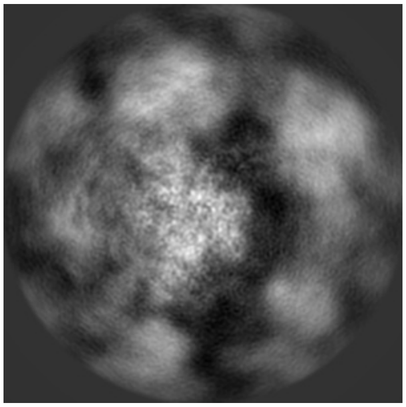

Y


Z

6.1.2 Raw map


X


Y


Z

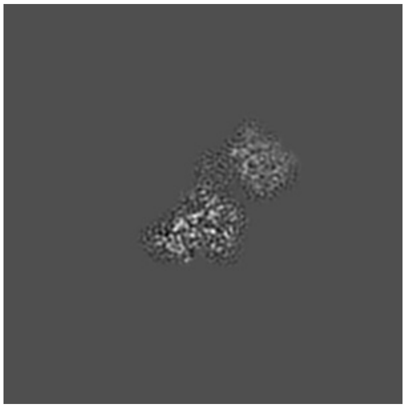
The images above show the map projected in three orthogonal directions.

6.2 Central slices ⓘ

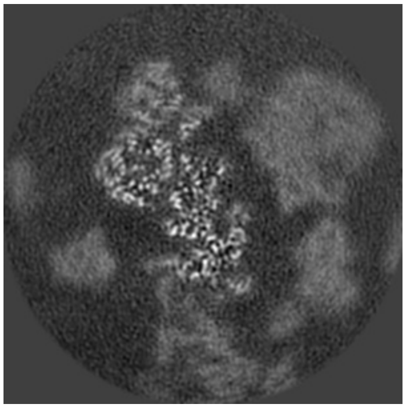
6.2.1 Primary map

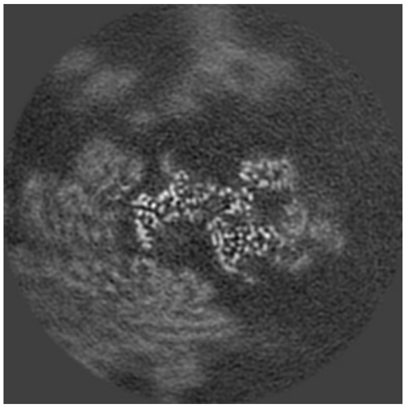

X Index: 90

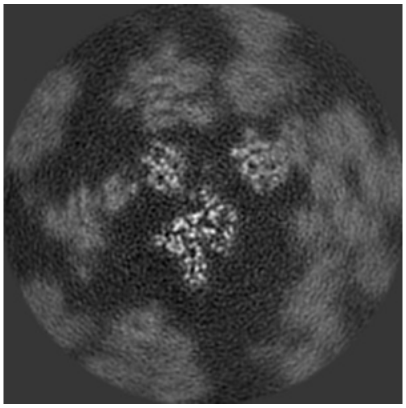

Y Index: 90


Z Index: 90

6.2.2 Raw map


X Index: 90


Y Index: 90

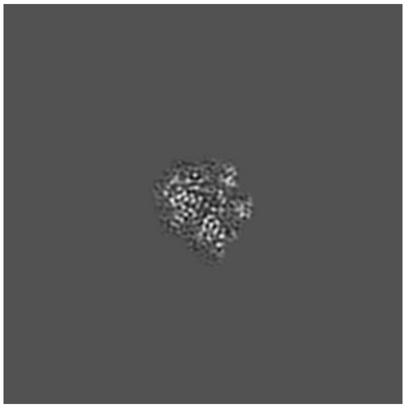

Z Index: 90

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

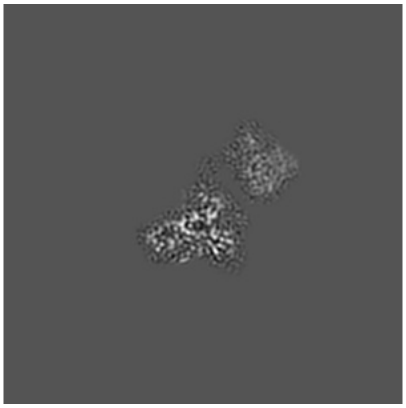
6.3 Largest variance slices

6.3.1 Primary map

X Index: 92

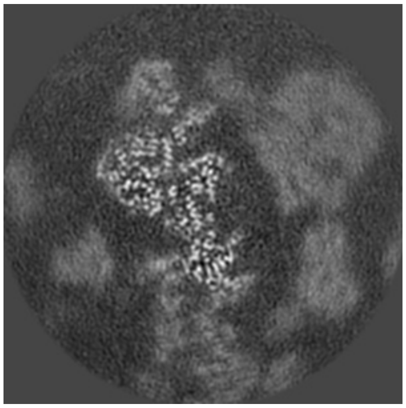


Y Index: 80

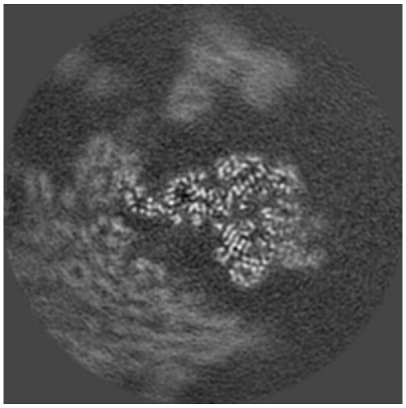


Z Index: 93

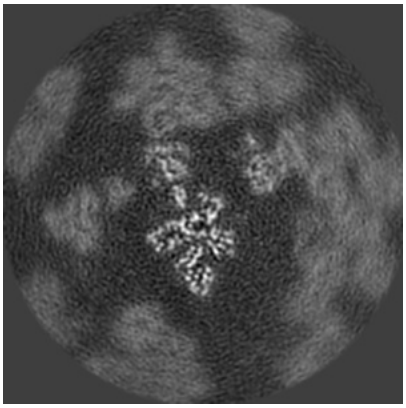
6.3.2 Raw map



X Index: 88



Y Index: 85

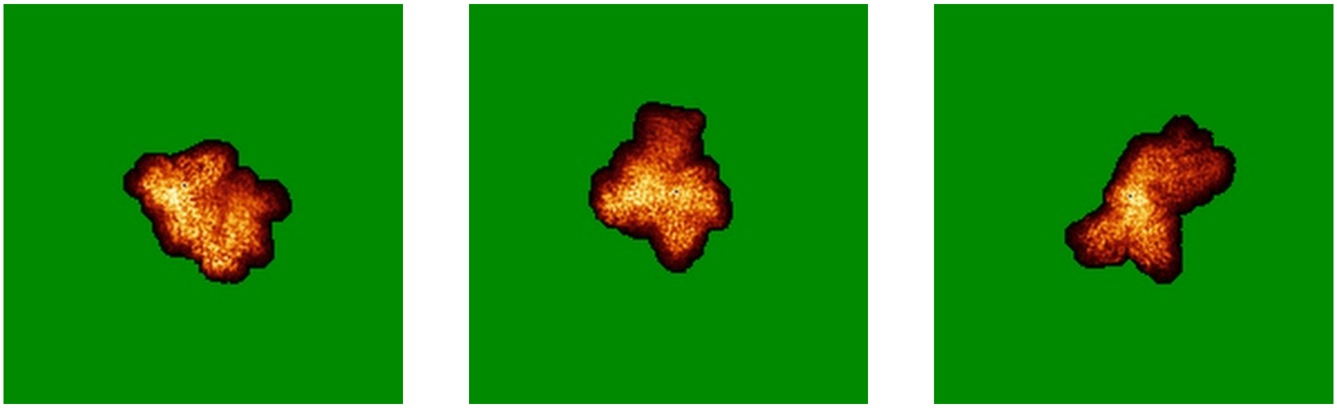


Z Index: 93

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

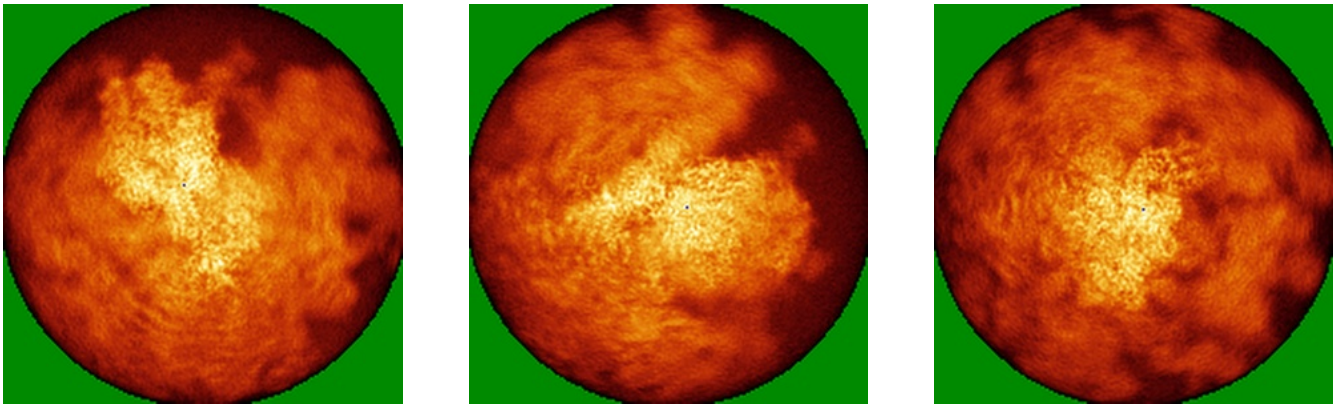
6.4 Orthogonal standard-deviation projections (False-color)

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 ⓘ

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.03. 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

X Y Z

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.

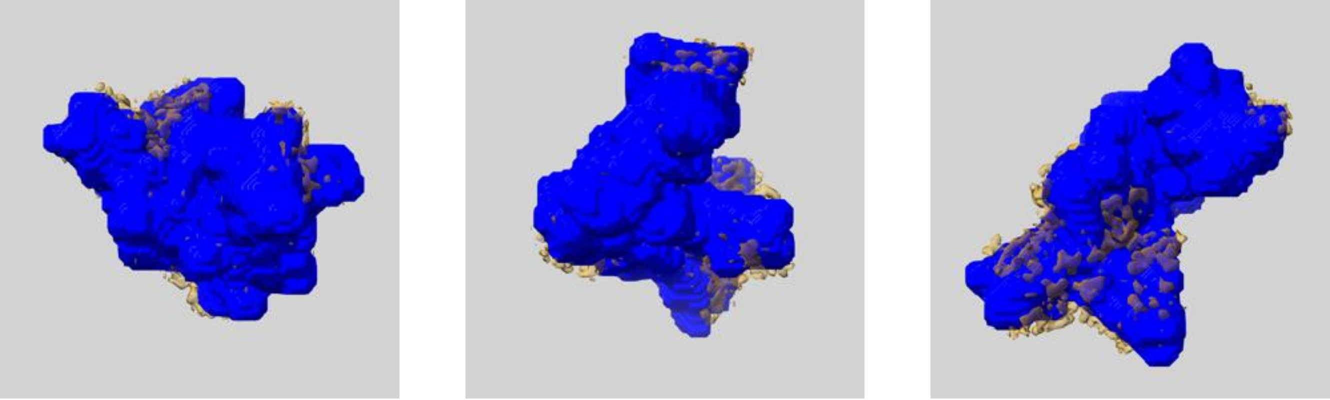
6.6 Mask visualisation ⓘ

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_55955_msk_1.map ⓘ

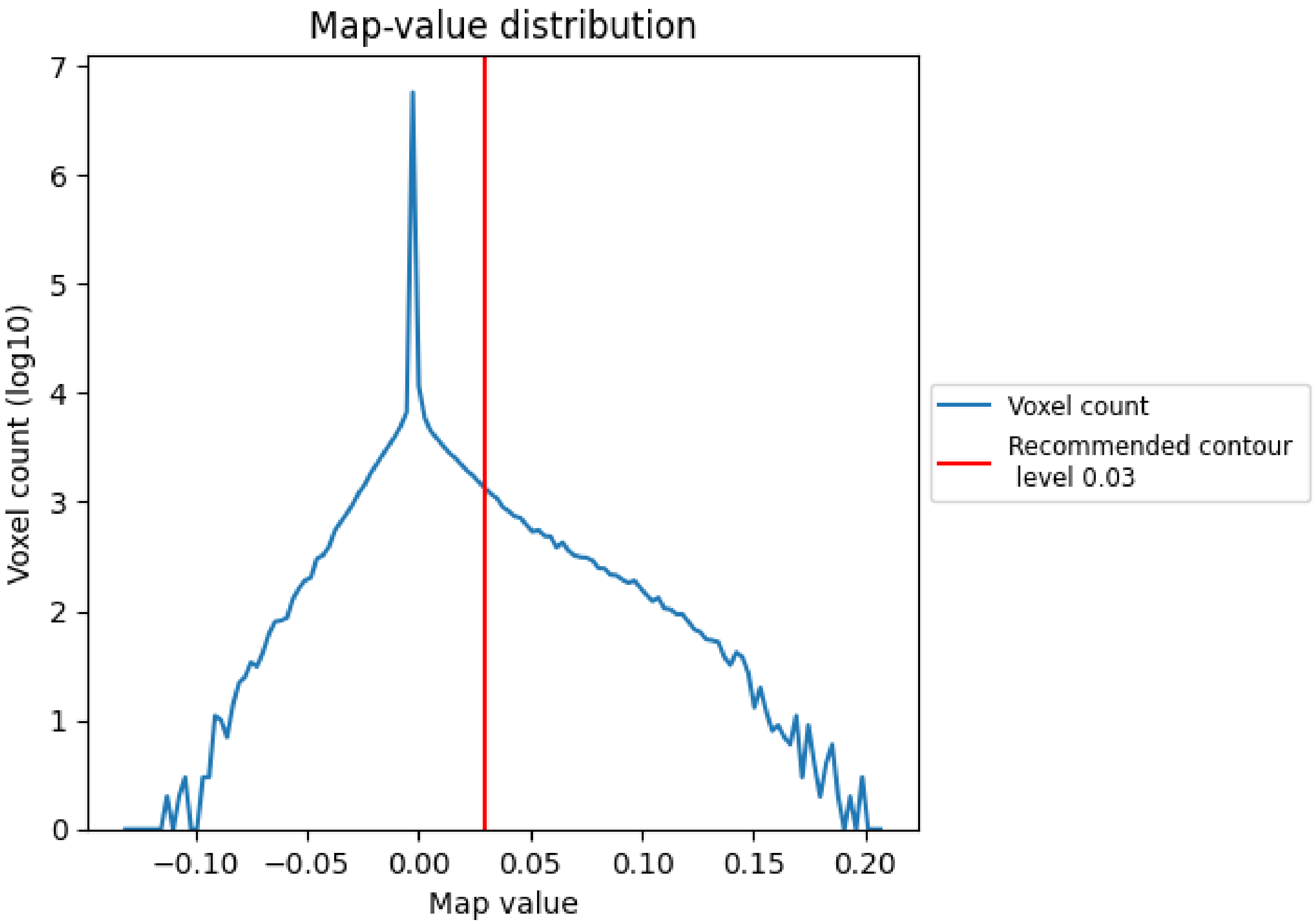


X Y Z

7 Map analysis ⓘ

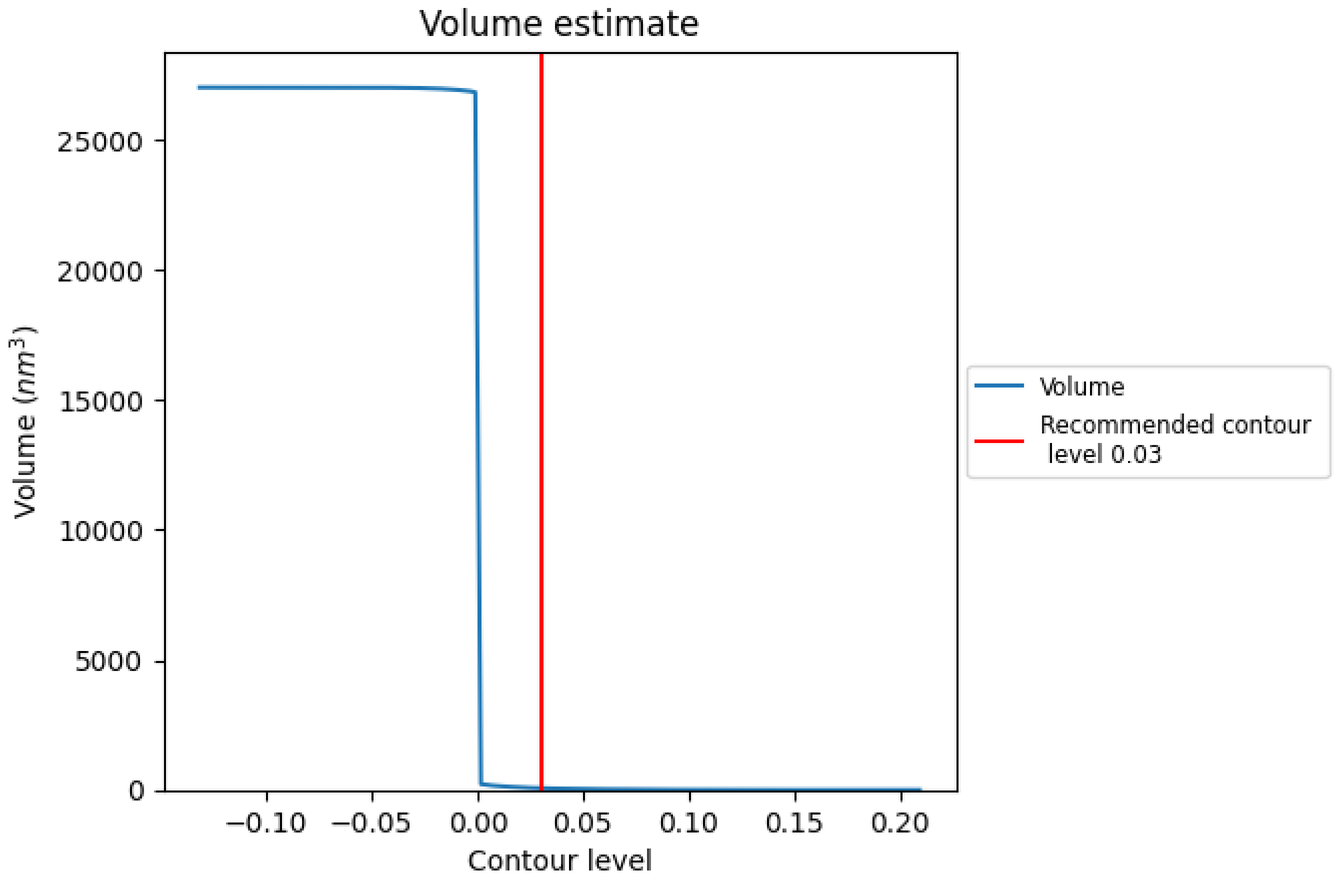
This section contains the results of statistical analysis of the map.

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.

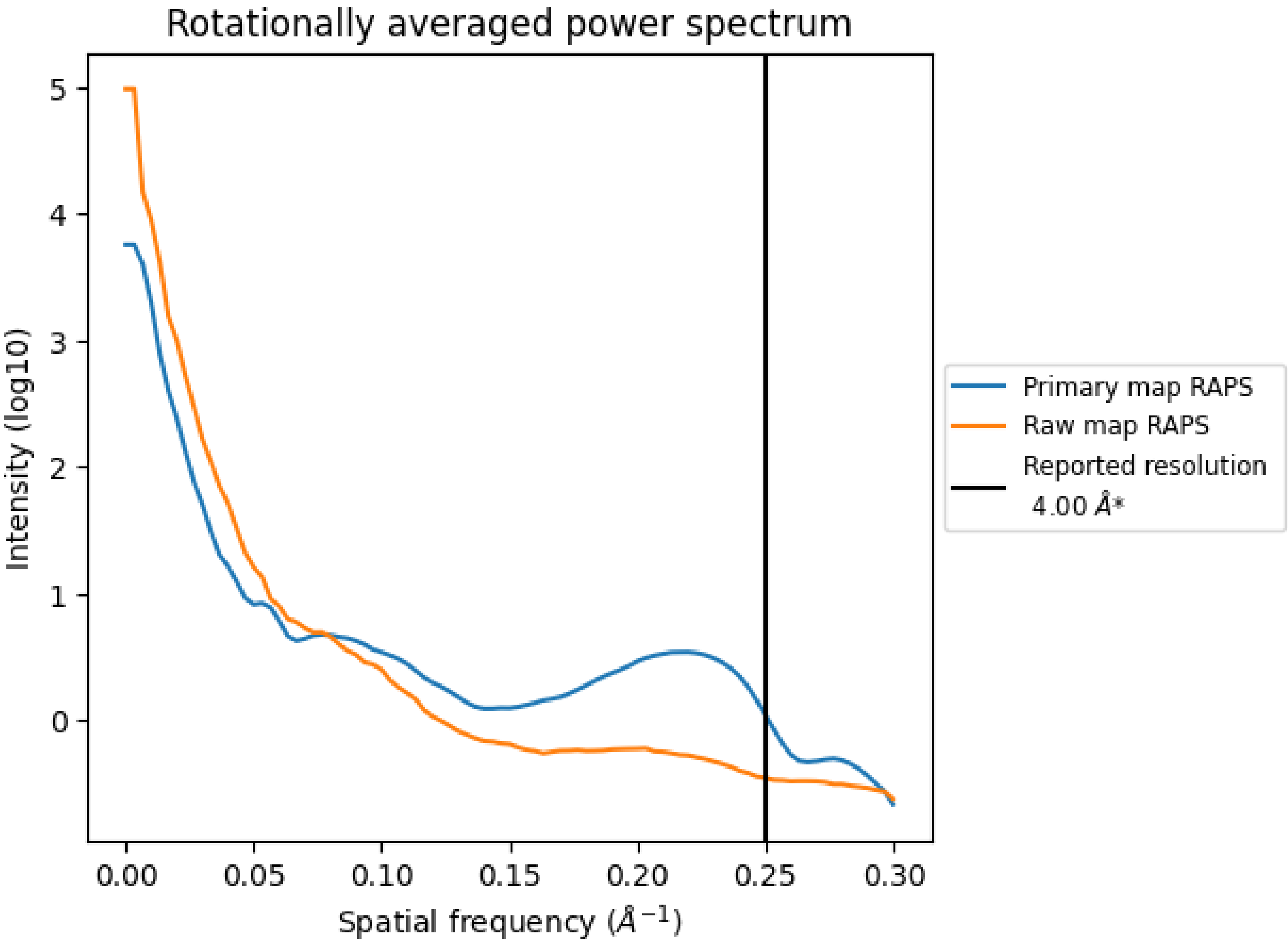
7.2 Volume estimate ⓘ



The volume at the recommended contour level is 69 nm^3; this corresponds to an approximate mass of 62 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 ⓘ

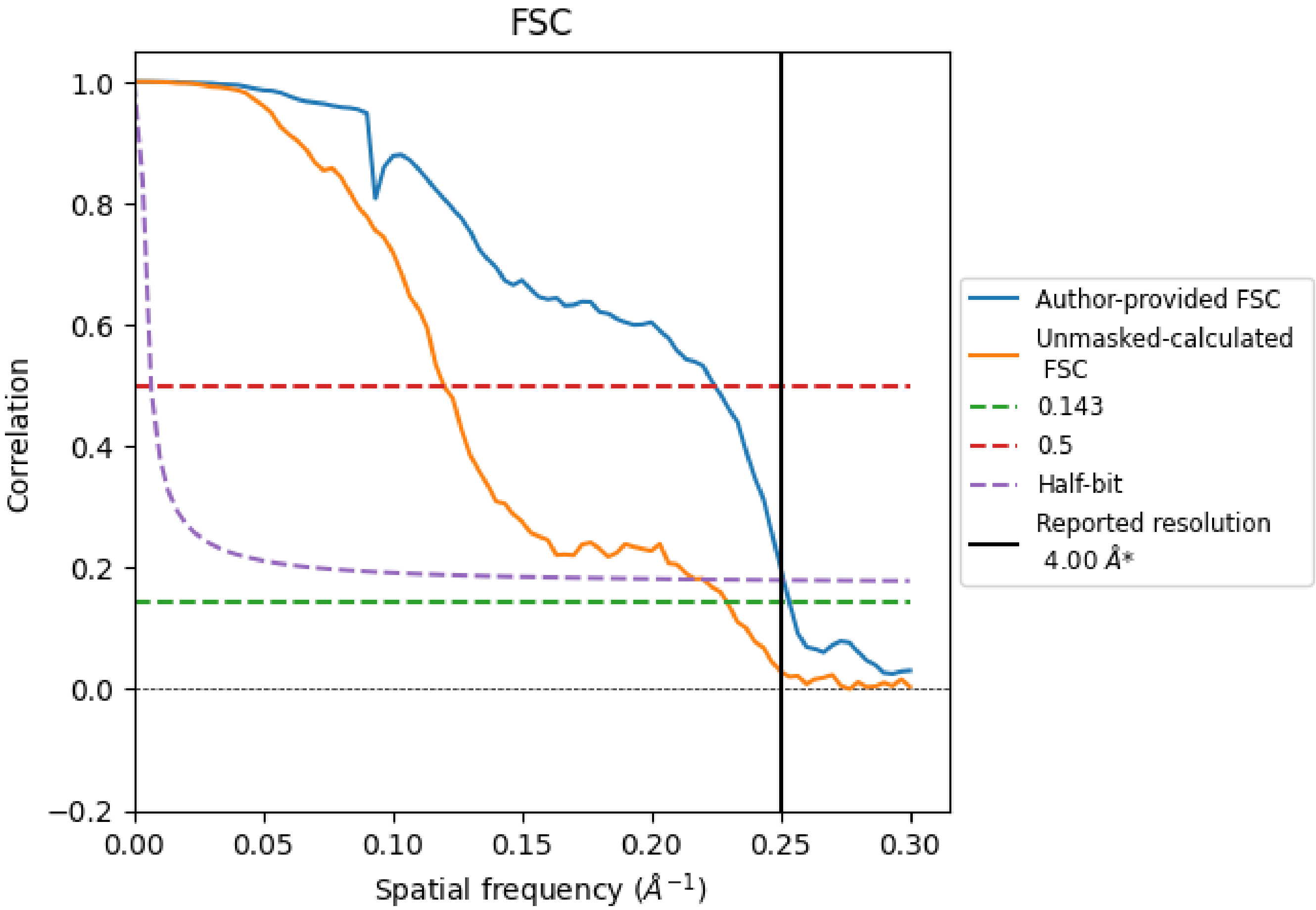


*Reported resolution corresponds to spatial frequency of 0.250 Å^{-1}

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 0.250 $Å^{-1}$

8.2 Resolution estimates ⓘ

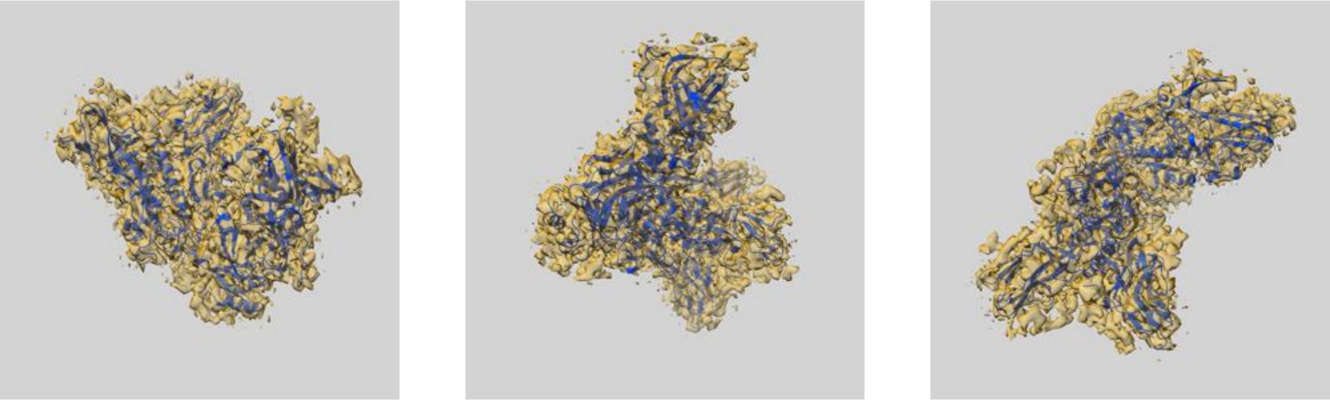
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.00	-	-
Author-provided FSC curve	3.95	4.46	3.98
Unmasked-calculated*	4.36	8.35	4.54

*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-55955 and PDB model 9TIG. Per-residue inclusion information can be found in section 3 on page 5.

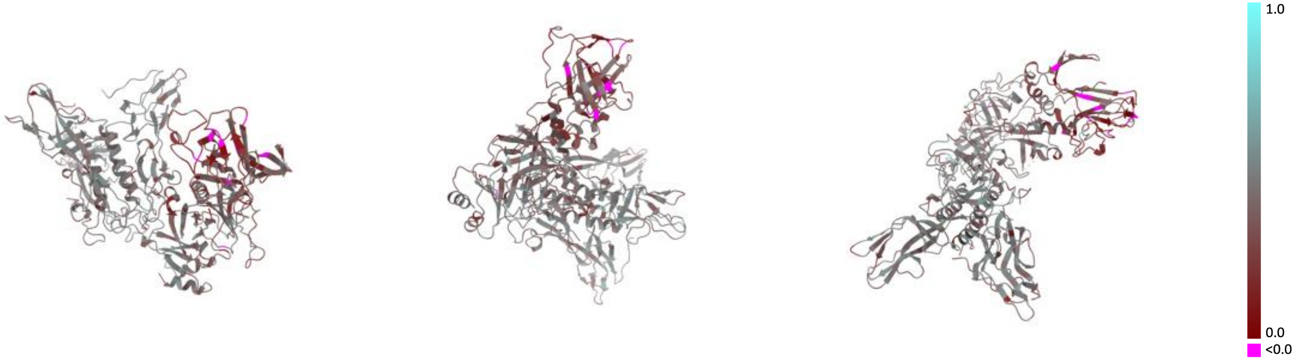
9.1 Map-model overlay



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.03 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.

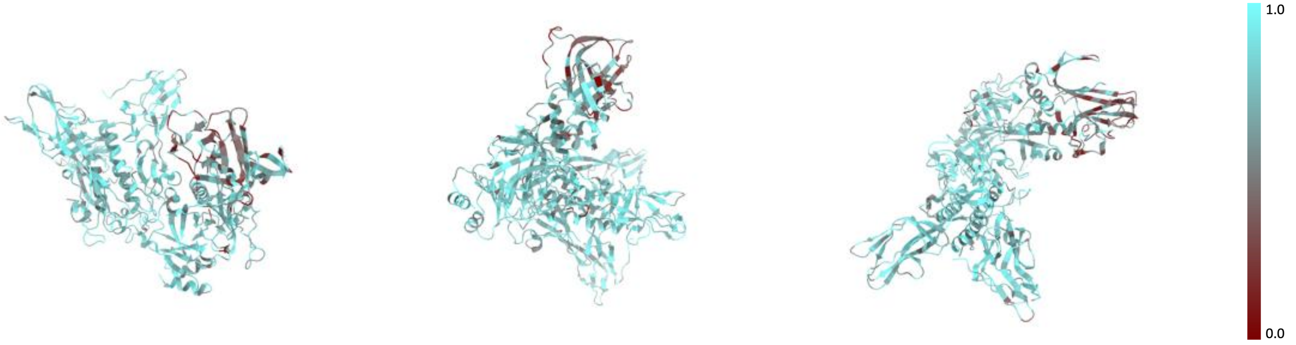
9.2 Q-score mapped to coordinate model ⓘ



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.

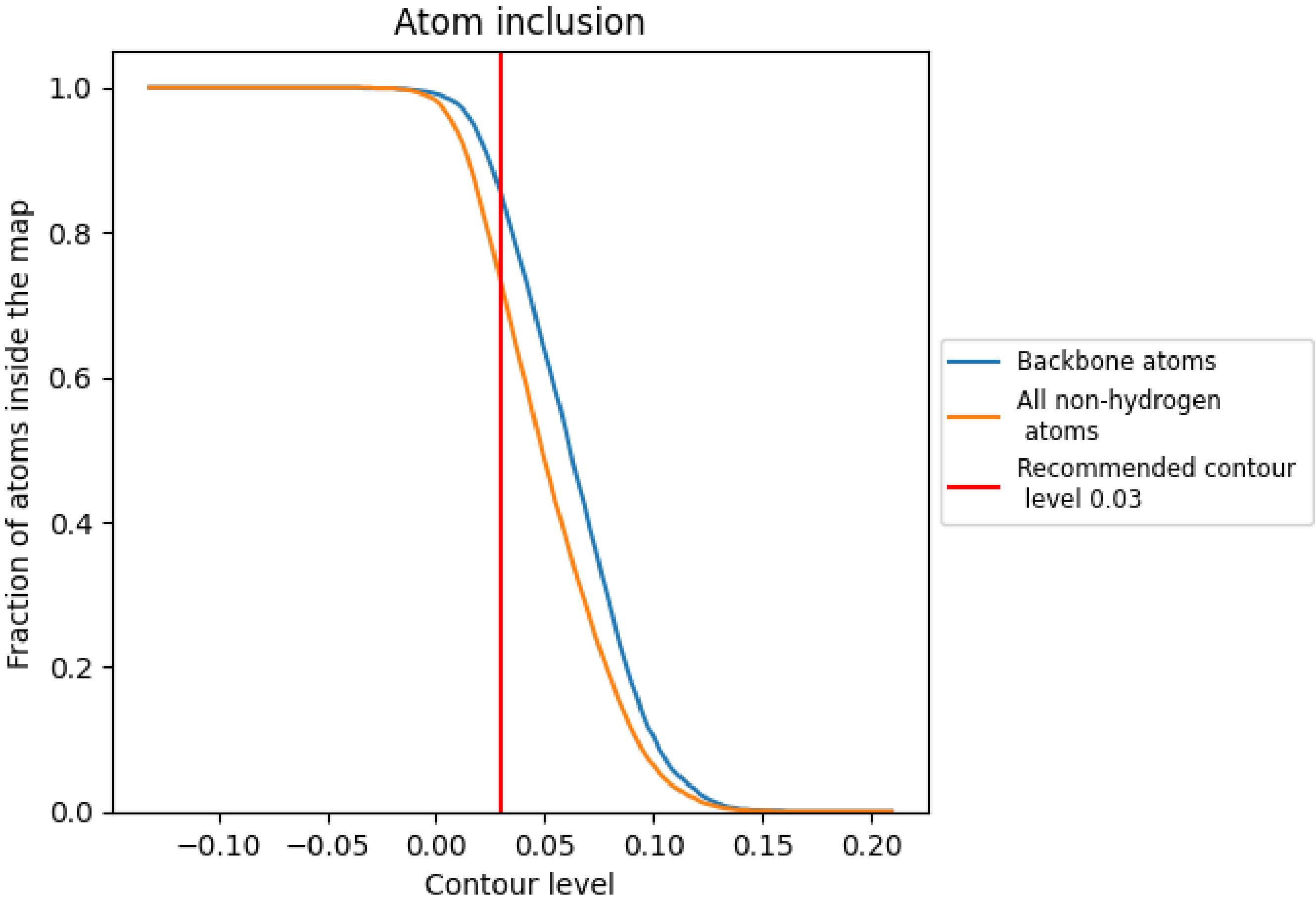
9.3 Atom inclusion mapped to coordinate model ⓘ



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 (0.03).

9.4 Atom inclusion ⓘ



At the recommended contour level, 85% of all backbone atoms, 73% 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 (0.03) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	▬ 0.7310	▬ 0.3990
A	▬ 0.8010	▬ 0.4470
B	▬ 0.7570	▬ 0.4340
C	▬ 0.5470	▬ 0.2640
D	▬ 0.7780	▬ 0.4370
F	▬ 0.7300	▬ 0.3900
H	▬ 0.7820	▬ 0.4240