Full wwPDB EM Validation Report ⓘ

May 11, 2026 – 10:25 PM EDT

PDB ID	:	11DR / pdb_000011dr
EMDB ID	:	EMD-75638
Title	:	Human Brain RNA Vault Shoulder bound to ADPR, focused refinement (EMPIAR-10766)
Authors	:	Osinski, A.; Tagliabracci, V.S.
Deposited on	:	2026-02-18
Resolution	:	2.62 Å(reported)

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

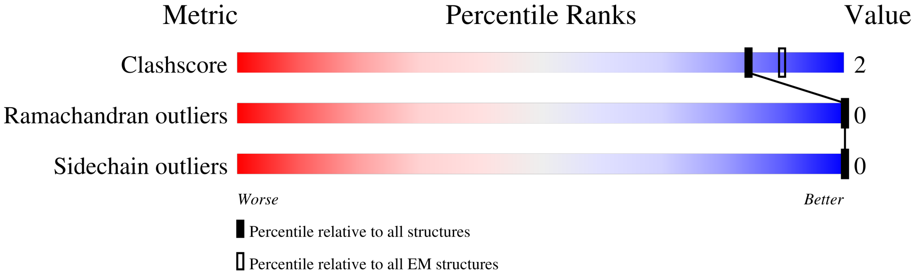
EMDB validation analysis	:	0.0.1.dev132
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data 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

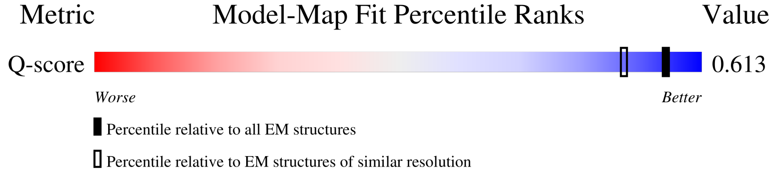
1 Overall quality at a glance ⓘ

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

The reported resolution of this entry is 2.62 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	8810 (2.12 - 3.12)

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	893	
1	B	893	
1	C	893	

2 Entry composition (i)

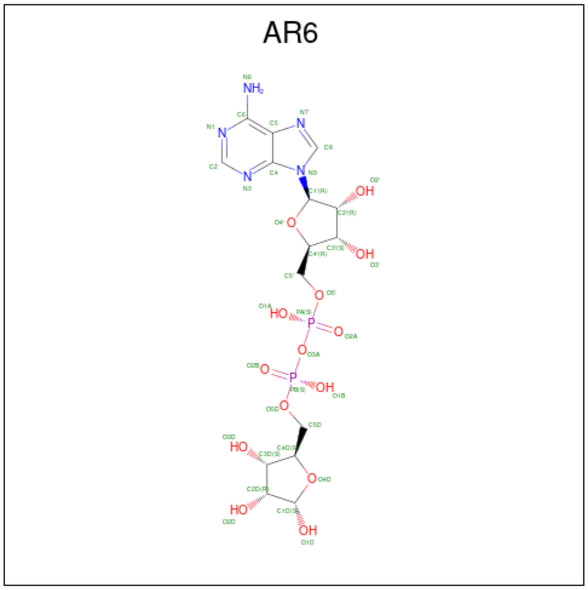
There are 2 unique types of molecules in this entry. The entry contains 12176 atoms, of which 6053 are hydrogens and 0 are deuteriums.

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 vault protein.

Mol	Chain	Residues	Atoms						AltConf	Trace
1	A	254	Total	C	H	N	O	S	0	0
			4003	1260	1998	366	376	3		
1	B	254	Total	C	H	N	O	S	0	0
			4001	1260	1996	366	376	3		
1	C	254	Total	C	H	N	O	S	0	0
			4001	1260	1996	366	376	3		

- Molecule 2 is [(2R,3S,4R,5R)-5-(6-AMINOPURIN-9-YL)-3,4-DIHYDROXY-OXOLAN-2-YL]METHYL[HYDROXY-[[(2R,3S,4R,5S)-3,4,5-TRIHYDROXYOXOLAN-2-YL]METHOXY]PHOSPHORYL] HYDROGEN PHOSPHATE (CCD ID: AR6) (formula: $C_{15}H_{23}N_5O_{14}P_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms						AltConf
2	A	1	Total	C	H	N	O	P	0
			57	15	21	5	14	2	
2	B	1	Total	C	H	N	O	P	0
			57	15	21	5	14	2	

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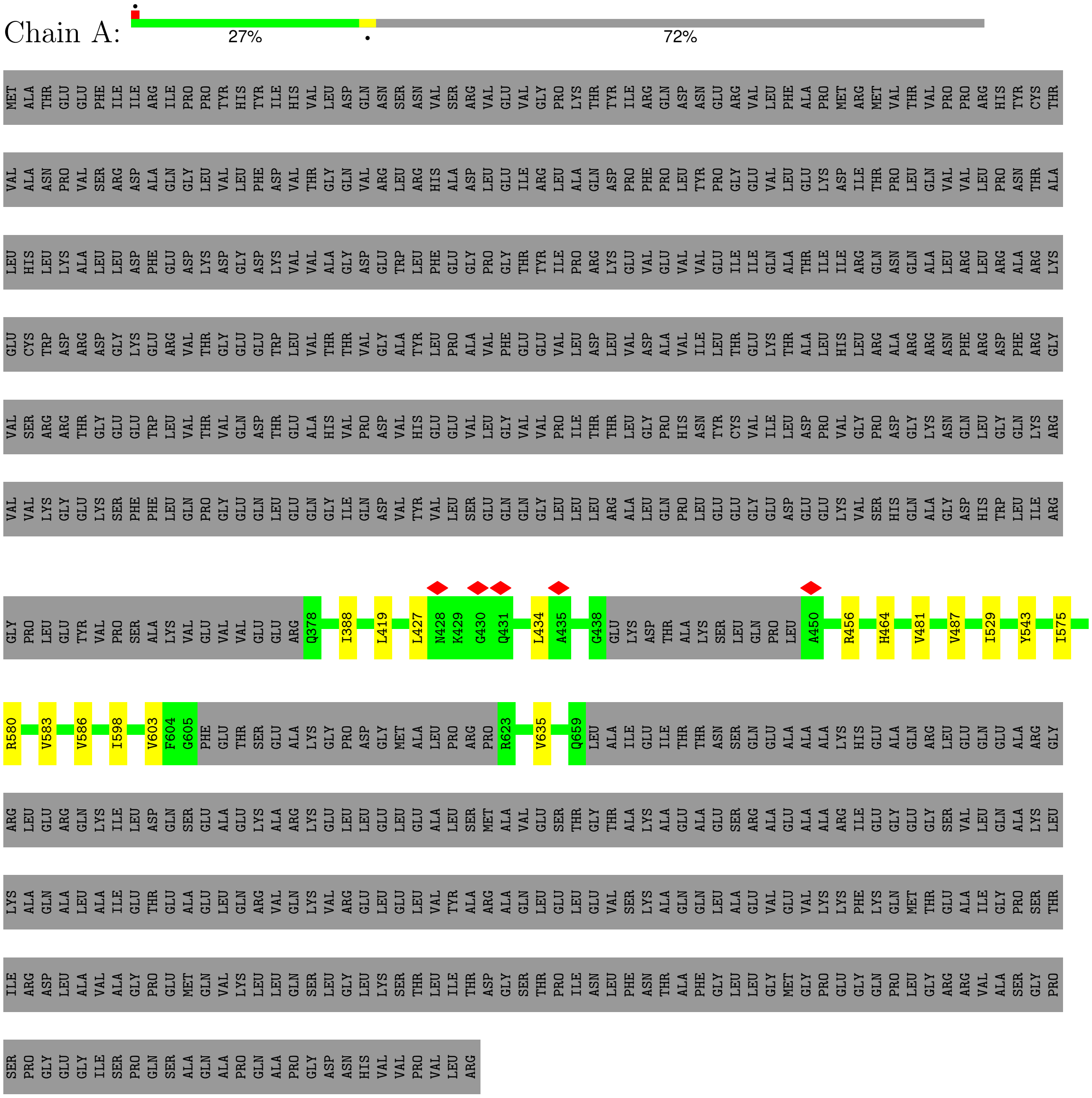
Mol	**Chain**	**Residues**	**Atoms**						**AltConf**
			Total	C	H	N	O	P	
2	C	1	57	15	21	5	14	2	0

3 Residue-property plots ⓘ

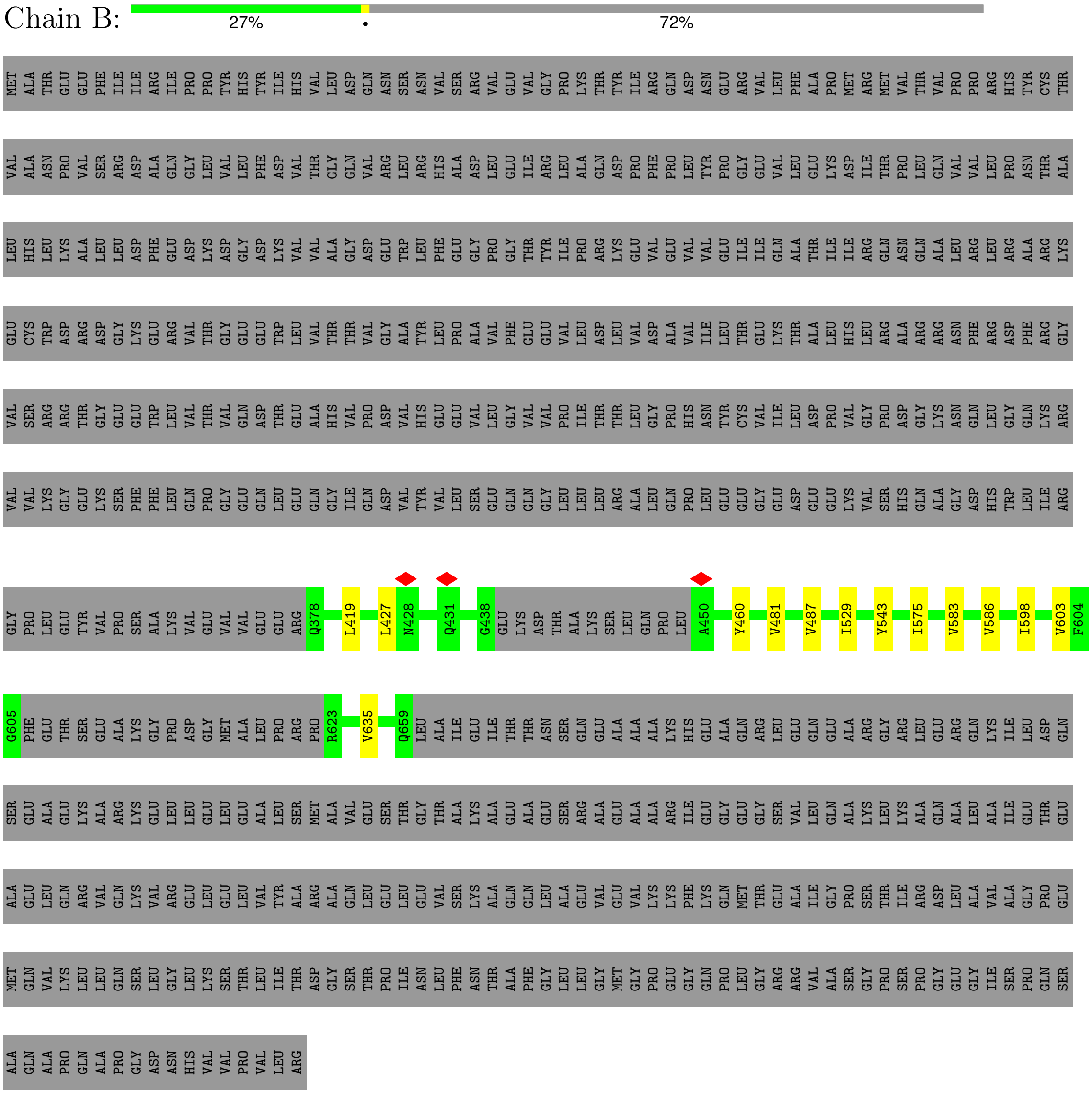
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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



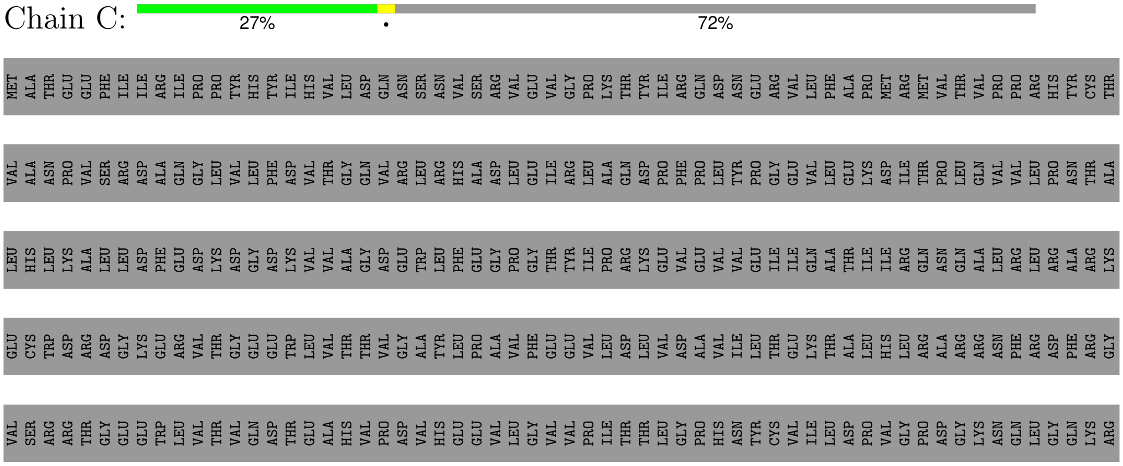
- Molecule 1: Major vault protein

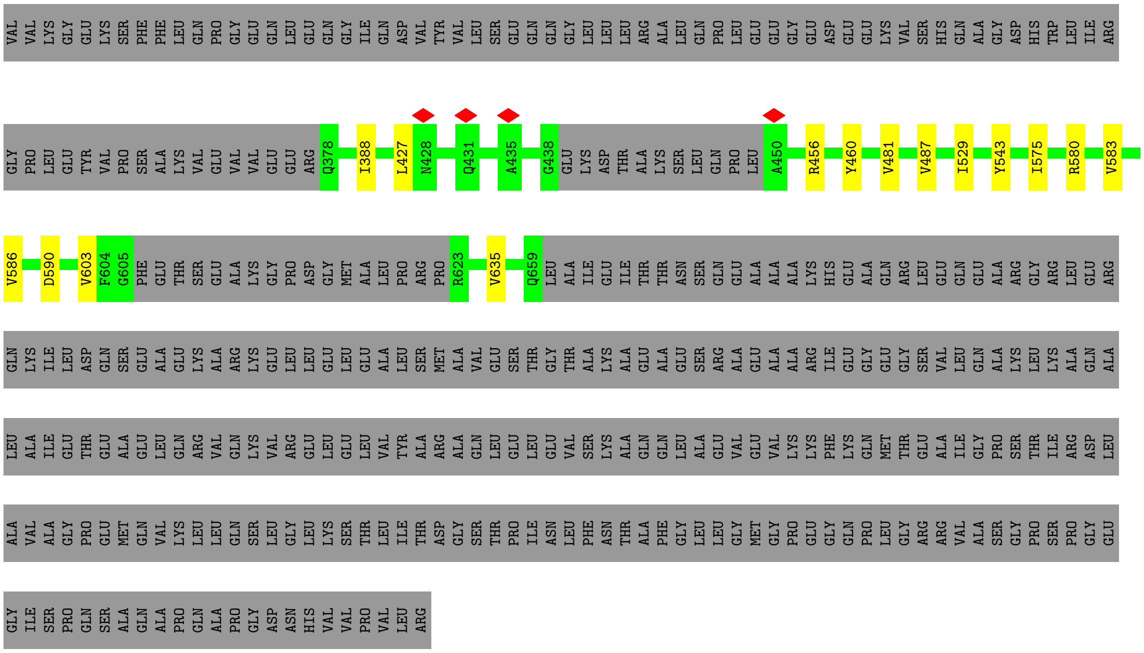
Chain B:



- Molecule 1: Major vault protein

Chain C:




VAL VAL LYS GLY GLU LYS SER PHE PHE LEU GLN PRO GLY GLU GLN LEU GLU GLN GLY ILE GLN ASP VAL TYR VAL LEU SER GLU GLN GLN GLY LEU LEU LEU ARG ALA LEU GLN PRO LEU GLU GLU GLY GLU ASP GLU GLU LYS VAL SER HIS GLN ALA GLY ASP HIS TRP LEU ILE ARG
GLY PRO LEU GLU TYR VAL PRO SER ALA LYS VAL GLU VAL VAL GLU GLU ARG Q378 I388 L427 N428 Q431 A435 G438 GLU LYS ASP THR ALA LYS SER LEU GLN PRO LEU A450 R456 Y460 V481 V487 I529 Y543 I575 R580 V583
V586 D590 V603 F604 G605 PHE GLU THR SER GLU ALA LYS GLY PRO ASP GLY MET ALA LEU PRO ARG PRO R623 V635 Q659 LEU ALA ILE GLU ILE THR THR ASN SER GLN GLU ALA ALA ALA LYS HIS GLU ALA GLN ARG LEU GLU GLN GLU ALA ARG GLY ARG LEU GLU ARG
GLN LYS ILE LEU ASP GLN SER GLU ALA GLU LYS ALA ARG LYS GLU LEU LEU GLU LEU GLU ALA LEU SER MET ALA VAL GLU SER THR GLY THR ALA LYS ALA GLU ALA GLU SER ARG ALA GLU ALA ALA ARG ILE GLU GLY GLU GLY SER VAL LEU GLN ALA LYS LEU LYS ALA GLN ALA
LEU ALA ILE GLU THR GLU ALA GLU LEU GLN ARG VAL GLN LYS VAL ARG GLU LEU GLU LEU VAL TYR ALA ARG ALA GLN LEU GLU LEU GLU VAL SER LYS ALA GLN GLN LEU ALA GLU VAL GLU VAL LYS LYS PHE LYS GLN MET THR GLU ALA ILE GLY PRO SER THR ILE ARG ASP LEU
ALA VAL ALA GLY PRO GLU MET GLN VAL LYS LEU LEU GLN SER LEU GLY LEU LYS SER THR LEU ILE THR ASP GLY SER THR PRO ILE ASN LEU PHE ASN THR ALA PHE GLY LEU LEU GLY MET GLY PRO GLU GLY GLN PRO LEU GLY ARG ARG VAL ALA SER GLY PRO SER PRO GLY GLU
GLY ILE SER PRO GLN SER ALA GLN ALA PRO GLN ALA PRO GLY ASP ASN HIS VAL VAL PRO VAL LEU ARG

4 Experimental information ⓘ

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, D39	Depositor
Number of particles used	464690	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 ($e^-/\text{Å}^2$)	40	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	5000	Depositor
Magnification	Not provided	
Image detector	GATAN K2 QUANTUM (4k x 4k)	Depositor
Maximum map value	0.827	Depositor
Minimum map value	-0.563	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.027	Depositor
Recommended contour level	0.1	Depositor
Map size (Å)	289.28, 289.28, 289.28	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.13, 1.13, 1.13	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: AR6

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	0.18	0/2043	0.28	0/2772
1	B	0.19	0/2043	0.28	0/2772
1	C	0.18	0/2043	0.28	0/2772
All	All	0.18	0/6129	0.28	0/8316

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 ⓘ

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	2005	1998	1996	10	0
1	B	2005	1996	1996	9	0
1	C	2005	1996	1996	9	0
2	A	36	21	21	0	0
2	B	36	21	21	0	0
2	C	36	21	21	0	0
All	All	6123	6053	6051	28	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 2.

All (28) 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:C:529:ILE:HG22	1:C:580:ARG:HB3	1.74	0.68
1:A:575:ILE:HD11	1:A:635:VAL:HG21	1.77	0.66
1:C:388:ILE:HG22	1:C:456:ARG:HD3	1.79	0.64
1:C:575:ILE:HG23	1:C:603:VAL:HG22	1.77	0.64
1:A:434:LEU:HD22	1:A:464:HIS:O	1.98	0.63
1:A:388:ILE:HG22	1:A:456:ARG:HD3	1.80	0.62
1:A:575:ILE:HG23	1:A:603:VAL:HG22	1.83	0.61
1:B:575:ILE:HD11	1:B:635:VAL:HG21	1.84	0.59
1:C:543:TYR:CE1	1:C:575:ILE:HG21	2.41	0.55
1:A:481:VAL:HG11	1:A:487:VAL:HG22	1.87	0.55
1:A:543:TYR:CE1	1:A:575:ILE:HG21	2.41	0.55
1:B:575:ILE:HG23	1:B:603:VAL:HG22	1.88	0.55
1:B:481:VAL:HG11	1:B:487:VAL:HG22	1.88	0.55
1:C:575:ILE:HD11	1:C:635:VAL:HG21	1.88	0.54
1:B:427:LEU:HD23	1:B:460:TYR:CD1	2.45	0.52
1:B:543:TYR:CE1	1:B:575:ILE:HG21	2.44	0.52
1:C:529:ILE:HD12	1:C:583:VAL:HG21	1.94	0.49
1:A:419:LEU:HD13	1:A:427:LEU:HD12	1.96	0.48
1:A:529:ILE:HG22	1:A:580:ARG:HB3	1.94	0.48
1:C:427:LEU:HD23	1:C:460:TYR:CD1	2.49	0.47
1:A:529:ILE:HD12	1:A:583:VAL:HG21	1.95	0.47
1:C:481:VAL:HG11	1:C:487:VAL:HG22	1.96	0.46
1:B:419:LEU:HD13	1:B:427:LEU:HD12	1.97	0.46
1:B:529:ILE:HD12	1:B:583:VAL:HG11	1.99	0.45
1:C:586:VAL:HG13	1:C:590:ASP:OD2	2.18	0.43
1:A:586:VAL:HG11	1:A:598:ILE:HD13	1.99	0.43
1:B:427:LEU:HD23	1:B:460:TYR:HD1	1.81	0.43
1:B:586:VAL:HG11	1:B:598:ILE:HD13	2.02	0.42

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	248/893 (28%)	241 (97%)	7 (3%)	0	100	100
1	B	248/893 (28%)	242 (98%)	6 (2%)	0	100	100
1	C	248/893 (28%)	241 (97%)	7 (3%)	0	100	100
All	All	744/2679 (28%)	724 (97%)	20 (3%)	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	217/755 (29%)	217 (100%)	0	100	100
1	B	217/755 (29%)	217 (100%)	0	100	100
1	C	217/755 (29%)	217 (100%)	0	100	100
All	All	651/2265 (29%)	651 (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	A	469	GLN
1	B	534	HIS
1	C	428	ASN
1	C	641	GLN

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 ⓘ

3 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
2	AR6	B	2001	-	39,39,39	1.25	2 (5%)	56,60,60	0.75	0
2	AR6	A	2001	-	39,39,39	1.25	2 (5%)	56,60,60	0.69	0
2	AR6	C	2001	-	39,39,39	1.24	2 (5%)	56,60,60	0.71	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	AR6	B	2001	-	-	4/22/54/54	0/4/4/4
2	AR6	A	2001	-	-	1/22/54/54	0/4/4/4
2	AR6	C	2001	-	-	2/22/54/54	0/4/4/4

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	2001	AR6	PB-O3A	4.48	1.64	1.59
2	A	2001	AR6	PB-O3A	4.45	1.64	1.59
2	C	2001	AR6	PB-O3A	4.39	1.64	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	2001	AR6	PA-O3A	4.30	1.64	1.59
2	A	2001	AR6	PA-O3A	4.30	1.64	1.59
2	B	2001	AR6	PA-O3A	4.28	1.64	1.59

There are no bond angle outliers.

There are no chirality outliers.

All (7) torsion outliers are listed below:

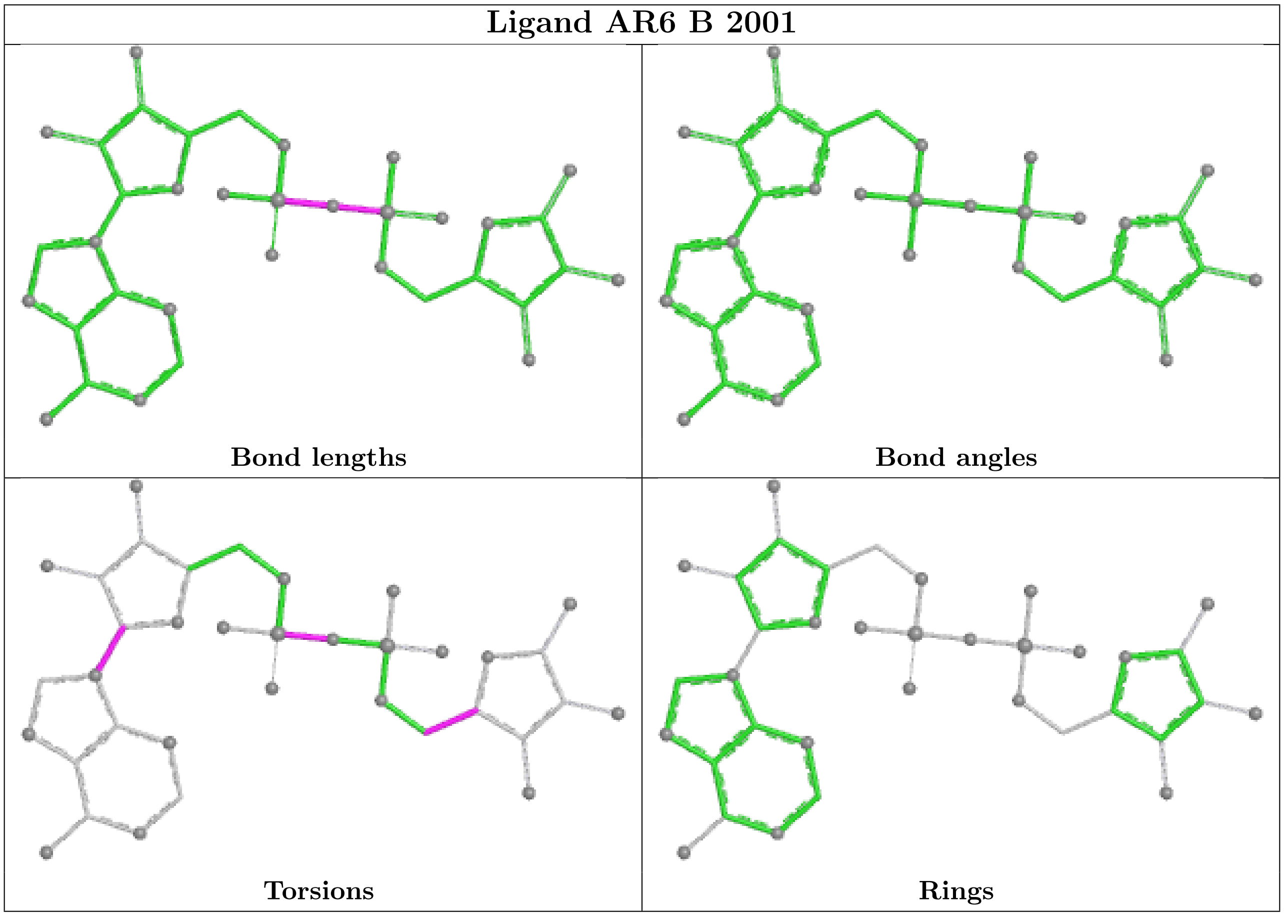
Mol	Chain	Res	Type	Atoms
2	B	2001	AR6	C2'-C1'-N9-C8
2	B	2001	AR6	O4D-C4D-C5D-O5D
2	C	2001	AR6	O4D-C4D-C5D-O5D
2	B	2001	AR6	O4'-C1'-N9-C8
2	A	2001	AR6	PB-O3A-PA-O1A
2	B	2001	AR6	PB-O3A-PA-O1A
2	C	2001	AR6	PB-O3A-PA-O1A

There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand AR6 B 2001



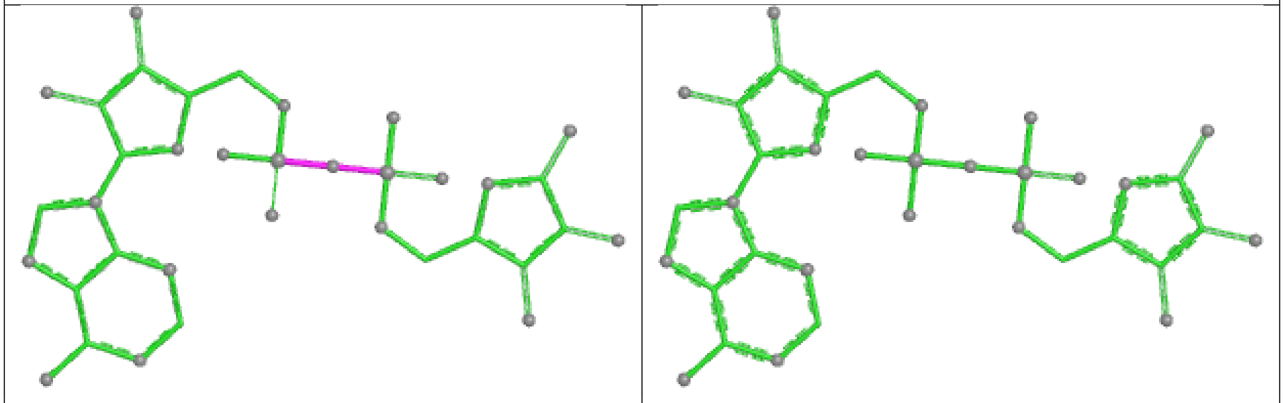
Bond lengths

Bond angles

Torsions

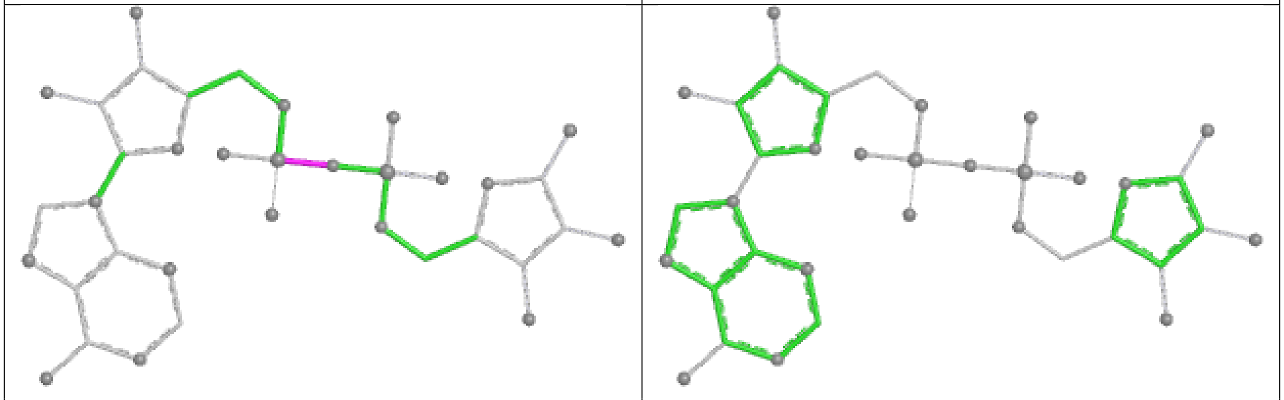
Rings

Ligand AR6 A 2001



Bond lengths

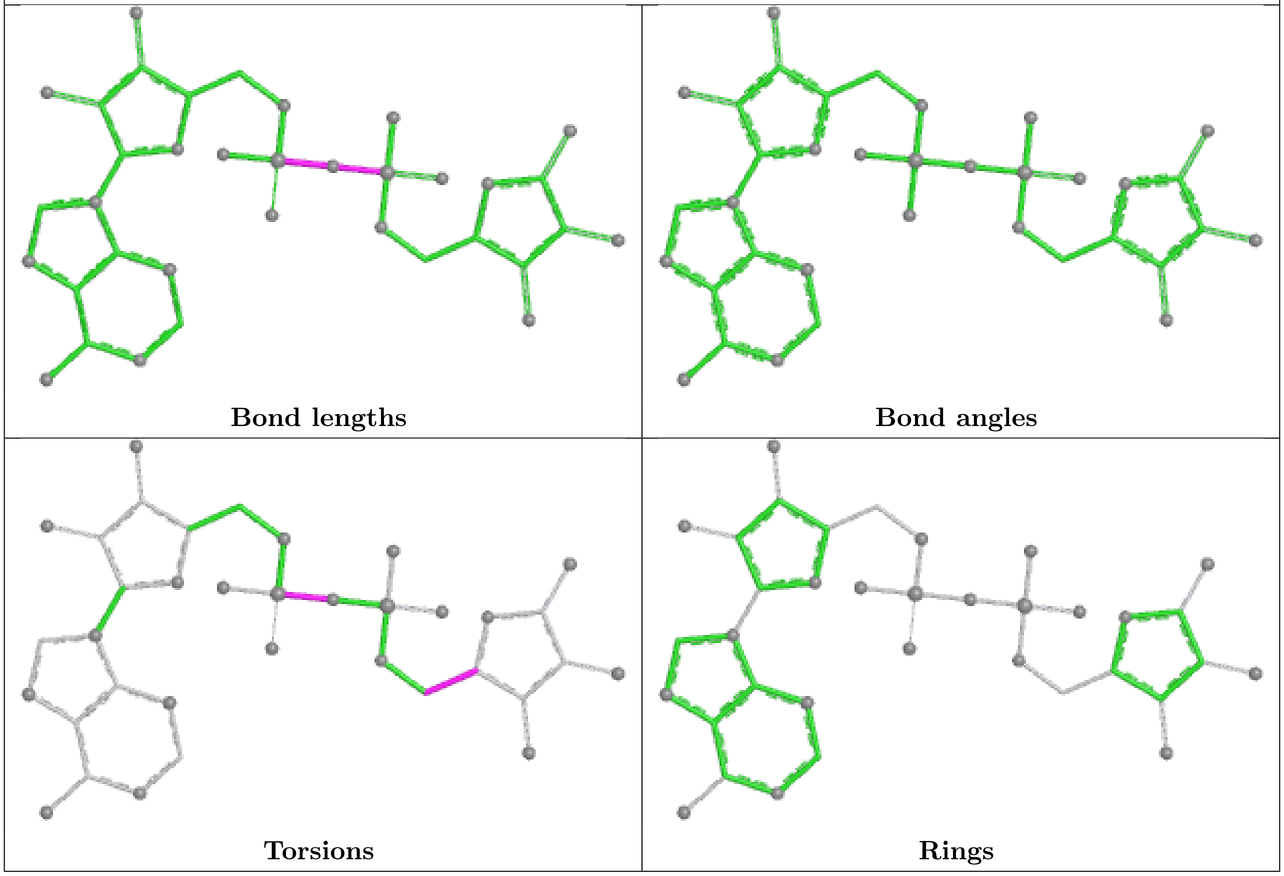
Bond angles



Torsions

Rings

Ligand AR6 C 2001



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.

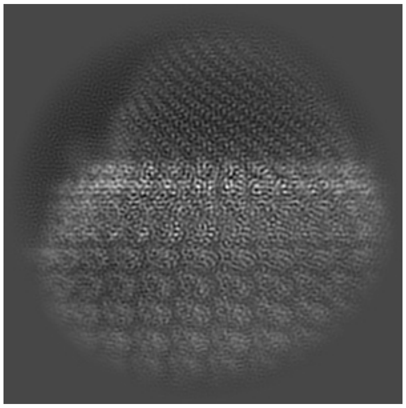
6 Map visualisation ⓘ

This section contains visualisations of the EMDB entry EMD-75638. 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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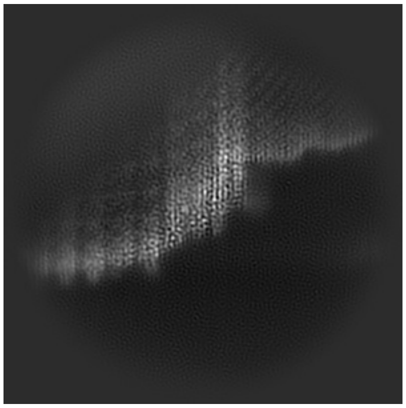
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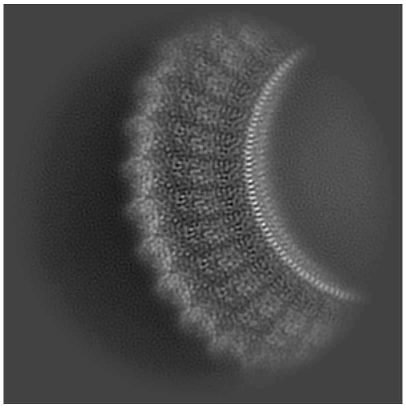
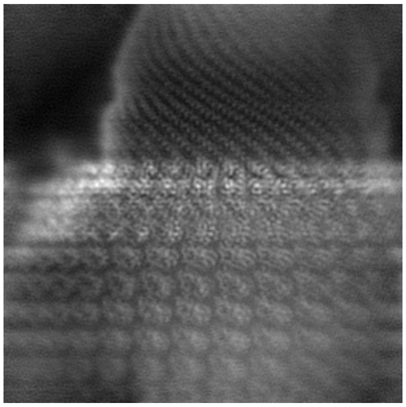

Z

6.1.2 Raw map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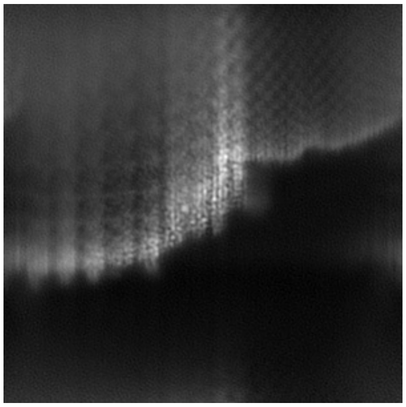
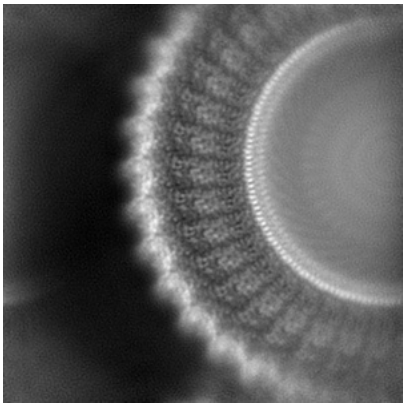
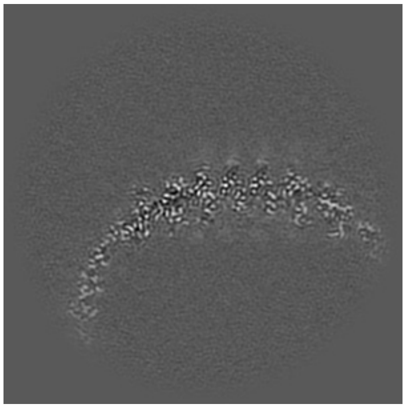

Y


Z

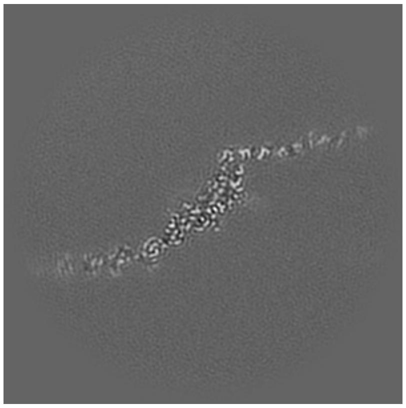
The images above show the map projected in three orthogonal directions.

6.2 Central slices

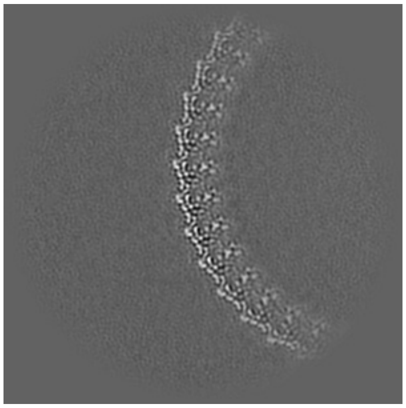
6.2.1 Primary map



X Index: 128

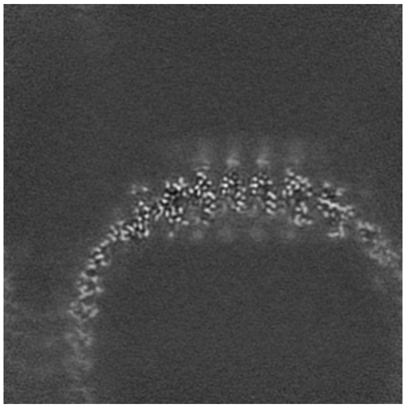


Y Index: 128

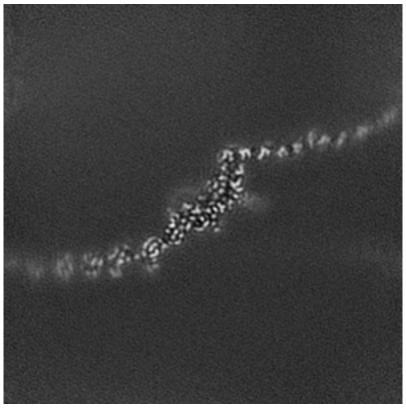


Z Index: 128

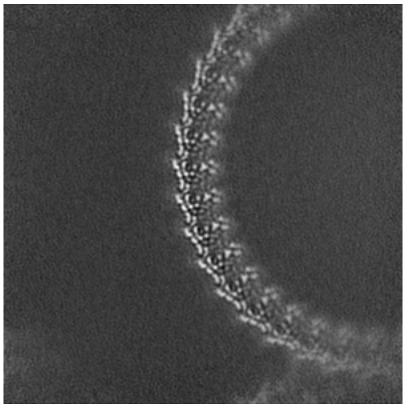
6.2.2 Raw map



X Index: 128



Y Index: 128

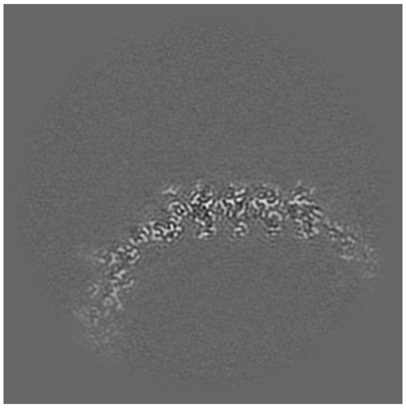


Z Index: 128

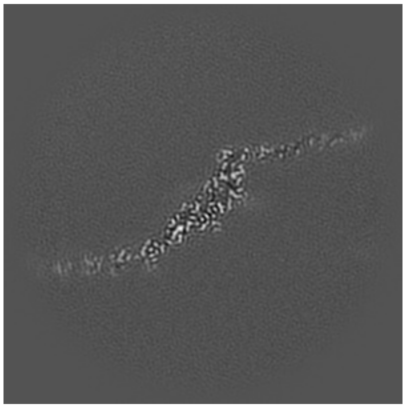
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices

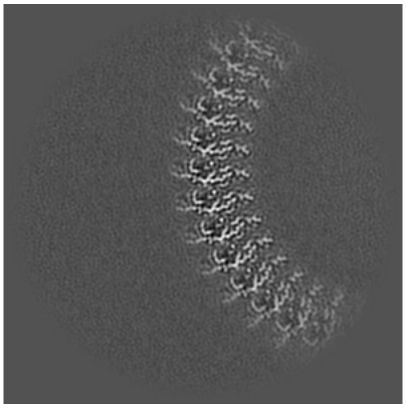
6.3.1 Primary map



X Index: 117

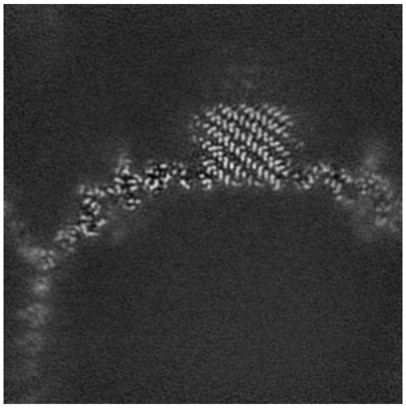


Y Index: 129

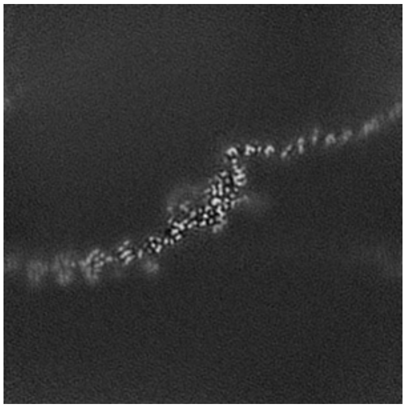


Z Index: 139

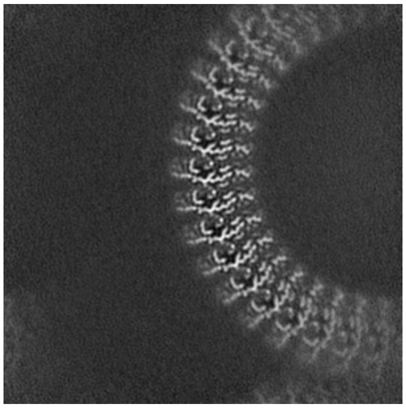
6.3.2 Raw map



X Index: 158



Y Index: 125

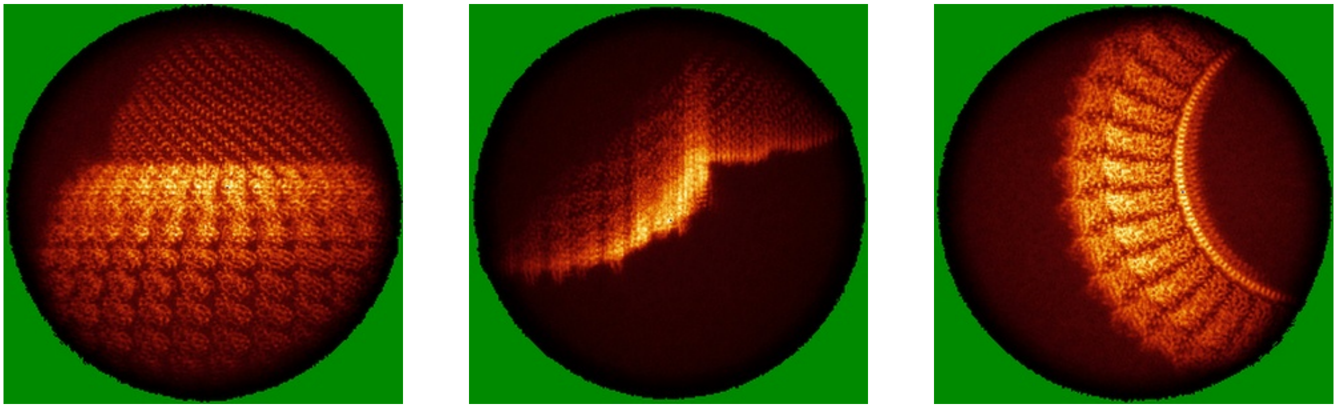


Z Index: 139

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

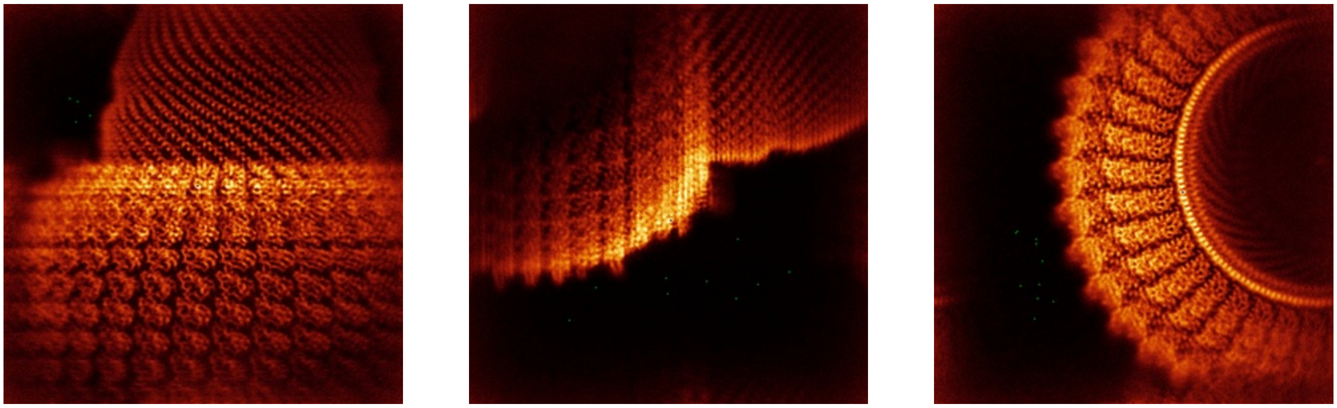
6.4 Orthogonal standard-deviation projections (False-color) ⓘ

6.4.1 Primary map



X Y Z

6.4.2 Raw map

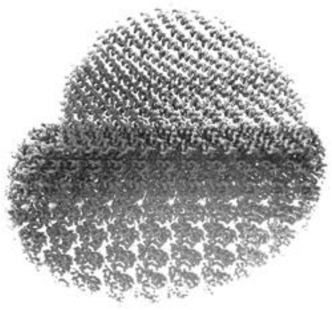


X Y Z

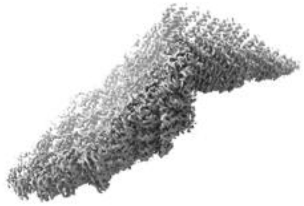
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views

6.5.1 Primary map



X

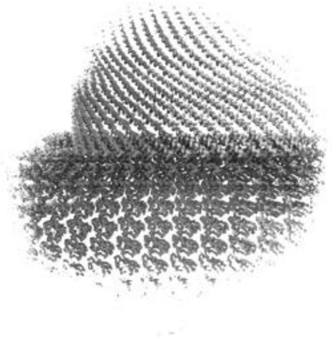


Y

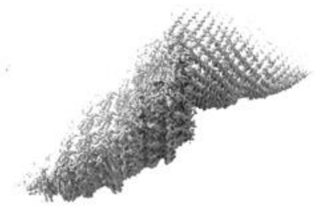
Z

The images above show the 3D surface view of the map at the recommended contour level 0.1. 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.

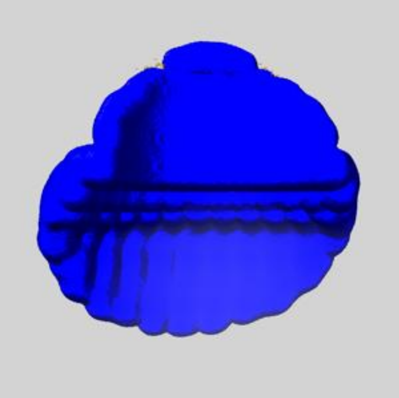
6.6 Mask visualisation

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

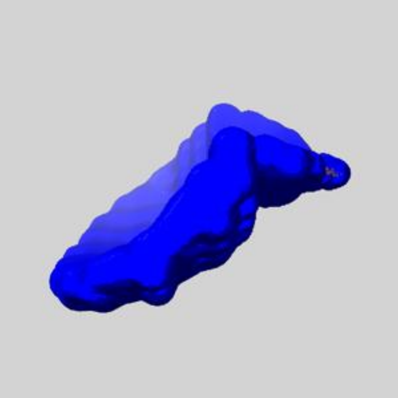
A mask typically either:

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

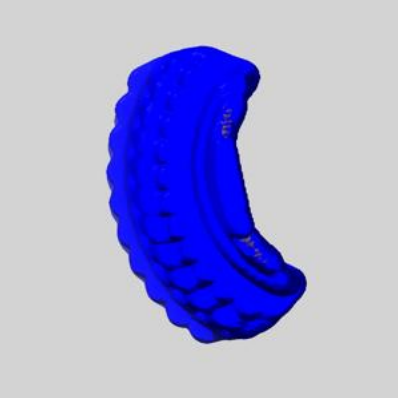
6.6.1 emd_75638_msk_1.map



X



Y

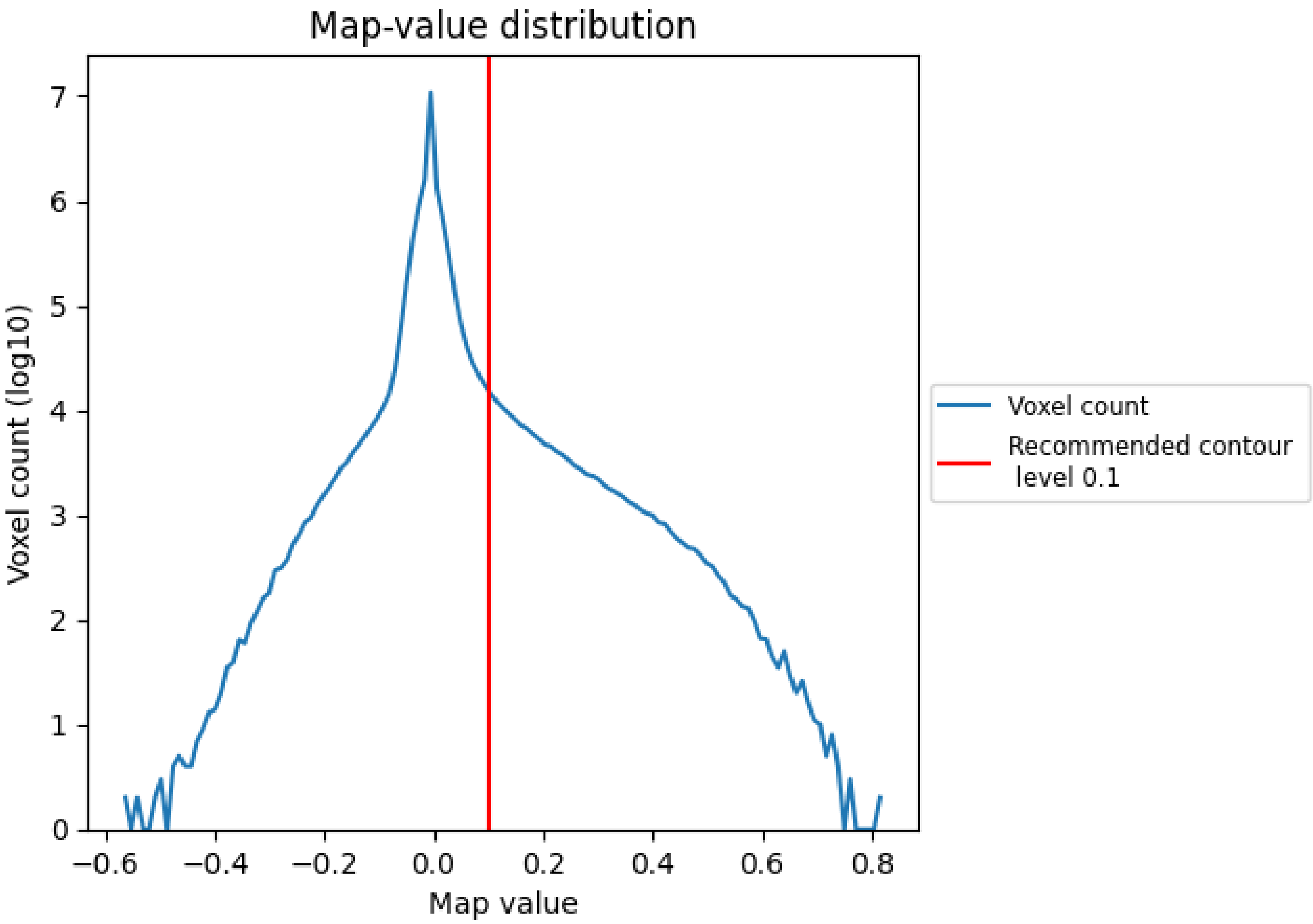


Z

7 Map analysis ⓘ

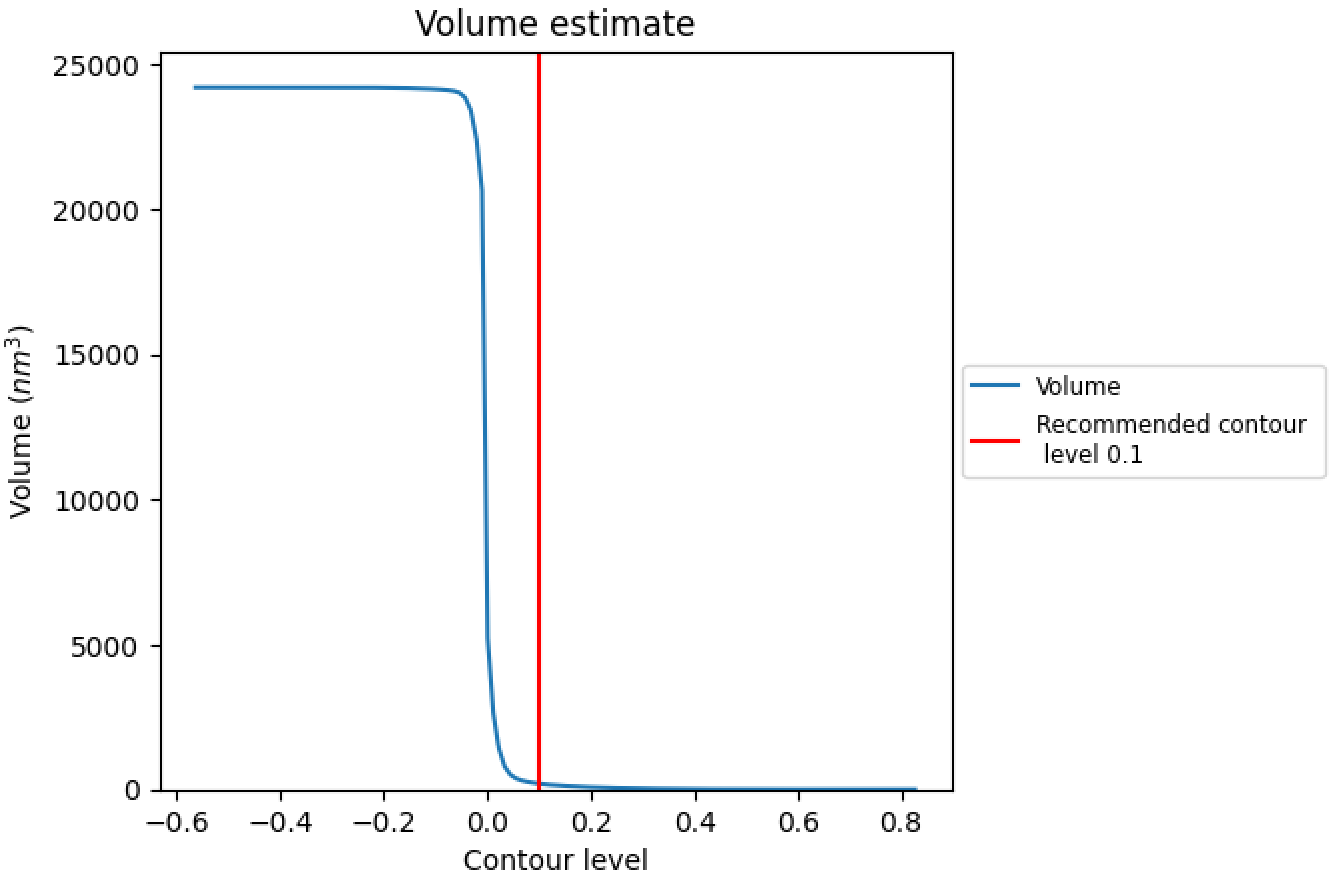
This section contains the results of statistical analysis of the map.

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.

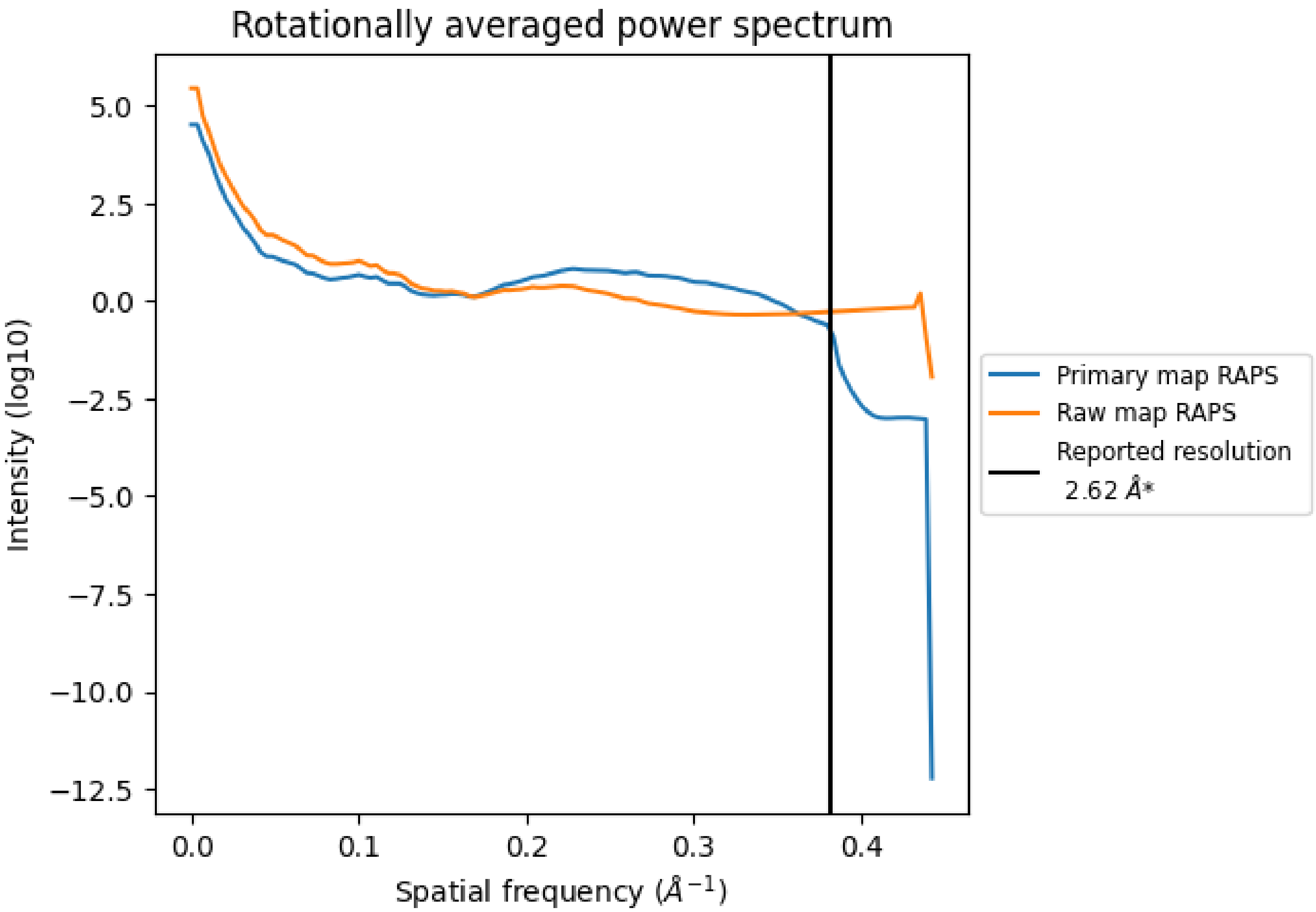
7.2 Volume estimate ⓘ



The volume at the recommended contour level is 201 nm^3; this corresponds to an approximate mass of 182 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 ⓘ

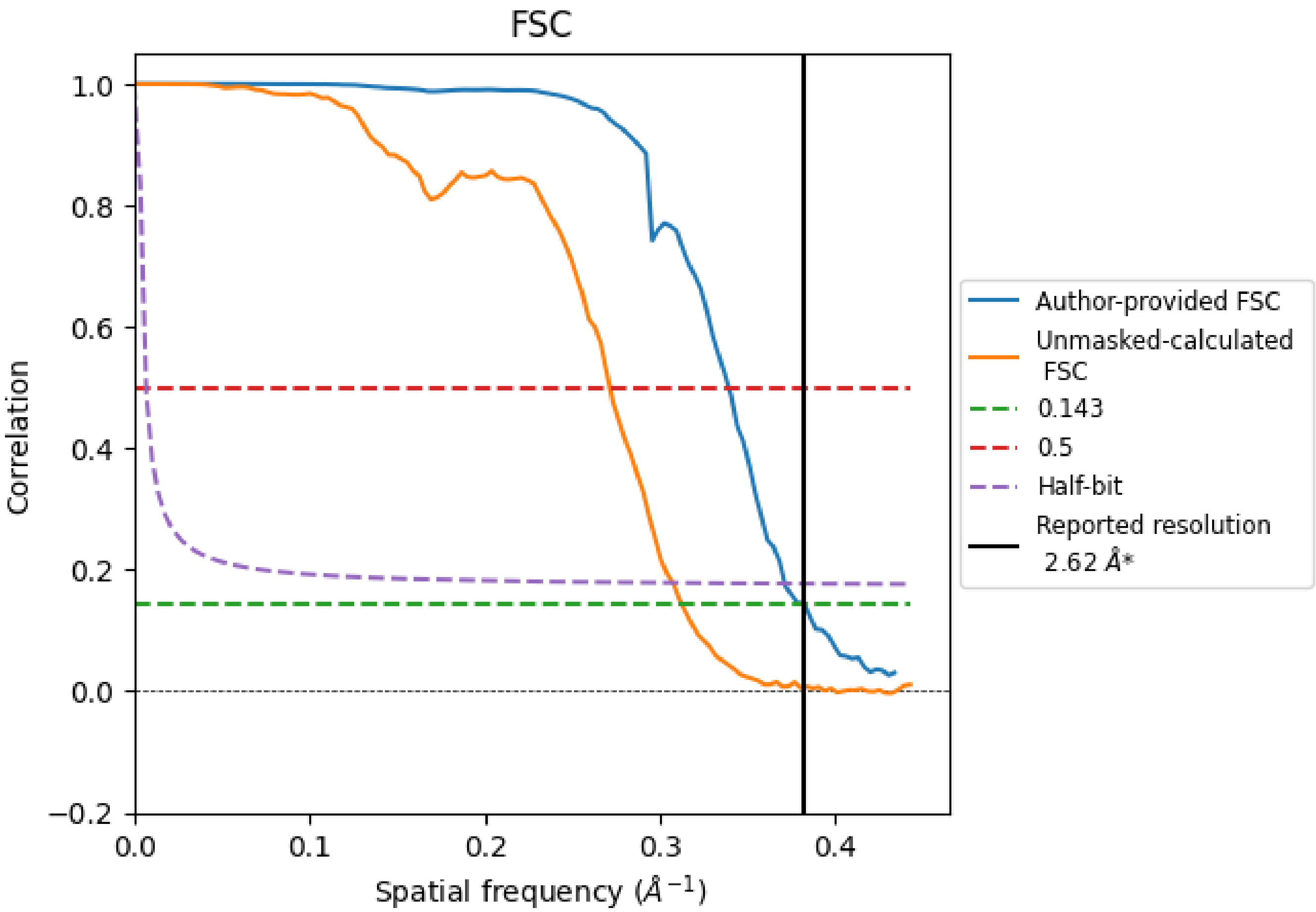


*Reported resolution corresponds to spatial frequency of 0.382 Å^{-1}

8 Fourier-Shell correlation ⓘ

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

8.1 FSC ⓘ



*Reported resolution corresponds to spatial frequency of 0.382 Å^{-1}

8.2 Resolution estimates ⓘ

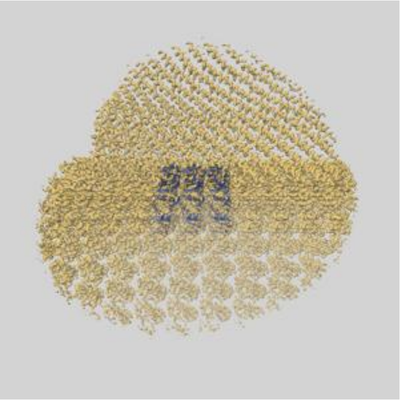
Resolution estimate (Å)	**Estimation criterion (FSC cut-off)**		
	0.143	0.5	Half-bit
Reported by author	2.62	-	-
Author-provided FSC curve	2.62	2.95	2.69
Unmasked-calculated*	3.20	3.68	3.25

*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 3.20 differs from the reported value 2.62 by more than 10 %

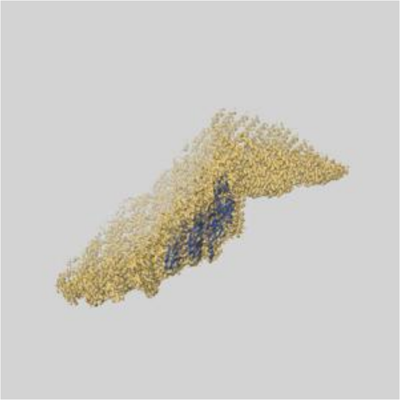
9 Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-75638 and PDB model 11DR. Per-residue inclusion information can be found in section 3 on page 5.

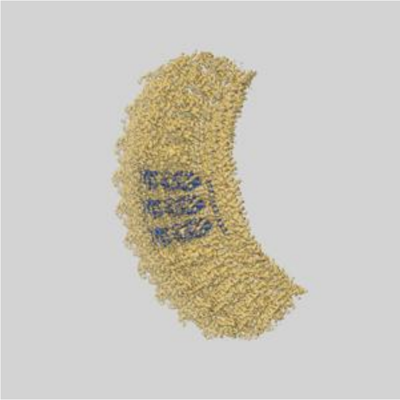
9.1 Map-model overlay ⓘ



X



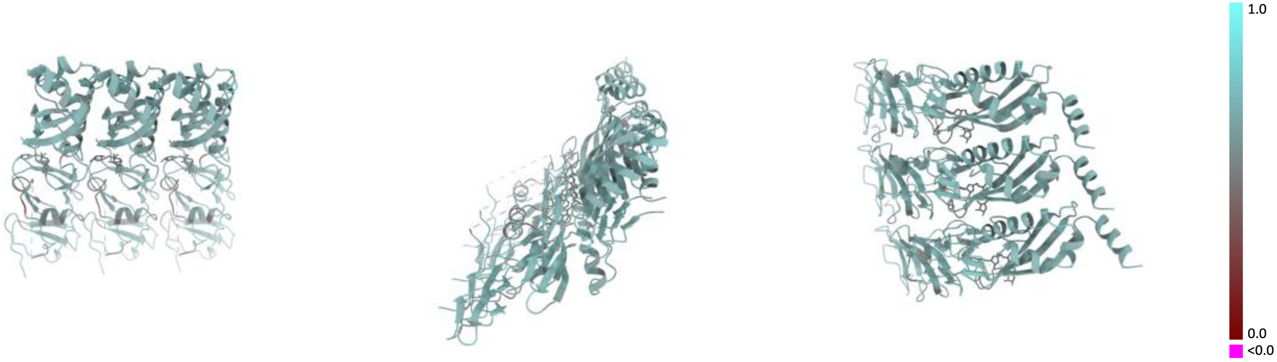
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.1 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

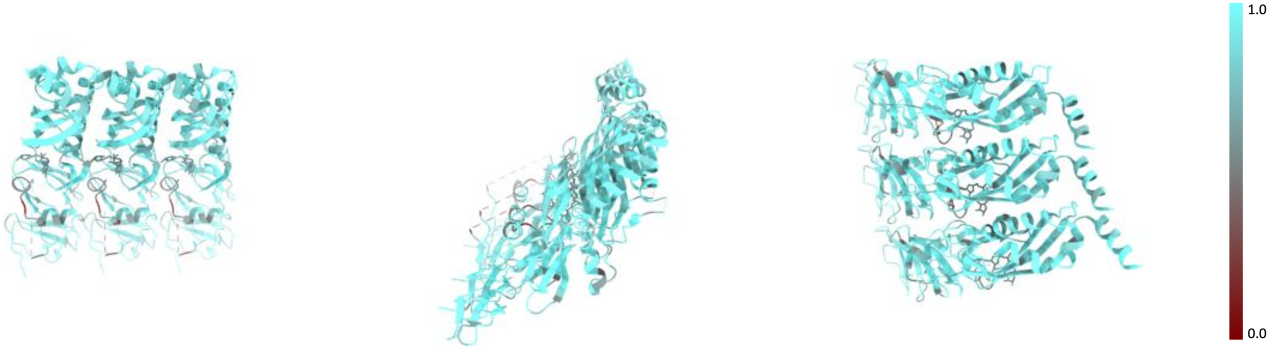
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

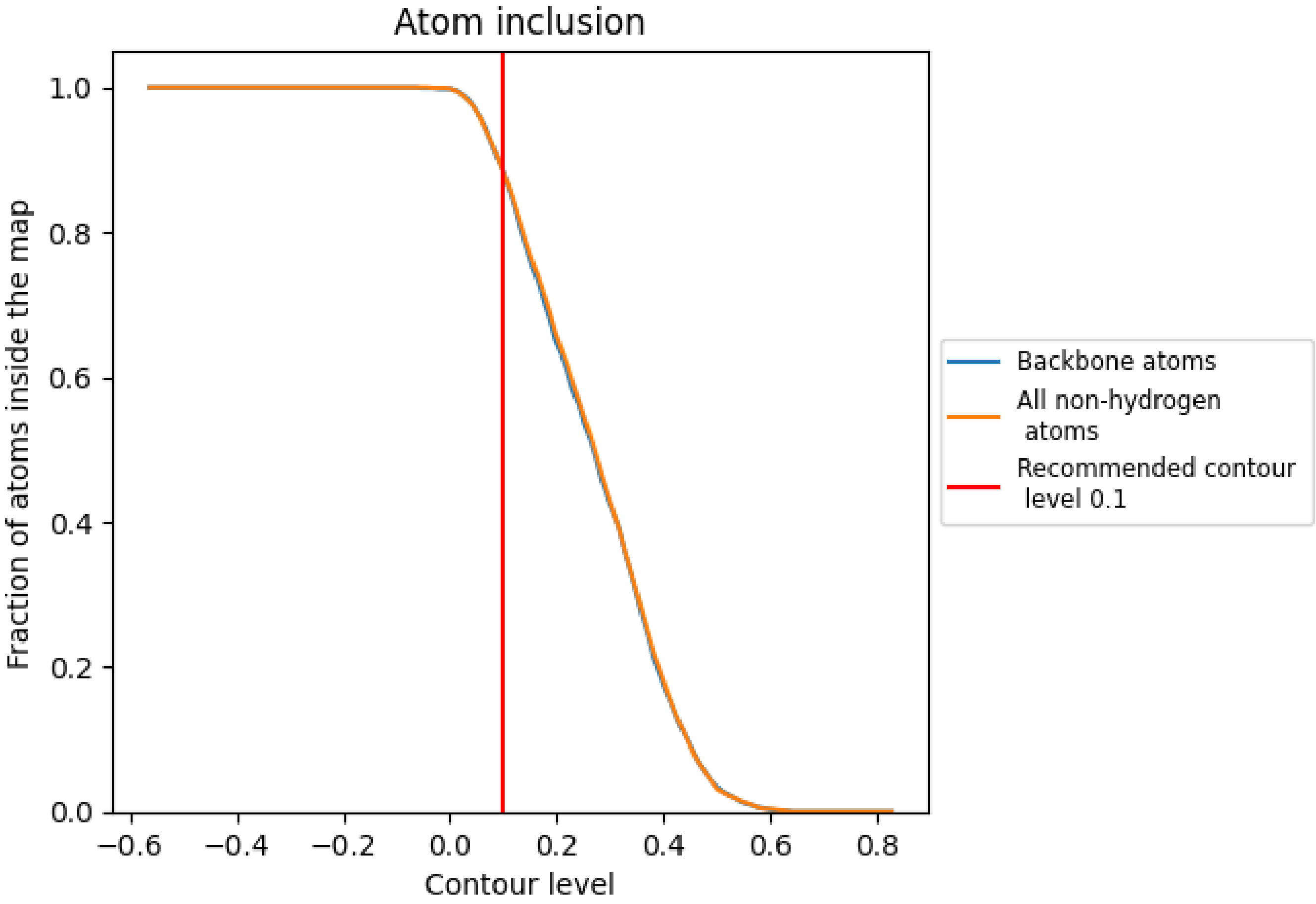
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.1).

9.4 Atom inclusion ⓘ



At the recommended contour level, 88% of all backbone atoms, 88% 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 (0.1) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	▬ 0.8820	▬ 0.6130
A	▬ 0.8830	▬ 0.6110
B	▬ 0.8900	▬ 0.6150
C	▬ 0.8870	▬ 0.6130