



wwPDB EM Validation Summary Report ⓘ

Mar 5, 2024 – 04:20 PM JST

PDB ID : 8IO4
EMDB ID : EMD-35607
Title : Herg1a-herg1b open state
Authors : Zhang, M.F.
Deposited on : 2023-03-10
Resolution : 3.50 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.dev70
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

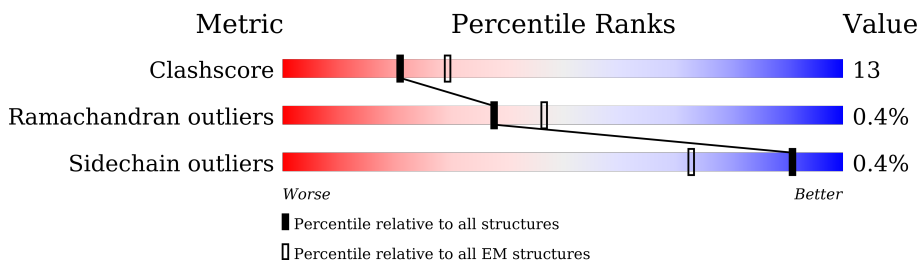
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.50 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)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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	1159	
1	B	1159	
1	C	1159	
1	D	1159	

2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 13736 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.

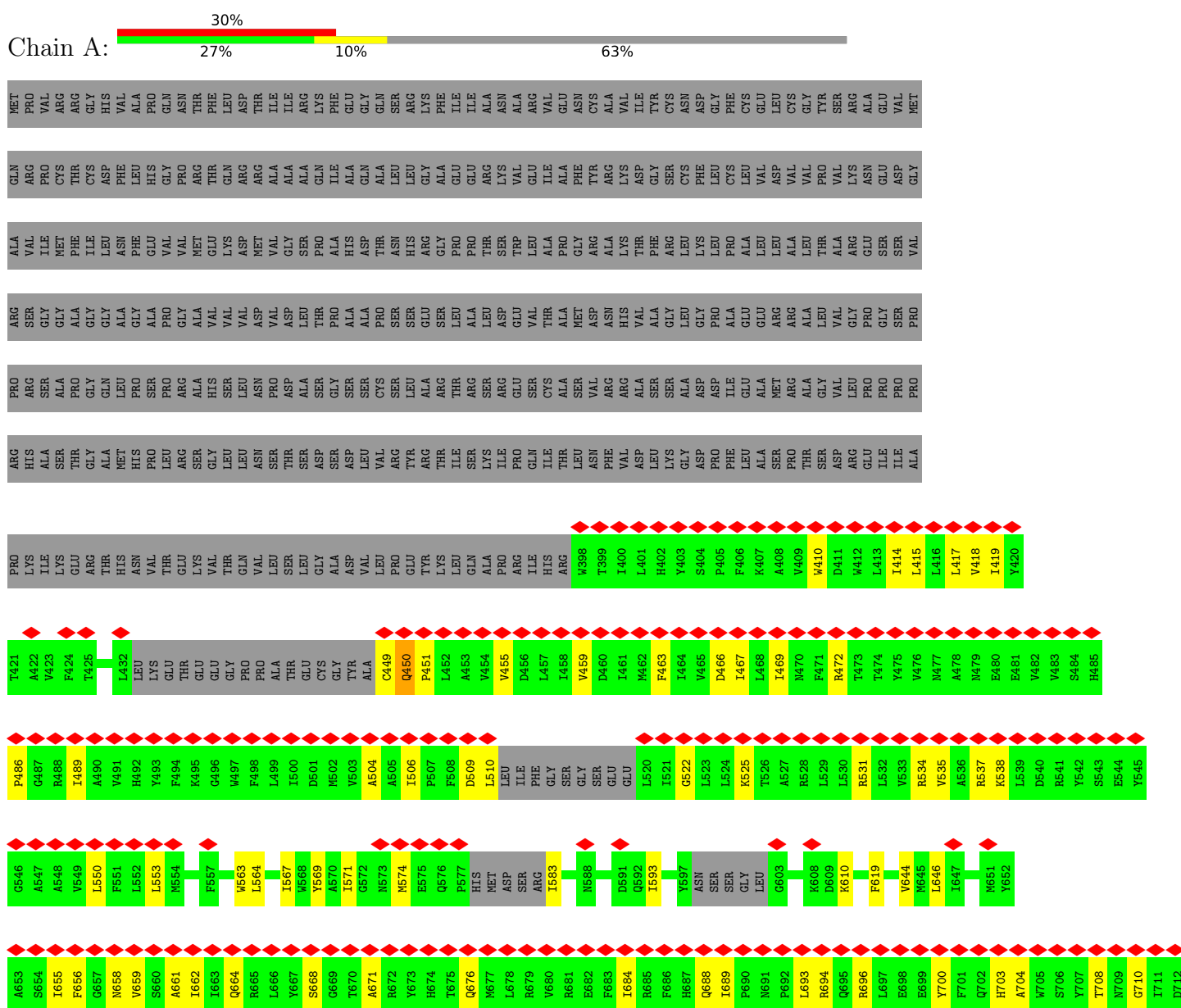
- Molecule 1 is a protein called Potassium voltage-gated channel subfamily H member 2.

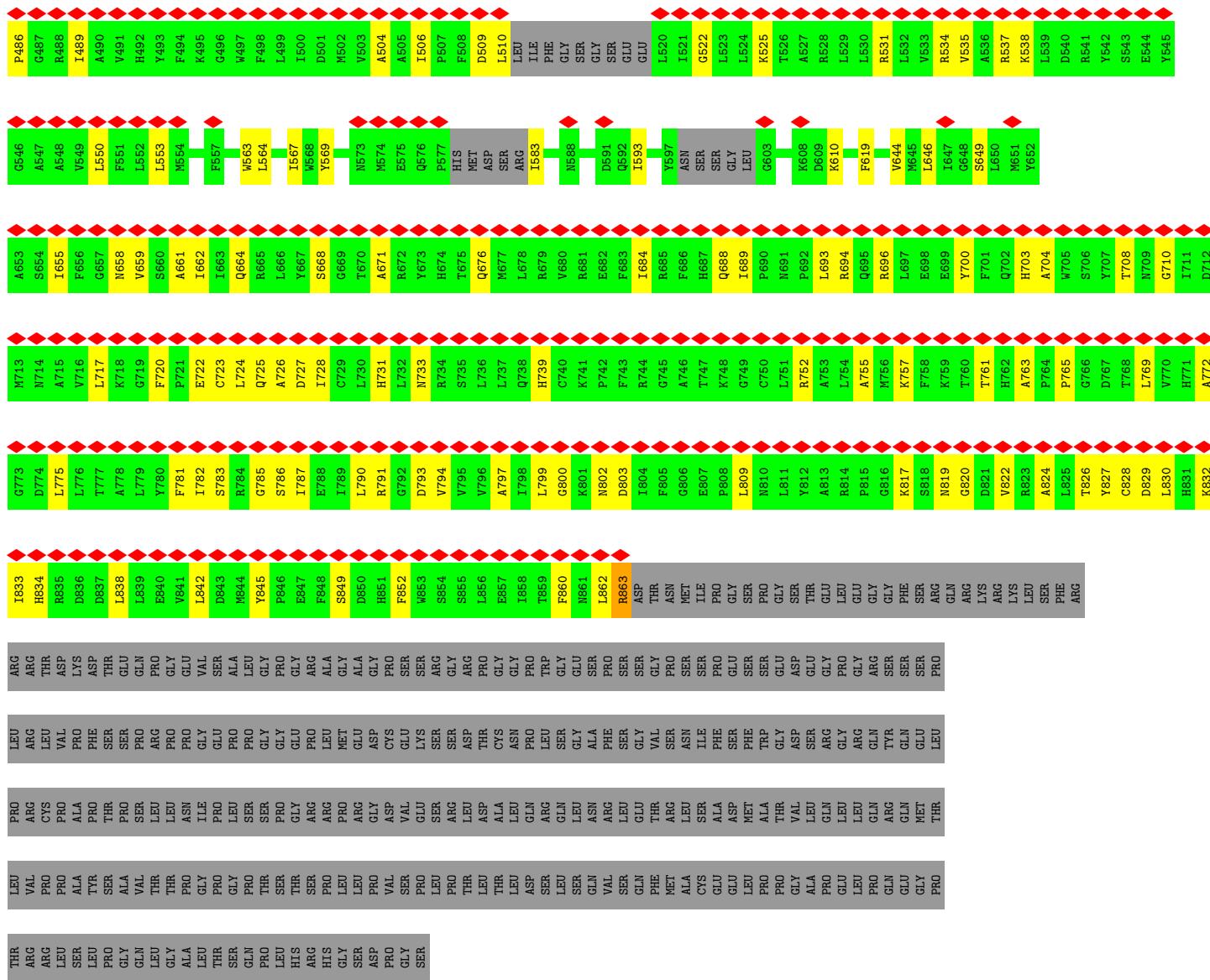
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	431	Total 3434	C 2252	N 581	O 584	S 17	0	0
1	C	431	Total 3434	C 2252	N 581	O 584	S 17	0	0
1	D	431	Total 3434	C 2252	N 581	O 584	S 17	0	0
1	B	431	Total 3434	C 2252	N 581	O 584	S 17	0	0

3 Residue-property plots i

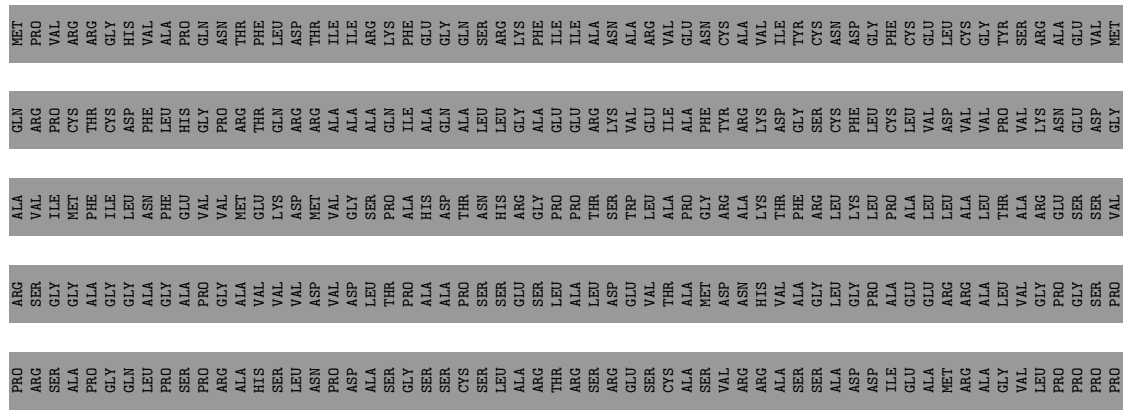
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: Potassium voltage-gated channel subfamily H member 2





● Molecule 1: Potassium voltage-gated channel subfamily H member 2



PRO	PRO	CYS	LEU	THR	R836	L776	A716	I655	G546	P486	T421	PRO	HIS	PRO	ALA	ARG	GLN
ALA	ALA	ALA	VAL	ASP	D836	L776	W716	F656	A547	G487	A422	LYS	ARG	THR	VAL	ILE	ARG
THR	THR	THR	PHE	ASP	D837	I777	L717	G657	A548	R488	V423	GLY	SER	GLY	ILE	ALA	PRO
SER	SER	SER	SER	THR	L838	A778	K718	N658	V549	I489	F424	ALA	PRO	ALA	THR	THR	CYS
PRO	PRO	PRO	PRO	THR	L839	A779	G719	N659	L550	A490	T425	GLY	GLN	ASP	GLY	ILE	THR
ARG	ARG	ARG	ARG	GLN	E840	Y780	F720	S660	F551	V491	L432	PHE	ALA	ASP	ALA	ASN	PHE
PRO	PRO	PRO	PRO	PRO	Y841	F781	F721	A661	L322	H492	L433	GLY	LEU	GLY	VAL	LEU	LEU
ASN	ASN	ASN	ASN	ASN	L842	I782	E722	I662	L553	Y493	LYS	VAL	PRO	ALA	PRO	HIS	HIS
VAL	VAL	VAL	VAL	VAL	D843	S783	C723	I663	M554	F494	THR	VAL	VAL	VAL	VAL	GLY	GLY
LEU	LEU	LEU	LEU	LEU	Y844	R784	L724	Q664	M554	K495	ARG	ALA	ARG	ARG	ARG	ARG	ARG
PRO	PRO	PRO	PRO	PRO	Y845	G785	Q725	R665	F557	G496	VAL	VAL	HIS	VAL	VAL	THR	THR
GLY	GLY	GLY	GLY	GLY	P846	S786	A726	L666	W563	H497	THR	THR	SER	SER	VAL	VAL	VAL
PRO	PRO	PRO	PRO	PRO	E847	I787	D727	L667	L564	F498	VAL	VAL	ASN	ASN	VAL	ASP	ASP
ARG	ARG	ARG	ARG	ARG	F848	E788	I728	S668	I567	L499	LEU	LEU	SER	SER	VAL	VAL	VAL
ALA	ALA	ALA	ALA	ALA	S849	G789	C729	G669	W568	I500	THR	THR	ASP	ASP	ALA	ALA	ALA
LEU	LEU	LEU	LEU	LEU	D850	L790	H731	T670	Y569	D501	GLY	GLY	SER	SER	SER	SER	SER
ASP	ASP	ASP	ASP	ASP	F851	R791	H731	A671	F569	M502	ALA	ALA	ASP	ASP	PRO	PRO	PRO
GLY	GLY	GLY	GLY	GLY	M853	G792	L732	R672	N573	F503	VAL	VAL	SER	SER	ALA	ALA	ALA
SER	SER	SER	SER	SER	S854	D793	N733	R673	M574	A504	LEU	LEU	SER	SER	THR	THR	THR
ARG	ARG	ARG	ARG	ARG	S855	W794	R734	H674	E575	A505	THR	THR	SER	SER	ALA	ALA	ALA
GLY	GLY	GLY	GLY	GLY	S856	V796	S735	H674	E576	I506	GLY	GLY	LEU	LEU	HIS	HIS	HIS
THR	THR	THR	THR	THR	L856	W796	L736	T676	Q577	P507	VAL	VAL	ALA	ALA	ALA	ALA	ALA
LEU	LEU	LEU	LEU	LEU	E857	A797	L737	Q676	P577	F508	LEU	LEU	THR	THR	GLY	GLY	GLY
LEU	LEU	LEU	LEU	LEU	I858	I798	Q738	M677	HIS	D509	GLN	GLN	ARG	ARG	ALA	ALA	ALA
ASN	ASN	ASN	ASN	ASN	T859	I799	H739	L678	ASP	L510	ALA	ALA	SER	SER	PRO	PRO	PRO
PRO	PRO	PRO	PRO	PRO	F860	L799	H739	R679	ASP	L510	PRO	PRO	SER	SER	LEU	LEU	LEU
LEU	LEU	LEU	LEU	LEU	M861	G800	C740	V680	SER	LEU	LEU	LEU	GLY	GLY	TRP	TRP	TRP
GLY	GLY	GLY	GLY	GLY	L862	R801	K741	R681	I583	ILE	ILE	ILE	ILE	ILE	VAL	VAL	VAL
ALA	ALA	ALA	ALA	ALA	S863	N802	P742	E682	N588	PHE	PHE	PHE	PHE	PHE	ALA	ALA	ALA
THR	THR	THR	THR	THR	R864	D803	F743	F683	N588	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
LEU	LEU	LEU	LEU	LEU	T865	R804	R744	I684	D591	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASN	ASN	ASN	ASN	ASN	F866	F805	G745	R685	Q592	SER	SER	SER	SER	SER	SER	SER	SER
ASP	ASP	ASP	ASP	ASP	G867	G806	A746	F686	I593	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ILE	ILE	ILE	ILE	ILE	E868	E807	T747	H687	Y597	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
PRO	PRO	PRO	PRO	PRO	R869	R808	K748	Q688	ASN	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU
GLY	GLY	GLY	GLY	GLY	L809	L809	G749	I689	SER	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU
SER	SER	SER	SER	SER	N810	N810	C750	P690	SER	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
PRO	PRO	PRO	PRO	PRO	L811	L811	L751	N691	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
THR	THR	THR	THR	THR	H812	H812	R752	P692	LEU	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ASP	ASP	ASP	ASP	ASP	A813	A813	A753	L693	GLY	THR	THR	THR	THR	THR	THR	THR	THR
GLY	GLY	GLY	GLY	GLY	R814	R814	L754	R694	K608	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY
ARG	ARG	ARG	ARG	ARG	F815	F815	A755	Q695	D609	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG
LEU	LEU	LEU	LEU	LEU	G816	G816	G756	R696	K610	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG
GLY	GLY	GLY	GLY	GLY	R817	R817	K757	L697	F619	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU
PHE	PHE	PHE	PHE	PHE	N818	N818	F758	E698	V644	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG
SER	SER	SER	SER	SER	G820	G820	K759	E699	M645	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG
PRO	PRO	PRO	PRO	PRO	H821	H821	T760	Y700	L646	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU
LEU	LEU	LEU	LEU	LEU	D822	D822	T761	F701	I647	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU
LYS	LYS	LYS	LYS	LYS	W822	W822	H762	Q702	I647	LEU	LEU	LEU	LEU	LEU	LEU	LEU	LEU
ARG	ARG	ARG	ARG	ARG	R823	R823	A763	H703	M651	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG
LEU	LEU	LEU	LEU	LEU	A824	A824	A764	A704	Y652	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG
SER	SER	SER	SER	SER	L825	L825	P765	W705	A653	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG
PHE	PHE	PHE	PHE	PHE	T826	T826	G766	S706	S654	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG
ARG	ARG	ARG	ARG	ARG	Y827	Y827	D767	T707	V541	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG
ARG	ARG	ARG	ARG	ARG	C828	C828	T768	T708	R541	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG
LEU	LEU	LEU	LEU	LEU	D829	D829	L769	N709	Y542	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG
LEU	LEU	LEU	LEU	LEU	L830	L830	W770	G710	S543	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG
THR	THR	THR	THR	THR	H831	H831	H771	I711	E544	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG
THR	THR	THR	THR	THR	A832	A832	A772	D712	Y545	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG
ARG	ARG	ARG	ARG	ARG	B834	B834	G773	W713	N714	ARG	ARG	ARG	ARG	ARG	ARG	ARG	ARG
ARG	ARG	ARG	ARG	ARG			D774										

ARG
LEU
SER
LEU
PRO
GLY
GLN
LEU
GLY
ALA
LEU
THR
SER
GLN
PRO
LEU
HIS
ARG
HIS
GLY
SER
ASP
PRO
GLY
SER

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	41000	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	60	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	1500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.943	Depositor
Minimum map value	-0.562	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.014	Depositor
Recommended contour level	0.22	Depositor
Map size (\AA)	339.59998, 339.59998, 339.59998	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	0.8489999, 0.8489999, 0.8489999	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	0.25	0/3524	0.51	0/4788
1	B	0.25	0/3524	0.51	0/4788
1	C	0.25	0/3524	0.51	0/4788
1	D	0.25	0/3524	0.51	0/4788
All	All	0.25	0/14096	0.51	0/19152

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	3434	0	3453	93	0
1	B	3434	0	3453	104	0
1	C	3434	0	3453	93	0
1	D	3434	0	3453	102	0
All	All	13736	0	13812	367	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 13.

The worst 5 of 367 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:417:LEU:HD11	1:D:459:VAL:HG22	1.58	0.85
1:A:417:LEU:HD11	1:A:459:VAL:HG22	1.58	0.84
1:B:720:PHE:HB3	1:B:724:LEU:HB3	1.61	0.83
1:D:720:PHE:HB3	1:D:724:LEU:HB3	1.61	0.83
1:C:417:LEU:HD11	1:C:459:VAL:HG22	1.58	0.83

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	421/1159 (36%)	396 (94%)	23 (6%)	2 (0%)	29	68
1	B	421/1159 (36%)	396 (94%)	24 (6%)	1 (0%)	47	81
1	C	421/1159 (36%)	396 (94%)	23 (6%)	2 (0%)	29	68
1	D	421/1159 (36%)	396 (94%)	23 (6%)	2 (0%)	29	68
All	All	1684/4636 (36%)	1584 (94%)	93 (6%)	7 (0%)	38	72

5 of 7 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	688	GLN
1	C	688	GLN
1	D	688	GLN
1	B	688	GLN
1	A	450	GLN

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	364/973 (37%)	363 (100%)	1 (0%)	92	97
1	B	364/973 (37%)	362 (100%)	2 (0%)	88	94
1	C	364/973 (37%)	363 (100%)	1 (0%)	92	97
1	D	364/973 (37%)	362 (100%)	2 (0%)	88	94
All	All	1456/3892 (37%)	1450 (100%)	6 (0%)	91	96

5 of 6 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	D	863	ARG
1	B	762	HIS
1	B	863	ARG
1	C	863	ARG
1	A	863	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (5) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	731	HIS
1	D	731	HIS
1	D	733	ASN
1	B	731	HIS
1	B	733	ASN

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 monosaccharides 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.

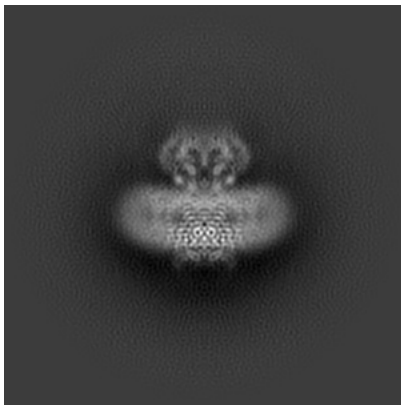
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-35607. These allow visual inspection of the internal detail of the map and identification of artifacts.

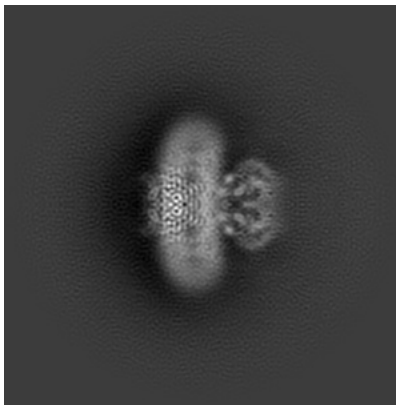
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

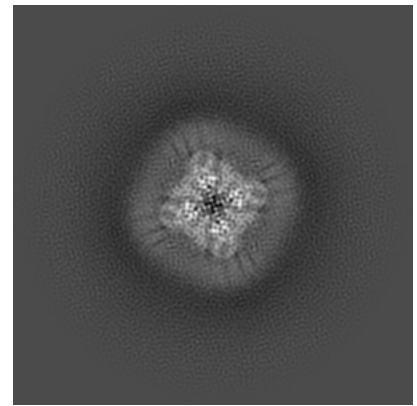
6.1.1 Primary map



X

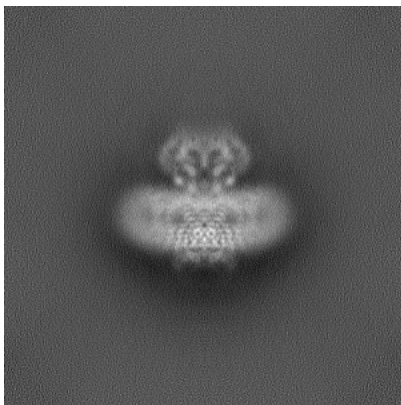


Y

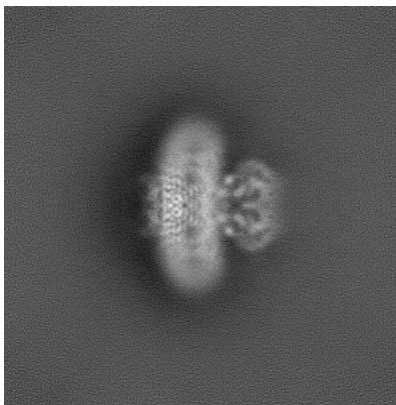


Z

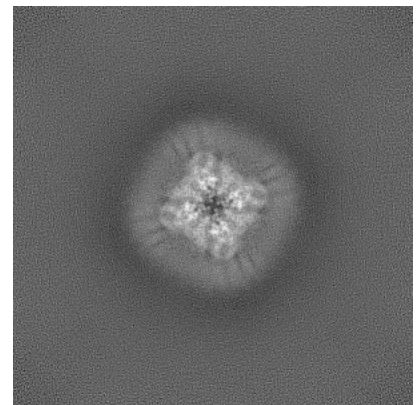
6.1.2 Raw map



X



Y

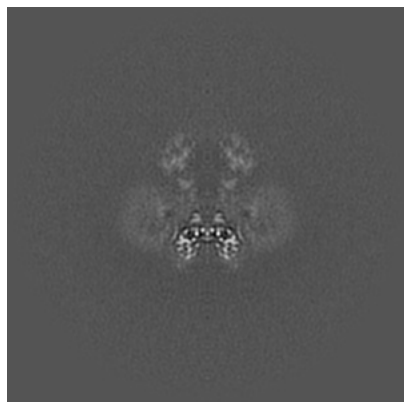


Z

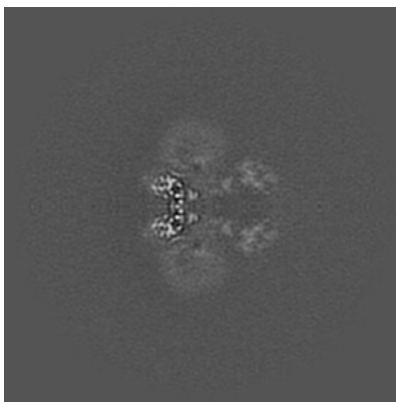
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

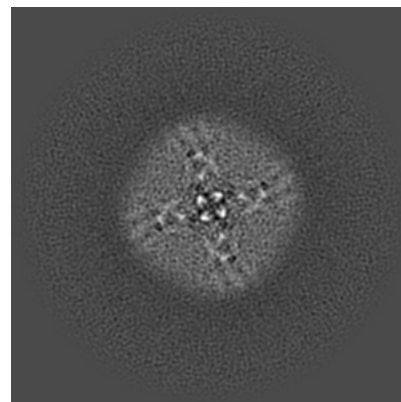
6.2.1 Primary map



X Index: 200

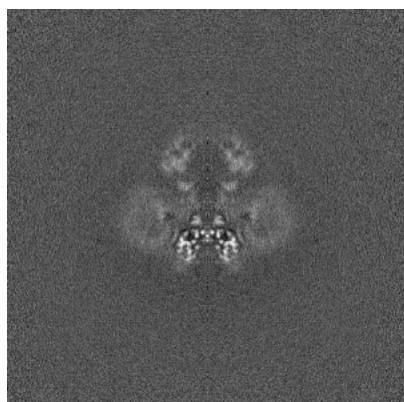


Y Index: 200

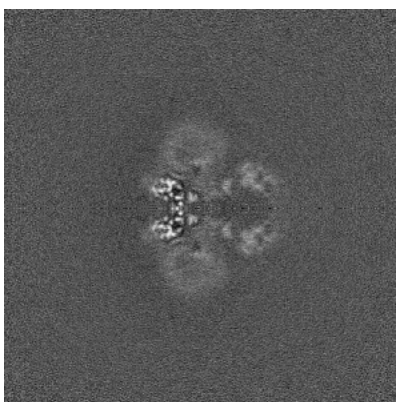


Z Index: 200

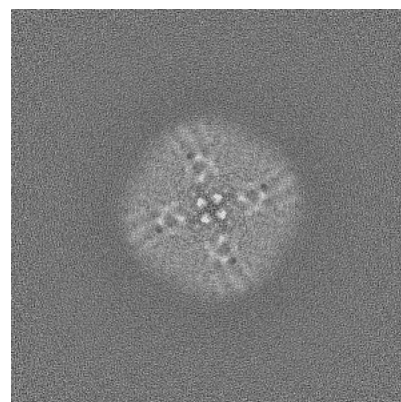
6.2.2 Raw map



X Index: 200



Y Index: 200

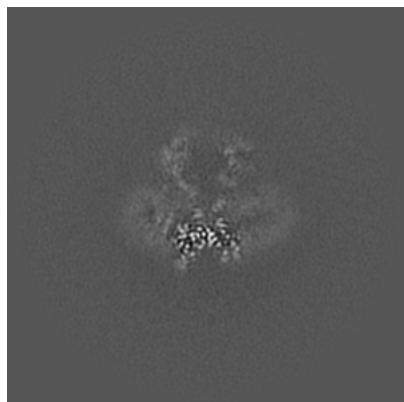


Z Index: 200

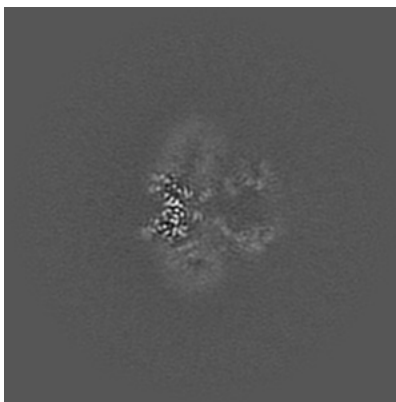
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

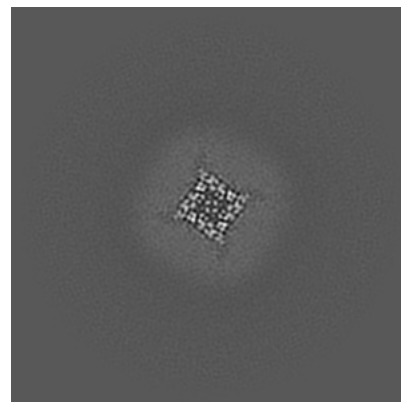
6.3.1 Primary map



X Index: 204

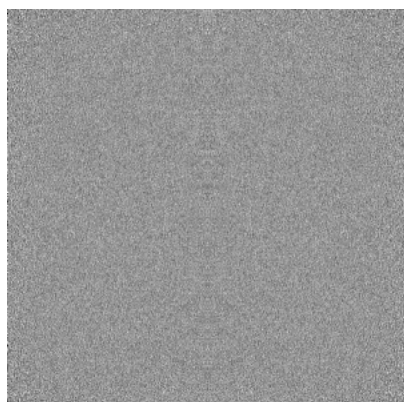


Y Index: 196

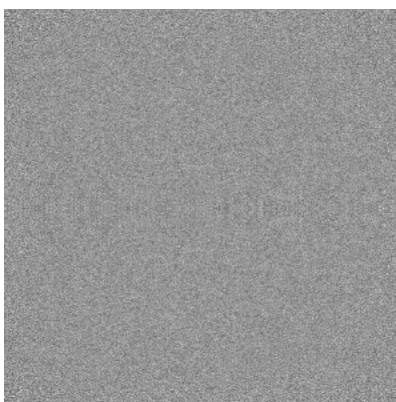


Z Index: 164

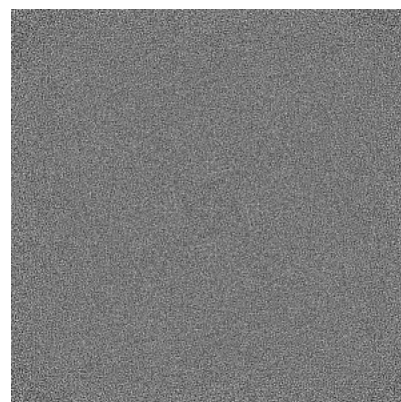
6.3.2 Raw map



X Index: 0



Y Index: 0

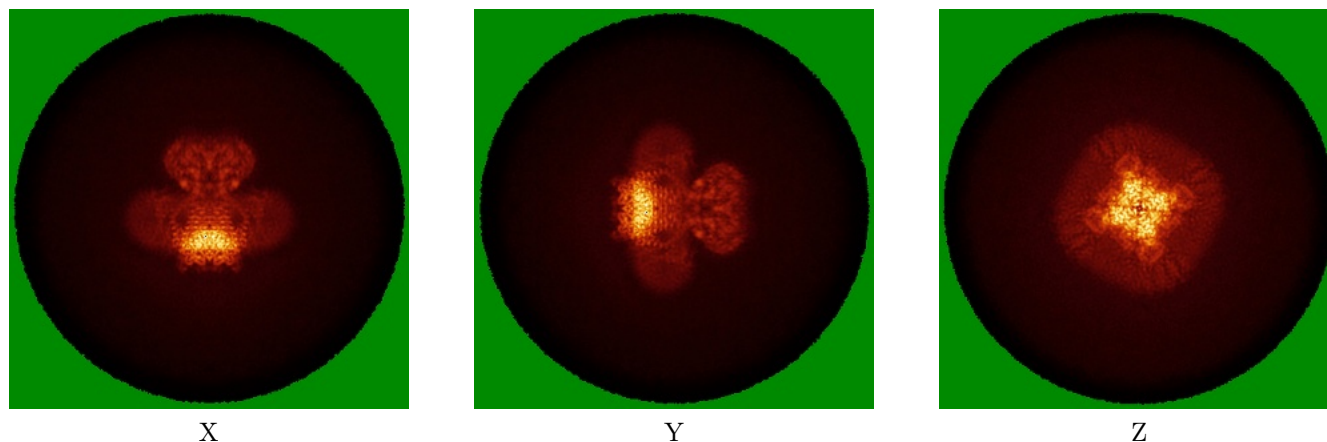


Z Index: 399

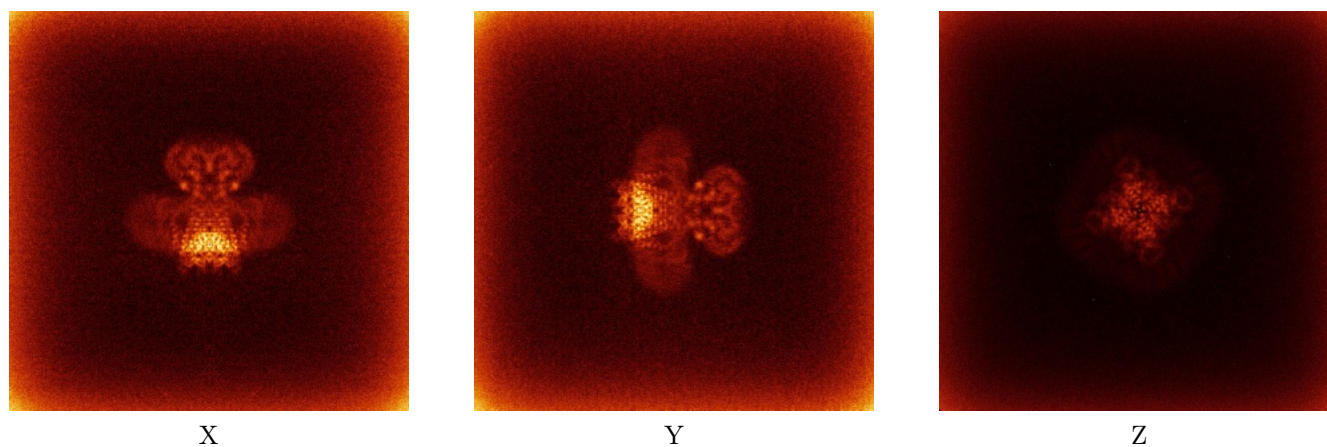
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map



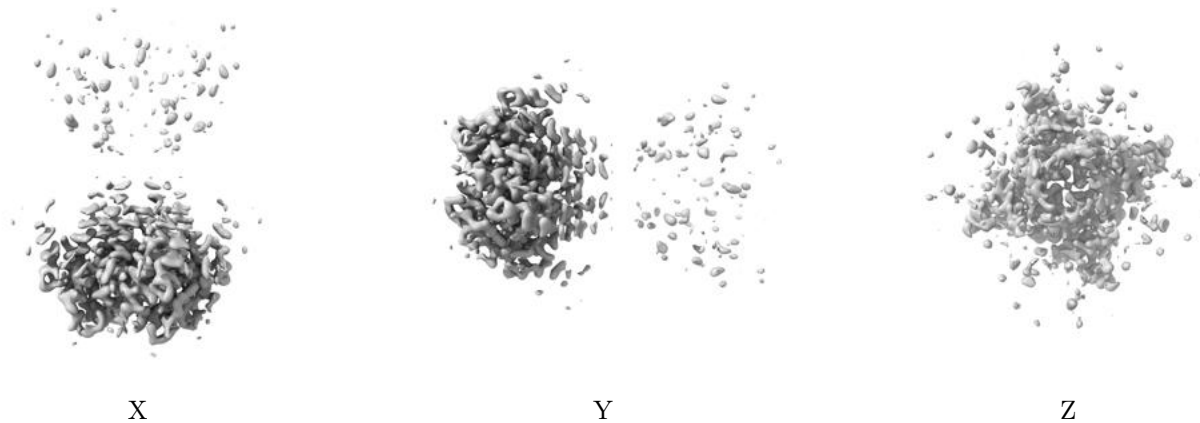
6.4.2 Raw map



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.

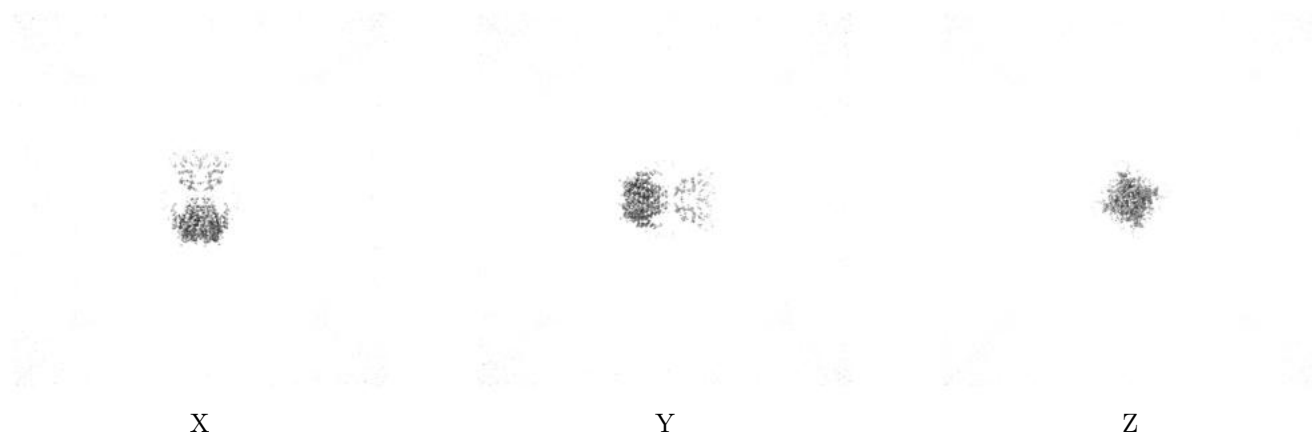
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.22. 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.

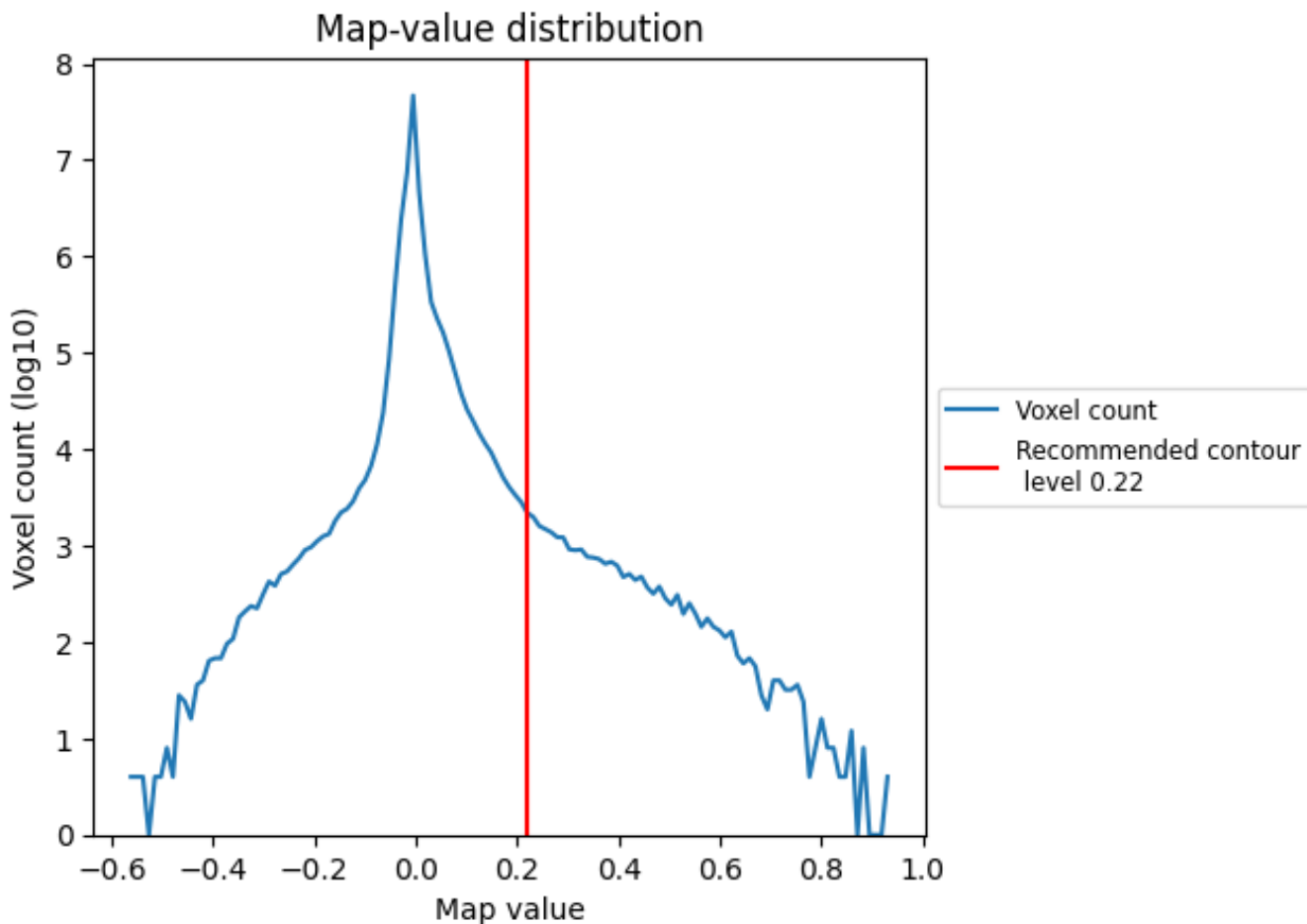
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

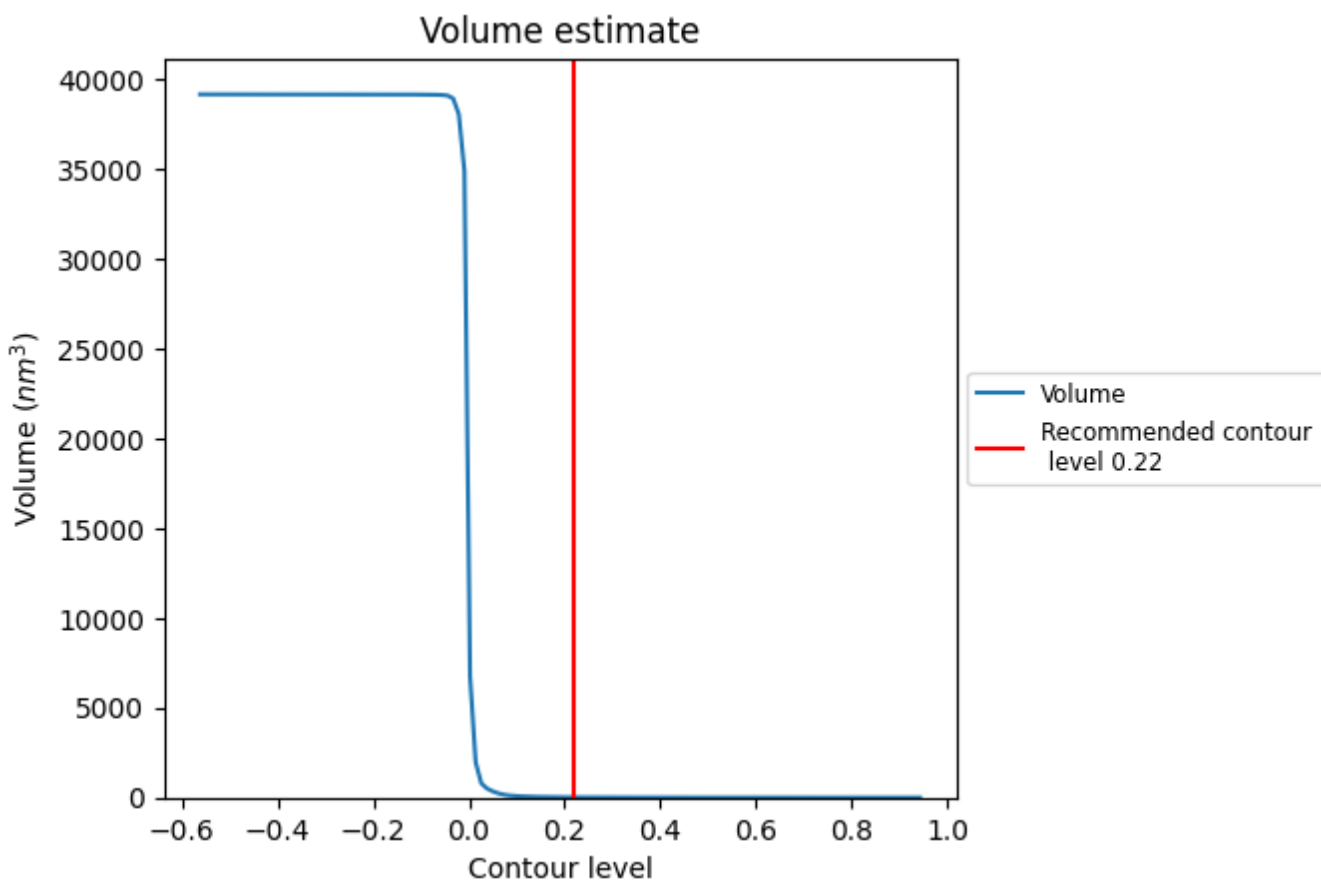
This section contains the results of statistical analysis of the map.

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.

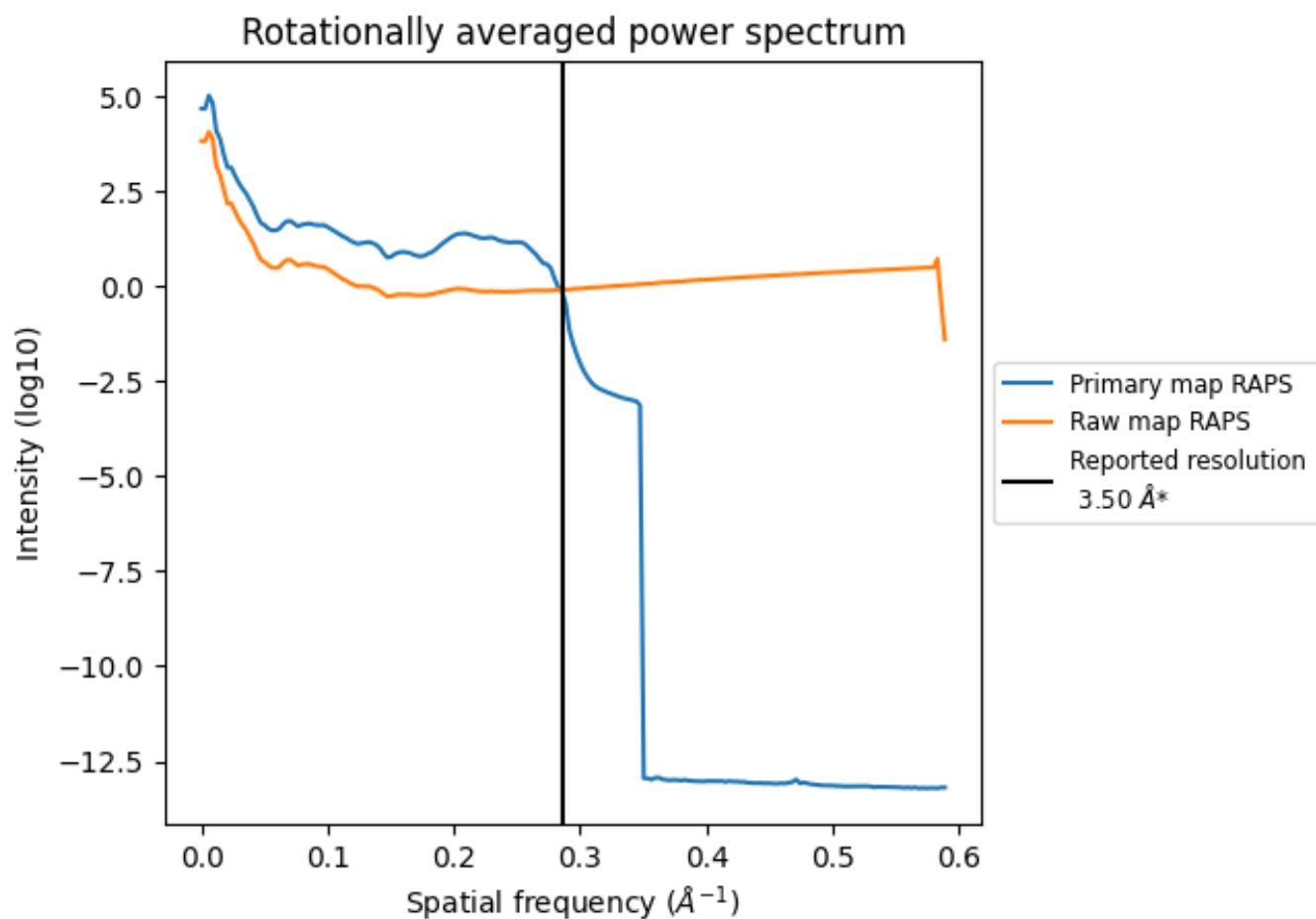
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 15 nm³; this corresponds to an approximate mass of 13 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum [i](#)

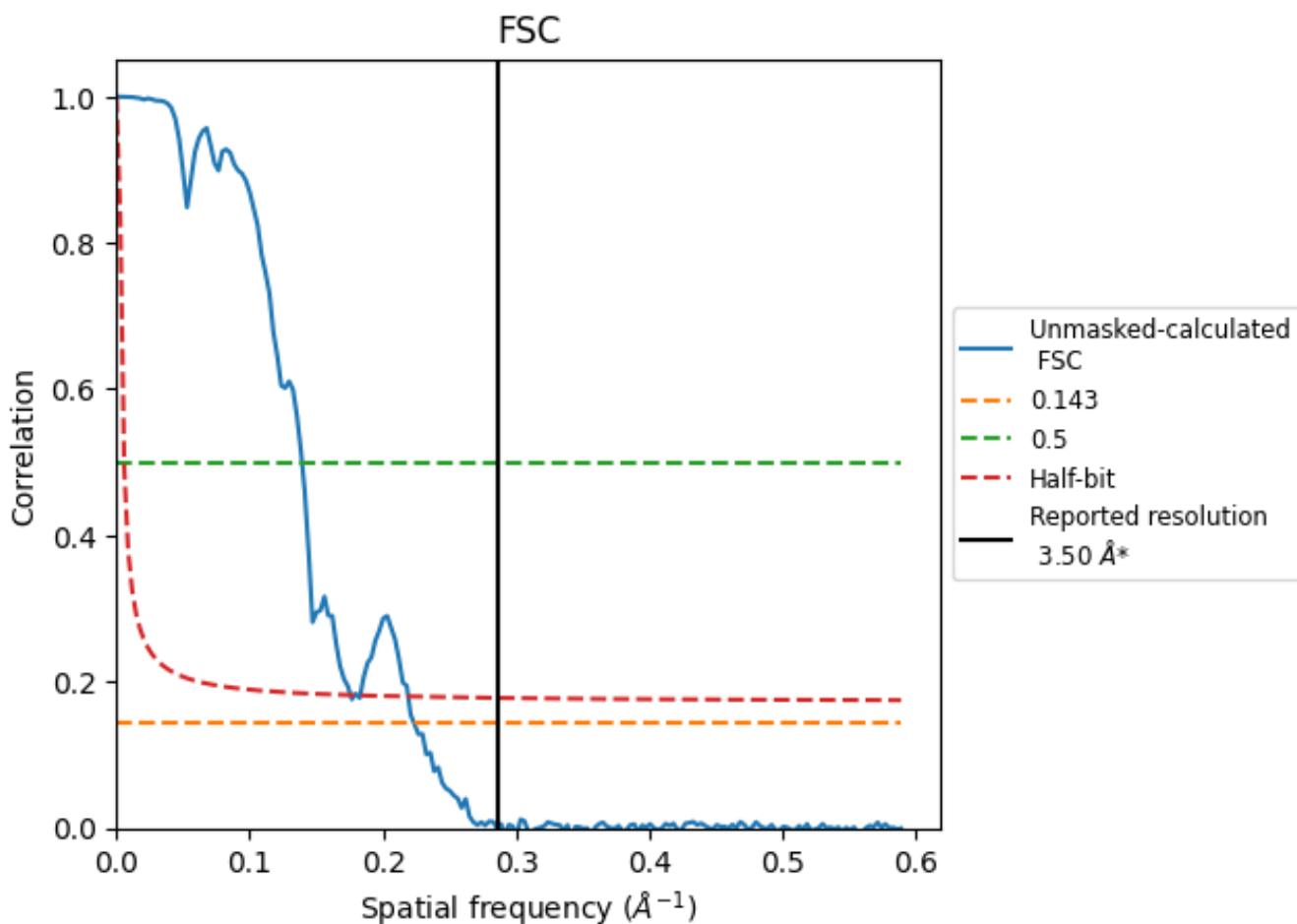


*Reported resolution corresponds to spatial frequency of 0.286 Å⁻¹

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 0.286\AA^{-1}

8.2 Resolution estimates [i](#)

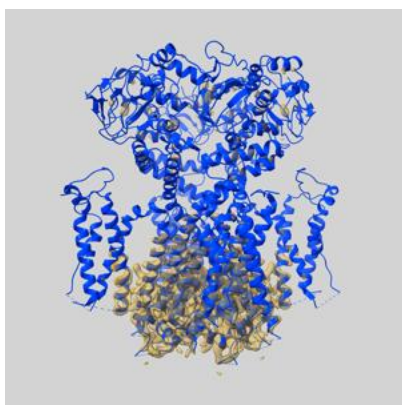
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.50	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.47	7.18	5.69

*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 4.47 differs from the reported value 3.5 by more than 10 %

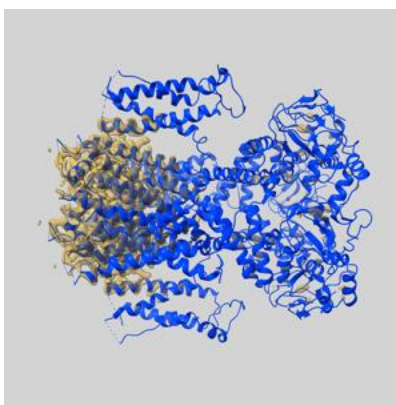
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-35607 and PDB model 8IO4. Per-residue inclusion information can be found in section 3 on page 4.

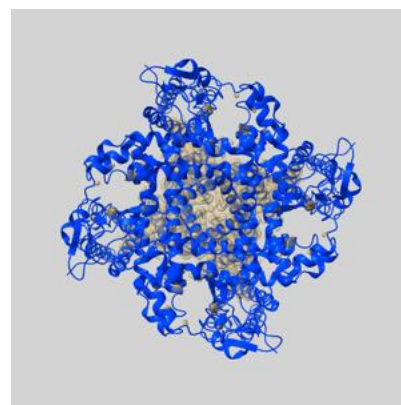
9.1 Map-model overlay [i](#)



X



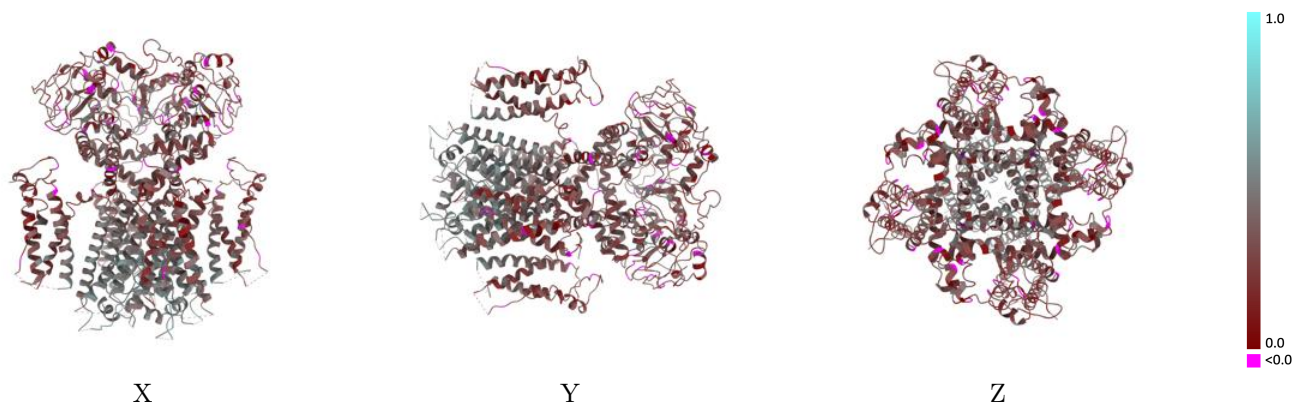
Y



Z

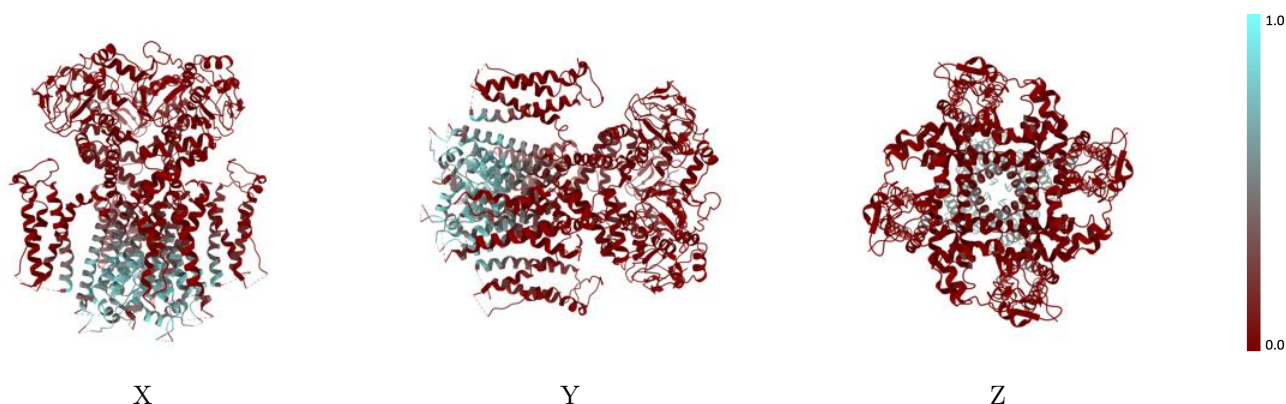
The images above show the 3D surface view of the map at the recommended contour level 0.22 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



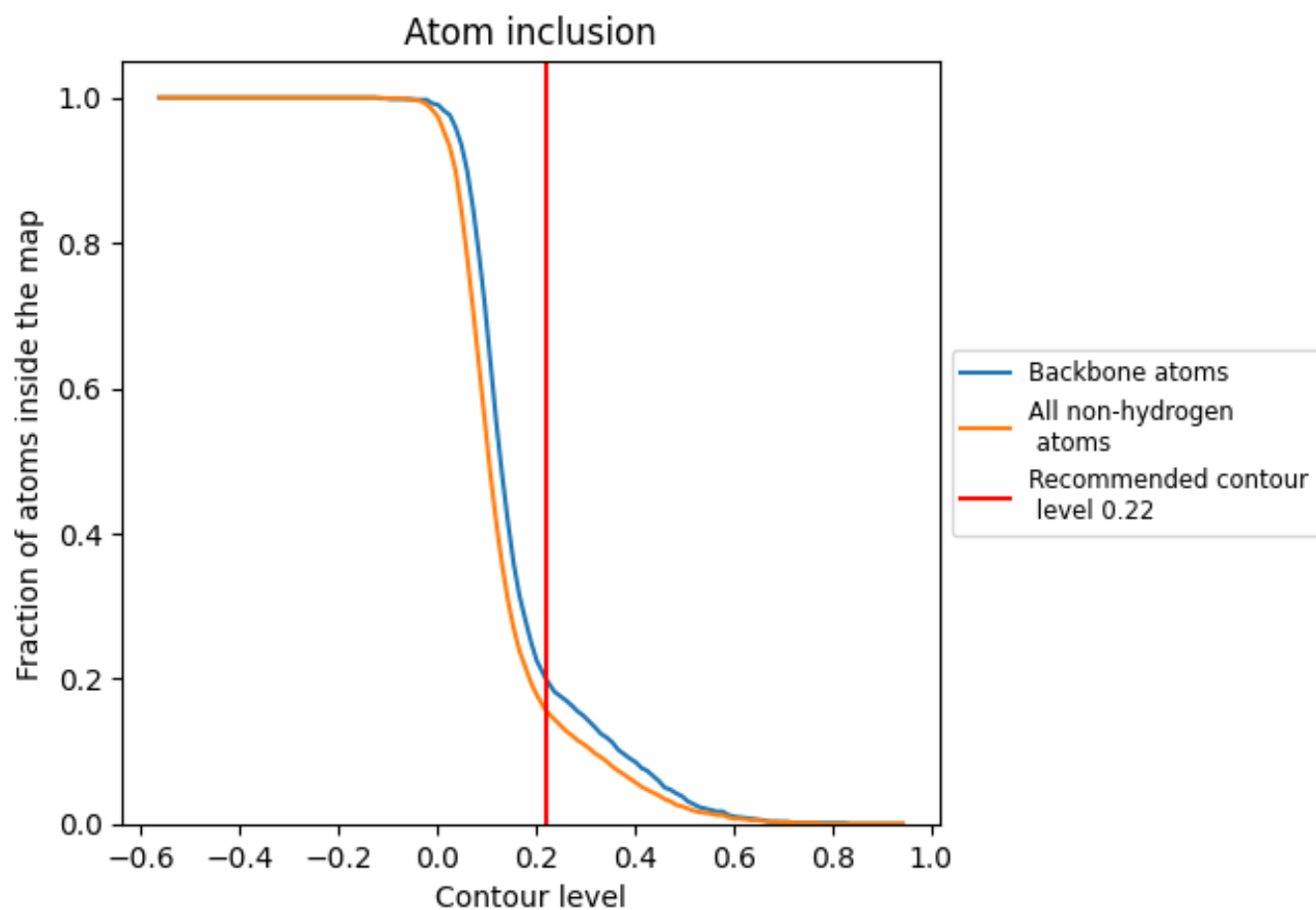
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.22).











9.4 Atom inclusion [i](#)



At the recommended contour level, 20% of all backbone atoms, 16% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary [i](#)

The table lists the average atom inclusion at the recommended contour level (0.22) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.1560	 0.3250
A	 0.1560	 0.3240
B	 0.1570	 0.3240
C	 0.1560	 0.3250
D	 0.1570	 0.3260

