



## wwPDB EM Validation Summary Report ⓘ

Nov 29, 2022 – 09:33 AM JST

PDB ID : 7W6K  
EMDB ID : EMD-32328  
Title : Cryo-EM structure of GmALMT12/QUAC1 anion channel  
Authors : Qin, L.; Tang, L.H.; Xu, J.S.; Zhang, X.H.; Zhu, Y.; Sun, F.; Su, M.; Zhai, Y.J.; Chen, Y.H.  
Deposited on : 2021-12-01  
Resolution : 3.50 Å(reported)

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<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>.

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

EMDB validation analysis : 0.0.1.dev43  
MolProbity : 4.02b-467  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
MapQ : 1.9.9  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.31.3

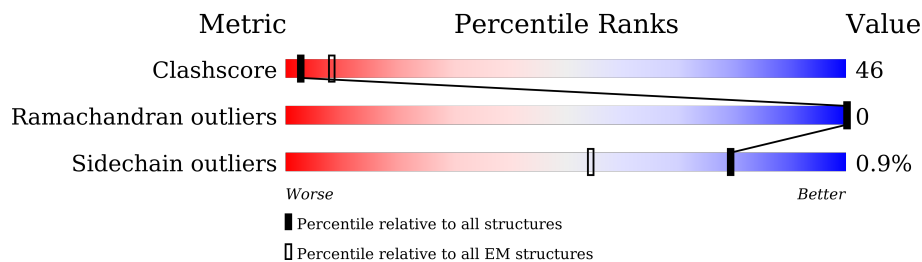
# 1 Overall quality at a glance

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  $\geq 3$ , 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	537	
1	B	537	

## 2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 6468 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.

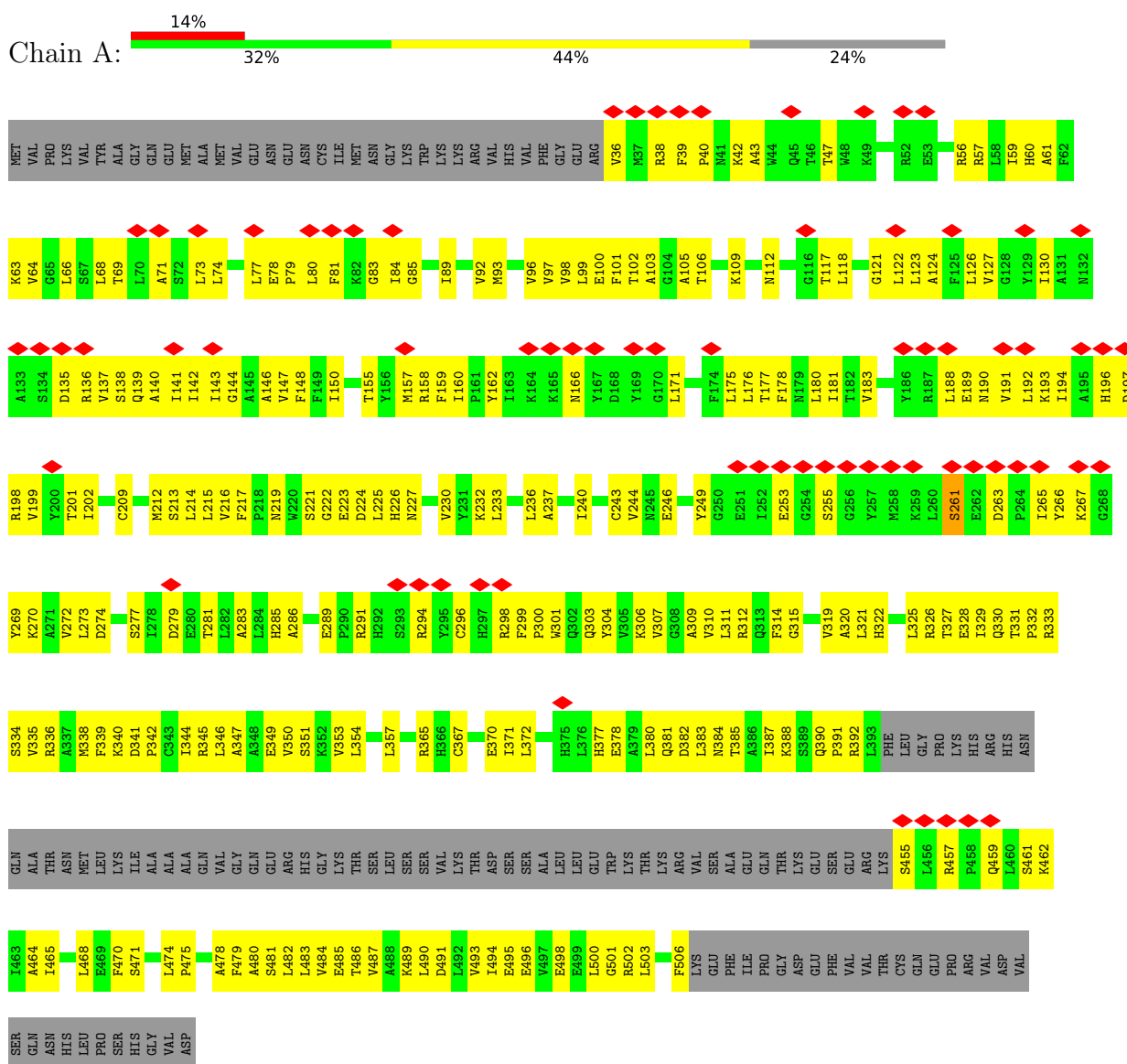
- Molecule 1 is a protein called GmALMT12/QUAC1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	410	Total 3234	2101	547	571	15	0	0
1	B	410	Total 3234	2101	547	571	15	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: GmALMT12/QUAC1



#### • Molecule 1: GmALMT12/QUAC1



LEU	PRO	SER	HIS	GLY	VAL	ASP																																																				
I463	A464	I465	L468	L474	A478	A480	A481	L482	L483	V484	E485	T486	V487	A488	K489	L490	D491	L492	I493	I494	E495	E496	V497	E498	E499	L500	G501	R502	L503	F506	LYS	GLU	PHE	ILE	PRO	GLY	ASP	GLU	PHE	VAL	THR	LYS	SER	CYS	GLN	GLU	ARG	LYS	S455	L456	R457	P458	Q459	L460	S461	K462		
S834	V335	R336	A337	M338	F339	K340	D341	P342	C343	I344	R345	GLN	L346	A347	A348	E349	V350	S351	K352	V353	L354	L357	R365	H366	C367	E370	I371	L372	H375	L376	H377	E378	A379	L380	Q381	D382	L383	N384	T385	A386	I387	K388	S389	Q390	F391	R392	L393	PHE	LEU	GLY	PRO	LYS	HIS	ARG	GLN	ASN		
Y269	K270	A271	V272	L273	D274	S277	L278	D279	E280	T281	L282	A283	L284	H285	A286	E289	P290	D291	H292	S293	R294	Y295	C296	H297	R298	F299	P300	W301	Q302	Q303	Y304	V305	K306	V307	G308	A309	V310	L311	R312	Q313	F314	G315	V319	A320	L321	H322	L325	R326	T327	E328	I329	T331	P332	R333				
V199	Y200	T201	I202	G205	C209	M212	S213	L214	L215	V216	F217	S221	G222	D223	D224	L225	H226	N227	V230	Y231	K232	L233	L236	A237	I240	C243	V244	N245	E246	Y247	Y249	G250	E251	L252	E253	G254	S255	G256	Y257	M258	K259	L260	S261	D263	I265	Y266	K267	G268										
D135	R136	V137	S138	Q139	A140	I141	I142	G144	A145	V146	F148	F149	I150	L153	A154	T155	Y156	M157	R158	F159	I160	F161	Y162	I163	K164	K166	N166	Y167	D168	Y169	L171	F174	L175	L176	I177	F178	I181	T182	V183	Y186	R187	L188	E189	M190	G128	Y129	I130	A131	K132	L133	H196	D197	R198					
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU	ARG	V36	M37	R38	F39	P40	M41	K42	A43	M44	G104	G105	T106	K109	N112	L115	G116	T117	L118	G121	L122	L123	A124	F125	L126	V127	G128	Y129	I130	A131	V64	G65	L66
VAL	PRO	LYS	VAL	TYR	ALA	GLY	GLN	GLU	MET	ALA	GLY	ASN	ASN	ASN	LYS	TRP	LYS	LYS	LYS	ARG	VAL	VAL	PHE	GLY	GLU</																																	

## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C2	Depositor
Number of particles used	169576	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)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	130000	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	1.238	Depositor
Minimum map value	-0.624	Depositor
Average map value	0.002	Depositor
Map value standard deviation	0.041	Depositor
Recommended contour level	0.33	Depositor
Map size ( $\text{\AA}$ )	232.95999, 232.95999, 232.95999	wwPDB
Map dimensions	224, 224, 224	wwPDB
Map angles ( $^\circ$ )	90.0, 90.0, 90.0	wwPDB
Pixel spacing ( $\text{\AA}$ )	1.04, 1.04, 1.04	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	0.41	0/3304	0.58	0/4481
1	B	0.41	0/3304	0.58	0/4481
All	All	0.41	0/6608	0.58	0/8962

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	3234	0	3321	330	0
1	B	3234	0	3321	326	0
All	All	6468	0	6642	606	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 46.

The worst 5 of 606 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:A:80:LEU:HD23	1:A:81:PHE:N	1.57	1.20
1:B:80:LEU:HD23	1:B:81:PHE:N	1.57	1.18

*Continued on next page...*

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:80:LEU:HD23	1:A:81:PHE:H	0.95	1.10
1:B:80:LEU:HD23	1:B:81:PHE:H	0.95	1.09
1:A:270:LYS:HA	1:A:273:LEU:HD12	1.36	1.07

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	406/537 (76%)	377 (93%)	29 (7%)	0	100	100
1	B	406/537 (76%)	377 (93%)	29 (7%)	0	100	100
All	All	812/1074 (76%)	754 (93%)	58 (7%)	0	100	100

There are no Ramachandran outliers to report.

### 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	348/459 (76%)	345 (99%)	3 (1%)	78	90
1	B	348/459 (76%)	345 (99%)	3 (1%)	78	90
All	All	696/918 (76%)	690 (99%)	6 (1%)	79	90

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



Mol	Chain	Res	Type
1	B	166	ASN
1	B	261	SER
1	B	365	ARG
1	A	261	SER
1	A	166	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 16 such sidechains are listed below:

Mol	Chain	Res	Type
1	B	330	GLN
1	B	226	HIS
1	B	86	GLN
1	B	219	ASN
1	A	390	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 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.

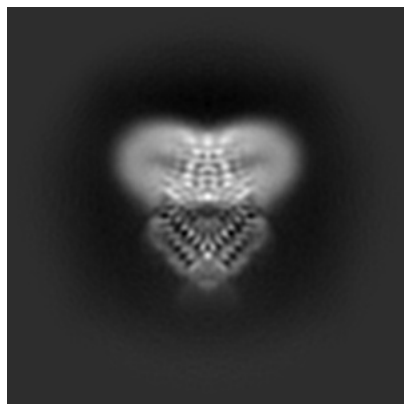
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-32328. These allow visual inspection of the internal detail of the map and identification of artifacts.

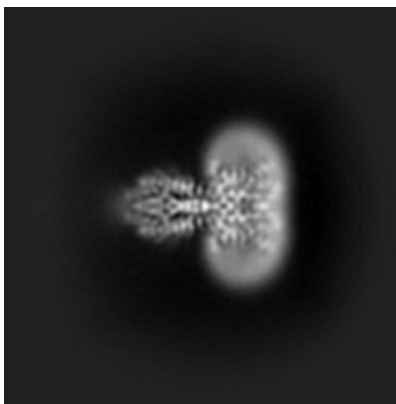
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

### 6.1 Orthogonal projections [i](#)

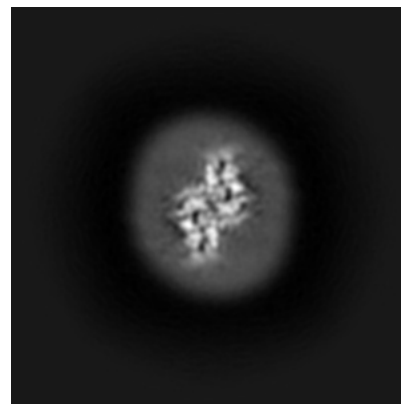
#### 6.1.1 Primary map



X

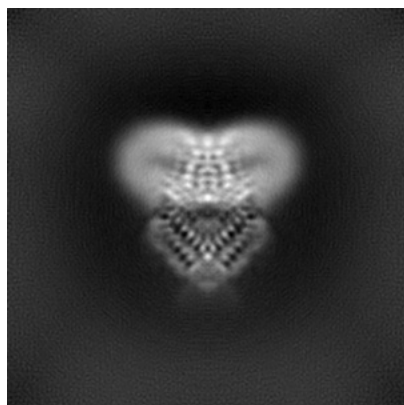


Y

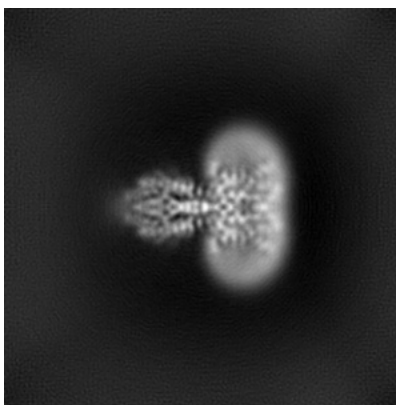


Z

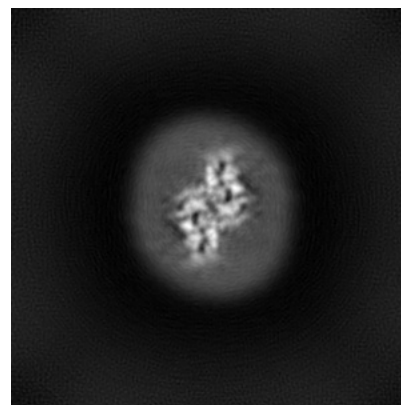
#### 6.1.2 Raw map



X



Y

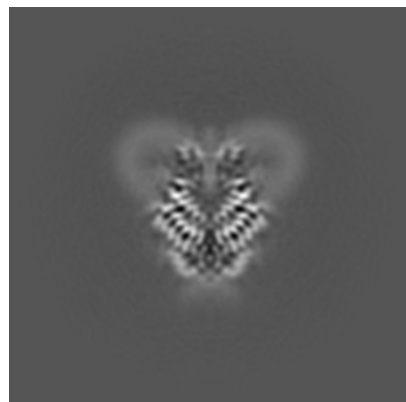


Z

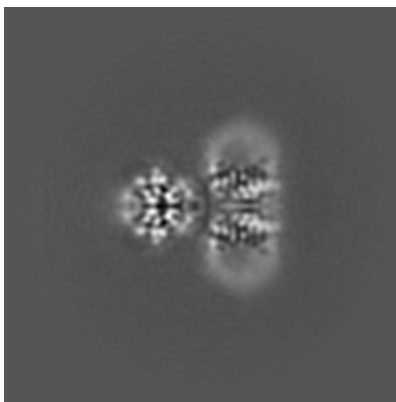
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices [i](#)

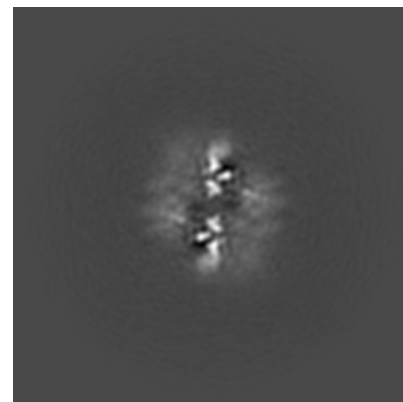
### 6.2.1 Primary map



X Index: 112

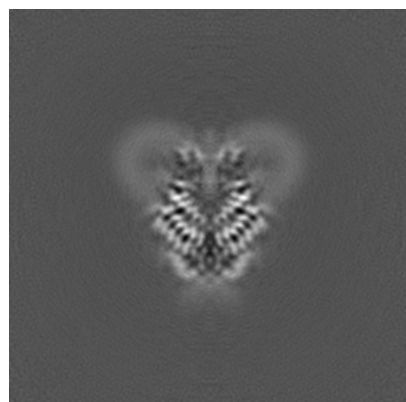


Y Index: 112

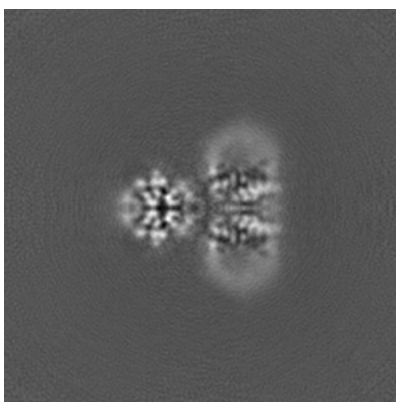


Z Index: 112

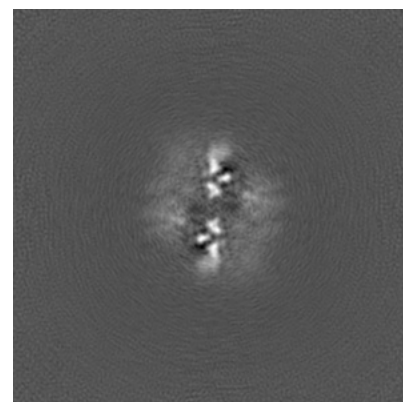
### 6.2.2 Raw map



X Index: 112



Y Index: 112

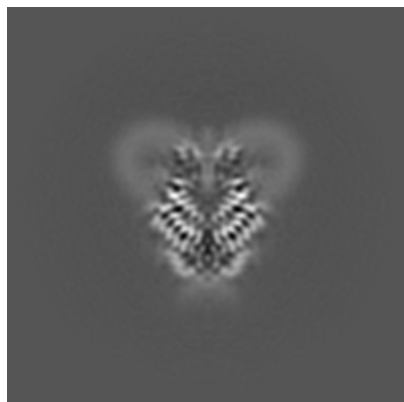


Z Index: 112

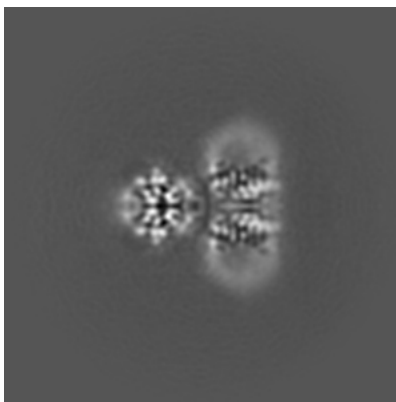
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices [i](#)

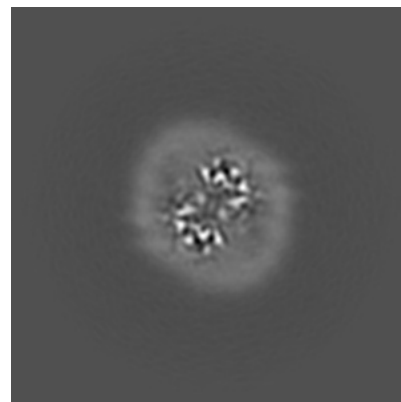
### 6.3.1 Primary map



X Index: 112

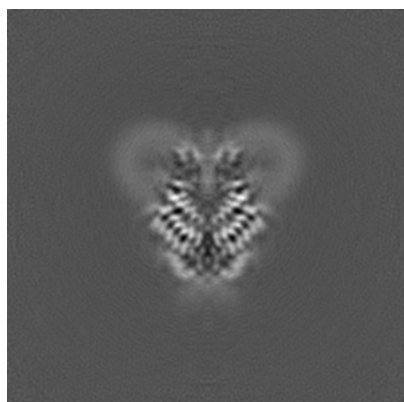


Y Index: 112

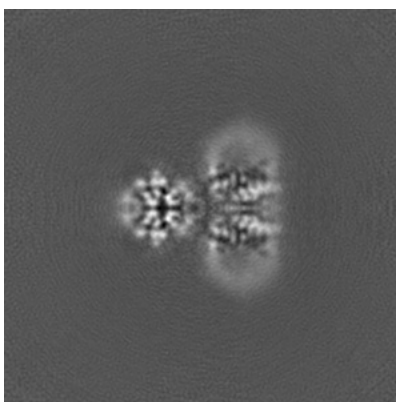


Z Index: 123

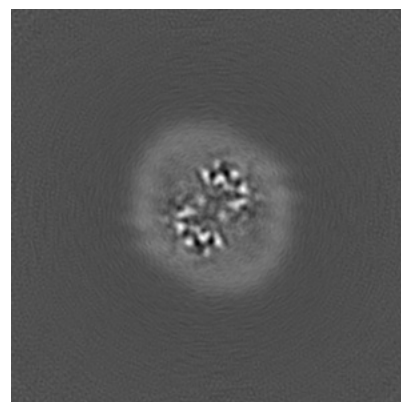
### 6.3.2 Raw map



X Index: 112



Y Index: 112

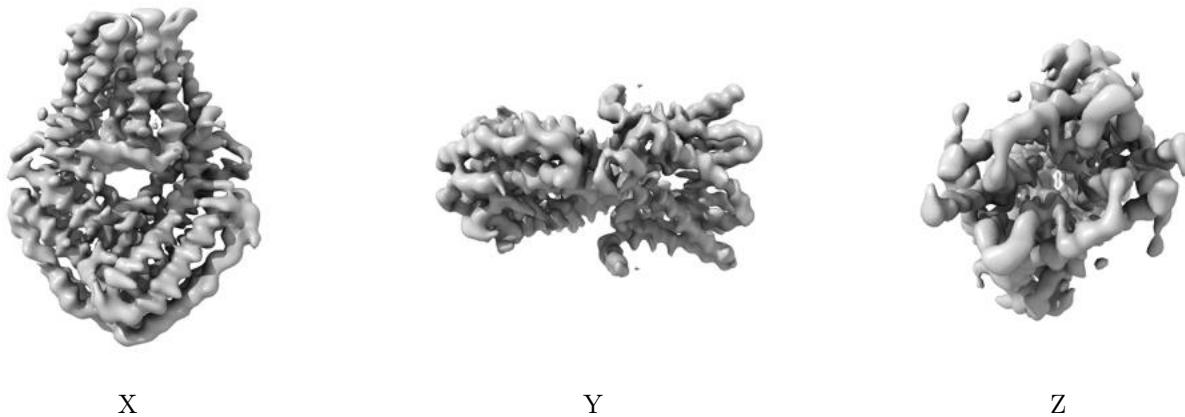


Z Index: 123

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

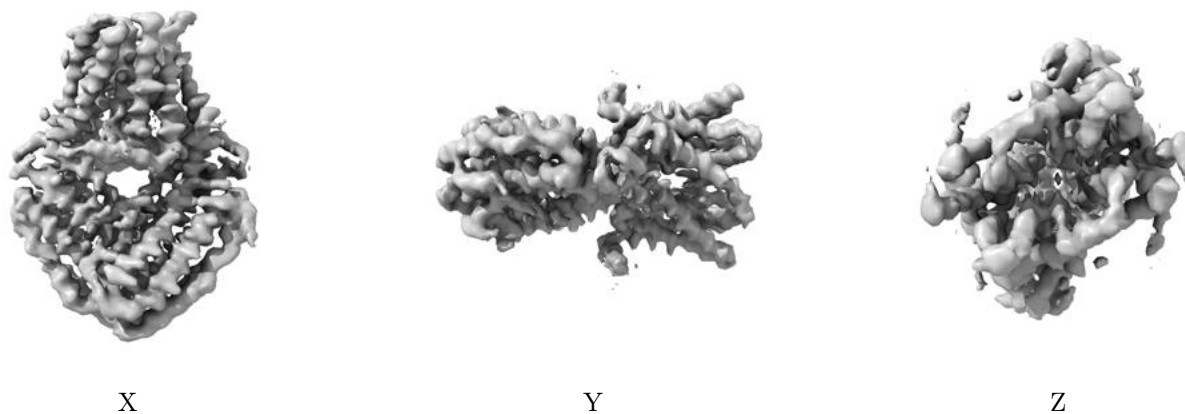
## 6.4 Orthogonal surface views [i](#)

### 6.4.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.33. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

### 6.4.2 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.

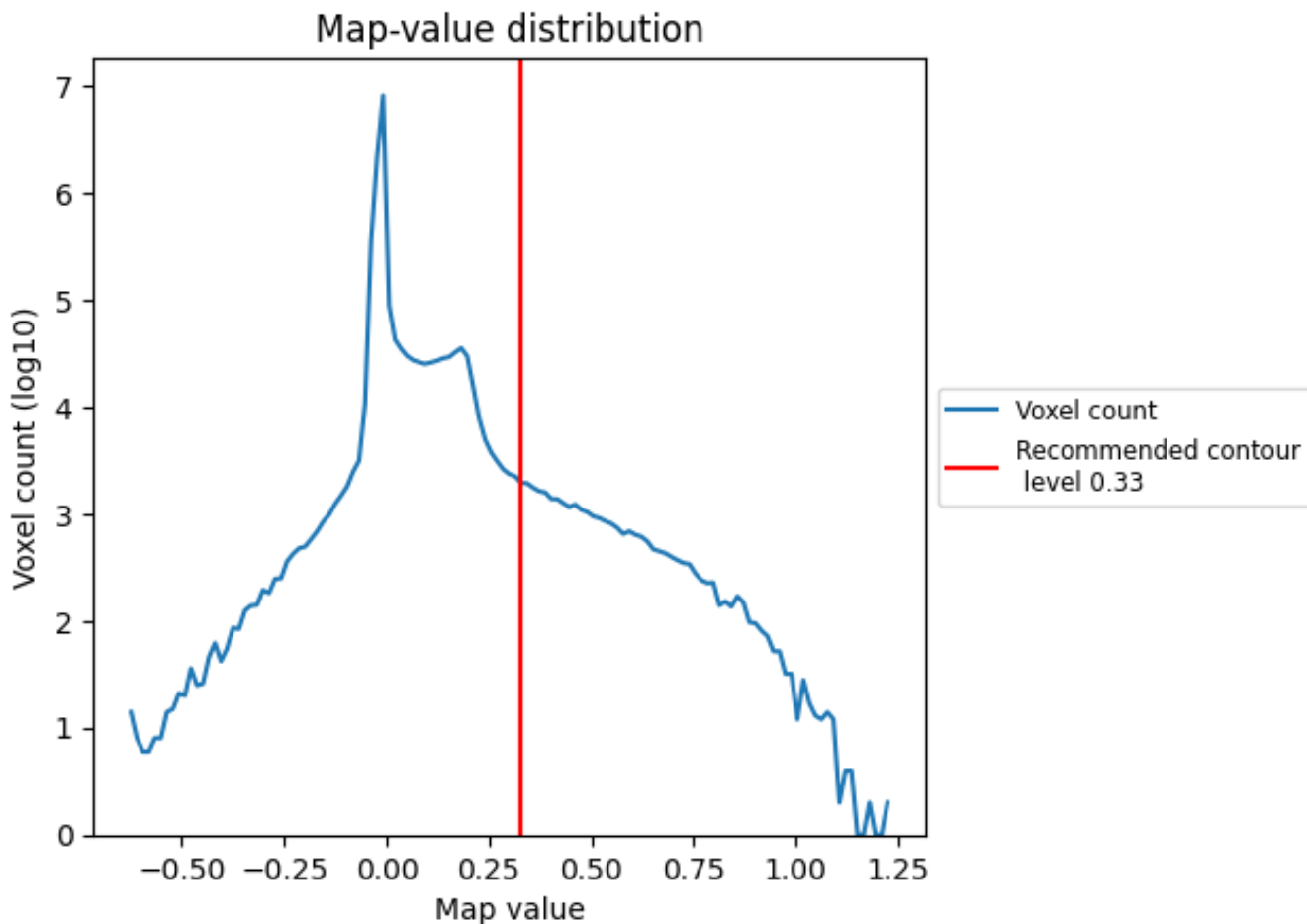
## 6.5 Mask visualisation [i](#)

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

## 7 Map analysis [i](#)

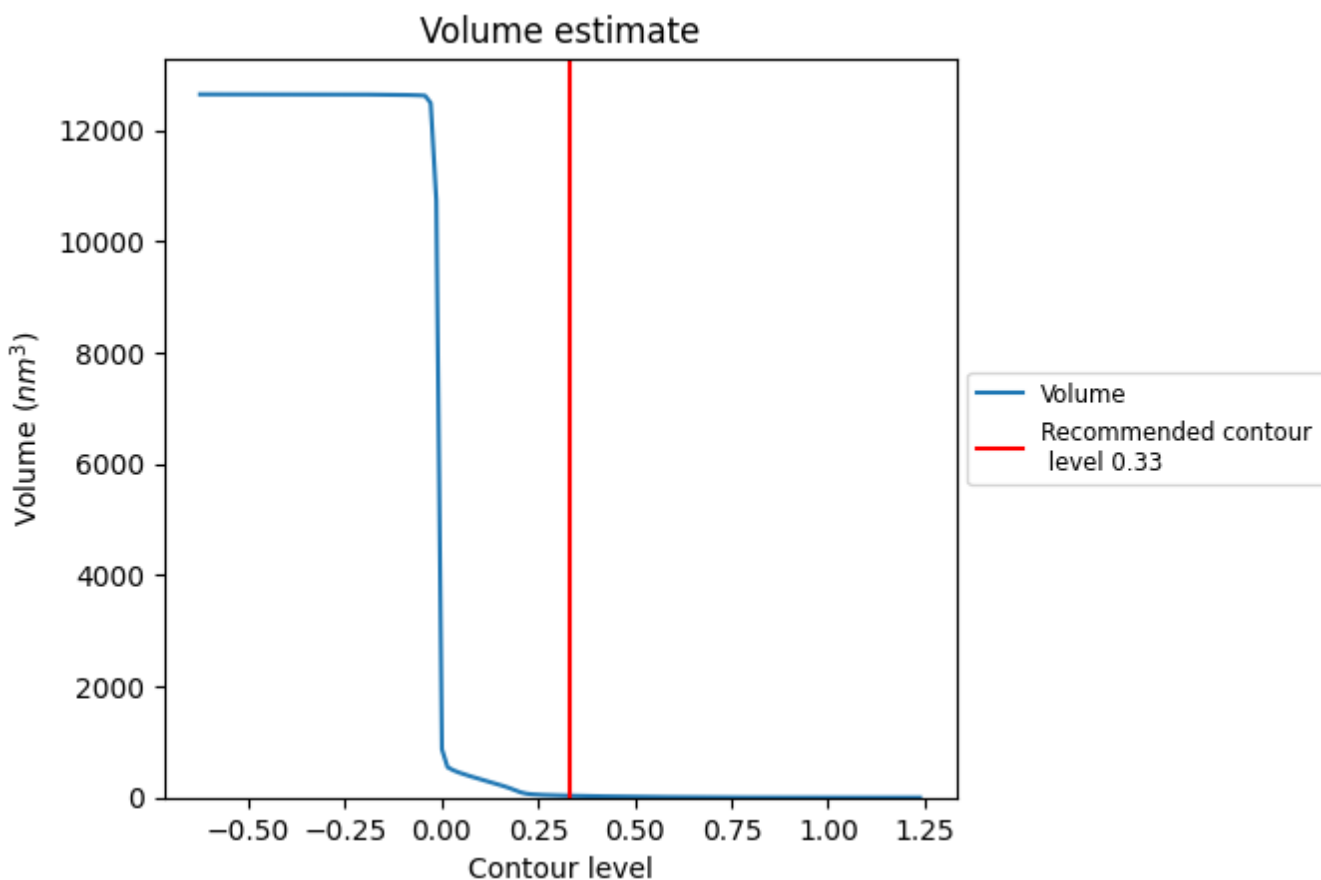
This section contains the results of statistical analysis of the map.

### 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.

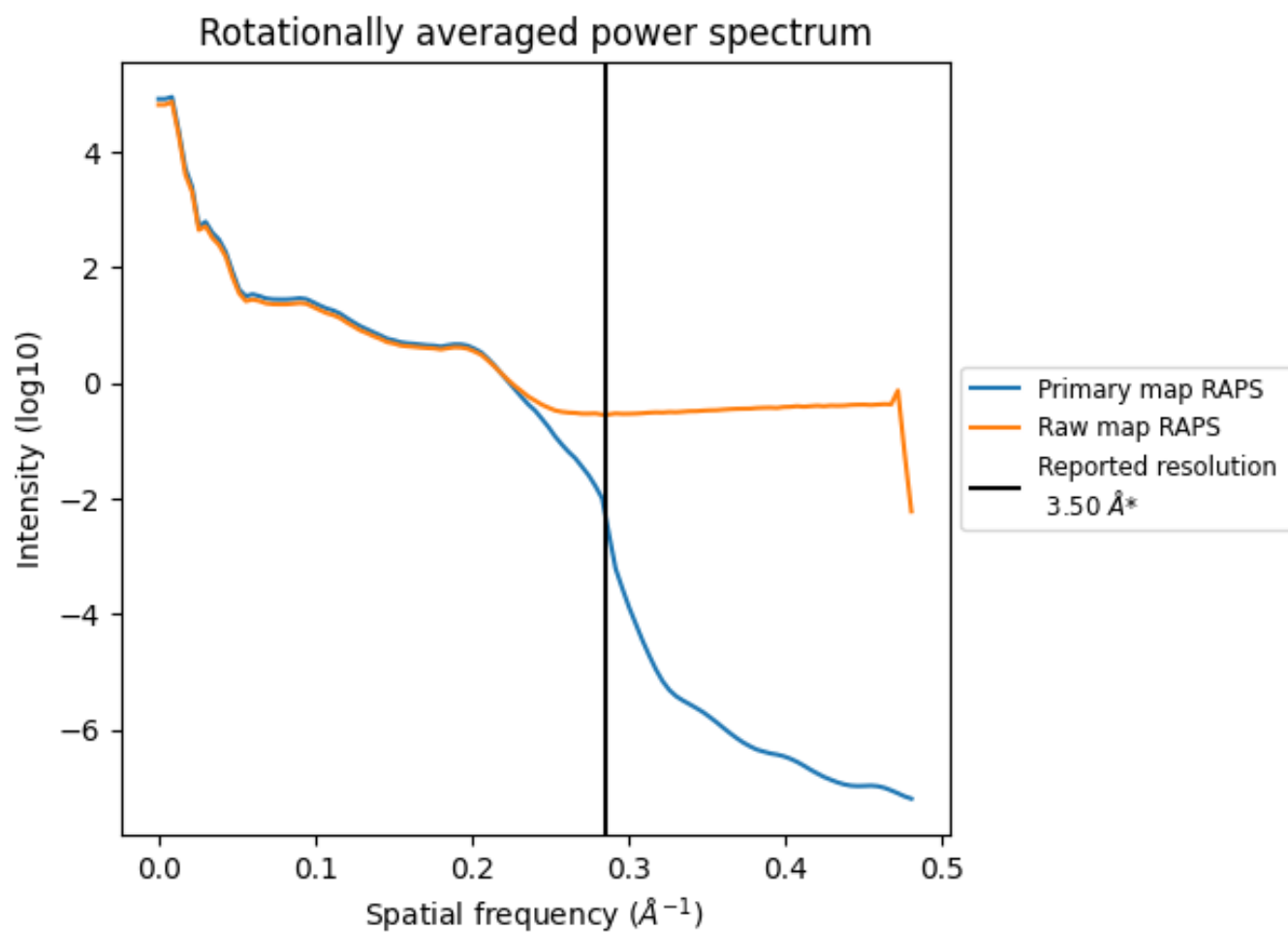
## 7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 34 nm<sup>3</sup>; this corresponds to an approximate mass of 30 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



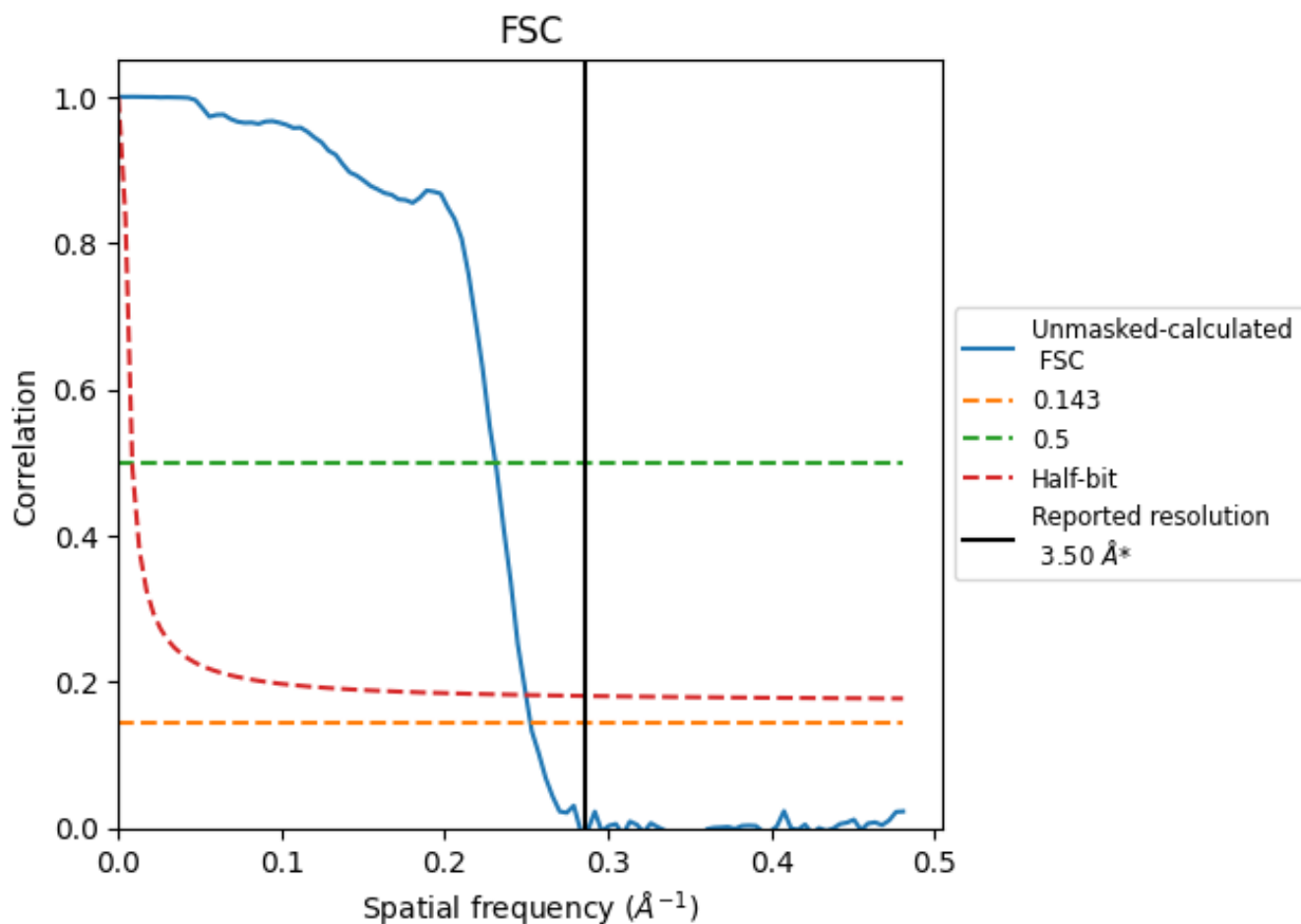
\*Reported resolution corresponds to spatial frequency of 0.286 Å<sup>-1</sup>



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

## 8.2 Resolution estimates [i](#)

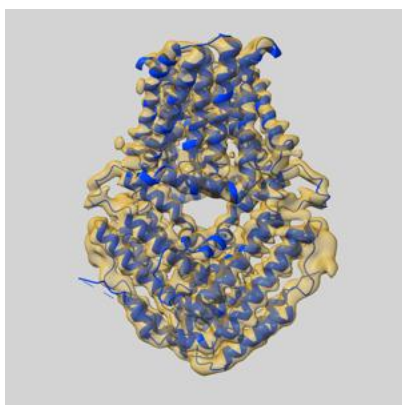
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.50	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.96	4.33	4.01

\*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 3.96 differs from the reported value 3.5 by more than 10 %

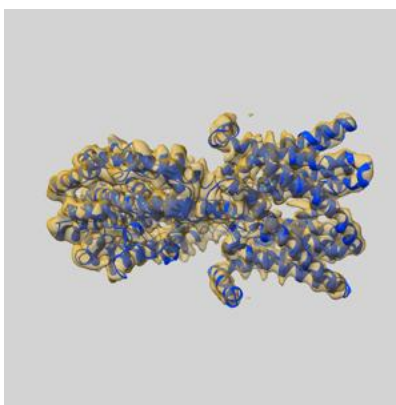
## 9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-32328 and PDB model 7W6K. Per-residue inclusion information can be found in section [3](#) on page [4](#).

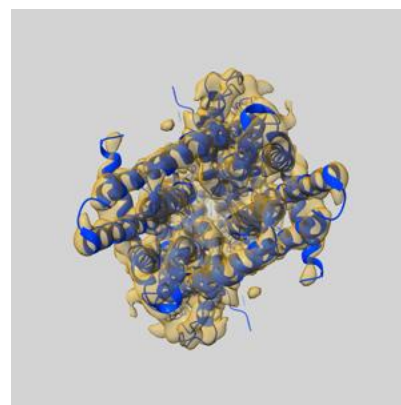
### 9.1 Map-model overlay [i](#)



X



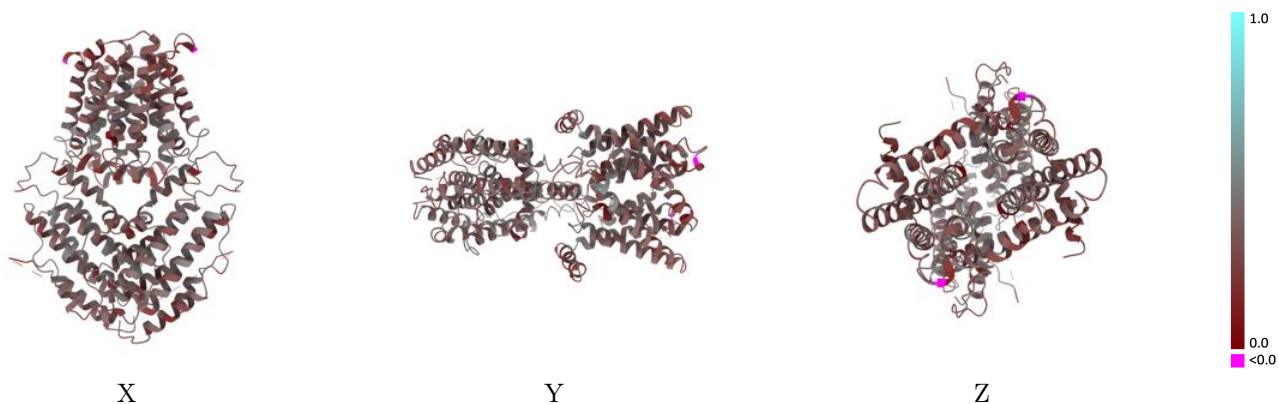
Y



Z

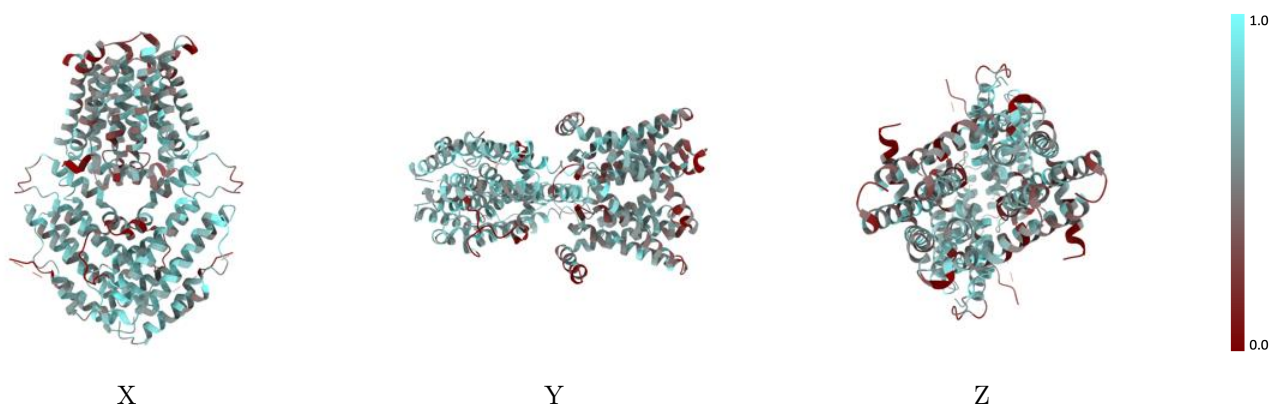
The images above show the 3D surface view of the map at the recommended contour level 0.33 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



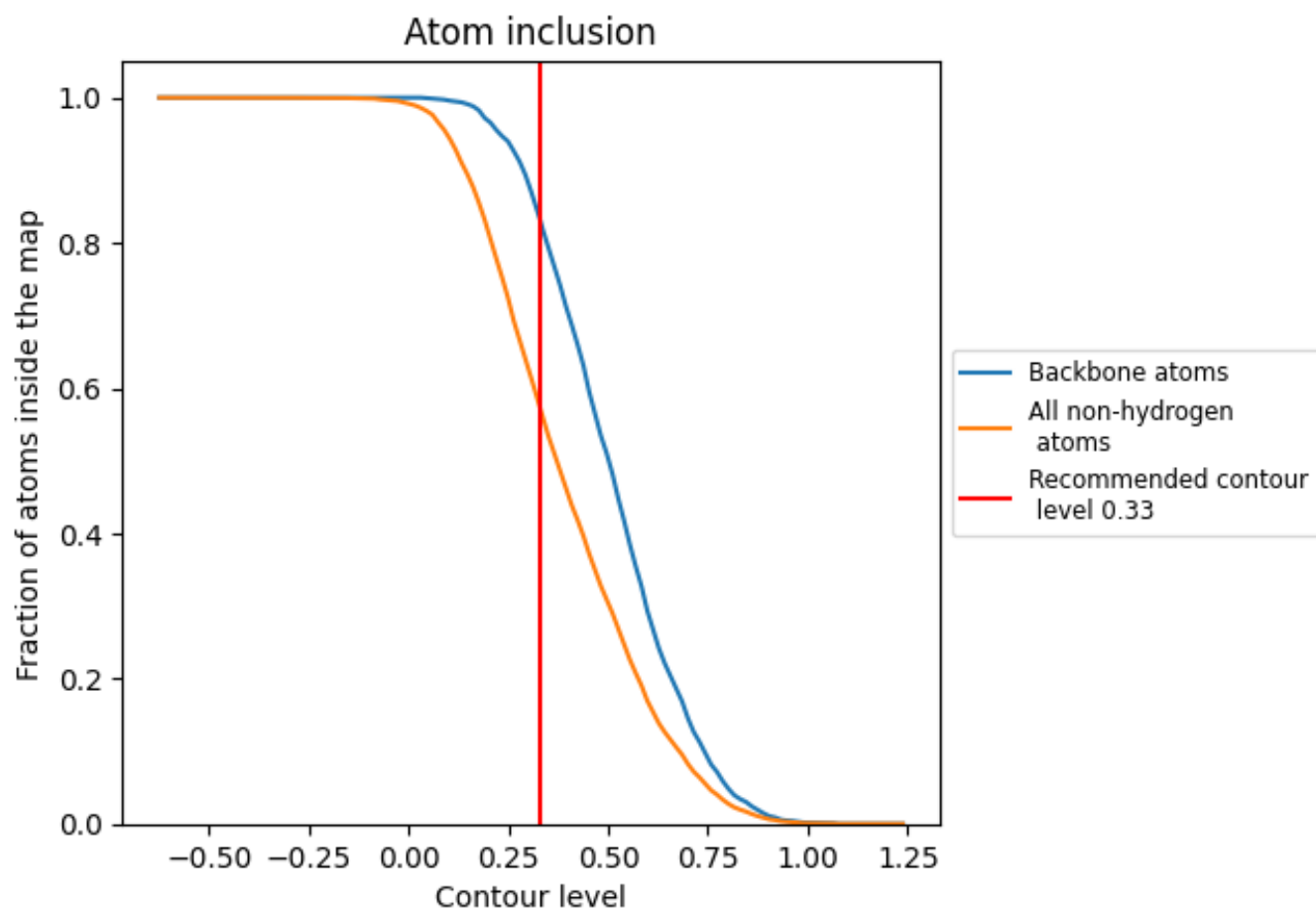
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.33).







## 9.4 Atom inclusion [i](#)



At the recommended contour level, 83% of all backbone atoms, 57% 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 (0.33) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.5712	 0.3520
A	 0.5712	 0.3510
B	 0.5712	 0.3530

