



Full wwPDB EM Validation Report ⓘ

Jul 8, 2024 – 12:22 am BST

PDB ID : 7OTI
EMDB ID : EMD-13060
Title : Structure of ABCB1/P-glycoprotein in apo state
Authors : Ford, R.C.; Barbieri, A.; Thonghin, N.; Shafi, T.; Prince, S.M.; Collins, R.F.
Deposited on : 2021-06-10
Resolution : 4.20 Å(reported)

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

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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>.

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

EMDB validation analysis : 0.0.1.dev92
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) : 2.37.1

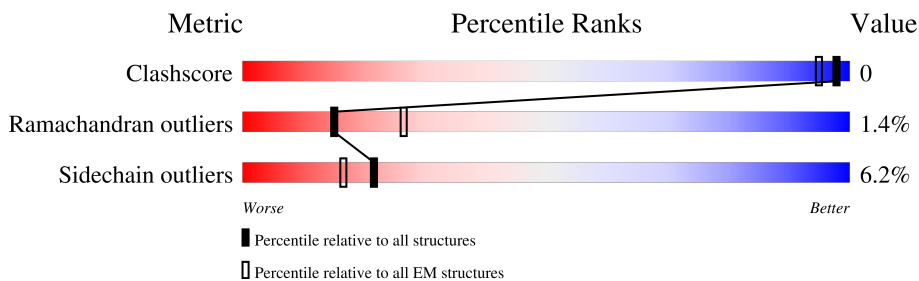
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 4.20 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	1284	

2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 9171 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 Multidrug resistance protein 1A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	1182	9171	5895	1552	1686	38	0	0

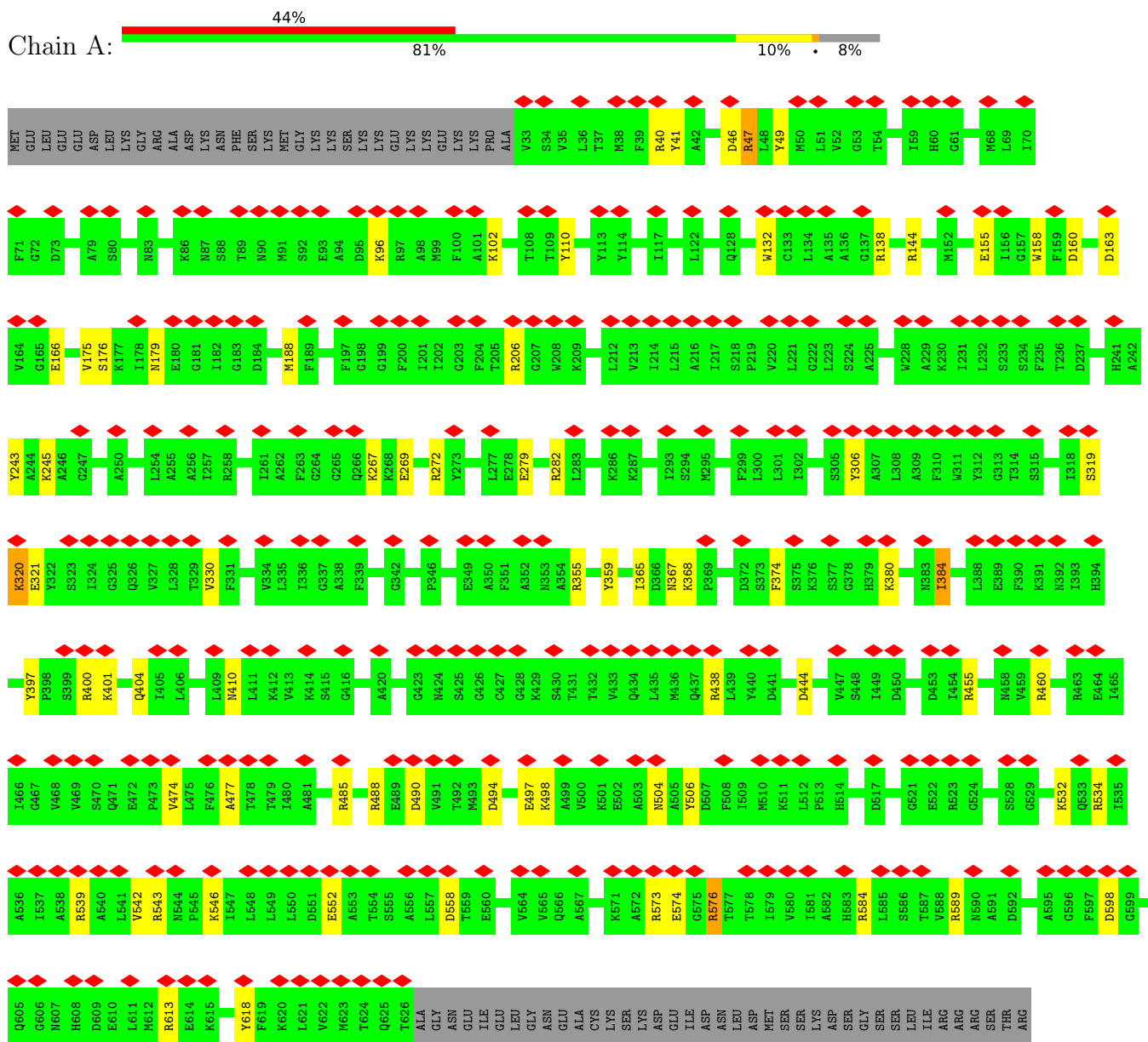
There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1277	LEU	-	expression tag	UNP P21447
A	1278	GLU	-	expression tag	UNP P21447
A	1279	HIS	-	expression tag	UNP P21447
A	1280	HIS	-	expression tag	UNP P21447
A	1281	HIS	-	expression tag	UNP P21447
A	1282	HIS	-	expression tag	UNP P21447
A	1283	HIS	-	expression tag	UNP P21447
A	1284	HIS	-	expression tag	UNP P21447

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: Multidrug resistance protein 1A



LYS	Q744	A624	R908	F950	T1074	A1144	I1224	D1237	M1244	Q1255	S1268	GLY
SER	R745	T825	K911	A991	V1075	A1145	V1225	D1238	K1244	L1256	V1269	ALA
ILE	Q746			P992	V1076	K1146	I1226	L1238	K1245	L1257	V1270	LYS
CYS	N747	R828	L320	D983	Q1077	E1147	A1227	I1239	V1247	L1258	Q1270	ARG
PRO	S748	L829	L924	Y924	L1078	F1153	H1228	V1240	K1248	K1259	F1264	SER
HIS	N749	A630	L320	R925	L1079	I1154	R1229	V1241	K1249	Q1263	S1265	LEU
ASP	L750	F833	Y924	H1003	E1080	D1155	I1230	M1244	L1249	Y1263	S1268	GLU
GLN	F751	Q834	R925	R1006	R1081	D1156	S1231	K1245	E1249	F1264	V1269	HIS
ASP	S752	N835	N926	R1006	F1082	S1157	T1232	K1246	H1250	Y1264	Q1270	HIS
ARG	L753	N836	K929	E1009	Y1083	L1157	I1233	V1247	H1250	F1264	A1271	HIS
LYS	L754	I836	K929	E1009	D1084	L1157	I1233	V1241	M1244	S1265	A1271	
LEU	L755	A837	Y924	E1009	F1085	N1162	Q1234	V1241	K1245	S1265	A1271	
SER	F755	N838	R925	E1009	F1091	T1163	D1237	V1241	K1245	S1265	A1271	
THR	L756	N838	R925	E1009	L1092	R1164	L1238	V1241	K1245	S1265	A1271	
LYS	I757	L839	F934	P1012	L1092	D1167	I1239	V1241	K1245	S1265	A1271	
GLU	L758	G840	G935	E1013	D1093	K1168	I1240	V1241	K1245	S1265	A1271	
ALA	G759	T841	I936	I1014	G1094	L1172	V1240	V1241	K1245	S1265	A1271	
L684	I760	G842	I940	Y1017	I1097	S1173	M1244	V1241	K1245	S1265	A1271	
D885	I761	I843	T941	S1018	K1098	K1177	K1245	V1241	K1245	S1265	A1271	
E886	S762	I844	Q942	T1019	K1099	L1178	K1245	V1241	K1245	S1265	A1271	
D887	F763	I845	Q942	T1019	L1100	S1173	K1245	V1241	K1245	S1265	A1271	
V688	I764	I846	Q942	P1023	L1100	K1182	K1245	V1241	K1245	S1265	A1271	
R695	T765	S846	Y946	P1024	L1101	I1182	K1245	V1241	K1245	S1265	A1271	
F766	F766	L847	F947	P1024	M1101	I1187	K1245	V1241	K1245	S1265	A1271	
T702	F771	I848	S948	E1028	V1102	A1185	K1245	V1241	K1245	S1265	A1271	
T703	T772	Y849	G850	G1029	Q1103	L1186	K1245	V1241	K1245	S1265	A1271	
W704	T773	W851	A950	N1030	Q1103	V1187	K1245	V1241	K1245	S1265	A1271	
F707	G774	Q852	A951	V1031	R1106	R1188	K1245	V1241	K1245	S1265	A1271	
G710	K775	L855	C952	Y1040	A1107	A1185	K1245	V1241	K1245	S1265	A1271	
I711	A776	L856	F953	R1043	Q1108	L1187	K1245	V1241	K1245	S1265	A1271	
F712	E778	L857	R954	I1046	L1109	V1187	K1245	V1241	K1245	S1265	A1271	
C713	I779	L858	Y958	I1046	I1111	H1191	K1245	V1241	K1245	S1265	A1271	
A714	I779	L859	L959	P1047	V1112	I1192	K1245	V1241	K1245	S1265	A1271	
I715	L780	A859	V960	V1048	S1113	L1193	K1245	V1241	K1245	S1265	A1271	
I716	L781	I860	V961	L1049	Q1114	L1194	K1245	V1241	K1245	S1265	A1271	
N717	K782	V861	Q962	Q1050	E1115	L1195	K1245	V1241	K1245	S1265	A1271	
G718	R783	A865	Q963	G1051	P1116	L1196	K1245	V1241	K1245	S1265	A1271	
G719	L793	I866	L964	L1052	I1117	D1197	K1245	V1241	K1245	S1265	A1271	
L720	Q795	V869	N965	S1053	L1118	A1197	K1245	V1241	K1245	S1265	A1271	
I727	D796	V870	T966	L1054	F1119	A1198	K1245	V1241	K1245	S1265	A1271	
F728	V797	E871	F967	E1055	D1120	T1199	K1245	V1241	K1245	S1265	A1271	
S729	F800	S876	N969	K1057	C1121	S1200	K1245	V1241	K1245	S1265	A1271	
K730	D801	S876	V970	K1058	A1124	A1201	K1245	V1241	K1245	S1265	A1271	
V731	K804	A879	L971	T1061	E1125	L1203	K1245	V1241	K1245	S1265	A1271	
V732	N805	L880	L972	L1062	N1126	T1204	K1245	V1241	K1245	S1265	A1271	
G733	T806	K881	V973	A1063	I1127	V1210	K1245	V1241	K1245	S1265	A1271	
V734	R813	E895	F974	L1064	A1128	Q1211	K1245	V1241	K1245	S1265	A1271	
W737	N816	A896	I977	V1065	Y1129	Q1211	K1245	V1241	K1245	S1265	A1271	
G738	N817	I897	V978	G1066	G1130	L1214	K1245	V1241	K1245	S1265	A1271	
G739	D817	E898	F979	S1067	D1131	D1215	K1245	V1241	K1245	S1265	A1271	
P740	F900	N899	N982	S1068	N1132	K1216	K1245	V1241	K1245	S1265	A1271	
P741	R901	F900	M982	G1069	S1133	A1217	K1245	V1241	K1245	S1265	A1271	
E742	Q820	R901	Q986	C1070	R1134	R1218	K1245	V1241	K1245	S1265	A1271	
T743	V821	T902	V987	G1071	S1137	E1219	K1245	V1241	K1245	S1265	A1271	
	K822	V903	S988	K1072	Y1138	R1221	K1245	V1241	K1245	S1265	A1271	
	G823	T907	S989	S1073	E1140		K1245	V1241	K1245	S1265	A1271	
					I1141		K1245	V1241	K1245	S1265	A1271	

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	104000	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	64	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	4.732	Depositor
Minimum map value	-2.225	Depositor
Average map value	0.007	Depositor
Map value standard deviation	0.210	Depositor
Recommended contour level	1.05	Depositor
Map size (Å)	229.45999, 229.45999, 229.45999	wwPDB
Map dimensions	220, 220, 220	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.043, 1.043, 1.043	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	0.72	0/9339	1.08	47/12626 (0.4%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	13

There are no bond length outliers.

All (47) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1218	ARG	NE-CZ-NH1	10.59	125.60	120.30
1	A	1229	ARG	NE-CZ-NH1	9.34	124.97	120.30
1	A	543	ARG	NE-CZ-NH1	9.28	124.94	120.30
1	A	794	ARG	NE-CZ-NH1	8.83	124.72	120.30
1	A	144	ARG	NE-CZ-NH1	8.78	124.69	120.30
1	A	488	ARG	NE-CZ-NH1	8.18	124.39	120.30
1	A	573	ARG	NE-CZ-NH1	7.90	124.25	120.30
1	A	613	ARG	NE-CZ-NH1	7.32	123.96	120.30
1	A	400	ARG	NE-CZ-NH1	7.20	123.90	120.30
1	A	455	ARG	NE-CZ-NH1	7.05	123.82	120.30
1	A	954	ARG	NE-CZ-NH1	7.03	123.81	120.30
1	A	272	ARG	NE-CZ-NH1	7.00	123.80	120.30
1	A	1134	ARG	NE-CZ-NH1	6.83	123.71	120.30
1	A	1221	ARG	NE-CZ-NH1	6.75	123.68	120.30
1	A	206	ARG	NE-CZ-NH1	6.70	123.65	120.30
1	A	584	ARG	NE-CZ-NH1	6.58	123.59	120.30
1	A	47	ARG	NE-CZ-NH1	6.52	123.56	120.30
1	A	783	ARG	NE-CZ-NH1	6.45	123.53	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	539	ARG	NE-CZ-NH1	6.42	123.51	120.30
1	A	485	ARG	NE-CZ-NH1	6.35	123.48	120.30
1	A	110	TYR	CB-CG-CD2	-6.31	117.21	121.00
1	A	355	ARG	NE-CZ-NH1	6.17	123.39	120.30
1	A	813	ARG	NE-CZ-NH1	6.14	123.37	120.30
1	A	618	TYR	CB-CG-CD2	-6.00	117.40	121.00
1	A	1081	ARG	NE-CZ-NH1	5.97	123.29	120.30
1	A	282	ARG	NE-CZ-NH1	5.83	123.21	120.30
1	A	534	ARG	NE-CZ-NH1	5.80	123.20	120.30
1	A	1164	ARG	NE-CZ-NH1	5.79	123.20	120.30
1	A	272	ARG	NE-CZ-NH2	-5.75	117.42	120.30
1	A	460	ARG	CD-NE-CZ	5.69	131.57	123.60
1	A	1106	ARG	NE-CZ-NH1	5.58	123.09	120.30
1	A	40	ARG	NE-CZ-NH1	5.55	123.08	120.30
1	A	138	ARG	NE-CZ-NH1	5.49	123.05	120.30
1	A	745	ARG	NE-CZ-NH1	5.41	123.00	120.30
1	A	576	ARG	NE-CZ-NH1	5.40	123.00	120.30
1	A	1006	ARG	NE-CZ-NH1	5.37	122.98	120.30
1	A	543	ARG	NE-CZ-NH2	-5.37	117.62	120.30
1	A	908	ARG	NE-CZ-NH2	5.27	122.93	120.30
1	A	355	ARG	CD-NE-CZ	5.27	130.97	123.60
1	A	374	PHE	CB-CG-CD1	-5.26	117.12	120.80
1	A	1188	ARG	NE-CZ-NH1	5.23	122.92	120.30
1	A	306	TYR	CB-CG-CD2	-5.22	117.87	121.00
1	A	901	ARG	NE-CZ-NH2	5.14	122.87	120.30
1	A	438	ARG	NE-CZ-NH1	5.07	122.84	120.30
1	A	849	TYR	CB-CG-CD2	-5.07	117.96	121.00
1	A	455	ARG	NE-CZ-NH2	-5.04	117.78	120.30
1	A	49	TYR	CB-CG-CD2	-5.04	117.98	121.00

There are no chirality outliers.

All (13) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1017	TYR	Sidechain
1	A	1083	TYR	Sidechain
1	A	1092	LEU	Peptide
1	A	1118	LEU	Peptide
1	A	1263	TYR	Peptide
1	A	243	TYR	Sidechain
1	A	359	TYR	Sidechain
1	A	384	ILE	Peptide

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Mol	Chain	Res	Type	Group
1	A	41	TYR	Peptide
1	A	474	VAL	Peptide
1	A	506	TYR	Sidechain
1	A	589	ARG	Sidechain
1	A	688	VAL	Peptide

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	9171	0	9344	7	0
All	All	9171	0	9344	7	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 0.

All (7) 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:830:ALA:HB1	1:A:990:PHE:CZ	2.52	0.45
1:A:926:ASN:HA	1:A:929:LYS:HE3	1.99	0.44
1:A:320:LYS:HE3	1:A:321:GLU:OE1	2.18	0.43
1:A:1003:HIS:CE1	1:A:1006:ARG:HH21	2.36	0.41
1:A:245:LYS:HZ1	1:A:279:GLU:CD	2.24	0.41
1:A:1139:GLU:CD	1:A:1139:GLU:H	2.25	0.41
1:A:160:ASP:HA	1:A:397:TYR:CZ	2.57	0.40

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	1178/1284 (92%)	1035 (88%)	127 (11%)	16 (1%)	11 47

All (16) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	384	ILE
1	A	319	SER
1	A	1203	ASP
1	A	404	GLN
1	A	797	VAL
1	A	804	LYS
1	A	851	TRP
1	A	477	ALA
1	A	504	ASN
1	A	552	GLU
1	A	1121	CYS
1	A	365	ILE
1	A	96	LYS
1	A	1204	THR
1	A	1046	ILE
1	A	175	VAL

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	976/1065 (92%)	915 (94%)	61 (6%)	18 45

All (61) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	46	ASP
1	A	47	ARG
1	A	102	LYS

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Mol	Chain	Res	Type
1	A	132	TRP
1	A	155	GLU
1	A	158	TRP
1	A	163	ASP
1	A	166	GLU
1	A	176	SER
1	A	179	ASN
1	A	188	MET
1	A	267	LYS
1	A	269	GLU
1	A	320	LYS
1	A	330	VAL
1	A	367	ASN
1	A	368	LYS
1	A	380	LYS
1	A	401	LYS
1	A	410	ASN
1	A	444	ASP
1	A	490	ASP
1	A	494	ASP
1	A	497	GLU
1	A	498	LYS
1	A	532	LYS
1	A	542	VAL
1	A	546	LYS
1	A	558	ASP
1	A	574	GLU
1	A	576	ARG
1	A	598	ASP
1	A	742	GLU
1	A	749	ASN
1	A	796	ASP
1	A	822	LYS
1	A	833	PHE
1	A	835	ASN
1	A	898	GLU
1	A	899	ASN
1	A	942	GLN
1	A	953	PHE
1	A	954	ARG
1	A	993	ASP
1	A	994	TYR

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Mol	Chain	Res	Type
1	A	1009	GLU
1	A	1040	TYR
1	A	1043	ARG
1	A	1058	LYS
1	A	1101	ASN
1	A	1129	TYR
1	A	1162	ASN
1	A	1164	ARG
1	A	1167	ASP
1	A	1168	LYS
1	A	1188	ARG
1	A	1199	THR
1	A	1211	GLN
1	A	1216	LYS
1	A	1228	HIS
1	A	1246	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

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

There are no chain breaks in this entry.

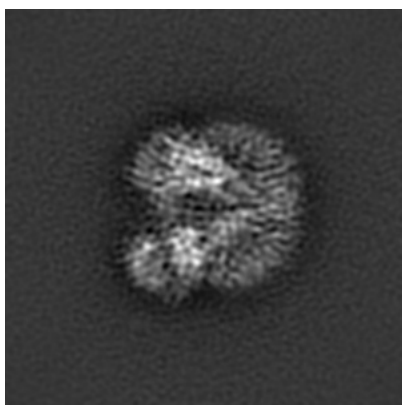
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-13060. These allow visual inspection of the internal detail of the map and identification of artifacts.

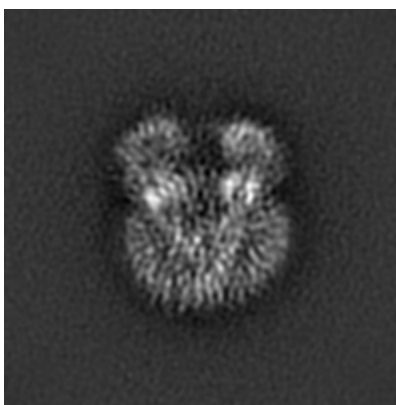
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

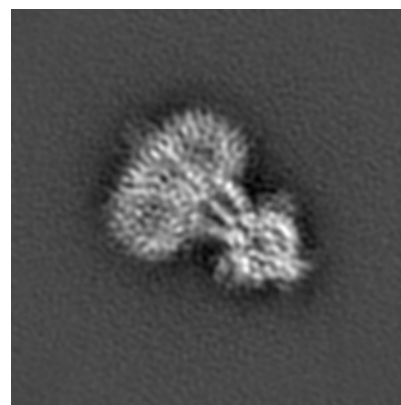
6.1.1 Primary map



X



Y

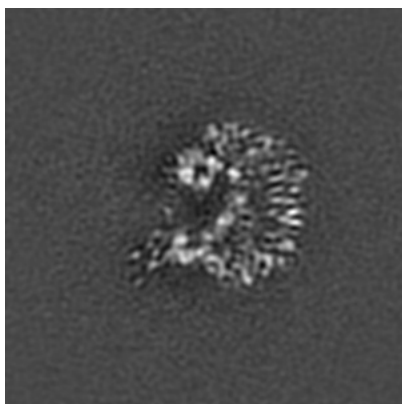


Z

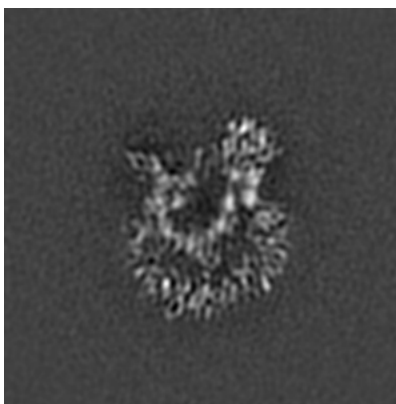
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

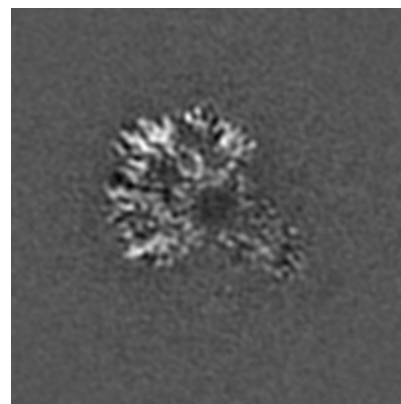
6.2.1 Primary map



X Index: 110



Y Index: 110

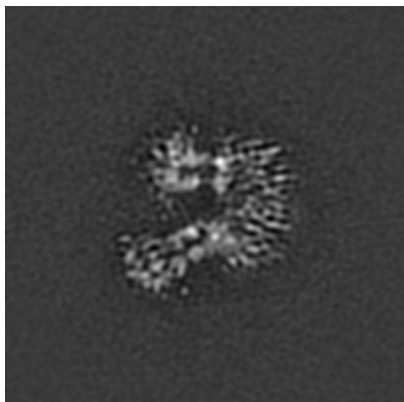


Z Index: 110

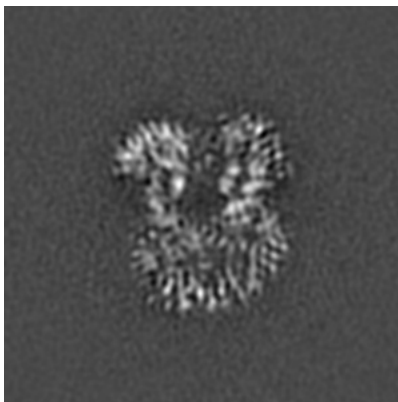
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

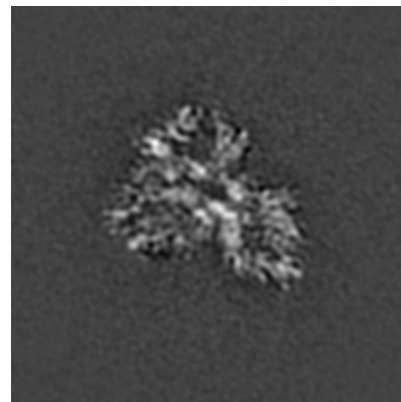
6.3.1 Primary map



X Index: 121



Y Index: 101

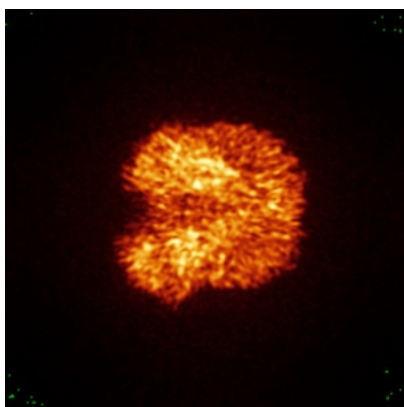


Z Index: 123

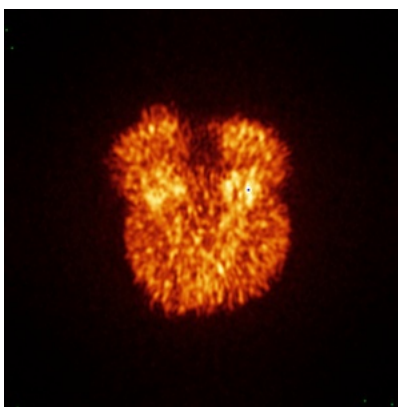
The images above show the largest variance slices of the map in three orthogonal directions.

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

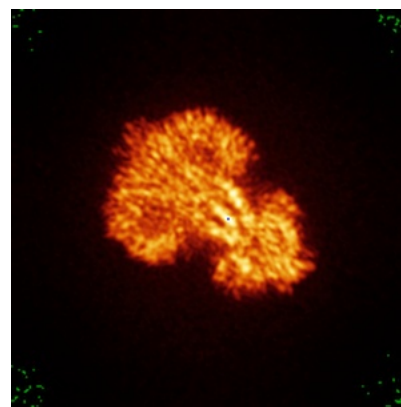
6.4.1 Primary map



X



Y

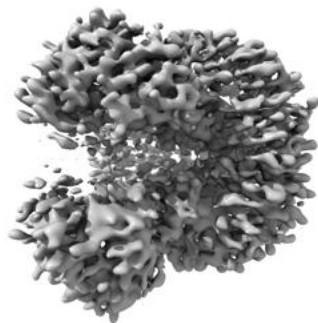


Z

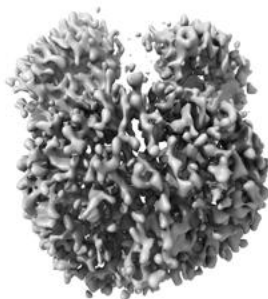
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

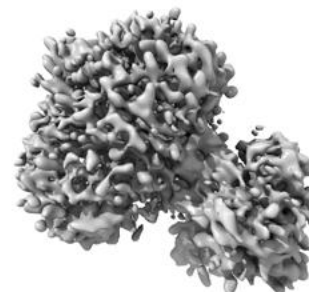
6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 1.05. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

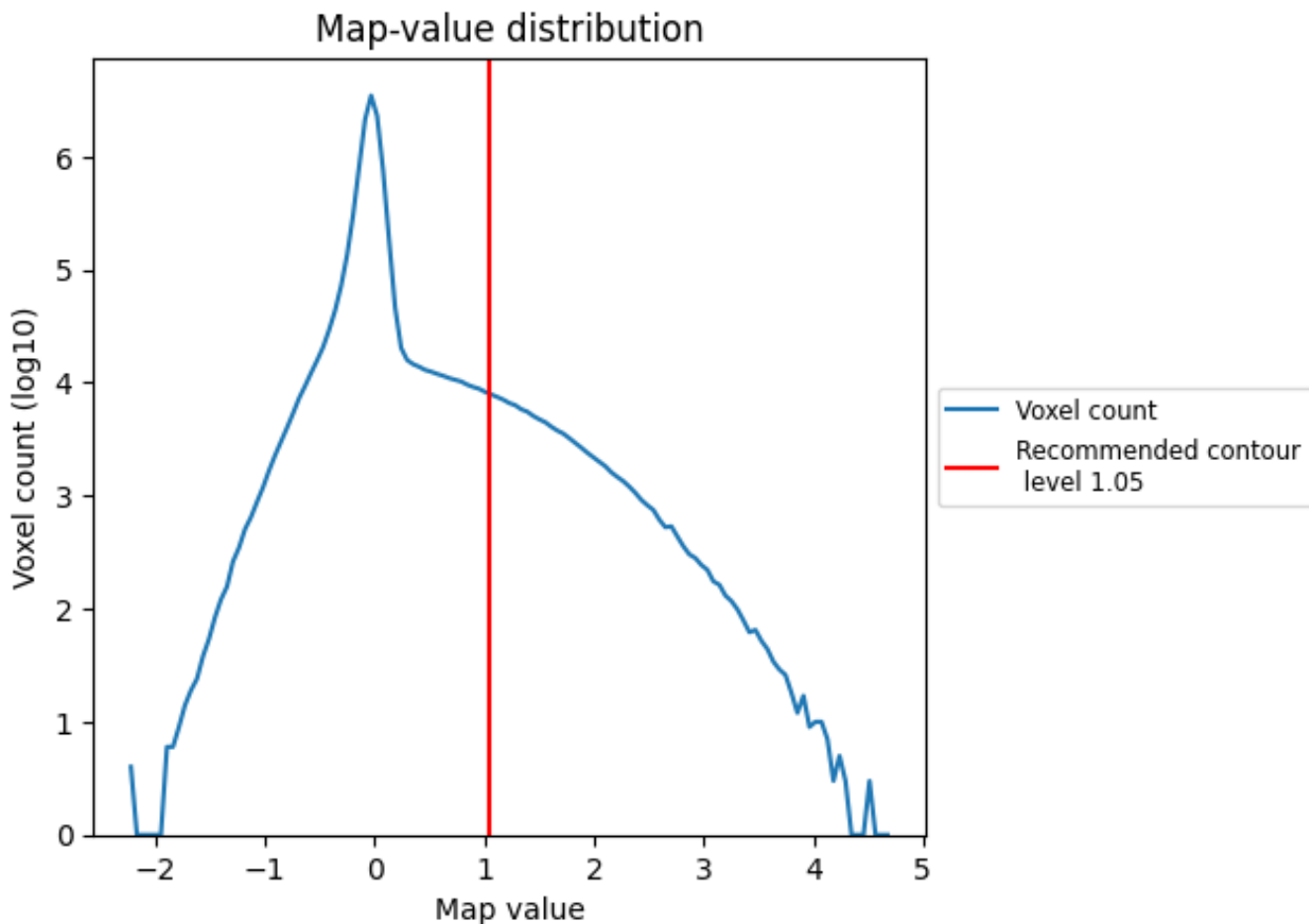
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

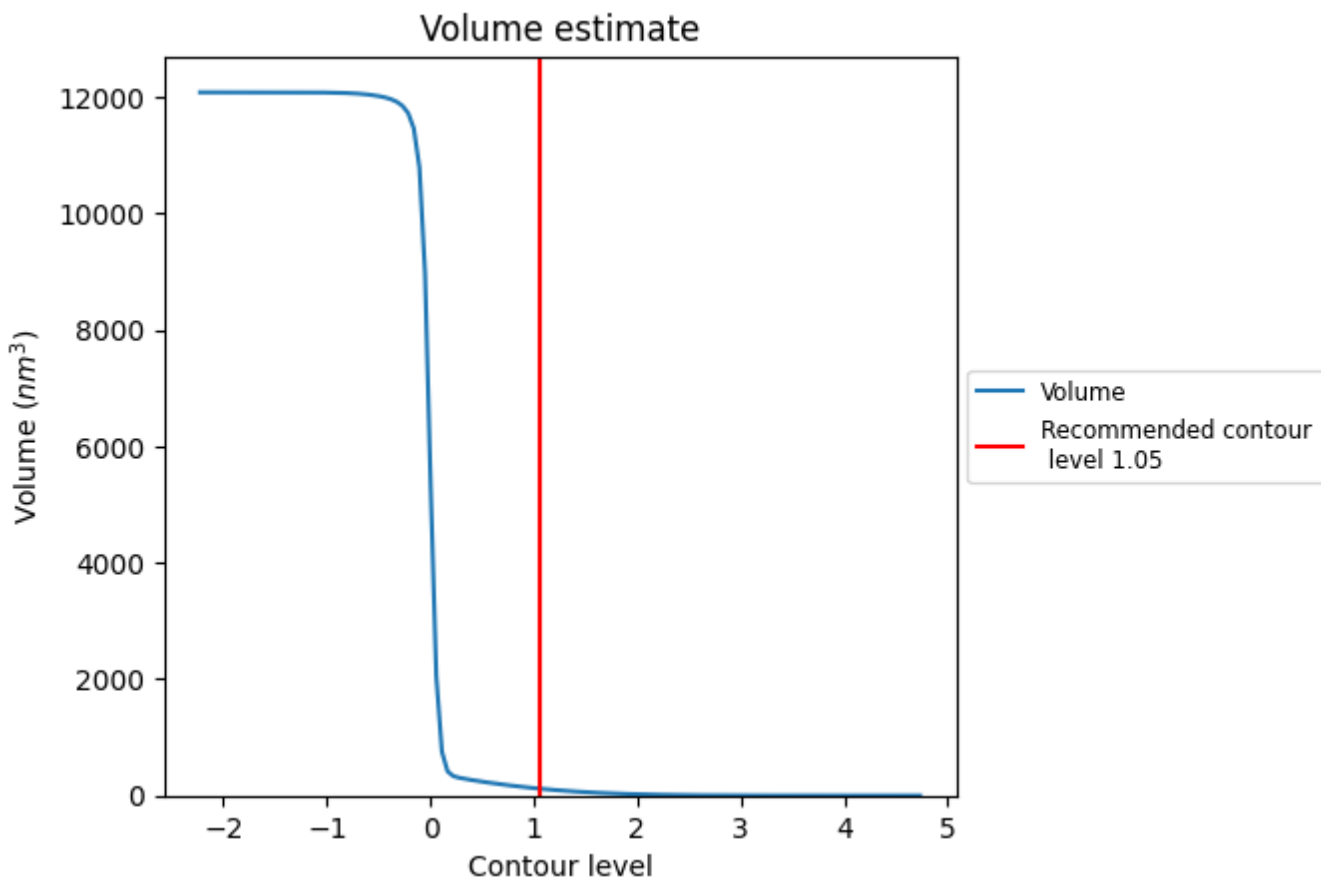
This section contains the results of statistical analysis of the map.

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.

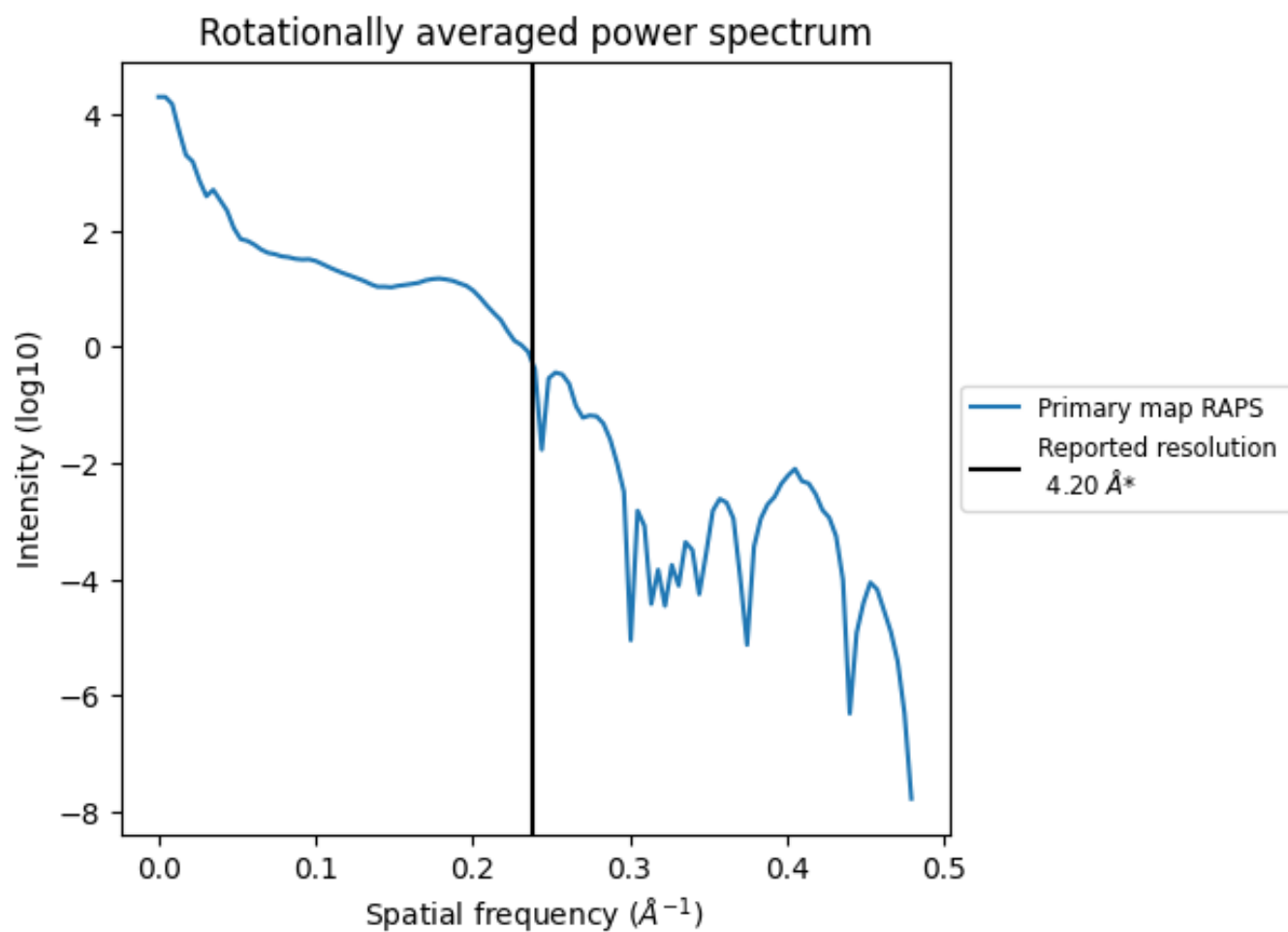
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 119 nm³; this corresponds to an approximate mass of 108 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 0.238\AA^{-1}

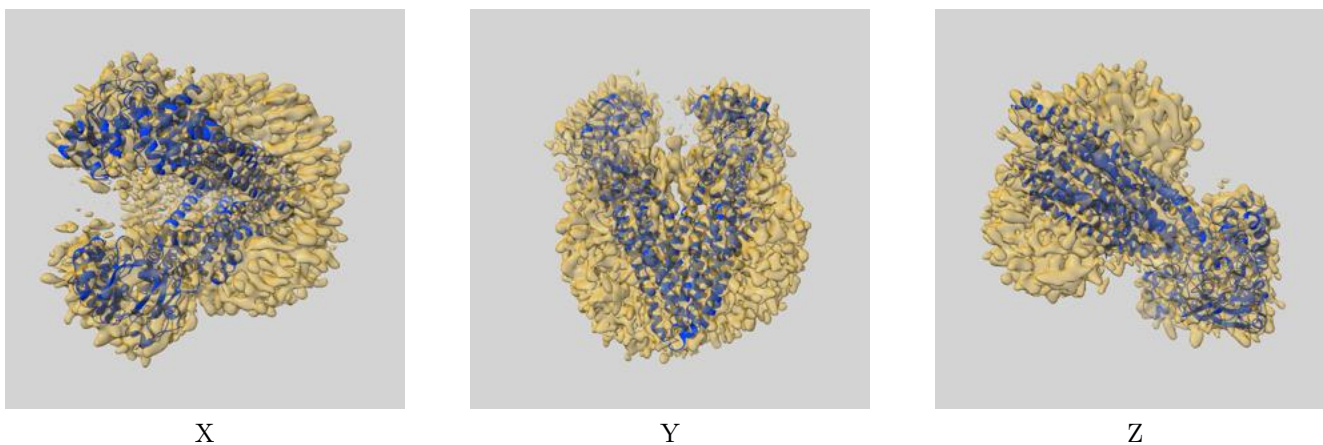
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit [i](#)

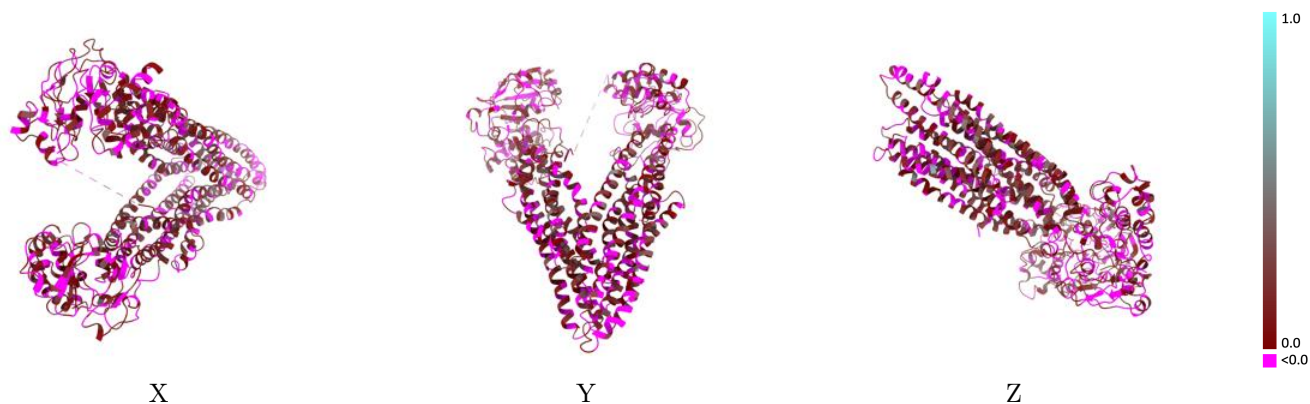
This section contains information regarding the fit between EMDB map EMD-13060 and PDB model 7OTI. Per-residue inclusion information can be found in section 3 on page 4.

9.1 Map-model overlay [i](#)



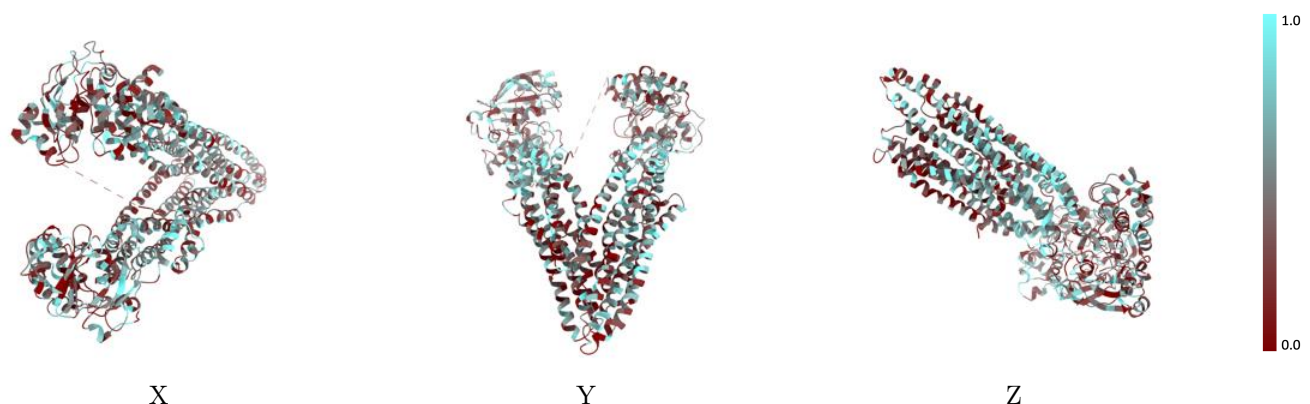
The images above show the 3D surface view of the map at the recommended contour level 1.05 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



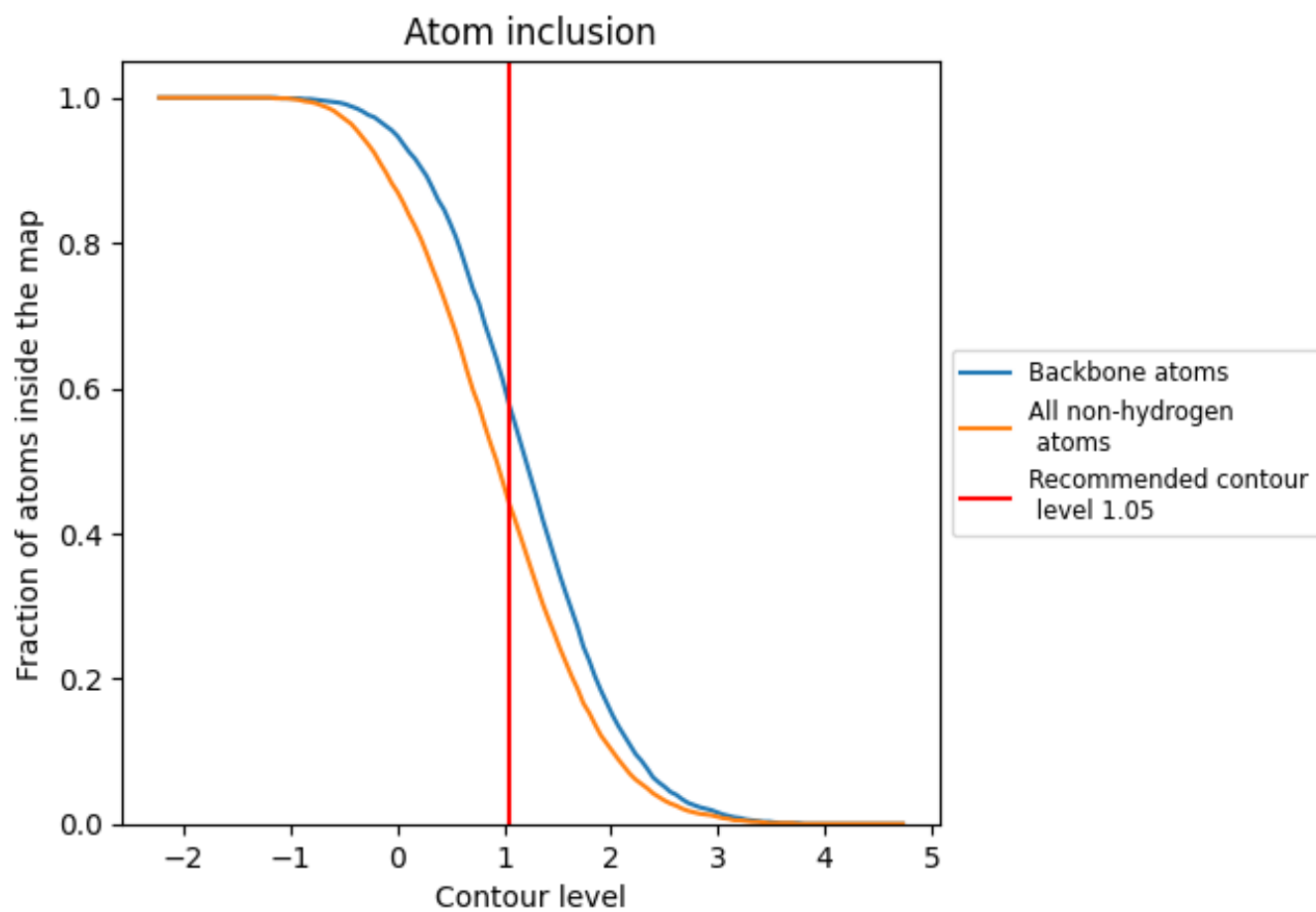
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (1.05).





9.4 Atom inclusion [i](#)



At the recommended contour level, 58% of all backbone atoms, 44% 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 (1.05) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.4400	 0.0660
A	 0.4400	 0.0660

