



## Full wwPDB EM Validation Report ⓘ

Apr 16, 2023 – 01:49 am BST

PDB ID : 7ZK7  
EMDB ID : EMD-14757  
Title : ABCB1 L335C mutant (mABCB1) in the inward facing state bound to AAC  
Authors : Parey, K.; Janulienė, D.; Gewering, T.; Moeller, A.  
Deposited on : 2022-04-12  
Resolution : 3.20 Å (reported)  
Based on initial model : 6C0V

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

We welcome your comments at [validation@mail.wwpdb.org](mailto: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>.

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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.dev50  
Mogul : 1.8.4, CSD as541be (2020)  
MolProbity : 4.02b-467  
buster-report : 1.1.7 (2018)  
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) : 2.32.2

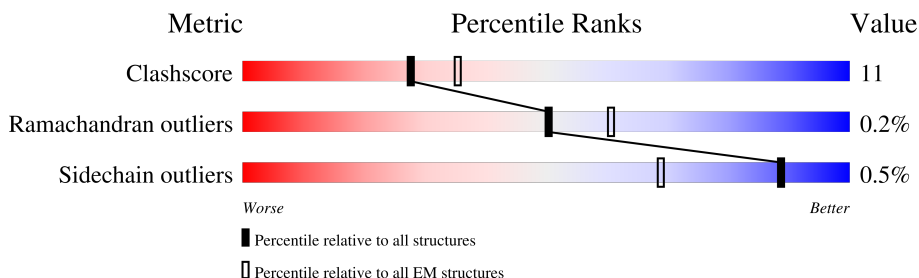
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 3.20 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  $\geq 3$ , 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	1328	

## 2 Entry composition i

There are 4 unique types of molecules in this entry. The entry contains 9112 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 ATP-dependent translocase ABCB1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	1157	8967	5763	1527	1647	30	0	0

There are 65 discrepancies between the modelled and reference sequences:

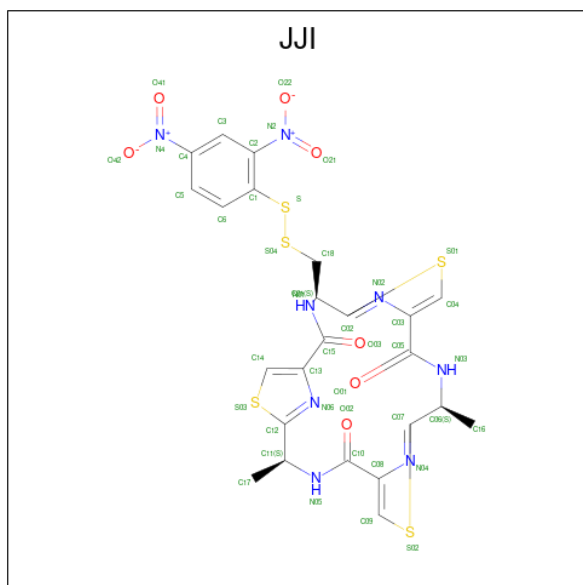
Chain	Residue	Modelled	Actual	Comment	Reference
A	83	GLN	ASN	engineered mutation	UNP P21447
A	87	GLN	ASN	engineered mutation	UNP P21447
A	90	GLN	ASN	engineered mutation	UNP P21447
A	133	ALA	CYS	engineered mutation	UNP P21447
A	335	CYS	LEU	engineered mutation	UNP P21447
A	427	GLY	CYS	engineered mutation	UNP P21447
A	638	GLY	CYS	engineered mutation	UNP P21447
A	669	THR	CYS	engineered mutation	UNP P21447
A	713	ALA	CYS	engineered mutation	UNP P21447
A	952	ALA	CYS	engineered mutation	UNP P21447
A	1070	GLY	CYS	engineered mutation	UNP P21447
A	1121	ARG	CYS	engineered mutation	UNP P21447
A	1223	VAL	CYS	engineered mutation	UNP P21447
A	1277	LEU	-	expression tag	UNP P21447
A	1278	GLU	-	expression tag	UNP P21447
A	1279	GLU	-	expression tag	UNP P21447
A	1280	ASN	-	expression tag	UNP P21447
A	1281	LEU	-	expression tag	UNP P21447
A	1282	TYR	-	expression tag	UNP P21447
A	1283	PHE	-	expression tag	UNP P21447
A	1284	GLN	-	expression tag	UNP P21447
A	1285	GLY	-	expression tag	UNP P21447
A	1286	GLY	-	expression tag	UNP P21447
A	1287	GLY	-	expression tag	UNP P21447
A	1288	ALA	-	expression tag	UNP P21447
A	1289	SER	-	expression tag	UNP P21447
A	1290	GLY	-	expression tag	UNP P21447
A	1291	GLY	-	expression tag	UNP P21447

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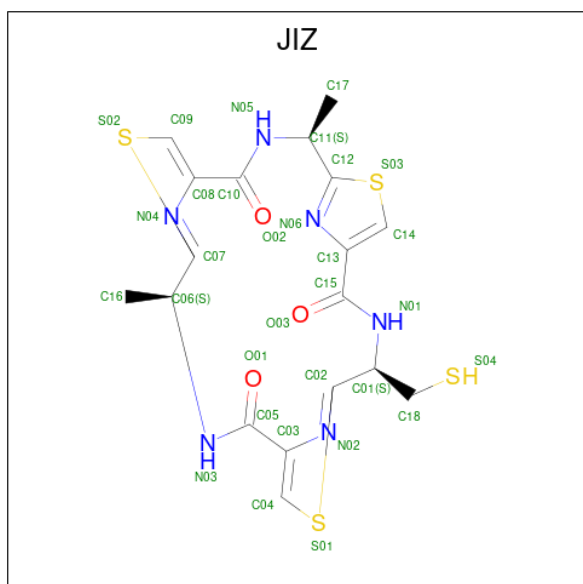
Chain	Residue	Modelled	Actual	Comment	Reference
A	1292	SER	-	expression tag	UNP P21447
A	1293	TRP	-	expression tag	UNP P21447
A	1294	SER	-	expression tag	UNP P21447
A	1295	HIS	-	expression tag	UNP P21447
A	1296	PRO	-	expression tag	UNP P21447
A	1297	GLN	-	expression tag	UNP P21447
A	1298	PHE	-	expression tag	UNP P21447
A	1299	GLU	-	expression tag	UNP P21447
A	1300	LYS	-	expression tag	UNP P21447
A	1301	ALA	-	expression tag	UNP P21447
A	1302	ALA	-	expression tag	UNP P21447
A	1303	ALA	-	expression tag	UNP P21447
A	1304	GLY	-	expression tag	UNP P21447
A	1305	GLY	-	expression tag	UNP P21447
A	1306	GLY	-	expression tag	UNP P21447
A	1307	SER	-	expression tag	UNP P21447
A	1308	GLY	-	expression tag	UNP P21447
A	1309	GLY	-	expression tag	UNP P21447
A	1310	GLY	-	expression tag	UNP P21447
A	1311	SER	-	expression tag	UNP P21447
A	1312	TRP	-	expression tag	UNP P21447
A	1313	SER	-	expression tag	UNP P21447
A	1314	HIS	-	expression tag	UNP P21447
A	1315	PRO	-	expression tag	UNP P21447
A	1316	GLN	-	expression tag	UNP P21447
A	1317	PHE	-	expression tag	UNP P21447
A	1318	GLU	-	expression tag	UNP P21447
A	1319	LYS	-	expression tag	UNP P21447
A	1320	GLY	-	expression tag	UNP P21447
A	1321	SER	-	expression tag	UNP P21447
A	1322	GLY	-	expression tag	UNP P21447
A	1323	HIS	-	expression tag	UNP P21447
A	1324	HIS	-	expression tag	UNP P21447
A	1325	HIS	-	expression tag	UNP P21447
A	1326	HIS	-	expression tag	UNP P21447
A	1327	HIS	-	expression tag	UNP P21447
A	1328	HIS	-	expression tag	UNP P21447

- Molecule 2 is (4S,11S,18S)-4-[[[(2,4-dinitrophenyl)disulfanyl]methyl]-11,18-dimethyl-6,13,20-trithia-3,10,17,22,23,24-hexazatetracyclo[17.2.1.1<sup>5,8</sup>.1<sup>12,15</sup>]}tetracos-1(21),5(24),7,12(23),14,19(22)-hexaene-2,9,16-trione (three-letter code: JJI) (formula: C<sub>24</sub>H<sub>20</sub>N<sub>8</sub>O<sub>7</sub>S<sub>5</sub>) (labeled as "Ligand of Interest" by depositor).



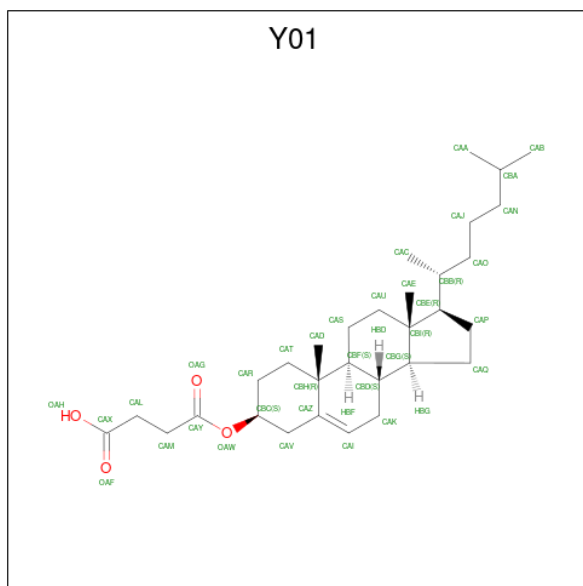
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	S	
2	A	1	44	24	8	7	5	0

- Molecule 3 is (4 {S},11 {S},18 {S})-4,11-dimethyl-18-(sulfanylmethyl)-6,13,20-trithia-3,10,17,22,23,24-hexazatetracyclo[17.2.1.1<sup>5,8</sup>.1<sup>12,15</sup>]tetracos-1(21),5(24),7,12(23),14,19(22)-hexaene-2,9,16-trione (three-letter code: JIZ) (formula: C<sub>18</sub>H<sub>18</sub>N<sub>6</sub>O<sub>3</sub>S<sub>4</sub>) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	S	
3	A	1	31	18	6	3	4	0

- Molecule 4 is CHOLESTEROL HEMISUCCINATE (three-letter code: Y01) (formula:  $C_{31}H_{50}O_4$ ).

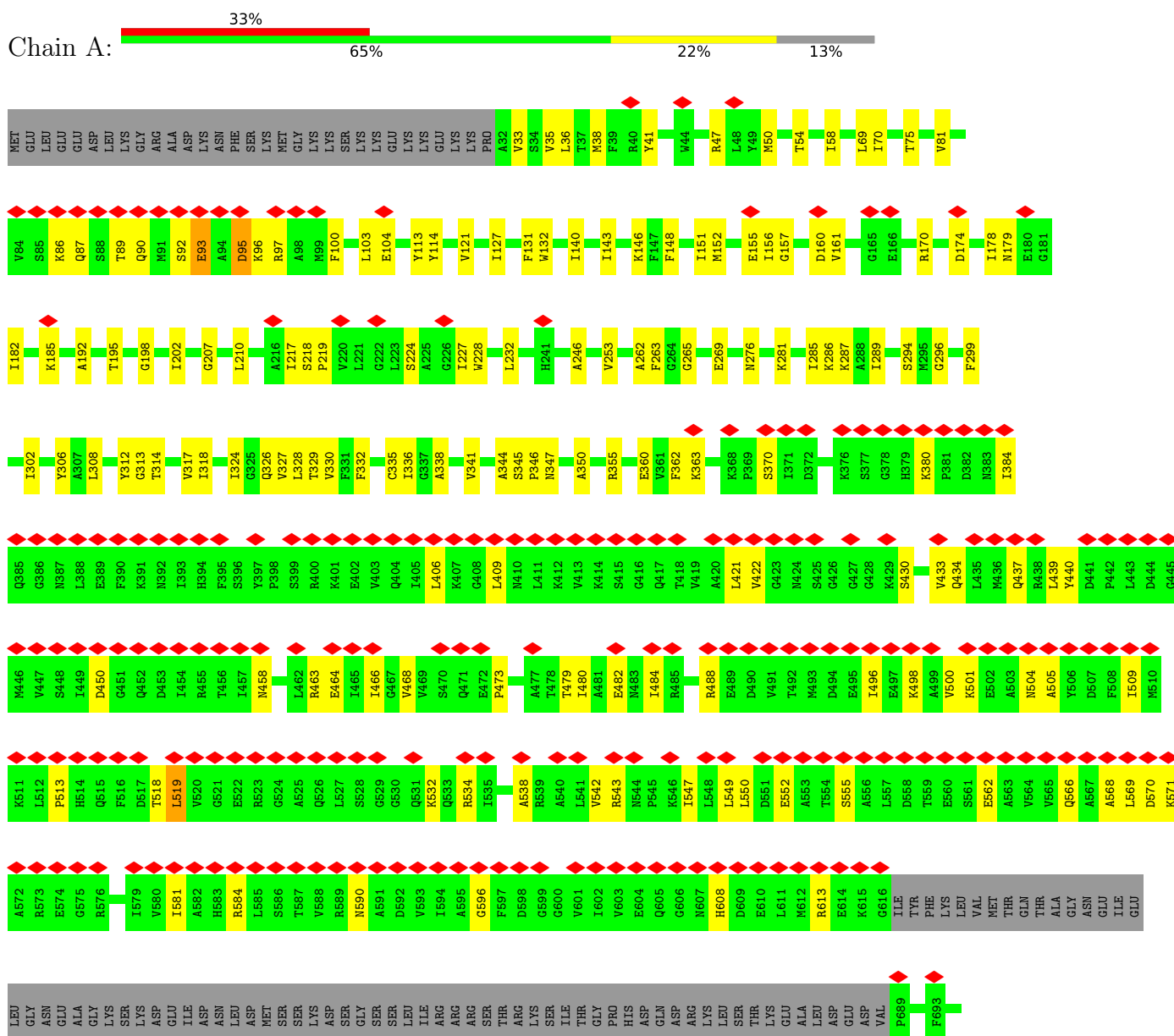


Mol	Chain	Residues	Atoms			AltConf
4	A	1	Total	C	O	0
			35	31	4	
4	A	1	Total	C	O	0
			35	31	4	

### 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: ATP-dependent translocase ABCB1



GLY	V1225	P1158	V1090	N1025	S939	P803	V704
GLY	I1226	D1159	F1091	M1026	F940	K804	F705
ALA	A1227	K1160	T941	L1027	T941	G808	Y706
GLY	H1228	Y1161	D1093	E1028	Q942	A809	I711
GLY	R1229	N1162	K1094	G1029	M944	D817	F712
GLY	L1230	T1163	K1095	N1030	M945	I715	I715
SER	S1231	R1164	E1096	V1031	Y946	N717	I716
SER	T1232	D1167	I1097	Q1032	S948	V621	I717
HIS	I1233	K1168	K1098	F1033	Y949	F833	Q721
PRO	Q1234	G1169	L1100	S1034	A950	N838	F722
GLN	N1235	T1170	N1101	G1035	F955	T841	A723
PHE	A1236	Q1171	L1105	V1036	G956	G842	F724
GLU	D1237	L1172	Q1108	V1037	A957	I843	I727
ALA	L1238	S1173	L1109	F1038	Y958	I844	G733
ALA	I1239	G1174	G1110	N1039	V960	L847	F734
ALA	V1240	G1175	Q1114	T1042	T961	G850	F735
GLY	V1241	Q1176	E1115	R1043	E968	V870	T736
GLY	I1242	K1177	P1116	S1045	V973	K873	N737
GLY	Q1243	G1178	I1117	I1046	F974	M874	G738
GLY	N1244	R1179	F1119	P1047	I977	L875	G739
GLY	G1245	I1182	D1120	V1048	F979	S876	E742
SER	K1246	R1188	S1122	L1049	A983	L754	R745
TRP	V1247	H1191	I1123	G1051	V984	L758	L754
HIS	K1248	I1192	I1124	L1052	F990	I761	L758
PRO	E1249	L1193	A1124	L1054	A991	I764	I764
GLN	H1250	L1194	E1125	E1055	D993	T765	T765
PHE	G1251	L1195	N1126	V1056	Y994	F766	F766
GLU	T1252	D1196	I1127	K1057	K996	Q769	Q769
LYS	G1253	E1197	A1128	K1058	L886	T772	T772
GLY	H1253	A1198	D1131	G1059	E887	F773	F773
SER	Q1254	L1199	N1132	L1062	G890	K782	K782
SER	Q1255	S1200	S1133	A1063	K891	R783	R783
HIS	L1256	A1201	R1134	L1064	T894	L784	L784
HIS	L1257	L1202	V1136	V1065	E895	V788	V788
HIS	A1258	D1203	E1138	G1066	L886	M792	M792
HIS	Q1259	T1204	E1139	S1067	E908	L793	L793
GLY	GLY	E1205	E1140	S1068	E909	R794	R794
ILE	ILE	S1206	R1143	S1073	Q810	V797	V797
TYR	TYR	S1207	K1146	V1076	K911	S798	S798
PHE	PHE	E1209	E1147	Q1077	M915	D801	D801
MET	MET	K1208	A1148	L1078	K929	D802	D802
VAL	VAL	V1209	M1149	L1079	V933		
SER	SER	Q1210	H1151	E1080	F938		
VAL	VAL	Q1211	Q1152	R1081			
GLM	GLM	E1212	F1153	F1082			
ALA	ALA	A1213	I1154	D1084			
ALA	ALA	L1214	D1155	M1086			
LYS	LYS	D1215	T1222	A1087			
ARG	ARG	K1216	V1223	G1088			
SER	SER	A1217	I1224	S1089			
LEU	LEU	R1218					
GLU	GLU	E1219					
ASN	ASN	G1220					
TYR	TYR	R1221					
PHE	PHE	V1222					
GLM	GLM	I1223					
		I1224					



## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	376640	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 ( $e^-/\text{\AA}^2$ )	75	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	2.011	Depositor
Minimum map value	-1.358	Depositor
Average map value	0.006	Depositor
Map value standard deviation	0.054	Depositor
Recommended contour level	0.4	Depositor
Map size (Å)	234.36, 234.36, 234.36	wwPDB
Map dimensions	280, 280, 280	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.837, 0.837, 0.837	Depositor

## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: Y01, JIZ, JJI

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	0.36	0/9131	0.56	0/12342

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	8967	0	9148	196	0
2	A	44	0	0	1	0
3	A	31	0	0	1	0
4	A	70	0	98	4	0
All	All	9112	0	9246	197	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 11.

All (197) 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:891:LYS:O	1:A:894:THR:HG22	1.75	0.83
1:A:552:GLU:HB3	1:A:555:SER:HB2	1.62	0.82
1:A:1063:ALA:HB3	1:A:1239:ILE:HG23	1.64	0.80
1:A:1154:ILE:HD12	1:A:1160:LYS:HD2	1.63	0.79
1:A:313:GLY:O	1:A:317:VAL:HG23	1.84	0.78
1:A:722:PRO:HG2	1:A:841:THR:HG23	1.72	0.72
1:A:87:GLN:HA	1:A:90:GLN:HB2	1.73	0.70
1:A:843:ILE:O	1:A:847:LEU:HG	1.95	0.66
1:A:86:LYS:HG2	1:A:89:THR:HG23	1.78	0.65
1:A:715:ILE:HD11	1:A:833:PHE:HD2	1.59	0.65
1:A:253:VAL:HG11	1:A:269:GLU:HG2	1.79	0.65
1:A:1000:SER:O	1:A:1004:ILE:HG12	1.95	0.65
1:A:1036:VAL:HA	1:A:1088:GLY:HA3	1.80	0.63
1:A:821:VAL:HG21	1:A:1005:ILE:HD11	1.80	0.63
1:A:717:ASN:HB2	1:A:765:THR:HG21	1.80	0.62
1:A:1034:SER:HA	1:A:1053:SER:HA	1.80	0.62
1:A:1195:LEU:HB2	1:A:1225:VAL:HG12	1.80	0.61
1:A:1054:LEU:HD13	1:A:1242:ILE:HD12	1.83	0.61
1:A:178:ILE:O	1:A:182:ILE:HG12	2.03	0.59
1:A:433:VAL:HG22	1:A:549:LEU:HD12	1.84	0.59
1:A:1150:ILE:HG22	1:A:1179:ARG:HE	1.67	0.59
1:A:90:GLN:O	1:A:95:ASP:HA	2.02	0.59
1:A:121:VAL:HG21	1:A:946:TYR:HE2	1.66	0.58
1:A:704:TRP:CG	1:A:705:PRO:HD3	2.39	0.58
1:A:1066:GLY:HA3	1:A:1073:SER:HB2	1.85	0.58
1:A:313:GLY:HA3	1:A:327:VAL:HG11	1.86	0.57
1:A:704:TRP:CD1	1:A:705:PRO:HD3	2.40	0.57
1:A:314:THR:HG22	1:A:735:PHE:HE2	1.70	0.57
1:A:422:VAL:H	1:A:596:GLY:HA3	1.70	0.57
1:A:437:GLN:O	1:A:463:ARG:NE	2.37	0.56
1:A:479:THR:OG1	1:A:482:GLU:OE1	2.23	0.56
1:A:313:GLY:HA3	1:A:327:VAL:CG1	2.34	0.56
1:A:1178:GLN:O	1:A:1182:ILE:HD12	2.05	0.56
1:A:314:THR:HG22	1:A:735:PHE:CE2	2.41	0.56
1:A:509:ILE:HA	1:A:513:PRO:HG2	1.88	0.56
1:A:721:GLN:OE1	1:A:838:ASN:ND2	2.38	0.56
1:A:1150:ILE:HG22	1:A:1179:ARG:NE	2.20	0.55
1:A:1239:ILE:HG22	1:A:1241:VAL:HG23	1.88	0.55
1:A:1150:ILE:HA	1:A:1179:ARG:HH21	1.71	0.55
1:A:473:PRO:HG2	1:A:532:LYS:HG2	1.89	0.55
1:A:1192:ILE:HD11	1:A:1224:ILE:HG12	1.87	0.55
1:A:41:TYR:HE2	1:A:146:LYS:HD2	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:89:THR:HA	1:A:92:SER:HB3	1.90	0.54
1:A:296:GLY:HA2	1:A:766:PHE:HD2	1.73	0.54
1:A:562:GLU:OE2	1:A:584:ARG:NH1	2.40	0.54
1:A:224:SER:O	1:A:227:ILE:HG22	2.08	0.54
1:A:1122:SER:O	1:A:1126:ASN:N	2.39	0.54
1:A:1109:LEU:HD23	1:A:1192:ILE:HG23	1.90	0.53
1:A:156:ILE:HD13	1:A:439:LEU:HA	1.90	0.53
1:A:1068:SER:H	1:A:1228:HIS:CE1	2.26	0.53
1:A:308:LEU:HB2	4:A:1404:Y01:HAO1	1.90	0.53
1:A:140:ILE:HG13	1:A:179:ASN:HB2	1.89	0.53
1:A:761:ILE:O	1:A:765:THR:OG1	2.22	0.52
1:A:336:ILE:HD13	3:A:1402:JIZ:C01	2.40	0.52
1:A:262:ALA:HB2	1:A:1082:PHE:HZ	1.74	0.52
1:A:466:ILE:HD12	1:A:547:ILE:HB	1.92	0.52
1:A:570:ASP:OD2	1:A:590:ASN:ND2	2.42	0.52
1:A:911:LYS:O	1:A:915:MET:HG3	2.09	0.52
1:A:1256:LEU:HD22	1:A:1259:GLN:OE1	2.10	0.52
1:A:148:PHE:HA	1:A:151:ILE:HG22	1.92	0.52
1:A:160:ASP:OD2	1:A:440:TYR:OH	2.22	0.52
1:A:1077:GLN:HG2	1:A:1082:PHE:HD2	1.75	0.52
1:A:1247:VAL:HG12	1:A:1249:GLU:H	1.74	0.52
1:A:170:ARG:NH1	1:A:174:ASP:OD2	2.43	0.51
1:A:841:THR:HA	1:A:844:ILE:HG22	1.91	0.51
1:A:207:GLY:O	1:A:210:LEU:N	2.44	0.51
1:A:38:MET:SD	1:A:182:ILE:HG21	2.51	0.51
1:A:344:ALA:HA	1:A:347:ASN:HD22	1.75	0.51
1:A:550:LEU:HD21	1:A:569:LEU:HD22	1.93	0.51
1:A:155:GLU:OE1	1:A:370:SER:OG	2.29	0.51
1:A:468:VAL:HG12	1:A:549:LEU:HB2	1.93	0.50
1:A:843:ILE:HG12	1:A:977:ILE:HD12	1.93	0.50
1:A:891:LYS:O	1:A:894:THR:CG2	2.54	0.50
1:A:956:GLY:O	1:A:960:VAL:HG23	2.12	0.50
1:A:81:VAL:HG11	1:A:103:LEU:HD12	1.92	0.50
1:A:974:PHE:CE1	1:A:978:VAL:HG21	2.46	0.50
1:A:360:GLU:HA	1:A:363:LYS:HG2	1.94	0.50
1:A:1013:GLU:HG3	1:A:1016:SER:HB3	1.94	0.50
1:A:1118:LEU:HD12	1:A:1119:PHE:H	1.77	0.50
1:A:285:ILE:O	1:A:289:ILE:HG12	2.12	0.49
1:A:338:ALA:O	1:A:341:VAL:HG12	2.11	0.49
1:A:152:MET:HB3	1:A:909:GLU:OE2	2.13	0.49
1:A:941:THR:O	1:A:945:MET:HG3	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:299:PHE:HA	1:A:302:ILE:HG22	1.95	0.48
1:A:1164:ARG:O	1:A:1170:THR:OG1	2.30	0.48
1:A:217:ILE:HD11	4:A:1404:Y01:HAA2	1.94	0.48
1:A:929:LYS:O	1:A:933:VAL:HG23	2.14	0.48
1:A:1239:ILE:CG2	1:A:1241:VAL:HG23	2.43	0.48
1:A:484:ILE:HG23	1:A:542:VAL:HG21	1.95	0.48
1:A:566:GLN:HB3	1:A:584:ARG:HH12	1.78	0.48
1:A:1015:ASP:HB2	1:A:1081:ARG:HD3	1.95	0.48
1:A:50:MET:HG2	1:A:132:TRP:CH2	2.48	0.48
1:A:207:GLY:HA3	1:A:330:VAL:HG21	1.95	0.48
1:A:114:TYR:HB3	1:A:950:ALA:HB2	1.96	0.47
1:A:723:ALA:O	1:A:727:ILE:HG13	2.13	0.47
1:A:974:PHE:CD1	1:A:978:VAL:HG21	2.49	0.47
1:A:328:LEU:HD22	1:A:332:PHE:HE2	1.79	0.47
1:A:1193:LEU:HB2	1:A:1223:VAL:HG22	1.95	0.47
1:A:35:VAL:HG12	1:A:36:LEU:HG	1.97	0.47
1:A:281:LYS:HD3	1:A:782:LYS:HD2	1.97	0.47
1:A:1172:LEU:HD12	1:A:1176:GLN:HB2	1.96	0.47
1:A:47:ARG:HA	1:A:50:MET:HE3	1.96	0.47
1:A:246:ALA:HB2	1:A:276:ASN:HB3	1.97	0.47
1:A:328:LEU:HD22	1:A:332:PHE:CE2	2.50	0.47
1:A:488:ARG:O	1:A:908:ARG:NH2	2.47	0.47
1:A:121:VAL:HG21	1:A:946:TYR:CE2	2.48	0.46
1:A:50:MET:HG2	1:A:132:TRP:CZ3	2.50	0.46
1:A:1151:HIS:HA	1:A:1154:ILE:HG12	1.96	0.46
1:A:185:LYS:HG2	1:A:350:ALA:HB3	1.97	0.46
1:A:232:LEU:HD11	1:A:287:LYS:HE2	1.97	0.46
1:A:711:ILE:O	1:A:715:ILE:HG12	2.15	0.46
1:A:93:GLU:O	1:A:97:ARG:HB3	2.16	0.46
1:A:505:ALA:HB2	1:A:534:ARG:NH2	2.31	0.46
1:A:1023:LYS:O	1:A:1023:LYS:HG3	2.15	0.46
1:A:314:THR:O	1:A:318:ILE:HG13	2.17	0.45
1:A:518:THR:O	1:A:519:LEU:HG	2.17	0.45
1:A:479:THR:HA	1:A:519:LEU:H	1.82	0.45
1:A:608:HIS:HB2	1:A:613:ARG:HH22	1.81	0.45
1:A:568:ALA:HA	1:A:571:LYS:HG2	1.99	0.45
1:A:843:ILE:HG12	1:A:977:ILE:CD1	2.47	0.45
1:A:938:PHE:O	1:A:942:GLN:HG2	2.16	0.45
1:A:1182:ILE:HG12	1:A:1214:LEU:HD21	1.99	0.45
1:A:538:ALA:O	1:A:542:VAL:HG23	2.17	0.44
1:A:75:THR:HG21	1:A:328:LEU:HD12	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:384:ILE:HB	1:A:450:ASP:OD2	2.17	0.44
1:A:794:ARG:HH21	1:A:1013:GLU:HB2	1.81	0.44
1:A:1003:HIS:NE2	1:A:1007:ILE:HD11	2.33	0.44
1:A:1150:ILE:O	1:A:1154:ILE:HG12	2.18	0.44
1:A:192:ALA:O	1:A:195:THR:OG1	2.33	0.44
1:A:463:ARG:HH12	1:A:904:VAL:HG22	1.83	0.44
1:A:788:VAL:O	1:A:792:MET:HG3	2.16	0.44
1:A:345:SER:HB3	1:A:346:PRO:HD3	2.00	0.44
1:A:724:PHE:CE2	2:A:1401:JJI:C14	3.01	0.44
1:A:406:LEU:HD11	1:A:409:LEU:HG	2.00	0.44
1:A:784:LEU:HD22	1:A:1005:ILE:HD12	2.00	0.44
1:A:1116:PRO:HD3	1:A:1178:GLN:OE1	2.17	0.44
1:A:1063:ALA:HA	1:A:1225:VAL:O	2.17	0.44
1:A:1062:LEU:HB3	1:A:1224:ILE:HD12	2.00	0.43
1:A:54:THR:O	1:A:58:ILE:HG12	2.18	0.43
1:A:360:GLU:O	1:A:363:LYS:HG2	2.17	0.43
1:A:1137:SER:OG	1:A:1138:TYR:N	2.49	0.43
1:A:955:PHE:O	1:A:959:LEU:HG	2.19	0.43
1:A:324:ILE:HD13	1:A:735:PHE:CD2	2.53	0.43
1:A:733:GLY:HA2	1:A:736:THR:OG1	2.19	0.43
1:A:797:VAL:O	1:A:798:SER:C	2.57	0.43
1:A:286:LYS:HA	1:A:286:LYS:HD3	1.77	0.43
1:A:1081:ARG:HH22	1:A:1098:LYS:HA	1.82	0.43
1:A:100:PHE:O	1:A:104:GLU:HG3	2.18	0.43
1:A:464:GLU:HA	1:A:543:ARG:HH12	1.84	0.43
1:A:421:LEU:HB3	1:A:581:ILE:HG13	2.00	0.43
1:A:308:LEU:HD13	4:A:1404:Y01:HAP1	2.01	0.42
1:A:504:ASN:ND2	1:A:534:ARG:HG3	2.34	0.42
1:A:761:ILE:HA	1:A:764:ILE:HG22	2.01	0.42
1:A:263:PHE:HD1	1:A:1188:ARG:HH22	1.67	0.42
1:A:1032:GLN:NE2	1:A:1034:SER:HB2	2.35	0.42
1:A:70:ILE:HD13	1:A:113:TYR:HB3	2.00	0.42
1:A:513:PRO:HB3	1:A:518:THR:OG1	2.19	0.42
1:A:1063:ALA:O	1:A:1241:VAL:HA	2.19	0.42
1:A:1110:GLY:HA3	1:A:1193:LEU:HG	2.01	0.42
1:A:850:GLY:HA3	1:A:973:VAL:HG21	2.01	0.42
1:A:157:GLY:O	1:A:161:VAL:HG23	2.19	0.42
1:A:480:ILE:HG12	1:A:518:THR:HB	2.02	0.42
1:A:722:PRO:HG2	1:A:841:THR:CG2	2.46	0.42
1:A:296:GLY:HA2	1:A:766:PHE:CD2	2.54	0.42
1:A:380:LYS:NZ	1:A:458:ASN:HD22	2.17	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:886:LEU:HD12	1:A:886:LEU:HA	1.87	0.42
1:A:265:GLY:HA3	1:A:1132:ASN:HD22	1.85	0.42
1:A:1076:VAL:HA	1:A:1079:LEU:HD12	2.01	0.42
1:A:95:ASP:O	1:A:96:LYS:HD3	2.20	0.41
1:A:326:GLN:HA	1:A:329:THR:HG22	2.02	0.41
1:A:496:ILE:O	1:A:500:VAL:HG23	2.20	0.41
1:A:894:THR:HG23	1:A:895:GLU:N	2.35	0.41
1:A:143:ILE:HD12	1:A:362:PHE:HE1	1.85	0.41
1:A:198:GLY:O	1:A:202:ILE:HG12	2.19	0.41
1:A:218:SER:N	1:A:219:PRO:HD2	2.35	0.41
1:A:754:LEU:HD23	1:A:754:LEU:HA	1.93	0.41
1:A:1218:ARG:HH22	1:A:1236:ALA:HA	1.85	0.41
1:A:69:LEU:HD23	1:A:69:LEU:O	2.20	0.41
1:A:156:ILE:H	1:A:156:ILE:HD12	1.86	0.41
1:A:430:SER:O	1:A:434:GLN:HG2	2.19	0.41
1:A:870:VAL:O	1:A:874:MET:HG2	2.21	0.41
1:A:957:ALA:O	1:A:961:THR:HG23	2.21	0.41
1:A:33:VAL:HB	1:A:355:ARG:HG2	2.03	0.41
1:A:127:ILE:O	1:A:131:PHE:HB2	2.21	0.41
1:A:69:LEU:HD12	1:A:202:ILE:HG23	2.03	0.41
1:A:706:TYR:O	1:A:772:THR:OG1	2.36	0.41
1:A:769:GLN:HG2	1:A:773:PHE:HD2	1.84	0.41
1:A:758:LEU:HA	1:A:761:ILE:HG22	2.02	0.41
1:A:940:PHE:O	1:A:944:MET:HG2	2.21	0.41
1:A:1054:LEU:HD11	1:A:1064:LEU:HD21	2.02	0.41
1:A:140:ILE:HD13	1:A:140:ILE:HA	1.92	0.40
1:A:498:LYS:HD2	1:A:501:LYS:HD2	2.03	0.40
1:A:1237:ASP:OD1	1:A:1237:ASP:N	2.54	0.40
1:A:228:TRP:HB3	1:A:294:SER:HB2	2.04	0.40
1:A:794:ARG:NH2	1:A:1013:GLU:HB2	2.36	0.40
4:A:1404:Y01:HAM1	4:A:1404:Y01:HBC	1.39	0.40
1:A:983:ALA:O	1:A:984:VAL:C	2.58	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	1153/1328 (87%)	1087 (94%)	64 (6%)	2 (0%)	47 79

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	995	ALA
1	A	95	ASP

### 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	947/1086 (87%)	942 (100%)	5 (0%)	88 95

All (5) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	93	GLU
1	A	306	TYR
1	A	312	TYR
1	A	335	CYS
1	A	519	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	139	GLN
1	A	458	ASN
1	A	838	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](#)

4 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
4	Y01	A	1403	-	38,38,38	0.46	0	57,57,57	0.88	1 (1%)
3	JIZ	A	1402	1	25,34,34	4.87	15 (60%)	24,49,49	1.84	5 (20%)
4	Y01	A	1404	-	38,38,38	0.44	0	57,57,57	0.47	0
2	JJI	A	1401	-	36,48,48	3.02	8 (22%)	37,69,69	2.77	12 (32%)

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
4	Y01	A	1403	-	-	14/19/77/77	0/4/4/4
3	JIZ	A	1402	1	-	4/14/38/38	0/3/4/4
4	Y01	A	1404	-	-	7/19/77/77	0/4/4/4
2	JJI	A	1401	-	-	8/22/50/50	0/4/5/5

All (23) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	1401	JJI	O21-N2	10.57	1.40	1.22
2	A	1401	JJI	O41-N4	10.18	1.40	1.22
3	A	1402	JIZ	C09-S02	-8.77	1.56	1.70
3	A	1402	JIZ	C14-S03	-8.70	1.56	1.70
3	A	1402	JIZ	C03-N02	8.59	1.64	1.37
3	A	1402	JIZ	C04-S01	-8.10	1.57	1.70
3	A	1402	JIZ	C08-N04	7.90	1.62	1.37
3	A	1402	JIZ	C13-N06	7.66	1.61	1.37
3	A	1402	JIZ	C02-S01	-6.11	1.54	1.73
2	A	1401	JJI	C15-N01	5.60	1.46	1.34
2	A	1401	JJI	C05-N03	5.17	1.45	1.34
3	A	1402	JIZ	C15-N01	5.11	1.45	1.34
3	A	1402	JIZ	C05-N03	5.08	1.45	1.34
2	A	1401	JJI	C10-N05	5.02	1.45	1.34
3	A	1402	JIZ	C10-N05	5.00	1.45	1.34
3	A	1402	JIZ	C07-S02	-4.71	1.59	1.73
3	A	1402	JIZ	C12-S03	-4.70	1.59	1.73
3	A	1402	JIZ	O02-C10	-2.33	1.18	1.23
2	A	1401	JJI	O01-C05	-2.31	1.18	1.23
2	A	1401	JJI	O02-C10	-2.26	1.18	1.23
3	A	1402	JIZ	O01-C05	-2.19	1.18	1.23
3	A	1402	JIZ	O03-C15	-2.18	1.18	1.23
2	A	1401	JJI	O03-C15	-2.12	1.19	1.23

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	1401	JJI	C18-S04-S	8.56	125.80	103.84
2	A	1401	JJI	C13-C14-S03	-6.11	104.28	111.79
2	A	1401	JJI	C03-C04-S01	-5.77	104.70	111.79
2	A	1401	JJI	C08-C09-S02	-5.12	105.50	111.79
3	A	1402	JIZ	C01-C18-S04	-4.97	108.61	114.19
3	A	1402	JIZ	C03-C04-S01	-4.56	106.19	111.79
2	A	1401	JJI	C3-C2-C1	-4.14	118.67	122.96
2	A	1401	JJI	C6-C1-S	-3.99	113.71	121.52
2	A	1401	JJI	C5-C4-N4	-3.59	116.67	119.38
2	A	1401	JJI	C3-C4-N4	3.51	121.84	118.75
3	A	1402	JIZ	C08-C09-S02	-3.43	107.58	111.79
3	A	1402	JIZ	C13-C14-S03	-3.36	107.67	111.79
2	A	1401	JJI	C18-C01-N01	-3.34	101.96	110.98
4	A	1403	Y01	CBF-CBH-CAZ	-3.34	104.42	109.65
2	A	1401	JJI	C2-C1-S	2.94	124.87	121.92

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	1401	JJI	C03-C05-N03	2.58	119.98	115.20
2	A	1401	JJI	C13-C15-N01	2.05	119.02	115.20
3	A	1402	JIZ	C18-C01-N01	-2.01	108.42	111.28

There are no chirality outliers.

All (33) torsion outliers are listed below:

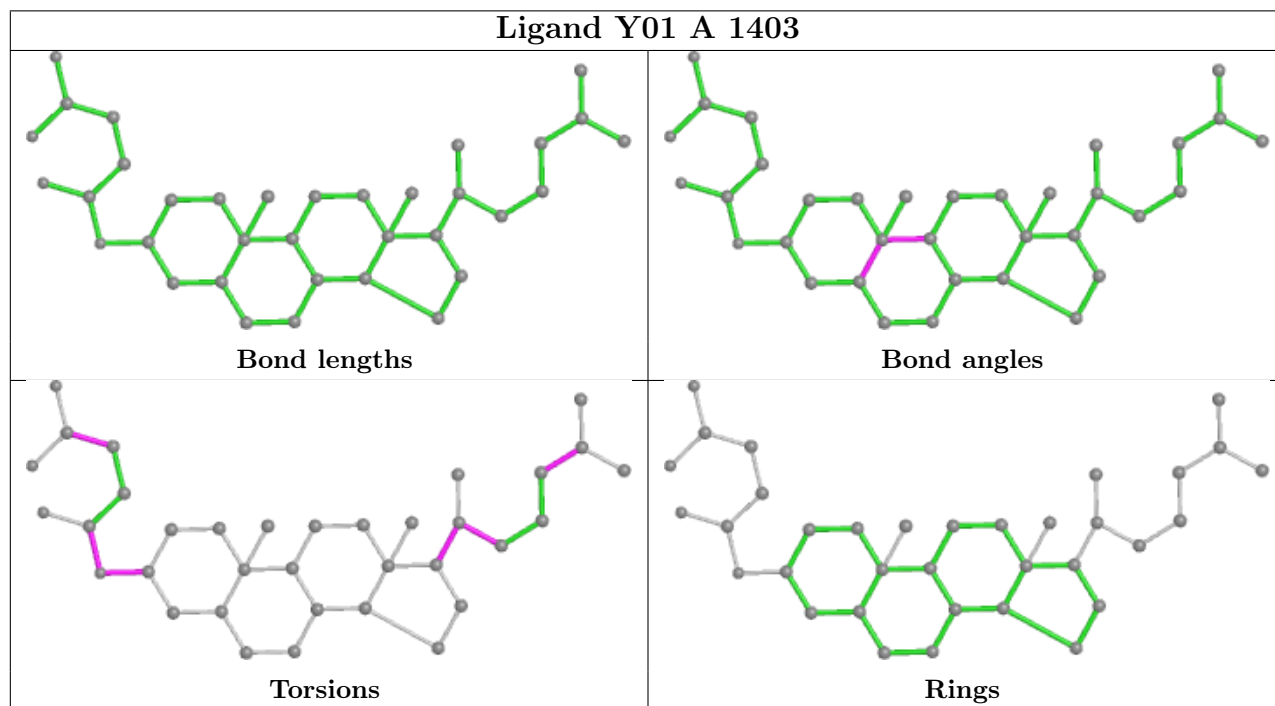
Mol	Chain	Res	Type	Atoms
2	A	1401	JJI	C02-C01-C18-S04
2	A	1401	JJI	C02-C01-N01-C15
2	A	1401	JJI	C1-S-S04-C18
2	A	1401	JJI	C3-C4-N4-O41
2	A	1401	JJI	C5-C4-N4-O41
3	A	1402	JIZ	C02-C01-C18-S04
3	A	1402	JIZ	N01-C01-C18-S04
4	A	1403	Y01	OAG-CAY-OAW-CBC
4	A	1404	Y01	OAG-CAY-OAW-CBC
4	A	1404	Y01	CAM-CAY-OAW-CBC
4	A	1404	Y01	CAJ-CAO-CBB-CAC
4	A	1403	Y01	CAM-CAY-OAW-CBC
4	A	1403	Y01	CAC-CBB-CBE-CAP
4	A	1403	Y01	CAC-CBB-CBE-CBI
4	A	1403	Y01	CAO-CBB-CBE-CBI
4	A	1403	Y01	CAO-CBB-CBE-CAP
4	A	1404	Y01	CAJ-CAO-CBB-CBE
4	A	1403	Y01	CAJ-CAO-CBB-CBE
3	A	1402	JIZ	C07-C06-N03-C05
4	A	1403	Y01	CAJ-CAO-CBB-CAC
4	A	1403	Y01	CAJ-CAN-CBA-CAA
3	A	1402	JIZ	C16-C06-N03-C05
4	A	1403	Y01	CAV-CBC-OAW-CAY
4	A	1403	Y01	CAR-CBC-OAW-CAY
2	A	1401	JJI	C6-C1-S-S04
2	A	1401	JJI	C3-C2-N2-O21
4	A	1403	Y01	CAM-CAL-CAX-OAF
4	A	1403	Y01	CAM-CAL-CAX-OAH
4	A	1403	Y01	CAJ-CAN-CBA-CAB
4	A	1404	Y01	CAM-CAL-CAX-OAF
4	A	1404	Y01	CAM-CAL-CAX-OAH
2	A	1401	JJI	N01-C01-C18-S04
4	A	1404	Y01	CAL-CAM-CAY-OAW

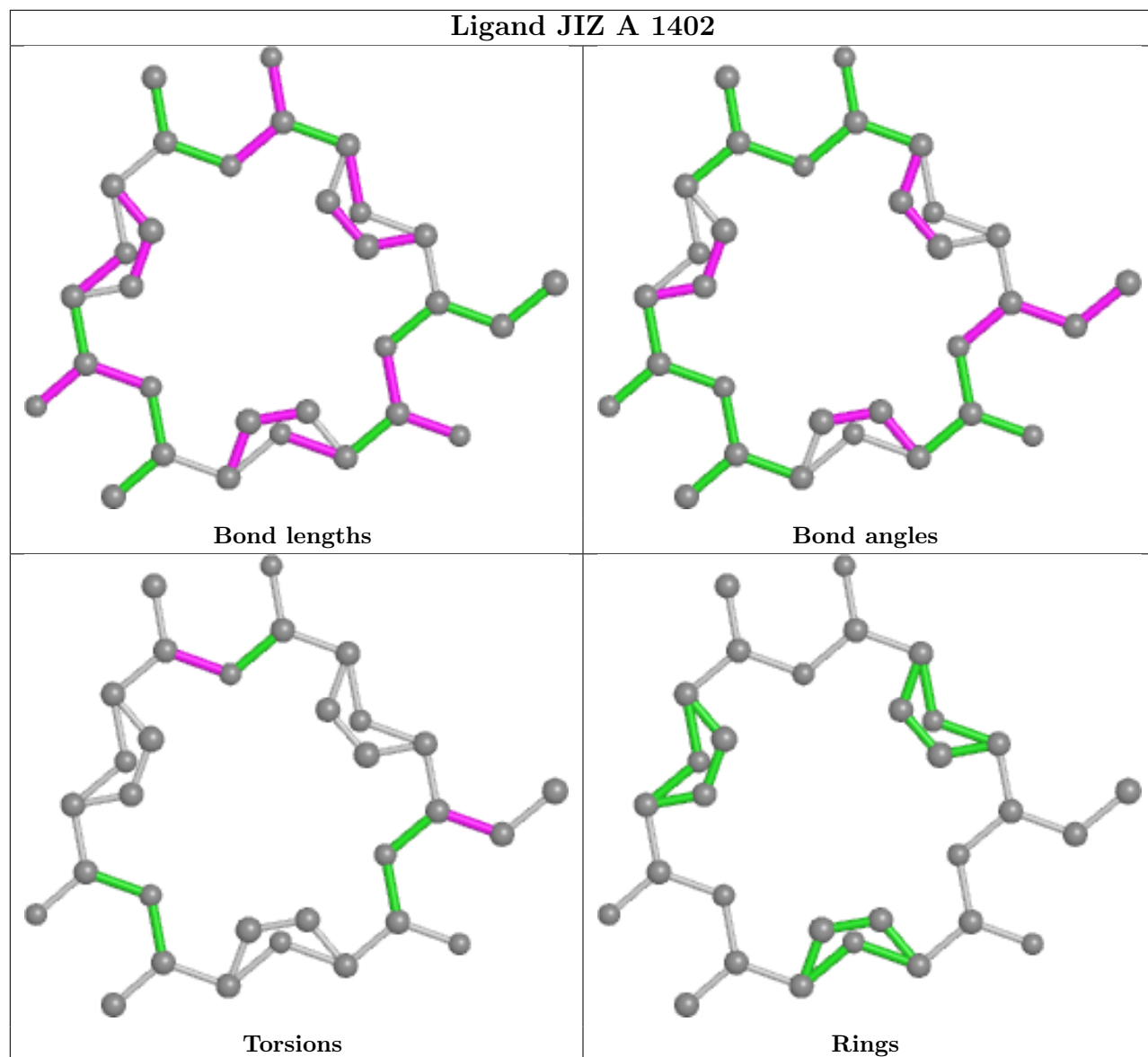
There are no ring outliers.

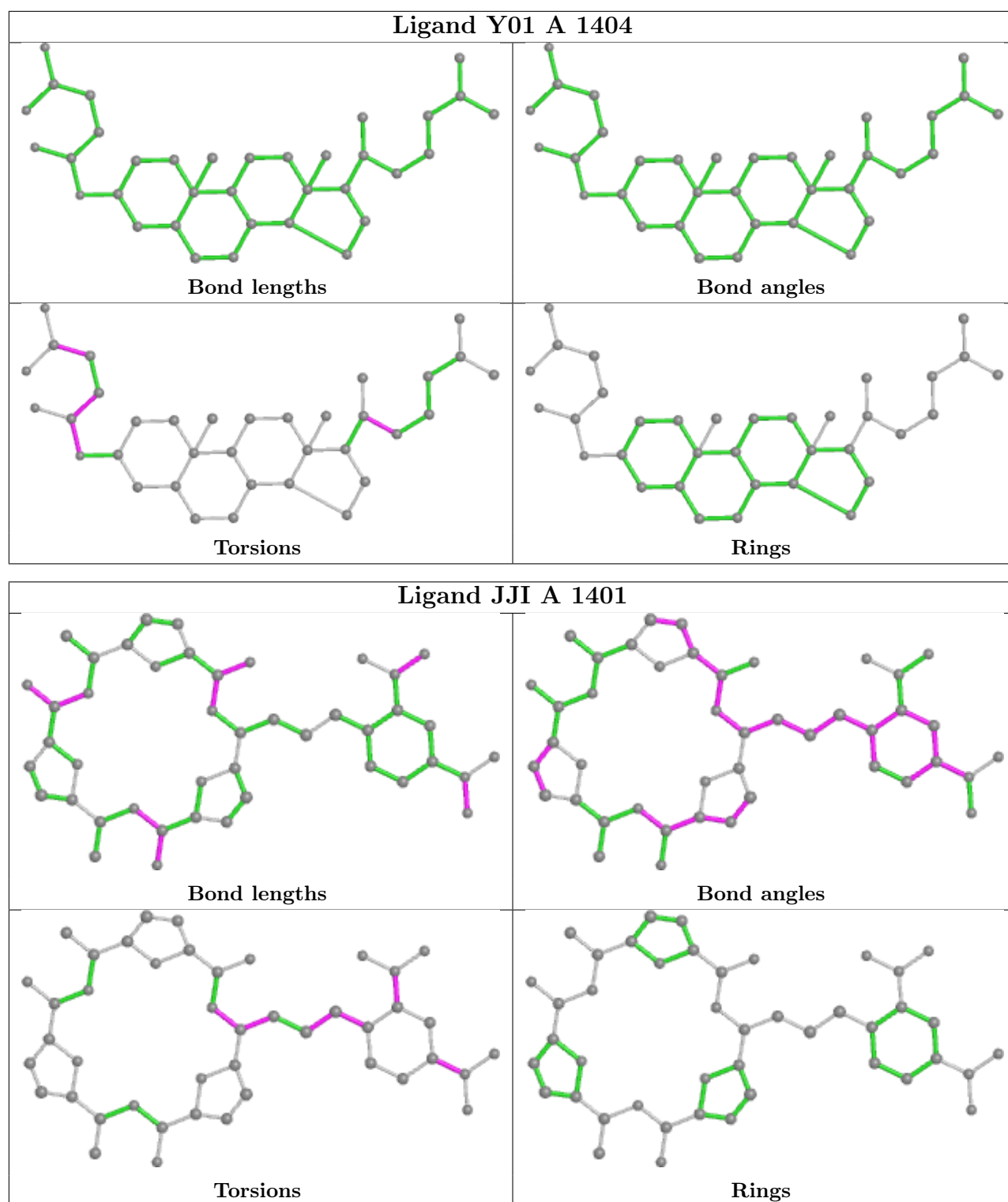
3 monomers are involved in 6 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	1402	JIZ	1	0
4	A	1404	Y01	4	0
2	A	1401	JJI	1	0

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 than 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.







## 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.

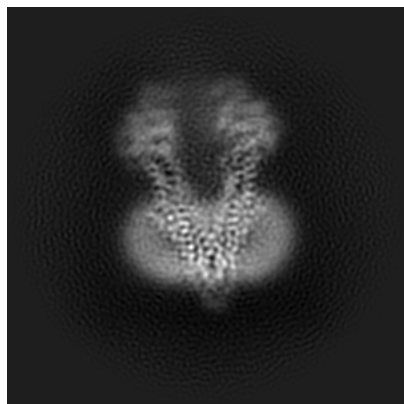
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-14757. These allow visual inspection of the internal detail of the map and identification of artifacts.

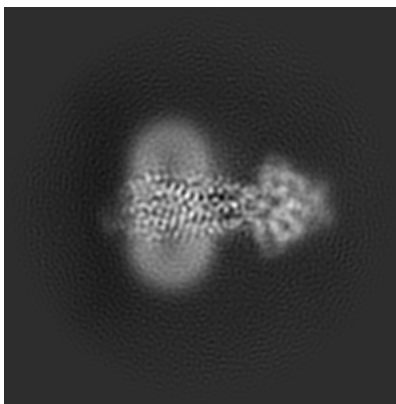
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

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

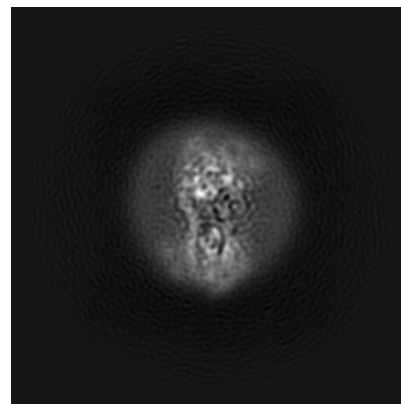
#### 6.1.1 Primary map



X

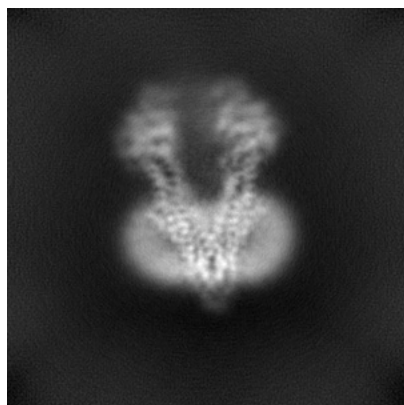


Y

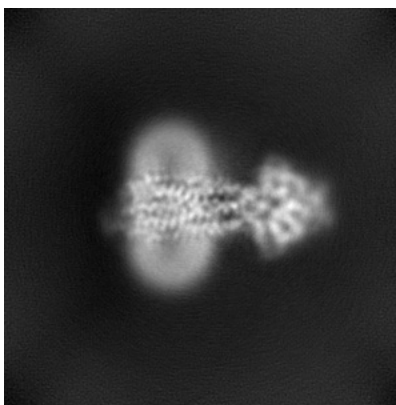


Z

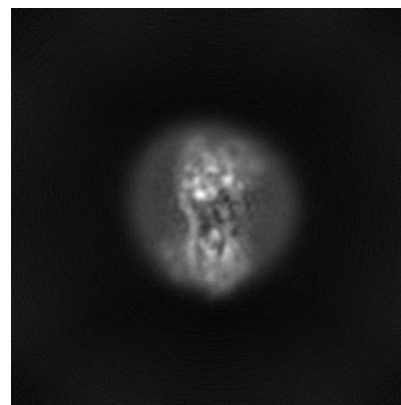
#### 6.1.2 Raw map



X



Y



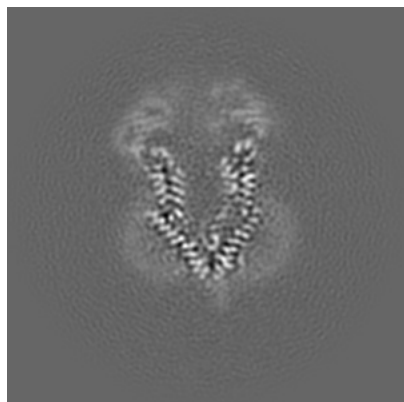
Z

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

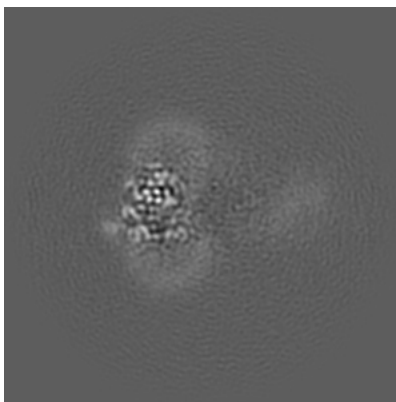


## 6.2 Central slices [i](#)

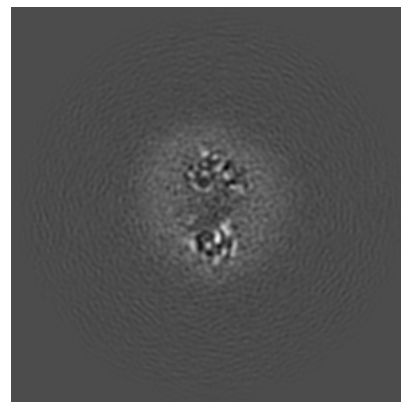
### 6.2.1 Primary map



X Index: 140

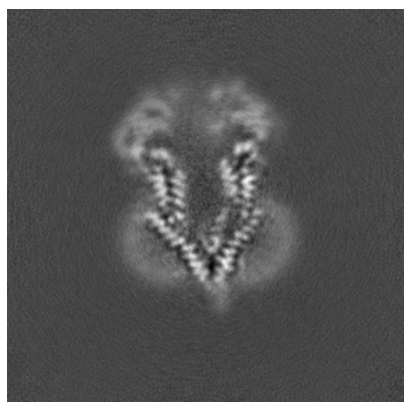


Y Index: 140

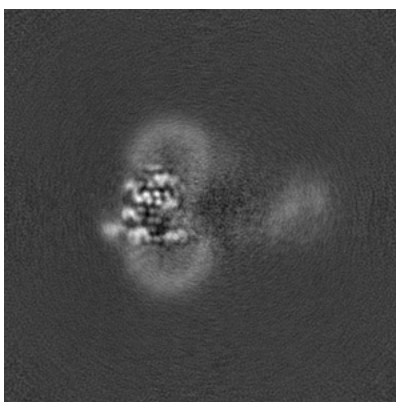


Z Index: 140

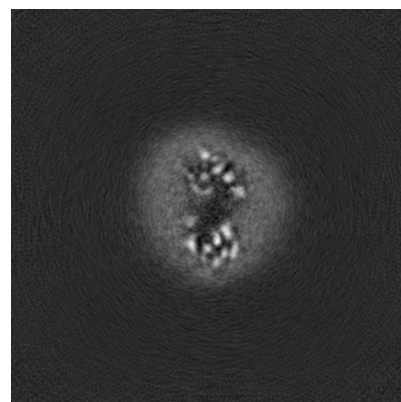
### 6.2.2 Raw map



X Index: 140



Y Index: 140

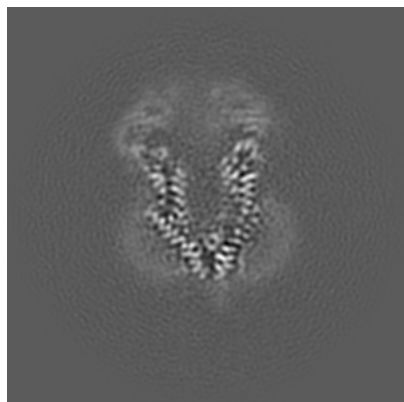


Z Index: 140

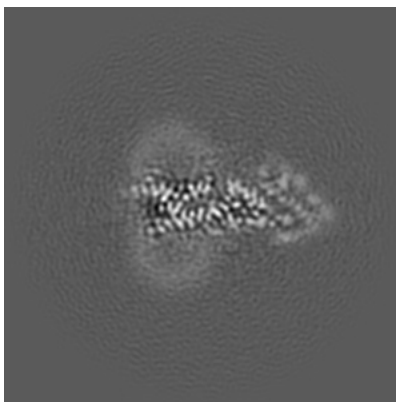
The images above show central slices of the map in three orthogonal directions.

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

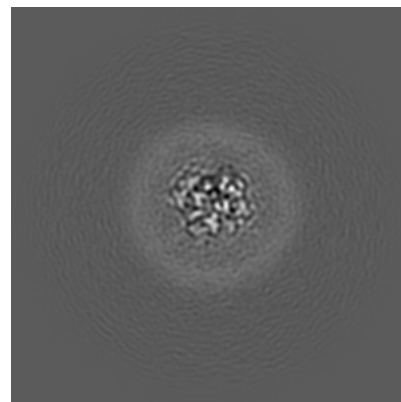
### 6.3.1 Primary map



X Index: 141

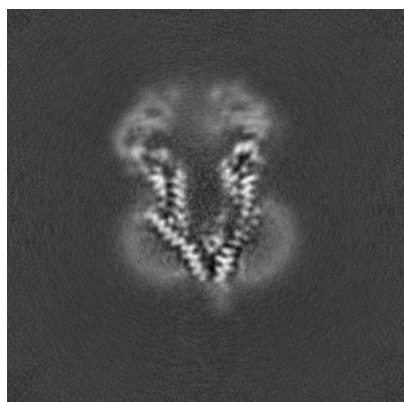


Y Index: 160

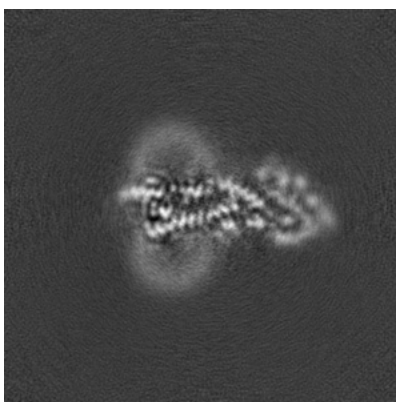


Z Index: 107

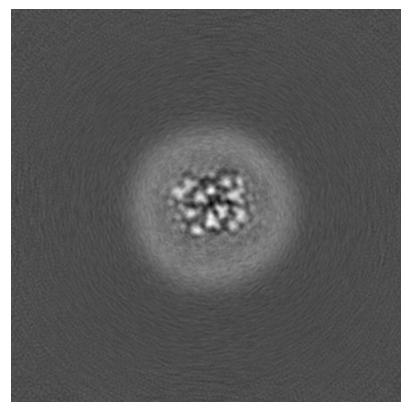
### 6.3.2 Raw map



X Index: 141



Y Index: 158

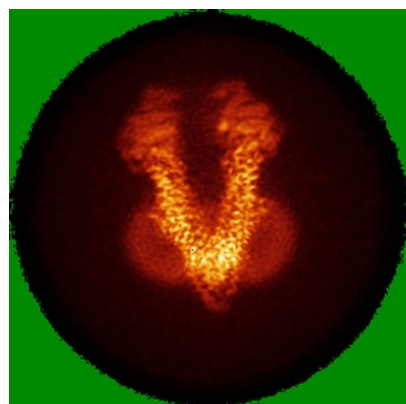


Z Index: 101

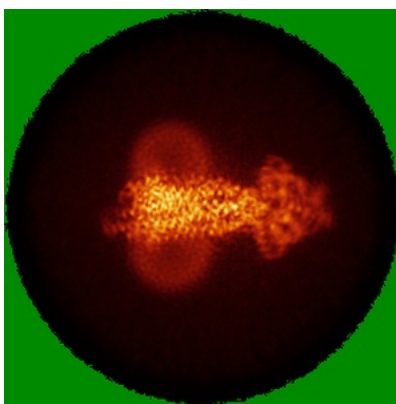
The images above show the largest variance slices of the map in three orthogonal directions.

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

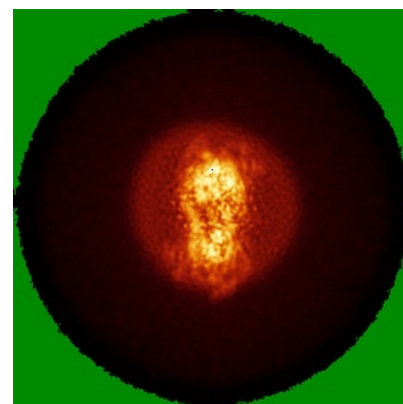
### 6.4.1 Primary map



X



Y

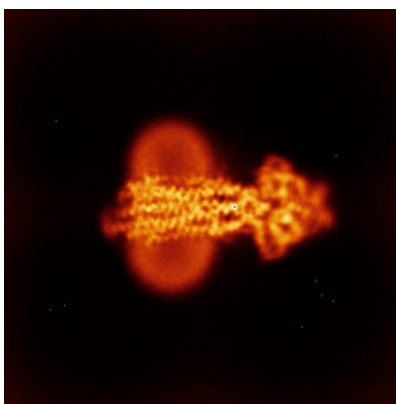


Z

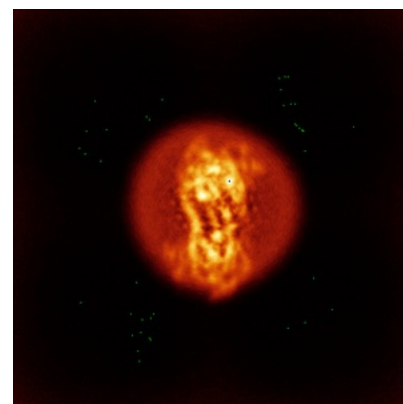
### 6.4.2 Raw map



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 [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 0.4. 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.

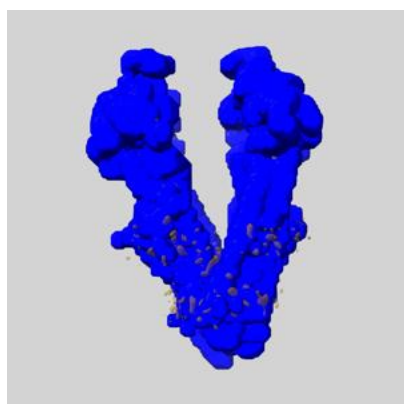
## 6.6 Mask visualisation [i](#)

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

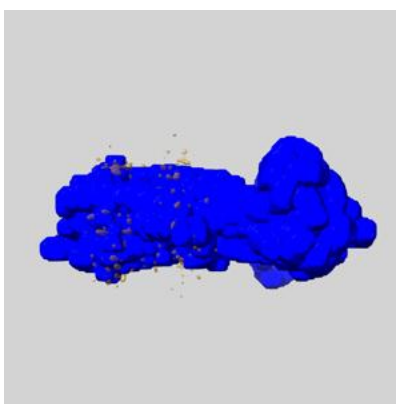
A mask typically either:

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

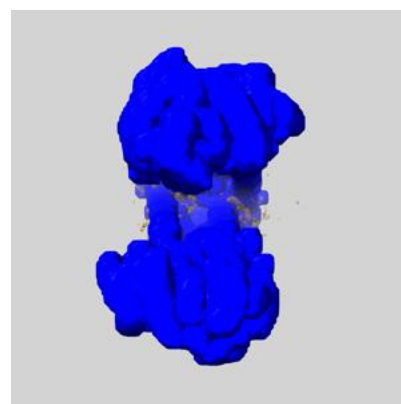
### 6.6.1 emd\_14757\_msk\_1.map [i](#)



X



Y

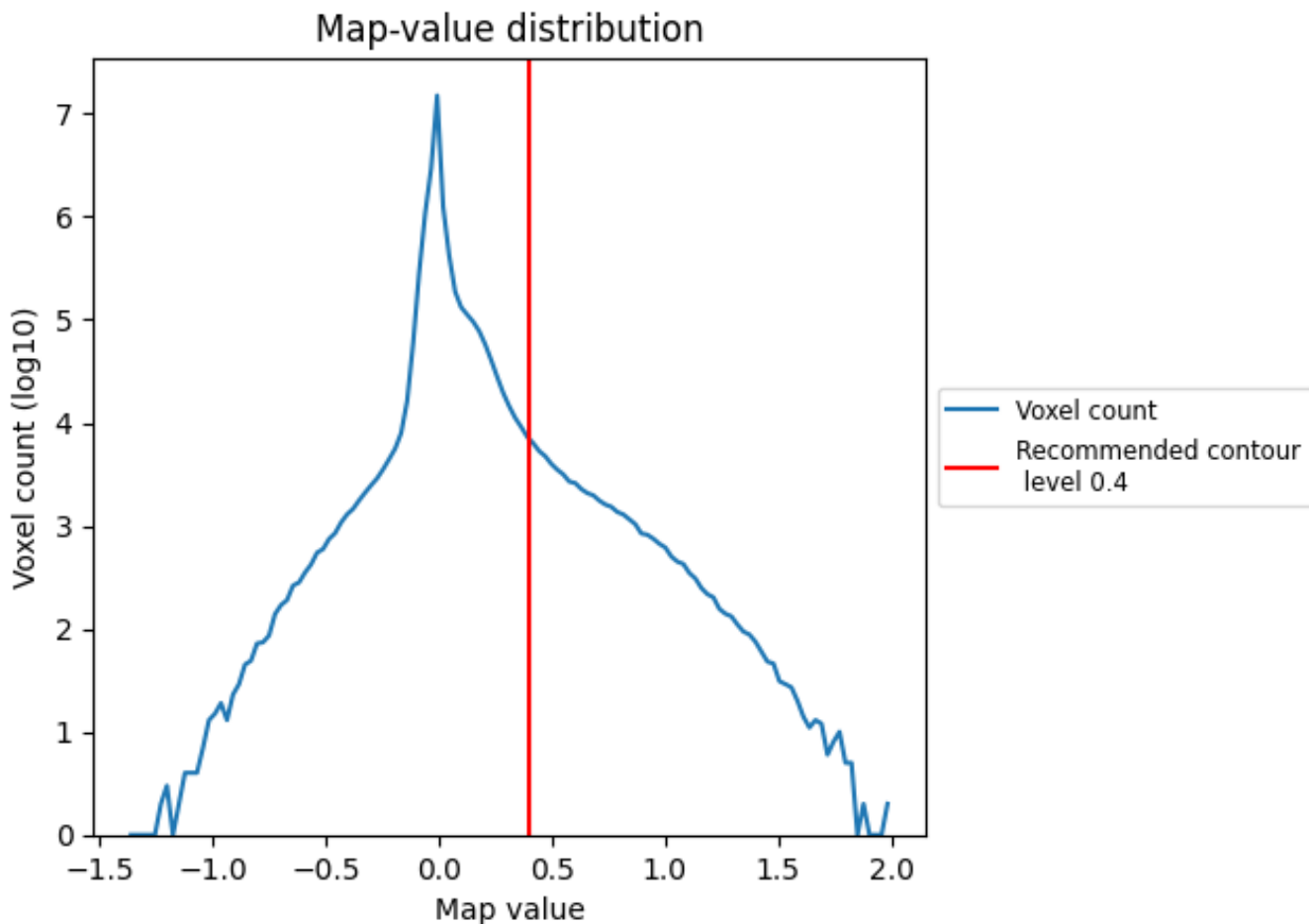


Z

## 7 Map analysis [i](#)

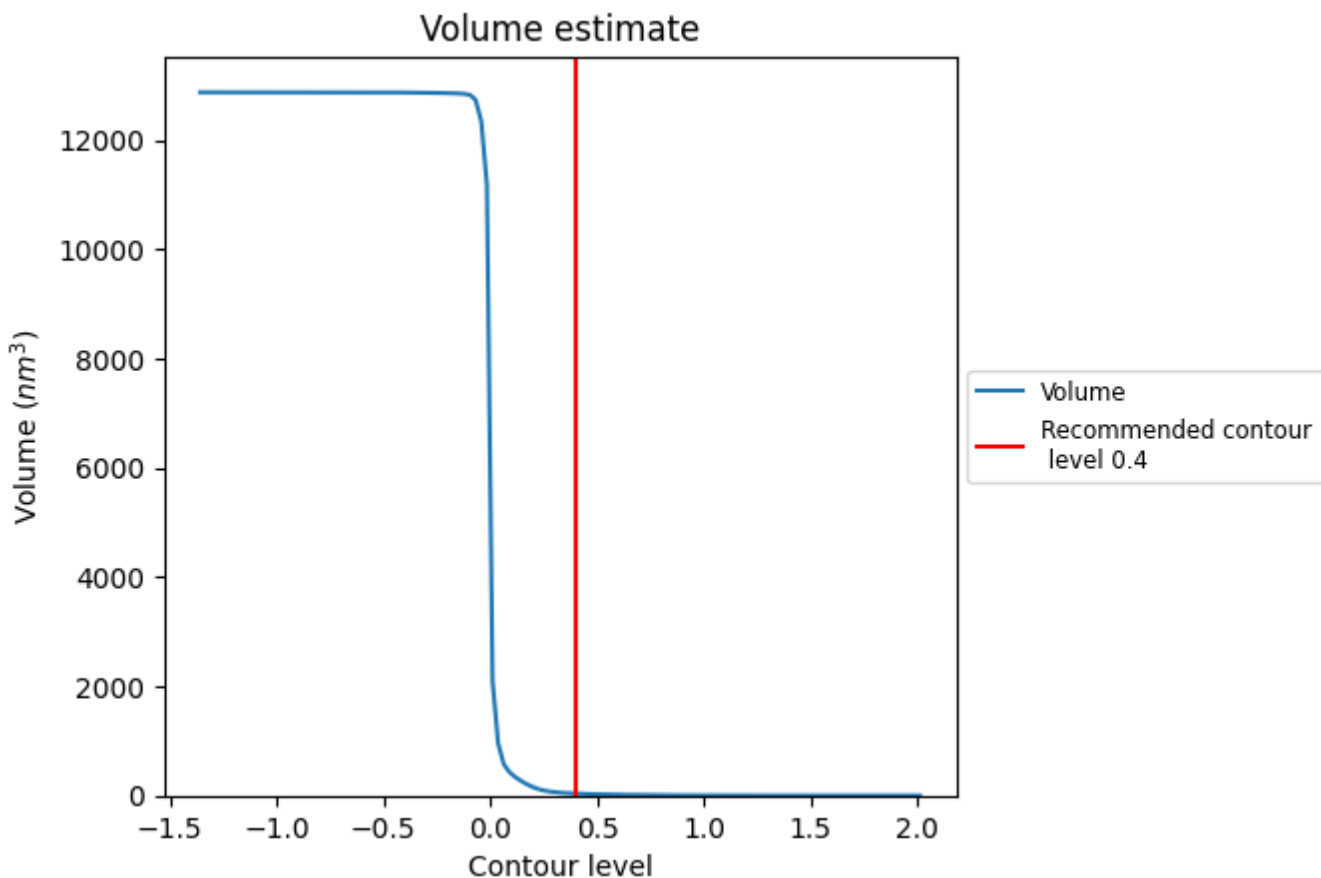
This section contains the results of statistical analysis of the map.

### 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.

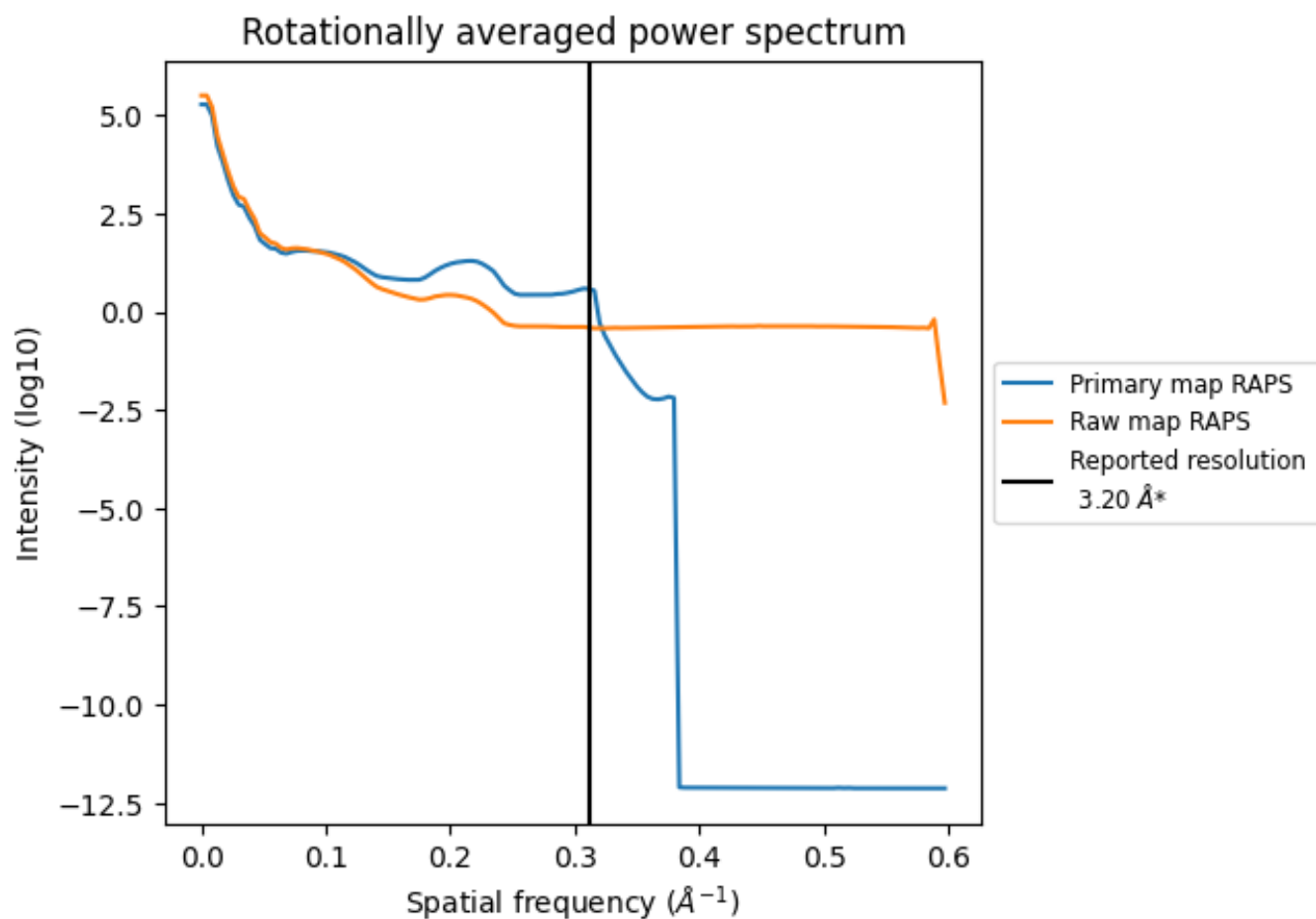
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 36 nm<sup>3</sup>; this corresponds to an approximate mass of 32 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](#)



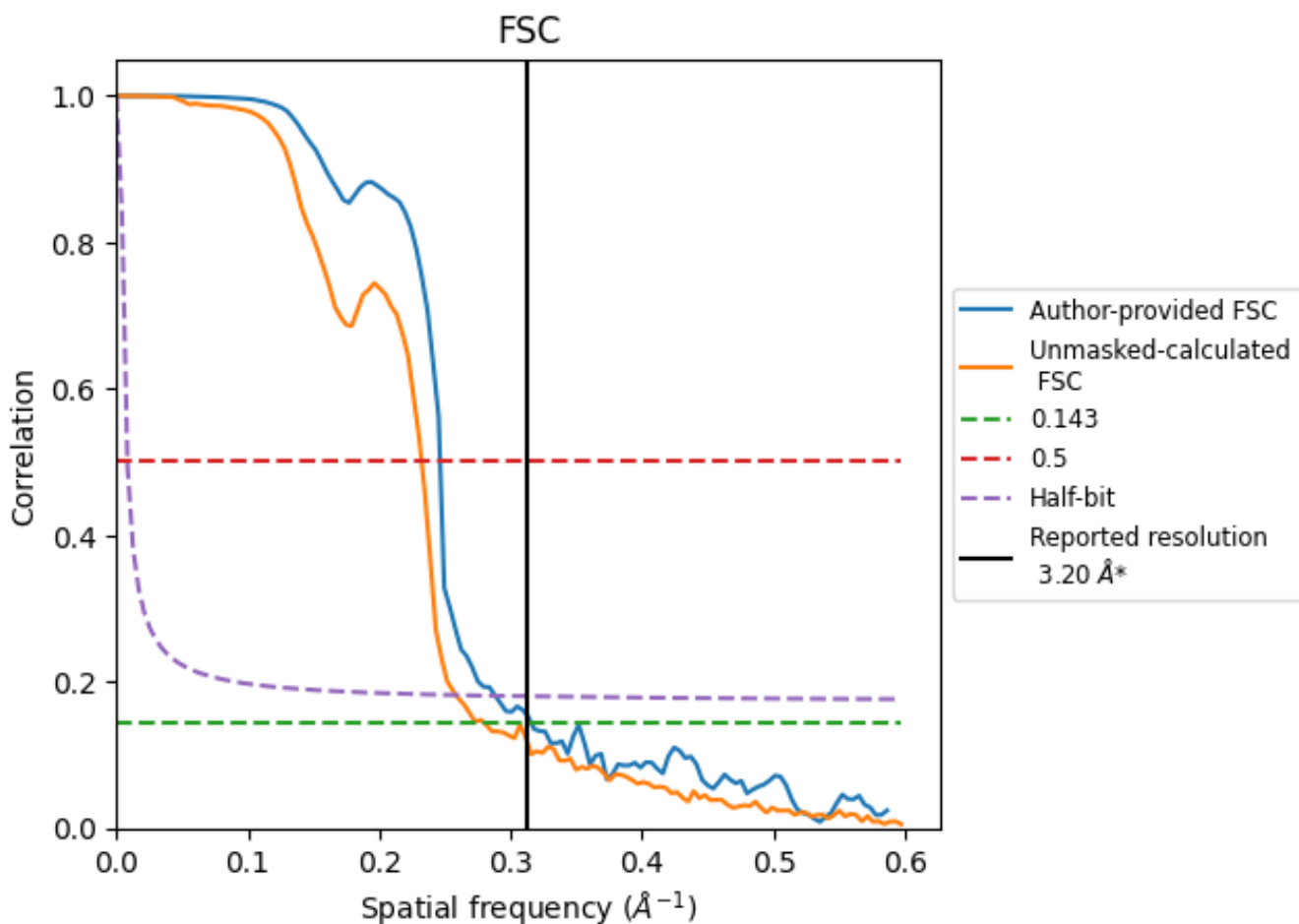
\*Reported resolution corresponds to spatial frequency of 0.312 Å<sup>-1</sup>



## 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 0.312 Å<sup>-1</sup>

## 8.2 Resolution estimates [i](#)

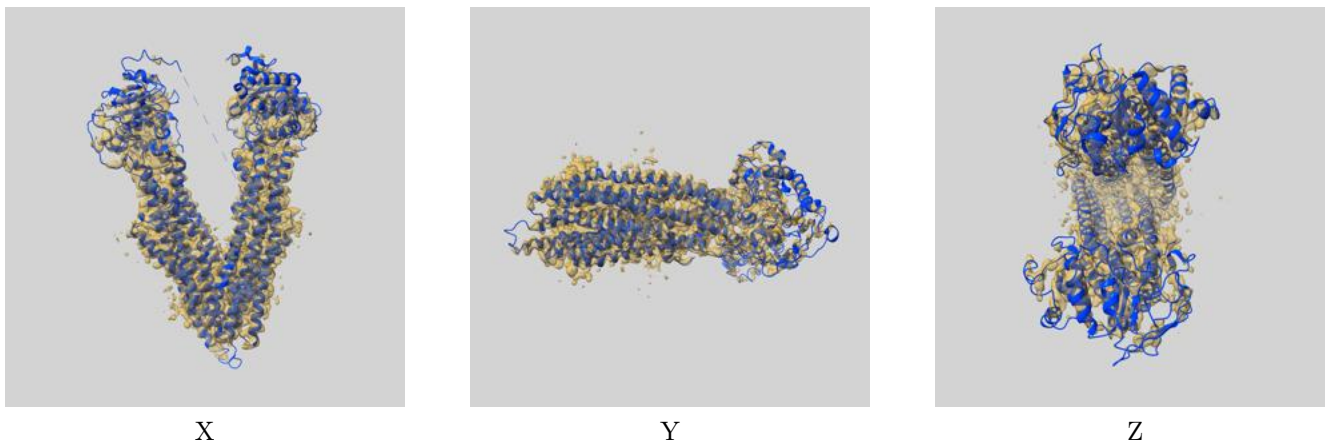
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.20	-	-
Author-provided FSC curve	3.17	4.06	3.47
Unmasked-calculated*	3.57	4.30	3.87

\*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 3.57 differs from the reported value 3.2 by more than 10 %

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

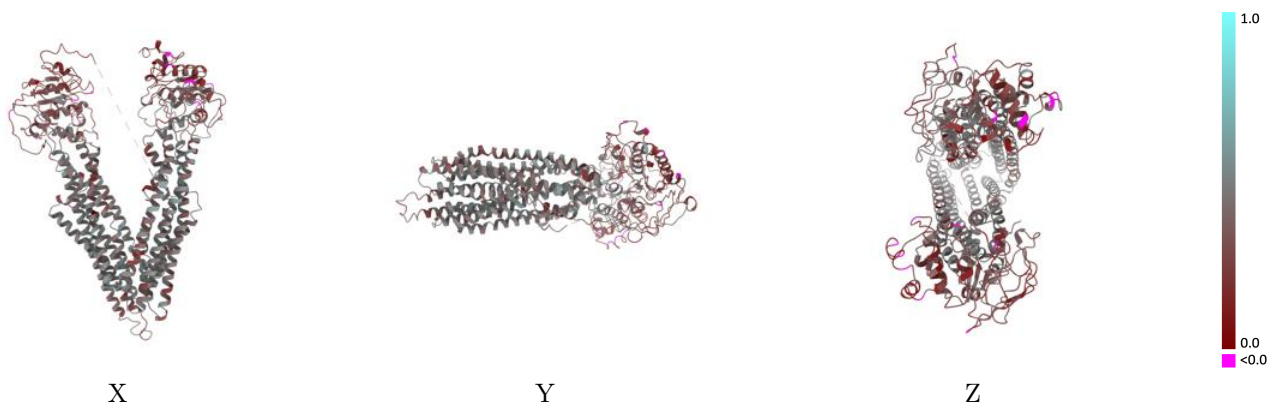
This section contains information regarding the fit between EMDB map EMD-14757 and PDB model 7ZK7. Per-residue inclusion information can be found in section 3 on page 7.

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



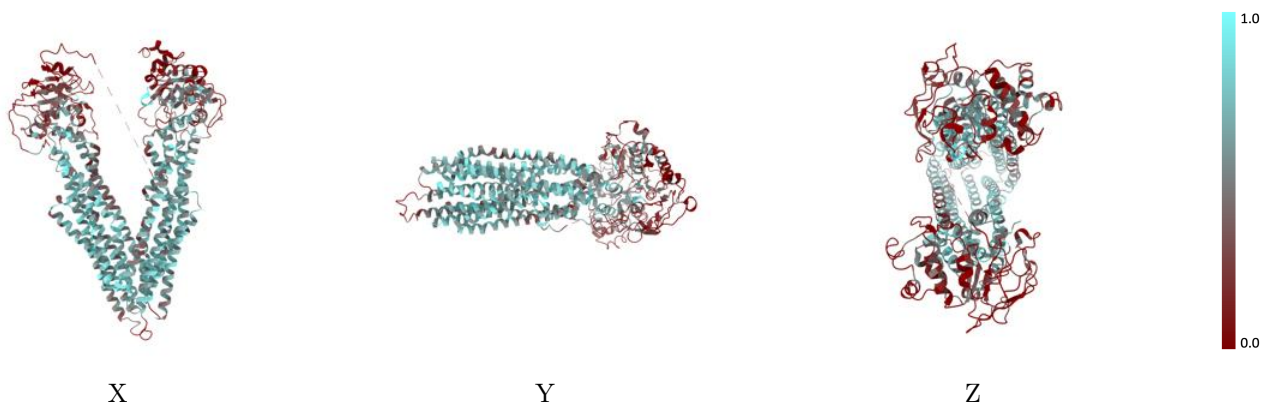
The images above show the 3D surface view of the map at the recommended contour level 0.4 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



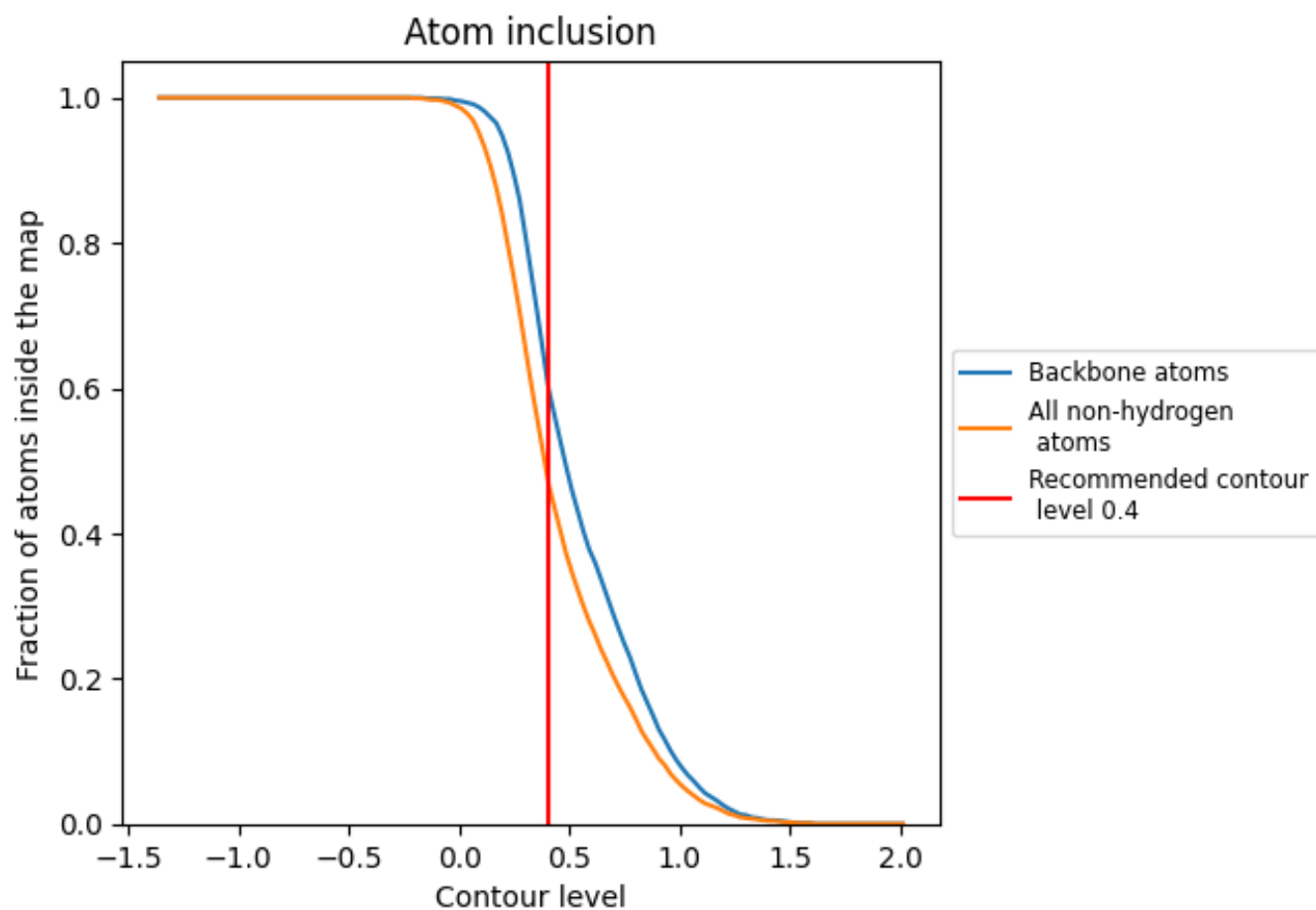
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.4).

## 9.4 Atom inclusion [i](#)



At the recommended contour level, 61% of all backbone atoms, 48% 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 (0.4) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	■ 0.4770	■ 0.3780
A	■ 0.4770	■ 0.3780

