



Full wwPDB EM Validation Report ⓘ

Apr 1, 2024 – 06:13 PM JST

PDB ID : 8IZP
EMDB ID : EMD-35867
Title : Multidrug resistance-associated protein 3
Authors : Yun, C.H.; Gao, H.M.
Deposited on : 2023-04-07
Resolution : 3.31 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

EMDB validation analysis : 0.0.1.dev70
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

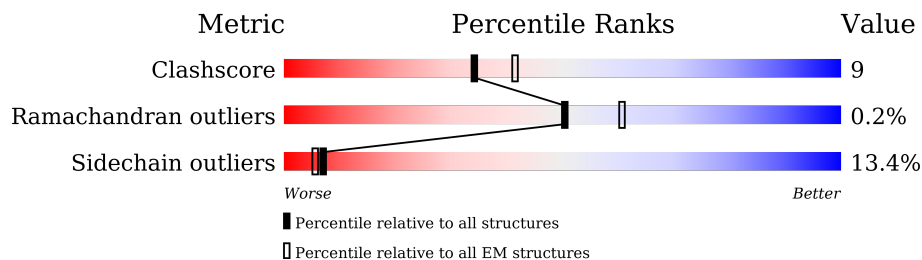
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.31 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	1571	

2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 9425 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-binding cassette sub-family C member 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	1210	9425	6084	1598	1695	48	0	0

There are 46 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	344	GLY	ALA	conflict	UNP O15438
A	1362	VAL	LEU	conflict	UNP O15438
A	1528	LEU	-	expression tag	UNP O15438
A	1529	GLU	-	expression tag	UNP O15438
A	1530	GLU	-	expression tag	UNP O15438
A	1531	ASN	-	expression tag	UNP O15438
A	1532	LEU	-	expression tag	UNP O15438
A	1533	TYR	-	expression tag	UNP O15438
A	1534	PHE	-	expression tag	UNP O15438
A	1535	GLN	-	expression tag	UNP O15438
A	1536	GLY	-	expression tag	UNP O15438
A	1537	SER	-	expression tag	UNP O15438
A	1538	GLY	-	expression tag	UNP O15438
A	1539	GLY	-	expression tag	UNP O15438
A	1540	GLY	-	expression tag	UNP O15438
A	1541	GLY	-	expression tag	UNP O15438
A	1542	GLY	-	expression tag	UNP O15438
A	1543	GLY	-	expression tag	UNP O15438
A	1544	ASP	-	expression tag	UNP O15438
A	1545	TYR	-	expression tag	UNP O15438
A	1546	LYS	-	expression tag	UNP O15438
A	1547	ASP	-	expression tag	UNP O15438
A	1548	HIS	-	expression tag	UNP O15438
A	1549	ASP	-	expression tag	UNP O15438
A	1550	GLY	-	expression tag	UNP O15438
A	1551	ASP	-	expression tag	UNP O15438
A	1552	TYR	-	expression tag	UNP O15438
A	1553	LYS	-	expression tag	UNP O15438

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
A	1554	ASP	-	expression tag	UNP O15438
A	1555	HIS	-	expression tag	UNP O15438
A	1556	ASP	-	expression tag	UNP O15438
A	1557	ILE	-	expression tag	UNP O15438
A	1558	ASP	-	expression tag	UNP O15438
A	1559	TYR	-	expression tag	UNP O15438
A	1560	LYS	-	expression tag	UNP O15438
A	1561	ASP	-	expression tag	UNP O15438
A	1562	ASP	-	expression tag	UNP O15438
A	1563	ASP	-	expression tag	UNP O15438
A	1564	ASP	-	expression tag	UNP O15438
A	1565	LYS	-	expression tag	UNP O15438
A	1566	HIS	-	expression tag	UNP O15438
A	1567	HIS	-	expression tag	UNP O15438
A	1568	HIS	-	expression tag	UNP O15438
A	1569	HIS	-	expression tag	UNP O15438
A	1570	HIS	-	expression tag	UNP O15438
A	1571	HIS	-	expression tag	UNP O15438

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	124494	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 ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2300	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.269	Depositor
Minimum map value	-0.709	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.026	Depositor
Recommended contour level	0.128	Depositor
Map size (\AA)	273.92, 273.92, 273.92	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.07, 1.07, 1.07	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	0/9626	0.90	0/13077

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	9425	0	9602	170	0
All	All	9425	0	9602	170	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 9.

All (170) 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:264:GLU:HA	1:A:267:THR:HB	1.67	0.77
1:A:632:GLY:HA2	1:A:683:GLY:HA3	1.68	0.76
1:A:444:LEU:HB3	1:A:452:VAL:HG11	1.70	0.74
1:A:243:LEU:HG	1:A:1183:ARG:HG3	1.73	0.69
1:A:1272:TRP:CG	1:A:1360:HIS:HD2	2.10	0.69

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:389:ILE:HD11	1:A:602:ILE:HG23	1.76	0.68
1:A:761:LEU:HD21	1:A:794:ILE:HD11	1.77	0.66
1:A:1285:PRO:HA	1:A:1445:ARG:HG3	1.78	0.66
1:A:1289:VAL:HG11	1:A:1336:LEU:HD21	1.79	0.65
1:A:661:GLY:HA3	1:A:667:LYS:HE3	1.79	0.63
1:A:267:THR:HA	1:A:270:HIS:HB2	1.81	0.62
1:A:628:THR:HG23	1:A:686:HIS:HB2	1.81	0.62
1:A:1379:THR:OG1	1:A:1416:ASP:HA	1.99	0.61
1:A:705:LEU:HD13	1:A:736:LEU:HD11	1.83	0.60
1:A:660:VAL:HG12	1:A:809:THR:HG23	1.83	0.60
1:A:958:VAL:HG12	1:A:958:VAL:O	2.01	0.60
1:A:1083:LEU:O	1:A:1087:ILE:HG13	2.02	0.59
1:A:1400:GLU:HB3	1:A:1405:HIS:HB3	1.83	0.59
1:A:433:ALA:HB3	1:A:434:PRO:HD3	1.85	0.57
1:A:1280:PRO:HG2	1:A:1352:LEU:HG	1.85	0.57
1:A:1431:ARG:O	1:A:1434:VAL:HB	2.04	0.57
1:A:1391:SER:HB2	1:A:1394:ASP:HB2	1.87	0.56
1:A:822:ILE:HD13	1:A:832:MET:HG3	1.86	0.56
1:A:1286:ARG:HH21	1:A:1288:GLU:HB2	1.71	0.56
1:A:1052:LYS:NZ	1:A:1263:TYR:O	2.40	0.55
1:A:986:ILE:O	1:A:990:VAL:HG23	2.06	0.55
1:A:209:GLU:O	1:A:210:THR:C	2.45	0.55
1:A:321:GLN:HE21	1:A:363:GLN:HE21	1.55	0.55
1:A:1270:ALA:HB3	1:A:1359:LEU:HD13	1.88	0.54
1:A:660:VAL:HG11	1:A:815:LEU:HD21	1.89	0.54
1:A:1495:VAL:HB	1:A:1502:ALA:HB3	1.89	0.54
1:A:1198:GLY:O	1:A:1202:VAL:HG23	2.08	0.54
1:A:300:LEU:HB2	1:A:599:LEU:HD21	1.90	0.53
1:A:997:ASN:HD21	1:A:1224:GLY:H	1.55	0.53
1:A:1295:SER:HB2	1:A:1344:LYS:HG2	1.91	0.53
1:A:659:VAL:HG11	1:A:670:LEU:HD23	1.90	0.53
1:A:556:TYR:O	1:A:558:ASP:N	2.42	0.53
1:A:755:GLN:O	1:A:758:ARG:HG2	2.09	0.53
1:A:812:ILE:HA	1:A:815:LEU:HG	1.91	0.53
1:A:695:PRO:HG2	1:A:698:ALA:HA	1.90	0.53
1:A:505:ALA:HB1	1:A:1360:HIS:CE1	2.44	0.52
1:A:1272:TRP:HB3	1:A:1360:HIS:HD2	1.75	0.52
1:A:585:LEU:N	1:A:586:PRO:HD2	2.25	0.52
1:A:1279:PRO:HG3	1:A:1361:ASP:CG	2.29	0.52
1:A:821:ILE:HD12	1:A:838:LEU:HD22	1.91	0.52
1:A:1337:PHE:HE1	1:A:1366:LEU:HB2	1.74	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:665:CYS:O	1:A:667:LYS:HE2	2.10	0.52
1:A:1282:GLY:O	1:A:1285:PRO:HD2	2.10	0.51
1:A:331:LEU:HD22	1:A:352:VAL:HG13	1.92	0.51
1:A:694:VAL:HG13	1:A:774:LEU:HA	1.92	0.51
1:A:651:VAL:HG12	1:A:657:VAL:HG21	1.90	0.51
1:A:824:LEU:HA	1:A:830:SER:H	1.74	0.51
1:A:1100:THR:HG23	1:A:1232:TYR:HB3	1.93	0.51
1:A:437:ILE:HG12	1:A:578:LEU:HD12	1.93	0.50
1:A:660:VAL:O	1:A:823:VAL:HA	2.12	0.50
1:A:1294:TYR:HA	1:A:1344:LYS:O	2.10	0.50
1:A:742:THR:HG23	1:A:744:ILE:HD11	1.93	0.50
1:A:835:TYR:N	1:A:836:PRO:HD2	2.27	0.50
1:A:537:PHE:HB2	1:A:1027:MET:SD	2.52	0.50
1:A:1286:ARG:HB3	1:A:1350:ASP:CG	2.32	0.50
1:A:981:GLN:HG3	1:A:1026:VAL:HG22	1.94	0.50
1:A:1469:ARG:O	1:A:1473:ASP:HB3	2.11	0.50
1:A:1118:LEU:HB3	1:A:1202:VAL:HG13	1.94	0.49
1:A:815:LEU:N	1:A:816:PRO:HD2	2.27	0.49
1:A:725:GLU:HG3	1:A:730:LEU:HB2	1.93	0.49
1:A:1272:TRP:CG	1:A:1360:HIS:CD2	2.97	0.49
1:A:724:LEU:HD13	1:A:733:LEU:HD11	1.94	0.49
1:A:1293:ASN:O	1:A:1345:GLY:HA3	2.13	0.49
1:A:705:LEU:HB2	1:A:744:ILE:HD11	1.95	0.49
1:A:1222:ASN:OD1	1:A:1225:LEU:HD12	2.12	0.49
1:A:1465:GLN:HA	1:A:1468:ILE:HG12	1.95	0.49
1:A:1272:TRP:CB	1:A:1360:HIS:HD2	2.26	0.49
1:A:1278:ARG:HD2	1:A:1279:PRO:HD2	1.94	0.49
1:A:1368:ILE:O	1:A:1370:PRO:HD3	2.13	0.49
1:A:659:VAL:HA	1:A:822:ILE:O	2.13	0.48
1:A:320:ILE:HG22	1:A:324:LEU:HD12	1.95	0.48
1:A:1319:VAL:HA	1:A:1492:ARG:O	2.13	0.48
1:A:1366:LEU:HD22	1:A:1446:ILE:HD12	1.95	0.48
1:A:1404:LEU:O	1:A:1408:VAL:HG23	2.14	0.48
1:A:997:ASN:HD21	1:A:1224:GLY:N	2.11	0.48
1:A:263:GLN:O	1:A:267:THR:N	2.47	0.48
1:A:981:GLN:HG3	1:A:1026:VAL:CG2	2.44	0.48
1:A:958:VAL:O	1:A:958:VAL:CG1	2.62	0.48
1:A:263:GLN:NE2	1:A:301:LYS:HB2	2.29	0.47
1:A:382:ARG:O	1:A:386:MET:HB2	2.14	0.47
1:A:1316:GLY:H	1:A:1476:THR:HG23	1.79	0.47
1:A:1460:THR:O	1:A:1464:ILE:HG12	2.13	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1511:ILE:HA	1:A:1518:TYR:HB2	1.95	0.47
1:A:757:GLN:HE21	1:A:757:GLN:HB2	1.52	0.47
1:A:538:THR:O	1:A:542:SER:HB3	2.15	0.47
1:A:1121:LEU:HD23	1:A:1202:VAL:HG22	1.96	0.47
1:A:1195:LEU:HD11	1:A:1244:ILE:HG21	1.96	0.47
1:A:1299:ARG:HE	1:A:1299:ARG:HB2	1.46	0.47
1:A:629:ILE:HD11	1:A:674:LEU:HD11	1.97	0.46
1:A:850:CYS:O	1:A:851:ASN:C	2.53	0.46
1:A:1295:SER:HB3	1:A:1304:LEU:HD13	1.97	0.46
1:A:1506:SER:O	1:A:1510:LEU:HG	2.16	0.46
1:A:266:GLN:O	1:A:270:HIS:N	2.46	0.46
1:A:1169:ASP:O	1:A:1173:ILE:HG13	2.16	0.46
1:A:1274:VAL:HG13	1:A:1277:SER:HB2	1.98	0.46
1:A:507:GLU:N	1:A:508:PRO:HD2	2.31	0.46
1:A:234:PRO:HA	1:A:1135:GLN:HE22	1.80	0.46
1:A:694:VAL:CG1	1:A:774:LEU:HA	2.45	0.46
1:A:1114:VAL:O	1:A:1117:PRO:HD2	2.16	0.45
1:A:505:ALA:HB1	1:A:1360:HIS:ND1	2.30	0.45
1:A:385:ILE:CG2	1:A:602:ILE:HG21	2.46	0.45
1:A:1052:LYS:HD3	1:A:1052:LYS:HA	1.66	0.45
1:A:1516:ILE:HD12	1:A:1516:ILE:H	1.81	0.45
1:A:1324:ARG:HD3	1:A:1325:THR:N	2.31	0.45
1:A:585:LEU:HD23	1:A:585:LEU:HA	1.79	0.45
1:A:1324:ARG:HD3	1:A:1325:THR:H	1.81	0.45
1:A:233:HIS:HB3	1:A:234:PRO:HD2	1.99	0.45
1:A:427:LEU:HD12	1:A:427:LEU:HA	1.74	0.45
1:A:556:TYR:O	1:A:557:VAL:C	2.55	0.45
1:A:989:ASN:ND2	1:A:1232:TYR:OH	2.50	0.45
1:A:1279:PRO:HA	1:A:1280:PRO:HD3	1.90	0.45
1:A:489:LYS:HB3	1:A:489:LYS:HE3	1.72	0.44
1:A:379:VAL:HG21	1:A:1189:ILE:HD11	1.99	0.44
1:A:1379:THR:HG23	1:A:1382:MET:H	1.82	0.44
1:A:959:PHE:CE1	1:A:1254:ILE:HG21	2.52	0.44
1:A:335:LEU:HD12	1:A:335:LEU:HA	1.83	0.44
1:A:1453:THR:HG22	1:A:1456:ILE:HG12	2.00	0.44
1:A:1174:SER:O	1:A:1178:VAL:HG23	2.18	0.44
1:A:993:SER:O	1:A:993:SER:OG	2.34	0.44
1:A:1427:SER:O	1:A:1431:ARG:HG3	2.18	0.44
1:A:390:TYR:CG	1:A:390:TYR:O	2.69	0.43
1:A:1322:VAL:O	1:A:1495:VAL:HA	2.18	0.43
1:A:1272:TRP:HB3	1:A:1360:HIS:CD2	2.54	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:383:THR:HG22	1:A:383:THR:O	2.19	0.43
1:A:966:VAL:HG13	1:A:1036:GLY:O	2.19	0.43
1:A:1392:GLU:H	1:A:1392:GLU:HG2	1.58	0.43
1:A:544:PHE:CZ	1:A:1019:GLY:HA3	2.54	0.43
1:A:303:LEU:HD12	1:A:303:LEU:HA	1.79	0.43
1:A:554:TYR:CZ	1:A:561:ASN:HB3	2.54	0.43
1:A:761:LEU:HD12	1:A:761:LEU:HA	1.87	0.43
1:A:1393:GLU:H	1:A:1393:GLU:HG3	1.55	0.43
1:A:1321:ILE:HD13	1:A:1480:ILE:HD13	2.00	0.42
1:A:1258:GLU:O	1:A:1262:GLU:HG2	2.19	0.42
1:A:630:HIS:CE1	1:A:684:LYS:HB2	2.55	0.42
1:A:736:LEU:HD22	1:A:742:THR:HG21	2.02	0.42
1:A:611:LEU:HD23	1:A:611:LEU:HA	1.75	0.42
1:A:822:ILE:CD1	1:A:832:MET:HG3	2.48	0.42
1:A:1222:ASN:OD1	1:A:1222:ASN:N	2.53	0.42
1:A:720:TYR:CZ	1:A:724:LEU:HD11	2.55	0.42
1:A:1022:GLN:O	1:A:1026:VAL:HG23	2.19	0.42
1:A:1426:LEU:HD12	1:A:1426:LEU:HA	1.78	0.42
1:A:1450:ASP:O	1:A:1451:GLU:C	2.59	0.41
1:A:235:LEU:HD23	1:A:235:LEU:HA	1.83	0.41
1:A:256:LEU:HD23	1:A:384:GLY:O	2.21	0.41
1:A:638:GLN:HE21	1:A:638:GLN:HB2	1.66	0.41
1:A:1282:GLY:C	1:A:1285:PRO:HD2	2.40	0.41
1:A:744:ILE:HD12	1:A:744:ILE:N	2.35	0.41
1:A:1367:THR:HG22	1:A:1442:ARG:HB2	2.03	0.41
1:A:364:SER:O	1:A:366:ILE:N	2.54	0.41
1:A:453:LEU:HD23	1:A:453:LEU:HA	1.92	0.41
1:A:592:LEU:HD23	1:A:592:LEU:HA	1.85	0.41
1:A:823:VAL:HB	1:A:831:GLU:HB2	2.03	0.41
1:A:1480:ILE:H	1:A:1480:ILE:HG12	1.52	0.41
1:A:374:ILE:HD12	1:A:374:ILE:HA	1.93	0.41
1:A:257:LEU:HD23	1:A:257:LEU:HA	1.89	0.40
1:A:1359:LEU:O	1:A:1363:ARG:HG3	2.21	0.40
1:A:209:GLU:O	1:A:211:SER:N	2.54	0.40
1:A:390:TYR:HE1	1:A:1171:GLU:HA	1.85	0.40
1:A:1384:LEU:HD22	1:A:1384:LEU:HA	1.89	0.40
1:A:1415:LEU:HD23	1:A:1415:LEU:HA	1.93	0.40
1:A:733:LEU:HA	1:A:736:LEU:HD12	2.03	0.40
1:A:1318:LYS:O	1:A:1490:TYR:HB3	2.22	0.40
1:A:249:SER:O	1:A:250:GLN:C	2.60	0.40
1:A:706:GLN:HG3	1:A:720:TYR:CZ	2.56	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1069:LEU:HD12	1:A:1069:LEU:HA	1.90	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	1200/1571 (76%)	1154 (96%)	44 (4%)	2 (0%)	47 76

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	557	VAL
1	A	210	THR

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	1024/1335 (77%)	887 (87%)	137 (13%)	4 17

All (137) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	211	SER

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	238	LYS
1	A	250	GLN
1	A	251	MET
1	A	264	GLU
1	A	267	THR
1	A	310	SER
1	A	311	PHE
1	A	324	LEU
1	A	346	SER
1	A	391	ARG
1	A	395	VAL
1	A	405	THR
1	A	427	LEU
1	A	451	SER
1	A	464	PRO
1	A	473	MET
1	A	477	GLN
1	A	480	GLN
1	A	500	VAL
1	A	507	GLU
1	A	511	LEU
1	A	512	LYS
1	A	535	THR
1	A	536	THR
1	A	539	TRP
1	A	557	VAL
1	A	560	ASN
1	A	562	VAL
1	A	566	GLU
1	A	571	SER
1	A	573	SER
1	A	575	PHE
1	A	588	LEU
1	A	590	SER
1	A	592	LEU
1	A	603	GLN
1	A	615	SER
1	A	617	GLU
1	A	622	SER
1	A	628	THR
1	A	638	GLN
1	A	670	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	674	LEU
1	A	685	VAL
1	A	694	VAL
1	A	703	CYS
1	A	710	LEU
1	A	711	PHE
1	A	752	SER
1	A	757	GLN
1	A	765	VAL
1	A	776	ASP
1	A	788	HIS
1	A	789	ILE
1	A	791	ASP
1	A	797	GLU
1	A	804	THR
1	A	805	ARG
1	A	809	THR
1	A	824	LEU
1	A	954	VAL
1	A	956	LEU
1	A	981	GLN
1	A	993	SER
1	A	998	ASP
1	A	1000	MET
1	A	1008	THR
1	A	1039	GLN
1	A	1053	ILE
1	A	1159	SER
1	A	1160	VAL
1	A	1172	ILE
1	A	1174	SER
1	A	1183	ARG
1	A	1184	SER
1	A	1195	LEU
1	A	1197	ILE
1	A	1200	GLU
1	A	1207	VAL
1	A	1218	ARG
1	A	1219	SER
1	A	1222	ASN
1	A	1229	SER
1	A	1232	TYR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1247	MET
1	A	1273	VAL
1	A	1283	TRP
1	A	1285	PRO
1	A	1290	GLU
1	A	1306	LEU
1	A	1318	LYS
1	A	1324	ARG
1	A	1330	SER
1	A	1332	MET
1	A	1333	THR
1	A	1346	GLU
1	A	1347	ILE
1	A	1352	LEU
1	A	1353	ASN
1	A	1360	HIS
1	A	1362	VAL
1	A	1367	THR
1	A	1368	ILE
1	A	1374	ILE
1	A	1375	LEU
1	A	1381	ARG
1	A	1384	LEU
1	A	1393	GLU
1	A	1405	HIS
1	A	1411	GLN
1	A	1417	PHE
1	A	1428	VAL
1	A	1432	GLN
1	A	1440	LEU
1	A	1441	LEU
1	A	1451	GLU
1	A	1453	THR
1	A	1456	ILE
1	A	1459	GLU
1	A	1460	THR
1	A	1465	GLN
1	A	1469	ARG
1	A	1474	THR
1	A	1476	THR
1	A	1480	ILE
1	A	1484	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	1485	ASN
1	A	1487	ILE
1	A	1491	THR
1	A	1492	ARG
1	A	1493	VAL
1	A	1496	LEU
1	A	1501	VAL
1	A	1504	PHE
1	A	1506	SER
1	A	1522	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (19) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	363	GLN
1	A	477	GLN
1	A	561	ASN
1	A	638	GLN
1	A	757	GLN
1	A	989	ASN
1	A	997	ASN
1	A	1007	ASN
1	A	1039	GLN
1	A	1050	HIS
1	A	1051	ASN
1	A	1135	GLN
1	A	1165	ASN
1	A	1235	GLN
1	A	1253	ASN
1	A	1360	HIS
1	A	1383	ASN
1	A	1462	ASN
1	A	1509	ASN

5.3.3 RNA

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.

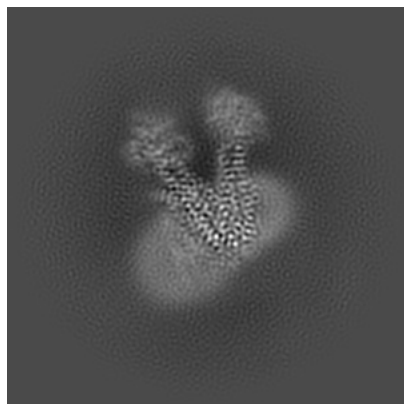
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-35867. These allow visual inspection of the internal detail of the map and identification of artifacts.

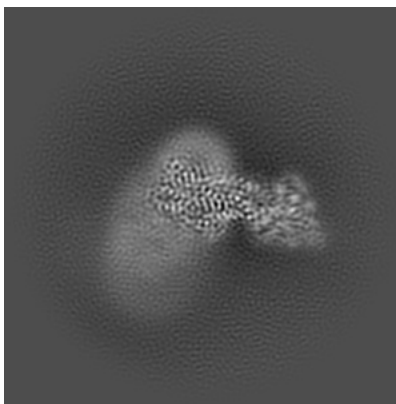
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

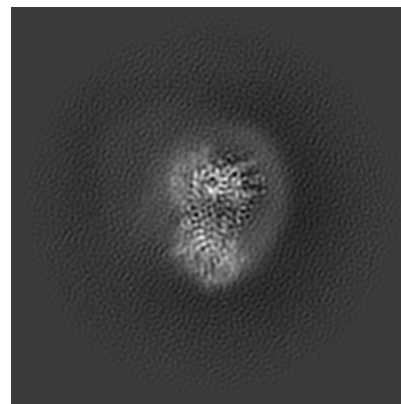
6.1.1 Primary map



X

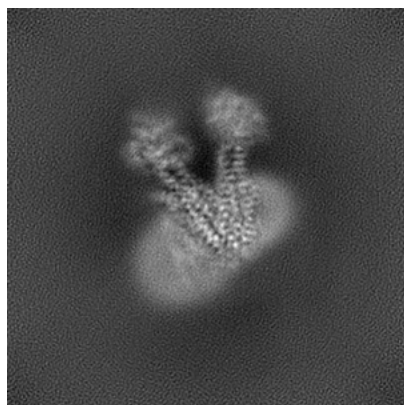


Y

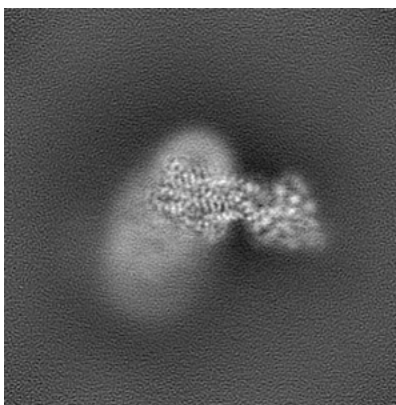


Z

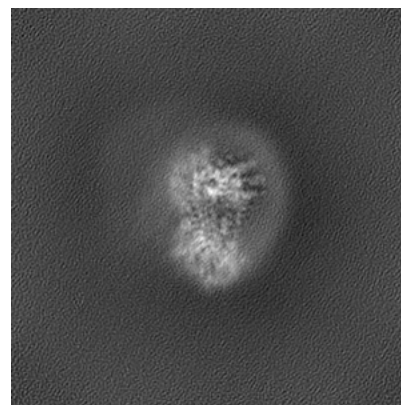
6.1.2 Raw map



X



Y

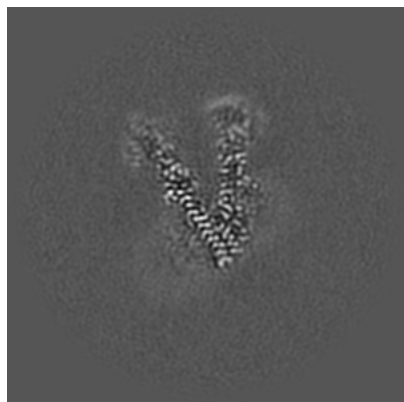


Z

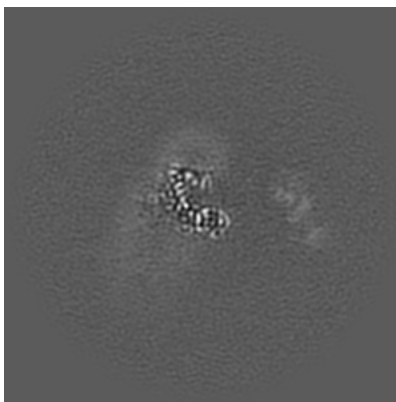
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

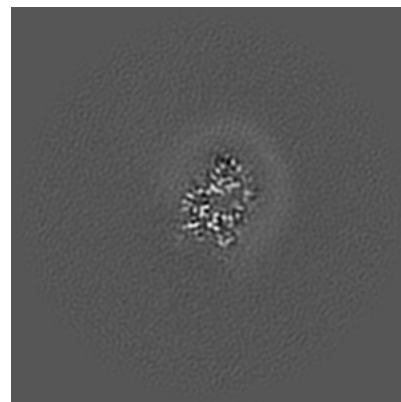
6.2.1 Primary map



X Index: 128

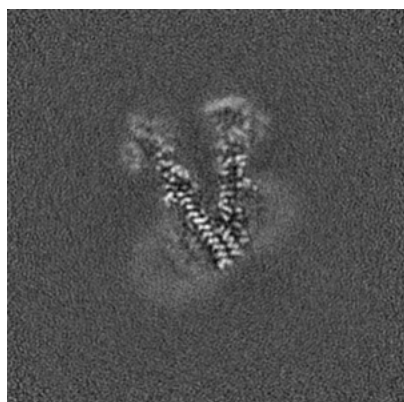


Y Index: 128

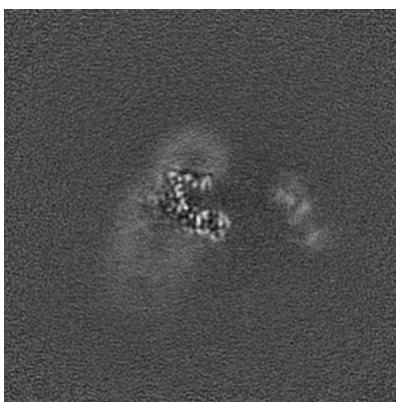


Z Index: 128

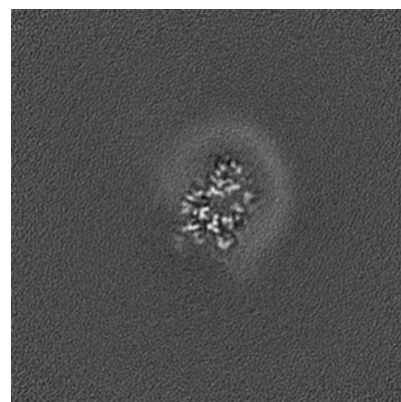
6.2.2 Raw map



X Index: 128



Y Index: 128

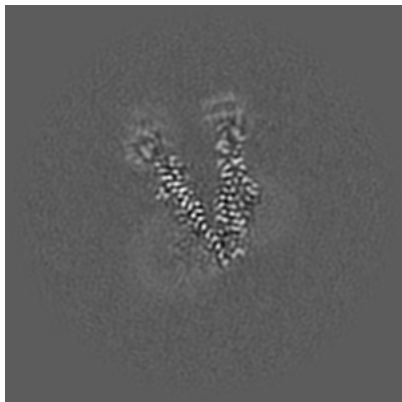


Z Index: 128

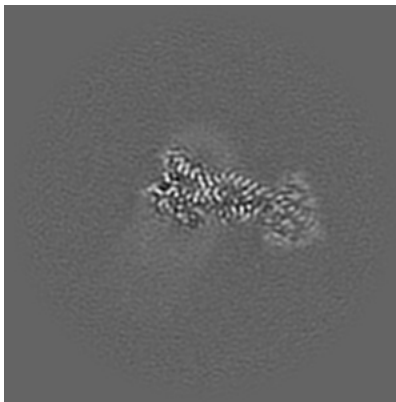
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

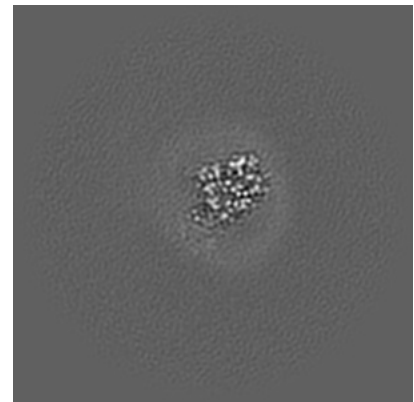
6.3.1 Primary map



X Index: 131

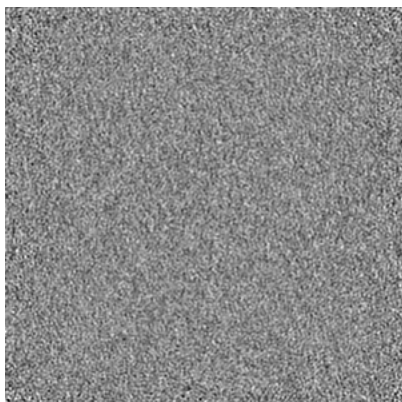


Y Index: 145

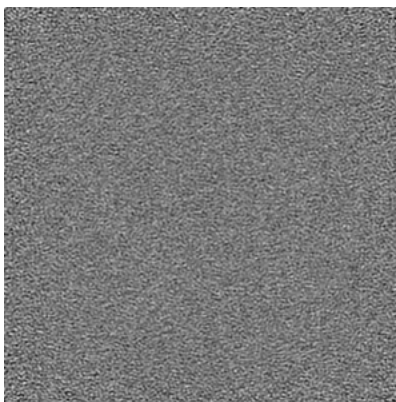


Z Index: 112

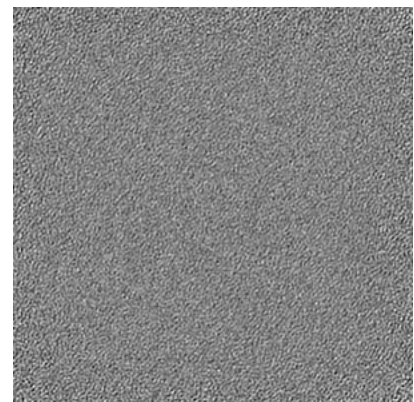
6.3.2 Raw map



X Index: 0



Y Index: 0

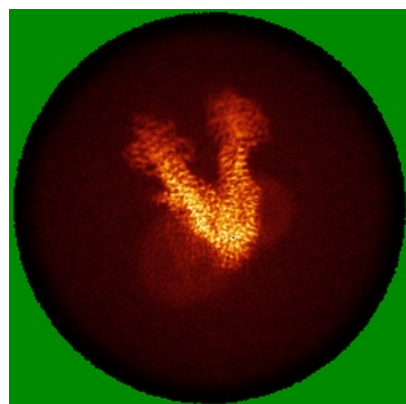


Z Index: 0

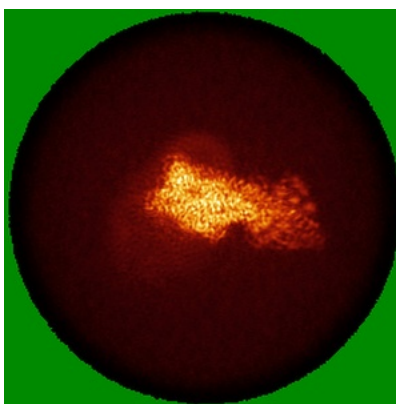
The images above show the largest variance slices of the map in three orthogonal directions.

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

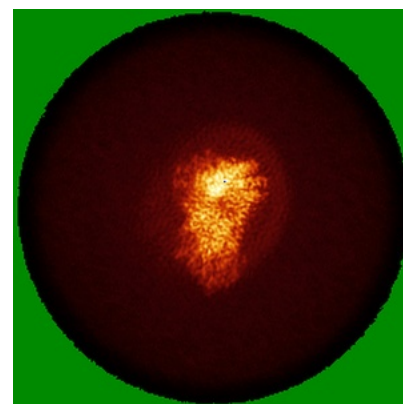
6.4.1 Primary map



X

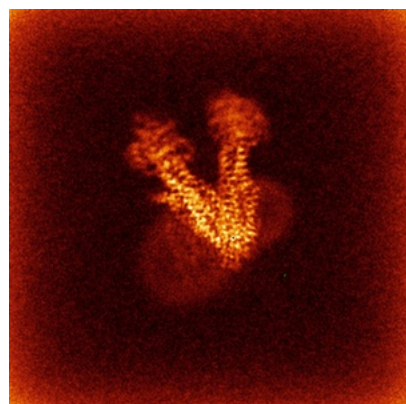


Y

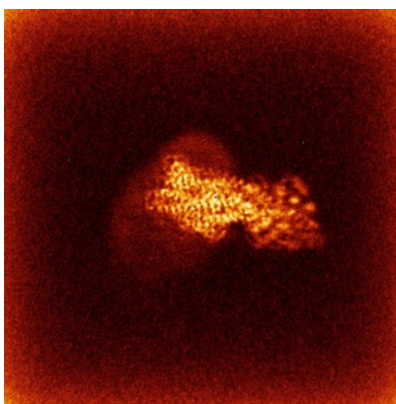


Z

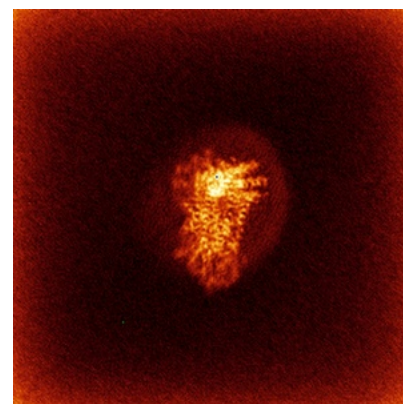
6.4.2 Raw map



X



Y

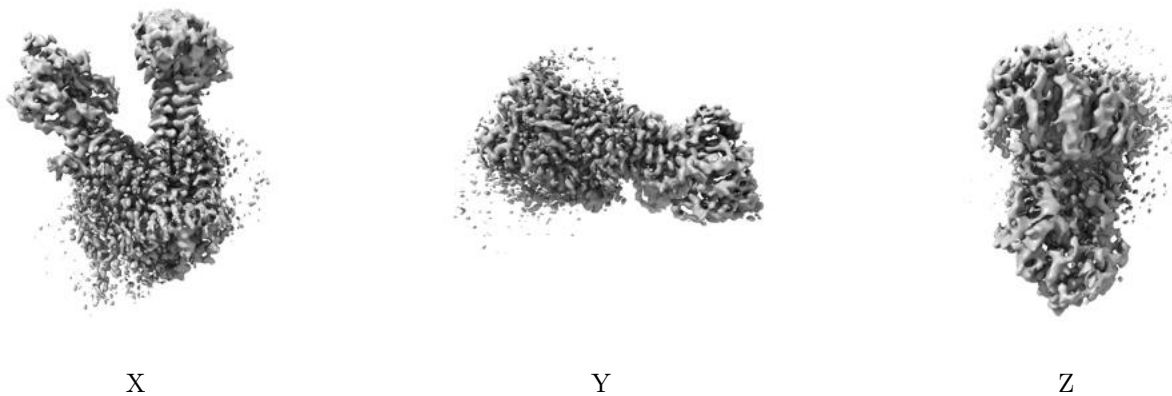


Z

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.

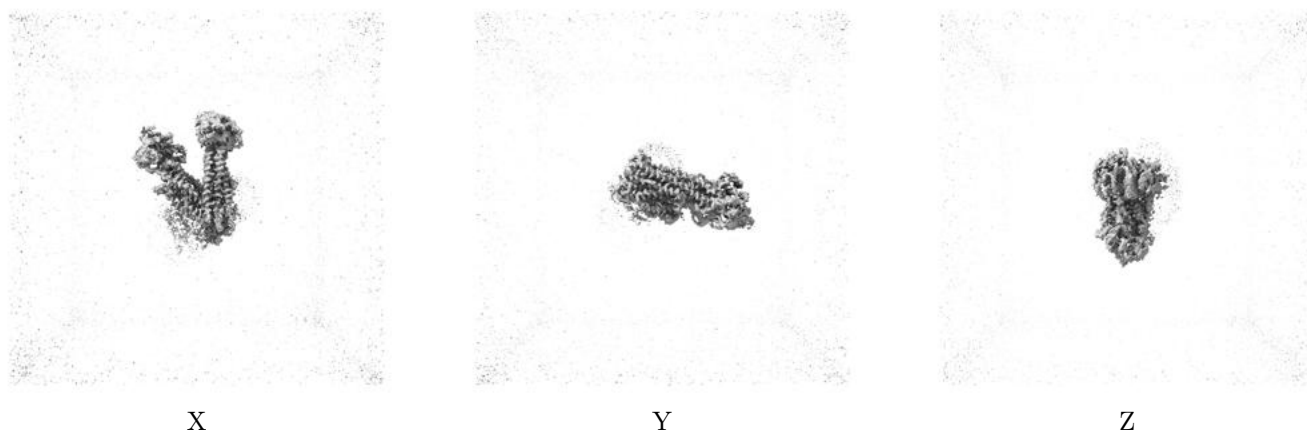
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.128. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

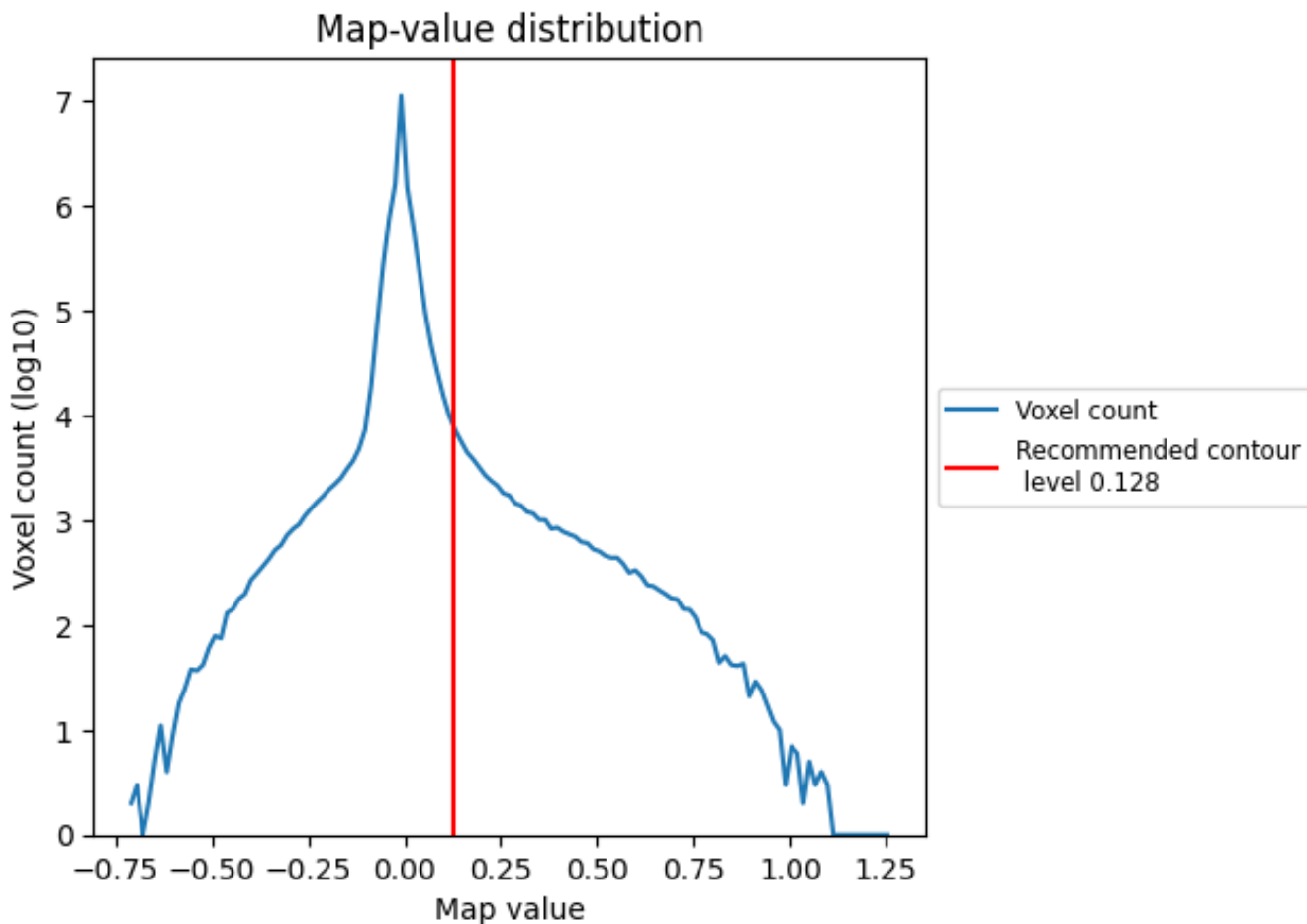
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

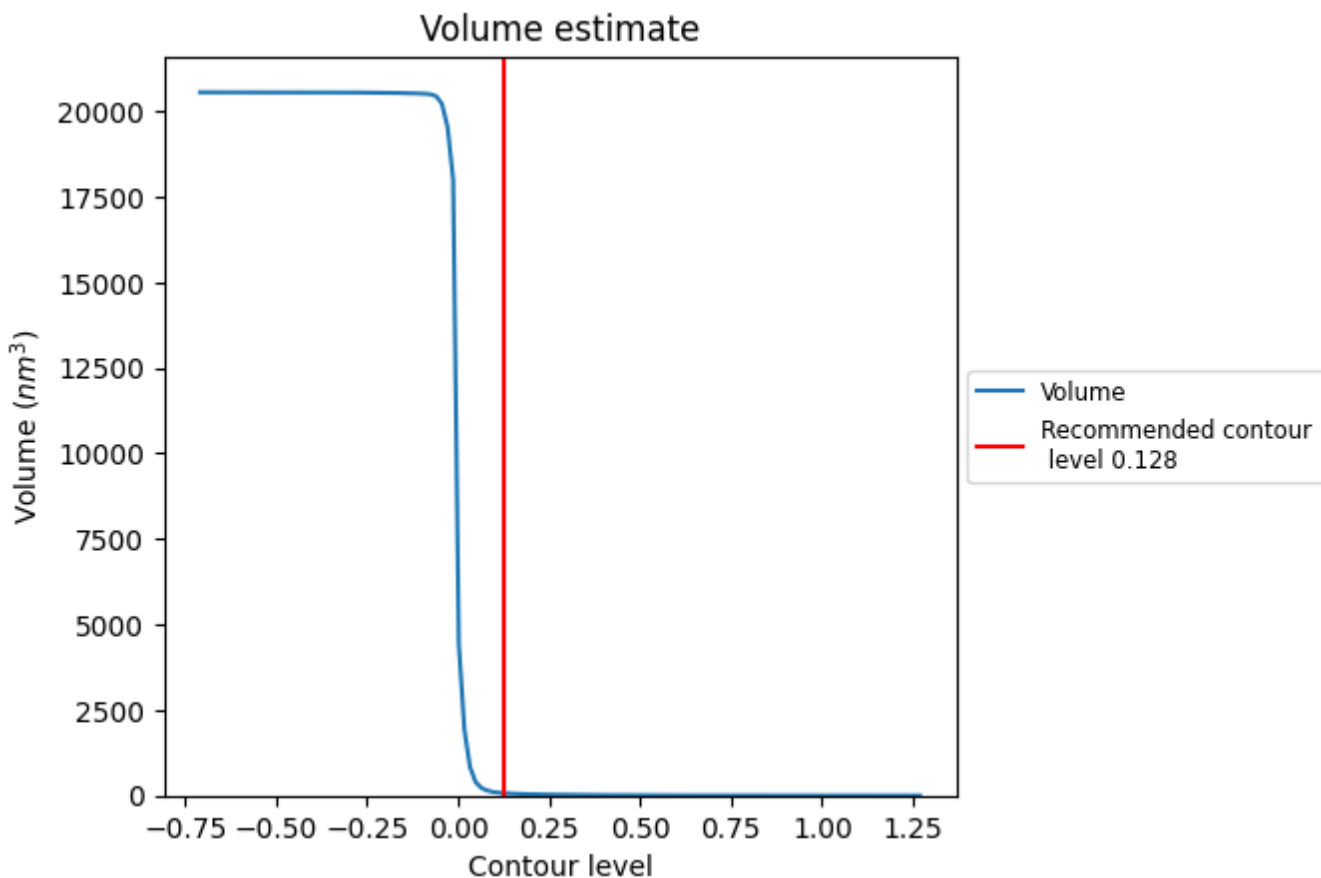
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

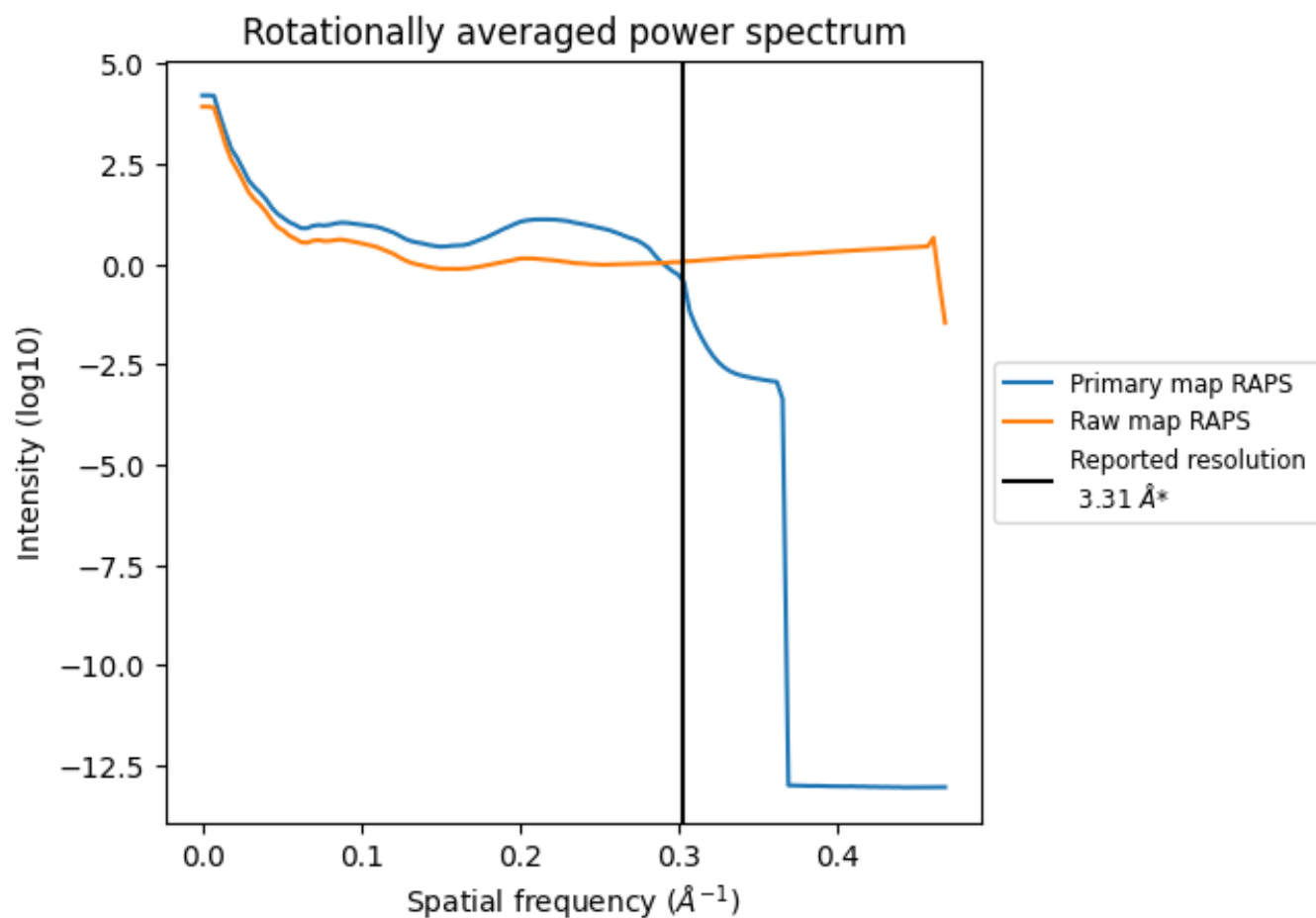
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 69 nm^3 ; this corresponds to an approximate mass of 62 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](#)

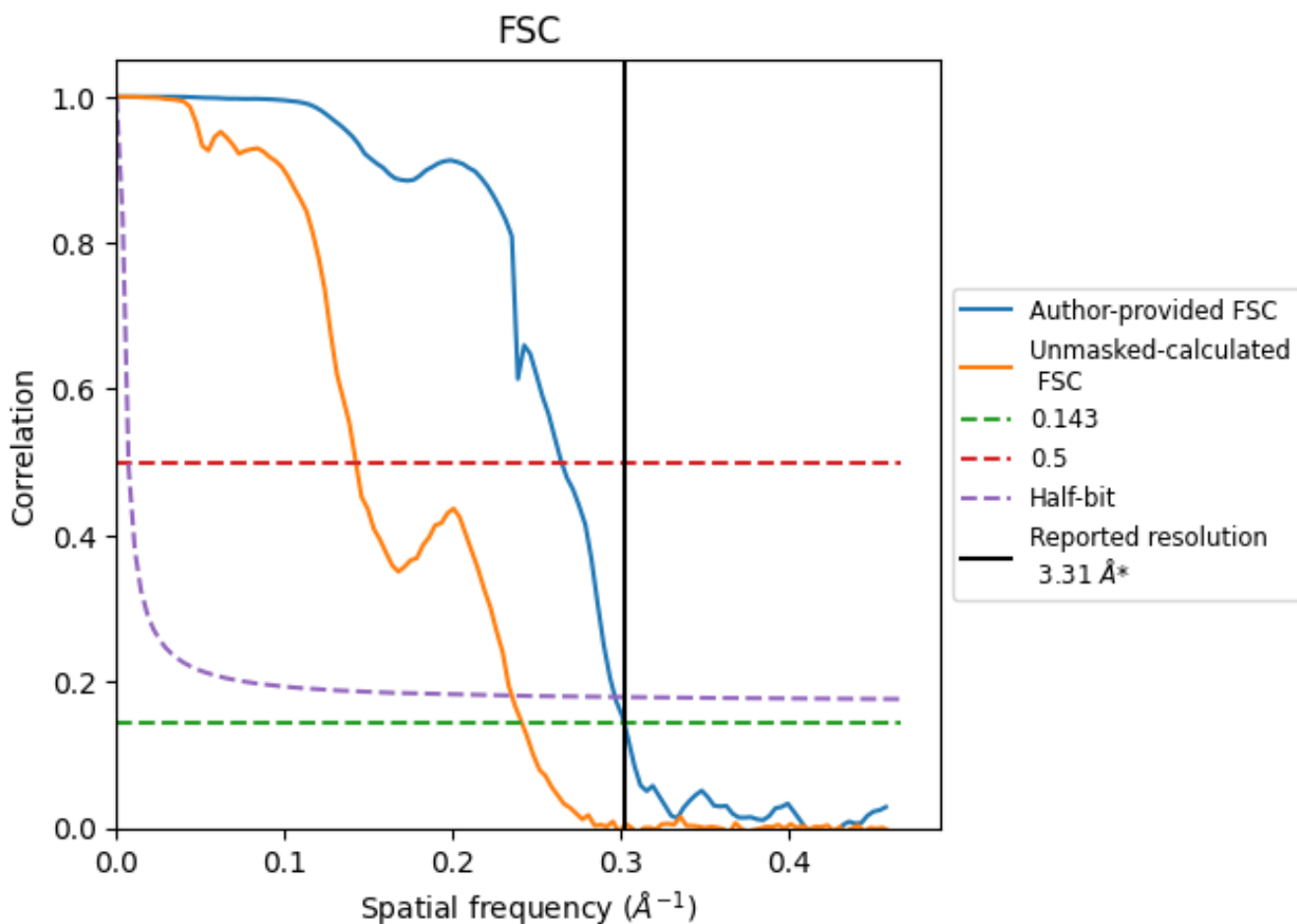


*Reported resolution corresponds to spatial frequency of 0.302 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.302 Å⁻¹

8.2 Resolution estimates [i](#)

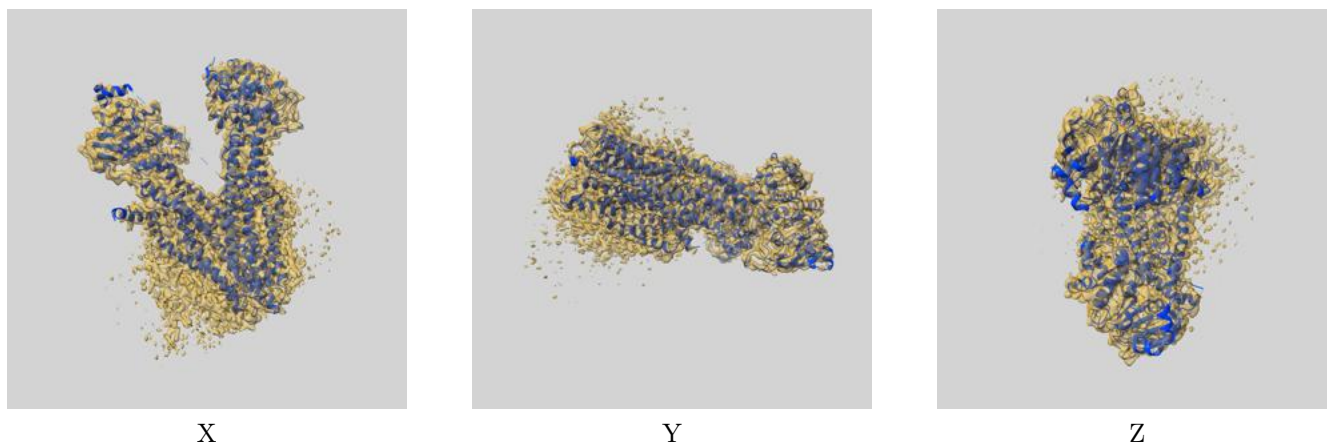
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.31	-	-
Author-provided FSC curve	3.31	3.77	3.37
Unmasked-calculated*	4.14	7.01	4.25

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.14 differs from the reported value 3.31 by more than 10 %

9 Map-model fit [i](#)

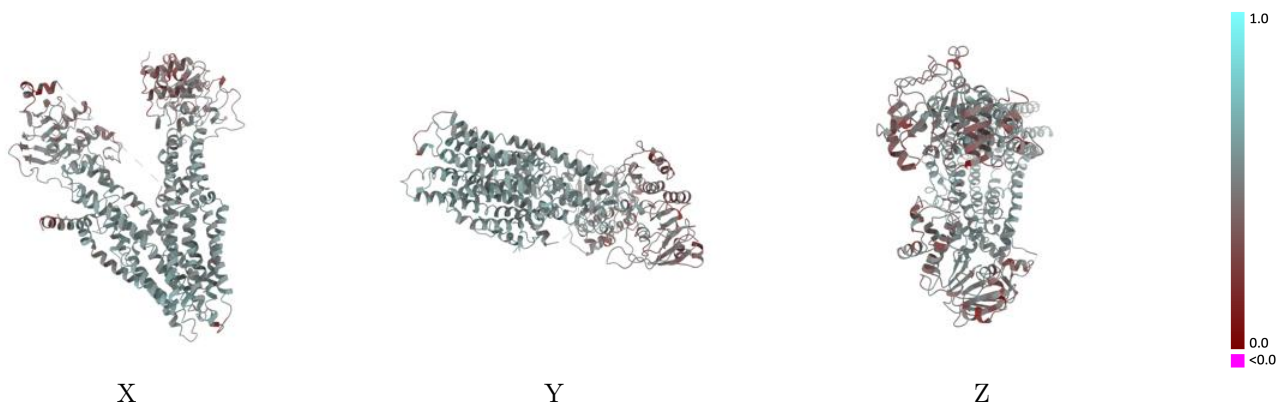
This section contains information regarding the fit between EMDB map EMD-35867 and PDB model 8IZP. Per-residue inclusion information can be found in section 3 on page 5.

9.1 Map-model overlay [i](#)



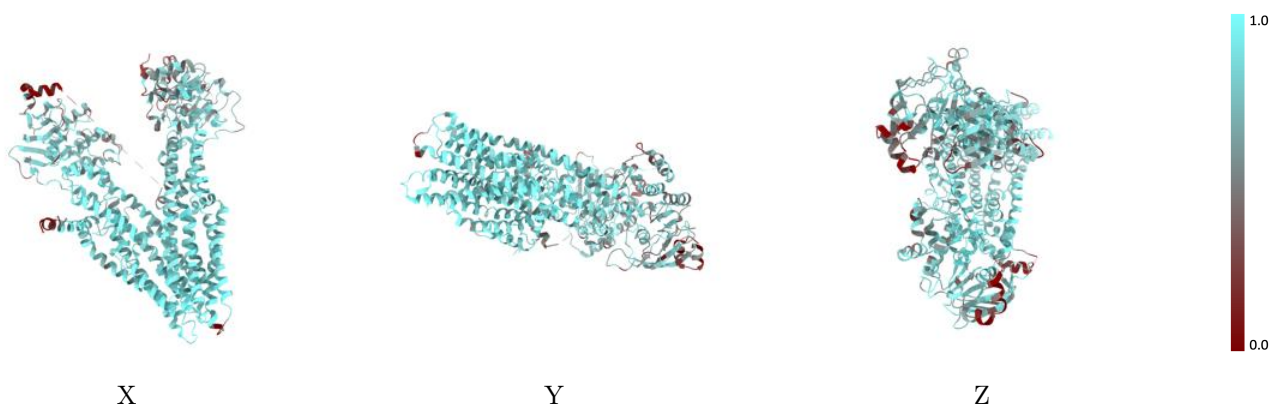
The images above show the 3D surface view of the map at the recommended contour level 0.128 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



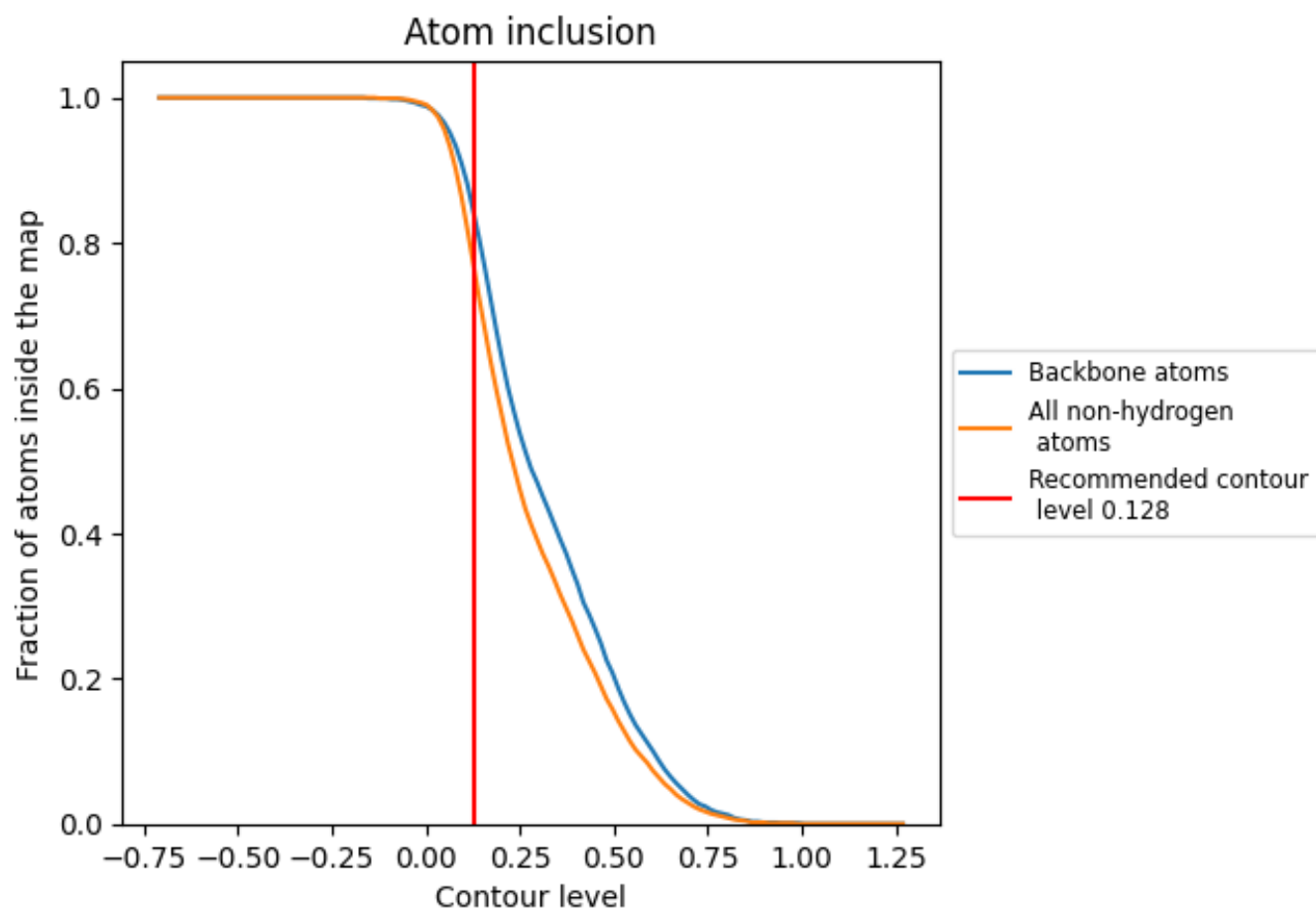
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.128).





9.4 Atom inclusion [i](#)



At the recommended contour level, 84% of all backbone atoms, 76% 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 (0.128) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7650	 0.4980
A	 0.7650	 0.4980

