



## Full wwPDB EM Validation Report ⓘ

Apr 1, 2024 – 06:13 PM JST

PDB ID : 8IZR  
EMDB ID : EMD-35869  
Title : Multidrug resistance-associated protein 3  
Authors : Yun, C.H.; Gao, H.M.  
Deposited on : 2023-04-07  
Resolution : 3.62 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](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.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

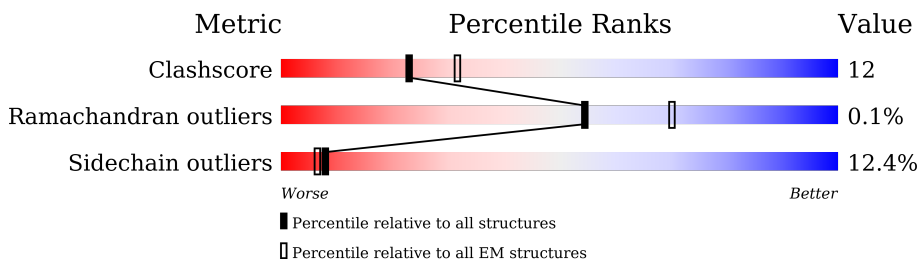
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 3.62 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	1589	

## 2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 11116 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 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	1400	11116	7213	1842	2004	57	0	0

There are 45 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	39	PHE	TYR	variant	UNP Q92887
A	1546	LEU	-	expression tag	UNP Q92887
A	1547	GLU	-	expression tag	UNP Q92887
A	1548	GLU	-	expression tag	UNP Q92887
A	1549	ASN	-	expression tag	UNP Q92887
A	1550	LEU	-	expression tag	UNP Q92887
A	1551	TYR	-	expression tag	UNP Q92887
A	1552	PHE	-	expression tag	UNP Q92887
A	1553	GLN	-	expression tag	UNP Q92887
A	1554	GLY	-	expression tag	UNP Q92887
A	1555	SER	-	expression tag	UNP Q92887
A	1556	GLY	-	expression tag	UNP Q92887
A	1557	GLY	-	expression tag	UNP Q92887
A	1558	GLY	-	expression tag	UNP Q92887
A	1559	GLY	-	expression tag	UNP Q92887
A	1560	GLY	-	expression tag	UNP Q92887
A	1561	GLY	-	expression tag	UNP Q92887
A	1562	ASP	-	expression tag	UNP Q92887
A	1563	TYR	-	expression tag	UNP Q92887
A	1564	LYS	-	expression tag	UNP Q92887
A	1565	ASP	-	expression tag	UNP Q92887
A	1566	HIS	-	expression tag	UNP Q92887
A	1567	ASP	-	expression tag	UNP Q92887
A	1568	GLY	-	expression tag	UNP Q92887
A	1569	ASP	-	expression tag	UNP Q92887
A	1570	TYR	-	expression tag	UNP Q92887
A	1571	LYS	-	expression tag	UNP Q92887
A	1572	ASP	-	expression tag	UNP Q92887

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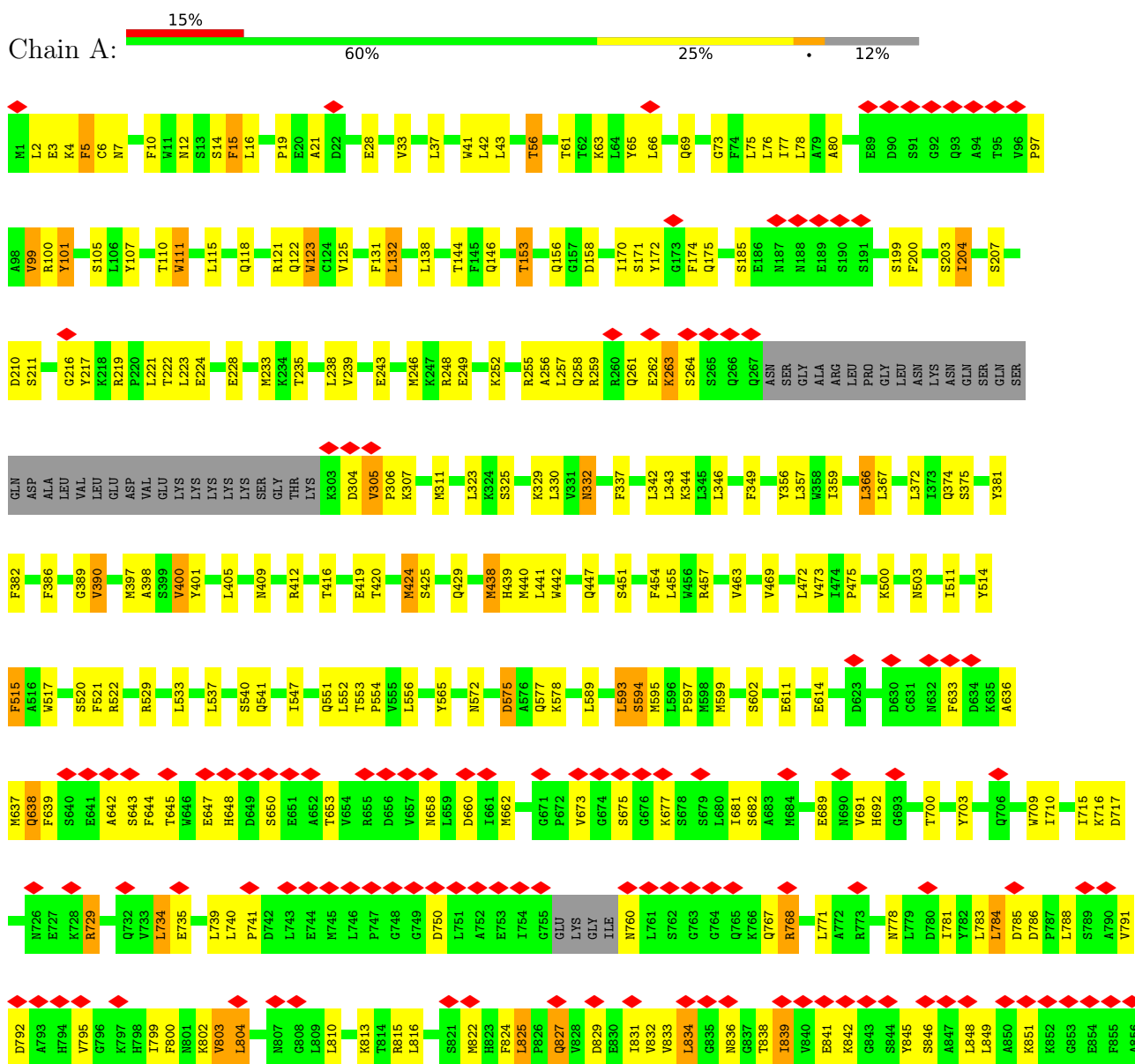
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Chain	Residue	Modelled	Actual	Comment	Reference
A	1573	HIS	-	expression tag	UNP Q92887
A	1574	ASP	-	expression tag	UNP Q92887
A	1575	ILE	-	expression tag	UNP Q92887
A	1576	ASP	-	expression tag	UNP Q92887
A	1577	TYR	-	expression tag	UNP Q92887
A	1578	LYS	-	expression tag	UNP Q92887
A	1579	ASP	-	expression tag	UNP Q92887
A	1580	ASP	-	expression tag	UNP Q92887
A	1581	ASP	-	expression tag	UNP Q92887
A	1582	ASP	-	expression tag	UNP Q92887
A	1583	LYS	-	expression tag	UNP Q92887
A	1584	HIS	-	expression tag	UNP Q92887
A	1585	HIS	-	expression tag	UNP Q92887
A	1586	HIS	-	expression tag	UNP Q92887
A	1587	HIS	-	expression tag	UNP Q92887
A	1588	HIS	-	expression tag	UNP Q92887
A	1589	HIS	-	expression tag	UNP Q92887

### 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-binding cassette sub-family C member 2



K857	K858	L859	K860	F861	F862	L863	ARG	HIS	HIS	THR	GLY	PRO	GLU	GLU	GLU	ALA	THR	VAL	HIS	HIS	ASP	GLY	SER	SER	GLU	GLU	GLU	LEU	ILE	SER	SER	VAL	VAL	GLU	GLU	ILE	PRO	GLU	ASP	ALA	SER	ILE	THR	MET	ARG	ARG	ASN	ASN	PHE	ARG	ARG	THR	LEU	SER	ARG	SER																																																																																																																																																																																																																																																		
S1007	D1014	Y1015	P1016	R1023	V1026	Y1027	L1032	A1033	Q1034	G1035	I1036	F1037	V1038	W1044	F1049	V1050	H1051	A1052	H1057	L1061	R1066	A1067	P1068	T1075	M1082	R1083	F1084	A1085	I1088	V1091	T1094	L1099	L1107	I1116	I1125	P1129	L1130	Q1138	M1139	S1143	R1146	R1149	R1156	S1157	P1158	I1159	I1160	S1164	F1165	T1166	G1169	L1170	R1174	E1177	H1178	R1181	I1190	D1191	N1193	I1201	R1205	W1206	R1210	T1218	S1222	A1223	L1224	V1227	R1230	D1231	D1236	T1237	V1238	F1239	F1240	V1241	L1242	L1252	N1253	V1256	R1257	M1258	T1259	S1260	E1261	I1262	I1272	T1273	E1274	Y1275	T1276	K1277	V1278	E1281	A1282	R1289	D1293	W1294	P1295	I1300	Q1301	F1302	M1303	M1304	Y1305	Q1306	V1307	R1308	Y1309	R1310	P1311	E1312	L1313	D1314	L1315	V1316	L1317	R1318	G1319	I1320	T1321	C1322	D1323	I1324	M1327	E1328	K1329	I1330	G1331	V1332	V1333	G1334	R1335	T1336	G1337	A1338	G1339	K1340	S1341	T1344	R1349	I1350	L1351	E1352	A1353	A1354	G1355	G1356	Q1357	I1358	I1359	I1360	D1361	G1362	V1363	D1364	I1365	A1366	S1367	I1368	G1369	L1370	L1373	K1376	L1377	T1378	I1379	Q1382	D1383	P1384	L1386	L1391	R1392	P1397	F1398	M1399	N1400	Y1401	T1406	V1407	K1408	A1409	L1410	E1411	L1412	A1413	H1414	L1415	K1416	S1421	L1422	Q1423	L1424	G1425	L1426	N1436	L1437	S1438	L1445	C1446	L1447	G1448	R1449	A1450	L1451	L1452	R1453	K1454	S1455	K1456	L1457	L1458	V1459	L1460	D1461	E1462	A1463	T1464	A1465	A1466	V1467	D1468	L1469	E1470	T1471	D1472	M1473	L1474	I1475	I1479	E1482	F1483	A1484	H1485	C1486	T1487	T1490	I1491	A1492	H1493	R1494	L1495	H1496	T1497	I1498	M1499	D1500	S1501	D1502	K1503	V1504	M1505	V1506	L1507	D1508	M1509	G1510	K1511	I1512	I1513	E1514	C1515	G1516	S1517	P1518	E1519	E1520	L1521	L1522	Q1523	I1524	P1525	G1526	P1527	F1528	Y1529	F1530	M1531	A1532	K1533	E1534	A1535	G1536	L1537	GLU	ASN	VAL	ASN	ASN	SER	THR	LYS	PHE	LEU	GLU	GLU	ASN	LEU

## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	101191	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	0.612	Depositor
Minimum map value	-0.379	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.017	Depositor
Recommended contour level	0.103	Depositor
Map size ( $\text{\AA}$ )	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 ( $\text{\AA}$ )	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	0.65	0/11350	0.89	0/15389

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	1

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1230	ARG	Sidechain

### 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	11116	0	11376	279	0
All	All	11116	0	11376	279	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 12.



All (279) 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:1365:ILE:HG13	1:A:1373:LEU:HD22	1.52	0.90
1:A:1358:ILE:HG23	1:A:1363:VAL:H	1.40	0.86
1:A:78:LEU:CD1	1:A:170:ILE:HG22	2.09	0.82
1:A:1303:ASN:O	1:A:1356:GLY:HA2	1.80	0.82
1:A:97:PRO:HD2	1:A:100:ARG:HD2	1.63	0.80
1:A:1335:ARG:HH21	1:A:1495:LEU:HB2	1.47	0.79
1:A:1305:TYR:HB3	1:A:1320:ILE:HB	1.65	0.79
1:A:1359:ILE:HG13	1:A:1360:ILE:HG13	1.65	0.78
1:A:1357:GLN:HB2	1:A:1364:ASP:HB2	1.68	0.75
1:A:537:LEU:HB2	1:A:1050:VAL:HG21	1.69	0.75
1:A:822:MET:HA	1:A:825:LEU:HG	1.69	0.74
1:A:1138:GLN:HB2	1:A:1256:VAL:HG22	1.68	0.74
1:A:1146:ARG:HA	1:A:1149:ARG:HB2	1.70	0.73
1:A:1333:VAL:HB	1:A:1506:VAL:HG13	1.69	0.73
1:A:999:TRP:HZ2	1:A:1023:ARG:HA	1.54	0.73
1:A:1305:TYR:HA	1:A:1356:GLY:HA3	1.72	0.72
1:A:78:LEU:HD11	1:A:170:ILE:HG22	1.72	0.72
1:A:675:SER:HB2	1:A:836:ASN:H	1.54	0.72
1:A:1308:ARG:HA	1:A:1315:LEU:HA	1.71	0.72
1:A:455:LEU:HB3	1:A:463:VAL:HG11	1.73	0.71
1:A:1335:ARG:NH2	1:A:1495:LEU:H	1.90	0.70
1:A:78:LEU:HD11	1:A:170:ILE:CG2	2.20	0.70
1:A:1334:GLY:HA3	1:A:1340:LYS:HB3	1.74	0.70
1:A:61:THR:HA	1:A:122:GLN:HE22	1.57	0.70
1:A:1335:ARG:CZ	1:A:1493:HIS:O	2.41	0.69
1:A:810:LEU:HB3	1:A:813:LYS:HB2	1.75	0.68
1:A:643:SER:HB2	1:A:691:VAL:HB	1.76	0.68
1:A:1170:LEU:HD21	1:A:1174:ARG:HH22	1.60	0.67
1:A:329:LYS:HB3	1:A:442:TRP:HH2	1.59	0.67
1:A:740:LEU:HB2	1:A:741:PRO:HD3	1.77	0.66
1:A:1508:ASP:HB3	1:A:1513:ILE:HG13	1.77	0.66
1:A:1508:ASP:N	1:A:1513:ILE:HB	2.12	0.65
1:A:257:LEU:HD11	1:A:304:ASP:HB3	1.80	0.64
1:A:1358:ILE:HG23	1:A:1363:VAL:N	2.13	0.63
1:A:28:GLU:HB3	1:A:146:GLN:HG2	1.79	0.63
1:A:256:ALA:HA	1:A:259:ARG:HB2	1.80	0.63
1:A:636:ALA:HB1	1:A:781:ILE:HD11	1.81	0.61
1:A:803:VAL:HG23	1:A:804:LEU:HG	1.80	0.61
1:A:78:LEU:CD1	1:A:170:ILE:CG2	2.77	0.61
1:A:259:ARG:HA	1:A:262:GLU:HB2	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:78:LEU:HD13	1:A:170:ILE:HG22	1.80	0.61
1:A:1358:ILE:H	1:A:1364:ASP:H	1.50	0.59
1:A:329:LYS:HB3	1:A:442:TRP:CH2	2.38	0.59
1:A:1309:TYR:HB2	1:A:1316:VAL:HG23	1.84	0.59
1:A:1358:ILE:HG23	1:A:1362:GLY:HA3	1.84	0.59
1:A:996:SER:HB2	1:A:1027:TYR:HE1	1.67	0.58
1:A:970:TYR:HE1	1:A:1091:VAL:HG13	1.68	0.58
1:A:739:LEU:HD21	1:A:768:ARG:HD3	1.85	0.58
1:A:999:TRP:CZ2	1:A:1023:ARG:HA	2.39	0.58
1:A:1099:LEU:HA	1:A:1262:ILE:HD11	1.85	0.57
1:A:1359:ILE:HA	1:A:1364:ASP:O	2.04	0.57
1:A:1358:ILE:H	1:A:1364:ASP:N	2.02	0.57
1:A:800:PHE:CD1	1:A:824:PHE:HB3	2.39	0.57
1:A:647:GLU:HB2	1:A:650:SER:HB3	1.87	0.56
1:A:993:PHE:HA	1:A:1034:GLN:HE21	1.69	0.56
1:A:1358:ILE:C	1:A:1364:ASP:H	2.07	0.56
1:A:397:MET:HG2	1:A:424:MET:HG2	1.86	0.56
1:A:223:LEU:HD21	1:A:1192:THR:HG21	1.86	0.56
1:A:800:PHE:CE2	1:A:827:GLN:HB2	2.41	0.56
1:A:1359:ILE:HA	1:A:1364:ASP:C	2.26	0.56
1:A:332:ASN:HD22	1:A:374:GLN:HG3	1.70	0.56
1:A:675:SER:HB2	1:A:836:ASN:N	2.20	0.56
1:A:56:THR:O	1:A:123:TRP:HD1	1.89	0.55
1:A:43:LEU:HB2	1:A:131:PHE:CE1	2.41	0.55
1:A:1358:ILE:HG13	1:A:1362:GLY:HA3	1.88	0.55
1:A:1469:LEU:HA	1:A:1472:ASP:HB3	1.89	0.55
1:A:1365:ILE:HG21	1:A:1373:LEU:HD13	1.88	0.55
1:A:398:ALA:HB2	1:A:1190:ILE:HD12	1.89	0.55
1:A:1357:GLN:HB2	1:A:1364:ASP:CB	2.37	0.55
1:A:709:TRP:CE2	1:A:1169:GLY:HA3	2.43	0.54
1:A:19:PRO:HB3	1:A:356:TYR:HD1	1.72	0.54
1:A:337:PHE:HB3	1:A:454:PHE:HE2	1.73	0.54
1:A:1411:GLU:HB2	1:A:1416:LYS:HD3	1.90	0.54
1:A:16:LEU:HA	1:A:21:ALA:HB1	1.89	0.53
1:A:644:PHE:HA	1:A:689:GLU:O	2.08	0.53
1:A:455:LEU:CB	1:A:463:VAL:HG11	2.37	0.53
1:A:1407:TRP:HA	1:A:1410:LEU:HD12	1.89	0.53
1:A:1359:ILE:HB	1:A:1367:SER:HB3	1.90	0.53
1:A:153:THR:HG23	1:A:158:ASP:HB3	1.89	0.53
1:A:1066:ARG:NH2	1:A:1282:ALA:O	2.41	0.53
1:A:1088:ILE:HD13	1:A:1272:ILE:HD13	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1258:MET:C	1:A:1260:SER:N	2.62	0.53
1:A:1391:LEU:HB2	1:A:1426:LEU:O	2.09	0.52
1:A:1457:ILE:HA	1:A:1487:THR:HB	1.91	0.52
1:A:565:TYR:CZ	1:A:572:ASN:HB3	2.45	0.52
1:A:37:LEU:HD22	1:A:110:THR:HG21	1.90	0.52
1:A:1446:CYS:O	1:A:1449:ARG:HB2	2.10	0.52
1:A:639:PHE:HB2	1:A:658:ASN:HA	1.92	0.52
1:A:520:SER:HB3	1:A:1398:PHE:CZ	2.45	0.52
1:A:2:LEU:HB3	1:A:5:PHE:HB3	1.92	0.51
1:A:1392:ARG:HH21	1:A:1399:ASN:HB3	1.74	0.51
1:A:1306:GLN:HA	1:A:1317:LEU:O	2.11	0.51
1:A:1358:ILE:O	1:A:1364:ASP:N	2.41	0.51
1:A:1472:ASP:HA	1:A:1475:ILE:HD12	1.92	0.51
1:A:594:SER:O	1:A:597:PRO:HD2	2.10	0.51
1:A:832:VAL:HA	1:A:842:LYS:HA	1.93	0.51
1:A:63:LYS:O	1:A:66:LEU:HB3	2.10	0.51
1:A:1358:ILE:CG1	1:A:1362:GLY:HA3	2.41	0.51
1:A:1335:ARG:HH22	1:A:1495:LEU:H	1.58	0.50
1:A:1349:ARG:HE	1:A:1352:GLU:HG2	1.77	0.50
1:A:261:GLN:O	1:A:264:SER:HB3	2.12	0.50
1:A:1275:TYR:HA	1:A:1278:VAL:HG23	1.94	0.50
1:A:647:GLU:HB2	1:A:650:SER:CB	2.42	0.50
1:A:1508:ASP:H	1:A:1513:ILE:HB	1.76	0.50
1:A:799:ILE:HA	1:A:802:LYS:HG2	1.94	0.50
1:A:1116:ILE:HG12	1:A:1241:VAL:HG13	1.93	0.50
1:A:1359:ILE:HG22	1:A:1364:ASP:HB3	1.94	0.50
1:A:144:THR:HG22	1:A:172:TYR:OH	2.12	0.50
1:A:517:TRP:CD1	1:A:1397:PRO:HG3	2.47	0.50
1:A:803:VAL:O	1:A:810:LEU:HB2	2.11	0.49
1:A:305:VAL:HG22	1:A:306:PRO:HD2	1.94	0.49
1:A:633:PHE:CE2	1:A:638:GLN:HB2	2.46	0.49
1:A:1305:TYR:HA	1:A:1356:GLY:CA	2.41	0.49
1:A:252:LYS:HA	1:A:255:ARG:HD2	1.95	0.49
1:A:1333:VAL:HG22	1:A:1498:ILE:HG21	1.95	0.49
1:A:645:THR:HG23	1:A:689:GLU:HB2	1.95	0.48
1:A:999:TRP:CZ2	1:A:1026:VAL:HB	2.47	0.48
1:A:673:VAL:HA	1:A:677:LYS:HD3	1.95	0.48
1:A:1335:ARG:HD3	1:A:1493:HIS:CD2	2.49	0.48
1:A:258:GLN:O	1:A:262:GLU:N	2.42	0.48
1:A:398:ALA:HB2	1:A:1190:ILE:CD1	2.43	0.48
1:A:259:ARG:O	1:A:263:LYS:N	2.42	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1450:ALA:HA	1:A:1453:ARG:HG3	1.96	0.48
1:A:207:SER:O	1:A:210:ASP:HB2	2.14	0.47
1:A:1401:TYR:CE2	1:A:1452:LEU:HB3	2.49	0.47
1:A:511:ILE:HG23	1:A:515:PHE:CE1	2.50	0.47
1:A:111:TRP:HA	1:A:111:TRP:CE3	2.49	0.47
1:A:346:LEU:HD12	1:A:346:LEU:HA	1.81	0.47
1:A:12:ASN:O	1:A:15:PHE:HB2	2.14	0.47
1:A:1107:LEU:HD13	1:A:1107:LEU:HA	1.73	0.47
1:A:28:GLU:OE2	1:A:146:GLN:HA	2.15	0.47
1:A:833:VAL:HB	1:A:841:GLU:HB2	1.96	0.47
1:A:735:GLU:HA	1:A:740:LEU:HD11	1.97	0.47
1:A:788:LEU:HA	1:A:791:VAL:HG23	1.96	0.47
1:A:1289:ARG:H	1:A:1289:ARG:HG2	1.48	0.47
1:A:43:LEU:HB2	1:A:131:PHE:HE1	1.79	0.47
1:A:121:ARG:HA	1:A:121:ARG:HD3	1.74	0.47
1:A:703:TYR:HA	1:A:783:LEU:O	2.14	0.47
1:A:409:ASN:HD21	1:A:412:ARG:HH21	1.64	0.46
1:A:1410:LEU:HD11	1:A:1426:LEU:HD21	1.96	0.46
1:A:69:GLN:HE22	1:A:115:LEU:HA	1.81	0.46
1:A:845:TYR:O	1:A:848:LEU:HB2	2.15	0.46
1:A:1468:ASP:OD2	1:A:1470:GLU:HB3	2.16	0.46
1:A:472:LEU:O	1:A:475:PRO:HD2	2.14	0.46
1:A:729:ARG:HE	1:A:778:ASN:HD21	1.63	0.46
1:A:1201:ILE:HD12	1:A:1201:ILE:HA	1.87	0.46
1:A:1294:TRP:N	1:A:1295:PRO:HD2	2.31	0.46
1:A:993:PHE:HA	1:A:1034:GLN:NE2	2.31	0.46
1:A:1206:TRP:CE2	1:A:1210:ARG:HD3	2.50	0.46
1:A:3:GLU:O	1:A:7:ASN:N	2.48	0.46
1:A:343:LEU:O	1:A:344:LYS:C	2.52	0.46
1:A:1258:MET:C	1:A:1260:SER:H	2.19	0.46
1:A:425:SER:HG	1:A:1160:TYR:HD1	1.64	0.45
1:A:1365:ILE:CG1	1:A:1373:LEU:HD22	2.34	0.45
1:A:1358:ILE:CG2	1:A:1362:GLY:HA3	2.45	0.45
1:A:834:LEU:HA	1:A:839:ILE:HA	1.98	0.45
1:A:1370:LEU:HD23	1:A:1370:LEU:HA	1.82	0.45
1:A:993:PHE:O	1:A:994:ILE:C	2.54	0.45
1:A:995:GLY:O	1:A:996:SER:C	2.55	0.45
1:A:517:TRP:CG	1:A:1397:PRO:HG3	2.52	0.45
1:A:1457:ILE:HA	1:A:1487:THR:O	2.17	0.45
1:A:235:THR:O	1:A:239:VAL:HG23	2.17	0.44
1:A:804:LEU:HA	1:A:815:ARG:HE	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:200:PHE:O	1:A:204:ILE:HB	2.17	0.44
1:A:441:LEU:HD12	1:A:441:LEU:HA	1.84	0.44
1:A:1274:GLU:O	1:A:1277:LYS:HG2	2.18	0.44
1:A:1426:LEU:HD23	1:A:1426:LEU:HA	1.84	0.44
1:A:349:PHE:CZ	1:A:1230:ARG:HD2	2.52	0.44
1:A:111:TRP:HA	1:A:111:TRP:HE3	1.82	0.44
1:A:1236:ASP:O	1:A:1237:THR:C	2.51	0.44
1:A:522:ARG:HE	1:A:522:ARG:HB3	1.53	0.44
1:A:1068:PRO:HB3	1:A:1281:GLU:HB2	2.00	0.44
1:A:1146:ARG:HA	1:A:1149:ARG:HD3	1.99	0.44
1:A:366:LEU:HD22	1:A:366:LEU:HA	1.84	0.44
1:A:767:GLN:HG2	1:A:791:VAL:HG22	2.00	0.44
1:A:243:GLU:O	1:A:246:MET:HG2	2.18	0.44
1:A:438:MET:HE3	1:A:438:MET:HB3	1.72	0.44
1:A:804:LEU:HA	1:A:815:ARG:NE	2.33	0.44
1:A:1406:ILE:HA	1:A:1452:LEU:HD21	2.00	0.44
1:A:389:GLY:O	1:A:390:VAL:C	2.55	0.43
1:A:405:LEU:HD21	1:A:1166:THR:HG21	2.00	0.43
1:A:575:ASP:N	1:A:575:ASP:OD1	2.51	0.43
1:A:305:VAL:O	1:A:307:LYS:HG2	2.18	0.43
1:A:660:ASP:OD1	1:A:660:ASP:N	2.51	0.43
1:A:675:SER:CB	1:A:836:ASN:H	2.28	0.43
1:A:514:TYR:CZ	1:A:1350:ILE:HD11	2.53	0.43
1:A:553:THR:N	1:A:554:PRO:CD	2.82	0.43
1:A:593:LEU:HD23	1:A:593:LEU:HA	1.79	0.43
1:A:1324:ILE:HD12	1:A:1324:ILE:HA	1.77	0.43
1:A:1316:VAL:HG12	1:A:1317:LEU:HG	2.00	0.43
1:A:1365:ILE:HD13	1:A:1365:ILE:H	1.84	0.43
1:A:1415:LEU:HD22	1:A:1415:LEU:HA	1.79	0.43
1:A:637:MET:O	1:A:660:ASP:HA	2.18	0.43
1:A:842:LYS:H	1:A:851:LYS:NZ	2.16	0.43
1:A:1344:THR:HG22	1:A:1491:ILE:HD12	2.00	0.43
1:A:222:THR:C	1:A:224:GLU:N	2.69	0.43
1:A:636:ALA:HB1	1:A:781:ILE:CD1	2.48	0.43
1:A:1130:LEU:HD23	1:A:1130:LEU:HA	1.82	0.43
1:A:382:PHE:HD2	1:A:1205:ARG:NH1	2.17	0.43
1:A:1015:TYR:O	1:A:1016:PRO:C	2.57	0.43
1:A:41:TRP:HE1	1:A:110:THR:HA	1.83	0.43
1:A:110:THR:O	1:A:111:TRP:C	2.57	0.43
1:A:1035:GLY:O	1:A:1036:ILE:C	2.58	0.43
1:A:1448:GLY:HA2	1:A:1451:LEU:HD12	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1456:LYS:HD2	1:A:1456:LYS:H	1.84	0.42
1:A:204:ILE:HD12	1:A:204:ILE:HA	1.74	0.42
1:A:469:VAL:HG11	1:A:556:LEU:HD22	2.01	0.42
1:A:734:LEU:HB3	1:A:740:LEU:HD21	2.00	0.42
1:A:1082:ASN:HA	1:A:1085:ALA:HB3	2.00	0.42
1:A:1083:ARG:HG3	1:A:1275:TYR:CE2	2.54	0.42
1:A:1365:ILE:CG2	1:A:1373:LEU:HD13	2.48	0.42
1:A:73:GLY:O	1:A:76:LEU:HB3	2.19	0.42
1:A:132:LEU:HD22	1:A:132:LEU:HA	1.84	0.42
1:A:1328:GLU:HG2	1:A:1329:LYS:N	2.34	0.42
1:A:15:PHE:O	1:A:21:ALA:HB1	2.20	0.42
1:A:69:GLN:HE21	1:A:118:GLN:HB2	1.84	0.42
1:A:529:ARG:HE	1:A:1057:HIS:CG	2.37	0.42
1:A:1445:LEU:HD12	1:A:1445:LEU:HA	1.92	0.42
1:A:715:ILE:HD13	1:A:715:ILE:HA	1.86	0.42
1:A:1258:MET:O	1:A:1260:SER:N	2.52	0.42
1:A:1335:ARG:NH2	1:A:1495:LEU:N	2.62	0.42
1:A:1460:LEU:HB2	1:A:1490:THR:HG23	2.02	0.42
1:A:1479:ILE:H	1:A:1479:ILE:HG13	1.51	0.42
1:A:42:LEU:HD23	1:A:42:LEU:HA	1.84	0.42
1:A:846:SER:O	1:A:849:LEU:HB2	2.19	0.42
1:A:386:PHE:HD2	1:A:1201:ILE:HD11	1.85	0.42
1:A:992:ALA:CB	1:A:1034:GLN:HG3	2.49	0.42
1:A:342:LEU:HD23	1:A:342:LEU:HA	1.91	0.42
1:A:599:MET:HE2	1:A:602:SER:HB2	2.02	0.42
1:A:771:LEU:HD11	1:A:784:LEU:HD22	2.01	0.42
1:A:992:ALA:HB3	1:A:1034:GLN:HG3	2.01	0.42
1:A:1469:LEU:O	1:A:1473:ASN:N	2.50	0.42
1:A:99:VAL:C	1:A:101:TYR:N	2.72	0.42
1:A:330:LEU:HD12	1:A:330:LEU:HA	1.78	0.42
1:A:813:LYS:HA	1:A:813:LYS:HD3	1.74	0.42
1:A:1178:HIS:HB3	1:A:1181:ARG:HH21	1.84	0.42
1:A:1312:GLU:H	1:A:1312:GLU:HG3	1.43	0.42
1:A:3:GLU:HG2	1:A:10:PHE:HB2	2.01	0.42
1:A:28:GLU:HB3	1:A:146:GLN:CG	2.49	0.42
1:A:400:VAL:O	1:A:401:TYR:C	2.56	0.42
1:A:540:SER:O	1:A:541:GLN:C	2.55	0.42
1:A:1301:GLN:HA	1:A:1323:ASP:HA	2.01	0.42
1:A:424:MET:HG2	1:A:424:MET:O	2.20	0.41
1:A:1358:ILE:HG23	1:A:1362:GLY:CA	2.49	0.41
1:A:1479:ILE:HA	1:A:1483:PHE:HD2	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:500:LYS:HA	1:A:503:ASN:ND2	2.35	0.41
1:A:1236:ASP:O	1:A:1239:GLY:N	2.52	0.41
1:A:642:ALA:HA	1:A:692:HIS:O	2.21	0.41
1:A:343:LEU:HD12	1:A:343:LEU:HA	1.92	0.41
1:A:216:GLY:HA2	1:A:221:LEU:HD21	2.02	0.41
1:A:249:GLU:H	1:A:249:GLU:HG2	1.64	0.41
1:A:381:TYR:OH	1:A:439:HIS:HB2	2.21	0.41
1:A:810:LEU:O	1:A:815:ARG:NH1	2.54	0.41
1:A:1310:ARG:HB2	1:A:1313:LEU:HB2	2.01	0.41
1:A:785:ASP:O	1:A:786:ASP:C	2.58	0.41
1:A:1230:ARG:O	1:A:1231:ASP:C	2.58	0.41
1:A:520:SER:HB3	1:A:1398:PHE:CE1	2.55	0.41
1:A:575:ASP:OD1	1:A:578:LYS:HD3	2.21	0.41
1:A:643:SER:CB	1:A:691:VAL:HB	2.48	0.41
1:A:1049:PHE:O	1:A:1052:ALA:HB3	2.21	0.41
1:A:1224:LEU:O	1:A:1227:VAL:N	2.54	0.41
1:A:1359:ILE:HA	1:A:1364:ASP:HB3	2.03	0.41
1:A:1376:LYS:HA	1:A:1376:LYS:HD3	1.83	0.41
1:A:75:LEU:HD21	1:A:174:PHE:HB2	2.02	0.41
1:A:1139:MET:HE3	1:A:1139:MET:HB3	1.91	0.40
1:A:1368:ILE:H	1:A:1368:ILE:HG12	1.81	0.40
1:A:1408:LYS:O	1:A:1412:LEU:HG	2.21	0.40
1:A:65:TYR:O	1:A:69:GLN:HB2	2.21	0.40
1:A:77:ILE:O	1:A:80:ALA:HB3	2.20	0.40
1:A:1125:ILE:O	1:A:1129:PRO:HD2	2.21	0.40
1:A:1358:ILE:N	1:A:1364:ASP:H	2.18	0.40
1:A:1446:CYS:HA	1:A:1449:ARG:HD2	2.02	0.40
1:A:256:ALA:O	1:A:259:ARG:HB2	2.22	0.40
1:A:511:ILE:HD12	1:A:1385:ILE:HB	2.04	0.40
1:A:1252:LEU:HD23	1:A:1252:LEU:HA	1.97	0.40
1:A:199:SER:O	1:A:200:PHE:C	2.60	0.40
1:A:533:LEU:HD23	1:A:533:LEU:HA	1.87	0.40
1:A:1146:ARG:O	1:A:1149:ARG:HB2	2.21	0.40
1:A:1423:GLN:CD	1:A:1423:GLN:H	2.24	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	1392/1589 (88%)	1347 (97%)	43 (3%)	2 (0%)	51 83

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	1015	TYR
1	A	1231	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	1241/1408 (88%)	1087 (88%)	154 (12%)	4 25

All (154) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	4	LYS
1	A	5	PHE
1	A	6	CYS
1	A	14	SER
1	A	15	PHE
1	A	33	VAL
1	A	56	THR
1	A	99	VAL
1	A	101	TYR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	105	SER
1	A	107	TYR
1	A	111	TRP
1	A	123	TRP
1	A	125	VAL
1	A	132	LEU
1	A	138	LEU
1	A	153	THR
1	A	156	GLN
1	A	171	SER
1	A	175	GLN
1	A	185	SER
1	A	203	SER
1	A	204	ILE
1	A	211	SER
1	A	217	TYR
1	A	219	ARG
1	A	228	GLU
1	A	233	MET
1	A	238	LEU
1	A	248	ARG
1	A	263	LYS
1	A	305	VAL
1	A	311	MET
1	A	323	LEU
1	A	325	SER
1	A	332	ASN
1	A	357	LEU
1	A	359	ILE
1	A	366	LEU
1	A	367	LEU
1	A	372	LEU
1	A	375	SER
1	A	390	VAL
1	A	400	VAL
1	A	416	THR
1	A	419	GLU
1	A	420	THR
1	A	424	MET
1	A	429	GLN
1	A	438	MET
1	A	440	MET

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	447	GLN
1	A	451	SER
1	A	457	ARG
1	A	473	VAL
1	A	515	PHE
1	A	521	PHE
1	A	547	ILE
1	A	551	GLN
1	A	552	LEU
1	A	575	ASP
1	A	577	GLN
1	A	589	LEU
1	A	593	LEU
1	A	594	SER
1	A	595	MET
1	A	611	GLU
1	A	614	GLU
1	A	638	GLN
1	A	648	HIS
1	A	653	THR
1	A	662	MET
1	A	681	ILE
1	A	682	SER
1	A	700	THR
1	A	710	ILE
1	A	716	LYS
1	A	717	ASP
1	A	729	ARG
1	A	734	LEU
1	A	750	ASP
1	A	760	ASN
1	A	768	ARG
1	A	784	LEU
1	A	792	ASP
1	A	795	VAL
1	A	803	VAL
1	A	804	LEU
1	A	816	LEU
1	A	825	LEU
1	A	827	GLN
1	A	829	ASP
1	A	831	ILE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	834	LEU
1	A	838	THR
1	A	839	ILE
1	A	859	LEU
1	A	969	GLU
1	A	984	LEU
1	A	1007	SER
1	A	1032	LEU
1	A	1034	GLN
1	A	1038	VAL
1	A	1044	TRP
1	A	1061	LEU
1	A	1075	THR
1	A	1094	THR
1	A	1099	LEU
1	A	1107	LEU
1	A	1143	SER
1	A	1149	ARG
1	A	1158	PRO
1	A	1164	SER
1	A	1177	GLU
1	A	1193	ASN
1	A	1210	ARG
1	A	1218	THR
1	A	1222	SER
1	A	1236	ASP
1	A	1242	LEU
1	A	1253	ASN
1	A	1257	ARG
1	A	1259	THR
1	A	1260	SER
1	A	1294	TRP
1	A	1308	ARG
1	A	1312	GLU
1	A	1315	LEU
1	A	1318	ARG
1	A	1323	ASP
1	A	1324	ILE
1	A	1336	THR
1	A	1341	SER
1	A	1344	THR
1	A	1352	GLU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	1358	ILE
1	A	1365	ILE
1	A	1368	ILE
1	A	1379	ILE
1	A	1386	LEU
1	A	1408	LYS
1	A	1414	HIS
1	A	1415	LEU
1	A	1423	GLN
1	A	1438	SER
1	A	1456	LYS
1	A	1458	LEU
1	A	1467	VAL
1	A	1474	LEU
1	A	1479	ILE
1	A	1487	THR
1	A	1496	HIS
1	A	1513	ILE
1	A	1519	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (17) such sidechains are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	69	GLN
1	A	118	GLN
1	A	122	GLN
1	A	332	ASN
1	A	447	GLN
1	A	503	ASN
1	A	577	GLN
1	A	694	HIS
1	A	711	GLN
1	A	760	ASN
1	A	778	ASN
1	A	794	HIS
1	A	798	HIS
1	A	827	GLN
1	A	997	ASN
1	A	1019	GLN
1	A	1247	ASN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

### 5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

### 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

### 5.6 Ligand geometry [i](#)

There are no ligands in this entry.

### 5.7 Other polymers [i](#)

There are no such residues in this entry.

### 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

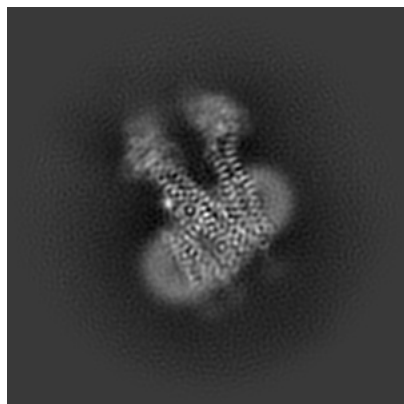
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-35869. These allow visual inspection of the internal detail of the map and identification of artifacts.

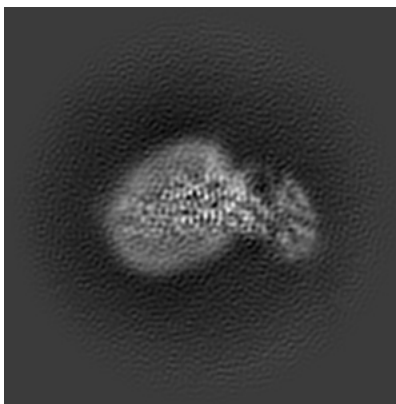
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

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

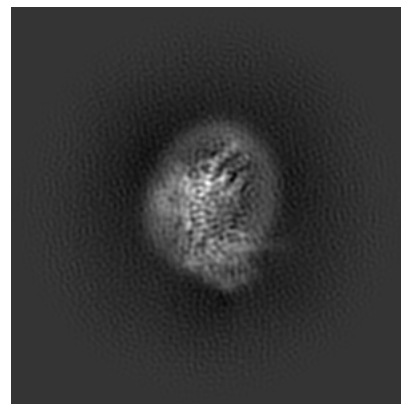
#### 6.1.1 Primary map



X

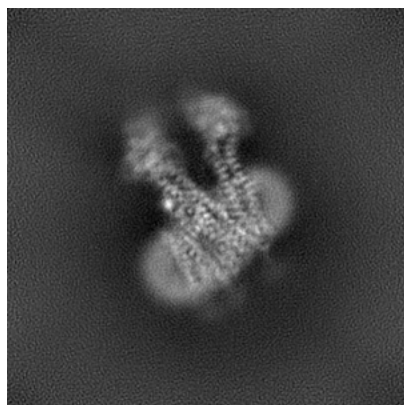


Y

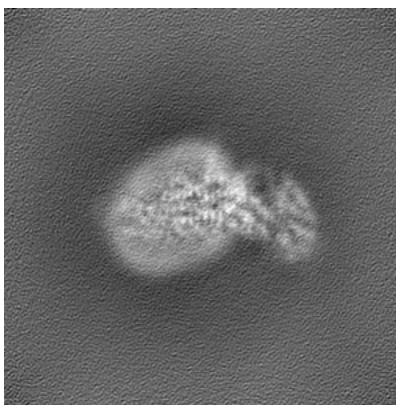


Z

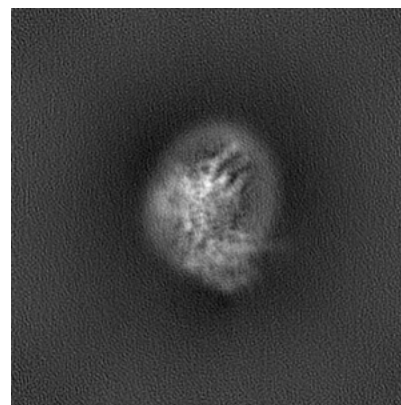
#### 6.1.2 Raw map



X



Y

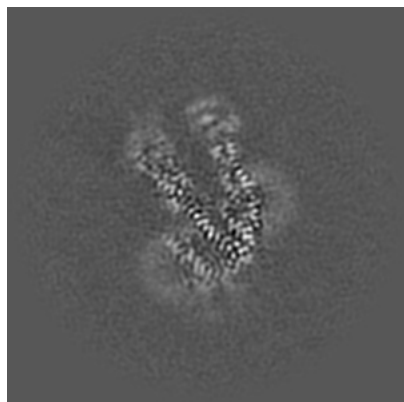


Z

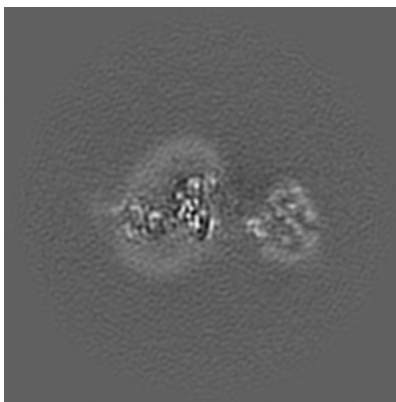
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices [i](#)

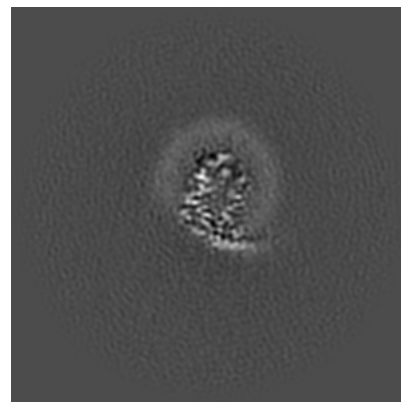
### 6.2.1 Primary map



X Index: 128

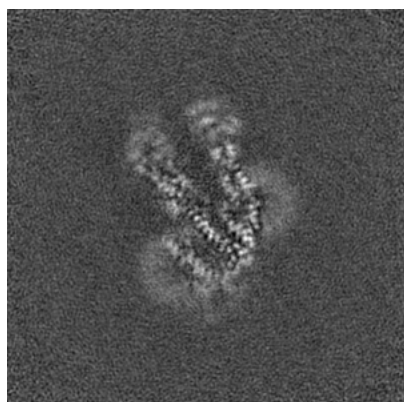


Y Index: 128

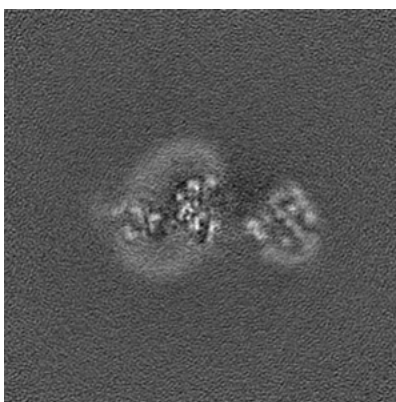


Z Index: 128

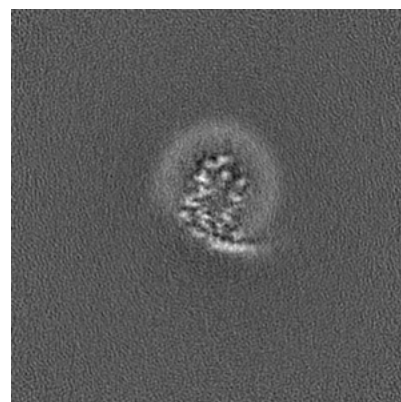
### 6.2.2 Raw map



X Index: 128



Y Index: 128

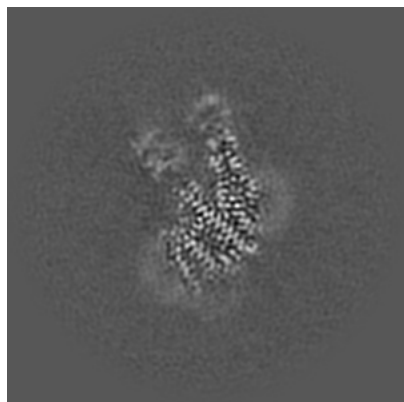


Z Index: 128

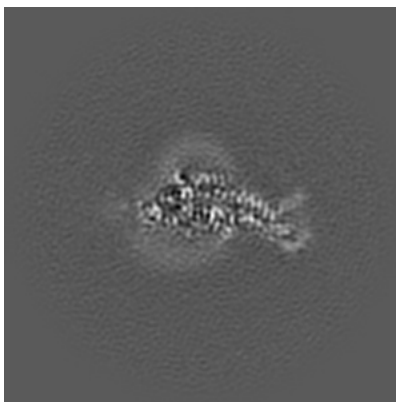
The images above show central slices of the map in three orthogonal directions.

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

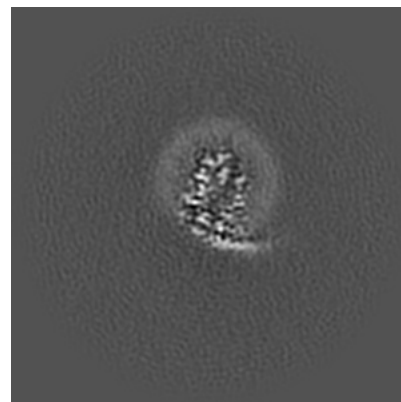
### 6.3.1 Primary map



X Index: 121

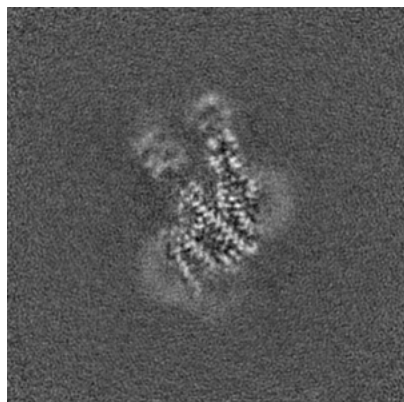


Y Index: 144

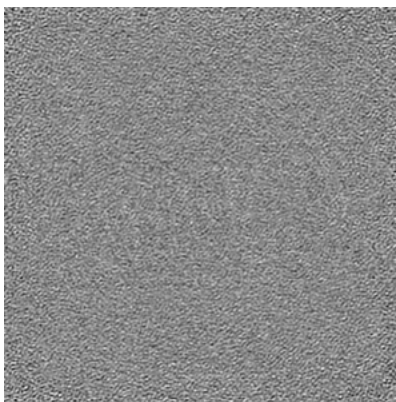


Z Index: 129

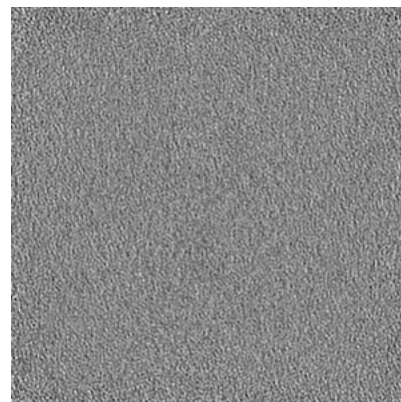
### 6.3.2 Raw map



X Index: 121



Y Index: 0



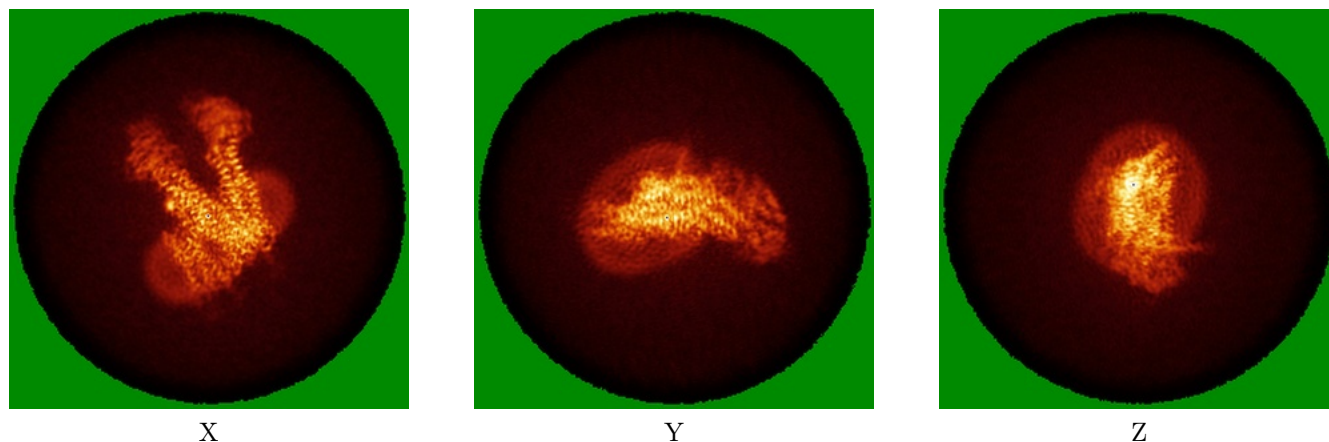
Z Index: 0

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

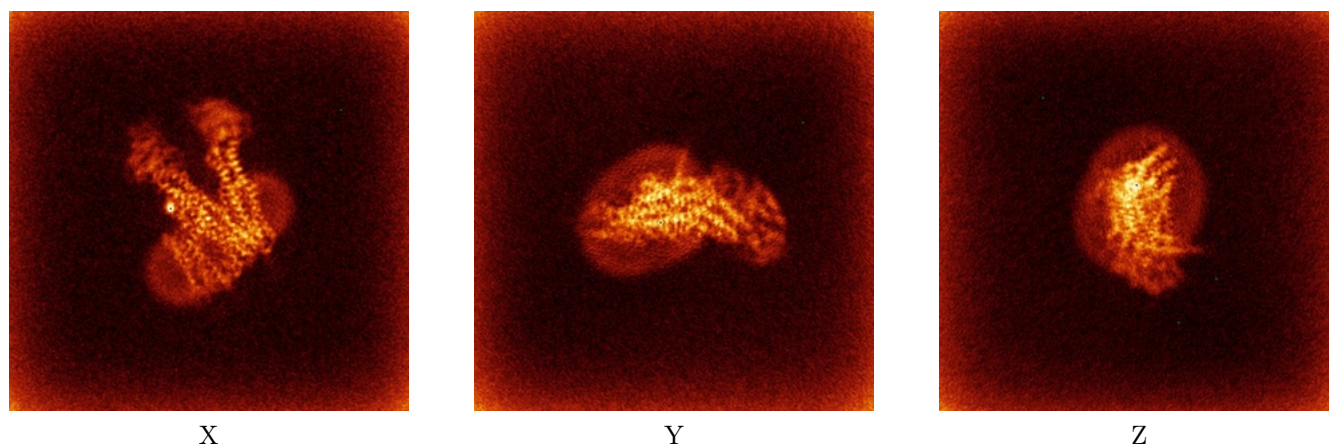


## 6.4 Orthogonal standard-deviation projections (False-color) [i](#)

### 6.4.1 Primary map



### 6.4.2 Raw map



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

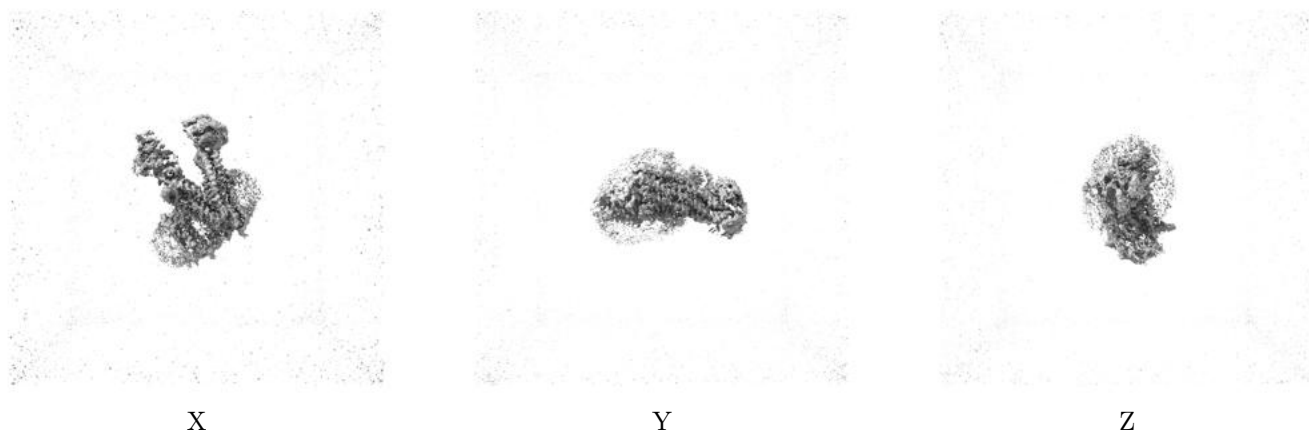
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.103. 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.

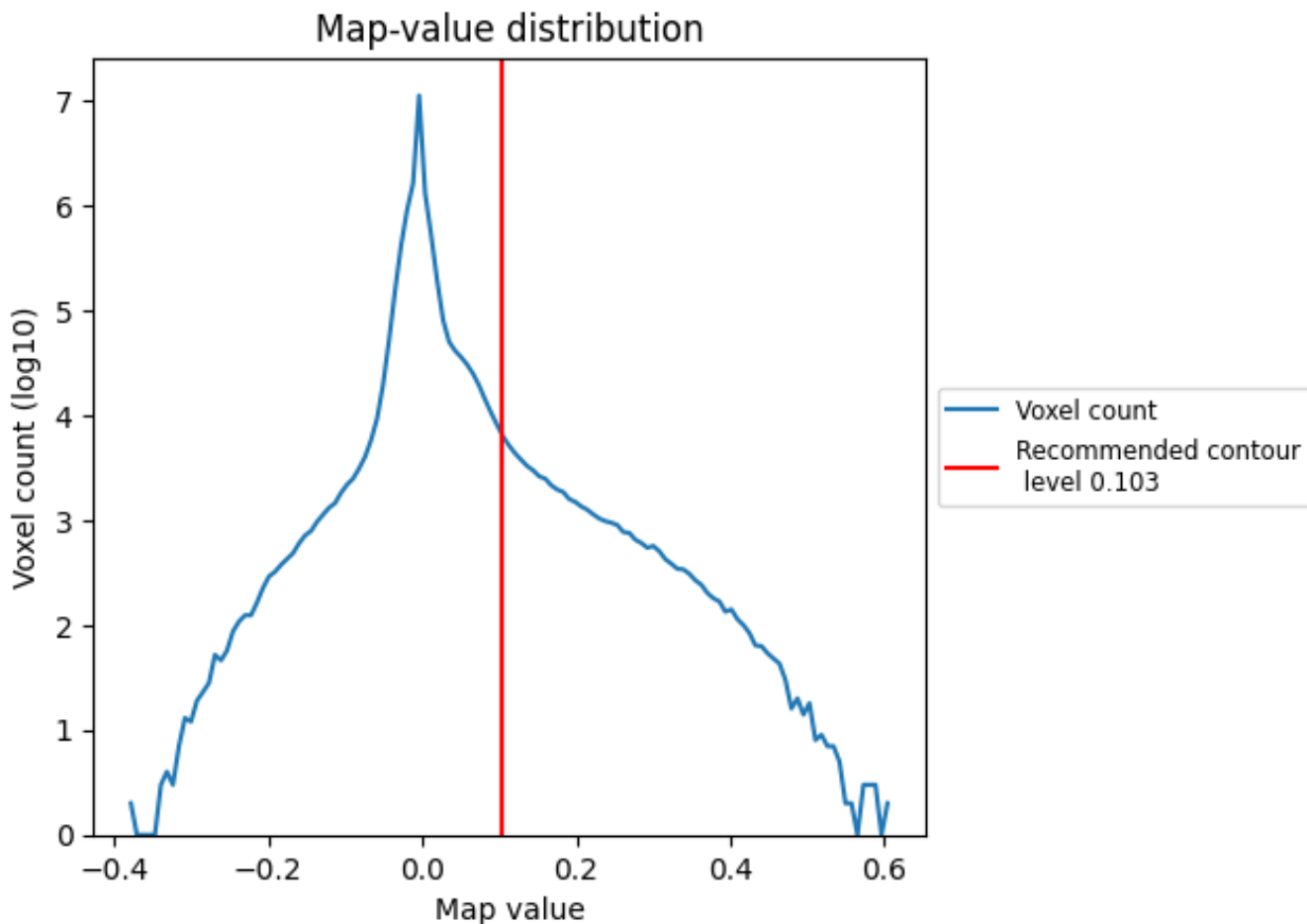
## 6.6 Mask visualisation [i](#)

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

## 7 Map analysis [i](#)

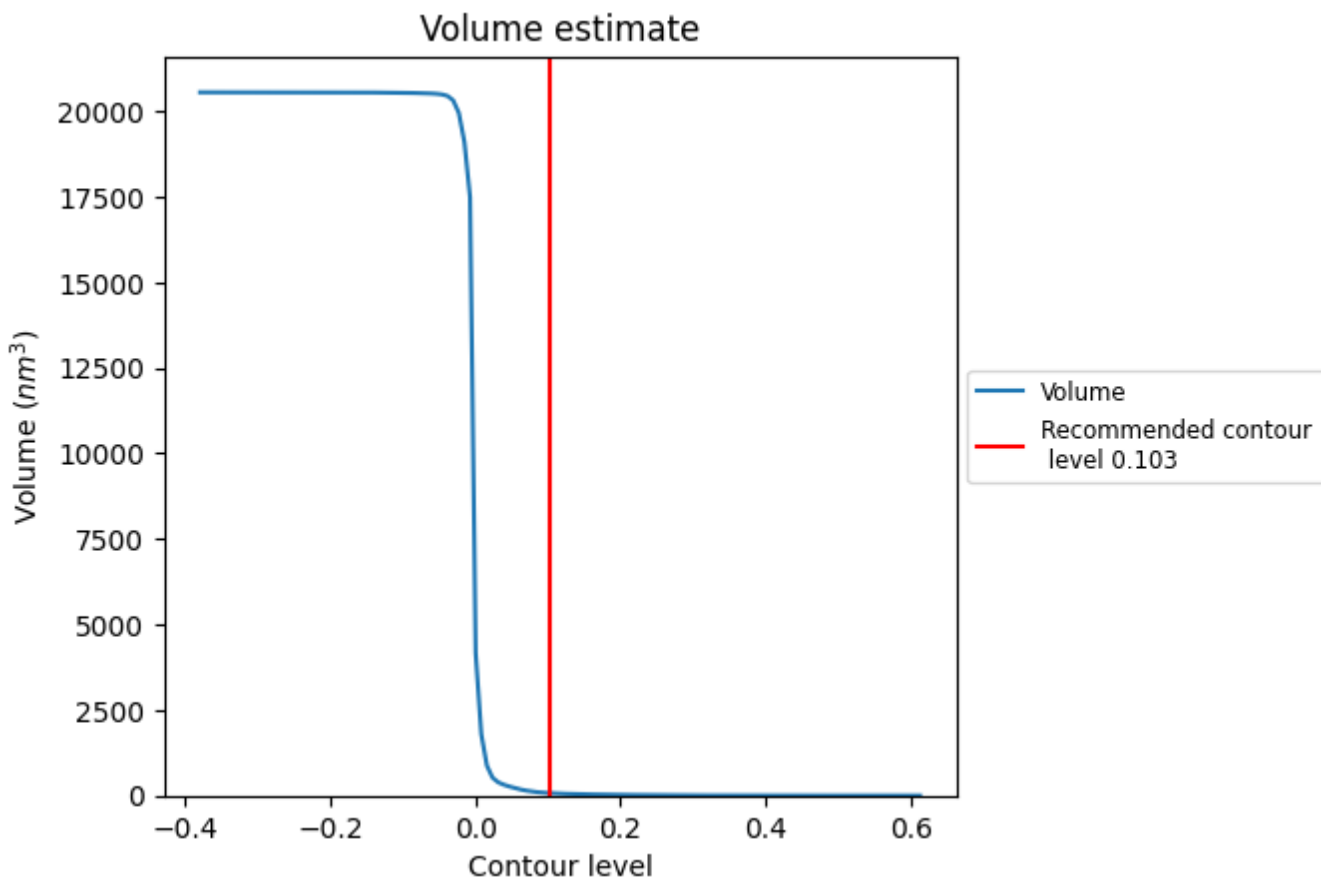
This section contains the results of statistical analysis of the map.

### 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.

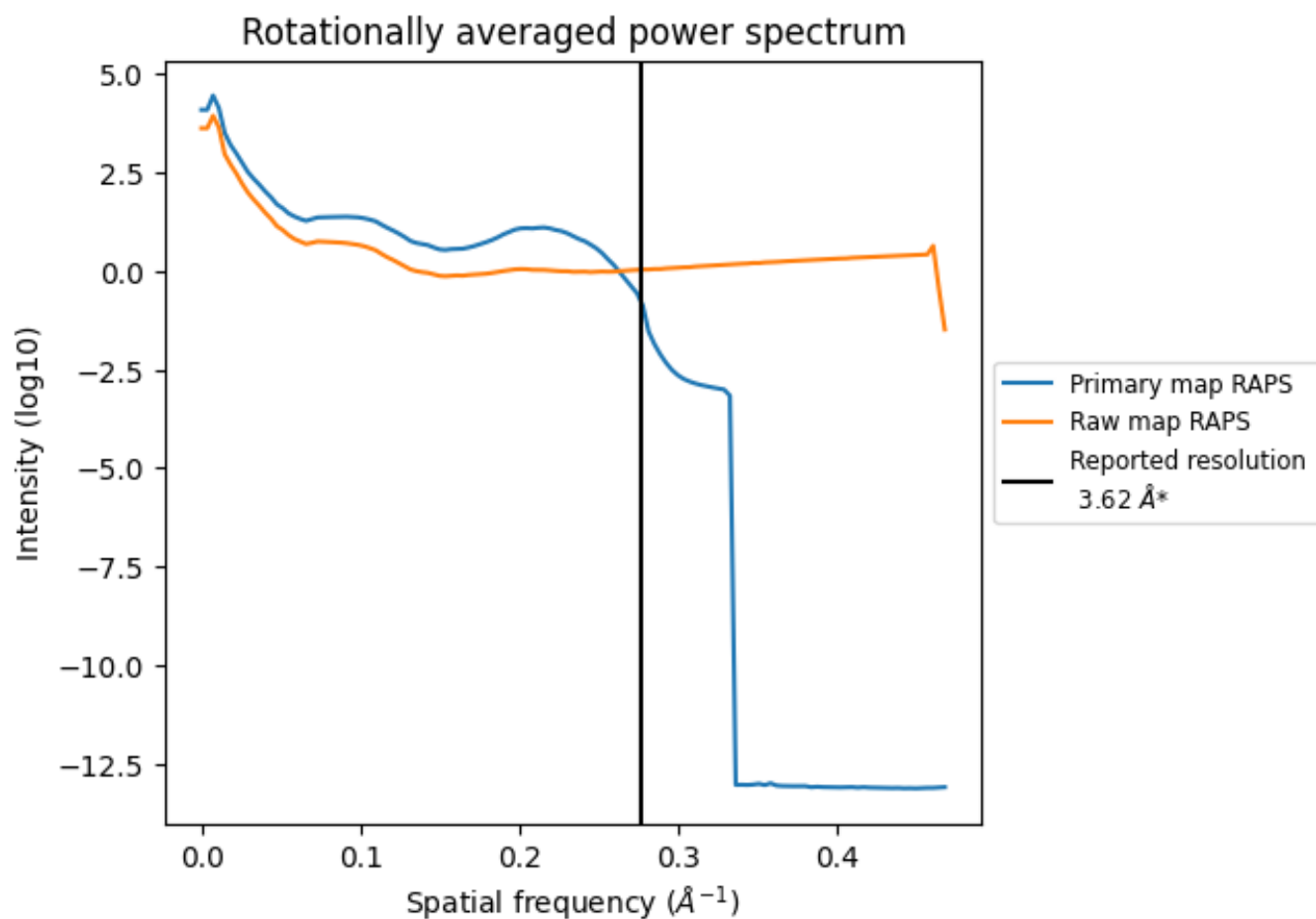
## 7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 71  $\text{nm}^3$ ; this corresponds to an approximate mass of 64 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](#)

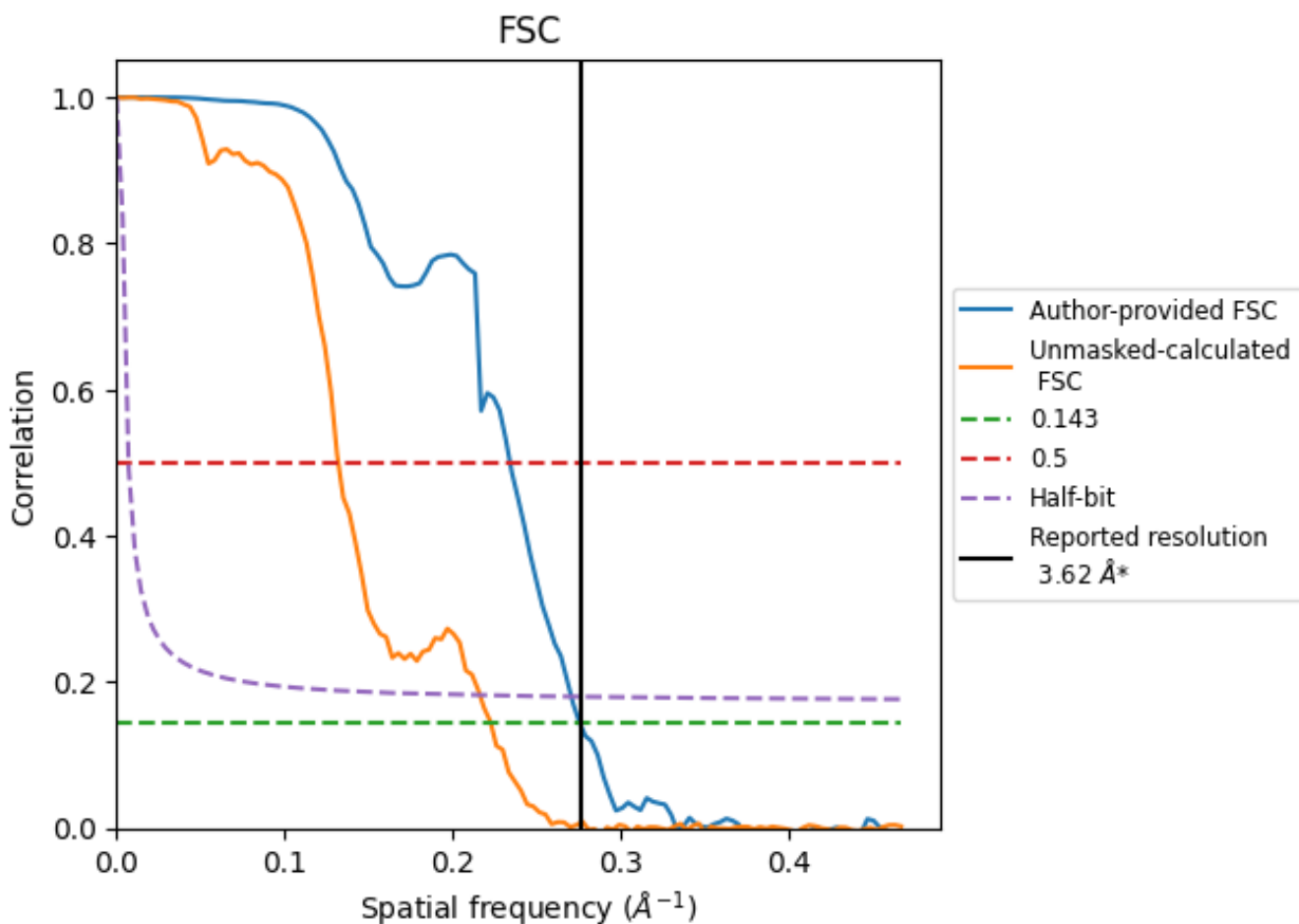


\*Reported resolution corresponds to spatial frequency of 0.276 Å<sup>-1</sup>

## 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 0.276 Å<sup>-1</sup>

## 8.2 Resolution estimates [i](#)

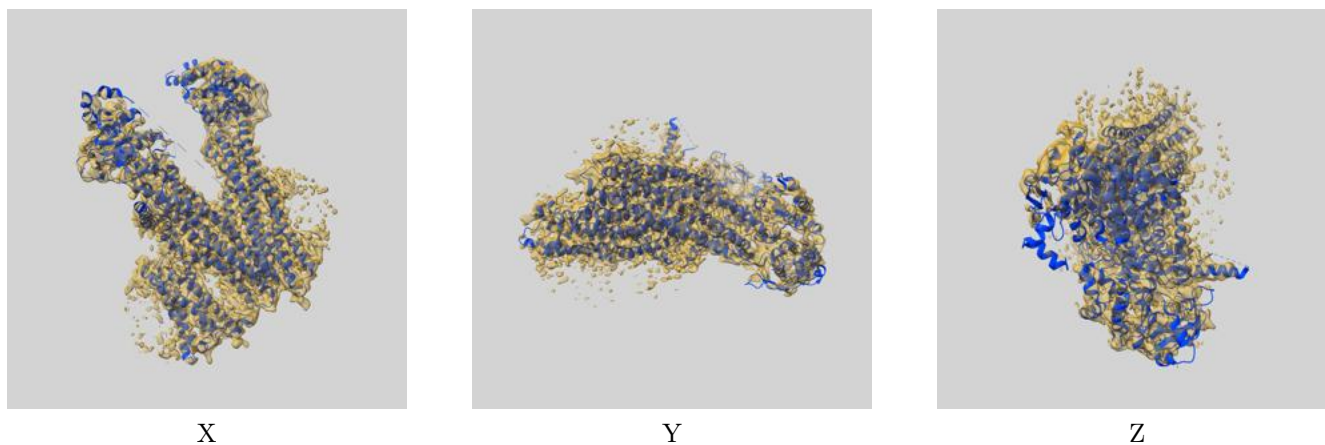
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.62	-	-
Author-provided FSC curve	3.62	4.27	3.69
Unmasked-calculated*	4.48	7.57	4.62

\*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 4.48 differs from the reported value 3.62 by more than 10 %

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

This section contains information regarding the fit between EMDB map EMD-35869 and PDB model 8IZR. 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 0.103 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.

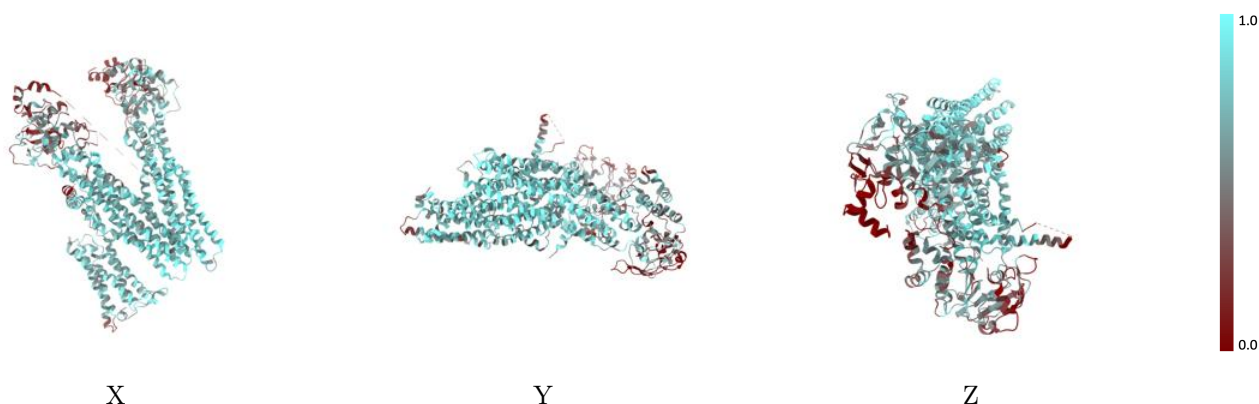


## 9.2 Q-score mapped to coordinate model [i](#)



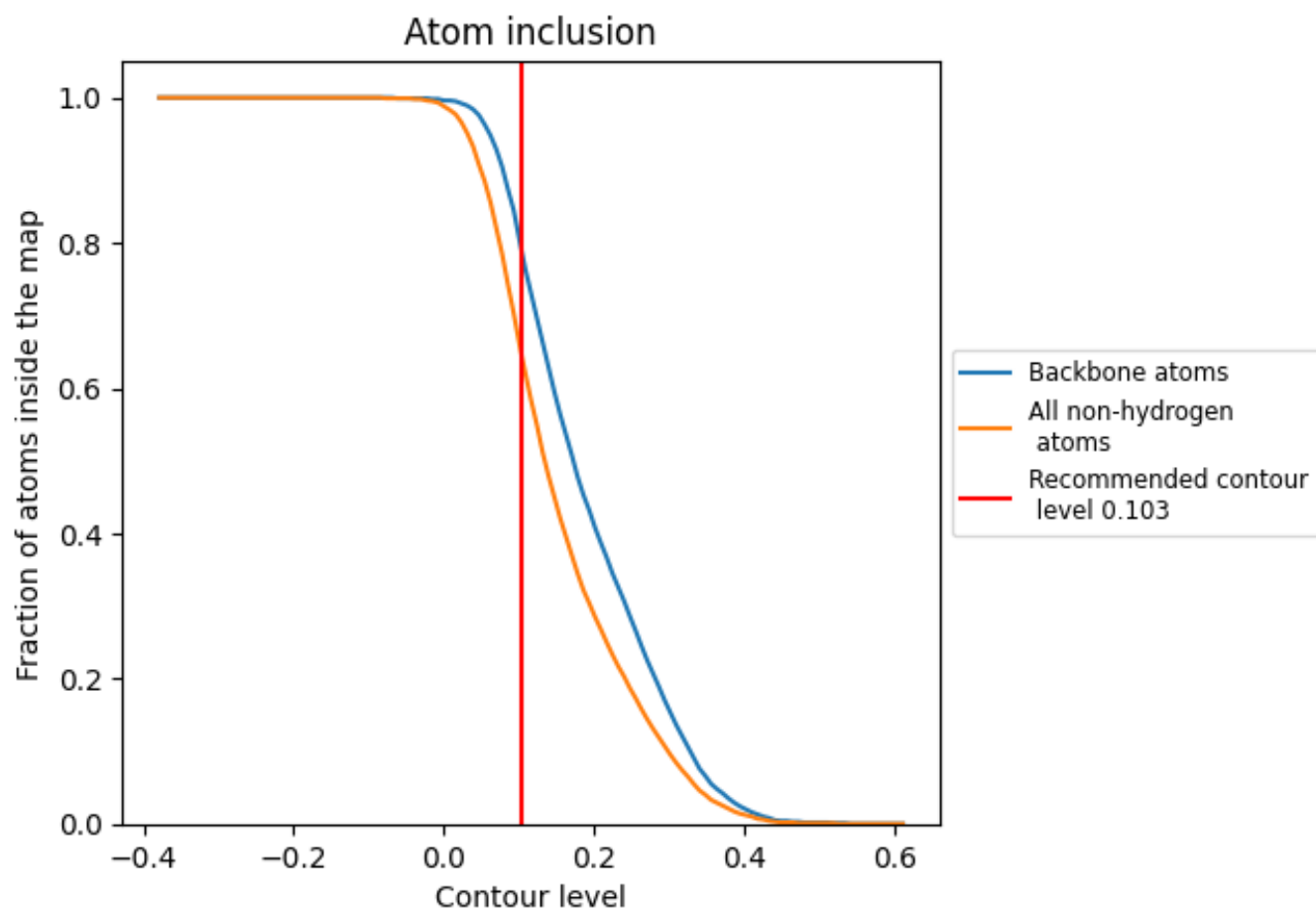
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.103).





## 9.4 Atom inclusion [i](#)



At the recommended contour level, 79% of all backbone atoms, 65% 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 (0.103) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.6500	 0.4240
A	 0.6500	 0.4240

