



Full wwPDB EM Validation Report ⓘ

Mar 15, 2026 – 01:07 AM UTC

PDB ID : 9QWX / pdb_00009qwx
EMDB ID : EMD-53430
Title : Cryo-EM structure of the human UBR4/KCMF1/CALM1 complex (N-term focused refinement)
Authors : Grabarczyk, D.B.; Clausen, T.
Deposited on : 2025-04-15
Resolution : 3.60 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.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

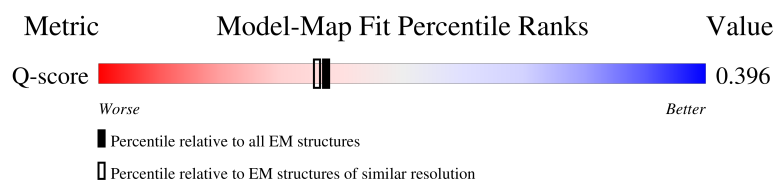
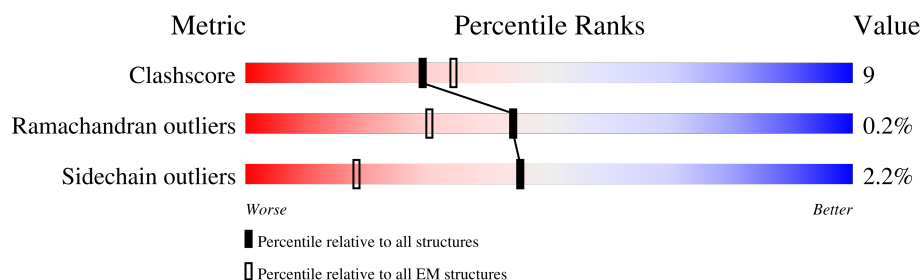
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.60 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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
Q-score	-	25397	12797 (3.10 - 4.10)

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	5193	 20% 6% 74%
1	B	5193	 20% 5% 74%

2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 20114 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 E3 ubiquitin-protein ligase UBR4.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	1351	Total	C	N	O	S	0	0
			10057	6388	1719	1904	46		
1	B	1351	Total	C	N	O	S	0	0
			10057	6388	1719	1904	46		

There are 20 discrepancies between the modelled and reference sequences:

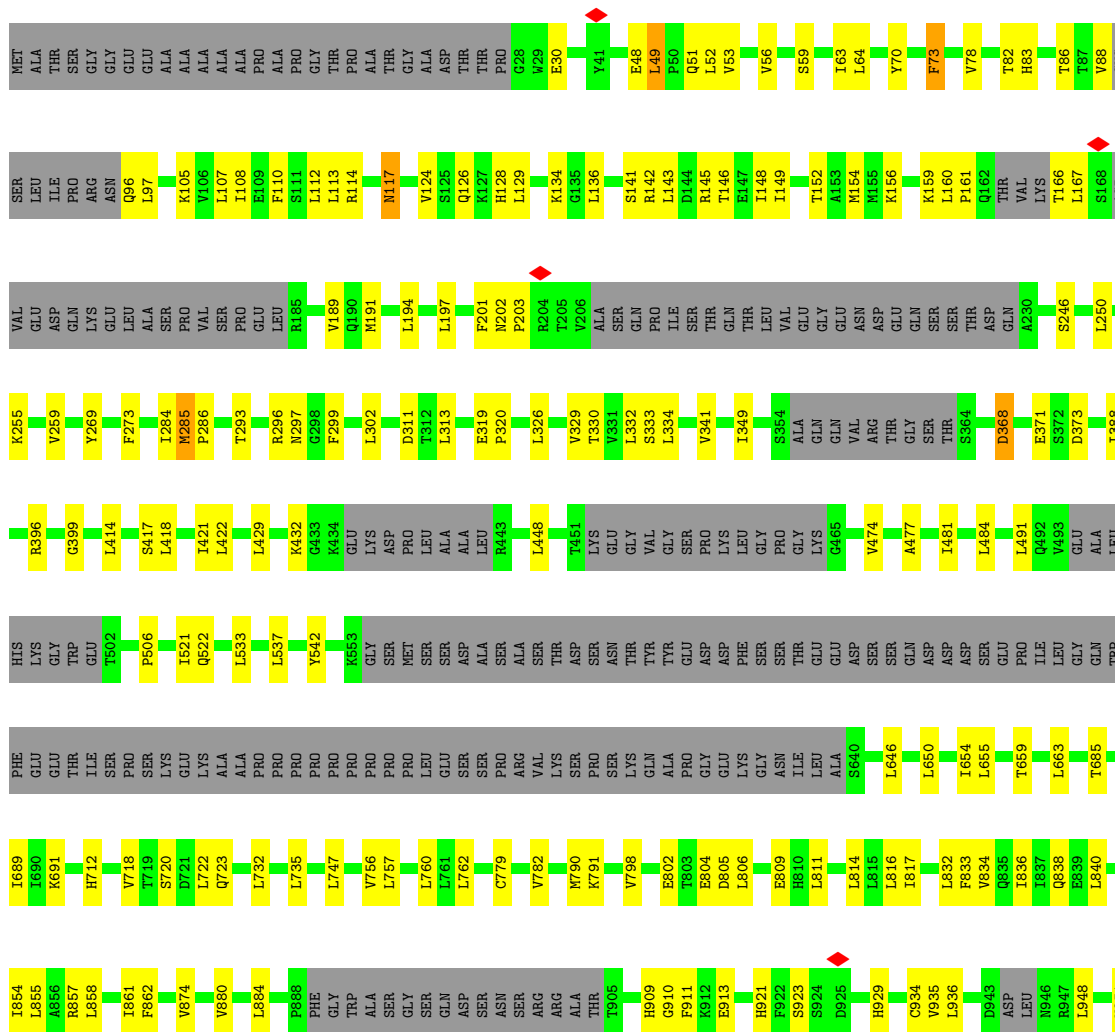
Chain	Residue	Modelled	Actual	Comment	Reference
A	5184	HIS	-	expression tag	UNP Q5T4S7
A	5185	HIS	-	expression tag	UNP Q5T4S7
A	5186	HIS	-	expression tag	UNP Q5T4S7
A	5187	HIS	-	expression tag	UNP Q5T4S7
A	5188	HIS	-	expression tag	UNP Q5T4S7
A	5189	HIS	-	expression tag	UNP Q5T4S7
A	5190	HIS	-	expression tag	UNP Q5T4S7
A	5191	HIS	-	expression tag	UNP Q5T4S7
A	5192	HIS	-	expression tag	UNP Q5T4S7
A	5193	HIS	-	expression tag	UNP Q5T4S7
B	5184	HIS	-	expression tag	UNP Q5T4S7
B	5185	HIS	-	expression tag	UNP Q5T4S7
B	5186	HIS	-	expression tag	UNP Q5T4S7
B	5187	HIS	-	expression tag	UNP Q5T4S7
B	5188	HIS	-	expression tag	UNP Q5T4S7
B	5189	HIS	-	expression tag	UNP Q5T4S7
B	5190	HIS	-	expression tag	UNP Q5T4S7
B	5191	HIS	-	expression tag	UNP Q5T4S7
B	5192	HIS	-	expression tag	UNP Q5T4S7
B	5193	HIS	-	expression tag	UNP Q5T4S7







- Molecule 1: E3 ubiquitin-protein ligase UBR4









ASP	VAL	GLN	ILE	SER	LYS	THR
PRO	THR	TRP	ARG	ALA	PRO	THR
GLU	THR	ARG	TYR	PHE	ASN	THR
SER	ALA	THR	ILE	ALA	GLN	GLY
PHE	ASN	THR	ILE	THR	LYS	GLY
LEU	THR	ARG	HIS	CYS	GLN	GLY
LYS	GLU	VAL	THR	LEU	GLN	GLY
ASP	GLY	GLU	VAL	ALA	TYR	VAL
LEU	GLY	ILE	LEU	ARG	SER	VAL
LEU	TRP	LEU	TYR	HIS	THR	THR
ASN	SER	ARG	VAL	ASN	VAL	LYS
SER	CYS	ARG	LEU	THR	SER	LYS
VAL	SER	LEU	ASN	TYR	HIS	ALA
PRO	PRO	LEU	THR	THR	PHE	ALA
HIS	ALA	VAL	THR	GLN	ASN	LEU
HIS	THR	THR	ARG	GLU	ILE	LYS
HIS	TYR	SER	ALA	CYS	VAL	GLN
HIS	ILE	GLN	THR	THR	HIS	MET
HIS	ARG	ALA	SER	GLY	TYR	GLU
HIS	HIS	ARG	ARG	GLN	ASP	GLU
HIS	ASN	ALA	GLU	LEU	CYS	LEU
HIS	ASP	VAL	GLU	GLU	HIS	ILE
HIS	MET	ALA	LYS	PRO	LEU	GLU
HIS	PRO	PRO	ASN	THR	ALA	GLU
	ILE	GLY	LEU	TYR	ALA	PRO
	TYR	GLY	GLN	GLN	VAL	GLY
	GLU	ALA	GLY	LEU	ARG	LEU
	ALA	THR	PHE	ASN	LEU	THR
	ALA	ARG	LEU	ILE	ALA	CYS
	ASP	LEU	GLU	HIS	ARG	CYS
	LYS	THR	GLN	ASP	GLY	ILE
	ALA	ASP	PRO	ILE	CYS	ARG
	LEU	LYS	LYS	LYS	GLU	GLY
	LYS	ALA	GLU	LEU	GLU	GLY
	THR	VAL	LYS	LEU	TRP	TYR
	PHE	LYS	THR	PHE	GLU	TYR
	GLN	ASP	VAL	LEU	SER	LYS
	GLU	TYR	GLU	ARG	ALA	PHE
	GLU	SER	SER	PHE	GLN	GLN
	PHE	ALA	ALA	ALA	LEU	PRO
	MET	TYR	PHE	MET	GLN	THR
	PRO	ARG	GLU	GLU	ASN	LYS
	VAL	SER	VAL	GLN	VAL	VAL
	GLU	SER	SER	ASN	ASN	LEU
	THR	LEU	GLY	PHE	THR	GLY
	PHE	LEU	LEU	SER	LYS	ILE
	SER	PHE	TYR	ALA	CYS	THR
	GLU	TRP	THR	ASP	ASN	THR
	PHE	ALA	PHE	THR	GLY	PHE
	ASP	LEU	THR	GLY	LEU	THR
	VAL	ASP	VAL	GLY	LEU	LYS
	ALA	LEU	ALA	GLY	VAL	VAL
	GLY	ILE	LEU	ARG	TRP	ALA
	LEU	TYR	HIS	GLU	GLY	LEU
	LEU	ASN	ILE	SER	PRO	GLU
	SER	MET	LEU	HIS	GLY	GLU
	GLU	PHE	PRO	ILE	VAL	MET
	ILE	LYS	PRO	HIS	PRO	GLU
	THR	LYS	GLU	LEU	ASN	ASN

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C2	Depositor
Number of particles used	75153	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 ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	0.028	Depositor
Minimum map value	-0.014	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.001	Depositor
Recommended contour level	0.00397	Depositor
Map size (Å)	486.912, 486.912, 486.912	wwPDB
Map dimensions	384, 384, 384	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.268, 1.268, 1.268	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	0.13	0/10223	0.36	0/13903
1	B	0.14	0/10223	0.37	0/13903
All	All	0.13	0/20446	0.36	0/27806

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
1	B	0	2
All	All	0	3

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	117	ASN	Peptide
1	B	117	ASN	Peptide
1	B	285	MET	Peptide

5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	10057	0	9639	191	0
1	B	10057	0	9639	183	0
All	All	20114	0	19278	365	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 (365) 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:B:790:MET:HE3	1:B:854:ILE:HG23	1.57	0.87
1:A:272:ARG:HD3	1:A:285:MET:HE2	1.61	0.83
1:B:811:LEU:HD11	1:B:861:ILE:HD11	1.65	0.78
1:A:124:VAL:HG13	1:A:128:HIS:HB2	1.70	0.73
1:B:1119:GLN:O	1:B:1123:THR:HG23	1.90	0.72
1:B:108:ILE:HD11	1:B:136:LEU:HD23	1.72	0.72
1:A:1015:PRO:HG2	1:A:1054:ILE:HG23	1.70	0.72
1:B:533:LEU:O	1:B:537:LEU:HD12	1.91	0.71
1:B:990:ASN:HD21	1:B:1276:GLN:HB2	1.55	0.71
1:A:683:MET:HE3	1:A:727:LEU:HB3	1.71	0.71
1:A:1191:SER:H	1:A:1194:LYS:HE2	1.58	0.69
1:A:286:PRO:HB2	1:A:349:ILE:HD12	1.74	0.69
1:B:124:VAL:HG13	1:B:128:HIS:HB2	1.75	0.69
1:B:286:PRO:HB2	1:B:349:ILE:HD12	1.76	0.68
1:A:284:ILE:HG22	1:A:286:PRO:HD3	1.75	0.67
1:B:910:GLY:HA2	1:B:934:CYS:H	1.57	0.67
1:B:1178:LEU:HD11	1:B:1199:ALA:HB2	1.76	0.67
1:B:418:LEU:HD13	1:B:537:LEU:HD21	1.76	0.66
1:A:64:LEU:HD12	1:A:113:LEU:HD21	1.78	0.66
1:B:201:PHE:CE2	1:B:203:PRO:HB3	2.30	0.66
1:A:1244:ILE:HA	1:A:1293:ARG:HH22	1.59	0.66
1:B:326:LEU:O	1:B:330:THR:HG23	1.95	0.66
1:A:1178:LEU:HD11	1:A:1199:ALA:HB2	1.78	0.65
1:B:284:ILE:HG22	1:B:286:PRO:HD3	1.78	0.65
1:B:429:LEU:HA	1:B:432:LYS:HG2	1.79	0.65
1:A:52:LEU:O	1:A:56:VAL:HG23	1.96	0.65
1:A:491:LEU:HD12	1:A:521:ILE:HG13	1.78	0.64
1:A:1056:ASP:HA	1:A:1059:ILE:HD12	1.79	0.64
1:B:1020:ILE:O	1:B:1024:SER:HB2	1.99	0.63
1:A:429:LEU:HA	1:A:432:LYS:HG2	1.80	0.63
1:A:326:LEU:O	1:A:330:THR:HG23	1.99	0.62
1:A:1317:LEU:HD12	1:A:1323:THR:HG21	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1247:TRP:HA	1:A:1251:PHE:HB2	1.81	0.62
1:B:1191:SER:H	1:B:1194:LYS:HE2	1.65	0.62
1:B:1214:LEU:HD12	1:B:1214:LEU:H	1.64	0.62
1:B:319:GLU:HG2	1:B:320:PRO:HD3	1.82	0.61
1:B:159:LYS:HA	1:B:166:THR:HA	1.81	0.61
1:A:948:LEU:HD12	1:A:1012:ILE:HG22	1.81	0.61
1:B:1247:TRP:HA	1:B:1251:PHE:HB2	1.81	0.61
1:A:1015:PRO:HG3	1:A:1041:TRP:HZ2	1.66	0.60
1:B:809:GLU:HB3	1:B:884:LEU:HD11	1.82	0.60
1:A:134:LYS:HZ1	1:A:311:ASP:HA	1.67	0.60
1:B:542:TYR:HD2	1:B:689:ILE:HD12	1.66	0.60
1:B:816:LEU:HD12	1:B:880:VAL:HG21	1.82	0.60
1:A:765:GLN:HE22	1:A:817:ILE:HG23	1.66	0.60
1:B:732:LEU:HD21	1:B:760:LEU:HD13	1.83	0.59
1:B:806:LEU:HD23	1:B:857:ARG:HD2	1.84	0.59
1:A:399:GLY:HA3	1:B:399:GLY:HA3	1.85	0.59
1:A:1025:MET:HE3	1:A:1025:MET:H	1.66	0.59
1:B:814:LEU:HA	1:B:817:ILE:HD12	1.85	0.59
1:B:1244:ILE:HG12	1:B:1293:ARG:HH12	1.68	0.59
1:B:1015:PRO:HG3	1:B:1054:ILE:HG23	1.83	0.59
1:B:1292:VAL:HG21	1:B:1326:VAL:HG13	1.85	0.59
1:B:114:ARG:HH11	1:B:117:ASN:HD21	1.51	0.58
1:B:1423:PHE:O	1:B:1427:VAL:HG13	2.03	0.58
1:A:720:SER:O	1:A:722:LEU:HD22	2.02	0.58
1:B:720:SER:O	1:B:722:LEU:HD22	2.03	0.58
1:A:1310:VAL:O	1:A:1314:LEU:HB2	2.03	0.58
1:A:104:CYS:O	1:A:108:ILE:HG13	2.04	0.58
1:B:1391:SER:HA	1:B:1394:ARG:HE	1.67	0.58
1:A:1019:TYR:CD2	1:A:1041:TRP:HZ3	2.22	0.58
1:A:1162:THR:O	1:A:1166:ILE:HG13	2.04	0.58
1:B:1288:LEU:HD23	1:B:1326:VAL:HG21	1.86	0.57
1:A:1197:GLY:O	1:A:1201:VAL:HG23	2.04	0.57
1:B:1307:PRO:O	1:B:1311:ILE:HG22	2.04	0.57
1:B:64:LEU:HD12	1:B:113:LEU:HD21	1.86	0.57
1:A:525:ILE:HD13	1:A:530:LEU:HD13	1.87	0.57
1:A:542:TYR:HD2	1:A:689:ILE:HD12	1.69	0.57
1:B:285:MET:O	1:B:285:MET:HG2	2.04	0.57
1:A:804:GLU:HG3	1:A:805:ASP:OD2	2.03	0.57
1:B:417:SER:O	1:B:421:ILE:HG22	2.04	0.57
1:A:1020:ILE:O	1:A:1024:SER:HB2	2.04	0.57
1:B:802:GLU:CD	1:B:802:GLU:H	2.13	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:816:LEU:HD22	1:A:880:VAL:HG11	1.87	0.56
1:B:1318:LEU:HD21	1:B:1334:LEU:HD21	1.87	0.56
1:A:1050:TYR:O	1:A:1054:ILE:HG12	2.05	0.56
1:B:935:VAL:HG23	1:B:936:LEU:HD12	1.86	0.56
1:A:203:PRO:HD2	1:B:712:HIS:NE2	2.21	0.55
1:A:874:VAL:HG13	1:B:189:VAL:HG11	1.87	0.55
1:B:1244:ILE:HA	1:B:1293:ARG:HH22	1.71	0.55
1:B:659:THR:HA	1:B:663:LEU:HD12	1.88	0.55
1:B:293:THR:HG23	1:B:296:ARG:HH21	1.72	0.55
1:B:1218:LEU:HA	1:B:1221:ASN:ND2	2.22	0.55
1:B:191:MET:HE2	1:B:191:MET:HA	1.89	0.55
1:A:1155:THR:HA	1:A:1158:LEU:HD23	1.89	0.55
1:A:1292:VAL:HG21	1:A:1326:VAL:HG13	1.88	0.54
1:B:1314:LEU:HD21	1:B:1330:SER:HB2	1.89	0.54
1:B:1118:LEU:HA	1:B:1121:ILE:HD12	1.89	0.54
1:A:1090:VAL:HG11	1:A:1131:VAL:HG21	1.89	0.54
1:B:134:LYS:HZ1	1:B:311:ASP:HA	1.71	0.54
1:A:1119:GLN:HA	1:A:1122:TYR:CZ	2.43	0.53
1:A:790:MET:HE3	1:A:858:LEU:HD23	1.90	0.53
1:B:1119:GLN:HA	1:B:1122:TYR:CZ	2.44	0.53
1:A:1118:LEU:HA	1:A:1121:ILE:HD12	1.91	0.53
1:A:114:ARG:HH11	1:A:117:ASN:HD21	1.55	0.53
1:A:1352:GLU:HA	1:A:1355:ILE:HD12	1.91	0.53
1:B:1340:PRO:HD2	1:B:1344:ASP:HB2	1.91	0.53
1:A:1299:ILE:HD11	1:A:1305:MET:HG2	1.90	0.53
1:B:1134:SER:O	1:B:1137:GLU:HG3	2.09	0.53
1:B:1052:ASN:HA	1:B:1055:LYS:HG2	1.91	0.52
1:B:1090:VAL:HG11	1:B:1131:VAL:HG21	1.91	0.52
1:B:655:LEU:O	1:B:659:THR:HG23	2.10	0.52
1:A:78:VAL:HG11	1:A:110:PHE:CD2	2.45	0.52
1:B:957:PHE:HZ	1:B:1014:PRO:HG2	1.74	0.52
1:A:1395:LYS:O	1:A:1399:GLU:HG2	2.10	0.52
1:A:110:PHE:HE1	1:A:114:ARG:HH21	1.57	0.52
1:A:1384:LEU:O	1:A:1388:LEU:HG	2.10	0.52
1:B:160:LEU:HD21	1:B:167:LEU:HG	1.92	0.52
1:B:1381:LEU:HD13	1:B:1426:ARG:HG3	1.90	0.52
1:A:1280:LEU:O	1:A:1284:LEU:HD22	2.10	0.52
1:A:712:HIS:NE2	1:B:203:PRO:HD2	2.24	0.52
1:A:957:PHE:HZ	1:A:1014:PRO:HG2	1.74	0.51
1:A:49:LEU:O	1:A:53:VAL:HG23	2.10	0.51
1:A:293:THR:HG23	1:A:296:ARG:HH21	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1214:LEU:H	1:A:1214:LEU:HD12	1.74	0.51
1:A:1244:ILE:HA	1:A:1293:ARG:NH2	2.24	0.51
1:A:197:LEU:HD21	1:B:762:LEU:HB3	1.93	0.51
1:A:966:LEU:HD23	1:A:970:LEU:HD13	1.92	0.51
1:A:655:LEU:O	1:A:659:THR:HG23	2.09	0.51
1:A:160:LEU:HD21	1:A:167:LEU:HG	1.92	0.51
1:A:1308:PRO:HG2	1:A:1309:GLN:HE21	1.75	0.51
1:A:1064:LYS:HE3	1:A:1067:HIS:CE1	2.46	0.51
1:A:659:THR:HA	1:A:663:LEU:HD12	1.92	0.50
1:B:948:LEU:HD12	1:B:1012:ILE:HG22	1.92	0.50
1:A:191:MET:HE2	1:A:191:MET:HA	1.92	0.50
1:A:73:PHE:HB2	1:A:158:ALA:HB1	1.93	0.50
1:A:921:HIS:CE1	1:A:1274:CYS:HB2	2.46	0.50
1:B:1218:LEU:HA	1:B:1221:ASN:HD21	1.77	0.50
1:A:1000:GLN:HA	1:A:1270:LEU:HD13	1.92	0.50
1:B:804:GLU:HG3	1:B:805:ASP:OD2	2.12	0.50
1:A:1314:LEU:HB3	1:A:1334:LEU:HD11	1.93	0.50
1:B:791:LYS:HD3	1:B:836:ILE:HD12	1.94	0.50
1:A:957:PHE:CZ	1:A:1014:PRO:HG2	2.46	0.50
1:B:747:LEU:HB2	1:B:805:ASP:HB3	1.93	0.49
1:B:756:VAL:O	1:B:760:LEU:HD12	2.12	0.49
1:B:1300:VAL:HG22	1:B:1336:ARG:CZ	2.42	0.49
1:A:152:THR:O	1:A:156:LYS:HG2	2.12	0.49
1:B:1119:GLN:HA	1:B:1122:TYR:CE2	2.46	0.49
1:B:70:TYR:CE1	1:B:161:PRO:HA	2.46	0.49
1:B:126:GLN:HA	1:B:129:LEU:HD12	1.95	0.49
1:B:506:PRO:HB3	1:B:522:GLN:HE22	1.78	0.49
1:B:1341:ALA:HA	1:B:1346:PHE:CD2	2.48	0.49
1:A:70:TYR:CE1	1:A:161:PRO:HA	2.48	0.49
1:B:491:LEU:HD22	1:B:521:ILE:HG13	1.95	0.49
1:A:685:THR:O	1:A:689:ILE:HG12	2.12	0.49
1:B:1058:LEU:HD12	1:B:1063:MET:SD	2.53	0.49
1:A:1039:LEU:HB3	1:A:1130:LYS:HD3	1.94	0.48
1:A:1318:LEU:HA	1:A:1327:ALA:HB1	1.94	0.48
1:A:1336:ARG:HE	1:A:1337:ILE:HD11	1.77	0.48
1:B:1124:LEU:O	1:B:1128:ILE:HG12	2.12	0.48
1:B:1165:LEU:HG	1:B:1291:LEU:HD11	1.96	0.48
1:A:733:GLN:HA	1:A:738:ALA:HB2	1.96	0.48
1:B:145:ARG:O	1:B:149:ILE:HG12	2.13	0.48
1:A:910:GLY:HA2	1:A:934:CYS:H	1.78	0.48
1:A:1377:LEU:HA	1:A:1380:CYS:SG	2.54	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:685:THR:O	1:B:689:ILE:HG12	2.13	0.48
1:A:1119:GLN:HA	1:A:1122:TYR:CE2	2.48	0.48
1:B:911:PHE:HD1	1:B:934:CYS:HB2	1.78	0.48
1:B:1336:ARG:HE	1:B:1337:ILE:HD11	1.77	0.48
1:A:1218:LEU:HA	1:A:1221:ASN:ND2	2.29	0.48
1:A:1159:LEU:O	1:A:1163:LEU:HG	2.14	0.48
1:A:1384:LEU:O	1:A:1387:GLN:HG3	2.14	0.48
1:B:202:ASN:HB2	1:B:203:PRO:HA	1.95	0.48
1:B:299:PHE:HB3	1:B:373:ASP:OD2	2.13	0.48
1:B:840:LEU:HD21	1:B:855:LEU:HD11	1.95	0.48
1:A:418:LEU:HD11	1:A:477:ALA:HA	1.96	0.48
1:B:152:THR:O	1:B:156:LYS:HG2	2.14	0.48
1:A:98:GLN:NE2	1:A:201:PHE:HB3	2.29	0.47
1:A:1378:GLU:O	1:A:1382:GLN:HG3	2.13	0.47
1:B:78:VAL:HG11	1:B:110:PHE:CD2	2.49	0.47
1:B:1308:PRO:HB2	1:B:1312:ARG:NH1	2.28	0.47
1:B:1345:GLU:O	1:B:1349:ARG:HG2	2.14	0.47
1:A:1142:MET:HA	1:A:1142:MET:HE2	1.96	0.47
1:A:1311:ILE:O	1:A:1315:LEU:HD12	2.14	0.47
1:A:1092:GLU:O	1:A:1096:ARG:HG3	2.14	0.47
1:A:1233:TRP:HD1	1:A:1278:LEU:HD13	1.78	0.47
1:B:52:LEU:O	1:B:56:VAL:HG23	2.15	0.47
1:B:1214:LEU:HD11	1:B:1383:TYR:CE2	2.50	0.47
1:B:1318:LEU:H	1:B:1318:LEU:HD12	1.80	0.47
1:A:1241:PHE:HE2	1:A:1269:HIS:CD2	2.33	0.47
1:A:765:GLN:NE2	1:A:817:ILE:HG23	2.28	0.47
1:A:1045:LEU:HD12	1:A:1045:LEU:O	2.15	0.47
1:B:30:GLU:CD	1:B:30:GLU:H	2.23	0.47
1:B:1334:LEU:HD13	1:B:1338:LEU:HD11	1.97	0.47
1:A:417:SER:O	1:A:421:ILE:HG22	2.14	0.46
1:B:83:HIS:HD2	1:B:148:ILE:HG21	1.79	0.46
1:A:840:LEU:HD21	1:A:855:LEU:HD21	1.96	0.46
1:A:1134:SER:O	1:A:1137:GLU:HG3	2.15	0.46
1:A:1227:GLN:O	1:A:1231:GLU:HG3	2.15	0.46
1:B:112:LEU:HD13	1:B:255:LYS:HD2	1.96	0.46
1:B:474:VAL:HG11	1:B:646:LEU:HG	1.96	0.46
1:A:474:VAL:HG11	1:A:646:LEU:HG	1.98	0.46
1:B:1090:VAL:HG21	1:B:1131:VAL:HG23	1.97	0.46
1:A:832:LEU:O	1:A:836:ILE:HG12	2.16	0.46
1:B:96:GLN:HG2	1:B:97:LEU:HD22	1.97	0.46
1:B:418:LEU:HD11	1:B:477:ALA:HA	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:145:ARG:NH1	1:A:148:ILE:HD13	2.30	0.46
1:A:202:ASN:HB2	1:A:203:PRO:HA	1.97	0.46
1:B:141:SER:H	1:B:142:ARG:NH2	2.14	0.46
1:A:404:GLN:HG2	1:B:396:ARG:HH21	1.80	0.46
1:A:1319:LEU:HD21	1:A:1353:LYS:HG2	1.98	0.46
1:B:834:VAL:O	1:B:838:GLN:HG3	2.16	0.46
1:B:1283:SER:O	1:B:1287:THR:HG22	2.16	0.46
1:B:1381:LEU:HD21	1:B:1430:PHE:HB2	1.98	0.46
1:B:59:SER:O	1:B:63:ILE:HG13	2.16	0.46
1:B:909:HIS:O	1:B:934:CYS:HB3	2.15	0.46
1:A:189:VAL:HG11	1:B:874:VAL:HG13	1.99	0.45
1:B:1296:GLY:O	1:B:1300:VAL:HG23	2.17	0.45
1:A:1094:PHE:HZ	1:A:1128:ILE:HG22	1.82	0.45
1:B:110:PHE:HE1	1:B:114:ARG:HH21	1.63	0.45
1:B:1273:LEU:HD23	1:B:1273:LEU:HA	1.75	0.45
1:B:1135:LEU:HD21	1:B:1301:TRP:CD1	2.52	0.45
1:A:1218:LEU:HA	1:A:1221:ASN:HD21	1.80	0.45
1:B:1015:PRO:HB3	1:B:1041:TRP:CH2	2.50	0.45
1:B:1015:PRO:HB2	1:B:1020:ILE:HD11	1.97	0.45
1:B:1374:GLU:HG3	1:B:1419:LEU:HD11	1.97	0.45
1:A:82:THR:HG22	1:A:107:LEU:HD13	1.97	0.45
1:A:1138:HIS:HA	1:A:1141:LYS:HE3	1.98	0.45
1:A:203:PRO:HD2	1:B:712:HIS:HE2	1.81	0.45
1:A:83:HIS:HD2	1:A:148:ILE:HG12	1.81	0.45
1:A:533:LEU:O	1:A:537:LEU:HG	2.17	0.45
1:A:30:GLU:CD	1:A:30:GLU:H	2.25	0.45
1:A:73:PHE:CE2	1:A:161:PRO:HD3	2.52	0.45
1:A:144:ASP:O	1:A:148:ILE:HD12	2.16	0.45
1:A:1007:TRP:CZ2	1:A:1040:ARG:HD3	2.52	0.45
1:B:911:PHE:CD1	1:B:934:CYS:HB2	2.52	0.44
1:A:128:HIS:HA	1:A:131:LEU:HG	1.99	0.44
1:A:762:LEU:HB3	1:B:197:LEU:HD21	1.99	0.44
1:B:1005:ILE:O	1:B:1009:ILE:HG22	2.16	0.44
1:B:1214:LEU:HD13	1:B:1354:LEU:HD12	1.99	0.44
1:B:1206:SER:H	1:B:1321:SER:HB2	1.82	0.44
1:A:31:VAL:HG12	1:A:34:ARG:HE	1.83	0.44
1:A:443:ARG:HD3	1:A:445:ARG:HH12	1.82	0.44
1:A:1391:SER:O	1:A:1394:ARG:HG2	2.16	0.44
1:B:73:PHE:HA	1:B:154:MET:HE1	1.99	0.44
1:B:273:PHE:CE2	1:B:334:LEU:HB3	2.53	0.44
1:A:78:VAL:HG11	1:A:110:PHE:HD2	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:296:ARG:HG2	1:A:297:ASN:H	1.82	0.44
1:A:732:LEU:HD21	1:A:760:LEU:HD13	2.00	0.44
1:A:159:LYS:HA	1:A:166:THR:HA	1.98	0.44
1:A:273:PHE:O	1:A:277:VAL:HG22	2.18	0.44
1:A:1350:VAL:O	1:A:1354:LEU:HD23	2.17	0.44
1:B:448:LEU:HD23	1:B:448:LEU:HA	1.87	0.44
1:A:1359:TYR:HA	1:A:1362:LEU:HG	1.99	0.44
1:B:48:GLU:HA	1:B:51:GLN:NE2	2.33	0.44
1:B:691:LYS:NZ	1:B:735:LEU:HA	2.33	0.43
1:B:1039:LEU:HB2	1:B:1130:LYS:CE	2.48	0.43
1:A:143:LEU:HD23	1:A:143:LEU:HA	1.86	0.43
1:A:368:ASP:O	1:A:371:GLU:HG3	2.18	0.43
1:A:1178:LEU:HD23	1:A:1178:LEU:HA	1.84	0.43
1:A:1270:LEU:HD23	1:A:1270:LEU:HA	1.83	0.43
1:B:650:LEU:O	1:B:654:ILE:HG22	2.18	0.43
1:A:1244:ILE:HG12	1:A:1293:ARG:HH12	1.83	0.43
1:B:333:SER:HB2	1:B:388:ILE:HG13	2.00	0.43
1:A:779:CYS:O	1:A:782:VAL:HG12	2.18	0.43
1:A:1124:LEU:HD23	1:A:1124:LEU:HA	1.86	0.43
1:A:1165:LEU:HD12	1:A:1165:LEU:HA	1.87	0.43
1:B:1278:LEU:HD23	1:B:1278:LEU:HA	1.89	0.43
1:A:415:LEU:HD11	1:A:484:LEU:HD21	2.00	0.43
1:A:545:ALA:HB2	1:A:647:PHE:HB2	2.01	0.43
1:A:834:VAL:O	1:A:838:GLN:HG3	2.19	0.43
1:B:114:ARG:HA	1:B:114:ARG:HD3	1.82	0.43
1:B:1083:VAL:O	1:B:1087:VAL:HG22	2.19	0.43
1:A:269:TYR:HE2	1:A:302:LEU:HD11	1.82	0.43
1:A:318:LEU:HA	1:A:325:ARG:NH2	2.33	0.43
1:A:1091:GLU:OE2	1:A:1157:ASN:HB3	2.18	0.43
1:A:1273:LEU:HD23	1:A:1273:LEU:HA	1.86	0.43
1:B:1391:SER:HA	1:B:1394:ARG:HB3	2.00	0.43
1:A:1051:VAL:O	1:A:1055:LYS:HG2	2.19	0.43
1:B:832:LEU:O	1:B:836:ILE:HG12	2.18	0.43
1:B:1181:PHE:CZ	1:B:1226:VAL:HG12	2.53	0.43
1:A:299:PHE:HB3	1:A:373:ASP:CG	2.44	0.43
1:A:1357:GLY:O	1:A:1361:ILE:HG23	2.19	0.43
1:B:910:GLY:HA2	1:B:934:CYS:N	2.31	0.43
1:A:273:PHE:CZ	1:A:334:LEU:HB3	2.54	0.42
1:B:108:ILE:CD1	1:B:136:LEU:HD23	2.45	0.42
1:A:690:ILE:HD11	1:A:714:ASN:HD21	1.82	0.42
1:A:962:LYS:HB3	1:A:965:GLU:OE1	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1116:PRO:HD3	1:A:1172:PHE:CE1	2.54	0.42
1:A:1377:LEU:O	1:A:1381:LEU:HD22	2.18	0.42
1:B:1241:PHE:HE2	1:B:1269:HIS:CD2	2.37	0.42
1:B:779:CYS:O	1:B:782:VAL:HG12	2.19	0.42
1:B:833:PHE:CE1	1:B:862:PHE:HB2	2.54	0.42
1:B:913:GLU:CD	1:B:913:GLU:H	2.27	0.42
1:B:1227:GLN:O	1:B:1231:GLU:HG2	2.19	0.42
1:B:1339:GLY:HA2	1:B:1340:PRO:HD3	1.85	0.42
1:B:1135:LEU:HD21	1:B:1301:TRP:HD1	1.85	0.42
1:A:795:LEU:HD12	1:A:840:LEU:HD13	2.01	0.42
1:B:1032:GLU:O	1:B:1036:LEU:HD23	2.19	0.42
1:B:1036:LEU:HA	1:B:1039:LEU:HD23	2.01	0.42
1:A:53:VAL:HG11	1:A:99:SER:HB2	2.02	0.42
1:B:296:ARG:HG2	1:B:297:ASN:H	1.83	0.42
1:A:887:PRO:HA	1:A:888:PRO:HD3	1.92	0.42
1:A:1394:ARG:HA	1:A:1397:MET:HB3	2.02	0.42
1:B:484:LEU:HD12	1:B:484:LEU:HA	1.83	0.42
1:B:1357:GLY:O	1:B:1361:ILE:HG23	2.20	0.42
1:A:273:PHE:CE2	1:A:334:LEU:HB3	2.55	0.42
1:A:791:LYS:HD3	1:A:836:ILE:HD12	2.02	0.42
1:A:1087:VAL:O	1:A:1091:GLU:HB2	2.19	0.42
1:B:329:VAL:HG13	1:B:388:ILE:HD12	2.02	0.42
1:A:911:PHE:CE1	1:A:934:CYS:HB2	2.54	0.42
1:A:1122:TYR:HB3	1:A:1269:HIS:ND1	2.35	0.42
1:B:368:ASP:O	1:B:371:GLU:HG3	2.20	0.42
1:A:418:LEU:HD23	1:A:418:LEU:HA	1.90	0.42
1:A:874:VAL:HG12	1:A:878:GLU:OE1	2.19	0.42
1:A:1431:PHE:O	1:A:1434:LEU:HD12	2.20	0.42
1:A:806:LEU:HD12	1:A:806:LEU:HA	1.73	0.41
1:A:910:GLY:HA2	1:A:933:TYR:HA	2.02	0.41
1:B:269:TYR:HE2	1:B:302:LEU:HD11	1.85	0.41
1:B:1007:TRP:CZ2	1:B:1040:ARG:HD3	2.55	0.41
1:A:728:GLN:O	1:A:732:LEU:HG	2.21	0.41
1:A:1410:ILE:H	1:A:1410:ILE:HG13	1.69	0.41
1:B:718:VAL:HA	1:B:723:GLN:NE2	2.35	0.41
1:B:1254:ASP:C	1:B:1254:ASP:OD1	2.63	0.41
1:A:96:GLN:HG2	1:A:97:LEU:HD22	2.02	0.41
1:A:1308:PRO:HB2	1:A:1312:ARG:HH21	1.85	0.41
1:A:202:ASN:HB2	1:A:203:PRO:CA	2.50	0.41
1:A:1214:LEU:HD11	1:A:1383:TYR:CE2	2.55	0.41
1:A:263:LEU:HD12	1:A:266:PHE:CD2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1388:LEU:CD2	1:A:1397:MET:HG2	2.51	0.41
1:B:422:LEU:HD23	1:B:422:LEU:HA	1.88	0.41
1:B:1192:LYS:O	1:B:1196:GLN:HG3	2.20	0.41
1:A:1309:GLN:NE2	1:A:1312:ARG:HH22	2.17	0.41
1:B:73:PHE:CE2	1:B:161:PRO:HD3	2.56	0.41
1:B:105:LYS:HE2	1:B:250:LEU:HD21	2.03	0.41
1:B:921:HIS:CE1	1:B:1274:CYS:HB2	2.55	0.41
1:B:1060:LYS:O	1:B:1061:GLN:HG2	2.21	0.41
1:A:301:SER:O	1:A:304:ILE:HG22	2.21	0.41
1:B:70:TYR:CE1	1:B:159:LYS:HE3	2.55	0.41
1:B:313:LEU:HD21	1:B:332:LEU:HD21	2.02	0.41
1:B:1158:LEU:HD12	1:B:1158:LEU:HA	1.86	0.41
1:A:82:THR:HG23	1:A:107:LEU:HD22	2.03	0.41
1:A:1434:LEU:HD12	1:A:1435:PHE:N	2.36	0.41
1:B:966:LEU:HD23	1:B:970:LEU:HD13	2.03	0.41
1:A:98:GLN:HB2	1:A:195:ASN:OD1	2.20	0.41
1:A:202:ASN:HB3	1:A:205:THR:OG1	2.21	0.41
1:A:822:THR:O	1:A:826:ARG:HG3	2.21	0.41
1:A:833:PHE:O	1:A:837:ILE:HG12	2.20	0.41
1:A:1308:PRO:HG2	1:A:1309:GLN:NE2	2.36	0.41
1:A:1313:THR:HG23	1:A:1314:LEU:HD23	2.03	0.41
1:B:49:LEU:O	1:B:53:VAL:HG23	2.21	0.41
1:B:82:THR:O	1:B:86:THR:HG23	2.21	0.41
1:B:105:LYS:HB2	1:B:246:SER:HB3	2.02	0.41
1:B:145:ARG:HA	1:B:148:ILE:CG1	2.50	0.41
1:B:146:THR:HA	1:B:149:ILE:HD11	2.02	0.41
1:B:858:LEU:HD23	1:B:858:LEU:HA	1.80	0.41
1:B:962:LYS:HB3	1:B:965:GLU:OE1	2.21	0.41
1:B:1210:LYS:HE2	1:B:1210:LYS:HB3	1.79	0.41
1:A:104:CYS:HA	1:A:107:LEU:HD12	2.02	0.41
1:A:996:ALA:HB1	1:A:1273:LEU:HB3	2.03	0.41
1:A:1136:ASP:HA	1:A:1301:TRP:CH2	2.56	0.41
1:A:48:GLU:HA	1:A:51:GLN:NE2	2.36	0.40
1:B:1295:THR:O	1:B:1299:ILE:HG22	2.20	0.40
1:B:1381:LEU:HA	1:B:1384:LEU:HG	2.03	0.40
1:B:82:THR:HG23	1:B:107:LEU:HD22	2.03	0.40
1:B:414:LEU:HD23	1:B:414:LEU:HA	1.80	0.40
1:B:1314:LEU:HD23	1:B:1314:LEU:O	2.20	0.40
1:A:909:HIS:O	1:A:934:CYS:HB3	2.22	0.40
1:A:1278:LEU:HD23	1:A:1278:LEU:HA	1.93	0.40
1:B:1039:LEU:HB2	1:B:1130:LYS:HE3	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:44:PHE:HB2	1:A:84:TYR:CD1	2.56	0.40
1:A:326:LEU:HD12	1:A:326:LEU:HA	1.87	0.40
1:B:1028:PRO:C	1:B:1029:GLU:HG2	2.46	0.40
1:B:1214:LEU:HB3	1:B:1218:LEU:HD13	2.03	0.40
1:A:1204:ILE:HG13	1:A:1357:GLY:HA3	2.02	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	1311/5193 (25%)	1265 (96%)	44 (3%)	2 (0%)	43	72
1	B	1311/5193 (25%)	1260 (96%)	49 (4%)	2 (0%)	43	72
All	All	2622/10386 (25%)	2525 (96%)	93 (4%)	4 (0%)	44	72

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	923	SER
1	B	923	SER
1	B	1223	PRO
1	A	1223	PRO

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	1036/4531 (23%)	1015 (98%)	21 (2%)	48	66
1	B	1036/4531 (23%)	1011 (98%)	25 (2%)	43	63
All	All	2072/9062 (23%)	2026 (98%)	46 (2%)	45	65

All (46) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	63	ILE
1	A	88	VAL
1	A	119	ASP
1	A	278	LEU
1	A	315	LEU
1	A	341	VAL
1	A	368	ASP
1	A	382	LEU
1	A	422	LEU
1	A	481	ILE
1	A	484	LEU
1	A	518	ILE
1	A	722	LEU
1	A	779	CYS
1	A	798	VAL
1	A	858	LEU
1	A	1006	LEU
1	A	1009	ILE
1	A	1052	ASN
1	A	1210	LYS
1	A	1284	LEU
1	B	49	LEU
1	B	73	PHE
1	B	88	VAL
1	B	143	LEU
1	B	194	LEU
1	B	259	VAL
1	B	341	VAL
1	B	368	ASP
1	B	481	ILE
1	B	757	LEU
1	B	798	VAL
1	B	929	HIS
1	B	951	VAL
1	B	970	LEU

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	1000	GLN
1	B	1026	ASN
1	B	1029	GLU
1	B	1051	VAL
1	B	1052	ASN
1	B	1059	ILE
1	B	1088	GLU
1	B	1118	LEU
1	B	1169	TYR
1	B	1270	LEU
1	B	1425	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (16) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	98	GLN
1	A	237	ASN
1	A	765	GLN
1	A	820	ASN
1	A	917	ASN
1	A	1227	GLN
1	A	1365	HIS
1	B	83	HIS
1	B	237	ASN
1	B	728	GLN
1	B	881	GLN
1	B	882	HIS
1	B	990	ASN
1	B	1164	GLN
1	B	1227	GLN
1	B	1266	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides 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.

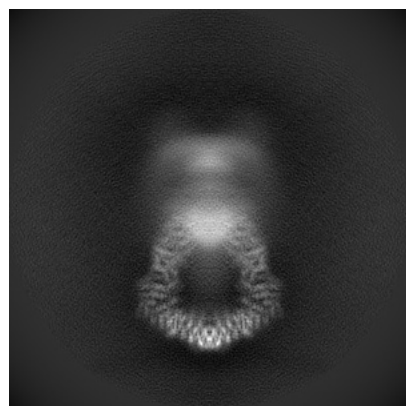
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-53430. These allow visual inspection of the internal detail of the map and identification of artifacts.

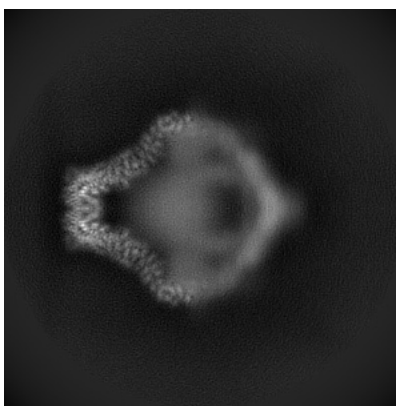
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

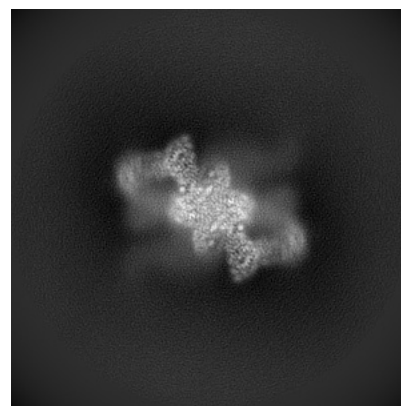
6.1.1 Primary map



X

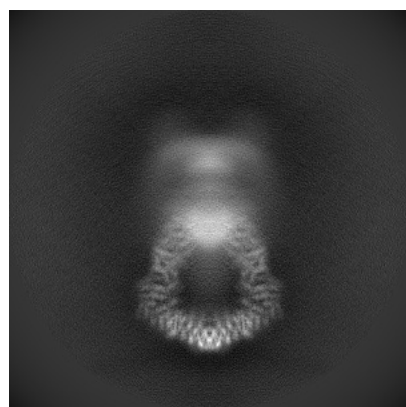


Y

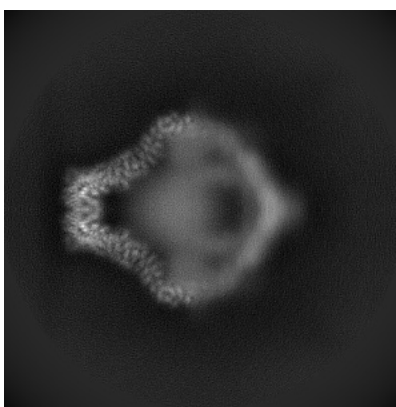


Z

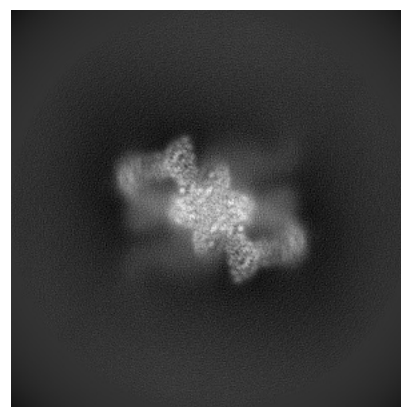
6.1.2 Raw map



X



Y

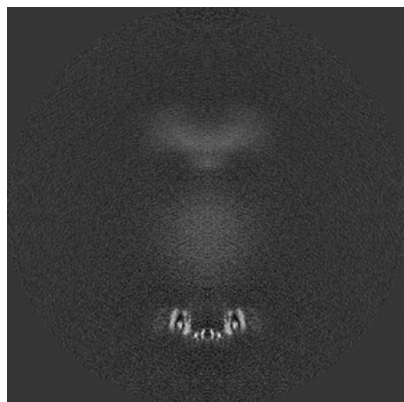


Z

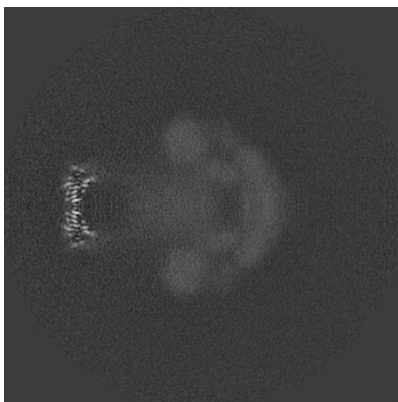
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

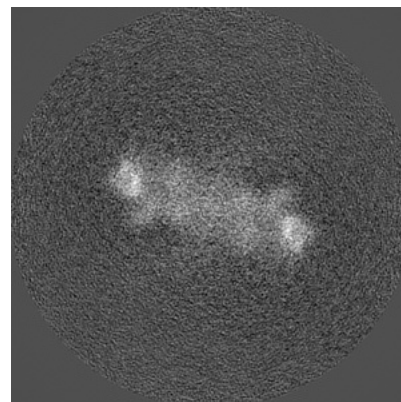
6.2.1 Primary map



X Index: 192

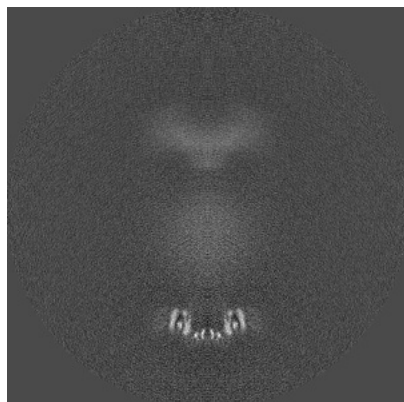


Y Index: 192

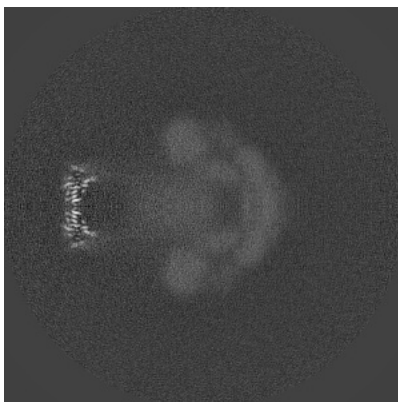


Z Index: 192

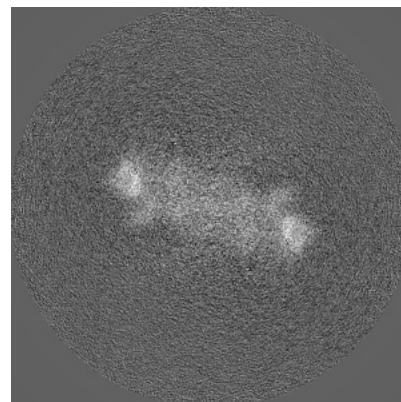
6.2.2 Raw map



X Index: 192



Y Index: 192

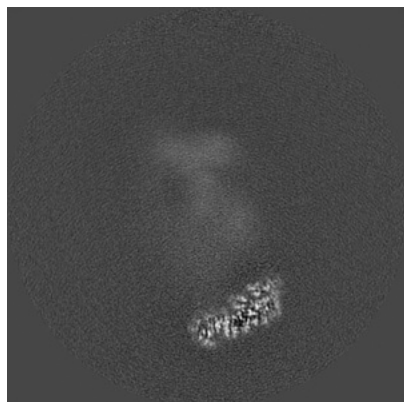


Z Index: 192

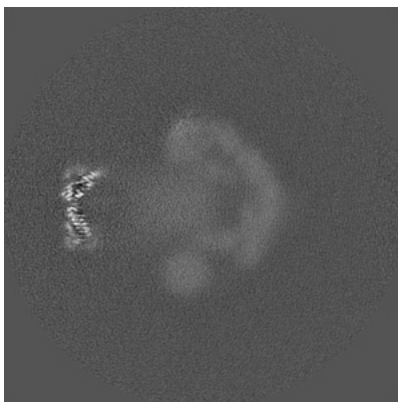
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

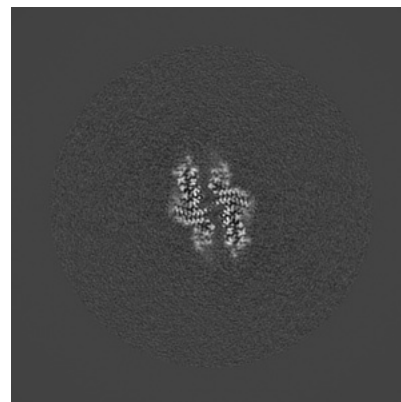
6.3.1 Primary map



X Index: 165



Y Index: 184

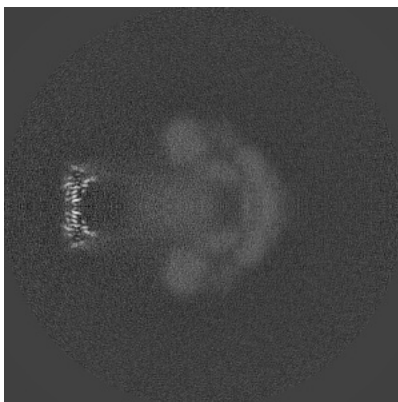


Z Index: 75

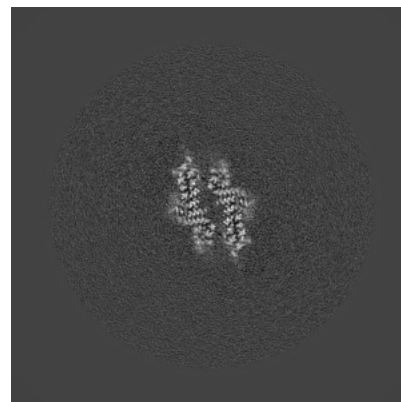
6.3.2 Raw map



X Index: 164



Y Index: 192

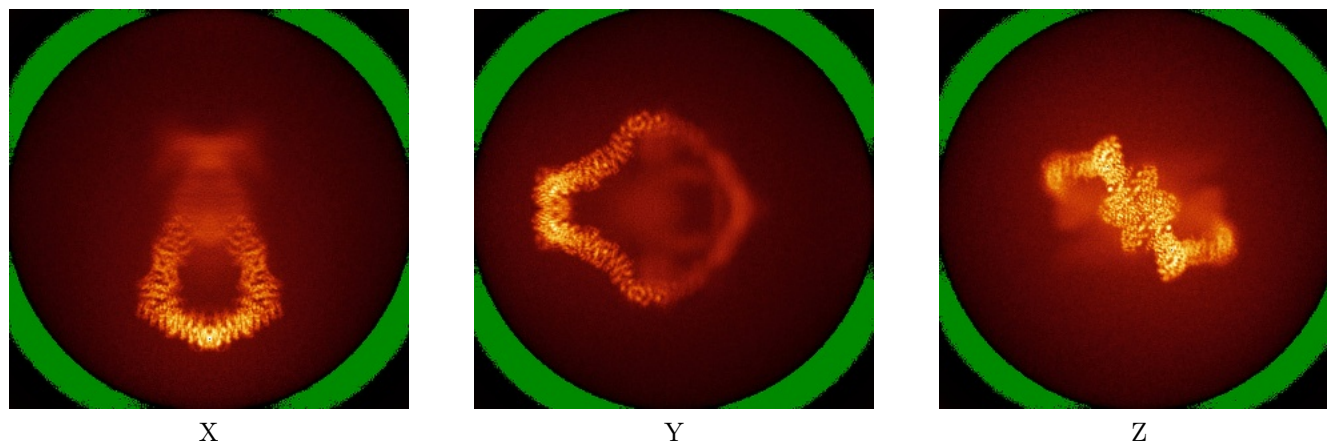


Z Index: 76

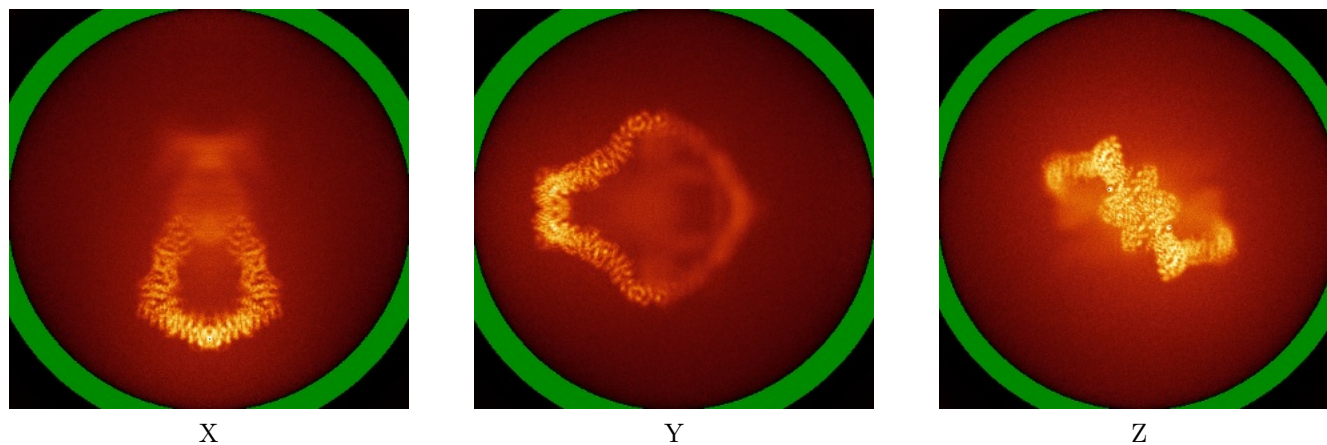
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map



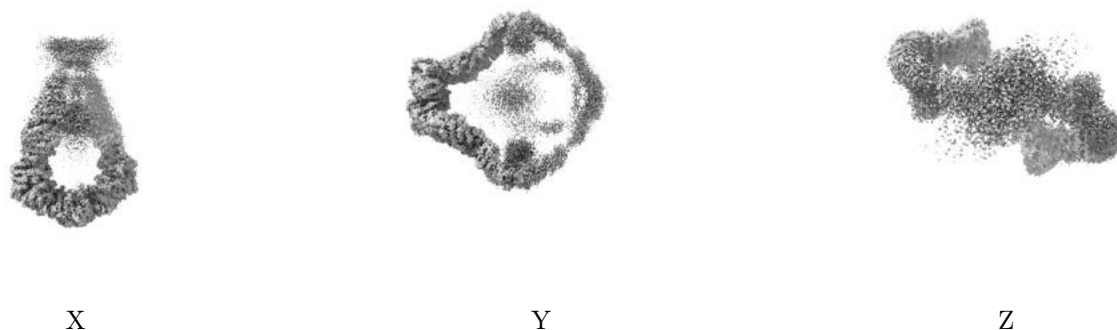
6.4.2 Raw map



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.

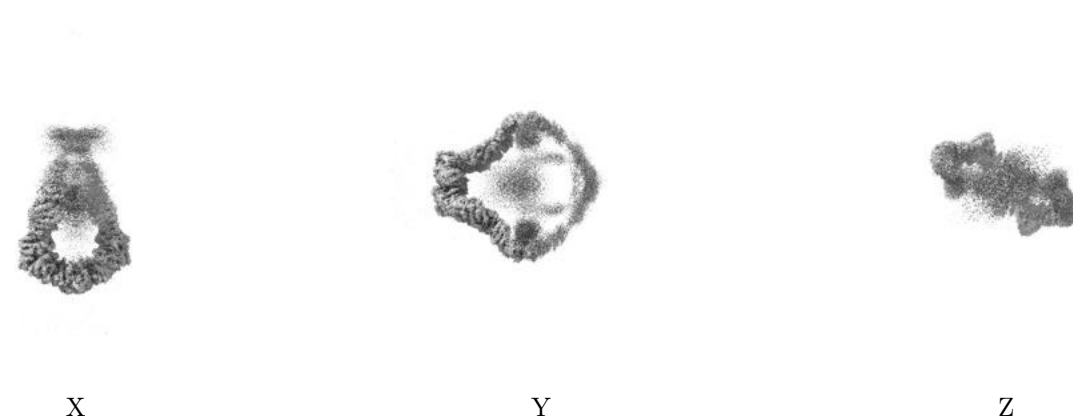
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.00397. 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 shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

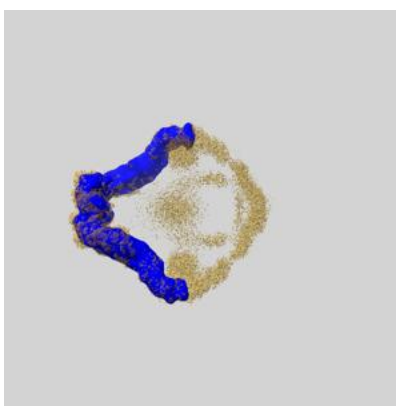
A mask typically either:

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

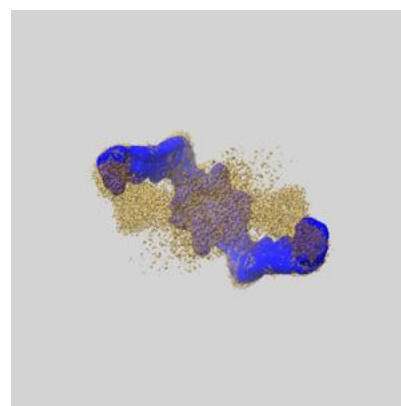
6.6.1 emd_53430_msk_1.map [i](#)



X



Y

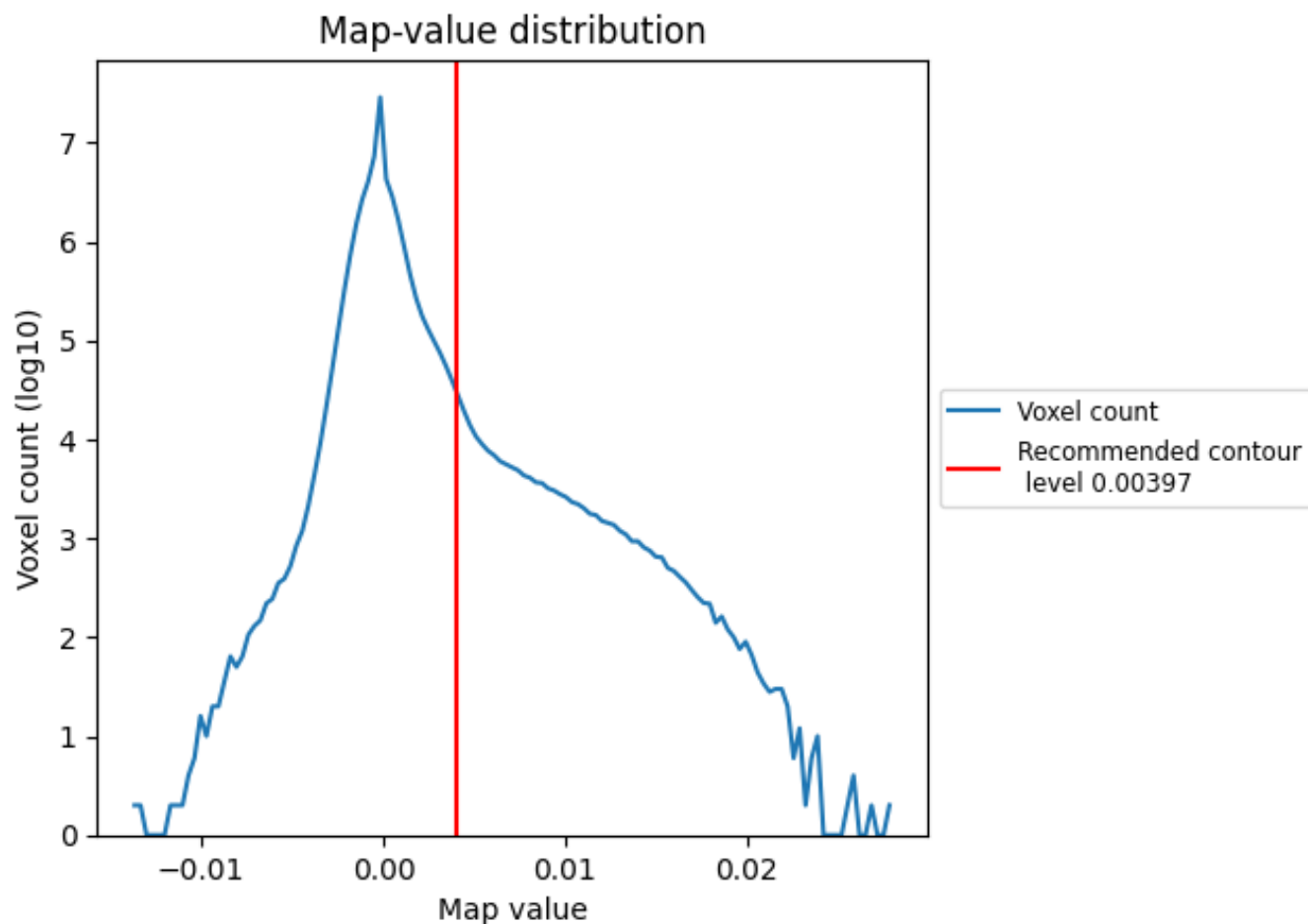


Z

7 Map analysis [i](#)

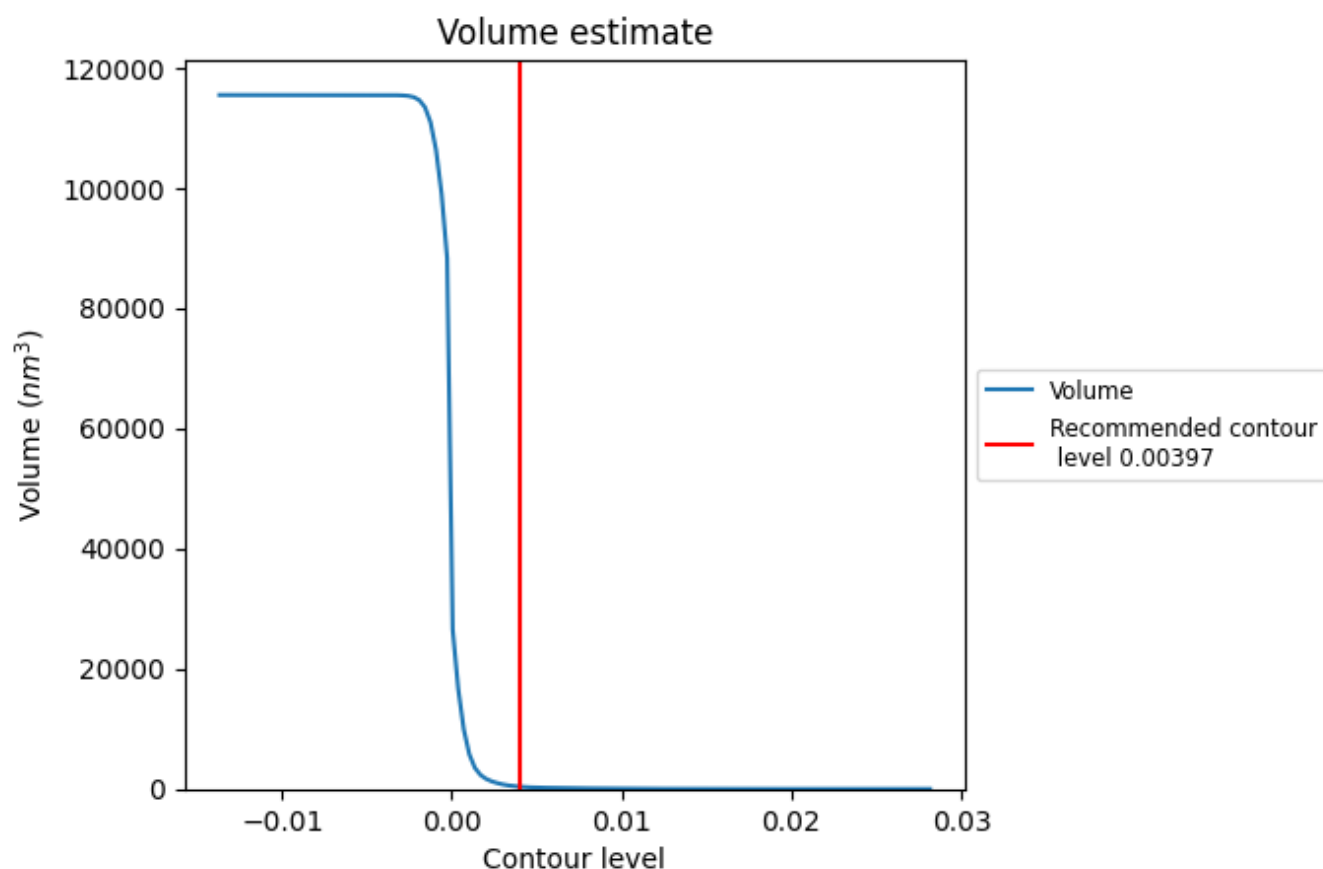
This section contains the results of statistical analysis of the map.

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.

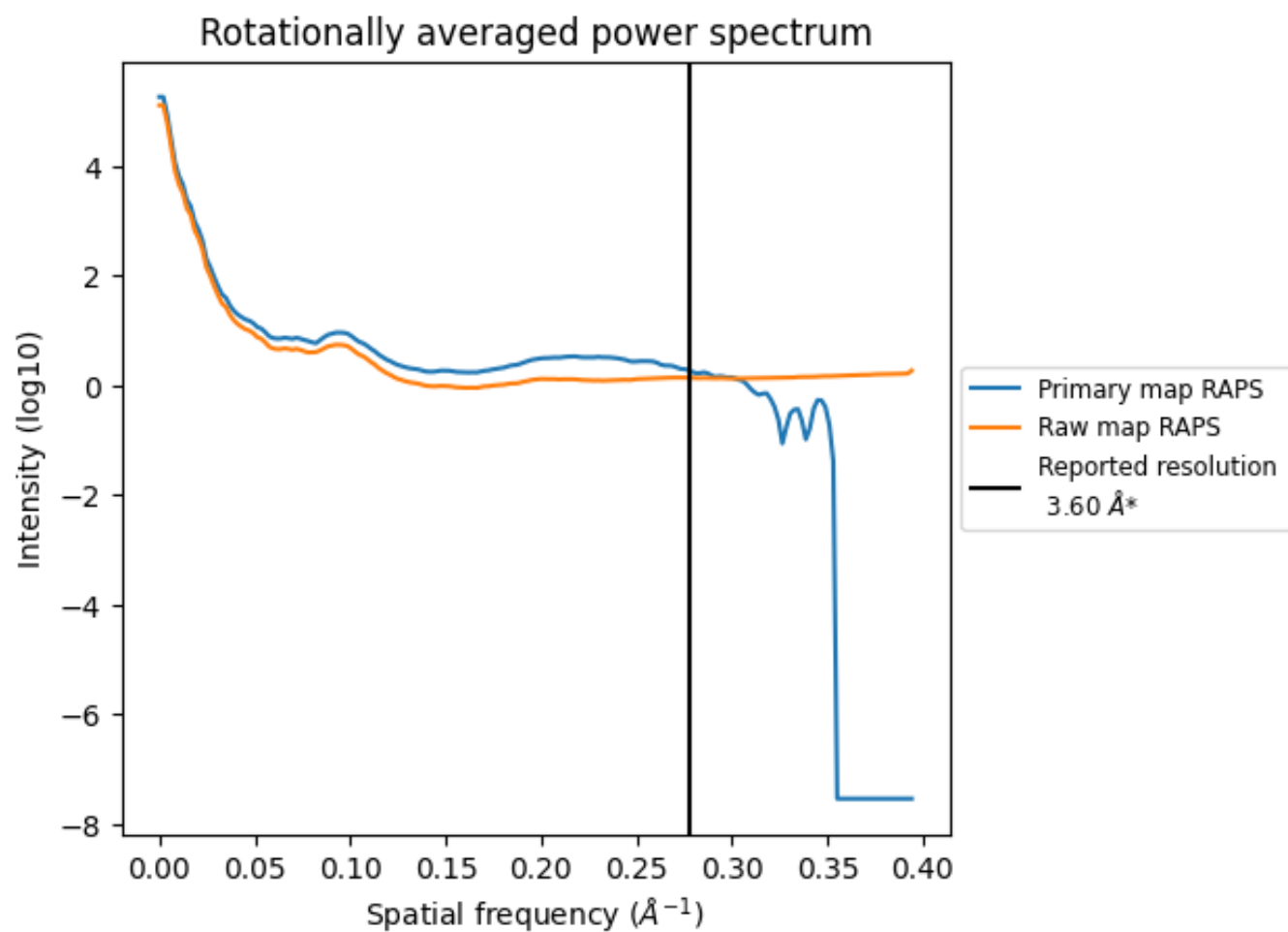
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 376 nm³; this corresponds to an approximate mass of 340 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum ⓘ

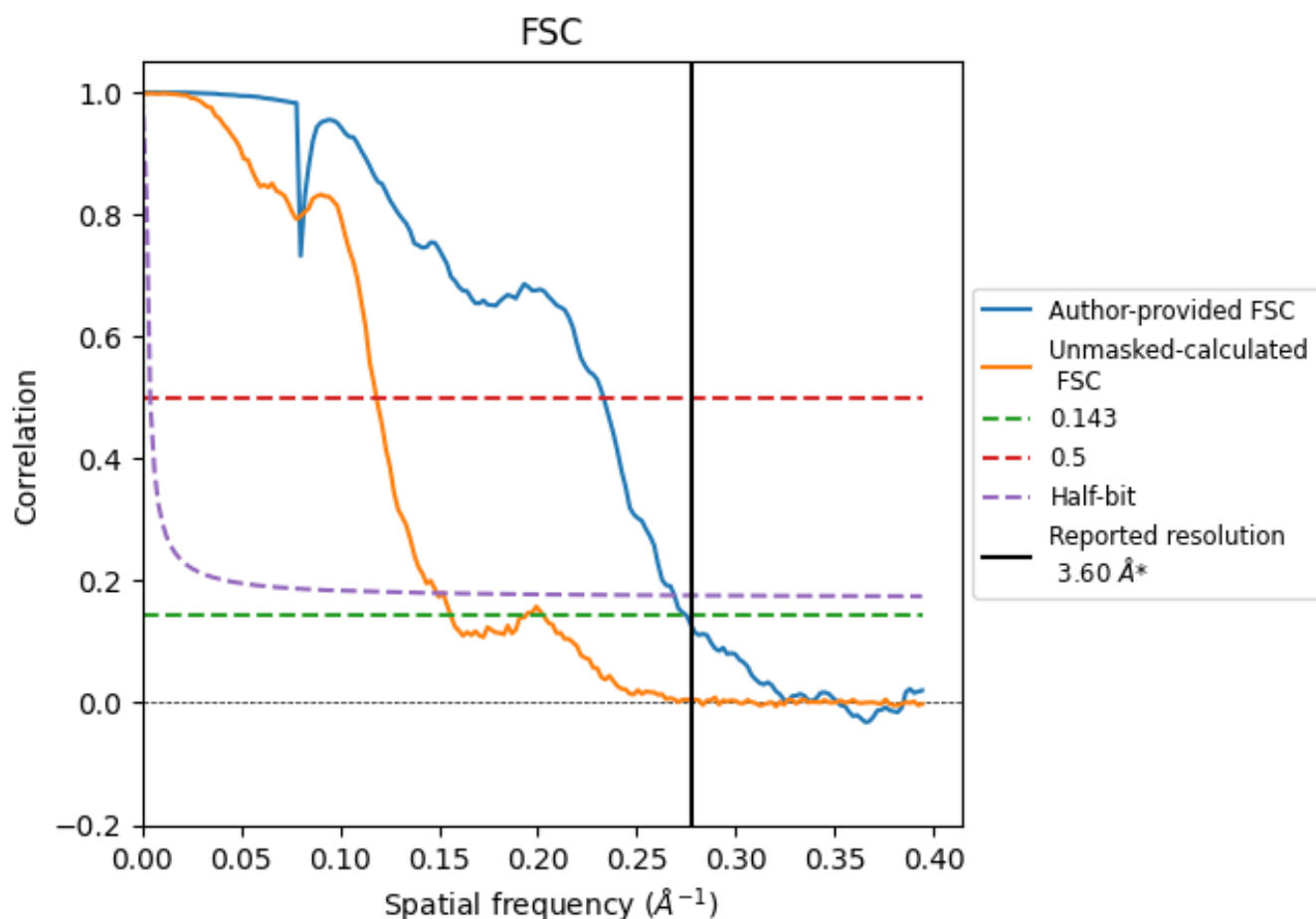


*Reported resolution corresponds to spatial frequency of $0.278 \text{ \AA}^{-1}$

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 0.278 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

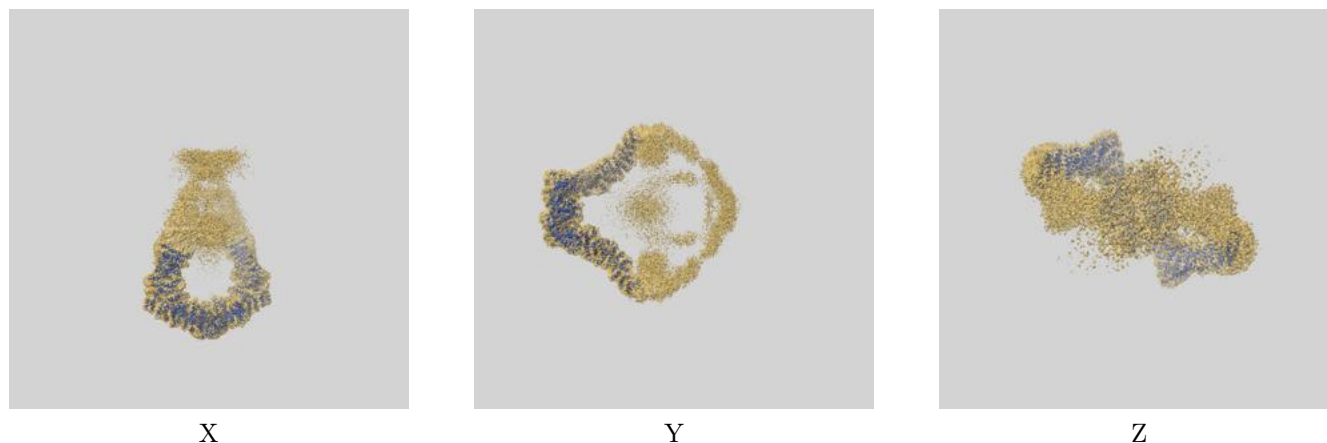
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.60	-	-
Author-provided FSC curve	3.63	4.29	3.72
Unmasked-calculated*	6.41	8.45	6.71

*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 6.41 differs from the reported value 3.6 by more than 10 %

9 Map-model fit [i](#)

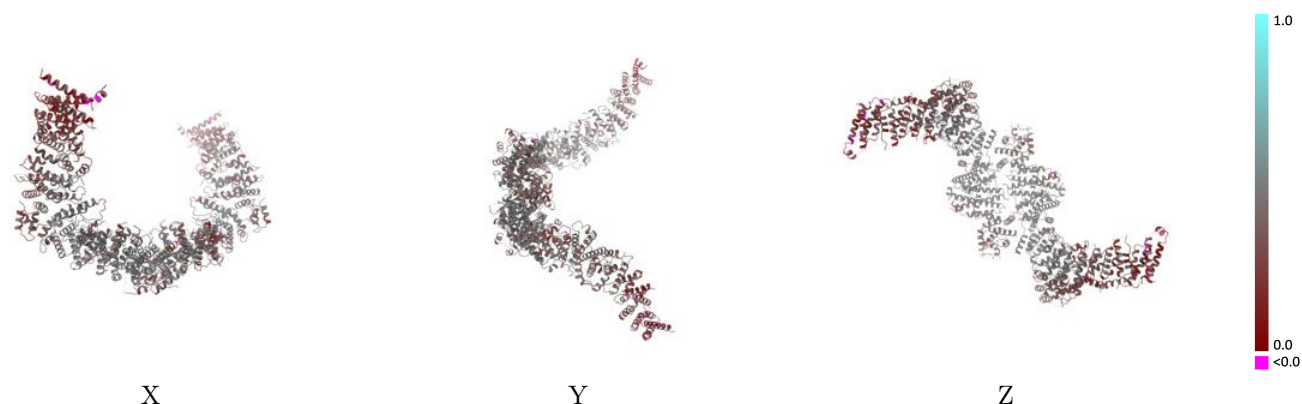
This section contains information regarding the fit between EMDB map EMD-53430 and PDB model 9QWX. Per-residue inclusion information can be found in [section 3](#) on [page 4](#).

9.1 Map-model overlay [i](#)



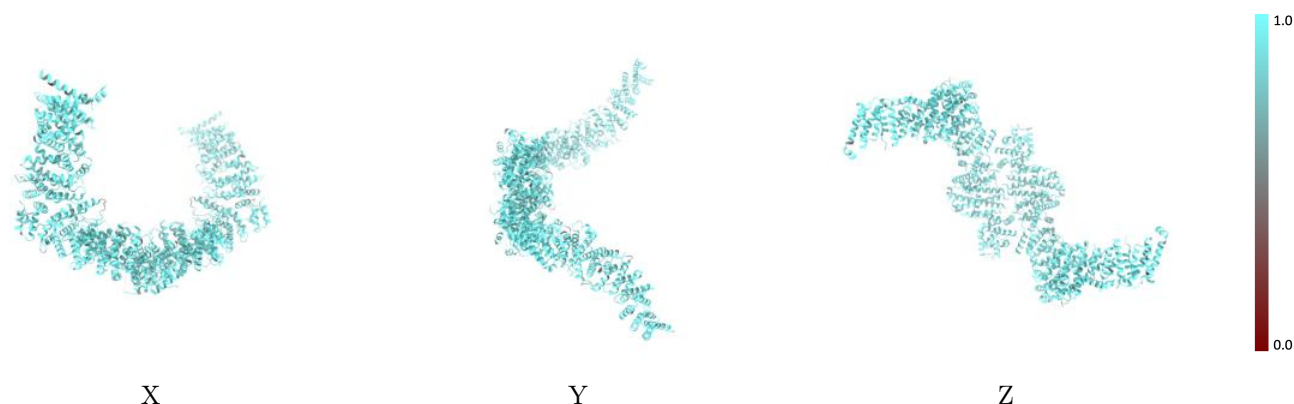
The images above show the 3D surface view of the map at the recommended contour level 0.00397 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



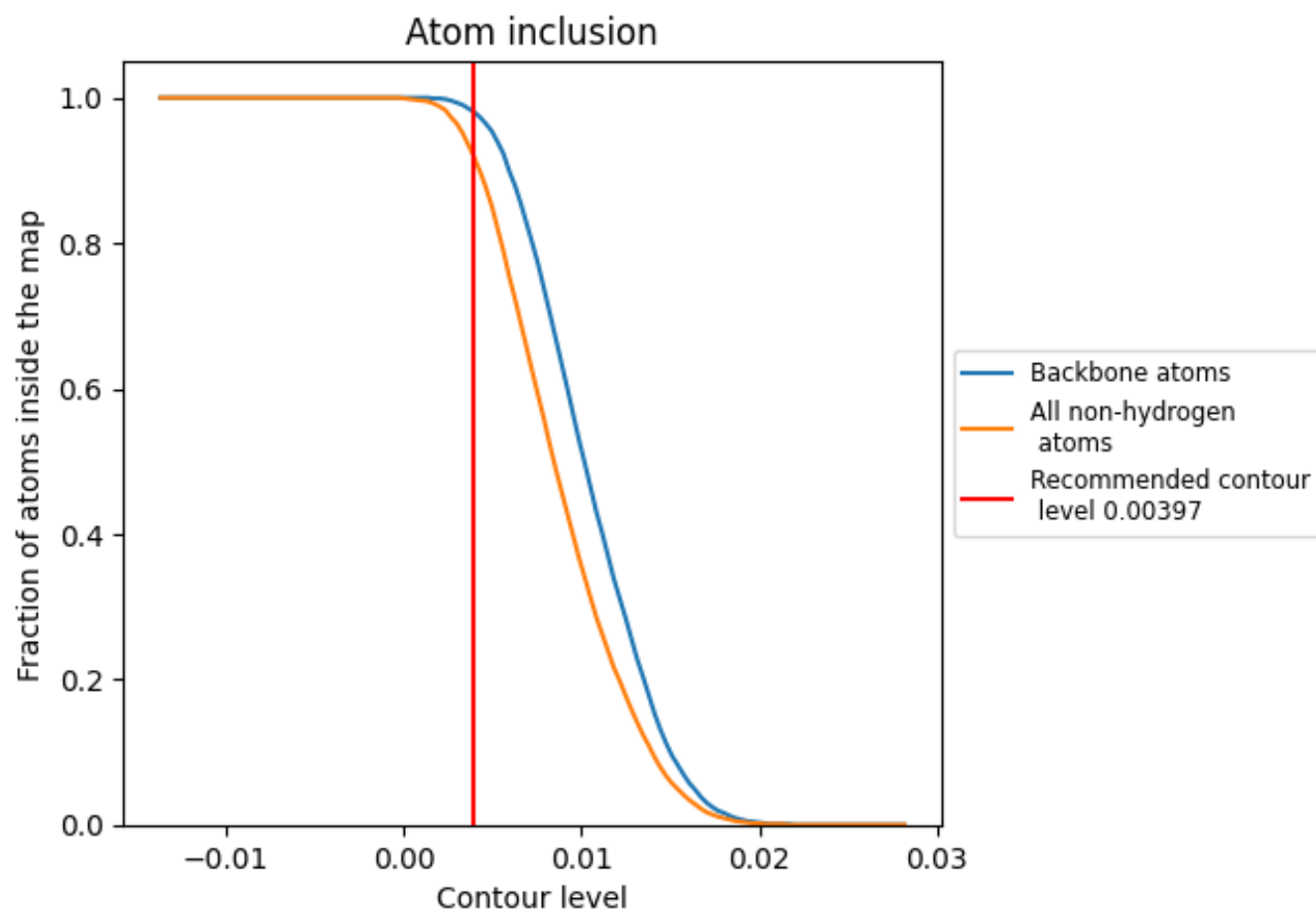
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.00397).

9.4 Atom inclusion [i](#)



At the recommended contour level, 98% of all backbone atoms, 92% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.00397) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9180	0.3960
A	0.9200	0.3980
B	0.9160	0.3950

