WORLDWIDE wwPDB PROTEIN DATA BANK

Full wwPDB EM Validation Report (i)

Feb 26, 2026 – 12:21 PM EST

PDB ID	:	9YZ4 / pdb_00009yz4
EMDB ID	:	EMD-73667
Title	:	Neisseria gonorrhoeae Transferrin Binding Protein A in complex with Transferrin Binding Protein B and transferrin (iron bound in N lobe only)
Authors	:	Dubey, S.; Noinaj, N.
Deposited on	:	2025-10-29
Resolution	:	4.26 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 (i) 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 (i)) were used in the production of this report:

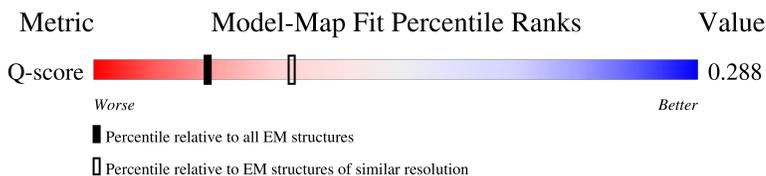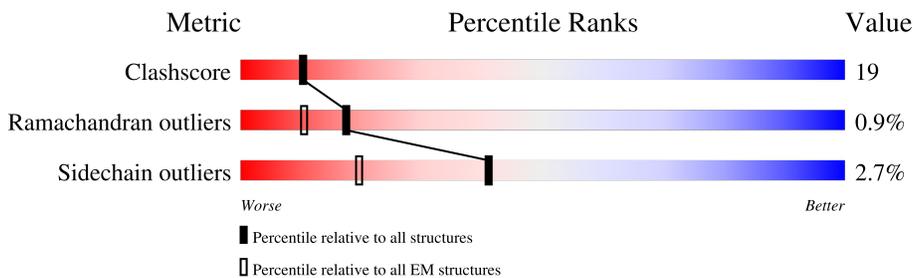|		
EMDB validation analysis	:	0.0.1.dev132
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive 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)	:	2.48.1

1　Overall quality at a glance ⓘ

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 4.26 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	Percentile Ranks	Value
Clashscore		19
Ramachandran outliers		0.9%
Sidechain outliers		2.7%

Worse　　　　　　*Better*

▮ Percentile relative to all structures
▯ Percentile relative to all EM structures

Metric	Model-Map Fit Percentile Ranks	Value
Q-score		0.288

Worse　　　　　　*Better*

▮ Percentile relative to all EM structures
▯ Percentile relative to EM structures of similar resolution

Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
Q-score	-	25397	4601 (3.76 - 4.76)

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 <=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	F	698	6% — 55% — 42% ·
2	A	910	· — 69% — 26% ·
3	B	693	17% — 46% — 26% · · 24%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard

residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
4	BCT	F	701	-	-	X	-

2 Entry composition ⓘ

There are 5 unique types of molecules in this entry. The entry contains 16166 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 Transferrin.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	F	675	Total 5176	C 3256	N 896	O 977	S 47	1	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
F	429	VAL	ILE	conflict	UNP P02787

- Molecule 2 is a protein called Transferrin-binding protein A.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	A	870	Total 6869	C 4289	N 1264	O 1305	S 11	0	0

There are 19 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	6	HIS	-	expression tag	UNP Q01996
A	7	HIS	-	expression tag	UNP Q01996
A	8	HIS	-	expression tag	UNP Q01996
A	9	HIS	-	expression tag	UNP Q01996
A	10	HIS	-	expression tag	UNP Q01996
A	11	HIS	-	expression tag	UNP Q01996
A	12	HIS	-	expression tag	UNP Q01996
A	13	HIS	-	expression tag	UNP Q01996
A	14	HIS	-	expression tag	UNP Q01996
A	15	HIS	-	expression tag	UNP Q01996
A	16	GLU	-	expression tag	UNP Q01996
A	17	ASN	-	expression tag	UNP Q01996
A	18	LEU	-	expression tag	UNP Q01996
A	19	TYR	-	expression tag	UNP Q01996
A	20	PHE	-	expression tag	UNP Q01996
A	21	GLN	-	expression tag	UNP Q01996

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Chain	Residue	Modelled	Actual	Comment	Reference
A	22	GLY	-	expression tag	UNP Q01996
A	23	ALA	-	expression tag	UNP Q01996
A	24	MET	-	expression tag	UNP Q01996

- Molecule 3 is a protein called Transferrin-binding protein B.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	B	529	4116	2579	700	831	6	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	20	MET	-	initiating methionine	UNP Q9JPI9

- Molecule 4 is BICARBONATE ION (CCD ID: BCT) (formula: CHO_3) (labeled as "Ligand of Interest" by depositor).
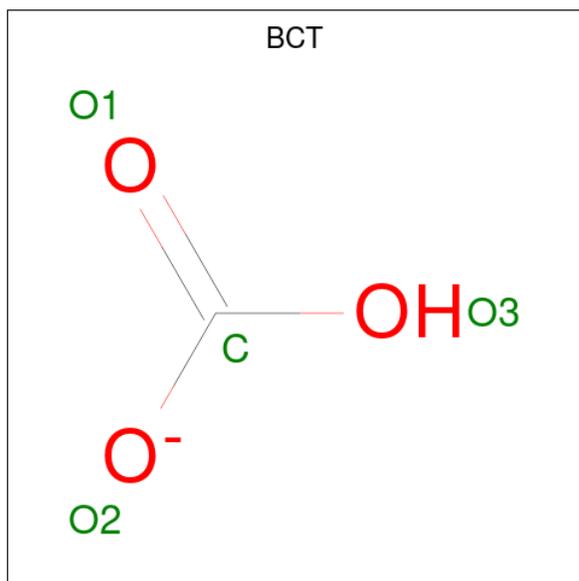
| Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
4	F	1	4	1	3	0

- Molecule 5 is FE (III) ION (CCD ID: FE) (formula: Fe) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
5	F	1	Total 1	Fe 1	0

# 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: Transferrin
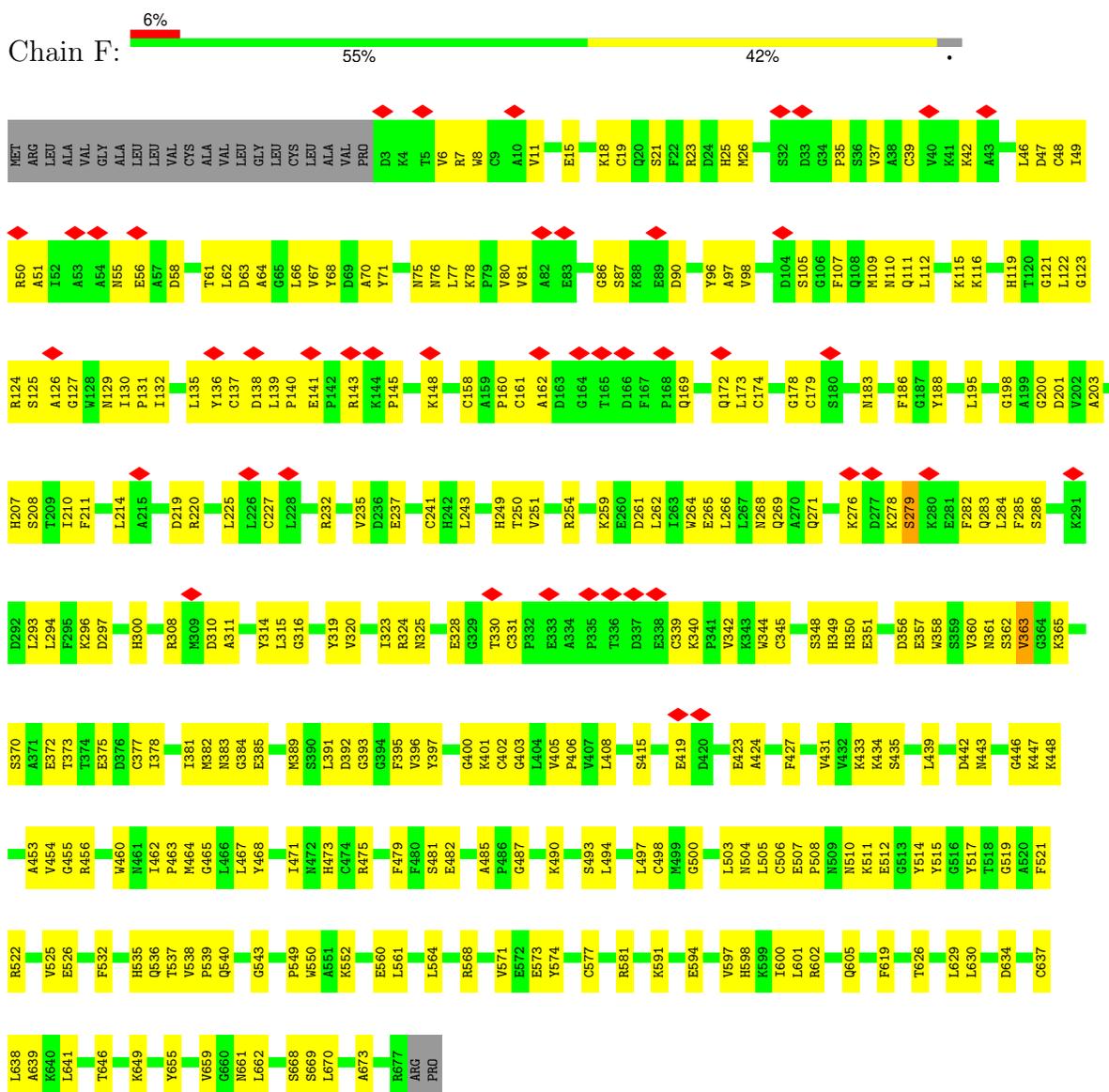
• Molecule 2: Transferrin-binding protein A

Chain A:

• Molecule 3: Transferrin-binding protein B

Chain B:
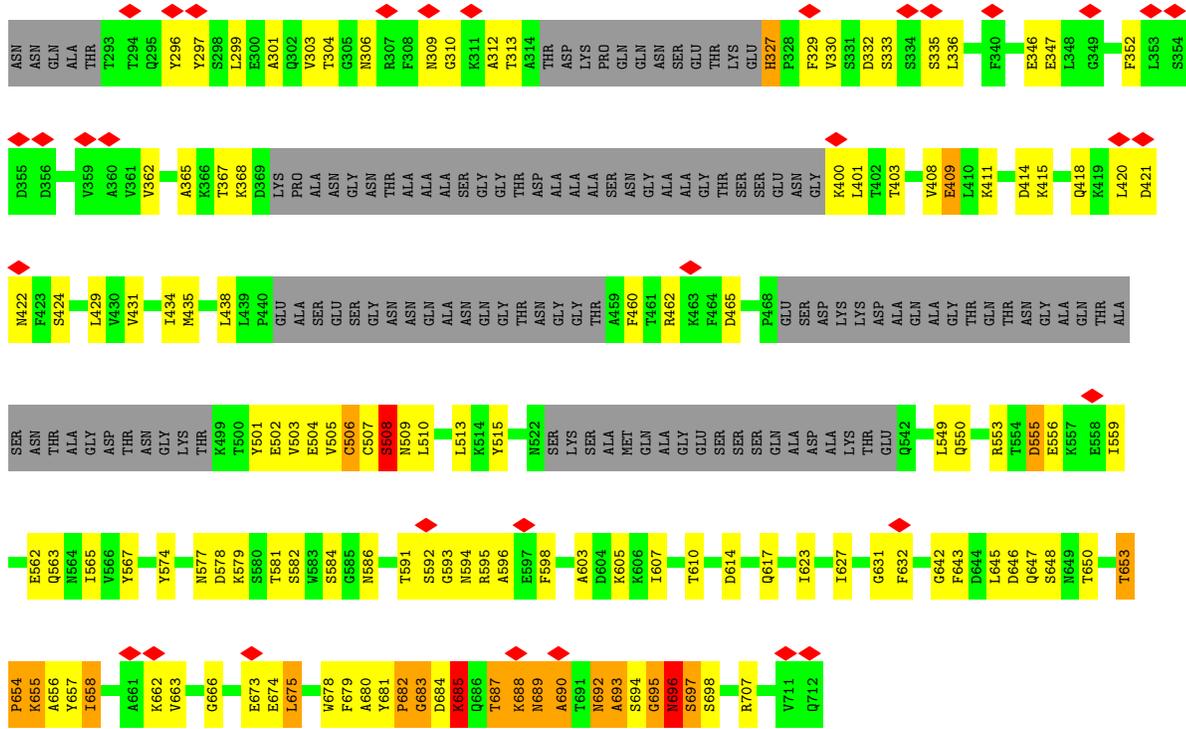
4 Experimental information ⓘ

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	30000	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 $(e^-/\text{Å}^2)$	53.52	Depositor
Minimum defocus (nm)	700	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.457	Depositor
Minimum map value	-0.230	Depositor
Average map value	0.004	Depositor
Map value standard deviation	0.022	Depositor
Recommended contour level	0.11	Depositor
Map size (Å)	275.968, 275.968, 275.968	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.078, 1.078, 1.078	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: BCT, FE

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	F	0.15	0/5294	0.43	2/7164 (0.0%)
2	A	0.15	0/7020	0.41	0/9478
3	B	0.22	0/4200	0.44	3/5657 (0.1%)
All	All	0.17	0/16514	0.43	5/22299 (0.0%)

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
3	B	0	2

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	F	279	SER	CA-C-N	7.15	134.57	121.70
1	F	279	SER	C-N-CA	7.15	134.57	121.70
3	B	682	PRO	N-CA-C	-6.57	100.05	112.33
3	B	695	GLY	N-CA-C	-5.26	105.80	113.48
3	B	683	GLY	N-CA-C	-5.02	101.28	113.18

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	B	506	CYS	Peptide
3	B	690	ALA	Peptide

5.2 Too-close contacts ⓘ

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	F	5176	0	4938	252	0
2	A	6869	0	6669	211	0
3	B	4116	0	3896	215	0
4	F	4	0	0	2	0
5	F	1	0	0	0	0
All	All	16166	0	15503	593	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 19.

All (593) 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)
2:A:873:ARG:H	3:B:23:GLY:N	1.06	1.51
2:A:873:ARG:N	3:B:23:GLY:N	1.66	1.41
2:A:872:HIS:HA	3:B:23:GLY:N	1.37	1.33
2:A:365:ARG:NH2	2:A:524:TYR:CD2	1.93	1.33
1:F:370:SER:OG	3:B:617:GLN:HG2	1.06	1.24
2:A:872:HIS:CA	3:B:23:GLY:N	2.03	1.22
2:A:843:ARG:NE	3:B:29:ASP:OD2	1.76	1.17
1:F:370:SER:OG	3:B:617:GLN:CG	1.92	1.16
3:B:682:PRO:HD2	3:B:684:ASP:HB2	1.32	1.11
1:F:503:LEU:HD11	3:B:574:TYR:OH	1.49	1.11
1:F:503:LEU:HD11	3:B:574:TYR:CZ	1.89	1.07
1:F:507:GLU:CD	3:B:582:SER:OG	1.96	1.07
2:A:872:HIS:C	3:B:23:GLY:N	2.12	1.06
2:A:365:ARG:NH2	2:A:524:TYR:HD2	1.39	1.01
2:A:843:ARG:CD	3:B:29:ASP:OD2	2.09	1.00
1:F:370:SER:CB	3:B:617:GLN:HG2	1.98	0.93
2:A:106:LYS:HD2	2:A:107:ASN:H	1.32	0.92
2:A:840:ARG:HH12	3:B:32:SER:HA	1.35	0.91
1:F:503:LEU:HG	3:B:574:TYR:CE1	2.05	0.91
2:A:843:ARG:HD2	3:B:29:ASP:OD2	1.72	0.89
1:F:370:SER:HG	3:B:617:GLN:HG2	1.40	0.87
1:F:365:LYS:HZ1	2:A:719:VAL:H	1.20	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:815:ALA:HB2	2:A:844:PRO:HD3	1.57	0.85
1:F:507:GLU:CD	3:B:582:SER:HG	1.75	0.85
2:A:834:ASN:HB3	3:B:35:THR:O	1.78	0.84
2:A:365:ARG:NH2	2:A:524:TYR:CE2	2.46	0.84
1:F:372:GLU:O	3:B:647:GLN:HG2	1.78	0.83
1:F:507:GLU:OE2	3:B:582:SER:OG	1.91	0.81
2:A:639:ASP:HB2	2:A:683:VAL:HB	1.62	0.79
1:F:419:GLU:OE2	1:F:602:ARG:NH1	2.16	0.79
2:A:77:ARG:HA	2:A:88:VAL:HG21	1.64	0.79
1:F:361:ASN:HA	2:A:827:LEU:HD11	1.65	0.79
2:A:843:ARG:HH22	3:B:30:LEU:HA	1.46	0.78
1:F:8:TRP:HE1	1:F:294:LEU:HD13	1.49	0.78
3:B:161:TYR:HD2	3:B:181:ASP:HA	1.48	0.78
2:A:522:ARG:HD3	2:A:551:ILE:HG23	1.66	0.78
3:B:116:ASP:HB2	3:B:163:HIS:HD2	1.49	0.77
1:F:503:LEU:CG	3:B:574:TYR:CE1	2.67	0.77
3:B:642:GLY:HA3	3:B:655:LYS:HD2	1.66	0.77
1:F:503:LEU:CD1	3:B:574:TYR:CZ	2.68	0.77
2:A:873:ARG:HG2	3:B:23:GLY:HA2	1.67	0.76
1:F:503:LEU:CD1	3:B:574:TYR:OH	2.32	0.75
1:F:391:LEU:HD13	1:F:395:PHE:HB3	1.68	0.75
3:B:108:ILE:HD11	3:B:183:GLY:HA2	1.68	0.75
1:F:365:LYS:HE2	2:A:719:VAL:HB	1.70	0.74
2:A:101:ILE:HD11	2:A:155:LYS:HG2	1.69	0.73
3:B:162:LYS:H	3:B:182:ASP:H	1.34	0.73
1:F:183:ASN:HB3	1:F:186:PHE:HB2	1.70	0.73
1:F:507:GLU:OE1	3:B:582:SER:N	2.16	0.72
1:F:646:THR:H	1:F:649:LYS:HZ3	1.36	0.72
2:A:834:ASN:CB	3:B:35:THR:O	2.38	0.72
2:A:840:ARG:NH1	3:B:32:SER:HA	2.05	0.71
2:A:669:LYS:NZ	2:A:671:ASP:OD1	2.21	0.71
1:F:15:GLU:HG3	1:F:293:LEU:HB3	1.71	0.71
3:B:646:ASP:H	3:B:654:PRO:HG2	1.54	0.71
3:B:682:PRO:HA	3:B:698:SER:HA	1.73	0.70
1:F:540:GLN:HG3	2:A:359:LYS:HA	1.74	0.70
3:B:164:ALA:O	3:B:181:ASP:OD2	2.09	0.70
3:B:279:LEU:HB2	3:B:297:TYR:HB2	1.73	0.69
1:F:431:VAL:HG11	1:F:538:VAL:HG21	1.75	0.68
1:F:490:LYS:NZ	1:F:505:LEU:O	2.25	0.68
1:F:434:LYS:NZ	2:A:540:ASN:O	2.27	0.68
2:A:425:TYR:HB3	2:A:485:LYS:HB2	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:507:CYS:HB2	3:B:510:LEU:HG	1.74	0.68
2:A:53:ASN:OD1	2:A:587:ARG:NH2	2.27	0.67
2:A:843:ARG:HH22	3:B:30:LEU:HD12	1.57	0.67
3:B:422:ASN:ND2	3:B:550:GLN:OE1	2.27	0.67
2:A:119:ILE:HB	2:A:435:ILE:HG21	1.77	0.67
3:B:185:ILE:HG13	3:B:211:ALA:HB2	1.77	0.67
1:F:125:SER:HA	1:F:129:ASN:HB2	1.77	0.66
2:A:786:ILE:O	2:A:816:LYS:NZ	2.29	0.66
3:B:681:TYR:HA	3:B:684:ASP:HB3	1.78	0.65
1:F:107:PHE:HB2	1:F:111:GLN:HB2	1.79	0.65
1:F:503:LEU:HD21	3:B:574:TYR:CE1	2.32	0.65
3:B:313:THR:HA	3:B:332:ASP:HB2	1.78	0.65
1:F:344:TRP:HE1	1:F:630:LEU:HD22	1.60	0.65
1:F:455:GLY:H	1:F:460:TRP:CD1	2.14	0.65
1:F:503:LEU:HD21	3:B:574:TYR:CZ	2.31	0.65
1:F:564:LEU:N	1:F:577:CYS:SG	2.63	0.65
1:F:373:THR:HG23	3:B:647:GLN:O	1.96	0.64
1:F:131:PRO:HG2	1:F:132:ILE:HD12	1.79	0.64
3:B:591:THR:O	3:B:595:ARG:NH1	2.31	0.64
3:B:562:GLU:HB2	3:B:565:ILE:HD11	1.80	0.64
1:F:6:VAL:HG12	1:F:259:LYS:HE2	1.79	0.64
1:F:471:ILE:HG13	1:F:473:HIS:HD2	1.62	0.64
1:F:23:ARG:HG2	1:F:37:VAL:HG13	1.79	0.64
1:F:214:LEU:HD21	1:F:219:ASP:HB3	1.79	0.64
1:F:58:ASP:OD1	1:F:254:ARG:NH1	2.22	0.64
1:F:508:PRO:HG3	3:B:581:THR:HG21	1.78	0.64
2:A:310:ARG:NH2	2:A:335:GLN:OE1	2.27	0.63
3:B:327:HIS:CD2	3:B:329:PHE:HB2	2.32	0.63
3:B:695:GLY:O	3:B:696:ASN:C	2.41	0.63
3:B:682:PRO:C	3:B:684:ASP:H	2.04	0.63
2:A:285:LYS:NZ	2:A:286:ARG:O	2.32	0.63
2:A:397:VAL:HG13	2:A:441:PHE:HE2	1.63	0.63
1:F:503:LEU:CD2	3:B:574:TYR:CE1	2.81	0.63
3:B:696:ASN:O	3:B:697:SER:C	2.40	0.63
1:F:67:VAL:HG21	1:F:315:LEU:HD21	1.81	0.63
1:F:87:SER:OG	1:F:90:ASP:OD1	2.17	0.62
1:F:370:SER:OG	3:B:617:GLN:CB	2.47	0.62
1:F:507:GLU:CG	3:B:582:SER:OG	2.47	0.62
3:B:94:PRO:HG3	3:B:188:HIS:HD2	1.64	0.62
1:F:276:LYS:NZ	1:F:297:ASP:O	2.31	0.62
3:B:97:PRO:HD3	3:B:190:LYS:HD3	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:21:SER:O	1:F:25:HIS:ND1	2.33	0.62
3:B:673:GLU:HG3	3:B:674:GLU:HG3	1.82	0.62
3:B:682:PRO:C	3:B:684:ASP:N	2.50	0.61
2:A:745:ASN:ND2	2:A:751:LEU:O	2.24	0.61
2:A:872:HIS:HA	3:B:23:GLY:CA	2.27	0.61
1:F:415:SER:HA	2:A:384:GLU:HG3	1.83	0.61
1:F:42:LYS:HD3	1:F:47:ASP:HB2	1.83	0.61
1:F:456:ARG:NH1	3:B:648:SER:O	2.32	0.61
1:F:271:GLN:O	1:F:278:LYS:NZ	2.31	0.61
3:B:93:LEU:HD12	3:B:94:PRO:HD2	1.82	0.61
1:F:80:VAL:HG13	1:F:81:VAL:HG23	1.82	0.61
2:A:106:LYS:HD2	2:A:107:ASN:N	2.12	0.61
2:A:782:LEU:HD13	2:A:837:ALA:HB2	1.83	0.61
2:A:843:ARG:HH12	3:B:31:ASP:H	1.49	0.61
1:F:668:SER:OG	3:B:650:THR:O	2.18	0.61
2:A:50:ARG:HH21	2:A:60:LYS:H	1.49	0.60
1:F:81:VAL:HB	1:F:251:VAL:HB	1.83	0.60
1:F:382:MET:HE1	1:F:402:CYS:SG	2.42	0.60
1:F:503:LEU:HD21	3:B:574:TYR:CE2	2.37	0.60
1:F:105:SER:OG	1:F:232:ARG:NH2	2.33	0.60
1:F:448:LYS:HD3	1:F:497:LEU:HD11	1.84	0.60
3:B:336:LEU:HA	3:B:352:PHE:HB3	1.83	0.60
1:F:473:HIS:HB2	1:F:475:ARG:HH21	1.67	0.59
3:B:297:TYR:CE2	3:B:329:PHE:HB3	2.37	0.59
1:F:358:TRP:O	1:F:362:SER:HB3	2.02	0.59
1:F:503:LEU:HD21	3:B:574:TYR:CD1	2.37	0.59
2:A:597:ASP:OD1	2:A:631:VAL:HB	2.02	0.59
1:F:98:VAL:HG12	1:F:243:LEU:H	1.66	0.59
1:F:145:PRO:HG2	1:F:148:LYS:HD3	1.84	0.59
2:A:270:GLU:OE1	2:A:270:GLU:N	2.35	0.59
2:A:727:ASN:OD1	2:A:775:ARG:NH2	2.35	0.59
3:B:205:LYS:NZ	3:B:258:GLU:OE1	2.36	0.59
2:A:690:ASN:OD1	2:A:691:LEU:N	2.36	0.58
1:F:169:GLN:NE2	1:F:172:GLN:OE1	2.33	0.58
2:A:330:ILE:HG21	2:A:407:ARG:HH21	1.68	0.58
1:F:378:ILE:O	1:F:381:ILE:HG22	2.03	0.58
1:F:507:GLU:CD	3:B:582:SER:H	2.10	0.58
1:F:98:VAL:HA	1:F:243:LEU:HB3	1.86	0.58
1:F:116:LYS:HG3	1:F:200:GLY:HA2	1.85	0.58
2:A:365:ARG:HH21	2:A:524:TYR:HD2	0.69	0.58
1:F:637:CYS:SG	1:F:638:LEU:N	2.76	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:193:SER:O	3:B:306:ASN:ND2	2.36	0.58
3:B:663:VAL:HA	3:B:679:PHE:HB3	1.85	0.58
2:A:186:ARG:HE	2:A:187:GLN:H	1.50	0.58
1:F:602:ARG:HH11	1:F:605:GLN:HE22	1.51	0.58
2:A:370:TYR:CZ	2:A:375:LYS:HG2	2.39	0.57
2:A:479:LEU:HD13	2:A:504:ASP:HB2	1.85	0.57
2:A:631:VAL:HG22	2:A:641:THR:HG22	1.85	0.57
1:F:158:CYS:SG	1:F:174:CYS:N	2.77	0.57
3:B:214:THR:OG1	3:B:232:ASP:O	2.21	0.57
1:F:485:ALA:N	1:F:498:CYS:SG	2.78	0.57
2:A:834:ASN:O	3:B:35:THR:OG1	2.22	0.57
3:B:279:LEU:HG	3:B:299:LEU:HD11	1.87	0.57
3:B:645:LEU:HB2	3:B:654:PRO:HB2	1.86	0.57
2:A:416:ASN:ND2	2:A:421:THR:H	2.02	0.57
2:A:875:VAL:HG22	2:A:901:ALA:HA	1.85	0.57
1:F:109:MET:HA	1:F:112:LEU:HD23	1.87	0.57
2:A:102:ARG:HH11	2:A:698:ASN:HD21	1.53	0.56
2:A:488:PHE:HB2	2:A:495:HIS:HB2	1.85	0.56
2:A:867:TYR:HB2	2:A:906:ASN:OD1	2.05	0.56
1:F:119:HIS:ND1	1:F:127:GLY:O	2.38	0.56
1:F:116:LYS:HB2	1:F:173:LEU:HD11	1.86	0.56
1:F:116:LYS:O	1:F:201:ASP:N	2.35	0.56
1:F:358:TRP:O	1:F:362:SER:CB	2.53	0.56
1:F:397:TYR:O	1:F:401:LYS:HG2	2.05	0.56
3:B:100:LEU:HD12	3:B:105:LYS:HD2	1.85	0.56
3:B:507:CYS:O	3:B:508:SER:C	2.47	0.56
1:F:123:GLY:O	1:F:129:ASN:ND2	2.38	0.56
2:A:843:ARG:NH2	3:B:30:LEU:HD12	2.20	0.56
1:F:487:GLY:HA2	1:F:508:PRO:HD3	1.88	0.56
2:A:324:ARG:NH2	2:A:418:ASP:OD2	2.38	0.56
3:B:180:GLY:O	3:B:181:ASP:C	2.49	0.56
1:F:540:GLN:HE22	2:A:358:GLN:HB3	1.70	0.56
2:A:72:GLN:HE21	2:A:863:ARG:HB2	1.71	0.56
1:F:62:LEU:HD12	1:F:66:LEU:HB2	1.86	0.56
1:F:135:LEU:HD12	1:F:138:ASP:HB3	1.87	0.56
1:F:503:LEU:CG	3:B:574:TYR:CZ	2.89	0.56
3:B:682:PRO:CD	3:B:684:ASP:HB2	2.21	0.56
1:F:310:ASP:O	1:F:314:TYR:N	2.39	0.55
2:A:259:ILE:HD11	2:A:548:TRP:HZ3	1.72	0.55
2:A:890:GLN:HG2	2:A:892:LYS:HD3	1.88	0.55
3:B:194:ARG:NH1	3:B:420:LEU:O	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:472:ILE:HG22	2:A:511:ARG:HB2	1.87	0.55
3:B:204:TYR:CE1	3:B:367:THR:HG22	2.41	0.55
1:F:50:ARG:NH2	1:F:75:ASN:OD1	2.39	0.55
1:F:136:TYR:CZ	1:F:143:ARG:HD2	2.41	0.55
1:F:507:GLU:OE1	3:B:581:THR:HB	2.06	0.55
2:A:716:LYS:HE2	2:A:718:GLN:HE21	1.71	0.55
1:F:130:ILE:HD11	1:F:319:TYR:HE1	1.70	0.55
1:F:141:GLU:O	1:F:143:ARG:N	2.39	0.55
1:F:377:CYS:O	1:F:381:ILE:HB	2.06	0.55
2:A:899:ARG:NH2	2:A:900:TYR:OH	2.34	0.55
1:F:42:LYS:HD2	1:F:48:CYS:SG	2.47	0.55
1:F:626:THR:H	1:F:629:LEU:HD11	1.71	0.55
1:F:490:LYS:HZ2	1:F:506:CYS:HB3	1.71	0.55
1:F:503:LEU:HD21	3:B:574:TYR:CD2	2.42	0.55
3:B:462:ARG:HB2	3:B:505:VAL:HB	1.89	0.55
1:F:308:ARG:HG2	1:F:669:SER:HB3	1.89	0.54
2:A:432:ARG:HG2	2:A:478:LYS:HG2	1.89	0.54
2:A:299:ARG:HG2	2:A:301:LEU:H	1.72	0.54
1:F:7:ARG:N	1:F:58:ASP:OD2	2.30	0.54
1:F:408:LEU:HD21	1:F:638:LEU:HD13	1.90	0.54
2:A:825:ARG:HB3	2:A:833:ARG:HB2	1.90	0.54
1:F:512:GLU:HG3	1:F:514:TYR:H	1.72	0.54
1:F:598:HIS:O	1:F:602:ARG:HG2	2.08	0.54
3:B:409:GLU:HG2	3:B:418:GLN:HB2	1.90	0.54
1:F:539:PRO:O	1:F:543:GLY:N	2.40	0.54
2:A:176:LYS:O	2:A:315:ARG:NH2	2.40	0.54
2:A:517:TYR:HD2	2:A:561:ILE:HD11	1.73	0.53
3:B:563:GLN:HE21	3:B:603:ALA:HB3	1.73	0.53
1:F:122:LEU:HD22	1:F:162:ALA:HA	1.89	0.53
2:A:741:LYS:HE3	2:A:756:TYR:HB2	1.90	0.53
3:B:122:SER:HB2	3:B:125:LEU:HD13	1.90	0.53
2:A:706:ARG:HA	2:A:725:TYR:HA	1.91	0.53
1:F:447:LYS:H	1:F:481:SER:H	1.56	0.53
2:A:50:ARG:NH2	2:A:57:GLY:O	2.41	0.53
3:B:195:GLN:HG2	3:B:403:THR:HG22	1.90	0.53
1:F:325:ASN:HA	1:F:328:GLU:HG3	1.91	0.53
1:F:561:LEU:HD21	1:F:574:TYR:HA	1.91	0.53
2:A:364:LEU:O	2:A:365:ARG:C	2.51	0.53
2:A:708:TYR:HB3	2:A:719:VAL:HG13	1.90	0.53
1:F:266:LEU:O	1:F:269:GLN:NE2	2.39	0.53
1:F:439:LEU:HA	1:F:443:ASN:HD21	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:517:TYR:HB3	1:F:537:THR:HG21	1.91	0.53
2:A:861:THR:OG1	2:A:912:GLU:HB3	2.09	0.53
1:F:464:MET:HA	1:F:467:LEU:HB2	1.91	0.53
1:F:503:LEU:HD21	3:B:574:TYR:CG	2.44	0.53
1:F:158:CYS:SG	1:F:173:LEU:HB2	2.49	0.52
2:A:527:LYS:HE3	2:A:548:TRP:HE1	1.74	0.52
2:A:843:ARG:NH2	3:B:30:LEU:HA	2.18	0.52
3:B:160:PHE:CE1	3:B:184:TYR:HB2	2.44	0.52
2:A:655:GLU:OE2	2:A:670:ILE:HG12	2.09	0.52
3:B:515:TYR:HB3	3:B:549:LEU:HD13	1.91	0.52
1:F:339:CYS:SG	1:F:340:LYS:N	2.82	0.52
1:F:482:GLU:HA	1:F:493:SER:HB2	1.91	0.52
3:B:593:GLY:O	3:B:595:ARG:NH1	2.43	0.52
1:F:285:PHE:HB3	1:F:297:ASP:HA	1.91	0.52
1:F:383:ASN:OD1	1:F:384:GLY:N	2.39	0.52
1:F:507:GLU:HG3	3:B:582:SER:OG	2.10	0.52
2:A:221:ILE:HD13	2:A:313:LEU:HD23	1.91	0.52
3:B:684:ASP:HA	3:B:688:LYS:NZ	2.24	0.52
1:F:646:THR:HG22	1:F:649:LYS:NZ	2.24	0.52
2:A:108:ARG:HB3	2:A:167:LEU:HD23	1.92	0.52
2:A:502:GLY:HA3	2:A:583:TYR:CE2	2.45	0.52
2:A:663:ASP:OD1	2:A:664:LYS:N	2.42	0.52
2:A:522:ARG:HA	2:A:554:GLY:HA2	1.92	0.52
1:F:19:CYS:O	1:F:23:ARG:HG3	2.10	0.52
1:F:68:TYR:OH	1:F:324:ARG:NH2	2.37	0.52
2:A:834:ASN:C	3:B:35:THR:OG1	2.53	0.52
1:F:126:ALA:N	4:F:701:BCT:O1	2.42	0.51
1:F:600:ILE:HG23	1:F:601:LEU:HD12	1.91	0.51
1:F:18:LYS:NZ	1:F:284:LEU:O	2.40	0.51
1:F:225:LEU:HD13	1:F:235:VAL:HA	1.91	0.51
3:B:149:TYR:CD1	3:B:368:LYS:HA	2.45	0.51
1:F:503:LEU:CD2	3:B:574:TYR:CD1	2.93	0.51
1:F:549:PRO:O	1:F:552:LYS:NZ	2.30	0.51
1:F:573:GLU:HG3	2:A:526:LEU:HD13	1.92	0.51
2:A:179:ASP:OD2	2:A:319:ARG:NH2	2.42	0.51
2:A:752:PRO:HB2	2:A:755:TRP:CD1	2.45	0.51
2:A:840:ARG:HB3	3:B:30:LEU:HB3	1.92	0.51
2:A:856:VAL:HG12	2:A:857:LYS:HG3	1.91	0.51
3:B:646:ASP:H	3:B:654:PRO:CG	2.21	0.51
2:A:692:GLU:HB3	2:A:739:LEU:HG	1.92	0.51
3:B:144:ASN:O	3:B:207:VAL:HG11	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:89:VAL:HG22	2:A:881:ARG:HH12	1.76	0.51
3:B:411:LYS:HB3	3:B:414:ASP:HB2	1.91	0.51
1:F:319:TYR:O	1:F:323:ILE:HG12	2.11	0.51
2:A:355:ASP:HB3	2:A:359:LYS:HZ3	1.76	0.51
3:B:403:THR:OG1	3:B:553:ARG:NH1	2.42	0.51
1:F:389:MET:SD	1:F:391:LEU:HG	2.51	0.51
2:A:50:ARG:NE	2:A:60:LYS:O	2.44	0.51
3:B:594:ASN:OD1	3:B:614:ASP:N	2.43	0.51
1:F:594:GLU:O	1:F:598:HIS:HB2	2.11	0.51
2:A:649:ARG:NH1	2:A:673:GLU:OE1	2.38	0.51
1:F:463:PRO:HB3	1:F:532:PHE:CD2	2.47	0.50
2:A:89:VAL:HA	2:A:881:ARG:HH22	1.75	0.50
2:A:843:ARG:NE	3:B:29:ASP:CG	2.63	0.50
3:B:264:SER:HB3	3:B:279:LEU:HD22	1.94	0.50
1:F:86:GLY:O	1:F:300:HIS:NE2	2.44	0.50
2:A:366:GLY:O	2:A:367:ASN:C	2.54	0.50
2:A:431:ASP:OD1	2:A:479:LEU:HB3	2.12	0.50
3:B:161:TYR:CD2	3:B:181:ASP:HA	2.37	0.50
3:B:429:LEU:HB2	3:B:550:GLN:HE22	1.75	0.50
1:F:110:ASN:OD1	1:F:111:GLN:HG3	2.11	0.50
1:F:342:VAL:HG21	1:F:597:VAL:HG12	1.93	0.50
2:A:91:GLN:HB3	2:A:97:SER:HB3	1.92	0.50
3:B:275:LEU:HD22	3:B:301:ALA:HB3	1.92	0.50
1:F:11:VAL:O	1:F:15:GLU:HB2	2.12	0.50
2:A:416:ASN:HD21	2:A:421:THR:H	1.60	0.50
2:A:87:ALA:HB3	2:A:100:SER:HB3	1.94	0.50
2:A:472:ILE:CG2	2:A:511:ARG:HB2	2.41	0.50
2:A:745:ASN:HB2	2:A:753:GLU:HA	1.94	0.50
2:A:683:VAL:HG22	2:A:692:GLU:OE1	2.12	0.49
2:A:839:ALA:O	2:A:840:ARG:NH1	2.40	0.49
1:F:328:GLU:OE2	1:F:330:THR:HG22	2.12	0.49
1:F:646:THR:HG22	1:F:649:LYS:HZ2	1.77	0.49
3:B:627:ILE:HD13	3:B:632:PHE:HB3	1.94	0.49
2:A:671:ASP:OD2	2:A:727:ASN:ND2	2.46	0.49
1:F:264:TRP:NE1	1:F:268:ASN:HD21	2.09	0.49
1:F:348:SER:HB2	1:F:351:GLU:HG2	1.94	0.49
2:A:713:LYS:O	2:A:716:LYS:HG2	2.12	0.49
1:F:500:GLY:HA3	1:F:505:LEU:HA	1.95	0.49
1:F:465:GLY:HA2	1:F:662:LEU:HD13	1.95	0.49
3:B:460:PHE:HE2	3:B:507:CYS:HG	1.61	0.49
2:A:813:SER:O	2:A:844:PRO:HA	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:513:LEU:HD11	3:B:549:LEU:HD11	1.95	0.49
1:F:536:GLN:O	1:F:540:GLN:HG2	2.13	0.48
3:B:152:PHE:HA	3:B:347:GLU:OE1	2.13	0.48
1:F:365:LYS:HZ1	2:A:719:VAL:N	2.00	0.48
1:F:372:GLU:N	1:F:372:GLU:OE1	2.46	0.48
1:F:453:ALA:HB3	1:F:456:ARG:HD3	1.95	0.48
3:B:147:LYS:O	3:B:147:LYS:NZ	2.34	0.48
1:F:446:GLY:HA2	1:F:481:SER:N	2.28	0.48
1:F:482:GLU:OE2	1:F:497:LEU:N	2.46	0.48
1:F:521:PHE:O	1:F:525:VAL:HG23	2.14	0.48
2:A:896:VAL:HG12	2:A:898:ASN:H	1.79	0.48
1:F:208:SER:HA	1:F:211:PHE:HD2	1.79	0.48
1:F:442:ASP:OD1	1:F:442:ASP:N	2.47	0.48
3:B:465:ASP:OD1	3:B:465:ASP:N	2.42	0.48
3:B:565:ILE:HD13	3:B:707:ARG:HH21	1.78	0.48
1:F:375:GLU:HG3	1:F:670:LEU:HD23	1.96	0.48
3:B:101:PRO:HD2	3:B:160:PHE:HE2	1.78	0.48
3:B:586:ASN:O	3:B:594:ASN:ND2	2.47	0.48
3:B:29:ASP:O	3:B:30:LEU:C	2.56	0.48
1:F:655:TYR:O	1:F:659:VAL:HG23	2.14	0.48
2:A:329:GLY:O	2:A:330:ILE:HD13	2.13	0.48
2:A:539:PRO:HA	2:A:545:ASN:HD21	1.79	0.48
1:F:406:PRO:HB2	1:F:641:LEU:HD21	1.95	0.48
2:A:873:ARG:HG2	3:B:23:GLY:CA	2.41	0.48
1:F:7:ARG:NH1	1:F:55:ASN:O	2.45	0.48
1:F:423:GLU:OE2	2:A:386:ASN:ND2	2.47	0.48
2:A:827:LEU:HD23	2:A:828:LEU:N	2.29	0.48
3:B:465:ASP:HB3	3:B:502:GLU:HG2	1.95	0.48
2:A:57:GLY:HA2	2:A:60:LYS:HD2	1.96	0.47
3:B:154:TYR:N	3:B:347:GLU:OE2	2.32	0.47
2:A:74:LEU:O	2:A:225:ARG:NH1	2.47	0.47
3:B:687:THR:O	3:B:688:LYS:C	2.57	0.47
1:F:538:VAL:HB	1:F:539:PRO:HD3	1.95	0.47
1:F:124:ARG:NH2	1:F:188:TYR:OH	2.47	0.47
1:F:634:ASP:HB3	2:A:360:GLN:HE22	1.80	0.47
2:A:840:ARG:HG3	3:B:30:LEU:HD23	1.96	0.47
1:F:46:LEU:HA	1:F:49:ILE:HG12	1.97	0.47
1:F:249:HIS:ND1	1:F:296:LYS:HD2	2.30	0.47
1:F:454:VAL:HA	1:F:460:TRP:CD2	2.50	0.47
3:B:682:PRO:N	3:B:684:ASP:H	2.11	0.47
1:F:365:LYS:NZ	2:A:719:VAL:H	2.03	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:504:ASN:OD1	3:B:584:SER:HB3	2.13	0.47
1:F:597:VAL:HA	1:F:600:ILE:HG22	1.97	0.47
2:A:309:SER:CB	2:A:336:GLN:HG2	2.44	0.47
1:F:23:ARG:HD2	1:F:39:CYS:SG	2.55	0.47
1:F:373:THR:HG22	1:F:375:GLU:H	1.79	0.47
1:F:439:LEU:HG	1:F:568:ARG:HH21	1.79	0.47
1:F:456:ARG:NH2	1:F:515:TYR:OH	2.47	0.47
3:B:240:ASP:OD1	3:B:242:GLY:N	2.39	0.47
3:B:643:PHE:HB3	3:B:656:ALA:HB3	1.95	0.47
2:A:161:GLU:N	2:A:161:GLU:OE1	2.48	0.47
1:F:350:HIS:CE1	1:F:626:THR:HG21	2.50	0.47
1:F:408:LEU:HD12	1:F:639:ALA:O	2.15	0.47
2:A:132:ARG:HH12	2:A:345:VAL:HG23	1.79	0.46
3:B:408:VAL:HG21	3:B:678:TRP:CE2	2.51	0.46
1:F:62:LEU:HD23	1:F:250:THR:O	2.15	0.46
3:B:623:ILE:HG23	3:B:663:VAL:HG11	1.98	0.46
3:B:681:TYR:C	3:B:683:GLY:N	2.70	0.46
3:B:162:LYS:HD2	3:B:162:LYS:HA	1.44	0.46
1:F:522:ARG:HG2	1:F:526:GLU:OE1	2.16	0.46
3:B:408:VAL:HG21	3:B:678:TRP:CD2	2.50	0.46
1:F:195:LEU:HB2	1:F:203:ALA:HB2	1.97	0.46
2:A:679:GLU:OE2	2:A:696:PHE:HB3	2.15	0.46
1:F:433:LYS:NZ	1:F:525:VAL:O	2.46	0.46
2:A:77:ARG:NH1	2:A:90:GLU:OE2	2.31	0.46
2:A:783:PHE:HB3	2:A:786:ILE:HD12	1.97	0.46
3:B:259:GLY:O	3:B:282:ASN:ND2	2.49	0.46
3:B:555:ASP:CG	3:B:556:GLU:N	2.73	0.46
1:F:116:LYS:NZ	1:F:198:GLY:O	2.33	0.46
1:F:227:CYS:N	1:F:241:CYS:SG	2.89	0.46
2:A:839:ALA:C	2:A:840:ARG:HD2	2.41	0.46
3:B:508:SER:O	3:B:509:ASN:C	2.59	0.46
1:F:345:CYS:SG	1:F:389:MET:HG3	2.56	0.46
1:F:427:PHE:H	1:F:535:HIS:CE1	2.33	0.46
3:B:162:LYS:N	3:B:182:ASP:H	2.09	0.46
3:B:335:SER:O	3:B:335:SER:OG	2.30	0.46
3:B:579:LYS:HZ3	3:B:693:ALA:C	2.24	0.46
1:F:210:ILE:HG13	1:F:220:ARG:HG2	1.97	0.46
2:A:70:LYS:HE3	2:A:853:TYR:CE1	2.51	0.46
1:F:358:TRP:HB2	1:F:619:PHE:CZ	2.51	0.46
2:A:259:ILE:HG22	2:A:276:PRO:HA	1.98	0.46
2:A:827:LEU:HD23	2:A:828:LEU:H	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:105:SER:HB2	1:F:107:PHE:CE1	2.51	0.45
1:F:514:TYR:HA	1:F:519:GLY:HA3	1.97	0.45
2:A:752:PRO:HB2	2:A:755:TRP:HD1	1.81	0.45
2:A:914:LYS:HD3	2:A:915:PHE:N	2.31	0.45
3:B:596:ALA:HB1	3:B:598:PHE:HE1	1.80	0.45
1:F:424:ALA:HB1	1:F:581:ARG:HD3	1.98	0.45
2:A:54:GLU:CD	2:A:56:THR:HG1	2.21	0.45
3:B:312:ALA:O	3:B:333:SER:N	2.48	0.45
2:A:262:GLU:CD	2:A:551:ILE:H	2.25	0.45
3:B:460:PHE:HE2	3:B:507:CYS:SG	2.39	0.45
3:B:577:ASN:O	3:B:579:LYS:N	2.48	0.45
2:A:101:ILE:HG12	2:A:102:ARG:HG2	1.98	0.45
2:A:840:ARG:HB3	3:B:30:LEU:HG	1.98	0.45
3:B:108:ILE:HA	3:B:108:ILE:HD13	1.83	0.45
3:B:161:TYR:CE2	3:B:163:HIS:HA	2.52	0.45
3:B:657:TYR:H	3:B:697:SER:CB	2.29	0.45
2:A:407:ARG:HG3	2:A:433:GLN:HB2	1.98	0.45
3:B:424:SER:O	3:B:424:SER:OG	2.28	0.45
2:A:159:SER:OG	2:A:646:THR:O	2.34	0.45
2:A:199:LYS:HB3	2:A:906:ASN:HD22	1.81	0.45
2:A:674:LYS:NZ	2:A:701:ARG:HD2	2.31	0.45
2:A:890:GLN:O	2:A:892:LYS:NZ	2.38	0.45
2:A:530:PRO:HD3	2:A:548:TRP:CE2	2.52	0.45
2:A:54:GLU:OE1	2:A:57:GLY:N	2.45	0.45
2:A:368:GLY:O	2:A:370:TYR:N	2.50	0.45
3:B:346:GLU:O	3:B:367:THR:HG23	2.17	0.45
3:B:414:ASP:O	3:B:415:LYS:HG2	2.16	0.45
1:F:261:ASP:OD1	1:F:262:LEU:N	2.50	0.45
2:A:728:ALA:O	2:A:772:ARG:N	2.44	0.45
1:F:15:GLU:OE1	1:F:15:GLU:N	2.47	0.45
2:A:711:GLN:HG3	2:A:713:LYS:HZ1	1.82	0.45
2:A:873:ARG:O	3:B:26:GLY:HA3	2.17	0.45
3:B:206:GLY:HA3	3:B:365:ALA:HA	1.99	0.45
2:A:542:ARG:HB2	2:A:545:ASN:HB3	2.00	0.44
3:B:645:LEU:HD11	3:B:656:ALA:HB2	1.99	0.44
3:B:681:TYR:CE2	3:B:683:GLY:HA2	2.51	0.44
1:F:510:ASN:OD1	1:F:511:LYS:N	2.50	0.44
2:A:234:GLU:OE2	2:A:234:GLU:N	2.46	0.44
2:A:729:GLN:NE2	2:A:781:HIS:HB2	2.33	0.44
1:F:349:HIS:HD2	3:B:592:SER:HA	1.81	0.44
2:A:539:PRO:HA	2:A:545:ASN:ND2	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:527:LYS:HG2	2:A:548:TRP:CD1	2.52	0.44
3:B:681:TYR:O	3:B:681:TYR:CG	2.71	0.44
1:F:63:ASP:HA	1:F:249:HIS:CD2	2.53	0.44
2:A:258:PHE:HA	2:A:546:PRO:HB2	1.99	0.44
2:A:363:SER:HB3	2:A:367:ASN:OD1	2.16	0.44
2:A:783:PHE:HB2	2:A:820:GLU:HB3	1.99	0.44
3:B:186:PHE:HE2	3:B:188:HIS:CE1	2.36	0.44
1:F:112:LEU:HD13	1:F:115:LYS:HG3	1.99	0.44
1:F:462:ILE:HG13	1:F:463:PRO:HD3	1.98	0.44
3:B:161:TYR:HD2	3:B:181:ASP:CA	2.25	0.44
2:A:708:TYR:HE1	2:A:723:PRO:HA	1.82	0.44
2:A:727:ASN:OD1	2:A:727:ASN:N	2.51	0.44
2:A:843:ARG:HE	3:B:29:ASP:CG	2.23	0.44
1:F:139:LEU:HD12	1:F:140:PRO:HD2	2.00	0.44
1:F:237:GLU:N	1:F:237:GLU:OE1	2.51	0.44
2:A:364:LEU:HB3	2:A:380:PHE:CE2	2.52	0.44
3:B:301:ALA:HA	3:B:310:GLY:HA3	2.00	0.44
3:B:680:ALA:O	3:B:684:ASP:HB3	2.18	0.44
1:F:97:ALA:O	1:F:243:LEU:HB3	2.18	0.43
1:F:283:GLN:OE1	1:F:286:SER:OG	2.24	0.43
1:F:455:GLY:H	1:F:460:TRP:CG	2.36	0.43
2:A:776:THR:HG22	2:A:777:ASP:H	1.83	0.43
2:A:710:ALA:HB2	2:A:776:THR:OG1	2.18	0.43
3:B:163:HIS:ND1	3:B:163:HIS:C	2.76	0.43
3:B:268:VAL:HB	3:B:275:LEU:HD12	1.99	0.43
3:B:431:VAL:HG23	3:B:434:ILE:HG22	1.99	0.43
1:F:454:VAL:HG13	1:F:460:TRP:CE2	2.53	0.43
2:A:73:VAL:HA	2:A:78:ASP:OD1	2.18	0.43
2:A:153:ILE:HD12	2:A:171:VAL:HG22	2.00	0.43
2:A:235:ALA:HA	2:A:238:ARG:HD2	2.00	0.43
2:A:490:THR:OG1	2:A:493:ILE:O	2.33	0.43
2:A:186:ARG:HG3	2:A:188:TRP:H	1.83	0.43
3:B:56:LYS:HB2	3:B:56:LYS:HE2	1.77	0.43
3:B:162:LYS:HB2	3:B:182:ASP:OD2	2.19	0.43
3:B:164:ALA:C	3:B:181:ASP:H	2.26	0.43
1:F:446:GLY:N	1:F:479:PHE:O	2.51	0.43
1:F:490:LYS:NZ	1:F:506:CYS:HB3	2.32	0.43
1:F:564:LEU:HD23	1:F:564:LEU:HA	1.90	0.43
3:B:631:GLY:HA2	3:B:666:GLY:HA2	2.00	0.43
3:B:662:LYS:HB2	3:B:685:LYS:NZ	2.33	0.43
1:F:35:PRO:HG2	1:F:266:LEU:HD21	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:42:LYS:HD3	1:F:47:ASP:CB	2.48	0.43
1:F:392:ASP:O	1:F:396:VAL:HG23	2.18	0.43
1:F:561:LEU:HD23	1:F:571:VAL:HA	2.01	0.43
1:F:634:ASP:HB3	2:A:360:GLN:NE2	2.33	0.43
1:F:96:TYR:H	1:F:207:HIS:CE1	2.37	0.43
1:F:137:CYS:HB3	1:F:331:CYS:HB2	1.49	0.43
1:F:503:LEU:CD2	3:B:574:TYR:CZ	2.99	0.43
3:B:694:SER:O	3:B:695:GLY:C	2.62	0.43
1:F:35:PRO:HG3	1:F:262:LEU:HD11	2.01	0.43
2:A:159:SER:OG	2:A:647:GLY:HA2	2.19	0.43
2:A:598:VAL:HG13	2:A:630:ILE:HG12	2.00	0.43
3:B:23:GLY:O	3:B:25:GLY:N	2.52	0.43
1:F:392:ASP:OD1	1:F:393:GLY:N	2.52	0.42
1:F:365:LYS:HD3	1:F:365:LYS:HA	1.75	0.42
3:B:163:HIS:N	3:B:181:ASP:HA	2.34	0.42
3:B:296:TYR:CD2	3:B:329:PHE:HD2	2.38	0.42
3:B:559:ILE:HD13	3:B:559:ILE:HA	1.90	0.42
2:A:840:ARG:HH12	3:B:32:SER:CA	2.16	0.42
2:A:843:ARG:HH22	3:B:30:LEU:CA	2.26	0.42
3:B:506:CYS:HA	3:B:507:CYS:HA	1.68	0.42
1:F:308:ARG:NE	1:F:375:GLU:OE2	2.51	0.42
1:F:522:ARG:HG3	1:F:550:TRP:CE3	2.55	0.42
3:B:462:ARG:O	3:B:504:GLU:HA	2.19	0.42
3:B:567:TYR:CG	3:B:675:LEU:HD23	2.54	0.42
1:F:26:MET:HE1	1:F:35:PRO:O	2.20	0.42
1:F:161:CYS:HB2	1:F:179:CYS:HA	2.00	0.42
1:F:360:VAL:O	2:A:827:LEU:HD21	2.19	0.42
2:A:320:PHE:HB2	2:A:325:HIS:HB2	2.00	0.42
2:A:369:LYS:HE2	2:A:369:LYS:HB2	1.73	0.42
2:A:374:HIS:NE2	2:A:376:TYR:HB2	2.34	0.42
2:A:390:GLY:O	2:A:445:HIS:NE2	2.52	0.42
2:A:845:TRP:CE3	2:A:847:ILE:HG12	2.55	0.42
1:F:71:TYR:O	1:F:76:ASN:ND2	2.51	0.42
1:F:494:LEU:HD23	1:F:494:LEU:H	1.83	0.42
2:A:330:ILE:O	2:A:408:TYR:HA	2.19	0.42
2:A:355:ASP:HB3	2:A:359:LYS:NZ	2.34	0.42
1:F:536:GLN:O	1:F:539:PRO:HD2	2.20	0.42
2:A:330:ILE:HG21	2:A:407:ARG:NH2	2.34	0.42
2:A:817:GLU:O	2:A:821:LEU:HD23	2.20	0.42
2:A:843:ARG:HE	2:A:843:ARG:HB2	1.60	0.42
3:B:435:MET:HE2	3:B:435:MET:HB2	1.91	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:468:TYR:HB3	1:F:661:ASN:OD1	2.19	0.42
2:A:402:THR:HB	2:A:438:ASP:HB3	2.01	0.42
3:B:113:THR:HB	3:B:162:LYS:HE2	2.01	0.42
1:F:188:TYR:OH	4:F:701:BCT:O2	2.37	0.42
2:A:243:PHE:HE2	2:A:245:ARG:HB2	1.84	0.42
3:B:60:GLY:HA2	3:B:435:MET:HE1	2.02	0.42
1:F:383:ASN:ND2	1:F:385:GLU:HG3	2.35	0.41
1:F:560:GLU:OE1	1:F:560:GLU:N	2.53	0.41
3:B:210:PHE:CD2	3:B:329:PHE:CE1	3.08	0.41
3:B:411:LYS:HB2	3:B:411:LYS:HE2	1.81	0.41
3:B:682:PRO:HD2	3:B:684:ASP:CB	2.24	0.41
1:F:64:ALA:O	1:F:67:VAL:HG22	2.20	0.41
1:F:358:TRP:O	1:F:362:SER:OG	2.38	0.41
1:F:669:SER:OG	3:B:653:THR:HG21	2.20	0.41
3:B:123:PRO:HG2	3:B:144:ASN:HB2	2.02	0.41
3:B:605:LYS:HB3	3:B:627:ILE:HB	2.02	0.41
1:F:485:ALA:N	1:F:494:LEU:O	2.54	0.41
1:F:535:HIS:CD2	1:F:536:GLN:HE21	2.38	0.41
3:B:306:ASN:H	3:B:424:SER:HB2	1.85	0.41
2:A:71:GLU:HB3	2:A:73:VAL:HG23	2.03	0.41
1:F:507:GLU:CD	3:B:582:SER:N	2.75	0.41
2:A:148:VAL:HG11	2:A:173:PHE:CD1	2.56	0.41
3:B:642:GLY:CA	3:B:655:LYS:HD2	2.44	0.41
1:F:356:ASP:OD1	1:F:357:GLU:N	2.53	0.41
2:A:355:ASP:HA	2:A:358:GLN:OE1	2.21	0.41
2:A:873:ARG:HG3	3:B:26:GLY:C	2.45	0.41
1:F:78:LYS:NZ	1:F:310:ASP:HA	2.35	0.41
1:F:265:GLU:HA	1:F:268:ASN:HD22	1.86	0.41
1:F:279:SER:HB2	1:F:282:PHE:H	1.85	0.41
1:F:405:VAL:HB	1:F:591:LYS:NZ	2.35	0.41
2:A:89:VAL:CA	2:A:881:ARG:HH22	2.33	0.41
2:A:197:SER:OG	2:A:199:LYS:HG2	2.20	0.41
2:A:870:LEU:HD23	2:A:872:HIS:HB2	2.03	0.41
3:B:438:LEU:HG	3:B:505:VAL:HG22	2.03	0.41
3:B:465:ASP:HA	3:B:501:TYR:O	2.21	0.41
3:B:689:ASN:HA	3:B:690:ALA:HA	1.68	0.41
1:F:316:GLY:O	1:F:320:VAL:HG13	2.21	0.41
1:F:350:HIS:NE2	3:B:592:SER:CB	2.84	0.41
1:F:363:VAL:HG22	2:A:719:VAL:HG21	2.03	0.41
1:F:462:ILE:N	1:F:463:PRO:HD2	2.35	0.41
2:A:58:LEU:HD13	2:A:679:GLU:HG3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:397:VAL:HG13	2:A:441:PHE:CE2	2.51	0.41
2:A:653:PHE:HA	2:A:656:MET:HG2	2.03	0.41
3:B:250:LYS:HD2	3:B:250:LYS:HA	1.87	0.41
3:B:266:LEU:HB3	3:B:277:GLY:HA3	2.02	0.41
1:F:61:THR:HA	1:F:251:VAL:HA	2.03	0.41
2:A:174:GLN:OE1	2:A:175:THR:N	2.54	0.41
2:A:316:PRO:HD2	2:A:329:GLY:O	2.20	0.41
2:A:420:ASP:OD1	2:A:420:ASP:N	2.54	0.41
2:A:668:VAL:HG23	2:A:670:ILE:HD11	2.03	0.41
3:B:187:TYR:HB3	3:B:362:VAL:HG22	2.01	0.41
3:B:296:TYR:CE2	3:B:327:HIS:HB3	2.56	0.41
3:B:655:LYS:HD3	3:B:655:LYS:HA	1.51	0.41
1:F:6:VAL:HG23	1:F:37:VAL:HG23	2.03	0.40
1:F:121:GLY:HA2	1:F:160:PRO:HD2	2.03	0.40
1:F:178:GLY:HA3	1:F:183:ASN:HB2	2.03	0.40
1:F:314:TYR:CD2	1:F:315:LEU:HD22	2.56	0.40
1:F:357:GLU:HA	1:F:360:VAL:HG12	2.03	0.40
1:F:51:ALA:O	1:F:56:GLU:N	2.51	0.40
1:F:340:LYS:HD3	1:F:340:LYS:HA	1.82	0.40
1:F:400:GLY:HA2	1:F:403:GLY:O	2.22	0.40
1:F:539:PRO:HB2	1:F:540:GLN:NE2	2.36	0.40
2:A:56:THR:HB	2:A:58:LEU:HG	2.03	0.40
2:A:393:TYR:HB2	2:A:445:HIS:CD2	2.57	0.40
2:A:508:SER:HB3	2:A:577:ILE:HG23	2.03	0.40
3:B:61:TYR:OH	3:B:421:ASP:OD2	2.32	0.40
1:F:670:LEU:HA	1:F:673:ALA:HB3	2.04	0.40
2:A:527:LYS:O	2:A:548:TRP:HB3	2.22	0.40
2:A:696:PHE:CZ	2:A:735:GLY:HA3	2.57	0.40
3:B:273:LYS:HA	3:B:273:LYS:HD3	1.88	0.40
3:B:508:SER:O	3:B:510:LEU:N	2.54	0.40
3:B:658:ILE:HG23	3:B:681:TYR:CD1	2.56	0.40
3:B:687:THR:O	3:B:689:ASN:HB3	2.21	0.40
1:F:70:ALA:HB1	1:F:77:LEU:HB2	2.03	0.40
1:F:71:TYR:CE2	1:F:311:ALA:HB3	2.56	0.40
2:A:540:ASN:OD1	2:A:545:ASN:ND2	2.55	0.40
2:A:660:ARG:HG2	2:A:665:ILE:HD13	2.04	0.40
3:B:507:CYS:O	3:B:509:ASN:N	2.54	0.40
3:B:681:TYR:N	3:B:682:PRO:HD3	2.37	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	F	674/698 (97%)	596 (88%)	76 (11%)	2 (0%)	37	72
2	A	868/910 (95%)	846 (98%)	20 (2%)	2 (0%)	44	78
3	B	509/693 (73%)	458 (90%)	37 (7%)	14 (3%)	4	25
All	All	2051/2301 (89%)	1900 (93%)	133 (6%)	18 (1%)	17	50

All (18) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	B	27	SER
3	B	508	SER
3	B	685	LYS
1	F	363	VAL
2	A	369	LYS
3	B	24	GLY
3	B	162	LYS
3	B	163	HIS
3	B	696	ASN
1	F	435	SER
3	B	181	ASP
3	B	697	SER
3	B	654	PRO
3	B	693	ALA
2	A	365	ARG
3	B	555	ASP
3	B	578	ASP
3	B	692	ASN

5.3.2 Protein sidechains ⓘ

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	F	547/585 (94%)	547 (100%)	0	100	100
2	A	708/742 (95%)	701 (99%)	7 (1%)	73	82
3	B	435/564 (77%)	397 (91%)	38 (9%)	8	26
All	All	1690/1891 (89%)	1645 (97%)	45 (3%)	41	60

All (45) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	A	91	GLN
2	A	364	LEU
2	A	365	ARG
2	A	367	ASN
2	A	369	LYS
2	A	841	ARG
2	A	843	ARG
3	B	28	PHE
3	B	30	LEU
3	B	34	ASP
3	B	108	ILE
3	B	111	VAL
3	B	113	THR
3	B	119	ILE
3	B	141	GLN
3	B	147	LYS
3	B	162	LYS
3	B	163	HIS
3	B	181	ASP
3	B	182	ASP
3	B	263	THR
3	B	266	LEU
3	B	283	ASN
3	B	303	VAL
3	B	304	THR
3	B	309	ASN
3	B	327	HIS
3	B	330	VAL
3	B	400	LYS
3	B	401	LEU
3	B	409	GLU

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Mol	Chain	Res	Type
3	B	503	VAL
3	B	508	SER
3	B	607	ILE
3	B	610	THR
3	B	653	THR
3	B	655	LYS
3	B	658	ILE
3	B	675	LEU
3	B	685	LYS
3	B	687	THR
3	B	688	LYS
3	B	689	ASN
3	B	692	ASN
3	B	696	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (29) such sidechains are listed below:

Mol	Chain	Res	Type
1	F	55	ASN
1	F	92	GLN
1	F	268	ASN
1	F	349	HIS
1	F	411	ASN
1	F	540	GLN
1	F	541	ASN
2	A	275	ASN
2	A	287	GLN
2	A	416	ASN
2	A	518	GLN
2	A	545	ASN
2	A	578	ASN
2	A	698	ASN
2	A	718	GLN
2	A	829	ASN
2	A	890	GLN
3	B	53	GLN
3	B	117	ASN
3	B	144	ASN
3	B	145	GLN
3	B	163	HIS
3	B	257	GLN
3	B	265	ASN

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Mol	Chain	Res	Type
3	B	306	ASN
3	B	509	ASN
3	B	589	ASN
3	B	692	ASN
3	B	696	ASN

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 ⓘ

There are no oligosaccharides in this entry.

5.6　Ligand geometry ⓘ

Of 2 ligands modelled in this entry, 1 is monoatomic - leaving 1 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#|Z| > 2$	Counts	RMSZ	$\#|Z| > 2$
4	BCT	F	701	5	3,3,3	1.11	0	2,3,3	4.21	2 (100%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	F	701	BCT	O2-C-O1	5.51	133.78	119.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	F	701	BCT	O3-C-O1	-2.23	113.96	119.68

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	F	701	BCT	2	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand BCT F 701

Bond lengths

Bond angles

Torsions

Rings
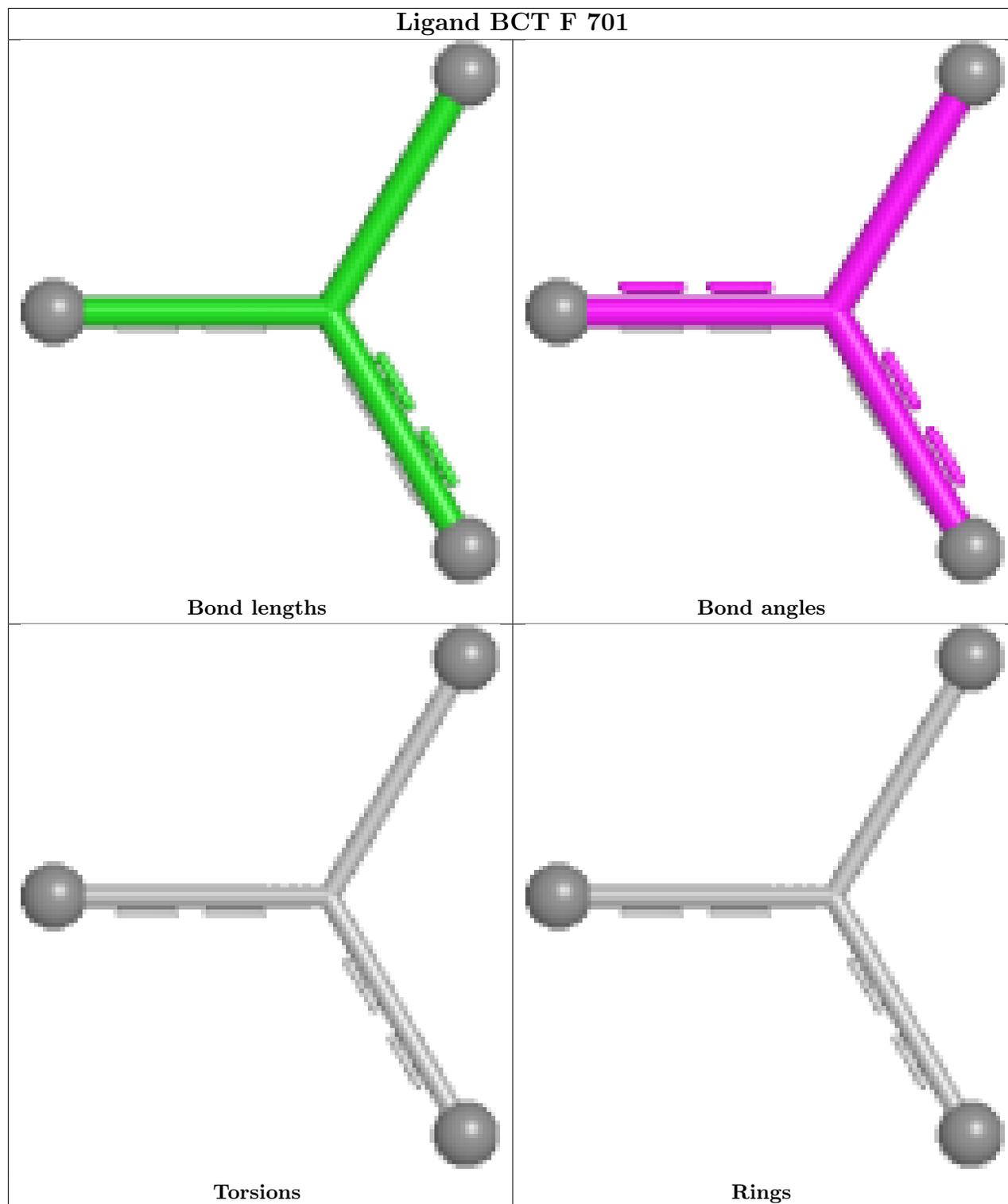
5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8　Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6   Map visualisation ⓘ

This section contains visualisations of the EMDB entry EMD-73667. 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 ⓘ
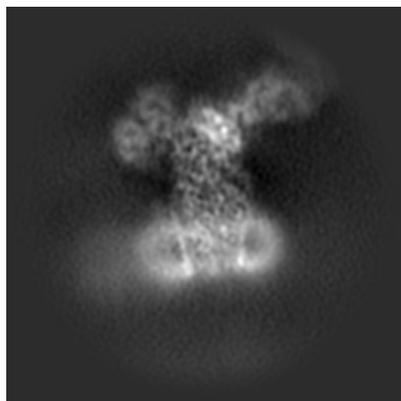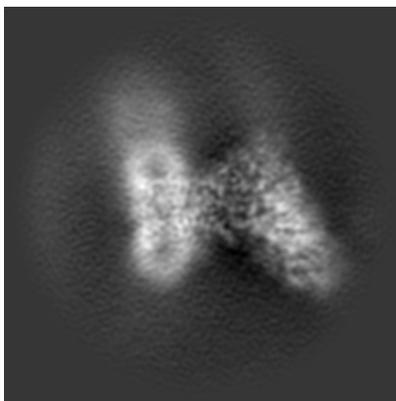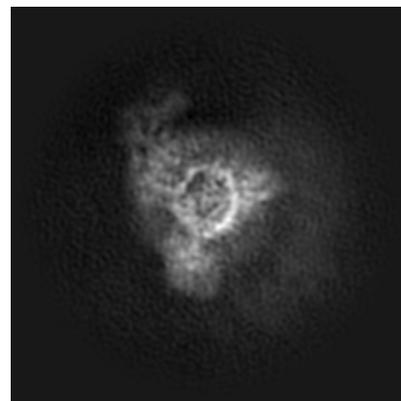
6.1.1   Primary map

X   Y   Z

6.1.2   Raw map

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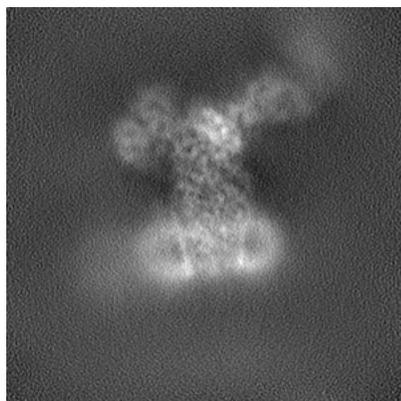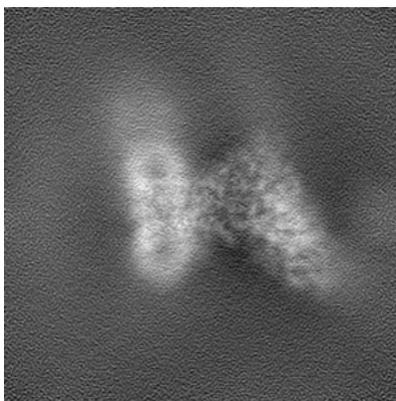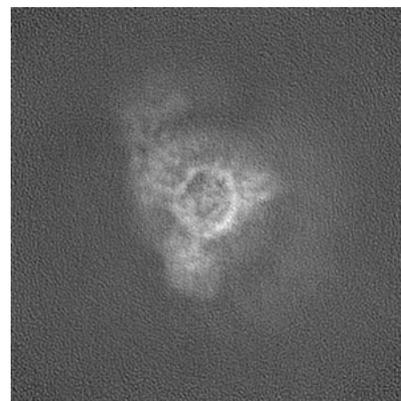
The images above show the map projected in three orthogonal directions.

6.2   Central slices ⓘ
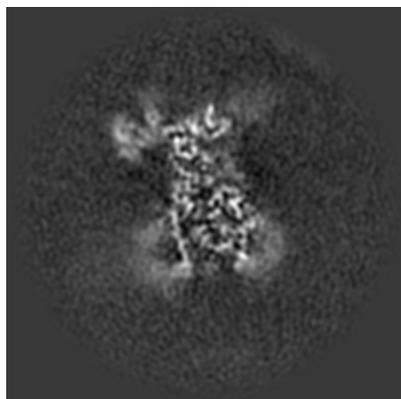
6.2.1   Primary map
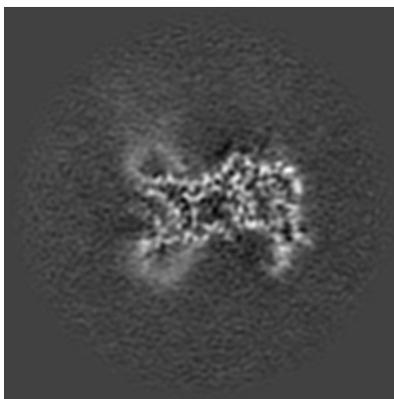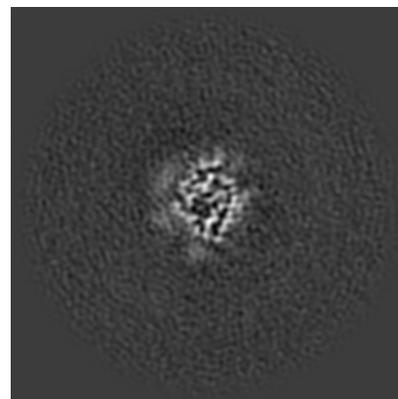
X Index: 128   Y Index: 128   Z Index: 128

6.2.2   Raw map
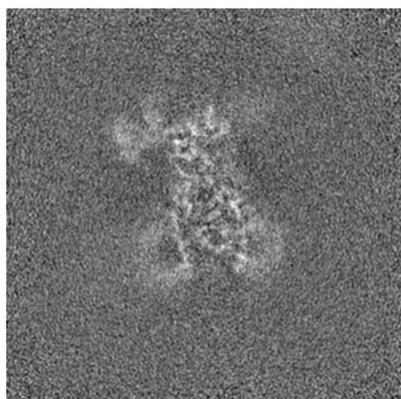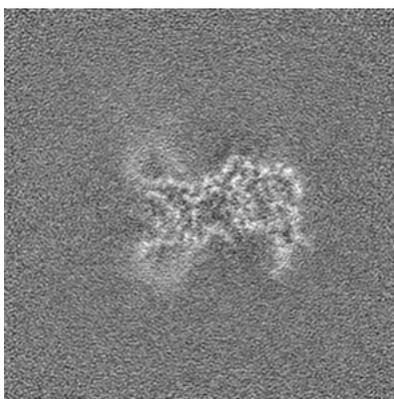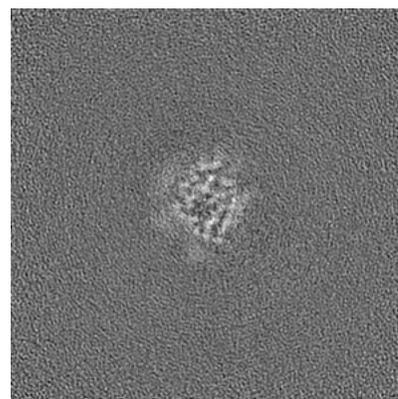
X Index: 128   Y Index: 128   Z Index: 128

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

6.3   Largest variance slices   ⓘ
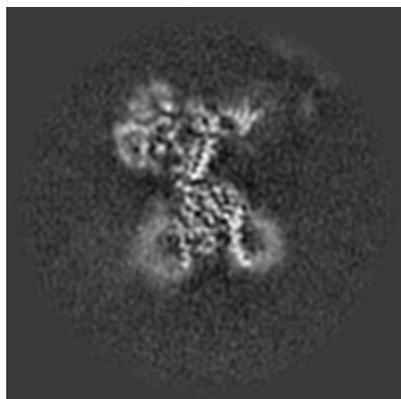
6.3.1   Primary map
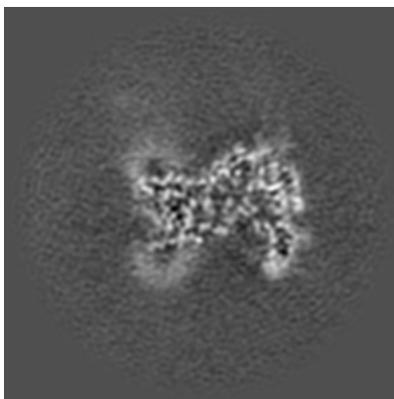
X Index: 115   Y Index: 132   Z Index: 177
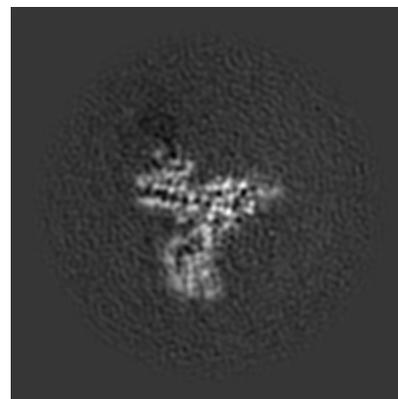
6.3.2   Raw map
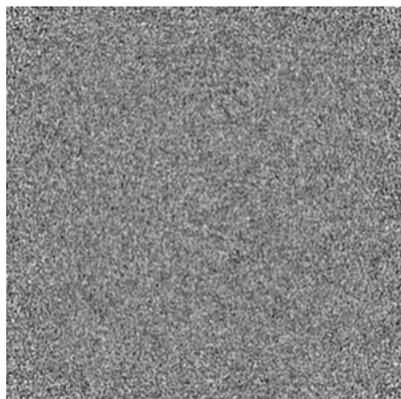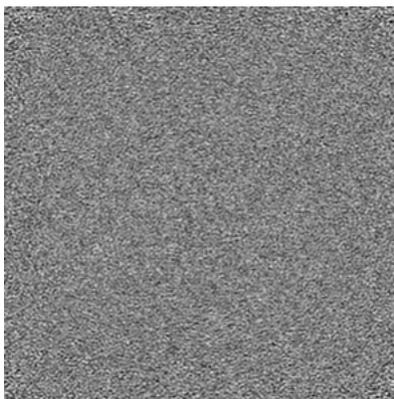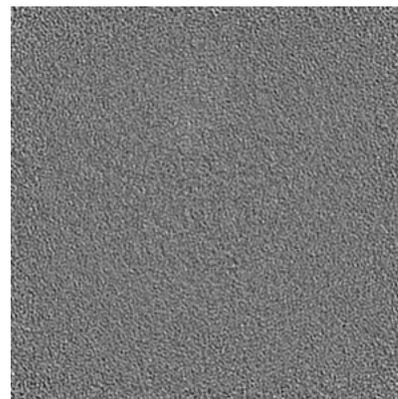
X Index: 0   Y Index: 0   Z Index: 0

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

6.4 Orthogonal standard-deviation projections (False-color) ⓘ

6.4.1 Primary map

| X | Y | Z |

6.4.2 Raw map

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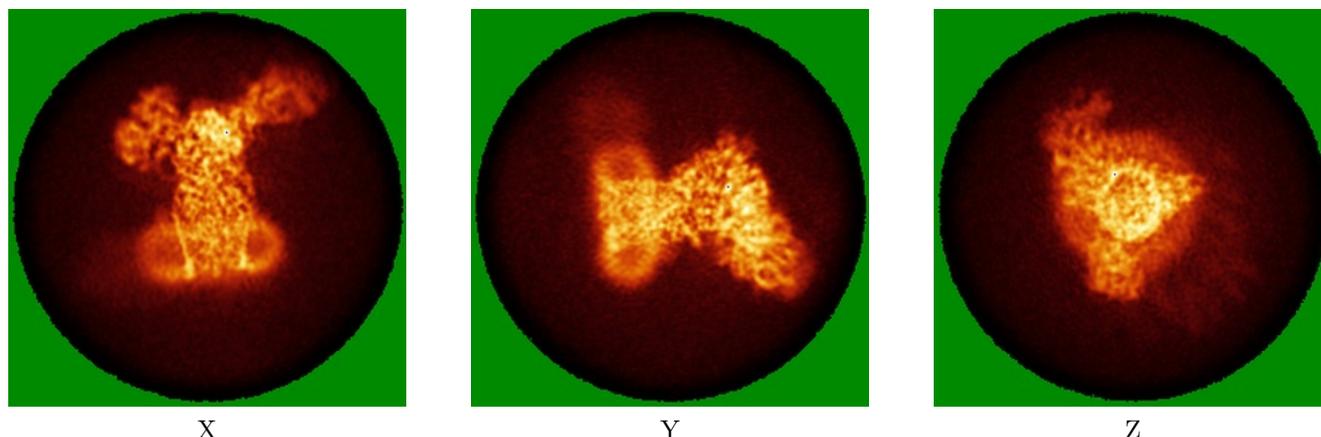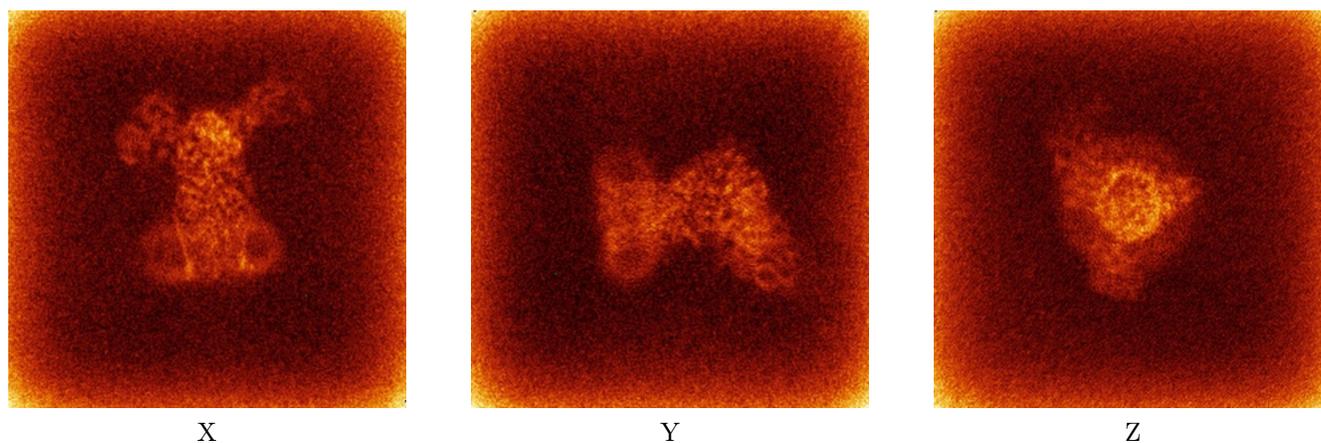
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views ⓘ

6.5.1 Primary map

| X | Y | Z |
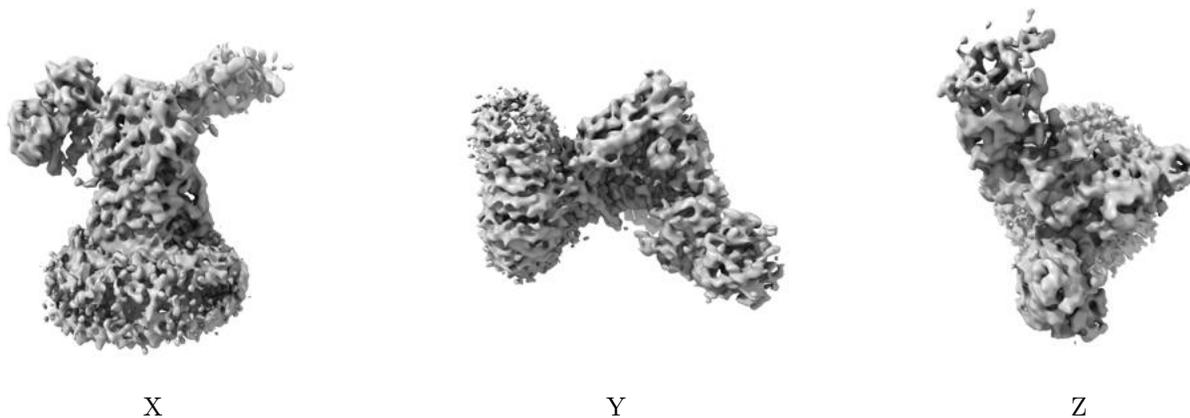
The images above show the 3D surface view of the map at the recommended contour level 0.11. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

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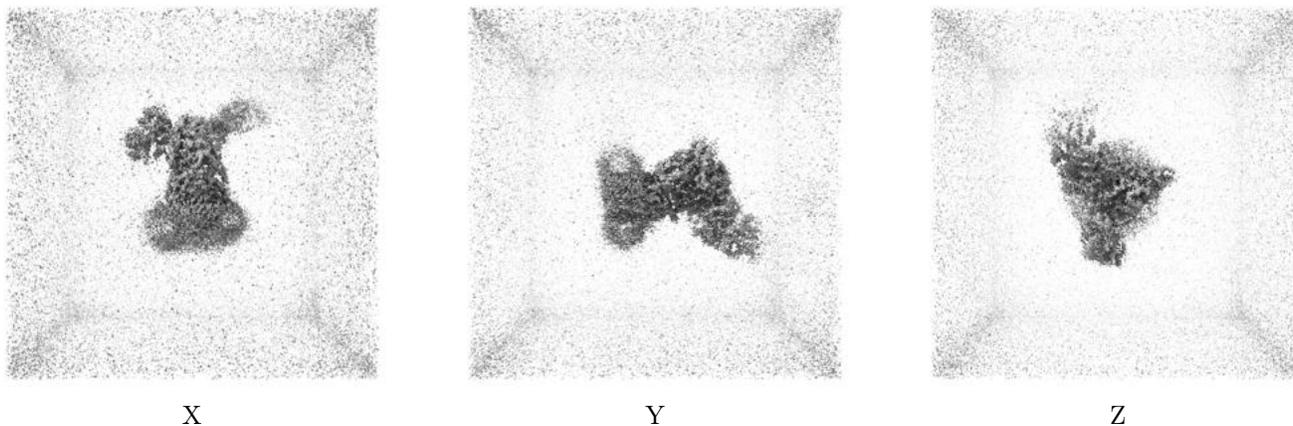
These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

6.6 Mask visualisation ⓘ

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

7 Map analysis ⓘ

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

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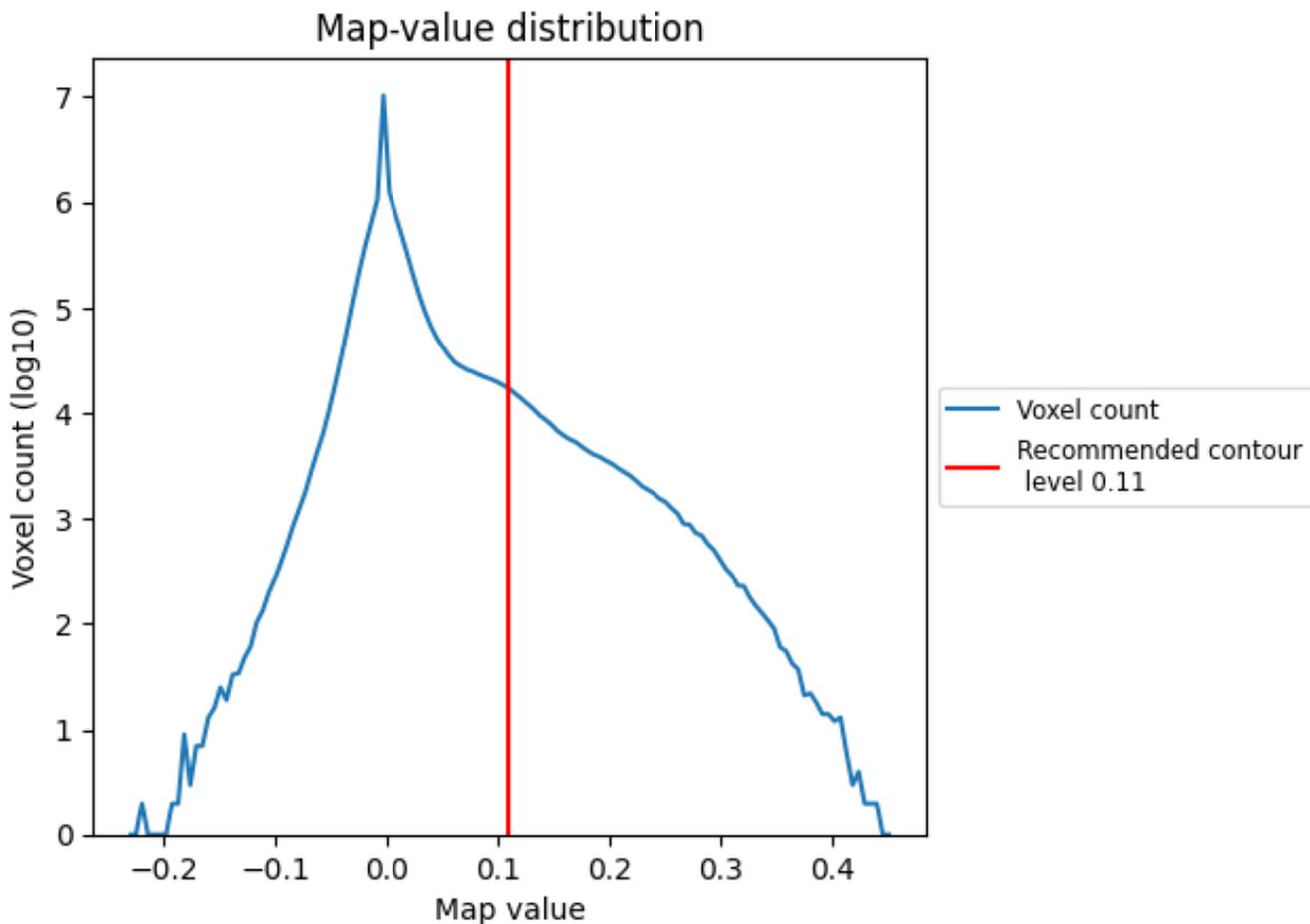
The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

7.2 Volume estimate ⓘ
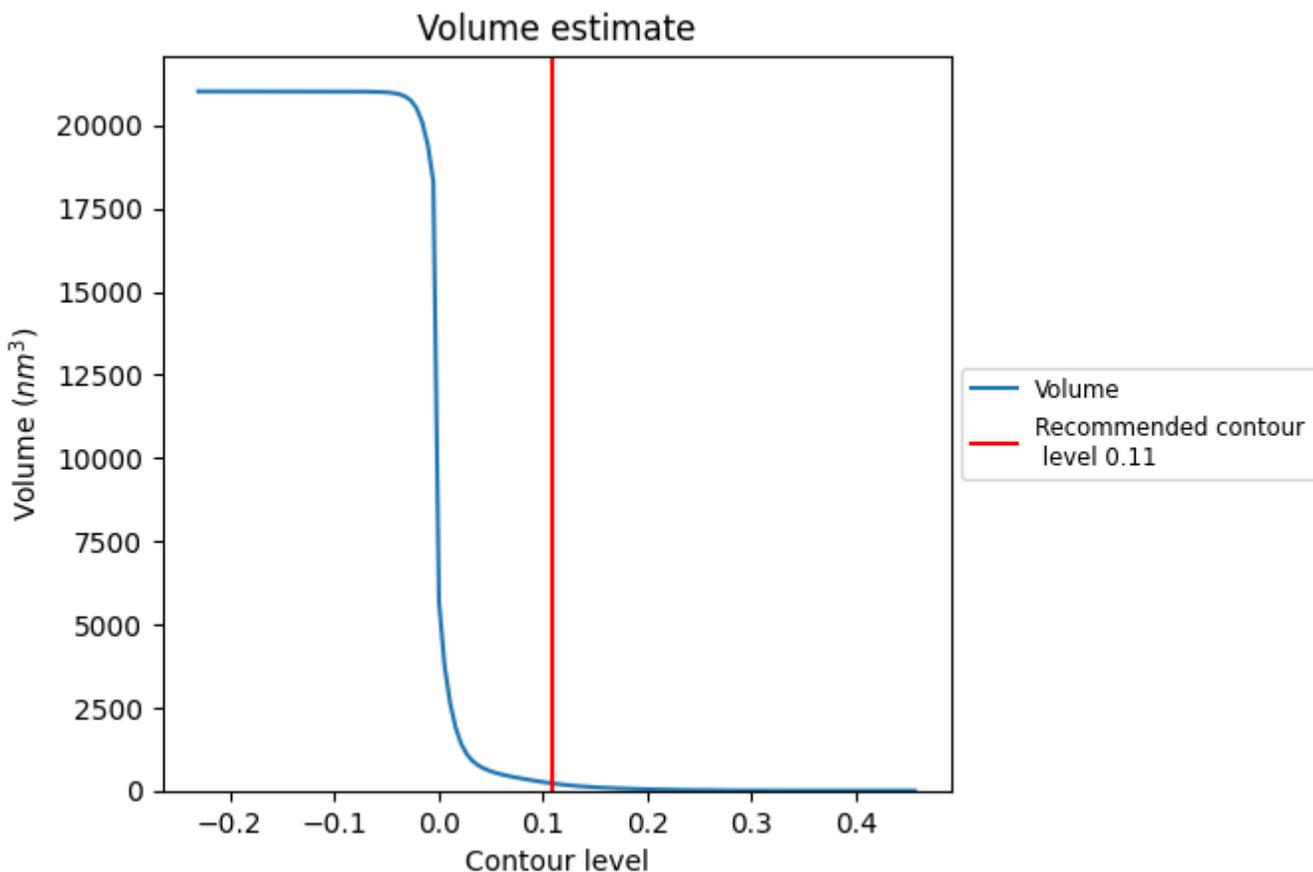
The volume at the recommended contour level is 215 nm^3; this corresponds to an approximate mass of 195 kDa.

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 ⓘ
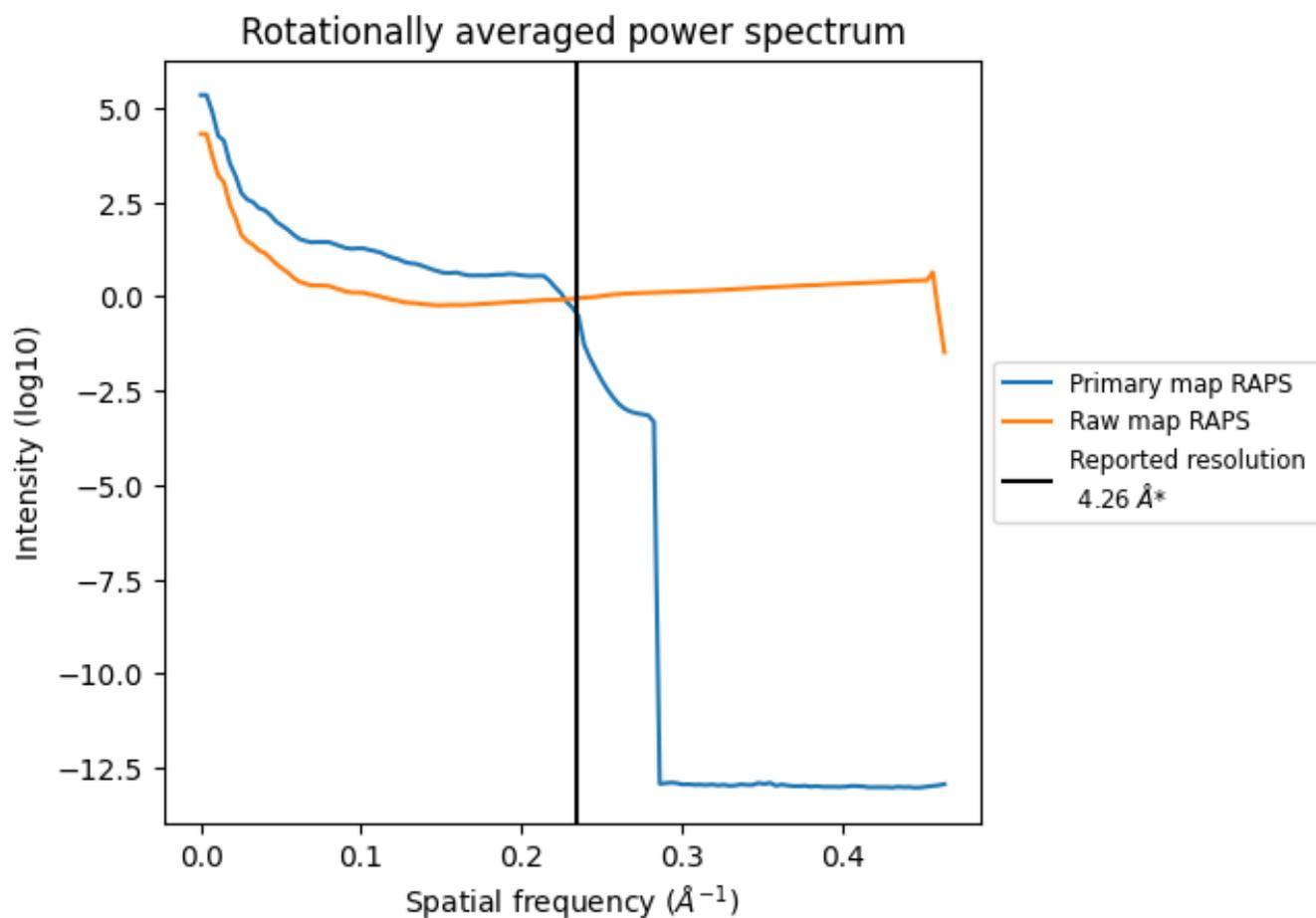
*Reported resolution corresponds to spatial frequency of 0.235 Å^{-1}

8 Fourier-Shell correlation ⓘ

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 ⓘ
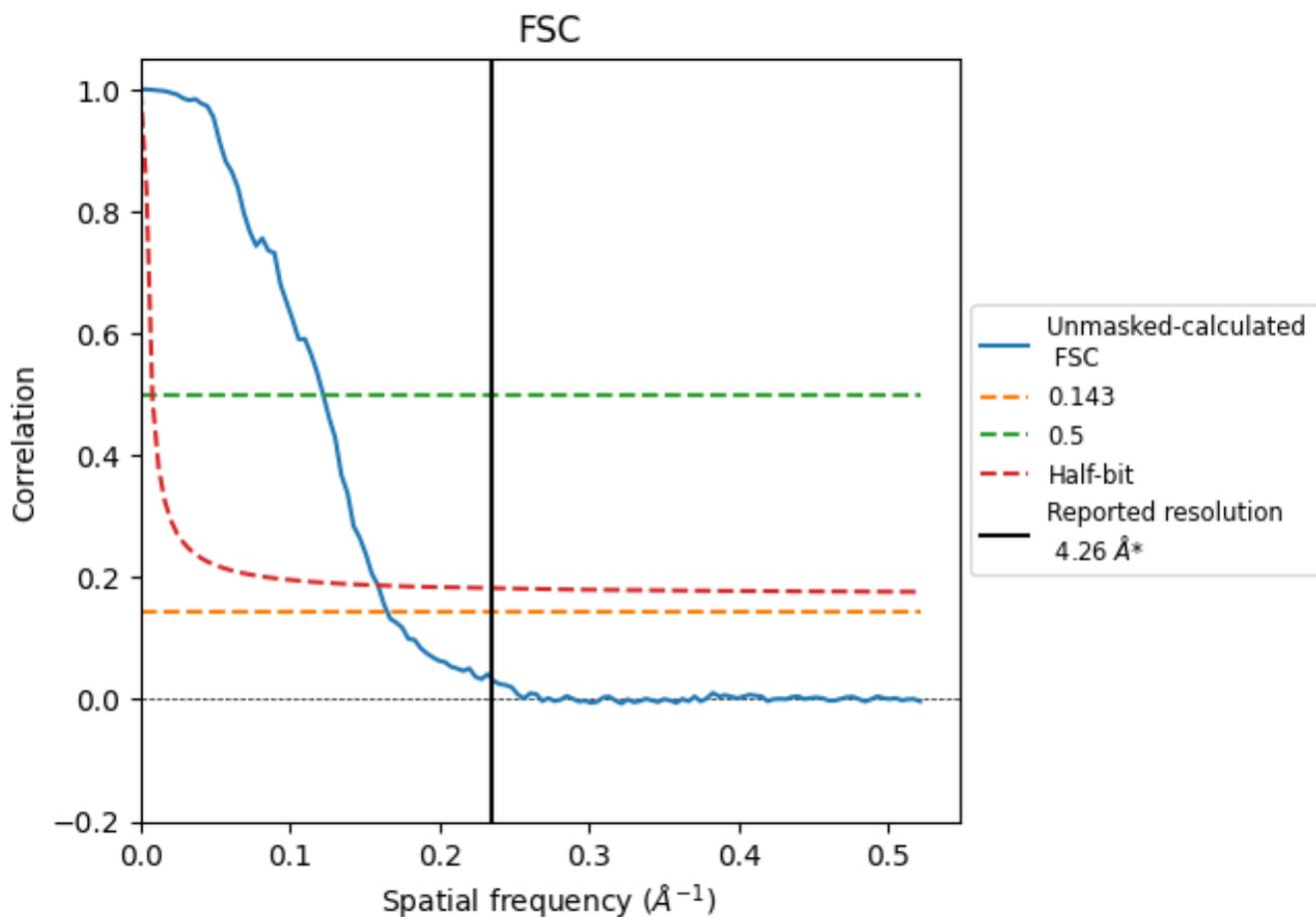
*Reported resolution corresponds to spatial frequency of 0.235 Å^{-1}

8.2　Resolution estimates　ⓘ

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.26	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	6.06	8.18	6.29

*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 6.06 differs from the reported value 4.26 by more than 10 %

9 Map-model fit (i)

This section contains information regarding the fit between EMDB map EMD-73667 and PDB model 9YZ4. Per-residue inclusion information can be found in section 3 on page 7.

9.1 Map-model overlay (i)

X   Y   Z
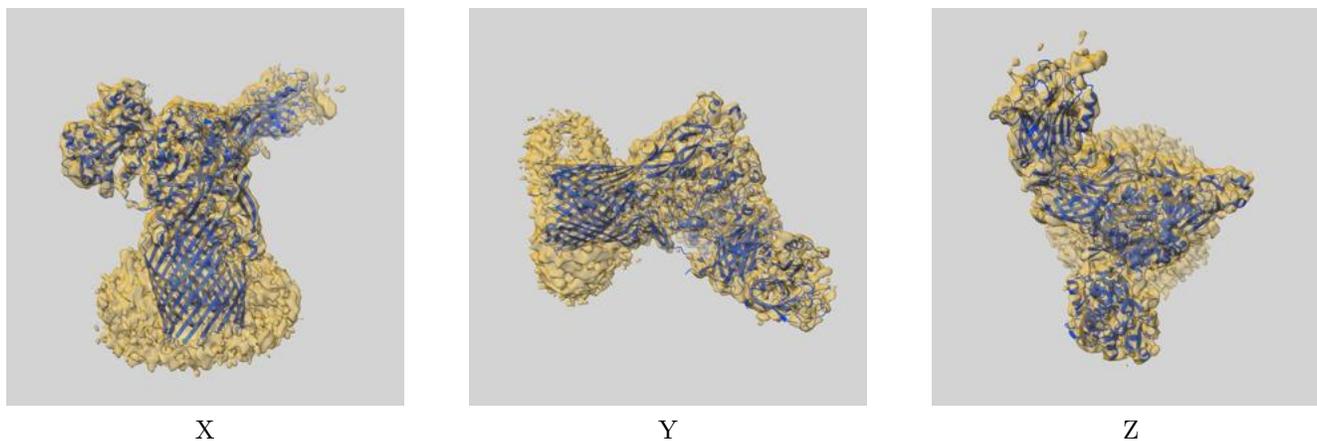
The images above show the 3D surface view of the map at the recommended contour level 0.11 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2   Q-score mapped to coordinate model   ⓘ


<div align="center">X   Y   Z</div>
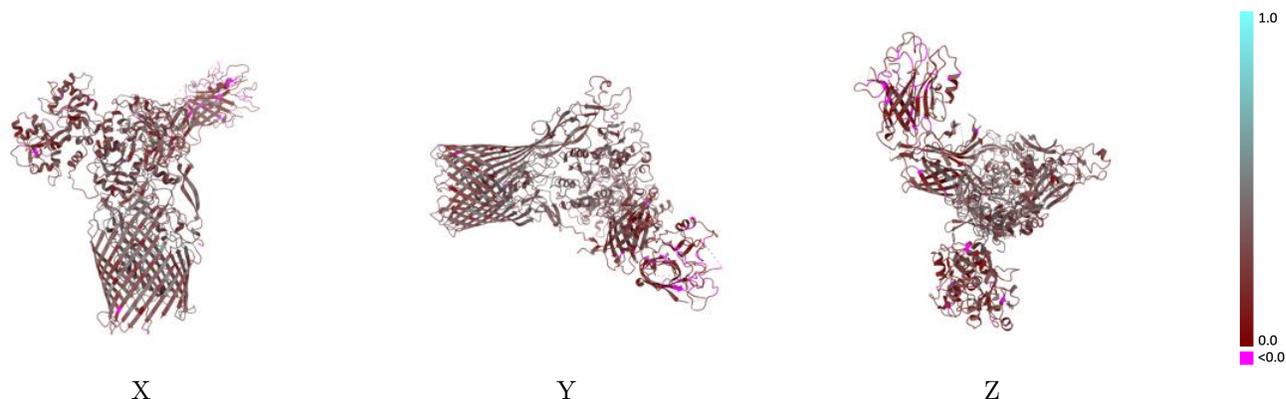
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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   ⓘ

<div align="center">X   Y   Z</div>
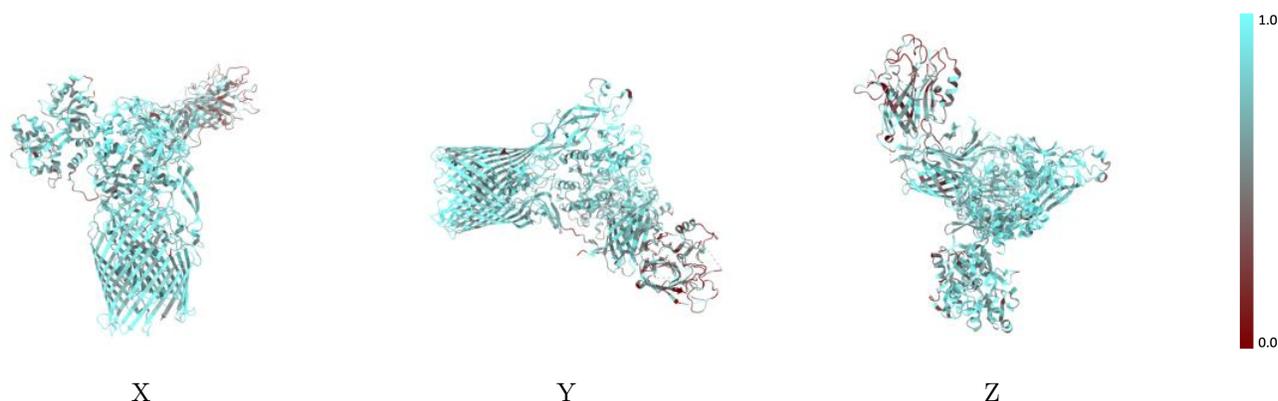
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.11).

9.4 Atom inclusion (i)
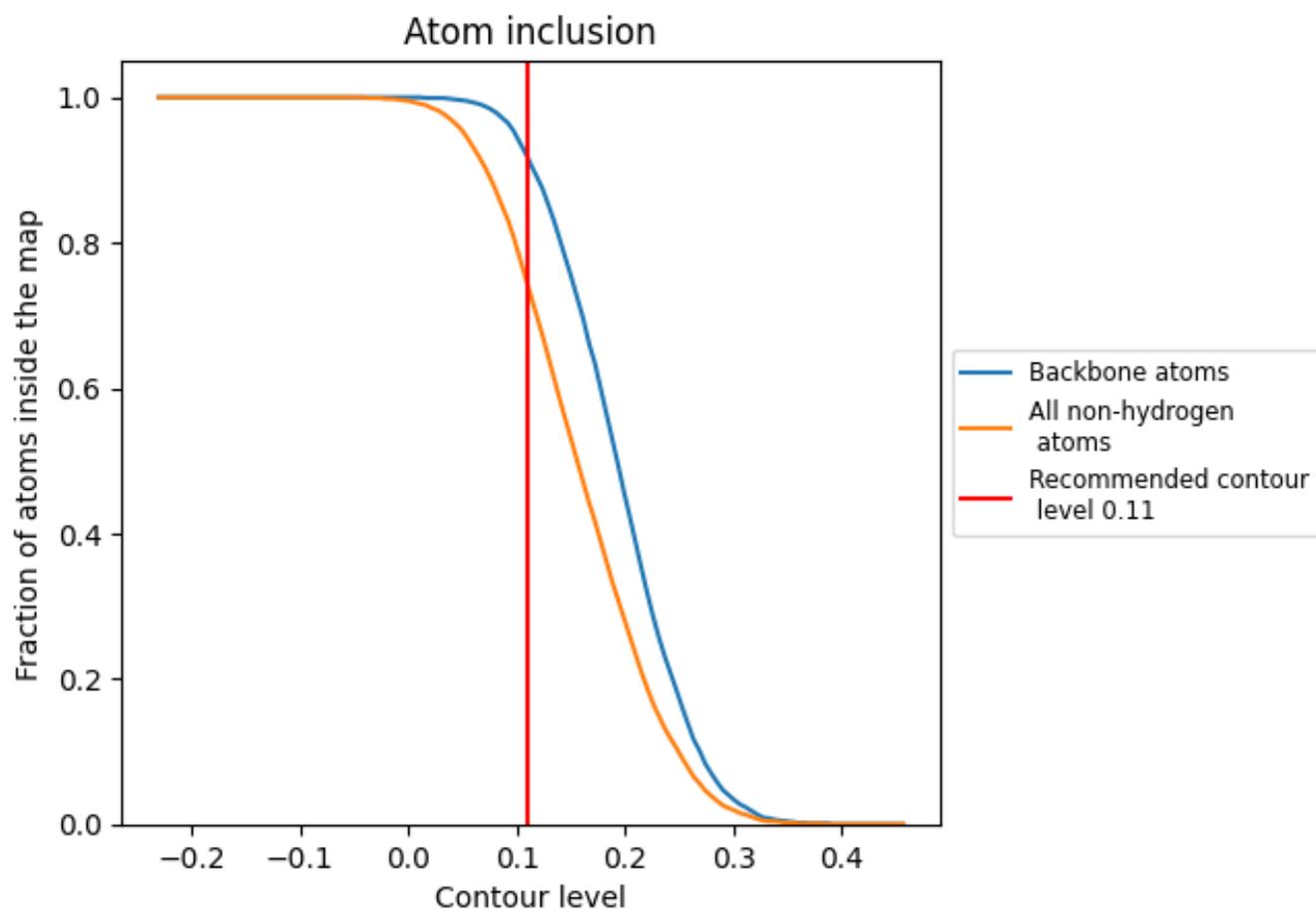
At the recommended contour level, 92% of all backbone atoms, 74% of all non-hydrogen atoms, are inside the map.

9.5   Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.11) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7440	0.2880
A	0.8070	0.3410
B	0.5940	0.2110
F	0.7790	0.2780

1.0

0.0
<0.0