Full wwPDB EM Validation Report

Nov 26, 2023 – 10:11 PM JST

PDB ID	:	8I6U
EMDB ID	:	EMD-35207
Title	:	The cryo-EM structure of OsCyc1 dimer state
Authors	:	Ma, X.L.; Xu, H.F.; Tong, Y.R.; Luo, Y.F.; Dong, Q.H.; Jiang, T.
Deposited on	:	2023-01-29
Resolution	:	7.90 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

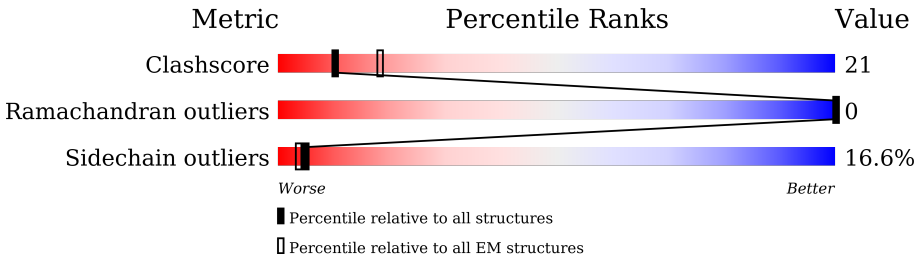
EMDB validation analysis	:	0.0.1.dev70
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance

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

The reported resolution of this entry is 7.90 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=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	775	23% 43% 39% 6% 11%
1	B	775	19% 44% 38% 6% 11%

2 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 11008 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 Syn-copalyl diphosphate synthase, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	B	688	Total	C	N	O	S	0	0
			5504	3492	944	1033	35		
1	A	688	Total	C	N	O	S	0	0
			5504	3492	944	1033	35		

There are 16 discrepancies between the modelled and reference sequences:

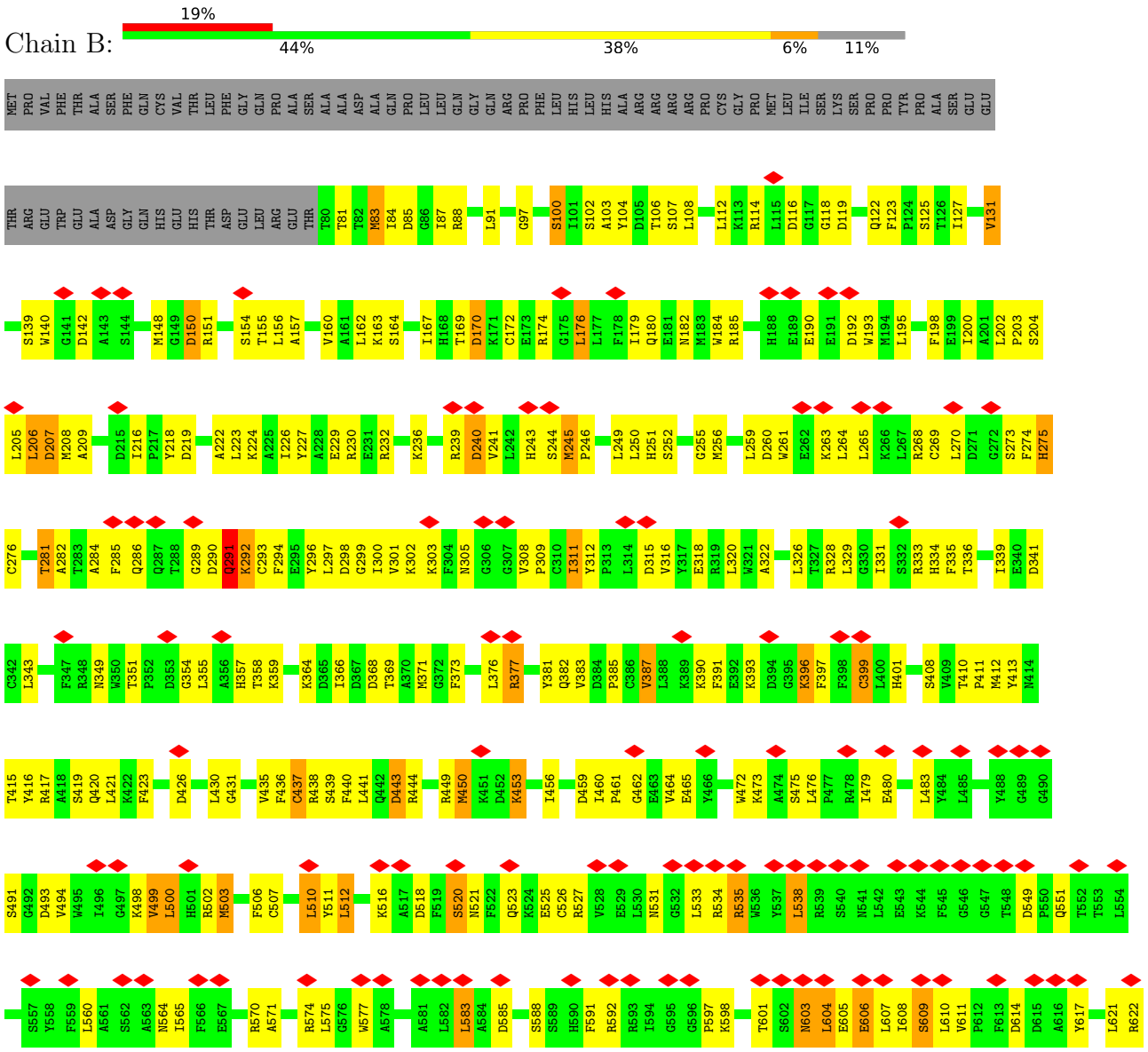
Chain	Residue	Modelled	Actual	Comment	Reference
B	768	GLU	-	expression tag	UNP Q0JF02
B	769	PHE	-	expression tag	UNP Q0JF02
B	770	HIS	-	expression tag	UNP Q0JF02
B	771	HIS	-	expression tag	UNP Q0JF02
B	772	HIS	-	expression tag	UNP Q0JF02
B	773	HIS	-	expression tag	UNP Q0JF02
B	774	HIS	-	expression tag	UNP Q0JF02
B	775	HIS	-	expression tag	UNP Q0JF02
A	768	GLU	-	expression tag	UNP Q0JF02
A	769	PHE	-	expression tag	UNP Q0JF02
A	770	HIS	-	expression tag	UNP Q0JF02
A	771	HIS	-	expression tag	UNP Q0JF02
A	772	HIS	-	expression tag	UNP Q0JF02
A	773	HIS	-	expression tag	UNP Q0JF02
A	774	HIS	-	expression tag	UNP Q0JF02
A	775	HIS	-	expression tag	UNP Q0JF02

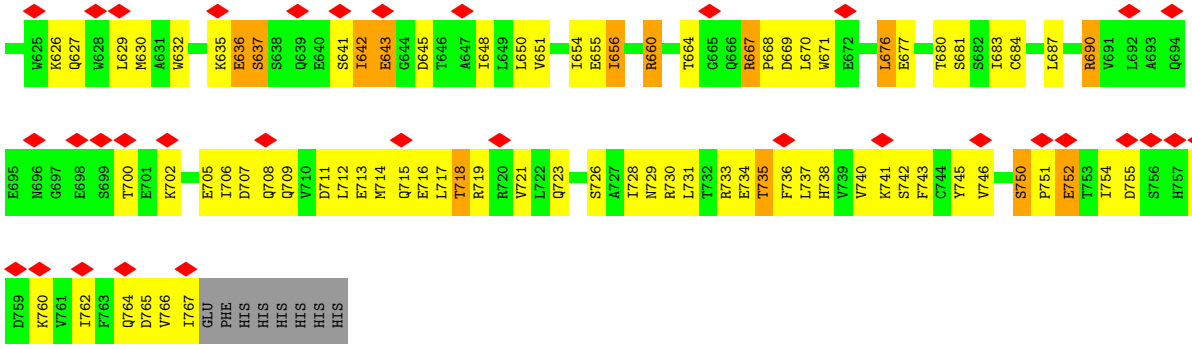
3 Residue-property plots (i)

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: Syn-copalyl diphosphate synthase, chloroplastic

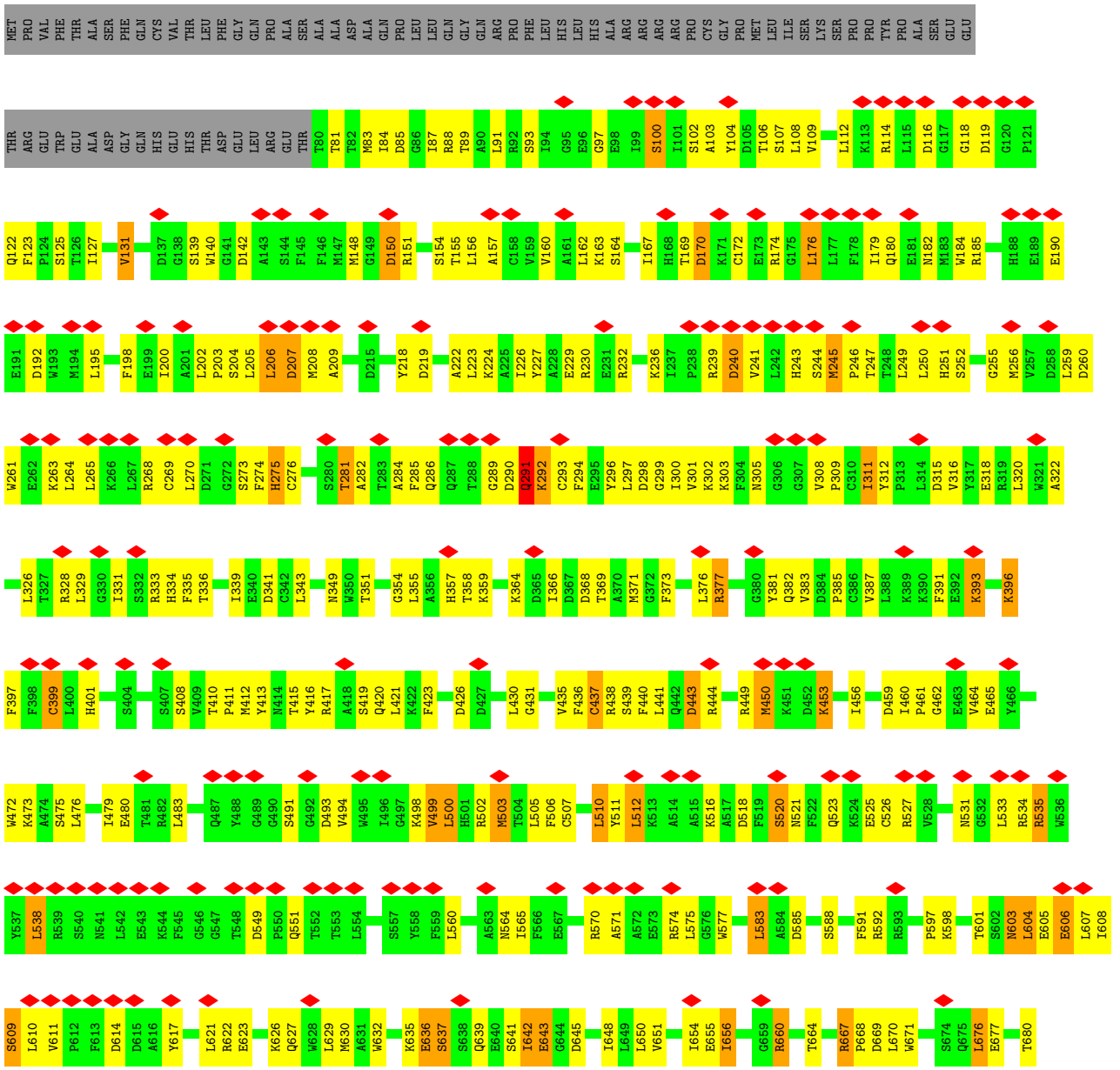
Chain B:

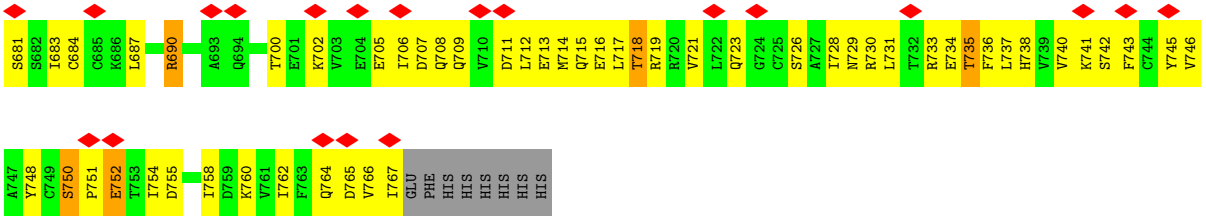




• Molecule 1: Syn-copalyl diphosphate synthase, chloroplastic

Chain A:




S681
S682
I683
C684
C685
K686
L687
R690
A693
Q694
T700
E701
K702
V703
E704
E705
I706
D707
Q708
Q709
V710
D711
L712
E713
M714
Q715
E716
L717
T718
R719
R720
V721
L722
Q723
G724
C725
S726
A727
I728
N729
R730
L731
T732
R733
E734
T735
F736
L737
H738
V739
V740
K741
S742
F743
C744
Y745
V746
A747
Y748
C749
S750
P751
E752
T753
I754
D755
I758
D759
K760
V761
I762
F763
Q764
D765
V766
I767
GLU
PHE
HIS
HIS
HIS
HIS
HIS
HIS

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	27984	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	60	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	2300	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.134	Depositor
Minimum map value	-0.079	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.025	Depositor
Map size (Å)	299.6, 299.6, 299.6	wwPDB
Map dimensions	280, 280, 280	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.07, 1.07, 1.07	Depositor

5 Model quality

5.1 Standard geometry

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	0.28	0/5627	0.51	3/7615 (0.0%)
1	B	0.28	0/5627	0.51	3/7615 (0.0%)
All	All	0.28	0/11254	0.51	6/15230 (0.0%)

There are no bond length outliers.

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	510	LEU	CA-CB-CG	8.28	134.35	115.30
1	A	510	LEU	CA-CB-CG	8.26	134.30	115.30
1	B	538	LEU	CA-CB-CG	5.37	127.66	115.30
1	A	538	LEU	CA-CB-CG	5.37	127.65	115.30
1	A	291	GLN	CA-CB-CG	5.21	124.86	113.40
1	B	291	GLN	CA-CB-CG	5.19	124.83	113.40

There are no chirality outliers.

There are no planarity outliers.

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	A	5504	0	5413	234	0
1	B	5504	0	5413	237	0
All	All	11008	0	10826	467	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 21.

All (467) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:291:GLN:HA	1:A:294:PHE:HB3	1.51	0.93
1:B:291:GLN:HA	1:B:294:PHE:HB3	1.51	0.91
1:B:664:THR:HG1	1:A:664:THR:HG1	1.19	0.90
1:B:291:GLN:OE1	1:B:291:GLN:N	2.11	0.82
1:A:291:GLN:OE1	1:A:291:GLN:N	2.11	0.80
1:B:444:ARG:HG2	1:B:449:ARG:HB2	1.64	0.79
1:A:444:ARG:HG2	1:A:449:ARG:HB2	1.63	0.79
1:A:377:ARG:HH22	1:A:421:LEU:HG	1.48	0.77
1:B:377:ARG:HH22	1:B:421:LEU:HG	1.48	0.77
1:A:643:GLU:HB3	1:A:684:CYS:HB3	1.65	0.77
1:B:516:LYS:O	1:B:520:SER:OG	2.03	0.77
1:B:643:GLU:HB3	1:B:684:CYS:HB3	1.65	0.76
1:A:516:LYS:O	1:A:520:SER:OG	2.03	0.75
1:A:250:LEU:HD23	1:A:268:ARG:HH22	1.52	0.74
1:B:269:CYS:HB2	1:B:273:SER:H	1.53	0.74
1:B:250:LEU:HD23	1:B:268:ARG:HH22	1.52	0.73
1:B:721:VAL:HG11	1:B:737:LEU:HB2	1.71	0.72
1:A:721:VAL:HG11	1:A:737:LEU:HB2	1.71	0.72
1:A:269:CYS:HB2	1:A:273:SER:H	1.53	0.72
1:A:97:GLY:HA3	1:A:312:TYR:HE1	1.55	0.72
1:B:351:THR:OG1	1:B:354:GLY:O	2.09	0.71
1:A:351:THR:OG1	1:A:354:GLY:O	2.09	0.70
1:A:460:ILE:HG23	1:A:461:PRO:HD3	1.74	0.70
1:B:97:GLY:HA3	1:B:312:TYR:HE1	1.55	0.70
1:B:460:ILE:HG23	1:B:461:PRO:HD3	1.74	0.70
1:B:614:ASP:HB2	1:B:617:TYR:HB2	1.74	0.69
1:B:729:ASN:HD21	1:B:731:LEU:HB2	1.58	0.69
1:B:355:LEU:HB2	1:B:369:THR:HG22	1.74	0.69
1:B:592:ARG:HH12	1:B:632:TRP:HH2	1.40	0.69
1:A:592:ARG:HH12	1:A:632:TRP:HH2	1.40	0.69
1:A:443:ASP:HB3	1:A:449:ARG:HH22	1.58	0.69
1:A:614:ASP:HB2	1:A:617:TYR:HB2	1.74	0.68
1:B:751:PRO:HA	1:B:754:ILE:HG22	1.76	0.68
1:B:443:ASP:HB3	1:B:449:ARG:HH22	1.58	0.68
1:A:729:ASN:HD21	1:A:731:LEU:HB2	1.58	0.68
1:A:355:LEU:HB2	1:A:369:THR:HG22	1.74	0.67
1:A:751:PRO:HA	1:A:754:ILE:HG22	1.76	0.67
1:B:246:PRO:HA	1:B:250:LEU:HD22	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:246:PRO:HA	1:A:250:LEU:HD22	1.77	0.66
1:B:218:TYR:O	1:B:224:LYS:NZ	2.29	0.66
1:A:690:ARG:HB2	1:A:706:ILE:HG21	1.79	0.65
1:B:606:GLU:O	1:B:609:SER:OG	2.15	0.65
1:A:218:TYR:O	1:A:224:LYS:NZ	2.29	0.65
1:A:229:GLU:HG3	1:A:232:ARG:HE	1.62	0.65
1:A:606:GLU:O	1:A:609:SER:OG	2.15	0.64
1:A:690:ARG:NH1	1:A:707:ASP:HB2	2.13	0.64
1:B:690:ARG:HB2	1:B:706:ILE:HG21	1.79	0.64
1:B:229:GLU:HG3	1:B:232:ARG:HE	1.62	0.63
1:B:296:TYR:OH	1:B:312:TYR:O	2.08	0.63
1:A:668:PRO:HA	1:A:671:TRP:HB2	1.79	0.63
1:B:668:PRO:HA	1:B:671:TRP:HB2	1.79	0.63
1:B:690:ARG:NH1	1:B:707:ASP:HB2	2.13	0.63
1:B:604:LEU:HD13	1:B:629:LEU:HD22	1.82	0.62
1:B:300:ILE:HD12	1:B:308:VAL:HG21	1.82	0.62
1:A:339:ILE:O	1:A:343:LEU:HG	2.00	0.62
1:A:716:GLU:OE2	1:A:719:ARG:NE	2.31	0.62
1:B:204:SER:HA	1:B:207:ASP:HB2	1.82	0.62
1:B:291:GLN:H	1:B:291:GLN:CD	2.02	0.62
1:A:204:SER:HA	1:A:207:ASP:HB2	1.82	0.61
1:A:712:LEU:HD12	1:A:713:GLU:HG2	1.82	0.61
1:B:712:LEU:HD12	1:B:713:GLU:HG2	1.82	0.61
1:B:339:ILE:O	1:B:343:LEU:HG	2.00	0.61
1:A:473:LYS:HD2	1:A:714:MET:HG2	1.82	0.61
1:A:302:LYS:O	1:A:305:ASN:ND2	2.33	0.61
1:A:534:ARG:HH22	1:A:551:GLN:HG3	1.66	0.61
1:A:527:ARG:NH2	1:A:762:ILE:O	2.34	0.61
1:B:302:LYS:O	1:B:305:ASN:ND2	2.33	0.61
1:A:224:LYS:HA	1:A:227:TYR:HD2	1.65	0.61
1:A:604:LEU:HD13	1:A:629:LEU:HD22	1.82	0.60
1:A:300:ILE:HD12	1:A:308:VAL:HG21	1.81	0.60
1:A:726:SER:OG	1:A:733:ARG:NH1	2.34	0.60
1:B:224:LYS:HA	1:B:227:TYR:HD2	1.65	0.60
1:A:368:ASP:HA	1:A:371:MET:HG2	1.84	0.60
1:A:176:LEU:HA	1:A:179:ILE:HG12	1.83	0.60
1:B:527:ARG:NH2	1:B:762:ILE:O	2.34	0.60
1:A:660:ARG:HH12	1:A:731:LEU:HB3	1.67	0.60
1:B:660:ARG:HH12	1:B:731:LEU:HB3	1.67	0.60
1:B:726:SER:OG	1:B:733:ARG:NH1	2.34	0.60
1:B:667:ARG:NH2	1:A:623:GLU:OE1	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:709:GLN:NE2	1:A:639:GLN:OE1	2.35	0.59
1:B:473:LYS:HD2	1:B:714:MET:HG2	1.82	0.59
1:B:716:GLU:OE2	1:B:719:ARG:NE	2.31	0.59
1:B:534:ARG:HH22	1:B:551:GLN:HG3	1.66	0.59
1:B:648:ILE:HA	1:B:651:VAL:HG12	1.83	0.59
1:A:376:LEU:HG	1:A:381:TYR:HB2	1.85	0.59
1:A:491:SER:O	1:A:502:ARG:NH2	2.36	0.59
1:B:491:SER:O	1:B:502:ARG:NH2	2.36	0.59
1:A:648:ILE:HA	1:A:651:VAL:HG12	1.83	0.59
1:B:176:LEU:HA	1:B:179:ILE:HG12	1.83	0.59
1:A:140:TRP:HD1	1:A:155:THR:HG1	1.51	0.59
1:A:114:ARG:HD3	1:A:118:GLY:HA3	1.85	0.58
1:B:368:ASP:HA	1:B:371:MET:HG2	1.84	0.58
1:A:637:SER:O	1:A:637:SER:OG	2.20	0.58
1:B:140:TRP:HD1	1:B:155:THR:HG1	1.52	0.58
1:B:376:LEU:HG	1:B:381:TYR:HB2	1.84	0.58
1:A:564:ASN:ND2	1:A:742:SER:OG	2.37	0.58
1:B:114:ARG:HD3	1:B:118:GLY:HA3	1.85	0.58
1:A:677:GLU:O	1:A:680:THR:OG1	2.21	0.58
1:B:195:LEU:HB2	1:B:198:PHE:HB2	1.86	0.57
1:B:148:MET:HA	1:B:151:ARG:HB2	1.86	0.57
1:B:416:TYR:HE1	1:B:438:ARG:HH21	1.53	0.57
1:B:637:SER:O	1:B:637:SER:OG	2.20	0.57
1:A:296:TYR:OH	1:A:312:TYR:O	2.08	0.57
1:A:195:LEU:HB2	1:A:198:PHE:HB2	1.86	0.57
1:A:377:ARG:HH12	1:A:421:LEU:HB3	1.69	0.57
1:A:641:SER:OG	1:A:642:ILE:N	2.38	0.57
1:B:377:ARG:HH12	1:B:421:LEU:HB3	1.69	0.57
1:A:743:PHE:HA	1:A:746:VAL:HG22	1.87	0.56
1:B:643:GLU:OE1	1:B:643:GLU:HA	2.05	0.56
1:B:719:ARG:NH1	1:B:723:GLN:OE1	2.39	0.56
1:B:564:ASN:ND2	1:B:742:SER:OG	2.37	0.56
1:A:719:ARG:NH1	1:A:723:GLN:OE1	2.39	0.56
1:A:643:GLU:HA	1:A:643:GLU:OE1	2.05	0.56
1:A:416:TYR:HE1	1:A:438:ARG:HH21	1.53	0.56
1:A:737:LEU:HA	1:A:740:VAL:HG22	1.88	0.56
1:B:641:SER:OG	1:B:642:ILE:N	2.38	0.56
1:B:743:PHE:HA	1:B:746:VAL:HG22	1.88	0.56
1:A:711:ASP:HA	1:A:714:MET:HB3	1.88	0.55
1:B:408:SER:HB2	1:B:453:LYS:HB2	1.88	0.55
1:B:711:ASP:HA	1:B:714:MET:HB3	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:148:MET:HA	1:A:151:ARG:HB2	1.86	0.55
1:A:377:ARG:HH11	1:A:423:PHE:HZ	1.55	0.55
1:A:521:ASN:O	1:A:525:GLU:HG2	2.06	0.55
1:B:604:LEU:HD12	1:B:604:LEU:H	1.71	0.55
1:A:604:LEU:H	1:A:604:LEU:HD12	1.71	0.55
1:A:765:ASP:OD1	1:A:766:VAL:N	2.40	0.55
1:B:377:ARG:HH11	1:B:423:PHE:HZ	1.55	0.55
1:B:203:PRO:O	1:B:207:ASP:N	2.39	0.55
1:B:765:ASP:OD1	1:B:766:VAL:N	2.40	0.55
1:B:521:ASN:O	1:B:525:GLU:HG2	2.06	0.55
1:B:737:LEU:HA	1:B:740:VAL:HG22	1.87	0.55
1:A:203:PRO:O	1:A:207:ASP:N	2.39	0.55
1:A:114:ARG:HD3	1:A:119:ASP:H	1.72	0.54
1:A:651:VAL:HG21	1:A:736:PHE:CE1	2.42	0.54
1:A:408:SER:HB2	1:A:453:LYS:HB2	1.88	0.54
1:A:717:LEU:HD21	1:A:740:VAL:HG21	1.89	0.54
1:B:81:THR:HA	1:B:84:ILE:HD12	1.89	0.54
1:A:81:THR:HA	1:A:84:ILE:HD12	1.89	0.54
1:A:333:ARG:HG3	1:A:334:HIS:CD2	2.42	0.54
1:A:336:THR:HA	1:A:339:ILE:HD12	1.90	0.54
1:B:114:ARG:HD3	1:B:119:ASP:H	1.72	0.54
1:B:476:LEU:HB2	1:B:479:ILE:HG22	1.90	0.54
1:B:651:VAL:HG21	1:B:736:PHE:CE1	2.42	0.54
1:B:333:ARG:HG3	1:B:334:HIS:CD2	2.42	0.54
1:B:336:THR:HA	1:B:339:ILE:HD12	1.89	0.54
1:A:476:LEU:HB2	1:A:479:ILE:HG22	1.90	0.54
1:B:261:TRP:CZ2	1:B:284:ALA:HB3	2.44	0.53
1:B:598:LYS:HB2	1:B:636:GLU:OE1	2.08	0.53
1:A:714:MET:SD	1:A:717:LEU:HD23	2.49	0.53
1:A:598:LYS:HB2	1:A:636:GLU:OE1	2.08	0.53
1:B:410:THR:HA	1:B:413:TYR:HB3	1.91	0.53
1:B:676:LEU:O	1:B:680:THR:HG23	2.09	0.53
1:B:714:MET:SD	1:B:717:LEU:HD23	2.49	0.53
1:A:410:THR:HA	1:A:413:TYR:HB3	1.90	0.53
1:A:676:LEU:O	1:A:680:THR:HG23	2.09	0.53
1:B:635:LYS:NZ	1:B:642:ILE:HG22	2.24	0.53
1:A:635:LYS:NZ	1:A:642:ILE:HG22	2.24	0.53
1:B:717:LEU:HD21	1:B:740:VAL:HG21	1.89	0.52
1:A:261:TRP:CZ2	1:A:284:ALA:HB3	2.44	0.52
1:A:735:THR:HA	1:A:738:HIS:ND1	2.24	0.52
1:A:726:SER:HB2	1:A:728:ILE:HG12	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:608:ILE:O	1:B:611:VAL:HG13	2.09	0.52
1:A:608:ILE:O	1:A:611:VAL:HG13	2.09	0.52
1:B:298:ASP:OD1	1:B:299:GLY:N	2.42	0.52
1:B:714:MET:O	1:B:718:THR:OG1	2.27	0.52
1:A:298:ASP:OD1	1:A:299:GLY:N	2.42	0.52
1:A:714:MET:O	1:A:718:THR:OG1	2.27	0.52
1:A:396:LYS:HD2	1:A:397:PHE:H	1.76	0.51
1:B:349:ASN:ND2	1:B:359:LYS:HG3	2.26	0.51
1:B:475:SER:H	1:B:741:LYS:HE3	1.75	0.51
1:B:677:GLU:O	1:B:680:THR:OG1	2.21	0.51
1:A:475:SER:H	1:A:741:LYS:HE3	1.75	0.51
1:B:104:TYR:CZ	1:B:108:LEU:HD11	2.46	0.51
1:A:377:ARG:HB2	1:A:383:VAL:HG21	1.93	0.51
1:B:651:VAL:HG11	1:B:736:PHE:CE1	2.46	0.51
1:B:735:THR:HA	1:B:738:HIS:ND1	2.24	0.51
1:B:412:MET:O	1:B:415:THR:OG1	2.20	0.51
1:A:349:ASN:ND2	1:A:359:LYS:HG3	2.26	0.51
1:B:366:ILE:HG22	1:B:399:CYS:HA	1.92	0.51
1:B:726:SER:HB2	1:B:728:ILE:HG12	1.92	0.51
1:A:104:TYR:CZ	1:A:108:LEU:HD11	2.46	0.51
1:A:366:ILE:HG22	1:A:399:CYS:HA	1.92	0.51
1:A:702:LYS:O	1:A:706:ILE:HG13	2.11	0.51
1:B:728:ILE:O	1:B:733:ARG:NH1	2.44	0.51
1:A:251:HIS:HB2	1:A:275:HIS:CD2	2.46	0.51
1:B:322:ALA:O	1:B:326:LEU:HG	2.11	0.50
1:B:250:LEU:HD23	1:B:268:ARG:NH2	2.25	0.50
1:B:358:THR:OG1	1:B:359:LYS:N	2.44	0.50
1:A:642:ILE:O	1:A:642:ILE:HG13	2.12	0.50
1:A:728:ILE:O	1:A:733:ARG:NH1	2.44	0.50
1:B:396:LYS:HD2	1:B:397:PHE:H	1.76	0.50
1:A:755:ASP:OD1	1:A:755:ASP:N	2.45	0.50
1:B:702:LYS:O	1:B:706:ILE:HG13	2.11	0.50
1:A:291:GLN:H	1:A:291:GLN:CD	2.02	0.50
1:A:459:ASP:OD1	1:A:462:GLY:N	2.41	0.50
1:A:635:LYS:HZ3	1:A:642:ILE:HG22	1.77	0.50
1:A:651:VAL:HG11	1:A:736:PHE:CE1	2.46	0.50
1:B:377:ARG:HB2	1:B:383:VAL:HG21	1.93	0.50
1:A:423:PHE:HB2	1:A:426:ASP:OD1	2.12	0.50
1:B:423:PHE:HB2	1:B:426:ASP:OD1	2.12	0.49
1:B:251:HIS:HB2	1:B:275:HIS:CD2	2.46	0.49
1:B:459:ASP:OD1	1:B:462:GLY:N	2.41	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:282:ALA:HA	1:B:285:PHE:HB3	1.94	0.49
1:B:715:GLN:HG3	1:B:716:GLU:H	1.78	0.49
1:A:285:PHE:HE2	1:A:297:LEU:HD13	1.78	0.49
1:B:156:LEU:HD11	1:B:205:LEU:HD21	1.95	0.49
1:B:260:ASP:N	1:B:260:ASP:OD1	2.46	0.49
1:A:322:ALA:O	1:A:326:LEU:HG	2.12	0.49
1:B:642:ILE:O	1:B:642:ILE:HG13	2.12	0.49
1:A:326:LEU:HA	1:A:329:LEU:HG	1.94	0.49
1:B:127:ILE:O	1:B:131:VAL:HG12	2.13	0.49
1:B:456:ILE:HD11	1:B:494:VAL:H	1.78	0.49
1:A:252:SER:OG	1:A:498:LYS:NZ	2.38	0.49
1:A:358:THR:OG1	1:A:359:LYS:N	2.44	0.49
1:A:516:LYS:HE2	1:A:767:ILE:HG13	1.94	0.49
1:B:516:LYS:HE2	1:B:767:ILE:HG13	1.94	0.49
1:A:282:ALA:HA	1:A:285:PHE:HB3	1.94	0.49
1:A:456:ILE:HD11	1:A:494:VAL:H	1.78	0.49
1:A:758:ILE:O	1:A:762:ILE:HG22	2.13	0.49
1:B:608:ILE:HG23	1:B:621:LEU:HD22	1.95	0.48
1:B:656:ILE:HD12	1:B:656:ILE:HA	1.73	0.48
1:B:755:ASP:OD1	1:B:755:ASP:N	2.45	0.48
1:B:285:PHE:HE2	1:B:297:LEU:HD13	1.78	0.48
1:B:419:SER:HA	1:B:430:LEU:HD23	1.95	0.48
1:A:328:ARG:HH21	1:A:417:ARG:HH22	1.61	0.48
1:B:222:ALA:O	1:B:226:ILE:HG12	2.13	0.48
1:B:560:LEU:HD21	1:B:746:VAL:HG11	1.95	0.48
1:A:570:ARG:HH12	1:A:731:LEU:HD22	1.79	0.48
1:B:112:LEU:HD13	1:B:286:GLN:HA	1.95	0.48
1:B:241:VAL:O	1:B:245:MET:HE2	2.14	0.48
1:B:252:SER:OG	1:B:498:LYS:NZ	2.38	0.48
1:B:326:LEU:HA	1:B:329:LEU:HG	1.94	0.48
1:A:667:ARG:N	1:A:668:PRO:HD2	2.29	0.48
1:A:112:LEU:HD13	1:A:286:GLN:HA	1.95	0.48
1:A:156:LEU:HD11	1:A:205:LEU:HD21	1.95	0.48
1:A:419:SER:HA	1:A:430:LEU:HD23	1.95	0.48
1:B:667:ARG:N	1:B:668:PRO:HD2	2.29	0.48
1:B:328:ARG:HH21	1:B:417:ARG:HH22	1.61	0.48
1:B:450:MET:H	1:B:450:MET:HG2	1.41	0.48
1:A:162:LEU:HD22	1:A:167:ILE:HB	1.96	0.48
1:A:222:ALA:O	1:A:226:ILE:HG12	2.13	0.48
1:A:656:ILE:HD12	1:A:656:ILE:HA	1.73	0.48
1:B:162:LEU:HD22	1:B:167:ILE:HB	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:758:ILE:O	1:B:762:ILE:HG22	2.13	0.47
1:B:570:ARG:HH12	1:B:731:LEU:HD22	1.79	0.47
1:A:316:VAL:HG12	1:A:320:LEU:HD23	1.96	0.47
1:A:684:CYS:O	1:A:687:LEU:HG	2.15	0.47
1:B:185:ARG:HA	1:B:185:ARG:NE	2.29	0.47
1:A:127:ILE:O	1:A:131:VAL:HG12	2.13	0.47
1:A:185:ARG:HA	1:A:185:ARG:NE	2.29	0.47
1:A:285:PHE:CE1	1:A:289:GLY:HA2	2.49	0.47
1:B:240:ASP:OD1	1:B:240:ASP:N	2.47	0.47
1:A:560:LEU:HD21	1:A:746:VAL:HG11	1.95	0.47
1:A:608:ILE:HG23	1:A:621:LEU:HD22	1.95	0.47
1:B:421:LEU:HD21	1:B:472:TRP:CG	2.50	0.47
1:B:564:ASN:HD21	1:B:738:HIS:C	2.18	0.47
1:B:684:CYS:O	1:B:687:LEU:HG	2.15	0.47
1:A:564:ASN:HD21	1:A:738:HIS:C	2.18	0.47
1:A:715:GLN:HG3	1:A:716:GLU:H	1.78	0.47
1:B:224:LYS:H	1:B:224:LYS:HD2	1.80	0.47
1:A:260:ASP:OD1	1:A:260:ASP:N	2.46	0.47
1:A:421:LEU:HD21	1:A:472:TRP:CG	2.50	0.47
1:B:204:SER:OG	1:B:255:GLY:HA2	2.15	0.47
1:B:396:LYS:HZ3	1:B:436:PHE:HZ	1.62	0.47
1:B:437:CYS:HA	1:B:440:PHE:HB3	1.97	0.47
1:A:179:ILE:HG13	1:A:180:GLN:N	2.30	0.47
1:A:224:LYS:H	1:A:224:LYS:HD2	1.80	0.47
1:B:285:PHE:CE1	1:B:289:GLY:HA2	2.49	0.47
1:B:291:GLN:O	1:B:294:PHE:N	2.48	0.47
1:A:431:GLY:O	1:A:435:VAL:HG13	2.15	0.47
1:B:316:VAL:HG12	1:B:320:LEU:HD23	1.96	0.46
1:B:431:GLY:O	1:B:435:VAL:HG13	2.15	0.46
1:B:163:LYS:NZ	1:B:172:CYS:HB3	2.30	0.46
1:B:635:LYS:HZ3	1:B:642:ILE:HG22	1.79	0.46
1:A:163:LYS:NZ	1:A:172:CYS:HB3	2.30	0.46
1:A:437:CYS:HA	1:A:440:PHE:HB3	1.97	0.46
1:A:204:SER:OG	1:A:255:GLY:HA2	2.15	0.46
1:A:285:PHE:HE1	1:A:289:GLY:HA2	1.80	0.46
1:B:285:PHE:HE1	1:B:289:GLY:HA2	1.80	0.46
1:A:156:LEU:O	1:A:160:VAL:HG13	2.16	0.46
1:A:203:PRO:HG2	1:A:230:ARG:HH11	1.80	0.46
1:A:292:LYS:HD2	1:A:292:LYS:C	2.36	0.46
1:A:391:PHE:HB2	1:A:397:PHE:HD1	1.81	0.46
1:B:268:ARG:HD3	1:B:274:PHE:CE1	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:156:LEU:O	1:B:160:VAL:HG13	2.16	0.46
1:A:142:ASP:HB3	1:A:500:LEU:HD11	1.98	0.46
1:A:182:ASN:HA	1:A:184:TRP:NE1	2.31	0.46
1:A:291:GLN:O	1:A:294:PHE:N	2.48	0.46
1:A:268:ARG:HD3	1:A:274:PHE:CE1	2.50	0.46
1:B:142:ASP:HB3	1:B:500:LEU:HD11	1.98	0.46
1:B:203:PRO:HG2	1:B:230:ARG:HH11	1.80	0.46
1:B:523:GLN:OE1	1:B:762:ILE:HA	2.16	0.46
1:B:588:SER:O	1:B:592:ARG:HG2	2.16	0.46
1:B:735:THR:O	1:B:738:HIS:HB2	2.16	0.46
1:A:97:GLY:HA3	1:A:312:TYR:CE1	2.45	0.46
1:A:523:GLN:OE1	1:A:762:ILE:HA	2.16	0.46
1:B:179:ILE:HG13	1:B:180:GLN:N	2.30	0.45
1:B:292:LYS:HD2	1:B:292:LYS:C	2.36	0.45
1:B:667:ARG:H	1:B:667:ARG:HD3	1.81	0.45
1:A:100:SER:HB2	1:A:502:ARG:O	2.16	0.45
1:A:588:SER:O	1:A:592:ARG:HG2	2.16	0.45
1:A:240:ASP:OD1	1:A:240:ASP:N	2.47	0.45
1:B:518:ASP:HA	1:B:521:ASN:HD21	1.82	0.45
1:A:604:LEU:H	1:A:604:LEU:CD1	2.27	0.45
1:B:163:LYS:HZ2	1:B:172:CYS:HB3	1.81	0.45
1:B:170:ASP:O	1:B:174:ARG:HB2	2.17	0.45
1:B:182:ASN:HA	1:B:184:TRP:NE1	2.31	0.45
1:B:535:ARG:H	1:B:535:ARG:HG2	1.45	0.45
1:B:100:SER:HB2	1:B:502:ARG:O	2.16	0.45
1:A:170:ASP:O	1:A:174:ARG:HB2	2.17	0.45
1:A:182:ASN:HA	1:A:184:TRP:CD1	2.52	0.45
1:A:226:ILE:HA	1:A:229:GLU:OE1	2.17	0.45
1:A:89:THR:O	1:A:93:SER:OG	2.26	0.45
1:B:226:ILE:HA	1:B:229:GLU:OE1	2.17	0.45
1:A:667:ARG:H	1:A:667:ARG:HD3	1.81	0.45
1:A:735:THR:O	1:A:738:HIS:HB2	2.16	0.45
1:A:750:SER:HB2	1:A:752:GLU:OE1	2.17	0.45
1:B:750:SER:HB2	1:B:752:GLU:OE1	2.17	0.45
1:A:190:GLU:CD	1:A:192:ASP:H	2.21	0.45
1:A:241:VAL:HG12	1:A:245:MET:HE2	1.98	0.44
1:A:354:GLY:C	1:A:355:LEU:HD12	2.37	0.44
1:B:182:ASN:HA	1:B:184:TRP:CD1	2.52	0.44
1:B:249:LEU:HD12	1:B:249:LEU:H	1.83	0.44
1:B:354:GLY:C	1:B:355:LEU:HD12	2.38	0.44
1:A:184:TRP:CZ3	1:A:185:ARG:HD2	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:518:ASP:HA	1:A:521:ASN:HD21	1.82	0.44
1:B:114:ARG:HA	1:B:122:GLN:HE21	1.83	0.44
1:B:391:PHE:HB2	1:B:397:PHE:HD1	1.81	0.44
1:B:456:ILE:HD11	1:B:493:ASP:HA	2.00	0.44
1:B:97:GLY:HA3	1:B:312:TYR:CE1	2.45	0.44
1:A:87:ILE:O	1:A:91:LEU:HG	2.18	0.44
1:A:114:ARG:HA	1:A:122:GLN:HE21	1.83	0.44
1:A:249:LEU:HD12	1:A:249:LEU:H	1.83	0.44
1:A:268:ARG:HD3	1:A:274:PHE:CD1	2.53	0.44
1:A:351:THR:OG1	1:A:364:LYS:NZ	2.51	0.44
1:A:518:ASP:HA	1:A:521:ASN:ND2	2.32	0.44
1:A:535:ARG:H	1:A:535:ARG:HG2	1.45	0.44
1:A:598:LYS:HD3	1:A:598:LYS:HA	1.82	0.44
1:B:184:TRP:CZ3	1:B:185:ARG:HD2	2.53	0.44
1:B:190:GLU:CD	1:B:192:ASP:H	2.21	0.44
1:B:351:THR:OG1	1:B:364:LYS:NZ	2.51	0.44
1:A:250:LEU:HD23	1:A:268:ARG:NH2	2.25	0.44
1:B:198:PHE:CZ	1:B:202:LEU:HD22	2.53	0.44
1:B:200:ILE:HG22	1:B:255:GLY:HA3	2.00	0.44
1:B:276:CYS:O	1:B:311:ILE:HA	2.17	0.44
1:B:438:ARG:O	1:B:441:LEU:HG	2.18	0.44
1:B:518:ASP:HA	1:B:521:ASN:ND2	2.32	0.44
1:B:627:GLN:O	1:B:630:MET:HB3	2.18	0.44
1:A:102:SER:HB3	1:A:309:PRO:HA	2.00	0.44
1:A:198:PHE:CZ	1:A:202:LEU:HD22	2.53	0.44
1:A:200:ILE:HG22	1:A:255:GLY:HA3	2.00	0.44
1:A:276:CYS:O	1:A:311:ILE:HA	2.17	0.44
1:B:87:ILE:O	1:B:91:LEU:HG	2.18	0.43
1:B:597:PRO:HD2	1:B:636:GLU:HG3	2.00	0.43
1:B:709:GLN:HA	1:B:712:LEU:HG	2.00	0.43
1:A:438:ARG:O	1:A:441:LEU:HG	2.18	0.43
1:A:456:ILE:HD11	1:A:493:ASP:HA	2.00	0.43
1:B:103:ALA:O	1:B:106:THR:OG1	2.35	0.43
1:B:273:SER:OG	1:B:274:PHE:N	2.51	0.43
1:A:412:MET:O	1:A:415:THR:OG1	2.20	0.43
1:B:83:MET:H	1:B:83:MET:HG2	1.57	0.43
1:A:597:PRO:HD2	1:A:636:GLU:HG3	2.00	0.43
1:A:651:VAL:HG11	1:A:736:PHE:HE1	1.84	0.43
1:B:157:ALA:O	1:B:160:VAL:HG22	2.19	0.43
1:B:583:LEU:HD13	1:B:583:LEU:HA	1.79	0.43
1:B:268:ARG:HD3	1:B:274:PHE:CD1	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:651:VAL:HG11	1:B:736:PHE:HE1	1.84	0.43
1:A:157:ALA:O	1:A:160:VAL:HG22	2.19	0.43
1:A:206:LEU:HA	1:A:209:ALA:HB3	2.01	0.43
1:A:503:MET:SD	1:A:503:MET:N	2.92	0.43
1:B:206:LEU:HA	1:B:209:ALA:HB3	2.01	0.43
1:B:603:ASN:OD1	1:B:603:ASN:C	2.57	0.43
1:A:577:TRP:NE1	1:A:650:LEU:HD13	2.34	0.43
1:A:627:GLN:O	1:A:630:MET:HB3	2.18	0.43
1:A:709:GLN:HA	1:A:712:LEU:HG	2.00	0.43
1:B:660:ARG:NH1	1:B:731:LEU:HB3	2.34	0.43
1:A:273:SER:OG	1:A:274:PHE:N	2.51	0.43
1:A:707:ASP:OD1	1:A:748:TYR:OH	2.27	0.43
1:B:315:ASP:OD1	1:B:358:THR:HA	2.18	0.43
1:A:393:LYS:HD2	1:A:393:LYS:HA	1.27	0.43
1:A:396:LYS:HZ3	1:A:436:PHE:HZ	1.64	0.43
1:A:506:PHE:HA	1:A:511:TYR:HE2	1.84	0.43
1:B:373:PHE:CZ	1:B:385:PRO:HB3	2.54	0.42
1:B:577:TRP:NE1	1:B:650:LEU:HD13	2.34	0.42
1:A:505:LEU:O	1:A:511:TYR:OH	2.26	0.42
1:B:396:LYS:HD3	1:B:396:LYS:HA	1.86	0.42
1:B:503:MET:SD	1:B:503:MET:N	2.92	0.42
1:B:506:PHE:HA	1:B:511:TYR:HE2	1.83	0.42
1:B:274:PHE:CE2	1:B:281:THR:HA	2.55	0.42
1:B:318:GLU:HG3	1:B:506:PHE:HE1	1.84	0.42
1:B:705:GLU:O	1:B:708:GLN:NE2	2.52	0.42
1:A:114:ARG:HA	1:A:122:GLN:NE2	2.35	0.42
1:A:626:LYS:HA	1:A:629:LEU:HD12	2.01	0.42
1:A:730:ARG:HG3	1:A:731:LEU:H	1.84	0.42
1:B:102:SER:HB3	1:B:309:PRO:HA	2.00	0.42
1:B:399:CYS:SG	1:B:411:PRO:HB3	2.60	0.42
1:B:730:ARG:HG3	1:B:731:LEU:H	1.84	0.42
1:A:705:GLU:O	1:A:708:GLN:NE2	2.52	0.42
1:B:655:GLU:HA	1:B:660:ARG:HG3	2.02	0.42
1:A:290:ASP:OD1	1:A:292:LYS:HB3	2.18	0.42
1:A:315:ASP:OD1	1:A:358:THR:HA	2.18	0.42
1:A:373:PHE:CZ	1:A:385:PRO:HB3	2.54	0.42
1:B:290:ASP:OD1	1:B:292:LYS:HB3	2.19	0.42
1:A:603:ASN:C	1:A:603:ASN:OD1	2.57	0.42
1:B:531:ASN:O	1:B:535:ARG:HG2	2.20	0.41
1:B:564:ASN:O	1:B:565:ILE:HD13	2.20	0.41
1:B:114:ARG:HA	1:B:122:GLN:NE2	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:626:LYS:HA	1:B:629:LEU:HD12	2.01	0.41
1:A:318:GLU:HG3	1:A:506:PHE:HE1	1.84	0.41
1:A:583:LEU:HD13	1:A:583:LEU:HA	1.78	0.41
1:B:331:ILE:HA	1:B:333:ARG:NH1	2.35	0.41
1:A:103:ALA:O	1:A:106:THR:OG1	2.35	0.41
1:A:261:TRP:CH2	1:A:284:ALA:HB3	2.55	0.41
1:A:331:ILE:HA	1:A:333:ARG:NH1	2.35	0.41
1:A:245:MET:HB2	1:A:247:THR:HG23	2.03	0.41
1:A:251:HIS:HE1	1:A:311:ILE:HG23	1.85	0.41
1:A:274:PHE:CE2	1:A:281:THR:HA	2.55	0.41
1:A:450:MET:H	1:A:450:MET:HG2	1.41	0.41
1:B:591:PHE:HD2	1:B:632:TRP:CH2	2.39	0.41
1:A:571:ALA:HA	1:A:574:ARG:HB3	2.03	0.41
1:B:243:HIS:HD2	1:B:263:LYS:HB2	1.86	0.41
1:A:109:VAL:HA	1:A:112:LEU:HD23	2.03	0.41
1:A:399:CYS:SG	1:A:411:PRO:HB3	2.60	0.41
1:A:420:GLN:OE1	1:A:472:TRP:HB3	2.20	0.41
1:A:476:LEU:HD11	1:A:745:TYR:CG	2.56	0.41
1:B:261:TRP:CD1	1:B:264:LEU:HD12	2.55	0.41
1:B:592:ARG:HH22	1:B:632:TRP:HZ3	1.69	0.41
1:A:123:PHE:CD2	1:A:301:VAL:HG11	2.56	0.41
1:A:592:ARG:HH22	1:A:632:TRP:HZ3	1.69	0.41
1:A:311:ILE:H	1:A:311:ILE:HG13	1.75	0.41
1:B:251:HIS:HE1	1:B:311:ILE:HG23	1.85	0.41
1:B:264:LEU:O	1:B:268:ARG:NH1	2.45	0.41
1:B:420:GLN:OE1	1:B:472:TRP:HB3	2.20	0.41
1:A:261:TRP:CD1	1:A:264:LEU:HD12	2.56	0.41
1:A:591:PHE:HD2	1:A:632:TRP:CH2	2.38	0.41
1:B:261:TRP:CH2	1:B:284:ALA:HB3	2.55	0.41
1:B:263:LYS:HE2	1:B:263:LYS:HB3	1.90	0.41
1:B:512:LEU:HD12	1:B:516:LYS:HD2	2.03	0.41
1:A:151:ARG:HA	1:A:154:SER:OG	2.21	0.41
1:B:104:TYR:CE2	1:B:108:LEU:HD11	2.56	0.40
1:B:180:GLN:OE1	1:B:216:ILE:HA	2.22	0.40
1:B:476:LEU:HD11	1:B:745:TYR:CG	2.56	0.40
1:B:664:THR:OG1	1:A:664:THR:OG1	2.07	0.40
1:B:690:ARG:HH11	1:B:707:ASP:HB2	1.86	0.40
1:B:731:LEU:O	1:B:735:THR:OG1	2.39	0.40
1:A:655:GLU:HA	1:A:660:ARG:HG3	2.02	0.40
1:B:151:ARG:HA	1:B:154:SER:OG	2.21	0.40
1:B:185:ARG:HA	1:B:185:ARG:HE	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:564:ASN:O	1:A:565:ILE:HD13	2.20	0.40
1:B:150:ASP:OD1	1:B:499:VAL:HG22	2.21	0.40
1:B:190:GLU:OE1	1:B:193:TRP:N	2.52	0.40
1:B:565:ILE:HD11	1:B:738:HIS:ND1	2.37	0.40
1:B:577:TRP:HE1	1:B:650:LEU:HD13	1.87	0.40
1:A:150:ASP:OD1	1:A:499:VAL:HG22	2.21	0.40
1:A:396:LYS:HD3	1:A:396:LYS:HA	1.86	0.40
1:A:531:ASN:O	1:A:535:ARG:HG2	2.20	0.40
1:B:88:ARG:HB2	1:B:335:PHE:HE1	1.87	0.40
1:B:123:PHE:CD2	1:B:301:VAL:HG11	2.56	0.40
1:A:88:ARG:HB2	1:A:335:PHE:HE1	1.86	0.40
1:A:104:TYR:CE2	1:A:108:LEU:HD11	2.56	0.40
1:A:243:HIS:HD2	1:A:263:LYS:HB2	1.86	0.40
1:A:512:LEU:HD12	1:A:516:LYS:HD2	2.03	0.40
1:A:520:SER:O	1:A:523:GLN:HB2	2.21	0.40
1:A:660:ARG:NH1	1:A:731:LEU:HB3	2.33	0.40
1:B:387:VAL:O	1:B:390:LYS:HG2	2.21	0.40
1:B:520:SER:O	1:B:523:GLN:HB2	2.21	0.40
1:B:571:ALA:HA	1:B:574:ARG:HB3	2.03	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	686/775 (88%)	633 (92%)	53 (8%)	0	100	100
1	B	686/775 (88%)	634 (92%)	52 (8%)	0	100	100
All	All	1372/1550 (88%)	1267 (92%)	105 (8%)	0	100	100

There are no Ramachandran outliers to report.

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	597/672 (89%)	498 (83%)	99 (17%)	2 12
1	B	597/672 (89%)	498 (83%)	99 (17%)	2 12
All	All	1194/1344 (89%)	996 (83%)	198 (17%)	5 12

All (198) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	83	MET
1	B	85	ASP
1	B	100	SER
1	B	107	SER
1	B	116	ASP
1	B	125	SER
1	B	131	VAL
1	B	139	SER
1	B	150	ASP
1	B	164	SER
1	B	169	THR
1	B	170	ASP
1	B	176	LEU
1	B	206	LEU
1	B	207	ASP
1	B	208	MET
1	B	219	ASP
1	B	223	LEU
1	B	236	LYS
1	B	239	ARG
1	B	240	ASP
1	B	244	SER
1	B	245	MET
1	B	256	MET
1	B	259	LEU
1	B	265	LEU
1	B	270	LEU

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Mol	Chain	Res	Type
1	B	275	HIS
1	B	281	THR
1	B	291	GLN
1	B	292	LYS
1	B	293	CYS
1	B	303	LYS
1	B	311	ILE
1	B	341	ASP
1	B	357	HIS
1	B	377	ARG
1	B	382	GLN
1	B	387	VAL
1	B	393	LYS
1	B	396	LYS
1	B	399	CYS
1	B	401	HIS
1	B	437	CYS
1	B	439	SER
1	B	443	ASP
1	B	450	MET
1	B	453	LYS
1	B	464	VAL
1	B	465	GLU
1	B	480	GLU
1	B	483	LEU
1	B	499	VAL
1	B	500	LEU
1	B	503	MET
1	B	507	CYS
1	B	510	LEU
1	B	512	LEU
1	B	520	SER
1	B	526	CYS
1	B	533	LEU
1	B	535	ARG
1	B	538	LEU
1	B	549	ASP
1	B	575	LEU
1	B	583	LEU
1	B	585	ASP
1	B	601	THR
1	B	603	ASN

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Mol	Chain	Res	Type
1	B	604	LEU
1	B	605	GLU
1	B	606	GLU
1	B	607	LEU
1	B	609	SER
1	B	610	LEU
1	B	622	ARG
1	B	636	GLU
1	B	637	SER
1	B	642	ILE
1	B	643	GLU
1	B	645	ASP
1	B	654	ILE
1	B	656	ILE
1	B	660	ARG
1	B	667	ARG
1	B	669	ASP
1	B	670	LEU
1	B	676	LEU
1	B	681	SER
1	B	683	ILE
1	B	690	ARG
1	B	700	THR
1	B	718	THR
1	B	734	GLU
1	B	735	THR
1	B	750	SER
1	B	752	GLU
1	B	760	LYS
1	B	764	GLN
1	A	83	MET
1	A	85	ASP
1	A	100	SER
1	A	107	SER
1	A	116	ASP
1	A	125	SER
1	A	131	VAL
1	A	139	SER
1	A	150	ASP
1	A	164	SER
1	A	169	THR
1	A	170	ASP

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Mol	Chain	Res	Type
1	A	176	LEU
1	A	206	LEU
1	A	207	ASP
1	A	208	MET
1	A	219	ASP
1	A	223	LEU
1	A	236	LYS
1	A	239	ARG
1	A	240	ASP
1	A	244	SER
1	A	245	MET
1	A	256	MET
1	A	259	LEU
1	A	265	LEU
1	A	270	LEU
1	A	275	HIS
1	A	281	THR
1	A	291	GLN
1	A	292	LYS
1	A	293	CYS
1	A	303	LYS
1	A	311	ILE
1	A	341	ASP
1	A	357	HIS
1	A	377	ARG
1	A	382	GLN
1	A	387	VAL
1	A	393	LYS
1	A	396	LYS
1	A	399	CYS
1	A	401	HIS
1	A	437	CYS
1	A	439	SER
1	A	443	ASP
1	A	450	MET
1	A	453	LYS
1	A	464	VAL
1	A	465	GLU
1	A	480	GLU
1	A	483	LEU
1	A	499	VAL
1	A	500	LEU

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Mol	Chain	Res	Type
1	A	503	MET
1	A	507	CYS
1	A	510	LEU
1	A	512	LEU
1	A	520	SER
1	A	526	CYS
1	A	533	LEU
1	A	535	ARG
1	A	538	LEU
1	A	549	ASP
1	A	575	LEU
1	A	583	LEU
1	A	585	ASP
1	A	601	THR
1	A	603	ASN
1	A	604	LEU
1	A	605	GLU
1	A	606	GLU
1	A	607	LEU
1	A	609	SER
1	A	610	LEU
1	A	622	ARG
1	A	636	GLU
1	A	637	SER
1	A	642	ILE
1	A	643	GLU
1	A	645	ASP
1	A	654	ILE
1	A	656	ILE
1	A	660	ARG
1	A	667	ARG
1	A	669	ASP
1	A	670	LEU
1	A	676	LEU
1	A	681	SER
1	A	683	ILE
1	A	690	ARG
1	A	700	THR
1	A	718	THR
1	A	734	GLU
1	A	735	THR
1	A	750	SER

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Mol	Chain	Res	Type
1	A	752	GLU
1	A	760	LYS
1	A	764	GLN

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

Mol	Chain	Res	Type
1	B	122	GLN
1	B	251	HIS
1	B	275	HIS
1	B	334	HIS
1	B	661	HIS
1	B	708	GLN
1	B	709	GLN
1	B	729	ASN
1	A	122	GLN
1	A	251	HIS
1	A	275	HIS
1	A	334	HIS
1	A	661	HIS
1	A	675	GLN
1	A	708	GLN
1	A	709	GLN
1	A	729	ASN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry

There are no ligands in this entry.

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.

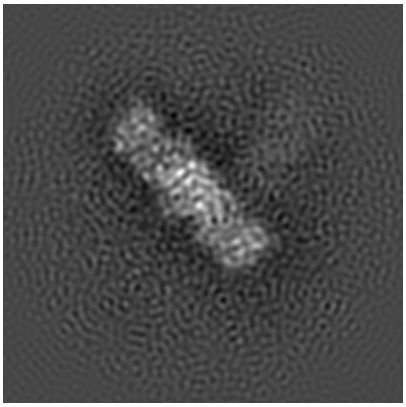
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-35207. These allow visual inspection of the internal detail of the map and identification of artifacts.

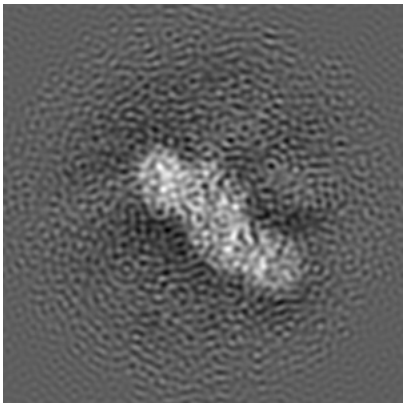
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

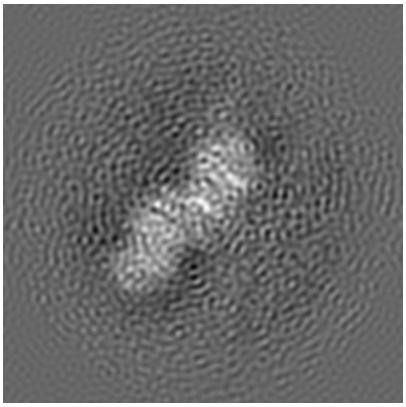
6.1.1 Primary map



X



Y

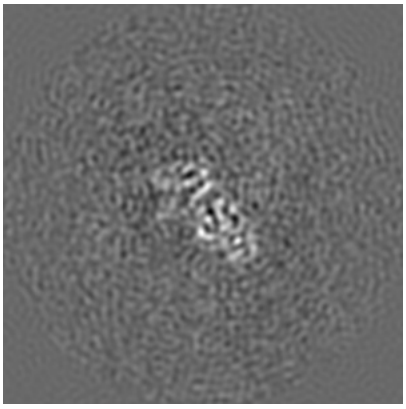


Z

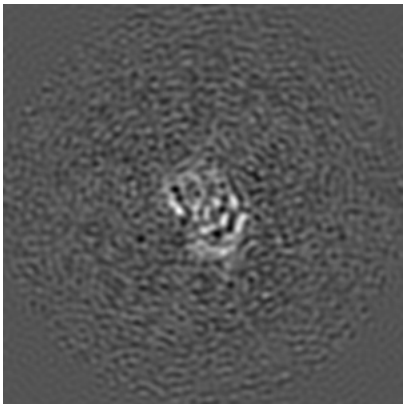
The images above show the map projected in three orthogonal directions.

6.2 Central slices

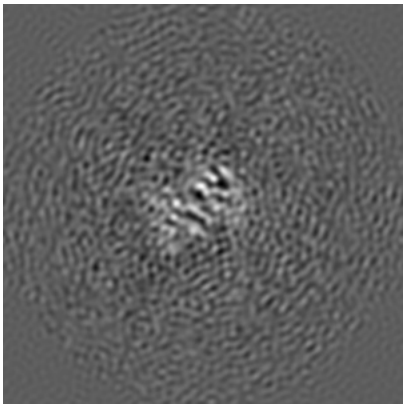
6.2.1 Primary map



X Index: 140



Y Index: 140

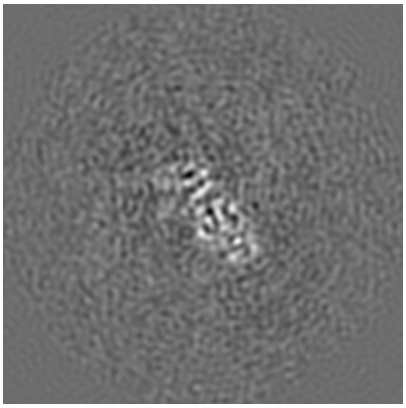


Z Index: 140

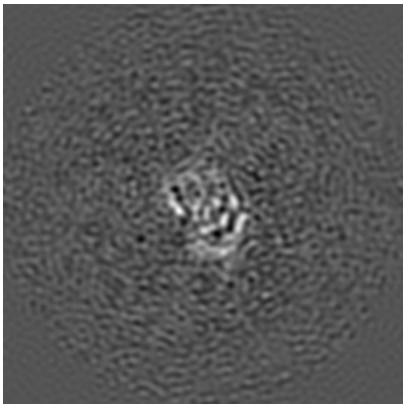
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

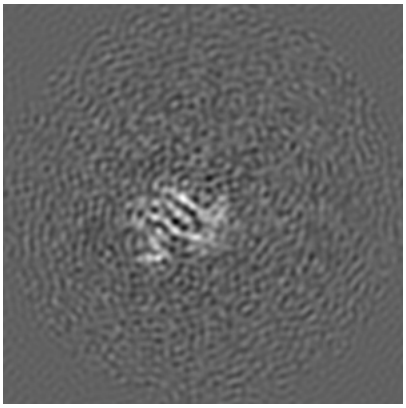
6.3.1 Primary map



X Index: 141



Y Index: 140

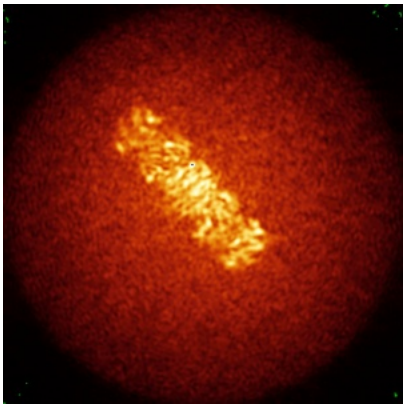


Z Index: 156

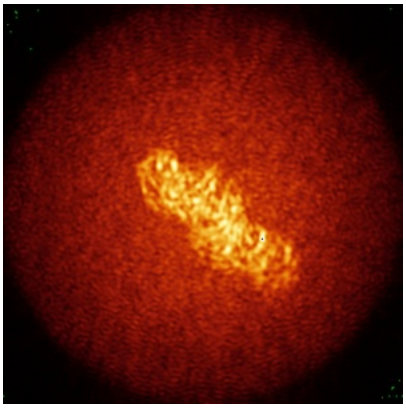
The images above show the largest variance slices of the map in three orthogonal directions.

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

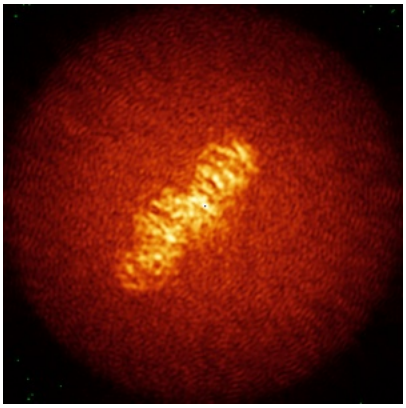
6.4.1 Primary map



X



Y



Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.025. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

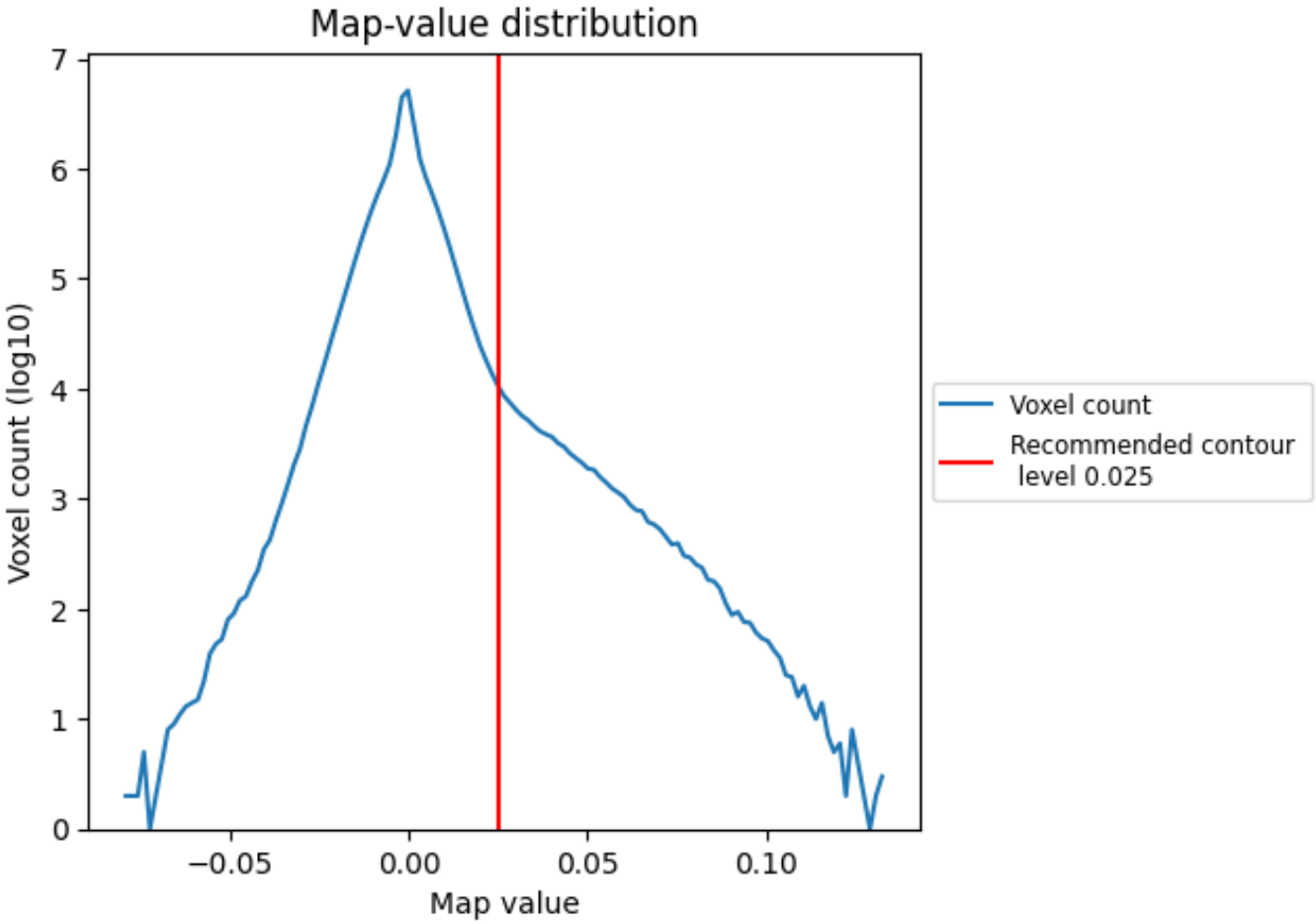
6.6 Mask visualisation (i)

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

7 Map analysis

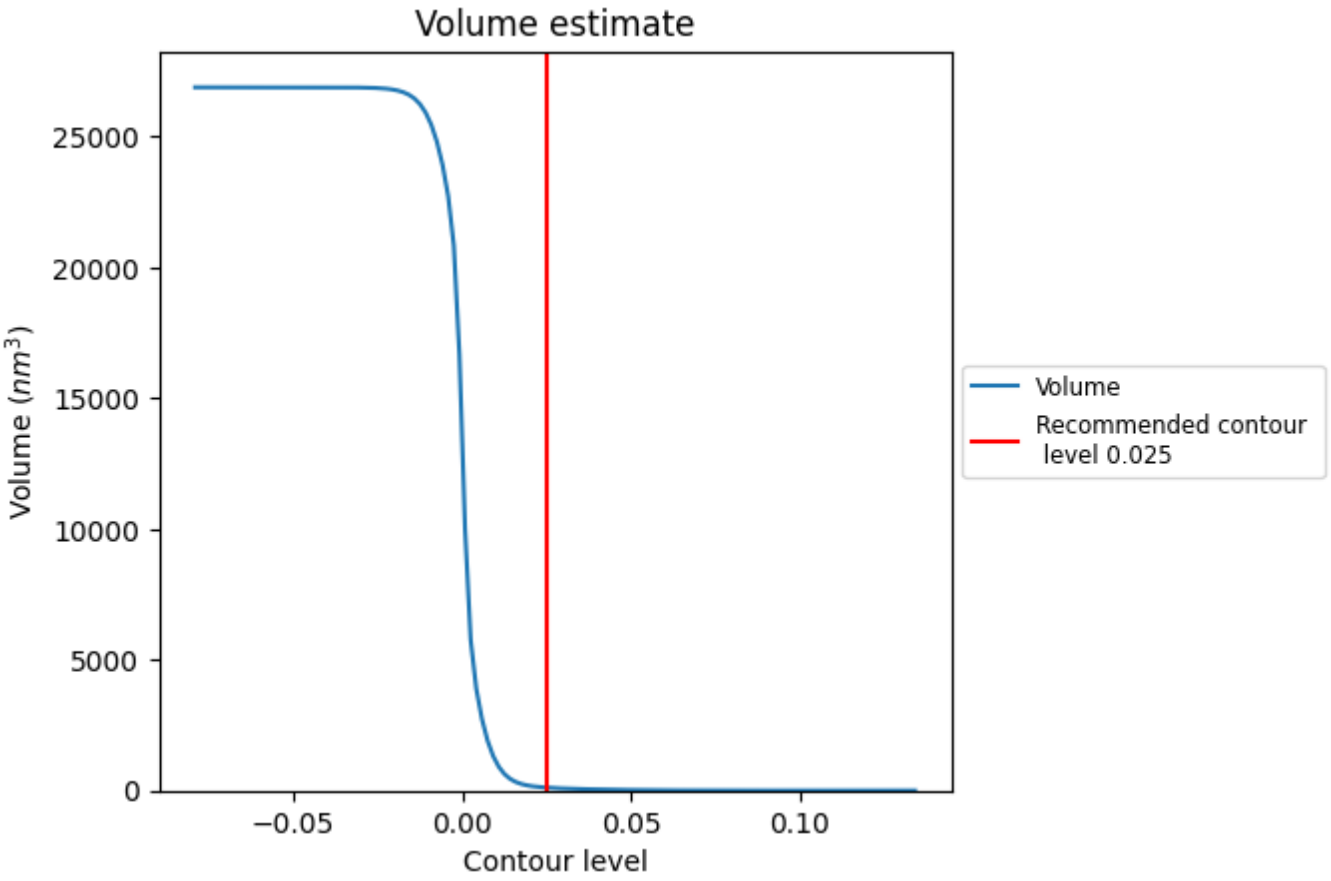
This section contains the results of statistical analysis of the map.

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.

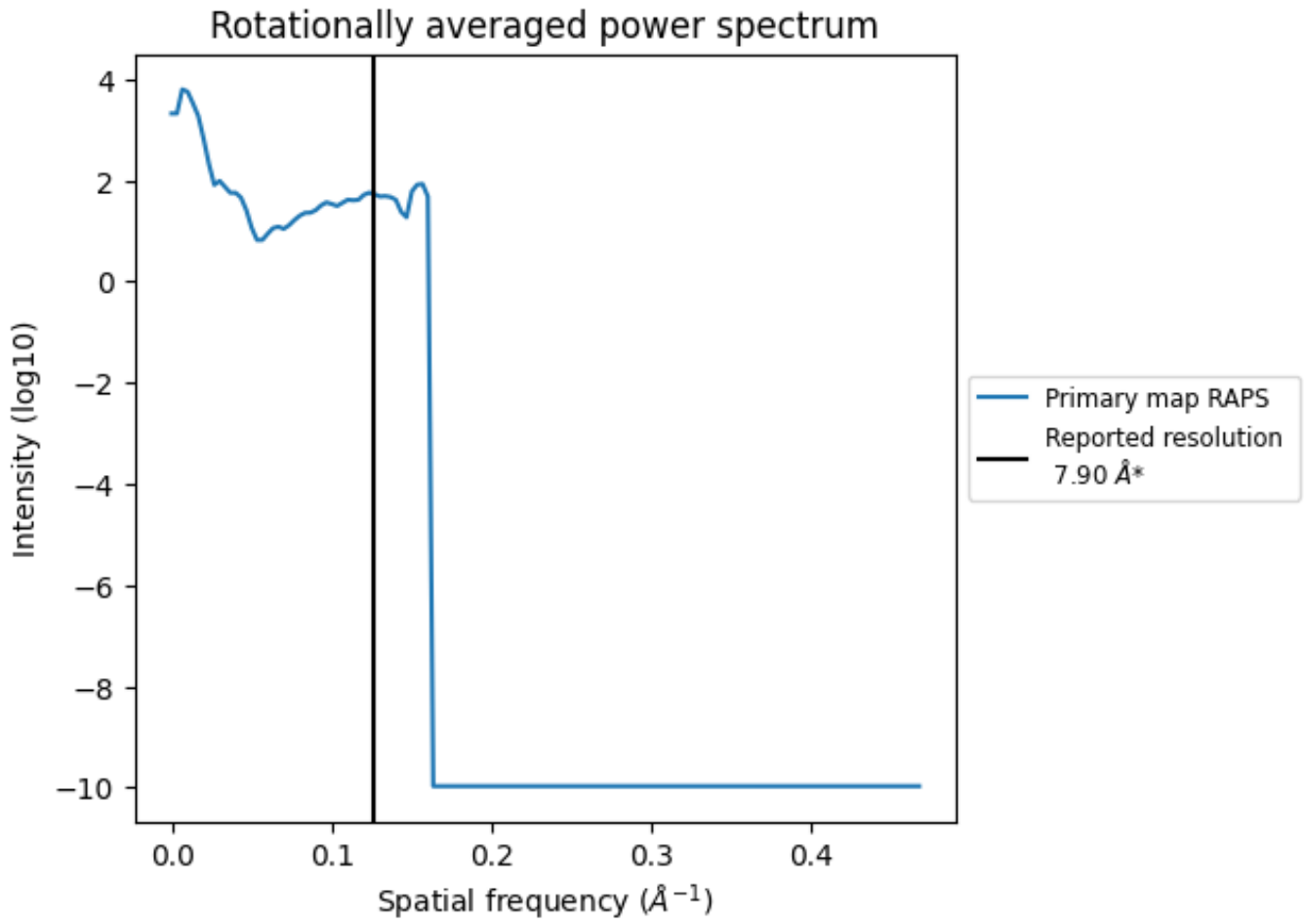
7.2 Volume estimate



The volume at the recommended contour level is 112 nm^3; this corresponds to an approximate mass of 102 kDa.

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

7.3 Rotationally averaged power spectrum (i)



*Reported resolution corresponds to spatial frequency of 0.127 Å^{-1}

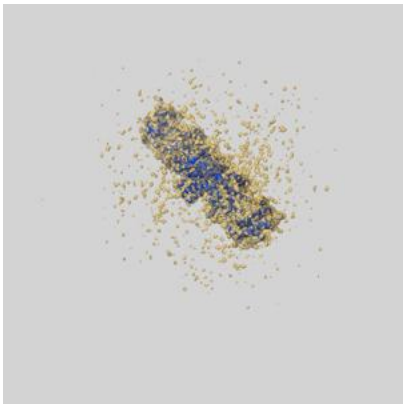
8 Fourier-Shell correlation (i)

This section was not generated. No FSC curve or half-maps provided.

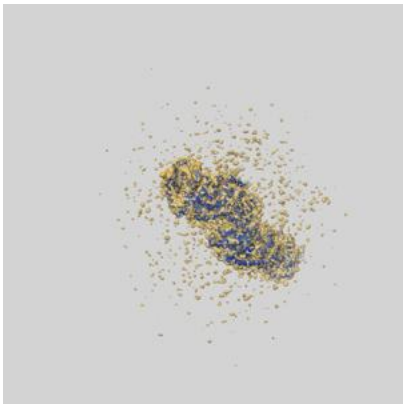
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-35207 and PDB model 8I6U. Per-residue inclusion information can be found in section 3 on page 4.

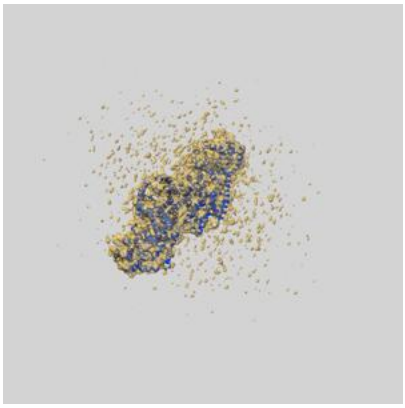
9.1 Map-model overlay



X



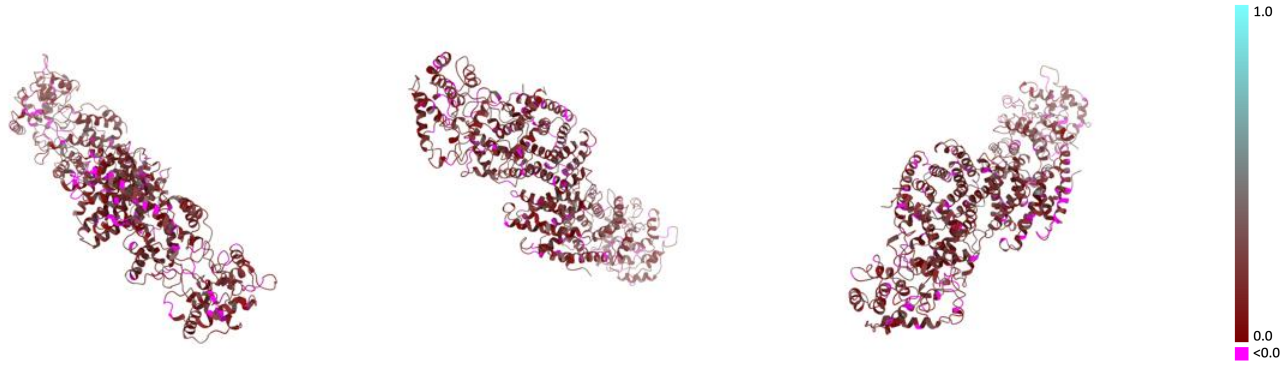
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.025 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.

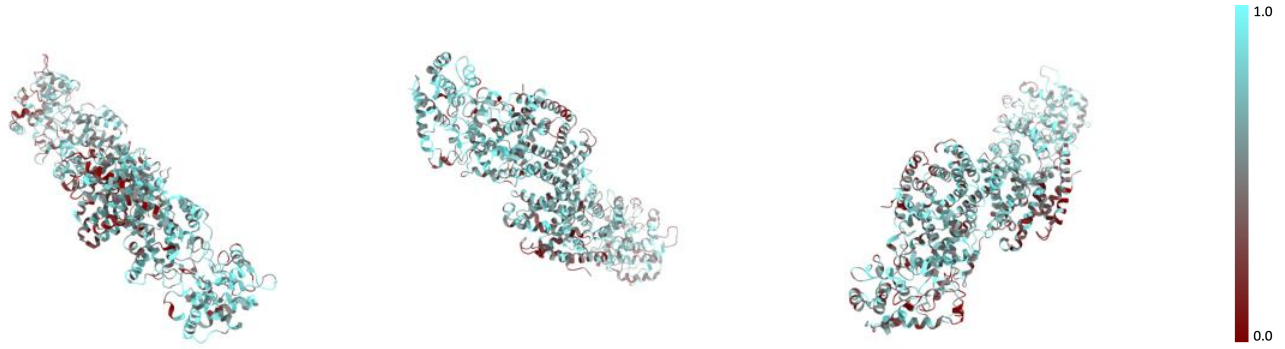
9.2 Q-score mapped to coordinate model (i)



X Y Z

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.

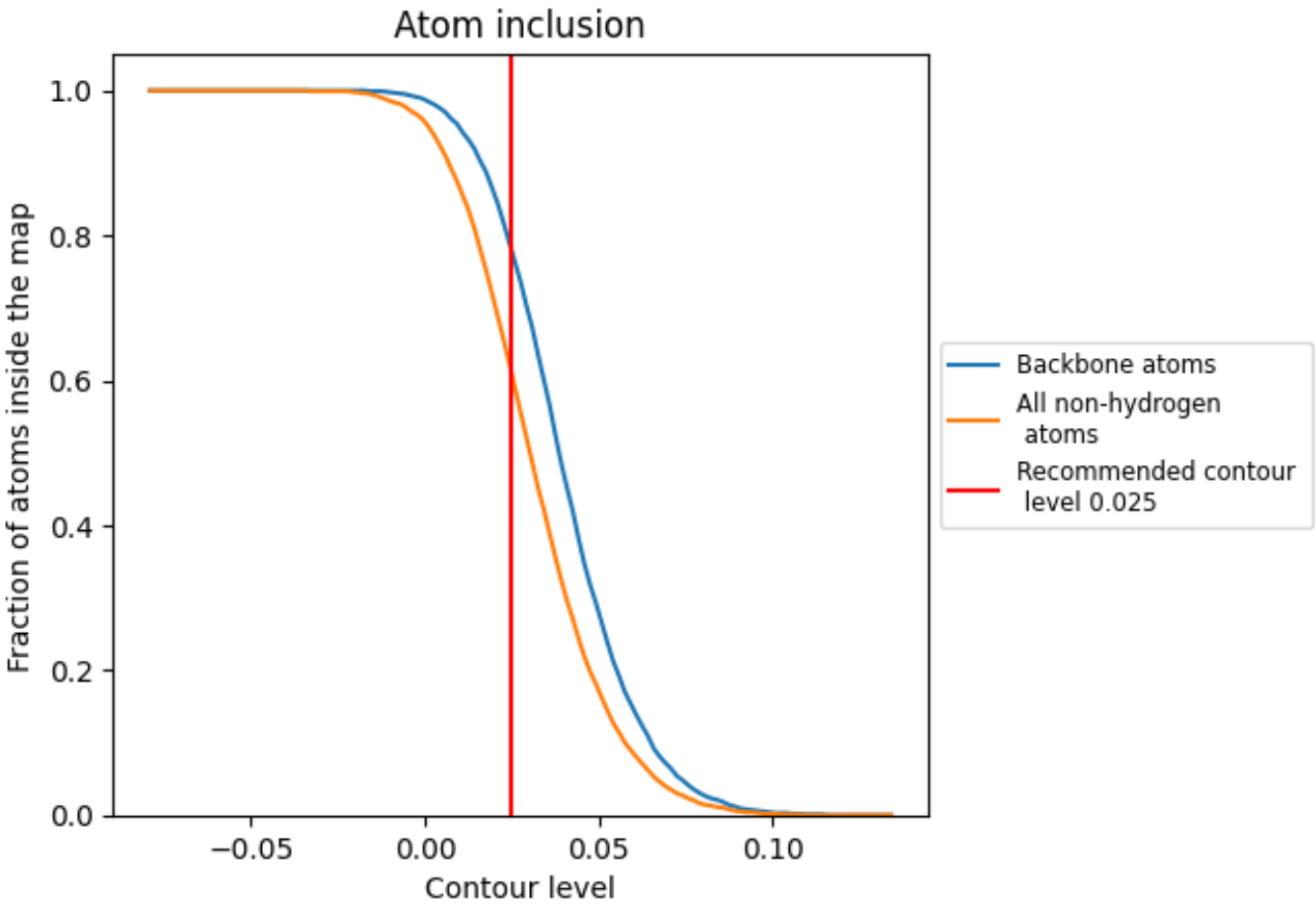
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

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 (0.025).

9.4 Atom inclusion (i)



At the recommended contour level, 78% of all backbone atoms, 61% 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 (0.025) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6080	0.1730
A	0.5880	0.1780
B	0.6280	0.1680