



Full wwPDB EM Validation Report ⓘ

May 1, 2024 – 02:37 PM JST

PDB ID : 8K9A
EMDB ID : EMD-36982
Title : Cryo-EM structure of DSR2-DSAD1 state 2
Authors : Zhang, H.; Li, Z.; Li, X.Z.
Deposited on : 2023-07-31
Resolution : 3.90 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:

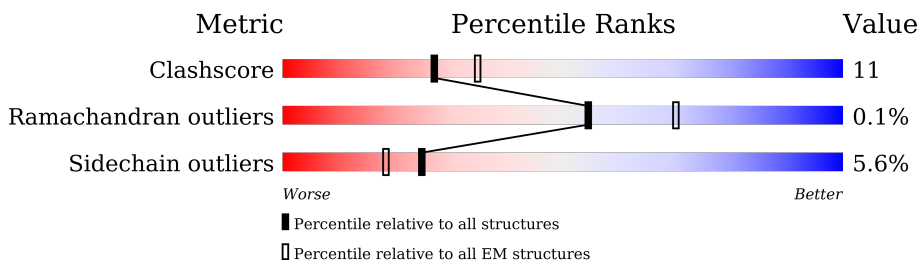
EMDB validation analysis : 0.0.1.dev92
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36.2

1 Overall quality at a glance

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

The reported resolution of this entry is 3.90 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 $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	1005	 11% 69% 25% . .
1	B	1005	 15% 69% 25% . .
1	C	1005	 5% 71% 24% . .
1	D	1005	 1% 71% 24% . .
2	E	120	 43% 46% 40% 7% 8%
2	F	120	 10% 57% 34% . 8%

2 Entry composition [i](#)

There are 2 unique types of molecules in this entry. The entry contains 34035 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 SIR2-like domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	970	Total 8081	C 5234	N 1308	O 1508	S 31	0	0
1	B	969	Total 8057	C 5213	N 1299	O 1514	S 31	0	0
1	C	971	Total 8091	C 5237	N 1310	O 1513	S 31	0	0
1	D	972	Total 8093	C 5240	N 1311	O 1511	S 31	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	643	SER	LEU	conflict	UNP A0A162TTM4
B	643	SER	LEU	conflict	UNP A0A162TTM4
C	643	SER	LEU	conflict	UNP A0A162TTM4
D	643	SER	LEU	conflict	UNP A0A162TTM4

- Molecule 2 is a protein called SPbeta prophage-derived uncharacterized protein YotI.

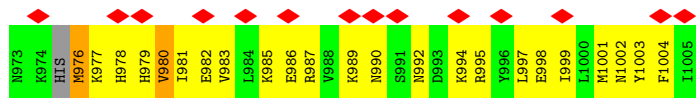
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	E	111	Total 855	C 554	N 139	O 159	S 3	0	0
2	F	111	Total 858	C 555	N 139	O 161	S 3	0	0

3 Residue-property plots

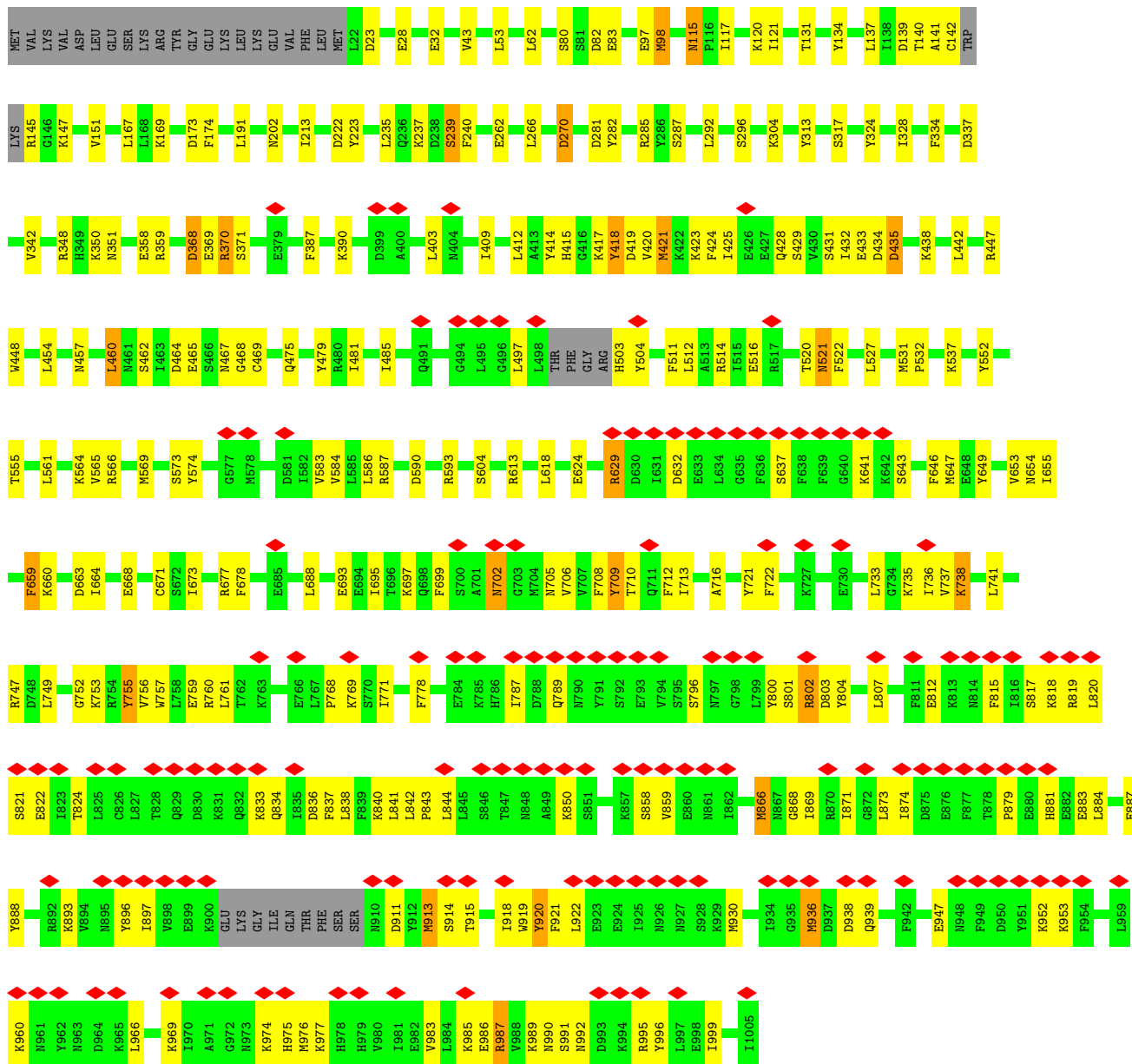
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: SIR2-like domain-containing protein

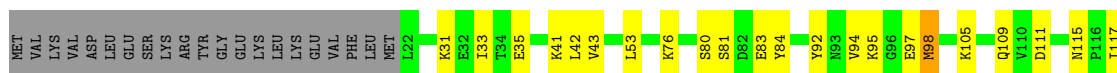


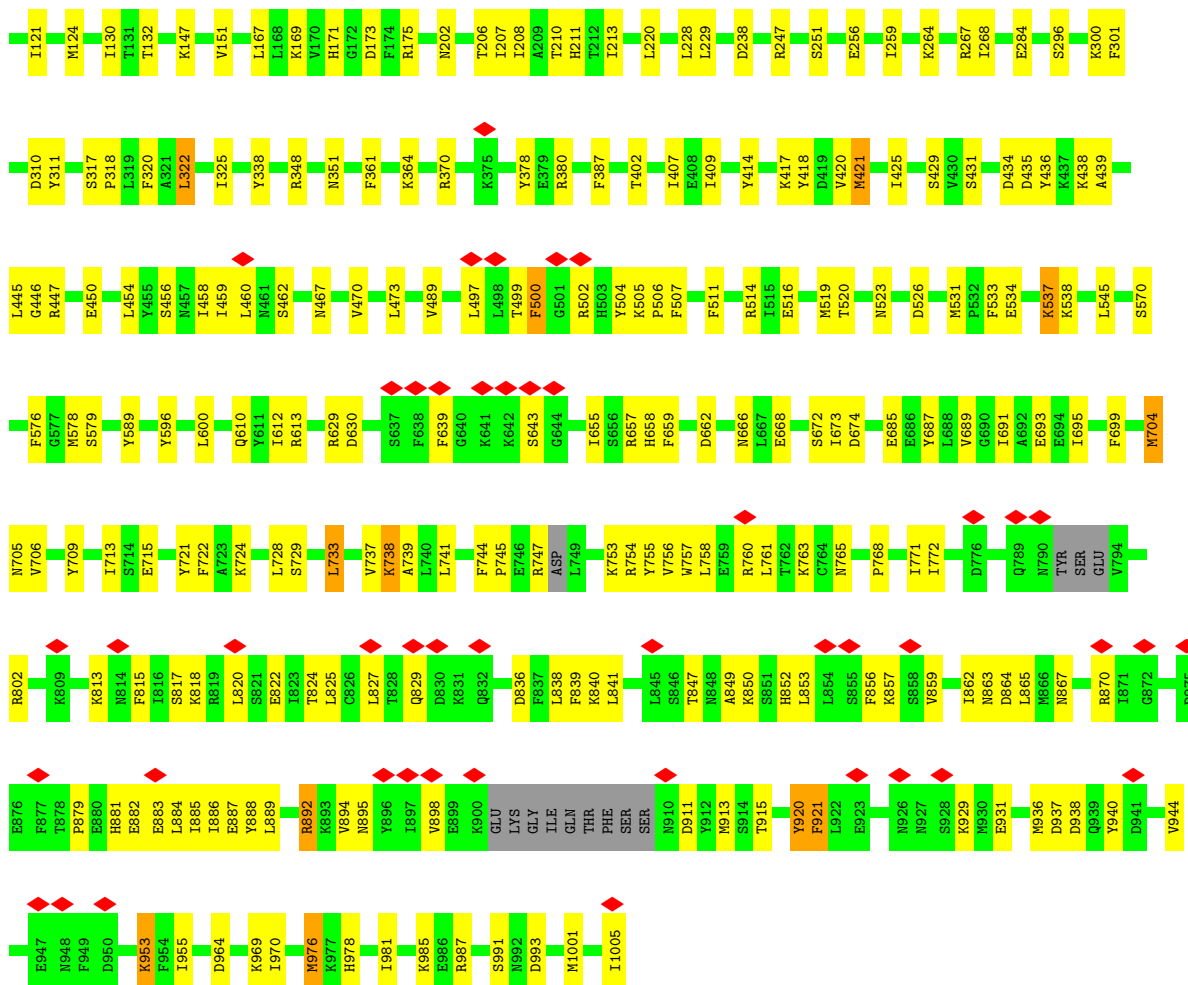


• Molecule 1: SIR2-like domain-containing protein

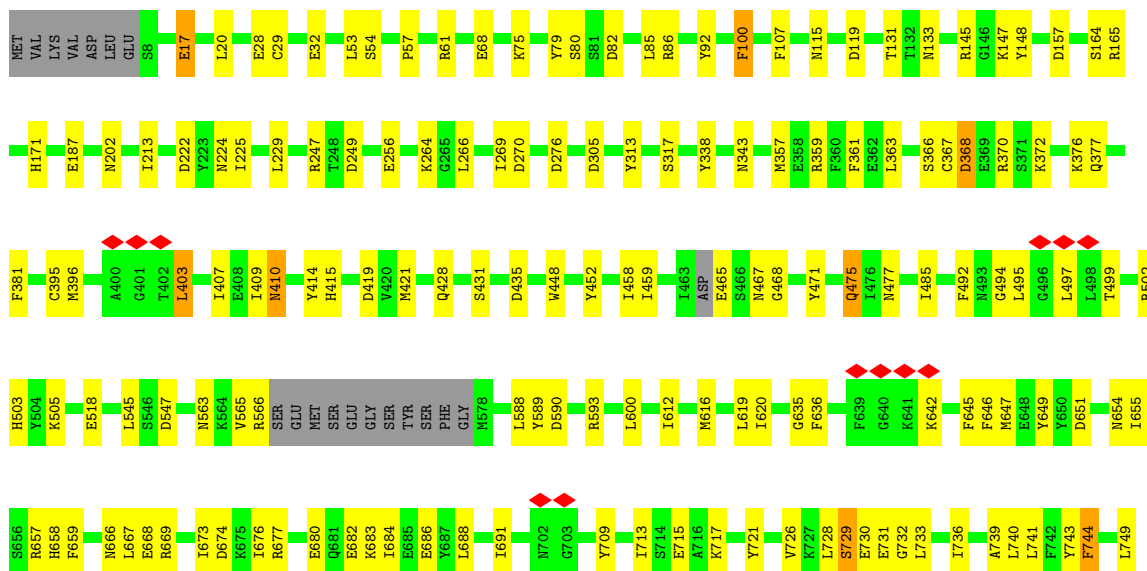


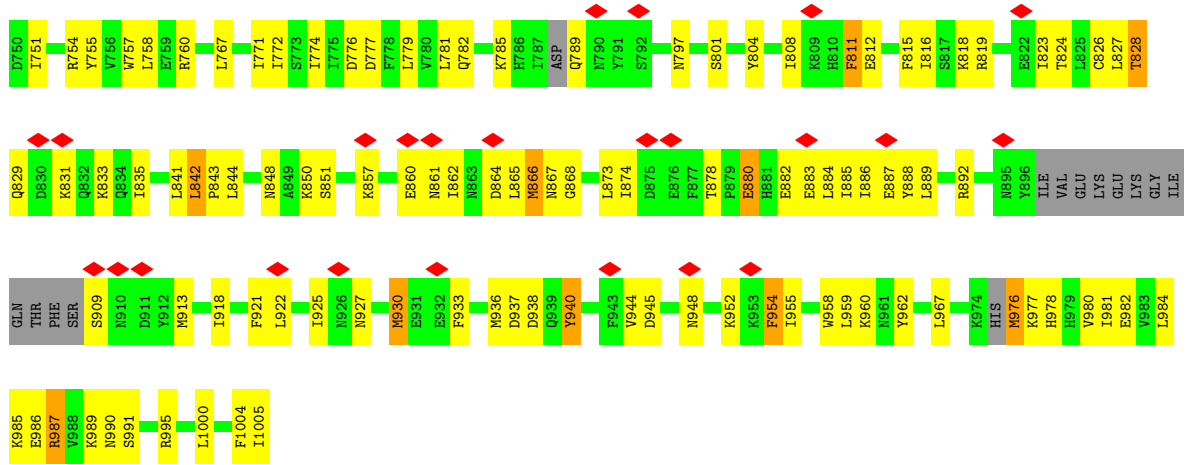
• Molecule 1: SIR2-like domain-containing protein



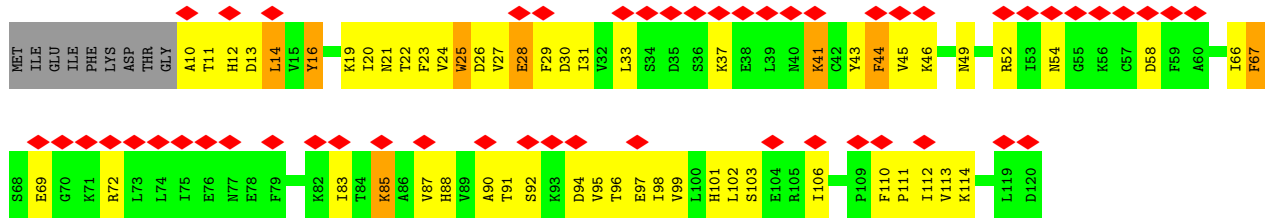
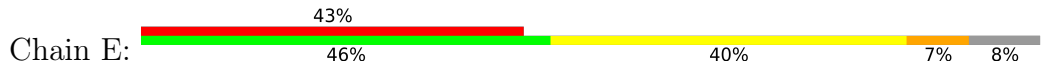


● Molecule 1: SIR2-like domain-containing protein





• Molecule 2: SPbeta prophage-derived uncharacterized protein YotI



• Molecule 2: SPbeta prophage-derived uncharacterized protein YotI



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	200000	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	40	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.705	Depositor
Minimum map value	-0.885	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.040	Depositor
Recommended contour level	0.257	Depositor
Map size (\AA)	425.0, 425.0, 425.0	wwPDB
Map dimensions	500, 500, 500	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	0.85, 0.85, 0.85	Depositor

5 Model quality i

5.1 Standard geometry i

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.26	0/8265	0.47	0/11127
1	B	0.27	0/8242	0.48	0/11103
1	C	0.27	0/8278	0.48	0/11148
1	D	0.27	0/8276	0.47	0/11141
2	E	0.31	0/874	0.54	0/1188
2	F	0.26	0/877	0.59	0/1192
All	All	0.27	0/34812	0.48	0/46899

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts i

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	8081	0	7922	175	0
1	B	8057	0	7874	173	0
1	C	8091	0	7929	154	0
1	D	8093	0	7942	174	0
2	E	855	0	815	51	0
2	F	858	0	817	34	0
All	All	34035	0	33299	736	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 11.

All (736) 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:D:812:GLU:HG3	1:D:815:PHE:HB2	1.64	0.80
1:A:295:GLU:HB3	1:A:301:PHE:HE2	1.45	0.80
1:D:771:ILE:HA	1:D:774:ILE:HG22	1.64	0.78
1:D:865:LEU:HD22	1:D:888:TYR:HE1	1.46	0.78
1:D:645:PHE:HB3	1:D:676:ILE:HD11	1.67	0.76
1:A:395:CYS:SG	1:A:396:MET:N	2.59	0.75
1:A:68:GLU:HB2	1:A:75:LYS:HE2	1.68	0.74
1:C:687:TYR:OH	1:C:715:GLU:OE2	2.06	0.73
1:D:717:LYS:HD2	1:D:749:LEU:HD21	1.70	0.73
1:D:588:LEU:HD11	1:D:612:ILE:HD13	1.71	0.72
1:A:709:TYR:HD1	1:A:713:ILE:HD13	1.54	0.72
1:B:768:PRO:HD2	1:B:771:ILE:HD13	1.73	0.71
2:F:68:SER:HB2	2:F:73:LEU:HD21	1.73	0.71
1:A:986:GLU:O	1:A:990:ASN:ND2	2.23	0.70
1:A:274:LEU:HD12	1:A:275:ILE:HG23	1.73	0.70
1:C:629:ARG:NH1	1:C:643:SER:OG	2.22	0.70
1:A:9:LYS:O	1:A:9:LYS:NZ	2.15	0.70
1:C:768:PRO:HD2	1:C:771:ILE:HD13	1.72	0.70
1:C:208:ILE:HA	1:C:213:ILE:HD11	1.73	0.70
1:D:82:ASP:OD2	1:D:86:ARG:NH1	2.24	0.70
1:A:373:LEU:HD12	1:A:377:GLN:HB3	1.73	0.69
2:E:31:ILE:H	2:E:31:ILE:HD12	1.57	0.69
1:D:892:ARG:NH1	1:D:936:MET:SD	2.66	0.69
1:D:827:LEU:HD11	1:D:835:ILE:HG13	1.73	0.69
1:A:202:ASN:OD1	1:B:202:ASN:ND2	2.26	0.69
1:B:733:LEU:HD11	1:B:761:LEU:HD21	1.74	0.69
1:C:151:VAL:HG22	1:C:167:LEU:HD23	1.74	0.68
1:D:721:TYR:O	1:D:760:ARG:NH1	2.26	0.68
1:D:816:ILE:O	1:D:818:LYS:NZ	2.26	0.68
2:F:33:LEU:HB3	2:F:37:LYS:HG3	1.74	0.68
1:D:913:MET:SD	1:D:913:MET:N	2.66	0.68
1:B:708:PHE:O	1:B:712:PHE:HB2	1.94	0.68
1:D:925:ILE:HG23	1:D:927:ASN:H	1.58	0.68
1:C:771:ILE:HD12	1:C:771:ILE:H	1.59	0.67
1:D:860:GLU:H	1:D:864:ASP:HB2	1.60	0.67
1:C:881:HIS:HA	1:C:884:LEU:HD12	1.77	0.67
1:B:866:MET:HA	1:B:869:ILE:HG22	1.75	0.67
1:B:918:ILE:HD12	1:B:966:LEU:HD22	1.75	0.67
1:C:516:GLU:O	1:C:520:THR:OG1	2.13	0.67
1:C:361:PHE:HA	1:C:364:LYS:HG2	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:502:ARG:O	1:D:505:LYS:NZ	2.25	0.66
1:C:610:GLN:HG2	1:C:613:ARG:HH21	1.60	0.66
1:C:459:ILE:HG23	1:C:460:LEU:HD12	1.76	0.66
1:D:668:GLU:OE2	1:D:760:ARG:NH2	2.29	0.66
1:A:23:ASP:OD1	1:A:24:ASN:N	2.28	0.65
1:D:801:SER:HA	1:D:804:TYR:HD2	1.61	0.65
1:D:984:LEU:HD21	1:D:1000:LEU:HB2	1.79	0.65
1:A:563:ASN:OD1	1:B:613:ARG:NH2	2.29	0.65
1:A:762:THR:HA	1:A:765:ASN:HB2	1.79	0.65
1:B:421:MET:HA	1:B:424:PHE:HB3	1.77	0.65
1:D:305:ASP:OD2	1:D:359:ARG:NH2	2.29	0.65
1:A:647:MET:HE1	1:A:678:PHE:HA	1.77	0.64
1:A:741:LEU:O	1:A:754:ARG:NH1	2.30	0.64
1:C:414:TYR:O	1:C:657:ARG:NH2	2.30	0.64
1:C:98:MET:SD	1:C:98:MET:N	2.71	0.64
1:D:80:SER:OG	1:D:82:ASP:OD1	2.16	0.64
1:C:882:GLU:O	1:C:886:ILE:HG12	1.96	0.64
1:A:646:PHE:HB3	1:A:677:ARG:HH22	1.63	0.63
2:F:106:ILE:HG13	2:F:108:SER:H	1.62	0.63
1:B:914:SER:OG	1:B:939:GLN:NE2	2.31	0.63
1:D:666:ASN:OD1	1:D:669:ARG:NH2	2.31	0.63
1:A:295:GLU:HB3	1:A:301:PHE:CE2	2.31	0.63
1:D:452:TYR:OH	1:D:518:GLU:OE1	2.16	0.63
1:D:739:ALA:HA	1:D:743:TYR:HD2	1.64	0.63
2:E:25:TRP:HE3	2:E:26:ASP:H	1.47	0.63
1:C:822:GLU:HA	1:C:825:LEU:HD23	1.80	0.63
1:B:80:SER:H	1:B:83:GLU:HG3	1.64	0.63
1:B:348:ARG:NH1	1:B:351:ASN:O	2.31	0.63
1:C:802:ARG:HH21	1:C:840:LYS:HA	1.62	0.63
1:D:857:LYS:HE3	1:D:873:LEU:HD13	1.81	0.62
1:B:415:HIS:HB3	1:B:417:LYS:HE2	1.80	0.62
1:A:412:LEU:HD21	1:A:417:LYS:HB2	1.81	0.62
1:A:82:ASP:OD2	1:A:86:ARG:NH2	2.32	0.62
1:B:868:GLY:HA2	1:B:873:LEU:HD13	1.80	0.62
1:C:836:ASP:OD1	1:C:857:LYS:NZ	2.32	0.62
1:A:310:ASP:OD1	1:A:380:ARG:NH1	2.32	0.62
1:A:465:GLU:HG2	1:A:466:SER:H	1.64	0.62
1:B:771:ILE:HD12	1:B:771:ILE:H	1.65	0.62
2:E:102:LEU:HD11	2:E:112:ILE:HD11	1.80	0.62
1:B:819:ARG:O	1:B:819:ARG:NH1	2.32	0.62
1:D:954:PHE:HA	1:D:958:TRP:HZ3	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:458:ILE:O	1:C:462:SER:OG	2.14	0.61
1:D:673:ILE:O	1:D:676:ILE:HG22	2.00	0.61
2:E:44:PHE:HE1	2:E:66:ILE:HB	1.66	0.61
1:A:709:TYR:CD1	1:A:713:ILE:HD13	2.35	0.61
1:B:624:GLU:HG3	1:B:671:CYS:HB2	1.81	0.61
1:C:94:VAL:HG13	1:C:95:LYS:HG2	1.82	0.61
1:B:173:ASP:OD1	1:B:174:PHE:N	2.34	0.61
1:A:744:PHE:O	1:A:754:ARG:NH2	2.34	0.61
1:D:465:GLU:HG3	1:D:467:ASN:H	1.65	0.61
1:A:589:TYR:OH	1:A:651:ASP:OD1	2.18	0.61
1:B:561:LEU:HD23	1:B:584:VAL:HG23	1.81	0.61
1:B:789:GLN:O	1:B:833:LYS:NZ	2.33	0.61
1:B:516:GLU:O	1:B:520:THR:OG1	2.17	0.61
1:C:737:VAL:HG11	1:C:771:ILE:HG23	1.83	0.61
1:D:131:THR:HG22	1:D:133:ASN:H	1.66	0.61
1:D:772:ILE:HG13	1:D:808:ILE:HD11	1.81	0.61
1:C:511:PHE:HE1	1:C:514:ARG:HH21	1.49	0.60
1:C:820:LEU:HD13	1:C:841:LEU:HD21	1.83	0.60
2:E:27:VAL:HA	2:E:88:HIS:HA	1.83	0.60
2:F:93:LYS:NZ	2:F:94:ASP:O	2.34	0.60
1:B:281:ASP:O	1:B:285:ARG:NH2	2.34	0.60
1:C:33:ILE:HD11	1:C:42:LEU:HD13	1.82	0.60
2:E:29:PHE:HZ	2:E:112:ILE:HB	1.66	0.60
1:A:837:PHE:HA	1:A:840:LYS:HD2	1.84	0.60
2:E:33:LEU:HB3	2:E:37:LYS:HB3	1.82	0.60
2:E:10:ALA:C	2:E:12:HIS:H	2.05	0.60
2:E:98:ILE:H	2:E:98:ILE:HD12	1.67	0.60
1:B:429:SER:HB2	1:B:434:ASP:HB3	1.84	0.60
1:C:668:GLU:OE1	1:C:760:ARG:NH2	2.33	0.60
2:F:14:LEU:HD21	2:F:23:PHE:HD2	1.67	0.60
1:C:41:LYS:HD2	1:C:211:HIS:HD2	1.67	0.59
1:A:967:LEU:HD22	1:A:999:ILE:HD11	1.84	0.59
1:A:396:MET:N	1:A:396:MET:SD	2.76	0.59
1:D:57:PRO:HA	1:D:61:ARG:HH21	1.67	0.59
2:F:97:GLU:HA	2:F:100:LEU:HG	1.84	0.59
1:D:962:TYR:HB2	1:D:967:LEU:HG	1.83	0.59
2:F:88:HIS:CE1	2:F:90:ALA:HB3	2.38	0.59
2:F:98:ILE:HD12	2:F:98:ILE:H	1.67	0.59
1:A:414:TYR:O	1:A:657:ARG:NH2	2.36	0.59
1:D:744:PHE:O	1:D:754:ARG:NH2	2.35	0.59
1:D:842:LEU:N	1:D:843:PRO:HD2	2.18	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:824:THR:HB	1:C:853:LEU:HD21	1.83	0.58
1:B:842:LEU:HD12	1:B:873:LEU:HD11	1.84	0.58
1:A:80:SER:OG	1:A:82:ASP:OD1	2.18	0.58
1:C:402:THR:HG22	1:C:402:THR:O	2.04	0.58
1:C:706:VAL:HA	1:C:709:TYR:HB3	1.85	0.58
1:B:802:ARG:HG2	1:B:803:ASP:N	2.18	0.58
1:C:505:LYS:HD3	1:C:506:PRO:HD2	1.84	0.58
2:E:27:VAL:HG11	2:E:95:VAL:HG11	1.85	0.58
1:D:918:ILE:O	1:D:922:LEU:HD22	2.03	0.58
1:A:885:ILE:HG12	1:A:916:PHE:CE1	2.39	0.58
1:D:860:GLU:HG2	1:D:864:ASP:HB2	1.84	0.58
1:B:342:VAL:HG21	1:B:583:VAL:HG13	1.86	0.58
1:B:721:TYR:HD1	1:B:757:TRP:HE1	1.52	0.58
1:D:797:ASN:OD1	1:D:797:ASN:N	2.36	0.58
2:E:22:THR:HG22	2:E:23:PHE:H	1.69	0.58
1:C:761:LEU:O	1:C:765:ASN:ND2	2.36	0.57
1:D:414:TYR:OH	1:D:654:ASN:OD1	2.19	0.57
1:B:414:TYR:OH	1:B:654:ASN:OD1	2.14	0.57
1:D:415:HIS:HD1	1:D:649:TYR:HH	1.51	0.57
1:D:824:THR:O	1:D:827:LEU:HB3	2.04	0.57
1:B:838:LEU:HD13	1:B:841:LEU:HD11	1.86	0.57
1:C:613:ARG:NH2	1:D:563:ASN:OD1	2.38	0.57
1:A:561:LEU:HD12	1:A:618:LEU:HB3	1.85	0.57
1:A:358:GLU:OE1	1:A:358:GLU:N	2.25	0.57
1:A:435:ASP:HB3	1:A:458:ILE:HD11	1.87	0.57
1:B:142:CYS:HB2	1:B:147:LYS:HB3	1.85	0.57
1:B:632:ASP:OD2	1:B:641:LYS:NZ	2.38	0.57
1:C:53:LEU:HB3	1:C:115:ASN:ND2	2.20	0.57
1:C:929:LYS:O	1:C:929:LYS:HD3	2.04	0.57
1:A:963:ASN:HD21	2:E:58:ASP:HB2	1.68	0.56
1:D:835:ILE:HD12	1:D:835:ILE:H	1.69	0.56
1:D:868:GLY:O	1:D:873:LEU:N	2.37	0.56
1:A:771:ILE:HA	1:A:774:ILE:HG22	1.87	0.56
1:B:239:SER:O	1:B:239:SER:OG	2.19	0.56
1:A:610:GLN:HG3	1:A:613:ARG:HH21	1.68	0.56
1:A:735:LYS:HA	1:A:738:LYS:HE3	1.86	0.56
1:A:748:ASP:OD1	1:A:749:LEU:N	2.38	0.56
1:B:428:GLN:OE1	1:B:429:SER:N	2.39	0.56
1:C:80:SER:H	1:C:83:GLU:HG3	1.69	0.56
1:C:229:LEU:HD12	1:C:264:LYS:HG2	1.87	0.56
1:D:861:ASN:O	1:D:888:TYR:OH	2.15	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:552:TYR:HA	1:B:555:THR:HG22	1.86	0.56
1:D:147:LYS:NZ	1:D:148:TYR:O	2.37	0.56
2:E:14:LEU:HA	2:E:24:VAL:O	2.06	0.56
1:A:156:GLU:HA	1:B:239:SER:HB2	1.86	0.56
1:C:689:VAL:O	1:C:693:GLU:HG2	2.04	0.56
1:D:589:TYR:OH	1:D:651:ASP:OD1	2.24	0.56
1:C:523:ASN:ND2	1:C:526:ASP:OD2	2.33	0.56
1:B:80:SER:OG	1:B:82:ASP:OD1	2.23	0.56
1:C:911:ASP:O	1:C:915:THR:HG23	2.06	0.56
1:D:828:THR:OG1	1:D:829:GLN:N	2.39	0.56
1:B:804:TYR:O	1:B:807:LEU:HG	2.06	0.55
1:A:620:ILE:HD12	1:A:667:LEU:HD11	1.88	0.55
1:B:819:ARG:NH1	1:B:822:GLU:OE1	2.40	0.55
1:C:467:ASN:OD1	1:C:467:ASN:N	2.38	0.55
1:C:630:ASP:OD2	1:D:991:SER:OG	2.15	0.55
1:B:151:VAL:HG22	1:B:167:LEU:HD23	1.89	0.55
1:A:85:LEU:HB3	1:A:187:GLU:HB2	1.88	0.55
1:D:414:TYR:O	1:D:657:ARG:NH2	2.39	0.55
2:E:20:ILE:HG21	2:E:46:LYS:HD3	1.88	0.55
1:B:358:GLU:OE1	1:B:358:GLU:N	2.30	0.55
1:B:497:LEU:HD21	1:B:503:HIS:HA	1.89	0.55
1:B:787:ILE:HA	1:B:834:GLN:HE21	1.71	0.55
1:A:415:HIS:ND1	1:A:649:TYR:OH	2.33	0.55
1:A:755:TYR:HB2	1:A:804:TYR:CE1	2.42	0.55
1:C:724:LYS:HD2	1:C:760:ARG:HE	1.71	0.55
1:D:767:LEU:HD21	1:D:811:PHE:CG	2.42	0.55
1:D:862:ILE:HG13	1:D:888:TYR:CE1	2.42	0.55
1:D:938:ASP:OD1	1:D:938:ASP:N	2.38	0.55
1:A:359:ARG:NH1	1:A:369:GLU:OE2	2.40	0.55
1:A:771:ILE:HD12	1:A:772:ILE:N	2.20	0.55
1:B:479:TYR:HB2	1:B:522:PHE:HE2	1.71	0.55
1:A:691:ILE:HD11	1:A:716:ALA:HA	1.90	0.54
1:B:359:ARG:NH2	1:B:369:GLU:OE1	2.40	0.54
2:F:30:ASP:HB2	2:F:41:LYS:HZ3	1.72	0.54
1:A:755:TYR:HB2	1:A:804:TYR:HE1	1.73	0.54
1:B:169:LYS:HD3	1:B:173:ASP:HB2	1.90	0.54
1:A:479:TYR:HD2	1:A:524:ILE:HD12	1.73	0.54
1:A:782:GLN:NE2	1:A:791:TYR:OH	2.41	0.54
1:B:858:SER:OG	1:B:859:VAL:N	2.41	0.54
1:C:31:LYS:O	1:C:35:GLU:HG2	2.07	0.54
1:B:419:ASP:O	1:B:423:LYS:HG2	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:827:LEU:HD23	1:C:853:LEU:HD11	1.89	0.54
1:C:741:LEU:HD21	1:C:758:LEU:HD22	1.90	0.54
1:A:343:ASN:ND2	1:A:578:MET:SD	2.80	0.53
1:A:65:LYS:O	1:A:65:LYS:NZ	2.31	0.53
1:C:208:ILE:HD13	1:C:228:LEU:HD11	1.90	0.53
1:D:776:ASP:HA	1:D:779:LEU:HD12	1.89	0.53
1:C:921:PHE:HB3	1:C:969:LYS:HZ1	1.73	0.53
1:B:947:GLU:HG3	1:B:975:HIS:HB3	1.90	0.53
1:D:270:ASP:OD1	1:D:270:ASP:N	2.37	0.53
1:D:952:LYS:O	1:D:952:LYS:NZ	2.33	0.53
1:D:767:LEU:HB2	1:D:771:ILE:HD11	1.91	0.53
1:D:499:THR:H	1:D:503:HIS:CD2	2.27	0.53
2:E:88:HIS:O	2:E:92:SER:N	2.29	0.53
1:C:435:ASP:HB2	1:C:458:ILE:HD11	1.89	0.53
1:C:885:ILE:O	1:C:889:LEU:HG	2.08	0.53
1:A:636:PHE:HE2	1:B:983:VAL:HG13	1.74	0.53
1:D:930:MET:HA	1:D:933:PHE:CD2	2.44	0.53
1:A:554:ASP:N	1:A:554:ASP:OD1	2.42	0.53
1:A:955:ILE:HD12	1:A:957:SER:HB3	1.91	0.53
1:C:578:MET:HE3	1:C:579:SER:O	2.09	0.53
1:A:762:THR:O	1:A:763:LYS:C	2.48	0.52
1:B:812:GLU:HG2	1:B:815:PHE:HB2	1.89	0.52
1:A:995:ARG:NH1	1:A:998:GLU:OE1	2.43	0.52
1:B:53:LEU:HB3	1:B:115:ASN:HD21	1.72	0.52
1:A:148:TYR:CE2	1:B:532:PRO:HG3	2.44	0.52
1:B:117:ILE:O	1:B:121:ILE:HG23	2.10	0.52
1:C:446:GLY:O	1:C:705:ASN:ND2	2.43	0.52
1:A:497:LEU:HD22	1:A:503:HIS:CE1	2.45	0.52
1:B:120:LYS:NZ	1:B:287:SER:OG	2.42	0.52
1:B:425:ILE:HD13	1:B:438:LYS:HB3	1.92	0.52
1:A:749:LEU:HD23	1:A:753:LYS:HB3	1.91	0.52
1:A:771:ILE:HD12	1:A:772:ILE:H	1.75	0.52
1:A:963:ASN:ND2	2:E:58:ASP:HB2	2.24	0.52
1:B:448:TRP:CE3	1:B:485:ILE:HG22	2.45	0.52
1:A:581:ASP:OD1	1:A:582:ILE:N	2.42	0.52
1:A:682:GLU:O	1:A:686:GLU:HG3	2.10	0.52
1:C:817:SER:HB3	1:C:820:LEU:HD12	1.91	0.52
1:D:68:GLU:HB2	1:D:75:LYS:HE2	1.92	0.52
1:A:818:LYS:O	1:A:822:GLU:HG2	2.10	0.52
1:A:409:ILE:HG12	1:A:593:ARG:HG3	1.91	0.52
1:A:1001:MET:O	1:B:985:LYS:NZ	2.35	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:97:GLU:HB3	1:B:98:MET:HE1	1.92	0.52
1:A:824:THR:HA	1:A:827:LEU:HB2	1.92	0.52
1:A:987:ARG:HA	1:A:990:ASN:HD21	1.75	0.52
1:B:475:GLN:HG2	1:B:527:LEU:HD11	1.92	0.52
1:C:499:THR:HA	1:C:747:ARG:HD2	1.92	0.52
2:E:85:LYS:HD2	2:E:85:LYS:N	2.25	0.52
1:A:412:LEU:HD12	1:A:421:MET:HG3	1.93	0.51
1:B:387:PHE:HA	1:B:390:LYS:HD2	1.91	0.51
1:C:454:LEU:O	1:C:458:ILE:HG12	2.11	0.51
1:D:276:ASP:OD1	1:D:276:ASP:N	2.43	0.51
1:D:409:ILE:HG12	1:D:593:ARG:HG3	1.92	0.51
1:D:976:MET:O	1:D:980:VAL:HG23	2.10	0.51
1:D:247:ARG:HE	1:D:249:ASP:HB2	1.76	0.51
1:B:915:THR:HG22	1:B:919:TRP:NE1	2.25	0.51
1:C:662:ASP:OD1	1:D:565:VAL:HA	2.10	0.51
2:E:88:HIS:HE1	2:E:90:ALA:HB3	1.75	0.51
1:A:959:LEU:HA	1:A:962:TYR:CE1	2.46	0.51
1:C:970:ILE:O	1:C:976:MET:HE2	2.10	0.51
1:A:199:LEU:HD21	1:B:235:LEU:HD21	1.92	0.51
1:B:960:LYS:HE2	1:B:996:TYR:HE1	1.76	0.51
1:D:937:ASP:HB3	1:D:940:TYR:HB3	1.92	0.51
2:E:44:PHE:CE1	2:E:66:ILE:HB	2.46	0.51
1:C:456:SER:HA	1:C:459:ILE:HG22	1.92	0.51
1:B:481:ILE:O	1:B:485:ILE:HG23	2.11	0.51
1:D:477:ASN:HD21	1:D:600:LEU:HD23	1.75	0.51
1:D:680:GLU:OE1	1:D:683:LYS:N	2.37	0.51
1:B:434:ASP:O	1:B:438:LYS:HG2	2.10	0.51
1:D:655:ILE:O	1:D:659:PHE:HB2	2.10	0.50
1:A:674:ASP:OD1	1:A:763:LYS:NZ	2.43	0.50
1:C:348:ARG:NH1	1:C:351:ASN:O	2.45	0.50
1:C:545:LEU:HD13	1:C:600:LEU:HD21	1.94	0.50
1:C:741:LEU:O	1:C:754:ARG:NH1	2.43	0.50
1:A:836:ASP:HA	1:A:839:PHE:CD1	2.47	0.50
1:C:418:TYR:HA	1:C:421:MET:SD	2.51	0.50
1:A:882:GLU:HA	1:A:885:ILE:HD12	1.93	0.50
1:B:688:LEU:HB3	1:B:736:ILE:HD11	1.94	0.50
1:D:54:SER:OG	1:D:115:ASN:OD1	2.19	0.50
1:D:960:LYS:HE2	1:D:995:ARG:HG2	1.94	0.50
1:B:915:THR:HA	1:B:918:ILE:HG22	1.94	0.50
1:C:733:LEU:HD21	1:C:765:ASN:HB3	1.92	0.50
1:D:92:TYR:HB2	1:D:100:PHE:HD2	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:865:LEU:HD22	1:D:888:TYR:CE1	2.37	0.50
2:F:58:ASP:OD1	2:F:59:PHE:N	2.43	0.50
2:E:88:HIS:CE1	2:E:90:ALA:HB3	2.47	0.50
1:D:987:ARG:HH12	1:D:990:ASN:HD22	1.59	0.50
1:A:562:THR:HG23	1:B:613:ARG:HH12	1.77	0.49
1:A:588:LEU:HD11	1:A:612:ILE:HD13	1.93	0.49
1:C:859:VAL:HA	1:C:864:ASP:HB2	1.94	0.49
1:C:888:TYR:O	1:C:892:ARG:HG2	2.11	0.49
1:D:171:HIS:HE1	1:D:224:ASN:HD21	1.60	0.49
1:A:985:LYS:O	1:A:989:LYS:HG2	2.11	0.49
1:A:999:ILE:HA	1:A:1002:ASN:OD1	2.12	0.49
1:B:457:ASN:HA	1:B:460:LEU:HD23	1.93	0.49
2:E:44:PHE:HB3	2:E:113:VAL:HG12	1.94	0.49
1:A:678:PHE:HE2	1:A:684:ILE:HG13	1.77	0.49
1:B:467:ASN:HD22	1:B:469:CYS:HB3	1.76	0.49
1:A:655:ILE:O	1:A:659:PHE:HB2	2.12	0.49
1:B:913:MET:CE	1:B:913:MET:H	2.25	0.49
1:C:892:ARG:HH12	1:C:895:ASN:HD22	1.60	0.49
1:D:801:SER:HA	1:D:804:TYR:CD2	2.43	0.49
1:D:882:GLU:HG3	1:D:927:ASN:ND2	2.28	0.49
1:A:36:SER:OG	1:A:41:LYS:O	2.30	0.49
1:A:153:SER:OG	1:A:175:ARG:NH1	2.44	0.49
1:B:462:SER:C	1:B:464:ASP:N	2.66	0.49
1:C:920:TYR:CE2	1:C:944:VAL:HA	2.48	0.49
1:D:459:ILE:HD11	1:D:475:GLN:HA	1.95	0.49
1:A:767:LEU:HD12	1:A:811:PHE:CG	2.48	0.49
1:C:938:ASP:OD2	1:C:953:LYS:HE2	2.12	0.49
1:D:732:GLY:O	1:D:736:ILE:HG22	2.13	0.49
1:D:978:HIS:HA	1:D:981:ILE:HD12	1.95	0.49
1:A:874:ILE:HG21	1:A:881:HIS:CE1	2.48	0.49
1:D:85:LEU:HB3	1:D:187:GLU:HB3	1.95	0.49
2:E:11:THR:HA	2:E:25:TRP:CH2	2.48	0.49
1:B:737:VAL:HG11	1:B:771:ILE:HG23	1.93	0.49
1:B:884:LEU:O	1:B:887:GLU:HG2	2.13	0.49
1:D:684:ILE:HG21	1:D:726:VAL:HG11	1.95	0.49
1:D:886:ILE:HG13	1:D:927:ASN:HD21	1.78	0.49
1:B:741:LEU:HD13	1:B:778:PHE:HB2	1.94	0.48
1:C:370:ARG:HB3	1:C:378:TYR:HE1	1.78	0.48
1:C:489:VAL:HA	1:C:505:LYS:HE3	1.95	0.48
2:E:28:GLU:N	2:E:87:VAL:O	2.45	0.48
1:B:28:GLU:O	1:B:32:GLU:HG2	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:706:VAL:O	1:B:710:THR:HG23	2.13	0.48
2:E:14:LEU:HD23	2:E:25:TRP:CD1	2.47	0.48
1:C:862:ILE:O	1:C:865:LEU:N	2.47	0.48
2:F:46:LYS:HG3	2:F:113:VAL:HG11	1.94	0.48
1:A:739:ALA:HA	1:A:743:TYR:HD2	1.77	0.48
1:A:978:HIS:O	1:A:981:ILE:HG22	2.13	0.48
1:D:407:ILE:HG12	1:D:589:TYR:HB3	1.96	0.48
1:D:646:PHE:CE1	1:D:677:ARG:HD2	2.49	0.48
1:A:665:LYS:O	1:A:669:ARG:HG2	2.14	0.48
1:D:620:ILE:HG21	1:D:667:LEU:HD11	1.94	0.48
1:D:945:ASP:OD2	1:D:948:ASN:ND2	2.46	0.48
1:B:418:TYR:HA	1:B:421:MET:SD	2.54	0.48
1:B:511:PHE:HD1	1:B:514:ARG:HH21	1.60	0.48
1:C:913:MET:HE3	1:C:936:MET:H	1.78	0.48
1:D:343:ASN:HB2	1:D:403:LEU:HD11	1.96	0.48
1:A:493:ASN:HA	1:A:503:HIS:CD2	2.49	0.48
1:B:368:ASP:O	1:B:371:SER:OG	2.30	0.48
1:C:429:SER:HB3	1:C:438:LYS:HE3	1.95	0.48
1:B:735:LYS:O	1:B:738:LYS:HG3	2.13	0.48
1:D:674:ASP:OD1	1:D:674:ASP:N	2.47	0.48
1:D:848:ASN:OD1	1:D:848:ASN:N	2.43	0.48
1:A:595:LEU:HB3	1:A:603:VAL:HG12	1.96	0.48
1:B:137:LEU:HA	1:B:140:THR:HG22	1.96	0.48
1:D:782:GLN:HA	1:D:785:LYS:HZ3	1.78	0.48
1:A:688:LEU:HB3	1:A:736:ILE:HD11	1.95	0.48
1:B:292:LEU:O	1:B:296:SER:OG	2.26	0.48
1:C:505:LYS:HD2	1:C:507:PHE:CD2	2.48	0.48
1:D:940:TYR:O	1:D:944:VAL:HG22	2.14	0.48
1:A:744:PHE:HD1	1:A:745:PRO:HD2	1.79	0.47
1:B:677:ARG:NH2	1:B:678:PHE:O	2.46	0.47
1:B:705:ASN:HB3	1:B:708:PHE:HB3	1.94	0.47
1:B:801:SER:O	1:B:804:TYR:HB2	2.13	0.47
1:C:537:LYS:HD3	1:C:537:LYS:HA	1.66	0.47
1:B:655:ILE:O	1:B:659:PHE:HB2	2.14	0.47
1:C:911:ASP:N	1:C:911:ASP:OD1	2.47	0.47
1:D:682:GLU:O	1:D:686:GLU:HG3	2.14	0.47
1:D:815:PHE:CD2	1:D:844:LEU:HD11	2.49	0.47
1:A:548:ASN:ND2	1:A:549:GLN:HG3	2.29	0.47
1:A:661:ILE:O	1:A:665:LYS:HG2	2.13	0.47
1:A:673:ILE:HD12	1:A:673:ILE:H	1.80	0.47
1:A:956:PRO:HG2	1:A:987:ARG:HG3	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:435:ASP:HA	1:B:438:LYS:HG2	1.95	0.47
1:C:691:ILE:O	1:C:695:ILE:HG22	2.15	0.47
1:C:894:VAL:HA	1:C:898:VAL:HB	1.96	0.47
1:C:202:ASN:OD1	1:D:202:ASN:ND2	2.39	0.47
1:D:977:LYS:HG2	1:D:981:ILE:HD11	1.96	0.47
1:A:793:GLU:HB2	1:A:800:TYR:HE1	1.79	0.47
1:C:612:ILE:HG21	1:C:658:HIS:CD2	2.49	0.47
1:C:879:PRO:O	1:C:883:GLU:HG2	2.13	0.47
1:D:53:LEU:HB2	1:D:115:ASN:ND2	2.29	0.47
1:A:668:GLU:OE2	1:A:721:TYR:OH	2.31	0.47
1:B:752:GLY:O	1:B:756:VAL:HG23	2.14	0.47
1:D:468:GLY:O	1:D:471:TYR:HB3	2.14	0.47
1:D:682:GLU:OE1	1:D:682:GLU:N	2.45	0.47
1:D:731:GLU:OE1	1:D:731:GLU:N	2.43	0.47
1:C:439:ALA:HB2	1:C:454:LEU:HD23	1.97	0.47
1:C:884:LEU:O	1:C:887:GLU:HG2	2.14	0.47
1:D:29:CYS:HB3	1:D:269:ILE:HD11	1.95	0.47
2:E:45:VAL:HB	2:E:67:PHE:HE2	1.78	0.47
1:C:729:SER:O	1:C:733:LEU:HD12	2.15	0.47
1:D:28:GLU:O	1:D:32:GLU:HG2	2.15	0.47
2:E:111:PRO:HG2	2:E:112:ILE:HD12	1.97	0.47
1:A:10:ARG:HD2	1:A:10:ARG:C	2.34	0.47
1:A:291:ASP:O	1:A:292:LEU:C	2.53	0.47
1:A:938:ASP:HB2	1:A:949:PHE:CE1	2.49	0.47
1:C:500:PHE:HE2	1:C:706:VAL:HG11	1.80	0.47
1:A:994:LYS:HD2	1:A:997:LEU:HD11	1.96	0.47
1:B:721:TYR:HD1	1:B:757:TRP:NE1	2.13	0.47
1:D:930:MET:HA	1:D:933:PHE:HD2	1.78	0.47
1:D:960:LYS:NZ	2:F:18:SER:O	2.37	0.47
1:D:981:ILE:HG22	1:D:985:LYS:NZ	2.30	0.47
1:D:981:ILE:HG22	1:D:985:LYS:HZ1	1.79	0.47
2:F:28:GLU:HG3	2:F:89:VAL:HG11	1.96	0.47
1:B:817:SER:HB2	1:B:844:LEU:HG	1.97	0.46
1:D:930:MET:O	1:D:940:TYR:OH	2.32	0.46
1:A:348:ARG:NH1	1:A:358:GLU:OE2	2.48	0.46
1:C:425:ILE:HD12	1:C:438:LYS:HD3	1.96	0.46
1:C:955:ILE:HD13	1:D:635:GLY:HA2	1.98	0.46
2:F:52:ARG:O	2:F:54:ASN:ND2	2.49	0.46
1:A:465:GLU:HG2	1:A:466:SER:N	2.28	0.46
1:A:780:VAL:O	1:A:784:GLU:HG3	2.16	0.46
1:B:843:PRO:HD3	1:B:871:ILE:HG23	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:85:LYS:HD2	2:E:85:LYS:H	1.81	0.46
1:A:789:GLN:HE21	1:A:791:TYR:H	1.64	0.46
1:B:282:TYR:HD1	1:B:285:ARG:HH21	1.63	0.46
1:B:974:LYS:HA	1:B:977:LYS:HG2	1.97	0.46
1:D:982:GLU:HA	1:D:985:LYS:HZ3	1.79	0.46
1:A:243:PRO:HG2	1:A:266:LEU:HD23	1.96	0.46
1:C:417:LYS:O	1:C:420:VAL:HG12	2.15	0.46
1:D:826:CYS:SG	1:D:826:CYS:O	2.73	0.46
1:D:868:GLY:CA	1:D:873:LEU:HB2	2.46	0.46
2:E:16:TYR:HD1	2:E:23:PHE:HE1	1.64	0.46
2:E:102:LEU:HD12	2:E:103:SER:N	2.30	0.46
2:F:39:LEU:HD13	2:F:40:ASN:N	2.31	0.46
1:A:967:LEU:HA	1:A:970:ILE:HG22	1.98	0.46
1:B:992:ASN:OD1	1:B:992:ASN:N	2.49	0.46
1:D:370:ARG:HD2	1:D:381:PHE:CE2	2.50	0.46
1:A:449:GLU:HG3	1:A:511:PHE:CE2	2.51	0.46
1:B:324:TYR:CD2	1:B:593:ARG:HG2	2.50	0.46
1:C:256:GLU:O	1:C:259:ILE:HG13	2.16	0.46
1:C:713:ILE:H	1:C:713:ILE:HD12	1.81	0.46
2:E:98:ILE:HA	2:E:101:HIS:HB3	1.97	0.46
1:A:155:GLU:OE1	1:A:198:PRO:HD2	2.16	0.46
1:A:828:THR:OG1	1:A:830:ASP:OD1	2.34	0.46
1:B:753:LYS:NZ	1:B:796:SER:OG	2.44	0.46
1:B:866:MET:HG3	1:B:919:TRP:HH2	1.80	0.46
1:C:173:ASP:OD1	1:C:175:ARG:HG2	2.16	0.46
1:A:497:LEU:HA	1:A:503:HIS:HE1	1.81	0.46
1:A:655:ILE:HA	1:A:659:PHE:HD2	1.80	0.46
1:A:997:LEU:HB2	1:A:1001:MET:HE3	1.98	0.46
1:B:139:ASP:C	1:B:141:ALA:N	2.69	0.46
1:C:130:ILE:HD11	1:C:207:ILE:HG21	1.97	0.46
1:C:847:THR:HG22	1:C:850:LYS:HE3	1.97	0.46
1:D:883:GLU:O	1:D:887:GLU:HG2	2.16	0.46
1:D:986:GLU:HA	1:D:989:LYS:HD3	1.98	0.46
2:E:41:LYS:NZ	2:E:69:GLU:HG3	2.31	0.46
2:F:30:ASP:HB3	2:F:85:LYS:HG2	1.98	0.46
1:A:960:LYS:HE3	2:E:21:ASN:OD1	2.15	0.45
1:B:668:GLU:OE1	1:B:721:TYR:OH	2.34	0.45
1:B:820:LEU:HD11	1:B:838:LEU:HD11	1.97	0.45
1:B:821:SER:O	1:B:824:THR:OG1	2.28	0.45
1:D:645:PHE:HB3	1:D:676:ILE:CD1	2.43	0.45
1:A:37:SER:HB2	1:A:42:LEU:HD22	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:862:ILE:O	1:C:863:ASN:C	2.54	0.45
1:D:930:MET:CE	1:D:930:MET:H	2.30	0.45
1:B:222:ASP:OD1	1:B:223:TYR:N	2.50	0.45
1:B:879:PRO:O	1:B:883:GLU:HG2	2.16	0.45
1:C:220:LEU:HD12	1:C:247:ARG:HE	1.82	0.45
1:C:768:PRO:O	1:C:772:ILE:HG13	2.16	0.45
1:D:741:LEU:O	1:D:754:ARG:NH1	2.48	0.45
2:E:95:VAL:HG13	2:E:99:VAL:HG23	1.97	0.45
2:F:95:VAL:O	2:F:99:VAL:HG23	2.17	0.45
1:B:699:PHE:O	1:B:702:ASN:ND2	2.49	0.45
1:C:407:ILE:HG12	1:C:589:TYR:CD2	2.51	0.45
1:D:771:ILE:HD12	1:D:772:ILE:N	2.30	0.45
2:E:33:LEU:N	2:E:37:LYS:O	2.48	0.45
2:F:14:LEU:HD21	2:F:23:PHE:CD2	2.48	0.45
1:A:628:THR:HA	1:A:631:ILE:HG22	1.98	0.45
1:C:98:MET:CE	1:C:98:MET:H	2.28	0.45
1:D:119:ASP:OD1	1:D:145:ARG:NH1	2.49	0.45
2:F:88:HIS:CE1	2:F:91:THR:HG23	2.52	0.45
1:B:43:VAL:HB	1:B:213:ILE:HD13	1.99	0.45
1:C:489:VAL:HG22	1:C:505:LYS:HE3	1.99	0.45
1:C:322:LEU:HD12	1:C:322:LEU:H	1.82	0.45
1:C:981:ILE:O	1:C:985:LYS:HG3	2.16	0.45
1:D:918:ILE:HD12	1:D:918:ILE:HA	1.82	0.45
1:A:421:MET:HG2	1:A:441:PHE:CG	2.51	0.45
1:A:977:LYS:HG3	1:A:1004:PHE:CZ	2.52	0.45
1:B:537:LYS:HD3	1:B:537:LYS:HA	1.70	0.45
1:C:147:LYS:HB3	1:C:147:LYS:HE3	1.76	0.45
2:F:66:ILE:N	2:F:66:ILE:HD12	2.32	0.45
1:A:963:ASN:HD22	2:E:54:ASN:HD21	1.65	0.45
1:B:866:MET:HG3	1:B:919:TRP:CH2	2.51	0.45
1:B:986:GLU:HA	1:B:989:LYS:HG2	1.98	0.45
1:D:256:GLU:OE1	1:D:256:GLU:N	2.48	0.45
1:A:373:LEU:HD23	1:A:373:LEU:H	1.81	0.45
1:B:991:SER:OG	1:B:992:ASN:N	2.50	0.45
2:E:92:SER:O	2:E:92:SER:OG	2.28	0.45
2:E:96:THR:O	2:E:99:VAL:HB	2.17	0.45
2:F:102:LEU:HD23	2:F:102:LEU:HA	1.84	0.45
1:A:101:ASP:OD1	1:A:180:GLY:N	2.49	0.44
1:A:205:LYS:HD2	1:A:231:TRP:CE2	2.53	0.44
1:A:330:LEU:HD23	1:A:330:LEU:HA	1.87	0.44
1:A:337:ASP:OD2	1:A:356:TYR:OH	2.35	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:554:ASP:OD2	1:A:591:ASN:ND2	2.50	0.44
1:B:583:VAL:O	1:B:587:ARG:HG3	2.18	0.44
1:B:649:TYR:O	1:B:653:VAL:HG12	2.16	0.44
1:D:376:LYS:HZ3	1:D:377:GLN:HG3	1.82	0.44
1:D:688:LEU:O	1:D:691:ILE:HG22	2.17	0.44
2:E:103:SER:HB3	2:E:111:PRO:HG3	1.98	0.44
1:A:19:PHE:HD2	1:A:301:PHE:CD1	2.36	0.44
1:A:580:SER:HA	1:A:583:VAL:HG12	1.98	0.44
1:B:915:THR:HG22	1:B:919:TRP:CE2	2.52	0.44
1:B:918:ILE:O	1:B:922:LEU:HG	2.17	0.44
1:C:570:SER:HB3	1:D:669:ARG:HD2	1.99	0.44
1:D:147:LYS:HE3	1:D:165:ARG:HE	1.82	0.44
2:F:52:ARG:NE	2:F:54:ASN:HB3	2.31	0.44
1:A:375:LYS:HA	1:A:375:LYS:HD2	1.78	0.44
1:A:938:ASP:HB2	1:A:949:PHE:HE1	1.81	0.44
1:B:693:GLU:OE2	1:B:697:LYS:NZ	2.38	0.44
1:B:874:ILE:HD13	1:B:881:HIS:CE1	2.52	0.44
1:C:284:GLU:OE1	1:C:284:GLU:N	2.50	0.44
1:C:763:LYS:HB2	1:C:763:LYS:HE2	1.75	0.44
1:D:494:GLY:O	1:D:495:LEU:HG	2.18	0.44
1:A:892:ARG:HD3	1:A:936:MET:HE3	1.99	0.44
1:B:820:LEU:O	1:B:824:THR:HG23	2.17	0.44
1:C:173:ASP:OD1	1:C:173:ASP:C	2.55	0.44
1:C:672:SER:O	1:C:672:SER:OG	2.29	0.44
1:C:864:ASP:O	1:C:867:ASN:N	2.50	0.44
1:D:612:ILE:HG21	1:D:658:HIS:CD2	2.52	0.44
1:D:755:TYR:HB2	1:D:804:TYR:CZ	2.52	0.44
1:D:777:ASP:OD1	1:D:819:ARG:NH2	2.38	0.44
1:A:529:ASN:O	1:A:536:GLN:NE2	2.51	0.44
1:B:987:ARG:HD2	1:B:987:ARG:HA	1.71	0.44
1:C:839:PHE:HE2	1:C:867:ASN:HD22	1.66	0.44
1:D:435:ASP:HB3	1:D:458:ILE:HD11	1.99	0.44
1:C:220:LEU:HD21	1:C:268:ILE:HD11	1.99	0.44
1:D:225:ILE:HD11	1:D:266:LEU:HD11	2.00	0.44
1:D:878:THR:OG1	1:D:880:GLU:HG3	2.18	0.44
2:E:10:ALA:C	2:E:12:HIS:N	2.68	0.44
2:E:97:GLU:HG2	2:E:98:ILE:HD12	2.00	0.44
2:F:33:LEU:HD12	2:F:34:SER:H	1.82	0.44
1:B:370:ARG:H	1:B:370:ARG:HG2	1.66	0.44
1:B:462:SER:C	1:B:464:ASP:H	2.21	0.44
1:D:657:ARG:HA	1:D:715:GLU:HG3	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:497:LEU:HD11	1:B:504:TYR:H	1.83	0.44
1:C:737:VAL:O	1:C:741:LEU:HB2	2.18	0.44
1:B:755:TYR:HD2	1:B:755:TYR:O	2.01	0.43
1:C:699:PHE:HE2	1:C:745:PRO:HG3	1.83	0.43
1:C:849:ALA:O	1:C:853:LEU:HD23	2.18	0.43
1:D:448:TRP:HE3	1:D:485:ILE:HD13	1.83	0.43
2:E:49:ASN:ND2	2:E:52:ARG:HB2	2.33	0.43
2:F:88:HIS:O	2:F:89:VAL:HG22	2.18	0.43
1:C:576:PHE:HD2	2:F:14:LEU:HD22	1.82	0.43
1:D:17:GLU:HA	1:D:17:GLU:OE1	2.19	0.43
1:D:713:ILE:HD12	1:D:713:ILE:HA	1.87	0.43
2:F:88:HIS:O	2:F:90:ALA:N	2.47	0.43
1:A:10:ARG:HD2	1:A:11:TYR:N	2.33	0.43
1:C:699:PHE:CE1	1:C:704:MET:HG2	2.53	0.43
1:D:338:TYR:CZ	1:D:357:MET:HB2	2.53	0.43
1:D:368:ASP:O	1:D:372:LYS:HG3	2.18	0.43
1:D:955:ILE:HG12	1:D:958:TRP:CZ3	2.53	0.43
1:A:559:PHE:O	1:A:562:THR:HG22	2.18	0.43
1:A:962:TYR:HB3	1:A:966:LEU:HB3	2.00	0.43
1:B:139:ASP:C	1:B:141:ALA:H	2.21	0.43
1:B:431:SER:OG	1:B:432:ILE:N	2.52	0.43
1:B:448:TRP:HE3	1:B:485:ILE:HG22	1.84	0.43
1:B:629:ARG:HG2	1:B:632:ASP:HB2	2.01	0.43
1:B:881:HIS:HA	1:B:884:LEU:HD12	2.00	0.43
1:C:169:LYS:HD3	1:C:173:ASP:HB3	1.99	0.43
1:C:429:SER:HB2	1:C:434:ASP:HB2	2.01	0.43
1:D:642:LYS:HD3	1:D:642:LYS:HA	1.80	0.43
1:D:729:SER:OG	1:D:730:GLU:N	2.51	0.43
1:A:488:ALA:O	1:A:492:PHE:N	2.51	0.43
1:B:438:LYS:HB2	1:B:454:LEU:HD21	2.01	0.43
1:B:521:ASN:OD1	1:B:521:ASN:N	2.51	0.43
1:B:911:ASP:O	1:B:915:THR:OG1	2.31	0.43
2:F:52:ARG:HE	2:F:54:ASN:HD22	1.66	0.43
1:A:476:ILE:HD13	1:A:524:ILE:HD11	2.01	0.43
1:A:987:ARG:HA	1:A:987:ARG:HD2	1.64	0.43
1:D:728:LEU:HD12	1:D:733:LEU:HD13	2.00	0.43
2:E:66:ILE:H	2:E:72:ARG:NH1	2.16	0.43
1:A:287:SER:O	1:A:291:ASP:HB2	2.19	0.43
1:A:302:ILE:HD13	1:A:302:ILE:HA	1.88	0.43
1:B:566:ARG:HB2	1:B:566:ARG:NH1	2.34	0.43
1:B:771:ILE:HD12	1:B:771:ILE:N	2.32	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:42:LEU:HD12	1:C:43:VAL:N	2.34	0.43
1:B:896:TYR:HB3	1:B:936:MET:HE1	2.00	0.43
1:D:866:MET:O	1:D:867:ASN:C	2.56	0.43
1:A:16:LYS:HA	1:A:301:PHE:CE1	2.54	0.43
1:A:295:GLU:HG3	1:A:300:LYS:HE2	2.01	0.43
1:A:999:ILE:HG13	1:A:1003:TYR:HD2	1.84	0.43
1:B:464:ASP:N	1:B:464:ASP:OD1	2.52	0.43
1:B:564:LYS:HB2	1:B:564:LYS:HE2	1.79	0.43
1:C:256:GLU:OE1	1:C:256:GLU:N	2.48	0.43
1:C:802:ARG:NH1	1:C:870:ARG:HB3	2.33	0.43
1:C:829:GLN:HE22	1:C:856:PHE:HB3	1.83	0.43
1:D:147:LYS:HD2	1:D:147:LYS:HA	1.78	0.43
1:D:930:MET:H	1:D:930:MET:HE3	1.84	0.43
1:A:665:LYS:O	1:A:668:GLU:HG2	2.19	0.42
1:A:769:LYS:HA	1:A:772:ILE:HD12	2.01	0.42
1:B:334:PHE:O	1:B:337:ASP:HB2	2.19	0.42
1:B:709:TYR:O	1:B:713:ILE:HG22	2.19	0.42
1:B:721:TYR:O	1:B:760:ARG:NH1	2.29	0.42
1:B:893:LYS:HA	1:B:936:MET:HE2	2.00	0.42
1:C:629:ARG:HH12	1:C:643:SER:HG	1.62	0.42
1:C:758:LEU:HD12	1:C:758:LEU:HA	1.83	0.42
1:D:164:SER:O	1:D:164:SER:OG	2.35	0.42
1:A:786:HIS:O	1:A:831:LYS:NZ	2.49	0.42
1:B:695:ILE:HD11	1:B:716:ALA:HB1	2.00	0.42
1:B:842:LEU:HB3	1:B:850:LYS:HE3	2.00	0.42
1:D:741:LEU:HD21	1:D:758:LEU:HD22	2.00	0.42
1:A:628:THR:OG1	1:B:990:ASN:ND2	2.45	0.42
1:B:836:ASP:O	1:B:840:LYS:HG2	2.19	0.42
1:D:823:ILE:HA	1:D:826:CYS:SG	2.58	0.42
2:F:93:LYS:HA	2:F:93:LYS:HD2	1.82	0.42
1:B:531:MET:CG	1:B:532:PRO:HD2	2.49	0.42
1:C:445:LEU:HD23	1:C:445:LEU:HA	1.86	0.42
1:C:655:ILE:O	1:C:659:PHE:HB2	2.18	0.42
1:D:819:ARG:O	1:D:823:ILE:HG12	2.19	0.42
1:D:884:LEU:HG	1:D:888:TYR:CZ	2.55	0.42
1:B:920:TYR:HB2	1:B:930:MET:HE1	2.01	0.42
1:C:117:ILE:O	1:C:121:ILE:HG23	2.19	0.42
1:A:363:LEU:HG	1:A:369:GLU:HB3	2.01	0.42
1:A:983:VAL:O	1:A:986:GLU:HG2	2.19	0.42
1:B:191:LEU:HD23	1:B:191:LEU:HA	1.78	0.42
1:B:313:TYR:O	1:B:317:SER:OG	2.27	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:412:LEU:HD22	1:B:420:VAL:HG11	2.02	0.42
1:B:442:LEU:HD22	1:B:447:ARG:HB2	2.00	0.42
1:C:206:THR:O	1:C:210:THR:HG23	2.19	0.42
1:D:740:LEU:O	1:D:754:ARG:NH1	2.53	0.42
2:E:29:PHE:HB2	2:E:31:ILE:HD11	2.00	0.42
1:A:227:MET:HE3	1:A:227:MET:HB3	1.94	0.42
1:B:62:LEU:HD23	1:B:62:LEU:HA	1.91	0.42
1:B:270:ASP:OD1	1:B:270:ASP:N	2.37	0.42
1:C:534:GLU:O	1:C:538:LYS:HB2	2.20	0.42
1:C:610:GLN:HG2	1:C:613:ARG:NH2	2.29	0.42
1:D:789:GLN:NE2	1:D:833:LYS:HD2	2.35	0.42
2:F:71:LYS:HE3	2:F:73:LEU:HD23	2.02	0.42
1:A:298:GLU:OE1	1:A:300:LYS:HB2	2.20	0.42
1:A:649:TYR:HA	1:A:684:ILE:HD11	2.02	0.42
1:A:746:GLU:OE1	1:A:750:ASP:HA	2.20	0.42
1:A:976:MET:O	1:A:980:VAL:HG22	2.19	0.42
1:C:738:LYS:HG3	1:C:739:ALA:N	2.35	0.42
1:D:669:ARG:HG2	1:D:669:ARG:HH11	1.85	0.42
1:D:781:LEU:HG	1:D:785:LYS:HZ1	1.84	0.42
1:D:850:LYS:HG3	1:D:851:SER:N	2.34	0.42
2:E:88:HIS:CE1	2:E:91:THR:HG23	2.55	0.42
1:A:407:ILE:HD12	1:A:407:ILE:HA	1.87	0.42
1:A:479:TYR:CD2	1:A:524:ILE:HD12	2.53	0.42
1:A:480:ARG:HD2	1:A:605:PHE:HE2	1.84	0.42
1:C:987:ARG:NH2	1:C:991:SER:HB2	2.35	0.42
1:D:222:ASP:HB2	1:D:225:ILE:HG22	2.01	0.42
1:B:756:VAL:O	1:B:759:GLU:HG3	2.19	0.42
1:B:800:TYR:H	1:B:802:ARG:NH1	2.18	0.42
1:B:952:LYS:HG3	1:B:953:LYS:HG3	2.02	0.42
1:C:500:PHE:CE2	1:C:706:VAL:HG11	2.54	0.42
2:E:102:LEU:O	2:E:106:ILE:HG13	2.20	0.42
2:F:71:LYS:HD2	2:F:71:LYS:C	2.40	0.42
2:F:102:LEU:O	2:F:106:ILE:HG22	2.19	0.42
1:A:758:LEU:HD12	1:A:759:GLU:N	2.34	0.41
1:A:979:HIS:O	1:A:982:GLU:HG3	2.20	0.41
1:B:921:PHE:CE2	1:B:969:LYS:HG2	2.55	0.41
1:D:92:TYR:HB2	1:D:100:PHE:CD2	2.54	0.41
1:D:497:LEU:HD23	1:D:497:LEU:HA	1.87	0.41
1:D:566:ARG:HD2	1:D:566:ARG:HA	1.85	0.41
1:A:627:ARG:HH22	1:A:675:LYS:HD2	1.85	0.41
1:B:660:LYS:O	1:B:664:ILE:HG13	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:897:ILE:HD13	1:B:897:ILE:HA	1.91	0.41
1:C:317:SER:N	1:C:318:PRO:HD2	2.35	0.41
1:C:802:ARG:HH22	1:C:867:ASN:HB3	1.85	0.41
1:D:147:LYS:HZ3	1:D:148:TYR:H	1.68	0.41
1:D:229:LEU:HD12	1:D:264:LYS:HD3	2.03	0.41
1:D:313:TYR:O	1:D:317:SER:OG	2.23	0.41
1:D:619:LEU:HD23	1:D:619:LEU:HA	1.85	0.41
1:A:271:ALA:HB1	1:A:285:ARG:HB3	2.02	0.41
1:A:835:ILE:HA	1:A:838:LEU:HB2	2.02	0.41
1:C:300:LYS:NZ	1:C:311:TYR:OH	2.41	0.41
1:C:409:ILE:HD12	1:C:414:TYR:CE2	2.55	0.41
1:A:646:PHE:HB3	1:A:677:ARG:NH2	2.33	0.41
1:B:368:ASP:OD2	1:B:368:ASP:N	2.53	0.41
1:B:421:MET:HE3	1:B:421:MET:H	1.85	0.41
1:C:325:ILE:HD13	1:C:325:ILE:HA	1.87	0.41
1:C:673:ILE:H	1:C:673:ILE:HD12	1.85	0.41
1:C:864:ASP:O	1:C:865:LEU:C	2.58	0.41
1:D:986:GLU:O	1:D:989:LYS:HG2	2.20	0.41
1:A:687:TYR:OH	1:A:715:GLU:OE2	2.36	0.41
1:B:262:GLU:HA	1:B:266:LEU:O	2.21	0.41
1:B:632:ASP:O	1:B:637:SER:HB2	2.20	0.41
1:C:310:ASP:OD1	1:C:380:ARG:NH1	2.53	0.41
1:D:831:LYS:H	1:D:831:LYS:HG2	1.68	0.41
2:F:43:TYR:CE1	2:F:67:PHE:HB2	2.55	0.41
1:A:23:ASP:O	1:A:27:VAL:HG23	2.21	0.41
1:A:562:THR:HG23	1:B:613:ARG:NH1	2.35	0.41
1:B:350:LYS:HD3	1:B:350:LYS:HA	1.77	0.41
1:C:296:SER:HB3	1:C:301:PHE:HZ	1.85	0.41
1:C:852:HIS:CD2	1:C:853:LEU:HD22	2.55	0.41
1:D:918:ILE:HD12	1:D:921:PHE:HB3	2.02	0.41
2:E:98:ILE:O	2:E:102:LEU:HG	2.21	0.41
1:A:728:LEU:HD11	1:A:732:GLY:HA3	2.02	0.41
1:C:407:ILE:HD12	1:C:407:ILE:HA	1.80	0.41
2:E:41:LYS:O	2:E:41:LYS:HD3	2.20	0.41
1:A:409:ILE:HD12	1:A:414:TYR:CE1	2.56	0.41
1:A:835:ILE:HG22	1:A:839:PHE:CZ	2.56	0.41
1:A:846:SER:OG	1:A:847:THR:N	2.53	0.41
1:B:465:GLU:HG3	1:B:468:GLY:HA2	2.03	0.41
2:E:14:LEU:HA	2:E:14:LEU:HD22	1.72	0.41
2:F:41:LYS:NZ	2:F:85:LYS:O	2.53	0.41
1:A:483:GLN:O	1:A:486:THR:HG22	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:960:LYS:HD2	2:E:19:LYS:O	2.21	0.41
1:B:431:SER:OG	1:B:433:GLU:OE1	2.38	0.41
1:B:448:TRP:CG	1:B:481:ILE:HD11	2.56	0.41
1:B:574:TYR:HD2	2:E:16:TYR:HD2	1.69	0.41
1:C:105:LYS:O	1:C:109:GLN:HB2	2.20	0.41
1:C:753:LYS:HA	1:C:756:VAL:HG12	2.03	0.41
1:D:751:ILE:O	1:D:804:TYR:OH	2.39	0.41
1:A:136:ASN:HA	1:A:139:ASP:OD1	2.20	0.41
1:B:561:LEU:HD12	1:B:561:LEU:HA	1.90	0.41
1:C:338:TYR:OH	1:C:351:ASN:ND2	2.41	0.41
1:C:931:GLU:OE1	1:C:931:GLU:N	2.43	0.41
2:E:45:VAL:HB	2:E:67:PHE:CE2	2.55	0.41
1:A:669:ARG:HG3	1:A:669:ARG:HH11	1.86	0.40
1:B:565:VAL:HG11	1:B:618:LEU:HD11	2.03	0.40
1:B:629:ARG:NH2	1:B:643:SER:OG	2.53	0.40
1:C:436:TYR:OH	1:C:473:LEU:HB3	2.21	0.40
1:C:913:MET:HE1	1:C:937:ASP:H	1.86	0.40
1:D:885:ILE:O	1:D:889:LEU:HG	2.21	0.40
1:D:959:LEU:HA	1:D:962:TYR:CE1	2.55	0.40
1:A:742:PHE:CD1	1:A:742:PHE:N	2.89	0.40
1:B:995:ARG:O	1:B:999:ILE:HG13	2.22	0.40
1:C:238:ASP:N	1:C:238:ASP:OD1	2.53	0.40
1:C:320:PHE:HE1	1:C:387:PHE:HB2	1.86	0.40
1:C:685:GLU:OE1	1:C:728:LEU:HA	2.21	0.40
1:D:842:LEU:HD23	1:D:843:PRO:HD3	2.03	0.40
1:B:117:ILE:HD13	1:B:117:ILE:HA	1.91	0.40
1:C:132:THR:HB	1:C:171:HIS:HD2	1.86	0.40
2:F:32:VAL:HG23	2:F:38:GLU:HA	2.04	0.40
1:A:248:THR:O	1:A:248:THR:OG1	2.33	0.40
1:B:409:ILE:HD12	1:B:414:TYR:CE2	2.57	0.40
1:B:586:LEU:HD23	1:B:586:LEU:HA	1.91	0.40
1:C:92:TYR:HE1	1:C:97:GLU:HB2	1.87	0.40
1:D:545:LEU:HA	1:D:545:LEU:HD23	1.90	0.40
1:D:767:LEU:HB2	1:D:771:ILE:CD1	2.51	0.40
1:A:504:TYR:O	1:A:504:TYR:CG	2.74	0.40
1:C:447:ARG:HB3	1:C:450:GLU:CD	2.42	0.40
1:C:1005:ILE:HG13	1:D:1005:ILE:HD11	2.03	0.40
1:D:75:LYS:O	1:D:79:TYR:OH	2.28	0.40
1:D:147:LYS:HE3	1:D:165:ARG:NE	2.35	0.40
1:D:410:ASN:OD1	1:D:410:ASN:N	2.55	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	958/1005 (95%)	923 (96%)	35 (4%)	0	100	100
1	B	961/1005 (96%)	920 (96%)	41 (4%)	0	100	100
1	C	963/1005 (96%)	931 (97%)	31 (3%)	1 (0%)	51	84
1	D	960/1005 (96%)	920 (96%)	39 (4%)	1 (0%)	51	84
2	E	109/120 (91%)	93 (85%)	15 (14%)	1 (1%)	17	54
2	F	109/120 (91%)	101 (93%)	7 (6%)	1 (1%)	17	54
All	All	4060/4260 (95%)	3888 (96%)	168 (4%)	4 (0%)	54	84

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	497	LEU
2	E	83	ILE
2	F	83	ILE
1	D	874	ILE

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	888/923 (96%)	835 (94%)	53 (6%)	19	49
1	B	887/923 (96%)	837 (94%)	50 (6%)	21	51
1	C	891/923 (96%)	846 (95%)	45 (5%)	24	53

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	D	890/923 (96%)	847 (95%)	43 (5%)	25	54
2	E	92/113 (81%)	78 (85%)	14 (15%)	3	17
2	F	93/113 (82%)	89 (96%)	4 (4%)	29	57
All	All	3741/3918 (96%)	3532 (94%)	209 (6%)	25	51

All (209) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	19	PHE
1	A	21	MET
1	A	22	LEU
1	A	73	SER
1	A	76	LYS
1	A	124	MET
1	A	155	GLU
1	A	160	ASN
1	A	164	SER
1	A	188	ASP
1	A	195	GLN
1	A	240	PHE
1	A	247	ARG
1	A	310	ASP
1	A	396	MET
1	A	483	GLN
1	A	492	PHE
1	A	497	LEU
1	A	508	THR
1	A	554	ASP
1	A	559	PHE
1	A	565	VAL
1	A	616	MET
1	A	636	PHE
1	A	646	PHE
1	A	647	MET
1	A	651	ASP
1	A	678	PHE
1	A	704	MET
1	A	706	VAL
1	A	711	GLN
1	A	722	PHE
1	A	738	LYS

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Mol	Chain	Res	Type
1	A	742	PHE
1	A	744	PHE
1	A	757	TRP
1	A	776	ASP
1	A	811	PHE
1	A	826	CYS
1	A	839	PHE
1	A	857	LYS
1	A	896	TYR
1	A	909	SER
1	A	913	MET
1	A	926	ASN
1	A	936	MET
1	A	942	PHE
1	A	948	ASN
1	A	958	TRP
1	A	962	TYR
1	A	976	MET
1	A	980	VAL
1	A	992	ASN
1	B	23	ASP
1	B	98	MET
1	B	115	ASN
1	B	131	THR
1	B	134	TYR
1	B	145	ARG
1	B	237	LYS
1	B	239	SER
1	B	240	PHE
1	B	270	ASP
1	B	304	LYS
1	B	328	ILE
1	B	368	ASP
1	B	370	ARG
1	B	403	LEU
1	B	418	TYR
1	B	421	MET
1	B	435	ASP
1	B	460	LEU
1	B	512	LEU
1	B	521	ASN
1	B	569	MET

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Mol	Chain	Res	Type
1	B	573	SER
1	B	590	ASP
1	B	604	SER
1	B	629	ARG
1	B	646	PHE
1	B	647	MET
1	B	659	PHE
1	B	663	ASP
1	B	673	ILE
1	B	702	ASN
1	B	709	TYR
1	B	722	PHE
1	B	738	LYS
1	B	747	ARG
1	B	749	LEU
1	B	755	TYR
1	B	769	LYS
1	B	802	ARG
1	B	818	LYS
1	B	837	PHE
1	B	866	MET
1	B	888	TYR
1	B	913	MET
1	B	920	TYR
1	B	936	MET
1	B	938	ASP
1	B	976	MET
1	B	987	ARG
1	C	76	LYS
1	C	81	SER
1	C	84	TYR
1	C	98	MET
1	C	111	ASP
1	C	124	MET
1	C	251	SER
1	C	267	ARG
1	C	322	LEU
1	C	421	MET
1	C	431	SER
1	C	470	VAL
1	C	500	PHE
1	C	502	ARG

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Mol	Chain	Res	Type
1	C	504	TYR
1	C	519	MET
1	C	531	MET
1	C	533	PHE
1	C	537	LYS
1	C	596	TYR
1	C	639	PHE
1	C	666	ASN
1	C	674	ASP
1	C	704	MET
1	C	721	TYR
1	C	722	PHE
1	C	733	LEU
1	C	738	LYS
1	C	744	PHE
1	C	755	TYR
1	C	757	TRP
1	C	813	LYS
1	C	815	PHE
1	C	818	LYS
1	C	838	LEU
1	C	892	ARG
1	C	920	TYR
1	C	921	PHE
1	C	940	TYR
1	C	953	LYS
1	C	964	ASP
1	C	976	MET
1	C	978	HIS
1	C	993	ASP
1	C	1001	MET
1	D	17	GLU
1	D	20	LEU
1	D	100	PHE
1	D	107	PHE
1	D	157	ASP
1	D	213	ILE
1	D	361	PHE
1	D	363	LEU
1	D	366	SER
1	D	367	CYS
1	D	368	ASP

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Mol	Chain	Res	Type
1	D	395	CYS
1	D	396	MET
1	D	403	LEU
1	D	410	ASN
1	D	419	ASP
1	D	421	MET
1	D	428	GLN
1	D	431	SER
1	D	475	GLN
1	D	492	PHE
1	D	547	ASP
1	D	590	ASP
1	D	616	MET
1	D	636	PHE
1	D	647	MET
1	D	709	TYR
1	D	729	SER
1	D	744	PHE
1	D	757	TRP
1	D	811	PHE
1	D	828	THR
1	D	841	LEU
1	D	842	LEU
1	D	866	MET
1	D	880	GLU
1	D	909	SER
1	D	930	MET
1	D	940	TYR
1	D	954	PHE
1	D	976	MET
1	D	987	ARG
1	D	1004	PHE
2	E	13	ASP
2	E	14	LEU
2	E	16	TYR
2	E	25	TRP
2	E	28	GLU
2	E	30	ASP
2	E	41	LYS
2	E	43	TYR
2	E	44	PHE
2	E	67	PHE

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Mol	Chain	Res	Type
2	E	85	LYS
2	E	94	ASP
2	E	110	PHE
2	E	114	LYS
2	F	43	TYR
2	F	59	PHE
2	F	101	HIS
2	F	110	PHE

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

Mol	Chain	Res	Type
1	A	503	HIS
1	A	521	ASN
1	A	548	ASN
1	A	765	ASN
1	A	867	ASN
1	A	990	ASN
1	B	202	ASN
1	B	297	GLN
1	B	339	HIS
1	B	382	ASN
1	B	461	ASN
1	B	529	ASN
1	B	702	ASN
1	B	782	GLN
1	B	867	ASN
1	C	58	GLN
1	C	115	ASN
1	C	211	HIS
1	C	658	HIS
1	C	848	ASN
1	C	867	ASN
1	D	224	ASN
1	D	477	ASN
1	D	521	ASN
1	D	789	GLN
1	D	832	GLN
1	D	990	ASN
2	E	54	ASN
2	F	54	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

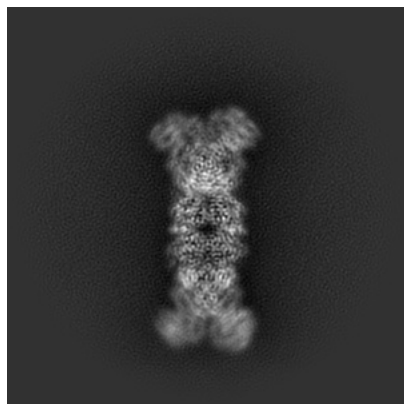
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-36982. These allow visual inspection of the internal detail of the map and identification of artifacts.

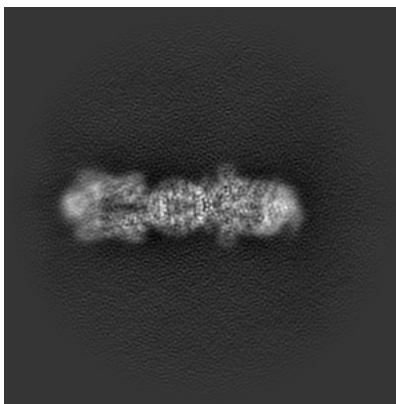
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

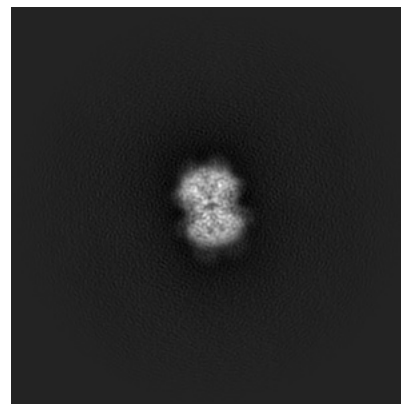
6.1.1 Primary map



X

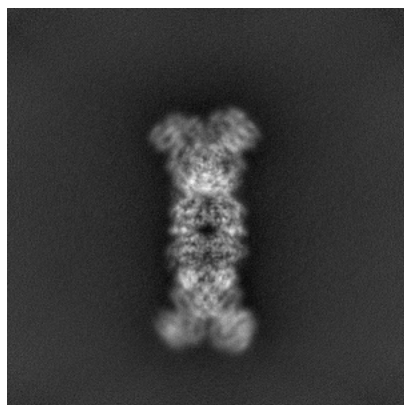


Y

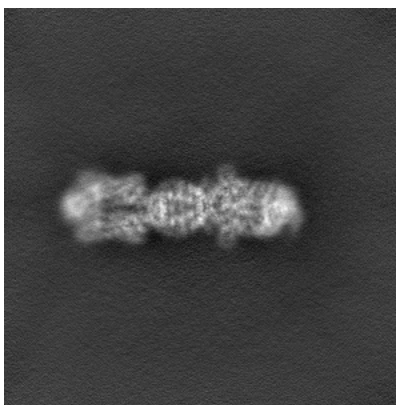


Z

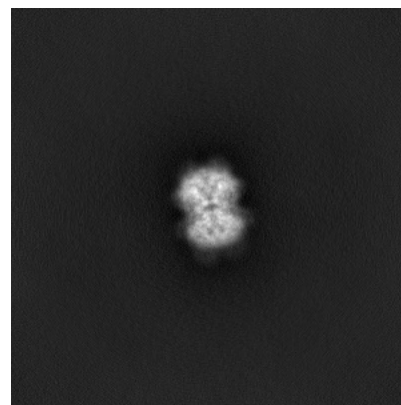
6.1.2 Raw map



X



Y

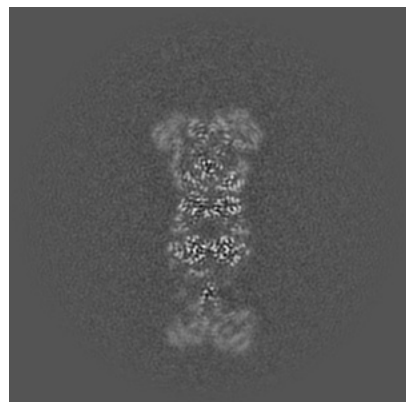


Z

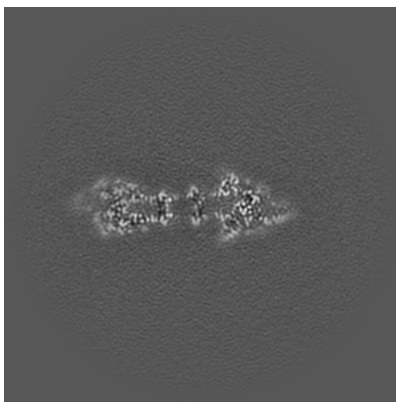
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

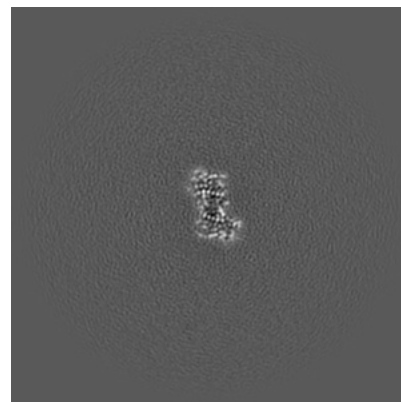
6.2.1 Primary map



X Index: 250

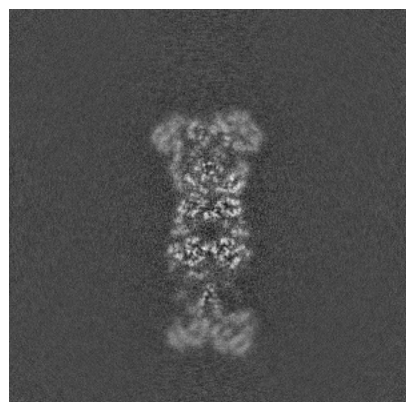


Y Index: 250

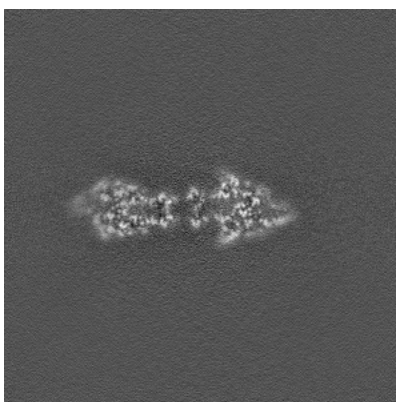


Z Index: 250

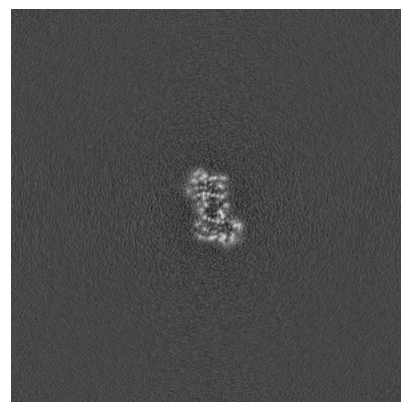
6.2.2 Raw map



X Index: 250



Y Index: 250

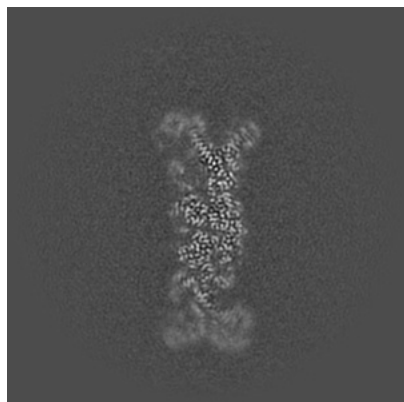


Z Index: 250

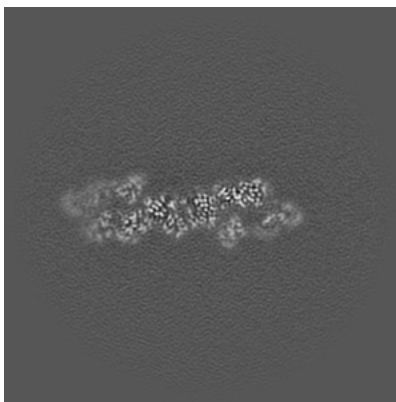
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

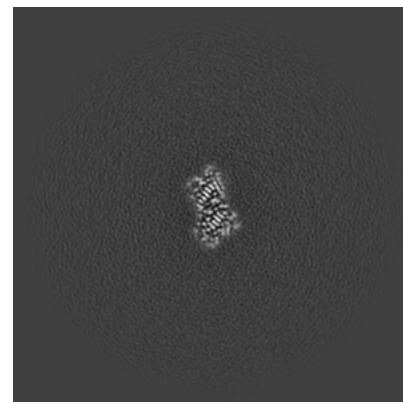
6.3.1 Primary map



X Index: 260

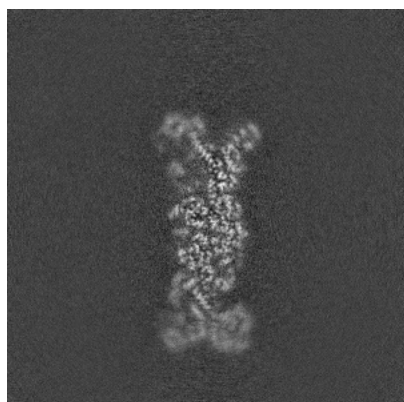


Y Index: 266

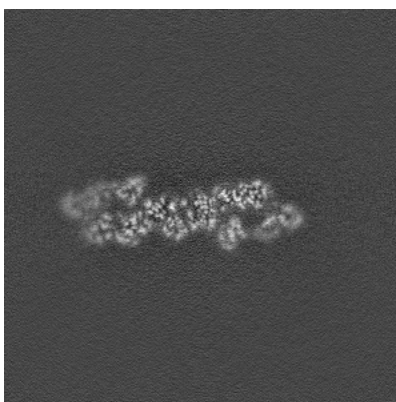


Z Index: 196

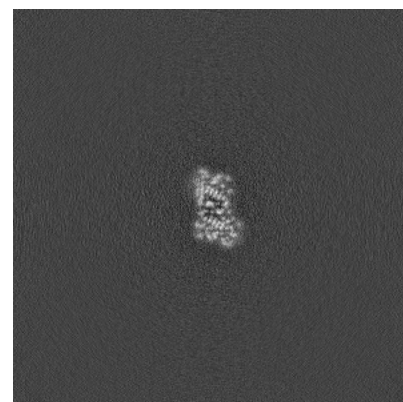
6.3.2 Raw map



X Index: 261



Y Index: 266

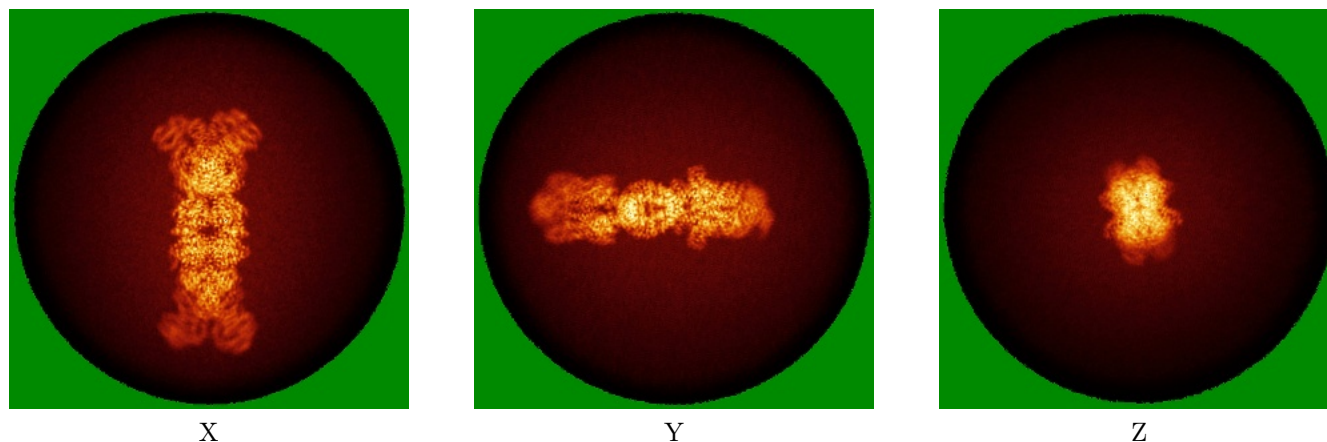


Z Index: 246

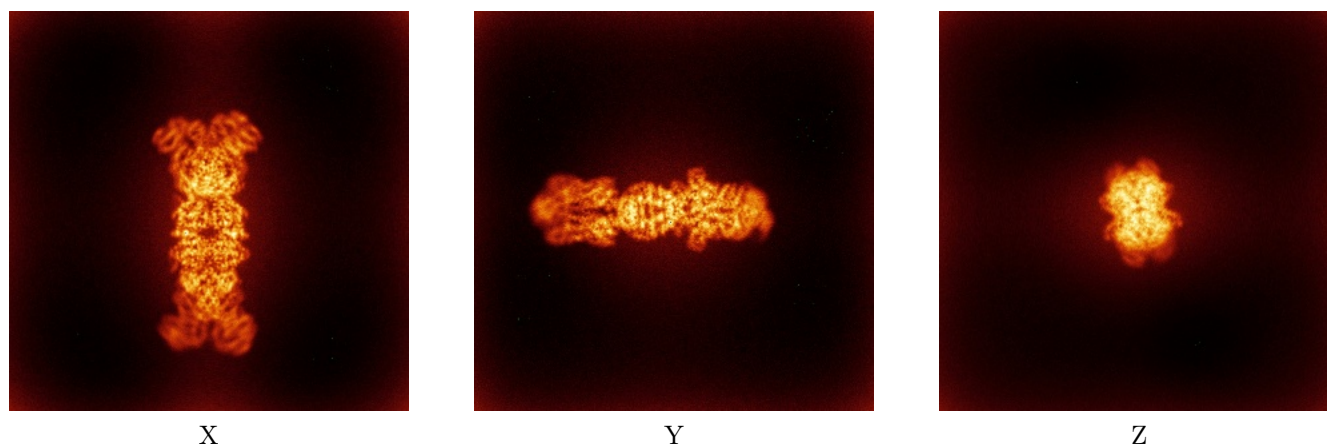
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map



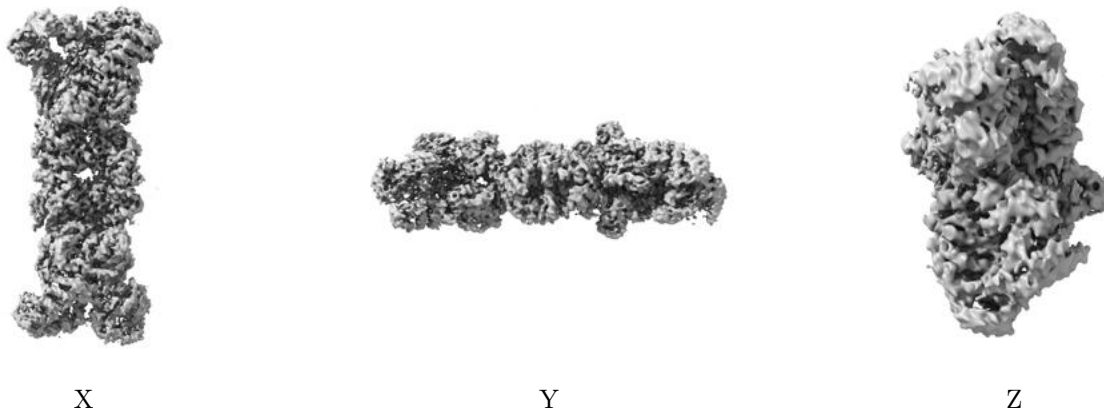
6.4.2 Raw map



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

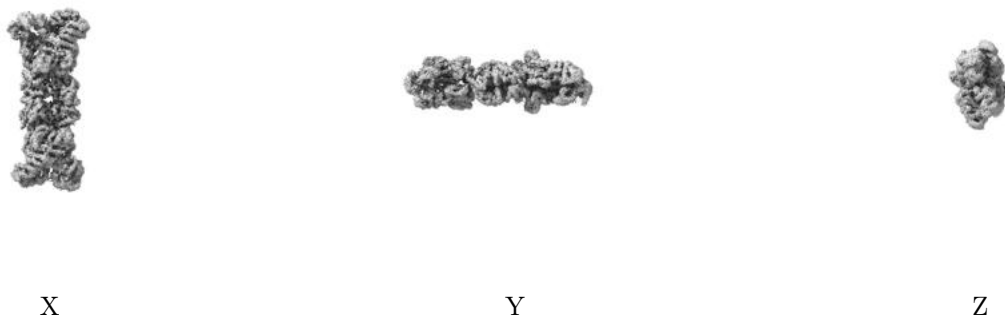
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.257. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

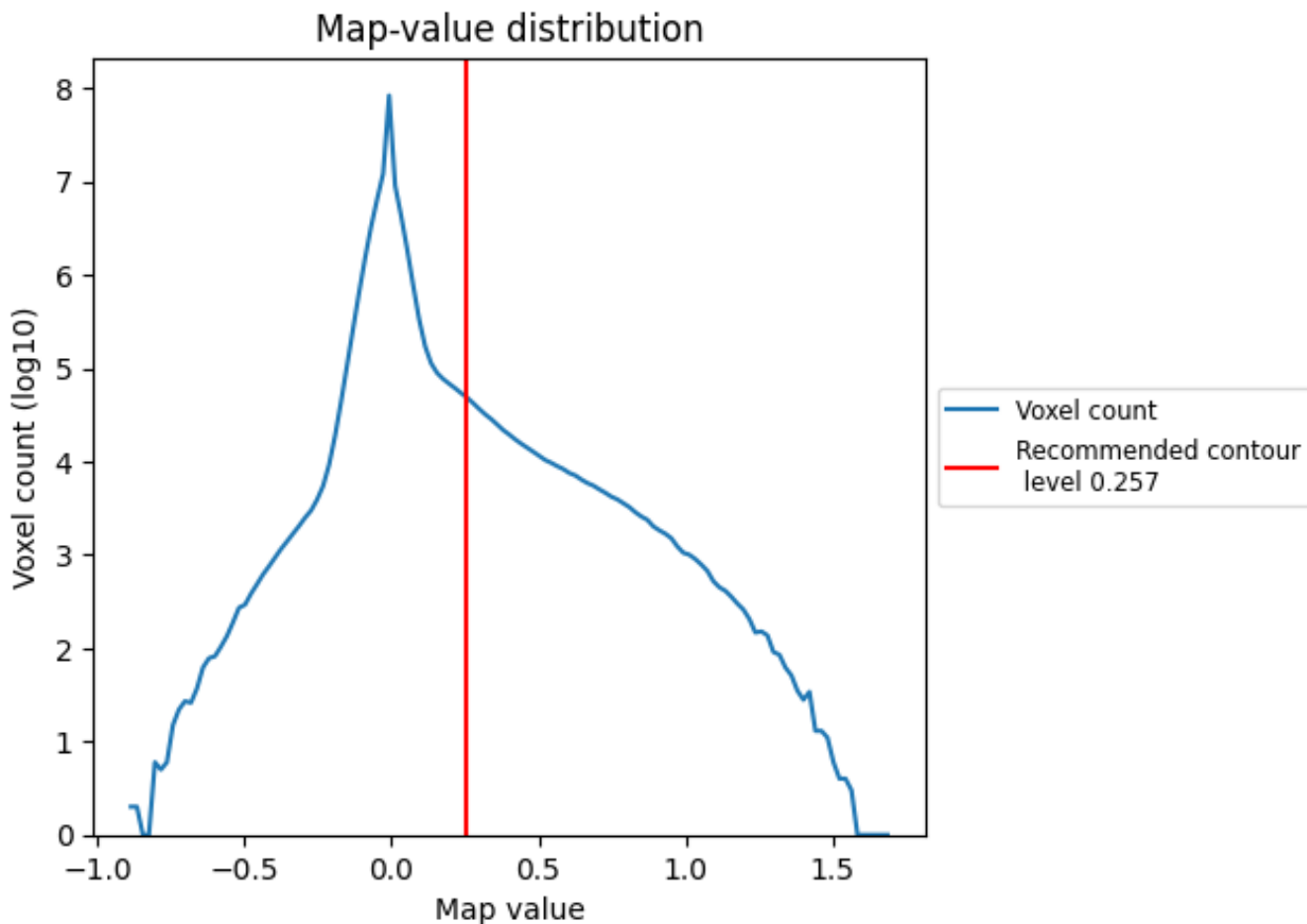
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

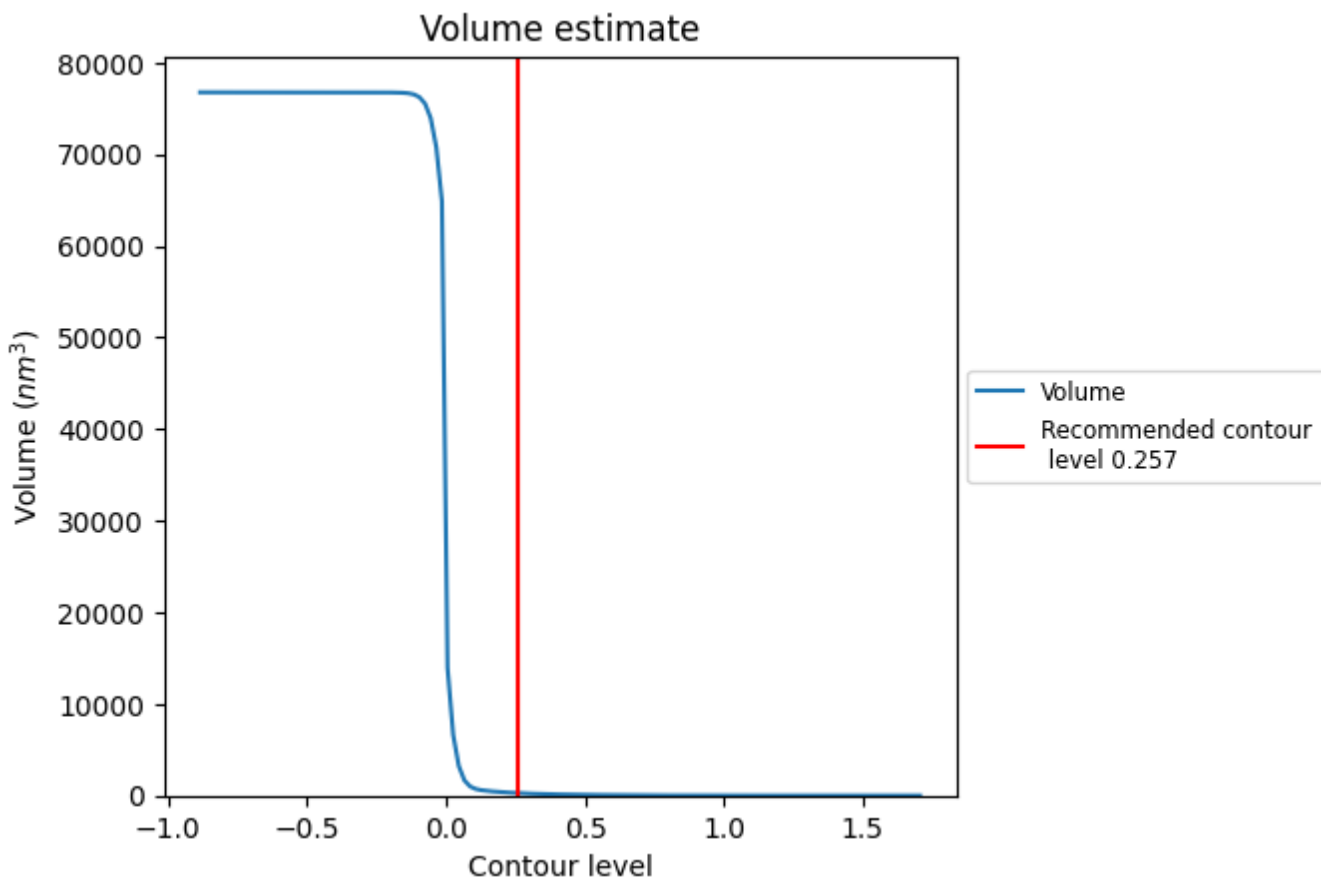
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

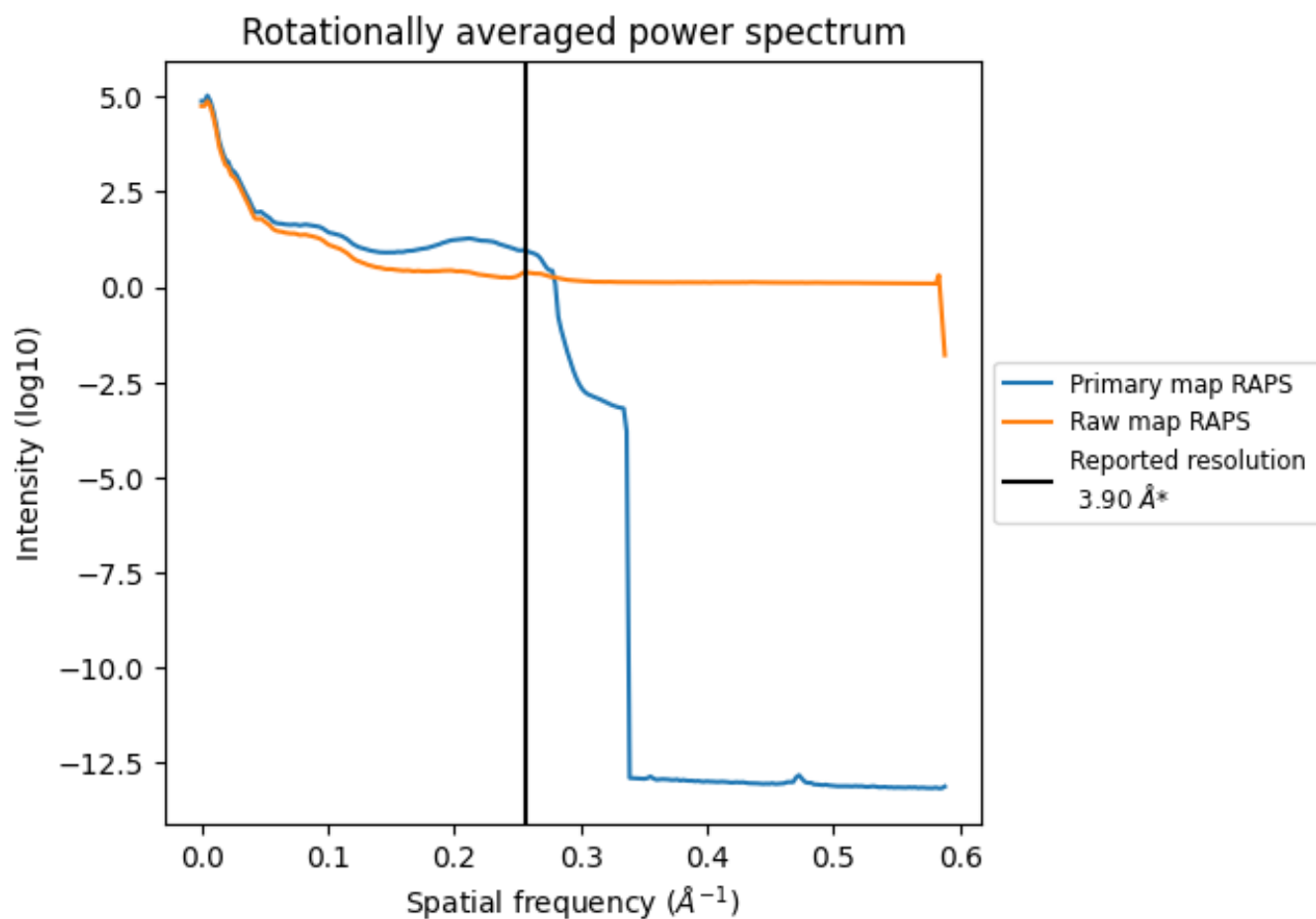
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 273 nm³; this corresponds to an approximate mass of 246 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](#)

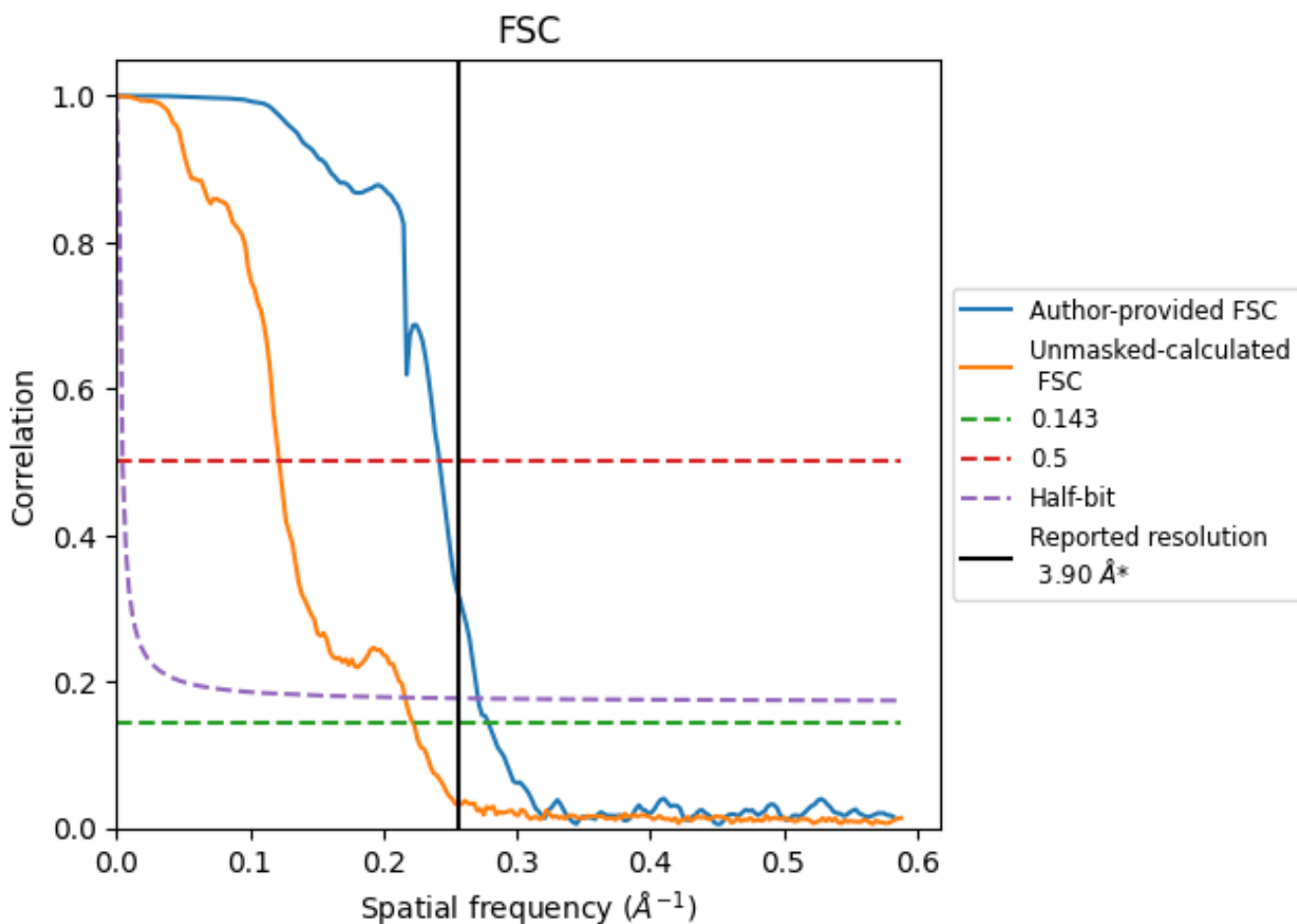


*Reported resolution corresponds to spatial frequency of 0.256 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.256 Å⁻¹

8.2 Resolution estimates [i](#)

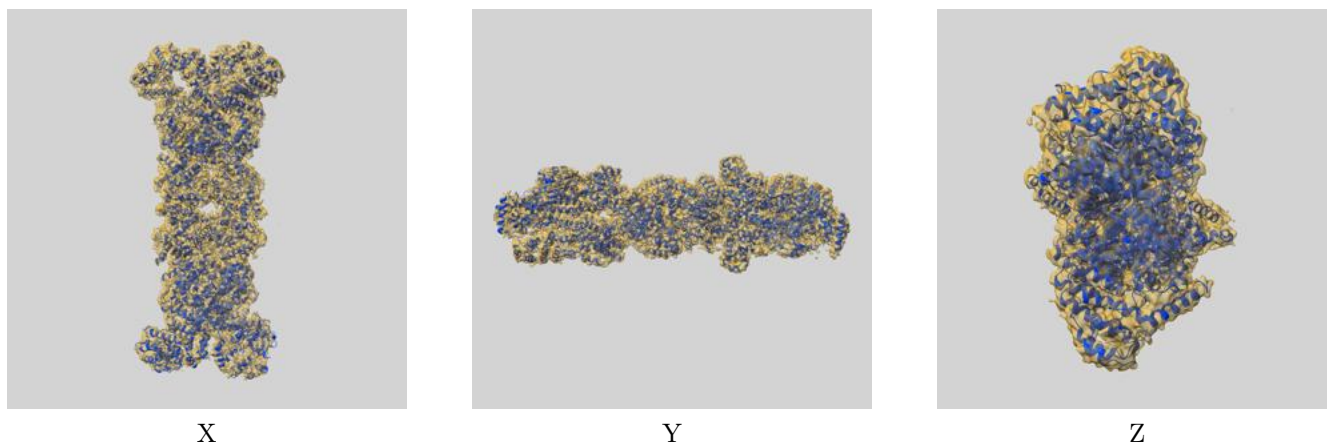
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.90	-	-
Author-provided FSC curve	3.59	4.13	3.69
Unmasked-calculated*	4.50	8.18	4.62

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.50 differs from the reported value 3.9 by more than 10 %

9 Map-model fit [i](#)

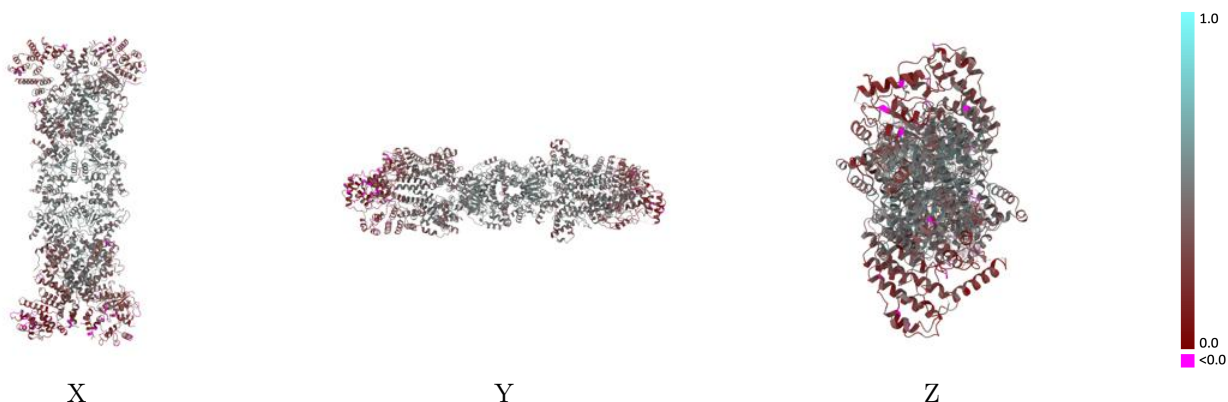
This section contains information regarding the fit between EMDB map EMD-36982 and PDB model 8K9A. Per-residue inclusion information can be found in section 3 on page 4.

9.1 Map-model overlay [i](#)



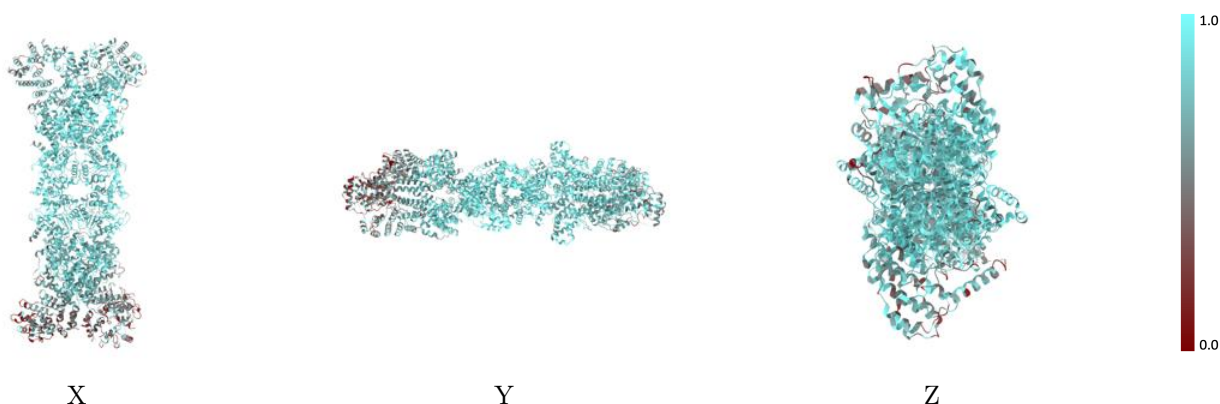
The images above show the 3D surface view of the map at the recommended contour level 0.257 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



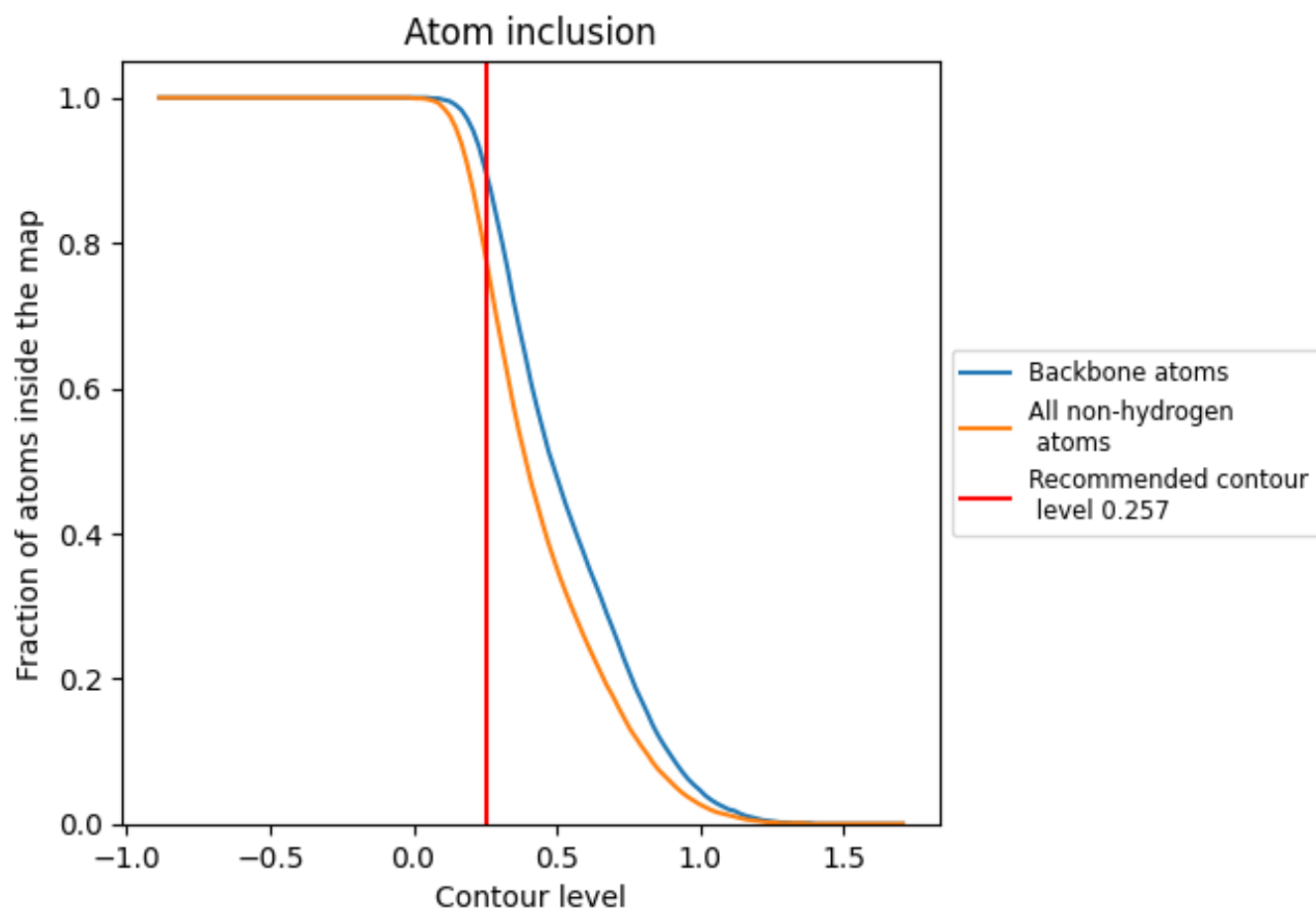
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.257).















9.4 Atom inclusion [i](#)



At the recommended contour level, 89% of all backbone atoms, 77% 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 (0.257) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7700	 0.3900
A	 0.7460	 0.3860
B	 0.7110	 0.3600
C	 0.8170	 0.4040
D	 0.8470	 0.4260
E	 0.4490	 0.2550
F	 0.6950	 0.3480

