



Full wwPDB EM Validation Report ⓘ

Apr 2, 2025 – 02:59 PM EDT

PDB ID : 9O09 / pdb_00009o09
EMDB ID : EMD-49967
Title : The structure of human Hsp60
Deposited on : 2025-04-02
Resolution : 3.37 Å (reported)

This wwPDB validation report is for manuscript review

This is a Full wwPDB EM Validation Report.

This report is produced by the wwPDB biocuration pipeline after annotation of the structure.

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

<https://www.wwpdb.org/validation/2017/FAQs#types>.

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

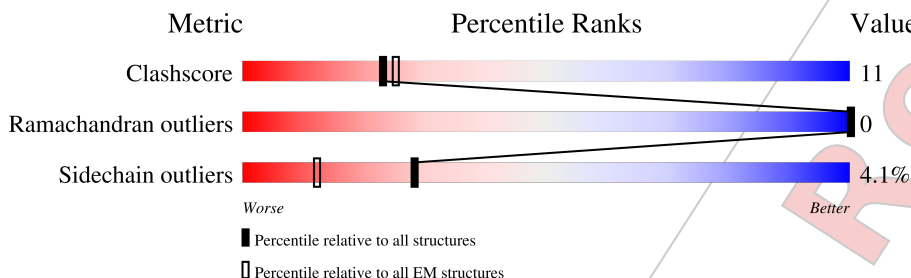
EMDB validation analysis	:	0.0.1.dev117
MolProbity	:	4.02b-467
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.42

1 Overall quality at a glance i

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

The reported resolution of this entry is 3.37 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	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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	573	10% 67% 24% • 8%
1	B	573	11% 67% 24% • 8%
1	C	573	10% 65% 25% • 8%
1	D	573	11% 66% 25% • 8%
1	E	573	10% 67% 23% • 8%
1	F	573	11% 66% 25% • 8%
1	G	573	12% 68% 22% • 8%

2 Entry composition [i](#)

There is only 1 type of molecule in this entry. The entry contains 27461 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 60 kDa heat shock protein, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	526	Total	C	N	O	S	0	0
			3923	2461	670	778	14		
1	B	526	Total	C	N	O	S	0	0
			3923	2461	670	778	14		
1	C	526	Total	C	N	O	S	0	0
			3923	2461	670	778	14		
1	D	526	Total	C	N	O	S	0	0
			3923	2461	670	778	14		
1	E	526	Total	C	N	O	S	0	0
			3923	2461	670	778	14		
1	F	526	Total	C	N	O	S	0	0
			3923	2461	670	778	14		
1	G	526	Total	C	N	O	S	0	0
			3923	2461	670	778	14		

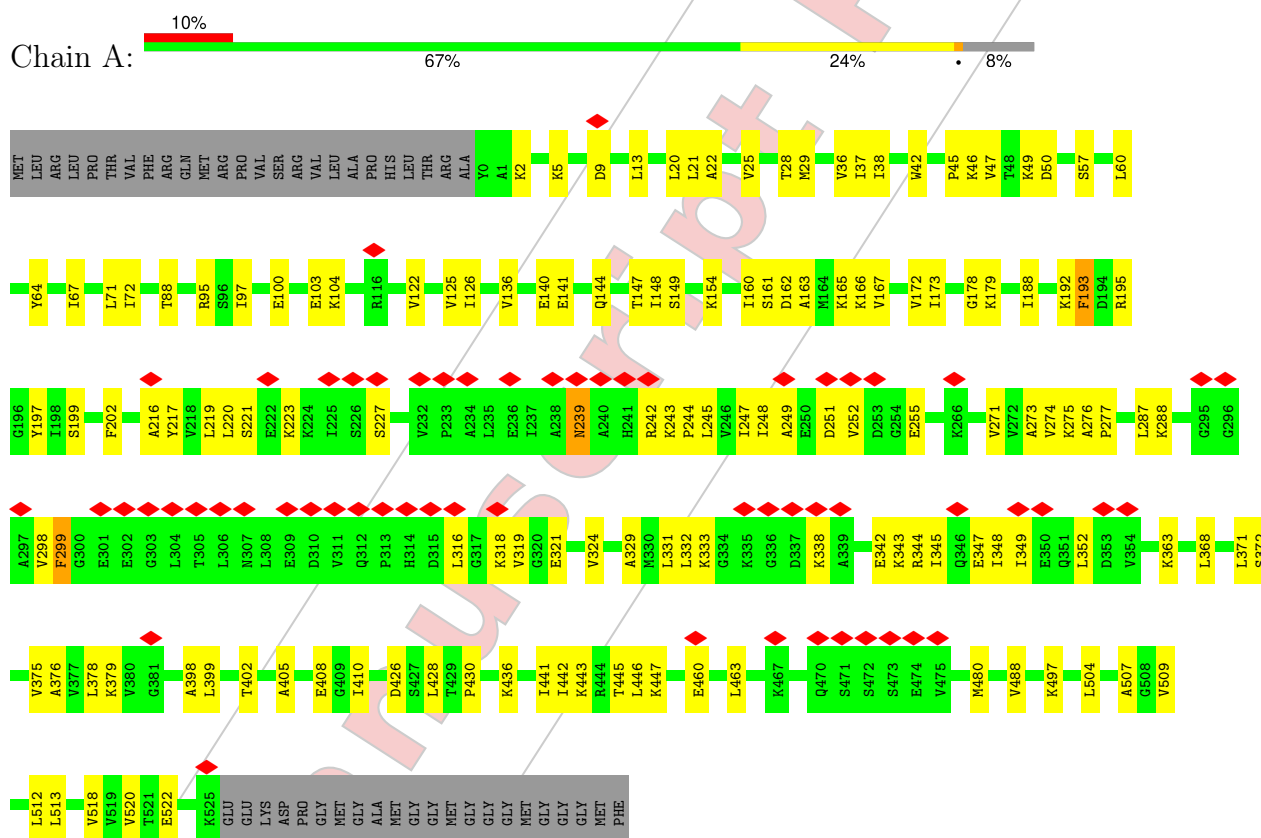
There are 7 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	72	ILE	VAL	conflict	UNP P10809
B	72	ILE	VAL	conflict	UNP P10809
C	72	ILE	VAL	conflict	UNP P10809
D	72	ILE	VAL	conflict	UNP P10809
E	72	ILE	VAL	conflict	UNP P10809
F	72	ILE	VAL	conflict	UNP P10809
G	72	ILE	VAL	conflict	UNP P10809

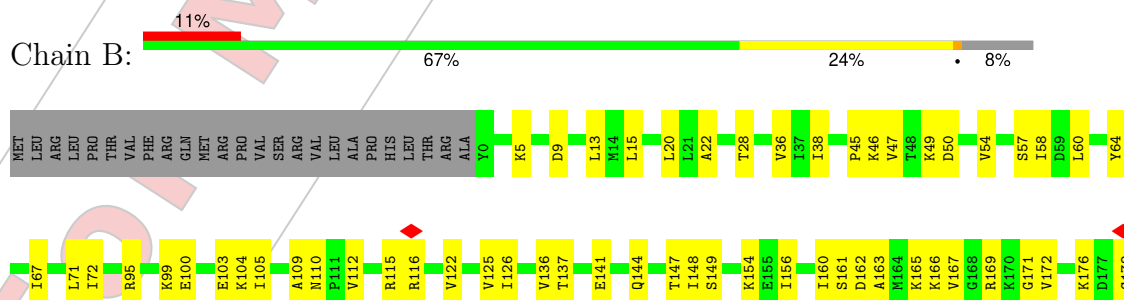
3 Residue-property plots

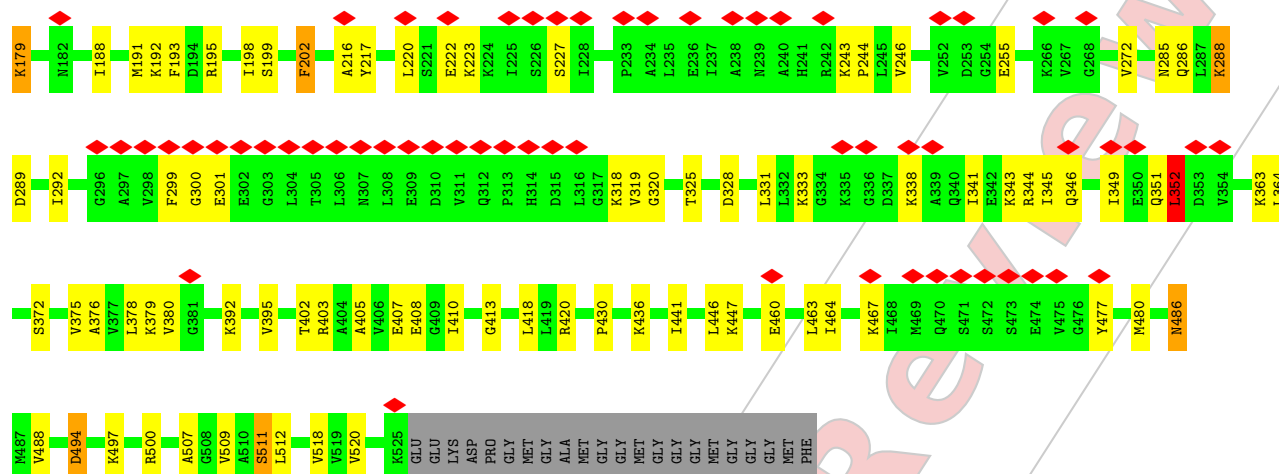
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: 60 kDa heat shock protein, mitochondrial

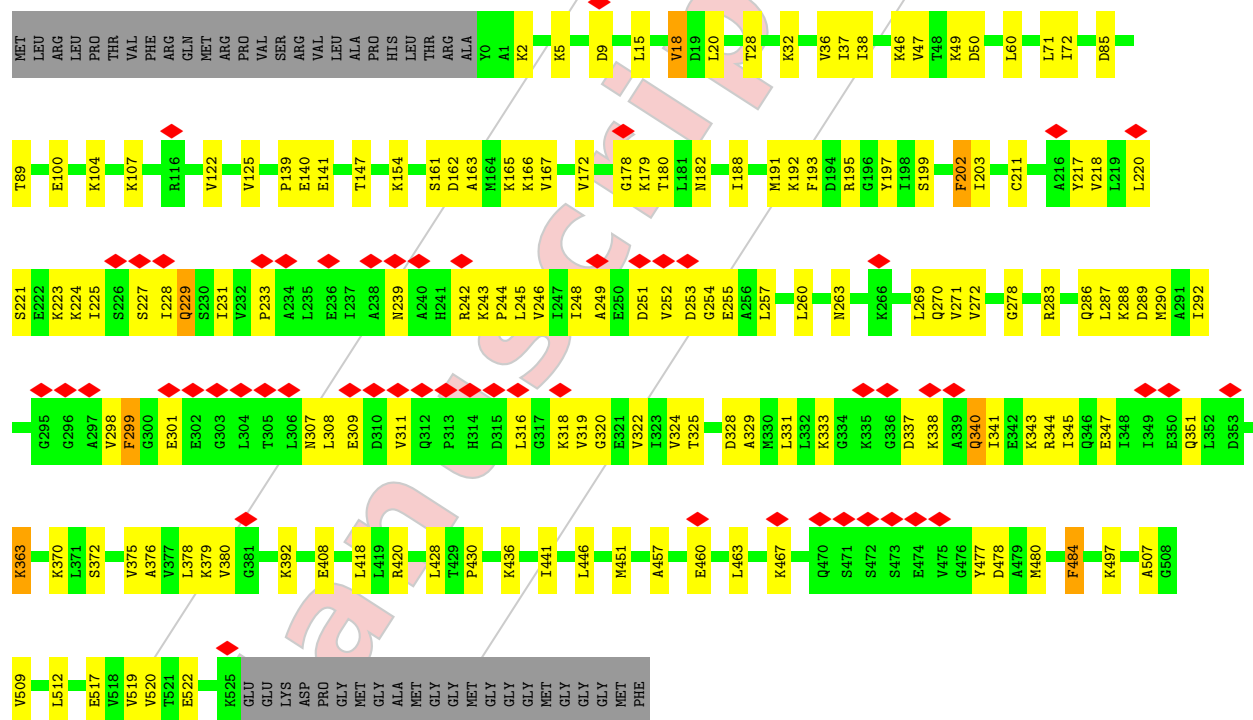


- Molecule 1: 60 kDa heat shock protein, mitochondrial

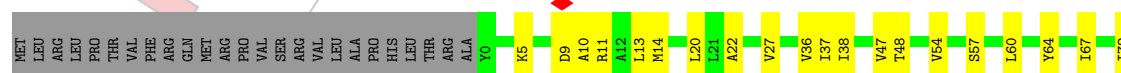


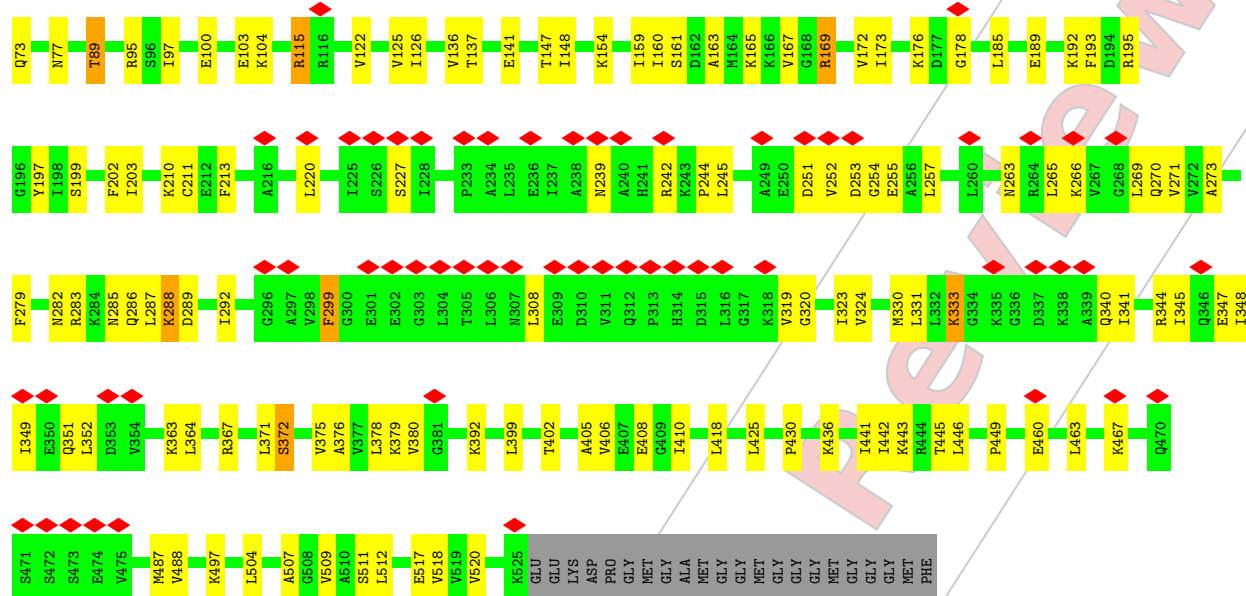


- Molecule 1: 60 kDa heat shock protein, mitochondrial



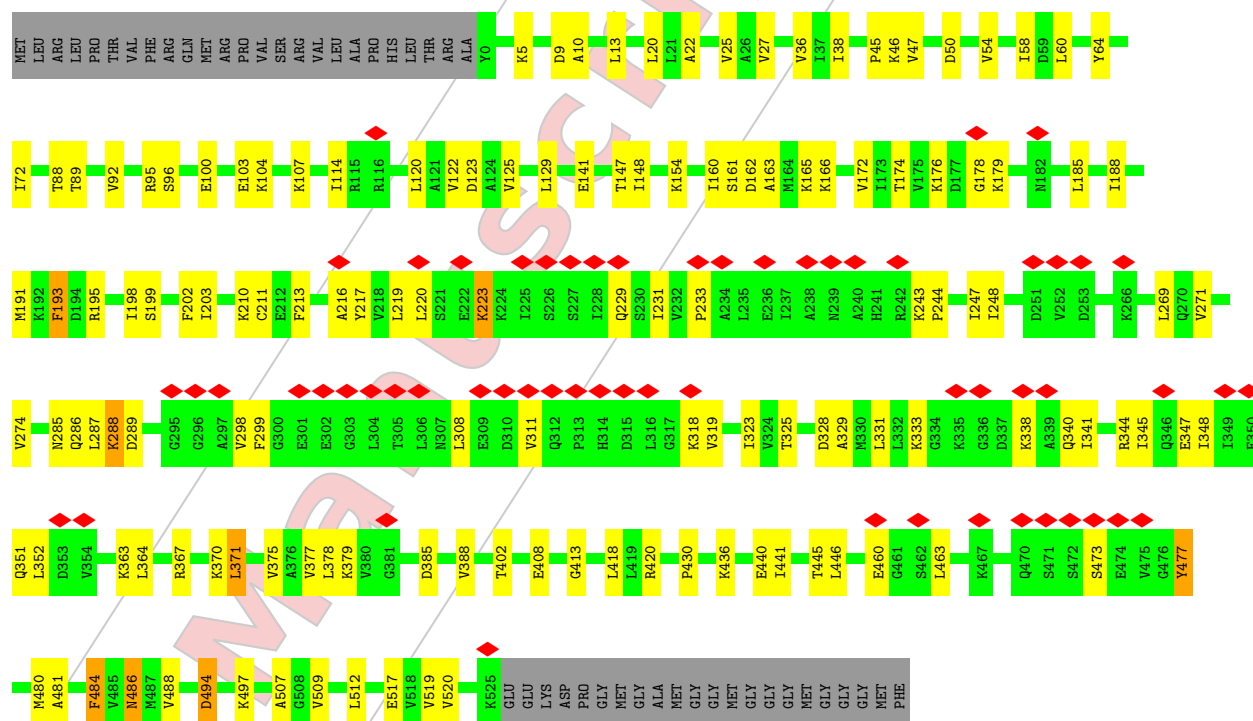
- Molecule 1: 60 kDa heat shock protein, mitochondrial





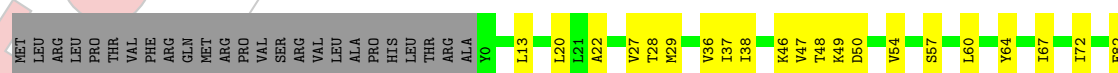
- Molecule 1: 60 kDa heat shock protein, mitochondrial

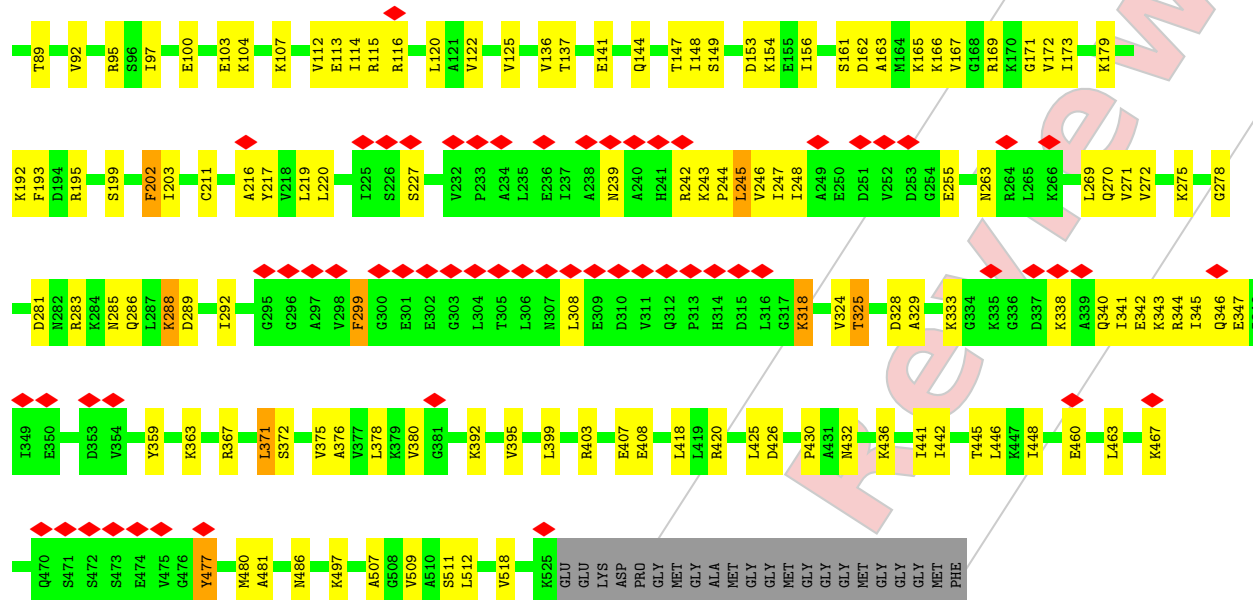
Chain E: 10% 67% 23% 8%



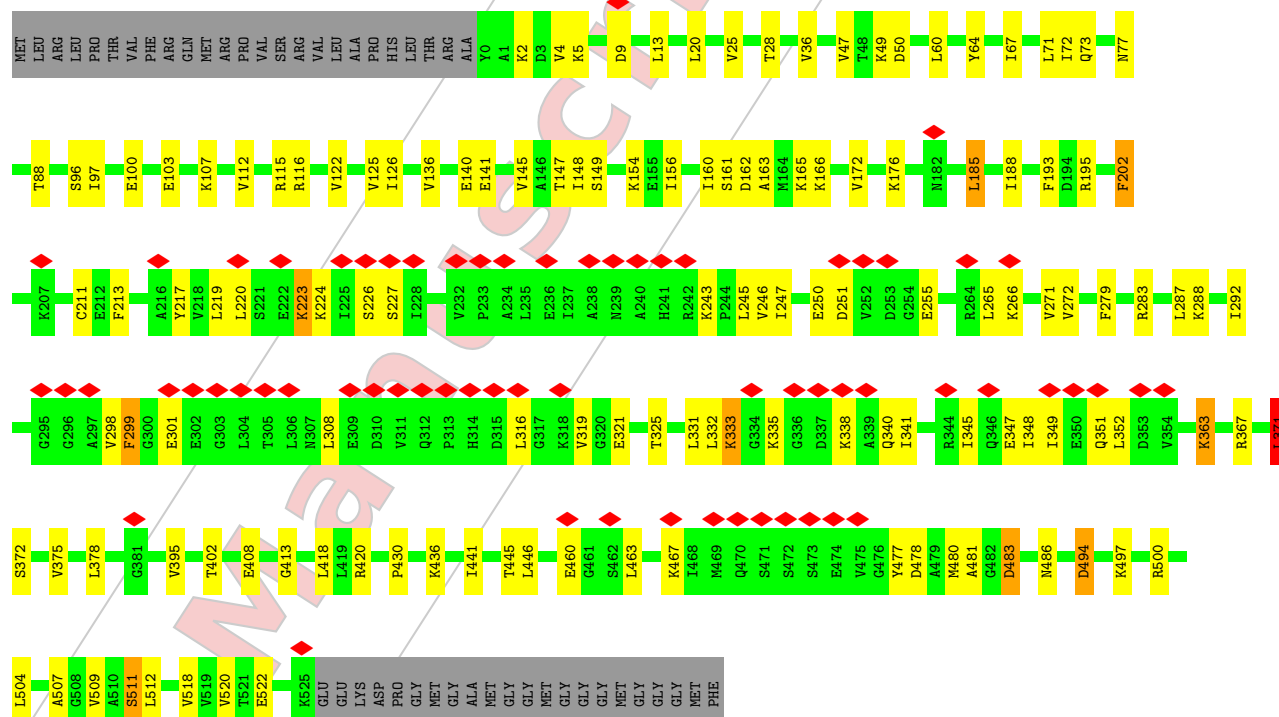
- Molecule 1: 60 kDa heat shock protein, mitochondrial

Chain F: 11% 66% 25% 8%





- Molecule 1: 60 kDa heat shock protein, mitochondrial



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	73657	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	57.8	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	1.232	Depositor
Minimum map value	-0.785	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.021	Depositor
Recommended contour level	0.15	Depositor
Map size (Å)	539.648, 539.648, 539.648	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.054, 1.054, 1.054	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	0/3955	0.50	0/5335
1	B	0.26	0/3955	0.52	1/5335 (0.0%)
1	C	0.26	0/3955	0.51	1/5335 (0.0%)
1	D	0.26	0/3955	0.53	1/5335 (0.0%)
1	E	0.26	0/3955	0.52	0/5335
1	F	0.26	0/3955	0.51	0/5335
1	G	0.26	0/3955	0.55	3/5335 (0.1%)
All	All	0.26	0/27685	0.52	6/37345 (0.0%)

There are no bond length outliers.

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	352	LEU	CA-CB-CG	6.73	130.77	115.30
1	D	364	LEU	CA-CB-CG	5.65	128.29	115.30
1	C	85	ASP	CB-CG-OD1	5.62	123.36	118.30
1	G	483	ASP	CB-CG-OD2	5.33	123.09	118.30
1	G	371	LEU	CA-CB-CG	5.30	127.50	115.30
1	G	333	LYS	CA-CB-CG	5.00	124.41	113.40

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	3923	0	4105	87	0
1	B	3923	0	4105	89	0
1	C	3923	0	4105	101	0
1	D	3923	0	4105	96	0
1	E	3923	0	4105	86	0
1	F	3923	0	4105	92	0
1	G	3923	0	4105	88	0
All	All	27461	0	28735	610	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 (610) 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:C:253:ASP:HA	1:C:257:LEU:HD23	1.59	0.82
1:B:486:ASN:C	1:B:486:ASN:HD22	1.82	0.82
1:D:253:ASP:HA	1:D:257:LEU:HD23	1.63	0.81
1:F:100:GLU:HB3	1:F:441:ILE:HD12	1.63	0.80
1:D:100:GLU:HB3	1:D:441:ILE:HD12	1.61	0.80
1:E:220:LEU:HB2	1:E:298:VAL:HA	1.67	0.76
1:F:115:ARG:HD3	1:F:511:SER:HB2	1.66	0.75
1:G:100:GLU:HB3	1:G:441:ILE:HD12	1.67	0.75
1:D:244:PRO:HA	1:D:270:GLN:HE21	1.52	0.74
1:G:25:VAL:HG12	1:G:88:THR:HG23	1.69	0.73
1:G:333:LYS:HD3	1:G:333:LYS:O	1.87	0.73
1:B:115:ARG:HD3	1:B:511:SER:HB2	1.69	0.73
1:A:221:SER:HB3	1:A:249:ALA:HA	1.70	0.72
1:C:292:ILE:HD13	1:C:344:ARG:HD3	1.72	0.72
1:A:36:VAL:HG22	1:G:518:VAL:HG22	1.71	0.71
1:F:202:PHE:HB2	1:F:272:VAL:HG23	1.72	0.71
1:A:219:LEU:HD21	1:A:316:LEU:HD23	1.72	0.71
1:G:292:ILE:HG23	1:G:340:GLN:HE21	1.56	0.70
1:A:172:VAL:HB	1:A:375:VAL:HG23	1.72	0.70
1:E:325:THR:HG23	1:E:328:ASP:HB2	1.74	0.70
1:G:219:LEU:HD21	1:G:247:ILE:HG22	1.74	0.70
1:A:220:LEU:O	1:A:299:PHE:HB2	1.92	0.70
1:C:325:THR:HG23	1:C:328:ASP:HB2	1.74	0.69
1:G:115:ARG:HD3	1:G:511:SER:HB2	1.75	0.68
1:C:100:GLU:HB3	1:C:441:ILE:HD12	1.76	0.68
1:D:148:ILE:HD11	1:D:488:VAL:HG13	1.76	0.67
1:A:319:VAL:HG21	1:A:331:LEU:HB2	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:148:ILE:HD11	1:B:488:VAL:HG13	1.77	0.66
1:C:221:SER:HB3	1:C:249:ALA:HA	1.76	0.66
1:E:198:ILE:HD12	1:E:198:ILE:H	1.60	0.66
1:B:198:ILE:HD12	1:B:198:ILE:H	1.59	0.65
1:E:141:GLU:HB3	1:E:484:PHE:HE2	1.61	0.65
1:B:100:GLU:HB3	1:B:441:ILE:HD12	1.78	0.65
1:A:518:VAL:HG22	1:B:36:VAL:HG22	1.79	0.65
1:D:299:PHE:HE2	1:D:308:LEU:HA	1.62	0.65
1:B:325:THR:HG23	1:B:328:ASP:HB3	1.79	0.64
1:D:263:ASN:HB3	1:D:269:LEU:HB2	1.77	0.64
1:E:100:GLU:HB3	1:E:441:ILE:HD12	1.80	0.64
1:E:299:PHE:HE1	1:E:308:LEU:HA	1.63	0.63
1:D:518:VAL:HG22	1:E:36:VAL:HG22	1.79	0.63
1:A:178:GLY:HA2	1:A:379:LYS:HB3	1.81	0.63
1:A:332:LEU:HD22	1:A:375:VAL:HG11	1.80	0.63
1:F:418:LEU:HB3	1:F:446:LEU:HD22	1.79	0.62
1:D:5:LYS:HB2	1:D:10:ALA:HB2	1.81	0.62
1:F:292:ILE:HD13	1:F:344:ARG:HG3	1.81	0.62
1:C:220:LEU:O	1:C:299:PHE:HB2	2.00	0.62
1:B:518:VAL:HG22	1:C:36:VAL:HG22	1.82	0.61
1:C:430:PRO:HG3	1:C:436:LYS:HE3	1.81	0.61
1:D:430:PRO:HG3	1:D:436:LYS:HE3	1.82	0.61
1:E:430:PRO:HG3	1:E:436:LYS:HE3	1.83	0.61
1:E:5:LYS:HB2	1:E:10:ALA:HB2	1.83	0.61
1:G:220:LEU:O	1:G:299:PHE:HB2	2.01	0.61
1:F:518:VAL:HG22	1:G:36:VAL:HG22	1.82	0.61
1:C:223:LYS:HD3	1:C:301:GLU:HG3	1.83	0.60
1:F:246:VAL:HG12	1:F:272:VAL:HG12	1.81	0.60
1:B:418:LEU:HB3	1:B:446:LEU:HD22	1.82	0.60
1:C:418:LEU:HB3	1:C:446:LEU:HD22	1.83	0.60
1:G:299:PHE:HE2	1:G:308:LEU:HA	1.66	0.60
1:D:320:GLY:HA3	1:D:333:LYS:HD2	1.83	0.60
1:A:38:ILE:HD11	1:A:46:LYS:HD3	1.84	0.60
1:G:172:VAL:HB	1:G:375:VAL:HG22	1.83	0.60
1:A:100:GLU:HB3	1:A:441:ILE:HD12	1.82	0.60
1:A:147:THR:HG21	1:A:154:LYS:HD2	1.82	0.60
1:A:247:ILE:HG22	1:A:273:ALA:HA	1.84	0.60
1:D:512:LEU:HD11	1:E:47:VAL:HG11	1.84	0.60
1:E:220:LEU:HA	1:E:248:ILE:HB	1.84	0.60
1:E:220:LEU:O	1:E:299:PHE:HB2	2.02	0.59
1:G:413:GLY:HA2	1:G:494:ASP:HB2	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:97:ILE:HG12	1:D:445:THR:HG21	1.84	0.59
1:G:112:VAL:O	1:G:116:ARG:HG3	2.02	0.59
1:C:147:THR:HG21	1:C:154:LYS:HD2	1.83	0.59
1:D:210:LYS:HE3	1:D:323:ILE:HD11	1.85	0.59
1:F:38:ILE:HD11	1:F:46:LYS:HD3	1.84	0.59
1:C:225:ILE:HA	1:C:228:ILE:HD12	1.85	0.58
1:G:122:VAL:HG21	1:G:507:ALA:HB2	1.85	0.58
1:B:112:VAL:O	1:B:116:ARG:HG3	2.02	0.58
1:B:202:PHE:HB2	1:B:272:VAL:HG23	1.85	0.58
1:B:430:PRO:HG3	1:B:436:LYS:HE3	1.86	0.58
1:G:64:TYR:O	1:G:67:ILE:HG22	2.04	0.58
1:D:115:ARG:HG3	1:D:511:SER:HB2	1.86	0.58
1:B:122:VAL:HG21	1:B:507:ALA:HB2	1.86	0.58
1:F:299:PHE:HE2	1:F:308:LEU:HA	1.68	0.58
1:G:220:LEU:HB2	1:G:298:VAL:HA	1.85	0.58
1:E:147:THR:HG21	1:E:154:LYS:HD2	1.85	0.58
1:G:418:LEU:HB3	1:G:446:LEU:HD22	1.86	0.58
1:A:125:VAL:HG21	1:A:446:LEU:HD11	1.86	0.58
1:D:367:ARG:O	1:D:371:LEU:HG	2.04	0.58
1:B:172:VAL:HG13	1:B:192:LYS:HD2	1.86	0.57
1:A:227:SER:HA	1:A:255:GLU:HG3	1.85	0.57
1:B:486:ASN:C	1:B:486:ASN:ND2	2.54	0.57
1:C:337:ASP:HB3	1:C:340:GLN:HG2	1.85	0.57
1:E:163:ALA:HB2	1:E:378:LEU:HD21	1.86	0.57
1:A:25:VAL:HG12	1:A:88:THR:HG23	1.85	0.57
1:C:520:VAL:HG13	1:D:38:ILE:HA	1.86	0.57
1:E:172:VAL:HB	1:E:375:VAL:HG22	1.86	0.57
1:C:227:SER:HA	1:C:255:GLU:HG3	1.86	0.57
1:F:172:VAL:HB	1:F:375:VAL:HG22	1.86	0.57
1:E:25:VAL:HG22	1:E:88:THR:HG23	1.85	0.57
1:B:147:THR:HG21	1:B:154:LYS:HD2	1.86	0.57
1:C:408:GLU:HG3	1:C:497:LYS:HB2	1.87	0.57
1:D:163:ALA:HB2	1:D:378:LEU:HD21	1.85	0.57
1:E:220:LEU:HB3	1:E:287:LEU:HD12	1.87	0.57
1:F:97:ILE:HG12	1:F:445:THR:HG21	1.86	0.57
1:B:188:ILE:HD12	1:B:333:LYS:HG3	1.87	0.56
1:G:219:LEU:HD22	1:G:245:LEU:HD11	1.87	0.56
1:C:139:PRO:HB3	1:C:165:LYS:HD2	1.87	0.56
1:C:188:ILE:HD12	1:C:333:LYS:HG3	1.87	0.56
1:B:351:GLN:HB2	1:B:364:LEU:HD21	1.86	0.56
1:C:37:ILE:HG23	1:C:47:VAL:HG22	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:64:TYR:O	1:A:67:ILE:HG22	2.05	0.56
1:C:32:LYS:HD2	1:C:457:ALA:HA	1.87	0.56
1:D:122:VAL:HG21	1:D:507:ALA:HB2	1.87	0.56
1:B:292:ILE:HD13	1:B:344:ARG:HD3	1.87	0.56
1:D:220:LEU:HB3	1:D:287:LEU:HD12	1.87	0.56
1:G:319:VAL:HG21	1:G:331:LEU:HB2	1.86	0.56
1:D:520:VAL:HG13	1:E:38:ILE:HA	1.88	0.56
1:D:213:PHE:HE1	1:D:270:GLN:HB2	1.69	0.56
1:A:520:VAL:HG13	1:B:38:ILE:HA	1.89	0.55
1:F:227:SER:HA	1:F:255:GLU:HG3	1.87	0.55
1:E:188:ILE:HD12	1:E:333:LYS:HG3	1.89	0.55
1:F:20:LEU:HD22	1:F:60:LEU:HD21	1.88	0.55
1:A:72:ILE:HG12	1:A:509:VAL:HG11	1.87	0.55
1:G:163:ALA:HB2	1:G:378:LEU:HD21	1.89	0.55
1:C:380:VAL:HG11	1:C:392:LYS:HG3	1.89	0.55
1:E:341:ILE:O	1:E:345:ILE:HG12	2.07	0.55
1:A:97:ILE:HG12	1:A:445:THR:HG21	1.86	0.55
1:C:20:LEU:HD22	1:C:60:LEU:HD21	1.87	0.55
1:A:20:LEU:HD22	1:A:60:LEU:HD21	1.89	0.55
1:B:163:ALA:HB2	1:B:378:LEU:HD21	1.89	0.55
1:C:172:VAL:HG13	1:C:192:LYS:HD2	1.89	0.55
1:D:36:VAL:HG11	1:D:54:VAL:HG22	1.88	0.55
1:C:286:GLN:O	1:C:290:MET:HG2	2.05	0.55
1:D:319:VAL:HG21	1:D:331:LEU:HB2	1.89	0.55
1:G:147:THR:HG21	1:G:154:LYS:HD2	1.88	0.55
1:D:64:TYR:O	1:D:67:ILE:HG22	2.07	0.54
1:E:219:LEU:HD11	1:E:247:ILE:HG22	1.88	0.54
1:E:285:ASN:O	1:E:288:LYS:HG3	2.08	0.54
1:B:167:VAL:HG21	1:B:376:ALA:HB2	1.90	0.54
1:C:125:VAL:HG21	1:C:446:LEU:HD11	1.89	0.54
1:F:380:VAL:HG11	1:F:392:LYS:HG3	1.90	0.54
1:A:38:ILE:HA	1:G:520:VAL:HG13	1.90	0.54
1:A:430:PRO:HG3	1:A:436:LYS:HE3	1.89	0.54
1:B:413:GLY:HA2	1:B:494:ASP:HB2	1.90	0.54
1:D:173:ILE:HD11	1:D:378:LEU:HG	1.90	0.54
1:A:122:VAL:HG21	1:A:507:ALA:HB2	1.90	0.54
1:C:512:LEU:HD11	1:D:47:VAL:HG11	1.90	0.54
1:D:517:GLU:HG2	1:E:27:VAL:HG21	1.90	0.54
1:F:122:VAL:HG21	1:F:507:ALA:HB2	1.89	0.54
1:G:348:ILE:HA	1:G:351:GLN:OE1	2.08	0.54
1:G:188:ILE:HD11	1:G:332:LEU:HD23	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:112:VAL:O	1:F:116:ARG:HG3	2.08	0.53
1:D:197:TYR:HD2	1:D:324:VAL:HG12	1.73	0.53
1:C:202:PHE:HB2	1:C:272:VAL:HG13	1.90	0.53
1:D:173:ILE:HG21	1:D:399:LEU:HD11	1.89	0.53
1:C:122:VAL:HG21	1:C:507:ALA:HB2	1.91	0.53
1:B:408:GLU:HG3	1:B:497:LYS:HB2	1.91	0.53
1:F:219:LEU:HB3	1:F:247:ILE:HG23	1.89	0.53
1:F:420:ARG:HG2	1:F:477:TYR:HB2	1.90	0.53
1:G:224:LYS:HG3	1:G:226:SER:H	1.74	0.53
1:A:217:TYR:CZ	1:A:243:LYS:HD2	2.44	0.53
1:C:163:ALA:HB2	1:C:378:LEU:HD21	1.90	0.53
1:D:245:LEU:HG	1:D:271:VAL:HG23	1.91	0.53
1:D:418:LEU:HB3	1:D:446:LEU:HD22	1.89	0.53
1:G:246:VAL:HG23	1:G:272:VAL:HG13	1.90	0.53
1:B:319:VAL:HG21	1:B:331:LEU:HB2	1.91	0.53
1:C:141:GLU:HB3	1:C:484:PHE:CE2	2.44	0.53
1:C:141:GLU:HB3	1:C:484:PHE:HE2	1.74	0.53
1:C:320:GLY:HA3	1:C:333:LYS:HB2	1.91	0.53
1:A:45:PRO:HG3	1:G:67:ILE:HD12	1.91	0.53
1:B:126:ILE:HG12	1:B:500:ARG:HG3	1.91	0.53
1:C:217:TYR:CZ	1:C:243:LYS:HD2	2.44	0.53
1:D:172:VAL:HG12	1:D:375:VAL:HG13	1.90	0.53
1:D:460:GLU:HB3	1:D:463:LEU:HG	1.91	0.53
1:E:520:VAL:HG13	1:F:38:ILE:HA	1.91	0.53
1:F:324:VAL:HG13	1:F:329:ALA:HB2	1.90	0.53
1:C:460:GLU:HB3	1:C:463:LEU:HG	1.89	0.53
1:E:161:SER:O	1:E:165:LYS:HG2	2.09	0.53
1:F:367:ARG:O	1:F:371:LEU:HG	2.09	0.53
1:D:239:ASN:HA	1:D:242:ARG:HH11	1.74	0.52
1:B:285:ASN:HA	1:B:288:LYS:HE3	1.91	0.52
1:F:430:PRO:HG3	1:F:436:LYS:HE3	1.91	0.52
1:D:136:VAL:HG23	1:D:406:VAL:HG23	1.91	0.52
1:G:202:PHE:HB2	1:G:272:VAL:HG23	1.90	0.52
1:D:463:LEU:O	1:D:467:LYS:HB2	2.10	0.52
1:E:122:VAL:HG21	1:E:507:ALA:HB2	1.90	0.52
1:B:172:VAL:HB	1:B:375:VAL:HG22	1.90	0.52
1:E:351:GLN:HB2	1:E:364:LEU:HD21	1.91	0.52
1:F:163:ALA:HB2	1:F:378:LEU:HD21	1.92	0.52
1:A:45:PRO:HG3	1:G:67:ILE:CD1	2.40	0.52
1:G:430:PRO:HG3	1:G:436:LYS:HE3	1.90	0.52
1:B:222:GLU:HB2	1:B:223:LYS:NZ	2.24	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:347:GLU:O	1:D:351:GLN:HG2	2.10	0.52
1:D:405:ALA:HB1	1:D:410:ILE:HG22	1.91	0.52
1:E:193:PHE:CE2	1:E:329:ALA:HB3	2.45	0.52
1:A:216:ALA:HA	1:A:244:PRO:HD2	1.92	0.52
1:C:319:VAL:HG21	1:C:331:LEU:HB2	1.92	0.52
1:D:163:ALA:HA	1:D:185:LEU:HD11	1.92	0.52
1:G:333:LYS:HE2	1:G:335:LYS:HE2	1.92	0.52
1:G:460:GLU:HB3	1:G:463:LEU:HG	1.91	0.52
1:D:220:LEU:O	1:D:299:PHE:HB2	2.10	0.51
1:F:72:ILE:HG12	1:F:509:VAL:HG11	1.92	0.51
1:C:244:PRO:HA	1:C:270:GLN:HG3	1.92	0.51
1:C:252:VAL:HG11	1:C:260:LEU:HD12	1.93	0.51
1:D:161:SER:O	1:D:165:LYS:HG2	2.11	0.51
1:C:217:TYR:HB3	1:C:316:LEU:HD23	1.91	0.51
1:F:342:GLU:HA	1:F:345:ILE:HG12	1.91	0.51
1:F:460:GLU:HB3	1:F:463:LEU:HG	1.92	0.51
1:E:38:ILE:HD11	1:E:46:LYS:HD3	1.93	0.51
1:C:338:LYS:O	1:C:341:ILE:HG22	2.09	0.51
1:A:219:LEU:O	1:A:248:ILE:HG12	2.11	0.51
1:A:368:LEU:HA	1:A:371:LEU:HG	1.93	0.51
1:B:161:SER:O	1:B:165:LYS:HG2	2.11	0.51
1:G:20:LEU:HD22	1:G:60:LEU:HD21	1.93	0.51
1:A:442:ILE:HA	1:A:445:THR:HG22	1.93	0.51
1:A:20:LEU:HD13	1:A:60:LEU:HD11	1.93	0.50
1:G:227:SER:HA	1:G:255:GLU:HG3	1.93	0.50
1:E:191:MET:SD	1:E:370:LYS:HB3	2.51	0.50
1:E:20:LEU:HD13	1:E:60:LEU:HD11	1.93	0.50
1:B:223:LYS:NZ	1:B:300:GLY:HA2	2.27	0.50
1:C:178:GLY:HA2	1:C:379:LYS:HB3	1.94	0.50
1:C:263:ASN:HB3	1:C:269:LEU:HB2	1.94	0.50
1:B:227:SER:HA	1:B:255:GLU:HG3	1.93	0.50
1:D:73:GLN:O	1:D:77:ASN:HB2	2.11	0.50
1:F:512:LEU:HD21	1:G:47:VAL:HG21	1.94	0.50
1:C:15:LEU:O	1:C:18:VAL:HG12	2.12	0.50
1:E:348:ILE:O	1:E:352:LEU:HG	2.12	0.50
1:G:163:ALA:HA	1:G:185:LEU:HD11	1.93	0.50
1:D:265:LEU:HD23	1:D:266:LYS:HG3	1.94	0.50
1:E:340:GLN:O	1:E:344:ARG:HG2	2.11	0.50
1:F:263:ASN:HB3	1:F:269:LEU:HB2	1.94	0.50
1:B:144:GLN:OE1	1:B:488:VAL:HG21	2.12	0.49
1:D:167:VAL:HG21	1:D:376:ALA:HB2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:125:VAL:HG21	1:F:446:LEU:HD11	1.94	0.49
1:G:20:LEU:HD13	1:G:60:LEU:HD11	1.94	0.49
1:B:343:LYS:O	1:B:346:GLN:HG2	2.12	0.49
1:E:178:GLY:HA2	1:E:379:LYS:HB3	1.94	0.49
1:F:442:ILE:HA	1:F:445:THR:HG22	1.94	0.49
1:A:5:LYS:HD2	1:A:9:ASP:OD1	2.12	0.49
1:D:408:GLU:HG3	1:D:497:LYS:HB2	1.94	0.49
1:E:54:VAL:O	1:E:58:ILE:HD12	2.12	0.49
1:E:233:PRO:HB2	1:E:311:VAL:HG23	1.94	0.49
1:E:481:ALA:HA	1:E:486:ASN:HB3	1.94	0.49
1:F:343:LYS:O	1:F:347:GLU:HG3	2.12	0.49
1:G:420:ARG:HG2	1:G:477:TYR:HB2	1.94	0.49
1:A:188:ILE:HD12	1:A:333:LYS:HG3	1.94	0.49
1:B:520:VAL:HG13	1:C:38:ILE:HA	1.94	0.49
1:F:340:GLN:O	1:F:344:ARG:HG2	2.12	0.49
1:B:512:LEU:HD21	1:C:47:VAL:HG21	1.93	0.49
1:F:167:VAL:HG12	1:F:171:GLY:HA3	1.95	0.49
1:B:22:ALA:HB3	1:B:95:ARG:HD2	1.95	0.49
1:F:217:TYR:CZ	1:F:243:LYS:HD2	2.47	0.49
1:A:67:ILE:HD12	1:B:45:PRO:HG3	1.94	0.49
1:A:276:ALA:HB1	1:A:287:LEU:HD21	1.95	0.49
1:A:512:LEU:HD21	1:B:47:VAL:HG21	1.94	0.49
1:E:193:PHE:CE2	1:E:195:ARG:HB2	2.48	0.49
1:E:420:ARG:HG2	1:E:477:TYR:HB2	1.93	0.49
1:F:100:GLU:O	1:F:103:GLU:HG2	2.13	0.49
1:G:100:GLU:O	1:G:103:GLU:HG2	2.12	0.49
1:G:224:LYS:HA	1:G:250:GLU:HB3	1.94	0.49
1:A:37:ILE:HD13	1:G:71:LEU:HD11	1.95	0.49
1:B:100:GLU:O	1:B:103:GLU:HG2	2.13	0.49
1:D:11:ARG:HA	1:D:14:MET:HE2	1.95	0.49
1:D:178:GLY:HA2	1:D:379:LYS:HB3	1.94	0.49
1:G:245:LEU:HB3	1:G:271:VAL:HG22	1.95	0.49
1:B:156:ILE:HG23	1:B:395:VAL:HG22	1.95	0.48
1:C:245:LEU:HG	1:C:271:VAL:HG23	1.94	0.48
1:G:5:LYS:HD2	1:G:9:ASP:OD1	2.13	0.48
1:C:38:ILE:HD11	1:C:46:LYS:HD3	1.94	0.48
1:C:220:LEU:HB3	1:C:287:LEU:HD12	1.94	0.48
1:D:160:ILE:HG21	1:D:402:THR:HG21	1.95	0.48
1:D:252:VAL:HG21	1:D:273:ALA:HB1	1.94	0.48
1:C:225:ILE:HD11	1:C:252:VAL:HG22	1.94	0.48
1:F:20:LEU:HD13	1:F:60:LEU:HD11	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:72:ILE:HG12	1:B:509:VAL:HG11	1.95	0.48
1:E:367:ARG:O	1:E:371:LEU:HG	2.14	0.48
1:D:189:GLU:HG2	1:D:333:LYS:HA	1.94	0.48
1:B:179:LYS:HD2	1:B:179:LYS:O	2.14	0.48
1:E:185:LEU:HD13	1:E:378:LEU:HD23	1.95	0.48
1:F:403:ARG:O	1:F:407:GLU:HG2	2.13	0.48
1:C:5:LYS:HD2	1:C:9:ASP:OD1	2.13	0.48
1:C:517:GLU:HG2	1:D:27:VAL:HG21	1.95	0.48
1:E:408:GLU:HG3	1:E:497:LYS:HB2	1.95	0.48
1:F:161:SER:O	1:F:165:LYS:HG2	2.13	0.48
1:A:344:ARG:O	1:A:348:ILE:HG12	2.13	0.48
1:B:405:ALA:HB1	1:B:410:ILE:HG22	1.96	0.48
1:C:478:ASP:HB2	1:C:480:MET:SD	2.54	0.48
1:D:20:LEU:HD22	1:D:60:LEU:HD21	1.95	0.48
1:A:100:GLU:O	1:A:103:GLU:HG2	2.14	0.48
1:C:193:PHE:CE2	1:C:195:ARG:HB2	2.49	0.48
1:D:282:ASN:ND2	1:D:363:LYS:HD2	2.29	0.48
1:B:341:ILE:O	1:B:345:ILE:HG12	2.14	0.48
1:C:254:GLY:O	1:C:257:LEU:HG	2.14	0.48
1:D:371:LEU:HD12	1:D:372:SER:N	2.28	0.48
1:E:20:LEU:HD22	1:E:60:LEU:HD21	1.96	0.48
1:F:36:VAL:HG11	1:F:54:VAL:HG22	1.95	0.48
1:F:341:ILE:O	1:F:345:ILE:HG12	2.13	0.48
1:B:5:LYS:HD2	1:B:9:ASP:OD1	2.14	0.47
1:D:5:LYS:HE2	1:D:9:ASP:OD1	2.14	0.47
1:D:147:THR:HG21	1:D:154:LYS:HD2	1.95	0.47
1:A:163:ALA:HB2	1:A:378:LEU:HD21	1.96	0.47
1:E:385:ASP:HA	1:E:388:VAL:HG12	1.95	0.47
1:G:265:LEU:HD23	1:G:266:LYS:HG3	1.97	0.47
1:G:348:ILE:HD13	1:G:351:GLN:OE1	2.14	0.47
1:A:193:PHE:HB2	1:A:277:PRO:HB3	1.95	0.47
1:A:405:ALA:HB1	1:A:410:ILE:HG22	1.96	0.47
1:B:20:LEU:HD22	1:B:60:LEU:HD21	1.95	0.47
1:C:20:LEU:HD13	1:C:60:LEU:HD11	1.96	0.47
1:B:20:LEU:HD13	1:B:60:LEU:HD11	1.97	0.47
1:E:125:VAL:HG21	1:E:446:LEU:HD11	1.96	0.47
1:A:247:ILE:HD12	1:A:247:ILE:HA	1.80	0.47
1:B:320:GLY:HA3	1:B:333:LYS:HB2	1.97	0.47
1:C:104:LYS:HA	1:C:104:LYS:HD3	1.58	0.47
1:B:420:ARG:HG2	1:B:477:TYR:HB2	1.95	0.47
1:B:460:GLU:HB3	1:B:463:LEU:HG	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:307:ASN:HB3	1:C:309:GLU:OE1	2.15	0.47
1:C:519:VAL:HG22	1:D:37:ILE:HD12	1.97	0.47
1:G:126:ILE:HG12	1:G:500:ARG:HG3	1.96	0.47
1:A:195:ARG:HD2	1:A:275:LYS:HB2	1.97	0.47
1:C:428:LEU:HA	1:C:428:LEU:HD12	1.78	0.47
1:D:292:ILE:HG23	1:D:340:GLN:HG3	1.95	0.47
1:E:160:ILE:HG21	1:E:402:THR:HG21	1.97	0.47
1:B:223:LYS:HZ3	1:B:300:GLY:HA2	1.79	0.46
1:B:349:ILE:O	1:B:352:LEU:HD12	2.15	0.46
1:E:460:GLU:HB3	1:E:463:LEU:HG	1.96	0.46
1:A:13:LEU:HD23	1:A:64:TYR:HB2	1.97	0.46
1:B:125:VAL:HG21	1:B:446:LEU:HD11	1.96	0.46
1:G:219:LEU:HB3	1:G:316:LEU:HD23	1.97	0.46
1:A:67:ILE:CD1	1:B:45:PRO:HG3	2.44	0.46
1:G:299:PHE:CE2	1:G:308:LEU:HA	2.49	0.46
1:G:481:ALA:HA	1:G:486:ASN:HB3	1.97	0.46
1:B:160:ILE:HG21	1:B:402:THR:HG21	1.97	0.46
1:B:380:VAL:HG11	1:B:392:LYS:HG3	1.98	0.46
1:F:463:LEU:O	1:F:467:LYS:HB2	2.15	0.46
1:G:223:LYS:HE3	1:G:301:GLU:HB2	1.96	0.46
1:B:105:ILE:HA	1:B:109:ALA:HB3	1.96	0.46
1:A:160:ILE:HG21	1:A:402:THR:HG21	1.97	0.46
1:F:172:VAL:HG13	1:F:192:LYS:HD2	1.97	0.46
1:G:161:SER:O	1:G:165:LYS:HG2	2.16	0.46
1:A:67:ILE:HD12	1:A:67:ILE:HA	1.77	0.46
1:B:38:ILE:HD11	1:B:46:LYS:HD3	1.98	0.46
1:D:104:LYS:HD3	1:D:104:LYS:HA	1.54	0.46
1:E:22:ALA:HB3	1:E:95:ARG:HD3	1.98	0.46
1:F:481:ALA:HA	1:F:486:ASN:HB3	1.98	0.46
1:F:104:LYS:HA	1:F:104:LYS:HD3	1.67	0.46
1:F:318:LYS:HD2	1:F:318:LYS:O	2.16	0.46
1:B:178:GLY:HA2	1:B:379:LYS:HB3	1.97	0.45
1:C:463:LEU:O	1:C:467:LYS:HB2	2.16	0.45
1:D:13:LEU:HD23	1:D:64:TYR:HB2	1.98	0.45
1:D:193:PHE:CE2	1:D:195:ARG:HB2	2.51	0.45
1:C:363:LYS:HB2	1:C:363:LYS:HE2	1.86	0.45
1:E:72:ILE:HG12	1:E:509:VAL:HG11	1.98	0.45
1:F:173:ILE:HD12	1:F:399:LEU:HD11	1.98	0.45
1:F:239:ASN:HA	1:F:242:ARG:HH11	1.80	0.45
1:G:408:GLU:HG3	1:G:497:LYS:HB2	1.98	0.45
1:D:285:ASN:HA	1:D:288:LYS:HE3	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:460:GLU:HB3	1:A:463:LEU:HG	1.98	0.45
1:B:137:THR:HA	1:B:169:ARG:NH2	2.31	0.45
1:E:319:VAL:HG21	1:E:331:LEU:HB2	1.98	0.45
1:E:413:GLY:HA2	1:E:494:ASP:HB2	1.98	0.45
1:A:197:TYR:HD2	1:A:324:VAL:HG23	1.82	0.45
1:C:246:VAL:HG21	1:C:322:VAL:HG11	1.99	0.45
1:E:100:GLU:O	1:E:103:GLU:HG2	2.16	0.45
1:F:193:PHE:CE2	1:F:195:ARG:HB2	2.51	0.45
1:C:2:LYS:HE2	1:C:522:GLU:HG2	1.98	0.45
1:C:343:LYS:HG2	1:C:347:GLU:OE2	2.17	0.45
1:D:192:LYS:HG3	1:D:330:MET:HB3	1.98	0.45
1:D:442:ILE:HA	1:D:445:THR:HG22	1.99	0.45
1:E:176:LYS:HE3	1:E:176:LYS:HB2	1.80	0.45
1:E:512:LEU:HD11	1:F:47:VAL:HG11	1.97	0.45
1:F:64:TYR:O	1:F:67:ILE:HG22	2.17	0.45
1:C:197:TYR:HD2	1:C:324:VAL:HG12	1.82	0.45
1:D:72:ILE:HG12	1:D:509:VAL:HG11	1.98	0.45
1:D:279:PHE:N	1:D:283:ARG:HB2	2.32	0.45
1:A:21:LEU:O	1:A:25:VAL:HG23	2.17	0.45
1:B:430:PRO:HG3	1:B:436:LYS:HB2	1.99	0.45
1:E:299:PHE:CE1	1:E:308:LEU:HA	2.49	0.45
1:E:519:VAL:HG22	1:F:37:ILE:HD12	1.99	0.45
1:F:244:PRO:HA	1:F:270:GLN:HG3	1.99	0.45
1:F:342:GLU:O	1:F:346:GLN:HG3	2.17	0.45
1:B:13:LEU:HD23	1:B:64:TYR:HB2	1.97	0.45
1:C:218:VAL:HA	1:C:246:VAL:O	2.16	0.45
1:C:286:GLN:HA	1:C:289:ASP:OD2	2.17	0.45
1:A:161:SER:O	1:A:165:LYS:HG2	2.17	0.45
1:A:252:VAL:HG21	1:A:273:ALA:HB1	1.99	0.45
1:D:227:SER:HA	1:D:255:GLU:HG3	1.99	0.45
1:G:176:LYS:HB2	1:G:176:LYS:HE3	1.80	0.45
1:G:73:GLN:O	1:G:77:ASN:HB2	2.17	0.44
1:G:162:ASP:O	1:G:166:LYS:HG2	2.16	0.44
1:A:162:ASP:O	1:A:166:LYS:HG2	2.17	0.44
1:A:321:GLU:OE2	1:A:332:LEU:HD12	2.16	0.44
1:B:193:PHE:CE2	1:B:195:ARG:HB2	2.52	0.44
1:B:464:ILE:HA	1:B:467:LYS:HG2	1.99	0.44
1:C:231:ILE:HG22	1:C:308:LEU:HD22	1.99	0.44
1:G:13:LEU:HD23	1:G:64:TYR:HB2	1.99	0.44
1:C:224:LYS:HG3	1:C:251:ASP:HB3	1.98	0.44
1:G:96:SER:HB3	1:G:445:THR:OG1	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:338:LYS:HD3	1:C:338:LYS:HA	1.70	0.44
1:E:213:PHE:HB3	1:E:244:PRO:HG2	1.99	0.44
1:E:517:GLU:HG2	1:F:27:VAL:HG21	1.99	0.44
1:G:72:ILE:HG12	1:G:509:VAL:HG11	1.99	0.44
1:G:125:VAL:HG21	1:G:446:LEU:HD11	1.99	0.44
1:D:203:ILE:HA	1:D:211:CYS:SG	2.58	0.44
1:F:286:GLN:HA	1:F:289:ASP:OD2	2.18	0.44
1:C:220:LEU:HB2	1:C:298:VAL:HA	1.98	0.44
1:F:89:THR:HA	1:F:92:VAL:HG12	1.99	0.44
1:F:217:TYR:HB2	1:F:245:LEU:HD22	2.00	0.44
1:G:367:ARG:O	1:G:371:LEU:HG	2.17	0.44
1:D:67:ILE:HD12	1:D:67:ILE:HA	1.82	0.44
1:E:89:THR:HA	1:E:92:VAL:HG12	1.99	0.44
1:E:104:LYS:HD3	1:E:104:LYS:HA	1.67	0.44
1:F:120:LEU:HD23	1:F:120:LEU:HA	1.88	0.44
1:A:179:LYS:HE3	1:A:179:LYS:HB3	1.84	0.44
1:C:203:ILE:HA	1:C:211:CYS:SG	2.57	0.44
1:C:229:GLN:HE22	1:C:231:ILE:HG12	1.83	0.44
1:C:341:ILE:O	1:C:345:ILE:HG12	2.18	0.44
1:D:341:ILE:O	1:D:345:ILE:HG12	2.18	0.44
1:B:223:LYS:HE2	1:B:301:GLU:HG3	1.98	0.43
1:C:220:LEU:HB3	1:C:287:LEU:CD1	2.48	0.43
1:C:420:ARG:HG2	1:C:477:TYR:HB2	2.00	0.43
1:D:67:ILE:HD12	1:E:45:PRO:HG3	1.99	0.43
1:B:288:LYS:HZ2	1:B:344:ARG:HH22	1.66	0.43
1:C:292:ILE:HG23	1:C:340:GLN:OE1	2.18	0.43
1:D:20:LEU:HD13	1:D:60:LEU:HD11	2.00	0.43
1:A:47:VAL:HG21	1:G:512:LEU:HD21	1.99	0.43
1:A:219:LEU:HB2	1:A:247:ILE:HD12	2.00	0.43
1:B:64:TYR:O	1:B:67:ILE:HG22	2.19	0.43
1:D:89:THR:HG22	1:D:449:PRO:HB3	2.00	0.43
1:F:137:THR:HA	1:F:169:ARG:NH2	2.33	0.43
1:F:220:LEU:O	1:F:299:PHE:HB2	2.18	0.43
1:G:156:ILE:HG23	1:G:395:VAL:HG23	2.01	0.43
1:A:349:ILE:O	1:A:352:LEU:HG	2.19	0.43
1:C:347:GLU:O	1:C:351:GLN:HG3	2.18	0.43
1:E:13:LEU:HD23	1:E:64:TYR:HB2	1.99	0.43
1:E:162:ASP:O	1:E:166:LYS:HG2	2.19	0.43
1:E:231:ILE:HG22	1:E:308:LEU:HD13	2.00	0.43
1:G:2:LYS:HE2	1:G:522:GLU:HG2	2.00	0.43
1:C:179:LYS:HE3	1:C:179:LYS:HB3	1.88	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:22:ALA:HB3	1:D:95:ARG:HD2	2.00	0.43
1:D:380:VAL:HG11	1:D:392:LYS:HG3	2.00	0.43
1:C:239:ASN:HA	1:C:242:ARG:HH11	1.84	0.43
1:D:36:VAL:HG12	1:D:48:THR:O	2.18	0.43
1:F:408:GLU:HB2	1:F:497:LYS:HB2	2.01	0.43
1:F:408:GLU:HG3	1:F:497:LYS:HB2	2.00	0.43
1:G:430:PRO:HG3	1:G:436:LYS:HB2	2.01	0.43
1:A:343:LYS:O	1:A:347:GLU:HG3	2.19	0.43
1:C:220:LEU:HA	1:C:248:ILE:HB	2.01	0.43
1:E:223:LYS:HD3	1:E:223:LYS:HA	1.89	0.43
1:E:338:LYS:HD3	1:E:338:LYS:HA	1.73	0.43
1:G:145:VAL:HA	1:G:148:ILE:HG22	2.00	0.43
1:G:463:LEU:O	1:G:467:LYS:HB2	2.18	0.43
1:C:193:PHE:CE2	1:C:329:ALA:HB3	2.54	0.43
1:D:64:TYR:HA	1:D:67:ILE:HG22	2.01	0.43
1:E:107:LYS:HB2	1:E:107:LYS:HE2	1.86	0.43
1:E:217:TYR:CZ	1:E:243:LYS:HD2	2.54	0.43
1:F:333:LYS:O	1:F:333:LYS:HG3	2.19	0.43
1:A:167:VAL:HG11	1:A:376:ALA:HB2	2.01	0.43
1:B:246:VAL:HA	1:B:272:VAL:O	2.18	0.43
1:C:107:LYS:HB2	1:C:107:LYS:HE2	1.86	0.43
1:E:22:ALA:HA	1:E:25:VAL:HG12	2.01	0.43
1:E:220:LEU:HB3	1:E:287:LEU:CD1	2.49	0.43
1:B:191:MET:HB3	1:B:331:LEU:HG	2.00	0.43
1:C:244:PRO:HA	1:C:270:GLN:CG	2.49	0.43
1:F:343:LYS:HG2	1:F:347:GLU:OE2	2.18	0.43
1:G:126:ILE:HD11	1:G:504:LEU:HG	2.01	0.43
1:F:371:LEU:HD12	1:F:372:SER:N	2.34	0.42
1:A:148:ILE:HD11	1:A:488:VAL:HG13	2.01	0.42
1:C:229:GLN:NE2	1:C:231:ILE:HG12	2.34	0.42
1:D:288:LYS:NZ	1:D:367:ARG:HH12	2.17	0.42
1:G:349:ILE:HA	1:G:352:LEU:HG	2.01	0.42
1:B:286:GLN:HA	1:B:289:ASP:OD2	2.19	0.42
1:C:172:VAL:HB	1:C:375:VAL:HG13	2.01	0.42
1:D:125:VAL:HG21	1:D:446:LEU:HD11	2.02	0.42
1:D:286:GLN:HA	1:D:289:ASP:OD2	2.19	0.42
1:E:5:LYS:HE2	1:E:9:ASP:OD1	2.19	0.42
1:E:141:GLU:HB3	1:E:484:PHE:CE2	2.47	0.42
1:A:28:THR:HB	1:A:49:LYS:O	2.19	0.42
1:G:478:ASP:HB2	1:G:480:MET:SD	2.58	0.42
1:A:288:LYS:HE2	1:A:288:LYS:HB2	1.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:217:TYR:CB	1:C:316:LEU:HD23	2.49	0.42
1:E:286:GLN:HA	1:E:289:ASP:OD2	2.20	0.42
1:F:113:GLU:OE1	1:F:116:ARG:HD2	2.19	0.42
1:F:144:GLN:O	1:F:148:ILE:HG13	2.19	0.42
1:F:248:ILE:H	1:F:248:ILE:HD12	1.83	0.42
1:A:104:LYS:HA	1:A:104:LYS:HD3	1.59	0.42
1:B:403:ARG:O	1:B:407:GLU:HG2	2.20	0.42
1:C:167:VAL:HG21	1:C:376:ALA:HB2	2.02	0.42
1:A:22:ALA:CB	1:A:95:ARG:HD2	2.49	0.42
1:A:193:PHE:CE2	1:A:329:ALA:HB3	2.55	0.42
1:A:408:GLU:HB2	1:A:497:LYS:HB2	2.01	0.42
1:B:217:TYR:CZ	1:B:243:LYS:HD2	2.54	0.42
1:D:282:ASN:HD22	1:D:363:LYS:HD2	1.85	0.42
1:G:363:LYS:HB2	1:G:363:LYS:HE2	1.89	0.42
1:G:418:LEU:HB3	1:G:446:LEU:CD2	2.49	0.42
1:A:126:ILE:HD11	1:A:504:LEU:HG	2.02	0.42
1:D:136:VAL:HA	1:D:141:GLU:OE1	2.19	0.42
1:E:347:GLU:O	1:E:351:GLN:HG2	2.19	0.42
1:F:285:ASN:HA	1:F:288:LYS:HE3	2.02	0.42
1:F:216:ALA:HA	1:F:244:PRO:HD2	2.02	0.42
1:G:321:GLU:OE1	1:G:332:LEU:HD13	2.20	0.42
1:A:2:LYS:HE2	1:A:522:GLU:HG2	2.02	0.42
1:A:428:LEU:HA	1:A:428:LEU:HD12	1.78	0.42
1:B:71:LEU:HA	1:B:71:LEU:HD23	1.84	0.42
1:D:254:GLY:O	1:D:257:LEU:HG	2.20	0.42
1:E:418:LEU:HB3	1:E:446:LEU:HD22	2.01	0.42
1:B:28:THR:HB	1:B:49:LYS:O	2.20	0.41
1:C:233:PRO:HB2	1:C:311:VAL:HG23	2.01	0.41
1:C:299:PHE:CE2	1:C:308:LEU:HG	2.54	0.41
1:D:159:ILE:HD12	1:D:159:ILE:HA	1.88	0.41
1:E:430:PRO:HG3	1:E:436:LYS:HB2	2.02	0.41
1:F:217:TYR:O	1:F:246:VAL:HG22	2.20	0.41
1:F:343:LYS:HA	1:F:346:GLN:OE1	2.21	0.41
1:A:136:VAL:HA	1:A:141:GLU:OE1	2.19	0.41
1:C:72:ILE:HG12	1:C:509:VAL:HG11	2.01	0.41
1:C:299:PHE:HE2	1:C:308:LEU:HG	1.86	0.41
1:D:176:LYS:HB2	1:D:176:LYS:HE3	1.79	0.41
1:E:96:SER:HB3	1:E:445:THR:OG1	2.20	0.41
1:A:338:LYS:HA	1:A:338:LYS:HD3	1.71	0.41
1:A:342:GLU:O	1:A:345:ILE:HB	2.20	0.41
1:A:363:LYS:HB2	1:A:363:LYS:HE2	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:144:GLN:O	1:B:148:ILE:HD12	2.20	0.41
1:D:333:LYS:HB3	1:D:333:LYS:HZ2	1.85	0.41
1:D:349:ILE:O	1:D:352:LEU:HG	2.20	0.41
1:E:269:LEU:O	1:E:271:VAL:HG12	2.20	0.41
1:F:36:VAL:HG12	1:F:48:THR:O	2.21	0.41
1:F:195:ARG:HD2	1:F:275:LYS:HB2	2.02	0.41
1:F:363:LYS:HB2	1:F:363:LYS:HE2	1.84	0.41
1:G:4:VAL:HG12	1:G:520:VAL:HB	2.02	0.41
1:A:173:ILE:HD12	1:A:399:LEU:HD11	2.02	0.41
1:B:54:VAL:O	1:B:58:ILE:HD12	2.21	0.41
1:B:176:LYS:HE3	1:B:176:LYS:HB2	1.80	0.41
1:C:172:VAL:HB	1:C:375:VAL:HG22	2.02	0.41
1:C:179:LYS:HD2	1:C:179:LYS:O	2.19	0.41
1:D:22:ALA:CB	1:D:95:ARG:HD2	2.50	0.41
1:E:229:GLN:OE1	1:E:229:GLN:HA	2.21	0.41
1:G:28:THR:HB	1:G:49:LYS:O	2.21	0.41
1:B:220:LEU:O	1:B:299:PHE:HB2	2.20	0.41
1:C:28:THR:HB	1:C:49:LYS:O	2.21	0.41
1:C:180:THR:HG22	1:C:182:ASN:H	1.86	0.41
1:G:160:ILE:HG21	1:G:402:THR:HG21	2.03	0.41
1:G:279:PHE:N	1:G:283:ARG:HB2	2.35	0.41
1:G:341:ILE:O	1:G:345:ILE:HG12	2.19	0.41
1:G:347:GLU:HG3	1:G:351:GLN:NE2	2.35	0.41
1:C:246:VAL:HA	1:C:272:VAL:O	2.20	0.41
1:F:448:ILE:HD13	1:F:448:ILE:HA	1.96	0.41
1:B:136:VAL:HA	1:B:141:GLU:OE1	2.20	0.41
1:B:338:LYS:HA	1:B:338:LYS:HD3	1.72	0.41
1:C:71:LEU:HD23	1:C:71:LEU:HA	1.88	0.41
1:E:148:ILE:HD11	1:E:488:VAL:HG13	2.02	0.41
1:F:162:ASP:O	1:F:166:LYS:HG2	2.20	0.41
1:G:140:GLU:HG2	1:G:141:GLU:N	2.35	0.41
1:A:398:ALA:O	1:A:402:THR:HG22	2.20	0.41
1:C:161:SER:O	1:C:165:LYS:HG2	2.20	0.41
1:D:418:LEU:HB3	1:D:446:LEU:CD2	2.49	0.41
1:G:347:GLU:HG3	1:G:351:GLN:HE22	1.85	0.41
1:A:71:LEU:HA	1:A:71:LEU:HD23	1.85	0.41
1:A:408:GLU:HG3	1:A:497:LYS:HB2	2.03	0.41
1:B:162:ASP:O	1:B:166:LYS:HG2	2.20	0.41
1:B:217:TYR:O	1:B:246:VAL:HG22	2.20	0.41
1:B:446:LEU:HD23	1:B:446:LEU:HA	1.84	0.41
1:D:125:VAL:HG23	1:D:425:LEU:HD21	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:137:THR:HA	1:D:169:ARG:NH2	2.36	0.41
1:F:136:VAL:HA	1:F:141:GLU:OE1	2.21	0.41
1:F:156:ILE:HG23	1:F:395:VAL:HG22	2.03	0.41
1:F:338:LYS:HD3	1:F:338:LYS:HA	1.75	0.41
1:G:107:LYS:HB2	1:G:107:LYS:HE2	1.85	0.41
1:C:191:MET:SD	1:C:370:LYS:HB3	2.60	0.41
1:F:107:LYS:HB2	1:F:107:LYS:HE2	1.86	0.41
1:F:125:VAL:HG23	1:F:425:LEU:HD21	2.03	0.41
1:F:147:THR:HG21	1:F:154:LYS:HD2	2.02	0.41
1:F:203:ILE:HG22	1:F:211:CYS:SG	2.61	0.41
1:F:245:LEU:O	1:F:271:VAL:HA	2.21	0.41
1:F:247:ILE:HD12	1:F:272:VAL:O	2.21	0.41
1:G:97:ILE:HG12	1:G:445:THR:HG21	2.03	0.41
1:G:338:LYS:HD3	1:G:338:LYS:HA	1.71	0.41
1:A:220:LEU:HA	1:A:248:ILE:HB	2.02	0.40
1:A:220:LEU:HB2	1:A:298:VAL:HA	2.02	0.40
1:B:15:LEU:HD11	1:B:99:LYS:HB2	2.03	0.40
1:B:288:LYS:HE3	1:B:288:LYS:HB3	1.95	0.40
1:C:162:ASP:O	1:C:166:LYS:HG2	2.21	0.40
1:D:202:PHE:HB3	1:D:271:VAL:O	2.20	0.40
1:D:292:ILE:HD13	1:D:344:ARG:HG3	2.02	0.40
1:E:174:THR:HG23	1:E:377:VAL:HG13	2.03	0.40
1:F:22:ALA:CB	1:F:95:ARG:HD2	2.51	0.40
1:F:167:VAL:HG21	1:F:376:ALA:HB2	2.03	0.40
1:G:136:VAL:HA	1:G:141:GLU:OE1	2.21	0.40
1:G:211:CYS:HG	1:G:213:PHE:HE1	1.66	0.40
1:A:513:LEU:HD12	1:A:513:LEU:HA	1.96	0.40
1:C:278:GLY:C	1:C:283:ARG:HB2	2.41	0.40
1:D:100:GLU:O	1:D:103:GLU:HG2	2.21	0.40
1:E:120:LEU:HD23	1:E:120:LEU:HA	1.96	0.40
1:F:278:GLY:C	1:F:283:ARG:HB2	2.42	0.40
1:G:193:PHE:CE2	1:G:195:ARG:HB2	2.56	0.40
1:A:172:VAL:HG13	1:A:192:LYS:HD2	2.04	0.40
1:B:104:LYS:HD3	1:B:104:LYS:HA	1.65	0.40
1:D:126:ILE:HD11	1:D:504:LEU:HG	2.03	0.40
1:E:203:ILE:HA	1:E:211:CYS:SG	2.61	0.40
1:G:217:TYR:CZ	1:G:243:LYS:HD2	2.57	0.40
1:G:220:LEU:HB3	1:G:287:LEU:HD12	2.03	0.40
1:A:144:GLN:O	1:A:148:ILE:HG13	2.21	0.40
1:A:245:LEU:O	1:A:271:VAL:HA	2.22	0.40
1:B:167:VAL:HG12	1:B:171:GLY:HA3	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:348:ILE:HA	1:D:351:GLN:HG2	2.02	0.40
1:E:210:LYS:HE3	1:E:323:ILE:HD11	2.04	0.40
1:E:216:ALA:HA	1:E:244:PRO:HD2	2.03	0.40
1:F:28:THR:HB	1:F:49:LYS:O	2.20	0.40
1:F:325:THR:OG1	1:F:328:ASP:HB2	2.22	0.40
1:A:239:ASN:HA	1:A:242:ARG:HH11	1.85	0.40
1:B:216:ALA:HB2	1:B:244:PRO:HB2	2.04	0.40
1:E:129:LEU:HD23	1:E:129:LEU:HA	1.96	0.40
1:F:13:LEU:HD23	1:F:64:TYR:HB2	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	524/573 (91%)	503 (96%)	21 (4%)	0	100	100
1	B	524/573 (91%)	504 (96%)	20 (4%)	0	100	100
1	C	524/573 (91%)	502 (96%)	22 (4%)	0	100	100
1	D	524/573 (91%)	507 (97%)	17 (3%)	0	100	100
1	E	524/573 (91%)	501 (96%)	23 (4%)	0	100	100
1	F	524/573 (91%)	501 (96%)	23 (4%)	0	100	100
1	G	524/573 (91%)	507 (97%)	17 (3%)	0	100	100
All	All	3668/4011 (91%)	3525 (96%)	143 (4%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	425/460 (92%)	405 (95%)	20 (5%)	22	49
1	B	425/460 (92%)	408 (96%)	17 (4%)	27	52
1	C	425/460 (92%)	410 (96%)	15 (4%)	31	57
1	D	425/460 (92%)	413 (97%)	12 (3%)	38	63
1	E	425/460 (92%)	405 (95%)	20 (5%)	22	49
1	F	425/460 (92%)	403 (95%)	22 (5%)	19	46
1	G	425/460 (92%)	410 (96%)	15 (4%)	31	57
All	All	2975/3220 (92%)	2854 (96%)	121 (4%)	28	52

All (121) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	29	MET
1	A	42	TRP
1	A	50	ASP
1	A	57	SER
1	A	140	GLU
1	A	149	SER
1	A	193	PHE
1	A	199	SER
1	A	202	PHE
1	A	223	LYS
1	A	239	ASN
1	A	251	ASP
1	A	274	VAL
1	A	299	PHE
1	A	318	LYS
1	A	372	SER
1	A	426	ASP
1	A	443	LYS
1	A	447	LYS
1	A	480	MET

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Mol	Chain	Res	Type
1	B	50	ASP
1	B	57	SER
1	B	110	ASN
1	B	149	SER
1	B	179	LYS
1	B	199	SER
1	B	202	PHE
1	B	288	LYS
1	B	318	LYS
1	B	352	LEU
1	B	363	LYS
1	B	372	SER
1	B	447	LYS
1	B	480	MET
1	B	486	ASN
1	B	494	ASP
1	B	511	SER
1	C	18	VAL
1	C	50	ASP
1	C	89	THR
1	C	140	GLU
1	C	199	SER
1	C	202	PHE
1	C	229	GLN
1	C	288	LYS
1	C	299	PHE
1	C	318	LYS
1	C	340	GLN
1	C	363	LYS
1	C	372	SER
1	C	451	MET
1	C	484	PHE
1	D	57	SER
1	D	89	THR
1	D	115	ARG
1	D	169	ARG
1	D	199	SER
1	D	251	ASP
1	D	288	LYS
1	D	299	PHE
1	D	333	LYS
1	D	372	SER

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Mol	Chain	Res	Type
1	D	443	LYS
1	D	487	MET
1	E	50	ASP
1	E	114	ILE
1	E	123	ASP
1	E	179	LYS
1	E	193	PHE
1	E	199	SER
1	E	202	PHE
1	E	223	LYS
1	E	274	VAL
1	E	288	LYS
1	E	318	LYS
1	E	363	LYS
1	E	371	LEU
1	E	440	GLU
1	E	473	SER
1	E	477	TYR
1	E	480	MET
1	E	484	PHE
1	E	486	ASN
1	E	494	ASP
1	F	29	MET
1	F	50	ASP
1	F	57	SER
1	F	82	GLU
1	F	114	ILE
1	F	149	SER
1	F	153	ASP
1	F	179	LYS
1	F	199	SER
1	F	202	PHE
1	F	245	LEU
1	F	281	ASP
1	F	288	LYS
1	F	299	PHE
1	F	318	LYS
1	F	325	THR
1	F	359	TYR
1	F	371	LEU
1	F	426	ASP
1	F	432	ASN

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Mol	Chain	Res	Type
1	F	477	TYR
1	F	480	MET
1	G	50	ASP
1	G	149	SER
1	G	185	LEU
1	G	202	PHE
1	G	223	LYS
1	G	251	ASP
1	G	288	LYS
1	G	299	PHE
1	G	325	THR
1	G	363	LYS
1	G	371	LEU
1	G	372	SER
1	G	483	ASP
1	G	494	ASP
1	G	511	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (11) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	365	ASN
1	B	110	ASN
1	B	312	GLN
1	B	365	ASN
1	C	312	GLN
1	C	365	ASN
1	E	365	ASN
1	F	432	ASN
1	G	110	ASN
1	G	340	GLN
1	G	365	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

For Manuscript Review

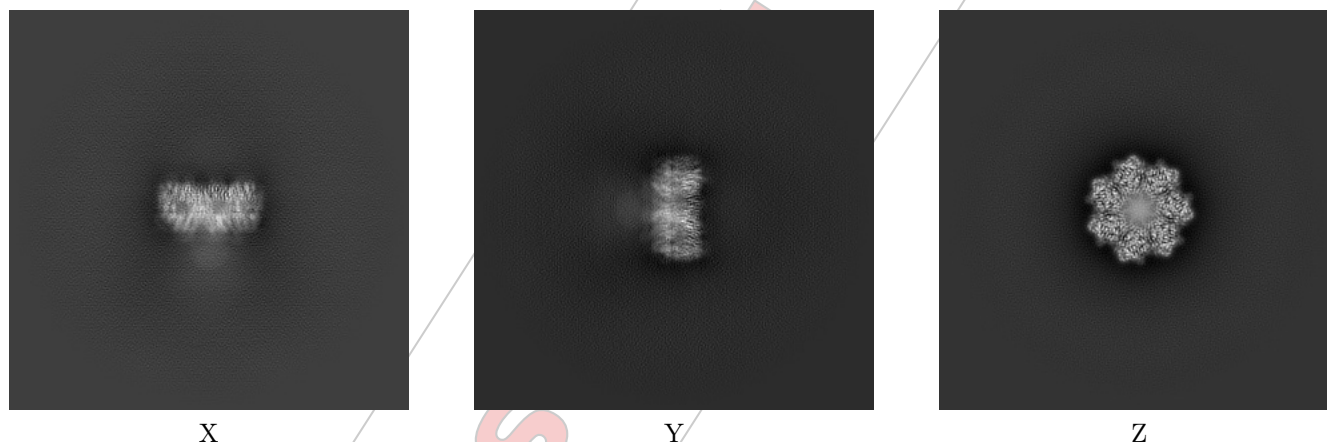
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-49967. These allow visual inspection of the internal detail of the map and identification of artifacts.

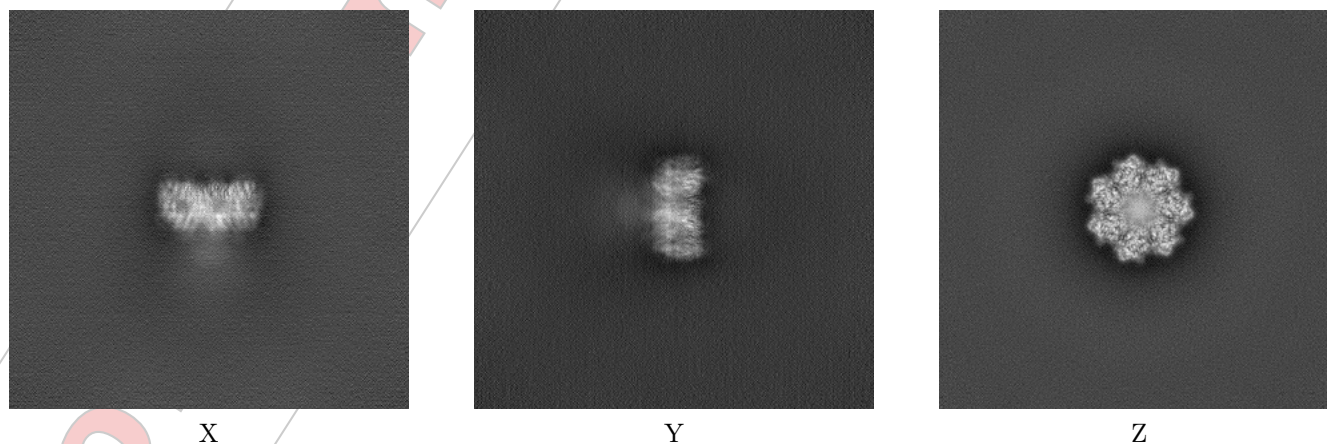
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

6.1.1 Primary map



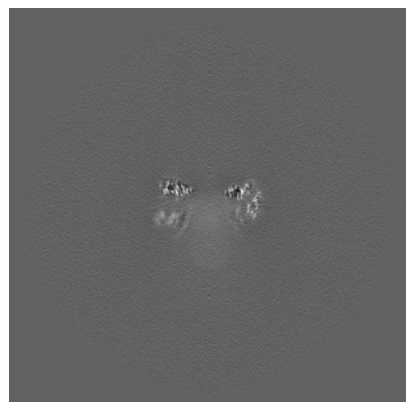
6.1.2 Raw map



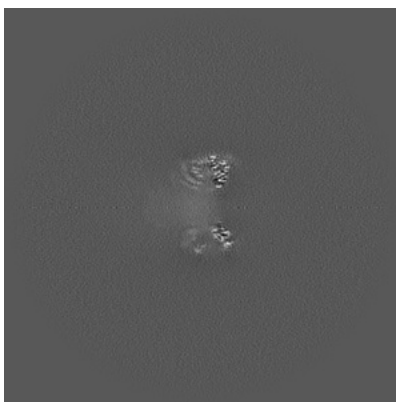
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

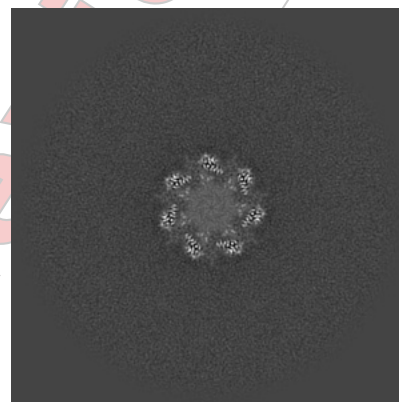
6.2.1 Primary map



X Index: 256



Y Index: 256



Z Index: 256

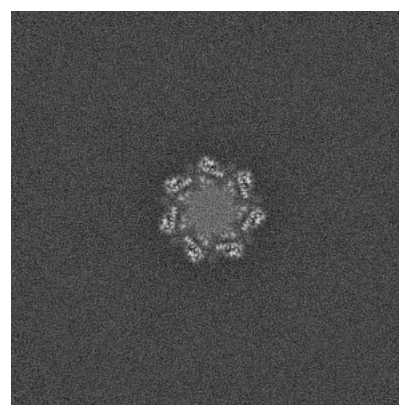
6.2.2 Raw map



X Index: 256



Y Index: 256

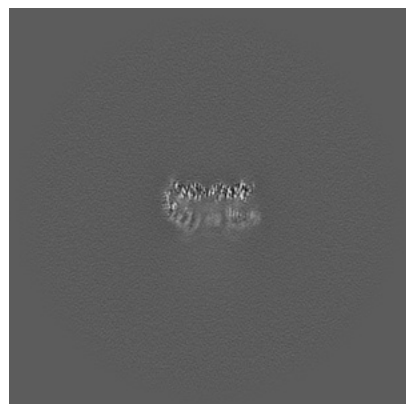


Z Index: 256

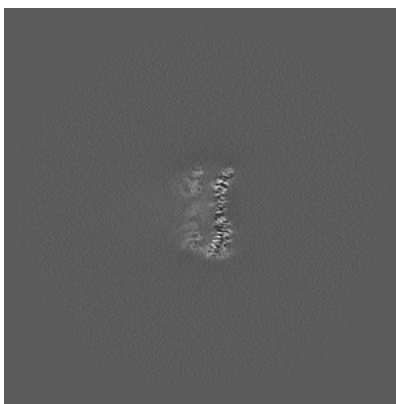
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

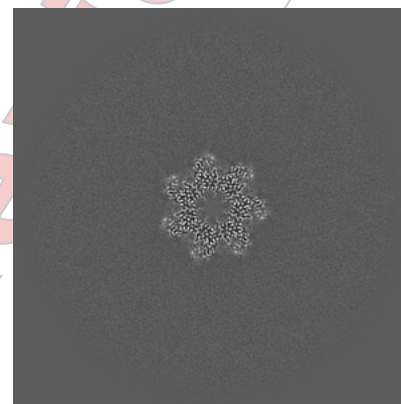
6.3.1 Primary map



X Index: 283

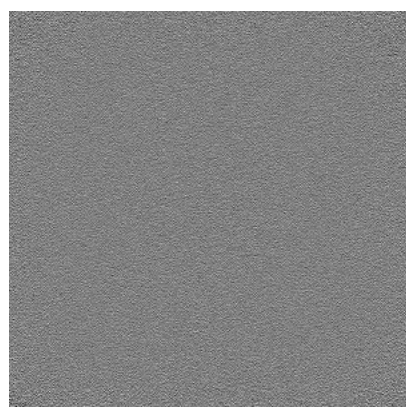


Y Index: 230

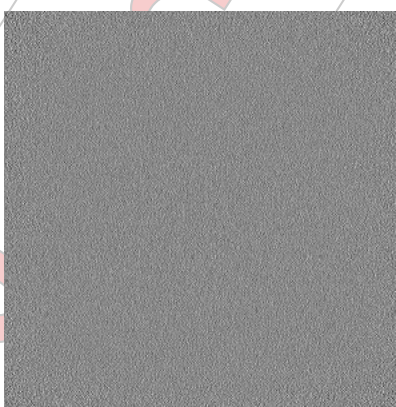


Z Index: 275

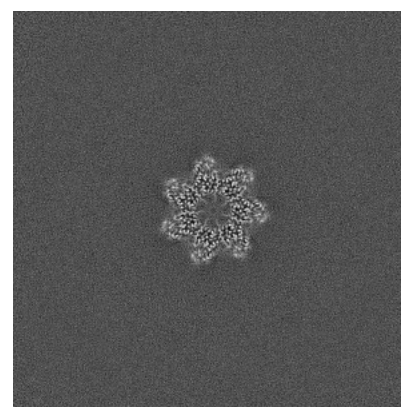
6.3.2 Raw map



X Index: 0



Y Index: 0

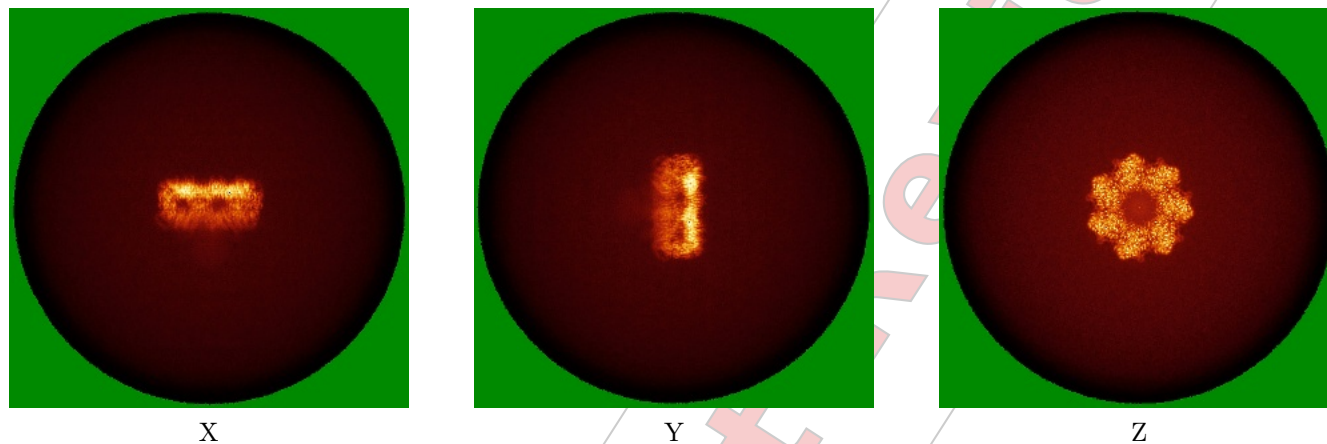


Z Index: 276

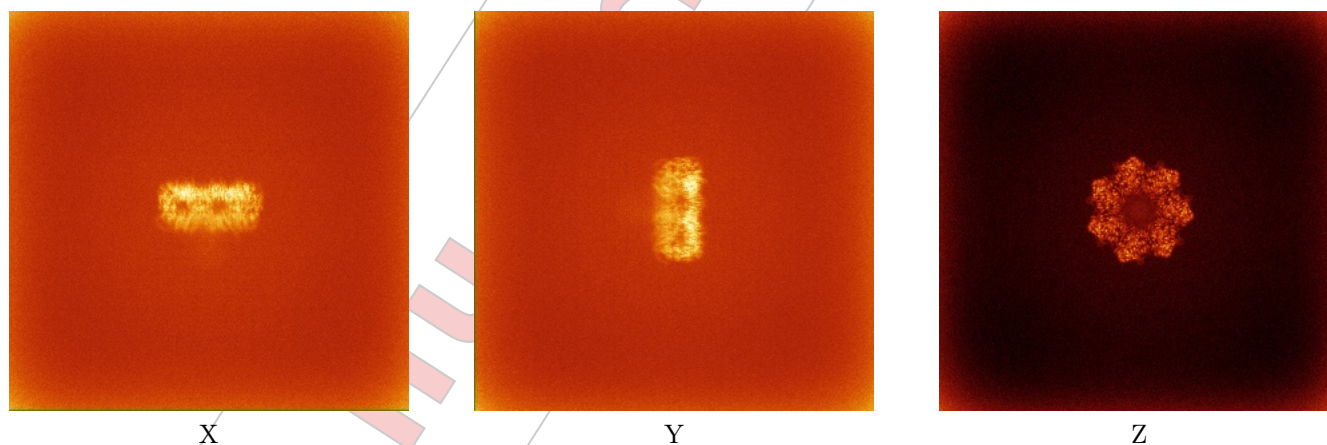
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map



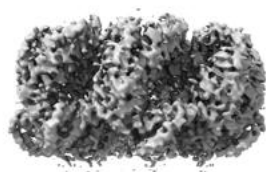
6.4.2 Raw map



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](#)

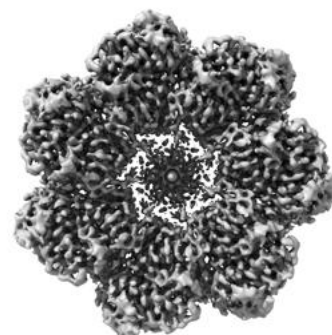
6.5.1 Primary map



X



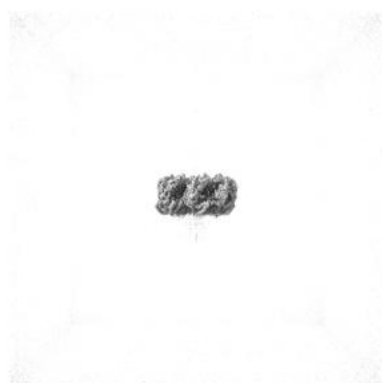
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.15. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

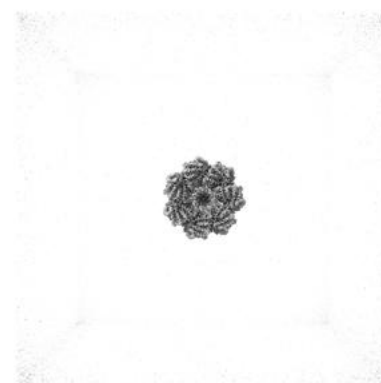
6.5.2 Raw map



X



Y



Z

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

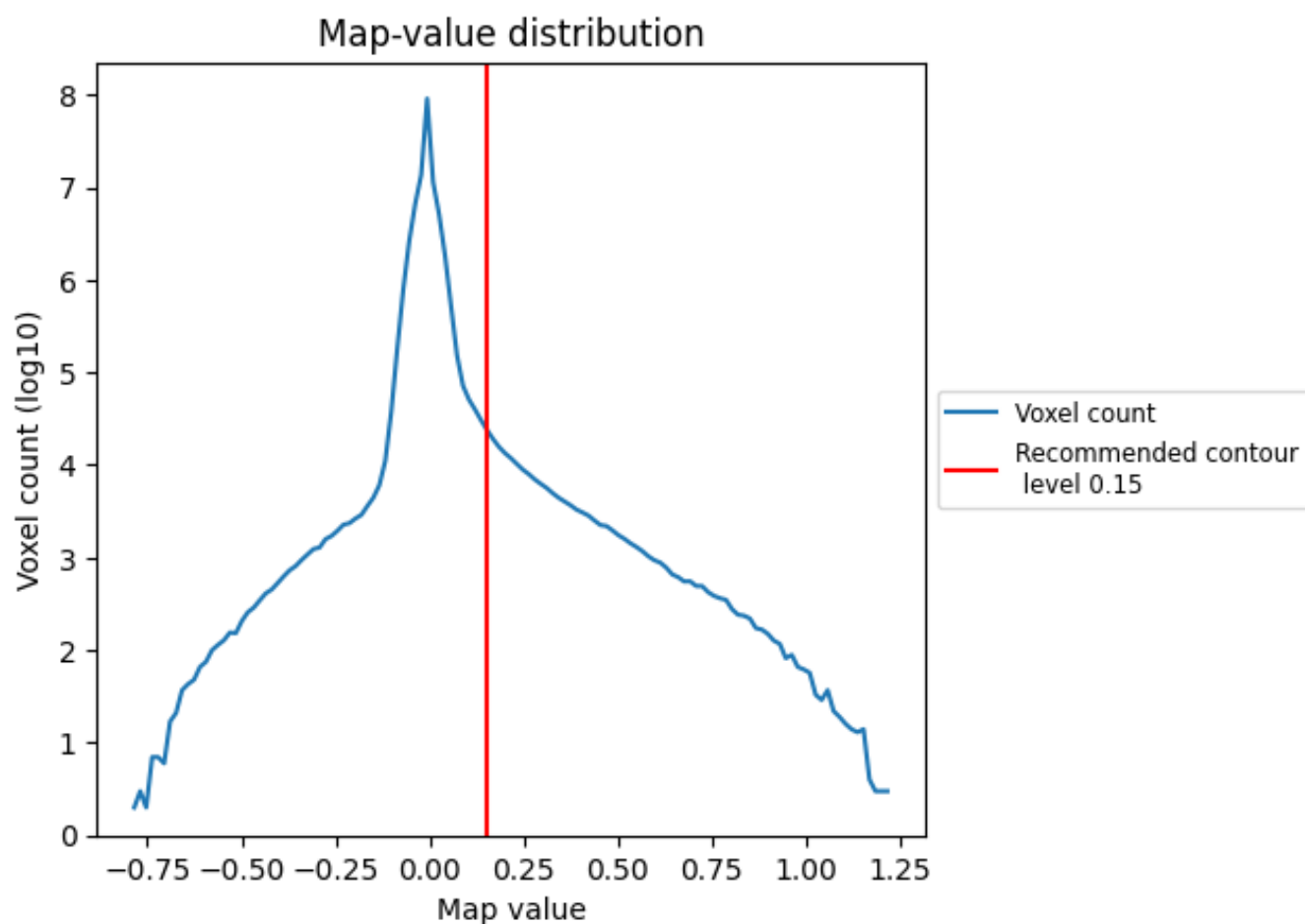
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

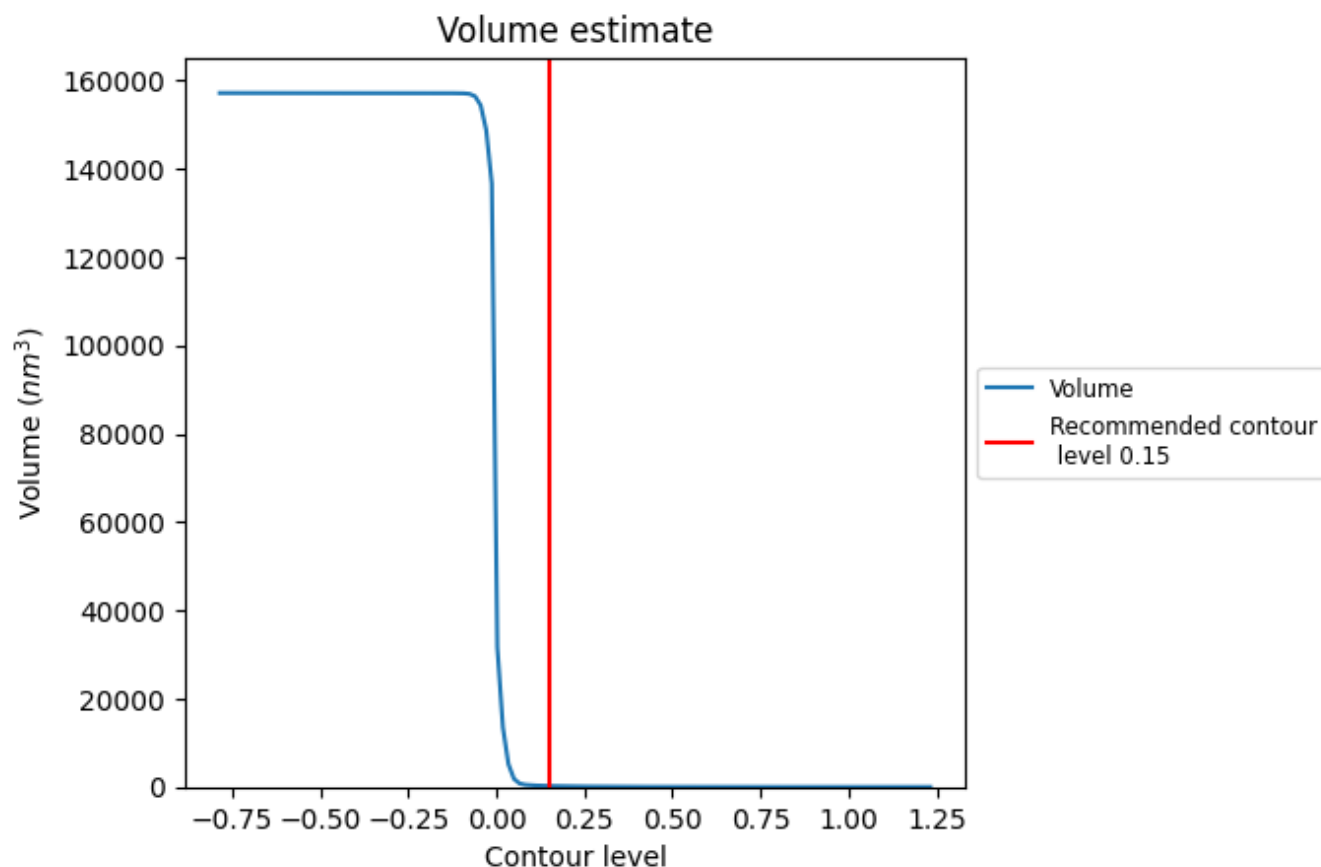
This section contains the results of statistical analysis of the map.

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.

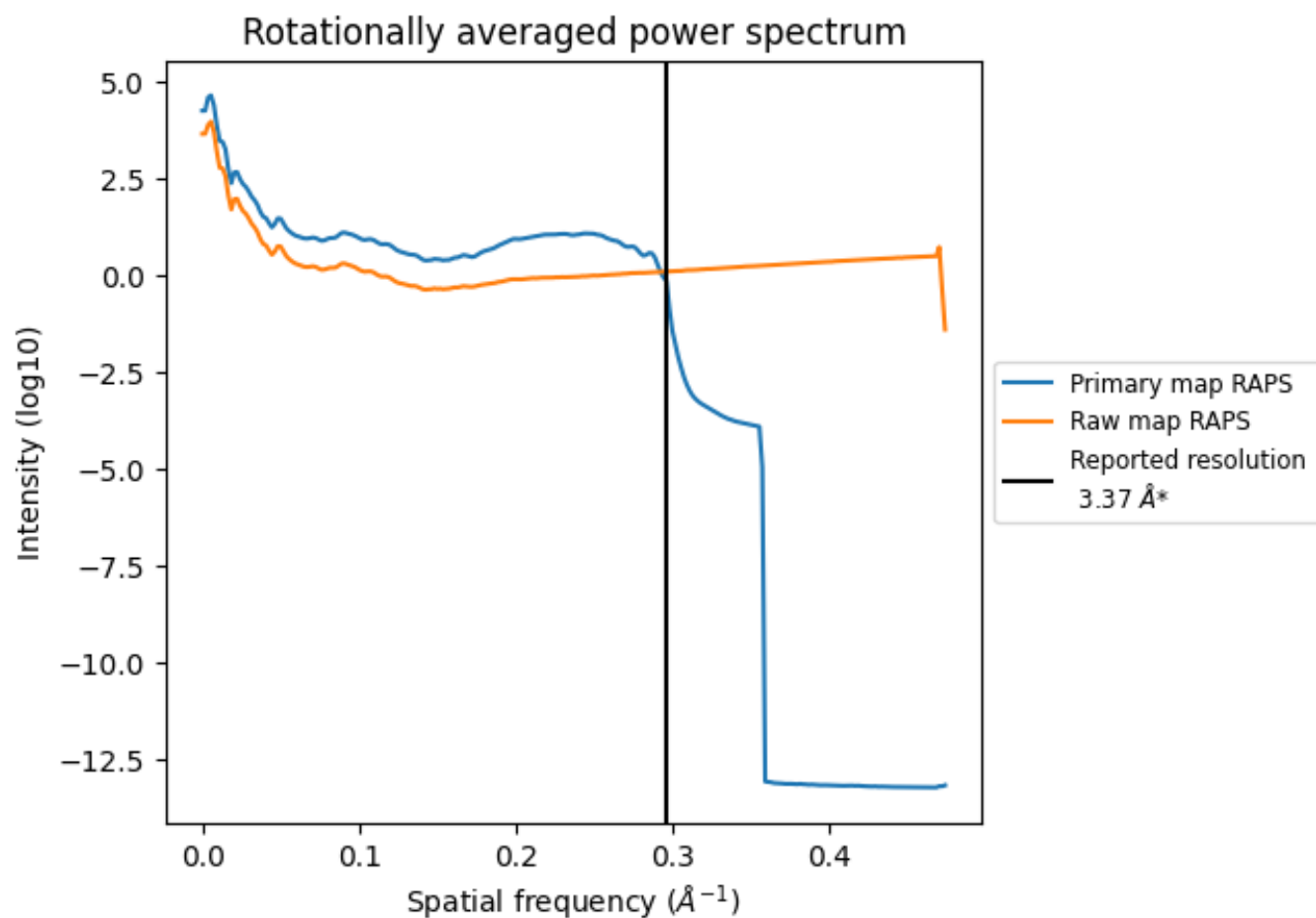
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 221 nm^3 ; this corresponds to an approximate mass of 199 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

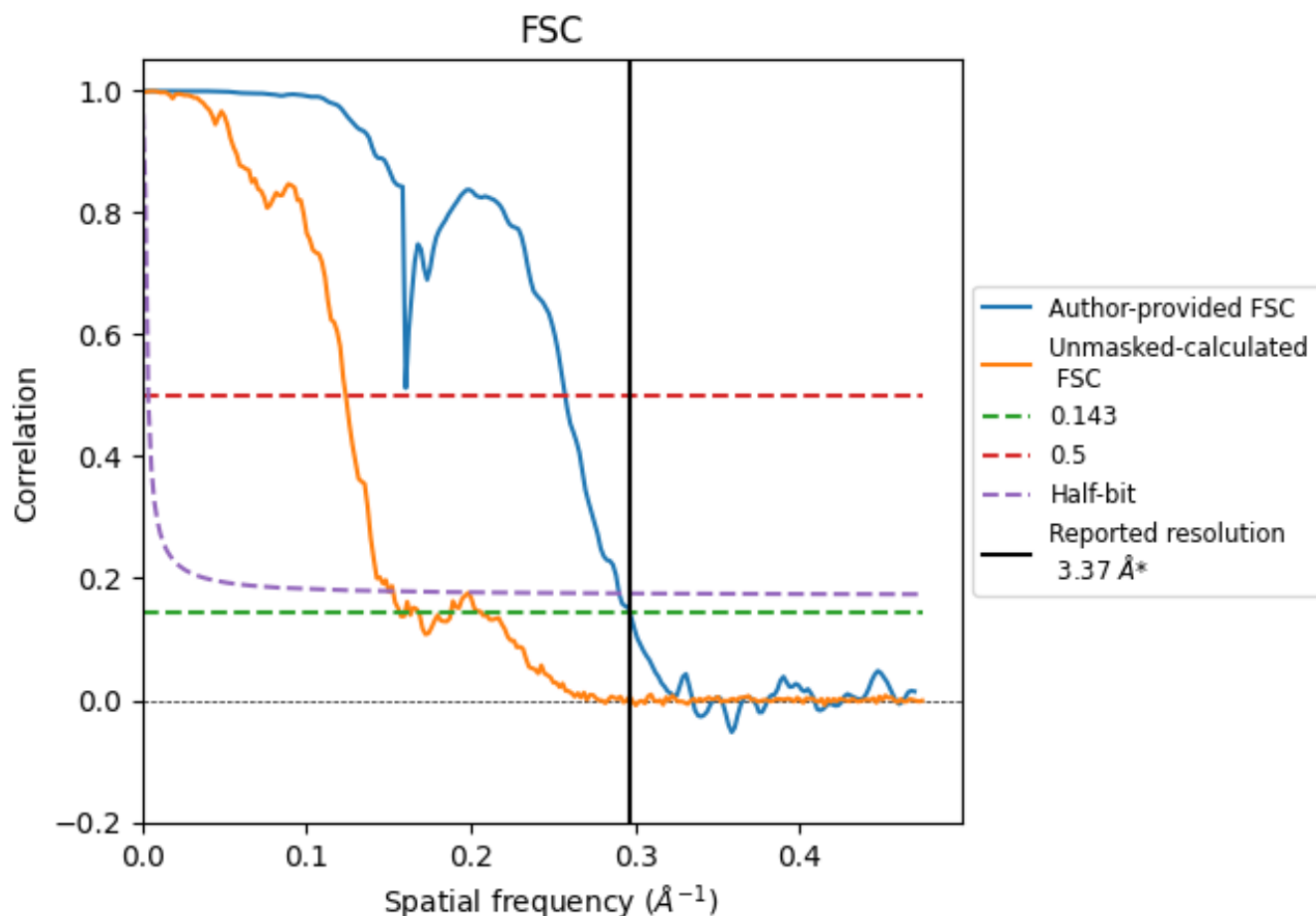


*Reported resolution corresponds to spatial frequency of 0.297 Å⁻¹

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 $0.297 \text{ \AA}^{-1}$

8.2 Resolution estimates [i](#)

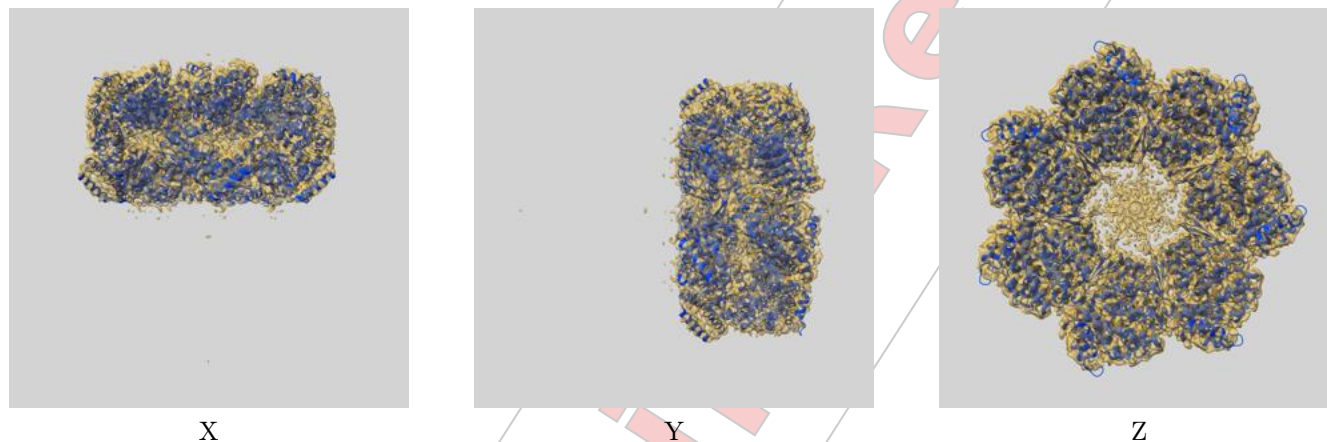
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.37	-	-
Author-provided FSC curve	3.37	3.89	3.45
Unmasked-calculated*	6.38	8.08	6.67

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 6.38 differs from the reported value 3.37 by more than 10 %

9 Map-model fit ⓘ

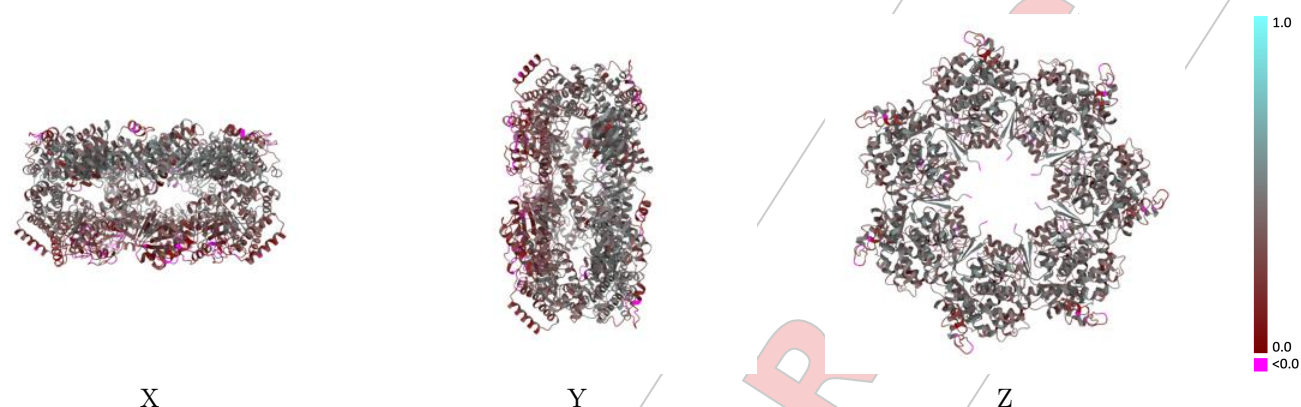
This section contains information regarding the fit between EMDB map EMD-49967 and PDB model 9O09. Per-residue inclusion information can be found in section 3 on page 4.

9.1 Map-model overlay ⓘ



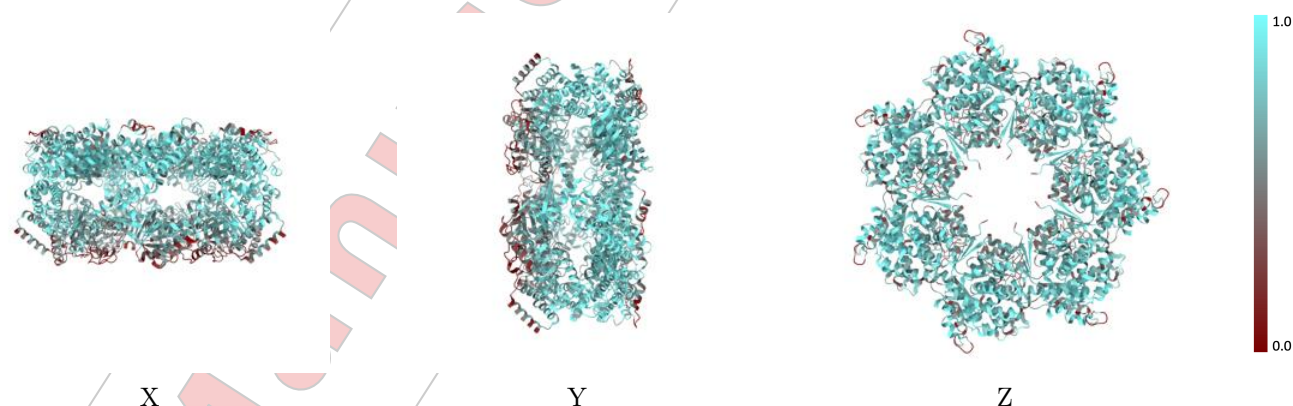
The images above show the 3D surface view of the map at the recommended contour level 0.15 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



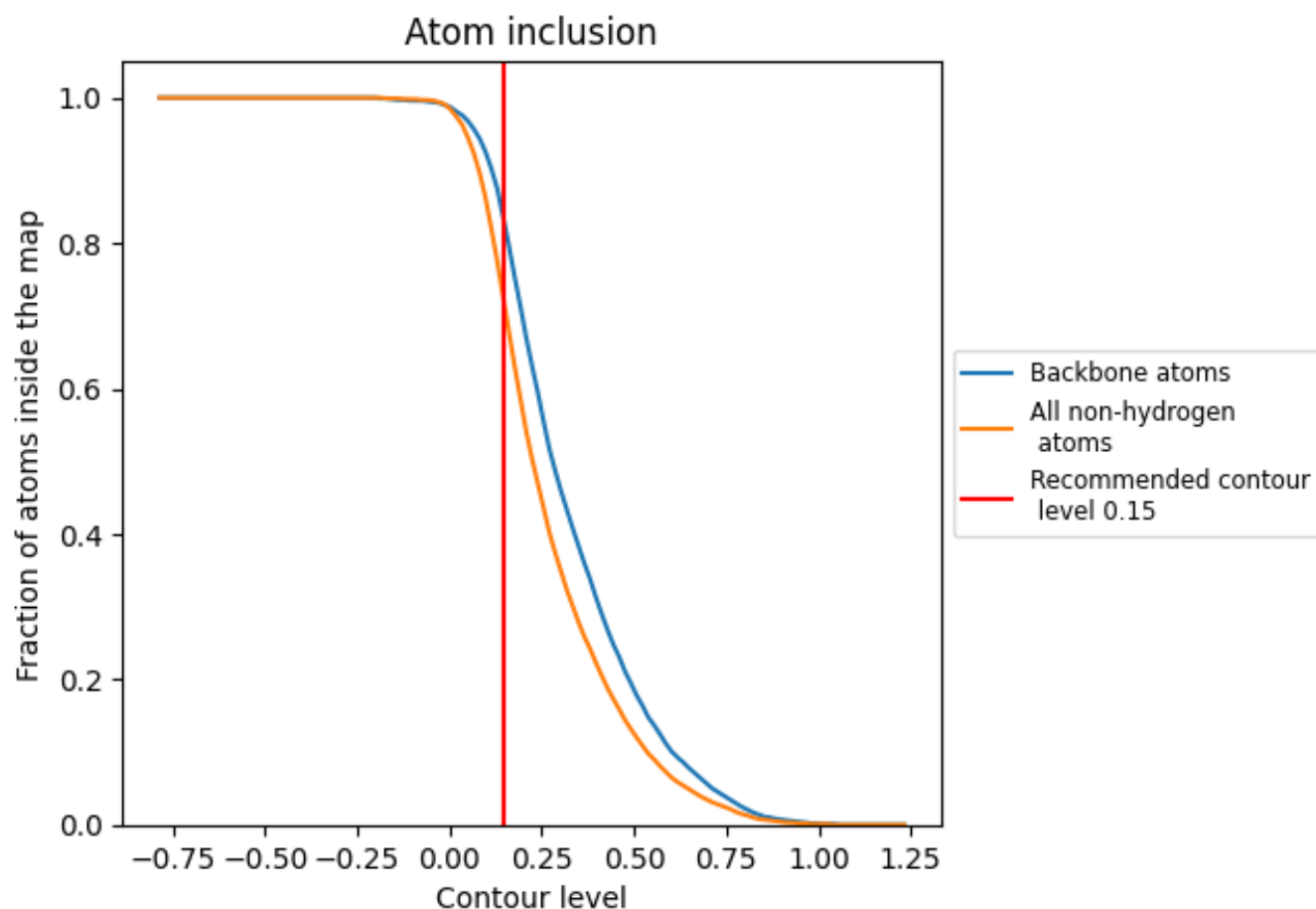
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.15).

9.4 Atom inclusion [i](#)



At the recommended contour level, 83% of all backbone atoms, 71% 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 (0.15) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7130	 0.3510
A	 0.7120	 0.3530
B	 0.7100	 0.3530
C	 0.7130	 0.3510
D	 0.7170	 0.3530
E	 0.7130	 0.3480
F	 0.7160	 0.3530
G	 0.7070	 0.3470

