Full wwPDB EM Validation Report ⓘ

Oct 22, 2023 – 12:14 PM JST

PDB ID	:	8I39
EMDB ID	:	EMD-35146
Title	:	Cryo-EM structure of abscisic acid transporter AtABCG25 with ABA
Authors	:	Huang, X.; Zhang, X.; Zhang, P.
Deposited on	:	2023-01-16
Resolution	:	2.85 Å(reported)

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

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

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

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

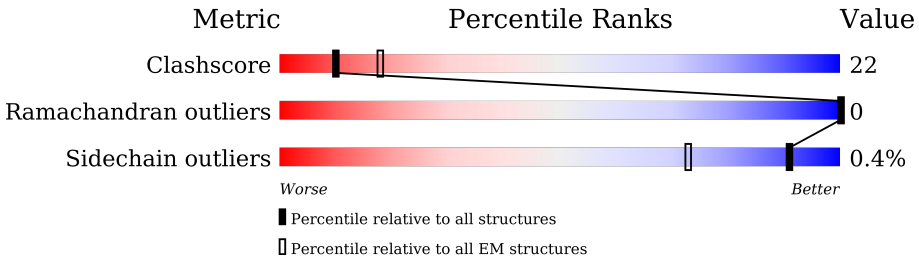
EMDB validation analysis	:	0.0.1.dev70
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance

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

The reported resolution of this entry is 2.85 Å.

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



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

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	662	18% 49% 32% 19%
1	B	662	18% 49% 32% 19%

2 Entry composition

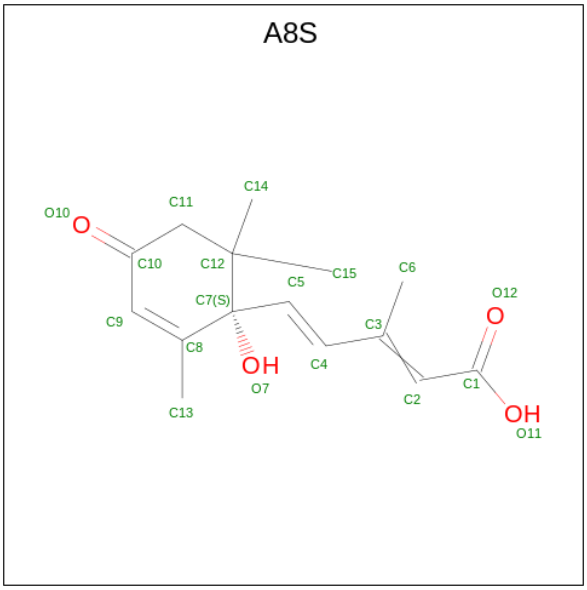
There are 2 unique types of molecules in this entry. The entry contains 8432 atoms, of which 19 are hydrogens and 0 are deuteriums.

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 ABC transporter G family member 25.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	538	Total	C	N	O	S	0	0
			4197	2740	699	733	25		
1	B	538	Total	C	N	O	S	0	0
			4197	2740	699	733	25		

- Molecule 2 is (2Z,4E)-5-[(1S)-1-hydroxy-2,6,6-trimethyl-4-oxocyclohex-2-en-1-yl]-3-methyl penta-2,4-dienoic acid (three-letter code: A8S) (formula: $C_{15}H_{20}O_4$) (labeled as "Ligand of Interest" by depositor).



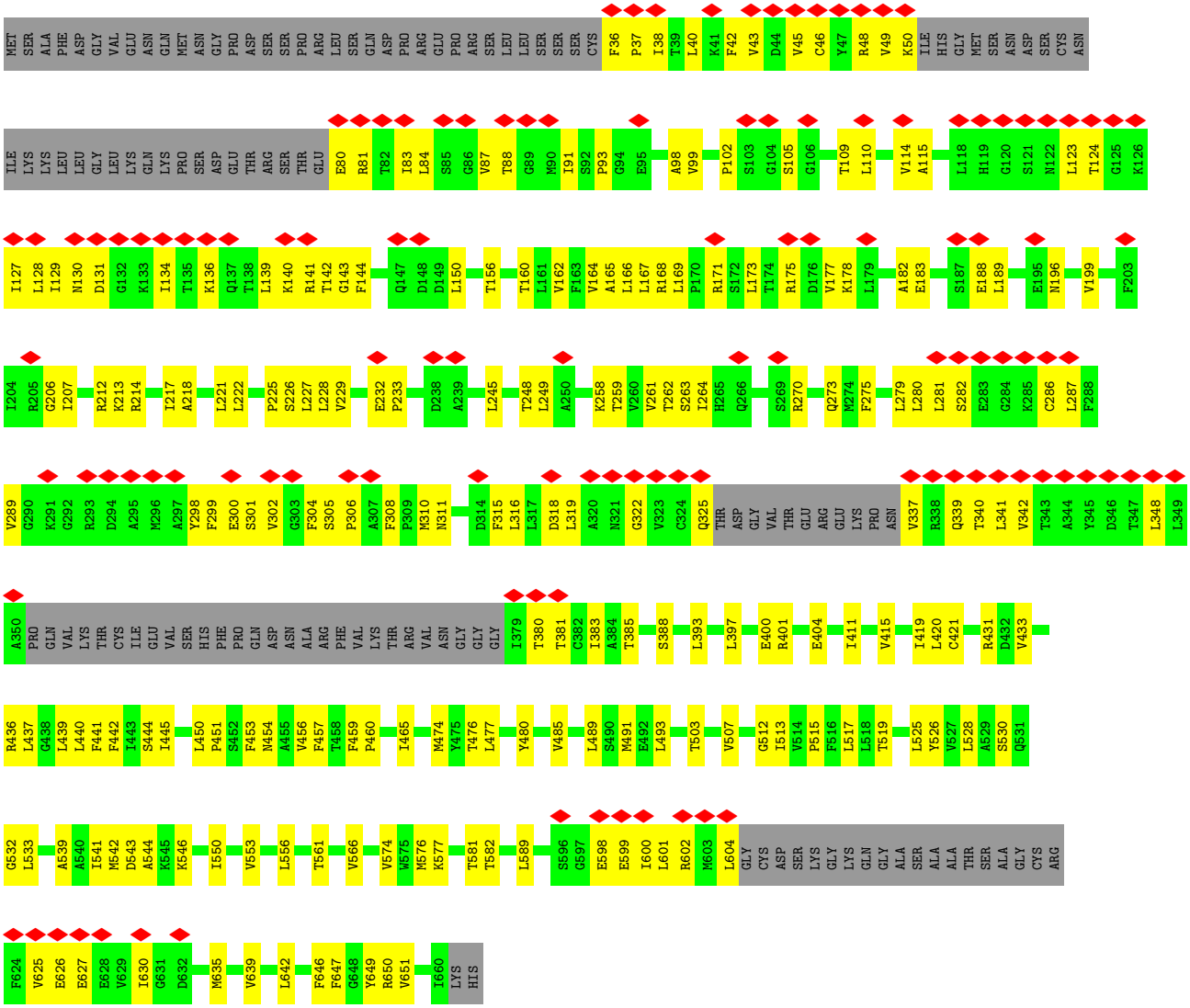
Mol	Chain	Residues	Atoms				AltConf
2	B	1	Total	C	H	O	0
			38	15	19	4	

3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

• Molecule 1: ABC transporter G family member 25

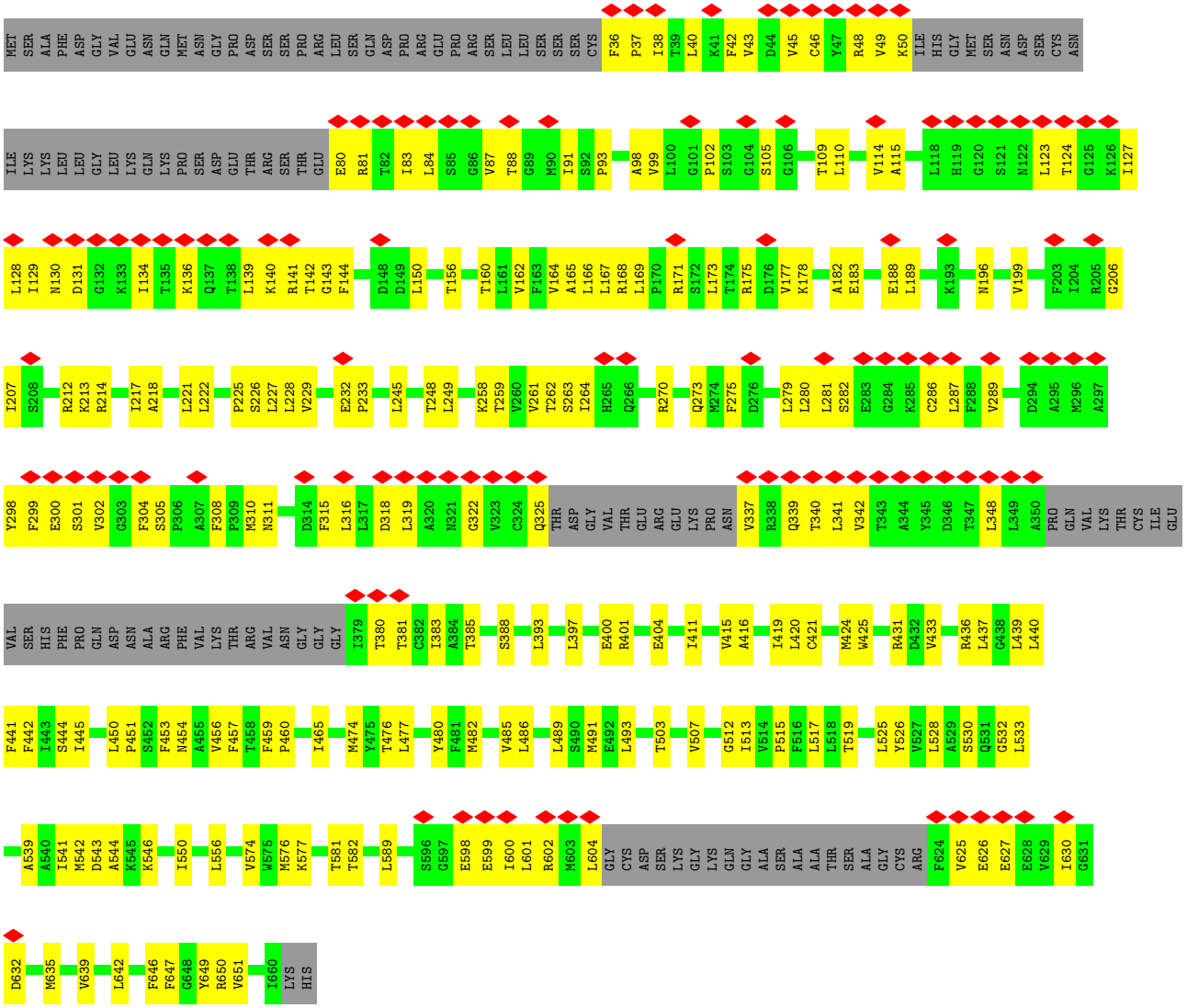
Chain A:



• Molecule 1: ABC transporter G family member 25

Chain B:


18%
49%
32%
19%


MET SER ALA PHE ASP GLY VAL GLU ASN GLN MET ASN GLY PRO ASP SER SER PRO ARG LEU SER GLN ASP PRO ARG GLU PRO ARG SER LEU LEU SER SER SER CYS F36 P37 I38 T39 L40 K41 F42 V43 D44 V45 C46 Y47 R48 V49 K50 ILE HIS GLY MET SER ASN ASP SER CYS ASN
ILE LYS LYS LEU LEU GLY LEU LYS GLN LYS PRO SER ASP GLU THR ARG SER THR GLU E80 R81 T82 I83 L84 S85 G86 V87 T88 G89 M90 I91 S92 P93 A98 V99 L100 G101 P102 S103 G104 S105 G106 T109 L110 V114 A115 L118 H119 G120 S121 N122 L123 T124 G125 K126 I127
L128 I129 N130 D131 G132 K133 I134 T135 K136 Q137 T138 L139 K140 R141 T142 G143 F144 D148 D149 L150 T156 T160 L161 V162 F163 V164 A165 L166 L167 R168 L169 P170 R171 S172 L173 T174 R175 D176 V177 K178 A182 E183 E188 L189 K193 N196 V199 F203 I204 R205 G206
I207 S208 R212 K213 R214 I217 A218 L221 L222 P225 S226 L227 L228 V229 E232 P233 L245 T248 L249 K258 T259 V260 V261 T262 S263 I264 H265 Q266 R270 Q273 M274 F275 D276 L279 L280 L281 S282 E283 G284 K285 C286 L287 F288 V289 D294 A295 M296 A297
Y298 F299 E300 S301 V302 G303 F304 S305 P306 A307 F308 P309 M310 N311 D314 F315 L316 L317 D318 L319 A320 N321 G322 V323 C324 Q325 THR ASP GLY VAL THR GLU ARG GLU LYS PRO ASN V337 R338 Q339 T340 L341 V342 T343 A344 Y345 D346 T347 L348 L349 A350 PRO GLN VAL LYS THR CYS ILE GLU
VAL SER HIS PHE PRO GLN ASP ASN ALA ARG PHE VAL LYS THR ARG VAL ASN GLY GLY GLY I379 T380 T381 C382 I383 A384 T385 S388 L393 L397 E400 R401 E404 I411 V415 A416 I419 L420 C421 M424 W425 R431 D432 V433 R436 L437 G438 L439 L440
F441 F442 I443 S444 I445 L450 P451 S452 F453 N454 A455 V456 F457 T458 F459 P460 I465 M474 Y475 T476 L477 Y480 F481 M482 V485 L486 L489 S490 M491 E492 L493 T503 V507 G512 I513 V514 P515 F516 L517 L518 T519 L525 Y526 V527 L528 A529 S530 Q531 G532 L533
A539 A540 I541 M542 D543 A544 K545 K546 I550 L556 V574 W575 M576 K577 T581 T582 L589 S596 G597 E598 E599 I600 L601 R602 M603 L604 GLY CYS ASP SER LYS GLY LYS GLN GLY ALA SER ALA ALA THR SER ALA GLY CYS ARG F624 V625 E626 E627 E628 V629 I630 G631
D632 M635 V639 L642 F646 F647 G648 Y649 R650 V651 I660 LYS HIS

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C2	Depositor
Number of particles used	353594	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	48	Depositor
Minimum defocus (nm)	2000	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	8.090	Depositor
Minimum map value	-5.648	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.184	Depositor
Recommended contour level	1.0	Depositor
Map size (Å)	249.90001, 249.90001, 249.90001	wwPDB
Map dimensions	210, 210, 210	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.19, 1.19, 1.19	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: A8S

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	0.44	0/4284	0.53	3/5806 (0.1%)
1	B	0.44	0/4284	0.53	3/5806 (0.1%)
All	All	0.44	0/8568	0.53	6/11612 (0.1%)

There are no bond length outliers.

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	183	GLU	CA-CB-CG	6.99	128.78	113.40
1	A	183	GLU	CA-CB-CG	6.97	128.74	113.40
1	A	188	GLU	CA-CB-CG	6.61	127.95	113.40
1	B	188	GLU	CA-CB-CG	6.61	127.94	113.40
1	A	325	GLN	CA-CB-CG	6.52	127.75	113.40
1	B	325	GLN	CA-CB-CG	6.51	127.72	113.40

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	4197	0	4339	193	0
1	B	4197	0	4339	193	0
2	B	19	19	19	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
All	All	8413	19	8697	372	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 22.

All (372) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:114:VAL:HG12	1:A:229:VAL:HG21	1.22	1.19
1:B:114:VAL:CG1	1:B:229:VAL:HG21	1.77	1.15
1:B:114:VAL:HG12	1:B:229:VAL:HG21	1.22	1.14
1:A:114:VAL:CG1	1:A:229:VAL:HG21	1.77	1.12
1:B:40:LEU:HD23	1:B:91:ILE:HD13	1.43	1.00
1:A:40:LEU:HD23	1:A:91:ILE:HD13	1.43	0.98
1:B:114:VAL:CG1	1:B:229:VAL:CG2	2.52	0.87
1:A:114:VAL:CG1	1:A:229:VAL:CG2	2.52	0.86
1:B:114:VAL:HG13	1:B:227:LEU:HD21	1.58	0.85
1:A:114:VAL:HG13	1:A:227:LEU:HD21	1.58	0.84
1:B:114:VAL:HG12	1:B:229:VAL:CG2	2.08	0.82
1:A:264:ILE:HD12	1:A:275:PHE:HZ	1.46	0.80
1:B:46:CYS:SG	1:B:48:ARG:NH1	2.55	0.80
1:B:173:LEU:HD11	1:B:177:VAL:HG11	1.64	0.80
1:A:38:ILE:HG23	1:A:129:ILE:HG23	1.64	0.80
1:B:264:ILE:HD12	1:B:275:PHE:HZ	1.46	0.79
1:A:46:CYS:SG	1:A:48:ARG:NH1	2.55	0.79
1:A:173:LEU:HD11	1:A:177:VAL:HG11	1.64	0.78
1:B:38:ILE:HG23	1:B:129:ILE:HG23	1.64	0.78
1:A:114:VAL:HG12	1:A:229:VAL:CG2	2.08	0.78
1:B:300:GLU:HG2	1:B:305:SER:HB2	1.67	0.76
1:A:300:GLU:HG2	1:A:305:SER:HB2	1.67	0.76
1:A:165:ALA:HB2	1:A:182:ALA:HB2	1.68	0.76
1:B:165:ALA:HB2	1:B:182:ALA:HB2	1.68	0.75
1:A:114:VAL:HG11	1:A:229:VAL:CG2	2.16	0.75
1:B:114:VAL:HG11	1:B:229:VAL:CG2	2.16	0.75
1:B:214:ARG:HH12	1:B:248:THR:HG21	1.51	0.73
1:A:214:ARG:HH12	1:A:248:THR:HG21	1.51	0.73
1:A:225:PRO:O	1:A:258:LYS:NZ	2.22	0.73
1:B:225:PRO:O	1:B:258:LYS:NZ	2.22	0.72
1:A:270:ARG:HG2	1:B:308:PHE:HZ	1.56	0.70
1:A:99:VAL:HG13	1:A:263:SER:HB3	1.74	0.69
1:B:280:LEU:CD2	1:B:316:LEU:HD21	2.23	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:173:LEU:HD21	1:B:177:VAL:HG12	1.75	0.68
1:B:99:VAL:HG13	1:B:263:SER:HB3	1.74	0.68
1:A:280:LEU:CD2	1:A:316:LEU:HD21	2.23	0.68
1:B:91:ILE:HG22	1:B:259:THR:HG23	1.76	0.68
1:B:207:ILE:HG13	1:B:212:ARG:HG3	1.75	0.67
1:B:493:LEU:HD21	1:B:528:LEU:HD21	1.75	0.67
1:A:173:LEU:HD21	1:A:177:VAL:HG12	1.75	0.67
1:A:91:ILE:HG22	1:A:259:THR:HG23	1.76	0.67
1:A:439:LEU:HD21	1:A:507:VAL:HG11	1.76	0.67
1:A:493:LEU:HD21	1:A:528:LEU:HD21	1.75	0.67
1:A:207:ILE:HG13	1:A:212:ARG:HG3	1.76	0.66
1:B:300:GLU:HG2	1:B:304:PHE:O	1.96	0.66
1:A:136:LYS:HA	1:A:139:LEU:HB2	1.78	0.66
1:A:300:GLU:HG2	1:A:304:PHE:O	1.96	0.66
1:B:439:LEU:HD21	1:B:507:VAL:HG11	1.76	0.65
1:A:36:PHE:HB3	1:A:37:PRO:HD3	1.79	0.65
1:B:38:ILE:HD13	1:B:130:ASN:HD21	1.61	0.65
1:B:136:LYS:HA	1:B:139:LEU:HB2	1.78	0.65
1:B:36:PHE:HB3	1:B:37:PRO:HD3	1.79	0.65
1:B:450:LEU:HB3	1:B:451:PRO:HD3	1.78	0.65
1:A:38:ILE:HD13	1:A:130:ASN:HD21	1.61	0.65
1:B:532:GLY:O	1:B:649:TYR:HB3	1.97	0.64
1:B:134:ILE:HD11	1:B:139:LEU:HD21	1.79	0.64
1:B:298:TYR:O	1:B:301:SER:OG	2.12	0.63
1:A:532:GLY:O	1:A:649:TYR:HB3	1.97	0.63
1:A:450:LEU:HB3	1:A:451:PRO:HD3	1.79	0.63
1:A:541:ILE:HD13	1:A:550:ILE:HD12	1.80	0.62
1:B:541:ILE:HD13	1:B:550:ILE:HD12	1.80	0.62
1:A:134:ILE:HD11	1:A:139:LEU:HD21	1.79	0.62
1:A:576:MET:O	1:A:576:MET:HG2	2.00	0.61
1:A:129:ILE:HG22	1:A:130:ASN:HD22	1.65	0.61
1:B:302:VAL:HG12	1:B:302:VAL:O	2.00	0.61
1:A:302:VAL:HG12	1:A:302:VAL:O	2.00	0.61
1:B:598:GLU:O	1:B:602:ARG:CD	2.49	0.61
1:B:49:VAL:HG13	1:B:81:ARG:HB2	1.83	0.61
1:B:576:MET:O	1:B:576:MET:HG2	2.00	0.61
1:B:598:GLU:O	1:B:602:ARG:HG3	2.01	0.61
1:B:129:ILE:HG22	1:B:130:ASN:HD22	1.66	0.60
1:A:308:PHE:HZ	1:B:270:ARG:HG2	1.66	0.60
1:A:489:LEU:O	1:A:493:LEU:HG	2.02	0.60
1:A:598:GLU:O	1:A:602:ARG:HG3	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:489:LEU:O	1:B:493:LEU:HG	2.02	0.60
1:B:128:LEU:HD23	1:B:131:ASP:HA	1.84	0.60
1:A:128:LEU:HD23	1:A:131:ASP:HA	1.84	0.60
1:A:598:GLU:O	1:A:602:ARG:CD	2.49	0.60
1:B:457:PHE:CD1	1:B:544:ALA:HB1	2.37	0.60
1:A:49:VAL:HG13	1:A:81:ARG:HB2	1.83	0.59
1:A:420:LEU:HD12	1:B:556:LEU:HD23	1.83	0.59
1:B:381:THR:O	1:B:385:THR:HG23	2.03	0.59
1:B:143:GLY:O	1:B:228:LEU:HD12	2.02	0.59
1:A:457:PHE:CD1	1:A:544:ALA:HB1	2.37	0.59
1:A:143:GLY:O	1:A:228:LEU:HD12	2.02	0.58
1:A:300:GLU:CG	1:A:304:PHE:O	2.51	0.58
1:B:421:CYS:HB2	1:B:442:PHE:HE1	1.69	0.58
1:B:459:PHE:CD2	1:B:539:ALA:HB2	2.39	0.58
1:A:381:THR:O	1:A:385:THR:HG23	2.03	0.58
1:A:459:PHE:CD2	1:A:539:ALA:HB2	2.39	0.58
1:A:171:ARG:NH2	1:A:388:SER:OG	2.36	0.58
1:B:173:LEU:HD23	1:B:178:LYS:HG3	1.85	0.58
1:A:526:TYR:CE2	1:A:581:THR:HG22	2.38	0.58
1:A:173:LEU:HD11	1:A:177:VAL:CG1	2.33	0.58
1:A:421:CYS:HB2	1:A:442:PHE:HE1	1.69	0.58
1:B:171:ARG:NH2	1:B:388:SER:OG	2.36	0.57
1:A:173:LEU:HD23	1:A:178:LYS:HG3	1.85	0.57
1:A:213:LYS:HE2	1:A:233:PRO:HA	1.85	0.57
1:B:519:THR:HG23	1:B:589:LEU:CD2	2.34	0.57
1:B:526:TYR:CE2	1:B:581:THR:HG22	2.38	0.57
1:B:300:GLU:CG	1:B:304:PHE:O	2.51	0.57
1:A:84:LEU:HD11	1:A:110:LEU:HB2	1.87	0.57
1:A:519:THR:HG23	1:A:589:LEU:CD2	2.34	0.57
1:B:264:ILE:HD12	1:B:275:PHE:CZ	2.35	0.57
1:B:173:LEU:HD11	1:B:177:VAL:CG1	2.33	0.57
1:B:213:LYS:HE2	1:B:233:PRO:HA	1.85	0.57
1:B:229:VAL:HG22	1:B:261:VAL:CG1	2.35	0.56
1:A:229:VAL:HG22	1:A:261:VAL:CG1	2.35	0.56
1:B:84:LEU:HD11	1:B:110:LEU:HB2	1.87	0.56
1:A:150:LEU:HB3	1:A:465:ILE:HG12	1.87	0.56
1:B:150:LEU:HB3	1:B:465:ILE:HG12	1.87	0.56
1:A:264:ILE:HD12	1:A:275:PHE:CZ	2.35	0.56
1:A:453:PHE:O	1:A:456:VAL:HG12	2.06	0.56
1:B:453:PHE:O	1:B:456:VAL:HG12	2.06	0.56
1:B:459:PHE:HD2	1:B:539:ALA:HB2	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:526:TYR:HE2	1:B:581:THR:HG22	1.72	0.55
1:A:99:VAL:HG23	1:A:279:LEU:HD22	1.88	0.55
1:B:42:PHE:HE2	1:B:91:ILE:HD11	1.71	0.55
1:B:280:LEU:HD21	1:B:316:LEU:HD21	1.89	0.55
1:A:43:VAL:HG22	1:A:88:THR:HG23	1.89	0.55
1:A:415:VAL:O	1:A:419:ILE:HG13	2.07	0.55
1:A:245:LEU:O	1:A:249:LEU:HG	2.07	0.55
1:B:99:VAL:HG23	1:B:279:LEU:HD22	1.88	0.55
1:B:298:TYR:CE2	1:B:348:LEU:HD22	2.43	0.54
1:A:459:PHE:HD2	1:A:539:ALA:HB2	1.71	0.54
1:B:415:VAL:O	1:B:419:ILE:HG13	2.07	0.54
1:A:42:PHE:HE2	1:A:91:ILE:HD11	1.71	0.54
1:A:526:TYR:HE2	1:A:581:THR:HG22	1.71	0.54
1:A:280:LEU:HD21	1:A:316:LEU:HD21	1.88	0.54
1:A:457:PHE:HD1	1:A:544:ALA:HB1	1.73	0.54
1:A:512:GLY:O	1:A:515:PRO:HD2	2.08	0.54
1:B:83:ILE:HG21	1:B:109:THR:CB	2.38	0.54
1:B:512:GLY:O	1:B:515:PRO:HD2	2.08	0.54
1:A:393:LEU:O	1:A:397:LEU:HG	2.08	0.54
1:A:141:ARG:O	1:A:226:SER:N	2.39	0.53
1:A:300:GLU:CG	1:A:305:SER:HB2	2.38	0.53
1:B:245:LEU:O	1:B:249:LEU:HG	2.07	0.53
1:A:298:TYR:CE2	1:A:348:LEU:HD22	2.43	0.53
1:B:43:VAL:HG22	1:B:88:THR:HG23	1.89	0.53
1:A:114:VAL:CG1	1:A:227:LEU:HD21	2.33	0.53
1:A:83:ILE:HG21	1:A:109:THR:CB	2.38	0.53
1:A:286:CYS:SG	1:A:289:VAL:HG23	2.48	0.53
1:A:319:LEU:HD22	1:A:341:LEU:HD11	1.90	0.53
1:B:114:VAL:CG1	1:B:227:LEU:HD21	2.33	0.53
1:A:450:LEU:O	1:A:454:ASN:ND2	2.42	0.53
1:A:600:ILE:O	1:A:604:LEU:HG	2.09	0.53
1:B:450:LEU:O	1:B:454:ASN:ND2	2.42	0.53
1:B:600:ILE:O	1:B:604:LEU:HG	2.09	0.53
1:B:114:VAL:HG11	1:B:229:VAL:HG22	1.90	0.53
1:B:319:LEU:HD22	1:B:341:LEU:HD11	1.90	0.53
1:B:457:PHE:HD1	1:B:544:ALA:HB1	1.73	0.53
1:A:46:CYS:O	1:A:123:LEU:HD12	2.09	0.52
1:B:393:LEU:O	1:B:397:LEU:HG	2.08	0.52
1:B:286:CYS:SG	1:B:289:VAL:HG23	2.48	0.52
1:A:421:CYS:HB2	1:A:442:PHE:CE1	2.44	0.52
1:B:46:CYS:O	1:B:123:LEU:HD12	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:213:LYS:O	1:A:217:ILE:HG13	2.10	0.52
1:B:436:ARG:O	1:B:440:LEU:HG	2.10	0.52
1:B:599:GLU:HA	1:B:602:ARG:HD3	1.91	0.52
1:B:421:CYS:HB2	1:B:442:PHE:CE1	2.44	0.52
1:B:213:LYS:O	1:B:217:ILE:HG13	2.10	0.52
1:A:165:ALA:CB	1:A:182:ALA:HB2	2.37	0.51
1:B:165:ALA:CB	1:B:182:ALA:HB2	2.37	0.51
1:A:115:ALA:HB2	1:A:144:PHE:CD2	2.46	0.51
1:B:102:PRO:O	1:B:105:SER:OG	2.14	0.51
1:B:460:PRO:HA	1:B:542:MET:HE3	1.93	0.51
1:A:84:LEU:HD22	1:A:87:VAL:HG21	1.92	0.51
1:A:99:VAL:CG1	1:A:263:SER:HB3	2.41	0.51
1:A:436:ARG:O	1:A:440:LEU:HG	2.10	0.51
1:B:401:ARG:O	1:B:491:MET:HG3	2.11	0.51
1:A:460:PRO:HA	1:A:542:MET:HE3	1.92	0.51
1:B:647:PHE:O	1:B:651:VAL:HG23	2.11	0.51
1:B:50:LYS:CD	1:B:80:GLU:HG2	2.41	0.51
1:A:50:LYS:CD	1:A:80:GLU:HG2	2.41	0.51
1:A:298:TYR:HE2	1:A:348:LEU:HD22	1.76	0.51
1:A:270:ARG:HG2	1:B:308:PHE:CZ	2.41	0.50
1:B:84:LEU:HD22	1:B:87:VAL:HG21	1.93	0.50
1:B:300:GLU:CG	1:B:305:SER:HB2	2.38	0.50
1:A:401:ARG:O	1:A:491:MET:HG3	2.11	0.50
1:B:40:LEU:HD23	1:B:91:ILE:CD1	2.29	0.50
1:A:647:PHE:O	1:A:651:VAL:HG23	2.11	0.50
1:B:99:VAL:CG1	1:B:263:SER:HB3	2.41	0.50
1:A:556:LEU:HD23	1:B:420:LEU:HD12	1.94	0.50
1:A:599:GLU:HA	1:A:602:ARG:HD3	1.91	0.50
1:A:601:LEU:CD2	1:A:625:VAL:HG23	2.42	0.50
1:B:115:ALA:HB2	1:B:144:PHE:CD2	2.46	0.50
1:B:298:TYR:HE2	1:B:348:LEU:HD22	1.76	0.50
1:B:477:LEU:HA	1:B:480:TYR:HB3	1.93	0.50
1:B:141:ARG:O	1:B:226:SER:N	2.39	0.50
1:B:626:GLU:HA	1:B:630:ILE:CD1	2.42	0.50
1:A:83:ILE:HG21	1:A:109:THR:HB	1.94	0.49
1:B:300:GLU:OE2	1:B:305:SER:OG	2.21	0.49
1:A:477:LEU:HA	1:A:480:TYR:HB3	1.93	0.49
1:A:626:GLU:HA	1:A:630:ILE:CD1	2.42	0.49
1:A:156:THR:CG2	1:A:196:ASN:HA	2.42	0.49
1:B:156:THR:CG2	1:B:196:ASN:HA	2.42	0.49
1:B:142:THR:HA	1:B:227:LEU:O	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:601:LEU:CD2	1:B:625:VAL:HG23	2.42	0.49
1:A:140:LYS:O	1:A:140:LYS:HG3	2.13	0.49
1:B:140:LYS:O	1:B:140:LYS:HG3	2.13	0.49
1:A:142:THR:HA	1:A:227:LEU:O	2.13	0.49
1:B:339:GLN:O	1:B:342:VAL:HG12	2.13	0.48
1:B:83:ILE:HG21	1:B:109:THR:HB	1.94	0.48
1:A:302:VAL:O	1:A:302:VAL:CG1	2.61	0.48
1:A:627:GLU:OE2	1:A:627:GLU:N	2.43	0.48
1:A:114:VAL:HG11	1:A:229:VAL:HG22	1.90	0.48
1:A:173:LEU:HD23	1:A:178:LYS:CG	2.44	0.48
1:A:282:SER:HB3	1:A:287:LEU:HD22	1.95	0.48
1:A:308:PHE:CD2	1:B:273:GLN:HG3	2.48	0.48
1:B:439:LEU:CD2	1:B:507:VAL:HG11	2.43	0.48
1:A:339:GLN:O	1:A:342:VAL:HG12	2.13	0.48
1:B:627:GLU:OE2	1:B:627:GLU:N	2.43	0.48
1:A:485:VAL:O	1:A:489:LEU:HG	2.13	0.48
1:B:173:LEU:HD21	1:B:177:VAL:CG1	2.44	0.48
1:B:282:SER:HB3	1:B:287:LEU:HD22	1.95	0.48
1:A:40:LEU:HD23	1:A:91:ILE:CD1	2.29	0.48
1:A:433:VAL:O	1:A:437:LEU:HG	2.14	0.48
1:B:598:GLU:O	1:B:602:ARG:CG	2.62	0.48
1:A:433:VAL:HG22	1:A:600:ILE:HD13	1.96	0.47
1:B:281:LEU:HD23	1:B:286:CYS:H	1.79	0.47
1:B:302:VAL:O	1:B:302:VAL:CG1	2.61	0.47
1:B:280:LEU:HG	1:B:316:LEU:HD21	1.97	0.47
1:A:281:LEU:HD23	1:A:286:CYS:H	1.79	0.47
1:A:311:ASN:HB2	1:B:311:ASN:HB2	1.96	0.47
1:B:173:LEU:HD23	1:B:178:LYS:CG	2.43	0.47
1:A:46:CYS:HB3	1:A:124:THR:OG1	2.15	0.47
1:A:553:VAL:HG13	1:B:416:ALA:HB1	1.94	0.47
1:A:299:PHE:CD1	1:A:341:LEU:HD22	2.50	0.47
1:A:598:GLU:O	1:A:602:ARG:CG	2.62	0.47
1:B:299:PHE:CD1	1:B:341:LEU:HD22	2.50	0.47
1:A:98:ALA:HA	1:A:262:THR:O	2.15	0.47
1:A:280:LEU:HG	1:A:316:LEU:HD21	1.96	0.47
1:A:431:ARG:HA	1:A:600:ILE:HD11	1.97	0.47
1:A:646:PHE:O	1:A:650:ARG:HD3	2.15	0.47
1:B:280:LEU:HG	1:B:316:LEU:CG	2.45	0.47
1:B:646:PHE:O	1:B:650:ARG:HD3	2.15	0.47
1:B:433:VAL:O	1:B:437:LEU:HG	2.14	0.47
1:B:485:VAL:O	1:B:489:LEU:HG	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:493:LEU:HD21	1:B:528:LEU:CD2	2.44	0.47
1:A:439:LEU:CD2	1:A:507:VAL:HG11	2.43	0.47
1:B:49:VAL:CG1	1:B:81:ARG:HB2	2.45	0.47
1:B:433:VAL:HG22	1:B:600:ILE:HD13	1.96	0.47
1:B:431:ARG:HA	1:B:600:ILE:HD11	1.97	0.46
1:A:556:LEU:HD11	1:B:442:PHE:CE2	2.50	0.46
1:B:98:ALA:HA	1:B:262:THR:O	2.15	0.46
1:A:300:GLU:OE2	1:A:305:SER:OG	2.21	0.46
1:A:442:PHE:CE2	1:B:556:LEU:HD11	2.51	0.46
1:B:45:VAL:HG13	1:B:123:LEU:HD11	1.97	0.46
1:A:218:ALA:O	1:A:222:LEU:HG	2.16	0.46
1:A:189:LEU:HD11	1:A:221:LEU:HD12	1.98	0.46
1:B:46:CYS:HB3	1:B:124:THR:OG1	2.15	0.46
1:B:300:GLU:OE2	1:B:305:SER:CB	2.63	0.46
1:A:49:VAL:CG1	1:A:81:ARG:HB2	2.45	0.46
1:A:279:LEU:HG	1:A:289:VAL:HG22	1.97	0.46
1:A:280:LEU:HG	1:A:316:LEU:CG	2.45	0.46
1:A:45:VAL:HG13	1:A:123:LEU:HD11	1.97	0.46
1:A:167:LEU:HB3	1:A:474:MET:HG3	1.98	0.46
1:B:218:ALA:O	1:B:222:LEU:HG	2.16	0.46
1:B:279:LEU:HG	1:B:289:VAL:HG22	1.97	0.46
1:B:167:LEU:HB3	1:B:474:MET:HG3	1.98	0.46
1:B:189:LEU:HD11	1:B:221:LEU:HD12	1.97	0.46
1:B:444:SER:OG	1:B:582:THR:HG23	2.16	0.46
1:A:300:GLU:OE2	1:A:305:SER:CB	2.63	0.46
1:A:598:GLU:O	1:A:602:ARG:HD2	2.16	0.46
1:A:561:THR:HG22	1:B:424:MET:SD	2.56	0.45
1:B:476:THR:O	1:B:477:LEU:HB3	2.16	0.45
1:A:173:LEU:HD21	1:A:177:VAL:CG1	2.44	0.45
1:A:144:PHE:HA	1:A:229:VAL:O	2.16	0.45
1:B:280:LEU:HD21	1:B:316:LEU:CD2	2.47	0.45
1:A:566:VAL:HG22	1:B:425:TRP:CZ2	2.52	0.45
1:A:493:LEU:HD21	1:A:528:LEU:CD2	2.44	0.45
1:A:281:LEU:HD23	1:A:286:CYS:HA	1.98	0.45
1:A:299:PHE:HD1	1:A:341:LEU:HD22	1.82	0.45
1:A:476:THR:O	1:A:477:LEU:HB3	2.16	0.45
1:A:298:TYR:O	1:A:301:SER:OG	2.12	0.45
1:A:411:ILE:O	1:A:415:VAL:HG23	2.17	0.45
1:B:411:ILE:O	1:B:415:VAL:HG23	2.17	0.45
1:B:93:PRO:HA	1:B:259:THR:OG1	2.17	0.45
1:B:299:PHE:HD1	1:B:341:LEU:HD22	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:444:SER:OG	1:A:582:THR:HG23	2.16	0.45
1:B:598:GLU:O	1:B:602:ARG:HD2	2.16	0.45
1:B:144:PHE:HA	1:B:229:VAL:O	2.16	0.44
1:A:232:GLU:HA	1:A:263:SER:O	2.18	0.44
1:A:43:VAL:HA	1:A:88:THR:HG23	1.99	0.44
1:A:162:VAL:O	1:A:166:LEU:HG	2.18	0.44
1:A:280:LEU:CG	1:A:316:LEU:HD21	2.48	0.44
1:A:99:VAL:HG23	1:A:279:LEU:CD2	2.47	0.44
1:A:189:LEU:O	1:A:214:ARG:HD3	2.17	0.44
1:A:273:GLN:HG3	1:B:308:PHE:CD2	2.52	0.44
1:A:576:MET:O	1:A:576:MET:CG	2.64	0.44
1:B:232:GLU:HA	1:B:263:SER:O	2.18	0.44
1:B:397:LEU:HD12	1:B:397:LEU:O	2.18	0.44
1:B:503:THR:O	1:B:503:THR:HG22	2.18	0.44
1:A:635:MET:O	1:A:639:VAL:HG23	2.18	0.44
1:B:50:LYS:HD2	1:B:80:GLU:HG2	1.99	0.44
1:B:102:PRO:HD2	1:B:105:SER:CB	2.48	0.44
1:A:93:PRO:HA	1:A:259:THR:OG1	2.17	0.44
1:A:315:PHE:CZ	1:A:319:LEU:HD11	2.53	0.44
1:B:281:LEU:HD23	1:B:286:CYS:HA	1.98	0.44
1:A:50:LYS:HD2	1:A:80:GLU:HG2	1.99	0.43
1:A:397:LEU:HD12	1:A:397:LEU:O	2.18	0.43
1:B:99:VAL:HG23	1:B:279:LEU:CD2	2.47	0.43
1:B:280:LEU:HG	1:B:316:LEU:HD11	2.00	0.43
1:A:280:LEU:HD21	1:A:316:LEU:CD2	2.47	0.43
1:A:503:THR:HG22	1:A:503:THR:O	2.18	0.43
1:B:189:LEU:O	1:B:214:ARG:HD3	2.17	0.43
1:B:162:VAL:O	1:B:166:LEU:HG	2.18	0.43
1:A:102:PRO:HD2	1:A:105:SER:CB	2.48	0.43
1:A:182:ALA:HA	1:A:222:LEU:HD21	2.00	0.43
1:B:182:ALA:HA	1:B:222:LEU:HD21	2.00	0.43
1:B:525:LEU:HD11	1:B:642:LEU:O	2.19	0.43
1:A:38:ILE:HD12	1:A:129:ILE:CG2	2.48	0.43
1:A:310:MET:SD	1:A:315:PHE:HB2	2.58	0.43
1:B:280:LEU:CG	1:B:316:LEU:HD21	2.48	0.43
1:B:315:PHE:CZ	1:B:319:LEU:HD11	2.53	0.43
1:B:530:SER:O	1:B:533:LEU:HB3	2.19	0.43
1:A:380:THR:O	1:A:383:ILE:HG22	2.19	0.43
1:B:38:ILE:HD12	1:B:129:ILE:CG2	2.48	0.43
1:B:310:MET:SD	1:B:315:PHE:HB2	2.58	0.43
1:A:530:SER:O	1:A:533:LEU:HB3	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:43:VAL:HA	1:B:88:THR:HG23	1.99	0.43
1:A:322:GLY:C	1:A:337:VAL:HG22	2.40	0.42
1:B:576:MET:O	1:B:576:MET:CG	2.64	0.42
1:B:299:PHE:CE2	1:B:316:LEU:HD13	2.54	0.42
1:B:601:LEU:HD23	1:B:625:VAL:HG23	2.02	0.42
1:B:635:MET:O	1:B:639:VAL:HG23	2.18	0.42
1:A:160:THR:O	1:A:164:VAL:HG23	2.20	0.42
1:A:525:LEU:HD11	1:A:642:LEU:O	2.19	0.42
1:A:123:LEU:HD21	1:A:127:ILE:CD1	2.50	0.42
1:A:164:VAL:CG1	1:A:168:ARG:HG3	2.50	0.42
1:A:543:ASP:HB3	1:A:546:LYS:HB3	2.02	0.42
1:A:299:PHE:CE2	1:A:316:LEU:HD13	2.54	0.42
1:A:556:LEU:HD11	1:B:442:PHE:HE2	1.85	0.42
1:B:543:ASP:HB3	1:B:546:LYS:HB3	2.02	0.42
1:B:169:LEU:HD21	1:B:222:LEU:O	2.20	0.42
1:A:400:GLU:HB2	1:A:401:ARG:NH1	2.34	0.42
1:B:400:GLU:HB2	1:B:401:ARG:NH1	2.34	0.42
1:A:400:GLU:O	1:A:404:GLU:HG3	2.20	0.42
1:A:441:PHE:CE1	1:A:445:ILE:HD11	2.55	0.42
1:A:574:VAL:O	1:A:577:LYS:HG2	2.20	0.42
1:B:380:THR:O	1:B:383:ILE:HG22	2.19	0.42
1:B:400:GLU:O	1:B:404:GLU:HG3	2.20	0.42
1:A:304:PHE:CD2	1:A:341:LEU:HD21	2.55	0.42
1:B:123:LEU:HD21	1:B:127:ILE:CD1	2.50	0.42
1:A:102:PRO:HD2	1:A:105:SER:HB3	2.02	0.41
1:A:280:LEU:HG	1:A:316:LEU:HD11	2.00	0.41
1:A:169:LEU:HD21	1:A:222:LEU:O	2.20	0.41
1:B:171:ARG:HA	1:B:178:LYS:NZ	2.35	0.41
1:B:322:GLY:C	1:B:337:VAL:HG22	2.40	0.41
1:B:574:VAL:O	1:B:577:LYS:HG2	2.20	0.41
1:B:304:PHE:CD2	1:B:341:LEU:HD21	2.55	0.41
1:A:601:LEU:HD23	1:A:625:VAL:HG23	2.01	0.41
1:B:160:THR:O	1:B:164:VAL:HG23	2.20	0.41
1:B:164:VAL:CG1	1:B:168:ARG:HG3	2.50	0.41
1:B:199:VAL:O	1:B:206:GLY:HA3	2.21	0.41
1:B:245:LEU:O	1:B:245:LEU:HD23	2.21	0.41
1:A:171:ARG:HA	1:A:178:LYS:NZ	2.35	0.41
1:B:175:ARG:O	1:B:175:ARG:HG2	2.21	0.41
1:A:245:LEU:O	1:A:245:LEU:HD23	2.21	0.41
1:B:102:PRO:HD2	1:B:105:SER:HB3	2.02	0.41
1:B:441:PHE:CE1	1:B:445:ILE:HD11	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:513:ILE:O	1:B:517:LEU:HG	2.21	0.41
1:A:306:PRO:HA	1:A:310:MET:HE3	2.03	0.40
1:A:513:ILE:O	1:A:517:LEU:HG	2.21	0.40
1:A:519:THR:HG23	1:A:589:LEU:HD21	2.03	0.40
1:A:199:VAL:O	1:A:206:GLY:HA3	2.20	0.40
1:B:300:GLU:OE2	1:B:305:SER:HB2	2.21	0.40
1:B:482:MET:O	1:B:486:LEU:HG	2.21	0.40
1:B:577:LYS:NZ	1:B:632:ASP:OD1	2.54	0.40
1:A:175:ARG:HG2	1:A:175:ARG:O	2.21	0.40
1:A:512:GLY:C	1:A:515:PRO:HD2	2.42	0.40
1:A:300:GLU:OE2	1:A:305:SER:HB2	2.21	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	528/662 (80%)	495 (94%)	33 (6%)	0	100	100
1	B	528/662 (80%)	495 (94%)	33 (6%)	0	100	100
All	All	1056/1324 (80%)	990 (94%)	66 (6%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	457/563 (81%)	455 (100%)	2 (0%)	91	96
1	B	457/563 (81%)	455 (100%)	2 (0%)	91	96
All	All	914/1126 (81%)	910 (100%)	4 (0%)	91	96

All (4) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	318	ASP
1	A	340	THR
1	B	318	ASP
1	B	340	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (6) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	130	ASN
1	A	219	HIS
1	A	454	ASN
1	B	130	ASN
1	B	219	HIS
1	B	454	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)

1 ligand is modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
2	A8S	B	701	-	17,19,19	1.80	4 (23%)	17,29,29	0.98	1 (5%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	A8S	B	701	-	-	3/10/34/34	0/1/1/1

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	701	A8S	O11-C1	-5.03	1.17	1.30
2	B	701	A8S	C4-C3	-3.45	1.38	1.45
2	B	701	A8S	C9-C8	-2.65	1.30	1.33
2	B	701	A8S	O12-C1	-2.04	1.17	1.23

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	701	A8S	O12-C1-C2	-2.01	117.50	123.89

There are no chirality outliers.

All (3) torsion outliers are listed below:

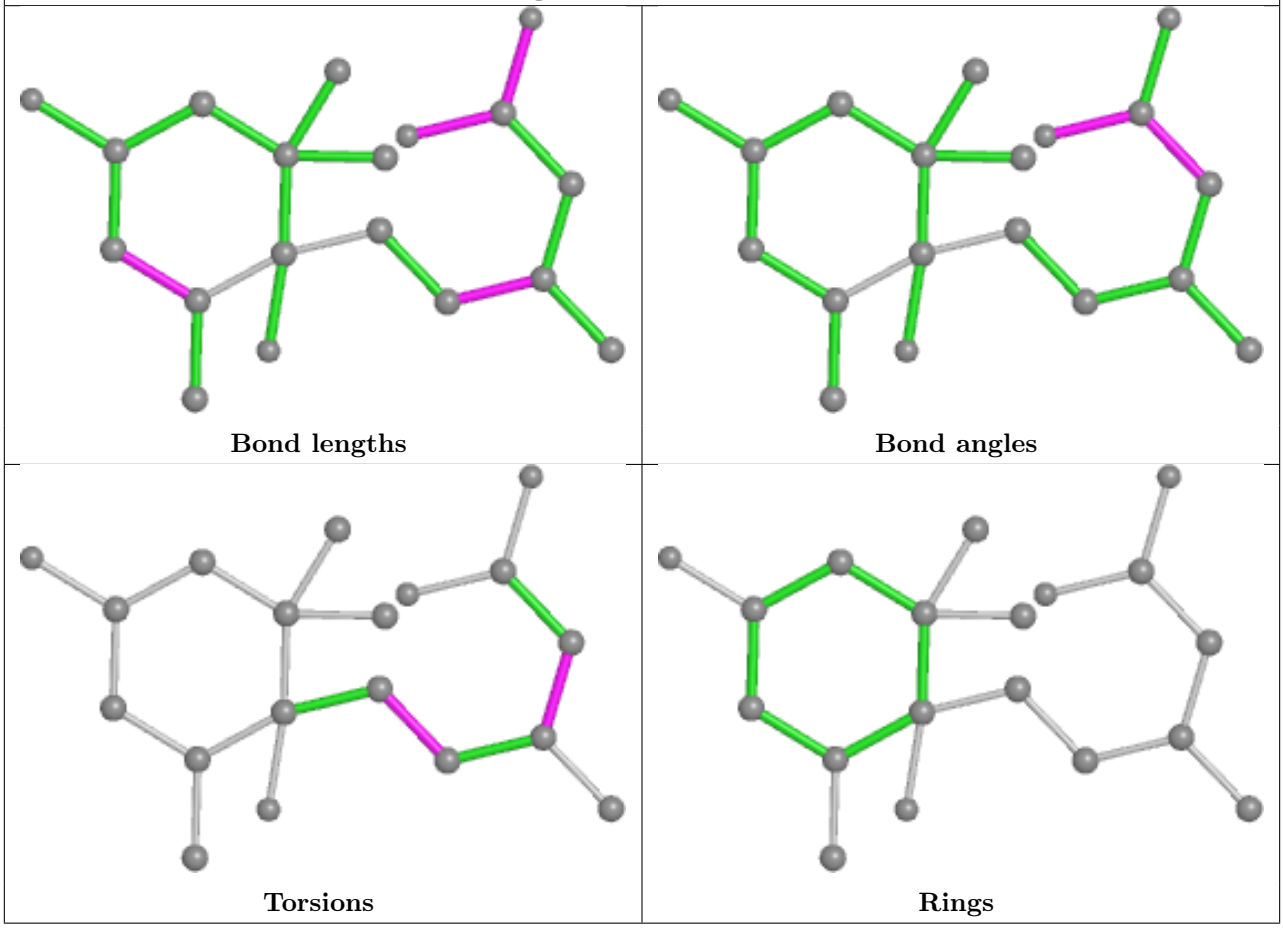
Mol	Chain	Res	Type	Atoms
2	B	701	A8S	C1-C2-C3-C4
2	B	701	A8S	C1-C2-C3-C6
2	B	701	A8S	C3-C4-C5-C7

There are no ring outliers.

No monomer is involved in short contacts.

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

Ligand A8S B 701



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.

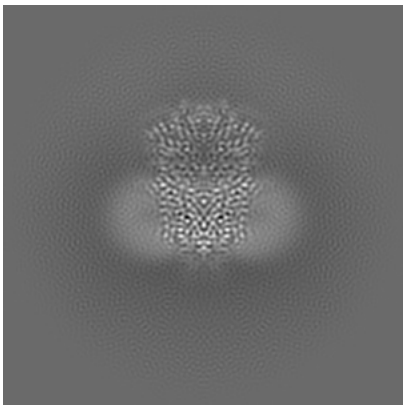
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-35146. These allow visual inspection of the internal detail of the map and identification of artifacts.

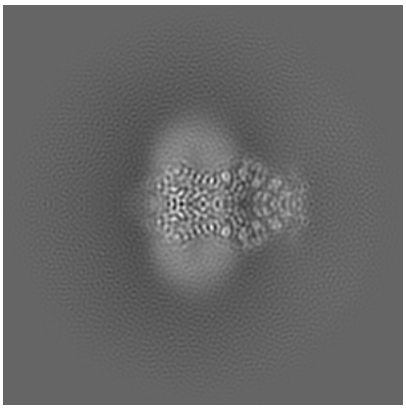
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

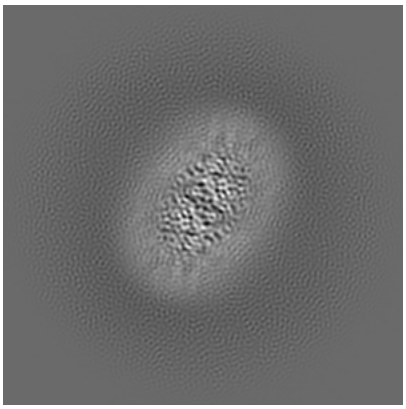
6.1.1 Primary map



X

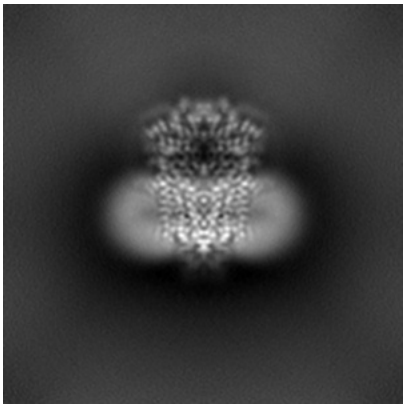


Y

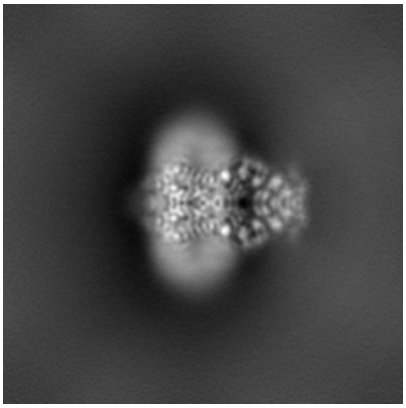


Z

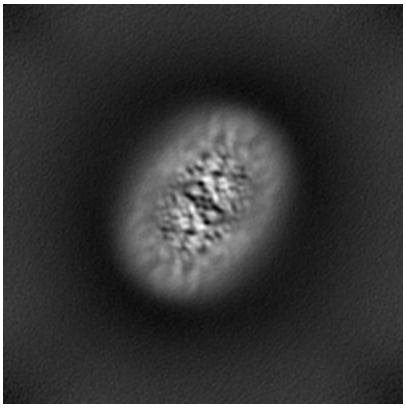
6.1.2 Raw map



X



Y

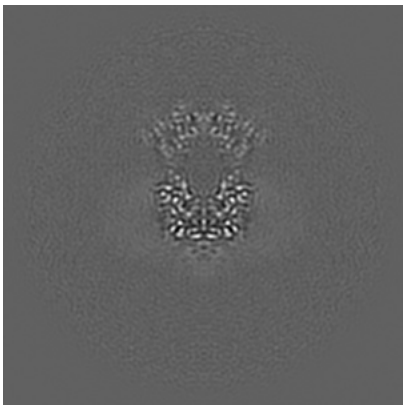


Z

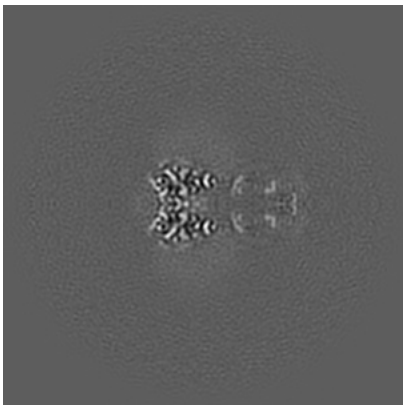
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

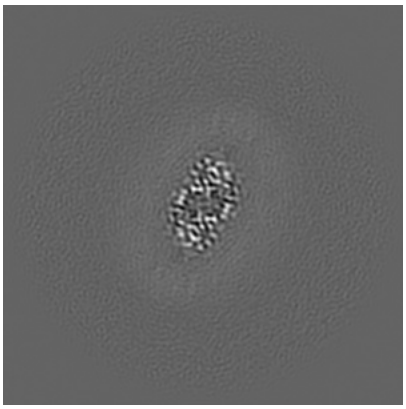
6.2.1 Primary map



X Index: 105

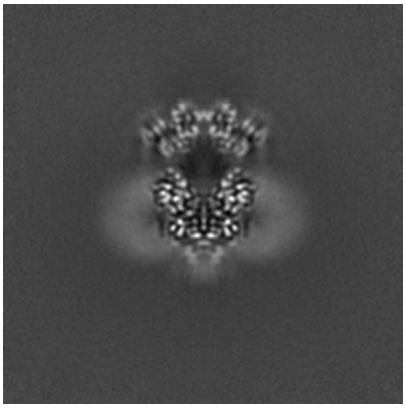


Y Index: 105

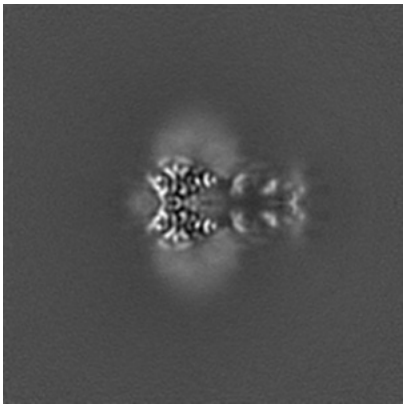


Z Index: 105

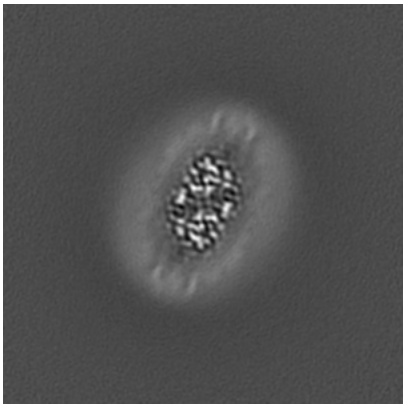
6.2.2 Raw map



X Index: 105



Y Index: 105

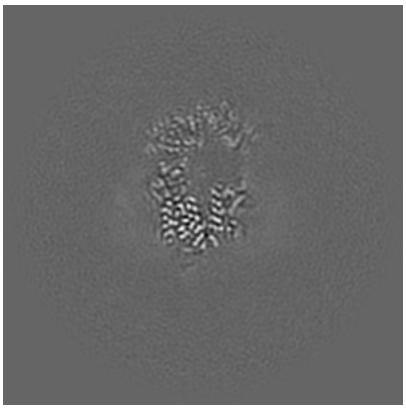


Z Index: 105

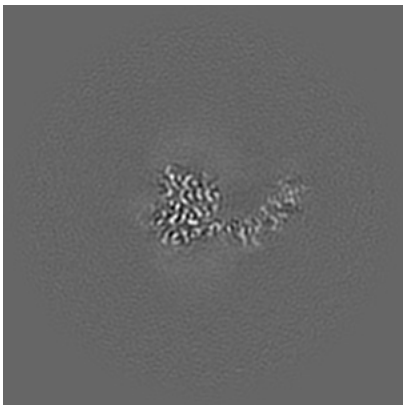
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

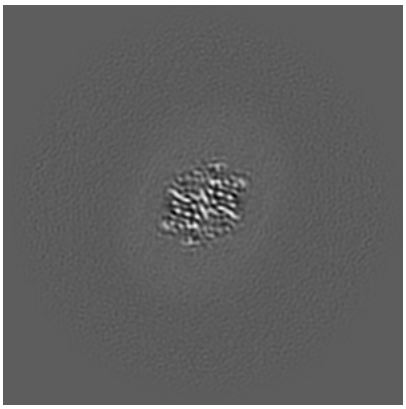
6.3.1 Primary map



X Index: 100

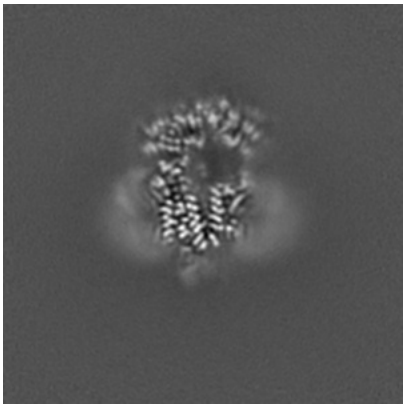


Y Index: 100

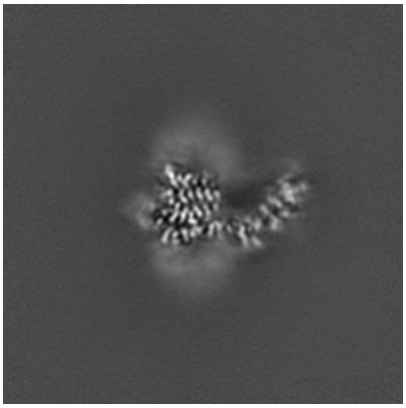


Z Index: 88

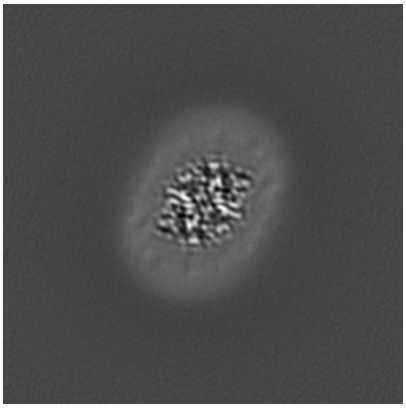
6.3.2 Raw map



X Index: 100



Y Index: 100

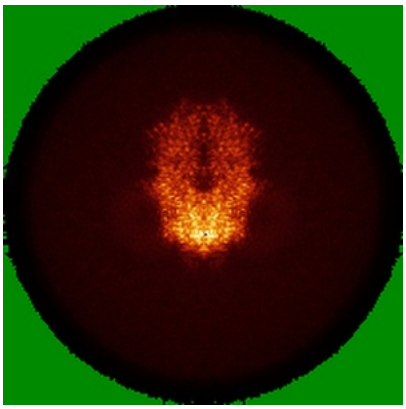


Z Index: 89

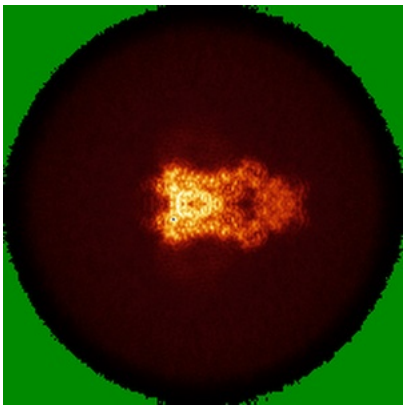
The images above show the largest variance slices of the map in three orthogonal directions.

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

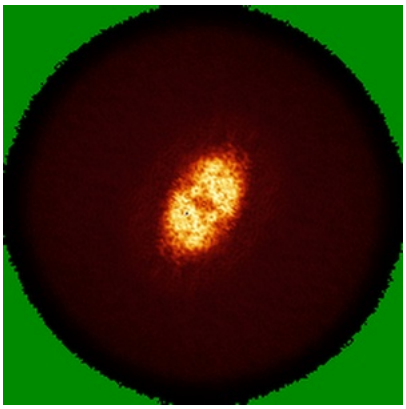
6.4.1 Primary map



X

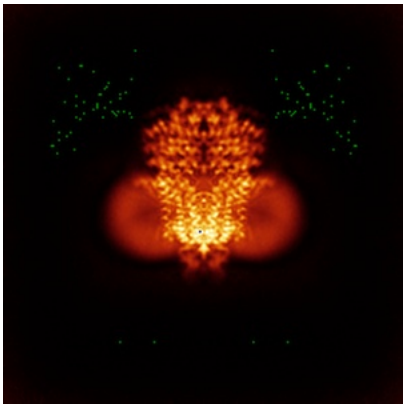


Y

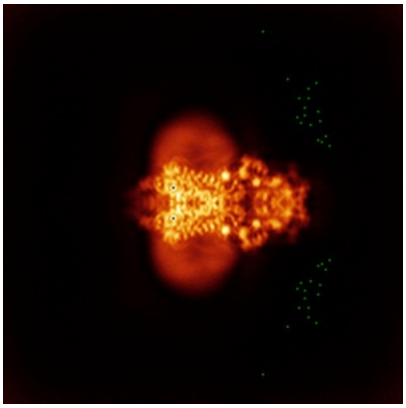


Z

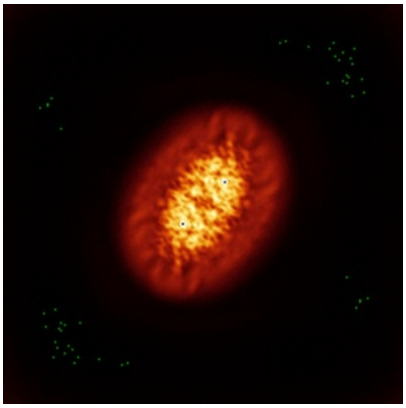
6.4.2 Raw map



X



Y



Z

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

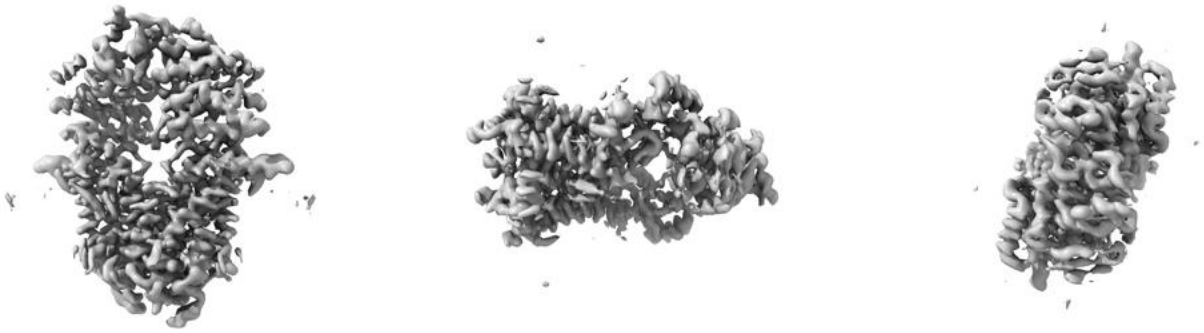
6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 1.0. 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.

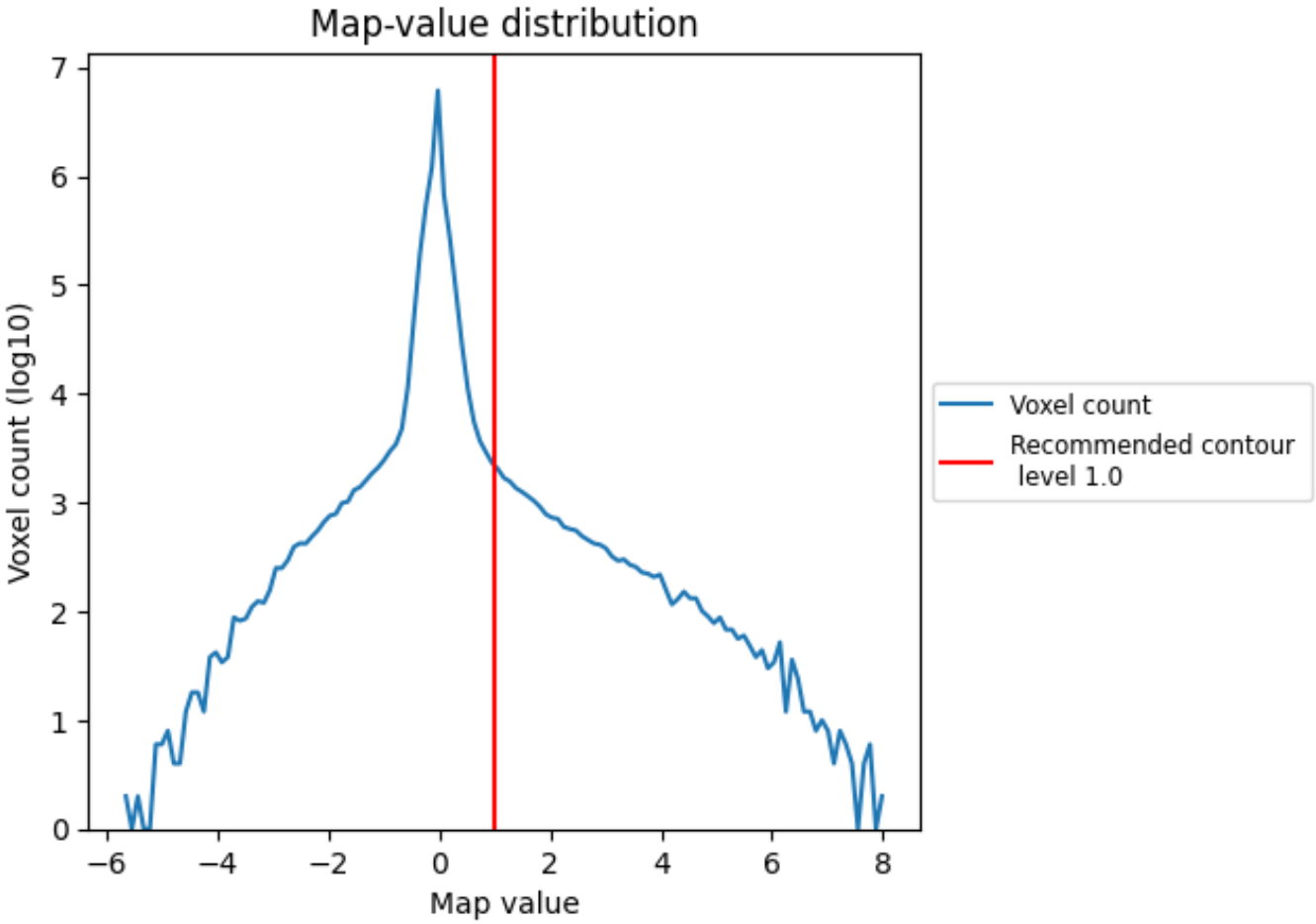
6.6 Mask visualisation (i)

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

7 Map analysis

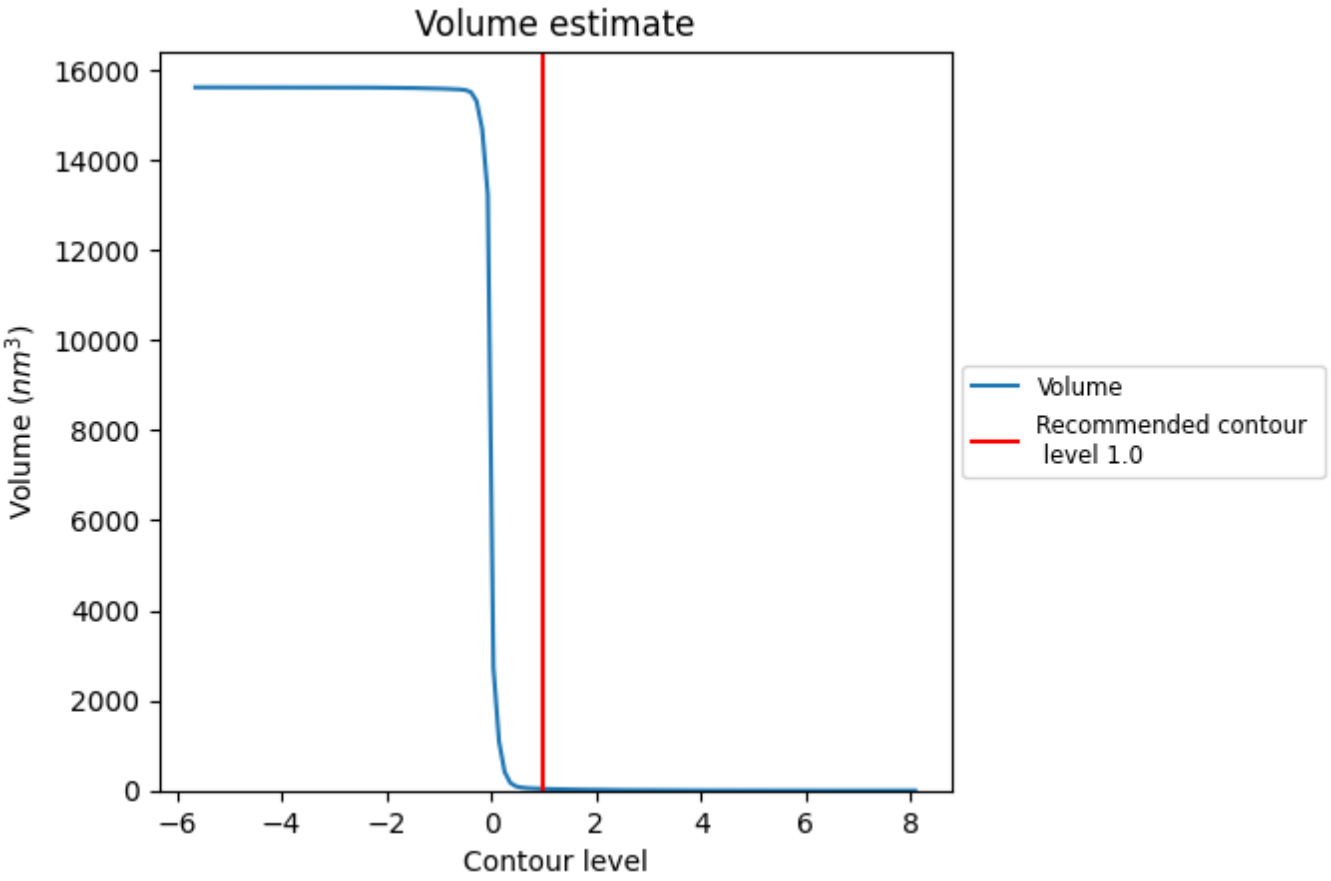
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

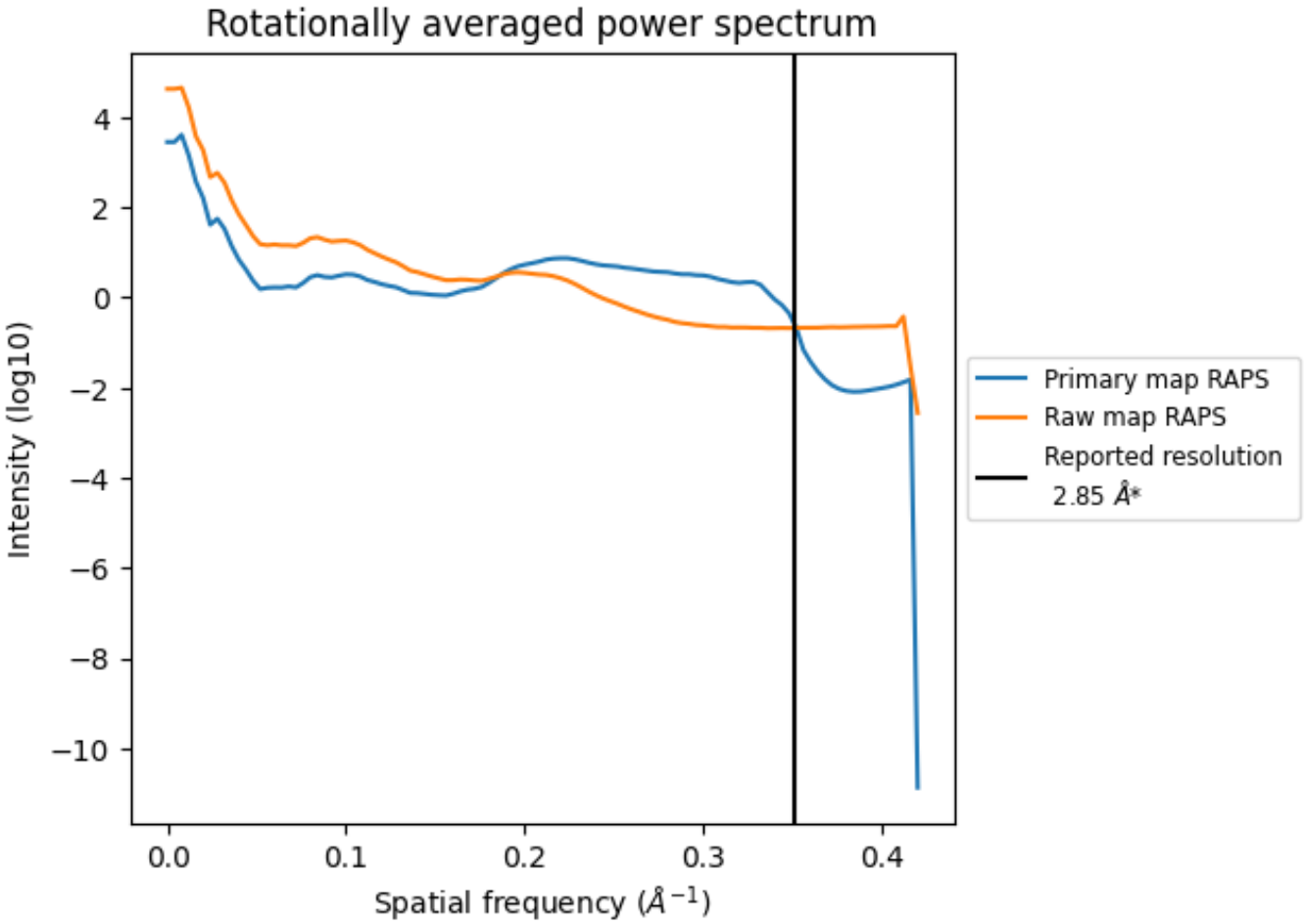
7.2 Volume estimate



The volume at the recommended contour level is 38 nm^3; this corresponds to an approximate mass of 34 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)

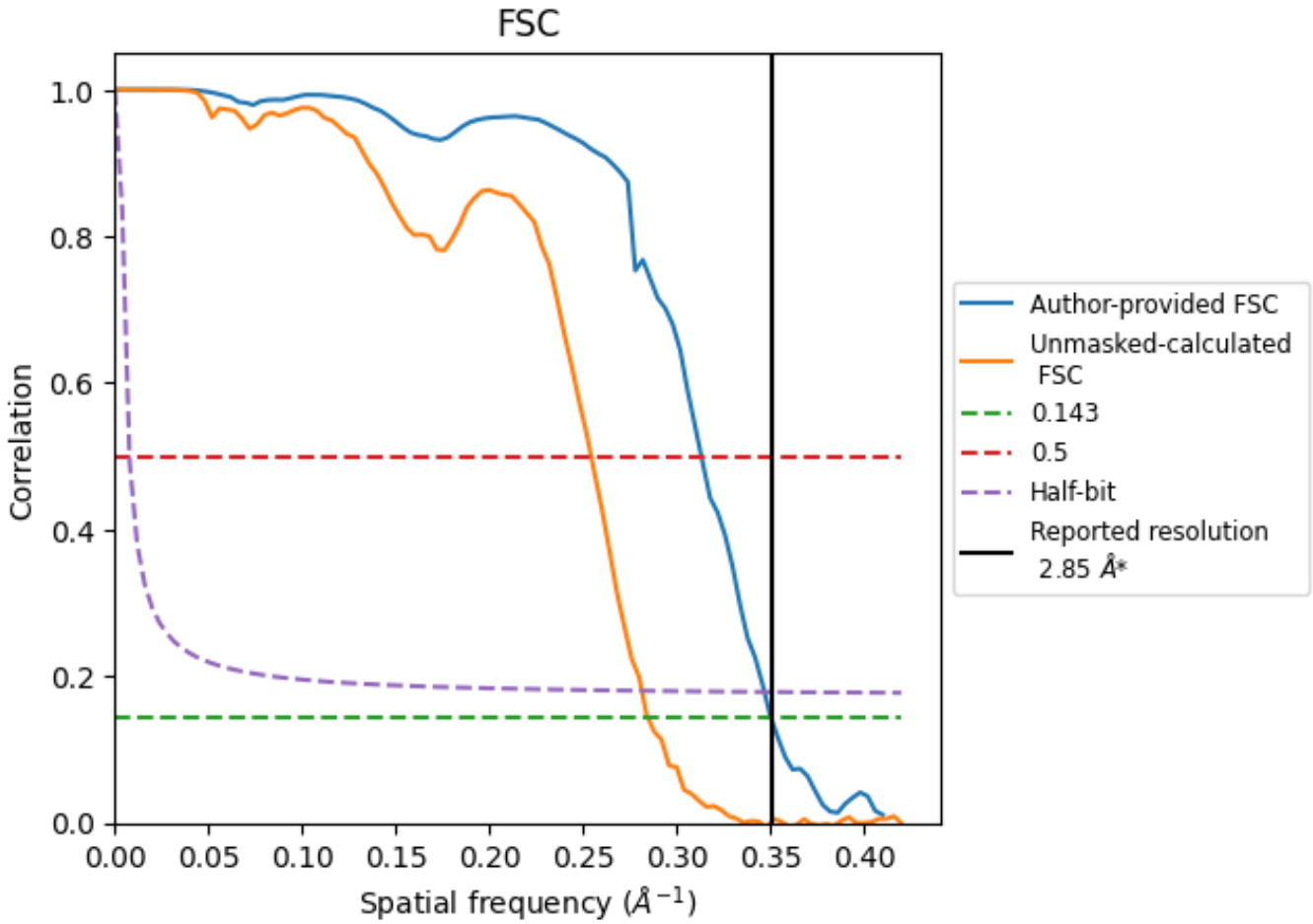


*Reported resolution corresponds to spatial frequency of 0.351 Å^{-1}

8 Fourier-Shell correlation

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

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.351 Å^{-1}

8.2 Resolution estimates (i)

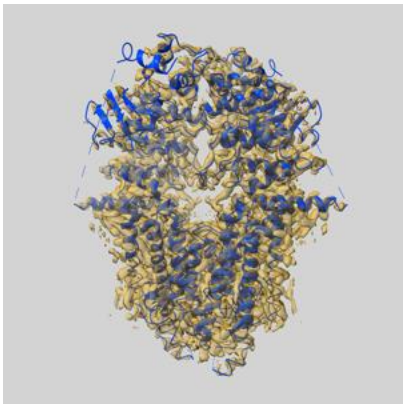
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.85	-	-
Author-provided FSC curve	2.85	3.19	2.88
Unmasked-calculated*	3.51	3.93	3.55

*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 3.51 differs from the reported value 2.85 by more than 10 %

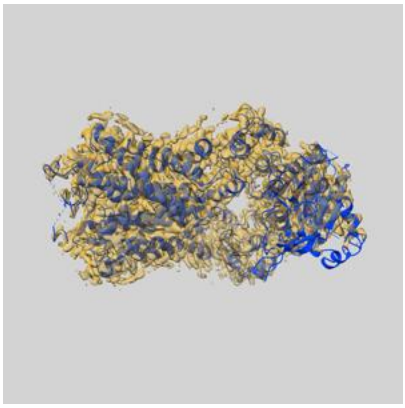
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-35146 and PDB model 8I39. Per-residue inclusion information can be found in section 3 on page 4.

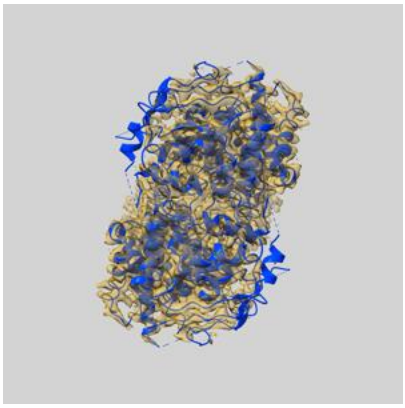
9.1 Map-model overlay



X



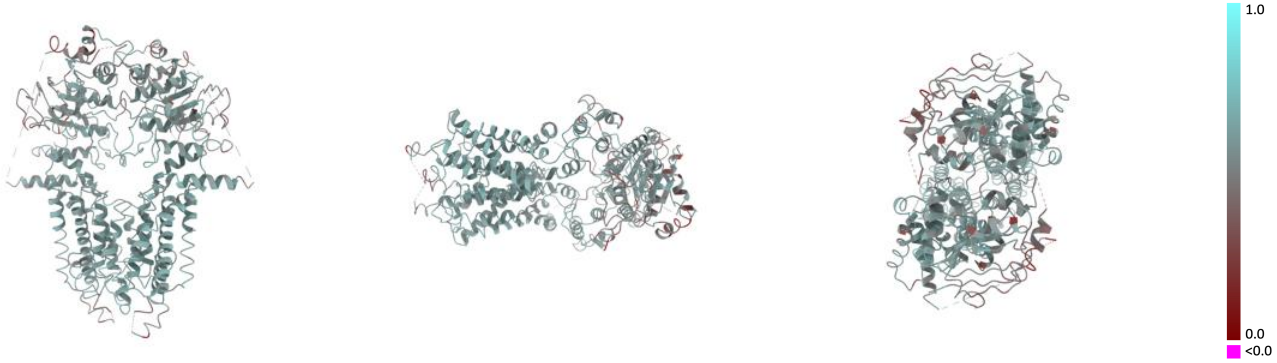
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 1.0 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.

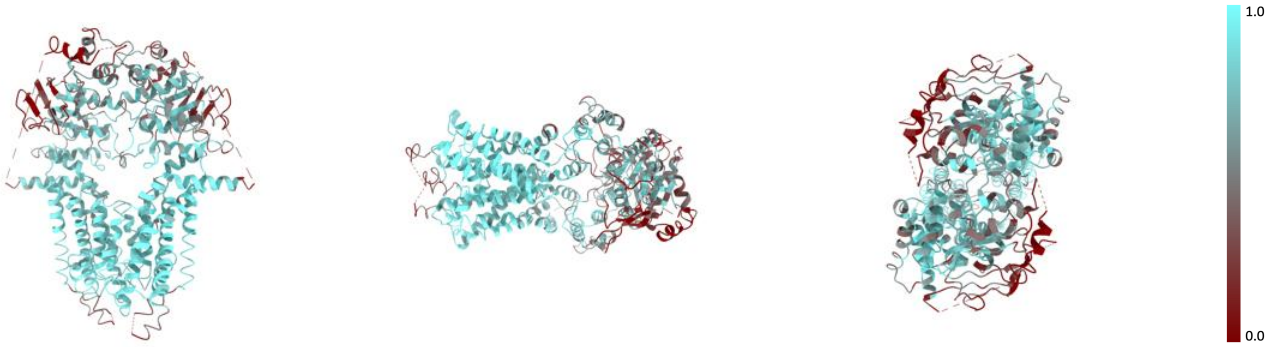
9.2 Q-score mapped to coordinate model



X Y Z

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

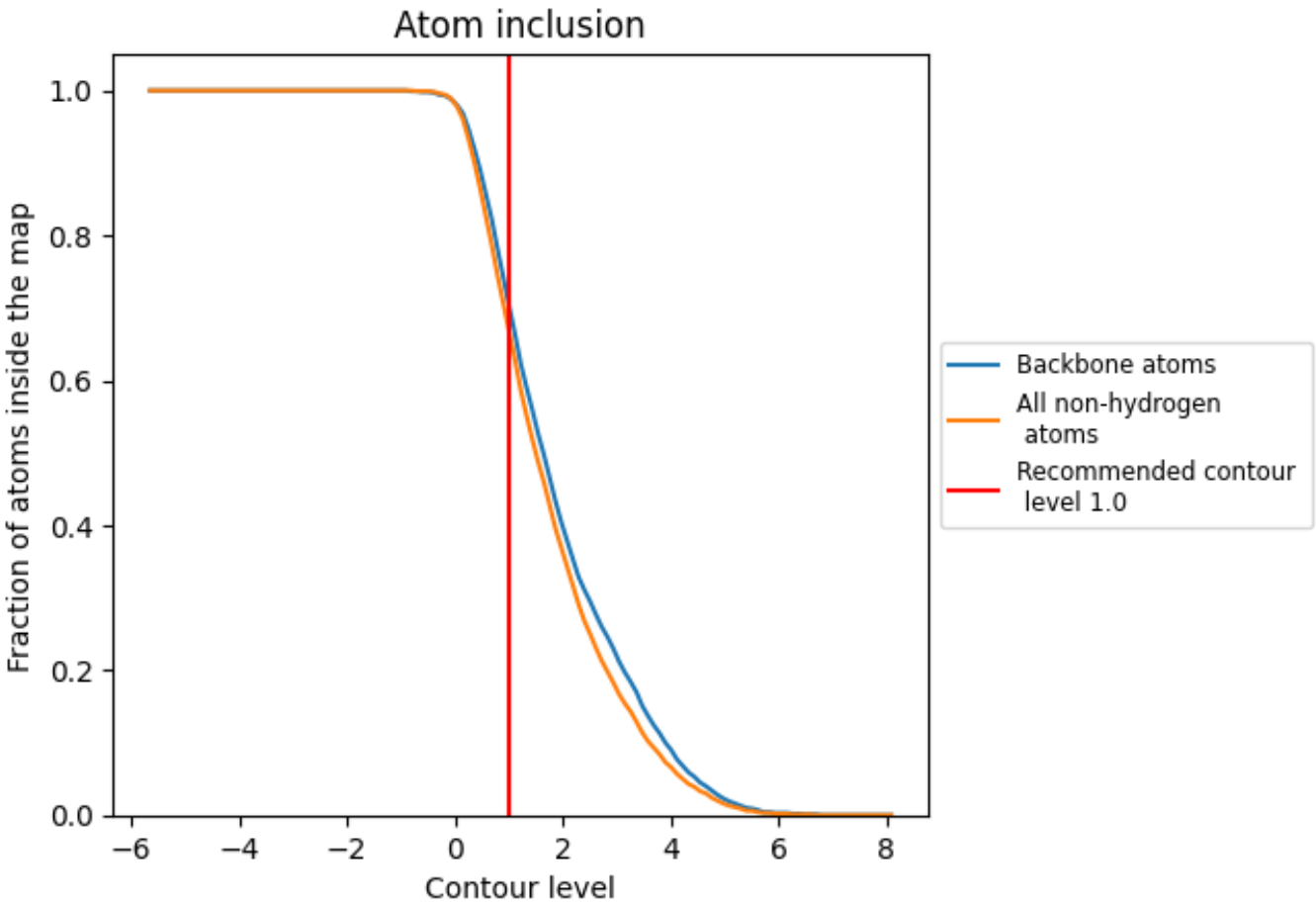
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (1.0).

9.4 Atom inclusion (i)



At the recommended contour level, 70% of all backbone atoms, 67% 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 (1.0) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6700	0.5460
A	0.6690	0.5470
B	0.6710	0.5460