



## Full wwPDB EM Validation Report ⓘ

Nov 10, 2024 – 12:17 pm GMT

PDB ID : 7PG3  
EMDB ID : EMD-13387  
Title : Low resolution Cryo-EM structure of the full-length insulin receptor bound to 3 insulin, conf 2  
Authors : Nielsen, J.A.; Slaaby, R.; Boesen, T.; Hummelshoj, T.; Brandt, J.; Schluckebier, G.; Nissen, P.  
Deposited on : 2021-08-12  
Resolution : 7.30 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](mailto: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>.

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

EMDB validation analysis : 0.0.1.dev113  
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) : 2.39

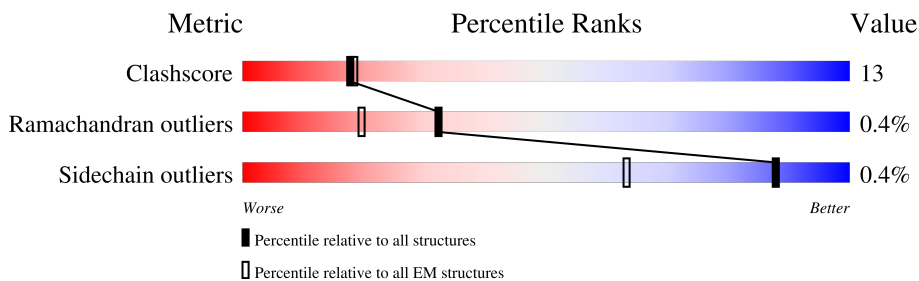
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 7.30 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  $\geq 3$ , 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	1382	
1	B	1382	
2	C	21	
2	E	21	
2	I	21	
3	D	30	
3	F	30	
3	J	30	

## 2 Entry composition i

There are 3 unique types of molecules in this entry. The entry contains 14030 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 Isoform Short of Insulin receptor.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	786	6340	4014	1099	1178	49	0	0
1	B	822	6631	4201	1139	1239	52	0	0

There are 24 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1344	GLU	-	expression tag	UNP P06213
A	1345	ASP	-	expression tag	UNP P06213
A	1346	GLN	-	expression tag	UNP P06213
A	1347	VAL	-	expression tag	UNP P06213
A	1348	ASP	-	expression tag	UNP P06213
A	1349	PRO	-	expression tag	UNP P06213
A	1350	ARG	-	expression tag	UNP P06213
A	1351	LEU	-	expression tag	UNP P06213
A	1352	ILE	-	expression tag	UNP P06213
A	1353	ASP	-	expression tag	UNP P06213
A	1354	GLY	-	expression tag	UNP P06213
A	1355	LYS	-	expression tag	UNP P06213
B	1344	GLU	-	expression tag	UNP P06213
B	1345	ASP	-	expression tag	UNP P06213
B	1346	GLN	-	expression tag	UNP P06213
B	1347	VAL	-	expression tag	UNP P06213
B	1348	ASP	-	expression tag	UNP P06213
B	1349	PRO	-	expression tag	UNP P06213
B	1350	ARG	-	expression tag	UNP P06213
B	1351	LEU	-	expression tag	UNP P06213
B	1352	ILE	-	expression tag	UNP P06213
B	1353	ASP	-	expression tag	UNP P06213
B	1354	GLY	-	expression tag	UNP P06213
B	1355	LYS	-	expression tag	UNP P06213

- Molecule 2 is a protein called Insulin.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	C	21	Total 163	C 99	N 25	O 35	S 4	0	0
2	E	21	Total 163	C 99	N 25	O 35	S 4	0	0
2	I	21	Total 163	C 99	N 25	O 35	S 4	0	0

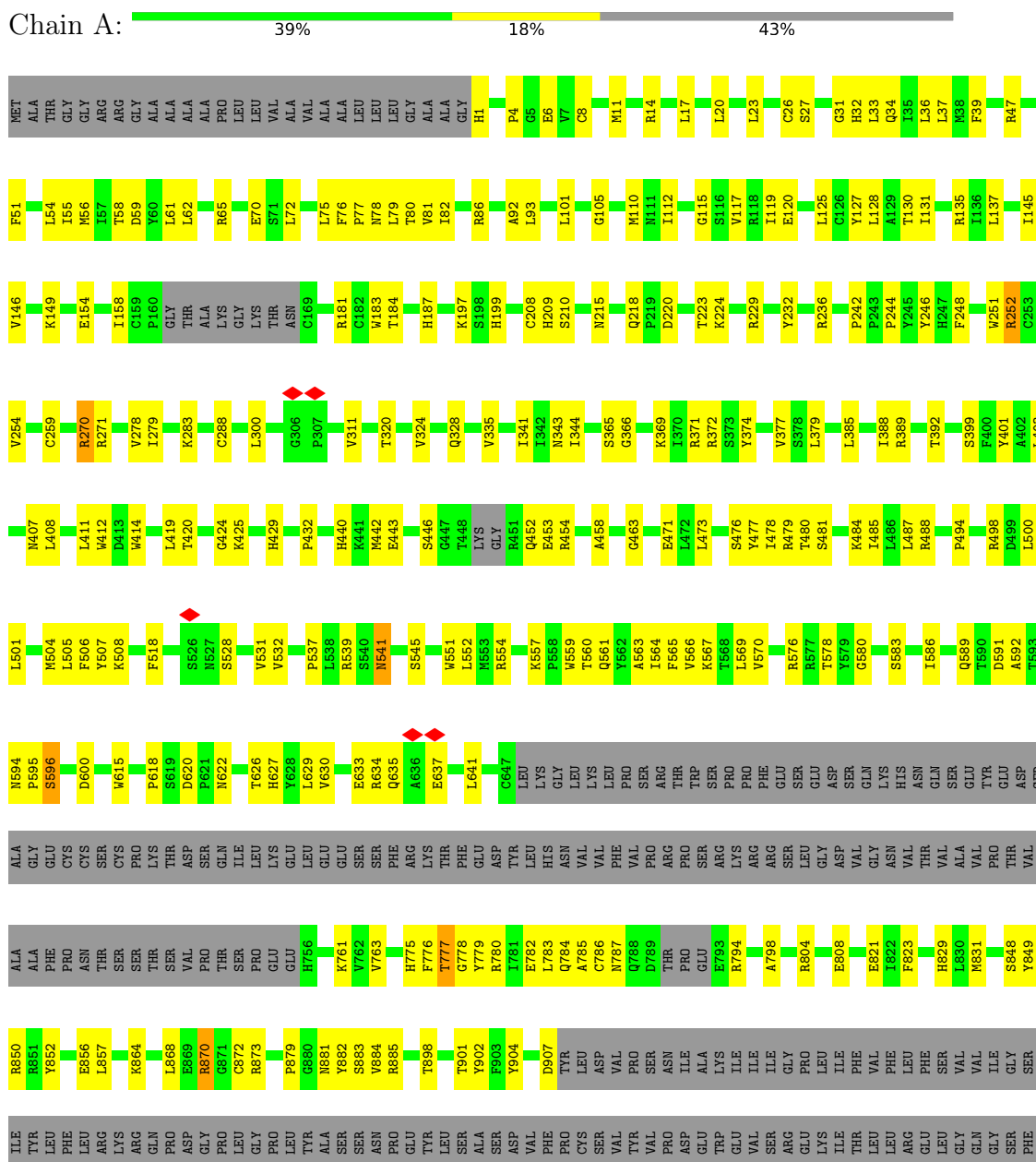
- Molecule 3 is a protein called Insulin.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	D	25	Total 200	C 129	N 34	O 35	S 2	0	0
3	F	23	Total 185	C 121	N 31	O 31	S 2	0	0
3	J	23	Total 185	C 121	N 31	O 31	S 2	0	0

### 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.

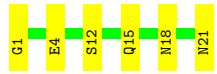
- Molecule 1: Isoform Short of Insulin receptor



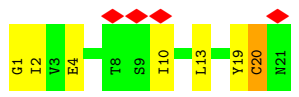


PRO	GLU	GLU	H756	R757	P758	K761	R780	I781	E782	C786	S802	M806	A811	T819	I822	V827	V828	H829	L830	M831	E837	P838	G840	L841	Y849	R850	R851	Y852	R863	F866	A867	L868	E869	R870	C871	C872	R873	L874	R875	G876	L877	S878	P879	G880	N881		
TYR	ALA	GLU	GLN	ASN	PRO	GLU	TYR	GLU	SER	ASP	TYR	LEU	VAL	PRO	ILE	ILE	ILE	ILE	GLY	PRO	LEU	ILE	PHE	VAL	PHE	PHE	VAL	VAL	VAL	GLY	ILE	TYR	LEU	PHE	LEU	ARG	LYS	ARG	GLN	PRO	ASP	GLY	PRO	LEU	PRO	LEU	
THR	ARG	VAL	ALA	SER	LYS	THR	VAL	ASN	GLU	ALA	GLU	ARG	ILE	GLU	PHE	LEU	MET	LYS	GLY	ASN	VAL	THR	HIS	HIS	VAL	ARG	LEU	VAL	GLY	GLN	THR	THR	VAL	VAL	VAL	VAL	VAL	VAL	GLU	LEU	MET	ALA	HIS	GLY	ASP	LEU	
LYS	SER	TYR	LEU	ARG	SER	LEU	ARG	PRO	GLU	ALA	GLU	ASN	PRO	PRO	TYR	LEU	GLN	MET	ASP	VAL	GLY	ALA	ALA	ALA	GLY	ALA	TYR	LEU	ASN	GLN	HIS	PRO	ARG	THR	LEU	ALA	ALA	VAL	ASN	ASN	GLY	VAL	MET	ALA	HIS	ASP	PHE
THR	VAL	ILE	GLY	ASP	PHE	GLY	MET	THR	THR	ARG	THR	GLY	THR	TYR	ASP	GLY	LEU	LEU	VAL	VAL	ARG	TRP	MET	ILE	ALA	ALA	ASP	ARG	VAL	VAL	THR	THR	SER	THR	SER	TRP	SER	PHE	GLY	VAL	VAL	VAL	TRP	GLY	ILE	THR	SER
LEU	ALA	GLU	GLN	PRO	TYR	GLN	GLY	LEU	VAL	VAL	PHE	MET	ASP	GLY	TYR	LEU	GLN	PRO	ASP	ASN	VAL	PRO	GLU	ARG	VAL	THR	LEU	MET	ARG	MET	CYS	THR	TRP	PHE	GLN	ASN	PRO	LYS	GLY	VAL	GLU	ILE	VAL	ASN	LEU	LEU	PHE
ASP	ASP	LEU	HIS	PRO	SER	PHE	PRO	VAL	VAL	PHE	HIS	SER	HIS	GLY	GLY	LEU	GLU	MET	MET	PHE	PRO	ASP	MET	GLN	VAL	PRO	LEU	ASP	SER	SER	HIS	CYS	GLN	ARG	GLU	GLY	ALA	GLY	GLY	ARG	ASP	GLY	GLY	SER	LEU	LEU	PHE
LYS	ARG	SER	TYR	GLU	GLU	HIS	ILE	PRO	THR	THR	HIS	MET	ASN	GLY	GLY	LYS	ASN	GLY	ARG	ILE	LEU	THR	LEU	PRO	ARG	ARG	LEU	ILE	GLY	LYS	GLN	ARG	GLU	GLY	ALA	GLY	GLY	ARG	ASP	GLY	GLY	SER	LEU	LEU	LEU	PHE	

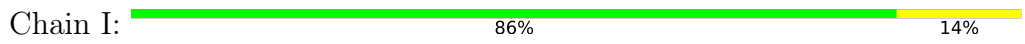
● Molecule 2: Insulin



● Molecule 2: Insulin



● Molecule 2: Insulin



● Molecule 3: Insulin





- Molecule 3: Insulin



- Molecule 3: Insulin





## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	32694	Depositor
Resolution determination method	OTHER	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	60	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.346	Depositor
Minimum map value	-0.049	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.013	Depositor
Recommended contour level	0.125	Depositor
Map size (Å)	457.716, 457.716, 457.716	wwPDB
Map dimensions	420, 420, 420	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.0898, 1.0898, 1.0898	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	0.25	0/6496	0.59	1/8811 (0.0%)
1	B	0.26	0/6794	0.60	1/9213 (0.0%)
2	C	0.28	0/164	0.47	0/220
2	E	0.24	0/164	0.59	0/220
2	I	0.22	0/164	0.49	0/220
3	D	0.25	0/205	0.53	0/276
3	F	0.29	0/190	0.58	0/255
3	J	0.25	0/190	0.42	0/255
All	All	0.25	0/14367	0.59	2/19470 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	228	CYS	CA-CB-SG	5.43	123.77	114.00
1	A	110	MET	CA-CB-CG	5.16	122.06	113.30

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	6340	0	6134	161	0
1	B	6631	0	6398	192	0
2	C	163	0	149	5	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	E	163	0	149	9	0
2	I	163	0	149	3	0
3	D	200	0	184	3	0
3	F	185	0	171	9	0
3	J	185	0	171	2	0
All	All	14030	0	13505	364	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 13.

All (364) 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:B:819:THR:HB	1:B:831:MET:HB2	1.53	0.91
1:A:54:LEU:H	1:A:78:ASN:HD21	1.17	0.87
1:B:209:HIS:HB2	1:B:220:ASP:HA	1.59	0.84
1:A:507:TYR:HB2	1:A:564:ILE:HG12	1.69	0.75
1:A:505:LEU:HB3	1:A:532:VAL:HB	1.69	0.75
1:B:878:SER:HG	1:B:882:TYR:HH	1.28	0.74
1:A:72:LEU:HB2	1:A:105:GLY:H	1.52	0.74
1:A:637:GLU:HB3	1:A:641:LEU:HD12	1.70	0.73
1:A:232:TYR:H	1:A:252:ARG:HA	1.53	0.73
1:B:851:ARG:HH21	1:B:852:TYR:HB2	1.54	0.73
1:A:199:HIS:HB3	1:A:210:SER:HA	1.69	0.72
1:B:380:SER:O	1:B:383:ARG:NH1	2.22	0.72
1:B:245:TYR:HB3	1:B:253:CYS:HB3	1.70	0.71
1:A:80:THR:HG21	1:A:215:ASN:H	1.56	0.71
1:B:362:GLU:HG2	1:B:384:LYS:HB3	1.72	0.71
1:A:218:GLN:HB2	1:A:224:LYS:HD2	1.73	0.70
1:B:413:ASP:HB3	1:B:416:LYS:HG2	1.74	0.70
1:B:72:LEU:HB2	1:B:105:GLY:H	1.57	0.69
1:B:473:LEU:HB2	1:B:583:SER:HB3	1.74	0.69
1:B:850:ARG:HH22	1:B:885:ARG:HG3	1.57	0.69
1:B:92:ALA:HB2	1:B:115:GLY:HA3	1.75	0.69
1:B:249:GLN:HE22	1:B:277:TYR:HE1	1.40	0.68
1:B:232:TYR:H	1:B:252:ARG:HA	1.59	0.67
1:B:79:LEU:HD21	1:B:82:ILE:HD11	1.75	0.67
1:B:476:SER:H	1:B:489:TRP:HA	1.60	0.67
1:A:559:TRP:HB2	1:A:592:ALA:HB2	1.77	0.67
1:A:208:CYS:HA	1:A:220:ASP:H	1.59	0.66
1:B:369:LYS:HD2	1:B:371:ARG:HH11	1.61	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:86:ARG:HE	1:B:87:LEU:H	1.42	0.65
1:B:447:GLY:O	1:B:451:ARG:NH1	2.29	0.65
1:A:484:LYS:HB3	1:A:552:LEU:HD11	1.77	0.65
1:B:554:ARG:HD2	2:I:10:ILE:HG23	1.78	0.65
1:B:881:ASN:HD21	1:B:902:TYR:HB3	1.61	0.65
1:A:184:THR:HB	1:A:187:HIS:HB2	1.79	0.65
1:B:231:PHE:O	1:B:238:VAL:N	2.26	0.64
1:A:279:ILE:HB	1:A:300:LEU:HD23	1.79	0.64
1:B:371:ARG:HA	1:B:403:LEU:HG	1.79	0.64
1:B:872:CYS:SG	1:B:873:ARG:N	2.70	0.64
1:B:866:PHE:O	1:B:870:ARG:N	2.30	0.63
1:A:27:SER:HB2	1:A:55:ILE:HG12	1.79	0.63
1:A:850:ARG:HB2	1:A:856:GLU:HG2	1.79	0.63
1:A:565:PHE:HE2	1:A:567:LYS:HE2	1.64	0.63
1:B:183:TRP:NE1	1:B:189:GLN:OE1	2.27	0.63
1:A:146:VAL:HG21	1:B:702:ARG:HE	1.63	0.62
1:A:372:ARG:NH2	1:B:697:GLU:OE2	2.32	0.62
1:B:266:CYS:HB2	1:B:276:GLN:HG3	1.82	0.61
1:B:879:PRO:HA	1:B:905:VAL:O	2.00	0.61
3:D:6:LEU:HB3	3:D:11:LEU:HD13	1.82	0.61
1:A:633:GLU:HG2	1:A:780:ARG:HB3	1.82	0.61
1:A:596:SER:HB2	1:A:618:PRO:HB3	1.83	0.61
1:A:778:GLY:H	1:A:804:ARG:HH21	1.49	0.61
1:B:77:PRO:HA	1:B:106:LEU:HD23	1.82	0.61
1:B:372:ARG:HA	1:B:404:ASP:HB3	1.81	0.60
1:A:47:ARG:NH2	1:A:70:GLU:OE2	2.33	0.60
1:B:436:LEU:HD22	1:B:459:LEU:HD22	1.82	0.60
1:B:370:ILE:HB	1:B:402:ALA:HA	1.83	0.60
1:A:341:ILE:HG23	1:A:369:LYS:HG2	1.82	0.60
1:B:128:LEU:HB2	1:B:150:ASP:OD2	2.01	0.60
1:B:212:CYS:HA	1:B:228:CYS:SG	2.41	0.60
1:A:399:SER:OG	1:A:424:GLY:HA3	2.02	0.60
1:A:320:THR:HG22	1:A:341:ILE:HB	1.84	0.59
1:B:7:VAL:HG21	1:B:252:ARG:HH12	1.67	0.59
1:A:14:ARG:HD3	1:A:37:LEU:HD12	1.83	0.59
1:A:54:LEU:O	1:A:78:ASN:ND2	2.36	0.59
1:A:787:ASN:HD21	1:A:794:ARG:HH21	1.49	0.59
1:B:873:ARG:O	1:B:875:ARG:NH1	2.36	0.59
1:A:135:ARG:HD2	1:A:197:LYS:HE3	1.84	0.59
1:B:277:TYR:HA	1:B:286:PRO:HA	1.83	0.59
1:B:488:ARG:HH11	1:B:548:HIS:HB2	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:15:LEU:HD23	3:F:26:TYR:HD1	1.68	0.59
1:A:784:GLN:HB3	1:A:798:ALA:HB2	1.85	0.59
1:A:365:SER:HA	1:A:389:ARG:HE	1.68	0.58
1:A:885:ARG:NE	1:A:898:THR:O	2.34	0.58
1:B:683:CYS:HG	3:J:5:HIS:CE1	2.21	0.58
1:A:242:PRO:HB2	1:A:244:PRO:HD2	1.86	0.58
1:A:479:ARG:CZ	3:F:17:LEU:HB3	2.34	0.58
1:B:521:GLN:HB3	1:B:527:ASN:HA	1.85	0.58
1:B:685:CYS:SG	1:B:686:PRO:HD2	2.44	0.58
1:A:408:LEU:HD21	1:A:411:LEU:HD23	1.85	0.57
1:B:442:MET:O	1:B:446:SER:OG	2.13	0.57
1:A:369:LYS:HE2	1:A:371:ARG:HD2	1.86	0.57
1:B:572:PHE:HB3	1:B:576:ARG:HA	1.86	0.57
1:A:872:CYS:SG	1:A:873:ARG:N	2.78	0.57
1:A:379:LEU:O	1:A:412:TRP:NE1	2.38	0.57
1:A:248:PHE:HB3	1:A:252:ARG:HH12	1.69	0.57
1:A:566:VAL:H	1:A:583:SER:HB2	1.70	0.56
1:A:130:THR:HB	1:A:181:ARG:HA	1.86	0.56
1:A:251:TRP:CE2	1:A:252:ARG:HD2	2.40	0.56
1:B:231:PHE:CE1	1:B:247:HIS:HB3	2.39	0.56
1:A:34:GLN:HG2	1:A:62:LEU:HB3	1.87	0.56
1:B:183:TRP:CD1	1:B:189:GLN:HB2	2.40	0.56
1:A:248:PHE:HB3	1:A:252:ARG:NH1	2.20	0.56
1:B:341:ILE:HD13	1:B:371:ARG:HH12	1.71	0.56
1:A:868:LEU:O	1:A:870:ARG:NH1	2.39	0.56
1:B:822:ILE:HG12	1:B:828:VAL:HG22	1.88	0.56
1:B:386:ARG:HH12	1:B:417:HIS:CE1	2.24	0.55
1:B:780:ARG:HH21	1:B:802:SER:HB2	1.71	0.55
1:A:518:PHE:HB3	1:A:567:LYS:HE3	1.86	0.55
1:B:641:LEU:HB3	1:B:841:LEU:HD21	1.89	0.55
1:A:881:ASN:HA	1:A:904:TYR:HA	1.88	0.55
1:B:830:LEU:O	1:B:831:MET:HE2	2.05	0.54
1:A:119:ILE:HD12	1:A:145:ILE:HG12	1.89	0.54
1:A:432:PRO:HA	1:A:463:GLY:H	1.72	0.54
1:A:849:TYR:HA	1:A:884:VAL:HA	1.89	0.54
1:A:557:LYS:O	1:A:560:THR:OG1	2.25	0.54
1:B:89:PHE:HD2	1:B:118:ARG:HH22	1.56	0.54
1:B:516:THR:HG23	1:B:518:PHE:H	1.71	0.54
1:A:27:SER:O	1:A:55:ILE:N	2.40	0.54
1:B:386:ARG:NH1	1:B:418:ASN:H	2.06	0.54
1:B:342:ILE:HD12	1:B:368:LEU:HD11	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:2:ILE:HG13	3:F:11:LEU:HD21	1.90	0.54
1:B:291:GLY:O	1:B:304:CYS:N	2.42	0.53
1:B:30:GLU:OE2	1:B:262:LEU:HD13	2.08	0.53
1:A:279:ILE:HA	1:A:283:LYS:O	2.07	0.53
1:A:780:ARG:NH1	1:A:782:GLU:OE1	2.42	0.53
1:B:432:PRO:HA	1:B:463:GLY:H	1.74	0.53
1:B:811:ALA:O	1:B:839:ASN:ND2	2.42	0.53
1:B:202:THR:OG1	1:B:216:CYS:SG	2.63	0.53
1:B:7:VAL:HG11	1:B:252:ARG:HH22	1.74	0.53
1:B:213:LEU:HD22	1:B:229:ARG:HD2	1.90	0.53
1:A:539:ARG:HG3	1:A:541:ASN:H	1.74	0.53
1:B:532:VAL:HG11	1:B:551:TRP:CE2	2.43	0.53
1:B:595:PRO:HG3	1:B:786:CYS:HA	1.92	0.52
1:B:827:VAL:HG22	1:B:875:ARG:HG3	1.92	0.52
1:B:642:PHE:HD2	1:B:863:ARG:HH12	1.56	0.52
1:B:223:THR:HA	1:B:236:ARG:HB2	1.92	0.52
1:A:72:LEU:HB2	1:A:105:GLY:N	2.24	0.52
1:B:104:LEU:O	1:B:183:TRP:HB3	2.10	0.52
1:A:776:PHE:O	1:A:777:THR:OG1	2.27	0.52
1:B:231:PHE:HE1	1:B:250:ASP:HA	1.74	0.52
1:A:852:TYR:HE2	1:A:881:ASN:HB3	1.74	0.52
1:B:322:ASP:HB3	1:B:343:ASN:HB3	1.91	0.52
1:B:714:PHE:O	2:C:1:GLY:N	2.35	0.52
1:A:627:HIS:HA	1:A:763:VAL:HA	1.93	0.51
1:B:93:LEU:HB3	1:B:117:VAL:HG22	1.90	0.51
1:B:130:THR:HA	1:B:178:PHE:HD2	1.75	0.51
1:B:355:GLU:HG3	1:B:381:PHE:HA	1.91	0.51
1:B:868:LEU:O	1:B:870:ARG:NH1	2.43	0.51
1:B:80:THR:HG23	1:B:215:ASN:H	1.75	0.51
1:B:398:TYR:HE1	1:B:456:ASP:HB3	1.75	0.51
1:B:80:THR:HG22	1:B:81:VAL:HG23	1.91	0.51
1:A:440:HIS:CE1	1:A:576:ARG:HB3	2.46	0.51
1:A:775:HIS:ND1	1:A:808:GLU:OE1	2.44	0.51
1:B:486:LEU:HB2	1:B:552:LEU:HD13	1.93	0.51
1:A:344:ILE:HG23	1:A:374:TYR:H	1.76	0.51
1:A:592:ALA:HB1	1:A:622:ASN:HB3	1.93	0.51
1:B:23:LEU:HD22	1:B:29:ILE:HG12	1.93	0.51
1:A:848:SER:HA	1:A:857:LEU:O	2.11	0.51
1:B:339:SER:HB2	1:B:392:THR:OG1	2.11	0.51
1:A:596:SER:OG	1:A:620:ASP:HB2	2.11	0.51
1:B:505:LEU:HB2	1:B:534:ILE:HD11	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:31:GLY:N	1:A:58:THR:OG1	2.42	0.50
1:A:51:PHE:HB3	1:A:76:PHE:CE2	2.46	0.50
1:B:295:ASN:O	1:B:299:LEU:HA	2.11	0.50
1:B:537:PRO:HG3	1:B:549:PRO:HG3	1.93	0.50
1:B:718:PRO:HD3	3:D:25:PHE:HE1	1.75	0.50
1:A:484:LYS:HD2	1:A:554:ARG:HG2	1.93	0.50
1:B:209:HIS:CG	1:B:210:SER:H	2.30	0.50
1:A:881:ASN:HD21	1:A:902:TYR:HB3	1.76	0.50
1:A:635:GLN:O	1:A:777:THR:HB	2.12	0.50
1:A:130:THR:HA	1:A:181:ARG:HH11	1.77	0.49
1:B:23:LEU:HD13	1:B:29:ILE:HD13	1.93	0.49
1:A:864:LYS:H	1:A:864:LYS:HD2	1.77	0.49
1:B:717:ARG:HG3	2:C:18:ASN:O	2.12	0.49
2:E:20:CYS:H	3:F:25:PHE:HB3	1.77	0.49
1:B:248:PHE:HB2	1:B:254:VAL:HG22	1.93	0.49
1:B:504:MET:HB3	1:B:506:PHE:HE1	1.78	0.49
1:B:551:TRP:HZ3	2:I:12:SER:HA	1.78	0.49
1:B:258:PHE:O	1:B:262:LEU:HG	2.13	0.49
1:B:242:PRO:O	1:B:245:TYR:HB2	2.12	0.49
1:A:246:TYR:HB3	1:A:283:LYS:HA	1.94	0.49
1:B:811:ALA:HB3	1:B:837:GLU:HB2	1.94	0.49
1:A:629:LEU:HA	1:A:761:LYS:HG2	1.95	0.48
1:B:95:ILE:HG23	1:B:98:MET:SD	2.53	0.48
1:B:559:TRP:N	1:B:590:THR:OG1	2.46	0.48
1:B:605:SER:HA	1:B:611:ILE:HG12	1.95	0.48
1:A:539:ARG:NH1	1:A:545:SER:OG	2.46	0.48
1:A:481:SER:O	1:A:591:ASP:HB2	2.13	0.48
1:B:632:TRP:CE2	1:B:758:PRO:HB2	2.48	0.48
1:B:711:ASN:ND2	2:C:4:GLU:OE2	2.47	0.48
1:A:278:VAL:HG21	1:A:288:CYS:SG	2.54	0.48
1:A:479:ARG:NH1	3:F:17:LEU:HB3	2.28	0.48
1:B:378:SER:HB3	1:B:522:ASP:CG	2.34	0.48
1:A:127:TYR:OH	1:A:158:ILE:O	2.30	0.48
1:A:787:ASN:HD21	1:A:794:ARG:HE	1.60	0.48
1:B:36:LEU:HD11	2:E:1:GLY:HA3	1.94	0.48
1:A:504:MET:SD	1:A:569:LEU:HB2	2.53	0.48
1:B:73:LYS:HB3	1:B:105:GLY:HA3	1.95	0.48
1:B:466:ALA:HA	1:B:576:ARG:HH21	1.78	0.48
1:B:225:CYS:HB3	1:B:228:CYS:SG	2.54	0.48
1:B:375:ALA:H	1:B:407:ASN:HD21	1.62	0.47
1:A:341:ILE:HG12	1:A:369:LYS:HB3	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:551:TRP:HA	2:E:13:LEU:HD13	1.95	0.47
1:A:477:TYR:O	1:A:487:LEU:HA	2.14	0.47
1:B:504:MET:HE3	1:B:569:LEU:HB2	1.96	0.47
2:E:19:TYR:O	2:E:20:CYS:HB2	2.14	0.47
1:B:137:LEU:HD11	1:B:143:ASN:HD21	1.79	0.47
1:B:241:CYS:HB2	1:B:247:HIS:CE1	2.50	0.47
1:A:478:ILE:HA	1:A:487:LEU:HD23	1.95	0.47
1:A:883:SER:HA	1:A:901:THR:O	2.14	0.47
1:A:494:PRO:HB3	1:A:578:THR:HG21	1.96	0.47
1:A:112:ILE:HB	1:A:137:LEU:HG	1.97	0.47
1:B:76:PHE:HE2	1:B:79:LEU:HB2	1.79	0.47
1:A:11:MET:SD	1:A:23:LEU:HD21	2.54	0.47
1:B:508:LYS:O	1:B:563:ALA:N	2.47	0.47
1:A:476:SER:N	1:A:488:ARG:O	2.28	0.46
1:A:563:ALA:HA	1:A:586:ILE:O	2.14	0.46
1:A:626:THR:OG1	1:A:786:CYS:O	2.24	0.46
1:B:209:HIS:CG	1:B:210:SER:N	2.83	0.46
1:B:849:TYR:HA	1:B:883:SER:O	2.15	0.46
1:A:251:TRP:CD2	1:A:252:ARG:HD2	2.51	0.46
1:A:385:LEU:HD21	1:A:388:ILE:HD11	1.97	0.46
1:B:483:ASP:O	1:B:555:GLY:HA2	2.16	0.46
1:B:93:LEU:HD23	1:B:117:VAL:HG13	1.97	0.46
1:B:213:LEU:HB3	1:B:227:ALA:O	2.16	0.46
1:A:223:THR:HG22	1:A:236:ARG:HD2	1.97	0.46
3:F:12:VAL:HG22	3:F:26:TYR:CZ	2.50	0.46
1:A:72:LEU:HD12	1:A:101:LEU:HD11	1.98	0.46
1:B:280:HIS:HB2	1:B:301:CYS:SG	2.56	0.46
1:B:231:PHE:CE1	1:B:250:ASP:HA	2.50	0.45
1:B:369:LYS:HG2	1:B:371:ARG:HG2	1.97	0.45
1:B:507:TYR:HB2	1:B:564:ILE:HG13	1.98	0.45
1:A:270:ARG:HD3	1:A:271:ARG:HG2	1.99	0.45
1:A:377:VAL:HA	1:A:407:ASN:O	2.17	0.45
1:B:510:ALA:HA	1:B:515:VAL:HG21	1.98	0.45
1:A:120:GLU:HA	1:A:146:VAL:O	2.17	0.45
1:A:366:GLY:HA2	1:A:392:THR:HB	1.98	0.45
1:A:401:TYR:HE2	1:A:403:LEU:HD22	1.80	0.45
1:A:600:ASP:O	1:A:615:TRP:HA	2.16	0.45
1:A:20:LEU:HD13	1:A:51:PHE:HZ	1.80	0.45
1:A:75:LEU:O	1:A:77:PRO:HD3	2.17	0.45
1:B:32:HIS:HB3	1:B:275:HIS:CE1	2.51	0.45
1:B:559:TRP:CB	1:B:622:ASN:HA	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:103:GLU:HG2	1:B:127:TYR:CD1	2.51	0.45
1:A:634:ARG:HE	1:A:779:TYR:HE1	1.63	0.45
1:B:32:HIS:HA	1:B:59:ASP:HB2	1.98	0.45
2:E:20:CYS:SG	3:F:24:PHE:HA	2.57	0.45
1:A:429:HIS:CD2	1:A:458:ALA:HB2	2.52	0.45
1:A:442:MET:SD	1:A:443:GLU:N	2.90	0.45
1:B:600:ASP:HB2	1:B:616:LYS:HD3	1.99	0.45
1:A:79:LEU:HD21	1:A:82:ILE:HD11	1.99	0.45
1:B:116:SER:HB2	1:B:142:ASP:HB3	1.99	0.45
1:A:92:ALA:HB2	1:A:115:GLY:HA3	1.98	0.45
1:A:595:PRO:HG3	1:A:785:ALA:C	2.37	0.45
1:B:34:GLN:NE2	2:E:4:GLU:OE1	2.50	0.45
1:B:435:CYS:SG	1:B:437:SER:OG	2.70	0.45
1:A:500:LEU:HA	1:A:570:VAL:HG12	1.99	0.44
3:J:6:LEU:HD22	3:J:10:HIS:HB3	1.99	0.44
1:B:883:SER:HB2	1:B:900:PRO:HB3	2.00	0.44
1:B:14:ARG:HE	1:B:37:LEU:HD12	1.82	0.44
1:B:232:TYR:OH	1:B:235:GLY:HA2	2.17	0.44
1:A:821:GLU:HB2	1:A:829:HIS:HB3	2.00	0.44
1:B:248:PHE:HB3	1:B:252:ARG:HG2	1.99	0.44
1:B:426:LEU:HB2	1:B:457:ILE:HD11	1.99	0.44
1:B:629:LEU:HD13	1:B:761:LYS:HE2	1.99	0.44
1:A:208:CYS:SG	1:A:209:HIS:N	2.90	0.44
1:B:884:VAL:O	1:B:900:PRO:HA	2.17	0.44
1:A:532:VAL:HG11	1:A:551:TRP:HE1	1.82	0.44
1:B:471:GLU:H	1:B:581:ALA:HA	1.83	0.44
1:B:851:ARG:HE	1:B:852:TYR:N	2.15	0.44
1:A:471:GLU:HB2	1:A:580:GLY:O	2.18	0.44
1:B:280:HIS:HB3	1:B:285:ILE:HD11	2.00	0.44
1:A:32:HIS:N	1:A:59:ASP:HB2	2.33	0.44
1:B:60:TYR:CG	1:B:88:PHE:HB2	2.52	0.44
1:A:561:GLN:HA	1:A:589:GLN:HA	2.00	0.44
1:B:409:ARG:O	1:B:410:GLN:NE2	2.51	0.44
1:A:311:VAL:HA	1:A:335:VAL:HB	2.00	0.43
1:A:480:THR:OG1	1:A:485:ILE:HG12	2.18	0.43
1:B:3:TYR:CE2	1:B:55:ILE:HB	2.52	0.43
1:B:484:LYS:HB3	1:B:552:LEU:HD11	1.99	0.43
1:B:92:ALA:H	1:B:116:SER:H	1.66	0.43
1:B:625:ILE:HG21	1:B:628:TYR:CZ	2.53	0.43
1:A:8:CYS:HB3	1:A:11:MET:HE1	2.01	0.43
1:A:51:PHE:HB3	1:A:76:PHE:CD2	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:508:LYS:HD3	1:A:528:SER:O	2.18	0.43
1:B:471:GLU:O	1:B:582:LYS:N	2.38	0.43
1:A:39:PHE:CE1	1:A:65:ARG:HG3	2.53	0.43
1:A:343:ASN:OD1	1:A:344:ILE:N	2.51	0.43
1:A:500:LEU:HD21	1:A:537:PRO:HD2	2.00	0.43
1:B:377:VAL:HG13	1:B:409:ARG:HG2	2.01	0.43
1:A:452:GLN:O	1:A:453:GLU:HB2	2.17	0.43
1:A:506:PHE:CE1	1:A:531:VAL:HG22	2.53	0.43
1:A:829:HIS:CD2	1:A:831:MET:SD	3.11	0.43
2:E:10:ILE:HD11	3:F:5:HIS:CE1	2.53	0.43
1:B:442:MET:O	1:B:446:SER:CB	2.66	0.43
1:B:707:ASP:OD1	1:B:708:TYR:N	2.51	0.43
1:B:877:LEU:HB3	1:B:905:VAL:HG11	2.00	0.43
1:A:86:ARG:HH22	1:A:328:GLN:HB3	1.83	0.43
1:B:212:CYS:SG	1:B:216:CYS:HB3	2.59	0.43
1:B:360:LEU:HD23	1:B:360:LEU:H	1.83	0.43
1:A:425:LYS:HD3	1:A:454:ARG:O	2.19	0.43
1:B:84:GLY:HA2	1:B:249:GLN:HG3	2.01	0.43
1:B:414:TRP:HD1	1:B:441:LYS:HZ1	1.65	0.43
1:B:850:ARG:HB2	1:B:883:SER:OG	2.18	0.43
1:B:851:ARG:HD2	1:B:882:TYR:CE1	2.53	0.43
1:A:36:LEU:HG	1:A:37:LEU:HG	2.01	0.43
1:A:414:TRP:CZ2	1:A:442:MET:HB3	2.54	0.43
1:B:491:PRO:HD3	1:B:548:HIS:ND1	2.34	0.43
1:B:375:ALA:N	1:B:407:ASN:HD21	2.17	0.42
1:A:149:LYS:HG3	1:A:154:GLU:HB2	2.02	0.42
1:A:371:ARG:HA	1:A:403:LEU:O	2.19	0.42
1:B:136:ILE:O	1:B:137:LEU:HD23	2.19	0.42
1:B:258:PHE:CD2	1:B:262:LEU:HD11	2.54	0.42
1:A:630:VAL:HG22	1:A:783:LEU:HA	2.01	0.42
1:B:13:ILE:HG23	1:B:19:ARG:HB2	2.01	0.42
1:B:311:VAL:HB	1:B:337:ASN:HD21	1.83	0.42
1:B:850:ARG:HH21	1:B:883:SER:HB2	1.84	0.42
1:A:93:LEU:O	1:A:117:VAL:HA	2.19	0.42
1:A:125:LEU:HG	1:A:128:LEU:HD21	2.01	0.42
1:A:56:MET:HG2	1:A:81:VAL:O	2.19	0.42
1:A:324:VAL:HG12	1:A:328:GLN:HG3	2.02	0.42
1:A:388:ILE:HG12	1:A:419:LEU:HD11	2.01	0.42
1:B:71:SER:HA	1:B:103:GLU:O	2.18	0.42
1:B:806:MET:SD	1:B:806:MET:N	2.93	0.42
1:B:827:VAL:HG11	1:B:873:ARG:HE	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:270:ARG:NH1	1:A:271:ARG:HB3	2.35	0.42
1:B:369:LYS:HE3	1:B:369:LYS:HB2	1.92	0.42
1:B:593:THR:H	1:B:622:ASN:HB3	1.85	0.42
1:A:33:LEU:HB3	1:A:61:LEU:HD13	2.01	0.42
1:B:184:THR:OG1	1:B:187:HIS:HB2	2.20	0.42
1:B:130:THR:HG22	1:B:178:PHE:HA	2.02	0.42
1:A:254:VAL:HG13	1:A:259:CYS:SG	2.59	0.42
1:B:886:ILE:H	1:B:898:THR:HB	1.84	0.42
1:A:6:GLU:H	1:A:26:CYS:HA	1.84	0.42
1:A:879:PRO:HG3	1:A:907:ASP:HA	2.02	0.42
1:B:202:THR:HG23	1:B:216:CYS:O	2.19	0.42
1:B:370:ILE:HG22	1:B:405:ASN:HD21	1.85	0.42
1:B:631:PHE:HB2	1:B:782:GLU:HG2	2.02	0.42
1:A:1:HIS:CD2	1:A:4:PRO:HB3	2.55	0.41
1:B:377:VAL:HB	1:B:522:ASP:HA	2.01	0.41
1:B:682:CYS:HB3	1:B:685:CYS:HB2	1.65	0.41
2:E:10:ILE:HD13	3:F:5:HIS:HA	2.01	0.41
1:A:501:LEU:HB2	1:A:569:LEU:HG	2.00	0.41
1:B:79:LEU:HB3	1:B:106:LEU:HD22	2.03	0.41
1:A:821:GLU:HB3	1:A:823:PHE:CE1	2.55	0.41
1:B:535:ASP:N	1:B:535:ASP:OD1	2.52	0.41
1:A:477:TYR:HB3	1:A:488:ARG:HB2	2.02	0.41
1:B:263:HIS:ND1	1:B:276:GLN:HB3	2.35	0.41
1:A:787:ASN:ND2	1:A:794:ARG:HH21	2.16	0.41
1:A:881:ASN:O	1:A:882:TYR:HD1	2.03	0.41
2:C:21:ASN:OD1	3:D:22:ARG:NH1	2.48	0.41
1:A:54:LEU:H	1:A:78:ASN:ND2	2.00	0.41
2:I:13:LEU:HD12	2:I:13:LEU:HA	1.90	0.41
1:B:199:HIS:NE2	1:B:210:SER:HA	2.35	0.41
1:B:561:GLN:HA	1:B:589:GLN:HA	2.03	0.41
1:A:17:LEU:HD23	1:A:17:LEU:H	1.84	0.41
1:B:369:LYS:HD2	1:B:371:ARG:NH1	2.32	0.41
1:A:501:LEU:HD12	1:A:569:LEU:HG	2.02	0.40
1:B:129:ALA:O	1:B:178:PHE:HB2	2.21	0.40
1:B:375:ALA:O	1:B:376:LEU:HD23	2.21	0.40
1:B:851:ARG:HH22	1:B:881:ASN:N	2.19	0.40
1:A:210:SER:O	1:A:229:ARG:NH2	2.32	0.40
1:A:480:THR:HA	1:A:484:LYS:O	2.21	0.40
1:B:379:LEU:HD12	1:B:411:LEU:HD22	2.03	0.40
2:C:12:SER:N	2:C:15:GLN:OE1	2.54	0.40
1:A:473:LEU:O	1:A:583:SER:HA	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:414:TRP:CE2	1:B:442:MET:HE3	2.56	0.40
1:B:443:GLU:HB3	1:B:449:LYS:HG3	2.02	0.40
1:A:420:THR:HA	1:A:446:SER:HA	2.03	0.40
1:A:432:PRO:HA	1:A:463:GLY:N	2.36	0.40
1:B:213:LEU:HB3	1:B:228:CYS:HA	2.03	0.40
1:B:559:TRP:HB2	1:B:622:ASN:HA	2.03	0.40
1:A:131:ILE:HG23	1:A:183:TRP:CH2	2.56	0.40
1:B:213:LEU:HD13	1:B:229:ARG:HD3	2.04	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	776/1382 (56%)	758 (98%)	14 (2%)	4 (0%)	25	64
1	B	808/1382 (58%)	796 (98%)	11 (1%)	1 (0%)	48	83
2	C	19/21 (90%)	18 (95%)	1 (5%)	0	100	100
2	E	19/21 (90%)	17 (90%)	1 (5%)	1 (5%)	1	15
2	I	19/21 (90%)	19 (100%)	0	0	100	100
3	D	23/30 (77%)	22 (96%)	0	1 (4%)	2	17
3	F	21/30 (70%)	20 (95%)	1 (5%)	0	100	100
3	J	21/30 (70%)	21 (100%)	0	0	100	100
All	All	1706/2917 (58%)	1671 (98%)	28 (2%)	7 (0%)	32	68

All (7) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	48	ASP
1	A	594	ASN

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*Continued from previous page...*

Mol	Chain	Res	Type
1	A	596	SER
1	A	777	THR
3	D	4	GLN
1	A	541	ASN
2	E	20	CYS

### 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	713/1226 (58%)	709 (99%)	4 (1%)	84	88
1	B	747/1226 (61%)	745 (100%)	2 (0%)	91	92
2	C	20/20 (100%)	20 (100%)	0	100	100
2	E	20/20 (100%)	20 (100%)	0	100	100
2	I	20/20 (100%)	20 (100%)	0	100	100
3	D	21/26 (81%)	21 (100%)	0	100	100
3	F	19/26 (73%)	19 (100%)	0	100	100
3	J	19/26 (73%)	19 (100%)	0	100	100
All	All	1579/2590 (61%)	1573 (100%)	6 (0%)	88	91

All (6) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	252	ARG
1	A	270	ARG
1	A	498	ARG
1	A	870	ARG
1	B	236	ARG
1	B	870	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (9) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	78	ASN
1	A	440	HIS
1	A	756	HIS
1	A	829	HIS
1	A	839	ASN
1	B	32	HIS
1	B	108	ASN
1	B	788	GLN
1	B	829	HIS

### 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 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.

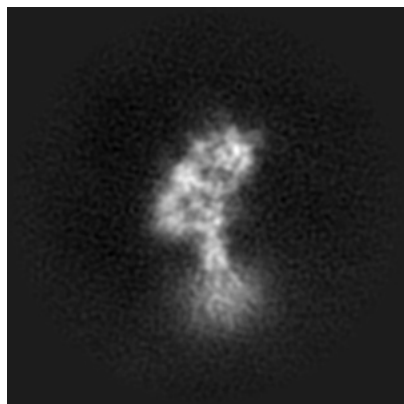
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-13387. These allow visual inspection of the internal detail of the map and identification of artifacts.

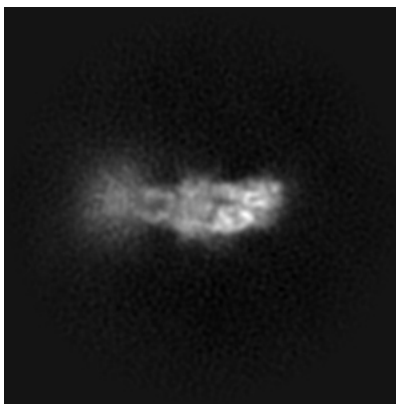
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

### 6.1 Orthogonal projections [i](#)

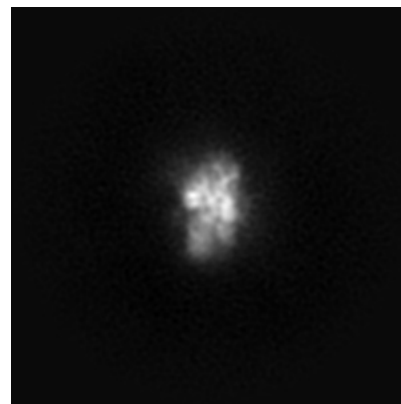
#### 6.1.1 Primary map



X

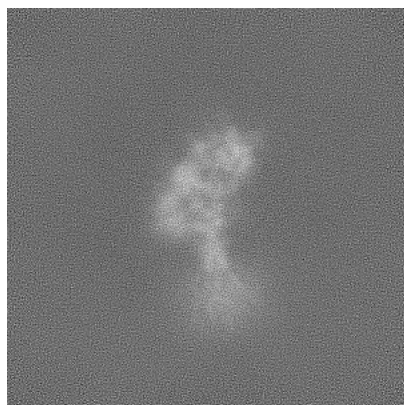


Y

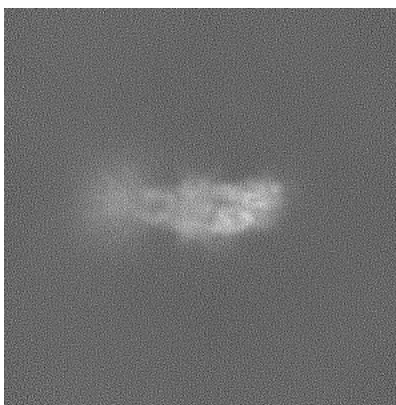


Z

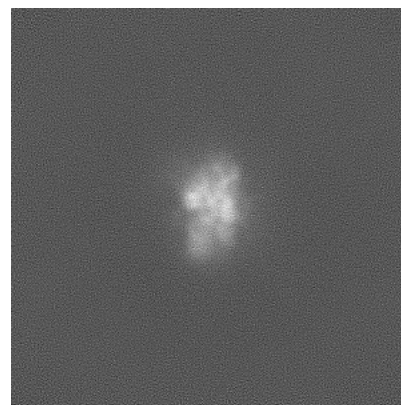
#### 6.1.2 Raw map



X



Y

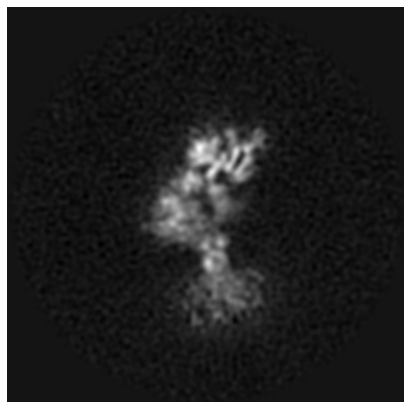


Z

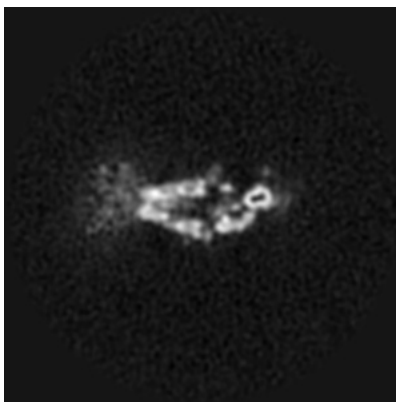
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices [i](#)

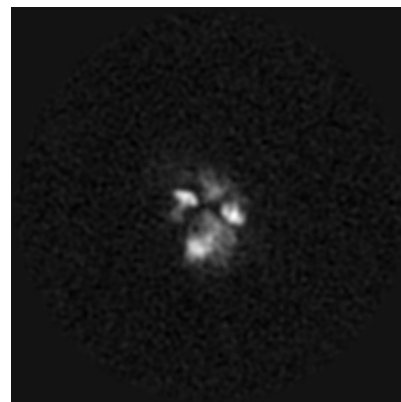
### 6.2.1 Primary map



X Index: 210

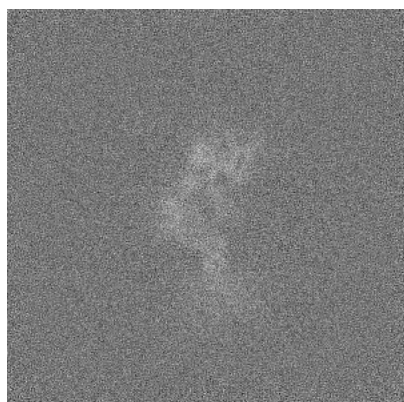


Y Index: 210

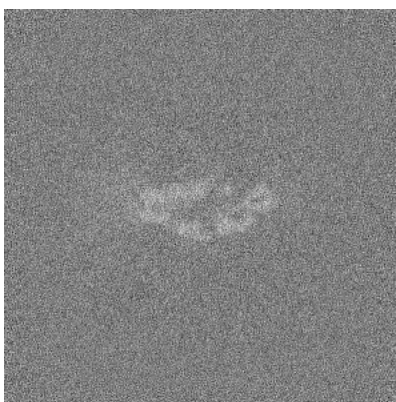


Z Index: 210

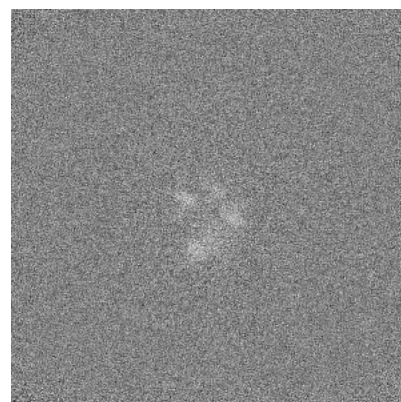
### 6.2.2 Raw map



X Index: 210



Y Index: 210



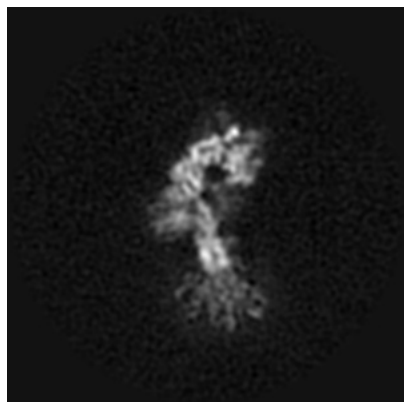
Z Index: 210

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

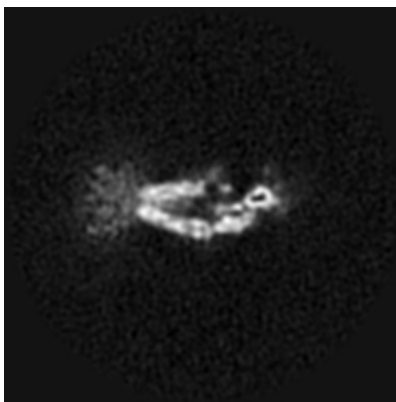


## 6.3 Largest variance slices [i](#)

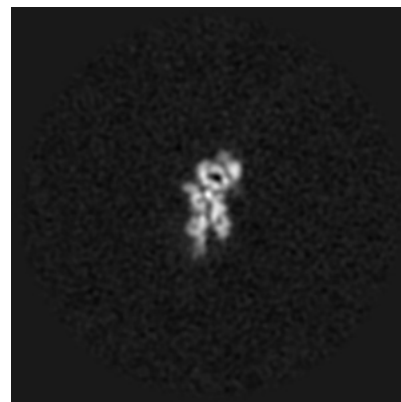
### 6.3.1 Primary map



X Index: 223

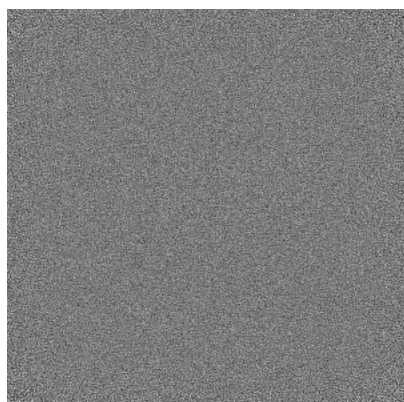


Y Index: 213

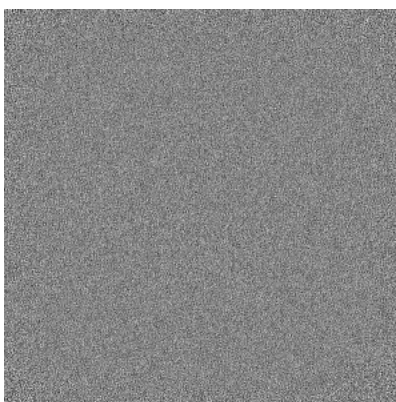


Z Index: 255

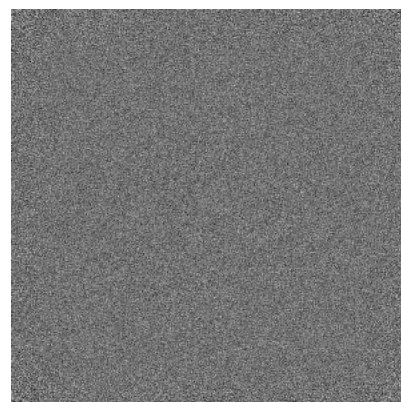
### 6.3.2 Raw map



X Index: 0



Y Index: 0

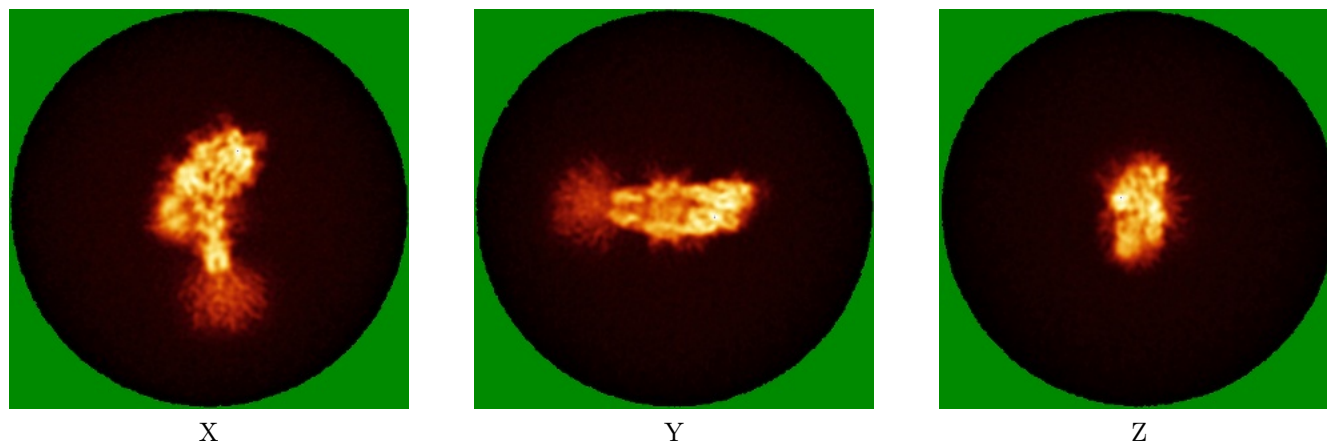


Z Index: 0

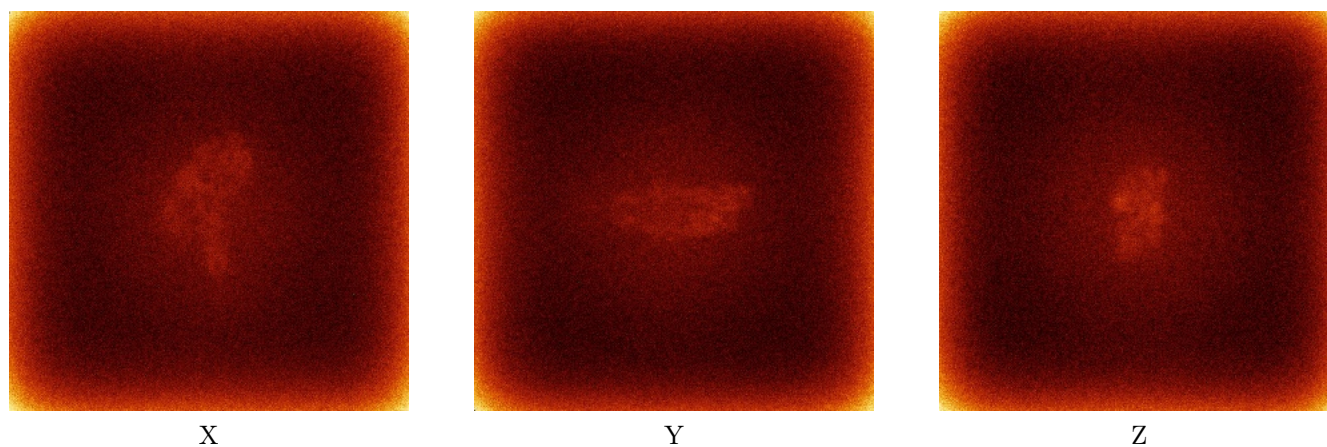
The images above show the largest variance slices of the map in three orthogonal directions.

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

### 6.4.1 Primary map



### 6.4.2 Raw map



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

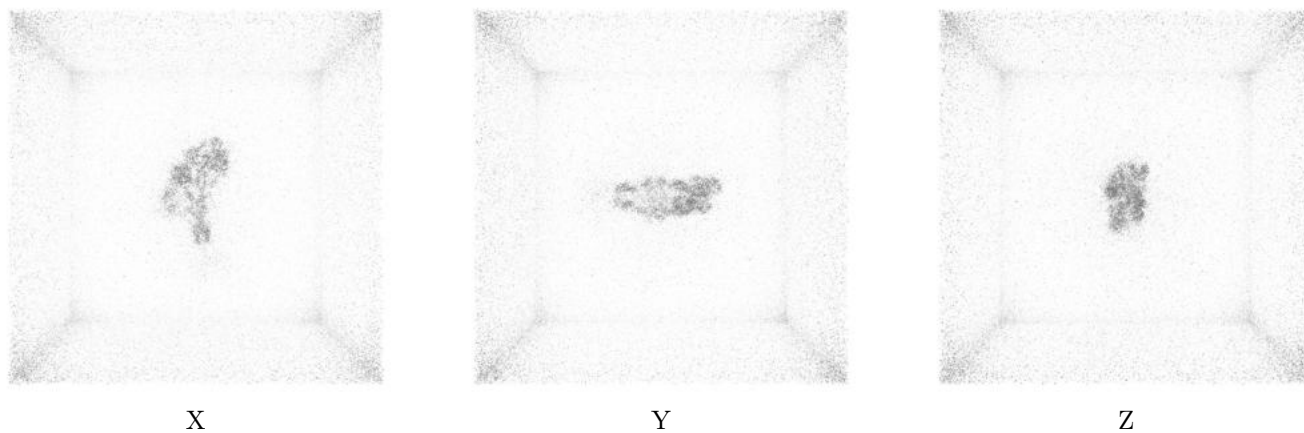
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.125. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

### 6.5.2 Raw map



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

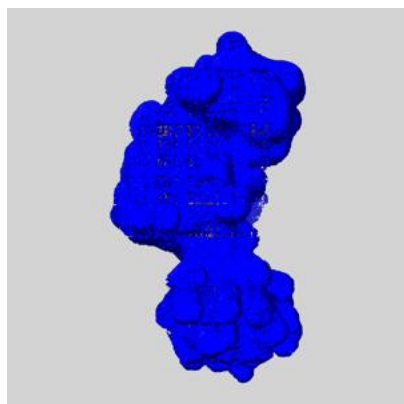
## 6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

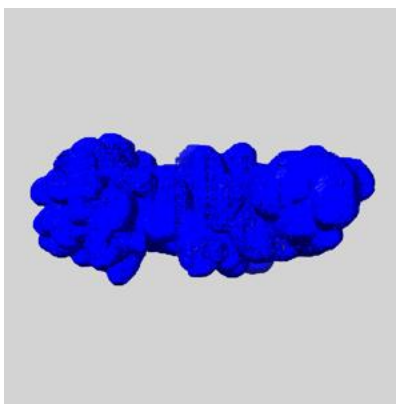
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

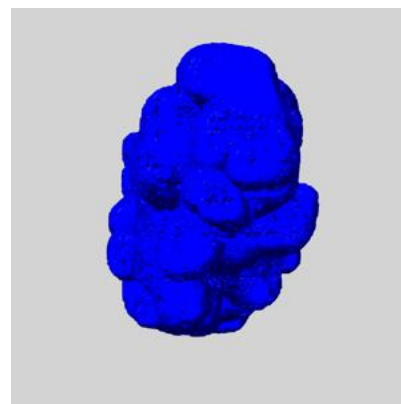
### 6.6.1 emd\_13387\_msk\_1.map [i](#)



X



Y

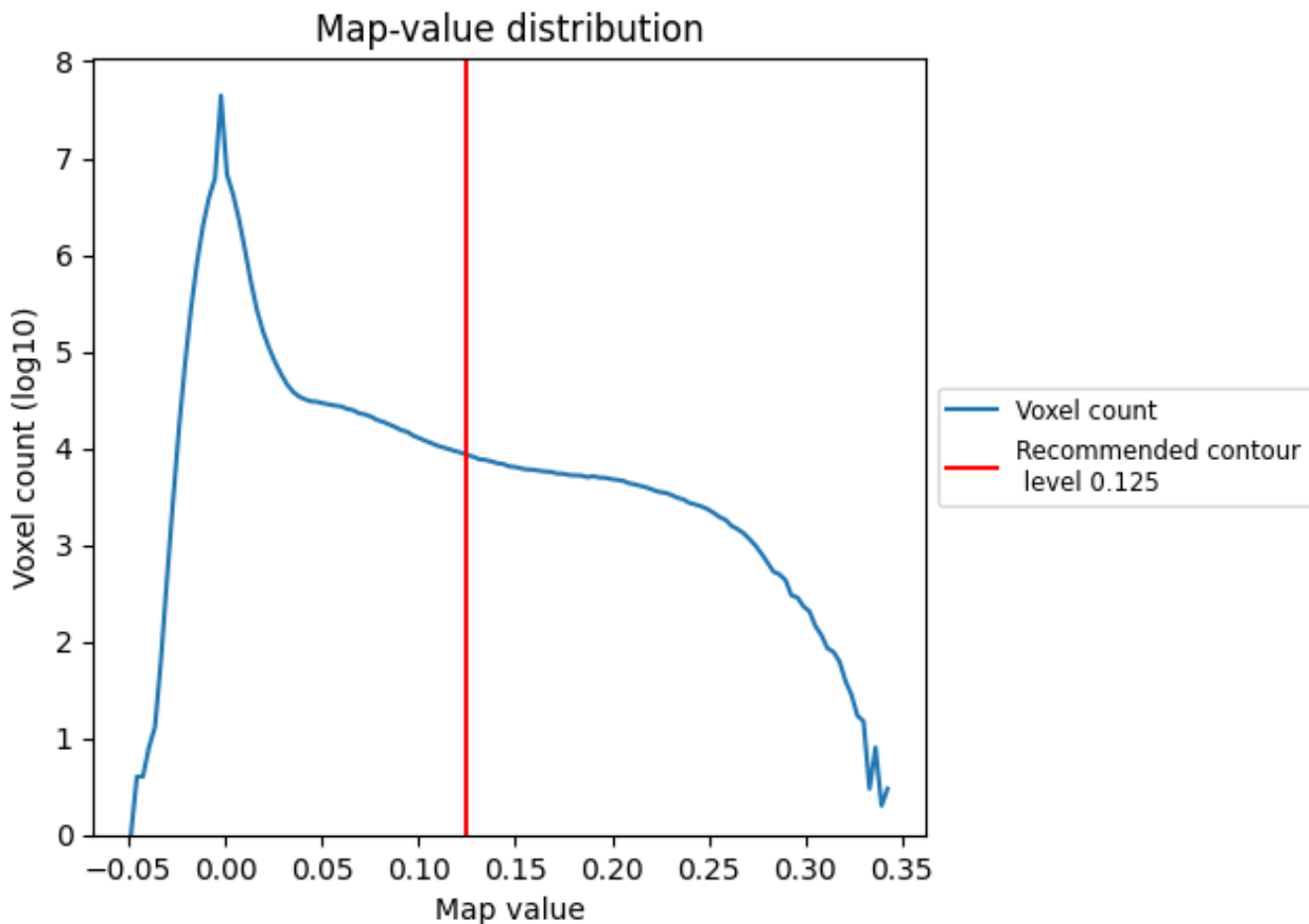


Z

## 7 Map analysis [i](#)

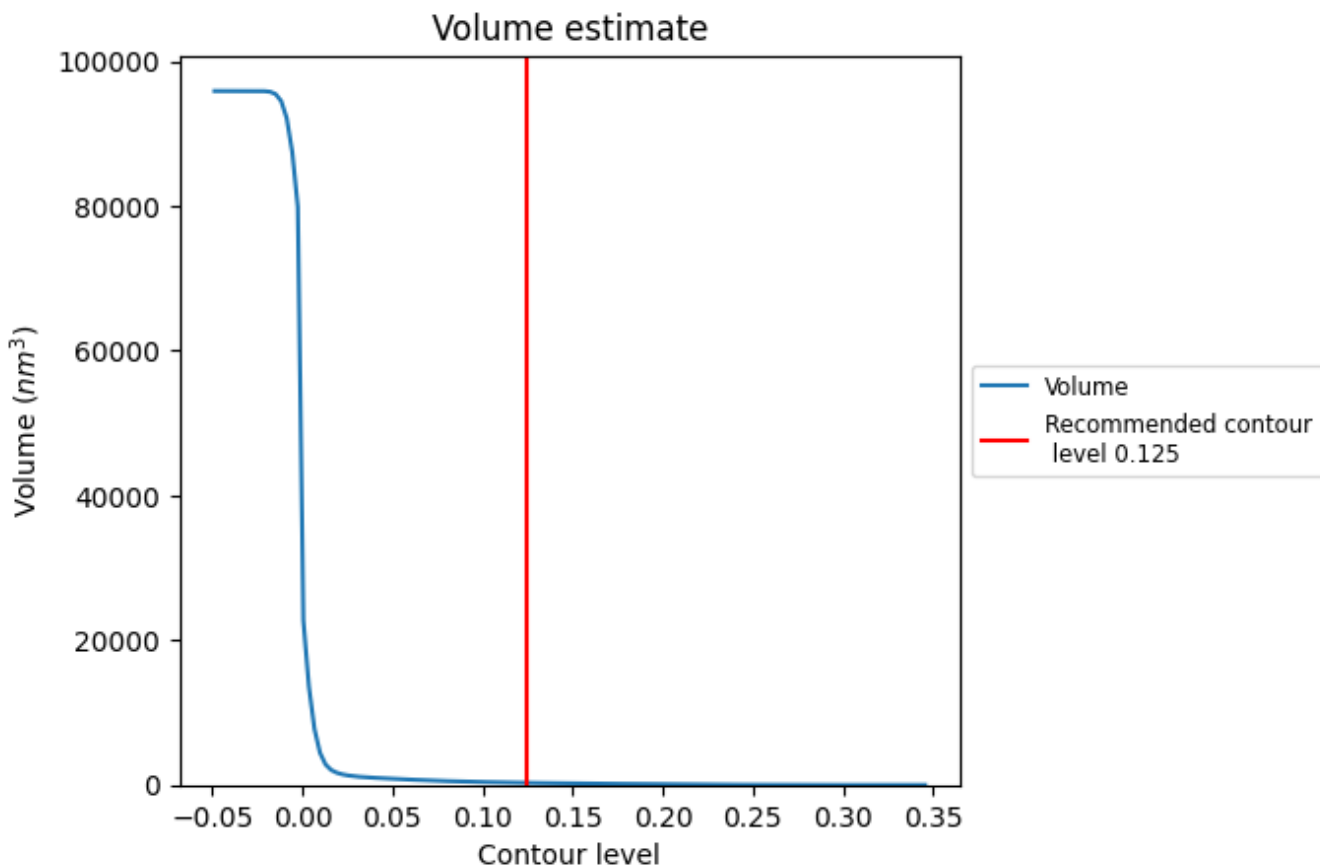
This section contains the results of statistical analysis of the map.

### 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.

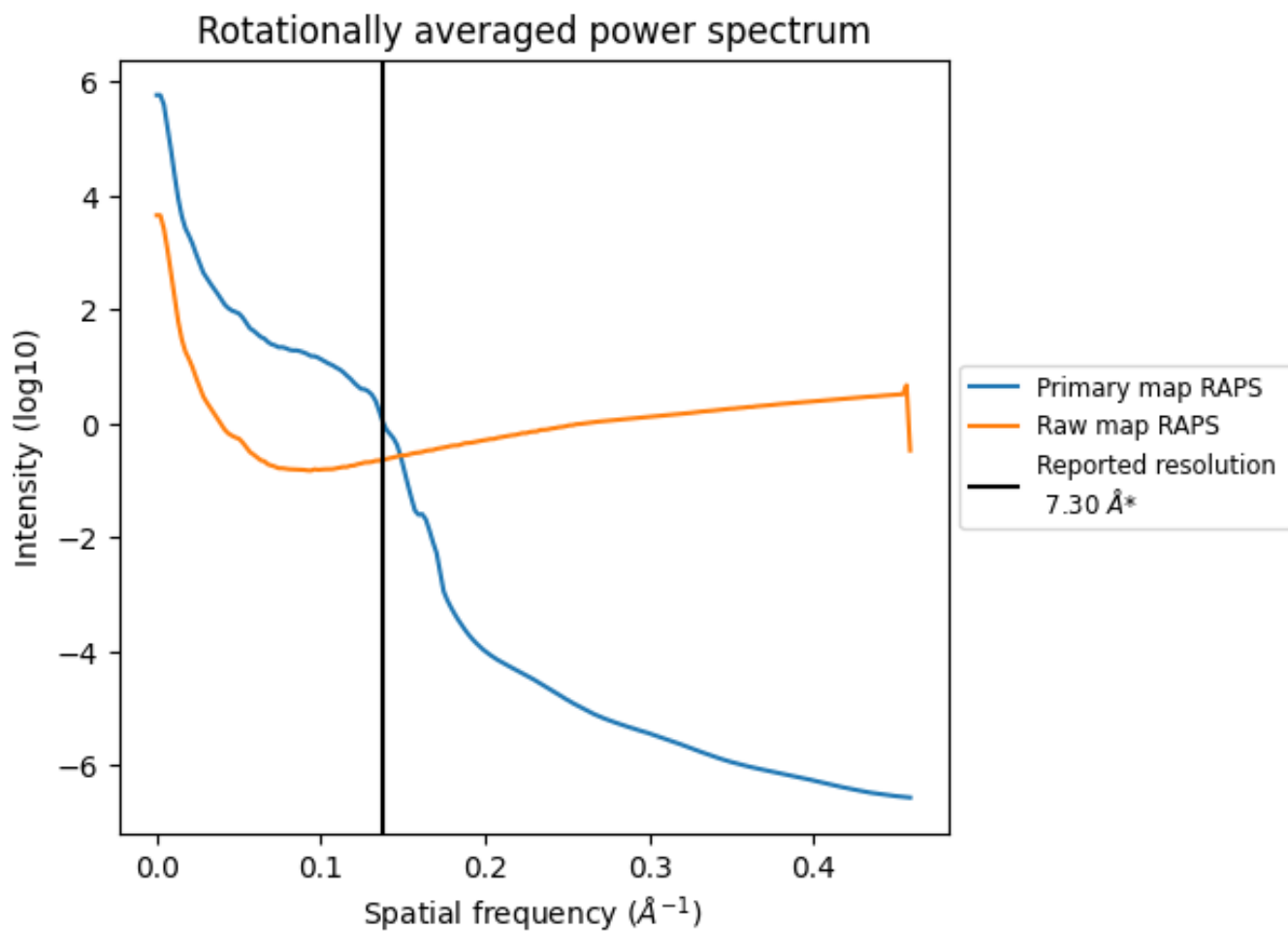
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 292  $\text{nm}^3$ ; this corresponds to an approximate mass of 264 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

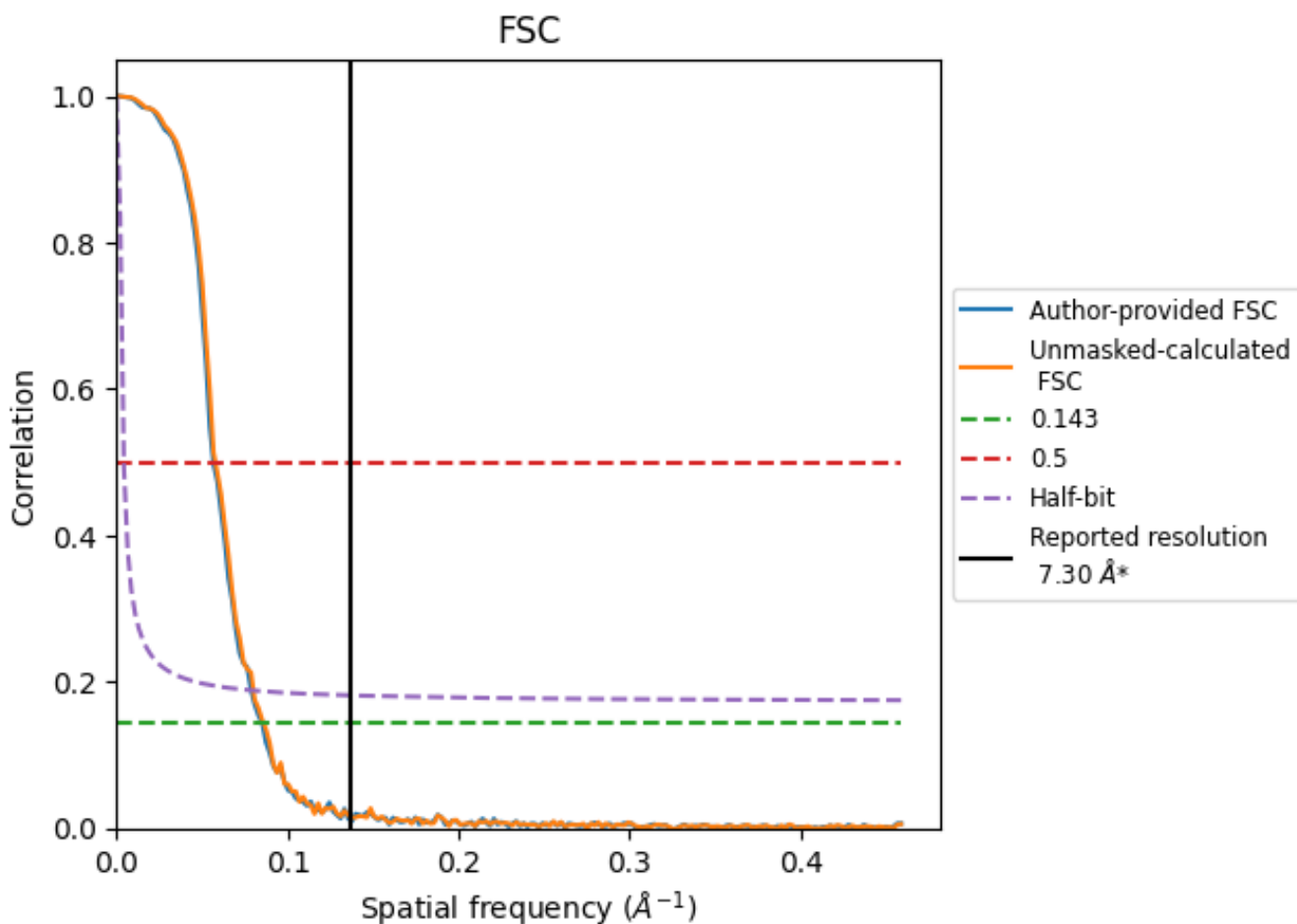


\*Reported resolution corresponds to spatial frequency of 0.137 Å<sup>-1</sup>

## 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 0.137 Å<sup>-1</sup>



## 8.2 Resolution estimates [i](#)

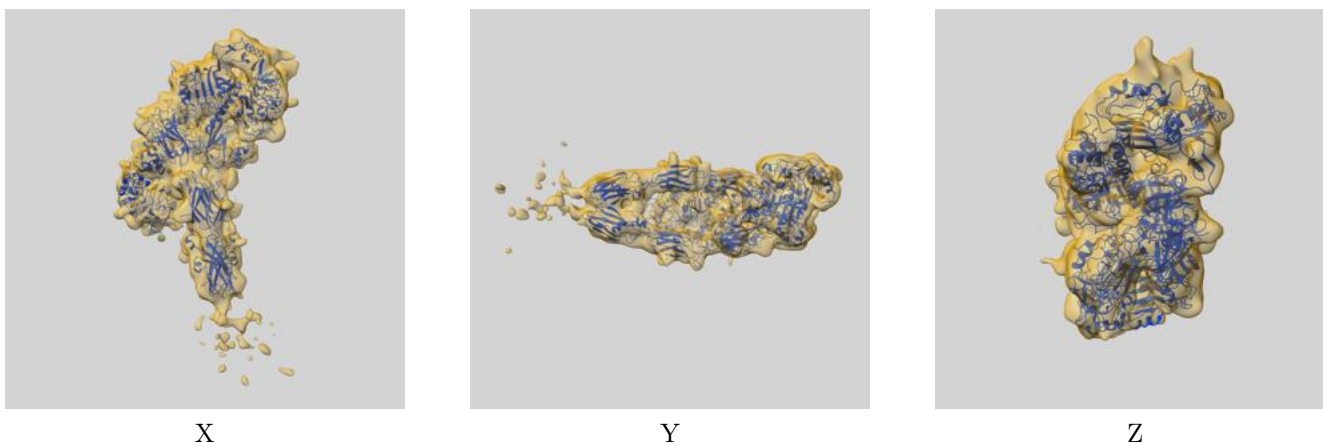
Resolution estimate (Å)	Estimation criterion (FSC cut-off)			
	0.143	0.5	Half-bit	Other
Reported by author	-	-	-	7.30
Author-provided FSC curve	11.72	17.64	12.69	-
Unmasked-calculated*	11.63	17.27	12.48	-

\*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

## 9 Map-model fit [i](#)

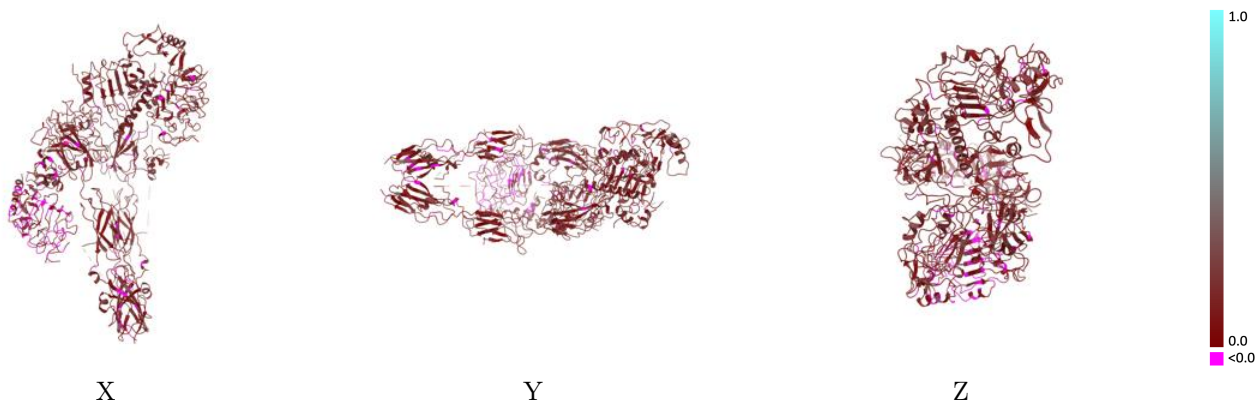
This section contains information regarding the fit between EMDB map EMD-13387 and PDB model 7PG3. Per-residue inclusion information can be found in section 3 on page 5.

### 9.1 Map-model overlay [i](#)



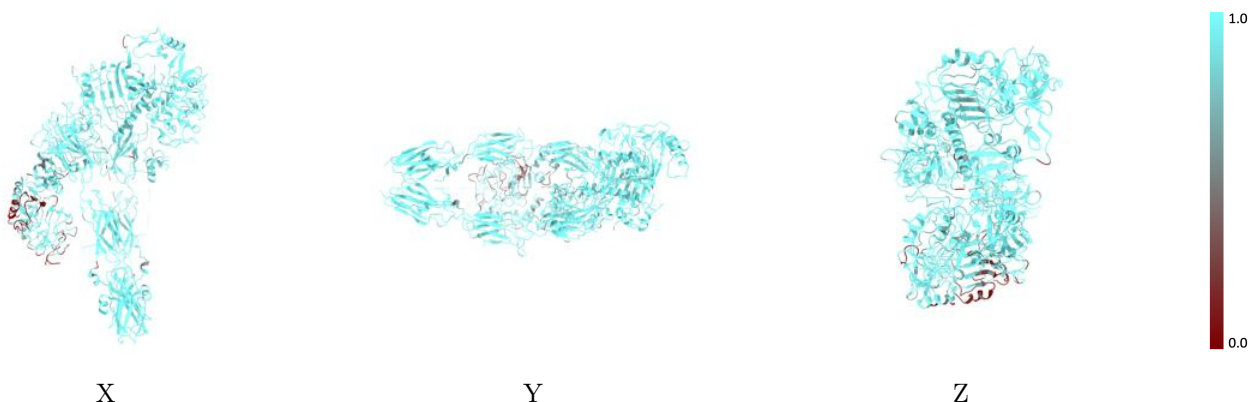
The images above show the 3D surface view of the map at the recommended contour level 0.125 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



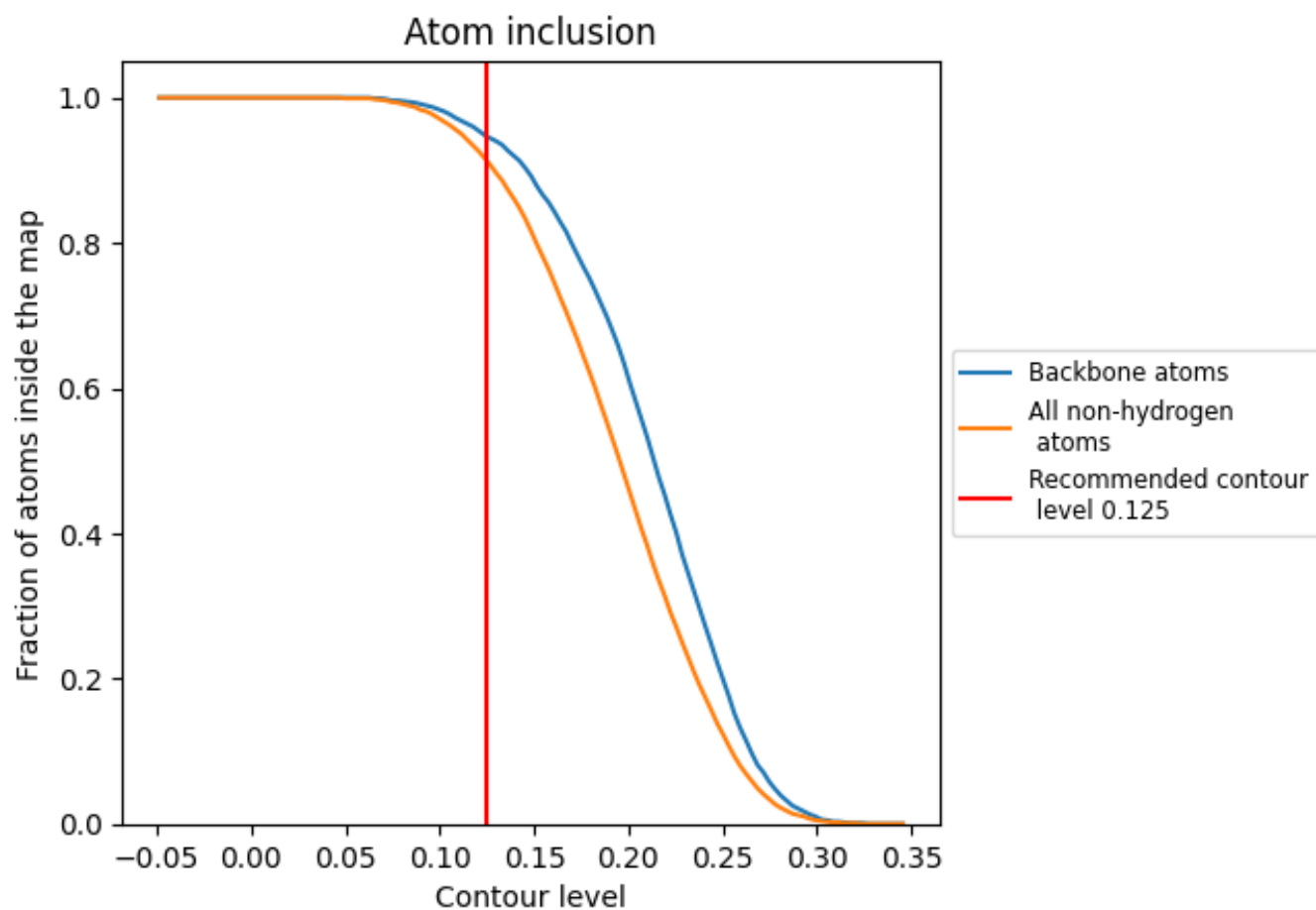
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.125).



















## 9.4 Atom inclusion [i](#)



At the recommended contour level, 95% of all backbone atoms, 91% 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 (0.125) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9130	 0.1340
A	 0.9580	 0.1500
B	 0.8720	 0.1180
C	 0.9630	 0.1500
D	 0.9750	 0.1430
E	 0.7020	 0.0950
F	 0.8450	 0.1200
I	 0.9380	 0.1440
J	 0.9390	 0.2040

