WORLDWIDE PDB PROTEIN DATA BANK

Full wwPDB EM Validation Report (i)

Mar 23, 2026 – 01:37 PM EDT

PDB ID	:	9NHZ / pdb_00009nhz
EMDB ID	:	EMD-49450
Title	:	Cryo-EM structure of a membrane transport protein
Authors	:	Khan, M.B.; Primeau, J.O.; Basu, P.C.; Morth, J.P.; Lemieux, M.J.; Young, H.S.
Deposited on	:	2025-02-25
Resolution	:	2.73 Å(reported)

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 2.73 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	Percentile Ranks	Value
Clashscore		15
Ramachandran outliers		0.8%
Sidechain outliers		2.3%

Worse   *Better*

▮ Percentile relative to all structures

▯ Percentile relative to all EM structures

Metric	Model-Map Fit Percentile Ranks	Value
Q-score		0.443

Worse   *Better*

▮ Percentile relative to all EM structures

▯ Percentile relative to EM structures of similar resolution

Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
Q-score	-	25397	10432 (2.23 - 3.23)

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	921	72% 24% · ·
1	B	921	26% 65% 29% · ·
1	C	921	29% 63% 32% · ·
1	D	921	24% 63% 31% · ·

2 Entry composition ⓘ

There are 2 unique types of molecules in this entry. The entry contains 27354 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 Magnesium-transporting ATPase, P-type 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	889	Total 6837	C 4403	N 1106	O 1286	S 42	0	0
1	B	889	Total 6837	C 4403	N 1106	O 1286	S 42	0	0
1	C	889	Total 6837	C 4403	N 1106	O 1286	S 42	0	0
1	D	889	Total 6837	C 4403	N 1106	O 1286	S 42	0	0

There are 76 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-10	MET	-	initiating methionine	UNP A0A1V0NGB6
A	-9	HIS	-	expression tag	UNP A0A1V0NGB6
A	-8	HIS	-	expression tag	UNP A0A1V0NGB6
A	-7	HIS	-	expression tag	UNP A0A1V0NGB6
A	-6	HIS	-	expression tag	UNP A0A1V0NGB6
A	-5	HIS	-	expression tag	UNP A0A1V0NGB6
A	-4	HIS	-	expression tag	UNP A0A1V0NGB6
A	-3	HIS	-	expression tag	UNP A0A1V0NGB6
A	-2	HIS	-	expression tag	UNP A0A1V0NGB6
A	-1	LEU	-	expression tag	UNP A0A1V0NGB6
A	0	GLU	-	expression tag	UNP A0A1V0NGB6
A	216	ALA	ASP	conflict	UNP A0A1V0NGB6
A	217	ALA	GLU	conflict	UNP A0A1V0NGB6
A	218	ALA	LYS	conflict	UNP A0A1V0NGB6
A	219	ALA	ASP	conflict	UNP A0A1V0NGB6
A	220	ALA	ASP	conflict	UNP A0A1V0NGB6
A	603	ALA	LYS	conflict	UNP A0A1V0NGB6
A	606	ALA	LYS	conflict	UNP A0A1V0NGB6
A	607	ALA	GLU	conflict	UNP A0A1V0NGB6
B	-10	MET	-	initiating methionine	UNP A0A1V0NGB6
B	-9	HIS	-	expression tag	UNP A0A1V0NGB6
B	-8	HIS	-	expression tag	UNP A0A1V0NGB6

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Chain	Residue	Modelled	Actual	Comment	Reference
B	-7	HIS	-	expression tag	UNP A0A1V0NGB6
B	-6	HIS	-	expression tag	UNP A0A1V0NGB6
B	-5	HIS	-	expression tag	UNP A0A1V0NGB6
B	-4	HIS	-	expression tag	UNP A0A1V0NGB6
B	-3	HIS	-	expression tag	UNP A0A1V0NGB6
B	-2	HIS	-	expression tag	UNP A0A1V0NGB6
B	-1	LEU	-	expression tag	UNP A0A1V0NGB6
B	0	GLU	-	expression tag	UNP A0A1V0NGB6
B	216	ALA	ASP	conflict	UNP A0A1V0NGB6
B	217	ALA	GLU	conflict	UNP A0A1V0NGB6
B	218	ALA	LYS	conflict	UNP A0A1V0NGB6
B	219	ALA	ASP	conflict	UNP A0A1V0NGB6
B	220	ALA	ASP	conflict	UNP A0A1V0NGB6
B	603	ALA	LYS	conflict	UNP A0A1V0NGB6
B	606	ALA	LYS	conflict	UNP A0A1V0NGB6
B	607	ALA	GLU	conflict	UNP A0A1V0NGB6
C	-10	MET	-	initiating methionine	UNP A0A1V0NGB6
C	-9	HIS	-	expression tag	UNP A0A1V0NGB6
C	-8	HIS	-	expression tag	UNP A0A1V0NGB6
C	-7	HIS	-	expression tag	UNP A0A1V0NGB6
C	-6	HIS	-	expression tag	UNP A0A1V0NGB6
C	-5	HIS	-	expression tag	UNP A0A1V0NGB6
C	-4	HIS	-	expression tag	UNP A0A1V0NGB6
C	-3	HIS	-	expression tag	UNP A0A1V0NGB6
C	-2	HIS	-	expression tag	UNP A0A1V0NGB6
C	-1	LEU	-	expression tag	UNP A0A1V0NGB6
C	0	GLU	-	expression tag	UNP A0A1V0NGB6
C	216	ALA	ASP	conflict	UNP A0A1V0NGB6
C	217	ALA	GLU	conflict	UNP A0A1V0NGB6
C	218	ALA	LYS	conflict	UNP A0A1V0NGB6
C	219	ALA	ASP	conflict	UNP A0A1V0NGB6
C	220	ALA	ASP	conflict	UNP A0A1V0NGB6
C	603	ALA	LYS	conflict	UNP A0A1V0NGB6
C	606	ALA	LYS	conflict	UNP A0A1V0NGB6
C	607	ALA	GLU	conflict	UNP A0A1V0NGB6
D	-10	MET	-	initiating methionine	UNP A0A1V0NGB6
D	-9	HIS	-	expression tag	UNP A0A1V0NGB6
D	-8	HIS	-	expression tag	UNP A0A1V0NGB6
D	-7	HIS	-	expression tag	UNP A0A1V0NGB6
D	-6	HIS	-	expression tag	UNP A0A1V0NGB6
D	-5	HIS	-	expression tag	UNP A0A1V0NGB6
D	-4	HIS	-	expression tag	UNP A0A1V0NGB6

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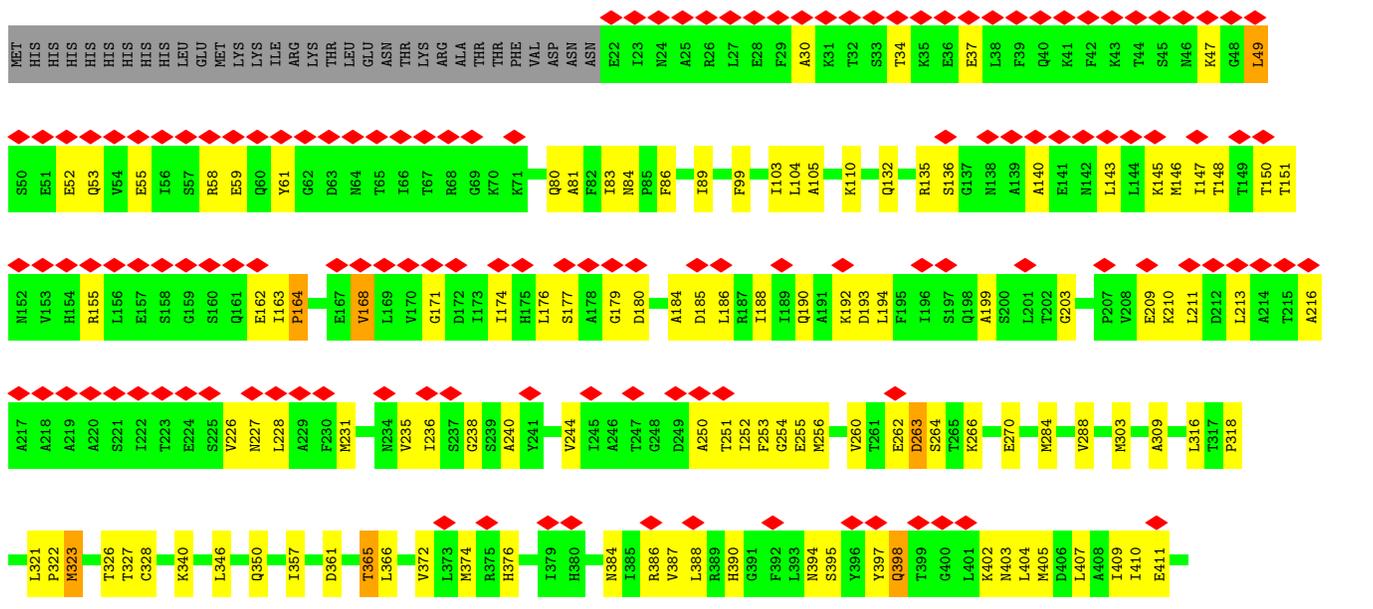
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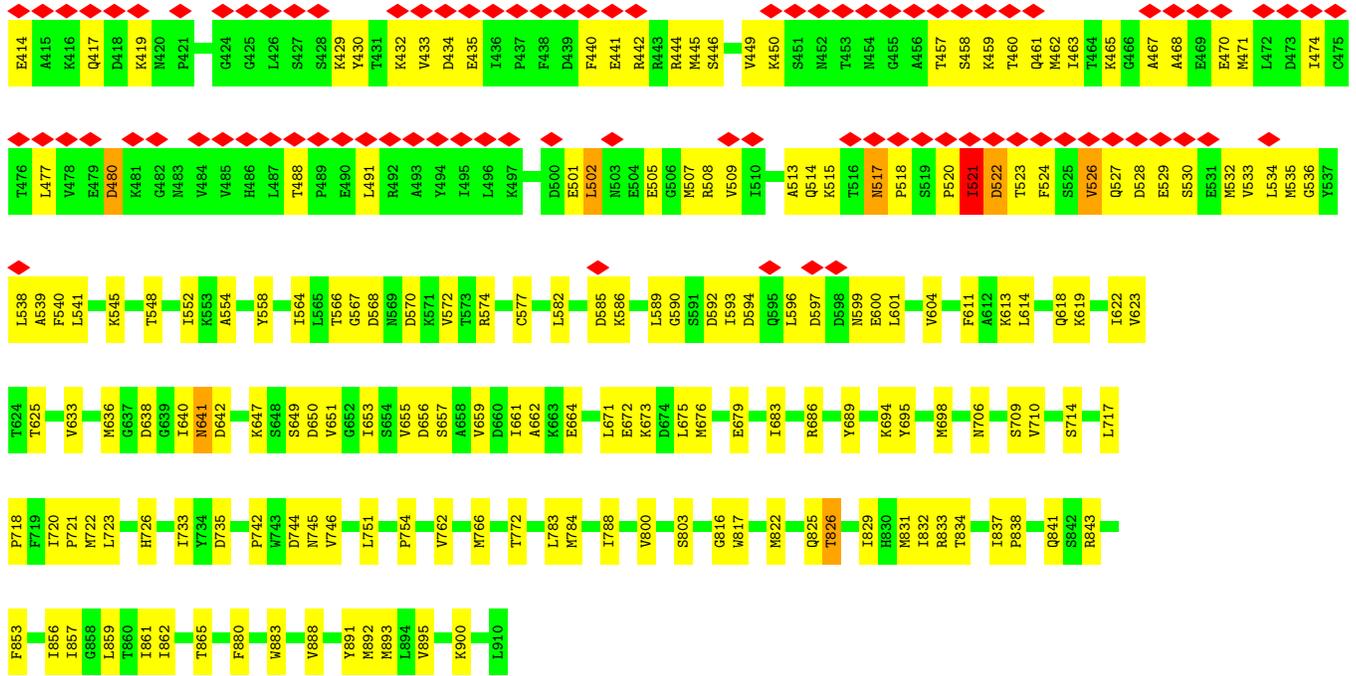| Chain	Residue	Modelled	Actual	Comment	Reference
D	-3	HIS	-	expression tag	UNP A0A1V0NGB6
D	-2	HIS	-	expression tag	UNP A0A1V0NGB6
D	-1	LEU	-	expression tag	UNP A0A1V0NGB6
D	0	GLU	-	expression tag	UNP A0A1V0NGB6
D	216	ALA	ASP	conflict	UNP A0A1V0NGB6
D	217	ALA	GLU	conflict	UNP A0A1V0NGB6
D	218	ALA	LYS	conflict	UNP A0A1V0NGB6
D	219	ALA	ASP	conflict	UNP A0A1V0NGB6
D	220	ALA	ASP	conflict	UNP A0A1V0NGB6
D	603	ALA	LYS	conflict	UNP A0A1V0NGB6
D	606	ALA	LYS	conflict	UNP A0A1V0NGB6
D	607	ALA	GLU	conflict	UNP A0A1V0NGB6

- Molecule 2 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
2	A	3	Total 3	Mg 3	0
2	B	1	Total 1	Mg 1	0
2	C	1	Total 1	Mg 1	0
2	D	1	Total 1	Mg 1	0

3 Residue-property plots ⓘ

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

• Molecule 1: Magnesium-transporting ATPase, P-type 1

Chain A:

• Molecule 1: Magnesium-transporting ATPase, P-type 1

Chain B:

This is a graphical residue-by-residue validation display for the protein sequence. The residues are shown as colored boxes (green, yellow, orange, red) with red diamond markers above selected residues.

Row 1: MET HIS HIS HIS HIS HIS HIS HIS HIS LEU GLU MET LYS LYS ILE LYS ARG LYS THR LEU GLU ASN THR LYS ARG ALA THR THR PHE VAL ASP ASN ASN E22 I23 N24 A25 R26 L27 E28 F29 A30 K31 T32 K35 E36 E37 L38 F39 Q40 K41 F42 K43 T44 S45 N46 K47 G48 L49 S50

Row 2: E51 E52 Q53 V54 E55 I56 S57 R58 E59 Q60 Y61 G62 D63 N64 T65 I66 T67 R68 G69 K70 K71 S72 S73 K76 P85 L90 A105 K110 G114 I118 T119 T120 M121 V122 L123 I124 Q132 G137 N138 A139 A140 E141 N142 L143 L144 K145 M146 I147 T148 T149 T150

Row 3: T151 N152 V153 H154 R155 L156 E157 S158 G159 S160 Q161 E162 I163 P164 I165 E166 E167 V168 L169 V170 G171 D172 I173 I174 H175 L176 S177 A178 G179 D180 M181 V182 P183 A184 D185 L186 R187 I188 I189 Q190 A191 K192 D193 L194 F195 I196 S200 E204 S205 E206 P207 V208 E209 K210 L211 D212 L213 A214

Row 4: T215 A216 A217 A218 A219 A220 S221 I222 T223 E224 S225 V226 N227 L228 A229 G232 S233 N234 V235 I236 S237 G238 S239 A240 Y241 G242 V243 V244 I245 A246 T247 G248 D249 A250 T251 I252 E255 M256 K258 S259 V260 T261 E262 D263 S264 F269 S277 L280 F283 M284 M287

Row 5: F290 M320 T326 L329 M336 T360 D361 K362 T365 L366 T367 K370 V371 V372 L373 M374 R375 H376 L377 D378 I379 H380 G381 Q382 E383 N384 I385 R386 V387 L388 H389 H390 L393 N394 S395 Y396 Y397 Q398 T399 G400 L401 K402 N403 L404 M405 D406 L407 A408 I409 I410 E411 G412

Row 6: A413 E414 A415 K416 Q417 D418 K419 N420 P421 E422 L423 G424 G425 L426 S427 S428 K429 Y430 T431 K432 V433 D434 E435 I436 F437 F438 D439 F440 E441 R442 R443 R444 M445 S446 V447 V448 V449 K450 S451 N452 T453 N454 A455 A456 T457 S458 K459 T460 Q461 M462 I463 T464 K465 G466 A467 A468 E469 E470 M471 L472

Row 7: D473 I474 C475 T476 L477 V478 E479 D480 K481 G482 N483 V484 V485 H486 L487 T488 P489 E490 L491 R492 A493 Y494 I495 L496 K497 K498 V499 D500 E501 L502 N503 E504 M507 R508 V509 I510 L511 V512 A513 Q514 K515 T516 N517 P518 S519 P520 I521 D522 T523 F524 S525 V526 Q527 D528 E529 S530 E531 M532 V533

Row 8: L534 M535 G536 Y537 L538 A539 F540 L541 D542 P543 P544 K545 K550 K553 A554 Y558 G567 D568 N569 D570 K571 V572 T573 R574 S575 V576 C577 K578 Q579 V584 D585 T587 I588 L589 D592 I593 D594 Q595 L596 D597 A605 V610 F611 L614 S615 P616 Q617 Q618 I622

Row 9: R627 V633 D638 G639 I640 N641 D642 A643 A644 V655 D656 V659 D660 I661 A662 E679 K680 G681 R686 I693 K694 Y695 I696 K697 M698 T699 A700 M707 V710 L711 S714 L717 P721 M722 H726 I727 N731 L732 I733 Y734 D735 A740 I741

Row 10: Y750 P754 R755 M766 T779 V800 A811 L812 T815 G816 W817 M822 T826 I829 I837 P838 F839 L840 L851 I856 L859 P877 I878 N879 M893 T896 I897 L910

- Molecule 1: Magnesium-transporting ATPase, P-type 1

Chain C:

A color-coded percentage bar showing: 29% (red), 63% (green), 32% (yellow), with small orange and grey segments.

Row (Chain C) 1: MET HIS HIS HIS HIS HIS HIS HIS HIS LEU GLU MET LYS LYS ILE LYS ARG LYS THR LEU GLU ASN THR LYS ARG ALA THR THR PHE VAL ASP ASN ASN E22 I23 N24 A25 R26 L27 E28 F29 A30 K31 T32 S33 T34 K35 E36 E37 L38 F39 Q40 K41 F42 K43 T44 S45 N46 K47 G48 L49

Row (Chain C) 2: S50 E51 E52 Q53 V54 E55 I56 S57 R58 E59 Q60 Y61 G62 D63 N64 T65 I66 T67 R68 G69 K70 K71 S72 S73 L74 R77 A81 N84 L95 A98 D101 I102 I103 L104 A105 K110 L115 R129 E133 T134 R135 S136 G137 N138 A139 A140 E141 N142 L143 L144

Row (Chain C) 3: K145 M146 I147 T148 T149 T150 T151 N152 V153 H154 R155 L156 E157 S158 G159 S160 Q161 E162 I163 P164 I165 E166 E167 V168 L169 V170 G171 D172 I173 I174 H175 L176 S177 A178 G179 D180 M181 V182 P183 A184 D185 L186 R187 I188 I189 Q190 A191 K192 D193 L194 F195 I196 S197 Q198 A199 S200 E204 S205 E206

• Molecule 1: Magnesium-transporting ATPase, P-type 1

4 Experimental information ⓘ

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	86188	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose $(e^-/Å^2)$	45	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	TFS FALCON 4i (4k x 4k)	Depositor
Maximum map value	0.772	Depositor
Minimum map value	-0.327	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.019	Depositor
Recommended contour level	0.116	Depositor
Map size (Å)	399.9, 399.9, 399.9	wwPDB
Map dimensions	430, 430, 430	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.93, 0.93, 0.93	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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	0.22	0/6956	0.44	1/9426 (0.0%)
1	B	0.22	0/6956	0.54	3/9426 (0.0%)
1	C	0.21	0/6956	0.54	4/9426 (0.0%)
1	D	0.20	0/6956	0.52	0/9426
All	All	0.21	0/27824	0.51	8/37704 (0.0%)

There are no bond length outliers.

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	811	ALA	N-CA-C	-9.03	104.32	114.62
1	B	462	MET	CA-CB-CG	6.04	126.19	114.10
1	C	101	ASP	CA-C-N	6.00	132.78	121.97
1	C	101	ASP	C-N-CA	6.00	132.78	121.97
1	B	462	MET	CB-CG-SD	5.44	129.03	112.70
1	A	260	VAL	N-CA-C	-5.43	107.98	113.20
1	C	407	LEU	CA-CB-CG	5.29	134.83	116.30
1	C	256	MET	CA-CB-CG	5.17	124.44	114.10

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	6837	0	7054	157	0
1	B	6837	0	7054	212	0
1	C	6837	0	7054	252	0
1	D	6837	0	7054	216	0
2	A	3	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0
2	D	1	0	0	0	0
All	All	27354	0	28216	829	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 15.

All (829) 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:258:LYS:NZ	1:B:262:GLU:OE2	2.07	0.87
1:D:150:THR:HA	1:D:164:PRO:HA	1.57	0.84
1:D:405:MET:HE2	1:D:405:MET:H	1.43	0.84
1:C:101:ASP:O	1:C:102:ILE:HG12	1.78	0.84
1:A:23:ILE:HG22	1:A:26:ARG:HH12	1.44	0.82
1:D:567:GLY:HA2	1:D:614:LEU:H	1.43	0.82
1:B:438:PHE:HB3	1:B:445:MET:HB2	1.62	0.80
1:D:459:LYS:HG3	1:D:460:THR:H	1.46	0.80
1:C:315:GLY:HA3	1:C:707:MET:HE3	1.62	0.79
1:B:64:ASN:ND2	1:B:247:THR:OG1	2.15	0.78
1:B:397:TYR:HB2	1:B:432:LYS:HE3	1.65	0.78
1:A:826:THR:HG22	1:A:852:THR:HG23	1.64	0.78
1:D:394:ASN:HD21	1:D:445:MET:HE1	1.48	0.78
1:C:567:GLY:HA2	1:C:614:LEU:H	1.49	0.78
1:A:70:LYS:HE3	1:A:70:LYS:HA	1.66	0.77
1:C:555:LEU:HD13	1:C:560:VAL:HG13	1.67	0.77
1:D:524:PHE:HA	1:D:528:ASP:OD2	1.85	0.76
1:D:135:ARG:HG3	1:D:136:SER:H	1.50	0.76
1:C:71:LYS:HA	1:C:77:ARG:HE	1.51	0.76
1:C:225:SER:OG	1:C:227:ASN:ND2	2.20	0.75
1:C:102:ILE:HA	1:C:110:LYS:HG2	1.69	0.74
1:C:444:ARG:HH22	1:C:471:MET:HB2	1.52	0.74
1:B:394:ASN:HB3	1:B:465:LYS:HE3	1.69	0.74
1:B:66:ILE:HD12	1:B:68:ARG:H	1.52	0.74
1:B:54:VAL:O	1:B:58:ARG:HG2	1.88	0.73
1:B:58:ARG:HA	1:B:62:GLY:HA3	1.71	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:507:MET:C	1:C:540:PHE:O	2.30	0.73
1:D:365:THR:HG22	1:D:638:ASP:HB3	1.70	0.73
1:B:379:ILE:HG12	1:B:535:MET:HE2	1.71	0.73
1:C:230:PHE:HD2	1:C:231:MET:H	1.33	0.73
1:D:462:MET:H	1:D:518:PRO:HG3	1.53	0.73
1:B:387:VAL:HA	1:B:390:HIS:CE1	2.23	0.73
1:C:374:MET:HE3	1:C:374:MET:H	1.52	0.73
1:B:35:LYS:HG2	1:B:214:ALA:HB2	1.71	0.72
1:C:477:LEU:HG	1:C:533:VAL:HG12	1.72	0.71
1:C:434:ASP:HB3	1:C:448:VAL:HB	1.71	0.71
1:A:837:ILE:HB	1:A:841:GLN:HG3	1.72	0.71
1:A:507:MET:HG2	1:A:541:LEU:HD23	1.73	0.71
1:C:230:PHE:HD2	1:C:231:MET:N	1.88	0.71
1:B:393:LEU:O	1:B:432:LYS:NZ	2.24	0.70
1:B:511:LEU:HD21	1:B:534:LEU:HB2	1.73	0.70
1:A:252:ILE:H	1:A:252:ILE:HD12	1.56	0.70
1:B:397:TYR:HE1	1:B:426:LEU:HB2	1.56	0.70
1:D:194:LEU:HA	1:D:238:GLY:HA3	1.72	0.70
1:B:196:ILE:HG12	1:B:235:VAL:HG13	1.74	0.69
1:C:434:ASP:OD2	1:C:436:ILE:HG12	1.92	0.69
1:A:597:ASP:OD1	1:A:598:ASP:N	2.26	0.69
1:B:385:ILE:HA	1:B:422:GLU:HG3	1.75	0.69
1:C:175:HIS:HA	1:C:241:TYR:HD2	1.57	0.69
1:C:397:TYR:HB2	1:C:432:LYS:HE2	1.76	0.68
1:C:571:LYS:HE2	1:C:571:LYS:H	1.59	0.68
1:D:168:VAL:HG21	1:D:174:ILE:HD11	1.76	0.68
1:C:357:ILE:HB	1:C:633:VAL:HG12	1.75	0.68
1:D:532:MET:HE1	1:D:534:LEU:HD12	1.74	0.68
1:D:361:ASP:OD2	1:D:619:LYS:NZ	2.25	0.68
1:C:558:TYR:HB3	1:C:686:ARG:HH12	1.58	0.67
1:C:653:ILE:HG22	1:C:670:LEU:HD11	1.76	0.67
1:C:430:TYR:HB3	1:C:457:THR:HB	1.76	0.67
1:C:61:TYR:OH	1:C:248:GLY:O	2.06	0.67
1:C:266:LYS:HA	1:C:266:LYS:HE3	1.77	0.67
1:D:251:THR:O	1:D:255:GLU:N	2.28	0.67
1:D:837:ILE:HB	1:D:841:GLN:HG3	1.77	0.67
1:B:567:GLY:HA2	1:B:614:LEU:H	1.58	0.67
1:B:571:LYS:HE3	1:B:571:LYS:HA	1.77	0.67
1:C:695:TYR:OH	1:C:735:ASP:OD1	2.12	0.67
1:C:372:VAL:HG12	1:C:373:LEU:H	1.60	0.67
1:B:70:LYS:HD3	1:B:71:LYS:H	1.60	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:515:LYS:HD2	1:C:533:VAL:HG13	1.75	0.66
1:B:386:ARG:HH12	1:B:512:VAL:HG12	1.60	0.66
1:B:387:VAL:HA	1:B:390:HIS:HE1	1.60	0.66
1:B:427:SER:OG	1:B:428:SER:N	2.23	0.66
1:C:187:ARG:HG2	1:C:243:VAL:H	1.60	0.66
1:A:234:ASN:ND2	1:A:661:ILE:HB	2.11	0.66
1:B:189:ILE:HB	1:B:212:ASP:HB3	1.77	0.66
1:B:586:LYS:HE3	1:B:586:LYS:HA	1.76	0.66
1:D:395:SER:O	1:D:402:LYS:NZ	2.29	0.66
1:D:513:ALA:HB1	1:D:532:MET:HG2	1.75	0.66
1:C:291:VAL:HG21	1:C:312:VAL:HG21	1.77	0.65
1:C:717:LEU:HD13	1:C:721:PRO:HG3	1.78	0.65
1:A:511:LEU:HD23	1:A:537:TYR:HB3	1.78	0.65
1:C:102:ILE:O	1:C:103:ILE:HG13	1.97	0.65
1:B:839:PHE:O	1:B:840:LEU:HB2	1.95	0.65
1:C:508:ARG:HB2	1:C:540:PHE:HB2	1.79	0.65
1:C:574:ARG:O	1:C:578:LYS:HG2	1.96	0.65
1:A:137:GLY:H	1:A:345:ASN:HD22	1.44	0.65
1:D:211:LEU:HD23	1:D:226:VAL:HG22	1.77	0.65
1:A:146:MET:HE2	1:A:342:ILE:HG23	1.78	0.65
1:D:194:LEU:HD12	1:D:210:LYS:HG2	1.78	0.65
1:D:366:LEU:HD12	1:D:564:ILE:HD11	1.78	0.65
1:D:502:LEU:O	1:D:505:GLU:HB3	1.97	0.64
1:C:373:LEU:HD22	1:C:540:PHE:HE1	1.62	0.64
1:D:185:ASP:OD2	1:D:186:LEU:N	2.31	0.64
1:C:694:LYS:HG2	1:C:910:LEU:HD13	1.80	0.64
1:A:197:SER:HB2	1:A:236:ILE:HD11	1.79	0.64
1:B:478:VAL:HG21	1:B:534:LEU:HD13	1.79	0.64
1:D:695:TYR:OH	1:D:735:ASP:OD1	2.15	0.64
1:D:462:MET:HE3	1:D:463:ILE:H	1.64	0.63
1:C:374:MET:HE3	1:C:374:MET:N	2.14	0.63
1:C:442:ARG:NH2	1:C:444:ARG:O	2.32	0.63
1:D:177:SER:OG	1:D:192:LYS:NZ	2.32	0.63
1:D:706:ASN:ND2	1:D:825:GLN:OE1	2.31	0.63
1:C:81:ALA:O	1:C:84:ASN:ND2	2.31	0.63
1:A:268:THR:HG22	1:A:270:GLU:H	1.63	0.63
1:D:262:GLU:OE2	1:D:263:ASP:N	2.32	0.63
1:D:636:MET:HG3	1:D:653:ILE:HB	1.79	0.63
1:D:744:ASP:OD1	1:D:745:ASN:N	2.31	0.63
1:C:105:ALA:O	1:C:110:LYS:NZ	2.32	0.63
1:D:81:ALA:O	1:D:84:ASN:ND2	2.30	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:833:ARG:HG3	1:D:834:THR:HG23	1.80	0.63
1:B:56:ILE:HA	1:B:59:GLU:OE2	2.00	0.62
1:D:508:ARG:HH22	1:D:540:PHE:HD2	1.47	0.62
1:A:207:PRO:HB3	1:A:236:ILE:HD12	1.82	0.62
1:C:192:LYS:HD2	1:C:192:LYS:O	1.98	0.62
1:B:450:LYS:HE3	1:B:450:LYS:HA	1.81	0.62
1:C:403:ASN:O	1:C:406:ASP:N	2.30	0.62
1:A:66:ILE:HD11	1:A:231:MET:HE1	1.82	0.62
1:C:850:ILE:HG22	1:C:854:MET:HE2	1.81	0.62
1:C:405:MET:O	1:C:409:ILE:HG13	2.00	0.62
1:D:614:LEU:HD12	1:D:618:GLN:HB3	1.81	0.62
1:C:394:ASN:HD22	1:C:463:ILE:HG21	1.65	0.62
1:A:591:SER:O	1:A:595:GLN:NE2	2.32	0.62
1:D:262:GLU:O	1:D:264:SER:N	2.33	0.62
1:D:211:LEU:HB2	1:D:226:VAL:HG13	1.82	0.61
1:C:151:THR:HG21	1:C:165:ILE:HD13	1.82	0.61
1:A:710:VAL:O	1:A:714:SER:HB3	2.00	0.61
1:D:548:THR:O	1:D:552:ILE:HD12	2.01	0.61
1:D:442:ARG:HH21	1:D:467:ALA:HB1	1.63	0.61
1:D:188:ILE:O	1:D:190:GLN:N	2.33	0.61
1:B:389:ARG:NH2	1:B:423:LEU:O	2.33	0.61
1:D:387:VAL:HG11	1:D:536:GLY:HA3	1.83	0.61
1:B:195:PHE:HB3	1:B:207:PRO:HB3	1.82	0.60
1:B:378:ASP:OD1	1:B:380:HIS:N	2.25	0.60
1:A:454:ASN:OD1	1:A:459:LYS:NZ	2.34	0.60
1:C:336:MET:HG3	1:C:349:ILE:HD11	1.82	0.60
1:D:638:ASP:N	1:D:642:ASP:OD1	2.33	0.60
1:D:146:MET:N	1:D:146:MET:SD	2.74	0.60
1:C:396:TYR:HD1	1:C:410:ILE:HD11	1.67	0.60
1:C:478:VAL:HG21	1:C:487:LEU:HB2	1.84	0.60
1:B:523:THR:HG22	1:B:525:SER:H	1.66	0.60
1:C:230:PHE:CD2	1:C:231:MET:N	2.65	0.60
1:C:438:PHE:HB3	1:C:445:MET:HE3	1.82	0.60
1:D:514:GLN:HB2	1:D:535:MET:HG3	1.82	0.60
1:A:491:LEU:O	1:A:495:ILE:HG12	2.01	0.60
1:D:596:LEU:HD21	1:D:604:VAL:HG11	1.84	0.60
1:C:570:ASP:HB3	1:C:574:ARG:HH21	1.65	0.60
1:D:180:ASP:N	1:D:235:VAL:O	2.35	0.60
1:D:589:LEU:HD23	1:D:613:LYS:HG3	1.84	0.60
1:D:640:ILE:HD13	1:D:659:VAL:HG21	1.84	0.60
1:B:717:LEU:HD13	1:B:721:PRO:HG3	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:405:MET:SD	1:D:508:ARG:NH2	2.75	0.59
1:D:618:GLN:O	1:D:622:ILE:HG13	2.01	0.59
1:B:54:VAL:O	1:B:58:ARG:NH1	2.35	0.59
1:D:611:PHE:HB3	1:D:614:LEU:HD21	1.85	0.59
1:D:105:ALA:O	1:D:110:LYS:NZ	2.35	0.59
1:A:56:ILE:HA	1:A:59:GLU:OE2	2.02	0.59
1:A:393:LEU:HD21	1:A:426:LEU:HD11	1.83	0.59
1:B:41:LYS:HE2	1:B:41:LYS:HA	1.85	0.59
1:B:432:LYS:HD2	1:B:447:VAL:HG12	1.85	0.59
1:C:188:ILE:HD11	1:C:241:TYR:H	1.68	0.59
1:C:155:ARG:HB3	1:C:175:HIS:CD2	2.37	0.59
1:C:465:LYS:HB3	1:C:512:VAL:HG22	1.85	0.59
1:A:312:VAL:HA	1:A:707:MET:HE2	1.85	0.58
1:A:582:LEU:HD23	1:A:583:PRO:HD2	1.83	0.58
1:B:52:GLU:OE1	1:B:52:GLU:N	2.20	0.58
1:B:373:LEU:HD22	1:B:408:ALA:HB1	1.85	0.58
1:C:60:GLN:N	1:C:60:GLN:OE1	2.36	0.58
1:C:404:LEU:O	1:C:407:LEU:HD12	2.03	0.58
1:C:570:ASP:OD1	1:C:613:LYS:NZ	2.35	0.58
1:B:365:THR:HG23	1:B:638:ASP:OD2	2.04	0.58
1:C:148:THR:HG23	1:C:164:PRO:HG3	1.85	0.58
1:C:507:MET:O	1:C:540:PHE:O	2.20	0.58
1:B:443:ARG:HD2	1:B:469:GLU:HB2	1.85	0.58
1:B:700:ALA:HB1	1:B:766:MET:SD	2.43	0.58
1:C:22:GLU:HG3	1:C:23:ILE:HG12	1.86	0.58
1:B:822:MET:HE3	1:B:826:THR:OG1	2.04	0.58
1:C:502:LEU:HD23	1:C:509:VAL:HG22	1.84	0.58
1:B:822:MET:SD	1:B:859:LEU:HD13	2.44	0.58
1:C:200:SER:HB2	1:C:640:ILE:HD12	1.85	0.58
1:C:387:VAL:HG21	1:C:536:GLY:HA2	1.85	0.58
1:A:600:GLU:N	1:A:600:GLU:OE2	2.37	0.57
1:C:542:ASP:OD2	1:C:542:ASP:C	2.46	0.57
1:B:448:VAL:HG11	1:B:521:ILE:HD13	1.86	0.57
1:D:34:THR:OG1	1:D:227:ASN:ND2	2.38	0.57
1:D:862:ILE:O	1:D:865:THR:OG1	2.22	0.57
1:C:198:GLN:HG2	1:C:233:SER:HA	1.86	0.57
1:C:393:LEU:HG	1:C:463:ILE:HD11	1.86	0.57
1:B:575:SER:OG	1:B:579:GLN:NE2	2.37	0.57
1:B:65:THR:OG1	1:B:66:ILE:N	2.35	0.57
1:B:498:LYS:HD2	1:B:537:TYR:CZ	2.40	0.57
1:B:733:ILE:HD12	1:B:859:LEU:HD12	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:159:GLY:HA3	1:C:161:GLN:HE21	1.69	0.57
1:D:501:GLU:OE2	1:D:502:LEU:HD12	2.05	0.57
1:A:186:LEU:HD21	1:A:242:GLY:HA3	1.87	0.57
1:A:215:THR:HG22	1:A:217:ALA:H	1.70	0.57
1:B:149:THR:HG22	1:B:151:THR:HG23	1.87	0.57
1:B:446:SER:HA	1:B:464:THR:HG22	1.87	0.57
1:B:616:PRO:HG3	1:B:641:ASN:HD22	1.69	0.57
1:B:698:MET:HE1	1:B:829:ILE:HG23	1.86	0.57
1:D:468:ALA:H	1:D:471:MET:HE1	1.69	0.57
1:C:195:PHE:HD2	1:C:236:ILE:HB	1.70	0.56
1:D:641:ASN:OD1	1:D:641:ASN:N	2.38	0.56
1:A:596:LEU:HD12	1:A:597:ASP:H	1.71	0.56
1:B:64:ASN:N	1:B:166:GLU:OE1	2.35	0.56
1:A:372:VAL:HG22	1:A:543:PRO:HD3	1.86	0.56
1:A:477:LEU:O	1:A:533:VAL:HA	2.04	0.56
1:B:148:THR:HG21	1:B:181:MET:HG2	1.87	0.56
1:B:403:ASN:OD1	1:B:404:LEU:N	2.38	0.56
1:C:47:LYS:HD2	1:C:51:GLU:HB2	1.87	0.56
1:C:68:ARG:HH12	1:C:260:VAL:HG13	1.70	0.56
1:C:405:MET:HB3	1:C:540:PHE:CE2	2.40	0.56
1:C:545:LYS:N	1:C:545:LYS:HE2	2.20	0.56
1:D:405:MET:HE2	1:D:405:MET:N	2.14	0.56
1:C:528:ASP:OD2	1:C:531:GLU:HG3	2.05	0.56
1:B:436:ILE:HD12	1:B:442:ARG:HH22	1.69	0.56
1:C:627:ARG:HG3	1:C:633:VAL:HG22	1.88	0.56
1:C:376:HIS:CG	1:C:384:ASN:HB3	2.41	0.56
1:D:888:VAL:O	1:D:892:MET:HG2	2.06	0.56
1:A:291:VAL:HG21	1:A:312:VAL:HG21	1.87	0.56
1:C:706:ASN:ND2	1:C:825:GLN:OE1	2.39	0.56
1:D:533:VAL:HG23	1:D:535:MET:HE3	1.88	0.56
1:A:27:LEU:O	1:A:31:LYS:HG3	2.05	0.56
1:C:209:GLU:HB2	1:C:211:LEU:HG	1.87	0.56
1:C:373:LEU:HD22	1:C:540:PHE:CE1	2.40	0.56
1:C:410:ILE:O	1:C:414:GLU:HG2	2.06	0.56
1:D:405:MET:HG3	1:D:540:PHE:CE2	2.41	0.56
1:A:638:ASP:OD1	1:A:638:ASP:N	2.38	0.55
1:A:887:THR:HA	1:A:890:MET:HE2	1.86	0.55
1:D:270:GLU:OE1	1:D:270:GLU:N	2.35	0.55
1:B:464:THR:HG21	1:B:524:PHE:CE1	2.42	0.55
1:B:53:GLN:OE1	1:B:57:SER:OG	2.17	0.55
1:B:187:ARG:NH2	1:B:243:VAL:O	2.34	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:444:ARG:HA	1:B:466:GLY:HA2	1.88	0.55
1:D:155:ARG:HD3	1:D:155:ARG:H	1.71	0.55
1:D:180:ASP:HB3	1:D:235:VAL:HB	1.88	0.55
1:D:535:MET:HE2	1:D:535:MET:HA	1.89	0.55
1:D:762:VAL:O	1:D:766:MET:HG3	2.06	0.55
1:A:225:SER:OG	1:A:226:VAL:N	2.40	0.55
1:A:610:VAL:HG12	1:A:610:VAL:O	2.06	0.55
1:B:656:ASP:N	1:B:656:ASP:OD1	2.39	0.55
1:B:710:VAL:O	1:B:714:SER:HB3	2.07	0.55
1:D:457:THR:OG1	1:D:458:SER:N	2.39	0.55
1:D:585:ASP:OD1	1:D:586:LYS:N	2.40	0.55
1:B:374:MET:SD	1:B:374:MET:N	2.80	0.54
1:B:433:VAL:HG11	1:B:450:LYS:HD2	1.89	0.54
1:C:571:LYS:HE2	1:C:571:LYS:N	2.22	0.54
1:D:210:LYS:NZ	1:D:228:LEU:O	2.40	0.54
1:D:597:ASP:OD2	1:D:599:ASN:N	2.41	0.54
1:A:511:LEU:HD22	1:A:534:LEU:HD21	1.90	0.54
1:C:686:ARG:HH21	1:C:754:PRO:HG3	1.71	0.54
1:D:99:PHE:HA	1:D:103:ILE:HG12	1.89	0.54
1:D:507:MET:HG2	1:D:539:ALA:HB1	1.90	0.54
1:A:567:GLY:HA2	1:A:614:LEU:H	1.73	0.54
1:B:617:GLN:OE1	1:B:617:GLN:N	2.37	0.54
1:B:176:LEU:HD22	1:B:235:VAL:HG11	1.89	0.54
1:C:36:GLU:O	1:C:40:GLN:HB2	2.08	0.54
1:C:43:LYS:HE2	1:C:47:LYS:HZ2	1.72	0.54
1:B:45:SER:OG	1:B:47:LYS:O	2.24	0.54
1:A:407:LEU:O	1:A:411:GLU:HG2	2.08	0.54
1:C:373:LEU:HB3	1:C:540:PHE:HD1	1.71	0.54
1:D:148:THR:HG22	1:D:164:PRO:HB2	1.88	0.54
1:D:541:LEU:HD11	1:D:572:VAL:HG23	1.90	0.54
1:B:51:GLU:O	1:B:54:VAL:HG12	2.08	0.54
1:B:436:ILE:HD12	1:B:442:ARG:HH12	1.73	0.54
1:A:374:MET:HE1	1:A:412:GLY:HA3	1.89	0.54
1:C:361:ASP:OD2	1:C:363:THR:OG1	2.12	0.54
1:A:44:THR:HG22	1:A:49:LEU:HD13	1.88	0.54
1:A:288:VAL:HG13	1:A:309:ALA:HB1	1.90	0.54
1:D:374:MET:HE1	1:D:541:LEU:HB3	1.89	0.54
1:A:378:ASP:HB3	1:A:384:ASN:HB2	1.90	0.54
1:A:487:LEU:HB3	1:A:492:ARG:HE	1.73	0.54
1:B:64:ASN:ND2	1:B:247:THR:HG1	2.06	0.54
1:C:291:VAL:HG23	1:C:711:LEU:HD12	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:442:ARG:HA	1:D:442:ARG:NE	2.23	0.54
1:A:442:ARG:NH1	1:A:529:GLU:OE1	2.42	0.53
1:C:406:ASP:OD1	1:C:407:LEU:N	2.41	0.53
1:D:162:GLU:OE1	1:D:163:ILE:HG12	2.07	0.53
1:B:35:LYS:HB2	1:B:189:ILE:HG21	1.90	0.53
1:C:439:ASP:OD2	1:C:442:ARG:N	2.42	0.53
1:B:550:LYS:HA	1:B:553:LYS:HE3	1.89	0.53
1:D:558:TYR:HB3	1:D:686:ARG:NH2	2.24	0.53
1:B:779:THR:HG23	1:C:897:ILE:HG21	1.91	0.53
1:B:642:ASP:O	1:B:644:ALA:N	2.42	0.53
1:D:250:ALA:O	1:D:255:GLU:HB2	2.09	0.53
1:B:44:THR:HG22	1:B:50:SER:HB3	1.90	0.53
1:B:605:ALA:HA	1:B:611:PHE:HZ	1.74	0.53
1:C:530:SER:OG	1:C:531:GLU:N	2.41	0.53
1:B:169:LEU:HD22	1:B:170:VAL:HG13	1.91	0.52
1:C:558:TYR:CZ	1:C:683:ILE:HD11	2.44	0.52
1:D:441:GLU:OE2	1:D:441:GLU:HA	2.09	0.52
1:D:784:MET:HE2	1:D:816:GLY:HA3	1.90	0.52
1:A:194:LEU:HD23	1:A:195:PHE:N	2.25	0.52
1:A:596:LEU:HD11	1:A:600:GLU:HB2	1.90	0.52
1:B:42:PHE:C	1:B:43:LYS:HD2	2.35	0.52
1:B:659:VAL:HG23	1:B:662:ALA:H	1.74	0.52
1:C:321:LEU:HD12	1:C:695:TYR:HE2	1.73	0.52
1:D:722:MET:HE2	1:D:817:TRP:CE3	2.44	0.52
1:B:443:ARG:HB3	1:B:467:ALA:HB3	1.90	0.52
1:B:740:ALA:HB2	1:B:851:LEU:HD12	1.90	0.52
1:D:179:GLY:HA2	1:D:236:ILE:HA	1.92	0.52
1:D:520:PRO:HD2	1:D:528:ASP:HA	1.92	0.52
1:D:686:ARG:HH12	1:D:754:PRO:HG3	1.75	0.52
1:B:434:ASP:HB2	1:B:448:VAL:HB	1.92	0.52
1:D:231:MET:SD	1:D:253:PHE:HB3	2.50	0.52
1:D:590:GLY:HA2	1:D:593:ILE:HD13	1.91	0.52
1:D:733:ILE:HD12	1:D:859:LEU:HD12	1.92	0.52
1:B:694:LYS:O	1:B:698:MET:HG3	2.10	0.52
1:C:342:ILE:HG13	1:C:671:LEU:HD21	1.92	0.52
1:C:822:MET:HG2	1:C:859:LEU:HD13	1.91	0.52
1:A:722:MET:HG2	1:A:726:HIS:HB2	1.92	0.52
1:B:436:ILE:O	1:B:436:ILE:HG13	2.10	0.52
1:B:510:ILE:HD11	1:B:538:LEU:HD23	1.92	0.52
1:B:640:ILE:HD13	1:B:659:VAL:HG21	1.91	0.52
1:C:374:MET:H	1:C:374:MET:CE	2.22	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:350:GLN:NE2	1:D:689:TYR:HB2	2.24	0.52
1:B:35:LYS:HG3	1:B:36:GLU:H	1.75	0.52
1:B:132:GLN:NE2	1:B:326:THR:OG1	2.42	0.52
1:C:426:LEU:HA	1:C:429:LYS:HZ2	1.74	0.52
1:D:407:LEU:O	1:D:410:ILE:HG13	2.09	0.52
1:D:597:ASP:HB3	1:D:600:GLU:HB2	1.92	0.52
1:B:386:ARG:O	1:B:390:HIS:ND1	2.34	0.51
1:B:812:LEU:HA	1:B:815:THR:HG22	1.92	0.51
1:D:444:ARG:HH22	1:D:470:GLU:CD	2.18	0.51
1:B:168:VAL:HG23	1:B:172:ASP:HB2	1.92	0.51
1:B:515:LYS:O	1:B:517:ASN:N	2.43	0.51
1:D:673:LYS:HB2	1:D:675:LEU:HG	1.92	0.51
1:C:335:THR:HG21	1:C:684:GLU:OE2	2.11	0.51
1:D:405:MET:HG3	1:D:540:PHE:HE2	1.75	0.51
1:B:722:MET:HE3	1:B:727:ILE:HG12	1.92	0.51
1:C:29:PHE:HA	1:C:32:THR:HB	1.91	0.51
1:C:129:ARG:O	1:C:133:GLU:HG2	2.09	0.51
1:C:328:CYS:SG	1:C:742:PRO:HG3	2.51	0.51
1:D:515:LYS:HE2	1:D:518:PRO:HA	1.92	0.51
1:B:377:LEU:H	1:B:377:LEU:HD12	1.75	0.51
1:C:185:ASP:OD2	1:C:185:ASP:N	2.38	0.51
1:C:491:LEU:O	1:C:495:ILE:HG12	2.11	0.51
1:B:221:SER:O	1:B:223:THR:N	2.37	0.51
1:B:428:SER:O	1:B:454:ASN:ND2	2.38	0.51
1:D:190:GLN:O	1:D:240:ALA:HA	2.10	0.51
1:D:480:ASP:OD2	1:D:534:LEU:HB2	2.10	0.51
1:A:71:LYS:HD3	1:A:72:SER:N	2.25	0.51
1:B:168:VAL:HG13	1:B:169:LEU:H	1.76	0.51
1:B:627:ARG:HG3	1:B:633:VAL:HG22	1.93	0.51
1:C:22:GLU:C	1:C:24:ASN:H	2.19	0.51
1:D:252:ILE:HA	1:D:255:GLU:HB3	1.92	0.51
1:D:288:VAL:HG13	1:D:309:ALA:HB1	1.92	0.51
1:B:280:LEU:O	1:B:284:MET:HG3	2.10	0.51
1:B:283:PHE:O	1:B:287:MET:HG3	2.11	0.51
1:B:897:ILE:HG21	1:C:779:THR:HG23	1.93	0.51
1:C:373:LEU:HD21	1:C:409:ILE:HA	1.92	0.51
1:D:594:ASP:OD1	1:D:618:GLN:NE2	2.43	0.51
1:B:513:ALA:CB	1:B:532:MET:HB2	2.41	0.50
1:A:188:ILE:HD11	1:A:229:ALA:HB2	1.93	0.50
1:B:432:LYS:HD3	1:B:449:VAL:HG23	1.92	0.50
1:C:563:LYS:NZ	1:C:605:ALA:O	2.29	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:401:LEU:HD12	1:A:401:LEU:H	1.75	0.50
1:C:467:ALA:H	1:C:470:GLU:HB3	1.77	0.50
1:D:460:THR:HG22	1:D:518:PRO:HG2	1.92	0.50
1:C:468:ALA:HA	1:C:511:LEU:HD23	1.94	0.50
1:D:318:PRO:HB2	1:D:321:LEU:HB2	1.93	0.50
1:A:385:ILE:HG23	1:A:423:LEU:HD21	1.92	0.50
1:B:54:VAL:HG23	1:B:58:ARG:CZ	2.41	0.50
1:C:60:GLN:HG3	1:C:244:VAL:HG13	1.94	0.50
1:A:360:THR:OG1	1:A:361:ASP:N	2.45	0.50
1:C:356:ASN:C	1:C:560:VAL:HG23	2.36	0.50
1:C:404:LEU:HA	1:C:407:LEU:HG	1.93	0.50
1:B:373:LEU:H	1:B:373:LEU:HD23	1.76	0.50
1:B:386:ARG:NH1	1:B:512:VAL:HG12	2.26	0.50
1:B:722:MET:HG2	1:B:726:HIS:HB2	1.93	0.50
1:C:27:LEU:HD13	1:C:215:THR:HG22	1.93	0.50
1:D:404:LEU:HD23	1:D:407:LEU:HD12	1.93	0.50
1:D:30:ALA:HB3	1:D:37:GLU:OE2	2.11	0.50
1:D:558:TYR:CZ	1:D:683:ILE:HD11	2.46	0.50
1:A:367:THR:HA	1:A:544:PRO:HA	1.94	0.50
1:C:390:HIS:NE2	1:C:463:ILE:HA	2.27	0.50
1:C:464:THR:OG1	1:C:531:GLU:OE2	2.29	0.50
1:C:565:LEU:HD12	1:C:635:TYR:HE2	1.76	0.50
1:D:826:THR:HB	1:D:856:ILE:HD11	1.93	0.50
1:A:51:GLU:OE1	1:A:51:GLU:N	2.33	0.49
1:C:507:MET:O	1:C:540:PHE:N	2.45	0.49
1:A:654:SER:O	1:A:669:ILE:HA	2.12	0.49
1:A:655:VAL:HG12	1:A:657:SER:H	1.78	0.49
1:C:195:PHE:HD1	1:C:209:GLU:HG3	1.76	0.49
1:C:442:ARG:HG2	1:C:444:ARG:HD3	1.93	0.49
1:A:437:PRO:O	1:A:442:ARG:NH2	2.45	0.49
1:B:245:ILE:HG13	1:B:246:ALA:H	1.77	0.49
1:C:175:HIS:O	1:C:176:LEU:HB2	2.11	0.49
1:C:590:GLY:HA3	1:C:613:LYS:O	2.12	0.49
1:C:762:VAL:O	1:C:766:MET:HG3	2.11	0.49
1:B:26:ARG:HH22	1:B:185:ASP:CG	2.20	0.49
1:B:524:PHE:CE2	1:B:529:GLU:HB2	2.47	0.49
1:C:327:THR:HA	1:C:330:ALA:HB3	1.94	0.49
1:C:656:ASP:OD1	1:C:656:ASP:N	2.45	0.49
1:A:695:TYR:OH	1:A:735:ASP:OD1	2.17	0.49
1:C:32:THR:HG22	1:C:33:SER:H	1.77	0.49
1:A:828:VAL:O	1:A:832:ILE:HG12	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:77:ARG:HH11	1:C:263:ASP:HA	1.78	0.49
1:C:438:PHE:HA	1:C:442:ARG:HH21	1.76	0.49
1:D:386:ARG:HG2	1:D:390:HIS:CE1	2.47	0.49
1:A:355:MET:HE1	1:A:653:ILE:HD11	1.94	0.49
1:A:722:MET:HB2	1:A:817:TRP:HE3	1.77	0.49
1:C:49:LEU:O	1:C:49:LEU:HD13	2.13	0.49
1:A:222:ILE:HD12	1:A:222:ILE:H	1.78	0.49
1:B:405:MET:O	1:B:409:ILE:HG12	2.12	0.49
1:B:386:ARG:HG2	1:B:514:GLN:HB3	1.94	0.49
1:B:407:LEU:HA	1:B:410:ILE:HG12	1.94	0.49
1:A:227:ASN:OD1	1:A:227:ASN:N	2.45	0.48
1:B:893:MET:O	1:B:896:THR:HB	2.12	0.48
1:C:611:PHE:HB3	1:C:614:LEU:HD21	1.95	0.48
1:B:320:MET:HE2	1:B:320:MET:HA	1.94	0.48
1:B:488:THR:OG1	1:B:491:LEU:HB2	2.13	0.48
1:C:53:GLN:NE2	1:C:172:ASP:OD1	2.45	0.48
1:C:508:ARG:HA	1:C:508:ARG:CZ	2.42	0.48
1:D:722:MET:HG2	1:D:726:HIS:HB2	1.95	0.48
1:A:24:ASN:O	1:A:28:GLU:HG2	2.13	0.48
1:B:196:ILE:HG23	1:B:235:VAL:HG22	1.94	0.48
1:B:373:LEU:HD13	1:B:540:PHE:CE1	2.47	0.48
1:B:376:HIS:O	1:B:376:HIS:ND1	2.43	0.48
1:C:270:GLU:OE2	1:C:347:ASN:ND2	2.47	0.48
1:C:320:MET:HE3	1:C:323:MET:HE2	1.96	0.48
1:C:877:PRO:HB2	1:C:879:ASN:OD1	2.12	0.48
1:D:162:GLU:CD	1:D:163:ILE:HG12	2.38	0.48
1:B:370:LYS:HG2	1:B:371:VAL:H	1.79	0.48
1:D:659:VAL:HG23	1:D:662:ALA:H	1.78	0.48
1:A:831:MET:SD	1:A:838:PRO:HG2	2.54	0.48
1:B:90:LEU:HB3	1:B:122:VAL:HG22	1.94	0.48
1:B:376:HIS:CE1	1:B:536:GLY:HA2	2.49	0.48
1:B:695:TYR:OH	1:B:735:ASP:OD1	2.11	0.48
1:B:707:MET:HA	1:B:707:MET:HE2	1.94	0.48
1:C:413:ALA:HA	1:C:416:LYS:HE3	1.95	0.48
1:C:481:LYS:HG3	1:C:535:MET:HG3	1.94	0.48
1:B:376:HIS:CE1	1:B:384:ASN:HB2	2.48	0.48
1:C:640:ILE:HG13	1:C:659:VAL:HG21	1.95	0.48
1:D:710:VAL:O	1:D:714:SER:HB3	2.14	0.48
1:A:440:PHE:HD1	1:A:616:PRO:HD3	1.78	0.48
1:B:194:LEU:HB3	1:B:209:GLU:OE2	2.14	0.48
1:C:74:LEU:HD22	1:C:261:THR:OG1	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:55:GLU:O	1:A:59:GLU:HG3	2.14	0.48
1:D:186:LEU:HB3	1:D:244:VAL:HG12	1.95	0.48
1:D:386:ARG:NH1	1:D:535:MET:HE1	2.28	0.48
1:D:409:ILE:HD11	1:D:540:PHE:HZ	1.77	0.48
1:C:256:MET:SD	1:C:256:MET:O	2.72	0.48
1:A:426:LEU:O	1:A:426:LEU:HD12	2.14	0.48
1:A:584:VAL:HG23	1:A:585:ASP:H	1.78	0.48
1:A:545:LYS:HB2	1:A:548:THR:OG1	2.14	0.47
1:B:515:LYS:HG2	1:B:533:VAL:HG23	1.96	0.47
1:D:433:VAL:HG11	1:D:450:LYS:HD2	1.96	0.47
1:A:23:ILE:HD12	1:A:24:ASN:N	2.29	0.47
1:B:462:MET:O	1:B:462:MET:SD	2.71	0.47
1:D:140:ALA:HA	1:D:664:GLU:HG2	1.97	0.47
1:C:394:ASN:O	1:C:398:GLN:NE2	2.46	0.47
1:B:251:THR:O	1:B:255:GLU:HG3	2.14	0.47
1:D:432:LYS:HB2	1:D:435:GLU:OE1	2.14	0.47
1:A:578:LYS:HD2	1:A:578:LYS:HA	1.67	0.47
1:C:326:THR:C	1:C:328:CYS:H	2.21	0.47
1:D:414:GLU:O	1:D:417:GLN:HG2	2.15	0.47
1:D:465:LYS:HA	1:D:465:LYS:HE2	1.96	0.47
1:A:174:ILE:HD11	1:A:244:VAL:HG22	1.96	0.47
1:A:890:MET:HG3	1:D:893:MET:HE3	1.97	0.47
1:B:114:GLY:O	1:B:118:ILE:HG13	2.15	0.47
1:B:439:ASP:O	1:B:443:ARG:N	2.35	0.47
1:B:480:ASP:N	1:B:483:ASN:O	2.47	0.47
1:B:611:PHE:HB3	1:B:614:LEU:HD11	1.96	0.47
1:C:445:MET:HE3	1:C:445:MET:H	1.79	0.47
1:D:463:ILE:HG12	1:D:514:GLN:HB3	1.96	0.47
1:D:533:VAL:CG2	1:D:535:MET:HE3	2.45	0.47
1:D:592:ASP:O	1:D:596:LEU:HB2	2.15	0.47
1:C:676:MET:HE2	1:C:676:MET:HA	1.96	0.47
1:B:105:ALA:O	1:B:110:LYS:NZ	2.47	0.47
1:B:529:GLU:HG3	1:B:532:MET:HE3	1.96	0.47
1:B:750:TYR:O	1:B:755:ARG:NH1	2.48	0.47
1:C:432:LYS:HD3	1:C:449:VAL:HB	1.97	0.47
1:C:558:TYR:O	1:C:686:ARG:NH2	2.48	0.47
1:D:488:THR:H	1:D:491:LEU:HD12	1.79	0.47
1:A:487:LEU:CB	1:A:492:ARG:HE	2.28	0.46
1:A:577:CYS:HA	1:A:580:VAL:HG12	1.95	0.46
1:B:686:ARG:NH2	1:B:754:PRO:HG3	2.30	0.46
1:C:191:ALA:HB1	1:C:194:LEU:HB2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:596:LEU:HD12	1:A:597:ASP:N	2.30	0.46
1:B:336:MET:HE3	1:B:681:GLY:HA2	1.96	0.46
1:B:445:MET:HB3	1:B:465:LYS:HG3	1.97	0.46
1:B:529:GLU:OE2	1:B:532:MET:HE3	2.15	0.46
1:C:169:LEU:C	1:C:171:GLY:H	2.24	0.46
1:C:239:SER:HB2	1:C:241:TYR:CE1	2.50	0.46
1:C:361:ASP:O	1:C:365:THR:OG1	2.32	0.46
1:C:393:LEU:HD13	1:C:430:TYR:CD1	2.49	0.46
1:D:833:ARG:HH21	1:D:843:ARG:C	2.23	0.46
1:A:49:LEU:HD11	1:A:53:GLN:HG3	1.98	0.46
1:B:67:THR:O	1:B:68:ARG:HG2	2.15	0.46
1:B:432:LYS:HD2	1:B:447:VAL:CG1	2.46	0.46
1:C:180:ASP:O	1:C:180:ASP:OD2	2.33	0.46
1:C:432:LYS:HE3	1:C:435:GLU:OE1	2.15	0.46
1:D:184:ALA:HB3	1:D:244:VAL:HB	1.96	0.46
1:D:430:TYR:HE2	1:D:461:GLN:HE22	1.62	0.46
1:D:698:MET:HG2	1:D:832:ILE:HD11	1.98	0.46
1:A:345:ASN:OD1	1:A:345:ASN:N	2.48	0.46
1:C:209:GLU:OE1	1:C:209:GLU:N	2.47	0.46
1:D:394:ASN:O	1:D:398:GLN:N	2.48	0.46
1:D:694:LYS:HB2	1:D:694:LYS:HE2	1.80	0.46
1:A:883:TRP:HZ2	1:D:900:LYS:HD3	1.79	0.46
1:B:574:ARG:HH11	1:B:584:VAL:HG21	1.80	0.46
1:D:52:GLU:HA	1:D:55:GLU:HB2	1.98	0.46
1:B:826:THR:HB	1:B:856:ILE:HD11	1.98	0.46
1:C:210:LYS:HD2	1:C:215:THR:HG23	1.98	0.46
1:C:508:ARG:HA	1:C:508:ARG:NH1	2.31	0.46
1:D:328:CYS:SG	1:D:742:PRO:HG3	2.56	0.46
1:D:831:MET:SD	1:D:838:PRO:HG2	2.56	0.46
1:A:530:SER:HB3	1:A:531:GLU:OE1	2.16	0.46
1:B:67:THR:HB	1:B:261:THR:HG21	1.97	0.46
1:C:272:GLY:O	1:C:275:SER:OG	2.30	0.46
1:C:657:SER:O	1:C:657:SER:OG	2.31	0.46
1:A:376:HIS:HD2	1:A:388:LEU:HD23	1.81	0.46
1:A:583:PRO:HB2	1:A:585:ASP:OD2	2.16	0.46
1:B:400:GLY:HA2	1:B:437:PRO:HB3	1.98	0.46
1:C:196:ILE:HD13	1:C:235:VAL:HG12	1.97	0.46
1:C:251:THR:HG23	1:C:253:PHE:H	1.80	0.46
1:D:210:LYS:HD3	1:D:210:LYS:HA	1.68	0.46
1:D:419:LYS:HD2	1:D:419:LYS:C	2.41	0.46
1:A:900:LYS:HD3	1:D:883:TRP:HZ2	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:569:ASN:O	1:B:573:THR:HG23	2.16	0.46
1:D:58:ARG:NH2	1:D:244:VAL:O	2.46	0.46
1:D:194:LEU:O	1:D:209:GLU:HA	2.15	0.46
1:D:679:GLU:O	1:D:683:ILE:HG12	2.16	0.46
1:A:614:LEU:HD22	1:A:618:GLN:HB3	1.98	0.46
1:C:405:MET:HB3	1:C:540:PHE:HE2	1.81	0.46
1:B:403:ASN:O	1:B:407:LEU:N	2.42	0.45
1:B:618:GLN:O	1:B:622:ILE:HG12	2.16	0.45
1:C:155:ARG:HD3	1:C:175:HIS:HB3	1.98	0.45
1:C:169:LEU:O	1:C:170:VAL:HG22	2.17	0.45
1:A:903:VAL:HG22	1:A:909:LEU:HB2	1.98	0.45
1:C:221:SER:O	1:C:225:SER:N	2.39	0.45
1:C:407:LEU:O	1:C:410:ILE:HG22	2.15	0.45
1:D:647:LYS:HD3	1:D:647:LYS:HA	1.81	0.45
1:A:392:PHE:C	1:A:392:PHE:CD1	2.95	0.45
1:A:407:LEU:HD12	1:A:407:LEU:H	1.81	0.45
1:C:222:ILE:HD12	1:C:223:THR:N	2.31	0.45
1:C:288:VAL:HG13	1:C:309:ALA:HB1	1.97	0.45
1:D:55:GLU:O	1:D:59:GLU:HG2	2.16	0.45
1:A:693:ILE:HD12	1:A:693:ILE:HA	1.86	0.45
1:A:800:VAL:O	1:A:803:SER:OG	2.26	0.45
1:B:694:LYS:HG2	1:B:910:LEU:HD13	1.99	0.45
1:C:253:PHE:HD2	1:C:254:GLY:H	1.64	0.45
1:C:592:ASP:O	1:C:596:LEU:HG	2.16	0.45
1:D:462:MET:HB3	1:D:529:GLU:OE2	2.16	0.45
1:C:163:ILE:HD12	1:C:167:GLU:OE1	2.16	0.45
1:C:194:LEU:HB3	1:C:210:LYS:HB2	1.97	0.45
1:A:177:SER:OG	1:A:178:ALA:N	2.49	0.45
1:B:73:SER:O	1:B:76:LYS:N	2.47	0.45
1:B:893:MET:HB3	1:C:890:MET:SD	2.56	0.45
1:A:498:LYS:HA	1:A:501:GLU:HG2	1.98	0.45
1:C:319:GLU:H	1:C:319:GLU:HG2	1.57	0.45
1:C:515:LYS:HB2	1:C:533:VAL:HG22	1.99	0.45
1:D:449:VAL:O	1:D:461:GLN:HB3	2.17	0.45
1:A:459:LYS:O	1:A:461:GLN:HG2	2.17	0.45
1:C:387:VAL:HA	1:C:390:HIS:HB3	1.98	0.45
1:D:601:LEU:HD23	1:D:625:THR:HG21	1.99	0.45
1:A:440:PHE:CD1	1:A:616:PRO:HD3	2.52	0.45
1:B:531:GLU:OE1	1:B:532:MET:N	2.50	0.45
1:C:61:TYR:CE1	1:C:230:PHE:HE1	2.35	0.45
1:C:266:LYS:HA	1:C:266:LYS:CE	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:256:MET:SD	1:C:259:SER:HB2	2.57	0.44
1:C:636:MET:HE1	1:C:675:LEU:HD22	1.98	0.44
1:D:303:MET:HA	1:D:303:MET:HE2	1.98	0.44
1:D:593:ILE:HD12	1:D:593:ILE:H	1.82	0.44
1:B:376:HIS:CE1	1:B:384:ASN:HD22	2.35	0.44
1:D:143:LEU:HB2	1:D:146:MET:HE1	1.99	0.44
1:D:527:GLN:HA	1:D:530:SER:HB2	1.99	0.44
1:A:194:LEU:HD21	1:A:235:VAL:HG13	1.99	0.44
1:A:196:ILE:HG12	1:A:235:VAL:HA	1.98	0.44
1:C:572:VAL:O	1:C:576:VAL:HG13	2.18	0.44
1:C:605:ALA:HA	1:C:611:PHE:HZ	1.82	0.44
1:D:176:LEU:HD23	1:D:176:LEU:H	1.82	0.44
1:D:538:LEU:HB3	1:D:540:PHE:CZ	2.52	0.44
1:A:33:SER:OG	1:A:34:THR:N	2.51	0.44
1:B:432:LYS:HD3	1:B:432:LYS:HA	1.86	0.44
1:C:395:SER:HB3	1:C:410:ILE:HD12	2.00	0.44
1:C:445:MET:H	1:C:445:MET:CE	2.29	0.44
1:D:86:PHE:HA	1:D:89:ILE:HD12	1.99	0.44
1:D:723:LEU:HB2	1:D:726:HIS:ND1	2.32	0.44
1:B:169:LEU:HB3	1:B:170:VAL:H	1.68	0.44
1:D:346:LEU:HD12	1:D:346:LEU:HA	1.81	0.44
1:A:532:MET:HE3	1:A:532:MET:HB2	1.88	0.44
1:B:53:GLN:HG2	1:B:56:ILE:HD11	1.99	0.44
1:B:370:LYS:H	1:B:543:PRO:HG3	1.82	0.44
1:D:623:VAL:HG11	1:D:649:SER:HB3	1.99	0.44
1:A:507:MET:HE3	1:A:541:LEU:HB2	2.00	0.44
1:A:620:ALA:O	1:A:624:THR:OG1	2.29	0.44
1:C:169:LEU:HD12	1:C:170:VAL:HG13	2.00	0.44
1:C:522:ASP:OD1	1:C:522:ASP:N	2.51	0.44
1:C:599:ASN:OD1	1:C:599:ASN:N	2.50	0.44
1:C:600:GLU:OE1	1:C:600:GLU:N	2.50	0.44
1:D:323:MET:O	1:D:327:THR:OG1	2.33	0.44
1:D:515:LYS:HG3	1:D:517:ASN:H	1.82	0.44
1:D:822:MET:HG2	1:D:859:LEU:HD13	1.99	0.44
1:A:328:CYS:SG	1:A:742:PRO:HG3	2.58	0.44
1:B:373:LEU:O	1:B:375:ARG:N	2.48	0.44
1:C:35:LYS:O	1:C:39:PHE:HD1	2.01	0.44
1:C:515:LYS:HD3	1:C:532:MET:N	2.32	0.44
1:B:256:MET:HE2	1:B:256:MET:C	2.43	0.44
1:B:290:PHE:HB3	1:B:711:LEU:HD11	1.99	0.44
1:C:439:ASP:OD2	1:C:439:ASP:C	2.61	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:631:ASN:OD1	1:C:631:ASN:N	2.51	0.44
1:A:426:LEU:HA	1:A:429:LYS:HG2	1.99	0.43
1:D:340:LYS:NZ	1:D:672:GLU:OE1	2.45	0.43
1:D:429:LYS:HG2	1:D:430:TYR:H	1.84	0.43
1:D:554:ALA:CB	1:D:676:MET:HE1	2.48	0.43
1:D:746:VAL:HG11	1:D:751:LEU:HD21	2.00	0.43
1:B:31:LYS:NZ	1:B:217:ALA:O	2.45	0.43
1:C:551:ALA:O	1:C:555:LEU:HB2	2.18	0.43
1:D:132:GLN:NE2	1:D:326:THR:OG1	2.42	0.43
1:D:365:THR:OG1	1:D:366:LEU:N	2.50	0.43
1:D:388:LEU:HD12	1:D:388:LEU:HA	1.89	0.43
1:D:515:LYS:HD2	1:D:532:MET:HA	2.00	0.43
1:A:412:GLY:O	1:A:416:LYS:HG3	2.18	0.43
1:C:98:ALA:HB2	1:C:115:LEU:HD13	2.00	0.43
1:C:186:LEU:HD11	1:C:240:ALA:HA	2.00	0.43
1:D:717:LEU:HD23	1:D:718:PRO:HD2	2.00	0.43
1:A:51:GLU:HA	1:A:54:VAL:HB	1.99	0.43
1:A:478:VAL:HB	1:A:487:LEU:HG	2.00	0.43
1:A:524:PHE:HD2	1:A:525:SER:N	2.16	0.43
1:B:118:ILE:O	1:B:122:VAL:HG23	2.19	0.43
1:B:121:MET:HG2	1:B:320:MET:HE3	2.00	0.43
1:B:360:THR:HG22	1:B:361:ASP:O	2.19	0.43
1:B:493:ALA:O	1:B:497:LYS:HG2	2.19	0.43
1:C:24:ASN:OD1	1:C:28:GLU:HG2	2.18	0.43
1:C:165:ILE:HD12	1:C:165:ILE:HA	1.92	0.43
1:C:472:LEU:HG	1:C:473:ASP:H	1.84	0.43
1:C:776:PHE:CE1	1:C:890:MET:HE3	2.54	0.43
1:B:535:MET:HE3	1:B:535:MET:HA	2.00	0.43
1:B:554:ALA:HB1	1:B:679:GLU:HG3	2.00	0.43
1:C:192:LYS:HE3	1:C:239:SER:HB3	1.99	0.43
1:C:214:ALA:HA	1:C:227:ASN:ND2	2.34	0.43
1:C:464:THR:HB	1:C:513:ALA:HB3	2.00	0.43
1:D:49:LEU:HD13	1:D:53:GLN:NE2	2.34	0.43
1:A:821:SER:O	1:A:825:GLN:HB2	2.18	0.43
1:A:893:MET:O	1:A:896:THR:HB	2.18	0.43
1:B:498:LYS:O	1:B:501:GLU:HG3	2.18	0.43
1:C:175:HIS:NE2	1:C:176:LEU:HG	2.33	0.43
1:C:550:LYS:HB2	1:C:550:LYS:HE2	1.63	0.43
1:C:776:PHE:HE1	1:C:890:MET:HE3	1.82	0.43
1:D:444:ARG:HA	1:D:465:LYS:HB3	2.01	0.43
1:D:507:MET:CG	1:D:539:ALA:HB1	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:448:VAL:HG22	1:A:462:MET:HB2	2.00	0.43
1:C:175:HIS:HA	1:C:241:TYR:CD2	2.45	0.43
1:C:647:LYS:HE2	1:C:647:LYS:HB2	1.79	0.43
1:C:694:LYS:HG2	1:C:910:LEU:CD1	2.48	0.43
1:D:143:LEU:HG	1:D:260:VAL:HG21	2.00	0.43
1:D:564:ILE:HD13	1:D:564:ILE:HA	1.85	0.43
1:A:181:MET:HE2	1:A:181:MET:HB3	1.90	0.43
1:C:803:SER:OG	1:C:804:VAL:N	2.51	0.43
1:A:380:HIS:HB3	1:A:382:GLN:HE22	1.84	0.43
1:A:636:MET:HE2	1:A:636:MET:HB2	1.94	0.43
1:A:822:MET:SD	1:A:826:THR:OG1	2.75	0.43
1:B:54:VAL:HG11	1:B:169:LEU:HG	2.01	0.43
1:B:693:ILE:HG13	1:B:697:LYS:HD2	2.00	0.43
1:C:499:VAL:O	1:C:503:ASN:ND2	2.52	0.43
1:A:176:LEU:HD23	1:A:176:LEU:HA	1.88	0.43
1:B:143:LEU:HG	1:B:660:ASP:HB3	2.00	0.43
1:C:340:LYS:HE2	1:C:340:LYS:HB2	1.68	0.43
1:C:432:LYS:CD	1:C:449:VAL:HB	2.49	0.43
1:C:552:ILE:HD13	1:C:580:VAL:HB	2.01	0.43
1:A:47:LYS:HA	1:A:47:LYS:HD2	1.92	0.42
1:A:745:ASN:O	1:A:833:ARG:NH2	2.52	0.42
1:B:269:PHE:CZ	1:B:329:LEU:HD11	2.53	0.42
1:B:336:MET:HE1	1:B:680:LYS:HB3	2.01	0.42
1:C:213:LEU:HD12	1:C:227:ASN:HB3	2.00	0.42
1:D:409:ILE:HD11	1:D:540:PHE:CZ	2.54	0.42
1:D:720:ILE:HG13	1:D:721:PRO:HD2	2.01	0.42
1:A:430:TYR:HB3	1:A:449:VAL:HG22	2.01	0.42
1:B:462:MET:HE3	1:B:517:ASN:O	2.19	0.42
1:D:284:MET:HG2	1:D:316:LEU:HD23	2.02	0.42
1:D:365:THR:O	1:D:545:LYS:HD2	2.19	0.42
1:B:837:ILE:O	1:B:838:PRO:C	2.62	0.42
1:C:480:ASP:HB2	1:C:483:ASN:HB3	2.01	0.42
1:A:194:LEU:CD2	1:A:196:ILE:HG13	2.49	0.42
1:A:379:ILE:HD12	1:A:379:ILE:HA	1.78	0.42
1:B:166:GLU:HB3	1:B:167:GLU:OE1	2.20	0.42
1:B:450:LYS:HA	1:B:460:THR:HB	2.01	0.42
1:B:532:MET:N	1:B:532:MET:SD	2.93	0.42
1:B:750:TYR:CZ	1:B:755:ARG:HD2	2.54	0.42
1:C:268:THR:OG1	1:C:269:PHE:N	2.50	0.42
1:C:650:ASP:OD1	1:C:650:ASP:N	2.53	0.42
1:D:199:ALA:HA	1:D:203:GLY:HA2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:566:THR:HG22	1:D:568:ASP:H	1.84	0.42
1:C:359:CYS:O	1:C:635:TYR:HA	2.19	0.42
1:C:680:LYS:HB2	1:C:680:LYS:HE3	1.73	0.42
1:D:656:ASP:OD1	1:D:657:SER:N	2.47	0.42
1:A:185:ASP:HB3	1:A:246:ALA:HB3	2.01	0.42
1:A:403:ASN:O	1:A:407:LEU:HD12	2.20	0.42
1:C:104:LEU:HD12	1:C:104:LEU:HA	1.83	0.42
1:C:592:ASP:OD1	1:C:593:ILE:N	2.53	0.42
1:C:812:LEU:HA	1:C:815:THR:HG22	2.01	0.42
1:D:192:LYS:HG2	1:D:193:ASP:N	2.35	0.42
1:A:514:GLN:O	1:A:533:VAL:HG22	2.20	0.42
1:A:542:ASP:OD1	1:A:542:ASP:N	2.48	0.42
1:B:76:LYS:HD2	1:B:76:LYS:O	2.19	0.42
1:B:544:PRO:C	1:B:545:LYS:HD3	2.45	0.42
1:C:53:GLN:CD	1:C:172:ASP:H	2.27	0.42
1:C:275:SER:HB2	1:C:759:ALA:HB2	2.01	0.42
1:C:569:ASN:OD1	1:C:569:ASN:N	2.48	0.42
1:C:695:TYR:HB2	1:C:741:ILE:HD12	2.01	0.42
1:D:521:ILE:O	1:D:523:THR:N	2.53	0.42
1:D:570:ASP:O	1:D:574:ARG:HG3	2.19	0.42
1:D:829:ILE:O	1:D:833:ARG:HB3	2.19	0.42
1:B:54:VAL:HG23	1:B:58:ARG:NH2	2.34	0.42
1:D:403:ASN:O	1:D:407:LEU:HG	2.19	0.42
1:A:127:ILE:O	1:A:131:VAL:HG13	2.19	0.42
1:A:171:GLY:H	1:A:244:VAL:HB	1.85	0.42
1:A:320:MET:HB2	1:A:735:ASP:HB3	2.02	0.42
1:B:58:ARG:HH22	1:B:245:ILE:HA	1.84	0.42
1:B:378:ASP:OD1	1:B:379:ILE:N	2.52	0.42
1:C:553:LYS:HE2	1:C:553:LYS:HB3	1.91	0.42
1:D:99:PHE:O	1:D:104:LEU:HB2	2.20	0.42
1:A:188:ILE:HD12	1:A:188:ILE:H	1.84	0.42
1:A:515:LYS:CB	1:A:532:MET:HG2	2.49	0.42
1:A:587:THR:HG23	1:A:610:VAL:HG12	2.00	0.42
1:C:255:GLU:HG2	1:C:644:ALA:HB1	2.01	0.42
1:C:570:ASP:OD1	1:C:570:ASP:N	2.52	0.42
1:D:357:ILE:HB	1:D:633:VAL:HG22	2.01	0.42
1:D:521:ILE:HB	1:D:522:ASP:H	1.63	0.42
1:D:853:PHE:O	1:D:857:ILE:HG12	2.20	0.42
1:B:487:LEU:HD23	1:B:492:ARG:HG2	2.01	0.41
1:C:910:LEU:HD23	1:C:910:LEU:HA	1.79	0.41
1:D:582:LEU:HD23	1:D:582:LEU:HA	1.90	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:496:LEU:O	1:A:499:VAL:HG12	2.20	0.41
1:A:722:MET:HE3	1:A:727:ILE:HG13	2.03	0.41
1:B:212:ASP:OD1	1:B:212:ASP:N	2.51	0.41
1:D:251:THR:O	1:D:254:GLY:N	2.53	0.41
1:B:722:MET:HB2	1:B:817:TRP:HE3	1.85	0.41
1:C:494:TYR:O	1:C:498:LYS:HG2	2.20	0.41
1:C:636:MET:HA	1:C:653:ILE:O	2.20	0.41
1:C:846:ALA:O	1:C:850:ILE:HG12	2.20	0.41
1:D:213:LEU:HD12	1:D:213:LEU:H	1.85	0.41
1:A:64:ASN:HA	1:A:248:GLY:H	1.86	0.41
1:A:186:LEU:HD23	1:A:187:ARG:N	2.35	0.41
1:B:389:ARG:NH1	1:B:389:ARG:HA	2.35	0.41
1:B:587:THR:HG22	1:B:610:VAL:HB	2.02	0.41
1:C:37:GLU:HG2	1:C:41:LYS:HD2	2.00	0.41
1:D:47:LYS:HG3	1:D:171:GLY:HA2	2.01	0.41
1:D:434:ASP:OD1	1:D:434:ASP:C	2.63	0.41
1:D:788:ILE:HD13	1:D:880:PHE:HD1	1.85	0.41
1:B:66:ILE:O	1:B:68:ARG:NE	2.45	0.41
1:B:260:VAL:HG12	1:B:261:THR:HG23	2.02	0.41
1:C:67:THR:HB	1:C:68:ARG:H	1.68	0.41
1:C:256:MET:HA	1:C:647:LYS:HD2	2.02	0.41
1:C:487:LEU:O	1:C:492:ARG:NH2	2.54	0.41
1:D:145:LYS:HB2	1:D:661:ILE:HD11	2.02	0.41
1:D:266:LYS:HE2	1:D:266:LYS:HB3	1.90	0.41
1:D:459:LYS:CG	1:D:460:THR:H	2.26	0.41
1:A:194:LEU:HD23	1:A:194:LEU:C	2.46	0.41
1:A:432:LYS:HA	1:A:449:VAL:HG23	2.02	0.41
1:A:481:LYS:HA	1:A:481:LYS:HD2	1.93	0.41
1:C:385:ILE:HD13	1:C:423:LEU:HD21	2.03	0.41
1:D:376:HIS:HE1	1:D:384:ASN:O	2.04	0.41
1:D:398:GLN:O	1:D:402:LYS:NZ	2.45	0.41
1:A:897:ILE:HG23	1:D:783:LEU:HD13	2.03	0.41
1:B:66:ILE:HD12	1:B:68:ARG:N	2.29	0.41
1:C:378:ASP:HB2	1:C:382:GLN:H	1.85	0.41
1:D:151:THR:OG1	1:D:163:ILE:HG13	2.20	0.41
1:D:463:ILE:HG23	1:D:514:GLN:HG2	2.02	0.41
1:D:772:THR:HG22	1:D:891:TYR:HE1	1.84	0.41
1:A:237:SER:OG	1:A:435:GLU:OE1	2.35	0.41
1:A:283:PHE:O	1:A:287:MET:HG3	2.21	0.41
1:A:366:LEU:HA	1:A:548:THR:HG21	2.02	0.41
1:A:438:PHE:CD2	1:A:438:PHE:C	2.99	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:63:ASP:N	1:B:247:THR:O	2.53	0.41
1:B:375:ARG:CZ	1:B:541:LEU:HD22	2.51	0.41
1:B:558:TYR:HE2	1:B:679:GLU:OE2	2.04	0.41
1:C:380:HIS:NE2	1:C:382:GLN:HB2	2.35	0.41
1:D:397:TYR:CD1	1:D:432:LYS:HD3	2.56	0.41
1:A:56:ILE:O	1:A:60:GLN:HB2	2.20	0.41
1:A:74:LEU:HD13	1:A:74:LEU:HA	1.88	0.41
1:A:515:LYS:NZ	1:A:530:SER:O	2.48	0.41
1:B:28:GLU:O	1:B:32:THR:HG23	2.21	0.41
1:B:502:LEU:HB3	1:B:509:VAL:HG21	2.02	0.41
1:B:571:LYS:HE3	1:B:571:LYS:CA	2.49	0.41
1:B:589:LEU:HB2	1:B:592:ASP:HB2	2.03	0.41
1:B:695:TYR:HB2	1:B:741:ILE:HD12	2.02	0.41
1:C:77:ARG:NH1	1:C:263:ASP:HA	2.35	0.41
1:C:168:VAL:HG11	1:C:183:PRO:HB2	2.03	0.41
1:C:299:LYS:NZ	1:C:714:SER:O	2.53	0.41
1:C:548:THR:O	1:C:552:ILE:HD12	2.21	0.41
1:C:566:THR:HG23	1:C:568:ASP:H	1.86	0.41
1:C:641:ASN:OD1	1:C:641:ASN:N	2.53	0.41
1:C:846:ALA:HB3	1:C:847:PRO:HD3	2.03	0.41
1:D:372:VAL:HG23	1:D:411:GLU:OE2	2.21	0.41
1:D:446:SER:C	1:D:462:MET:HE1	2.45	0.41
1:D:477:LEU:O	1:D:477:LEU:HD13	2.20	0.41
1:A:95:LEU:HD12	1:A:95:LEU:HA	1.87	0.41
1:A:496:LEU:HA	1:A:499:VAL:HG12	2.03	0.41
1:A:575:SER:O	1:A:579:GLN:HG3	2.21	0.41
1:B:85:PRO:HB2	1:B:277:SER:OG	2.21	0.41
1:B:120:THR:O	1:B:124:ILE:HG13	2.21	0.41
1:B:427:SER:HG	1:B:428:SER:H	1.65	0.41
1:C:498:LYS:HG2	1:C:498:LYS:H	1.72	0.41
1:D:185:ASP:OD2	1:D:185:ASP:C	2.64	0.41
1:D:192:LYS:HE2	1:D:238:GLY:HA2	2.03	0.41
1:D:256:MET:O	1:D:256:MET:SD	2.80	0.41
1:A:593:ILE:HD11	1:A:618:GLN:HG2	2.03	0.40
1:A:831:MET:HE2	1:A:831:MET:HB2	1.83	0.40
1:A:834:THR:HG21	1:A:842:SER:HB3	2.02	0.40
1:B:390:HIS:CD2	1:B:512:VAL:HG11	2.56	0.40
1:C:27:LEU:HB3	1:C:187:ARG:HA	2.01	0.40
1:C:30:ALA:HB1	1:C:189:ILE:O	2.21	0.40
1:C:210:LYS:O	1:C:213:LEU:HG	2.22	0.40
1:D:386:ARG:HH11	1:D:535:MET:HE1	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:442:ARG:HG3	1:A:444:ARG:NH2	2.36	0.40
1:B:194:LEU:HD21	1:B:196:ILE:HD11	2.03	0.40
1:B:374:MET:HE3	1:B:412:GLY:HA2	2.02	0.40
1:B:731:ASN:O	1:B:735:ASP:OD2	2.39	0.40
1:C:43:LYS:HG2	1:C:47:LYS:HZ1	1.86	0.40
1:D:58:ARG:HH11	1:D:61:TYR:HE2	1.70	0.40
1:D:321:LEU:N	1:D:322:PRO:HD2	2.36	0.40
1:A:384:ASN:OD1	1:A:387:VAL:HG23	2.21	0.40
1:A:462:MET:O	1:A:514:GLN:HA	2.20	0.40
1:A:860:THR:O	1:A:863:PRO:HD2	2.21	0.40
1:B:71:LYS:HE3	1:B:261:THR:O	2.21	0.40
1:B:877:PRO:HB2	1:B:879:ASN:OD1	2.21	0.40
1:C:402:LYS:HA	1:C:402:LYS:HD3	1.84	0.40
1:A:51:GLU:H	1:A:51:GLU:CD	2.24	0.40
1:B:498:LYS:HB2	1:B:498:LYS:HE2	1.91	0.40
1:C:38:LEU:HD23	1:C:38:LEU:HA	1.85	0.40
1:C:710:VAL:O	1:C:714:SER:HB3	2.22	0.40
1:D:80:GLN:O	1:D:83:ILE:HG22	2.22	0.40
1:D:800:VAL:O	1:D:803:SER:OG	2.27	0.40
1:D:857:ILE:HG22	1:D:861:ILE:HD12	2.02	0.40
1:A:776:PHE:CE1	1:A:890:MET:HE3	2.56	0.40
1:A:883:TRP:CZ2	1:D:900:LYS:HD3	2.56	0.40
1:B:362:LYS:O	1:B:367:THR:OG1	2.37	0.40
1:D:470:GLU:HG3	1:D:474:ILE:HD13	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	887/921 (96%)	863 (97%)	24 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	B	887/921 (96%)	792 (89%)	86 (10%)	9 (1%)	13	23
1	C	887/921 (96%)	812 (92%)	66 (7%)	9 (1%)	13	23
1	D	887/921 (96%)	802 (90%)	76 (9%)	9 (1%)	13	23
All	All	3548/3684 (96%)	3269 (92%)	252 (7%)	27 (1%)	19	30

All (27) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	245	ILE
1	B	264	SER
1	B	643	ALA
1	B	838	PRO
1	B	840	LEU
1	C	23	ILE
1	C	102	ILE
1	C	103	ILE
1	C	429	LYS
1	D	216	ALA
1	D	522	ASP
1	B	523	THR
1	C	170	VAL
1	C	174	ILE
1	D	263	ASP
1	D	521	ILE
1	D	526	VAL
1	B	521	ILE
1	C	176	LEU
1	B	169	LEU
1	C	478	VAL
1	D	440	PHE
1	B	263	ASP
1	D	147	ILE
1	D	651	VAL
1	D	164	PRO
1	C	66	ILE

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	764/795 (96%)	748 (98%)	16 (2%)	48	69
1	B	764/795 (96%)	744 (97%)	20 (3%)	41	62
1	C	764/795 (96%)	749 (98%)	15 (2%)	50	69
1	D	764/795 (96%)	745 (98%)	19 (2%)	42	63
All	All	3056/3180 (96%)	2986 (98%)	70 (2%)	46	66

All (70) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	169	LEU
1	A	205	SER
1	A	234	ASN
1	A	255	GLU
1	A	348	SER
1	A	367	THR
1	A	376	HIS
1	A	379	ILE
1	A	398	GLN
1	A	445	MET
1	A	509	VAL
1	A	580	VAL
1	A	593	ILE
1	A	752	VAL
1	A	779	THR
1	A	800	VAL
1	B	39	PHE
1	B	61	TYR
1	B	144	LEU
1	B	168	VAL
1	B	169	LEU
1	B	371	VAL
1	B	444	ARG
1	B	483	ASN
1	B	488	THR
1	B	503	ASN
1	B	507	MET
1	B	577	CYS
1	B	596	LEU
1	B	655	VAL

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Mol	Chain	Res	Type
1	B	693	ILE
1	B	717	LEU
1	B	722	MET
1	B	800	VAL
1	B	839	PHE
1	B	840	LEU
1	C	29	PHE
1	C	95	LEU
1	C	147	ILE
1	C	170	VAL
1	C	195	PHE
1	C	244	VAL
1	C	269	PHE
1	C	449	VAL
1	C	478	VAL
1	C	534	LEU
1	C	631	ASN
1	C	680	LYS
1	C	828	VAL
1	C	833	ARG
1	C	874	MET
1	D	49	LEU
1	D	168	VAL
1	D	323	MET
1	D	365	THR
1	D	398	GLN
1	D	480	ASP
1	D	502	LEU
1	D	509	VAL
1	D	517	ASN
1	D	521	ILE
1	D	526	VAL
1	D	577	CYS
1	D	641	ASN
1	D	650	ASP
1	D	655	VAL
1	D	671	LEU
1	D	709	SER
1	D	826	THR
1	D	895	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (31) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	161	GLN
1	A	190	GLN
1	A	356	ASN
1	A	382	GLN
1	A	394	ASN
1	A	461	GLN
1	A	631	ASN
1	A	691	ASN
1	A	726	HIS
1	B	64	ASN
1	B	234	ASN
1	B	382	GLN
1	B	384	ASN
1	B	579	GLN
1	B	830	HIS
1	C	138	ASN
1	C	152	ASN
1	C	227	ASN
1	C	295	ASN
1	C	517	ASN
1	C	628	ASN
1	C	706	ASN
1	C	825	GLN
1	D	152	ASN
1	D	345	ASN
1	D	350	GLN
1	D	390	HIS
1	D	394	ASN
1	D	461	GLN
1	D	706	ASN
1	D	825	GLN

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)

Of 6 ligands modelled in this entry, 6 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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-49450. 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
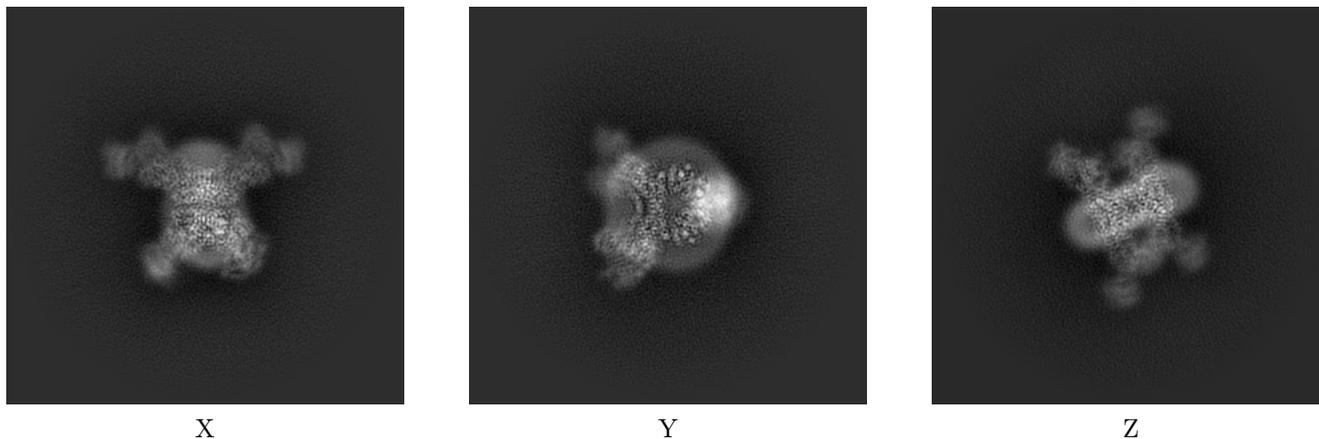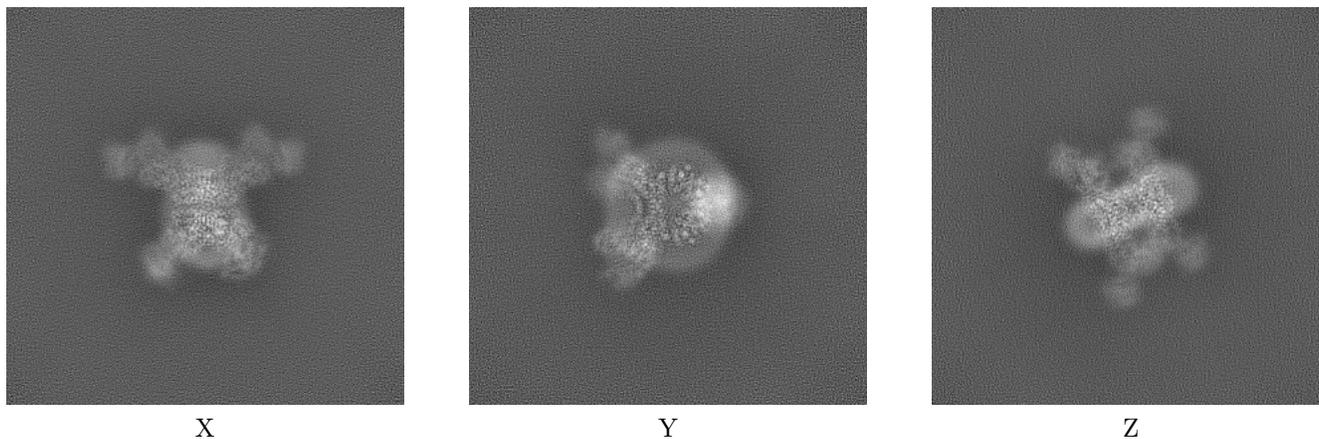
The images above show the map projected in three orthogonal directions.

6.2 Central slices ⓘ
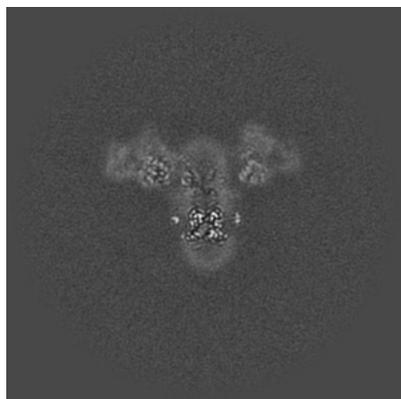
6.2.1 Primary map

X Index: 215
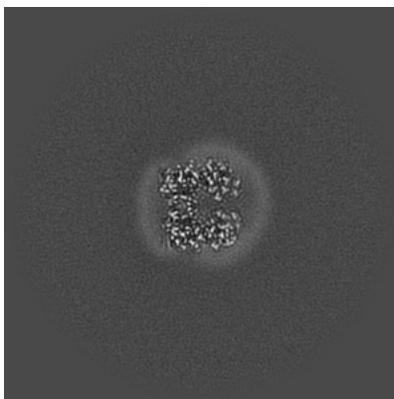
Y Index: 215
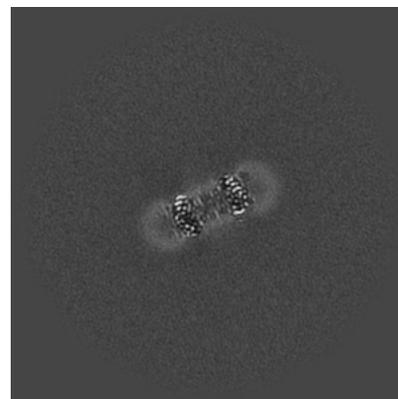
Z Index: 215

6.2.2 Raw map
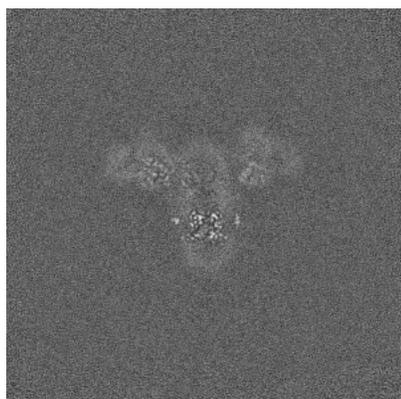
X Index: 215
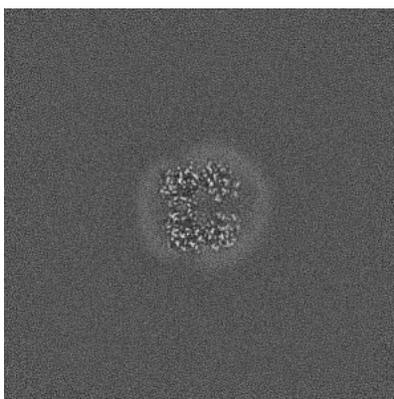
Y Index: 215
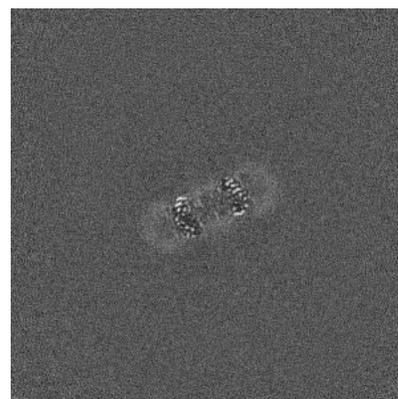
Z Index: 215

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

6.3   Largest variance slices   ⓘ
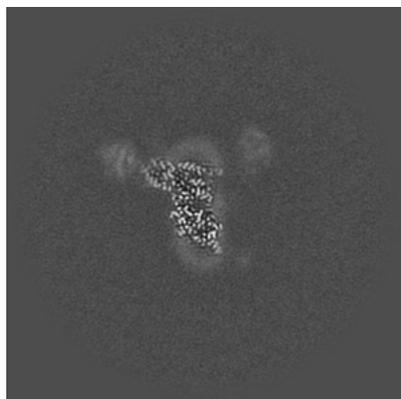
6.3.1   Primary map
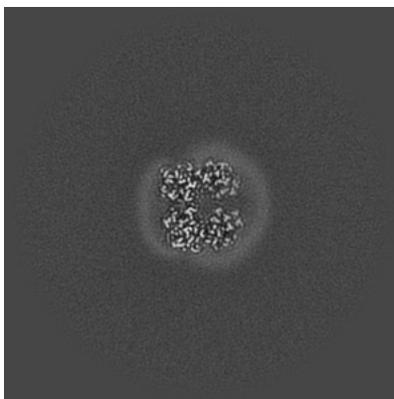
X Index: 199	Y Index: 213	Z Index: 199
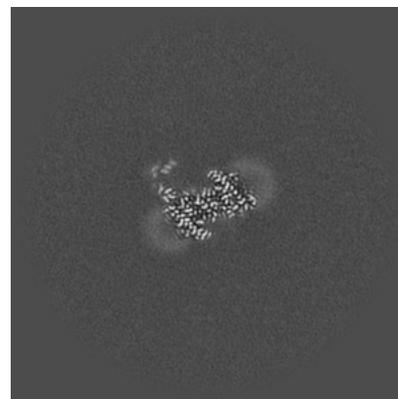
6.3.2   Raw map
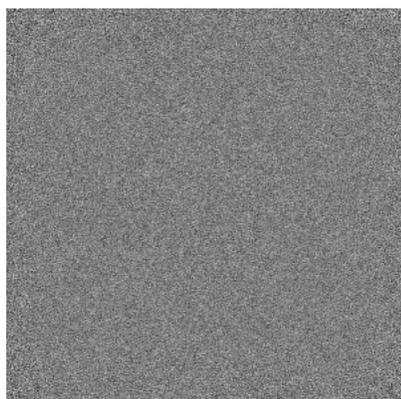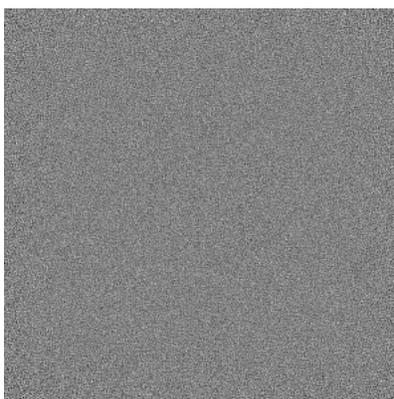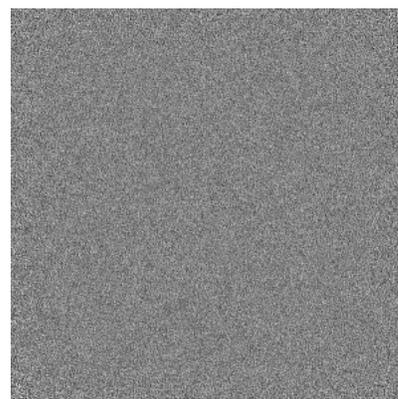
X Index: 0	Y Index: 0	Z Index: 0

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

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

6.4.1 Primary map

X   Y   Z

6.4.2 Raw map

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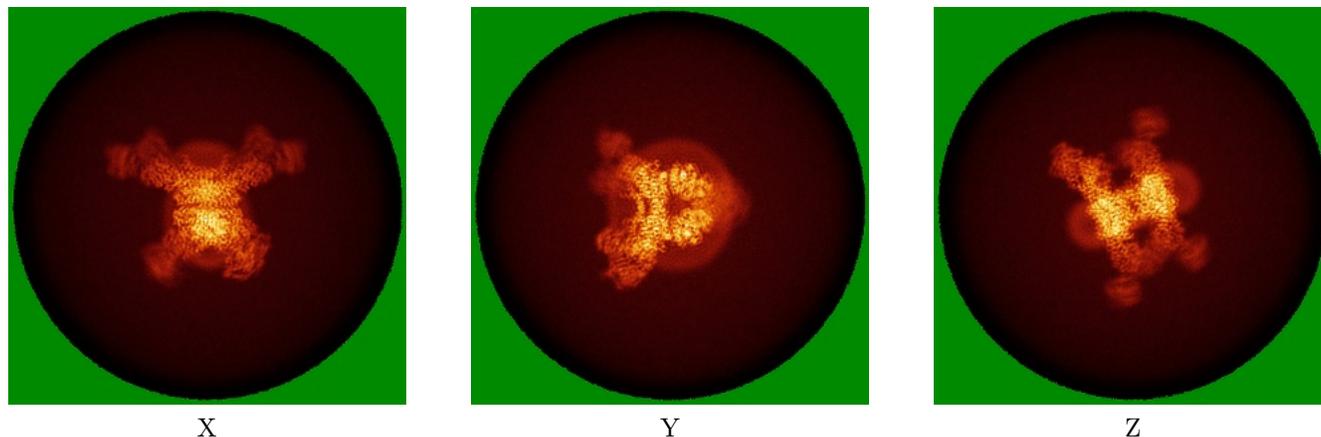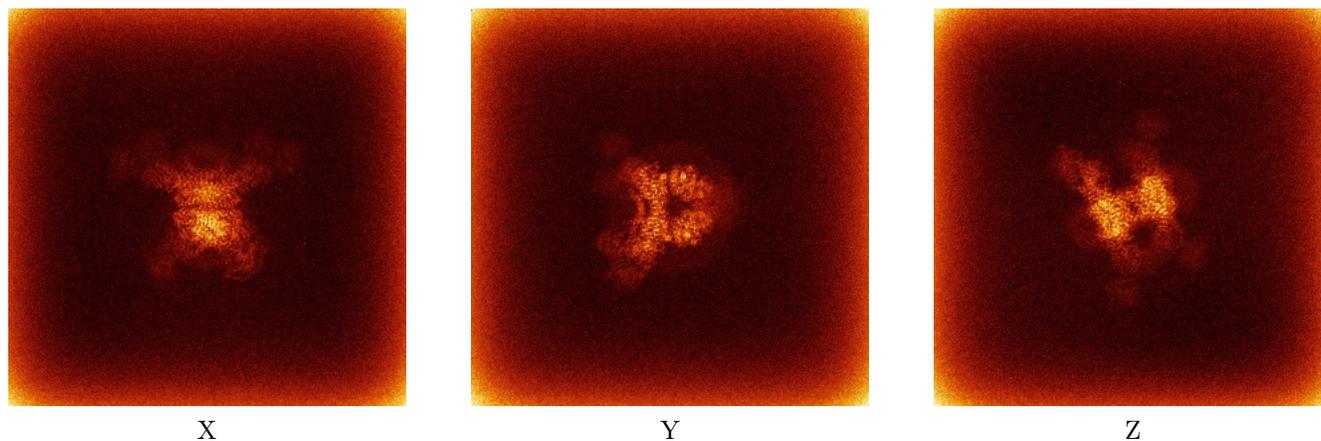
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views ⓘ

6.5.1 Primary map

| X | Y | Z |
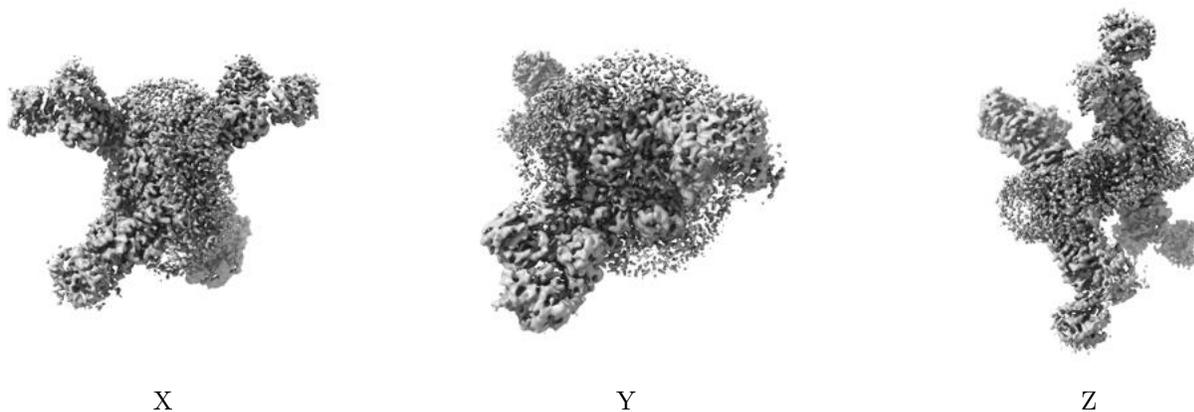
The images above show the 3D surface view of the map at the recommended contour level 0.116. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

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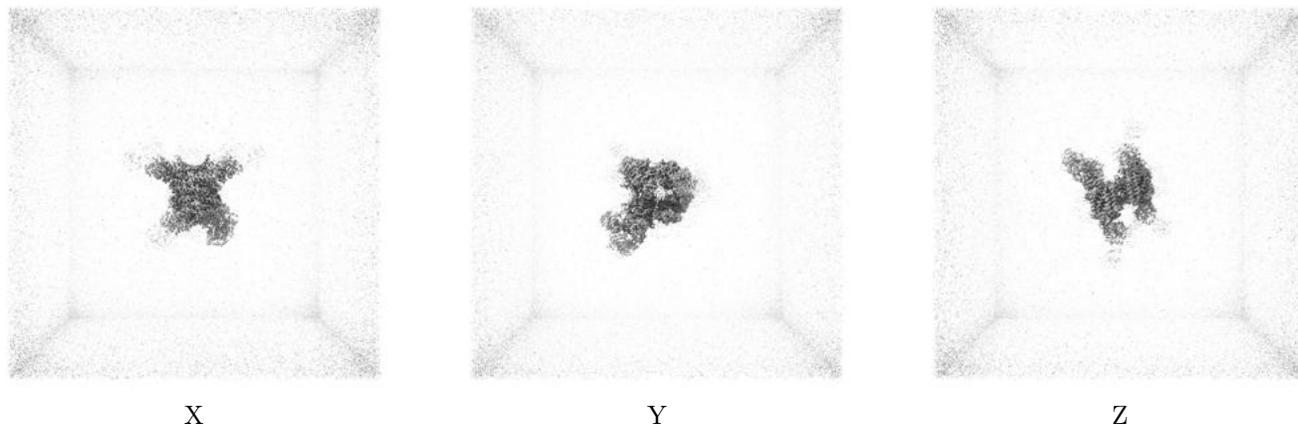
These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

6.6 Mask visualisation ⓘ

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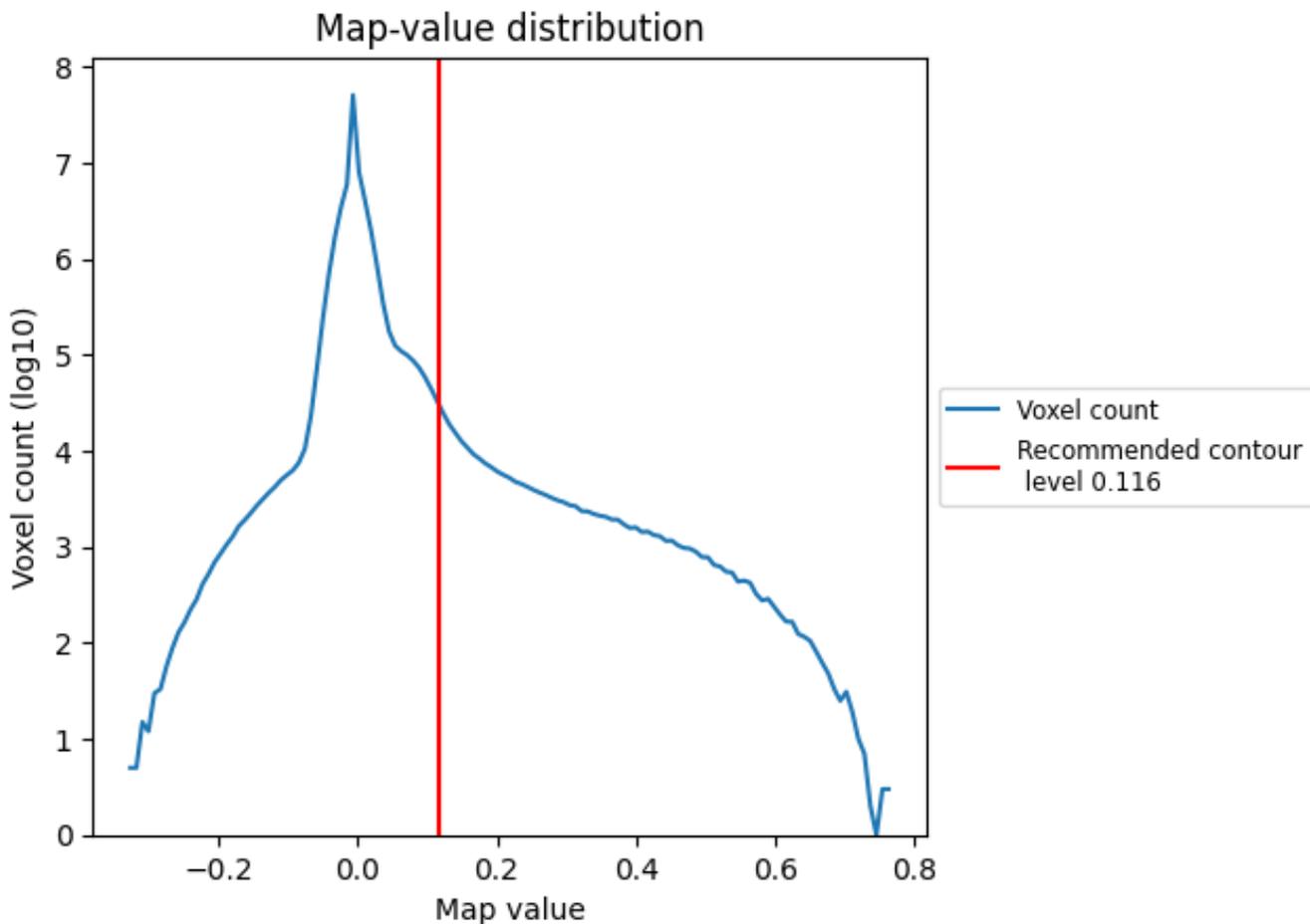
The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

7.2　Volume estimate ⓘ
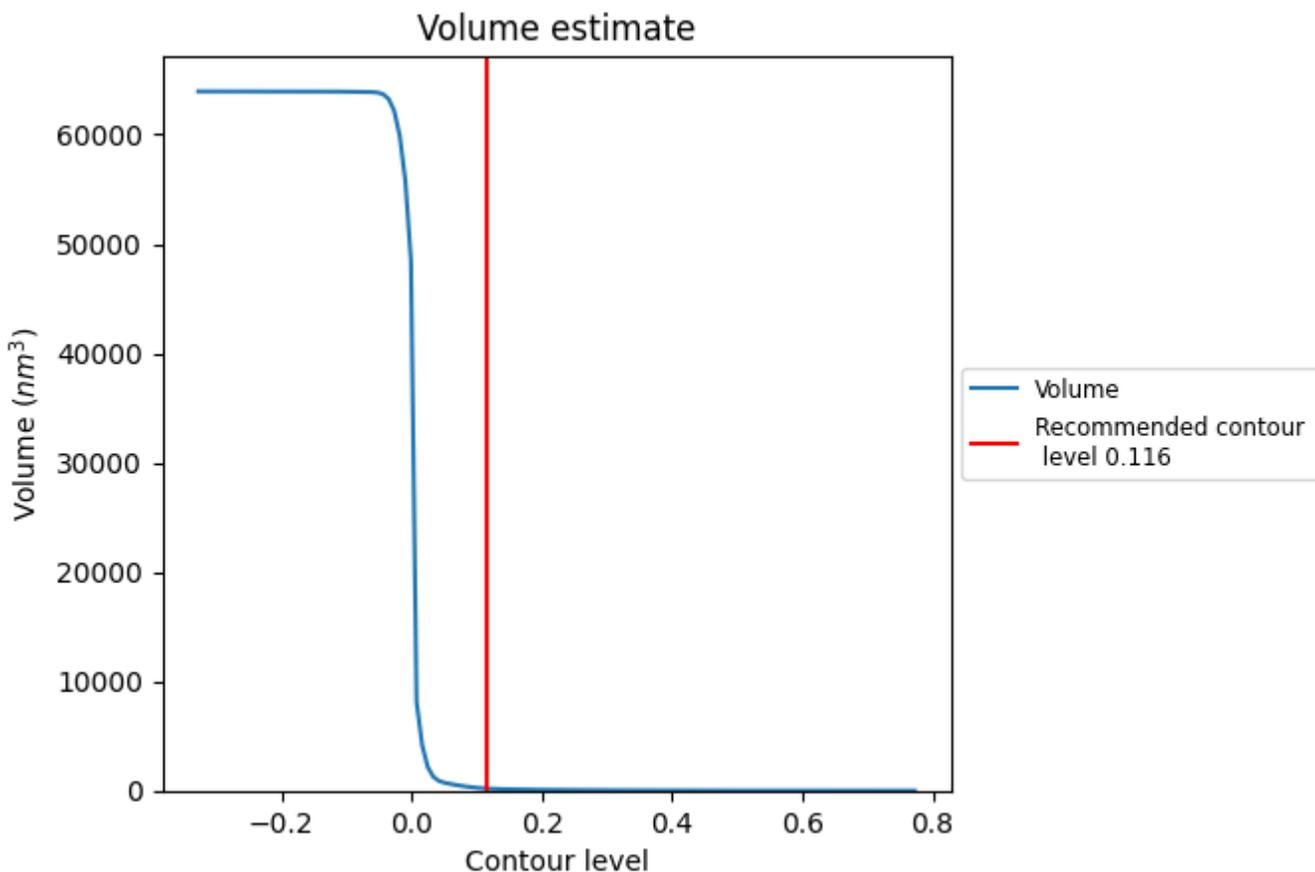
The volume at the recommended contour level is 190 nm^3; this corresponds to an approximate mass of 172 kDa.

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 ⓘ
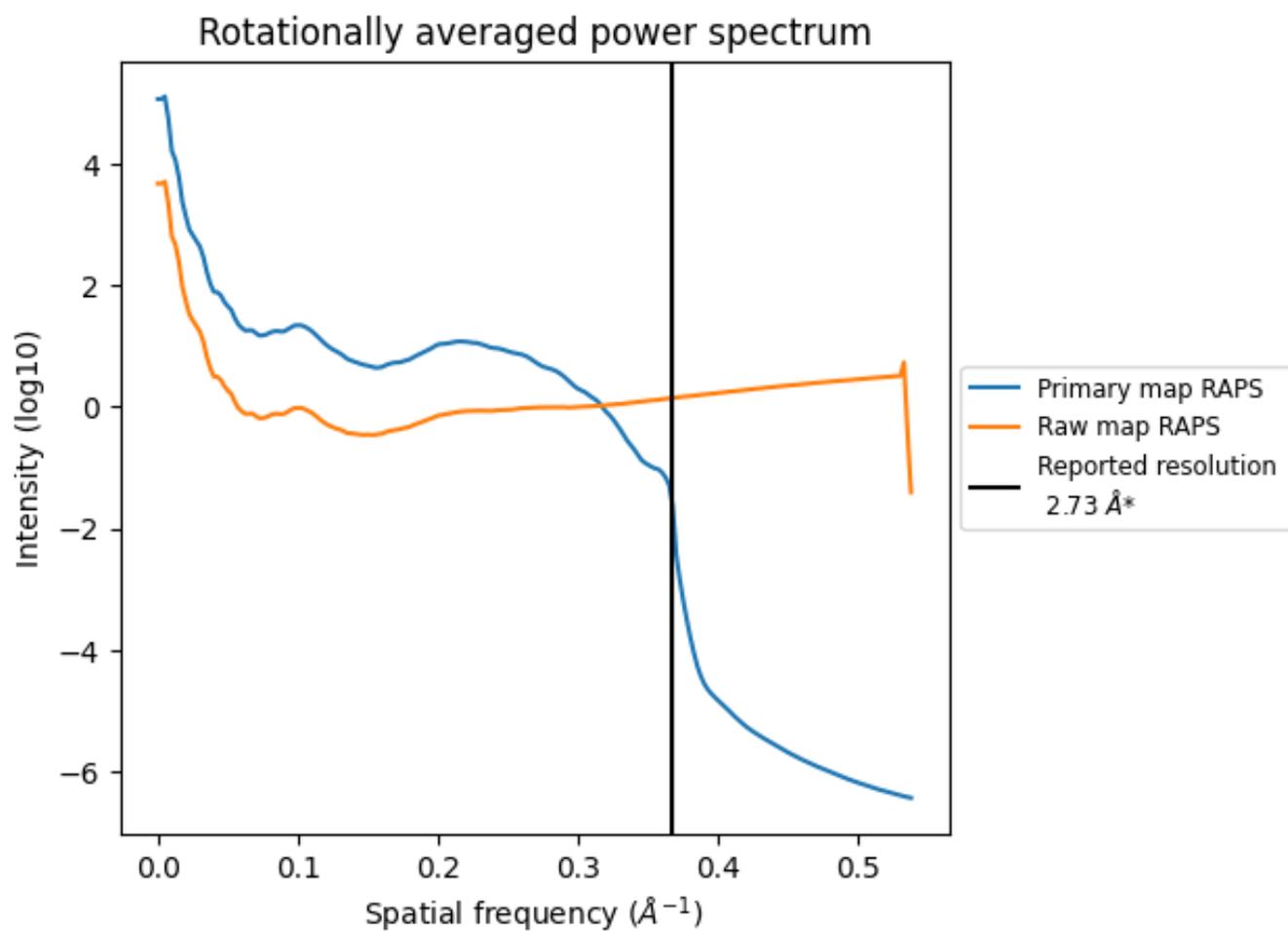
*Reported resolution corresponds to spatial frequency of 0.366 Å^{-1}

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 ⓘ
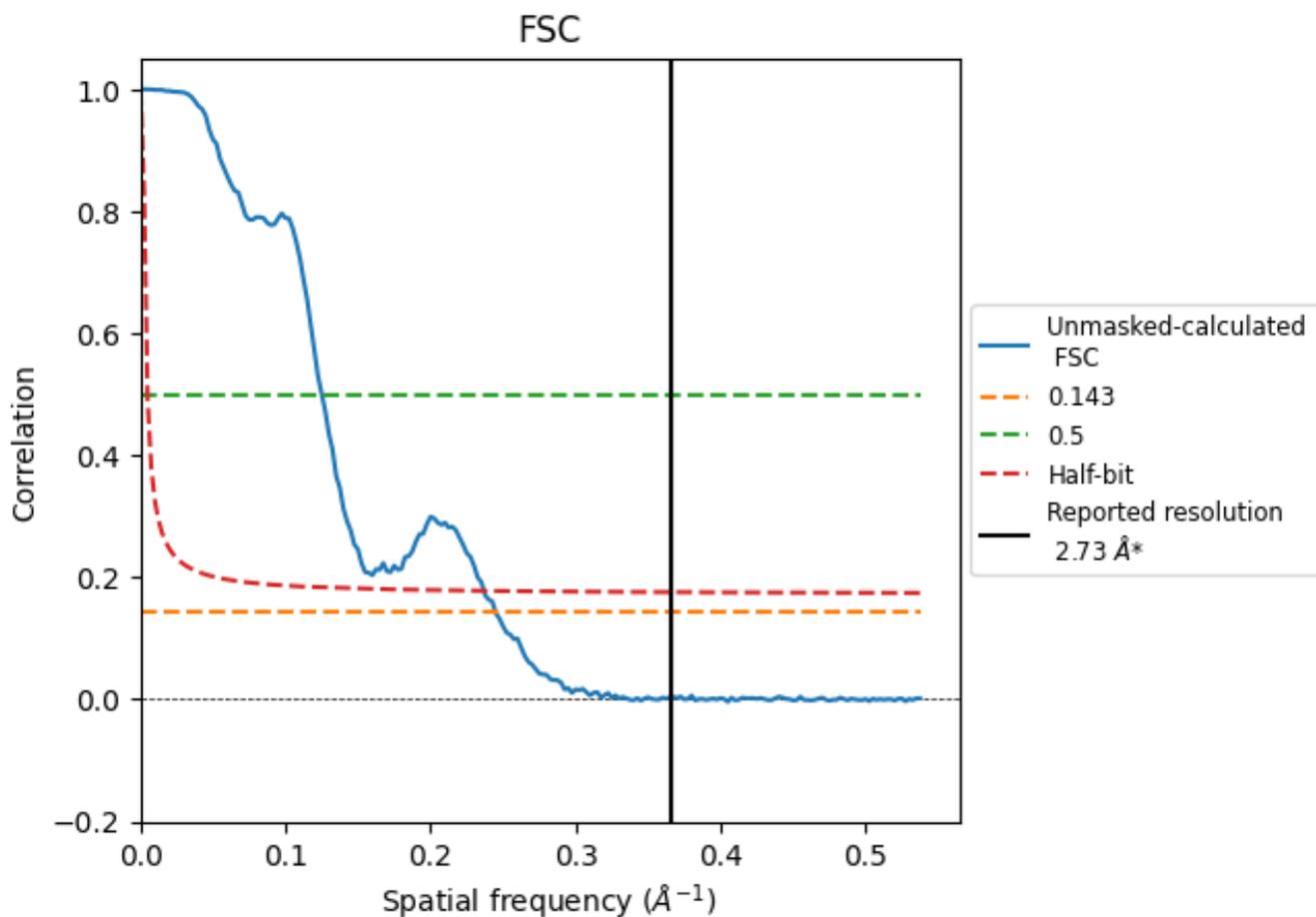
*Reported resolution corresponds to spatial frequency of 0.366 Å^{-1}

8.2 Resolution estimates ⓘ

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.73	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.08	7.99	4.22

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.08 differs from the reported value 2.73 by more than 10 %

9　Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-49450 and PDB model 9NHZ. Per-residue inclusion information can be found in section 3 on page 6.

9.1　Map-model overlay ⓘ


X　　　　　　　　　　　　Y　　　　　　　　　　　　Z
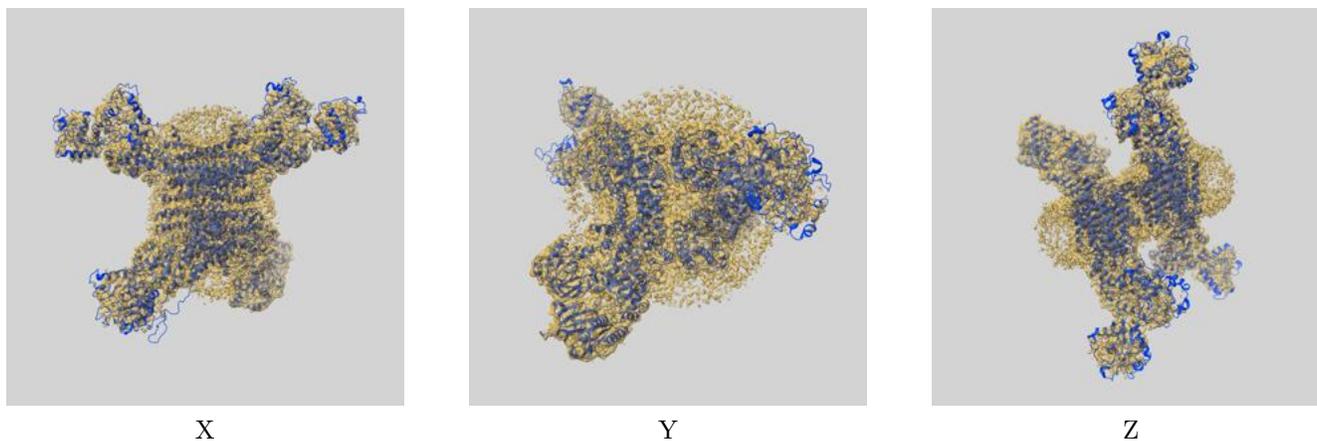
The images above show the 3D surface view of the map at the recommended contour level 0.116 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model (i)

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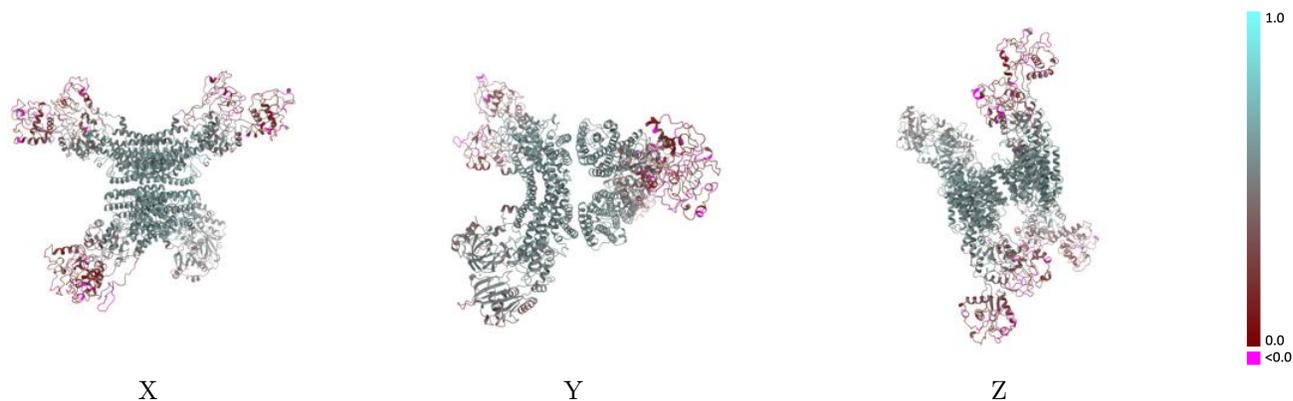
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model (i)

X   Y   Z
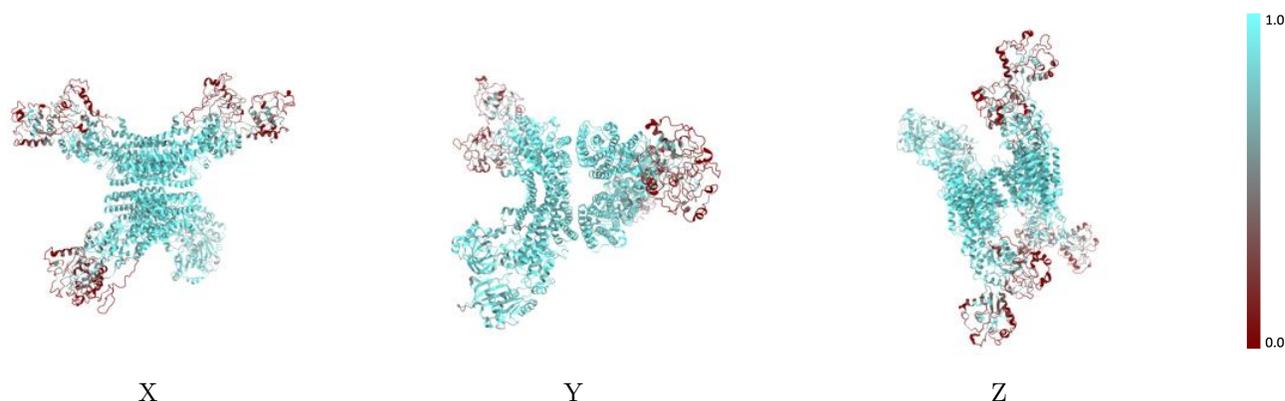
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.116).

9.4 Atom inclusion ⓘ
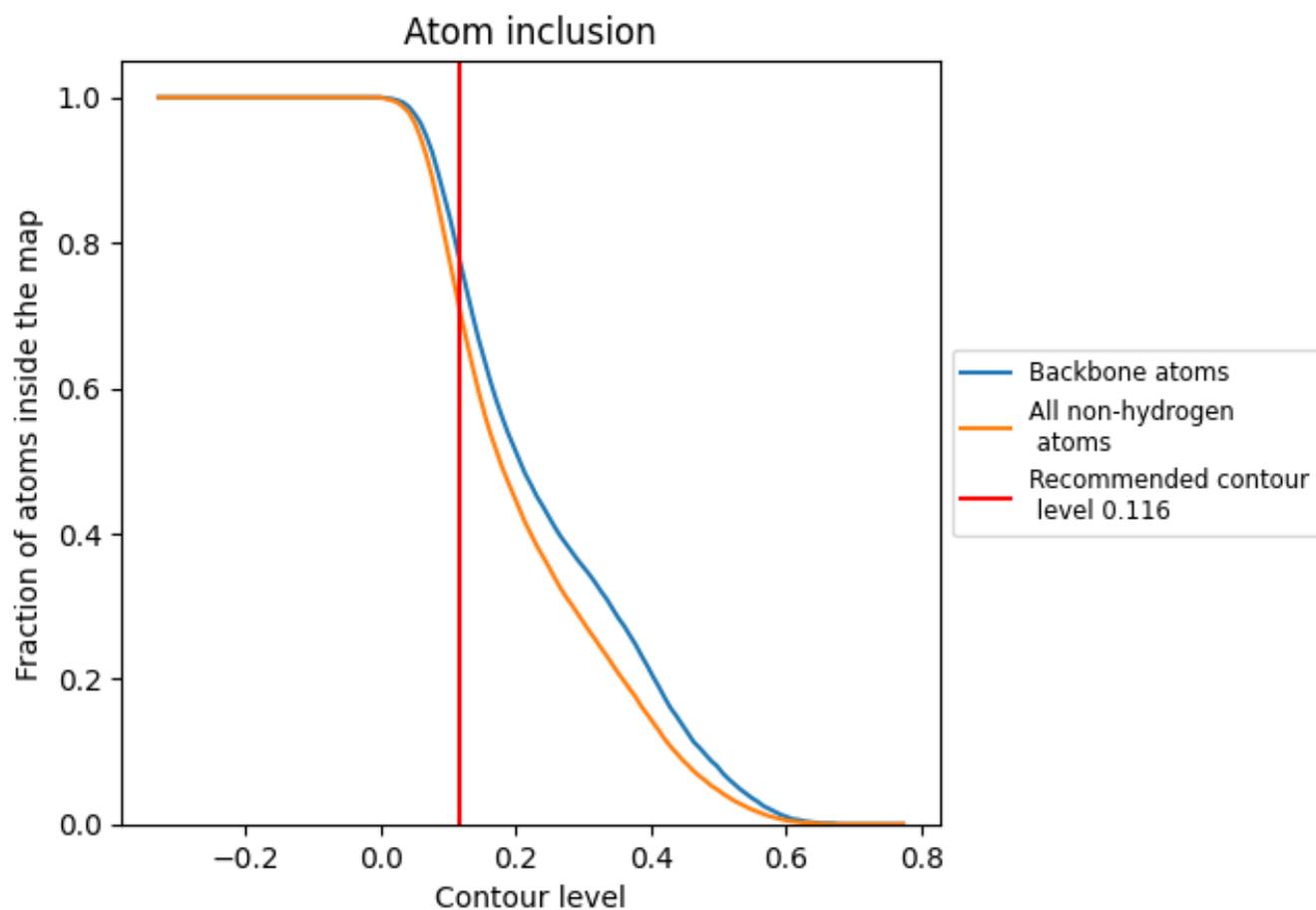
At the recommended contour level, 78% of all backbone atoms, 71% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.116) and Q-score for the entire model and for each chain.

1.0

Chain	Atom inclusion	Q-score
All	0.7130	0.4430
A	0.8860	0.5290
B	0.6640	0.4210
C	0.6340	0.4030
D	0.6670	0.4190

0.0
<0.0