Full wwPDB EM Validation Report ⓘ

Sep 17, 2025 – 01:41 PM EDT

PDB ID	:	9N8H / pdb_00009n8h
EMDB ID	:	EMD-49129
Title	:	In situ sheathed flagellar filament of Vibrio cholerae resolved with helical reconstruction.
Authors	:	Wangbiao, G.; Jun, L.
Deposited on	:	2025-02-08
Resolution	:	2.73 Å(reported)

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

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

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

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

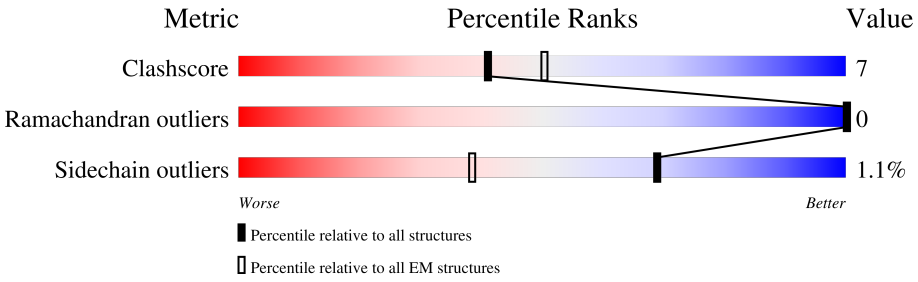
EMDB validation analysis	:	0.0.1.dev126
MolProbity	:	4-5-2 with Phenix2.0rc1
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.45.1

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 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	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=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	377	75% 25%
1	B	377	88% 12%
1	C	377	82% 18%
1	D	377	82% 17%
1	E	377	89% 11%
1	F	377	87% 13%
1	G	377	80% 19%
1	H	377	81% 18%

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Mol	Chain	Length	Quality of chain
1	I	377	83% 17%
1	J	377	88% 12%
1	K	377	83% 17%
1	L	377	80% 20%
1	M	377	85% 14%
1	N	377	87% 13%
1	O	377	85% 15%
1	P	377	85% 15%
1	Q	377	80% 20%
1	R	377	84% 15%
1	S	377	90% 10%
1	T	377	87% 13%
1	U	377	84% 16%
1	V	377	86% 14%
1	W	377	85% 15%
1	X	377	81% 19%
1	Y	377	89% 11%
1	Z	377	84% 16%
1	a	377	84% 16%
1	b	377	86% 13%
1	c	377	80% 19%
1	d	377	80% 20%
1	e	377	83% 17%
1	f	377	85% 15%
1	g	377	81% 18%

2 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 92169 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 Flagellin D.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	377	Total 2793	C 1690	N 502	O 590	S 11	0	0
1	B	377	Total 2793	C 1690	N 502	O 590	S 11	0	0
1	C	377	Total 2793	C 1690	N 502	O 590	S 11	0	0
1	D	377	Total 2793	C 1690	N 502	O 590	S 11	0	0
1	E	377	Total 2793	C 1690	N 502	O 590	S 11	0	0
1	F	377	Total 2793	C 1690	N 502	O 590	S 11	0	0
1	G	377	Total 2793	C 1690	N 502	O 590	S 11	0	0
1	H	377	Total 2793	C 1690	N 502	O 590	S 11	0	0
1	I	377	Total 2793	C 1690	N 502	O 590	S 11	0	0
1	J	377	Total 2793	C 1690	N 502	O 590	S 11	0	0
1	K	377	Total 2793	C 1690	N 502	O 590	S 11	0	0
1	L	377	Total 2793	C 1690	N 502	O 590	S 11	0	0
1	M	377	Total 2793	C 1690	N 502	O 590	S 11	0	0
1	N	377	Total 2793	C 1690	N 502	O 590	S 11	0	0
1	O	377	Total 2793	C 1690	N 502	O 590	S 11	0	0
1	P	377	Total 2793	C 1690	N 502	O 590	S 11	0	0
1	Q	377	Total 2793	C 1690	N 502	O 590	S 11	0	0

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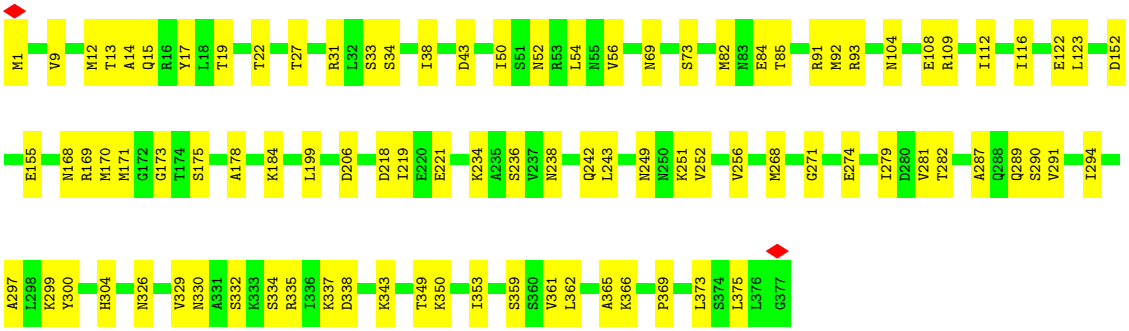
Mol	Chain	Residues	Atoms					AltConf	Trace
1	R	377	Total	C	N	O	S	0	0
			2793	1690	502	590	11		
1	S	377	Total	C	N	O	S	0	0
			2793	1690	502	590	11		
1	T	377	Total	C	N	O	S	0	0
			2793	1690	502	590	11		
1	U	377	Total	C	N	O	S	0	0
			2793	1690	502	590	11		
1	V	377	Total	C	N	O	S	0	0
			2793	1690	502	590	11		
1	W	377	Total	C	N	O	S	0	0
			2793	1690	502	590	11		
1	X	377	Total	C	N	O	S	0	0
			2793	1690	502	590	11		
1	Y	377	Total	C	N	O	S	0	0
			2793	1690	502	590	11		
1	Z	377	Total	C	N	O	S	0	0
			2793	1690	502	590	11		
1	a	377	Total	C	N	O	S	0	0
			2793	1690	502	590	11		
1	b	377	Total	C	N	O	S	0	0
			2793	1690	502	590	11		
1	c	377	Total	C	N	O	S	0	0
			2793	1690	502	590	11		
1	d	377	Total	C	N	O	S	0	0
			2793	1690	502	590	11		
1	e	377	Total	C	N	O	S	0	0
			2793	1690	502	590	11		
1	f	377	Total	C	N	O	S	0	0
			2793	1690	502	590	11		
1	g	377	Total	C	N	O	S	0	0
			2793	1690	502	590	11		

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.

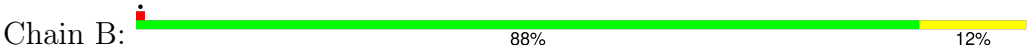
- Molecule 1: Flagellin D

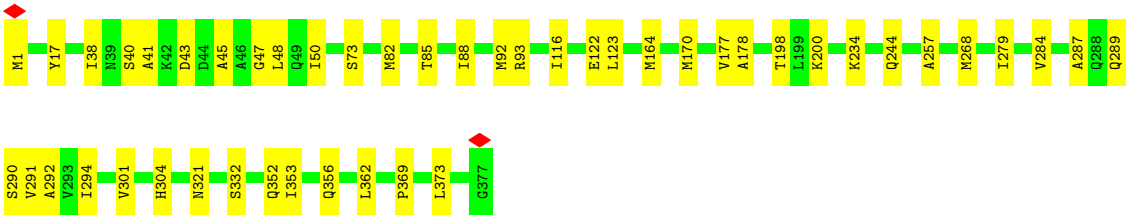
Chain A:



- Molecule 1: Flagellin D

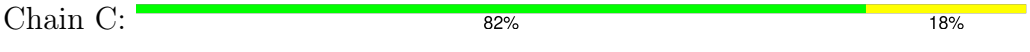
Chain B:

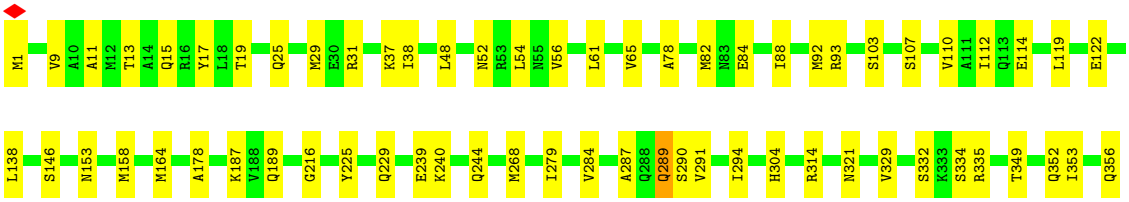




- Molecule 1: Flagellin D

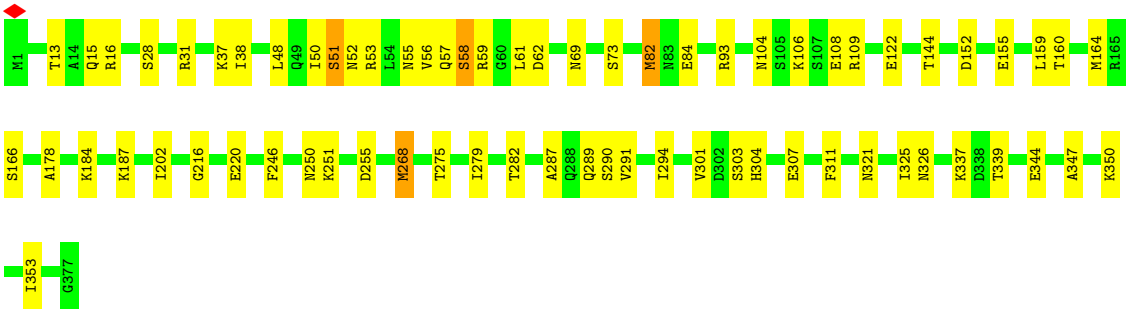
Chain C:





• Molecule 1: Flagellin D

Chain D:

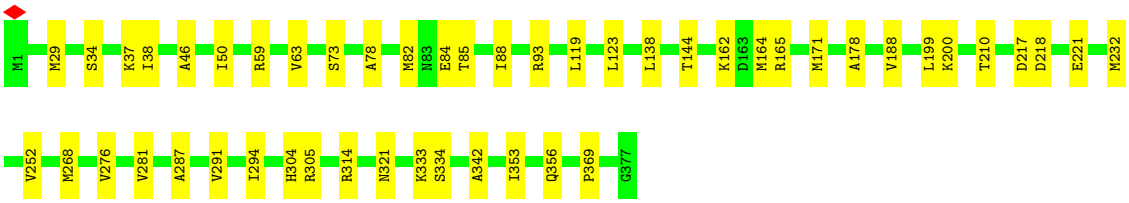


• Molecule 1: Flagellin D

Chain E:

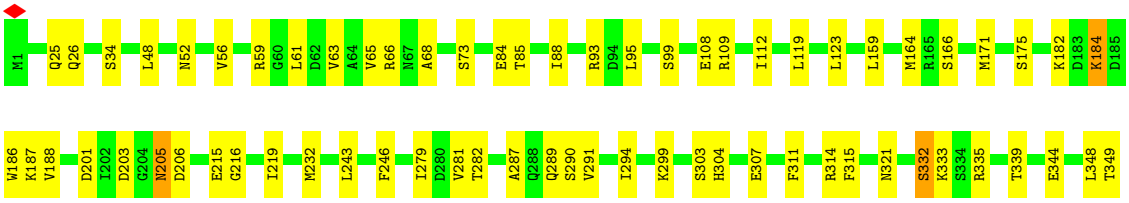
• Molecule 1: Flagellin D

Chain F:



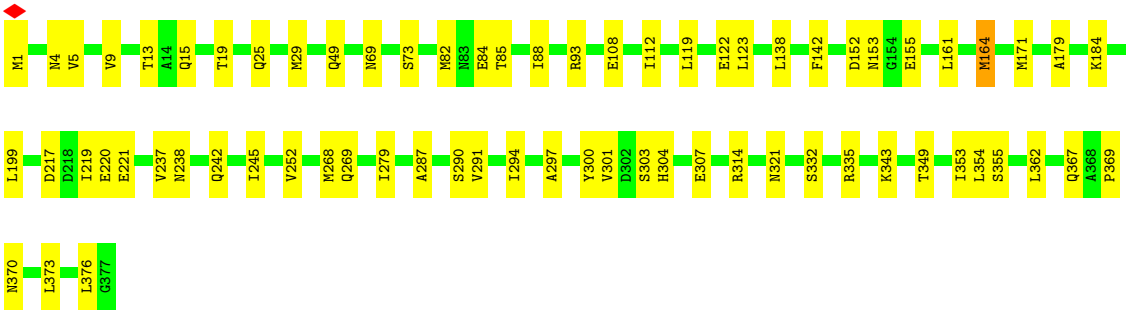
• Molecule 1: Flagellin D

Chain G:



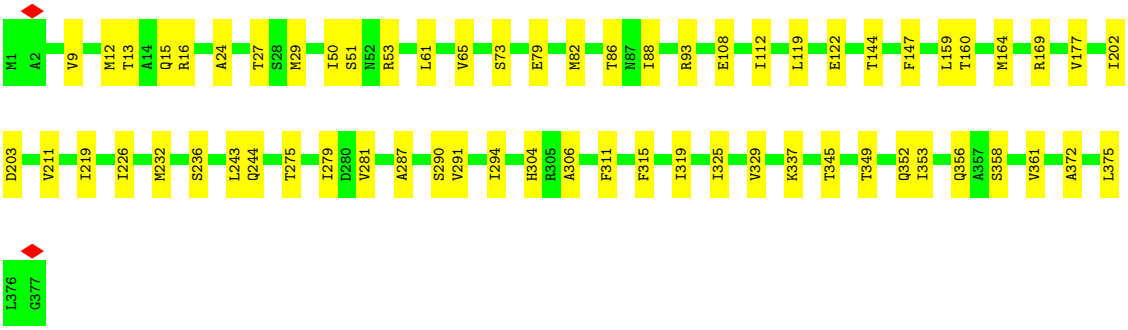
• Molecule 1: Flagellin D

Chain H:



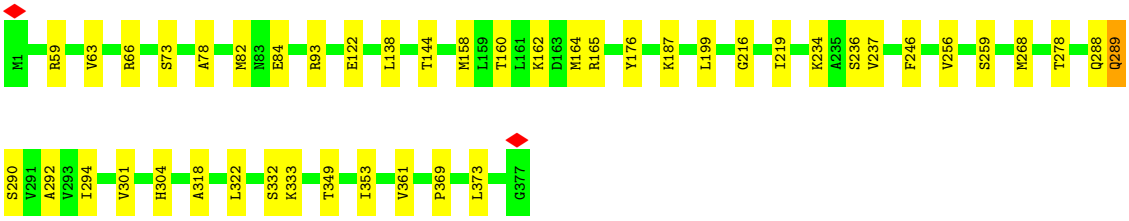
• Molecule 1: Flagellin D

Chain I:



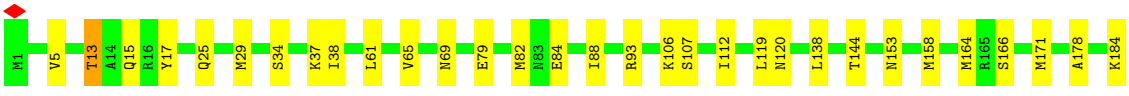
• Molecule 1: Flagellin D

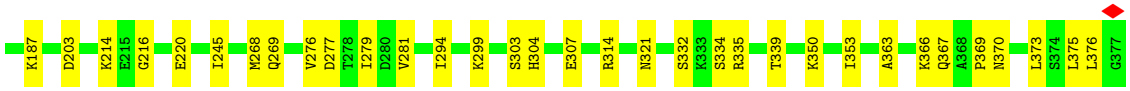
Chain J:



• Molecule 1: Flagellin D

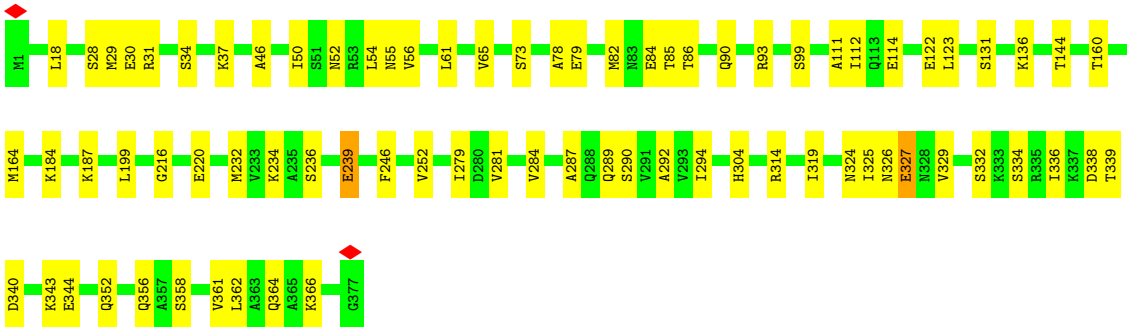
Chain K:





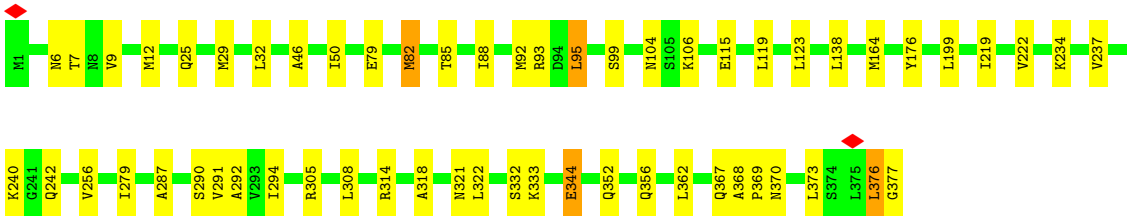
• Molecule 1: Flagellin D

Chain L:



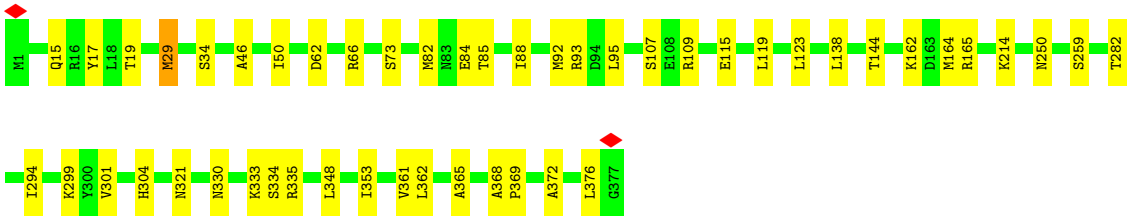
• Molecule 1: Flagellin D

Chain M:



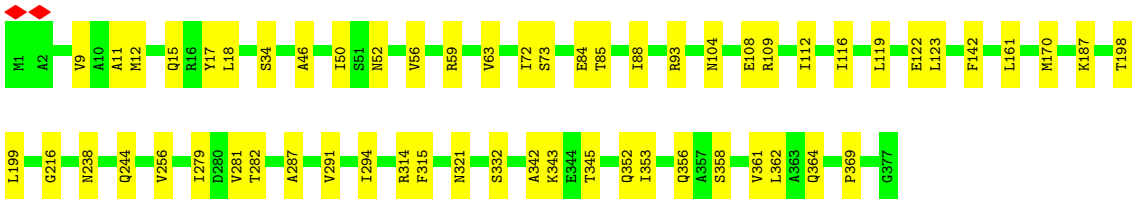
• Molecule 1: Flagellin D

Chain N:



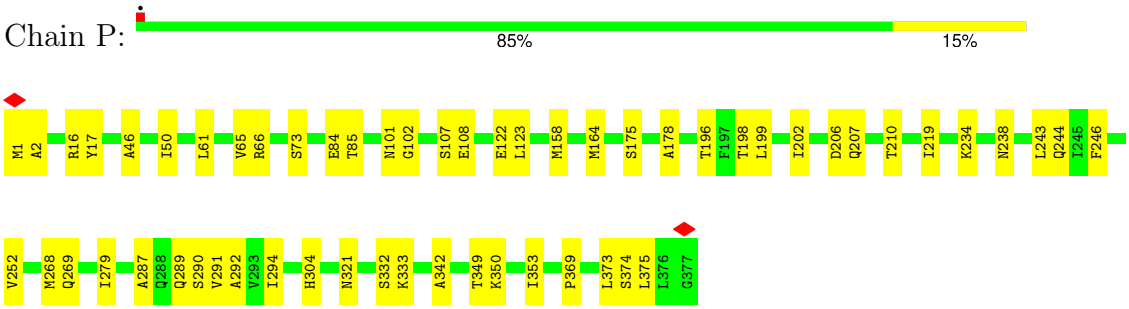
• Molecule 1: Flagellin D

Chain O:



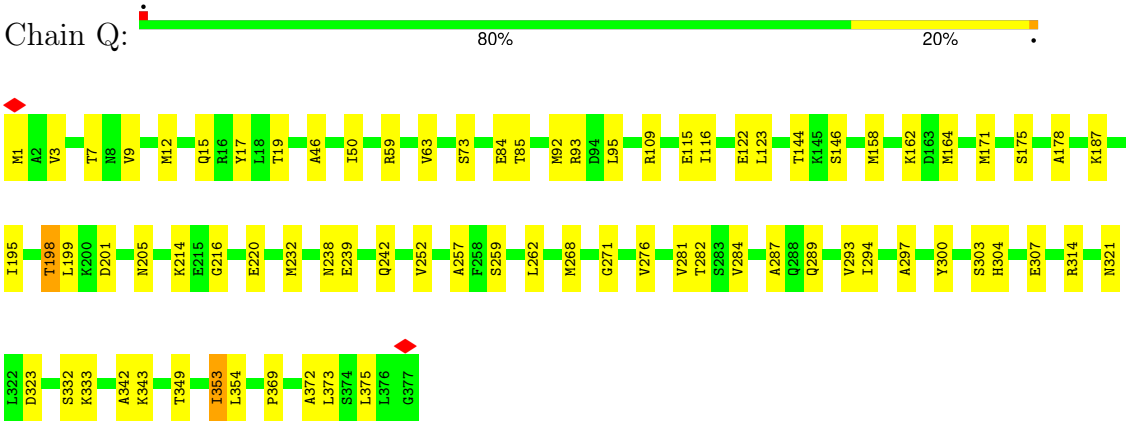
• Molecule 1: Flagellin D

Chain P:



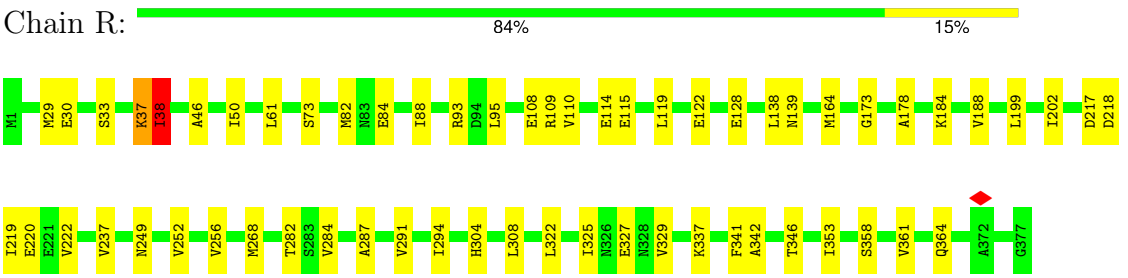
• Molecule 1: Flagellin D

Chain Q:



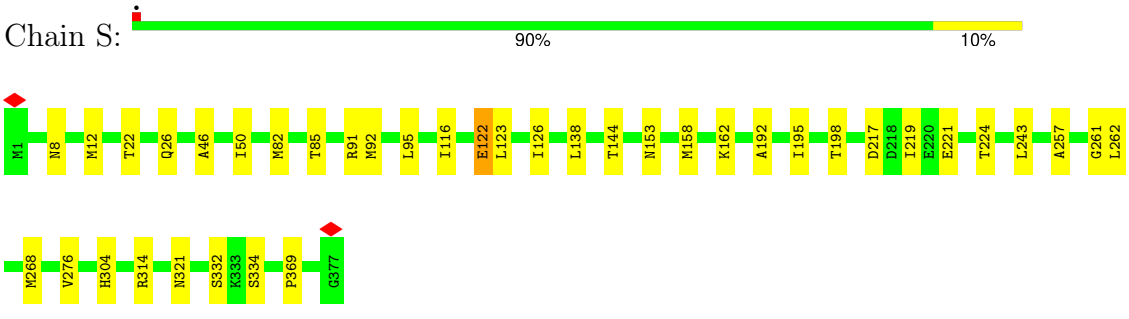
• Molecule 1: Flagellin D

Chain R:



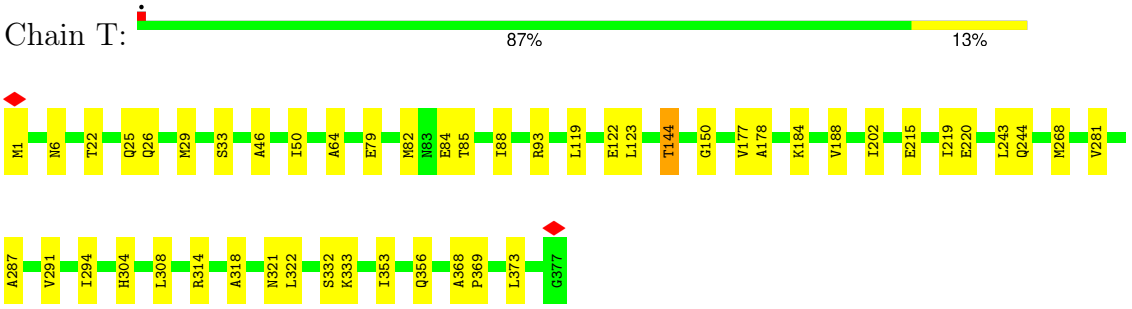
• Molecule 1: Flagellin D

Chain S:



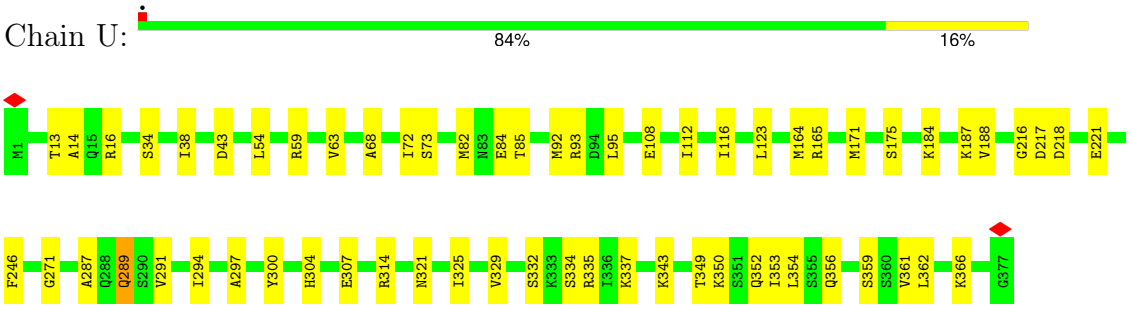
• Molecule 1: Flagellin D

Chain T:



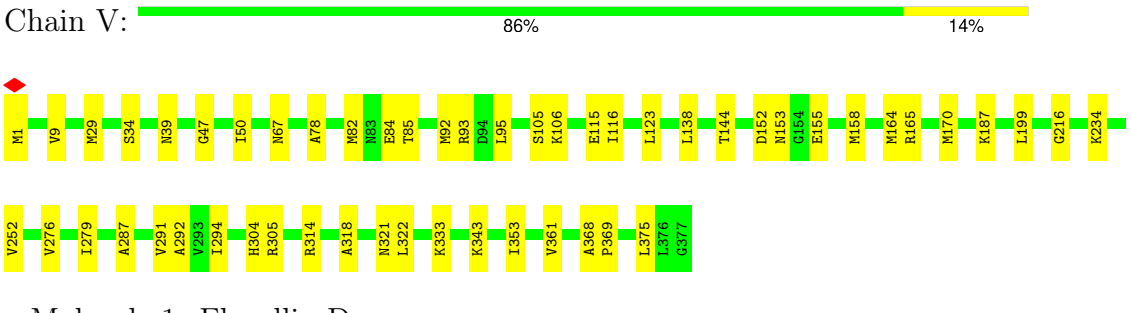
• Molecule 1: Flagellin D

Chain U:



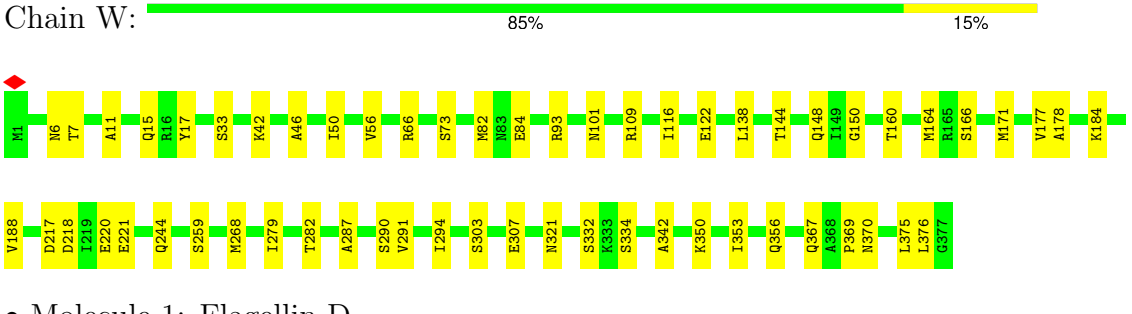
• Molecule 1: Flagellin D

Chain V:



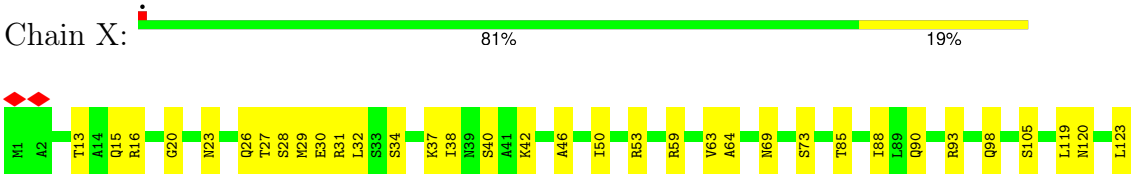
• Molecule 1: Flagellin D

Chain W:



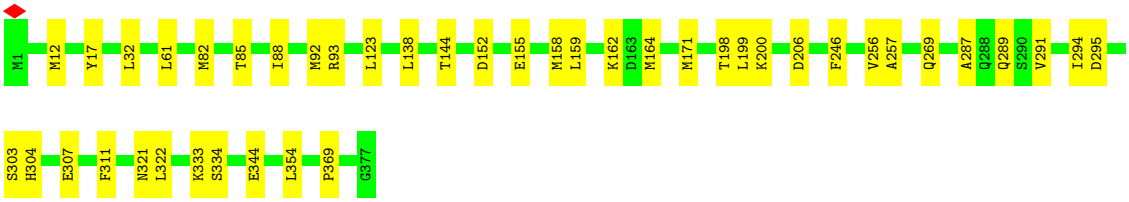
• Molecule 1: Flagellin D

Chain X:



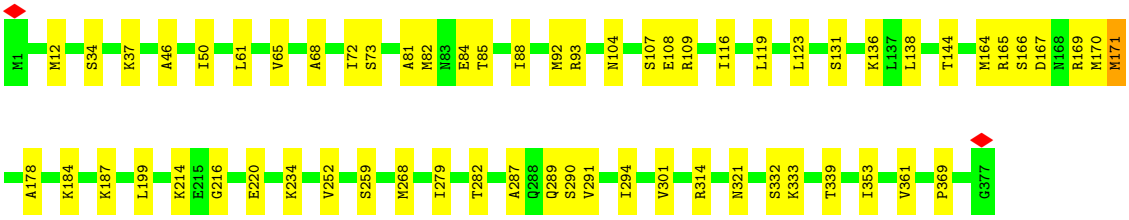
• Molecule 1: Flagellin D

Chain Y:



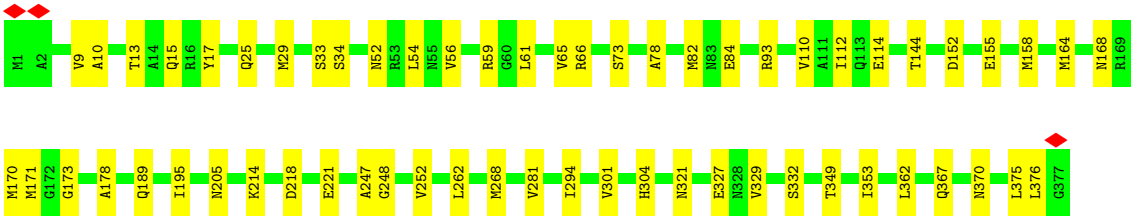
• Molecule 1: Flagellin D

Chain Z:



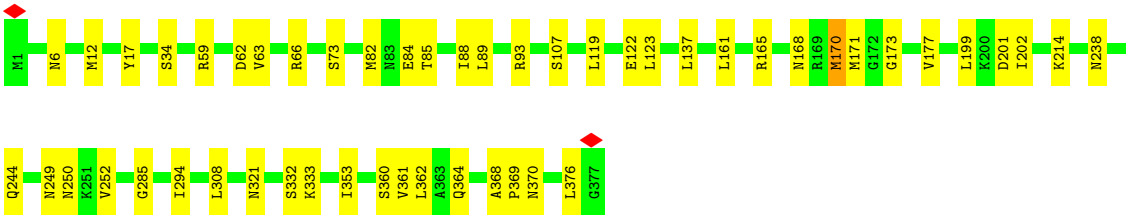
• Molecule 1: Flagellin D

Chain a:



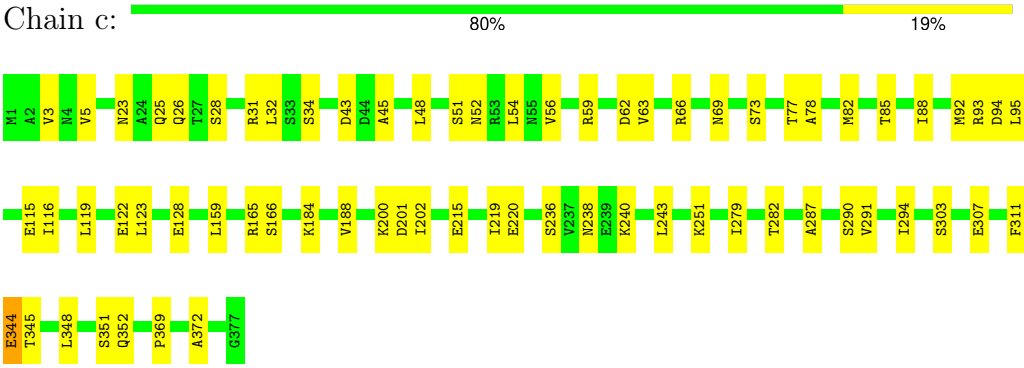
• Molecule 1: Flagellin D

Chain b:



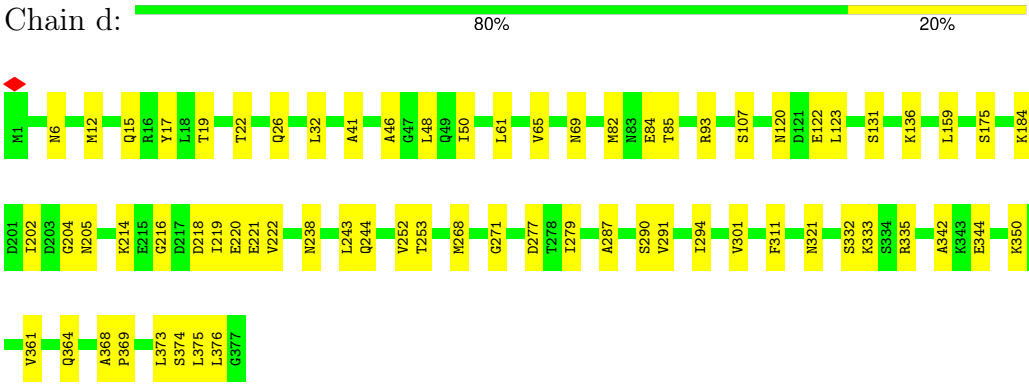
• Molecule 1: Flagellin D

Chain c:



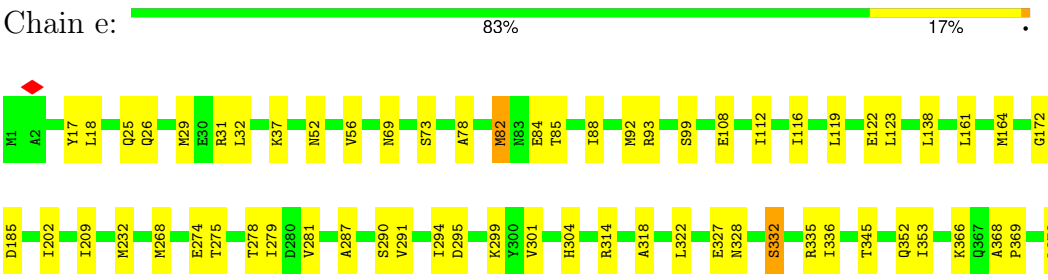
• Molecule 1: Flagellin D

Chain d:



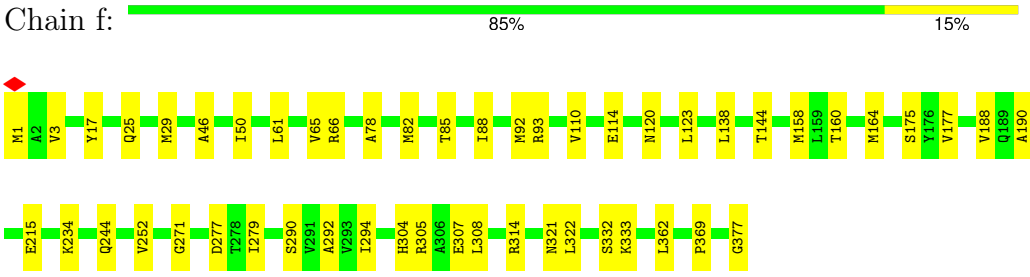
• Molecule 1: Flagellin D

Chain e:



• Molecule 1: Flagellin D

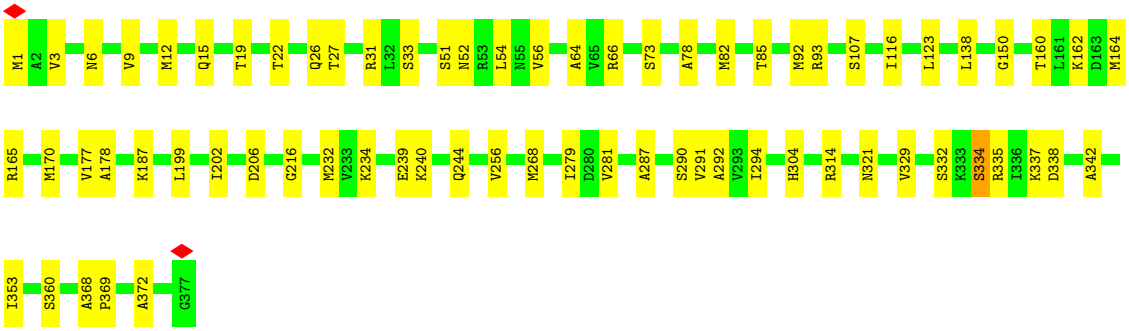
Chain f:



• Molecule 1: Flagellin D

Chain g:


81%
18%


M1 A2 V3 N6 V9 M12 Q15 T19 T22 Q26 T27 R31 L32 S33 S51 N52 R53 L54 N55 V56 A64 V65 R66 S73 A78 M82 T85 M92 R93 S107 I116 L123 L138 G150 T160 L161 K162 D163 M164
R165 M170 V177 A178 K187 L199 I202 D206 G216 M232 V233 K234 E239 K240 Q244 V256 M268 I279 D280 V281 A287 S290 V291 A292 V293 I294 H304 R314 N321 V329 S332 K333 S334 R335 I336 K337 D338 A342
I353 S360 A368 P369 A372 G377

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	HELICAL	Depositor
Imposed symmetry	HELICAL, twist=65.61°, rise=4.788 Å, axial sym=C1	Depositor
Number of segments used	818964	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	70	Depositor
Minimum defocus (nm)	1600	Depositor
Maximum defocus (nm)	2200	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.034	Depositor
Minimum map value	-0.619	Depositor
Average map value	0.012	Depositor
Map value standard deviation	0.051	Depositor
Recommended contour level	0.05	Depositor
Map size (Å)	410.112, 410.112, 410.112	wwPDB
Map dimensions	384, 384, 384	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.068, 1.068, 1.068	Depositor

5 Model quality

5.1 Standard geometry

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	0.36	1/2811 (0.0%)	0.56	2/3793 (0.1%)
1	B	0.31	0/2811	0.46	0/3793
1	C	0.30	1/2811 (0.0%)	0.41	0/3793
1	D	0.44	2/2811 (0.1%)	0.62	2/3793 (0.1%)
1	E	0.27	0/2811	0.44	0/3793
1	F	0.19	0/2811	0.32	0/3793
1	G	0.22	0/2811	0.41	0/3793
1	H	0.16	0/2811	0.34	0/3793
1	I	0.23	0/2811	0.41	0/3793
1	J	0.14	0/2811	0.29	0/3793
1	K	0.18	0/2811	0.35	0/3793
1	L	0.24	0/2811	0.46	0/3793
1	M	0.25	0/2811	0.41	0/3793
1	N	0.21	0/2811	0.37	2/3793 (0.1%)
1	O	0.18	0/2811	0.36	0/3793
1	P	0.18	0/2811	0.35	0/3793
1	Q	0.20	0/2811	0.34	0/3793
1	R	0.33	2/2811 (0.1%)	0.47	1/3793 (0.0%)
1	S	0.19	0/2811	0.35	0/3793
1	T	0.18	0/2811	0.34	0/3793
1	U	0.14	0/2811	0.32	0/3793
1	V	0.19	0/2811	0.32	0/3793
1	W	0.16	0/2811	0.29	0/3793
1	X	0.26	0/2811	0.42	0/3793
1	Y	0.12	0/2811	0.29	0/3793
1	Z	0.22	0/2811	0.37	0/3793
1	a	0.13	0/2811	0.31	0/3793
1	b	0.25	1/2811 (0.0%)	0.43	0/3793
1	c	0.28	0/2811	0.47	0/3793
1	d	0.15	0/2811	0.30	0/3793
1	e	0.25	0/2811	0.38	1/3793 (0.0%)
1	f	0.18	0/2811	0.36	0/3793
1	g	0.14	0/2811	0.29	0/3793
All	All	0.23	7/92763 (0.0%)	0.39	8/125169 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	X	0	1
All	All	0	2

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	168	ASN	C-N	-7.80	1.23	1.33
1	D	58	SER	C-N	7.21	1.43	1.33
1	C	103	SER	C-N	6.12	1.41	1.33
1	R	30	GLU	C-N	-5.87	1.25	1.33
1	D	59	ARG	C-N	-5.67	1.26	1.33
1	b	170	MET	C-N	-5.45	1.23	1.33
1	R	37	LYS	C-N	-5.38	1.28	1.33

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	58	SER	O-C-N	6.79	129.15	122.09
1	N	372	ALA	CA-C-N	-5.52	112.46	120.29
1	N	372	ALA	C-N-CA	-5.52	112.46	120.29
1	A	168	ASN	CA-C-N	5.51	127.93	120.38
1	A	168	ASN	C-N-CA	5.51	127.93	120.38
1	D	52	ASN	N-CA-C	-5.30	106.88	113.55
1	e	352	GLN	O-C-N	5.22	127.45	122.07
1	R	38	ILE	CA-C-O	-5.14	118.16	122.63

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	91	ARG	Sidechain
1	X	53	ARG	Sidechain

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	2793	0	2750	78	0
1	B	2793	0	2750	34	0
1	C	2793	0	2750	47	0
1	D	2793	0	2750	48	0
1	E	2793	0	2750	27	0
1	F	2793	0	2750	33	0
1	G	2793	0	2750	48	0
1	H	2793	0	2750	62	0
1	I	2793	0	2750	42	0
1	J	2793	0	2750	30	0
1	K	2793	0	2750	49	0
1	L	2793	0	2750	58	0
1	M	2793	0	2750	43	0
1	N	2793	0	2750	35	0
1	O	2793	0	2750	50	0
1	P	2793	0	2750	43	0
1	Q	2793	0	2750	59	0
1	R	2793	0	2750	41	0
1	S	2793	0	2750	25	0
1	T	2793	0	2750	41	0
1	U	2793	0	2750	49	0
1	V	2793	0	2750	37	0
1	W	2793	0	2750	47	0
1	X	2793	0	2750	55	0
1	Y	2793	0	2750	29	0
1	Z	2793	0	2750	42	0
1	a	2793	0	2750	43	0
1	b	2793	0	2750	38	0
1	c	2793	0	2750	54	0
1	d	2793	0	2750	57	0
1	e	2793	0	2750	47	0
1	f	2793	0	2750	39	0
1	g	2793	0	2750	46	0
All	All	92169	0	90750	1219	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 7.

All (1219) 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:H:171:MET:HE2	1:H:300:TYR:CE2	1.88	1.09
1:O:142:PHE:HD2	1:O:161:LEU:HB2	1.28	0.98
1:H:171:MET:HE2	1:H:300:TYR:HE2	1.26	0.97
1:A:171:MET:CE	1:A:297:ALA:HB1	1.94	0.96
1:A:171:MET:HE3	1:A:297:ALA:HB1	1.48	0.96
1:b:369:PRO:HB2	1:d:353:ILE:HD13	1.48	0.95
1:V:369:PRO:HB2	1:Z:353:ILE:HD13	1.50	0.91
1:M:82:MET:HE1	1:M:308:LEU:HD12	1.52	0.90
1:P:369:PRO:HB2	1:T:353:ILE:HD13	1.56	0.88
1:K:353:ILE:HD13	1:g:369:PRO:HB2	1.57	0.87
1:f:304:HIS:HA	1:f:307:GLU:HG3	1.55	0.86
1:O:142:PHE:CD2	1:O:161:LEU:HB2	2.11	0.85
1:A:238:ASN:HD21	1:A:242:GLN:HB2	1.40	0.85
1:S:369:PRO:HB2	1:V:353:ILE:HD13	1.56	0.85
1:K:144:THR:OG1	1:L:184:LYS:HD3	1.77	0.84
1:Q:171:MET:CE	1:Q:297:ALA:HB1	2.08	0.84
1:E:369:PRO:HB2	1:b:353:ILE:HD13	1.60	0.84
1:W:82:MET:HE2	1:W:164:MET:HE3	1.58	0.83
1:A:175:SER:HB2	1:A:289:GLN:HE22	1.43	0.83
1:X:120:ASN:HD21	1:X:277:ASP:HA	1.41	0.82
1:b:201:ASP:OD1	1:b:202:ILE:N	2.13	0.82
1:Q:239:GLU:HG3	1:Q:284:VAL:HG12	1.60	0.81
1:U:171:MET:HE3	1:U:297:ALA:HB1	1.63	0.81
1:M:240:LYS:HE2	1:M:242:GLN:OE1	1.80	0.80
1:Q:3:VAL:HG22	1:Q:372:ALA:HA	1.62	0.80
1:H:171:MET:CE	1:H:300:TYR:CD2	2.66	0.79
1:c:201:ASP:OD1	1:c:202:ILE:N	2.15	0.79
1:L:352:GLN:HE21	1:O:364:GLN:HE21	1.29	0.79
1:U:171:MET:CE	1:U:297:ALA:HB1	2.13	0.78
1:V:82:MET:HE1	1:V:304:HIS:HB3	1.66	0.78
1:N:250:ASN:ND2	1:N:299:LYS:HE2	1.99	0.78
1:A:361:VAL:HG22	1:X:29:MET:HE2	1.64	0.78
1:Q:201:ASP:HB2	1:Q:205:ASN:OD1	1.84	0.78
1:f:201:ASP:OD1	1:f:202:ILE:N	2.17	0.78
1:H:353:ILE:HG23	1:d:373:LEU:HD23	1.66	0.77
1:M:199:LEU:HB3	1:M:256:VAL:HG23	1.65	0.77
1:g:177:VAL:HG22	1:g:244:GLN:HG2	1.65	0.77
1:A:361:VAL:HG22	1:X:29:MET:CE	2.15	0.76
1:H:171:MET:HE2	1:H:300:TYR:CD2	2.20	0.76
1:H:321:ASN:HB2	1:e:84:GLU:HG2	1.68	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:82:MET:HE1	1:F:304:HIS:HB3	1.69	0.75
1:Q:238:ASN:HD21	1:Q:242:GLN:HB2	1.50	0.75
1:A:175:SER:HB2	1:A:289:GLN:NE2	2.01	0.75
1:C:375:LEU:HG	1:C:376:LEU:HG	1.68	0.75
1:Q:171:MET:HE3	1:Q:297:ALA:HB1	1.67	0.75
1:Q:1:MET:HE1	1:Q:9:VAL:HG23	1.69	0.75
1:V:84:GLU:HG2	1:Y:321:ASN:HB2	1.69	0.75
1:Z:166:SER:HA	1:Z:171:MET:HE2	1.67	0.75
1:W:367:GLN:HG3	1:W:370:ASN:HD22	1.52	0.74
1:Q:122:GLU:HB2	1:T:314:ARG:HG3	1.69	0.74
1:T:369:PRO:HB2	1:W:353:ILE:HD13	1.70	0.74
1:f:82:MET:HE1	1:f:304:HIS:HB3	1.71	0.73
1:H:353:ILE:HG13	1:d:369:PRO:HB2	1.69	0.73
1:a:84:GLU:HG2	1:d:321:ASN:HB2	1.69	0.73
1:A:274:GLU:OE1	1:A:289:GLN:NE2	2.22	0.73
1:J:369:PRO:HB2	1:N:353:ILE:HD13	1.69	0.73
1:O:142:PHE:CD2	1:O:161:LEU:HD12	2.23	0.73
1:W:84:GLU:HG2	1:Z:321:ASN:HB2	1.70	0.73
1:H:171:MET:CE	1:H:300:TYR:CE2	2.71	0.72
1:A:171:MET:HE3	1:A:297:ALA:CB	2.20	0.72
1:J:144:THR:HG21	1:K:184:LYS:HB3	1.70	0.72
1:b:84:GLU:HG2	1:f:321:ASN:HB2	1.69	0.72
1:H:84:GLU:HG2	1:K:321:ASN:HB2	1.70	0.71
1:N:84:GLU:HG2	1:P:321:ASN:HB2	1.72	0.71
1:D:84:GLU:HG2	1:G:321:ASN:HB2	1.72	0.71
1:a:144:THR:HG21	1:c:184:LYS:HB3	1.71	0.71
1:C:84:GLU:HG2	1:F:321:ASN:HB2	1.71	0.71
1:P:234:LYS:HD2	1:P:292:ALA:HB2	1.71	0.71
1:B:373:LEU:HD21	1:F:356:GLN:HB2	1.72	0.71
1:A:171:MET:SD	1:A:300:TYR:HD2	2.14	0.70
1:J:84:GLU:HG2	1:M:321:ASN:HB2	1.72	0.70
1:O:122:GLU:HB2	1:Q:314:ARG:HG3	1.74	0.70
1:A:38:ILE:HG23	1:A:43:ASP:HB2	1.74	0.70
1:W:122:GLU:HB2	1:Z:314:ARG:HG3	1.74	0.70
1:A:84:GLU:HG2	1:C:321:ASN:HB2	1.73	0.70
1:U:84:GLU:HG2	1:W:321:ASN:HB2	1.72	0.70
1:d:120:ASN:HD21	1:d:277:ASP:HA	1.55	0.70
1:U:359:SER:HB2	1:W:375:LEU:HD13	1.73	0.70
1:S:144:THR:HG21	1:T:184:LYS:HB3	1.73	0.70
1:c:32:LEU:HD11	1:c:348:LEU:HD13	1.74	0.69
1:A:122:GLU:HB2	1:C:314:ARG:HG3	1.73	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:369:PRO:HB2	1:R:353:ILE:HD12	1.75	0.69
1:U:366:LYS:HE2	1:X:346:THR:HG22	1.74	0.69
1:P:84:GLU:HG2	1:S:321:ASN:HB2	1.74	0.68
1:L:84:GLU:HG2	1:O:321:ASN:HB2	1.74	0.68
1:U:171:MET:SD	1:U:300:TYR:HD2	2.17	0.68
1:M:82:MET:HE3	1:M:305:ARG:HG2	1.75	0.68
1:f:177:VAL:HG22	1:f:244:GLN:HG2	1.76	0.68
1:H:171:MET:CE	1:H:300:TYR:HD2	2.07	0.67
1:A:171:MET:HE1	1:A:297:ALA:HB1	1.74	0.67
1:A:175:SER:CB	1:A:289:GLN:HE22	2.07	0.67
1:U:175:SER:O	1:U:271:GLY:HA2	1.93	0.67
1:K:84:GLU:HG2	1:N:321:ASN:HB2	1.74	0.67
1:Q:198:THR:HG23	1:Q:257:ALA:HB3	1.77	0.67
1:T:82:MET:HE1	1:T:308:LEU:HD12	1.77	0.67
1:U:246:PHE:HB2	1:U:289:GLN:NE2	2.10	0.67
1:R:29:MET:HG2	1:U:361:VAL:HG13	1.75	0.67
1:I:51:SER:HB2	1:I:337:LYS:HD3	1.77	0.67
1:W:7:THR:HG21	1:X:334:SER:HB2	1.77	0.66
1:Q:84:GLU:HG2	1:T:321:ASN:HB2	1.76	0.66
1:H:184:LYS:HE3	1:g:160:THR:HG21	1.76	0.66
1:U:321:ASN:O	1:U:325:ILE:HG12	1.95	0.66
1:O:170:MET:HA	1:O:170:MET:HE2	1.78	0.66
1:X:175:SER:O	1:X:271:GLY:HA2	1.96	0.66
1:D:38:ILE:HD11	1:D:51:SER:OG	1.96	0.65
1:R:199:LEU:HD13	1:R:252:VAL:HG22	1.79	0.65
1:d:84:GLU:HG2	1:g:321:ASN:HB2	1.76	0.65
1:K:29:MET:HE1	1:N:365:ALA:HB2	1.78	0.65
1:A:365:ALA:HB2	1:X:29:MET:HE1	1.78	0.65
1:H:217:ASP:HB3	1:H:221:GLU:HB2	1.77	0.65
1:B:170:MET:HE2	1:B:170:MET:HA	1.77	0.65
1:K:369:PRO:HB2	1:O:353:ILE:HD13	1.77	0.65
1:H:376:LEU:HB3	1:I:345:THR:HG21	1.77	0.65
1:B:41:ALA:HB2	1:B:48:LEU:HD22	1.79	0.65
1:F:144:THR:HG21	1:G:184:LYS:HB3	1.79	0.65
1:D:69:ASN:HB3	1:G:335:ARG:HD3	1.78	0.64
1:G:84:GLU:HG2	1:a:321:ASN:HB2	1.77	0.64
1:H:171:MET:SD	1:H:300:TYR:HD2	2.20	0.64
1:c:77:THR:HG22	1:e:328:ASN:HB3	1.79	0.64
1:a:375:LEU:HG	1:a:376:LEU:HG	1.78	0.64
1:d:205:ASN:OD1	1:d:205:ASN:O	2.16	0.64
1:H:122:GLU:HB2	1:K:314:ARG:HG3	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:314:ARG:HG3	1:e:122:GLU:HB2	1.80	0.64
1:K:5:VAL:HG23	1:K:369:PRO:HB3	1.78	0.64
1:M:373:LEU:HD21	1:P:353:ILE:HD12	1.79	0.64
1:Y:162:LYS:H	1:Y:304:HIS:CE1	2.16	0.64
1:B:198:THR:HG23	1:B:257:ALA:HB3	1.79	0.64
1:K:25:GLN:O	1:K:29:MET:HG3	1.96	0.64
1:D:164:MET:HE3	1:D:304:HIS:HD2	1.62	0.64
1:N:15:GLN:O	1:N:19:THR:HG23	1.98	0.64
1:c:32:LEU:CD1	1:c:348:LEU:HD13	2.28	0.64
1:g:78:ALA:O	1:g:82:MET:HG3	1.98	0.64
1:B:321:ASN:HB2	1:Z:84:GLU:HG2	1.81	0.63
1:H:349:THR:O	1:H:353:ILE:HG12	1.97	0.63
1:f:175:SER:O	1:f:271:GLY:HA2	1.98	0.63
1:T:84:GLU:HG2	1:V:321:ASN:HB2	1.80	0.63
1:I:12:MET:HA	1:I:15:GLN:HG2	1.79	0.63
1:E:199:LEU:HB3	1:E:256:VAL:HG13	1.79	0.63
1:e:25:GLN:O	1:e:29:MET:HG3	1.99	0.63
1:H:238:ASN:HD21	1:H:242:GLN:HB2	1.64	0.62
1:T:1:MET:HE1	1:U:335:ARG:HH21	1.64	0.62
1:F:82:MET:HE2	1:F:305:ARG:HG3	1.81	0.62
1:R:361:VAL:HA	1:R:364:GLN:HG3	1.80	0.62
1:Y:144:THR:OG1	1:Z:184:LYS:HD3	1.98	0.62
1:H:25:GLN:HG2	1:H:29:MET:HE2	1.81	0.62
1:c:92:MET:HE3	1:c:116:ILE:HG23	1.81	0.62
1:g:162:LYS:H	1:g:304:HIS:CE1	2.18	0.62
1:Q:171:MET:HE1	1:Q:297:ALA:HB1	1.80	0.62
1:Q:201:ASP:CB	1:Q:205:ASN:OD1	2.47	0.62
1:R:109:ARG:HB3	1:R:282:THR:HA	1.81	0.62
1:H:15:GLN:O	1:H:19:THR:HG23	1.99	0.62
1:d:184:LYS:HD3	1:f:160:THR:HG21	1.80	0.62
1:U:108:GLU:O	1:U:112:ILE:HD12	1.99	0.62
1:D:321:ASN:O	1:D:325:ILE:HG12	2.00	0.62
1:R:173:GLY:HA2	1:R:249:ASN:HB2	1.82	0.62
1:F:29:MET:HG2	1:b:361:VAL:HG13	1.80	0.61
1:U:82:MET:HE1	1:U:304:HIS:CD2	2.34	0.61
1:c:85:THR:HG23	1:c:123:LEU:HD22	1.82	0.61
1:H:373:LEU:HD22	1:L:356:GLN:HE21	1.65	0.61
1:e:108:GLU:O	1:e:112:ILE:HG13	2.00	0.61
1:b:170:MET:HE1	1:b:250:ASN:HB3	1.81	0.61
1:g:162:LYS:H	1:g:304:HIS:HE1	1.49	0.61
1:Y:82:MET:HE3	1:Y:164:MET:HE3	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:f:188:VAL:O	1:f:215:GLU:HG3	2.00	0.61
1:X:31:ARG:HB3	1:X:344:GLU:OE2	1.99	0.61
1:Q:205:ASN:OD1	1:Q:205:ASN:O	2.19	0.61
1:O:142:PHE:CE2	1:O:161:LEU:HG	2.35	0.60
1:A:9:VAL:HG23	1:X:26:GLN:HE22	1.66	0.60
1:B:289:GLN:HE21	1:B:289:GLN:HA	1.66	0.60
1:B:353:ILE:HD13	1:Y:369:PRO:HB2	1.82	0.60
1:H:108:GLU:O	1:H:112:ILE:HG13	2.01	0.60
1:b:122:GLU:HB2	1:f:314:ARG:HG3	1.82	0.60
1:L:144:THR:HG22	1:L:160:THR:HB	1.83	0.60
1:c:73:SER:O	1:c:77:THR:HG23	2.01	0.60
1:B:92:MET:HE3	1:B:116:ILE:HG23	1.84	0.60
1:I:164:MET:HE1	1:I:304:HIS:HD2	1.67	0.60
1:A:52:ASN:O	1:A:56:VAL:HG23	2.01	0.60
1:H:138:LEU:HB3	1:H:164:MET:HB2	1.84	0.60
1:c:78:ALA:O	1:c:82:MET:HG3	2.02	0.60
1:C:11:ALA:O	1:C:15:GLN:HG3	2.02	0.59
1:P:164:MET:HE3	1:P:304:HIS:HD2	1.66	0.59
1:U:38:ILE:HG23	1:U:43:ASP:HB2	1.84	0.59
1:A:335:ARG:HD2	1:X:69:ASN:HB3	1.83	0.59
1:I:29:MET:HE2	1:L:364:GLN:HE22	1.66	0.59
1:J:187:LYS:HD2	1:J:216:GLY:O	2.02	0.59
1:P:122:GLU:HB2	1:S:314:ARG:HG3	1.83	0.59
1:E:290:SER:O	1:E:294:ILE:HD12	2.02	0.59
1:L:46:ALA:O	1:L:50:ILE:HD12	2.03	0.59
1:g:279:ILE:HD12	1:g:290:SER:HB3	1.84	0.59
1:T:373:LEU:HG	1:W:353:ILE:HG23	1.85	0.59
1:a:61:LEU:O	1:a:65:VAL:HG23	2.03	0.59
1:L:31:ARG:HD3	1:L:37:LYS:HA	1.84	0.59
1:f:201:ASP:OD1	1:f:202:ILE:HG22	2.03	0.59
1:P:85:THR:HG23	1:P:123:LEU:HD22	1.85	0.59
1:R:325:ILE:O	1:R:329:VAL:HG13	2.03	0.59
1:e:78:ALA:O	1:e:82:MET:HE3	2.03	0.59
1:B:178:ALA:HA	1:B:268:MET:HA	1.84	0.59
1:a:205:ASN:OD1	1:a:205:ASN:O	2.20	0.59
1:A:238:ASN:ND2	1:A:242:GLN:HB2	2.15	0.59
1:I:108:GLU:O	1:I:112:ILE:HG13	2.03	0.59
1:I:356:GLN:HE22	1:e:373:LEU:HD13	1.67	0.59
1:e:295:ASP:O	1:e:299:LYS:HG2	2.03	0.59
1:g:170:MET:HA	1:g:170:MET:HE2	1.84	0.59
1:A:353:ILE:HD12	1:W:369:PRO:HB2	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:25:GLN:HG2	1:a:29:MET:HE2	1.84	0.58
1:M:234:LYS:HD2	1:M:292:ALA:HB2	1.85	0.58
1:T:122:GLU:HB2	1:V:314:ARG:HG3	1.86	0.58
1:J:122:GLU:HB2	1:M:314:ARG:HG3	1.86	0.58
1:c:3:VAL:CG1	1:c:372:ALA:HB1	2.34	0.58
1:f:144:THR:HA	1:f:160:THR:HG22	1.84	0.58
1:J:349:THR:O	1:J:353:ILE:HD12	2.03	0.58
1:U:304:HIS:HA	1:U:307:GLU:HG3	1.86	0.58
1:B:164:MET:HE3	1:B:304:HIS:HD2	1.68	0.57
1:L:325:ILE:O	1:L:329:VAL:HG23	2.04	0.57
1:H:245:ILE:HD12	1:H:268:MET:HE2	1.86	0.57
1:O:362:LEU:HD22	1:Q:375:LEU:HD23	1.87	0.57
1:V:187:LYS:HE3	1:V:216:GLY:HA2	1.85	0.57
1:D:279:ILE:HB	1:D:290:SER:HB3	1.85	0.57
1:H:199:LEU:HD13	1:H:252:VAL:HG22	1.86	0.57
1:I:169:ARG:NH1	1:I:169:ARG:HB3	2.19	0.57
1:Q:92:MET:HE3	1:Q:116:ILE:HG23	1.87	0.57
1:U:352:GLN:O	1:U:356:GLN:HG3	2.05	0.57
1:Z:109:ARG:HB3	1:Z:282:THR:HA	1.85	0.57
1:e:332:SER:O	1:e:336:ILE:HG22	2.04	0.57
1:R:61:LEU:HD22	1:R:322:LEU:HD22	1.87	0.57
1:U:14:ALA:HB3	1:U:362:LEU:HD13	1.86	0.57
1:R:164:MET:HE2	1:R:304:HIS:HD2	1.70	0.57
1:X:321:ASN:O	1:X:325:ILE:HG12	2.04	0.57
1:E:177:VAL:HG13	1:E:244:GLN:HG2	1.87	0.57
1:P:73:SER:HB3	1:S:332:SER:HB3	1.87	0.57
1:Z:178:ALA:HA	1:Z:268:MET:HA	1.86	0.57
1:K:120:ASN:HD21	1:K:277:ASP:HA	1.70	0.57
1:M:367:GLN:HA	1:M:370:ASN:HD22	1.68	0.56
1:O:352:GLN:O	1:O:356:GLN:HG3	2.05	0.56
1:g:234:LYS:HD2	1:g:292:ALA:HB2	1.86	0.56
1:A:108:GLU:O	1:A:112:ILE:HG13	2.05	0.56
1:A:171:MET:SD	1:A:300:TYR:CD2	2.96	0.56
1:d:184:LYS:HA	1:f:158:MET:HE1	1.87	0.56
1:A:173:GLY:HA2	1:A:249:ASN:ND2	2.20	0.56
1:A:359:SER:HB2	1:C:375:LEU:HD13	1.86	0.56
1:G:66:ARG:HG3	1:G:66:ARG:HH11	1.70	0.56
1:O:11:ALA:O	1:O:15:GLN:HG3	2.04	0.56
1:P:219:ILE:HD11	1:P:243:LEU:HB2	1.87	0.56
1:X:23:ASN:O	1:X:27:THR:HG23	2.04	0.56
1:a:29:MET:HG2	1:d:361:VAL:HG13	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:88:ILE:HG23	1:I:119:LEU:HD22	1.88	0.56
1:Q:171:MET:HE3	1:Q:297:ALA:CB	2.34	0.56
1:Z:279:ILE:HD12	1:Z:290:SER:HB3	1.87	0.56
1:I:144:THR:HG22	1:I:160:THR:HB	1.86	0.56
1:S:221:GLU:HA	1:S:224:THR:HG22	1.87	0.56
1:V:199:LEU:HD13	1:V:252:VAL:HG22	1.87	0.56
1:c:238:ASN:HD21	1:c:240:LYS:HD3	1.71	0.56
1:T:144:THR:HG21	1:U:184:LYS:HB3	1.88	0.56
1:U:13:THR:O	1:U:16:ARG:HG3	2.06	0.56
1:c:88:ILE:HG23	1:c:119:LEU:HD22	1.88	0.56
1:J:236:SER:HB2	1:J:288:GLN:HE21	1.71	0.56
1:O:85:THR:HG23	1:O:123:LEU:HD22	1.88	0.56
1:W:144:THR:HG21	1:X:184:LYS:HB3	1.87	0.56
1:c:201:ASP:CG	1:c:202:ILE:H	2.09	0.56
1:D:144:THR:HG22	1:D:160:THR:HB	1.88	0.56
1:K:138:LEU:HD13	1:K:164:MET:HG3	1.87	0.56
1:Q:281:VAL:HG12	1:Q:287:ALA:HA	1.88	0.56
1:V:78:ALA:O	1:V:82:MET:HG3	2.06	0.56
1:B:122:GLU:HB2	1:E:314:ARG:HG3	1.87	0.56
1:H:164:MET:HE3	1:H:301:VAL:HG22	1.88	0.56
1:c:25:GLN:HE21	1:c:348:LEU:HG	1.71	0.56
1:d:175:SER:O	1:d:271:GLY:HA2	2.06	0.56
1:C:352:GLN:O	1:C:356:GLN:HG3	2.06	0.55
1:D:246:PHE:HB2	1:D:289:GLN:NE2	2.21	0.55
1:Q:12:MET:HE3	1:R:327:GLU:HG3	1.87	0.55
1:X:29:MET:HG2	1:X:348:LEU:HD11	1.88	0.55
1:C:138:LEU:HD13	1:C:164:MET:HG3	1.89	0.55
1:W:109:ARG:HB3	1:W:282:THR:HA	1.88	0.55
1:a:52:ASN:O	1:a:56:VAL:HG13	2.06	0.55
1:G:85:THR:HG23	1:G:123:LEU:HD22	1.89	0.55
1:F:78:ALA:O	1:F:82:MET:HG3	2.07	0.55
1:N:85:THR:HG23	1:N:123:LEU:HD22	1.88	0.55
1:b:34:SER:HB2	1:f:17:TYR:CZ	2.41	0.55
1:D:37:LYS:HB2	1:D:339:THR:HA	1.89	0.55
1:L:246:PHE:HB2	1:L:289:GLN:HE21	1.72	0.55
1:Q:373:LEU:HD11	1:U:356:GLN:HB2	1.88	0.55
1:R:122:GLU:HB2	1:U:314:ARG:HG3	1.89	0.55
1:Y:88:ILE:O	1:Y:92:MET:HG3	2.07	0.55
1:c:62:ASP:O	1:c:66:ARG:HG3	2.07	0.55
1:U:92:MET:HG2	1:U:116:ILE:HG12	1.88	0.55
1:R:110:VAL:O	1:R:114:GLU:HG3	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:V:85:THR:HG23	1:V:123:LEU:HD22	1.89	0.55
1:d:218:ASP:OD1	1:d:221:GLU:HG3	2.07	0.55
1:J:199:LEU:HB3	1:J:256:VAL:HG22	1.88	0.55
1:V:164:MET:HE3	1:V:304:HIS:HD2	1.72	0.54
1:b:199:LEU:HD13	1:b:252:VAL:HG22	1.89	0.54
1:d:199:LEU:HD13	1:d:252:VAL:HG22	1.88	0.54
1:e:52:ASN:O	1:e:56:VAL:HG12	2.07	0.54
1:D:38:ILE:CD1	1:D:48:LEU:HA	2.36	0.54
1:D:109:ARG:HB3	1:D:282:THR:HA	1.89	0.54
1:L:79:GLU:HA	1:L:82:MET:HG3	1.89	0.54
1:Y:162:LYS:H	1:Y:304:HIS:HE1	1.55	0.54
1:D:51:SER:HB2	1:D:337:LYS:HB2	1.89	0.54
1:I:349:THR:O	1:I:353:ILE:HG12	2.08	0.54
1:K:79:GLU:HA	1:K:82:MET:HE2	1.88	0.54
1:M:138:LEU:HB3	1:M:164:MET:HB2	1.90	0.54
1:A:373:LEU:HB2	1:D:353:ILE:HG23	1.90	0.54
1:L:326:ASN:O	1:L:327:GLU:C	2.50	0.54
1:P:46:ALA:O	1:P:50:ILE:HG22	2.07	0.54
1:Z:61:LEU:O	1:Z:65:VAL:HG23	2.07	0.54
1:a:178:ALA:HA	1:a:268:MET:HA	1.88	0.54
1:d:376:LEU:HB3	1:e:345:THR:HG21	1.90	0.54
1:I:177:VAL:HG13	1:I:244:GLN:HG2	1.89	0.54
1:N:250:ASN:HD21	1:N:299:LYS:HE2	1.72	0.54
1:W:46:ALA:O	1:W:50:ILE:HG22	2.08	0.54
1:G:164:MET:HE3	1:G:304:HIS:HD2	1.73	0.54
1:H:367:GLN:HB3	1:H:370:ASN:HD21	1.72	0.54
1:O:109:ARG:HB3	1:O:282:THR:HA	1.90	0.54
1:Q:1:MET:HE1	1:Q:9:VAL:H	1.72	0.54
1:V:34:SER:HB2	1:Y:17:TYR:CZ	2.43	0.54
1:B:352:GLN:O	1:B:356:GLN:HG3	2.08	0.54
1:J:93:ARG:HB2	1:J:294:ILE:HG21	1.90	0.54
1:V:234:LYS:HD3	1:V:292:ALA:HB2	1.90	0.54
1:d:61:LEU:O	1:d:65:VAL:HG13	2.08	0.54
1:A:366:LYS:O	1:A:369:PRO:HD2	2.08	0.54
1:O:142:PHE:CE2	1:O:161:LEU:HD12	2.42	0.54
1:U:187:LYS:HE2	1:U:216:GLY:HA2	1.90	0.54
1:A:17:TYR:CZ	1:X:34:SER:HB3	2.43	0.54
1:G:61:LEU:O	1:G:65:VAL:HG13	2.08	0.53
1:H:335:ARG:HD2	1:e:69:ASN:HB3	1.90	0.53
1:a:173:GLY:HA3	1:a:248:GLY:HA2	1.89	0.53
1:G:52:ASN:O	1:G:56:VAL:HG13	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Q:144:THR:HG21	1:R:184:LYS:HB3	1.90	0.53
1:c:52:ASN:O	1:c:56:VAL:HG12	2.08	0.53
1:F:178:ALA:HA	1:F:268:MET:HA	1.91	0.53
1:P:61:LEU:O	1:P:65:VAL:HG13	2.08	0.53
1:C:31:ARG:HD3	1:C:37:LYS:HA	1.90	0.53
1:f:61:LEU:O	1:f:65:VAL:HG13	2.09	0.53
1:D:31:ARG:HD2	1:D:344:GLU:HG2	1.90	0.53
1:L:332:SER:O	1:L:336:ILE:HG22	2.08	0.53
1:O:46:ALA:O	1:O:50:ILE:HG22	2.09	0.53
1:Y:198:THR:HG23	1:Y:257:ALA:HB3	1.89	0.53
1:d:122:GLU:HB2	1:g:314:ARG:HG3	1.91	0.53
1:L:122:GLU:HB2	1:O:314:ARG:HG3	1.91	0.53
1:O:142:PHE:HE2	1:O:161:LEU:HG	1.74	0.53
1:P:66:ARG:HB3	1:P:66:ARG:NH1	2.24	0.53
1:e:82:MET:HG2	1:e:301:VAL:HG13	1.89	0.53
1:F:88:ILE:HG23	1:F:119:LEU:HD22	1.91	0.53
1:J:332:SER:HB3	1:g:73:SER:HB3	1.91	0.53
1:N:46:ALA:O	1:N:50:ILE:HG22	2.08	0.53
1:P:196:THR:HG22	1:P:210:THR:HG23	1.90	0.53
1:Y:246:PHE:HB2	1:Y:289:GLN:NE2	2.23	0.53
1:Z:199:LEU:HD13	1:Z:252:VAL:HG22	1.90	0.53
1:F:162:LYS:H	1:F:304:HIS:CE1	2.27	0.53
1:H:152:ASP:O	1:H:155:GLU:HG3	2.09	0.53
1:J:138:LEU:HD13	1:J:164:MET:HG3	1.91	0.53
1:O:52:ASN:O	1:O:56:VAL:HG13	2.08	0.53
1:b:88:ILE:HG23	1:b:119:LEU:HD22	1.90	0.53
1:b:177:VAL:HG22	1:b:244:GLN:HG2	1.89	0.53
1:c:32:LEU:HD21	1:c:344:GLU:HG2	1.91	0.53
1:E:153:ASN:HB3	1:F:291:VAL:HB	1.89	0.53
1:J:82:MET:HG2	1:J:301:VAL:HG13	1.91	0.53
1:J:162:LYS:H	1:J:304:HIS:CE1	2.27	0.53
1:K:69:ASN:HB3	1:N:335:ARG:HD2	1.89	0.53
1:P:101:ASN:OD1	1:P:102:GLY:N	2.42	0.53
1:d:46:ALA:O	1:d:50:ILE:HG22	2.09	0.53
1:f:234:LYS:HD2	1:f:292:ALA:HB2	1.91	0.53
1:U:171:MET:SD	1:U:300:TYR:CD2	3.01	0.53
1:L:82:MET:HE1	1:L:304:HIS:HD2	1.74	0.52
1:X:31:ARG:HD2	1:X:37:LYS:HA	1.89	0.52
1:Z:46:ALA:O	1:Z:50:ILE:HG22	2.09	0.52
1:a:164:MET:HE3	1:a:304:HIS:HD2	1.73	0.52
1:K:164:MET:HE3	1:K:304:HIS:HD2	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:368:ALA:HB3	1:M:369:PRO:HD3	1.89	0.52
1:S:219:ILE:HD11	1:S:243:LEU:HB2	1.91	0.52
1:c:95:LEU:HD13	1:c:115:GLU:HG2	1.90	0.52
1:E:367:GLN:O	1:E:370:ASN:HB2	2.10	0.52
1:F:218:ASP:OD2	1:F:221:GLU:HG3	2.10	0.52
1:e:29:MET:HA	1:e:32:LEU:HD12	1.91	0.52
1:C:52:ASN:O	1:C:56:VAL:HG13	2.10	0.52
1:C:164:MET:HE3	1:C:304:HIS:HD2	1.74	0.52
1:D:28:SER:O	1:D:31:ARG:HG2	2.10	0.52
1:E:368:ALA:HB3	1:E:369:PRO:HD3	1.91	0.52
1:G:303:SER:O	1:G:307:GLU:HG3	2.09	0.52
1:e:164:MET:HE3	1:e:304:HIS:HD2	1.73	0.52
1:G:358:SER:HA	1:G:361:VAL:HG22	1.91	0.52
1:P:1:MET:HE2	1:P:2:ALA:HB3	1.92	0.52
1:P:279:ILE:HB	1:P:290:SER:HB3	1.92	0.52
1:f:279:ILE:HB	1:f:290:SER:HB2	1.92	0.52
1:g:27:THR:HG22	1:g:31:ARG:HD2	1.91	0.52
1:F:73:SER:HB3	1:b:332:SER:OG	2.09	0.52
1:A:361:VAL:O	1:X:29:MET:CE	2.58	0.52
1:C:349:THR:O	1:C:353:ILE:HG12	2.09	0.52
1:I:325:ILE:O	1:I:329:VAL:HG23	2.09	0.52
1:c:303:SER:O	1:c:307:GLU:HG3	2.09	0.52
1:K:245:ILE:HD12	1:K:268:MET:HE2	1.91	0.52
1:Z:85:THR:HG23	1:Z:123:LEU:HD22	1.92	0.52
1:b:238:ASN:HB3	1:b:244:GLN:NE2	2.25	0.52
1:A:349:THR:O	1:A:353:ILE:HG13	2.10	0.51
1:F:34:SER:HB3	1:b:17:TYR:CZ	2.45	0.51
1:G:26:GLN:HG3	1:a:10:ALA:HB2	1.92	0.51
1:G:34:SER:HB3	1:a:17:TYR:CZ	2.45	0.51
1:K:158:MET:HG3	1:L:220:GLU:HG3	1.91	0.51
1:N:368:ALA:N	1:N:369:PRO:HD2	2.25	0.51
1:f:82:MET:HE2	1:f:305:ARG:HG3	1.92	0.51
1:J:144:THR:HG22	1:J:160:THR:HB	1.93	0.51
1:O:199:LEU:HB3	1:O:256:VAL:HG22	1.92	0.51
1:U:38:ILE:HD12	1:U:337:LYS:HA	1.92	0.51
1:U:95:LEU:HB3	1:U:112:ILE:HG23	1.92	0.51
1:e:92:MET:HE3	1:e:116:ILE:HG23	1.92	0.51
1:C:158:MET:HG3	1:D:220:GLU:HG3	1.91	0.51
1:N:109:ARG:HB3	1:N:282:THR:HA	1.93	0.51
1:O:142:PHE:CD2	1:O:161:LEU:CB	2.91	0.51
1:Q:164:MET:HE3	1:Q:304:HIS:HD2	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:9:VAL:HG23	1:X:26:GLN:NE2	2.24	0.51
1:P:206:ASP:OD1	1:P:207:GLN:N	2.43	0.51
1:d:82:MET:HG2	1:d:301:VAL:HG13	1.92	0.51
1:A:73:SER:HB3	1:C:332:SER:OG	2.10	0.51
1:A:82:MET:SD	1:A:304:HIS:HD2	2.33	0.51
1:A:350:LYS:HD2	1:W:6:ASN:HA	1.91	0.51
1:C:110:VAL:O	1:C:114:GLU:HG2	2.10	0.51
1:E:85:THR:HG23	1:E:123:LEU:HD22	1.93	0.51
1:K:363:ALA:HA	1:K:366:LYS:HE2	1.93	0.51
1:M:82:MET:HE3	1:M:305:ARG:CG	2.40	0.51
1:N:162:LYS:H	1:N:304:HIS:CE1	2.28	0.51
1:U:82:MET:HE2	1:U:164:MET:HE3	1.92	0.51
1:c:159:LEU:HD13	1:c:311:PHE:CD2	2.45	0.51
1:g:178:ALA:HA	1:g:268:MET:HA	1.92	0.51
1:B:200:LYS:HB2	1:B:200:LYS:NZ	2.26	0.51
1:H:171:MET:SD	1:H:300:TYR:CD2	3.03	0.51
1:L:52:ASN:O	1:L:56:VAL:HG12	2.11	0.51
1:Q:303:SER:O	1:Q:307:GLU:HG3	2.11	0.51
1:Z:187:LYS:HD3	1:Z:216:GLY:HA2	1.92	0.51
1:W:287:ALA:O	1:W:291:VAL:HG23	2.10	0.51
1:X:46:ALA:O	1:X:50:ILE:HG12	2.11	0.51
1:Z:131:SER:HB3	1:Z:136:LYS:HD3	1.93	0.51
1:A:14:ALA:HB3	1:A:362:LEU:HD12	1.93	0.51
1:M:352:GLN:O	1:M:356:GLN:HG3	2.11	0.51
1:W:82:MET:HE3	1:W:138:LEU:HD22	1.92	0.51
1:b:82:MET:HE1	1:b:308:LEU:HD12	1.93	0.51
1:H:153:ASN:HB3	1:I:291:VAL:HB	1.92	0.50
1:I:93:ARG:HB2	1:I:294:ILE:HG21	1.93	0.50
1:J:73:SER:HB3	1:M:332:SER:OG	2.11	0.50
1:U:218:ASP:OD1	1:U:221:GLU:HG3	2.12	0.50
1:Y:82:MET:HE1	1:Y:304:HIS:HB3	1.92	0.50
1:g:64:ALA:HB1	1:g:150:GLY:H	1.75	0.50
1:B:73:SER:HB3	1:E:332:SER:OG	2.11	0.50
1:H:279:ILE:HB	1:H:290:SER:HB3	1.93	0.50
1:I:82:MET:HE1	1:I:304:HIS:CD2	2.47	0.50
1:I:349:THR:O	1:I:352:GLN:HG3	2.11	0.50
1:L:93:ARG:HB2	1:L:294:ILE:HG21	1.93	0.50
1:M:82:MET:HA	1:M:85:THR:HG22	1.93	0.50
1:R:178:ALA:HA	1:R:268:MET:HA	1.93	0.50
1:Q:3:VAL:O	1:R:341:PHE:HB2	2.11	0.50
1:X:59:ARG:O	1:X:63:VAL:HG23	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:c:34:SER:HB2	1:e:17:TYR:CZ	2.45	0.50
1:H:73:SER:HB3	1:K:332:SER:OG	2.10	0.50
1:W:93:ARG:HB2	1:W:294:ILE:HG21	1.93	0.50
1:d:279:ILE:HB	1:d:290:SER:HB3	1.93	0.50
1:V:138:LEU:HB3	1:V:164:MET:HB2	1.92	0.50
1:b:168:ASN:OD1	1:b:170:MET:HB2	2.11	0.50
1:c:108:GLU:O	1:c:112:ILE:HD12	2.11	0.50
1:A:199:LEU:HB3	1:A:256:VAL:HG22	1.92	0.50
1:L:279:ILE:HD12	1:L:290:SER:HB3	1.93	0.50
1:U:349:THR:O	1:U:353:ILE:HD13	2.10	0.50
1:Y:61:LEU:HD22	1:Y:322:LEU:HD22	1.94	0.50
1:A:251:LYS:HD3	1:A:299:LYS:NZ	2.26	0.50
1:U:171:MET:HE3	1:U:297:ALA:CB	2.36	0.50
1:d:335:ARG:HE	1:f:1:MET:HG2	1.76	0.50
1:C:54:LEU:HD22	1:C:329:VAL:HG13	1.94	0.50
1:I:50:ILE:O	1:I:53:ARG:HG2	2.12	0.50
1:K:373:LEU:HB2	1:O:353:ILE:HG23	1.94	0.50
1:Q:171:MET:SD	1:Q:300:TYR:HD2	2.35	0.50
1:U:54:LEU:HD22	1:U:329:VAL:HG13	1.93	0.50
1:X:325:ILE:O	1:X:329:VAL:HG22	2.12	0.50
1:Y:200:LYS:HB2	1:Y:200:LYS:NZ	2.26	0.50
1:A:33:SER:HB3	1:C:361:VAL:HG11	1.93	0.50
1:A:281:VAL:HG12	1:A:287:ALA:HA	1.94	0.50
1:D:164:MET:HE3	1:D:304:HIS:CD2	2.46	0.50
1:b:85:THR:HG23	1:b:123:LEU:HD22	1.93	0.50
1:f:88:ILE:O	1:f:92:MET:HG3	2.12	0.50
1:A:184:LYS:HB3	1:Z:144:THR:HG21	1.94	0.49
1:A:332:SER:OG	1:X:73:SER:HB3	2.12	0.49
1:E:46:ALA:O	1:E:50:ILE:HG22	2.12	0.49
1:F:84:GLU:HG3	1:b:321:ASN:HB2	1.94	0.49
1:F:369:PRO:HB2	1:a:353:ILE:HG12	1.94	0.49
1:M:32:LEU:HD21	1:M:344:GLU:HB3	1.94	0.49
1:M:46:ALA:O	1:M:50:ILE:HG22	2.11	0.49
1:Q:95:LEU:HD11	1:Q:115:GLU:HG2	1.94	0.49
1:a:33:SER:HB3	1:d:361:VAL:HG11	1.93	0.49
1:D:82:MET:HG2	1:D:301:VAL:HG13	1.93	0.49
1:R:33:SER:HB3	1:U:361:VAL:HG11	1.94	0.49
1:b:370:ASN:OD1	1:d:353:ILE:HD11	2.11	0.49
1:c:66:ARG:HH21	1:e:336:ILE:CD1	2.24	0.49
1:e:279:ILE:HB	1:e:290:SER:HB2	1.95	0.49
1:E:234:LYS:HD2	1:E:292:ALA:HB2	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:276:VAL:O	1:K:279:ILE:HG12	2.13	0.49
1:P:373:LEU:HD21	1:T:356:GLN:HB2	1.94	0.49
1:c:201:ASP:OD1	1:c:202:ILE:HG22	2.13	0.49
1:A:27:THR:O	1:A:31:ARG:HG3	2.13	0.49
1:X:238:ASN:HD21	1:X:242:GLN:HB2	1.77	0.49
1:L:246:PHE:HB2	1:L:289:GLN:NE2	2.28	0.49
1:U:73:SER:HB3	1:W:332:SER:OG	2.13	0.49
1:Z:88:ILE:HG23	1:Z:119:LEU:HD22	1.95	0.49
1:a:112:ILE:HG22	1:a:281:VAL:HG21	1.95	0.49
1:g:287:ALA:O	1:g:291:VAL:HG23	2.13	0.49
1:A:361:VAL:HG22	1:X:29:MET:HE3	1.91	0.49
1:C:287:ALA:O	1:C:291:VAL:HG23	2.13	0.49
1:F:46:ALA:O	1:F:50:ILE:HG22	2.13	0.49
1:H:287:ALA:O	1:H:291:VAL:HG23	2.12	0.49
1:H:303:SER:O	1:H:307:GLU:HG3	2.12	0.49
1:H:376:LEU:HD22	1:e:366:LYS:HG3	1.94	0.49
1:Z:93:ARG:HB2	1:Z:294:ILE:HG21	1.94	0.49
1:A:93:ARG:HB2	1:A:294:ILE:HG21	1.93	0.49
1:H:85:THR:HG23	1:H:123:LEU:HD22	1.95	0.49
1:K:37:LYS:HB3	1:K:339:THR:HA	1.95	0.49
1:M:369:PRO:HB2	1:P:353:ILE:HG13	1.95	0.49
1:E:89:LEU:HD22	1:E:294:ILE:HG23	1.94	0.49
1:O:343:LYS:NZ	1:O:343:LYS:HB3	2.28	0.49
1:a:78:ALA:O	1:a:82:MET:HE3	2.13	0.49
1:e:31:ARG:HG2	1:e:37:LYS:HA	1.93	0.49
1:f:369:PRO:HB2	1:g:353:ILE:HG13	1.95	0.49
1:U:350:LYS:O	1:U:354:LEU:HD12	2.11	0.49
1:a:54:LEU:HD22	1:a:329:VAL:HG13	1.95	0.49
1:d:131:SER:HB3	1:d:136:LYS:HD3	1.95	0.49
1:C:158:MET:HE1	1:D:184:LYS:HA	1.93	0.49
1:H:362:LEU:HD22	1:K:375:LEU:HD21	1.94	0.49
1:K:34:SER:HB2	1:N:17:TYR:CZ	2.48	0.49
1:L:54:LEU:HD22	1:L:329:VAL:HG13	1.95	0.49
1:c:201:ASP:OD1	1:c:251:LYS:O	2.31	0.49
1:A:365:ALA:HB2	1:X:29:MET:CE	2.43	0.48
1:K:29:MET:HE3	1:N:361:VAL:HG13	1.95	0.48
1:R:46:ALA:O	1:R:50:ILE:HG22	2.13	0.48
1:R:93:ARG:HB2	1:R:294:ILE:HG21	1.95	0.48
1:S:162:LYS:H	1:S:304:HIS:CE1	2.31	0.48
1:U:68:ALA:O	1:U:72:ILE:HG13	2.13	0.48
1:Z:92:MET:HE3	1:Z:116:ILE:HG23	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:352:GLN:HE21	1:O:364:GLN:NE2	2.03	0.48
1:M:79:GLU:HA	1:M:82:MET:HE2	1.94	0.48
1:S:162:LYS:HD2	1:S:304:HIS:CD2	2.48	0.48
1:a:367:GLN:HA	1:a:370:ASN:ND2	2.28	0.48
1:d:238:ASN:HB3	1:d:244:GLN:NE2	2.28	0.48
1:A:38:ILE:HD12	1:A:337:LYS:HA	1.94	0.48
1:I:169:ARG:HB3	1:I:169:ARG:HH11	1.78	0.48
1:Q:178:ALA:HA	1:Q:268:MET:HA	1.94	0.48
1:Z:289:GLN:HE21	1:Z:289:GLN:HA	1.77	0.48
1:A:218:ASP:OD2	1:A:221:GLU:HG3	2.13	0.48
1:J:78:ALA:O	1:J:82:MET:HE3	2.13	0.48
1:X:173:GLY:HA3	1:X:248:GLY:HA2	1.95	0.48
1:d:376:LEU:HD23	1:e:345:THR:HB	1.94	0.48
1:f:362:LEU:HD21	1:g:342:ALA:HB1	1.95	0.48
1:J:361:VAL:HG11	1:g:33:SER:HB3	1.94	0.48
1:O:73:SER:HB3	1:Q:332:SER:OG	2.13	0.48
1:O:142:PHE:CE2	1:O:161:LEU:CG	2.96	0.48
1:W:148:GLN:HE21	1:W:150:GLY:H	1.60	0.48
1:Z:104:ASN:HB3	1:Z:108:GLU:HB2	1.95	0.48
1:a:73:SER:HB3	1:d:332:SER:OG	2.13	0.48
1:d:41:ALA:HB2	1:d:48:LEU:HD22	1.94	0.48
1:O:93:ARG:HB2	1:O:294:ILE:HG21	1.96	0.48
1:T:88:ILE:HG23	1:T:119:LEU:HD22	1.96	0.48
1:U:171:MET:HE1	1:U:297:ALA:HB1	1.93	0.48
1:c:279:ILE:HB	1:c:290:SER:HB2	1.95	0.48
1:e:88:ILE:HG23	1:e:119:LEU:HD22	1.95	0.48
1:H:9:VAL:HG23	1:e:26:GLN:HE22	1.78	0.48
1:I:122:GLU:HB2	1:L:314:ARG:HG3	1.96	0.48
1:K:166:SER:HA	1:K:171:MET:HE2	1.96	0.48
1:N:88:ILE:O	1:N:92:MET:HG3	2.13	0.48
1:Q:15:GLN:O	1:Q:19:THR:HG23	2.14	0.48
1:a:367:GLN:HA	1:a:370:ASN:HD21	1.78	0.48
1:e:318:ALA:O	1:e:322:LEU:HG	2.14	0.48
1:g:22:THR:O	1:g:26:GLN:HG3	2.12	0.48
1:B:234:LYS:HD2	1:B:292:ALA:HB2	1.96	0.48
1:K:93:ARG:HB2	1:K:294:ILE:HG21	1.96	0.48
1:M:25:GLN:HG2	1:M:29:MET:HE2	1.95	0.48
1:T:281:VAL:HG12	1:T:287:ALA:HA	1.96	0.48
1:W:279:ILE:HB	1:W:290:SER:HB3	1.96	0.48
1:a:218:ASP:OD1	1:a:221:GLU:HG3	2.14	0.48
1:c:109:ARG:HB3	1:c:282:THR:HA	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:d:22:THR:O	1:d:26:GLN:HG3	2.14	0.48
1:D:93:ARG:HB2	1:D:294:ILE:HG21	1.95	0.48
1:V:82:MET:HE2	1:V:305:ARG:HG3	1.95	0.48
1:V:164:MET:HE3	1:V:304:HIS:CD2	2.49	0.48
1:a:93:ARG:HB2	1:a:294:ILE:HG21	1.95	0.48
1:A:85:THR:HG23	1:A:123:LEU:HD22	1.96	0.48
1:A:279:ILE:HB	1:A:290:SER:HB2	1.94	0.48
1:C:61:LEU:O	1:C:65:VAL:HG23	2.13	0.48
1:R:199:LEU:HB3	1:R:256:VAL:HG22	1.96	0.48
1:X:20:GLY:HA2	1:X:23:ASN:ND2	2.28	0.48
1:e:85:THR:HG23	1:e:123:LEU:HD22	1.95	0.48
1:A:366:LYS:NZ	1:C:376:LEU:HD22	2.29	0.47
1:B:369:PRO:HB2	1:F:353:ILE:HG12	1.95	0.47
1:M:373:LEU:HD21	1:P:353:ILE:CD1	2.43	0.47
1:C:15:GLN:O	1:C:19:THR:HG22	2.13	0.47
1:D:347:ALA:HA	1:D:350:LYS:HE3	1.95	0.47
1:G:206:ASP:N	1:G:206:ASP:OD1	2.46	0.47
1:L:339:THR:OG1	1:L:344:GLU:HG3	2.14	0.47
1:M:376:LEU:O	1:M:377:GLY:C	2.56	0.47
1:W:178:ALA:HA	1:W:268:MET:HA	1.97	0.47
1:X:93:ARG:HB2	1:X:294:ILE:HG21	1.96	0.47
1:Y:85:THR:HG23	1:Y:123:LEU:HD22	1.96	0.47
1:b:73:SER:HB3	1:f:332:SER:HB3	1.96	0.47
1:D:104:ASN:HB3	1:D:108:GLU:HB2	1.97	0.47
1:G:203:ASP:HB2	1:G:205:ASN:ND2	2.28	0.47
1:L:112:ILE:HG13	1:N:46:ALA:HB2	1.96	0.47
1:W:218:ASP:OD1	1:W:221:GLU:HG3	2.13	0.47
1:X:187:LYS:HB3	1:X:216:GLY:HA2	1.95	0.47
1:c:5:VAL:HA	1:c:369:PRO:CB	2.43	0.47
1:d:220:GLU:HG3	1:f:158:MET:HG3	1.96	0.47
1:B:332:SER:OG	1:Z:73:SER:HB3	2.14	0.47
1:H:370:ASN:HA	1:H:373:LEU:CD2	2.43	0.47
1:N:93:ARG:HB2	1:N:294:ILE:HG21	1.96	0.47
1:O:72:ILE:HD11	1:O:315:PHE:HB3	1.96	0.47
1:a:34:SER:HB2	1:d:17:TYR:CZ	2.50	0.47
1:b:89:LEU:HD11	1:b:171:MET:HE3	1.96	0.47
1:e:281:VAL:HG12	1:e:287:ALA:HA	1.95	0.47
1:g:52:ASN:O	1:g:56:VAL:HG13	2.14	0.47
1:C:9:VAL:O	1:C:13:THR:HG23	2.14	0.47
1:D:57:GLN:HE21	1:D:61:LEU:HD11	1.79	0.47
1:R:82:MET:HG2	1:R:164:MET:HE3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:82:MET:HG2	1:a:301:VAL:HG13	1.96	0.47
1:a:362:LEU:HD23	1:d:375:LEU:HD11	1.96	0.47
1:L:239:GLU:HG3	1:L:284:VAL:HB	1.96	0.47
1:Q:187:LYS:HE3	1:Q:216:GLY:HA2	1.96	0.47
1:T:82:MET:SD	1:T:304:HIS:HD2	2.38	0.47
1:Z:37:LYS:HB2	1:Z:339:THR:HA	1.97	0.47
1:D:61:LEU:HD13	1:D:326:ASN:HA	1.97	0.47
1:E:287:ALA:O	1:E:291:VAL:HG23	2.14	0.47
1:G:73:SER:HB3	1:a:332:SER:OG	2.14	0.47
1:P:199:LEU:HD13	1:P:252:VAL:HG22	1.95	0.47
1:Q:349:THR:O	1:Q:353:ILE:HD12	2.14	0.47
1:V:67:ASN:HA	1:W:101:ASN:HD21	1.78	0.47
1:W:56:VAL:HG22	1:X:90:GLN:HG2	1.97	0.47
1:a:349:THR:O	1:a:353:ILE:HD13	2.15	0.47
1:A:34:SER:HB3	1:C:17:TYR:CZ	2.50	0.47
1:C:93:ARG:HB2	1:C:294:ILE:HG21	1.96	0.47
1:G:159:LEU:HB2	1:G:311:PHE:CE1	2.49	0.47
1:K:138:LEU:HB3	1:K:164:MET:HB2	1.96	0.47
1:L:82:MET:HE1	1:L:304:HIS:CD2	2.50	0.47
1:W:33:SER:HB3	1:Z:361:VAL:HG11	1.97	0.47
1:C:225:TYR:O	1:C:229:GLN:HG2	2.14	0.47
1:D:50:ILE:HA	1:D:53:ARG:HB2	1.97	0.47
1:X:13:THR:HG22	1:X:16:ARG:HH12	1.80	0.47
1:X:342:ALA:O	1:X:346:THR:HG23	2.15	0.47
1:f:199:LEU:HD13	1:f:252:VAL:HG22	1.96	0.47
1:H:69:ASN:HB3	1:K:335:ARG:HD3	1.97	0.47
1:K:299:LYS:HE2	1:K:299:LYS:HB3	1.56	0.47
1:T:25:GLN:O	1:T:29:MET:HG3	2.15	0.47
1:Z:37:LYS:HB2	1:Z:37:LYS:HE3	1.70	0.47
1:f:46:ALA:O	1:f:50:ILE:HG22	2.15	0.47
1:g:64:ALA:CB	1:g:150:GLY:H	2.27	0.47
1:B:287:ALA:O	1:B:291:VAL:HG23	2.14	0.46
1:I:281:VAL:HG12	1:I:287:ALA:HA	1.96	0.46
1:L:112:ILE:HG22	1:L:281:VAL:HG21	1.96	0.46
1:P:287:ALA:O	1:P:291:VAL:HG23	2.15	0.46
1:c:287:ALA:O	1:c:291:VAL:HG23	2.15	0.46
1:I:279:ILE:HD12	1:I:290:SER:HB3	1.96	0.46
1:N:88:ILE:HG23	1:N:119:LEU:HD22	1.97	0.46
1:a:158:MET:HG3	1:c:220:GLU:HG3	1.97	0.46
1:C:112:ILE:HG13	1:E:46:ALA:HB2	1.97	0.46
1:K:106:LYS:HB3	1:K:106:LYS:HE3	1.61	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:158:MET:HG3	1:T:220:GLU:HG3	1.97	0.46
1:A:92:MET:HE3	1:A:116:ILE:HG23	1.98	0.46
1:A:219:ILE:HD11	1:A:243:LEU:HB2	1.96	0.46
1:L:358:SER:O	1:L:361:VAL:HG12	2.15	0.46
1:Z:68:ALA:O	1:Z:72:ILE:HG13	2.16	0.46
1:e:161:LEU:HA	1:e:304:HIS:HE2	1.80	0.46
1:B:17:TYR:CZ	1:Z:34:SER:HB3	2.51	0.46
1:B:82:MET:HG2	1:B:301:VAL:HG13	1.98	0.46
1:B:244:GLN:NE2	1:B:289:GLN:HG2	2.31	0.46
1:C:187:LYS:HB3	1:C:216:GLY:HA2	1.97	0.46
1:D:38:ILE:HD12	1:D:48:LEU:HA	1.97	0.46
1:R:73:SER:HB2	1:U:332:SER:HB3	1.96	0.46
1:W:42:LYS:HE3	1:W:42:LYS:HB2	1.59	0.46
1:X:15:GLN:HG2	1:X:362:LEU:HD22	1.97	0.46
1:X:37:LYS:N	1:X:337:LYS:O	2.46	0.46
1:e:93:ARG:HB2	1:e:294:ILE:HG21	1.96	0.46
1:f:78:ALA:O	1:f:82:MET:HG3	2.15	0.46
1:C:38:ILE:HG21	1:C:48:LEU:HB2	1.97	0.46
1:G:95:LEU:HB3	1:G:112:ILE:HG23	1.98	0.46
1:H:4:ASN:C	1:H:4:ASN:OD1	2.58	0.46
1:L:281:VAL:HG12	1:L:287:ALA:HA	1.98	0.46
1:M:9:VAL:HA	1:M:12:MET:HE3	1.97	0.46
1:Y:269:GLN:HA	1:Y:269:GLN:HE21	1.81	0.46
1:b:360:SER:O	1:b:364:GLN:HG3	2.16	0.46
1:A:104:ASN:HB3	1:A:108:GLU:HB2	1.97	0.46
1:F:93:ARG:HB2	1:F:294:ILE:HG21	1.97	0.46
1:U:34:SER:HB3	1:W:17:TYR:CZ	2.50	0.46
1:b:6:ASN:HA	1:d:350:LYS:HE2	1.98	0.46
1:C:279:ILE:HB	1:C:290:SER:HB2	1.98	0.46
1:F:85:THR:HG23	1:F:123:LEU:HD22	1.98	0.46
1:P:269:GLN:OE1	1:P:269:GLN:HA	2.15	0.46
1:T:64:ALA:CB	1:T:150:GLY:H	2.28	0.46
1:U:343:LYS:HB2	1:U:343:LYS:NZ	2.31	0.46
1:c:69:ASN:HB3	1:e:335:ARG:HD2	1.97	0.46
1:A:251:LYS:HD3	1:A:299:LYS:HZ3	1.80	0.46
1:C:353:ILE:HG13	1:Z:369:PRO:HB2	1.98	0.46
1:K:153:ASN:HD21	1:L:292:ALA:HB2	1.80	0.46
1:K:303:SER:O	1:K:307:GLU:HG3	2.16	0.46
1:K:370:ASN:OD1	1:O:353:ILE:HD11	2.15	0.46
1:N:29:MET:HG3	1:N:348:LEU:HD13	1.97	0.46
1:P:16:ARG:HD3	1:Q:323:ASP:HB3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:85:THR:HG23	1:S:123:LEU:HD22	1.97	0.46
1:d:352:GLN:O	1:d:356:GLN:HG3	2.15	0.46
1:A:178:ALA:HA	1:A:268:MET:HA	1.97	0.45
1:G:112:ILE:HG22	1:G:281:VAL:HG21	1.98	0.45
1:G:187:LYS:HB3	1:G:216:GLY:HA2	1.98	0.45
1:O:358:SER:HA	1:O:361:VAL:HG12	1.98	0.45
1:R:82:MET:HE1	1:R:308:LEU:CD1	2.46	0.45
1:X:341:PHE:O	1:X:345:THR:HG23	2.17	0.45
1:f:93:ARG:HB2	1:f:294:ILE:HG21	1.98	0.45
1:D:287:ALA:O	1:D:291:VAL:HG23	2.16	0.45
1:J:234:LYS:HD2	1:J:292:ALA:HB2	1.99	0.45
1:M:219:ILE:HA	1:M:222:VAL:HG12	1.99	0.45
1:V:170:MET:HA	1:V:170:MET:HE2	1.98	0.45
1:E:196:THR:HG23	1:E:259:SER:HB2	1.98	0.45
1:G:357:ALA:O	1:G:361:VAL:HG13	2.16	0.45
1:L:85:THR:HG23	1:L:123:LEU:HD22	1.98	0.45
1:Q:109:ARG:HB3	1:Q:282:THR:HA	1.98	0.45
1:S:92:MET:HE1	1:S:276:VAL:HG13	1.99	0.45
1:b:376:LEU:HD21	1:d:364:GLN:HE22	1.81	0.45
1:f:66:ARG:HB3	1:f:66:ARG:NH1	2.32	0.45
1:D:15:GLN:O	1:D:16:ARG:C	2.59	0.45
1:G:333:LYS:HE2	1:G:333:LYS:HB3	1.73	0.45
1:H:82:MET:HE1	1:H:304:HIS:CD2	2.52	0.45
1:J:158:MET:HG3	1:K:220:GLU:HG3	1.97	0.45
1:L:187:LYS:HB3	1:L:216:GLY:HA2	1.99	0.45
1:T:79:GLU:HA	1:T:82:MET:HE3	1.99	0.45
1:e:164:MET:HE3	1:e:304:HIS:CD2	2.51	0.45
1:C:25:GLN:HG2	1:C:29:MET:HE2	1.97	0.45
1:F:199:LEU:HD13	1:F:252:VAL:HG22	1.97	0.45
1:L:334:SER:HA	1:L:338:ASP:HB2	1.99	0.45
1:P:373:LEU:HD22	1:T:353:ILE:HG23	1.98	0.45
1:U:93:ARG:HB2	1:U:294:ILE:HG21	1.98	0.45
1:W:73:SER:HB3	1:Z:332:SER:OG	2.17	0.45
1:W:177:VAL:HG13	1:W:244:GLN:HG2	1.98	0.45
1:C:122:GLU:HB2	1:F:314:ARG:HG3	1.99	0.45
1:C:178:ALA:HA	1:C:268:MET:HA	1.99	0.45
1:E:86:THR:O	1:E:90:GLN:HG3	2.16	0.45
1:P:290:SER:O	1:P:294:ILE:HD12	2.16	0.45
1:U:287:ALA:O	1:U:291:VAL:HG23	2.16	0.45
1:V:158:MET:HG3	1:W:220:GLU:HG3	1.99	0.45
1:Y:138:LEU:HB3	1:Y:164:MET:HB2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:370:ASN:HB3	1:e:353:ILE:HD11	1.99	0.45
1:f:200:LYS:NZ	1:f:200:LYS:HB3	2.31	0.45
1:g:268:MET:HE3	1:g:268:MET:HB3	1.88	0.45
1:H:370:ASN:O	1:H:373:LEU:HG	2.17	0.45
1:N:82:MET:HG2	1:N:301:VAL:HG13	1.97	0.45
1:P:158:MET:HG3	1:Q:220:GLU:HG3	1.99	0.45
1:R:84:GLU:HG3	1:U:321:ASN:HB2	1.98	0.45
1:a:110:VAL:O	1:a:114:GLU:HG3	2.17	0.45
1:b:173:GLY:HA2	1:b:249:ASN:ND2	2.32	0.45
1:c:3:VAL:HG13	1:c:372:ALA:HB1	1.98	0.45
1:c:23:ASN:O	1:c:26:GLN:HG3	2.17	0.45
1:c:122:GLU:HB2	1:e:314:ARG:HG3	1.99	0.45
1:d:120:ASN:ND2	1:d:277:ASP:HA	2.27	0.45
1:A:287:ALA:O	1:A:291:VAL:HG23	2.16	0.45
1:B:289:GLN:HA	1:B:289:GLN:NE2	2.32	0.45
1:F:138:LEU:HB3	1:F:164:MET:HB2	1.99	0.45
1:L:73:SER:HB3	1:O:332:SER:OG	2.17	0.45
1:T:177:VAL:HG13	1:T:244:GLN:HG2	1.99	0.45
1:Y:159:LEU:HB2	1:Y:311:PHE:CE1	2.51	0.45
1:d:368:ALA:HB3	1:d:369:PRO:HD3	1.99	0.45
1:O:18:LEU:HG	1:O:358:SER:OG	2.17	0.45
1:T:93:ARG:HB2	1:T:294:ILE:HG21	1.99	0.45
1:a:268:MET:HE3	1:a:268:MET:HB3	1.78	0.45
1:G:182:LYS:HD2	1:G:186:TRP:CD1	2.52	0.45
1:c:45:ALA:O	1:c:48:LEU:HG	2.17	0.45
1:c:108:GLU:CD	1:d:50:ILE:HB	2.41	0.45
1:A:17:TYR:HE2	1:X:30:GLU:OE2	2.00	0.44
1:A:69:ASN:HB3	1:C:335:ARG:HD3	1.99	0.44
1:M:82:MET:HE2	1:M:82:MET:HB2	1.74	0.44
1:O:116:ILE:HG21	1:O:279:ILE:HD11	1.98	0.44
1:T:219:ILE:HD11	1:T:243:LEU:HB2	2.00	0.44
1:V:92:MET:HE3	1:V:116:ILE:HG23	1.99	0.44
1:V:158:MET:HE1	1:W:184:LYS:HA	1.99	0.44
1:X:28:SER:OG	1:X:348:LEU:HB2	2.17	0.44
1:c:59:ARG:O	1:c:63:VAL:HG12	2.16	0.44
1:g:51:SER:HB2	1:g:337:LYS:HD2	1.99	0.44
1:A:361:VAL:CG2	1:X:29:MET:HE3	2.48	0.44
1:C:244:GLN:HB3	1:C:289:GLN:OE1	2.17	0.44
1:O:281:VAL:HG12	1:O:287:ALA:HA	2.00	0.44
1:R:287:ALA:O	1:R:291:VAL:HG23	2.17	0.44
1:T:6:ASN:HA	1:W:350:LYS:HE2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:20:GLY:HA2	1:X:23:ASN:HD21	1.82	0.44
1:g:93:ARG:HB2	1:g:294:ILE:HG21	1.99	0.44
1:H:93:ARG:HB2	1:H:294:ILE:HG21	2.00	0.44
1:N:376:LEU:HD12	1:O:345:THR:HG23	1.99	0.44
1:Q:158:MET:HG3	1:R:220:GLU:HG3	1.99	0.44
1:Y:333:LYS:HB3	1:Y:333:LYS:HE2	1.78	0.44
1:d:19:THR:HB	1:g:1:MET:HB3	1.98	0.44
1:A:22:THR:HG22	1:C:1:MET:HE1	1.99	0.44
1:K:178:ALA:HA	1:K:268:MET:HA	1.98	0.44
1:N:362:LEU:HD21	1:Q:342:ALA:HB1	1.98	0.44
1:O:34:SER:HB3	1:Q:17:TYR:CZ	2.53	0.44
1:e:287:ALA:O	1:e:291:VAL:HG23	2.17	0.44
1:A:50:ILE:O	1:A:54:LEU:HG	2.17	0.44
1:D:250:ASN:ND2	1:D:251:LYS:HG3	2.32	0.44
1:G:108:GLU:CD	1:G:108:GLU:H	2.24	0.44
1:H:220:GLU:CD	1:H:237:VAL:HB	2.43	0.44
1:L:352:GLN:NE2	1:O:364:GLN:HE21	2.07	0.44
1:O:88:ILE:HG23	1:O:119:LEU:HD22	1.99	0.44
1:O:112:ILE:HG13	1:P:46:ALA:HB2	2.00	0.44
1:P:268:MET:HE3	1:P:268:MET:HB3	1.85	0.44
1:Q:232:MET:HB3	1:Q:232:MET:HE3	1.80	0.44
1:R:37:LYS:N	1:R:337:LYS:O	2.48	0.44
1:W:303:SER:O	1:W:307:GLU:HG3	2.17	0.44
1:Z:234:LYS:HB3	1:Z:234:LYS:HE3	1.63	0.44
1:c:28:SER:OG	1:c:348:LEU:HD12	2.18	0.44
1:d:85:THR:HG23	1:d:123:LEU:HD22	2.00	0.44
1:d:287:ALA:O	1:d:291:VAL:HG23	2.18	0.44
1:f:85:THR:HG23	1:f:123:LEU:HD22	1.98	0.44
1:A:109:ARG:HB3	1:A:282:THR:HA	1.98	0.44
1:E:92:MET:HE3	1:E:116:ILE:HG23	1.99	0.44
1:L:34:SER:HB2	1:O:17:TYR:CZ	2.53	0.44
1:L:86:THR:O	1:L:90:GLN:HG3	2.17	0.44
1:M:12:MET:HE1	1:N:330:ASN:HB3	1.97	0.44
1:P:246:PHE:HB2	1:P:289:GLN:OE1	2.18	0.44
1:Q:175:SER:O	1:Q:271:GLY:HA2	2.16	0.44
1:V:144:THR:HG21	1:W:184:LYS:HB3	2.00	0.44
1:a:327:GLU:HG3	1:b:12:MET:HE2	2.00	0.44
1:D:275:THR:O	1:D:279:ILE:HG23	2.17	0.44
1:F:37:LYS:HG3	1:F:38:ILE:HG13	2.00	0.44
1:F:281:VAL:HG12	1:F:287:ALA:HA	1.99	0.44
1:H:88:ILE:HG23	1:H:119:LEU:HD22	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:R:38:ILE:HG13	1:R:337:LYS:HA	1.99	0.44
1:g:92:MET:HE3	1:g:116:ILE:HG23	1.98	0.44
1:A:366:LYS:HZ3	1:C:376:LEU:HD22	1.83	0.44
1:E:200:LYS:HZ1	1:E:204:GLY:C	2.26	0.44
1:F:59:ARG:O	1:F:63:VAL:HG23	2.18	0.44
1:G:25:GLN:NE2	1:G:352:GLN:HG2	2.33	0.44
1:G:175:SER:HB2	1:G:289:GLN:HE21	1.83	0.44
1:M:88:ILE:HG23	1:M:119:LEU:HD22	1.99	0.44
1:Q:85:THR:HG23	1:Q:123:LEU:HD22	1.99	0.44
1:R:138:LEU:HD13	1:R:164:MET:HG3	2.00	0.44
1:S:192:ALA:HA	1:S:261:GLY:HA3	1.98	0.44
1:V:333:LYS:HB3	1:V:333:LYS:HE3	1.81	0.44
1:Y:158:MET:HG3	1:Z:220:GLU:HG3	2.00	0.44
1:Y:303:SER:O	1:Y:307:GLU:HG3	2.17	0.44
1:d:333:LYS:HB3	1:d:333:LYS:HE2	1.75	0.44
1:f:120:ASN:ND2	1:f:277:ASP:OD1	2.44	0.44
1:P:175:SER:HB2	1:P:289:GLN:NE2	2.32	0.44
1:g:281:VAL:HG12	1:g:287:ALA:HA	2.00	0.44
1:E:239:GLU:HG3	1:E:284:VAL:HB	1.99	0.43
1:F:165:ARG:NH2	1:a:214:LYS:HG3	2.33	0.43
1:L:362:LEU:O	1:L:366:LYS:HG2	2.17	0.43
1:Q:93:ARG:HB2	1:Q:294:ILE:HG21	1.99	0.43
1:T:202:ILE:HD12	1:T:202:ILE:HA	1.85	0.43
1:X:287:ALA:O	1:X:291:VAL:HG23	2.18	0.43
1:a:59:ARG:HB3	1:c:94:ASP:OD2	2.18	0.43
1:c:351:SER:O	1:c:352:GLN:C	2.60	0.43
1:G:164:MET:HE3	1:G:304:HIS:CD2	2.53	0.43
1:G:299:LYS:HE2	1:G:299:LYS:HB3	1.61	0.43
1:K:164:MET:HE3	1:K:304:HIS:CD2	2.52	0.43
1:Q:162:LYS:HB3	1:Q:300:TYR:OH	2.17	0.43
1:a:66:ARG:HB3	1:a:66:ARG:NH1	2.33	0.43
1:c:200:LYS:HB2	1:c:200:LYS:HE2	1.76	0.43
1:f:377:GLY:HA3	1:g:360:SER:HB2	2.00	0.43
1:D:159:LEU:HD22	1:D:311:PHE:CE2	2.53	0.43
1:H:1:MET:HE3	1:H:1:MET:HB2	1.80	0.43
1:I:13:THR:HG22	1:I:16:ARG:HH22	1.83	0.43
1:I:82:MET:O	1:I:86:THR:HG23	2.18	0.43
1:K:367:GLN:O	1:K:370:ASN:HB2	2.19	0.43
1:M:176:TYR:CZ	1:M:256:VAL:HG12	2.54	0.43
1:N:95:LEU:CD1	1:N:115:GLU:HG2	2.48	0.43
1:O:84:GLU:HG3	1:Q:321:ASN:HB2	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:187:LYS:HB3	1:O:216:GLY:HA2	2.00	0.43
1:Y:93:ARG:HB2	1:Y:294:ILE:HG21	1.98	0.43
1:c:95:LEU:HB3	1:c:112:ILE:HG23	2.00	0.43
1:C:78:ALA:O	1:C:82:MET:HE3	2.18	0.43
1:K:13:THR:HG23	1:K:17:TYR:HE1	1.83	0.43
1:K:214:LYS:HG3	1:g:165:ARG:NH2	2.33	0.43
1:S:122:GLU:O	1:S:126:ILE:HG13	2.18	0.43
1:T:178:ALA:HA	1:T:268:MET:HA	2.00	0.43
1:W:11:ALA:O	1:W:15:GLN:HG3	2.18	0.43
1:W:66:ARG:HH12	1:X:98:GLN:HG3	1.83	0.43
1:X:281:VAL:HG12	1:X:287:ALA:HA	2.01	0.43
1:b:333:LYS:HB3	1:b:333:LYS:HE2	1.80	0.43
1:d:93:ARG:HB2	1:d:294:ILE:HG21	1.99	0.43
1:g:199:LEU:HB3	1:g:256:VAL:HG22	1.99	0.43
1:G:349:THR:O	1:G:353:ILE:HD13	2.19	0.43
1:L:55:ASN:OD1	1:L:55:ASN:C	2.61	0.43
1:O:9:VAL:HA	1:O:12:MET:HG2	2.00	0.43
1:W:376:LEU:HD13	1:X:345:THR:OG1	2.19	0.43
1:Y:199:LEU:HB3	1:Y:256:VAL:HG22	1.99	0.43
1:Y:287:ALA:O	1:Y:291:VAL:HG23	2.19	0.43
1:g:232:MET:HE3	1:g:232:MET:HB3	1.76	0.43
1:B:40:SER:OG	1:B:41:ALA:N	2.51	0.43
1:B:177:VAL:HG13	1:B:244:GLN:HG2	2.00	0.43
1:D:303:SER:O	1:D:307:GLU:HG3	2.18	0.43
1:I:82:MET:SD	1:I:164:MET:HE3	2.58	0.43
1:J:66:ARG:NH1	1:J:66:ARG:HB3	2.33	0.43
1:J:246:PHE:HB2	1:J:289:GLN:NE2	2.34	0.43
1:Q:289:GLN:O	1:Q:293:VAL:HG23	2.18	0.43
1:R:188:VAL:HG23	1:R:217:ASP:O	2.19	0.43
1:R:219:ILE:HG23	1:R:237:VAL:HG21	2.00	0.43
1:R:358:SER:HA	1:R:361:VAL:HG22	2.00	0.43
1:T:33:SER:HB3	1:V:361:VAL:HG11	2.00	0.43
1:a:195:ILE:HB	1:a:262:LEU:HB3	1.99	0.43
1:g:85:THR:HG23	1:g:123:LEU:HD22	2.00	0.43
1:K:88:ILE:HG23	1:K:119:LEU:HD22	2.00	0.43
1:K:112:ILE:HG22	1:K:281:VAL:HG21	2.01	0.43
1:N:165:ARG:NH2	1:Q:214:LYS:HG3	2.34	0.43
1:Q:239:GLU:CD	1:Q:239:GLU:H	2.25	0.43
1:Q:333:LYS:HE2	1:Q:333:LYS:HB3	1.85	0.43
1:S:82:MET:HE1	1:S:304:HIS:ND1	2.32	0.43
1:a:9:VAL:O	1:a:13:THR:HG23	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:152:ASP:O	1:a:155:GLU:HG3	2.18	0.43
1:e:368:ALA:HB3	1:e:369:PRO:HD3	2.01	0.43
1:g:334:SER:O	1:g:338:ASP:HB2	2.19	0.43
1:A:13:THR:O	1:A:14:ALA:C	2.62	0.43
1:K:269:GLN:OE1	1:K:269:GLN:HA	2.19	0.43
1:R:342:ALA:O	1:R:346:THR:HG23	2.18	0.43
1:T:368:ALA:HB3	1:T:369:PRO:HD3	2.00	0.43
1:W:166:SER:HA	1:W:171:MET:HE2	2.01	0.43
1:Y:32:LEU:HD21	1:Y:344:GLU:HB3	2.01	0.43
1:Z:268:MET:H	1:Z:268:MET:HG2	1.57	0.43
1:b:93:ARG:HB2	1:b:294:ILE:HG21	2.01	0.43
1:c:32:LEU:CD1	1:c:348:LEU:CD1	2.96	0.43
1:g:54:LEU:HD22	1:g:329:VAL:HG13	2.00	0.43
1:g:138:LEU:HD13	1:g:164:MET:HG3	2.01	0.43
1:A:175:SER:O	1:A:271:GLY:HA2	2.19	0.43
1:A:375:LEU:HD11	1:X:362:LEU:HD21	2.00	0.43
1:C:187:LYS:O	1:C:189:GLN:NE2	2.52	0.43
1:H:219:ILE:HG23	1:H:237:VAL:HG21	1.99	0.43
1:M:279:ILE:HB	1:M:290:SER:HB2	2.01	0.43
1:S:46:ALA:O	1:S:50:ILE:HG22	2.19	0.43
1:S:217:ASP:HB3	1:S:221:GLU:HB2	2.00	0.43
1:b:201:ASP:OD1	1:b:202:ILE:HG22	2.18	0.43
1:b:368:ALA:HB3	1:b:369:PRO:HD3	2.01	0.43
1:d:202:ILE:HD12	1:d:253:THR:HG23	2.00	0.43
1:e:178:ALA:HA	1:e:268:MET:HA	2.01	0.43
1:C:363:ALA:HA	1:C:366:LYS:HE2	2.01	0.43
1:H:5:VAL:HG13	1:H:369:PRO:HB3	2.01	0.43
1:I:202:ILE:HD12	1:I:203:ASP:N	2.34	0.43
1:L:28:SER:O	1:L:29:MET:C	2.62	0.43
1:L:234:LYS:HA	1:L:234:LYS:HD2	1.83	0.43
1:N:62:ASP:O	1:N:66:ARG:HG3	2.19	0.43
1:Q:369:PRO:HB2	1:U:353:ILE:HG12	2.00	0.43
1:S:91:ARG:HH21	1:S:95:LEU:HD21	1.84	0.43
1:S:158:MET:HE1	1:T:184:LYS:HA	2.01	0.43
1:T:85:THR:HG23	1:T:123:LEU:HD22	2.00	0.43
1:V:153:ASN:HB3	1:W:291:VAL:HB	2.01	0.43
1:X:85:THR:HG23	1:X:123:LEU:HD22	2.01	0.43
1:Y:82:MET:HE1	1:Y:304:HIS:CG	2.54	0.43
1:Y:171:MET:HE3	1:Y:171:MET:HB3	1.97	0.43
1:d:12:MET:HE2	1:e:327:GLU:HA	2.01	0.43
1:G:279:ILE:HD12	1:G:290:SER:HB2	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:7:THR:OG1	1:N:334:SER:HB2	2.19	0.42
1:P:349:THR:O	1:P:353:ILE:HG12	2.19	0.42
1:R:268:MET:HE3	1:R:268:MET:HB3	1.96	0.42
1:e:161:LEU:HA	1:e:304:HIS:NE2	2.34	0.42
1:F:333:LYS:HB3	1:F:333:LYS:HE3	1.69	0.42
1:G:88:ILE:HG23	1:G:119:LEU:HD22	2.01	0.42
1:G:93:ARG:HB2	1:G:294:ILE:HG21	2.01	0.42
1:G:246:PHE:HB2	1:G:289:GLN:NE2	2.34	0.42
1:I:9:VAL:HA	1:I:12:MET:HE1	1.99	0.42
1:I:353:ILE:O	1:I:356:GLN:HG3	2.19	0.42
1:J:333:LYS:HB3	1:J:333:LYS:HE2	1.66	0.42
1:L:78:ALA:O	1:L:82:MET:HG3	2.19	0.42
1:Q:268:MET:HE3	1:Q:268:MET:HB3	1.85	0.42
1:S:153:ASN:HB3	1:T:291:VAL:HB	2.01	0.42
1:Z:171:MET:HE3	1:Z:171:MET:HB3	1.72	0.42
1:c:31:ARG:HH21	1:c:43:ASP:CG	2.27	0.42
1:d:159:LEU:HB2	1:d:311:PHE:CE1	2.54	0.42
1:B:373:LEU:HD12	1:B:373:LEU:HA	1.89	0.42
1:G:348:LEU:O	1:G:352:GLN:HG3	2.20	0.42
1:I:159:LEU:HD22	1:I:311:PHE:CE2	2.53	0.42
1:I:219:ILE:HD11	1:I:243:LEU:HB2	2.00	0.42
1:K:37:LYS:HG3	1:K:38:ILE:HG13	2.00	0.42
1:L:50:ILE:HD12	1:L:50:ILE:H	1.84	0.42
1:N:34:SER:HB3	1:P:17:TYR:CZ	2.54	0.42
1:O:59:ARG:O	1:O:63:VAL:HG23	2.19	0.42
1:Q:73:SER:HB3	1:T:332:SER:OG	2.19	0.42
1:V:95:LEU:HD13	1:V:115:GLU:HG2	2.02	0.42
1:V:152:ASP:O	1:V:155:GLU:HG3	2.20	0.42
1:d:187:LYS:HB3	1:d:216:GLY:HA2	2.01	0.42
1:B:1:MET:HE1	1:C:334:SER:HB2	2.01	0.42
1:B:47:GLY:HA2	1:B:50:ILE:HG22	2.00	0.42
1:C:153:ASN:HB3	1:D:291:VAL:HB	2.02	0.42
1:G:339:THR:HG23	1:G:344:GLU:HG3	1.99	0.42
1:H:343:LYS:HB2	1:H:343:LYS:HE2	1.73	0.42
1:J:165:ARG:NH2	1:N:214:LYS:HG3	2.34	0.42
1:J:176:TYR:CE2	1:J:256:VAL:HB	2.55	0.42
1:K:15:GLN:HG2	1:O:342:ALA:HB1	2.02	0.42
1:O:142:PHE:CE2	1:O:161:LEU:CD1	3.01	0.42
1:O:287:ALA:O	1:O:291:VAL:HG23	2.19	0.42
1:R:202:ILE:HD12	1:R:202:ILE:HA	1.87	0.42
1:W:268:MET:HE3	1:W:268:MET:HB3	1.86	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:64:ALA:HB1	1:X:150:GLY:H	1.83	0.42
1:Z:287:ALA:O	1:Z:291:VAL:HG23	2.18	0.42
1:d:268:MET:HE3	1:d:268:MET:HB3	1.83	0.42
1:g:368:ALA:HB3	1:g:369:PRO:HD3	2.02	0.42
1:H:179:ALA:HB2	1:H:269:GLN:NE2	2.34	0.42
1:M:219:ILE:HG23	1:M:237:VAL:HG11	2.02	0.42
1:N:73:SER:HB3	1:P:332:SER:OG	2.19	0.42
1:U:188:VAL:HG23	1:U:217:ASP:O	2.18	0.42
1:f:190:ALA:HB2	1:f:215:GLU:OE1	2.18	0.42
1:B:85:THR:HG23	1:B:123:LEU:HD22	2.01	0.42
1:B:279:ILE:HD12	1:B:290:SER:HB3	2.01	0.42
1:F:200:LYS:HB2	1:F:200:LYS:HE2	1.72	0.42
1:J:59:ARG:O	1:J:63:VAL:HG23	2.20	0.42
1:K:350:LYS:HE2	1:g:6:ASN:HA	2.00	0.42
1:S:268:MET:HE3	1:S:268:MET:HB3	1.88	0.42
1:W:188:VAL:HG23	1:W:217:ASP:O	2.19	0.42
1:X:366:LYS:O	1:X:369:PRO:HD2	2.19	0.42
1:a:376:LEU:HD11	1:c:345:THR:HG21	2.02	0.42
1:c:128:GLU:OE1	1:c:165:ARG:HD2	2.20	0.42
1:B:362:LEU:HD21	1:F:342:ALA:HB1	2.01	0.42
1:D:13:THR:O	1:D:16:ARG:HB3	2.19	0.42
1:D:159:LEU:HD12	1:D:160:THR:N	2.35	0.42
1:D:187:LYS:HB3	1:D:216:GLY:HA2	2.01	0.42
1:G:368:ALA:N	1:G:369:PRO:HD2	2.35	0.42
1:H:354:LEU:HD23	1:H:354:LEU:HA	1.84	0.42
1:I:9:VAL:HA	1:I:12:MET:CE	2.50	0.42
1:L:61:LEU:O	1:L:65:VAL:HG23	2.20	0.42
1:M:95:LEU:HD21	1:M:115:GLU:HG2	2.00	0.42
1:U:362:LEU:HD21	1:X:342:ALA:HB1	2.00	0.42
1:c:77:THR:HG22	1:e:328:ASN:CB	2.48	0.42
1:f:25:GLN:O	1:f:29:MET:HG3	2.19	0.42
1:B:88:ILE:O	1:B:92:MET:HG3	2.20	0.42
1:E:165:ARG:NH2	1:b:214:LYS:HG3	2.35	0.42
1:G:201:ASP:OD1	1:G:205:ASN:ND2	2.53	0.42
1:I:73:SER:HB3	1:L:332:SER:OG	2.20	0.42
1:M:240:LYS:CE	1:M:242:GLN:OE1	2.59	0.42
1:N:362:LEU:HD23	1:P:375:LEU:HD21	2.01	0.42
1:Q:199:LEU:HD13	1:Q:252:VAL:HG22	2.02	0.42
1:R:128:GLU:HA	1:R:139:ASN:HB3	2.02	0.42
1:V:165:ARG:NH2	1:Z:214:LYS:HG3	2.34	0.42
1:V:287:ALA:O	1:V:291:VAL:HG23	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:f:333:LYS:HB3	1:f:333:LYS:HE2	1.83	0.42
1:A:234:LYS:HE3	1:A:234:LYS:HB3	1.80	0.42
1:B:45:ALA:O	1:B:48:LEU:HB3	2.20	0.42
1:C:88:ILE:HG23	1:C:119:LEU:HD22	2.02	0.42
1:D:152:ASP:O	1:D:155:GLU:HG3	2.19	0.42
1:I:232:MET:HE3	1:I:232:MET:HB3	1.84	0.42
1:J:290:SER:O	1:J:294:ILE:HD12	2.20	0.42
1:K:187:LYS:HB3	1:K:216:GLY:HA2	2.02	0.42
1:M:88:ILE:O	1:M:92:MET:HG3	2.20	0.42
1:M:93:ARG:HB2	1:M:294:ILE:HG21	2.02	0.42
1:M:287:ALA:O	1:M:291:VAL:HG23	2.20	0.42
1:Q:343:LYS:HB3	1:Q:343:LYS:NZ	2.35	0.42
1:X:88:ILE:HG23	1:X:119:LEU:HD22	2.01	0.42
1:b:137:LEU:HB3	1:b:161:LEU:HD13	2.01	0.42
1:d:69:ASN:HB3	1:g:335:ARG:HD3	2.02	0.42
1:f:61:LEU:HD22	1:f:322:LEU:HD22	2.02	0.42
1:D:13:THR:HB	1:D:16:ARG:HH12	1.84	0.42
1:D:58:SER:HA	1:D:61:LEU:HD12	2.02	0.42
1:E:202:ILE:HD12	1:E:202:ILE:HA	1.84	0.42
1:E:239:GLU:OE2	1:E:283:SER:HB2	2.20	0.42
1:G:109:ARG:HB3	1:G:282:THR:HA	2.02	0.42
1:M:333:LYS:HE2	1:M:333:LYS:HB3	1.80	0.42
1:P:202:ILE:HD12	1:P:202:ILE:HA	1.89	0.42
1:T:46:ALA:O	1:T:50:ILE:HG13	2.20	0.42
1:d:219:ILE:HD11	1:d:243:LEU:HB2	2.02	0.42
1:g:3:VAL:HG22	1:g:372:ALA:HB2	2.02	0.42
1:A:169:ARG:NH1	1:A:170:MET:SD	2.93	0.41
1:D:37:LYS:HE2	1:D:37:LYS:HB3	1.93	0.41
1:G:68:ALA:HA	1:G:315:PHE:CE1	2.54	0.41
1:G:232:MET:HE3	1:G:232:MET:HB3	1.77	0.41
1:L:199:LEU:HD13	1:L:252:VAL:HG22	2.02	0.41
1:M:85:THR:OG1	1:M:123:LEU:HD22	2.20	0.41
1:R:108:GLU:HG2	1:T:50:ILE:CG1	2.50	0.41
1:S:8:ASN:O	1:S:12:MET:HG3	2.20	0.41
1:T:373:LEU:HD11	1:W:356:GLN:HB2	2.01	0.41
1:Z:169:ARG:NH1	1:Z:170:MET:SD	2.93	0.41
1:A:334:SER:O	1:A:338:ASP:HB2	2.19	0.41
1:E:279:ILE:HB	1:E:290:SER:HB3	2.01	0.41
1:I:315:PHE:O	1:I:319:ILE:HD12	2.19	0.41
1:U:59:ARG:O	1:U:63:VAL:HG23	2.20	0.41
1:V:105:SER:O	1:V:106:LYS:C	2.63	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:40:SER:HB2	1:X:42:LYS:HE2	2.01	0.41
1:a:168:ASN:OD1	1:a:170:MET:HB2	2.19	0.41
1:D:31:ARG:HH11	1:D:37:LYS:HG2	1.85	0.41
1:D:55:ASN:O	1:D:56:VAL:C	2.63	0.41
1:H:184:LYS:HD3	1:g:160:THR:OG1	2.20	0.41
1:H:354:LEU:HD21	1:d:6:ASN:HD21	1.85	0.41
1:L:18:LEU:HD23	1:L:358:SER:OG	2.20	0.41
1:L:82:MET:HE2	1:L:164:MET:HE2	2.01	0.41
1:L:99:SER:HB3	1:L:112:ILE:HD13	2.02	0.41
1:L:164:MET:HE3	1:L:164:MET:HB3	1.91	0.41
1:L:358:SER:HA	1:L:361:VAL:HG12	2.02	0.41
1:O:238:ASN:HB3	1:O:244:GLN:NE2	2.35	0.41
1:d:373:LEU:HD12	1:d:374:SER:N	2.34	0.41
1:e:172:GLY:HA3	1:e:274:GLU:O	2.20	0.41
1:H:9:VAL:HG23	1:e:26:GLN:NE2	2.36	0.41
1:J:318:ALA:O	1:J:322:LEU:HG	2.20	0.41
1:L:111:ALA:HA	1:L:114:GLU:HG3	2.02	0.41
1:S:195:ILE:HB	1:S:262:LEU:HB2	2.02	0.41
1:Y:152:ASP:O	1:Y:155:GLU:HG3	2.21	0.41
1:Z:82:MET:SD	1:Z:164:MET:HE3	2.60	0.41
1:c:93:ARG:HB2	1:c:294:ILE:HG21	2.02	0.41
1:d:15:GLN:O	1:d:19:THR:HG23	2.21	0.41
1:e:209:ILE:HD11	1:e:232:MET:HG3	2.02	0.41
1:g:66:ARG:NH1	1:g:66:ARG:HB3	2.35	0.41
1:A:369:PRO:HB2	1:D:353:ILE:HD13	2.02	0.41
1:H:332:SER:OG	1:e:73:SER:HB3	2.19	0.41
1:H:373:LEU:HD22	1:L:356:GLN:NE2	2.33	0.41
1:I:29:MET:HE2	1:L:364:GLN:NE2	2.33	0.41
1:I:372:ALA:HA	1:I:375:LEU:HG	2.03	0.41
1:M:6:ASN:HA	1:P:350:LYS:HE2	2.01	0.41
1:M:99:SER:HA	1:M:104:ASN:HD22	1.84	0.41
1:R:88:ILE:HG23	1:R:119:LEU:HD22	2.01	0.41
1:U:217:ASP:HB3	1:U:221:GLU:HB2	2.02	0.41
1:Z:82:MET:HG2	1:Z:301:VAL:HG13	2.02	0.41
1:Z:165:ARG:C	1:Z:167:ASP:H	2.27	0.41
1:e:202:ILE:HD12	1:e:202:ILE:HA	1.88	0.41
1:f:138:LEU:HB3	1:f:164:MET:HB2	2.03	0.41
1:A:326:ASN:HA	1:A:329:VAL:HG12	2.03	0.41
1:E:369:PRO:O	1:E:372:ALA:N	2.53	0.41
1:F:232:MET:HE3	1:F:232:MET:HB3	1.76	0.41
1:G:188:VAL:HB	1:G:215:GLU:HA	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:24:ALA:HA	1:I:27:THR:HG22	2.01	0.41
1:I:61:LEU:O	1:I:65:VAL:HG13	2.20	0.41
1:J:219:ILE:HG23	1:J:237:VAL:HG21	2.02	0.41
1:P:333:LYS:HE2	1:P:333:LYS:HB3	1.85	0.41
1:Q:354:LEU:HD23	1:Q:354:LEU:HA	1.81	0.41
1:c:3:VAL:HG11	1:c:372:ALA:HB1	2.03	0.41
1:g:15:GLN:O	1:g:19:THR:HG23	2.20	0.41
1:g:187:LYS:HB3	1:g:216:GLY:HA2	2.03	0.41
1:B:93:ARG:HB2	1:B:294:ILE:HG21	2.01	0.41
1:G:219:ILE:HD11	1:G:243:LEU:HB2	2.01	0.41
1:K:13:THR:HG23	1:K:17:TYR:CE1	2.56	0.41
1:T:188:VAL:HB	1:T:215:GLU:HA	2.02	0.41
1:V:318:ALA:O	1:V:322:LEU:HG	2.20	0.41
1:X:188:VAL:HB	1:X:215:GLU:HA	2.03	0.41
1:F:188:VAL:HG23	1:F:217:ASP:O	2.20	0.41
1:H:142:PHE:CD1	1:H:161:LEU:HB2	2.55	0.41
1:H:238:ASN:ND2	1:H:242:GLN:HB2	2.34	0.41
1:R:82:MET:HE1	1:R:308:LEU:HD13	2.02	0.41
1:V:375:LEU:HD21	1:W:342:ALA:HA	2.01	0.41
1:W:116:ILE:HG21	1:W:279:ILE:HD11	2.02	0.41
1:b:59:ARG:O	1:b:63:VAL:HG23	2.21	0.41
1:d:218:ASP:O	1:d:222:VAL:HG23	2.21	0.41
1:A:12:MET:O	1:A:15:GLN:HG3	2.21	0.41
1:B:164:MET:HE3	1:B:304:HIS:CD2	2.53	0.41
1:D:122:GLU:HB2	1:G:314:ARG:HG3	2.03	0.41
1:D:250:ASN:HD22	1:D:251:LYS:HG3	1.86	0.41
1:G:287:ALA:O	1:G:291:VAL:HG23	2.21	0.41
1:J:268:MET:HE3	1:J:268:MET:HB3	1.89	0.41
1:J:373:LEU:HB2	1:N:353:ILE:HG23	2.03	0.41
1:L:232:MET:HE3	1:L:232:MET:HB3	1.78	0.41
1:M:367:GLN:O	1:M:370:ASN:HB2	2.20	0.41
1:P:108:GLU:H	1:P:108:GLU:CD	2.28	0.41
1:P:178:ALA:HA	1:P:268:MET:HA	2.02	0.41
1:Q:59:ARG:O	1:Q:63:VAL:HG23	2.21	0.41
1:R:218:ASP:O	1:R:222:VAL:HG23	2.20	0.41
1:S:22:THR:O	1:S:26:GLN:HG3	2.21	0.41
1:T:64:ALA:HB1	1:T:150:GLY:H	1.85	0.41
1:U:85:THR:HG23	1:U:123:LEU:HD22	2.02	0.41
1:V:1:MET:HE1	1:V:9:VAL:HG23	2.03	0.41
1:V:276:VAL:O	1:V:279:ILE:HG12	2.21	0.41
1:W:160:THR:OG1	1:X:184:LYS:HD3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:b:62:ASP:O	1:b:66:ARG:HG3	2.21	0.41
1:d:200:LYS:HE3	1:d:204:GLY:HA2	2.03	0.41
1:g:9:VAL:HA	1:g:12:MET:HE3	2.02	0.41
1:A:15:GLN:O	1:A:19:THR:HG23	2.20	0.41
1:A:199:LEU:HD13	1:A:252:VAL:HG22	2.02	0.41
1:D:178:ALA:HA	1:D:268:MET:HA	2.03	0.41
1:H:49:GLN:HE21	1:I:306:ALA:HB2	1.85	0.41
1:Q:3:VAL:HG22	1:Q:372:ALA:CA	2.42	0.41
1:T:333:LYS:HE2	1:T:333:LYS:HB3	1.81	0.41
1:V:93:ARG:HB2	1:V:294:ILE:HG21	2.01	0.41
1:F:171:MET:O	1:F:276:VAL:HG23	2.21	0.40
1:K:61:LEU:O	1:K:65:VAL:HG13	2.21	0.40
1:L:131:SER:HB3	1:L:136:LYS:HD2	2.02	0.40
1:M:318:ALA:O	1:M:322:LEU:HG	2.21	0.40
1:M:362:LEU:HD21	1:P:342:ALA:HB1	2.03	0.40
1:N:138:LEU:HB3	1:N:164:MET:HB2	2.02	0.40
1:Q:46:ALA:O	1:Q:50:ILE:HG22	2.21	0.40
1:R:95:LEU:CD1	1:R:115:GLU:HG2	2.51	0.40
1:Y:354:LEU:HD23	1:Y:354:LEU:HA	1.93	0.40
1:Z:333:LYS:HE2	1:Z:333:LYS:HB3	1.85	0.40
1:b:170:MET:CE	1:b:250:ASN:HB3	2.50	0.40
1:c:5:VAL:HA	1:c:369:PRO:HB3	2.03	0.40
1:f:110:VAL:O	1:f:114:GLU:HG3	2.20	0.40
1:A:152:ASP:O	1:A:155:GLU:HG3	2.21	0.40
1:I:358:SER:HA	1:I:361:VAL:HG12	2.04	0.40
1:N:333:LYS:HB3	1:N:333:LYS:HE2	1.90	0.40
1:Q:92:MET:HE1	1:Q:276:VAL:HG13	2.04	0.40
1:R:109:ARG:NH2	1:R:284:VAL:HG22	2.35	0.40
1:V:47:GLY:HA2	1:V:50:ILE:HG22	2.03	0.40
1:c:54:LEU:HD12	1:c:329:VAL:HB	2.03	0.40
1:g:202:ILE:HD12	1:g:202:ILE:HA	1.91	0.40
1:E:106:LYS:HE2	1:E:106:LYS:HB3	1.94	0.40
1:L:340:ASP:OD2	1:L:343:LYS:HB2	2.22	0.40
1:P:238:ASN:HB3	1:P:244:GLN:OE1	2.20	0.40
1:S:198:THR:OG1	1:S:257:ALA:HB3	2.22	0.40
1:X:279:ILE:HB	1:X:290:SER:HB2	2.04	0.40
1:Y:12:MET:HE2	1:Y:12:MET:HB3	1.92	0.40
1:Z:81:ALA:HB3	1:Z:138:LEU:HD11	2.03	0.40
1:a:247:ALA:HB1	1:a:252:VAL:HG21	2.02	0.40
1:c:51:SER:OG	1:c:337:LYS:HB2	2.22	0.40
1:e:184:LYS:HE3	1:e:185:ASP:OD1	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:239:GLU:HG2	1:C:240:LYS:HG3	2.03	0.40
1:D:38:ILE:O	1:D:38:ILE:HG13	2.21	0.40
1:D:73:SER:HB3	1:G:332:SER:OG	2.21	0.40
1:I:147:PHE:HE2	1:I:159:LEU:HB3	1.85	0.40
1:I:211:VAL:HG11	1:I:226:ILE:HG12	2.03	0.40
1:Q:195:ILE:HB	1:Q:262:LEU:HB3	2.03	0.40
1:T:22:THR:O	1:T:26:GLN:HG3	2.22	0.40
1:T:318:ALA:O	1:T:322:LEU:HG	2.21	0.40
1:T:369:PRO:HB2	1:W:353:ILE:CD1	2.44	0.40
1:U:165:ARG:NH2	1:X:214:LYS:HG3	2.36	0.40
1:b:165:ARG:NH2	1:d:214:LYS:HG3	2.36	0.40
1:b:362:LEU:HD21	1:d:342:ALA:HB1	2.04	0.40
1:c:188:VAL:HB	1:c:215:GLU:HA	2.04	0.40
1:e:275:THR:O	1:e:279:ILE:HG23	2.22	0.40
1:A:330:ASN:CB	1:Z:12:MET:HE1	2.52	0.40
1:A:343:LYS:HA	1:W:15:GLN:HE22	1.86	0.40
1:C:88:ILE:O	1:C:92:MET:HG3	2.21	0.40
1:C:268:MET:HE3	1:C:268:MET:HB3	1.93	0.40
1:E:179:ALA:HB2	1:E:269:GLN:HG2	2.04	0.40
1:G:59:ARG:O	1:G:63:VAL:HG23	2.22	0.40
1:G:99:SER:HB2	1:G:112:ILE:HD13	2.04	0.40
1:G:166:SER:HA	1:G:171:MET:HE2	2.03	0.40
1:H:297:ALA:O	1:H:301:VAL:HG23	2.22	0.40
1:O:104:ASN:HB3	1:O:108:GLU:HB2	2.04	0.40
1:V:368:ALA:HB3	1:V:369:PRO:HD3	2.02	0.40
1:X:238:ASN:ND2	1:X:242:GLN:HB2	2.36	0.40
1:b:244:GLN:HE22	1:b:285:GLY:HA3	1.85	0.40
1:c:219:ILE:HD11	1:c:243:LEU:HB2	2.04	0.40
1:d:32:LEU:HD21	1:d:344:GLU:HB3	2.02	0.40
1:e:99:SER:HB2	1:e:112:ILE:HD12	2.02	0.40
1:f:304:HIS:O	1:f:308:LEU:HG	2.21	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	375/377 (100%)	368 (98%)	7 (2%)	0	100	100
1	B	375/377 (100%)	363 (97%)	12 (3%)	0	100	100
1	C	375/377 (100%)	370 (99%)	5 (1%)	0	100	100
1	D	375/377 (100%)	361 (96%)	14 (4%)	0	100	100
1	E	375/377 (100%)	370 (99%)	5 (1%)	0	100	100
1	F	375/377 (100%)	367 (98%)	8 (2%)	0	100	100
1	G	375/377 (100%)	370 (99%)	5 (1%)	0	100	100
1	H	375/377 (100%)	366 (98%)	9 (2%)	0	100	100
1	I	375/377 (100%)	368 (98%)	7 (2%)	0	100	100
1	J	375/377 (100%)	366 (98%)	9 (2%)	0	100	100
1	K	375/377 (100%)	371 (99%)	4 (1%)	0	100	100
1	L	375/377 (100%)	365 (97%)	10 (3%)	0	100	100
1	M	375/377 (100%)	368 (98%)	7 (2%)	0	100	100
1	N	375/377 (100%)	367 (98%)	8 (2%)	0	100	100
1	O	375/377 (100%)	370 (99%)	5 (1%)	0	100	100
1	P	375/377 (100%)	368 (98%)	7 (2%)	0	100	100
1	Q	375/377 (100%)	364 (97%)	11 (3%)	0	100	100
1	R	375/377 (100%)	364 (97%)	11 (3%)	0	100	100
1	S	375/377 (100%)	364 (97%)	11 (3%)	0	100	100
1	T	375/377 (100%)	372 (99%)	3 (1%)	0	100	100
1	U	375/377 (100%)	369 (98%)	6 (2%)	0	100	100
1	V	375/377 (100%)	370 (99%)	5 (1%)	0	100	100
1	W	375/377 (100%)	367 (98%)	8 (2%)	0	100	100
1	X	375/377 (100%)	363 (97%)	12 (3%)	0	100	100
1	Y	375/377 (100%)	369 (98%)	6 (2%)	0	100	100
1	Z	375/377 (100%)	366 (98%)	9 (2%)	0	100	100
1	a	375/377 (100%)	370 (99%)	5 (1%)	0	100	100
1	b	375/377 (100%)	364 (97%)	11 (3%)	0	100	100
1	c	375/377 (100%)	367 (98%)	8 (2%)	0	100	100
1	d	375/377 (100%)	369 (98%)	6 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	e	375/377 (100%)	367 (98%)	8 (2%)	0	100	100
1	f	375/377 (100%)	368 (98%)	7 (2%)	0	100	100
1	g	375/377 (100%)	370 (99%)	5 (1%)	0	100	100
All	All	12375/12441 (100%)	12121 (98%)	254 (2%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	299/299 (100%)	296 (99%)	3 (1%)	73	84
1	B	299/299 (100%)	296 (99%)	3 (1%)	73	84
1	C	299/299 (100%)	295 (99%)	4 (1%)	65	80
1	D	299/299 (100%)	291 (97%)	8 (3%)	40	60
1	E	299/299 (100%)	297 (99%)	2 (1%)	81	89
1	F	299/299 (100%)	297 (99%)	2 (1%)	81	89
1	G	299/299 (100%)	295 (99%)	4 (1%)	65	80
1	H	299/299 (100%)	296 (99%)	3 (1%)	73	84
1	I	299/299 (100%)	296 (99%)	3 (1%)	73	84
1	J	299/299 (100%)	296 (99%)	3 (1%)	73	84
1	K	299/299 (100%)	294 (98%)	5 (2%)	56	73
1	L	299/299 (100%)	293 (98%)	6 (2%)	50	69
1	M	299/299 (100%)	294 (98%)	5 (2%)	56	73
1	N	299/299 (100%)	295 (99%)	4 (1%)	65	80
1	O	299/299 (100%)	298 (100%)	1 (0%)	91	95
1	P	299/299 (100%)	296 (99%)	3 (1%)	73	84
1	Q	299/299 (100%)	294 (98%)	5 (2%)	56	73
1	R	299/299 (100%)	298 (100%)	1 (0%)	91	95

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	S	299/299 (100%)	295 (99%)	4 (1%)	65 80
1	T	299/299 (100%)	298 (100%)	1 (0%)	91 95
1	U	299/299 (100%)	297 (99%)	2 (1%)	81 89
1	V	299/299 (100%)	296 (99%)	3 (1%)	73 84
1	W	299/299 (100%)	297 (99%)	2 (1%)	81 89
1	X	299/299 (100%)	292 (98%)	7 (2%)	45 66
1	Y	299/299 (100%)	296 (99%)	3 (1%)	73 84
1	Z	299/299 (100%)	296 (99%)	3 (1%)	73 84
1	a	299/299 (100%)	296 (99%)	3 (1%)	73 84
1	b	299/299 (100%)	298 (100%)	1 (0%)	91 95
1	c	299/299 (100%)	296 (99%)	3 (1%)	73 84
1	d	299/299 (100%)	298 (100%)	1 (0%)	91 95
1	e	299/299 (100%)	294 (98%)	5 (2%)	56 73
1	f	299/299 (100%)	298 (100%)	1 (0%)	91 95
1	g	299/299 (100%)	293 (98%)	6 (2%)	50 69
All	All	9867/9867 (100%)	9757 (99%)	110 (1%)	69 83

All (110) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	1	MET
1	A	206	ASP
1	A	236	SER
1	B	38	ILE
1	B	43	ASP
1	B	284	VAL
1	C	107	SER
1	C	146	SER
1	C	284	VAL
1	C	289	GLN
1	D	51	SER
1	D	62	ASP
1	D	82	MET
1	D	106	LYS
1	D	166	SER
1	D	202	ILE
1	D	255	ASP

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Mol	Chain	Res	Type
1	D	268	MET
1	E	3	VAL
1	E	320	SER
1	F	210	THR
1	F	334	SER
1	G	48	LEU
1	G	184	LYS
1	G	205	ASN
1	G	332	SER
1	H	13	THR
1	H	164	MET
1	H	355	SER
1	I	79	GLU
1	I	236	SER
1	I	275	THR
1	J	259	SER
1	J	278	THR
1	J	289	GLN
1	K	13	THR
1	K	107	SER
1	K	203	ASP
1	K	334	SER
1	K	376	LEU
1	L	30	GLU
1	L	236	SER
1	L	239	GLU
1	L	319	ILE
1	L	324	ASN
1	L	327	GLU
1	M	82	MET
1	M	95	LEU
1	M	106	LYS
1	M	344	GLU
1	M	376	LEU
1	N	29	MET
1	N	107	SER
1	N	144	THR
1	N	259	SER
1	O	198	THR
1	P	107	SER
1	P	198	THR
1	P	374	SER

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Mol	Chain	Res	Type
1	Q	7	THR
1	Q	146	SER
1	Q	198	THR
1	Q	259	SER
1	Q	353	ILE
1	R	38	ILE
1	S	116	ILE
1	S	122	GLU
1	S	138	LEU
1	S	334	SER
1	T	144	THR
1	U	289	GLN
1	U	334	SER
1	V	29	MET
1	V	39	ASN
1	V	343	LYS
1	W	259	SER
1	W	334	SER
1	X	32	LEU
1	X	38	ILE
1	X	105	SER
1	X	166	SER
1	X	171	MET
1	X	308	LEU
1	X	336	ILE
1	Y	206	ASP
1	Y	295	ASP
1	Y	334	SER
1	Z	107	SER
1	Z	171	MET
1	Z	259	SER
1	a	15	GLN
1	a	171	MET
1	a	189	GLN
1	b	107	SER
1	c	166	SER
1	c	236	SER
1	c	344	GLU
1	d	107	SER
1	e	18	LEU
1	e	82	MET
1	e	138	LEU

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Mol	Chain	Res	Type
1	e	278	THR
1	e	332	SER
1	f	3	VAL
1	g	107	SER
1	g	206	ASP
1	g	239	GLU
1	g	240	LYS
1	g	332	SER
1	g	334	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (181) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	242	GLN
1	A	249	ASN
1	A	289	GLN
1	A	304	HIS
1	A	330	ASN
1	B	189	GLN
1	B	289	GLN
1	B	316	ASN
1	C	87	ASN
1	C	104	ASN
1	C	189	GLN
1	C	367	GLN
1	D	39	ASN
1	D	52	ASN
1	D	57	GLN
1	D	205	ASN
1	D	212	ASN
1	D	250	ASN
1	D	289	GLN
1	D	312	GLN
1	D	324	ASN
1	D	326	ASN
1	D	328	ASN
1	E	212	ASN
1	E	244	GLN
1	E	250	ASN
1	E	330	ASN
1	E	370	ASN
1	F	55	ASN

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Mol	Chain	Res	Type
1	F	189	GLN
1	F	244	GLN
1	F	321	ASN
1	F	324	ASN
1	G	15	GLN
1	G	25	GLN
1	G	67	ASN
1	G	205	ASN
1	G	289	GLN
1	G	324	ASN
1	G	330	ASN
1	G	352	GLN
1	G	367	GLN
1	H	120	ASN
1	H	244	GLN
1	H	324	ASN
1	H	364	GLN
1	I	49	GLN
1	I	55	ASN
1	I	76	GLN
1	I	120	ASN
1	I	148	GLN
1	I	207	GLN
1	I	242	GLN
1	I	289	GLN
1	I	304	HIS
1	I	326	ASN
1	J	212	ASN
1	J	244	GLN
1	J	267	ASN
1	J	269	GLN
1	J	288	GLN
1	J	289	GLN
1	J	352	GLN
1	K	6	ASN
1	K	15	GLN
1	K	104	ASN
1	K	120	ASN
1	K	207	GLN
1	K	321	ASN
1	L	212	ASN
1	L	227	ASN

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Mol	Chain	Res	Type
1	L	244	GLN
1	L	352	GLN
1	L	356	GLN
1	M	212	ASN
1	M	321	ASN
1	M	364	GLN
1	M	367	GLN
1	M	370	ASN
1	N	101	ASN
1	N	244	GLN
1	N	324	ASN
1	N	328	ASN
1	N	330	ASN
1	O	244	GLN
1	O	321	ASN
1	O	324	ASN
1	P	55	ASN
1	P	212	ASN
1	P	321	ASN
1	Q	4	ASN
1	Q	25	GLN
1	Q	212	ASN
1	Q	289	GLN
1	Q	330	ASN
1	Q	367	GLN
1	R	87	ASN
1	R	212	ASN
1	R	267	ASN
1	R	269	GLN
1	R	304	HIS
1	R	324	ASN
1	S	212	ASN
1	S	244	GLN
1	S	304	HIS
1	S	324	ASN
1	S	367	GLN
1	T	55	ASN
1	T	87	ASN
1	T	104	ASN
1	T	168	ASN
1	T	244	GLN
1	T	269	GLN

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Mol	Chain	Res	Type
1	T	321	ASN
1	U	26	GLN
1	U	120	ASN
1	U	289	GLN
1	V	39	ASN
1	V	120	ASN
1	W	55	ASN
1	W	69	ASN
1	W	101	ASN
1	W	120	ASN
1	W	324	ASN
1	W	352	GLN
1	W	370	ASN
1	X	26	GLN
1	X	67	ASN
1	X	76	GLN
1	X	120	ASN
1	X	244	GLN
1	Y	207	GLN
1	Y	269	GLN
1	Y	304	HIS
1	Y	324	ASN
1	Y	367	GLN
1	Y	370	ASN
1	Z	25	GLN
1	Z	244	GLN
1	Z	250	ASN
1	Z	289	GLN
1	Z	324	ASN
1	Z	328	ASN
1	Z	330	ASN
1	Z	364	GLN
1	a	4	ASN
1	a	15	GLN
1	a	76	GLN
1	a	205	ASN
1	a	269	GLN
1	a	352	GLN
1	a	356	GLN
1	b	205	ASN
1	b	207	GLN
1	b	212	ASN

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Mol	Chain	Res	Type
1	b	244	GLN
1	b	250	ASN
1	b	328	ASN
1	c	15	GLN
1	c	25	GLN
1	c	67	ASN
1	c	205	ASN
1	c	212	ASN
1	c	330	ASN
1	c	352	GLN
1	c	356	GLN
1	d	23	ASN
1	d	364	GLN
1	e	26	GLN
1	e	55	ASN
1	e	242	GLN
1	e	304	HIS
1	e	312	GLN
1	f	55	ASN
1	f	205	ASN
1	f	321	ASN
1	f	328	ASN
1	g	207	GLN
1	g	324	ASN
1	g	326	ASN
1	g	364	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

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.

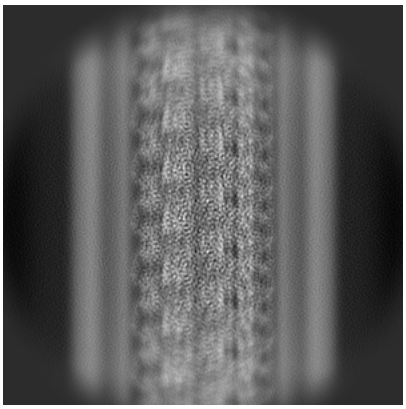
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-49129. These allow visual inspection of the internal detail of the map and identification of artifacts.

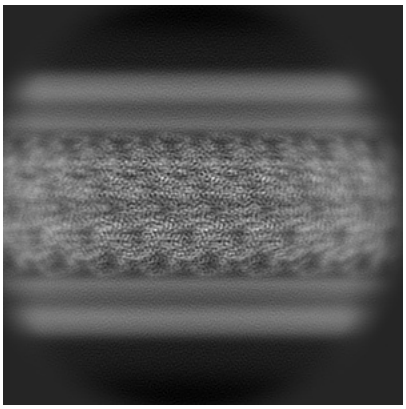
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

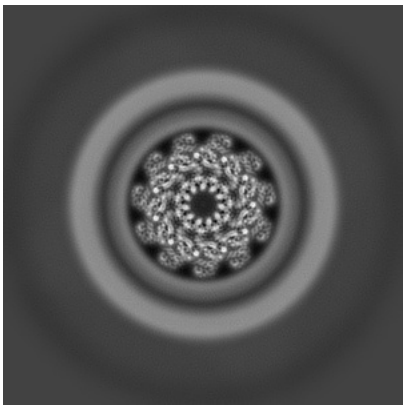
6.1.1 Primary map



X

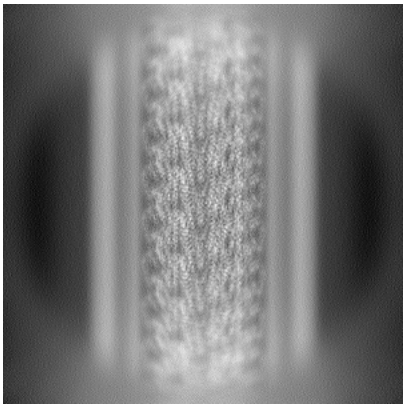


Y

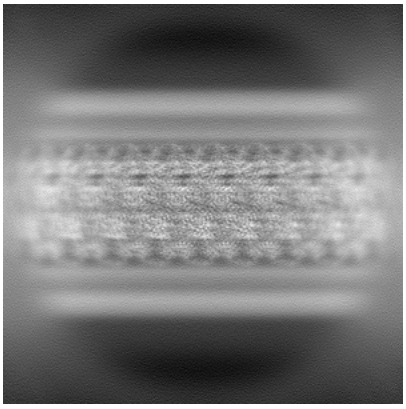


Z

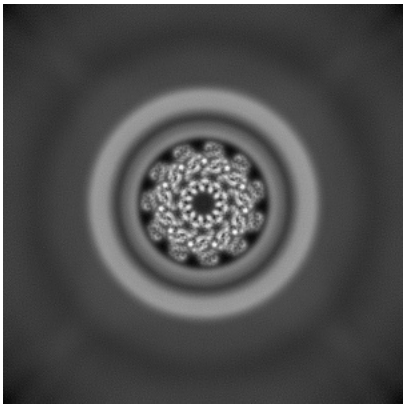
6.1.2 Raw map



X



Y

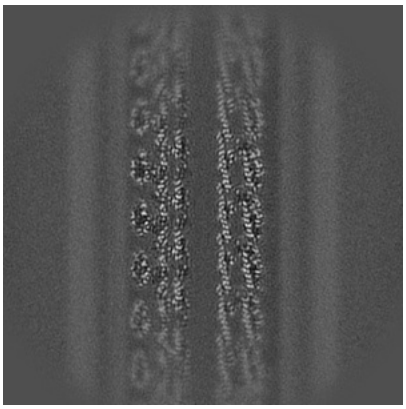


Z

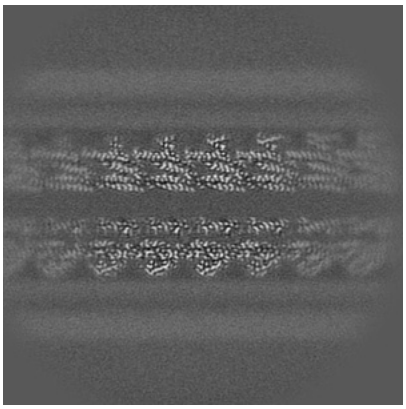
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

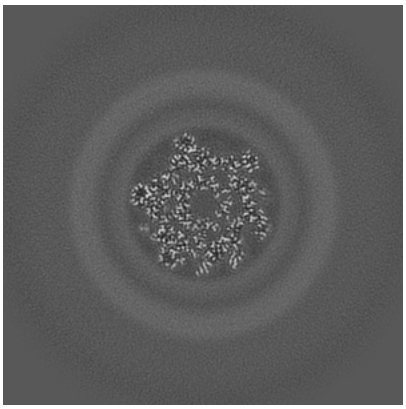
6.2.1 Primary map



X Index: 192

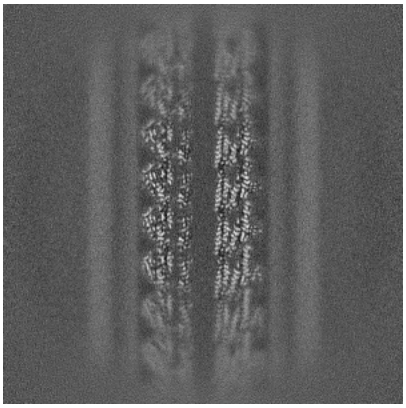


Y Index: 192

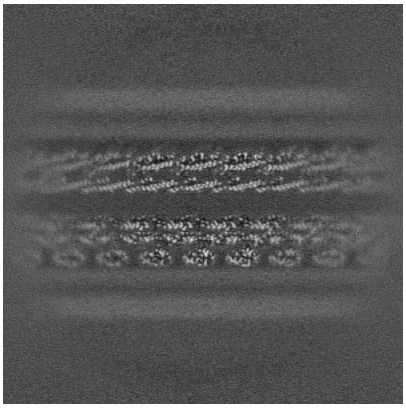


Z Index: 192

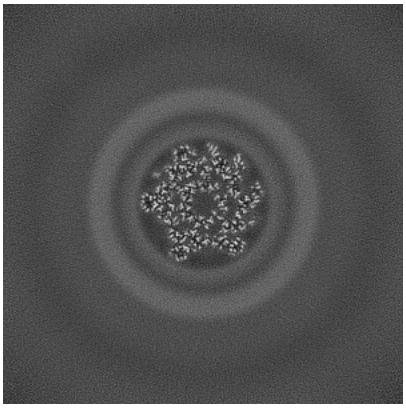
6.2.2 Raw map



X Index: 224



Y Index: 224

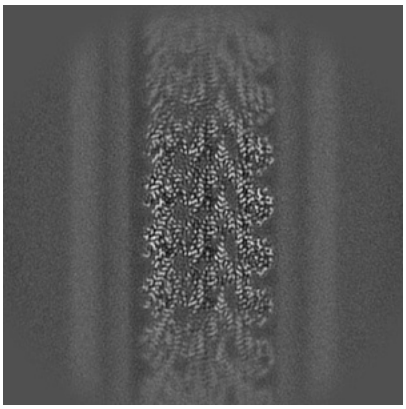


Z Index: 224

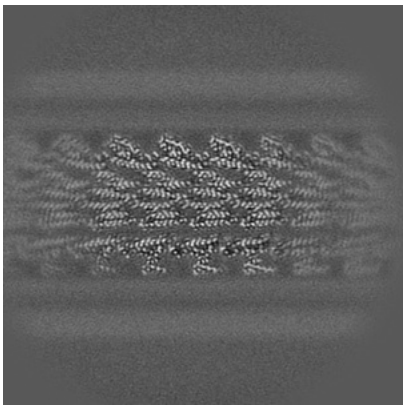
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

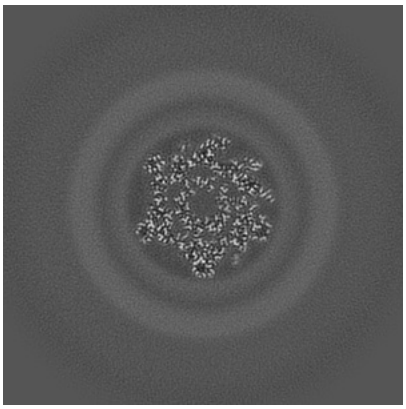
6.3.1 Primary map



X Index: 172

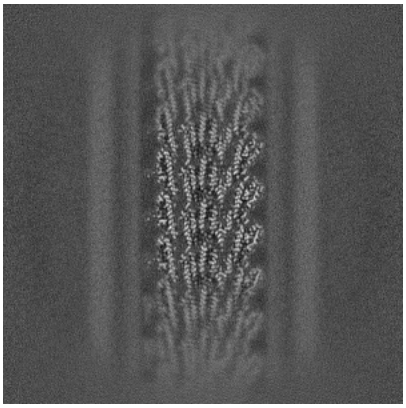


Y Index: 209

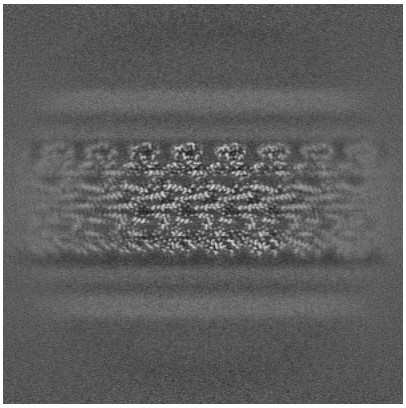


Z Index: 174

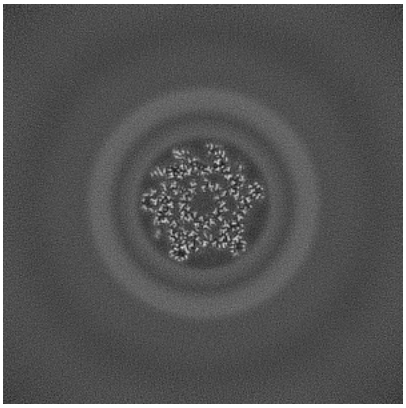
6.3.2 Raw map



X Index: 242



Y Index: 206

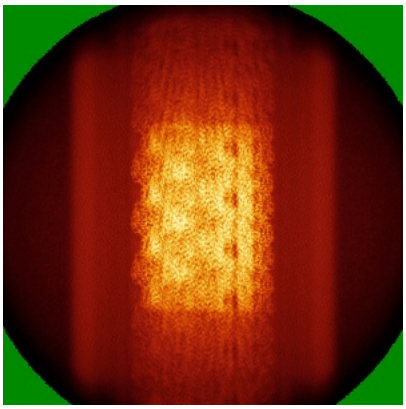


Z Index: 229

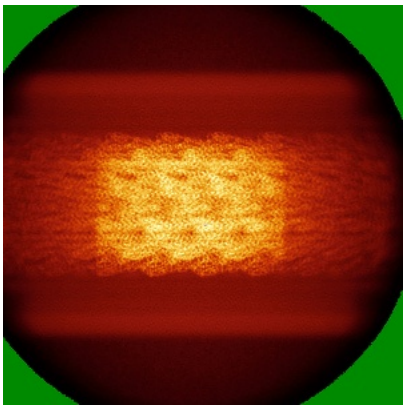
The images above show the largest variance slices of the map in three orthogonal directions.

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

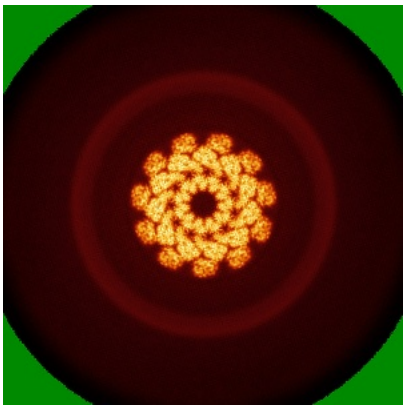
6.4.1 Primary map



X

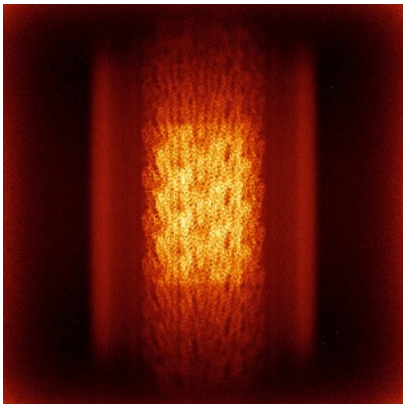


Y

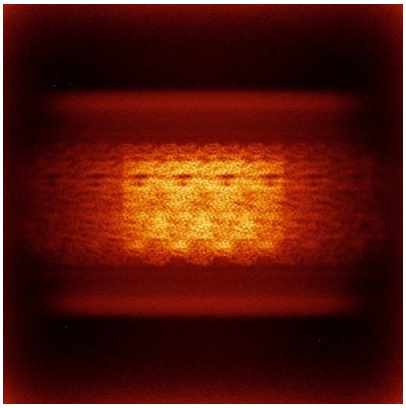


Z

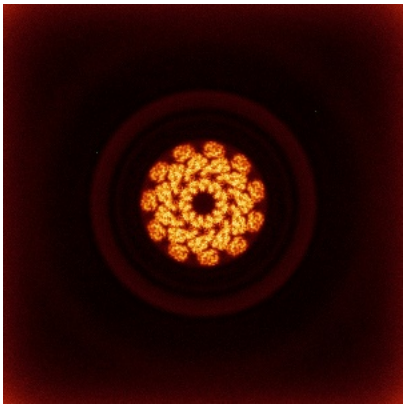
6.4.2 Raw map



X



Y

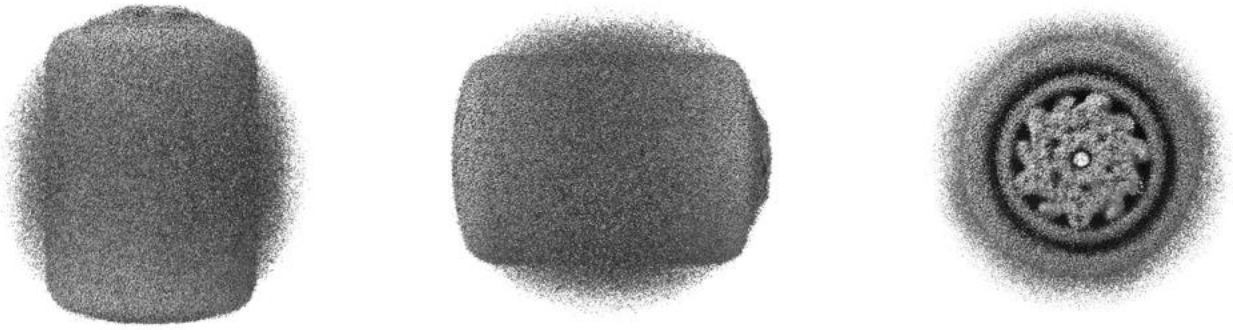


Z

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

6.5 Orthogonal surface views (i)

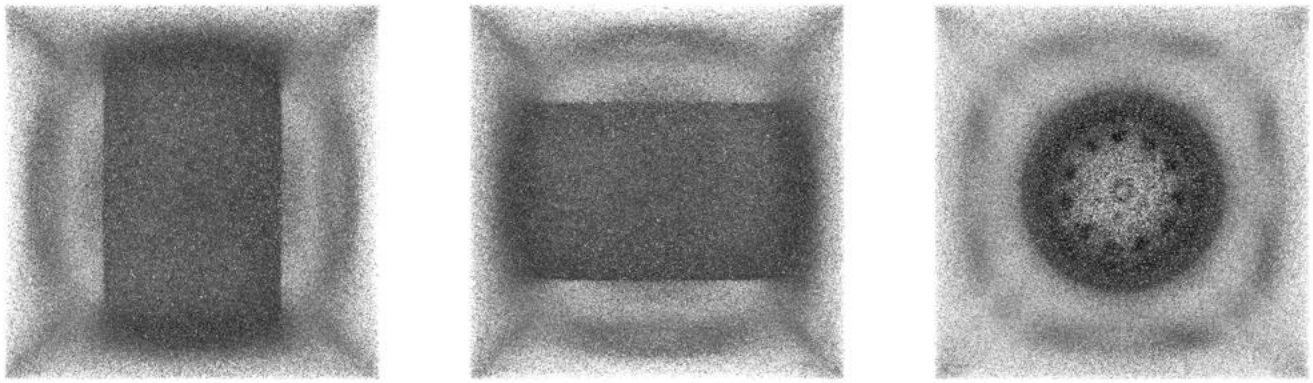
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.05. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

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

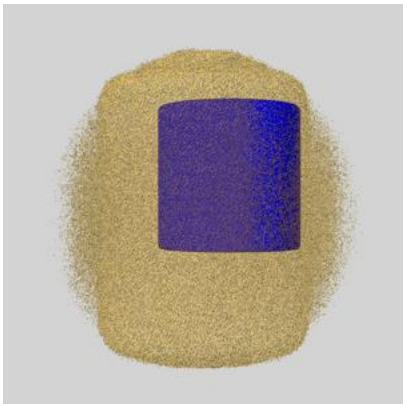
6.6 Mask visualisation (i)

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

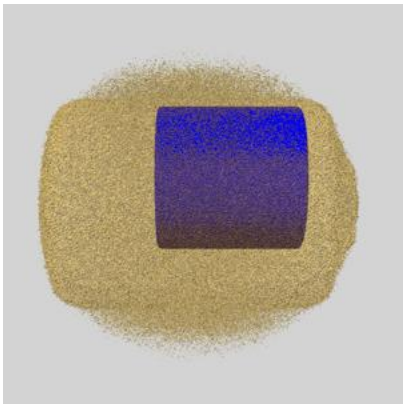
A mask typically either:

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

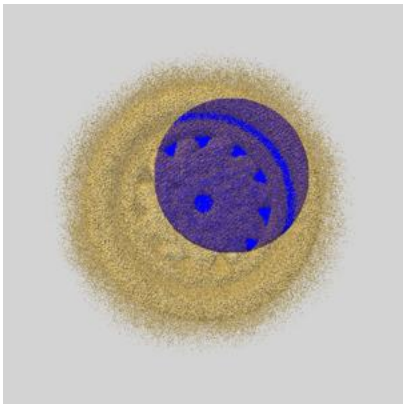
6.6.1 emd_49129_msk_1.map (i)



X



Y

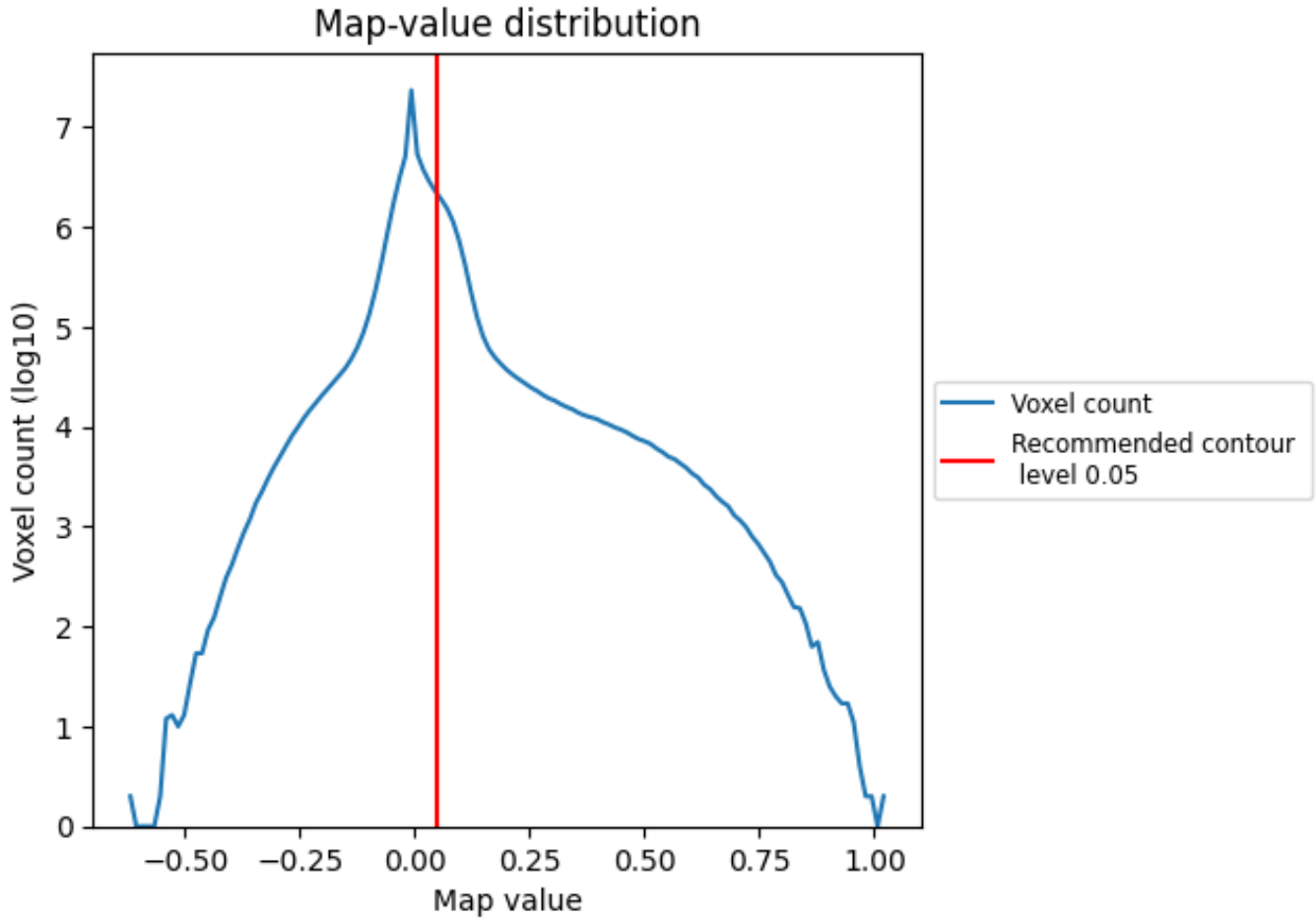


Z

7 Map analysis

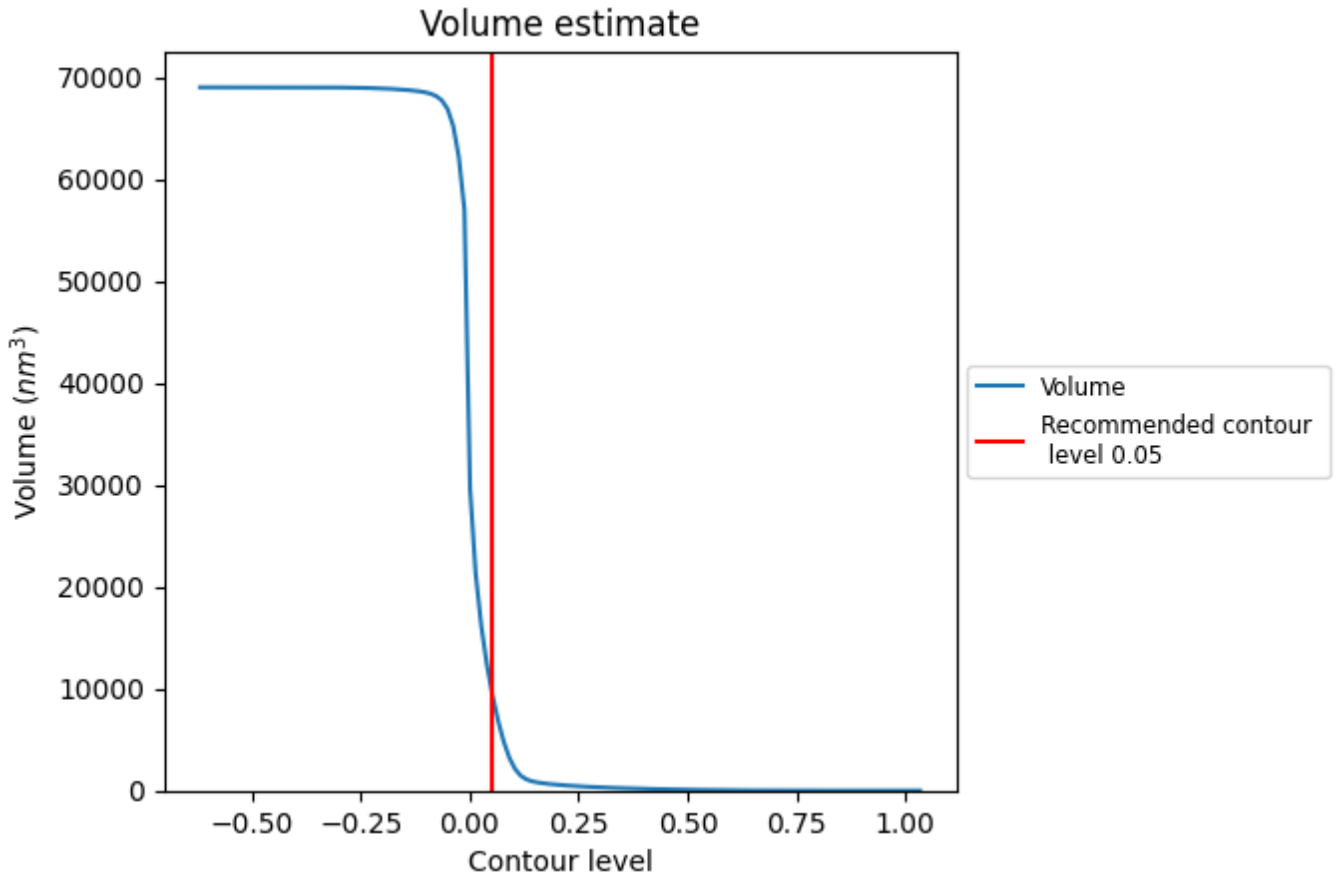
This section contains the results of statistical analysis of the map.

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.

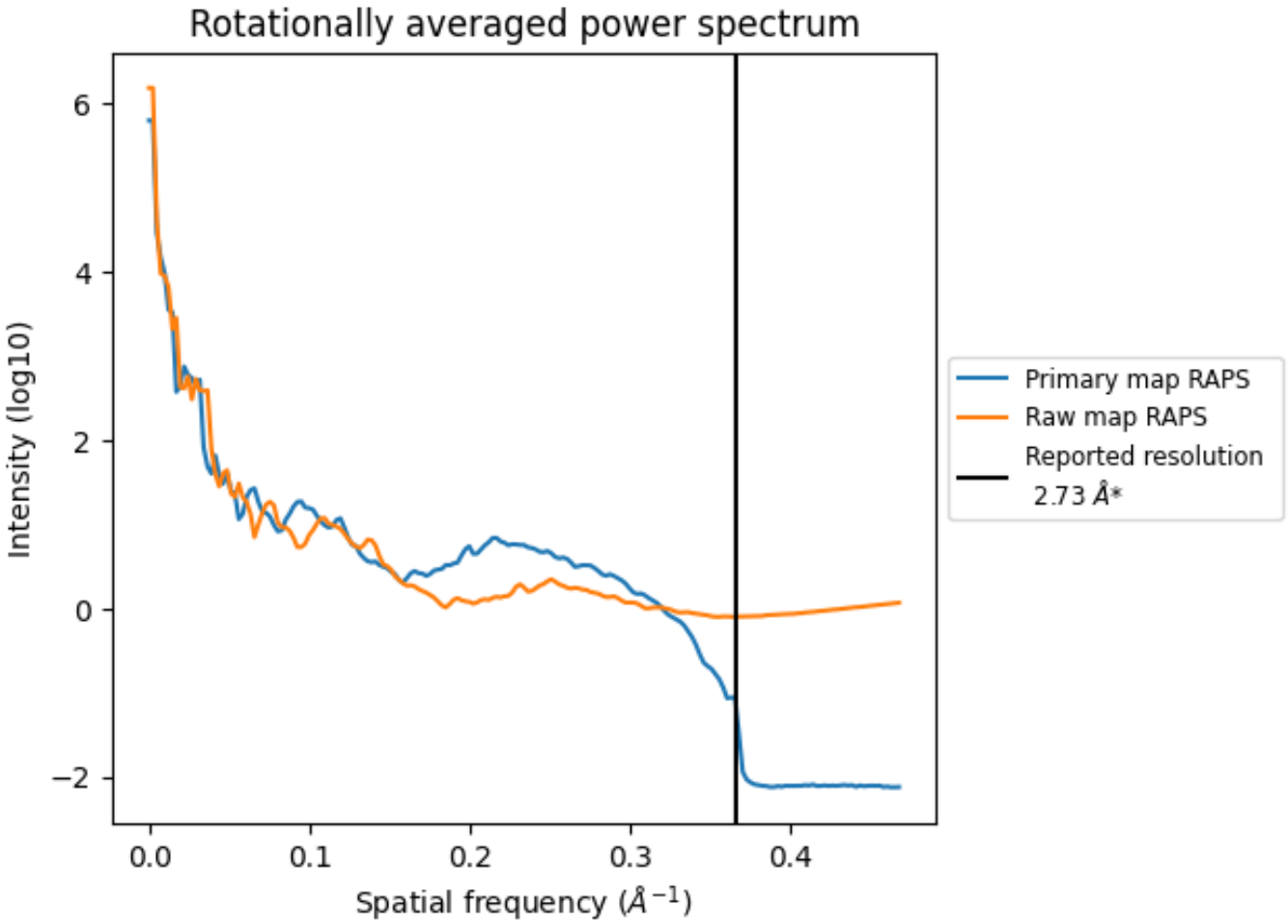
7.2 Volume estimate



The volume at the recommended contour level is 9839 nm^3; this corresponds to an approximate mass of 8887 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)

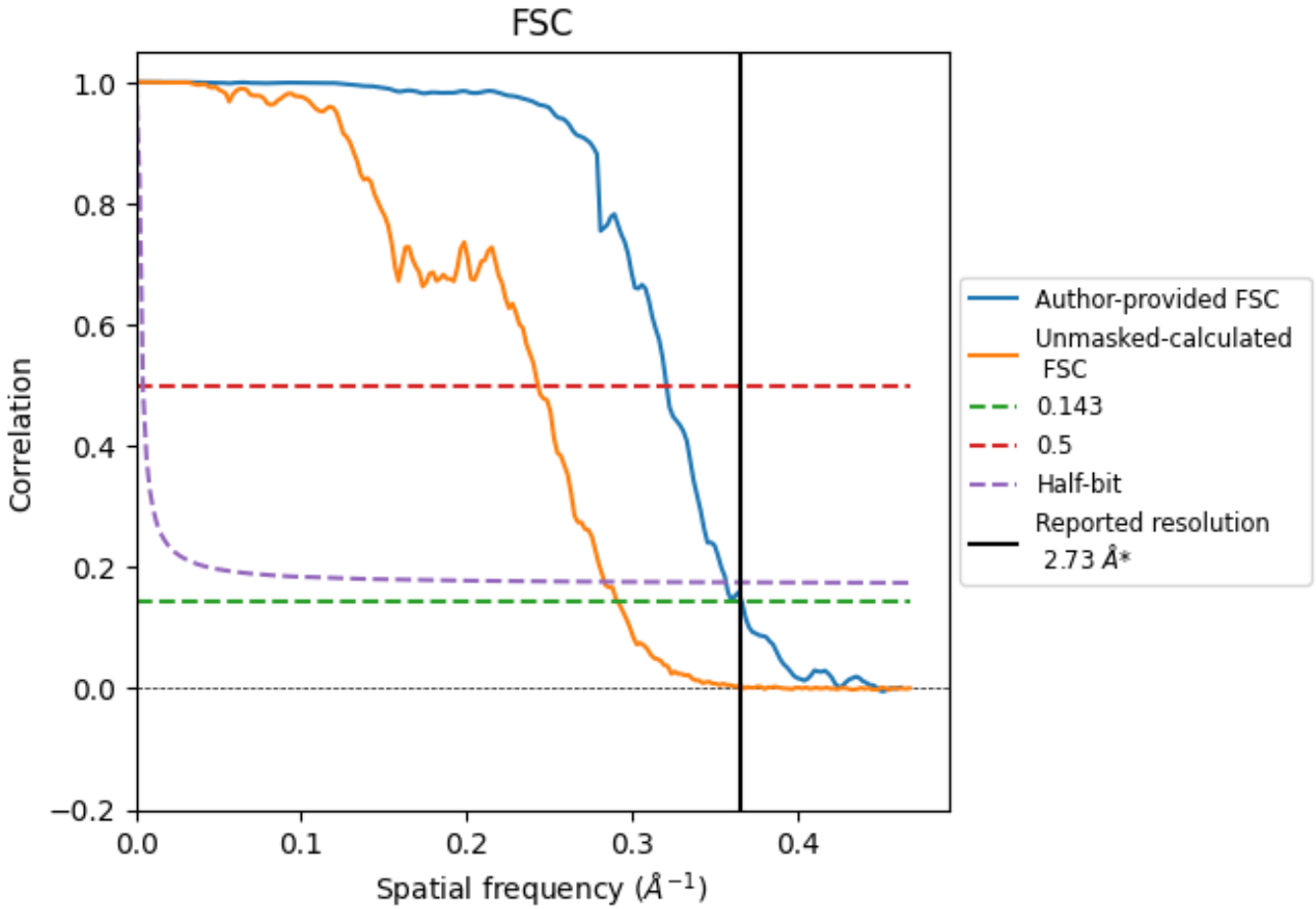


*Reported resolution corresponds to spatial frequency of 0.366 $Å^{-1}$

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 (i)

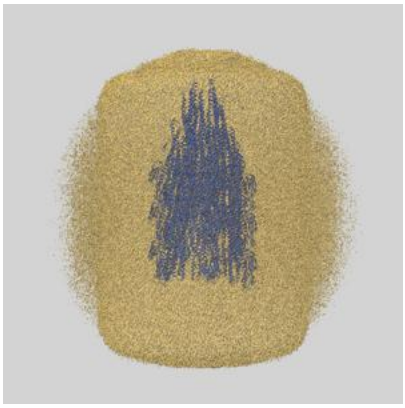
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.73	-	-
Author-provided FSC curve	2.73	3.12	2.80
Unmasked-calculated*	3.43	4.11	3.53

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.43 differs from the reported value 2.73 by more than 10 %

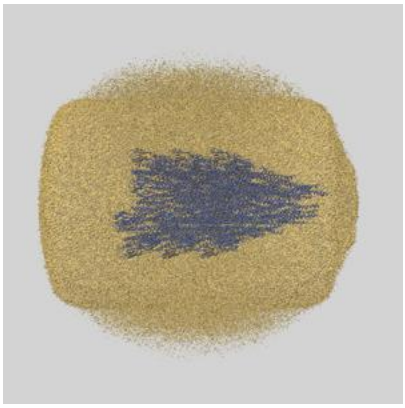
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-49129 and PDB model 9N8H. Per-residue inclusion information can be found in section 3 on page 6.

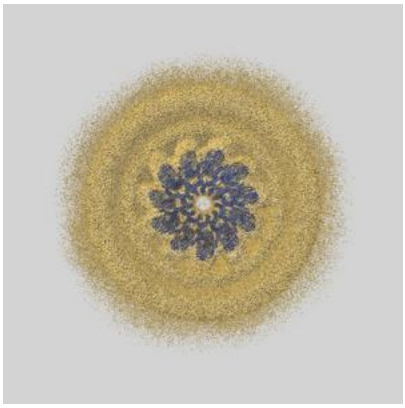
9.1 Map-model overlay



X



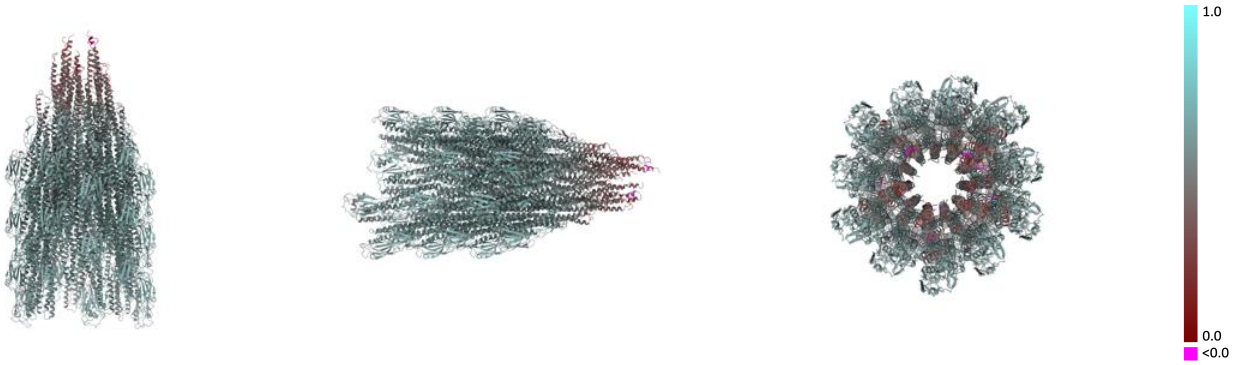
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.05 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.

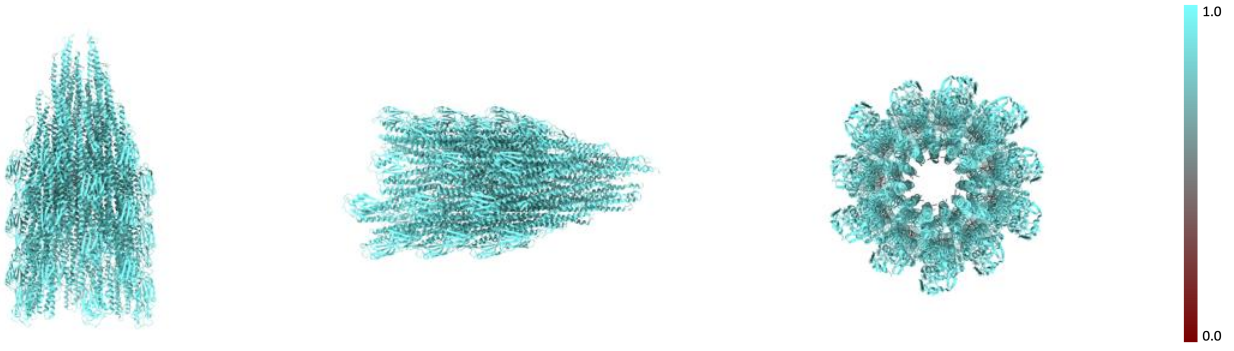
9.2 Q-score mapped to coordinate model (i)



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.

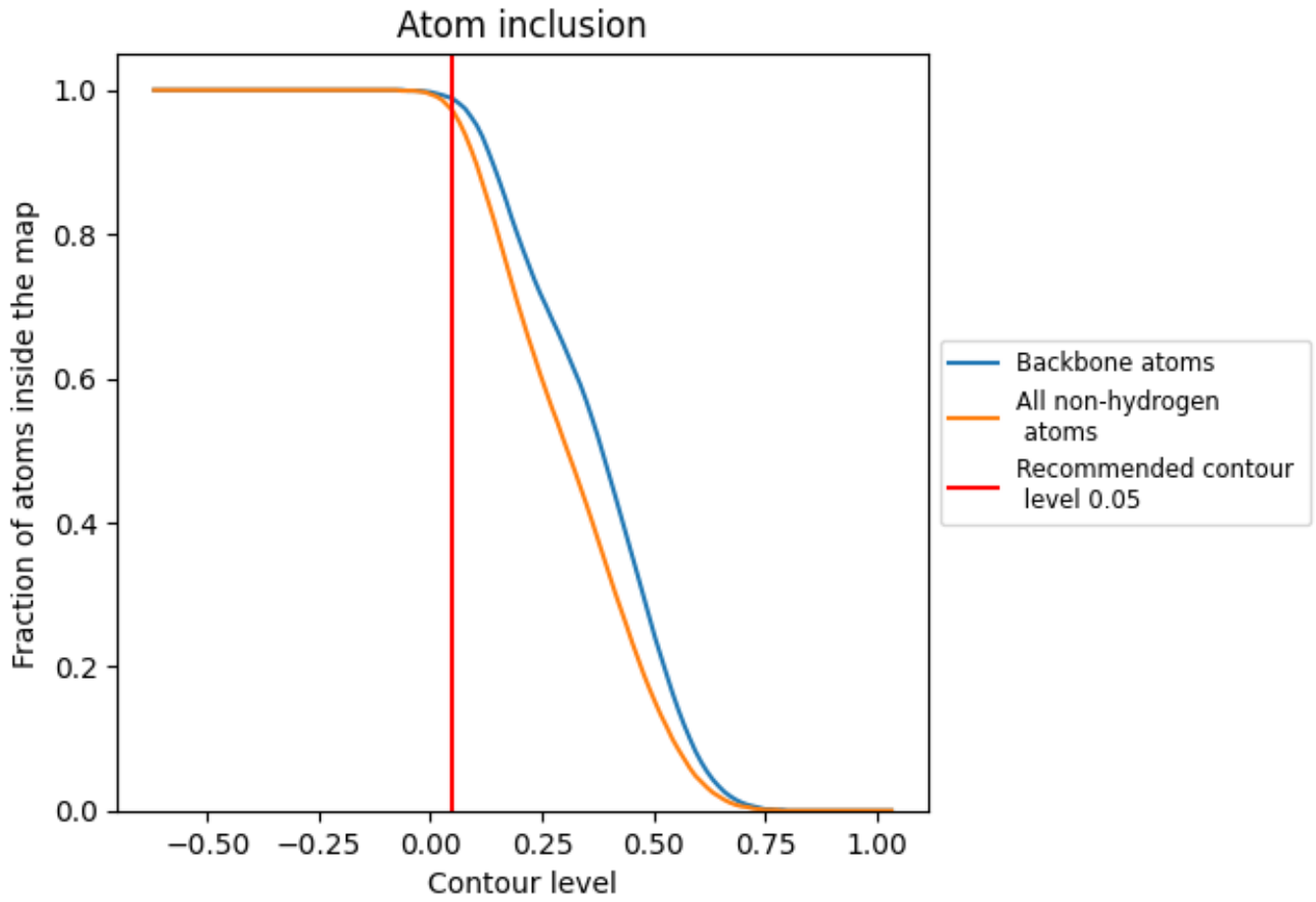
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.05).

9.4 Atom inclusion (i)



At the recommended contour level, 99% of all backbone atoms, 97% 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 (0.05) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9710	0.5640
A	0.9670	0.5580
B	0.9750	0.5800
C	0.9740	0.5750
D	0.9530	0.5130
E	0.9740	0.5750
F	0.9760	0.5870
G	0.9610	0.5500
H	0.9750	0.5700
I	0.9510	0.4900
J	0.9770	0.5790
K	0.9770	0.5850
L	0.9580	0.5390
M	0.9670	0.5620
N	0.9800	0.5890
O	0.9730	0.5700
P	0.9760	0.5850
Q	0.9790	0.5850
R	0.9630	0.5320
S	0.9670	0.5630
T	0.9760	0.5890
U	0.9740	0.5690
V	0.9780	0.5850
W	0.9770	0.5800
X	0.9570	0.5190
Y	0.9720	0.5700
Z	0.9760	0.5850
a	0.9740	0.5730
b	0.9760	0.5820
c	0.9560	0.5020
d	0.9800	0.5830
e	0.9630	0.5380
f	0.9740	0.5740
g	0.9790	0.5850