



Full wwPDB EM Validation Report ⓘ

Aug 10, 2026 – 09:57 AM EDT

PDB ID : 11LC / pdb_000011lc
EMDB ID : EMD-75794
Title : Bacteriophage Goslar Collar
Authors : Basu, D.; Gu, Y.; Corbett, K.D.
Deposited on : 2026-03-02
Resolution : 4.16 Å(reported)
Based on initial model : .

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:

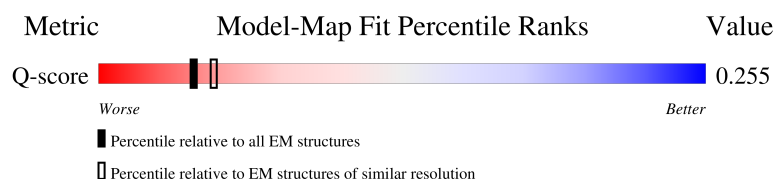
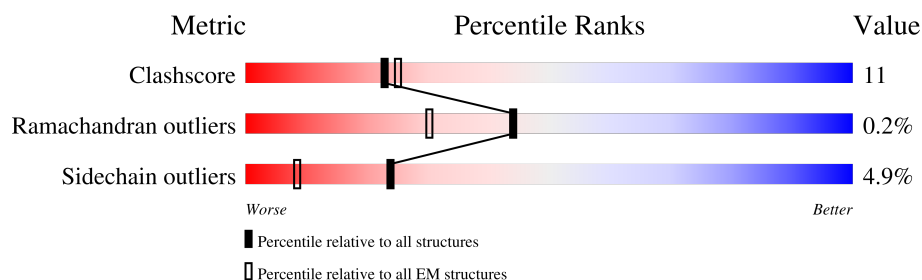
EMDB validation analysis : 0.0.1.dev133
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.50

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 4.16 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.



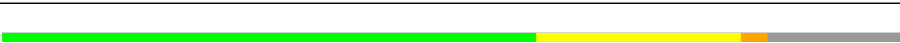
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
Q-score	-	25397	5480 (3.66 - 4.66)

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

Mol	Chain	Length	Quality of chain
1	AJ	296	
1	AY	296	
2	Ah	690	
3	Ao	438	

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Mol	Chain	Length	Quality of chain
3	Ap	438	
4	D	521	
5	M	325	
5	N	325	
5	O	325	
5	P	325	
5	Q	325	
5	h	325	
5	i	325	
5	j	325	
5	k	325	
5	l	325	

2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 40272 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 Tail Tube of Bacteriophage Goslar.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	AJ	212	Total	C	N	O	S	0	0
			1684	1073	286	316	9		
1	AY	268	Total	C	N	O	S	0	0
			2086	1320	357	398	11		

- Molecule 2 is a protein called Tail sheath protein gp29 gp29PR domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	Ah	670	Total	C	N	O	S	0	0
			5225	3294	883	1026	22		

- Molecule 3 is a protein called Tail Adaptor Protein gp50 NTD.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	Ao	329	Total	C	N	O	S	0	0
			2659	1715	436	493	15		
3	Ap	368	Total	C	N	O	S	0	0
			2963	1895	491	561	16		

- Molecule 4 is a protein called Tail Terminator protein gp51.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	443	Total	C	N	O	S	0	0
			3635	2339	599	684	13		

- Molecule 5 is a protein called Whiskers Protein gp126.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	M	275	Total	C	N	O	S	0	0
			2200	1409	373	412	6		
5	N	275	Total	C	N	O	S	0	0
			2200	1409	373	412	6		

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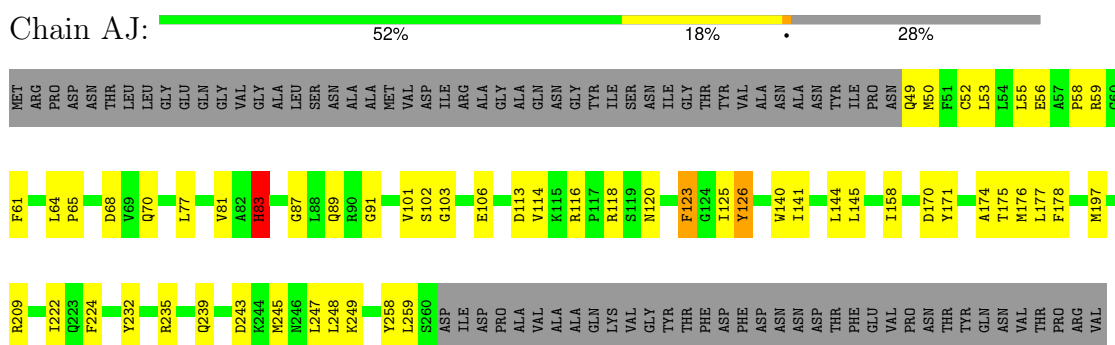
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Mol	Chain	Residues	Atoms					AltConf	Trace
5	O	275	Total	C	N	O	S	0	0
			2200	1409	373	412	6		
5	P	275	Total	C	N	O	S	0	0
			2200	1409	373	412	6		
5	Q	275	Total	C	N	O	S	0	0
			2200	1409	373	412	6		
5	h	277	Total	C	N	O	S	0	0
			2204	1413	375	410	6		
5	i	277	Total	C	N	O	S	0	0
			2204	1413	375	410	6		
5	j	277	Total	C	N	O	S	0	0
			2204	1413	375	410	6		
5	k	277	Total	C	N	O	S	0	0
			2204	1413	375	410	6		
5	l	277	Total	C	N	O	S	0	0
			2204	1413	375	410	6		

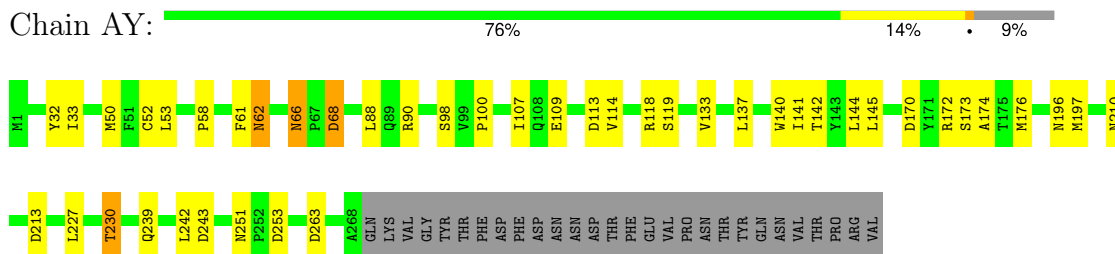
3 Residue-property plots

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

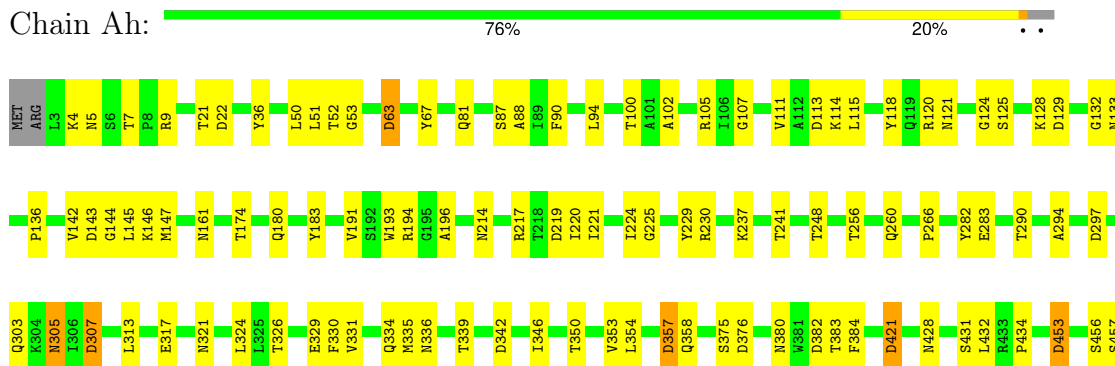
- Molecule 1: Tail Tube of Bacteriophage Goslar

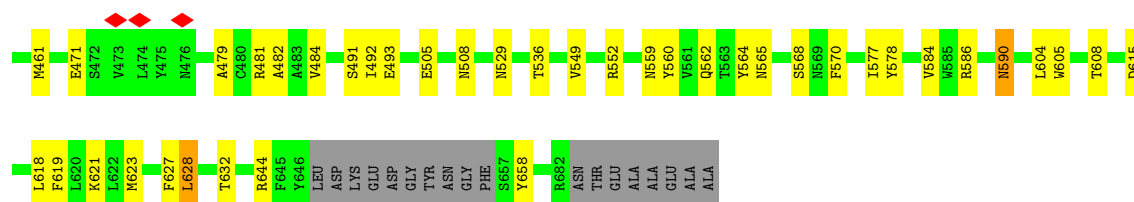


- Molecule 1: Tail Tube of Bacteriophage Goslar

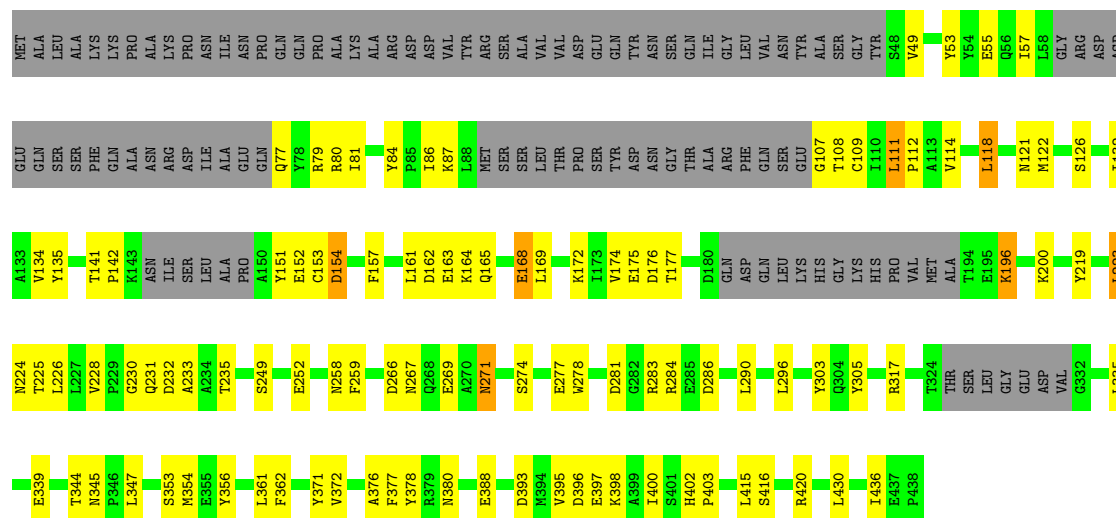


- Molecule 2: Tail sheath protein gp29 gp29PR domain-containing protein

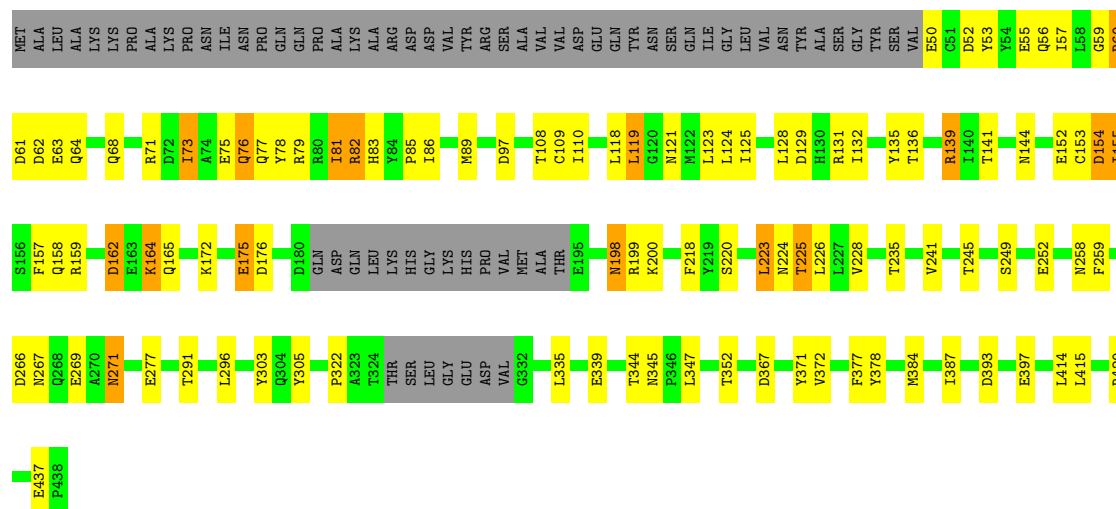




• Molecule 3: Tail Adaptor Protein gp50 NTD

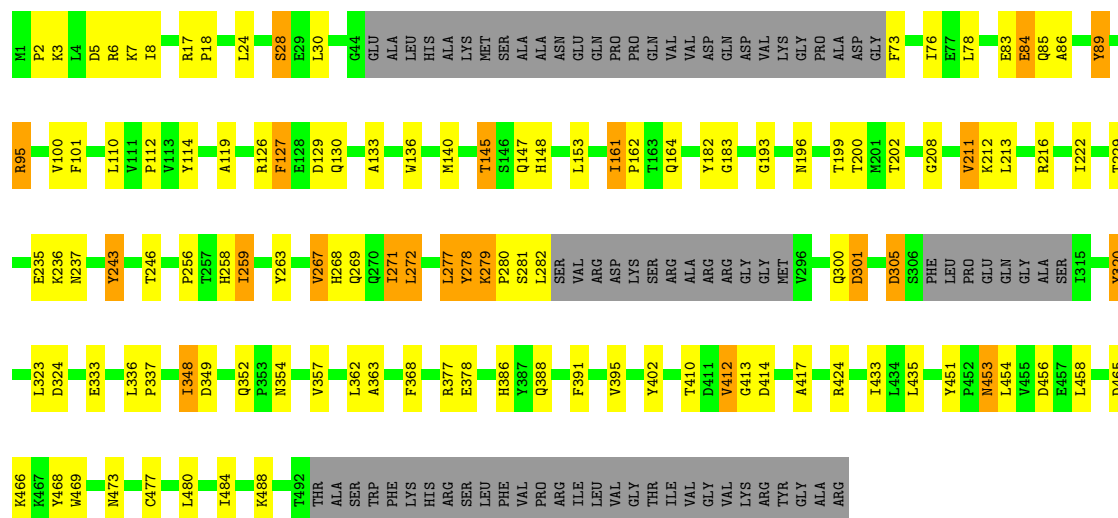


• Molecule 3: Tail Adaptor Protein gp50 NTD



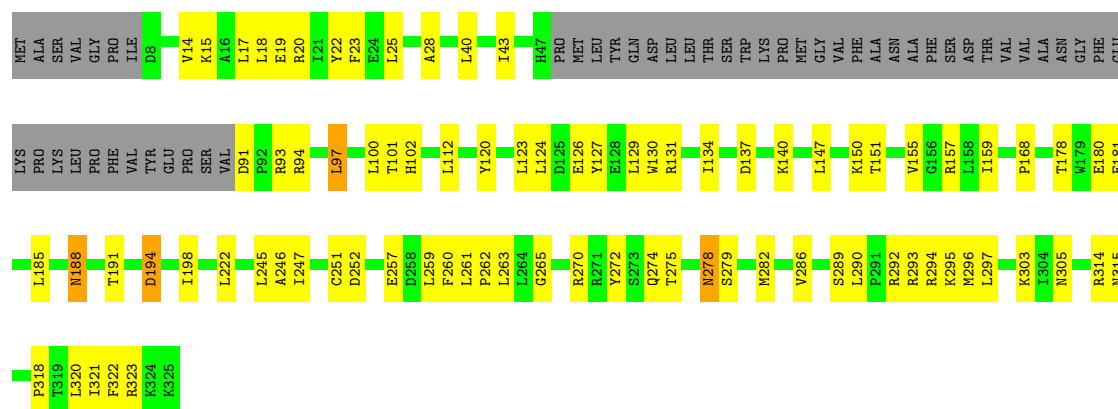
• Molecule 4: Tail Terminator protein gp51





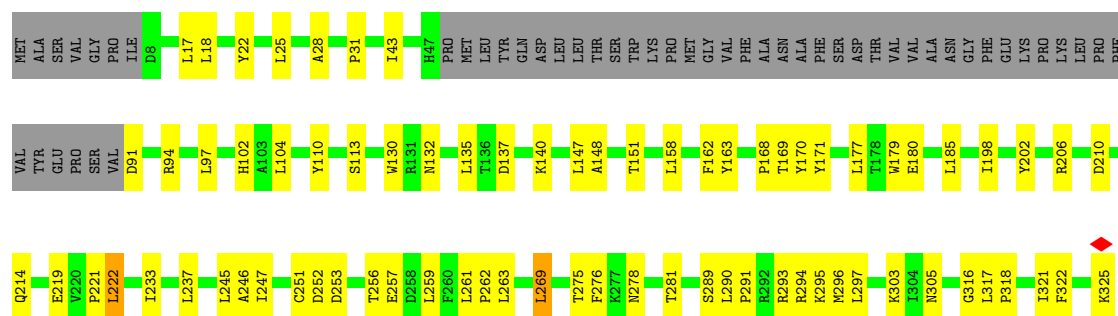
• Molecule 5: Whiskers Protein gp126

Chain M: 59% 25% 15%



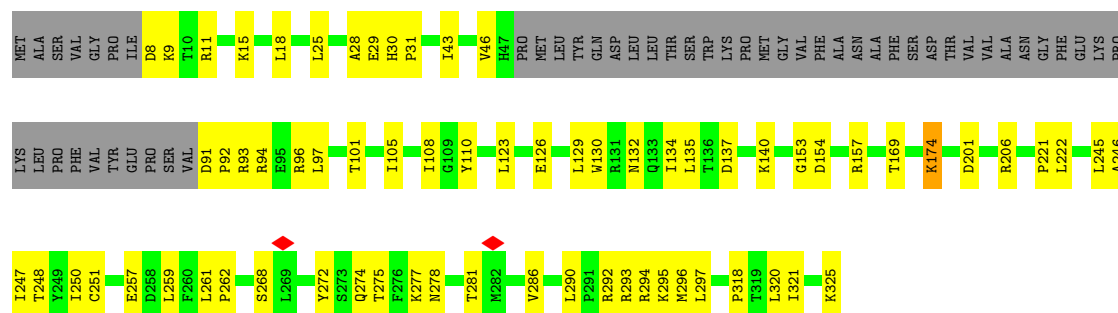
• Molecule 5: Whiskers Protein gp126

Chain N: 61% 23% 15%

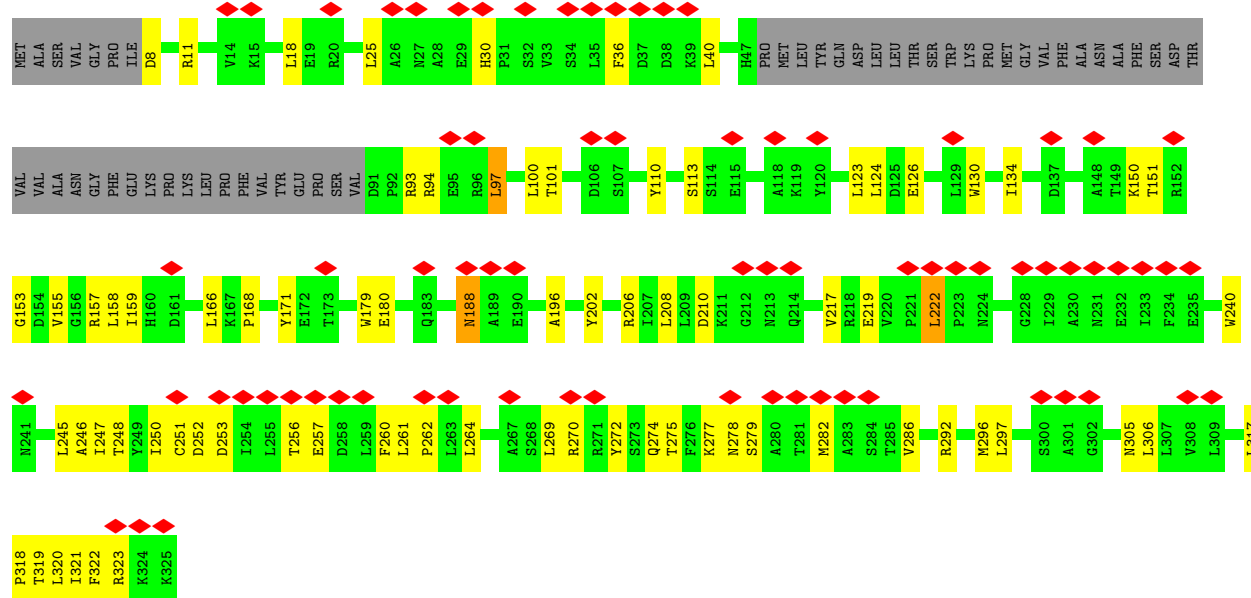


• Molecule 5: Whiskers Protein gp126

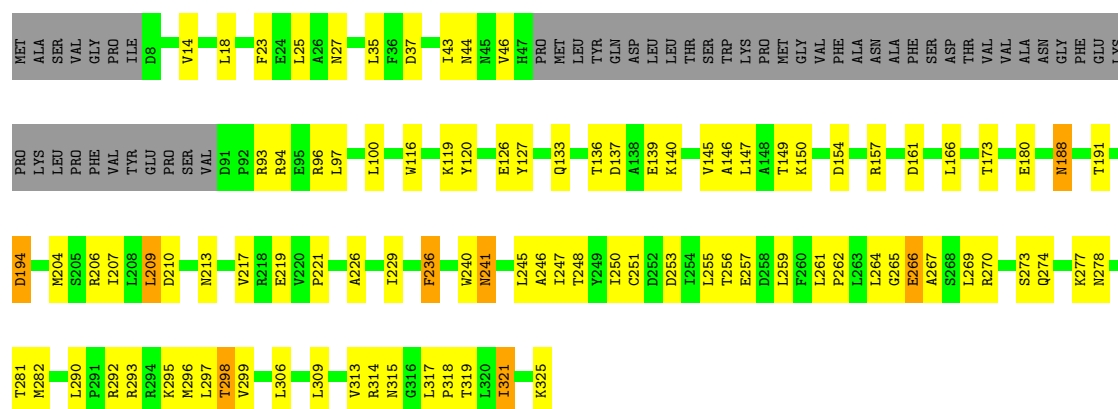
Chain O: 63% 21% 15%



• Molecule 5: Whiskers Protein gp126

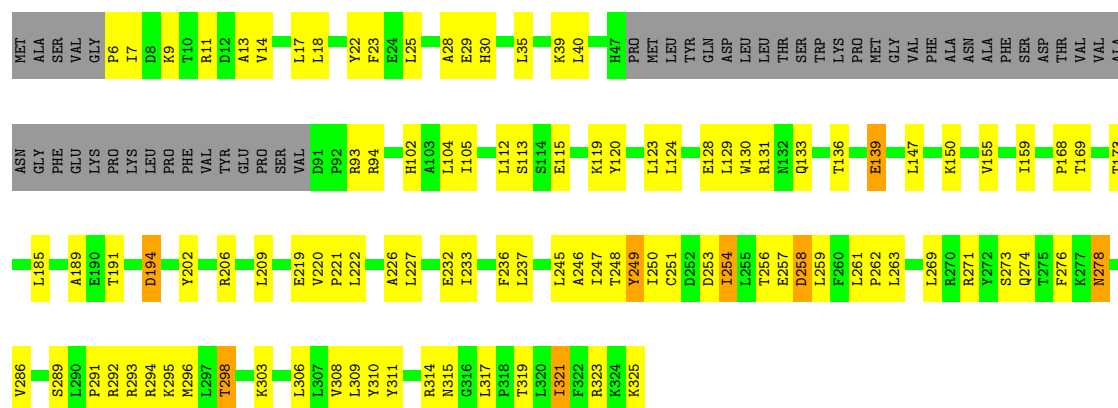


• Molecule 5: Whiskers Protein gp126



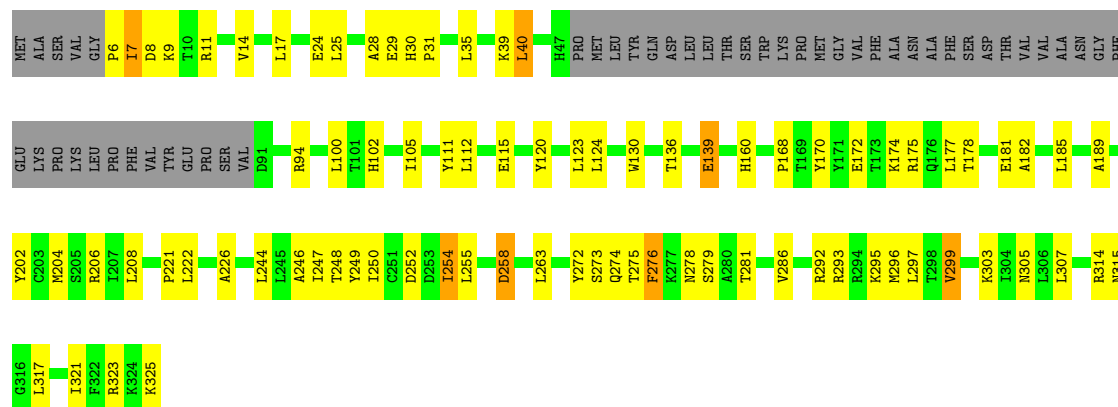
• Molecule 5: Whiskers Protein gp126

Chain h: 



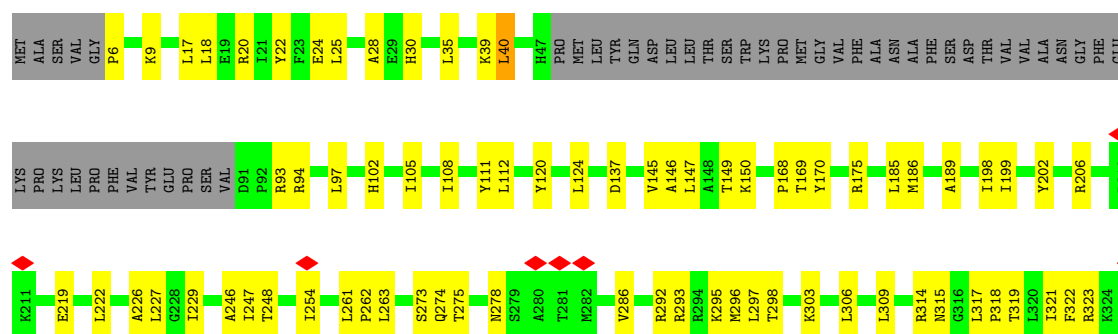
• Molecule 5: Whiskers Protein gp126

Chain i: 



• Molecule 5: Whiskers Protein gp126

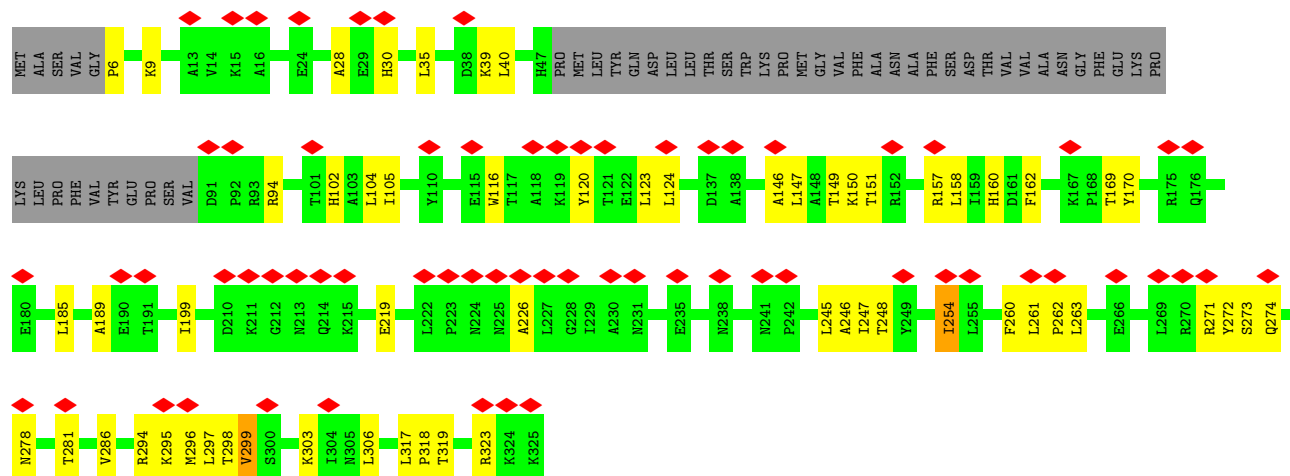
Chain j: 



• Molecule 5: Whiskers Protein gp126

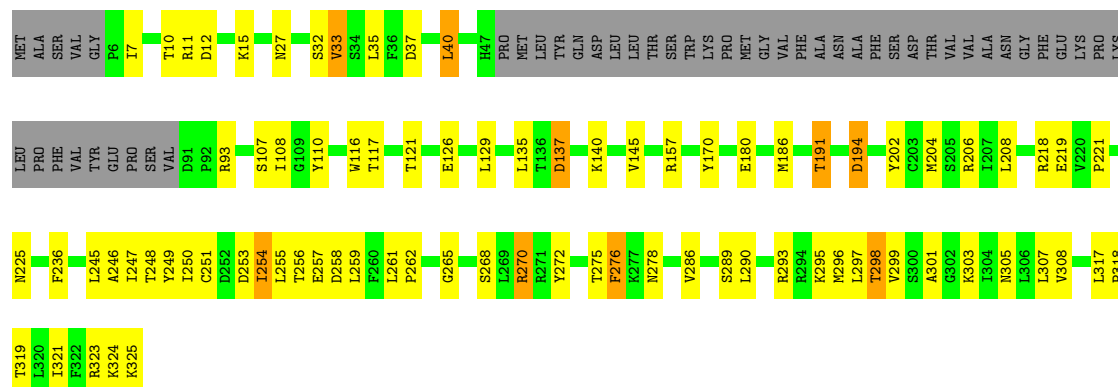
Chain k: 





• Molecule 5: Whiskers Protein gp126

Chain 1: 60% 23% 15%



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C6	Depositor
Number of particles used	32008	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 ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOCONTINUUM (6k x 4k)	Depositor
Maximum map value	1.124	Depositor
Minimum map value	-0.545	Depositor
Average map value	-0.001	Depositor
Map value standard deviation	0.057	Depositor
Recommended contour level	0.09	Depositor
Map size (Å)	1176.0, 1176.0, 1176.0	wwPDB
Map dimensions	640, 640, 640	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.8375, 1.8375, 1.8375	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	AJ	0.79	2/1724 (0.1%)	0.58	2/2343 (0.1%)
1	AY	0.15	0/2132	0.31	0/2902
2	Ah	0.13	0/5330	0.29	0/7241
3	Ao	0.12	0/2726	0.30	0/3707
3	Ap	0.13	0/3038	0.30	0/4133
4	D	1.11	6/3727 (0.2%)	0.32	0/5071
5	M	0.11	0/2243	0.28	0/3047
5	N	0.10	0/2243	0.27	0/3047
5	O	0.08	0/2243	0.25	0/3047
5	P	0.10	0/2243	0.27	0/3047
5	Q	0.13	0/2243	0.32	0/3047
5	h	0.12	0/2248	0.32	0/3055
5	i	0.10	0/2248	0.30	0/3055
5	j	0.09	0/2248	0.29	0/3055
5	k	0.11	0/2248	0.28	0/3055
5	l	0.13	0/2248	0.32	0/3055
All	All	0.39	8/41132 (0.0%)	0.31	2/55907 (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
4	D	0	1
5	Q	0	1
All	All	0	2

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	D	89	TYR	CD2-CE2	39.51	2.57	1.38
4	D	89	TYR	CD1-CE1	32.91	2.37	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AJ	83	HIS	CB-CG	29.48	1.91	1.50
4	D	89	TYR	CE1-CZ	22.76	1.92	1.38
4	D	89	TYR	CE2-CZ	22.25	1.91	1.38
4	D	89	TYR	CG-CD1	20.62	1.82	1.39
4	D	89	TYR	CG-CD2	20.23	1.81	1.39
1	AJ	83	HIS	CA-CB	11.46	1.70	1.54

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AJ	83	HIS	CA-CB-CG	19.27	133.07	113.80
1	AJ	83	HIS	ND1-CG-CD2	-7.13	98.97	106.10

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
4	D	320	TYR	Peptide
5	Q	241	ASN	Peptide

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	AJ	1684	0	1666	61	0
1	AY	2086	0	2057	27	0
2	Ah	5225	0	5081	85	0
3	Ao	2659	0	2592	63	0
3	Ap	2963	0	2866	77	0
4	D	3635	0	3566	117	0
5	M	2200	0	2204	59	0
5	N	2200	0	2204	51	0
5	O	2200	0	2204	41	0
5	P	2200	0	2204	45	0
5	Q	2200	0	2204	74	0
5	h	2204	0	2202	78	0
5	i	2204	0	2202	53	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	j	2204	0	2202	47	0
5	k	2204	0	2202	34	0
5	l	2204	0	2202	58	0
All	All	40272	0	39858	896	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 11.

All (896) 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)
4:D:89:TYR:CD2	4:D:89:TYR:CG	1.81	1.62
4:D:89:TYR:CG	4:D:89:TYR:CD1	1.82	1.60
4:D:89:TYR:CZ	4:D:89:TYR:CE2	1.91	1.58
4:D:89:TYR:CZ	4:D:89:TYR:CE1	1.92	1.52
1:AJ:83:HIS:CG	1:AJ:83:HIS:CB	1.91	1.49
1:AJ:83:HIS:CG	4:D:89:TYR:CE2	2.09	1.39
1:AJ:83:HIS:HB3	4:D:89:TYR:CG	1.60	1.36
1:AJ:83:HIS:HB2	4:D:89:TYR:CE1	1.63	1.31
1:AJ:83:HIS:CG	4:D:89:TYR:CD2	2.19	1.29
1:AJ:83:HIS:CG	4:D:89:TYR:CZ	2.22	1.28
1:AJ:83:HIS:CB	4:D:89:TYR:CD1	2.19	1.23
1:AJ:83:HIS:CB	4:D:89:TYR:CD2	2.24	1.20
1:AJ:83:HIS:CB	4:D:89:TYR:CE1	2.27	1.16
1:AJ:83:HIS:ND1	4:D:89:TYR:CD2	2.13	1.16
1:AJ:83:HIS:CD2	4:D:89:TYR:CE1	2.34	1.15
1:AJ:83:HIS:CG	4:D:89:TYR:CE1	2.34	1.15
1:AJ:83:HIS:CB	4:D:89:TYR:CG	2.29	1.13
4:D:89:TYR:CD1	4:D:89:TYR:CE1	2.37	1.13
1:AJ:83:HIS:ND1	4:D:89:TYR:CE2	2.17	1.13
1:AJ:83:HIS:CG	4:D:89:TYR:CD1	2.38	1.11
1:AJ:83:HIS:CG	4:D:89:TYR:CG	2.40	1.09
1:AJ:83:HIS:CB	4:D:89:TYR:CE2	2.41	1.04
1:AJ:83:HIS:CB	4:D:89:TYR:CZ	2.42	1.02
1:AJ:83:HIS:HB2	4:D:89:TYR:CD1	1.95	0.98
1:AJ:83:HIS:HB3	4:D:89:TYR:CD2	1.95	0.98
1:AJ:83:HIS:HB3	4:D:89:TYR:CD1	1.99	0.95
1:AJ:83:HIS:CD2	4:D:89:TYR:CD1	2.56	0.94
4:D:89:TYR:CD2	4:D:89:TYR:CE2	2.57	0.93
1:AJ:83:HIS:N	4:D:89:TYR:CE2	2.39	0.91
5:M:93:ARG:HH22	5:M:129:LEU:HB2	1.37	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AJ:83:HIS:CA	4:D:89:TYR:CE2	2.60	0.84
1:AJ:83:HIS:HD2	4:D:89:TYR:CE1	1.99	0.81
5:l:93:ARG:HH22	5:l:129:LEU:HB2	1.46	0.80
4:D:337:PRO:HB2	4:D:435:LEU:HB2	1.64	0.79
4:D:236:LYS:HA	4:D:243:TYR:HB3	1.64	0.78
5:O:93:ARG:HH22	5:O:129:LEU:HB2	1.51	0.75
3:Ap:89:MET:SD	3:Ap:89:MET:N	2.59	0.75
1:AJ:50:MET:HE1	1:AJ:178:PHE:HB3	1.68	0.75
1:AJ:83:HIS:CD2	4:D:89:TYR:CZ	2.74	0.75
5:k:28:ALA:O	5:k:94:ARG:NH2	2.20	0.74
5:l:305:ASN:HD21	5:l:307:LEU:HB3	1.53	0.74
3:Ap:118:LEU:O	3:Ap:121:ASN:ND2	2.21	0.74
5:l:247:ILE:HA	5:l:296:MET:HA	1.70	0.73
5:N:290:LEU:HB3	5:N:293:ARG:HB2	1.69	0.73
5:l:253:ASP:HB3	5:l:257:GLU:H	1.51	0.72
5:i:221:PRO:HA	5:i:323:ARG:HB3	1.72	0.71
5:l:15:LYS:HG2	5:l:108:ILE:HD13	1.71	0.71
3:Ap:73:ILE:HA	3:Ap:76:GLN:HB2	1.72	0.71
3:Ap:249:SER:HB3	3:Ap:252:GLU:HG2	1.71	0.71
5:N:278:ASN:HD21	5:O:292:ARG:HH12	1.38	0.71
2:Ah:604:LEU:HD21	2:Ah:623:MET:HG3	1.73	0.71
1:AJ:174:ALA:HB3	1:AJ:197:MET:HB2	1.72	0.71
5:Q:270:ARG:O	5:l:278:ASN:ND2	2.24	0.71
2:Ah:4:LYS:HB2	2:Ah:217:ARG:HH22	1.54	0.70
5:l:245:LEU:HB3	5:l:272:TYR:HB3	1.72	0.70
4:D:277:LEU:HD13	4:D:323:LEU:HB3	1.74	0.70
5:O:15:LYS:HE3	5:O:105:ILE:HG23	1.74	0.69
5:P:250:ILE:HG12	5:P:277:LYS:HB2	1.73	0.69
5:i:222:LEU:H	5:i:325:LYS:HE3	1.58	0.69
3:Ao:371:TYR:O	3:Ao:378:TYR:OH	2.10	0.69
5:M:290:LEU:HB3	5:M:293:ARG:HB2	1.75	0.68
5:M:294:ARG:HH22	5:l:265:GLY:HA2	1.58	0.68
1:AJ:247:LEU:O	4:D:278:TYR:OH	2.12	0.68
5:O:268:SER:O	5:P:292:ARG:NH2	2.26	0.68
5:j:28:ALA:O	5:j:94:ARG:NH2	2.21	0.68
3:Ap:68:GLN:H	3:Ap:71:ARG:HD3	1.59	0.67
5:O:250:ILE:HG12	5:O:277:LYS:HB2	1.77	0.67
3:Ao:415:LEU:O	3:Ao:420:ARG:NH1	2.28	0.67
5:i:28:ALA:O	5:i:94:ARG:NH2	2.27	0.67
5:M:18:LEU:HD12	5:M:101:THR:HG23	1.77	0.67
5:l:323:ARG:HH21	5:l:325:LYS:HE2	1.61	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:i:250:ILE:HG12	5:i:276:PHE:HA	1.77	0.66
4:D:279:LYS:HD3	4:D:280:PRO:HD2	1.77	0.66
3:Ap:415:LEU:O	3:Ap:420:ARG:NH1	2.28	0.66
3:Ao:271:ASN:N	3:Ao:271:ASN:OD1	2.29	0.66
5:j:222:LEU:H	5:j:325:LYS:HE3	1.60	0.66
5:k:147:LEU:HD12	5:k:150:LYS:HD2	1.77	0.65
5:h:222:LEU:H	5:h:325:LYS:HE3	1.60	0.65
3:Ap:158:GLN:O	3:Ap:159:ARG:NE	2.30	0.65
5:h:247:ILE:HA	5:h:296:MET:HA	1.77	0.65
5:Q:146:ALA:O	5:Q:149:THR:OG1	2.14	0.65
5:h:221:PRO:HA	5:h:323:ARG:HB3	1.79	0.65
5:N:275:THR:HG1	5:i:275:THR:HG1	1.45	0.65
3:Ap:198:ASN:N	3:Ap:198:ASN:OD1	2.27	0.64
5:P:248:THR:OG1	5:P:296:MET:SD	2.55	0.64
5:M:137:ASP:HA	5:M:140:LYS:HD2	1.80	0.64
5:M:222:LEU:HA	5:M:322:PHE:HB3	1.80	0.64
5:h:29:GLU:HA	5:h:94:ARG:HH12	1.63	0.64
5:k:298:THR:HB	5:k:319:THR:HA	1.79	0.64
5:N:168:PRO:HB2	5:N:303:LYS:HB3	1.80	0.64
5:N:185:LEU:HB3	5:N:198:ILE:HD13	1.80	0.64
5:l:249:TYR:HB2	5:l:276:PHE:HD2	1.62	0.64
1:Aj:123:PHE:O	1:Aj:222:ILE:N	2.30	0.64
5:l:246:ALA:HB3	5:l:295:LYS:HE3	1.80	0.64
2:Ah:471:GLU:HB2	2:Ah:479:ALA:HA	1.78	0.64
5:P:97:LEU:HA	5:P:123:LEU:HD11	1.79	0.64
5:l:194:ASP:OD1	5:l:194:ASP:N	2.29	0.64
2:Ah:221:ILE:O	2:Ah:225:GLY:N	2.30	0.63
2:Ah:303:GLN:NE2	2:Ah:307:ASP:OD1	2.31	0.63
5:M:292:ARG:NH1	5:Q:257:GLU:OE2	2.31	0.63
5:Q:194:ASP:OD1	5:Q:194:ASP:N	2.30	0.63
5:i:246:ALA:HB1	5:i:296:MET:HE3	1.80	0.63
5:k:170:TYR:HB2	5:k:303:LYS:HG2	1.81	0.63
3:Ap:271:ASN:OD1	3:Ap:271:ASN:N	2.31	0.63
5:Q:297:LEU:HA	5:Q:318:PRO:HB2	1.80	0.63
2:Ah:214:ASN:HB2	2:Ah:230:ARG:HH12	1.63	0.63
4:D:484:ILE:HG22	4:D:488:LYS:HE3	1.81	0.63
1:Aj:55:LEU:HD11	1:Aj:177:LEU:HB2	1.80	0.63
3:Ap:377:PHE:HA	3:Ap:384:MET:HE2	1.80	0.63
5:M:25:LEU:HD21	5:M:97:LEU:HD22	1.81	0.63
2:Ah:505:GLU:OE1	2:Ah:536:THR:OG1	2.17	0.63
5:Q:293:ARG:HH12	5:Q:295:LYS:HD2	1.64	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:Ap:56:GLN:HE22	3:Ap:121:ASN:HA	1.63	0.62
4:D:349:ASP:OD2	4:D:352:GLN:N	2.30	0.62
2:Ah:484:VAL:O	2:Ah:559:ASN:ND2	2.32	0.62
2:Ah:584:VAL:O	2:Ah:590:ASN:ND2	2.32	0.62
4:D:300:GLN:OE1	4:D:300:GLN:N	2.32	0.62
5:l:293:ARG:HH12	5:l:295:LYS:HB3	1.65	0.62
5:h:7:ILE:HG22	5:h:11:ARG:HH21	1.64	0.62
5:i:248:THR:OG1	5:i:297:LEU:O	2.15	0.62
5:N:275:THR:HG21	5:i:273:SER:HB3	1.82	0.62
4:D:354:ASN:ND2	4:D:417:ALA:O	2.32	0.62
5:l:93:ARG:NH2	5:l:126:GLU:O	2.33	0.62
4:D:305:ASP:N	4:D:305:ASP:OD1	2.30	0.62
5:j:226:ALA:HB2	5:j:263:LEU:HD13	1.82	0.62
5:i:226:ALA:HB2	5:i:263:LEU:HD13	1.81	0.61
5:M:297:LEU:HD11	5:M:320:LEU:HG	1.82	0.61
5:O:97:LEU:HA	5:O:123:LEU:HD11	1.83	0.61
5:j:247:ILE:HA	5:j:296:MET:HA	1.82	0.61
3:Ao:142:PRO:HA	3:Ao:151:TYR:HA	1.82	0.61
3:Ap:154:ASP:OD1	3:Ap:154:ASP:N	2.34	0.61
5:j:247:ILE:HG13	5:j:274:GLN:HE22	1.63	0.61
5:Q:269:LEU:O	5:h:314:ARG:NH2	2.31	0.61
5:h:28:ALA:O	5:h:94:ARG:NH2	2.34	0.61
3:Ao:126:SER:HA	3:Ao:132:ILE:HA	1.82	0.61
3:Ap:139:ARG:NH2	3:Ap:152:GLU:OE1	2.34	0.61
5:O:290:LEU:HB3	5:O:293:ARG:HB2	1.82	0.61
5:M:265:GLY:HA3	5:N:294:ARG:HH22	1.66	0.60
5:N:210:ASP:O	5:N:214:GLN:NE2	2.35	0.60
5:Q:306:LEU:HD13	5:Q:309:LEU:HD12	1.83	0.60
5:l:297:LEU:HA	5:l:318:PRO:HB2	1.83	0.60
2:Ah:36:TYR:HD1	2:Ah:90:PHE:HB3	1.66	0.60
4:D:473:ASN:OD1	4:D:477:CYS:N	2.34	0.60
5:l:221:PRO:HA	5:l:323:ARG:HB3	1.83	0.60
2:Ah:421:ASP:N	2:Ah:421:ASP:OD1	2.34	0.59
5:M:247:ILE:HB	5:M:297:LEU:H	1.67	0.59
5:Q:213:ASN:ND2	5:Q:314:ARG:O	2.34	0.59
1:AJ:83:HIS:C	4:D:89:TYR:CZ	2.80	0.59
5:O:248:THR:OG1	5:O:296:MET:SD	2.60	0.59
5:i:297:LEU:HD11	5:i:299:VAL:HG23	1.84	0.59
4:D:83:GLU:HB3	4:D:86:ALA:HB2	1.84	0.59
1:AJ:65:PRO:O	1:AJ:70:GLN:NE2	2.35	0.59
4:D:162:PRO:HD3	4:D:259:ILE:HD11	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:P:246:ALA:HA	5:P:272:TYR:HB2	1.83	0.59
5:i:247:ILE:HG13	5:i:274:GLN:HE22	1.67	0.59
5:j:293:ARG:O	5:j:293:ARG:NH1	2.36	0.59
5:k:226:ALA:HB2	5:k:263:LEU:HD13	1.85	0.59
2:Ah:336:ASN:ND2	2:Ah:339:THR:OG1	2.35	0.59
3:Ao:249:SER:HB3	3:Ao:252:GLU:HG2	1.85	0.59
3:Ao:49:VAL:H	3:Ao:86:ILE:HG12	1.68	0.59
5:h:258:ASP:OD1	5:h:258:ASP:N	2.36	0.59
2:Ah:52:THR:HA	2:Ah:88:ALA:HA	1.85	0.59
5:Q:251:CYS:HB2	5:Q:257:GLU:HA	1.84	0.59
2:Ah:342:ASP:OD1	2:Ah:346:ILE:N	2.30	0.58
4:D:24:LEU:HD13	4:D:76:ILE:HD11	1.84	0.58
5:Q:217:VAL:HG22	5:Q:319:THR:HB	1.84	0.58
2:Ah:317:GLU:OE1	2:Ah:350:THR:OG1	2.18	0.58
3:Ap:347:LEU:HD23	3:Ap:347:LEU:H	1.68	0.58
2:Ah:305:ASN:OD1	2:Ah:305:ASN:N	2.36	0.58
4:D:410:THR:HG1	4:D:414:ASP:H	1.51	0.58
5:O:174:LYS:NZ	5:O:201:ASP:OD1	2.37	0.58
5:P:247:ILE:HB	5:P:297:LEU:H	1.67	0.58
5:Q:37:ASP:OD1	5:Q:127:TYR:OH	2.20	0.58
5:h:25:LEU:O	5:h:94:ARG:NH2	2.36	0.58
5:N:179:TRP:HE3	5:N:202:TYR:HE2	1.50	0.58
5:O:153:GLY:O	5:O:206:ARG:NH1	2.37	0.58
5:Q:247:ILE:HA	5:Q:296:MET:HA	1.86	0.58
2:Ah:317:GLU:OE2	2:Ah:321:ASN:ND2	2.36	0.58
5:P:8:ASP:OD1	5:P:11:ARG:NH2	2.34	0.58
5:i:29:GLU:HA	5:i:94:ARG:HH12	1.69	0.58
5:l:246:ALA:H	5:l:295:LYS:HZ2	1.52	0.58
1:AY:173:SER:HB2	1:AY:196:ASN:HA	1.85	0.58
5:M:188:ASN:OD1	5:M:188:ASN:N	2.37	0.58
5:i:6:PRO:HD2	5:i:9:LYS:HD2	1.85	0.58
2:Ah:453:ASP:OD1	2:Ah:453:ASP:N	2.35	0.58
5:j:169:THR:HG21	5:j:306:LEU:HD13	1.85	0.58
5:j:246:ALA:HB1	5:j:296:MET:HE3	1.85	0.58
3:Ao:107:GLY:N	3:Ao:154:ASP:OD1	2.37	0.57
5:l:202:TYR:OH	5:l:206:ARG:NH1	2.35	0.57
1:AJ:239:GLN:NE2	1:AJ:243:ASP:OD1	2.37	0.57
3:Ap:53:TYR:OH	3:Ap:55:GLU:OE1	2.19	0.57
2:Ah:335:MET:SD	2:Ah:335:MET:N	2.78	0.57
5:h:245:LEU:HD13	5:h:271:ARG:HG3	1.87	0.57
2:Ah:560:TYR:HE2	2:Ah:562:GLN:HE21	1.51	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:114:TYR:HA	4:D:256:PRO:HA	1.87	0.57
5:i:244:LEU:HA	5:i:295:LYS:HD2	1.87	0.57
4:D:153:LEU:HB2	4:D:222:ILE:HB	1.87	0.57
5:M:289:SER:O	5:M:294:ARG:NE	2.29	0.57
5:P:18:LEU:HD12	5:P:101:THR:HG23	1.86	0.57
5:P:25:LEU:HD21	5:P:97:LEU:HD22	1.85	0.57
5:j:292:ARG:NE	5:j:314:ARG:O	2.35	0.57
1:Aj:55:LEU:HD12	1:Aj:175:THR:HG22	1.86	0.56
5:Q:137:ASP:HA	5:Q:140:LYS:HD2	1.87	0.56
5:h:294:ARG:O	5:h:294:ARG:NH1	2.31	0.56
3:Ap:64:GLN:NE2	3:Ap:119:LEU:O	2.31	0.56
5:Q:253:ASP:HB3	5:Q:256:THR:HG22	1.88	0.56
5:h:278:ASN:OD1	5:h:278:ASN:N	2.38	0.56
3:Ao:393:ASP:O	3:Ao:397:GLU:N	2.38	0.56
2:Ah:94:LEU:HD12	2:Ah:384:PHE:HE1	1.71	0.56
2:Ah:608:THR:HB	2:Ah:619:PHE:CZ	2.41	0.56
3:Ap:118:LEU:H	3:Ap:121:ASN:HD21	1.53	0.56
3:Ap:162:ASP:OD2	3:Ap:165:GLN:N	2.38	0.56
4:D:84:GLU:OE1	4:D:85:GLN:N	2.37	0.56
5:h:7:ILE:O	5:h:11:ARG:HB2	2.06	0.56
3:Ap:224:ASN:HD21	3:Ap:258:ASN:HA	1.70	0.56
5:l:248:THR:OG1	5:l:297:LEU:O	2.22	0.56
5:j:227:LEU:HD11	5:k:160:HIS:HE1	1.70	0.56
5:l:12:ASP:HA	5:l:15:LYS:HD2	1.88	0.56
3:Ao:80:ARG:NE	3:Ao:176:ASP:OD2	2.39	0.56
3:Ap:119:LEU:HD21	3:Ap:139:ARG:HA	1.87	0.56
1:AY:251:ASN:HD21	1:AY:253:ASP:HB3	1.72	0.55
2:Ah:297:ASP:OD1	2:Ah:297:ASP:N	2.39	0.55
5:O:246:ALA:HA	5:O:272:TYR:HB2	1.87	0.55
5:h:6:PRO:HG2	5:h:9:LYS:HD2	1.87	0.55
1:Aj:52:CYS:SG	1:Aj:53:LEU:N	2.79	0.55
4:D:412:VAL:HB	5:Q:292:ARG:CZ	2.36	0.55
5:M:93:ARG:NH2	5:M:126:GLU:O	2.38	0.55
2:Ah:482:ALA:HB3	2:Ah:577:ILE:HD13	1.89	0.55
3:Ao:57:ILE:HD11	3:Ao:79:ARG:HB2	1.87	0.55
5:h:245:LEU:H	5:h:295:LYS:HZ1	1.54	0.55
5:j:35:LEU:O	5:j:39:LYS:HG2	2.06	0.55
5:N:293:ARG:HH12	5:N:295:LYS:HD2	1.71	0.55
4:D:73:PHE:HD2	4:D:126:ARG:HB2	1.72	0.55
5:M:251:CYS:HB2	5:M:257:GLU:HA	1.88	0.55
2:Ah:63:ASP:N	2:Ah:63:ASP:OD1	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:O:247:ILE:HB	5:O:297:LEU:H	1.72	0.55
5:Q:219:GLU:HA	5:Q:321:ILE:HG23	1.89	0.55
1:AJ:248:LEU:HB2	4:D:278:TYR:CZ	2.42	0.54
3:Ap:53:TYR:CD2	3:Ap:81:ILE:HD11	2.42	0.54
3:Ap:303:TYR:HE1	3:Ap:305:TYR:HB2	1.72	0.54
1:AY:239:GLN:NE2	1:AY:243:ASP:OD1	2.39	0.54
2:Ah:129:ASP:OD1	2:Ah:133:ASN:N	2.39	0.54
2:Ah:605:TRP:CD1	2:Ah:658:TYR:HH	2.24	0.54
5:O:25:LEU:HD21	5:O:97:LEU:HB3	1.89	0.54
5:h:7:ILE:O	5:h:11:ARG:CB	2.55	0.54
5:i:246:ALA:HA	5:i:272:TYR:HB2	1.88	0.54
5:i:292:ARG:H	5:i:315:ASN:HD22	1.56	0.54
1:AY:68:ASP:OD1	1:AY:68:ASP:N	2.40	0.54
3:Ao:224:ASN:HD21	3:Ao:258:ASN:HA	1.72	0.54
5:h:253:ASP:HB3	5:h:256:THR:HB	1.89	0.54
4:D:24:LEU:O	4:D:28:SER:OG	2.24	0.54
1:AJ:248:LEU:HD21	4:D:280:PRO:HD3	1.89	0.54
5:P:40:LEU:HD13	5:P:124:LEU:HD22	1.90	0.54
5:P:166:LEU:HD21	5:P:196:ALA:HB1	1.90	0.54
5:M:147:LEU:HA	5:M:150:LYS:HD2	1.88	0.54
5:j:147:LEU:HD12	5:j:150:LYS:HD2	1.88	0.54
5:k:6:PRO:HG2	5:k:9:LYS:HD2	1.90	0.54
2:Ah:260:GLN:HG3	2:Ah:331:VAL:HG11	1.90	0.54
2:Ah:578:TYR:O	2:Ah:586:ARG:NH1	2.41	0.54
4:D:453:ASN:OD1	4:D:453:ASN:N	2.40	0.54
5:Q:150:LYS:O	5:Q:157:ARG:NH1	2.40	0.54
1:AY:263:ASP:OD1	2:Ah:621:LYS:NZ	2.41	0.54
2:Ah:50:LEU:HB2	2:Ah:90:PHE:CZ	2.43	0.54
5:Q:206:ARG:O	5:Q:210:ASP:N	2.41	0.54
5:i:202:TYR:OH	5:i:206:ARG:NH1	2.41	0.54
5:j:273:SER:O	5:j:274:GLN:NE2	2.41	0.54
5:j:297:LEU:HA	5:j:318:PRO:HB2	1.89	0.54
3:Ao:296:LEU:HD11	3:Ao:335:LEU:HD23	1.89	0.53
3:Ap:50:GLU:HG2	3:Ap:85:PRO:HA	1.89	0.53
5:j:185:LEU:HB3	5:j:198:ILE:HD13	1.89	0.53
5:k:278:ASN:HB2	5:k:281:THR:HG22	1.90	0.53
5:l:253:ASP:O	5:l:257:GLU:HB3	2.08	0.53
3:Ao:141:THR:O	3:Ao:152:GLU:N	2.42	0.53
2:Ah:118:TYR:HA	2:Ah:136:PRO:HA	1.90	0.53
5:M:15:LYS:O	5:M:19:GLU:HG2	2.08	0.53
1:AJ:102:SER:OG	1:AJ:103:GLY:N	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AO:53:TYR:HE2	3:AO:55:GLU:HB2	1.73	0.53
3:AP:78:TYR:HD2	3:AP:172:LYS:HD2	1.72	0.53
5:N:132:ASN:HA	5:N:135:LEU:HG	1.90	0.53
5:I:35:LEU:O	5:I:39:LYS:HG2	2.09	0.53
3:AP:228:VAL:HB	3:AP:235:THR:HB	1.90	0.53
5:P:251:CYS:HB2	5:P:257:GLU:HA	1.91	0.53
5:I:248:THR:HB	5:I:250:ILE:HG13	1.91	0.53
5:M:261:LEU:HB2	5:M:262:PRO:HD3	1.91	0.53
3:AO:84:TYR:HE1	3:AO:111:LEU:HB3	1.74	0.53
5:N:278:ASN:N	5:N:281:THR:OG1	2.42	0.53
5:L:268:SER:O	5:L:270:ARG:NH2	2.42	0.53
3:AO:284:ARG:NH1	3:AO:395:VAL:O	2.42	0.52
5:L:204:MET:HE3	5:L:208:LEU:HD11	1.91	0.52
2:AH:326:THR:OG1	2:AH:334:GLN:OE1	2.27	0.52
2:AH:357:ASP:OD1	2:AH:357:ASP:N	2.42	0.52
4:D:236:LYS:NZ	4:D:237:ASN:O	2.40	0.52
5:P:179:TRP:HE3	5:P:202:TYR:HE2	1.58	0.52
5:Q:23:PHE:O	5:Q:27:ASN:ND2	2.37	0.52
5:L:170:TYR:OH	5:L:219:GLU:OE2	2.23	0.52
1:AJ:83:HIS:CA	4:D:89:TYR:CZ	2.93	0.52
2:AH:81:GLN:HE22	2:AH:508:ASN:HA	1.74	0.52
5:k:169:THR:HG21	5:k:306:LEU:HD13	1.91	0.52
5:k:245:LEU:HD13	5:k:271:ARG:HG3	1.91	0.52
1:AY:90:ARG:NH2	1:AY:230:THR:OG1	2.43	0.52
3:AO:87:LYS:O	3:AO:108:THR:OG1	2.27	0.52
1:AY:251:ASN:ND2	1:AY:253:ASP:HB3	2.25	0.52
5:L:298:THR:HB	5:L:319:THR:HA	1.90	0.52
5:P:251:CYS:HB3	5:P:260:PHE:CD2	2.45	0.52
5:Q:44:ASN:OD1	5:Q:120:TYR:OH	2.17	0.52
5:h:269:LEU:HB2	5:i:314:ARG:HD2	1.92	0.52
2:AH:174:THR:HG22	2:AH:180:GLN:HG2	1.92	0.52
4:D:78:LEU:HD11	4:D:119:ALA:HB1	1.92	0.52
4:D:410:THR:OG1	5:Q:292:ARG:NH1	2.42	0.52
5:L:218:ARG:HD2	5:L:236:PHE:HE1	1.75	0.52
3:AP:225:THR:OG1	3:AP:226:LEU:N	2.42	0.52
5:i:258:ASP:OD1	5:i:258:ASP:N	2.43	0.52
5:j:25:LEU:O	5:j:94:ARG:NH2	2.42	0.52
5:h:147:LEU:HA	5:h:150:LYS:HE3	1.90	0.51
5:h:226:ALA:HB2	5:h:263:LEU:HD13	1.91	0.51
5:h:251:CYS:HB2	5:h:257:GLU:HA	1.92	0.51
5:L:253:ASP:OD2	5:L:256:THR:N	2.34	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:Ap:124:LEU:HD23	3:Ap:132:ILE:HG21	1.92	0.51
4:D:200:THR:HG22	4:D:213:LEU:HA	1.92	0.51
2:Ah:107:GLY:HA3	2:Ah:183:TYR:CZ	2.46	0.51
3:Ao:168:GLU:O	3:Ao:172:LYS:NZ	2.44	0.51
5:h:173:THR:HG21	5:i:112:LEU:HD22	1.91	0.51
5:j:18:LEU:HD12	5:j:108:ILE:HD11	1.92	0.51
1:AY:66:ASN:OD1	1:AY:66:ASN:N	2.44	0.51
2:Ah:53:GLY:N	2:Ah:87:SER:O	2.38	0.51
5:M:178:THR:H	5:M:181:GLU:HB2	1.76	0.51
5:N:163:TYR:OH	5:N:305:ASN:ND2	2.44	0.51
5:M:246:ALA:HA	5:M:272:TYR:HB2	1.92	0.51
5:Q:173:THR:HB	5:h:112:LEU:HD13	1.92	0.51
5:k:6:PRO:HB2	5:k:9:LYS:HB2	1.92	0.51
1:AY:98:SER:HB3	1:AY:109:GLU:HG2	1.93	0.51
2:Ah:115:LEU:HD11	2:Ah:144:GLY:HA3	1.92	0.51
4:D:202:THR:HG22	4:D:211:VAL:HG11	1.93	0.51
5:l:32:SER:OG	5:l:33:VAL:N	2.44	0.51
5:l:301:ALA:HB1	5:l:324:LYS:HB2	1.92	0.51
1:AY:50:MET:HE1	1:AY:88:LEU:HD12	1.92	0.51
3:Ap:57:ILE:HD12	3:Ap:77:GLN:HB3	1.93	0.51
3:Ap:345:ASN:OD1	3:Ap:345:ASN:N	2.44	0.51
4:D:377:ARG:HH12	5:Q:314:ARG:HH22	1.58	0.51
5:O:293:ARG:HH12	5:O:295:LYS:HD2	1.76	0.51
5:Q:293:ARG:HH22	5:Q:295:LYS:HD2	1.76	0.51
2:Ah:100:THR:N	2:Ah:375:SER:OG	2.44	0.51
5:N:251:CYS:HB2	5:N:257:GLU:HA	1.92	0.51
5:N:293:ARG:HD3	5:h:261:LEU:HD12	1.93	0.51
5:P:100:LEU:HB2	5:P:123:LEU:HD13	1.91	0.51
5:Q:250:ILE:HG12	5:Q:277:LYS:HB2	1.92	0.51
2:Ah:120:ARG:NH1	2:Ah:124:GLY:O	2.41	0.50
5:h:298:THR:HB	5:h:319:THR:HA	1.92	0.50
5:k:247:ILE:HG13	5:k:274:GLN:HE22	1.76	0.50
3:Ao:303:TYR:HE1	3:Ao:305:TYR:HB2	1.76	0.50
3:Ap:164:LYS:O	3:Ap:164:LYS:NZ	2.37	0.50
5:M:17:LEU:HD13	5:M:43:ILE:HG22	1.92	0.50
5:N:245:LEU:HG	5:N:246:ALA:H	1.77	0.50
5:h:292:ARG:NE	5:h:314:ARG:O	2.43	0.50
2:Ah:564:TYR:HB2	2:Ah:570:PHE:HD1	1.77	0.50
3:Ao:344:THR:OG1	3:Ao:345:ASN:OD1	2.29	0.50
3:Ap:139:ARG:HH12	3:Ap:153:CYS:HA	1.75	0.50
5:Q:241:ASN:ND2	5:Q:241:ASN:O	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Q:265:GLY:HA2	5:h:289:SER:HA	1.93	0.50
2:Ah:121:ASN:ND2	2:Ah:125:SER:O	2.39	0.50
2:Ah:147:MET:HB2	2:Ah:353:VAL:HG22	1.92	0.50
5:O:43:ILE:HA	5:O:46:VAL:HG22	1.93	0.50
2:Ah:196:ALA:N	2:Ah:376:ASP:OD1	2.45	0.50
3:Ao:79:ARG:HH21	3:Ao:177:THR:HG21	1.77	0.50
3:Ao:344:THR:OG1	3:Ao:345:ASN:N	2.43	0.50
5:h:293:ARG:HH12	5:h:295:LYS:HB3	1.76	0.50
5:i:102:HIS:O	5:i:105:ILE:HG22	2.11	0.50
5:i:185:LEU:O	5:i:189:ALA:N	2.44	0.50
5:O:137:ASP:HA	5:O:140:LYS:HD2	1.94	0.50
5:Q:213:ASN:ND2	5:Q:313:VAL:O	2.28	0.50
5:h:220:VAL:O	5:h:323:ARG:N	2.33	0.50
5:l:248:THR:HG22	5:l:275:THR:HB	1.94	0.50
5:l:253:ASP:H	5:l:257:GLU:HB3	1.75	0.50
2:Ah:145:LEU:HD12	2:Ah:313:LEU:HD23	1.94	0.50
5:h:308:VAL:HA	5:h:311:TYR:HB2	1.92	0.50
5:l:137:ASP:N	5:l:137:ASP:OD1	2.44	0.50
5:O:93:ARG:NH2	5:O:126:GLU:O	2.45	0.50
5:P:252:ASP:HB2	5:P:279:SER:HB3	1.93	0.50
5:k:260:PHE:HE2	5:k:299:VAL:HG11	1.76	0.50
5:l:93:ARG:NH2	5:l:126:GLU:OE1	2.45	0.50
5:M:100:LEU:HD12	5:M:123:LEU:HD13	1.94	0.49
5:l:107:SER:OG	5:l:116:TRP:NE1	2.41	0.49
5:M:168:PRO:HB2	5:M:303:LYS:HB3	1.93	0.49
5:P:222:LEU:HA	5:P:322:PHE:HB3	1.94	0.49
5:Q:97:LEU:HD21	5:Q:126:GLU:HB3	1.93	0.49
5:M:293:ARG:HH22	5:M:295:LYS:HD2	1.77	0.49
5:i:31:PRO:HG3	5:i:130:TRP:HH2	1.76	0.49
5:i:170:TYR:HB2	5:i:303:LYS:HG2	1.94	0.49
5:l:255:LEU:O	5:l:259:LEU:N	2.43	0.49
3:Ao:112:PRO:HB2	3:Ao:114:VAL:HG23	1.95	0.49
4:D:456:ASP:HA	4:D:469:TRP:HZ3	1.76	0.49
5:O:8:ASP:OD1	5:O:11:ARG:NH2	2.38	0.49
3:Ao:345:ASN:OD1	3:Ao:345:ASN:N	2.45	0.49
3:Ap:371:TYR:O	3:Ap:378:TYR:OH	2.28	0.49
5:N:170:TYR:CZ	5:N:303:LYS:HG3	2.48	0.49
5:Q:278:ASN:N	5:Q:281:THR:OG1	2.42	0.49
5:O:31:PRO:HB3	5:O:130:TRP:HH2	1.78	0.49
1:AY:141:ILE:HG23	1:AY:145:LEU:HD12	1.95	0.49
5:N:261:LEU:HB2	5:N:262:PRO:HD3	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:O:245:LEU:HG	5:O:246:ALA:H	1.77	0.49
5:j:202:TYR:OH	5:j:206:ARG:NH1	2.45	0.49
1:AY:145:LEU:HA	1:AY:172:ARG:HH21	1.78	0.49
3:Ap:79:ARG:HH12	3:Ap:81:ILE:HG12	1.78	0.49
5:N:259:LEU:O	5:N:263:LEU:HG	2.13	0.49
5:h:112:LEU:O	5:h:113:SER:OG	2.31	0.49
5:k:246:ALA:HA	5:k:272:TYR:HB2	1.94	0.49
5:j:226:ALA:HA	5:j:229:ILE:HD12	1.95	0.49
5:l:11:ARG:HG2	5:l:15:LYS:HE3	1.95	0.49
3:Ap:393:ASP:O	3:Ap:397:GLU:N	2.46	0.49
5:M:295:LYS:C	5:M:318:PRO:HG2	2.38	0.49
5:Q:247:ILE:O	5:Q:274:GLN:HA	2.13	0.49
1:Aj:249:LYS:HE3	4:D:278:TYR:CE2	2.48	0.48
2:Ah:590:ASN:OD1	2:Ah:590:ASN:N	2.46	0.48
4:D:268:HIS:NE2	4:D:424:ARG:HG2	2.28	0.48
5:N:293:ARG:HH11	5:N:293:ARG:HA	1.78	0.48
5:O:251:CYS:HB2	5:O:257:GLU:HA	1.95	0.48
3:Ao:228:VAL:HB	3:Ao:235:THR:HB	1.96	0.48
5:P:297:LEU:HD11	5:P:320:LEU:HD12	1.96	0.48
5:h:173:THR:HB	5:i:112:LEU:HD13	1.95	0.48
5:i:252:ASP:HB3	5:i:279:SER:HB3	1.95	0.48
5:M:91:ASP:OD2	5:M:94:ARG:N	2.44	0.48
5:M:247:ILE:HA	5:M:296:MET:HA	1.96	0.48
5:h:185:LEU:O	5:h:189:ALA:N	2.46	0.48
5:h:306:LEU:HA	5:h:309:LEU:HD23	1.95	0.48
2:Ah:113:ASP:HB3	2:Ah:146:LYS:HE3	1.94	0.48
5:M:265:GLY:HA2	5:N:291:PRO:HB3	1.95	0.48
5:O:297:LEU:HD11	5:O:320:LEU:HD12	1.96	0.48
5:P:253:ASP:HB3	5:P:256:THR:HG22	1.95	0.48
5:N:110:TYR:O	5:N:113:SER:OG	2.31	0.48
5:P:188:ASN:N	5:P:188:ASN:OD1	2.46	0.48
5:j:6:PRO:HD2	5:j:9:LYS:HD2	1.93	0.48
5:j:120:TYR:CZ	5:j:124:LEU:HD11	2.48	0.48
1:Aj:101:VAL:HB	1:Aj:106:GLU:HB2	1.96	0.48
1:Aj:249:LYS:HG3	4:D:3:LYS:O	2.13	0.48
1:AY:58:PRO:HD3	1:AY:174:ALA:HB2	1.94	0.48
3:Ao:278:TRP:HD1	3:Ao:286:ASP:HB2	1.79	0.48
5:j:170:TYR:HB2	5:j:303:LYS:HG2	1.94	0.48
4:D:5:ASP:OD1	4:D:6:ARG:N	2.47	0.48
4:D:127:PHE:HB3	4:D:243:TYR:CE1	2.49	0.48
3:Ao:162:ASP:N	3:Ao:165:GLN:OE1	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:127:PHE:HB3	4:D:243:TYR:HE1	1.77	0.48
5:M:295:LYS:HB2	5:M:295:LYS:HE3	1.63	0.48
5:Q:191:THR:OG1	5:Q:194:ASP:OD1	2.21	0.48
3:Ao:169:LEU:HD12	3:Ao:172:LYS:HG3	1.96	0.48
5:P:317:LEU:HB3	5:P:318:PRO:HD3	1.95	0.48
5:i:8:ASP:HA	5:i:11:ARG:HH21	1.79	0.48
3:Ap:344:THR:OG1	3:Ap:345:ASN:N	2.47	0.48
5:M:127:TYR:OH	5:M:131:ARG:NH1	2.40	0.48
5:h:168:PRO:HB2	5:h:303:LYS:HB3	1.95	0.48
5:j:102:HIS:O	5:j:105:ILE:HG22	2.13	0.48
5:k:260:PHE:HD1	5:k:263:LEU:HD12	1.78	0.48
5:M:185:LEU:HB3	5:M:198:ILE:HD13	1.95	0.47
5:M:279:SER:HA	5:M:282:MET:HB2	1.95	0.47
5:Q:240:TRP:CD2	5:Q:317:LEU:HD11	2.49	0.47
5:Q:261:LEU:HB2	5:Q:262:PRO:HD3	1.96	0.47
5:h:292:ARG:HG2	5:h:315:ASN:HA	1.96	0.47
5:l:117:THR:O	5:l:121:THR:OG1	2.29	0.47
2:Ah:114:LYS:HA	2:Ah:143:ASP:HA	1.96	0.47
2:Ah:5:ASN:HB2	2:Ah:9:ARG:HH22	1.78	0.47
5:O:261:LEU:HB2	5:O:262:PRO:HD3	1.95	0.47
5:P:155:VAL:O	5:P:159:ILE:HG12	2.14	0.47
5:h:248:THR:HB	5:h:250:ILE:HG13	1.96	0.47
5:k:247:ILE:HA	5:k:296:MET:HA	1.96	0.47
1:AY:113:ASP:OD1	1:AY:114:VAL:N	2.48	0.47
5:O:221:PRO:HB2	5:O:325:LYS:HE3	1.96	0.47
5:h:128:GLU:HG2	5:h:131:ARG:HH21	1.79	0.47
5:k:219:GLU:HG2	5:k:323:ARG:HB2	1.97	0.47
5:l:170:TYR:HB2	5:l:303:LYS:HG2	1.96	0.47
2:Ah:283:GLU:HB3	2:Ah:294:ALA:HB2	1.97	0.47
3:Ao:118:LEU:O	3:Ao:121:ASN:ND2	2.48	0.47
5:l:249:TYR:N	5:l:275:THR:O	2.37	0.47
1:AJ:64:LEU:HB3	1:AJ:70:GLN:HE22	1.79	0.47
1:AJ:197:MET:HB3	1:AJ:224:PHE:CD2	2.49	0.47
1:AY:62:ASN:OD1	1:AY:62:ASN:N	2.48	0.47
4:D:136:TRP:O	4:D:140:MET:HG2	2.14	0.47
5:P:206:ARG:O	5:P:210:ASP:N	2.48	0.47
5:h:202:TYR:OH	5:h:206:ARG:NH1	2.48	0.47
5:N:25:LEU:HD21	5:N:97:LEU:HD22	1.96	0.47
5:Q:188:ASN:OD1	5:Q:188:ASN:N	2.45	0.47
5:Q:221:PRO:HB2	5:Q:325:LYS:HE3	1.96	0.47
5:i:178:THR:H	5:i:181:GLU:HB2	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:l:258:ASP:HA	5:l:261:LEU:HG	1.96	0.47
3:Ao:77:GLN:HA	3:Ao:174:VAL:HG23	1.95	0.47
3:Ao:225:THR:OG1	3:Ao:226:LEU:N	2.48	0.47
5:O:28:ALA:HB3	5:O:94:ARG:CZ	2.45	0.47
5:i:278:ASN:HB2	5:i:281:THR:HG22	1.96	0.47
5:l:11:ARG:O	5:l:15:LYS:HG3	2.15	0.47
3:Ap:79:ARG:NH2	3:Ap:175:GLU:O	2.48	0.47
5:N:253:ASP:HB3	5:N:256:THR:HG22	1.97	0.47
5:Q:245:LEU:HG	5:Q:246:ALA:H	1.79	0.47
5:j:229:ILE:HD13	5:j:322:PHE:HZ	1.80	0.47
3:Ao:219:TYR:HA	3:Ao:226:LEU:HD12	1.98	0.46
5:j:246:ALA:HB3	5:j:295:LYS:HE3	1.97	0.46
1:AJ:59:ARG:HB3	1:AJ:171:TYR:HA	1.96	0.46
3:Ap:344:THR:OG1	3:Ap:345:ASN:OD1	2.32	0.46
4:D:378:GLU:OE1	4:D:451:TYR:OH	2.33	0.46
5:O:292:ARG:H	5:O:294:ARG:NH1	2.12	0.46
5:Q:256:THR:HA	5:Q:259:LEU:HB3	1.97	0.46
1:AJ:126:TYR:OH	4:D:85:GLN:NE2	2.44	0.46
2:Ah:224:ILE:HD11	2:Ah:266:PRO:HD3	1.97	0.46
2:Ah:529:ASN:O	2:Ah:529:ASN:ND2	2.48	0.46
3:Ao:376:ALA:O	3:Ao:380:ASN:N	2.48	0.46
5:P:217:VAL:HG22	5:P:319:THR:HB	1.98	0.46
3:Ap:76:GLN:HE21	3:Ap:76:GLN:HB3	1.53	0.46
4:D:129:ASP:OD1	4:D:129:ASP:N	2.48	0.46
5:M:270:ARG:O	5:h:278:ASN:ND2	2.37	0.46
5:O:29:GLU:O	5:O:30:HIS:ND1	2.47	0.46
5:O:278:ASN:N	5:O:281:THR:OG1	2.45	0.46
5:h:194:ASP:OD1	5:h:194:ASP:N	2.48	0.46
5:j:185:LEU:O	5:j:189:ALA:N	2.48	0.46
5:k:297:LEU:HA	5:k:318:PRO:HB2	1.96	0.46
3:Ap:241:VAL:O	3:Ap:245:THR:OG1	2.28	0.46
3:Ap:267:ASN:OD1	3:Ap:267:ASN:N	2.43	0.46
4:D:414:ASP:H	5:Q:292:ARG:HH12	1.64	0.46
4:D:414:ASP:N	5:Q:292:ARG:HH12	2.14	0.46
5:l:135:LEU:HD12	5:l:140:LYS:HE2	1.97	0.46
5:M:275:THR:HG23	5:h:274:GLN:H	1.81	0.46
5:P:110:TYR:O	5:P:113:SER:OG	2.32	0.46
5:i:100:LEU:HD13	5:i:123:LEU:HD22	1.97	0.46
2:Ah:128:LYS:HB3	2:Ah:132:GLY:HA2	1.98	0.46
5:N:91:ASP:OD2	5:N:94:ARG:N	2.44	0.46
5:Q:209:LEU:HD21	5:h:7:ILE:H	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Q:267:ALA:HB3	5:h:291:PRO:HG2	1.97	0.46
5:h:233:ILE:HA	5:h:236:PHE:HD2	1.81	0.46
2:Ah:615:ASP:HB3	2:Ah:618:LEU:HB2	1.97	0.46
3:Ap:53:TYR:HE2	3:Ap:55:GLU:HB2	1.81	0.46
4:D:7:LYS:HG2	4:D:258:HIS:CD2	2.51	0.46
5:P:240:TRP:CZ2	5:P:317:LEU:HD11	2.51	0.46
5:i:244:LEU:HD22	5:i:295:LYS:HB2	1.97	0.46
1:Aj:140:TRP:CD1	1:Aj:144:LEU:HD12	2.51	0.46
1:Aj:232:TYR:HD1	1:Aj:235:ARG:HE	1.63	0.46
3:Ap:53:TYR:HD2	3:Ap:81:ILE:HD11	1.79	0.46
3:Ap:296:LEU:HD11	3:Ap:335:LEU:HD23	1.97	0.46
5:M:275:THR:HG21	5:h:273:SER:HB3	1.98	0.46
5:Q:295:LYS:C	5:Q:318:PRO:HG2	2.41	0.46
1:AY:58:PRO:HD2	1:AY:61:PHE:CE2	2.51	0.46
2:Ah:608:THR:HB	2:Ah:619:PHE:HZ	1.79	0.46
3:Ao:161:LEU:HD23	3:Ao:161:LEU:HA	1.79	0.46
3:Ao:223:LEU:H	3:Ao:223:LEU:HD22	1.81	0.46
3:Ao:356:TYR:H	3:Ao:361:LEU:HD21	1.81	0.46
5:M:293:ARG:NH2	5:M:295:LYS:HD2	2.31	0.46
5:O:91:ASP:OD2	5:O:94:ARG:N	2.49	0.46
5:Q:145:VAL:O	5:Q:149:THR:HG23	2.16	0.46
5:h:219:GLU:HG3	5:h:321:ILE:HG23	1.98	0.46
2:Ah:237:LYS:HB2	2:Ah:241:THR:HG21	1.98	0.45
3:Ap:135:TYR:CZ	3:Ap:157:PHE:HB2	2.50	0.45
4:D:183:GLY:O	5:l:157:ARG:NH2	2.49	0.45
5:N:206:ARG:O	5:N:210:ASP:N	2.49	0.45
5:O:275:THR:OG1	5:j:275:THR:OG1	2.23	0.45
5:P:222:LEU:N	5:P:323:ARG:O	2.49	0.45
5:j:306:LEU:HA	5:j:309:LEU:HD23	1.98	0.45
5:l:202:TYR:O	5:l:206:ARG:HG2	2.16	0.45
1:AY:176:MET:HB2	1:AY:197:MET:HE1	1.98	0.45
3:Ao:134:VAL:HG21	3:Ao:161:LEU:HD12	1.98	0.45
5:M:130:TRP:O	5:M:134:ILE:HG12	2.16	0.45
5:j:298:THR:HB	5:j:319:THR:HA	1.97	0.45
5:k:246:ALA:HB3	5:k:295:LYS:HE3	1.98	0.45
3:Ao:267:ASN:ND2	3:Ao:269:GLU:OE1	2.49	0.45
3:Ao:400:ILE:HD11	3:Ao:430:LEU:HD22	1.97	0.45
4:D:480:LEU:O	4:D:484:ILE:HG13	2.16	0.45
5:Q:226:ALA:HA	5:Q:229:ILE:HD12	1.99	0.45
5:Q:236:PHE:HD1	5:Q:236:PHE:HA	1.69	0.45
5:h:169:THR:HG21	5:h:306:LEU:HD13	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:h:202:TYR:O	5:h:206:ARG:HG2	2.16	0.45
5:h:209:LEU:HD21	5:i:7:ILE:HG12	1.98	0.45
3:Ap:144:ASN:OD1	3:Ap:144:ASN:N	2.50	0.45
5:N:31:PRO:HB3	5:N:130:TRP:HH2	1.81	0.45
5:N:290:LEU:HD12	5:N:296:MET:HE3	1.97	0.45
5:Q:147:LEU:HD21	5:Q:161:ASP:HB3	1.97	0.45
5:j:146:ALA:O	5:j:149:THR:OG1	2.33	0.45
4:D:377:ARG:HH22	5:Q:314:ARG:NH2	2.15	0.45
5:P:248:THR:HG23	5:P:275:THR:HB	1.98	0.45
5:h:247:ILE:HG13	5:h:274:GLN:HE22	1.80	0.45
5:i:293:ARG:HH22	5:i:295:LYS:HD3	1.81	0.45
3:Ap:82:ARG:HB2	3:Ap:83:HIS:CD2	2.51	0.45
5:O:130:TRP:O	5:O:134:ILE:HG12	2.16	0.45
5:h:93:ARG:HH22	5:h:129:LEU:HB3	1.82	0.45
5:i:204:MET:HE3	5:i:208:LEU:HD11	1.98	0.45
5:j:22:TYR:CE1	5:j:102:HIS:HB2	2.51	0.45
5:k:185:LEU:O	5:k:189:ALA:N	2.50	0.45
1:AJ:113:ASP:OD1	1:AJ:114:VAL:N	2.49	0.45
5:N:17:LEU:HD13	5:N:43:ILE:HG22	1.97	0.45
5:P:130:TRP:O	5:P:134:ILE:HG12	2.16	0.45
5:i:120:TYR:CZ	5:i:124:LEU:HD11	2.52	0.45
5:j:168:PRO:HB2	5:j:303:LYS:HB3	1.99	0.45
3:Ap:139:ARG:NH1	3:Ap:153:CYS:HA	2.32	0.45
4:D:182:TYR:OH	4:D:424:ARG:NH1	2.50	0.45
4:D:410:THR:HG1	5:Q:292:ARG:HH12	1.64	0.45
5:M:22:TYR:CE2	5:M:102:HIS:HB2	2.52	0.45
5:P:36:PHE:O	5:P:40:LEU:HG	2.16	0.45
5:h:136:THR:OG1	5:h:139:GLU:HB3	2.16	0.45
5:l:253:ASP:H	5:l:257:GLU:CB	2.30	0.45
2:Ah:644:ARG:NH1	4:D:336:LEU:HD21	2.32	0.45
5:l:180:GLU:CD	5:l:180:GLU:H	2.24	0.45
1:AY:170:ASP:OD1	1:AY:170:ASP:N	2.47	0.45
3:Ao:53:TYR:HB3	3:Ao:81:ILE:HB	1.99	0.45
3:Ao:281:ASP:HB3	3:Ao:283:ARG:HG3	1.99	0.45
3:Ap:199:ARG:NH2	3:Ap:437:GLU:O	2.47	0.45
4:D:161:ILE:HD11	4:D:213:LEU:HB3	1.98	0.45
5:Q:93:ARG:NH1	5:Q:133:GLN:OE1	2.50	0.45
5:h:22:TYR:CE1	5:h:102:HIS:HB2	2.52	0.45
5:h:159:ILE:HG13	5:h:310:TYR:CD2	2.52	0.45
5:i:40:LEU:HD11	5:i:124:LEU:HD21	1.98	0.45
2:Ah:21:THR:OG1	2:Ah:22:ASP:N	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Ah:111:VAL:HG12	2:Ah:146:LYS:HB2	2.00	0.44
5:P:247:ILE:O	5:P:274:GLN:HA	2.17	0.44
5:h:248:THR:HG23	5:h:296:MET:HB3	1.99	0.44
5:l:270:ARG:HD3	5:l:270:ARG:HA	1.90	0.44
3:Ao:84:TYR:CE1	3:Ao:111:LEU:HB3	2.51	0.44
3:Ao:274:SER:H	3:Ao:277:GLU:CD	2.24	0.44
5:N:221:PRO:HB2	5:N:325:LYS:HE2	1.99	0.44
5:P:151:THR:HA	5:P:157:ARG:HD2	1.99	0.44
2:Ah:115:LEU:N	2:Ah:142:VAL:O	2.42	0.44
2:Ah:565:ASN:OD1	2:Ah:568:SER:N	2.51	0.44
3:Ao:377:PHE:CD1	3:Ao:388:GLU:HB3	2.53	0.44
4:D:127:PHE:CG	4:D:133:ALA:HB2	2.52	0.44
4:D:145:THR:O	4:D:147:GLN:NE2	2.50	0.44
4:D:377:ARG:NH1	5:Q:314:ARG:HH12	2.15	0.44
4:D:413:GLY:C	5:Q:292:ARG:HH22	2.25	0.44
5:M:259:LEU:O	5:M:263:LEU:HG	2.18	0.44
5:N:222:LEU:HA	5:N:322:PHE:HB3	1.99	0.44
5:N:294:ARG:O	5:N:316:GLY:HA2	2.17	0.44
5:Q:278:ASN:O	5:Q:282:MET:N	2.50	0.44
5:h:249:TYR:HD1	5:h:249:TYR:HA	1.74	0.44
5:h:233:ILE:O	5:h:237:LEU:HG	2.17	0.44
5:i:172:GLU:HB3	5:i:174:LYS:NZ	2.32	0.44
5:l:305:ASN:ND2	5:l:307:LEU:HB3	2.27	0.44
2:Ah:105:ARG:HH12	2:Ah:161:ASN:HB2	1.82	0.44
4:D:101:PHE:CE1	4:D:193:GLY:HA3	2.53	0.44
5:M:120:TYR:O	5:M:124:LEU:HG	2.17	0.44
5:M:293:ARG:HA	5:M:293:ARG:NH1	2.32	0.44
5:h:273:SER:O	5:h:274:GLN:NE2	2.51	0.44
5:i:168:PRO:HB2	5:i:303:LYS:HB3	1.98	0.44
5:j:292:ARG:N	5:j:315:ASN:HD22	2.16	0.44
2:Ah:248:THR:HG22	2:Ah:282:TYR:CZ	2.52	0.44
2:Ah:380:ASN:ND2	2:Ah:383:THR:OG1	2.50	0.44
2:Ah:549:VAL:HG13	2:Ah:552:ARG:HH21	1.82	0.44
3:Ap:60:ARG:HE	3:Ap:60:ARG:HB3	1.64	0.44
4:D:235:GLU:OE1	4:D:235:GLU:N	2.50	0.44
4:D:301:ASP:OD1	4:D:301:ASP:N	2.50	0.44
5:N:233:ILE:O	5:N:237:LEU:HG	2.18	0.44
5:N:247:ILE:HA	5:N:296:MET:HA	1.99	0.44
5:k:102:HIS:O	5:k:105:ILE:HG22	2.17	0.44
5:M:247:ILE:O	5:M:274:GLN:HA	2.18	0.44
5:N:22:TYR:HE2	5:N:102:HIS:HB2	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:N:293:ARG:NH1	5:N:295:LYS:HD2	2.32	0.44
5:h:93:ARG:NH1	5:h:133:GLN:OE1	2.51	0.44
5:i:25:LEU:O	5:i:94:ARG:NH2	2.34	0.44
5:i:40:LEU:HD13	5:i:40:LEU:HA	1.67	0.44
2:Ah:354:LEU:HB3	2:Ah:358:GLN:HB2	1.99	0.44
4:D:100:VAL:HG13	4:D:112:PRO:HD3	2.00	0.44
5:Q:136:THR:HG23	5:Q:139:GLU:H	1.83	0.44
5:Q:317:LEU:HB3	5:Q:318:PRO:HD3	1.98	0.44
5:h:102:HIS:O	5:h:105:ILE:HG22	2.18	0.44
5:i:136:THR:OG1	5:i:139:GLU:HB3	2.17	0.44
5:j:145:VAL:HG13	5:j:186:MET:HG2	2.00	0.44
5:l:191:THR:OG1	5:l:194:ASP:OD1	2.25	0.44
5:l:289:SER:OG	5:l:290:LEU:N	2.51	0.44
2:Ah:102:ALA:HB3	2:Ah:191:VAL:HG21	1.99	0.43
2:Ah:604:LEU:HD22	2:Ah:627:PHE:HB2	1.99	0.43
4:D:130:GLN:HA	4:D:243:TYR:OH	2.18	0.43
4:D:363:ALA:HA	4:D:368:PHE:CD2	2.53	0.43
5:N:269:LEU:H	5:j:314:ARG:NH1	2.15	0.43
5:j:248:THR:OG1	5:j:297:LEU:O	2.30	0.43
5:l:259:LEU:O	5:l:262:PRO:HD2	2.18	0.43
2:Ah:461:MET:HE3	2:Ah:461:MET:HB3	1.89	0.43
3:Ap:269:GLU:OE1	3:Ap:269:GLU:N	2.51	0.43
4:D:271:ILE:HD13	4:D:272:LEU:N	2.33	0.43
5:M:314:ARG:HB3	5:M:315:ASN:HD22	1.83	0.43
5:P:261:LEU:HB2	5:P:262:PRO:HD3	2.00	0.43
5:i:247:ILE:HA	5:i:296:MET:HA	2.00	0.43
1:AY:100:PRO:HA	1:AY:107:ILE:HG22	1.99	0.43
3:Ap:73:ILE:N	4:D:212:LYS:HZ1	2.15	0.43
5:M:40:LEU:HD23	5:M:43:ILE:HD11	2.00	0.43
5:P:93:ARG:NH2	5:P:126:GLU:OE1	2.40	0.43
5:Q:180:GLU:CD	5:Q:180:GLU:H	2.24	0.43
5:l:145:VAL:HG13	5:l:186:MET:SD	2.59	0.43
3:Ao:196:LYS:H	3:Ao:196:LYS:HG3	1.46	0.43
3:Ap:56:GLN:HE21	3:Ap:78:TYR:HE1	1.66	0.43
5:M:194:ASP:N	5:M:194:ASP:OD1	2.49	0.43
5:N:171:TYR:CG	5:N:219:GLU:HG3	2.53	0.43
5:O:247:ILE:HG22	5:O:296:MET:HA	2.01	0.43
5:M:245:LEU:HD12	5:M:245:LEU:HA	1.92	0.43
5:O:297:LEU:HD12	5:O:297:LEU:HA	1.90	0.43
5:P:168:PRO:HG3	5:P:305:ASN:HD22	1.83	0.43
5:h:191:THR:OG1	5:h:194:ASP:OD1	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AY:140:TRP:CD1	1:AY:140:TRP:C	2.97	0.43
2:Ah:491:SER:OG	2:Ah:492:ILE:N	2.50	0.43
5:N:22:TYR:CE2	5:N:102:HIS:HB2	2.54	0.43
5:O:295:LYS:HA	5:O:318:PRO:HG2	2.01	0.43
5:Q:14:VAL:O	5:Q:18:LEU:HG	2.19	0.43
5:Q:290:LEU:HB3	5:Q:293:ARG:C	2.44	0.43
5:k:151:THR:O	5:k:157:ARG:HD2	2.19	0.43
2:Ah:193:TRP:HD1	2:Ah:194:ARG:O	2.01	0.43
3:Ao:347:LEU:HD23	3:Ao:347:LEU:H	1.82	0.43
3:Ap:141:THR:OG1	3:Ap:152:GLU:OE1	2.37	0.43
3:Ap:291:THR:HG21	3:Ap:322:PRO:HB3	2.00	0.43
4:D:133:ALA:HB3	4:D:243:TYR:OH	2.18	0.43
4:D:208:GLY:HA2	4:D:211:VAL:HB	2.00	0.43
5:Q:25:LEU:O	5:Q:94:ARG:NH2	2.49	0.43
2:Ah:434:PRO:HA	2:Ah:481:ARG:HH12	1.83	0.43
3:Ao:109:CYS:C	3:Ao:111:LEU:H	2.25	0.43
1:AJ:77:LEU:HA	1:AJ:81:VAL:HB	2.00	0.43
3:Ao:165:GLN:H	3:Ao:165:GLN:NE2	2.17	0.43
3:Ap:218:PHE:HB2	3:Ap:226:LEU:HD11	2.00	0.43
1:AJ:52:CYS:SG	1:AJ:176:MET:HB3	2.59	0.43
1:AY:133:VAL:O	1:AY:137:LEU:HG	2.19	0.43
5:M:222:LEU:N	5:M:323:ARG:O	2.52	0.43
5:N:222:LEU:HG	5:N:322:PHE:HB3	2.01	0.43
5:j:137:ASP:OD1	5:j:137:ASP:N	2.51	0.43
5:k:146:ALA:O	5:k:149:THR:OG1	2.34	0.43
1:AY:140:TRP:CD1	1:AY:144:LEU:HD12	2.53	0.42
3:Ap:63:GLU:HB2	4:D:17:ARG:NE	2.34	0.42
4:D:281:SER:OG	4:D:282:LEU:N	2.52	0.42
4:D:348:ILE:H	4:D:348:ILE:HG13	1.67	0.42
5:Q:116:TRP:HA	5:Q:119:LYS:HD2	2.01	0.42
5:Q:264:LEU:C	5:Q:266:GLU:H	2.26	0.42
5:k:35:LEU:O	5:k:39:LYS:HG2	2.19	0.42
1:AY:32:TYR:CD2	1:AY:33:ILE:HG23	2.54	0.42
3:Ap:59:GLY:H	3:Ap:62:ASP:CG	2.26	0.42
3:Ap:267:ASN:ND2	3:Ap:269:GLU:OE1	2.53	0.42
5:Q:96:ARG:O	5:Q:100:LEU:HG	2.18	0.42
5:Q:298:THR:HB	5:Q:319:THR:HA	1.99	0.42
3:Ap:223:LEU:H	3:Ap:223:LEU:HD22	1.83	0.42
5:N:137:ASP:HA	5:N:140:LYS:HD2	2.00	0.42
5:Q:248:THR:HG22	5:Q:250:ILE:HG13	2.00	0.42
5:h:227:LEU:HG	5:i:160:HIS:HE1	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:i:202:TYR:O	5:i:206:ARG:HG2	2.19	0.42
2:Ah:51:LEU:HD22	2:Ah:290:THR:HG23	2.01	0.42
2:Ah:81:GLN:NE2	2:Ah:508:ASN:OD1	2.52	0.42
3:Ao:79:ARG:HG3	3:Ao:175:GLU:HG3	2.02	0.42
3:Ap:55:GLU:HA	3:Ap:121:ASN:OD1	2.19	0.42
5:M:14:VAL:HA	5:M:17:LEU:HD12	2.00	0.42
5:N:317:LEU:HB3	5:N:318:PRO:HD3	2.02	0.42
5:k:120:TYR:CZ	5:k:124:LEU:HD11	2.55	0.42
1:Aj:58:PRO:HD2	1:Aj:61:PHE:CE2	2.55	0.42
3:Ap:52:ASP:OD1	3:Ap:124:LEU:N	2.44	0.42
5:O:259:LEU:O	5:O:262:PRO:HD2	2.20	0.42
5:Q:259:LEU:O	5:Q:262:PRO:HD2	2.19	0.42
5:j:219:GLU:HG2	5:j:323:ARG:HB2	2.01	0.42
1:Aj:87:GLY:HA3	1:Aj:120:ASN:O	2.19	0.42
1:AY:118:ARG:HG2	1:AY:119:SER:H	1.84	0.42
2:Ah:219:ASP:OD1	2:Ah:219:ASP:N	2.52	0.42
3:Ap:367:ASP:N	3:Ap:367:ASP:OD1	2.51	0.42
4:D:17:ARG:HB3	4:D:18:PRO:HD3	2.02	0.42
4:D:164:GLN:OE1	4:D:164:GLN:N	2.35	0.42
5:i:178:THR:O	5:i:182:ALA:N	2.38	0.42
5:k:273:SER:O	5:k:274:GLN:NE2	2.52	0.42
1:Aj:170:ASP:N	1:Aj:170:ASP:OD1	2.53	0.42
2:Ah:628:LEU:O	2:Ah:632:THR:OG1	2.37	0.42
3:Ap:352:THR:HB	3:Ap:414:LEU:HD11	2.01	0.42
4:D:320:TYR:HD1	4:D:320:TYR:HA	1.65	0.42
5:P:159:ILE:HD12	5:P:306:LEU:HB3	2.02	0.42
5:Q:154:ASP:HB3	5:Q:157:ARG:HD2	2.01	0.42
5:h:93:ARG:HB2	5:h:130:TRP:HD1	1.84	0.42
5:h:159:ILE:HG13	5:h:310:TYR:HD2	1.83	0.42
5:k:151:THR:HG21	5:k:162:PHE:HE2	1.84	0.42
1:Aj:89:GLN:NE2	1:Aj:118:ARG:O	2.52	0.42
1:AY:52:CYS:SG	1:AY:53:LEU:N	2.92	0.42
3:Ap:61:ASP:OD1	3:Ap:61:ASP:N	2.46	0.42
3:Ap:110:ILE:HD13	3:Ap:110:ILE:HA	1.88	0.42
5:O:92:PRO:O	5:O:96:ARG:HG3	2.19	0.42
5:P:245:LEU:HG	5:P:246:ALA:H	1.84	0.42
5:h:120:TYR:CZ	5:h:124:LEU:HD11	2.55	0.42
1:AY:210:ASN:ND2	1:AY:213:ASP:HB2	2.35	0.42
2:Ah:7:THR:HB	2:Ah:9:ARG:HH12	1.84	0.42
3:Ap:79:ARG:CZ	3:Ap:81:ILE:HG23	2.49	0.42
3:Ap:82:ARG:HH21	3:Ap:176:ASP:C	2.27	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:h:35:LEU:O	5:h:39:LYS:HG2	2.20	0.42
5:j:40:LEU:HA	5:j:40:LEU:HD13	1.78	0.42
5:l:7:ILE:O	5:l:10:THR:OG1	2.37	0.42
5:l:40:LEU:HD13	5:l:40:LEU:HA	1.73	0.42
5:l:250:ILE:HD12	5:l:298:THR:HG23	2.01	0.42
1:Aj:50:MET:HE2	1:Aj:50:MET:HB2	1.84	0.42
3:Ap:73:ILE:HG22	4:D:212:LYS:NZ	2.34	0.42
4:D:386:HIS:C	4:D:388:GLN:H	2.27	0.42
5:M:20:ARG:H	5:M:20:ARG:HG3	1.54	0.42
5:P:153:GLY:O	5:P:206:ARG:NH1	2.53	0.42
5:h:40:LEU:HD13	5:h:40:LEU:HA	1.91	0.42
5:i:305:ASN:ND2	5:i:307:LEU:HB3	2.35	0.42
5:l:254:ILE:H	5:l:254:ILE:HG13	1.53	0.42
3:Ao:230:GLY:O	3:Ao:231:GLN:NE2	2.53	0.41
5:M:260:PHE:HD1	5:M:263:LEU:HD12	1.85	0.41
5:N:297:LEU:HD12	5:N:297:LEU:HA	1.88	0.41
5:P:171:TYR:CD1	5:P:219:GLU:HG3	2.54	0.41
5:h:13:ALA:O	5:h:17:LEU:HG	2.19	0.41
5:h:259:LEU:O	5:h:262:PRO:HD2	2.20	0.41
4:D:267:VAL:HG22	4:D:272:LEU:HD22	2.01	0.41
5:N:180:GLU:CD	5:N:180:GLU:H	2.28	0.41
5:Q:207:ILE:O	5:Q:210:ASP:HB2	2.20	0.41
5:j:120:TYR:O	5:j:124:LEU:HG	2.20	0.41
3:Ao:55:GLU:OE1	3:Ao:121:ASN:ND2	2.53	0.41
5:M:120:TYR:CE2	5:M:124:LEU:HD11	2.55	0.41
5:i:14:VAL:HA	5:i:17:LEU:HD12	2.02	0.41
1:AY:227:LEU:HD12	1:AY:227:LEU:HA	1.97	0.41
3:Ao:278:TRP:CD1	3:Ao:286:ASP:HB2	2.55	0.41
3:Ap:71:ARG:HD2	3:Ap:75:GLU:HG3	2.01	0.41
5:M:97:LEU:HA	5:M:123:LEU:HD11	2.01	0.41
5:M:151:THR:HA	5:M:157:ARG:HD2	2.02	0.41
5:M:259:LEU:O	5:M:262:PRO:HD2	2.20	0.41
5:O:9:LYS:HA	5:O:9:LYS:HD3	1.87	0.41
5:Q:298:THR:N	5:Q:318:PRO:O	2.54	0.41
1:Aj:258:TYR:CG	1:Aj:259:LEU:N	2.88	0.41
3:Ao:402:HIS:HB2	3:Ao:403:PRO:HD3	2.02	0.41
3:Ap:136:THR:O	3:Ap:155:ILE:HA	2.21	0.41
4:D:2:PRO:HD2	4:D:263:TYR:O	2.20	0.41
5:M:278:ASN:O	5:M:282:MET:HG2	2.20	0.41
3:Ao:135:TYR:CZ	3:Ao:157:PHE:HB2	2.56	0.41
3:Ao:290:LEU:HD12	3:Ao:290:LEU:HA	1.90	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:199:THR:OG1	4:D:216:ARG:NE	2.44	0.41
5:M:155:VAL:O	5:M:159:ILE:HG12	2.21	0.41
5:O:132:ASN:HA	5:O:135:LEU:HG	2.03	0.41
5:j:93:ARG:O	5:j:97:LEU:HG	2.21	0.41
5:j:111:TYR:CD2	5:j:112:LEU:HG	2.55	0.41
2:Ah:67:TYR:HE2	2:Ah:493:GLU:HG2	1.85	0.41
3:Ao:109:CYS:SG	3:Ao:153:CYS:N	2.94	0.41
4:D:466:LYS:HA	4:D:469:TRP:HE1	1.84	0.41
5:N:147:LEU:O	5:N:151:THR:HG23	2.20	0.41
5:O:18:LEU:HD12	5:O:101:THR:HG23	2.02	0.41
5:k:158:LEU:HD13	5:k:199:ILE:HG23	2.02	0.41
5:k:248:THR:HG23	5:k:296:MET:HB3	2.02	0.41
5:l:305:ASN:HD22	5:l:308:VAL:HG23	1.86	0.41
1:Aj:141:ILE:HG23	1:Aj:145:LEU:HD12	2.03	0.41
1:Aj:245:MET:HE3	1:Aj:245:MET:HB2	1.91	0.41
2:Ah:214:ASN:HB2	2:Ah:230:ARG:NH1	2.33	0.41
3:Ap:220:SER:HB3	3:Ap:223:LEU:HD21	2.02	0.41
3:Ap:223:LEU:HD23	3:Ap:225:THR:HG23	2.01	0.41
4:D:85:GLN:O	4:D:89:TYR:HD1	2.04	0.41
4:D:133:ALA:HB3	4:D:243:TYR:CZ	2.56	0.41
4:D:269:GLN:OE1	4:D:269:GLN:N	2.53	0.41
5:O:123:LEU:HD12	5:O:123:LEU:HA	1.89	0.41
5:h:246:ALA:HB1	5:h:296:MET:HE3	2.01	0.41
5:h:292:ARG:HH21	5:h:314:ARG:HA	1.86	0.41
2:Ah:229:TYR:O	2:Ah:256:THR:HA	2.21	0.41
3:Ap:129:ASP:HB2	3:Ap:131:ARG:HG2	2.03	0.41
4:D:465:ASP:HB2	4:D:468:TYR:CD2	2.56	0.41
4:D:466:LYS:HD3	4:D:469:TRP:CD1	2.55	0.41
5:M:251:CYS:HB2	5:M:257:GLU:HG3	2.03	0.41
5:N:233:ILE:HD13	5:N:233:ILE:HA	1.89	0.41
5:P:270:ARG:HG2	5:P:272:TYR:CZ	2.56	0.41
5:Q:173:THR:OG1	5:Q:204:MET:HG3	2.21	0.41
5:h:14:VAL:O	5:h:18:LEU:HG	2.21	0.41
5:h:104:LEU:HD23	5:h:104:LEU:HA	1.91	0.41
5:h:155:VAL:O	5:h:159:ILE:HG12	2.20	0.41
5:i:111:TYR:CD2	5:i:112:LEU:HG	2.56	0.41
5:i:254:ILE:HD12	5:i:255:LEU:HG	2.02	0.41
5:j:261:LEU:HB2	5:j:262:PRO:HD3	2.03	0.41
3:Ao:353:SER:OG	3:Ao:354:MET:N	2.54	0.41
3:Ap:135:TYR:HB3	3:Ap:155:ILE:HB	2.02	0.41
4:D:95:ARG:H	4:D:95:ARG:HD2	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:357:VAL:HG11	4:D:362:LEU:HD21	2.02	0.41
5:M:180:GLU:H	5:M:180:GLU:CD	2.27	0.41
5:P:180:GLU:H	5:P:180:GLU:CD	2.29	0.41
5:Q:166:LEU:HD23	5:Q:166:LEU:HA	1.95	0.41
5:Q:248:THR:HB	5:Q:297:LEU:O	2.21	0.41
5:h:14:VAL:HA	5:h:17:LEU:HD12	2.02	0.41
5:h:254:ILE:H	5:h:254:ILE:HG13	1.55	0.41
5:i:24:GLU:O	5:i:28:ALA:HB3	2.21	0.41
5:i:177:LEU:HD21	5:i:185:LEU:HD12	2.02	0.41
5:j:17:LEU:N	5:j:20:ARG:HH21	2.19	0.41
2:Ah:380:ASN:OD1	2:Ah:383:THR:N	2.37	0.40
3:Ao:233:ALA:HB1	3:Ao:317:ARG:HD2	2.02	0.40
3:Ao:396:ASP:HB2	3:Ao:398:LYS:HE3	2.03	0.40
5:N:18:LEU:HD11	5:N:104:LEU:HD22	2.02	0.40
5:P:151:THR:HG21	5:P:158:LEU:HD23	2.03	0.40
5:h:119:LYS:O	5:h:123:LEU:HG	2.21	0.40
5:k:254:ILE:H	5:k:254:ILE:HG13	1.57	0.40
2:Ah:329:GLU:HG2	2:Ah:330:PHE:H	1.86	0.40
2:Ah:428:ASN:O	2:Ah:431:SER:HB3	2.21	0.40
3:Ap:71:ARG:HE	3:Ap:71:ARG:HB2	1.60	0.40
3:Ap:277:GLU:H	3:Ap:277:GLU:CD	2.19	0.40
5:N:28:ALA:HB3	5:N:94:ARG:CZ	2.52	0.40
5:O:154:ASP:HB3	5:O:157:ARG:HB2	2.02	0.40
5:P:25:LEU:O	5:P:94:ARG:NE	2.55	0.40
5:j:199:ILE:HD13	5:j:199:ILE:HA	1.95	0.40
5:j:248:THR:O	5:j:297:LEU:HB3	2.20	0.40
5:k:248:THR:O	5:k:297:LEU:HB3	2.20	0.40
5:k:260:PHE:CD1	5:k:263:LEU:HD12	2.57	0.40
1:Aj:91:GLY:C	1:Aj:116:ARG:HH21	2.29	0.40
3:Ao:53:TYR:CE2	3:Ao:55:GLU:HB2	2.55	0.40
5:N:148:ALA:O	5:N:151:THR:OG1	2.36	0.40
5:P:150:LYS:O	5:P:157:ARG:NH1	2.55	0.40
5:k:104:LEU:HD22	5:k:116:TRP:CD1	2.56	0.40
5:l:251:CYS:HB2	5:l:257:GLU:CB	2.50	0.40
2:Ah:220:ILE:H	2:Ah:220:ILE:HG13	1.70	0.40
3:Ao:163:GLU:H	3:Ao:163:GLU:HG3	1.70	0.40
5:N:158:LEU:HD23	5:N:162:PHE:CE1	2.55	0.40
5:Q:43:ILE:HA	5:Q:46:VAL:HG22	2.03	0.40
5:j:24:GLU:O	5:j:28:ALA:HB3	2.21	0.40
3:Ao:49:VAL:O	3:Ao:86:ILE:HG12	2.21	0.40
3:Ap:79:ARG:HH12	3:Ap:81:ILE:N	2.19	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:M:28:ALA:H	5:M:94:ARG:NH2	2.19	0.40
5:N:289:SER:O	5:N:294:ARG:NH2	2.54	0.40
5:P:278:ASN:O	5:P:282:MET:HG2	2.21	0.40
5:Q:246:ALA:HA	5:Q:273:SER:H	1.86	0.40
5:k:261:LEU:HB2	5:k:262:PRO:HD3	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	AJ	210/296 (71%)	197 (94%)	13 (6%)	0	100	100
1	AY	266/296 (90%)	259 (97%)	7 (3%)	0	100	100
2	Ah	666/690 (96%)	642 (96%)	24 (4%)	0	100	100
3	Ao	317/438 (72%)	301 (95%)	14 (4%)	2 (1%)	21	58
3	Ap	362/438 (83%)	335 (92%)	25 (7%)	2 (1%)	21	58
4	D	435/521 (84%)	403 (93%)	32 (7%)	0	100	100
5	M	271/325 (83%)	243 (90%)	28 (10%)	0	100	100
5	N	271/325 (83%)	246 (91%)	25 (9%)	0	100	100
5	O	271/325 (83%)	256 (94%)	15 (6%)	0	100	100
5	P	271/325 (83%)	253 (93%)	18 (7%)	0	100	100
5	Q	271/325 (83%)	248 (92%)	23 (8%)	0	100	100
5	h	273/325 (84%)	238 (87%)	34 (12%)	1 (0%)	30	65
5	i	273/325 (84%)	248 (91%)	24 (9%)	1 (0%)	30	65
5	j	273/325 (84%)	249 (91%)	23 (8%)	1 (0%)	30	65
5	k	273/325 (84%)	256 (94%)	16 (6%)	1 (0%)	30	65
5	l	273/325 (84%)	251 (92%)	21 (8%)	1 (0%)	30	65

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	4976/5929 (84%)	4625 (93%)	342 (7%)	9 (0%)	44 76

All (9) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
5	h	317	LEU
5	i	317	LEU
5	j	317	LEU
5	k	317	LEU
5	l	317	LEU
3	Ao	372	VAL
3	Ap	372	VAL
3	Ao	266	ASP
3	Ap	266	ASP

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	AJ	187/254 (74%)	178 (95%)	9 (5%)	23 46
1	AY	227/254 (89%)	221 (97%)	6 (3%)	40 60
2	Ah	561/579 (97%)	548 (98%)	13 (2%)	44 64
3	Ao	287/381 (75%)	271 (94%)	16 (6%)	19 42
3	Ap	320/381 (84%)	293 (92%)	27 (8%)	10 31
4	D	400/461 (87%)	365 (91%)	35 (9%)	9 30
5	M	234/282 (83%)	223 (95%)	11 (5%)	23 46
5	N	234/282 (83%)	227 (97%)	7 (3%)	36 57
5	O	234/282 (83%)	226 (97%)	8 (3%)	32 55
5	P	234/282 (83%)	225 (96%)	9 (4%)	29 51
5	Q	234/282 (83%)	223 (95%)	11 (5%)	23 46
5	h	232/282 (82%)	218 (94%)	14 (6%)	17 41

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
5	i	232/282 (82%)	219 (94%)	13 (6%)	19	42
5	j	232/282 (82%)	225 (97%)	7 (3%)	36	57
5	k	232/282 (82%)	225 (97%)	7 (3%)	36	57
5	l	232/282 (82%)	215 (93%)	17 (7%)	13	35
All	All	4312/5130 (84%)	4102 (95%)	210 (5%)	24	45

All (210) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	AJ	49	GLN
1	AJ	56	GLU
1	AJ	68	ASP
1	AJ	83	HIS
1	AJ	123	PHE
1	AJ	125	ILE
1	AJ	126	TYR
1	AJ	158	ILE
1	AJ	209	ARG
1	AY	62	ASN
1	AY	66	ASN
1	AY	68	ASP
1	AY	142	THR
1	AY	230	THR
1	AY	242	LEU
2	Ah	63	ASP
2	Ah	305	ASN
2	Ah	307	ASP
2	Ah	324	LEU
2	Ah	357	ASP
2	Ah	382	ASP
2	Ah	421	ASP
2	Ah	432	LEU
2	Ah	453	ASP
2	Ah	456	SER
2	Ah	457	SER
2	Ah	590	ASN
2	Ah	628	LEU
3	Ao	111	LEU
3	Ao	118	LEU
3	Ao	122	MET
3	Ao	154	ASP

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Mol	Chain	Res	Type
3	Ao	164	LYS
3	Ao	168	GLU
3	Ao	196	LYS
3	Ao	200	LYS
3	Ao	223	LEU
3	Ao	232	ASP
3	Ao	259	PHE
3	Ao	271	ASN
3	Ao	339	GLU
3	Ao	362	PHE
3	Ao	416	SER
3	Ao	436	ILE
3	Ap	60	ARG
3	Ap	73	ILE
3	Ap	76	GLN
3	Ap	81	ILE
3	Ap	82	ARG
3	Ap	86	ILE
3	Ap	97	ASP
3	Ap	108	THR
3	Ap	109	CYS
3	Ap	119	LEU
3	Ap	123	LEU
3	Ap	125	ILE
3	Ap	128	LEU
3	Ap	139	ARG
3	Ap	154	ASP
3	Ap	155	ILE
3	Ap	162	ASP
3	Ap	164	LYS
3	Ap	175	GLU
3	Ap	198	ASN
3	Ap	200	LYS
3	Ap	223	LEU
3	Ap	225	THR
3	Ap	259	PHE
3	Ap	271	ASN
3	Ap	339	GLU
3	Ap	387	ILE
4	D	8	ILE
4	D	28	SER
4	D	30	LEU

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Mol	Chain	Res	Type
4	D	84	GLU
4	D	95	ARG
4	D	110	LEU
4	D	127	PHE
4	D	145	THR
4	D	148	HIS
4	D	161	ILE
4	D	196	ASN
4	D	211	VAL
4	D	229	THR
4	D	243	TYR
4	D	246	THR
4	D	259	ILE
4	D	267	VAL
4	D	271	ILE
4	D	272	LEU
4	D	277	LEU
4	D	278	TYR
4	D	279	LYS
4	D	301	ASP
4	D	305	ASP
4	D	324	ASP
4	D	333	GLU
4	D	348	ILE
4	D	391	PHE
4	D	395	VAL
4	D	402	TYR
4	D	412	VAL
4	D	433	ILE
4	D	453	ASN
4	D	454	LEU
4	D	458	LEU
5	M	23	PHE
5	M	97	LEU
5	M	112	LEU
5	M	188	ASN
5	M	191	THR
5	M	194	ASP
5	M	252	ASP
5	M	278	ASN
5	M	286	VAL
5	M	305	ASN

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Mol	Chain	Res	Type
5	M	321	ILE
5	N	169	THR
5	N	177	LEU
5	N	222	LEU
5	N	252	ASP
5	N	269	LEU
5	N	276	PHE
5	N	321	ILE
5	O	108	ILE
5	O	110	TYR
5	O	169	THR
5	O	174	LYS
5	O	222	LEU
5	O	274	GLN
5	O	286	VAL
5	O	321	ILE
5	P	30	HIS
5	P	97	LEU
5	P	188	ASN
5	P	208	LEU
5	P	222	LEU
5	P	264	LEU
5	P	269	LEU
5	P	286	VAL
5	P	321	ILE
5	Q	35	LEU
5	Q	188	ASN
5	Q	194	ASP
5	Q	209	LEU
5	Q	236	PHE
5	Q	255	LEU
5	Q	266	GLU
5	Q	298	THR
5	Q	299	VAL
5	Q	315	ASN
5	Q	321	ILE
5	h	23	PHE
5	h	30	HIS
5	h	115	GLU
5	h	139	GLU
5	h	194	ASP
5	h	232	GLU

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Mol	Chain	Res	Type
5	h	249	TYR
5	h	254	ILE
5	h	258	ASP
5	h	276	PHE
5	h	278	ASN
5	h	286	VAL
5	h	298	THR
5	h	321	ILE
5	i	7	ILE
5	i	30	HIS
5	i	40	LEU
5	i	115	GLU
5	i	139	GLU
5	i	175	ARG
5	i	249	TYR
5	i	254	ILE
5	i	258	ASP
5	i	276	PHE
5	i	286	VAL
5	i	299	VAL
5	i	321	ILE
5	j	30	HIS
5	j	40	LEU
5	j	175	ARG
5	j	254	ILE
5	j	278	ASN
5	j	286	VAL
5	j	321	ILE
5	k	30	HIS
5	k	40	LEU
5	k	123	LEU
5	k	254	ILE
5	k	286	VAL
5	k	294	ARG
5	k	299	VAL
5	l	27	ASN
5	l	33	VAL
5	l	35	LEU
5	l	37	ASP
5	l	40	LEU
5	l	110	TYR
5	l	137	ASP

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Mol	Chain	Res	Type
5	l	191	THR
5	l	194	ASP
5	l	225	ASN
5	l	254	ILE
5	l	270	ARG
5	l	276	PHE
5	l	286	VAL
5	l	298	THR
5	l	299	VAL
5	l	321	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (58) such sidechains are listed below:

Mol	Chain	Res	Type
1	AJ	70	GLN
1	AJ	89	GLN
1	AJ	246	ASN
1	AJ	251	ASN
1	AY	83	HIS
1	AY	200	HIS
2	Ah	81	GLN
2	Ah	153	HIS
2	Ah	265	GLN
2	Ah	289	ASN
2	Ah	336	ASN
2	Ah	443	HIS
2	Ah	464	ASN
2	Ah	508	ASN
2	Ah	528	ASN
2	Ah	529	ASN
2	Ah	562	GLN
3	Ao	121	ASN
3	Ao	224	ASN
3	Ap	56	GLN
3	Ap	83	HIS
3	Ap	98	ASN
3	Ap	224	ASN
4	D	96	ASN
4	D	266	GLN
5	M	132	ASN
5	M	176	GLN
5	M	315	ASN

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Mol	Chain	Res	Type
5	N	176	GLN
5	N	241	ASN
5	N	278	ASN
5	N	305	ASN
5	N	315	ASN
5	O	133	GLN
5	O	176	GLN
5	O	315	ASN
5	P	315	ASN
5	Q	176	GLN
5	h	102	HIS
5	h	176	GLN
5	h	200	HIS
5	h	315	ASN
5	i	102	HIS
5	i	176	GLN
5	i	200	HIS
5	i	274	GLN
5	i	315	ASN
5	j	176	GLN
5	j	274	GLN
5	j	315	ASN
5	k	160	HIS
5	k	176	GLN
5	k	200	HIS
5	k	231	ASN
5	k	274	GLN
5	k	315	ASN
5	l	176	GLN
5	l	305	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

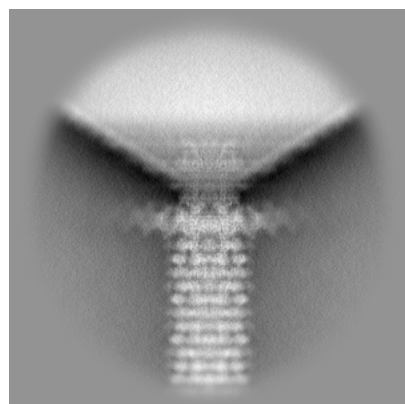
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-75794. These allow visual inspection of the internal detail of the map and identification of artifacts.

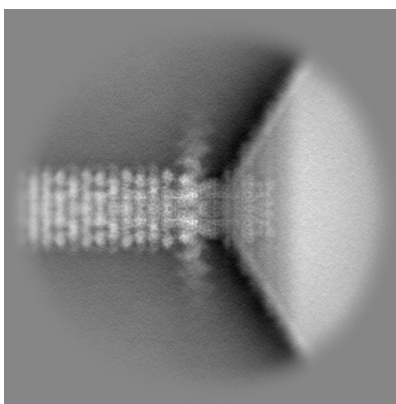
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

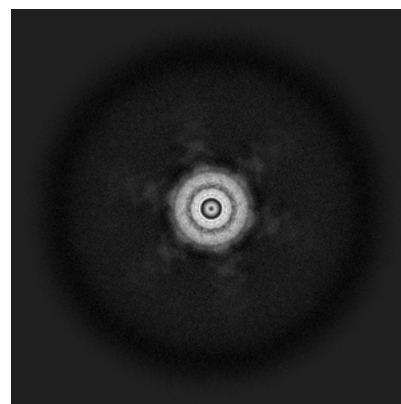
6.1.1 Primary map



X

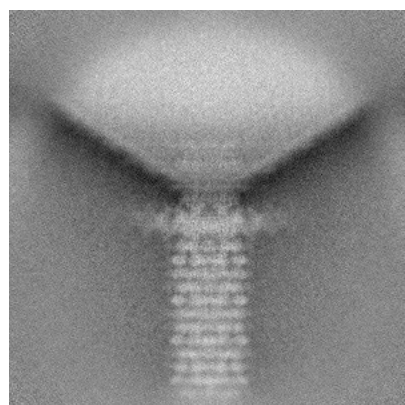


Y

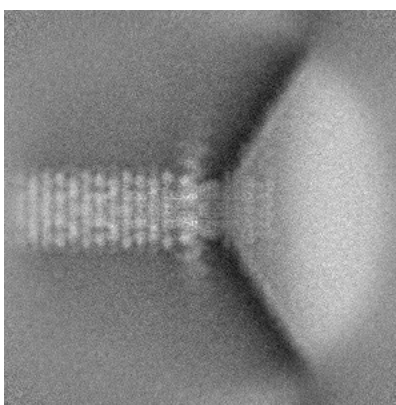


Z

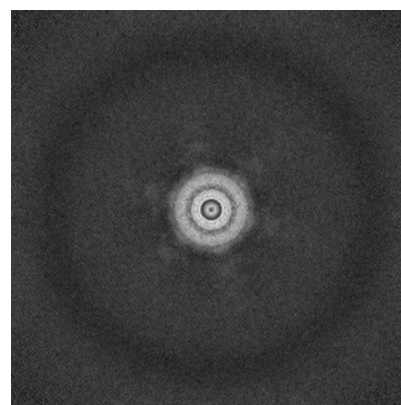
6.1.2 Raw map



X



Y

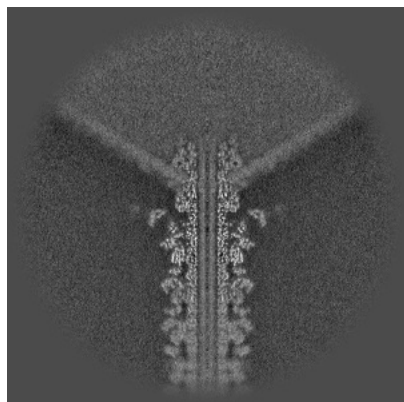


Z

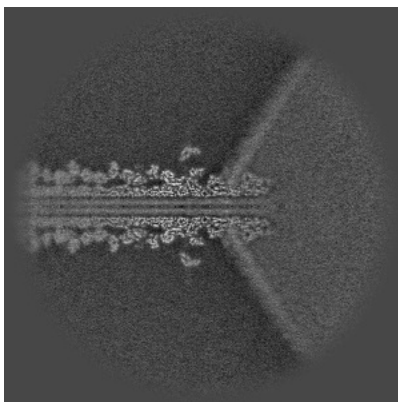
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

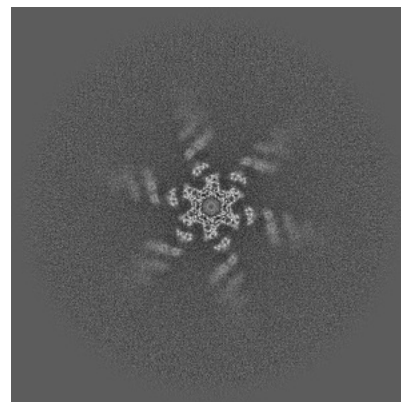
6.2.1 Primary map



X Index: 320

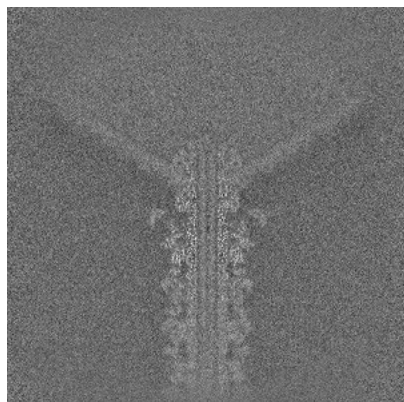


Y Index: 320

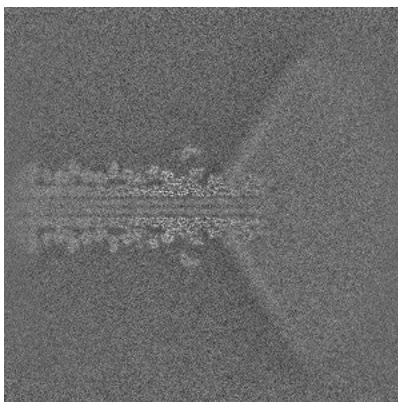


Z Index: 320

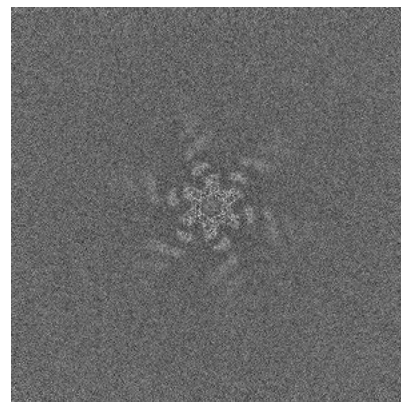
6.2.2 Raw map



X Index: 320



Y Index: 320

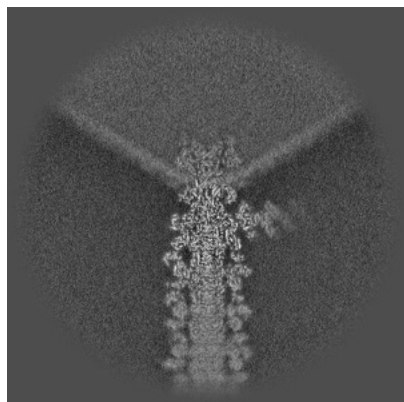


Z Index: 320

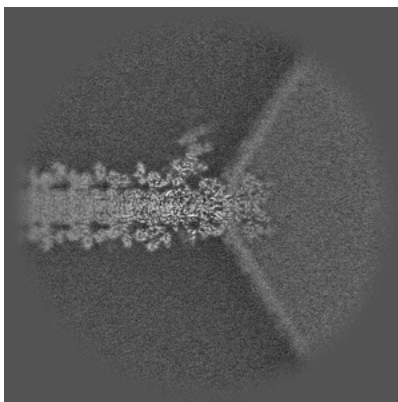
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

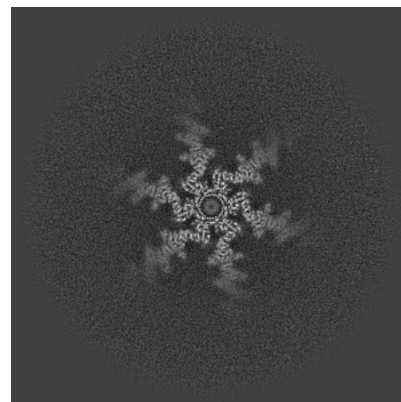
6.3.1 Primary map



X Index: 301

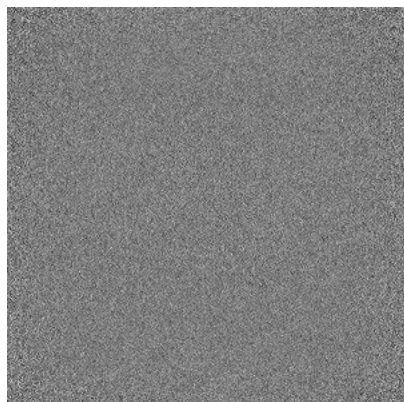


Y Index: 301

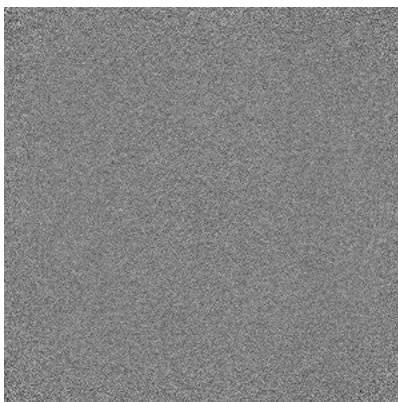


Z Index: 301

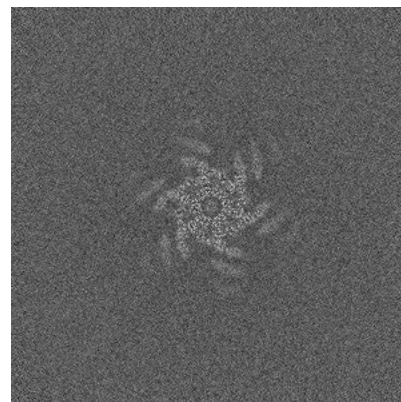
6.3.2 Raw map



X Index: 0



Y Index: 0

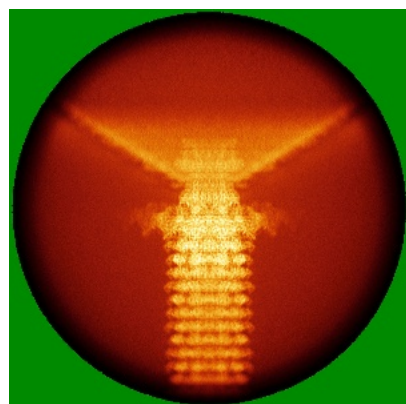


Z Index: 288

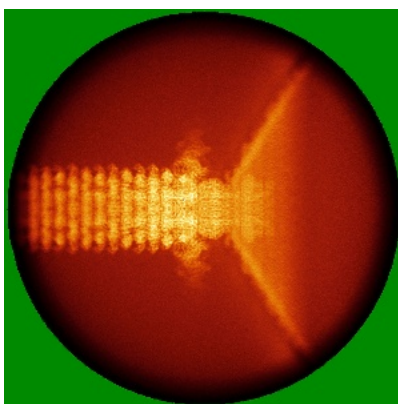
The images above show the largest variance slices of the map in three orthogonal directions.

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

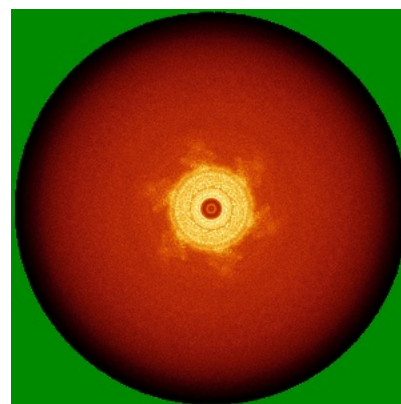
6.4.1 Primary map



X

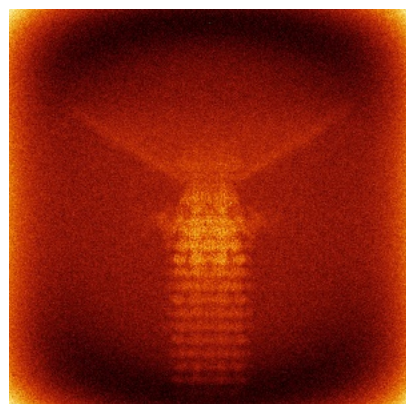


Y

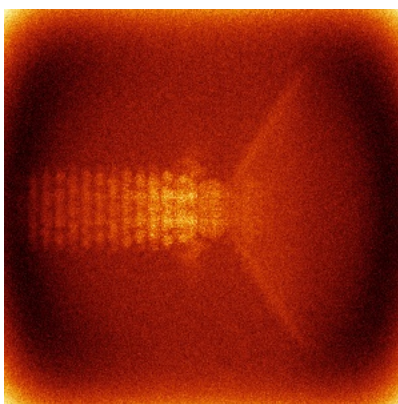


Z

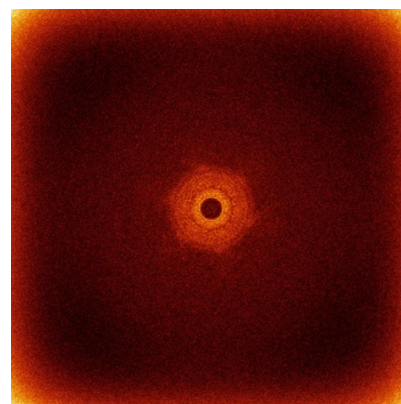
6.4.2 Raw map



X



Y

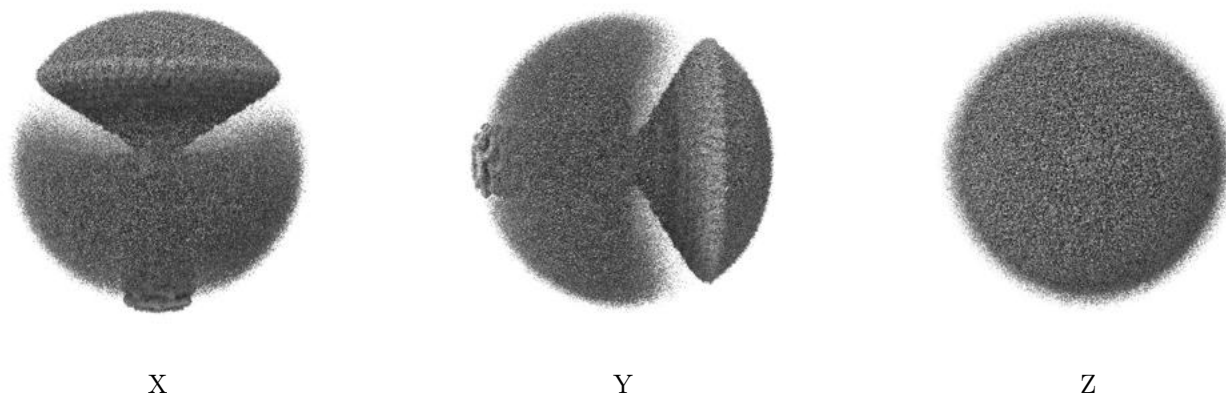


Z

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.

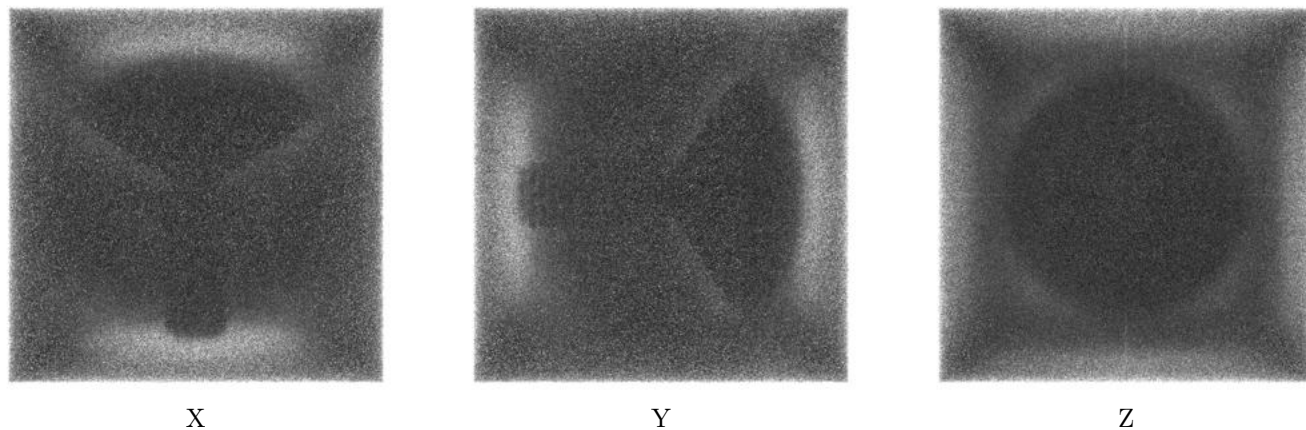
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.09. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

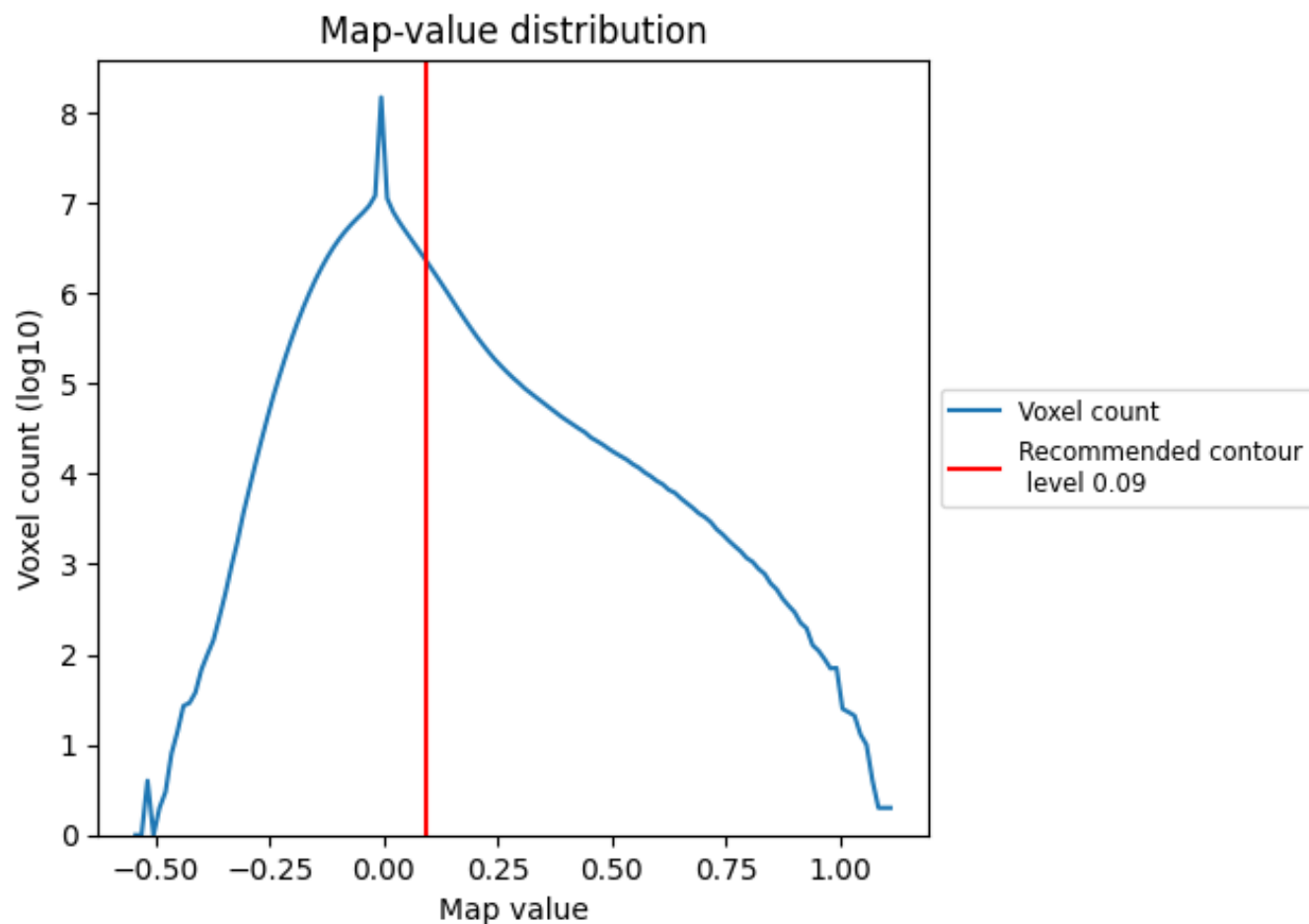
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

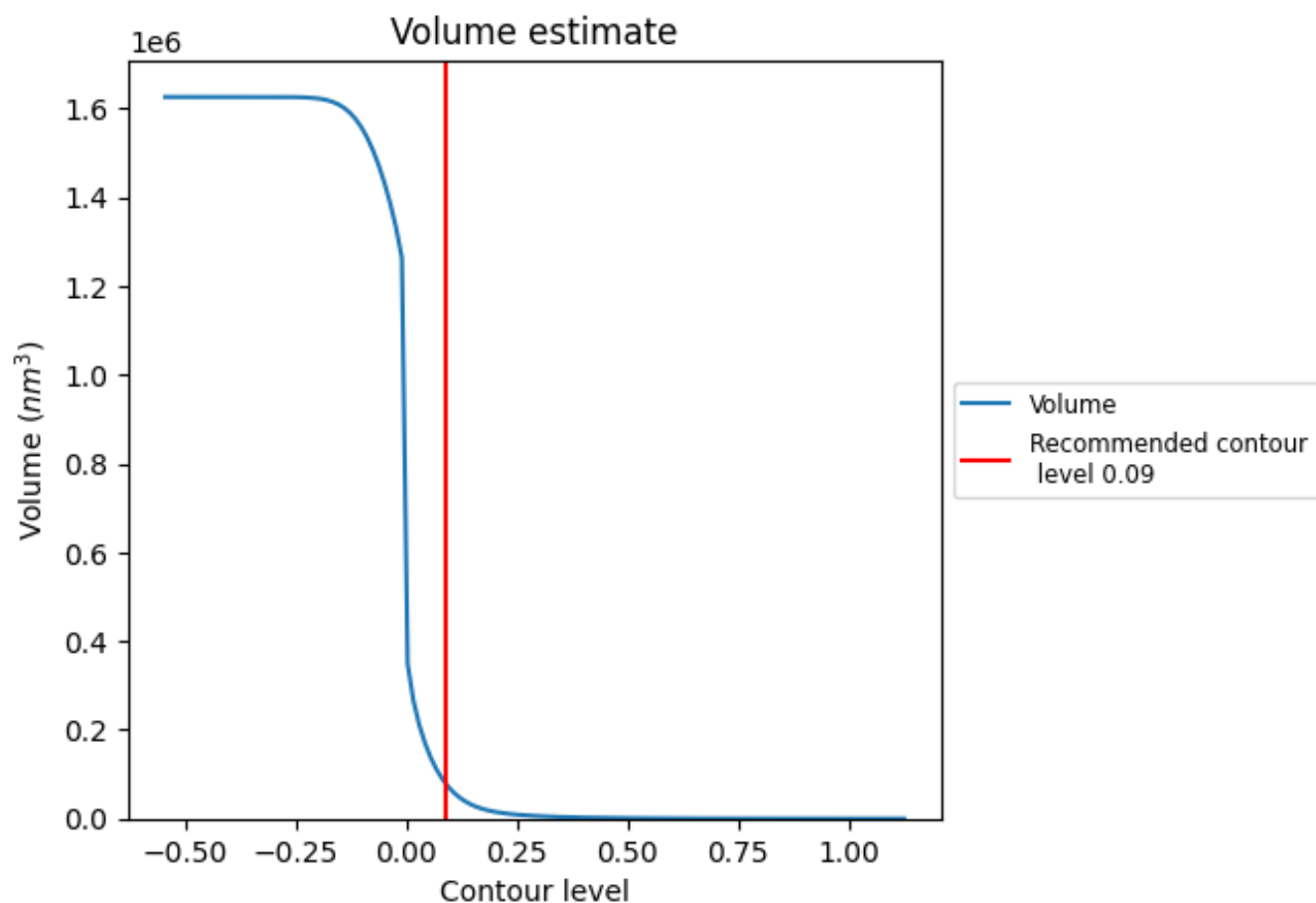
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

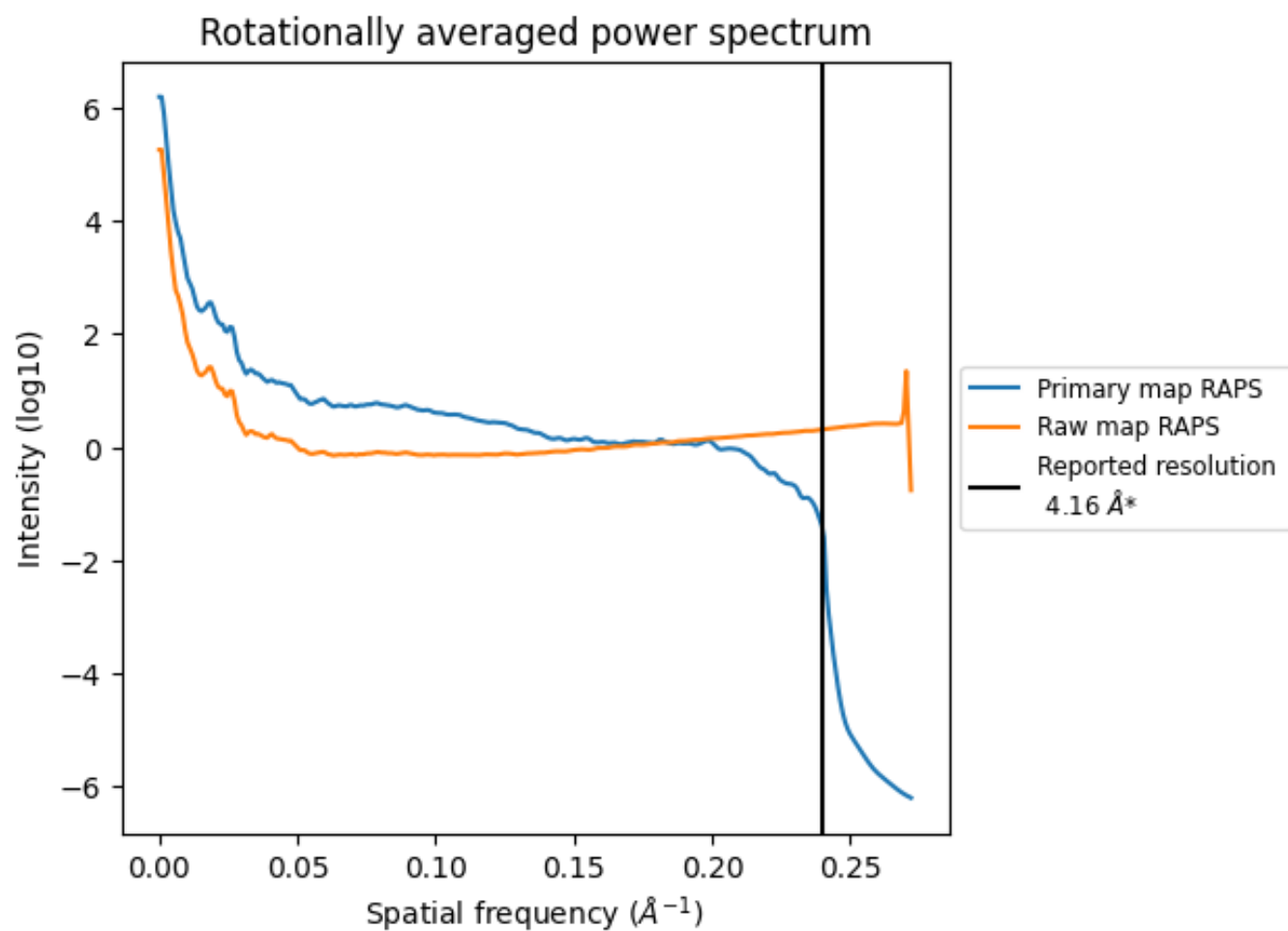
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 77470 nm³; this corresponds to an approximate mass of 69981 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

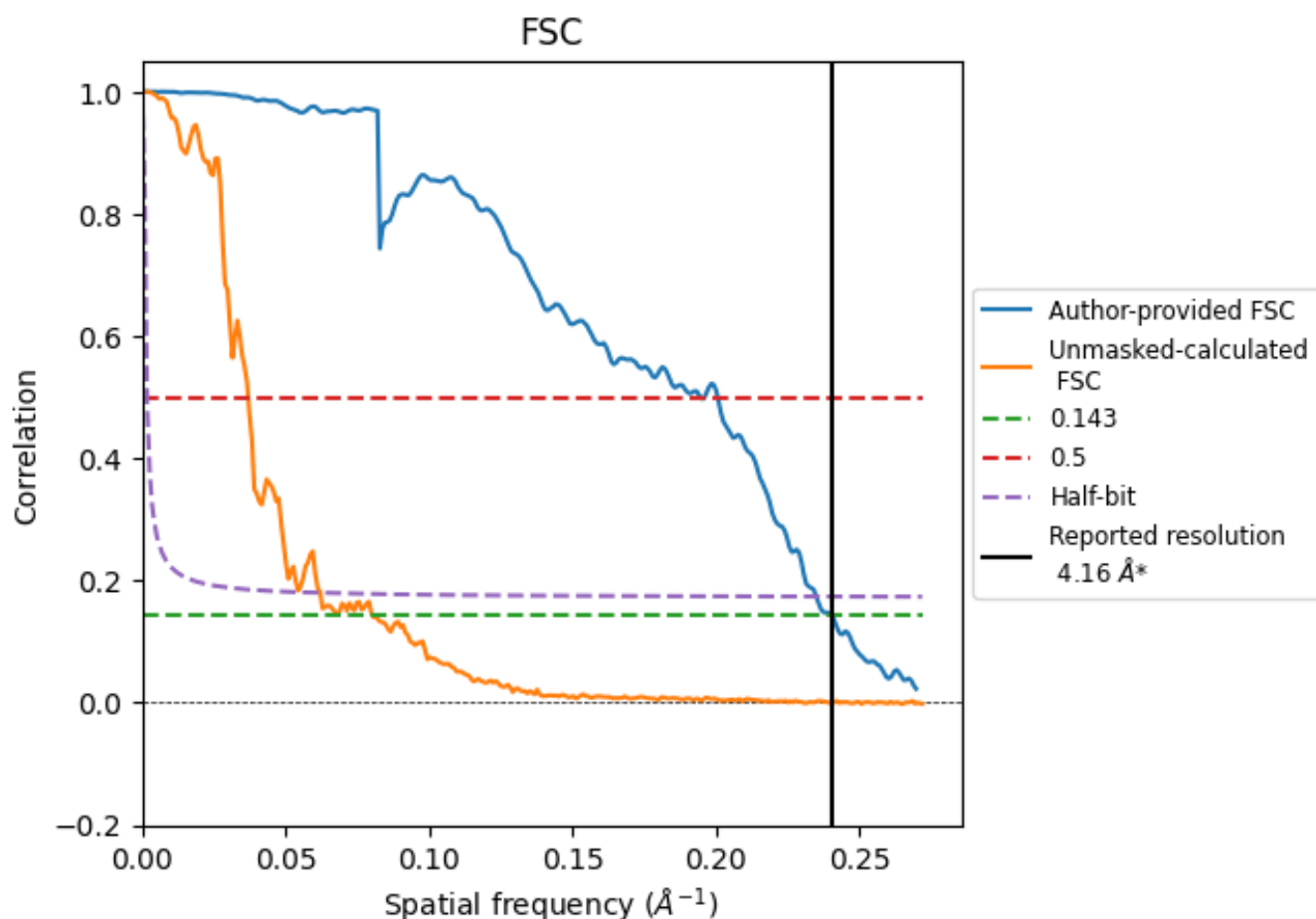


*Reported resolution corresponds to spatial frequency of 0.240 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.240 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.16	-	-
Author-provided FSC curve	4.16	5.13	4.25
Unmasked-calculated*	12.44	27.03	16.10

*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 12.44 differs from the reported value 4.16 by more than 10 %

9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-75794 and PDB model 11LC. Per-residue inclusion information can be found in section [3](#) on page [6](#).

9.1 Map-model overlay [i](#)



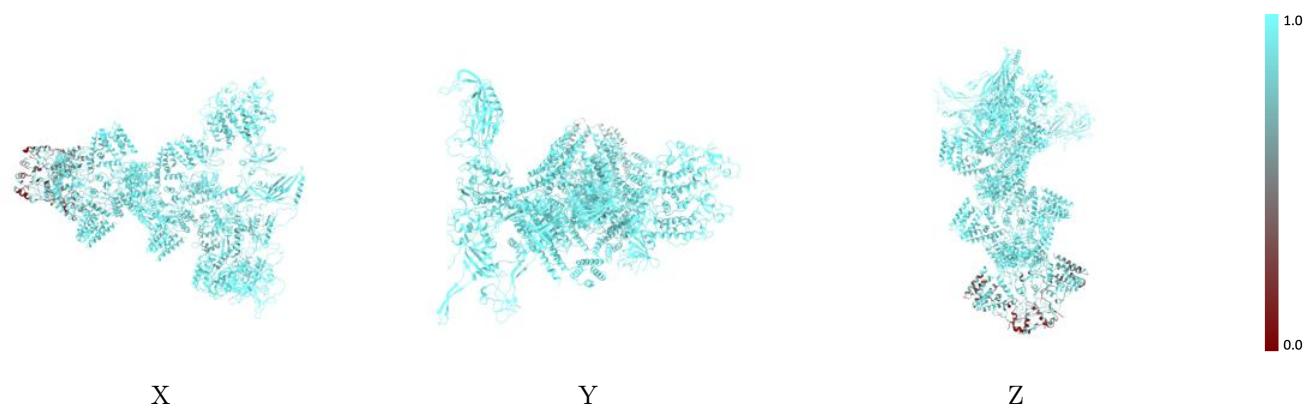
The images above show the 3D surface view of the map at the recommended contour level 0.09 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



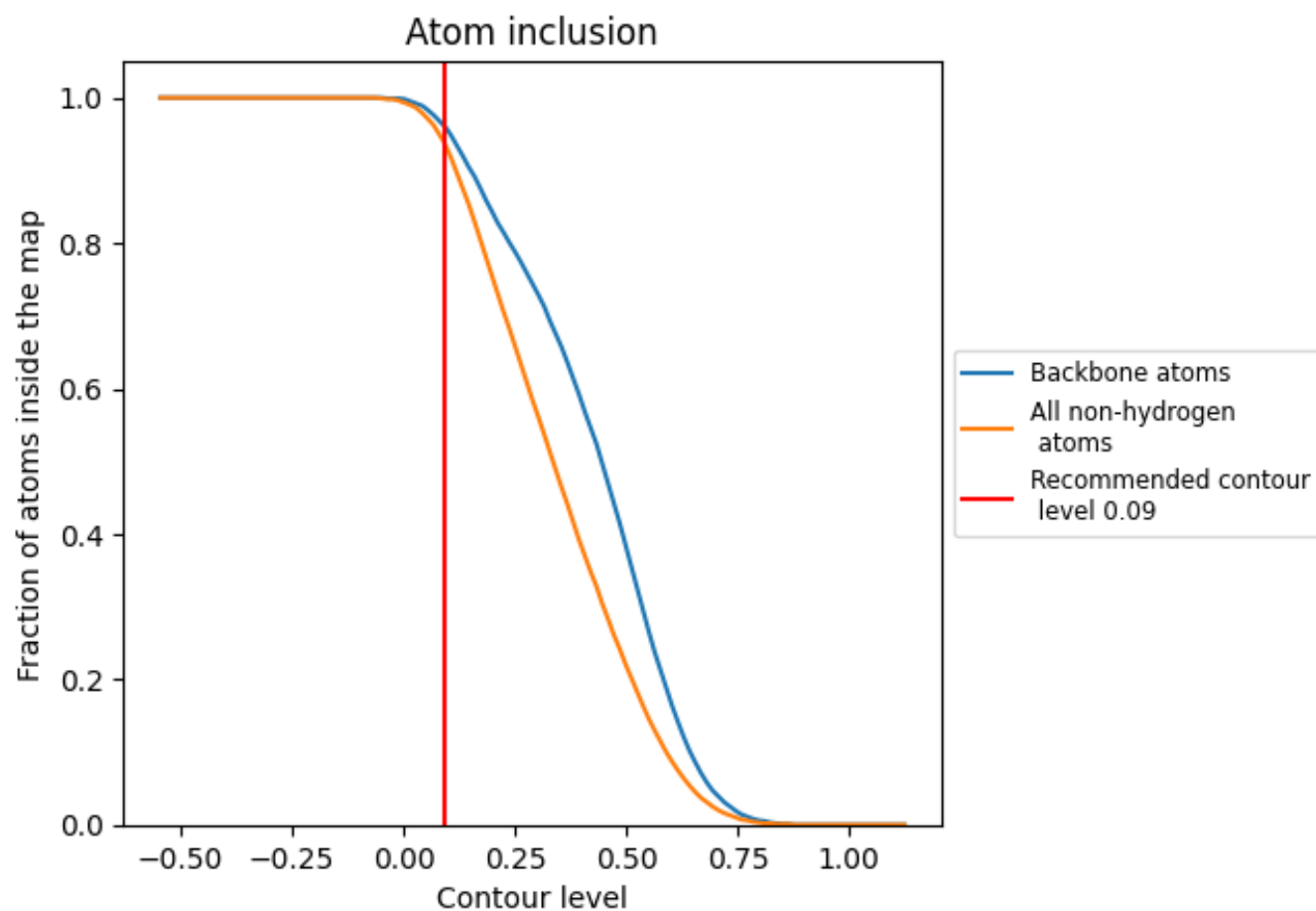
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.09).

9.4 Atom inclusion [i](#)



At the recommended contour level, 96% of all backbone atoms, 94% 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 (0.09) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9400	 0.2550
AJ	 0.9760	 0.3610
AY	 0.9690	 0.3800
Ah	 0.9740	 0.3070
Ao	 0.9750	 0.3070
Ap	 0.9770	 0.3200
D	 0.9780	 0.3540
M	 0.9830	 0.2430
N	 0.9800	 0.1910
O	 0.9510	 0.1410
P	 0.6360	 0.0770
Q	 0.9880	 0.2980
h	 0.9870	 0.2540
i	 0.9810	 0.1910
j	 0.9350	 0.1410
k	 0.6790	 0.0910
l	 0.9780	 0.2870

