Full wwPDB EM Validation Report ⓘ

Nov 19, 2022 – 11:29 pm GMT

PDB ID	:	6F9B
EMDB ID	:	EMD-4197
Title	:	Asymmetric unit of Rift Valley fever virus glycoprotein shell
Authors	:	Halldorsson, S.; Bowden, T.A.; Huiskonen, J.T.
Deposited on	:	2017-12-14
Resolution	:	13.30 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
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:

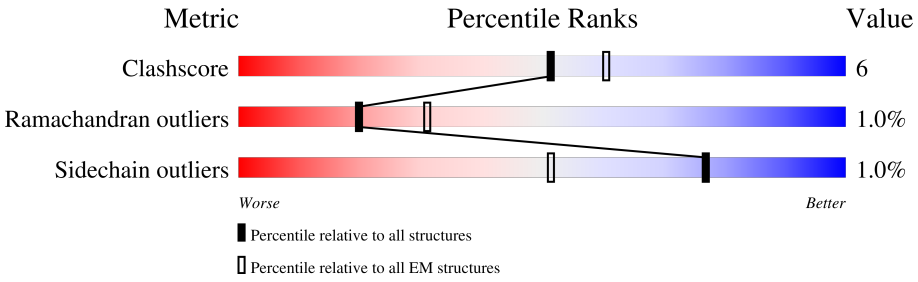
EMDB validation analysis	:	0.0.1.dev43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

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 13.30 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	316	80% 15% 5%
1	C	316	83% 12% 5%
1	E	316	83% 11% • 5%
1	G	316	82% 14% 5%
1	I	316	79% 15% • 5%
1	K	316	82% 13% • 5%
1	M	316	80% 16% 5%
1	O	316	79% 16% • 5%

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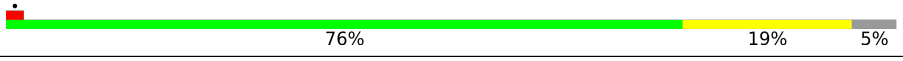
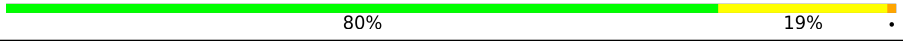
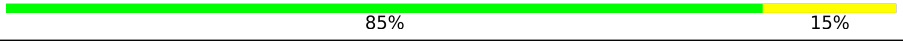
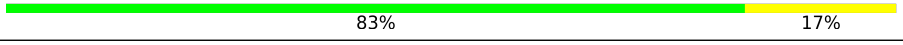
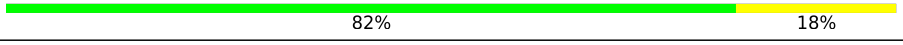
Mol	Chain	Length	Quality of chain
1	Q	316	
1	S	316	
1	U	316	
1	X	316	
2	B	431	
2	D	431	
2	F	431	
2	H	431	
2	J	431	
2	L	431	
2	N	431	
2	P	431	
2	R	431	
2	T	431	
2	V	431	
2	Y	431	

2 Entry composition (i)

There are 2 unique types of molecules in this entry. The entry contains 67152 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 Glycoprotein.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	301	Total	C	N	O	S	0	0
			2324	1455	400	445	24		
1	C	301	Total	C	N	O	S	0	0
			2324	1455	400	445	24		
1	E	301	Total	C	N	O	S	0	0
			2324	1455	400	445	24		
1	G	301	Total	C	N	O	S	0	0
			2324	1455	400	445	24		
1	I	301	Total	C	N	O	S	0	0
			2324	1455	400	445	24		
1	K	301	Total	C	N	O	S	0	0
			2324	1455	400	445	24		
1	M	301	Total	C	N	O	S	0	0
			2324	1455	400	445	24		
1	O	301	Total	C	N	O	S	0	0
			2324	1455	400	445	24		
1	Q	301	Total	C	N	O	S	0	0
			2324	1455	400	445	24		
1	S	301	Total	C	N	O	S	0	0
			2324	1455	400	445	24		
1	U	301	Total	C	N	O	S	0	0
			2324	1455	400	445	24		
1	X	301	Total	C	N	O	S	0	0
			2324	1455	400	445	24		

- Molecule 2 is a protein called Glycoprotein.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	431	Total	C	N	O	S	0	0
			3272	2030	561	652	29		
2	D	431	Total	C	N	O	S	0	0
			3272	2030	561	652	29		
2	F	431	Total	C	N	O	S	0	0
			3272	2030	561	652	29		

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Mol	Chain	Residues	Atoms					AltConf	Trace
2	H	431	Total	C	N	O	S	0	0
			3272	2030	561	652	29		
2	J	431	Total	C	N	O	S	0	0
			3272	2030	561	652	29		
2	L	431	Total	C	N	O	S	0	0
			3272	2030	561	652	29		
2	N	431	Total	C	N	O	S	0	0
			3272	2030	561	652	29		
2	P	431	Total	C	N	O	S	0	0
			3272	2030	561	652	29		
2	R	431	Total	C	N	O	S	0	0
			3272	2030	561	652	29		
2	T	431	Total	C	N	O	S	0	0
			3272	2030	561	652	29		
2	V	431	Total	C	N	O	S	0	0
			3272	2030	561	652	29		
2	Y	431	Total	C	N	O	S	0	0
			3272	2030	561	652	29		

There are 36 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	688	ASP	-	expression tag	UNP A2T072
B	689	PRO	-	expression tag	UNP A2T072
B	690	GLY	-	expression tag	UNP A2T072
D	688	ASP	-	expression tag	UNP A2T072
D	689	PRO	-	expression tag	UNP A2T072
D	690	GLY	-	expression tag	UNP A2T072
F	688	ASP	-	expression tag	UNP A2T072
F	689	PRO	-	expression tag	UNP A2T072
F	690	GLY	-	expression tag	UNP A2T072
H	688	ASP	-	expression tag	UNP A2T072
H	689	PRO	-	expression tag	UNP A2T072
H	690	GLY	-	expression tag	UNP A2T072
J	688	ASP	-	expression tag	UNP A2T072
J	689	PRO	-	expression tag	UNP A2T072
J	690	GLY	-	expression tag	UNP A2T072
L	688	ASP	-	expression tag	UNP A2T072
L	689	PRO	-	expression tag	UNP A2T072
L	690	GLY	-	expression tag	UNP A2T072
N	688	ASP	-	expression tag	UNP A2T072
N	689	PRO	-	expression tag	UNP A2T072
N	690	GLY	-	expression tag	UNP A2T072

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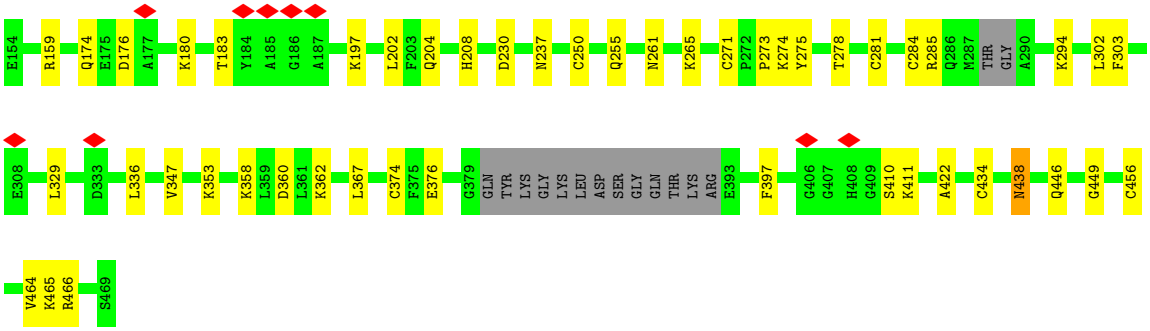
Chain	Residue	Modelled	Actual	Comment	Reference
P	688	ASP	-	expression tag	UNP A2T072
P	689	PRO	-	expression tag	UNP A2T072
P	690	GLY	-	expression tag	UNP A2T072
R	688	ASP	-	expression tag	UNP A2T072
R	689	PRO	-	expression tag	UNP A2T072
R	690	GLY	-	expression tag	UNP A2T072
T	688	ASP	-	expression tag	UNP A2T072
T	689	PRO	-	expression tag	UNP A2T072
T	690	GLY	-	expression tag	UNP A2T072
V	688	ASP	-	expression tag	UNP A2T072
V	689	PRO	-	expression tag	UNP A2T072
V	690	GLY	-	expression tag	UNP A2T072
Y	688	ASP	-	expression tag	UNP A2T072
Y	689	PRO	-	expression tag	UNP A2T072
Y	690	GLY	-	expression tag	UNP A2T072

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.

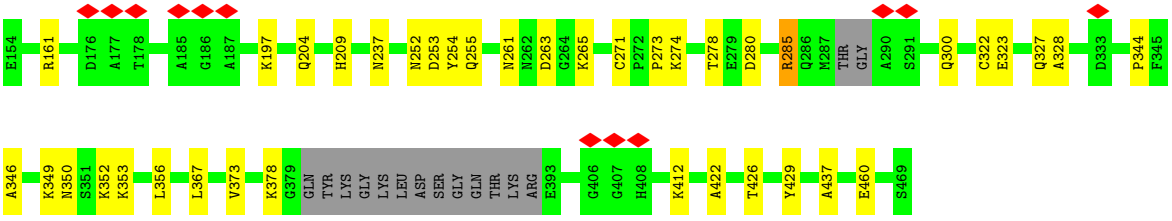
• Molecule 1: Glycoprotein

Chain A:



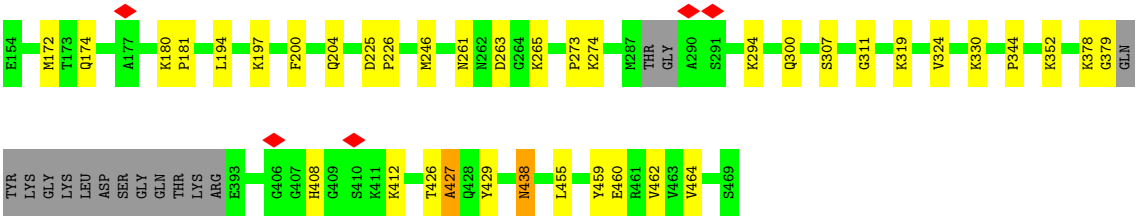
• Molecule 1: Glycoprotein

Chain C:



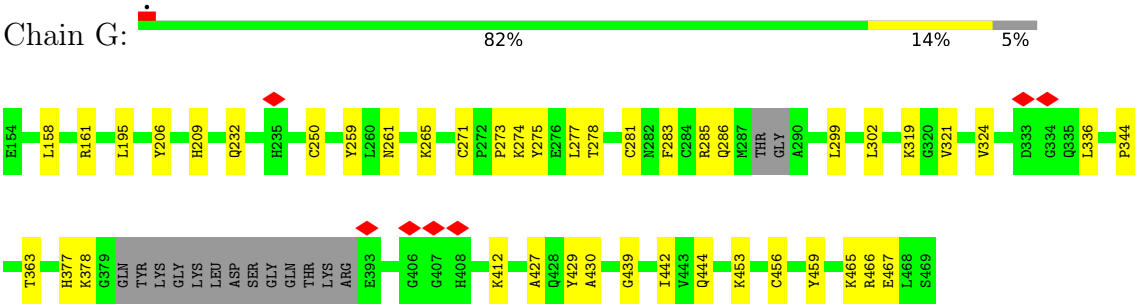
• Molecule 1: Glycoprotein

Chain E:



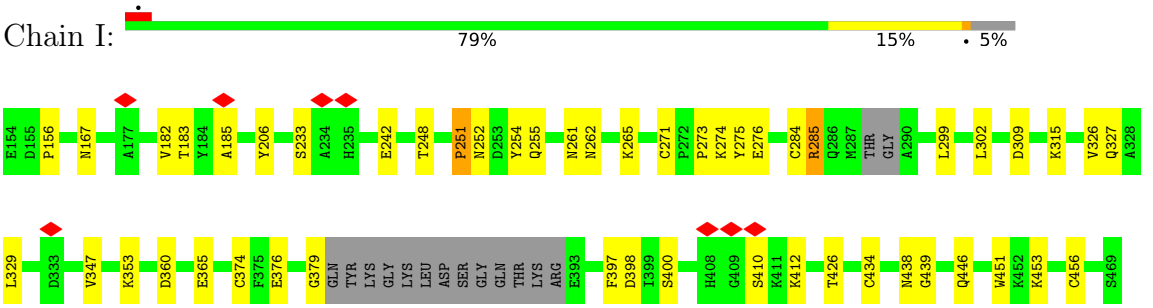
• Molecule 1: Glycoprotein

Chain G:



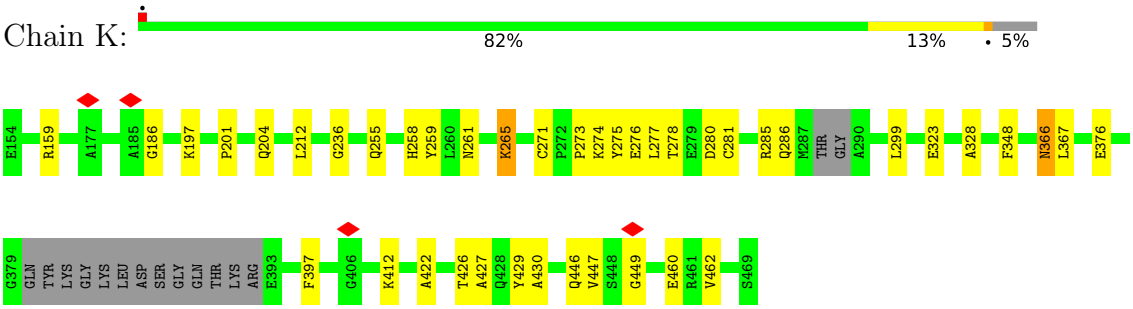
• Molecule 1: Glycoprotein

Chain I:



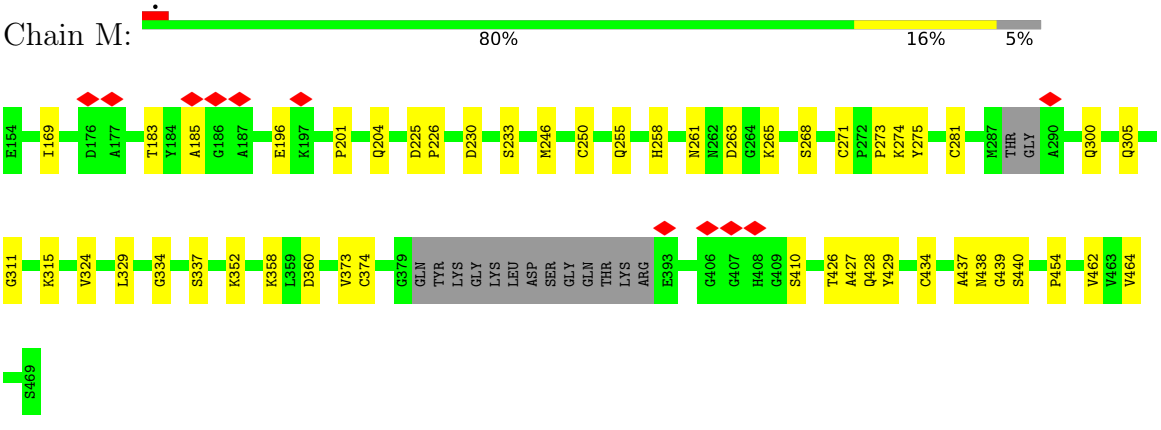
• Molecule 1: Glycoprotein

Chain K:



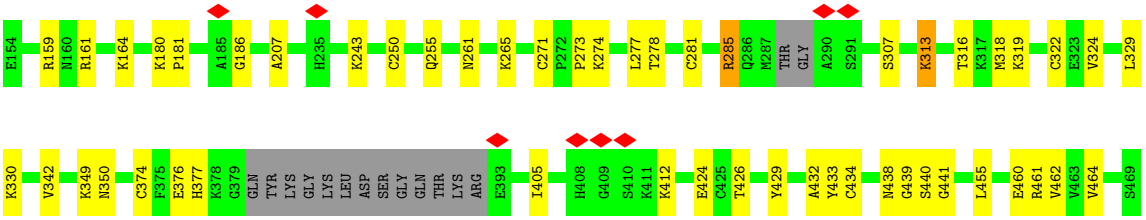
• Molecule 1: Glycoprotein

Chain M:



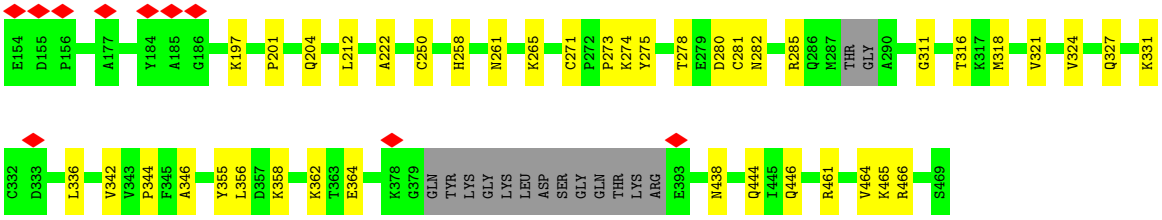
• Molecule 1: Glycoprotein

Chain O:



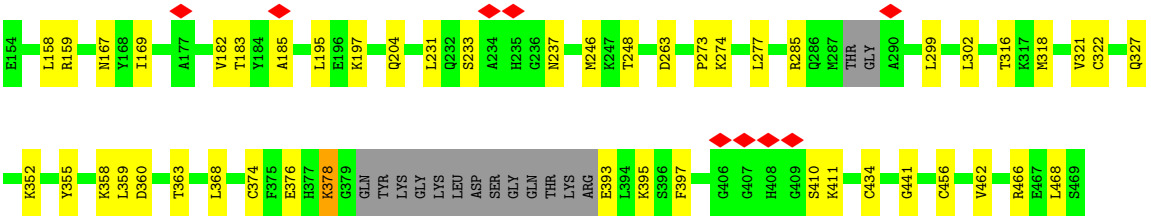
• Molecule 1: Glycoprotein

Chain Q:



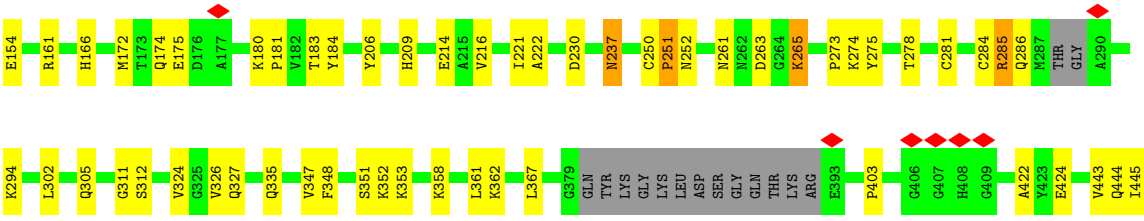
• Molecule 1: Glycoprotein

Chain S:



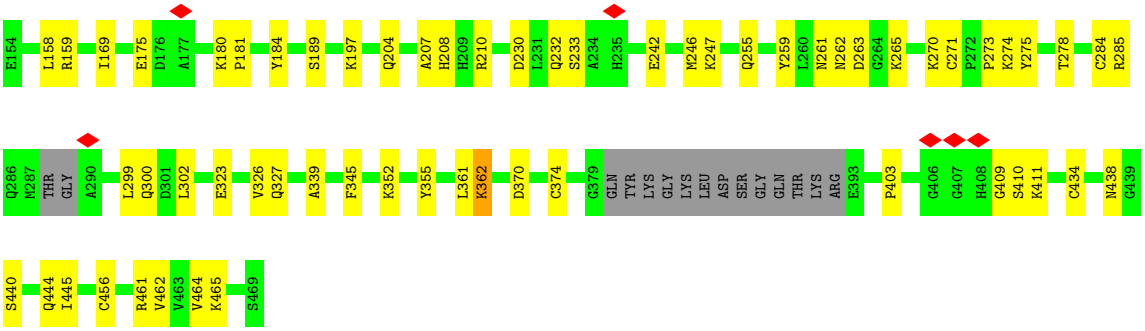
• Molecule 1: Glycoprotein

Chain U:



• Molecule 1: Glycoprotein

Chain X:

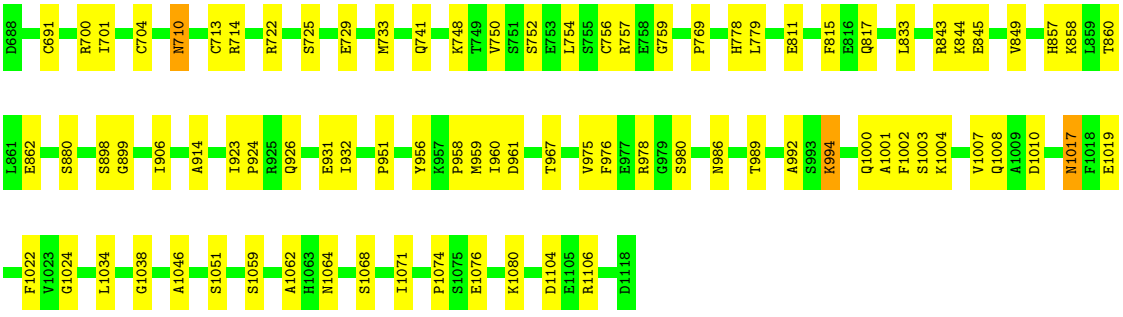


• Molecule 2: Glycoprotein

Chain B:

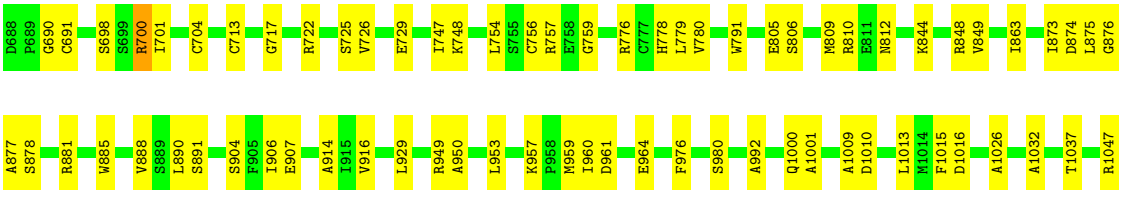
• Molecule 2: Glycoprotein

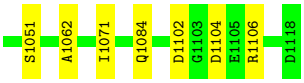
Chain D:



• Molecule 2: Glycoprotein

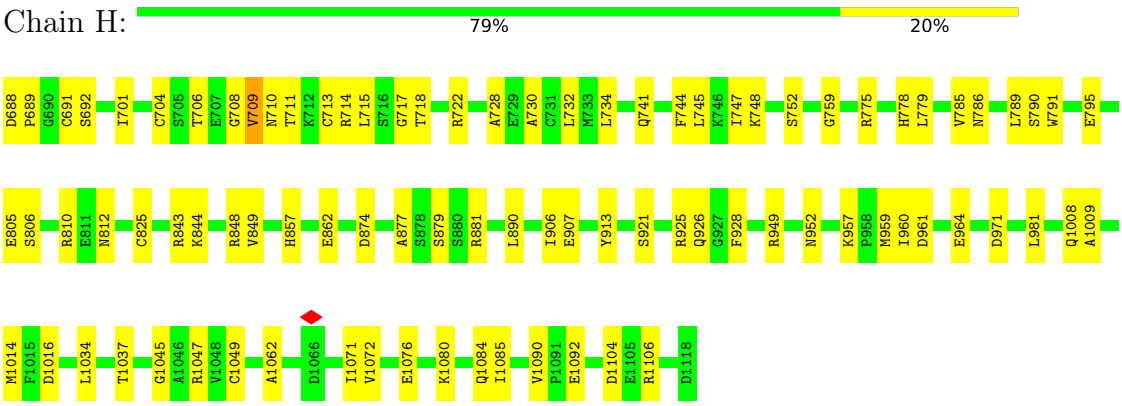
Chain F:





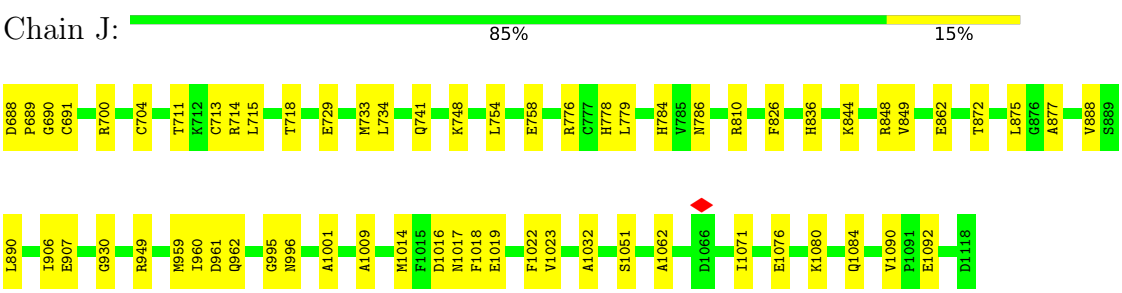
• Molecule 2: Glycoprotein

Chain H:



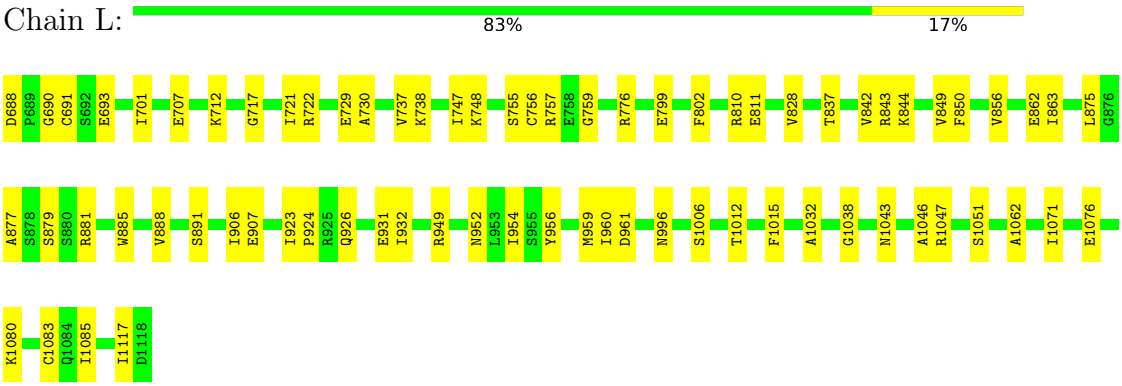
• Molecule 2: Glycoprotein

Chain J:



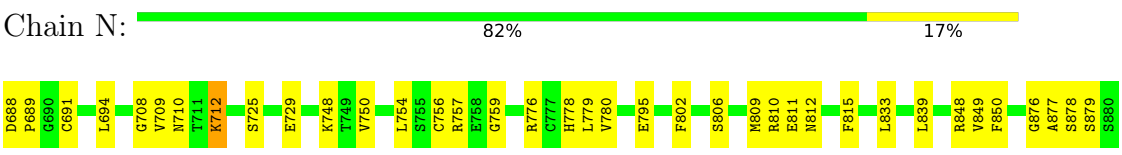
• Molecule 2: Glycoprotein

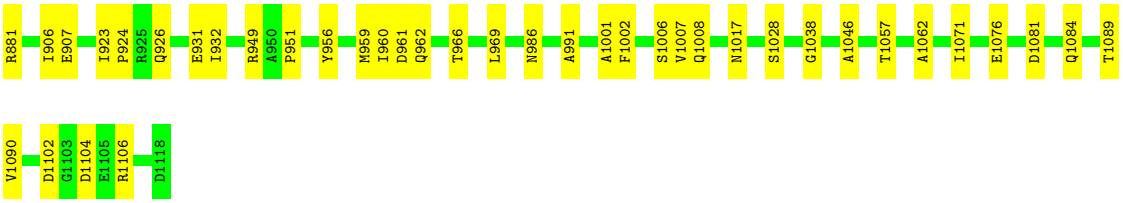
Chain L:



• Molecule 2: Glycoprotein

Chain N:



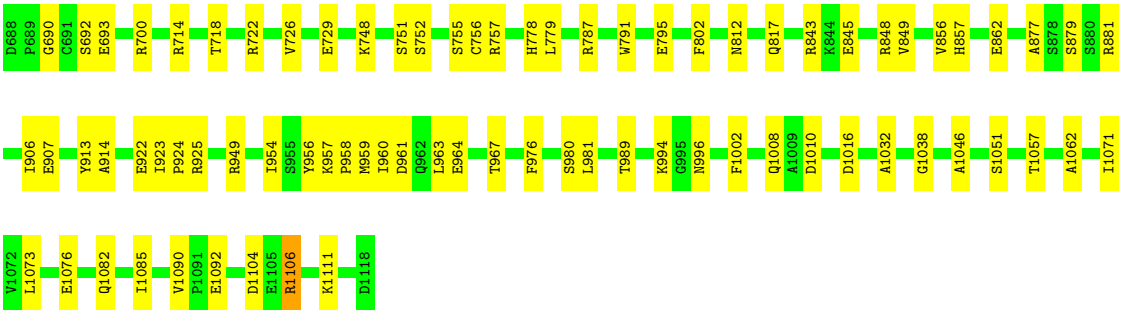


• Molecule 2: Glycoprotein

Chain P:

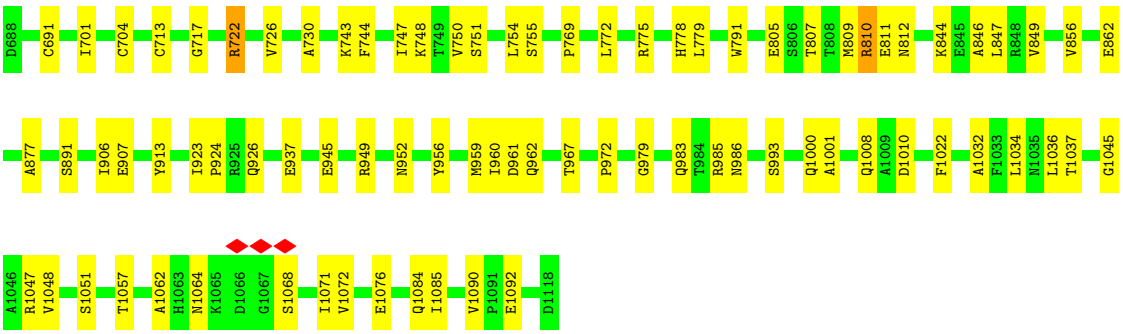
• Molecule 2: Glycoprotein

Chain R:



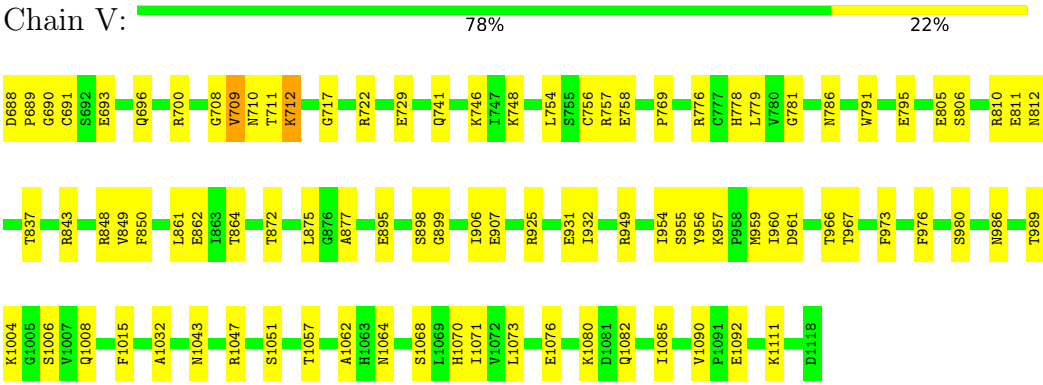
• Molecule 2: Glycoprotein

Chain T:



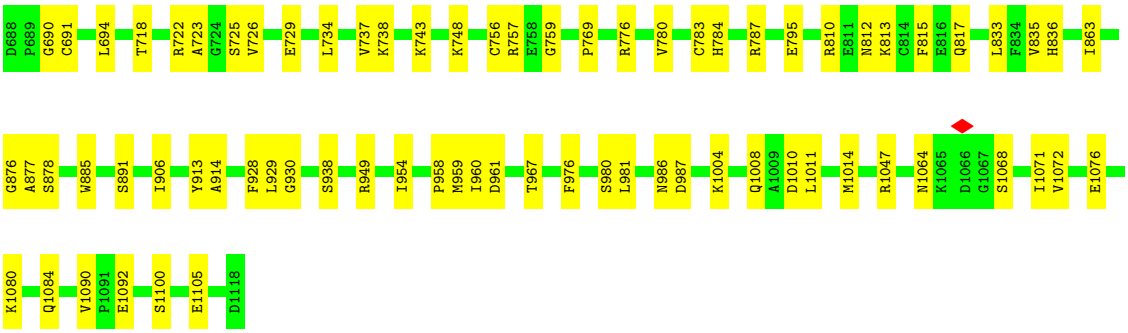
• Molecule 2: Glycoprotein

Chain V:



• Molecule 2: Glycoprotein

Chain Y:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, I	Depositor
Number of particles used	2995	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TECNAI F30	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	22	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.068	Depositor
Minimum map value	-0.020	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.013	Depositor
Recommended contour level	0.02	Depositor
Map size (Å)	1382.4, 1382.4, 1382.4	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	2.7, 2.7, 2.7	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	0.24	0/2373	0.40	0/3193
1	C	0.24	0/2373	0.40	0/3193
1	E	0.24	0/2373	0.40	0/3193
1	G	0.24	0/2373	0.41	0/3193
1	I	0.24	0/2373	0.40	0/3193
1	K	0.24	0/2373	0.41	0/3193
1	M	0.24	0/2373	0.40	0/3193
1	O	0.24	0/2373	0.40	0/3193
1	Q	0.24	0/2373	0.40	0/3193
1	S	0.24	0/2373	0.41	0/3193
1	U	0.24	0/2373	0.41	0/3193
1	X	0.24	0/2373	0.41	0/3193
2	B	0.24	0/3332	0.42	0/4503
2	D	0.24	0/3332	0.42	0/4503
2	F	0.24	0/3332	0.42	0/4503
2	H	0.24	0/3332	0.43	0/4503
2	J	0.24	0/3332	0.43	0/4503
2	L	0.24	0/3332	0.42	0/4503
2	N	0.24	0/3332	0.42	0/4503
2	P	0.24	0/3332	0.42	0/4503
2	R	0.24	0/3332	0.42	0/4503
2	T	0.24	0/3332	0.43	0/4503
2	V	0.24	0/3332	0.42	0/4503
2	Y	0.24	0/3332	0.42	0/4503
All	All	0.24	0/68460	0.42	0/92352

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2324	0	2259	25	0
1	C	2324	0	2259	19	0
1	E	2324	0	2259	22	0
1	G	2324	0	2259	26	0
1	I	2324	0	2259	28	0
1	K	2324	0	2259	23	0
1	M	2324	0	2259	23	0
1	O	2324	0	2259	25	0
1	Q	2324	0	2259	23	0
1	S	2324	0	2259	28	0
1	U	2324	0	2259	31	0
1	X	2324	0	2259	32	0
2	B	3272	0	3143	41	0
2	D	3272	0	3143	44	0
2	F	3272	0	3143	43	0
2	H	3272	0	3143	47	0
2	J	3272	0	3143	33	0
2	L	3272	0	3143	38	0
2	N	3272	0	3143	39	0
2	P	3272	0	3143	37	0
2	R	3272	0	3143	40	0
2	T	3272	0	3143	44	0
2	V	3272	0	3143	50	0
2	Y	3272	0	3143	38	0
All	All	67152	0	64824	766	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 6.

All (766) 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)
2:L:1062:ALA:HB3	2:L:1071:ILE:HB	1.71	0.73
2:J:1062:ALA:HB3	2:J:1071:ILE:HB	1.71	0.71
2:F:691:CYS:HA	2:F:729:GLU:HB2	1.71	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:1062:ALA:HB3	2:N:1071:ILE:HB	1.74	0.69
1:I:262:ASN:HD22	1:I:326:VAL:HG22	1.58	0.69
1:X:261:ASN:HD21	1:X:265:LYS:HB2	1.57	0.69
2:H:785:VAL:O	2:H:789:LEU:HB2	1.93	0.68
2:P:1062:ALA:HB3	2:P:1071:ILE:HB	1.76	0.67
1:S:359:LEU:H	2:T:772:LEU:HG	1.60	0.67
2:D:843:ARG:HG3	2:D:845:GLU:H	1.60	0.67
2:J:690:GLY:HA3	2:J:1084:GLN:HA	1.77	0.67
2:T:1062:ALA:HB3	2:T:1071:ILE:HB	1.77	0.67
1:E:261:ASN:HD21	1:E:265:LYS:HB2	1.59	0.66
2:T:748:LYS:HB3	2:T:862:GLU:HB3	1.78	0.66
2:B:691:CYS:HA	2:B:729:GLU:HB2	1.78	0.66
2:R:748:LYS:HB3	2:R:862:GLU:HB3	1.78	0.65
2:T:791:TRP:HE1	2:T:812:ASN:HB3	1.60	0.65
2:N:691:CYS:HA	2:N:729:GLU:HB2	1.79	0.64
2:T:805:GLU:OE2	2:T:810:ARG:NH2	2.30	0.64
2:B:722:ARG:HH22	2:B:1008:GLN:HG3	1.63	0.64
2:D:1064:ASN:HD21	2:D:1068:SER:H	1.44	0.64
1:K:261:ASN:HD21	1:K:265:LYS:HB2	1.62	0.63
2:F:890:LEU:HD11	2:F:1009:ALA:HB1	1.81	0.63
2:F:1104:ASP:OD2	2:F:1106:ARG:NH1	2.31	0.63
1:E:412:LYS:HD2	1:E:426:THR:HG21	1.81	0.62
1:C:367:LEU:HD12	1:C:422:ALA:HB2	1.82	0.62
1:X:438:ASN:HB2	2:Y:780:VAL:HG22	1.81	0.62
2:B:785:VAL:O	2:B:789:LEU:HB2	1.99	0.62
2:V:1062:ALA:HB3	2:V:1071:ILE:HB	1.80	0.62
1:A:336:LEU:HD13	1:A:465:LYS:HD3	1.82	0.62
2:H:1104:ASP:OD2	2:H:1106:ARG:NH1	2.32	0.62
1:S:231:LEU:HD23	1:S:237:ASN:HD21	1.64	0.61
2:N:1104:ASP:OD2	2:N:1106:ARG:NH1	2.33	0.61
2:D:1104:ASP:OD2	2:D:1106:ARG:NH1	2.33	0.61
1:G:321:VAL:HG22	1:G:466:ARG:HG2	1.82	0.61
2:R:1062:ALA:HB3	2:R:1071:ILE:HB	1.81	0.61
2:V:848:ARG:NH2	2:V:907:GLU:OE1	2.33	0.61
2:L:701:ILE:HD12	2:L:717:GLY:HA3	1.83	0.60
2:T:730:ALA:HB3	2:T:747:ILE:HB	1.83	0.60
1:G:377:HIS:HB3	1:I:285:ARG:HH21	1.65	0.60
1:C:426:THR:HB	1:C:429:TYR:HB2	1.84	0.60
1:A:174:GLN:HG3	1:A:294:LYS:HB3	1.83	0.60
2:H:730:ALA:HB3	2:H:747:ILE:HB	1.84	0.60
1:Q:316:THR:HG23	1:Q:355:TYR:HB2	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:316:THR:HG23	1:S:355:TYR:HB2	1.83	0.60
1:Q:261:ASN:HD21	1:Q:265:LYS:HB2	1.67	0.60
1:S:374:CYS:HA	1:S:434:CYS:HA	1.84	0.60
1:E:197:LYS:HA	1:E:204:GLN:HE22	1.67	0.59
2:H:848:ARG:NH2	2:H:907:GLU:OE1	2.33	0.59
1:E:427:ALA:HB1	1:G:283:PHE:HB3	1.84	0.59
2:D:748:LYS:HB3	2:D:862:GLU:HB3	1.83	0.59
2:D:1076:GLU:HB3	2:D:1080:LYS:HG3	1.85	0.59
1:A:446:GLN:HE21	1:A:449:GLY:HA2	1.68	0.59
2:B:849:VAL:HG22	2:B:906:ILE:HG12	1.85	0.59
1:Q:197:LYS:HA	1:Q:204:GLN:HE22	1.68	0.59
2:B:906:ILE:HB	2:B:914:ALA:HB3	1.85	0.59
2:H:805:GLU:OE2	2:H:810:ARG:NH2	2.35	0.59
1:U:362:LYS:HD3	1:U:444:GLN:HB2	1.85	0.59
1:Q:342:VAL:HG22	1:Q:461:ARG:HG2	1.85	0.58
2:J:718:THR:HG22	2:J:1014:MET:HG2	1.85	0.58
2:J:849:VAL:HG22	2:J:906:ILE:HG12	1.84	0.58
2:H:849:VAL:HG22	2:H:906:ILE:HG12	1.86	0.58
2:J:754:LEU:HB2	2:J:1001:ALA:HB3	1.86	0.58
1:S:197:LYS:HA	1:S:204:GLN:HE22	1.68	0.58
2:D:989:THR:HB	2:D:1002:PHE:HB2	1.86	0.58
1:X:159:ARG:HE	1:X:184:TYR:HA	1.68	0.58
2:H:691:CYS:H	2:H:1084:GLN:HA	1.68	0.58
1:K:426:THR:HB	1:K:429:TYR:HB2	1.86	0.58
2:F:992:ALA:O	2:F:1000:GLN:NE2	2.37	0.57
1:I:255:GLN:NE2	1:I:271:CYS:O	2.34	0.57
1:A:358:LYS:NZ	1:A:360:ASP:OD2	2.37	0.57
2:D:729:GLU:HG2	2:D:748:LYS:HA	1.86	0.57
2:F:805:GLU:OE1	2:F:810:ARG:NH2	2.36	0.57
2:R:756:CYS:SG	2:R:757:ARG:N	2.78	0.57
2:J:1032:ALA:HB3	2:J:1051:SER:HB2	1.86	0.57
2:B:1006:SER:OG	2:B:1008:GLN:NE2	2.38	0.57
2:D:752:SER:HG	2:D:857:HIS:HE2	1.47	0.57
1:M:374:CYS:HA	1:M:434:CYS:HA	1.86	0.57
1:K:201:PRO:HG2	2:L:802:PHE:HB3	1.86	0.57
2:T:1032:ALA:HB3	2:T:1051:SER:HB3	1.85	0.57
1:C:255:GLN:HB2	1:C:271:CYS:HB2	1.85	0.57
2:D:849:VAL:HG22	2:D:906:ILE:HG12	1.86	0.57
2:P:848:ARG:NH2	2:P:907:GLU:OE1	2.38	0.57
2:P:791:TRP:HE1	2:P:812:ASN:HB3	1.70	0.57
1:X:232:GLN:HE22	1:X:275:TYR:HD2	1.52	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:302:LEU:HD12	1:I:456:CYS:HB3	1.86	0.57
1:K:197:LYS:HA	1:K:204:GLN:HE22	1.69	0.57
1:K:212:LEU:HD23	1:K:258:HIS:HD2	1.69	0.57
1:U:305:GLN:HE22	1:U:443:VAL:HB	1.70	0.57
2:L:1038:GLY:HA3	2:L:1046:ALA:HA	1.86	0.57
2:D:1062:ALA:HB3	2:D:1071:ILE:HB	1.87	0.56
2:H:890:LEU:HD11	2:H:1009:ALA:HB1	1.86	0.56
1:M:196:GLU:O	1:M:204:GLN:NE2	2.38	0.56
2:V:957:LYS:NZ	2:V:966:THR:OG1	2.38	0.56
2:B:696:GLN:NE2	2:B:733:MET:SD	2.77	0.56
2:D:741:GLN:HE21	2:D:1024:GLY:HA2	1.70	0.56
2:R:913:TYR:HB2	2:R:981:LEU:HD12	1.87	0.56
2:N:849:VAL:HG22	2:N:906:ILE:HG12	1.87	0.56
1:O:324:VAL:HG23	1:O:464:VAL:HG22	1.88	0.56
2:Y:784:HIS:HD2	2:Y:787:ARG:HH21	1.54	0.56
1:K:271:CYS:HB3	1:K:275:TYR:HB2	1.87	0.56
1:E:300:GLN:NE2	1:E:460:GLU:OE1	2.39	0.56
1:U:261:ASN:HD21	1:U:265:LYS:HB2	1.69	0.56
1:C:252:ASN:O	1:C:254:TYR:N	2.38	0.56
1:G:467:GLU:OE1	2:J:1017:ASN:ND2	2.38	0.56
2:R:906:ILE:HB	2:R:914:ALA:HB3	1.88	0.56
1:X:263:ASP:OD1	1:X:352:LYS:NZ	2.38	0.56
1:G:442:ILE:HG23	1:G:453:LYS:HD2	1.88	0.56
1:O:405:ILE:HA	1:O:424:GLU:HB2	1.88	0.56
2:F:885:TRP:HH2	2:F:1013:LEU:HD22	1.71	0.56
1:C:412:LYS:HD2	1:C:426:THR:HG21	1.88	0.56
2:F:806:SER:O	2:F:810:ARG:NH1	2.39	0.56
2:N:923:ILE:HD12	2:N:924:PRO:HD2	1.88	0.56
2:B:775:ARG:NH1	2:B:777:CYS:SG	2.78	0.55
1:C:278:THR:HG22	1:C:285:ARG:HD2	1.87	0.55
2:D:926:GLN:NE2	2:D:951:PRO:O	2.39	0.55
1:I:374:CYS:HA	1:I:434:CYS:HA	1.87	0.55
1:O:255:GLN:NE2	1:O:271:CYS:O	2.36	0.55
1:S:158:LEU:HD12	1:S:159:ARG:HG3	1.87	0.55
1:S:302:LEU:HD12	1:S:456:CYS:HB3	1.87	0.55
1:X:246:MET:HG2	1:X:462:VAL:HG12	1.88	0.55
1:A:261:ASN:HD21	1:A:265:LYS:HB2	1.70	0.55
2:P:879:SER:OG	2:P:881:ARG:NH1	2.40	0.55
2:R:849:VAL:HG22	2:R:906:ILE:HG12	1.88	0.55
2:L:842:VAL:HG23	2:L:843:ARG:HD2	1.88	0.55
2:V:849:VAL:HG22	2:V:906:ILE:HG12	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:161:ARG:NH2	1:C:209:HIS:O	2.40	0.55
1:A:230:ASP:O	1:A:237:ASN:ND2	2.40	0.55
2:R:693:GLU:HG2	2:R:722:ARG:HB2	1.89	0.55
2:R:989:THR:HB	2:R:1002:PHE:HB2	1.89	0.55
1:U:250:CYS:N	1:U:281:CYS:SG	2.79	0.55
2:F:1062:ALA:HB3	2:F:1071:ILE:HB	1.88	0.55
2:P:690:GLY:H	2:P:1085:ILE:HG12	1.71	0.55
1:A:374:CYS:HA	1:A:434:CYS:HA	1.89	0.55
1:M:358:LYS:NZ	1:M:360:ASP:OD2	2.40	0.55
2:L:828:VAL:HG11	1:M:337:SER:HA	1.89	0.55
2:Y:734:LEU:HB3	2:Y:743:LYS:HB2	1.87	0.55
2:F:1032:ALA:HB3	2:F:1051:SER:HB2	1.88	0.55
2:N:756:CYS:SG	2:N:757:ARG:N	2.80	0.55
1:C:300:GLN:NE2	1:C:460:GLU:OE1	2.40	0.54
2:R:729:GLU:HG2	2:R:748:LYS:HA	1.88	0.54
1:U:327:GLN:NE2	1:U:353:LYS:O	2.38	0.54
1:S:183:THR:HG23	1:S:185:ALA:H	1.73	0.54
2:N:879:SER:OG	2:N:881:ARG:NH1	2.40	0.54
2:V:989:THR:HB	2:V:1002:PHE:HB2	1.89	0.54
1:G:161:ARG:NH2	1:G:209:HIS:O	2.40	0.54
2:D:992:ALA:O	2:D:1000:GLN:NE2	2.41	0.54
2:F:849:VAL:HG22	2:F:906:ILE:HG12	1.88	0.54
2:H:843:ARG:NH1	2:J:1014:MET:SD	2.81	0.54
1:K:277:LEU:HD13	1:K:281:CYS:HB2	1.88	0.54
1:Q:201:PRO:HG2	2:R:802:PHE:HB3	1.90	0.54
2:V:843:ARG:NH1	2:Y:1014:MET:SD	2.80	0.54
1:A:362:LYS:NZ	2:B:961:ASP:OD2	2.40	0.54
2:D:756:CYS:SG	2:D:757:ARG:N	2.81	0.54
2:L:748:LYS:HB3	2:L:862:GLU:HB3	1.89	0.54
1:O:376:GLU:HA	1:O:432:ALA:HA	1.89	0.54
2:P:875:LEU:HD21	2:P:888:VAL:HG23	1.89	0.54
2:F:729:GLU:HG2	2:F:748:LYS:HA	1.89	0.54
2:H:879:SER:OG	2:H:881:ARG:NH1	2.39	0.54
2:H:1034:LEU:HD23	2:H:1049:CYS:HB3	1.89	0.54
2:N:926:GLN:NE2	2:N:951:PRO:O	2.41	0.54
2:R:817:GLN:HE22	2:R:958:PRO:HB3	1.72	0.54
2:T:701:ILE:HD12	2:T:717:GLY:HA3	1.90	0.54
2:T:993:SER:HB2	2:T:1000:GLN:HB3	1.89	0.54
2:J:741:GLN:NE2	2:J:1023:VAL:O	2.40	0.53
2:P:756:CYS:SG	2:P:757:ARG:N	2.81	0.53
2:B:1062:ALA:HB3	2:B:1071:ILE:HB	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:975:VAL:HA	2:D:978:ARG:HG2	1.90	0.53
2:F:906:ILE:HB	2:F:914:ALA:HB3	1.90	0.53
2:Y:756:CYS:SG	2:Y:757:ARG:N	2.81	0.53
1:I:248:THR:HB	1:I:299:LEU:HD22	1.89	0.53
2:L:756:CYS:SG	2:L:757:ARG:N	2.82	0.53
1:A:367:LEU:HD22	1:A:422:ALA:HB2	1.91	0.53
2:L:693:GLU:HG3	2:L:722:ARG:HB3	1.90	0.53
1:S:263:ASP:OD1	1:S:352:LYS:NZ	2.39	0.53
1:M:373:VAL:HG13	1:M:437:ALA:HB2	1.90	0.53
2:N:1038:GLY:HA3	2:N:1046:ALA:HA	1.89	0.53
2:L:688:ASP:HB2	2:L:1083:CYS:HB2	1.91	0.53
1:A:255:GLN:NE2	1:A:271:CYS:O	2.41	0.53
1:C:327:GLN:NE2	1:C:353:LYS:O	2.41	0.53
2:D:691:CYS:HA	2:D:729:GLU:HB2	1.91	0.53
2:V:1032:ALA:HB3	2:V:1051:SER:HB3	1.90	0.53
1:I:206:TYR:HE1	2:J:776:ARG:HH22	1.57	0.53
2:L:1047:ARG:HG2	2:L:1085:ILE:HG12	1.91	0.53
2:P:722:ARG:NH2	2:P:1008:GLN:OE1	2.41	0.53
2:D:704:CYS:HA	2:D:713:CYS:HA	1.89	0.53
2:F:690:GLY:HA3	2:F:1084:GLN:HA	1.91	0.53
2:T:983:GLN:OE1	2:T:985:ARG:NH2	2.42	0.53
1:U:263:ASP:OD1	1:U:352:LYS:NZ	2.40	0.53
1:C:349:LYS:NZ	1:C:350:ASN:OD1	2.41	0.52
1:G:261:ASN:HD21	1:G:265:LYS:HB2	1.74	0.52
2:L:1032:ALA:HB3	2:L:1051:SER:HB3	1.91	0.52
2:B:756:CYS:SG	2:B:757:ARG:N	2.82	0.52
2:D:923:ILE:HD12	2:D:924:PRO:HD2	1.91	0.52
1:M:263:ASP:OD1	1:M:352:LYS:NZ	2.39	0.52
1:X:259:TYR:HB3	1:X:299:LEU:HD12	1.91	0.52
1:U:403:PRO:HB2	1:U:424:GLU:HB3	1.89	0.52
2:Y:769:PRO:HG3	2:Y:967:THR:HG23	1.91	0.52
2:Y:813:LYS:HB2	2:Y:835:VAL:HB	1.91	0.52
1:C:323:GLU:HG2	1:C:328:ALA:HA	1.91	0.52
2:L:923:ILE:HD12	2:L:924:PRO:HD2	1.91	0.52
1:M:255:GLN:NE2	1:M:271:CYS:O	2.35	0.52
2:P:704:CYS:HA	2:P:713:CYS:HA	1.90	0.52
2:P:849:VAL:HG22	2:P:906:ILE:HG12	1.91	0.52
1:U:230:ASP:O	1:U:237:ASN:ND2	2.42	0.52
2:D:722:ARG:NH1	2:D:1010:ASP:OD1	2.40	0.52
2:L:849:VAL:HG22	2:L:906:ILE:HG12	1.92	0.52
2:N:795:GLU:O	2:N:812:ASN:ND2	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:T:926:GLN:NE2	2:T:952:ASN:O	2.43	0.52
2:Y:694:LEU:HD21	2:Y:1072:VAL:HG12	1.92	0.52
1:A:275:TYR:HB3	1:A:284:CYS:HB3	1.91	0.52
2:B:701:ILE:HD12	2:B:717:GLY:HA3	1.91	0.52
2:H:704:CYS:HA	2:H:713:CYS:HA	1.91	0.52
1:S:277:LEU:O	1:S:285:ARG:NH2	2.42	0.52
2:V:691:CYS:HA	2:V:729:GLU:HB2	1.91	0.52
2:Y:722:ARG:NH2	2:Y:1008:GLN:OE1	2.42	0.52
2:H:1076:GLU:OE1	2:H:1080:LYS:NZ	2.41	0.52
1:S:376:GLU:HB2	1:S:397:PHE:HB2	1.92	0.52
2:F:700:ARG:HD3	2:F:701:ILE:HG23	1.90	0.52
2:F:1071:ILE:HA	2:F:1084:GLN:HE22	1.75	0.52
1:S:248:THR:HB	1:S:299:LEU:HD22	1.92	0.52
1:I:261:ASN:HD21	1:I:265:LYS:HB2	1.75	0.52
2:J:890:LEU:HD11	2:J:1009:ALA:HB1	1.92	0.52
1:K:446:GLN:HE21	1:K:449:GLY:HA2	1.75	0.52
2:L:691:CYS:HA	2:L:729:GLU:HB2	1.91	0.51
1:X:374:CYS:HA	1:X:434:CYS:HA	1.92	0.51
2:Y:691:CYS:HA	2:Y:729:GLU:HB2	1.92	0.51
2:T:1090:VAL:HG22	2:T:1092:GLU:H	1.75	0.51
1:A:176:ASP:HB2	1:A:180:LYS:HE2	1.92	0.51
2:J:1076:GLU:OE1	2:J:1080:LYS:NZ	2.43	0.51
1:U:166:HIS:H	1:U:214:GLU:HG2	1.74	0.51
1:E:319:LYS:NZ	2:H:1016:ASP:OD2	2.42	0.51
2:J:848:ARG:NH2	2:J:907:GLU:OE1	2.34	0.51
1:A:197:LYS:HA	1:A:204:GLN:HE22	1.76	0.51
1:A:376:GLU:HB2	1:A:397:PHE:HB2	1.92	0.51
2:D:906:ILE:HB	2:D:914:ALA:HB3	1.93	0.51
1:Q:336:LEU:HD13	1:Q:465:LYS:HB3	1.92	0.51
2:T:979:GLY:HA2	2:T:983:GLN:HE22	1.76	0.51
2:Y:987:ASP:O	2:Y:1004:LYS:NZ	2.43	0.51
1:I:347:VAL:HG22	1:I:353:LYS:HA	1.92	0.51
2:J:711:THR:HB	2:J:1022:PHE:HB2	1.92	0.51
2:J:729:GLU:HG2	2:J:748:LYS:HA	1.93	0.51
2:R:755:SER:N	2:R:856:VAL:O	2.42	0.51
1:S:167:ASN:HD22	1:S:182:VAL:HG21	1.76	0.51
1:E:330:LYS:HD2	2:H:714:ARG:HH22	1.76	0.51
1:G:278:THR:HG22	1:G:285:ARG:HD3	1.93	0.51
2:H:957:LYS:HB2	2:H:964:GLU:HB3	1.92	0.51
2:N:848:ARG:NH2	2:N:907:GLU:OE1	2.36	0.51
2:N:806:SER:O	2:N:810:ARG:NH1	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Q:344:PRO:HG2	1:Q:356:LEU:HB2	1.92	0.51
2:R:848:ARG:NH2	2:R:907:GLU:OE1	2.37	0.51
1:X:278:THR:HG22	1:X:285:ARG:HD3	1.93	0.51
2:B:785:VAL:O	2:B:789:LEU:CB	2.59	0.51
2:F:722:ARG:NH1	2:F:1010:ASP:OD1	2.43	0.51
2:J:758:GLU:OE2	2:J:848:ARG:NH2	2.43	0.51
2:B:690:GLY:H	2:B:1084:GLN:HA	1.76	0.50
2:B:729:GLU:HG2	2:B:748:LYS:HA	1.94	0.50
1:C:261:ASN:HD21	1:C:265:LYS:HB2	1.76	0.50
2:L:1076:GLU:OE1	2:L:1080:LYS:NZ	2.43	0.50
1:Q:316:THR:OG1	1:Q:327:GLN:OE1	2.29	0.50
2:V:806:SER:O	2:V:810:ARG:NH1	2.44	0.50
2:L:690:GLY:HA3	2:L:1085:ILE:H	1.76	0.50
2:P:746:LYS:HB2	2:P:864:THR:HB	1.94	0.50
2:J:691:CYS:HA	2:J:729:GLU:HB2	1.93	0.50
2:R:692:SER:OG	2:R:693:GLU:OE1	2.29	0.50
2:R:923:ILE:HD12	2:R:924:PRO:HD2	1.94	0.50
1:E:307:SER:HB3	1:E:455:LEU:HD23	1.94	0.50
2:R:787:ARG:NH2	2:R:795:GLU:OE2	2.45	0.50
1:S:316:THR:HG22	1:S:318:MET:H	1.77	0.50
1:Q:358:LYS:NZ	1:Q:446:GLN:OE1	2.45	0.50
1:G:336:LEU:HD11	1:G:465:LYS:HB3	1.93	0.50
1:I:376:GLU:HB3	1:I:397:PHE:HB2	1.94	0.50
1:I:379:GLY:HA2	1:K:286:GLN:H	1.76	0.50
1:O:261:ASN:HD21	1:O:265:LYS:HB2	1.76	0.50
2:V:830:PRO:HG2	2:Y:938:SER:HB3	1.94	0.50
2:F:957:LYS:HB2	2:F:964:GLU:HB2	1.94	0.50
2:L:891:SER:HB2	2:L:1012:THR:HG23	1.92	0.50
1:U:324:VAL:HG23	1:U:464:VAL:HG22	1.93	0.50
2:D:811:GLU:OE2	2:D:956:TYR:OH	2.29	0.49
2:N:1071:ILE:HA	2:N:1084:GLN:HE22	1.77	0.49
2:T:754:LEU:HB2	2:T:1001:ALA:HB3	1.94	0.49
2:V:769:PRO:HG3	2:V:967:THR:HG23	1.94	0.49
1:A:159:ARG:NH2	1:A:183:THR:O	2.41	0.49
2:D:754:LEU:HB2	2:D:1001:ALA:HB3	1.93	0.49
2:P:805:GLU:OE2	2:P:810:ARG:NH2	2.45	0.49
2:B:848:ARG:NH2	2:B:907:GLU:OE1	2.33	0.49
1:K:376:GLU:HG3	1:K:397:PHE:HB2	1.93	0.49
2:L:747:ILE:HD12	2:L:863:ILE:HG12	1.94	0.49
2:V:837:THR:HG21	2:V:954:ILE:HG21	1.95	0.49
1:C:263:ASP:OD1	1:C:352:LYS:NZ	2.39	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:373:VAL:HG13	1:C:437:ALA:HB2	1.95	0.49
2:J:1090:VAL:HG22	2:J:1092:GLU:H	1.77	0.49
1:S:376:GLU:OE1	1:S:395:LYS:NZ	2.37	0.49
2:H:775:ARG:NH1	2:H:825:CYS:SG	2.85	0.49
1:K:159:ARG:HH21	1:K:186:GLY:H	1.59	0.49
2:T:811:GLU:OE2	2:T:956:TYR:OH	2.27	0.49
2:Y:795:GLU:O	2:Y:812:ASN:ND2	2.39	0.49
2:H:926:GLN:NE2	2:H:952:ASN:O	2.46	0.49
2:R:879:SER:OG	2:R:881:ARG:NH1	2.41	0.49
2:D:858:LYS:NZ	2:D:860:THR:OG1	2.45	0.49
2:R:1032:ALA:HB3	2:R:1051:SER:HB3	1.95	0.49
1:S:159:ARG:NH2	1:S:183:THR:O	2.40	0.49
1:G:302:LEU:HD12	1:G:456:CYS:HB3	1.95	0.49
1:O:161:ARG:NH1	1:O:207:ALA:O	2.45	0.49
2:R:722:ARG:NH1	2:R:1010:ASP:OD1	2.46	0.49
2:B:817:GLN:HE22	2:B:958:PRO:HB2	1.77	0.48
1:I:309:ASP:HB2	1:I:453:LYS:HE3	1.95	0.48
1:S:468:LEU:HD12	2:T:844:LYS:HG2	1.95	0.48
2:V:693:GLU:HG2	2:V:722:ARG:HB3	1.95	0.48
1:A:336:LEU:HD22	1:A:465:LYS:HB3	1.94	0.48
1:C:197:LYS:HA	1:C:204:GLN:HE22	1.78	0.48
2:D:1059:SER:HA	2:D:1074:PRO:HA	1.95	0.48
2:P:1090:VAL:HG22	2:P:1092:GLU:H	1.78	0.48
2:B:733:MET:HG3	2:B:744:PHE:HE1	1.77	0.48
1:E:194:LEU:HA	1:E:200:PHE:HD2	1.78	0.48
1:I:156:PRO:HD3	1:I:438:ASN:H	1.78	0.48
1:I:242:GLU:HG2	1:I:326:VAL:HG21	1.94	0.48
1:X:361:LEU:HG	1:X:445:ILE:HG13	1.93	0.48
2:H:957:LYS:HG2	2:J:996:ASN:HD21	1.77	0.48
2:T:1045:GLY:HA3	2:T:1085:ILE:HD11	1.95	0.48
2:Y:863:ILE:HG21	2:Y:885:TRP:HE1	1.78	0.48
2:D:976:PHE:O	2:D:980:SER:OG	2.28	0.48
1:E:344:PRO:HB3	1:E:459:TYR:HE1	1.79	0.48
2:H:722:ARG:NH2	2:H:1008:GLN:OE1	2.46	0.48
2:P:913:TYR:HB2	2:P:981:LEU:HD12	1.94	0.48
2:R:1090:VAL:HG22	2:R:1092:GLU:H	1.79	0.48
1:I:412:LYS:HD2	1:I:426:THR:HG21	1.95	0.48
1:O:273:PRO:HA	1:O:274:LYS:HA	1.47	0.48
2:P:1023:VAL:HG22	2:P:1025:ALA:H	1.78	0.48
1:S:273:PRO:HA	1:S:274:LYS:HA	1.53	0.48
2:F:950:ALA:HB3	2:F:953:LEU:HD11	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:776:ARG:NH2	2:L:799:GLU:OE2	2.46	0.48
1:O:426:THR:HB	1:O:429:TYR:HB2	1.96	0.48
2:R:959:MET:O	2:R:961:ASP:N	2.47	0.48
2:J:784:HIS:HD1	2:J:786:ASN:H	1.61	0.48
1:X:208:HIS:HB3	1:X:440:SER:HB2	1.96	0.48
2:F:791:TRP:HE1	2:F:812:ASN:HB3	1.79	0.47
2:F:891:SER:HB2	2:F:1010:ASP:HB2	1.96	0.47
2:J:715:LEU:HD11	2:J:734:LEU:HD22	1.96	0.47
1:K:367:LEU:HD22	1:K:422:ALA:HB2	1.96	0.47
2:L:926:GLN:NE2	2:L:952:ASN:O	2.47	0.47
2:P:817:GLN:HE22	2:P:958:PRO:HB2	1.79	0.47
2:F:776:ARG:HD2	2:F:780:VAL:HG11	1.96	0.47
2:L:730:ALA:HB3	2:L:747:ILE:HB	1.97	0.47
2:R:1057:THR:HA	2:R:1076:GLU:HA	1.96	0.47
2:Y:723:ALA:HB2	2:Y:1011:LEU:HG	1.95	0.47
2:Y:913:TYR:HB2	2:Y:981:LEU:HD12	1.96	0.47
1:G:321:VAL:HA	1:G:466:ARG:HA	1.95	0.47
2:H:791:TRP:HE1	2:H:812:ASN:HB3	1.79	0.47
2:L:755:SER:N	2:L:856:VAL:O	2.47	0.47
1:O:342:VAL:HG22	1:O:461:ARG:HG2	1.95	0.47
2:P:795:GLU:O	2:P:812:ASN:ND2	2.48	0.47
2:T:744:PHE:HZ	2:T:1072:VAL:HG13	1.80	0.47
1:E:263:ASP:OD1	1:E:352:LYS:NZ	2.42	0.47
1:I:365:GLU:HG3	2:J:826:PHE:HD1	1.79	0.47
2:P:723:ALA:HB2	2:P:1011:LEU:HG	1.97	0.47
2:V:898:SER:OG	2:V:899:GLY:N	2.48	0.47
2:Y:737:VAL:HG23	2:Y:738:LYS:HG2	1.96	0.47
2:Y:1064:ASN:HD21	2:Y:1068:SER:H	1.62	0.47
2:B:795:GLU:O	2:B:812:ASN:ND2	2.45	0.47
2:F:904:SER:HB2	2:F:916:VAL:HB	1.96	0.47
2:H:1090:VAL:HG22	2:H:1092:GLU:H	1.79	0.47
1:M:305:GLN:NE2	1:M:454:PRO:O	2.37	0.47
1:Q:212:LEU:HD23	1:Q:258:HIS:HD2	1.78	0.47
1:U:273:PRO:HA	1:U:274:LYS:HA	1.56	0.47
2:B:959:MET:O	2:B:961:ASP:N	2.47	0.47
2:B:991:ALA:HB3	2:B:1000:GLN:HE21	1.80	0.47
1:E:246:MET:HG2	1:E:462:VAL:HG12	1.96	0.47
2:F:704:CYS:HA	2:F:713:CYS:HA	1.96	0.47
1:G:321:VAL:HG11	1:G:324:VAL:HB	1.95	0.47
2:H:844:LYS:NZ	2:J:1016:ASP:OD1	2.48	0.47
1:O:243:LYS:NZ	1:O:281:CYS:O	2.36	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:P:1064:ASN:ND2	2:P:1068:SER:OG	2.47	0.47
1:S:246:MET:HG2	1:S:462:VAL:HG12	1.96	0.47
2:T:849:VAL:HG22	2:T:906:ILE:HG12	1.96	0.47
2:T:923:ILE:HD12	2:T:924:PRO:HD2	1.96	0.47
1:U:222:ALA:HB3	1:U:265:LYS:HG2	1.97	0.47
2:V:712:LYS:H	2:V:712:LYS:HD2	1.80	0.47
2:V:729:GLU:OE2	2:V:748:LYS:NZ	2.37	0.47
2:V:754:LEU:HB2	2:V:1001:ALA:HB3	1.97	0.47
2:Y:1090:VAL:HG22	2:Y:1092:GLU:H	1.79	0.47
2:B:954:ILE:HA	2:B:967:THR:HG22	1.97	0.47
2:B:1038:GLY:HA3	2:B:1046:ALA:HA	1.97	0.47
2:F:717:GLY:H	2:F:1015:PHE:HB2	1.79	0.47
2:F:959:MET:O	2:F:961:ASP:N	2.48	0.47
1:O:349:LYS:NZ	1:O:350:ASN:OD1	2.41	0.47
1:X:259:TYR:HB2	1:X:300:GLN:HE22	1.79	0.47
1:I:275:TYR:HB3	1:I:284:CYS:HB3	1.96	0.47
1:M:246:MET:SD	1:M:300:GLN:NE2	2.88	0.47
1:M:324:VAL:HG23	1:M:464:VAL:HG22	1.96	0.47
2:V:690:GLY:H	2:V:1085:ILE:HG12	1.80	0.47
2:V:1006:SER:OG	2:V:1043:ASN:ND2	2.45	0.47
1:E:426:THR:HB	1:E:429:TYR:HB2	1.97	0.47
2:N:1057:THR:HA	2:N:1076:GLU:HA	1.96	0.47
2:R:692:SER:OG	2:R:729:GLU:O	2.29	0.47
1:S:321:VAL:HG22	1:S:466:ARG:HG2	1.97	0.47
2:V:711:THR:HB	2:V:741:GLN:HE22	1.80	0.47
2:V:955:SER:OG	2:V:957:LYS:NZ	2.48	0.47
2:D:700:ARG:HG3	2:D:701:ILE:HG23	1.96	0.46
2:H:748:LYS:HB3	2:H:862:GLU:HB3	1.97	0.46
2:L:837:THR:HG21	2:L:954:ILE:HG21	1.97	0.46
1:M:261:ASN:HD21	1:M:265:LYS:HB2	1.79	0.46
1:M:273:PRO:HA	1:M:274:LYS:HA	1.52	0.46
1:Q:321:VAL:HG22	1:Q:466:ARG:HG2	1.97	0.46
2:T:959:MET:O	2:T:961:ASP:N	2.48	0.46
1:X:255:GLN:NE2	1:X:271:CYS:O	2.35	0.46
2:D:714:ARG:HD2	2:D:1017:ASN:ND2	2.30	0.46
2:F:725:SER:OG	2:F:726:VAL:N	2.48	0.46
2:H:806:SER:O	2:H:810:ARG:NH1	2.48	0.46
2:V:746:LYS:HB2	2:V:864:THR:HB	1.96	0.46
2:Y:954:ILE:HA	2:Y:967:THR:HG22	1.96	0.46
2:B:879:SER:OG	2:B:881:ARG:NH1	2.47	0.46
1:C:344:PRO:HG2	1:C:356:LEU:HB2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:959:MET:O	2:D:961:ASP:N	2.48	0.46
2:H:959:MET:O	2:H:961:ASP:N	2.48	0.46
1:G:259:TYR:HB3	1:G:299:LEU:HD12	1.98	0.46
2:R:954:ILE:HA	2:R:967:THR:HG22	1.97	0.46
2:V:976:PHE:O	2:V:980:SER:OG	2.31	0.46
1:X:197:LYS:HA	1:X:204:GLN:HE22	1.79	0.46
1:X:210:ARG:NH2	1:X:370:ASP:OD2	2.49	0.46
2:Y:959:MET:O	2:Y:961:ASP:N	2.48	0.46
2:B:976:PHE:O	2:B:980:SER:OG	2.33	0.46
2:H:711:THR:O	2:H:741:GLN:NE2	2.48	0.46
1:O:313:LYS:H	1:O:313:LYS:HD2	1.80	0.46
2:R:690:GLY:HA3	2:R:1085:ILE:H	1.81	0.46
2:V:959:MET:O	2:V:961:ASP:N	2.49	0.46
2:F:1037:THR:O	2:F:1047:ARG:N	2.46	0.46
1:K:323:GLU:HG2	1:K:328:ALA:HA	1.98	0.46
2:R:791:TRP:HE1	2:R:812:ASN:HB3	1.81	0.46
1:X:362:LYS:HE3	1:X:444:GLN:HB2	1.97	0.46
2:D:725:SER:HA	2:D:1007:VAL:HB	1.98	0.46
2:N:712:LYS:H	2:N:712:LYS:HD2	1.80	0.46
1:O:250:CYS:HB2	1:O:281:CYS:HB3	1.78	0.46
2:T:1071:ILE:HA	2:T:1084:GLN:HE22	1.81	0.46
2:Y:891:SER:HB3	2:Y:1010:ASP:HB2	1.97	0.46
1:I:276:GLU:OE2	1:I:285:ARG:NE	2.46	0.46
1:K:259:TYR:HB3	1:K:299:LEU:HD12	1.98	0.46
1:K:348:PHE:HZ	1:K:447:VAL:HG21	1.81	0.46
2:V:756:CYS:SG	2:V:757:ARG:N	2.89	0.46
2:V:758:GLU:OE2	2:V:848:ARG:NH1	2.48	0.46
2:Y:815:PHE:HB2	2:Y:833:LEU:HD23	1.98	0.46
2:T:1057:THR:HA	2:T:1076:GLU:HA	1.97	0.46
2:Y:725:SER:OG	2:Y:726:VAL:N	2.48	0.46
2:D:710:ASN:ND2	2:D:1022:PHE:O	2.39	0.45
2:R:752:SER:HG	2:R:857:HIS:HE2	1.63	0.45
2:V:1064:ASN:ND2	2:V:1068:SER:OG	2.44	0.45
1:A:302:LEU:HD12	1:A:456:CYS:HB3	1.98	0.45
2:B:714:ARG:HD3	2:B:1017:ASN:HD21	1.80	0.45
1:E:273:PRO:HA	1:E:274:LYS:HA	1.55	0.45
2:F:1026:ALA:HB3	2:F:1102:ASP:HA	1.97	0.45
1:K:255:GLN:HG3	1:K:271:CYS:HB2	1.98	0.45
1:M:250:CYS:N	1:M:281:CYS:SG	2.89	0.45
1:M:426:THR:HB	1:M:429:TYR:HB2	1.97	0.45
1:Q:222:ALA:HB3	1:Q:265:LYS:HG2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:323:GLU:HB3	1:X:465:LYS:HD2	1.98	0.45
2:H:795:GLU:O	2:H:812:ASN:ND2	2.48	0.45
1:I:451:TRP:NE1	2:J:962:GLN:OE1	2.44	0.45
2:T:807:THR:O	2:T:945:GLU:N	2.49	0.45
1:U:312:SER:HA	1:U:351:SER:HB3	1.98	0.45
1:O:307:SER:HB3	1:O:455:LEU:HD23	1.98	0.45
2:P:843:ARG:HH12	2:R:718:THR:HG21	1.81	0.45
1:S:363:THR:O	2:T:775:ARG:NH2	2.49	0.45
1:X:232:GLN:HE21	1:X:284:CYS:HB2	1.82	0.45
1:A:202:LEU:HD21	1:A:303:PHE:HD1	1.81	0.45
2:L:959:MET:O	2:L:961:ASP:N	2.50	0.45
2:L:1006:SER:OG	2:L:1043:ASN:ND2	2.43	0.45
1:Q:324:VAL:HG23	1:Q:464:VAL:HG22	1.97	0.45
2:B:1032:ALA:HB3	2:B:1051:SER:HB3	1.98	0.45
1:I:252:ASN:O	1:I:254:TYR:N	2.44	0.45
2:N:991:ALA:HB3	2:N:1002:PHE:HE2	1.82	0.45
2:P:690:GLY:HA3	2:P:1084:GLN:HA	1.98	0.45
1:Q:250:CYS:N	1:Q:281:CYS:SG	2.90	0.45
2:R:976:PHE:O	2:R:980:SER:OG	2.33	0.45
1:U:175:GLU:HB3	1:U:294:LYS:HE3	1.96	0.45
1:U:206:TYR:HE1	2:V:776:ARG:HH12	1.63	0.45
2:Y:718:THR:OG1	2:Y:1014:MET:SD	2.69	0.45
1:A:250:CYS:N	1:A:281:CYS:SG	2.90	0.45
2:F:875:LEU:HD11	2:F:888:VAL:HG13	1.98	0.45
1:I:398:ASP:OD2	1:I:400:SER:OG	2.26	0.45
1:K:460:GLU:HG2	1:K:462:VAL:HG13	1.98	0.45
2:L:811:GLU:OE2	2:L:956:TYR:OH	2.32	0.45
2:N:754:LEU:HB2	2:N:1001:ALA:HB3	1.98	0.45
2:D:769:PRO:HG3	2:D:967:THR:HG23	1.98	0.45
2:P:755:SER:N	2:P:856:VAL:O	2.50	0.45
2:T:810:ARG:H	2:T:810:ARG:HD3	1.81	0.45
2:V:1076:GLU:OE2	2:V:1080:LYS:NZ	2.41	0.45
1:X:242:GLU:HA	1:X:326:VAL:HG11	1.99	0.45
1:I:167:ASN:HD22	1:I:182:VAL:HG21	1.82	0.45
1:Q:321:VAL:HG11	1:Q:324:VAL:HB	1.99	0.45
1:U:347:VAL:HG22	1:U:353:LYS:HA	1.99	0.45
1:X:273:PRO:HA	1:X:274:LYS:HA	1.50	0.45
1:G:271:CYS:HB3	1:G:275:TYR:HB2	1.99	0.45
2:J:704:CYS:HA	2:J:713:CYS:HA	1.98	0.45
2:P:843:ARG:NH2	2:P:971:ASP:OD2	2.50	0.45
1:S:368:LEU:HD12	1:S:441:GLY:HA2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:V:708:GLY:C	2:V:710:ASN:H	2.19	0.45
2:V:795:GLU:O	2:V:812:ASN:ND2	2.49	0.45
2:J:959:MET:O	2:J:961:ASP:N	2.50	0.44
1:O:316:THR:HG22	1:O:318:MET:H	1.82	0.44
1:O:412:LYS:HD2	1:O:426:THR:HG21	1.97	0.44
2:Y:1100:SER:HB3	2:Y:1105:GLU:HA	1.98	0.44
2:D:1038:GLY:HA3	2:D:1046:ALA:HA	1.98	0.44
1:E:408:HIS:HD2	1:E:426:THR:HG22	1.82	0.44
1:G:250:CYS:HB2	1:G:281:CYS:HB3	1.68	0.44
1:G:277:LEU:HD13	1:G:281:CYS:HB2	1.99	0.44
2:L:875:LEU:HD11	2:L:888:VAL:HG13	1.98	0.44
2:P:850:PHE:HE1	2:P:907:GLU:HB2	1.81	0.44
1:A:273:PRO:HA	1:A:274:LYS:HA	1.54	0.44
2:H:692:SER:HB3	2:H:728:ALA:HB1	1.99	0.44
2:H:913:TYR:HB2	2:H:981:LEU:HD12	1.99	0.44
2:N:725:SER:HA	2:N:1007:VAL:HB	1.97	0.44
2:Y:729:GLU:HG2	2:Y:748:LYS:HA	1.99	0.44
2:P:694:LEU:HD22	2:P:1070:HIS:HB3	1.98	0.44
1:U:275:TYR:HE1	1:U:286:GLN:HE21	1.64	0.44
1:G:412:LYS:HB2	1:G:430:ALA:HA	1.99	0.44
2:H:708:GLY:C	2:H:710:ASN:H	2.20	0.44
2:N:729:GLU:HG2	2:N:748:LYS:HA	1.98	0.44
1:U:183:THR:OG1	1:U:184:TYR:N	2.50	0.44
1:U:278:THR:HG22	1:U:285:ARG:HD2	1.99	0.44
2:V:931:GLU:HG3	2:V:932:ILE:HG13	1.99	0.44
2:B:805:GLU:OE1	2:B:810:ARG:NH2	2.45	0.44
1:O:159:ARG:NH2	1:O:186:GLY:O	2.50	0.44
2:V:717:GLY:H	2:V:1015:PHE:HB2	1.82	0.44
1:C:278:THR:OG1	1:C:280:ASP:OD1	2.31	0.44
2:H:1037:THR:O	2:H:1047:ARG:N	2.50	0.44
1:I:273:PRO:HA	1:I:274:LYS:HA	1.50	0.44
2:J:862:GLU:HA	2:J:872:THR:HA	1.99	0.44
2:N:811:GLU:OE2	2:N:956:TYR:OH	2.35	0.44
2:N:959:MET:O	2:N:961:ASP:N	2.51	0.44
2:F:754:LEU:HB2	2:F:1001:ALA:HB3	1.99	0.44
2:N:931:GLU:HG3	2:N:932:ILE:HG13	1.99	0.44
2:P:916:VAL:HG12	2:P:918:GLU:HG2	1.99	0.44
1:Q:316:THR:HG22	1:Q:318:MET:H	1.82	0.44
2:B:891:SER:HB2	2:B:1012:THR:HG23	2.00	0.44
2:F:873:ILE:HB	2:F:881:ARG:HG3	1.99	0.44
2:P:959:MET:O	2:P:961:ASP:N	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:V:1073:LEU:HD22	2:V:1082:GLN:HB3	2.00	0.44
1:X:175:GLU:OE1	1:X:189:SER:OG	2.29	0.44
1:E:379:GLY:HA3	1:G:286:GLN:HB2	2.00	0.43
1:E:438:ASN:HD21	2:F:780:VAL:HA	1.82	0.43
1:G:344:PRO:HB3	1:G:459:TYR:HD1	1.83	0.43
1:M:426:THR:O	1:M:428:GLN:N	2.51	0.43
2:T:846:ALA:HB3	2:T:937:GLU:HG3	1.99	0.43
1:E:180:LYS:HA	1:E:181:PRO:HA	1.87	0.43
2:J:875:LEU:HD11	2:J:888:VAL:HG22	1.99	0.43
1:O:377:HIS:CE1	1:O:433:TYR:HB2	2.53	0.43
2:R:722:ARG:NH2	2:R:1008:GLN:OE1	2.51	0.43
2:R:843:ARG:HG3	2:R:845:GLU:H	1.82	0.43
1:C:273:PRO:HA	1:C:274:LYS:HA	1.45	0.43
2:H:701:ILE:HB	2:H:717:GLY:HA3	1.99	0.43
2:R:1038:GLY:HA3	2:R:1046:ALA:HA	2.00	0.43
2:B:1064:ASN:ND2	2:B:1068:SER:OG	2.52	0.43
2:F:747:ILE:HG23	2:F:863:ILE:HG12	2.01	0.43
2:F:778:HIS:ND1	2:F:779:LEU:HG	2.33	0.43
2:H:1045:GLY:HA3	2:H:1085:ILE:HD11	2.00	0.43
2:J:810:ARG:HD2	2:J:836:HIS:CE1	2.53	0.43
1:S:410:SER:OG	1:S:411:LYS:N	2.49	0.43
2:V:778:HIS:ND1	2:V:779:LEU:HG	2.34	0.43
2:B:775:ARG:NH1	2:B:825:CYS:SG	2.91	0.43
2:D:931:GLU:HG3	2:D:932:ILE:HG13	2.00	0.43
2:F:876:GLY:O	2:F:878:SER:N	2.52	0.43
1:K:278:THR:OG1	1:K:280:ASP:OD1	2.35	0.43
2:L:863:ILE:HG21	2:L:885:TRP:HE1	1.83	0.43
2:R:956:TYR:HD1	2:R:963:LEU:HD21	1.82	0.43
1:X:247:LYS:O	1:X:461:ARG:NH1	2.44	0.43
2:H:715:LEU:HD21	2:H:734:LEU:HD21	2.00	0.43
2:L:879:SER:OG	2:L:881:ARG:NH1	2.48	0.43
2:L:931:GLU:HG3	2:L:932:ILE:HG13	1.99	0.43
1:Q:362:LYS:NZ	1:Q:364:GLU:OE2	2.52	0.43
1:U:361:LEU:HG	1:U:445:ILE:HG13	2.01	0.43
1:X:339:ALA:O	1:X:464:VAL:N	2.50	0.43
2:L:717:GLY:H	2:L:1015:PHE:HB2	1.83	0.43
1:M:246:MET:HG3	1:M:462:VAL:HG12	2.01	0.43
1:O:180:LYS:HA	1:O:181:PRO:HA	1.87	0.43
1:S:158:LEU:HD13	1:S:195:LEU:HD22	2.01	0.43
1:S:316:THR:OG1	1:S:327:GLN:OE1	2.37	0.43
2:B:861:LEU:HD12	2:B:875:LEU:HD12	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:994:LYS:H	2:D:994:LYS:HD2	1.84	0.43
2:F:747:ILE:HG13	2:F:863:ILE:HG23	1.99	0.43
1:K:366:ASN:HD22	1:K:367:LEU:H	1.66	0.43
1:O:278:THR:HG22	1:O:285:ARG:HG2	2.01	0.43
2:H:732:LEU:HB3	2:H:745:LEU:HB3	2.01	0.43
1:X:410:SER:OG	1:X:411:LYS:N	2.50	0.43
2:F:848:ARG:NH2	2:F:907:GLU:OE1	2.36	0.43
1:Q:273:PRO:HA	1:Q:274:LYS:HA	1.51	0.43
2:T:755:SER:N	2:T:856:VAL:O	2.52	0.43
2:T:778:HIS:ND1	2:T:779:LEU:HG	2.34	0.43
2:Y:1076:GLU:OE2	2:Y:1080:LYS:NZ	2.46	0.43
2:D:1003:SER:OG	2:D:1004:LYS:N	2.48	0.42
2:H:921:SER:HB2	2:H:928:PHE:HE2	1.84	0.42
1:M:201:PRO:HG2	2:N:802:PHE:HB3	2.00	0.42
2:T:1036:LEU:HD12	2:T:1048:VAL:HG23	2.01	0.42
1:Q:278:THR:OG1	1:Q:280:ASP:OD1	2.26	0.42
1:Q:346:ALA:HB2	1:Q:356:LEU:HD11	2.01	0.42
1:U:251:PRO:HB2	1:U:252:ASN:H	1.61	0.42
2:V:1057:THR:HA	2:V:1076:GLU:HA	2.00	0.42
1:A:208:HIS:CE1	1:A:438:ASN:H	2.37	0.42
1:A:278:THR:HG22	1:A:285:ARG:HD3	2.00	0.42
2:D:778:HIS:ND1	2:D:779:LEU:HG	2.34	0.42
2:H:874:ASP:OD1	2:H:874:ASP:N	2.53	0.42
2:N:815:PHE:HB2	2:N:833:LEU:HD23	2.02	0.42
2:P:688:ASP:HB2	2:P:689:PRO:HD3	2.01	0.42
2:V:688:ASP:HB2	2:V:689:PRO:HD3	2.01	0.42
1:I:262:ASN:O	1:I:327:GLN:NE2	2.52	0.42
2:P:811:GLU:OE2	2:P:956:TYR:OH	2.31	0.42
2:Y:691:CYS:HB3	2:Y:694:LEU:HD11	2.02	0.42
2:J:778:HIS:ND1	2:J:779:LEU:HG	2.34	0.42
1:K:276:GLU:OE2	1:K:285:ARG:NH1	2.52	0.42
2:N:1081:ASP:OD1	2:N:1081:ASP:N	2.52	0.42
2:N:1089:THR:HG23	2:N:1090:VAL:HG13	2.02	0.42
1:U:172:MET:HA	1:U:174:GLN:HE22	1.84	0.42
2:B:757:ARG:HD3	2:B:853:ILE:HB	2.02	0.42
2:B:811:GLU:OE2	2:B:956:TYR:OH	2.36	0.42
2:F:906:ILE:HD11	2:F:929:LEU:HD21	2.01	0.42
2:L:707:GLU:HB2	2:L:712:LYS:HD3	2.02	0.42
2:N:776:ARG:HD2	2:N:780:VAL:HG11	2.02	0.42
2:P:715:LEU:HD11	2:P:734:LEU:HD12	2.02	0.42
2:T:891:SER:HB3	2:T:1010:ASP:HB2	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:U:348:PHE:HZ	1:U:447:VAL:HG21	1.84	0.42
1:U:367:LEU:HD22	1:U:422:ALA:HB2	2.00	0.42
1:X:345:PHE:HA	1:X:355:TYR:HA	2.02	0.42
2:B:827:ASN:ND2	2:B:829:ASN:OD1	2.53	0.42
1:G:273:PRO:HA	1:G:274:LYS:HA	1.45	0.42
1:G:444:GLN:HA	1:G:453:LYS:HA	2.01	0.42
1:S:358:LYS:NZ	1:S:360:ASP:OD2	2.53	0.42
1:X:262:ASN:HD21	1:X:327:GLN:HB3	1.84	0.42
2:Y:776:ARG:HD2	2:Y:780:VAL:HG11	2.00	0.42
1:E:225:ASP:HA	1:E:226:PRO:HA	1.91	0.42
2:F:874:ASP:OD1	2:F:874:ASP:N	2.53	0.42
2:H:688:ASP:HB2	2:H:689:PRO:HD3	2.02	0.42
2:H:718:THR:OG1	2:H:1014:MET:SD	2.66	0.42
1:Q:271:CYS:HB3	1:Q:275:TYR:HB2	2.01	0.42
2:T:907:GLU:HG3	2:T:913:TYR:HE1	1.85	0.42
2:H:1062:ALA:HB3	2:H:1071:ILE:HB	2.01	0.42
2:J:714:ARG:HD3	2:J:1019:GLU:HA	2.01	0.42
2:N:1006:SER:HB3	2:N:1008:GLN:HE22	1.85	0.42
2:P:691:CYS:HA	2:P:729:GLU:HB2	2.01	0.42
2:P:1064:ASN:HD21	2:P:1068:SER:H	1.68	0.42
2:T:959:MET:HB2	2:T:962:GLN:HB2	2.02	0.42
2:V:862:GLU:HA	2:V:872:THR:HA	2.02	0.42
1:A:347:VAL:HG22	1:A:353:LYS:HA	2.01	0.42
2:D:714:ARG:NH1	2:D:1019:GLU:HB2	2.35	0.42
2:P:1076:GLU:HB2	2:P:1080:LYS:HG3	2.02	0.42
1:U:154:GLU:HG3	2:V:781:GLY:H	1.85	0.42
2:V:696:GLN:HE22	2:V:1070:HIS:CE1	2.38	0.42
1:X:230:ASP:OD2	1:X:233:SER:OG	2.36	0.42
2:D:1034:LEU:HD21	2:D:1051:SER:HB2	2.02	0.41
1:M:271:CYS:HB3	1:M:275:TYR:HB2	2.02	0.41
2:P:712:LYS:HG2	2:P:1021:ASP:HB3	2.02	0.41
1:S:169:ILE:HD12	1:S:169:ILE:HA	1.94	0.41
2:T:722:ARG:NH2	2:T:1008:GLN:OE1	2.53	0.41
2:T:1064:ASN:HD21	2:T:1068:SER:H	1.67	0.41
2:V:850:PHE:HE1	2:V:907:GLU:HB2	1.85	0.41
2:B:754:LEU:HB2	2:B:1001:ALA:HB3	2.01	0.41
2:H:843:ARG:NH2	2:H:971:ASP:OD2	2.53	0.41
1:K:412:LYS:HD2	1:K:426:THR:HG21	2.01	0.41
1:U:275:TYR:HB3	1:U:284:CYS:HB3	2.02	0.41
1:X:302:LEU:HD13	1:X:456:CYS:HB3	2.02	0.41
1:X:403:PRO:HG3	1:X:409:GLY:HA3	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:844:LYS:NZ	2:F:1016:ASP:OD1	2.49	0.41
1:G:429:TYR:OH	1:I:233:SER:O	2.33	0.41
1:M:230:ASP:HB3	1:M:233:SER:HB2	2.01	0.41
1:O:277:LEU:HD13	1:O:281:CYS:HB2	2.03	0.41
2:P:857:HIS:CD2	2:P:895:GLU:HB2	2.54	0.41
2:V:791:TRP:HE1	2:V:812:ASN:HB3	1.85	0.41
2:V:973:PHE:HA	2:V:976:PHE:HB3	2.02	0.41
1:X:180:LYS:HA	1:X:181:PRO:HA	1.87	0.41
2:H:778:HIS:ND1	2:H:779:LEU:HG	2.35	0.41
1:O:319:LYS:HE2	2:R:1016:ASP:HB3	2.03	0.41
1:Q:278:THR:HG22	1:Q:285:ARG:HD3	2.01	0.41
2:T:726:VAL:HG22	2:T:751:SER:HA	2.03	0.41
1:G:158:LEU:HD22	1:G:195:LEU:HD22	2.02	0.41
1:I:183:THR:HG23	1:I:185:ALA:H	1.85	0.41
1:K:412:LYS:HB2	1:K:430:ALA:HA	2.03	0.41
1:M:183:THR:HG23	1:M:185:ALA:H	1.85	0.41
2:T:1034:LEU:HD21	2:T:1051:SER:HB2	2.01	0.41
2:V:1006:SER:HG	2:V:1043:ASN:HD22	1.67	0.41
2:Y:876:GLY:O	2:Y:878:SER:N	2.54	0.41
2:D:815:PHE:HB2	2:D:833:LEU:HD23	2.03	0.41
1:M:258:HIS:HA	1:M:268:SER:HA	2.02	0.41
2:R:778:HIS:ND1	2:R:779:LEU:HG	2.35	0.41
2:T:1037:THR:O	2:T:1047:ARG:N	2.50	0.41
1:U:180:LYS:HA	1:U:181:PRO:HA	1.88	0.41
2:Y:928:PHE:O	2:Y:930:GLY:N	2.54	0.41
2:D:722:ARG:NH2	2:D:1008:GLN:OE1	2.54	0.41
2:H:752:SER:OG	2:H:857:HIS:NE2	2.54	0.41
1:I:251:PRO:HB2	1:I:252:ASN:H	1.58	0.41
2:J:688:ASP:HB2	2:J:689:PRO:HD3	2.01	0.41
2:L:721:ILE:HD13	2:L:730:ALA:HB1	2.02	0.41
2:L:729:GLU:HG2	2:L:748:LYS:HA	2.02	0.41
1:O:460:GLU:HG2	1:O:462:VAL:HG13	2.03	0.41
1:C:346:ALA:HB2	1:C:356:LEU:HD11	2.02	0.41
2:L:850:PHE:HE1	2:L:907:GLU:HB2	1.84	0.41
2:N:688:ASP:HA	2:N:689:PRO:HD3	1.95	0.41
2:R:907:GLU:HG3	2:R:913:TYR:CE1	2.55	0.41
2:T:847:LEU:HD12	2:T:972:PRO:HB2	2.03	0.41
1:U:335:GLN:HB2	1:U:468:LEU:HB3	2.03	0.41
2:V:805:GLU:OE2	2:V:810:ARG:NH2	2.53	0.41
1:A:410:SER:OG	1:A:411:LYS:N	2.51	0.41
2:B:706:THR:HA	2:B:711:THR:HA	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1115:ILE:HD12	2:B:1115:ILE:HA	1.96	0.41
2:D:817:GLN:HE22	2:D:958:PRO:HB2	1.86	0.41
1:E:174:GLN:HB3	1:E:294:LYS:HD3	2.02	0.41
1:E:324:VAL:HG23	1:E:464:VAL:HG22	2.03	0.41
2:F:698:SER:HB3	2:F:701:ILE:HG12	2.03	0.41
1:G:206:TYR:OH	1:G:363:THR:OG1	2.35	0.41
1:G:319:LYS:HD3	2:J:1018:PHE:HD1	1.86	0.41
2:H:706:THR:HA	2:H:711:THR:HA	2.02	0.41
1:K:273:PRO:HA	1:K:274:LYS:HA	1.44	0.41
1:M:169:ILE:HD12	1:M:169:ILE:HA	1.94	0.41
2:N:778:HIS:ND1	2:N:779:LEU:HG	2.36	0.41
2:N:959:MET:HB2	2:N:962:GLN:HB2	2.03	0.41
2:N:1028:SER:OG	2:N:1102:ASP:OD2	2.35	0.41
2:P:743:LYS:HE3	2:P:1022:PHE:HB2	2.02	0.41
2:R:726:VAL:HG22	2:R:751:SER:HA	2.03	0.41
1:S:378:LYS:HG3	1:S:393:GLU:HG2	2.03	0.41
2:T:743:LYS:HD3	2:T:1022:PHE:HD1	1.86	0.41
1:U:161:ARG:NH2	1:U:209:HIS:O	2.54	0.41
1:U:216:VAL:HG22	1:U:221:ILE:HB	2.03	0.41
1:U:302:LEU:HD12	1:U:456:CYS:HB3	2.02	0.41
2:V:861:LEU:HD12	2:V:875:LEU:HD12	2.03	0.41
2:V:954:ILE:HA	2:V:967:THR:HG22	2.02	0.41
2:Y:690:GLY:H	2:Y:1084:GLN:HA	1.86	0.41
2:D:880:SER:N	2:N:966:THR:OG1	2.52	0.41
1:G:206:TYR:HH	1:G:363:THR:HG1	1.64	0.41
2:N:691:CYS:HB3	2:N:694:LEU:HD11	2.03	0.41
2:N:876:GLY:O	2:N:878:SER:N	2.54	0.41
2:Y:1071:ILE:HG23	2:Y:1084:GLN:HE22	1.86	0.41
1:A:464:VAL:HG12	1:A:466:ARG:HG3	2.04	0.40
2:B:694:LEU:HD11	2:B:733:MET:HB2	2.02	0.40
1:E:273:PRO:HB3	1:E:274:LYS:HD3	2.03	0.40
2:F:976:PHE:O	2:F:980:SER:OG	2.33	0.40
2:H:744:PHE:HZ	2:H:1072:VAL:HB	1.85	0.40
1:I:360:ASP:HB2	1:I:446:GLN:HB3	2.03	0.40
2:N:708:GLY:O	2:N:710:ASN:N	2.54	0.40
2:N:809:MET:HB2	2:N:839:LEU:HB2	2.03	0.40
1:Q:362:LYS:HB3	1:Q:444:GLN:HB2	2.03	0.40
2:T:810:ARG:NH1	2:T:945:GLU:OE1	2.47	0.40
2:D:898:SER:OG	2:D:899:GLY:N	2.52	0.40
2:R:957:LYS:HD3	2:R:964:GLU:HB2	2.03	0.40
2:V:811:GLU:OE2	2:V:956:TYR:OH	2.32	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:169:ILE:HD12	1:X:169:ILE:HA	1.94	0.40
2:Y:810:ARG:HD2	2:Y:836:HIS:HE1	1.86	0.40
2:B:769:PRO:HG3	2:B:967:THR:HG23	2.03	0.40
2:H:786:ASN:O	2:H:790:SER:OG	2.38	0.40
2:L:737:VAL:HG13	2:L:738:LYS:HG2	2.03	0.40
1:O:374:CYS:HA	1:O:434:CYS:HA	2.03	0.40
2:V:1090:VAL:HG22	2:V:1092:GLU:H	1.86	0.40
2:Y:906:ILE:HB	2:Y:914:ALA:HB3	2.04	0.40
2:Y:976:PHE:O	2:Y:980:SER:OG	2.32	0.40
2:B:850:PHE:HE1	2:B:907:GLU:HB2	1.86	0.40
2:F:756:CYS:SG	2:F:757:ARG:N	2.94	0.40
2:N:932:ILE:HD12	2:N:969:LEU:HD13	2.04	0.40
1:O:440:SER:OG	1:O:441:GLY:N	2.51	0.40
2:P:922:GLU:O	2:P:933:ARG:NH1	2.54	0.40
2:R:1073:LEU:HD22	2:R:1082:GLN:HB3	2.03	0.40
2:R:1104:ASP:O	2:R:1106:ARG:NH1	2.54	0.40
2:T:704:CYS:HA	2:T:713:CYS:HA	2.04	0.40
1:X:158:LEU:HD22	1:X:207:ALA:HB3	2.04	0.40
2:L:1117:ILE:HD12	2:L:1117:ILE:HA	1.97	0.40
1:M:225:ASP:HA	1:M:226:PRO:HA	1.93	0.40
2:N:850:PHE:HE1	2:N:907:GLU:HB2	1.86	0.40
2:T:691:CYS:H	2:T:1084:GLN:HA	1.86	0.40
2:T:769:PRO:HG3	2:T:967:THR:HG23	2.02	0.40
2:V:722:ARG:HH21	2:V:1008:GLN:HA	1.85	0.40
2:Y:817:GLN:HE22	2:Y:958:PRO:HB2	1.87	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	295/316 (93%)	252 (85%)	42 (14%)	1 (0%)	41 77

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	C	295/316 (93%)	262 (89%)	30 (10%)	3 (1%)	15	55
1	E	295/316 (93%)	253 (86%)	40 (14%)	2 (1%)	22	63
1	G	295/316 (93%)	259 (88%)	33 (11%)	3 (1%)	15	55
1	I	295/316 (93%)	258 (88%)	33 (11%)	4 (1%)	11	46
1	K	295/316 (93%)	251 (85%)	41 (14%)	3 (1%)	15	55
1	M	295/316 (93%)	245 (83%)	43 (15%)	7 (2%)	6	33
1	O	295/316 (93%)	262 (89%)	29 (10%)	4 (1%)	11	46
1	Q	295/316 (93%)	249 (84%)	44 (15%)	2 (1%)	22	63
1	S	295/316 (93%)	261 (88%)	32 (11%)	2 (1%)	22	63
1	U	295/316 (93%)	250 (85%)	40 (14%)	5 (2%)	9	42
1	X	295/316 (93%)	256 (87%)	39 (13%)	0	100	100
2	B	429/431 (100%)	377 (88%)	48 (11%)	4 (1%)	17	57
2	D	429/431 (100%)	385 (90%)	40 (9%)	4 (1%)	17	57
2	F	429/431 (100%)	375 (87%)	50 (12%)	4 (1%)	17	57
2	H	429/431 (100%)	378 (88%)	47 (11%)	4 (1%)	17	57
2	J	429/431 (100%)	382 (89%)	43 (10%)	4 (1%)	17	57
2	L	429/431 (100%)	383 (89%)	43 (10%)	3 (1%)	22	63
2	N	429/431 (100%)	383 (89%)	39 (9%)	7 (2%)	9	44
2	P	429/431 (100%)	385 (90%)	40 (9%)	4 (1%)	17	57
2	R	429/431 (100%)	378 (88%)	48 (11%)	3 (1%)	22	63
2	T	429/431 (100%)	380 (89%)	44 (10%)	5 (1%)	13	50
2	V	429/431 (100%)	368 (86%)	55 (13%)	6 (1%)	11	46
2	Y	429/431 (100%)	375 (87%)	48 (11%)	6 (1%)	11	46
All	All	8688/8964 (97%)	7607 (88%)	991 (11%)	90 (1%)	20	55

All (90) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	H	709	VAL
2	V	709	VAL
2	F	877	ALA
2	H	877	ALA
1	I	251	PRO
1	I	439	GLY

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Mol	Chain	Res	Type
2	N	877	ALA
2	N	960	ILE
2	N	1017	ASN
2	P	759	GLY
1	U	251	PRO
1	U	311	GLY
2	Y	877	ALA
2	Y	929	LEU
1	C	322	CYS
2	D	960	ILE
1	E	427	ALA
2	F	809	MET
1	G	427	ALA
1	I	410	SER
2	J	877	ALA
2	J	960	ILE
1	K	427	ALA
2	L	877	ALA
1	M	311	GLY
1	M	410	SER
1	M	427	ALA
1	M	439	GLY
1	O	322	CYS
1	O	329	LEU
2	P	960	ILE
2	P	986	ASN
1	Q	282	ASN
2	R	922	GLU
2	T	809	MET
2	T	877	ALA
2	T	960	ILE
1	U	265	LYS
2	Y	986	ASN
1	A	329	LEU
2	B	960	ILE
1	C	237	ASN
2	D	986	ASN
2	F	960	ILE
2	H	759	GLY
2	H	960	ILE
1	I	329	LEU
1	K	265	LYS

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Mol	Chain	Res	Type
2	L	960	ILE
1	M	329	LEU
2	N	709	VAL
2	N	986	ASN
1	O	164	LYS
2	R	960	ILE
2	T	986	ASN
1	U	237	ASN
2	V	877	ALA
2	V	960	ILE
2	Y	960	ILE
2	B	759	GLY
2	D	759	GLY
1	G	232	GLN
2	L	759	GLY
1	M	440	SER
2	N	759	GLY
1	O	439	GLY
2	P	877	ALA
1	S	233	SER
1	S	322	CYS
2	V	986	ASN
1	C	253	ASP
2	R	877	ALA
2	V	895	GLU
2	Y	759	GLY
2	Y	783	CYS
2	D	750	VAL
1	E	311	GLY
1	G	439	GLY
1	K	236	GLY
1	Q	311	GLY
2	T	750	VAL
2	B	750	VAL
2	J	930	GLY
1	M	334	GLY
2	N	750	VAL
2	V	824	GLY
2	B	896	GLY
2	J	995	GLY
1	U	326	VAL
2	F	759	GLY

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	259/271 (96%)	258 (100%)	1 (0%)	91	94
1	C	259/271 (96%)	257 (99%)	2 (1%)	81	89
1	E	259/271 (96%)	256 (99%)	3 (1%)	71	83
1	G	259/271 (96%)	258 (100%)	1 (0%)	91	94
1	I	259/271 (96%)	257 (99%)	2 (1%)	81	89
1	K	259/271 (96%)	258 (100%)	1 (0%)	91	94
1	M	259/271 (96%)	257 (99%)	2 (1%)	81	89
1	O	259/271 (96%)	255 (98%)	4 (2%)	65	80
1	Q	259/271 (96%)	257 (99%)	2 (1%)	81	89
1	S	259/271 (96%)	258 (100%)	1 (0%)	91	94
1	U	259/271 (96%)	257 (99%)	2 (1%)	81	89
1	X	259/271 (96%)	257 (99%)	2 (1%)	81	89
2	B	371/371 (100%)	367 (99%)	4 (1%)	73	84
2	D	371/371 (100%)	367 (99%)	4 (1%)	73	84
2	F	371/371 (100%)	368 (99%)	3 (1%)	81	89
2	H	371/371 (100%)	368 (99%)	3 (1%)	81	89
2	J	371/371 (100%)	367 (99%)	4 (1%)	73	84
2	L	371/371 (100%)	367 (99%)	4 (1%)	73	84
2	N	371/371 (100%)	369 (100%)	2 (0%)	88	93
2	P	371/371 (100%)	368 (99%)	3 (1%)	81	89
2	R	371/371 (100%)	363 (98%)	8 (2%)	52	71
2	T	371/371 (100%)	368 (99%)	3 (1%)	81	89
2	V	371/371 (100%)	362 (98%)	9 (2%)	49	69
2	Y	371/371 (100%)	369 (100%)	2 (0%)	88	93
All	All	7560/7704 (98%)	7488 (99%)	72 (1%)	77	86

All (72) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	438	ASN
2	B	810	ARG
2	B	925	ARG
2	B	1017	ASN
2	B	1065	LYS
1	C	285	ARG
1	C	378	LYS
2	D	710	ASN
2	D	733	MET
2	D	994	LYS
2	D	1017	ASN
1	E	172	MET
1	E	378	LYS
1	E	438	ASN
2	F	700	ARG
2	F	844	LYS
2	F	949	ARG
1	G	378	LYS
2	H	709	VAL
2	H	925	ARG
2	H	949	ARG
1	I	285	ARG
1	I	315	LYS
2	J	700	ARG
2	J	733	MET
2	J	844	LYS
2	J	949	ARG
1	K	366	ASN
2	L	810	ARG
2	L	844	LYS
2	L	949	ARG
2	L	996	ASN
1	M	315	LYS
1	M	438	ASN
2	N	712	LYS
2	N	949	ARG
1	O	285	ARG
1	O	313	LYS
1	O	330	LYS
1	O	438	ASN
2	P	700	ARG
2	P	810	ARG
2	P	949	ARG

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Mol	Chain	Res	Type
1	Q	331	LYS
1	Q	438	ASN
2	R	700	ARG
2	R	714	ARG
2	R	925	ARG
2	R	949	ARG
2	R	994	LYS
2	R	996	ASN
2	R	1106	ARG
2	R	1111	LYS
1	S	378	LYS
2	T	722	ARG
2	T	810	ARG
2	T	949	ARG
1	U	285	ARG
1	U	358	LYS
2	V	700	ARG
2	V	709	VAL
2	V	712	LYS
2	V	786	ASN
2	V	925	ARG
2	V	949	ARG
2	V	1004	LYS
2	V	1047	ARG
2	V	1111	LYS
1	X	270	LYS
1	X	362	LYS
2	Y	949	ARG
2	Y	1047	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (78) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	204	GLN
1	A	208	HIS
1	A	438	ASN
1	A	446	GLN
2	B	817	GLN
2	B	1008	GLN
2	B	1017	ASN
2	B	1084	GLN
1	C	204	GLN

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Mol	Chain	Res	Type
2	D	741	GLN
2	D	817	GLN
2	D	829	ASN
2	D	944	HIS
2	D	1017	ASN
2	D	1084	GLN
1	E	204	GLN
1	E	408	HIS
1	E	438	ASN
2	F	817	GLN
2	F	840	GLN
2	F	1084	GLN
1	G	166	HIS
2	H	817	GLN
2	H	901	ASN
2	H	1084	GLN
1	I	166	HIS
1	I	167	ASN
1	I	204	GLN
1	I	232	GLN
1	I	327	GLN
1	I	446	GLN
2	J	1000	GLN
2	J	1084	GLN
1	K	174	GLN
1	K	204	GLN
1	K	366	ASN
1	K	377	HIS
1	K	438	ASN
1	K	446	GLN
2	L	996	ASN
2	L	1000	GLN
2	L	1063	HIS
2	L	1084	GLN
1	M	157	HIS
2	N	1008	GLN
2	N	1084	GLN
1	O	431	ASN
2	P	1064	ASN
2	P	1084	GLN
1	Q	166	HIS
1	Q	204	GLN

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Mol	Chain	Res	Type
1	Q	438	ASN
2	R	817	GLN
2	R	1000	GLN
2	R	1084	GLN
1	S	160	ASN
1	S	166	HIS
1	S	204	GLN
1	S	237	ASN
2	T	817	GLN
2	T	901	ASN
2	T	1084	GLN
1	U	174	GLN
1	U	204	GLN
1	U	208	HIS
1	U	286	GLN
1	U	305	GLN
2	V	786	ASN
2	V	857	HIS
2	V	1070	HIS
2	V	1084	GLN
1	X	204	GLN
1	X	232	GLN
1	X	377	HIS
1	X	436	HIS
2	Y	784	HIS
2	Y	836	HIS
2	Y	1084	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 monosaccharides 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.

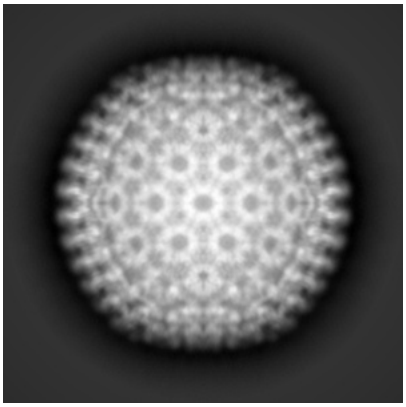
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-4197. These allow visual inspection of the internal detail of the map and identification of artifacts.

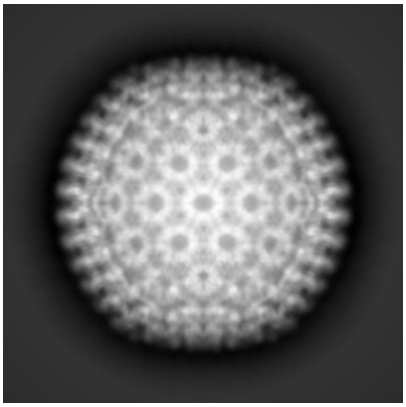
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

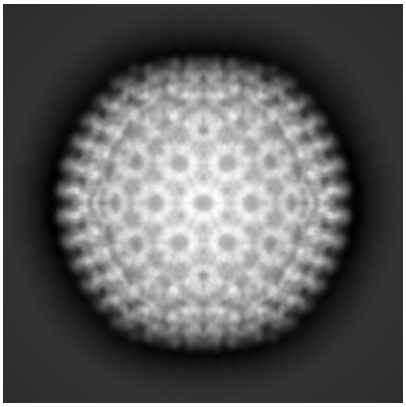
6.1.1 Primary map



X



Y

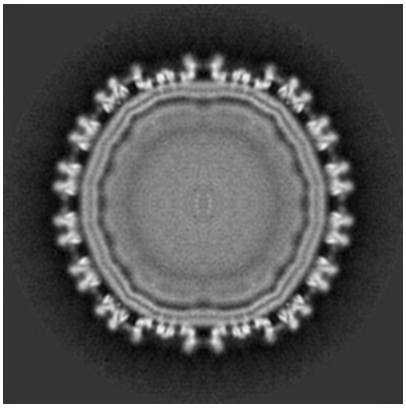


Z

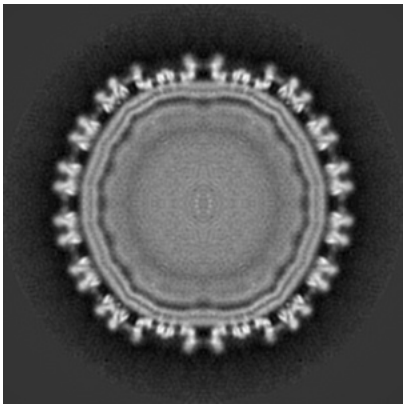
The images above show the map projected in three orthogonal directions.

6.2 Central slices

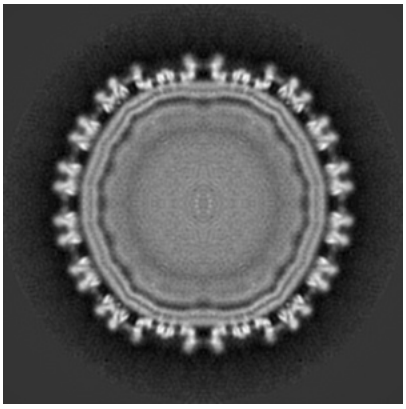
6.2.1 Primary map



X Index: 256



Y Index: 256

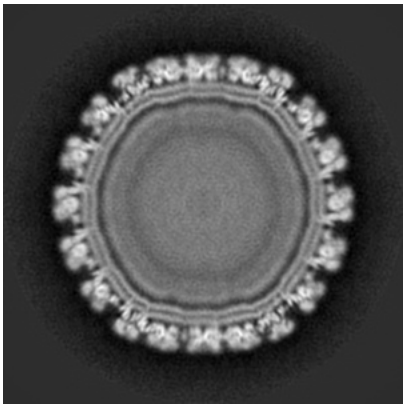


Z Index: 256

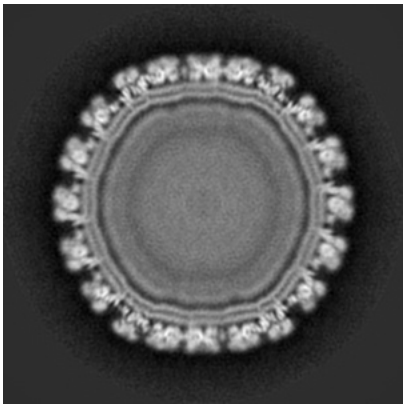
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

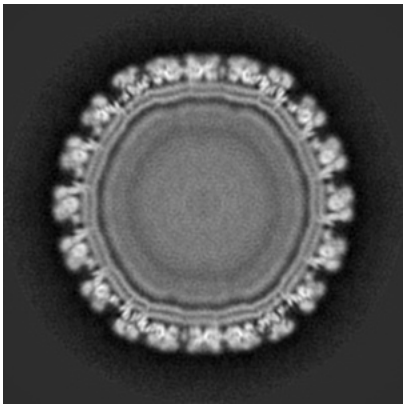
6.3.1 Primary map



X Index: 240



Y Index: 272

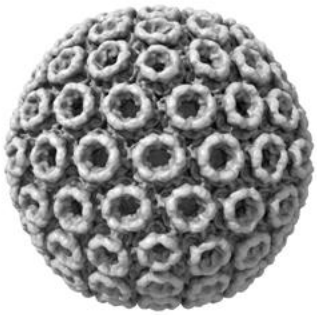


Z Index: 240

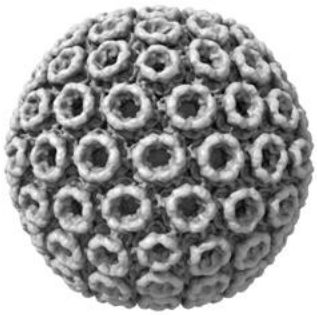
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views (i)

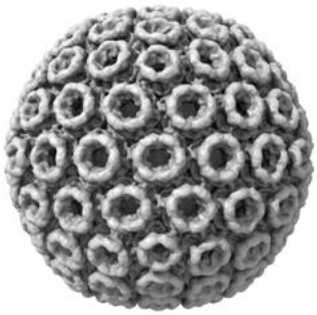
6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.02. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

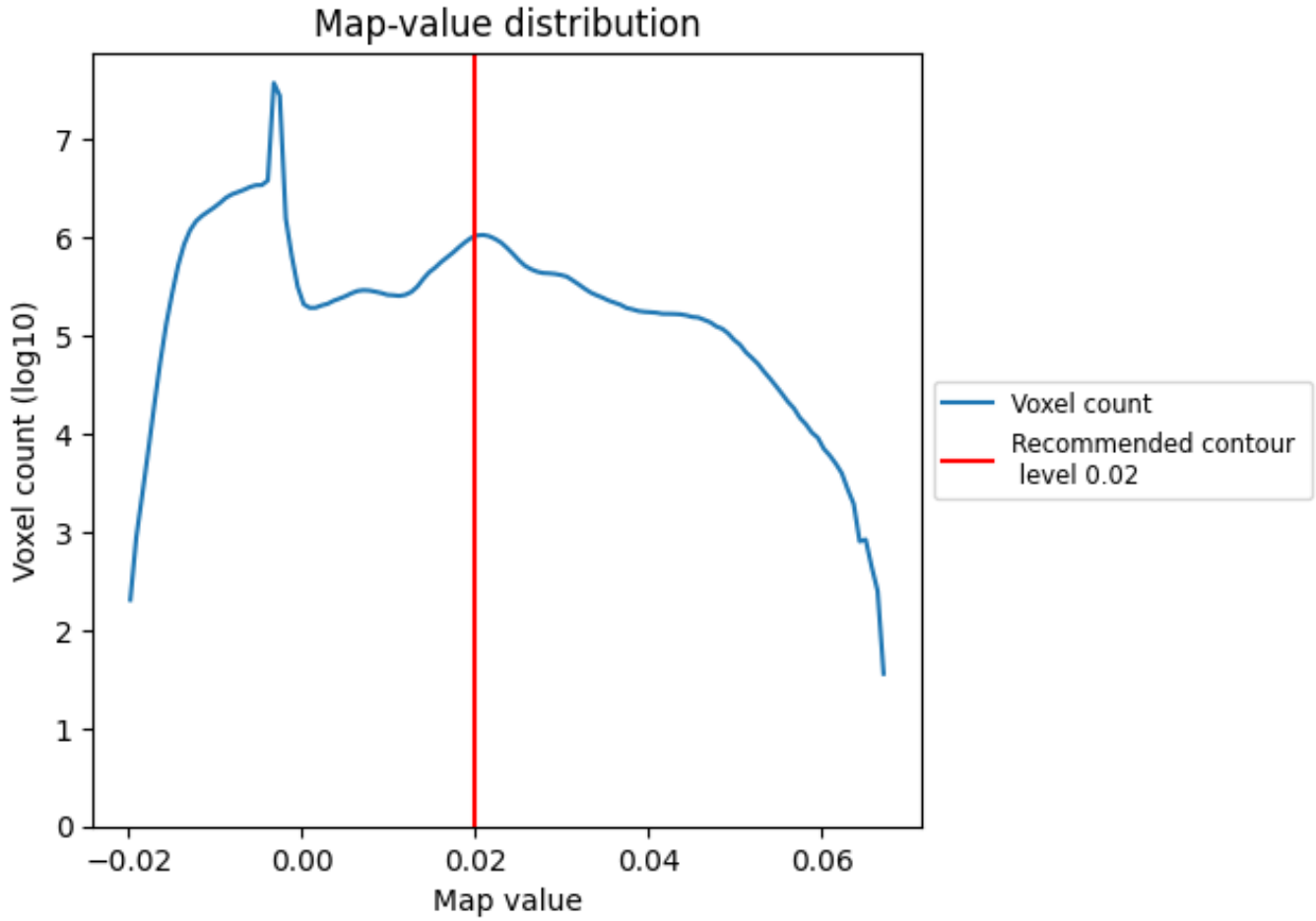
6.5 Mask visualisation (i)

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

7 Map analysis

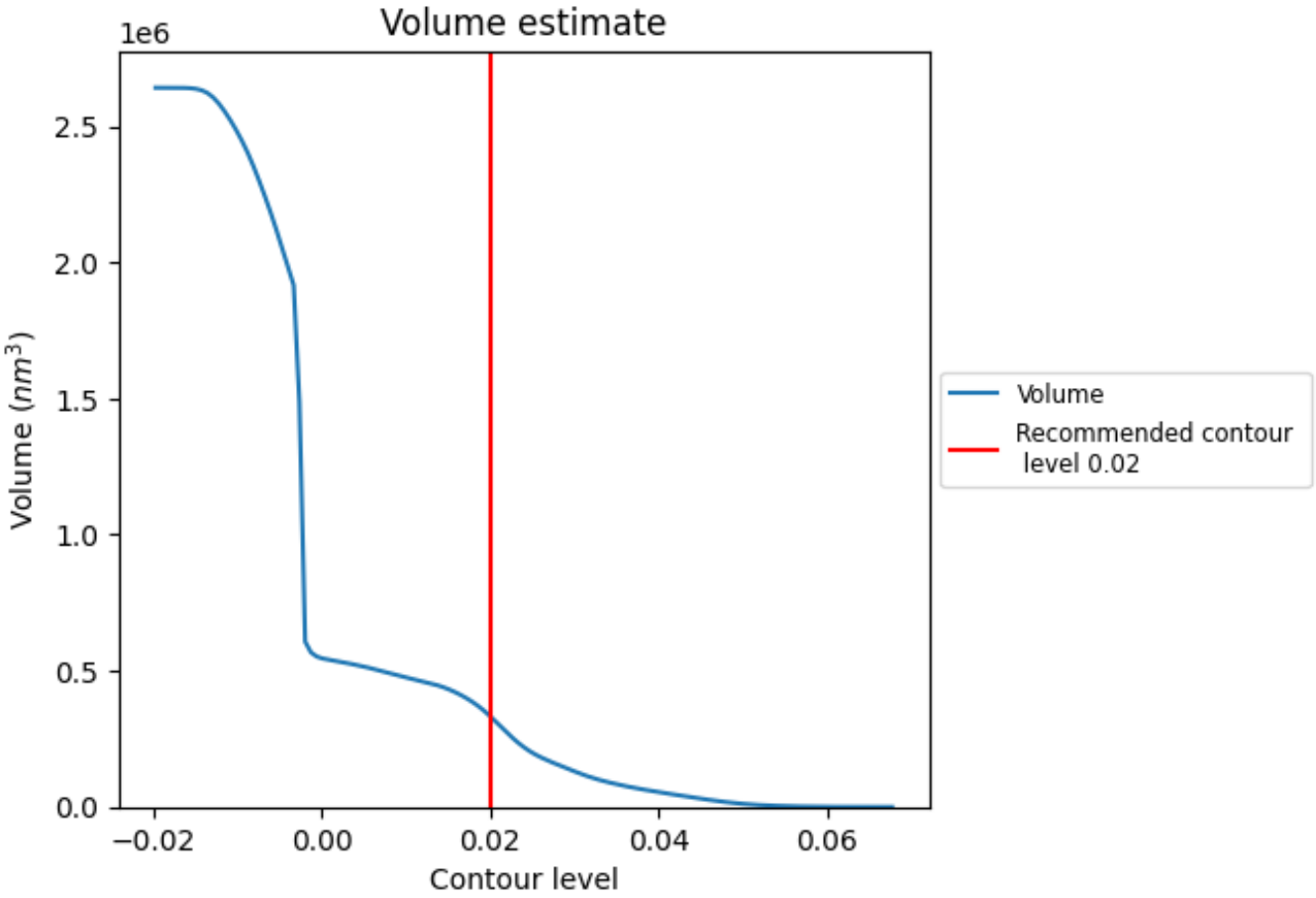
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

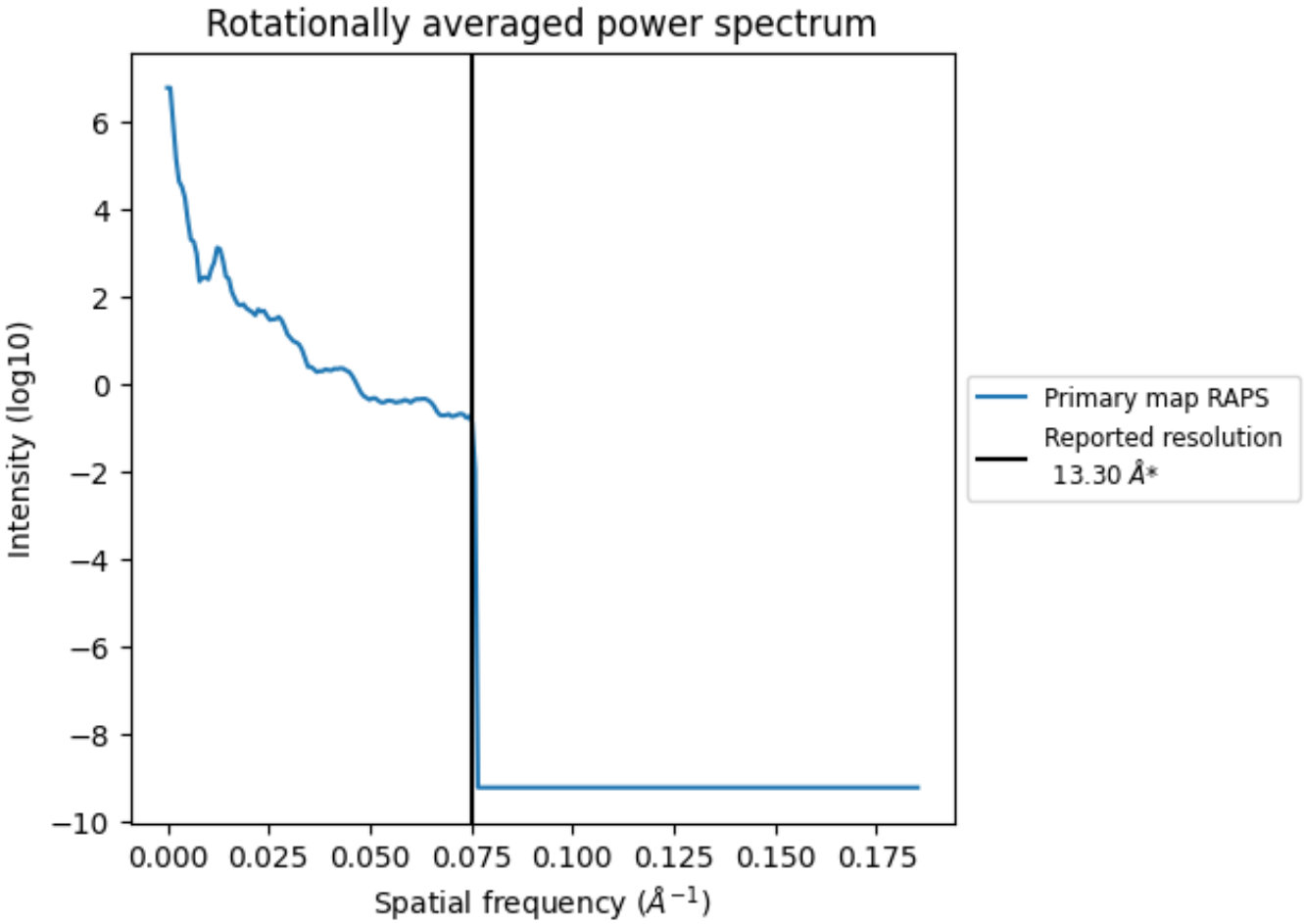
7.2 Volume estimate (i)



The volume at the recommended contour level is 333463 nm^3; this corresponds to an approximate mass of 301226 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)

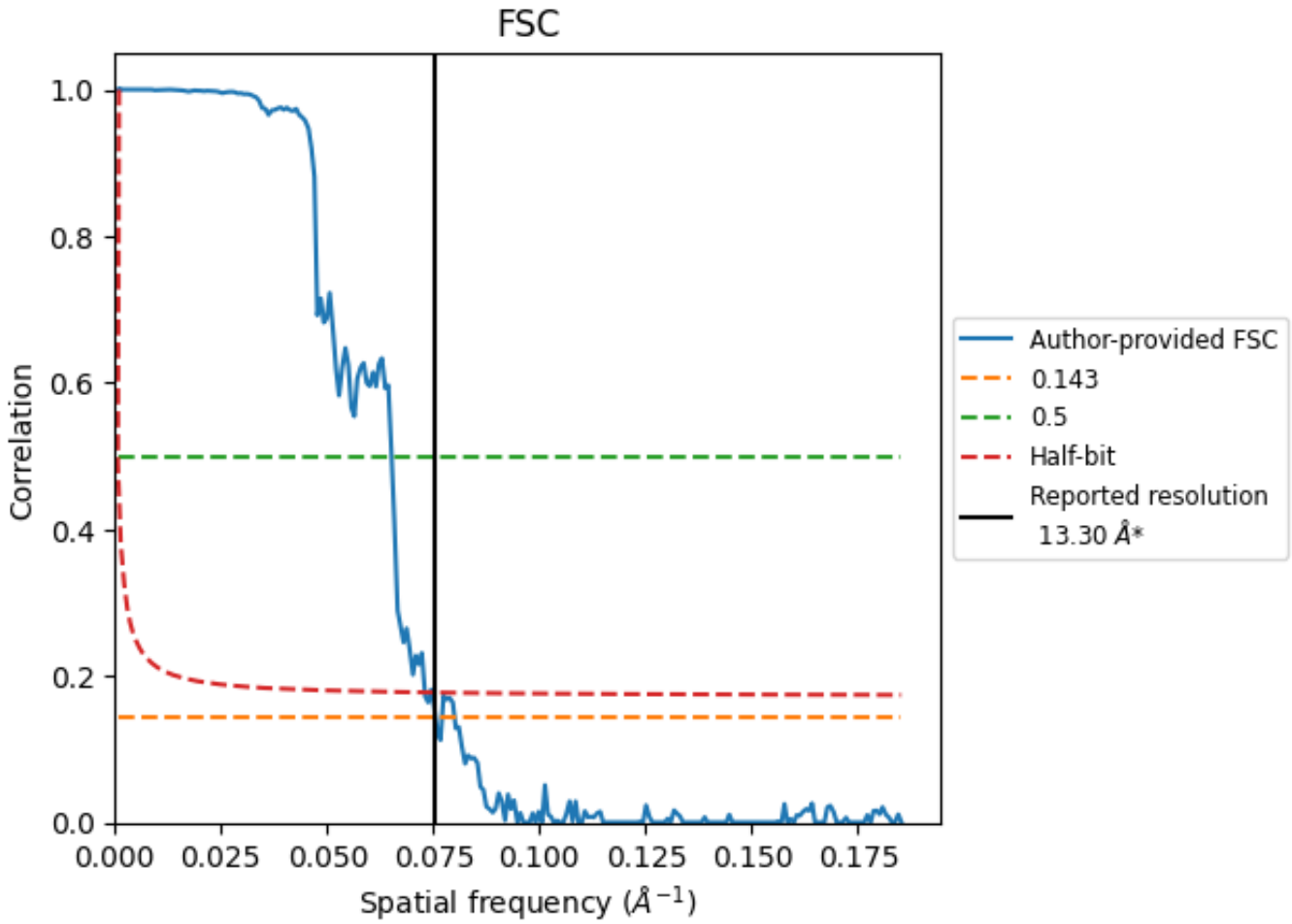


*Reported resolution corresponds to spatial frequency of 0.075 $Å^{-1}$

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 0.075 Å^{-1}

8.2 Resolution estimates (i)

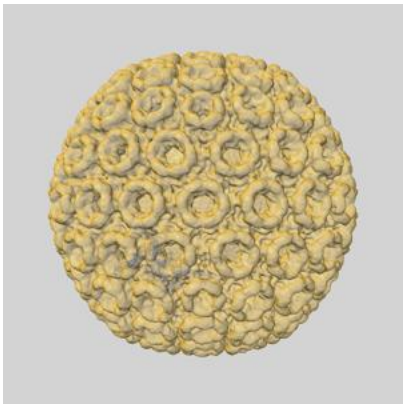
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	13.30	-	-
Author-provided FSC curve	13.25	15.34	13.70
Unmasked-calculated*	-	-	-

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

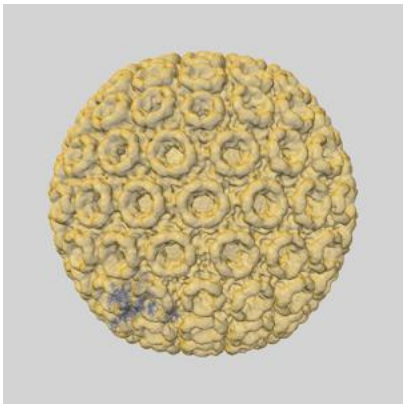
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-4197 and PDB model 6F9B. Per-residue inclusion information can be found in section 3 on page 7.

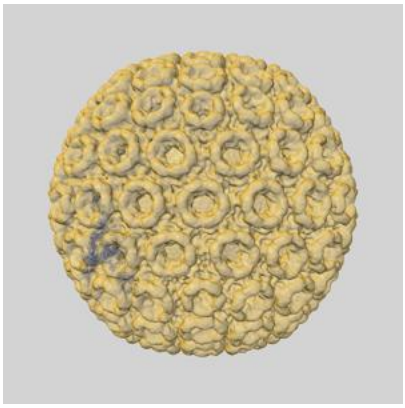
9.1 Map-model overlay



X



Y



Z

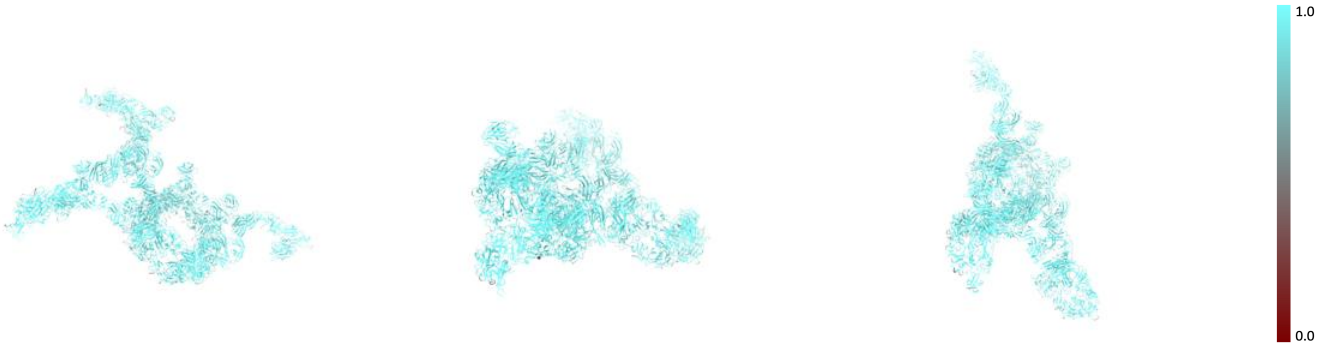
The images above show the 3D surface view of the map at the recommended contour level 0.02 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model

X Y Z

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

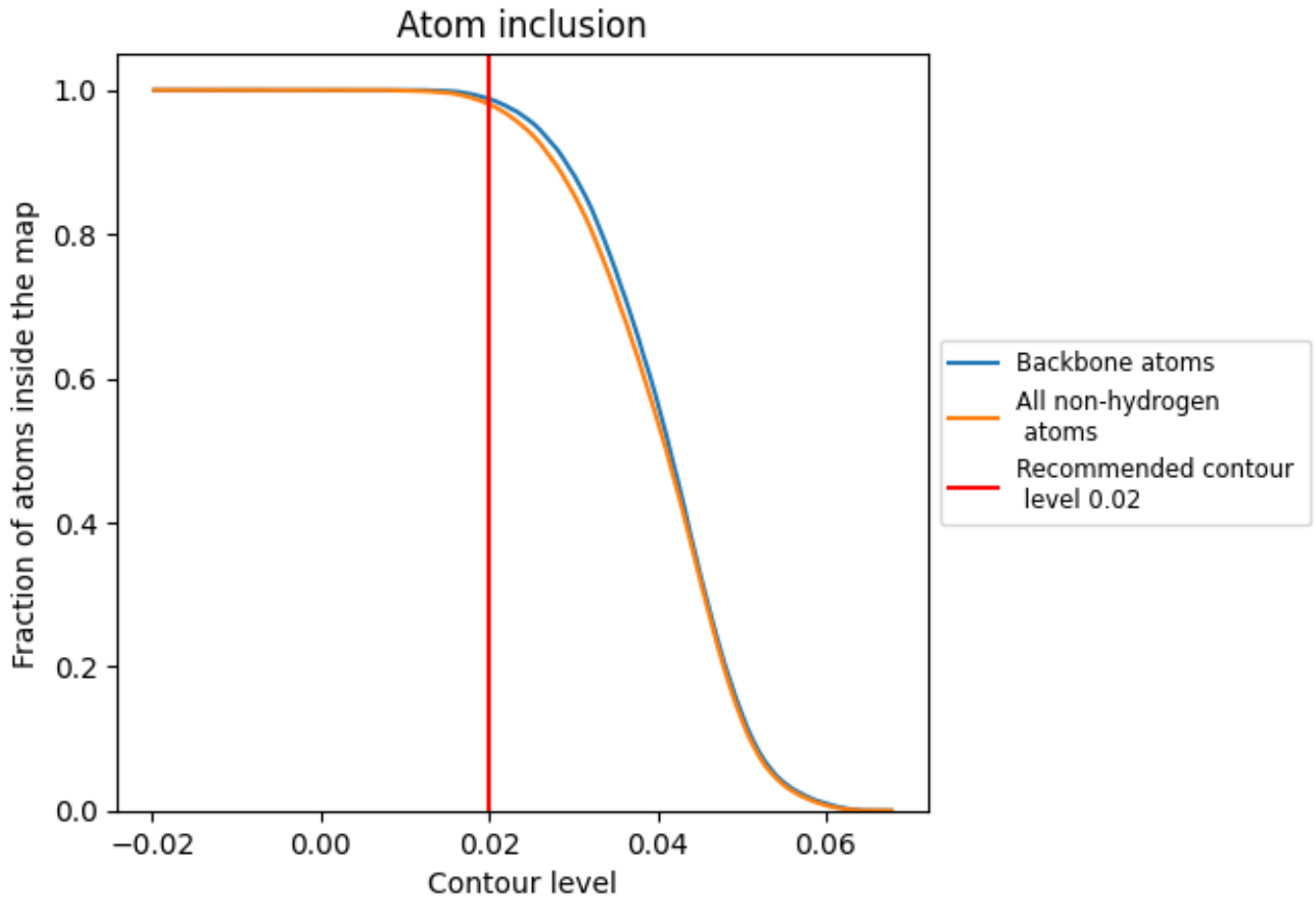
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.02).

9.4 Atom inclusion (i)



At the recommended contour level, 99% of all backbone atoms, 98% 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 (0.02) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9803	0.0680
A	0.9626	0.0680
B	0.9910	0.0780
C	0.9487	0.0610
D	0.9941	0.0760
E	0.9669	0.0560
F	0.9953	0.0740
G	0.9656	0.0540
H	0.9916	0.0740
I	0.9656	0.0550
J	0.9941	0.0720
K	0.9743	0.0650
L	0.9913	0.0790
M	0.9482	0.0620
N	0.9925	0.0730
O	0.9674	0.0530
P	0.9910	0.0770
Q	0.9508	0.0590
R	0.9950	0.0720
S	0.9648	0.0640
T	0.9894	0.0680
U	0.9691	0.0630
V	0.9929	0.0690
X	0.9722	0.0560
Y	0.9932	0.0710