Full wwPDB EM Validation Report ⓘ

May 5, 2026 – 12:29 PM EDT

PDB ID	:	9EBC / pdb_00009ebc
EMDB ID	:	EMD-47877
Title	:	H5N1 HA in complex with HC-5 Fab
Authors	:	Salas, E.; Liang, B.
Deposited on	:	2024-11-12
Resolution	:	2.87 Å(reported)

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

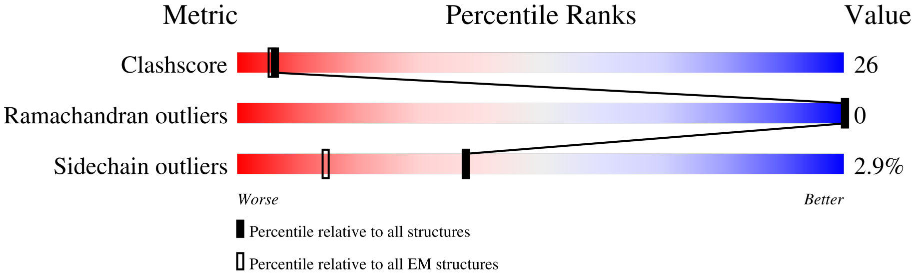
EMDB validation analysis	:	0.0.1.dev132
MolProbity	:	4-5-2 with Phenix2.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

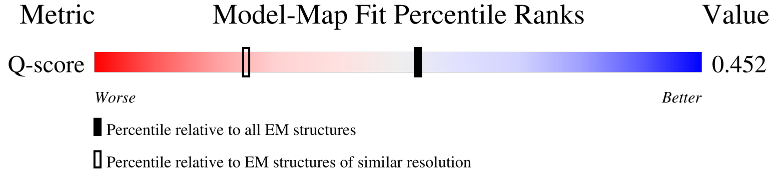
1 Overall quality at a glance ⓘ

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

The reported resolution of this entry is 2.87 Å.

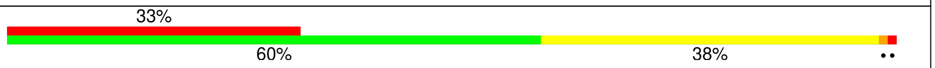
Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.





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	12062 (2.37 - 3.37)

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	317	
1	C	317	
1	E	317	
2	B	149	

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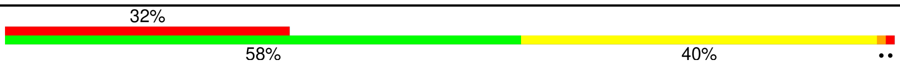
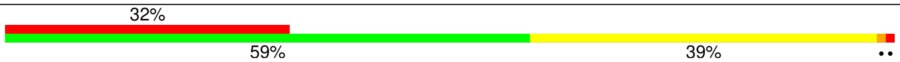
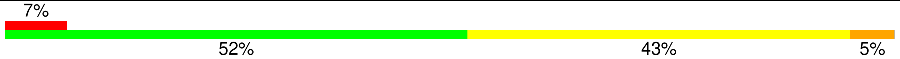
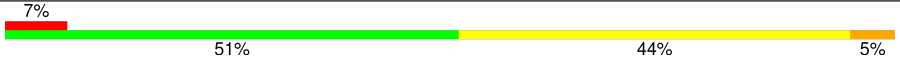
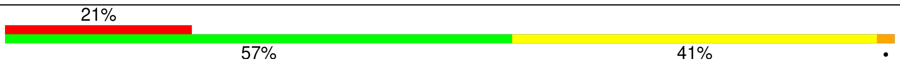
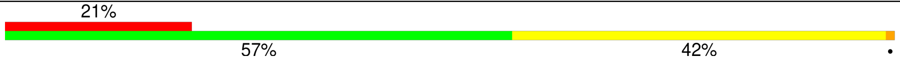
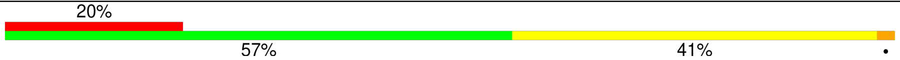
Mol	Chain	Length	Quality of chain
2	D	149	
2	F	149	
3	G	127	
3	I	127	
3	K	127	
4	H	112	
4	J	112	
4	L	112	

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 16740 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 Hemagglutinin HA1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	317	2508	1590	433	470	15	0	0
1	C	317	2508	1590	433	470	15	0	0
1	E	317	2508	1590	433	470	15	0	0

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	115	LEU	GLN	conflict	UNP A0AAX6NNG0
C	115	LEU	GLN	conflict	UNP A0AAX6NNG0
E	115	LEU	GLN	conflict	UNP A0AAX6NNG0

- Molecule 2 is a protein called Hemagglutinin HA2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	149	1227	762	213	244	8	0	0
2	D	149	1227	762	213	244	8	0	0
2	F	149	1227	762	213	244	8	0	0

- Molecule 3 is a protein called HC-5 Fab heavy chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	G	127	992	633	164	190	5	0	0
3	I	127	992	633	164	190	5	0	0
3	K	127	992	633	164	190	5	0	0

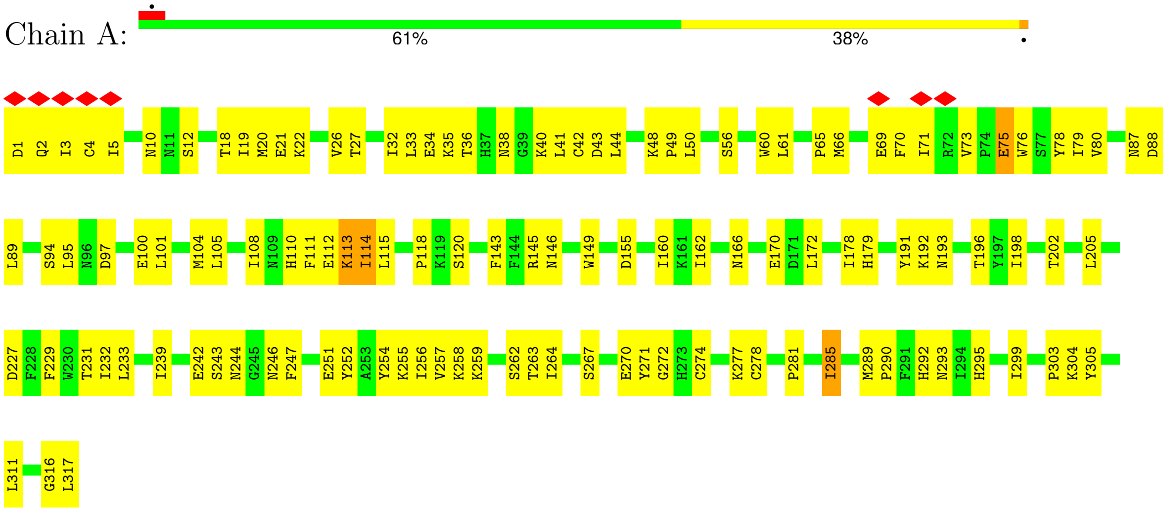
- Molecule 4 is a protein called HC-5 Fab light chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	H	112	853	543	139	167	4	0	0
4	J	112	853	543	139	167	4	0	0
4	L	112	853	543	139	167	4	0	0

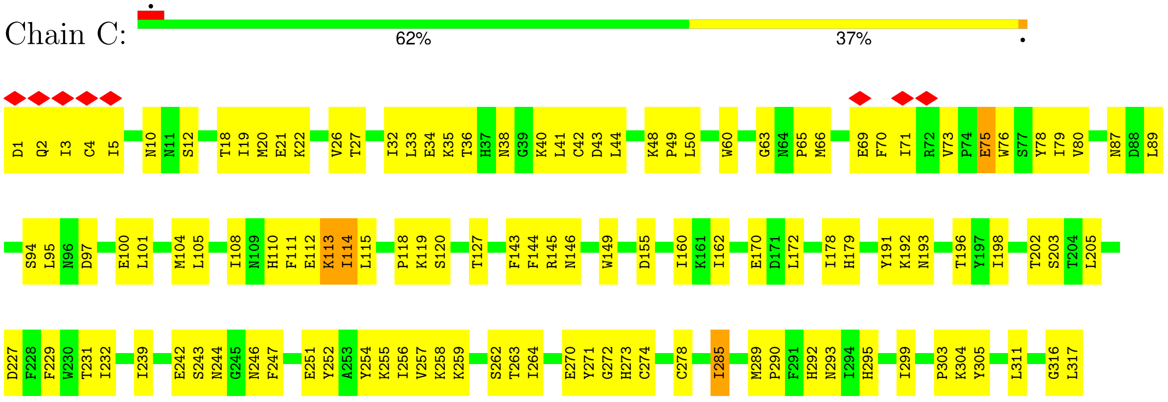
3 Residue-property plots ⓘ

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

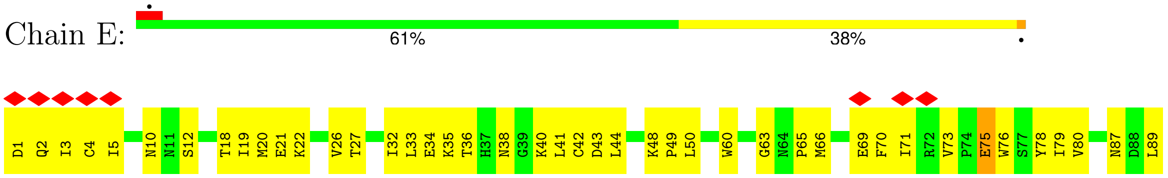
- Molecule 1: Hemagglutinin HA1

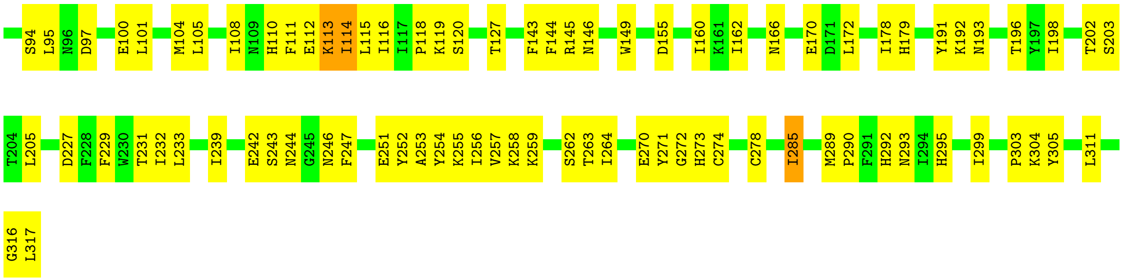


- Molecule 1: Hemagglutinin HA1

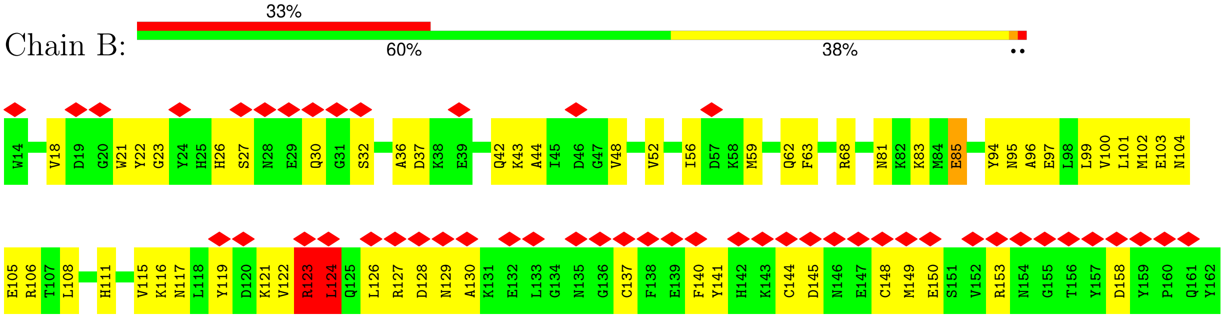


- Molecule 1: Hemagglutinin HA1

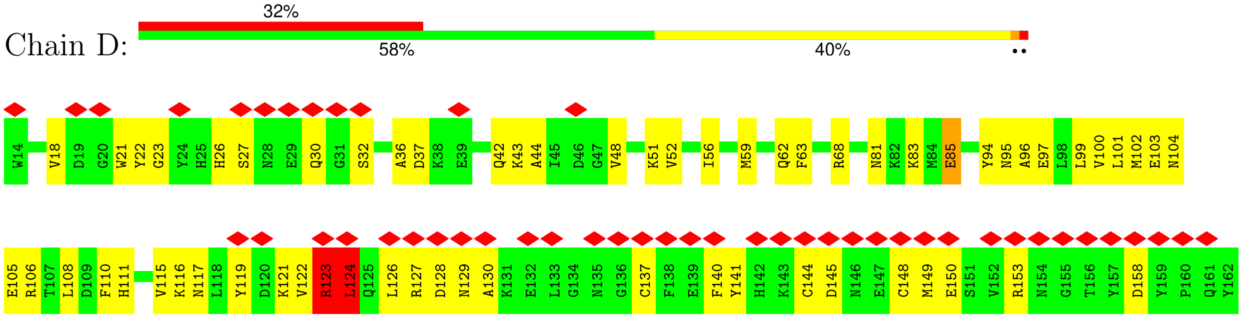




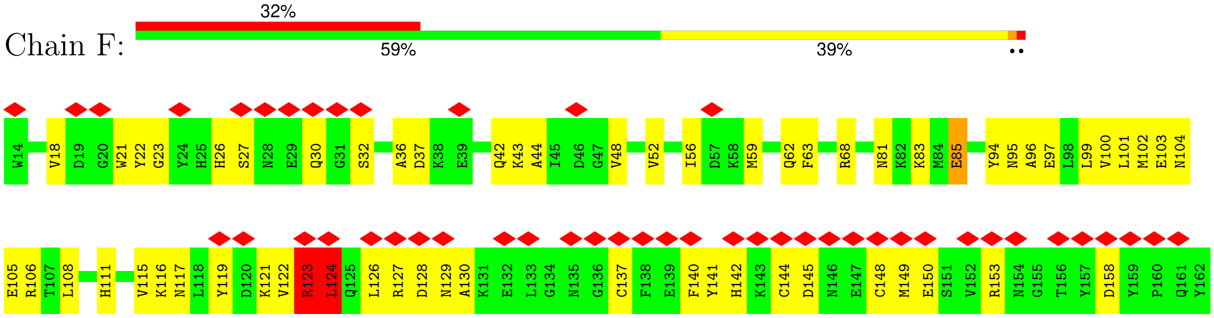
- Molecule 2: Hemagglutinin HA2



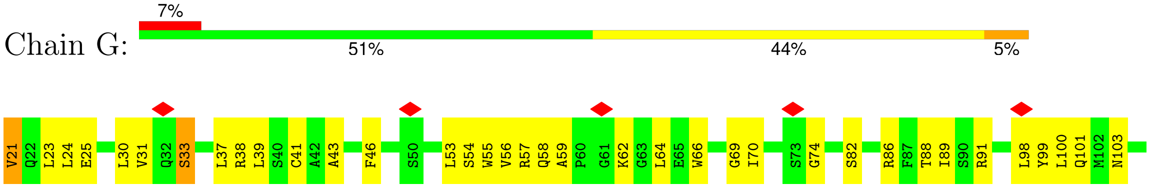
- Molecule 2: Hemagglutinin HA2

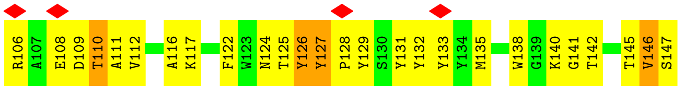


- Molecule 2: Hemagglutinin HA2

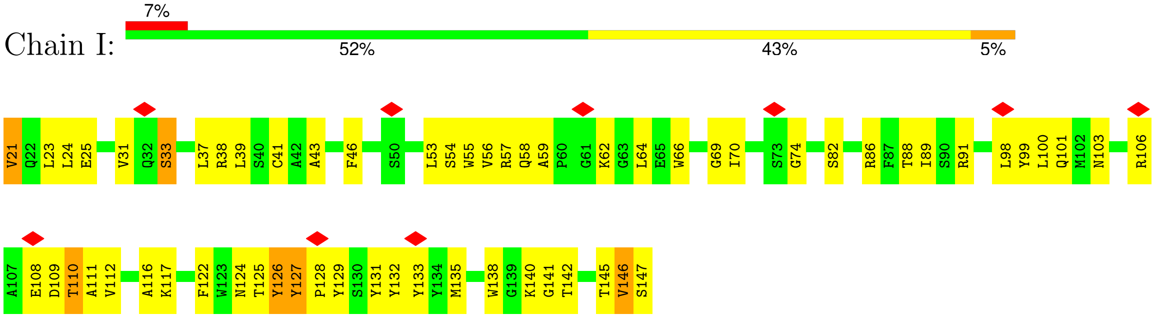


- Molecule 3: HC-5 Fab heavy chain

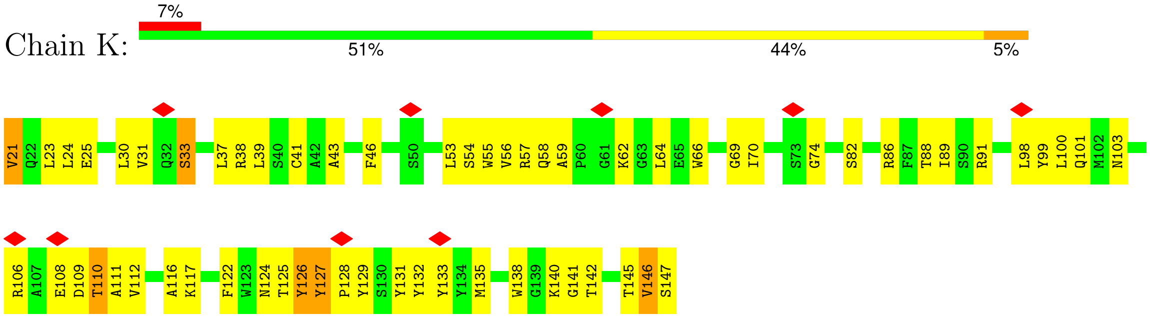




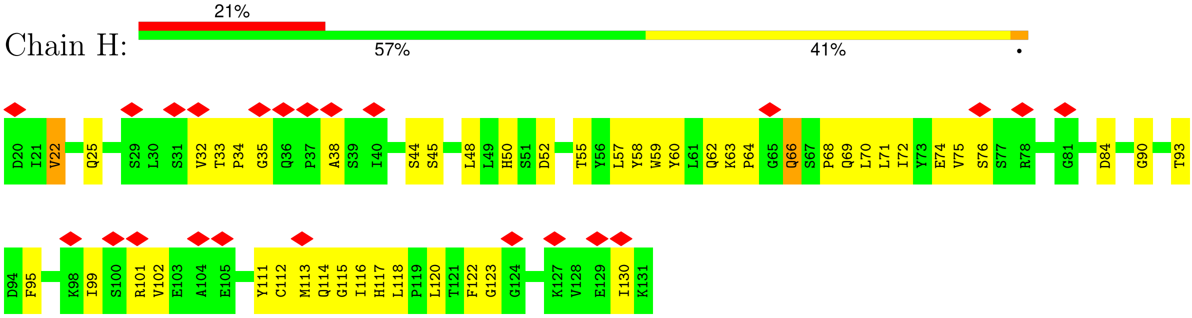
- Molecule 3: HC-5 Fab heavy chain



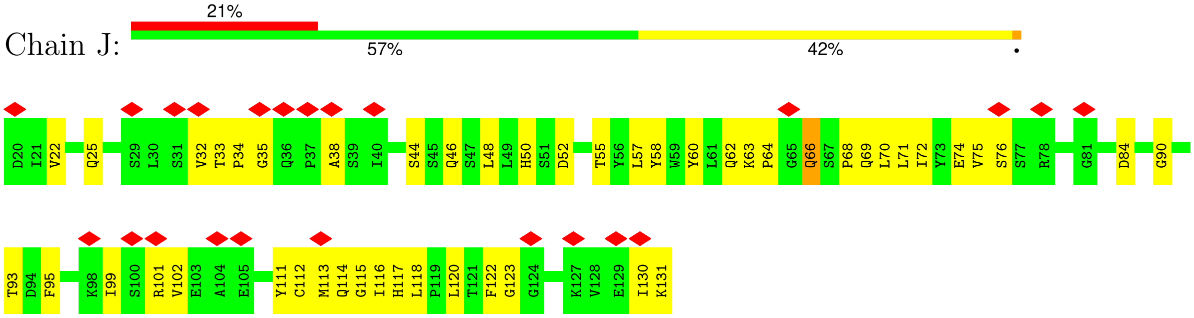
- Molecule 3: HC-5 Fab heavy chain



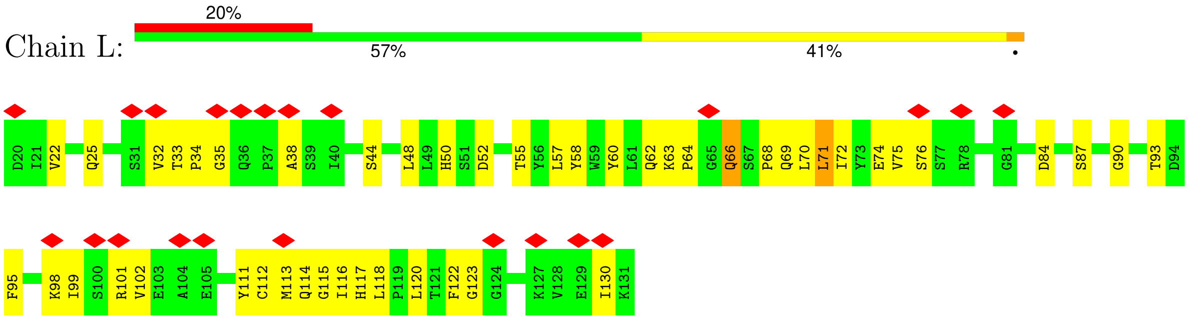
- Molecule 4: HC-5 Fab light chain



- Molecule 4: HC-5 Fab light chain



- Molecule 4: HC-5 Fab light chain


Chain L:
20%
57%
41%
•
D20
I21
V22
Q25
S31
V32
T33
P34
G35
Q36
P37
A38
S39
I40
S44
L48
L49
H50
S51
D52
T55
Y56
L57
Y58
W59
Y60
L61
Q62
K63
P64
G65
Q66
S67
P68
Q69
L70
L71
I72
Y73
E74
V75
S76
S77
R78
G81
D84
S87
G90
T93
D94
F95
K98
I99
S100
R101
V102
E103
A104
E105
Y111
C112
M113
Q114
G115
I116
H117
L118
P119
L120
T121
F122
G123
G124
K127
V128
E129
I130
K131

4 Experimental information

Property	**Value**	**Source**
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	49611	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose $(e^-/\text{Å}^2)$	60	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2200	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	1.444	Depositor
Minimum map value	-1.003	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.027	Depositor
Recommended contour level	0.144	Depositor
Map size (Å)	346.49857, 346.49857, 346.49857	wwPDB
Map dimensions	384, 384, 384	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.90234, 0.90234, 0.90234	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	0/2571	0.51	4/3496 (0.1%)
1	C	0.24	0/2571	0.51	4/3496 (0.1%)
1	E	0.24	0/2571	0.51	4/3496 (0.1%)
2	B	0.26	0/1251	0.88	5/1683 (0.3%)
2	D	0.26	0/1251	0.88	5/1683 (0.3%)
2	F	0.26	0/1251	0.88	5/1683 (0.3%)
3	G	0.19	0/1019	0.87	4/1384 (0.3%)
3	I	0.19	0/1019	0.87	4/1384 (0.3%)
3	K	0.19	0/1019	0.88	4/1384 (0.3%)
4	H	0.17	0/873	0.41	0/1183
4	J	0.17	0/873	0.41	0/1183
4	L	0.17	0/873	0.42	0/1183
All	All	0.23	0/17142	0.67	39/23238 (0.2%)

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
2	B	0	1
2	D	0	1
2	F	0	1
All	All	0	3

There are no bond length outliers.

All (39) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	123	ARG	N-CA-C	-23.23	76.55	110.23
2	F	123	ARG	N-CA-C	-23.23	76.55	110.23
2	D	123	ARG	N-CA-C	-23.20	76.59	110.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	K	126	TYR	N-CA-C	20.01	137.28	112.86
3	G	126	TYR	N-CA-C	19.97	137.23	112.86
3	I	126	TYR	N-CA-C	19.97	137.22	112.86
3	G	126	TYR	CB-CA-C	-14.66	87.46	111.36
3	K	126	TYR	CB-CA-C	-14.66	87.46	111.36
3	I	126	TYR	CB-CA-C	-14.66	87.47	111.36
1	C	113	LYS	N-CA-C	-11.92	92.07	109.59
1	E	113	LYS	N-CA-C	-11.89	92.11	109.59
1	A	113	LYS	N-CA-C	-11.89	92.11	109.59
2	B	130	ALA	N-CA-CB	10.43	128.99	110.95
2	D	130	ALA	N-CA-CB	10.42	128.98	110.95
2	F	130	ALA	N-CA-CB	10.42	128.98	110.95
1	E	114	ILE	N-CA-C	-9.57	94.70	108.48
1	A	114	ILE	N-CA-C	-9.56	94.71	108.48
1	C	114	ILE	N-CA-C	-9.55	94.73	108.48
2	F	130	ALA	N-CA-C	-9.43	89.23	107.44
2	D	130	ALA	N-CA-C	-9.42	89.26	107.44
2	B	130	ALA	N-CA-C	-9.42	89.26	107.44
3	K	127	TYR	N-CA-C	-8.92	90.09	109.81
3	G	127	TYR	N-CA-C	-8.91	90.11	109.81
3	I	127	TYR	N-CA-C	-8.90	90.14	109.81
3	G	127	TYR	N-CA-CB	-7.84	96.42	110.37
3	K	127	TYR	N-CA-CB	-7.83	96.43	110.37
3	I	127	TYR	N-CA-CB	-7.83	96.43	110.37
2	B	124	LEU	N-CA-C	6.83	126.94	113.29
2	D	124	LEU	N-CA-C	6.81	126.91	113.29
2	F	124	LEU	N-CA-C	6.81	126.90	113.29
2	D	123	ARG	CB-CA-C	-6.48	98.97	109.72
2	B	123	ARG	CB-CA-C	-6.46	98.99	109.72
2	F	123	ARG	CB-CA-C	-6.45	99.01	109.72
1	E	114	ILE	N-CA-CB	6.08	121.98	111.39
1	A	114	ILE	N-CA-CB	6.08	121.97	111.39
1	C	114	ILE	N-CA-CB	6.07	121.94	111.39
1	E	113	LYS	CB-CA-C	5.02	117.79	110.26
1	C	113	LYS	CB-CA-C	5.00	117.77	110.26
1	A	113	LYS	CB-CA-C	5.00	117.76	110.26

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	B	123	ARG	Sidechain

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Mol	Chain	Res	Type	Group
2	D	123	ARG	Sidechain
2	F	123	ARG	Sidechain

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2508	0	2463	130	0
1	C	2508	0	2463	129	0
1	E	2508	0	2463	133	0
2	B	1227	0	1136	56	0
2	D	1227	0	1136	57	0
2	F	1227	0	1136	56	0
3	G	992	0	940	82	0
3	I	992	0	940	85	0
3	K	992	0	940	81	0
4	H	853	0	841	63	0
4	J	853	0	841	65	0
4	L	853	0	841	61	0
All	All	16740	0	16140	851	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 26.

All (851) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:108:ILE:HG21	1:A:111:PHE:CE1	1.51	1.46
1:C:108:ILE:HG21	1:C:111:PHE:CE1	1.51	1.45
1:E:108:ILE:HG21	1:E:111:PHE:CE1	1.51	1.45
1:C:108:ILE:CG2	1:C:111:PHE:HE1	1.56	1.18
1:A:108:ILE:CG2	1:A:111:PHE:CE1	2.27	1.17
1:C:35:LYS:HG2	1:C:293:ASN:ND2	1.60	1.17
1:C:108:ILE:CG2	1:C:111:PHE:CE1	2.27	1.17
1:A:108:ILE:CG2	1:A:111:PHE:HE1	1.56	1.17
1:E:108:ILE:CG2	1:E:111:PHE:HE1	1.56	1.17

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Atom-1	**Atom-2**	**Interatomic distance (Å)**	**Clash overlap (Å)**
1:E:108:ILE:CG2	1:E:111:PHE:CE1	2.27	1.17
1:A:35:LYS:HG2	1:A:293:ASN:ND2	1.60	1.15
1:E:35:LYS:HG2	1:E:293:ASN:ND2	1.60	1.15
1:A:105:LEU:HD12	1:A:111:PHE:HZ	1.03	1.13
1:A:113:LYS:O	3:G:126:TYR:CE1	2.02	1.12
1:C:113:LYS:O	3:I:126:TYR:CE1	2.02	1.12
1:C:105:LEU:HD12	1:C:111:PHE:HZ	1.03	1.11
3:K:116:ALA:CB	3:K:135:MET:SD	2.38	1.11
3:G:116:ALA:CB	3:G:135:MET:SD	2.38	1.11
1:E:113:LYS:O	3:K:126:TYR:CE1	2.02	1.11
3:I:116:ALA:CB	3:I:135:MET:SD	2.38	1.11
1:A:105:LEU:CD1	1:A:111:PHE:HZ	1.63	1.10
3:G:116:ALA:HB1	3:G:135:MET:SD	1.91	1.10
1:E:105:LEU:CD1	1:E:111:PHE:HZ	1.63	1.10
3:K:116:ALA:HB1	3:K:135:MET:SD	1.91	1.10
1:C:105:LEU:CD1	1:C:111:PHE:HZ	1.63	1.10
3:I:116:ALA:HB1	3:I:135:MET:SD	1.91	1.10
1:E:105:LEU:HD12	1:E:111:PHE:HZ	1.03	1.09
1:C:105:LEU:HD12	1:C:111:PHE:CZ	1.87	1.09
1:A:76:TRP:HH2	1:A:111:PHE:CD2	1.71	1.09
1:C:76:TRP:HH2	1:C:111:PHE:CD2	1.71	1.09
1:E:105:LEU:HD12	1:E:111:PHE:CZ	1.88	1.08
1:E:76:TRP:HH2	1:E:111:PHE:CD2	1.71	1.08
1:A:105:LEU:HD12	1:A:111:PHE:CZ	1.87	1.07
1:A:105:LEU:CD1	1:A:111:PHE:CZ	2.38	1.07
1:E:105:LEU:CD1	1:E:111:PHE:CZ	2.38	1.06
1:C:105:LEU:CD1	1:C:111:PHE:CZ	2.38	1.06
4:J:63:LYS:HG3	4:J:66:GLN:NE2	1.71	1.05
4:L:63:LYS:HG3	4:L:66:GLN:NE2	1.71	1.05
4:H:63:LYS:HG3	4:H:66:GLN:NE2	1.71	1.04
3:I:126:TYR:O	3:I:128:PRO:HD3	1.58	1.03
3:K:126:TYR:O	3:K:128:PRO:HD3	1.58	1.03
3:G:126:TYR:O	3:G:128:PRO:HD3	1.58	1.02
1:E:35:LYS:HG2	1:E:293:ASN:HD21	1.24	1.01
2:B:128:ASP:OD2	2:B:129:ASN:ND2	1.95	1.00
2:F:128:ASP:OD2	2:F:129:ASN:ND2	1.95	0.99
1:A:35:LYS:HG2	1:A:293:ASN:HD21	1.24	0.99
2:D:128:ASP:OD2	2:D:129:ASN:ND2	1.95	0.98
1:A:113:LYS:O	3:G:126:TYR:CZ	2.16	0.98
1:C:113:LYS:O	3:I:126:TYR:CZ	2.16	0.98
1:E:113:LYS:O	3:K:126:TYR:CZ	2.17	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:113:LYS:O	3:K:126:TYR:OH	1.84	0.95
1:A:113:LYS:O	3:G:126:TYR:OH	1.84	0.95
2:D:123:ARG:O	2:D:124:LEU:HG	1.66	0.95
2:F:123:ARG:O	2:F:124:LEU:HG	1.66	0.95
2:B:123:ARG:O	2:B:124:LEU:HG	1.66	0.94
1:A:108:ILE:HG21	1:A:111:PHE:HE1	0.80	0.94
1:C:113:LYS:O	3:I:126:TYR:OH	1.84	0.94
1:C:108:ILE:HG21	1:C:111:PHE:HE1	0.80	0.93
1:E:108:ILE:HG21	1:E:111:PHE:HE1	0.80	0.93
1:C:76:TRP:CH2	1:C:111:PHE:CD2	2.59	0.91
1:E:35:LYS:CG	1:E:293:ASN:ND2	2.34	0.91
1:C:35:LYS:CG	1:C:293:ASN:ND2	2.34	0.91
1:C:35:LYS:HG2	1:C:293:ASN:HD21	1.24	0.90
1:E:76:TRP:CH2	1:E:111:PHE:CD2	2.59	0.90
1:A:35:LYS:CG	1:A:293:ASN:ND2	2.34	0.90
1:A:76:TRP:CH2	1:A:111:PHE:CD2	2.59	0.89
3:G:135:MET:N	4:H:60:TYR:OH	2.06	0.89
3:I:135:MET:N	4:J:60:TYR:OH	2.06	0.89
1:A:113:LYS:O	3:G:126:TYR:HE1	1.55	0.89
4:H:63:LYS:HG3	4:H:66:GLN:HE21	1.38	0.89
1:E:76:TRP:HH2	1:E:111:PHE:CG	1.92	0.88
3:K:135:MET:N	4:L:60:TYR:OH	2.06	0.87
1:A:76:TRP:HH2	1:A:111:PHE:CG	1.92	0.87
1:A:35:LYS:CG	1:A:293:ASN:HD21	1.88	0.87
1:E:113:LYS:O	3:K:126:TYR:HE1	1.54	0.87
1:C:76:TRP:HH2	1:C:111:PHE:CG	1.92	0.87
4:J:63:LYS:HG3	4:J:66:GLN:HE21	1.38	0.86
1:A:108:ILE:HG21	1:A:111:PHE:CD1	2.11	0.86
1:E:35:LYS:CG	1:E:293:ASN:HD21	1.88	0.86
1:C:35:LYS:CG	1:C:293:ASN:HD21	1.88	0.86
4:L:63:LYS:HG3	4:L:66:GLN:HE21	1.38	0.86
1:C:113:LYS:O	3:I:126:TYR:HE1	1.55	0.86
1:C:108:ILE:HG21	1:C:111:PHE:CD1	2.11	0.85
1:E:108:ILE:HG21	1:E:111:PHE:CD1	2.11	0.84
1:E:311:LEU:HD22	2:F:100:VAL:HG21	1.59	0.84
1:A:69:GLU:OE2	1:A:145:ARG:NE	2.11	0.84
1:A:105:LEU:HD11	1:A:111:PHE:CZ	2.11	0.83
1:E:105:LEU:HD11	1:E:111:PHE:CZ	2.11	0.83
1:C:105:LEU:HD11	1:C:111:PHE:CZ	2.11	0.83
1:C:311:LEU:HD22	2:D:100:VAL:HG21	1.59	0.82
1:C:69:GLU:OE2	1:C:145:ARG:NE	2.11	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:105:LEU:HD11	1:E:111:PHE:CE2	2.14	0.82
1:A:105:LEU:HD11	1:A:111:PHE:CE2	2.14	0.82
1:C:105:LEU:HD11	1:C:111:PHE:CE2	2.14	0.82
1:E:69:GLU:OE2	1:E:145:ARG:NE	2.11	0.82
1:A:311:LEU:HD22	2:B:100:VAL:HG21	1.59	0.81
1:C:66:MET:HB3	1:C:87:ASN:ND2	1.96	0.81
1:E:66:MET:HB3	1:E:87:ASN:ND2	1.96	0.81
1:A:66:MET:HB3	1:A:87:ASN:ND2	1.96	0.80
1:A:65:PRO:HA	1:A:145:ARG:HH12	1.48	0.79
2:F:129:ASN:HB2	2:F:141:TYR:HB2	1.65	0.78
1:E:65:PRO:HA	1:E:145:ARG:HH12	1.48	0.78
2:D:129:ASN:HB2	2:D:141:TYR:HB2	1.64	0.78
2:B:129:ASN:HB2	2:B:141:TYR:HB2	1.65	0.78
1:C:65:PRO:HA	1:C:145:ARG:HH12	1.48	0.78
1:C:66:MET:CB	1:C:87:ASN:ND2	2.47	0.78
1:A:66:MET:CB	1:A:87:ASN:ND2	2.47	0.78
3:G:39:LEU:HD12	3:G:100:LEU:HD23	1.66	0.77
1:E:66:MET:CB	1:E:87:ASN:ND2	2.47	0.77
3:I:39:LEU:HD12	3:I:100:LEU:HD23	1.66	0.77
3:K:39:LEU:HD12	3:K:100:LEU:HD23	1.66	0.76
3:K:126:TYR:O	3:K:128:PRO:CD	2.33	0.76
3:G:126:TYR:O	3:G:128:PRO:CD	2.33	0.75
1:A:120:SER:HB3	4:H:118:LEU:H	1.50	0.75
1:E:120:SER:HB3	4:L:118:LEU:H	1.50	0.75
3:G:135:MET:HB2	4:H:60:TYR:CE2	2.23	0.74
3:I:126:TYR:O	3:I:128:PRO:CD	2.33	0.74
1:C:120:SER:HB3	4:J:118:LEU:H	1.50	0.73
3:K:135:MET:HB2	4:L:60:TYR:CE2	2.23	0.73
3:I:135:MET:HB2	4:J:60:TYR:CE2	2.23	0.73
1:A:32:ILE:HA	1:A:289:MET:HE3	1.71	0.73
1:E:76:TRP:CH2	1:E:111:PHE:CG	2.78	0.71
1:C:32:ILE:HA	1:C:289:MET:HE3	1.71	0.71
1:C:76:TRP:HH2	1:C:111:PHE:CE2	2.08	0.71
1:A:76:TRP:HH2	1:A:111:PHE:CE2	2.08	0.71
1:E:33:LEU:HB2	1:E:311:LEU:HB2	1.73	0.71
1:E:32:ILE:HA	1:E:289:MET:HE3	1.71	0.71
1:E:76:TRP:HH2	1:E:111:PHE:CE2	2.08	0.71
3:I:133:TYR:OH	4:J:58:TYR:O	2.06	0.70
1:C:33:LEU:HB2	1:C:311:LEU:HB2	1.73	0.70
3:G:128:PRO:HD2	4:H:50:HIS:NE2	2.06	0.70
1:A:76:TRP:CH2	1:A:111:PHE:CG	2.78	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:128:PRO:HD2	4:J:50:HIS:NE2	2.06	0.70
3:K:70:ILE:HD11	3:K:74:GLY:HA2	1.74	0.69
1:A:33:LEU:HB2	1:A:311:LEU:HB2	1.73	0.69
3:K:133:TYR:OH	4:L:58:TYR:O	2.06	0.69
1:A:76:TRP:CH2	1:A:111:PHE:CE2	2.80	0.69
1:C:35:LYS:CD	1:C:293:ASN:HD21	2.05	0.69
1:C:76:TRP:CH2	1:C:111:PHE:CG	2.78	0.69
3:K:128:PRO:HD2	4:L:50:HIS:NE2	2.06	0.69
1:E:76:TRP:CH2	1:E:111:PHE:CE2	2.80	0.69
2:B:96:ALA:O	2:B:100:VAL:HG23	1.93	0.69
1:C:76:TRP:CH2	1:C:111:PHE:CE2	2.81	0.69
2:D:96:ALA:O	2:D:100:VAL:HG23	1.93	0.69
1:E:65:PRO:HA	1:E:145:ARG:NH1	2.08	0.69
2:F:96:ALA:O	2:F:100:VAL:HG23	1.93	0.69
3:G:70:ILE:HD11	3:G:74:GLY:HA2	1.74	0.69
1:A:35:LYS:CD	1:A:293:ASN:HD21	2.05	0.69
3:I:127:TYR:HD1	4:J:52:ASP:HB2	1.58	0.68
1:A:65:PRO:HA	1:A:145:ARG:NH1	2.08	0.68
2:F:128:ASP:CG	2:F:129:ASN:ND2	2.51	0.68
1:E:35:LYS:CD	1:E:293:ASN:HD21	2.05	0.68
2:B:128:ASP:CG	2:B:129:ASN:ND2	2.51	0.68
3:I:101:GLN:NE2	3:I:103:ASN:OD1	2.27	0.68
3:G:127:TYR:HD1	4:H:52:ASP:HB2	1.58	0.68
4:H:35:GLY:HA2	4:H:101:ARG:HH12	1.59	0.68
3:I:70:ILE:HD11	3:I:74:GLY:HA2	1.74	0.68
1:C:65:PRO:HA	1:C:145:ARG:NH1	2.08	0.67
3:K:127:TYR:HD1	4:L:52:ASP:HB2	1.58	0.67
3:K:101:GLN:NE2	3:K:103:ASN:OD1	2.27	0.67
2:B:127:ARG:O	2:B:128:ASP:N	2.28	0.67
3:G:101:GLN:NE2	3:G:103:ASN:OD1	2.27	0.67
4:J:35:GLY:HA2	4:J:101:ARG:HH12	1.59	0.67
2:D:128:ASP:CG	2:D:129:ASN:ND2	2.51	0.67
1:A:115:LEU:HD21	1:A:118:PRO:HG3	1.77	0.67
4:H:114:GLN:OE1	4:H:117:HIS:N	2.28	0.67
2:D:127:ARG:O	2:D:128:ASP:N	2.28	0.67
4:H:114:GLN:HB2	4:H:116:ILE:HG22	1.77	0.66
4:L:114:GLN:HB2	4:L:116:ILE:HG22	1.77	0.66
3:G:31:VAL:HG21	3:G:37:LEU:HD23	1.77	0.66
3:I:86:ARG:CZ	3:I:106:ARG:NH1	2.59	0.66
3:I:31:VAL:CG2	3:I:37:LEU:HD23	2.26	0.66
3:K:31:VAL:CG2	3:K:37:LEU:HD23	2.26	0.66

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Atom-1	**Atom-2**	**Interatomic distance (Å)**	**Clash overlap (Å)**
3:K:86:ARG:CZ	3:K:106:ARG:NH1	2.59	0.66
1:C:115:LEU:HD21	1:C:118:PRO:HG3	1.77	0.66
4:L:35:GLY:HA2	4:L:101:ARG:HH12	1.59	0.66
3:G:31:VAL:CG2	3:G:37:LEU:HD23	2.26	0.66
4:J:114:GLN:OE1	4:J:117:HIS:N	2.28	0.66
3:G:86:ARG:CZ	3:G:106:ARG:NH1	2.59	0.66
1:E:304:LYS:NZ	2:F:59:MET:O	2.26	0.66
4:L:114:GLN:OE1	4:L:117:HIS:N	2.28	0.66
2:F:127:ARG:O	2:F:128:ASP:N	2.28	0.66
1:E:115:LEU:HD21	1:E:118:PRO:HG3	1.77	0.66
3:I:38:ARG:HH21	3:I:101:GLN:HB2	1.61	0.65
3:K:31:VAL:HG21	3:K:37:LEU:HD23	1.77	0.65
3:G:39:LEU:HB2	3:G:100:LEU:HB3	1.78	0.65
3:K:38:ARG:HH21	3:K:101:GLN:HB2	1.61	0.65
3:I:31:VAL:HG21	3:I:37:LEU:HD23	1.77	0.65
3:G:38:ARG:HH21	3:G:101:GLN:HB2	1.61	0.65
4:J:48:LEU:HD12	4:J:57:LEU:HB2	1.79	0.65
4:L:48:LEU:HD12	4:L:57:LEU:HB2	1.79	0.65
1:C:193:ASN:ND2	1:C:244:ASN:O	2.30	0.65
1:A:304:LYS:NZ	2:B:59:MET:O	2.26	0.65
1:C:304:LYS:NZ	2:D:59:MET:O	2.26	0.65
3:K:86:ARG:NH2	3:K:109:ASP:OD2	2.29	0.64
3:K:39:LEU:HB2	3:K:100:LEU:HB3	1.78	0.64
4:J:114:GLN:HB2	4:J:116:ILE:HG22	1.77	0.64
3:I:39:LEU:HB2	3:I:100:LEU:HB3	1.78	0.64
3:G:86:ARG:NH2	3:G:109:ASP:OD2	2.29	0.64
3:I:86:ARG:NH2	3:I:109:ASP:OD2	2.29	0.64
1:E:193:ASN:ND2	1:E:244:ASN:O	2.30	0.64
1:A:193:ASN:ND2	1:A:244:ASN:O	2.30	0.63
4:H:48:LEU:HD12	4:H:57:LEU:HB2	1.79	0.62
2:F:128:ASP:CG	2:F:129:ASN:HD22	2.07	0.62
3:G:59:ALA:HB3	3:G:62:LYS:HB2	1.82	0.62
2:B:128:ASP:CG	2:B:129:ASN:HD22	2.07	0.61
2:B:126:LEU:O	2:B:128:ASP:N	2.34	0.61
2:D:126:LEU:O	2:D:128:ASP:N	2.34	0.61
3:I:59:ALA:HB3	3:I:62:LYS:HB2	1.82	0.61
2:F:126:LEU:O	2:F:128:ASP:N	2.34	0.61
1:E:113:LYS:HB3	3:K:126:TYR:OH	2.00	0.61
1:A:113:LYS:HB3	3:G:126:TYR:OH	2.00	0.61
3:G:133:TYR:OH	4:H:58:TYR:O	2.06	0.61
2:D:128:ASP:CG	2:D:129:ASN:HD22	2.07	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:59:ALA:HB3	3:K:62:LYS:HB2	1.82	0.60
1:C:113:LYS:HB3	3:I:126:TYR:OH	2.00	0.60
1:E:256:ILE:HG21	1:E:259:LYS:HE3	1.84	0.60
2:B:52:VAL:O	2:B:56:ILE:HG22	2.02	0.60
1:C:256:ILE:HG21	1:C:259:LYS:HE3	1.84	0.60
1:E:155:ASP:O	1:E:192:LYS:HD2	2.02	0.60
3:G:38:ARG:HD2	3:G:99:TYR:CD2	2.37	0.59
1:C:155:ASP:O	1:C:192:LYS:HD2	2.02	0.59
1:A:256:ILE:HG21	1:A:259:LYS:HE3	1.84	0.59
4:H:84:ASP:N	4:H:84:ASP:OD1	2.34	0.59
2:F:52:VAL:O	2:F:56:ILE:HG22	2.02	0.59
1:A:155:ASP:O	1:A:192:LYS:HD2	2.02	0.59
2:F:122:VAL:C	2:F:123:ARG:O	2.33	0.59
1:E:108:ILE:HG22	1:E:111:PHE:CE1	2.34	0.59
3:K:38:ARG:HD2	3:K:99:TYR:CD2	2.37	0.59
1:A:78:TYR:HB3	1:A:299:ILE:HD13	1.85	0.59
1:E:10:ASN:OD1	1:E:12:SER:N	2.36	0.59
1:C:78:TYR:HB3	1:C:299:ILE:HD13	1.85	0.59
1:A:38:ASN:ND2	1:A:42:CYS:SG	2.76	0.59
2:D:127:ARG:C	2:D:128:ASP:N	2.61	0.58
2:F:127:ARG:C	2:F:128:ASP:N	2.61	0.58
3:G:64:LEU:HD23	4:H:111:TYR:CE2	2.39	0.58
3:I:38:ARG:HD2	3:I:99:TYR:CD2	2.37	0.58
2:D:52:VAL:O	2:D:56:ILE:HG22	2.02	0.58
1:E:38:ASN:ND2	1:E:42:CYS:SG	2.76	0.58
2:B:127:ARG:C	2:B:128:ASP:N	2.61	0.58
4:H:64:PRO:O	4:H:66:GLN:NE2	2.37	0.58
3:I:25:GLU:HB3	3:I:142:THR:HB	1.85	0.58
1:E:78:TYR:HB3	1:E:299:ILE:HD13	1.85	0.58
3:K:25:GLU:HB3	3:K:142:THR:HB	1.85	0.58
1:C:34:GLU:OE2	1:C:36:THR:OG1	2.21	0.58
3:K:86:ARG:CZ	3:K:106:ARG:HH12	2.16	0.58
1:A:10:ASN:OD1	1:A:12:SER:N	2.36	0.57
3:G:25:GLU:OE2	3:G:141:GLY:N	2.36	0.57
3:I:64:LEU:HD23	4:J:111:TYR:CE2	2.39	0.57
1:E:146:ASN:OD1	1:E:254:TYR:OH	2.21	0.57
4:H:113:MET:HB3	4:H:122:PHE:HA	1.87	0.57
1:C:146:ASN:OD1	1:C:254:TYR:OH	2.22	0.57
3:I:86:ARG:CZ	3:I:106:ARG:HH12	2.16	0.57
1:E:71:ILE:O	3:K:126:TYR:HE2	1.88	0.57
3:G:25:GLU:HB3	3:G:142:THR:HB	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:G:86:ARG:CZ	3:G:106:ARG:HH12	2.16	0.57
3:G:124:ASN:C	3:G:126:TYR:H	2.12	0.57
3:K:64:LEU:HD23	4:L:111:TYR:CE2	2.39	0.57
1:A:34:GLU:OE2	1:A:36:THR:OG1	2.21	0.57
1:E:231:THR:HG21	1:E:239:ILE:HD12	1.87	0.57
1:A:231:THR:HG21	1:A:239:ILE:HD12	1.87	0.57
3:I:124:ASN:C	3:I:126:TYR:H	2.13	0.57
4:L:64:PRO:O	4:L:66:GLN:NE2	2.37	0.57
1:A:146:ASN:OD1	1:A:254:TYR:OH	2.21	0.57
4:J:64:PRO:O	4:J:66:GLN:NE2	2.37	0.57
3:K:110:THR:HG22	3:K:146:VAL:HG22	1.86	0.57
4:L:113:MET:HB3	4:L:122:PHE:HA	1.87	0.57
1:C:108:ILE:HG22	1:C:111:PHE:CE1	2.34	0.57
4:J:84:ASP:N	4:J:84:ASP:OD1	2.34	0.57
1:E:66:MET:HB2	1:E:87:ASN:ND2	2.19	0.57
2:D:144:CYS:SG	2:D:148:CYS:HB2	2.45	0.56
1:E:34:GLU:OE2	1:E:36:THR:OG1	2.21	0.56
1:A:71:ILE:O	3:G:126:TYR:HE2	1.88	0.56
3:K:124:ASN:C	3:K:126:TYR:H	2.12	0.56
1:C:71:ILE:O	3:I:126:TYR:HE2	1.88	0.56
1:C:231:THR:HG21	1:C:239:ILE:HD12	1.87	0.56
3:I:135:MET:O	4:J:60:TYR:HE2	1.89	0.56
1:E:3:ILE:HB	2:F:149:MET:HE2	1.88	0.56
4:L:90:GLY:HA3	4:L:95:PHE:HA	1.88	0.56
1:A:66:MET:HB2	1:A:87:ASN:ND2	2.19	0.56
1:C:3:ILE:HB	2:D:149:MET:HE2	1.88	0.56
3:I:110:THR:HG22	3:I:146:VAL:HG22	1.86	0.56
2:F:144:CYS:SG	2:F:148:CYS:HB2	2.45	0.56
3:G:135:MET:O	4:H:60:TYR:HE2	1.89	0.56
4:H:112:CYS:O	4:H:123:GLY:N	2.34	0.56
1:A:3:ILE:HB	2:B:149:MET:HE2	1.88	0.56
2:B:144:CYS:SG	2:B:148:CYS:HB2	2.45	0.56
1:C:114:ILE:HG21	1:C:255:LYS:HE2	1.88	0.56
2:D:122:VAL:O	2:D:123:ARG:C	2.44	0.56
4:J:113:MET:HB3	4:J:122:PHE:HA	1.87	0.56
1:E:33:LEU:HD21	1:E:293:ASN:HD22	1.71	0.56
4:L:34:PRO:HA	4:L:102:VAL:HG13	1.88	0.56
1:A:108:ILE:HG22	1:A:111:PHE:CE1	2.35	0.55
2:F:44:ALA:O	2:F:48:VAL:HG13	2.06	0.55
2:F:95:ASN:O	2:F:99:LEU:HG	2.06	0.55
4:L:84:ASP:OD1	4:L:84:ASP:N	2.34	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:H:63:LYS:HG3	4:H:66:GLN:CD	2.30	0.55
4:L:63:LYS:HG3	4:L:66:GLN:CD	2.30	0.55
1:A:114:ILE:HG21	1:A:255:LYS:HE2	1.88	0.55
3:G:110:THR:HG22	3:G:146:VAL:HG22	1.86	0.55
3:G:116:ALA:HB3	3:G:135:MET:SD	2.42	0.55
2:F:123:ARG:C	2:F:124:LEU:HG	2.30	0.55
2:D:111:HIS:NE2	1:E:20:MET:HE3	2.21	0.55
4:H:34:PRO:HA	4:H:102:VAL:HG13	1.88	0.55
1:C:10:ASN:OD1	1:C:12:SER:N	2.36	0.55
2:D:44:ALA:O	2:D:48:VAL:HG13	2.07	0.55
1:C:66:MET:HB2	1:C:87:ASN:ND2	2.19	0.55
3:I:135:MET:H	4:J:60:TYR:HH	1.52	0.55
1:E:105:LEU:HD11	1:E:111:PHE:HE2	1.71	0.55
3:G:21:VAL:HG12	3:G:46:PHE:HD2	1.72	0.55
2:D:95:ASN:O	2:D:99:LEU:HG	2.06	0.55
3:K:135:MET:O	4:L:60:TYR:HE2	1.89	0.55
2:B:95:ASN:O	2:B:99:LEU:HG	2.06	0.55
4:J:34:PRO:HA	4:J:102:VAL:HG13	1.88	0.55
4:J:63:LYS:HG3	4:J:66:GLN:CD	2.30	0.55
4:J:90:GLY:HA3	4:J:95:PHE:HA	1.88	0.55
4:H:90:GLY:HA3	4:H:95:PHE:HA	1.88	0.54
1:C:38:ASN:ND2	1:C:42:CYS:SG	2.76	0.54
1:E:114:ILE:HG21	1:E:255:LYS:HE2	1.88	0.54
3:I:57:ARG:NH2	3:I:109:ASP:OD1	2.41	0.54
3:K:116:ALA:HB2	3:K:135:MET:SD	2.44	0.54
3:G:54:SER:HA	3:G:69:GLY:HA2	1.90	0.54
4:J:112:CYS:O	4:J:123:GLY:N	2.34	0.54
3:K:57:ARG:NH2	3:K:109:ASP:OD1	2.41	0.54
2:B:44:ALA:O	2:B:48:VAL:HG13	2.06	0.54
3:G:135:MET:HB2	4:H:60:TYR:CZ	2.43	0.54
1:C:178:ILE:HB	1:C:198:ILE:HD12	1.90	0.54
1:E:66:MET:SD	1:E:66:MET:N	2.81	0.54
1:C:33:LEU:HD21	1:C:293:ASN:HD22	1.72	0.54
1:C:35:LYS:CD	1:C:293:ASN:ND2	2.68	0.54
2:D:123:ARG:C	2:D:124:LEU:HG	2.30	0.54
1:A:178:ILE:HB	1:A:198:ILE:HD12	1.90	0.54
1:E:178:ILE:HB	1:E:198:ILE:HD12	1.90	0.54
3:K:21:VAL:HG12	3:K:46:PHE:HD2	1.72	0.54
4:L:112:CYS:O	4:L:123:GLY:N	2.34	0.54
1:A:33:LEU:HD21	1:A:293:ASN:HD22	1.72	0.54
1:A:66:MET:SD	1:A:66:MET:N	2.81	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:27:SER:H	2:B:149:MET:HE1	1.73	0.53
3:G:25:GLU:HG2	3:G:142:THR:HG22	1.90	0.53
3:G:57:ARG:NH2	3:G:109:ASP:OD1	2.41	0.53
1:A:20:MET:HE3	2:F:111:HIS:NE2	2.24	0.53
3:G:106:ARG:HG3	3:G:108:GLU:H	1.73	0.53
3:K:54:SER:HA	3:K:69:GLY:HA2	1.90	0.53
1:A:35:LYS:CD	1:A:293:ASN:ND2	2.68	0.53
1:A:105:LEU:CD1	1:A:111:PHE:CE2	2.82	0.53
1:C:66:MET:SD	1:C:66:MET:N	2.81	0.53
3:I:116:ALA:HB2	3:I:135:MET:SD	2.44	0.53
1:E:179:HIS:O	1:E:246:ASN:ND2	2.35	0.53
1:C:34:GLU:HG2	1:C:285:ILE:HD11	1.91	0.53
3:I:129:TYR:CD2	4:J:116:ILE:CD1	2.92	0.53
4:J:58:TYR:HB2	4:J:72:ILE:O	2.09	0.53
3:K:129:TYR:CD2	4:L:116:ILE:CD1	2.92	0.53
2:B:123:ARG:C	2:B:124:LEU:HG	2.30	0.53
3:G:129:TYR:CD2	4:H:116:ILE:CD1	2.92	0.53
1:E:34:GLU:HG2	1:E:285:ILE:HD11	1.91	0.53
1:A:34:GLU:HG2	1:A:285:ILE:HD11	1.91	0.53
2:D:27:SER:H	2:D:149:MET:HE1	1.73	0.53
3:I:21:VAL:HG12	3:I:46:PHE:HD2	1.72	0.53
3:I:25:GLU:OE2	3:I:141:GLY:N	2.36	0.53
3:K:135:MET:HB2	4:L:60:TYR:CZ	2.43	0.53
3:I:25:GLU:HG2	3:I:142:THR:HG22	1.91	0.53
3:I:70:ILE:HG21	3:I:98:LEU:HD11	1.91	0.53
1:E:43:ASP:HA	1:E:49:PRO:HD3	1.91	0.53
3:I:106:ARG:HG3	3:I:108:GLU:H	1.73	0.53
3:I:135:MET:HB2	4:J:60:TYR:CZ	2.43	0.53
1:E:26:VAL:HA	1:E:317:LEU:HD23	1.91	0.53
1:E:35:LYS:CD	1:E:293:ASN:ND2	2.68	0.53
1:C:35:LYS:HE3	1:C:293:ASN:HD21	1.74	0.52
3:K:25:GLU:HG2	3:K:142:THR:HG22	1.91	0.52
3:K:106:ARG:HG3	3:K:108:GLU:H	1.73	0.52
1:A:26:VAL:HA	1:A:317:LEU:HD23	1.91	0.52
3:K:25:GLU:OE2	3:K:141:GLY:N	2.36	0.52
4:L:58:TYR:HB2	4:L:72:ILE:O	2.09	0.52
3:G:82:SER:O	3:G:86:ARG:NH1	2.43	0.52
1:C:105:LEU:HD23	1:C:264:ILE:HD11	1.91	0.52
1:A:160:ILE:O	1:A:242:GLU:HA	2.10	0.52
2:D:26:HIS:HB2	2:D:149:MET:SD	2.50	0.52
2:F:27:SER:H	2:F:149:MET:HE1	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:105:LEU:HD23	1:A:264:ILE:HD11	1.91	0.52
3:G:70:ILE:HG21	3:G:98:LEU:HD11	1.91	0.52
1:C:179:HIS:O	1:C:246:ASN:ND2	2.35	0.52
3:I:54:SER:HA	3:I:69:GLY:HA2	1.89	0.52
1:E:108:ILE:CG2	1:E:111:PHE:CD1	2.83	0.52
1:A:35:LYS:HE3	1:A:293:ASN:HD21	1.74	0.52
2:B:26:HIS:HB2	2:B:149:MET:SD	2.50	0.52
3:I:116:ALA:HB3	3:I:135:MET:SD	2.42	0.52
3:I:128:PRO:CD	4:J:50:HIS:NE2	2.73	0.52
1:E:160:ILE:O	1:E:242:GLU:HA	2.10	0.52
3:K:133:TYR:HB3	4:L:58:TYR:CE2	2.45	0.52
1:C:108:ILE:CG2	1:C:111:PHE:CD1	2.83	0.52
3:I:82:SER:O	3:I:86:ARG:NH1	2.43	0.52
4:L:118:LEU:HD23	4:L:120:LEU:HG	1.92	0.52
1:C:160:ILE:O	1:C:242:GLU:HA	2.10	0.52
4:J:118:LEU:HD23	4:J:120:LEU:HG	1.92	0.52
1:E:178:ILE:HG22	1:E:229:PHE:HE1	1.75	0.52
2:F:26:HIS:HB2	2:F:149:MET:SD	2.50	0.52
1:A:43:ASP:HA	1:A:49:PRO:HD3	1.91	0.51
2:B:116:LYS:HA	2:B:119:TYR:HB3	1.92	0.51
3:G:133:TYR:HB3	4:H:58:TYR:CE2	2.46	0.51
3:G:128:PRO:CD	4:H:50:HIS:NE2	2.73	0.51
4:H:58:TYR:HB2	4:H:72:ILE:O	2.09	0.51
3:I:129:TYR:CD2	4:J:116:ILE:HD12	2.46	0.51
2:F:116:LYS:HA	2:F:119:TYR:HB3	1.92	0.51
3:K:127:TYR:CD1	4:L:52:ASP:HB2	2.44	0.51
3:K:133:TYR:OH	4:L:113:MET:N	2.33	0.51
2:B:68:ARG:NH1	2:B:85:GLU:OE2	2.36	0.51
2:D:116:LYS:HA	2:D:119:TYR:HB3	1.92	0.51
1:E:35:LYS:HE3	1:E:293:ASN:HD21	1.74	0.51
1:E:105:LEU:HD23	1:E:264:ILE:HD11	1.91	0.51
3:K:82:SER:O	3:K:86:ARG:NH1	2.43	0.51
1:A:178:ILE:HG22	1:A:229:PHE:HE1	1.75	0.51
4:H:44:SER:O	4:H:93:THR:OG1	2.28	0.51
1:C:1:ASP:N	2:D:137:CYS:SG	2.67	0.51
1:C:105:LEU:HD11	1:C:111:PHE:HE2	1.71	0.51
4:L:44:SER:O	4:L:93:THR:OG1	2.28	0.51
3:K:70:ILE:HG21	3:K:98:LEU:HD11	1.91	0.51
3:G:110:THR:O	3:G:110:THR:OG1	2.25	0.51
1:C:43:ASP:HA	1:C:49:PRO:HD3	1.91	0.51
1:A:105:LEU:HD11	1:A:111:PHE:HE2	1.71	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:105:GLU:HG2	1:C:20:MET:HB3	1.92	0.51
1:A:108:ILE:CG2	1:A:111:PHE:CD1	2.83	0.51
1:C:26:VAL:HA	1:C:317:LEU:HD23	1.91	0.51
3:I:25:GLU:CD	3:I:140:LYS:H	2.19	0.51
2:F:122:VAL:O	2:F:123:ARG:C	2.44	0.51
1:C:178:ILE:HG22	1:C:229:PHE:HE1	1.75	0.51
3:K:128:PRO:CD	4:L:50:HIS:NE2	2.73	0.51
1:A:10:ASN:HB3	1:A:27:THR:HG22	1.93	0.50
3:G:116:ALA:HB2	3:G:135:MET:SD	2.44	0.50
2:F:68:ARG:NH1	2:F:85:GLU:OE2	2.36	0.50
3:K:25:GLU:CD	3:K:140:LYS:H	2.19	0.50
3:K:129:TYR:CD2	4:L:116:ILE:HD12	2.46	0.50
4:H:118:LEU:HD23	4:H:120:LEU:HG	1.92	0.50
3:I:66:TRP:CH2	4:J:118:LEU:HD22	2.46	0.50
2:B:111:HIS:NE2	1:C:20:MET:HE3	2.26	0.50
3:I:133:TYR:HB3	4:J:58:TYR:CE2	2.45	0.50
1:E:10:ASN:HB3	1:E:27:THR:HG22	1.93	0.50
3:K:66:TRP:CH2	4:L:118:LEU:HD22	2.46	0.50
1:A:33:LEU:HD11	1:A:293:ASN:HB3	1.94	0.50
4:H:58:TYR:CD1	4:H:70:LEU:HD11	2.46	0.50
1:C:33:LEU:HD11	1:C:293:ASN:HB3	1.94	0.50
4:J:35:GLY:H	4:J:102:VAL:HG13	1.76	0.50
3:G:66:TRP:CH2	4:H:118:LEU:HD22	2.46	0.50
3:G:129:TYR:CD2	4:H:116:ILE:HD12	2.46	0.50
2:D:122:VAL:C	2:D:123:ARG:O	2.33	0.50
1:A:35:LYS:CE	1:A:293:ASN:HD21	2.25	0.50
3:G:25:GLU:CD	3:G:140:LYS:H	2.19	0.50
4:J:44:SER:O	4:J:93:THR:OG1	2.28	0.50
4:H:35:GLY:H	4:H:102:VAL:HG13	1.76	0.50
1:E:35:LYS:CE	1:E:293:ASN:HD21	2.25	0.50
4:L:58:TYR:CD1	4:L:70:LEU:HD11	2.47	0.50
4:L:62:GLN:HG3	4:L:68:PRO:HG3	1.94	0.50
2:B:122:VAL:C	2:B:123:ARG:O	2.33	0.50
1:E:33:LEU:HD11	1:E:293:ASN:HB3	1.94	0.50
2:F:68:ARG:NH1	2:F:81:ASN:OD1	2.44	0.50
3:K:116:ALA:HB3	3:K:135:MET:SD	2.42	0.49
2:B:30:GLN:NE2	2:B:145:ASP:OD1	2.45	0.49
1:C:10:ASN:HB3	1:C:27:THR:HG22	1.93	0.49
1:C:48:LYS:HE2	1:C:271:TYR:HE2	1.77	0.49
4:H:62:GLN:HG3	4:H:68:PRO:HG3	1.94	0.49
1:C:35:LYS:CE	1:C:293:ASN:HD21	2.25	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:J:62:GLN:HG3	4:J:68:PRO:HG3	1.94	0.49
2:F:30:GLN:NE2	2:F:145:ASP:OD1	2.45	0.49
4:L:35:GLY:H	4:L:102:VAL:HG13	1.76	0.49
2:B:68:ARG:NH1	2:B:81:ASN:OD1	2.45	0.49
2:D:68:ARG:NH1	2:D:85:GLU:OE2	2.36	0.49
3:I:86:ARG:NH1	3:I:106:ARG:HH12	2.11	0.49
2:D:68:ARG:NH1	2:D:81:ASN:OD1	2.45	0.49
3:I:127:TYR:CD1	4:J:52:ASP:HB2	2.44	0.49
4:J:58:TYR:CD1	4:J:70:LEU:HD11	2.46	0.49
3:K:86:ARG:NH1	3:K:106:ARG:HH12	2.11	0.49
4:L:72:ILE:HD11	4:L:76:SER:HA	1.95	0.49
1:A:20:MET:HB3	2:F:105:GLU:HG2	1.94	0.49
2:B:122:VAL:O	2:B:123:ARG:C	2.44	0.48
3:I:58:GLN:O	3:I:111:ALA:HB1	2.13	0.48
1:E:48:LYS:HE2	1:E:271:TYR:HE2	1.77	0.48
4:H:38:ALA:HB3	4:H:99:ILE:HB	1.96	0.48
1:A:179:HIS:O	1:A:246:ASN:ND2	2.35	0.48
3:G:86:ARG:NH1	3:G:106:ARG:HH12	2.11	0.48
3:G:133:TYR:HD2	4:H:115:GLY:N	2.11	0.48
1:E:4:CYS:SG	1:E:5:ILE:N	2.86	0.48
4:J:38:ALA:HB3	4:J:99:ILE:HB	1.96	0.48
3:K:58:GLN:O	3:K:111:ALA:HB1	2.13	0.48
1:A:48:LYS:HE2	1:A:271:TYR:HE2	1.77	0.48
2:B:42:GLN:OE1	2:B:43:LYS:N	2.44	0.48
3:I:133:TYR:OH	4:J:113:MET:N	2.33	0.48
4:J:72:ILE:HD11	4:J:76:SER:HA	1.94	0.48
1:E:108:ILE:CB	1:E:111:PHE:HE1	2.24	0.48
4:L:38:ALA:HB3	4:L:99:ILE:HB	1.96	0.48
1:A:251:GLU:HG2	1:A:252:TYR:CD2	2.49	0.48
2:D:30:GLN:NE2	2:D:145:ASP:OD1	2.45	0.48
3:G:132:TYR:CD2	4:H:118:LEU:HD11	2.49	0.48
1:C:270:GLU:N	1:C:270:GLU:OE1	2.47	0.48
3:I:133:TYR:HD2	4:J:115:GLY:N	2.11	0.48
3:K:132:TYR:CD2	4:L:118:LEU:HD11	2.49	0.48
1:A:4:CYS:SG	1:A:5:ILE:N	2.86	0.48
3:G:127:TYR:CD1	4:H:52:ASP:HB2	2.44	0.48
1:C:4:CYS:SG	1:C:5:ILE:N	2.86	0.48
2:D:105:GLU:HG2	1:E:20:MET:HB3	1.95	0.48
3:K:133:TYR:HD2	4:L:115:GLY:N	2.11	0.48
2:B:23:GLY:HA2	2:B:37:ASP:HB2	1.96	0.48
3:G:25:GLU:CD	3:G:141:GLY:H	2.21	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:251:GLU:HG2	1:E:252:TYR:CD2	2.49	0.48
2:F:23:GLY:HA2	2:F:37:ASP:HB2	1.96	0.48
3:K:110:THR:O	3:K:110:THR:OG1	2.25	0.47
1:A:1:ASP:N	2:B:137:CYS:SG	2.67	0.47
2:B:117:ASN:O	2:B:121:LYS:HB2	2.14	0.47
4:J:63:LYS:CG	4:J:66:GLN:NE2	2.61	0.47
1:E:41:LEU:HD13	1:E:80:VAL:HG21	1.96	0.47
1:A:22:LYS:O	1:A:22:LYS:HG3	2.14	0.47
2:F:102:MET:O	2:F:106:ARG:HG3	2.14	0.47
3:G:58:GLN:O	3:G:111:ALA:HB1	2.13	0.47
4:H:63:LYS:CG	4:H:66:GLN:NE2	2.61	0.47
4:H:72:ILE:HD11	4:H:76:SER:HA	1.95	0.47
1:A:243:SER:OG	1:A:247:PHE:HB2	2.14	0.47
1:C:22:LYS:O	1:C:22:LYS:HG3	2.14	0.47
2:D:102:MET:O	2:D:106:ARG:HG3	2.14	0.47
3:I:132:TYR:CD2	4:J:118:LEU:HD11	2.49	0.47
2:F:144:CYS:SG	2:F:148:CYS:CB	3.03	0.47
4:L:25:GLN:NE2	4:L:112:CYS:SG	2.88	0.47
1:C:243:SER:OG	1:C:247:PHE:HB2	2.14	0.47
1:C:251:GLU:HG2	1:C:252:TYR:CD2	2.49	0.47
1:E:243:SER:OG	1:E:247:PHE:HB2	2.15	0.47
1:A:27:THR:HG23	1:A:317:LEU:HD22	1.97	0.47
1:A:49:PRO:HB3	1:A:78:TYR:CE1	2.50	0.47
1:A:70:PHE:CE2	1:A:113:LYS:HD3	2.50	0.47
3:G:33:SER:OG	3:G:147:SER:O	2.32	0.47
1:C:202:THR:HB	1:C:205:LEU:HB3	1.97	0.47
2:D:23:GLY:HA2	2:D:37:ASP:HB2	1.96	0.47
2:D:144:CYS:SG	2:D:148:CYS:CB	3.03	0.47
1:E:22:LYS:O	1:E:22:LYS:HG3	2.14	0.47
1:A:41:LEU:HD13	1:A:80:VAL:HG21	1.96	0.47
1:A:108:ILE:CB	1:A:111:PHE:HE1	2.24	0.47
4:H:25:GLN:NE2	4:H:112:CYS:SG	2.88	0.47
3:G:53:LEU:HD23	3:G:91:ARG:HH22	1.80	0.47
3:G:70:ILE:HB	3:G:89:ILE:CD1	2.45	0.47
1:C:70:PHE:CE2	1:C:113:LYS:HD3	2.50	0.47
3:K:53:LEU:HD23	3:K:91:ARG:HH22	1.80	0.47
1:A:270:GLU:N	1:A:270:GLU:OE1	2.47	0.47
1:C:40:LYS:HE3	1:C:40:LYS:HB2	1.71	0.47
1:E:70:PHE:CE2	1:E:113:LYS:HD3	2.50	0.47
2:F:117:ASN:O	2:F:121:LYS:HB2	2.14	0.47
3:K:33:SER:OG	3:K:147:SER:O	2.32	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:L:57:LEU:HD21	4:L:112:CYS:HB2	1.97	0.47
4:H:57:LEU:HD21	4:H:112:CYS:HB2	1.97	0.46
1:C:48:LYS:HG2	1:C:49:PRO:HD2	1.97	0.46
2:D:117:ASN:O	2:D:121:LYS:HB2	2.14	0.46
3:I:25:GLU:CD	3:I:141:GLY:H	2.21	0.46
3:I:110:THR:O	3:I:110:THR:OG1	2.25	0.46
3:K:25:GLU:CD	3:K:141:GLY:H	2.21	0.46
3:I:53:LEU:HD23	3:I:91:ARG:HH22	1.80	0.46
4:J:25:GLN:NE2	4:J:112:CYS:SG	2.88	0.46
1:A:48:LYS:HG2	1:A:49:PRO:HD2	1.97	0.46
2:B:102:MET:O	2:B:106:ARG:HG3	2.15	0.46
2:B:144:CYS:SG	2:B:148:CYS:CB	3.03	0.46
1:C:41:LEU:HD13	1:C:80:VAL:HG21	1.96	0.46
1:C:104:MET:CE	1:C:232:ILE:HD11	2.46	0.46
1:E:50:LEU:HD23	1:E:79:ILE:HG23	1.97	0.46
1:A:50:LEU:HD23	1:A:79:ILE:HG23	1.97	0.46
2:F:59:MET:HE3	2:F:59:MET:HB3	1.83	0.46
3:K:70:ILE:HB	3:K:89:ILE:CD1	2.45	0.46
1:C:27:THR:HG23	1:C:317:LEU:HD22	1.97	0.46
3:I:133:TYR:HE2	4:J:113:MET:O	1.99	0.46
1:A:104:MET:CE	1:A:232:ILE:HD11	2.46	0.46
1:C:105:LEU:CD1	1:C:111:PHE:CE2	2.82	0.46
1:C:289:MET:O	1:C:303:PRO:HB3	2.16	0.46
3:I:70:ILE:HB	3:I:89:ILE:CD1	2.45	0.46
4:J:57:LEU:HD21	4:J:112:CYS:HB2	1.97	0.46
1:E:49:PRO:HB3	1:E:78:TYR:CE1	2.50	0.46
1:E:202:THR:HB	1:E:205:LEU:HB3	1.96	0.46
3:K:133:TYR:HB2	4:L:115:GLY:CA	2.46	0.46
3:G:133:TYR:CD2	4:H:115:GLY:N	2.84	0.46
1:C:50:LEU:HD23	1:C:79:ILE:HG23	1.97	0.46
2:F:42:GLN:OE1	2:F:43:LYS:N	2.44	0.46
1:A:60:TRP:CH2	1:A:111:PHE:CE2	3.04	0.46
1:E:27:THR:HG23	1:E:317:LEU:HD22	1.97	0.46
1:E:60:TRP:CH2	1:E:111:PHE:CE2	3.04	0.46
1:E:40:LYS:HB2	1:E:40:LYS:HE3	1.71	0.45
1:E:75:GLU:HG3	1:E:258:LYS:HD2	1.98	0.45
2:F:129:ASN:HB2	2:F:141:TYR:CB	2.41	0.45
3:K:133:TYR:HE2	4:L:113:MET:O	1.99	0.45
1:A:317:LEU:HB3	2:B:108:LEU:HD22	1.98	0.45
3:G:133:TYR:HE2	4:H:113:MET:O	1.99	0.45
1:C:262:SER:OG	1:C:263:THR:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:105:LEU:CD1	1:E:111:PHE:CE2	2.82	0.45
1:E:271:TYR:HD1	1:E:272:GLY:N	2.14	0.45
1:E:317:LEU:HB3	2:F:108:LEU:HD22	1.98	0.45
1:A:202:THR:HB	1:A:205:LEU:HB3	1.97	0.45
1:C:49:PRO:HB3	1:C:78:TYR:CE1	2.50	0.45
1:C:193:ASN:HB2	1:C:196:THR:HG22	1.98	0.45
2:D:129:ASN:HB2	2:D:141:TYR:CB	2.41	0.45
3:I:133:TYR:CD2	4:J:115:GLY:N	2.84	0.45
1:E:270:GLU:OE1	1:E:270:GLU:N	2.47	0.45
1:C:60:TRP:CH2	1:C:111:PHE:CE2	3.04	0.45
1:C:317:LEU:HB3	2:D:108:LEU:HD22	1.98	0.45
2:D:99:LEU:HD21	2:F:94:TYR:CE2	2.51	0.45
3:I:135:MET:HB3	3:I:138:TRP:NE1	2.31	0.45
1:E:48:LYS:HG2	1:E:49:PRO:HD2	1.97	0.45
1:A:75:GLU:HG3	1:A:258:LYS:HD2	1.98	0.45
1:A:271:TYR:HD1	1:A:272:GLY:N	2.14	0.45
3:G:133:TYR:HB2	4:H:115:GLY:CA	2.46	0.45
3:G:135:MET:HB3	3:G:138:TRP:NE1	2.31	0.45
1:C:75:GLU:HG3	1:C:258:LYS:HD2	1.98	0.45
1:C:316:GLY:HA2	2:D:21:TRP:CH2	2.52	0.45
3:I:133:TYR:HB2	4:J:115:GLY:CA	2.46	0.45
4:J:44:SER:OG	4:J:46:GLN:O	2.32	0.45
1:E:94:SER:OG	1:E:227:ASP:OD1	2.30	0.45
1:A:40:LYS:HB2	1:A:40:LYS:HE3	1.71	0.45
1:A:289:MET:O	1:A:303:PRO:HB3	2.16	0.45
1:A:113:LYS:C	3:G:126:TYR:HH	2.19	0.45
2:D:42:GLN:OE1	2:D:43:LYS:N	2.44	0.45
4:J:55:THR:HG21	4:J:95:PHE:HE1	1.82	0.45
4:J:130:ILE:O	4:J:130:ILE:HG13	2.17	0.45
1:A:292:HIS:HE1	1:A:295:HIS:O	2.00	0.45
2:B:99:LEU:HD21	2:D:94:TYR:CE2	2.52	0.45
1:C:70:PHE:HB2	1:C:73:VAL:HG23	1.99	0.45
3:K:135:MET:HB3	3:K:138:TRP:NE1	2.31	0.45
1:A:21:GLU:HG2	2:F:111:HIS:ND1	2.31	0.45
3:G:55:TRP:CD2	3:G:100:LEU:HD22	2.52	0.45
2:D:27:SER:HA	2:D:32:SER:HA	1.99	0.45
1:A:193:ASN:HB2	1:A:196:THR:HG22	1.98	0.45
3:K:133:TYR:CD2	4:L:115:GLY:N	2.84	0.45
1:A:70:PHE:HB2	1:A:73:VAL:HG23	1.99	0.44
2:B:63:PHE:HE1	2:D:83:LYS:HB3	1.82	0.44
2:B:83:LYS:HB3	2:F:63:PHE:HE1	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:104:MET:CE	1:E:232:ILE:HD11	2.46	0.44
1:E:289:MET:O	1:E:303:PRO:HB3	2.16	0.44
1:E:292:HIS:O	1:E:305:TYR:HA	2.18	0.44
3:K:55:TRP:CD2	3:K:100:LEU:HD22	2.52	0.44
1:A:160:ILE:HG23	1:A:162:ILE:HG23	2.00	0.44
1:A:304:LYS:HA	1:A:304:LYS:HD3	1.76	0.44
4:H:55:THR:HG21	4:H:95:PHE:HE1	1.82	0.44
4:J:74:GLU:HB3	4:J:75:VAL:H	1.68	0.44
1:E:160:ILE:HG23	1:E:162:ILE:HG23	2.00	0.44
1:E:262:SER:OG	1:E:263:THR:N	2.49	0.44
2:B:94:TYR:CE2	2:F:99:LEU:HD21	2.52	0.44
2:B:111:HIS:ND1	1:C:21:GLU:HG2	2.32	0.44
4:H:74:GLU:HB3	4:H:75:VAL:H	1.68	0.44
1:C:271:TYR:HD1	1:C:272:GLY:N	2.14	0.44
3:I:55:TRP:CD2	3:I:100:LEU:HD22	2.52	0.44
1:E:1:ASP:N	2:F:137:CYS:SG	2.67	0.44
1:E:70:PHE:HB2	1:E:73:VAL:HG23	1.99	0.44
1:E:316:GLY:HA2	2:F:21:TRP:CH2	2.52	0.44
2:F:27:SER:HA	2:F:32:SER:HA	1.99	0.44
4:L:130:ILE:O	4:L:130:ILE:HG13	2.17	0.44
4:J:32:VAL:HG23	4:J:102:VAL:HG21	2.00	0.44
3:K:122:PHE:HB2	3:K:131:TYR:CE2	2.53	0.44
1:A:114:ILE:HD11	1:A:172:LEU:HD22	1.99	0.44
2:B:62:GLN:HG2	2:B:63:PHE:N	2.33	0.44
1:E:114:ILE:HD11	1:E:172:LEU:HD22	1.99	0.44
1:C:160:ILE:HG23	1:C:162:ILE:HG23	2.00	0.44
1:C:292:HIS:HE1	1:C:295:HIS:O	2.00	0.44
1:E:193:ASN:HB2	1:E:196:THR:HG22	1.98	0.44
1:A:267:SER:OG	1:A:281:PRO:O	2.22	0.44
2:B:27:SER:HA	2:B:32:SER:HA	1.99	0.44
1:A:316:GLY:HA2	2:B:21:TRP:CH2	2.52	0.44
2:F:62:GLN:HG2	2:F:63:PHE:N	2.32	0.44
4:L:55:THR:HG21	4:L:95:PHE:HE1	1.82	0.44
1:C:292:HIS:O	1:C:305:TYR:HA	2.18	0.43
3:I:122:PHE:HB2	3:I:131:TYR:CE2	2.53	0.43
1:E:292:HIS:HE1	1:E:295:HIS:O	2.00	0.43
2:B:106:ARG:NH2	1:C:18:THR:O	2.48	0.43
3:G:64:LEU:O	4:H:122:PHE:HB2	2.18	0.43
1:C:146:ASN:HA	1:C:252:TYR:HD2	1.83	0.43
4:H:130:ILE:O	4:H:130:ILE:HG13	2.17	0.43
3:I:89:ILE:HG22	3:I:100:LEU:CD1	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:150:GLU:HA	2:B:153:ARG:HB3	2.00	0.43
3:G:122:PHE:HB2	3:G:131:TYR:CE2	2.53	0.43
4:J:48:LEU:HD13	4:J:114:GLN:HA	2.00	0.43
3:K:24:LEU:O	3:K:41:CYS:HA	2.19	0.43
3:K:58:GLN:HG2	3:K:112:VAL:HG22	2.01	0.43
4:L:32:VAL:HG23	4:L:102:VAL:HG21	2.00	0.43
1:A:146:ASN:HA	1:A:252:TYR:HD2	1.83	0.43
1:A:292:HIS:O	1:A:305:TYR:HA	2.18	0.43
4:H:114:GLN:H	4:H:114:GLN:HG3	1.68	0.43
4:H:116:ILE:HD12	4:H:116:ILE:HA	1.82	0.43
3:I:64:LEU:O	4:J:122:PHE:HB2	2.18	0.43
3:K:23:LEU:HD11	3:K:117:LYS:HB2	2.01	0.43
4:H:32:VAL:HG23	4:H:102:VAL:HG21	2.00	0.43
4:H:48:LEU:HD13	4:H:114:GLN:HA	2.00	0.43
1:E:32:ILE:HA	1:E:32:ILE:HD13	1.88	0.43
1:E:146:ASN:HA	1:E:252:TYR:HD2	1.83	0.43
4:L:74:GLU:HB3	4:L:75:VAL:H	1.68	0.43
3:G:23:LEU:HD11	3:G:117:LYS:HB2	2.01	0.43
3:G:24:LEU:O	3:G:41:CYS:HA	2.19	0.43
3:G:89:ILE:HG22	3:G:100:LEU:CD1	2.49	0.43
1:E:196:THR:HA	1:E:244:ASN:HB3	2.01	0.43
1:A:196:THR:HA	1:A:244:ASN:HB3	2.01	0.43
3:G:133:TYR:CZ	4:H:58:TYR:O	2.72	0.43
4:H:55:THR:HG21	4:H:95:PHE:CE1	2.54	0.43
2:D:62:GLN:HG2	2:D:63:PHE:N	2.33	0.43
2:D:150:GLU:HA	2:D:153:ARG:HB3	2.00	0.43
1:E:271:TYR:HD1	1:E:273:HIS:H	1.66	0.43
3:K:89:ILE:HG22	3:K:100:LEU:CD1	2.49	0.42
1:A:112:GLU:HB2	1:A:257:VAL:CG2	2.49	0.42
2:D:63:PHE:HE1	2:F:83:LYS:HB3	1.84	0.42
3:I:33:SER:OG	3:I:147:SER:O	2.32	0.42
1:E:191:TYR:O	1:E:192:LYS:C	2.62	0.42
2:F:36:ALA:C	2:F:153:ARG:HH12	2.27	0.42
2:F:150:GLU:HA	2:F:153:ARG:HB3	2.00	0.42
1:A:191:TYR:O	1:A:192:LYS:C	2.62	0.42
1:A:262:SER:OG	1:A:263:THR:N	2.49	0.42
2:B:36:ALA:C	2:B:153:ARG:HH12	2.27	0.42
3:G:129:TYR:CD2	4:H:116:ILE:HD11	2.54	0.42
1:C:196:THR:HA	1:C:244:ASN:HB3	2.01	0.42
3:K:129:TYR:CD2	4:L:116:ILE:HD11	2.54	0.42
3:K:133:TYR:CZ	4:L:58:TYR:O	2.72	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:60:TRP:CH2	1:A:111:PHE:HE2	2.38	0.42
2:F:122:VAL:HB	2:F:126:LEU:HB2	2.01	0.42
1:C:60:TRP:CH2	1:C:111:PHE:HE2	2.38	0.42
4:J:55:THR:HG21	4:J:95:PHE:CE1	2.54	0.42
1:E:290:PRO:HG3	2:F:52:VAL:HG12	2.02	0.42
1:A:97:ASP:HB3	1:A:100:GLU:HB2	2.01	0.42
2:B:99:LEU:O	2:B:103:GLU:HG2	2.20	0.42
1:C:114:ILE:HD11	1:C:172:LEU:HD22	1.99	0.42
3:I:24:LEU:O	3:I:41:CYS:HA	2.19	0.42
4:J:114:GLN:NE2	4:J:117:HIS:O	2.49	0.42
1:E:112:GLU:HB2	1:E:257:VAL:CG2	2.49	0.42
3:K:64:LEU:O	4:L:122:PHE:HB2	2.18	0.42
1:C:95:LEU:HD21	1:C:101:LEU:HD23	2.02	0.42
2:D:122:VAL:HB	2:D:126:LEU:HB2	2.01	0.42
1:E:75:GLU:HG3	1:E:110:HIS:HB2	2.02	0.42
1:E:97:ASP:HB3	1:E:100:GLU:HB2	2.01	0.42
1:E:143:PHE:CE2	1:E:149:TRP:HB2	2.55	0.42
2:F:22:TYR:CE1	2:F:115:VAL:HG22	2.55	0.42
1:C:191:TYR:O	1:C:192:LYS:C	2.62	0.42
4:J:63:LYS:HE3	4:J:69:GLN:NE2	2.35	0.42
1:E:2:GLN:HB2	2:F:140:PHE:HE1	1.85	0.42
1:E:66:MET:HB3	1:E:87:ASN:HD21	1.79	0.42
2:F:99:LEU:O	2:F:103:GLU:HG2	2.20	0.42
3:K:43:ALA:HB1	3:K:46:PHE:CZ	2.55	0.42
4:L:48:LEU:HD13	4:L:114:GLN:HA	2.00	0.42
4:L:55:THR:HG21	4:L:95:PHE:CE1	2.54	0.42
1:A:94:SER:OG	1:A:227:ASP:OD1	2.30	0.42
1:A:143:PHE:CE2	1:A:149:TRP:HB2	2.55	0.42
1:C:75:GLU:HG3	1:C:110:HIS:HB2	2.02	0.42
2:D:36:ALA:C	2:D:153:ARG:HH12	2.27	0.42
2:D:111:HIS:ND1	1:E:21:GLU:HG2	2.35	0.42
3:I:58:GLN:HG2	3:I:112:VAL:HG22	2.01	0.42
4:L:114:GLN:NE2	4:L:117:HIS:O	2.49	0.42
1:A:170:GLU:OE1	1:A:255:LYS:HD2	2.20	0.42
2:B:22:TYR:CE1	2:B:115:VAL:HG22	2.55	0.42
1:C:97:ASP:HB3	1:C:100:GLU:HB2	2.01	0.42
1:C:271:TYR:HD1	1:C:273:HIS:H	1.66	0.42
2:D:22:TYR:CE1	2:D:115:VAL:HG22	2.55	0.42
1:E:304:LYS:HD3	1:E:304:LYS:HA	1.76	0.42
1:C:66:MET:HB3	1:C:87:ASN:HD21	1.79	0.41
1:C:170:GLU:OE1	1:C:255:LYS:HD2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:59:MET:HE3	2:D:59:MET:HB3	1.83	0.41
3:I:23:LEU:HD11	3:I:117:LYS:HB2	2.01	0.41
3:I:54:SER:OG	3:I:66:TRP:NE1	2.53	0.41
4:L:116:ILE:HD12	4:L:116:ILE:HA	1.82	0.41
2:B:104:ASN:O	2:B:108:LEU:HG	2.21	0.41
2:B:122:VAL:HB	2:B:126:LEU:HB2	2.01	0.41
4:H:63:LYS:HE3	4:H:69:GLN:NE2	2.35	0.41
1:C:112:GLU:HB2	1:C:257:VAL:CG2	2.49	0.41
3:I:43:ALA:HB1	3:I:46:PHE:CZ	2.55	0.41
3:I:129:TYR:CG	4:J:116:ILE:HD12	2.55	0.41
3:I:133:TYR:CZ	4:J:58:TYR:O	2.72	0.41
2:F:104:ASN:O	2:F:108:LEU:HG	2.20	0.41
3:G:58:GLN:HG2	3:G:112:VAL:HG22	2.01	0.41
1:C:44:LEU:HD11	1:C:278:CYS:HA	2.03	0.41
1:C:119:LYS:HD3	1:C:127:THR:OG1	2.21	0.41
1:C:290:PRO:HG3	2:D:52:VAL:HG12	2.02	0.41
3:I:88:THR:O	3:I:101:GLN:HB3	2.21	0.41
1:E:18:THR:HG22	1:E:19:ILE:H	1.86	0.41
3:K:129:TYR:CG	4:L:116:ILE:HD12	2.55	0.41
1:A:95:LEU:HD21	1:A:101:LEU:HD23	2.02	0.41
2:B:129:ASN:HB2	2:B:141:TYR:CB	2.41	0.41
3:G:88:THR:O	3:G:101:GLN:HB3	2.21	0.41
1:A:2:GLN:HB2	2:B:140:PHE:HE1	1.85	0.41
1:A:277:LYS:HB2	1:A:277:LYS:HE2	1.92	0.41
2:B:37:ASP:HA	2:B:153:ARG:HH12	1.86	0.41
3:G:129:TYR:CG	4:H:116:ILE:HD12	2.55	0.41
2:D:99:LEU:O	2:D:103:GLU:HG2	2.20	0.41
3:I:56:VAL:HG21	3:I:135:MET:SD	2.61	0.41
3:I:125:THR:HG22	3:I:125:THR:O	2.21	0.41
4:L:63:LYS:HE3	4:L:69:GLN:NE2	2.35	0.41
1:A:18:THR:HG22	1:A:19:ILE:H	1.86	0.41
1:A:120:SER:O	4:H:118:LEU:HB2	2.20	0.41
2:B:42:GLN:OE1	2:B:43:LYS:HG2	2.21	0.41
2:B:111:HIS:NE2	2:D:110:PHE:CG	2.89	0.41
3:G:125:THR:HG22	3:G:125:THR:O	2.20	0.41
3:G:133:TYR:OH	4:H:113:MET:N	2.33	0.41
1:C:202:THR:HB	1:C:205:LEU:H	1.86	0.41
2:F:37:ASP:HA	2:F:153:ARG:HH12	1.86	0.41
1:A:162:ILE:O	1:A:162:ILE:HG13	2.20	0.41
1:C:143:PHE:CE2	1:C:149:TRP:HB2	2.55	0.41
3:K:129:TYR:H	4:L:50:HIS:CD2	2.39	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:75:GLU:HG3	1:A:110:HIS:HB2	2.02	0.41
3:G:54:SER:OG	3:G:66:TRP:NE1	2.53	0.41
1:C:94:SER:OG	1:C:227:ASP:OD1	2.30	0.41
2:D:104:ASN:O	2:D:108:LEU:HG	2.21	0.41
3:I:129:TYR:H	4:J:50:HIS:CD2	2.39	0.41
1:E:162:ILE:O	1:E:162:ILE:HG13	2.20	0.41
1:E:170:GLU:OE1	1:E:255:LYS:HD2	2.20	0.41
1:E:202:THR:HG22	1:E:203:SER:N	2.36	0.41
1:A:56:SER:OG	1:A:88:ASP:OD1	2.23	0.41
3:G:43:ALA:HB1	3:G:46:PHE:CZ	2.55	0.41
3:G:129:TYR:H	4:H:50:HIS:CD2	2.39	0.41
2:D:37:ASP:HA	2:D:153:ARG:HH12	1.86	0.41
2:D:51:LYS:HE2	2:D:51:LYS:HB2	1.91	0.41
3:I:129:TYR:CD2	4:J:116:ILE:HD11	2.54	0.41
4:J:131:LYS:HD2	4:J:131:LYS:HA	1.91	0.41
1:E:44:LEU:HD11	1:E:278:CYS:HA	2.02	0.41
1:E:95:LEU:HD21	1:E:101:LEU:HD23	2.02	0.41
3:K:88:THR:O	3:K:101:GLN:HB3	2.21	0.41
1:A:33:LEU:CD2	1:A:293:ASN:HD22	2.34	0.41
1:A:44:LEU:HD11	1:A:278:CYS:HA	2.02	0.41
1:A:290:PRO:HG3	2:B:52:VAL:HG12	2.01	0.41
3:G:133:TYR:CG	4:H:58:TYR:CE2	3.09	0.41
1:C:63:GLY:O	1:C:144:PHE:HA	2.21	0.41
3:I:66:TRP:CZ2	4:J:118:LEU:HD22	2.56	0.41
1:E:119:LYS:HD3	1:E:127:THR:OG1	2.21	0.41
1:E:166:ASN:HB2	1:E:233:LEU:HD23	2.03	0.41
1:E:233:LEU:HD12	1:E:233:LEU:HA	1.94	0.41
1:E:292:HIS:CD2	1:E:303:PRO:HG2	2.56	0.41
3:K:125:THR:O	3:K:125:THR:HG22	2.21	0.41
1:C:18:THR:HG22	1:C:19:ILE:H	1.86	0.40
1:C:113:LYS:C	3:I:126:TYR:HH	2.22	0.40
1:E:198:ILE:HD11	1:E:247:PHE:HA	2.03	0.40
3:K:54:SER:OG	3:K:66:TRP:NE1	2.53	0.40
1:A:166:ASN:HB2	1:A:233:LEU:HD23	2.03	0.40
1:A:292:HIS:CD2	1:A:303:PRO:HG2	2.56	0.40
2:B:97:GLU:O	2:B:101:LEU:HG	2.21	0.40
4:H:22:VAL:HG12	4:H:45:SER:HB3	2.03	0.40
1:C:33:LEU:CD2	1:C:293:ASN:HD22	2.34	0.40
1:C:108:ILE:CB	1:C:111:PHE:HE1	2.24	0.40
1:E:63:GLY:O	1:E:144:PHE:HA	2.21	0.40
1:E:120:SER:O	4:L:118:LEU:HB2	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:202:THR:HB	1:E:205:LEU:H	1.86	0.40
4:L:71:LEU:CD1	4:L:72:ILE:HG22	2.51	0.40
1:A:202:THR:HB	1:A:205:LEU:H	1.86	0.40
3:G:56:VAL:HG21	3:G:135:MET:SD	2.61	0.40
1:C:120:SER:O	4:J:118:LEU:HB2	2.20	0.40
1:C:292:HIS:CD2	1:C:303:PRO:HG2	2.56	0.40
2:D:42:GLN:OE1	2:D:43:LYS:HG2	2.21	0.40
2:D:97:GLU:O	2:D:101:LEU:HG	2.21	0.40
3:I:133:TYR:HB2	4:J:115:GLY:HA2	2.03	0.40
2:F:42:GLN:OE1	2:F:43:LYS:HG2	2.21	0.40
1:A:61:LEU:HD23	1:A:61:LEU:HA	1.82	0.40
4:H:59:TRP:O	4:H:70:LEU:HD12	2.22	0.40
1:C:202:THR:HG22	1:C:203:SER:N	2.36	0.40
3:I:133:TYR:CG	4:J:58:TYR:CE2	3.09	0.40
1:E:116:ILE:HD13	1:E:253:ALA:HB2	2.04	0.40
4:L:87:SER:O	4:L:98:LYS:N	2.52	0.40
1:C:2:GLN:HB2	2:D:140:PHE:HE1	1.85	0.40
1:E:60:TRP:CH2	1:E:111:PHE:HE2	2.38	0.40
2:F:97:GLU:O	2:F:101:LEU:HG	2.21	0.40
2:F:142:HIS:NE2	2:F:144:CYS:HB3	2.36	0.40
3:K:56:VAL:HG21	3:K:135:MET:SD	2.61	0.40
3:K:125:THR:HG22	3:K:127:TYR:CZ	2.57	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	315/317 (99%)	292 (93%)	23 (7%)	0	100	100
1	C	315/317 (99%)	292 (93%)	23 (7%)	0	100	100
1	E	315/317 (99%)	292 (93%)	23 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	B	145/149 (97%)	139 (96%)	6 (4%)	0	100	100
2	D	145/149 (97%)	139 (96%)	6 (4%)	0	100	100
2	F	145/149 (97%)	139 (96%)	6 (4%)	0	100	100
3	G	125/127 (98%)	116 (93%)	9 (7%)	0	100	100
3	I	125/127 (98%)	116 (93%)	9 (7%)	0	100	100
3	K	125/127 (98%)	116 (93%)	9 (7%)	0	100	100
4	H	110/112 (98%)	106 (96%)	4 (4%)	0	100	100
4	J	110/112 (98%)	106 (96%)	4 (4%)	0	100	100
4	L	110/112 (98%)	106 (96%)	4 (4%)	0	100	100
All	All	2085/2115 (99%)	1959 (94%)	126 (6%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	281/281 (100%)	277 (99%)	4 (1%)	59	83
1	C	281/281 (100%)	277 (99%)	4 (1%)	59	83
1	E	281/281 (100%)	277 (99%)	4 (1%)	59	83
2	B	132/132 (100%)	128 (97%)	4 (3%)	36	67
2	D	132/132 (100%)	128 (97%)	4 (3%)	36	67
2	F	132/132 (100%)	128 (97%)	4 (3%)	36	67
3	G	105/105 (100%)	99 (94%)	6 (6%)	18	47
3	I	105/105 (100%)	100 (95%)	5 (5%)	23	53
3	K	105/105 (100%)	99 (94%)	6 (6%)	18	47
4	H	97/97 (100%)	93 (96%)	4 (4%)	27	59
4	J	97/97 (100%)	93 (96%)	4 (4%)	27	59
4	L	97/97 (100%)	93 (96%)	4 (4%)	27	59

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
All	All	1845/1845 (100%)	1792 (97%)	53 (3%)	38	68

All (53) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	75	GLU
1	A	89	LEU
1	A	274	CYS
1	A	285	ILE
2	B	18	VAL
2	B	85	GLU
2	B	124	LEU
2	B	158	ASP
3	G	21	VAL
3	G	30	LEU
3	G	33	SER
3	G	110	THR
3	G	145	THR
3	G	146	VAL
4	H	22	VAL
4	H	33	THR
4	H	66	GLN
4	H	71	LEU
1	C	75	GLU
1	C	89	LEU
1	C	274	CYS
1	C	285	ILE
2	D	18	VAL
2	D	85	GLU
2	D	124	LEU
2	D	158	ASP
3	I	21	VAL
3	I	33	SER
3	I	110	THR
3	I	145	THR
3	I	146	VAL
4	J	22	VAL
4	J	33	THR
4	J	66	GLN
4	J	71	LEU
1	E	75	GLU
1	E	89	LEU

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Mol	Chain	Res	Type
1	E	274	CYS
1	E	285	ILE
2	F	18	VAL
2	F	85	GLU
2	F	124	LEU
2	F	158	ASP
3	K	21	VAL
3	K	30	LEU
3	K	33	SER
3	K	110	THR
3	K	145	THR
3	K	146	VAL
4	L	22	VAL
4	L	33	THR
4	L	66	GLN
4	L	71	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (34) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	87	ASN
1	A	103	HIS
1	A	124	ASN
1	A	168	ASN
1	A	207	GLN
1	A	293	ASN
2	B	129	ASN
3	G	96	ASN
4	H	25	GLN
4	H	66	GLN
4	H	69	GLN
1	C	87	ASN
1	C	103	HIS
1	C	124	ASN
1	C	168	ASN
1	C	207	GLN
1	C	293	ASN
2	D	129	ASN
3	I	96	ASN
4	J	25	GLN
4	J	66	GLN
4	J	69	GLN

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Mol	Chain	Res	Type
1	E	87	ASN
1	E	96	ASN
1	E	103	HIS
1	E	124	ASN
1	E	168	ASN
1	E	207	GLN
1	E	293	ASN
2	F	129	ASN
3	K	96	ASN
4	L	25	GLN
4	L	66	GLN
4	L	69	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

There are no ligands in this entry.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

The following chains have linkage breaks:

Mol	Chain	Number of breaks
2	B	1
2	D	1
2	F	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B	127:ARG	C	128:ASP	N	2.61
1	D	127:ARG	C	128:ASP	N	2.61
1	F	127:ARG	C	128:ASP	N	2.61

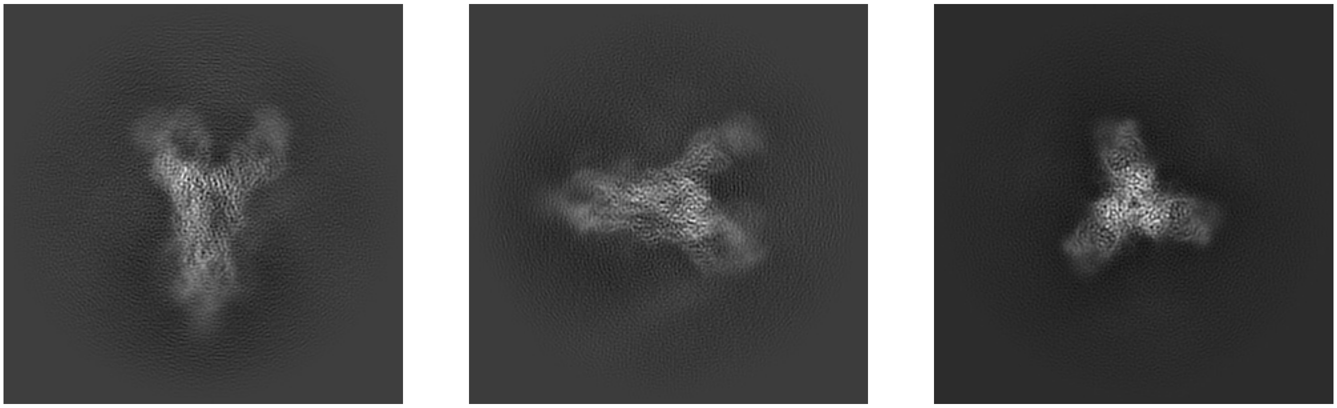
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-47877. These allow visual inspection of the internal detail of the map and identification of artifacts.

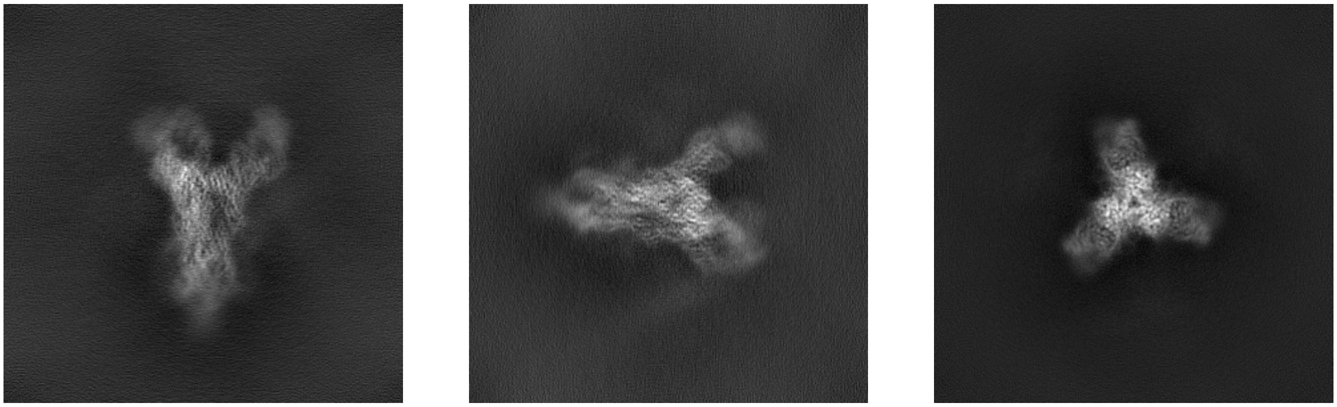
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

6.1.1 Primary map


X Y Z

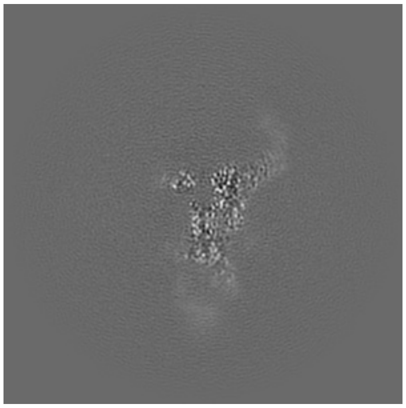
6.1.2 Raw map


X Y Z

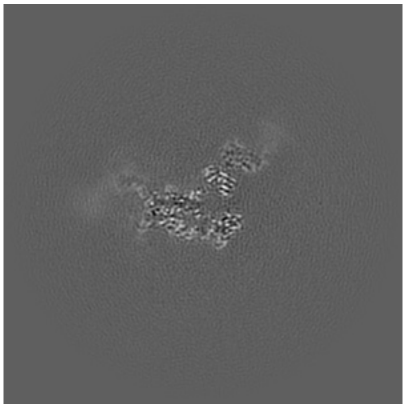
The images above show the map projected in three orthogonal directions.

6.2 Central slices ⓘ

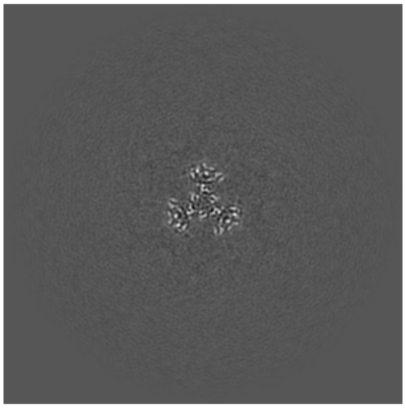
6.2.1 Primary map



X Index: 192

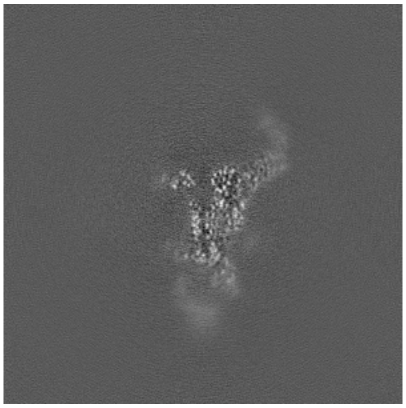


Y Index: 192

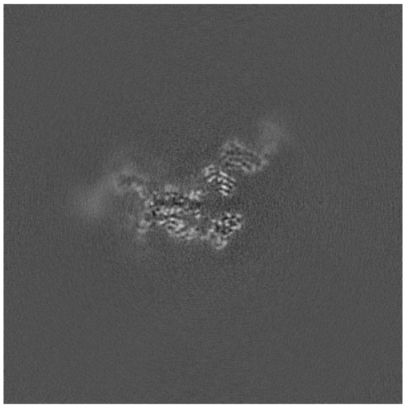


Z Index: 192

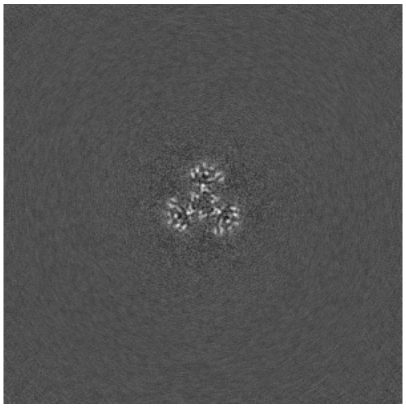
6.2.2 Raw map



X Index: 192



Y Index: 192

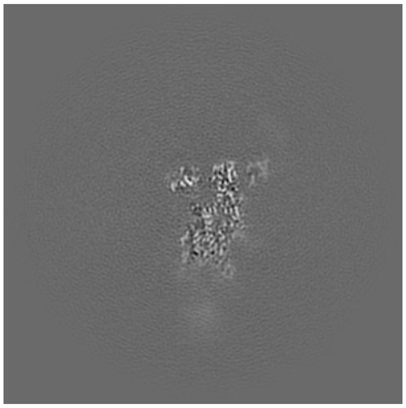


Z Index: 192

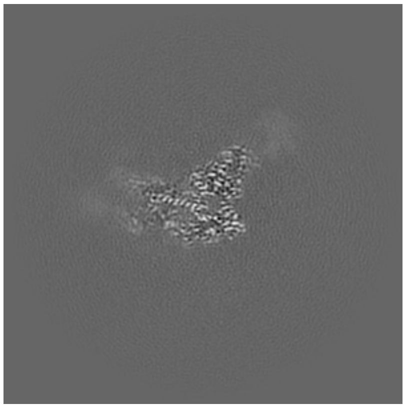
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices ⓘ

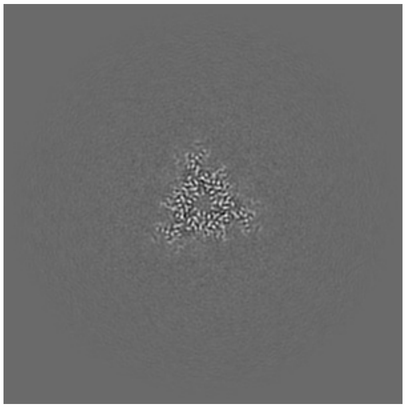
6.3.1 Primary map



X Index: 197

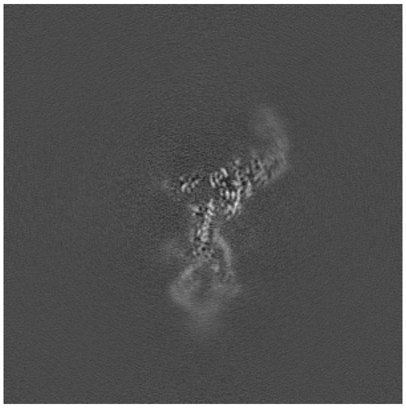


Y Index: 183

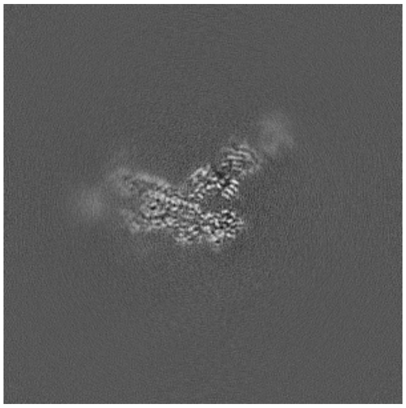


Z Index: 211

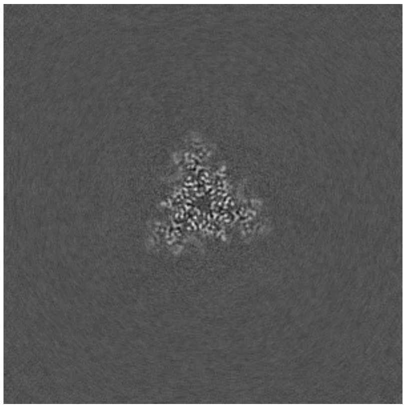
6.3.2 Raw map



X Index: 186



Y Index: 187

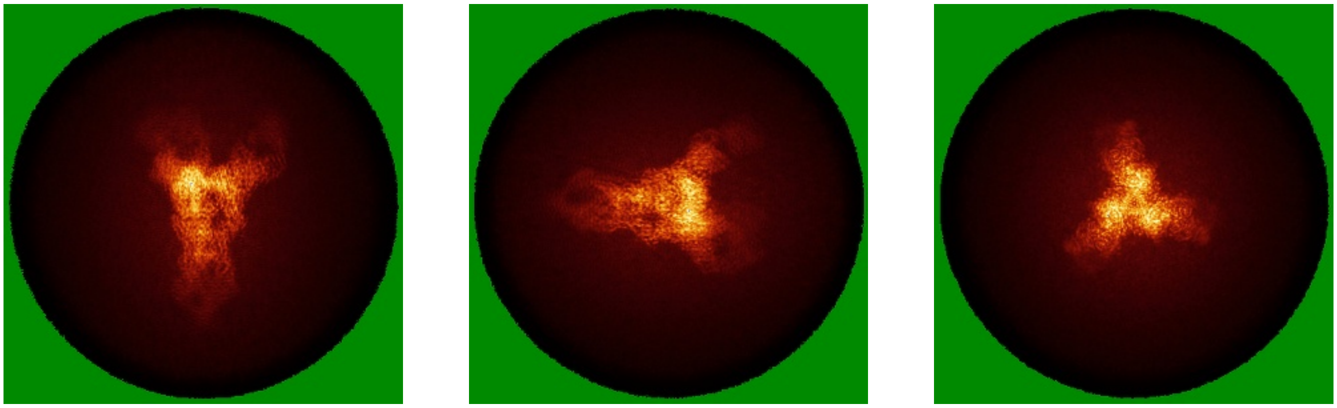


Z Index: 212

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

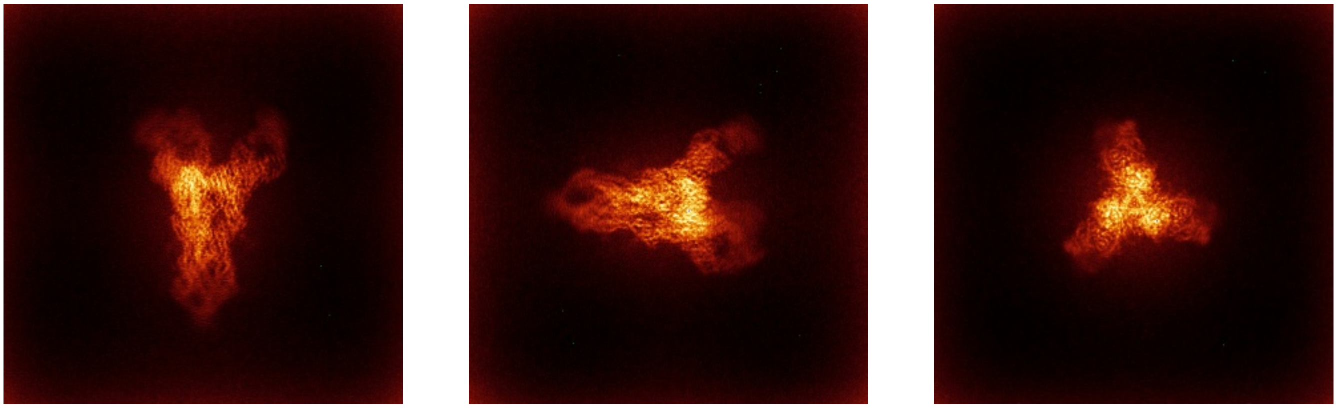
6.4 Orthogonal standard-deviation projections (False-color)

6.4.1 Primary map



X Y Z

6.4.2 Raw map



X Y Z

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

6.5 Orthogonal surface views ⓘ

6.5.1 Primary map

X

Y

Z

The images above show the 3D surface view of the map at the recommended contour level 0.144. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

X

Y

Z

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

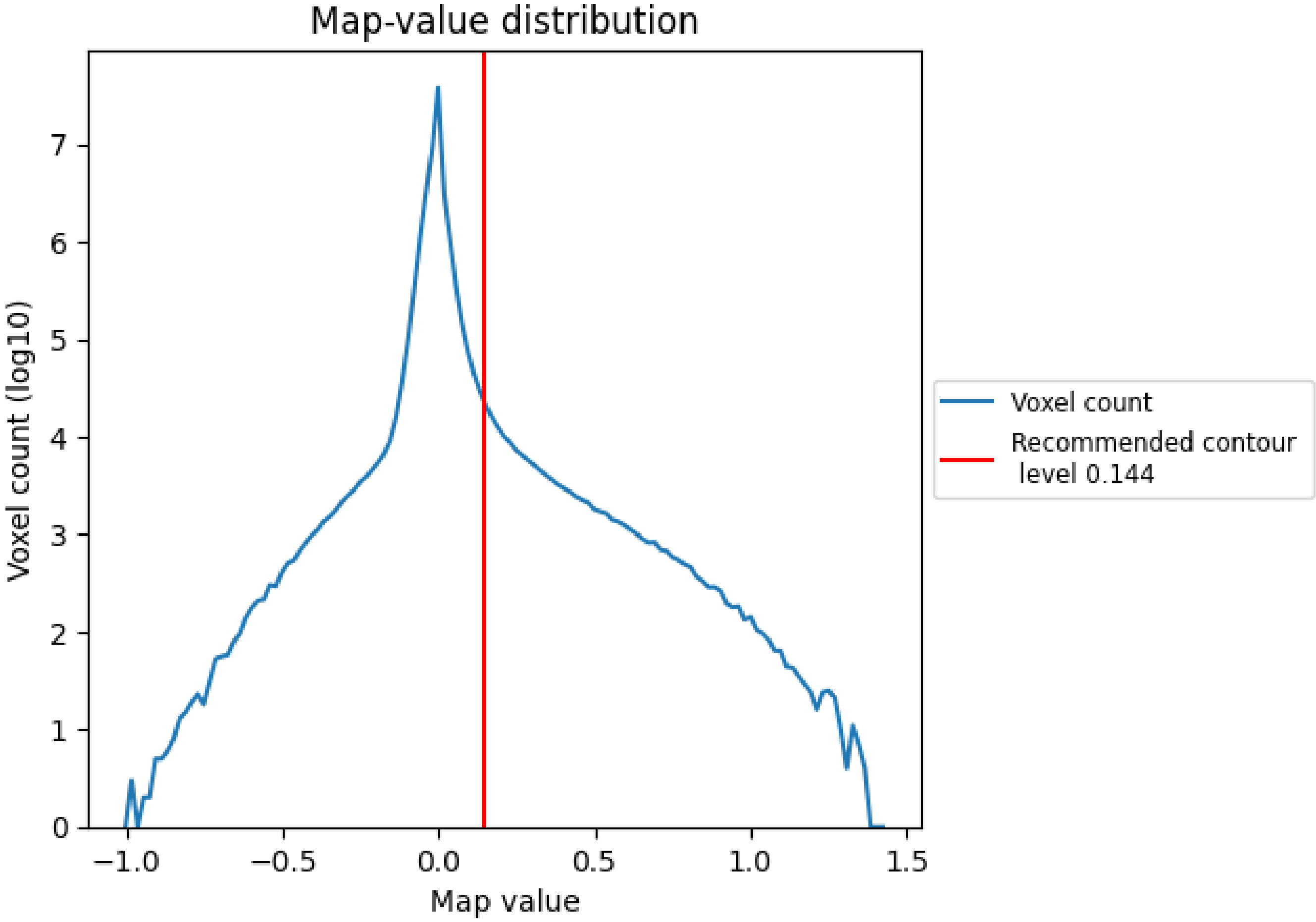
6.6 Mask visualisation ⓘ

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

7 Map analysis ⓘ

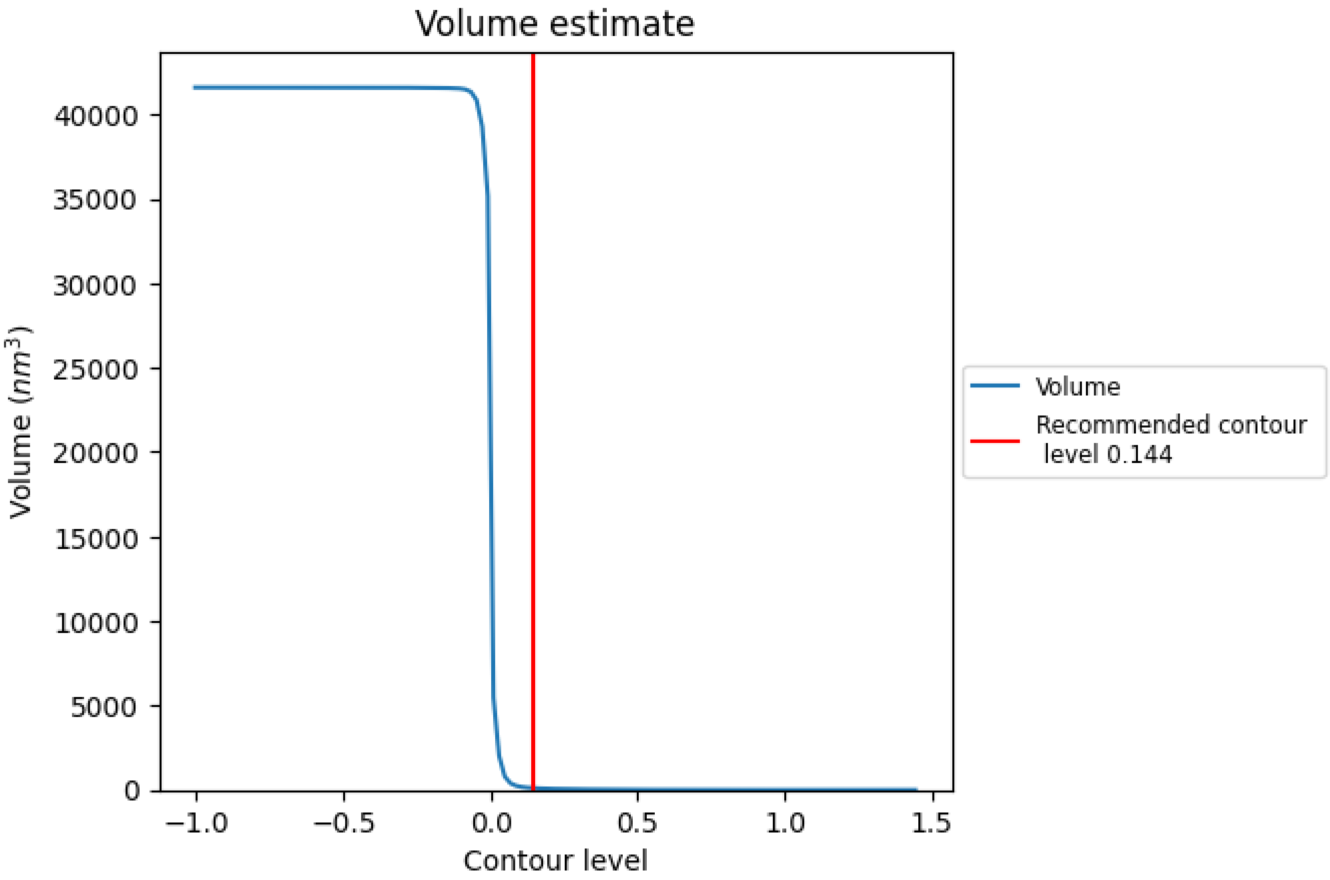
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution ⓘ



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

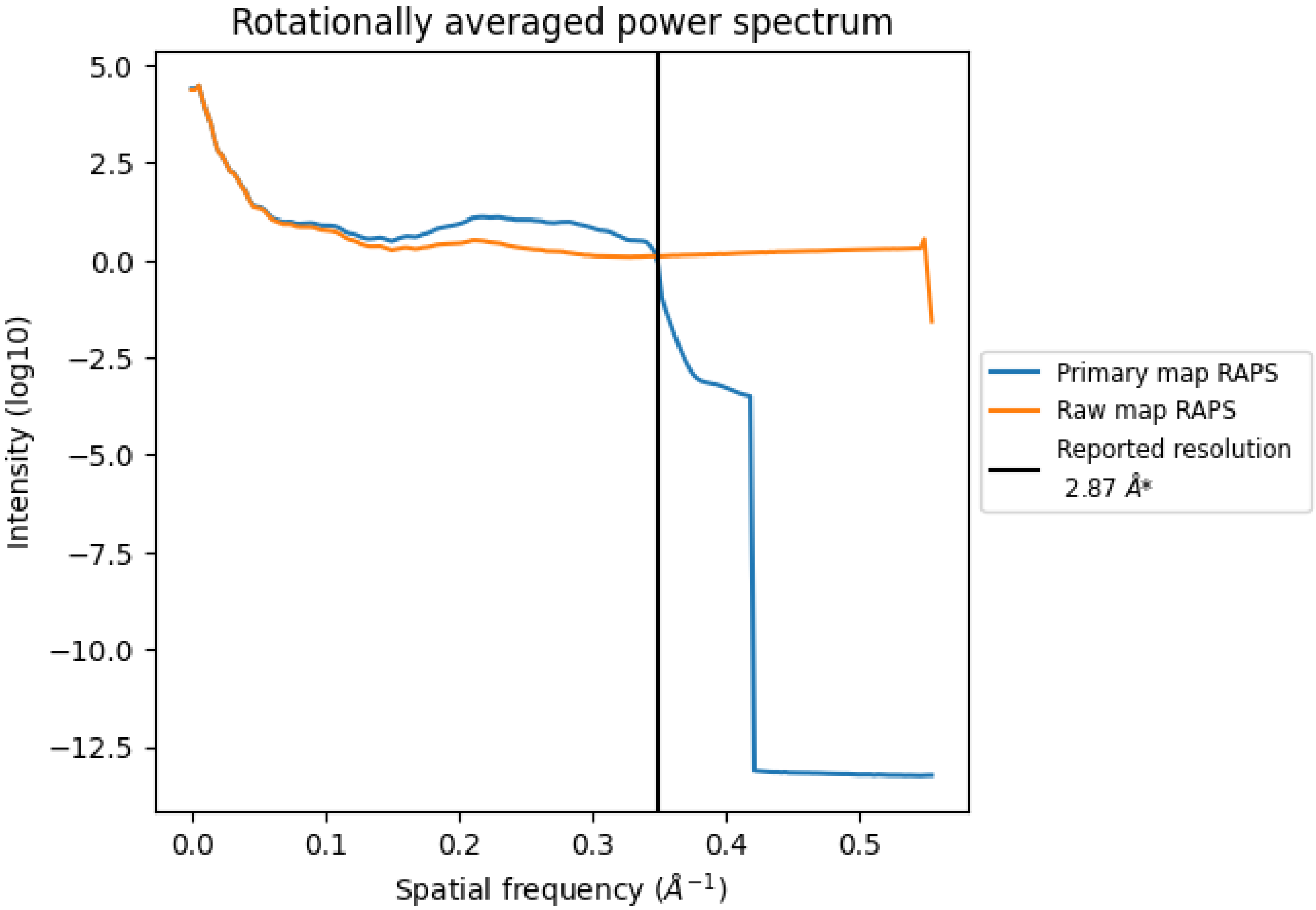
7.2 Volume estimate ⓘ



The volume at the recommended contour level is 112 nm^3; this corresponds to an approximate mass of 101 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 ⓘ

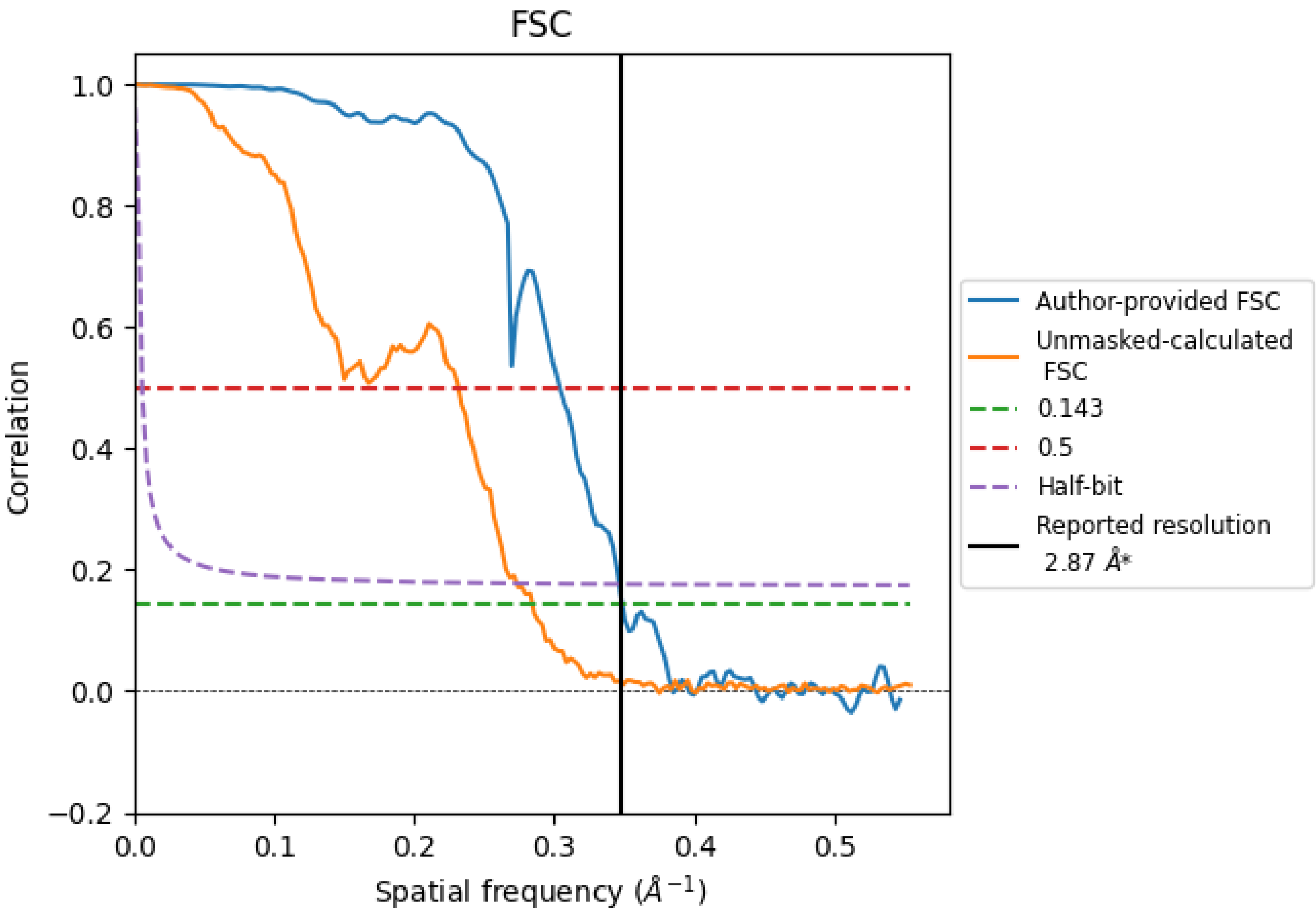


*Reported resolution corresponds to spatial frequency of 0.348 Å^{-1}

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 0.348 $Å^{-1}$

8.2 Resolution estimates (i)

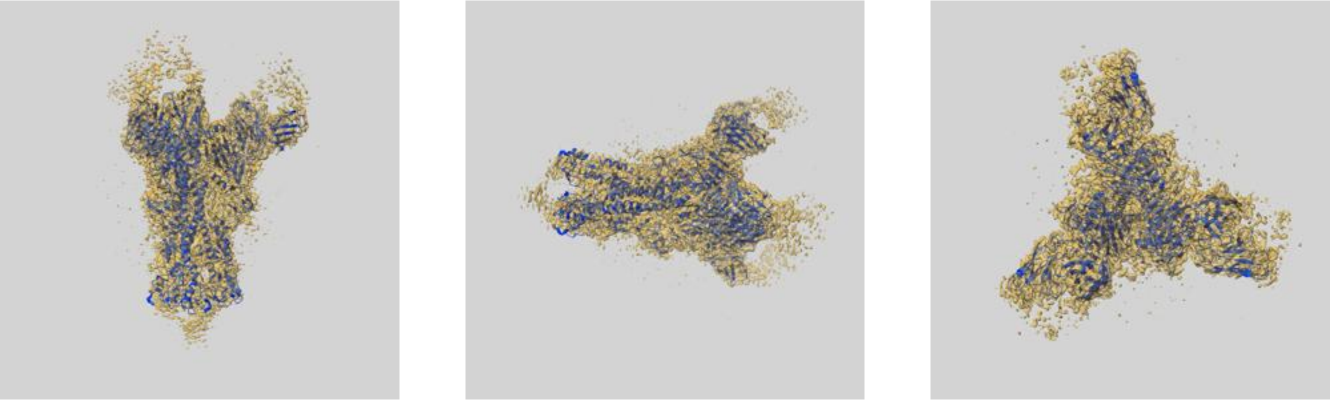
Resolution estimate (Å)	**Estimation criterion (FSC cut-off)**		
	0.143	0.5	Half-bit
Reported by author	2.87	-	-
Author-provided FSC curve	2.87	3.29	2.89
Unmasked-calculated*	3.52	4.32	3.66

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.52 differs from the reported value 2.87 by more than 10 %

9 Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-47877 and PDB model 9EBC. Per-residue inclusion information can be found in section 3 on page 6.

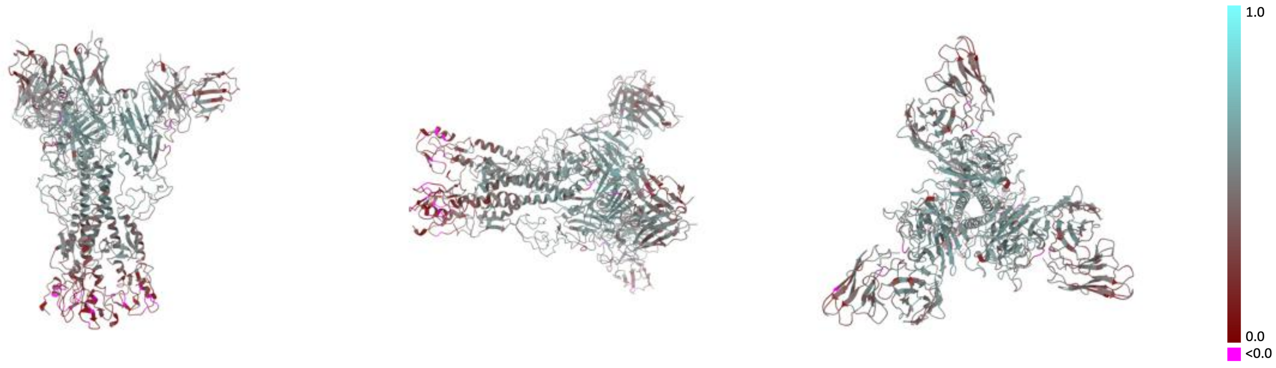
9.1 Map-model overlay ⓘ



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.144 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.

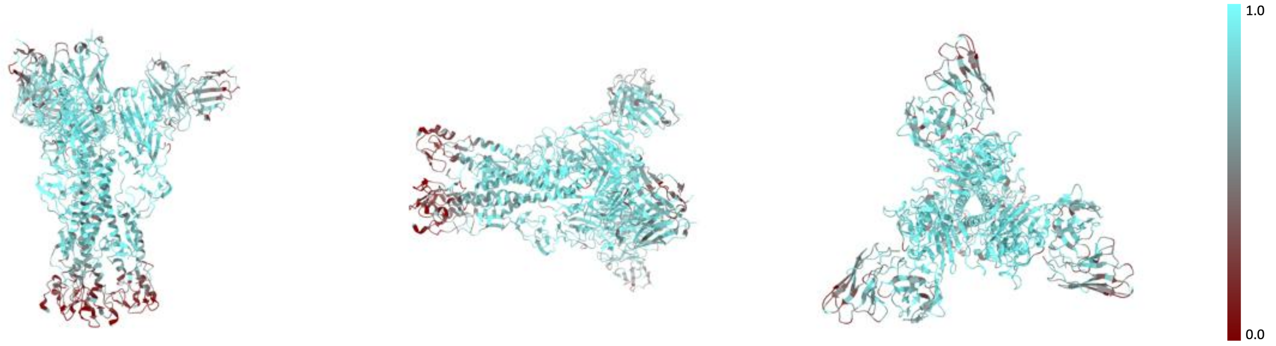
9.2 Q-score mapped to coordinate model ⓘ



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.

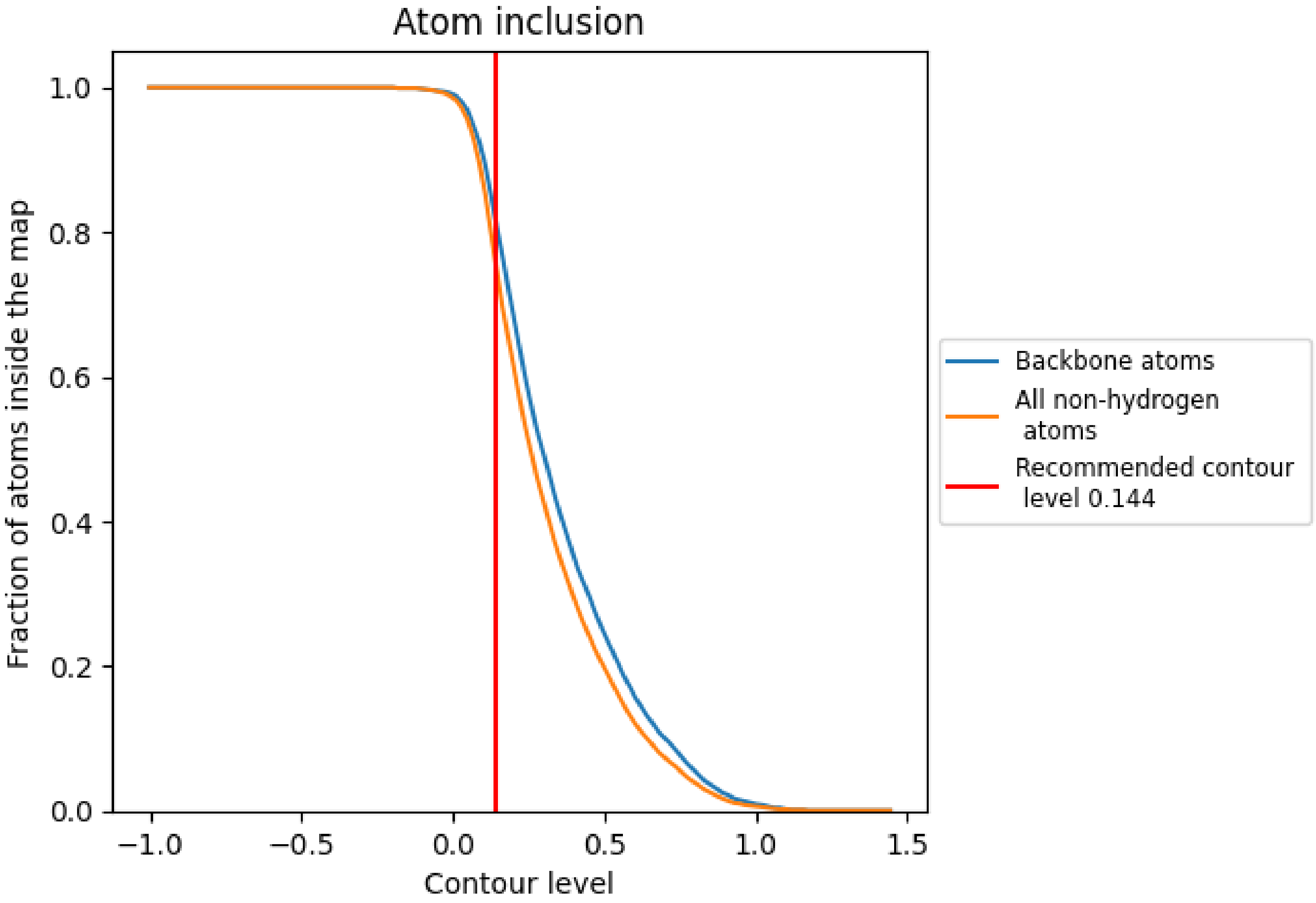
9.3 Atom inclusion mapped to coordinate model ⓘ



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 (0.144).

9.4 Atom inclusion ⓘ



At the recommended contour level, 81% of all backbone atoms, 75% 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 (0.144) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	▬ 0.7480	▬ 0.4520
A	▬ 0.8790	▬ 0.5210
B	▬ 0.5740	▬ 0.3440
C	▬ 0.8730	▬ 0.5200
D	▬ 0.5760	▬ 0.3410
E	▬ 0.8770	▬ 0.5180
F	▬ 0.5770	▬ 0.3400
G	▬ 0.7500	▬ 0.4600
H	▬ 0.6120	▬ 0.4040
I	▬ 0.7500	▬ 0.4620
J	▬ 0.6130	▬ 0.4060
K	▬ 0.7500	▬ 0.4600
L	▬ 0.6180	▬ 0.4020