



Full wwPDB EM Validation Report ⓘ

Oct 12, 2026 – 12:19 PM JST

PDB ID : 22VG / pdb_000022vg
EMDB ID : EMD-68714
Title : Cryo-EM structure of DOCK11 complexed with Cdc42(G15A) and Cdc42(Q61L)-GTP in the membrane-bound state
Authors : Hisano, T.; Shinoda, T.; Kukimoto-Niino, M.; Katsura, K.; Shirouzu, M.
Deposited on : 2026-01-25
Resolution : 6.07 Å(reported)
Based on initial model : 22VF

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

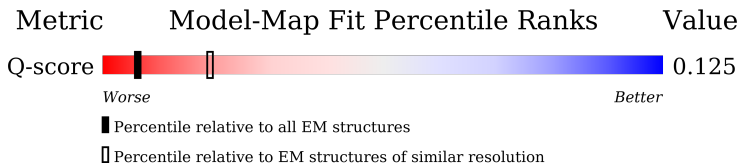
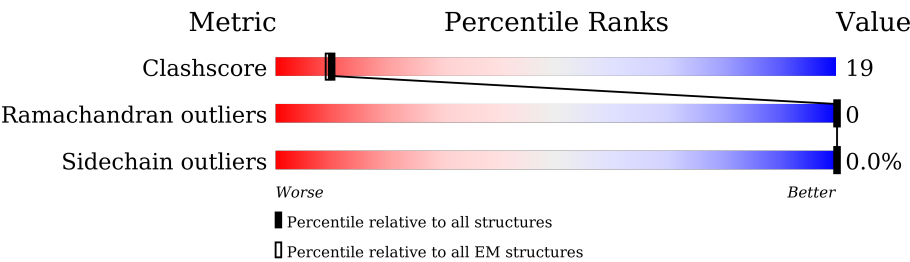
EMDB validation analysis : 0.0.1.dev133
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4-5-2 with Phenix2.2
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using 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) : 2.51

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 6.07 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	490 (5.57 - 6.56)

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

Mol	Chain	Length	Quality of chain
1	A	2079	26% 53% 30% 16%
1	B	2079	28% 51% 33% 16%
2	C	195	23% 55% 35% 9%
2	D	195	24% 57% 34% 9%

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Mol	Chain	Length	Quality of chain
3	E	195	72%
			70%21%9%
3	F	195	78%
			54%37%9%

2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 67738 atoms, of which 33920 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 Dedicator of cytokinesis protein 11.

Mol	Chain	Residues	Atoms						AltConf	Trace
1	A	1743	Total	C	H	N	O	S	0	0
			28368	9071	14225	2389	2606	77		
1	B	1743	Total	C	H	N	O	S	0	0
			28368	9071	14225	2389	2606	77		

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-5	GLY	-	expression tag	UNP Q5JSL3
A	-4	GLY	-	expression tag	UNP Q5JSL3
A	-3	SER	-	expression tag	UNP Q5JSL3
A	-2	GLY	-	expression tag	UNP Q5JSL3
A	-1	GLY	-	expression tag	UNP Q5JSL3
A	0	SER	-	expression tag	UNP Q5JSL3
B	-5	GLY	-	expression tag	UNP Q5JSL3
B	-4	GLY	-	expression tag	UNP Q5JSL3
B	-3	SER	-	expression tag	UNP Q5JSL3
B	-2	GLY	-	expression tag	UNP Q5JSL3
B	-1	GLY	-	expression tag	UNP Q5JSL3
B	0	SER	-	expression tag	UNP Q5JSL3

- Molecule 2 is a protein called Cell division control protein 42 homolog.

Mol	Chain	Residues	Atoms						AltConf	Trace
2	C	177	Total	C	H	N	O	S	0	0
			2678	870	1326	213	262	7		
2	D	177	Total	C	H	N	O	S	0	0
			2678	870	1326	213	262	7		

There are 18 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	-6	GLY	-	expression tag	UNP P60953

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Chain	Residue	Modelled	Actual	Comment	Reference
C	-5	SER	-	expression tag	UNP P60953
C	-4	SER	-	expression tag	UNP P60953
C	-3	GLY	-	expression tag	UNP P60953
C	-2	SER	-	expression tag	UNP P60953
C	-1	SER	-	expression tag	UNP P60953
C	0	GLY	-	expression tag	UNP P60953
C	15	ALA	GLY	engineered mutation	UNP P60953
C	188	SER	-	expression tag	UNP P60953
D	-6	GLY	-	expression tag	UNP P60953
D	-5	SER	-	expression tag	UNP P60953
D	-4	SER	-	expression tag	UNP P60953
D	-3	GLY	-	expression tag	UNP P60953
D	-2	SER	-	expression tag	UNP P60953
D	-1	SER	-	expression tag	UNP P60953
D	0	GLY	-	expression tag	UNP P60953
D	15	ALA	GLY	engineered mutation	UNP P60953
D	188	SER	-	expression tag	UNP P60953

- Molecule 3 is a protein called Cell division control protein 42 homolog.

Mol	Chain	Residues	Atoms						AltConf	Trace
3	E	177	Total	C	H	N	O	S	0	0
			2776	889	1397	219	265	6		
3	F	177	Total	C	H	N	O	S	0	0
			2776	889	1397	219	265	6		

There are 18 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
E	-6	GLY	-	expression tag	UNP P60953
E	-5	SER	-	expression tag	UNP P60953
E	-4	SER	-	expression tag	UNP P60953
E	-3	GLY	-	expression tag	UNP P60953
E	-2	SER	-	expression tag	UNP P60953
E	-1	SER	-	expression tag	UNP P60953
E	0	GLY	-	expression tag	UNP P60953
E	61	LEU	GLN	engineered mutation	UNP P60953
E	188	SER	-	expression tag	UNP P60953
F	-6	GLY	-	expression tag	UNP P60953
F	-5	SER	-	expression tag	UNP P60953
F	-4	SER	-	expression tag	UNP P60953
F	-3	GLY	-	expression tag	UNP P60953

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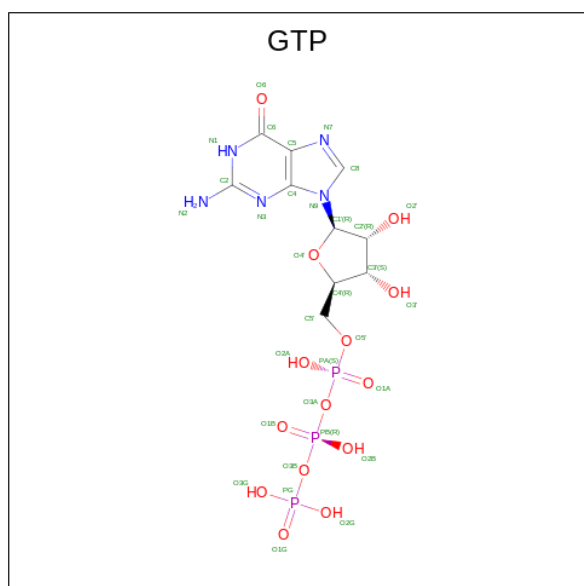
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Chain	Residue	Modelled	Actual	Comment	Reference
F	-2	SER	-	expression tag	UNP P60953
F	-1	SER	-	expression tag	UNP P60953
F	0	GLY	-	expression tag	UNP P60953
F	61	LEU	GLN	engineered mutation	UNP P60953
F	188	SER	-	expression tag	UNP P60953

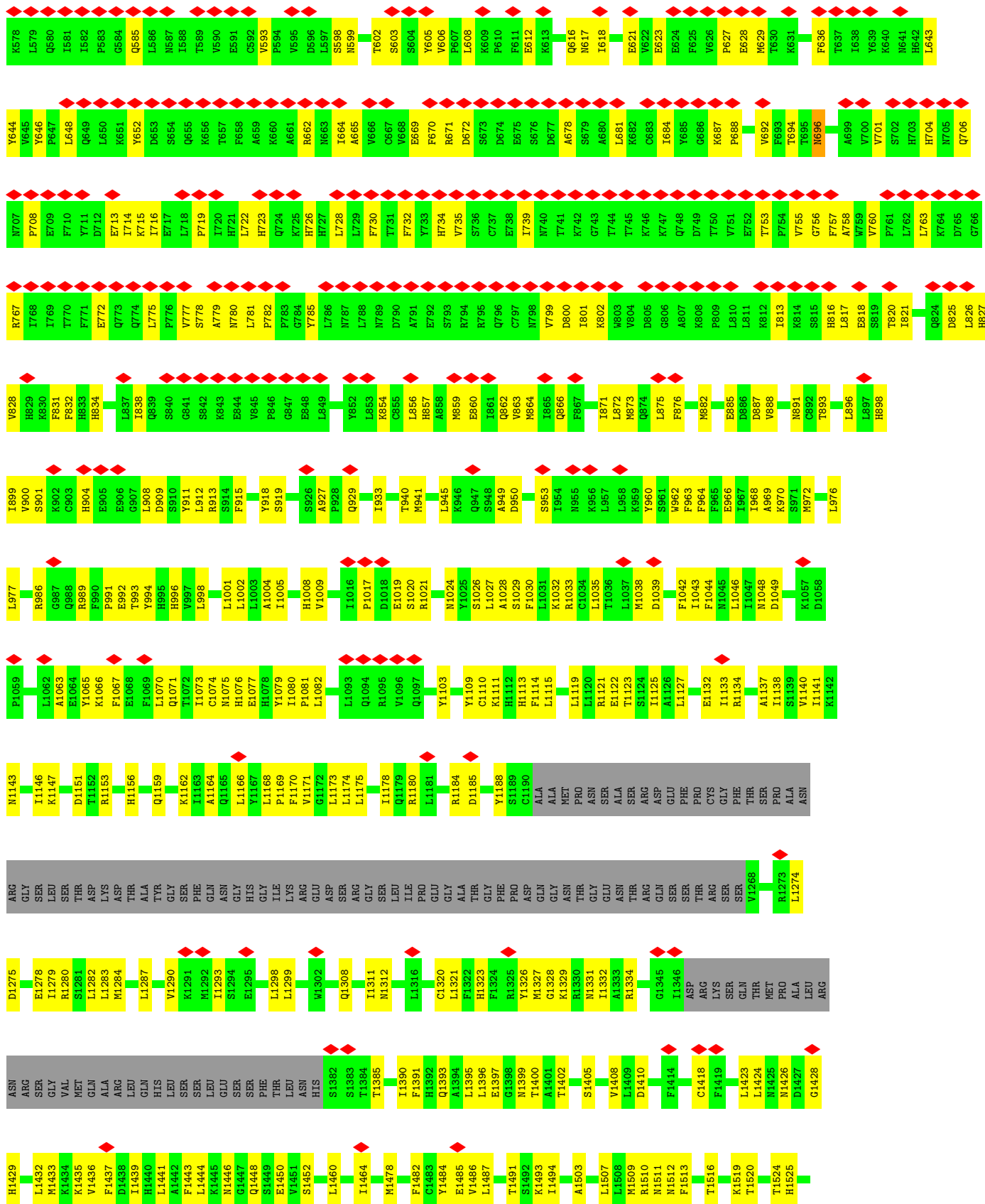
- Molecule 4 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	AltConf
4	E	1	Total Mg 1 1	0
4	F	1	Total Mg 1 1	0

- Molecule 5 is GUANOSINE-5'-TRIPHOSPHATE (CCD ID: GTP) (formula: C₁₀H₁₆N₅O₁₄P₃) (labeled as "Ligand of Interest" by depositor).

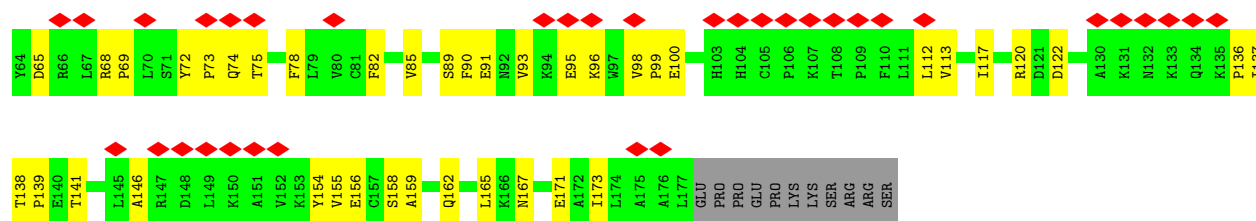


Mol	Chain	Residues	Atoms		AltConf
6	E	2	Total 2	O 2	0
6	F	2	Total 2	O 2	0

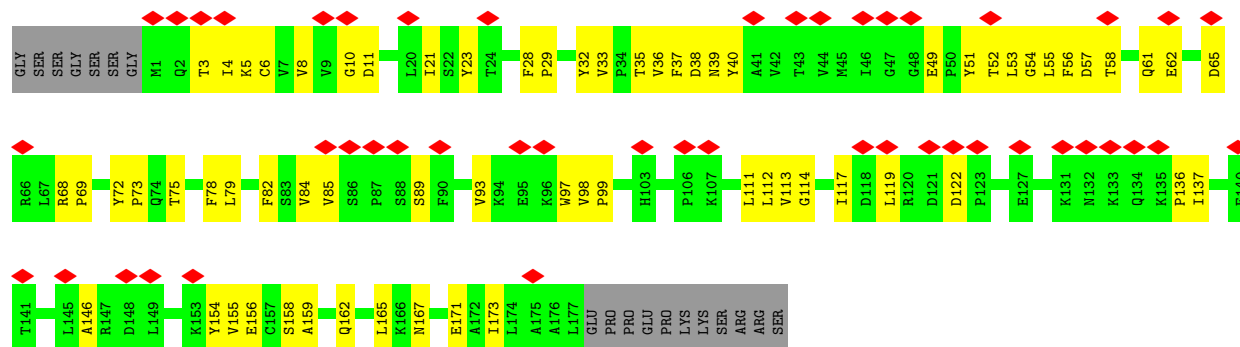




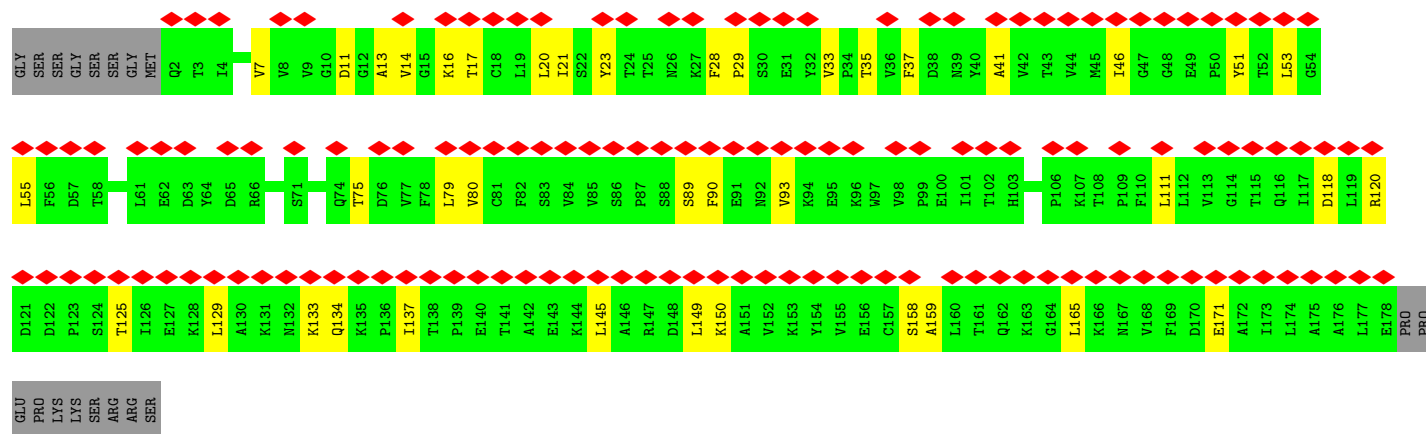




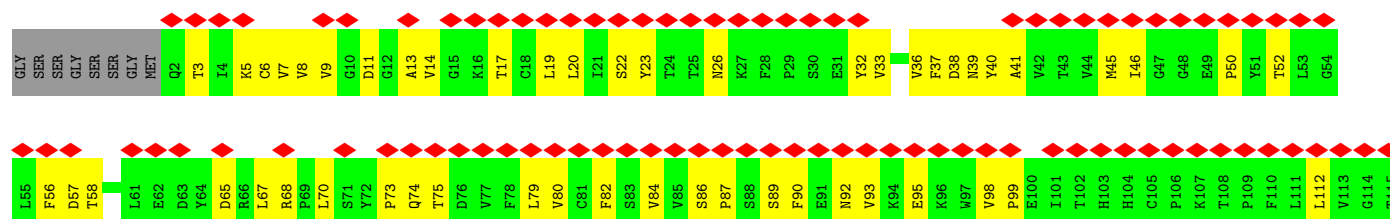
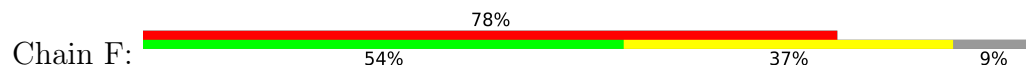
• Molecule 2: Cell division control protein 42 homolog



• Molecule 3: Cell division control protein 42 homolog



• Molecule 3: Cell division control protein 42 homolog



A176	Q116
L177	I117
E178	D118
PRO	L119
PRO	R120
GLU	D121
PRO	D122
LYS	P123
LYS	S124
SER	T125
ARG	I126
ARG	E127
SER	K128
	L129
	A130
	K131
	N132
	K133
	Q134
	K135
	P136
	I137
	T138
	P139
	E140
	T141
	A142
	E143
	K144
	L145
	A146
	R147
	D148
	L149
	K150
	A151
	V152
	K153
	Y154
	V155
	E156
	C157
	S158
	A159
	L160
	T161
	Q162
	K163
	G164
	L165
	K166
	N167
	V168
	F169
	D170
	E171
	A172
	I173
	L174
	A175

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	93206	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	49.7	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOCONTINUUM (6k x 4k)	Depositor
Maximum map value	2.189	Depositor
Minimum map value	-0.852	Depositor
Average map value	-0.001	Depositor
Map value standard deviation	0.036	Depositor
Recommended contour level	0.249	Depositor
Map size (Å)	478.80002, 478.80002, 478.80002	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.33, 1.33, 1.33	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.15	0/14457	0.43	0/19534
1	B	0.17	0/14457	0.45	1/19534 (0.0%)
2	C	0.16	0/1382	0.43	0/1891
2	D	0.14	0/1382	0.37	0/1891
3	E	0.13	0/1409	0.35	0/1919
3	F	0.21	0/1409	0.65	0/1919
All	All	0.16	0/34496	0.44	1/46688 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	907	GLY	N-CA-C	5.47	125.10	114.16

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	14143	14225	14221	542	0
1	B	14143	14225	14221	609	0
2	C	1352	1326	1328	59	0
2	D	1352	1326	1328	53	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	E	1379	1397	1395	32	0
3	F	1379	1397	1396	60	0
4	E	1	0	0	0	0
4	F	1	0	0	0	0
5	E	32	12	12	6	0
5	F	32	12	12	2	0
6	E	2	0	0	4	0
6	F	2	0	0	3	0
All	All	33818	33920	33913	1316	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 19.

All (1316) 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:1443:PHE:O	1:A:1448:GLN:NE2	2.00	0.95
1:B:1923:LYS:HB2	1:B:1986:MET:HE1	1.51	0.93
3:F:118:ASP:OD1	3:F:158:SER:OG	1.88	0.90
1:A:1665:ALA:O	1:A:1668:LYS:NZ	2.04	0.90
1:B:1129:ASP:O	1:B:1134:ARG:NH1	2.07	0.88
3:F:33:VAL:O	6:F:501:HOH:O	1.90	0.87
5:F:202:GTP:O1G	6:F:502:HOH:O	1.94	0.85
1:A:665:ALA:HB3	1:A:735:VAL:HG21	1.58	0.84
1:B:1765:ARG:NH2	1:B:1907:GLU:OE2	2.12	0.83
1:B:1738:VAL:O	1:B:1741:THR:OG1	1.96	0.82
1:A:1529:ILE:HD13	1:A:1611:TYR:CE1	2.14	0.82
1:B:520:LEU:HD11	1:B:739:ILE:HD13	1.61	0.82
1:A:1728:LYS:O	1:A:1730:ARG:NH1	2.13	0.82
1:B:1783:ILE:HD11	1:B:1889:LEU:HD11	1.59	0.82
3:F:13:ALA:N	5:F:202:GTP:O2B	2.11	0.82
1:A:40:VAL:O	1:A:1048:ASN:ND2	2.12	0.82
1:B:896:LEU:HD12	1:B:899:ILE:HD11	1.61	0.81
1:A:1637:GLU:N	1:A:1637:GLU:OE1	2.14	0.81
1:B:1530:ILE:O	1:B:1534:GLN:NE2	2.13	0.81
1:B:40:VAL:O	1:B:1048:ASN:ND2	2.14	0.81
1:B:339:SER:O	1:B:345:GLN:NE2	2.14	0.81
1:B:1756:LYS:NZ	1:B:1853:GLU:OE2	2.13	0.81
1:A:1732:PHE:HB2	1:B:1750:LEU:HD21	1.62	0.81
1:A:142:HIS:NE2	1:A:1399:ASN:OD1	2.14	0.80
1:B:665:ALA:HB3	1:B:735:VAL:HG21	1.64	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1487:LEU:HD22	1:A:1532:VAL:HG12	1.63	0.79
1:B:823:THR:HG22	1:B:867:PHE:HE2	1.47	0.79
1:B:1080:ILE:HD11	1:B:1148:HIS:CD2	2.19	0.78
1:B:906:GLU:OE1	1:B:908:LEU:HD23	1.83	0.78
1:A:757:PHE:N	1:A:778:SER:O	2.17	0.78
5:E:202:GTP:O2A	6:E:501:HOH:O	2.02	0.77
1:A:1586:ALA:HA	1:A:1600:LEU:HD11	1.66	0.77
1:B:1426:ASN:ND2	1:B:1429:HIS:O	2.17	0.77
1:B:757:PHE:N	1:B:778:SER:O	2.16	0.77
3:E:33:VAL:O	6:E:501:HOH:O	2.02	0.76
1:A:101:VAL:HG12	1:A:821:ILE:HG22	1.67	0.76
1:B:1844:ASP:O	1:B:1848:THR:HG23	1.85	0.76
1:B:921:ARG:NH1	1:B:922:PRO:O	2.19	0.76
1:A:1529:ILE:HD13	1:A:1611:TYR:HE1	1.50	0.76
1:B:1018:ASP:OD1	1:B:1021:ARG:NH2	2.18	0.76
1:B:1853:GLU:O	1:B:1857:ASN:ND2	2.19	0.75
1:A:520:LEU:HD11	1:A:739:ILE:HD13	1.66	0.75
1:A:896:LEU:HD23	1:A:964:PHE:CZ	2.21	0.75
1:B:1846:GLU:OE2	1:B:1862:ARG:NH2	2.20	0.75
1:A:1684:GLY:O	1:A:1688:VAL:HG23	1.87	0.75
1:A:1703:VAL:HG13	1:A:1715:ILE:HD11	1.68	0.75
1:B:40:VAL:HG21	1:B:1110:CYS:HB3	1.68	0.75
1:A:1770:GLY:N	1:A:1778:ASP:OD1	2.18	0.74
1:A:1825:GLU:N	1:A:1825:GLU:OE1	2.20	0.74
1:A:1639:ALA:HB1	1:A:1706:LEU:HD22	1.68	0.74
1:B:310:SER:O	1:B:316:MET:HE2	1.87	0.74
1:B:1825:GLU:OE1	1:B:1825:GLU:N	2.20	0.73
3:F:65:ASP:OD1	3:F:68:ARG:NH2	2.21	0.73
1:A:1637:GLU:HG3	1:A:1897:TYR:O	1.89	0.73
1:A:1423:LEU:HD22	1:A:1433:MET:HE1	1.70	0.72
1:B:1144:LEU:O	1:B:1148:HIS:ND1	2.23	0.72
1:B:1105:LEU:HD12	1:B:1105:LEU:O	1.89	0.72
1:A:333:GLY:O	1:A:335:GLN:NE2	2.23	0.72
1:A:1889:LEU:HD23	1:A:1904:ILE:HG21	1.71	0.72
1:B:823:THR:HG22	1:B:867:PHE:CE2	2.25	0.72
1:A:363:CYS:SG	1:A:366:ARG:NH1	2.62	0.71
1:A:2009:GLN:OE1	2:C:74:GLN:NE2	2.23	0.71
3:E:159:ALA:N	5:E:202:GTP:O6	2.22	0.71
1:A:1143:ASN:HA	1:A:1146:ILE:HD12	1.71	0.71
1:A:1536:ILE:HG12	1:A:1587:THR:HG21	1.72	0.71
3:F:19:LEU:HD11	3:F:157:CYS:SG	2.31	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:641:ASN:ND2	1:B:821:ILE:HD11	2.06	0.71
1:B:1699:LEU:HD13	1:B:1721:LEU:HD11	1.72	0.71
1:B:1770:GLY:N	1:B:1778:ASP:OD1	2.22	0.71
3:F:80:VAL:HG11	3:F:93:VAL:HG13	1.73	0.71
1:A:665:ALA:HB3	1:A:735:VAL:CG2	2.19	0.71
1:B:1119:LEU:O	1:B:1123:THR:HG23	1.91	0.71
1:B:1143:ASN:HA	1:B:1146:ILE:HD12	1.72	0.71
1:B:900:VAL:HG11	1:B:963:PHE:CZ	2.26	0.70
1:A:1742:LEU:HB2	1:B:1739:TYR:CZ	2.27	0.70
1:B:1042:PHE:O	1:B:1046:LEU:HD23	1.92	0.70
1:A:1334:ARG:O	1:A:1334:ARG:NH1	2.24	0.70
1:A:1138:ILE:HG21	1:A:1282:LEU:HD11	1.73	0.70
1:A:1807:PHE:O	1:A:1811:ASN:ND2	2.24	0.70
1:B:949:ALA:HB1	3:F:41:ALA:HB2	1.74	0.69
1:A:1444:LEU:HD21	1:A:1460:LEU:HD11	1.75	0.69
1:B:1042:PHE:CZ	1:B:1046:LEU:HD21	2.28	0.69
1:A:103:GLU:OE1	1:A:873:MET:HE1	1.92	0.69
1:B:1765:ARG:NH1	1:B:1889:LEU:HD13	2.06	0.69
1:B:1783:ILE:HD12	1:B:1838:VAL:HG21	1.73	0.69
1:B:1853:GLU:N	1:B:1853:GLU:OE1	2.25	0.69
1:A:1020:SER:O	1:A:1024:ASN:ND2	2.26	0.69
1:A:1616:GLU:OE2	1:A:1688:VAL:HG22	1.93	0.69
1:B:665:ALA:HB3	1:B:735:VAL:CG2	2.23	0.69
1:A:1669:ILE:HG23	1:A:1714:ILE:HG21	1.74	0.69
1:B:864:MET:HE1	1:B:871:ILE:HG21	1.75	0.69
1:A:968:ILE:HG22	1:A:972:MET:SD	2.33	0.68
1:B:1621:TRP:O	1:B:1624:SER:OG	2.11	0.68
5:E:202:GTP:O2G	6:E:501:HOH:O	2.12	0.68
1:B:1583:VAL:HG12	1:B:1607:LEU:HD11	1.74	0.68
1:B:1889:LEU:HD12	1:B:1904:ILE:HG12	1.74	0.68
1:A:1621:TRP:O	1:A:1624:SER:OG	2.11	0.68
1:A:2011:GLU:N	1:A:2011:GLU:OE1	2.26	0.68
1:B:1334:ARG:O	1:B:1334:ARG:NH1	2.27	0.68
1:B:1536:ILE:HG12	1:B:1587:THR:HG21	1.74	0.68
1:A:1071:GLN:NE2	1:A:1075:ASN:OD1	2.26	0.68
1:B:1444:LEU:HD21	1:B:1460:LEU:HD11	1.76	0.68
1:B:1032:LYS:NZ	1:B:1072:THR:O	2.24	0.68
1:B:333:GLY:O	1:B:335:GLN:NE2	2.27	0.68
1:A:1634:ASP:OD1	1:A:1637:GLU:OE1	2.12	0.67
1:B:1068:GLU:O	1:B:1071:GLN:HG3	1.93	0.67
1:B:1308:GLN:NE2	1:B:1312:ASN:OD1	2.27	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1807:PHE:O	1:B:1811:ASN:ND2	2.26	0.67
1:A:1844:ASP:OD1	1:A:1845:LYS:N	2.28	0.67
1:B:1791:GLY:N	1:B:1794:GLU:OE2	2.24	0.67
1:A:1791:GLY:N	1:A:1794:GLU:OE2	2.26	0.67
1:A:382:ILE:HD11	1:A:393:VAL:HA	1.77	0.67
1:A:856:LEU:HA	1:A:859:MET:HE3	1.77	0.67
1:A:1035:LEU:HD21	1:A:1082:LEU:HD13	1.75	0.67
1:B:1810:GLU:OE1	1:B:1810:GLU:N	2.28	0.67
1:A:900:VAL:HG21	1:A:963:PHE:CE1	2.30	0.67
1:B:1858:HIS:O	1:B:1859:ASN:OD1	2.13	0.66
1:A:537:ASP:OD2	1:A:541:SER:OG	2.14	0.66
1:B:1587:THR:HG22	1:B:1590:MET:HE2	1.78	0.66
1:B:2011:GLU:OE1	1:B:2011:GLU:N	2.27	0.66
1:B:1067:PHE:CE2	1:B:1133:ILE:HG23	2.30	0.66
1:A:1712:TYR:HB2	1:A:1749:ILE:HD11	1.78	0.66
1:B:1579:ARG:NE	1:B:1610:SER:O	2.28	0.66
1:B:1607:LEU:O	1:B:1610:SER:OG	2.10	0.66
3:E:35:THR:N	5:E:202:GTP:O2G	2.28	0.66
1:A:1789:LEU:HD22	2:C:45:MET:HE2	1.78	0.66
3:F:125:THR:HG23	3:F:128:LYS:HZ3	1.61	0.66
1:A:1027:LEU:HD12	1:A:1028:ALA:N	2.11	0.66
1:A:1692:GLU:OE2	1:A:1725:ILE:HG23	1.96	0.65
1:B:400:LEU:HB3	1:B:477:LEU:HD11	1.78	0.65
1:B:1321:LEU:HD21	1:B:1408:VAL:HG21	1.78	0.65
2:D:3:THR:HA	2:D:52:THR:HG23	1.79	0.65
1:B:992:GLU:N	1:B:992:GLU:OE1	2.29	0.65
1:B:1071:GLN:NE2	1:B:1072:THR:HG23	2.11	0.65
1:A:1811:ASN:O	1:A:1831:ALA:N	2.27	0.65
1:B:1532:VAL:HG21	1:B:1580:ILE:HD11	1.78	0.65
1:B:1639:ALA:HB1	1:B:1706:LEU:HD22	1.77	0.65
1:B:1423:LEU:HD22	1:B:1433:MET:HE1	1.77	0.65
1:A:1079:TYR:HA	1:A:1082:LEU:HD12	1.79	0.65
3:E:13:ALA:N	5:E:202:GTP:O2B	2.30	0.65
2:C:62:GLU:N	2:C:62:GLU:OE1	2.30	0.64
1:B:1644:HIS:O	1:B:1648:LEU:HD23	1.97	0.64
1:B:363:CYS:SG	1:B:366:ARG:NH1	2.70	0.64
1:B:665:ALA:HB2	1:B:701:VAL:CG2	2.26	0.64
2:D:62:GLU:N	2:D:62:GLU:OE1	2.30	0.64
1:A:1788:LYS:HB3	2:C:45:MET:HE1	1.80	0.64
1:A:340:PHE:HD1	1:A:1396:LEU:HD23	1.62	0.64
1:A:1739:TYR:HA	1:B:1739:TYR:OH	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:79:ARG:NH1	1:B:110:THR:O	2.30	0.64
1:A:684:ILE:HD13	1:A:716:ILE:HG22	1.79	0.64
1:A:1487:LEU:O	1:A:1491:THR:HG23	1.97	0.64
2:C:72:TYR:O	2:C:75:THR:HG22	1.98	0.64
1:A:141:ASN:HA	1:A:1395:LEU:HD22	1.79	0.64
1:A:665:ALA:HB2	1:A:701:VAL:CG2	2.28	0.63
1:B:1035:LEU:HD23	1:B:1043:ILE:HG21	1.81	0.63
1:A:684:ILE:CD1	1:A:716:ILE:HG22	2.27	0.63
1:A:1668:LYS:HZ1	1:A:1720:LYS:HE3	1.63	0.63
1:A:1781:GLU:N	1:A:1781:GLU:OE1	2.32	0.63
1:A:882:MET:HE1	1:A:888:VAL:HG11	1.80	0.63
1:B:957:LEU:HD13	1:B:964:PHE:CE2	2.33	0.63
1:B:1583:VAL:HG12	1:B:1607:LEU:CD1	2.29	0.63
1:B:1781:GLU:HB2	1:B:1904:ILE:HD12	1.80	0.63
1:A:400:LEU:HB3	1:A:477:LEU:HD11	1.79	0.63
3:E:149:LEU:O	3:E:150:LYS:HG2	1.98	0.63
1:A:1321:LEU:HD12	1:A:1439:ILE:HD11	1.78	0.63
2:C:4:ILE:HB	2:C:53:LEU:HD13	1.79	0.63
1:B:419:LEU:HD23	1:B:419:LEU:O	1.99	0.63
1:A:419:LEU:HD23	1:A:419:LEU:O	1.99	0.63
1:A:1109:TYR:OH	1:A:1166:LEU:O	2.11	0.63
1:A:1533:SER:O	1:A:1536:ILE:HG22	1.99	0.63
1:B:41:GLU:N	1:B:41:GLU:OE1	2.29	0.63
1:B:516:VAL:HG13	1:B:520:LEU:HD12	1.81	0.63
1:B:1516:THR:HB	1:B:1519:LYS:HG2	1.80	0.63
2:D:53:LEU:HD11	2:D:173:ILE:CD1	2.29	0.63
1:A:1519:LYS:O	1:A:1520:THR:HG23	1.99	0.62
1:A:1810:GLU:N	1:A:1810:GLU:OE1	2.28	0.62
1:B:900:VAL:HG21	1:B:963:PHE:CD1	2.34	0.62
1:B:1992:GLN:O	1:B:1995:SER:OG	2.11	0.62
3:F:133:LYS:HD2	3:F:133:LYS:O	1.97	0.62
1:A:1482:PHE:O	1:A:1486:VAL:HG23	1.99	0.62
1:B:528:ALA:O	1:B:554:GLN:NE2	2.31	0.62
2:D:79:LEU:HD11	2:D:113:VAL:HG21	1.82	0.62
1:A:339:SER:O	1:A:345:GLN:NE2	2.33	0.62
1:B:1063:ALA:O	1:B:1066:LYS:HG2	1.99	0.62
1:B:598:SER:OG	1:B:599:ASN:ND2	2.33	0.62
3:F:125:THR:HG23	3:F:128:LYS:NZ	2.14	0.62
1:B:72:ILE:HD13	1:B:117:TYR:CD2	2.34	0.62
1:A:828:VAL:HA	1:A:831:PHE:CE1	2.35	0.62
1:B:900:VAL:HG22	1:B:904:HIS:CE1	2.35	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:887:ASP:O	1:A:891:ASN:ND2	2.32	0.62
1:A:896:LEU:HD23	1:A:964:PHE:CE2	2.35	0.62
2:C:11:ASP:O	2:C:16:LYS:NZ	2.33	0.62
1:B:1923:LYS:CB	1:B:1986:MET:HE1	2.28	0.62
1:A:780:ASN:ND2	1:A:800:ASP:O	2.33	0.61
1:A:1042:PHE:O	1:A:1046:LEU:HD23	2.00	0.61
1:B:1041:GLY:O	1:B:1045:ASN:ND2	2.32	0.61
2:D:61:GLN:N	2:D:61:GLN:OE1	2.33	0.61
2:C:117:ILE:HG21	2:C:156:GLU:HB2	1.82	0.61
1:B:1167:TYR:CE2	1:B:1289:ILE:HD11	2.35	0.61
1:A:941:MET:HE3	1:A:964:PHE:CD2	2.35	0.61
2:D:84:VAL:O	2:D:137:ILE:N	2.33	0.61
1:B:142:HIS:NE2	1:B:1399:ASN:OD1	2.33	0.61
1:B:79:ARG:NH2	1:B:107:THR:O	2.33	0.61
1:B:1398:GLY:O	1:B:1402:THR:HG23	2.00	0.61
1:A:1070:LEU:HA	1:A:1073:ILE:HG12	1.82	0.61
1:A:1426:ASN:ND2	1:A:1429:HIS:O	2.34	0.61
1:A:1960:LEU:HD21	1:A:2026:GLU:OE1	2.00	0.61
1:A:896:LEU:HD12	1:A:899:ILE:HD11	1.83	0.61
1:B:1942:GLN:N	1:B:1942:GLN:OE1	2.34	0.60
1:A:1712:TYR:O	1:A:1715:ILE:HG22	2.01	0.60
1:A:1545:SER:HA	1:A:1548:GLN:OE1	2.02	0.60
3:F:154:TYR:OH	3:F:156:GLU:OE1	2.15	0.60
1:A:1127:LEU:O	1:A:1180:ARG:NH2	2.34	0.60
1:A:1579:ARG:NH2	1:A:1610:SER:OG	2.35	0.60
1:B:827:HIS:HA	1:B:830:LYS:HZ2	1.66	0.60
1:A:628:GLU:OE1	1:A:628:GLU:N	2.34	0.60
1:A:1487:LEU:CD2	1:A:1532:VAL:HG12	2.31	0.60
1:B:1605:TYR:CE1	1:B:1898:VAL:HG21	2.37	0.60
3:E:111:LEU:HD11	3:E:171:GLU:OE2	2.00	0.60
1:A:1583:VAL:HG12	1:A:1621:TRP:CH2	2.36	0.60
1:A:1817:ASP:OD1	1:A:1818:SER:N	2.35	0.60
1:B:612:GLU:OE2	1:B:615:CYS:HA	2.01	0.60
3:F:8:VAL:HG11	3:F:20:LEU:HD11	1.84	0.60
1:B:124:GLY:HA3	1:B:128:MET:HE2	1.84	0.60
1:B:537:ASP:OD2	1:B:541:SER:OG	2.19	0.60
1:B:1483:CYS:HA	1:B:1486:VAL:HG12	1.84	0.59
3:F:86:SER:O	3:F:89:SER:OG	2.11	0.59
1:A:1789:LEU:HD22	2:C:45:MET:CE	2.32	0.59
1:A:904:HIS:CD2	1:A:960:TYR:CE1	2.90	0.59
1:A:949:ALA:HB1	3:E:41:ALA:HB2	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1512:ASN:ND2	1:A:1524:THR:OG1	2.34	0.59
3:F:125:THR:O	3:F:129:LEU:HG	2.02	0.59
1:B:1110:CYS:SG	1:B:1121:ARG:NE	2.75	0.59
1:B:1519:LYS:O	1:B:1520:THR:HG23	2.02	0.59
1:B:950:ASP:OD2	1:B:953:SER:OG	2.19	0.59
1:B:1509:MET:SD	1:B:1510:ARG:N	2.75	0.59
1:B:1712:TYR:HB2	1:B:1749:ILE:HD11	1.84	0.59
1:A:1448:GLN:HB3	1:A:1452:SER:OG	2.03	0.59
1:B:382:ILE:HD11	1:B:393:VAL:HA	1.85	0.59
1:A:1327:MET:O	1:A:1331:ASN:HB3	2.01	0.59
1:B:453:ILE:HD13	1:B:605:TYR:O	2.03	0.59
1:A:516:VAL:HG13	1:A:520:LEU:HD12	1.84	0.59
2:C:3:THR:HA	2:C:52:THR:HG23	1.83	0.59
1:B:667:CYS:SG	1:B:669:GLU:OE2	2.61	0.59
1:B:1670:THR:HG23	1:B:1673:ILE:HG23	1.85	0.59
1:B:1875:LYS:NZ	2:D:32:TYR:O	2.35	0.59
3:F:5:LYS:NZ	3:F:73:PRO:O	2.36	0.59
1:A:1274:LEU:HD11	1:A:1282:LEU:HD22	1.83	0.58
1:B:734:HIS:N	1:B:753:THR:O	2.36	0.58
2:D:4:ILE:HB	2:D:53:LEU:HD13	1.85	0.58
1:B:903:CYS:SG	1:B:912:LEU:HD11	2.43	0.58
1:A:425:ARG:HA	1:A:428:LEU:HD12	1.85	0.58
1:A:598:SER:OG	1:A:599:ASN:ND2	2.36	0.58
1:A:623:GLU:OE1	1:A:623:GLU:N	2.34	0.58
1:A:1806:LYS:HE3	1:A:1807:PHE:CZ	2.38	0.58
3:E:129:LEU:HD22	3:E:134:GLN:HG2	1.85	0.58
2:D:112:LEU:HD21	2:D:146:ALA:HB2	1.85	0.58
1:A:734:HIS:N	1:A:753:THR:O	2.37	0.58
2:C:167:ASN:O	2:C:171:GLU:OE1	2.22	0.58
1:B:887:ASP:O	1:B:891:ASN:ND2	2.34	0.58
1:B:1027:LEU:HD12	1:B:1028:ALA:N	2.18	0.58
1:A:337:LEU:HB3	1:A:1284:MET:HE3	1.85	0.58
1:A:1845:LYS:O	1:A:1848:THR:OG1	2.20	0.58
1:B:1604:GLN:HB3	1:B:1625:MET:HE3	1.84	0.58
2:D:35:THR:HG21	2:D:40:TYR:OH	2.03	0.58
1:A:72:ILE:HD13	1:A:117:TYR:CD2	2.39	0.58
1:A:882:MET:O	1:A:882:MET:SD	2.61	0.58
2:C:75:THR:HG21	2:C:78:PHE:CZ	2.39	0.58
1:B:141:ASN:HA	1:B:1395:LEU:HD22	1.84	0.58
3:F:120:ARG:NH2	3:F:137:ILE:O	2.34	0.58
1:B:957:LEU:O	1:B:961:SER:N	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1178:ILE:HG13	1:B:1312:ASN:HB3	1.85	0.58
1:B:1711:ARG:HD3	1:B:1854:PHE:CZ	2.39	0.58
1:A:1042:PHE:CZ	1:A:1046:LEU:HD21	2.39	0.57
1:A:1509:MET:SD	1:A:1510:ARG:N	2.77	0.57
1:B:893:THR:HG21	1:B:940:THR:HB	1.85	0.57
1:B:1139:SER:O	1:B:1143:ASN:ND2	2.37	0.57
3:E:133:LYS:HD2	3:E:133:LYS:O	2.03	0.57
1:B:124:GLY:N	1:B:128:MET:HE2	2.18	0.57
1:B:463:GLN:OE1	1:B:617:ASN:ND2	2.38	0.57
1:B:1817:ASP:OD1	1:B:1818:SER:N	2.36	0.57
3:F:39:ASN:OD1	3:F:40:TYR:N	2.37	0.57
2:C:29:PRO:HG3	2:C:159:ALA:HB1	1.86	0.57
1:B:1576:LEU:O	1:B:1580:ILE:HG22	2.05	0.57
1:B:1653:LEU:HD12	1:B:1656:LYS:HE3	1.85	0.57
1:B:1696:LEU:HD22	1:B:1726:TYR:HE1	1.69	0.57
2:C:158:SER:O	2:C:162:GLN:N	2.37	0.57
3:E:120:ARG:NH2	3:E:137:ILE:O	2.37	0.57
1:B:324:GLN:O	1:B:327:LYS:HG2	2.04	0.57
1:B:757:PHE:O	1:B:778:SER:N	2.30	0.57
3:F:36:VAL:HG12	3:F:67:LEU:CD2	2.35	0.57
1:A:364:ASN:CG	1:A:469:THR:HG22	2.29	0.57
1:A:1067:PHE:CE2	1:A:1133:ILE:HG23	2.39	0.57
1:A:1739:TYR:O	1:B:1739:TYR:HE1	1.87	0.57
1:B:780:ASN:ND2	1:B:800:ASP:O	2.33	0.57
1:A:827:HIS:HB2	1:A:859:MET:HE1	1.86	0.57
2:C:90:PHE:CZ	2:C:137:ILE:HG21	2.39	0.57
2:C:112:LEU:HD21	2:C:146:ALA:HB2	1.87	0.57
2:C:112:LEU:HD12	2:C:154:TYR:HD1	1.70	0.57
1:B:424:VAL:HG22	1:B:427:MET:HE2	1.86	0.57
1:A:1942:GLN:N	1:A:1942:GLN:OE1	2.37	0.57
1:B:1436:VAL:O	1:B:1439:ILE:HG22	2.05	0.57
1:B:628:GLU:N	1:B:628:GLU:OE1	2.35	0.56
1:B:1067:PHE:HA	1:B:1070:LEU:HD12	1.87	0.56
1:A:1274:LEU:HD13	1:A:1282:LEU:HD13	1.87	0.56
1:A:1424:LEU:O	1:A:1424:LEU:HD23	2.05	0.56
1:A:1781:GLU:HG2	1:A:1904:ILE:HD12	1.87	0.56
1:A:828:VAL:HA	1:A:831:PHE:CD1	2.40	0.56
1:A:1436:VAL:O	1:A:1439:ILE:HG22	2.05	0.56
1:A:1783:ILE:HD12	1:A:1838:VAL:HG11	1.85	0.56
1:B:425:ARG:HA	1:B:428:LEU:HD12	1.87	0.56
1:B:1007:PRO:O	1:B:1011:ILE:HG22	2.04	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1487:LEU:O	1:B:1491:THR:HG23	2.06	0.56
3:F:98:VAL:HG21	3:F:149:LEU:HD13	1.87	0.56
1:A:461:ILE:HD12	1:A:618:ILE:HB	1.87	0.56
1:B:364:ASN:CG	1:B:469:THR:HG22	2.31	0.56
1:B:684:ILE:HD11	1:B:714:ILE:CG2	2.35	0.56
1:B:1850:ARG:HG2	1:B:1855:GLU:OE1	2.05	0.56
1:A:1287:LEU:HD11	1:A:1320:CYS:SG	2.46	0.56
1:B:1294:SER:OG	1:B:1297:THR:HG23	2.06	0.56
1:A:1586:ALA:HA	1:A:1600:LEU:CD1	2.36	0.56
2:D:98:VAL:HG12	2:D:99:PRO:HD3	1.86	0.56
1:A:665:ALA:HB2	1:A:701:VAL:HG22	1.86	0.56
1:A:1283:LEU:O	1:A:1287:LEU:HD13	2.06	0.56
1:B:949:ALA:CB	3:F:41:ALA:HB2	2.35	0.56
1:B:1486:VAL:HG21	1:B:1504:LEU:HD22	1.88	0.56
1:B:1947:LEU:O	1:B:1951:VAL:HG22	2.05	0.56
1:B:1884:LYS:NZ	2:D:33:VAL:HG13	2.21	0.56
2:D:75:THR:HG21	2:D:78:PHE:CZ	2.41	0.56
1:A:875:LEU:HD23	1:A:896:LEU:HD13	1.88	0.55
1:A:1588:ALA:O	1:A:1592:GLU:N	2.34	0.55
1:A:1989:LYS:O	1:A:1992:GLN:NE2	2.39	0.55
1:B:364:ASN:ND2	1:B:469:THR:HG22	2.21	0.55
1:B:1648:LEU:HD12	1:B:1679:MET:SD	2.46	0.55
1:B:1175:LEU:HA	1:B:1178:ILE:HG12	1.88	0.55
1:B:1718:ILE:O	1:B:1721:LEU:HG	2.06	0.55
3:F:158:SER:O	3:F:162:GLN:N	2.35	0.55
1:A:1850:ARG:O	1:A:1856:ARG:NH1	2.39	0.55
2:C:113:VAL:HG13	2:C:155:VAL:HG23	1.86	0.55
1:B:1684:GLY:O	1:B:1688:VAL:HG23	2.05	0.55
1:A:1645:VAL:HG22	1:A:1698:LEU:HD21	1.88	0.55
1:B:1002:LEU:HD22	1:B:1046:LEU:HD12	1.89	0.55
1:A:1781:GLU:CG	1:A:1904:ILE:HD12	2.37	0.55
1:A:1168:LEU:O	1:A:1171:VAL:HG12	2.06	0.55
3:E:118:ASP:OD1	3:E:158:SER:OG	2.20	0.55
3:E:125:THR:O	3:E:129:LEU:HG	2.07	0.55
1:B:475:ILE:HD11	1:B:535:PHE:CD2	2.42	0.55
1:B:483:LYS:O	1:B:525:MET:N	2.27	0.55
1:B:907:GLY:C	1:B:908:LEU:HD22	2.31	0.55
1:B:1585:MET:O	1:B:1589:GLN:OE1	2.24	0.55
1:A:79:ARG:NH1	1:A:110:THR:O	2.39	0.55
1:A:1017:PRO:O	1:A:1021:ARG:HG2	2.06	0.55
1:A:1788:LYS:HB3	2:C:45:MET:CE	2.37	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:72:ILE:HD11	1:B:115:VAL:CG1	2.37	0.55
3:F:84:VAL:O	3:F:137:ILE:N	2.30	0.55
1:A:488:ASN:O	1:A:492:CYS:N	2.36	0.55
1:A:963:PHE:CZ	1:A:964:PHE:CE1	2.95	0.55
1:B:1703:VAL:HG13	1:B:1715:ILE:HD11	1.88	0.55
1:A:120:GLU:O	1:A:123:SER:OG	2.14	0.55
1:A:864:MET:HE3	1:A:864:MET:HA	1.89	0.55
1:B:665:ALA:HB2	1:B:701:VAL:HG22	1.89	0.55
1:B:1758:ARG:NH2	1:B:1853:GLU:OE2	2.39	0.55
2:D:72:TYR:O	2:D:75:THR:HG22	2.06	0.55
1:B:1850:ARG:HA	1:B:1855:GLU:OE1	2.08	0.54
1:A:862:GLN:OE1	1:A:862:GLN:N	2.35	0.54
1:B:1712:TYR:O	1:B:1715:ILE:HG22	2.06	0.54
1:B:1889:LEU:HD23	1:B:1889:LEU:H	1.72	0.54
1:A:1957:ALA:HB1	1:A:1961:ALA:HB2	1.90	0.54
3:E:80:VAL:HG11	3:E:93:VAL:HG13	1.88	0.54
1:B:902:LYS:HA	1:B:905:GLU:OE1	2.08	0.54
1:A:453:ILE:HD13	1:A:605:TYR:O	2.07	0.54
1:A:687:LYS:CG	1:A:688:PRO:HD2	2.37	0.54
2:C:6:CYS:SG	2:C:53:LEU:HD12	2.48	0.54
1:B:51:GLN:NE2	1:B:52:ARG:HG3	2.23	0.54
1:B:83:THR:HG23	1:B:85:GLN:O	2.07	0.54
1:B:1090:LYS:HD2	1:B:1090:LYS:O	2.08	0.54
1:A:1063:ALA:O	1:A:1066:LYS:HG2	2.08	0.54
1:A:1321:LEU:HD11	1:A:1408:VAL:HG11	1.89	0.54
1:A:1915:ILE:O	1:A:1919:THR:OG1	2.20	0.54
1:B:1170:PHE:CZ	1:B:1174:LEU:HD11	2.42	0.54
1:A:696:ASN:C	1:A:696:ASN:HD22	2.16	0.54
1:A:1715:ILE:HG23	1:A:1742:LEU:HD11	1.88	0.54
2:C:98:VAL:HG12	2:C:99:PRO:HD3	1.88	0.54
1:B:687:LYS:CG	1:B:688:PRO:HD2	2.37	0.54
1:B:1989:LYS:O	1:B:1992:GLN:NE2	2.41	0.54
1:A:364:ASN:OD1	1:A:469:THR:HG22	2.08	0.54
1:A:1720:LYS:HG3	1:A:1721:LEU:HD22	1.90	0.54
1:B:373:ASP:HA	1:B:419:LEU:HD21	1.89	0.54
1:B:901:SER:O	1:B:905:GLU:OE1	2.26	0.54
1:B:1536:ILE:HD12	1:B:1541:LEU:HB2	1.90	0.54
1:B:1843:ASP:OD1	1:B:1846:GLU:CD	2.50	0.54
1:B:1666:PHE:HE1	1:B:1721:LEU:HD22	1.73	0.54
1:A:83:THR:HG23	1:A:85:GLN:O	2.08	0.53
1:A:1750:LEU:O	1:A:1754:HIS:ND1	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1076:HIS:HB3	1:B:1079:TYR:HB2	1.89	0.53
1:B:1327:MET:O	1:B:1331:ASN:HB3	2.08	0.53
3:F:67:LEU:HD12	3:F:70:LEU:HD12	1.89	0.53
1:B:827:HIS:HA	1:B:830:LYS:NZ	2.22	0.53
1:A:719:PRO:HG2	1:A:722:LEU:HD23	1.89	0.53
1:A:1616:GLU:O	1:A:1620:THR:HG23	2.08	0.53
1:B:1561:ASP:O	1:B:1565:LYS:N	2.39	0.53
1:A:51:GLN:NE2	1:A:52:ARG:HG3	2.24	0.53
1:A:643:LEU:HD22	1:A:716:ILE:HD11	1.90	0.53
1:A:1974:LYS:HD3	1:A:1975:TYR:CE1	2.44	0.53
1:A:374:LEU:HG	1:A:419:LEU:HD22	1.91	0.53
1:A:483:LYS:O	1:A:525:MET:N	2.28	0.53
1:B:684:ILE:HD11	1:B:714:ILE:HG22	1.89	0.53
1:B:960:TYR:O	1:B:963:PHE:CD1	2.62	0.53
1:B:992:GLU:O	1:B:996:HIS:ND1	2.38	0.53
1:B:1144:LEU:HG	1:B:1148:HIS:HE1	1.73	0.53
3:F:90:PHE:CZ	3:F:145:LEU:HD22	2.44	0.53
1:B:1138:ILE:HG21	1:B:1282:LEU:HD11	1.90	0.53
2:D:29:PRO:HG3	2:D:159:ALA:HB1	1.90	0.53
1:A:1739:TYR:HE2	1:B:1746:TYR:CD2	2.27	0.53
1:B:1120:LEU:HD23	1:B:1120:LEU:C	2.33	0.53
1:B:1612:ALA:HA	1:B:1618:ARG:HD2	1.91	0.53
1:A:463:GLN:OE1	1:A:617:ASN:ND2	2.42	0.53
1:A:1067:PHE:HE2	1:A:1133:ILE:HG23	1.73	0.53
1:A:1582:THR:HG22	1:A:1603:LEU:HD12	1.89	0.53
2:C:53:LEU:HD11	2:C:173:ILE:CD1	2.38	0.53
1:B:1068:GLU:HA	1:B:1071:GLN:HG3	1.91	0.53
1:B:1781:GLU:CB	1:B:1904:ILE:HD12	2.39	0.53
1:A:72:ILE:HD12	1:A:116:ASN:O	2.09	0.53
3:F:129:LEU:HD22	3:F:134:GLN:HE21	1.74	0.53
1:A:1884:LYS:HZ2	2:C:33:VAL:HG13	1.73	0.52
1:A:1884:LYS:NZ	2:C:33:VAL:HG13	2.24	0.52
2:C:35:THR:HG21	2:C:40:TYR:OH	2.10	0.52
1:B:478:VAL:HG21	1:B:568:LEU:HD11	1.91	0.52
3:F:22:SER:O	3:F:26:ASN:N	2.42	0.52
1:A:734:HIS:HB3	1:A:755:VAL:HG13	1.91	0.52
1:A:1391:PHE:CE2	1:A:1395:LEU:HD11	2.44	0.52
1:A:1509:MET:HE1	1:A:1569:PHE:CD1	2.43	0.52
1:B:124:GLY:CA	1:B:128:MET:HE2	2.39	0.52
1:B:900:VAL:HG21	1:B:963:PHE:CE1	2.44	0.52
1:B:908:LEU:HD12	1:B:911:TYR:CE2	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1957:ALA:HB1	1:B:1961:ALA:HB2	1.89	0.52
1:A:1004:ALA:O	1:A:1008:HIS:ND1	2.42	0.52
1:A:1732:PHE:HB2	1:B:1750:LEU:CD2	2.36	0.52
3:E:7:VAL:HG23	3:E:75:THR:HG23	1.90	0.52
1:A:900:VAL:HG11	1:A:963:PHE:CZ	2.44	0.52
1:A:1588:ALA:O	1:A:1592:GLU:HG2	2.10	0.52
1:B:74:ILE:HG22	1:B:977:LEU:HD21	1.90	0.52
1:B:538:THR:HG22	1:B:538:THR:O	2.10	0.52
1:B:864:MET:HE1	1:B:871:ILE:CG2	2.39	0.52
1:B:887:ASP:HA	1:B:890:ILE:HG12	1.92	0.52
2:D:167:ASN:O	2:D:171:GLU:OE1	2.28	0.52
1:A:872:LEU:HD21	1:A:876:PHE:CZ	2.44	0.52
1:B:62:ARG:O	1:B:66:MET:N	2.36	0.52
1:B:338:PHE:CD1	1:B:1284:MET:HE2	2.45	0.52
1:B:1765:ARG:HH11	1:B:1889:LEU:HD13	1.75	0.52
1:A:465:ILE:HG23	1:A:621:GLU:HA	1.92	0.52
1:B:1276:GLN:O	1:B:1280:ARG:HG2	2.09	0.52
1:B:1711:ARG:HE	1:B:1760:LEU:HD22	1.74	0.52
1:B:1884:LYS:HZ2	2:D:33:VAL:HG13	1.74	0.52
1:A:909:ASP:HA	1:A:912:LEU:HD13	1.90	0.52
1:A:1287:LEU:HA	1:A:1290:VAL:HG22	1.92	0.52
1:B:734:HIS:HB3	1:B:755:VAL:HG13	1.91	0.52
1:B:1503:ALA:O	1:B:1507:LEU:HD23	2.09	0.52
2:D:112:LEU:HD12	2:D:154:TYR:HD1	1.75	0.52
1:A:864:MET:HE1	1:A:871:ILE:HG12	1.92	0.52
1:B:466:PHE:CZ	1:B:622:VAL:HG21	2.44	0.52
1:B:779:ALA:HB3	1:B:802:LYS:O	2.10	0.52
2:D:79:LEU:CD1	2:D:113:VAL:HG21	2.40	0.52
3:E:17:THR:HG22	3:E:21:ILE:HD12	1.92	0.52
1:B:65:LEU:HD11	1:B:1086:MET:SD	2.50	0.52
1:B:719:PRO:HG2	1:B:722:LEU:HD23	1.92	0.52
1:B:1691:SER:OG	1:B:1693:GLU:HG3	2.09	0.52
1:A:475:ILE:HD11	1:A:535:PHE:CD2	2.45	0.52
1:A:900:VAL:HG23	1:A:912:LEU:HD21	1.91	0.52
1:A:1891:THR:HG23	1:A:1893:ASN:O	2.10	0.52
1:B:1462:ALA:O	1:B:1466:LYS:HG2	2.09	0.52
1:B:391:THR:HG21	1:B:424:VAL:HG23	1.92	0.51
1:B:963:PHE:CZ	1:B:964:PHE:CE2	2.98	0.51
1:B:1042:PHE:CE1	1:B:1046:LEU:HD21	2.45	0.51
1:B:1533:SER:O	1:B:1536:ILE:HG22	2.10	0.51
1:A:305:ALA:O	1:A:309:ARG:NE	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1433:MET:HA	1:A:1436:VAL:HG12	1.92	0.51
1:B:1067:PHE:HE2	1:B:1133:ILE:HG23	1.73	0.51
1:B:1324:PHE:CD2	1:B:1404:VAL:HG21	2.45	0.51
1:B:1428:GLY:O	1:B:1433:MET:HG3	2.10	0.51
1:B:1433:MET:HA	1:B:1436:VAL:HG12	1.93	0.51
1:B:2007:GLU:OE1	1:B:2007:GLU:N	2.43	0.51
3:F:38:ASP:HB2	3:F:57:ASP:HB3	1.93	0.51
1:A:124:GLY:O	1:A:1075:ASN:ND2	2.44	0.51
1:A:1067:PHE:HA	1:A:1070:LEU:HD12	1.92	0.51
1:B:303:ILE:HG21	1:B:1511:ASN:OD1	2.11	0.51
2:D:23:TYR:HB2	2:D:165:LEU:HD21	1.91	0.51
2:D:85:VAL:HG12	2:D:136:PRO:HB3	1.92	0.51
1:A:45:TYR:O	1:A:49:ILE:HG22	2.10	0.51
1:A:62:ARG:O	1:A:66:MET:N	2.34	0.51
1:A:670:PHE:CD2	1:A:681:LEU:HD12	2.45	0.51
1:A:950:ASP:OD2	1:A:953:SER:OG	2.18	0.51
1:A:1530:ILE:HG22	1:A:1617:LEU:HD21	1.91	0.51
1:B:1777:GLU:OE2	1:B:1803:TYR:OH	2.27	0.51
1:B:1891:THR:HG23	1:B:1893:ASN:O	2.10	0.51
2:D:49:GLU:OE1	2:D:51:TYR:OH	2.21	0.51
1:A:1079:TYR:CE1	1:A:1115:LEU:HD13	2.46	0.51
1:A:1525:HIS:HD1	1:A:1576:LEU:CD2	2.23	0.51
1:B:893:THR:HG21	1:B:940:THR:CB	2.40	0.51
1:B:1579:ARG:HE	1:B:1610:SER:C	2.18	0.51
1:A:538:THR:HG22	1:A:538:THR:O	2.10	0.51
1:A:1446:ASN:O	1:A:1448:GLN:OE1	2.28	0.51
1:B:374:LEU:HG	1:B:419:LEU:HD22	1.93	0.51
1:B:465:ILE:HG23	1:B:621:GLU:HA	1.93	0.51
1:B:669:GLU:O	1:B:728:LEU:HD12	2.09	0.51
1:B:1109:TYR:CZ	1:B:1169:PRO:HG3	2.45	0.51
1:B:1120:LEU:HD23	1:B:1120:LEU:O	2.11	0.51
1:A:1670:THR:HG23	1:A:1673:ILE:HG23	1.92	0.51
1:A:1850:ARG:NH2	1:A:1859:ASN:O	2.42	0.51
1:A:1887:THR:HG22	1:A:1889:LEU:CD1	2.41	0.51
1:A:960:TYR:O	1:A:963:PHE:CD1	2.64	0.51
1:A:1545:SER:O	1:A:1549:GLU:OE1	2.28	0.51
1:A:1887:THR:HG22	1:A:1889:LEU:HD11	1.91	0.51
1:B:802:LYS:O	1:B:802:LYS:HD2	2.11	0.51
1:A:313:PRO:HA	1:A:316:MET:HE2	1.93	0.51
1:A:1119:LEU:O	1:A:1123:THR:HG23	2.11	0.51
1:B:1886:ARG:HE	1:B:1912:LEU:HD11	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1978:LYS:NZ	1:B:1982:GLU:OE2	2.43	0.51
1:B:1132:GLU:OE1	1:B:1132:GLU:N	2.36	0.50
1:B:1897:TYR:CE1	1:B:1898:VAL:HG22	2.46	0.50
3:F:22:SER:O	3:F:26:ASN:HA	2.12	0.50
3:F:82:PHE:CD1	3:F:112:LEU:HD11	2.46	0.50
1:A:927:ALA:HB1	1:A:929:GLN:OE1	2.12	0.50
1:A:1503:ALA:O	1:A:1507:LEU:HD23	2.11	0.50
1:B:817:LEU:HG	1:B:817:LEU:O	2.11	0.50
1:B:1895:PHE:CE2	1:B:1902:ILE:HD11	2.46	0.50
1:A:323:GLU:OE1	1:A:323:GLU:N	2.41	0.50
1:A:882:MET:CE	1:A:888:VAL:HG11	2.41	0.50
1:A:1074:CYS:HA	1:A:1079:TYR:CD1	2.46	0.50
1:A:1274:LEU:HD12	1:A:1279:ILE:HD12	1.93	0.50
1:A:1280:ARG:NH2	1:A:1323:HIS:O	2.43	0.50
1:A:1726:TYR:HB2	1:A:1735:LEU:HD21	1.92	0.50
1:B:723:HIS:C	1:B:763:LEU:HD12	2.36	0.50
1:B:1850:ARG:CB	1:B:1855:GLU:OE1	2.59	0.50
2:D:36:VAL:HG23	2:D:37:PHE:CD1	2.45	0.50
1:A:825:ASP:HB3	1:A:828:VAL:HG22	1.93	0.50
1:A:872:LEU:HD22	1:A:915:PHE:CE2	2.47	0.50
1:A:1644:HIS:O	1:A:1648:LEU:HD23	2.11	0.50
1:B:781:LEU:HG	1:B:781:LEU:O	2.12	0.50
1:B:1137:ALA:O	1:B:1141:ILE:HG12	2.11	0.50
1:B:1669:ILE:HG23	1:B:1714:ILE:HG21	1.92	0.50
2:D:6:CYS:HB3	2:D:55:LEU:HD13	1.93	0.50
3:F:17:THR:N	6:F:502:HOH:O	2.45	0.50
1:A:77:ILE:HG13	1:A:77:ILE:O	2.11	0.50
1:A:79:ARG:NH2	1:A:107:THR:O	2.45	0.50
1:A:1293:ILE:HD12	1:A:1298:LEU:HB2	1.94	0.50
1:A:1535:LEU:HB3	1:A:1541:LEU:HD11	1.94	0.50
1:A:1561:ASP:O	1:A:1565:LYS:N	2.38	0.50
3:E:129:LEU:HD22	3:E:134:GLN:NE2	2.26	0.50
1:B:413:ALA:HB2	1:B:623:GLU:HB2	1.93	0.50
1:B:1127:LEU:O	1:B:1180:ARG:NH2	2.44	0.50
1:B:1423:LEU:HD22	1:B:1433:MET:CE	2.41	0.50
1:A:781:LEU:O	1:A:781:LEU:HG	2.12	0.50
1:A:1162:LYS:O	1:A:1166:LEU:HD23	2.12	0.50
1:A:2007:GLU:N	1:A:2007:GLU:OE1	2.45	0.50
1:B:603:SER:N	1:B:621:GLU:OE2	2.43	0.50
1:B:1288:TYR:CG	1:B:1292:MET:HE1	2.46	0.50
1:B:1532:VAL:HG21	1:B:1580:ILE:CD1	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:567:LEU:O	1:A:571:TYR:N	2.44	0.50
1:A:723:HIS:C	1:A:763:LEU:HD12	2.37	0.50
1:A:968:ILE:O	1:A:972:MET:SD	2.70	0.50
1:B:1525:HIS:O	1:B:1528:ILE:HG22	2.11	0.50
3:F:13:ALA:HA	3:F:32:TYR:CE1	2.47	0.50
1:A:757:PHE:O	1:A:778:SER:N	2.31	0.50
1:A:992:GLU:HG3	1:A:996:HIS:CE1	2.47	0.50
1:A:1947:LEU:O	1:A:1951:VAL:HG22	2.10	0.50
1:B:1860:ILE:O	1:B:1895:PHE:N	2.40	0.50
3:F:6:CYS:SG	3:F:79:LEU:HD13	2.52	0.50
1:A:407:ASN:O	1:A:408:ASN:OD1	2.30	0.49
1:A:1612:ALA:HA	1:A:1618:ARG:HD2	1.93	0.49
1:A:1742:LEU:HB2	1:B:1739:TYR:OH	2.12	0.49
1:A:1752:VAL:O	1:A:1756:LYS:N	2.40	0.49
2:C:82:PHE:CD2	2:C:90:PHE:CE1	3.00	0.49
1:B:1639:ALA:O	1:B:1643:VAL:HG23	2.12	0.49
3:F:87:PRO:HD2	3:F:134:GLN:NE2	2.26	0.49
1:A:86:SER:OG	1:A:88:VAL:HG12	2.12	0.49
1:A:684:ILE:HD11	1:A:714:ILE:HG23	1.94	0.49
1:A:684:ILE:HD11	1:A:714:ILE:CG2	2.42	0.49
1:A:831:PHE:CE2	1:A:832:PHE:CD1	3.00	0.49
1:A:860:GLU:HB3	1:A:862:GLN:OE1	2.12	0.49
1:A:1308:GLN:NE2	1:A:1312:ASN:OD1	2.45	0.49
1:B:145:GLU:OE2	1:B:1493:LYS:N	2.39	0.49
1:B:1275:ASP:O	1:B:1279:ILE:HG22	2.12	0.49
1:B:1897:TYR:CE2	1:B:1899:LYS:HG3	2.47	0.49
1:A:1536:ILE:HG12	1:A:1587:THR:CG2	2.42	0.49
1:A:1739:TYR:HB3	1:B:1743:HIS:HB2	1.95	0.49
1:B:605:TYR:CE2	1:B:692:VAL:HG13	2.47	0.49
1:B:1168:LEU:O	1:B:1171:VAL:HG12	2.12	0.49
3:F:37:PHE:CG	3:F:37:PHE:O	2.66	0.49
3:F:92:ASN:HA	3:F:95:GLU:HG3	1.94	0.49
1:A:382:ILE:HD13	1:A:424:VAL:HG22	1.94	0.49
1:A:859:MET:HA	1:A:859:MET:HE2	1.94	0.49
1:A:1029:SER:O	1:A:1032:LYS:HB3	2.13	0.49
1:B:779:ALA:HB2	1:B:804:VAL:CG2	2.43	0.49
1:B:877:ARG:HA	1:B:877:ARG:NE	2.28	0.49
1:A:627:PRO:HB2	1:A:629:MET:HE1	1.93	0.49
1:A:991:PRO:HB2	1:A:993:THR:HG22	1.94	0.49
1:A:1860:ILE:O	1:A:1895:PHE:N	2.40	0.49
3:E:20:LEU:CD2	3:E:55:LEU:HD12	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1804:GLY:O	1:B:1808:GLY:N	2.42	0.49
1:A:380:GLY:N	1:A:391:THR:O	2.38	0.49
1:A:1446:ASN:OD1	1:A:1448:GLN:OE1	2.30	0.49
1:A:1572:GLU:O	1:A:1576:LEU:HG	2.12	0.49
1:B:929:GLN:OE1	1:B:929:GLN:N	2.45	0.49
2:D:113:VAL:HG13	2:D:155:VAL:HG23	1.94	0.49
1:A:401:ALA:HB1	1:A:410:LYS:HE2	1.95	0.49
1:A:450:ILE:CD1	1:A:692:VAL:HG11	2.42	0.49
1:A:478:VAL:HG21	1:A:568:LEU:HD11	1.94	0.49
1:A:646:TYR:HE2	1:A:816:HIS:HD1	1.60	0.49
1:A:1441:LEU:HD11	1:A:1482:PHE:HA	1.94	0.49
1:B:465:ILE:HD11	1:B:593:VAL:HG21	1.94	0.49
1:B:777:VAL:HG23	1:B:804:VAL:HB	1.94	0.49
1:A:119:TYR:O	1:A:1077:GLU:HG2	2.12	0.49
1:B:407:ASN:O	1:B:408:ASN:OD1	2.31	0.49
1:B:488:ASN:O	1:B:492:CYS:N	2.39	0.49
1:B:998:LEU:HD23	1:B:1001:LEU:HD21	1.95	0.49
1:A:1717:GLU:O	1:A:1720:LYS:HG2	2.13	0.49
1:B:487:GLY:N	1:B:492:CYS:SG	2.86	0.49
3:F:132:ASN:OD1	3:F:134:GLN:HB3	2.12	0.49
1:A:662:ARG:NH2	1:A:704:HIS:O	2.46	0.49
1:B:605:TYR:HE2	1:B:692:VAL:HG13	1.78	0.49
1:B:1570:PRO:HA	1:B:1573:VAL:HG12	1.94	0.49
1:B:1843:ASP:OD1	1:B:1845:LYS:HG2	2.13	0.49
1:A:1299:LEU:HD12	1:A:1418:CYS:SG	2.52	0.48
1:A:1450:GLU:OE1	1:A:1450:GLU:N	2.45	0.48
1:A:1668:LYS:NZ	1:A:1720:LYS:HE3	2.27	0.48
2:C:57:ASP:OD1	2:C:58:THR:N	2.46	0.48
1:B:1167:TYR:CD2	1:B:1289:ILE:HD11	2.47	0.48
1:B:1545:SER:O	1:B:1549:GLU:OE1	2.30	0.48
1:B:1945:LEU:HD22	2:D:39:ASN:HB3	1.95	0.48
1:A:872:LEU:C	1:A:872:LEU:HD23	2.38	0.48
1:B:86:SER:OG	1:B:88:VAL:HG12	2.13	0.48
1:B:528:ALA:C	1:B:554:GLN:HG3	2.37	0.48
1:B:857:HIS:O	1:B:898:HIS:NE2	2.46	0.48
1:B:1945:LEU:HD11	2:D:54:GLY:CA	2.43	0.48
1:B:1019:GLU:OE1	1:B:1019:GLU:N	2.39	0.48
1:A:126:PHE:HA	1:A:129:LEU:HD23	1.94	0.48
1:A:336:ASN:O	1:A:339:SER:OG	2.23	0.48
1:A:899:ILE:HG13	1:A:900:VAL:N	2.28	0.48
1:A:1076:HIS:ND1	1:A:1082:LEU:HD11	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1122:GLU:O	1:A:1125:ILE:HG22	2.14	0.48
1:A:1786:GLU:HG3	1:A:1795:ILE:HD12	1.95	0.48
2:D:57:ASP:OD1	2:D:58:THR:N	2.46	0.48
1:A:636:PHE:CD2	1:A:820:THR:HG22	2.49	0.48
1:A:1804:GLY:O	1:A:1808:GLY:N	2.43	0.48
1:A:1849:GLU:O	1:B:1730:ARG:NH2	2.46	0.48
2:C:98:VAL:CG1	2:C:99:PRO:HD3	2.43	0.48
1:B:644:TYR:CD2	1:B:713:GLU:OE2	2.66	0.48
1:B:1329:LYS:HA	1:B:1332:ILE:HG22	1.95	0.48
1:B:1548:GLN:NE2	1:B:1552:PHE:CE2	2.82	0.48
2:D:98:VAL:CG1	2:D:99:PRO:HD3	2.43	0.48
1:A:465:ILE:HD11	1:A:593:VAL:HG21	1.96	0.48
1:A:817:LEU:O	1:A:817:LEU:HG	2.13	0.48
1:A:1002:LEU:HA	1:A:1005:ILE:HG12	1.95	0.48
1:A:1423:LEU:CD2	1:A:1433:MET:HE1	2.40	0.48
1:A:1435:LYS:HD2	1:A:1435:LYS:N	2.29	0.48
1:A:1688:VAL:CG1	1:A:1690:TYR:CD1	2.96	0.48
2:C:1:MET:HE2	2:C:51:TYR:HA	1.96	0.48
1:B:1021:ARG:HG2	1:B:1065:TYR:HE2	1.79	0.48
1:B:1843:ASP:OD1	1:B:1846:GLU:OE1	2.32	0.48
1:B:1035:LEU:HD23	1:B:1043:ILE:HD13	1.95	0.48
1:B:1596:ASP:OD1	1:B:1598:GLU:CD	2.57	0.48
3:F:129:LEU:O	3:F:132:ASN:OD1	2.31	0.48
1:A:365:LYS:HB3	1:A:468:VAL:HG13	1.95	0.48
1:A:1726:TYR:O	1:A:1730:ARG:N	2.47	0.48
1:B:652:TYR:CD1	1:B:664:ILE:HD12	2.48	0.48
1:B:670:PHE:CE2	1:B:681:LEU:HD12	2.48	0.48
1:B:1697:GLU:O	1:B:1700:GLU:HG3	2.14	0.48
1:B:2034:GLN:O	1:B:2034:GLN:HG2	2.13	0.48
1:A:312:HIS:O	1:A:316:MET:SD	2.71	0.48
1:A:1785:LYS:O	1:A:1900:LYS:HG2	2.14	0.48
1:A:1947:LEU:HD23	1:A:2016:LEU:HD13	1.95	0.48
1:B:45:TYR:O	1:B:49:ILE:HG22	2.14	0.48
1:B:520:LEU:CD1	1:B:739:ILE:HD13	2.39	0.48
1:B:567:LEU:O	1:B:571:TYR:N	2.46	0.48
3:F:150:LYS:HD2	3:F:150:LYS:O	2.13	0.48
1:A:115:VAL:HG22	1:A:970:LYS:NZ	2.29	0.48
1:A:413:ALA:HB2	1:A:623:GLU:HB2	1.96	0.48
1:A:669:GLU:O	1:A:728:LEU:HD12	2.14	0.48
1:A:684:ILE:HG22	1:A:694:THR:O	2.13	0.48
1:A:799:VAL:HG12	1:A:801:ILE:HG13	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1073:ILE:HG13	1:A:1074:CYS:N	2.29	0.48
1:B:627:PRO:HB2	1:B:629:MET:HE1	1.96	0.48
1:B:1134:ARG:HH12	1:B:1271:TYR:HB3	1.78	0.48
1:A:1579:ARG:CZ	1:A:1610:SER:OG	2.62	0.47
1:B:890:ILE:HG13	1:B:891:ASN:N	2.29	0.47
1:B:1589:GLN:HG2	1:B:1594:GLU:HG3	1.96	0.47
1:B:1611:TYR:CE1	1:B:1617:LEU:HD13	2.48	0.47
1:A:802:LYS:HD2	1:A:802:LYS:O	2.14	0.47
2:C:120:ARG:NH2	2:C:137:ILE:O	2.46	0.47
1:B:475:ILE:HD11	1:B:535:PHE:HD2	1.77	0.47
1:B:670:PHE:CD2	1:B:681:LEU:HD12	2.49	0.47
1:B:1581:ARG:O	1:B:1584:LEU:HG	2.13	0.47
1:A:706:GLN:C	1:A:708:PRO:HD3	2.40	0.47
1:A:1076:HIS:CE1	1:A:1082:LEU:HD11	2.49	0.47
1:B:1051:ILE:HD13	1:B:1118:LEU:HD21	1.96	0.47
1:B:1132:GLU:O	1:B:1136:THR:HG23	2.15	0.47
3:F:45:MET:HE1	3:F:50:PRO:HB3	1.95	0.47
1:A:1175:LEU:HA	1:A:1178:ILE:HG12	1.96	0.47
1:A:1529:ILE:HD13	1:A:1611:TYR:CZ	2.48	0.47
1:B:1029:SER:O	1:B:1032:LYS:HB3	2.14	0.47
1:B:1572:GLU:O	1:B:1576:LEU:HG	2.14	0.47
2:D:4:ILE:HD12	2:D:4:ILE:H	1.79	0.47
1:A:303:ILE:HG21	1:A:1511:ASN:OD1	2.13	0.47
1:A:487:GLY:N	1:A:492:CYS:SG	2.87	0.47
1:A:687:LYS:HG2	1:A:688:PRO:HD2	1.95	0.47
1:A:900:VAL:HG23	1:A:912:LEU:CD2	2.45	0.47
1:A:1170:PHE:CZ	1:A:1174:LEU:HD11	2.49	0.47
1:B:908:LEU:HD12	1:B:911:TYR:CD2	2.49	0.47
1:B:1017:PRO:O	1:B:1021:ARG:HG3	2.14	0.47
3:F:87:PRO:CD	3:F:134:GLN:NE2	2.77	0.47
1:A:1428:GLY:O	1:A:1433:MET:HG3	2.13	0.47
1:A:1599:MET:SD	1:A:1603:LEU:HD23	2.55	0.47
1:B:995:HIS:HB3	1:B:1042:PHE:CZ	2.50	0.47
1:B:1004:ALA:O	1:B:1008:HIS:ND1	2.44	0.47
1:B:1061:VAL:O	1:B:1064:GLU:HG3	2.14	0.47
1:B:1063:ALA:O	1:B:1067:PHE:CD2	2.67	0.47
1:B:1275:ASP:H	1:B:1278:GLU:CG	2.27	0.47
1:B:1752:VAL:HG11	1:B:1758:ARG:HD3	1.96	0.47
1:B:1811:ASN:O	1:B:1831:ALA:N	2.38	0.47
2:D:158:SER:O	2:D:162:GLN:N	2.43	0.47
1:A:373:ASP:HA	1:A:419:LEU:HD21	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:767:ARG:HD3	1:A:826:LEU:HA	1.97	0.47
1:A:1484:TYR:O	1:A:1535:LEU:HD11	2.14	0.47
1:A:1551:LEU:HA	1:A:1554:ILE:HG12	1.97	0.47
1:B:1040:ARG:HA	1:B:1043:ILE:HG22	1.97	0.47
1:B:1726:TYR:CZ	1:B:1734:LYS:HE2	2.50	0.47
1:B:2001:ASN:OD1	1:B:2005:ILE:HG23	2.15	0.47
1:B:1162:LYS:O	1:B:1166:LEU:HD23	2.15	0.47
1:B:1272:ASN:HB3	1:B:1273:ARG:NH2	2.29	0.47
2:D:117:ILE:HG21	2:D:156:GLU:HB2	1.97	0.47
3:F:149:LEU:O	3:F:150:LYS:HB3	2.13	0.47
1:A:986:ARG:HE	1:A:1039:ASP:HA	1.80	0.47
1:A:1742:LEU:HB2	1:B:1739:TYR:CE1	2.49	0.47
3:E:11:ASP:O	3:E:16:LYS:NZ	2.48	0.47
3:F:11:ASP:O	3:F:14:VAL:HG22	2.15	0.47
1:A:929:GLN:OE1	1:A:929:GLN:N	2.45	0.47
1:A:1938:VAL:O	1:A:1938:VAL:HG13	2.15	0.47
1:B:336:ASN:O	1:B:339:SER:OG	2.27	0.47
1:B:493:ALA:HB1	1:B:497:ILE:HD12	1.96	0.47
1:B:1040:ARG:O	1:B:1043:ILE:HG22	2.15	0.47
1:B:1332:ILE:HD11	1:B:1397:GLU:OE1	2.15	0.47
1:B:1955:VAL:HG22	2:D:38:ASP:OD2	2.15	0.47
1:B:2005:ILE:HG21	1:B:2013:HIS:HB2	1.97	0.47
1:A:670:PHE:CE2	1:A:681:LEU:HD12	2.50	0.46
1:A:913:ARG:HB2	1:A:913:ARG:NH1	2.31	0.46
1:A:1184:ARG:O	1:A:1188:TYR:CD1	2.68	0.46
1:B:520:LEU:HD11	1:B:739:ILE:CD1	2.40	0.46
1:B:687:LYS:HG2	1:B:688:PRO:HD2	1.95	0.46
1:B:904:HIS:CD2	1:B:909:ASP:OD1	2.68	0.46
1:B:1080:ILE:HD11	1:B:1148:HIS:HD2	1.76	0.46
1:B:1274:LEU:HB3	1:B:1278:GLU:HG3	1.96	0.46
1:B:1526:LEU:HD11	1:B:1683:ALA:CB	2.45	0.46
1:A:1110:CYS:SG	1:A:1121:ARG:NE	2.87	0.46
1:B:120:GLU:O	1:B:123:SER:OG	2.19	0.46
1:B:986:ARG:HE	1:B:1039:ASP:HA	1.79	0.46
1:B:1167:TYR:C	1:B:1169:PRO:HD2	2.40	0.46
1:A:430:GLY:O	1:A:433:THR:N	2.49	0.46
1:A:872:LEU:HD23	1:A:872:LEU:O	2.14	0.46
1:A:1850:ARG:NH1	1:A:1855:GLU:O	2.32	0.46
3:E:17:THR:N	6:E:500:HOH:O	2.48	0.46
1:B:665:ALA:HB2	1:B:701:VAL:HG21	1.96	0.46
1:B:1051:ILE:CD1	1:B:1118:LEU:HD21	2.44	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1450:GLU:OE1	1:B:1450:GLU:N	2.45	0.46
1:B:1575:ASP:OD1	1:B:1579:ARG:CD	2.64	0.46
1:B:1938:VAL:O	1:B:1938:VAL:HG13	2.16	0.46
3:F:9:VAL:HG12	3:F:58:THR:HG21	1.97	0.46
3:F:23:TYR:N	3:F:165:LEU:HD21	2.30	0.46
3:F:98:VAL:N	3:F:99:PRO:CD	2.78	0.46
1:A:88:VAL:HG21	1:A:105:ILE:HG23	1.97	0.46
1:A:520:LEU:CD1	1:A:739:ILE:HD13	2.42	0.46
1:A:1598:GLU:OE1	1:A:1598:GLU:N	2.40	0.46
3:E:53:LEU:HG	3:E:55:LEU:CD2	2.45	0.46
1:A:42:PRO:HB3	1:A:1044:PHE:HB3	1.97	0.46
2:C:74:GLN:O	2:C:74:GLN:CG	2.63	0.46
1:B:382:ILE:HD12	1:B:391:THR:HG23	1.98	0.46
1:B:1293:ILE:HG23	1:B:1298:LEU:HD11	1.97	0.46
1:B:1328:GLY:O	1:B:1332:ILE:N	2.33	0.46
1:B:1551:LEU:HA	1:B:1554:ILE:HG12	1.97	0.46
1:B:1809:THR:O	1:B:1812:VAL:HG12	2.16	0.46
1:B:1866:GLU:OE1	2:D:33:VAL:HG23	2.15	0.46
3:F:46:ILE:HD11	3:F:173:ILE:HG21	1.96	0.46
1:A:374:LEU:HD12	1:A:374:LEU:O	2.15	0.46
1:A:756:GLY:HA2	1:A:778:SER:O	2.16	0.46
1:A:893:THR:HG21	1:A:940:THR:HB	1.98	0.46
1:A:1507:LEU:O	1:A:1511:ASN:ND2	2.49	0.46
1:A:1875:LYS:NZ	2:C:32:TYR:O	2.36	0.46
1:B:1280:ARG:HA	1:B:1280:ARG:NE	2.30	0.46
1:B:1922:ILE:O	1:B:1926:THR:HG23	2.16	0.46
1:A:1123:THR:HG22	1:A:1137:ALA:HB1	1.98	0.46
2:C:85:VAL:HG12	2:C:136:PRO:HB3	1.97	0.46
1:B:365:LYS:HB3	1:B:468:VAL:HG13	1.97	0.46
1:B:430:GLY:O	1:B:431:SER:C	2.59	0.46
1:B:933:ILE:HD12	1:B:933:ILE:H	1.81	0.46
1:B:1498:ARG:NE	1:B:1546:ARG:HD2	2.31	0.46
1:B:1522:LEU:HD13	1:B:1680:LYS:HE3	1.96	0.46
1:B:1953:VAL:HG21	1:B:1958:GLY:HA2	1.97	0.46
1:A:40:VAL:HG21	1:A:1110:CYS:HB3	1.98	0.46
1:A:493:ALA:HB1	1:A:497:ILE:HD12	1.96	0.46
1:A:1073:ILE:HD12	1:A:1115:LEU:HD22	1.97	0.46
1:A:1782:TYR:HB3	1:A:1901:ARG:HB2	1.97	0.46
1:B:88:VAL:HG21	1:B:105:ILE:HG23	1.97	0.46
1:B:1292:MET:SD	1:B:1292:MET:N	2.88	0.46
1:B:1579:ARG:HE	1:B:1610:SER:HA	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1629:HIS:O	1:B:1633:GLY:N	2.49	0.46
1:A:382:ILE:HD11	1:A:393:VAL:CA	2.44	0.46
1:A:862:GLN:HG2	1:A:863:VAL:N	2.31	0.46
1:A:1328:GLY:O	1:A:1332:ILE:HG22	2.15	0.46
1:B:1483:CYS:O	1:B:1486:VAL:HG12	2.15	0.46
1:B:1507:LEU:O	1:B:1511:ASN:ND2	2.49	0.46
1:B:1634:ASP:HB3	1:B:1637:GLU:OE2	2.16	0.46
1:B:1783:ILE:CD1	1:B:1889:LEU:HD11	2.39	0.46
1:A:430:GLY:O	1:A:431:SER:C	2.59	0.46
1:A:998:LEU:O	1:A:1001:LEU:HG	2.17	0.46
1:A:1021:ARG:HD2	1:A:1065:TYR:CE2	2.51	0.46
1:A:1164:ALA:HB1	1:A:1293:ILE:HG23	1.97	0.46
2:C:4:ILE:HD12	2:C:4:ILE:H	1.80	0.46
1:B:896:LEU:O	1:B:900:VAL:HG12	2.16	0.46
1:A:1634:ASP:OD1	1:A:1637:GLU:CD	2.58	0.45
1:A:1822:ASN:ND2	1:A:1825:GLU:OE2	2.50	0.45
1:A:1918:ALA:HB1	1:A:1962:TYR:CD1	2.51	0.45
3:E:20:LEU:HD21	3:E:55:LEU:HD12	1.98	0.45
1:B:998:LEU:O	1:B:1001:LEU:HG	2.16	0.45
1:B:1652:PHE:CE1	1:B:1685:MET:SD	3.09	0.45
1:A:636:PHE:CE1	1:A:866:GLN:NE2	2.84	0.45
1:A:1283:LEU:O	1:A:1287:LEU:CD1	2.64	0.45
1:A:1329:LYS:HA	1:A:1332:ILE:HG22	1.98	0.45
2:C:23:TYR:HB2	2:C:165:LEU:HD21	1.98	0.45
1:B:117:TYR:HB2	1:B:120:GLU:HG2	1.97	0.45
1:B:374:LEU:HD12	1:B:374:LEU:O	2.16	0.45
1:B:564:ILE:HA	1:B:567:LEU:CD2	2.45	0.45
1:B:1526:LEU:HD11	1:B:1683:ALA:HB1	1.98	0.45
1:B:1841:TYR:O	1:B:1842:PHE:HD1	1.99	0.45
1:A:671:ARG:NH1	1:A:678:ALA:O	2.49	0.45
2:C:10:GLY:O	2:C:11:ASP:CG	2.59	0.45
2:C:72:TYR:N	2:C:73:PRO:HD2	2.32	0.45
1:B:662:ARG:NH2	1:B:704:HIS:O	2.49	0.45
1:B:799:VAL:HG12	1:B:801:ILE:HG13	1.97	0.45
1:B:1656:LYS:HE3	1:B:1658:LEU:HD12	1.98	0.45
1:B:1695:LEU:O	1:B:1699:LEU:HG	2.15	0.45
1:B:1996:ILE:HA	1:B:1999:GLU:HG2	1.98	0.45
1:A:1080:ILE:HB	1:A:1081:PRO:HD3	1.98	0.45
2:C:65:ASP:OD2	2:C:96:LYS:NZ	2.49	0.45
1:B:779:ALA:HB3	1:B:802:LYS:HD2	1.99	0.45
1:B:945:LEU:HB3	1:B:1004:ALA:HB1	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1066:LYS:HZ3	1:B:1122:GLU:HG2	1.81	0.45
1:B:1289:ILE:O	1:B:1293:ILE:HG22	2.16	0.45
1:B:1616:GLU:O	1:B:1619:LYS:CG	2.64	0.45
1:B:1774:PHE:O	1:B:1775:GLU:HG2	2.17	0.45
1:A:941:MET:CE	1:A:964:PHE:CD2	2.99	0.45
1:A:1327:MET:HE3	1:A:1332:ILE:HG13	1.99	0.45
1:A:1953:VAL:HG11	2:C:36:VAL:O	2.17	0.45
3:E:111:LEU:CD1	3:E:171:GLU:OE2	2.64	0.45
1:B:756:GLY:HA2	1:B:779:ALA:HA	1.98	0.45
1:B:1080:ILE:HB	1:B:1081:PRO:HD3	1.98	0.45
1:B:1512:ASN:HD21	1:B:1523:ARG:HG2	1.82	0.45
1:B:1886:ARG:NE	1:B:1912:LEU:HD11	2.31	0.45
1:B:2031:ILE:HD12	1:B:2035:ILE:HD11	1.97	0.45
1:A:1441:LEU:HD12	1:A:1485:GLU:HB3	1.99	0.45
1:A:1877:GLY:N	1:A:1882:GLN:OE1	2.50	0.45
1:A:1891:THR:HG21	1:A:1902:ILE:HD12	1.99	0.45
1:B:1120:LEU:CD1	1:B:1169:PRO:HB2	2.47	0.45
1:B:1512:ASN:HD22	1:B:1521:PHE:HB2	1.81	0.45
1:B:1583:VAL:HA	1:B:1607:LEU:CD1	2.47	0.45
1:A:1696:LEU:HD21	1:A:1725:ILE:HG21	1.98	0.45
1:A:1789:LEU:O	1:A:1789:LEU:HG	2.17	0.45
1:A:1945:LEU:HD12	2:C:56:PHE:CD2	2.52	0.45
2:C:16:LYS:HG3	2:C:17:THR:N	2.31	0.45
1:B:684:ILE:HG22	1:B:694:THR:O	2.17	0.45
2:D:10:GLY:O	2:D:11:ASP:CG	2.60	0.45
1:A:779:ALA:HB3	1:A:802:LYS:HD2	1.98	0.45
1:A:1535:LEU:CB	1:A:1541:LEU:HD11	2.47	0.45
1:B:904:HIS:HE1	1:B:960:TYR:HB3	1.82	0.45
1:B:1024:ASN:O	1:B:1027:LEU:HG	2.17	0.45
1:B:1046:LEU:O	1:B:1049:ASP:OD1	2.34	0.45
1:B:1170:PHE:O	1:B:1174:LEU:HD13	2.17	0.45
1:B:1433:MET:HA	1:B:1433:MET:HE2	1.99	0.45
1:B:1666:PHE:CE1	1:B:1721:LEU:HD22	2.51	0.45
2:D:72:TYR:N	2:D:73:PRO:HD2	2.31	0.45
1:A:945:LEU:HB3	1:A:1004:ALA:HB1	1.99	0.45
1:A:966:GLU:OE2	1:A:1033:ARG:NH2	2.49	0.45
1:A:1019:GLU:OE1	1:A:1019:GLU:N	2.40	0.45
3:E:46:ILE:HB	3:E:51:TYR:CD2	2.52	0.45
1:A:346:ARG:NE	1:A:347:LEU:O	2.50	0.45
1:A:1275:ASP:HB3	1:A:1278:GLU:OE1	2.16	0.45
1:A:1581:ARG:O	1:A:1584:LEU:HG	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2001:ASN:OD1	1:A:2005:ILE:HG23	2.17	0.45
1:B:927:ALA:HB1	1:B:929:GLN:OE1	2.17	0.45
1:B:1074:CYS:HA	1:B:1079:TYR:CD1	2.52	0.45
1:B:1120:LEU:O	1:B:1123:THR:OG1	2.29	0.45
1:B:1846:GLU:O	1:B:1850:ARG:N	2.32	0.45
1:B:1945:LEU:HG	2:D:56:PHE:CZ	2.52	0.45
1:A:115:VAL:HG23	1:A:115:VAL:O	2.17	0.44
1:A:1132:GLU:OE1	1:A:1132:GLU:N	2.44	0.44
1:A:1626:ALA:CB	1:A:1642:TYR:HE1	2.30	0.44
1:B:526:PRO:HB3	1:B:554:GLN:OE1	2.16	0.44
1:B:1044:PHE:O	1:B:1047:ILE:HG12	2.17	0.44
1:B:1616:GLU:O	1:B:1619:LYS:HG2	2.16	0.44
1:A:71:ASP:OD1	1:A:72:ILE:N	2.50	0.44
1:A:330:ARG:NE	1:A:1410:ASP:OD1	2.43	0.44
1:A:375:THR:OG1	1:A:585:GLN:NE2	2.45	0.44
1:A:1393:GLN:HG2	1:A:1397:GLU:OE2	2.18	0.44
1:A:1396:LEU:O	1:A:1400:THR:HG23	2.17	0.44
1:A:1955:VAL:HG22	2:C:38:ASP:OD2	2.17	0.44
1:B:119:TYR:O	1:B:1077:GLU:HG2	2.17	0.44
1:B:424:VAL:HG13	1:B:427:MET:CE	2.47	0.44
1:B:1070:LEU:HB3	1:B:1119:LEU:HD21	1.98	0.44
3:F:80:VAL:HG12	3:F:93:VAL:HG22	1.99	0.44
1:A:520:LEU:HD11	1:A:739:ILE:CD1	2.43	0.44
1:A:539:GLN:OE1	1:A:541:SER:OG	2.34	0.44
1:A:1850:ARG:NH1	1:A:1858:HIS:O	2.40	0.44
1:B:142:HIS:CD2	1:B:1399:ASN:OD1	2.70	0.44
1:B:1274:LEU:HD21	1:B:1282:LEU:HD22	1.99	0.44
1:A:1402:THR:O	1:A:1405:SER:OG	2.28	0.44
1:A:1669:ILE:HG23	1:A:1714:ILE:CG2	2.45	0.44
1:B:346:ARG:NE	1:B:347:LEU:O	2.51	0.44
1:B:1137:ALA:O	1:B:1140:VAL:HG12	2.17	0.44
1:B:1575:ASP:OD1	1:B:1579:ARG:HD2	2.18	0.44
1:B:1580:ILE:HA	1:B:1583:VAL:HG22	1.99	0.44
1:B:1765:ARG:CZ	1:B:1904:ILE:HD13	2.47	0.44
1:A:1321:LEU:HD12	1:A:1439:ILE:CD1	2.44	0.44
1:A:1528:ILE:HG13	1:A:1529:ILE:N	2.33	0.44
1:A:1747:THR:O	1:A:1750:LEU:HG	2.17	0.44
1:B:72:ILE:HD11	1:B:115:VAL:HG12	1.99	0.44
1:B:825:ASP:HB3	1:B:828:VAL:HG12	2.00	0.44
1:B:1645:VAL:HG22	1:B:1698:LEU:HD21	1.99	0.44
1:B:1912:LEU:HD13	1:B:1920:ASP:OD2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:933:ILE:HD12	1:A:933:ILE:H	1.81	0.44
1:A:1789:LEU:O	1:A:1790:THR:C	2.57	0.44
2:C:21:ILE:HG21	2:C:32:TYR:CD1	2.52	0.44
1:B:621:GLU:O	1:B:621:GLU:HG2	2.16	0.44
1:B:658:PHE:HE2	1:B:804:VAL:HG22	1.82	0.44
1:B:1774:PHE:CZ	1:B:1831:ALA:HB1	2.53	0.44
1:B:1792:LEU:HD21	2:D:28:PHE:CE1	2.53	0.44
1:A:74:ILE:HG22	1:A:977:LEU:HD21	2.00	0.44
1:A:662:ARG:NH1	1:A:706:GLN:HG3	2.33	0.44
1:A:732:PHE:HD2	1:A:777:VAL:HG13	1.83	0.44
1:A:1739:TYR:HA	1:B:1739:TYR:CZ	2.53	0.44
1:A:1886:ARG:O	1:A:1910:ILE:HG22	2.18	0.44
1:A:2024:VAL:HG11	1:A:2036:LEU:HB2	2.00	0.44
1:B:430:GLY:O	1:B:433:THR:N	2.50	0.44
1:B:1016:ILE:HG22	1:B:1019:GLU:HB2	1.99	0.44
1:B:1118:LEU:O	1:B:1122:GLU:OE1	2.35	0.44
1:B:1183:GLY:HA2	1:B:1273:ARG:CZ	2.48	0.44
1:A:602:THR:HG1	1:A:606:VAL:H	1.66	0.44
1:A:972:MET:HE1	1:A:1030:PHE:CE1	2.52	0.44
1:A:1525:HIS:HD1	1:A:1576:LEU:HD21	1.83	0.44
1:A:2031:ILE:HD12	1:A:2035:ILE:HD11	2.00	0.44
1:B:1002:LEU:HD23	1:B:1050:TYR:HB2	1.99	0.44
1:A:475:ILE:HD11	1:A:535:PHE:HD2	1.81	0.44
1:A:599:ASN:OD1	1:A:612:GLU:N	2.39	0.44
1:A:603:SER:N	1:A:621:GLU:OE2	2.47	0.44
1:A:1385:THR:HG22	1:A:1390:ILE:HG13	2.00	0.44
2:C:8:VAL:HG22	2:C:16:LYS:CE	2.48	0.44
2:C:82:PHE:CE2	2:C:90:PHE:CE1	3.06	0.44
1:B:898:HIS:CE1	3:F:70:LEU:HD11	2.53	0.44
1:B:1127:LEU:CD2	1:B:1177:ASN:ND2	2.81	0.44
1:B:1143:ASN:O	1:B:1147:LYS:HE2	2.17	0.44
1:A:356:ILE:HD13	1:A:913:ARG:HG2	2.00	0.43
1:A:730:PHE:CE2	1:A:760:VAL:HG21	2.52	0.43
1:A:1103:TYR:O	1:A:1169:PRO:HA	2.18	0.43
1:A:1137:ALA:O	1:A:1141:ILE:HG12	2.17	0.43
1:A:1446:ASN:O	1:A:1448:GLN:CD	2.61	0.43
1:A:1861:SER:O	1:A:1891:THR:HG22	2.18	0.43
1:B:71:ASP:OD1	1:B:72:ILE:N	2.51	0.43
1:B:1156:HIS:ND1	1:B:1159:GLN:OE1	2.50	0.43
1:B:1798:ARG:O	1:B:1802:LEU:HD23	2.18	0.43
1:A:732:PHE:HB2	1:A:756:GLY:O	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1038:MET:HE3	1:A:1039:ASP:H	1.81	0.43
1:A:1156:HIS:ND1	1:A:1159:GLN:OE1	2.50	0.43
1:A:1575:ASP:OD1	1:A:1579:ARG:CD	2.67	0.43
3:E:89:SER:O	3:E:93:VAL:HG23	2.19	0.43
1:B:304:MET:SD	1:B:304:MET:C	3.01	0.43
1:B:374:LEU:HD21	1:B:398:ILE:HD11	2.00	0.43
1:B:380:GLY:N	1:B:391:THR:O	2.42	0.43
1:B:539:GLN:OE1	1:B:541:SER:OG	2.34	0.43
2:D:111:LEU:HD23	2:D:111:LEU:H	1.83	0.43
1:A:652:TYR:CD1	1:A:664:ILE:HD12	2.54	0.43
1:B:873:MET:HE1	1:B:921:ARG:O	2.18	0.43
1:B:1287:LEU:HA	1:B:1290:VAL:HG22	2.00	0.43
3:F:73:PRO:O	3:F:74:GLN:HB2	2.18	0.43
3:F:171:GLU:HA	3:F:174:LEU:HD12	2.00	0.43
1:B:77:ILE:O	1:B:77:ILE:HG13	2.18	0.43
1:B:831:PHE:C	1:B:831:PHE:CD2	2.96	0.43
1:B:904:HIS:HD2	1:B:909:ASP:OD1	2.01	0.43
1:B:1133:ILE:O	1:B:1136:THR:OG1	2.31	0.43
1:B:1448:GLN:HB3	1:B:1452:SER:OG	2.17	0.43
1:B:1652:PHE:CZ	1:B:1688:VAL:HG21	2.54	0.43
1:A:45:TYR:HA	1:A:48:VAL:HG22	2.01	0.43
1:A:862:GLN:O	1:A:866:GLN:HG2	2.19	0.43
1:A:1954:GLN:HB3	2:C:59:ALA:HB2	1.99	0.43
1:B:1513:PHE:O	1:B:1516:THR:OG1	2.36	0.43
1:B:1526:LEU:HD21	1:B:1613:SER:HB2	2.01	0.43
1:B:1753:MET:HE3	1:B:1753:MET:HA	2.00	0.43
1:B:1939:ASP:OD1	1:B:1939:ASP:N	2.51	0.43
1:A:148:GLU:OE1	1:A:1494:ILE:HG12	2.18	0.43
1:A:621:GLU:HG2	1:A:621:GLU:O	2.18	0.43
1:A:760:VAL:CG2	1:A:775:LEU:HD22	2.49	0.43
1:A:1733:GLU:O	1:A:1736:THR:OG1	2.30	0.43
3:E:23:TYR:N	3:E:165:LEU:HD21	2.34	0.43
1:B:392:ASN:HB3	1:B:396:PHE:CE2	2.53	0.43
1:B:453:ILE:HD11	1:B:607:PRO:HD3	2.00	0.43
1:B:779:ALA:HB2	1:B:804:VAL:HG23	2.00	0.43
1:B:1758:ARG:NE	1:B:1854:PHE:HD1	2.16	0.43
1:A:1536:ILE:HG12	1:A:1587:THR:CB	2.49	0.43
1:A:2015:GLY:O	1:A:2018:SER:OG	2.29	0.43
1:B:646:TYR:CD2	1:B:648:LEU:HD23	2.53	0.43
1:B:908:LEU:HD13	1:B:908:LEU:HA	1.82	0.43
1:B:972:MET:SD	1:B:990:PHE:CZ	3.12	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1021:ARG:CB	1:B:1065:TYR:HE2	2.32	0.43
1:B:1134:ARG:O	1:B:1138:ILE:HG23	2.19	0.43
1:B:1535:LEU:HB3	1:B:1541:LEU:HD11	1.99	0.43
1:B:1963:ALA:CB	1:B:1967:LEU:HD12	2.49	0.43
3:F:7:VAL:HG22	3:F:56:PHE:HB2	2.01	0.43
1:A:1075:ASN:HA	1:A:1147:LYS:HZ3	1.84	0.43
1:A:1077:GLU:O	1:A:1153:ARG:NH2	2.43	0.43
1:A:1739:TYR:HA	1:B:1739:TYR:HH	1.82	0.43
1:A:1821:VAL:HG11	1:A:1826:LEU:HD11	2.00	0.43
1:A:2028:SER:N	1:A:2035:ILE:HD12	2.34	0.43
1:B:1522:LEU:HD12	1:B:1682:ASP:O	2.18	0.43
1:B:2015:GLY:O	1:B:2018:SER:OG	2.34	0.43
1:A:43:LEU:HD11	1:A:1111:LYS:HG2	2.01	0.43
1:A:665:ALA:HB2	1:A:701:VAL:HG21	2.01	0.43
1:A:779:ALA:HB3	1:A:802:LYS:O	2.19	0.43
1:A:1960:LEU:HD11	1:A:2026:GLU:OE1	2.18	0.43
1:B:1138:ILE:HD12	1:B:1278:GLU:HA	2.00	0.43
1:B:1138:ILE:CG2	1:B:1282:LEU:HD11	2.49	0.43
1:A:450:ILE:HD13	1:A:692:VAL:HG11	2.01	0.43
2:C:90:PHE:CE1	2:C:137:ILE:HG13	2.53	0.43
3:E:129:LEU:HD22	3:E:134:GLN:CG	2.49	0.43
3:E:129:LEU:HD22	3:E:134:GLN:CD	2.44	0.43
1:B:361:GLU:O	1:B:361:GLU:HG2	2.19	0.43
1:B:1288:TYR:CD2	1:B:1292:MET:HE1	2.54	0.43
1:B:1961:ALA:HA	1:B:1964:ARG:HG2	2.01	0.43
1:B:1981:SER:O	1:B:1984:LYS:HG2	2.19	0.43
2:D:8:VAL:O	2:D:8:VAL:HG13	2.18	0.43
2:D:65:ASP:O	2:D:69:PRO:HD3	2.19	0.43
1:A:993:THR:HG23	1:A:994:TYR:N	2.34	0.42
1:A:1541:LEU:O	1:A:1547:PHE:CE2	2.71	0.42
1:A:1547:PHE:HA	1:A:1550:SER:OG	2.19	0.42
1:A:1607:LEU:CD2	1:A:1611:TYR:CE2	3.02	0.42
1:B:474:GLU:N	1:B:474:GLU:OE1	2.52	0.42
1:B:1822:ASN:ND2	1:B:1825:GLU:OE2	2.52	0.42
1:B:1932:LEU:HD13	1:B:1946:LYS:CE	2.49	0.42
1:A:817:LEU:HD23	1:A:817:LEU:H	1.84	0.42
1:A:962:TRP:HB3	1:A:1026:SER:OG	2.19	0.42
1:A:1926:THR:HG23	1:A:1990:PHE:HA	2.00	0.42
2:C:44:VAL:O	2:C:51:TYR:N	2.53	0.42
2:C:138:THR:OG1	2:C:139:PRO:HD2	2.19	0.42
1:B:72:ILE:HD13	1:B:117:TYR:CE2	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:72:ILE:HD12	1:B:116:ASN:O	2.18	0.42
1:B:469:THR:HG23	1:B:624:GLU:OE2	2.19	0.42
1:B:932:LEU:HD13	1:B:934:HIS:CE1	2.53	0.42
1:B:1123:THR:HG22	1:B:1137:ALA:HB1	2.00	0.42
1:B:1423:LEU:HB3	1:B:1433:MET:CE	2.49	0.42
1:B:1442:ALA:HA	1:B:1445:LYS:HG2	2.00	0.42
1:B:1813:LYS:O	1:B:1832:HIS:HA	2.19	0.42
2:D:119:LEU:O	2:D:122:ASP:OD1	2.37	0.42
1:A:908:LEU:HD12	1:A:911:TYR:CE2	2.54	0.42
1:A:1113:HIS:O	1:A:1114:PHE:C	2.62	0.42
1:A:1178:ILE:HG13	1:A:1312:ASN:HB3	2.01	0.42
1:B:40:VAL:HG21	1:B:1110:CYS:CB	2.45	0.42
1:B:40:VAL:HG11	1:B:1110:CYS:O	2.19	0.42
1:B:45:TYR:HA	1:B:48:VAL:HG22	2.02	0.42
1:B:126:PHE:HA	1:B:129:LEU:HD23	2.02	0.42
1:B:666:VAL:HG13	1:B:732:PHE:CD1	2.53	0.42
1:A:696:ASN:C	1:A:696:ASN:ND2	2.75	0.42
1:A:900:VAL:HG21	1:A:963:PHE:CD1	2.53	0.42
1:A:998:LEU:HD23	1:A:1001:LEU:HD21	2.02	0.42
1:A:1185:ASP:HA	1:A:1188:TYR:CE1	2.55	0.42
3:E:90:PHE:CZ	3:E:145:LEU:HD22	2.54	0.42
1:B:50:ALA:HA	1:B:53:LYS:HG2	2.02	0.42
1:B:1032:LYS:NZ	1:B:1076:HIS:N	2.68	0.42
1:B:1869:TYR:OH	1:B:1911:ASN:OD1	2.34	0.42
1:A:893:THR:HG21	1:A:940:THR:CB	2.50	0.42
1:A:969:ALA:HA	1:A:972:MET:HE2	2.01	0.42
1:A:1110:CYS:O	1:A:1114:PHE:HA	2.20	0.42
1:A:1942:GLN:CD	2:C:3:THR:HG21	2.44	0.42
1:B:62:ARG:HB2	1:B:66:MET:HG2	2.00	0.42
1:B:662:ARG:NH1	1:B:706:GLN:HG3	2.34	0.42
1:B:760:VAL:CG2	1:B:775:LEU:HD22	2.49	0.42
1:B:942:ILE:HG22	1:B:1001:LEU:HB3	2.00	0.42
1:B:1781:GLU:OE1	1:B:1781:GLU:N	2.52	0.42
1:B:2028:SER:N	1:B:2035:ILE:HD12	2.33	0.42
2:D:68:ARG:HB3	2:D:69:PRO:HD3	2.02	0.42
2:D:98:VAL:N	2:D:99:PRO:CD	2.82	0.42
1:A:77:ILE:HD13	1:A:918:TYR:HE1	1.84	0.42
1:A:83:THR:HA	1:A:608:LEU:HA	2.02	0.42
1:A:1989:LYS:O	1:A:1992:GLN:HG3	2.20	0.42
1:B:472:HIS:CE1	1:B:475:ILE:HG23	2.55	0.42
1:B:1640:MET:SD	1:B:1897:TYR:HA	2.59	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:93:VAL:HA	2:D:97:TRP:HB2	2.00	0.42
1:A:461:ILE:HG23	1:A:618:ILE:O	2.20	0.42
1:A:758:ALA:HB1	1:A:775:LEU:CD2	2.50	0.42
1:A:1127:LEU:HD12	1:A:1173:LEU:HD11	2.02	0.42
1:A:1859:ASN:C	1:A:1894:SER:OG	2.62	0.42
1:B:1001:LEU:O	1:B:1005:ILE:HD12	2.20	0.42
1:B:1702:CYS:O	1:B:1706:LEU:HD23	2.19	0.42
3:F:57:ASP:OD1	3:F:58:THR:N	2.52	0.42
1:A:374:LEU:HD21	1:A:398:ILE:HD11	2.00	0.42
1:A:856:LEU:O	1:A:859:MET:HG2	2.19	0.42
1:A:1170:PHE:O	1:A:1174:LEU:HD13	2.19	0.42
1:A:1326:TYR:CE2	1:A:1328:GLY:HA2	2.55	0.42
1:A:1446:ASN:O	1:A:1446:ASN:OD1	2.37	0.42
1:A:2010:VAL:O	1:A:2014:GLU:OE1	2.37	0.42
1:B:395:PRO:HB3	1:B:428:LEU:HD23	2.02	0.42
1:B:963:PHE:CZ	1:B:964:PHE:CZ	3.07	0.42
1:B:1002:LEU:CD2	1:B:1046:LEU:HD12	2.50	0.42
1:B:1048:ASN:O	1:B:1051:ILE:HG12	2.20	0.42
1:B:1051:ILE:HD12	1:B:1118:LEU:HD11	2.01	0.42
1:A:117:TYR:HB2	1:A:120:GLU:HG3	2.02	0.42
1:A:125:ASP:C	1:A:125:ASP:OD1	2.63	0.42
1:A:382:ILE:HD11	1:A:392:ASN:O	2.19	0.42
1:A:900:VAL:HG13	1:A:901:SER:N	2.35	0.42
1:A:976:LEU:HD11	1:A:989:ARG:HD3	2.01	0.42
1:A:1039:ASP:O	1:A:1043:ILE:HG12	2.20	0.42
1:A:1939:ASP:OD1	1:A:1939:ASP:N	2.52	0.42
1:B:307:LEU:HD21	1:B:318:TYR:HB2	2.01	0.42
1:B:756:GLY:HA2	1:B:778:SER:O	2.20	0.42
1:B:1280:ARG:CZ	1:B:1323:HIS:HB3	2.49	0.42
1:B:1293:ILE:HG23	1:B:1298:LEU:CD1	2.50	0.42
1:B:1548:GLN:C	1:B:1548:GLN:OE1	2.63	0.42
3:F:38:ASP:HB3	3:F:40:TYR:CE1	2.55	0.42
1:A:148:GLU:OE1	1:A:1493:LYS:HB3	2.19	0.42
1:A:1046:LEU:O	1:A:1049:ASP:OD1	2.38	0.42
1:A:1596:ASP:OD2	1:A:1599:MET:HE3	2.20	0.42
1:B:900:VAL:HG13	1:B:901:SER:N	2.35	0.42
1:B:976:LEU:HD11	1:B:989:ARG:HD3	2.02	0.42
1:B:1767:ALA:HB3	1:B:1834:GLN:HB3	2.02	0.42
1:B:1967:LEU:HD11	1:B:1987:PHE:CE2	2.55	0.42
3:F:5:LYS:HE2	3:F:75:THR:OG1	2.20	0.42
1:A:648:LEU:HD12	1:A:772:GLU:OE1	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:816:HIS:O	1:A:818:GLU:OE1	2.38	0.41
1:A:882:MET:SD	1:A:885:GLU:HG2	2.60	0.41
1:A:885:GLU:OE2	1:A:888:VAL:HG21	2.20	0.41
1:B:59:ASP:OD2	1:B:1086:MET:HE1	2.19	0.41
1:B:305:ALA:O	1:B:309:ARG:NE	2.53	0.41
1:B:1964:ARG:O	1:B:1968:ASN:ND2	2.53	0.41
2:D:89:SER:O	2:D:93:VAL:HG23	2.20	0.41
3:F:3:THR:HA	3:F:52:THR:O	2.20	0.41
1:A:382:ILE:CD1	1:A:392:ASN:O	2.68	0.41
1:A:392:ASN:HB3	1:A:396:PHE:CE2	2.55	0.41
1:A:1519:LYS:O	1:A:1520:THR:CG2	2.67	0.41
2:C:21:ILE:O	2:C:25:THR:OG1	2.18	0.41
1:B:1131:TYR:HD1	1:B:1134:ARG:NH2	2.18	0.41
1:B:1441:LEU:HD12	1:B:1485:GLU:HB3	2.01	0.41
1:B:1536:ILE:CD1	1:B:1541:LEU:HB2	2.49	0.41
1:B:1943:LEU:O	1:B:1947:LEU:HG	2.19	0.41
1:A:410:LYS:HZ2	1:A:713:GLU:HG2	1.85	0.41
1:A:672:ASP:OD1	1:A:726:HIS:CE1	2.74	0.41
1:A:825:ASP:OD1	1:A:826:LEU:N	2.53	0.41
1:A:896:LEU:HA	1:A:899:ILE:HG12	2.03	0.41
1:A:1005:ILE:HD12	1:A:1027:LEU:HD22	2.03	0.41
1:A:1151:ASP:N	1:A:1151:ASP:OD1	2.52	0.41
1:A:1788:LYS:HE3	2:C:45:MET:HE1	2.02	0.41
1:A:2005:ILE:HG21	1:A:2013:HIS:HB2	2.03	0.41
2:C:162:GLN:HG3	2:C:162:GLN:O	2.20	0.41
3:E:14:VAL:N	5:E:202:GTP:O2B	2.52	0.41
1:B:128:MET:O	1:B:128:MET:HG2	2.20	0.41
1:B:1069:PHE:O	1:B:1073:ILE:HG23	2.20	0.41
1:B:1104:SER:O	1:B:1106:SER:N	2.52	0.41
1:B:1282:LEU:HA	1:B:1285:CYS:SG	2.59	0.41
1:B:1731:GLU:O	1:B:1734:LYS:HG2	2.20	0.41
1:B:1870:THR:HG1	1:B:1874:LYS:H	1.67	0.41
1:B:1877:GLY:N	1:B:1882:GLN:OE1	2.54	0.41
1:A:616:GLN:OE1	1:A:616:GLN:N	2.43	0.41
1:A:782:PRO:O	1:A:785:TYR:HB3	2.21	0.41
1:A:1074:CYS:HA	1:A:1079:TYR:CE1	2.55	0.41
1:A:1137:ALA:O	1:A:1140:VAL:HG12	2.20	0.41
1:A:1575:ASP:OD1	1:A:1575:ASP:C	2.63	0.41
1:A:1783:ILE:O	1:A:1783:ILE:HG22	2.20	0.41
1:B:65:LEU:HD21	1:B:1086:MET:SD	2.60	0.41
1:B:468:VAL:HG13	1:B:468:VAL:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:788:LEU:HD21	1:B:803:TRP:HE1	1.85	0.41
1:B:826:LEU:HG	1:B:830:LYS:NZ	2.35	0.41
1:B:1726:TYR:HD2	1:B:1735:LEU:HD23	1.85	0.41
2:D:53:LEU:HD11	2:D:173:ILE:HD12	2.01	0.41
1:A:98:SER:O	1:A:101:VAL:HG22	2.21	0.41
1:A:1546:ARG:CZ	1:A:1547:PHE:CZ	3.03	0.41
1:A:1774:PHE:CZ	1:A:1831:ALA:HB1	2.55	0.41
1:B:671:ARG:NH1	1:B:678:ALA:O	2.53	0.41
1:B:732:PHE:HB2	1:B:756:GLY:O	2.20	0.41
1:B:1047:ILE:O	1:B:1051:ILE:HG12	2.20	0.41
1:B:1575:ASP:OD1	1:B:1575:ASP:C	2.63	0.41
1:B:1649:VAL:HG22	1:B:1695:LEU:HD11	2.02	0.41
1:A:828:VAL:HA	1:A:831:PHE:HE1	1.82	0.41
1:A:1009:VAL:HG21	1:A:1024:ASN:OD1	2.20	0.41
3:E:28:PHE:O	3:E:29:PRO:C	2.64	0.41
1:B:382:ILE:HD13	1:B:424:VAL:HG22	2.02	0.41
1:B:668:VAL:O	1:B:668:VAL:HG23	2.21	0.41
1:B:886:ASP:OD1	1:B:887:ASP:N	2.53	0.41
1:B:998:LEU:O	1:B:1002:LEU:HD13	2.21	0.41
1:B:1326:TYR:CE2	1:B:1328:GLY:HA2	2.54	0.41
1:B:1889:LEU:HA	1:B:1906:CYS:O	2.21	0.41
1:B:2019:ASN:O	1:B:2023:MET:HB2	2.21	0.41
2:D:5:LYS:HG3	2:D:56:PHE:CD1	2.56	0.41
1:A:72:ILE:HD13	1:A:117:TYR:CE2	2.56	0.41
1:A:560:SER:HG	1:A:563:ASP:CG	2.29	0.41
1:A:834:HIS:CD2	1:A:838:ILE:HD11	2.56	0.41
3:E:79:LEU:HD23	3:E:111:LEU:HB2	2.02	0.41
1:B:1183:GLY:O	1:B:1187:LEU:HB2	2.20	0.41
1:B:1437:PHE:O	1:B:1441:LEU:HD23	2.21	0.41
1:B:1501:ALA:O	1:B:1505:LEU:HD23	2.20	0.41
1:B:1769:TYR:HB3	1:B:1826:LEU:HD12	2.03	0.41
1:B:2027:LEU:HD23	1:B:2035:ILE:HD13	2.03	0.41
2:D:21:ILE:HG21	2:D:32:TYR:CD1	2.56	0.41
2:D:82:PHE:O	2:D:114:GLY:HA2	2.21	0.41
1:A:380:GLY:HA3	1:A:393:VAL:HG12	2.03	0.41
1:A:915:PHE:CD1	1:A:919:SER:OG	2.74	0.41
1:A:1074:CYS:SG	1:A:1119:LEU:HD11	2.61	0.41
1:A:1076:HIS:HB3	1:A:1079:TYR:HB2	2.03	0.41
1:A:1308:GLN:O	1:A:1311:ILE:HG22	2.21	0.41
1:A:1513:PHE:O	1:A:1516:THR:OG1	2.34	0.41
2:C:89:SER:O	2:C:93:VAL:HG23	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:301:GLU:OE2	1:B:309:ARG:NH1	2.53	0.41
1:B:1423:LEU:CD2	1:B:1433:MET:CE	2.97	0.41
1:B:1525:HIS:HE2	1:B:1579:ARG:NH1	2.19	0.41
1:B:1722:ILE:HG13	1:B:1723:VAL:N	2.34	0.41
1:B:1870:THR:OG1	1:B:1874:LYS:N	2.50	0.41
1:A:129:LEU:HD21	1:A:1147:LYS:HE3	2.02	0.41
1:A:395:PRO:HB3	1:A:428:LEU:HD23	2.03	0.41
1:A:756:GLY:HA2	1:A:779:ALA:HA	2.02	0.41
1:A:778:SER:OG	1:A:801:ILE:HG23	2.20	0.41
1:A:1328:GLY:O	1:A:1332:ILE:N	2.35	0.41
1:A:1573:VAL:HA	1:A:1576:LEU:HG	2.02	0.41
1:A:1580:ILE:O	1:A:1583:VAL:HG22	2.21	0.41
1:A:1768:PHE:CD2	1:A:1833:ILE:HG22	2.56	0.41
1:B:124:GLY:H	1:B:128:MET:HE2	1.86	0.41
1:B:758:ALA:HB1	1:B:775:LEU:CD2	2.51	0.41
1:B:1001:LEU:CD1	1:B:1002:LEU:HD12	2.51	0.41
1:B:1096:VAL:HG12	1:B:1097:GLN:N	2.36	0.41
1:B:1437:PHE:CE2	1:B:1482:PHE:HB2	2.56	0.41
1:B:1584:LEU:HD12	1:B:1585:MET:N	2.35	0.41
1:B:1751:GLU:O	1:B:1755:THR:HG23	2.21	0.41
1:B:1816:GLN:HA	2:D:28:PHE:CE2	2.55	0.41
1:A:361:GLU:O	1:A:361:GLU:HG2	2.19	0.41
1:A:854:LYS:HA	3:E:37:PHE:HE1	1.86	0.41
1:A:1844:ASP:OD1	1:A:1844:ASP:C	2.63	0.41
2:C:68:ARG:HB3	2:C:69:PRO:HD3	2.02	0.41
1:B:84:VAL:HG12	1:B:85:GLN:NE2	2.36	0.41
1:B:417:VAL:HG13	1:B:462:GLN:HA	2.03	0.41
1:B:686:GLY:HA3	1:B:694:THR:HG23	2.02	0.41
1:B:1317:LEU:HD22	1:B:1408:VAL:HG13	2.02	0.41
1:B:1321:LEU:HD11	1:B:1408:VAL:HG11	2.02	0.41
1:B:1722:ILE:HD11	1:B:1738:VAL:HG21	2.02	0.41
3:F:6:CYS:SG	3:F:79:LEU:CD1	3.08	0.41
1:A:72:ILE:HD13	1:A:117:TYR:CG	2.56	0.40
1:A:307:LEU:HD21	1:A:318:TYR:HB2	2.03	0.40
1:A:730:PHE:HE2	1:A:813:ILE:HD13	1.86	0.40
1:A:1432:LEU:O	1:A:1436:VAL:HG12	2.20	0.40
1:A:1446:ASN:O	1:A:1448:GLN:NE2	2.54	0.40
2:C:72:TYR:HE2	2:C:100:GLU:HG2	1.86	0.40
2:C:91:GLU:O	2:C:95:GLU:HG3	2.20	0.40
2:C:138:THR:HG23	2:C:141:THR:H	1.85	0.40
1:B:330:ARG:O	1:B:334:ARG:HD3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1033:ARG:O	1:B:1037:LEU:HD23	2.21	0.40
1:B:1127:LEU:HD12	1:B:1134:ARG:HD2	2.02	0.40
1:B:1509:MET:HE1	1:B:1569:PHE:CD1	2.56	0.40
1:B:1567:THR:O	1:B:1570:PRO:HD2	2.21	0.40
1:B:1850:ARG:CG	1:B:1855:GLU:OE1	2.70	0.40
1:A:72:ILE:HD12	1:A:116:ASN:C	2.47	0.40
1:A:994:TYR:OH	1:A:998:LEU:HD21	2.22	0.40
1:A:1983:LEU:HG	1:A:1987:PHE:CE2	2.56	0.40
1:B:1175:LEU:HA	1:B:1178:ILE:CG1	2.51	0.40
1:B:1327:MET:HE2	1:B:1327:MET:HA	2.03	0.40
1:B:1416:THR:HA	1:B:1423:LEU:HD11	2.02	0.40
1:B:1472:PHE:HB3	1:B:1523:ARG:NH1	2.36	0.40
1:B:1648:LEU:CD1	1:B:1679:MET:SD	3.09	0.40
1:B:1880:GLU:O	1:B:1914:PRO:HG2	2.22	0.40
2:D:113:VAL:HG22	2:D:155:VAL:HG22	2.02	0.40
3:F:7:VAL:HG23	3:F:75:THR:HG23	2.03	0.40
3:F:46:ILE:CD1	3:F:173:ILE:HG21	2.52	0.40
3:F:80:VAL:CG1	3:F:93:VAL:HG13	2.47	0.40
1:A:623:GLU:OE2	1:A:644:TYR:OH	2.40	0.40
1:A:857:HIS:O	1:A:898:HIS:NE2	2.54	0.40
1:A:1769:TYR:HB3	1:A:1826:LEU:HD12	2.03	0.40
1:A:1932:LEU:HD13	1:A:1946:LYS:CE	2.51	0.40
2:C:122:ASP:OD1	2:C:122:ASP:O	2.39	0.40
1:B:684:ILE:HD12	1:B:715:LYS:O	2.22	0.40
1:B:862:GLN:H	1:B:862:GLN:CD	2.29	0.40
1:B:1441:LEU:HD12	1:B:1485:GLU:CB	2.52	0.40
1:B:1527:GLN:HA	1:B:1530:ILE:HG12	2.04	0.40
1:B:1579:ARG:HH22	1:B:1613:SER:H	1.69	0.40
1:B:1769:TYR:CD2	1:B:1815:ILE:HD12	2.56	0.40
1:B:1782:TYR:HB3	1:B:1901:ARG:HB2	2.03	0.40
1:B:1866:GLU:OE1	2:D:33:VAL:CG2	2.69	0.40
1:A:144:PHE:CG	1:A:1326:TYR:CD2	3.09	0.40
1:A:396:PHE:CD1	1:A:482:GLU:O	2.74	0.40
1:A:468:VAL:HG13	1:A:468:VAL:O	2.21	0.40
1:A:767:ARG:CD	1:A:826:LEU:HA	2.51	0.40
1:A:831:PHE:CD1	1:A:856:LEU:HD21	2.56	0.40
1:A:1607:LEU:HD21	1:A:1611:TYR:CE2	2.56	0.40
1:A:1760:LEU:HD12	1:A:1857:ASN:CB	2.52	0.40
1:A:1765:ARG:HA	1:A:1783:ILE:HD13	2.03	0.40
1:A:1967:LEU:HD11	1:A:1987:PHE:CD2	2.56	0.40
1:B:687:LYS:HG3	1:B:688:PRO:HD2	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:796:GLN:O	1:B:797:CYS:SG	2.76	0.40
1:B:856:LEU:O	1:B:859:MET:HG3	2.21	0.40
1:B:900:VAL:HG11	1:B:963:PHE:CE1	2.56	0.40
1:B:1510:ARG:NH1	1:B:1561:ASP:OD2	2.54	0.40
1:A:684:ILE:HD12	1:A:715:LYS:O	2.21	0.40
1:A:1134:ARG:O	1:A:1138:ILE:HG23	2.21	0.40
1:A:1437:PHE:CZ	1:A:1478:MET:O	2.75	0.40
1:A:1464:ILE:HD12	1:A:1511:ASN:ND2	2.37	0.40
1:A:1974:LYS:HD3	1:A:1975:TYR:CD1	2.56	0.40
1:B:877:ARG:NE	1:B:923:GLU:HG2	2.37	0.40
1:B:882:MET:HE3	1:B:884:HIS:CE1	2.56	0.40
1:B:1038:MET:CG	1:B:1039:ASP:N	2.85	0.40
1:B:1061:VAL:HA	1:B:1064:GLU:HG3	2.04	0.40
1:B:1134:ARG:NH1	1:B:1271:TYR:HB3	2.37	0.40
1:B:1423:LEU:HA	1:B:1433:MET:HE3	2.04	0.40
1:B:1525:HIS:ND1	1:B:1576:LEU:CD2	2.85	0.40
1:B:1669:ILE:HG23	1:B:1714:ILE:CG2	2.50	0.40
1:B:1734:LYS:O	1:B:1738:VAL:HG12	2.22	0.40
1:B:1863:PHE:O	1:B:1889:LEU:HD23	2.21	0.40
3:F:22:SER:O	3:F:26:ASN:CA	2.69	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	1735/2079 (84%)	1646 (95%)	89 (5%)	0	100	100
1	B	1735/2079 (84%)	1647 (95%)	88 (5%)	0	100	100
2	C	175/195 (90%)	167 (95%)	8 (5%)	0	100	100
2	D	175/195 (90%)	167 (95%)	8 (5%)	0	100	100

Continued on next page...

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	E	175/195 (90%)	169 (97%)	6 (3%)	0	100	100
3	F	175/195 (90%)	166 (95%)	9 (5%)	0	100	100
All	All	4170/4938 (84%)	3962 (95%)	208 (5%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	1586/1875 (85%)	1585 (100%)	1 (0%)	88	89
1	B	1586/1875 (85%)	1586 (100%)	0	100	100
2	C	149/172 (87%)	149 (100%)	0	100	100
2	D	149/172 (87%)	149 (100%)	0	100	100
3	E	157/172 (91%)	157 (100%)	0	100	100
3	F	157/172 (91%)	157 (100%)	0	100	100
All	All	3784/4438 (85%)	3783 (100%)	1 (0%)	100	100

All (1) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	696	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (48) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	372	HIS
1	A	420	ASN
1	A	434	GLN
1	A	617	ASN
1	A	696	ASN
1	A	839	GLN

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Mol	Chain	Res	Type
1	A	934	HIS
1	A	995	HIS
1	A	1022	ASN
1	A	1071	GLN
1	A	1075	ASN
1	A	1112	HIS
1	A	1323	HIS
1	A	1336	HIS
1	A	1512	ASN
1	A	1604	GLN
1	A	1822	ASN
1	A	1876	GLN
1	A	2032	HIS
3	E	134	GLN
1	B	364	ASN
1	B	372	HIS
1	B	434	GLN
1	B	470	ASN
1	B	599	ASN
1	B	617	ASN
1	B	641	ASN
1	B	703	HIS
1	B	874	GLN
1	B	934	HIS
1	B	995	HIS
1	B	1071	GLN
1	B	1113	HIS
1	B	1143	ASN
1	B	1177	ASN
1	B	1179	GLN
1	B	1323	HIS
1	B	1336	HIS
1	B	1499	ASN
1	B	1512	ASN
1	B	1534	GLN
1	B	1701	GLN
1	B	1822	ASN
1	B	1876	GLN
1	B	1956	ASN
2	D	103	HIS
2	D	167	ASN
3	F	134	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 ⓘ

Of 4 ligands modelled in this entry, 2 are monoatomic - leaving 2 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# $ Z > 2$	Counts	RMSZ	# $ Z > 2$
5	GTP	E	202	4	30,34,34	0.82	1 (3%)	46,54,54	1.68	10 (21%)
5	GTP	F	202	4	30,34,34	0.82	0	46,54,54	1.70	11 (23%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	GTP	E	202	4	-	6/22/38/38	0/3/3/3
5	GTP	F	202	4	-	6/22/38/38	0/3/3/3

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	E	202	GTP	C2-N3	2.13	1.38	1.33

All (21) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	E	202	GTP	C5-C4-N3	-4.80	120.68	128.46
5	E	202	GTP	C2-N3-C4	4.41	120.15	112.30
5	F	202	GTP	C2-N3-C4	4.30	119.96	112.30
5	F	202	GTP	C5-C4-N3	-4.21	121.64	128.46
5	F	202	GTP	PB-O3B-PG	-3.30	121.51	132.83
5	E	202	GTP	N9-C4-N3	3.11	132.18	125.94
5	F	202	GTP	PA-O3A-PB	-3.04	122.40	132.83
5	E	202	GTP	PB-O3B-PG	-3.00	122.52	132.83
5	F	202	GTP	N9-C8-N7	-2.90	107.92	113.39
5	E	202	GTP	C2-N1-C6	-2.84	119.91	125.10
5	E	202	GTP	N9-C8-N7	-2.82	108.08	113.39
5	F	202	GTP	C2-N1-C6	-2.79	120.01	125.10
5	E	202	GTP	PA-O3A-PB	-2.62	123.84	132.83
5	E	202	GTP	C8-N7-C5	2.55	108.85	104.24
5	E	202	GTP	C5-C6-N1	2.53	119.61	113.19
5	F	202	GTP	C8-N7-C5	2.49	108.75	104.24
5	F	202	GTP	C5-C6-N1	2.48	119.50	113.19
5	E	202	GTP	O6-C6-C5	-2.41	120.21	126.60
5	F	202	GTP	N2-C2-N1	2.39	121.80	116.71
5	F	202	GTP	O6-C6-C5	-2.36	120.34	126.60
5	F	202	GTP	N9-C4-N3	2.35	130.65	125.94

There are no chirality outliers.

All (12) torsion outliers are listed below:

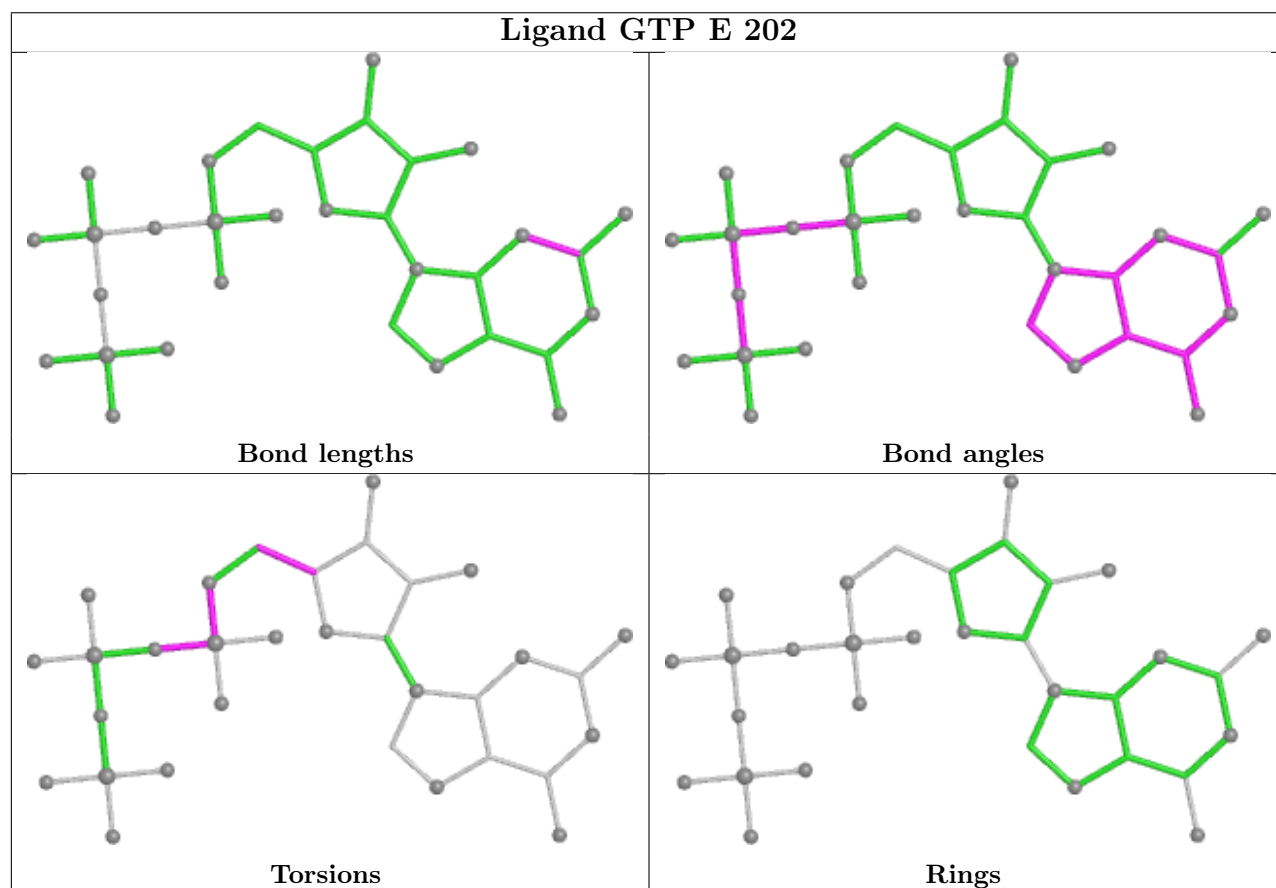
Mol	Chain	Res	Type	Atoms
5	E	202	GTP	C5'-O5'-PA-O3A
5	E	202	GTP	C5'-O5'-PA-O1A
5	E	202	GTP	O4'-C4'-C5'-O5'
5	F	202	GTP	C5'-O5'-PA-O3A
5	F	202	GTP	C5'-O5'-PA-O1A
5	F	202	GTP	O4'-C4'-C5'-O5'
5	E	202	GTP	C3'-C4'-C5'-O5'
5	F	202	GTP	C3'-C4'-C5'-O5'
5	E	202	GTP	PB-O3A-PA-O2A
5	E	202	GTP	C5'-O5'-PA-O2A
5	F	202	GTP	C5'-O5'-PA-O2A
5	F	202	GTP	PB-O3A-PA-O2A

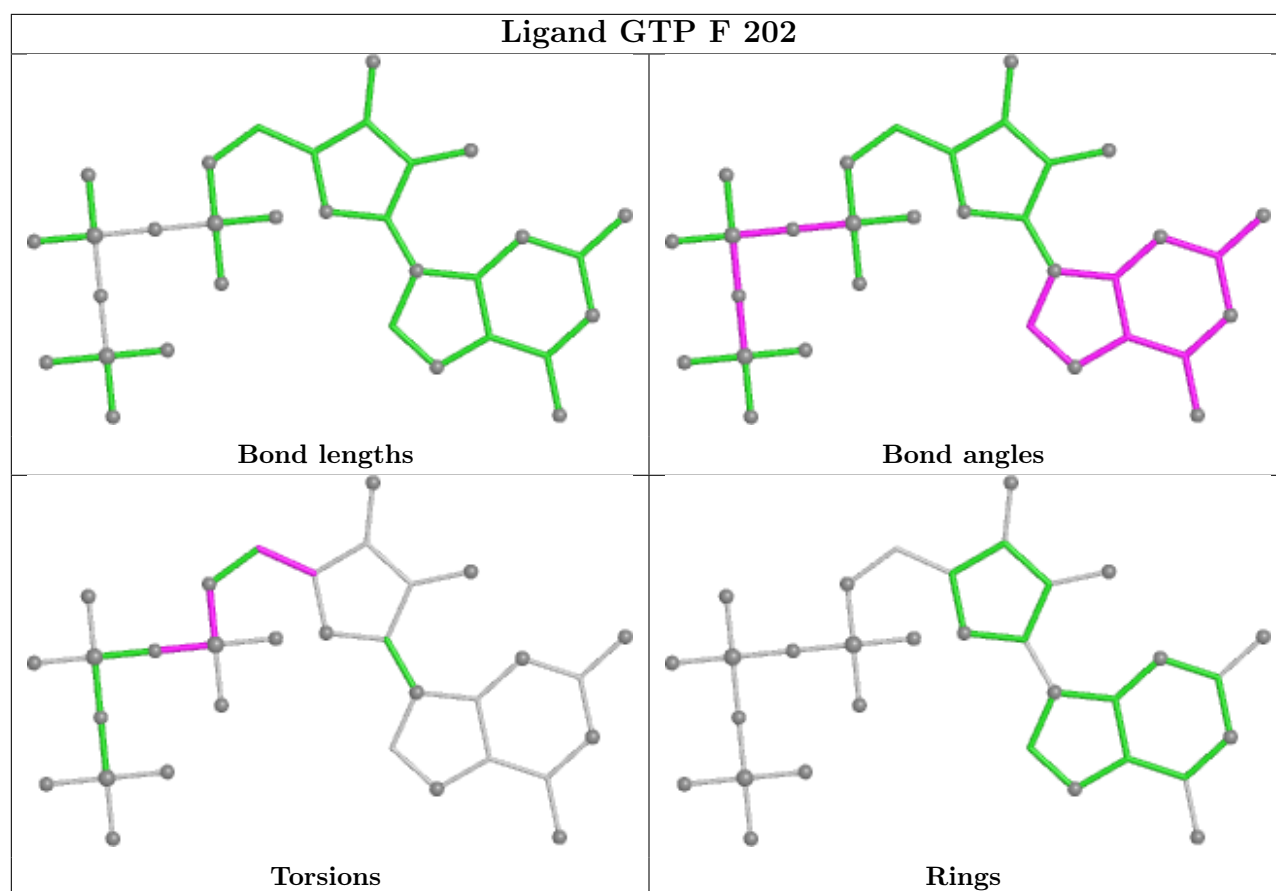
There are no ring outliers.

2 monomers are involved in 8 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	E	202	GTP	6	0
5	F	202	GTP	2	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.





5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

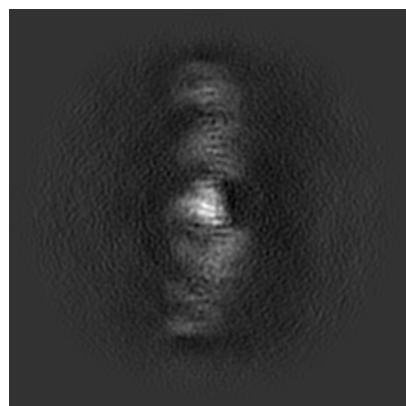
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-68714. These allow visual inspection of the internal detail of the map and identification of artifacts.

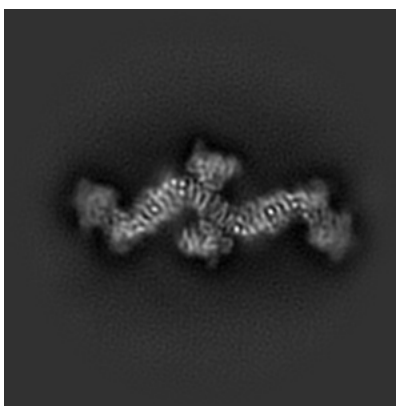
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

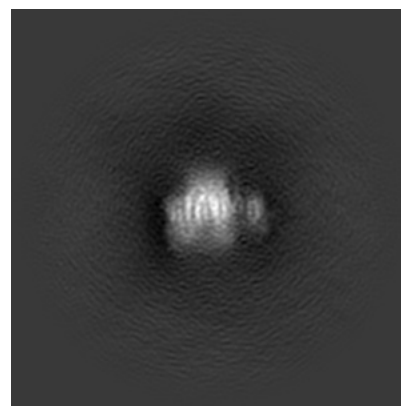
6.1.1 Primary map



X

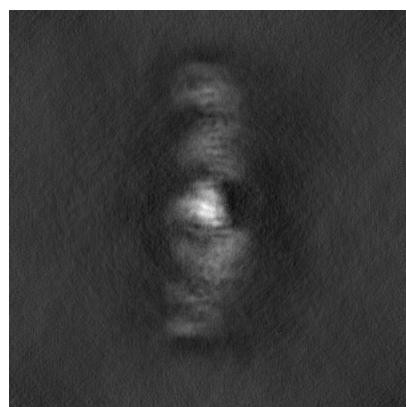


Y

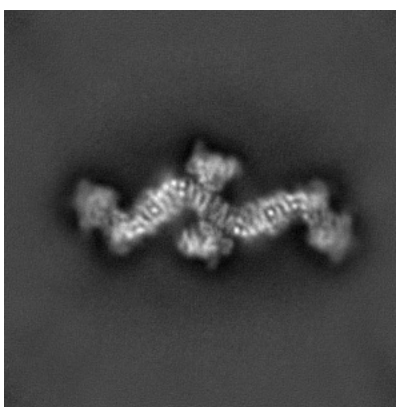


Z

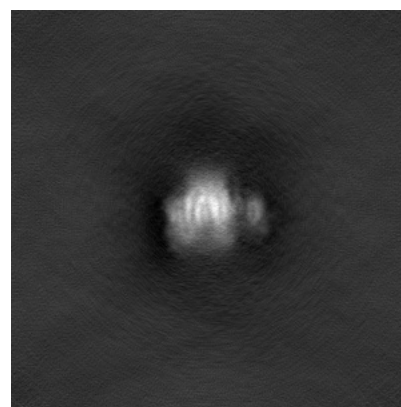
6.1.2 Raw map



X



Y

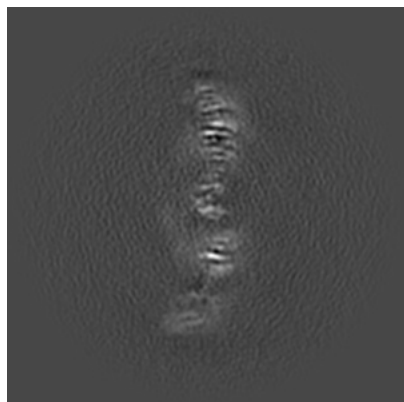


Z

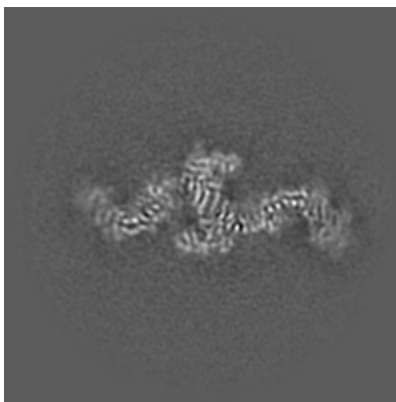
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

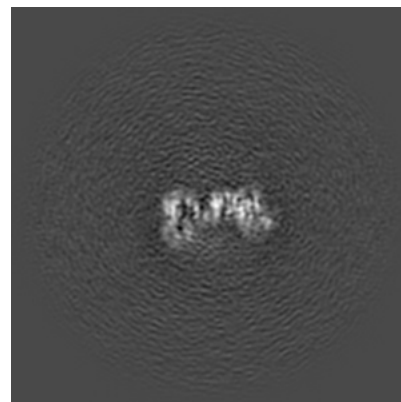
6.2.1 Primary map



X Index: 180

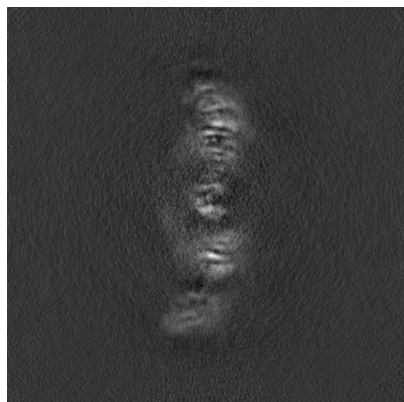


Y Index: 180

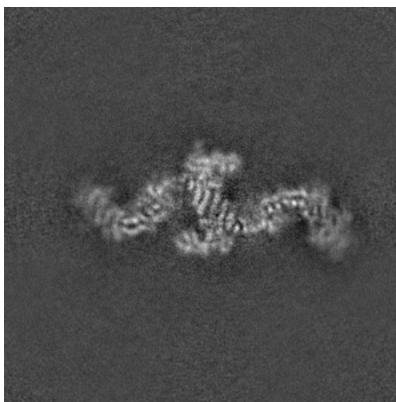


Z Index: 180

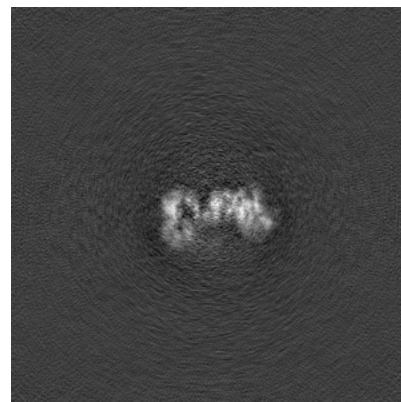
6.2.2 Raw map



X Index: 180



Y Index: 180



Z Index: 180

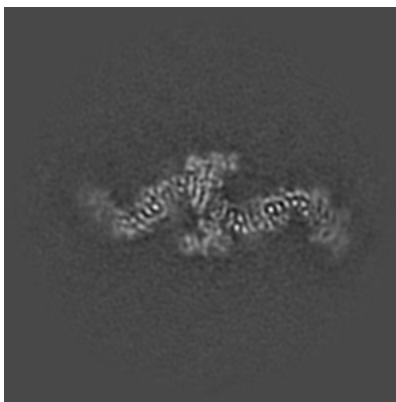
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

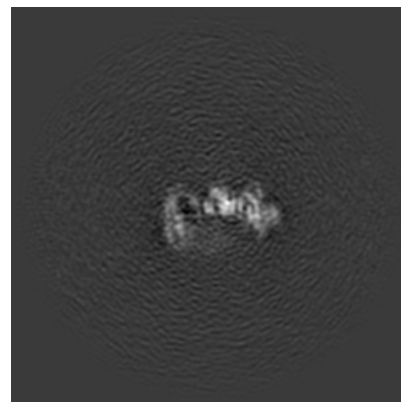
6.3.1 Primary map



X Index: 191

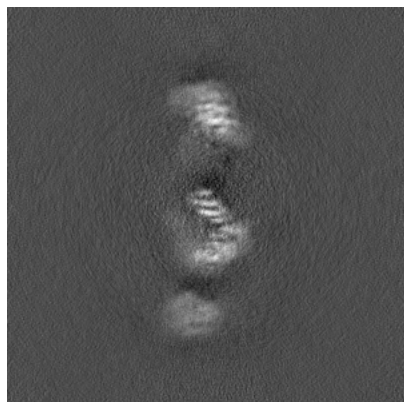


Y Index: 184

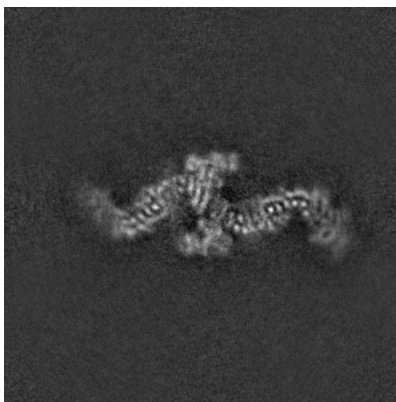


Z Index: 175

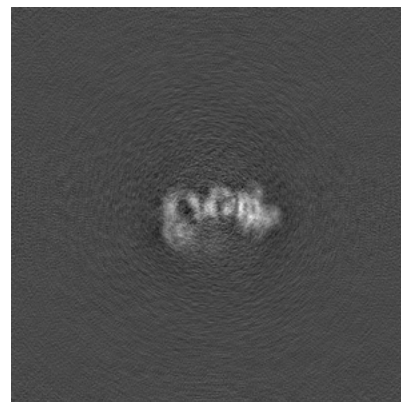
6.3.2 Raw map



X Index: 191



Y Index: 184

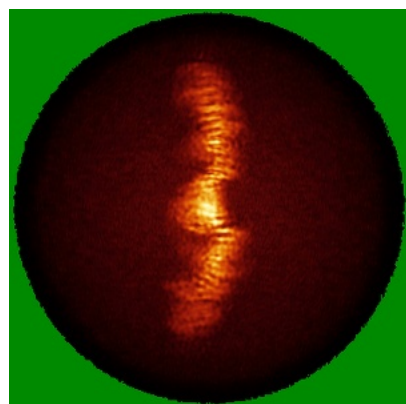


Z Index: 177

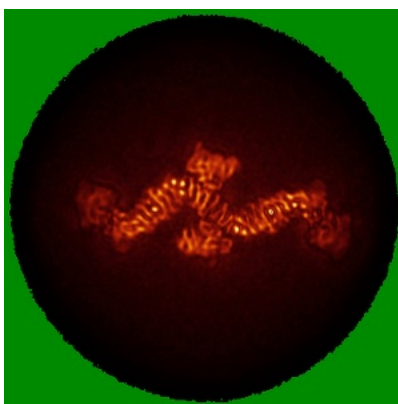
The images above show the largest variance slices of the map in three orthogonal directions.

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

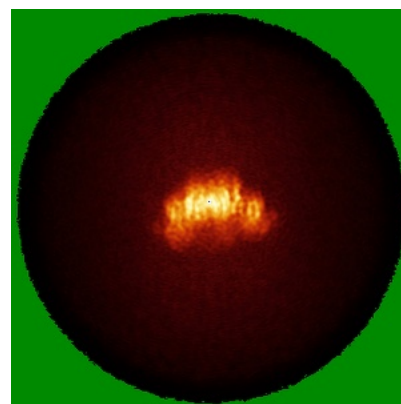
6.4.1 Primary map



X

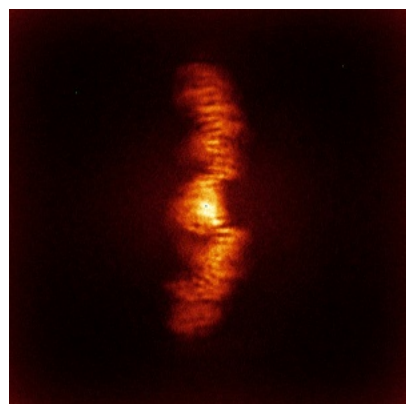


Y

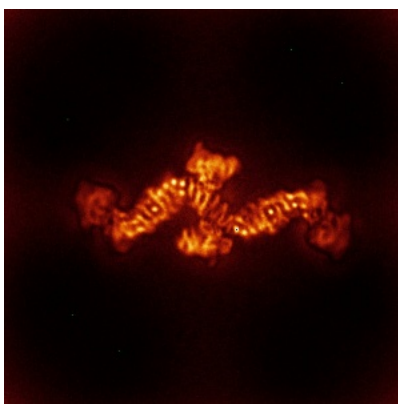


Z

6.4.2 Raw map



X



Y

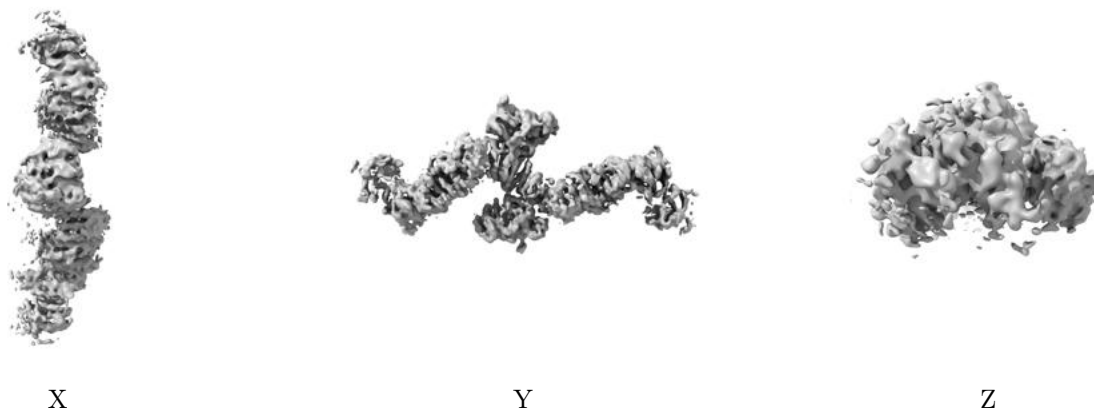


Z

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

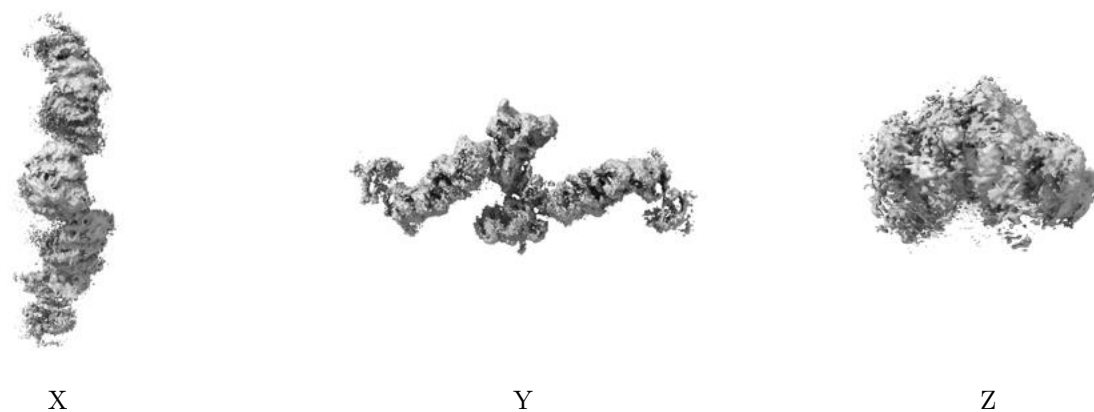
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.249. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

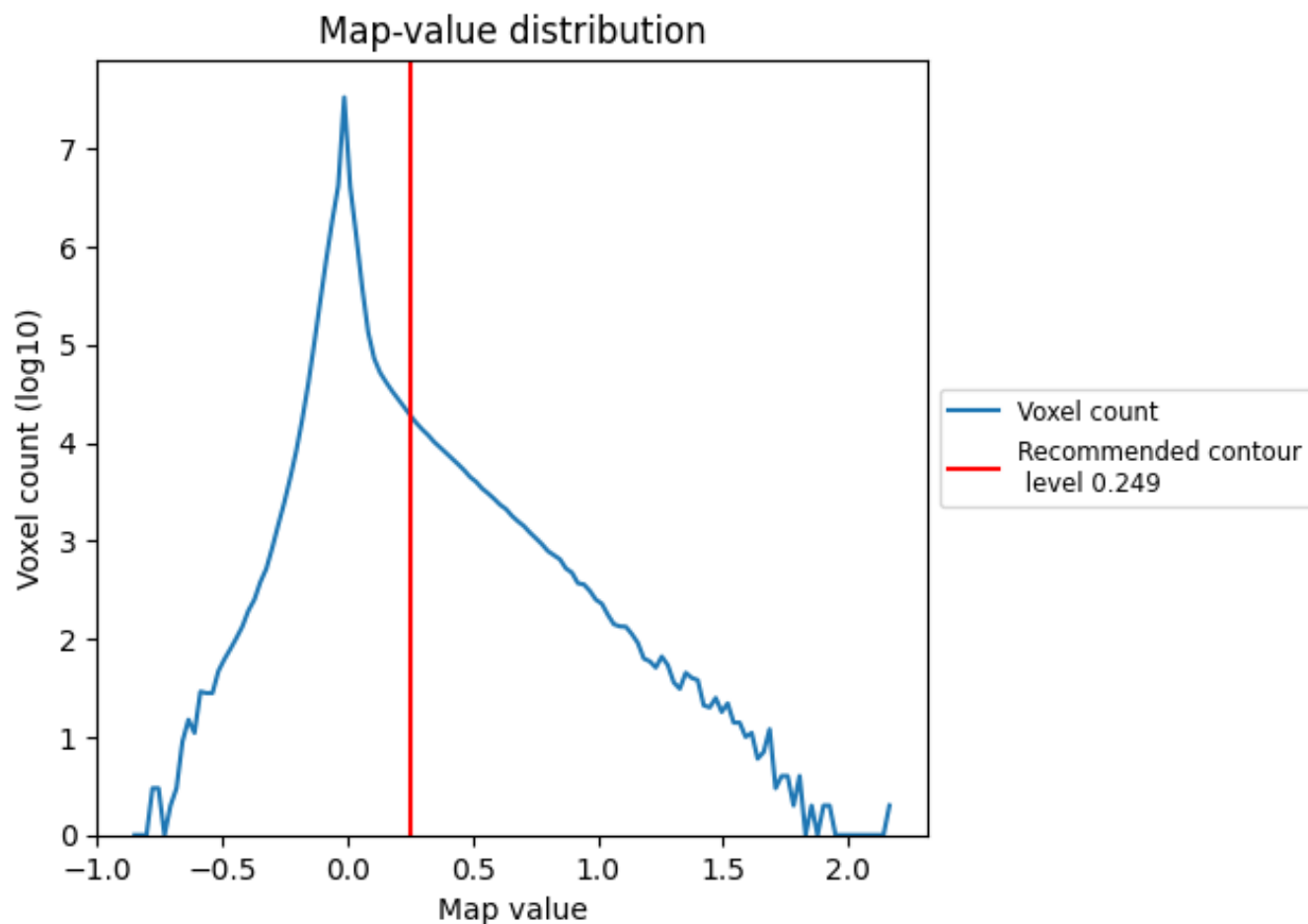
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

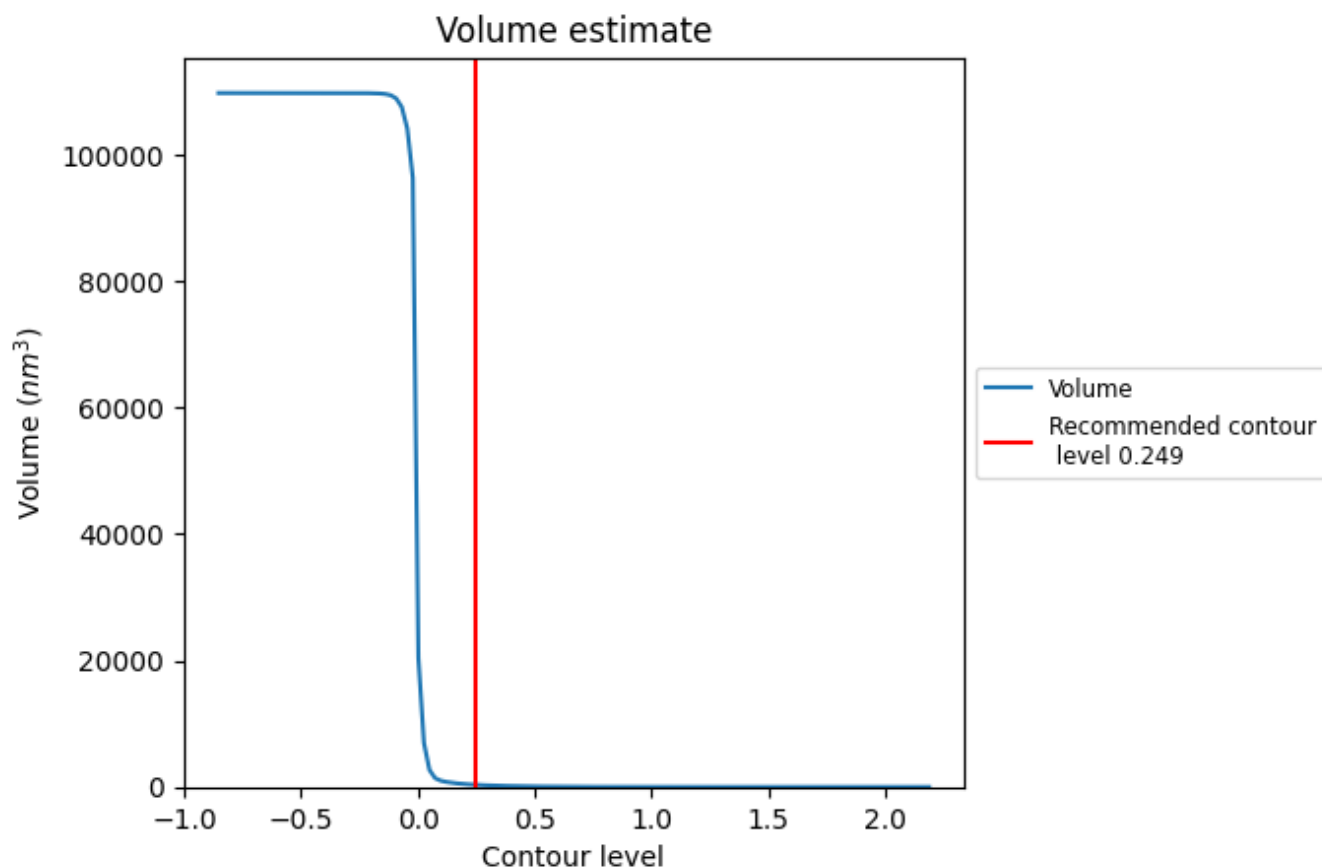
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

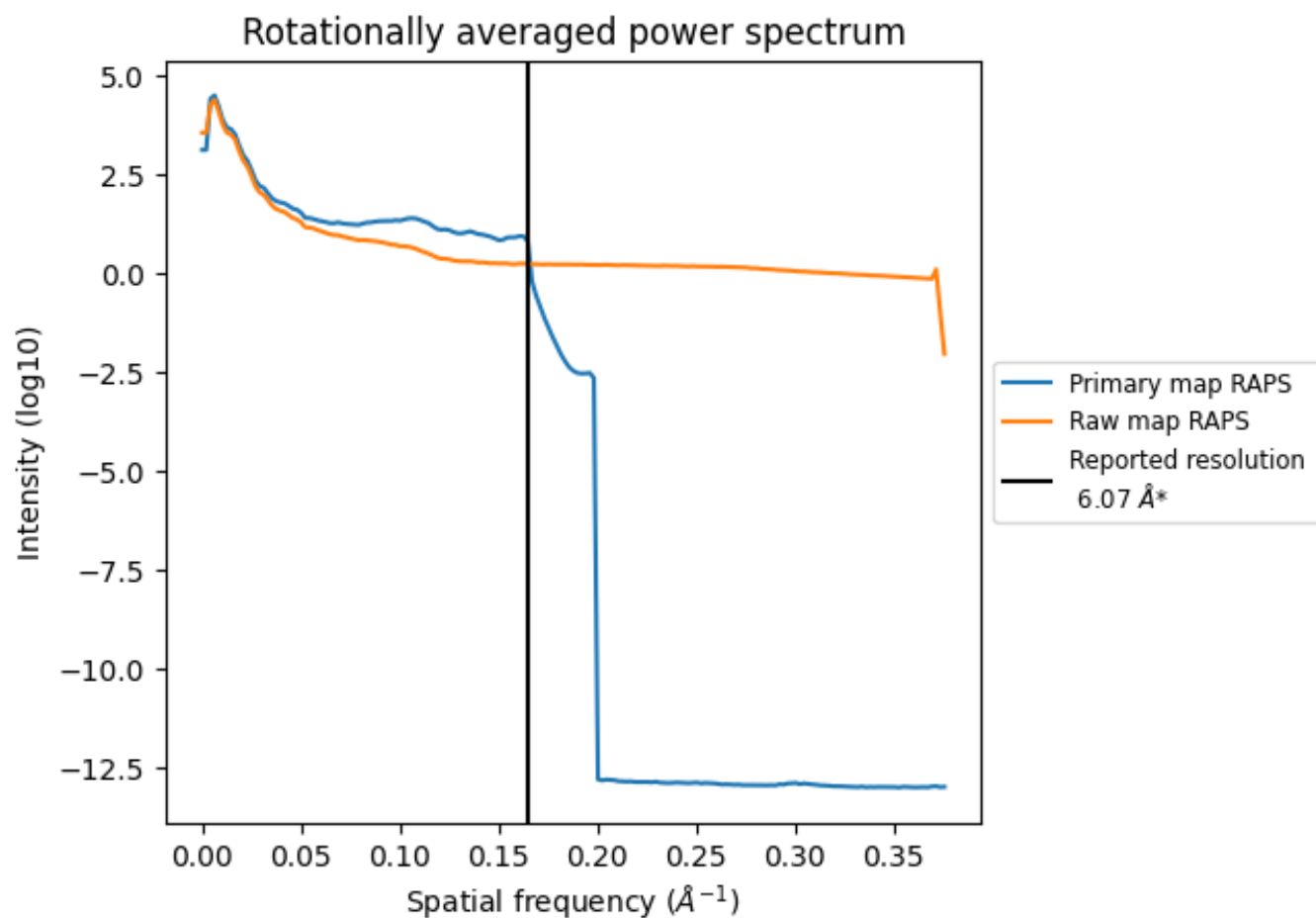
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 336 nm^3 ; this corresponds to an approximate mass of 304 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 ⓘ

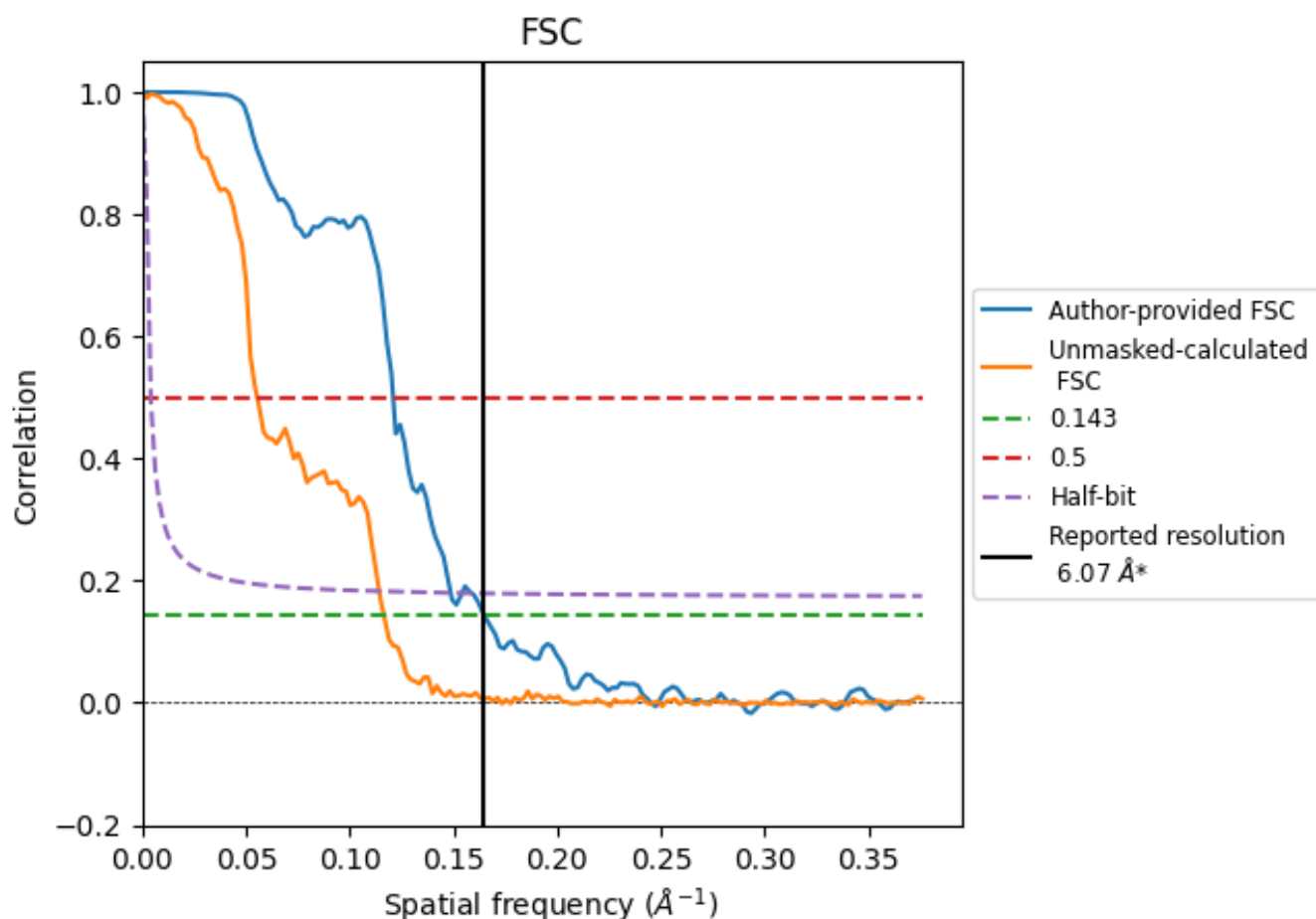


*Reported resolution corresponds to spatial frequency of 0.165 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.165 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

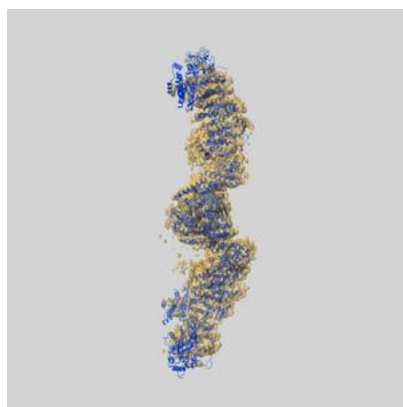
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	6.07	-	-
Author-provided FSC curve	6.06	8.27	6.72
Unmasked-calculated*	8.58	18.05	8.76

*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 8.58 differs from the reported value 6.07 by more than 10 %

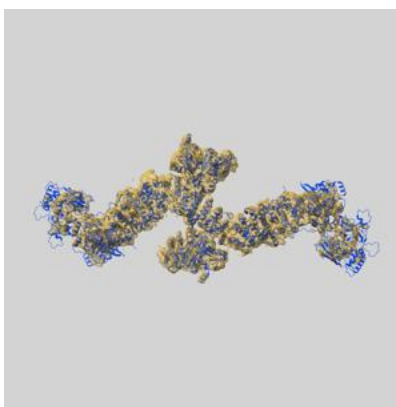
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-68714 and PDB model 22VG. Per-residue inclusion information can be found in section [3](#) on page [8](#).

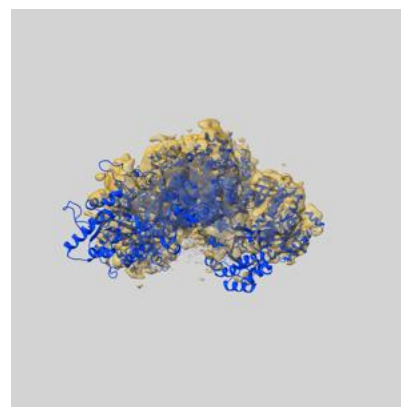
9.1 Map-model overlay [i](#)



X



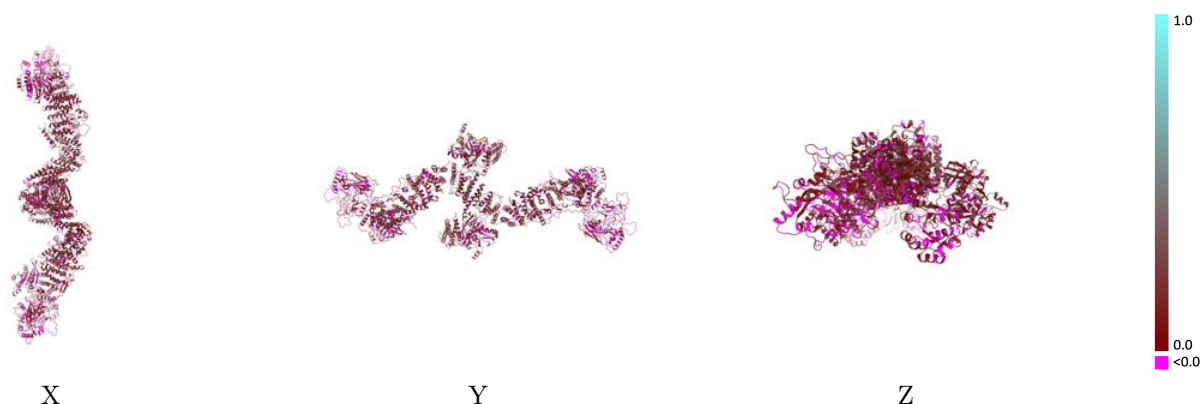
Y



Z

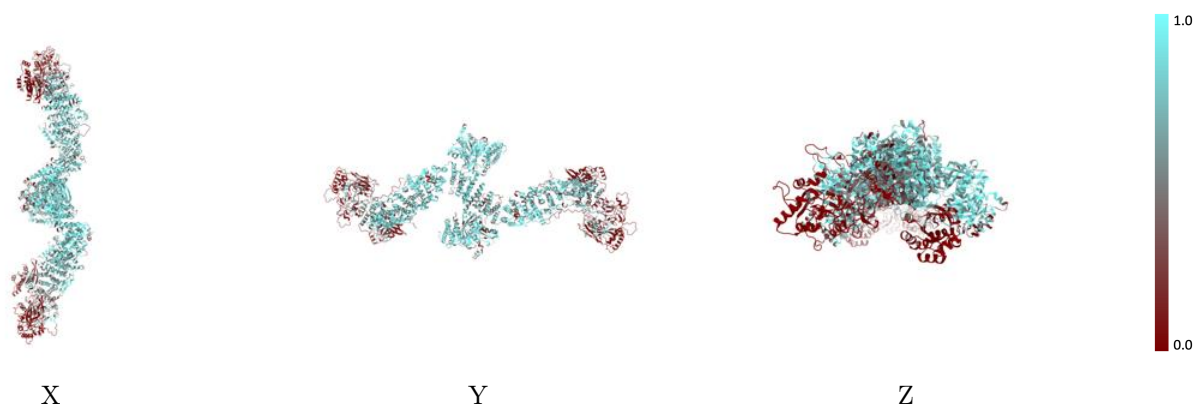
The images above show the 3D surface view of the map at the recommended contour level 0.249 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



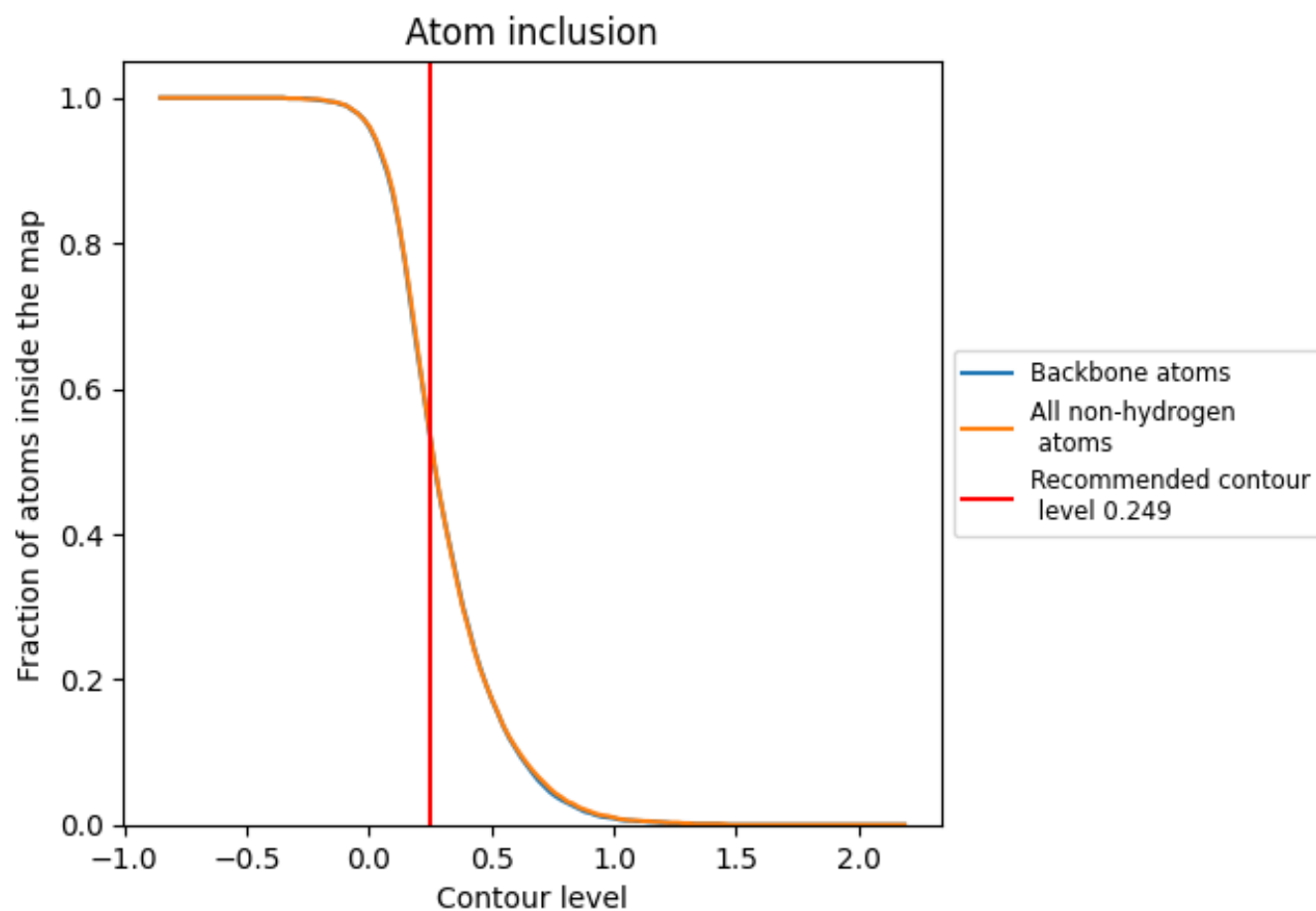
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.249).

9.4 Atom inclusion [i](#)



At the recommended contour level, 54% of all backbone atoms, 54% 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 (0.249) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.5390	0.1250
A	0.5860	0.1280
B	0.5550	0.1330
C	0.7120	0.1270
D	0.6380	0.1160
E	0.2270	0.0760
F	0.1410	0.0840

1.0

0.0

<0.0