



Full wwPDB EM Validation Report ⓘ

Nov 3, 2024 – 10:43 AM EST

PDB ID : 7TDI
EMDB ID : EMD-25830
Title : Rabbit RyR1 with AMP-PCP and high Ca²⁺ embedded in nanodisc in closed-inactivated conformation class 2 (Dataset-A)
Authors : Nayak, A.R.; Samso, M.
Deposited on : 2021-12-31
Resolution : 3.30 Å(reported)

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

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

A user guide is available at

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

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev113
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.39

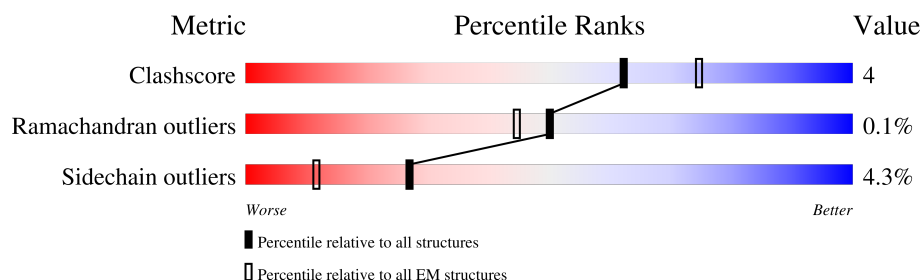
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.30 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	5037	<div> <div>20%</div> <div>73%</div> <div>9%</div> <div>18%</div> </div>
1	B	5037	<div> <div>18%</div> <div>73%</div> <div>9%</div> <div>18%</div> </div>
1	C	5037	<div> <div>19%</div> <div>73%</div> <div>8%</div> <div>18%</div> </div>
1	D	5037	<div> <div>18%</div> <div>73%</div> <div>8%</div> <div>18%</div> </div>

2 Entry composition [i](#)

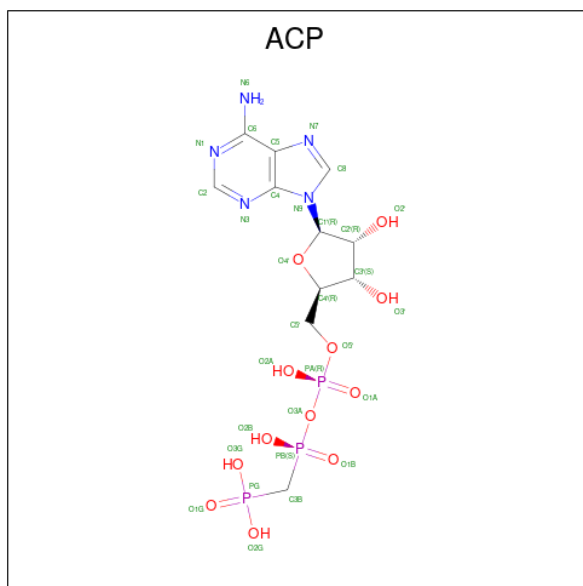
There are 4 unique types of molecules in this entry. The entry contains 117132 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Ryanodine receptor 1,Ryanodine receptor 1,RyR1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	B	4134	Total	C	N	O	S	0	0
			29249	18516	5181	5395	157		
1	C	4134	Total	C	N	O	S	0	0
			29249	18516	5181	5395	157		
1	D	4134	Total	C	N	O	S	0	0
			29249	18516	5181	5395	157		
1	A	4134	Total	C	N	O	S	0	0
			29249	18516	5181	5395	157		

- Molecule 2 is PHOSPHOMETHYLPHOSPHONIC ACID ADENYLATE ESTER (three-letter code: ACP) (formula: $C_{11}H_{18}N_5O_{12}P_3$).



Mol	Chain	Residues	Atoms					AltConf
2	B	1	Total	C	N	O	P	0
			31	11	5	12	3	
2	C	1	Total	C	N	O	P	0
			31	11	5	12	3	

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Mol	Chain	Residues	Atoms					AltConf
2	D	1	Total	C	N	O	P	0
			31	11	5	12	3	
2	A	1	Total	C	N	O	P	0
			31	11	5	12	3	

- Molecule 3 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
3	B	1	Total	Zn	0
			1	1	
3	C	1	Total	Zn	0
			1	1	
3	D	1	Total	Zn	0
			1	1	
3	A	1	Total	Zn	0
			1	1	

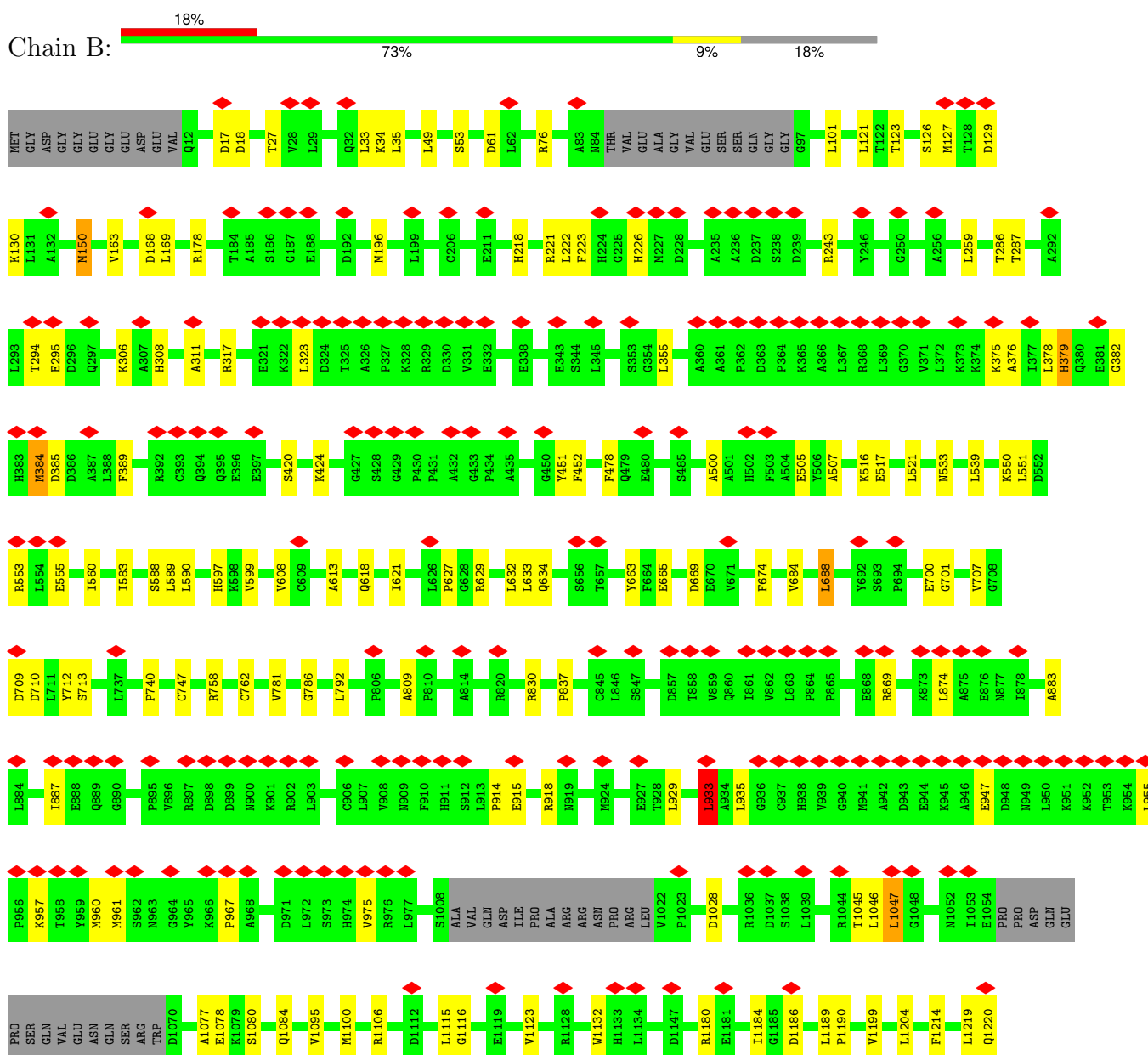
- Molecule 4 is CALCIUM ION (three-letter code: CA) (formula: Ca) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
4	B	2	Total	Ca	0
			2	2	
4	C	2	Total	Ca	0
			2	2	
4	D	2	Total	Ca	0
			2	2	
4	A	2	Total	Ca	0
			2	2	

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: Ryanodine receptor 1,Ryanodine receptor 1,RyR1





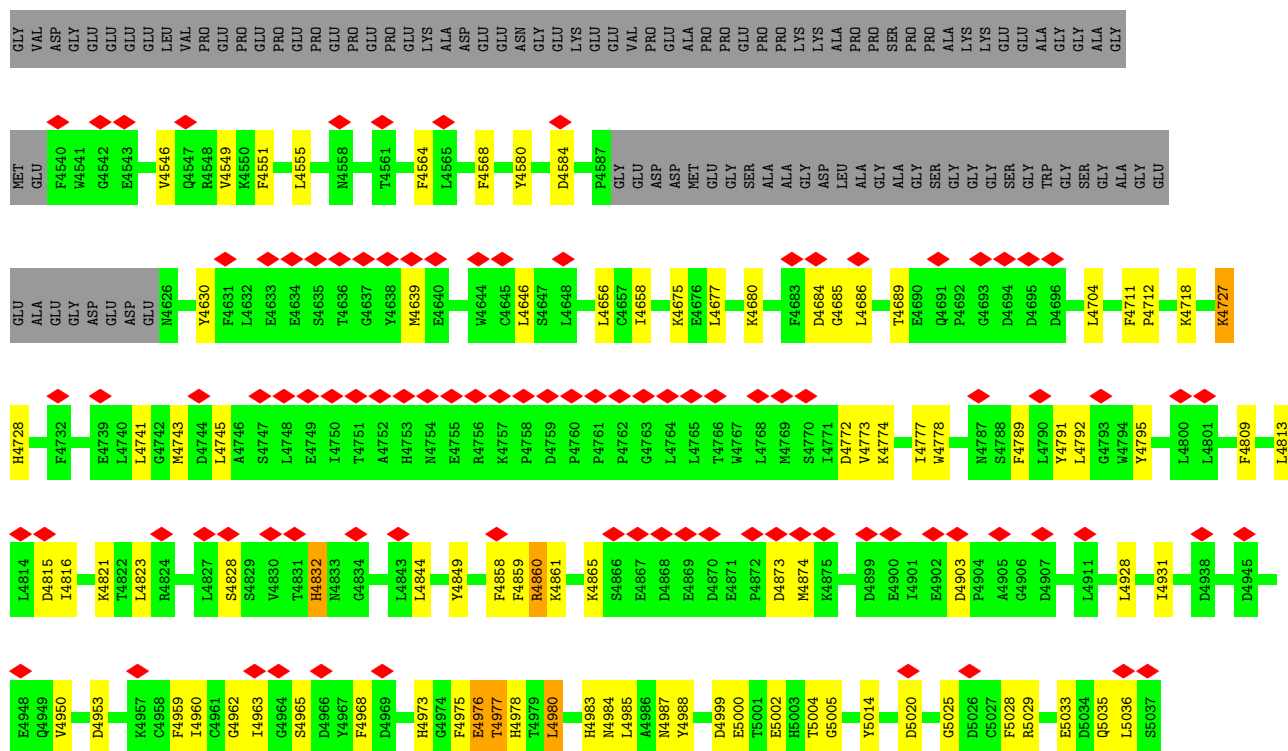




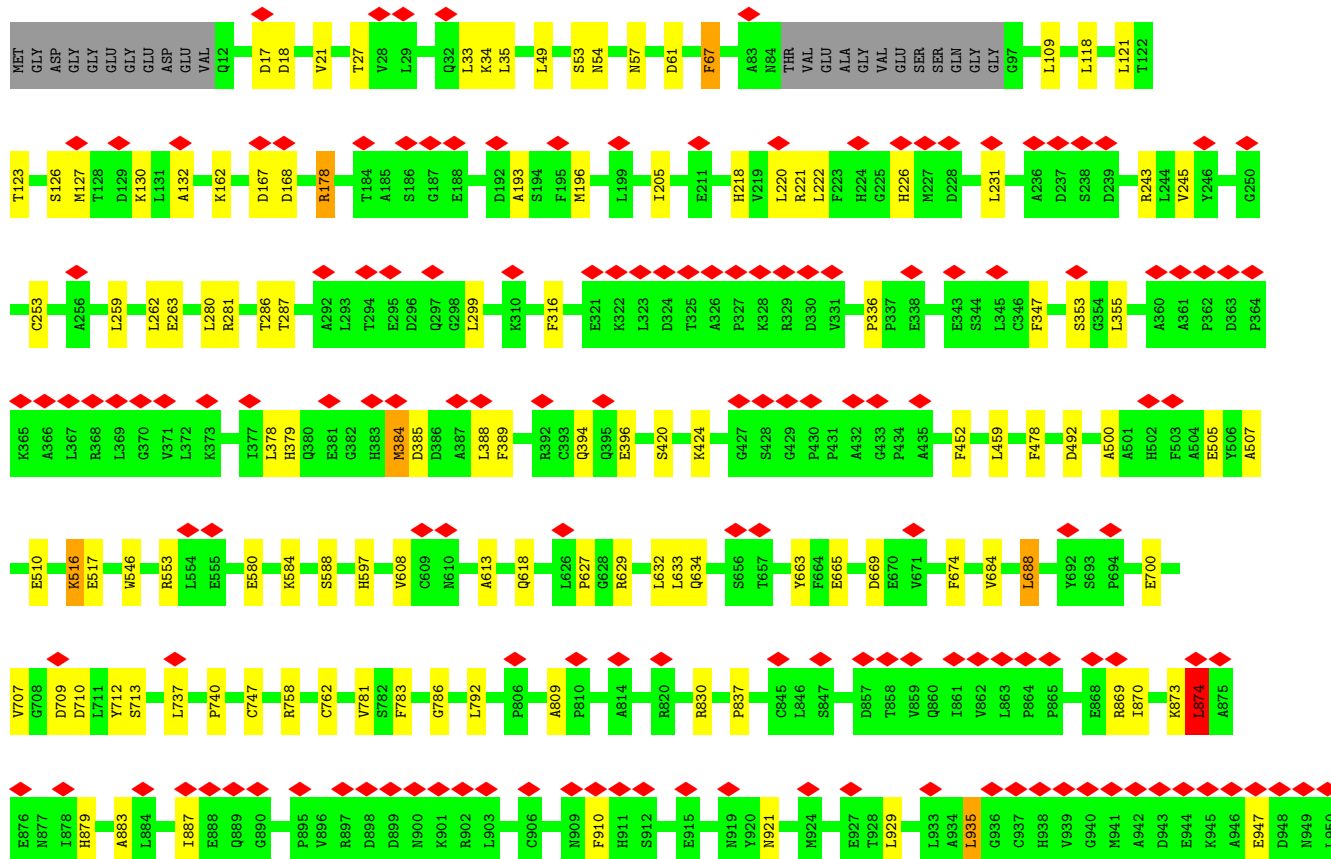
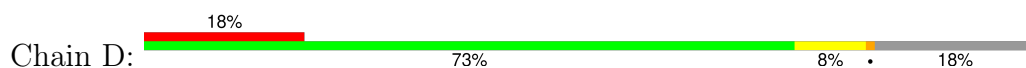








• Molecule 1: Ryanodine receptor 1, Ryanodine receptor 1, RyR1





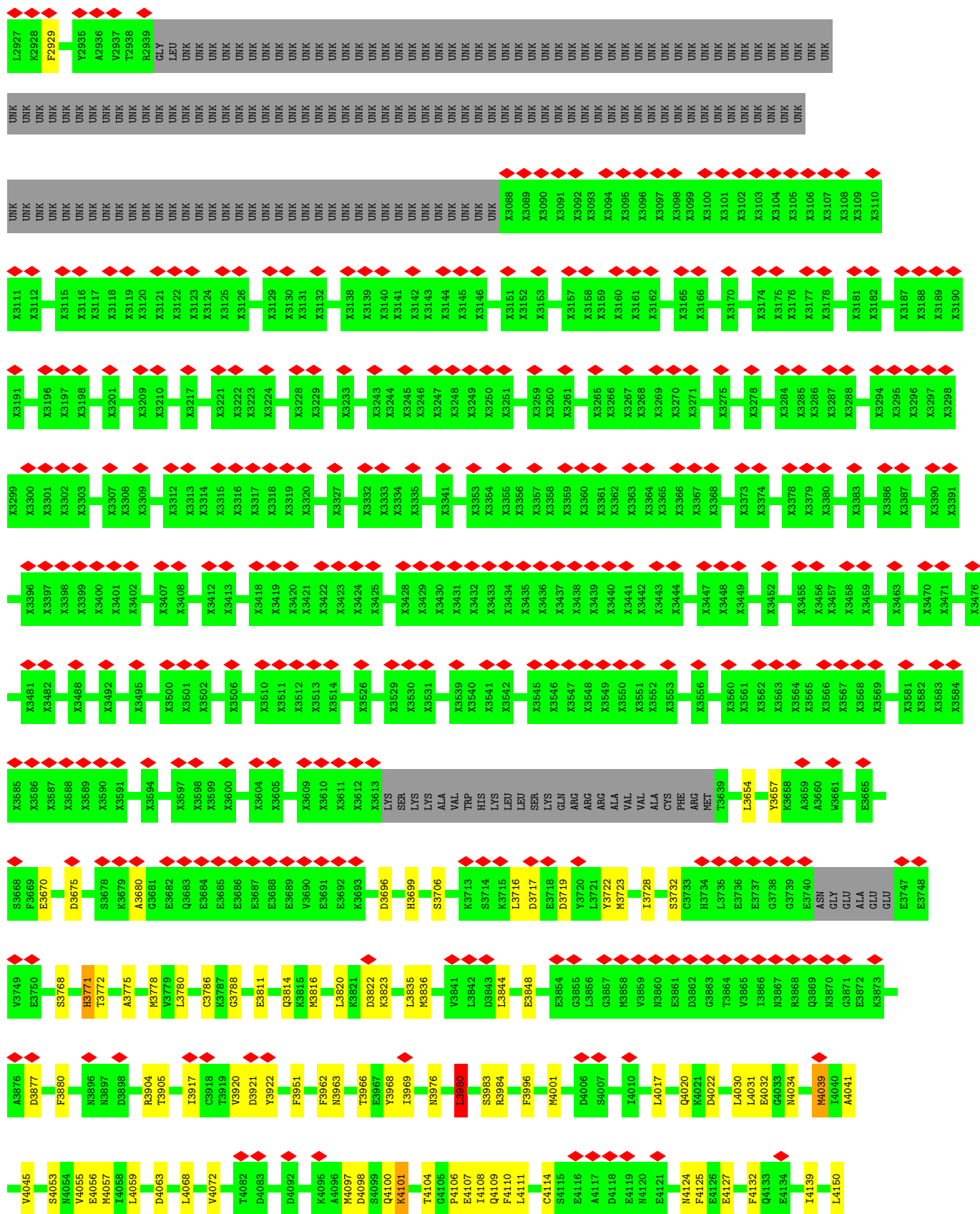




Chain A:









4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	159444	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	70	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	81000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.090	Depositor
Minimum map value	-0.018	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.015	Depositor
Map size (Å)	477.36002, 477.36002, 477.36002	wwPDB
Map dimensions	432, 432, 432	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.105, 1.105, 1.105	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: ACP, ZN, CA

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	0.27	0/25301	0.56	19/34345 (0.1%)
1	B	0.27	0/25301	0.55	18/34345 (0.1%)
1	C	0.27	0/25301	0.55	18/34345 (0.1%)
1	D	0.29	2/25301 (0.0%)	0.57	21/34345 (0.1%)
All	All	0.28	2/101204 (0.0%)	0.56	76/137380 (0.1%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	D	4709	PRO	CG-CD	-16.10	0.97	1.50
1	D	4709	PRO	N-CD	7.50	1.58	1.47

All (76) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	4709	PRO	N-CD-CG	-15.58	79.83	103.20
1	D	4709	PRO	CA-N-CD	-10.61	96.65	111.50
1	A	2462	PRO	CA-N-CD	-10.00	97.50	111.50
1	B	967	PRO	CA-N-CD	-9.79	97.80	111.50
1	C	967	PRO	CA-N-CD	-9.50	98.20	111.50
1	C	4745	LEU	CA-CB-CG	9.25	136.58	115.30
1	B	1587	PRO	CA-N-CD	-8.82	99.16	111.50
1	D	4709	PRO	CA-CB-CG	-8.60	87.67	104.00
1	A	2477	PRO	CA-N-CD	-8.39	99.75	111.50
1	D	688	LEU	CA-CB-CG	7.93	133.55	115.30
1	C	688	LEU	CA-CB-CG	7.72	133.06	115.30
1	B	3972	PRO	CA-N-CD	-7.72	100.69	111.50
1	D	1587	PRO	CA-N-CD	-7.64	100.80	111.50
1	C	1587	PRO	CA-N-CD	-7.61	100.85	111.50
1	B	688	LEU	CA-CB-CG	7.60	132.79	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	4985	LEU	CA-CB-CG	7.51	132.58	115.30
1	B	4063	ASP	CB-CG-OD1	7.49	125.04	118.30
1	A	688	LEU	CA-CB-CG	7.45	132.42	115.30
1	D	874	LEU	CA-CB-CG	7.42	132.36	115.30
1	D	4063	ASP	CB-CG-OD1	7.39	124.95	118.30
1	D	2477	PRO	CA-N-CD	-7.38	101.17	111.50
1	C	2477	PRO	CA-N-CD	-7.29	101.29	111.50
1	B	2477	PRO	CA-N-CD	-7.26	101.33	111.50
1	C	932	LEU	CA-CB-CG	7.16	131.77	115.30
1	B	933	LEU	CA-CB-CG	7.15	131.75	115.30
1	B	2332	LEU	CA-CB-CG	6.94	131.27	115.30
1	D	510	GLU	CA-CB-CG	6.88	128.54	113.40
1	B	4745	LEU	CA-CB-CG	6.85	131.06	115.30
1	D	4745	LEU	CA-CB-CG	6.79	130.92	115.30
1	A	4745	LEU	CA-CB-CG	6.76	130.84	115.30
1	B	874	LEU	CA-CB-CG	6.74	130.79	115.30
1	B	4059	LEU	CA-CB-CG	6.59	130.46	115.30
1	C	2332	LEU	CA-CB-CG	6.53	130.32	115.30
1	A	4639	MET	CA-CB-CG	6.53	124.40	113.30
1	D	4953	ASP	CB-CG-OD1	6.50	124.15	118.30
1	A	4063	ASP	CB-CG-OD1	6.48	124.13	118.30
1	C	874	LEU	CA-CB-CG	6.45	130.13	115.30
1	D	935	LEU	CA-CB-CG	6.33	129.87	115.30
1	B	4953	ASP	CB-CG-OD1	6.28	123.95	118.30
1	C	4953	ASP	CB-CG-OD1	6.25	123.92	118.30
1	A	935	LEU	CA-CB-CG	6.16	129.48	115.30
1	A	3822	ASP	CB-CG-OD1	6.09	123.78	118.30
1	C	510	GLU	CA-CB-CG	6.02	126.65	113.40
1	B	129	ASP	CB-CG-OD1	5.91	123.62	118.30
1	D	2332	LEU	CA-CB-CG	5.91	128.89	115.30
1	D	3822	ASP	CB-CG-OD1	5.79	123.51	118.30
1	B	935	LEU	CA-CB-CG	5.68	128.37	115.30
1	B	3822	ASP	CB-CG-OD1	5.64	123.38	118.30
1	C	935	LEU	CA-CB-CG	5.62	128.23	115.30
1	A	591	ASP	CB-CG-OD1	5.58	123.32	118.30
1	C	3822	ASP	CB-CG-OD1	5.57	123.32	118.30
1	A	4639	MET	CB-CG-SD	5.51	128.95	112.40
1	A	2451	LEU	CA-CB-CG	5.50	127.95	115.30
1	C	620	LEU	CA-CB-CG	5.48	127.90	115.30
1	A	3980	LEU	CA-CB-CG	5.47	127.89	115.30
1	B	127	MET	CB-CG-SD	5.45	128.74	112.40
1	D	4639	MET	CB-CG-SD	5.39	128.58	112.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	4001	MET	CB-CG-SD	5.33	128.38	112.40
1	D	127	MET	CB-CG-SD	5.29	128.27	112.40
1	A	241	GLN	CA-CB-CG	5.29	125.03	113.40
1	D	4639	MET	CA-CB-CG	5.29	122.29	113.30
1	C	127	MET	CB-CG-SD	5.26	128.18	112.40
1	A	2258	LEU	CA-CB-CG	5.26	127.39	115.30
1	C	2186	MET	CB-CG-SD	5.22	128.06	112.40
1	D	2097	LEU	CA-CB-CG	5.19	127.24	115.30
1	B	2186	MET	CB-CG-SD	5.15	127.84	112.40
1	C	2442	LEU	CA-CB-CG	5.14	127.12	115.30
1	A	127	MET	CB-CG-SD	5.14	127.81	112.40
1	D	4709	PRO	N-CA-CB	-5.12	96.97	102.60
1	D	2442	LEU	CA-CB-CG	5.06	126.94	115.30
1	A	291	LEU	CA-CB-CG	5.03	126.87	115.30
1	C	626	LEU	CA-CB-CG	5.02	126.85	115.30
1	C	1658	ASP	CB-CG-OD1	5.01	122.81	118.30
1	A	1111	PRO	CA-N-CD	-5.01	104.48	111.50
1	B	2442	LEU	CA-CB-CG	5.01	126.82	115.30
1	A	1653	LEU	CA-CB-CG	5.00	126.81	115.30

There are no chirality outliers.

There are no planarity outliers.

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	29249	0	24792	232	0
1	B	29249	0	24790	229	0
1	C	29249	0	24795	213	0
1	D	29249	0	24791	224	0
2	A	31	0	13	0	0
2	B	31	0	13	4	0
2	C	31	0	13	0	0
2	D	31	0	13	0	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	C	1	0	0	0	0
3	D	1	0	0	0	0
4	A	2	0	0	0	0
4	B	2	0	0	0	0
4	C	2	0	0	0	0
4	D	2	0	0	0	0
All	All	117132	0	99220	884	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 4.

All (884) 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:4961:CYS:SG	1:A:4963:ILE:HG22	1.54	1.48
1:A:4961:CYS:SG	1:A:4963:ILE:CG2	2.16	1.33
1:D:4980:LEU:HA	1:D:4984:ASN:HD21	1.34	0.92
1:A:5029:ARG:O	1:A:5033:GLU:HB3	1.73	0.88
1:B:4960:ILE:HG13	1:B:4983:HIS:HB3	1.60	0.83
1:D:4975:PHE:O	1:D:4979:THR:HG22	1.80	0.81
1:C:5029:ARG:O	1:C:5033:GLU:HB3	1.85	0.77
1:A:4975:PHE:O	1:A:4979:THR:HG22	1.85	0.77
1:A:4961:CYS:SG	1:A:4963:ILE:HG21	2.26	0.72
1:B:4104:THR:HB	1:B:4107:GLU:OE2	1.90	0.72
1:B:384:MET:N	1:B:384:MET:SD	2.66	0.69
1:D:384:MET:SD	1:D:384:MET:N	2.66	0.68
1:A:384:MET:SD	1:A:384:MET:N	2.67	0.68
1:C:4977:THR:HA	1:C:4980:LEU:HD23	1.76	0.68
1:D:4104:THR:HB	1:D:4107:GLU:OE2	1.94	0.67
1:D:4182:GLU:HG2	1:D:4192:ARG:HG3	1.76	0.67
1:B:786:GLY:H	1:B:1631:GLN:HA	1.59	0.67
1:C:786:GLY:H	1:C:1631:GLN:HA	1.59	0.67
1:A:20:VAL:HG22	1:A:204:PRO:HA	1.77	0.67
1:D:786:GLY:H	1:D:1631:GLN:HA	1.61	0.66
1:A:4975:PHE:O	1:A:4979:THR:CG2	2.43	0.66
1:A:533:ASN:HB3	1:A:536:ASN:HB2	1.79	0.65
1:D:3921:ASP:HA	1:D:3924:LEU:HD12	1.78	0.65
1:A:644:ILE:HG13	1:A:1628:VAL:HG21	1.78	0.65
1:B:4104:THR:HG22	1:B:4106:PRO:HD2	1.78	0.64
1:A:4017:LEU:HD22	1:A:4139:ILE:HG21	1.79	0.64
1:C:1936:LYS:HB2	1:C:2116:LEU:HD11	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2885:THR:OG1	1:C:2888:ARG:NH2	2.29	0.64
1:A:786:GLY:H	1:A:1631:GLN:HA	1.62	0.64
1:D:4976:GLU:O	1:D:4979:THR:HG23	1.98	0.64
1:C:4960:ILE:HD11	1:C:4985:LEU:HD21	1.78	0.64
1:B:1078:GLU:HG3	1:B:1080:SER:H	1.64	0.63
1:C:1078:GLU:HG3	1:C:1080:SER:H	1.63	0.63
1:B:1936:LYS:HB2	1:B:2116:LEU:HD11	1.82	0.62
1:B:3713:LYS:NZ	1:B:3715:LYS:O	2.33	0.62
1:A:181:HIS:HD1	1:A:194:SER:HG	1.42	0.62
1:C:517:GLU:OE1	1:C:517:GLU:N	2.32	0.62
1:D:3733:CYS:HG	1:D:3803:SER:HG	1.47	0.61
1:A:1078:GLU:HG3	1:A:1080:SER:H	1.64	0.61
1:B:3814:GLN:NE2	1:B:3818:ASP:OD2	2.33	0.61
1:A:4902:GLU:N	1:A:4902:GLU:OE1	2.33	0.61
1:A:4980:LEU:HG	1:A:4981:GLU:N	2.15	0.61
1:D:1078:GLU:HG3	1:D:1080:SER:H	1.64	0.61
1:D:1225:PRO:HG2	1:D:1228:ILE:HB	1.82	0.60
1:D:3696:ASP:OD2	1:D:3773:ARG:NH2	2.34	0.60
1:A:840:VAL:HG12	1:A:1199:VAL:HG22	1.83	0.60
1:B:4960:ILE:HD12	1:B:4988:TYR:HE2	1.67	0.60
1:A:1077:ALA:HB3	1:A:1189:LEU:HB2	1.83	0.60
1:C:2766:TRP:HD1	1:C:2790:MET:HB3	1.65	0.60
1:C:4059:LEU:HD13	1:C:4167:ALA:HB2	1.83	0.60
1:D:2117:VAL:HA	1:D:2120:MET:HG2	1.83	0.59
1:D:2766:TRP:HD1	1:D:2790:MET:HB3	1.67	0.59
1:A:2107:GLN:NE2	1:A:3680:ALA:O	2.35	0.59
1:B:4680:LYS:HD2	1:B:4686:LEU:HD22	1.84	0.59
1:B:2766:TRP:HD1	1:B:2790:MET:HB3	1.68	0.59
1:D:4181:ILE:HG12	1:D:4195:PHE:HE1	1.67	0.59
1:A:4235:VAL:HG11	1:A:5017:ARG:HH12	1.67	0.59
1:C:3772:THR:HG22	1:C:3773:ARG:HG3	1.84	0.59
1:D:4059:LEU:HD13	1:D:4167:ALA:HB2	1.83	0.59
1:B:663:TYR:HD1	1:B:747:CYS:HB3	1.68	0.59
1:A:1671:ARG:NH1	1:A:1713:ASP:OD2	2.36	0.59
1:B:2868:SER:O	1:B:2872:GLN:NE2	2.35	0.58
1:C:4104:THR:HB	1:C:4107:GLU:OE2	2.03	0.58
1:D:2118:ARG:NH2	1:D:3719:ASP:OD1	2.36	0.58
1:A:4059:LEU:HD13	1:A:4167:ALA:HB2	1.84	0.58
1:D:34:LYS:H	1:D:53:SER:HB3	1.67	0.58
1:B:4960:ILE:HD11	2:B:5101:ACP:HN62	1.68	0.58
1:D:3719:ASP:HB3	1:D:3722:TYR:HB3	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:4068:LEU:HD22	1:D:4111:LEU:HD11	1.86	0.58
1:C:663:TYR:HD1	1:C:747:CYS:HB3	1.68	0.58
1:C:1115:LEU:HB3	1:C:1123:VAL:HG11	1.86	0.58
1:D:663:TYR:HD1	1:D:747:CYS:HB3	1.69	0.58
1:A:4844:LEU:HD13	1:A:4928:LEU:HG	1.84	0.57
1:B:955:LEU:HD22	1:B:960:MET:HG2	1.84	0.57
1:A:4039:MET:SD	1:A:4039:MET:N	2.70	0.57
1:B:4039:MET:SD	1:B:4039:MET:N	2.71	0.57
1:B:4976:GLU:O	1:B:4980:LEU:HB2	2.04	0.57
1:C:4685:GLY:HA3	1:C:4689:THR:HB	1.85	0.57
1:D:221:ARG:NH1	1:D:253:CYS:O	2.38	0.57
1:C:2314:LEU:HA	1:C:2318:TYR:HB2	1.86	0.57
1:D:3768:SER:O	1:D:3772:THR:OG1	2.21	0.57
1:C:262:LEU:HB2	1:C:280:LEU:HD13	1.86	0.57
1:D:4688:ILE:HD11	1:D:4732:PHE:HD2	1.70	0.57
1:A:2766:TRP:HD1	1:A:2790:MET:HB3	1.69	0.57
1:A:5007:GLU:N	1:A:5007:GLU:OE1	2.38	0.57
1:B:627:PRO:O	1:B:629:ARG:NH1	2.38	0.57
1:A:663:TYR:HD1	1:A:747:CYS:HB3	1.70	0.57
1:B:3799:LYS:NZ	1:B:3883:ASP:OD2	2.37	0.57
1:A:2247:GLN:NE2	1:A:2282:ASP:O	2.37	0.57
1:B:4936:ILE:HG21	1:A:4931:ILE:HG22	1.86	0.57
1:C:3719:ASP:HB3	1:C:3722:TYR:HB3	1.86	0.57
1:A:618:GLN:OE1	1:A:1678:ASN:ND2	2.38	0.57
1:B:34:LYS:H	1:B:53:SER:HB3	1.70	0.56
1:C:4039:MET:SD	1:C:4039:MET:N	2.70	0.56
1:B:2314:LEU:HA	1:B:2318:TYR:HB2	1.86	0.56
1:D:262:LEU:HB2	1:D:280:LEU:HD13	1.87	0.56
1:D:627:PRO:O	1:D:629:ARG:NH1	2.38	0.56
1:A:505:GLU:HG3	1:A:507:ALA:H	1.70	0.56
1:A:665:GLU:HB2	1:A:792:LEU:HD12	1.88	0.56
1:D:2314:LEU:HA	1:D:2318:TYR:HB2	1.87	0.56
1:D:2447:LYS:HG3	1:D:2449:GLU:H	1.71	0.56
1:A:3719:ASP:HB3	1:A:3722:TYR:HB3	1.87	0.56
1:A:1137:GLU:OE1	1:A:1137:GLU:N	2.39	0.56
1:A:1854:PHE:HB3	1:A:1858:ASP:HB2	1.86	0.56
1:A:4068:LEU:HD22	1:A:4111:LEU:HD11	1.88	0.56
1:B:5004:THR:OG1	1:B:5005:GLY:N	2.39	0.56
1:B:4983:HIS:HA	1:B:4988:TYR:OH	2.06	0.56
1:A:495:ASN:ND2	1:A:555:GLU:OE1	2.39	0.56
1:A:4966:ASP:C	1:A:4968:PHE:H	2.09	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1045:THR:HG23	1:D:1046:LEU:HD23	1.87	0.55
1:A:2868:SER:O	1:A:2872:GLN:NE2	2.39	0.55
1:A:4184:MET:HG2	1:A:5023:PRO:HA	1.88	0.55
1:B:1115:LEU:HB3	1:B:1123:VAL:HG11	1.88	0.55
1:B:3759:GLU:OE1	1:B:3762:ARG:NH2	2.39	0.55
1:D:505:GLU:HG3	1:D:507:ALA:H	1.72	0.55
1:A:669:ASP:OD1	1:A:669:ASP:N	2.40	0.55
1:B:4180:ARG:HB2	1:B:4192:ARG:HD2	1.89	0.55
1:C:126:SER:HB3	1:C:132:ALA:HB2	1.88	0.55
1:A:882:TRP:HD1	1:A:886:ARG:HD3	1.71	0.55
1:B:1739:THR:HG23	1:B:1742:THR:H	1.72	0.55
1:C:2447:LYS:HG3	1:C:2449:GLU:H	1.72	0.55
1:D:1619:ARG:HA	1:D:1626:TRP:H	1.71	0.55
1:D:4071:ILE:HD12	1:D:4100:GLN:HG3	1.89	0.55
1:B:2466:LEU:O	1:B:2470:ILE:HD12	2.07	0.55
1:D:167:ASP:N	1:D:167:ASP:OD1	2.35	0.55
1:A:4239:GLU:OE2	1:A:4679:ARG:NH2	2.39	0.55
1:A:1739:THR:HG23	1:A:1742:THR:H	1.71	0.55
1:C:2581:UNK:N	1:C:2899:GLY:O	2.40	0.55
1:A:3877:ASP:HB2	1:A:3880:PHE:HB3	1.89	0.55
1:D:4962:GLY:H	1:D:5025:GLY:HA2	1.72	0.55
1:B:4985:LEU:HA	1:B:4988:TYR:HD2	1.72	0.55
1:C:830:ARG:HH21	1:C:837:PRO:HB3	1.71	0.55
1:C:2331:TYR:HD1	1:C:2332:LEU:H	1.53	0.55
1:D:633:LEU:HD23	1:D:1639:LEU:HD11	1.89	0.55
1:B:308:HIS:CE1	1:B:311:ALA:H	2.23	0.54
1:C:1251:GLU:OE1	1:C:1251:GLU:N	2.39	0.54
1:D:54:ASN:OD1	1:D:57:ASN:ND2	2.40	0.54
1:D:830:ARG:HH21	1:D:837:PRO:HB3	1.72	0.54
1:C:4860:ARG:NH2	1:D:4629:TYR:OH	2.40	0.54
1:D:517:GLU:OE2	1:D:517:GLU:N	2.39	0.54
1:A:420:SER:O	1:A:424:LYS:NZ	2.41	0.54
1:A:2581:UNK:N	1:A:2899:GLY:O	2.40	0.54
1:D:1251:GLU:OE1	1:D:1251:GLU:N	2.40	0.54
1:D:4097:MET:HB3	1:D:4108:ILE:HD13	1.89	0.54
1:A:830:ARG:HH21	1:A:837:PRO:HB3	1.72	0.54
1:A:1712:TYR:OH	1:A:1814:MET:SD	2.66	0.54
1:C:1225:PRO:HG2	1:C:1228:ILE:HB	1.89	0.54
1:B:3719:ASP:HB3	1:B:3722:TYR:HB3	1.89	0.54
1:B:4229:GLU:OE1	1:B:4229:GLU:N	2.41	0.54
1:C:1229:ASN:H	1:C:1827:ARG:HH21	1.55	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:669:ASP:N	1:D:669:ASP:OD1	2.40	0.54
1:B:669:ASP:N	1:B:669:ASP:OD1	2.40	0.54
1:A:221:ARG:HH21	1:A:259:LEU:HD21	1.73	0.54
1:A:291:LEU:HD12	1:A:299:LEU:HD11	1.90	0.54
1:A:4584:ASP:N	1:A:4584:ASP:OD1	2.41	0.54
1:B:2581:UNK:N	1:B:2899:GLY:O	2.41	0.54
1:D:1739:THR:HG23	1:D:1742:THR:H	1.72	0.54
1:A:1703:LEU:HD23	1:A:1708:ARG:HB2	1.90	0.54
1:B:1251:GLU:OE1	1:B:1251:GLU:N	2.41	0.54
1:C:1739:THR:HG23	1:C:1742:THR:H	1.72	0.54
1:D:2135:LEU:HD13	1:D:3662:ILE:HD13	1.89	0.54
1:B:505:GLU:HG3	1:B:507:ALA:H	1.73	0.53
1:B:4959:PHE:HD2	1:B:4960:ILE:HD13	1.74	0.53
1:D:4060:LYS:HA	1:D:4063:ASP:HB3	1.90	0.53
1:B:196:MET:SD	1:B:196:MET:N	2.82	0.53
1:D:61:ASP:OD1	1:D:61:ASP:N	2.41	0.53
1:C:669:ASP:OD1	1:C:669:ASP:N	2.40	0.53
1:A:317:ARG:NH1	1:A:349:GLN:OE1	2.41	0.53
1:C:4727:LYS:HD2	1:C:4728:HIS:CD2	2.44	0.53
1:B:1644:GLU:OE1	1:B:1646:ARG:NH1	2.42	0.53
1:C:1045:THR:HG23	1:C:1046:LEU:HD23	1.90	0.53
1:A:2447:LYS:HG3	1:A:2449:GLU:H	1.73	0.53
1:B:955:LEU:HD13	1:B:960:MET:HE3	1.90	0.53
1:B:2135:LEU:HD13	1:B:3662:ILE:HD13	1.90	0.53
1:A:3670:GLU:HB3	1:A:3728:ILE:HG23	1.90	0.53
1:A:4963:ILE:HD11	1:A:4967:TYR:HD2	1.73	0.53
1:B:2447:LYS:HG3	1:B:2449:GLU:H	1.73	0.53
1:C:627:PRO:O	1:C:629:ARG:NH1	2.42	0.53
1:D:4039:MET:SD	1:D:4039:MET:N	2.69	0.53
1:B:4978:HIS:CE1	1:B:5027:CYS:SG	3.01	0.53
1:A:2885:THR:HA	1:A:2888:ARG:HE	1.71	0.53
1:B:420:SER:O	1:B:424:LYS:NZ	2.42	0.53
1:C:505:GLU:HG3	1:C:507:ALA:H	1.73	0.53
1:D:947:GLU:N	1:D:947:GLU:OE1	2.42	0.53
1:B:375:LYS:NZ	1:B:376:ALA:O	2.41	0.52
1:C:4068:LEU:HD22	1:C:4111:LEU:HD11	1.91	0.52
1:D:4773:VAL:O	1:D:4777:ILE:HG12	2.09	0.52
1:A:426:ARG:HH22	1:A:503:PHE:HA	1.74	0.52
1:B:5027:CYS:C	1:B:5029:ARG:H	2.13	0.52
1:C:955:LEU:HD22	1:C:960:MET:HG2	1.91	0.52
1:D:420:SER:O	1:D:424:LYS:NZ	2.41	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3902:TYR:O	1:D:3906:GLN:NE2	2.42	0.52
1:A:1172:ASP:OD1	1:A:1172:ASP:N	2.37	0.52
1:C:1619:ARG:HA	1:C:1626:TRP:H	1.73	0.52
1:D:2466:LEU:O	1:D:2470:ILE:HD12	2.10	0.52
1:D:353:SER:HB3	1:D:355:LEU:HD22	1.91	0.52
1:D:221:ARG:HH21	1:D:259:LEU:HD21	1.75	0.52
1:D:3768:SER:HA	1:D:3771:HIS:CE1	2.44	0.52
1:B:1619:ARG:HA	1:B:1626:TRP:H	1.74	0.52
1:D:2581:UNK:N	1:D:2899:GLY:O	2.42	0.52
1:D:3889:GLN:HB2	1:D:3964:SER:HA	1.91	0.52
1:B:4985:LEU:HA	1:B:4988:TYR:CD2	2.45	0.52
1:C:34:LYS:H	1:C:53:SER:HB3	1.75	0.52
1:C:5004:THR:OG1	1:C:5005:GLY:N	2.43	0.52
1:D:347:PHE:HA	1:D:388:LEU:HD12	1.92	0.52
1:A:1225:PRO:HG2	1:A:1228:ILE:HB	1.92	0.52
1:D:2188:ASN:C	1:D:2188:ASN:HD22	2.07	0.52
1:A:3768:SER:O	1:A:3772:THR:OG1	2.25	0.52
1:B:4068:LEU:HD22	1:B:4111:LEU:HD11	1.91	0.52
1:C:3777:GLU:O	1:C:3781:GLN:HG3	2.09	0.52
1:D:4902:GLU:OE1	1:D:4902:GLU:N	2.38	0.52
1:A:331:VAL:HG22	1:A:333:GLY:H	1.74	0.52
1:A:4097:MET:HB3	1:A:4108:ILE:HD13	1.92	0.52
1:B:4182:GLU:OE1	1:B:4983:HIS:CD2	2.64	0.51
1:C:1077:ALA:HB3	1:C:1189:LEU:HB3	1.92	0.51
1:A:45:ARG:NH1	1:A:447:ASP:OD2	2.42	0.51
1:C:326:ALA:O	1:C:329:ARG:NH1	2.43	0.51
1:C:4978:HIS:HE1	1:C:4983:HIS:CE1	2.28	0.51
1:D:1115:LEU:HB3	1:D:1123:VAL:HG11	1.92	0.51
1:A:584:LYS:NZ	1:A:624:ASN:OD1	2.42	0.51
1:B:1077:ALA:HB3	1:B:1189:LEU:HB3	1.92	0.51
1:B:4007:SER:OG	1:B:4116:GLU:OE2	2.27	0.51
1:A:4104:THR:HB	1:A:4107:GLU:OE2	2.11	0.51
1:B:4241:THR:O	1:B:4245:MET:HG2	2.10	0.51
1:D:1077:ALA:HB3	1:D:1189:LEU:HB3	1.92	0.51
1:C:4241:THR:O	1:C:4245:MET:HG2	2.10	0.51
1:B:4844:LEU:HD11	1:B:4924:VAL:HG13	1.91	0.51
1:B:4963:ILE:H	1:B:4963:ILE:HD12	1.76	0.51
1:C:1793:GLU:N	1:C:2173:GLN:O	2.44	0.51
1:D:1260:MET:SD	1:D:1271:ARG:NH2	2.84	0.51
1:A:346:CYS:SG	1:A:347:PHE:N	2.83	0.51
1:A:584:LYS:HG2	1:A:624:ASN:HD21	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1644:GLU:OE1	1:D:1646:ARG:NH1	2.43	0.51
1:A:3976:ASN:O	1:A:3980:LEU:HD12	2.11	0.51
1:B:516:LYS:NZ	1:B:555:GLU:O	2.44	0.51
1:B:1028:ASP:N	1:B:1028:ASP:OD1	2.44	0.51
1:B:1793:GLU:N	1:B:2173:GLN:O	2.43	0.51
1:B:2349:ASN:O	1:B:2353:VAL:HG23	2.11	0.51
1:C:4773:VAL:O	1:C:4777:ILE:HG12	2.11	0.51
1:A:4160:LEU:HA	1:A:4163:PHE:HD2	1.76	0.51
1:D:4104:THR:HG22	1:D:4106:PRO:HD2	1.93	0.51
1:D:4976:GLU:O	1:D:4980:LEU:HG	2.11	0.51
1:B:1260:MET:SD	1:B:1271:ARG:NH2	2.85	0.50
1:A:688:LEU:HB3	1:A:712:TYR:HB3	1.92	0.50
1:B:4860:ARG:NH2	1:B:4876:CYS:O	2.43	0.50
1:C:516:LYS:NZ	1:C:555:GLU:O	2.43	0.50
1:A:196:MET:SD	1:A:196:MET:N	2.84	0.50
1:A:960:MET:SD	1:A:960:MET:N	2.84	0.50
1:B:2331:TYR:HD1	1:B:2332:LEU:H	1.59	0.50
1:A:4053:SER:O	1:A:4056:GLU:HG3	2.10	0.50
1:B:4736:ARG:NH1	1:C:4079:ASP:OD2	2.43	0.50
1:C:1644:GLU:OE1	1:C:1646:ARG:NH1	2.42	0.50
1:C:2102:VAL:HG11	1:C:2124:LEU:HD13	1.92	0.50
1:C:2644:UNK:N	1:C:2871:LEU:O	2.44	0.50
1:C:5000:GLU:OE1	1:C:5000:GLU:N	2.37	0.50
1:D:4983:HIS:C	1:D:4985:LEU:H	2.15	0.50
1:A:243:ARG:HD3	1:A:301:VAL:HG23	1.93	0.50
1:B:688:LEU:HB3	1:B:712:TYR:HB3	1.93	0.50
1:C:162:LYS:HG3	1:D:3984:ARG:HH21	1.77	0.50
1:D:4728:HIS:HB3	1:D:4732:PHE:CD2	2.46	0.50
1:D:4977:THR:O	1:D:4981:GLU:HB2	2.11	0.50
1:A:144:GLU:OE1	1:A:144:GLU:N	2.40	0.50
1:B:4968:PHE:HB3	1:B:4975:PHE:N	2.27	0.50
1:A:3904:ARG:HG2	1:A:3905:THR:HG23	1.94	0.50
1:B:1045:THR:HG23	1:B:1046:LEU:HD23	1.92	0.50
1:B:1116:GLY:HA3	1:B:1132:TRP:HB3	1.93	0.50
1:C:633:LEU:HD23	1:C:1639:LEU:HD11	1.93	0.50
1:A:221:ARG:NH1	1:A:253:CYS:O	2.44	0.50
1:A:1108:GLU:N	1:A:1108:GLU:OE2	2.45	0.50
1:B:830:ARG:HH21	1:B:837:PRO:HB3	1.76	0.50
1:B:3768:SER:HA	1:B:3771:HIS:CE1	2.47	0.50
1:D:1084:GLN:NE2	1:D:1186:ASP:O	2.45	0.50
1:D:1152:MET:HG3	1:D:1161:ILE:HB	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1028:ASP:OD1	1:A:1028:ASP:N	2.44	0.50
1:D:2165:LEU:HD12	1:D:2168:VAL:HB	1.94	0.50
1:A:3969:ILE:HD12	1:A:4030:LEU:HD13	1.93	0.50
1:B:61:ASP:OD1	1:B:61:ASP:N	2.41	0.49
1:C:4017:LEU:HD22	1:C:4139:ILE:HG21	1.93	0.49
1:D:955:LEU:HD22	1:D:960:MET:HG2	1.93	0.49
1:B:101:LEU:HD23	1:B:163:VAL:HG21	1.94	0.49
1:B:3777:GLU:O	1:B:3781:GLN:HG3	2.12	0.49
1:C:947:GLU:N	1:C:947:GLU:OE1	2.45	0.49
1:D:126:SER:HB3	1:D:132:ALA:HB2	1.95	0.49
1:D:4057:MET:HA	1:D:4060:LYS:HG2	1.93	0.49
1:D:4963:ILE:HD12	1:D:4963:ILE:H	1.77	0.49
1:A:4161:ARG:O	1:A:4165:GLU:HG2	2.12	0.49
1:D:4017:LEU:HD22	1:D:4139:ILE:HG21	1.94	0.49
1:D:4546:VAL:HA	1:D:4549:VAL:HG22	1.94	0.49
1:A:684:VAL:HG12	1:A:781:VAL:HG22	1.94	0.49
1:C:3916:ILE:HG21	1:C:3980:LEU:HD11	1.95	0.49
1:D:4820:VAL:HB	1:D:4823:LEU:HB2	1.94	0.49
1:A:4837:LEU:O	1:A:4840:THR:OG1	2.23	0.49
1:C:1700:ASP:OD1	1:C:1700:ASP:N	2.46	0.49
1:C:4152:GLU:OE1	1:C:4194:TYR:OH	2.31	0.49
1:A:669:ASP:HA	1:A:740:PRO:HA	1.94	0.49
1:A:1204:LEU:HD12	1:A:1226:PHE:HB3	1.95	0.49
1:A:2208:MET:O	1:A:2212:VAL:HG23	2.12	0.49
1:A:3780:LEU:HD11	1:A:3816:MET:HG3	1.94	0.49
1:B:3889:GLN:HB2	1:B:3964:SER:HA	1.95	0.49
1:D:4049:VAL:HG21	1:D:4159:ARG:HD2	1.94	0.49
1:B:2897:LYS:O	1:B:2897:LYS:NZ	2.45	0.49
1:D:3829:PHE:HB2	1:D:3913:ILE:HD13	1.95	0.49
1:A:126:SER:HB3	1:A:132:ALA:HB2	1.95	0.49
1:C:2187:ASN:OD1	1:C:2187:ASN:N	2.46	0.49
1:D:632:LEU:O	1:D:634:GLN:NE2	2.45	0.49
1:D:4982:GLU:O	1:D:4983:HIS:HB2	2.12	0.49
1:A:4966:ASP:C	1:A:4968:PHE:N	2.65	0.49
1:B:1220:GLN:HG3	1:C:3524:UNK:HA	1.95	0.49
1:B:4773:VAL:O	1:B:4777:ILE:HG12	2.13	0.49
1:C:1095:VAL:HB	1:C:1199:VAL:HB	1.95	0.49
1:C:1260:MET:SD	1:C:1271:ARG:NH2	2.86	0.49
1:C:4089:SER:OG	1:C:4092:ASP:OD1	2.31	0.49
1:D:355:LEU:HD11	1:D:378:LEU:HB3	1.94	0.49
1:B:4055:VAL:O	1:B:4059:LEU:HD12	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1147:ASP:HB3	1:C:1164:LEU:HD11	1.95	0.48
1:C:2267:MET:SD	1:C:2267:MET:N	2.86	0.48
1:C:4984:ASN:OD1	1:C:4987:ASN:HB2	2.13	0.48
1:B:1865:MET:HG3	1:B:1866:ILE:HG12	1.94	0.48
1:C:1220:GLN:HG3	1:D:3524:UNK:HA	1.94	0.48
1:A:633:LEU:HD23	1:A:1639:LEU:HD11	1.95	0.48
1:A:1208:VAL:HA	1:A:1211:LEU:HD12	1.95	0.48
1:A:3717:ASP:OD1	1:A:3717:ASP:N	2.41	0.48
1:D:669:ASP:HA	1:D:740:PRO:HA	1.95	0.48
1:A:5004:THR:OG1	1:A:5005:GLY:N	2.45	0.48
1:B:4960:ILE:HD12	1:B:4988:TYR:CE2	2.48	0.48
1:D:4097:MET:HG3	1:D:4108:ILE:HG23	1.95	0.48
1:B:1700:ASP:N	1:B:1700:ASP:OD1	2.46	0.48
1:B:2649:UNK:H	1:B:2869:ARG:HE	1.61	0.48
1:B:4057:MET:HA	1:B:4060:LYS:HG2	1.96	0.48
1:B:4546:VAL:HA	1:B:4549:VAL:HG22	1.94	0.48
1:C:928:THR:O	1:C:932:LEU:HD12	2.14	0.48
1:C:3733:CYS:SG	1:C:3803:SER:OG	2.68	0.48
1:B:5028:PHE:CE1	1:B:5032:TYR:HB2	2.48	0.48
1:A:572:PRO:HA	1:A:575:LEU:HD13	1.96	0.48
1:C:618:GLN:OE1	1:C:1678:ASN:ND2	2.43	0.48
1:C:1028:ASP:OD1	1:C:1028:ASP:N	2.44	0.48
1:D:1028:ASP:OD1	1:D:1028:ASP:N	2.44	0.48
1:A:330:ASP:N	1:A:330:ASP:OD1	2.46	0.48
1:A:2314:LEU:HA	1:A:2318:TYR:HB2	1.95	0.48
1:B:3524:UNK:HA	1:A:1220:GLN:HG3	1.96	0.48
1:C:669:ASP:HA	1:C:740:PRO:HA	1.96	0.48
1:C:4546:VAL:HA	1:C:4549:VAL:HG22	1.95	0.48
1:D:162:LYS:HG3	1:A:3984:ARG:HH12	1.78	0.48
1:B:2118:ARG:NH2	1:B:3719:ASP:OD1	2.43	0.48
1:D:2196:ASN:OD1	1:D:2199:ARG:NH2	2.46	0.48
1:A:1695:LEU:HD22	1:A:1810:LYS:HE2	1.94	0.48
1:A:2187:ASN:OD1	1:A:2187:ASN:N	2.46	0.48
1:A:4976:GLU:H	1:A:4976:GLU:CD	2.16	0.48
1:B:4985:LEU:H	1:B:4985:LEU:HG	1.40	0.48
1:C:221:ARG:NH1	1:C:253:CYS:O	2.47	0.48
1:C:1084:GLN:NE2	1:C:1186:ASP:O	2.47	0.48
1:B:669:ASP:HA	1:B:740:PRO:HA	1.95	0.47
1:B:1084:GLN:NE2	1:B:1186:ASP:O	2.47	0.47
1:C:35:LEU:HB3	1:C:49:LEU:HB3	1.95	0.47
1:A:4124:ASN:HB3	1:A:4127:GLU:HG3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:18:ASP:N	1:B:18:ASP:OD1	2.47	0.47
1:B:2922:LYS:HB3	1:B:2922:LYS:HE3	1.65	0.47
1:A:101:LEU:HD23	1:A:163:VAL:HG21	1.96	0.47
1:B:2581:UNK:HA	1:B:2895:GLU:HG3	1.96	0.47
1:C:4222:VAL:HG21	1:C:4950:VAL:HG23	1.95	0.47
1:D:18:ASP:N	1:D:18:ASP:OD1	2.47	0.47
1:B:633:LEU:HD23	1:B:1639:LEU:HD11	1.96	0.47
1:B:4813:LEU:HA	1:B:4816:ILE:HG22	1.97	0.47
1:A:1700:ASP:OD1	1:A:1700:ASP:N	2.45	0.47
1:B:1927:LEU:HD13	1:B:2101:MET:HG3	1.96	0.47
1:C:1717:SER:HA	1:C:1721:GLU:HB2	1.97	0.47
1:C:4931:ILE:HG22	1:D:4936:ILE:HG21	1.96	0.47
1:D:1116:GLY:HA3	1:D:1132:TRP:HB3	1.95	0.47
1:D:4152:GLU:OE2	1:D:4194:TYR:OH	2.32	0.47
1:A:78:LEU:HA	1:A:81:MET:HG2	1.96	0.47
1:A:1619:ARG:HA	1:A:1626:TRP:H	1.79	0.47
1:C:700:GLU:HG2	1:C:709:ASP:HB3	1.96	0.47
1:D:665:GLU:HB2	1:D:792:LEU:HD12	1.97	0.47
1:D:935:LEU:HD11	1:D:1053:ILE:HG13	1.96	0.47
1:D:2187:ASN:OD1	1:D:2187:ASN:N	2.46	0.47
1:D:4813:LEU:HA	1:D:4816:ILE:HG22	1.94	0.47
1:A:4985:LEU:O	1:A:4988:TYR:HB2	2.15	0.47
1:B:35:LEU:HB3	1:B:49:LEU:HB3	1.95	0.47
1:B:700:GLU:HG2	1:B:709:ASP:HB3	1.97	0.47
1:B:2644:UNK:N	1:B:2871:LEU:O	2.39	0.47
1:C:21:VAL:HB	1:C:205:ILE:HD11	1.96	0.47
1:C:1158:ASN:HB3	1:C:1182:ILE:HG22	1.96	0.47
1:D:874:LEU:HD21	1:D:929:LEU:HD11	1.96	0.47
1:D:2442:LEU:HD23	1:D:2443:ILE:H	1.79	0.47
1:D:4728:HIS:HB2	1:D:4737:ILE:HD11	1.95	0.47
1:D:4983:HIS:C	1:D:4985:LEU:N	2.68	0.47
1:A:578:ILE:HD12	1:A:578:ILE:H	1.78	0.47
1:A:4675:LYS:HB3	1:A:4675:LYS:HE3	1.78	0.47
1:C:517:GLU:O	1:C:521:LEU:HG	2.15	0.47
1:C:3751:VAL:HG13	1:C:3755:GLU:HB2	1.95	0.47
1:C:4984:ASN:O	1:C:4985:LEU:HB2	2.15	0.47
1:D:35:LEU:HB3	1:D:49:LEU:HB3	1.97	0.47
1:B:2267:MET:HE2	1:B:2267:MET:H	1.80	0.47
1:D:688:LEU:HB3	1:D:712:TYR:HB3	1.96	0.47
1:D:1793:GLU:N	1:D:2173:GLN:O	2.47	0.47
1:D:4555:LEU:HD11	1:D:4656:LEU:HD22	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:700:GLU:HG2	1:A:709:ASP:HB3	1.96	0.47
1:B:2332:LEU:HD11	1:B:2428:ALA:HB1	1.97	0.47
1:B:3713:LYS:HZ3	1:B:3715:LYS:H	1.63	0.47
1:B:3751:VAL:HG13	1:B:3755:GLU:HB2	1.96	0.47
1:B:2196:ASN:OD1	1:B:2199:ARG:NH2	2.48	0.46
1:B:2288:LEU:HD23	1:B:3849:ARG:HB3	1.97	0.46
1:C:701:GLY:HA2	1:C:1646:ARG:HA	1.97	0.46
1:C:4828:SER:O	1:C:4832:HIS:HB2	2.15	0.46
1:C:4963:ILE:HD12	1:C:4963:ILE:H	1.79	0.46
1:B:4778:TRP:O	1:B:4782:VAL:HG23	2.15	0.46
1:C:355:LEU:HD11	1:C:378:LEU:HB3	1.96	0.46
1:C:684:VAL:HG12	1:C:781:VAL:HG22	1.97	0.46
1:C:3733:CYS:HG	1:C:3803:SER:HG	1.58	0.46
1:D:4558:ASN:O	1:D:4561:THR:OG1	2.32	0.46
1:A:18:ASP:OD1	1:A:18:ASP:N	2.48	0.46
1:A:4692:PRO:HD2	1:A:4703:ARG:HH22	1.79	0.46
1:B:665:GLU:HB2	1:B:792:LEU:HD12	1.97	0.46
1:B:701:GLY:HA2	1:B:1646:ARG:HA	1.97	0.46
1:B:4774:LYS:HE2	1:B:4774:LYS:HB3	1.74	0.46
1:B:4902:GLU:OE1	1:B:4902:GLU:N	2.42	0.46
1:C:18:ASP:OD1	1:C:18:ASP:N	2.47	0.46
1:C:2442:LEU:HD23	1:C:2443:ILE:H	1.80	0.46
1:C:4727:LYS:HE2	1:C:4727:LYS:HB3	1.43	0.46
1:C:1116:GLY:HA3	1:C:1132:TRP:HB3	1.97	0.46
1:C:4704:LEU:HD11	1:C:4778:TRP:HB2	1.98	0.46
1:D:4712:PRO:HB2	1:D:4718:LYS:HD2	1.96	0.46
1:A:1110:ARG:HG2	1:A:1110:ARG:HH11	1.80	0.46
1:B:632:LEU:O	1:B:634:GLN:NE2	2.48	0.46
1:C:663:TYR:HB3	1:C:809:ALA:HB2	1.98	0.46
1:C:4976:GLU:HG3	1:C:4977:THR:N	2.31	0.46
1:D:4204:GLN:HB2	1:D:4245:MET:HE1	1.98	0.46
1:A:2114:PRO:HA	1:A:2117:VAL:HG12	1.98	0.46
1:A:4055:VAL:O	1:A:4059:LEU:HG	2.16	0.46
1:B:2442:LEU:HD23	1:B:2443:ILE:H	1.81	0.46
1:C:2679:UNK:HA	1:C:2741:GLU:HA	1.98	0.46
1:C:4007:SER:OG	1:C:4116:GLU:OE2	2.33	0.46
1:D:126:SER:OG	1:D:130:LYS:O	2.33	0.46
1:D:3989:VAL:O	1:D:3993:LEU:HG	2.15	0.46
1:B:618:GLN:OE1	1:B:1678:ASN:ND2	2.44	0.46
1:B:1106:ARG:NH1	1:B:1184:ILE:O	2.48	0.46
1:B:1717:SER:HA	1:B:1721:GLU:HB2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:618:GLN:OE1	1:D:1678:ASN:ND2	2.46	0.46
1:A:1147:ASP:OD1	1:A:1165:ASN:ND2	2.42	0.46
1:A:3775:ALA:HA	1:A:3778:MET:HG3	1.97	0.46
1:A:3844:LEU:O	1:A:3848:GLU:HG2	2.15	0.46
1:B:517:GLU:O	1:B:521:LEU:HG	2.16	0.46
1:B:4629:TYR:OH	1:A:4860:ARG:NH2	2.44	0.46
1:B:4856:PHE:HA	1:B:4860:ARG:HB2	1.98	0.46
1:D:1157:GLU:OE1	1:D:1159:THR:OG1	2.29	0.46
1:D:2581:UNK:HA	1:D:2895:GLU:HG3	1.96	0.46
1:A:701:GLY:HA2	1:A:1646:ARG:HA	1.97	0.46
1:A:3811:GLU:HA	1:A:3814:GLN:HG3	1.98	0.46
1:A:4733:GLY:H	1:A:4736:ARG:HD3	1.81	0.46
1:C:665:GLU:HB2	1:C:792:LEU:HD12	1.98	0.46
1:D:4961:CYS:HB2	1:D:4963:ILE:HD12	1.98	0.46
1:A:4976:GLU:HB2	1:A:4980:LEU:HD23	1.98	0.46
1:B:4961:CYS:HB2	1:B:4963:ILE:HD12	1.97	0.46
1:B:5029:ARG:O	1:B:5033:GLU:HB3	2.16	0.46
1:D:608:VAL:HG22	1:D:613:ALA:HB2	1.98	0.46
1:D:955:LEU:HD13	1:D:960:MET:HE3	1.98	0.46
1:D:1865:MET:HG3	1:D:1866:ILE:HG12	1.97	0.46
1:A:61:ASP:OD1	1:A:61:ASP:N	2.43	0.46
1:B:4067:LYS:HD2	1:B:4102:GLN:HB3	1.98	0.45
1:C:4056:GLU:HA	1:C:4059:LEU:HG	1.97	0.45
1:C:4658:ILE:HD12	1:C:4792:LEU:HD12	1.97	0.45
1:C:4774:LYS:HE2	1:C:4774:LYS:HB3	1.74	0.45
1:D:1856:ASP:OD1	1:D:1856:ASP:N	2.49	0.45
1:B:4060:LYS:HE2	1:B:4060:LYS:HB2	1.86	0.45
1:B:4712:PRO:HB2	1:B:4718:LYS:HD2	1.98	0.45
1:C:4813:LEU:HA	1:C:4816:ILE:HG22	1.98	0.45
1:D:700:GLU:HG2	1:D:709:ASP:HB3	1.97	0.45
1:B:27:THR:HB	1:B:33:LEU:HB2	1.98	0.45
1:B:3951:PHE:O	1:B:3955:MET:HG3	2.16	0.45
1:C:3877:ASP:HB2	1:C:3880:PHE:HB3	1.98	0.45
1:C:4191:GLU:OE2	1:C:4191:GLU:N	2.49	0.45
1:D:4980:LEU:HG	1:D:4980:LEU:H	1.59	0.45
1:A:4053:SER:O	1:A:4057:MET:HG2	2.15	0.45
1:B:221:ARG:HH21	1:B:259:LEU:HD21	1.81	0.45
1:C:3823:LYS:HA	1:C:3823:LYS:HD3	1.63	0.45
1:A:5013:MET:HG3	1:A:5018:CYS:HB3	1.98	0.45
1:B:4903:ASP:OD1	1:B:4903:ASP:N	2.47	0.45
1:C:286:THR:HG23	1:C:287:THR:HG23	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2285:GLU:HG2	1:D:2286:LEU:HG	1.98	0.45
1:A:472:ARG:NH1	1:A:475:GLN:OE1	2.47	0.45
1:A:3716:LEU:HD12	1:A:3716:LEU:H	1.81	0.45
1:B:286:THR:HG23	1:B:287:THR:HG23	1.99	0.45
1:C:707:VAL:HG13	1:C:713:SER:HB3	1.99	0.45
1:C:1385:UNK:HA	1:C:1396:UNK:HA	1.99	0.45
1:C:1769:THR:HG23	1:C:1956:GLU:HG2	1.99	0.45
1:D:286:THR:HG23	1:D:287:THR:HG23	1.97	0.45
1:D:957:LYS:HA	1:D:960:MET:HB2	1.98	0.45
1:D:4007:SER:OG	1:D:4116:GLU:OE2	2.34	0.45
1:A:2581:UNK:HA	1:A:2895:GLU:HG3	1.97	0.45
1:B:4980:LEU:HB3	1:B:4981:GLU:CD	2.37	0.45
1:C:61:ASP:OD1	1:C:61:ASP:N	2.41	0.45
1:C:4214:LYS:O	1:C:4218:ILE:HG13	2.16	0.45
1:C:4239:GLU:OE1	1:C:5014:TYR:OH	2.35	0.45
1:C:4903:ASP:OD1	1:C:4903:ASP:N	2.48	0.45
1:D:3719:ASP:O	1:D:3723:MET:HG2	2.16	0.45
1:B:2285:GLU:HG2	1:B:2286:LEU:HG	1.97	0.45
1:B:3823:LYS:HA	1:B:3823:LYS:HD3	1.63	0.45
1:C:442:ILE:O	1:C:446:GLN:HG2	2.17	0.45
1:C:866:HIS:O	1:C:869:ARG:NH1	2.46	0.45
1:D:663:TYR:HB3	1:D:809:ALA:HB2	1.99	0.45
1:D:4730:ASP:OD1	1:A:4101:LYS:HD3	2.17	0.45
1:A:1952:GLN:O	1:A:1956:GLU:HG2	2.16	0.45
1:A:2297:LYS:O	1:A:2300:SER:OG	2.31	0.45
1:C:3696:ASP:O	1:C:3700:GLN:HG3	2.17	0.45
1:D:2868:SER:O	1:D:2872:GLN:NE2	2.49	0.45
1:D:4774:LYS:HE2	1:D:4774:LYS:HB3	1.73	0.45
1:D:4963:ILE:HB	1:D:4968:PHE:HE1	1.81	0.45
1:C:306:LYS:HE2	1:C:306:LYS:HB3	1.86	0.45
1:C:632:LEU:O	1:C:634:GLN:NE2	2.50	0.45
1:C:1166:GLY:HA2	1:C:1216:ILE:HD13	1.99	0.45
1:D:2897:LYS:O	1:D:2897:LYS:NZ	2.48	0.45
1:D:3921:ASP:O	1:D:3925:ARG:HG3	2.16	0.45
1:B:500:ALA:HB1	1:B:505:GLU:HB2	1.98	0.44
1:B:4844:LEU:HD22	1:B:4928:LEU:HG	1.98	0.44
1:B:4960:ILE:H	1:B:4960:ILE:HG12	1.62	0.44
1:C:266:ARG:NH2	1:C:269:TRP:O	2.50	0.44
1:C:4067:LYS:HB2	1:C:4103:PHE:CE1	2.52	0.44
1:C:4182:GLU:HG2	1:C:4192:ARG:HG3	1.98	0.44
1:A:1094:ALA:HB3	1:A:1143:TRP:HE1	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2465:ASP:O	1:A:2469:ILE:HG12	2.17	0.44
1:A:4774:LYS:HE2	1:A:4774:LYS:HB3	1.73	0.44
1:B:663:TYR:HB3	1:B:809:ALA:HB2	2.00	0.44
1:B:914:PRO:O	1:B:918:ARG:HG3	2.17	0.44
1:B:4820:VAL:HB	1:B:4823:LEU:HB2	1.98	0.44
1:C:1106:ARG:NH1	1:C:1184:ILE:O	2.51	0.44
1:C:4791:TYR:OH	1:C:4815:ASP:O	2.35	0.44
1:D:231:LEU:HD12	1:D:245:VAL:HG11	1.99	0.44
1:A:2922:LYS:HB3	1:A:2922:LYS:HE3	1.67	0.44
1:A:3719:ASP:O	1:A:3723:MET:HG2	2.17	0.44
1:A:4207:MET:HB2	1:A:4210:VAL:HG23	1.99	0.44
1:B:583:ILE:HD12	1:B:621:ILE:HD11	1.99	0.44
1:B:1385:UNK:HA	1:B:1396:UNK:HA	1.99	0.44
1:B:1856:ASP:OD1	1:B:1856:ASP:N	2.49	0.44
1:C:553:ARG:HH21	1:C:1593:PRO:HG3	1.82	0.44
1:B:551:LEU:HG	1:B:589:LEU:HD22	1.99	0.44
1:C:2254:LEU:HD11	1:C:2334:PHE:HZ	1.82	0.44
1:D:4161:ARG:O	1:D:4165:GLU:HG2	2.17	0.44
1:A:2099:SER:O	1:A:2103:VAL:HG22	2.17	0.44
1:A:2261:SER:HA	1:A:2272:PRO:HG2	1.99	0.44
1:A:2466:LEU:O	1:A:2470:ILE:HD12	2.18	0.44
1:B:4105:GLY:O	1:B:4109:GLN:NE2	2.50	0.44
1:C:1856:ASP:N	1:C:1856:ASP:OD1	2.49	0.44
1:C:2145:SER:O	1:C:2148:SER:OG	2.35	0.44
1:C:4207:MET:HB2	1:C:4210:VAL:HG23	2.00	0.44
1:D:684:VAL:HG12	1:D:781:VAL:HG22	1.98	0.44
1:D:2254:LEU:HD11	1:D:2334:PHE:HZ	1.82	0.44
1:D:3877:ASP:HB2	1:D:3880:PHE:HB3	1.99	0.44
1:A:553:ARG:HH21	1:A:1593:PRO:HG3	1.83	0.44
1:A:4976:GLU:O	1:A:4980:LEU:N	2.44	0.44
1:B:4235:VAL:O	1:B:4239:GLU:HG2	2.16	0.44
1:C:27:THR:HB	1:C:33:LEU:HB2	2.00	0.44
1:C:1671:ARG:O	1:C:1675:ALA:HB2	2.17	0.44
1:D:516:LYS:HE2	1:D:516:LYS:HB3	1.66	0.44
1:D:580:GLU:O	1:D:584:LYS:HG2	2.18	0.44
1:D:879:HIS:CE1	1:D:921:ASN:HD22	2.35	0.44
1:B:975:VAL:HB	1:B:1047:LEU:HD21	2.00	0.44
1:B:1225:PRO:HG2	1:B:1228:ILE:HB	2.00	0.44
1:B:2000:SER:O	1:B:2005:GLN:NE2	2.42	0.44
1:B:4675:LYS:HB3	1:B:4675:LYS:HE3	1.81	0.44
1:D:786:GLY:N	1:D:1630:CYS:O	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:56:GLN:O	1:A:309:THR:OG1	2.30	0.44
1:A:2145:SER:O	1:A:2148:SER:OG	2.31	0.44
1:A:4704:LEU:HD11	1:A:4778:TRP:HB2	2.00	0.44
1:B:3696:ASP:O	1:B:3700:GLN:HG3	2.17	0.44
1:C:521:LEU:HA	1:C:524:GLU:HG3	2.00	0.44
1:D:263:GLU:HG3	1:D:281:ARG:HG3	2.00	0.44
1:D:737:LEU:HD12	1:D:737:LEU:HA	1.86	0.44
1:B:2382:GLU:O	1:B:2386:ILE:HG23	2.17	0.44
1:B:3877:ASP:HB2	1:B:3880:PHE:HB3	2.00	0.44
1:D:883:ALA:O	1:D:887:ILE:HG13	2.18	0.44
1:C:126:SER:OG	1:C:130:LYS:O	2.30	0.43
1:C:500:ALA:HB1	1:C:505:GLU:HB2	2.00	0.43
1:C:2285:GLU:HG2	1:C:2286:LEU:HG	1.98	0.43
1:D:4207:MET:HB2	1:D:4210:VAL:HG23	2.00	0.43
1:A:957:LYS:HA	1:A:960:MET:HG2	1.99	0.43
1:D:1769:THR:HG23	1:D:1956:GLU:HG2	1.99	0.43
1:D:2297:LYS:O	1:D:2300:SER:OG	2.29	0.43
1:A:178:ARG:HE	1:A:195:PHE:HE1	1.65	0.43
1:A:2159:LEU:HD12	1:A:2159:LEU:HA	1.84	0.43
1:A:2897:LYS:O	1:A:2897:LYS:NZ	2.47	0.43
1:B:317:ARG:HH22	1:B:323:LEU:H	1.65	0.43
1:B:1077:ALA:HB2	1:B:1190:PRO:HG2	1.99	0.43
1:B:4207:MET:HB2	1:B:4210:VAL:HG23	2.00	0.43
1:C:955:LEU:HD13	1:C:960:MET:HE3	2.00	0.43
1:C:5036:LEU:H	1:C:5036:LEU:HD23	1.83	0.43
1:D:3811:GLU:HA	1:D:3814:GLN:HG3	2.00	0.43
1:B:4101:LYS:HG3	1:A:4730:ASP:OD2	2.19	0.43
1:B:4821:LYS:O	1:B:4825:THR:OG1	2.33	0.43
1:C:1581:LEU:HD12	1:C:1581:LEU:HA	1.91	0.43
1:C:1842:LEU:HD23	1:C:1842:LEU:HA	1.90	0.43
1:C:1931:LEU:HB2	1:C:1936:LYS:HE3	2.00	0.43
1:D:1676:LEU:HD22	1:D:2167:ILE:HD12	2.00	0.43
1:D:2205:GLU:O	1:D:2209:GLU:HG3	2.18	0.43
1:D:3834:ALA:O	1:D:3838:THR:HG22	2.19	0.43
1:A:353:SER:HB3	1:A:355:LEU:HD23	1.99	0.43
1:A:3696:ASP:N	1:A:3696:ASP:OD1	2.50	0.43
1:A:3823:LYS:HA	1:A:3823:LYS:HD3	1.62	0.43
1:B:4156:HIS:HB3	1:B:5036:LEU:HD11	2.00	0.43
1:C:4865:LYS:HA	1:C:4865:LYS:HD2	1.79	0.43
1:D:459:LEU:HD23	1:D:459:LEU:H	1.83	0.43
1:D:870:ILE:HG13	1:D:873:LYS:HD3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:707:VAL:HG13	1:A:713:SER:HB2	1.99	0.43
1:A:781:VAL:HG12	1:A:783:PHE:HD2	1.84	0.43
1:A:3820:LEU:HD23	1:A:3820:LEU:HA	1.90	0.43
1:B:355:LEU:HD11	1:B:378:LEU:HB3	2.00	0.43
1:C:2176:ASN:O	1:C:2180:GLN:HG2	2.18	0.43
1:D:5012:LYS:O	1:D:5016:GLU:HG2	2.19	0.43
1:A:1717:SER:HA	1:A:1721:GLU:HB2	2.01	0.43
1:B:1742:THR:HG1	1:B:1769:THR:HG1	1.67	0.43
1:C:3768:SER:HA	1:C:3771:HIS:CE1	2.53	0.43
1:D:27:THR:HB	1:D:33:LEU:HB2	2.01	0.43
1:D:4025:VAL:HA	1:D:4028:LEU:HG	2.01	0.43
1:D:4903:ASP:OD1	1:D:4903:ASP:N	2.47	0.43
1:A:545:ASP:OD1	1:A:582:HIS:NE2	2.52	0.43
1:A:786:GLY:N	1:A:1630:CYS:O	2.51	0.43
1:A:1613:LEU:HD23	1:A:1634:LEU:HD12	2.00	0.43
1:B:1204:LEU:HD12	1:B:1226:PHE:HB3	2.00	0.43
1:B:1925:GLY:N	1:B:1928:GLN:OE1	2.49	0.43
1:C:4149:ASN:HD22	1:C:4194:TYR:HE2	1.67	0.43
1:A:265:LEU:HD12	1:A:265:LEU:H	1.84	0.43
1:A:2335:LEU:O	1:A:2339:VAL:HG22	2.19	0.43
1:A:4686:LEU:HD23	1:A:4686:LEU:HA	1.86	0.43
1:B:385:ASP:OD1	1:B:385:ASP:N	2.52	0.43
1:C:231:LEU:HD12	1:C:245:VAL:HG11	2.01	0.43
1:C:4973:HIS:NE2	1:C:4976:GLU:HG2	2.34	0.43
1:D:196:MET:SD	1:D:196:MET:N	2.92	0.43
1:D:394:GLN:NE2	1:D:396:GLU:H	2.16	0.43
1:D:1106:ARG:NH1	1:D:1184:ILE:O	2.48	0.43
1:A:4966:ASP:O	1:A:4968:PHE:N	2.52	0.43
1:B:4017:LEU:HD22	1:B:4139:ILE:HG21	2.00	0.43
1:B:4182:GLU:OE1	1:B:4983:HIS:HD2	2.02	0.43
1:D:4821:LYS:O	1:D:4825:THR:OG1	2.27	0.43
1:A:2442:LEU:HD23	1:A:2443:ILE:H	1.83	0.43
1:A:3921:ASP:OD1	1:A:3922:TYR:N	2.52	0.43
1:B:243:ARG:HA	1:B:243:ARG:HD3	1.78	0.42
1:B:707:VAL:HG13	1:B:713:SER:HB2	1.99	0.42
1:B:2205:GLU:O	1:B:2209:GLU:HG3	2.19	0.42
1:B:4978:HIS:C	1:B:4980:LEU:H	2.21	0.42
1:C:196:MET:SD	1:C:196:MET:N	2.91	0.42
1:C:688:LEU:HB3	1:C:712:TYR:HB3	1.99	0.42
1:D:4214:LYS:O	1:D:4218:ILE:HG13	2.19	0.42
1:A:320:LYS:HD2	1:A:320:LYS:H	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1619:ARG:O	1:A:1625:GLY:N	2.52	0.42
1:D:4542:GLY:O	1:D:4546:VAL:HG13	2.19	0.42
1:A:692:TYR:HD1	1:A:826:ILE:HD12	1.83	0.42
1:A:2189:LYS:HE2	1:A:2189:LYS:HB2	1.87	0.42
1:A:3963:ASN:O	1:A:3966:THR:OG1	2.37	0.42
1:B:608:VAL:HG22	1:B:613:ALA:HB2	2.01	0.42
1:C:957:LYS:HA	1:C:960:MET:HB2	2.01	0.42
1:C:1077:ALA:HB2	1:C:1190:PRO:HG2	2.00	0.42
1:C:2335:LEU:O	1:C:2339:VAL:HG13	2.19	0.42
1:C:4555:LEU:HD12	1:C:4555:LEU:HA	1.88	0.42
1:C:4675:LYS:HB3	1:C:4675:LYS:HE3	1.82	0.42
1:D:109:LEU:HD12	1:D:118:LEU:HD22	2.01	0.42
1:D:1077:ALA:HB2	1:D:1190:PRO:HG2	2.00	0.42
1:A:774:ASP:N	1:A:774:ASP:OD1	2.49	0.42
1:A:4844:LEU:O	1:A:4848:VAL:HG23	2.19	0.42
1:B:126:SER:OG	1:B:130:LYS:O	2.35	0.42
1:B:4870:ASP:OD1	1:B:4870:ASP:N	2.53	0.42
1:C:4985:LEU:O	1:C:4988:TYR:HB2	2.19	0.42
1:D:178:ARG:HB3	1:D:193:ALA:HB1	2.02	0.42
1:A:4813:LEU:HA	1:A:4816:ILE:HG22	2.01	0.42
1:A:4961:CYS:SG	1:A:4963:ILE:HG23	2.41	0.42
1:B:1712:TYR:OH	1:B:1814:MET:SD	2.77	0.42
1:C:758:ARG:HG2	1:C:762:CYS:HA	2.02	0.42
1:C:2581:UNK:HA	1:C:2895:GLU:HG3	2.01	0.42
1:C:4680:LYS:HD2	1:C:4686:LEU:HD11	2.01	0.42
1:C:4712:PRO:HB2	1:C:4718:LYS:HD2	2.01	0.42
1:D:1676:LEU:HD23	1:D:1676:LEU:HA	1.87	0.42
1:A:530:ILE:HD13	1:A:530:ILE:HA	1.91	0.42
1:A:1072:VAL:HG12	1:A:1195:GLY:HA2	2.01	0.42
1:A:1712:TYR:O	1:A:1716:ILE:HG23	2.19	0.42
1:C:3755:GLU:O	1:C:3759:GLU:HG2	2.20	0.42
1:C:5033:GLU:OE1	1:C:5033:GLU:N	2.44	0.42
1:D:500:ALA:HB1	1:D:505:GLU:HB2	2.01	0.42
1:A:385:ASP:OD1	1:A:385:ASP:N	2.52	0.42
1:A:866:HIS:O	1:A:869:ARG:NH1	2.52	0.42
1:A:2694:UNK:HA	1:A:2929:PHE:HE1	1.84	0.42
1:B:2189:LYS:HB2	1:B:2189:LYS:HE2	1.87	0.42
1:C:3889:GLN:HB2	1:C:3964:SER:HA	2.00	0.42
1:D:707:VAL:HG13	1:D:713:SER:HB2	2.00	0.42
1:D:4966:ASP:OD1	1:D:4967:TYR:N	2.52	0.42
1:B:550:LYS:HB3	1:B:560:ILE:HG12	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:4555:LEU:HD11	1:C:4656:LEU:HB3	2.01	0.42
1:D:4703:ARG:HA	1:D:4706:LEU:HD12	2.02	0.42
1:D:4750:ILE:HD13	1:D:4750:ILE:HA	1.96	0.42
1:A:294:THR:HG23	1:A:295:GLU:H	1.84	0.42
1:A:580:GLU:O	1:A:584:LYS:HG3	2.19	0.42
1:B:2145:SER:O	1:B:2148:SER:OG	2.38	0.42
1:B:3670:GLU:HG2	1:B:3728:ILE:HA	2.01	0.42
1:C:1712:TYR:OH	1:C:1814:MET:SD	2.77	0.42
1:C:4962:GLY:H	1:C:5025:GLY:HA2	1.85	0.42
1:D:4160:LEU:O	1:D:4164:LEU:HD23	2.20	0.42
1:D:4857:ASN:HD21	1:A:4807:PHE:HB2	1.85	0.42
1:B:121:LEU:HB3	1:B:123:THR:HG22	2.02	0.42
1:B:4542:GLY:O	1:B:4546:VAL:HG13	2.19	0.42
1:C:221:ARG:HH21	1:C:259:LEU:HD21	1.85	0.42
1:C:1676:LEU:HA	1:C:1725:ARG:HH22	1.85	0.42
1:C:1763:PRO:HG3	1:C:2094:LEU:HD22	2.01	0.42
1:C:4816:ILE:HD12	1:C:4816:ILE:HA	1.90	0.42
1:D:1927:LEU:HB3	1:D:2104:ARG:HH22	1.85	0.42
1:D:1969:LEU:HD21	1:D:2009:LEU:HD11	2.01	0.42
1:D:3696:ASP:O	1:D:3700:GLN:HG3	2.20	0.42
1:D:4555:LEU:HD23	1:D:4555:LEU:HA	1.89	0.42
1:A:3768:SER:HA	1:A:3771:HIS:ND1	2.35	0.42
1:B:553:ARG:HH21	1:B:1593:PRO:HG3	1.84	0.41
1:B:883:ALA:O	1:B:887:ILE:HG13	2.20	0.41
1:B:915:GLU:HA	1:B:918:ARG:HD3	2.02	0.41
1:C:626:LEU:HD11	1:C:630:GLU:H	1.85	0.41
1:D:1158:ASN:HB3	1:D:1182:ILE:HG22	2.02	0.41
1:D:2906:VAL:HG11	1:D:2914:LYS:HG3	2.01	0.41
1:D:3823:LYS:HD3	1:D:3823:LYS:HA	1.62	0.41
1:A:4072:VAL:HG13	1:A:4125:PHE:HD2	1.85	0.41
1:A:4232:GLU:OE2	1:A:4232:GLU:N	2.50	0.41
1:B:929:LEU:O	1:B:933:LEU:HG	2.21	0.41
1:B:3984:ARG:H	1:B:3984:ARG:HG2	1.69	0.41
1:B:4192:ARG:HD3	1:B:4193:ILE:N	2.34	0.41
1:B:4214:LYS:O	1:B:4218:ILE:HG13	2.19	0.41
1:D:4085:ARG:HE	1:D:4085:ARG:HB2	1.71	0.41
1:D:4783:ILE:HD13	1:D:4783:ILE:HA	1.85	0.41
1:B:1658:ASP:OD1	1:B:1659:LEU:N	2.54	0.41
1:B:2254:LEU:HD11	1:B:2334:PHE:HZ	1.85	0.41
1:B:4229:GLU:O	1:B:4233:LEU:HG	2.20	0.41
1:C:2189:LYS:HB2	1:C:2189:LYS:HE2	1.87	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3834:ALA:O	1:C:3838:THR:HG22	2.20	0.41
1:C:4677:LEU:HD12	1:C:4677:LEU:HA	1.88	0.41
1:D:1108:GLU:N	1:D:1108:GLU:OE1	2.53	0.41
1:D:2188:ASN:C	1:D:2188:ASN:ND2	2.71	0.41
1:D:3901:ASN:OD1	1:D:3904:ARG:NH1	2.44	0.41
1:D:4728:HIS:O	1:D:4732:PHE:N	2.53	0.41
1:A:286:THR:HG22	1:A:401:ALA:HB1	2.01	0.41
1:A:608:VAL:HG22	1:A:613:ALA:HB2	2.01	0.41
1:A:4773:VAL:O	1:A:4777:ILE:HG22	2.19	0.41
1:A:4969:ASP:HB2	1:A:4975:PHE:CZ	2.55	0.41
1:B:947:GLU:OE2	1:B:947:GLU:N	2.51	0.41
1:B:2175:GLU:O	1:B:2179:ILE:HG12	2.21	0.41
1:B:2261:SER:HA	1:B:2272:PRO:HG2	2.02	0.41
1:B:3713:LYS:NZ	1:B:3715:LYS:H	2.18	0.41
1:B:3834:ALA:O	1:B:3838:THR:HG22	2.20	0.41
1:C:3775:ALA:O	1:C:3778:MET:HG3	2.21	0.41
1:D:243:ARG:HA	1:D:243:ARG:HD3	1.79	0.41
1:D:2138:LEU:HD23	1:D:2138:LEU:HA	1.93	0.41
1:D:4039:MET:HA	1:D:4042:ARG:HD2	2.02	0.41
1:D:4725:LEU:O	1:D:4729:GLY:N	2.51	0.41
1:A:25:SER:OG	1:A:32:GLN:OE1	2.39	0.41
1:A:287:THR:HB	1:A:289:ARG:HD2	2.03	0.41
1:A:291:LEU:HD23	1:A:291:LEU:H	1.86	0.41
1:A:1155:LEU:HD13	1:A:1184:ILE:HD12	2.02	0.41
1:A:1251:GLU:OE2	1:A:1251:GLU:N	2.53	0.41
1:A:4931:ILE:O	1:A:4935:LEU:HG	2.20	0.41
1:B:957:LYS:HA	1:B:960:MET:HB2	2.02	0.41
1:B:4644:TRP:O	1:B:4648:LEU:HG	2.20	0.41
1:C:294:THR:HG23	1:C:295:GLU:H	1.86	0.41
1:C:2175:GLU:O	1:C:2179:ILE:HG12	2.20	0.41
1:C:4024:VAL:HA	1:C:4027:LEU:HD12	2.02	0.41
1:C:4973:HIS:CE1	1:C:4976:GLU:HG2	2.55	0.41
1:D:2814:LYS:HB2	1:D:2814:LYS:HE2	1.86	0.41
1:D:4229:GLU:O	1:D:4233:LEU:HG	2.21	0.41
1:A:1116:GLY:HA3	1:A:1132:TRP:HB3	2.02	0.41
1:A:3654:LEU:HD23	1:A:3654:LEU:HA	1.94	0.41
1:A:4020:GLN:HG2	1:A:4139:ILE:HD11	2.02	0.41
1:A:4834:GLY:O	1:A:4838:VAL:HG13	2.21	0.41
1:B:2906:VAL:HG11	1:B:2914:LYS:HG3	2.03	0.41
1:B:3824:LYS:HE2	1:B:3824:LYS:HB3	1.93	0.41
1:B:4991:PHE:O	1:B:4995:LEU:HG	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2205:GLU:O	1:C:2209:GLU:HG2	2.21	0.41
1:C:2297:LYS:O	1:C:2300:SER:OG	2.29	0.41
1:C:4639:MET:O	1:C:4639:MET:HG2	2.21	0.41
1:D:758:ARG:HG2	1:D:762:CYS:HA	2.01	0.41
1:A:1095:VAL:HB	1:A:1199:VAL:HB	2.03	0.41
1:A:2433:LEU:HD23	1:A:2433:LEU:HA	1.90	0.41
1:A:4850:LEU:O	1:A:4854:VAL:HG12	2.19	0.41
1:C:291:LEU:HD23	1:C:299:LEU:HD11	2.01	0.41
1:C:2814:LYS:HE2	1:C:2814:LYS:HB2	1.86	0.41
1:C:4229:GLU:O	1:C:4233:LEU:HG	2.20	0.41
1:D:2175:GLU:O	1:D:2179:ILE:HG12	2.21	0.41
1:D:2176:ASN:O	1:D:2180:GLN:HG2	2.21	0.41
1:D:2679:UNK:HA	1:D:2741:GLU:HA	2.03	0.41
1:A:139:GLU:OE1	1:A:139:GLU:N	2.51	0.41
1:A:805:PRO:HA	1:A:806:PRO:HD3	1.98	0.41
1:A:2331:TYR:HD1	1:A:2331:TYR:HA	1.78	0.41
1:B:1673:VAL:HG12	1:B:1681:VAL:HG21	2.03	0.41
1:B:3719:ASP:O	1:B:3723:MET:HG2	2.21	0.41
1:B:4698:LYS:HB3	1:B:4698:LYS:HE2	1.92	0.41
1:C:786:GLY:N	1:C:1630:CYS:O	2.54	0.41
1:C:2196:ASN:OD1	1:C:2199:ARG:NH2	2.51	0.41
1:D:299:LEU:HD12	1:D:299:LEU:HA	1.93	0.41
1:D:2382:GLU:O	1:D:2386:ILE:HG23	2.20	0.41
1:D:4039:MET:O	1:D:4043:GLN:HG3	2.21	0.41
1:A:758:ARG:HG2	1:A:762:CYS:HA	2.03	0.41
1:A:1863:LEU:HD23	1:A:1863:LEU:HA	1.88	0.41
1:A:1969:LEU:HD21	1:A:2009:LEU:HD11	2.03	0.41
1:B:684:VAL:HG12	1:B:781:VAL:HG22	2.02	0.41
1:B:1742:THR:OG1	1:B:1769:THR:OG1	2.36	0.41
1:B:1968:LYS:NZ	1:B:2030:ASP:OD2	2.54	0.41
1:B:2128:TYR:OH	1:B:3672:ARG:NH1	2.54	0.41
1:B:2176:ASN:O	1:B:2180:GLN:HG2	2.20	0.41
1:B:2187:ASN:OD1	1:B:2187:ASN:N	2.48	0.41
1:B:2679:UNK:HA	1:B:2741:GLU:HA	2.02	0.41
1:B:3971:GLY:HA2	1:B:3972:PRO:HD2	1.91	0.41
1:C:385:ASP:OD1	1:C:385:ASP:N	2.52	0.41
1:C:4743:MET:H	1:C:4743:MET:HG2	1.66	0.41
1:C:4844:LEU:HD22	1:C:4928:LEU:HG	2.03	0.41
1:C:4968:PHE:HE2	1:C:4978:HIS:CG	2.39	0.41
1:D:67:PHE:HD1	1:D:67:PHE:HA	1.81	0.41
1:D:492:ASP:OD1	1:D:546:TRP:NE1	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1673:VAL:HG12	1:D:1681:VAL:HG21	2.03	0.41
1:D:1717:SER:HA	1:D:1721:GLU:HB2	2.01	0.41
1:D:4077:PHE:HZ	1:D:4088:ILE:HG12	1.86	0.41
1:D:4644:TRP:O	1:D:4648:LEU:HG	2.21	0.41
1:D:4743:MET:H	1:D:4743:MET:HG2	1.57	0.41
1:A:360:ALA:HB2	1:A:377:ILE:HG22	2.03	0.41
1:A:457:GLU:HG2	1:A:464:LYS:HE2	2.03	0.41
1:A:4104:THR:HG22	1:A:4106:PRO:HD2	2.03	0.41
1:A:4157:ASP:HB3	1:A:4160:LEU:HD12	2.03	0.41
1:A:4160:LEU:O	1:A:4164:LEU:HD23	2.20	0.41
1:A:4677:LEU:HD12	1:A:4677:LEU:HA	1.88	0.41
1:A:4865:LYS:HA	1:A:4865:LYS:HD3	1.78	0.41
1:B:590:LEU:HB2	1:B:599:VAL:HG11	2.02	0.41
1:B:4960:ILE:HD11	2:B:5101:ACP:N6	2.35	0.41
1:C:195:PHE:HB3	1:D:2361:PRO:HG3	2.02	0.41
1:C:353:SER:HB3	1:C:355:LEU:HD22	2.02	0.41
1:C:883:ALA:O	1:C:887:ILE:HG13	2.20	0.41
1:C:1969:LEU:HD11	1:C:2009:LEU:HD11	2.02	0.41
1:C:4013:LEU:HD12	1:C:4013:LEU:HA	1.93	0.41
1:D:3951:PHE:O	1:D:3955:MET:HG3	2.19	0.41
1:D:4666:VAL:HG13	1:D:4783:ILE:HD11	2.03	0.41
1:A:1131:ARG:HE	1:A:1137:GLU:HB2	1.86	0.41
1:A:4041:ALA:O	1:A:4045:VAL:HG22	2.21	0.41
1:A:4150:LEU:HD12	1:A:4150:LEU:HA	1.90	0.41
1:A:4966:ASP:HA	1:A:4969:ASP:HB3	2.02	0.41
1:B:1842:LEU:HD23	1:B:1842:LEU:HA	1.91	0.40
1:B:2902:HIS:HA	1:B:2903:PRO:HD3	1.98	0.40
1:B:4555:LEU:HD11	1:B:4656:LEU:HD22	2.02	0.40
1:C:379:HIS:CD2	1:C:382:GLY:H	2.39	0.40
1:C:3699:HIS:O	1:C:3703:LEU:HG	2.21	0.40
1:A:539:LEU:H	1:A:539:LEU:HD12	1.86	0.40
1:A:544:LEU:HD21	1:A:578:ILE:HG13	2.03	0.40
1:B:294:THR:HG23	1:B:295:GLU:H	1.86	0.40
1:B:1095:VAL:HB	1:B:1199:VAL:HB	2.04	0.40
1:B:4215:ARG:NH2	2:B:5101:ACP:O1B	2.55	0.40
1:B:4865:LYS:HA	1:B:4865:LYS:HD2	1.78	0.40
1:B:4983:HIS:O	2:B:5101:ACP:N6	2.54	0.40
1:C:590:LEU:HB2	1:C:599:VAL:HG11	2.04	0.40
1:C:1152:MET:HG3	1:C:1161:ILE:HB	2.02	0.40
1:C:4646:LEU:HD23	1:C:4646:LEU:HA	1.91	0.40
1:D:21:VAL:HB	1:D:205:ILE:HD11	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:385:ASP:OD1	1:D:385:ASP:N	2.52	0.40
1:D:3775:ALA:O	1:D:3778:MET:HG3	2.22	0.40
1:D:4071:ILE:HD13	1:D:4071:ILE:HA	1.92	0.40
1:D:4100:GLN:HB3	1:D:4102:GLN:OE1	2.21	0.40
1:D:4870:ASP:OD1	1:D:4870:ASP:N	2.53	0.40
1:A:4097:MET:HG3	1:A:4108:ILE:HG23	2.02	0.40
1:B:76:ARG:HD3	1:B:76:ARG:HA	1.95	0.40
1:B:758:ARG:HG2	1:B:762:CYS:HA	2.02	0.40
1:B:4677:LEU:HD21	1:B:4702:ASP:HB3	2.03	0.40
1:C:544:LEU:HD23	1:C:544:LEU:HA	1.96	0.40
1:D:2188:ASN:ND2	1:D:2188:ASN:O	2.41	0.40
1:D:3670:GLU:HG2	1:D:3728:ILE:HA	2.03	0.40
1:A:4984:ASN:O	1:A:4985:LEU:HB3	2.20	0.40
1:B:379:HIS:CD2	1:B:382:GLY:H	2.40	0.40
1:B:2469:ILE:HD13	1:B:2469:ILE:HA	1.86	0.40
1:C:121:LEU:HB3	1:C:123:THR:HG22	2.04	0.40
1:C:1204:LEU:HD12	1:C:1226:PHE:HB3	2.02	0.40
1:C:2182:ILE:HD13	1:C:2182:ILE:HA	2.00	0.40
1:C:3814:GLN:NE2	1:C:3818:ASP:OD2	2.55	0.40
1:C:3845:ASN:N	1:C:3845:ASN:OD1	2.55	0.40
1:C:4177:TYR:HA	1:C:4197:ILE:HB	2.04	0.40
1:D:3699:HIS:O	1:D:3703:LEU:HG	2.21	0.40
1:D:3812:VAL:O	1:D:3816:MET:HG3	2.21	0.40
1:D:4675:LYS:HB3	1:D:4675:LYS:HE3	1.83	0.40
1:A:1842:LEU:HD23	1:A:1842:LEU:HA	1.90	0.40
1:A:2656:UNK:O	1:A:2924:GLN:NE2	2.52	0.40
1:A:3917:ILE:HA	1:A:3920:VAL:HG22	2.02	0.40
1:B:150:MET:HB3	1:B:169:LEU:HD13	2.03	0.40
1:B:1231:GLN:HE22	1:B:1826:ALA:HB2	1.86	0.40
1:B:3696:ASP:OD2	1:B:3773:ARG:NH2	2.54	0.40
1:B:4850:LEU:O	1:B:4854:VAL:HG12	2.21	0.40
1:B:4966:ASP:OD1	1:B:4967:TYR:N	2.55	0.40
1:C:2332:LEU:HD11	1:C:2428:ALA:HB1	2.02	0.40
1:C:4085:ARG:HE	1:C:4085:ARG:HB2	1.72	0.40
1:C:4999:ASP:HB3	1:C:5002:GLU:HG2	2.03	0.40
1:D:121:LEU:HB3	1:D:123:THR:HG22	2.03	0.40
1:A:2030:ASP:N	1:A:2030:ASP:OD1	2.55	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	3203/5037 (64%)	3060 (96%)	140 (4%)	3 (0%)	48	76
1	B	3203/5037 (64%)	3055 (95%)	143 (4%)	5 (0%)	44	71
1	C	3203/5037 (64%)	3056 (95%)	145 (4%)	2 (0%)	48	76
1	D	3203/5037 (64%)	3059 (96%)	141 (4%)	3 (0%)	48	76
All	All	12812/20148 (64%)	12230 (96%)	569 (4%)	13 (0%)	50	76

All (13) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	3915	ILE
1	D	3915	ILE
1	B	3788	GLY
1	B	4198	SER
1	C	3788	GLY
1	D	4198	SER
1	A	4967	TYR
1	B	4956	THR
1	C	4198	SER
1	D	3788	GLY
1	A	3788	GLY
1	A	4198	SER
1	B	4972	PRO

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	2513/3264 (77%)	2401 (96%)	112 (4%)	23	52
1	B	2513/3264 (77%)	2396 (95%)	117 (5%)	22	51
1	C	2513/3264 (77%)	2416 (96%)	97 (4%)	27	55
1	D	2513/3264 (77%)	2405 (96%)	108 (4%)	25	53
All	All	10052/13056 (77%)	9618 (96%)	434 (4%)	27	53

All (434) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	17	ASP
1	B	150	MET
1	B	168	ASP
1	B	178	ARG
1	B	218	HIS
1	B	222	LEU
1	B	223	PHE
1	B	226	HIS
1	B	306	LYS
1	B	379	HIS
1	B	384	MET
1	B	389	PHE
1	B	451	TYR
1	B	452	PHE
1	B	478	PHE
1	B	533	ASN
1	B	539	LEU
1	B	588	SER
1	B	597	HIS
1	B	674	PHE
1	B	710	ASP
1	B	869	ARG
1	B	933	LEU
1	B	961	MET
1	B	1047	LEU
1	B	1100	MET
1	B	1180	ARG
1	B	1214	PHE
1	B	1219	LEU
1	B	1580	PHE
1	B	1608	MET
1	B	1637	MET
1	B	1713	ASP

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Mol	Chain	Res	Type
1	B	1846	SER
1	B	1929	MET
1	B	2122	SER
1	B	2128	TYR
1	B	2225	PHE
1	B	2267	MET
1	B	2331	TYR
1	B	2334	PHE
1	B	2340	PHE
1	B	2348	GLU
1	B	2440	MET
1	B	2442	LEU
1	B	2806	ARG
1	B	2872	GLN
1	B	2874	MET
1	B	2884	ASN
1	B	2888	ARG
1	B	2920	ARG
1	B	3652	MET
1	B	3657	TYR
1	B	3669	PHE
1	B	3675	ASP
1	B	3706	SER
1	B	3713	LYS
1	B	3718	GLU
1	B	3750	GLU
1	B	3770	LEU
1	B	3803	SER
1	B	3875	MET
1	B	3936	TYR
1	B	3937	TYR
1	B	3951	PHE
1	B	3979	SER
1	B	3984	ARG
1	B	3986	TRP
1	B	4022	ASP
1	B	4034	ASN
1	B	4039	MET
1	B	4047	MET
1	B	4083	ASP
1	B	4099	SER
1	B	4101	LYS

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Mol	Chain	Res	Type
1	B	4110	PHE
1	B	4114	CYS
1	B	4138	ASP
1	B	4156	HIS
1	B	4161	ARG
1	B	4252	SER
1	B	4568	PHE
1	B	4584	ASP
1	B	4630	TYR
1	B	4631	PHE
1	B	4684	ASP
1	B	4711	PHE
1	B	4730	ASP
1	B	4741	LEU
1	B	4772	ASP
1	B	4775	TYR
1	B	4784	PHE
1	B	4789	PHE
1	B	4795	TYR
1	B	4809	PHE
1	B	4818	MET
1	B	4832	HIS
1	B	4858	PHE
1	B	4861	LYS
1	B	4873	ASP
1	B	4888	TYR
1	B	4900	GLU
1	B	4957	LYS
1	B	4960	ILE
1	B	4965	SER
1	B	4969	ASP
1	B	4973	HIS
1	B	4975	PHE
1	B	4980	LEU
1	B	4981	GLU
1	B	4982	GLU
1	B	4984	ASN
1	B	4985	LEU
1	B	4987	ASN
1	B	5020	ASP
1	B	5028	PHE
1	B	5035	GLN

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Mol	Chain	Res	Type
1	C	168	ASP
1	C	178	ARG
1	C	218	HIS
1	C	220	LEU
1	C	226	HIS
1	C	306	LYS
1	C	329	ARG
1	C	334	MET
1	C	379	HIS
1	C	478	PHE
1	C	481	GLU
1	C	588	SER
1	C	674	PHE
1	C	710	ASP
1	C	869	ARG
1	C	961	MET
1	C	1047	LEU
1	C	1124	PHE
1	C	1180	ARG
1	C	1214	PHE
1	C	1580	PHE
1	C	1608	MET
1	C	1846	SER
1	C	2122	SER
1	C	2128	TYR
1	C	2225	PHE
1	C	2331	TYR
1	C	2334	PHE
1	C	2340	PHE
1	C	2348	GLU
1	C	2442	LEU
1	C	2806	ARG
1	C	2810	LYS
1	C	2869	ARG
1	C	2872	GLN
1	C	2874	MET
1	C	2884	ASN
1	C	2888	ARG
1	C	2920	ARG
1	C	3652	MET
1	C	3653	PHE
1	C	3669	PHE

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Mol	Chain	Res	Type
1	C	3675	ASP
1	C	3696	ASP
1	C	3706	SER
1	C	3750	GLU
1	C	3809	ASN
1	C	3937	TYR
1	C	3979	SER
1	C	3986	TRP
1	C	3992	PHE
1	C	3996	PHE
1	C	3999	MET
1	C	4034	ASN
1	C	4039	MET
1	C	4047	MET
1	C	4060	LYS
1	C	4101	LYS
1	C	4103	PHE
1	C	4114	CYS
1	C	4138	ASP
1	C	4161	ARG
1	C	4192	ARG
1	C	4252	SER
1	C	4551	PHE
1	C	4564	PHE
1	C	4568	PHE
1	C	4580	TYR
1	C	4584	ASP
1	C	4630	TYR
1	C	4684	ASP
1	C	4711	PHE
1	C	4727	LYS
1	C	4741	LEU
1	C	4772	ASP
1	C	4789	PHE
1	C	4795	TYR
1	C	4809	PHE
1	C	4821	LYS
1	C	4823	LEU
1	C	4832	HIS
1	C	4849	TYR
1	C	4858	PHE
1	C	4859	PHE

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Mol	Chain	Res	Type
1	C	4860	ARG
1	C	4861	LYS
1	C	4873	ASP
1	C	4874	MET
1	C	4959	PHE
1	C	4965	SER
1	C	4975	PHE
1	C	4976	GLU
1	C	4977	THR
1	C	4980	LEU
1	C	5020	ASP
1	C	5028	PHE
1	C	5035	GLN
1	D	17	ASP
1	D	67	PHE
1	D	168	ASP
1	D	178	ARG
1	D	218	HIS
1	D	220	LEU
1	D	222	LEU
1	D	226	HIS
1	D	316	PHE
1	D	336	PRO
1	D	379	HIS
1	D	384	MET
1	D	389	PHE
1	D	452	PHE
1	D	478	PHE
1	D	516	LYS
1	D	553	ARG
1	D	588	SER
1	D	597	HIS
1	D	674	PHE
1	D	710	ASP
1	D	783	PHE
1	D	869	ARG
1	D	874	LEU
1	D	910	PHE
1	D	961	MET
1	D	1046	LEU
1	D	1047	LEU
1	D	1124	PHE

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Mol	Chain	Res	Type
1	D	1152	MET
1	D	1180	ARG
1	D	1213	PHE
1	D	1214	PHE
1	D	1219	LEU
1	D	1580	PHE
1	D	1608	MET
1	D	1827	ARG
1	D	1846	SER
1	D	2128	TYR
1	D	2188	ASN
1	D	2225	PHE
1	D	2334	PHE
1	D	2340	PHE
1	D	2348	GLU
1	D	2442	LEU
1	D	2806	ARG
1	D	2872	GLN
1	D	2874	MET
1	D	2884	ASN
1	D	2920	ARG
1	D	3653	PHE
1	D	3657	TYR
1	D	3669	PHE
1	D	3699	HIS
1	D	3706	SER
1	D	3718	GLU
1	D	3753	PHE
1	D	3936	TYR
1	D	3937	TYR
1	D	3951	PHE
1	D	3964	SER
1	D	3979	SER
1	D	3986	TRP
1	D	4039	MET
1	D	4050	GLU
1	D	4052	SER
1	D	4083	ASP
1	D	4098	ASP
1	D	4099	SER
1	D	4114	CYS
1	D	4161	ARG

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Mol	Chain	Res	Type
1	D	4164	LEU
1	D	4192	ARG
1	D	4252	SER
1	D	4551	PHE
1	D	4564	PHE
1	D	4579	PHE
1	D	4580	TYR
1	D	4630	TYR
1	D	4652	LEU
1	D	4684	ASP
1	D	4725	LEU
1	D	4726	ASP
1	D	4727	LYS
1	D	4731	ILE
1	D	4741	LEU
1	D	4743	MET
1	D	4772	ASP
1	D	4795	TYR
1	D	4809	PHE
1	D	4821	LYS
1	D	4832	HIS
1	D	4851	TYR
1	D	4858	PHE
1	D	4861	LYS
1	D	4873	ASP
1	D	4879	MET
1	D	4959	PHE
1	D	4965	SER
1	D	4975	PHE
1	D	4979	THR
1	D	4980	LEU
1	D	4981	GLU
1	D	4982	GLU
1	D	4984	ASN
1	D	5020	ASP
1	D	5028	PHE
1	D	5035	GLN
1	A	29	LEU
1	A	116	MET
1	A	178	ARG
1	A	213	TYR
1	A	218	HIS

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Mol	Chain	Res	Type
1	A	262	LEU
1	A	265	LEU
1	A	384	MET
1	A	393	CYS
1	A	403	MET
1	A	418	LEU
1	A	452	PHE
1	A	453	GLU
1	A	459	LEU
1	A	539	LEU
1	A	588	SER
1	A	597	HIS
1	A	604	CYS
1	A	674	PHE
1	A	710	ASP
1	A	796	ARG
1	A	829	TYR
1	A	869	ARG
1	A	882	TRP
1	A	910	PHE
1	A	1112	ASP
1	A	1118	ASP
1	A	1180	ARG
1	A	1213	PHE
1	A	1214	PHE
1	A	1219	LEU
1	A	1608	MET
1	A	1702	HIS
1	A	1731	LEU
1	A	1846	SER
1	A	2128	TYR
1	A	2163	ARG
1	A	2191	PHE
1	A	2194	HIS
1	A	2331	TYR
1	A	2340	PHE
1	A	2451	LEU
1	A	2474	LEU
1	A	2806	ARG
1	A	2810	LYS
1	A	2872	GLN
1	A	2884	ASN

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Mol	Chain	Res	Type
1	A	2888	ARG
1	A	2920	ARG
1	A	3657	TYR
1	A	3675	ASP
1	A	3699	HIS
1	A	3706	SER
1	A	3732	SER
1	A	3771	HIS
1	A	3786	CYS
1	A	3835	LEU
1	A	3836	MET
1	A	3951	PHE
1	A	3962	PHE
1	A	3968	TYR
1	A	3980	LEU
1	A	3983	SER
1	A	3996	PHE
1	A	4022	ASP
1	A	4031	LEU
1	A	4032	GLU
1	A	4034	ASN
1	A	4039	MET
1	A	4098	ASP
1	A	4100	GLN
1	A	4101	LYS
1	A	4109	GLN
1	A	4110	PHE
1	A	4114	CYS
1	A	4132	PHE
1	A	4153	HIS
1	A	4159	ARG
1	A	4164	LEU
1	A	4192	ARG
1	A	4219	PHE
1	A	4234	PHE
1	A	4551	PHE
1	A	4559	PHE
1	A	4560	TYR
1	A	4564	PHE
1	A	4575	PHE
1	A	4580	TYR
1	A	4631	PHE

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Mol	Chain	Res	Type
1	A	4661	TYR
1	A	4690	GLU
1	A	4741	LEU
1	A	4743	MET
1	A	4768	LEU
1	A	4809	PHE
1	A	4821	LYS
1	A	4823	LEU
1	A	4832	HIS
1	A	4849	TYR
1	A	4858	PHE
1	A	4859	PHE
1	A	4861	LYS
1	A	4879	MET
1	A	4886	HIS
1	A	4888	TYR
1	A	4965	SER
1	A	4967	TYR
1	A	4979	THR
1	A	4980	LEU
1	A	4985	LEU
1	A	5020	ASP
1	A	5032	TYR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (18) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	201	ASN
1	B	308	HIS
1	B	963	ASN
1	C	201	ASN
1	C	963	ASN
1	C	2744	ASN
1	C	4983	HIS
1	D	201	ASN
1	D	597	HIS
1	D	879	HIS
1	D	963	ASN
1	D	2744	ASN
1	D	4100	GLN
1	A	203	ASN
1	A	495	ASN

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Mol	Chain	Res	Type
1	A	2107	GLN
1	A	4978	HIS
1	A	4984	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 16 ligands modelled in this entry, 12 are monoatomic - leaving 4 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	$\# Z > 2$
2	ACP	B	5101	-	27,33,33	3.97	10 (37%)	33,52,52	2.14	5 (15%)
2	ACP	D	5101	-	27,33,33	3.97	10 (37%)	33,52,52	2.13	5 (15%)
2	ACP	A	5101	-	27,33,33	3.97	10 (37%)	33,52,52	2.13	5 (15%)
2	ACP	C	5101	-	27,33,33	3.97	10 (37%)	33,52,52	2.14	5 (15%)

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
2	ACP	B	5101	-	-	6/15/38/38	0/3/3/3
2	ACP	D	5101	-	-	6/15/38/38	0/3/3/3
2	ACP	A	5101	-	-	6/15/38/38	0/3/3/3
2	ACP	C	5101	-	-	6/15/38/38	0/3/3/3

All (40) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	5101	ACP	O4'-C1'	16.12	1.62	1.40
2	D	5101	ACP	O4'-C1'	16.10	1.62	1.40
2	C	5101	ACP	O4'-C1'	16.09	1.62	1.40
2	A	5101	ACP	O4'-C1'	16.09	1.62	1.40
2	B	5101	ACP	O4'-C4'	-6.30	1.31	1.45
2	A	5101	ACP	PB-O3A	6.29	1.65	1.58
2	C	5101	ACP	PB-O3A	6.28	1.65	1.58
2	C	5101	ACP	O4'-C4'	-6.26	1.31	1.45
2	D	5101	ACP	O4'-C4'	-6.25	1.31	1.45
2	B	5101	ACP	PB-O3A	6.25	1.65	1.58
2	D	5101	ACP	PB-O3A	6.25	1.65	1.58
2	A	5101	ACP	O4'-C4'	-6.23	1.31	1.45
2	A	5101	ACP	PA-O3A	5.40	1.65	1.59
2	D	5101	ACP	PA-O3A	5.38	1.65	1.59
2	C	5101	ACP	PA-O3A	5.35	1.65	1.59
2	B	5101	ACP	PA-O3A	5.32	1.65	1.59
2	C	5101	ACP	C6-N6	3.23	1.45	1.34
2	B	5101	ACP	C6-N6	3.22	1.45	1.34
2	D	5101	ACP	C6-N6	3.21	1.45	1.34
2	A	5101	ACP	C6-N6	3.21	1.45	1.34
2	C	5101	ACP	O2'-C2'	2.82	1.49	1.43
2	B	5101	ACP	O2'-C2'	2.82	1.49	1.43
2	D	5101	ACP	O2'-C2'	2.82	1.49	1.43
2	A	5101	ACP	O2'-C2'	2.81	1.49	1.43
2	A	5101	ACP	O3'-C3'	-2.77	1.36	1.43
2	B	5101	ACP	O3'-C3'	-2.76	1.36	1.43
2	D	5101	ACP	O3'-C3'	-2.74	1.36	1.43
2	C	5101	ACP	O3'-C3'	-2.71	1.36	1.43
2	D	5101	ACP	C2-N3	2.38	1.35	1.32
2	C	5101	ACP	C2-N3	2.35	1.35	1.32
2	A	5101	ACP	C2-N3	2.31	1.35	1.32
2	B	5101	ACP	C2-N3	2.30	1.35	1.32
2	A	5101	ACP	C1'-N9	-2.22	1.44	1.49
2	D	5101	ACP	C1'-N9	-2.22	1.44	1.49

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	5101	ACP	C1'-N9	-2.22	1.44	1.49
2	C	5101	ACP	C1'-N9	-2.21	1.44	1.49
2	B	5101	ACP	PB-O2B	-2.08	1.51	1.56
2	C	5101	ACP	PB-O2B	-2.03	1.51	1.56
2	D	5101	ACP	PB-O2B	-2.02	1.51	1.56
2	A	5101	ACP	PB-O2B	-2.02	1.51	1.56

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	C	5101	ACP	C5-C6-N6	7.02	131.00	120.31
2	D	5101	ACP	C5-C6-N6	7.00	130.98	120.31
2	B	5101	ACP	C5-C6-N6	6.97	130.93	120.31
2	A	5101	ACP	C5-C6-N6	6.96	130.91	120.31
2	D	5101	ACP	N3-C2-N1	-6.47	119.89	128.67
2	A	5101	ACP	N3-C2-N1	-6.46	119.90	128.67
2	C	5101	ACP	N3-C2-N1	-6.46	119.91	128.67
2	B	5101	ACP	N3-C2-N1	-6.44	119.94	128.67
2	D	5101	ACP	N6-C6-N1	-4.37	109.00	118.33
2	C	5101	ACP	N6-C6-N1	-4.36	109.01	118.33
2	B	5101	ACP	N6-C6-N1	-4.35	109.03	118.33
2	A	5101	ACP	N6-C6-N1	-4.32	109.11	118.33
2	B	5101	ACP	C4'-O4'-C1'	-4.02	106.24	109.92
2	C	5101	ACP	C4'-O4'-C1'	-3.89	106.37	109.92
2	A	5101	ACP	C4'-O4'-C1'	-3.77	106.47	109.92
2	D	5101	ACP	C4'-O4'-C1'	-3.64	106.59	109.92
2	D	5101	ACP	PB-O3A-PA	-2.69	123.58	132.37
2	A	5101	ACP	PB-O3A-PA	-2.68	123.63	132.37
2	B	5101	ACP	PB-O3A-PA	-2.67	123.66	132.37
2	C	5101	ACP	PB-O3A-PA	-2.66	123.68	132.37

There are no chirality outliers.

All (24) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	B	5101	ACP	C5'-O5'-PA-O2A
2	B	5101	ACP	C5'-O5'-PA-O3A
2	B	5101	ACP	C4'-C5'-O5'-PA
2	C	5101	ACP	C5'-O5'-PA-O2A
2	C	5101	ACP	C5'-O5'-PA-O3A
2	C	5101	ACP	C4'-C5'-O5'-PA
2	D	5101	ACP	C5'-O5'-PA-O2A

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Mol	Chain	Res	Type	Atoms
2	D	5101	ACP	C5'-O5'-PA-O3A
2	D	5101	ACP	C4'-C5'-O5'-PA
2	A	5101	ACP	C5'-O5'-PA-O2A
2	A	5101	ACP	C5'-O5'-PA-O3A
2	A	5101	ACP	C4'-C5'-O5'-PA
2	D	5101	ACP	O4'-C4'-C5'-O5'
2	D	5101	ACP	C3'-C4'-C5'-O5'
2	A	5101	ACP	O4'-C4'-C5'-O5'
2	A	5101	ACP	C3'-C4'-C5'-O5'
2	B	5101	ACP	O4'-C4'-C5'-O5'
2	B	5101	ACP	C3'-C4'-C5'-O5'
2	C	5101	ACP	O4'-C4'-C5'-O5'
2	C	5101	ACP	C3'-C4'-C5'-O5'
2	B	5101	ACP	PB-C3B-PG-O1G
2	C	5101	ACP	PB-C3B-PG-O1G
2	D	5101	ACP	PB-C3B-PG-O1G
2	A	5101	ACP	PB-C3B-PG-O1G

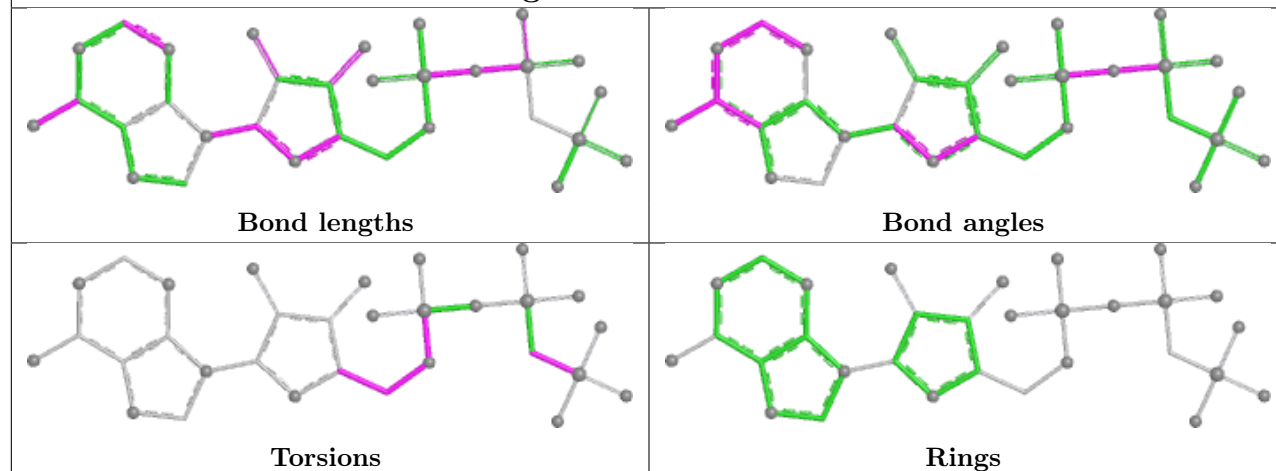
There are no ring outliers.

1 monomer is involved in 4 short contacts:

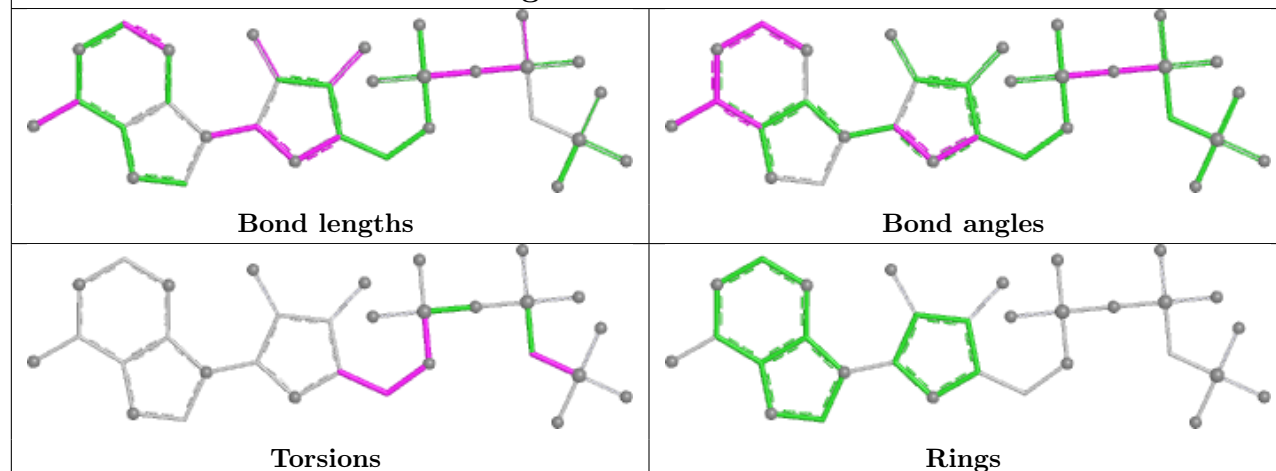
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	5101	ACP	4	0

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.

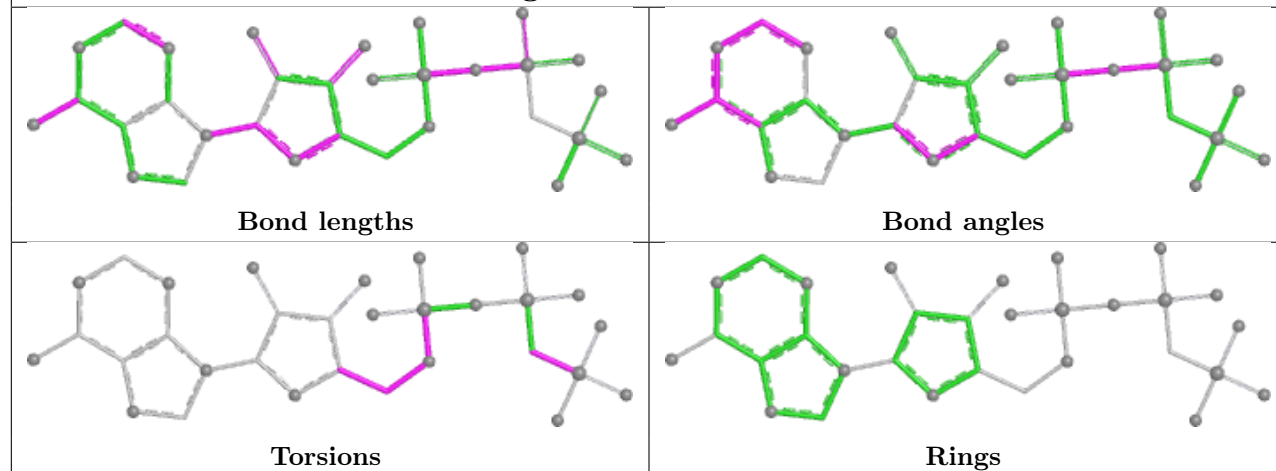
Ligand ACP B 5101

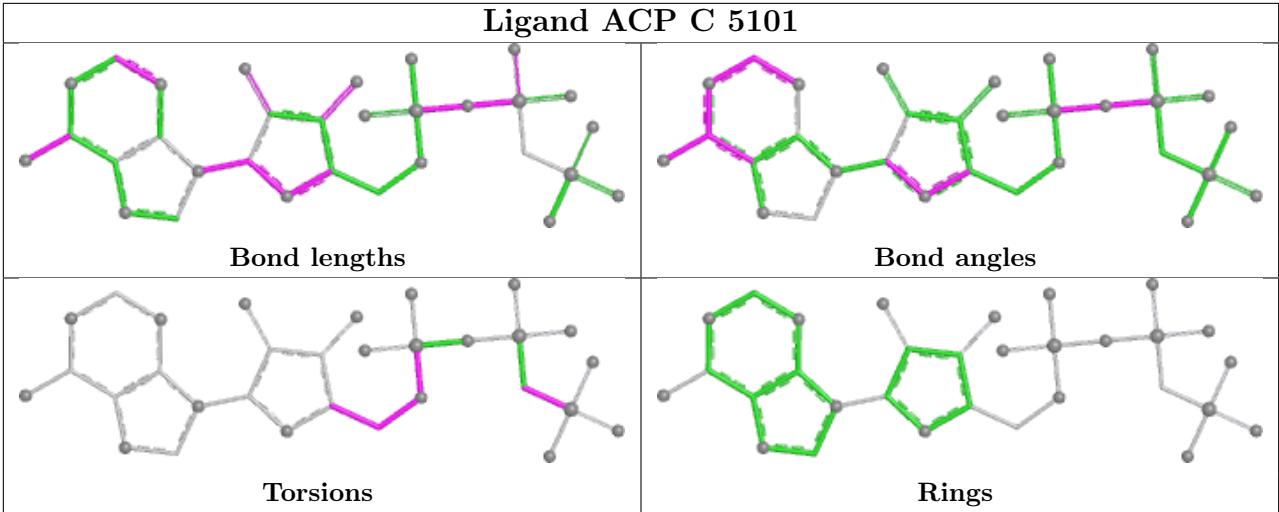


Ligand ACP D 5101



Ligand ACP A 5101





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
1	D	7
1	B	7
1	C	7
1	A	7

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	D	3288:UNK	C	3289:UNK	N	13.33
1	B	3288:UNK	C	3289:UNK	N	13.32
1	C	3288:UNK	C	3289:UNK	N	13.32
1	A	3288:UNK	C	3289:UNK	N	13.25
1	A	3510:UNK	C	3511:UNK	N	13.22
1	D	3510:UNK	C	3511:UNK	N	13.12
1	B	3510:UNK	C	3511:UNK	N	13.11
1	C	3510:UNK	C	3511:UNK	N	13.11
1	D	3122:UNK	C	3123:UNK	N	12.59
1	A	3122:UNK	C	3123:UNK	N	12.59
1	B	3122:UNK	C	3123:UNK	N	12.51
1	C	3122:UNK	C	3123:UNK	N	12.50
1	A	3221:UNK	C	3222:UNK	N	11.37

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B	3221:UNK	C	3222:UNK	N	11.35
1	C	3221:UNK	C	3222:UNK	N	11.35
1	D	3221:UNK	C	3222:UNK	N	11.34
1	B	3191:UNK	C	3192:UNK	N	11.13
1	C	3191:UNK	C	3192:UNK	N	11.13
1	D	3191:UNK	C	3192:UNK	N	11.13
1	A	3191:UNK	C	3192:UNK	N	11.10
1	B	3302:UNK	C	3303:UNK	N	10.58
1	D	3302:UNK	C	3303:UNK	N	10.58
1	C	3302:UNK	C	3303:UNK	N	10.57
1	A	3302:UNK	C	3303:UNK	N	10.43
1	B	1297:UNK	C	1298:UNK	N	7.04
1	C	1297:UNK	C	1298:UNK	N	7.04
1	D	1297:UNK	C	1298:UNK	N	7.04
1	A	1297:UNK	C	1298:UNK	N	6.91

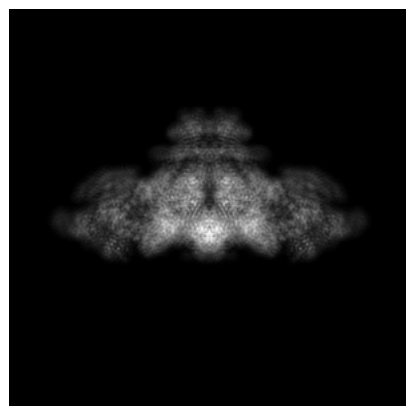
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-25830. These allow visual inspection of the internal detail of the map and identification of artifacts.

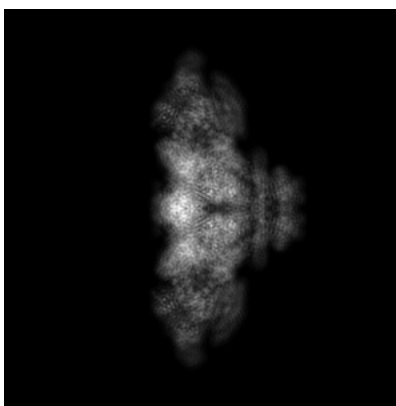
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

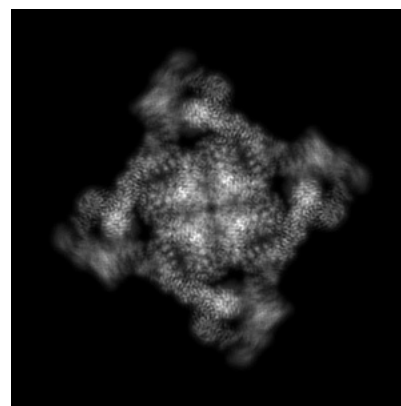
6.1.1 Primary map



X

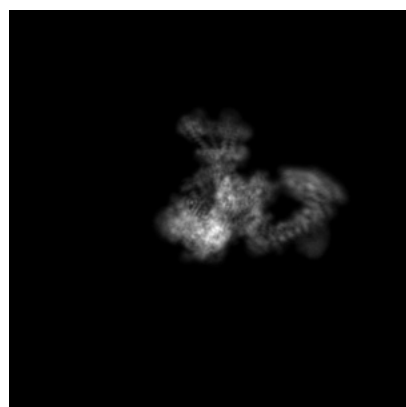


Y

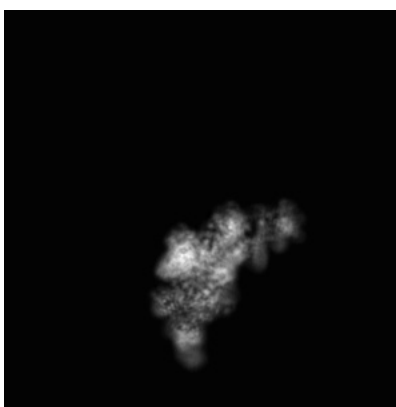


Z

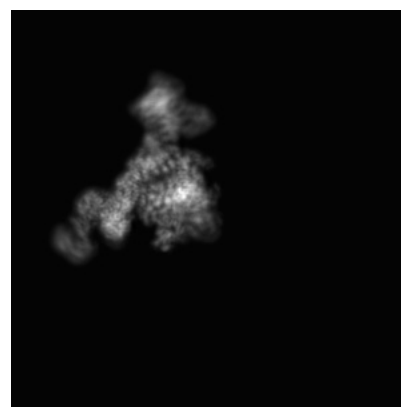
6.1.2 Raw map



X



Y



Z

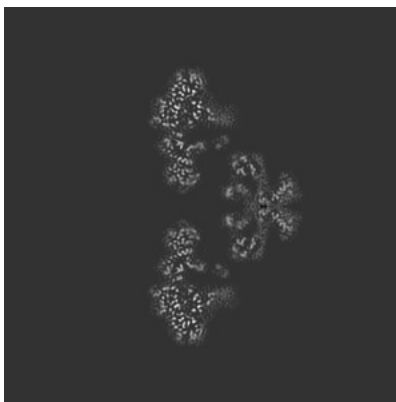
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

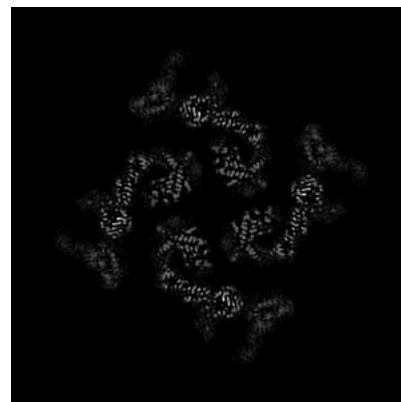
6.2.1 Primary map



X Index: 216



Y Index: 216

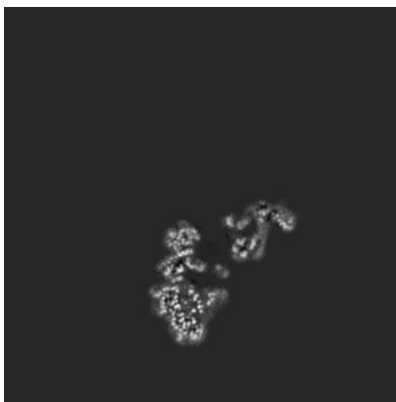


Z Index: 216

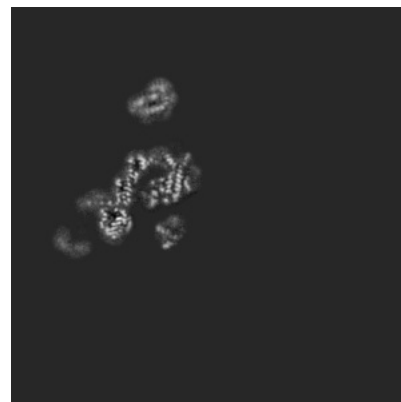
6.2.2 Raw map



X Index: 216



Y Index: 216

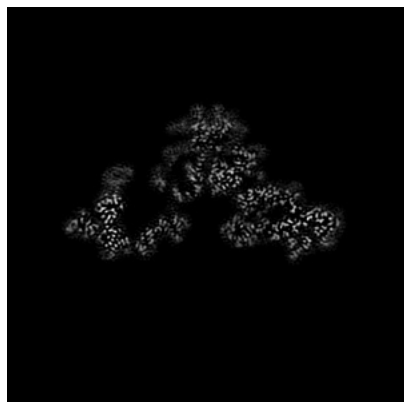


Z Index: 216

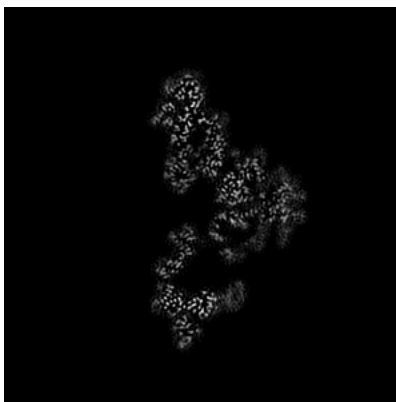
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

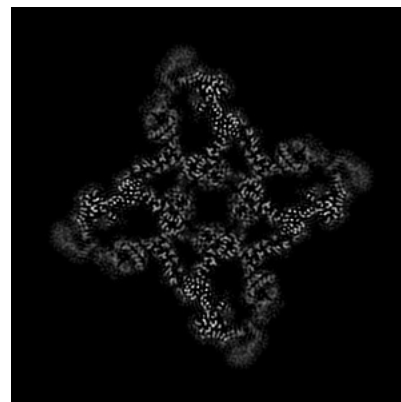
6.3.1 Primary map



X Index: 226



Y Index: 206

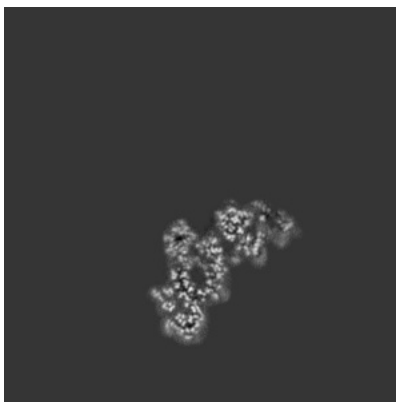


Z Index: 198

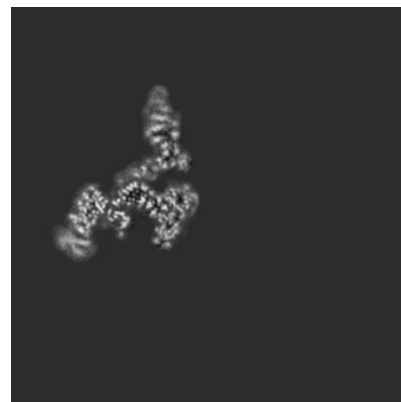
6.3.2 Raw map



X Index: 167



Y Index: 226

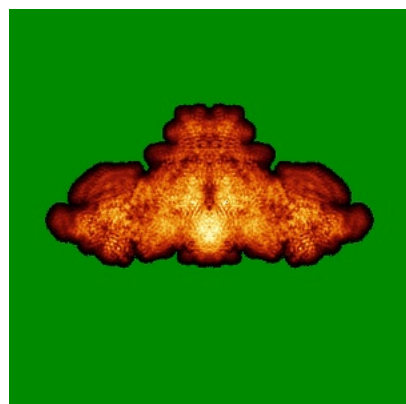


Z Index: 192

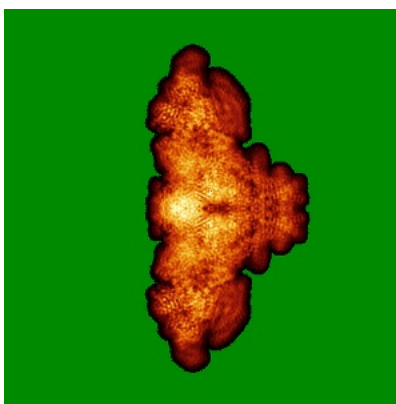
The images above show the largest variance slices of the map in three orthogonal directions.

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

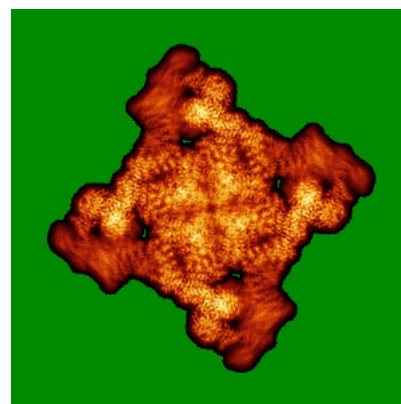
6.4.1 Primary map



X

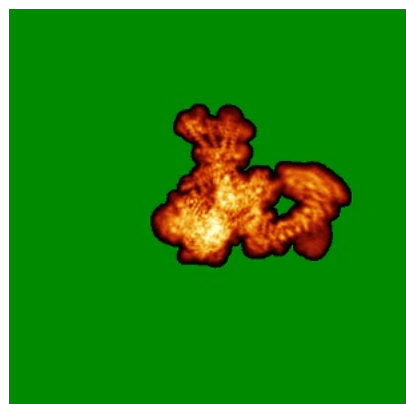


Y

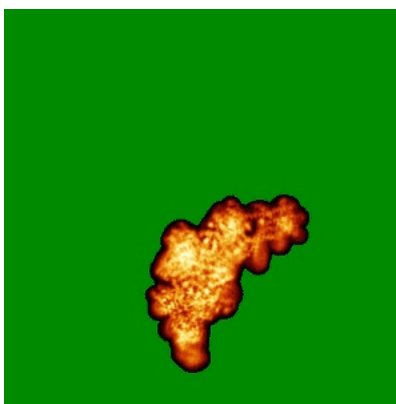


Z

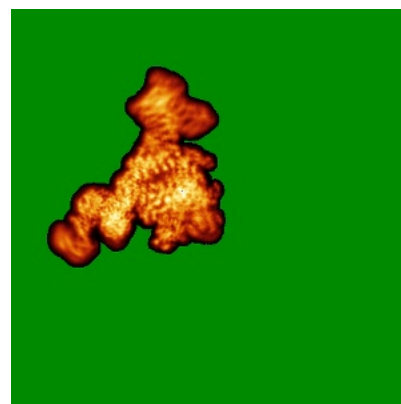
6.4.2 Raw map



X



Y

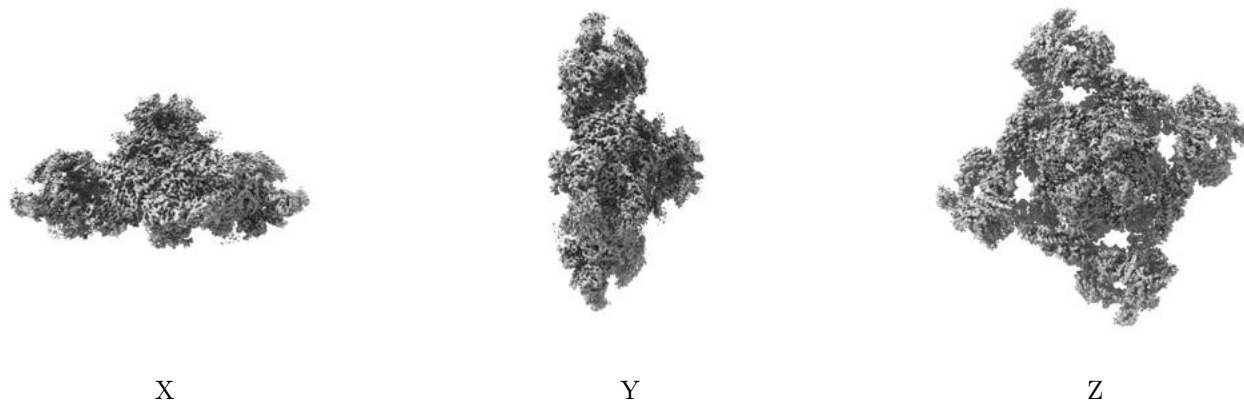


Z

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.

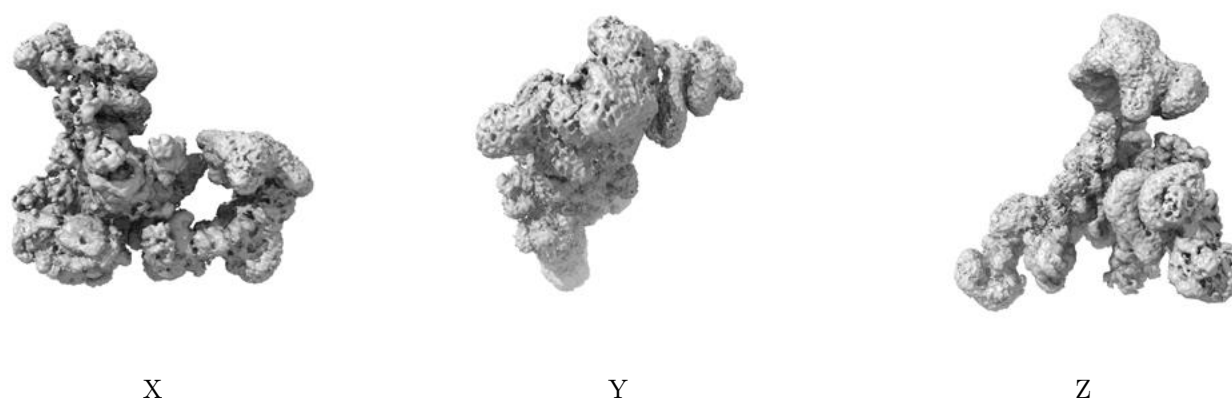
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.015. 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.

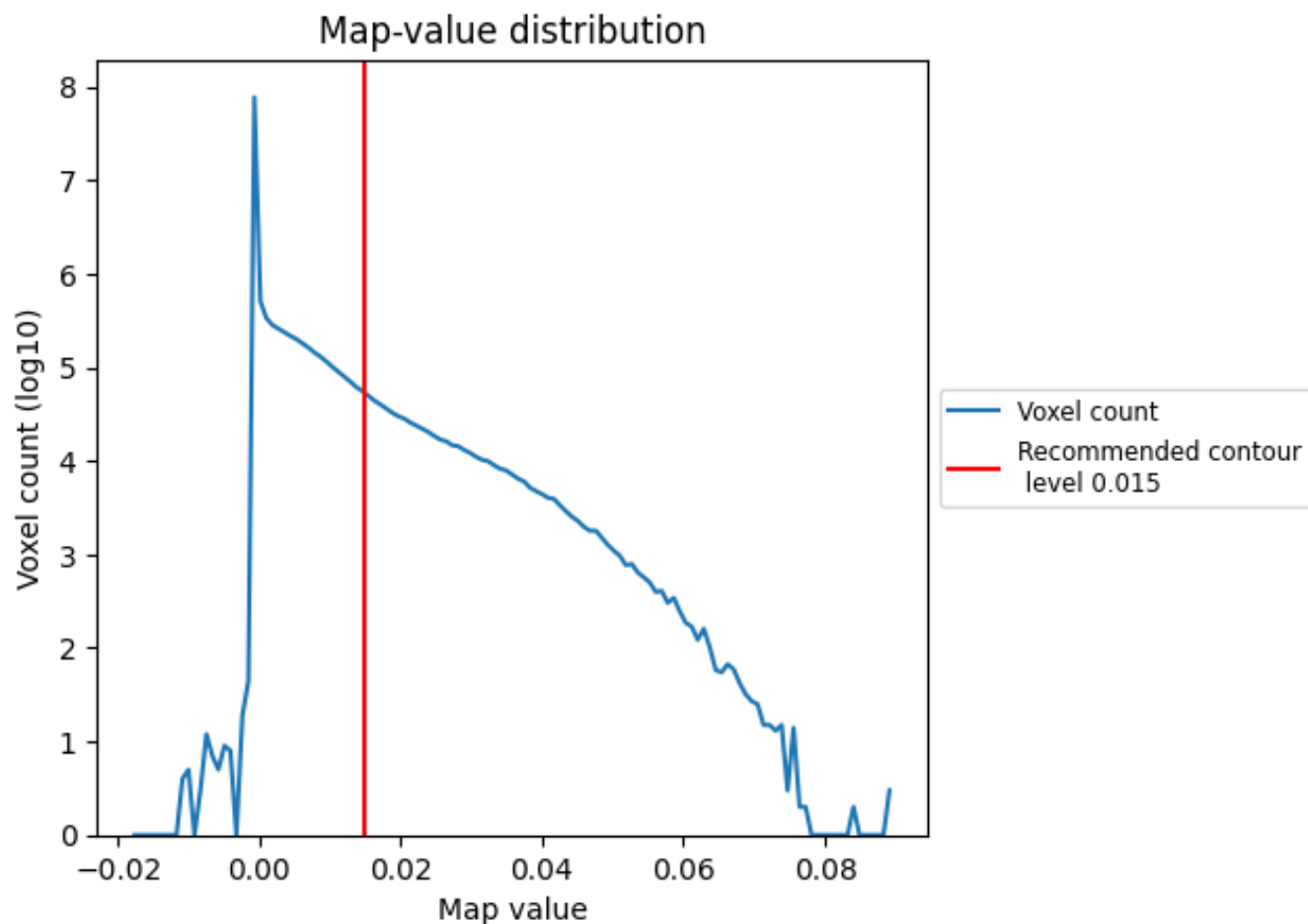
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

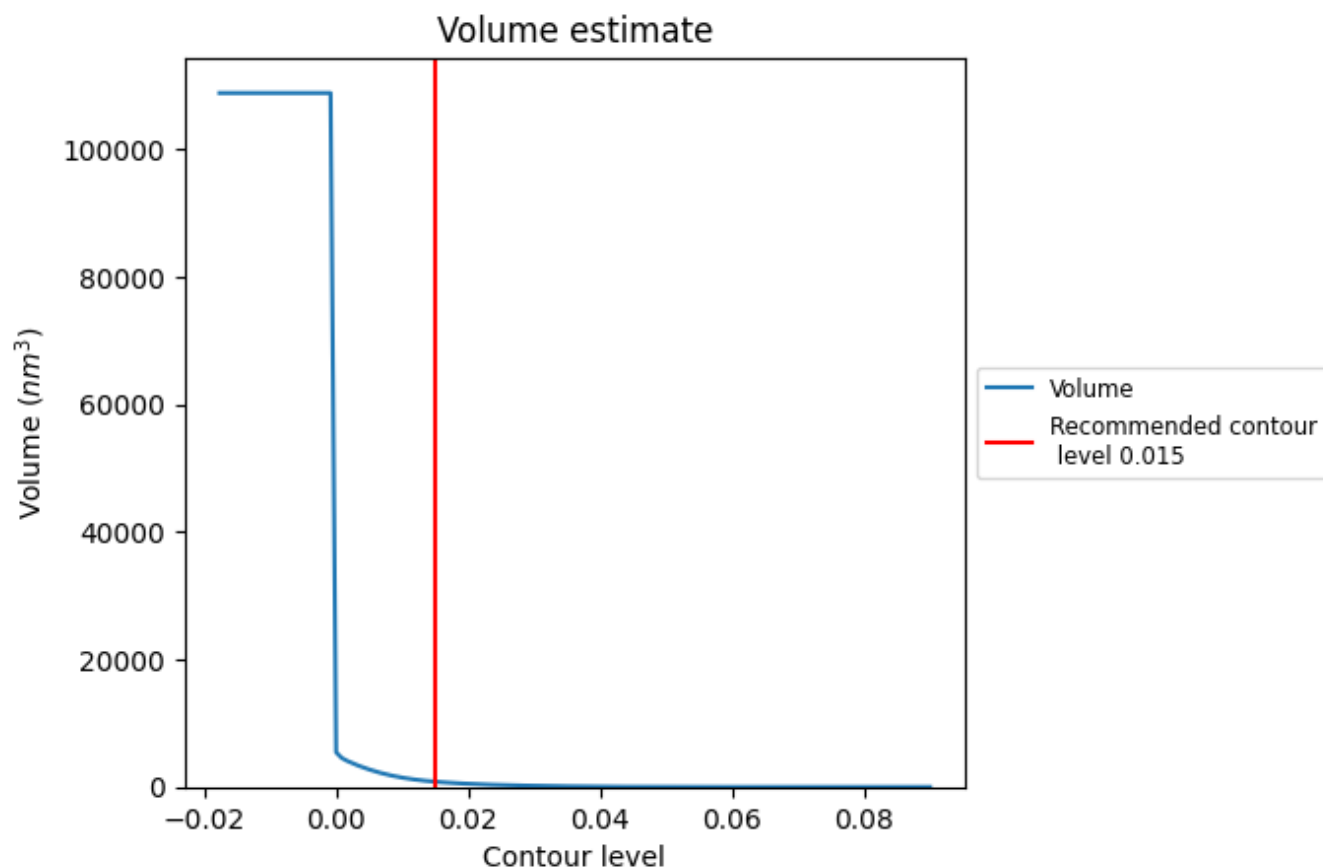
This section contains the results of statistical analysis of the map.

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.

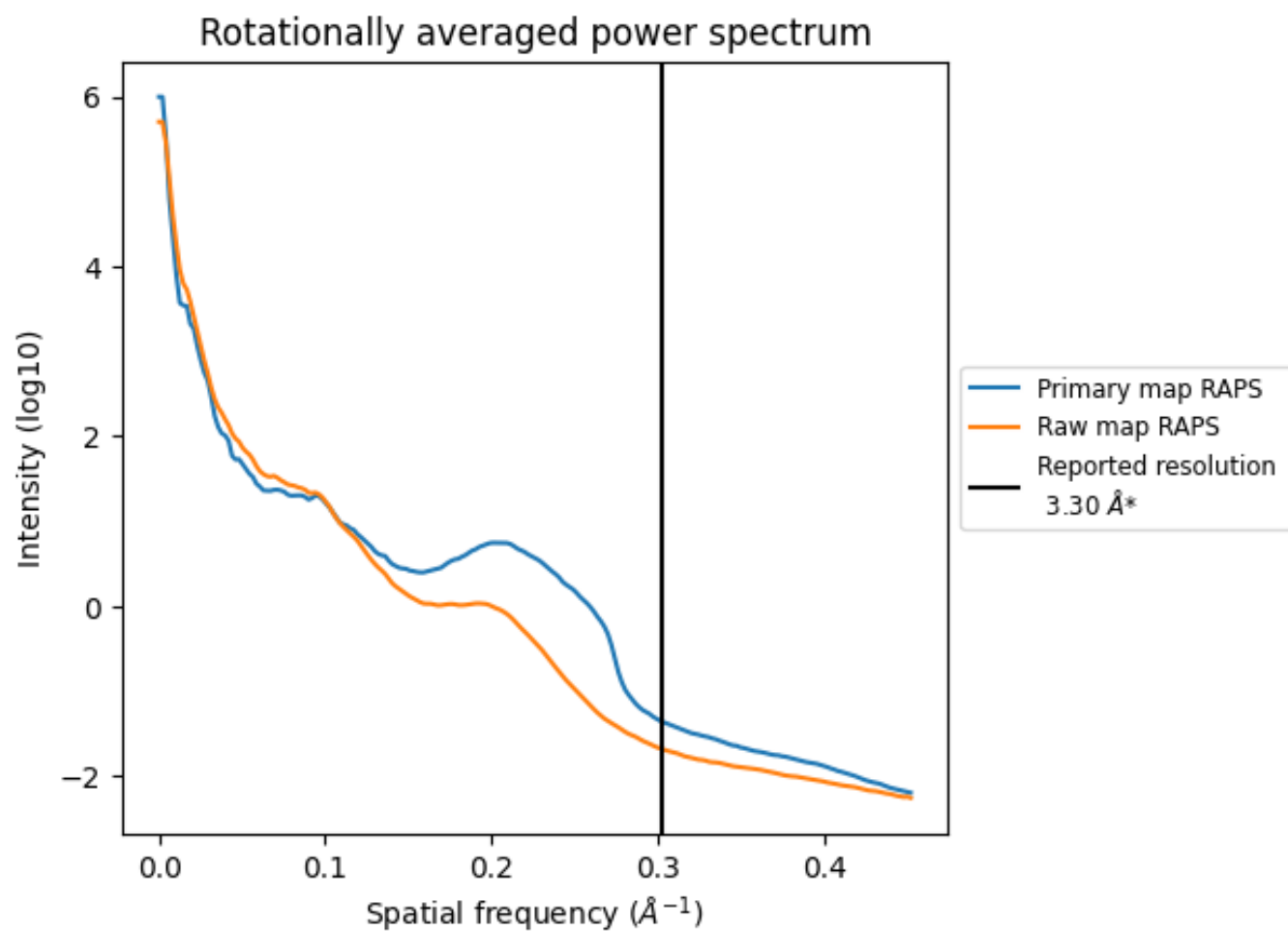
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 826 nm^3 ; this corresponds to an approximate mass of 746 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 ⓘ

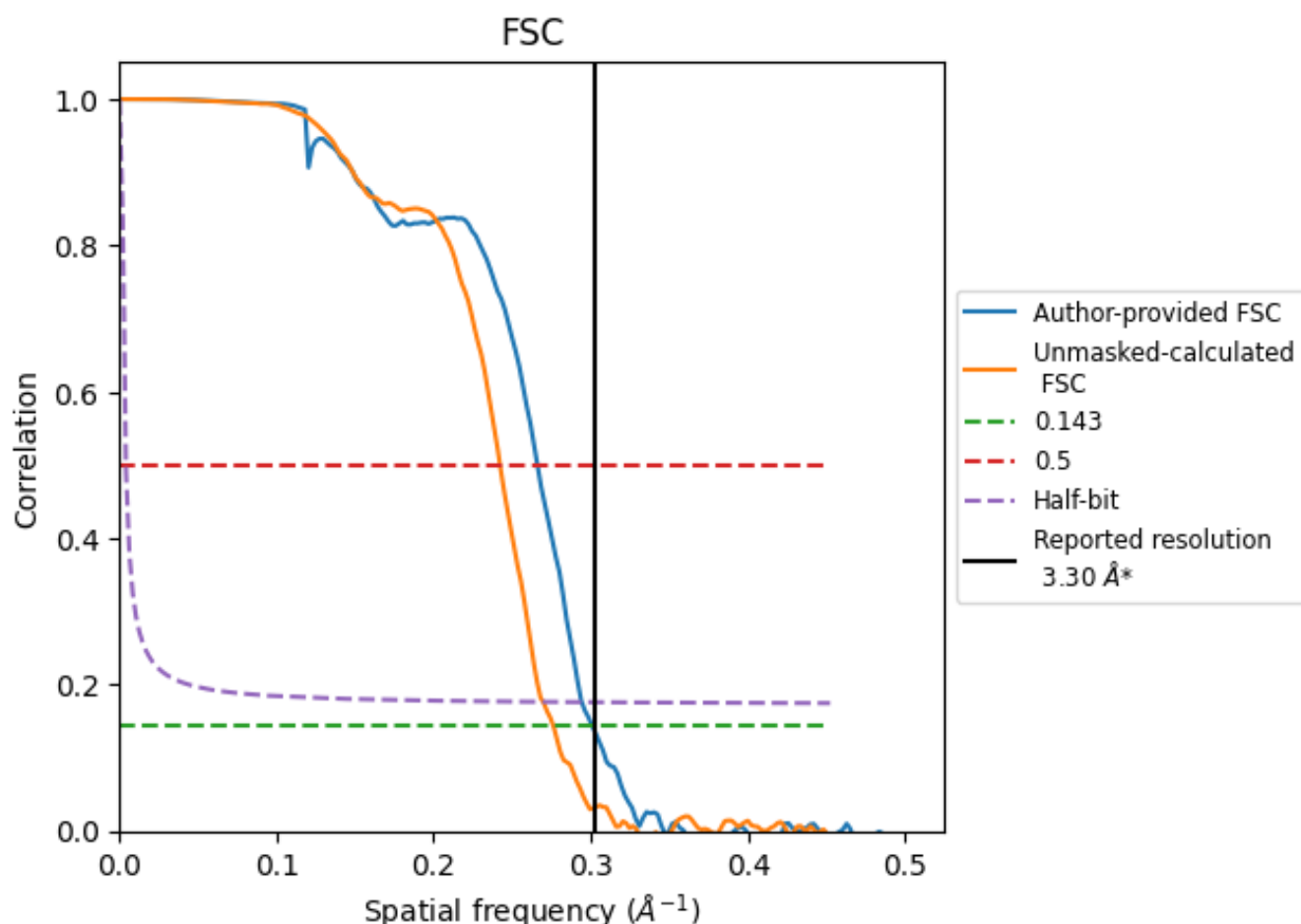


*Reported resolution corresponds to spatial frequency of 0.303 Å⁻¹

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 0.303 Å⁻¹

8.2 Resolution estimates [i](#)

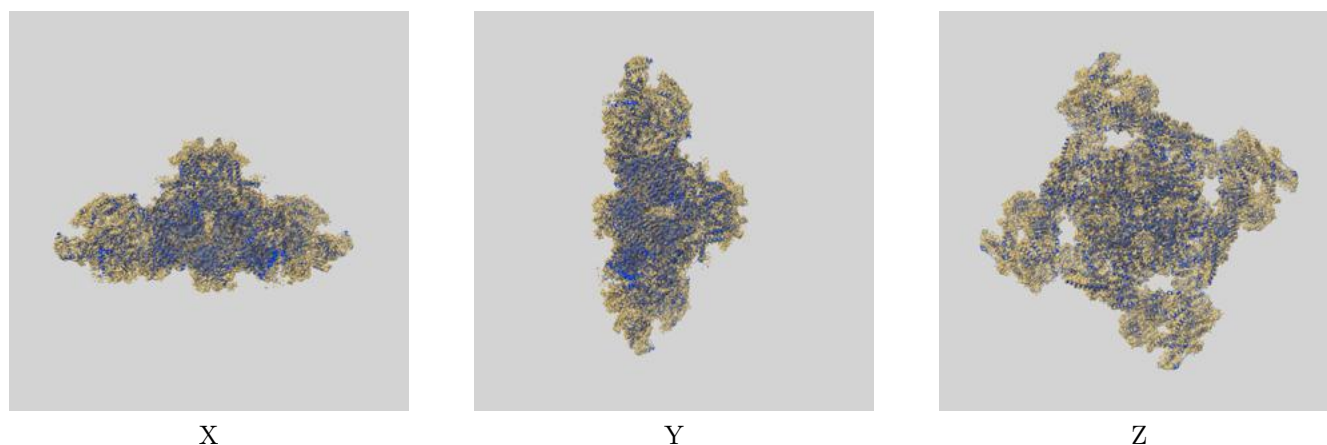
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.30	-	-
Author-provided FSC curve	3.32	3.76	3.40
Unmasked-calculated*	3.62	4.13	3.71

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

9 Map-model fit [i](#)

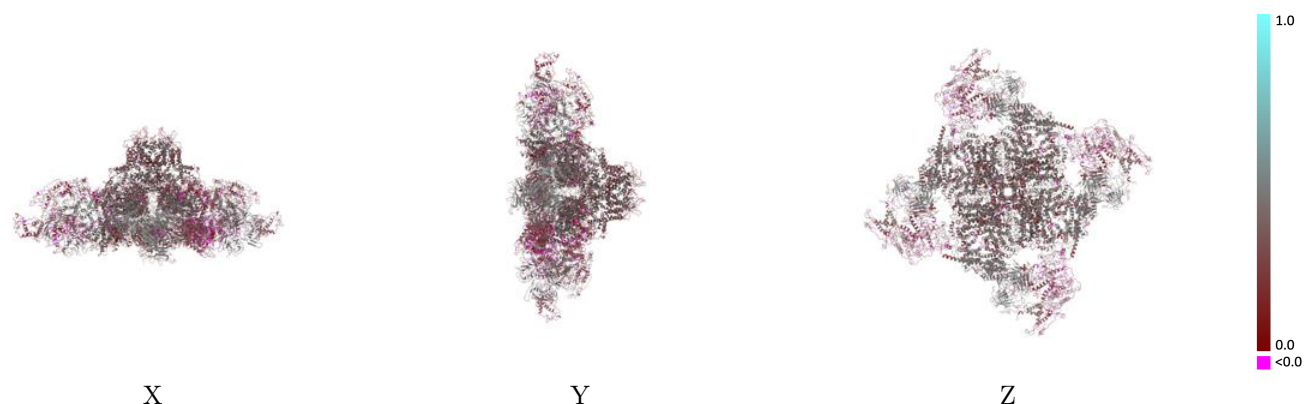
This section contains information regarding the fit between EMDB map EMD-25830 and PDB model 7TDI. Per-residue inclusion information can be found in section [3](#) on page [5](#).

9.1 Map-model overlay [i](#)



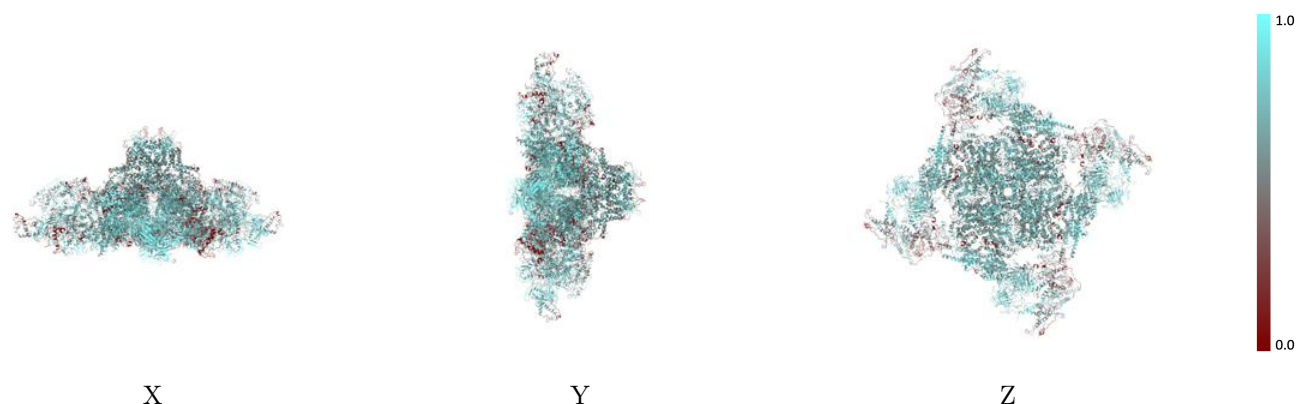
The images above show the 3D surface view of the map at the recommended contour level 0.015 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



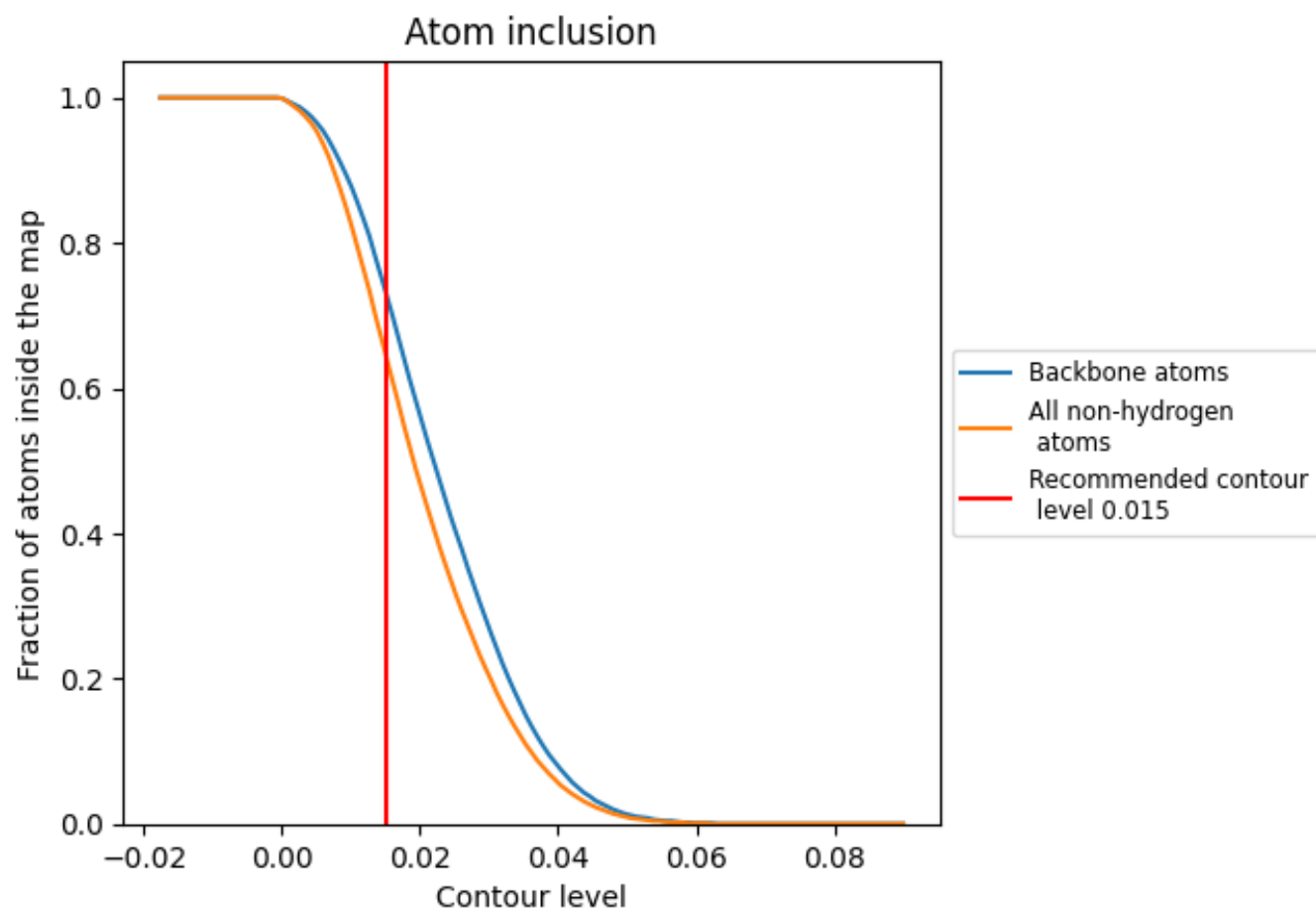
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.015).

9.4 Atom inclusion ⓘ



At the recommended contour level, 73% of all backbone atoms, 65% 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 (0.015) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	<div></div> 0.6480	<div></div> 0.3320
A	<div></div> 0.6390	<div></div> 0.3250
B	<div></div> 0.6490	<div></div> 0.3350
C	<div></div> 0.6510	<div></div> 0.3350
D	<div></div> 0.6520	<div></div> 0.3350

