



Full wwPDB EM Validation Report ⓘ

Jul 15, 2024 – 01:31 pm BST

PDB ID : 8ATO
EMDB ID : EMD-15654
Title : Structure of the giant inhibitor of apoptosis, BIRC6 bound to the regulator SMAC
Authors : Dietz, L.; Elliott, P.R.
Deposited on : 2022-08-23
Resolution : 3.00 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.dev92
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.37.1

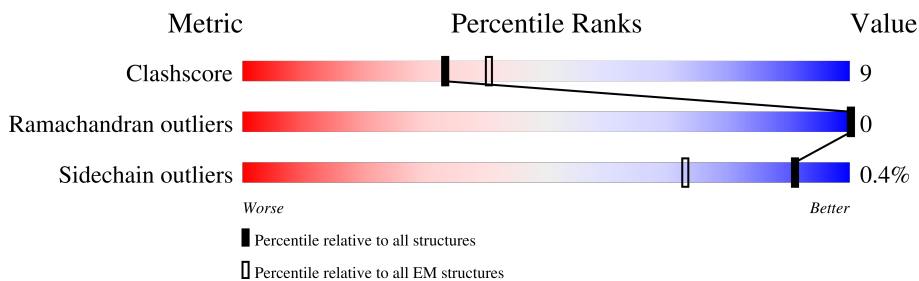
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.00 Å.

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



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

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	4859	
1	B	4859	
2	C	184	
2	D	184	

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 46909 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 Baculoviral IAP repeat-containing protein 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	2871	Total	C	N	O	S	0	0
			22195	14154	3782	4102	157		
1	B	2892	Total	C	N	O	S	0	0
			22348	14249	3807	4135	157		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-1	GLY	-	expression tag	UNP Q9NR09
A	0	PRO	-	expression tag	UNP Q9NR09
B	-1	GLY	-	expression tag	UNP Q9NR09
B	0	PRO	-	expression tag	UNP Q9NR09

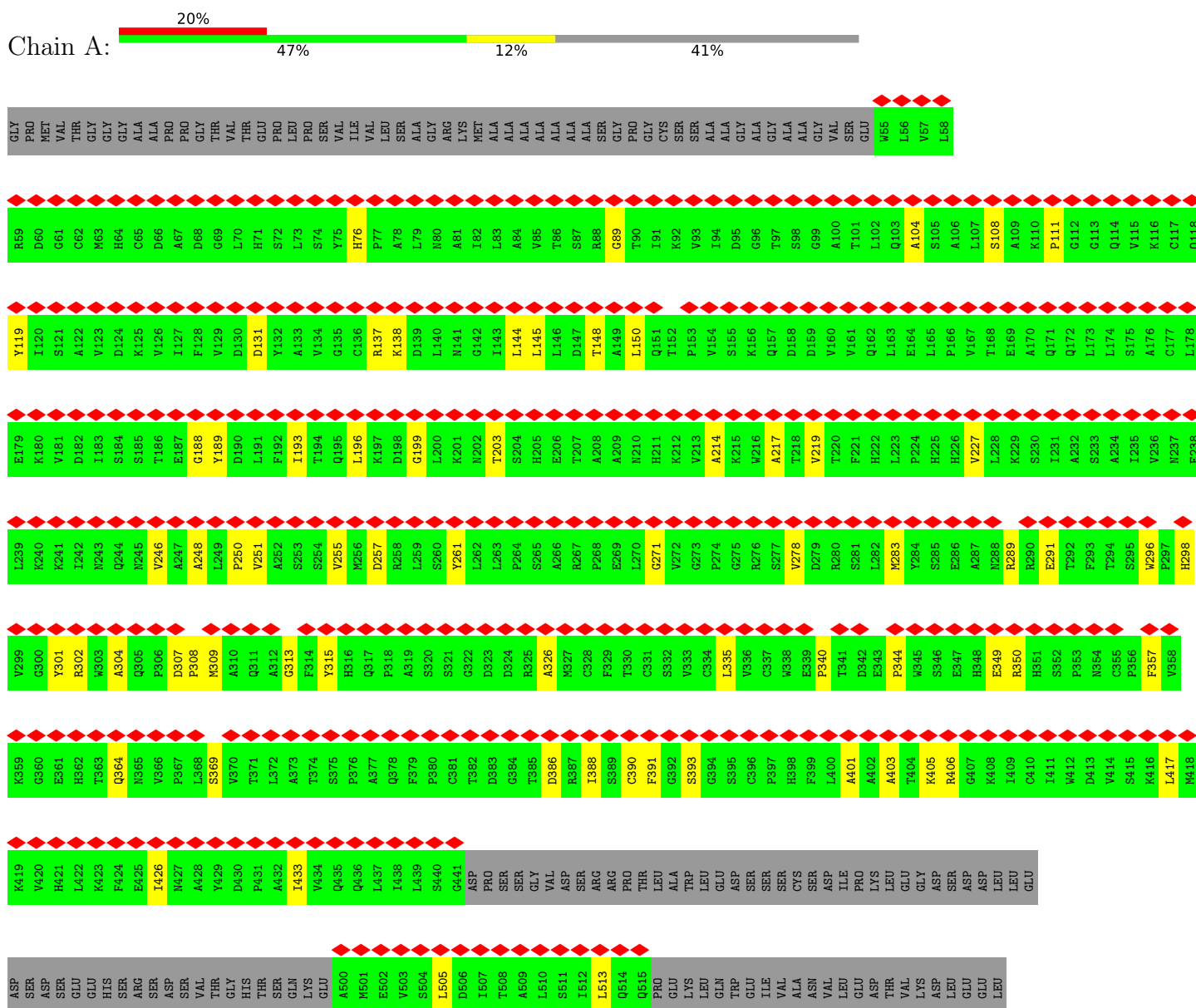
- Molecule 2 is a protein called Diablo IAP-binding mitochondrial protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	C	150	Total	C	N	O	S	0	0
			1183	739	198	241	5		
2	D	150	Total	C	N	O	S	0	0
			1183	739	198	241	5		

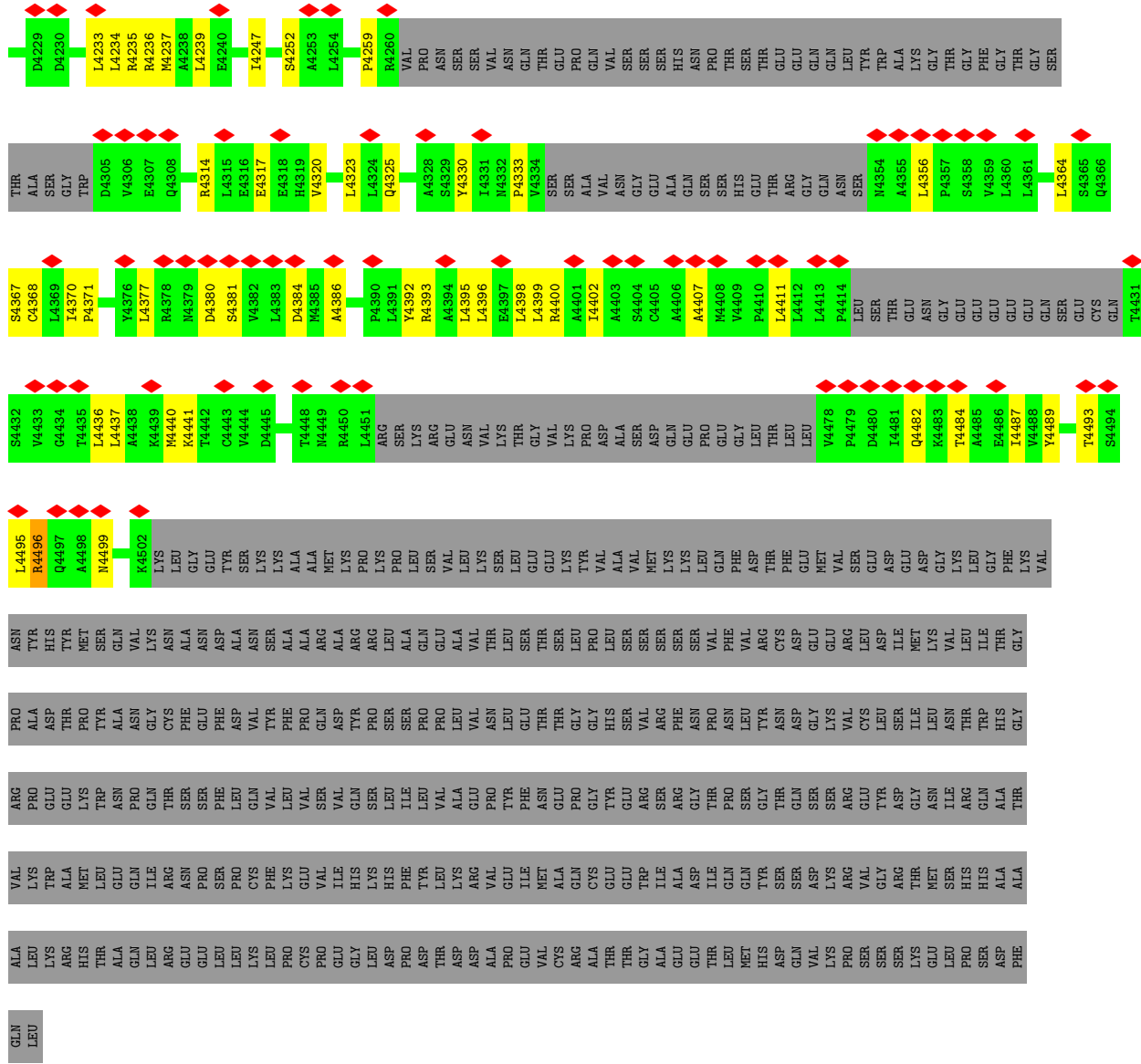
3 Residue-property plots

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.

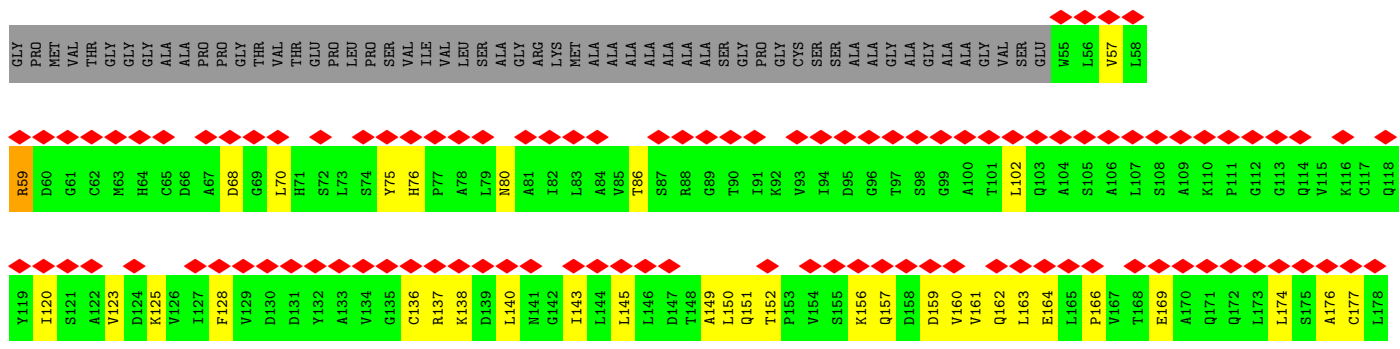
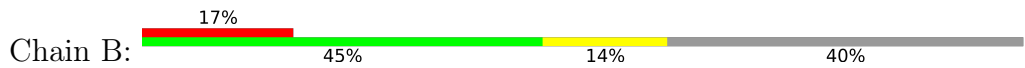
- Molecule 1: Baculoviral IAP repeat-containing protein 6



GLY	ALA	ASP	ASN	PRO	PHE	CYS	VAL	LEU	THR	ASN	SER	LYS	THR	LYS	ASP	GLN	GLY	THR	LEU	ASN	GLN	GLN	GLN	HIS	M561	M562	P563	F564	P565	C566	L567	L568	A569	G570	G571	L572	L573	T574	Y575	K576	S577	P578	A579	THR	SER	PRO	ILE	ILE	SER	SER	ASN	ASN	HIS	HIS	ARG	ARG	LEU	ASP	GLY	SER	THR	GLN																																										
GLY	GLU	SER	ILE	SER	SER	GLU	GLM	GLY	GLY	SER	THR	ILE	THR	ASP	ASN	GLU	GLU	LEU	SER	THR	THR	GLN	GLN	GLN	GLN	ASP	L621	L622	V623	R624	R625	T626	L627	P628	V629	L630	L631	L632	Y633	S634	I635	K636	E637	S638	D639	GLU	LYS	ALA	ALA	GLY	VAL	ILE	PHE	ASN	SER	GLN	GLN	MET	ASN	ASN	ILE	ILE	MET	SER	LYS	LEU	LEU	HIS																																				
ASP	ASP	GLY	THR	THR	THR	THR	PRO	GLU	GLM	GLN	ILE	ILE	GLU	MET	GLU	LEU	LEU	GLY	ASP	SER	ALA	ALA	GLN	GLN	GLN	GLN	ASP	L721	L722	R723	V724	R725	A726	E727	MET	GLU	E728	E729	N730	L731	C732	I733	D734	S735	I736	T737	P738	C739	A740	D741	G742	I743	H744	I745	L746	V747	G748	L749	R750	T751	C752	P753	VAL	GLU	SER	LEU	SER	VAL	VAL	PHE	ASN	ASN	GLN	GLM	VAL	GLU	GLU	ALA	ALA	ALA	ASN	LEU	THR	SER	PRO	ASP	ASP	GLU	LYS	TRP	ASN	ASN	GLY	VAL	VAL	PHE	P711	K712	P713	G714	T715	L716	V717	Q718
C719	L720	R721	L722	P723	K724	F725	A726	E727	E728	E729	N730	L731	C732	I733	D734	S735	I736	T737	P738	C739	A740	D741	G742	I743	H744	I745	L746	V747	G748	L749	R750	T751	C752	P753	VAL	GLU	SER	LEU	SER	VAL	VAL	PHE	ASN	ASN	GLN	GLM	VAL	GLU	GLU	ALA	ALA	ASN	LEU	THR	SER	PRO	ASP	ASP	GLU	LYS	TRP	ASN	ASN	GLY	VAL	VAL	PHE	P711	K712	P713	G714	T715	L716	V717	Q718																													
ARG	ARG	LYS	GLY	GLU	LEU	SER	ASN	ASN	ALA	ALA	VAL	ILE	ILE	GLN	HIS	GLU	SER	PRO	ALA	ASP	VAL	VAL	THR	PRO	ALA	ALA	ILE	ILE	GLN	PRO	GLU	GLN	ARG	ASN	VAL	S821	G822	G823	Y824	L825	V826	L827	Y828	K829	M830	N831	Y832	M833	A833	T834	R835	R836	I836	V837	T838																																																	
L839	E840	E841	E842	P843	I844	K845	I846	Q847	H848	I849	K850	D851	P852	Q853	D854	T855	I856	T857	S858	L859	I860	L861	L862	P863	D864	D865	I866	L867	D868	N869	R870	E871	E872	D873	C874	GLU	PRO	ILE	GLU	ASP	MET	GLN	LEU	THR	LYS	ASN	GLY	PHE	GLU	ARG	GLU	LYS	THR	SER	ILE	SER																																																
T899	L900	G901	H902	L903	V904	I905	T906	T907	Q908	G909	G910	Y911	Y912	K913	I914	I915	D916	L917	S918	N919	F920	E921	I922	L923	A924	K925	Y926	E927	P928	P929	K930	K931	E932	G933	T934	E935	E936	Q937	D938	T939	F940	V941	V942	V943	I944	Y945	C946	S947	G948	T949	D950	R951	L962	C963	C965	T966	G968																																															
G959	E960	L961	H962	L964	Q965	ILE	GLY	THR	CYS	ASP	ASP	ILE	ASP	GLU	ALA	ASP	LEU	VAL	ASP	GLY	SER	SER	LYS	GLY	ILE	GLU	PRO	SER	SER	GLY	GLY	LYS	PRO	ASN	PRO	PRO	GLY	I1006	S1007	G1008	V1009	D1010	L1011	L1012	V1013	D1014	Q1015	P1016	F1017	T1018																																																						
L1019	E1020	I1021	L1022	T1023	S1024	L1025	V1026	E1027	L1028	T1029	R1030	L1034	T1035	P1036	R1037	F1038	S1039	A1040	T1041	V1042	P1043	P1044	C1045	W1046	V1047	E1048	V1049	Q1050	Q1051	E1052	Q1053	Q1054	R1056	R1057	H1058	P1059	Q1060	H1061	L1062	H1063	Q1064	Q1065	H1066	H1067	G1068	D1069	A1070	A1071	Q1072	H1073	T1074	R1075	T1076	W1077	K1078	L1079	Q1080																																															
T1081	D1082	S1083	N1084	S1085	V1086	D1087	E1088	H1089	V1090	F1091	E1092	L1093	V1094	L1095	P1096	K1097	A1098	C1099	M1100	V1101	G1102	H1103	V1104	D1105	F1106	K1107	F1108	V1109	L1110	N1111	S1112	M1113	I1114	T1115	N1116	L1117	P1118	Q1119	I1120	Q1121	V1122	T1123	L1124	L1125	K1126	N1127	K1128	A1129	PRO	GLY	GLY	VAL	ASN	ALA	LEU	ASN	ILE																																															
GLU	VAL	GLN	ASN	GLY	LYS	PRO	SER	LEU	VAL	ASP	ASN	GLU	GLU	MET	HIS	MET	ASP	VAL	GLU	GLU	SER	GLN	CYS	LEU	ARG	LEU	C1171	P1172	F1173	L1174	E1175	D1176	H1177	K1178	E1179	D1180	I1181	L1182	C1183	G1184	P1185	V1186	W1187	L1188	A1189	S1190	G1191	L1192	D1193	L1194	S1195	G1196	H1197	A1198	G1199	M1200																																																
L1201	T1202	L1203	T1204	S1205	K1207	L1208	V1209	K1210	G1211	M1212	A1213	G1214	G1215	K1216	Y1217	R1218	S1219	F1220	L1221	K1225	A1226	VAL	ASN	GLU	ARG	GLY	THR	GLU	ILE	CYS	ASN	GLY	ARG	PRO	VAL	VAL	ARG	LEU	PRO	SER	LEU	HIS	GLN	SER	ASN	ASN	LYS	GLY	TYR	SER	LEU	ALA	SER	LEU																																																		
LEU	ALA	LYS	VAL	ALA	ALA	GLY	LYS	GLU	LYS	SER	SER	VAL	ASN	VAL	LYS	ASN	GLU	GLU	ASN	THR	SER	GLY	THR	ARG	LYS	SER	GLU	ASN	L1290	R1291	C1292	D1294	L1295	L1296	Q1297	E1298	V1299	S1300	V1301	T1302	I1303	R1304	R1305	F1306	K1307	K1308	T1309	S1310	S1312	K1313	E1314	R1315	V1316	L1322	Q1323	F1324	S1325	E1326																																														



● Molecule 1: Baculoviral IAP repeat-containing protein 6



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	36872	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 ($e^-/\text{\AA}^2$)	47.27	Depositor
Minimum defocus (nm)	750	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	105000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.429	Depositor
Minimum map value	-0.750	Depositor
Average map value	0.006	Depositor
Map value standard deviation	0.070	Depositor
Recommended contour level	0.144	Depositor
Map size (\AA)	248.7, 248.7, 248.7	wwPDB
Map dimensions	300, 300, 300	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	0.829, 0.829, 0.829	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.24	0/22620	0.47	0/30734
1	B	0.24	0/22774	0.47	0/30945
2	C	0.23	0/1197	0.46	0/1620
2	D	0.24	0/1197	0.44	0/1620
All	All	0.24	0/47788	0.47	0/64919

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	22195	0	22593	384	0
1	B	22348	0	22749	463	0
2	C	1183	0	1185	23	0
2	D	1183	0	1185	15	0
All	All	46909	0	47712	860	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 9.

All (860) 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:B:1818:ASP:HB2	1:B:1857:LYS:HB3	1.62	0.81
1:B:1032:GLU:HB3	1:B:1307:LYS:HG3	1.66	0.76
1:A:1052:GLU:OE1	1:A:1056:ARG:NH1	2.17	0.76
1:A:1103:HIS:O	1:A:1305:ARG:NH2	2.18	0.76
1:A:1806:ILE:HG12	1:A:1876:GLY:HA3	1.68	0.75
1:B:1035:THR:H	1:B:1305:ARG:HH21	1.35	0.75
1:B:4397:GLU:HG3	1:B:4400:ARG:HH12	1.51	0.74
1:B:2733:GLN:HE22	1:B:2735:ASN:HB2	1.52	0.74
1:A:4356:LEU:HB3	1:A:4407:ALA:HB1	1.70	0.74
1:B:1526:GLY:O	1:B:1528:GLN:NE2	2.21	0.73
1:B:3834:LYS:HG3	1:B:3875:ASP:HB3	1.69	0.73
1:A:4396:LEU:HD21	1:A:4489:TYR:HD1	1.53	0.73
1:B:1812:LEU:HD11	1:B:1860:VAL:HB	1.72	0.72
1:A:302:ARG:H	1:A:340:PRO:HB3	1.54	0.72
1:B:3534:CYS:HA	1:B:3539:LYS:HD3	1.73	0.71
1:B:4214:PHE:HB2	1:B:4322:CYS:HB3	1.70	0.71
1:B:349:GLU:HG2	1:B:353:PRO:HA	1.71	0.71
1:A:4247:ILE:HG23	1:A:4323:LEU:HD11	1.71	0.71
1:B:3116:ARG:HD3	1:B:3417:PRO:HA	1.72	0.70
1:B:3490:SER:HB3	1:B:3493:HIS:HD2	1.56	0.70
1:B:910:GLY:HA2	1:B:940:PHE:H	1.56	0.70
1:B:2847:ASN:HB3	1:B:2849:GLU:HG2	1.73	0.70
1:B:4238:ALA:HB1	1:B:4244:LEU:HD23	1.74	0.70
1:A:4364:LEU:HD12	1:A:4411:LEU:HD22	1.74	0.70
1:A:1816:SER:HG	1:A:1859:THR:HG1	1.34	0.69
1:A:4381:SER:HB2	1:A:4384:ASP:HB2	1.74	0.69
1:B:4400:ARG:HH21	1:B:4488:VAL:HG11	1.57	0.69
1:B:1504:ASP:O	1:B:1981:GLN:NE2	2.25	0.69
1:A:1440:PRO:HG2	1:A:2015:ILE:HG22	1.74	0.69
1:A:4441:LYS:HG3	1:A:4493:THR:HG21	1.75	0.68
1:B:4324:LEU:HD13	1:B:4398:LEU:HB2	1.76	0.68
1:A:1092:GLU:HB2	1:A:1220:PHE:HB3	1.74	0.68
1:A:2934:LEU:HA	1:A:2941:SER:HA	1.75	0.68
1:B:2094:GLN:NE2	1:B:2098:ASN:OD1	2.26	0.68
1:A:326:ALA:HB3	1:A:335:LEU:HB2	1.75	0.68
1:B:4239:LEU:HD21	1:B:4359:VAL:HB	1.76	0.68
1:B:929:PRO:HG2	1:B:938:ASP:HB3	1.76	0.67
1:B:59:ARG:HH11	1:B:929:PRO:HA	1.58	0.67
1:B:317:GLN:HB3	1:B:325:ARG:HE	1.60	0.67
1:A:1806:ILE:HB	1:A:1842:LEU:HD21	1.77	0.67
1:A:513:LEU:H	1:A:567:LEU:HD11	1.59	0.66
1:B:350:ARG:HD2	1:B:1788:ARG:HE	1.60	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:734:ASP:HB2	1:B:750:ARG:HH21	1.60	0.66
1:A:4437:LEU:HD13	1:A:4496:ARG:HE	1.60	0.66
1:B:195:GLN:NE2	1:B:222:HIS:O	2.28	0.66
1:A:1118:PRO:HB3	1:A:1292:GLY:HA3	1.76	0.65
1:B:1041:THR:HG22	1:B:1092:GLU:HB3	1.77	0.65
1:A:3828:SER:HB3	1:A:4006:VAL:HB	1.77	0.65
1:B:1034:LEU:HA	1:B:1305:ARG:HE	1.61	0.65
2:C:132:GLN:HA	2:C:135:ARG:HG2	1.78	0.65
1:B:3002:ASN:O	1:B:3002:ASN:ND2	2.27	0.65
1:A:3240:SER:HB3	1:A:3281:ARG:HB2	1.78	0.65
1:B:3002:ASN:C	1:B:3002:ASN:HD22	1.99	0.65
1:A:2688:ALA:O	1:A:2731:ASN:ND2	2.24	0.65
1:B:1033:THR:HG23	1:B:1304:ARG:HG2	1.78	0.65
1:B:3697:HIS:NE2	1:B:3997:GLN:O	2.28	0.65
1:A:563:PRO:HB2	1:A:717:VAL:HG22	1.76	0.65
1:A:1504:ASP:O	1:A:1981:GLN:NE2	2.30	0.65
1:A:1101:VAL:HG22	1:A:1216:LYS:HE3	1.79	0.64
1:B:1345:THR:HG23	1:B:1348:ALA:H	1.63	0.64
1:B:3699:MET:HA	1:B:3702:TRP:HB3	1.79	0.64
1:A:1382:ARG:HG2	1:A:1427:VAL:HG11	1.79	0.64
1:B:349:GLU:OE1	1:B:1057:ARG:NH1	2.30	0.64
1:B:3767:PHE:HB3	1:B:3815:LEU:HD12	1.80	0.64
1:A:1061:HIS:HD2	1:A:1071:ALA:HB3	1.62	0.64
1:A:863:PRO:HD2	1:A:866:ILE:HD12	1.80	0.63
1:B:1109:VAL:HA	1:B:1198:ALA:HA	1.80	0.63
1:B:328:CYS:SG	1:B:329:PHE:N	2.71	0.63
1:B:4242:GLY:HA2	1:B:4245:HIS:HB3	1.79	0.63
1:A:1107:LYS:HB2	1:A:1300:SER:HB2	1.81	0.63
1:A:1333:ASN:OD1	1:A:1337:ARG:NH2	2.31	0.63
1:A:1500:SER:OG	1:A:1974:TYR:OH	2.16	0.63
1:A:1046:TRP:HB3	1:A:1077:TRP:HB3	1.80	0.63
1:B:128:PHE:HB3	1:B:150:LEU:HD22	1.81	0.63
1:B:1107:LYS:HE3	1:B:1300:SER:HB3	1.80	0.63
1:B:1054:GLN:NE2	1:B:1074:THR:O	2.32	0.63
1:B:1484:ARG:NH1	1:B:2018:SER:O	2.31	0.63
1:A:2915:ARG:HH11	1:B:2772:HIS:HB2	1.63	0.62
1:A:3116:ARG:HD3	1:A:3417:PRO:HA	1.79	0.62
2:D:35:GLU:HA	2:D:38:LYS:HG2	1.81	0.62
1:A:2107:GLU:HG3	1:B:3488:MET:HE1	1.81	0.62
1:B:1177:HIS:HB3	1:B:1180:ASP:HB2	1.81	0.62
1:A:1111:ASN:H	1:A:1114:ILE:HD12	1.63	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3681:ASP:OD1	1:A:3755:GLN:NE2	2.33	0.62
1:A:4396:LEU:HD23	1:A:4399:LEU:HD21	1.81	0.62
1:B:2645:LYS:NZ	1:B:2649:MET:SD	2.73	0.62
1:B:510:LEU:HD11	1:B:567:LEU:HD11	1.82	0.61
1:B:1831:LEU:HD12	1:B:1832:VAL:HG12	1.82	0.61
1:B:3803:ASN:HA	1:B:4087:LEU:HA	1.82	0.61
1:A:716:LEU:HD21	1:A:719:CYS:HB2	1.81	0.61
1:A:3809:ARG:NH2	1:A:4189:LEU:O	2.33	0.61
1:B:2735:ASN:OD1	1:B:2745:GLN:NE2	2.34	0.61
1:B:2714:THR:OG1	1:B:2719:TRP:NE1	2.34	0.61
1:A:1381:THR:O	1:A:1385:LEU:N	2.34	0.61
1:B:2598:LEU:HD12	1:B:2599:THR:HG23	1.82	0.61
1:B:2790:GLN:HG3	1:B:2838:LYS:HE3	1.82	0.61
1:A:1126:LYS:HD3	1:A:1217:TYR:HB3	1.81	0.61
1:A:3429:ASP:HA	1:A:3432:ILE:HD12	1.83	0.61
1:B:1030:ARG:HE	1:B:1031:PHE:H	1.47	0.61
1:B:1174:LEU:HA	1:B:1181:ILE:HD11	1.83	0.61
1:A:1206:PRO:HA	1:A:1209:VAL:HB	1.83	0.61
1:A:4495:LEU:O	1:A:4499:ASN:ND2	2.34	0.61
1:A:196:LEU:HA	1:A:219:VAL:HG21	1.83	0.61
1:A:2136:GLU:O	1:A:2140:ASN:ND2	2.33	0.61
1:B:245:ASN:ND2	1:B:361:GLU:OE1	2.34	0.61
1:A:1346:GLU:HB2	1:A:1997:ALA:HA	1.83	0.60
1:B:3816:MET:HE3	1:B:4071:LEU:HD13	1.83	0.60
1:B:3967:LEU:HD12	1:B:4004:LEU:HB3	1.82	0.60
2:D:117:ARG:HH21	2:D:121:GLN:HB3	1.66	0.60
1:B:3834:LYS:HE2	1:B:3875:ASP:HA	1.83	0.60
1:A:1524:SER:HA	1:A:1774:PRO:HG3	1.83	0.60
1:A:3789:PHE:O	1:A:4086:ARG:NH2	2.34	0.60
1:B:2582:MET:HA	1:B:2585:MET:HB3	1.84	0.60
1:B:3787:GLU:O	1:B:3791:THR:OG1	2.12	0.60
1:B:3543:ASP:HB3	1:B:3615:SER:HB2	1.84	0.60
1:A:2664:TRP:HE1	1:A:2694:ILE:HB	1.67	0.59
1:B:1946:PRO:O	1:B:1952:ASN:ND2	2.35	0.59
1:B:2822:GLU:O	1:B:2827:GLN:NE2	2.35	0.59
1:A:912:VAL:HB	1:A:926:VAL:HB	1.84	0.59
1:A:3220:LEU:HD21	1:A:3223:ILE:HD11	1.84	0.59
1:B:2567:LEU:HD13	1:B:2581:LEU:HD22	1.84	0.59
1:A:1106:PHE:HB3	1:A:1201:LEU:HB2	1.84	0.59
1:B:3816:MET:HE1	1:B:4071:LEU:HA	1.84	0.59
1:A:1797:ARG:NH1	1:A:1798:PRO:O	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2714:THR:OG1	1:A:2719:TRP:NE1	2.32	0.59
1:B:1412:ILE:HD13	1:B:1424:PHE:HB3	1.85	0.59
1:B:1844:LEU:HB3	1:B:1847:LEU:HD21	1.83	0.59
1:B:1028:LEU:HD12	1:B:1318:ARG:HG3	1.85	0.59
1:A:3522:PHE:HD1	1:A:3549:MET:HE2	1.66	0.59
1:A:3193:ARG:NH1	2:D:24:GLN:OE1	2.36	0.59
1:B:4499:ASN:HA	1:B:4502:LYS:HB3	1.85	0.59
1:B:3637:ARG:HG2	1:B:3675:LYS:HE3	1.85	0.58
1:A:1292:GLY:HA2	1:A:1295:LEU:HD12	1.85	0.58
1:B:3790:GLN:HE22	1:B:4082:LEU:HD13	1.68	0.58
1:A:1063:HIS:O	1:A:1829:ARG:N	2.36	0.58
1:B:859:LEU:HD12	1:B:903:LEU:HD11	1.86	0.58
1:A:1794:ASP:HB2	1:A:1854:ARG:HH12	1.69	0.58
1:A:2636:VAL:O	1:A:2640:ASN:ND2	2.37	0.58
1:B:577:SER:OG	1:B:625:ARG:NH1	2.36	0.58
1:B:4393:ARG:HA	1:B:4396:LEU:HD12	1.85	0.58
1:B:4437:LEU:O	1:B:4489:TYR:OH	2.21	0.58
1:B:3715:LEU:HD13	1:B:3763:THR:HG22	1.85	0.58
1:B:3990:LEU:HD12	1:B:3995:LEU:HD22	1.85	0.58
1:A:349:GLU:HB2	1:A:1056:ARG:HG2	1.86	0.57
1:A:1473:LEU:HD22	1:A:2030:LEU:HD13	1.85	0.57
1:B:59:ARG:HH12	1:B:930:LYS:HG2	1.69	0.57
1:A:1122:VAL:HG11	1:A:1203:LEU:HD13	1.84	0.57
1:A:3823:THR:OG1	1:A:4000:ARG:O	2.20	0.57
2:D:127:VAL:HA	2:D:130:VAL:HG12	1.86	0.57
1:A:119:TYR:OH	1:A:947:SER:OG	2.22	0.57
1:A:1398:ARG:NH1	1:A:1803:ASP:OD2	2.37	0.57
1:A:2071:THR:HG22	1:A:2074:ILE:HG12	1.87	0.57
1:A:3771:ILE:HG23	1:A:3778:GLN:HG2	1.85	0.57
1:B:176:ALA:O	1:B:181:VAL:N	2.36	0.57
1:A:1086:TRP:NE1	1:A:1088:GLU:O	2.38	0.57
1:A:4165:LEU:HA	1:A:4170:TYR:HD2	1.70	0.57
1:A:2707:VAL:HA	1:A:2710:TRP:NE1	2.20	0.57
1:B:1398:ARG:NH1	1:B:1516:SER:O	2.37	0.57
1:A:1173:PHE:HZ	1:A:1221:LEU:HD22	1.70	0.57
1:A:2394:ARG:NH1	1:B:3074:THR:O	2.38	0.57
1:B:2650:LEU:HB3	1:B:2707:VAL:HG21	1.87	0.57
1:B:3201:PHE:HE2	1:B:3291:LEU:HG	1.70	0.57
1:A:1804:VAL:H	1:A:1844:LEU:HB3	1.69	0.57
1:A:2669:LEU:HD22	1:A:2690:ARG:HD3	1.86	0.57
1:A:2916:ASP:OD2	1:B:2774:THR:OG1	2.23	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:166:PRO:HA	1:B:218:THR:HA	1.86	0.57
1:A:137:ARG:HD2	1:A:145:LEU:HD12	1.87	0.56
1:A:1441:ALA:HB2	1:A:2014:LEU:HD21	1.86	0.56
1:A:4206:ALA:HA	1:A:4209:LEU:HD23	1.86	0.56
1:B:3494:LEU:HD22	1:B:3545:LEU:HD11	1.87	0.56
1:A:426:ILE:HD13	1:A:505:LEU:HD23	1.87	0.56
1:A:1182:LEU:HD13	1:A:1208:LEU:HD13	1.87	0.56
1:A:1435:ASN:HA	1:A:1438:PHE:HD2	1.70	0.56
1:A:1780:ILE:HB	1:A:1789:ARG:HG2	1.85	0.56
1:A:3794:GLN:O	1:A:4086:ARG:NH1	2.39	0.56
1:B:822:GLY:N	1:B:849:ILE:O	2.34	0.56
1:B:1032:GLU:OE2	1:B:1305:ARG:NH1	2.38	0.56
1:A:1521:TYR:OH	1:A:1770:LEU:O	2.23	0.56
1:A:1818:ASP:HA	1:A:1831:LEU:H	1.69	0.56
1:B:1009:VAL:HG21	1:B:1313:LYS:HD2	1.86	0.56
1:A:1527:VAL:HA	1:A:1793:LEU:HD13	1.87	0.56
1:B:160:VAL:HA	1:B:224:PRO:HA	1.88	0.56
1:B:2592:ASP:OD1	1:B:2593:SER:N	2.38	0.56
1:B:1126:LYS:HE2	1:B:1207:LYS:HB2	1.88	0.56
1:A:1121:GLN:HG2	1:A:1185:PRO:HB3	1.88	0.56
1:A:1123:THR:HG23	1:A:1183:CYS:H	1.71	0.56
1:B:1356:LEU:HB3	1:B:1407:PHE:CE1	2.40	0.56
1:B:3823:THR:OG1	1:B:4000:ARG:O	2.24	0.56
1:B:628:PRO:HB2	1:B:722:LEU:HD12	1.86	0.56
1:A:199:GLY:HA3	1:A:219:VAL:HG22	1.88	0.55
1:B:151:GLN:HE22	1:B:162:GLN:H	1.54	0.55
1:B:1403:LYS:HE3	1:B:1848:ILE:HD11	1.87	0.55
1:B:1333:ASN:O	1:B:1337:ARG:HG2	2.06	0.55
1:B:4226:LEU:H	1:B:4333:PRO:HB3	1.72	0.55
1:A:1050:GLN:HB2	1:A:1053:GLN:HG3	1.88	0.55
1:B:272:VAL:HA	1:B:292:THR:HG22	1.88	0.55
1:B:301:TYR:HB2	1:B:304:ALA:HB3	1.89	0.55
1:B:3124:SER:OG	1:B:3125:MET:N	2.39	0.55
1:B:3639:LEU:O	1:B:3643:CYS:N	2.40	0.55
1:A:2649:MET:HG2	1:A:2654:HIS:HB2	1.89	0.55
1:A:2772:HIS:HB2	1:B:2915:ARG:HH11	1.70	0.55
1:A:4393:ARG:HH22	1:A:4400:ARG:HH22	1.55	0.55
1:B:716:LEU:HD21	1:B:719:CYS:HB2	1.89	0.55
1:B:1017:PHE:HE2	1:B:1330:LYS:HB3	1.71	0.55
1:B:3810:ARG:HE	1:B:3814:GLN:HE22	1.54	0.55
1:A:1329:GLU:O	1:A:1333:ASN:ND2	2.35	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2640:ASN:O	1:A:2644:ASN:ND2	2.40	0.55
1:A:4386:ALA:O	1:A:4482:GLN:NE2	2.39	0.55
1:B:177:CYS:SG	1:B:189:TYR:OH	2.56	0.55
1:B:224:PRO:HG2	1:B:227:VAL:HB	1.89	0.55
1:B:1332:LEU:HD12	1:B:1388:ILE:HD11	1.89	0.55
1:B:1525:ILE:HG12	1:B:1793:LEU:HD13	1.89	0.55
1:B:4244:LEU:HD22	1:B:4247:ILE:HD12	1.88	0.55
1:A:289:ARG:NE	1:A:313:GLY:O	2.40	0.55
1:A:391:PHE:HB3	1:A:405:LYS:HE2	1.89	0.54
1:A:3438:LEU:O	1:A:3449:ARG:NH1	2.36	0.54
1:A:3534:CYS:SG	1:A:3535:ASN:N	2.80	0.54
1:A:3978:PRO:HG2	1:A:3981:MET:HB2	1.89	0.54
1:B:401:ALA:HA	1:B:411:ILE:HA	1.88	0.54
1:B:2583:LEU:HD23	1:B:2586:MET:HG3	1.89	0.54
1:B:3829:PRO:HA	1:B:3854:LYS:HE3	1.88	0.54
1:A:2180:ASP:OD1	1:A:2360:ARG:NH1	2.39	0.54
1:B:3093:ASP:OD1	1:B:3094:ALA:N	2.40	0.54
1:B:3635:LEU:HD21	1:B:3711:LEU:HD21	1.88	0.54
1:A:4236:ARG:O	1:A:4239:LEU:N	2.40	0.54
1:B:283:MET:O	1:B:289:ARG:NH1	2.41	0.54
2:C:90:TRP:CD1	2:C:127:VAL:HG21	2.42	0.54
1:A:203:THR:HG21	1:A:214:ALA:HB2	1.88	0.54
1:A:1908:PRO:HB3	1:A:1912:GLN:HE21	1.71	0.54
1:B:1363:HIS:ND1	1:B:1374:ASN:OD1	2.28	0.54
1:B:2596:GLN:HA	1:B:2600:ASN:HB3	1.90	0.54
1:B:3804:ILE:HB	1:B:3808:ILE:HG21	1.90	0.54
1:A:2708:LEU:HD21	1:A:2722:VAL:HG21	1.90	0.54
1:B:3817:LEU:HD21	1:B:4185:LEU:HD23	1.88	0.54
1:A:1509:ASP:OD1	1:A:1510:LEU:N	2.41	0.54
1:B:3554:PRO:HG3	1:B:3621:GLU:HG3	1.89	0.54
1:B:4237:MET:O	1:B:4241:ILE:HG12	2.07	0.54
1:A:104:ALA:H	1:A:217:ALA:HB2	1.72	0.54
1:A:301:TYR:HB2	1:A:304:ALA:HB3	1.89	0.53
1:A:1815:LEU:HB3	1:A:1834:ALA:HB3	1.90	0.53
1:A:1929:ASN:HB3	1:B:3810:ARG:NH1	2.22	0.53
1:B:1802:THR:HG22	1:B:1880:GLY:HA2	1.90	0.53
1:A:1402:HIS:HB2	1:A:1450:TRP:CH2	2.43	0.53
1:B:1820:TRP:HB3	1:B:1828:GLY:HA2	1.91	0.53
1:B:2731:ASN:OD1	1:B:2795:ARG:NH2	2.41	0.53
1:A:2070:GLY:HA3	1:A:2074:ILE:HD11	1.91	0.53
1:B:2640:ASN:O	1:B:2644:ASN:ND2	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1051:GLN:HG3	1:A:1072:GLN:HB3	1.90	0.53
1:B:102:LEU:HB3	1:B:213:VAL:HA	1.91	0.53
1:B:2036:SER:HB2	1:B:2594:ILE:HD11	1.90	0.53
1:B:3768:LEU:HD13	1:B:3771:ILE:HD11	1.91	0.53
1:B:4082:LEU:O	1:B:4086:ARG:HG2	2.08	0.53
1:A:76:HIS:CE1	1:A:144:LEU:HB2	2.43	0.53
1:B:120:ILE:HB	1:B:123:VAL:HG22	1.90	0.53
1:B:3359:LEU:HD12	1:B:3396:LEU:HD13	1.91	0.53
1:A:119:TYR:HE2	1:A:947:SER:H	1.54	0.53
1:A:3610:LEU:HD12	1:A:3689:PHE:CG	2.43	0.53
1:A:3224:HIS:HB2	1:A:3297:LYS:HB2	1.90	0.53
1:B:712:LYS:O	1:B:715:THR:OG1	2.25	0.53
1:B:2583:LEU:HA	1:B:2586:MET:HG2	1.91	0.53
1:B:2688:ALA:O	1:B:2731:ASN:ND2	2.42	0.53
1:A:289:ARG:HG2	1:A:315:TYR:HB3	1.90	0.52
1:A:731:LEU:HD13	1:A:749:LEU:HD13	1.91	0.52
1:A:4177:GLU:OE1	1:A:4180:HIS:HB2	2.09	0.52
1:A:1061:HIS:ND1	1:A:1072:GLN:OE1	2.41	0.52
1:A:1339:THR:OG1	1:A:1341:ASP:OD1	2.26	0.52
1:A:4220:LEU:HD21	1:A:4234:LEU:HD11	1.92	0.52
1:B:1058:HIS:CD2	1:B:1061:HIS:HB2	2.45	0.52
1:B:1093:LEU:O	1:B:1217:TYR:OH	2.16	0.52
1:A:1800:LEU:HG	1:A:1850:PRO:HB2	1.92	0.52
1:B:3242:GLU:OE2	1:B:3281:ARG:NH1	2.42	0.52
1:B:4163:LEU:HA	1:B:4166:ARG:HD2	1.91	0.52
1:B:4177:GLU:OE2	1:B:4180:HIS:N	2.35	0.52
1:A:1086:TRP:HD1	1:A:1088:GLU:H	1.57	0.52
1:A:1954:GLN:OE1	1:A:1958:ARG:NH2	2.40	0.52
1:B:1331:LEU:HB3	1:B:1356:LEU:HD11	1.91	0.52
1:B:2697:ASN:OD1	1:B:2698:GLN:N	2.43	0.52
1:B:3774:HIS:HA	1:B:3997:GLN:NE2	2.24	0.52
1:A:350:ARG:HD2	1:A:1787:ALA:HA	1.91	0.52
1:A:1450:TRP:HZ2	1:A:1845:HIS:CE1	2.27	0.52
1:B:2639:LEU:HD22	1:B:2643:PHE:HE2	1.74	0.52
1:A:2657:LEU:HD11	1:A:2704:PHE:HE1	1.75	0.52
1:A:4226:LEU:H	1:A:4333:PRO:HB3	1.75	0.52
1:B:3812:PHE:CE1	1:B:3816:MET:HG2	2.45	0.52
1:B:145:LEU:HB2	1:B:149:ALA:HB2	1.92	0.52
1:B:4224:THR:HG21	1:B:4234:LEU:HD13	1.92	0.52
1:A:1094:VAL:HB	1:A:1220:PHE:CD1	2.44	0.52
1:A:119:TYR:HH	1:A:947:SER:HG	1.54	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2332:VAL:HG13	1:A:2358:LEU:HD11	1.91	0.52
1:A:3560:LEU:O	1:A:3564:MET:HG2	2.10	0.52
1:B:57:VAL:HG13	1:B:964:LEU:HD21	1.91	0.52
2:D:109:ALA:O	2:D:113:SER:OG	2.28	0.52
1:A:1182:LEU:HB3	1:A:1208:LEU:HB2	1.90	0.51
1:A:4436:LEU:HD23	1:A:4440:MET:HE1	1.91	0.51
1:B:2384:LEU:HD22	1:B:2663:LEU:HD21	1.92	0.51
1:A:2582:MET:O	1:A:2586:MET:HG2	2.11	0.51
1:A:1957:LEU:HB3	1:A:1958:ARG:HD3	1.93	0.51
1:A:3006:MET:SD	1:A:3009:ILE:HA	2.51	0.51
1:B:367:PRO:HD2	1:B:370:VAL:HB	1.92	0.51
1:B:3774:HIS:ND1	1:B:3777:ASN:OD1	2.44	0.51
2:C:6:LEU:O	2:C:9:ARG:HD3	2.10	0.51
1:A:568:LEU:HD12	1:A:630:LEU:HD21	1.92	0.51
1:B:1188:LEU:HD12	1:B:1201:LEU:HD11	1.92	0.51
1:B:2582:MET:O	1:B:2586:MET:N	2.40	0.51
1:A:1098:ALA:HA	1:A:1216:LYS:HB2	1.91	0.51
1:A:2024:ARG:HA	1:A:2027:ILE:HG12	1.91	0.51
1:B:3689:PHE:O	1:B:3693:VAL:HG23	2.10	0.51
1:B:3856:ARG:NH1	1:B:3873:VAL:O	2.44	0.51
2:C:126:GLN:O	2:C:129:GLU:HG2	2.11	0.51
1:B:1406:ARG:NH1	1:B:2576:GLU:OE1	2.43	0.51
1:A:390:CYS:N	1:A:405:LYS:HZ3	2.09	0.51
1:B:2692:PRO:HG3	1:B:2728:LEU:HB3	1.93	0.51
1:A:131:ASP:O	1:A:406:ARG:NH2	2.43	0.51
1:A:2687:ASN:HB3	1:A:2690:ARG:HG3	1.93	0.51
1:A:2826:PHE:O	1:A:2915:ARG:NH2	2.42	0.51
1:A:3816:MET:HG3	1:A:4070:PRO:HB2	1.93	0.51
1:B:721:ARG:NH2	1:B:727:GLU:OE1	2.37	0.51
1:B:1111:ASN:ND2	1:B:1295:LEU:O	2.42	0.51
1:B:4206:ALA:HA	1:B:4209:LEU:HG	1.92	0.51
1:A:393:SER:HA	1:A:401:ALA:HB3	1.92	0.50
1:B:1049:VAL:N	1:B:1076:THR:O	2.35	0.50
1:B:1831:LEU:O	1:B:2569:ALA:N	2.28	0.50
1:B:1105:ASP:HB2	1:B:1302:THR:HB	1.92	0.50
1:B:1118:PRO:HG3	1:B:1295:LEU:HD22	1.92	0.50
1:B:3774:HIS:HA	1:B:3997:GLN:HE22	1.74	0.50
1:A:76:HIS:HE1	1:A:144:LEU:HB2	1.75	0.50
1:A:1105:ASP:HB2	1:A:1302:THR:HB	1.93	0.50
1:A:1914:LEU:HD21	1:A:1995:LYS:HB2	1.94	0.50
1:B:3433:ASP:OD2	1:B:3853:HIS:ND1	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3499:ALA:HB1	1:B:3850:GLY:HA2	1.93	0.50
1:A:1051:GLN:HG2	1:A:1072:GLN:HE21	1.75	0.50
1:A:1845:HIS:HB3	1:A:1847:LEU:HG	1.93	0.50
1:B:250:PRO:HD3	1:B:362:HIS:HB3	1.93	0.50
1:B:345:TRP:HZ3	1:B:358:VAL:HA	1.75	0.50
1:B:3498:ALA:HB2	1:B:3545:LEU:HD23	1.93	0.50
1:A:4236:ARG:O	1:A:4239:LEU:HG	2.12	0.50
1:B:2084:GLN:HG2	1:B:2603:PRO:HG3	1.92	0.50
1:B:3862:VAL:HA	1:B:3983:LEU:HD12	1.92	0.50
1:B:4324:LEU:HD11	1:B:4394:ALA:HB1	1.94	0.50
1:A:1398:ARG:HB2	1:A:1519:ASN:HD21	1.77	0.50
1:B:1046:TRP:HB3	1:B:1077:TRP:HB3	1.94	0.50
1:B:1863:ARG:HD3	1:B:1865:GLY:H	1.77	0.50
1:A:1086:TRP:HD1	1:A:1088:GLU:N	2.09	0.50
1:A:1777:SER:HB2	1:A:1872:LYS:HE3	1.94	0.50
1:B:174:LEU:HB2	1:B:196:LEU:HD21	1.93	0.50
1:B:1073:HIS:HB3	1:B:1302:THR:HG23	1.92	0.50
1:B:3812:PHE:O	1:B:3816:MET:HB3	2.11	0.50
1:A:4194:ASP:OD1	1:A:4198:SER:N	2.39	0.50
1:B:2582:MET:O	1:B:2586:MET:HG2	2.12	0.50
1:B:3400:LEU:HD22	1:B:3431:THR:HG23	1.93	0.50
1:B:4207:ASN:OD1	1:B:4208:VAL:HG23	2.11	0.50
2:D:22:LEU:HB2	2:D:96:LEU:HD23	1.93	0.50
1:B:1030:ARG:HH22	1:B:2573:VAL:HG23	1.75	0.50
1:A:1313:LYS:HB2	1:A:1316:VAL:HB	1.92	0.49
1:A:1934:ARG:HH21	1:A:1938:LEU:HD13	1.76	0.49
1:A:4395:LEU:HD12	1:A:4398:LEU:HD11	1.93	0.49
1:B:68:ASP:HB2	1:B:86:THR:HB	1.94	0.49
1:B:1844:LEU:HD23	1:B:1847:LEU:HD21	1.94	0.49
1:B:3209:ASP:OD1	1:B:3209:ASP:N	2.43	0.49
1:A:1110:LEU:HD13	1:A:1114:ILE:HG21	1.94	0.49
1:A:3456:TRP:CZ2	1:A:3489:PRO:HB3	2.47	0.49
2:D:2:SER:OG	2:D:3:SER:N	2.45	0.49
1:A:856:ILE:HD13	1:A:903:LEU:HD11	1.93	0.49
1:A:3614:ALA:HB2	1:A:3689:PHE:CD1	2.48	0.49
1:A:3967:LEU:HD23	1:A:4004:LEU:HD22	1.95	0.49
1:B:145:LEU:HD22	1:B:164:GLU:HB3	1.93	0.49
1:B:722:LEU:HD13	1:B:733:ILE:HD12	1.94	0.49
1:A:391:PHE:HB2	1:A:403:ALA:HB3	1.93	0.49
1:B:1090:VAL:HG13	1:B:1221:LEU:HD12	1.94	0.49
1:B:1212:MET:HG3	1:B:1218:ARG:HB2	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1819:ILE:O	1:B:1829:ARG:N	2.44	0.49
1:B:57:VAL:HB	1:B:926:VAL:HG22	1.94	0.49
1:B:296:TRP:HE3	1:B:316:HIS:CD2	2.31	0.49
1:B:302:ARG:H	1:B:340:PRO:HB3	1.76	0.49
1:B:2335:LEU:HB3	1:B:2358:LEU:HD12	1.94	0.49
2:C:41:TYR:HA	2:C:44:THR:HG22	1.93	0.49
1:A:1938:LEU:O	1:A:1941:SER:OG	2.21	0.49
1:B:3713:THR:HG22	1:B:3784:VAL:HG13	1.95	0.49
1:B:3754:GLN:NE2	1:B:3755:GLN:HG3	2.28	0.49
1:B:4180:HIS:CD2	1:B:4205:SER:HB3	2.48	0.49
1:A:1412:ILE:HG23	1:A:1424:PHE:CE1	2.48	0.48
1:B:1525:ILE:HD11	1:B:1793:LEU:HB3	1.95	0.48
1:B:1782:ARG:NE	1:B:1789:ARG:HH22	2.11	0.48
1:A:1425:GLY:O	1:A:1428:LEU:HG	2.13	0.48
1:A:1938:LEU:HD21	1:A:1969:ARG:HG2	1.96	0.48
1:A:3401:LEU:HD21	1:A:3435:LEU:HD11	1.95	0.48
1:B:1110:LEU:HD23	1:B:1114:ILE:HG21	1.94	0.48
1:A:2121:LEU:O	1:A:2124:ILE:HG22	2.14	0.48
2:C:87:GLU:O	2:C:91:MET:HG2	2.13	0.48
1:A:386:ASP:HB2	1:A:406:ARG:HA	1.96	0.48
1:A:2173:MET:CE	1:B:3126:VAL:HG22	2.43	0.48
1:A:3177:GLN:HG2	1:A:3178:PRO:HD2	1.95	0.48
1:B:1911:ASP:N	1:B:1911:ASP:OD1	2.46	0.48
1:B:4238:ALA:HA	1:B:4243:ALA:HB3	1.94	0.48
1:A:1455:LEU:HD13	1:A:1458:VAL:HG21	1.96	0.48
1:A:1788:ARG:HH21	1:A:1859:THR:HB	1.78	0.48
1:A:3097:ALA:O	1:A:3101:MET:HG3	2.14	0.48
1:A:3189:HIS:HB3	1:A:3192:ALA:HB2	1.95	0.48
1:B:566:CYS:HB3	1:B:632:LEU:HD23	1.94	0.48
1:B:1028:LEU:O	1:B:1318:ARG:NH2	2.46	0.48
1:B:1532:ILE:HG23	1:B:1782:ARG:HH12	1.79	0.48
1:B:2735:ASN:HD21	1:B:2745:GLN:HB2	1.79	0.48
1:B:3869:VAL:O	1:B:3873:VAL:HG12	2.13	0.48
1:A:3201:PHE:HE2	1:A:3291:LEU:HB2	1.79	0.48
1:A:4395:LEU:HA	1:A:4398:LEU:HG	1.95	0.48
1:B:4207:ASN:OD1	1:B:4208:VAL:N	2.47	0.48
1:A:349:GLU:HB2	1:A:1056:ARG:HE	1.79	0.48
1:A:2173:MET:HE2	1:B:3126:VAL:HG22	1.96	0.48
1:B:1799:ILE:N	1:B:1853:CYS:O	2.34	0.48
1:B:3512:ASP:OD1	1:B:3512:ASP:N	2.43	0.48
1:A:1961:ASP:OD1	1:A:1961:ASP:N	2.43	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:436:GLN:HB3	1:B:721:ARG:HD3	1.94	0.47
1:B:3995:LEU:HD12	1:B:3996:PRO:HD2	1.96	0.47
1:B:140:LEU:O	1:B:143:ILE:HG12	2.14	0.47
1:A:1048:GLU:HA	1:A:1077:TRP:HA	1.97	0.47
1:B:411:ILE:HD11	1:B:424:PHE:HD1	1.79	0.47
1:B:4085:GLU:HG3	1:B:4166:ARG:NH1	2.29	0.47
1:B:4167:LEU:HD22	1:B:4170:TYR:HB2	1.97	0.47
1:A:2079:GLY:O	1:A:2083:VAL:HG23	2.14	0.47
1:A:3251:LEU:HD23	1:B:2717:ARG:HE	1.80	0.47
1:B:225:HIS:CD2	1:B:259:LEU:HD22	2.49	0.47
1:B:4244:LEU:HA	1:B:4247:ILE:HB	1.96	0.47
2:C:50:TYR:HD1	2:C:69:ILE:HD13	1.79	0.47
1:A:188:GLY:HA3	1:A:227:VAL:HG13	1.97	0.47
1:A:1493:GLN:HG2	1:A:1499:TYR:HA	1.96	0.47
1:A:1784:HIS:HB2	1:A:1787:ALA:HB2	1.96	0.47
1:A:2652:VAL:HG13	1:A:2654:HIS:ND1	2.30	0.47
1:A:2654:HIS:CG	1:B:3068:ARG:HD2	2.50	0.47
1:A:3832:LEU:O	1:A:3856:ARG:NH2	2.48	0.47
1:A:283:MET:CE	1:A:289:ARG:HG3	2.44	0.47
1:A:3088:VAL:HG12	1:A:3089:LEU:HD12	1.94	0.47
1:A:4218:ARG:NH1	1:A:4222:SER:HB2	2.30	0.47
1:B:75:TYR:HB2	1:B:944:ILE:HG12	1.96	0.47
1:B:330:THR:OG1	1:B:355:CYS:SG	2.52	0.47
1:B:411:ILE:HD11	1:B:424:PHE:CD1	2.49	0.47
1:B:3719:LEU:HD11	1:B:3760:GLU:HB3	1.97	0.47
1:B:3773:CYS:HB2	1:B:3991:TYR:OH	2.15	0.47
1:A:1206:PRO:HG2	1:A:1370:SER:OG	2.15	0.47
1:A:1368:GLY:HA2	1:A:1371:LYS:HB2	1.96	0.47
1:A:3179:ALA:HB1	1:A:3182:LEU:HD12	1.97	0.47
1:B:1359:LEU:HD22	1:B:1377:LEU:HD13	1.97	0.47
1:B:2850:VAL:HG12	1:B:2942:ALA:HA	1.96	0.47
1:A:3259:THR:HA	1:A:3262:LEU:HD12	1.97	0.47
1:B:1111:ASN:HB2	1:B:1114:ILE:HG13	1.96	0.47
1:B:3689:PHE:O	1:B:3692:GLU:HG3	2.15	0.47
1:A:1022:LEU:HD23	1:A:1025:LEU:HD12	1.97	0.47
1:A:4218:ARG:CZ	1:A:4325:GLN:HE22	2.28	0.47
1:B:3490:SER:HB3	1:B:3493:HIS:CD2	2.45	0.47
1:B:4072:GLN:HG3	1:B:4175:LEU:HB3	1.95	0.47
1:A:2870:TYR:OH	1:A:2916:ASP:OD1	2.24	0.47
1:A:3429:ASP:OD1	1:A:3429:ASP:N	2.48	0.47
1:B:1058:HIS:HE1	1:B:1830:ARG:HD2	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3058:LEU:HD12	1:B:3101:MET:HE2	1.97	0.47
1:B:2590:GLU:O	1:B:2594:ILE:HG12	2.15	0.46
1:B:3220:LEU:HD21	1:B:3223:ILE:HD11	1.96	0.46
1:B:4332:ASN:ND2	1:B:4404:SER:OG	2.49	0.46
1:A:1092:GLU:HB2	1:A:1220:PHE:CB	2.44	0.46
1:A:1188:LEU:HA	1:A:1201:LEU:HD21	1.97	0.46
1:A:1415:GLY:HA3	1:A:1424:PHE:HE2	1.79	0.46
1:B:306:PRO:O	1:B:310:ALA:CB	2.63	0.46
1:A:138:LYS:HG2	1:A:369:SER:HB2	1.96	0.46
1:A:1331:LEU:HD11	1:A:1352:VAL:HG23	1.98	0.46
1:A:2050:LEU:HG	1:A:2085:LEU:HD11	1.97	0.46
1:A:4377:LEU:HD22	1:A:4440:MET:HE3	1.96	0.46
1:B:1782:ARG:HG3	1:B:1789:ARG:HH22	1.80	0.46
2:C:99:MET:SD	2:D:20:THR:HG23	2.55	0.46
2:C:128:GLU:O	2:C:132:GLN:HB2	2.14	0.46
1:A:1938:LEU:HD11	1:A:1969:ARG:HE	1.81	0.46
1:A:3517:LEU:HD22	1:A:3552:VAL:HG11	1.97	0.46
1:A:4252:SER:HB2	1:A:4368:CYS:SG	2.56	0.46
1:B:1812:LEU:O	1:B:1838:SER:OG	2.33	0.46
1:B:744:HIS:ND1	1:B:828:TYR:O	2.42	0.46
1:B:3712:TRP:HB2	1:B:3784:VAL:HG11	1.98	0.46
2:C:58:ASN:ND2	2:C:60:GLU:OE2	2.49	0.46
1:A:433:ILE:HD11	1:A:631:LEU:HD11	1.97	0.46
1:B:70:LEU:HD12	1:B:961:LEU:HD21	1.98	0.46
1:B:1066:HIS:NE2	1:B:1825:GLU:O	2.46	0.46
1:A:250:PRO:HG3	1:A:364:GLN:H	1.81	0.46
1:A:3784:VAL:O	1:A:3787:GLU:HG3	2.15	0.46
1:B:349:GLU:HB2	1:B:1056:ARG:NH2	2.30	0.46
1:B:403:ALA:HB2	1:B:409:ILE:HG23	1.98	0.46
1:B:1863:ARG:HD3	1:B:1865:GLY:N	2.31	0.46
1:B:2349:ASP:N	1:B:2349:ASP:OD1	2.47	0.46
1:B:3610:LEU:HD11	1:B:3686:ILE:HD13	1.98	0.46
1:B:3759:ILE:O	1:B:3763:THR:HG23	2.16	0.46
1:A:2034:LEU:HD12	1:A:2037:LEU:HD11	1.98	0.46
1:B:413:ASP:O	1:B:418:MET:HA	2.16	0.46
1:B:2595:LEU:O	1:B:2599:THR:OG1	2.33	0.46
1:A:3123:ARG:O	1:B:1954:GLN:NE2	2.49	0.46
1:A:296:TRP:NE1	1:A:298:HIS:HB2	2.31	0.45
1:A:1172:PRO:HG2	1:A:1175:GLU:HB2	1.98	0.45
1:A:1452:PHE:CD2	1:A:2029:TYR:HB3	2.52	0.45
1:A:2179:LEU:HA	1:A:2182:VAL:HG12	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2932:LEU:O	1:A:2980:VAL:HG23	2.17	0.45
1:A:4384:ASP:OD2	1:A:4392:TYR:OH	2.30	0.45
1:B:1110:LEU:N	1:B:1197:HIS:O	2.47	0.45
1:B:4180:HIS:HE1	1:B:4208:VAL:HB	1.81	0.45
1:A:4317:GLU:HA	1:A:4320:VAL:HG22	1.99	0.45
1:B:3193:ARG:NE	2:C:91:MET:SD	2.86	0.45
1:B:3566:ILE:HG21	1:B:3631:LEU:HD21	1.98	0.45
1:B:4314:ARG:HE	1:B:4318:GLU:HG3	1.80	0.45
1:A:1189:ALA:HA	1:A:1192:LEU:HB2	1.99	0.45
1:B:2575:LEU:O	1:B:2578:GLN:NE2	2.50	0.45
1:B:4229:ASP:N	1:B:4229:ASP:OD1	2.49	0.45
1:A:1425:GLY:O	1:A:1429:LEU:HD23	2.16	0.45
1:B:163:LEU:HD11	1:B:259:LEU:HD21	1.99	0.45
1:B:1174:LEU:HD21	1:B:1225:LYS:HD3	1.99	0.45
1:B:2817:HIS:HB2	1:B:2859:VAL:HG22	1.98	0.45
1:B:2851:VAL:HG13	1:B:2856:ILE:HD11	1.99	0.45
1:A:1125:LEU:HD23	1:A:1177:HIS:CD2	2.51	0.45
1:A:2686:TYR:CE2	1:B:3249:ASN:HB3	2.50	0.45
1:B:1057:ARG:HH22	1:B:1861:ILE:HG21	1.81	0.45
1:B:1110:LEU:HB3	1:B:1114:ILE:HD12	1.98	0.45
1:B:3427:SER:HB3	1:B:3493:HIS:CD2	2.51	0.45
1:A:1489:GLU:HA	1:A:1492:LEU:HG	1.98	0.45
1:A:1516:SER:HB2	1:A:1518:LYS:NZ	2.32	0.45
1:A:3161:HIS:CE1	1:A:3307:THR:HA	2.51	0.45
1:A:3715:LEU:HD21	1:A:3763:THR:HG22	1.97	0.45
1:B:2932:LEU:O	1:B:2980:VAL:HG23	2.17	0.45
1:B:3097:ALA:O	1:B:3101:MET:HG3	2.15	0.45
1:B:3708:VAL:HA	1:B:3711:LEU:HD23	1.99	0.45
1:B:4180:HIS:CE1	1:B:4208:VAL:HB	2.51	0.45
1:A:3049:THR:HG23	1:A:3052:MET:H	1.80	0.45
2:C:18:THR:HA	2:C:21:PHE:HB3	1.98	0.45
1:A:915:LEU:HG	1:A:922:ILE:HA	1.99	0.45
1:A:1910:ILE:HG22	1:A:1911:ASP:H	1.82	0.45
1:A:3400:LEU:HD22	1:A:3431:THR:HG23	1.99	0.45
1:B:348:HIS:O	1:B:352:SER:N	2.48	0.45
1:B:1070:ALA:HA	1:B:1073:HIS:HB2	1.98	0.45
1:B:2178:LEU:O	1:B:2182:VAL:HG23	2.17	0.45
1:B:3712:TRP:HD1	1:B:3767:PHE:CE1	2.35	0.45
1:A:89:GLY:HA3	1:A:150:LEU:HD11	1.99	0.45
1:B:151:GLN:NE2	1:B:162:GLN:OE1	2.50	0.45
1:B:627:LEU:HG	1:B:629:VAL:HG23	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:631:LEU:HB3	1:B:633:TYR:CE2	2.51	0.45
1:B:1191:GLY:HA3	1:B:1201:LEU:HD23	1.99	0.45
1:B:2129:LEU:HD21	1:B:2182:VAL:HG22	1.98	0.45
1:B:3775:PRO:HA	1:B:3778:GLN:HG2	1.99	0.45
1:A:246:VAL:HG23	1:A:248:ALA:H	1.82	0.45
1:A:2129:LEU:HD22	1:A:2181:TYR:HD2	1.81	0.45
1:A:4218:ARG:HG3	1:A:4325:GLN:OE1	2.17	0.45
1:B:308:PRO:O	1:B:311:GLN:HG3	2.17	0.45
1:A:734:ASP:HB3	1:A:750:ARG:HD3	1.99	0.44
1:A:1498:LEU:HD13	1:A:1974:TYR:CD2	2.52	0.44
1:A:4386:ALA:HA	1:A:4482:GLN:HE21	1.82	0.44
1:B:1488:MET:HE3	1:B:1488:MET:HA	1.98	0.44
1:B:2593:SER:O	1:B:2597:ALA:N	2.49	0.44
2:D:127:VAL:O	2:D:131:HIS:ND1	2.39	0.44
2:D:131:HIS:O	2:D:135:ARG:HG2	2.18	0.44
1:A:2173:MET:HE1	1:B:3126:VAL:HA	1.98	0.44
1:A:3699:MET:O	1:A:3703:LEU:N	2.42	0.44
1:B:1387:ASP:OD1	1:B:1390:ARG:NH2	2.33	0.44
1:B:1440:PRO:O	1:B:2018:SER:OG	2.30	0.44
1:B:4191:VAL:HG12	1:B:4193:ASP:H	1.81	0.44
2:C:143:GLU:HA	2:C:146:ILE:HG12	1.98	0.44
1:A:4314:ARG:O	1:A:4317:GLU:HG3	2.18	0.44
1:A:4380:ASP:OD1	1:A:4380:ASP:N	2.51	0.44
1:B:1024:SER:HB3	1:B:1311:ILE:HD11	1.99	0.44
1:B:1034:LEU:HD11	1:B:1099:CYS:SG	2.57	0.44
1:A:1100:MET:SD	1:A:1209:VAL:HG13	2.57	0.44
1:A:1102:GLY:HA2	1:A:1306:PHE:CE2	2.53	0.44
1:B:1177:HIS:O	1:B:1181:ILE:HG13	2.17	0.44
1:B:2013:ASP:O	1:B:2017:THR:OG1	2.28	0.44
1:B:2600:ASN:OD1	1:B:2601:THR:N	2.51	0.44
1:B:3386:GLY:HA2	1:B:3392:ILE:HG22	1.99	0.44
1:B:3982:THR:N	1:B:3985:GLN:OE1	2.50	0.44
1:A:1347:HIS:CD2	1:A:1885:LEU:HD22	2.51	0.44
1:A:4236:ARG:HA	1:A:4239:LEU:HG	2.00	0.44
1:B:2943:ARG:HD3	1:B:2944:VAL:N	2.33	0.44
1:A:1923:ASP:HA	1:B:3809:ARG:NH2	2.33	0.44
1:A:3614:ALA:HB2	1:A:3689:PHE:HD1	1.82	0.44
1:A:4186:ARG:NE	1:A:4193:ASP:O	2.35	0.44
1:B:125:LYS:HD3	1:B:138:LYS:HG3	2.00	0.44
1:B:137:ARG:NE	1:B:375:SER:O	2.51	0.44
1:A:108:SER:HB2	1:A:111:PRO:HG3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1119:GLN:HE22	1:A:1291:ARG:HG3	1.83	0.44
1:A:1402:HIS:HB2	1:A:1450:TRP:CZ2	2.52	0.44
1:A:2834:ASP:OD1	1:A:2834:ASP:N	2.49	0.44
1:A:3096:LYS:HE3	1:A:3096:LYS:HB2	1.84	0.44
1:A:4218:ARG:HH12	1:A:4222:SER:HB2	1.82	0.44
1:B:1863:ARG:HH11	1:B:1865:GLY:H	1.65	0.44
1:B:3399:ILE:HA	1:B:3403:ASN:O	2.18	0.44
1:B:3790:GLN:HE22	1:B:4082:LEU:HB2	1.83	0.44
1:A:357:PHE:HB3	1:A:1056:ARG:HH12	1.83	0.44
1:B:2834:ASP:OD1	1:B:2834:ASP:N	2.51	0.44
1:B:3322:GLN:O	1:B:3326:THR:OG1	2.33	0.44
2:C:65:VAL:O	2:C:69:ILE:HG13	2.18	0.44
2:C:88:THR:HG22	2:D:13:LEU:HD11	2.00	0.44
2:C:97:SER:HB3	2:C:120:ILE:HB	1.99	0.44
1:A:307:ASP:HB3	1:A:308:PRO:HD3	1.98	0.44
1:A:2335:LEU:HD22	1:A:2354:VAL:HG13	1.99	0.44
1:B:1089:HIS:O	1:B:1223:HIS:ND1	2.51	0.44
1:B:2120:LEU:O	1:B:2124:ILE:HG12	2.18	0.44
1:B:2821:THR:HG23	1:B:2823:ARG:H	1.82	0.44
1:B:3209:ASP:HB3	1:B:3281:ARG:HG2	1.99	0.44
1:A:1035:THR:OG1	1:A:1036:PRO:HD3	2.17	0.43
1:A:1346:GLU:HG3	1:A:1996:VAL:HG13	1.98	0.43
1:A:1523:SER:N	1:A:1878:TYR:O	2.51	0.43
1:A:4163:LEU:HD23	1:A:4166:ARG:HH22	1.82	0.43
1:B:1034:LEU:HD13	1:B:1305:ARG:HE	1.82	0.43
1:B:2129:LEU:HD22	1:B:2181:TYR:HD2	1.83	0.43
1:B:2563:VAL:HG11	1:B:2588:THR:HG22	1.99	0.43
1:B:3967:LEU:HB2	1:B:3977:LEU:HB2	1.99	0.43
1:B:4079:GLY:O	1:B:4082:LEU:HG	2.17	0.43
1:A:1120:ILE:HD12	1:A:1188:LEU:HB2	1.99	0.43
1:A:3169:ILE:HD11	1:A:3210:LEU:HD22	2.00	0.43
1:B:3691:THR:HG23	1:B:3766:PHE:HA	2.00	0.43
1:B:4397:GLU:HG3	1:B:4400:ARG:NH1	2.26	0.43
1:B:1122:VAL:HG22	1:B:1224:VAL:HG23	1.99	0.43
1:B:1812:LEU:HD23	1:B:1837:ILE:HG21	2.00	0.43
1:B:3687:LEU:HD12	1:B:3690:LEU:HD11	2.01	0.43
1:A:2108:GLN:OE1	1:A:2110:LEU:N	2.45	0.43
1:A:4484:THR:HA	1:A:4487:ILE:HG22	2.00	0.43
1:B:152:THR:HB	1:B:379:PHE:HZ	1.84	0.43
1:B:306:PRO:O	1:B:310:ALA:HB2	2.19	0.43
1:B:1206:PRO:HG2	1:B:1370:SER:OG	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3004:SER:HA	1:B:3079:GLU:HG2	1.99	0.43
1:B:3529:SER:O	1:B:3539:LYS:NZ	2.38	0.43
1:A:1225:LYS:HB3	1:A:1291:ARG:CZ	2.47	0.43
1:A:1451:TYR:O	1:A:1455:LEU:HD23	2.19	0.43
1:A:2777:HIS:ND1	1:B:3255:THR:OG1	2.48	0.43
1:B:1207:LYS:HA	1:B:1210:LYS:HE2	2.01	0.43
1:B:4229:ASP:HA	1:B:4232:VAL:HG12	2.00	0.43
1:B:4230:ASP:OD1	1:B:4231:GLY:N	2.52	0.43
1:A:1094:VAL:HG13	1:A:1124:LEU:HD11	1.99	0.43
1:A:1110:LEU:HD21	1:A:1296:LEU:HD23	2.01	0.43
1:A:1484:ARG:NH1	1:A:2018:SER:O	2.41	0.43
1:A:2867:VAL:HG11	1:A:2923:LEU:HD11	2.01	0.43
1:A:3399:ILE:HA	1:A:3403:ASN:O	2.18	0.43
1:A:3991:TYR:CE1	1:A:3997:GLN:HA	2.54	0.43
1:B:345:TRP:CZ3	1:B:358:VAL:HA	2.54	0.43
1:B:912:VAL:HG23	1:B:940:PHE:CD2	2.53	0.43
1:B:1124:LEU:H	1:B:1185:PRO:HB3	1.82	0.43
1:B:2880:ARG:NH1	1:B:2886:SER:O	2.47	0.43
2:C:60:GLU:HG2	2:C:61:GLU:N	2.34	0.43
1:A:291:GLU:HG2	1:A:417:LEU:HD22	2.00	0.43
1:A:1789:ARG:HD2	1:A:1789:ARG:HA	1.77	0.43
1:A:3401:LEU:HD13	1:A:3456:TRP:CD2	2.54	0.43
1:B:157:GLN:HG3	1:B:226:HIS:HB3	1.99	0.43
1:B:166:PRO:HG2	1:B:169:GLU:HG3	2.00	0.43
1:B:1033:THR:HA	1:B:1304:ARG:HG2	2.00	0.43
1:B:2388:VAL:HG12	1:B:2655:VAL:HB	1.99	0.43
1:A:3463:VAL:HG21	1:A:3486:LEU:HB3	2.01	0.43
1:A:3561:MET:HE1	1:A:3626:LEU:HA	2.00	0.43
1:A:4233:LEU:O	1:A:4237:MET:HE2	2.19	0.43
1:A:4259:PRO:HA	1:A:4367:SER:O	2.19	0.43
1:B:1076:THR:HG22	1:B:1300:SER:HB2	2.01	0.43
1:B:2370:HIS:CE1	1:B:2632:GLN:HE21	2.36	0.43
1:B:3439:GLY:HA3	1:B:3500:ILE:HD13	2.00	0.43
2:C:134:SER:OG	2:C:138:GLU:OE2	2.37	0.43
1:A:271:GLY:HA3	1:A:278:VAL:HG22	2.01	0.43
1:A:388:ILE:HA	1:A:405:LYS:HD2	2.01	0.43
1:A:579:ALA:HB2	1:A:624:ARG:H	1.84	0.43
1:A:1089:HIS:HB3	1:A:1091:PHE:CZ	2.54	0.43
1:A:1347:HIS:CE1	1:A:1883:TYR:HH	2.37	0.43
1:A:1934:ARG:HD2	1:A:1934:ARG:HA	1.84	0.43
1:A:2039:HIS:NE2	1:A:2600:ASN:O	2.46	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2392:PHE:HB3	1:A:2399:TRP:CD1	2.53	0.43
1:A:3508:LEU:HD23	1:A:3508:LEU:H	1.84	0.43
1:B:136:CYS:SG	1:B:418:MET:HB3	2.58	0.43
1:B:1363:HIS:O	1:B:1374:ASN:ND2	2.37	0.43
1:B:1532:ILE:HG12	1:B:1782:ARG:HH12	1.84	0.43
1:B:3103:GLY:O	1:B:3107:ILE:HG23	2.19	0.43
1:B:2568:ASP:OD2	1:B:2570:ARG:NH1	2.51	0.43
1:B:3778:GLN:O	1:B:3781:MET:HG2	2.19	0.43
1:B:4199:HIS:ND1	1:B:4202:GLN:OE1	2.47	0.43
1:A:1322:LEU:HD23	1:A:1363:HIS:CE1	2.54	0.42
1:A:1357:CYS:HA	1:A:1407:PHE:HD1	1.83	0.42
1:A:2360:ARG:HA	1:A:2360:ARG:HD3	1.89	0.42
1:A:3029:ALA:HA	1:A:3034:ASP:HB3	2.00	0.42
1:A:3962:VAL:N	1:A:4009:GLY:O	2.52	0.42
1:B:156:LYS:HB2	1:B:159:ASP:CG	2.40	0.42
1:B:2934:LEU:HA	1:B:2941:SER:HA	2.00	0.42
1:B:2934:LEU:HD23	1:B:2934:LEU:H	1.84	0.42
1:B:3132:PHE:O	1:B:3133:LEU:C	2.57	0.42
1:B:3224:HIS:HB2	1:B:3297:LYS:HB2	2.00	0.42
1:A:1357:CYS:SG	1:A:1407:PHE:HB2	2.59	0.42
1:A:1473:LEU:O	1:A:1477:VAL:HG12	2.19	0.42
1:B:929:PRO:HG3	1:B:940:PHE:CE1	2.55	0.42
1:B:1050:GLN:HE22	1:B:1052:GLU:HB2	1.83	0.42
1:B:1372:GLU:O	1:B:1375:GLU:HG2	2.19	0.42
1:B:2115:ASP:OD1	1:B:2115:ASP:N	2.51	0.42
1:B:3424:ASN:HD22	1:B:3484:TYR:HB3	1.85	0.42
1:A:1034:LEU:HG	1:A:1036:PRO:HD2	2.00	0.42
1:A:1061:HIS:HE1	1:A:1068:GLY:HA2	1.83	0.42
1:A:1923:ASP:HA	1:B:3809:ARG:HH22	1.84	0.42
1:A:4370:ILE:HB	1:A:4371:PRO:HD3	2.02	0.42
1:B:271:GLY:HA2	1:B:276:ARG:HB3	2.01	0.42
1:B:1328:HIS:O	1:B:1332:LEU:HD23	2.19	0.42
2:D:79:LYS:HA	2:D:82:GLU:HG2	2.02	0.42
1:A:1799:ILE:HG12	1:A:1882:THR:HG22	2.01	0.42
1:B:1495:ARG:HD3	1:B:1944:LEU:HD13	1.99	0.42
1:A:309:MET:HA	1:A:344:PRO:HG2	2.01	0.42
1:A:1039:SER:H	1:A:1096:PRO:HG2	1.84	0.42
1:A:2592:ASP:OD1	1:A:2593:SER:N	2.52	0.42
1:A:3124:SER:OG	1:A:3125:MET:N	2.48	0.42
1:B:314:PHE:HE1	1:B:328:CYS:HB2	1.84	0.42
1:B:831:ASN:OD1	1:B:833:ALA:N	2.42	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2336:VAL:CG1	1:B:2358:LEU:HD11	2.50	0.42
1:B:2814:LYS:HE3	1:B:2814:LYS:HB2	1.83	0.42
1:A:1045:CYS:O	1:A:1079:LEU:HD12	2.19	0.42
1:A:3460:SER:HB2	1:A:3489:PRO:HG3	2.02	0.42
1:B:381:CYS:SG	1:B:386:ASP:HB2	2.60	0.42
1:B:437:LEU:HD21	1:B:627:LEU:HD13	2.01	0.42
1:B:744:HIS:CD2	1:B:900:LEU:HB2	2.54	0.42
1:B:827:LEU:HB3	1:B:844:ILE:HB	2.01	0.42
1:B:2343:ASP:OD1	1:B:2345:THR:OG1	2.36	0.42
1:A:89:GLY:HA3	1:A:150:LEU:HD21	2.02	0.42
1:A:2083:VAL:CG2	1:A:2124:ILE:HG13	2.50	0.42
1:B:1069:ASP:O	1:B:1073:HIS:N	2.52	0.42
1:B:1174:LEU:HD12	1:B:1175:GLU:HG2	2.02	0.42
1:B:1803:ASP:HB3	1:B:1879:TYR:HB2	2.01	0.42
1:B:2716:LEU:HA	1:B:2716:LEU:HD12	1.78	0.42
1:B:2867:VAL:HG21	1:B:2923:LEU:HD11	2.01	0.42
1:B:4161:PHE:HZ	1:B:4213:PRO:HA	1.85	0.42
1:B:4412:LEU:HB3	1:B:4496:ARG:NH2	2.35	0.42
1:A:746:LEU:HD11	1:A:859:LEU:HD11	2.02	0.42
1:A:864:PRO:O	1:A:871:GLU:HB3	2.20	0.42
1:B:161:VAL:HG11	1:B:225:HIS:HB2	2.02	0.42
1:B:2643:PHE:CE2	1:B:2694:ILE:HD13	2.55	0.42
1:B:2870:TYR:OH	1:B:2916:ASP:OD1	2.25	0.42
1:B:3523:GLU:HG2	1:B:3563:TRP:CH2	2.55	0.42
1:A:250:PRO:HG3	1:A:364:GLN:N	2.35	0.42
1:A:2129:LEU:HD21	1:A:2182:VAL:HB	2.01	0.42
1:A:3704:GLY:HA3	1:A:3777:ASN:HD21	1.85	0.42
1:B:76:HIS:O	1:B:80:ASN:N	2.53	0.42
1:B:138:LYS:H	1:B:373:ALA:HA	1.85	0.42
1:B:1910:ILE:HD12	1:B:1910:ILE:H	1.84	0.42
1:B:2687:ASN:HB3	1:B:2690:ARG:HG2	2.01	0.42
1:A:627:LEU:HD12	1:A:628:PRO:HD2	2.02	0.42
1:A:3103:GLY:O	1:A:3107:ILE:HG23	2.20	0.42
1:A:3287:ASP:O	1:B:2883:SER:OG	2.38	0.42
1:B:1055:GLN:OE1	1:B:1058:HIS:HD2	2.03	0.42
1:B:1863:ARG:NH1	1:B:1865:GLY:H	2.18	0.42
1:B:3776:ASN:OD1	1:B:3779:LYS:HE3	2.20	0.42
1:A:734:ASP:OD1	1:A:735:SER:N	2.53	0.41
1:A:1016:PRO:HB2	1:A:1018:THR:HG23	2.01	0.41
1:A:1813:ALA:N	1:A:1863:ARG:HE	2.18	0.41
1:A:2051:GLN:N	1:A:2051:GLN:OE1	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3755:GLN:O	1:A:3759:ILE:HG12	2.20	0.41
1:B:345:TRP:HB3	1:B:1056:ARG:NH1	2.35	0.41
1:B:562:ILE:N	1:B:563:PRO:HA	2.35	0.41
1:B:1349:GLN:O	1:B:1353:LEU:HD23	2.20	0.41
1:B:3040:LEU:HD23	1:B:3040:LEU:HA	1.86	0.41
1:B:4380:ASP:HB2	1:B:4440:MET:HG3	2.02	0.41
1:B:4441:LYS:HZ1	1:B:4490:ALA:HA	1.85	0.41
1:A:2113:PRO:HB3	1:A:2116:ARG:NH2	2.35	0.41
1:A:3210:LEU:HD23	1:A:3210:LEU:HA	1.89	0.41
1:B:1072:GLN:O	1:B:1075:ARG:HG2	2.19	0.41
1:B:1426:PRO:HB2	1:B:1430:LYS:NZ	2.35	0.41
1:B:3198:SER:HA	1:B:3291:LEU:O	2.20	0.41
1:B:3706:SER:HA	1:B:3709:ASN:ND2	2.35	0.41
1:B:3759:ILE:HD13	1:B:3759:ILE:HA	1.90	0.41
1:B:4382:VAL:HG12	1:B:4444:VAL:HG12	2.01	0.41
1:A:513:LEU:N	1:A:567:LEU:HD11	2.32	0.41
1:B:1066:HIS:CE1	1:B:1825:GLU:HB3	2.55	0.41
1:B:2567:LEU:HD11	1:B:2580:GLU:HG3	2.01	0.41
1:B:3618:GLN:HB2	1:B:3846:HIS:HE2	1.85	0.41
1:A:1446:GLY:O	1:A:1449:TYR:HB3	2.20	0.41
1:B:1470:CYS:HA	1:B:2030:LEU:HD11	2.01	0.41
1:B:2101:GLN:O	1:B:2105:ASN:HB2	2.20	0.41
1:A:251:VAL:O	1:A:255:VAL:HG23	2.20	0.41
1:A:1046:TRP:HZ3	1:A:1298:GLU:HA	1.85	0.41
1:A:1488:MET:HE2	1:A:1488:MET:HB2	1.79	0.41
1:A:2126:GLN:HG2	1:A:2181:TYR:CG	2.55	0.41
1:A:3187:PRO:HA	1:A:3188:PRO:HD3	1.98	0.41
1:A:3767:PHE:O	1:A:3771:ILE:HG12	2.21	0.41
1:A:4235:ARG:HD3	1:A:4330:TYR:CE1	2.55	0.41
1:B:1126:LYS:HD2	1:B:1183:CYS:HA	2.02	0.41
1:B:1511:GLU:HA	1:B:1515:SER:O	2.21	0.41
1:B:2027:ILE:HG21	1:B:2066:LEU:HD11	2.02	0.41
1:B:3767:PHE:O	1:B:3771:ILE:HG12	2.20	0.41
1:B:4185:LEU:HA	1:B:4188:VAL:HG22	2.02	0.41
2:D:79:LYS:HD3	2:D:82:GLU:OE2	2.20	0.41
1:A:1322:LEU:HD23	1:A:1363:HIS:HE1	1.86	0.41
1:A:1484:ARG:NH2	1:A:2016:GLN:O	2.53	0.41
1:A:3406:ALA:HB2	1:A:3419:LEU:HD12	2.03	0.41
1:B:907:THR:OG1	1:B:911:TYR:O	2.26	0.41
1:B:3396:LEU:HA	1:B:3399:ILE:HG12	2.02	0.41
1:B:3433:ASP:O	1:B:3437:GLN:HG2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4236:ARG:HH11	1:B:4357:PRO:HG3	1.85	0.41
2:C:11:VAL:HA	2:C:14:VAL:HB	2.01	0.41
1:A:283:MET:O	1:A:283:MET:HG3	2.21	0.41
1:A:1358:TRP:O	1:A:1362:VAL:HG23	2.21	0.41
1:A:1808:THR:OG1	1:A:1837:ILE:O	2.29	0.41
1:A:4399:LEU:HA	1:A:4402:ILE:HG22	2.03	0.41
1:B:195:GLN:HB2	1:B:223:LEU:HD11	2.02	0.41
1:B:2010:ASN:N	1:B:2010:ASN:OD1	2.54	0.41
1:B:3719:LEU:HD22	1:B:3807:PHE:CD2	2.56	0.41
1:B:3962:VAL:HG12	1:B:3964:VAL:HG13	2.02	0.41
1:B:4161:PHE:HA	1:B:4164:PHE:HB2	2.01	0.41
1:A:1444:THR:OG1	1:A:1518:LYS:HD2	2.21	0.41
1:A:1488:MET:SD	1:A:1939:LEU:HD23	2.61	0.41
1:B:1321:MET:HG3	1:B:1327:PHE:HE2	1.86	0.41
1:B:2629:LEU:HB3	1:B:2630:ILE:H	1.59	0.41
1:B:2823:ARG:HD3	1:B:2823:ARG:HA	1.92	0.41
1:B:3709:ASN:HA	1:B:3712:TRP:CZ3	2.55	0.41
1:B:3965:PHE:HA	1:B:4008:LEU:HA	2.02	0.41
2:D:33:ILE:O	2:D:36:TYR:HB3	2.21	0.41
1:A:145:LEU:HD13	1:A:148:THR:HG21	2.03	0.41
1:A:189:TYR:CE1	1:A:193:ILE:HG13	2.56	0.41
1:A:257:ASP:O	1:A:261:TYR:HB2	2.20	0.41
1:A:725:PHE:HB2	1:A:824:TYR:CE2	2.55	0.41
1:A:1103:HIS:ND1	1:A:1204:THR:HG21	2.36	0.41
1:A:1379:SER:HA	1:A:1382:ARG:HH11	1.85	0.41
1:A:2923:LEU:HD23	1:A:2923:LEU:HA	1.89	0.41
1:A:3164:ALA:HB1	1:A:3183:LEU:HD22	2.02	0.41
1:B:711:PRO:HB2	1:B:712:LYS:H	1.57	0.41
1:B:1518:LYS:HG3	1:B:1989:ASN:ND2	2.36	0.41
1:B:1807:PRO:HD3	1:B:1876:GLY:HA2	2.02	0.41
1:B:2110:LEU:HD12	1:B:2111:ILE:H	1.86	0.41
1:B:2661:LEU:HD23	1:B:2661:LEU:HA	1.88	0.41
1:B:2813:LEU:HD12	1:B:2851:VAL:HG21	2.03	0.41
1:B:3828:SER:HB3	1:B:4006:VAL:HG13	2.03	0.41
1:B:4075:ALA:HB3	1:B:4175:LEU:HD11	2.03	0.41
1:A:2113:PRO:HB3	1:A:2116:ARG:HH21	1.86	0.41
1:B:301:TYR:HB3	1:B:340:PRO:HA	2.03	0.41
1:B:907:THR:HG21	1:B:913:LYS:HD2	2.02	0.41
1:B:1109:VAL:HG23	1:B:1198:ALA:HB2	2.03	0.41
1:B:1806:ILE:HB	1:B:1842:LEU:HD21	2.03	0.41
1:B:2110:LEU:HD12	1:B:2111:ILE:N	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3396:LEU:HD23	1:B:3438:LEU:HD11	2.02	0.41
1:B:3684:ALA:HB2	1:B:3759:ILE:HD13	2.03	0.41
1:A:828:TYR:CE1	1:A:843:PRO:HB3	2.56	0.40
1:A:2822:GLU:HG3	1:A:2823:ARG:HG2	2.03	0.40
1:A:2840:LEU:HD11	1:A:2922:LEU:HD23	2.03	0.40
1:A:3253:LEU:HD12	1:B:2717:ARG:HD2	2.02	0.40
1:A:3414:LEU:O	1:B:2382:ARG:NH1	2.52	0.40
1:B:1429:LEU:HD13	1:B:1458:VAL:O	2.21	0.40
1:B:2708:LEU:HD21	1:B:2722:VAL:HG21	2.02	0.40
1:B:3540:LYS:HD2	1:B:3844:ILE:HG21	2.01	0.40
1:A:1061:HIS:CG	1:A:1072:GLN:HG3	2.56	0.40
1:A:4165:LEU:HA	1:A:4170:TYR:CD2	2.54	0.40
1:B:1105:ASP:OD2	1:B:1304:ARG:NH2	2.54	0.40
1:B:1339:THR:OG1	1:B:1341:ASP:OD1	2.24	0.40
1:B:1963:ALA:O	1:B:1966:GLU:HG2	2.22	0.40
1:B:1992:GLN:O	1:B:1996:VAL:HG23	2.21	0.40
1:B:2923:LEU:HD21	1:B:3036:LEU:HG	2.04	0.40
1:B:3321:ASP:OD1	1:B:3321:ASP:N	2.55	0.40
2:C:64:GLU:O	2:C:67:GLN:HG2	2.21	0.40
2:C:89:THR:HA	2:C:92:THR:HG22	2.03	0.40
1:A:1446:GLY:O	1:A:1450:TRP:CE3	2.74	0.40
1:A:3252:PRO:HD3	1:B:2784:THR:HG21	2.02	0.40
1:A:3546:LEU:HD23	1:A:3546:LEU:HA	1.96	0.40
1:A:4235:ARG:NH2	1:A:4330:TYR:O	2.54	0.40
2:C:54:LEU:HD23	2:C:54:LEU:HA	1.93	0.40
1:A:4211:THR:HG22	1:A:4215:HIS:HB2	2.02	0.40
1:A:1030:ARG:HG3	1:A:1307:LYS:HD3	2.04	0.40
1:A:1126:LYS:O	1:A:1177:HIS:ND1	2.54	0.40
1:A:2047:PRO:O	1:A:2051:GLN:NE2	2.38	0.40
1:A:2586:MET:HB3	1:A:2586:MET:HE3	1.91	0.40
1:A:2772:HIS:HB2	1:B:2915:ARG:NH1	2.34	0.40
1:A:2847:ASN:OD1	1:A:2848:PHE:N	2.55	0.40
1:A:4209:LEU:HA	1:A:4212:LEU:HD23	2.03	0.40
1:B:1124:LEU:HA	1:B:1181:ILE:HG21	2.04	0.40
1:B:1789:ARG:HB2	1:B:1860:VAL:HG22	2.04	0.40
1:B:3040:LEU:HB3	1:B:3084:PHE:CE1	2.56	0.40
1:B:3619:SER:O	1:B:3623:ILE:HG12	2.21	0.40
2:C:90:TRP:HZ2	2:C:124:LYS:HA	1.86	0.40
2:D:127:VAL:HB	2:D:131:HIS:CE1	2.57	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	2799/4859 (58%)	2712 (97%)	87 (3%)	0	100	100
1	B	2820/4859 (58%)	2741 (97%)	79 (3%)	0	100	100
2	C	148/184 (80%)	146 (99%)	2 (1%)	0	100	100
2	D	148/184 (80%)	147 (99%)	1 (1%)	0	100	100
All	All	5915/10086 (59%)	5746 (97%)	169 (3%)	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	2517/4217 (60%)	2509 (100%)	8 (0%)	92	97
1	B	2534/4217 (60%)	2523 (100%)	11 (0%)	91	97
2	C	128/157 (82%)	127 (99%)	1 (1%)	81	93
2	D	128/157 (82%)	128 (100%)	0	100	100
All	All	5307/8748 (61%)	5287 (100%)	20 (0%)	91	97

All (20) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	1291	ARG
1	A	1797	ARG

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Mol	Chain	Res	Type
1	A	2327	ARG
1	A	2943	ARG
1	A	3467	LYS
1	A	4179	LYS
1	A	4218	ARG
1	A	4496	ARG
1	B	59	ARG
1	B	1863	ARG
1	B	1975	GLN
1	B	2002	ARG
1	B	2943	ARG
1	B	3002	ASN
1	B	3131	LYS
1	B	3133	LEU
1	B	3134	ASP
1	B	3779	LYS
1	B	3970	LYS
2	C	9	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (14) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	1072	GLN
1	A	1365	ASN
1	A	1925	GLN
1	A	1929	ASN
1	A	3161	HIS
1	A	4202	GLN
1	B	151	GLN
1	B	1058	HIS
1	B	2370	HIS
1	B	2735	ASN
1	B	2745	GLN
1	B	3493	HIS
1	B	3790	GLN
1	B	3997	GLN

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 monosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

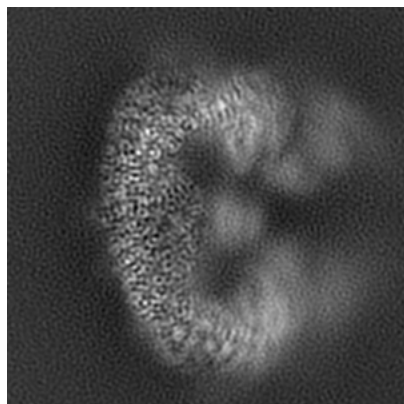
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-15654. These allow visual inspection of the internal detail of the map and identification of artifacts.

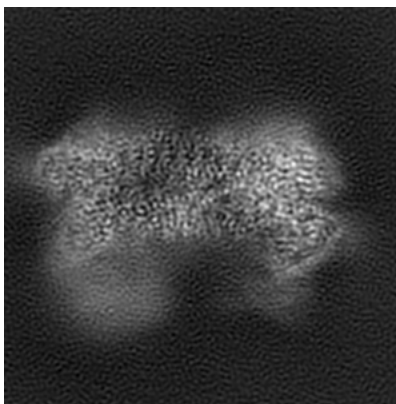
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

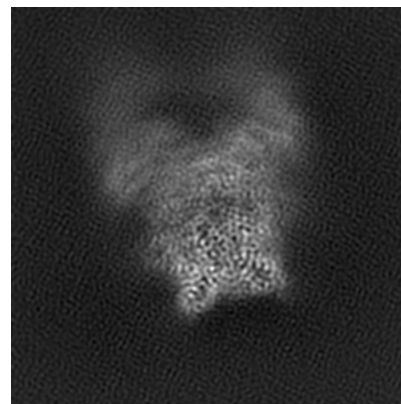
6.1.1 Primary map



X

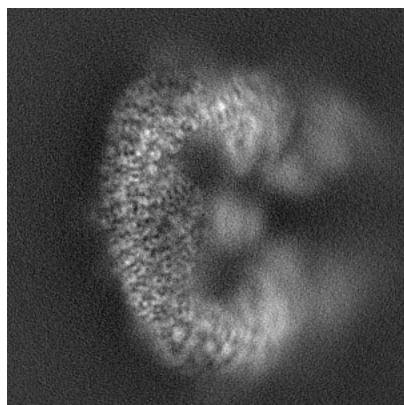


Y

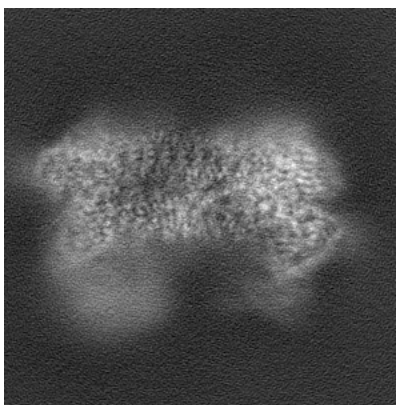


Z

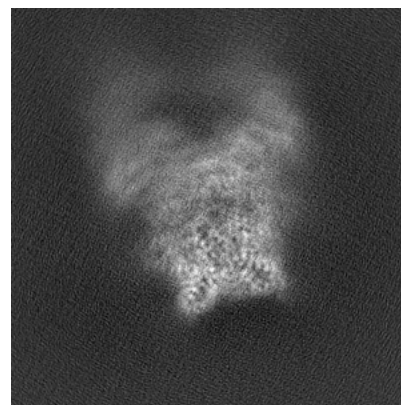
6.1.2 Raw map



X



Y

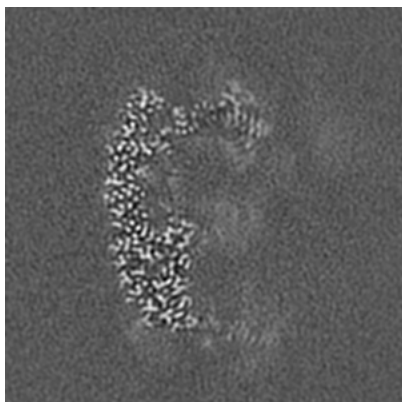


Z

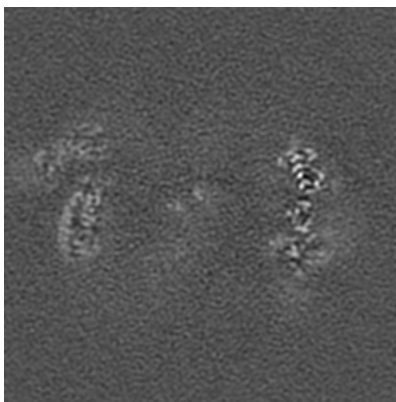
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

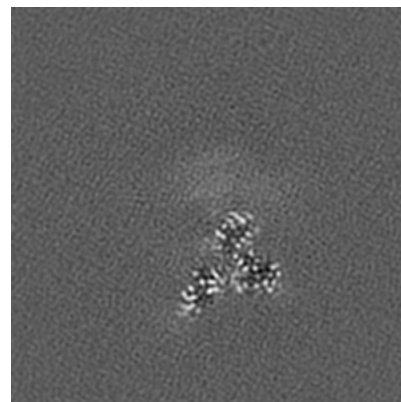
6.2.1 Primary map



X Index: 150

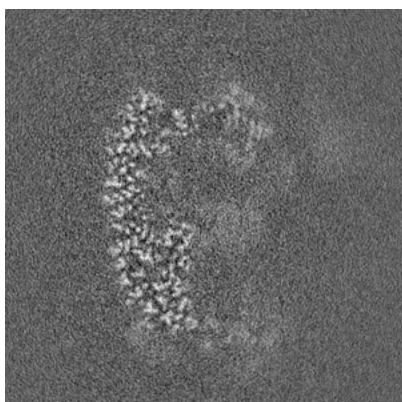


Y Index: 150

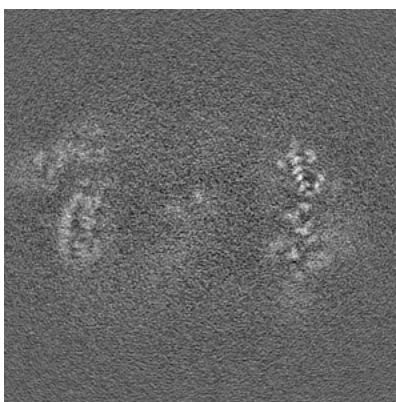


Z Index: 150

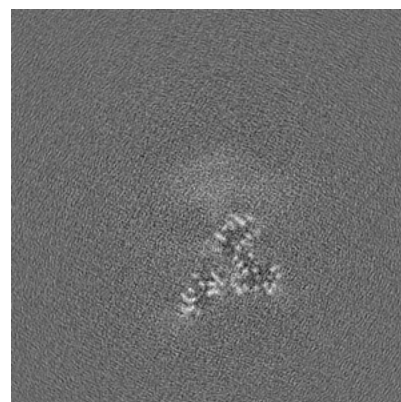
6.2.2 Raw map



X Index: 150



Y Index: 150

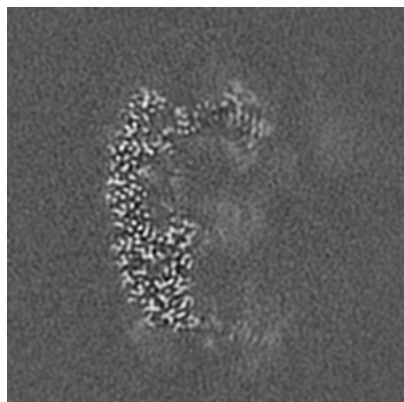


Z Index: 150

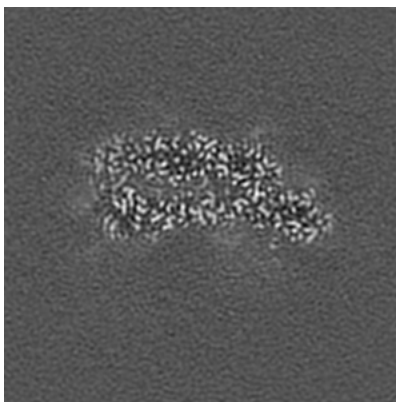
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

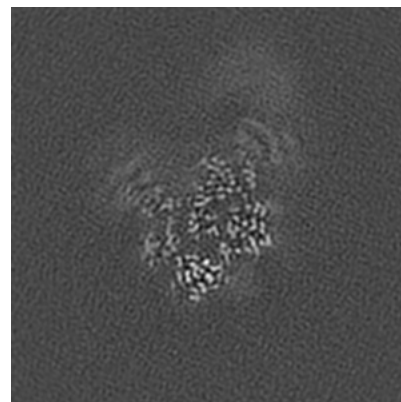
6.3.1 Primary map



X Index: 150

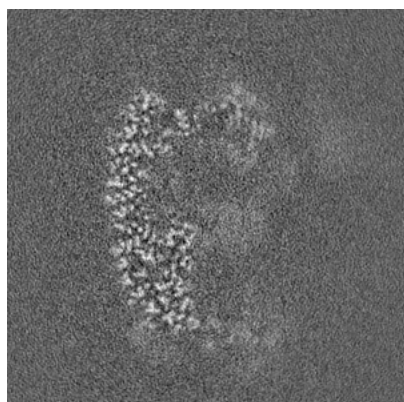


Y Index: 99

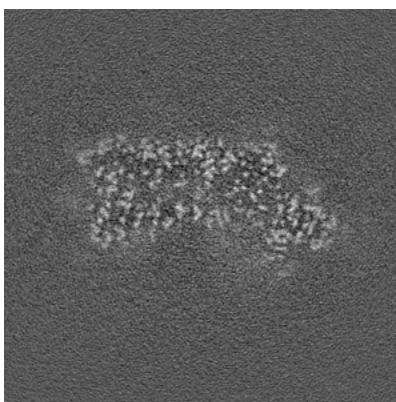


Z Index: 217

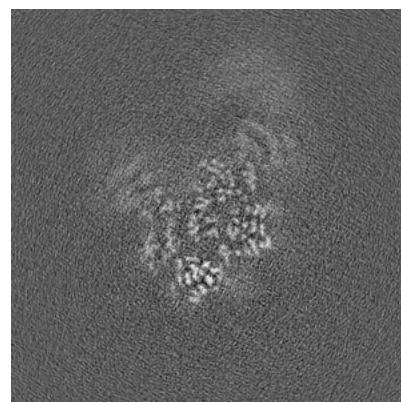
6.3.2 Raw map



X Index: 150



Y Index: 104

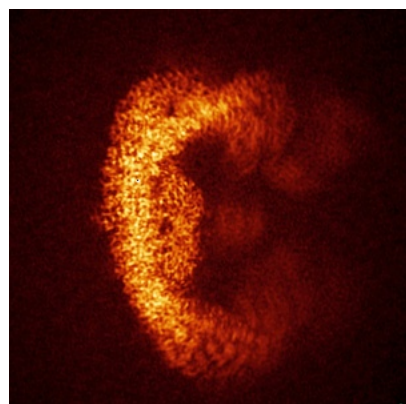


Z Index: 217

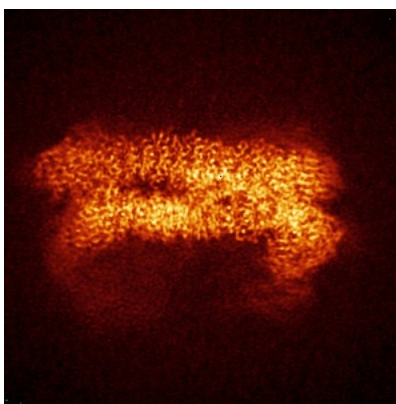
The images above show the largest variance slices of the map in three orthogonal directions.

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

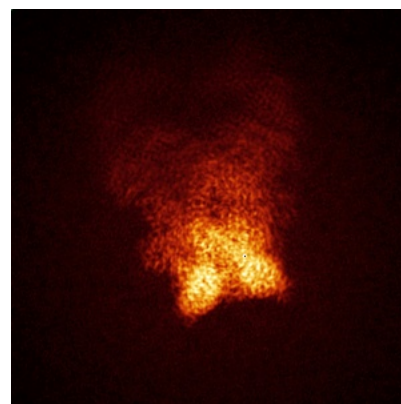
6.4.1 Primary map



X

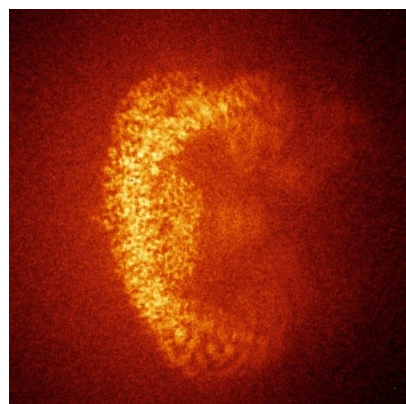


Y

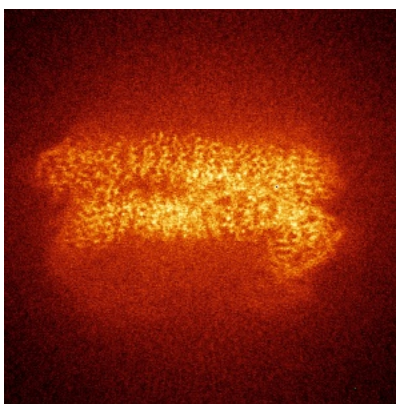


Z

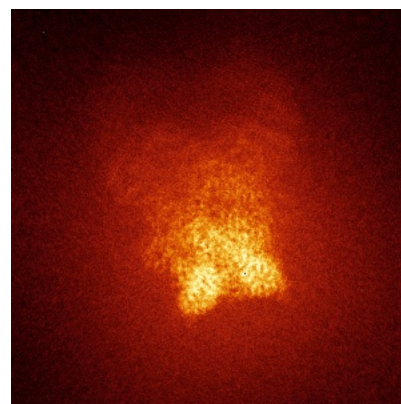
6.4.2 Raw map



X



Y

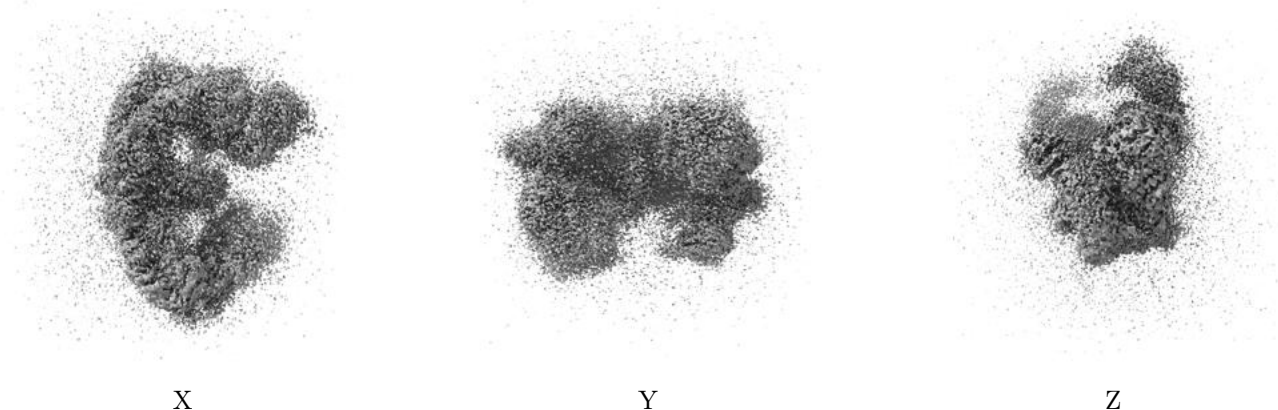


Z

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.

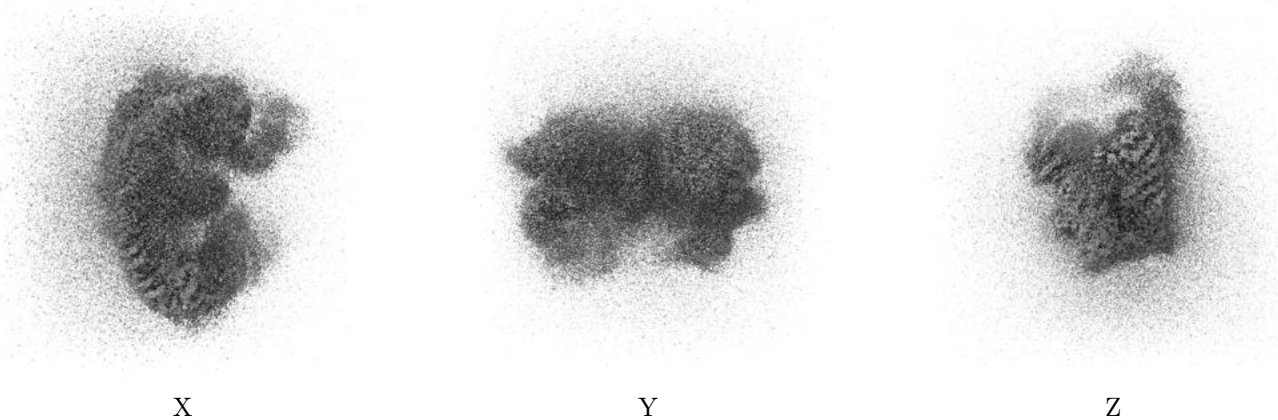
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



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

6.5.2 Raw map



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.

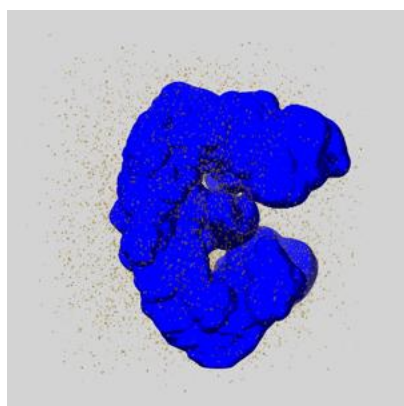
6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

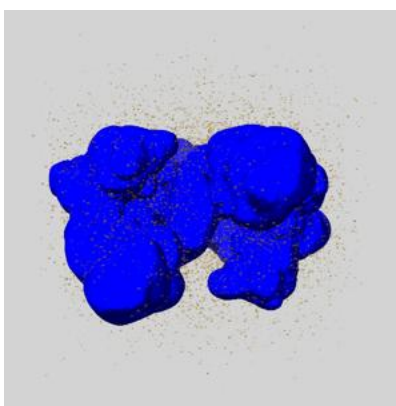
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

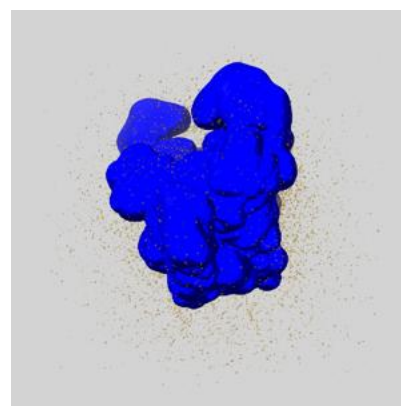
6.6.1 emd_15654_msk_1.map [i](#)



X



Y

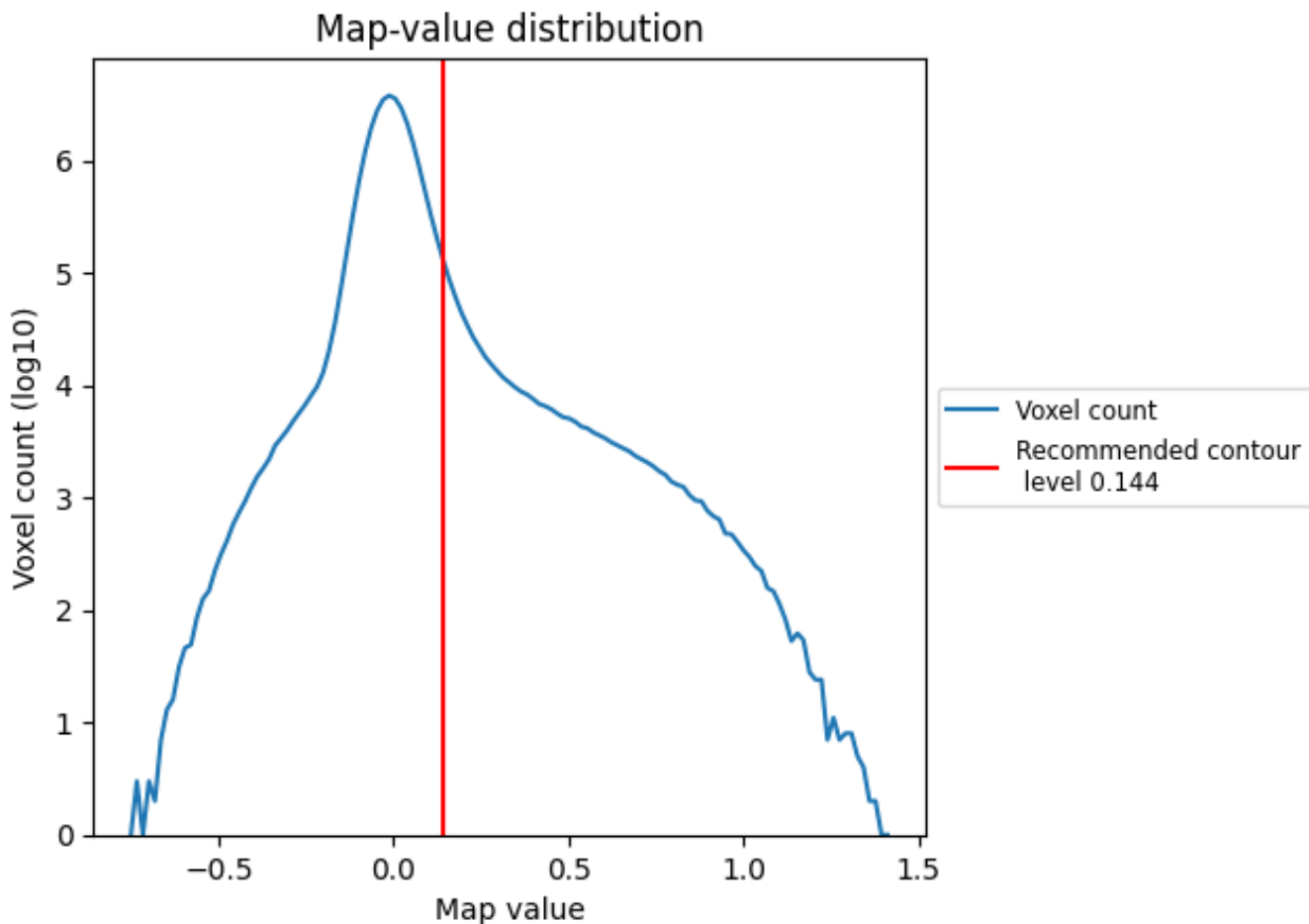


Z

7 Map analysis [i](#)

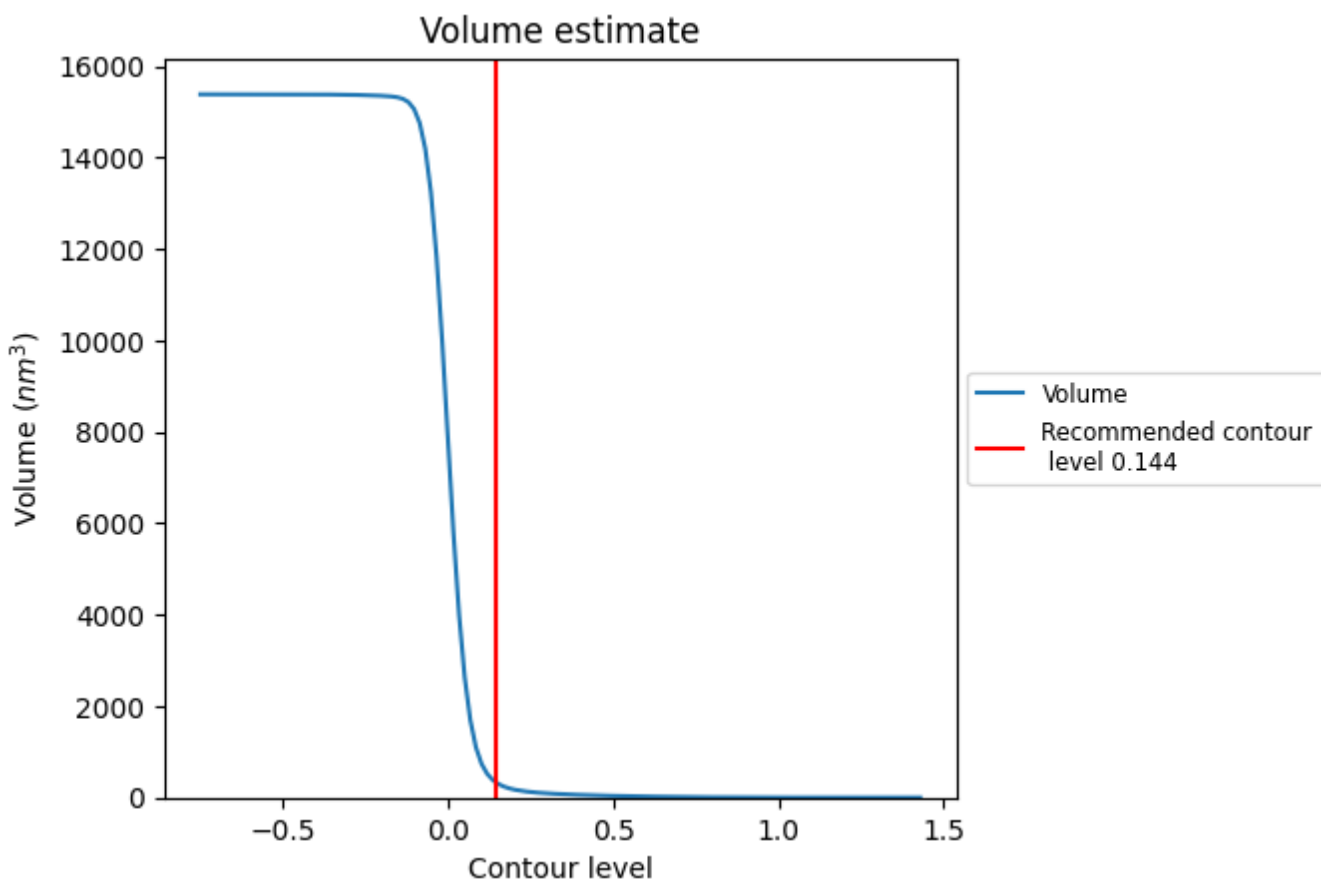
This section contains the results of statistical analysis of the map.

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.

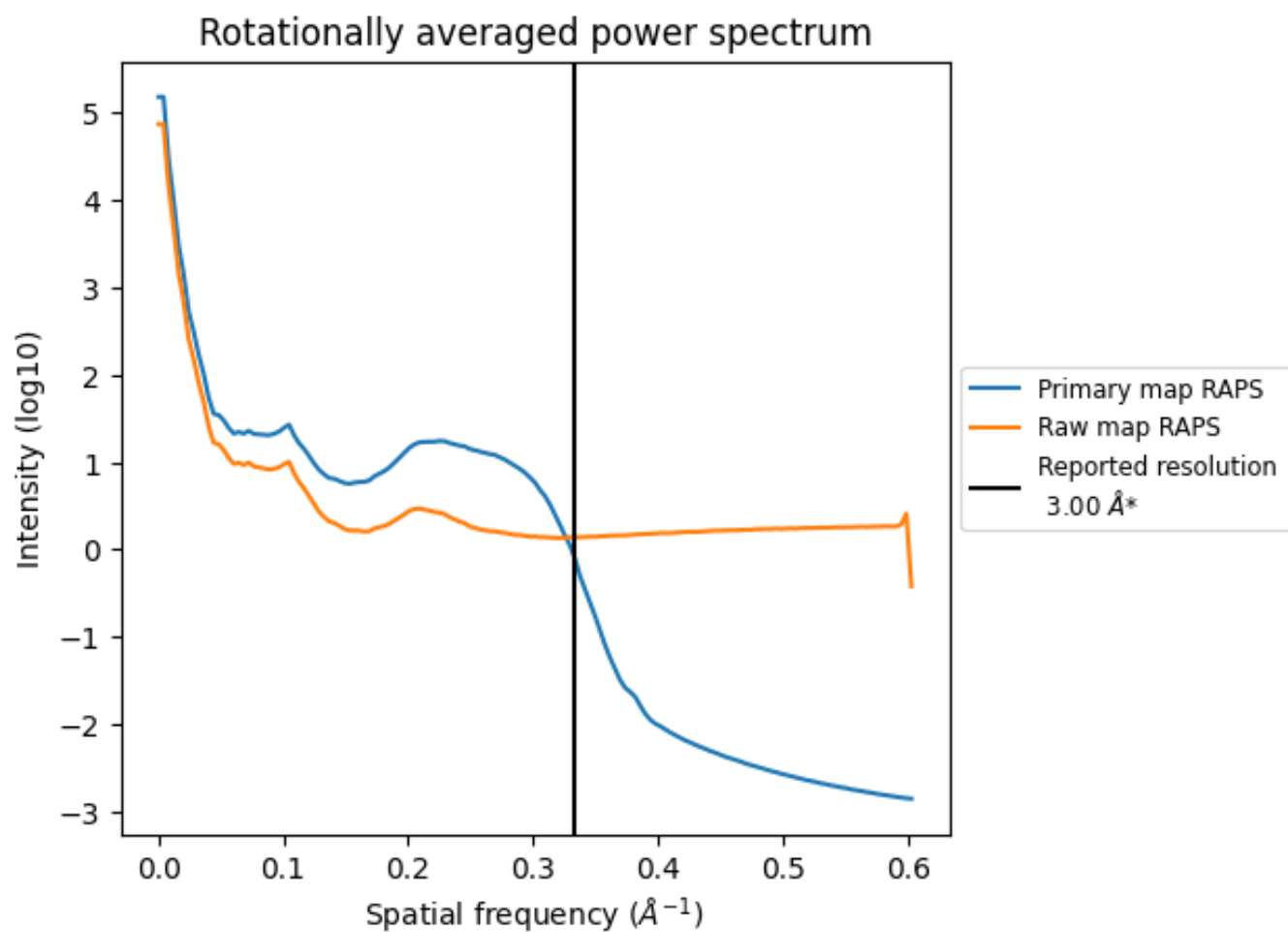
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 339 nm³; this corresponds to an approximate mass of 307 kDa.

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

7.3 Rotationally averaged power spectrum i

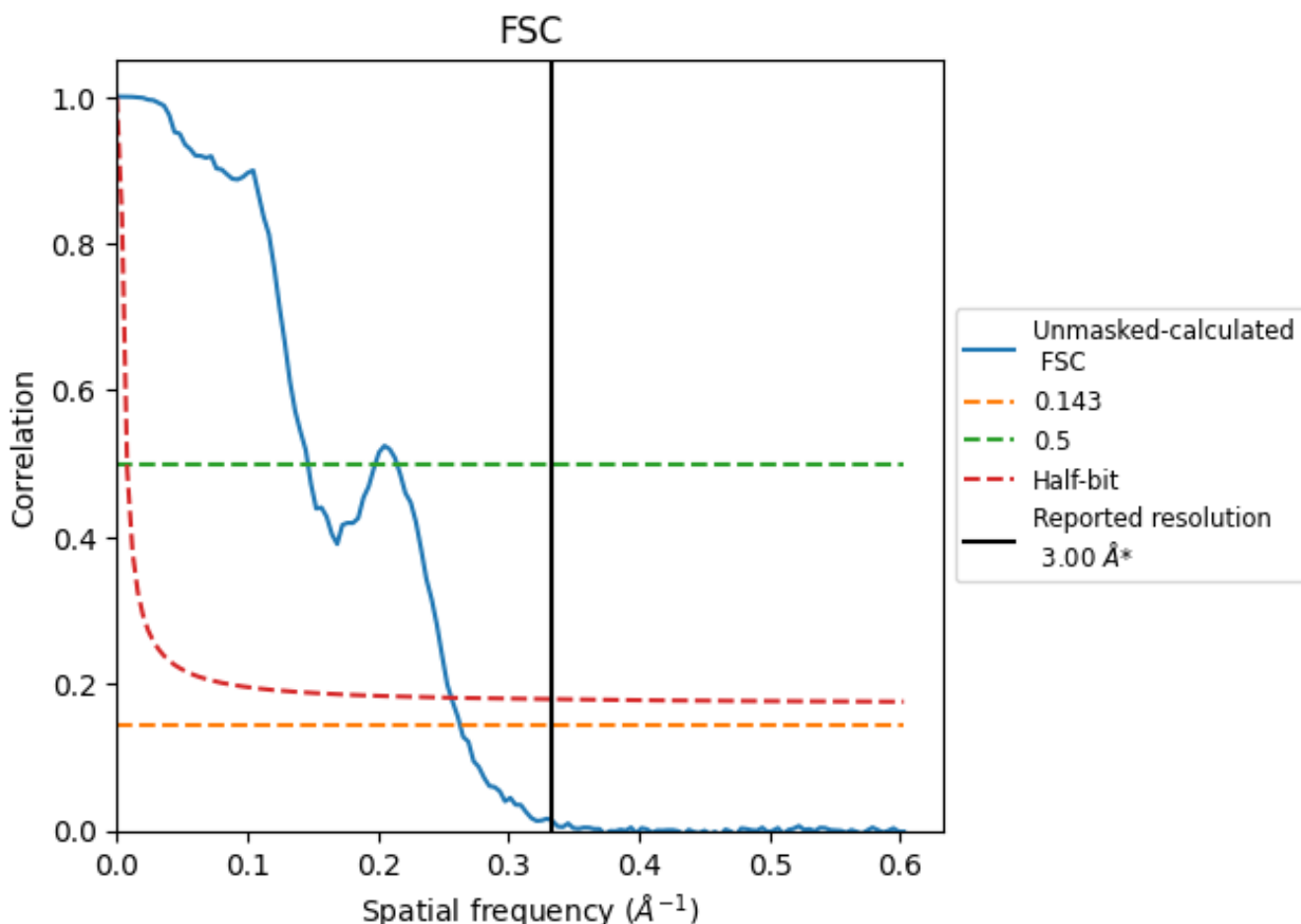


*Reported resolution corresponds to spatial frequency of 0.333 Å⁻¹

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 0.333 Å⁻¹

8.2 Resolution estimates [i](#)

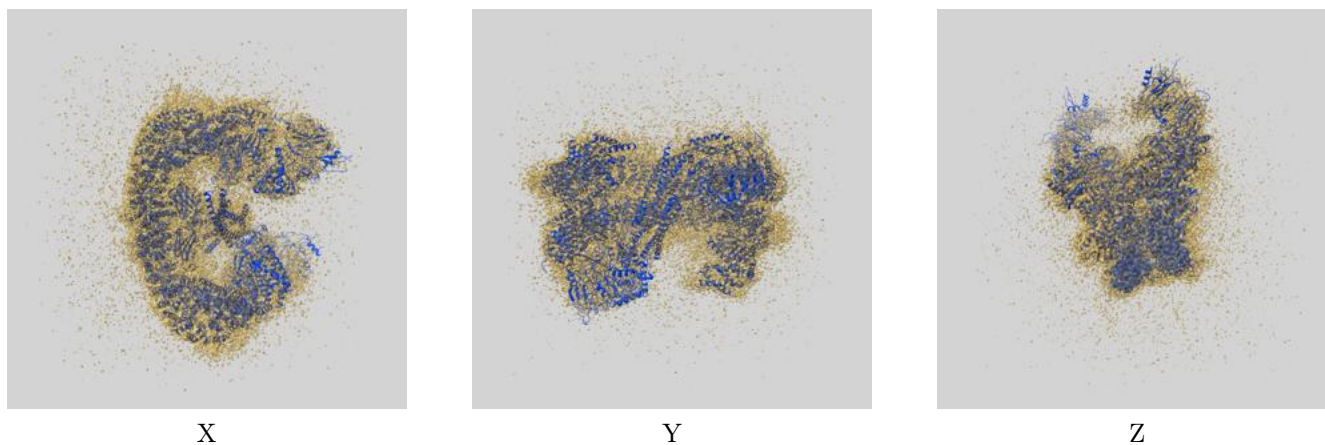
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.00	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.80	6.83	3.90

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.80 differs from the reported value 3.0 by more than 10 %

9 Map-model fit [i](#)

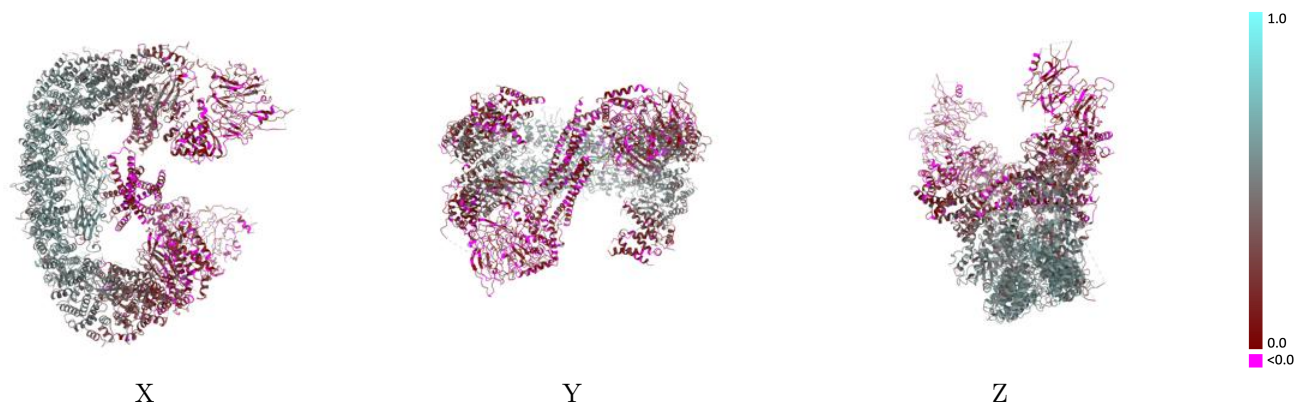
This section contains information regarding the fit between EMDB map EMD-15654 and PDB model 8ATO. Per-residue inclusion information can be found in section 3 on page 4.

9.1 Map-model overlay [i](#)



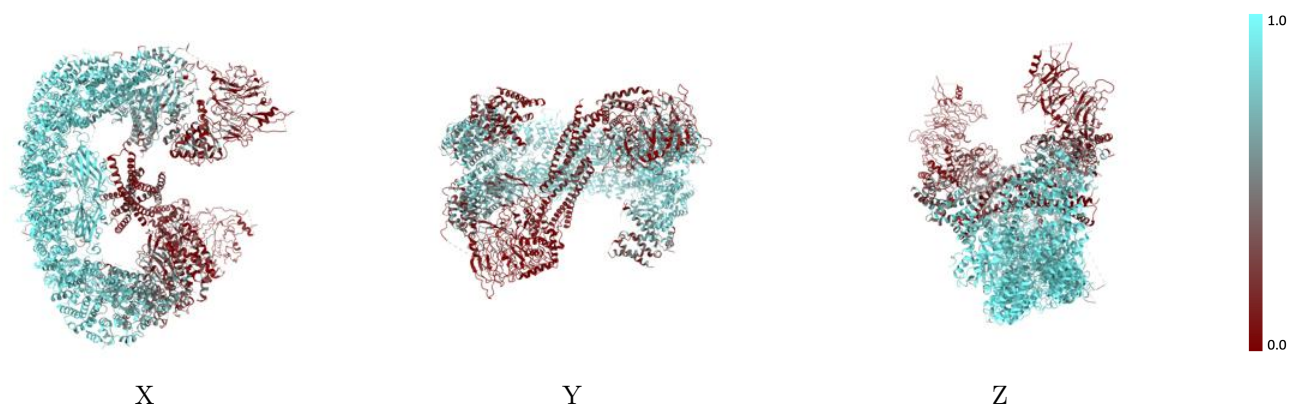
The images above show the 3D surface view of the map at the recommended contour level 0.144 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



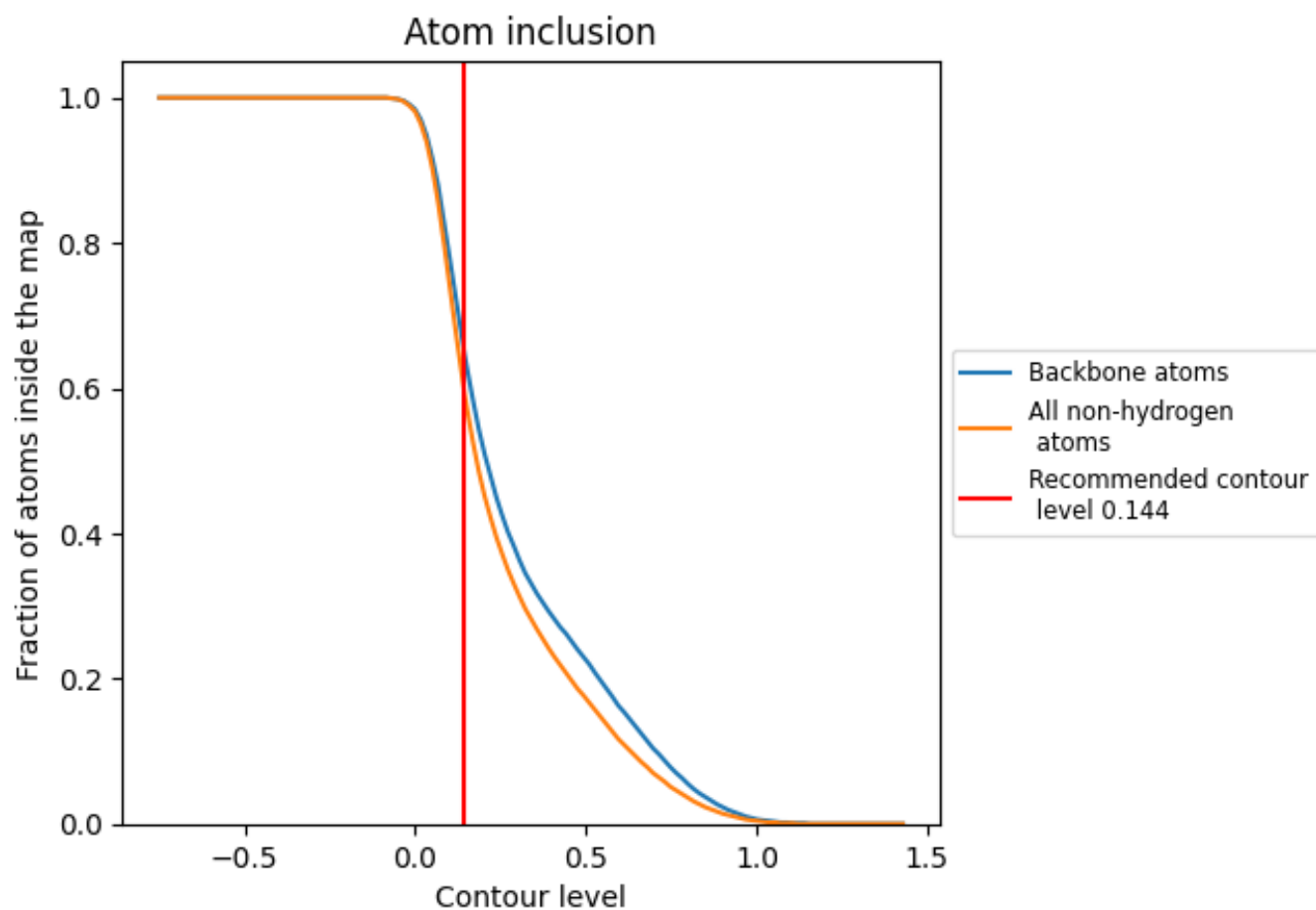
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.144).











9.4 Atom inclusion [i](#)



At the recommended contour level, 65% of all backbone atoms, 59% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary [i](#)

The table lists the average atom inclusion at the recommended contour level (0.144) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.5930	 0.3340
A	 0.5920	 0.3390
B	 0.6390	 0.3550
C	 0.1930	 0.0830
D	 0.1490	 0.0780

