



Full wwPDB EM Validation Report ⓘ

Nov 11, 2024 – 05:00 PM JST

PDB ID : 7FB0
EMDB ID : EMD-31511
Title : SARS-CoV-2 spike protein in closed state
Authors : Zhu, Y.; Tai, L.H.; Sun, F.
Deposited on : 2021-07-08
Resolution : 3.40 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
MolProbity : 4.02b-467
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

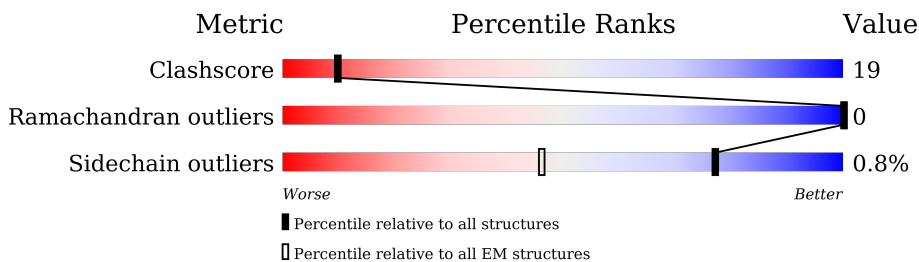
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.40 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	1247	 46% 32% 22%
1	B	1247	 48% 30% 22%
1	C	1247	 47% 30% 22%

2 Entry composition i

There is only 1 type of molecule in this entry. The entry contains 22876 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 Spike glycoprotein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	976	7628	4876	1266	1453	33	0	0
1	B	975	7624	4874	1265	1452	33	0	0
1	C	975	7624	4874	1265	1452	33	0	0

There are 132 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	682	GLY	ARG	engineered mutation	UNP P0DTC2
A	683	ALA	ARG	engineered mutation	UNP P0DTC2
A	685	SER	ARG	engineered mutation	UNP P0DTC2
A	986	PRO	LYS	engineered mutation	UNP P0DTC2
A	987	PRO	VAL	engineered mutation	UNP P0DTC2
A	1209	LEU	-	expression tag	UNP P0DTC2
A	1210	VAL	-	expression tag	UNP P0DTC2
A	1211	PRO	-	expression tag	UNP P0DTC2
A	1212	ARG	-	expression tag	UNP P0DTC2
A	1213	GLY	-	expression tag	UNP P0DTC2
A	1214	SER	-	expression tag	UNP P0DTC2
A	1215	GLY	-	expression tag	UNP P0DTC2
A	1216	TYR	-	expression tag	UNP P0DTC2
A	1217	ILE	-	expression tag	UNP P0DTC2
A	1218	PRO	-	expression tag	UNP P0DTC2
A	1219	GLU	-	expression tag	UNP P0DTC2
A	1220	ALA	-	expression tag	UNP P0DTC2
A	1221	PRO	-	expression tag	UNP P0DTC2
A	1222	ARG	-	expression tag	UNP P0DTC2
A	1223	ASP	-	expression tag	UNP P0DTC2
A	1224	GLY	-	expression tag	UNP P0DTC2
A	1225	GLN	-	expression tag	UNP P0DTC2
A	1226	ALA	-	expression tag	UNP P0DTC2
A	1227	TYR	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
A	1228	VAL	-	expression tag	UNP P0DTC2
A	1229	ARG	-	expression tag	UNP P0DTC2
A	1230	LYS	-	expression tag	UNP P0DTC2
A	1231	ASP	-	expression tag	UNP P0DTC2
A	1232	GLY	-	expression tag	UNP P0DTC2
A	1233	GLU	-	expression tag	UNP P0DTC2
A	1234	TRP	-	expression tag	UNP P0DTC2
A	1235	VAL	-	expression tag	UNP P0DTC2
A	1236	LEU	-	expression tag	UNP P0DTC2
A	1237	LEU	-	expression tag	UNP P0DTC2
A	1238	SER	-	expression tag	UNP P0DTC2
A	1239	THR	-	expression tag	UNP P0DTC2
A	1240	PHE	-	expression tag	UNP P0DTC2
A	1241	LEU	-	expression tag	UNP P0DTC2
A	1242	HIS	-	expression tag	UNP P0DTC2
A	1243	HIS	-	expression tag	UNP P0DTC2
A	1244	HIS	-	expression tag	UNP P0DTC2
A	1245	HIS	-	expression tag	UNP P0DTC2
A	1246	HIS	-	expression tag	UNP P0DTC2
A	1247	HIS	-	expression tag	UNP P0DTC2
B	682	GLY	ARG	engineered mutation	UNP P0DTC2
B	683	ALA	ARG	engineered mutation	UNP P0DTC2
B	685	SER	ARG	engineered mutation	UNP P0DTC2
B	986	PRO	LYS	engineered mutation	UNP P0DTC2
B	987	PRO	VAL	engineered mutation	UNP P0DTC2
B	1209	LEU	-	expression tag	UNP P0DTC2
B	1210	VAL	-	expression tag	UNP P0DTC2
B	1211	PRO	-	expression tag	UNP P0DTC2
B	1212	ARG	-	expression tag	UNP P0DTC2
B	1213	GLY	-	expression tag	UNP P0DTC2
B	1214	SER	-	expression tag	UNP P0DTC2
B	1215	GLY	-	expression tag	UNP P0DTC2
B	1216	TYR	-	expression tag	UNP P0DTC2
B	1217	ILE	-	expression tag	UNP P0DTC2
B	1218	PRO	-	expression tag	UNP P0DTC2
B	1219	GLU	-	expression tag	UNP P0DTC2
B	1220	ALA	-	expression tag	UNP P0DTC2
B	1221	PRO	-	expression tag	UNP P0DTC2
B	1222	ARG	-	expression tag	UNP P0DTC2
B	1223	ASP	-	expression tag	UNP P0DTC2
B	1224	GLY	-	expression tag	UNP P0DTC2
B	1225	GLN	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
B	1226	ALA	-	expression tag	UNP P0DTC2
B	1227	TYR	-	expression tag	UNP P0DTC2
B	1228	VAL	-	expression tag	UNP P0DTC2
B	1229	ARG	-	expression tag	UNP P0DTC2
B	1230	LYS	-	expression tag	UNP P0DTC2
B	1231	ASP	-	expression tag	UNP P0DTC2
B	1232	GLY	-	expression tag	UNP P0DTC2
B	1233	GLU	-	expression tag	UNP P0DTC2
B	1234	TRP	-	expression tag	UNP P0DTC2
B	1235	VAL	-	expression tag	UNP P0DTC2
B	1236	LEU	-	expression tag	UNP P0DTC2
B	1237	LEU	-	expression tag	UNP P0DTC2
B	1238	SER	-	expression tag	UNP P0DTC2
B	1239	THR	-	expression tag	UNP P0DTC2
B	1240	PHE	-	expression tag	UNP P0DTC2
B	1241	LEU	-	expression tag	UNP P0DTC2
B	1242	HIS	-	expression tag	UNP P0DTC2
B	1243	HIS	-	expression tag	UNP P0DTC2
B	1244	HIS	-	expression tag	UNP P0DTC2
B	1245	HIS	-	expression tag	UNP P0DTC2
B	1246	HIS	-	expression tag	UNP P0DTC2
B	1247	HIS	-	expression tag	UNP P0DTC2
C	682	GLY	ARG	engineered mutation	UNP P0DTC2
C	683	ALA	ARG	engineered mutation	UNP P0DTC2
C	685	SER	ARG	engineered mutation	UNP P0DTC2
C	986	PRO	LYS	engineered mutation	UNP P0DTC2
C	987	PRO	VAL	engineered mutation	UNP P0DTC2
C	1209	LEU	-	expression tag	UNP P0DTC2
C	1210	VAL	-	expression tag	UNP P0DTC2
C	1211	PRO	-	expression tag	UNP P0DTC2
C	1212	ARG	-	expression tag	UNP P0DTC2
C	1213	GLY	-	expression tag	UNP P0DTC2
C	1214	SER	-	expression tag	UNP P0DTC2
C	1215	GLY	-	expression tag	UNP P0DTC2
C	1216	TYR	-	expression tag	UNP P0DTC2
C	1217	ILE	-	expression tag	UNP P0DTC2
C	1218	PRO	-	expression tag	UNP P0DTC2
C	1219	GLU	-	expression tag	UNP P0DTC2
C	1220	ALA	-	expression tag	UNP P0DTC2
C	1221	PRO	-	expression tag	UNP P0DTC2
C	1222	ARG	-	expression tag	UNP P0DTC2
C	1223	ASP	-	expression tag	UNP P0DTC2

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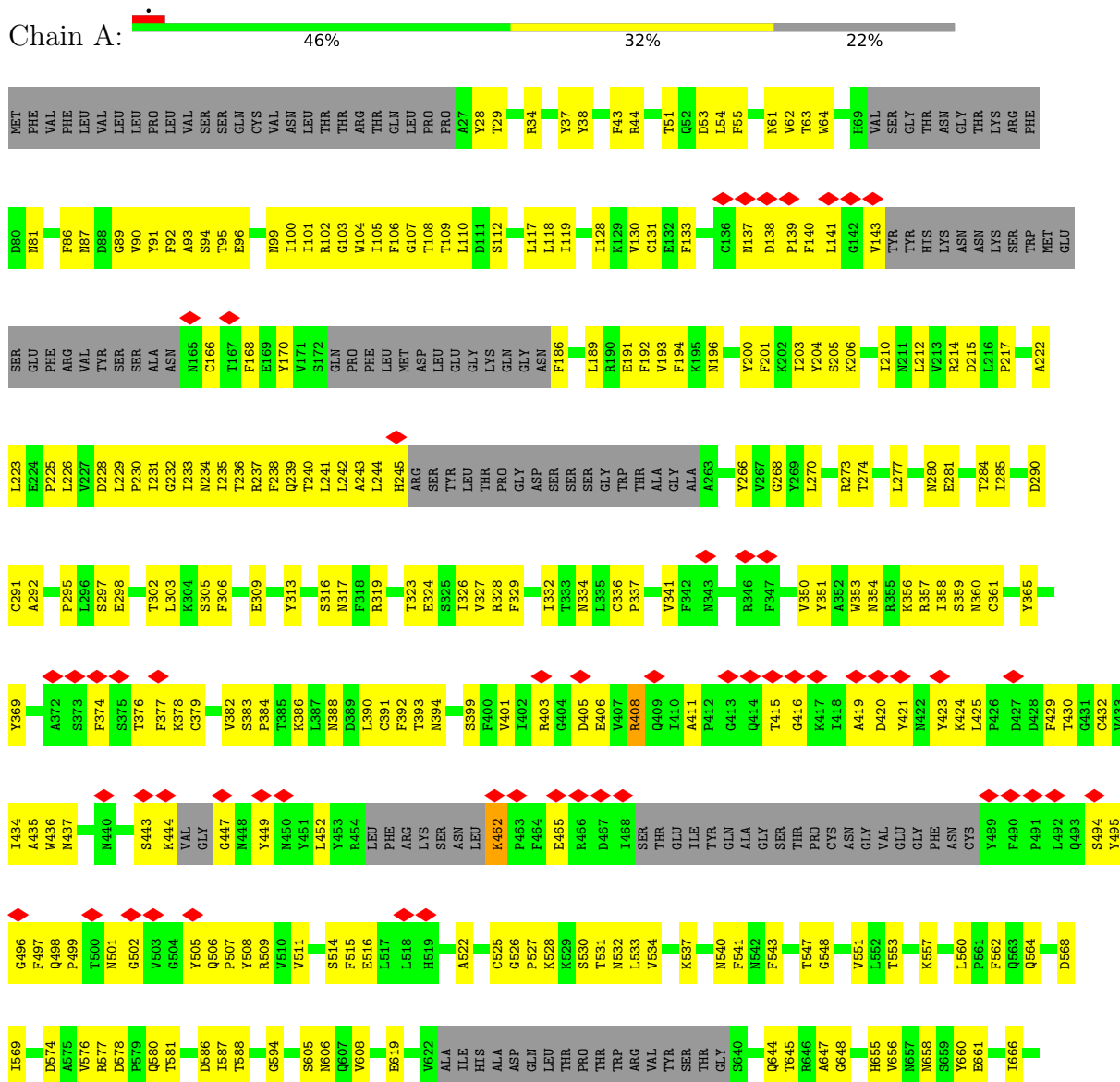
Chain	Residue	Modelled	Actual	Comment	Reference
C	1224	GLY	-	expression tag	UNP P0DTC2
C	1225	GLN	-	expression tag	UNP P0DTC2
C	1226	ALA	-	expression tag	UNP P0DTC2
C	1227	TYR	-	expression tag	UNP P0DTC2
C	1228	VAL	-	expression tag	UNP P0DTC2
C	1229	ARG	-	expression tag	UNP P0DTC2
C	1230	LYS	-	expression tag	UNP P0DTC2
C	1231	ASP	-	expression tag	UNP P0DTC2
C	1232	GLY	-	expression tag	UNP P0DTC2
C	1233	GLU	-	expression tag	UNP P0DTC2
C	1234	TRP	-	expression tag	UNP P0DTC2
C	1235	VAL	-	expression tag	UNP P0DTC2
C	1236	LEU	-	expression tag	UNP P0DTC2
C	1237	LEU	-	expression tag	UNP P0DTC2
C	1238	SER	-	expression tag	UNP P0DTC2
C	1239	THR	-	expression tag	UNP P0DTC2
C	1240	PHE	-	expression tag	UNP P0DTC2
C	1241	LEU	-	expression tag	UNP P0DTC2
C	1242	HIS	-	expression tag	UNP P0DTC2
C	1243	HIS	-	expression tag	UNP P0DTC2
C	1244	HIS	-	expression tag	UNP P0DTC2
C	1245	HIS	-	expression tag	UNP P0DTC2
C	1246	HIS	-	expression tag	UNP P0DTC2
C	1247	HIS	-	expression tag	UNP P0DTC2

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: Spike glycoprotein

Chain A:



S375	T376	F377	K378	C379	V382	S383	P384	T385	K386	L387	C391	F392	T393	N394	S399	I402	R403	G404	D405	E406	V407	R408	Q409	I410	G413	Q414	T415	G416	K417	I418	A419	D420	Y421	M422	Y423	K424	L425	P426	D427	D428	F429	T430	G431	C432	V433	I434	A435	W436	M437	M440	S443	K444				
VAL	GLY	C447	M448	Y449	M450	Y451	R454	LEU	PHE	ARG	LYS	SER	ASN	LEU	K462	P463	F464	E465	R466	D467	I468	SER	THR	GLU	ILE	TYR	GLN	ALA	GLY	SER	THR	CYS	ASN	GLY	VAL	GLU	GLY	PHE	ASN	CYS	Y489	F490	P491	L492	G496	F497	Q498	P499	T500	M501	GLY	V503	G504	Y505	Q506	F507
Y508	R509	V510	V511	V512	L513	S514	F515	E516	L517	L518	H519	C525	G526	P527	K528	K529	S530	T531	N532	L533	V534	K535	M536	K537	F541	N542	F543	L552	T553	E554	S555	N556	K557	Q563	Q564	D568	I569	D574	A575	V576	R577	D578	T581	I584	L585	D586	I587	S605	N606	Q607						
V608	L611	D614	V615	N616	C617	T618	E619	V622	ALA	ILE	HIS	ALA	ASP	GLN	LEU	THR	PRO	THR	TRP	ARG	VAL	TYR	SER	THR	GLY	S640	Q644	T645	G648	C649	L650	H655	V656	E661	I666	I670	T676	GLN	THR	ASN	PRO	GLY	L588	ALA	ALA	SER	SER	VAL	ALA							
S689	Q690	Y695	S698	L699	N703	S704	Y707	P715	T716	N717	S721	V722	T723	T724	E725	T734	T735	C738	M740	C743	C749	Y756	F759	L763	L767	I770	Q774	N777	V781	K786	Q787	K790	T791	P792	F793	I794	F797	K854	I870	Y873	T874	L878	A879	G880	T881	I882										
G798	G799	F800	N801	F802	S803	Q804	I805	L806	P807	D808	P809	S810	K811	P812	S813	K814	R815	R816	F817	T827	LEU	ALA	ASP	ALA	GLY	PHE	ILE	ILE	LYS	GLN	TYR	GLY	ASP	LEU	GLY	ASP	ILE	CYS	ALA	ALA	ALA	ARG	ASP	LEU	ILE	Y870	I870	Y873	T874	L878	A879	G880	T881	I882		
T883	S884	A890	L894	M900	Y904	R905	F906	M907	G908	N914	V915	R916	Y917	L922	I923	Q926	Q935	Q949	D950	F951	V952	N953	Q954	N955	A958	L959	N960	T961	L962	V963	K964	Q965	S974	S975	V976	L977	N978	D979	I980	L981	S982	R983	L984	D985	F986	Y987	G988	E988								
L996	Q1002	T1006	V1007	V1008	T1009	I1013	T1027	K1028	E1031	R1039	L1043	G1044	K1045	G1046	Y1047	H1048	L1049	V1060	V1061	F1062	L1063	H1064	V1065	T1066	A1070	Q1071	E1072	P1079	A1080	I1081	C1082	G1085	K1086	F1089	P1090	R1091	E1092	G1093	V1094	S1097	W1102	T1105	Q1106													
R1107	D1118	V1122	S1123	G1124	N1125	C1126	I1132	M1135	T1136	L1141	L1145	D1146	S1147	PHE	LYS	GLU	GLU	LEU	ASP	LYS	TYR	PHE	LYS	ASN	HIS	THR	PRO	ARG	ASP	VAL	LEU	GLY	ILE	ASN	ALA	VAL	SER	VAL	VAL	ASN	ILE	GLN	LYS	GLU	ILE	ASP	ARG	LEU	ASN							
GLU	VAL	ALA	LYS	ASN	LEU	ASN	GLU	SER	LEU	ILE	ASP	LEU	GLN	GLU	LEU	GLY	LYS	TYR	GLN	VAL	PRO	ARG	GLY	SER	GLY	LEU	TYR	ILE	PRO	ASN	VAL	VAL	LYS	ASP	GLY	ILE	ASN	TRP	ALA	SER	LEU	VAL	SER	THR	PHE	LEU	LYS	HIS	HIS	HIS	HIS	HIS				

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	55933	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 ($e^-/\text{\AA}^2$)	3	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 QUANTUM (4k x 4k)	Depositor
Maximum map value	3.524	Depositor
Minimum map value	-1.742	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.079	Depositor
Recommended contour level	0.3	Depositor
Map size (Å)	348.16, 348.16, 348.16	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.36, 1.36, 1.36	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	0.53	0/7798	0.54	0/10610
1	B	0.52	0/7793	0.54	0/10602
1	C	0.52	0/7793	0.54	0/10602
All	All	0.52	0/23384	0.54	0/31814

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	7628	0	7455	317	0
1	B	7624	0	7451	304	0
1	C	7624	0	7451	301	0
All	All	22876	0	22357	870	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 19.

All (870) 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:C:379:CYS:HA	1:C:432:CYS:HB3	1.35	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:391:CYS:HB2	1:C:525:CYS:HA	1.52	0.89
1:B:104:TRP:HB3	1:B:106:PHE:HE1	1.37	0.88
1:B:290:ASP:O	1:B:297:SER:OG	1.93	0.85
1:B:391:CYS:HB2	1:B:525:CYS:HA	1.58	0.84
1:B:676:THR:HG22	1:B:690:GLN:HE21	1.43	0.84
1:A:200:TYR:OH	1:C:394:ASN:ND2	2.11	0.83
1:C:128:ILE:HB	1:C:170:TYR:HB3	1.62	0.81
1:A:676:THR:HG22	1:A:690:GLN:HE21	1.46	0.81
1:A:780:GLU:O	1:A:784:GLN:NE2	2.12	0.81
1:B:103:GLY:HA3	1:B:241:LEU:HB3	1.61	0.81
1:B:328:ARG:NH1	1:B:578:ASP:OD2	2.14	0.81
1:B:725:GLU:OE1	1:B:1064:HIS:NE2	2.14	0.80
1:B:780:GLU:O	1:B:784:GLN:NE2	2.14	0.80
1:C:328:ARG:NH1	1:C:578:ASP:OD2	2.14	0.80
1:C:290:ASP:O	1:C:297:SER:OG	2.00	0.79
1:C:103:GLY:HA3	1:C:241:LEU:HB3	1.65	0.79
1:B:214:ARG:HE	1:B:215:ASP:HB2	1.49	0.78
1:A:328:ARG:NH1	1:A:578:ASP:OD2	2.17	0.78
1:C:1091:ARG:NH1	1:C:1118:ASP:O	2.16	0.78
1:C:1086:LYS:HA	1:C:1125:ASN:HA	1.67	0.77
1:A:91:TYR:OH	1:A:191:GLU:OE2	2.01	0.77
1:C:725:GLU:OE1	1:C:1064:HIS:NE2	2.16	0.77
1:C:424:LYS:HB2	1:C:463:PRO:HA	1.67	0.77
1:A:128:ILE:HB	1:A:170:TYR:HB3	1.66	0.76
1:B:1091:ARG:NH1	1:B:1118:ASP:O	2.19	0.75
1:A:391:CYS:HB2	1:A:525:CYS:HA	1.69	0.74
1:A:1086:LYS:HA	1:A:1125:ASN:HA	1.69	0.74
1:A:103:GLY:HA3	1:A:241:LEU:HB3	1.69	0.74
1:A:437:ASN:ND2	1:A:507:PRO:O	2.22	0.73
1:B:216:LEU:H	1:B:216:LEU:HD12	1.54	0.73
1:B:557:LYS:NZ	1:B:574:ASP:O	2.21	0.73
1:C:280:ASN:ND2	1:C:284:THR:OG1	2.21	0.72
1:B:802:PHE:HD2	1:B:805:ILE:HD11	1.54	0.72
1:A:327:VAL:HG11	1:A:528:LYS:HE3	1.71	0.72
1:A:644:GLN:NE2	1:A:645:THR:O	2.22	0.72
1:C:676:THR:HG22	1:C:690:GLN:HE21	1.54	0.72
1:A:802:PHE:HD2	1:A:805:ILE:HD11	1.53	0.72
1:B:369:TYR:HE2	1:B:384:PRO:HB2	1.52	0.72
1:A:81:ASN:O	1:A:239:GLN:NE2	2.21	0.72
1:B:424:LYS:HB2	1:B:463:PRO:HA	1.71	0.71
1:A:557:LYS:NZ	1:A:574:ASP:OD2	2.23	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:379:CYS:HA	1:B:432:CYS:HB3	1.72	0.70
1:B:437:ASN:HA	1:B:508:TYR:HA	1.72	0.70
1:B:1045:LYS:NZ	1:C:890:ALA:O	2.24	0.70
1:A:95:THR:HG22	1:A:186:PHE:HB2	1.73	0.70
1:A:1091:ARG:NH1	1:A:1118:ASP:O	2.24	0.70
1:B:656:VAL:HG12	1:B:658:ASN:H	1.57	0.70
1:B:390:LEU:HD11	1:C:983:ARG:HG2	1.71	0.70
1:B:128:ILE:HB	1:B:170:TYR:HB3	1.73	0.70
1:B:918:GLU:O	1:B:919:ASN:ND2	2.24	0.69
1:A:725:GLU:OE1	1:A:1064:HIS:NE2	2.25	0.69
1:C:273:ARG:NH1	1:C:290:ASP:OD2	2.25	0.69
1:C:553:THR:HG23	1:C:586:ASP:HB3	1.73	0.69
1:A:740:MET:SD	1:C:319:ARG:NH1	2.59	0.69
1:A:564:GLN:OE1	1:A:577:ARG:NH2	2.25	0.69
1:B:319:ARG:NH1	1:C:740:MET:SD	2.57	0.69
1:C:557:LYS:NZ	1:C:574:ASP:OD2	2.24	0.69
1:B:379:CYS:HA	1:B:432:CYS:CB	2.23	0.69
1:C:108:THR:O	1:C:237:ARG:NH1	2.26	0.69
1:B:205:SER:OG	1:B:206:LYS:N	2.26	0.68
1:C:1072:GLU:N	1:C:1072:GLU:OE1	2.26	0.68
1:A:723:THR:HG22	1:A:724:THR:H	1.58	0.68
1:A:661:GLU:O	1:A:695:TYR:OH	2.09	0.68
1:B:280:ASN:ND2	1:B:284:THR:OG1	2.26	0.68
1:A:280:ASN:ND2	1:A:284:THR:OG1	2.27	0.68
1:C:214:ARG:HE	1:C:215:ASP:HB2	1.58	0.68
1:A:738:CYS:SG	1:A:739:THR:N	2.67	0.67
1:C:433:VAL:HA	1:C:512:VAL:HA	1.76	0.67
1:B:1135:ASN:OD1	1:B:1136:THR:N	2.28	0.67
1:B:557:LYS:NZ	1:B:574:ASP:OD2	2.22	0.67
1:A:1045:LYS:NZ	1:B:890:ALA:O	2.27	0.66
1:C:1126:CYS:HB2	1:C:1132:ILE:HD13	1.76	0.66
1:B:290:ASP:OD1	1:B:291:CYS:N	2.28	0.66
1:B:763:LEU:HD22	1:B:1008:VAL:HG21	1.77	0.66
1:C:402:ILE:HD12	1:C:406:GLU:HB2	1.78	0.66
1:B:402:ILE:HD12	1:B:406:GLU:HB2	1.76	0.66
1:B:108:THR:HG22	1:B:109:THR:HG23	1.77	0.66
1:C:661:GLU:O	1:C:695:TYR:OH	2.12	0.66
1:C:437:ASN:HA	1:C:508:TYR:HA	1.77	0.66
1:A:557:LYS:NZ	1:A:574:ASP:O	2.29	0.66
1:B:676:THR:HA	1:B:690:GLN:HG2	1.75	0.66
1:C:557:LYS:NZ	1:C:574:ASP:O	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:816:SER:OG	1:A:817:PHE:N	2.28	0.66
1:B:661:GLU:O	1:B:695:TYR:OH	2.14	0.66
1:A:390:LEU:HD11	1:B:983:ARG:HG2	1.77	0.65
1:B:99:ASN:OD1	1:B:190:ARG:NH1	2.28	0.65
1:A:1085:GLY:O	1:A:1126:CYS:N	2.28	0.65
1:C:1085:GLY:O	1:C:1126:CYS:N	2.29	0.65
1:B:804:GLN:OE1	1:B:935:GLN:NE2	2.29	0.65
1:C:290:ASP:OD1	1:C:291:CYS:N	2.30	0.65
1:A:189:LEU:HD21	1:A:191:GLU:HG2	1.79	0.64
1:C:444:LYS:O	1:C:447:GLY:N	2.30	0.64
1:B:382:VAL:HG12	1:C:983:ARG:HB3	1.79	0.64
1:A:711:SER:OG	1:B:895:GLN:NE2	2.21	0.64
1:C:564:GLN:OE1	1:C:577:ARG:NH2	2.30	0.64
1:A:108:THR:OG1	1:A:234:ASN:O	2.12	0.64
1:A:553:THR:O	1:A:586:ASP:N	2.29	0.64
1:B:86:PHE:HA	1:B:90:VAL:HG21	1.79	0.64
1:B:108:THR:O	1:B:237:ARG:NH1	2.30	0.64
1:B:444:LYS:O	1:B:447:GLY:N	2.30	0.64
1:B:295:PRO:HB2	1:B:608:VAL:HG21	1.79	0.64
1:A:619:GLU:OE1	1:A:619:GLU:N	2.32	0.63
1:B:96:GLU:HG3	1:B:98:SER:H	1.63	0.63
1:B:800:PHE:HD2	1:B:927:PHE:HD2	1.43	0.63
1:A:186:PHE:N	1:A:212:LEU:O	2.31	0.63
1:A:1093:GLY:HA2	1:A:1107:ARG:HG3	1.80	0.63
1:A:645:THR:HG23	1:A:647:ALA:H	1.62	0.63
1:A:1135:ASN:ND2	1:A:1136:THR:O	2.31	0.63
1:C:553:THR:O	1:C:586:ASP:N	2.31	0.63
1:C:723:THR:HG22	1:C:724:THR:H	1.63	0.63
1:B:1126:CYS:HB2	1:B:1132:ILE:HD13	1.79	0.63
1:C:229:LEU:HB3	1:C:231:ILE:HG23	1.81	0.63
1:A:444:LYS:O	1:A:447:GLY:N	2.32	0.63
1:B:96:GLU:HG2	1:B:100:ILE:H	1.64	0.63
1:B:619:GLU:N	1:B:619:GLU:OE1	2.32	0.63
1:A:605:SER:OG	1:A:606:ASN:N	2.32	0.62
1:A:951:VAL:O	1:A:955:ASN:ND2	2.32	0.62
1:A:985:ASP:OD1	1:A:985:ASP:N	2.32	0.62
1:C:295:PRO:HB2	1:C:608:VAL:HG21	1.80	0.62
1:B:273:ARG:NH1	1:B:290:ASP:OD2	2.32	0.62
1:A:808:ASP:HB3	1:A:811:LYS:HG2	1.80	0.62
1:C:816:SER:OG	1:C:817:PHE:N	2.32	0.62
1:C:1028:LYS:NZ	1:C:1042:PHE:O	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:816:SER:N	1:A:819:GLU:OE1	2.21	0.62
1:B:564:GLN:OE1	1:B:577:ARG:NH2	2.33	0.62
1:C:448:ASN:HD21	1:C:451:TYR:HD2	1.48	0.62
1:B:1086:LYS:HA	1:B:1125:ASN:HA	1.82	0.61
1:A:192:PHE:O	1:A:193:VAL:HG23	1.99	0.61
1:A:305:SER:OG	1:A:306:PHE:N	2.33	0.61
1:B:131:CYS:HA	1:B:166:CYS:HB2	1.83	0.61
1:A:1007:TYR:OH	1:A:1011:GLN:NE2	2.33	0.61
1:C:323:THR:HG21	1:C:537:LYS:HD2	1.83	0.61
1:C:336:CYS:HB3	1:C:358:ILE:HG21	1.82	0.61
1:B:369:TYR:HH	1:B:385:THR:HG1	1.48	0.61
1:B:216:LEU:HG	1:B:266:TYR:HE2	1.66	0.60
1:B:816:SER:OG	1:B:817:PHE:N	2.34	0.60
1:C:535:LYS:NZ	1:C:554:GLU:OE2	2.34	0.60
1:B:1028:LYS:NZ	1:B:1042:PHE:O	2.32	0.60
1:C:377:PHE:H	1:C:378:LYS:HZ3	1.48	0.60
1:C:108:THR:HG22	1:C:109:THR:HG23	1.84	0.60
1:B:365:TYR:HH	1:B:392:PHE:HE2	1.48	0.59
1:C:216:LEU:HD12	1:C:216:LEU:H	1.67	0.59
1:B:1093:GLY:HA2	1:B:1107:ARG:HG3	1.83	0.59
1:C:192:PHE:O	1:C:193:VAL:HG23	2.01	0.59
1:C:767:LEU:HD23	1:C:770:ILE:HD12	1.85	0.59
1:A:189:LEU:HB2	1:A:210:ILE:HG12	1.83	0.59
1:A:763:LEU:HD22	1:A:1008:VAL:HG21	1.85	0.59
1:C:95:THR:HG22	1:C:186:PHE:HB3	1.85	0.59
1:B:1094:VAL:HG13	1:B:1107:ARG:HG2	1.84	0.59
1:C:374:PHE:HA	1:C:436:TRP:HB3	1.85	0.59
1:A:205:SER:OG	1:A:206:LYS:N	2.34	0.58
1:A:295:PRO:HB2	1:A:608:VAL:HG21	1.85	0.58
1:A:379:CYS:HA	1:A:432:CYS:HA	1.85	0.58
1:A:502:GLY:O	1:A:506:GLN:NE2	2.35	0.58
1:B:738:CYS:SG	1:B:739:THR:N	2.76	0.58
1:A:804:GLN:OE1	1:A:935:GLN:NE2	2.35	0.58
1:A:102:ARG:HB2	1:A:141:LEU:HD21	1.84	0.58
1:A:357:ARG:HH12	1:A:359:SER:HB3	1.69	0.58
1:C:676:THR:HA	1:C:690:GLN:HG2	1.85	0.58
1:A:374:PHE:HA	1:A:436:TRP:HB3	1.86	0.57
1:A:553:THR:HG23	1:A:586:ASP:HB2	1.87	0.57
1:A:1089:PHE:CE2	1:B:914:ASN:HA	2.39	0.57
1:B:316:SER:OG	1:B:317:ASN:N	2.36	0.57
1:A:214:ARG:HE	1:A:215:ASP:HB2	1.70	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:281:GLU:OE1	1:B:281:GLU:N	2.32	0.57
1:A:354:ASN:HD21	1:A:399:SER:HB3	1.69	0.57
1:A:576:VAL:HG12	1:A:577:ARG:H	1.69	0.57
1:A:281:GLU:N	1:A:281:GLU:OE1	2.37	0.57
1:A:462:LYS:HE3	1:A:465:GLU:HB2	1.87	0.57
1:C:645:THR:OG1	1:C:648:GLY:O	2.18	0.57
1:C:763:LEU:HD22	1:C:1008:VAL:HG21	1.87	0.57
1:A:382:VAL:HG12	1:B:983:ARG:HB3	1.87	0.57
1:A:394:ASN:ND2	1:B:200:TYR:OH	2.37	0.57
1:B:802:PHE:CD2	1:B:805:ILE:HD11	2.37	0.57
1:C:205:SER:OG	1:C:206:LYS:N	2.38	0.57
1:B:1085:GLY:O	1:B:1126:CYS:N	2.36	0.57
1:C:961:THR:O	1:C:965:GLN:HG2	2.04	0.57
1:A:721:SER:OG	1:A:722:VAL:N	2.38	0.57
1:C:1135:ASN:ND2	1:C:1136:THR:O	2.37	0.56
1:C:100:ILE:HG22	1:C:242:LEU:HG	1.87	0.56
1:A:104:TRP:HB2	1:A:119:ILE:HB	1.88	0.56
1:A:130:VAL:HG12	1:A:168:PHE:O	2.05	0.56
1:A:168:PHE:CZ	1:A:170:TYR:HB2	2.40	0.56
1:A:214:ARG:NE	1:A:215:ASP:HB2	2.21	0.56
1:B:264:ALA:HB1	1:B:266:TYR:CE1	2.41	0.56
1:B:553:THR:HG23	1:B:586:ASP:HB2	1.86	0.56
1:C:168:PHE:CZ	1:C:170:TYR:HB2	2.40	0.56
1:B:90:VAL:HG11	1:B:238:PHE:CE1	2.40	0.56
1:C:756:TYR:HB3	1:C:759:PHE:HD2	1.71	0.56
1:B:734:THR:OG1	1:B:735:SER:N	2.38	0.56
1:B:103:GLY:N	1:B:241:LEU:O	2.38	0.56
1:A:415:THR:HG22	1:A:416:GLY:H	1.70	0.56
1:A:905:ARG:HD3	1:A:1049:LEU:O	2.04	0.56
1:B:531:THR:HG22	1:B:532:ASN:H	1.71	0.56
1:C:804:GLN:O	1:C:816:SER:OG	2.24	0.56
1:A:434:ILE:HB	1:A:511:VAL:HG23	1.86	0.56
1:A:890:ALA:O	1:C:1045:LYS:NZ	2.32	0.56
1:B:721:SER:OG	1:B:722:VAL:N	2.38	0.56
1:B:880:GLY:O	1:B:884:SER:OG	2.21	0.56
1:A:961:THR:O	1:A:965:GLN:HG2	2.06	0.56
1:A:131:CYS:HA	1:A:166:CYS:HB2	1.88	0.55
1:A:316:SER:OG	1:A:317:ASN:N	2.39	0.55
1:A:1049:LEU:HB2	1:A:1065:VAL:O	2.05	0.55
1:B:951:VAL:O	1:B:955:ASN:ND2	2.38	0.55
1:A:703:ASN:OD1	1:A:704:SER:N	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:367:VAL:HG23	1:B:368:LEU:HD12	1.89	0.55
1:B:596:SER:HB3	1:B:611:LEU:HB3	1.87	0.55
1:C:1141:LEU:HD23	1:C:1145:LEU:HD23	1.88	0.55
1:A:983:ARG:HB3	1:C:382:VAL:HG12	1.87	0.55
1:B:448:ASN:HD21	1:B:451:TYR:HD2	1.53	0.55
1:A:341:VAL:HG22	1:A:356:LYS:HZ1	1.72	0.55
1:A:979:ASP:HB3	1:A:983:ARG:HE	1.71	0.55
1:B:1141:LEU:HD23	1:B:1145:LEU:HD23	1.88	0.55
1:C:738:CYS:SG	1:C:739:THR:N	2.79	0.55
1:B:379:CYS:SG	1:B:384:PRO:HB3	2.46	0.55
1:C:434:ILE:HB	1:C:511:VAL:HG23	1.88	0.55
1:A:443:SER:HB3	1:A:499:PRO:HD3	1.88	0.55
1:C:800:PHE:N	1:C:800:PHE:CD1	2.75	0.55
1:B:958:ALA:O	1:B:961:THR:OG1	2.25	0.55
1:B:1049:LEU:HB2	1:B:1065:VAL:O	2.07	0.55
1:A:93:ALA:O	1:A:94:SER:OG	2.24	0.55
1:A:1043:CYS:HB3	1:A:1048:HIS:CD2	2.42	0.55
1:C:976:VAL:HB	1:C:979:ASP:OD2	2.06	0.55
1:A:904:TYR:OH	1:C:1094:VAL:HB	2.08	0.54
1:B:816:SER:N	1:B:819:GLU:OE1	2.34	0.54
1:A:86:PHE:H	1:A:237:ARG:HA	1.72	0.54
1:A:532:ASN:OD1	1:A:533:LEU:N	2.31	0.54
1:A:900:MET:HA	1:A:917:TYR:OH	2.07	0.54
1:C:281:GLU:N	1:C:281:GLU:OE1	2.40	0.54
1:C:131:CYS:HB3	1:C:133:PHE:CZ	2.41	0.54
1:C:974:SER:OG	1:C:975:SER:N	2.40	0.54
1:A:576:VAL:HG12	1:A:577:ARG:N	2.22	0.54
1:C:204:TYR:N	1:C:204:TYR:CD1	2.76	0.54
1:C:555:SER:HB3	1:C:586:ASP:HB2	1.89	0.54
1:B:264:ALA:HB1	1:B:266:TYR:HE1	1.72	0.54
1:B:534:VAL:HG23	1:B:539:VAL:HG11	1.90	0.54
1:B:86:PHE:HE2	1:B:196:ASN:HD21	1.55	0.54
1:C:611:LEU:HD12	1:C:650:LEU:HD13	1.90	0.54
1:A:290:ASP:O	1:A:297:SER:HB2	2.07	0.54
1:C:212:LEU:HG	1:C:214:ARG:H	1.72	0.54
1:A:131:CYS:HB3	1:A:133:PHE:CE1	2.43	0.54
1:A:336:CYS:HB3	1:A:358:ILE:HG21	1.89	0.54
1:B:280:ASN:OD1	1:B:284:THR:N	2.34	0.54
1:C:605:SER:OG	1:C:606:ASN:N	2.41	0.54
1:C:803:SER:OG	1:C:804:GLN:NE2	2.40	0.54
1:C:906:PHE:HE1	1:C:1049:LEU:HD11	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1089:PHE:HE2	1:B:914:ASN:HA	1.73	0.53
1:B:131:CYS:HB3	1:B:133:PHE:CZ	2.42	0.53
1:B:436:TRP:O	1:B:509:ARG:N	2.40	0.53
1:B:1118:ASP:OD1	1:B:1119:ASN:N	2.41	0.53
1:C:1043:CYS:HB2	1:C:1048:HIS:CD2	2.42	0.53
1:B:225:PRO:O	1:B:226:LEU:HD23	2.09	0.53
1:C:225:PRO:O	1:C:226:LEU:HD23	2.08	0.53
1:C:979:ASP:O	1:C:983:ARG:N	2.40	0.53
1:A:1141:LEU:HD23	1:A:1145:LEU:HD23	1.91	0.53
1:B:108:THR:OG1	1:B:234:ASN:O	2.17	0.53
1:B:192:PHE:HB3	1:B:194:PHE:CE1	2.43	0.53
1:C:102:ARG:HD2	1:C:243:ALA:HB2	1.90	0.53
1:A:64:TRP:HA	1:A:266:TYR:HD1	1.74	0.53
1:A:273:ARG:NH1	1:A:290:ASP:OD2	2.42	0.53
1:A:707:TYR:HB3	1:B:792:PRO:HG3	1.91	0.53
1:A:777:ASN:O	1:A:781:VAL:HG23	2.09	0.53
1:B:168:PHE:CZ	1:B:170:TYR:HB2	2.43	0.53
1:A:676:THR:HA	1:A:690:GLN:HG2	1.89	0.53
1:B:800:PHE:HD2	1:B:927:PHE:CD2	2.25	0.53
1:C:409:GLN:HB3	1:C:419:ALA:HB2	1.90	0.53
1:B:961:THR:O	1:B:965:GLN:HG2	2.08	0.53
1:C:721:SER:OG	1:C:722:VAL:N	2.42	0.53
1:A:317:ASN:HA	1:A:594:GLY:HA2	1.91	0.53
1:C:81:ASN:ND2	1:C:139:PRO:O	2.41	0.53
1:C:586:ASP:OD1	1:C:587:ILE:N	2.41	0.53
1:C:644:GLN:HE21	1:C:645:THR:N	2.06	0.53
1:C:802:PHE:HD2	1:C:805:ILE:HD11	1.74	0.53
1:C:985:ASP:OD1	1:C:985:ASP:N	2.39	0.53
1:B:65:PHE:HD2	1:B:265:TYR:CZ	2.27	0.53
1:C:1043:CYS:HB2	1:C:1048:HIS:HD2	1.73	0.53
1:A:645:THR:HG22	1:A:648:GLY:O	2.08	0.53
1:B:38:TYR:CE1	1:B:285:ILE:HG13	2.44	0.53
1:B:374:PHE:HA	1:B:436:TRP:HB3	1.92	0.53
1:A:86:PHE:N	1:A:237:ARG:HA	2.23	0.52
1:C:87:ASN:OD1	1:C:87:ASN:N	2.43	0.52
1:C:800:PHE:N	1:C:800:PHE:HD1	2.06	0.52
1:B:327:VAL:HG11	1:B:528:LYS:HZ2	1.74	0.52
1:C:804:GLN:OE1	1:C:935:GLN:NE2	2.35	0.52
1:C:949:GLN:O	1:C:953:ASN:ND2	2.41	0.52
1:A:140:PHE:HB2	1:A:244:LEU:HD13	1.91	0.52
1:A:880:GLY:O	1:A:884:SER:OG	2.26	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:726:ILE:HG12	1:B:1061:VAL:HG22	1.91	0.52
1:C:1002:GLN:O	1:C:1006:THR:HG23	2.10	0.52
1:B:62:VAL:CG1	1:B:266:TYR:HB3	2.40	0.52
1:C:84:LEU:HD22	1:C:267:VAL:HG21	1.91	0.52
1:A:981:LEU:O	1:C:386:LYS:NZ	2.42	0.52
1:B:336:CYS:HB3	1:B:358:ILE:HG21	1.92	0.52
1:B:65:PHE:HE2	1:B:84:LEU:HD21	1.74	0.52
1:B:661:GLU:N	1:B:661:GLU:OE1	2.43	0.52
1:B:825:LYS:HE3	1:B:938:LEU:O	2.09	0.52
1:C:543:PHE:CD1	1:C:576:VAL:HG21	2.44	0.52
1:B:388:ASN:HD21	1:B:527:PRO:HG2	1.74	0.52
1:C:365:TYR:O	1:C:369:TYR:HB2	2.09	0.52
1:A:1055:SER:OG	1:A:1056:ALA:N	2.42	0.52
1:B:568:ASP:OD1	1:B:569:ILE:N	2.39	0.52
1:C:666:ILE:HB	1:C:670:ILE:O	2.09	0.52
1:C:1092:GLU:OE2	1:C:1092:GLU:N	2.43	0.52
1:A:391:CYS:CB	1:A:525:CYS:HA	2.38	0.51
1:A:917:TYR:HD2	1:C:1089:PHE:CE2	2.28	0.51
1:B:117:LEU:HD23	1:B:118:LEU:N	2.25	0.51
1:C:1027:THR:O	1:C:1031:GLU:HG3	2.11	0.51
1:A:91:TYR:HB2	1:A:270:LEU:HD21	1.92	0.51
1:A:100:ILE:O	1:A:243:ALA:N	2.39	0.51
1:A:388:ASN:HD21	1:A:527:PRO:HG2	1.76	0.51
1:C:109:THR:OG1	1:C:111:ASP:OD1	2.26	0.51
1:A:767:LEU:HD23	1:A:770:ILE:HD12	1.92	0.51
1:B:65:PHE:HD2	1:B:265:TYR:HH	1.58	0.51
1:C:108:THR:OG1	1:C:234:ASN:O	2.16	0.51
1:C:703:ASN:OD1	1:C:704:SER:N	2.43	0.51
1:C:354:ASN:HD21	1:C:399:SER:HG	1.58	0.51
1:A:43:PHE:O	1:A:44:ARG:HG3	2.10	0.51
1:A:108:THR:HG22	1:A:109:THR:HG23	1.91	0.51
1:A:421:TYR:O	1:A:424:LYS:NZ	2.39	0.51
1:A:1081:ILE:HD12	1:A:1095:PHE:HE2	1.76	0.51
1:C:809:PRO:HA	1:C:814:LYS:HE2	1.91	0.51
1:C:189:LEU:HB2	1:C:210:ILE:HG12	1.92	0.51
1:A:811:LYS:NZ	1:A:820:ASP:OD2	2.41	0.51
1:C:222:ALA:O	1:C:223:LEU:HD12	2.11	0.51
1:A:105:ILE:HG22	1:A:110:LEU:HG	1.92	0.51
1:B:329:PHE:O	1:B:580:GLN:HG3	2.10	0.51
1:B:448:ASN:HD22	1:B:497:PHE:HD2	1.57	0.51
1:B:984:LEU:HD12	1:B:988:GLU:HB2	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:143:VAL:HG11	1:A:245:HIS:CG	2.46	0.51
1:A:290:ASP:OD1	1:A:292:ALA:N	2.44	0.51
1:A:291:CYS:O	1:A:298:GLU:HG3	2.10	0.51
1:A:1089:PHE:N	1:A:1089:PHE:CD1	2.79	0.51
1:B:707:TYR:CD2	1:C:883:THR:HG22	2.46	0.51
1:B:1027:THR:O	1:B:1031:GLU:HG3	2.11	0.51
1:C:808:ASP:HB3	1:C:811:LYS:HG2	1.93	0.51
1:A:96:GLU:HG3	1:A:99:ASN:H	1.74	0.51
1:A:704:SER:HB3	1:B:790:LYS:HE2	1.93	0.51
1:B:329:PHE:HE2	1:B:528:LYS:HB3	1.76	0.51
1:A:792:PRO:HG3	1:C:707:TYR:HB3	1.93	0.50
1:A:980:ILE:HD12	1:A:980:ILE:H	1.76	0.50
1:C:133:PHE:HB2	1:C:135:PHE:CZ	2.45	0.50
1:C:922:LEU:O	1:C:926:GLN:HG3	2.11	0.50
1:B:62:VAL:HG12	1:B:266:TYR:HB3	1.93	0.50
1:B:532:ASN:OD1	1:B:533:LEU:N	2.32	0.50
1:B:906:PHE:HE1	1:B:1049:LEU:HD11	1.76	0.50
1:B:197:ILE:HB	1:B:202:LYS:NZ	2.26	0.50
1:A:103:GLY:CA	1:A:241:LEU:HB3	2.39	0.50
1:A:291:CYS:HA	1:A:297:SER:OG	2.12	0.50
1:C:950:ASP:OD2	1:C:954:GLN:NE2	2.45	0.50
1:A:105:ILE:HD12	1:A:139:PRO:HB3	1.93	0.50
1:A:106:PHE:CD1	1:A:238:PHE:HB2	2.47	0.50
1:A:222:ALA:O	1:A:223:LEU:HD12	2.12	0.50
1:A:1093:GLY:HA2	1:A:1107:ARG:HE	1.76	0.50
1:C:103:GLY:CA	1:C:241:LEU:HB3	2.38	0.50
1:C:978:ASN:O	1:C:982:SER:N	2.44	0.50
1:A:117:LEU:HD23	1:A:118:LEU:N	2.26	0.50
1:A:405:ASP:HA	1:A:408:ARG:HH12	1.76	0.50
1:C:661:GLU:OE1	1:C:661:GLU:N	2.45	0.50
1:C:880:GLY:O	1:C:884:SER:OG	2.26	0.50
1:A:377:PHE:H	1:A:378:LYS:NZ	2.09	0.50
1:B:443:SER:HB3	1:B:499:PRO:HD3	1.93	0.50
1:C:436:TRP:O	1:C:509:ARG:N	2.45	0.50
1:C:655:HIS:CD2	1:C:656:VAL:H	2.29	0.50
1:A:130:VAL:HG23	1:A:233:ILE:HD11	1.94	0.50
1:A:1105:THR:HG23	1:A:1106:GLN:O	2.12	0.50
1:B:204:TYR:N	1:B:204:TYR:CD1	2.80	0.50
1:C:206:LYS:HD3	1:C:208:THR:HG21	1.93	0.50
1:C:568:ASP:OD1	1:C:569:ILE:N	2.42	0.50
1:B:506:GLN:HB2	1:B:508:TYR:HE1	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:605:SER:OG	1:B:606:ASN:N	2.42	0.49
1:B:698:SER:OG	1:B:699:LEU:N	2.45	0.49
1:B:106:PHE:HB2	1:B:117:LEU:HB3	1.93	0.49
1:C:443:SER:HB3	1:C:499:PRO:HD3	1.93	0.49
1:A:379:CYS:SG	1:A:384:PRO:HB3	2.52	0.49
1:B:45:SER:O	1:B:47:VAL:HG13	2.12	0.49
1:B:305:SER:OG	1:B:306:PHE:N	2.42	0.49
1:B:551:VAL:HG12	1:B:588:THR:O	2.13	0.49
1:B:979:ASP:O	1:B:983:ARG:N	2.45	0.49
1:C:107:GLY:HA2	1:C:235:ILE:HG12	1.94	0.49
1:C:786:LYS:HG3	1:C:787:GLN:HG3	1.93	0.49
1:A:498:GLN:H	1:A:501:ASN:HD21	1.61	0.49
1:A:1126:CYS:HB2	1:A:1132:ILE:HD13	1.94	0.49
1:B:1062:PHE:O	1:B:1063:LEU:HD23	2.13	0.49
1:A:764:ASN:O	1:A:768:THR:HG23	2.12	0.49
1:B:130:VAL:HG22	1:B:168:PHE:O	2.13	0.49
1:B:201:PHE:N	1:B:229:LEU:O	2.46	0.49
1:B:393:THR:HA	1:B:522:ALA:HA	1.94	0.49
1:C:189:LEU:HD12	1:C:210:ILE:HD13	1.94	0.49
1:A:734:THR:OG1	1:A:735:SER:N	2.46	0.49
1:A:906:PHE:HE1	1:A:1049:LEU:HD11	1.76	0.49
1:B:434:ILE:HB	1:B:511:VAL:HG23	1.94	0.49
1:B:704:SER:HB3	1:C:790:LYS:HE2	1.95	0.49
1:B:1004:LEU:O	1:B:1008:VAL:HG23	2.13	0.49
1:C:309:GLU:OE1	1:C:310:LYS:N	2.45	0.49
1:A:914:ASN:HD22	1:C:1123:SER:CB	2.25	0.49
1:A:90:VAL:HG21	1:A:238:PHE:CE1	2.48	0.49
1:B:273:ARG:NH1	1:B:292:ALA:HB3	2.28	0.49
1:B:656:VAL:HG12	1:B:658:ASN:N	2.24	0.49
1:B:1089:PHE:CE2	1:C:914:ASN:HA	2.48	0.49
1:C:112:SER:HB2	1:C:133:PHE:C	2.33	0.49
1:A:201:PHE:HE2	1:A:203:ILE:HG13	1.76	0.49
1:B:722:VAL:HG22	1:B:1065:VAL:HG22	1.95	0.49
1:B:978:ASN:O	1:B:982:SER:N	2.46	0.49
1:A:62:VAL:HG12	1:A:266:TYR:HB3	1.95	0.48
1:A:191:GLU:HB3	1:A:223:LEU:HD21	1.95	0.48
1:A:978:ASN:O	1:A:982:SER:N	2.46	0.48
1:A:1028:LYS:NZ	1:A:1042:PHE:O	2.36	0.48
1:B:645:THR:OG1	1:B:648:GLY:O	2.21	0.48
1:B:797:PHE:O	1:B:799:GLY:N	2.45	0.48
1:B:803:SER:OG	1:B:804:GLN:NE2	2.42	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:104:TRP:HB3	1:C:106:PHE:CE1	2.48	0.48
1:C:951:VAL:O	1:C:955:ASN:ND2	2.46	0.48
1:A:800:PHE:CD1	1:A:800:PHE:N	2.80	0.48
1:B:666:ILE:HD11	1:B:672:ALA:HB2	1.95	0.48
1:C:619:GLU:OE1	1:C:619:GLU:N	2.37	0.48
1:C:813:SER:O	1:C:815:ARG:N	2.41	0.48
1:A:405:ASP:OD1	1:A:406:GLU:HG3	2.13	0.48
1:B:666:ILE:HD12	1:B:670:ILE:HG22	1.94	0.48
1:C:117:LEU:HD23	1:C:118:LEU:N	2.28	0.48
1:C:305:SER:OG	1:C:306:PHE:N	2.46	0.48
1:B:870:ILE:O	1:B:874:THR:HG23	2.14	0.48
1:C:906:PHE:CD2	1:C:916:LEU:HB2	2.49	0.48
1:A:809:PRO:HA	1:A:814:LYS:HE2	1.95	0.48
1:A:1002:GLN:O	1:A:1006:THR:HG23	2.13	0.48
1:C:202:LYS:HB3	1:C:204:TYR:HE1	1.78	0.48
1:A:707:TYR:CD2	1:B:883:THR:HG22	2.48	0.48
1:B:87:ASN:N	1:B:87:ASN:OD1	2.46	0.48
1:B:405:ASP:HA	1:B:408:ARG:HH12	1.79	0.48
1:C:1081:ILE:HG23	1:C:1135:ASN:HB3	1.96	0.48
1:A:376:THR:HG22	1:A:435:ALA:HB3	1.95	0.48
1:A:658:ASN:ND2	1:A:660:TYR:OH	2.46	0.48
1:C:291:CYS:HA	1:C:297:SER:OG	2.13	0.48
1:C:462:LYS:HE3	1:C:465:GLU:HB2	1.96	0.48
1:C:870:ILE:O	1:C:874:THR:HG23	2.14	0.48
1:A:204:TYR:N	1:A:204:TYR:CD1	2.79	0.48
1:A:230:PRO:HG3	1:C:357:ARG:NH1	2.28	0.48
1:A:399:SER:HB2	1:A:511:VAL:HG12	1.96	0.48
1:A:797:PHE:O	1:A:799:GLY:N	2.46	0.48
1:A:1115:ILE:HG22	1:A:1137:VAL:HG13	1.96	0.48
1:B:806:LEU:HD23	1:B:806:LEU:HA	1.59	0.48
1:B:808:ASP:HB3	1:B:811:LYS:HG2	1.96	0.48
1:B:906:PHE:CD2	1:B:916:LEU:HB2	2.47	0.48
1:C:38:TYR:CE1	1:C:285:ILE:HG13	2.49	0.48
1:A:365:TYR:OH	1:A:392:PHE:HE2	1.97	0.48
1:A:746:SER:OG	1:A:748:GLU:OE1	2.32	0.48
1:B:809:PRO:HA	1:B:814:LYS:HE2	1.96	0.48
1:C:339:GLY:O	1:C:343:ASN:N	2.37	0.48
1:C:431:GLY:HA2	1:C:515:PHE:HD2	1.78	0.48
1:B:107:GLY:HA2	1:B:235:ILE:HG12	1.95	0.48
1:B:586:ASP:O	1:B:587:ILE:HG13	2.14	0.48
1:B:930:ALA:O	1:B:934:ILE:HG12	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:96:GLU:HG2	1:C:97:LYS:H	1.78	0.48
1:C:531:THR:HG22	1:C:532:ASN:H	1.78	0.48
1:C:905:ARG:HD2	1:C:1049:LEU:O	2.14	0.48
1:A:329:PHE:O	1:A:580:GLN:HG3	2.12	0.47
1:A:578:ASP:HB3	1:A:581:THR:O	2.13	0.47
1:B:107:GLY:N	1:B:235:ILE:HG23	2.29	0.47
1:B:715:PRO:HD3	1:C:894:LEU:HD13	1.96	0.47
1:B:726:ILE:HD13	1:B:945:LEU:HD13	1.96	0.47
1:C:379:CYS:SG	1:C:384:PRO:HB3	2.54	0.47
1:C:410:ILE:HG23	1:C:425:LEU:HD11	1.96	0.47
1:A:103:GLY:HA3	1:A:241:LEU:HD22	1.96	0.47
1:A:189:LEU:HD12	1:A:210:ILE:HD13	1.95	0.47
1:A:365:TYR:O	1:A:369:TYR:HB2	2.14	0.47
1:B:327:VAL:HG21	1:B:528:LYS:HZ1	1.79	0.47
1:B:433:VAL:O	1:B:434:ILE:HD13	2.14	0.47
1:B:905:ARG:HD2	1:B:1049:LEU:O	2.13	0.47
1:B:768:THR:O	1:B:772:VAL:HG12	2.15	0.47
1:B:974:SER:OG	1:B:975:SER:N	2.48	0.47
1:B:1089:PHE:N	1:B:1089:PHE:CD1	2.82	0.47
1:A:62:VAL:HG13	1:A:268:GLY:N	2.30	0.47
1:A:280:ASN:OD1	1:A:284:THR:N	2.29	0.47
1:C:53:ASP:HB3	1:C:55:PHE:CE2	2.49	0.47
1:C:698:SER:OG	1:C:699:LEU:N	2.47	0.47
1:A:29:THR:HG22	1:A:62:VAL:O	2.14	0.47
1:A:229:LEU:HB3	1:A:231:ILE:HG23	1.97	0.47
1:A:540:ASN:OD1	1:A:540:ASN:N	2.47	0.47
1:B:107:GLY:H	1:B:235:ILE:HG23	1.80	0.47
1:B:133:PHE:HB2	1:B:135:PHE:CZ	2.50	0.47
1:A:501:ASN:ND2	1:A:505:TYR:O	2.47	0.47
1:A:979:ASP:HB3	1:A:983:ARG:HH21	1.80	0.47
1:A:1090:PRO:HB3	1:A:1095:PHE:CE1	2.50	0.47
1:B:299:THR:HG22	1:B:308:VAL:HG21	1.97	0.47
1:C:131:CYS:SG	1:C:132:GLU:N	2.87	0.47
1:C:802:PHE:CD2	1:C:805:ILE:HD11	2.50	0.47
1:A:91:TYR:HD2	1:A:268:GLY:H	1.62	0.47
1:A:1089:PHE:N	1:A:1089:PHE:HD1	2.12	0.47
1:B:29:THR:HG22	1:B:62:VAL:O	2.15	0.47
1:B:228:ASP:OD1	1:B:229:LEU:N	2.48	0.47
1:C:92:PHE:HZ	1:C:240:THR:HB	1.79	0.47
1:C:143:VAL:HG12	1:C:243:ALA:HB1	1.97	0.47
1:C:392:PHE:HB3	1:C:517:LEU:HD13	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:501:ASN:HB3	1:C:505:TYR:HB2	1.97	0.47
1:A:43:PHE:HD1	1:C:563:GLN:NE2	2.13	0.47
1:A:660:TYR:H	1:A:695:TYR:HE2	1.59	0.47
1:B:773:GLU:OE2	1:B:1019:ARG:HD3	2.14	0.47
1:C:977:LEU:HG	1:C:981:LEU:HD12	1.97	0.47
1:A:394:ASN:ND2	1:A:516:GLU:OE2	2.33	0.47
1:A:913:GLN:O	1:A:916:LEU:N	2.48	0.47
1:B:609:ALA:HB2	1:B:692:ILE:HD12	1.96	0.47
1:B:896:ILE:HG13	1:B:897:PRO:HD2	1.96	0.47
1:A:86:PHE:HA	1:A:90:VAL:CG2	2.45	0.46
1:C:228:ASP:OD1	1:C:229:LEU:N	2.48	0.46
1:A:894:LEU:HD13	1:C:715:PRO:HD3	1.98	0.46
1:A:968:SER:HB2	1:A:970:PHE:CE1	2.50	0.46
1:B:394:ASN:HB3	1:B:516:GLU:OE2	2.15	0.46
1:B:1094:VAL:HG12	1:C:904:TYR:OH	2.14	0.46
1:C:36:VAL:O	1:C:222:ALA:HA	2.16	0.46
1:C:172:SER:O	1:C:172:SER:OG	2.30	0.46
1:C:376:THR:HG22	1:C:435:ALA:HB3	1.96	0.46
1:C:377:PHE:CD1	1:C:434:ILE:HD12	2.51	0.46
1:C:794:ILE:HG13	1:C:794:ILE:O	2.15	0.46
1:A:449:TYR:O	1:A:494:SER:OG	2.27	0.46
1:B:187:LYS:O	1:B:210:ILE:N	2.33	0.46
1:B:578:ASP:HB3	1:B:581:THR:O	2.15	0.46
1:C:86:PHE:HA	1:C:90:VAL:HG21	1.96	0.46
1:A:498:GLN:H	1:A:501:ASN:ND2	2.13	0.46
1:B:93:ALA:O	1:B:94:SER:OG	2.29	0.46
1:B:978:ASN:HA	1:B:981:LEU:HB2	1.96	0.46
1:A:38:TYR:CE1	1:A:285:ILE:HG13	2.51	0.46
1:A:930:ALA:O	1:A:934:ILE:HG12	2.15	0.46
1:B:655:HIS:CD2	1:B:656:VAL:H	2.34	0.46
1:B:747:THR:OG1	1:B:748:GLU:N	2.48	0.46
1:B:794:ILE:HG13	1:B:794:ILE:O	2.16	0.46
1:C:119:ILE:HG12	1:C:128:ILE:HD12	1.97	0.46
1:A:231:ILE:HG13	1:A:232:GLY:N	2.31	0.46
1:A:666:ILE:HB	1:A:670:ILE:O	2.15	0.46
1:C:131:CYS:HB2	1:C:166:CYS:HB3	1.68	0.46
1:C:429:PHE:HE1	1:C:514:SER:HA	1.80	0.46
1:C:734:THR:OG1	1:C:735:SER:N	2.48	0.46
1:A:337:PRO:O	1:A:341:VAL:HG23	2.16	0.46
1:C:86:PHE:H	1:C:237:ARG:HA	1.81	0.46
1:C:104:TRP:CD1	1:C:194:PHE:HE2	2.34	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:531:THR:HG22	1:A:532:ASN:H	1.81	0.46
1:A:655:HIS:CD2	1:A:656:VAL:H	2.33	0.46
1:A:794:ILE:O	1:A:794:ILE:HG13	2.16	0.46
1:A:804:GLN:O	1:A:816:SER:OG	2.34	0.46
1:C:960:ASN:HA	1:C:963:VAL:HG12	1.98	0.46
1:C:1049:LEU:HB2	1:C:1065:VAL:O	2.14	0.46
1:A:714:ILE:HD11	1:A:1094:VAL:HG21	1.96	0.46
1:C:89:GLY:C	1:C:270:LEU:HD12	2.35	0.46
1:C:949:GLN:HG3	1:C:953:ASN:ND2	2.31	0.46
1:A:393:THR:HA	1:A:522:ALA:HA	1.97	0.46
1:A:530:SER:OG	1:A:580:GLN:NE2	2.49	0.46
1:C:92:PHE:HE2	1:C:238:PHE:HE2	1.62	0.46
1:C:212:LEU:HD22	1:C:217:PRO:HB3	1.98	0.46
1:B:302:THR:HG23	1:B:303:LEU:HD23	1.98	0.45
1:C:797:PHE:O	1:C:799:GLY:N	2.49	0.45
1:A:92:PHE:HZ	1:A:240:THR:HB	1.81	0.45
1:A:770:ILE:O	1:A:774:GLN:HG2	2.16	0.45
1:A:1027:THR:O	1:A:1031:GLU:HG3	2.17	0.45
1:B:201:PHE:HE2	1:B:203:ILE:HG13	1.81	0.45
1:B:1115:ILE:HG22	1:B:1137:VAL:HG13	1.96	0.45
1:C:332:ILE:HD12	1:C:332:ILE:HA	1.81	0.45
1:C:532:ASN:OD1	1:C:533:LEU:N	2.34	0.45
1:C:770:ILE:O	1:C:774:GLN:HG2	2.16	0.45
1:C:1060:VAL:HG22	1:C:1061:VAL:H	1.80	0.45
1:A:392:PHE:CD1	1:A:515:PHE:HB3	2.50	0.45
1:A:754:LEU:HD23	1:A:754:LEU:HA	1.83	0.45
1:B:530:SER:OG	1:B:580:GLN:NE2	2.49	0.45
1:B:767:LEU:HD23	1:B:770:ILE:HD12	1.97	0.45
1:A:1082:CYS:HB2	1:A:1126:CYS:HB2	1.93	0.45
1:A:1093:GLY:H	1:A:1107:ARG:NH2	2.15	0.45
1:B:337:PRO:O	1:B:341:VAL:HG23	2.16	0.45
1:C:405:ASP:HA	1:C:408:ARG:HH22	1.82	0.45
1:A:949:GLN:HE21	1:A:953:ASN:HD21	1.63	0.45
1:B:86:PHE:H	1:B:237:ARG:HA	1.81	0.45
1:B:200:TYR:CD2	1:B:230:PRO:HB3	2.52	0.45
1:C:63:THR:O	1:C:63:THR:OG1	2.17	0.45
1:C:118:LEU:HB3	1:C:129:LYS:HB2	1.99	0.45
1:A:107:GLY:HA2	1:A:235:ILE:HG12	1.97	0.45
1:A:403:ARG:HD3	1:A:505:TYR:HA	1.99	0.45
1:A:715:PRO:HD3	1:B:894:LEU:HD13	1.99	0.45
1:B:391:CYS:CB	1:B:525:CYS:HA	2.39	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:611:LEU:HD22	1:B:666:ILE:HG23	1.99	0.45
1:C:407:VAL:HG22	1:C:408:ARG:HH11	1.82	0.45
1:A:806:LEU:HD23	1:A:806:LEU:HA	1.67	0.45
1:B:357:ARG:CZ	1:C:230:PRO:HG3	2.46	0.45
1:B:357:ARG:NH1	1:C:230:PRO:HG3	2.31	0.45
1:B:433:VAL:HG23	1:B:512:VAL:HG22	1.99	0.45
1:C:189:LEU:HD23	1:C:191:GLU:H	1.81	0.45
1:C:506:GLN:HB2	1:C:508:TYR:HE1	1.81	0.45
1:A:137:ASN:OD1	1:A:138:ASP:N	2.49	0.45
1:A:743:CYS:HB3	1:A:749:CYS:HB3	1.73	0.45
1:A:896:ILE:HG13	1:A:897:PRO:HD2	1.99	0.45
1:A:914:ASN:OD1	1:A:915:VAL:N	2.49	0.45
1:C:94:SER:OG	1:C:95:THR:N	2.50	0.45
1:C:906:PHE:O	1:C:908:GLY:N	2.49	0.45
1:A:351:TYR:CE1	1:A:452:LEU:HB2	2.52	0.45
1:B:91:TYR:HB2	1:B:270:LEU:HD21	1.98	0.45
1:B:273:ARG:HD3	1:B:273:ARG:HA	1.75	0.45
1:B:392:PHE:CD1	1:B:515:PHE:HB3	2.52	0.45
1:B:402:ILE:HD11	1:B:407:VAL:HG12	1.98	0.45
1:B:673:SER:OG	1:B:674:TYR:N	2.50	0.45
1:C:197:ILE:HB	1:C:202:LYS:NZ	2.31	0.45
1:C:231:ILE:HG13	1:C:232:GLY:N	2.31	0.45
1:C:958:ALA:O	1:C:961:THR:OG1	2.31	0.45
1:A:34:ARG:NH1	1:A:189:LEU:HD11	2.32	0.45
1:B:214:ARG:NE	1:B:215:ASP:HB2	2.25	0.45
1:B:979:ASP:HB3	1:B:983:ARG:HE	1.81	0.45
1:C:271:GLN:HB2	1:C:272:PRO:HD2	1.98	0.45
1:B:403:ARG:HH21	1:B:495:TYR:HD1	1.64	0.44
1:B:949:GLN:HG3	1:B:953:ASN:HD21	1.83	0.44
1:B:979:ASP:HB3	1:B:983:ARG:NE	2.32	0.44
1:C:743:CYS:HB3	1:C:749:CYS:HB3	1.76	0.44
1:C:767:LEU:HD23	1:C:767:LEU:HA	1.75	0.44
1:A:53:ASP:HB3	1:A:55:PHE:CE2	2.52	0.44
1:A:419:ALA:HA	1:A:423:TYR:O	2.17	0.44
1:B:222:ALA:C	1:B:223:LEU:HD12	2.37	0.44
1:C:379:CYS:HB2	1:C:384:PRO:HD3	1.99	0.44
1:A:64:TRP:C	1:A:64:TRP:CD1	2.90	0.44
1:A:189:LEU:HB2	1:A:210:ILE:CG1	2.47	0.44
1:A:273:ARG:NH1	1:A:292:ALA:HB3	2.33	0.44
1:A:737:ASP:OD2	1:C:319:ARG:NH2	2.51	0.44
1:B:189:LEU:O	1:B:189:LEU:HD23	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:200:TYR:CE2	1:B:230:PRO:HB3	2.52	0.44
1:B:222:ALA:O	1:B:223:LEU:HD12	2.17	0.44
1:C:66:HIS:ND1	1:C:66:HIS:O	2.51	0.44
1:A:568:ASP:OD1	1:A:569:ILE:N	2.44	0.44
1:B:106:PHE:HZ	1:B:194:PHE:CE2	2.35	0.44
1:B:449:TYR:O	1:B:494:SER:OG	2.27	0.44
1:B:1089:PHE:N	1:B:1089:PHE:HD1	2.15	0.44
1:B:1129:VAL:CG2	1:C:917:TYR:HB3	2.48	0.44
1:C:341:VAL:HG22	1:C:356:LYS:HE3	1.99	0.44
1:C:949:GLN:HG3	1:C:953:ASN:HD21	1.81	0.44
1:A:212:LEU:HD22	1:A:217:PRO:HB3	1.99	0.44
1:A:411:ALA:N	1:A:425:LEU:HD12	2.33	0.44
1:B:191:GLU:HB3	1:B:223:LEU:HD21	1.99	0.44
1:B:707:TYR:HB3	1:C:792:PRO:HG3	1.99	0.44
1:C:979:ASP:HB3	1:C:983:ARG:NE	2.32	0.44
1:C:1009:THR:O	1:C:1013:ILE:HG13	2.17	0.44
1:C:121:ASN:OD1	1:C:121:ASN:N	2.51	0.44
1:A:92:PHE:CZ	1:A:240:THR:HB	2.52	0.44
1:A:277:LEU:H	1:A:277:LEU:HG	1.65	0.44
1:A:498:GLN:CD	1:A:499:PRO:HD2	2.38	0.44
1:A:768:THR:O	1:A:772:VAL:HG12	2.18	0.44
1:B:277:LEU:H	1:B:277:LEU:HG	1.49	0.44
1:B:877:LEU:HD23	1:B:877:LEU:HA	1.85	0.44
1:B:1090:PRO:HB3	1:B:1095:PHE:CE1	2.52	0.44
1:C:37:TYR:OH	1:C:195:LYS:NZ	2.26	0.44
1:C:1062:PHE:O	1:C:1063:LEU:HD23	2.17	0.44
1:A:383:SER:OG	1:B:983:ARG:O	2.27	0.44
1:B:168:PHE:CE2	1:B:170:TYR:HB2	2.53	0.44
1:B:379:CYS:HA	1:B:432:CYS:HB2	1.99	0.44
1:A:104:TRP:HB3	1:A:106:PHE:CE1	2.53	0.44
1:A:748:GLU:OE1	1:A:748:GLU:N	2.36	0.44
1:B:137:ASN:OD1	1:B:138:ASP:N	2.51	0.44
1:A:51:THR:O	1:A:274:THR:HG23	2.18	0.43
1:A:201:PHE:CE2	1:A:203:ILE:HG13	2.52	0.43
1:A:228:ASP:OD1	1:A:229:LEU:N	2.51	0.43
1:B:383:SER:HB3	1:C:985:ASP:H	1.82	0.43
1:C:277:LEU:HD12	1:C:277:LEU:O	2.18	0.43
1:C:756:TYR:N	1:C:756:TYR:CD1	2.86	0.43
1:A:526:GLY:O	1:A:528:LYS:N	2.50	0.43
1:A:913:GLN:NE2	1:C:1090:PRO:HD2	2.34	0.43
1:C:45:SER:O	1:C:47:VAL:HG13	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:384:PRO:HA	1:C:387:LEU:HG	2.00	0.43
1:A:443:SER:OG	1:A:497:PHE:HB3	2.18	0.43
1:B:350:VAL:HG12	1:B:402:ILE:HG22	2.00	0.43
1:B:383:SER:N	1:C:983:ARG:O	2.30	0.43
1:B:770:ILE:O	1:B:774:GLN:HG2	2.18	0.43
1:B:103:GLY:CA	1:B:241:LEU:HB3	2.41	0.43
1:B:229:LEU:HB3	1:B:231:ILE:HG12	2.00	0.43
1:B:405:ASP:OD1	1:B:406:GLU:HG3	2.18	0.43
1:B:800:PHE:H	1:B:800:PHE:HD1	1.64	0.43
1:B:1003:SER:O	1:B:1006:THR:OG1	2.33	0.43
1:C:105:ILE:HD12	1:C:139:PRO:HB3	2.01	0.43
1:C:806:LEU:HA	1:C:806:LEU:HD23	1.62	0.43
1:A:420:ASP:C	1:A:424:LYS:HD2	2.39	0.43
1:B:332:ILE:HG12	1:B:334:ASN:H	1.82	0.43
1:B:568:ASP:CG	1:B:569:ILE:H	2.21	0.43
1:B:737:ASP:OD1	1:B:737:ASP:N	2.51	0.43
1:C:202:LYS:HB3	1:C:204:TYR:CE1	2.53	0.43
1:C:900:MET:HA	1:C:917:TYR:OH	2.18	0.43
1:A:323:THR:HG22	1:A:324:GLU:HG2	2.01	0.43
1:A:541:PHE:CZ	1:A:587:ILE:HD13	2.53	0.43
1:A:741:TYR:CZ	1:A:966:LEU:HD21	2.54	0.43
1:A:1089:PHE:HB3	1:A:1090:PRO:HD2	2.00	0.43
1:A:1090:PRO:HD2	1:B:913:GLN:NE2	2.34	0.43
1:B:62:VAL:HG13	1:B:267:VAL:C	2.38	0.43
1:B:189:LEU:HB3	1:B:208:THR:HG23	2.00	0.43
1:B:914:ASN:OD1	1:B:915:VAL:N	2.51	0.43
1:C:90:VAL:HG11	1:C:238:PHE:CZ	2.53	0.43
1:C:365:TYR:HH	1:C:392:PHE:HZ	1.66	0.43
1:A:107:GLY:N	1:A:235:ILE:HG23	2.33	0.43
1:A:401:VAL:HG22	1:A:509:ARG:HG2	1.99	0.43
1:B:555:SER:OG	1:B:584:ILE:HG22	2.18	0.43
1:B:576:VAL:HG12	1:B:577:ARG:H	1.83	0.43
1:C:215:ASP:HA	1:C:266:TYR:OH	2.18	0.43
1:A:89:GLY:O	1:A:270:LEU:HD12	2.19	0.43
1:A:110:LEU:HD22	1:A:237:ARG:HH12	1.84	0.43
1:A:429:PHE:HE1	1:A:514:SER:HA	1.82	0.43
1:B:64:TRP:CD1	1:B:64:TRP:C	2.91	0.43
1:B:607:GLN:O	1:B:692:ILE:HD11	2.19	0.43
1:C:106:PHE:CD1	1:C:238:PHE:HB2	2.53	0.43
1:C:526:GLY:O	1:C:528:LYS:N	2.50	0.43
1:A:81:ASN:OD1	1:A:81:ASN:N	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:326:ILE:HG13	1:A:534:VAL:HG22	2.01	0.43
1:A:403:ARG:HH21	1:A:495:TYR:HD1	1.65	0.43
1:B:393:THR:HG22	1:B:516:GLU:O	2.19	0.43
1:C:354:ASN:ND2	1:C:399:SER:OG	2.32	0.43
1:C:870:ILE:H	1:C:870:ILE:HG12	1.67	0.43
1:A:204:TYR:N	1:A:204:TYR:HD1	2.16	0.43
1:A:776:LYS:O	1:A:780:GLU:HG3	2.19	0.43
1:A:903:ALA:HB1	1:A:913:GLN:HB2	2.00	0.43
1:C:64:TRP:HD1	1:C:266:TYR:CE1	2.37	0.43
1:C:105:ILE:HG22	1:C:110:LEU:HG	2.01	0.43
1:C:291:CYS:HB3	1:C:301:CYS:HB2	1.40	0.43
1:C:426:PRO:HB2	1:C:429:PHE:HB2	2.00	0.43
1:C:777:ASN:O	1:C:781:VAL:HG23	2.19	0.43
1:A:107:GLY:O	1:A:236:THR:N	2.47	0.42
1:A:551:VAL:HG22	1:A:588:THR:O	2.19	0.42
1:A:1031:GLU:OE2	1:C:1039:ARG:HB3	2.19	0.42
1:B:576:VAL:HG12	1:B:577:ARG:N	2.34	0.42
1:B:756:TYR:CD1	1:B:756:TYR:N	2.87	0.42
1:B:756:TYR:HB3	1:B:759:PHE:HD2	1.84	0.42
1:A:103:GLY:N	1:A:241:LEU:O	2.51	0.42
1:A:104:TRP:CD1	1:A:194:PHE:HE2	2.37	0.42
1:A:290:ASP:OD1	1:A:291:CYS:N	2.52	0.42
1:B:870:ILE:H	1:B:870:ILE:HG12	1.70	0.42
1:C:878:LEU:HD12	1:C:882:ILE:HD11	2.00	0.42
1:C:1047:TYR:O	1:C:1066:THR:OG1	2.21	0.42
1:A:86:PHE:HA	1:A:90:VAL:HG23	2.01	0.42
1:A:87:ASN:OD1	1:A:87:ASN:N	2.51	0.42
1:A:332:ILE:HG12	1:A:334:ASN:H	1.85	0.42
1:A:718:PHE:HA	1:A:1069:PRO:HA	2.02	0.42
1:A:917:TYR:CE2	1:C:1079:PRO:HB2	2.54	0.42
1:B:112:SER:HB2	1:B:133:PHE:C	2.39	0.42
1:B:418:ILE:HD11	1:B:495:TYR:OH	2.19	0.42
1:B:1107:ARG:HD3	1:C:904:TYR:CE2	2.55	0.42
1:C:186:PHE:HB2	1:C:213:VAL:HA	2.01	0.42
1:A:28:TYR:HD2	1:A:61:ASN:HB3	1.84	0.42
1:A:63:THR:O	1:A:63:THR:OG1	2.35	0.42
1:A:86:PHE:HE2	1:A:196:ASN:HD21	1.66	0.42
1:A:104:TRP:HD1	1:A:106:PHE:CZ	2.37	0.42
1:A:386:LYS:NZ	1:B:982:SER:HA	2.35	0.42
1:B:767:LEU:HD23	1:B:767:LEU:HA	1.85	0.42
1:B:977:LEU:HG	1:B:981:LEU:HD12	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:92:PHE:CZ	1:C:240:THR:HB	2.54	0.42
1:C:222:ALA:C	1:C:223:LEU:HD12	2.40	0.42
1:C:264:ALA:HB1	1:C:266:TYR:CE1	2.54	0.42
1:A:106:PHE:CD1	1:A:106:PHE:N	2.87	0.42
1:A:547:THR:HG22	1:A:548:GLY:N	2.35	0.42
1:A:1043:CYS:HB3	1:A:1048:HIS:HD2	1.83	0.42
1:C:113:LYS:HA	1:C:113:LYS:HD2	1.83	0.42
1:B:277:LEU:HD12	1:B:277:LEU:O	2.20	0.42
1:B:805:ILE:HB	1:B:1054:GLN:HE22	1.83	0.42
1:B:1029:MET:HA	1:B:1033:VAL:HG23	2.02	0.42
1:C:91:TYR:HE2	1:C:93:ALA:HB2	1.84	0.42
1:C:334:ASN:O	1:C:362:VAL:HG22	2.19	0.42
1:C:415:THR:HG1	1:C:420:ASP:CG	2.20	0.42
1:A:1093:GLY:H	1:A:1107:ARG:HH21	1.65	0.42
1:B:92:PHE:HE1	1:B:238:PHE:HE2	1.67	0.42
1:C:616:ASN:OD1	1:C:617:CYS:N	2.52	0.42
1:A:112:SER:HB2	1:A:133:PHE:C	2.39	0.42
1:A:225:PRO:O	1:A:226:LEU:HD22	2.19	0.42
1:A:334:ASN:HB3	1:A:361:CYS:HA	2.02	0.42
1:A:916:LEU:HD12	1:A:923:ILE:HD12	2.01	0.42
1:A:957:GLN:O	1:A:961:THR:HG22	2.20	0.42
1:A:985:ASP:H	1:C:383:SER:HB3	1.85	0.42
1:B:102:ARG:HD2	1:B:243:ALA:HB2	2.02	0.42
1:B:403:ARG:HD3	1:B:505:TYR:HA	2.01	0.42
1:B:512:VAL:O	1:B:513:LEU:HD23	2.19	0.42
1:C:62:VAL:HG13	1:C:267:VAL:C	2.41	0.42
1:C:90:VAL:HG11	1:C:238:PHE:CE1	2.54	0.42
1:C:578:ASP:HB3	1:C:581:THR:O	2.19	0.42
1:C:979:ASP:O	1:C:982:SER:N	2.51	0.42
1:A:890:ALA:HA	1:C:1046:GLY:HA2	2.01	0.42
1:A:1060:VAL:HG22	1:A:1061:VAL:H	1.83	0.42
1:A:1062:PHE:O	1:A:1063:LEU:HD23	2.20	0.42
1:B:86:PHE:HB2	1:B:238:PHE:HD1	1.85	0.42
1:B:987:PRO:HB2	1:B:988:GLU:OE1	2.19	0.42
1:C:143:VAL:HG11	1:C:245:HIS:CE1	2.54	0.42
1:A:319:ARG:HH12	1:B:740:MET:HB2	1.85	0.42
1:A:506:GLN:HB2	1:A:508:TYR:HE1	1.84	0.42
1:A:560:LEU:O	1:A:562:PHE:N	2.53	0.42
1:A:1094:VAL:HG12	1:B:904:TYR:OH	2.18	0.42
1:B:537:LYS:O	1:B:539:VAL:HG13	2.20	0.42
1:B:800:PHE:CD1	1:B:800:PHE:N	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:960:ASN:HA	1:B:963:VAL:HG12	2.00	0.42
1:C:204:TYR:N	1:C:204:TYR:HD1	2.17	0.42
1:C:266:TYR:CD1	1:C:266:TYR:N	2.85	0.42
1:C:273:ARG:NH1	1:C:292:ALA:HB3	2.34	0.42
1:C:584:ILE:HD13	1:C:584:ILE:HA	1.83	0.42
1:C:614:ASP:N	1:C:614:ASP:OD1	2.52	0.42
1:A:323:THR:HG21	1:A:537:LYS:HD2	2.02	0.41
1:A:350:VAL:O	1:A:353:TRP:HD1	2.03	0.41
1:A:430:THR:O	1:A:430:THR:OG1	2.37	0.41
1:A:725:GLU:CD	1:A:1028:LYS:HZ1	2.22	0.41
1:A:979:ASP:O	1:A:983:ARG:N	2.53	0.41
1:C:332:ILE:HG13	1:C:334:ASN:HD22	1.85	0.41
1:C:873:TYR:HD1	1:C:873:TYR:HA	1.73	0.41
1:B:437:ASN:HD22	1:B:439:ASN:H	1.68	0.41
1:B:598:ILE:HB	1:B:609:ALA:HB3	2.02	0.41
1:C:191:GLU:OE1	1:C:223:LEU:HD11	2.19	0.41
1:C:350:VAL:HG12	1:C:402:ILE:HG22	2.01	0.41
1:A:37:TYR:OH	1:A:54:LEU:O	2.26	0.41
1:A:101:ILE:HG12	1:A:242:LEU:HD11	2.02	0.41
1:A:403:ARG:HH22	1:A:496:GLY:H	1.68	0.41
1:A:913:GLN:HE21	1:C:1090:PRO:HD2	1.84	0.41
1:A:949:GLN:O	1:A:953:ASN:ND2	2.44	0.41
1:B:425:LEU:HD23	1:B:425:LEU:HA	1.84	0.41
1:B:462:LYS:HE3	1:B:465:GLU:OE1	2.20	0.41
1:C:336:CYS:O	1:C:338:PHE:N	2.53	0.41
1:C:541:PHE:HB3	1:C:552:LEU:HD11	2.02	0.41
1:C:1097:SER:HB2	1:C:1102:TRP:HA	2.01	0.41
1:A:143:VAL:HG11	1:A:245:HIS:CD2	2.55	0.41
1:C:427:ASP:OD1	1:C:428:ASP:N	2.52	0.41
1:C:443:SER:OG	1:C:497:PHE:HB3	2.20	0.41
1:A:796:ASP:OD1	1:A:796:ASP:N	2.52	0.41
1:A:802:PHE:CD2	1:A:805:ILE:HD11	2.44	0.41
1:A:805:ILE:HB	1:A:1054:GLN:NE2	2.35	0.41
1:B:804:GLN:O	1:B:816:SER:OG	2.39	0.41
1:B:949:GLN:HG3	1:B:953:ASN:ND2	2.35	0.41
1:A:1049:LEU:HD23	1:A:1049:LEU:HA	1.77	0.41
1:B:104:TRP:HB3	1:B:106:PHE:CE1	2.30	0.41
1:C:462:LYS:HE3	1:C:465:GLU:OE2	2.20	0.41
1:A:543:PHE:CD1	1:A:576:VAL:HG11	2.56	0.41
1:B:131:CYS:HA	1:B:166:CYS:CB	2.49	0.41
1:B:328:ARG:HH11	1:B:533:LEU:HB2	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:906:PHE:O	1:B:908:GLY:N	2.52	0.41
1:C:434:ILE:N	1:C:511:VAL:O	2.28	0.41
1:B:81:ASN:ND2	1:B:139:PRO:O	2.53	0.41
1:B:716:THR:N	1:B:1071:GLN:O	2.45	0.41
1:B:1018:ILE:O	1:B:1021:SER:OG	2.32	0.41
1:C:399:SER:HB3	1:C:511:VAL:HG12	2.03	0.41
1:C:717:ASN:O	1:C:1070:ALA:N	2.52	0.41
1:A:987:PRO:HB2	1:A:988:GLU:OE1	2.21	0.41
1:A:1116:THR:HB	1:A:1140:PRO:HG3	2.02	0.41
1:B:28:TYR:HD2	1:B:61:ASN:HB3	1.86	0.41
1:B:117:LEU:HD23	1:B:118:LEU:H	1.86	0.41
1:B:266:TYR:N	1:B:266:TYR:CD1	2.89	0.41
1:B:386:LYS:NZ	1:C:982:SER:HA	2.36	0.41
1:B:443:SER:OG	1:B:497:PHE:HB3	2.21	0.41
1:B:733:LYS:HE3	1:B:771:ALA:HB1	2.03	0.41
1:B:811:LYS:NZ	1:B:820:ASP:OD2	2.51	0.41
1:B:1050:MET:O	1:B:1051:SER:OG	2.35	0.41
1:C:242:LEU:HB3	1:C:244:LEU:HD22	2.03	0.41
1:C:328:ARG:HH11	1:C:533:LEU:HB2	1.86	0.41
1:C:763:LEU:HA	1:C:763:LEU:HD23	1.75	0.41
1:C:996:LEU:HA	1:C:996:LEU:HD23	1.78	0.41
1:C:1105:THR:HG23	1:C:1106:GLN:O	2.21	0.41
1:B:377:PHE:C	1:B:378:LYS:HD2	2.41	0.41
1:B:754:LEU:HD23	1:B:754:LEU:HA	1.84	0.41
1:C:104:TRP:HB2	1:C:119:ILE:HB	2.03	0.41
1:C:106:PHE:CD1	1:C:106:PHE:N	2.88	0.41
1:C:363:ALA:O	1:C:527:PRO:HD3	2.21	0.41
1:C:1086:LYS:HD2	1:C:1122:VAL:HG11	2.02	0.41
1:A:302:THR:HG23	1:A:303:LEU:HD23	2.03	0.40
1:A:309:GLU:O	1:A:313:TYR:OH	2.29	0.40
1:A:767:LEU:HD23	1:A:767:LEU:HA	1.87	0.40
1:A:1092:GLU:OE1	1:A:1092:GLU:N	2.54	0.40
1:B:331:ASN:HD22	1:B:580:GLN:HG2	1.86	0.40
1:B:900:MET:HA	1:B:917:TYR:OH	2.21	0.40
1:B:922:LEU:CD2	1:B:926:GLN:HE21	2.34	0.40
1:B:1038:LYS:HE2	1:B:1038:LYS:HB3	1.79	0.40
1:C:189:LEU:HB2	1:C:210:ILE:CG1	2.51	0.40
1:C:916:LEU:HD12	1:C:923:ILE:HD13	2.03	0.40
1:C:1082:CYS:HB2	1:C:1126:CYS:HB2	2.03	0.40
1:A:359:SER:OG	1:A:360:ASN:ND2	2.55	0.40
1:C:393:THR:HG21	1:C:518:LEU:HB2	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:425:LEU:HD23	1:A:425:LEU:HA	1.83	0.40
1:C:978:ASN:HA	1:C:981:LEU:HB2	2.03	0.40
1:C:377:PHE:H	1:C:378:LYS:NZ	2.16	0.40
1:C:402:ILE:HD11	1:C:407:VAL:HG12	2.03	0.40
1:C:987:PRO:HB2	1:C:988:GLU:OE1	2.20	0.40
1:A:748:GLU:H	1:A:748:GLU:CD	2.21	0.40
1:B:327:VAL:HG21	1:B:528:LYS:NZ	2.37	0.40
1:B:393:THR:HG21	1:B:518:LEU:HD12	2.03	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	954/1247 (76%)	849 (89%)	105 (11%)	0	100	100
1	B	951/1247 (76%)	845 (89%)	106 (11%)	0	100	100
1	C	951/1247 (76%)	834 (88%)	117 (12%)	0	100	100
All	All	2856/3741 (76%)	2528 (88%)	328 (12%)	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	855/1085 (79%)	849 (99%)	6 (1%)	81	88
1	B	855/1085 (79%)	850 (99%)	5 (1%)	84	90
1	C	855/1085 (79%)	845 (99%)	10 (1%)	67	80
All	All	2565/3255 (79%)	2544 (99%)	21 (1%)	77	87

All (21) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	408	ARG
1	A	462	LYS
1	A	738	CYS
1	A	800	PHE
1	A	873	TYR
1	A	1089	PHE
1	B	277	LEU
1	B	408	ARG
1	B	462	LYS
1	B	873	TYR
1	B	1089	PHE
1	C	277	LEU
1	C	392	PHE
1	C	408	ARG
1	C	432	CYS
1	C	462	LYS
1	C	529	LYS
1	C	738	CYS
1	C	800	PHE
1	C	873	TYR
1	C	1107	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (43) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	331	ASN
1	A	354	ASN
1	A	360	ASN
1	A	388	ASN
1	A	394	ASN
1	A	501	ASN
1	A	655	HIS
1	A	658	ASN

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Mol	Chain	Res	Type
1	A	675	GLN
1	A	690	GLN
1	A	926	GLN
1	A	928	ASN
1	A	949	GLN
1	A	955	ASN
1	A	965	GLN
1	A	1005	GLN
1	A	1011	GLN
1	A	1088	HIS
1	A	1142	GLN
1	B	196	ASN
1	B	331	ASN
1	B	388	ASN
1	B	437	ASN
1	B	439	ASN
1	B	448	ASN
1	B	501	ASN
1	B	655	HIS
1	B	658	ASN
1	B	675	GLN
1	B	690	GLN
1	B	919	ASN
1	B	926	GLN
1	B	953	ASN
1	B	955	ASN
1	B	965	GLN
1	B	1088	HIS
1	C	334	ASN
1	C	394	ASN
1	C	439	ASN
1	C	448	ASN
1	C	644	GLN
1	C	655	HIS
1	C	690	GLN

5.3.3 RNA

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](#)

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.

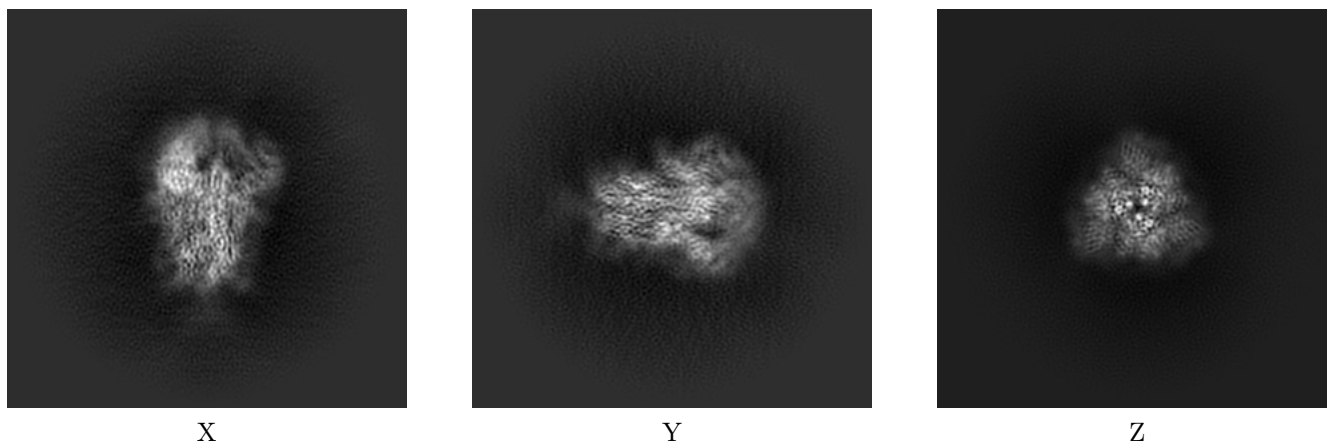
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-31511. These allow visual inspection of the internal detail of the map and identification of artifacts.

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

6.1 Orthogonal projections [i](#)

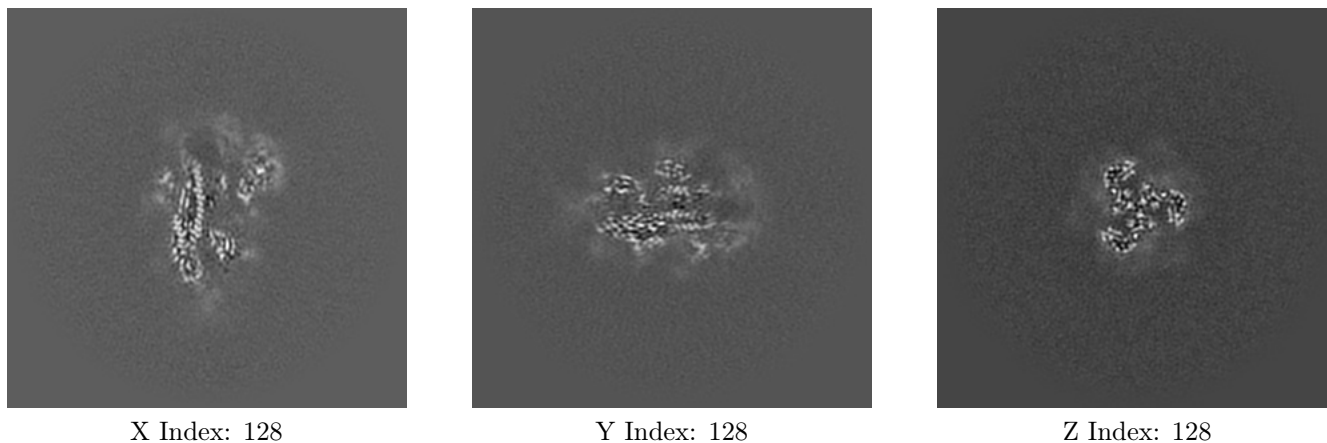
6.1.1 Primary map



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

6.2 Central slices [i](#)

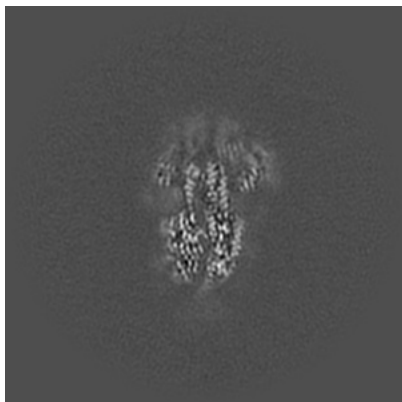
6.2.1 Primary map



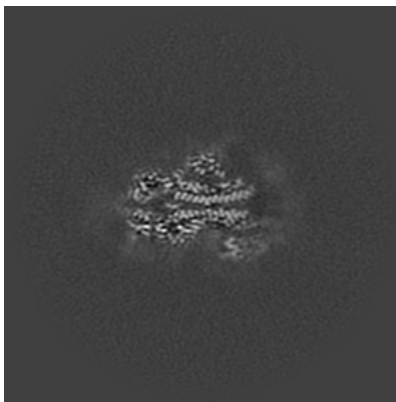
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

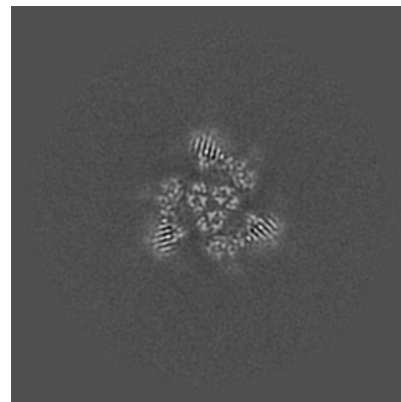
6.3.1 Primary map



X Index: 134



Y Index: 131

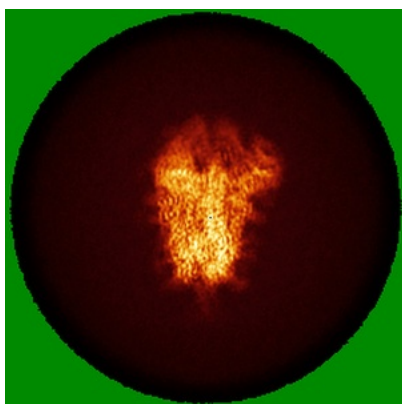


Z Index: 150

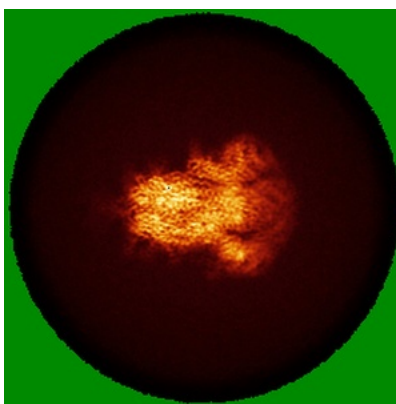
The images above show the largest variance slices of the map in three orthogonal directions.

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

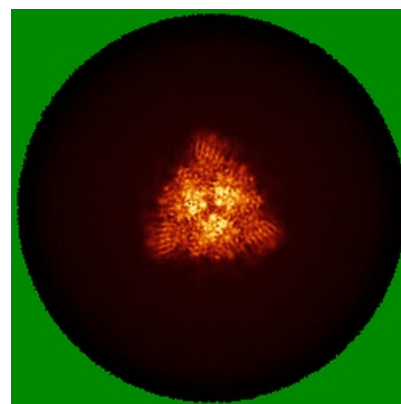
6.4.1 Primary map



X



Y



Z

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



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.3. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

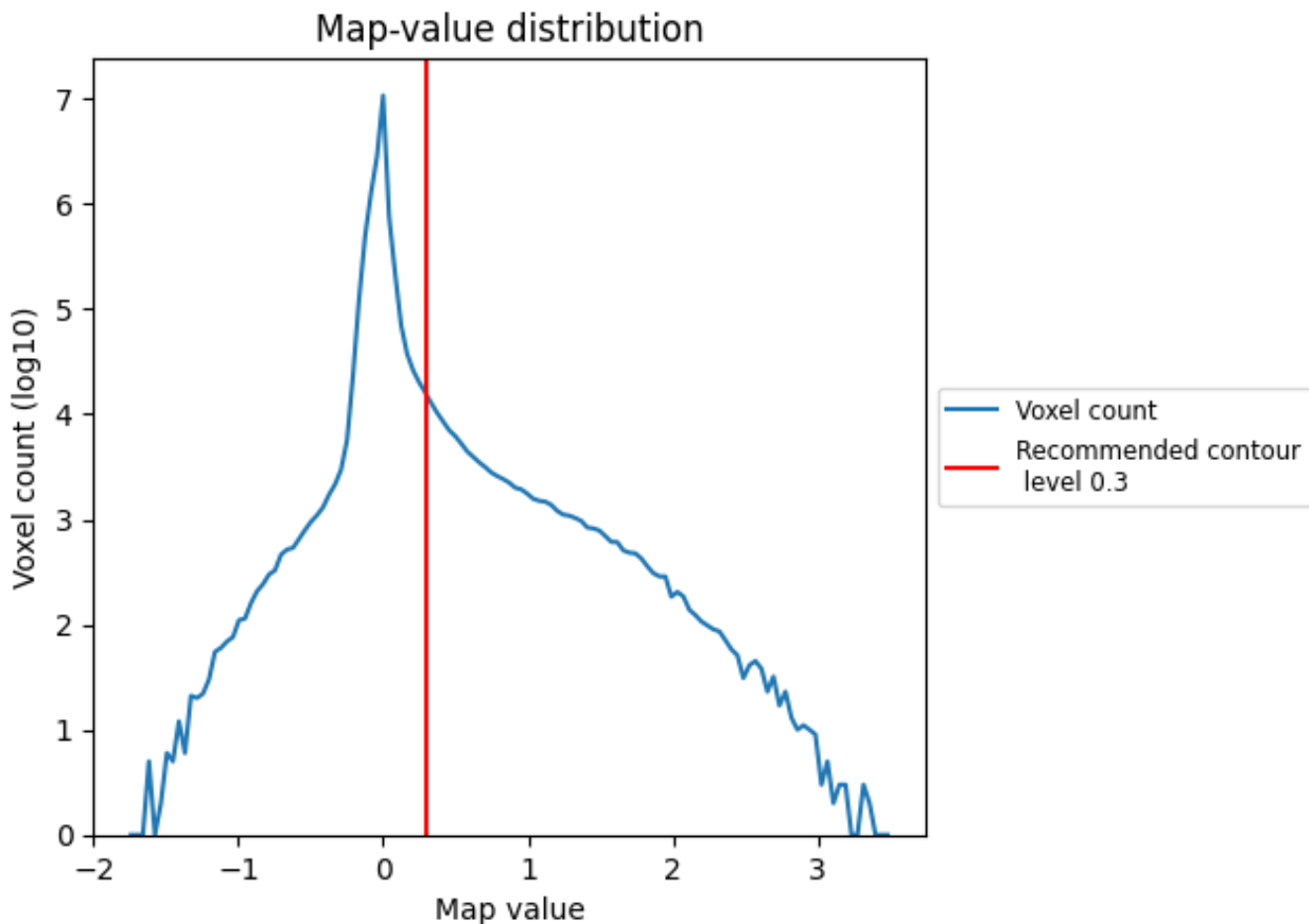
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

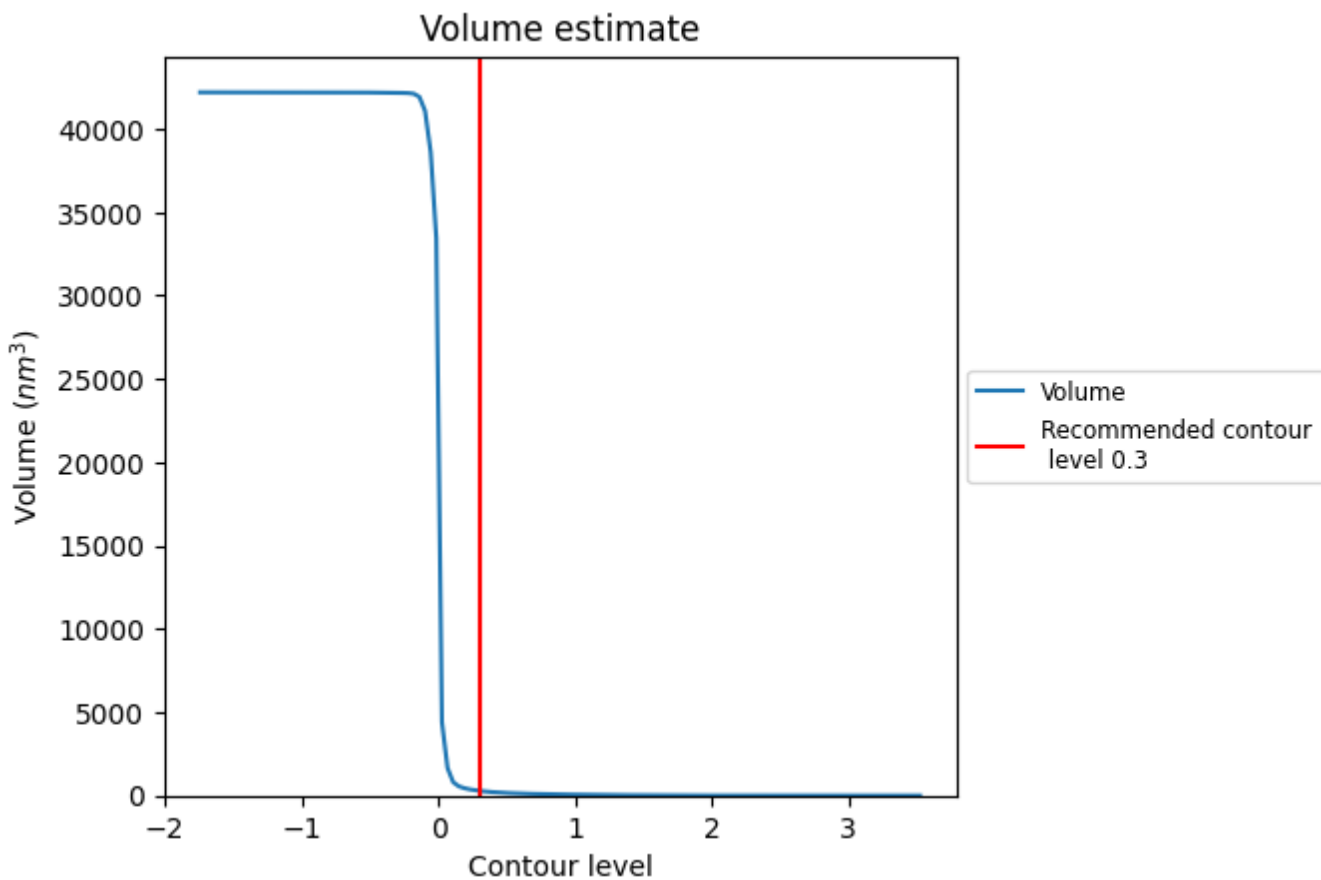
This section contains the results of statistical analysis of the map.

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.

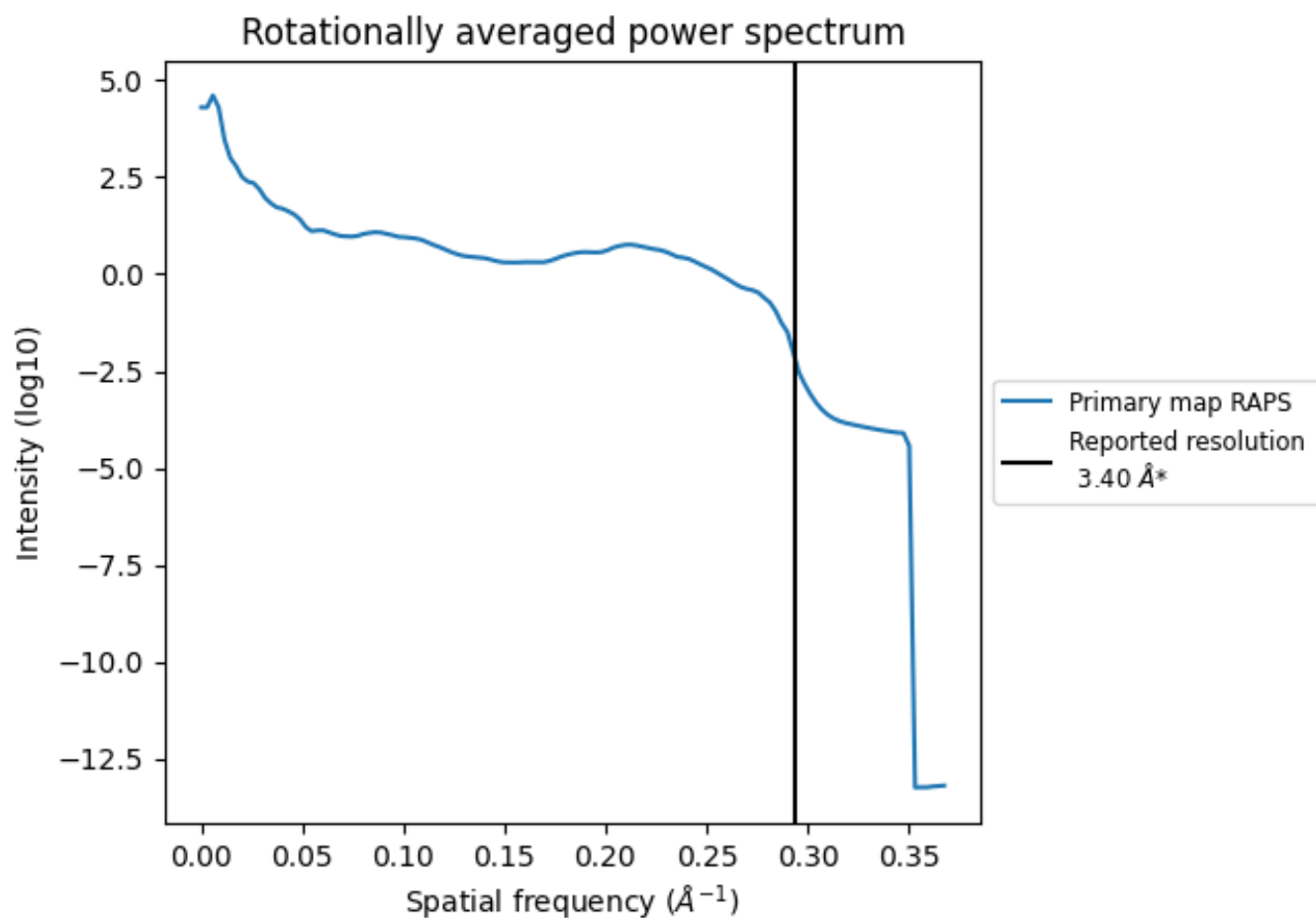
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 285 nm³; this corresponds to an approximate mass of 258 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](#)

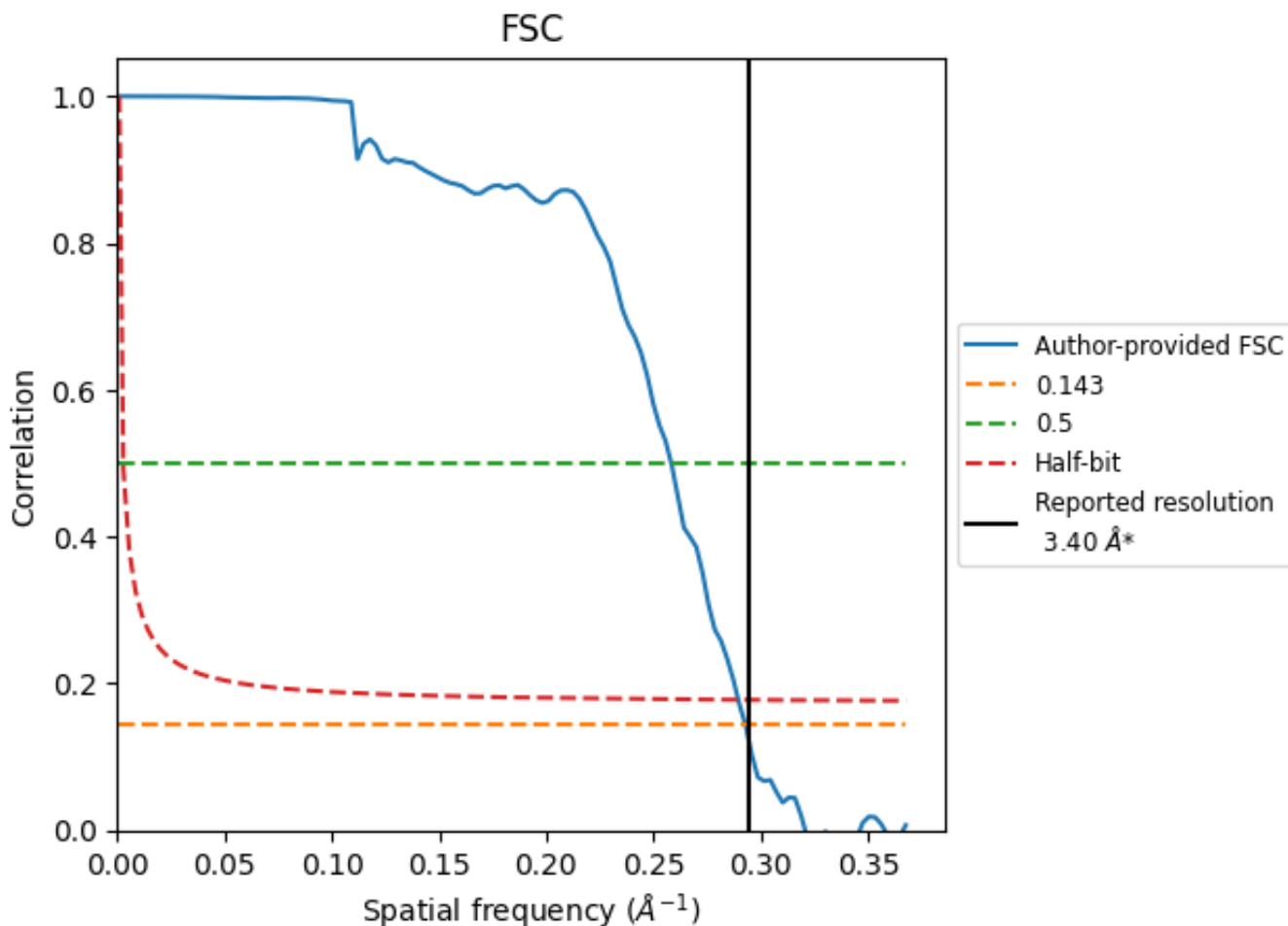


*Reported resolution corresponds to spatial frequency of 0.294 \AA^{-1}

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 0.294 Å⁻¹

8.2 Resolution estimates [i](#)

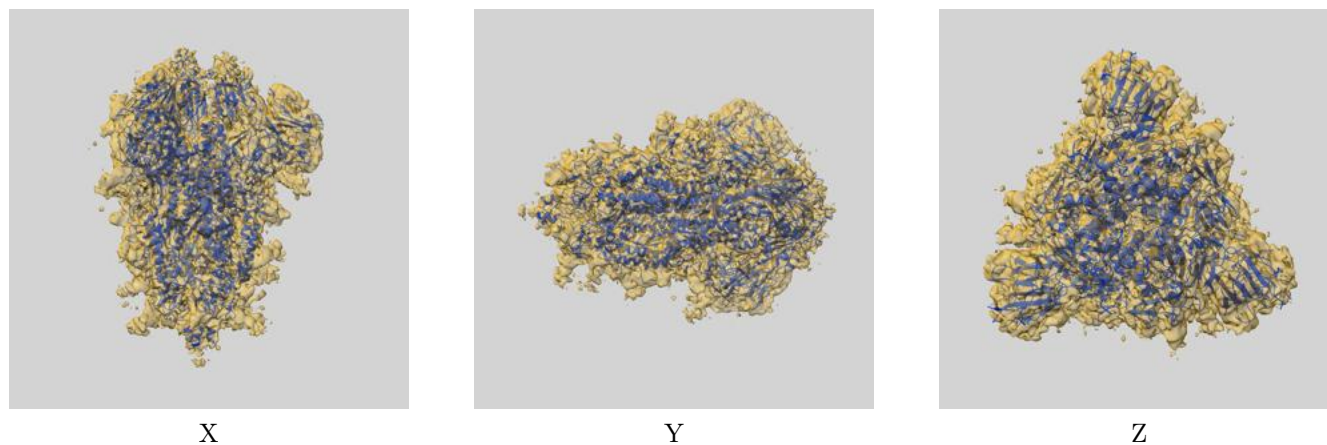
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.40	-	-
Author-provided FSC curve	3.41	3.87	3.45
Unmasked-calculated*	-	-	-

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

9 Map-model fit [i](#)

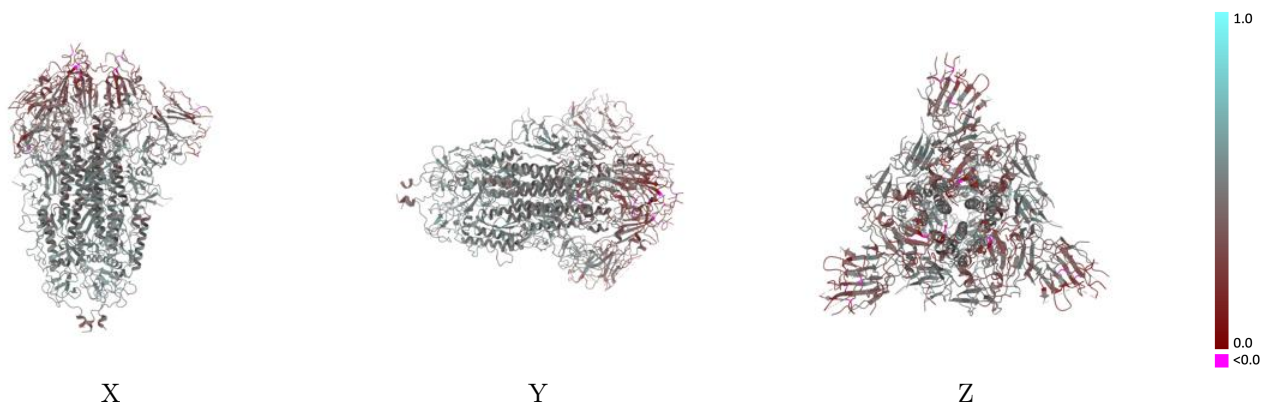
This section contains information regarding the fit between EMDB map EMD-31511 and PDB model 7FB0. Per-residue inclusion information can be found in section 3 on page 7.

9.1 Map-model overlay [i](#)



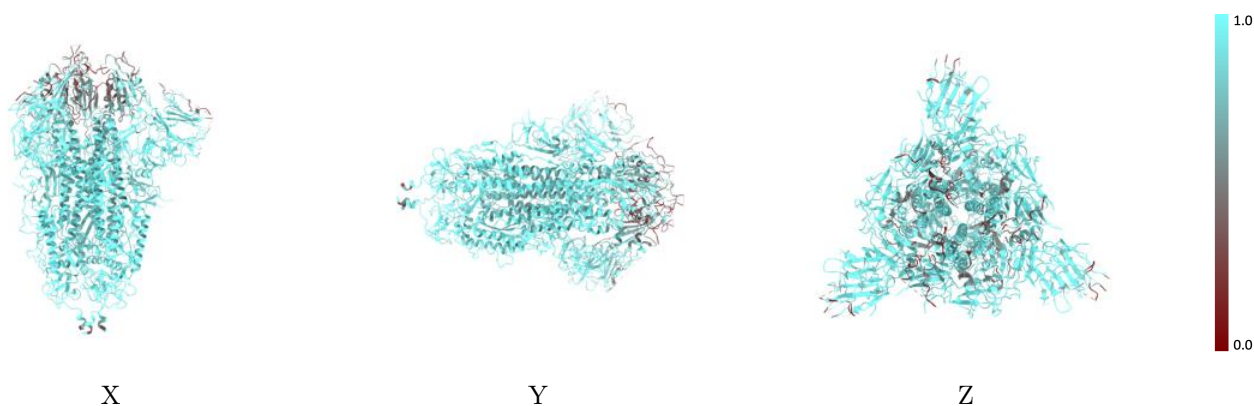
The images above show the 3D surface view of the map at the recommended contour level 0.3 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



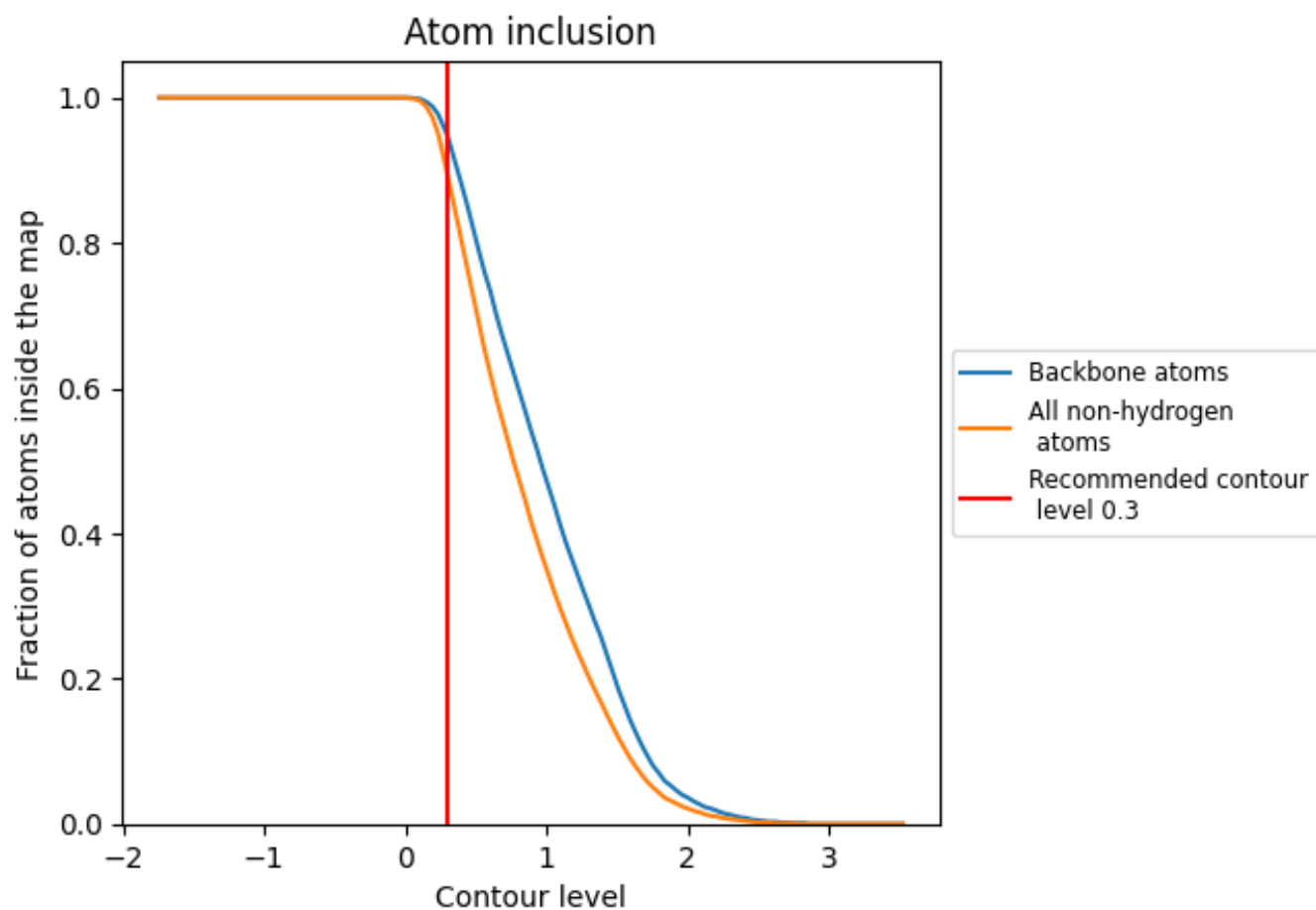
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.3).




9.4 Atom inclusion [i](#)



At the recommended contour level, 95% of all backbone atoms, 89% 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 (0.3) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8930	 0.4360
A	 0.8930	 0.4350
B	 0.8930	 0.4360
C	 0.8950	 0.4360

