



Full wwPDB EM Validation Report ⓘ

Oct 6, 2024 – 05:56 AM EDT

PDB ID : 7M7J
EMDB ID : EMD-23715
Title : 6-Deoxyerythronolide B synthase (DEBS) module 1 in complex with antibody fragment 1B2: "turnstile closed" state (TE-free)
Authors : Cogan, D.P.; Zhang, K.; Chiu, W.; Khosla, C.
Deposited on : 2021-03-28
Resolution : 4.30 Å(reported)

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

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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

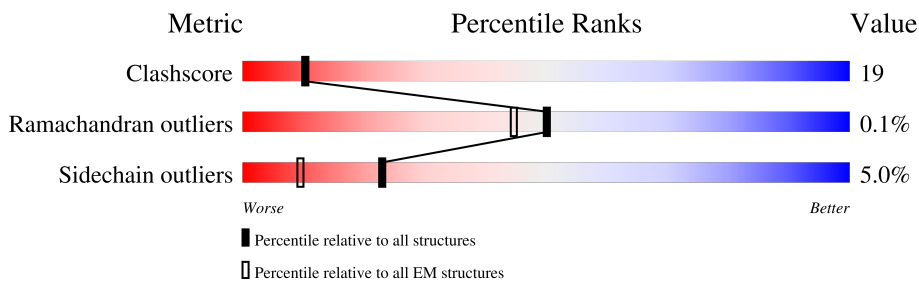
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 4.30 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	1593	
1	B	1593	
2	C	249	
2	E	249	
3	D	236	
3	F	236	

2 Entry composition i

There are 3 unique types of molecules in this entry. The entry contains 23224 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 EryAI.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	B	912	6741	4190	1233	1291	27	0	0
1	A	1390	10277	6381	1890	1971	35	0	0

There are 102 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	1	MET	-	expression tag	UNP Q5UNP6
B	2	ALA	-	expression tag	UNP Q5UNP6
B	3	SER	-	expression tag	UNP Q5UNP6
B	4	THR	-	expression tag	UNP Q5UNP6
B	5	ASP	-	expression tag	UNP Q5UNP6
B	6	SER	-	expression tag	UNP Q5UNP6
B	7	GLU	-	expression tag	UNP Q5UNP6
B	8	LYS	-	expression tag	UNP Q5UNP6
B	9	VAL	-	expression tag	UNP Q5UNP6
B	10	ALA	-	expression tag	UNP Q5UNP6
B	11	GLU	-	expression tag	UNP Q5UNP6
B	12	TYR	-	expression tag	UNP Q5UNP6
B	13	LEU	-	expression tag	UNP Q5UNP6
B	14	ARG	-	expression tag	UNP Q5UNP6
B	15	ARG	-	expression tag	UNP Q5UNP6
B	16	ALA	-	expression tag	UNP Q5UNP6
B	17	THR	-	expression tag	UNP Q5UNP6
B	18	LEU	-	expression tag	UNP Q5UNP6
B	19	ASP	-	expression tag	UNP Q5UNP6
B	20	LEU	-	expression tag	UNP Q5UNP6
B	21	ARG	-	expression tag	UNP Q5UNP6
B	22	ALA	-	expression tag	UNP Q5UNP6
B	23	ALA	-	expression tag	UNP Q5UNP6
B	24	ARG	-	expression tag	UNP Q5UNP6
B	25	GLN	-	expression tag	UNP Q5UNP6
B	26	ARG	-	expression tag	UNP Q5UNP6

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Chain	Residue	Modelled	Actual	Comment	Reference
B	27	ILE	-	expression tag	UNP Q5UNP6
B	28	ARG	-	expression tag	UNP Q5UNP6
B	29	GLU	-	expression tag	UNP Q5UNP6
B	30	LEU	-	expression tag	UNP Q5UNP6
B	31	GLU	-	expression tag	UNP Q5UNP6
B	1574	PRO	-	expression tag	UNP Q5UNP6
B	1575	ASN	-	expression tag	UNP Q5UNP6
B	1576	SER	-	expression tag	UNP Q5UNP6
B	1577	SER	-	expression tag	UNP Q5UNP6
B	1578	SER	-	expression tag	UNP Q5UNP6
B	1579	VAL	-	expression tag	UNP Q5UNP6
B	1580	ASP	-	expression tag	UNP Q5UNP6
B	1581	LYS	-	expression tag	UNP Q5UNP6
B	1582	LEU	-	expression tag	UNP Q5UNP6
B	1583	ALA	-	expression tag	UNP Q5UNP6
B	1584	ALA	-	expression tag	UNP Q5UNP6
B	1585	ALA	-	expression tag	UNP Q5UNP6
B	1586	LEU	-	expression tag	UNP Q5UNP6
B	1587	GLU	-	expression tag	UNP Q5UNP6
B	1588	HIS	-	expression tag	UNP Q5UNP6
B	1589	HIS	-	expression tag	UNP Q5UNP6
B	1590	HIS	-	expression tag	UNP Q5UNP6
B	1591	HIS	-	expression tag	UNP Q5UNP6
B	1592	HIS	-	expression tag	UNP Q5UNP6
B	1593	HIS	-	expression tag	UNP Q5UNP6
A	1	MET	-	expression tag	UNP Q5UNP6
A	2	ALA	-	expression tag	UNP Q5UNP6
A	3	SER	-	expression tag	UNP Q5UNP6
A	4	THR	-	expression tag	UNP Q5UNP6
A	5	ASP	-	expression tag	UNP Q5UNP6
A	6	SER	-	expression tag	UNP Q5UNP6
A	7	GLU	-	expression tag	UNP Q5UNP6
A	8	LYS	-	expression tag	UNP Q5UNP6
A	9	VAL	-	expression tag	UNP Q5UNP6
A	10	ALA	-	expression tag	UNP Q5UNP6
A	11	GLU	-	expression tag	UNP Q5UNP6
A	12	TYR	-	expression tag	UNP Q5UNP6
A	13	LEU	-	expression tag	UNP Q5UNP6
A	14	ARG	-	expression tag	UNP Q5UNP6
A	15	ARG	-	expression tag	UNP Q5UNP6
A	16	ALA	-	expression tag	UNP Q5UNP6
A	17	THR	-	expression tag	UNP Q5UNP6

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Chain	Residue	Modelled	Actual	Comment	Reference
A	18	LEU	-	expression tag	UNP Q5UNP6
A	19	ASP	-	expression tag	UNP Q5UNP6
A	20	LEU	-	expression tag	UNP Q5UNP6
A	21	ARG	-	expression tag	UNP Q5UNP6
A	22	ALA	-	expression tag	UNP Q5UNP6
A	23	ALA	-	expression tag	UNP Q5UNP6
A	24	ARG	-	expression tag	UNP Q5UNP6
A	25	GLN	-	expression tag	UNP Q5UNP6
A	26	ARG	-	expression tag	UNP Q5UNP6
A	27	ILE	-	expression tag	UNP Q5UNP6
A	28	ARG	-	expression tag	UNP Q5UNP6
A	29	GLU	-	expression tag	UNP Q5UNP6
A	30	LEU	-	expression tag	UNP Q5UNP6
A	31	GLU	-	expression tag	UNP Q5UNP6
A	1574	PRO	-	expression tag	UNP Q5UNP6
A	1575	ASN	-	expression tag	UNP Q5UNP6
A	1576	SER	-	expression tag	UNP Q5UNP6
A	1577	SER	-	expression tag	UNP Q5UNP6
A	1578	SER	-	expression tag	UNP Q5UNP6
A	1579	VAL	-	expression tag	UNP Q5UNP6
A	1580	ASP	-	expression tag	UNP Q5UNP6
A	1581	LYS	-	expression tag	UNP Q5UNP6
A	1582	LEU	-	expression tag	UNP Q5UNP6
A	1583	ALA	-	expression tag	UNP Q5UNP6
A	1584	ALA	-	expression tag	UNP Q5UNP6
A	1585	ALA	-	expression tag	UNP Q5UNP6
A	1586	LEU	-	expression tag	UNP Q5UNP6
A	1587	GLU	-	expression tag	UNP Q5UNP6
A	1588	HIS	-	expression tag	UNP Q5UNP6
A	1589	HIS	-	expression tag	UNP Q5UNP6
A	1590	HIS	-	expression tag	UNP Q5UNP6
A	1591	HIS	-	expression tag	UNP Q5UNP6
A	1592	HIS	-	expression tag	UNP Q5UNP6
A	1593	HIS	-	expression tag	UNP Q5UNP6

- Molecule 2 is a protein called 1B2 (heavy chain).

Mol	Chain	Residues	Atoms					AltConf	Trace
2	C	205	Total	C	N	O	S	0	0
			1539	978	257	298	6		
2	E	205	Total	C	N	O	S	0	0
			1539	978	257	298	6		

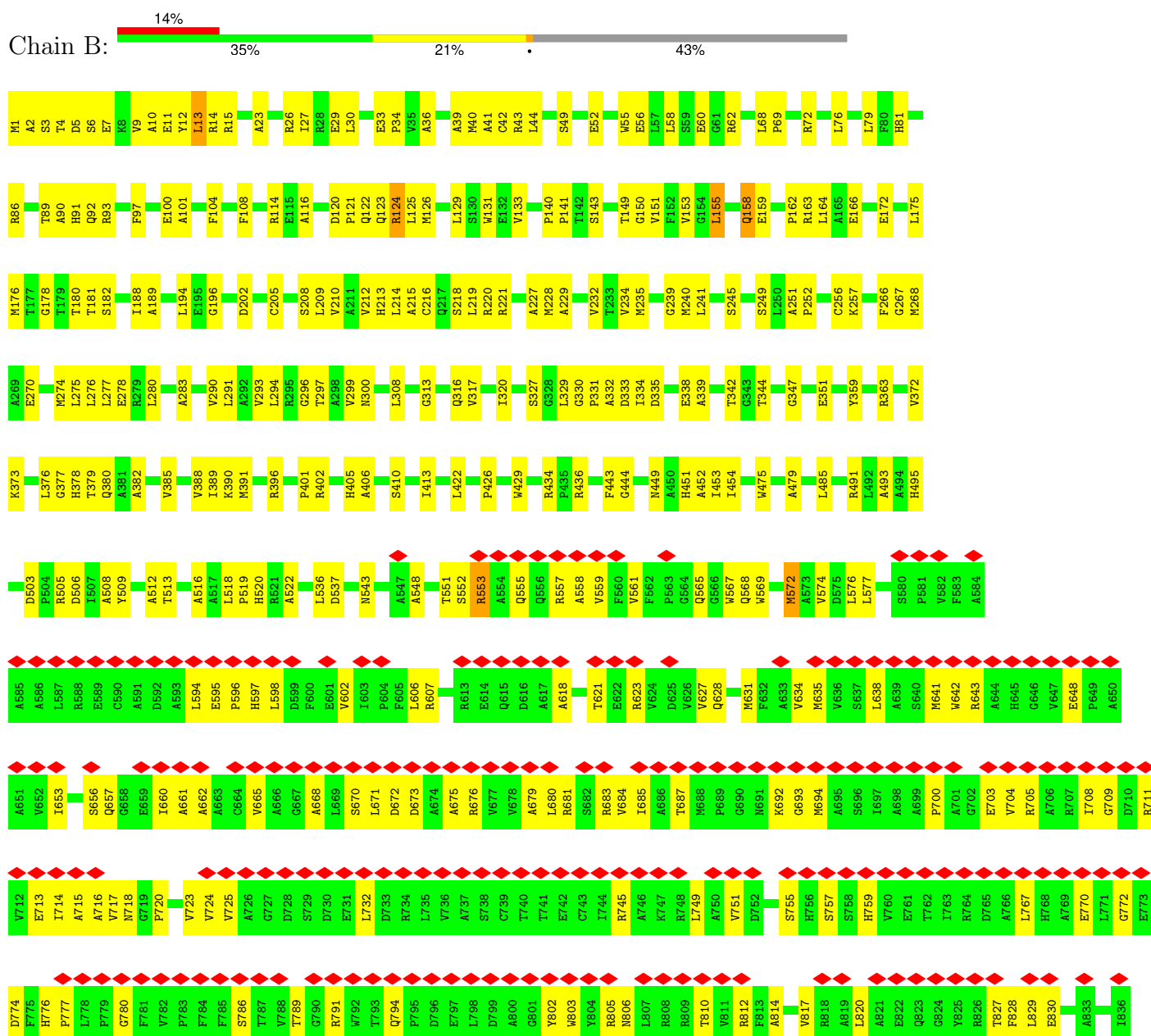
- Molecule 3 is a protein called 1B2 (light chain).

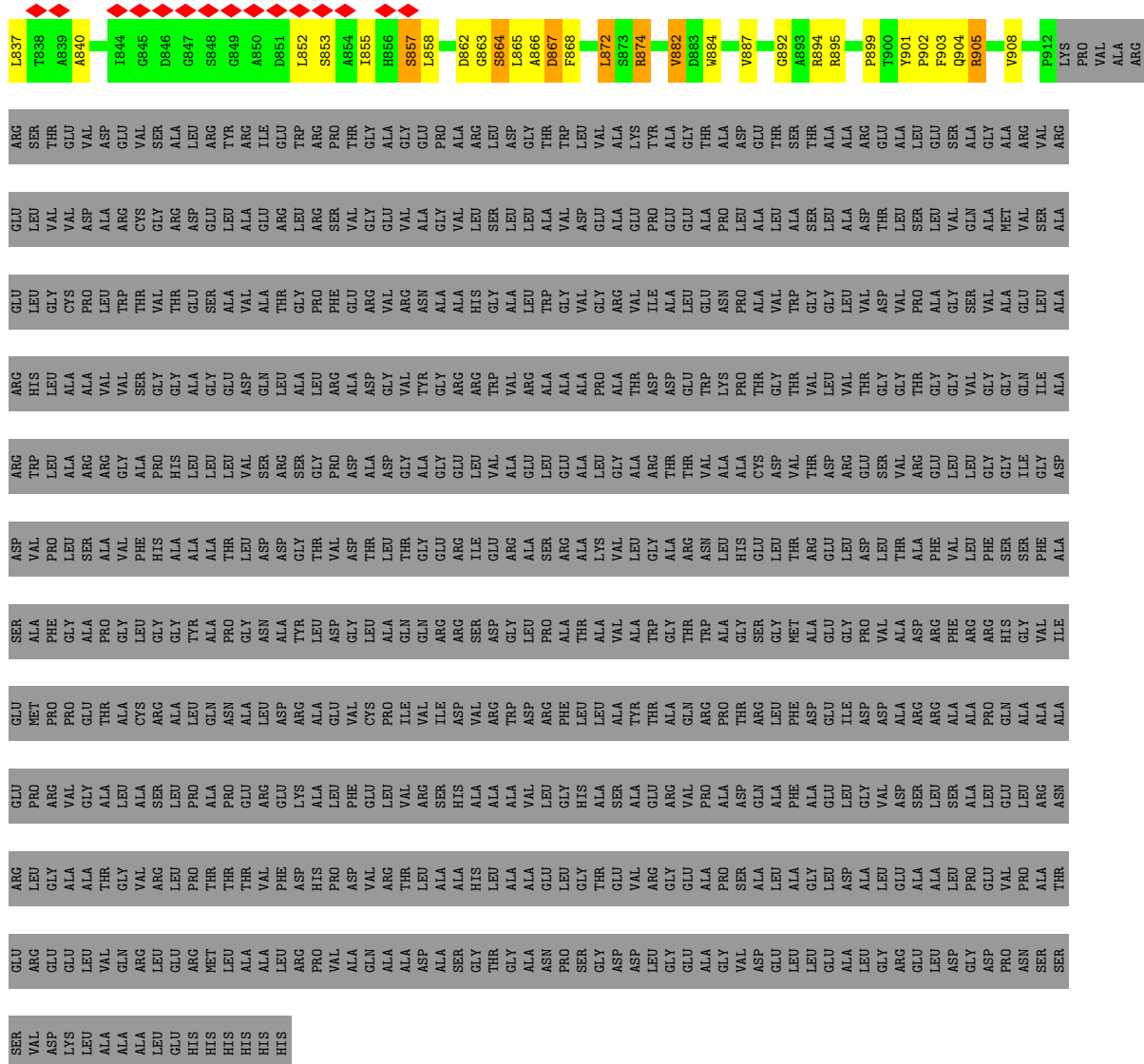
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	D	206	Total	C	N	O	S	0	0
			1564	980	261	317	6		
3	F	206	Total	C	N	O	S	0	0
			1564	981	261	316	6		

3 Residue-property plots

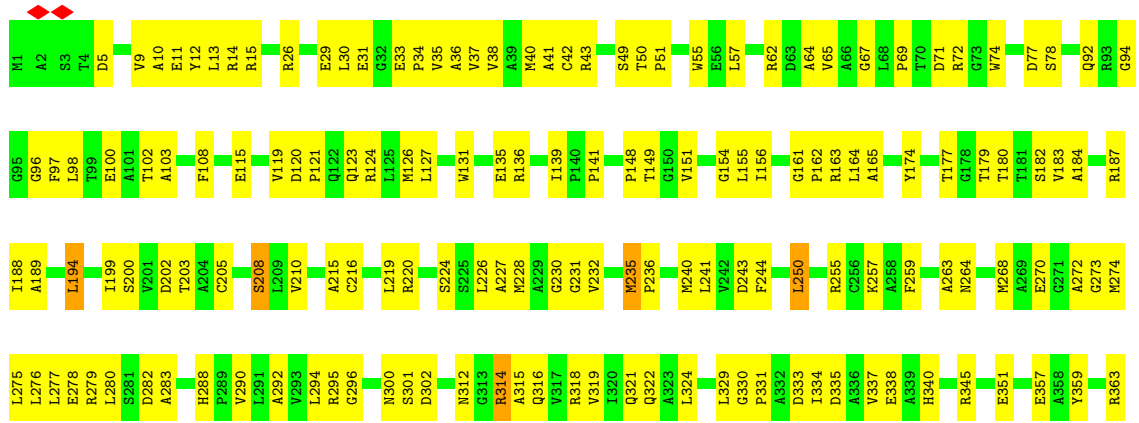
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: EryAI





• Molecule 1: EryAI

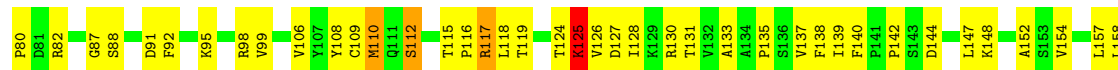


LEU	D1383	G1291	D1217	W1125	V1031	G938	A840	L778	V717	Q657	A591	L485	L367
GLY	E1384	N1282	D1218	V1126	V1034	A939	T841	P779	N718	G658	D592	L492	H368
VAL	I1385	L1295	V1219	R1127	M1034	A939	E842	G780	G719	E659	A593	L493	L369
SER	R1389	L1299	P1220	P1131	L1039	G940	E843	F781	P720	I660	L594	A494	H372
SER	ALA	A1299	S1222	A1152	L1043	E941	E844	V782	R721	A661	A662	H495	K373
ALA	ALA	R1302	V1224	T1133	L1043	P942	G845	F783	S722	A663	Q502	Q502	L376
LEU	ALA	G1306	V1224	W1044	T1045	R944	D846	F784	V723	A664	D503	G377	H378
LEU	ALA	T1310	A1227	D1135	T1045	L945	G847	F785	V724	V665	F504	T379	Q380
ASN	ALA	A1311	L1231	E1136	T1053	L950	S848	S786	A725	A666	D506	R505	A381
ARG	GLU	A1312	L1236	T1140	E1057	K953	G849	T787	A726	G667	I507	I507	A382
GLY	PRO	G1315	V1236	G1141	R1058	Y954	A850	V788	G727	A668	S510	S510	V385
ALA	ARG	T1316	L1239	T1142	R1058	Y954	D851	T789	D728	L669	L511	L511	I389
ALA	VAL	W1317	T1240	V1143	M1061	A955	L852	G790	S729	F605	F604	F604	K390
THR	ALA	G1321	E1242	L1144	S853	G956	R853	R791	D730	L606	F605	R515	L393
GLY	ALA	S1320	R1243	G1147	A1066	T957	A854	W792	E731	R607	D672	R521	P401
VAL	ALA	G1321	R1244	G1151	L1067	A958	L855	T793	L732	E608	H520	H520	H405
ARG	SER	M1322	E1245	W1159	W1067	D959	L858	Q794	R733	E609	R521	R521	I420
LEU	LEU	V1327	R1246	L1160	R1072	E960	R860	D796	D733	A610	A522	A522	L423
PRO	PRO	R1330	R1249	L1169	V1073	R860	G861	E797	L735	A611	P526	P526	W429
THR	PRO	R1330	A1250	G1164	A1075	R866	D862	L798	V736	R613	A531	A531	R436
THR	GLU	R1331	A1251	A1165	L1076	A972	A866	L799	A737	E614	A532	A532	R437
VAL	ARG	R1332	K1251	A1166	W1082	V976	F868	A800	S738	Q615	A532	A532	R438
PHE	GLU	R1333	V1252	P1166	W1082	R977	D867	A800	C739	D616	V535	V535	A439
ASP	GLU	H1334	L1253	H1167	W1082	R977	G869	G801	C739	L617	L536	L536	G438
ASP	LYS	H1334	V1253	H1167	W1082	R977	G869	G801	T740	A618	L536	L536	V440
HIS	LEU	G1335	M1257	L1168	V1085	C985	A881	L807	T741	A618	L536	L536	S441
PRO	LEU	L1258	L1258	L1169	V1086	G986	R894	A808	A746	V627	R553	R553	I453
ASP	PHE	H1259	L1259	L1170	D1087	G986	R894	R809	K747	Q628	A554	A554	I454
LEU	LEU	E1260	E1260	V1088	P1089	R987	R895	R609	R748	P629	Q555	Q555	E455
LEU	ARG	L1261	T1262	A1090	A1090	R987	R895	R609	R748	P629	Q555	Q555	E455
LEU	ARG	R1263	R1263	G1091	A1090	R987	R895	R609	R748	P629	Q555	Q555	E455
ALA	SER	E1264	E1264	S1092	S1092	C985	A881	L807	A746	V627	R553	R553	E455
HIS	ALA	L1265	L1265	A1097	A1097	G986	R894	R809	K747	Q628	A554	A554	E455
ALA	ALA	D1266	D1266	A1097	A1097	G986	R894	R809	K747	Q628	A554	A554	E455
ALA	ALA	L1267	L1267	L1100	L1100	R987	R894	R809	K747	Q628	A554	A554	E455
LEU	LEU	T1268	T1268	L1100	L1100	R987	R894	R809	K747	Q628	A554	A554	E455
GLY	HIS	L1272	L1272	V1103	V1103	E992	R899	R612	V751	M635	Q565	Q565	E455
GLY	GLY	F1273	F1273	V1104	V1104	R993	R899	R612	V751	M635	Q565	Q565	E455
THR	ALA	S1274	S1274	S1105	S1105	L994	R995	F813	D752	V636	A570	A570	E455
GLU	SER	S1275	S1275	S1105	S1105	R995	R995	F813	D752	V636	A570	A570	E455
ARG	ALA	F1276	F1276	G1106	G1106	R997	R905	D815	A754	L638	G571	G571	E455
ARG	GLU	A1277	A1277	G1107	G1107	V1000	E906	A816	S755	A639	M572	M572	E455
GLY	ARG	S1278	S1278	A1108	A1108	A1001	R907	V617	H756	S640	L577	L577	E455
ALA	PRO	F1279	F1279	A1109	A1109	G1002	R909	R618	S757	M641	F581	F581	E455
ALA	ALA	G1281	G1281	Q1112	Q1112	S1005	K913	A819	S758	M641	F581	F581	E455
PRO	ALA	A1282	A1282	L1114	L1114	L1006	F914	A819	S758	M641	F581	F581	E455
ALA	ALA	L1285	L1285	L1115	L1115	L1007	F914	A819	S758	M641	F581	F581	E455
LEU	ALA	L1285	L1285	R1116	R1116	L1007	F914	A819	S758	M641	F581	F581	E455
ALA	PHE	V1288	V1288	A1117	A1117	L1007	F914	A819	S758	M641	F581	F581	E455
GLY	ALA	A1289	A1289	D1118	D1118	D1010	A916	E222	T762	G646	A585	A585	E455
LEU	GLU	P1290	P1290	R1123	R1123	E1013	R918	E222	T762	G646	A585	A585	E455
				R1124	R1124	E1013	R918	E222	T762	G646	A585	A585	E455
				G1213	G1213	E1013	R918	E222	T762	G646	A585	A585	E455
				G1214	G1214	E1013	R918	E222	T762	G646	A585	A585	E455
				I1215	I1215	E1013	R918	E222	T762	G646	A585	A585	E455
				G1216	G1216	E1013	R918	E222	T762	G646	A585	A585	E455



- Molecule 3: 1B2 (light chain)

Chain F: 50% 33% 13%



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	102772	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 ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	1.481	Depositor
Minimum map value	-0.533	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.061	Depositor
Recommended contour level	0.28	Depositor
Map size (Å)	336.0, 336.0, 336.0	wwPDB
Map dimensions	336, 336, 336	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.0, 1.0, 1.0	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	0.31	0/10473	0.59	1/14255 (0.0%)
1	B	0.32	0/6875	0.59	1/9353 (0.0%)
2	C	0.32	0/1575	0.61	0/2141
2	E	0.32	0/1575	0.59	0/2141
3	D	0.32	0/1597	0.60	1/2171 (0.0%)
3	F	0.36	0/1597	0.63	2/2170 (0.1%)
All	All	0.32	0/23692	0.60	5/32231 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	B	0	1

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed($^{\circ}$)	Ideal($^{\circ}$)
1	A	250	LEU	C-N-CA	7.61	140.73	121.70
1	B	13	LEU	CA-CB-CG	5.87	128.81	115.30
3	F	183	GLU	CA-CB-CG	5.41	125.30	113.40
3	D	183	GLU	CA-CB-CG	5.40	125.28	113.40
3	F	125	LYS	CA-CB-CG	5.24	124.92	113.40

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	905	ARG	Sidechain

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	10277	0	10118	363	0
1	B	6741	0	6618	271	0
2	C	1539	0	1511	71	0
2	E	1539	0	1511	72	0
3	D	1564	0	1517	73	0
3	F	1564	0	1522	72	0
All	All	23224	0	22797	862	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 (862) 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)
3:F:125:LYS:H	3:F:125:LYS:HD3	1.23	1.02
1:B:151:VAL:HA	1:B:228:MET:HB2	1.62	0.82
1:B:121:PRO:HB2	1:B:234:VAL:HG11	1.61	0.81
1:A:966:ARG:HG2	1:A:976:VAL:HG11	1.62	0.80
1:A:235:MET:HG2	1:A:240:MET:HG3	1.68	0.76
1:A:718:ASN:H	1:A:723:VAL:HG12	1.51	0.75
2:E:155:GLU:HG3	2:E:175:ALA:HB2	1.68	0.74
3:F:125:LYS:H	3:F:125:LYS:CD	2.00	0.74
1:A:653:ILE:HG12	1:A:820:LEU:HD21	1.70	0.73
1:A:120:ASP:HB2	1:A:179:THR:HA	1.71	0.72
2:E:39:VAL:HG22	2:E:49:TRP:HD1	1.55	0.71
2:C:24:CYS:HB3	2:C:83:ALA:HB3	1.71	0.71
2:E:24:CYS:HB3	2:E:83:ALA:HB3	1.73	0.71
1:A:120:ASP:HB3	1:A:123:GLN:HG3	1.72	0.71
1:B:724:VAL:HG22	1:B:745:ARG:HH12	1.56	0.70
1:A:1252:VAL:HG23	1:A:1253:LEU:HD12	1.72	0.70
1:A:318:ARG:O	1:A:322:GLN:NE2	2.23	0.70
1:B:294:LEU:HD11	1:B:452:ALA:HB1	1.72	0.70
2:C:188:VAL:HG11	3:D:157:LEU:HD11	1.74	0.70
3:F:125:LYS:HD3	3:F:125:LYS:N	2.04	0.70
1:A:692:LYS:HD3	1:A:759:HIS:HB3	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:331:PRO:HB3	1:B:359:TYR:HA	1.75	0.69
1:A:330:GLY:N	3:F:98:ARG:HH12	1.90	0.69
1:B:205:CYS:HB2	1:B:444:GLY:HA2	1.75	0.69
1:A:301:SER:HA	1:A:448:THR:HA	1.75	0.69
1:A:628:GLN:HA	1:A:631:MET:HG2	1.75	0.69
3:D:42:SER:OG	3:D:43:GLN:OE1	2.12	0.68
1:B:163:ARG:NH2	1:A:161:GLY:O	2.27	0.68
3:F:42:SER:OG	3:F:43:GLN:OE1	2.12	0.68
1:A:226:LEU:HD12	1:A:227:ALA:H	1.58	0.68
3:D:29:VAL:HB	3:D:99:VAL:HG21	1.76	0.68
1:B:638:LEU:HA	1:B:641:MET:HG2	1.73	0.68
1:B:333:ASP:OD2	3:D:98:ARG:NH1	2.28	0.67
1:A:1332:ARG:HG2	1:A:1337:ILE:HG13	1.77	0.67
2:E:173:PHE:CD2	2:E:186:SER:HB2	2.29	0.67
1:A:558:ALA:HA	1:A:827:THR:HB	1.77	0.67
3:D:40:ARG:NH2	3:D:91:ASP:OD1	2.28	0.67
1:A:561:VAL:HG11	1:A:837:LEU:HD13	1.76	0.67
3:F:29:VAL:HB	3:F:99:VAL:HG21	1.76	0.67
3:F:40:ARG:NH2	3:F:91:ASP:OD1	2.28	0.66
2:C:173:PHE:CD2	2:C:186:SER:HB2	2.29	0.66
2:E:126:PRO:HB3	2:E:152:TYR:HB3	1.78	0.66
1:B:60:GLU:HG3	1:B:62:ARG:HG3	1.78	0.66
3:D:113:LEU:HD23	3:D:114:GLN:HG3	1.77	0.66
1:A:250:LEU:HD11	1:A:268:MET:HG3	1.78	0.65
1:B:558:ALA:HA	1:B:827:THR:HB	1.77	0.65
1:B:208:SER:HB2	1:B:385:VAL:HB	1.77	0.65
1:B:491:ARG:HD3	1:B:902:PRO:HG3	1.79	0.65
1:A:1076:LEU:HD13	1:A:1281:GLY:HA3	1.78	0.65
1:A:29:GLU:HA	1:A:33:GLU:HB2	1.77	0.65
1:B:903:PHE:HB3	1:B:905:ARG:HH11	1.61	0.65
1:A:1205:ARG:HH12	1:A:1253:LEU:HD23	1.61	0.65
2:C:126:PRO:HB3	2:C:152:TYR:HB3	1.79	0.65
1:B:903:PHE:HB3	1:B:905:ARG:NH1	2.12	0.65
1:A:656:SER:HB3	1:A:659:GLU:HG3	1.79	0.65
1:A:390:LYS:HE3	1:A:401:PRO:HG2	1.79	0.64
3:D:130:ARG:HH12	3:D:133:ALA:HB2	1.62	0.64
3:F:130:ARG:HH12	3:F:133:ALA:HB2	1.62	0.64
1:A:1276:PHE:HD1	1:A:1315:GLY:HA2	1.62	0.64
1:B:344:THR:HG23	1:B:347:GLY:H	1.62	0.64
1:B:905:ARG:CZ	1:B:905:ARG:HA	2.26	0.64
1:B:595:GLU:HB2	1:B:671:LEU:HD21	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:681:ARG:HH11	1:B:685:ILE:HD11	1.61	0.64
1:A:1019:LEU:HD13	1:A:1244:ILE:HG22	1.78	0.64
1:A:577:LEU:HB3	1:A:588:ARG:HH12	1.62	0.64
1:A:681:ARG:HH11	1:A:685:ILE:HD11	1.63	0.64
1:A:602:VAL:HG22	1:A:606:LEU:HG	1.80	0.63
1:A:1203:THR:OG1	1:A:1249:ARG:NH1	2.30	0.63
1:A:219:LEU:O	1:A:279:ARG:NH1	2.31	0.63
1:A:36:ALA:N	1:A:278:GLU:O	2.32	0.63
1:A:338:GLU:HB3	1:A:440:VAL:HA	1.81	0.63
1:A:980:VAL:O	1:A:993:ARG:NH1	2.30	0.63
1:A:1363:ASP:HB3	1:A:1365:ARG:HH12	1.64	0.63
1:A:127:LEU:HD23	1:A:188:ILE:HD13	1.81	0.63
1:A:148:PRO:HB2	1:A:224:SER:HA	1.81	0.63
2:E:50:VAL:O	2:E:65:ALA:N	2.31	0.63
2:E:101:THR:HG22	2:E:110:TRP:CD1	2.34	0.63
1:B:561:VAL:HG11	1:B:837:LEU:HD13	1.81	0.62
1:B:716:ALA:HB3	1:B:724:VAL:HB	1.81	0.62
1:A:312:ASN:OD1	1:A:314:ARG:NH1	2.32	0.62
3:D:168:VAL:HA	3:D:217:GLU:O	1.99	0.62
2:E:54:ARG:HD2	2:E:61:THR:H	1.64	0.62
1:B:718:ASN:H	1:B:723:VAL:HG12	1.63	0.62
2:C:54:ARG:HD2	2:C:61:THR:H	1.64	0.62
1:A:1005:SER:HB2	1:A:1045:THR:HA	1.80	0.62
1:B:76:LEU:H	1:B:79:LEU:HD13	1.64	0.62
1:A:379:THR:HB	1:A:382:ALA:HB3	1.82	0.62
1:A:505:ARG:HH21	1:A:894:ARG:HH22	1.47	0.62
2:C:101:THR:HG22	2:C:110:TRP:CD1	2.34	0.62
3:D:185:VAL:HG23	3:D:197:LEU:HD12	1.81	0.62
1:B:13:LEU:HD11	1:A:12:TYR:HB3	1.81	0.62
1:B:42:CYS:HB3	1:B:389:ILE:HD13	1.82	0.62
1:B:296:GLY:HA3	1:B:327:SER:HB3	1.81	0.62
1:A:334:ILE:HD13	1:A:359:TYR:HE1	1.64	0.62
2:C:37:SER:HB2	2:C:101:THR:OG1	2.00	0.62
3:F:185:VAL:HG23	3:F:197:LEU:HD12	1.81	0.62
1:A:71:ASP:O	1:A:907:ARG:NH2	2.33	0.61
1:B:43:ARG:HG3	1:B:129:LEU:HD21	1.82	0.61
1:B:683:ARG:HE	1:B:687:THR:HB	1.64	0.61
1:B:519:PRO:HB3	1:B:552:SER:HB3	1.82	0.61
1:A:35:VAL:HG12	1:A:277:LEU:HD12	1.82	0.61
1:A:334:ILE:O	1:A:363:ARG:NH2	2.33	0.61
1:B:513:THR:O	1:B:895:ARG:NH1	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:683:ARG:HE	1:A:687:THR:HB	1.65	0.61
1:A:1087:ASP:HB3	1:A:1114:ALA:HA	1.82	0.61
2:C:8:GLN:H	2:C:112:GLN:HE22	1.49	0.61
2:C:77:ASP:HB3	2:C:80:LYS:HE3	1.83	0.61
1:A:1176:PRO:HD2	1:A:1199:ALA:HB2	1.83	0.61
1:A:485:LEU:HD21	1:A:522:ALA:HB2	1.81	0.61
1:B:123:GLN:NE2	1:B:180:THR:O	2.34	0.61
1:A:1354:ARG:HB2	1:A:1356:GLU:HG2	1.82	0.61
2:C:149:VAL:N	2:C:185:LEU:O	2.30	0.61
1:B:335:ASP:HB2	1:B:429:TRP:CZ2	2.36	0.61
1:A:208:SER:HB2	1:A:385:VAL:HB	1.83	0.61
2:E:77:ASP:HB3	2:E:80:LYS:HE3	1.83	0.61
1:A:756:HIS:HE1	1:A:788:VAL:HB	1.65	0.60
3:D:110:MET:SD	3:D:117:ARG:HD2	2.41	0.60
2:E:37:SER:HB2	2:E:101:THR:OG1	2.00	0.60
1:A:215:ALA:HB1	1:A:227:ALA:HB1	1.84	0.60
1:A:156:ILE:HG13	1:A:381:ALA:HB2	1.83	0.60
3:F:168:VAL:HA	3:F:217:GLU:O	2.00	0.60
1:B:9:VAL:HG11	1:A:9:VAL:HG13	1.84	0.60
1:A:283:ALA:HB1	1:A:288:HIS:HB2	1.83	0.60
1:A:1222:SER:HB3	1:A:1268:THR:H	1.67	0.60
1:A:694:MET:SD	1:A:724:VAL:HG13	2.42	0.60
1:B:299:VAL:HG11	1:A:199:ILE:HD11	1.84	0.60
1:B:829:LEU:HG	1:B:855:ILE:HD12	1.84	0.59
3:D:128:ILE:HB	3:D:188:GLN:HE22	1.67	0.59
1:A:180:THR:HG22	1:A:182:SER:H	1.67	0.59
2:E:8:GLN:H	2:E:112:GLN:HE22	1.49	0.59
2:E:49:TRP:CZ3	3:F:116:PRO:HB3	2.38	0.59
1:A:257:LYS:HB2	1:A:263:ALA:HA	1.83	0.59
1:B:9:VAL:HG13	1:A:13:LEU:HD21	1.84	0.59
1:B:694:MET:HB2	1:B:749:LEU:HD12	1.85	0.59
1:B:213:HIS:HA	1:B:297:THR:HG21	1.84	0.59
1:B:863:GLY:HA3	1:B:867:ASP:HB3	1.83	0.59
1:A:715:ALA:HB3	1:A:724:VAL:HG12	1.85	0.59
2:E:49:TRP:HZ3	3:F:116:PRO:HB3	1.67	0.59
1:B:561:VAL:HG22	1:B:653:ILE:HD11	1.84	0.59
1:A:337:VAL:HG23	1:A:367:LEU:HD11	1.85	0.59
1:A:1363:ASP:HB3	1:A:1365:ARG:NH1	2.17	0.59
1:B:334:ILE:O	1:B:363:ARG:NH1	2.27	0.59
1:A:340:HIS:N	1:A:351:GLU:OE2	2.32	0.59
1:A:1276:PHE:CD1	1:A:1315:GLY:HA2	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:149:VAL:N	2:E:185:LEU:O	2.30	0.59
1:B:205:CYS:HB3	1:B:378:HIS:HE2	1.67	0.58
1:A:1000:VAL:HG12	1:A:1002:GLY:H	1.68	0.58
1:A:1072:ARG:HG2	1:A:1112:GLN:HE21	1.67	0.58
1:B:553:ARG:HB2	1:B:853:SER:HA	1.84	0.58
1:B:101:ALA:HA	1:B:125:LEU:HD21	1.86	0.58
3:F:128:ILE:HB	3:F:188:GLN:HE22	1.67	0.58
1:B:76:LEU:HD23	1:B:79:LEU:HD22	1.86	0.58
1:B:709:GLY:H	1:B:713:GLU:HB2	1.69	0.58
1:A:437:ARG:HG2	1:A:455:GLU:HG3	1.86	0.58
1:A:74:TRP:NE1	1:A:236:PRO:O	2.25	0.58
1:A:466:VAL:HG23	1:A:505:ARG:HH22	1.67	0.58
1:A:561:VAL:HG13	1:A:654:GLY:HA3	1.85	0.58
1:B:92:GLN:HE22	1:B:268:MET:HB3	1.69	0.58
1:B:670:SER:H	1:B:673:ASP:HB2	1.68	0.57
2:E:129:PHE:O	2:E:148:LEU:N	2.36	0.57
1:B:216:CYS:HB3	1:B:220:ARG:HE	1.68	0.57
1:B:642:TRP:HE3	1:B:829:LEU:HD21	1.69	0.57
1:B:714:ILE:HG22	1:B:725:VAL:HG12	1.86	0.57
1:A:1053:THR:N	1:A:1057:GLU:OE2	2.33	0.57
1:B:332:ALA:O	1:B:434:ARG:NH2	2.38	0.57
2:E:8:GLN:HE21	2:E:38:TRP:HZ3	1.51	0.57
1:A:226:LEU:HD11	1:A:276:LEU:HG	1.86	0.57
2:C:129:PHE:O	2:C:148:LEU:N	2.36	0.57
1:A:597:HIS:HB2	1:A:675:ALA:HB1	1.87	0.57
3:D:29:VAL:N	3:D:127:ASP:O	2.34	0.57
3:F:29:VAL:N	3:F:127:ASP:O	2.34	0.57
1:A:492:LEU:HD23	1:A:536:LEU:HD21	1.86	0.57
2:C:8:GLN:HE21	2:C:38:TRP:HZ3	1.51	0.57
1:B:379:THR:HB	1:B:382:ALA:HB3	1.85	0.56
1:A:1066:ALA:HB1	1:A:1290:PRO:HB3	1.85	0.56
1:B:577:LEU:HD22	1:B:607:ARG:HG2	1.86	0.56
1:A:930:TYR:OH	1:A:1127:ARG:NH1	2.38	0.56
2:C:41:GLN:NE2	2:C:45:LYS:O	2.33	0.56
3:D:29:VAL:O	3:D:128:ILE:HA	2.05	0.56
1:B:149:THR:HB	1:B:194:LEU:HD22	1.88	0.56
1:B:278:GLU:OE2	1:B:283:ALA:HB2	2.05	0.56
1:B:594:LEU:HD22	1:B:675:ALA:HA	1.88	0.56
1:B:503:ASP:OD2	1:B:505:ARG:HG2	2.04	0.56
1:A:930:TYR:O	1:A:1360:ILE:N	2.38	0.56
3:F:59:GLN:HB3	3:F:106:VAL:HB	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:163:ARG:N	1:A:163:ARG:HH22	2.04	0.56
1:A:429:TRP:HH2	1:A:438:ALA:HB2	1.71	0.56
1:A:959:ASP:HB3	1:A:961:THR:HG22	1.88	0.56
1:A:1143:VAL:HG11	1:A:1160:LEU:HD13	1.87	0.56
3:F:43:GLN:OE1	3:F:43:GLN:N	2.36	0.56
1:B:13:LEU:HD22	1:A:13:LEU:HD22	1.88	0.56
1:A:302:ASP:O	1:A:312:ASN:ND2	2.39	0.56
1:A:474:PRO:HG3	1:A:869:GLY:HA2	1.88	0.56
1:A:33:GLU:O	1:A:220:ARG:NE	2.39	0.56
1:A:493:ALA:HB2	1:A:536:LEU:HB3	1.87	0.56
1:A:594:LEU:HD22	1:A:675:ALA:HA	1.87	0.56
1:A:30:LEU:O	1:A:220:ARG:HB3	2.06	0.55
2:E:31:PHE:HE2	2:E:76:ARG:HB2	1.71	0.55
3:F:29:VAL:O	3:F:128:ILE:HA	2.05	0.55
1:A:244:PHE:HB3	1:A:250:LEU:HD21	1.88	0.55
2:C:95:THR:HG23	2:C:117:THR:HG23	1.88	0.55
3:D:27:LEU:O	3:D:126:VAL:HG13	2.06	0.55
1:A:1260:GLU:O	1:A:1263:ARG:NE	2.39	0.55
1:A:1383:ASP:HA	1:A:1389:ARG:HH22	1.71	0.55
1:B:69:PRO:HD3	1:B:97:PHE:CD2	2.42	0.55
3:D:43:GLN:OE1	3:D:43:GLN:N	2.36	0.55
1:B:41:ALA:HB3	1:B:274:MET:HB3	1.88	0.55
1:B:429:TRP:O	1:B:436:ARG:NH1	2.37	0.55
1:A:561:VAL:HG13	1:A:655:HIS:H	1.71	0.55
3:F:27:LEU:O	3:F:126:VAL:HG13	2.06	0.55
3:F:135:PRO:HB2	3:F:158:LEU:HD11	1.88	0.55
1:B:300:ASN:O	1:B:449:ASN:N	2.38	0.55
1:A:69:PRO:HG2	1:A:72:ARG:HH21	1.72	0.55
1:A:709:GLY:H	1:A:713:GLU:HB2	1.71	0.55
1:B:150:GLY:O	1:B:228:MET:N	2.39	0.55
1:B:905:ARG:HA	1:B:905:ARG:NE	2.22	0.55
1:B:597:HIS:HB2	1:B:675:ALA:HB1	1.88	0.55
1:B:700:PRO:HA	1:B:720:PRO:HA	1.89	0.55
2:C:31:PHE:HE2	2:C:76:ARG:HB2	1.71	0.55
3:D:135:PRO:HB2	3:D:158:LEU:HD11	1.88	0.55
1:B:114:ARG:NH2	1:B:172:GLU:H	2.04	0.54
2:E:162:ASN:N	2:E:202:ILE:O	2.32	0.54
1:A:279:ARG:NE	1:A:282:ASP:OD2	2.40	0.54
1:A:992:GLU:HA	1:A:995:ARG:HE	1.73	0.54
2:C:162:ASN:N	2:C:202:ILE:O	2.32	0.54
3:D:54:LEU:HD13	3:D:92:PHE:HD2	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:329:LEU:C	3:F:98:ARG:HH12	2.11	0.54
1:A:368:HIS:HB3	1:A:423:LEU:HD21	1.90	0.54
1:A:570:ALA:HA	1:A:630:VAL:HG11	1.89	0.54
3:D:54:LEU:HD13	3:D:92:PHE:CD2	2.42	0.54
1:B:676:ARG:HD3	1:B:772:GLY:H	1.72	0.54
1:B:767:LEU:HD23	1:B:803:TRP:HB2	1.90	0.54
1:A:357:GLU:N	1:A:357:GLU:OE1	2.40	0.54
2:E:95:THR:HG23	2:E:117:THR:HG23	1.88	0.54
3:F:54:LEU:HD13	3:F:92:PHE:CD2	2.42	0.54
1:B:175:LEU:HB2	1:A:243:ASP:OD2	2.07	0.54
1:A:700:PRO:HA	1:A:720:PRO:HA	1.90	0.54
2:C:6:LEU:H	2:C:109:TYR:HE2	1.56	0.54
1:B:724:VAL:HG22	1:B:745:ARG:NH1	2.23	0.54
1:A:1034:MET:HE1	1:A:1043:LEU:HD22	1.89	0.54
2:E:16:PRO:HB3	2:E:91:LYS:HA	1.90	0.54
1:B:1:MET:SD	1:B:3:SER:N	2.81	0.54
1:A:1147:GLY:N	1:A:1171:VAL:O	2.40	0.54
1:B:40:MET:SD	1:B:389:ILE:HG12	2.49	0.54
1:A:1142:THR:HA	1:A:1167:HIS:HB2	1.88	0.54
1:A:121:PRO:HA	1:A:124:ARG:HG2	1.91	0.53
1:A:235:MET:HG2	1:A:240:MET:CG	2.37	0.53
1:A:660:ILE:HG21	1:A:681:ARG:HE	1.74	0.53
1:A:767:LEU:HD23	1:A:803:TRP:HB2	1.90	0.53
1:A:1239:LEU:HD23	1:A:1243:ARG:HD3	1.90	0.53
1:A:43:ARG:O	1:A:272:ALA:N	2.40	0.53
2:C:16:PRO:HB3	2:C:91:LYS:HA	1.90	0.53
3:D:124:THR:HG22	3:D:126:VAL:HG23	1.89	0.53
3:F:54:LEU:HD13	3:F:92:PHE:HD2	1.72	0.53
1:A:618:ALA:HB3	1:A:623:ARG:HD3	1.89	0.53
2:C:161:TRP:NE1	2:C:187:SER:OG	2.38	0.53
3:D:31:PRO:HD3	3:D:128:ILE:HD12	1.91	0.53
3:F:58:LEU:HB3	3:F:68:LEU:HD11	1.91	0.53
3:F:137:VAL:HG12	3:F:229:LYS:HD2	1.90	0.53
1:B:291:LEU:HA	1:B:396:ARG:HH22	1.73	0.53
1:A:776:HIS:ND1	2:C:201:TYR:HE1	2.07	0.53
3:F:59:GLN:HB2	3:F:108:TYR:HE2	1.73	0.53
1:B:44:LEU:HD13	1:B:376:LEU:HD11	1.91	0.53
2:C:56:LYS:NZ	2:C:76:ARG:HE	2.07	0.53
2:E:56:LYS:NZ	2:E:76:ARG:HE	2.07	0.53
3:F:31:PRO:HD3	3:F:128:ILE:HD12	1.91	0.53
1:B:1:MET:SD	1:B:2:ALA:N	2.82	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:219:LEU:HD22	1:B:278:GLU:HA	1.91	0.53
1:B:866:ALA:C	1:B:868:PHE:H	2.10	0.53
1:A:565:GLN:HA	1:A:751:VAL:HG21	1.91	0.53
3:D:183:GLU:OE1	3:D:183:GLU:O	2.26	0.53
1:B:97:PHE:HA	1:B:270:GLU:HG2	1.91	0.53
1:A:372:VAL:HG22	1:A:376:LEU:HD13	1.89	0.53
1:A:429:TRP:O	1:A:436:ARG:NH1	2.40	0.53
1:A:43:ARG:NH1	1:A:49:SER:OG	2.42	0.52
1:A:610:ALA:HB3	1:A:862:ASP:HB2	1.91	0.52
3:D:137:VAL:HG12	3:D:229:LYS:HD2	1.90	0.52
1:B:36:ALA:HB1	1:B:290:VAL:HG13	1.91	0.52
1:B:567:TRP:HE3	1:B:857:SER:HB3	1.73	0.52
1:A:714:ILE:HG22	1:A:725:VAL:HG12	1.90	0.52
1:A:945:LEU:N	1:A:972:ALA:O	2.41	0.52
1:B:91:HIS:N	1:B:245:SER:OG	2.43	0.52
1:A:829:LEU:HG	1:A:855:ILE:HD12	1.92	0.52
1:A:1168:LEU:HD13	1:A:1195:THR:HG22	1.92	0.52
3:F:183:GLU:OE1	3:F:183:GLU:O	2.26	0.52
1:B:120:ASP:HB3	1:B:123:GLN:HG3	1.91	0.52
1:A:26:ARG:HA	1:A:29:GLU:HG2	1.91	0.52
1:B:14:ARG:HB3	2:E:34:TYR:HE1	1.75	0.52
1:B:34:PRO:HG2	1:B:280:LEU:HD22	1.92	0.52
1:A:37:VAL:N	1:A:292:ALA:O	2.34	0.52
1:B:11:GLU:HG3	2:E:106:LEU:HD12	1.91	0.52
1:B:641:MET:HG3	1:B:642:TRP:CD1	2.44	0.52
1:A:14:ARG:HD2	2:C:34:TYR:CE1	2.44	0.52
1:B:331:PRO:O	1:B:363:ARG:NH1	2.43	0.52
1:A:1205:ARG:O	1:A:1209:ARG:HD3	2.10	0.52
2:C:55:SER:O	2:C:59:GLY:N	2.41	0.52
2:E:107:PHE:HB3	2:E:110:TRP:HE1	1.75	0.52
2:E:188:VAL:HG11	3:F:157:LEU:HD11	1.90	0.52
1:B:2:ALA:O	1:B:5:ASP:N	2.43	0.52
1:B:693:GLY:HA3	1:B:732:LEU:HD11	1.90	0.52
1:A:10:ALA:HA	1:A:13:LEU:HD23	1.92	0.52
2:E:133:PRO:HG2	2:E:220:PRO:HB3	1.92	0.52
3:F:25:LEU:HA	3:F:124:THR:HG23	1.91	0.52
3:D:144:ASP:HA	3:D:147:LEU:HD12	1.91	0.51
1:B:717:VAL:O	1:B:814:ALA:N	2.43	0.51
1:A:162:PRO:HB3	1:A:913:LYS:HZ1	1.75	0.51
1:A:676:ARG:HD3	1:A:772:GLY:H	1.75	0.51
2:C:133:PRO:HG2	2:C:220:PRO:HB3	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:133:VAL:HG22	1:B:276:LEU:HG	1.91	0.51
1:A:724:VAL:HG22	1:A:745:ARG:HH12	1.74	0.51
1:A:1188:LEU:HB3	1:A:1195:THR:HG21	1.92	0.51
3:D:54:LEU:HA	3:D:111:GLN:HA	1.93	0.51
3:F:163:PRO:HD2	3:F:221:GLN:HE21	1.74	0.51
1:B:49:SER:OG	1:B:100:GLU:OE2	2.27	0.51
1:A:154:GLY:N	1:A:230:GLY:O	2.41	0.51
2:C:107:PHE:HB3	2:C:110:TRP:HE1	1.75	0.51
2:E:6:LEU:H	2:E:109:TYR:HE2	1.56	0.51
3:F:116:PRO:HB2	3:F:118:LEU:HG	1.93	0.51
1:B:12:TYR:CZ	2:E:106:LEU:HD21	2.46	0.51
1:A:141:PRO:HG2	1:A:516:ALA:HB2	1.92	0.51
1:A:717:VAL:O	1:A:814:ALA:N	2.44	0.51
1:A:810:THR:HG23	1:A:812:ARG:HG2	1.92	0.51
2:C:110:TRP:CZ3	3:D:65:PRO:HB2	2.46	0.51
1:B:9:VAL:HG13	1:A:13:LEU:CD2	2.40	0.51
1:B:602:VAL:HG22	1:B:606:LEU:HG	1.93	0.51
1:A:1087:ASP:O	1:A:1115:LEU:N	2.35	0.51
1:B:635:MET:CE	1:B:661:ALA:HB1	2.41	0.51
1:B:776:HIS:ND1	2:E:201:TYR:HE1	2.09	0.51
1:A:945:LEU:HD21	1:A:1105:SER:HB3	1.91	0.51
3:F:144:ASP:HA	3:F:147:LEU:HD12	1.91	0.51
1:A:64:ALA:HB3	1:A:376:LEU:HA	1.92	0.51
1:A:1334:HIS:O	1:A:1334:HIS:ND1	2.44	0.51
1:A:680:LEU:O	1:A:684:VAL:HG23	2.10	0.51
1:A:1068:TRP:HZ2	1:A:1087:ASP:HB2	1.75	0.51
1:A:1317:TRP:HB3	1:A:1320:SER:HB3	1.93	0.51
2:E:161:TRP:NE1	2:E:187:SER:OG	2.38	0.51
1:B:577:LEU:HB2	1:B:607:ARG:HD3	1.93	0.51
1:A:324:LEU:HD11	1:A:330:GLY:CA	2.41	0.51
2:E:39:VAL:HG23	2:E:101:THR:HG21	1.93	0.51
1:B:155:LEU:HB2	1:B:181:THR:HG23	1.93	0.50
3:F:135:PRO:HG3	3:F:220:HIS:HB3	1.93	0.50
1:B:330:GLY:N	3:D:98:ARG:HH12	2.09	0.50
1:A:65:VAL:HG12	1:A:96:GLY:N	2.26	0.50
1:B:68:LEU:HD23	1:B:97:PHE:HE2	1.74	0.50
1:B:316:GLN:O	1:B:320:ILE:HG12	2.10	0.50
1:B:351:GLU:HG3	1:B:443:PHE:HE2	1.76	0.50
1:B:777:PRO:HG3	2:E:191:VAL:HG21	1.91	0.50
1:A:598:LEU:HD21	1:A:679:ALA:HB2	1.92	0.50
1:A:1088:VAL:HG12	1:A:1115:LEU:HD12	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4:THR:OG1	1:A:5:ASP:HB2	2.11	0.50
1:B:680:LEU:O	1:B:684:VAL:HG23	2.11	0.50
1:A:657:GLN:HG2	1:A:755:SER:HB2	1.92	0.50
1:A:1336:VAL:HG12	1:A:1364:VAL:HA	1.94	0.50
3:F:51:TYR:HB3	3:F:71:LEU:HD12	1.93	0.50
1:B:92:GLN:HA	1:B:252:PRO:HA	1.94	0.50
1:B:212:VAL:HG12	1:B:229:ALA:HB1	1.94	0.50
1:B:628:GLN:HA	1:B:631:MET:HG3	1.94	0.50
1:B:810:THR:HG23	1:B:812:ARG:HG2	1.94	0.50
3:D:135:PRO:HG3	3:D:220:HIS:HB3	1.94	0.50
1:A:41:ALA:O	1:A:274:MET:N	2.44	0.50
1:A:241:LEU:HG	1:A:268:MET:HE3	1.93	0.50
3:D:87:GLY:HA3	3:D:92:PHE:HD1	1.77	0.50
1:B:388:VAL:HG23	1:B:454:ILE:HG12	1.94	0.49
1:B:519:PRO:O	1:B:520:HIS:ND1	2.45	0.49
1:B:548:ALA:HB3	1:B:874:ARG:HH21	1.76	0.49
1:B:598:LEU:HD21	1:B:679:ALA:HB2	1.93	0.49
1:B:862:ASP:HB2	1:B:868:PHE:HA	1.93	0.49
1:B:55:TRP:CZ3	1:B:401:PRO:HG3	2.47	0.49
1:A:92:GLN:HB3	1:A:241:LEU:HD23	1.95	0.49
1:A:1203:THR:O	1:A:1257:ASN:ND2	2.45	0.49
1:A:1231:LEU:HD13	1:A:1288:TYR:HB2	1.93	0.49
2:C:13:LEU:HD13	2:C:117:THR:HB	1.95	0.49
3:D:130:ARG:HH21	3:D:194:THR:HG22	1.77	0.49
3:D:58:LEU:HD13	3:D:107:TYR:CE1	2.47	0.49
3:D:63:GLN:N	3:D:63:GLN:OE1	2.46	0.49
1:B:141:PRO:HD2	1:B:516:ALA:HB2	1.94	0.49
3:D:51:TYR:HB3	3:D:71:LEU:HD12	1.93	0.49
2:E:36:MET:H	2:E:76:ARG:HH12	1.59	0.49
3:F:87:GLY:HA3	3:F:92:PHE:HD1	1.77	0.49
1:A:1068:TRP:CZ2	1:A:1087:ASP:HB2	2.47	0.49
2:E:107:PHE:HB3	2:E:110:TRP:NE1	2.28	0.49
1:B:176:MET:HG3	1:A:244:PHE:CE1	2.47	0.49
1:B:700:PRO:HB2	1:B:703:GLU:HB2	1.95	0.49
1:A:135:GLU:OE1	1:A:901:TYR:N	2.45	0.49
1:A:340:HIS:HD2	1:A:442:SER:HA	1.77	0.49
2:C:36:MET:H	2:C:76:ARG:HH12	1.59	0.49
2:C:171:HIS:CE1	3:D:186:THR:HG21	2.48	0.49
3:F:130:ARG:HH21	3:F:194:THR:HG22	1.77	0.49
1:B:291:LEU:O	1:B:396:ARG:NH2	2.45	0.49
1:B:338:GLU:OE2	1:B:372:VAL:N	2.44	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:577:LEU:HD11	1:B:606:LEU:HB3	1.95	0.49
2:C:107:PHE:HB3	2:C:110:TRP:NE1	2.28	0.49
1:B:39:ALA:HB3	1:B:276:LEU:HD12	1.93	0.49
1:A:15:ARG:HH21	3:D:76:ALA:HB1	1.78	0.49
1:A:928:LEU:HB3	1:A:1361:VAL:HG13	1.94	0.49
1:A:1272:LEU:HD13	1:A:1299:ALA:HB2	1.94	0.49
2:E:34:TYR:O	2:E:76:ARG:NH2	2.44	0.49
3:F:59:GLN:HB2	3:F:108:TYR:CE2	2.47	0.49
3:F:63:GLN:N	3:F:63:GLN:OE1	2.46	0.49
1:A:694:MET:HG3	1:A:836:ILE:HG22	1.95	0.49
1:A:1159:TRP:CG	1:A:1345:CYS:HB2	2.48	0.49
3:F:152:ALA:HB3	3:F:203:LEU:HB3	1.95	0.49
1:B:410:SER:HB3	1:B:413:ILE:HD12	1.93	0.48
1:B:755:SER:OG	1:B:806:ASN:O	2.29	0.48
1:B:892:GLY:O	1:B:894:ARG:NH1	2.46	0.48
3:D:163:PRO:O	3:D:220:HIS:NE2	2.46	0.48
1:B:776:HIS:CG	2:E:201:TYR:HE1	2.31	0.48
1:A:700:PRO:HB2	1:A:703:GLU:HB2	1.95	0.48
1:A:1236:VAL:HA	1:A:1239:LEU:HB2	1.94	0.48
1:B:210:VAL:HG11	1:A:199:ILE:HD12	1.94	0.48
1:A:67:GLY:HA2	1:A:94:GLY:HA2	1.94	0.48
1:B:572:MET:HA	1:B:576:LEU:HD23	1.95	0.48
1:A:324:LEU:HD21	1:A:331:PRO:HD3	1.95	0.48
1:A:1171:VAL:HG21	1:A:1211:LEU:HD21	1.95	0.48
2:E:56:LYS:HZ3	2:E:76:ARG:HE	1.61	0.48
3:F:38:SER:OG	3:F:39:CYS:N	2.47	0.48
1:B:52:GLU:O	1:B:56:GLU:HG3	2.13	0.48
1:B:485:LEU:HD21	1:B:522:ALA:HB2	1.95	0.48
1:A:367:LEU:HB3	1:A:420:ILE:HG12	1.94	0.48
1:A:466:VAL:HG23	1:A:505:ARG:NH2	2.29	0.48
1:A:1043:LEU:HD23	1:A:1082:TRP:HZ3	1.77	0.48
3:D:130:ARG:HH22	3:D:133:ALA:HB2	1.79	0.48
3:F:130:ARG:HH22	3:F:133:ALA:HB2	1.78	0.48
1:B:862:ASP:HB3	1:B:868:PHE:HD1	1.78	0.48
1:A:716:ALA:HB3	1:A:724:VAL:HB	1.96	0.48
1:A:1019:LEU:HG	1:A:1252:VAL:HG21	1.94	0.48
3:D:28:PRO:HB2	3:D:129:LYS:HG3	1.95	0.48
3:D:38:SER:OG	3:D:39:CYS:N	2.47	0.48
1:A:340:HIS:CD2	1:A:443:PHE:H	2.32	0.48
2:C:87:MET:HG3	2:C:90:LEU:HD21	1.96	0.48
2:E:13:LEU:HD13	2:E:117:THR:HB	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:206:ASN:HB2	2:E:213:LYS:NZ	2.29	0.48
1:B:131:TRP:CZ2	1:B:518:LEU:HD21	2.49	0.48
1:A:103:ALA:HB1	1:A:905:ARG:HB3	1.95	0.48
1:A:704:VAL:HG11	1:A:723:VAL:HG11	1.96	0.48
1:A:1274:SER:HB2	1:A:1292:ASN:HB3	1.96	0.48
3:F:70:TYR:CD2	3:F:71:LEU:HD23	2.48	0.48
1:A:1212:LEU:HD13	1:A:1261:LEU:HG	1.95	0.48
3:D:70:TYR:CD2	3:D:71:LEU:HD23	2.48	0.48
3:D:111:GLN:O	3:D:117:ARG:NH1	2.47	0.48
2:E:48:GLU:HA	3:F:119:THR:HA	1.96	0.48
3:F:166:ALA:HB2	3:F:220:HIS:HB2	1.95	0.48
2:C:54:ARG:HD3	2:C:58:TYR:HE2	1.79	0.48
1:B:251:ALA:H	1:B:267:GLY:H	1.62	0.47
1:B:385:VAL:O	1:B:389:ILE:HG13	2.14	0.47
1:B:704:VAL:HG11	1:B:723:VAL:HG11	1.96	0.47
1:A:9:VAL:HA	1:A:12:TYR:HD2	1.79	0.47
1:A:561:VAL:HA	1:A:654:GLY:HA3	1.96	0.47
2:C:206:ASN:HB2	2:C:213:LYS:NZ	2.29	0.47
1:B:202:ASP:O	1:A:200:SER:HB3	2.15	0.47
1:B:338:GLU:HB2	1:B:391:MET:SD	2.54	0.47
1:A:1025:ALA:HB2	1:A:1241:GLY:HA3	1.95	0.47
2:C:174:PRO:HD2	3:D:184:SER:OG	2.14	0.47
3:D:152:ALA:HB3	3:D:203:LEU:HB3	1.95	0.47
2:E:87:MET:HB3	2:E:90:LEU:HD21	1.96	0.47
1:B:618:ALA:HB3	1:B:623:ARG:HD3	1.96	0.47
1:B:705:ARG:HH21	1:B:814:ALA:HB3	1.79	0.47
1:A:12:TYR:CZ	2:C:106:LEU:HD21	2.50	0.47
1:A:162:PRO:HB3	1:A:913:LYS:NZ	2.28	0.47
1:A:717:VAL:HG12	1:A:812:ARG:HA	1.95	0.47
2:C:34:TYR:O	2:C:76:ARG:NH2	2.44	0.47
2:E:87:MET:HG3	2:E:90:LEU:HD21	1.96	0.47
1:B:189:ALA:HA	1:B:194:LEU:HB2	1.95	0.47
3:F:54:LEU:HD11	3:F:109:CYS:SG	2.55	0.47
1:B:817:VAL:HG21	1:B:840:ALA:HB1	1.96	0.47
1:A:30:LEU:O	1:A:30:LEU:HD23	2.15	0.47
1:A:660:ILE:HA	1:A:663:ALA:HB3	1.96	0.47
2:C:41:GLN:O	2:C:96:ALA:HB1	2.15	0.47
3:D:129:LYS:HB2	3:D:129:LYS:HE2	1.52	0.47
1:B:26:ARG:HA	1:B:29:GLU:HG2	1.96	0.47
1:B:862:ASP:HB3	1:B:868:PHE:CD1	2.50	0.47
1:A:226:LEU:HD12	1:A:227:ALA:N	2.28	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:476:VAL:HG13	1:A:876:PHE:CE2	2.50	0.47
1:A:705:ARG:HH21	1:A:814:ALA:HB3	1.80	0.47
2:C:87:MET:HB3	2:C:90:LEU:HD21	1.96	0.47
1:A:40:MET:SD	1:A:389:ILE:HA	2.54	0.47
1:B:126:MET:HG3	1:B:153:VAL:HG11	1.96	0.47
1:A:1249:ARG:HD2	1:A:1250:ALA:N	2.31	0.47
1:A:631:MET:O	1:A:635:MET:HB2	2.15	0.46
1:A:1000:VAL:HB	1:A:1039:LEU:HD21	1.95	0.46
1:A:1147:GLY:HA2	1:A:1172:SER:HB3	1.97	0.46
1:B:308:LEU:HD21	1:A:183:VAL:HB	1.96	0.46
1:A:151:VAL:HA	1:A:228:MET:HB3	1.97	0.46
3:D:215:ALA:N	3:D:230:SER:HG	2.13	0.46
2:E:54:ARG:HD3	2:E:58:TYR:CE2	2.50	0.46
3:F:110:MET:SD	3:F:117:ARG:HB3	2.55	0.46
1:B:14:ARG:HB3	2:E:34:TYR:CE1	2.51	0.46
1:B:709:GLY:N	1:B:713:GLU:HB2	2.30	0.46
1:B:828:PHE:HB3	1:B:837:LEU:HD11	1.97	0.46
1:A:994:LEU:HA	1:A:997:VAL:HG12	1.97	0.46
1:A:1133:THR:HG22	1:A:1135:ASP:H	1.80	0.46
2:C:54:ARG:HD3	2:C:58:TYR:CE2	2.50	0.46
2:C:80:LYS:NZ	2:C:82:ILE:O	2.38	0.46
3:D:54:LEU:HD11	3:D:109:CYS:SG	2.55	0.46
2:E:31:PHE:CE2	2:E:76:ARG:HB2	2.50	0.46
2:E:54:ARG:HD3	2:E:58:TYR:HE2	1.79	0.46
1:B:108:PHE:HZ	1:B:131:TRP:CE2	2.34	0.46
1:B:188:ILE:HD12	1:B:188:ILE:H	1.79	0.46
1:A:189:ALA:O	1:A:194:LEU:N	2.47	0.46
1:A:526:PRO:HG3	1:A:532:ALA:HB2	1.97	0.46
1:A:656:SER:HB3	1:A:659:GLU:CG	2.45	0.46
1:A:929:ARG:HH22	1:A:1354:ARG:NH1	2.13	0.46
1:A:987:ARG:NH1	1:A:1239:LEU:O	2.48	0.46
2:C:36:MET:H	2:C:76:ARG:NH1	2.13	0.46
3:F:215:ALA:N	3:F:230:SER:HG	2.13	0.46
1:A:296:GLY:O	1:A:453:ILE:HG22	2.15	0.46
1:A:503:ASP:O	1:A:507:ILE:HD12	2.16	0.46
1:A:511:LEU:HD12	1:A:515:ARG:HD3	1.98	0.46
1:A:1259:HIS:O	1:A:1263:ARG:HD3	2.16	0.46
2:C:7:VAL:HG23	2:C:25:THR:HB	1.98	0.46
2:C:35:ALA:HA	2:C:76:ARG:HH12	1.80	0.46
2:C:49:TRP:CZ2	2:C:51:GLY:HA2	2.51	0.46
3:F:80:PRO:HB2	3:F:82:ARG:HG3	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:29:GLU:HA	1:B:33:GLU:HB2	1.98	0.46
1:A:1159:TRP:CZ2	1:A:1349:GLN:HB2	2.50	0.46
2:C:101:THR:HG22	2:C:110:TRP:HD1	1.80	0.46
3:D:100:GLU:H	3:D:103:ASP:HB2	1.81	0.46
2:E:36:MET:H	2:E:76:ARG:NH1	2.13	0.46
1:B:239:GLY:HA2	1:A:165:ALA:HA	1.98	0.46
1:B:635:MET:HE3	1:B:661:ALA:HB1	1.97	0.46
1:B:868:PHE:CE2	1:B:887:VAL:HG13	2.50	0.46
2:C:115:LEU:HD12	2:C:115:LEU:O	2.15	0.46
1:B:92:GLN:NE2	1:B:268:MET:HB3	2.31	0.46
1:B:596:PRO:HD3	1:B:671:LEU:HG	1.97	0.46
1:B:717:VAL:HG12	1:B:812:ARG:HA	1.96	0.46
3:F:60:LYS:HD3	3:F:60:LYS:HA	1.59	0.46
1:B:681:ARG:NH1	1:B:685:ILE:HD11	2.31	0.46
1:A:38:VAL:HB	1:A:276:LEU:HD23	1.97	0.46
1:A:1262:THR:HA	1:A:1265:LEU:HD13	1.97	0.46
1:A:98:LEU:HD13	1:A:100:GLU:HB2	1.97	0.46
3:D:71:LEU:HB2	3:D:74:ASN:HB2	1.98	0.46
1:B:512:ALA:HB1	1:B:884:TRP:HB3	1.98	0.45
1:B:596:PRO:HG3	1:B:672:ASP:OD1	2.16	0.45
1:B:656:SER:HB2	1:B:755:SER:HB3	1.97	0.45
1:A:244:PHE:O	1:A:250:LEU:HD23	2.16	0.45
1:A:1339:MET:HG3	1:A:1363:ASP:OD2	2.16	0.45
1:B:904:GLN:O	1:B:905:ARG:NH2	2.48	0.45
1:A:97:PHE:HA	1:A:270:GLU:HG2	1.98	0.45
1:A:208:SER:HB3	1:A:231:GLY:HA3	1.98	0.45
1:A:596:PRO:HG3	1:A:672:ASP:OD1	2.15	0.45
2:E:7:VAL:HG23	2:E:25:THR:HB	1.98	0.45
1:B:12:TYR:HB3	1:A:13:LEU:HD11	1.98	0.45
1:B:120:ASP:HB2	1:B:178:GLY:O	2.16	0.45
1:A:1310:THR:HG22	1:A:1312:VAL:HG13	1.98	0.45
2:E:55:SER:O	2:E:59:GLY:N	2.41	0.45
1:B:81:HIS:HB2	1:B:89:THR:HG21	1.97	0.45
2:E:35:ALA:HA	2:E:76:ARG:HH12	1.80	0.45
2:E:115:LEU:HD12	2:E:115:LEU:O	2.15	0.45
1:B:275:LEU:HD23	1:B:385:VAL:HG23	1.99	0.45
1:B:329:LEU:HD12	1:B:453:ILE:HG21	1.99	0.45
1:A:335:ASP:HB2	1:A:429:TRP:CZ2	2.51	0.45
1:A:1282:ALA:HB1	1:A:1285:LEU:HD12	1.98	0.45
2:C:56:LYS:HZ3	2:C:76:ARG:HE	1.65	0.45
1:B:97:PHE:HD1	1:B:270:GLU:HG2	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:680:LEU:HD12	1:A:770:GLU:HB2	1.97	0.45
1:A:1205:ARG:NE	1:A:1257:ASN:OD1	2.49	0.45
1:A:1291:GLY:O	1:A:1295:LEU:HG	2.16	0.45
3:D:106:VAL:HA	3:D:124:THR:O	2.17	0.45
1:A:11:GLU:HA	1:A:14:ARG:HE	1.82	0.45
1:A:77:ASP:OD1	1:A:78:SER:N	2.50	0.45
1:A:257:LYS:HE3	1:A:257:LYS:HB3	1.72	0.45
1:A:334:ILE:HD13	1:A:359:TYR:CE1	2.48	0.45
1:A:378:HIS:CD2	1:A:380:GLN:H	2.34	0.45
1:A:785:PHE:HD1	1:A:785:PHE:HA	1.65	0.45
2:C:31:PHE:CE2	2:C:76:ARG:HB2	2.50	0.45
1:B:42:CYS:HB2	1:B:44:LEU:HG	1.99	0.45
1:B:55:TRP:HZ3	1:B:401:PRO:HG3	1.82	0.45
1:B:93:ARG:N	1:B:252:PRO:O	2.42	0.45
1:B:121:PRO:HA	1:B:124:ARG:HD2	1.99	0.45
1:B:475:TRP:CD1	1:B:508:ALA:HB2	2.51	0.45
1:A:127:LEU:HD21	1:A:187:ARG:HB3	1.99	0.45
1:A:711:ARG:HH21	1:A:759:HIS:HB2	1.81	0.45
1:A:929:ARG:HG3	1:A:1359:PRO:HB3	1.99	0.45
3:D:58:LEU:HD13	3:D:107:TYR:CD1	2.52	0.45
1:B:15:ARG:HH21	3:F:76:ALA:HB1	1.81	0.45
1:A:139:ILE:HD11	1:A:288:HIS:CG	2.51	0.45
1:B:126:MET:CE	1:B:232:VAL:HB	2.47	0.45
1:A:50:THR:OG1	1:A:136:ARG:NH1	2.37	0.45
1:A:553:ARG:NE	1:A:852:LEU:O	2.49	0.45
1:A:583:PHE:CE2	1:A:587:LEU:HD11	2.52	0.45
1:A:595:GLU:HB2	1:A:671:LEU:HD21	1.97	0.45
1:A:874:ARG:HA	1:A:874:ARG:NE	2.32	0.45
2:C:39:VAL:HG23	2:C:101:THR:HG21	1.99	0.45
1:A:1031:VAL:HG21	1:A:1074:ILE:HD13	1.98	0.44
3:D:169:GLN:O	3:D:216:CYS:HA	2.18	0.44
1:B:30:LEU:HD21	1:A:30:LEU:HD22	1.98	0.44
1:B:104:PHE:HD2	1:B:116:ALA:HB1	1.82	0.44
1:B:256:CYS:SG	1:B:378:HIS:N	2.90	0.44
1:B:342:THR:HG23	1:B:344:THR:HG22	1.99	0.44
1:B:668:ALA:H	1:B:780:GLY:HA2	1.82	0.44
1:A:331:PRO:O	1:A:363:ARG:NH1	2.51	0.44
1:A:1043:LEU:HD23	1:A:1082:TRP:CZ3	2.52	0.44
2:E:101:THR:HG22	2:E:110:TRP:HD1	1.80	0.44
1:B:680:LEU:HD12	1:B:770:GLU:HB2	1.99	0.44
1:A:637:SER:O	1:A:641:MET:HG2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:817:VAL:HG21	1:A:840:ALA:HB1	1.99	0.44
1:A:1076:LEU:HA	1:A:1376:GLN:NE2	2.32	0.44
1:A:1125:TRP:N	1:A:1381:LEU:O	2.49	0.44
1:A:1315:GLY:H	1:A:1339:MET:HE3	1.82	0.44
3:F:71:LEU:HB2	3:F:74:ASN:HB2	1.98	0.44
3:F:112:SER:HA	3:F:117:ARG:CZ	2.47	0.44
3:F:169:GLN:O	3:F:216:CYS:HA	2.18	0.44
1:B:335:ASP:HB2	1:B:429:TRP:HZ2	1.80	0.44
1:B:866:ALA:C	1:B:868:PHE:N	2.70	0.44
1:A:828:PHE:HB3	1:A:837:LEU:HD11	1.98	0.44
1:B:648:GLU:OE2	1:A:314:ARG:NH2	2.51	0.44
1:A:560:PHE:CE1	1:A:829:LEU:HD13	2.52	0.44
1:A:1125:TRP:HD1	1:A:1385:ILE:HD11	1.82	0.44
1:A:1383:ASP:HA	1:A:1389:ARG:HH12	1.83	0.44
2:C:161:TRP:HD1	2:C:170:VAL:HG13	1.82	0.44
1:B:30:LEU:CD2	1:A:30:LEU:HD22	2.48	0.44
1:B:79:LEU:O	1:B:90:ALA:N	2.30	0.44
1:B:189:ALA:O	1:B:194:LEU:N	2.51	0.44
1:B:493:ALA:HB2	1:B:536:LEU:HB3	1.99	0.44
1:B:694:MET:HE1	1:B:715:ALA:HB3	1.99	0.44
2:C:41:GLN:NE2	2:C:42:ALA:O	2.51	0.44
2:E:155:GLU:HG3	2:E:175:ALA:CB	2.43	0.44
2:E:161:TRP:HD1	2:E:170:VAL:HG13	1.82	0.44
1:B:43:ARG:CG	1:B:129:LEU:HD21	2.48	0.44
1:B:215:ALA:HB1	1:B:227:ALA:HB1	1.99	0.44
1:A:502:GLN:HB3	1:A:507:ILE:HD11	2.00	0.44
1:A:665:VAL:O	1:A:781:PHE:HB3	2.17	0.44
1:A:954:TYR:HD2	1:A:956:GLY:H	1.66	0.44
1:A:1259:HIS:CE1	1:A:1302:ARG:HG2	2.52	0.44
2:E:124:LYS:HE2	2:E:124:LYS:HB2	1.66	0.44
1:B:92:GLN:NE2	1:B:241:LEU:HD22	2.32	0.44
1:B:363:ARG:HA	1:B:363:ARG:HD2	1.80	0.44
1:A:1103:VAL:HG13	1:A:1113:LEU:HG	1.98	0.44
1:A:1212:LEU:HD11	1:A:1265:LEU:HD21	2.00	0.44
1:A:1227:ALA:HB2	1:A:1273:PHE:HD2	1.82	0.44
1:B:513:THR:OG1	1:B:895:ARG:NH2	2.51	0.44
1:B:602:VAL:O	1:B:606:LEU:HG	2.18	0.44
1:A:103:ALA:HB1	1:A:905:ARG:HD3	2.00	0.44
1:A:216:CYS:O	1:A:220:ARG:HG2	2.18	0.44
1:A:693:GLY:HA3	1:A:732:LEU:HD11	2.00	0.44
1:A:953:LYS:HA	1:A:1007:LEU:HB3	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1068:TRP:CG	1:A:1085:LEU:HD22	2.53	0.44
1:A:1144:LEU:HD22	1:A:1224:VAL:HG13	2.00	0.44
3:D:70:TYR:HD2	3:D:71:LEU:HD23	1.83	0.44
2:E:189:VAL:HG21	2:E:201:TYR:CD2	2.53	0.44
1:B:10:ALA:O	1:B:13:LEU:HB2	2.18	0.43
1:B:339:ALA:HB1	1:B:351:GLU:OE2	2.18	0.43
1:A:108:PHE:HZ	1:A:131:TRP:CE2	2.36	0.43
1:A:264:ASN:O	1:A:345:ARG:NH1	2.51	0.43
1:A:302:ASP:OD1	1:A:449:ASN:ND2	2.40	0.43
1:A:318:ARG:HB3	1:A:322:GLN:HE22	1.83	0.43
1:B:390:LYS:HE2	1:B:401:PRO:HB2	1.99	0.43
1:A:756:HIS:HB3	1:A:810:THR:HA	2.00	0.43
1:A:1262:THR:HG22	1:A:1265:LEU:HD22	2.00	0.43
3:F:130:ARG:NH2	3:F:194:THR:HG22	2.34	0.43
1:A:14:ARG:HA	3:F:51:TYR:OH	2.18	0.43
1:A:55:TRP:HB2	1:A:393:LEU:HD13	1.99	0.43
3:D:45:LEU:HD12	3:D:92:PHE:HE2	1.83	0.43
2:E:22:LEU:HD23	2:E:22:LEU:HA	1.91	0.43
3:F:88:SER:N	3:F:91:ASP:O	2.48	0.43
1:A:220:ARG:NH2	1:A:295:ARG:O	2.51	0.43
1:A:515:ARG:NH2	1:A:899:PRO:O	2.50	0.43
1:A:596:PRO:HD3	1:A:671:LEU:HG	2.01	0.43
1:A:641:MET:HE3	1:A:881:ALA:H	1.83	0.43
1:A:950:LEU:HG	1:A:977:ARG:HB3	2.00	0.43
1:A:1327:VAL:HA	1:A:1330:ARG:HD2	2.00	0.43
1:B:509:TYR:O	1:B:895:ARG:NH2	2.52	0.43
1:B:711:ARG:HH21	1:B:759:HIS:HB2	1.83	0.43
1:A:531:ALA:O	1:A:535:VAL:HG23	2.18	0.43
3:D:59:GLN:HB3	3:D:106:VAL:HB	2.00	0.43
1:B:12:TYR:HE1	3:F:70:TYR:HB2	1.83	0.43
1:B:30:LEU:HD11	1:A:31:GLU:HG3	2.00	0.43
1:A:51:PRO:HD2	1:A:136:ARG:CZ	2.48	0.43
1:A:300:ASN:O	1:A:449:ASN:N	2.51	0.43
1:A:333:ASP:OD2	3:F:98:ARG:NH1	2.52	0.43
2:E:21:ARG:HE	2:E:22:LEU:N	2.17	0.43
3:F:45:LEU:HD12	3:F:92:PHE:HE2	1.83	0.43
3:F:70:TYR:HD2	3:F:71:LEU:HD23	1.83	0.43
1:B:208:SER:O	1:B:212:VAL:HG13	2.19	0.43
1:B:209:LEU:O	1:B:212:VAL:HG22	2.18	0.43
1:A:155:LEU:HD11	1:A:184:ALA:HB3	2.00	0.43
1:A:1013:GLU:HB2	1:A:1061:ASN:HD21	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:21:ARG:HE	2:C:22:LEU:N	2.17	0.43
2:C:87:MET:N	2:C:87:MET:SD	2.91	0.43
2:C:189:VAL:HG21	2:C:201:TYR:CD2	2.53	0.43
1:B:149:THR:C	1:B:196:GLY:HA3	2.39	0.43
1:B:662:ALA:HA	1:B:665:VAL:HG22	2.00	0.43
1:A:861:GLY:HA3	1:A:874:ARG:HG3	2.01	0.43
1:B:235:MET:N	1:B:270:GLU:OE1	2.52	0.43
1:B:774:ASP:HB3	1:B:776:HIS:CD2	2.54	0.43
1:A:479:ALA:O	1:A:520:HIS:N	2.47	0.43
1:A:868:PHE:CE2	1:A:872:LEU:HD11	2.53	0.43
1:B:266:PHE:HB3	1:B:344:THR:HB	2.01	0.43
1:B:621:THR:HB	1:B:751:VAL:HA	2.01	0.43
1:B:802:TYR:O	1:B:805:ARG:HG2	2.19	0.43
1:B:828:PHE:CD2	1:B:852:LEU:HB3	2.54	0.43
1:A:103:ALA:HA	1:A:906:GLU:O	2.19	0.43
1:A:115:GLU:HG3	1:A:174:TYR:CG	2.54	0.43
1:A:561:VAL:HG13	1:A:654:GLY:CA	2.48	0.43
1:A:914:PRO:HA	1:A:918:ARG:HH21	1.84	0.43
2:E:110:TRP:CZ3	3:F:65:PRO:HB2	2.54	0.43
1:B:3:SER:HB3	1:B:6:SER:OG	2.18	0.42
1:B:43:ARG:HD3	1:B:49:SER:HA	2.01	0.42
1:A:124:ARG:NH1	1:A:908:VAL:O	2.52	0.42
1:B:36:ALA:HA	1:B:293:VAL:HA	2.01	0.42
1:B:162:PRO:HA	1:A:163:ARG:HH22	1.83	0.42
1:B:216:CYS:SG	1:B:277:LEU:HD21	2.59	0.42
1:B:249:SER:HG	1:B:266:PHE:HD1	1.66	0.42
1:B:596:PRO:HG2	1:B:597:HIS:ND1	2.34	0.42
1:B:708:ILE:HA	1:B:713:GLU:HG3	2.01	0.42
1:B:908:VAL:HG23	1:B:908:VAL:O	2.19	0.42
1:A:42:CYS:HB3	1:A:389:ILE:HD13	2.00	0.42
1:A:704:VAL:HG21	1:A:723:VAL:HG21	2.01	0.42
1:A:709:GLY:N	1:A:713:GLU:HB2	2.34	0.42
2:C:110:TRP:HH2	3:D:57:TYR:CG	2.36	0.42
1:B:122:GLN:HG3	1:B:234:VAL:HB	2.02	0.42
1:B:158:GLN:HB3	1:B:159:GLU:H	1.58	0.42
1:A:226:LEU:HD21	1:A:276:LEU:HD11	2.01	0.42
3:D:58:LEU:HB3	3:D:68:LEU:HD11	2.01	0.42
2:E:39:VAL:HG13	2:E:49:TRP:HA	1.99	0.42
1:B:402:ARG:HE	1:B:426:PRO:HG3	1.85	0.42
1:B:704:VAL:HG11	1:B:723:VAL:HG21	2.00	0.42
1:A:828:PHE:CD2	1:A:852:LEU:HB3	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:23:SER:HA	3:D:39:CYS:HA	2.02	0.42
3:D:127:ASP:OD2	3:D:162:TYR:HE1	2.02	0.42
2:E:131:LEU:HD21	3:F:140:PHE:CD2	2.54	0.42
3:F:23:SER:HA	3:F:39:CYS:HA	2.02	0.42
1:A:174:TYR:HA	1:A:177:THR:OG1	2.19	0.42
1:A:316:GLN:O	1:A:319:VAL:HG12	2.20	0.42
1:A:1169:LEU:HD23	1:A:1196:THR:HB	2.01	0.42
1:A:1315:GLY:H	1:A:1339:MET:CE	2.32	0.42
3:D:88:SER:N	3:D:91:ASP:O	2.48	0.42
2:E:64:TYR:HB3	2:E:68:VAL:HG23	2.02	0.42
3:F:127:ASP:OD2	3:F:162:TYR:HE1	2.02	0.42
1:B:163:ARG:O	1:B:166:GLU:HG2	2.19	0.42
1:B:506:ASP:OD1	1:B:894:ARG:N	2.39	0.42
1:A:12:TYR:CE1	2:C:106:LEU:HD21	2.55	0.42
1:A:373:LYS:HD3	1:A:378:HIS:HA	2.01	0.42
2:C:110:TRP:CE3	3:D:65:PRO:HB2	2.54	0.42
2:E:87:MET:SD	2:E:87:MET:N	2.91	0.42
2:E:146:GLY:HA2	2:E:161:TRP:CZ2	2.55	0.42
1:B:97:PHE:CD1	1:B:270:GLU:HG2	2.55	0.42
1:A:330:GLY:N	1:A:333:ASP:OD2	2.53	0.42
3:F:138:PHE:O	3:F:157:LEU:N	2.52	0.42
1:B:240:MET:HB3	1:A:164:LEU:HD23	2.00	0.42
1:A:510:SER:HB3	1:A:895:ARG:HA	2.00	0.42
1:A:704:VAL:HG11	1:A:723:VAL:HG21	2.02	0.42
1:A:718:ASN:ND2	1:A:840:ALA:HB2	2.35	0.42
2:C:64:TYR:HB3	2:C:68:VAL:HG23	2.02	0.42
1:B:774:ASP:HB3	1:B:776:HIS:HD2	1.84	0.42
1:A:69:PRO:HG3	1:A:97:PHE:HB3	2.02	0.42
1:A:565:GLN:HB3	1:A:751:VAL:HG11	2.02	0.42
1:A:42:CYS:HA	1:A:273:GLY:HA2	2.01	0.42
1:A:338:GLU:HG2	1:A:440:VAL:HG13	2.01	0.42
3:D:58:LEU:HD11	3:D:105:GLY:HA3	2.02	0.42
2:E:110:TRP:HH2	3:F:57:TYR:CG	2.38	0.42
3:F:70:TYR:O	3:F:74:ASN:N	2.52	0.42
1:B:58:LEU:HB3	1:B:401:PRO:HB3	2.02	0.41
1:A:718:ASN:HD21	1:A:813:PHE:HB3	1.84	0.41
1:A:1159:TRP:CD1	1:A:1345:CYS:HB2	2.54	0.41
1:B:23:ALA:O	1:B:27:ILE:HG12	2.20	0.41
1:B:479:ALA:HA	1:B:901:TYR:HE2	1.85	0.41
1:B:872:LEU:HD21	1:B:882:VAL:HG21	2.02	0.41
1:A:102:THR:HG22	1:A:909:TRP:CD2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:259:PHE:CE2	1:A:369:LEU:HD21	2.55	0.41
1:A:602:VAL:O	1:A:606:LEU:N	2.50	0.41
1:A:724:VAL:HG21	1:A:836:ILE:O	2.20	0.41
2:C:131:LEU:HD21	3:D:140:PHE:CD2	2.55	0.41
3:D:70:TYR:O	3:D:74:ASN:N	2.52	0.41
1:B:406:ALA:HB1	1:B:422:LEU:HD21	2.02	0.41
1:B:830:GLU:HG2	1:B:837:LEU:HD21	2.02	0.41
1:A:277:LEU:HD11	1:A:294:LEU:HD23	2.02	0.41
1:A:596:PRO:HG2	1:A:597:HIS:ND1	2.35	0.41
1:A:944:ARG:HD3	1:A:944:ARG:HA	1.92	0.41
2:C:171:HIS:HE1	3:D:186:THR:HG21	1.85	0.41
1:B:91:HIS:CG	1:B:245:SER:HB3	2.56	0.41
1:B:313:GLY:O	1:B:317:VAL:HG23	2.20	0.41
1:B:373:LYS:O	1:B:377:GLY:N	2.52	0.41
1:A:126:MET:CE	1:A:232:VAL:HB	2.50	0.41
1:A:681:ARG:NH1	1:A:685:ILE:HD11	2.31	0.41
2:C:53:ILE:HG13	2:C:62:THR:HG22	2.03	0.41
3:D:171:LYS:HD3	3:D:172:VAL:HB	2.02	0.41
1:B:568:GLN:HG2	1:B:634:VAL:HB	2.01	0.41
1:B:660:ILE:HG12	1:B:803:TRP:NE1	2.35	0.41
1:A:119:VAL:O	1:A:124:ARG:NH2	2.38	0.41
1:A:255:ARG:HG2	1:A:405:HIS:NE2	2.36	0.41
1:A:1108:ALA:O	1:A:1380:ARG:NH1	2.53	0.41
3:D:142:PRO:HD3	3:D:154:VAL:HB	2.01	0.41
2:E:189:VAL:HG21	2:E:201:TYR:HD2	1.86	0.41
1:B:10:ALA:O	1:B:14:ARG:HG3	2.21	0.41
1:A:438:ALA:O	1:A:454:ILE:HG22	2.20	0.41
1:A:577:LEU:HD11	1:A:606:LEU:HB3	2.02	0.41
1:A:1277:ALA:HB2	1:A:1285:LEU:HD13	2.03	0.41
2:C:146:GLY:HA2	2:C:161:TRP:CZ2	2.55	0.41
2:C:159:VAL:HG22	2:C:205:VAL:HG13	2.02	0.41
2:C:189:VAL:HG21	2:C:201:TYR:HD2	1.86	0.41
3:D:60:LYS:HA	3:D:60:LYS:HD3	1.59	0.41
1:B:294:LEU:HD12	1:B:453:ILE:O	2.20	0.41
1:B:359:TYR:OH	1:B:451:HIS:NE2	2.53	0.41
1:B:627:VAL:HG12	1:B:631:MET:HG2	2.02	0.41
1:B:635:MET:SD	1:B:661:ALA:HB1	2.60	0.41
1:B:874:ARG:H	1:B:874:ARG:HG2	1.60	0.41
1:A:15:ARG:HD2	1:A:15:ARG:HA	1.84	0.41
1:A:495:HIS:CG	1:A:899:PRO:HD3	2.56	0.41
1:A:694:MET:SD	1:A:695:ALA:N	2.93	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1123:ARG:HH22	1:A:1279:ALA:HA	1.86	0.41
2:C:56:LYS:HE2	2:C:56:LYS:HB2	1.94	0.41
1:B:378:HIS:CD2	1:B:380:GLN:H	2.39	0.41
1:B:904:GLN:O	1:B:904:GLN:HG2	2.21	0.41
1:A:180:THR:O	1:A:183:VAL:HG22	2.21	0.41
1:A:692:LYS:HE2	1:A:692:LYS:HB3	1.93	0.41
1:A:1339:MET:HE2	1:A:1339:MET:HB2	1.87	0.41
3:D:50:GLY:HA3	2:E:33:ASP:OD1	2.21	0.41
3:D:130:ARG:NH2	3:D:194:THR:HG22	2.34	0.41
1:B:7:GLU:OE2	2:E:58:TYR:CZ	2.74	0.41
1:B:72:ARG:NE	1:B:235:MET:O	2.54	0.41
1:B:121:PRO:HA	1:B:124:ARG:CD	2.50	0.41
1:B:182:SER:HB2	1:A:202:ASP:OD1	2.21	0.41
1:B:559:VAL:HG11	1:B:820:LEU:HD13	2.03	0.41
1:A:40:MET:HG2	1:A:275:LEU:CD1	2.50	0.41
1:A:149:THR:HB	1:A:194:LEU:HD11	2.03	0.41
1:A:744:ILE:HG13	1:A:745:ARG:H	1.86	0.41
1:A:828:PHE:H	1:A:853:SER:H	1.69	0.41
1:A:1068:TRP:O	1:A:1072:ARG:HG3	2.21	0.41
2:C:26:ALA:HB1	2:C:29:PHE:CE1	2.56	0.41
2:E:53:ILE:HG13	2:E:62:THR:HG22	2.03	0.41
1:B:33:GLU:O	1:B:220:ARG:NH1	2.54	0.41
1:B:140:PRO:HB2	1:B:143:SER:HB3	2.02	0.41
1:A:57:LEU:HG	1:A:62:ARG:CG	2.51	0.41
1:A:642:TRP:HE3	1:A:829:LEU:HD21	1.86	0.41
3:F:60:LYS:HG3	3:F:63:GLN:CD	2.41	0.41
3:F:142:PRO:HD3	3:F:154:VAL:HB	2.01	0.41
3:F:171:LYS:HD3	3:F:172:VAL:HB	2.02	0.41
1:B:320:ILE:HG22	1:B:451:HIS:CG	2.56	0.40
1:A:1151:GLY:HA3	1:A:1320:SER:HA	2.02	0.40
2:C:124:LYS:HE2	2:C:124:LYS:HB2	1.91	0.40
3:D:60:LYS:HG3	3:D:63:GLN:CD	2.41	0.40
1:B:164:LEU:HD13	1:B:164:LEU:HA	1.91	0.40
1:B:257:LYS:HG3	1:B:405:HIS:HB3	2.02	0.40
1:B:565:GLN:HA	1:B:751:VAL:HG21	2.03	0.40
1:B:631:MET:O	1:B:635:MET:HB3	2.20	0.40
1:B:715:ALA:HB2	1:B:757:SER:HB2	2.02	0.40
2:C:95:THR:OG1	2:C:118:VAL:O	2.40	0.40
2:E:26:ALA:HB1	2:E:29:PHE:CE1	2.56	0.40
1:B:495:HIS:CG	1:B:899:PRO:HD3	2.55	0.40
1:A:36:ALA:HB1	1:A:290:VAL:HG13	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:49:TRP:CE2	2:C:51:GLY:HA2	2.57	0.40
2:E:56:LYS:HE2	2:E:56:LYS:HB2	1.94	0.40
2:E:128:VAL:HG12	2:E:216:LYS:HZ2	1.86	0.40
3:F:130:ARG:NH1	3:F:131:THR:O	2.55	0.40
1:B:10:ALA:HA	1:B:13:LEU:HD23	2.03	0.40
1:B:124:ARG:HG2	1:B:125:LEU:HD22	2.04	0.40
1:B:485:LEU:HD13	1:B:520:HIS:O	2.22	0.40
1:A:318:ARG:NH1	1:A:321:GLN:OE1	2.54	0.40
1:A:453:ILE:HD12	1:A:453:ILE:HA	1.94	0.40
1:A:906:GLU:HG2	1:A:907:ARG:H	1.87	0.40
3:D:64:SER:HA	3:D:65:PRO:HD3	1.93	0.40
3:D:129:LYS:HA	3:D:162:TYR:OH	2.22	0.40
3:D:130:ARG:NH1	3:D:131:THR:O	2.55	0.40
3:F:139:ILE:HG22	3:F:229:LYS:HD3	2.04	0.40
1:B:218:SER:HA	1:B:221:ARG:CZ	2.52	0.40
1:A:34:PRO:HB2	1:A:280:LEU:HB2	2.04	0.40
1:A:312:ASN:HB3	1:A:315:ALA:HB3	2.02	0.40
1:A:718:ASN:ND2	1:A:813:PHE:HB3	2.36	0.40
2:C:38:TRP:CE2	2:C:85:LEU:HB2	2.57	0.40
2:C:128:VAL:HG12	2:C:216:LYS:HZ2	1.86	0.40
3:D:138:PHE:O	3:D:157:LEU:N	2.53	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	1388/1593 (87%)	1300 (94%)	88 (6%)	0	100	100
1	B	910/1593 (57%)	844 (93%)	65 (7%)	1 (0%)	48	83
2	C	199/249 (80%)	193 (97%)	5 (2%)	1 (0%)	25	63
2	E	199/249 (80%)	191 (96%)	7 (4%)	1 (0%)	25	63

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	D	200/236 (85%)	187 (94%)	13 (6%)	0	100	100
3	F	200/236 (85%)	181 (90%)	19 (10%)	0	100	100
All	All	3096/4156 (74%)	2896 (94%)	197 (6%)	3 (0%)	50	83

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	C	156	PRO
2	E	154	PRO
1	B	864	SER

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	1022/1173 (87%)	989 (97%)	33 (3%)	34	55
1	B	675/1173 (58%)	646 (96%)	29 (4%)	25	48
2	C	170/203 (84%)	157 (92%)	13 (8%)	11	31
2	E	170/203 (84%)	157 (92%)	13 (8%)	11	31
3	D	181/208 (87%)	164 (91%)	17 (9%)	7	23
3	F	181/208 (87%)	165 (91%)	16 (9%)	8	26
All	All	2399/3168 (76%)	2278 (95%)	121 (5%)	23	43

All (121) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	86	ARG
1	B	124	ARG
1	B	155	LEU
1	B	158	GLN
1	B	214	LEU
1	B	537	ASP
1	B	543	ASN

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Mol	Chain	Res	Type
1	B	551	THR
1	B	553	ARG
1	B	555	GLN
1	B	557	ARG
1	B	569	TRP
1	B	572	MET
1	B	574	VAL
1	B	643	ARG
1	B	657	GLN
1	B	692	LYS
1	B	786	SER
1	B	789	THR
1	B	791	ARG
1	B	794	GLN
1	B	857	SER
1	B	858	LEU
1	B	864	SER
1	B	865	LEU
1	B	867	ASP
1	B	872	LEU
1	B	874	ARG
1	B	882	VAL
1	A	194	LEU
1	A	203	THR
1	A	205	CYS
1	A	208	SER
1	A	210	VAL
1	A	235	MET
1	A	314	ARG
1	A	572	MET
1	A	612	ARG
1	A	643	ARG
1	A	653	ILE
1	A	660	ILE
1	A	664	CYS
1	A	669	LEU
1	A	784	PHE
1	A	785	PHE
1	A	788	VAL
1	A	789	THR
1	A	793	THR
1	A	794	GLN

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Mol	Chain	Res	Type
1	A	813	PHE
1	A	859	ARG
1	A	976	VAL
1	A	977	ARG
1	A	1058	ARG
1	A	1173	ARG
1	A	1246	ARG
1	A	1316	THR
1	A	1317	TRP
1	A	1320	SER
1	A	1322	MET
1	A	1350	ASN
1	A	1368	ARG
2	C	5	GLN
2	C	36	MET
2	C	47	LEU
2	C	48	GLU
2	C	63	GLU
2	C	80	LYS
2	C	87	MET
2	C	91	LYS
2	C	120	SER
2	C	134	SER
2	C	157	VAL
2	C	158	THR
2	C	171	HIS
3	D	22	GLN
3	D	59	GLN
3	D	60	LYS
3	D	74	ASN
3	D	95	LYS
3	D	115	THR
3	D	117	ARG
3	D	118	LEU
3	D	119	THR
3	D	129	LYS
3	D	148	LYS
3	D	167	LYS
3	D	183	GLU
3	D	185	VAL
3	D	197	LEU
3	D	221	GLN

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Mol	Chain	Res	Type
3	D	225	SER
2	E	5	GLN
2	E	36	MET
2	E	48	GLU
2	E	63	GLU
2	E	80	LYS
2	E	87	MET
2	E	91	LYS
2	E	120	SER
2	E	124	LYS
2	E	134	SER
2	E	155	GLU
2	E	158	THR
2	E	171	HIS
3	F	22	GLN
3	F	60	LYS
3	F	74	ASN
3	F	95	LYS
3	F	110	MET
3	F	112	SER
3	F	115	THR
3	F	117	ARG
3	F	125	LYS
3	F	148	LYS
3	F	167	LYS
3	F	183	GLU
3	F	185	VAL
3	F	197	LEU
3	F	221	GLN
3	F	225	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (9) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	380	GLN
1	B	776	HIS
1	A	322	GLN
1	A	340	HIS
1	A	718	ASN
1	A	794	GLN
1	A	1032	GLN
1	A	1112	GLN

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Mol	Chain	Res	Type
3	F	221	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 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.

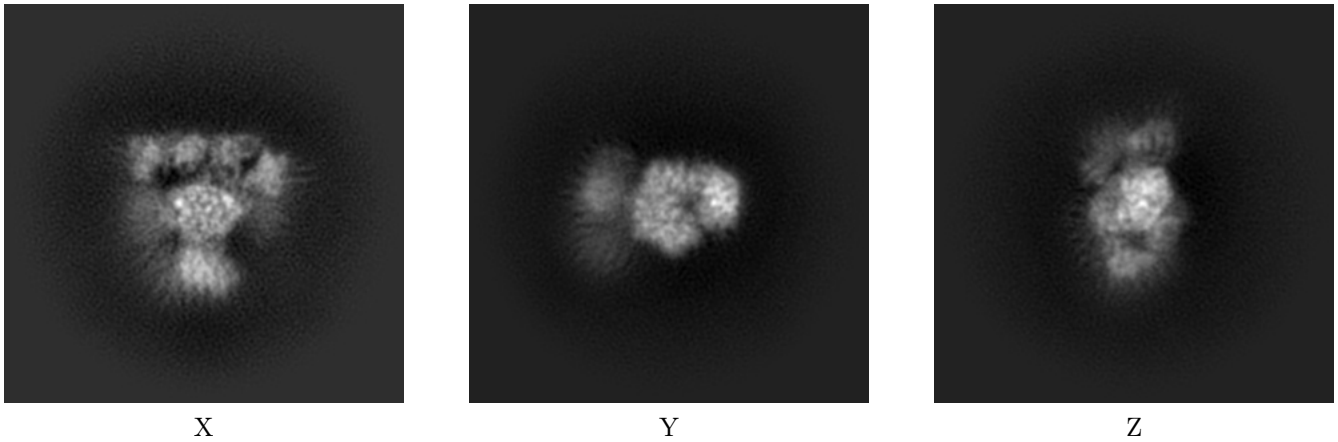
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-23715. 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](#)

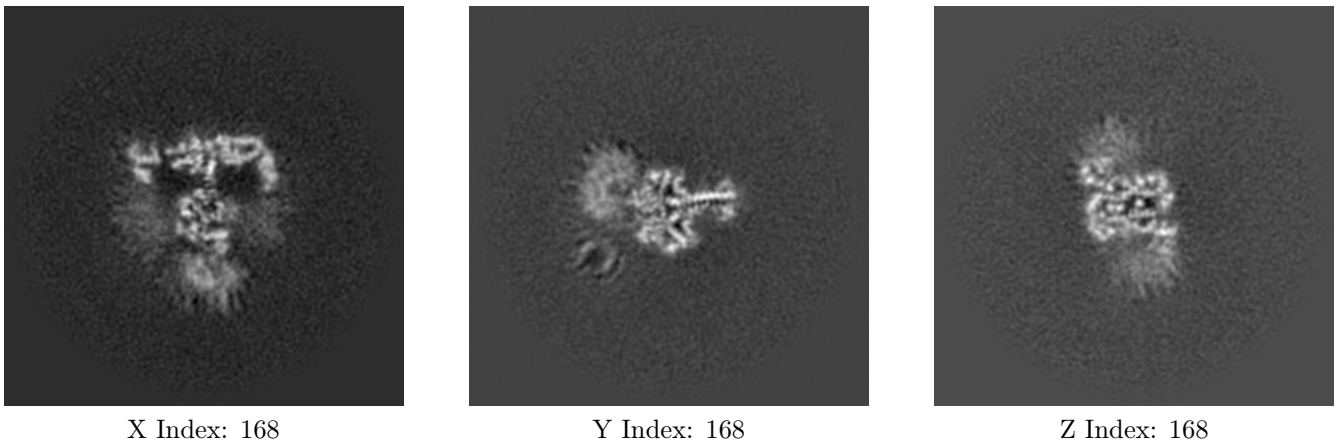
6.1.1 Primary map



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

6.2 Central slices [i](#)

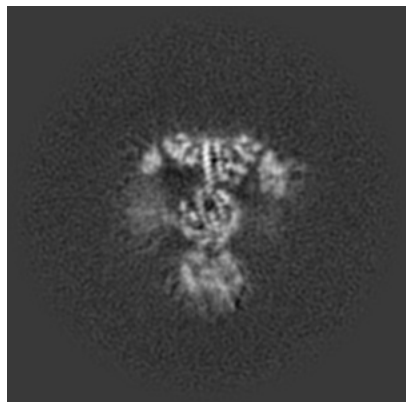
6.2.1 Primary map



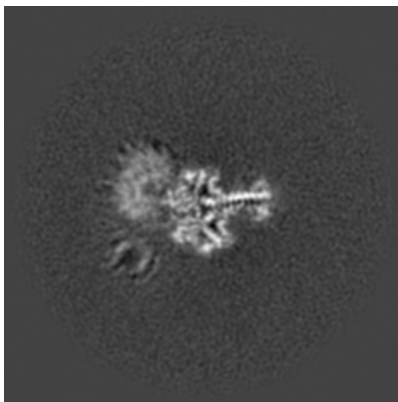
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

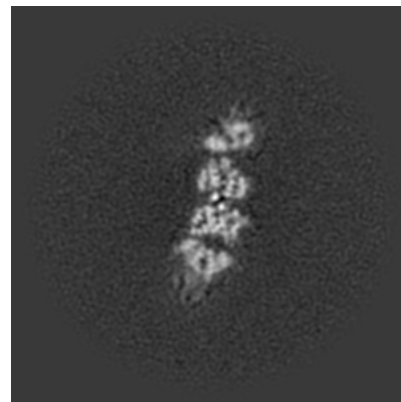
6.3.1 Primary map



X Index: 177



Y Index: 168

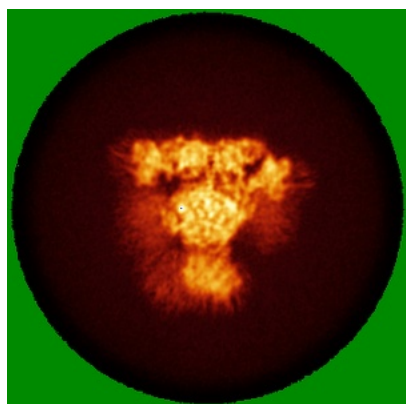


Z Index: 206

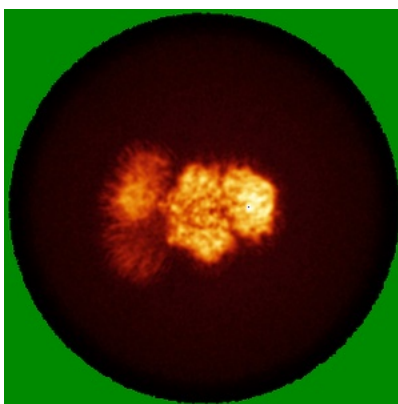
The images above show the largest variance slices of the map in three orthogonal directions.

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

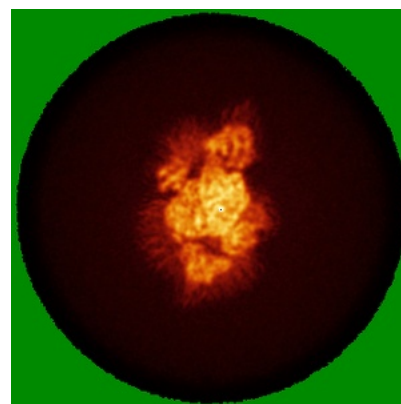
6.4.1 Primary map



X



Y

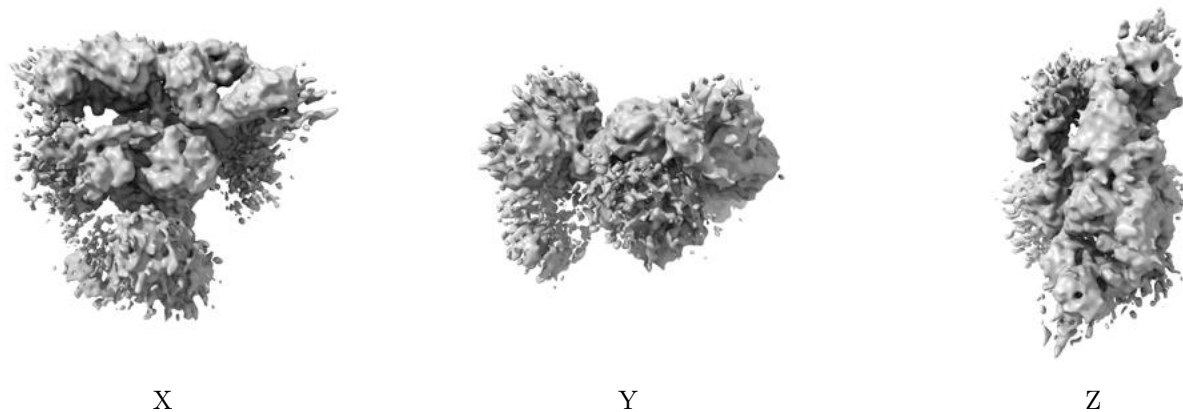


Z

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



The images above show the 3D surface view of the map at the recommended contour level 0.28. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

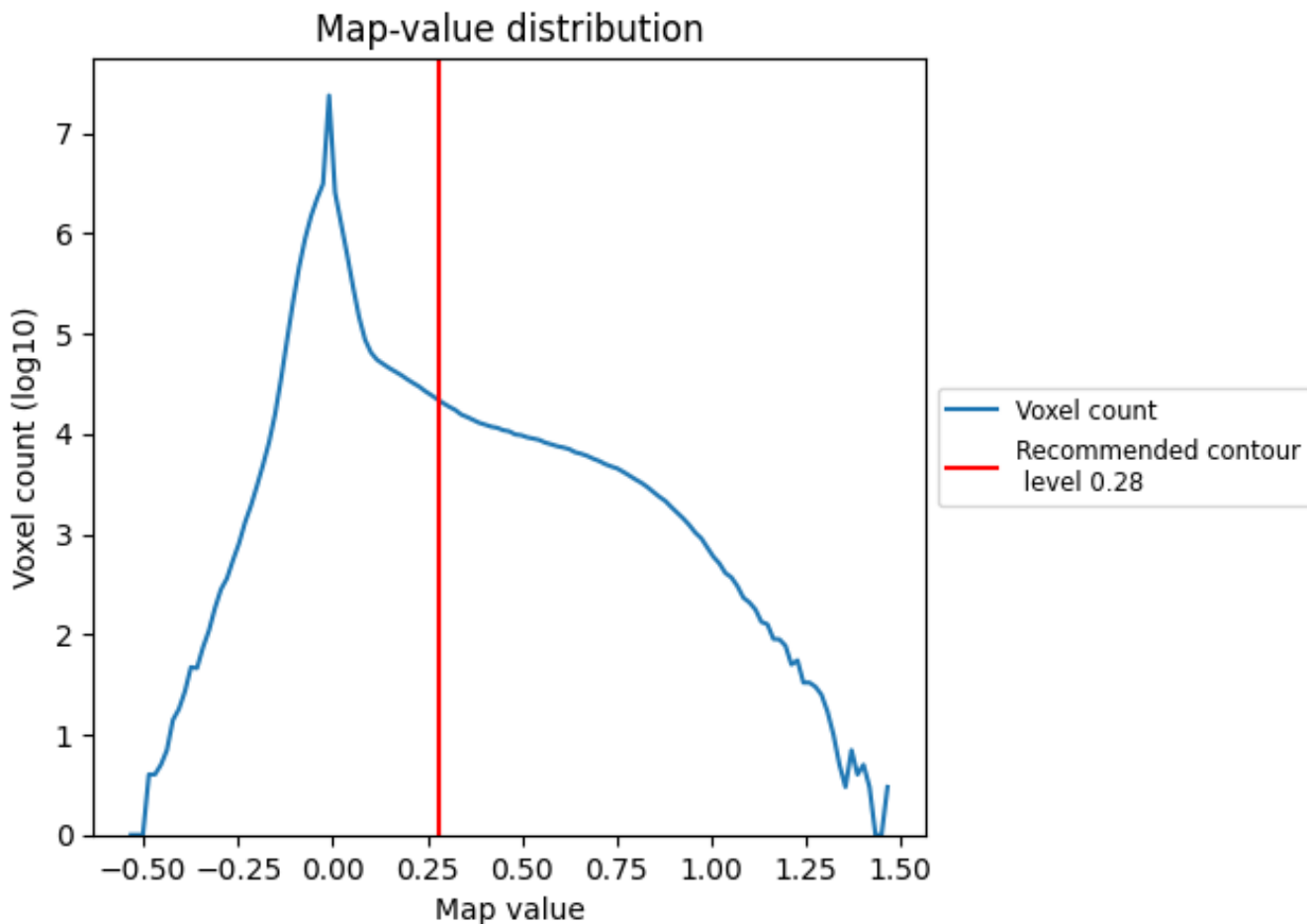
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

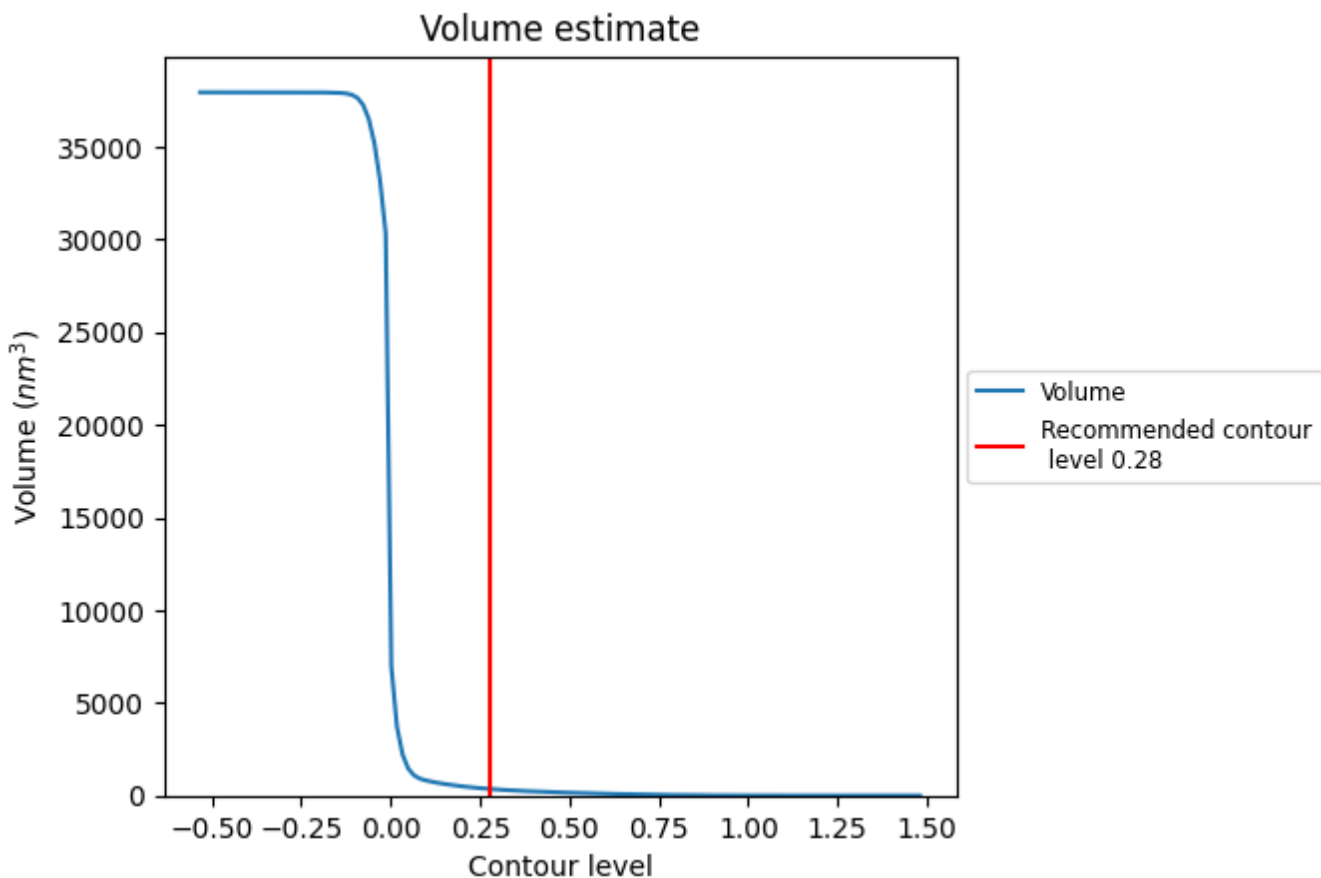
This section contains the results of statistical analysis of the map.

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.

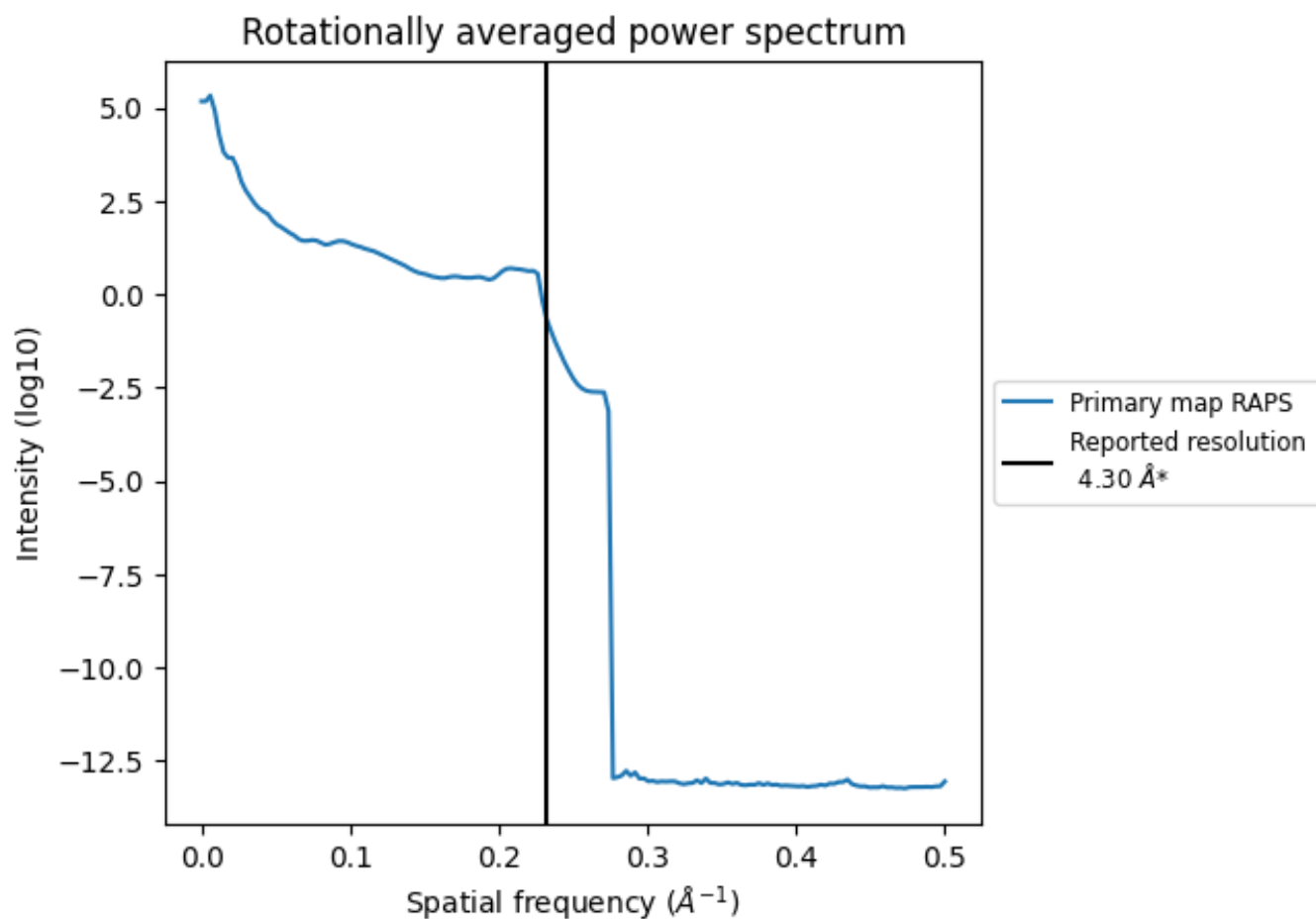
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 352 nm^3 ; this corresponds to an approximate mass of 318 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 0.233 Å⁻¹

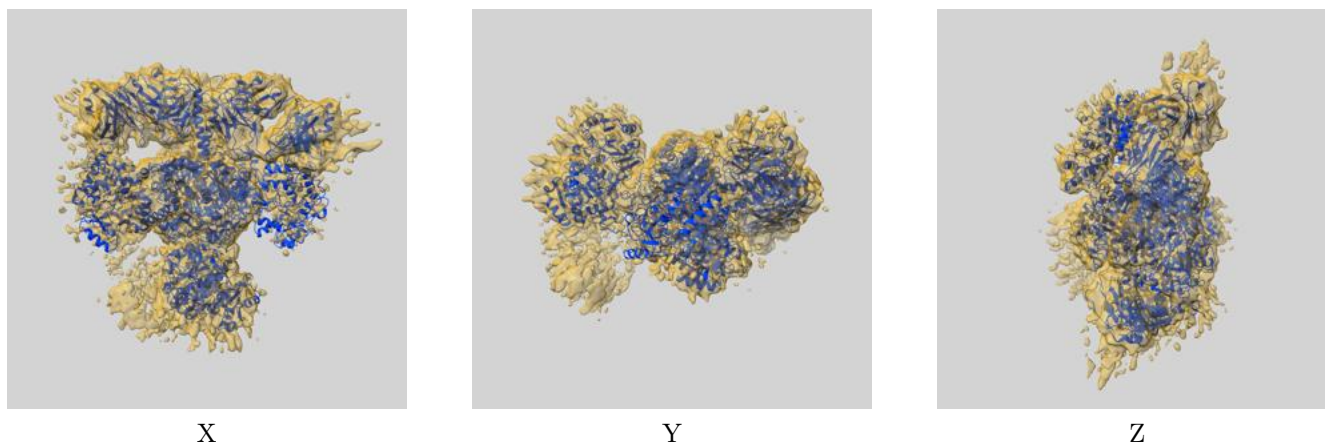
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit [i](#)

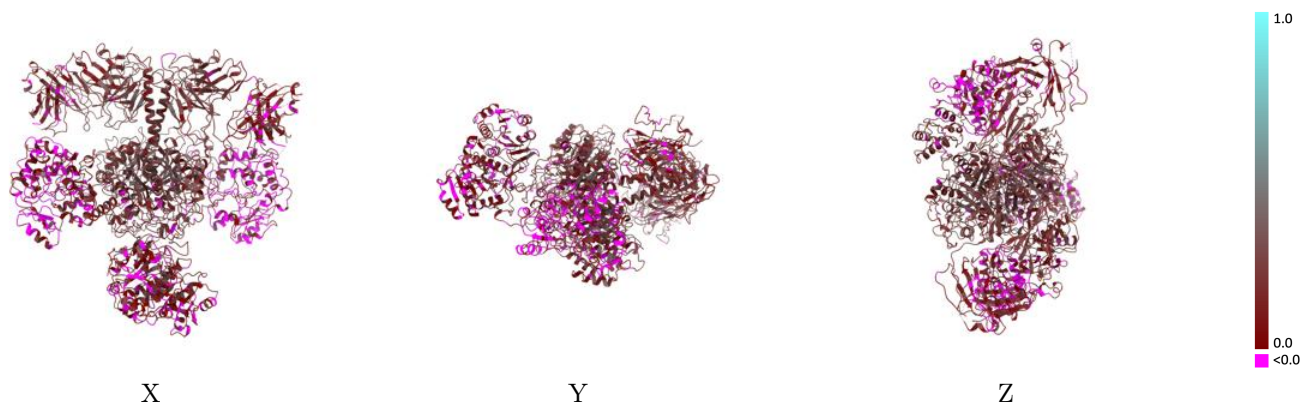
This section contains information regarding the fit between EMDB map EMD-23715 and PDB model 7M7J. Per-residue inclusion information can be found in section 3 on page 7.

9.1 Map-model overlay [i](#)



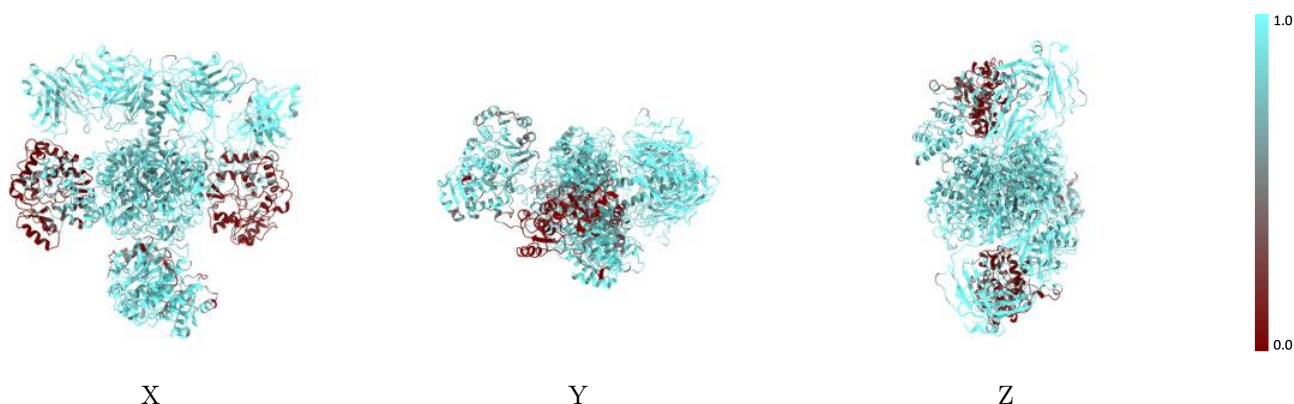
The images above show the 3D surface view of the map at the recommended contour level 0.28 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



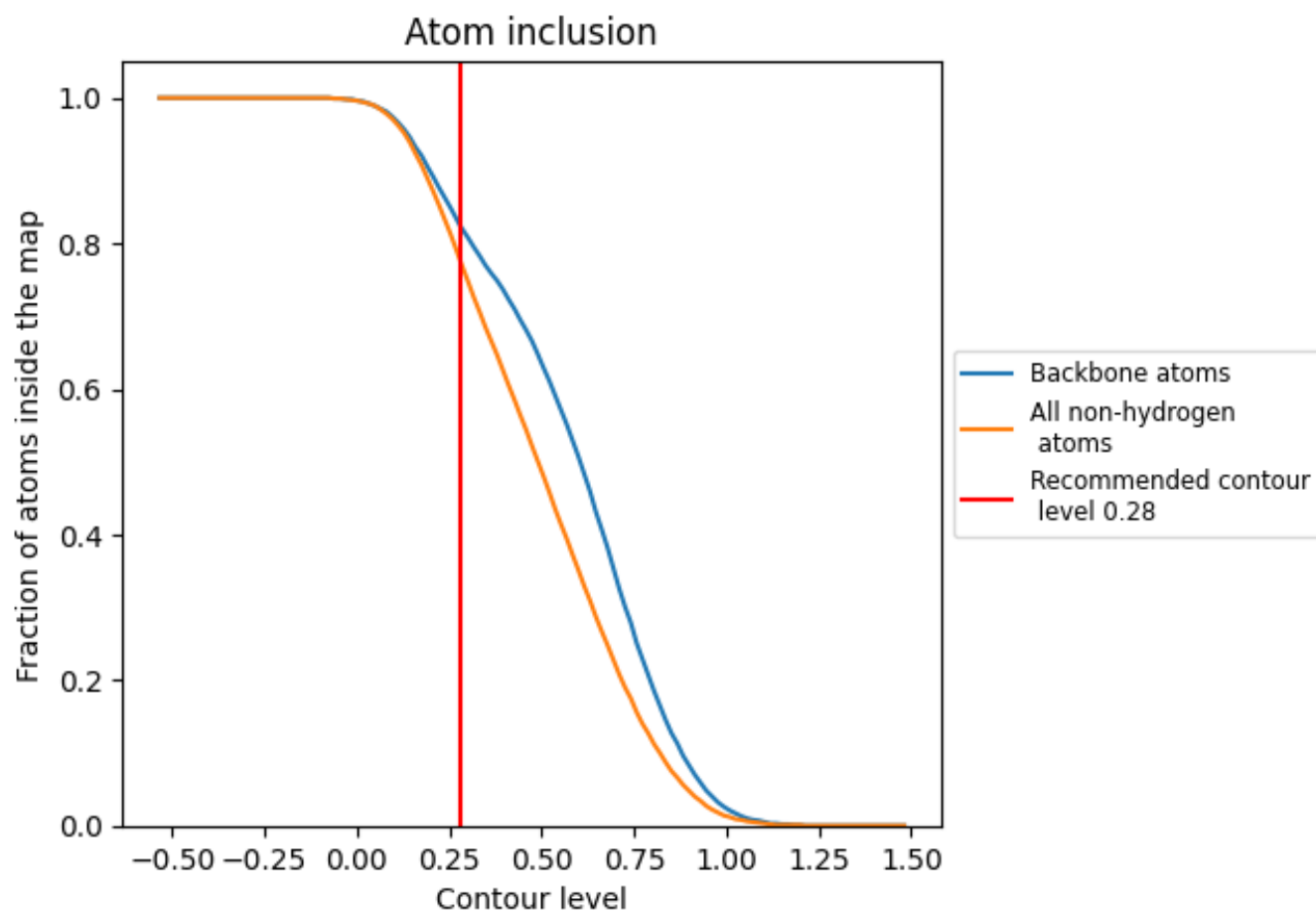
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.28).















9.4 Atom inclusion [i](#)



At the recommended contour level, 82% of all backbone atoms, 78% 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 (0.28) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7760	 0.1660
A	 0.7350	 0.1410
B	 0.6880	 0.1610
C	 0.9340	 0.2010
D	 0.9370	 0.2120
E	 0.9440	 0.2050
F	 0.9370	 0.2280

