



Full wwPDB EM Validation Report ⓘ

May 25, 2025 – 08:42 PM EDT

PDB ID : 7M7F / pdb_00007m7f
EMDB ID : EMD-23711
Title : 6-Deoxyerythronolide B synthase (DEBS) module 1 in complex with antibody fragment 1B2: State 1
Authors : Cogan, D.P.; Zhang, K.; Chiu, W.; Khosla, C.
Deposited on : 2021-03-28
Resolution : 3.20 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.dev118
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0rc1
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.43.1

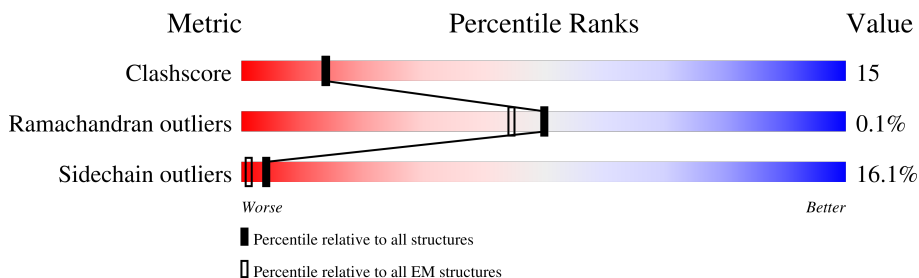
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.20 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	1784	
1	B	1784	
2	C	249	
2	E	249	
3	D	236	
3	F	236	

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 23971 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,6-deoxyerythronolide-B synthase EryA3, modules 5 and 6 chimera.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	B	999	Total	C	N	O	S	0	0
			7417	4613	1363	1414	27		
1	A	1390	Total	C	N	O	S	0	0
			10319	6413	1899	1972	35		

There are 106 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

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Chain	Residue	Modelled	Actual	Comment	Reference
B	26	ARG	-	expression tag	UNP Q5UNP6
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	1486	THR	-	linker	UNP Q5UNP6
B	1487	SER	-	linker	UNP Q5UNP6
B	1488	GLU	-	linker	UNP Q5UNP6
B	1489	LEU	-	linker	UNP Q5UNP6
B	1490	GLY	-	linker	UNP Q5UNP6
B	1768	SER	-	expression tag	UNP Q03133
B	1769	SER	-	expression tag	UNP Q03133
B	1770	VAL	-	expression tag	UNP Q03133
B	1771	ASP	-	expression tag	UNP Q03133
B	1772	LYS	-	expression tag	UNP Q03133
B	1773	LEU	-	expression tag	UNP Q03133
B	1774	ALA	-	expression tag	UNP Q03133
B	1775	ALA	-	expression tag	UNP Q03133
B	1776	ALA	-	expression tag	UNP Q03133
B	1777	LEU	-	expression tag	UNP Q03133
B	1778	GLU	-	expression tag	UNP Q03133
B	1779	HIS	-	expression tag	UNP Q03133
B	1780	HIS	-	expression tag	UNP Q03133
B	1781	HIS	-	expression tag	UNP Q03133
B	1782	HIS	-	expression tag	UNP Q03133
B	1783	HIS	-	expression tag	UNP Q03133
B	1784	HIS	-	expression tag	UNP Q03133
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

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Chain	Residue	Modelled	Actual	Comment	Reference
A	15	ARG	-	expression tag	UNP Q5UNP6
A	16	ALA	-	expression tag	UNP Q5UNP6
A	17	THR	-	expression tag	UNP Q5UNP6
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	1486	THR	-	linker	UNP Q5UNP6
A	1487	SER	-	linker	UNP Q5UNP6
A	1488	GLU	-	linker	UNP Q5UNP6
A	1489	LEU	-	linker	UNP Q5UNP6
A	1490	GLY	-	linker	UNP Q5UNP6
A	1768	SER	-	expression tag	UNP Q03133
A	1769	SER	-	expression tag	UNP Q03133
A	1770	VAL	-	expression tag	UNP Q03133
A	1771	ASP	-	expression tag	UNP Q03133
A	1772	LYS	-	expression tag	UNP Q03133
A	1773	LEU	-	expression tag	UNP Q03133
A	1774	ALA	-	expression tag	UNP Q03133
A	1775	ALA	-	expression tag	UNP Q03133
A	1776	ALA	-	expression tag	UNP Q03133
A	1777	LEU	-	expression tag	UNP Q03133
A	1778	GLU	-	expression tag	UNP Q03133
A	1779	HIS	-	expression tag	UNP Q03133
A	1780	HIS	-	expression tag	UNP Q03133
A	1781	HIS	-	expression tag	UNP Q03133
A	1782	HIS	-	expression tag	UNP Q03133
A	1783	HIS	-	expression tag	UNP Q03133
A	1784	HIS	-	expression tag	UNP Q03133

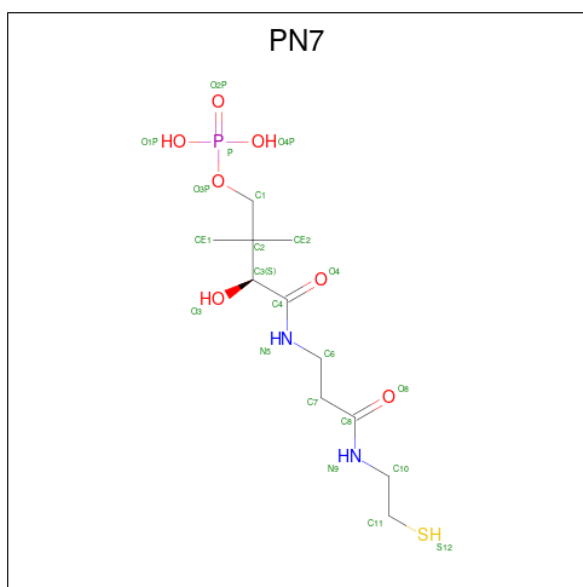
- Molecule 2 is a protein called 1B2 (heavy chain).

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
3	D	206	Total	C	N	O	S	0	0
			1568	983	262	317	6		
3	F	206	Total	C	N	O	S	0	0
			1568	984	262	316	6		

- Molecule 4 is N 3 -[(2S)-2-hydroxy-3,3-dimethyl-4-(phosphonooxy)butanoyl]-N-(2-sulfanylet hyl)-beta-alaninamide (CCD ID: PN7) (formula: C₁₁H₂₃N₂O₇PS).

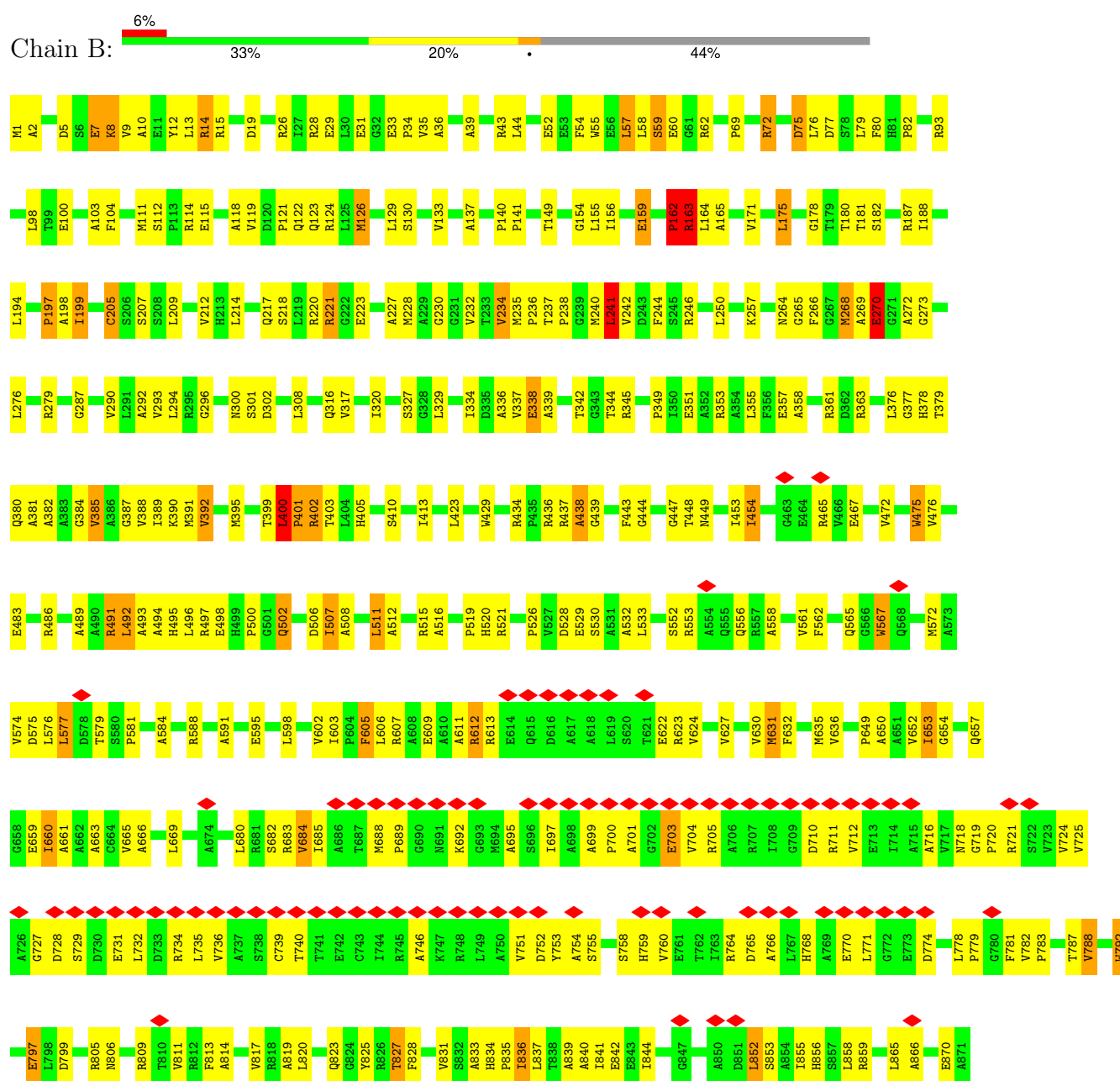


Mol	Chain	Residues	Atoms					AltConf
4	B	1	Total	C	N	O	P	S
			21	11	2	6	1	1
								0

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,6-deoxyerythronolide-B synthase EryA3, modules 5 and 6 chimera



ASP	ALA	TRP	LEU	GLY	GLY	ASN	SER	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	
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● Molecule 1: EryAI,6-deoxyerythronolide-B synthase EryA3, modules 5 and 6 chimera

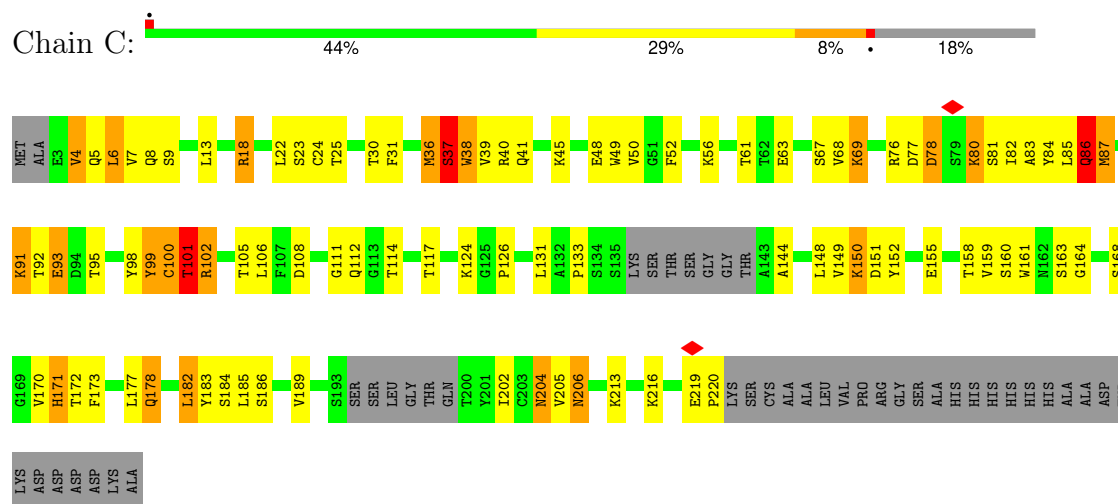


M1	A2	S3	T4	D5	S6	E7	K8	V9	Y12	L13	E14	R15	A16	T17	R24	E29	E33	V38	A39	M40	A41	C42	R43	I44	E45	E53	F54	W55	E56	L57	R62	D63	A64	V65	P68	T70	D71	R86	S87	H91	Q92	R93	G94	F97	L98	A103
F108	A116	I117	A118	V119	D120	Q123	R124	L125	M126	L129	S130	A131	E132	V133	A137	G138	I139	P140	P141	T149	V153	G154	L155	I156	P157	Q158	E159	P162	R163	V171	E172	G173	Y174	L175	M176	T177	G178	T180	V183	A184	I188	R193	L194	P197	S200	V201

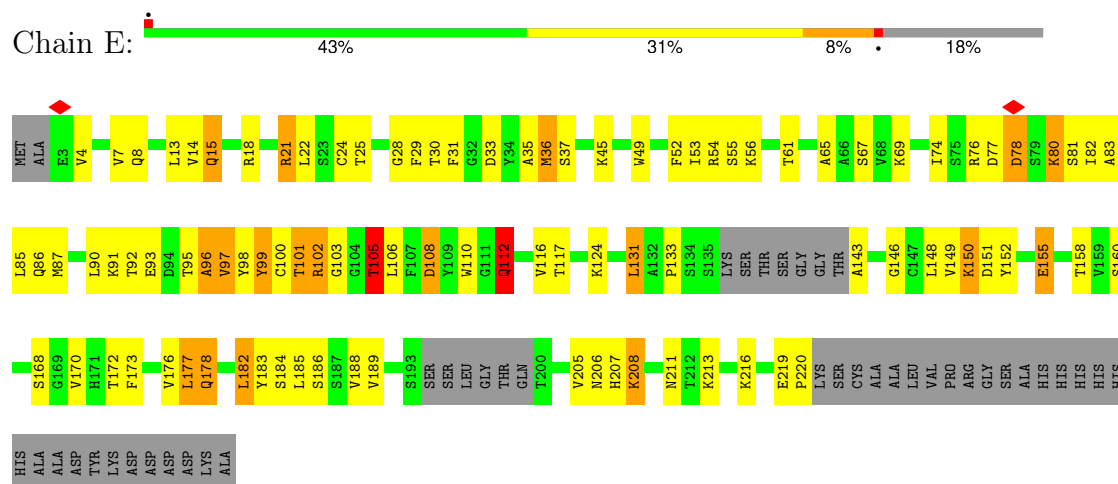
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E1242	R1243	I1244	A1247	S1248	R1249	A1250	K1251	V1252	L1253	L1258	H1259	E1260	L1261	T1262	K1263	F1264	L1265	D1266	L1267	T1268	D1269	F1270	V1271	L1272	S1278	Y1288	A1289	L1295	D1296	G1297	L1298	A1299	Q1300	Q1301	R1302	S1303	D1304	G1305	G1306	L1307	P1308	A1309	T1310	ALA	A1311	V1312	A1313	W1317	A1318	G1321	M1322	A1323	E1324	
G1164	A1165	P1166	H1167	L1168	L1169	L1170	V1171	S1172	R1173	P1176	D1177	A1178	D1179	E1183	L1184	L1188	E1189	A1190	R1194	T1195	V1196	L1197	A1198	A1199	C1200	D1201	V1202	E1206	R1209	E1210	L1211	D1217	D1218	V1219	S1222	A1223	V1224	F1225	H1226	A1229	T1230	L1231	T1235	V1236	D1237	T1238	T1239	G1241						
W1068	G1069	V1070	G1071	R1072	V1073	A1074	A1075	M1078	P1079	A1080	V1081	W1082	L1085	V1086	D1087	V1088	F1089	A1090	V1093	L1096	L1100	S1105	E1110	D1111	Q1112	L1113	A1114	W1125	A1129	D1135	E1136	W1137	K1138	P1139	V1143	L1144	V1145	V1152	Q1155	L1156	A1157	R1158	W1159	L1160	R1163									
G1184	A1185	P1186	H1187	L1188	L1189	L1190	V1191	S1192	R1193	P1196	L1197	A1198	A1199	C1200	D1201	V1202	E1206	R1209	E1210	L1211	D1217	D1218	V1219	S1222	A1223	V1224	F1225	H1226	A1229	T1230	L1231	T1235	V1236	D1237	T1238	T1239	G1241																	
R1243	I1244	A1247	S1248	R1249	A1250	K1251	V1252	L1253	L1258	H1259	E1260	L1261	T1262	K1263	F1264	L1265	D1266	L1267	T1268	D1269	F1270	V1271	L1272	S1278	Y1288	A1289	L1295	D1296	G1297	L1298	A1299	Q1300	Q1301	R1302	S1303	D1304	G1305	G1306	L1307	P1308	A1309	T1310	ALA	A1311	V1312	A1313	W1317	A1318	G1321	M1322	A1323	E1324		
G1164	A1165	P1166	H1167	L1168	L1169	L1170	V1171	S1172	R1173	P1176	D1177	A1178	D1179	E1183	L1184	L1188	E1189	A1190	R1194	T1195	V1196	L1197	A1198	A1199	C1200	D1201	V1202	E1206	R1209	E1210	L1211	D1217	D1218	V1219	S1222	A1223	V1224	F1225	H1226	A1229	T1230	L1231	T1235	V1236	D1237	T1238	T1239	G1241						
W1068	G1069	V1070	G1071	R1072	V1073	A1074	A1075	M1078	P1079	A1080	V1081	W1082	L1085	V1086	D1087	V1088	F1089	A1090	V1093	L1096	L1100	S1105	E1110	D1111	Q1112	L1113	A1114	W1125	A1129	D1135	E1136	W1137	K1138	P1139	V1143	L1144	V1145	V1152	Q1155	L1156	A1157	R1158	W1159	L1160	R1163									
G1184	A1185	P1186	H1187	L1188	L1189	L1190	V1191	S1192	R1193	P1196	L1197	A1198	A1199	C1200	D1201	V1202	E1206	R1209	E1210	L1211	D1217	D1218	V1219	S1222	A1223	V1224	F1225	H1226	A1229	T1230	L1231	T1235	V1236	D1237	T1238	T1239	G1241																	
R1243	I1244	A1247	S1248	R1249	A1250	K1251	V1252	L1253	L1258	H1259	E1260	L1261	T1262	K1263	F1264	L1265	D1266	L1267	T1268	D1269	F1270	V1271	L1272	S1278	Y1288	A1289	L1295	D1296	G1297	L1298	A1299	Q1300	Q1301	R1302	S1303	D1304	G1305	G1306	L1307	P1308	A1309	T1310	ALA	A1311	V1312	A1313	W1317	A1318	G1321	M1322	A1323	E1324		
G1164	A1165	P1166	H1167	L1168	L1169	L1170	V1171	S1172	R1173	P1176	D1177	A1178	D1179	E1183	L1184	L1188	E1189	A1190	R1194	T1195	V1196	L1197	A1198	A1199	C1200	D1201	V1202	E1206	R1209	E1210	L1211	D1217	D1218	V1219	S1222	A1223	V1224	F1225	H1226	A1229	T1230	L1231	T1235	V1236	D1237	T1238	T1239	G1241						
W1068	G1069	V1070	G1071	R1072	V1073	A1074	A1075	M1078	P1079	A1080	V1081	W1082	L1085	V1086	D1087	V1088	F1089	A1090	V1093	L1096	L1100	S1105	E1110	D1111	Q1112	L1113	A1114	W1125	A1129	D1135	E1136	W1137	K1138	P1139	V1143	L1144	V1145	V1152	Q1155	L1156	A1157	R1158	W1159	L1160	R1163									
G1184	A1185	P1186	H1187	L1188	L1189	L1190	V1191	S1192	R1193	P1196	L1197	A1198	A1199	C1200	D1201	V1202	E1206	R1209	E1210	L1211	D1217	D1218	V1219	S1222	A1223	V1224	F1225	H1226	A1229	T1230	L1231	T1235	V1236	D1237	T1238	T1239	G1241																	
R1243	I1244	A1247	S1248	R1249	A1250	K1251	V1252	L1253	L1258	H1259	E1260	L1261	T1262	K1263	F1264	L1265	D1266	L1267	T1268	D1269	F1270	V1271	L1272	S1278	Y1288	A1289	L1295	D1296	G1297	L1298	A1299	Q1300	Q1301	R1302	S1303	D1304	G1305	G1306	L1307	P1308	A1309	T1310	ALA	A1311	V1312	A1313	W1317	A1318	G1321	M1322	A1323	E1324		
G1164	A1165	P1166	H1167	L1168	L1169	L1170	V1171	S1172	R1173	P1176	D1177	A1178	D1179	E1183	L1184	L1188	E1189	A1190	R1194	T1195	V1196	L1197	A1198	A1199	C1200	D1201	V1202	E1206	R1209	E1210	L1211	D1217	D1218	V1219	S1222	A1223	V1224	F1225	H1226	A1229	T1230	L1231	T1235	V1236	D1237	T1238	T1239	G1241						
W1068	G1069	V1070	G1071	R1072	V1073	A1074	A1075	M1078	P1079	A1080	V1081	W1082	L1085	V1086	D1087	V1088	F1089	A1090	V1093	L1096	L1100	S1105	E1110	D1111	Q1112	L1113	A1114	W1125	A1129	D1135	E1136	W1137	K1138	P1139	V1143	L1144	V1145	V1152	Q1155	L1156	A1157	R1158	W1159	L1160	R1163									
G1184	A1185	P1186	H1187	L1188	L1189	L1190	V1191	S1192	R1193	P1196	L1197	A1198	A1199	C1200	D1201	V1202	E1206	R1209	E1210	L1211	D1217	D1218	V1219	S1222	A1223	V1224	F1225	H1226	A1229	T1230	L1231	T1235	V1236	D1237	T1238	T1239	G1241																	
R1243	I1244	A1247	S1248	R1249	A1250	K1251	V1252	L1253	L1258	H1259	E1260	L1261	T1262	K1263	F1264	L1265	D1266	L1267	T1268	D1269	F1270	V1271	L1272	S1278	Y1288	A1289	L1295	D1296	G1297	L1298	A1299	Q1300	Q1301	R1302	S1303	D1304	G1305	G1306	L1307	P1308	A1309	T1310	ALA	A1311	V1312	A1313	W1317	A1318	G1321	M1322	A1323	E1324		
G1164	A1165	P1166	H1167	L1168	L1169	L1170	V1171	S1172	R1173	P1176	D1177	A1178	D1179	E1183	L1184	L1188	E1189	A1190	R1194	T1195	V1196	L1197	A1198	A1199	C1200	D1201	V1202	E1206	R1209	E1210	L1211	D1217	D1218	V1219	S1222	A1223	V1224	F1225	H1226	A1229	T1230	L1231	T1235	V1236	D1237	T1238	T1239	G1241						
W1068	G1069	V1070	G1071	R1072	V1073	A1074	A1075	M1078	P1079	A1080	V1081	W1082	L1085	V1086	D1087	V1088	F1089	A1090	V1093	L1096	L1100	S1105	E1110	D1111	Q1112	L1113	A1114	W1125	A1129	D1135	E1136	W1137	K1138	P1139	V1143	L1144	V1145	V1152	Q1155	L1156	A1157	R1158	W1159	L1160	R1163									
G1184	A1185	P1186	H1187	L1188	L1189	L1190	V1191	S1192	R1193	P1196	L1197	A1198	A1199	C1200	D1201	V1202	E1206	R1209	E1210	L1211	D1217	D1218	V1219	S1222	A1223	V1224	F1225	H1226	A1229	T1230	L1231	T1235	V1236	D1237	T1238	T1239	G1241																	
R1243	I1244	A1247	S1248	R1249	A1250	K1251	V1252	L1253	L1258	H1259	E1260	L1261	T1262	K1263	F1264	L1265	D1266	L1267	T1268	D1269	F1270	V1271	L1272	S1278	Y1288	A1289	L1295	D1296	G1297	L1298	A1299	Q1300	Q1301	R1302	S1303	D1304	G1305	G1306	L1307	P1308	A1309	T1310	ALA	A1311	V1312	A1313	W1317	A1318	G1321	M1322	A1323	E1324		
G1164	A1165	P1166	H1167	L1168	L1169	L1170	V1171	S1172	R1173	P1176	D1177	A1178	D1179	E1183	L1184	L1188	E1189	A1190	R1194	T1195	V1196	L1197	A1198	A1199	C1200	D1201	V1202	E1206	R1209	E1210	L1211	D1217	D1218	V1219	S1222	A1223	V1224	F1225	H1226	A1229	T1230	L1231	T1235	V1236	D1237	T1238	T1239	G1241						
W1068	G1069	V1070	G1071	R1072	V1073	A1074	A1075	M1078	P1079	A1080	V1081	W1082	L1085	V1086	D1087	V1088	F1089	A1090	V1093	L1096	L1100	S1105	E1110	D1111	Q1112	L1113	A1114	W1125	A1129	D1135	E1136	W1137	K1138	P1139	V1143	L1144	V1145	V1152	Q1155	L1156	A1157	R1158	W1159	L1160	R1163									
G1184	A1185	P1186	H1187	L1188	L1189	L1190	V1191	S1192	R1193	P1196	L1197	A1198	A1199	C1200	D1201	V1202	E1206	R1209	E1210	L1211	D1217	D1218	V1219	S1222	A1223	V1224	F1225	H1226	A1229	T1230	L1231	T1235	V1236	D1237	T1238	T1239	G1241																	
R1243	I1244	A1247	S1248	R1249	A1250	K1251	V1252	L1253	L1258	H1259	E1260	L1261	T1262	K1263	F1264	L1265	D1266	L1267	T1268	D1269	F1270	V1271	L1272	S1278	Y1288	A1289	L1295	D1296	G1297	L1298	A1299	Q1300	Q1301	R1302	S1303	D1304	G1305	G1306	L1307	P1308	A1309	T1310	ALA	A1311	V1312	A1313	W1317	A1318	G1321	M1322	A1323	E1324		
G1164	A1165	P1166	H1167	L1168	L1169	L1170	V1171	S1172	R1173	P1176	D1177	A1178	D1179	E1183	L1184	L1188	E1189	A1190	R1194	T1195	V1196	L1197	A1198	A1199	C1200	D1201	V1202	E1206	R1209	E1210	L1211	D1217	D1218	V1219	S1222	A1223	V1224	F1225	H1226	A1229	T1230	L1231	T1235	V1236	D1237	T1238	T1239	G1241						
W1068	G1069	V1070	G1071	R1072	V1073	A1074	A1075	M1078	P1079	A1080	V1081	W1082	L1085	V1086	D1087	V1088	F1089	A1090	V1093	L1096	L1100	S1105	E1110	D1111	Q1112	L1113	A1114	W1125	A1129	D1135	E1136	W1137	K1138	P1139	V1143	L1144	V1145	V1152	Q1155	L1156	A1157	R1158	W1159	L1160	R1163									
G1184	A1185	P1186	H1187	L1188	L1189	L1190	V1191	S1192	R1193	P1196	L1197	A1198	A1199	C1200	D1201	V1202	E1206	R1209	E1210	L1211	D1217	D1218	V1219	S1222	A1223	V1224	F1225	H1226	A1229	T1230	L1231	T1235	V1236	D1237	T1238	T1239	G1241																	
R1243	I1244	A1247																																																				

ASN	GLY	PRO	PRO	GLY	ASN	GLN	SER	ARG	SER
SER	LEU	GLY	ARG	GLY	PRO	GLN	ASP	LEU	LEU
SER	PRO	GLY	GLY	PRO	PRO	PRO	PHE	THR	PRO
SER	THR	VAL	VAL	THR	GLY	TYR	GLU	THR	THR
VAL	LEU	VAL	VAL	LEU	LEU	GLU	HIS	THR	GLU
ASP	LEU	LEU	ILE	ILE	GLU	GLU	PHE	VAL	ARG
LYS	VAL	SER	SER	ALA	GLY	GLY	ASP	PHE	GLU
LEU	SER	ALA	ALA	VAL	PRO	LEU	ASP	VAL	ARG
ALA	ALA	VAL	VAL	VAL	PRO	LEU	SER	ALA	LYS
ALA	GLY	TYR	TYR	VAL	PRO	GLU	ASP	PRO	LEU
ALA	GLU	PRO	GLU	PRO	ALA	ALA	ASP	LEU	ALA
LEU	PRO	PRO	PRO	PRO	VAL	VAL	GLY	ASP	PHE
GLU	MET	GLY	GLY	GLY	MET	ASP	PHE	VAL	GLU
HIS	GLY	PRO	HIS	HIS	SER	SER	SER	ARG	LEU
HIS	PRO	GLN	PRO	GLN	MET	GLN	LEU	THR	VAL
HIS	TRP	ASP	TRP	ASP	ALA	ALA	ASP	LEU	ARG
HIS	PRO	ALA	ALA	ALA	VAL	VAL	VAL	ALA	SER
HIS	ASP	MET	ASP	MET	VAL	GLN	VAL	ALA	HIS
HIS	ASP	ASN	ASP	ASN	ALA	ALA	ASP	HIS	ALA
	SER	ALA	ALA	ALA	ALA	ALA	MET	ALA	ALA
	SER	TRP	TRP	TRP	TRP	GLN	ASP	THR	ALA
	LYS	LEU	LEU	LEU	VAL	VAL	ASP	SER	VAL
	PRO	GLU	GLU	GLU	ALA	ALA	GLY	SER	VAL
	THR	THR	GLU	GLU	ASP	ASP	PRO	LEU	GLY
	TRP	LEU	LEU	LEU	ALA	ALA	GLY	GLY	HIS
	PRO	THR	THR	THR	ILE	GLN	ILE	ALA	ARG
	VAL	ARG	ARG	ARG	ASP	GLY	CYS	ARG	VAL
	ALA	ALA	ALA	ALA	LYS	LYS	ALA	ALA	PRO
	PRO	VAL	THR	THR	THR	PRO	GLY	SER	ALA
	GLY	ARG	ARG	ARG	VAL	PHE	THR	SER	GLN
	ASP	MET	ASP	ASP	MET	VAL	ALA	ALA	ALA
	ASP	ASP	MET	ASP	ASP	VAL	ALA	LEU	PHE
	HIS	HIS	HIS	HIS	ILE	ALA	ILE	ALA	ALA
	PHE	THR	THR	THR	ASP	GLY	SER	ASP	GLU
	THR	THR	THR	THR	HIS	HIS	GLY	GLY	LEU
	MET	THR	THR	THR	SER	SER	PRO	TYR	GLY
	VAL	VAL	LEU	LEU	ALA	ALA	HIS	ARG	VAL
	GLN	GLN	THR	THR	GLY	GLY	GLU	GLN	ASP
	GLU	ALA	ALA	ALA	PHE	PHE	GLU	ALA	SER
	HIS	LEU	LEU	LEU	LEU	LEU	THR	VAL	LEU
	ALA	ASP	ALA	ALA	ALA	ALA	ARG	SER	ALA
	ASP	ALA	TYR	TYR	TYR	TYR	LEU	GLY	LEU
	ILE	ASP	ASP	ASP	ALA	ALA	GLY	ARG	LEU
	ALA	ARG	ARG	ARG	LEU	LEU	ALA	VAL	GLY
	ARG	HIS	THR	THR	ALA	ALA	LEU	ARG	ARG
	ILE	THR	THR	THR	THR	THR	GLY	SER	ASN
	ASP	GLN	GLN	GLN	GLN	LEU	ARG	TYR	ARG
	ALA	ALA	TRP	TRP	LEU	LEU	ILE	LEU	LEU
	GLY	GLY	ARG	ARG	ASP	ASP	ALA	ASP	GLY
	GLY	GLY	GLY	GLY	GLY	GLY	VAL	ALA	THR
	GLY	THR	GLY	GLY	PRO	HIS	VAL	ALA	GLY
	THR	THR	THR	THR	PRO	VAL	ALA	THR	VAL

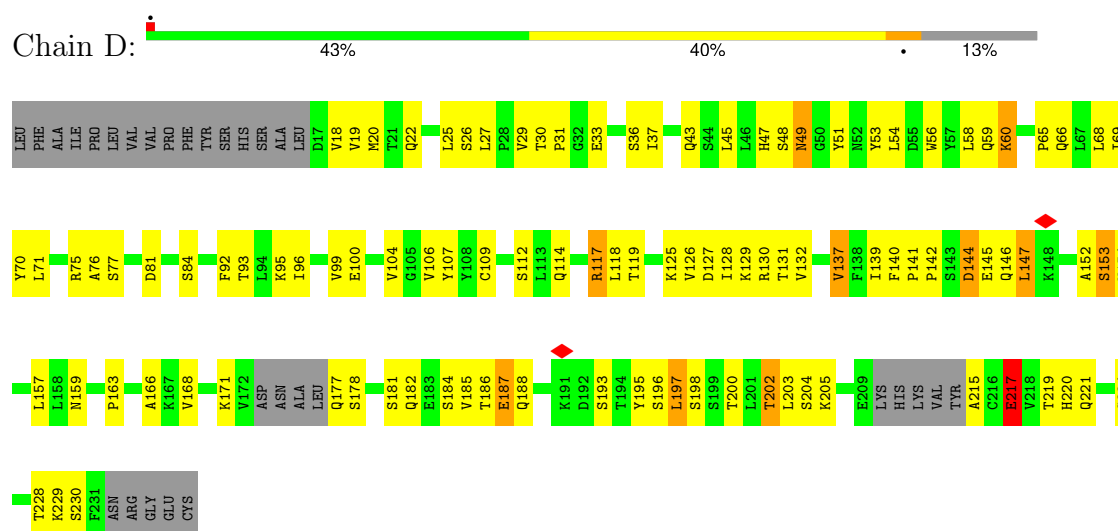
- Molecule 2: 1B2 (heavy chain)



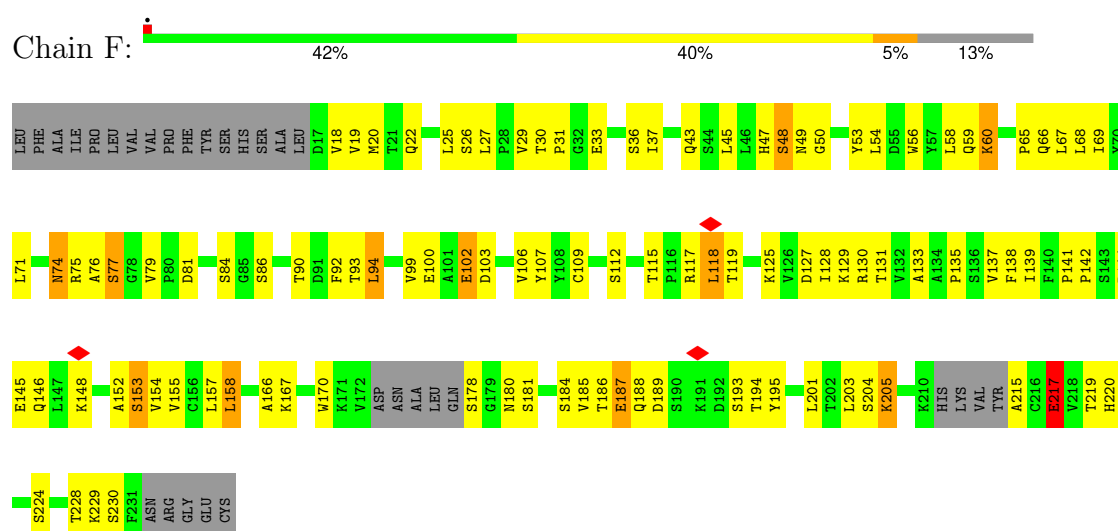
- Molecule 2: 1B2 (heavy chain)



- Molecule 3: 1B2 (light chain)



- Molecule 3: 1B2 (light chain)



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	172352	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	7.734	Depositor
Minimum map value	-4.602	Depositor
Average map value	0.005	Depositor
Map value standard deviation	0.138	Depositor
Recommended contour level	0.53	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

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: PN7

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	0.94	64/10522 (0.6%)	1.20	101/14323 (0.7%)
1	B	0.93	50/7566 (0.7%)	1.18	84/10293 (0.8%)
2	C	0.86	9/1575 (0.6%)	1.12	12/2141 (0.6%)
2	E	0.81	5/1575 (0.3%)	1.18	10/2141 (0.5%)
3	D	0.58	0/1601	0.97	7/2175 (0.3%)
3	F	0.70	5/1601 (0.3%)	1.05	12/2174 (0.6%)
All	All	0.89	133/24440 (0.5%)	1.17	226/33247 (0.7%)

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	A	0	1
2	C	0	1
2	E	0	3
3	F	0	1
All	All	0	6

All (133) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	442	SER	CA-CB	-14.41	1.30	1.53
1	A	43	ARG	C-O	-14.33	1.07	1.24
1	A	207	SER	CA-CB	-14.15	1.28	1.53
1	B	197	PRO	C-O	-13.30	1.06	1.24
1	B	908	VAL	C-O	-12.62	1.08	1.23
1	A	442	SER	C-O	-12.62	1.09	1.24
1	A	440	VAL	C-O	-12.41	1.10	1.24
1	B	399	THR	C-O	-12.12	1.08	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	120	ASP	C-O	-11.26	1.09	1.23
1	B	43	ARG	C-O	-11.12	1.11	1.23
1	A	524	PHE	C-O	-10.91	1.11	1.23
1	B	54	PHE	C-O	-10.90	1.10	1.24
1	B	388	VAL	C-O	-10.32	1.10	1.24
1	B	234	VAL	C-O	-9.90	1.12	1.24
1	A	234	VAL	C-O	-9.82	1.13	1.24
1	B	384	GLY	C-N	-9.69	1.22	1.33
1	A	374	SER	CA-CB	-9.43	1.38	1.53
1	B	230	GLY	C-O	-9.42	1.09	1.23
1	A	243	ASP	C-O	-9.22	1.12	1.24
1	A	233	THR	C-O	-8.99	1.13	1.24
1	B	475	TRP	C-O	-8.91	1.12	1.23
1	A	441	SER	CA-CB	-8.90	1.36	1.53
1	A	270	GLU	C-O	-8.90	1.12	1.23
1	A	162	PRO	C-O	-8.89	1.12	1.23
1	B	454	ILE	C-O	-8.88	1.13	1.24
1	A	116	ALA	C-O	-8.84	1.12	1.24
1	B	507	ILE	C-O	-8.77	1.14	1.24
1	B	385	VAL	C-O	-8.76	1.14	1.24
1	A	94	GLY	C-O	-8.72	1.17	1.24
1	B	439	GLY	C-O	-8.54	1.12	1.23
1	B	59	SER	CA-CB	-8.41	1.40	1.53
1	A	236	PRO	C-O	-8.35	1.12	1.24
1	A	155	LEU	C-O	-8.31	1.14	1.23
1	B	57	LEU	C-O	-8.27	1.11	1.23
1	A	117	LEU	C-O	-8.26	1.13	1.24
1	A	232	VAL	C-O	-8.20	1.15	1.24
3	F	74	ASN	C-O	-8.19	1.13	1.23
2	C	101	THR	C-O	-8.16	1.13	1.23
2	E	97	VAL	C-O	-8.14	1.14	1.24
1	A	441	SER	C-O	-8.07	1.14	1.24
1	A	120	ASP	CA-C	-8.04	1.44	1.53
1	A	156	ILE	C-O	-8.00	1.14	1.24
1	A	172	GLU	C-O	-7.99	1.14	1.24
1	B	492	LEU	C-O	-7.97	1.13	1.24
2	C	99	TYR	C-O	-7.95	1.13	1.23
1	B	266	PHE	C-O	-7.87	1.13	1.24
1	A	207	SER	C-O	-7.84	1.13	1.24
1	A	42	CYS	C-O	-7.81	1.14	1.23
1	A	163	ARG	C-O	-7.77	1.14	1.23
1	B	162	PRO	C-O	-7.74	1.15	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	64	ALA	CA-CB	-7.72	1.42	1.53
1	A	183	VAL	C-O	-7.59	1.11	1.23
1	A	62	ARG	C-O	-7.54	1.14	1.24
1	B	8	LYS	C-O	-7.53	1.14	1.24
1	B	198	ALA	CA-CB	-7.53	1.41	1.52
2	E	101	THR	C-O	-7.52	1.14	1.23
1	B	493	ALA	CA-CB	-7.51	1.41	1.53
1	A	118	ALA	CA-CB	-7.51	1.40	1.53
1	A	65	VAL	C-O	-7.47	1.15	1.24
1	B	338	GLU	C-O	-7.46	1.11	1.23
1	B	495	HIS	C-O	-7.38	1.14	1.24
2	C	98	TYR	C-O	-7.29	1.15	1.24
3	F	76	ALA	CA-CB	-7.24	1.43	1.53
2	C	102	ARG	C-O	-7.24	1.14	1.24
1	A	443	PHE	C-O	-7.20	1.14	1.24
1	A	116	ALA	CA-CB	-7.09	1.41	1.53
3	F	76	ALA	C-O	-7.07	1.15	1.24
1	A	162	PRO	N-CA	-7.02	1.38	1.47
1	A	175	LEU	C-O	-6.98	1.14	1.24
1	A	157	PRO	N-CA	-6.93	1.38	1.47
3	F	75	ARG	C-O	-6.90	1.15	1.23
1	A	243	ASP	CA-C	-6.80	1.46	1.52
1	A	202	ASP	C-O	-6.79	1.15	1.23
2	E	103	GLY	C-O	-6.78	1.14	1.23
2	C	39	VAL	C-O	-6.77	1.16	1.24
2	E	102	ARG	C-O	-6.70	1.14	1.23
1	B	392	VAL	C-O	-6.64	1.15	1.24
1	B	162	PRO	N-CA	-6.62	1.39	1.46
1	B	902	PRO	C-O	-6.58	1.15	1.24
1	A	266	PHE	C-O	-6.57	1.15	1.23
1	A	159	GLU	C-O	-6.55	1.16	1.24
1	B	438	ALA	C-N	-6.51	1.24	1.33
1	B	197	PRO	N-CA	-6.45	1.39	1.47
1	B	401	PRO	N-CA	-6.30	1.39	1.47
1	B	494	ALA	C-O	-6.29	1.16	1.24
1	B	491	ARG	C-O	-6.29	1.16	1.24
1	B	402	ARG	C-O	-6.27	1.15	1.23
1	A	236	PRO	N-CA	-6.24	1.39	1.47
1	B	401	PRO	C-O	-6.22	1.13	1.23
2	C	6	LEU	C-O	-6.21	1.15	1.23
2	E	102	ARG	CA-C	-6.20	1.46	1.53
1	B	390	LYS	C-O	-6.18	1.16	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	177	THR	C-O	-6.15	1.15	1.24
1	B	43	ARG	CA-C	-6.13	1.45	1.53
1	A	234	VAL	CA-C	-6.10	1.45	1.52
1	A	440	VAL	CA-C	-6.07	1.45	1.52
1	A	244	PHE	C-O	-5.93	1.16	1.24
1	A	909	TRP	C-O	-5.92	1.17	1.24
1	B	58	LEU	C-O	-5.88	1.16	1.24
1	B	266	PHE	C-N	-5.87	1.23	1.33
1	B	493	ALA	C-O	-5.87	1.17	1.24
1	A	91	HIS	C-O	-5.86	1.16	1.24
1	A	422	LEU	C-O	-5.83	1.17	1.23
1	A	92	GLN	C-O	-5.79	1.17	1.24
1	A	908	VAL	C-O	-5.76	1.16	1.23
1	B	235	MET	C-O	-5.74	1.17	1.24
1	A	62	ARG	CA-C	-5.70	1.46	1.52
1	B	511	LEU	C-O	-5.70	1.16	1.24
1	B	234	VAL	CA-CB	-5.68	1.47	1.54
1	B	400	LEU	C-O	-5.62	1.17	1.24
1	A	43	ARG	CA-CB	-5.60	1.44	1.53
1	B	234	VAL	CA-C	-5.51	1.46	1.52
1	A	207	SER	CA-C	-5.49	1.45	1.52
1	A	910	LEU	C-O	-5.46	1.17	1.24
1	A	176	MET	C-O	-5.40	1.15	1.23
1	A	183	VAL	CA-C	-5.32	1.47	1.53
1	B	502	GLN	C-O	-5.30	1.17	1.24
1	A	124	ARG	C-O	-5.30	1.17	1.24
1	B	57	LEU	CA-C	-5.29	1.45	1.52
1	A	63	ASP	C-O	-5.28	1.17	1.23
2	C	38	TRP	C-O	-5.22	1.18	1.24
1	B	338	GLU	C-N	-5.19	1.26	1.33
1	A	174	TYR	C-O	-5.15	1.17	1.24
3	F	48	SER	CA-CB	-5.15	1.44	1.53
1	B	266	PHE	N-CA	5.14	1.52	1.46
1	A	24	ARG	C-O	-5.14	1.17	1.24
1	A	157	PRO	C-O	-5.13	1.17	1.24
1	B	230	GLY	CA-C	-5.10	1.45	1.51
1	B	475	TRP	CA-CB	-5.10	1.46	1.52
1	A	118	ALA	C-O	-5.09	1.17	1.24
2	C	101	THR	CA-C	-5.08	1.46	1.52
2	C	37	SER	CA-CB	-5.08	1.43	1.54
1	A	242	VAL	C-O	-5.04	1.16	1.24

All (226) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	162	PRO	N-CA-CB	-23.65	83.45	103.32
1	A	159	GLU	CB-CA-C	-19.80	78.12	110.19
1	B	883	ASP	CB-CA-C	-18.93	78.51	109.75
1	B	266	PHE	CA-CB-CG	17.75	131.55	113.80
1	A	43	ARG	CB-CA-C	-17.11	83.20	110.74
1	A	914	PRO	N-CA-C	15.18	134.18	111.41
1	B	902	PRO	CB-CA-C	-15.13	86.60	111.56
2	E	102	ARG	CB-CA-C	-14.79	89.93	112.12
1	A	233	THR	CA-CB-OG1	-14.71	87.54	109.60
1	A	157	PRO	N-CA-CB	-14.12	88.43	103.25
1	A	233	THR	CB-CA-C	-13.75	90.54	110.62
1	A	162	PRO	CB-CA-C	-13.62	93.95	111.39
1	B	493	ALA	N-CA-C	-12.45	97.70	111.14
1	B	385	VAL	N-CA-C	-12.10	101.67	113.53
1	A	175	LEU	N-CA-C	-11.19	99.17	113.72
1	A	43	ARG	CA-C-O	-11.12	108.72	120.40
1	B	197	PRO	CB-CA-C	-11.08	93.27	111.56
1	A	120	ASP	CA-CB-CG	11.07	123.67	112.60
1	A	234	VAL	N-CA-C	-10.88	92.88	108.11
1	A	270	GLU	CB-CG-CD	-10.80	94.24	112.60
1	B	54	PHE	CA-CB-CG	10.76	124.56	113.80
1	A	266	PHE	CA-CB-CG	10.73	124.53	113.80
1	A	243	ASP	CB-CA-C	-10.53	93.78	111.26
1	A	236	PRO	N-CA-CB	-10.51	91.98	103.23
1	A	43	ARG	N-CA-CB	-10.50	94.06	110.65
2	C	102	ARG	CB-CA-C	-10.33	89.87	110.42
1	A	155	LEU	CA-C-N	-10.07	115.75	122.60
1	A	155	LEU	C-N-CA	-10.07	115.75	122.60
1	A	403	THR	N-CA-C	-9.72	90.79	107.99
1	B	57	LEU	N-CA-C	-9.71	102.00	114.04
1	A	174	TYR	CB-CA-C	-9.71	96.01	111.06
2	C	101	THR	N-CA-CB	-9.66	95.50	110.56
1	A	63	ASP	CB-CA-C	-9.63	93.22	109.50
1	B	72	ARG	CB-CG-CD	-9.55	89.33	111.30
2	E	99	TYR	CA-C-O	-9.44	110.07	121.11
1	A	738	SER	N-CA-C	-9.40	101.96	113.15
1	B	401	PRO	N-CD-CG	-9.34	89.19	103.20
1	A	156	ILE	N-CA-C	-9.20	99.19	107.56
1	B	401	PRO	N-CA-CB	-8.92	91.89	102.86
1	A	92	GLN	CB-CG-CD	-8.68	97.84	112.60
1	B	234	VAL	CA-C-O	-8.50	111.47	120.57
1	A	126	MET	N-CA-C	-8.41	103.61	114.04
1	A	234	VAL	CA-C-O	-8.26	111.72	120.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	234	VAL	N-CA-C	-8.21	96.61	108.36
2	E	100	CYS	CB-CA-C	-8.21	97.53	110.74
1	B	230	GLY	CA-C-O	-8.17	112.17	122.39
2	C	100	CYS	CB-CA-C	-8.15	98.72	110.62
1	A	440	VAL	CA-C-O	-8.08	111.92	120.48
2	E	101	THR	N-CA-CB	-7.85	98.29	110.85
1	A	176	MET	N-CA-C	-7.83	103.56	113.43
2	C	101	THR	CA-CB-OG1	-7.75	97.98	109.60
3	F	180	ASN	CB-CA-C	-7.75	96.58	110.37
1	A	914	PRO	CB-CA-C	-7.72	100.84	110.95
1	B	14	ARG	N-CA-C	-7.71	103.45	113.17
2	C	101	THR	CA-C-O	-7.70	112.27	121.66
1	A	120	ASP	CA-C-O	-7.62	112.08	120.69
1	B	511	LEU	N-CA-C	-7.59	102.66	112.23
1	A	233	THR	CA-C-O	-7.59	110.69	120.25
1	B	54	PHE	CB-CA-C	-7.58	95.79	110.11
1	B	266	PHE	CB-CA-C	-7.55	94.22	109.55
2	C	41	GLN	CB-CA-C	-7.53	99.58	111.17
1	A	912	PRO	N-CA-C	-7.48	99.34	111.15
1	B	266	PHE	N-CA-CB	7.44	122.05	110.44
1	B	198	ALA	CA-C-O	-7.44	113.06	121.39
3	F	50	GLY	N-CA-C	-7.44	104.31	115.32
1	A	1014	PRO	N-CA-C	-7.39	99.63	110.80
1	A	156	ILE	CA-C-O	-7.38	114.98	119.12
1	B	26	ARG	N-CA-C	-7.33	104.47	113.41
1	A	737	ALA	N-CA-C	-7.30	104.17	113.23
1	A	731	GLU	N-CA-C	-7.29	106.31	114.62
1	B	230	GLY	CA-C-N	7.25	128.34	121.46
1	B	230	GLY	C-N-CA	7.25	128.34	121.46
2	E	86	GLN	CA-C-N	-7.24	113.02	123.00
2	E	86	GLN	C-N-CA	-7.24	113.02	123.00
1	A	183	VAL	CA-C-O	-7.17	112.97	120.14
1	A	162	PRO	CA-N-CD	-7.13	102.01	112.00
1	B	387	GLY	O-C-N	-7.09	114.55	122.28
1	A	243	ASP	CA-CB-CG	-7.09	105.51	112.60
1	A	42	CYS	CA-C-O	-7.00	111.60	120.14
1	A	1303	ARG	CB-CA-C	6.99	123.15	109.72
1	A	524	PHE	CA-C-O	-6.98	113.81	121.28
1	B	54	PHE	N-CA-C	-6.95	102.79	112.45
1	A	911	GLU	CB-CA-C	6.95	118.86	108.86
1	B	7	GLU	N-CA-C	-6.94	102.86	112.30
1	B	491	ARG	CG-CD-NE	-6.87	96.88	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	5	ASP	CB-CA-C	6.87	124.05	110.65
1	B	399	THR	CA-C-O	-6.85	113.35	120.89
1	A	223	GLU	N-CA-C	-6.79	106.20	114.75
1	B	72	ARG	N-CA-CB	-6.76	100.05	110.46
2	C	101	THR	CB-CA-C	-6.76	98.65	109.80
1	B	389	ILE	O-C-N	-6.72	114.20	121.80
1	A	159	GLU	CA-C-O	-6.71	113.18	120.36
1	A	524	PHE	CA-CB-CG	6.68	120.48	113.80
1	B	496	LEU	N-CA-C	-6.67	104.27	112.88
1	B	198	ALA	N-CA-CB	-6.67	99.45	110.53
1	A	52	GLU	N-CA-C	-6.66	106.35	114.75
1	B	631	MET	N-CA-C	-6.66	103.71	110.97
1	B	197	PRO	N-CA-CB	-6.65	96.27	103.25
1	B	399	THR	CB-CA-C	-6.64	98.01	110.16
1	A	158	GLN	CB-CG-CD	-6.62	101.34	112.60
1	B	241	LEU	N-CA-C	-6.61	104.69	112.89
3	F	60	LYS	CA-C-N	6.59	127.62	119.98
3	F	60	LYS	C-N-CA	6.59	127.62	119.98
1	A	243	ASP	N-CA-C	-6.58	103.30	112.12
1	A	62	ARG	CB-CA-C	-6.58	97.54	109.38
2	C	4	VAL	N-CA-C	-6.55	100.31	109.21
1	B	198	ALA	CB-CA-C	-6.52	100.80	111.68
3	D	60	LYS	CB-CA-C	6.51	118.87	109.11
1	A	236	PRO	N-CD-CG	-6.37	93.65	103.20
1	A	524	PHE	CB-CA-C	-6.34	99.53	110.95
3	D	202	THR	CA-C-N	-6.30	111.24	122.45
3	D	202	THR	C-N-CA	-6.30	111.24	122.45
1	A	242	VAL	N-CA-C	-6.27	107.02	113.10
1	A	740	THR	N-CA-C	-6.27	105.95	113.97
1	A	441	SER	CB-CA-C	-6.26	98.37	109.70
1	A	57	LEU	N-CA-C	-6.25	105.55	113.43
1	B	75	ASP	CB-CA-C	-6.25	101.06	110.88
1	B	1411	GLU	N-CA-C	-6.24	104.58	111.82
1	A	497	ARG	N-CA-C	-6.24	105.49	113.23
1	A	441	SER	CA-C-O	-6.24	113.39	120.32
1	A	392	VAL	N-CA-C	-6.23	107.79	113.71
1	A	741	THR	N-CA-C	-6.22	105.17	112.89
1	A	120	ASP	CA-C-N	6.19	125.81	119.56
1	A	120	ASP	C-N-CA	6.19	125.81	119.56
1	B	337	VAL	O-C-N	-6.18	114.88	122.61
1	A	760	VAL	N-CA-C	-6.17	107.48	113.53
1	A	443	PHE	CA-C-O	-6.12	114.08	120.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	735	LEU	N-CA-C	-6.12	105.95	113.41
1	B	390	LYS	CB-CA-C	-6.11	97.92	110.38
1	A	120	ASP	N-CA-C	-6.06	101.41	109.84
1	B	498	GLU	N-CA-C	-6.03	105.74	114.12
1	A	162	PRO	CA-C-O	-6.02	114.69	121.43
2	C	99	TYR	CA-C-O	-5.96	114.64	121.68
1	B	827	THR	CB-CA-C	5.96	120.49	109.70
1	B	489	ALA	N-CA-C	-5.95	106.15	113.41
3	F	217	GLU	CA-CB-CG	5.92	125.94	114.10
3	D	217	GLU	CA-CB-CG	5.91	125.92	114.10
1	A	1380	ARG	CB-CA-C	5.90	121.32	110.11
1	B	439	GLY	CA-C-N	5.90	130.95	123.10
1	B	439	GLY	C-N-CA	5.90	130.95	123.10
1	B	265	GLY	CA-C-O	-5.90	117.55	122.33
1	A	124	ARG	N-CA-CB	-5.90	100.50	110.41
1	B	387	GLY	CA-C-N	5.89	130.43	120.29
1	B	387	GLY	C-N-CA	5.89	130.43	120.29
1	B	15	ARG	N-CA-C	-5.86	104.89	112.68
1	B	902	PRO	CA-N-CD	-5.85	103.81	112.00
1	B	403	THR	N-CA-C	-5.84	98.21	108.20
1	A	838	THR	N-CA-C	-5.81	105.03	111.36
1	A	909	TRP	CA-C-O	-5.75	113.94	120.32
1	A	117	LEU	N-CA-C	-5.74	105.11	111.71
1	B	198	ALA	O-C-N	5.70	129.58	122.63
1	B	494	ALA	CA-C-O	-5.69	114.48	120.63
1	B	495	HIS	N-CA-C	-5.68	106.30	113.18
2	E	98	TYR	CA-C-O	-5.67	114.91	121.15
1	B	57	LEU	CB-CA-C	-5.66	99.07	109.15
3	D	47	HIS	CA-CB-CG	5.66	119.46	113.80
1	A	93	ARG	N-CA-C	-5.66	105.58	112.88
1	A	176	MET	CB-CG-SD	-5.65	95.76	112.70
1	A	736	VAL	N-CA-C	-5.63	105.41	113.07
1	B	390	LYS	N-CA-C	-5.63	105.13	112.23
3	F	75	ARG	CA-C-O	-5.62	114.81	121.16
1	A	930	TYR	CA-C-O	-5.62	115.07	121.58
1	A	1325	GLY	O-C-N	-5.60	116.17	121.77
1	B	162	PRO	CB-CA-C	5.59	118.99	110.21
1	A	158	GLN	CA-C-O	-5.57	114.82	121.11
3	D	49	ASN	CA-CB-CG	5.54	118.14	112.60
1	B	400	LEU	N-CA-C	-5.52	101.02	109.64
1	B	401	PRO	CA-N-CD	5.52	119.73	112.00
1	B	511	LEU	CA-C-O	-5.51	113.29	119.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	511	LEU	N-CA-C	-5.49	107.12	113.88
2	C	38	TRP	CA-C-O	-5.49	114.40	120.33
1	B	43	ARG	N-CA-C	-5.48	96.26	107.70
1	A	340	HIS	N-CA-C	-5.47	105.00	110.97
1	A	174	TYR	CA-C-O	-5.46	113.10	120.15
1	A	492	LEU	N-CA-C	-5.45	104.99	111.69
1	A	1304	SER	N-CA-C	-5.44	106.83	112.93
1	A	266	PHE	CA-C-N	5.44	132.07	121.41
1	A	266	PHE	C-N-CA	5.44	132.07	121.41
1	A	908	VAL	N-CA-CB	-5.43	105.08	111.60
1	A	913	LYS	N-CA-C	5.43	119.56	112.17
2	E	96	ALA	O-C-N	-5.43	117.39	123.04
1	B	833	ALA	N-CA-C	-5.40	105.83	112.90
1	B	218	SER	N-CA-C	-5.39	106.66	113.18
1	B	270	GLU	CB-CA-C	5.38	119.92	109.33
1	A	124	ARG	CA-C-O	-5.37	112.23	119.11
3	F	60	LYS	CA-C-O	-5.37	114.62	120.69
1	B	43	ARG	CA-C-O	-5.34	113.09	120.52
1	B	902	PRO	N-CD-CG	-5.34	95.19	103.20
1	B	605	PHE	N-CA-C	-5.34	106.60	113.01
1	B	454	ILE	CA-C-O	-5.32	113.78	120.69
1	A	176	MET	CB-CA-C	-5.31	100.73	109.65
1	A	24	ARG	N-CA-C	-5.30	106.86	113.38
1	B	385	VAL	CA-C-O	-5.30	113.52	118.98
1	A	913	LYS	CB-CA-C	-5.30	105.25	113.57
1	A	389	ILE	N-CA-C	-5.29	107.23	113.42
1	A	527	VAL	N-CA-C	-5.29	105.97	111.58
1	A	43	ARG	N-CA-C	-5.27	98.80	108.02
1	B	611	ALA	N-CA-C	-5.27	105.95	112.38
1	A	960	GLU	N-CA-C	-5.26	106.12	112.54
2	E	105	THR	N-CA-C	-5.25	106.20	113.18
2	E	112	GLN	N-CA-CB	-5.25	101.85	110.40
1	B	475	TRP	CA-C-O	-5.24	115.47	120.92
3	D	147	LEU	N-CA-C	-5.21	105.77	111.82
1	B	500	PRO	N-CA-C	5.18	120.33	111.68
2	C	102	ARG	CB-CG-CD	-5.17	99.40	111.30
1	B	882	VAL	CA-C-O	-5.17	116.26	121.59
3	F	166	ALA	N-CA-CB	-5.16	102.47	110.57
1	B	402	ARG	CB-CA-C	-5.15	99.51	109.76
3	F	76	ALA	CA-C-O	-5.15	114.72	120.54
1	B	265	GLY	O-C-N	-5.13	119.07	123.43
1	B	792	TRP	N-CA-C	-5.13	102.27	109.96

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	388	VAL	N-CA-C	-5.12	104.58	111.44
3	F	47	HIS	CA-C-O	-5.11	116.06	121.94
3	F	60	LYS	CB-CA-C	5.11	117.84	109.46
1	A	233	THR	N-CA-C	-5.10	98.98	107.80
1	A	1377	ARG	CA-C-O	-5.09	115.28	120.63
1	A	1202	VAL	N-CA-C	-5.06	108.57	113.53
2	C	86	GLN	CA-CB-CG	5.06	124.22	114.10
1	B	266	PHE	N-CA-C	5.05	119.49	113.23
1	B	1427	VAL	N-CA-C	-5.04	107.02	113.22
1	B	497	ARG	N-CA-C	-5.01	107.15	114.12
1	A	171	VAL	N-CA-CB	-5.01	105.94	111.66
3	F	205	LYS	N-CA-C	5.01	116.56	111.14
1	B	163	ARG	N-CA-C	-5.01	102.78	110.30
1	A	201	VAL	O-C-N	-5.01	116.31	122.57
1	B	58	LEU	N-CA-C	-5.00	107.35	113.50

There are no chirality outliers.

All (6) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1301	GLN	Mainchain
2	C	155	GLU	Peptide
2	E	155	GLU	Peptide
2	E	21	ARG	Sidechain
2	E	96	ALA	Mainchain
3	F	115	THR	Peptide

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	10319	0	10164	317	0
1	B	7417	0	7306	220	0
2	C	1539	0	1511	61	0
2	E	1539	0	1511	62	0
3	D	1568	0	1528	55	0
3	F	1568	0	1533	62	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	B	21	0	22	2	0
All	All	23971	0	23575	736	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 15.

All (736) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:777:PRO:HB3	1:A:796:ASP:HA	1.54	0.88
2:C:86:GLN:HA	2:C:86:GLN:HE21	1.38	0.87
2:E:108:ASP:CG	3:F:67:LEU:CD2	2.60	0.75
2:E:108:ASP:CG	3:F:67:LEU:HD23	2.11	0.75
1:B:567:TRP:HB3	1:B:834:HIS:HB3	1.68	0.74
1:A:1019:LEU:HD13	1:A:1244:ILE:HG22	1.70	0.73
1:A:1249:ARG:HB2	1:A:1253:LEU:HD13	1.74	0.69
1:A:526:PRO:HG3	1:A:532:ALA:HB2	1.74	0.69
1:B:528:ASP:OD1	1:B:530:SER:N	2.24	0.69
1:A:43:ARG:HG2	1:A:129:LEU:HD11	1.75	0.69
2:E:108:ASP:OD1	3:F:67:LEU:HD23	1.93	0.69
1:A:1157:ALA:HA	1:A:1160:LEU:HD12	1.75	0.68
1:A:120:ASP:HB3	1:A:123:GLN:HG3	1.76	0.67
1:A:739:CYS:HB3	1:A:744:ILE:HG22	1.77	0.66
1:A:54:PHE:HE1	1:A:376:LEU:HD21	1.61	0.66
1:A:981:VAL:HB	1:A:990:LEU:HD21	1.78	0.66
1:A:734:ARG:HA	1:A:737:ALA:HB3	1.77	0.65
1:A:126:MET:HB3	1:A:188:ILE:HD11	1.79	0.65
1:A:1171:VAL:HG21	1:A:1211:LEU:HD21	1.77	0.65
2:C:86:GLN:HA	2:C:86:GLN:NE2	2.10	0.65
2:E:8:GLN:HE22	2:E:99:TYR:HA	1.62	0.65
1:B:14:ARG:HG2	3:D:51:TYR:HE2	1.62	0.64
2:C:144:ALA:HB3	3:D:140:PHE:HZ	1.63	0.64
1:A:1000:VAL:HB	1:A:1039:LEU:HD21	1.81	0.63
1:B:561:VAL:HG13	1:B:828:PHE:HB2	1.81	0.62
1:A:817:VAL:HA	1:A:820:LEU:HD12	1.81	0.62
2:E:87:MET:HB3	2:E:90:LEU:HD21	1.81	0.62
1:B:122:GLN:HB3	1:B:155:LEU:HD23	1.81	0.62
1:A:117:LEU:HA	1:A:908:VAL:CG1	2.29	0.62
1:B:1416:LEU:HD21	1:B:1485:LEU:HB3	1.79	0.62
2:E:146:GLY:HA3	2:E:188:VAL:HG22	1.81	0.62
1:A:1239:LEU:HD23	1:A:1243:ARG:HD3	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:99:VAL:HG13	3:F:103:ASP:HB2	1.82	0.62
2:C:163:SER:HA	2:C:204:ASN:HD21	1.65	0.61
1:A:704:VAL:HG11	1:A:723:VAL:HG21	1.81	0.61
1:B:1428:LEU:HD21	1:B:1447:VAL:HG22	1.82	0.61
1:A:721:ARG:HB2	1:A:843:GLU:HB3	1.82	0.61
1:A:562:PHE:HB2	1:A:654:GLY:HA2	1.82	0.61
1:B:76:LEU:H	1:B:79:LEU:HD13	1.65	0.61
1:A:13:LEU:HD21	3:F:71:LEU:HD11	1.81	0.61
1:A:1075:ALA:HB2	1:A:1082:TRP:HD1	1.66	0.61
1:A:1231:LEU:HD13	1:A:1288:TYR:HB2	1.83	0.61
3:D:188:GLN:NE2	3:D:193:SER:HB2	2.16	0.61
3:F:188:GLN:NE2	3:F:193:SER:HB2	2.16	0.61
1:A:149:THR:HB	1:A:194:LEU:HD22	1.83	0.60
1:A:155:LEU:HD11	1:A:184:ALA:HB3	1.83	0.60
1:A:766:ALA:HA	1:A:770:GLU:HB3	1.83	0.60
1:A:642:TRP:HB3	1:A:647:VAL:HB	1.83	0.60
1:A:126:MET:HE3	1:A:232:VAL:HB	1.83	0.60
3:D:203:LEU:HG	3:D:204:SER:H	1.66	0.60
3:F:68:LEU:HA	3:F:79:VAL:HG21	1.83	0.60
2:E:4:VAL:HA	2:E:28:GLY:HA3	1.83	0.60
3:F:69:ILE:HD12	3:F:94:LEU:HD12	1.83	0.60
1:A:118:ALA:HB2	1:A:171:VAL:HG12	1.84	0.60
1:A:737:ALA:C	1:A:739:CYS:H	2.09	0.60
1:B:205:CYS:HB2	1:B:444:GLY:HA2	1.84	0.60
1:A:117:LEU:HA	1:A:908:VAL:HG13	1.84	0.60
3:F:203:LEU:HG	3:F:204:SER:H	1.66	0.60
1:B:624:VAL:HA	1:B:627:VAL:HG12	1.84	0.60
1:B:855:ILE:HG23	1:B:874:ARG:HG3	1.83	0.60
1:B:1427:VAL:HG22	1:B:1451:SER:HA	1.84	0.60
1:A:830:GLU:HB2	1:A:838:THR:HG23	1.83	0.60
3:F:152:ALA:HB3	3:F:203:LEU:HB3	1.84	0.60
1:B:35:VAL:HA	1:B:279:ARG:HA	1.84	0.60
1:B:609:GLU:H	1:B:612:ARG:HG3	1.66	0.60
1:B:577:LEU:HD12	1:B:584:ALA:HA	1.84	0.59
1:B:783:PRO:HB3	1:B:792:TRP:HE1	1.67	0.59
1:A:629:PRO:HG3	1:A:679:ALA:HA	1.84	0.59
1:B:82:PRO:HB3	1:A:1306:GLY:HA2	1.83	0.59
2:C:9:SER:HG	2:C:23:SER:HG	1.50	0.59
3:D:29:VAL:O	3:D:129:LYS:N	2.36	0.59
2:E:87:MET:HE1	2:E:116:VAL:HG11	1.84	0.59
2:E:149:VAL:O	2:E:152:TYR:HD1	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:135:PRO:HB2	3:F:158:LEU:HD12	1.85	0.59
3:F:137:VAL:HG22	3:F:158:LEU:HD11	1.84	0.59
1:B:1:MET:O	2:E:54:ARG:NH2	2.35	0.59
1:B:692:LYS:HB3	1:B:754:ALA:HB2	1.84	0.59
1:A:493:ALA:HB2	1:A:536:LEU:HB3	1.83	0.59
1:B:13:LEU:HD21	3:D:71:LEU:HD11	1.84	0.59
1:B:700:PRO:HB2	1:B:703:GLU:HB3	1.85	0.59
1:A:1230:THR:OG1	1:A:1247:ALA:O	2.16	0.59
1:B:395:MET:O	1:B:436:ARG:NH2	2.35	0.59
1:A:610:ALA:HB2	1:A:613:ARG:HH21	1.68	0.59
1:B:296:GLY:HA3	1:B:327:SER:HB3	1.84	0.58
1:B:692:LYS:HE2	1:B:728:ASP:HB3	1.85	0.58
1:B:162:PRO:HG2	1:B:175:LEU:HD11	1.86	0.58
1:A:1070:VAL:O	1:A:1074:ILE:HG13	2.01	0.58
3:D:152:ALA:HB3	3:D:203:LEU:HB3	1.84	0.58
1:B:835:PRO:HD3	1:B:858:LEU:O	2.03	0.58
1:A:928:LEU:HB3	1:A:1361:VAL:HG13	1.85	0.58
2:E:4:VAL:HG23	2:E:29:PHE:HD1	1.68	0.58
1:A:720:PRO:HB2	1:A:721:ARG:HH11	1.69	0.58
1:A:1222:SER:HA	1:A:1267:LEU:HA	1.86	0.58
2:E:65:ALA:HB1	3:F:118:LEU:HD11	1.85	0.58
3:F:29:VAL:O	3:F:129:LYS:N	2.36	0.58
1:A:1025:ALA:HB2	1:A:1241:GLY:HA3	1.86	0.57
1:B:711:ARG:NH1	1:B:758:SER:OG	2.37	0.57
1:B:787:THR:HB	1:B:811:VAL:HG13	1.84	0.57
1:A:966:ARG:HA	1:A:969:LEU:HB2	1.86	0.57
1:B:828:PHE:CZ	1:B:841:ILE:HB	2.40	0.57
1:A:316:GLN:HA	1:A:319:VAL:HG12	1.86	0.57
1:A:331:PRO:O	1:A:363:ARG:NH1	2.38	0.57
1:A:929:ARG:NH2	1:A:1129:ALA:O	2.38	0.57
1:A:1125:TRP:HH2	1:A:1362:ILE:HG13	1.70	0.57
1:A:608:ALA:HB1	1:A:612:ARG:HG3	1.86	0.57
1:B:29:GLU:HA	1:B:33:GLU:HB2	1.86	0.57
1:B:316:GLN:O	1:B:320:ILE:HG13	2.05	0.57
1:A:580:SER:HB3	1:A:865:LEU:HD22	1.87	0.57
1:A:561:VAL:HG23	1:A:813:PHE:HZ	1.69	0.56
1:A:966:ARG:HB2	1:A:976:VAL:HG21	1.86	0.56
3:D:188:GLN:HE21	3:D:193:SER:HB2	1.71	0.56
3:F:188:GLN:HE21	3:F:193:SER:HB2	1.70	0.56
1:A:1060:ARG:HG3	1:A:1061:ASN:N	2.21	0.56
1:B:55:TRP:CH2	1:B:401:PRO:HG3	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:302:ASP:OD1	1:A:449:ASN:ND2	2.34	0.56
2:C:149:VAL:O	2:C:152:TYR:HD1	1.89	0.56
1:A:945:LEU:N	1:A:972:ALA:O	2.37	0.56
2:C:6:LEU:O	2:C:111:GLY:HA2	2.04	0.56
2:E:95:THR:HG23	2:E:117:THR:HG23	1.86	0.56
2:E:155:GLU:HG2	2:E:183:TYR:CE2	2.41	0.56
1:B:395:MET:HE1	1:B:454:ILE:O	2.06	0.56
1:A:334:ILE:HD13	1:A:359:TYR:HE1	1.70	0.56
1:B:649:PRO:HB2	1:B:782:VAL:HG11	1.87	0.56
1:B:729:SER:HA	1:B:732:LEU:HB2	1.88	0.56
1:A:1226:HIS:HD2	1:A:1258:LEU:HD12	1.71	0.56
1:A:715:ALA:HB3	1:A:724:VAL:HG12	1.88	0.55
1:A:1031:VAL:HG13	1:A:1078:ASN:HD21	1.71	0.55
1:B:476:VAL:HG11	1:B:884:TRP:CZ2	2.41	0.55
1:B:624:VAL:HG11	1:B:685:ILE:HG22	1.89	0.55
1:A:1301:GLN:C	1:A:1304:SER:H	2.15	0.55
1:A:1063:ALA:O	1:A:1066:ALA:HB3	2.07	0.55
1:A:565:GLN:OE1	1:A:657:GLN:NE2	2.40	0.55
1:A:1048:GLU:HG3	1:A:1090:ALA:HA	1.87	0.55
1:A:1236:VAL:HA	1:A:1239:LEU:HB2	1.89	0.55
2:E:150:LYS:NZ	3:F:146:GLN:OE1	2.35	0.55
1:B:241:LEU:HA	1:B:250:LEU:HD11	1.88	0.55
3:D:58:LEU:HB2	3:D:68:LEU:HD11	1.89	0.55
2:E:15:GLN:HB2	2:E:18:ARG:HE	1.71	0.55
3:F:54:LEU:HD11	3:F:109:CYS:SG	2.47	0.55
1:B:232:VAL:HG23	1:B:272:ALA:HB2	1.89	0.55
1:A:1222:SER:HB3	1:A:1268:THR:HG22	1.88	0.55
1:A:209:LEU:HD12	1:A:442:SER:OG	2.06	0.55
1:B:60:GLU:HG3	1:B:62:ARG:HG3	1.89	0.54
3:D:54:LEU:HD11	3:D:109:CYS:SG	2.47	0.54
1:A:8:LYS:HB2	2:C:105:THR:HG21	1.88	0.54
3:F:58:LEU:HB2	3:F:68:LEU:HD11	1.89	0.54
1:A:65:VAL:HG21	1:A:255:ARG:HG3	1.89	0.54
2:C:22:LEU:HB2	2:C:85:LEU:HB3	1.90	0.54
1:B:126:MET:HB3	1:B:188:ILE:HD11	1.88	0.54
1:B:199:ILE:HG23	1:A:201:VAL:HG23	1.88	0.54
1:B:301:SER:HA	1:B:448:THR:HA	1.89	0.54
2:E:22:LEU:HB2	2:E:85:LEU:HB3	1.90	0.54
1:B:716:ALA:HB3	1:B:724:VAL:HB	1.90	0.54
1:B:104:PHE:HB3	1:B:908:VAL:HG21	1.90	0.54
1:B:778:LEU:HD12	1:B:779:PRO:HD2	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1262:THR:HA	1:A:1265:LEU:HD13	1.88	0.53
2:E:77:ASP:O	2:E:81:SER:HA	2.08	0.53
3:F:130:ARG:NH1	3:F:133:ALA:HB2	2.23	0.53
1:A:156:ILE:O	1:A:157:PRO:C	2.51	0.53
3:D:171:LYS:HD3	3:D:177:GLN:HB3	1.90	0.53
1:A:340:HIS:CD2	1:A:442:SER:HA	2.44	0.53
2:E:149:VAL:HG13	2:E:205:VAL:HG11	1.89	0.53
1:A:945:LEU:HD21	1:A:1105:SER:HB3	1.90	0.53
2:C:40:ARG:HH22	2:C:68:VAL:HG11	1.73	0.53
3:F:30:THR:HB	3:F:129:LYS:HB3	1.91	0.53
1:B:287:GLY:O	1:B:895:ARG:NH1	2.42	0.53
1:A:646:GLY:HA3	1:A:883:ASP:HB3	1.90	0.53
3:F:19:VAL:HG11	3:F:45:LEU:HD21	1.90	0.53
3:F:56:TRP:HB2	3:F:69:ILE:HB	1.90	0.53
1:B:528:ASP:OD1	1:B:529:GLU:N	2.42	0.53
2:C:173:PHE:CZ	3:D:196:SER:HB3	2.43	0.53
1:A:162:PRO:HB2	1:A:175:LEU:HD21	1.90	0.53
1:A:1272:LEU:HD23	1:A:1295:LEU:HD22	1.91	0.53
1:B:187:ARG:HA	1:A:308:LEU:HD11	1.90	0.53
1:B:712:VAL:HA	1:B:727:GLY:HA3	1.90	0.53
1:A:233:THR:HG21	1:A:380:GLN:NE2	2.23	0.53
1:A:368:HIS:HB3	1:A:423:LEU:HD21	1.90	0.53
1:A:642:TRP:HZ3	1:A:831:VAL:HG13	1.72	0.53
1:A:1072:ARG:HG2	1:A:1112:GLN:HE21	1.74	0.53
1:B:103:ALA:HB1	1:B:905:ARG:HB3	1.90	0.53
1:A:613:ARG:NH2	1:A:620:SER:OG	2.42	0.53
1:A:692:LYS:HG3	1:A:728:ASP:HA	1.91	0.53
1:A:1028:LEU:HD11	1:A:1244:ILE:HD11	1.91	0.53
2:C:8:GLN:HE22	2:C:99:TYR:HA	1.74	0.53
3:F:142:PRO:HD3	3:F:154:VAL:HB	1.91	0.53
3:D:56:TRP:HB2	3:D:69:ILE:HB	1.90	0.53
1:B:591:ALA:HB2	1:B:602:VAL:HG22	1.91	0.52
1:B:680:LEU:HA	1:B:683:ARG:HE	1.73	0.52
3:D:142:PRO:HD3	3:D:154:VAL:HB	1.91	0.52
3:F:19:VAL:HG22	3:F:43:GLN:HB2	1.91	0.52
1:B:14:ARG:HG2	3:D:51:TYR:CE2	2.42	0.52
1:A:86:ARG:HG3	1:A:87:SER:H	1.73	0.52
1:A:950:LEU:HB2	1:A:1003:VAL:HG22	1.91	0.52
1:A:1313:ALA:HB3	1:A:1360:ILE:HG23	1.91	0.52
3:D:19:VAL:HG11	3:D:45:LEU:HD21	1.90	0.52
2:C:77:ASP:O	2:C:81:SER:HA	2.08	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:19:VAL:HG22	3:D:43:GLN:HB2	1.91	0.52
3:D:30:THR:HB	3:D:129:LYS:HB3	1.91	0.52
1:B:339:ALA:HB1	1:B:351:GLU:OE2	2.10	0.52
1:A:1074:ILE:HG22	1:A:1082:TRP:HB2	1.91	0.52
3:D:27:LEU:HD13	3:D:37:ILE:HG13	1.92	0.52
2:E:206:ASN:HB3	2:E:213:LYS:HG3	1.89	0.52
1:A:1259:HIS:CE1	1:A:1302:ARG:HG3	2.44	0.52
1:B:609:GLU:O	1:B:613:ARG:HB2	2.10	0.52
1:A:153:VAL:HG12	1:A:155:LEU:HG	1.92	0.52
1:A:906:GLU:HG2	1:A:907:ARG:H	1.75	0.52
1:B:562:PHE:HB3	1:B:635:MET:HE1	1.90	0.52
2:C:177:LEU:HD13	2:C:183:TYR:CE1	2.44	0.52
3:D:127:ASP:OD1	3:D:195:TYR:OH	2.28	0.52
1:A:208:SER:HB2	1:A:385:VAL:HB	1.92	0.52
1:A:1170:LEU:H	1:A:1170:LEU:HD12	1.74	0.52
3:D:130:ARG:HG3	3:D:131:THR:O	2.11	0.52
1:B:817:VAL:O	1:B:820:LEU:HB3	2.09	0.51
1:A:154:GLY:HA3	1:A:207:SER:HB3	1.91	0.51
1:B:133:VAL:HG22	1:B:276:LEU:HB2	1.91	0.51
1:B:519:PRO:O	1:B:520:HIS:ND1	2.44	0.51
1:A:43:ARG:HB2	1:A:272:ALA:HB3	1.92	0.51
1:B:558:ALA:HB2	1:B:880:VAL:HG13	1.91	0.51
2:C:171:HIS:CE1	3:D:159:ASN:HD21	2.28	0.51
1:B:788:VAL:HB	1:B:806:ASN:HA	1.93	0.51
3:F:27:LEU:HD13	3:F:37:ILE:HG13	1.92	0.51
1:A:1068:TRP:HZ2	1:A:1087:ASP:HB2	1.76	0.51
1:B:8:LYS:HG2	2:E:105:THR:HG21	1.92	0.51
1:B:605:PHE:CD2	1:B:630:VAL:HG11	2.46	0.51
1:B:605:PHE:HD2	1:B:630:VAL:HG11	1.74	0.51
1:A:511:LEU:HD13	1:A:898:LEU:HD13	1.93	0.51
1:A:571:GLY:O	1:A:574:VAL:HG13	2.10	0.51
2:E:101:THR:HG22	2:E:110:TRP:CD2	2.46	0.51
3:F:130:ARG:HG3	3:F:131:THR:O	2.10	0.51
1:B:1427:VAL:HG11	1:B:1455:LEU:HB2	1.93	0.51
1:A:293:VAL:HG23	1:A:455:GLU:HB3	1.93	0.51
1:A:619:LEU:HB2	1:A:623:ARG:HG3	1.91	0.51
1:A:1278:SER:OG	1:A:1289:ALA:O	2.29	0.51
2:C:150:LYS:NZ	3:D:146:GLN:OE1	2.39	0.51
1:B:149:THR:HB	1:B:194:LEU:HD22	1.92	0.51
1:A:38:VAL:N	1:A:276:LEU:O	2.40	0.51
1:A:155:LEU:HD23	1:A:232:VAL:HG13	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:602:VAL:HG12	1:B:630:VAL:HG12	1.93	0.51
1:A:92:GLN:HE21	1:A:254:GLY:HA2	1.75	0.51
1:A:269:ALA:O	1:A:380:GLN:NE2	2.44	0.51
1:A:390:LYS:HE3	1:A:401:PRO:HG2	1.92	0.51
1:A:1087:ASP:HB3	1:A:1114:ALA:HA	1.93	0.51
3:F:127:ASP:OD1	3:F:195:TYR:OH	2.28	0.51
1:A:558:ALA:HB2	1:A:880:VAL:HG13	1.92	0.51
1:A:1209:ARG:HA	1:A:1261:LEU:HD21	1.92	0.51
2:E:24:CYS:HB3	2:E:83:ALA:HB3	1.92	0.51
1:B:688:MET:HE1	1:B:760:VAL:HA	1.91	0.50
1:B:828:PHE:HE1	1:B:852:LEU:HB3	1.76	0.50
1:A:367:LEU:HB3	1:A:420:ILE:HG12	1.92	0.50
1:A:471:VAL:HG11	1:A:865:LEU:HD23	1.93	0.50
1:A:577:LEU:HB2	1:A:584:ALA:HB2	1.93	0.50
1:A:692:LYS:HE3	1:A:754:ALA:HA	1.91	0.50
1:A:797:GLU:HB2	1:A:805:ARG:HH22	1.76	0.50
2:C:24:CYS:HB3	2:C:83:ALA:HB3	1.92	0.50
1:B:623:ARG:O	1:B:627:VAL:N	2.33	0.50
1:B:683:ARG:HD2	1:B:770:GLU:HG2	1.92	0.50
1:A:158:GLN:NE2	1:A:240:MET:HE2	2.26	0.50
2:C:105:THR:HA	3:D:117:ARG:HH22	1.75	0.50
1:B:576:LEU:HD22	1:B:858:LEU:HD11	1.94	0.50
1:A:54:PHE:HZ	1:A:372:VAL:HG21	1.77	0.50
1:A:171:VAL:HG21	1:A:910:LEU:HD11	1.94	0.50
1:A:339:ALA:HB2	1:A:369:LEU:HD11	1.93	0.50
3:F:130:ARG:HD2	3:F:193:SER:OG	2.11	0.50
1:A:1302:ARG:HA	1:A:1305:ASP:OD2	2.12	0.50
3:F:170:TRP:CD2	3:F:201:LEU:HD13	2.47	0.50
1:A:1337:ILE:HG22	1:A:1363:ASP:HB3	1.94	0.50
3:F:69:ILE:HG23	3:F:74:ASN:O	2.11	0.50
1:B:141:PRO:HD2	1:B:516:ALA:HB2	1.93	0.50
1:A:329:LEU:HD13	1:A:437:ARG:HD3	1.93	0.50
1:A:627:VAL:O	1:A:631:MET:HG2	2.12	0.50
2:C:91:LYS:HE3	2:C:93:GLU:HB3	1.94	0.50
2:C:178:GLN:OE1	2:C:184:SER:OG	2.15	0.50
2:E:178:GLN:OE1	2:E:184:SER:OG	2.15	0.50
1:B:292:ALA:HB3	1:B:392:VAL:HG22	1.94	0.50
1:B:666:ALA:O	1:B:781:PHE:N	2.29	0.50
1:B:701:ALA:HA	1:B:704:VAL:HG22	1.94	0.50
1:A:1302:ARG:HD3	1:A:1309:ALA:HB2	1.94	0.50
2:E:170:VAL:HG22	2:E:189:VAL:HG12	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:170:VAL:HG22	2:C:189:VAL:HG12	1.94	0.50
2:E:177:LEU:HB2	2:E:183:TYR:HE1	1.77	0.50
1:B:93:ARG:NH2	1:A:1055:PRO:O	2.27	0.49
1:B:595:GLU:HA	1:B:598:LEU:O	2.12	0.49
1:A:597:HIS:CE1	1:A:676:ARG:HB2	2.47	0.49
1:A:776:HIS:HB2	2:C:213:LYS:NZ	2.27	0.49
1:B:736:VAL:HG22	1:B:746:ALA:HB3	1.94	0.49
1:A:698:ALA:HA	1:A:722:SER:HA	1.94	0.49
1:A:837:LEU:O	1:A:841:ILE:N	2.45	0.49
1:A:800:ALA:HA	1:A:803:TRP:CD1	2.48	0.49
3:D:130:ARG:HD2	3:D:193:SER:OG	2.11	0.49
1:A:38:VAL:HG12	1:A:137:ALA:HB1	1.93	0.49
1:A:108:PHE:HZ	1:A:131:TRP:CE2	2.30	0.49
1:A:642:TRP:CD1	1:A:829:LEU:HD21	2.47	0.49
2:C:133:PRO:HG2	2:C:220:PRO:HB3	1.94	0.49
3:D:217:GLU:HB3	3:D:228:THR:HA	1.95	0.49
1:B:300:ASN:O	1:B:449:ASN:N	2.45	0.49
1:A:840:ALA:HA	1:A:843:GLU:OE1	2.13	0.49
1:B:77:ASP:OD2	1:A:931:ARG:NE	2.46	0.49
1:A:40:MET:HE1	1:A:393:LEU:HD21	1.95	0.49
1:A:932:ILE:HD11	1:A:1125:TRP:CD1	2.47	0.49
2:E:177:LEU:HB2	2:E:183:TYR:CE1	2.47	0.49
1:A:103:ALA:HB1	1:A:905:ARG:HB3	1.95	0.49
1:A:841:ILE:O	1:A:844:ILE:HB	2.13	0.49
1:A:1068:TRP:CZ2	1:A:1087:ASP:HB2	2.48	0.49
1:B:162:PRO:HD2	1:B:175:LEU:HD21	1.94	0.49
1:A:737:ALA:C	1:A:739:CYS:N	2.70	0.49
1:A:1019:LEU:HG	1:A:1252:VAL:HG21	1.94	0.49
1:A:243:ASP:O	1:A:244:PHE:C	2.52	0.49
1:A:1383:ASP:OD1	1:A:1389:ARG:NH2	2.46	0.49
1:A:305:SER:OG	1:A:307:GLY:O	2.29	0.48
2:C:160:SER:HB3	2:C:164:GLY:H	1.78	0.48
2:C:177:LEU:HD13	2:C:183:TYR:HE1	1.76	0.48
3:D:25:LEU:O	3:D:125:LYS:N	2.41	0.48
2:E:133:PRO:HG2	2:E:220:PRO:HB3	1.95	0.48
1:A:704:VAL:HG22	1:A:714:ILE:HD11	1.95	0.48
1:A:1270:PHE:O	1:A:1272:LEU:HD12	2.13	0.48
2:C:6:LEU:HD11	2:C:102:ARG:HG3	1.95	0.48
1:A:838:THR:HA	1:A:841:ILE:HB	1.96	0.48
2:C:151:ASP:HA	2:C:182:LEU:HB3	1.95	0.48
1:B:98:LEU:HD12	1:B:234:VAL:HG22	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:688:MET:N	1:B:689:PRO:HD3	2.28	0.48
1:B:712:VAL:HG12	1:B:725:VAL:HG22	1.95	0.48
1:B:718:ASN:O	1:B:840:ALA:HB1	2.13	0.48
3:F:217:GLU:HB3	3:F:228:THR:HA	1.95	0.48
1:B:622:GLU:OE1	1:B:623:ARG:NH1	2.46	0.48
1:A:162:PRO:HD2	1:A:910:LEU:HG	1.95	0.48
1:A:1096:LEU:HA	1:A:1100:LEU:HG	1.94	0.48
2:C:131:LEU:HD11	2:C:148:LEU:HG	1.94	0.48
2:C:177:LEU:O	3:D:182:GLN:NE2	2.24	0.48
3:D:187:GLU:OE1	3:D:187:GLU:N	2.47	0.48
1:B:302:ASP:N	1:B:447:GLY:O	2.46	0.48
1:B:764:ARG:HE	1:B:768:HIS:CD2	2.32	0.48
1:A:71:ASP:O	1:A:907:ARG:NH2	2.46	0.48
1:A:156:ILE:HG13	1:A:381:ALA:HB2	1.95	0.48
1:A:385:VAL:O	1:A:389:ILE:HG13	2.13	0.48
1:A:1143:VAL:HG11	1:A:1160:LEU:HD13	1.94	0.48
3:F:187:GLU:N	3:F:187:GLU:OE1	2.47	0.48
1:B:257:LYS:HG3	1:B:405:HIS:HB3	1.96	0.48
1:B:491:ARG:HD3	1:B:902:PRO:HD3	1.96	0.48
2:C:149:VAL:CG1	2:C:205:VAL:HG11	2.43	0.48
1:B:391:MET:HE1	1:B:400:LEU:HD21	1.95	0.48
1:B:562:PHE:HB2	1:B:654:GLY:HA2	1.96	0.48
1:B:663:ALA:HB1	1:B:669:LEU:HB2	1.96	0.48
1:B:680:LEU:HD23	1:B:771:LEU:HA	1.95	0.48
1:B:814:ALA:HB1	1:B:844:ILE:HD11	1.96	0.48
1:A:15:ARG:HH21	3:D:76:ALA:HB1	1.79	0.48
2:C:95:THR:HG23	2:C:117:THR:HG23	1.95	0.48
3:D:58:LEU:HD13	3:D:107:TYR:CZ	2.49	0.48
1:B:475:TRP:CD1	1:B:508:ALA:HB2	2.48	0.48
1:A:736:VAL:HA	1:A:739:CYS:HB2	1.96	0.48
1:A:784:PHE:O	1:A:792:TRP:HD1	1.96	0.47
1:B:19:ASP:OD1	3:F:77:SER:HB3	2.13	0.47
1:B:241:LEU:HD23	1:B:268:MET:HE2	1.94	0.47
1:A:568:GLN:OE1	1:A:568:GLN:N	2.36	0.47
1:A:1171:VAL:HG22	1:A:1198:ALA:HB3	1.96	0.47
1:B:429:TRP:HH2	1:B:438:ALA:HB2	1.79	0.47
1:B:783:PRO:HB3	1:B:792:TRP:NE1	2.28	0.47
1:B:819:ALA:O	1:B:823:GLN:HB2	2.15	0.47
1:A:197:PRO:HD2	1:A:224:SER:HB3	1.96	0.47
1:A:1158:ARG:HG2	1:A:1188:LEU:HD23	1.96	0.47
1:A:1313:ALA:HB3	1:A:1360:ILE:HA	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:108:ASP:CG	3:F:67:LEU:HD22	2.37	0.47
2:E:155:GLU:HG2	2:E:183:TYR:CD2	2.49	0.47
2:E:185:LEU:HD23	2:E:186:SER:N	2.29	0.47
1:B:273:GLY:HA3	1:B:385:VAL:HG13	1.97	0.47
1:B:329:LEU:HD13	1:B:437:ARG:HD3	1.97	0.47
2:E:151:ASP:HA	2:E:182:LEU:HB3	1.95	0.47
1:B:12:TYR:CD1	2:E:106:LEU:HD22	2.49	0.47
1:B:159:GLU:HG2	1:A:163:ARG:HE	1.79	0.47
2:C:36:MET:HB3	2:C:36:MET:HE3	1.23	0.47
3:D:184:SER:HB3	3:D:198:SER:HB3	1.96	0.47
3:F:58:LEU:HD13	3:F:107:TYR:CZ	2.49	0.47
1:B:502:GLN:HB2	1:B:507:ILE:HD11	1.96	0.47
1:A:652:VAL:HG21	1:A:666:ALA:HB2	1.96	0.47
1:B:242:VAL:O	1:B:246:ARG:HG2	2.14	0.47
1:B:308:LEU:HD21	1:A:183:VAL:HB	1.97	0.47
1:B:391:MET:O	1:B:395:MET:HG3	2.14	0.47
1:B:753:TYR:HE2	1:B:755:SER:HB2	1.79	0.47
4:B:1801:PN7:O2P	4:B:1801:PN7:O3	2.32	0.47
1:A:683:ARG:HA	1:A:683:ARG:HD3	1.69	0.47
1:A:688:MET:N	1:A:689:PRO:HD2	2.30	0.47
1:A:802:TYR:HA	1:A:805:ARG:HE	1.80	0.47
1:A:1152:VAL:HG22	1:A:1317:TRP:CD1	2.49	0.47
1:A:1301:GLN:C	1:A:1303:ARG:N	2.70	0.47
1:A:226:LEU:HD12	1:A:278:GLU:HB2	1.96	0.47
1:A:1000:VAL:HG12	1:A:1002:GLY:H	1.78	0.47
1:B:28:ARG:HH21	3:D:75:ARG:HH21	1.63	0.47
1:B:118:ALA:O	1:B:178:GLY:HA3	2.15	0.47
1:B:154:GLY:HA3	1:B:207:SER:HB3	1.97	0.47
1:A:312:ASN:HD22	1:A:315:ALA:HB2	1.80	0.47
1:A:340:HIS:HD2	1:A:442:SER:HA	1.80	0.47
1:A:478:SER:O	1:A:488:GLN:NE2	2.48	0.47
1:A:524:PHE:HE2	1:A:532:ALA:HB1	1.80	0.47
3:D:163:PRO:O	3:D:220:HIS:NE2	2.48	0.47
1:B:472:VAL:HG21	1:B:866:ALA:HA	1.97	0.47
1:A:555:GLN:O	1:A:557:ARG:HG2	2.15	0.47
1:B:652:VAL:C	1:B:653:ILE:HG12	2.40	0.46
1:B:835:PRO:HB3	1:B:856:HIS:HB2	1.96	0.46
1:A:856:HIS:CE1	1:A:859:ARG:HG2	2.50	0.46
1:B:680:LEU:HG	1:B:770:GLU:HG3	1.98	0.46
1:B:476:VAL:HB	1:B:876:PHE:CE2	2.51	0.46
2:E:7:VAL:HG23	2:E:25:THR:HB	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:36:MET:HE3	2:E:36:MET:HB3	1.58	0.46
1:B:680:LEU:O	1:B:684:VAL:HG13	2.16	0.46
1:B:855:ILE:HG12	1:B:875:ALA:HA	1.97	0.46
1:A:638:LEU:HB3	1:A:642:TRP:CZ3	2.51	0.46
1:A:1079:PRO:HB3	1:A:1377:ARG:HG2	1.98	0.46
2:C:87:MET:HE2	2:C:87:MET:HB3	1.78	0.46
1:B:69:PRO:CG	1:B:72:ARG:HD2	2.45	0.46
1:A:485:LEU:HD21	1:A:522:ALA:HB2	1.95	0.46
1:A:495:HIS:NE2	1:A:897:PRO:O	2.47	0.46
1:A:756:HIS:H	1:A:807:LEU:HA	1.81	0.46
3:D:166:ALA:HB2	3:D:220:HIS:HB2	1.97	0.46
2:E:208:LYS:HA	2:E:208:LYS:HD2	1.70	0.46
1:B:562:PHE:CE1	1:B:652:VAL:HG13	2.51	0.46
1:B:632:PHE:CE1	1:B:660:ILE:HB	2.50	0.46
1:A:317:VAL:HG13	1:A:358:ALA:HB2	1.98	0.46
1:A:660:ILE:HG22	1:A:674:ALA:HB1	1.96	0.46
2:E:152:TYR:HB2	2:E:207:HIS:CD2	2.50	0.46
1:B:121:PRO:HG2	1:B:236:PRO:HB3	1.97	0.46
2:E:131:LEU:HB2	2:E:146:GLY:C	2.40	0.46
1:B:400:LEU:HD22	1:B:423:LEU:HD11	1.98	0.46
1:A:476:VAL:O	1:A:511:LEU:HG	2.16	0.46
1:A:1137:TRP:HE1	1:A:1268:THR:HG23	1.81	0.46
1:A:1176:PRO:HD2	1:A:1199:ALA:HB2	1.97	0.46
1:A:1272:LEU:HD23	1:A:1295:LEU:CD2	2.46	0.46
1:B:121:PRO:HG3	1:B:909:TRP:CZ3	2.51	0.46
1:B:336:ALA:HB2	1:B:400:LEU:HD11	1.98	0.46
1:B:1421:ARG:NH1	1:B:1436:VAL:H	2.14	0.46
2:E:13:LEU:HD13	2:E:117:THR:HB	1.98	0.46
2:E:31:PHE:HB3	2:E:78:ASP:OD1	2.16	0.46
1:B:207:SER:HB2	1:B:381:ALA:HB1	1.98	0.46
1:B:521:ARG:HD3	1:B:876:PHE:O	2.16	0.46
1:B:526:PRO:HB3	1:B:532:ALA:HB2	1.97	0.46
1:B:731:GLU:O	1:B:735:LEU:HG	2.16	0.46
1:A:349:PRO:HA	1:A:413:ILE:HG12	1.98	0.46
1:A:1209:ARG:HD2	1:A:1261:LEU:HD11	1.98	0.46
3:D:144:ASP:HA	3:D:147:LEU:HD12	1.98	0.46
2:E:31:PHE:CE2	2:E:76:ARG:HB2	2.51	0.46
1:B:521:ARG:NH1	1:B:552:SER:OG	2.49	0.45
1:B:635:MET:HE2	1:B:635:MET:HB3	1.81	0.45
1:A:241:LEU:HB3	1:A:268:MET:CE	2.47	0.45
1:A:584:ALA:O	1:A:588:ARG:HG2	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:692:LYS:NZ	1:A:726:ALA:HB1	2.31	0.45
2:E:143:ALA:HA	3:F:138:PHE:HE2	1.81	0.45
2:E:188:VAL:HG21	3:F:157:LEU:HD12	1.99	0.45
1:B:339:ALA:HB2	1:B:355:LEU:HD11	1.99	0.45
1:A:510:SER:HB3	1:A:895:ARG:HB2	1.98	0.45
2:E:37:SER:HB2	2:E:101:THR:OG1	2.15	0.45
3:F:58:LEU:O	3:F:66:GLN:N	2.40	0.45
1:B:205:CYS:HB3	1:B:378:HIS:NE2	2.32	0.45
1:B:165:ALA:O	1:A:242:VAL:HG11	2.15	0.45
1:B:351:GLU:HG3	1:B:443:PHE:HE2	1.81	0.45
1:B:443:PHE:CD1	1:B:449:ASN:HB3	2.50	0.45
1:B:632:PHE:HE1	1:B:661:ALA:N	2.14	0.45
1:A:194:LEU:HD11	1:A:228:MET:HE2	1.98	0.45
1:A:388:VAL:HG22	1:A:440:VAL:HG21	1.99	0.45
2:C:31:PHE:HB3	2:C:78:ASP:OD1	2.16	0.45
1:B:2:ALA:HA	2:E:54:ARG:HH21	1.81	0.45
1:B:765:ASP:OD1	1:B:766:ALA:N	2.49	0.45
1:A:1229:ALA:HB1	1:A:1288:TYR:HE1	1.82	0.45
1:A:1377:ARG:HA	1:A:1377:ARG:HD2	1.77	0.45
2:C:31:PHE:CE2	2:C:76:ARG:HB2	2.51	0.45
1:B:1448:ASP:O	1:B:1449:SER:C	2.59	0.45
1:A:17:THR:HG23	3:F:74:ASN:HD21	1.81	0.45
3:D:130:ARG:HD2	3:D:193:SER:HG	1.81	0.45
2:E:77:ASP:O	2:E:81:SER:CA	2.64	0.45
3:F:137:VAL:HB	3:F:229:LYS:NZ	2.32	0.45
1:A:805:ARG:HD2	1:A:809:ARG:NH2	2.32	0.45
2:C:77:ASP:O	2:C:81:SER:CA	2.64	0.45
1:B:797:GLU:H	1:B:797:GLU:HG3	1.66	0.45
1:A:539:LEU:HD22	1:A:539:LEU:HA	1.70	0.45
1:A:826:ARG:HG3	1:A:852:LEU:HA	1.99	0.45
2:C:7:VAL:HG23	2:C:25:THR:HB	1.98	0.45
1:A:696:SER:HB2	1:A:747:LYS:HE2	1.99	0.45
3:D:58:LEU:HD13	3:D:107:TYR:CE2	2.52	0.45
2:E:176:VAL:CG2	3:F:184:SER:HB2	2.47	0.45
1:B:561:VAL:CG1	1:B:828:PHE:HB2	2.47	0.45
1:B:565:GLN:HG2	1:B:657:GLN:HE22	1.82	0.45
1:B:782:VAL:HG12	1:B:783:PRO:O	2.17	0.45
1:A:103:ALA:HA	1:A:906:GLU:O	2.17	0.45
1:A:1034:MET:SD	1:A:1081:VAL:HG13	2.57	0.45
3:F:137:VAL:HG22	3:F:158:LEU:CD1	2.46	0.45
1:B:79:LEU:HD21	1:B:238:PRO:HB3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:131:LEU:HD12	2:E:131:LEU:HA	1.81	0.44
1:B:8:LYS:C	1:B:10:ALA:H	2.25	0.44
1:B:661:ALA:O	1:B:665:VAL:HG22	2.18	0.44
1:A:1043:LEU:N	1:A:1081:VAL:O	2.48	0.44
1:A:1139:PRO:HB2	1:A:1165:ALA:HA	1.99	0.44
1:A:1310:THR:HG22	1:A:1312:VAL:HG13	1.98	0.44
1:A:1362:ILE:HB	1:A:1364:VAL:HG12	2.00	0.44
2:E:148:LEU:HD21	3:F:155:VAL:HG21	2.00	0.44
3:F:58:LEU:HD13	3:F:107:TYR:CE2	2.52	0.44
1:A:176:MET:HB3	1:A:176:MET:HE3	1.00	0.44
1:A:763:ILE:HB	1:A:767:LEU:HB2	1.99	0.44
1:A:784:PHE:CE2	1:A:798:LEU:HD11	2.52	0.44
1:A:1068:TRP:O	1:A:1072:ARG:HG3	2.16	0.44
1:A:1188:LEU:H	1:A:1188:LEU:HG	1.50	0.44
2:E:207:HIS:O	2:E:211:ASN:N	2.49	0.44
1:B:483:GLU:OE1	1:B:486:ARG:NH2	2.49	0.44
1:B:813:PHE:CE2	1:B:841:ILE:HD11	2.52	0.44
1:A:329:LEU:HD12	1:A:453:ILE:HG21	1.99	0.44
1:A:528:ASP:H	1:A:531:ALA:HB3	1.83	0.44
2:C:52:PHE:CE1	2:C:63:GLU:HB3	2.53	0.44
3:D:58:LEU:O	3:D:66:GLN:N	2.40	0.44
1:B:349:PRO:HA	1:B:413:ILE:HG12	1.99	0.44
1:A:480:SER:HB2	1:A:518:LEU:HD22	2.00	0.44
1:A:619:LEU:HD12	1:A:619:LEU:HA	1.71	0.44
1:A:720:PRO:HB2	1:A:721:ARG:HD2	1.99	0.44
3:F:158:LEU:HD13	3:F:158:LEU:HA	1.82	0.44
1:B:44:LEU:HD22	1:B:376:LEU:HD13	2.00	0.44
1:B:1459:LEU:HD12	1:B:1459:LEU:HA	1.82	0.44
1:A:302:ASP:HB3	1:A:312:ASN:HB2	2.00	0.44
1:A:568:GLN:HE21	1:A:621:THR:HG21	1.82	0.44
1:A:655:HIS:NE2	1:A:724:VAL:HG21	2.33	0.44
1:B:317:VAL:HG13	1:B:358:ALA:HB2	1.99	0.44
1:B:529:GLU:O	1:B:533:LEU:HD13	2.16	0.44
1:B:710:ASP:HB2	1:B:731:GLU:HG3	1.98	0.44
2:E:35:ALA:CB	2:E:54:ARG:HA	2.48	0.44
1:B:234:VAL:HA	1:B:270:GLU:HG3	2.00	0.44
1:A:682:SER:HA	1:A:685:ILE:HG22	2.00	0.44
1:A:1093:VAL:HB	1:A:1096:LEU:HD12	1.98	0.44
1:A:1143:VAL:HG21	1:A:1160:LEU:HD22	2.00	0.44
1:A:1224:VAL:HB	1:A:1270:PHE:HD1	1.83	0.44
2:C:37:SER:O	2:C:101:THR:OG1	2.36	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:25:LEU:O	3:F:125:LYS:N	2.41	0.44
1:B:512:ALA:HB1	1:B:884:TRP:HB3	2.00	0.43
1:B:588:ARG:HD2	1:B:603:ILE:HG13	2.00	0.43
1:A:69:PRO:HG3	1:A:97:PHE:HB3	2.00	0.43
1:A:778:LEU:HD22	1:A:778:LEU:HA	1.81	0.43
1:B:8:LYS:C	1:B:10:ALA:N	2.75	0.43
1:B:34:PRO:HB2	1:B:293:VAL:HG11	1.99	0.43
1:A:1028:LEU:HD21	1:A:1070:VAL:HG21	1.99	0.43
1:A:1096:LEU:HD22	1:A:1100:LEU:HD11	2.00	0.43
1:A:1110:GLU:HB2	1:A:1113:LEU:HD21	1.99	0.43
1:A:1298:LEU:O	1:A:1302:ARG:HB2	2.18	0.43
3:F:22:GLN:N	3:F:22:GLN:OE1	2.51	0.43
1:B:171:VAL:HG21	1:B:910:LEU:HD21	1.99	0.43
1:B:379:THR:HB	1:B:382:ALA:HB3	2.00	0.43
1:A:573:ALA:HB1	1:A:576:LEU:HB3	2.00	0.43
1:A:1071:GLY:HA3	1:A:1085:LEU:HD11	2.00	0.43
1:A:1167:HIS:CD2	1:A:1219:VAL:HG11	2.53	0.43
3:D:128:ILE:HB	3:D:188:GLN:NE2	2.34	0.43
1:A:177:THR:O	1:A:183:VAL:HG21	2.19	0.43
1:A:703:GLU:HG2	1:A:704:VAL:N	2.34	0.43
1:B:492:LEU:HD21	1:B:511:LEU:HD11	2.01	0.43
1:A:149:THR:HA	1:A:226:LEU:O	2.19	0.43
1:A:705:ARG:HG2	1:A:714:ILE:HG13	2.00	0.43
1:A:949:TRP:HZ3	1:A:1044:TRP:HD1	1.65	0.43
3:F:31:PRO:HA	3:F:99:VAL:O	2.19	0.43
1:B:80:PHE:CE1	1:B:93:ARG:HD2	2.53	0.43
1:B:338:GLU:O	1:B:338:GLU:HG3	2.18	0.43
1:A:641:MET:HG2	1:A:868:PHE:CZ	2.53	0.43
3:D:22:GLN:OE1	3:D:22:GLN:N	2.51	0.43
1:B:697:ILE:HG12	1:B:699:ALA:H	1.84	0.43
2:C:8:GLN:HE21	2:C:100:CYS:HB2	1.83	0.43
1:A:155:LEU:HD12	1:A:200:SER:OG	2.19	0.43
1:A:610:ALA:HA	1:A:613:ARG:HE	1.83	0.43
1:A:1088:VAL:HG11	1:A:1096:LEU:HD23	2.00	0.43
3:D:31:PRO:HA	3:D:99:VAL:O	2.19	0.43
3:D:137:VAL:HB	3:D:229:LYS:NZ	2.34	0.43
2:E:80:LYS:O	2:E:82:ILE:HG12	2.18	0.43
2:E:205:VAL:O	2:E:213:LYS:HA	2.19	0.43
1:B:632:PHE:O	1:B:636:VAL:HG12	2.19	0.43
1:A:39:ALA:HB2	1:A:137:ALA:HB2	2.00	0.43
1:A:593:ALA:HB1	1:A:672:ASP:HA	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:53:ILE:HB	2:E:74:ILE:HG22	2.01	0.43
2:E:112:GLN:H	2:E:112:GLN:HG3	1.17	0.43
3:F:29:VAL:HB	3:F:99:VAL:HG11	2.00	0.43
3:F:106:VAL:HG22	3:F:125:LYS:HD2	2.01	0.43
1:B:739:CYS:SG	1:B:740:THR:N	2.91	0.43
1:B:836:ILE:H	1:B:836:ILE:HG13	1.36	0.43
1:A:406:ALA:HB1	1:A:422:LEU:HD13	2.01	0.43
1:A:512:ALA:HB1	1:A:884:TRP:CG	2.54	0.43
1:A:1155:GLN:HG3	1:A:1158:ARG:NH1	2.34	0.43
1:A:1173:ARG:HD2	1:A:1201:ASP:HA	2.00	0.43
3:F:58:LEU:HD21	3:F:60:LYS:HG3	2.01	0.43
1:A:64:ALA:N	1:A:375:ASN:O	2.45	0.42
1:A:235:MET:HA	1:A:236:PRO:HD2	1.83	0.42
1:A:367:LEU:O	1:A:421:SER:N	2.39	0.42
1:A:1033:ALA:O	1:A:1037:ALA:N	2.50	0.42
1:A:1143:VAL:HG11	1:A:1160:LEU:CD1	2.49	0.42
1:B:349:PRO:O	1:B:353:ARG:HG3	2.18	0.42
1:B:805:ARG:HG2	1:B:809:ARG:HH12	1.84	0.42
1:A:29:GLU:HA	1:A:33:GLU:HB2	2.01	0.42
1:A:532:ALA:HA	1:A:535:VAL:HG23	2.01	0.42
1:A:608:ALA:HA	1:A:612:ARG:HE	1.85	0.42
2:C:49:TRP:HZ2	2:C:52:PHE:HD1	1.66	0.42
2:C:80:LYS:O	2:C:82:ILE:HG12	2.19	0.42
2:C:185:LEU:HD23	2:C:186:SER:N	2.34	0.42
3:D:141:PRO:HA	3:D:154:VAL:HG23	2.01	0.42
3:F:215:ALA:HA	3:F:230:SER:HA	2.01	0.42
1:B:334:ILE:O	1:B:363:ARG:NH1	2.33	0.42
1:B:719:GLY:H	1:B:814:ALA:HB2	1.83	0.42
1:B:35:VAL:HG23	1:B:294:LEU:HB2	2.01	0.42
1:B:36:ALA:HB1	1:B:290:VAL:HG13	2.02	0.42
1:B:731:GLU:HA	1:B:734:ARG:HG2	2.00	0.42
4:B:1801:PN7:H15	1:A:311:PRO:HD3	2.01	0.42
1:A:337:VAL:HG23	1:A:367:LEU:HD11	2.02	0.42
1:A:668:ALA:HB2	1:A:795:PRO:HB2	2.01	0.42
1:A:1159:TRP:HE1	1:A:1163:ARG:CZ	2.32	0.42
1:B:774:ASP:OD1	1:B:774:ASP:N	2.52	0.42
1:A:495:HIS:CG	1:A:899:PRO:HD3	2.55	0.42
1:A:739:CYS:HA	1:A:742:GLU:HG2	2.02	0.42
1:A:1007:LEU:H	1:A:1007:LEU:HG	1.42	0.42
1:A:1339:MET:H	1:A:1339:MET:HG3	1.56	0.42
3:D:29:VAL:HB	3:D:99:VAL:HG11	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:54:LEU:HD13	3:D:92:PHE:CG	2.54	0.42
1:B:228:MET:HG2	1:B:276:LEU:HD13	2.02	0.42
1:B:410:SER:HB3	1:B:413:ILE:HD12	2.02	0.42
1:B:731:GLU:HG2	1:B:734:ARG:HH11	1.84	0.42
1:A:40:MET:HE1	1:A:393:LEU:CD2	2.49	0.42
1:A:944:ARG:HD3	1:A:944:ARG:HA	1.92	0.42
2:C:69:LYS:HA	2:C:69:LYS:HD3	1.84	0.42
2:C:206:ASN:HD22	2:C:213:LYS:HG3	1.85	0.42
1:B:269:ALA:HB2	1:B:377:GLY:HA3	2.01	0.42
1:B:434:ARG:HE	1:B:434:ARG:HB3	1.61	0.42
1:B:1465:VAL:HG21	1:B:1485:LEU:HD11	2.02	0.42
1:A:1049:SER:N	1:A:1088:VAL:O	2.50	0.42
1:A:1331:PHE:HB3	1:A:1336:VAL:HG13	2.02	0.42
3:F:128:ILE:HB	3:F:188:GLN:NE2	2.34	0.42
1:B:378:HIS:CD2	1:B:380:GLN:H	2.38	0.42
1:A:265:GLY:HA2	1:A:344:THR:HA	2.02	0.42
1:A:338:GLU:N	1:A:439:GLY:O	2.46	0.42
1:A:556:GLN:HG3	1:A:881:ALA:HB2	2.02	0.42
1:A:628:GLN:HB2	1:A:682:SER:HB2	2.02	0.42
3:F:102:GLU:H	3:F:102:GLU:HG2	1.66	0.42
1:A:506:ASP:OD2	1:A:894:ARG:NH1	2.53	0.42
1:A:577:LEU:HD23	1:A:577:LEU:H	1.85	0.42
1:A:589:GLU:HG2	1:A:590:CYS:N	2.35	0.42
1:A:1222:SER:HB3	1:A:1268:THR:H	1.85	0.42
3:D:168:VAL:HG21	3:D:197:LEU:HD22	2.02	0.42
1:A:465:ARG:HD2	1:A:465:ARG:HA	1.39	0.42
2:C:149:VAL:HG13	2:C:205:VAL:HG11	2.01	0.42
3:F:118:LEU:HD13	3:F:118:LEU:HA	1.83	0.42
1:B:400:LEU:HA	1:B:401:PRO:HD3	1.88	0.41
1:B:695:ALA:O	1:B:725:VAL:HG12	2.20	0.41
1:A:311:PRO:HG2	1:A:350:ILE:HD12	2.01	0.41
2:C:18:ARG:HA	2:C:18:ARG:HD3	1.74	0.41
2:C:38:TRP:O	2:C:50:VAL:HB	2.19	0.41
1:B:1409:ALA:C	1:B:1411:GLU:N	2.78	0.41
1:A:253:ASP:OD2	1:A:255:ARG:HD3	2.20	0.41
1:A:811:VAL:HG12	1:A:813:PHE:HB2	2.01	0.41
2:C:171:HIS:CE1	3:D:159:ASN:ND2	2.88	0.41
3:D:215:ALA:HA	3:D:230:SER:HA	2.01	0.41
2:E:49:TRP:HZ2	2:E:52:PHE:HD1	1.66	0.41
1:B:34:PRO:HB2	1:B:293:VAL:CG1	2.50	0.41
1:B:39:ALA:HB2	1:B:137:ALA:HB2	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:221:ARG:HD2	1:B:223:GLU:HB2	2.03	0.41
1:B:244:PHE:HD2	1:B:268:MET:HE1	1.85	0.41
1:A:12:TYR:CE1	3:D:70:TYR:HB2	2.55	0.41
1:A:802:TYR:HD1	1:A:805:ARG:HH21	1.68	0.41
3:D:106:VAL:HG22	3:D:125:LYS:HD2	2.01	0.41
1:B:55:TRP:O	1:B:59:SER:HB3	2.20	0.41
1:B:650:ALA:HB1	1:B:825:TYR:CZ	2.56	0.41
1:B:1437:PRO:HB2	1:B:1440:GLN:HB2	2.02	0.41
1:A:604:PRO:HB3	1:A:607:ARG:HH21	1.86	0.41
2:E:21:ARG:NH1	2:E:84:TYR:CD2	2.88	0.41
2:E:53:ILE:HG23	2:E:76:ARG:HH11	1.84	0.41
2:E:80:LYS:NZ	2:E:82:ILE:HG13	2.36	0.41
1:B:227:ALA:O	1:B:276:LEU:HD12	2.21	0.41
1:B:1409:ALA:HB3	1:B:1411:GLU:CG	2.51	0.41
1:A:139:ILE:HD12	1:A:139:ILE:H	1.85	0.41
1:A:171:VAL:HG21	1:A:910:LEU:CD1	2.50	0.41
1:A:625:ASP:HB3	1:A:686:ALA:HB2	2.01	0.41
2:C:6:LEU:HD22	2:C:24:CYS:SG	2.61	0.41
3:D:146:GLN:OE1	3:D:153:SER:HB2	2.20	0.41
3:F:59:GLN:OE1	3:F:65:PRO:HG3	2.20	0.41
1:B:140:PRO:HA	1:B:141:PRO:HD3	1.96	0.41
1:B:1471:THR:HG23	1:B:1475:HIS:HD2	1.85	0.41
1:A:562:PHE:HB3	1:A:635:MET:HE1	2.03	0.41
1:A:1030:LEU:O	1:A:1034:MET:HG3	2.21	0.41
2:E:77:ASP:O	2:E:81:SER:N	2.54	0.41
3:F:141:PRO:HA	3:F:154:VAL:HG23	2.01	0.41
3:F:146:GLN:OE1	3:F:153:SER:HB2	2.20	0.41
1:B:329:LEU:HD12	1:B:453:ILE:HG21	2.03	0.41
1:B:512:ALA:HB1	1:B:884:TRP:CG	2.56	0.41
2:C:80:LYS:NZ	2:C:82:ILE:HG13	2.36	0.41
1:B:130:SER:HB2	1:B:228:MET:HE1	2.02	0.41
1:A:92:GLN:HB2	1:A:250:LEU:HD23	2.01	0.41
1:A:865:LEU:HD12	1:A:865:LEU:HA	1.86	0.41
2:C:126:PRO:HB3	2:C:149:VAL:CG1	2.51	0.41
3:D:59:GLN:OE1	3:D:65:PRO:HG3	2.20	0.41
3:F:189:ASP:OD1	3:F:194:THR:N	2.49	0.41
1:B:115:GLU:O	1:B:119:VAL:HG23	2.21	0.41
1:B:357:GLU:HA	1:B:361:ARG:HG2	2.02	0.41
1:A:141:PRO:HG2	1:A:516:ALA:HB2	2.03	0.41
1:A:911:GLU:O	1:A:912:PRO:C	2.64	0.41
1:A:1054:GLY:HA3	1:A:1056:PHE:CE1	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:31:PHE:HE2	2:C:76:ARG:HB2	1.86	0.41
2:C:37:SER:HB3	2:C:52:PHE:HB3	2.03	0.41
2:C:149:VAL:HG12	2:C:152:TYR:CD1	2.55	0.41
2:C:161:TRP:HD1	2:C:170:VAL:HG13	1.85	0.41
1:B:465:ARG:HH12	1:B:467:GLU:CD	2.29	0.41
1:B:511:LEU:O	1:B:515:ARG:HB2	2.20	0.41
1:B:839:ALA:HA	1:B:842:GLU:HB2	2.03	0.41
1:B:1409:ALA:C	1:B:1411:GLU:H	2.28	0.41
1:A:773:GLU:H	1:A:773:GLU:HG3	1.47	0.41
1:A:911:GLU:HA	1:A:912:PRO:HD2	1.86	0.41
1:A:1206:GLU:HA	1:A:1209:ARG:HB3	2.03	0.41
1:A:1318:ALA:HB3	1:A:1341:PRO:HD3	2.03	0.41
3:F:53:TYR:O	3:F:112:SER:N	2.54	0.41
3:F:130:ARG:HH12	3:F:133:ALA:HB2	1.85	0.41
1:B:689:PRO:HG3	1:B:753:TYR:HB3	2.02	0.40
1:B:692:LYS:HG3	1:B:759:HIS:CD2	2.56	0.40
1:B:712:VAL:HG22	1:B:727:GLY:HA3	2.02	0.40
1:A:692:LYS:HE2	1:A:757:SER:OG	2.20	0.40
1:A:1229:ALA:H	1:A:1322:MET:HE2	1.87	0.40
1:A:1334:HIS:HA	1:A:1368:ARG:HB3	2.03	0.40
2:C:77:ASP:O	2:C:81:SER:N	2.54	0.40
2:C:159:VAL:HG22	2:C:205:VAL:HG13	2.03	0.40
1:A:533:LEU:HD13	1:A:533:LEU:HA	1.75	0.40
1:A:805:ARG:HD2	1:A:809:ARG:HH21	1.85	0.40
1:A:1078:ASN:CG	1:A:1081:VAL:HB	2.46	0.40
2:C:13:LEU:HD13	2:C:117:THR:HB	2.03	0.40
3:D:104:VAL:HG23	3:D:126:VAL:HG12	2.03	0.40
2:E:173:PHE:O	2:E:185:LEU:HG	2.21	0.40
3:F:135:PRO:HG3	3:F:220:HIS:HB3	2.04	0.40
1:B:506:ASP:HB3	1:B:896:VAL:HG21	2.03	0.40
1:A:443:PHE:HA	1:A:449:ASN:HA	2.04	0.40
1:A:1239:LEU:HD23	1:A:1239:LEU:HA	1.95	0.40
2:E:31:PHE:O	2:E:76:ARG:NH2	2.54	0.40
1:A:133:VAL:HG22	1:A:276:LEU:HB2	2.04	0.40
1:A:609:GLU:O	1:A:613:ARG:N	2.54	0.40
1:A:1321:GLY:HA2	1:A:1324:GLU:HB3	2.04	0.40
1:A:1366:TRP:HA	1:A:1369:PHE:HB3	2.02	0.40
3:D:53:TYR:O	3:D:112:SER:N	2.54	0.40
1:B:163:ARG:HE	1:A:159:GLU:HG2	1.86	0.40
1:B:217:GLN:HG3	1:A:221:ARG:NH1	2.37	0.40
1:B:659:GLU:HG3	1:B:806:ASN:ND2	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:680:LEU:HD12	1:B:683:ARG:NH2	2.36	0.40
1:A:93:ARG:HE	1:A:93:ARG:HB3	1.42	0.40
1:A:562:PHE:HD2	1:A:635:MET:HE2	1.87	0.40
1:A:640:SER:HA	1:A:643:ARG:HD3	2.04	0.40
1:A:682:SER:O	1:A:685:ILE:HG22	2.21	0.40
2:C:6:LEU:HD23	2:C:6:LEU:HA	1.93	0.40
2:C:40:ARG:N	2:C:48:GLU:O	2.46	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	1388/1784 (78%)	1264 (91%)	123 (9%)	1 (0%)	48	80
1	B	995/1784 (56%)	915 (92%)	78 (8%)	2 (0%)	44	75
2	C	199/249 (80%)	179 (90%)	20 (10%)	0	100	100
2	E	199/249 (80%)	176 (88%)	23 (12%)	0	100	100
3	D	200/236 (85%)	184 (92%)	16 (8%)	0	100	100
3	F	200/236 (85%)	187 (94%)	13 (6%)	0	100	100
All	All	3181/4538 (70%)	2905 (91%)	273 (9%)	3 (0%)	50	80

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	1449	SER
1	B	720	PRO
1	A	779	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	1028/1325 (78%)	873 (85%)	155 (15%)	2	12
1	B	746/1325 (56%)	651 (87%)	95 (13%)	3	17
2	C	170/203 (84%)	133 (78%)	37 (22%)	1	4
2	E	170/203 (84%)	135 (79%)	35 (21%)	1	5
3	D	182/208 (88%)	143 (79%)	39 (21%)	1	5
3	F	182/208 (88%)	145 (80%)	37 (20%)	1	5
All	All	2478/3472 (71%)	2080 (84%)	398 (16%)	4	9

All (398) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	7	GLU
1	B	9	VAL
1	B	31	GLU
1	B	52	GLU
1	B	57	LEU
1	B	75	ASP
1	B	100	GLU
1	B	111	MET
1	B	112	SER
1	B	114	ARG
1	B	123	GLN
1	B	124	ARG
1	B	126	MET
1	B	129	LEU
1	B	156	ILE
1	B	159	GLU
1	B	162	PRO
1	B	163	ARG
1	B	164	LEU
1	B	175	LEU
1	B	180	THR
1	B	181	THR

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Mol	Chain	Res	Type
1	B	182	SER
1	B	197	PRO
1	B	199	ILE
1	B	205	CYS
1	B	209	LEU
1	B	212	VAL
1	B	214	LEU
1	B	220	ARG
1	B	221	ARG
1	B	237	THR
1	B	240	MET
1	B	241	LEU
1	B	264	ASN
1	B	268	MET
1	B	270	GLU
1	B	342	THR
1	B	344	THR
1	B	345	ARG
1	B	400	LEU
1	B	402	ARG
1	B	553	ARG
1	B	556	GLN
1	B	567	TRP
1	B	572	MET
1	B	574	VAL
1	B	575	ASP
1	B	577	LEU
1	B	579	THR
1	B	581	PRO
1	B	606	LEU
1	B	607	ARG
1	B	612	ARG
1	B	631	MET
1	B	653	ILE
1	B	660	ILE
1	B	682	SER
1	B	684	VAL
1	B	703	GLU
1	B	705	ARG
1	B	721	ARG
1	B	751	VAL
1	B	752	ASP

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Mol	Chain	Res	Type
1	B	788	VAL
1	B	797	GLU
1	B	799	ASP
1	B	827	THR
1	B	831	VAL
1	B	836	ILE
1	B	837	LEU
1	B	852	LEU
1	B	853	SER
1	B	859	ARG
1	B	865	LEU
1	B	870	GLU
1	B	872	LEU
1	B	873	SER
1	B	908	VAL
1	B	1407	LEU
1	B	1411	GLU
1	B	1412	ARG
1	B	1414	LYS
1	B	1435	ARG
1	B	1436	VAL
1	B	1447	VAL
1	B	1448	ASP
1	B	1453	LEU
1	B	1455	LEU
1	B	1456	ARG
1	B	1458	ARG
1	B	1459	LEU
1	B	1463	THR
1	B	1466	ARG
1	B	1485	LEU
1	A	1	MET
1	A	3	SER
1	A	5	ASP
1	A	7	GLU
1	A	8	LYS
1	A	9	VAL
1	A	42	CYS
1	A	43	ARG
1	A	44	LEU
1	A	56	GLU
1	A	57	LEU

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Mol	Chain	Res	Type
1	A	62	ARG
1	A	65	VAL
1	A	92	GLN
1	A	93	ARG
1	A	98	LEU
1	A	117	LEU
1	A	124	ARG
1	A	157	PRO
1	A	158	GLN
1	A	159	GLU
1	A	162	PRO
1	A	163	ARG
1	A	171	VAL
1	A	176	MET
1	A	179	THR
1	A	180	THR
1	A	203	THR
1	A	207	SER
1	A	220	ARG
1	A	232	VAL
1	A	233	THR
1	A	243	ASP
1	A	247	MET
1	A	250	LEU
1	A	266	PHE
1	A	342	THR
1	A	376	LEU
1	A	404	LEU
1	A	422	LEU
1	A	460	VAL
1	A	461	VAL
1	A	462	GLU
1	A	464	GLU
1	A	465	ARG
1	A	467	GLU
1	A	498	GLU
1	A	505	ARG
1	A	515	ARG
1	A	524	PHE
1	A	527	VAL
1	A	530	SER
1	A	533	LEU

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Mol	Chain	Res	Type
1	A	534	ARG
1	A	535	VAL
1	A	539	LEU
1	A	599	ASP
1	A	601	GLU
1	A	619	LEU
1	A	623	ARG
1	A	627	VAL
1	A	683	ARG
1	A	703	GLU
1	A	704	VAL
1	A	711	ARG
1	A	717	VAL
1	A	722	SER
1	A	723	VAL
1	A	731	GLU
1	A	732	LEU
1	A	735	LEU
1	A	736	VAL
1	A	745	ARG
1	A	748	ARG
1	A	759	HIS
1	A	762	THR
1	A	763	ILE
1	A	765	ASP
1	A	767	LEU
1	A	770	GLU
1	A	771	LEU
1	A	773	GLU
1	A	775	PHE
1	A	777	PRO
1	A	778	LEU
1	A	782	VAL
1	A	784	PHE
1	A	785	PHE
1	A	786	SER
1	A	797	GLU
1	A	799	ASP
1	A	826	ARG
1	A	841	ILE
1	A	853	SER
1	A	855	ILE

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Mol	Chain	Res	Type
1	A	859	ARG
1	A	867	ASP
1	A	870	GLU
1	A	911	GLU
1	A	913	LYS
1	A	918	ARG
1	A	948	THR
1	A	950	LEU
1	A	961	THR
1	A	977	ARG
1	A	978	GLU
1	A	980	VAL
1	A	981	VAL
1	A	982	ASP
1	A	1004	LEU
1	A	1007	LEU
1	A	1010	ASP
1	A	1015	GLU
1	A	1125	TRP
1	A	1144	LEU
1	A	1145	VAL
1	A	1168	LEU
1	A	1169	LEU
1	A	1171	VAL
1	A	1179	ASP
1	A	1184	LEU
1	A	1188	LEU
1	A	1194	ARG
1	A	1195	THR
1	A	1196	THR
1	A	1235	THR
1	A	1237	ASP
1	A	1238	THR
1	A	1244	ILE
1	A	1249	ARG
1	A	1251	LYS
1	A	1253	LEU
1	A	1263	ARG
1	A	1296	ASP
1	A	1300	GLN
1	A	1303	ARG
1	A	1307	LEU

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Mol	Chain	Res	Type
1	A	1327	VAL
1	A	1330	ARG
1	A	1333	ARG
1	A	1336	VAL
1	A	1339	MET
1	A	1342	GLU
1	A	1357	VAL
1	A	1360	ILE
1	A	1362	ILE
1	A	1363	ASP
1	A	1364	VAL
1	A	1367	ASP
1	A	1371	LEU
1	A	1376	GLN
1	A	1377	ARG
1	A	1379	THR
1	A	1380	ARG
1	A	1385	ILE
2	C	4	VAL
2	C	5	GLN
2	C	18	ARG
2	C	30	THR
2	C	36	MET
2	C	37	SER
2	C	45	LYS
2	C	56	LYS
2	C	61	THR
2	C	67	SER
2	C	69	LYS
2	C	78	ASP
2	C	80	LYS
2	C	84	TYR
2	C	86	GLN
2	C	87	MET
2	C	91	LYS
2	C	92	THR
2	C	93	GLU
2	C	101	THR
2	C	106	LEU
2	C	108	ASP
2	C	112	GLN
2	C	114	THR

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Mol	Chain	Res	Type
2	C	124	LYS
2	C	150	LYS
2	C	158	THR
2	C	168	SER
2	C	171	HIS
2	C	172	THR
2	C	178	GLN
2	C	182	LEU
2	C	202	ILE
2	C	204	ASN
2	C	206	ASN
2	C	216	LYS
2	C	219	GLU
3	D	18	VAL
3	D	20	MET
3	D	26	SER
3	D	33	GLU
3	D	36	SER
3	D	48	SER
3	D	49	ASN
3	D	60	LYS
3	D	77	SER
3	D	81	ASP
3	D	84	SER
3	D	93	THR
3	D	95	LYS
3	D	96	ILE
3	D	100	GLU
3	D	114	GLN
3	D	117	ARG
3	D	118	LEU
3	D	119	THR
3	D	132	VAL
3	D	137	VAL
3	D	139	ILE
3	D	144	ASP
3	D	145	GLU
3	D	153	SER
3	D	157	LEU
3	D	178	SER
3	D	181	SER
3	D	185	VAL

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Mol	Chain	Res	Type
3	D	186	THR
3	D	187	GLU
3	D	197	LEU
3	D	200	THR
3	D	202	THR
3	D	205	LYS
3	D	217	GLU
3	D	219	THR
3	D	221	GLN
3	D	224	SER
2	E	14	VAL
2	E	15	GLN
2	E	30	THR
2	E	33	ASP
2	E	36	MET
2	E	45	LYS
2	E	55	SER
2	E	56	LYS
2	E	61	THR
2	E	67	SER
2	E	69	LYS
2	E	78	ASP
2	E	80	LYS
2	E	84	TYR
2	E	91	LYS
2	E	92	THR
2	E	93	GLU
2	E	97	VAL
2	E	102	ARG
2	E	105	THR
2	E	108	ASP
2	E	112	GLN
2	E	124	LYS
2	E	131	LEU
2	E	150	LYS
2	E	158	THR
2	E	160	SER
2	E	168	SER
2	E	172	THR
2	E	177	LEU
2	E	178	GLN
2	E	182	LEU

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Mol	Chain	Res	Type
2	E	208	LYS
2	E	216	LYS
2	E	219	GLU
3	F	18	VAL
3	F	20	MET
3	F	26	SER
3	F	33	GLU
3	F	36	SER
3	F	48	SER
3	F	49	ASN
3	F	77	SER
3	F	81	ASP
3	F	84	SER
3	F	86	SER
3	F	90	THR
3	F	92	PHE
3	F	93	THR
3	F	94	LEU
3	F	100	GLU
3	F	102	GLU
3	F	117	ARG
3	F	118	LEU
3	F	119	THR
3	F	139	ILE
3	F	144	ASP
3	F	145	GLU
3	F	148	LYS
3	F	153	SER
3	F	158	LEU
3	F	167	LYS
3	F	178	SER
3	F	181	SER
3	F	185	VAL
3	F	186	THR
3	F	187	GLU
3	F	205	LYS
3	F	217	GLU
3	F	219	THR
3	F	221	GLN
3	F	224	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (40) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	213	HIS
1	B	217	GLN
1	B	449	ASN
1	B	556	GLN
1	B	615	GLN
1	B	657	GLN
1	B	806	ASN
1	B	904	GLN
1	A	81	HIS
1	A	158	GLN
1	A	217	GLN
1	A	312	ASN
1	A	340	HIS
1	A	378	HIS
1	A	597	HIS
1	A	776	HIS
1	A	1112	GLN
1	A	1226	HIS
1	A	1334	HIS
1	A	1349	GLN
2	C	8	GLN
2	C	41	GLN
2	C	86	GLN
2	C	112	GLN
2	C	171	HIS
2	C	178	GLN
2	C	204	ASN
2	C	206	ASN
3	D	52	ASN
3	D	111	GLN
3	D	159	ASN
3	D	180	ASN
3	D	188	GLN
2	E	178	GLN
2	E	207	HIS
3	F	52	ASN
3	F	66	GLN
3	F	111	GLN
3	F	169	GLN
3	F	188	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

1 ligand is modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
4	PN7	B	1801	1	14,20,21	2.13	4 (28%)	18,26,29	1.42	5 (27%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	PN7	B	1801	1	-	12/24/26/27	-

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	1801	PN7	C8-N9	4.99	1.45	1.33
4	B	1801	PN7	C4-N5	4.97	1.45	1.33
4	B	1801	PN7	O4-C4	-2.36	1.18	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	1801	PN7	O8-C8	-2.15	1.19	1.23

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	B	1801	PN7	C6-C7-C8	2.43	116.44	112.39
4	B	1801	PN7	C6-N5-C4	-2.25	118.50	122.55
4	B	1801	PN7	CE2-C2-C3	2.20	112.52	108.77
4	B	1801	PN7	C11-C10-N9	-2.04	107.68	112.31
4	B	1801	PN7	C3-C4-N5	2.03	120.34	116.48

There are no chirality outliers.

All (12) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	B	1801	PN7	C1-C2-C3-O3
4	B	1801	PN7	C1-C2-C3-C4
4	B	1801	PN7	CE1-C2-C3-O3
4	B	1801	PN7	CE1-C2-C3-C4
4	B	1801	PN7	CE2-C2-C3-O3
4	B	1801	PN7	CE2-C2-C3-C4
4	B	1801	PN7	N9-C10-C11-S12
4	B	1801	PN7	N5-C6-C7-C8
4	B	1801	PN7	O3P-C1-C2-CE1
4	B	1801	PN7	O3P-C1-C2-CE2
4	B	1801	PN7	O3-C3-C4-N5
4	B	1801	PN7	O3P-C1-C2-C3

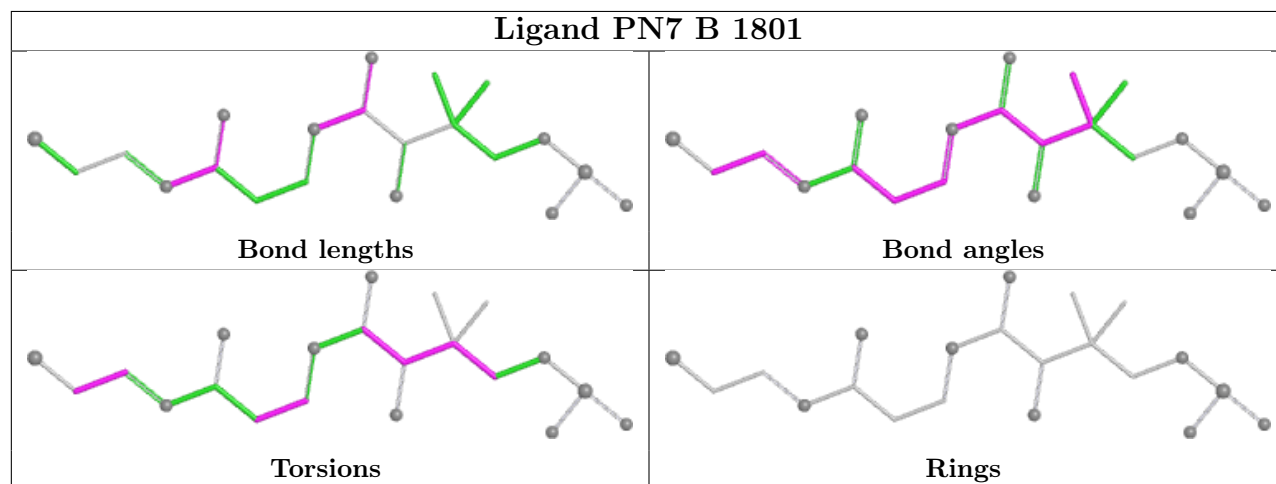
There are no ring outliers.

1 monomer is involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	B	1801	PN7	2	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring

in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

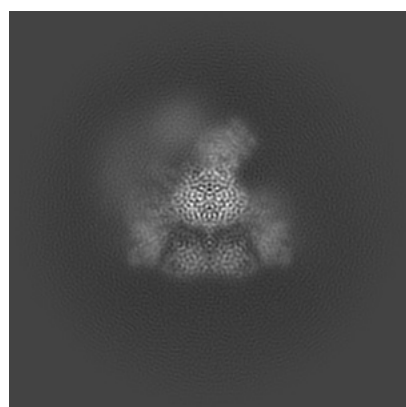
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-23711. These allow visual inspection of the internal detail of the map and identification of artifacts.

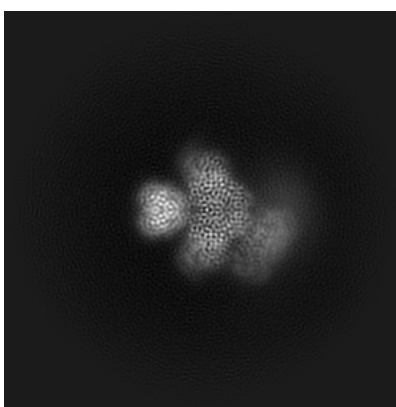
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

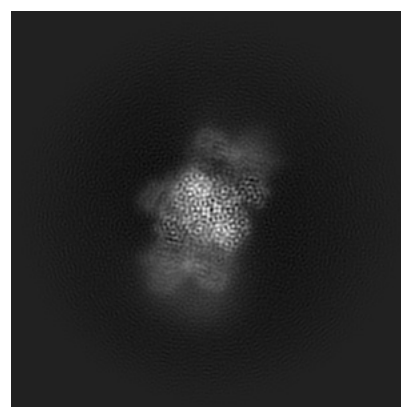
6.1.1 Primary map



X



Y

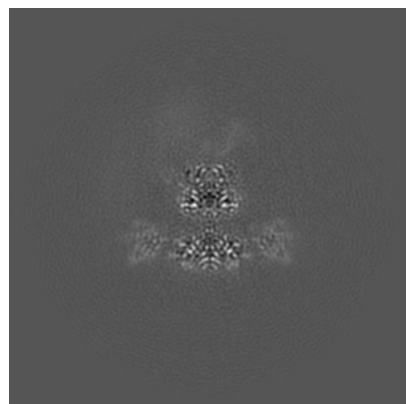


Z

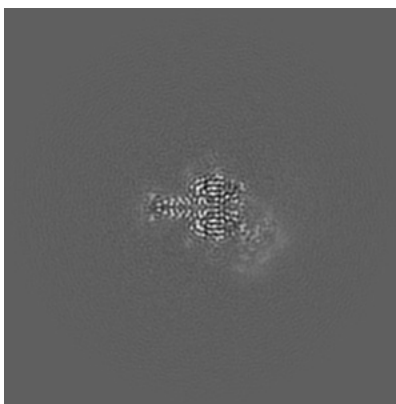
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

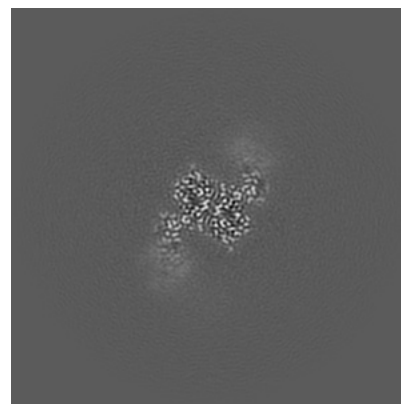
6.2.1 Primary map



X Index: 168



Y Index: 168

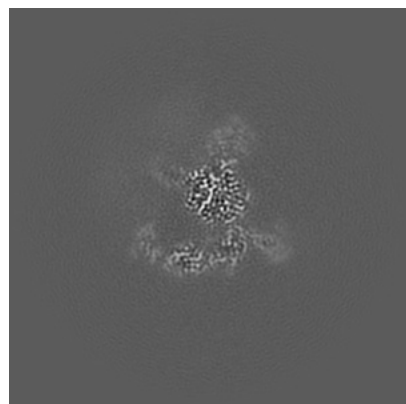


Z Index: 168

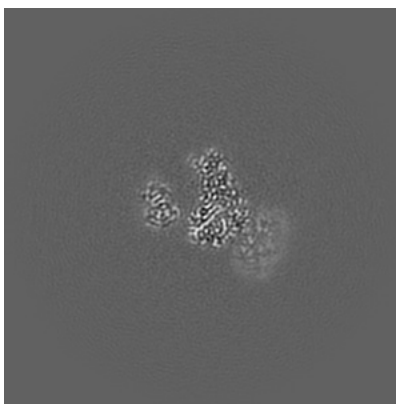
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

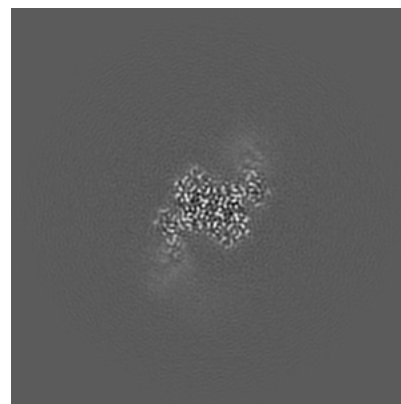
6.3.1 Primary map



X Index: 157



Y Index: 181

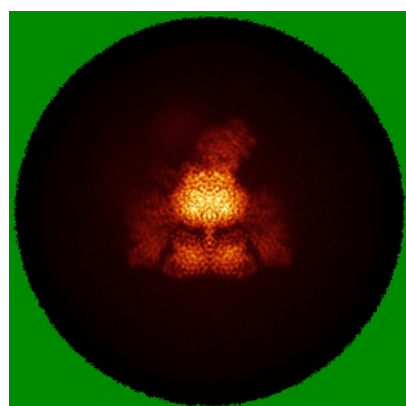


Z Index: 173

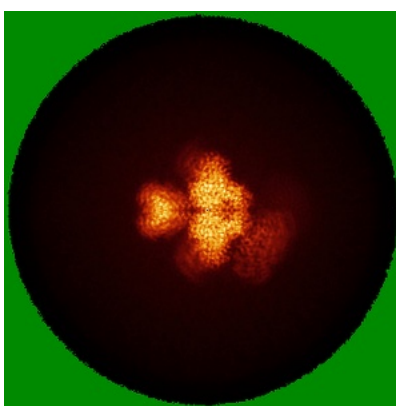
The images above show the largest variance slices of the map in three orthogonal directions.

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

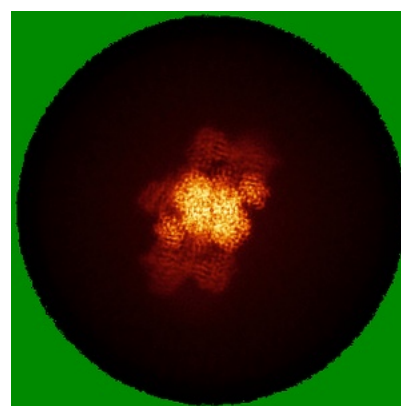
6.4.1 Primary map



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 0.53. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

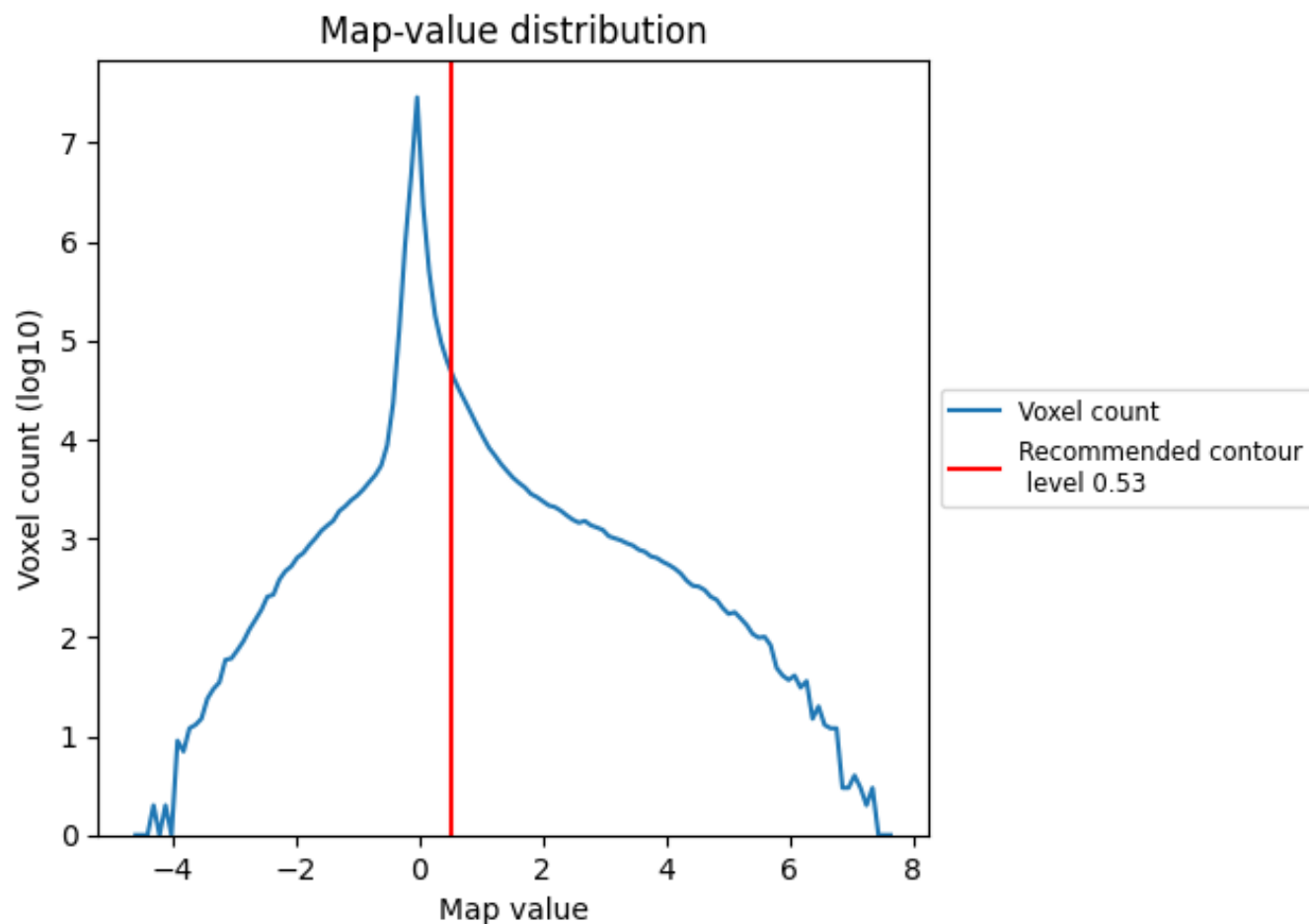
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

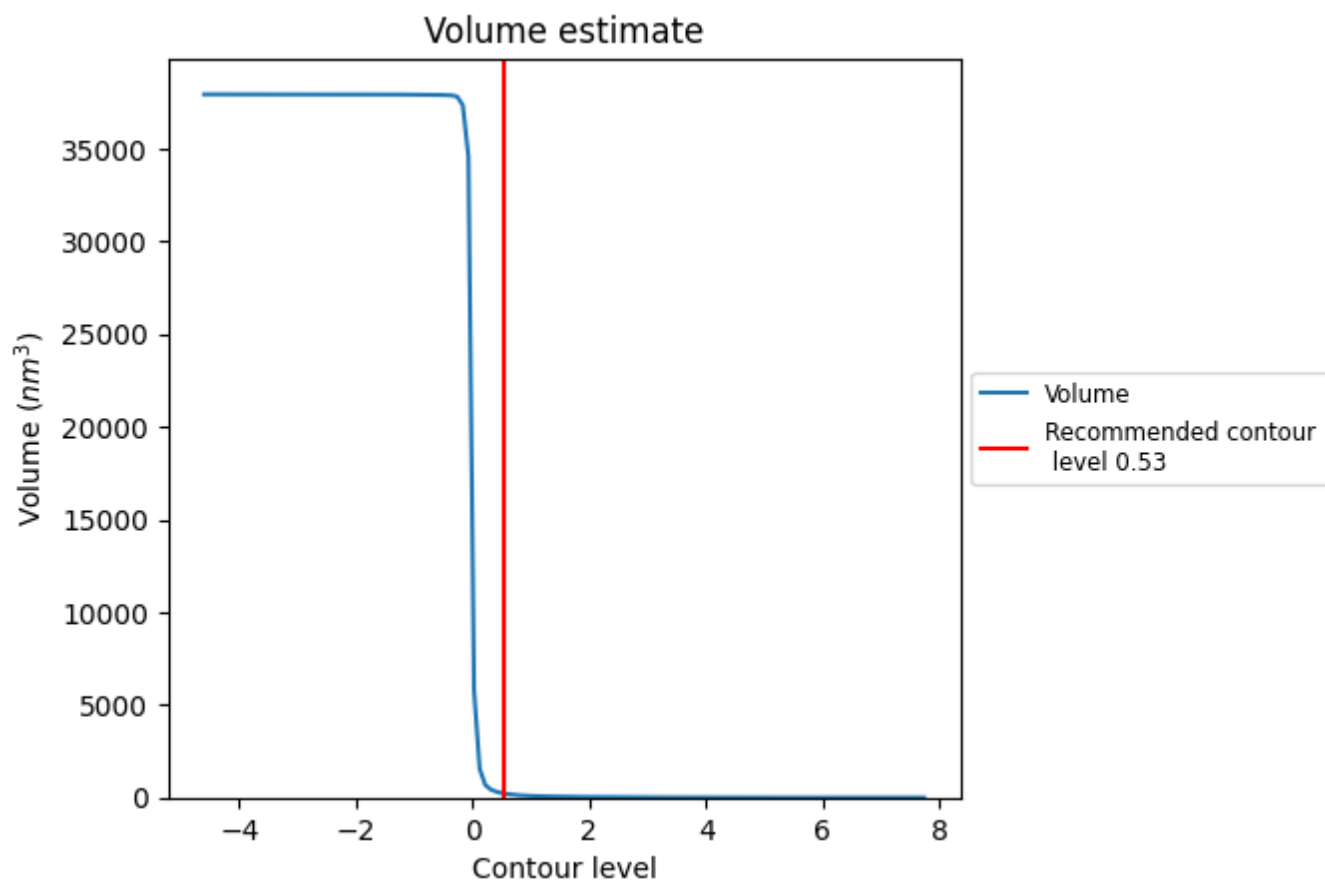
This section contains the results of statistical analysis of the map.

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.

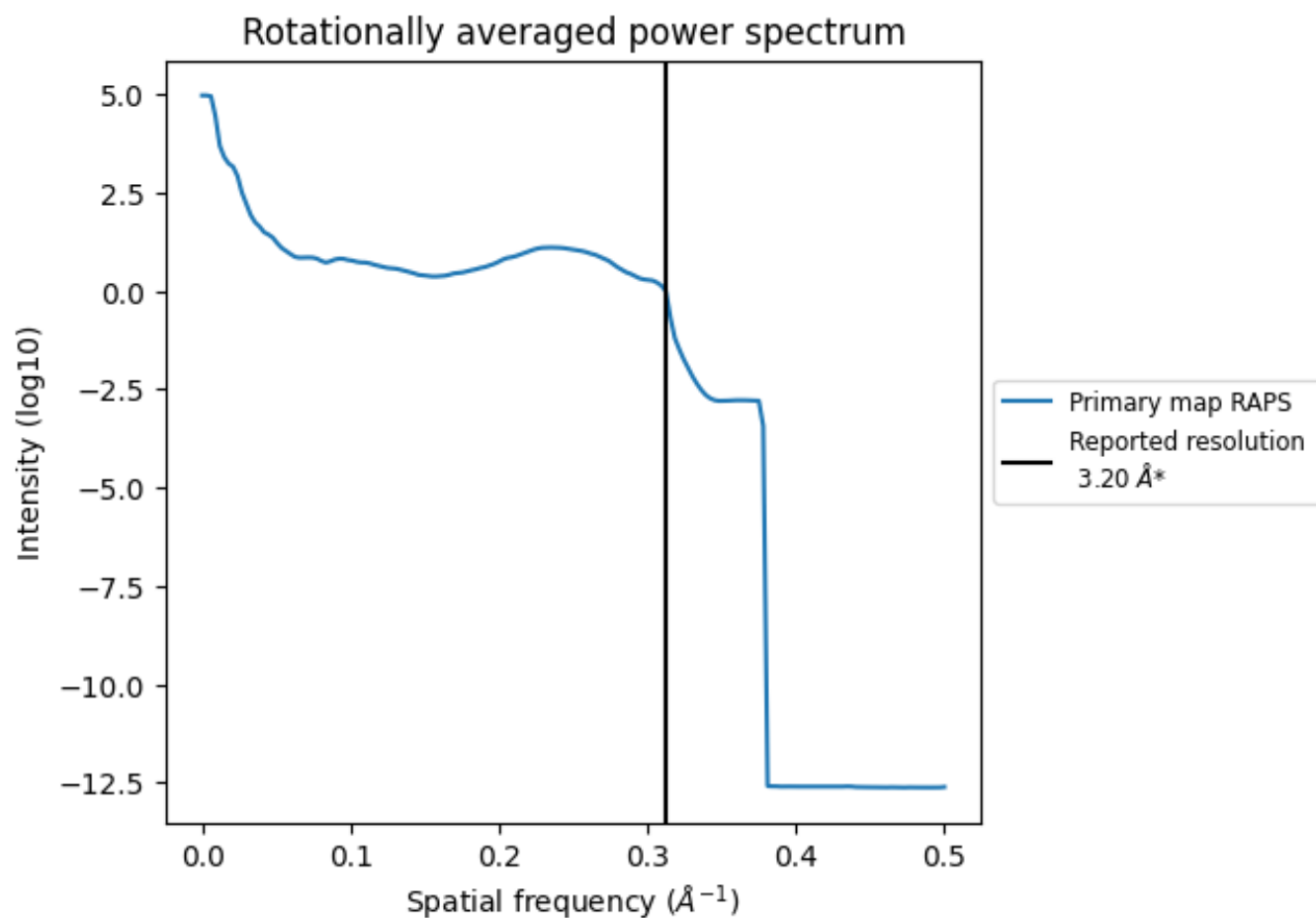
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 226 nm³; this corresponds to an approximate mass of 204 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ



*Reported resolution corresponds to spatial frequency of 0.312 Å⁻¹

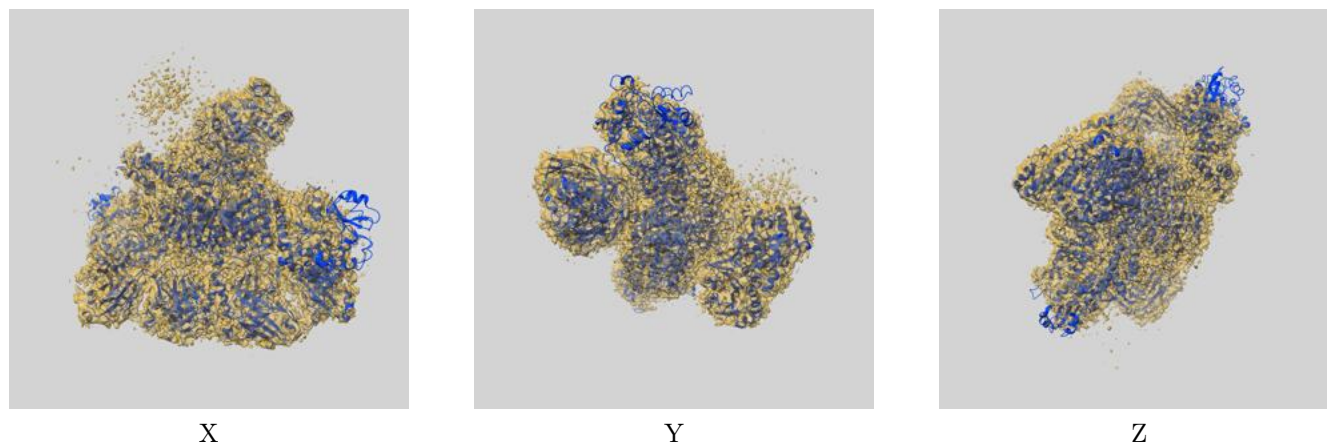
8 Fourier-Shell correlation ⓘ

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

9 Map-model fit [i](#)

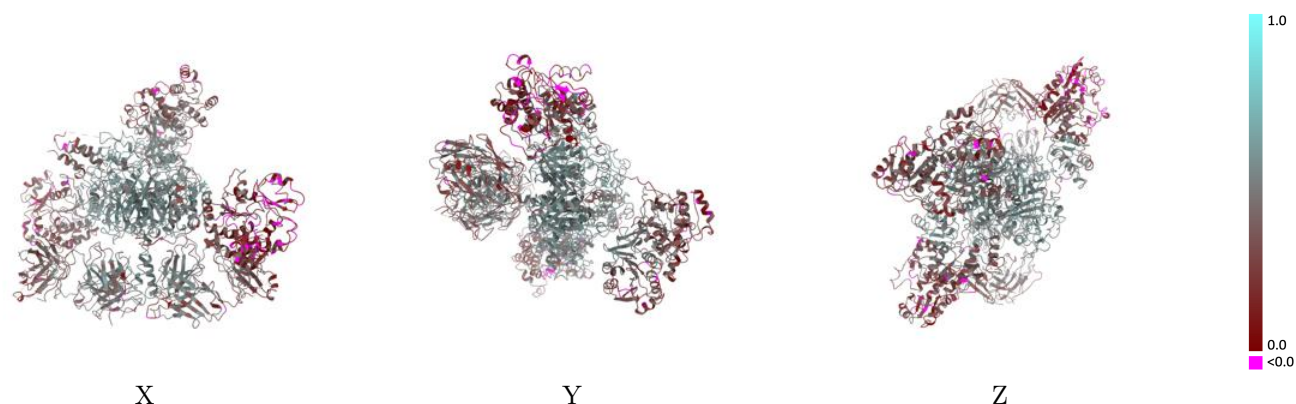
This section contains information regarding the fit between EMDB map EMD-23711 and PDB model 7M7F. Per-residue inclusion information can be found in [section 3](#) on [page 7](#).

9.1 Map-model overlay [i](#)



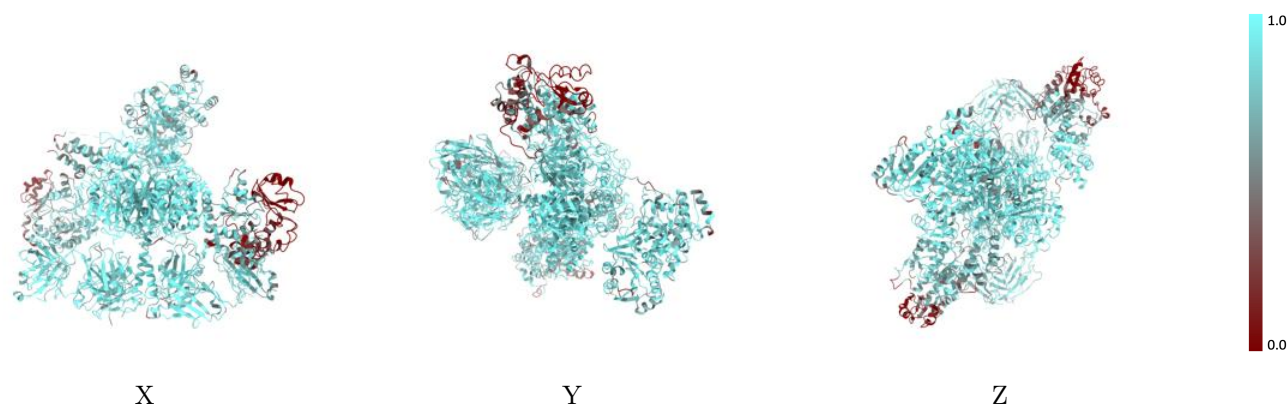
The images above show the 3D surface view of the map at the recommended contour level 0.53 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



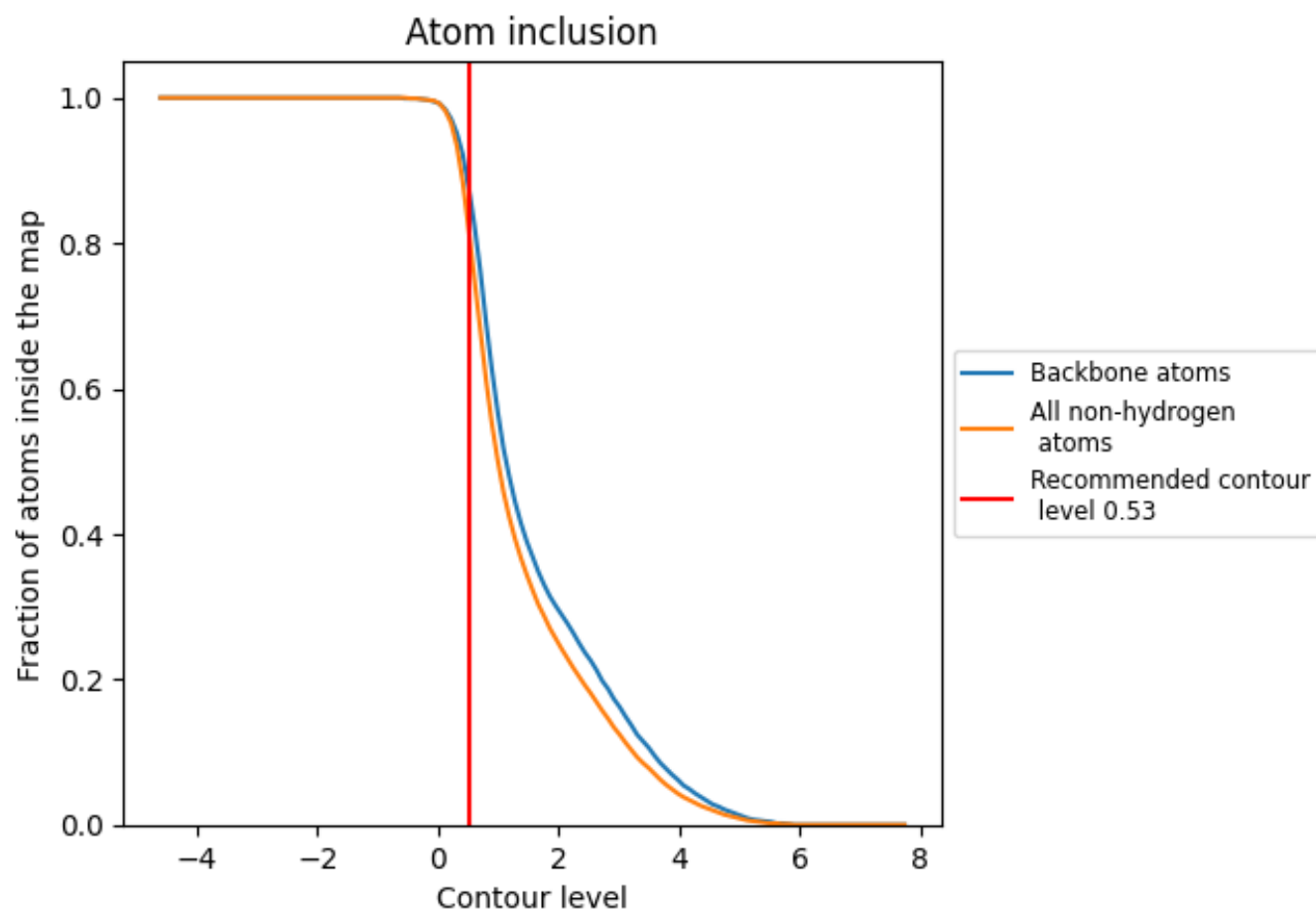
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.53).

9.4 Atom inclusion [i](#)



At the recommended contour level, 86% of all backbone atoms, 80% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.53) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8030	0.4030
A	0.7710	0.3800
B	0.8070	0.4320
C	0.8310	0.3850
D	0.8630	0.4110
E	0.8640	0.4200
F	0.8520	0.4070

1.0

0.0

<0.0