



## Full wwPDB EM Validation Report ⓘ

Oct 6, 2024 – 08:23 AM EDT

PDB ID : 8T20  
EMDB ID : EMD-40976  
Title : Cryo-EM structure of mink variant Y453F trimeric spike protein bound to two mink ACE2 receptors  
Authors : Ahn, H.M.; Calderon, B.; Fan, X.; Gao, Y.; Horgan, N.; Zhou, B.; Liang, B.  
Deposited on : 2023-06-05  
Resolution : 3.36 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](mailto: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>.

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

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

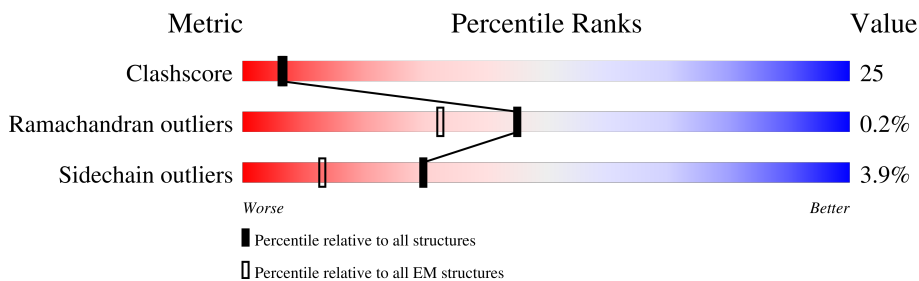
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 3.36 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  $\geq 3$ , 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	1269	
1	B	1269	
1	C	1269	
2	D	771	
2	E	771	

## 2 Entry composition i

There are 2 unique types of molecules in this entry. The entry contains 32612 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Spike glycoprotein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	1001	7810	4990	1297	1488	35	0	0
1	B	962	7497	4790	1243	1430	34	0	0
1	C	962	7497	4790	1243	1430	34	0	0

There are 228 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	?	-	HIS	deletion	UNP P0DTC2
A	?	-	VAL	deletion	UNP P0DTC2
A	453	PHE	TYR	variant	UNP P0DTC2
A	614	GLY	ASP	engineered mutation	UNP P0DTC2
A	682	GLY	ARG	engineered mutation	UNP P0DTC2
A	683	SER	ARG	engineered mutation	UNP P0DTC2
A	685	SER	ARG	engineered mutation	UNP P0DTC2
A	817	PRO	PHE	engineered mutation	UNP P0DTC2
A	892	PRO	ALA	engineered mutation	UNP P0DTC2
A	899	PRO	ALA	engineered mutation	UNP P0DTC2
A	942	PRO	ALA	engineered mutation	UNP P0DTC2
A	986	PRO	LYS	engineered mutation	UNP P0DTC2
A	987	PRO	VAL	engineered mutation	UNP P0DTC2
A	1209	GLY	-	expression tag	UNP P0DTC2
A	1210	SER	-	expression tag	UNP P0DTC2
A	1211	GLY	-	expression tag	UNP P0DTC2
A	1212	SER	-	expression tag	UNP P0DTC2
A	1213	GLY	-	expression tag	UNP P0DTC2
A	1214	SER	-	expression tag	UNP P0DTC2
A	1215	GLY	-	expression tag	UNP P0DTC2
A	1216	SER	-	expression tag	UNP P0DTC2
A	1217	GLY	-	expression tag	UNP P0DTC2
A	1218	TYR	-	expression tag	UNP P0DTC2
A	1219	ILE	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
A	1220	PRO	-	expression tag	UNP P0DTC2
A	1221	GLU	-	expression tag	UNP P0DTC2
A	1222	ALA	-	expression tag	UNP P0DTC2
A	1223	PRO	-	expression tag	UNP P0DTC2
A	1224	ARG	-	expression tag	UNP P0DTC2
A	1225	ASP	-	expression tag	UNP P0DTC2
A	1226	GLY	-	expression tag	UNP P0DTC2
A	1227	GLN	-	expression tag	UNP P0DTC2
A	1228	ALA	-	expression tag	UNP P0DTC2
A	1229	TYR	-	expression tag	UNP P0DTC2
A	1230	VAL	-	expression tag	UNP P0DTC2
A	1231	ARG	-	expression tag	UNP P0DTC2
A	1232	LYS	-	expression tag	UNP P0DTC2
A	1233	ASP	-	expression tag	UNP P0DTC2
A	1234	GLY	-	expression tag	UNP P0DTC2
A	1235	GLU	-	expression tag	UNP P0DTC2
A	1236	TRP	-	expression tag	UNP P0DTC2
A	1237	VAL	-	expression tag	UNP P0DTC2
A	1238	LEU	-	expression tag	UNP P0DTC2
A	1239	LEU	-	expression tag	UNP P0DTC2
A	1240	SER	-	expression tag	UNP P0DTC2
A	1241	THR	-	expression tag	UNP P0DTC2
A	1242	PHE	-	expression tag	UNP P0DTC2
A	1243	LEU	-	expression tag	UNP P0DTC2
A	1244	GLY	-	expression tag	UNP P0DTC2
A	1245	SER	-	expression tag	UNP P0DTC2
A	1246	GLY	-	expression tag	UNP P0DTC2
A	1247	SER	-	expression tag	UNP P0DTC2
A	1248	GLY	-	expression tag	UNP P0DTC2
A	1249	SER	-	expression tag	UNP P0DTC2
A	1250	GLY	-	expression tag	UNP P0DTC2
A	1251	HIS	-	expression tag	UNP P0DTC2
A	1252	HIS	-	expression tag	UNP P0DTC2
A	1253	HIS	-	expression tag	UNP P0DTC2
A	1254	HIS	-	expression tag	UNP P0DTC2
A	1255	HIS	-	expression tag	UNP P0DTC2
A	1256	HIS	-	expression tag	UNP P0DTC2
A	1257	GLY	-	expression tag	UNP P0DTC2
A	1258	LEU	-	expression tag	UNP P0DTC2
A	1259	ASN	-	expression tag	UNP P0DTC2
A	1260	ASP	-	expression tag	UNP P0DTC2
A	1261	ILE	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
A	1262	PHE	-	expression tag	UNP P0DTC2
A	1263	GLU	-	expression tag	UNP P0DTC2
A	1264	ALA	-	expression tag	UNP P0DTC2
A	1265	GLN	-	expression tag	UNP P0DTC2
A	1266	LYS	-	expression tag	UNP P0DTC2
A	1267	ILE	-	expression tag	UNP P0DTC2
A	1268	GLU	-	expression tag	UNP P0DTC2
A	1269	TRP	-	expression tag	UNP P0DTC2
A	1270	HIS	-	expression tag	UNP P0DTC2
A	1271	GLU	-	expression tag	UNP P0DTC2
B	?	-	HIS	deletion	UNP P0DTC2
B	?	-	VAL	deletion	UNP P0DTC2
B	453	PHE	TYR	variant	UNP P0DTC2
B	614	GLY	ASP	engineered mutation	UNP P0DTC2
B	682	GLY	ARG	engineered mutation	UNP P0DTC2
B	683	SER	ARG	engineered mutation	UNP P0DTC2
B	685	SER	ARG	engineered mutation	UNP P0DTC2
B	817	PRO	PHE	engineered mutation	UNP P0DTC2
B	892	PRO	ALA	engineered mutation	UNP P0DTC2
B	899	PRO	ALA	engineered mutation	UNP P0DTC2
B	942	PRO	ALA	engineered mutation	UNP P0DTC2
B	986	PRO	LYS	engineered mutation	UNP P0DTC2
B	987	PRO	VAL	engineered mutation	UNP P0DTC2
B	1209	GLY	-	expression tag	UNP P0DTC2
B	1210	SER	-	expression tag	UNP P0DTC2
B	1211	GLY	-	expression tag	UNP P0DTC2
B	1212	SER	-	expression tag	UNP P0DTC2
B	1213	GLY	-	expression tag	UNP P0DTC2
B	1214	SER	-	expression tag	UNP P0DTC2
B	1215	GLY	-	expression tag	UNP P0DTC2
B	1216	SER	-	expression tag	UNP P0DTC2
B	1217	GLY	-	expression tag	UNP P0DTC2
B	1218	TYR	-	expression tag	UNP P0DTC2
B	1219	ILE	-	expression tag	UNP P0DTC2
B	1220	PRO	-	expression tag	UNP P0DTC2
B	1221	GLU	-	expression tag	UNP P0DTC2
B	1222	ALA	-	expression tag	UNP P0DTC2
B	1223	PRO	-	expression tag	UNP P0DTC2
B	1224	ARG	-	expression tag	UNP P0DTC2
B	1225	ASP	-	expression tag	UNP P0DTC2
B	1226	GLY	-	expression tag	UNP P0DTC2
B	1227	GLN	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
B	1228	ALA	-	expression tag	UNP P0DTC2
B	1229	TYR	-	expression tag	UNP P0DTC2
B	1230	VAL	-	expression tag	UNP P0DTC2
B	1231	ARG	-	expression tag	UNP P0DTC2
B	1232	LYS	-	expression tag	UNP P0DTC2
B	1233	ASP	-	expression tag	UNP P0DTC2
B	1234	GLY	-	expression tag	UNP P0DTC2
B	1235	GLU	-	expression tag	UNP P0DTC2
B	1236	TRP	-	expression tag	UNP P0DTC2
B	1237	VAL	-	expression tag	UNP P0DTC2
B	1238	LEU	-	expression tag	UNP P0DTC2
B	1239	LEU	-	expression tag	UNP P0DTC2
B	1240	SER	-	expression tag	UNP P0DTC2
B	1241	THR	-	expression tag	UNP P0DTC2
B	1242	PHE	-	expression tag	UNP P0DTC2
B	1243	LEU	-	expression tag	UNP P0DTC2
B	1244	GLY	-	expression tag	UNP P0DTC2
B	1245	SER	-	expression tag	UNP P0DTC2
B	1246	GLY	-	expression tag	UNP P0DTC2
B	1247	SER	-	expression tag	UNP P0DTC2
B	1248	GLY	-	expression tag	UNP P0DTC2
B	1249	SER	-	expression tag	UNP P0DTC2
B	1250	GLY	-	expression tag	UNP P0DTC2
B	1251	HIS	-	expression tag	UNP P0DTC2
B	1252	HIS	-	expression tag	UNP P0DTC2
B	1253	HIS	-	expression tag	UNP P0DTC2
B	1254	HIS	-	expression tag	UNP P0DTC2
B	1255	HIS	-	expression tag	UNP P0DTC2
B	1256	HIS	-	expression tag	UNP P0DTC2
B	1257	GLY	-	expression tag	UNP P0DTC2
B	1258	LEU	-	expression tag	UNP P0DTC2
B	1259	ASN	-	expression tag	UNP P0DTC2
B	1260	ASP	-	expression tag	UNP P0DTC2
B	1261	ILE	-	expression tag	UNP P0DTC2
B	1262	PHE	-	expression tag	UNP P0DTC2
B	1263	GLU	-	expression tag	UNP P0DTC2
B	1264	ALA	-	expression tag	UNP P0DTC2
B	1265	GLN	-	expression tag	UNP P0DTC2
B	1266	LYS	-	expression tag	UNP P0DTC2
B	1267	ILE	-	expression tag	UNP P0DTC2
B	1268	GLU	-	expression tag	UNP P0DTC2
B	1269	TRP	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
B	1270	HIS	-	expression tag	UNP P0DTC2
B	1271	GLU	-	expression tag	UNP P0DTC2
C	?	-	HIS	deletion	UNP P0DTC2
C	?	-	VAL	deletion	UNP P0DTC2
C	453	PHE	TYR	variant	UNP P0DTC2
C	614	GLY	ASP	engineered mutation	UNP P0DTC2
C	682	GLY	ARG	engineered mutation	UNP P0DTC2
C	683	SER	ARG	engineered mutation	UNP P0DTC2
C	685	SER	ARG	engineered mutation	UNP P0DTC2
C	817	PRO	PHE	engineered mutation	UNP P0DTC2
C	892	PRO	ALA	engineered mutation	UNP P0DTC2
C	899	PRO	ALA	engineered mutation	UNP P0DTC2
C	942	PRO	ALA	engineered mutation	UNP P0DTC2
C	986	PRO	LYS	engineered mutation	UNP P0DTC2
C	987	PRO	VAL	engineered mutation	UNP P0DTC2
C	1209	GLY	-	expression tag	UNP P0DTC2
C	1210	SER	-	expression tag	UNP P0DTC2
C	1211	GLY	-	expression tag	UNP P0DTC2
C	1212	SER	-	expression tag	UNP P0DTC2
C	1213	GLY	-	expression tag	UNP P0DTC2
C	1214	SER	-	expression tag	UNP P0DTC2
C	1215	GLY	-	expression tag	UNP P0DTC2
C	1216	SER	-	expression tag	UNP P0DTC2
C	1217	GLY	-	expression tag	UNP P0DTC2
C	1218	TYR	-	expression tag	UNP P0DTC2
C	1219	ILE	-	expression tag	UNP P0DTC2
C	1220	PRO	-	expression tag	UNP P0DTC2
C	1221	GLU	-	expression tag	UNP P0DTC2
C	1222	ALA	-	expression tag	UNP P0DTC2
C	1223	PRO	-	expression tag	UNP P0DTC2
C	1224	ARG	-	expression tag	UNP P0DTC2
C	1225	ASP	-	expression tag	UNP P0DTC2
C	1226	GLY	-	expression tag	UNP P0DTC2
C	1227	GLN	-	expression tag	UNP P0DTC2
C	1228	ALA	-	expression tag	UNP P0DTC2
C	1229	TYR	-	expression tag	UNP P0DTC2
C	1230	VAL	-	expression tag	UNP P0DTC2
C	1231	ARG	-	expression tag	UNP P0DTC2
C	1232	LYS	-	expression tag	UNP P0DTC2
C	1233	ASP	-	expression tag	UNP P0DTC2
C	1234	GLY	-	expression tag	UNP P0DTC2
C	1235	GLU	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
C	1236	TRP	-	expression tag	UNP P0DTC2
C	1237	VAL	-	expression tag	UNP P0DTC2
C	1238	LEU	-	expression tag	UNP P0DTC2
C	1239	LEU	-	expression tag	UNP P0DTC2
C	1240	SER	-	expression tag	UNP P0DTC2
C	1241	THR	-	expression tag	UNP P0DTC2
C	1242	PHE	-	expression tag	UNP P0DTC2
C	1243	LEU	-	expression tag	UNP P0DTC2
C	1244	GLY	-	expression tag	UNP P0DTC2
C	1245	SER	-	expression tag	UNP P0DTC2
C	1246	GLY	-	expression tag	UNP P0DTC2
C	1247	SER	-	expression tag	UNP P0DTC2
C	1248	GLY	-	expression tag	UNP P0DTC2
C	1249	SER	-	expression tag	UNP P0DTC2
C	1250	GLY	-	expression tag	UNP P0DTC2
C	1251	HIS	-	expression tag	UNP P0DTC2
C	1252	HIS	-	expression tag	UNP P0DTC2
C	1253	HIS	-	expression tag	UNP P0DTC2
C	1254	HIS	-	expression tag	UNP P0DTC2
C	1255	HIS	-	expression tag	UNP P0DTC2
C	1256	HIS	-	expression tag	UNP P0DTC2
C	1257	GLY	-	expression tag	UNP P0DTC2
C	1258	LEU	-	expression tag	UNP P0DTC2
C	1259	ASN	-	expression tag	UNP P0DTC2
C	1260	ASP	-	expression tag	UNP P0DTC2
C	1261	ILE	-	expression tag	UNP P0DTC2
C	1262	PHE	-	expression tag	UNP P0DTC2
C	1263	GLU	-	expression tag	UNP P0DTC2
C	1264	ALA	-	expression tag	UNP P0DTC2
C	1265	GLN	-	expression tag	UNP P0DTC2
C	1266	LYS	-	expression tag	UNP P0DTC2
C	1267	ILE	-	expression tag	UNP P0DTC2
C	1268	GLU	-	expression tag	UNP P0DTC2
C	1269	TRP	-	expression tag	UNP P0DTC2
C	1270	HIS	-	expression tag	UNP P0DTC2
C	1271	GLU	-	expression tag	UNP P0DTC2

- Molecule 2 is a protein called Angiotensin-converting enzyme.

Mol	Chain	Residues	Atoms				AltConf	Trace	
			Total	C	N	O			S
2	D	596	4904	3133	824	918	29	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	E	596	4904	3133	824	918	29	0	0

There are 64 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
D	740	GLY	-	expression tag	UNP A0A7T0Q2W2
D	741	SER	-	expression tag	UNP A0A7T0Q2W2
D	742	GLY	-	expression tag	UNP A0A7T0Q2W2
D	743	SER	-	expression tag	UNP A0A7T0Q2W2
D	744	GLY	-	expression tag	UNP A0A7T0Q2W2
D	745	SER	-	expression tag	UNP A0A7T0Q2W2
D	746	GLY	-	expression tag	UNP A0A7T0Q2W2
D	747	HIS	-	expression tag	UNP A0A7T0Q2W2
D	748	HIS	-	expression tag	UNP A0A7T0Q2W2
D	749	HIS	-	expression tag	UNP A0A7T0Q2W2
D	750	HIS	-	expression tag	UNP A0A7T0Q2W2
D	751	HIS	-	expression tag	UNP A0A7T0Q2W2
D	752	HIS	-	expression tag	UNP A0A7T0Q2W2
D	753	GLY	-	expression tag	UNP A0A7T0Q2W2
D	754	SER	-	expression tag	UNP A0A7T0Q2W2
D	755	GLY	-	expression tag	UNP A0A7T0Q2W2
D	756	SER	-	expression tag	UNP A0A7T0Q2W2
D	757	GLY	-	expression tag	UNP A0A7T0Q2W2
D	758	LEU	-	expression tag	UNP A0A7T0Q2W2
D	759	ASN	-	expression tag	UNP A0A7T0Q2W2
D	760	ASP	-	expression tag	UNP A0A7T0Q2W2
D	761	ILE	-	expression tag	UNP A0A7T0Q2W2
D	762	PHE	-	expression tag	UNP A0A7T0Q2W2
D	763	GLU	-	expression tag	UNP A0A7T0Q2W2
D	764	ALA	-	expression tag	UNP A0A7T0Q2W2
D	765	GLN	-	expression tag	UNP A0A7T0Q2W2
D	766	LYS	-	expression tag	UNP A0A7T0Q2W2
D	767	ILE	-	expression tag	UNP A0A7T0Q2W2
D	768	GLU	-	expression tag	UNP A0A7T0Q2W2
D	769	TRP	-	expression tag	UNP A0A7T0Q2W2
D	770	HIS	-	expression tag	UNP A0A7T0Q2W2
D	771	GLU	-	expression tag	UNP A0A7T0Q2W2
E	740	GLY	-	expression tag	UNP A0A7T0Q2W2
E	741	SER	-	expression tag	UNP A0A7T0Q2W2
E	742	GLY	-	expression tag	UNP A0A7T0Q2W2
E	743	SER	-	expression tag	UNP A0A7T0Q2W2

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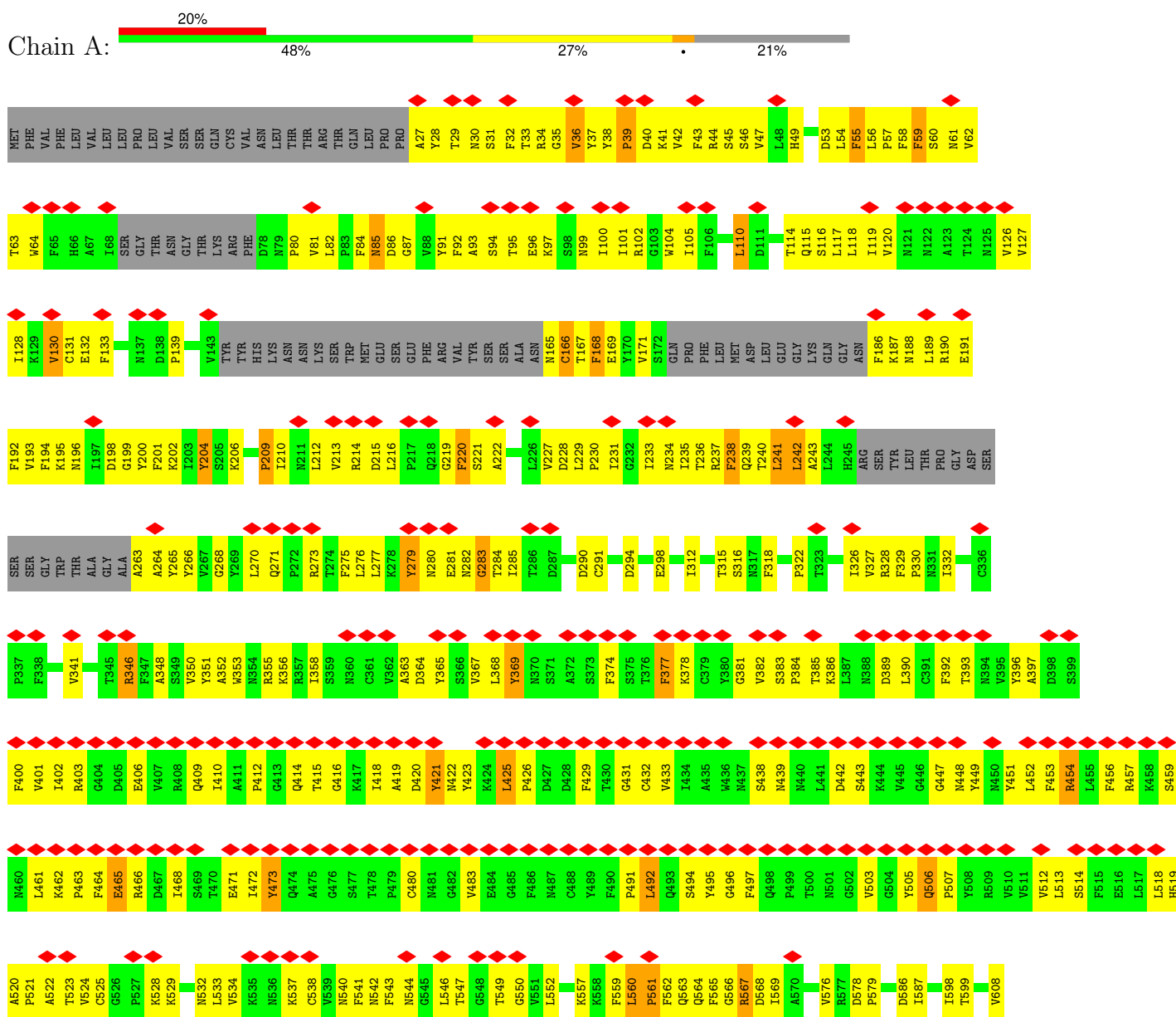
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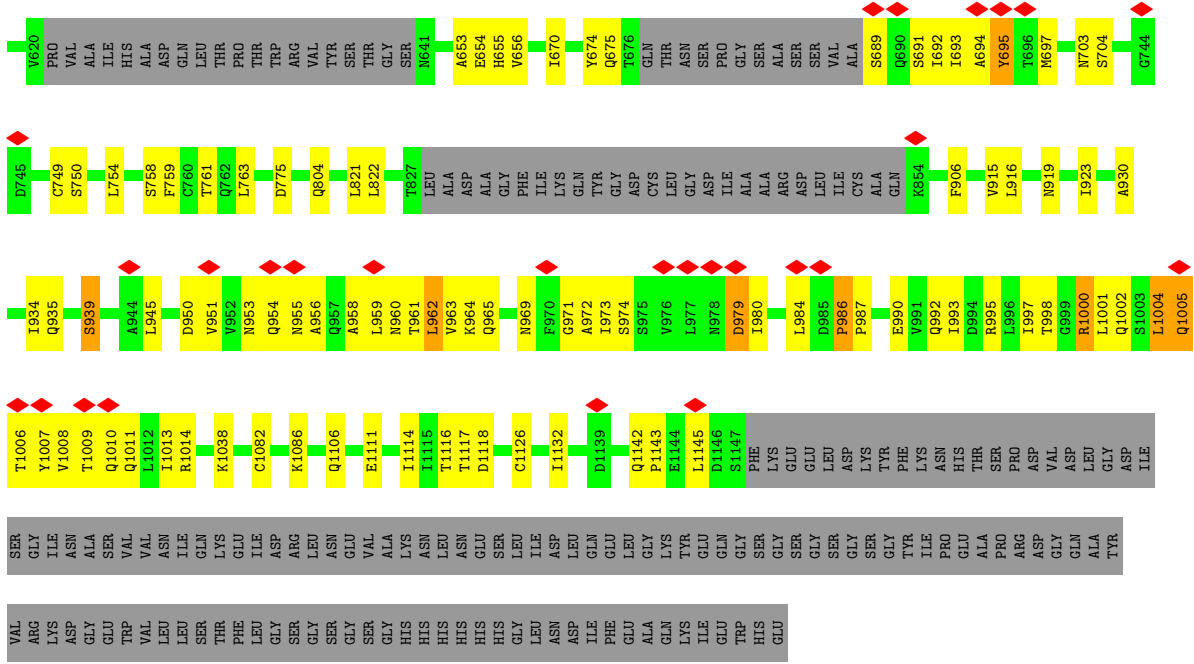
Chain	Residue	Modelled	Actual	Comment	Reference
E	744	GLY	-	expression tag	UNP A0A7T0Q2W2
E	745	SER	-	expression tag	UNP A0A7T0Q2W2
E	746	GLY	-	expression tag	UNP A0A7T0Q2W2
E	747	HIS	-	expression tag	UNP A0A7T0Q2W2
E	748	HIS	-	expression tag	UNP A0A7T0Q2W2
E	749	HIS	-	expression tag	UNP A0A7T0Q2W2
E	750	HIS	-	expression tag	UNP A0A7T0Q2W2
E	751	HIS	-	expression tag	UNP A0A7T0Q2W2
E	752	HIS	-	expression tag	UNP A0A7T0Q2W2
E	753	GLY	-	expression tag	UNP A0A7T0Q2W2
E	754	SER	-	expression tag	UNP A0A7T0Q2W2
E	755	GLY	-	expression tag	UNP A0A7T0Q2W2
E	756	SER	-	expression tag	UNP A0A7T0Q2W2
E	757	GLY	-	expression tag	UNP A0A7T0Q2W2
E	758	LEU	-	expression tag	UNP A0A7T0Q2W2
E	759	ASN	-	expression tag	UNP A0A7T0Q2W2
E	760	ASP	-	expression tag	UNP A0A7T0Q2W2
E	761	ILE	-	expression tag	UNP A0A7T0Q2W2
E	762	PHE	-	expression tag	UNP A0A7T0Q2W2
E	763	GLU	-	expression tag	UNP A0A7T0Q2W2
E	764	ALA	-	expression tag	UNP A0A7T0Q2W2
E	765	GLN	-	expression tag	UNP A0A7T0Q2W2
E	766	LYS	-	expression tag	UNP A0A7T0Q2W2
E	767	ILE	-	expression tag	UNP A0A7T0Q2W2
E	768	GLU	-	expression tag	UNP A0A7T0Q2W2
E	769	TRP	-	expression tag	UNP A0A7T0Q2W2
E	770	HIS	-	expression tag	UNP A0A7T0Q2W2
E	771	GLU	-	expression tag	UNP A0A7T0Q2W2

### 3 Residue-property plots

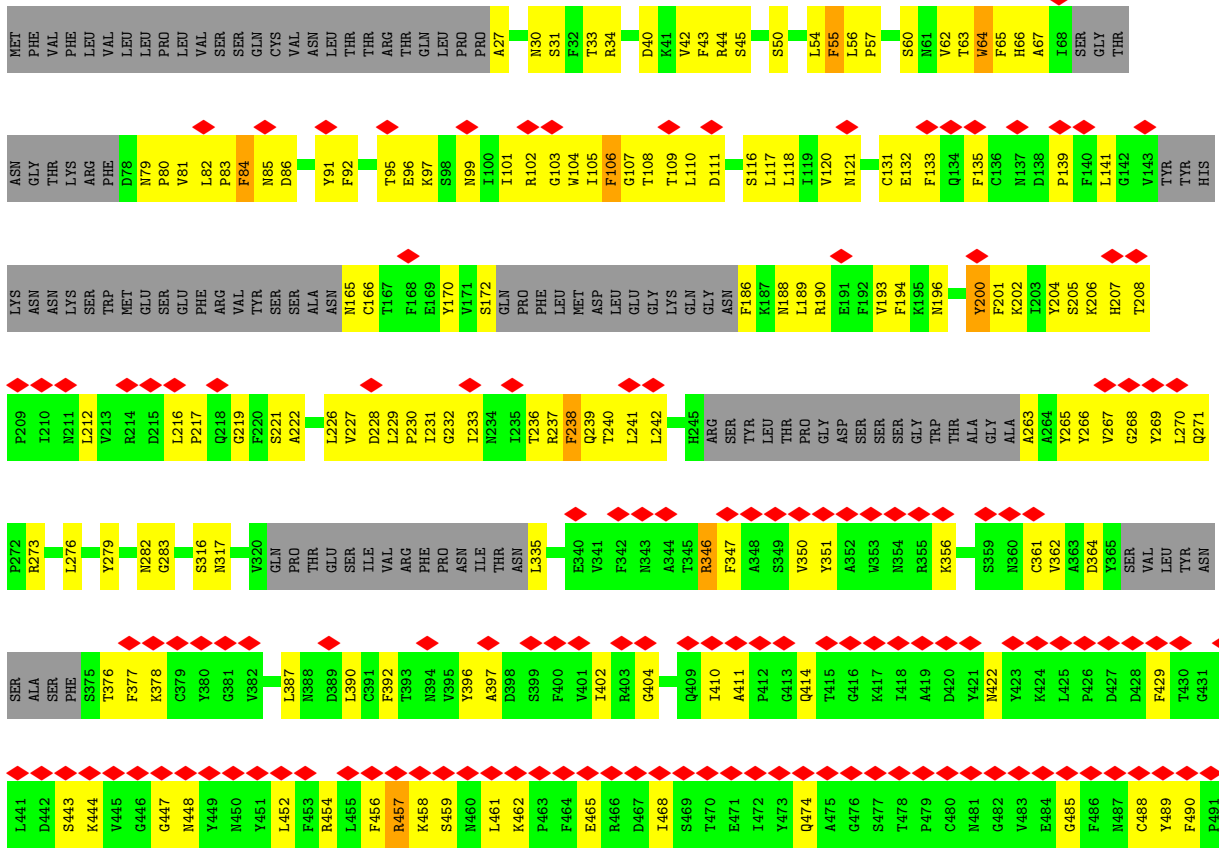
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

#### • Molecule 1: Spike glycoprotein

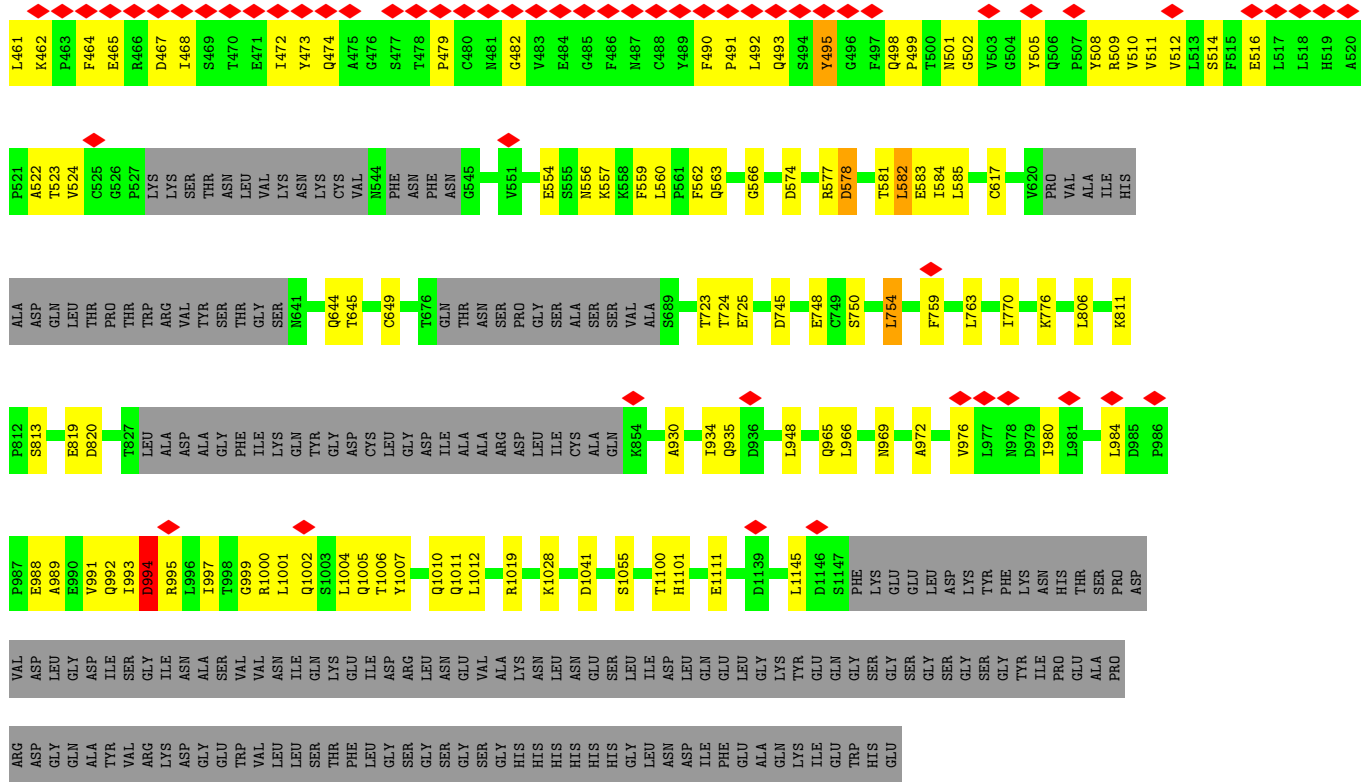




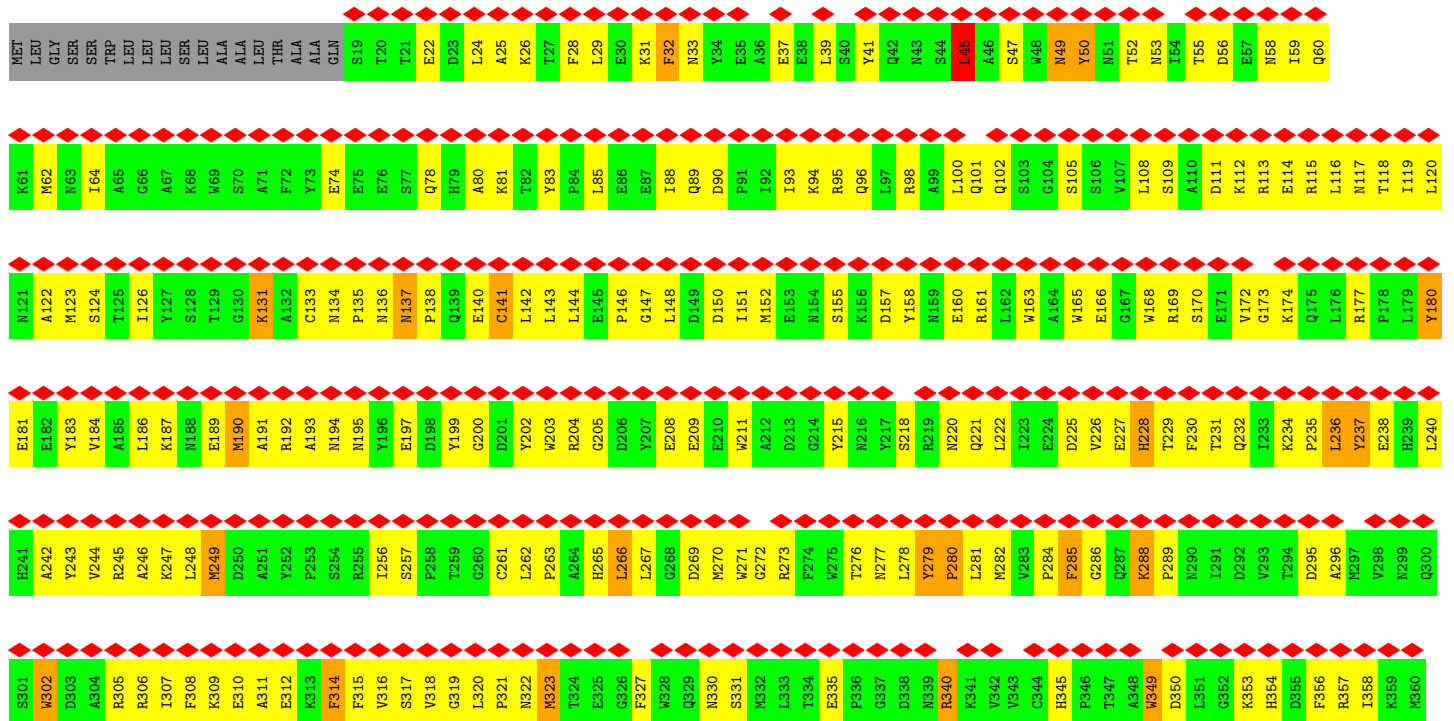
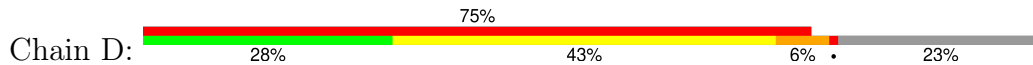
### Molecule 1: Spike glycoprotein







● Molecule 2: Angiotensin-converting enzyme



C361	T362	K363	V364	M365	D367	D368	F369	L370	T371	A372	H373	E375	M376	G377	H378	I379	Q380	Y381	D382	M383	A384	Y385	A386	A387	Q388	P389	F390	L391	L392	R393	N394	G395	A396	N397	E398	G399	F400	H401	E402	A403	V404	G405	E406	I407	M408	S409	L410	S411	A412	A413	T414	P415	M416	H417	L418	K419	M420		
I421	G422	L423	L424	P425	D427	F428	S429	E430	D431	S432	E433	T434	D435	I436	N437	F438	L439	L440	K441	Q442	A443	L444	T445	I446	V447	G448	T449	F451	F452	T453	Y454	M455	L456	E457	K458	T459	R460	M461	V463	F464	G465	G466	E467	I468	P469	K470	E471	Q472	M473	M474	Q475	K476	M477	W478	E479	M480			
K481	R482	D483	I484	V485	G486	V487	V488	E489	P490	L491	P492	H493	D494	E495	T496	Y497	C498	D499	P500	A501	A502	L503	F504	H505	V506	A507	N508	D509	Y510	S511	F512	I513	R514	Y515	Y516	T517	R518	T519	I520	Q522	F523	Q524	F525	Q526	E527	A528	L529	C530	Q531	I532	A533	K534	H535	E536	G537	P538	L539	Y540	
K541	C542	D543	I544	S545	N546	S547	R548	E549	A550	G551	Q552	K553	L554	H555	E556	M557	L558	S559	L560	G561	R562	S563	K564	P565	M566	T567	F568	A569	L570	E571	R572	V573	Y574	G575	A576	K577	T578	G579	D580	V581	R582	P583	L584	L585	N586	Y587	F588	E589	P590	L591	F592	T593	W594	L595	K596	E597	Q598	N599	R600
N601	S602	F603	V604	G605	W606	N607	T608	D609	W610	S611	P612	Y613	A614	ASP	GLN	SER	PHE	ASN	ILE	VAL	ARG	THR	ILE	SER	GLY	GLY	ILE	GLU	ALA	TRP	ASP	ASN	ASP	GLU	GLU	ALA	GLU	MET	TRP	PHE	LYS	LYS	GLN	SER	TRP	ARG	ILE	ALA	ASN	ASP	ALA	ALA	ARG	ARG	LEU	ASP	ASP	ASN	LYS
GLN	THR	ILE	PHE	VAL	GLY	ASP	LYS	PRO	THR	VAL	ARG	GLU	VAL	PRO	ASP	TYR	GLN	LYS	PRO	ARG	PRO	ARG	VAL	THR	SER	HIS	PRO	LEU	LYS	GLU	LYS	ASN	GLY	MET	ALA	SER	LEU	GLY	ASP	GLU	ILE	ILE	GLU	ALA	GLU	ALA	ILE	GLN	LYS	ILE	TRP	GLY	TRP	HIS	GLU				
SER	LEU	PHE	PRO	GLY	ILE	GLM	PRO	THR	VAL	PRO	THR	VAL	PRO	GLY	SER	GLY	ILE	VAL	GLY	THR	HIS	HIS	HIS	HIS	HIS	HIS	GLY	SER	ILE	ILE	ILE	PHE	GLU	ALA	GLU	ILE	ALA	ALA	GLM	LYS	LYS	LYS	ASP	ASP	ASP	ASP	ASN	LYS	LYS	GLU	TRP	HIS	GLU						

● Molecule 2: Angiotensin-converting enzyme



MET	LEU	GLY	SER	TRP	TRP	LEU	LEU	LEU	SER	LEU	ALA	ALA	LEU	THR	ALA	ALA	GLN	S19	T20	T21	E22	D23	L24	A25	K26	T27	F28	L29	E30	K31	F32	N33	Y34	E35	A36	E37	E38	L39	S40	Y41	Q42	M43	L44	A45	A46	S47	W48	M49	Y50	N51	T52	N53	I54	T55	D56	E57	N58	I59	Q60
K61	W62	N63	I64	A65	G66	A67	K68	W69	M70	S71	A72	Y73	E74	E75	E76	S77	H78	A80	K81	T82	Y83	F84	L85	E86	E87	I88	L89	D90	P91	I92	I93	K94	R95	Q96	L97	R98	A99	L100	Q101	Q102	S103	G104	W105	S106	V107	L108	S109	A110	D111	K112	R113	E114	R115	L116	M117	L118	L119	L120	
M121	A122	M123	S124	T125	L126	Y127	S128	S129	G130	K131	A132	C133	M134	P135	N136	M137	P138	Q139	E140	C141	Y202	L142	L143	L144	E145	P146	G147	L148	D149	D150	M151	E152	E153	N154	S155	K156	D157	Y158	N159	E160	R161	L162	M163	A164	W165	E166	G167	V168	R169	S170	E171	V172	G173	K174	Q175	L176	P177	P178	Y180
E181	E182	Y183	A184	A185	L186	K187	M188	M190	A191	R192	M194	N195	Y196	E197	D198	Y199	G200	D201	Y202	H203	R204	D205	D206	Y207	E208	E209	E210	W211	A212	D213	G214	Y215	N216	Y217	S218	L278	R219	W220	Q221	L222	I223	E224	D225	W226	E227	H228	T229	F230	T231	I232	L233	K234	P235	L236	Y237	E238	H239	L240	
H241	A242	A243	W244	R245	A246	K247	L248	W249	D250	A251	P252	S254	R255	L256	S257	P258	T259	G260	C261	P263	A264	H265	L266	L267	G268	D269	D270	W271	G272	R273	F274	W275	T276	W277	L278	Y279	P280	L281	M282	V283	F284	F285	G286	Q287	H288	P289	N290	L291	D292	K293	T294	D295	A296	K297	W298	N299	Q300		
S301	W302	D303	A304	R305	R306	L307	F308	R309	E310	A311	E312	K313	F314	F315	V316	S317	G318	L320	P321	N322	K323	T324	G326	F327	W328	Q329	N330	S331	K332	L333	T334	E335	P336	G337	R338	N339	R340	K341	V342	V343	C344	H345	F346	T347	A348	W349	D350	L351	G352	K353	H354	D355	F356	R357	I358	K359	M360		



C361	T362	K363	V364	T365	M366	D367	D368	F369	L370	T371	A372	H373	H374	E375	M376	G377	H378	I379	Q380	Y381	M383	A384	Y385	A386	A387	Q388	P389	F390	L391	L392	R393	N394	G395	A396	N397	E398	G399	F400	H401	E402	A403	V404	G405	E406	I407	M408	S409	L410	S411	A412	A413	T414	P415	N416	H417	L418	K419	N420	
I421	G422	L423	L424	P425	P426	D427	F428	S429	E430	D431	S432	E433	T434	D435	I436	N437	F438	L439	L440	K441	Q442	A443	L444	T445	I446	V447	G448	T449	L450	P451	F452	T453	Y454	M455	L456	E457	K458	W459	R460	W461	M462	V463	F464	K465	G466	E467	I468	P469	K470	E471	Q472	W473	M474	Q475	K476	W477	W478	E479	M480
K481	R482	D483	I484	V485	G486	V487	V488	E489	P490	L491	P492	H493	D494	E495	T496	Y497	C498	D499	P500	A501	A502	L503	F504	H505	V506	A507	N508	D509	Y510	S511	F512	I513	R514	Y515	Y516	T517	R518	T519	I520	Y521	Q522	F523	Q524	F525	Q526	E527	A528	L529	C530	Q531	I532	A533	K534	H535	E536	G537	P538	L539	Y540
K541	C542	D543	I544	S545	N546	S547	R548	E549	A550	G551	Q552	K553	L554	H555	E556	M557	L558	S559	L560	G561	R562	S563	K564	P565	W566	T567	F568	A569	L570	E571	R572	V573	V574	G575	A576	K577	T578	M579	D580	V581	R582	P583	L584	L585	N586	T587	F588	E589	P590	L591	F592	T593	W594	L595	K596	E597	Q598	N599	R600
N601	S602	F603	V604	G605	W606	N607	T608	D609	W610	S611	P612	Y613	A614	ASP	GLN	SER	PHE	ILE	ASN	LYS	PHE	VAL	ILE	ARG	VAL	THR	SER	HIS	PRO	LEU	LYS	ASN	ALA	LEU	GLY	ASP	GLY	ILE	LEU	PRO	ALA	TYR	GLU	TRP	PHE	TYR	ASP	SER	LEU	VAL	ASP	ASN	LYS	VAL	LYS	LYS	LYS		
GLN	THR	ILE	PRO	PHE	LEU	VAL	ASP	ILE	ASP	GLY	ASP	GLY	ILE	ASP	GLY	ASP	GLY	ILE	LEU	PRO	ALA	TYR	GLU	TRP	PHE	TYR	ASP	ASN	VAL	ILE	GLU	PHE	GLU	ALA	ILE	ALA	GLN	LYS	ILE	TRP	GLY	HIS	ARG	ILE	ASN	ASP	ALA	ALA	PHE	ARG	LEU	ASP	ASP	ASN					

## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	512723	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 ( $e^-/\text{\AA}^2$ )	49.98	Depositor
Minimum defocus (nm)	750	Depositor
Maximum defocus (nm)	1750	Depositor
Magnification	81000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	3.600	Depositor
Minimum map value	-1.876	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.062	Depositor
Recommended contour level	0.328	Depositor
Map size ( $\text{\AA}$ )	568.32, 568.32, 568.32	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles ( $^\circ$ )	90.0, 90.0, 90.0	wwPDB
Pixel spacing ( $\text{\AA}$ )	1.11, 1.11, 1.11	Depositor

## 5 Model quality i

### 5.1 Standard geometry i

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z  > 5$	RMSZ	# $ Z  > 5$
1	A	0.34	0/7988	0.65	10/10873 (0.1%)
1	B	0.33	0/7665	0.56	1/10430 (0.0%)
1	C	0.33	0/7665	0.56	4/10430 (0.0%)
2	D	0.49	4/5047 (0.1%)	0.85	21/6854 (0.3%)
2	E	0.30	0/5047	0.62	2/6854 (0.0%)
All	All	0.36	4/33412 (0.0%)	0.64	38/45441 (0.1%)

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	7
1	B	0	1
2	D	0	8
2	E	0	3
All	All	0	19

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	583	PRO	CG-CD	-19.90	0.84	1.50
2	D	289	PRO	CG-CD	-8.47	1.22	1.50
2	D	426	PRO	CG-CD	-7.81	1.24	1.50
2	D	583	PRO	N-CD	7.14	1.57	1.47

All (38) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	D	583	PRO	N-CD-CG	-19.47	73.99	103.20
2	D	426	PRO	CA-N-CD	-12.70	93.72	111.50
2	D	289	PRO	CA-N-CD	-11.58	95.29	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	D	583	PRO	CA-CB-CG	-10.91	83.27	104.00
2	D	426	PRO	N-CD-CG	-10.88	86.88	103.20
2	D	289	PRO	N-CD-CG	-9.80	88.50	103.20
2	D	583	PRO	CA-N-CD	-9.05	98.83	111.50
1	A	962	LEU	CA-CB-CG	7.58	132.74	115.30
2	D	490	PRO	CA-N-CD	-7.45	101.07	111.50
2	E	178	PRO	CA-N-CD	-6.98	101.73	111.50
2	D	480	MET	CA-CB-CG	6.94	125.10	113.30
2	E	162	LEU	CA-CB-CG	6.86	131.07	115.30
1	A	279	TYR	CA-CB-CG	6.55	125.85	113.40
2	D	456	LEU	CA-CB-CG	6.47	130.18	115.30
2	D	469	PRO	CA-N-CD	-6.46	102.45	111.50
1	A	209	PRO	CA-N-CD	-6.33	102.64	111.50
1	A	425	LEU	CA-CB-CG	6.27	129.72	115.30
2	D	426	PRO	CA-CB-CG	-6.20	92.21	104.00
1	A	986	PRO	CA-N-CD	-6.20	102.83	111.50
1	A	1004	LEU	CA-CB-CG	6.15	129.44	115.30
2	D	45	LEU	CA-CB-CG	6.14	129.43	115.30
2	D	608	THR	N-CA-C	6.10	127.46	111.00
1	A	283	GLY	N-CA-C	5.76	127.50	113.10
2	D	469	PRO	N-CD-CG	-5.74	94.59	103.20
1	A	962	LEU	CB-CG-CD2	5.42	120.21	111.00
2	D	583	PRO	N-CA-CB	-5.41	96.65	102.60
2	D	289	PRO	CA-CB-CG	-5.33	93.88	104.00
2	D	425	PRO	C-N-CD	5.26	139.45	128.40
1	C	1041	ASP	CB-CG-OD1	5.20	122.98	118.30
2	D	482	ARG	N-CA-C	5.17	124.95	111.00
2	D	583	PRO	CB-CG-CD	5.16	126.64	106.50
1	A	241	LEU	CA-CB-CG	5.12	127.08	115.30
1	A	561	PRO	N-CA-C	5.09	125.34	112.10
1	C	379	CYS	CA-CB-SG	5.09	123.17	114.00
2	D	440	LEU	CA-CB-CG	5.05	126.92	115.30
1	B	55	PHE	C-N-CA	5.04	134.31	121.70
1	C	432	CYS	CA-CB-SG	5.04	123.08	114.00
1	C	994	ASP	CB-CG-OD1	5.03	122.83	118.30

There are no chirality outliers.

All (19) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	220	PHE	Peptide
1	A	346	ARG	Peptide

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Mol	Chain	Res	Type	Group
1	A	36	VAL	Peptide
1	A	506	GLN	Peptide
1	A	55	PHE	Peptide
1	A	560	LEU	Peptide
1	A	567	ARG	Peptide
1	B	1011	GLN	Peptide
2	D	279	TYR	Peptide
2	D	280	PRO	Peptide
2	D	285	PHE	Peptide
2	D	449	THR	Peptide
2	D	450	LEU	Peptide
2	D	483	ASP	Peptide
2	D	580	ASP	Peptide
2	D	606	TRP	Peptide
2	E	277	ASN	Peptide
2	E	279	TYR	Peptide
2	E	357	ARG	Peptide

## 5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	7810	0	7636	482	0
1	B	7497	0	7321	261	0
1	C	7497	0	7321	222	0
2	D	4904	0	4667	399	0
2	E	4904	0	4667	280	0
All	All	32612	0	31612	1600	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 25.

All (1600) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1007:TYR:O	1:B:1011:GLN:HB3	1.27	1.29

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1000:ARG:O	1:A:1004:LEU:HB2	1.37	1.22
1:A:1001:LEU:O	1:A:1005:GLN:HB3	1.38	1.19
2:D:484:ILE:N	2:D:607:ASN:O	1.84	1.11
1:A:961:THR:O	1:A:965:GLN:HB2	1.53	1.05
1:A:986:PRO:HD2	1:A:987:PRO:HD3	1.40	1.04
2:E:273:ARG:HB3	2:E:449:THR:HA	1.40	1.02
1:B:1001:LEU:O	1:B:1005:GLN:HB2	1.60	1.01
1:A:46:SER:O	1:A:282:ASN:N	1.94	0.99
2:E:277:ASN:H	2:E:445:THR:H	1.06	0.99
2:E:514:ARG:O	2:E:518:ARG:HB2	1.61	0.98
2:D:247:LYS:HG3	2:D:281:LEU:HB2	1.44	0.98
1:A:36:VAL:HG12	1:A:221:SER:H	1.29	0.97
1:A:986:PRO:HD2	1:A:987:PRO:CD	1.95	0.95
1:A:57:PRO:HG2	1:A:271:GLN:H	1.29	0.95
1:B:120:VAL:HA	1:B:141:LEU:HD21	1.49	0.94
2:D:247:LYS:HB2	2:D:282:MET:H	1.32	0.93
2:D:478:TRP:O	2:D:610:TRP:N	2.01	0.93
2:D:485:VAL:N	2:D:608:THR:OG1	2.02	0.93
2:D:90:ASP:O	2:D:94:LYS:HB2	1.70	0.92
2:D:114:GLU:O	2:D:118:THR:HB	1.69	0.92
2:E:523:PHE:HB3	2:E:583:PRO:HB2	1.52	0.92
2:D:550:ALA:HA	2:D:553:LYS:HG2	1.53	0.90
2:E:110:ALA:HA	2:E:113:ARG:HE	1.36	0.90
1:B:271:GLN:HB2	1:B:273:ARG:HH21	1.36	0.89
1:B:44:ARG:HG2	1:B:45:SER:H	1.35	0.89
2:D:285:PHE:O	2:D:437:ASN:ND2	2.04	0.89
1:A:414:GLN:H	1:A:463:PRO:HG2	1.38	0.89
1:C:1002:GLN:O	1:C:1006:THR:OG1	1.89	0.88
1:A:46:SER:H	1:A:284:THR:N	1.72	0.88
2:D:368:ASP:O	2:D:372:ALA:HB3	1.74	0.88
1:A:229:LEU:HD22	1:A:231:ILE:HG23	1.55	0.88
1:A:564:GLN:H	1:B:43:PHE:H	1.20	0.88
2:D:282:MET:HG3	2:D:284:PRO:HD3	1.55	0.88
1:A:29:THR:H	1:A:62:VAL:HG12	1.36	0.87
1:A:216:LEU:HD21	1:A:265:TYR:HA	1.55	0.87
1:A:327:VAL:HG23	1:A:528:LYS:HG2	1.57	0.87
1:A:1004:LEU:HA	1:A:1007:TYR:HB3	1.53	0.87
1:B:1006:THR:O	1:B:1010:GLN:HB2	1.75	0.86
1:A:64:TRP:HB3	1:A:214:ARG:HH21	1.39	0.86
1:C:200:TYR:HB3	1:C:202:LYS:HG3	1.57	0.86
2:D:245:ARG:HD2	2:D:262:LEU:HG	1.58	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:157:ASP:O	2:E:161:ARG:HB2	1.76	0.86
1:A:55:PHE:N	1:A:87:GLY:H	1.74	0.86
1:A:236:THR:HG23	1:A:237:ARG:HG2	1.58	0.85
2:D:482:ARG:N	2:D:609:ASP:H	1.73	0.85
1:A:423:TYR:HB3	1:A:464:PHE:N	1.92	0.85
2:E:532:ILE:HG23	2:E:550:ALA:HB1	1.55	0.85
1:B:1005:GLN:HA	1:B:1008:VAL:HB	1.57	0.85
1:C:997:ILE:O	1:C:1001:LEU:HB3	1.77	0.85
1:B:44:ARG:HG2	1:B:45:SER:N	1.92	0.85
1:A:956:ALA:HA	1:A:959:LEU:HB2	1.59	0.85
1:B:1007:TYR:O	1:B:1011:GLN:CB	2.20	0.84
1:A:55:PHE:HB2	1:A:85:ASN:HB2	1.60	0.84
1:A:190:ARG:HB2	1:A:240:THR:HB	1.60	0.83
2:E:277:ASN:N	2:E:445:THR:H	1.75	0.83
1:C:997:ILE:O	1:C:1001:LEU:CB	2.27	0.83
1:A:1005:GLN:O	1:A:1009:THR:OG1	1.97	0.83
2:D:418:LEU:HB3	2:D:424:LEU:HD13	1.61	0.82
1:A:953:ASN:HA	1:A:956:ALA:HB3	1.62	0.82
1:B:962:LEU:O	1:B:965:GLN:NE2	2.12	0.82
1:C:1001:LEU:HA	1:C:1004:LEU:HB3	1.61	0.82
1:A:328:ARG:HB3	1:A:542:ASN:H	1.44	0.82
1:A:454:ARG:HH22	1:A:471:GLU:H	1.28	0.82
2:E:539:LEU:HG	2:E:586:ASN:HD22	1.45	0.81
2:D:205:GLY:HA2	2:D:208:GLU:HB2	1.62	0.81
2:D:225:ASP:O	2:D:229:THR:OG1	1.97	0.81
2:E:177:ARG:HG2	2:E:178:PRO:CD	2.11	0.81
1:A:34:ARG:HD3	1:A:35:GLY:H	1.45	0.81
1:A:47:VAL:HA	1:A:281:GLU:H	1.45	0.80
2:D:53:ASN:OD1	2:D:58:ASN:ND2	2.14	0.80
2:D:497:TYR:HD1	2:D:498:CYS:H	1.27	0.80
1:A:47:VAL:HA	1:A:281:GLU:N	1.95	0.80
1:B:141:LEU:HB2	1:B:241:LEU:HB3	1.63	0.80
2:E:344:CYS:HB3	2:E:361:CYS:H	1.47	0.80
1:C:199:GLY:HA3	1:C:232:GLY:H	1.46	0.79
1:A:46:SER:H	1:A:284:THR:H	1.29	0.79
1:A:328:ARG:HB3	1:A:541:PHE:HA	1.63	0.79
1:A:521:PRO:HA	1:A:564:GLN:HG2	1.65	0.78
1:A:99:ASN:OD1	1:A:102:ARG:NH2	2.16	0.78
1:A:969:ASN:O	1:A:995:ARG:NH1	2.15	0.78
2:D:591:LEU:O	2:D:595:LEU:HB2	1.82	0.78
2:E:277:ASN:H	2:E:445:THR:N	1.82	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:261:CYS:HB2	2:D:607:ASN:HD22	1.47	0.78
1:B:96:GLU:OE2	1:B:99:ASN:N	2.14	0.78
2:E:380:GLN:HB3	2:E:558:LEU:HD21	1.65	0.78
2:D:482:ARG:H	2:D:610:TRP:N	1.83	0.77
1:A:415:THR:HA	1:A:461:LEU:HD12	1.67	0.77
1:A:1006:THR:O	1:A:1010:GLN:HB2	1.83	0.77
2:E:344:CYS:HB3	2:E:361:CYS:N	2.01	0.77
2:E:148:LEU:HB2	2:E:168:TRP:HE3	1.50	0.76
2:E:388:GLN:HB3	2:E:389:PRO:HD3	1.67	0.75
1:C:110:LEU:HD13	1:C:237:ARG:HG3	1.68	0.75
1:A:1001:LEU:O	1:A:1005:GLN:CB	2.29	0.75
2:D:482:ARG:N	2:D:609:ASP:N	2.35	0.75
2:E:278:LEU:H	2:E:444:LEU:HB3	1.52	0.74
1:A:412:PRO:HD2	1:A:431:GLY:HA3	1.69	0.74
2:D:256:ILE:HD13	2:D:263:PRO:HD3	1.69	0.74
1:A:44:ARG:HB3	1:A:283:GLY:HA3	1.68	0.74
1:B:120:VAL:HG22	1:B:141:LEU:HD11	1.69	0.74
1:B:190:ARG:HD3	1:B:207:HIS:CD2	2.22	0.74
2:D:240:LEU:HB3	2:D:444:LEU:HD13	1.69	0.74
2:E:607:ASN:HD22	2:E:610:TRP:HB2	1.52	0.74
2:E:274:PHE:HA	2:E:445:THR:O	1.87	0.74
2:D:482:ARG:HB2	2:D:610:TRP:CG	2.22	0.74
2:E:190:MET:O	2:E:194:ASN:HB3	1.88	0.74
1:A:414:GLN:N	1:A:463:PRO:HG2	2.03	0.73
2:E:293:VAL:HG21	2:E:418:LEU:HD13	1.70	0.73
1:A:560:LEU:O	1:B:44:ARG:N	2.21	0.73
1:A:196:ASN:HB3	1:A:201:PHE:HA	1.71	0.73
1:A:47:VAL:HG12	1:A:283:GLY:HA2	1.70	0.73
2:D:133:CYS:HA	2:D:141:CYS:HB2	1.71	0.73
2:E:282:MET:HG3	2:E:440:LEU:HB3	1.70	0.73
2:E:177:ARG:HG2	2:E:178:PRO:HD2	1.71	0.73
2:D:29:LEU:HD11	2:D:96:GLN:HG3	1.69	0.72
1:B:96:GLU:OE1	1:B:190:ARG:N	2.21	0.72
1:A:187:LYS:HD2	1:A:210:ILE:HG12	1.71	0.72
1:C:101:ILE:HA	1:C:242:LEU:HD21	1.71	0.72
1:A:542:ASN:HA	1:A:547:THR:HA	1.70	0.72
1:A:46:SER:C	1:A:282:ASN:H	1.93	0.72
2:D:320:LEU:HD13	2:D:380:GLN:HG3	1.72	0.72
1:C:87:GLY:O	1:C:270:LEU:HA	1.90	0.72
1:B:457:ARG:HH11	1:B:459:SER:H	1.37	0.72
2:D:588:PHE:O	2:D:592:PHE:N	2.21	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:357:ARG:NH1	1:C:395:VAL:O	2.21	0.71
1:A:81:VAL:HG23	1:A:237:ARG:HH12	1.53	0.71
1:A:998:THR:O	1:A:1002:GLN:HB2	1.90	0.71
2:E:303:ASP:O	2:E:307:ILE:N	2.24	0.71
1:A:332:ILE:HG21	1:A:524:VAL:HA	1.70	0.71
1:A:1004:LEU:HD13	1:A:1007:TYR:HD2	1.55	0.71
1:C:87:GLY:H	1:C:271:GLN:H	1.37	0.71
1:A:390:LEU:HD21	1:B:983:ARG:HG3	1.72	0.71
1:A:418:ILE:HD11	1:A:453:PHE:HA	1.72	0.71
1:A:563:GLN:H	1:B:44:ARG:N	1.89	0.71
2:D:220:ASN:OD1	2:D:221:GLN:N	2.22	0.71
2:D:261:CYS:HB2	2:D:607:ASN:ND2	2.06	0.71
2:E:68:LYS:O	2:E:72:PHE:HB2	1.91	0.71
2:D:236:LEU:HD13	2:D:588:PHE:HE2	1.56	0.70
1:A:670:ILE:HG23	1:A:694:ALA:HA	1.73	0.70
2:E:407:ILE:HG12	2:E:522:GLN:O	1.91	0.70
1:A:563:GLN:OE1	1:B:44:ARG:HG3	1.91	0.70
2:D:482:ARG:CA	2:D:609:ASP:H	2.03	0.70
1:A:190:ARG:HB3	1:A:192:PHE:CZ	2.26	0.70
2:E:526:GLN:HE22	2:E:544:ILE:HD11	1.55	0.70
2:D:237:TYR:CE2	2:D:448:GLY:HA2	2.27	0.70
2:D:519:THR:O	2:D:523:PHE:HB2	1.92	0.70
1:A:563:GLN:HB3	1:A:567:ARG:HG3	1.74	0.70
2:D:286:GLY:N	2:D:433:GLU:OE1	2.23	0.70
1:C:88:VAL:HA	1:C:270:LEU:HD12	1.74	0.70
2:D:583:PRO:HD2	2:D:584:LEU:H	1.57	0.70
1:A:562:PHE:HA	1:B:42:VAL:C	2.12	0.69
1:B:731:MET:SD	1:B:1011:GLN:NE2	2.62	0.69
1:A:38:TYR:CD2	1:A:39:PRO:HD2	2.26	0.69
1:C:443:SER:HB2	1:C:499:PRO:HA	1.73	0.69
1:C:966:LEU:HD23	1:C:1000:ARG:HH12	1.57	0.69
1:B:448:ASN:HB3	1:B:497:PHE:HB2	1.73	0.69
2:D:234:LYS:HZ3	2:D:605:GLY:H	1.40	0.69
1:C:980:ILE:HG23	1:C:984:LEU:HD12	1.75	0.69
2:D:234:LYS:NZ	2:D:605:GLY:H	1.91	0.69
2:D:490:PRO:HD2	2:D:491:LEU:H	1.58	0.69
1:A:804:GLN:NE2	1:A:935:GLN:OE1	2.25	0.69
2:D:483:ASP:N	2:D:609:ASP:N	2.39	0.69
2:E:358:ILE:HD11	2:E:379:ILE:HD11	1.74	0.69
1:A:1005:GLN:HA	1:A:1008:VAL:HG22	1.75	0.69
1:C:965:GLN:O	1:C:1000:ARG:NH2	2.25	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:355:ARG:NH1	1:C:356:LYS:O	2.25	0.69
1:C:454:ARG:HH12	1:C:492:LEU:HD22	1.58	0.68
1:A:55:PHE:CD1	1:A:87:GLY:HA3	2.28	0.68
1:A:456:PHE:HB3	1:A:473:TYR:HB2	1.74	0.68
2:D:389:PRO:HD2	2:D:392:LEU:HD12	1.75	0.68
1:A:42:VAL:HG13	1:C:566:GLY:HA2	1.75	0.68
1:A:449:TYR:HA	1:A:452:LEU:HD21	1.75	0.68
2:E:276:THR:O	2:E:442:GLN:HA	1.93	0.68
2:D:503:LEU:HB3	2:D:506:VAL:HG23	1.75	0.68
2:E:276:THR:H	2:E:445:THR:C	1.95	0.68
2:D:381:TYR:OH	2:D:396:ALA:N	2.26	0.68
2:E:453:THR:HG21	2:E:515:TYR:HB2	1.74	0.68
1:A:62:VAL:HA	1:A:268:GLY:HA2	1.76	0.68
1:A:1007:TYR:HA	1:A:1010:GLN:HB2	1.75	0.68
1:C:400:PHE:N	1:C:510:VAL:O	2.26	0.68
1:B:404:GLY:N	1:B:506:GLN:O	2.27	0.67
1:C:87:GLY:H	1:C:271:GLN:N	1.92	0.67
1:B:91:TYR:CE1	1:B:193:VAL:HG22	2.28	0.67
2:D:573:VAL:HG12	2:D:574:VAL:HB	1.75	0.67
2:E:276:THR:N	2:E:445:THR:N	2.42	0.67
1:B:91:TYR:CD2	1:B:193:VAL:HG13	2.29	0.67
2:E:307:ILE:HD11	2:E:364:VAL:HG12	1.74	0.67
1:A:383:SER:OG	1:B:988:GLU:OE1	2.11	0.67
2:D:187:LYS:NZ	2:D:498:CYS:SG	2.68	0.67
1:A:997:ILE:HA	1:A:1000:ARG:HG2	1.77	0.67
2:E:159:ASN:HA	2:E:162:LEU:HD12	1.76	0.67
1:A:452:LEU:HB3	1:A:492:LEU:HB3	1.77	0.67
1:C:65:PHE:HZ	1:C:82:LEU:HG	1.57	0.67
1:B:267:VAL:HG12	1:B:268:GLY:H	1.59	0.67
1:A:44:ARG:CB	1:A:283:GLY:HA3	2.24	0.67
1:A:564:GLN:N	1:B:43:PHE:H	1.93	0.67
1:C:204:TYR:HB3	1:C:223:LEU:HB3	1.76	0.67
1:A:35:GLY:HA3	1:A:189:LEU:HD22	1.76	0.67
1:A:1004:LEU:HD13	1:A:1007:TYR:CD2	2.29	0.66
1:C:103:GLY:HA3	1:C:120:VAL:HG13	1.77	0.66
2:D:394:ASN:OD1	2:D:562:ARG:NH2	2.28	0.66
2:E:233:ILE:O	2:E:237:TYR:N	2.28	0.66
1:A:117:LEU:HD11	1:A:128:ILE:HA	1.77	0.66
2:D:261:CYS:SG	2:D:262:LEU:N	2.66	0.66
2:E:535:HIS:ND1	2:E:542:CYS:SG	2.68	0.66
2:E:582:ARG:HD3	2:E:583:PRO:HD3	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:560:LEU:HB3	1:B:283:GLY:HA3	1.77	0.66
2:D:452:PHE:O	2:D:456:LEU:HD12	1.95	0.66
1:A:46:SER:N	1:A:284:THR:H	1.94	0.66
2:E:245:ARG:HG3	2:E:256:ILE:HD13	1.78	0.66
1:C:345:THR:O	1:C:509:ARG:NH2	2.27	0.66
1:A:691:SER:OG	1:A:692:ILE:N	2.28	0.66
2:D:29:LEU:HA	2:D:32:PHE:CD1	2.31	0.66
2:D:481:LYS:HZ3	2:D:488:VAL:HA	1.59	0.66
1:A:120:VAL:H	1:A:127:VAL:HB	1.60	0.66
1:B:85:ASN:HB2	1:B:270:LEU:H	1.60	0.66
2:D:151:ILE:HA	2:D:155:SER:HB3	1.76	0.66
2:E:245:ARG:HA	2:E:262:LEU:HD21	1.78	0.66
1:A:56:LEU:HD22	1:A:92:PHE:CE1	2.31	0.66
1:C:966:LEU:HA	1:C:1000:ARG:HH12	1.59	0.66
1:B:141:LEU:HD13	1:B:241:LEU:HD13	1.78	0.65
2:E:249:MET:HB2	2:E:256:ILE:HD12	1.76	0.65
1:A:564:GLN:H	1:B:42:VAL:HG12	1.61	0.65
2:E:204:ARG:HH21	2:E:461:TRP:HZ2	1.44	0.65
1:A:457:ARG:NH1	1:A:459:SER:OG	2.30	0.65
1:A:653:ALA:HA	1:A:692:ILE:HD12	1.78	0.65
1:A:165:ASN:N	1:A:169:GLU:OE1	2.30	0.65
1:B:139:PRO:HB2	1:B:240:THR:HB	1.79	0.65
1:B:97:LYS:HG3	1:B:186:PHE:HA	1.78	0.65
1:B:563:GLN:O	1:B:577:ARG:NH2	2.29	0.65
2:D:26:LYS:HZ1	2:D:93:ILE:HG23	1.61	0.65
1:A:351:TYR:HB2	1:A:468:ILE:HA	1.79	0.65
1:B:79:ASN:HB2	1:B:242:LEU:HD11	1.79	0.65
2:D:610:TRP:HD1	2:D:611:SER:H	1.43	0.65
1:A:54:LEU:HG	1:A:235:ILE:HG21	1.78	0.65
1:A:279:TYR:CE1	1:A:285:ILE:HG12	2.31	0.65
1:A:563:GLN:OE1	1:B:44:ARG:NH1	2.30	0.65
1:A:969:ASN:ND2	1:A:972:ALA:O	2.30	0.65
1:C:577:ARG:NH1	1:C:578:ASP:O	2.30	0.65
1:A:41:LYS:NZ	1:C:562:PHE:O	2.27	0.64
1:A:54:LEU:HD13	1:A:85:ASN:O	1.96	0.64
1:A:55:PHE:N	1:A:84:PHE:O	2.30	0.64
2:D:483:ASP:H	2:D:609:ASP:N	1.93	0.64
1:A:191:GLU:HB2	1:A:204:TYR:O	1.98	0.64
1:B:568:ASP:OD1	1:B:569:ILE:N	2.29	0.64
1:C:1001:LEU:O	1:C:1005:GLN:HB2	1.97	0.64
1:C:393:THR:HA	1:C:522:ALA:HA	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:75:GLU:O	2:E:79:HIS:ND1	2.29	0.64
1:A:454:ARG:NH2	1:A:471:GLU:H	1.94	0.64
1:A:971:GLY:HA3	1:A:995:ARG:HD3	1.79	0.64
1:A:1000:ARG:HG3	1:A:1001:LEU:N	2.13	0.64
1:C:65:PHE:HB3	1:C:80:PRO:HD2	1.79	0.64
1:A:47:VAL:C	1:A:279:TYR:HB2	2.17	0.64
1:B:1002:GLN:NE2	1:B:1006:THR:OG1	2.30	0.64
2:E:521:TYR:CZ	2:E:570:LEU:HD21	2.33	0.64
1:A:57:PRO:HD2	1:A:270:LEU:HA	1.79	0.64
1:A:220:PHE:O	1:A:221:SER:OG	2.15	0.64
1:B:457:ARG:HD2	1:B:461:LEU:HG	1.78	0.64
2:D:276:THR:HG23	2:D:279:TYR:CZ	2.32	0.64
2:E:436:ILE:HD12	2:E:439:LEU:HD12	1.80	0.64
2:D:41:TYR:O	2:D:45:LEU:HD12	1.98	0.64
2:D:45:LEU:O	2:D:49:ASN:ND2	2.31	0.64
1:A:655:HIS:CD2	1:A:694:ALA:HB3	2.33	0.63
1:B:91:TYR:CZ	1:B:193:VAL:HG22	2.33	0.63
1:B:106:PHE:HB2	1:B:117:LEU:HD22	1.80	0.63
2:E:48:TRP:HB2	2:E:357:ARG:HH12	1.62	0.63
1:C:976:VAL:O	1:C:980:ILE:HD12	1.97	0.63
2:E:277:ASN:HB2	2:E:445:THR:OG1	1.98	0.63
1:A:201:PHE:HD2	1:A:231:ILE:HD11	1.62	0.63
1:A:47:VAL:O	1:A:279:TYR:HB2	1.99	0.63
1:C:359:SER:OG	1:C:360:ASN:OD1	2.15	0.63
2:D:312:GLU:OE2	2:D:322:ASN:ND2	2.31	0.63
1:A:330:PRO:HB3	1:A:544:ASN:HD21	1.64	0.63
2:D:236:LEU:HD21	2:D:447:VAL:HG11	1.80	0.63
1:A:986:PRO:CD	1:A:987:PRO:HD3	2.25	0.63
1:B:644:GLN:NE2	1:B:645:THR:O	2.32	0.63
1:C:1006:THR:O	1:C:1010:GLN:HG2	1.98	0.63
1:A:406:GLU:O	1:A:409:GLN:N	2.30	0.62
1:C:725:GLU:OE1	1:C:1028:LYS:NZ	2.30	0.62
2:D:479:GLU:C	2:D:609:ASP:HA	2.19	0.62
2:D:481:LYS:C	2:D:608:THR:HA	2.20	0.62
1:A:119:ILE:HG13	1:A:127:VAL:H	1.64	0.62
1:A:534:VAL:HG11	1:A:537:LYS:HD3	1.82	0.62
1:B:105:ILE:HD13	1:B:135:PHE:HB3	1.81	0.62
1:B:107:GLY:O	1:B:237:ARG:N	2.28	0.62
1:A:194:PHE:HB3	1:A:196:ASN:HD21	1.63	0.62
1:A:221:SER:OG	1:A:284:THR:OG1	2.14	0.62
1:A:423:TYR:HB3	1:A:464:PHE:H	1.63	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:188:ASN:HD22	1:B:189:LEU:H	1.46	0.62
1:A:105:ILE:HG21	1:A:110:LEU:HG	1.80	0.62
1:A:188:ASN:HB2	1:A:190:ARG:HG2	1.80	0.62
1:B:172:SER:HA	1:B:227:VAL:HB	1.80	0.62
2:D:29:LEU:HG	2:D:32:PHE:HE1	1.64	0.62
1:B:62:VAL:HG21	1:B:267:VAL:H	1.65	0.62
1:A:32:PHE:N	1:A:91:TYR:OH	2.33	0.62
1:B:725:GLU:OE1	1:B:1028:LYS:NZ	2.32	0.62
1:C:969:ASN:ND2	1:C:972:ALA:O	2.33	0.62
1:A:520:ALA:HA	1:B:42:VAL:HG22	1.80	0.62
1:B:346:ARG:NH1	1:B:347:PHE:O	2.31	0.62
1:A:233:ILE:HG22	1:A:234:ASN:H	1.65	0.62
1:A:971:GLY:HA2	1:B:756:TYR:HA	1.82	0.62
2:E:200:GLY:O	2:E:204:ARG:HG2	1.99	0.62
1:A:454:ARG:NH1	1:A:471:GLU:O	2.32	0.62
1:A:560:LEU:HD12	1:B:45:SER:HA	1.80	0.62
1:C:190:ARG:HB3	1:C:192:PHE:CZ	2.34	0.62
1:B:1011:GLN:HA	1:B:1014:ARG:HB2	1.82	0.61
2:D:524:GLN:OE1	2:D:527:GLU:HB3	2.00	0.61
2:E:183:TYR:O	2:E:187:LYS:HG2	2.00	0.61
2:E:564:LYS:HD3	2:E:565:PRO:HD2	1.81	0.61
1:A:193:VAL:HA	1:A:238:PHE:HB2	1.83	0.61
2:D:29:LEU:O	2:D:33:ASN:ND2	2.32	0.61
2:D:186:LEU:HA	2:D:189:GLU:HG3	1.81	0.61
2:D:368:ASP:O	2:D:372:ALA:CB	2.47	0.61
2:E:474:MET:HG2	2:E:478:TRP:HD1	1.64	0.61
1:A:45:SER:HA	1:A:284:THR:HG22	1.83	0.61
1:A:381:GLY:O	1:B:983:ARG:NH2	2.26	0.61
1:B:485:GLY:N	1:B:488:CYS:O	2.32	0.61
1:C:498:GLN:O	1:C:501:ASN:ND2	2.33	0.61
2:D:524:GLN:HG2	2:D:578:THR:H	1.65	0.61
2:E:397:ASN:HD21	2:E:566:TRP:HB2	1.65	0.61
2:E:524:GLN:HB3	2:E:574:VAL:HG13	1.82	0.61
1:B:79:ASN:N	1:B:80:PRO:HD3	2.15	0.61
1:C:578:ASP:OD2	1:C:581:THR:N	2.21	0.61
2:D:144:LEU:HD12	2:D:148:LEU:HD23	1.83	0.61
2:E:245:ARG:NH1	2:E:260:GLY:O	2.34	0.61
1:A:114:THR:HG22	1:A:115:GLN:H	1.64	0.61
1:A:456:PHE:HB2	1:A:491:PRO:HA	1.82	0.61
1:B:396:TYR:HB2	1:B:514:SER:HB2	1.81	0.61
2:D:279:TYR:HE1	2:D:444:LEU:HD23	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:276:THR:H	2:E:445:THR:N	1.99	0.61
2:D:483:ASP:H	2:D:609:ASP:CB	2.13	0.61
2:E:406:GLU:HB3	2:E:522:GLN:HE22	1.66	0.61
1:A:194:PHE:HB3	1:A:196:ASN:ND2	2.16	0.61
1:B:231:ILE:HG13	1:B:232:GLY:N	2.16	0.61
1:B:965:GLN:HE22	1:B:966:LEU:HD23	1.66	0.61
2:D:366:MET:SD	2:D:367:ASP:N	2.74	0.61
1:A:36:VAL:HG12	1:A:221:SER:N	2.08	0.60
1:A:46:SER:N	1:A:284:THR:N	2.48	0.60
1:A:29:THR:N	1:A:62:VAL:HG12	2.12	0.60
1:A:46:SER:N	1:A:283:GLY:H	1.97	0.60
1:A:56:LEU:HD22	1:A:92:PHE:HE1	1.66	0.60
1:A:190:ARG:HH12	1:A:243:ALA:HB2	1.66	0.60
1:C:231:ILE:HG13	1:C:232:GLY:H	1.66	0.60
1:C:54:LEU:HG	1:C:88:VAL:HG23	1.82	0.60
1:C:109:THR:OG1	1:C:111:ASP:OD1	2.19	0.60
1:A:329:PHE:HD1	1:A:528:LYS:HB2	1.66	0.60
1:C:84:PHE:O	1:C:270:LEU:HB2	2.00	0.60
1:C:966:LEU:HA	1:C:1000:ARG:NH1	2.16	0.60
1:B:57:PRO:HD2	1:B:268:GLY:HA3	1.83	0.60
1:B:62:VAL:HG22	1:B:64:TRP:N	2.16	0.60
1:C:344:ALA:O	1:C:509:ARG:NH1	2.34	0.60
2:D:33:ASN:O	2:D:37:GLU:HG2	2.01	0.60
1:A:497:PHE:HA	1:A:505:TYR:HB3	1.84	0.60
1:C:88:VAL:HA	1:C:270:LEU:CD1	2.31	0.60
2:D:222:LEU:O	2:D:226:VAL:HG23	2.01	0.60
1:C:404:GLY:HA2	1:C:508:TYR:HD2	1.67	0.60
2:E:177:ARG:O	2:E:181:GLU:HB2	2.00	0.60
1:A:290:ASP:OD2	1:A:291:CYS:N	2.33	0.60
1:B:27:ALA:N	1:B:64:TRP:O	2.35	0.60
1:A:120:VAL:HG23	1:A:127:VAL:HG11	1.83	0.59
1:A:187:LYS:HA	1:A:210:ILE:HG21	1.84	0.59
1:B:91:TYR:HB2	1:B:194:PHE:H	1.65	0.59
2:E:237:TYR:HE1	2:E:275:TRP:HH2	1.50	0.59
1:A:97:LYS:HA	1:A:210:ILE:HD12	1.84	0.59
2:D:215:TYR:OH	2:D:571:GLU:OE1	2.20	0.59
2:D:459:TRP:O	2:D:463:VAL:HG12	2.02	0.59
2:D:483:ASP:N	2:D:609:ASP:H	2.00	0.59
1:A:100:ILE:HG22	1:A:101:ILE:HG13	1.83	0.59
1:C:82:LEU:HB2	1:C:269:TYR:HB2	1.84	0.59
2:D:430:GLU:HB3	2:D:435:ASP:OD2	2.01	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:119:ILE:HD11	1:A:126:VAL:HA	1.84	0.59
1:A:419:ALA:HB1	1:A:463:PRO:HA	1.84	0.59
1:A:423:TYR:HA	1:A:465:GLU:H	1.67	0.59
1:B:193:VAL:HB	1:B:204:TYR:H	1.67	0.59
2:E:456:LEU:HD22	2:E:503:LEU:HD11	1.84	0.59
1:A:350:VAL:HG11	1:A:418:ILE:HG23	1.85	0.59
2:E:276:THR:HB	2:E:447:VAL:HB	1.84	0.59
1:B:170:TYR:CZ	1:B:229:LEU:HD22	2.38	0.59
2:D:476:LYS:O	2:D:480:MET:HB3	2.03	0.59
2:D:523:PHE:CE1	2:D:580:ASP:HB2	2.37	0.59
2:D:555:HIS:CE1	2:D:556:GLU:HG3	2.38	0.59
1:A:102:ARG:HE	1:A:186:PHE:N	2.00	0.59
2:E:184:VAL:HG11	2:E:464:PHE:CG	2.37	0.59
2:D:318:VAL:HB	2:D:555:HIS:CG	2.38	0.59
2:D:482:ARG:H	2:D:609:ASP:N	1.99	0.59
1:A:189:LEU:HB3	1:A:206:LYS:HB2	1.84	0.59
1:A:654:GLU:O	1:A:691:SER:OG	2.20	0.59
1:B:351:TYR:HB3	1:B:454:ARG:HD3	1.85	0.58
2:E:156:LYS:NZ	2:E:280:PRO:HG3	2.18	0.58
1:C:445:VAL:HA	1:C:499:PRO:HG3	1.84	0.58
2:D:116:LEU:HD13	2:D:190:MET:HG2	1.84	0.58
2:E:274:PHE:CD1	2:E:445:THR:HB	2.38	0.58
2:E:525:PHE:CD1	2:E:573:VAL:HG13	2.38	0.58
1:A:693:ILE:HB	1:A:695:TYR:CZ	2.38	0.58
2:E:158:TYR:O	2:E:162:LEU:HD12	2.04	0.58
2:E:303:ASP:H	2:E:306:ARG:HB3	1.68	0.58
1:A:221:SER:HA	1:A:285:ILE:HB	1.85	0.58
1:B:200:TYR:HA	1:B:230:PRO:HA	1.86	0.58
2:E:245:ARG:NH2	2:E:258:PRO:O	2.36	0.58
1:A:46:SER:C	1:A:283:GLY:H	2.07	0.58
2:D:315:PHE:HA	2:D:318:VAL:HG22	1.85	0.58
2:E:275:TRP:H	2:E:448:GLY:H	1.52	0.58
2:E:366:MET:O	2:E:370:LEU:HG	2.04	0.58
2:E:297:MET:HA	2:E:423:LEU:HD22	1.86	0.58
2:E:411:SER:HB3	2:E:526:GLN:HE21	1.68	0.58
2:E:446:ILE:HA	2:E:449:THR:HG23	1.84	0.58
1:C:403:ARG:HE	1:C:405:ASP:HB2	1.69	0.58
2:D:180:TYR:HA	2:D:183:TYR:HB3	1.86	0.58
1:B:104:TRP:CD1	1:B:240:THR:HG23	2.38	0.58
2:D:481:LYS:NZ	2:D:489:GLU:H	2.02	0.58
2:E:374:HIS:NE2	2:E:402:GLU:OE2	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:578:ASP:OD1	1:C:583:GLU:N	2.37	0.58
2:E:158:TYR:OH	2:E:255:ARG:NH1	2.37	0.58
1:A:56:LEU:O	1:A:91:TYR:HB3	2.04	0.58
2:E:557:MET:SD	2:E:573:VAL:HB	2.43	0.58
2:D:388:GLN:HB3	2:D:392:LEU:HB2	1.86	0.57
1:A:563:GLN:H	1:B:43:PHE:C	2.07	0.57
1:B:231:ILE:HG13	1:B:232:GLY:H	1.69	0.57
1:B:1011:GLN:HA	1:B:1014:ARG:H	1.70	0.57
2:D:305:ARG:HH11	2:D:308:PHE:HD1	1.50	0.57
2:E:461:TRP:O	2:E:465:LYS:HG2	2.04	0.57
2:E:518:ARG:O	2:E:522:GLN:HG2	2.04	0.57
2:D:390:PHE:HA	2:D:393:ARG:HH21	1.70	0.57
2:D:497:TYR:CD1	2:D:498:CYS:N	2.72	0.57
1:B:63:THR:H	1:B:83:PRO:HG3	1.69	0.57
1:C:234:ASN:OD1	1:C:235:ILE:N	2.37	0.57
2:D:483:ASP:H	2:D:609:ASP:HB3	1.69	0.57
2:E:264:ALA:HB3	2:E:490:PRO:HD3	1.87	0.57
2:E:278:LEU:HB3	2:E:444:LEU:HD23	1.87	0.57
2:E:476:LYS:HE2	2:E:480:MET:HG2	1.86	0.57
1:A:82:LEU:H	1:A:237:ARG:NH1	2.01	0.57
1:A:560:LEU:HD22	1:B:282:ASN:C	2.25	0.57
1:B:110:LEU:HD13	1:B:239:GLN:HG2	1.87	0.57
1:B:993:ILE:O	1:B:997:ILE:HG22	2.04	0.57
1:B:1011:GLN:OE1	1:B:1014:ARG:HB3	2.05	0.57
2:D:134:ASN:ND2	2:D:137:ASN:O	2.36	0.57
1:B:1007:TYR:CZ	1:B:1011:GLN:HG2	2.40	0.57
1:B:1017:GLU:OE2	1:C:1019:ARG:NH1	2.32	0.57
1:C:770:ILE:HD11	1:C:1012:LEU:HD23	1.86	0.57
1:C:1100:THR:OG1	1:C:1101:HIS:ND1	2.29	0.57
2:D:288:LYS:H	2:D:434:THR:HG22	1.70	0.57
1:A:315:THR:HG22	1:A:316:SER:H	1.70	0.57
1:A:327:VAL:O	1:A:540:ASN:HB3	2.05	0.57
1:A:521:PRO:HA	1:A:564:GLN:HE21	1.69	0.57
1:B:977:LEU:HD13	1:B:996:LEU:HD13	1.87	0.57
2:D:394:ASN:ND2	2:D:395:GLY:O	2.36	0.57
1:A:45:SER:H	1:A:282:ASN:HB3	1.69	0.56
1:A:419:ALA:O	1:A:423:TYR:N	2.38	0.56
1:B:1000:ARG:HG3	1:B:1001:LEU:N	2.20	0.56
2:E:407:ILE:HD13	2:E:522:GLN:HB3	1.87	0.56
1:A:569:ILE:HD12	1:A:569:ILE:H	1.70	0.56
1:A:959:LEU:O	1:A:962:LEU:HD23	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:190:ARG:HD3	1:B:207:HIS:NE2	2.21	0.56
1:B:970:PHE:CE2	1:B:999:GLY:HA3	2.40	0.56
1:A:47:VAL:N	1:A:283:GLY:N	2.53	0.56
1:A:383:SER:HB2	1:B:984:LEU:HA	1.85	0.56
1:B:387:LEU:HD23	1:B:390:LEU:HD12	1.87	0.56
1:C:93:ALA:HB3	1:C:186:PHE:CZ	2.41	0.56
1:C:750:SER:O	1:C:754:LEU:HD23	2.05	0.56
1:C:1007:TYR:O	1:C:1011:GLN:HG2	2.04	0.56
2:E:96:GLN:HB3	2:E:392:LEU:HD11	1.86	0.56
2:E:239:HIS:HA	2:E:604:VAL:HG11	1.87	0.56
1:B:186:PHE:N	1:B:212:LEU:O	2.39	0.56
1:B:462:LYS:HB2	1:B:465:GLU:HB2	1.88	0.56
2:D:95:ARG:HH12	2:D:565:PRO:HA	1.71	0.56
2:E:332:MET:SD	2:E:342:VAL:HG11	2.45	0.56
1:A:414:GLN:HE21	1:A:419:ALA:HB2	1.69	0.56
1:C:396:TYR:HB2	1:C:514:SER:HB2	1.87	0.56
1:C:723:THR:HG22	1:C:724:THR:H	1.71	0.56
2:D:58:ASN:O	2:D:62:MET:HG2	2.06	0.56
2:D:486:GLY:N	2:D:608:THR:HG23	2.21	0.56
2:E:303:ASP:OD1	2:E:304:ALA:N	2.38	0.56
2:D:296:ALA:HB1	2:D:302:TRP:HH2	1.71	0.56
2:D:515:TYR:HA	2:D:518:ARG:HE	1.71	0.56
2:E:233:ILE:HG22	2:E:237:TYR:HB2	1.88	0.56
2:D:123:MET:SD	2:D:123:MET:N	2.79	0.56
2:D:247:LYS:HB2	2:D:282:MET:N	2.13	0.56
2:E:574:VAL:HG12	2:E:576:ALA:H	1.69	0.56
1:A:759:PHE:O	1:A:763:LEU:HG	2.06	0.56
1:A:461:LEU:HD23	1:A:461:LEU:H	1.70	0.56
1:A:965:GLN:OE1	1:A:965:GLN:N	2.39	0.56
1:B:1004:LEU:O	1:B:1008:VAL:HG23	2.06	0.56
1:C:396:TYR:OH	1:C:516:GLU:OE1	2.21	0.56
2:D:78:GLN:HA	2:D:81:LYS:HD2	1.87	0.56
2:D:181:GLU:HA	2:D:184:VAL:HG23	1.88	0.56
2:E:281:LEU:HB2	2:E:282:MET:HE2	1.87	0.56
1:A:94:SER:HB2	1:A:189:LEU:HD13	1.88	0.56
1:A:166:CYS:O	1:A:169:GLU:N	2.22	0.56
1:A:674:TYR:O	1:A:689:SER:N	2.39	0.56
1:B:1005:GLN:HG2	1:B:1008:VAL:HB	1.87	0.56
2:D:111:ASP:O	2:D:115:ARG:HG2	2.06	0.56
2:D:122:ALA:O	2:D:126:ILE:HG22	2.06	0.56
1:A:472:ILE:HA	1:A:491:PRO:HB3	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:958:ALA:O	1:A:961:THR:HG22	2.05	0.55
2:E:525:PHE:HA	2:E:573:VAL:O	2.06	0.55
1:A:421:TYR:OH	1:A:471:GLU:OE1	2.23	0.55
1:B:170:TYR:CD2	1:B:229:LEU:HB3	2.41	0.55
2:E:274:PHE:O	2:E:275:TRP:CD1	2.59	0.55
1:C:997:ILE:O	1:C:1001:LEU:HB2	2.04	0.55
1:A:298:GLU:HB3	1:A:315:THR:HG21	1.87	0.55
1:B:188:ASN:ND2	1:B:189:LEU:H	2.03	0.55
1:C:79:ASN:ND2	1:C:239:GLN:HA	2.21	0.55
2:D:481:LYS:HD3	2:D:610:TRP:HB3	1.88	0.55
2:E:267:LEU:HD22	2:E:272:GLY:HA3	1.88	0.55
1:C:965:GLN:HG2	1:C:1000:ARG:HG3	1.88	0.55
1:B:335:LEU:HD23	1:B:362:VAL:H	1.70	0.55
1:A:30:ASN:HA	1:A:59:PHE:HA	1.86	0.55
1:C:426:PRO:HG2	1:C:429:PHE:HB2	1.87	0.55
2:D:74:GLU:OE1	2:D:78:GLN:NE2	2.40	0.55
2:D:235:PRO:O	2:D:238:GLU:HB2	2.06	0.55
2:D:485:VAL:O	2:D:606:TRP:HB3	2.07	0.55
2:E:123:MET:HA	2:E:179:LEU:HD13	1.88	0.55
2:E:188:ASN:ND2	2:E:464:PHE:O	2.40	0.55
2:E:539:LEU:HG	2:E:586:ASN:ND2	2.18	0.55
1:A:328:ARG:HB3	1:A:542:ASN:N	2.18	0.55
1:C:454:ARG:NH1	1:C:491:PRO:HB2	2.22	0.55
2:E:261:CYS:HB2	2:E:610:TRP:HB3	1.88	0.55
1:C:557:LYS:HB2	1:C:584:ILE:HG21	1.88	0.55
2:D:119:ILE:O	2:D:123:MET:HE2	2.07	0.55
2:E:406:GLU:HG2	2:E:522:GLN:OE1	2.06	0.55
2:E:435:ASP:HA	2:E:438:PHE:HB3	1.88	0.55
2:E:565:PRO:HG2	2:E:568:PHE:HB3	1.89	0.55
1:A:39:PRO:HG3	1:A:283:GLY:O	2.07	0.55
1:B:196:ASN:ND2	1:B:233:ILE:O	2.40	0.55
2:D:173:GLY:O	2:D:177:ARG:HG2	2.07	0.55
2:D:311:ALA:HB2	2:D:373:HIS:CE1	2.42	0.55
1:B:989:ALA:O	1:B:993:ILE:HG23	2.07	0.54
1:C:438:SER:OG	1:C:442:ASP:OD2	2.24	0.54
2:D:454:TYR:O	2:D:457:GLU:HG2	2.08	0.54
2:E:88:ILE:O	2:E:94:LYS:NZ	2.39	0.54
1:A:28:TYR:CD1	1:A:61:ASN:HB3	2.43	0.54
1:A:94:SER:HA	1:A:216:LEU:HD22	1.89	0.54
1:A:447:GLY:HA2	1:A:496:GLY:HA2	1.90	0.54
1:A:563:GLN:HA	1:B:42:VAL:HG12	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:979:ASP:OD2	1:A:980:ILE:N	2.41	0.54
1:A:1116:THR:OG1	1:A:1117:THR:N	2.41	0.54
1:C:994:ASP:OD1	1:C:995:ARG:N	2.40	0.54
2:D:579:MET:SD	2:D:579:MET:N	2.80	0.54
2:E:459:TRP:CE2	2:E:477:TRP:HB2	2.42	0.54
1:A:453:PHE:HB2	1:A:495:TYR:CE2	2.42	0.54
2:D:98:ARG:O	2:D:102:GLN:NE2	2.28	0.54
2:D:490:PRO:HD2	2:D:491:LEU:N	2.23	0.54
2:E:302:TRP:HE3	2:E:307:ILE:HG12	1.72	0.54
1:A:54:LEU:C	1:A:87:GLY:H	2.11	0.54
1:B:34:ARG:HD3	1:B:216:LEU:HD11	1.89	0.54
2:D:32:PHE:CE2	2:D:100:LEU:HD13	2.42	0.54
2:D:256:ILE:HG12	2:D:262:LEU:HD22	1.89	0.54
2:D:392:LEU:HD22	2:D:562:ARG:HD2	1.89	0.54
2:E:457:GLU:HG3	2:E:513:ILE:N	2.23	0.54
1:C:79:ASN:HB2	1:C:238:PHE:CZ	2.43	0.54
1:C:351:TYR:OH	1:C:467:ASP:O	2.17	0.54
1:A:37:TYR:O	1:A:221:SER:HB2	2.08	0.54
2:D:53:ASN:HA	2:D:340:ARG:HD2	1.89	0.54
2:D:85:LEU:HA	2:D:88:ILE:HD13	1.90	0.54
2:D:482:ARG:HB2	2:D:610:TRP:CB	2.37	0.54
2:E:242:ALA:HB3	2:E:604:VAL:HG12	1.89	0.54
1:A:47:VAL:HG12	1:A:283:GLY:CA	2.38	0.54
1:A:58:PHE:O	1:A:60:SER:N	2.41	0.54
1:C:577:ARG:NE	1:C:582:LEU:HA	2.23	0.54
2:D:478:TRP:O	2:D:481:LYS:N	2.40	0.54
2:E:283:VAL:HG23	2:E:437:ASN:ND2	2.23	0.54
2:E:370:LEU:HB3	2:E:409:SER:CB	2.38	0.54
1:A:365:TYR:HD1	1:A:368:LEU:HD12	1.72	0.53
1:C:759:PHE:O	1:C:763:LEU:HG	2.08	0.53
2:D:60:GLN:O	2:D:64:ILE:HG22	2.08	0.53
2:D:482:ARG:C	2:D:609:ASP:H	2.11	0.53
2:E:177:ARG:HE	2:E:498:CYS:H	1.55	0.53
2:E:207:TYR:HE2	2:E:222:LEU:HD12	1.73	0.53
2:E:276:THR:HG22	2:E:446:ILE:CA	2.38	0.53
2:E:592:PHE:HD1	2:E:595:LEU:HD12	1.73	0.53
1:A:328:ARG:H	1:A:542:ASN:HB2	1.72	0.53
2:D:80:ALA:HB1	2:D:101:GLN:HG2	1.89	0.53
2:D:236:LEU:HD23	2:D:237:TYR:H	1.72	0.53
2:D:414:THR:HG22	2:D:416:ASN:H	1.72	0.53
2:D:486:GLY:H	2:D:608:THR:HG23	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:588:PHE:HB3	2:D:592:PHE:CE1	2.43	0.53
2:E:274:PHE:O	2:E:275:TRP:HD1	1.91	0.53
1:A:47:VAL:N	1:A:279:TYR:HB3	2.22	0.53
1:B:206:LYS:HD3	1:B:222:ALA:O	2.07	0.53
1:C:87:GLY:N	1:C:271:GLN:O	2.41	0.53
2:D:136:ASN:OD1	2:D:137:ASN:N	2.41	0.53
1:A:209:PRO:HD2	1:A:209:PRO:O	2.07	0.53
1:C:351:TYR:OH	1:C:468:ILE:HA	2.09	0.53
1:A:365:TYR:HA	1:A:368:LEU:HB2	1.90	0.53
1:A:546:LEU:HD11	1:A:565:PHE:CZ	2.43	0.53
1:B:984:LEU:HD13	1:B:988:GLU:HG2	1.89	0.53
1:C:201:PHE:N	1:C:229:LEU:O	2.35	0.53
1:C:383:SER:H	1:C:386:LYS:HZ2	1.56	0.53
2:D:236:LEU:HD22	2:D:588:PHE:HZ	1.73	0.53
2:D:317:SER:O	2:D:548:ARG:NH1	2.42	0.53
2:D:564:LYS:HE3	2:D:565:PRO:HD2	1.91	0.53
2:D:583:PRO:HD2	2:D:584:LEU:N	2.22	0.53
2:E:453:THR:HG23	2:E:512:PHE:CD2	2.44	0.53
1:A:400:PHE:CZ	1:A:410:ILE:HG23	2.44	0.53
2:D:349:TRP:H	2:D:358:ILE:HD12	1.74	0.53
2:D:560:LEU:HD22	2:D:572:ARG:HD2	1.90	0.53
1:A:312:ILE:HD12	1:A:598:ILE:HG22	1.90	0.53
1:A:562:PHE:CE1	1:B:279:TYR:HE2	2.26	0.53
1:B:402:ILE:O	1:B:508:TYR:N	2.39	0.53
1:B:703:ASN:OD1	1:B:704:SER:N	2.41	0.53
1:A:1006:THR:O	1:A:1010:GLN:CB	2.56	0.53
1:B:351:TYR:HB2	1:B:468:ILE:HD11	1.90	0.53
1:B:392:PHE:H	1:B:524:VAL:HB	1.74	0.53
2:D:134:ASN:OD1	2:D:163:TRP:NE1	2.41	0.53
2:D:237:TYR:O	2:D:237:TYR:HD1	1.92	0.53
2:E:293:VAL:HG11	2:E:418:LEU:HD22	1.89	0.53
1:A:34:ARG:CD	1:A:35:GLY:H	2.19	0.53
1:A:45:SER:O	1:A:46:SER:OG	2.26	0.53
1:B:997:ILE:HA	1:B:1000:ARG:HG2	1.89	0.53
1:C:350:VAL:HA	1:C:400:PHE:CE2	2.44	0.53
1:C:948:LEU:H	1:C:948:LEU:HD12	1.74	0.53
2:D:151:ILE:HD11	2:D:163:TRP:CZ3	2.44	0.53
2:D:306:ARG:HA	2:D:309:LYS:HB2	1.90	0.53
2:D:460:ARG:HD3	2:D:464:PHE:CZ	2.44	0.53
1:A:563:GLN:CA	1:B:42:VAL:HG12	2.39	0.53
1:A:821:LEU:HD11	1:A:939:SER:HB2	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:979:ASP:OD1	1:B:980:ILE:N	2.42	0.53
1:C:581:THR:OG1	1:C:583:GLU:HG2	2.09	0.53
2:D:90:ASP:O	2:D:94:LYS:CB	2.52	0.53
2:D:134:ASN:HD21	2:D:140:GLU:C	2.11	0.53
2:D:151:ILE:HD11	2:D:163:TRP:HZ3	1.73	0.53
1:B:227:VAL:HG12	1:B:228:ASP:H	1.74	0.52
2:D:158:TYR:HH	2:D:265:HIS:CE1	2.27	0.52
2:D:192:ARG:NH1	2:D:197:GLU:O	2.34	0.52
2:D:227:GLU:HA	2:D:230:PHE:CD2	2.44	0.52
2:D:302:TRP:HD1	2:D:423:LEU:HD13	1.74	0.52
2:E:276:THR:HG22	2:E:446:ILE:HB	1.91	0.52
1:A:363:ALA:HB1	1:A:368:LEU:HD11	1.90	0.52
1:B:131:CYS:HA	1:B:166:CYS:HB3	1.91	0.52
1:C:188:ASN:O	1:C:190:ARG:N	2.41	0.52
2:E:105:SER:H	2:E:190:MET:HG3	1.74	0.52
2:D:530:CYS:HA	2:D:533:ALA:HB3	1.91	0.52
2:E:114:GLU:O	2:E:118:THR:HG22	2.10	0.52
2:E:495:GLU:O	2:E:495:GLU:HG3	2.08	0.52
1:A:46:SER:O	1:A:280:ASN:C	2.48	0.52
1:B:759:PHE:O	1:B:763:LEU:HG	2.10	0.52
1:C:989:ALA:O	1:C:993:ILE:HG23	2.10	0.52
2:D:416:ASN:HA	2:D:419:LYS:HG2	1.91	0.52
1:B:1002:GLN:O	1:B:1006:THR:OG1	2.20	0.52
1:C:398:ASP:O	1:C:512:VAL:N	2.27	0.52
2:D:186:LEU:O	2:D:190:MET:HG3	2.09	0.52
2:E:148:LEU:HB2	2:E:168:TRP:CE3	2.39	0.52
2:D:285:PHE:HZ	2:D:595:LEU:HD21	1.74	0.52
2:D:592:PHE:O	2:D:596:LYS:HG2	2.10	0.52
1:A:406:GLU:O	1:A:410:ILE:HG12	2.10	0.52
2:D:399:GLY:HA2	2:D:518:ARG:HD2	1.92	0.52
1:A:750:SER:O	1:A:754:LEU:HD23	2.10	0.52
1:A:993:ILE:O	1:A:997:ILE:HG22	2.10	0.52
1:B:560:LEU:HB2	1:B:563:GLN:HE22	1.75	0.52
1:B:205:SER:OG	1:B:206:LYS:N	2.43	0.52
1:B:962:LEU:O	1:B:962:LEU:HD23	2.10	0.52
1:C:65:PHE:CZ	1:C:82:LEU:HG	2.42	0.52
2:D:375:GLU:O	2:D:378:HIS:HB2	2.10	0.52
2:E:497:TYR:CD1	2:E:499:ASP:HB2	2.45	0.52
2:E:514:ARG:NH1	2:E:521:TYR:HE2	2.07	0.52
1:A:102:ARG:HD3	1:A:240:THR:OG1	2.09	0.52
1:B:66:HIS:ND1	1:B:263:ALA:O	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:741:TYR:OH	1:B:965:GLN:OE1	2.28	0.52
2:D:482:ARG:N	2:D:610:TRP:HB2	2.24	0.52
2:E:348:ALA:HB3	2:E:378:HIS:ND1	2.25	0.52
1:A:448:ASN:N	1:A:494:SER:OG	2.43	0.51
1:B:452:LEU:HD12	1:B:492:LEU:HD22	1.92	0.51
1:C:410:ILE:HD12	1:C:425:LEU:HD11	1.92	0.51
1:A:53:ASP:O	1:A:86:ASP:HA	2.10	0.51
1:A:55:PHE:CE1	1:A:87:GLY:HA3	2.45	0.51
1:A:533:LEU:HA	1:A:552:LEU:HD13	1.91	0.51
1:B:1007:TYR:CE1	1:B:1011:GLN:HG2	2.44	0.51
2:E:207:TYR:CE2	2:E:222:LEU:HD12	2.44	0.51
1:A:104:TRP:HE3	1:A:241:LEU:HB2	1.76	0.51
1:C:79:ASN:HB2	1:C:238:PHE:CE2	2.45	0.51
1:C:578:ASP:OD1	1:C:582:LEU:N	2.44	0.51
2:D:249:MET:HE3	2:D:249:MET:O	2.10	0.51
2:D:450:LEU:HD23	2:D:451:PRO:HA	1.91	0.51
1:A:39:PRO:HA	1:A:222:ALA:N	2.26	0.51
1:A:187:LYS:HD2	1:A:210:ILE:CG1	2.39	0.51
1:B:172:SER:OG	1:B:227:VAL:O	2.25	0.51
1:C:557:LYS:NZ	1:C:574:ASP:OD2	2.43	0.51
2:D:113:ARG:HG3	2:D:117:ASN:ND2	2.26	0.51
2:D:474:MET:HG3	2:D:493:HIS:O	2.10	0.51
1:A:46:SER:HA	1:A:284:THR:O	2.10	0.51
1:A:117:LEU:HD23	1:A:192:PHE:CD1	2.46	0.51
1:A:128:ILE:HD11	1:A:227:VAL:HG21	1.92	0.51
1:A:196:ASN:O	1:A:199:GLY:N	2.41	0.51
1:A:419:ALA:HB1	1:A:463:PRO:CA	2.40	0.51
1:A:951:VAL:O	1:A:955:ASN:ND2	2.43	0.51
1:B:82:LEU:HD12	1:B:267:VAL:HG11	1.93	0.51
1:B:141:LEU:HB2	1:B:242:LEU:H	1.74	0.51
1:C:377:PHE:HB2	1:C:434:ILE:HG13	1.91	0.51
1:C:381:GLY:HA3	1:C:430:THR:HG23	1.91	0.51
2:D:538:PRO:HG2	2:D:540:TYR:HE1	1.75	0.51
2:E:278:LEU:N	2:E:444:LEU:HB3	2.23	0.51
2:E:456:LEU:HD23	2:E:477:TRP:CH2	2.46	0.51
1:B:444:LYS:HD3	1:B:448:ASN:HB2	1.92	0.51
1:B:973:ILE:HB	1:B:983:ARG:NH2	2.26	0.51
2:D:218:SER:O	2:D:221:GLN:HG3	2.11	0.51
2:D:314:PHE:HE1	2:D:544:ILE:HB	1.75	0.51
2:E:358:ILE:HG22	2:E:359:LYS:N	2.26	0.51
1:A:40:ASP:OD2	1:A:44:ARG:NH1	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:62:VAL:HB	1:B:267:VAL:O	2.11	0.51
1:C:29:THR:HG22	1:C:64:TRP:HB3	1.93	0.51
1:C:53:ASP:OD1	1:C:195:LYS:NZ	2.30	0.51
2:D:247:LYS:CA	2:D:282:MET:HB2	2.40	0.51
1:A:117:LEU:HB3	1:A:192:PHE:CD2	2.45	0.51
1:A:960:ASN:OD1	1:A:961:THR:N	2.44	0.51
2:D:331:SER:HB2	2:D:357:ARG:HD3	1.92	0.51
2:D:483:ASP:H	2:D:609:ASP:CA	2.24	0.51
2:D:553:LYS:HG3	2:D:554:LEU:HD22	1.92	0.51
2:E:276:THR:H	2:E:446:ILE:N	2.08	0.51
1:A:95:THR:HG23	1:A:210:ILE:HA	1.92	0.51
1:A:955:ASN:O	1:A:958:ALA:HB3	2.11	0.51
1:B:118:LEU:HB3	1:B:133:PHE:HD1	1.75	0.51
2:D:383:MET:HA	2:D:386:ALA:HB2	1.93	0.51
2:D:482:ARG:N	2:D:610:TRP:N	2.57	0.51
1:A:132:GLU:N	1:A:132:GLU:OE1	2.44	0.50
1:A:964:LYS:HB2	1:A:965:GLN:OE1	2.10	0.50
2:E:611:SER:HB3	2:E:612:PRO:HD2	1.94	0.50
1:A:45:SER:HA	1:A:284:THR:H	1.76	0.50
1:A:1002:GLN:HA	1:A:1005:GLN:HG2	1.93	0.50
1:C:65:PHE:HD1	1:C:80:PRO:HG2	1.76	0.50
2:D:151:ILE:HG12	2:D:160:GLU:HG3	1.93	0.50
2:D:202:TYR:HA	2:D:205:GLY:HA3	1.92	0.50
2:D:285:PHE:CD2	2:D:440:LEU:HD13	2.46	0.50
2:E:276:THR:H	2:E:445:THR:CA	2.24	0.50
1:A:564:GLN:H	1:B:42:VAL:CG1	2.22	0.50
1:A:971:GLY:CA	1:A:995:ARG:HD3	2.40	0.50
1:C:980:ILE:HG21	1:C:992:GLN:OE1	2.10	0.50
2:D:146:PRO:O	2:D:150:ASP:HB3	2.11	0.50
2:D:390:PHE:HA	2:D:393:ARG:NH2	2.26	0.50
1:A:561:PRO:C	1:B:43:PHE:HA	2.32	0.50
2:D:133:CYS:CA	2:D:141:CYS:HB2	2.33	0.50
2:D:142:LEU:HG	2:D:146:PRO:HG2	1.93	0.50
2:E:159:ASN:HA	2:E:162:LEU:CD1	2.39	0.50
1:A:85:ASN:OD1	1:A:270:LEU:HB3	2.12	0.50
1:A:350:VAL:HG13	1:A:423:TYR:HE2	1.75	0.50
1:B:193:VAL:HG11	1:B:204:TYR:CD1	2.46	0.50
1:C:29:THR:HG22	1:C:64:TRP:CE3	2.47	0.50
2:D:203:TRP:HH2	2:D:506:VAL:HA	1.75	0.50
2:D:226:VAL:HG21	2:D:454:TYR:CE1	2.46	0.50
2:D:318:VAL:HB	2:D:555:HIS:CD2	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:56:LEU:HG	1:B:57:PRO:HD2	1.93	0.50
1:B:141:LEU:HA	1:B:241:LEU:HD22	1.94	0.50
2:E:370:LEU:HB3	2:E:409:SER:HB2	1.94	0.50
1:A:215:ASP:O	1:A:216:LEU:HD23	2.12	0.50
1:A:403:ARG:HG2	1:A:406:GLU:HG3	1.93	0.50
1:B:91:TYR:CG	1:B:193:VAL:HG13	2.46	0.50
2:D:419:LYS:HD2	2:D:426:PRO:HB3	1.93	0.50
1:A:96:GLU:O	1:A:210:ILE:HB	2.12	0.50
1:C:85:ASN:HB3	1:C:271:GLN:HA	1.92	0.50
1:C:394:ASN:HB3	1:C:516:GLU:HB3	1.94	0.50
2:D:598:GLN:OE1	2:D:598:GLN:N	2.45	0.50
2:E:308:PHE:CG	2:E:333:LEU:HB3	2.47	0.50
1:A:958:ALA:HA	1:A:961:THR:HG22	1.94	0.50
2:D:247:LYS:HD3	2:D:281:LEU:H	1.77	0.50
2:D:474:MET:HG2	2:D:495:GLU:HA	1.92	0.50
2:D:578:THR:HG22	2:D:579:MET:H	1.76	0.50
1:A:45:SER:CA	1:A:284:THR:H	2.25	0.49
1:B:980:ILE:HG23	1:B:983:ARG:NH1	2.26	0.49
2:D:481:LYS:HZ3	2:D:489:GLU:H	1.60	0.49
2:E:276:THR:HG22	2:E:446:ILE:N	2.27	0.49
2:E:393:ARG:HG3	2:E:393:ARG:O	2.12	0.49
2:E:532:ILE:HG23	2:E:550:ALA:CB	2.36	0.49
1:A:322:PRO:HG3	1:A:326:ILE:HG12	1.94	0.49
1:A:341:VAL:HB	1:A:356:LYS:HB3	1.95	0.49
1:B:237:ARG:NH1	1:B:238:PHE:O	2.45	0.49
2:D:22:GLU:HB2	2:D:88:ILE:HG13	1.93	0.49
2:D:119:ILE:O	2:D:123:MET:HG2	2.12	0.49
2:D:316:VAL:HA	2:D:319:GLY:H	1.77	0.49
2:E:165:TRP:NE1	2:E:169:ARG:HD2	2.27	0.49
1:B:914:ASN:O	1:B:918:GLU:HG2	2.13	0.49
1:C:191:GLU:O	1:C:193:VAL:N	2.44	0.49
1:C:192:PHE:HB3	1:C:194:PHE:HE1	1.77	0.49
2:D:269:ASP:HB3	2:D:277:ASN:ND2	2.27	0.49
2:E:462:MET:HG2	2:E:468:ILE:HG13	1.94	0.49
1:A:416:GLY:H	1:A:461:LEU:HB2	1.77	0.49
1:A:697:MET:HA	1:A:697:MET:CE	2.42	0.49
1:B:65:PHE:HB2	1:B:81:VAL:O	2.12	0.49
1:C:111:ASP:OD1	1:C:111:ASP:N	2.35	0.49
2:D:228:HIS:O	2:D:232:GLN:HG2	2.12	0.49
2:D:271:TRP:NE1	2:D:273:ARG:HB2	2.27	0.49
2:D:410:LEU:HD11	2:D:442:GLN:NE2	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:513:ILE:O	2:D:517:THR:HG23	2.12	0.49
1:A:541:PHE:HB2	1:A:543:PHE:CD2	2.47	0.49
1:B:773:GLU:OE2	1:B:1019:ARG:NH1	2.44	0.49
1:C:131:CYS:HA	1:C:166:CYS:H	1.78	0.49
1:C:644:GLN:NE2	1:C:645:THR:O	2.42	0.49
2:E:110:ALA:O	2:E:114:GLU:HG3	2.13	0.49
2:E:323:MET:HE2	2:E:379:ILE:HG22	1.95	0.49
2:E:525:PHE:CE1	2:E:574:VAL:HG23	2.47	0.49
1:A:294:ASP:OD1	1:A:294:ASP:N	2.46	0.49
1:A:578:ASP:CG	1:A:579:PRO:HD2	2.33	0.49
1:B:172:SER:HB3	1:B:201:PHE:O	2.12	0.49
1:B:1005:GLN:O	1:B:1009:THR:OG1	2.19	0.49
1:C:87:GLY:N	1:C:271:GLN:H	2.07	0.49
1:C:377:PHE:C	1:C:378:LYS:HD3	2.33	0.49
2:D:269:ASP:OD1	2:D:272:GLY:N	2.35	0.49
2:D:487:VAL:HG12	2:D:488:VAL:N	2.28	0.49
1:A:47:VAL:H	1:A:279:TYR:HB3	1.77	0.49
1:B:1011:GLN:HA	1:B:1014:ARG:CB	2.43	0.49
1:C:56:LEU:HD21	1:C:62:VAL:HG11	1.93	0.49
1:C:110:LEU:HD22	1:C:237:ARG:NE	2.27	0.49
2:D:55:THR:O	2:D:59:ILE:HG12	2.13	0.49
2:D:486:GLY:CA	2:D:607:ASN:H	2.26	0.49
2:E:177:ARG:HD2	2:E:498:CYS:H	1.78	0.49
1:A:30:ASN:HB2	1:A:59:PHE:CE1	2.48	0.49
1:A:200:TYR:CG	1:A:230:PRO:HB3	2.47	0.49
1:A:382:VAL:HG11	1:A:392:PHE:CZ	2.47	0.49
1:A:533:LEU:H	1:A:533:LEU:HD23	1.76	0.49
1:C:341:VAL:HG23	1:C:356:LYS:HD3	1.95	0.49
2:D:80:ALA:HB1	2:D:101:GLN:HA	1.95	0.49
2:D:183:TYR:HD1	2:D:186:LEU:HB3	1.77	0.49
2:D:184:VAL:HG22	2:D:498:CYS:SG	2.52	0.49
2:D:468:ILE:HG22	2:D:469:PRO:O	2.12	0.49
2:E:352:GLY:O	2:E:355:ASP:HB2	2.12	0.49
1:A:186:PHE:CZ	1:A:240:THR:HG23	2.48	0.49
1:A:522:ALA:HB3	1:A:576:VAL:HG22	1.94	0.49
1:C:53:ASP:OD1	1:C:54:LEU:N	2.45	0.49
1:C:86:ASP:OD1	1:C:272:PRO:HA	2.13	0.49
2:E:204:ARG:HD3	2:E:219:ARG:HG2	1.94	0.49
2:E:380:GLN:HA	2:E:383:MET:SD	2.53	0.49
2:E:478:TRP:HB3	2:E:482:ARG:CZ	2.43	0.49
1:B:738:CYS:SG	1:B:739:THR:N	2.86	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:403:ARG:HD2	1:A:495:TYR:OH	2.12	0.48
1:C:199:GLY:HA3	1:C:232:GLY:N	2.23	0.48
2:D:246:ALA:HB3	2:D:282:MET:HG2	1.95	0.48
2:D:503:LEU:HG	2:D:505:HIS:H	1.78	0.48
2:D:552:GLN:HA	2:D:555:HIS:CE1	2.48	0.48
2:E:119:ILE:HG23	2:E:179:LEU:HD23	1.95	0.48
2:E:356:PHE:CE2	2:E:383:MET:HB3	2.47	0.48
1:A:102:ARG:HD2	1:A:241:LEU:O	2.13	0.48
1:B:92:PHE:CD2	1:B:104:TRP:HB2	2.47	0.48
1:B:118:LEU:HB2	1:B:135:PHE:HE1	1.76	0.48
1:C:50:SER:HB2	1:C:276:LEU:HD12	1.94	0.48
1:C:63:THR:OG1	1:C:82:LEU:HD21	2.13	0.48
2:D:147:GLY:O	2:D:151:ILE:HG13	2.12	0.48
2:D:242:ALA:O	2:D:246:ALA:CB	2.61	0.48
2:D:610:TRP:CE2	2:D:612:PRO:HB3	2.48	0.48
2:E:48:TRP:HB2	2:E:357:ARG:NH1	2.26	0.48
2:E:145:GLU:HB2	2:E:146:PRO:HD3	1.96	0.48
1:A:96:GLU:HG2	1:A:263:ALA:N	2.28	0.48
1:A:559:PHE:HE2	1:A:564:GLN:HA	1.78	0.48
1:C:191:GLU:HG3	1:C:223:LEU:HD21	1.95	0.48
2:D:234:LYS:HD3	2:D:238:GLU:HG2	1.95	0.48
2:E:41:TYR:HE2	2:E:353:LYS:HG3	1.77	0.48
1:A:95:THR:H	1:A:216:LEU:HD22	1.77	0.48
1:A:358:ILE:HB	1:A:397:ALA:HB2	1.94	0.48
1:B:206:LYS:HE2	1:B:207:HIS:H	1.79	0.48
1:B:216:LEU:HD12	1:B:217:PRO:HD2	1.95	0.48
2:D:378:HIS:CE1	2:D:401:HIS:CD2	3.00	0.48
2:D:487:VAL:HG23	2:D:608:THR:CG2	2.43	0.48
2:E:468:ILE:HG23	2:E:472:GLN:HB2	1.95	0.48
1:A:33:THR:OG1	1:A:36:VAL:HG21	2.13	0.48
1:A:564:GLN:N	1:B:42:VAL:HG12	2.28	0.48
1:B:67:ALA:HB2	1:B:265:TYR:CD1	2.48	0.48
1:B:767:LEU:HD21	1:B:1004:LEU:HD11	1.93	0.48
1:C:105:ILE:O	1:C:238:PHE:HB2	2.14	0.48
1:C:190:ARG:O	1:C:192:PHE:N	2.44	0.48
1:C:244:LEU:HD23	1:C:244:LEU:H	1.78	0.48
1:C:353:TRP:HB3	1:C:400:PHE:CZ	2.48	0.48
2:D:320:LEU:HD22	2:D:380:GLN:OE1	2.13	0.48
2:D:396:ALA:HA	2:D:562:ARG:NH1	2.28	0.48
2:D:463:VAL:HB	2:D:468:ILE:HD12	1.95	0.48
2:E:177:ARG:NE	2:E:498:CYS:H	2.11	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:57:PRO:CD	1:A:270:LEU:HA	2.44	0.48
1:A:560:LEU:HB3	1:A:561:PRO:HD3	1.96	0.48
1:A:562:PHE:N	1:B:44:ARG:H	2.12	0.48
1:B:101:ILE:HG21	1:B:265:TYR:CG	2.49	0.48
1:C:490:PHE:CZ	1:C:492:LEU:HB2	2.48	0.48
1:C:554:GLU:HA	1:C:585:LEU:HD23	1.96	0.48
2:D:111:ASP:HB3	2:D:115:ARG:NH2	2.29	0.48
2:E:237:TYR:CE1	2:E:275:TRP:HH2	2.30	0.48
2:E:296:ALA:HB1	2:E:423:LEU:O	2.14	0.48
2:E:528:ALA:HB3	2:E:573:VAL:O	2.12	0.48
2:E:529:LEU:HD12	2:E:532:ILE:HG13	1.95	0.48
1:A:491:PRO:HG2	1:A:492:LEU:HD12	1.94	0.48
1:C:462:LYS:HG2	1:C:465:GLU:CD	2.33	0.48
2:D:356:PHE:HE2	2:D:383:MET:HG3	1.78	0.48
2:D:443:ALA:O	2:D:447:VAL:HG22	2.13	0.48
2:E:302:TRP:HB3	2:E:307:ILE:HG12	1.96	0.48
1:A:42:VAL:HG12	1:A:43:PHE:O	2.13	0.48
1:C:53:ASP:HB3	1:C:55:PHE:CE1	2.49	0.48
1:C:67:ALA:HB3	1:C:265:TYR:H	1.78	0.48
2:D:486:GLY:C	2:D:608:THR:HG23	2.34	0.48
2:E:135:PRO:HD2	2:E:163:TRP:CZ3	2.48	0.48
2:E:450:LEU:O	2:E:453:THR:HB	2.13	0.48
2:E:519:THR:HA	2:E:522:GLN:HG3	1.94	0.48
1:A:202:LYS:HD2	1:A:228:ASP:OD1	2.12	0.48
1:A:396:TYR:HB2	1:A:514:SER:HB2	1.96	0.48
1:B:65:PHE:HB3	1:B:80:PRO:CG	2.43	0.48
1:B:662:CYS:HB2	1:B:671:CYS:HB3	1.53	0.48
1:C:189:LEU:HD12	1:C:191:GLU:CD	2.34	0.48
1:C:1004:LEU:O	1:C:1007:TYR:HB3	2.13	0.48
2:D:376:MET:HE3	2:D:380:GLN:HG2	1.96	0.48
2:D:451:PRO:O	2:D:455:MET:HG2	2.14	0.48
2:E:273:ARG:CB	2:E:449:THR:HA	2.29	0.48
1:A:563:GLN:HB3	1:A:567:ARG:CG	2.43	0.48
1:B:189:LEU:HB3	1:B:208:THR:HG23	1.96	0.48
1:C:54:LEU:HD11	1:C:86:ASP:O	2.14	0.48
1:C:186:PHE:N	1:C:189:LEU:HA	2.28	0.48
1:C:421:TYR:CG	1:C:454:ARG:HB3	2.49	0.48
1:C:472:ILE:HD13	1:C:482:GLY:HA2	1.96	0.48
1:A:497:PHE:HD1	1:A:505:TYR:HD1	1.61	0.47
2:D:356:PHE:HB2	2:D:379:ILE:HG23	1.96	0.47
2:D:459:TRP:HE1	2:D:476:LYS:HG2	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:514:ARG:O	2:D:518:ARG:HG2	2.14	0.47
2:D:596:LYS:HA	2:D:600:ARG:HB3	1.96	0.47
1:A:55:PHE:HB3	1:A:57:PRO:HD3	1.96	0.47
1:A:328:ARG:HA	1:A:529:LYS:O	2.14	0.47
1:A:1004:LEU:O	1:A:1008:VAL:HG13	2.14	0.47
1:B:82:LEU:HB2	1:B:267:VAL:HG21	1.96	0.47
1:C:138:ASP:N	1:C:138:ASP:OD1	2.47	0.47
1:C:202:LYS:HA	1:C:227:VAL:O	2.15	0.47
1:C:392:PHE:HB2	1:C:524:VAL:HG21	1.95	0.47
1:C:999:GLY:HA2	1:C:1002:GLN:HG3	1.95	0.47
2:D:591:LEU:HD13	2:D:594:TRP:HE3	1.78	0.47
1:A:328:ARG:CB	1:A:542:ASN:H	2.20	0.47
1:A:973:ILE:HD12	1:A:973:ILE:H	1.80	0.47
1:B:172:SER:HB2	1:B:229:LEU:H	1.79	0.47
1:B:715:PRO:HA	1:B:1071:GLN:O	2.13	0.47
1:B:980:ILE:HG12	1:B:983:ARG:NH1	2.29	0.47
2:D:204:ARG:HE	2:D:461:TRP:HE1	1.62	0.47
2:D:364:VAL:HA	2:D:368:ASP:HB2	1.97	0.47
2:D:554:LEU:HA	2:D:557:MET:HB3	1.97	0.47
2:D:583:PRO:CD	2:D:584:LEU:H	2.25	0.47
2:E:28:PHE:CZ	2:E:80:ALA:HB2	2.49	0.47
2:E:88:ILE:HG21	2:E:93:ILE:HB	1.95	0.47
2:E:370:LEU:O	2:E:373:HIS:HB2	2.14	0.47
1:A:420:ASP:HA	1:A:462:LYS:O	2.15	0.47
1:A:521:PRO:O	1:A:523:THR:N	2.45	0.47
1:B:350:VAL:HG12	1:B:422:ASN:OD1	2.14	0.47
1:B:676:THR:HG22	1:B:690:GLN:HG2	1.96	0.47
2:D:307:ILE:HG21	2:D:369:PHE:CD1	2.50	0.47
2:D:414:THR:HG22	2:D:416:ASN:N	2.28	0.47
2:D:538:PRO:HG2	2:D:540:TYR:CE1	2.49	0.47
1:A:196:ASN:ND2	1:A:233:ILE:HB	2.29	0.47
1:A:564:GLN:HA	1:B:43:PHE:O	2.14	0.47
1:B:397:ALA:HA	1:B:513:LEU:HD23	1.96	0.47
1:B:458:LYS:HD2	1:B:474:GLN:H	1.79	0.47
2:D:240:LEU:CD1	2:D:444:LEU:HB2	2.44	0.47
2:D:240:LEU:HD12	2:D:444:LEU:HB2	1.95	0.47
2:E:324:THR:HG22	2:E:326:GLY:H	1.79	0.47
1:A:54:LEU:HA	1:A:86:ASP:HA	1.97	0.47
1:A:96:GLU:C	1:A:210:ILE:HB	2.34	0.47
2:D:226:VAL:HG11	2:D:454:TYR:CZ	2.49	0.47
2:D:460:ARG:HG2	2:D:460:ARG:HH11	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:522:GLN:HA	2:D:525:PHE:HB2	1.96	0.47
2:D:528:ALA:CB	2:D:575:GLY:HA3	2.44	0.47
2:D:589:GLU:HB2	2:D:590:PRO:HD3	1.96	0.47
2:E:107:VAL:HG11	2:E:193:ALA:HB3	1.95	0.47
2:E:431:ASP:HB3	2:E:434:THR:HB	1.97	0.47
1:A:34:ARG:HH21	1:A:219:GLY:HA2	1.79	0.47
1:A:44:ARG:HB3	1:A:283:GLY:CA	2.42	0.47
1:A:64:TRP:HE1	1:A:266:TYR:HE1	1.62	0.47
1:C:309:GLU:N	1:C:309:GLU:OE1	2.48	0.47
1:C:930:ALA:O	1:C:934:ILE:HG22	2.13	0.47
2:D:29:LEU:HA	2:D:32:PHE:CE1	2.50	0.47
2:D:240:LEU:O	2:D:244:VAL:HG22	2.14	0.47
2:D:370:LEU:HB3	2:D:409:SER:HA	1.96	0.47
2:E:29:LEU:HD22	2:E:96:GLN:OE1	2.14	0.47
2:E:407:ILE:HG13	2:E:526:GLN:CG	2.44	0.47
1:A:29:THR:H	1:A:62:VAL:CG1	2.19	0.47
1:A:329:PHE:CD1	1:A:528:LYS:HB2	2.49	0.47
1:A:1000:ARG:NH2	1:A:1004:LEU:HG	2.29	0.47
2:D:135:PRO:HD2	2:D:163:TRP:HD1	1.80	0.47
2:D:532:ILE:HG22	2:D:553:LYS:NZ	2.30	0.47
1:A:57:PRO:HG2	1:A:270:LEU:HA	1.97	0.47
1:A:328:ARG:CB	1:A:541:PHE:HA	2.40	0.47
1:A:400:PHE:HZ	1:A:410:ILE:HG23	1.78	0.47
1:A:565:PHE:O	1:A:567:ARG:HG2	2.15	0.47
1:B:99:ASN:HB3	1:B:102:ARG:CZ	2.45	0.47
1:B:410:ILE:HG22	1:B:510:VAL:HG11	1.97	0.47
1:B:758:SER:O	1:B:762:GLN:HG3	2.15	0.47
2:D:315:PHE:O	2:D:320:LEU:N	2.47	0.47
2:D:460:ARG:NH2	2:D:500:PRO:HB3	2.30	0.47
1:A:57:PRO:HG2	1:A:271:GLN:N	2.13	0.47
1:B:57:PRO:CD	1:B:270:LEU:HG	2.45	0.47
1:B:188:ASN:ND2	1:B:189:LEU:N	2.63	0.47
1:C:54:LEU:HD12	1:C:54:LEU:HA	1.57	0.47
1:C:228:ASP:O	1:C:229:LEU:HD12	2.15	0.47
2:D:166:GLU:O	2:D:170:SER:OG	2.29	0.47
2:D:190:MET:SD	2:D:191:ALA:N	2.88	0.47
2:D:315:PHE:HB3	2:D:320:LEU:HB2	1.97	0.47
1:A:53:ASP:HB3	1:A:87:GLY:O	2.16	0.46
1:A:271:GLN:O	1:A:273:ARG:NH1	2.47	0.46
1:B:83:PRO:O	1:B:267:VAL:HG11	2.15	0.46
1:B:1013:ILE:O	1:B:1017:GLU:HG2	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:86:ASP:C	1:C:270:LEU:HB3	2.35	0.46
2:D:369:PHE:O	2:D:373:HIS:ND1	2.48	0.46
2:D:481:LYS:CA	2:D:608:THR:HA	2.45	0.46
2:D:553:LYS:O	2:D:554:LEU:HD13	2.15	0.46
2:E:275:TRP:N	2:E:445:THR:O	2.46	0.46
2:E:526:GLN:HE22	2:E:544:ILE:CD1	2.26	0.46
1:A:47:VAL:O	1:A:279:TYR:HD2	1.99	0.46
1:A:423:TYR:HD1	1:A:464:PHE:HA	1.80	0.46
1:A:519:HIS:HB3	1:A:565:PHE:HB2	1.98	0.46
1:B:116:SER:HB3	1:B:135:PHE:CE2	2.50	0.46
1:C:403:ARG:HD3	1:C:406:GLU:HG2	1.96	0.46
2:D:244:VAL:HB	2:D:278:LEU:HB3	1.96	0.46
2:D:552:GLN:HA	2:D:555:HIS:ND1	2.30	0.46
1:A:55:PHE:HD2	1:A:86:ASP:H	1.60	0.46
1:A:213:VAL:C	1:A:264:ALA:HB2	2.35	0.46
1:A:330:PRO:HB3	1:A:544:ASN:ND2	2.28	0.46
1:B:1005:GLN:HA	1:B:1008:VAL:CB	2.36	0.46
1:C:433:VAL:HG12	1:C:512:VAL:HG22	1.97	0.46
2:D:158:TYR:HH	2:D:265:HIS:HD1	1.53	0.46
2:D:530:CYS:HB3	2:D:535:HIS:HD2	1.81	0.46
2:E:88:ILE:HD13	2:E:93:ILE:HG22	1.97	0.46
2:E:300:GLN:HE21	2:E:422:GLY:C	2.18	0.46
2:E:600:ARG:HA	2:E:600:ARG:HD2	1.74	0.46
1:A:44:ARG:CG	1:A:283:GLY:HA3	2.45	0.46
1:A:364:ASP:HB3	1:A:367:VAL:HB	1.97	0.46
1:A:374:PHE:HA	1:A:433:VAL:O	2.16	0.46
1:A:471:GLU:HG2	1:A:472:ILE:N	2.31	0.46
1:B:356:LYS:O	1:B:397:ALA:N	2.48	0.46
2:E:535:HIS:CE1	2:E:542:CYS:HA	2.50	0.46
1:A:1000:ARG:HG3	1:A:1001:LEU:H	1.81	0.46
1:B:825:LYS:HE3	1:B:942:PRO:HA	1.96	0.46
1:B:969:ASN:HB3	1:B:972:ALA:O	2.15	0.46
2:D:29:LEU:HD11	2:D:96:GLN:CG	2.42	0.46
2:E:278:LEU:CB	2:E:444:LEU:HD23	2.45	0.46
1:A:46:SER:HA	1:A:279:TYR:HB3	1.98	0.46
1:B:85:ASN:OD1	1:B:269:TYR:HD2	1.98	0.46
1:B:963:VAL:O	1:B:966:LEU:HB2	2.16	0.46
1:B:974:SER:OG	1:B:975:SER:N	2.47	0.46
1:C:1001:LEU:HA	1:C:1004:LEU:H	1.80	0.46
2:E:379:ILE:O	2:E:383:MET:HG3	2.14	0.46
1:A:47:VAL:HB	1:A:282:ASN:N	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:102:ARG:HB3	1:A:240:THR:O	2.16	0.46
1:A:420:ASP:HB3	1:A:457:ARG:NE	2.31	0.46
1:A:538:CYS:SG	1:A:549:THR:HG22	2.56	0.46
1:B:86:ASP:HB3	1:B:271:GLN:HA	1.96	0.46
1:C:88:VAL:HG13	1:C:270:LEU:HD11	1.97	0.46
1:C:560:LEU:N	1:C:563:GLN:OE1	2.48	0.46
2:D:480:MET:HA	2:D:608:THR:O	2.15	0.46
2:E:48:TRP:CZ3	2:E:52:THR:HG21	2.51	0.46
2:E:308:PHE:CD1	2:E:333:LEU:HD23	2.51	0.46
1:A:242:LEU:HD23	1:A:242:LEU:HA	1.69	0.46
1:A:390:LEU:HD11	1:B:983:ARG:HG2	1.97	0.46
1:A:1106:GLN:NE2	1:A:1111:GLU:OE2	2.48	0.46
1:B:118:LEU:HB3	1:B:133:PHE:CD1	2.51	0.46
1:C:458:LYS:HZ1	1:C:473:TYR:HE1	1.64	0.46
2:E:204:ARG:HE	2:E:461:TRP:HH2	1.62	0.46
2:E:276:THR:CG2	2:E:446:ILE:HB	2.45	0.46
2:E:371:THR:HA	2:E:374:HIS:HB3	1.97	0.46
2:E:384:ALA:HB1	2:E:559:SER:HA	1.98	0.46
1:A:220:PHE:HB2	1:A:285:ILE:HG22	1.98	0.46
1:B:447:GLY:HA2	1:B:497:PHE:O	2.16	0.46
1:C:461:LEU:HD12	1:C:465:GLU:HB3	1.97	0.46
1:C:994:ASP:HA	1:C:997:ILE:HG22	1.98	0.46
2:D:24:LEU:HD12	2:D:25:ALA:N	2.31	0.46
2:D:256:ILE:HG13	2:D:257:SER:O	2.15	0.46
2:D:363:LYS:O	2:D:368:ASP:HB2	2.15	0.46
2:D:381:TYR:CE2	2:D:385:TYR:HE2	2.34	0.46
2:D:482:ARG:H	2:D:609:ASP:C	2.19	0.46
2:D:513:ILE:HD12	2:D:516:TYR:HB3	1.97	0.46
1:A:38:TYR:HH	1:A:43:PHE:HD1	1.64	0.46
1:A:46:SER:C	1:A:280:ASN:H	2.19	0.46
1:A:365:TYR:CZ	1:A:392:PHE:HB2	2.51	0.46
1:A:425:LEU:HB2	1:A:426:PRO:HD2	1.98	0.46
1:C:204:TYR:HB2	1:C:223:LEU:HD13	1.98	0.46
2:D:177:ARG:NE	2:D:497:TYR:CD1	2.84	0.46
2:D:247:LYS:HA	2:D:282:MET:HB2	1.97	0.46
2:D:582:ARG:NH1	2:D:586:ASN:OD1	2.49	0.46
2:E:452:PHE:O	2:E:456:LEU:HG	2.16	0.46
2:E:529:LEU:HD12	2:E:529:LEU:HA	1.84	0.46
1:A:560:LEU:HB3	1:B:283:GLY:CA	2.44	0.45
1:B:33:THR:OG1	1:B:219:GLY:O	2.34	0.45
1:B:110:LEU:HB3	1:B:239:GLN:HE21	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:236:LEU:HD22	2:D:588:PHE:CZ	2.50	0.45
2:D:552:GLN:HA	2:D:555:HIS:HD1	1.81	0.45
2:E:407:ILE:HG12	2:E:522:GLN:C	2.36	0.45
1:B:57:PRO:HG2	1:B:269:TYR:H	1.82	0.45
1:B:131:CYS:SG	1:B:165:ASN:HB3	2.56	0.45
2:E:172:VAL:HG13	2:E:176:LEU:HD12	1.98	0.45
2:E:177:ARG:HG2	2:E:178:PRO:HD3	1.97	0.45
2:E:324:THR:HG22	2:E:326:GLY:N	2.32	0.45
2:E:411:SER:CB	2:E:526:GLN:HE21	2.28	0.45
1:B:193:VAL:HG21	1:B:204:TYR:HB2	1.98	0.45
2:D:183:TYR:CD1	2:D:186:LEU:HB3	2.51	0.45
2:D:454:TYR:HB3	2:D:455:MET:HE2	1.98	0.45
2:E:276:THR:O	2:E:276:THR:HG23	2.16	0.45
1:A:27:ALA:HB1	1:A:64:TRP:HB2	1.98	0.45
1:A:41:LYS:HD3	1:A:41:LYS:HA	1.77	0.45
1:A:131:CYS:HB2	1:A:167:THR:N	2.32	0.45
1:A:214:ARG:HA	1:A:264:ALA:HA	1.98	0.45
1:A:329:PHE:CE2	1:A:525:CYS:HB3	2.51	0.45
2:D:89:GLN:OE1	2:D:89:GLN:N	2.49	0.45
2:D:203:TRP:CH2	2:D:506:VAL:HA	2.50	0.45
1:A:348:ALA:HB3	1:A:352:ALA:O	2.17	0.45
1:A:425:LEU:N	1:A:463:PRO:O	2.50	0.45
1:A:656:VAL:HG13	1:A:695:TYR:HE2	1.81	0.45
1:B:109:THR:OG1	1:B:111:ASP:OD1	2.27	0.45
1:B:205:SER:HB3	1:B:226:LEU:HD21	1.99	0.45
1:B:216:LEU:HB2	1:B:266:TYR:CZ	2.52	0.45
2:D:285:PHE:HD2	2:D:440:LEU:HB2	1.82	0.45
2:E:19:SER:OG	2:E:20:THR:N	2.50	0.45
2:E:327:PHE:CD1	2:E:379:ILE:HG21	2.52	0.45
2:E:421:ILE:HG13	2:E:423:LEU:HG	1.97	0.45
2:E:525:PHE:HE1	2:E:574:VAL:HG23	1.81	0.45
1:A:63:THR:HG21	1:A:80:PRO:HG3	1.99	0.45
1:A:443:SER:OG	1:A:497:PHE:O	2.34	0.45
1:B:102:ARG:HD2	1:B:121:ASN:O	2.16	0.45
1:B:316:SER:OG	1:B:317:ASN:N	2.49	0.45
2:D:108:LEU:HB2	2:D:113:ARG:CZ	2.47	0.45
2:E:407:ILE:HG21	2:E:525:PHE:HB2	1.98	0.45
2:E:529:LEU:O	2:E:532:ILE:HB	2.16	0.45
1:A:42:VAL:HG12	1:A:44:ARG:HG3	1.99	0.45
1:A:82:LEU:HD21	1:A:239:GLN:HB2	1.99	0.45
1:A:116:SER:N	1:A:130:VAL:HG12	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1082:CYS:HA	1:A:1086:LYS:O	2.17	0.45
1:A:1114:ILE:HD12	1:A:1114:ILE:HA	1.79	0.45
2:E:48:TRP:CZ3	2:E:357:ARG:HD2	2.52	0.45
2:E:93:ILE:HA	2:E:96:GLN:HG2	1.97	0.45
2:E:344:CYS:HA	2:E:360:MET:HA	1.99	0.45
1:A:96:GLU:H	1:A:210:ILE:CG2	2.30	0.45
1:A:220:PHE:HB2	1:A:285:ILE:O	2.17	0.45
1:A:277:LEU:O	1:A:279:TYR:N	2.48	0.45
1:A:353:TRP:CZ3	1:A:355:ARG:HB3	2.51	0.45
1:B:676:THR:HA	1:B:690:GLN:HG2	1.97	0.45
1:B:930:ALA:O	1:B:934:ILE:HG22	2.16	0.45
2:D:29:LEU:HA	2:D:32:PHE:HD1	1.82	0.45
2:D:236:LEU:HD13	2:D:588:PHE:CE2	2.44	0.45
2:D:330:ASN:HB3	2:D:357:ARG:HG3	1.99	0.45
2:E:158:TYR:CD1	2:E:162:LEU:HD11	2.52	0.45
2:E:279:TYR:CD1	2:E:441:LYS:HE2	2.52	0.45
2:E:285:PHE:CE1	2:E:433:GLU:HB3	2.52	0.45
2:E:461:TRP:CE3	2:E:465:LYS:HE3	2.51	0.45
1:A:82:LEU:CD2	1:A:239:GLN:HB2	2.47	0.45
1:A:196:ASN:HA	1:A:200:TYR:O	2.17	0.45
1:B:981:LEU:HD23	1:B:981:LEU:HA	1.81	0.45
2:D:41:TYR:CE2	2:D:45:LEU:HD11	2.52	0.45
2:D:165:TRP:NE1	2:D:267:LEU:HD12	2.32	0.45
2:D:323:MET:HB2	2:D:327:PHE:CD2	2.51	0.45
2:D:486:GLY:CA	2:D:608:THR:HG23	2.47	0.45
2:E:162:LEU:HD23	2:E:265:HIS:ND1	2.32	0.45
1:A:189:LEU:O	1:A:191:GLU:N	2.46	0.45
1:A:193:VAL:HG22	1:A:195:LYS:HB2	1.99	0.45
1:A:412:PRO:HD3	1:A:512:VAL:HG11	1.99	0.45
1:B:63:THR:HG1	1:B:269:TYR:HH	1.56	0.45
1:B:116:SER:HB3	1:B:135:PHE:CZ	2.52	0.45
1:A:1007:TYR:O	1:A:1011:GLN:HG2	2.17	0.44
1:B:65:PHE:HB3	1:B:80:PRO:HG2	1.98	0.44
1:B:84:PHE:HE2	1:B:238:PHE:CD1	2.34	0.44
1:B:748:GLU:O	1:B:752:LEU:HD13	2.17	0.44
1:C:559:PHE:O	1:C:560:LEU:HD23	2.17	0.44
1:C:1111:GLU:O	1:C:1111:GLU:HG3	2.17	0.44
2:D:39:LEU:HD23	2:D:39:LEU:HA	1.78	0.44
2:D:247:LYS:HE3	2:D:278:LEU:O	2.17	0.44
2:D:372:ALA:HA	2:D:375:GLU:HG2	1.99	0.44
2:D:548:ARG:NH2	2:D:552:GLN:HE21	2.14	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:165:TRP:CE2	2:E:169:ARG:HD2	2.53	0.44
2:E:456:LEU:HD23	2:E:477:TRP:HH2	1.81	0.44
1:B:103:GLY:C	1:B:241:LEU:HB2	2.38	0.44
1:C:806:LEU:HD23	1:C:806:LEU:HA	1.84	0.44
2:D:321:PRO:HD2	2:D:380:GLN:OE1	2.17	0.44
2:D:524:GLN:HE21	2:D:578:THR:HB	1.81	0.44
2:D:533:ALA:HB2	2:D:554:LEU:HD11	1.98	0.44
2:E:435:ASP:O	2:E:439:LEU:HG	2.17	0.44
1:A:562:PHE:O	1:A:563:GLN:HG3	2.17	0.44
1:A:959:LEU:O	1:A:963:VAL:HG23	2.17	0.44
1:B:57:PRO:HG2	1:B:60:SER:HB2	2.00	0.44
1:B:118:LEU:HG	1:B:241:LEU:HD11	1.99	0.44
2:D:418:LEU:HD13	2:D:421:ILE:HD11	1.99	0.44
2:D:491:LEU:HD23	2:D:492:PRO:HD2	1.99	0.44
2:E:256:ILE:HG22	2:E:257:SER:O	2.16	0.44
2:E:279:TYR:HE1	2:E:290:ASN:HB2	1.83	0.44
1:A:210:ILE:O	1:A:210:ILE:HG13	2.18	0.44
1:A:420:ASP:HB2	1:A:462:LYS:H	1.83	0.44
1:B:56:LEU:HD11	1:B:268:GLY:N	2.32	0.44
2:D:482:ARG:HD2	2:D:610:TRP:CD1	2.53	0.44
2:D:549:GLU:HA	2:D:552:GLN:OE1	2.18	0.44
1:A:118:LEU:HD23	1:A:139:PRO:HB3	1.99	0.44
1:B:31:SER:O	1:B:34:ARG:HG2	2.17	0.44
1:B:494:SER:OG	1:B:495:TYR:N	2.50	0.44
2:D:165:TRP:HZ3	2:D:169:ARG:HD2	1.83	0.44
2:D:596:LYS:HA	2:D:596:LYS:HD3	1.64	0.44
2:E:539:LEU:O	2:E:542:CYS:HB2	2.18	0.44
1:A:196:ASN:O	1:A:235:ILE:HD11	2.18	0.44
1:A:198:ASP:OD1	1:A:198:ASP:O	2.36	0.44
1:A:562:PHE:H	1:B:44:ARG:H	1.65	0.44
1:A:954:GLN:OE1	1:A:1014:ARG:NH1	2.51	0.44
1:B:55:PHE:O	1:B:270:LEU:HD12	2.18	0.44
1:B:776:LYS:HE2	1:B:776:LYS:HA	1.99	0.44
1:B:1111:GLU:O	1:B:1111:GLU:HG3	2.16	0.44
2:D:111:ASP:HB3	2:D:115:ARG:HH21	1.83	0.44
2:D:165:TRP:HE1	2:D:267:LEU:HD12	1.82	0.44
2:D:227:GLU:O	2:D:231:THR:HG23	2.18	0.44
2:D:315:PHE:CA	2:D:318:VAL:HG22	2.47	0.44
2:D:532:ILE:HG22	2:D:553:LYS:HZ1	1.82	0.44
2:E:245:ARG:NH1	2:E:605:GLY:O	2.51	0.44
2:E:526:GLN:NE2	2:E:544:ILE:HD11	2.27	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:350:VAL:HG11	1:A:418:ILE:CG2	2.47	0.44
1:A:369:TYR:CE2	1:A:385:THR:HA	2.53	0.44
1:A:423:TYR:CD1	1:A:464:PHE:HA	2.53	0.44
1:A:1002:GLN:HA	1:A:1005:GLN:CG	2.48	0.44
1:B:188:ASN:HD22	1:B:189:LEU:N	2.14	0.44
1:C:353:TRP:HB3	1:C:400:PHE:CE2	2.53	0.44
1:C:776:LYS:HB2	1:C:776:LYS:HE2	1.63	0.44
2:D:95:ARG:HH12	2:D:565:PRO:CA	2.30	0.44
2:D:318:VAL:HB	2:D:555:HIS:CE1	2.53	0.44
1:A:480:CYS:O	1:A:483:VAL:HG22	2.18	0.44
1:A:565:PHE:HB3	1:A:567:ARG:HH21	1.83	0.44
1:A:697:MET:HA	1:A:697:MET:HE2	1.99	0.44
1:A:915:VAL:O	1:A:919:ASN:ND2	2.48	0.44
1:A:950:ASP:O	1:A:954:GLN:HB2	2.18	0.44
1:B:116:SER:O	1:B:132:GLU:HG2	2.17	0.44
1:C:189:LEU:O	1:C:191:GLU:N	2.46	0.44
2:D:452:PHE:CE2	2:D:456:LEU:HD11	2.53	0.44
2:D:591:LEU:HD13	2:D:594:TRP:CE3	2.53	0.44
2:E:306:ARG:HG3	2:E:310:GLU:OE1	2.18	0.44
2:E:327:PHE:HD1	2:E:379:ILE:HG21	1.81	0.44
1:A:235:ILE:N	1:A:235:ILE:HD12	2.33	0.44
1:A:420:ASP:OD1	1:A:462:LYS:HE2	2.18	0.44
1:A:425:LEU:HG	1:A:463:PRO:O	2.17	0.44
1:A:456:PHE:CB	1:A:473:TYR:HB2	2.46	0.44
1:C:356:LYS:HB2	1:C:356:LYS:NZ	2.33	0.44
1:C:433:VAL:HG12	1:C:512:VAL:HG13	2.00	0.44
2:D:285:PHE:CE2	2:D:440:LEU:HD13	2.53	0.44
2:D:296:ALA:HB1	2:D:302:TRP:CH2	2.51	0.44
2:D:417:HIS:C	2:D:417:HIS:HD1	2.21	0.44
1:A:563:GLN:HA	1:B:42:VAL:CG1	2.48	0.43
1:B:1001:LEU:HD12	1:B:1005:GLN:HG3	2.00	0.43
1:B:1004:LEU:O	1:B:1004:LEU:HG	2.18	0.43
1:C:131:CYS:N	1:C:166:CYS:HB3	2.33	0.43
2:D:228:HIS:CE1	2:D:232:GLN:HG3	2.53	0.43
2:D:234:LYS:NZ	2:D:604:VAL:HG13	2.32	0.43
2:D:544:ILE:HD11	2:D:554:LEU:HB2	2.00	0.43
2:E:245:ARG:HB2	2:E:262:LEU:HD11	1.99	0.43
2:E:268:GLY:C	2:E:274:PHE:HE2	2.21	0.43
1:A:33:THR:O	1:A:219:GLY:N	2.51	0.43
1:A:186:PHE:HB2	1:A:265:TYR:HB3	1.99	0.43
1:A:377:PHE:CE2	1:A:384:PRO:HB3	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:442:ASP:O	1:A:507:PRO:HD3	2.18	0.43
1:A:703:ASN:OD1	1:A:704:SER:N	2.51	0.43
1:B:457:ARG:NH2	1:B:465:GLU:OE1	2.52	0.43
2:D:174:LYS:HA	2:D:174:LYS:HD3	1.89	0.43
2:E:460:ARG:HH12	2:E:500:PRO:HB2	1.83	0.43
1:B:376:THR:HG23	1:B:378:LYS:HE3	2.00	0.43
1:B:411:ALA:HB3	1:B:414:GLN:HG3	2.00	0.43
1:B:980:ILE:HG12	1:B:983:ARG:HH12	1.83	0.43
1:C:79:ASN:OD1	1:C:79:ASN:N	2.50	0.43
1:C:577:ARG:HH21	1:C:582:LEU:HB2	1.83	0.43
2:D:28:PHE:CE2	2:D:100:LEU:HD21	2.54	0.43
2:D:168:TRP:CE2	2:D:172:VAL:HG21	2.53	0.43
2:D:226:VAL:HG12	2:D:230:PHE:CE2	2.53	0.43
2:D:539:LEU:HG	2:D:587:TYR:HE1	1.82	0.43
2:E:566:TRP:CE2	2:E:567:THR:HG22	2.53	0.43
1:A:45:SER:C	1:A:283:GLY:H	2.22	0.43
1:A:104:TRP:CE3	1:A:239:GLN:O	2.71	0.43
1:A:104:TRP:CE3	1:A:241:LEU:HB2	2.52	0.43
1:A:329:PHE:HB2	1:A:528:LYS:N	2.33	0.43
1:A:420:ASP:OD1	1:A:462:LYS:HB2	2.19	0.43
1:A:930:ALA:O	1:A:934:ILE:HG22	2.18	0.43
1:B:973:ILE:HB	1:B:983:ARG:HH22	1.83	0.43
2:D:183:TYR:O	2:D:187:LYS:HD3	2.19	0.43
1:A:49:HIS:O	1:A:276:LEU:HD12	2.19	0.43
1:A:53:ASP:O	1:A:54:LEU:HD22	2.18	0.43
1:A:58:PHE:C	1:A:60:SER:H	2.21	0.43
1:A:118:LEU:HA	1:A:241:LEU:HD22	1.99	0.43
1:A:420:ASP:HB2	1:A:461:LEU:HA	1.99	0.43
1:A:586:ASP:O	1:A:587:ILE:HD13	2.19	0.43
1:C:231:ILE:HG13	1:C:232:GLY:N	2.30	0.43
1:C:811:LYS:HD2	1:C:813:SER:O	2.18	0.43
1:C:819:GLU:OE2	1:C:1055:SER:OG	2.35	0.43
1:C:1145:LEU:HD12	1:C:1145:LEU:HA	1.91	0.43
2:D:315:PHE:O	2:D:319:GLY:N	2.51	0.43
2:D:482:ARG:HB2	2:D:610:TRP:CA	2.48	0.43
2:D:491:LEU:CD2	2:D:492:PRO:HD2	2.48	0.43
2:E:459:TRP:CH2	2:E:463:VAL:HG11	2.54	0.43
1:A:439:ASN:HA	1:A:503:VAL:HG23	2.00	0.43
1:A:559:PHE:HZ	1:A:566:GLY:HA3	1.83	0.43
1:A:1010:GLN:HA	1:A:1013:ILE:HB	2.01	0.43
1:B:443:SER:HA	1:B:497:PHE:HB3	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:80:ALA:HA	2:D:83:TYR:CD2	2.53	0.43
2:D:370:LEU:HD13	2:D:409:SER:HA	2.00	0.43
2:D:583:PRO:CD	2:D:584:LEU:N	2.82	0.43
2:E:243:TYR:CZ	2:E:247:LYS:HE2	2.52	0.43
2:E:514:ARG:O	2:E:518:ARG:CB	2.51	0.43
1:A:221:SER:HA	1:A:285:ILE:CB	2.49	0.43
1:A:377:PHE:CD2	1:A:384:PRO:HB3	2.54	0.43
1:A:432:CYS:HB2	1:A:513:LEU:HD21	2.01	0.43
1:A:758:SER:O	1:A:761:THR:HG22	2.19	0.43
1:B:429:PHE:CE1	1:B:512:VAL:HG13	2.53	0.43
1:B:456:PHE:CZ	2:E:27:THR:HG23	2.53	0.43
1:C:498:GLN:HG3	2:D:41:TYR:HE2	1.83	0.43
1:C:502:GLY:HA3	2:D:354:HIS:HB2	2.00	0.43
2:E:229:THR:O	2:E:233:ILE:HG13	2.18	0.43
2:E:460:ARG:NH1	2:E:500:PRO:O	2.51	0.43
2:E:555:HIS:O	2:E:558:LEU:HB3	2.17	0.43
1:A:1001:LEU:O	1:A:1001:LEU:HD23	2.18	0.43
2:D:240:LEU:HD22	2:D:440:LEU:HD12	2.00	0.43
2:E:60:GLN:O	2:E:64:ILE:HG12	2.18	0.43
2:E:227:GLU:HA	2:E:230:PHE:CB	2.49	0.43
2:E:384:ALA:HB1	2:E:559:SER:CA	2.49	0.43
2:E:419:LYS:HG3	2:E:428:PHE:HB3	2.00	0.43
1:A:96:GLU:HG2	1:A:264:ALA:H	1.84	0.43
1:A:96:GLU:HA	1:A:264:ALA:HB3	2.01	0.43
1:A:168:PHE:O	1:A:171:VAL:HG22	2.19	0.43
1:A:393:THR:HG21	1:A:518:LEU:HB2	2.00	0.43
1:A:456:PHE:HA	1:A:473:TYR:CD2	2.54	0.43
1:A:758:SER:HB2	1:A:761:THR:HG22	2.01	0.43
1:C:304:LYS:HB3	1:C:304:LYS:HE2	1.76	0.43
1:C:412:PRO:HB3	1:C:426:PRO:O	2.18	0.43
1:C:490:PHE:CE2	1:C:492:LEU:HB2	2.54	0.43
1:C:617:CYS:HB3	1:C:649:CYS:HB2	1.73	0.43
2:D:131:LYS:HB2	2:D:143:LEU:HA	2.01	0.43
2:D:335:GLU:HB3	2:D:361:CYS:SG	2.58	0.43
2:D:407:ILE:HD11	2:D:526:GLN:CD	2.39	0.43
1:A:46:SER:O	1:A:281:GLU:N	2.52	0.43
1:A:332:ILE:HD12	1:A:332:ILE:HA	1.91	0.43
1:A:419:ALA:HA	1:A:423:TYR:HD2	1.83	0.43
1:A:541:PHE:HD1	1:A:543:PHE:H	1.66	0.43
1:B:66:HIS:O	1:B:79:ASN:HA	2.19	0.43
1:C:79:ASN:HD21	1:C:239:GLN:HA	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:148:LEU:HD21	2:D:270:MET:SD	2.58	0.43
2:D:603:PHE:CG	2:D:604:VAL:N	2.87	0.43
2:E:177:ARG:CD	2:E:498:CYS:H	2.32	0.43
1:A:58:PHE:HA	1:A:91:TYR:CE2	2.54	0.42
1:A:60:SER:O	1:A:62:VAL:N	2.53	0.42
1:A:196:ASN:HB2	1:A:199:GLY:C	2.39	0.42
1:A:409:GLN:HA	1:A:429:PHE:CE2	2.54	0.42
1:B:141:LEU:HB3	1:B:242:LEU:O	2.19	0.42
1:C:455:LEU:HD13	1:C:491:PRO:O	2.18	0.42
2:D:28:PHE:O	2:D:31:LYS:HG3	2.19	0.42
2:D:193:ALA:O	2:D:195:ASN:N	2.44	0.42
2:D:200:GLY:O	2:D:204:ARG:HG2	2.19	0.42
2:D:437:ASN:O	2:D:440:LEU:HB3	2.19	0.42
2:D:487:VAL:HG23	2:D:608:THR:HG22	2.01	0.42
2:E:161:ARG:HH12	2:E:267:LEU:C	2.22	0.42
1:A:40:ASP:OD1	1:A:44:ARG:HD2	2.19	0.42
1:A:212:LEU:HD21	1:A:215:ASP:HB2	2.01	0.42
1:A:365:TYR:CE1	1:A:392:PHE:HB2	2.54	0.42
1:B:44:ARG:NH2	1:B:279:TYR:OH	2.52	0.42
1:B:63:THR:H	1:B:269:TYR:HE1	1.66	0.42
2:D:398:GLU:HA	2:D:401:HIS:ND1	2.34	0.42
2:E:110:ALA:HA	2:E:113:ARG:NE	2.18	0.42
2:E:199:TYR:HD2	2:E:465:LYS:NZ	2.18	0.42
2:E:200:GLY:HA2	2:E:465:LYS:HG3	2.00	0.42
2:E:494:ASP:OD1	2:E:494:ASP:N	2.53	0.42
1:B:172:SER:HB3	1:B:202:LYS:HA	2.01	0.42
1:B:676:THR:HG22	1:B:690:GLN:HE21	1.84	0.42
1:C:37:TYR:OH	1:C:54:LEU:O	2.24	0.42
1:C:113:LYS:HD2	1:C:113:LYS:HA	1.63	0.42
1:C:438:SER:O	1:C:441:LEU:HG	2.19	0.42
2:E:162:LEU:HG	2:E:266:LEU:HD21	2.02	0.42
2:E:275:TRP:HB2	2:E:448:GLY:N	2.34	0.42
1:A:46:SER:C	1:A:283:GLY:N	2.73	0.42
1:A:541:PHE:HD2	1:A:550:GLY:N	2.17	0.42
1:A:1126:CYS:HB2	1:A:1132:ILE:HD13	2.02	0.42
1:C:237:ARG:HE	1:C:238:PHE:N	2.17	0.42
1:C:349:SER:OG	1:C:352:ALA:N	2.49	0.42
2:D:52:THR:O	2:D:340:ARG:NH1	2.51	0.42
2:D:116:LEU:HD12	2:D:120:LEU:HD23	2.00	0.42
2:E:459:TRP:CZ3	2:E:463:VAL:HG21	2.54	0.42
2:E:574:VAL:HG12	2:E:576:ALA:N	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:45:SER:N	1:A:282:ASN:HB3	2.34	0.42
1:A:115:GLN:OE1	1:A:233:ILE:HG23	2.20	0.42
1:A:330:PRO:HD3	1:A:544:ASN:HA	2.01	0.42
1:A:995:ARG:HD2	1:A:995:ARG:O	2.19	0.42
1:B:172:SER:CB	1:B:202:LYS:HA	2.49	0.42
1:C:82:LEU:CB	1:C:269:TYR:HB2	2.49	0.42
2:D:521:TYR:HB3	2:D:525:PHE:CE1	2.54	0.42
2:E:306:ARG:NE	2:E:310:GLU:OE1	2.52	0.42
2:E:529:LEU:HA	2:E:532:ILE:HB	2.01	0.42
1:A:55:PHE:HE1	1:A:275:PHE:CD2	2.37	0.42
1:B:216:LEU:HD13	1:B:266:TYR:CD2	2.54	0.42
1:C:201:PHE:HB2	1:C:229:LEU:HB2	2.01	0.42
1:C:474:GLN:NE2	1:C:479:PRO:HA	2.34	0.42
1:A:221:SER:CA	1:A:285:ILE:HB	2.49	0.42
1:A:959:LEU:HA	1:A:962:LEU:HD22	2.01	0.42
1:A:974:SER:HB3	1:A:980:ILE:HD11	2.01	0.42
1:A:1145:LEU:HD23	1:A:1145:LEU:HA	1.88	0.42
1:B:273:ARG:H	1:B:273:ARG:HG2	1.72	0.42
1:C:88:VAL:HG21	1:C:196:ASN:H	1.84	0.42
2:D:26:LYS:HA	2:D:26:LYS:HD3	1.73	0.42
2:D:47:SER:O	2:D:50:TYR:HB3	2.20	0.42
2:E:269:ASP:HB2	2:E:274:PHE:CZ	2.54	0.42
1:A:378:LYS:O	1:A:429:PHE:HB3	2.19	0.42
1:A:438:SER:O	1:A:438:SER:OG	2.36	0.42
1:A:561:PRO:HD3	1:B:283:GLY:HA3	2.01	0.42
1:A:1116:THR:HG23	1:A:1118:ASP:H	1.84	0.42
1:B:54:LEU:HD23	1:B:54:LEU:H	1.84	0.42
1:C:53:ASP:HB3	1:C:55:PHE:CZ	2.55	0.42
2:D:144:LEU:HD13	2:D:168:TRP:CH2	2.55	0.42
2:D:146:PRO:O	2:D:150:ASP:CB	2.68	0.42
2:D:151:ILE:HB	2:D:152:MET:HE2	2.02	0.42
2:D:240:LEU:HD13	2:D:240:LEU:HA	1.67	0.42
2:D:553:LYS:HE2	2:D:553:LYS:HB2	1.88	0.42
2:E:177:ARG:HE	2:E:498:CYS:N	2.16	0.42
1:A:980:ILE:HG21	1:A:992:GLN:NE2	2.35	0.42
1:B:560:LEU:HB2	1:B:563:GLN:NE2	2.34	0.42
1:C:202:LYS:HE2	1:C:225:PRO:HB3	2.01	0.42
1:C:448:ASN:C	1:C:449:TYR:HD2	2.23	0.42
1:C:748:GLU:CD	1:C:748:GLU:H	2.23	0.42
2:E:407:ILE:HD12	2:E:410:LEU:HB2	2.01	0.42
2:E:456:LEU:O	2:E:460:ARG:HG2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:277:LEU:C	1:A:285:ILE:HD11	2.40	0.42
1:A:961:THR:O	1:A:965:GLN:CB	2.45	0.42
1:B:57:PRO:CG	1:B:270:LEU:HG	2.50	0.42
1:B:335:LEU:N	1:B:364:ASP:OD2	2.52	0.42
1:C:455:LEU:HD11	1:C:493:GLN:HB3	2.01	0.42
2:D:203:TRP:CH2	2:D:509:ASP:HA	2.55	0.42
2:D:209:GLU:HB2	2:D:211:TRP:HD1	1.85	0.42
2:D:227:GLU:HA	2:D:230:PHE:HD2	1.85	0.42
2:D:456:LEU:HA	2:D:459:TRP:HE3	1.85	0.42
2:E:276:THR:HG22	2:E:447:VAL:N	2.34	0.42
2:E:414:THR:HB	2:E:541:LYS:HG2	2.01	0.42
1:A:92:PHE:CD2	1:A:191:GLU:OE2	2.73	0.41
1:A:220:PHE:CB	1:A:285:ILE:HG22	2.49	0.41
1:A:416:GLY:O	1:A:419:ALA:HB3	2.19	0.41
1:A:562:PHE:HA	1:B:42:VAL:O	2.20	0.41
1:C:399:SER:HA	1:C:511:VAL:HA	2.01	0.41
2:D:247:LYS:HZ1	2:D:248:LEU:N	2.18	0.41
2:D:306:ARG:HD2	2:D:310:GLU:OE1	2.20	0.41
2:D:419:LYS:HG3	2:D:420:ASN:N	2.35	0.41
2:E:380:GLN:HB3	2:E:558:LEU:CD2	2.44	0.41
1:A:29:THR:O	1:A:62:VAL:HB	2.20	0.41
1:A:202:LYS:HB3	1:A:204:TYR:CZ	2.55	0.41
1:A:346:ARG:HE	1:A:348:ALA:HB2	1.85	0.41
1:A:402:ILE:HB	1:A:410:ILE:HG13	2.02	0.41
1:A:1038:LYS:HE3	1:A:1038:LYS:HB3	1.93	0.41
1:B:270:LEU:HA	1:B:270:LEU:HD23	1.68	0.41
1:B:521:PRO:HD2	1:C:170:TYR:CD2	2.55	0.41
1:C:85:ASN:ND2	1:C:271:GLN:OE1	2.39	0.41
1:C:201:PHE:HE2	1:C:231:ILE:HD13	1.85	0.41
1:C:1001:LEU:HD13	1:C:1004:LEU:HD23	2.02	0.41
2:D:144:LEU:HB2	2:D:168:TRP:CZ3	2.56	0.41
2:D:460:ARG:NE	2:D:460:ARG:HA	2.35	0.41
2:D:486:GLY:H	2:D:608:THR:CG2	2.33	0.41
1:A:35:GLY:HA3	1:A:189:LEU:CD2	2.48	0.41
1:A:57:PRO:HB3	1:A:273:ARG:CD	2.50	0.41
1:A:91:TYR:O	1:A:92:PHE:CD1	2.73	0.41
1:C:376:THR:N	1:C:435:ALA:O	2.53	0.41
1:C:423:TYR:HH	1:C:464:PHE:HE1	1.67	0.41
2:D:112:LYS:HA	2:D:115:ARG:HG2	2.02	0.41
2:D:247:LYS:CD	2:D:281:LEU:H	2.33	0.41
2:D:269:ASP:HB3	2:D:277:ASN:HD22	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:555:HIS:HA	2:D:558:LEU:HG	2.01	0.41
2:E:134:ASN:ND2	2:E:137:ASN:HB3	2.35	0.41
2:E:514:ARG:NH1	2:E:521:TYR:CE2	2.86	0.41
1:A:55:PHE:CE1	1:A:275:PHE:CE2	3.09	0.41
1:A:386:LYS:HE2	1:A:386:LYS:HB2	1.86	0.41
1:A:412:PRO:HA	1:A:464:PHE:CD1	2.55	0.41
1:A:512:VAL:HG12	1:A:513:LEU:H	1.85	0.41
1:A:822:LEU:HD23	1:A:945:LEU:HD11	2.01	0.41
1:C:131:CYS:HA	1:C:166:CYS:N	2.35	0.41
2:D:56:ASP:O	2:D:60:GLN:HG2	2.19	0.41
2:D:157:ASP:OD1	2:D:160:GLU:N	2.46	0.41
2:D:285:PHE:CG	2:D:436:ILE:HG22	2.56	0.41
2:E:271:TRP:HZ2	2:E:504:PHE:HB3	1.85	0.41
2:E:332:MET:HB3	2:E:358:ILE:H	1.85	0.41
2:E:381:TYR:CD1	2:E:558:LEU:HD12	2.55	0.41
2:E:592:PHE:HA	2:E:595:LEU:HD12	2.03	0.41
1:A:28:TYR:HB3	1:A:61:ASN:HA	2.01	0.41
1:A:656:VAL:HG12	1:A:693:ILE:HA	2.03	0.41
1:B:141:LEU:HD13	1:B:241:LEU:HD22	2.03	0.41
1:C:56:LEU:HB2	1:C:91:TYR:HB2	2.02	0.41
1:C:117:LEU:HD21	1:C:233:ILE:HD12	2.03	0.41
1:C:577:ARG:HE	1:C:582:LEU:HA	1.85	0.41
2:D:192:ARG:HD2	2:D:192:ARG:HA	1.87	0.41
2:D:247:LYS:N	2:D:282:MET:HB2	2.36	0.41
2:E:42:GLN:O	2:E:45:LEU:HG	2.20	0.41
1:A:42:VAL:CG1	1:A:44:ARG:HG3	2.50	0.41
1:B:40:ASP:OD2	1:B:40:ASP:N	2.54	0.41
1:C:444:LYS:HE2	1:C:444:LYS:HB2	1.84	0.41
1:C:1001:LEU:HD12	1:C:1005:GLN:N	2.36	0.41
2:D:29:LEU:HD23	2:D:33:ASN:HD21	1.86	0.41
2:D:109:SER:O	2:D:113:ARG:HB3	2.20	0.41
2:E:243:TYR:O	2:E:247:LYS:HG2	2.21	0.41
2:E:259:THR:HG22	2:E:603:PHE:CE2	2.55	0.41
2:E:267:LEU:H	2:E:267:LEU:HD12	1.85	0.41
1:A:95:THR:HA	1:A:210:ILE:HG22	2.03	0.41
1:C:167:THR:OG1	1:C:168:PHE:N	2.54	0.41
2:D:273:ARG:HH11	2:D:273:ARG:C	2.23	0.41
2:D:305:ARG:NH1	2:D:308:PHE:HB2	2.36	0.41
2:D:306:ARG:O	2:D:310:GLU:HG2	2.21	0.41
2:D:459:TRP:HB3	2:D:460:ARG:NH2	2.35	0.41
2:E:73:TYR:CE2	2:E:100:LEU:HA	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:271:TRP:HB2	2:E:273:ARG:HE	1.86	0.41
2:E:320:LEU:HA	2:E:321:PRO:HD3	1.94	0.41
2:E:348:ALA:HA	2:E:358:ILE:HD12	2.03	0.41
1:B:57:PRO:HG3	1:B:270:LEU:HG	2.02	0.41
1:B:97:LYS:O	1:B:188:ASN:N	2.53	0.41
1:B:172:SER:O	1:B:227:VAL:N	2.50	0.41
1:B:553:THR:O	1:B:586:ASP:N	2.54	0.41
1:C:67:ALA:HA	1:C:78:ASP:O	2.20	0.41
2:E:144:LEU:HD12	2:E:171:GLU:OE2	2.21	0.41
1:A:54:LEU:HD12	1:A:84:PHE:CD1	2.56	0.41
1:A:55:PHE:H	1:A:86:ASP:N	2.18	0.41
1:A:119:ILE:HG13	1:A:127:VAL:N	2.33	0.41
1:A:216:LEU:HD12	1:A:266:TYR:HB2	2.03	0.41
1:A:369:TYR:HA	1:A:377:PHE:CE1	2.56	0.41
1:A:990:GLU:OE1	1:C:995:ARG:NH2	2.54	0.41
1:A:1000:ARG:HH22	1:A:1004:LEU:HG	1.86	0.41
1:B:30:ASN:OD1	1:B:30:ASN:N	2.54	0.41
1:B:50:SER:HB2	1:B:276:LEU:HD12	2.02	0.41
1:B:57:PRO:HB2	1:B:60:SER:HB2	2.02	0.41
1:B:95:THR:HG22	1:B:96:GLU:H	1.86	0.41
1:B:754:LEU:HD12	1:B:754:LEU:HA	1.86	0.41
1:B:877:LEU:O	1:B:881:THR:HG22	2.21	0.41
1:B:1005:GLN:HG2	1:B:1008:VAL:CB	2.51	0.41
1:C:54:LEU:CD1	1:C:87:GLY:HA2	2.51	0.41
1:C:263:ALA:O	1:C:265:TYR:HD1	2.02	0.41
1:C:345:THR:OG1	1:C:346:ARG:N	2.53	0.41
1:C:393:THR:OG1	1:C:516:GLU:O	2.34	0.41
1:C:412:PRO:HD3	1:C:425:LEU:HD22	2.02	0.41
1:C:421:TYR:HE1	1:C:457:ARG:HB3	1.86	0.41
1:C:436:TRP:NE1	1:C:509:ARG:HB2	2.36	0.41
2:D:134:ASN:HD22	2:D:138:PRO:HA	1.85	0.41
2:D:271:TRP:CE2	2:D:273:ARG:HB2	2.56	0.41
2:D:305:ARG:HD2	2:D:305:ARG:HA	1.93	0.41
2:D:307:ILE:HD13	2:D:310:GLU:OE1	2.21	0.41
2:D:354:HIS:HA	2:D:356:PHE:CE1	2.56	0.41
2:D:446:ILE:HD13	2:D:446:ILE:HA	1.93	0.41
2:D:593:THR:O	2:D:596:LYS:HB2	2.21	0.41
2:D:610:TRP:CD2	2:D:612:PRO:HG3	2.56	0.41
2:E:36:ALA:HB1	2:E:69:TRP:HZ3	1.86	0.41
2:E:291:ILE:O	2:E:293:VAL:N	2.53	0.41
2:E:296:ALA:HB1	2:E:423:LEU:C	2.41	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:410:ILE:HD13	1:A:410:ILE:HA	1.91	0.41
1:A:675:GLN:HG3	1:A:689:SER:C	2.42	0.41
1:A:916:LEU:HD12	1:A:923:ILE:HD12	2.02	0.41
1:A:1004:LEU:O	1:A:1008:VAL:HG22	2.21	0.41
1:B:201:PHE:HB2	1:B:231:ILE:HG12	2.02	0.41
1:C:196:ASN:HA	1:C:199:GLY:HA2	2.03	0.41
1:C:994:ASP:OD1	1:C:994:ASP:C	2.60	0.41
2:D:209:GLU:HA	2:D:211:TRP:HE1	1.86	0.41
2:D:458:LYS:HA	2:D:461:TRP:CE3	2.56	0.41
2:E:156:LYS:HZ3	2:E:280:PRO:HG3	1.85	0.41
2:E:380:GLN:O	2:E:384:ALA:HB2	2.21	0.41
1:A:101:ILE:HA	1:A:242:LEU:HD21	2.02	0.40
1:A:390:LEU:HA	1:A:390:LEU:HD23	1.89	0.40
1:A:560:LEU:O	1:B:43:PHE:C	2.59	0.40
1:B:489:TYR:CD1	2:E:31:LYS:HE2	2.56	0.40
1:C:170:TYR:HB3	1:C:230:PRO:HG2	2.03	0.40
2:D:32:PHE:CZ	2:D:100:LEU:HD13	2.56	0.40
2:D:418:LEU:O	2:D:421:ILE:HG13	2.20	0.40
2:E:274:PHE:HB3	2:E:445:THR:HA	2.02	0.40
2:E:341:LYS:HD3	2:E:341:LYS:HA	1.93	0.40
1:A:31:SER:HB2	1:A:91:TYR:OH	2.21	0.40
1:A:196:ASN:HB2	1:A:199:GLY:O	2.21	0.40
1:A:330:PRO:HG3	1:A:544:ASN:OD1	2.22	0.40
1:A:599:THR:HB	1:A:608:VAL:HG22	2.03	0.40
1:A:984:LEU:HA	1:A:984:LEU:HD23	1.78	0.40
1:B:101:ILE:HG22	1:B:104:TRP:HZ2	1.85	0.40
1:C:360:ASN:ND2	1:C:523:THR:HA	2.36	0.40
1:C:379:CYS:HB2	1:C:432:CYS:HB2	1.50	0.40
1:C:400:PHE:O	1:C:510:VAL:N	2.50	0.40
1:C:403:ARG:HG2	1:C:404:GLY:N	2.36	0.40
1:C:434:ILE:HB	1:C:511:VAL:HG13	2.04	0.40
1:C:439:ASN:HA	1:C:442:ASP:OD1	2.21	0.40
1:C:454:ARG:HA	1:C:454:ARG:HD3	1.78	0.40
1:C:980:ILE:HG23	1:C:984:LEU:CD1	2.46	0.40
1:C:988:GLU:O	1:C:991:VAL:HG12	2.21	0.40
2:D:148:LEU:O	2:D:152:MET:HG2	2.21	0.40
2:D:204:ARG:N	2:D:204:ARG:HD3	2.37	0.40
2:D:265:HIS:CE1	2:D:266:LEU:HD11	2.56	0.40
2:E:26:LYS:O	2:E:29:LEU:HG	2.21	0.40
2:E:48:TRP:HZ2	2:E:340:ARG:NH2	2.20	0.40
2:E:397:ASN:ND2	2:E:566:TRP:HB2	2.33	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:465:LYS:N	2:E:465:LYS:HD3	2.36	0.40
1:A:64:TRP:HB3	1:A:214:ARG:NH2	2.21	0.40
1:A:212:LEU:HD12	1:A:212:LEU:HA	1.97	0.40
1:A:279:TYR:HE1	1:A:285:ILE:HG12	1.81	0.40
1:A:328:ARG:HB3	1:A:541:PHE:CA	2.44	0.40
1:A:401:VAL:HG21	1:A:451:TYR:CE1	2.56	0.40
1:B:55:PHE:C	1:B:270:LEU:HD12	2.42	0.40
1:B:85:ASN:HB3	1:B:86:ASP:H	1.44	0.40
1:B:108:THR:HG22	1:B:236:THR:HG23	2.03	0.40
1:C:1001:LEU:O	1:C:1005:GLN:N	2.50	0.40
2:D:161:ARG:HH21	2:D:165:TRP:N	2.19	0.40
2:D:494:ASP:C	2:D:494:ASP:OD2	2.60	0.40
2:D:519:THR:O	2:D:522:GLN:HG2	2.21	0.40
2:E:184:VAL:HG11	2:E:464:PHE:CD1	2.56	0.40
2:E:269:ASP:HB2	2:E:274:PHE:CE2	2.56	0.40
2:E:372:ALA:HA	2:E:375:GLU:HG3	2.02	0.40
1:A:46:SER:N	1:A:284:THR:HG22	2.36	0.40
1:A:93:ALA:C	1:A:216:LEU:HD13	2.41	0.40
1:A:97:LYS:CA	1:A:210:ILE:HD12	2.51	0.40
1:A:350:VAL:CG1	1:A:422:ASN:HD22	2.34	0.40
1:C:505:TYR:HD1	2:D:353:LYS:HG3	1.86	0.40
2:D:120:LEU:HD13	2:D:120:LEU:HA	1.91	0.40
2:D:194:ASN:HB3	2:D:199:TYR:CE1	2.56	0.40
2:D:314:PHE:CE1	2:D:544:ILE:HB	2.56	0.40
2:D:571:GLU:HA	2:D:577:LYS:HZ1	1.86	0.40
1:A:33:THR:HG1	1:A:36:VAL:HG21	1.85	0.40
1:A:120:VAL:HB	1:A:127:VAL:HG21	2.03	0.40
1:A:389:ASP:O	1:B:982:SER:HB2	2.22	0.40
1:A:418:ILE:CD1	1:A:454:ARG:H	2.35	0.40
1:A:423:TYR:CA	1:A:465:GLU:H	2.34	0.40
1:A:1142:GLN:N	1:A:1143:PRO:HD2	2.37	0.40
1:C:54:LEU:HD12	1:C:87:GLY:HA2	2.03	0.40
1:C:451:TYR:O	1:C:495:TYR:N	2.54	0.40
2:D:180:TYR:O	2:D:184:VAL:HG23	2.22	0.40
2:D:312:GLU:CD	2:D:322:ASN:HD21	2.24	0.40
2:D:438:PHE:CD1	2:D:439:LEU:HD22	2.57	0.40
2:D:523:PHE:CD1	2:D:580:ASP:HB2	2.57	0.40
2:E:35:GLU:O	2:E:39:LEU:HG	2.22	0.40
2:E:355:ASP:OD2	2:E:357:ARG:NH2	2.45	0.40
2:E:457:GLU:O	2:E:461:TRP:HB3	2.21	0.40
2:E:520:ILE:HD13	2:E:520:ILE:HA	1.95	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	985/1269 (78%)	812 (82%)	171 (17%)	2 (0%)	44	71
1	B	940/1269 (74%)	837 (89%)	103 (11%)	0	100	100
1	C	940/1269 (74%)	847 (90%)	93 (10%)	0	100	100
2	D	594/771 (77%)	504 (85%)	86 (14%)	4 (1%)	19	47
2	E	594/771 (77%)	523 (88%)	69 (12%)	2 (0%)	37	65
All	All	4053/5349 (76%)	3523 (87%)	522 (13%)	8 (0%)	45	71

All (8) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	E	388	GLN
2	D	600	ARG
1	A	85	ASN
2	D	490	PRO
2	D	280	PRO
1	A	39	PRO
2	E	146	PRO
2	D	612	PRO

### 5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	877/1101 (80%)	847 (97%)	30 (3%)	32	58
1	B	839/1101 (76%)	820 (98%)	19 (2%)	45	68
1	C	839/1101 (76%)	811 (97%)	28 (3%)	33	59
2	D	524/676 (78%)	483 (92%)	41 (8%)	10	33
2	E	524/676 (78%)	500 (95%)	24 (5%)	23	50
All	All	3603/4655 (77%)	3461 (96%)	142 (4%)	30	54

All (142) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	59	PHE
1	A	110	LEU
1	A	130	VAL
1	A	133	PHE
1	A	166	CYS
1	A	168	PHE
1	A	204	TYR
1	A	238	PHE
1	A	242	LEU
1	A	318	PHE
1	A	369	TYR
1	A	377	PHE
1	A	421	TYR
1	A	454	ARG
1	A	465	GLU
1	A	466	ARG
1	A	473	TYR
1	A	492	LEU
1	A	506	GLN
1	A	532	ASN
1	A	557	LYS
1	A	568	ASP
1	A	695	TYR
1	A	749	CYS
1	A	775	ASP
1	A	906	PHE
1	A	939	SER
1	A	979	ASP
1	A	1000	ARG
1	A	1005	GLN
1	B	64	TRP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	B	84	PHE
1	B	106	PHE
1	B	200	TYR
1	B	221	SER
1	B	238	PHE
1	B	346	ARG
1	B	361	CYS
1	B	377	PHE
1	B	457	ARG
1	B	490	PHE
1	B	565	PHE
1	B	731	MET
1	B	820	ASP
1	B	825	LYS
1	B	935	GLN
1	B	996	LEU
1	B	1000	ARG
1	B	1050	MET
1	C	59	PHE
1	C	65	PHE
1	C	104	TRP
1	C	135	PHE
1	C	215	ASP
1	C	237	ARG
1	C	277	LEU
1	C	287	ASP
1	C	319	ARG
1	C	364	ASP
1	C	377	PHE
1	C	386	LYS
1	C	387	LEU
1	C	398	ASP
1	C	400	PHE
1	C	432	CYS
1	C	436	TRP
1	C	453	PHE
1	C	457	ARG
1	C	495	TYR
1	C	556	ASN
1	C	578	ASP
1	C	582	LEU
1	C	745	ASP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	C	754	LEU
1	C	820	ASP
1	C	935	GLN
1	C	994	ASP
2	D	32	PHE
2	D	45	LEU
2	D	49	ASN
2	D	50	TYR
2	D	105	SER
2	D	124	SER
2	D	131	LYS
2	D	137	ASN
2	D	141	CYS
2	D	180	TYR
2	D	190	MET
2	D	228	HIS
2	D	236	LEU
2	D	237	TYR
2	D	243	TYR
2	D	249	MET
2	D	266	LEU
2	D	288	LYS
2	D	295	ASP
2	D	302	TRP
2	D	314	PHE
2	D	323	MET
2	D	340	ARG
2	D	345	HIS
2	D	349	TRP
2	D	350	ASP
2	D	366	MET
2	D	367	ASP
2	D	393	ARG
2	D	428	PHE
2	D	456	LEU
2	D	474	MET
2	D	489	GLU
2	D	494	ASP
2	D	497	TYR
2	D	523	PHE
2	D	540	TYR
2	D	542	CYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	D	572	ARG
2	D	600	ARG
2	D	610	TRP
2	E	32	PHE
2	E	47	SER
2	E	50	TYR
2	E	73	TYR
2	E	90	ASP
2	E	123	MET
2	E	202	TYR
2	E	203	TRP
2	E	217	TYR
2	E	237	TYR
2	E	285	PHE
2	E	367	ASP
2	E	374	HIS
2	E	409	SER
2	E	438	PHE
2	E	454	TYR
2	E	461	TRP
2	E	504	PHE
2	E	515	TYR
2	E	516	TYR
2	E	557	MET
2	E	572	ARG
2	E	582	ARG
2	E	606	TRP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (20) such sidechains are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	422	ASN
1	A	544	ASN
1	A	564	GLN
1	A	580	GLN
1	B	188	ASN
1	B	207	HIS
1	B	690	GLN
1	B	1002	GLN
2	D	33	ASN
2	D	49	ASN
2	D	134	ASN

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Mol	Chain	Res	Type
2	D	374	HIS
2	D	378	HIS
2	D	524	GLN
2	E	300	GLN
2	E	378	HIS
2	E	401	HIS
2	E	526	GLN
2	E	586	ASN
2	E	607	ASN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

### 5.6 Ligand geometry [i](#)

There are no ligands in this entry.

### 5.7 Other polymers [i](#)

There are no such residues in this entry.

### 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

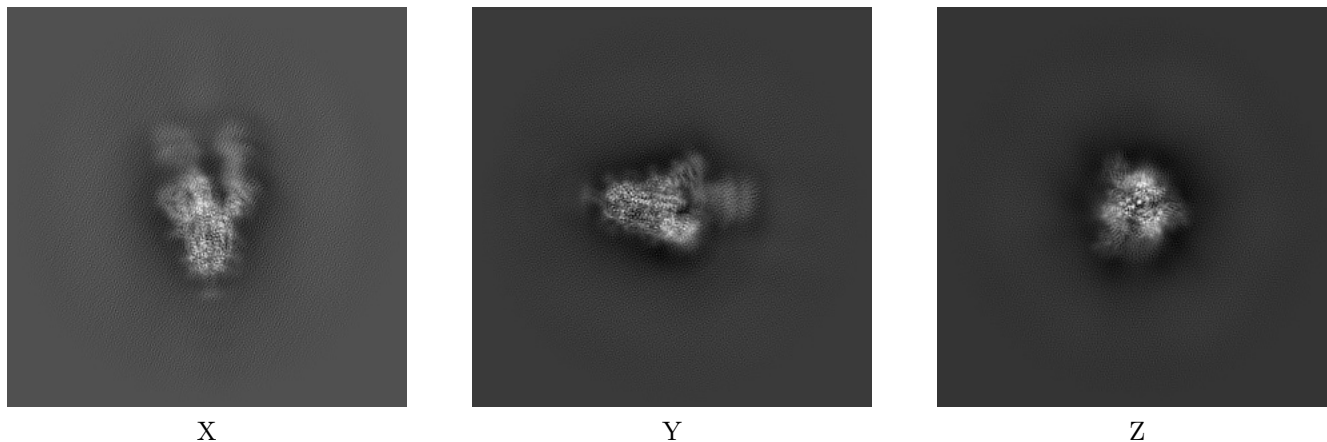
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-40976. These allow visual inspection of the internal detail of the map and identification of artifacts.

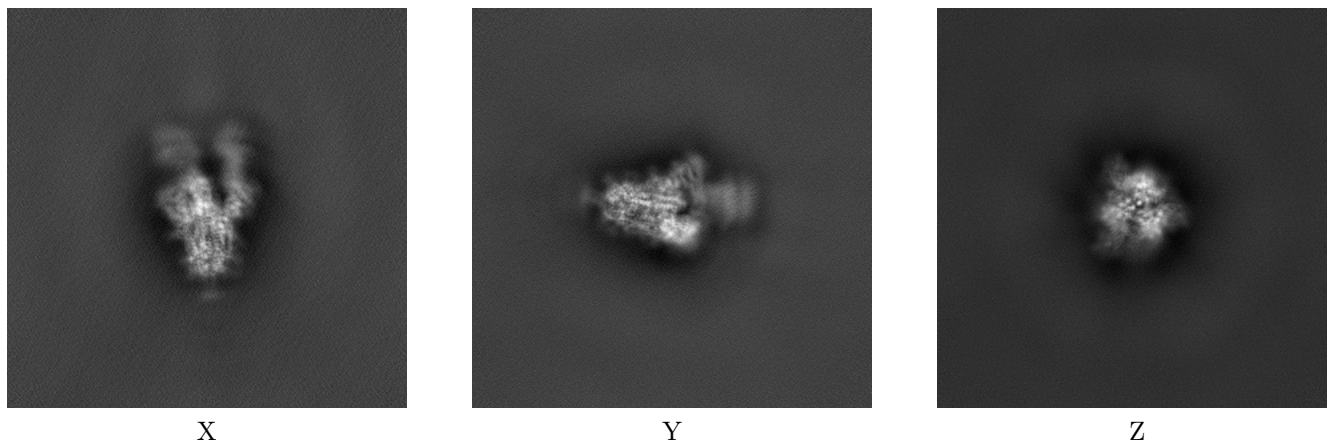
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

### 6.1 Orthogonal projections [i](#)

#### 6.1.1 Primary map



#### 6.1.2 Raw map

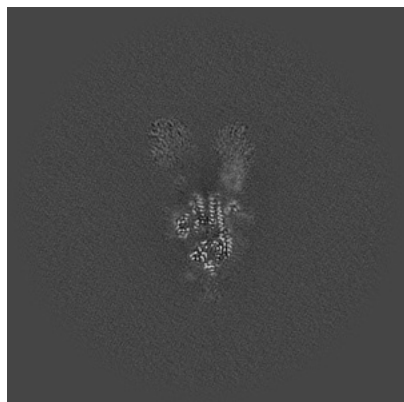


The images above show the map projected in three orthogonal directions.

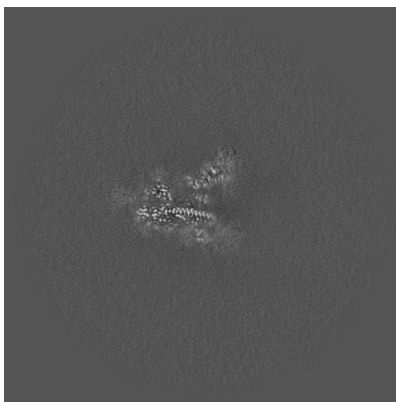


## 6.2 Central slices [i](#)

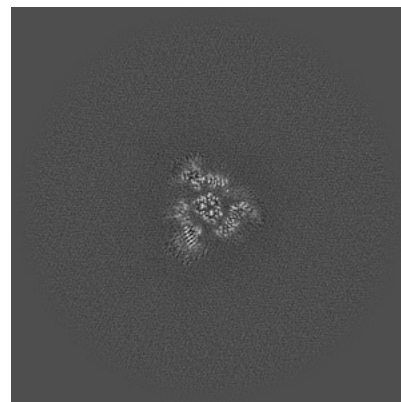
### 6.2.1 Primary map



X Index: 256

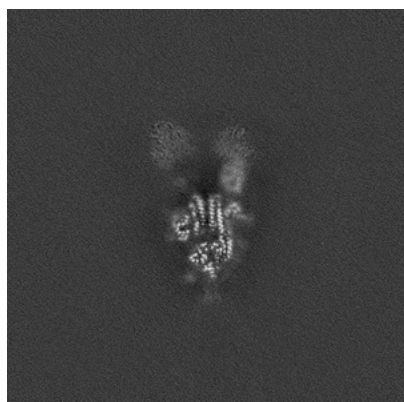


Y Index: 256

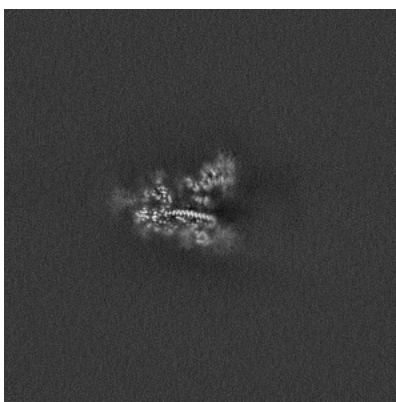


Z Index: 256

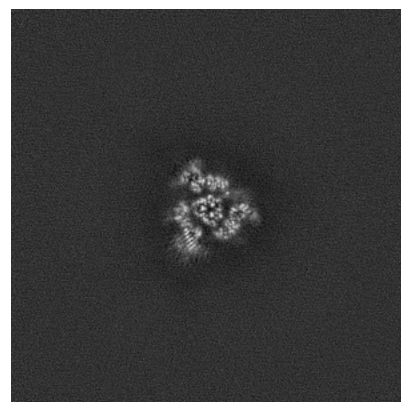
### 6.2.2 Raw map



X Index: 256



Y Index: 256

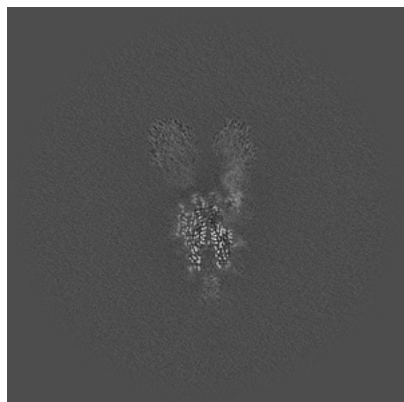


Z Index: 256

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

## 6.3 Largest variance slices [i](#)

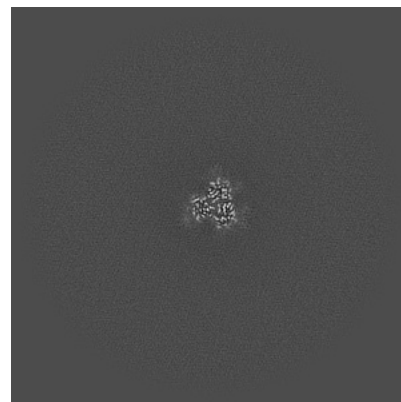
### 6.3.1 Primary map



X Index: 263

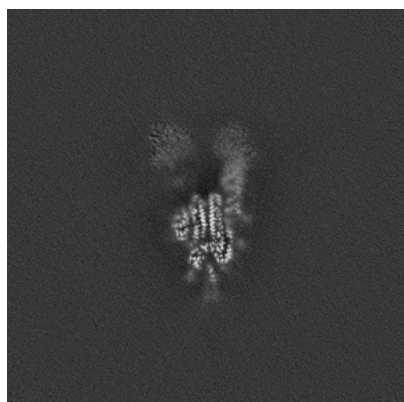


Y Index: 249

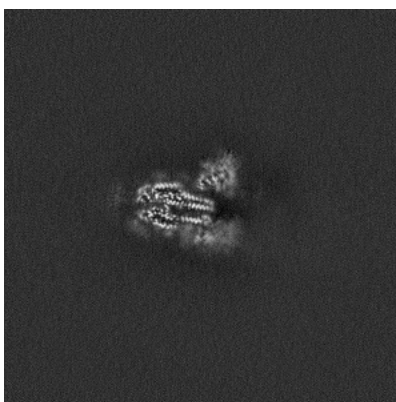


Z Index: 204

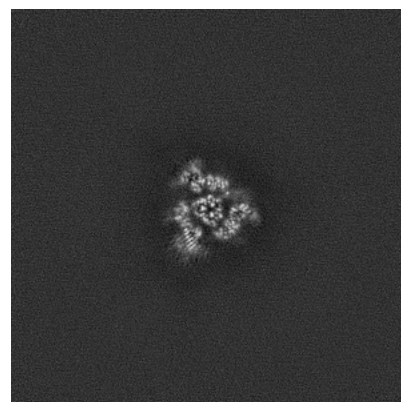
### 6.3.2 Raw map



X Index: 259



Y Index: 249

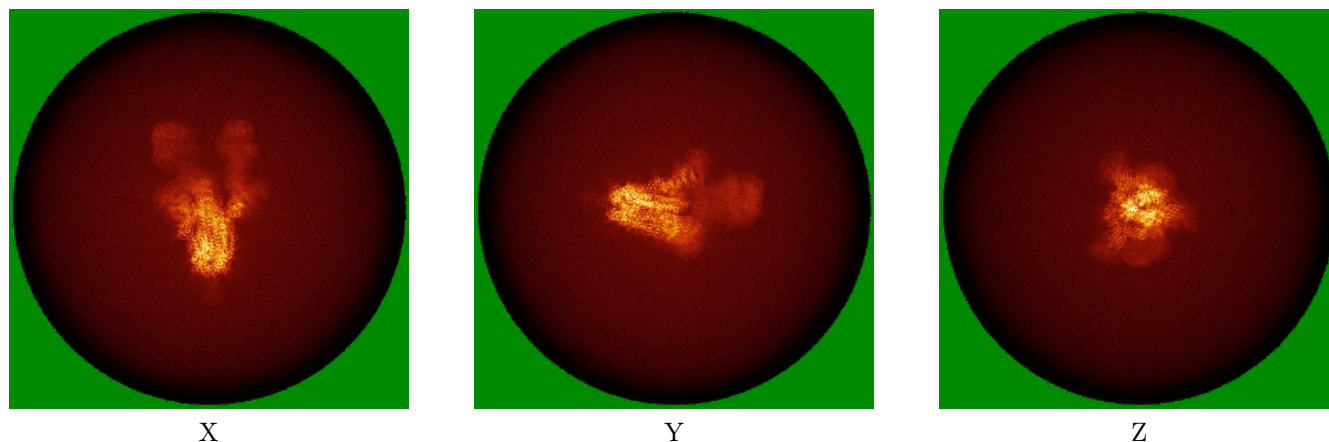


Z Index: 256

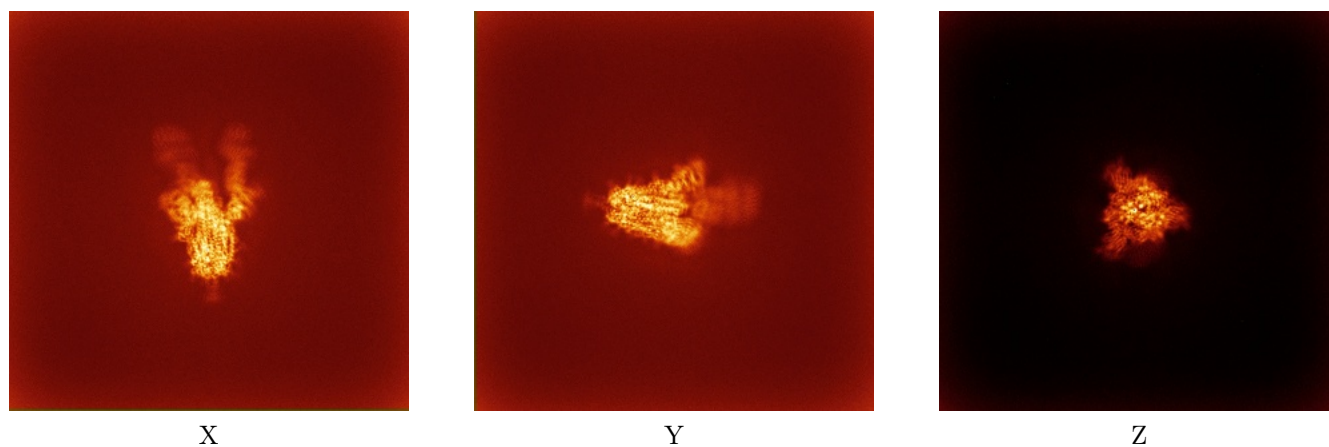
The images above show the largest variance slices of the map in three orthogonal directions.

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

### 6.4.1 Primary map



### 6.4.2 Raw map



The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.328. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

### 6.5.2 Raw map



X



Y



Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

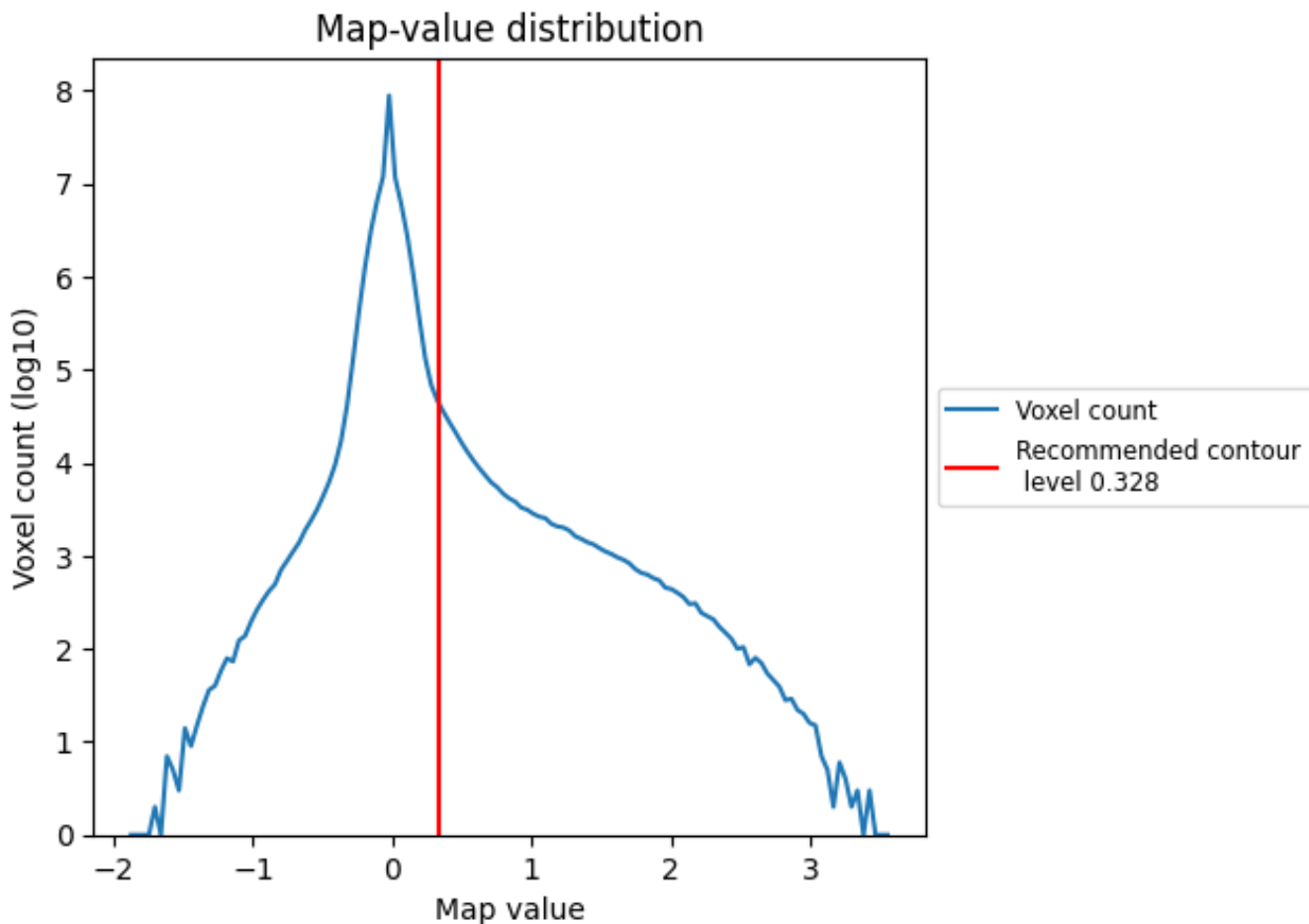
## 6.6 Mask visualisation [i](#)

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

## 7 Map analysis [i](#)

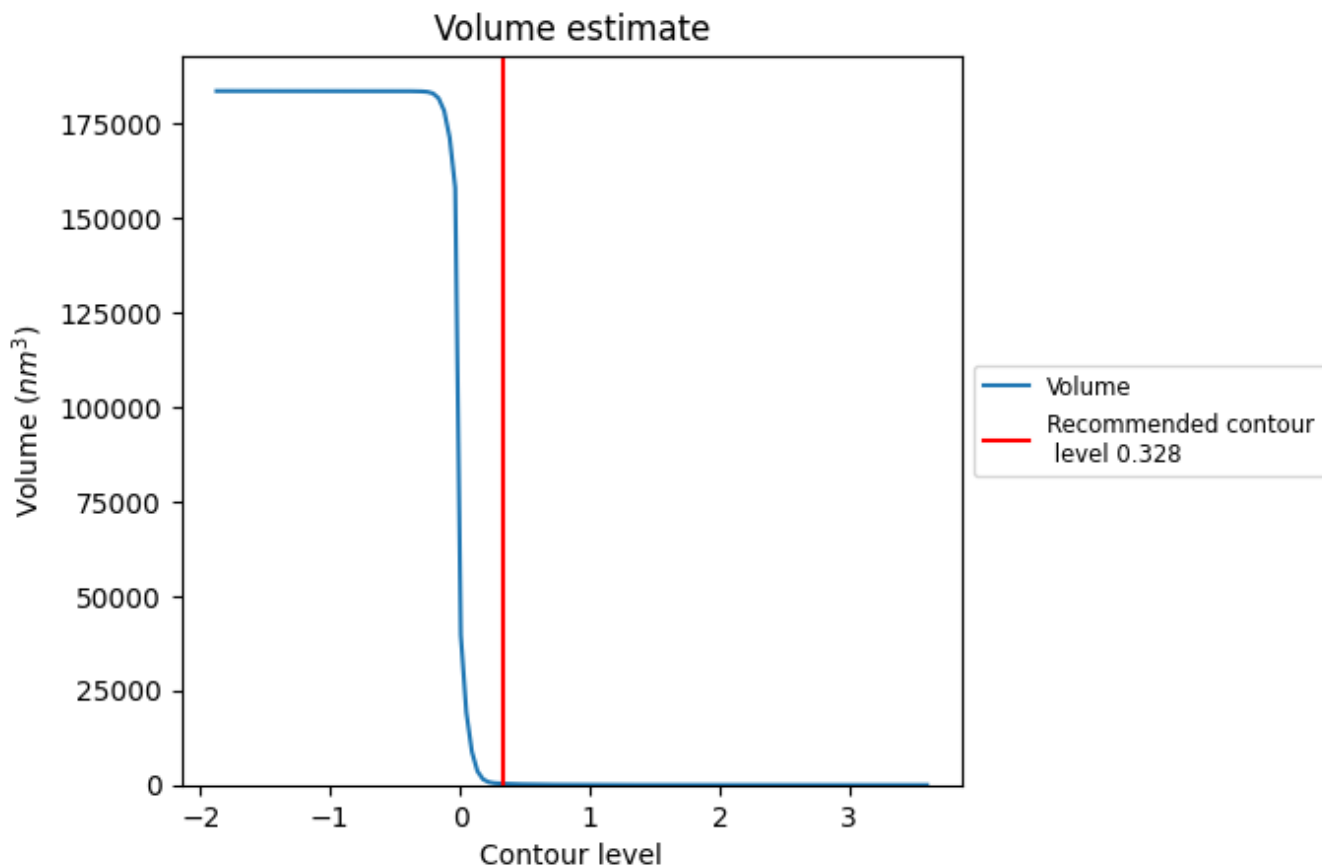
This section contains the results of statistical analysis of the map.

### 7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

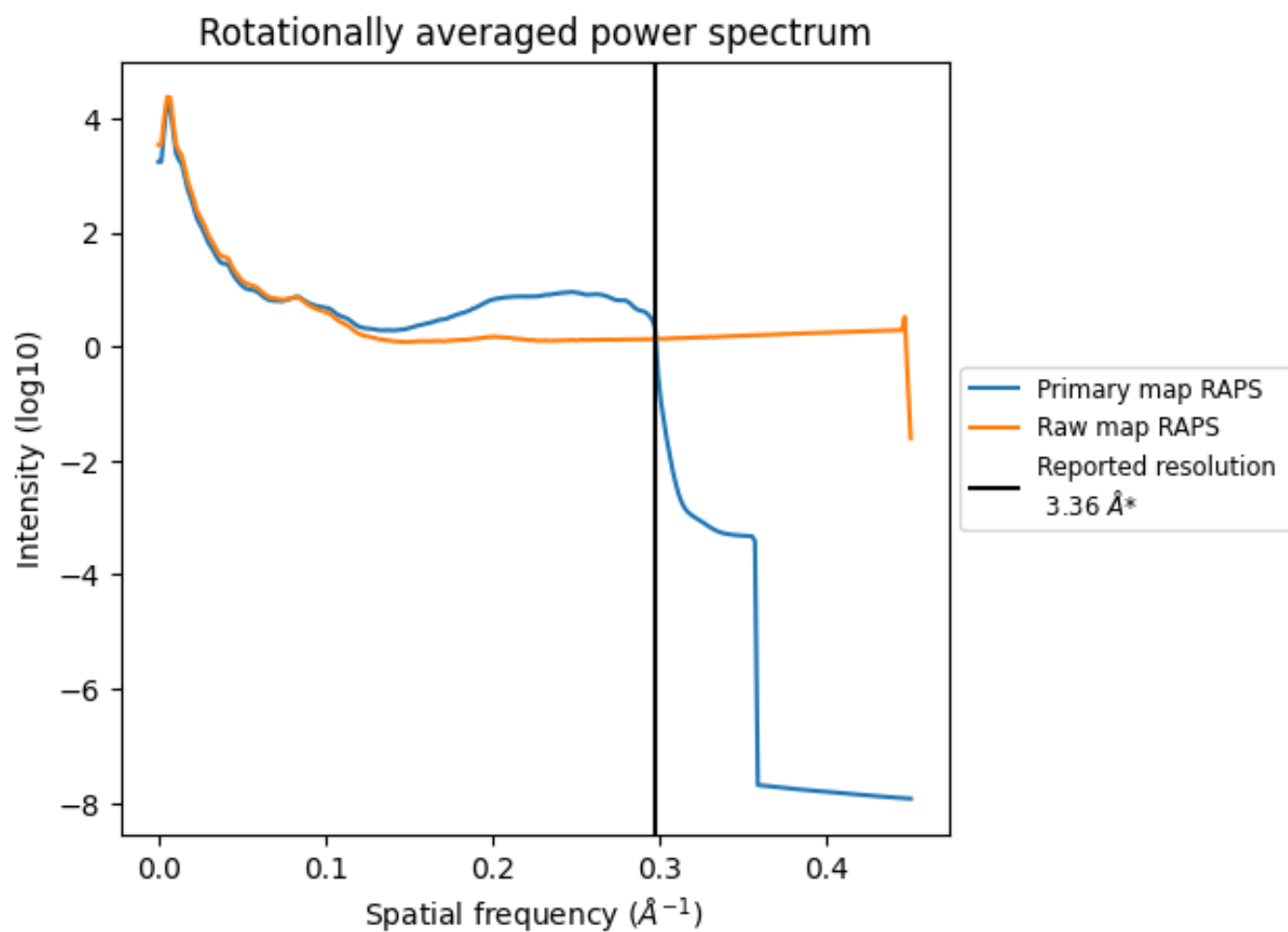
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 342  $\text{nm}^3$ ; this corresponds to an approximate mass of 309 kDa.

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

### 7.3 Rotationally averaged power spectrum i



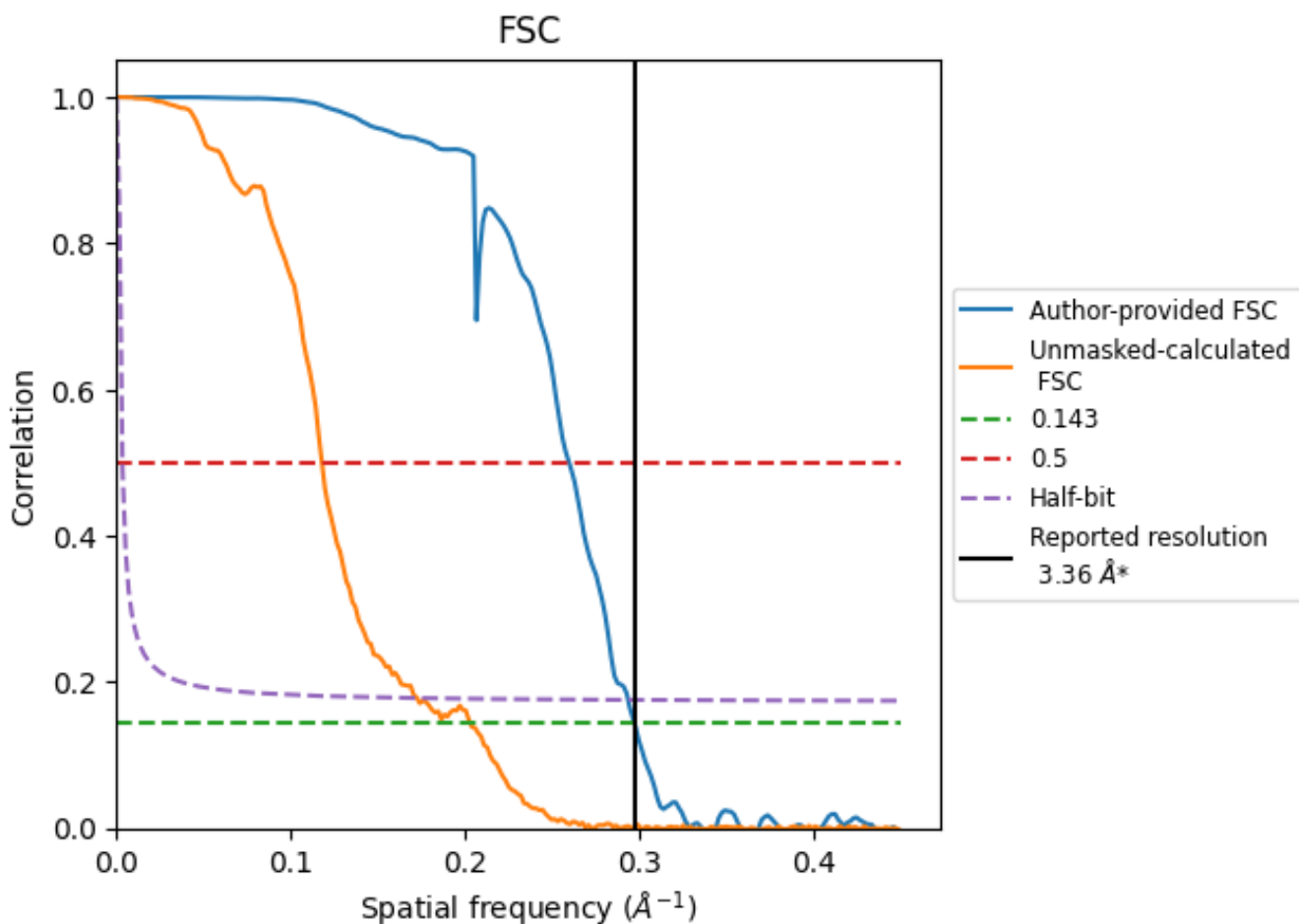
\*Reported resolution corresponds to spatial frequency of 0.298 Å<sup>-1</sup>



## 8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

### 8.1 FSC [i](#)



\*Reported resolution corresponds to spatial frequency of 0.298  $\text{\AA}^{-1}$

## 8.2 Resolution estimates [i](#)

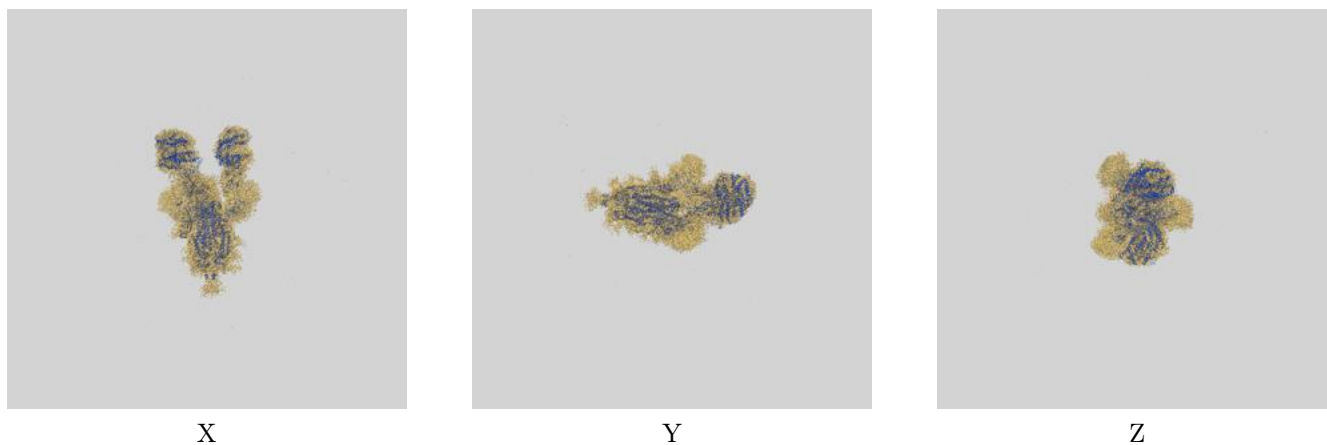
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.36	-	-
Author-provided FSC curve	3.36	3.85	3.40
Unmasked-calculated*	4.92	8.47	5.79

\*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.92 differs from the reported value 3.36 by more than 10 %

## 9 Map-model fit [i](#)

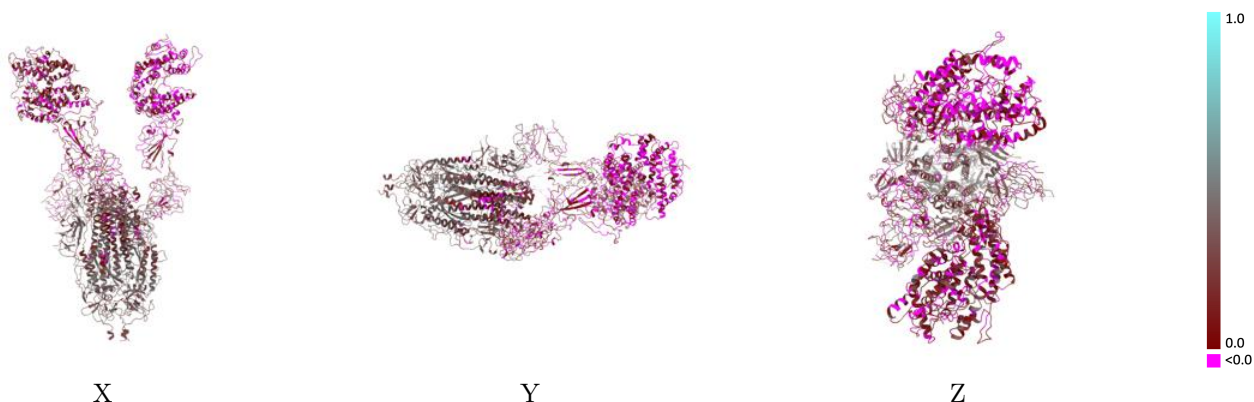
This section contains information regarding the fit between EMDB map EMD-40976 and PDB model 8T20. Per-residue inclusion information can be found in section [3](#) on page [11](#).

### 9.1 Map-model overlay [i](#)



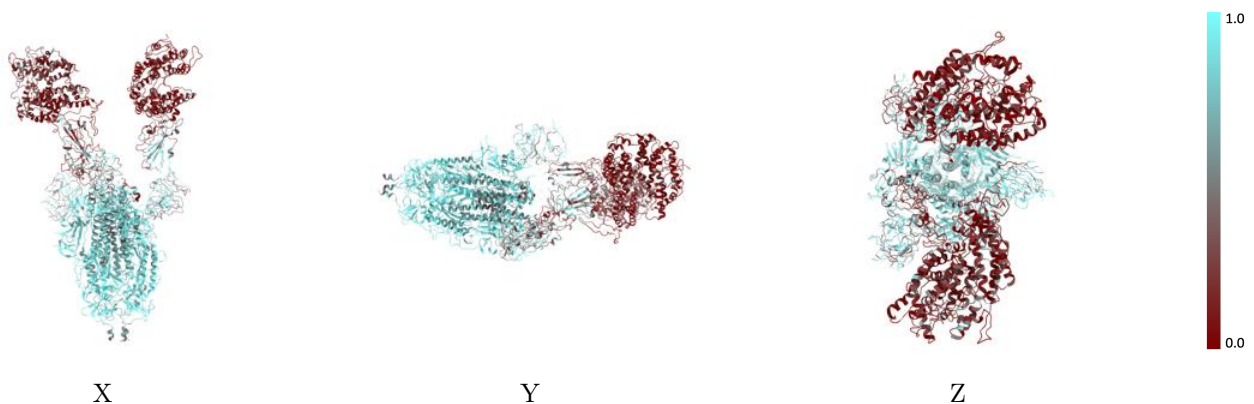
The images above show the 3D surface view of the map at the recommended contour level 0.328 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



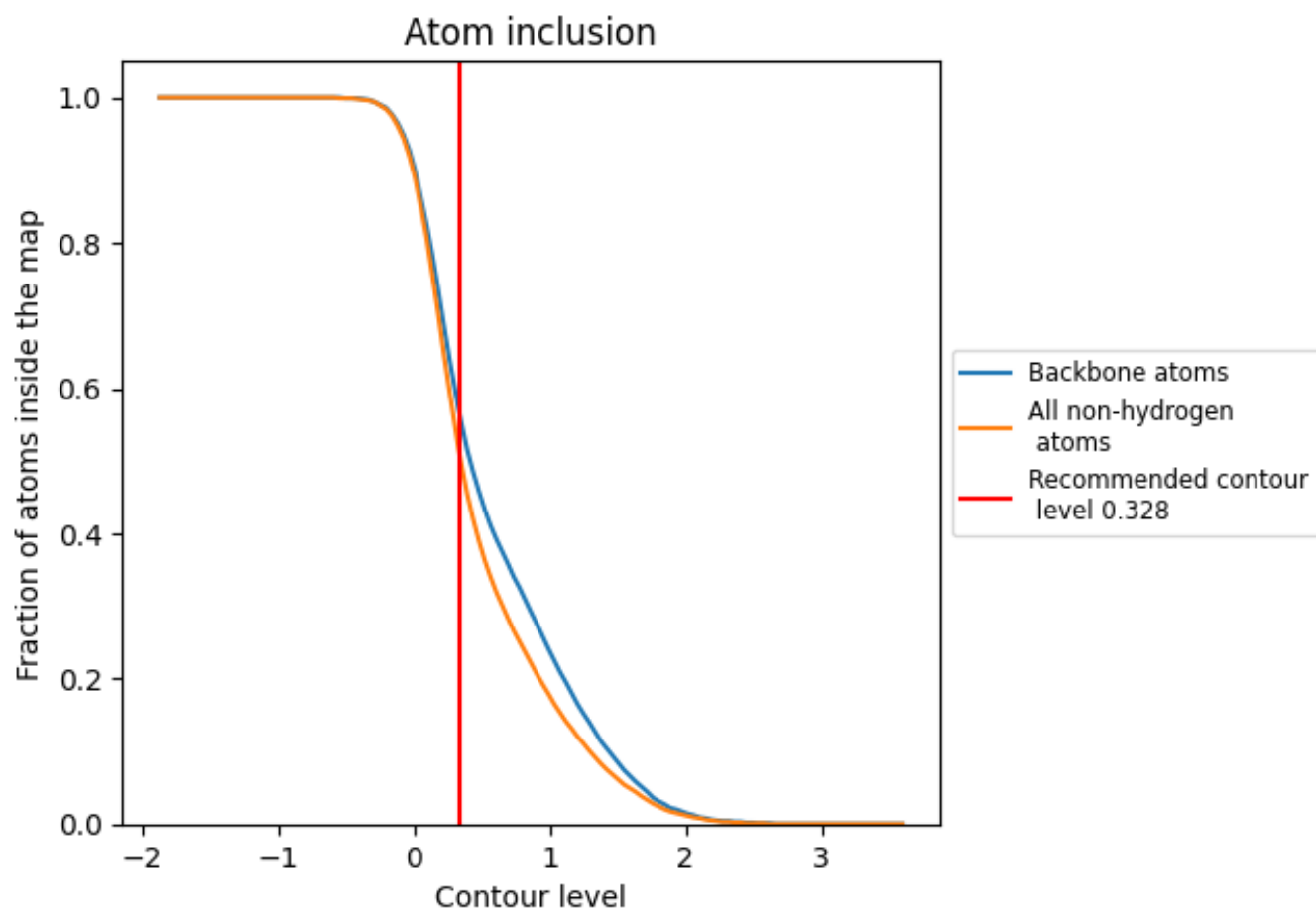
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.328).

## 9.4 Atom inclusion [i](#)



At the recommended contour level, 57% of all backbone atoms, 52% of all non-hydrogen atoms, are inside the map.

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

The table lists the average atom inclusion at the recommended contour level (0.328) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.5160	0.1910
A	0.6310	0.2240
B	0.6790	0.2620
C	0.7170	0.2530
D	0.1100	0.0040
E	0.1740	0.1250

