Full wwPDB EM Validation Report ⓘ

Nov 22, 2022 – 10:01 AM JST

PDB ID	:	7E8C
EMDB ID	:	EMD-31014
Title	:	SARS-CoV-2 S-6P in complex with 9 Fabs
Authors	:	Du, S.; Xiao, J.; Zhang, Z.
Deposited on	:	2021-03-01
Resolution	:	3.16 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

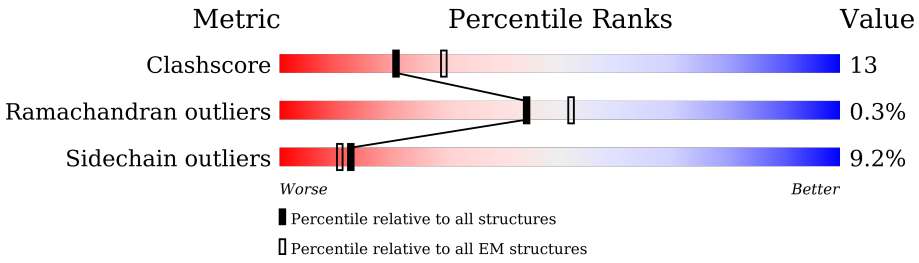
EMDB validation analysis	:	0.0.1.dev43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.3

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 3.16 Å.

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



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

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=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	1288	6% 60% 21% • 18%
1	B	1288	7% 61% 20% • 18%
1	C	1288	7% 60% 20% • 18%
2	D	221	37% 30% 19% • 48%
2	N	221	36% 30% 19% • 48%
2	O	221	41% 30% 19% • 48%
3	E	214	37% 29% 18% • 50%
3	P	214	37% 29% 18% • 50%

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Mol	Chain	Length	Quality of chain
3	Q	214	36% 29% 19% 50%
4	H	230	9% 33% 17% 46%
4	S	230	13% 33% 17% 46%
4	T	230	13% 32% 19% 46%
5	I	219	32% 27% 20% 49%
5	J	219	36% 27% 20% 49%
5	Z	219	24% 27% 21% 49%
6	K	230	23% 31% 18% 46%
6	M	230	22% 31% 18% 46%
6	a	230	15% 44% 9% 46%
7	L	212	21% 31% 17% 50%
7	U	212	32% 32% 16% 50%
7	V	212	29% 31% 17% 50%

2 Entry composition (i)

There are 7 unique types of molecules in this entry. The entry contains 40225 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
1	A	1052	Total	C	N	O	S	0	0
			8216	5241	1368	1570	37		
1	B	1054	Total	C	N	O	S	0	0
			8226	5245	1370	1574	37		
1	C	1051	Total	C	N	O	S	0	0
			8210	5238	1367	1568	37		

There are 264 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
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	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	TYR	-	expression tag	UNP P0DTC2
A	1213	ILE	-	expression tag	UNP P0DTC2
A	1214	PRO	-	expression tag	UNP P0DTC2
A	1215	GLU	-	expression tag	UNP P0DTC2
A	1216	ALA	-	expression tag	UNP P0DTC2
A	1217	PRO	-	expression tag	UNP P0DTC2
A	1218	ARG	-	expression tag	UNP P0DTC2
A	1219	ASP	-	expression tag	UNP P0DTC2
A	1220	GLY	-	expression tag	UNP P0DTC2
A	1221	GLN	-	expression tag	UNP P0DTC2
A	1222	ALA	-	expression tag	UNP P0DTC2
A	1223	TYR	-	expression tag	UNP P0DTC2
A	1224	VAL	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
A	1225	ARG	-	expression tag	UNP P0DTC2
A	1226	LYS	-	expression tag	UNP P0DTC2
A	1227	ASP	-	expression tag	UNP P0DTC2
A	1228	GLY	-	expression tag	UNP P0DTC2
A	1229	GLU	-	expression tag	UNP P0DTC2
A	1230	TRP	-	expression tag	UNP P0DTC2
A	1231	VAL	-	expression tag	UNP P0DTC2
A	1232	LEU	-	expression tag	UNP P0DTC2
A	1233	LEU	-	expression tag	UNP P0DTC2
A	1234	SER	-	expression tag	UNP P0DTC2
A	1235	THR	-	expression tag	UNP P0DTC2
A	1236	PHE	-	expression tag	UNP P0DTC2
A	1237	LEU	-	expression tag	UNP P0DTC2
A	1238	GLY	-	expression tag	UNP P0DTC2
A	1239	ARG	-	expression tag	UNP P0DTC2
A	1240	SER	-	expression tag	UNP P0DTC2
A	1241	LEU	-	expression tag	UNP P0DTC2
A	1242	GLU	-	expression tag	UNP P0DTC2
A	1243	VAL	-	expression tag	UNP P0DTC2
A	1244	LEU	-	expression tag	UNP P0DTC2
A	1245	PHE	-	expression tag	UNP P0DTC2
A	1246	GLN	-	expression tag	UNP P0DTC2
A	1247	GLY	-	expression tag	UNP P0DTC2
A	1248	PRO	-	expression tag	UNP P0DTC2
A	1249	GLY	-	expression tag	UNP P0DTC2
A	1250	HIS	-	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	GLU	-	expression tag	UNP P0DTC2
A	1256	HIS	-	expression tag	UNP P0DTC2
A	1257	HIS	-	expression tag	UNP P0DTC2
A	1258	SER	-	expression tag	UNP P0DTC2
A	1259	ALA	-	expression tag	UNP P0DTC2
A	1260	TRP	-	expression tag	UNP P0DTC2
A	1261	SER	-	expression tag	UNP P0DTC2
A	1262	HIS	-	expression tag	UNP P0DTC2
A	1263	PRO	-	expression tag	UNP P0DTC2
A	1264	GLN	-	expression tag	UNP P0DTC2
A	1265	PHE	-	expression tag	UNP P0DTC2
A	1266	GLU	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
A	1267	LYS	-	expression tag	UNP P0DTC2
A	1268	GLY	-	expression tag	UNP P0DTC2
A	1269	GLY	-	expression tag	UNP P0DTC2
A	1270	GLY	-	expression tag	UNP P0DTC2
A	1271	SER	-	expression tag	UNP P0DTC2
A	1272	GLY	-	expression tag	UNP P0DTC2
A	1273	GLY	-	expression tag	UNP P0DTC2
A	1274	GLY	-	expression tag	UNP P0DTC2
A	1275	GLY	-	expression tag	UNP P0DTC2
A	1276	SER	-	expression tag	UNP P0DTC2
A	1277	GLY	-	expression tag	UNP P0DTC2
A	1278	GLY	-	expression tag	UNP P0DTC2
A	1279	SER	-	expression tag	UNP P0DTC2
A	1280	ALA	-	expression tag	UNP P0DTC2
A	1281	TRP	-	expression tag	UNP P0DTC2
A	1282	SER	-	expression tag	UNP P0DTC2
A	1283	HIS	-	expression tag	UNP P0DTC2
A	1284	PRO	-	expression tag	UNP P0DTC2
A	1285	GLN	-	expression tag	UNP P0DTC2
A	1286	PHE	-	expression tag	UNP P0DTC2
A	1287	GLU	-	expression tag	UNP P0DTC2
A	1288	LYS	-	expression tag	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	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	TYR	-	expression tag	UNP P0DTC2
B	1213	ILE	-	expression tag	UNP P0DTC2
B	1214	PRO	-	expression tag	UNP P0DTC2
B	1215	GLU	-	expression tag	UNP P0DTC2
B	1216	ALA	-	expression tag	UNP P0DTC2
B	1217	PRO	-	expression tag	UNP P0DTC2
B	1218	ARG	-	expression tag	UNP P0DTC2
B	1219	ASP	-	expression tag	UNP P0DTC2
B	1220	GLY	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
B	1221	GLN	-	expression tag	UNP P0DTC2
B	1222	ALA	-	expression tag	UNP P0DTC2
B	1223	TYR	-	expression tag	UNP P0DTC2
B	1224	VAL	-	expression tag	UNP P0DTC2
B	1225	ARG	-	expression tag	UNP P0DTC2
B	1226	LYS	-	expression tag	UNP P0DTC2
B	1227	ASP	-	expression tag	UNP P0DTC2
B	1228	GLY	-	expression tag	UNP P0DTC2
B	1229	GLU	-	expression tag	UNP P0DTC2
B	1230	TRP	-	expression tag	UNP P0DTC2
B	1231	VAL	-	expression tag	UNP P0DTC2
B	1232	LEU	-	expression tag	UNP P0DTC2
B	1233	LEU	-	expression tag	UNP P0DTC2
B	1234	SER	-	expression tag	UNP P0DTC2
B	1235	THR	-	expression tag	UNP P0DTC2
B	1236	PHE	-	expression tag	UNP P0DTC2
B	1237	LEU	-	expression tag	UNP P0DTC2
B	1238	GLY	-	expression tag	UNP P0DTC2
B	1239	ARG	-	expression tag	UNP P0DTC2
B	1240	SER	-	expression tag	UNP P0DTC2
B	1241	LEU	-	expression tag	UNP P0DTC2
B	1242	GLU	-	expression tag	UNP P0DTC2
B	1243	VAL	-	expression tag	UNP P0DTC2
B	1244	LEU	-	expression tag	UNP P0DTC2
B	1245	PHE	-	expression tag	UNP P0DTC2
B	1246	GLN	-	expression tag	UNP P0DTC2
B	1247	GLY	-	expression tag	UNP P0DTC2
B	1248	PRO	-	expression tag	UNP P0DTC2
B	1249	GLY	-	expression tag	UNP P0DTC2
B	1250	HIS	-	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	GLU	-	expression tag	UNP P0DTC2
B	1256	HIS	-	expression tag	UNP P0DTC2
B	1257	HIS	-	expression tag	UNP P0DTC2
B	1258	SER	-	expression tag	UNP P0DTC2
B	1259	ALA	-	expression tag	UNP P0DTC2
B	1260	TRP	-	expression tag	UNP P0DTC2
B	1261	SER	-	expression tag	UNP P0DTC2
B	1262	HIS	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
B	1263	PRO	-	expression tag	UNP P0DTC2
B	1264	GLN	-	expression tag	UNP P0DTC2
B	1265	PHE	-	expression tag	UNP P0DTC2
B	1266	GLU	-	expression tag	UNP P0DTC2
B	1267	LYS	-	expression tag	UNP P0DTC2
B	1268	GLY	-	expression tag	UNP P0DTC2
B	1269	GLY	-	expression tag	UNP P0DTC2
B	1270	GLY	-	expression tag	UNP P0DTC2
B	1271	SER	-	expression tag	UNP P0DTC2
B	1272	GLY	-	expression tag	UNP P0DTC2
B	1273	GLY	-	expression tag	UNP P0DTC2
B	1274	GLY	-	expression tag	UNP P0DTC2
B	1275	GLY	-	expression tag	UNP P0DTC2
B	1276	SER	-	expression tag	UNP P0DTC2
B	1277	GLY	-	expression tag	UNP P0DTC2
B	1278	GLY	-	expression tag	UNP P0DTC2
B	1279	SER	-	expression tag	UNP P0DTC2
B	1280	ALA	-	expression tag	UNP P0DTC2
B	1281	TRP	-	expression tag	UNP P0DTC2
B	1282	SER	-	expression tag	UNP P0DTC2
B	1283	HIS	-	expression tag	UNP P0DTC2
B	1284	PRO	-	expression tag	UNP P0DTC2
B	1285	GLN	-	expression tag	UNP P0DTC2
B	1286	PHE	-	expression tag	UNP P0DTC2
B	1287	GLU	-	expression tag	UNP P0DTC2
B	1288	LYS	-	expression tag	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	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	TYR	-	expression tag	UNP P0DTC2
C	1213	ILE	-	expression tag	UNP P0DTC2
C	1214	PRO	-	expression tag	UNP P0DTC2
C	1215	GLU	-	expression tag	UNP P0DTC2
C	1216	ALA	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
C	1217	PRO	-	expression tag	UNP P0DTC2
C	1218	ARG	-	expression tag	UNP P0DTC2
C	1219	ASP	-	expression tag	UNP P0DTC2
C	1220	GLY	-	expression tag	UNP P0DTC2
C	1221	GLN	-	expression tag	UNP P0DTC2
C	1222	ALA	-	expression tag	UNP P0DTC2
C	1223	TYR	-	expression tag	UNP P0DTC2
C	1224	VAL	-	expression tag	UNP P0DTC2
C	1225	ARG	-	expression tag	UNP P0DTC2
C	1226	LYS	-	expression tag	UNP P0DTC2
C	1227	ASP	-	expression tag	UNP P0DTC2
C	1228	GLY	-	expression tag	UNP P0DTC2
C	1229	GLU	-	expression tag	UNP P0DTC2
C	1230	TRP	-	expression tag	UNP P0DTC2
C	1231	VAL	-	expression tag	UNP P0DTC2
C	1232	LEU	-	expression tag	UNP P0DTC2
C	1233	LEU	-	expression tag	UNP P0DTC2
C	1234	SER	-	expression tag	UNP P0DTC2
C	1235	THR	-	expression tag	UNP P0DTC2
C	1236	PHE	-	expression tag	UNP P0DTC2
C	1237	LEU	-	expression tag	UNP P0DTC2
C	1238	GLY	-	expression tag	UNP P0DTC2
C	1239	ARG	-	expression tag	UNP P0DTC2
C	1240	SER	-	expression tag	UNP P0DTC2
C	1241	LEU	-	expression tag	UNP P0DTC2
C	1242	GLU	-	expression tag	UNP P0DTC2
C	1243	VAL	-	expression tag	UNP P0DTC2
C	1244	LEU	-	expression tag	UNP P0DTC2
C	1245	PHE	-	expression tag	UNP P0DTC2
C	1246	GLN	-	expression tag	UNP P0DTC2
C	1247	GLY	-	expression tag	UNP P0DTC2
C	1248	PRO	-	expression tag	UNP P0DTC2
C	1249	GLY	-	expression tag	UNP P0DTC2
C	1250	HIS	-	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	GLU	-	expression tag	UNP P0DTC2
C	1256	HIS	-	expression tag	UNP P0DTC2
C	1257	HIS	-	expression tag	UNP P0DTC2
C	1258	SER	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
C	1259	ALA	-	expression tag	UNP P0DTC2
C	1260	TRP	-	expression tag	UNP P0DTC2
C	1261	SER	-	expression tag	UNP P0DTC2
C	1262	HIS	-	expression tag	UNP P0DTC2
C	1263	PRO	-	expression tag	UNP P0DTC2
C	1264	GLN	-	expression tag	UNP P0DTC2
C	1265	PHE	-	expression tag	UNP P0DTC2
C	1266	GLU	-	expression tag	UNP P0DTC2
C	1267	LYS	-	expression tag	UNP P0DTC2
C	1268	GLY	-	expression tag	UNP P0DTC2
C	1269	GLY	-	expression tag	UNP P0DTC2
C	1270	GLY	-	expression tag	UNP P0DTC2
C	1271	SER	-	expression tag	UNP P0DTC2
C	1272	GLY	-	expression tag	UNP P0DTC2
C	1273	GLY	-	expression tag	UNP P0DTC2
C	1274	GLY	-	expression tag	UNP P0DTC2
C	1275	GLY	-	expression tag	UNP P0DTC2
C	1276	SER	-	expression tag	UNP P0DTC2
C	1277	GLY	-	expression tag	UNP P0DTC2
C	1278	GLY	-	expression tag	UNP P0DTC2
C	1279	SER	-	expression tag	UNP P0DTC2
C	1280	ALA	-	expression tag	UNP P0DTC2
C	1281	TRP	-	expression tag	UNP P0DTC2
C	1282	SER	-	expression tag	UNP P0DTC2
C	1283	HIS	-	expression tag	UNP P0DTC2
C	1284	PRO	-	expression tag	UNP P0DTC2
C	1285	GLN	-	expression tag	UNP P0DTC2
C	1286	PHE	-	expression tag	UNP P0DTC2
C	1287	GLU	-	expression tag	UNP P0DTC2
C	1288	LYS	-	expression tag	UNP P0DTC2

- Molecule 2 is a protein called 604 H.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	D	116	Total	C	N	O	S	0	0
			874	550	148	171	5		
2	N	116	Total	C	N	O	S	0	0
			874	550	148	171	5		
2	O	116	Total	C	N	O	S	0	0
			874	550	148	171	5		

- Molecule 3 is a protein called 604 L.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	E	106	Total	C	N	O	S	0	0
			803	506	132	163	2		
3	P	106	Total	C	N	O	S	0	0
			803	506	132	163	2		
3	Q	106	Total	C	N	O	S	0	0
			803	506	132	163	2		

- Molecule 4 is a protein called N9 H.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	H	124	Total	C	N	O	S	0	0
			938	588	159	186	5		
4	S	124	Total	C	N	O	S	0	0
			938	588	159	186	5		
4	T	124	Total	C	N	O	S	0	0
			938	588	159	186	5		

- Molecule 5 is a protein called 368-2 L.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	I	112	Total	C	N	O	S	0	0
			852	537	143	168	4		
5	J	112	Total	C	N	O	S	0	0
			852	537	143	168	4		
5	Z	112	Total	C	N	O	S	0	0
			852	537	143	168	4		

- Molecule 6 is a protein called 368-2 H.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	K	124	Total	C	N	O	S	0	0
			944	593	165	182	4		
6	M	124	Total	C	N	O	S	0	0
			944	593	165	182	4		
6	a	124	Total	C	N	O	S	0	0
			944	593	165	182	4		

- Molecule 7 is a protein called N9 L.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	L	105	Total	C	N	O	S	0	0
			780	486	131	159	4		

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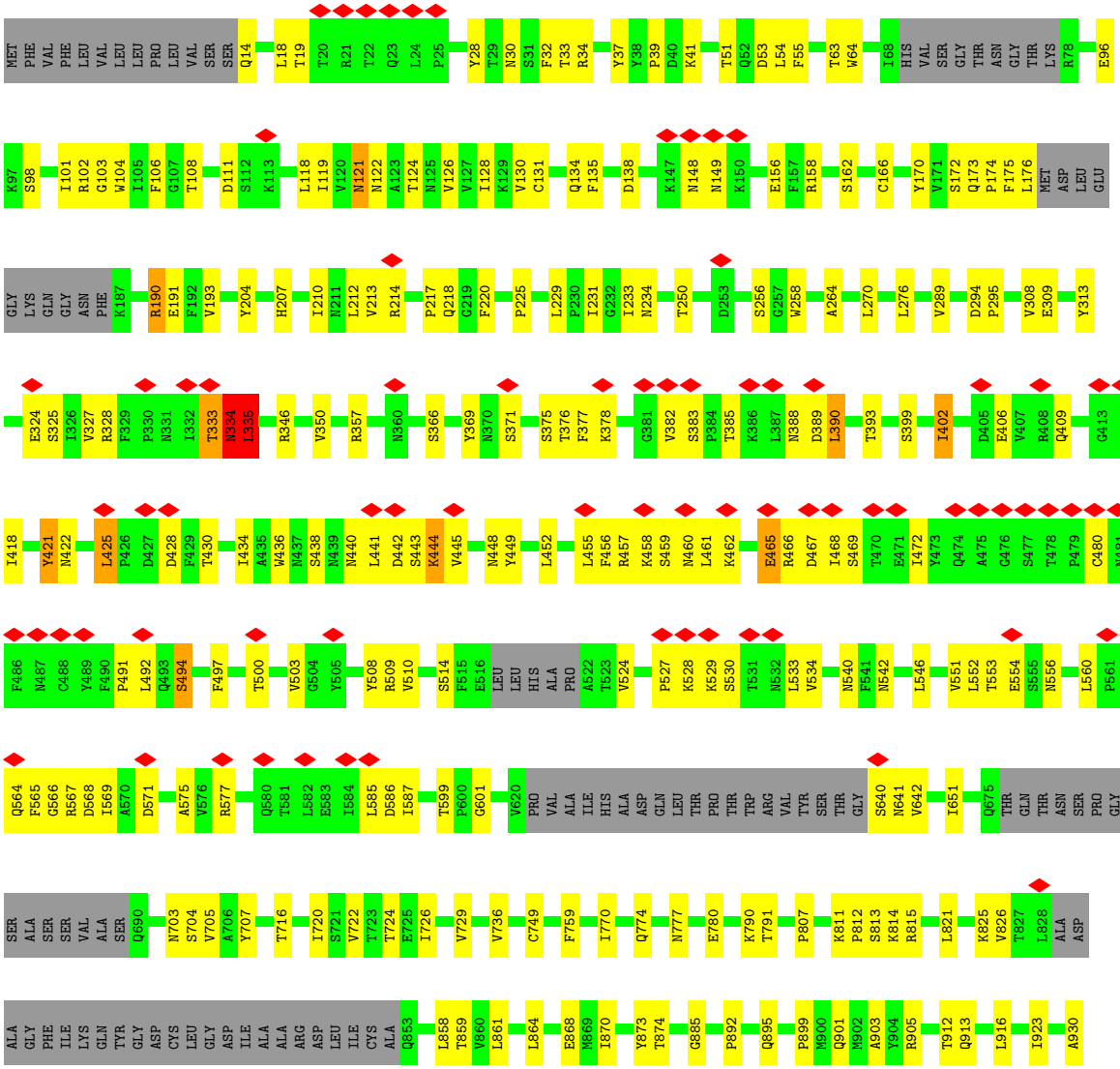
Mol	Chain	Residues	Atoms					AltConf	Trace
7	U	105	Total	C	N	O	S	0	0
			780	486	131	159	4		
7	V	105	Total	C	N	O	S	0	0
			780	486	131	159	4		

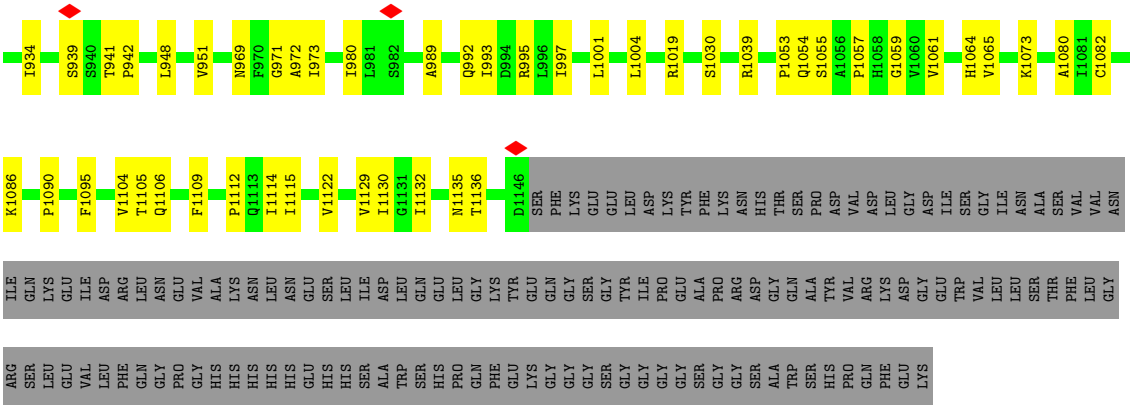
3 Residue-property plots (i)

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

- Molecule 1: Spike glycoprotein

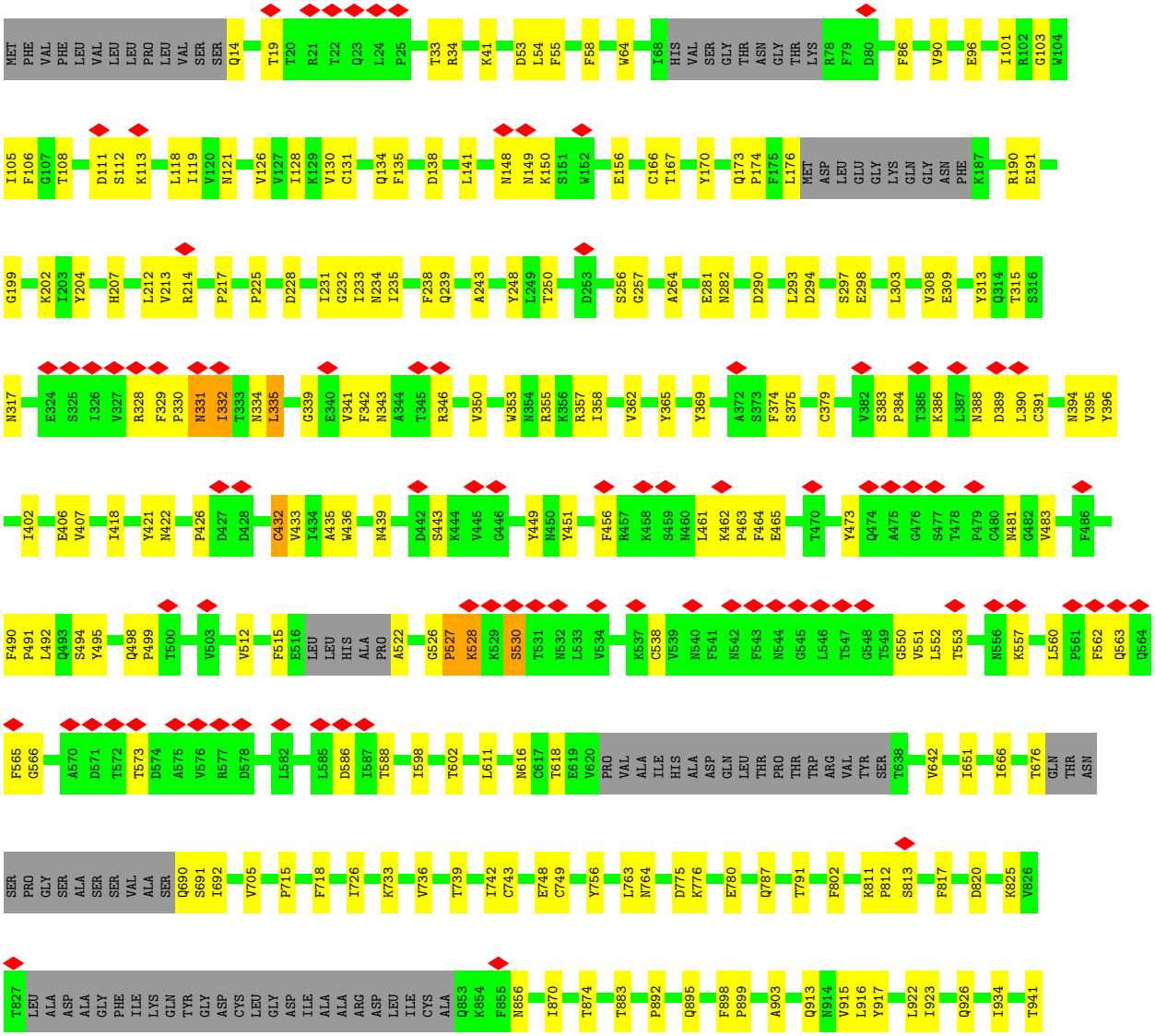
Chain A:

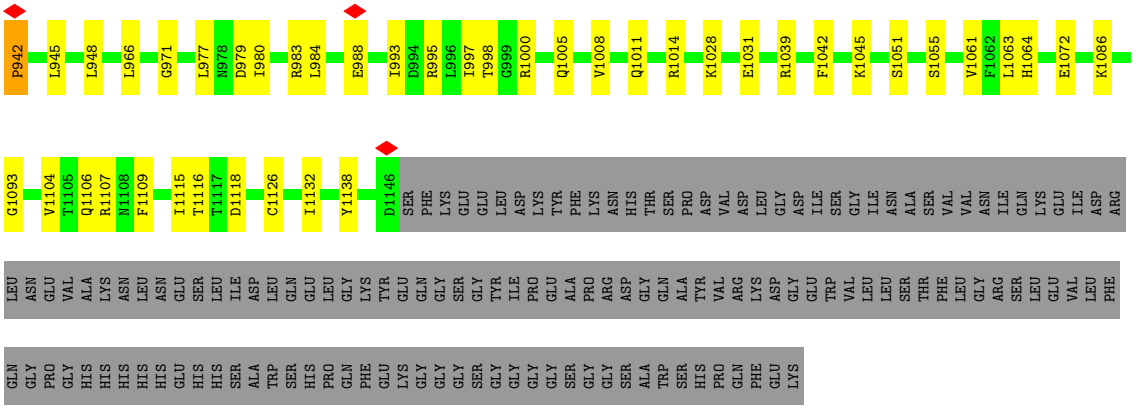




• Molecule 1: Spike glycoprotein

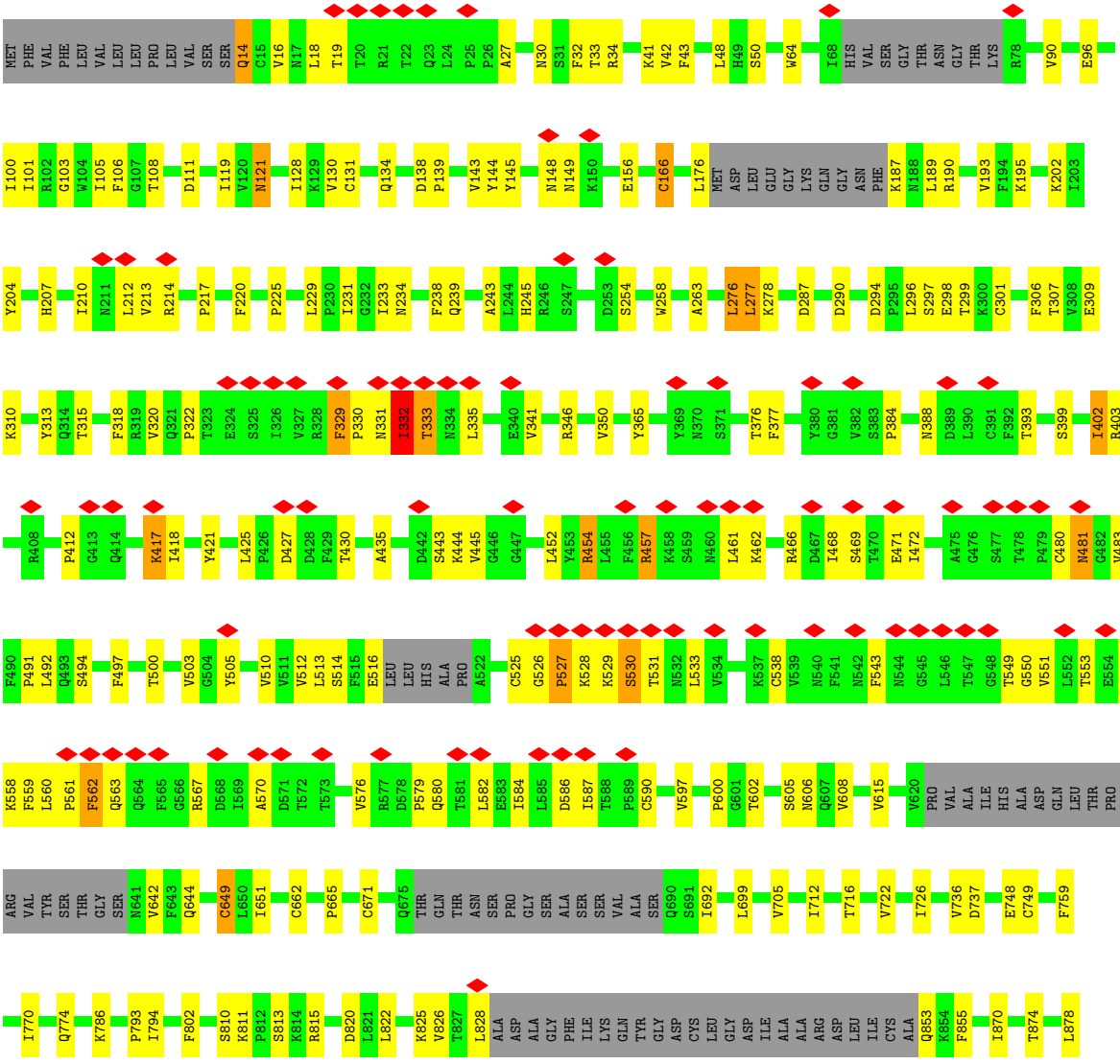
Chain B:

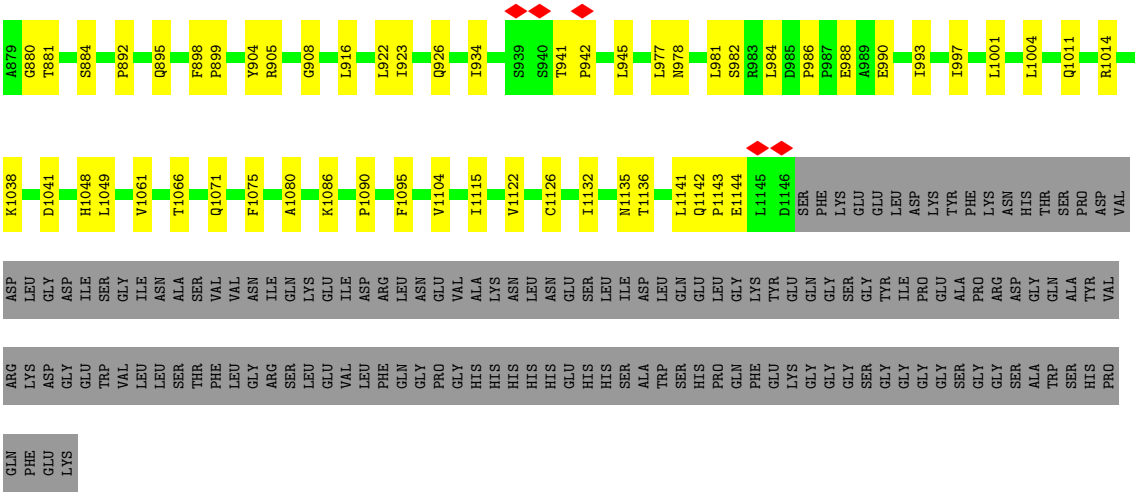




• Molecule 1: Spike glycoprotein

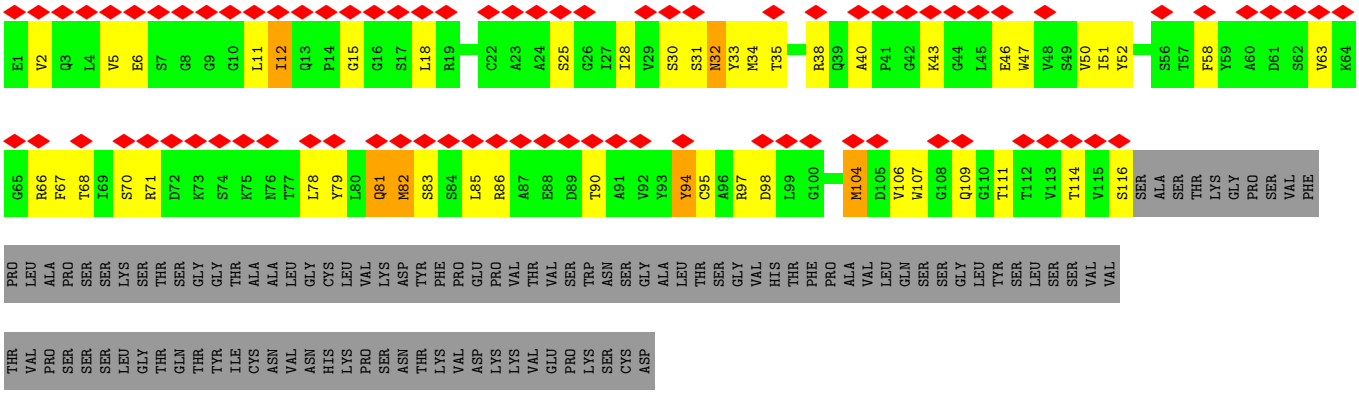
Chain C:





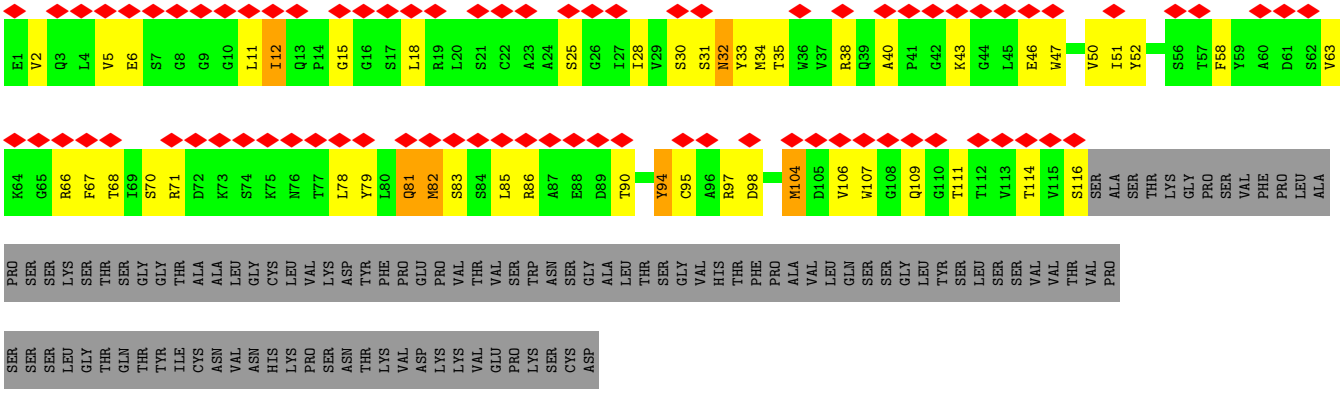
• Molecule 2: 604 H

Chain D:



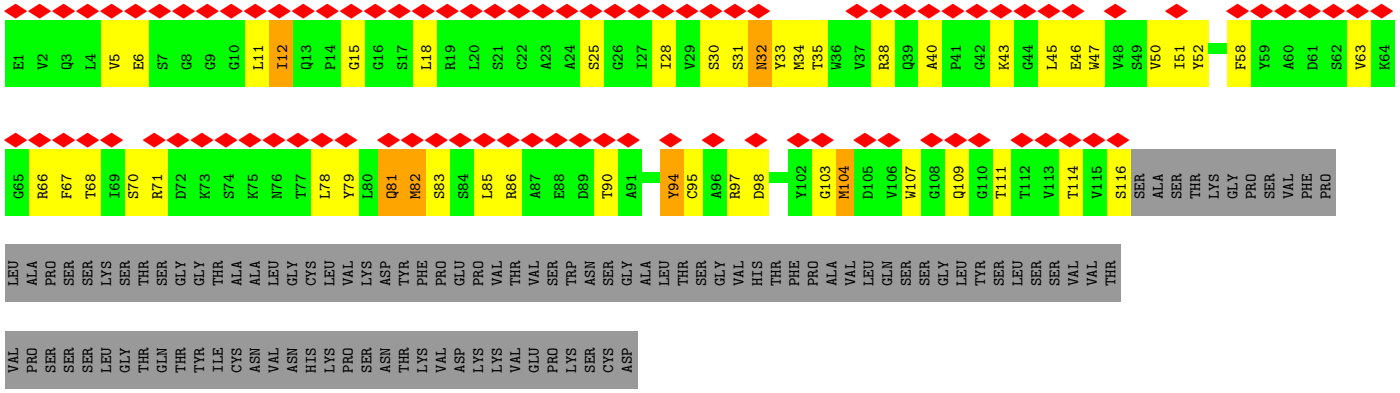
• Molecule 2: 604 H

Chain N:

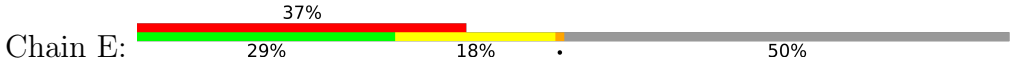


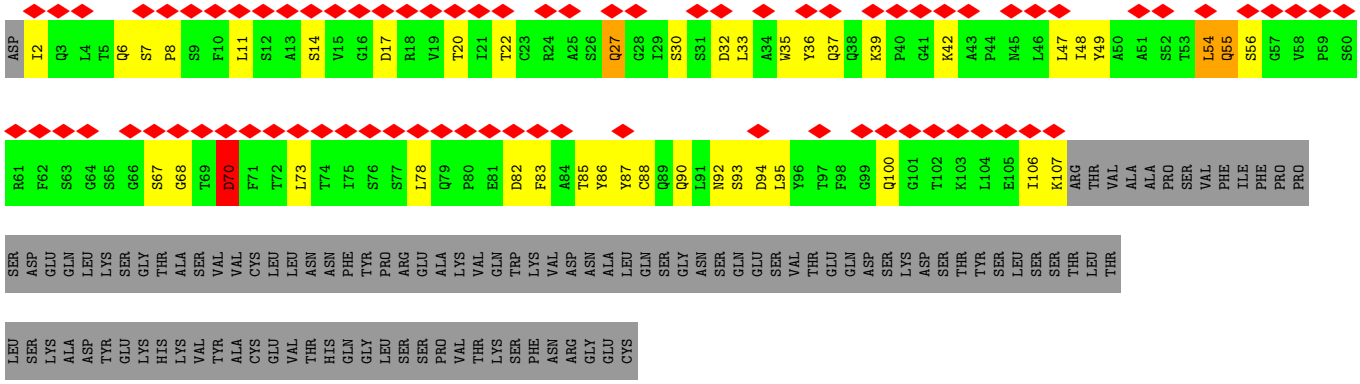
• Molecule 2: 604 H

Chain O:

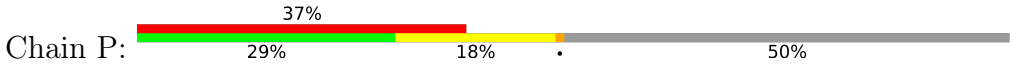


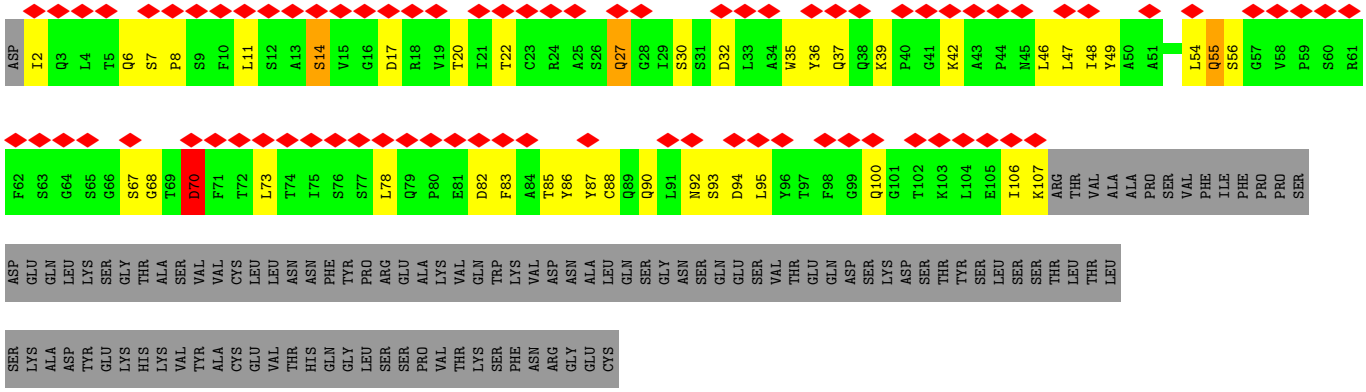
• Molecule 3: 604 L



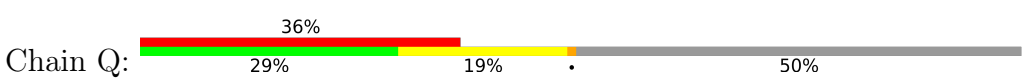


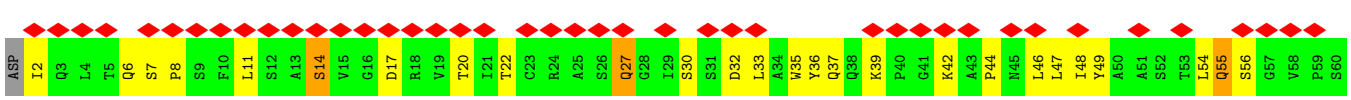
• Molecule 3: 604 L

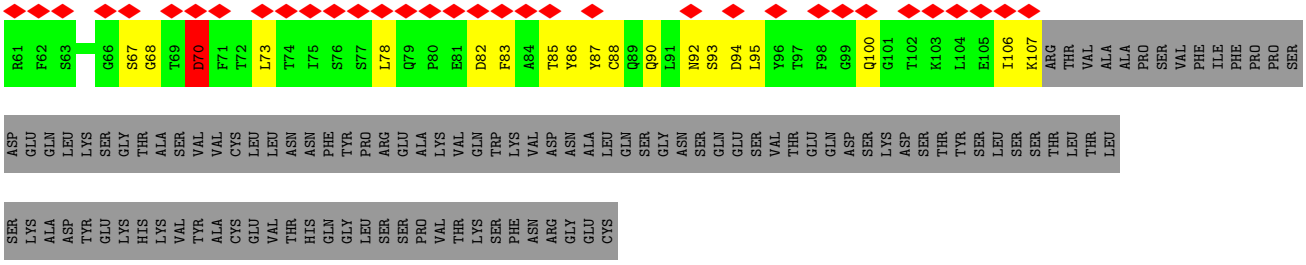




• Molecule 3: 604 L

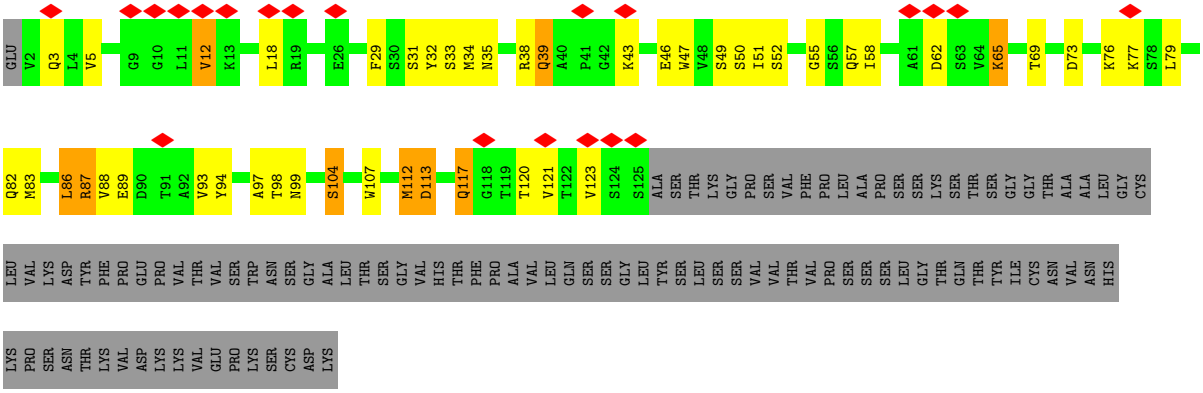






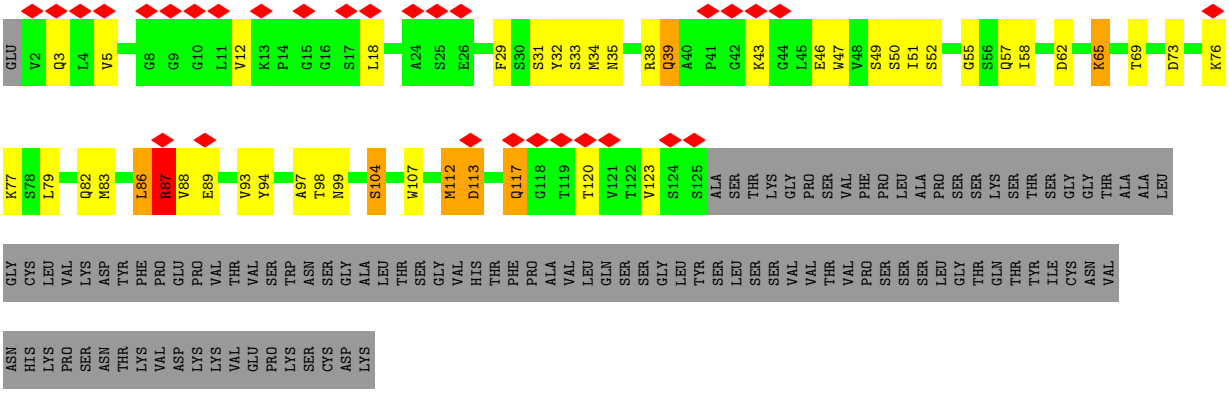
• Molecule 4: N9 H

Chain H:



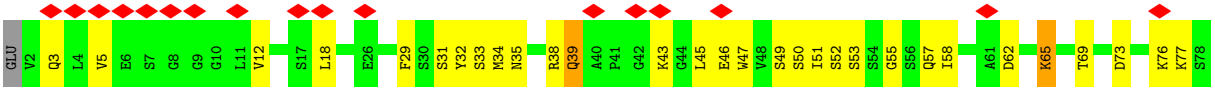
• Molecule 4: N9 H

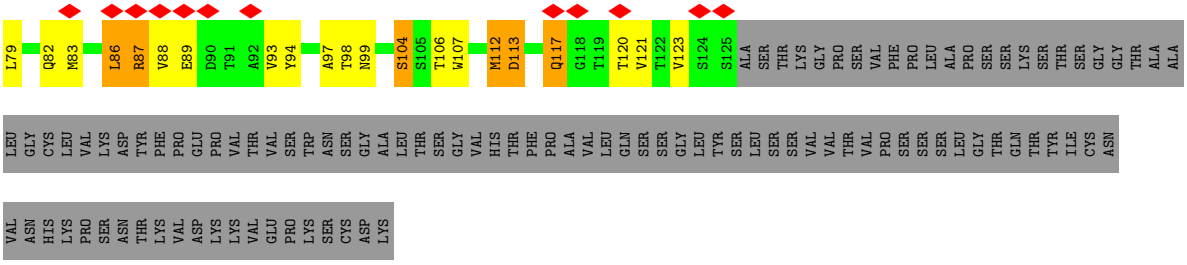
Chain S:



• Molecule 4: N9 H

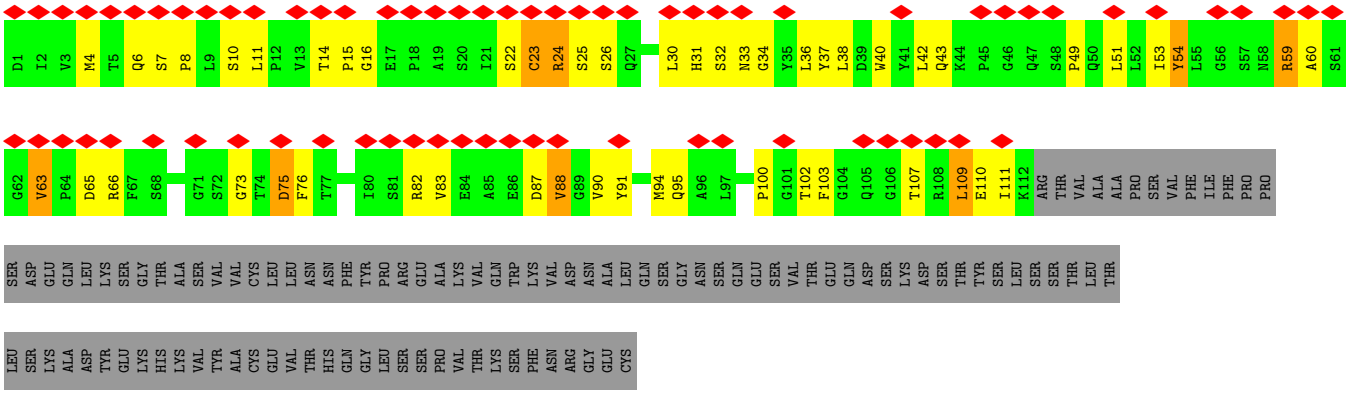
Chain T:





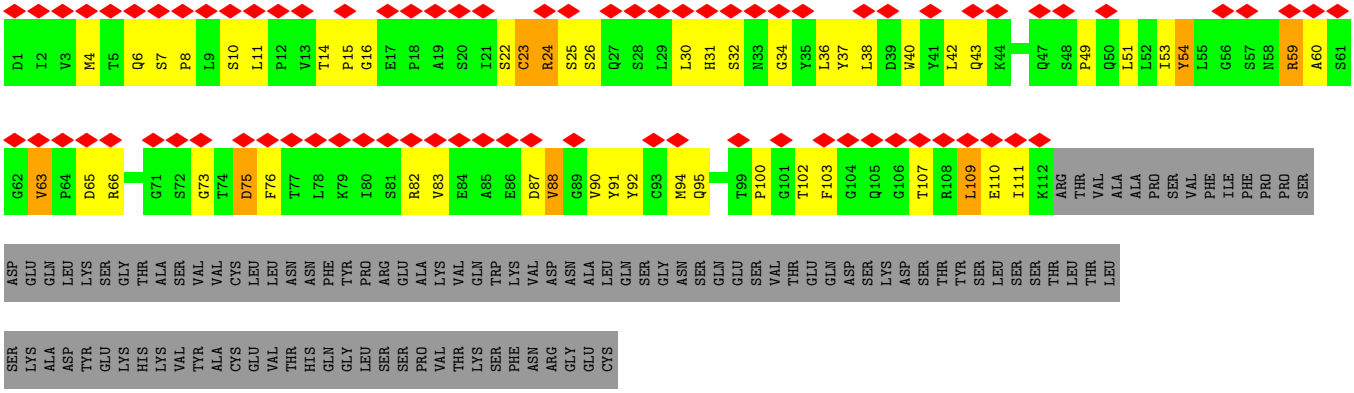
• Molecule 5: 368-2 L

Chain I:



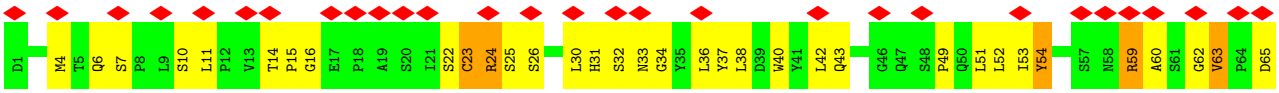
• Molecule 5: 368-2 L

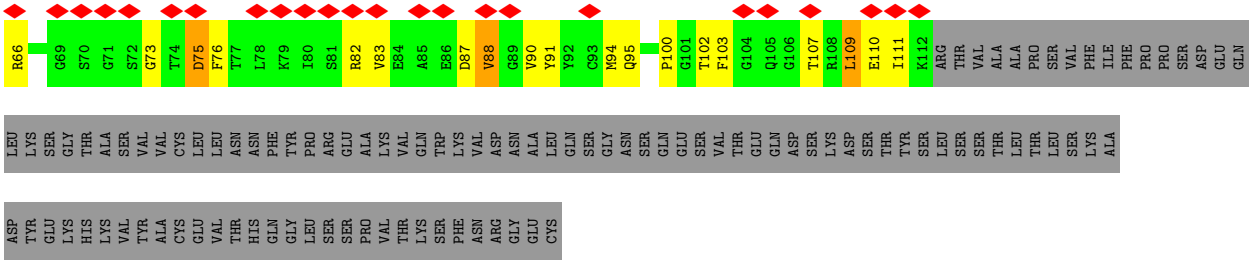
Chain J:



• Molecule 5: 368-2 L

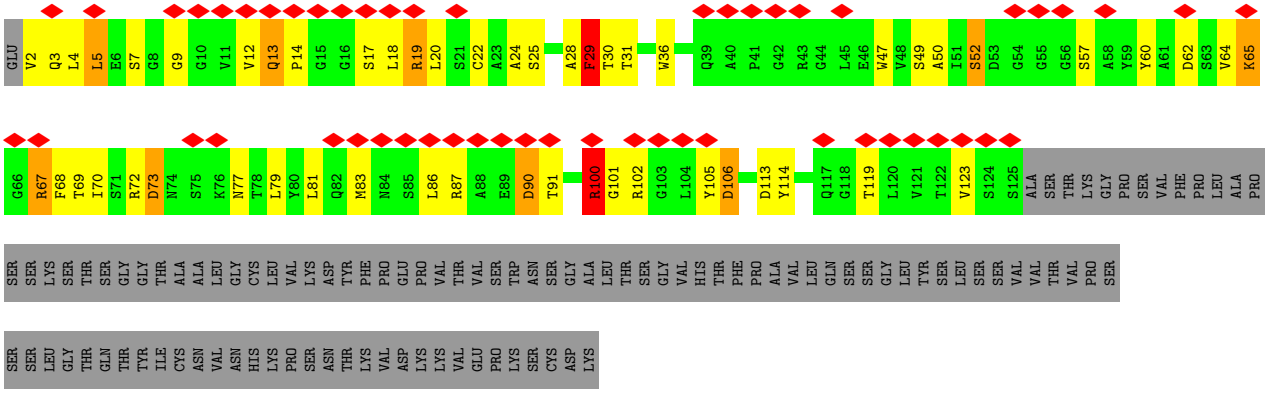
Chain Z:





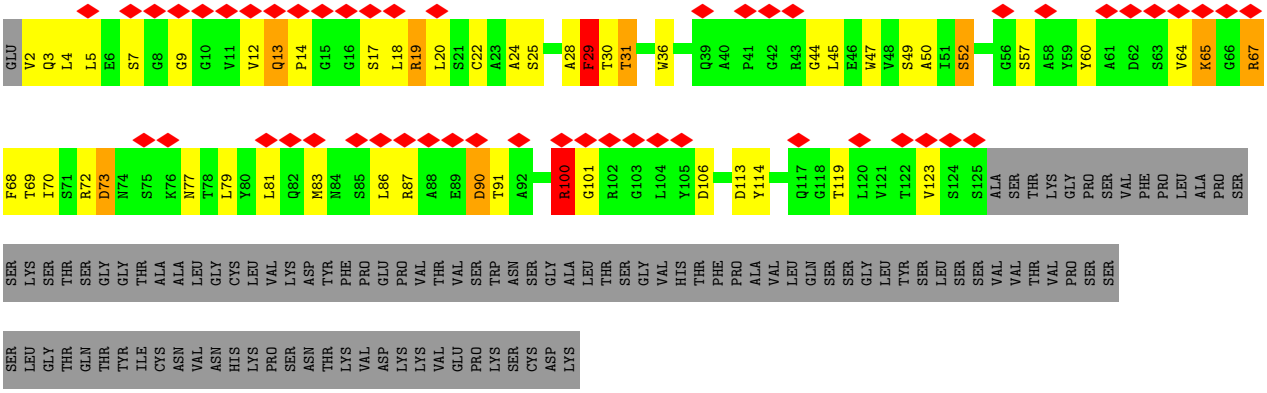
• Molecule 6: 368-2 H

Chain K:



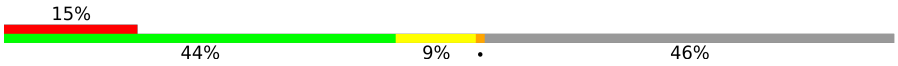
• Molecule 6: 368-2 H

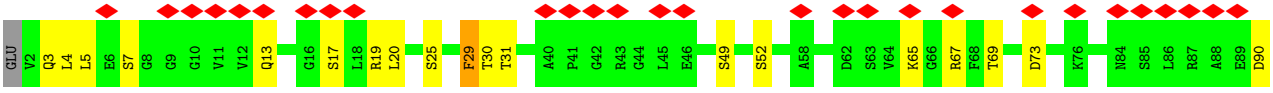
Chain M:

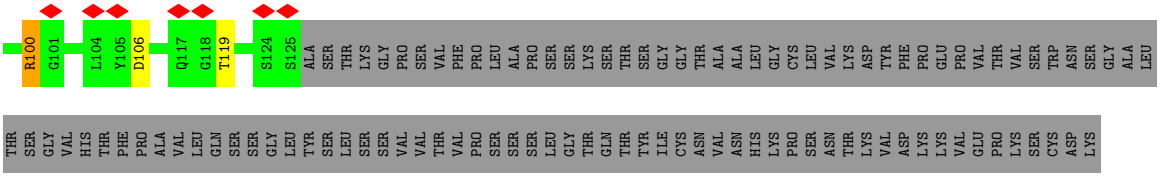


• Molecule 6: 368-2 H

Chain a:

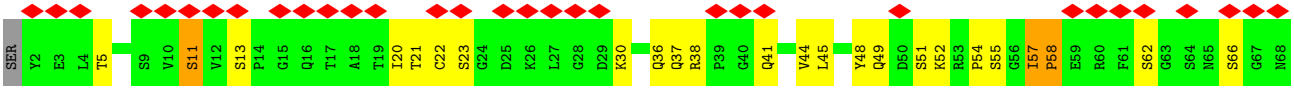


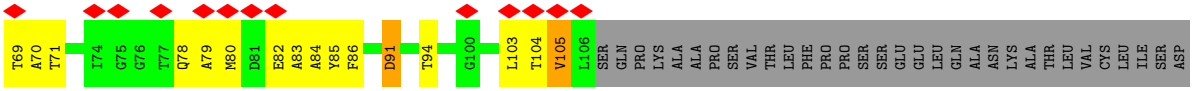




• Molecule 7: N9 L

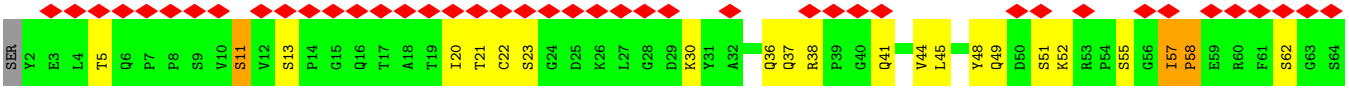
Chain L:

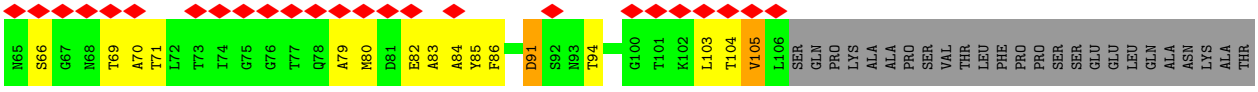




• Molecule 7: N9 L

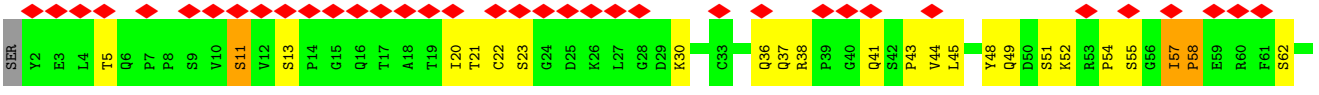
Chain U:

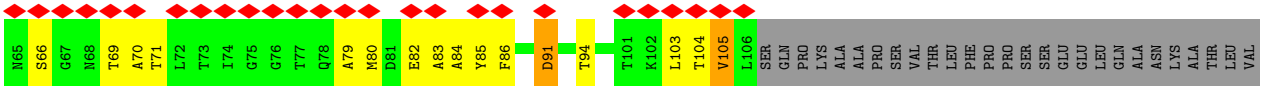




• Molecule 7: N9 L

Chain V:





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

GLN VAL THR HIS GLU GLY SER THR VAL GLU LYS THR VAL ALA PRO THR GLU CYS SER

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	178557	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	63.27	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 QUANTUM (4k x 4k)	Depositor
Maximum map value	0.181	Depositor
Minimum map value	-0.078	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.0204	Depositor
Map size (Å)	420.80002, 420.80002, 420.80002	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.052, 1.052, 1.052	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	0.37	0/8403	0.54	3/11436 (0.0%)
1	B	0.30	0/8413	0.51	4/11450 (0.0%)
1	C	0.40	0/8397	0.58	6/11428 (0.1%)
2	D	0.29	0/891	0.56	0/1207
2	N	0.29	0/891	0.56	0/1207
2	O	0.29	0/891	0.56	0/1207
3	E	0.31	0/819	0.65	1/1112 (0.1%)
3	P	0.31	0/819	0.64	1/1112 (0.1%)
3	Q	0.31	0/819	0.64	1/1112 (0.1%)
4	H	0.28	0/959	0.62	2/1298 (0.2%)
4	S	0.29	0/959	0.62	2/1298 (0.2%)
4	T	0.28	0/959	0.62	2/1298 (0.2%)
5	I	0.31	0/871	0.61	0/1183
5	J	0.31	0/871	0.61	0/1183
5	Z	0.31	0/871	0.61	0/1183
6	K	0.33	0/965	0.65	1/1307 (0.1%)
6	M	0.33	0/965	0.64	1/1307 (0.1%)
6	a	0.33	0/965	0.65	1/1307 (0.1%)
7	L	0.30	0/798	0.55	1/1087 (0.1%)
7	U	0.30	0/798	0.56	1/1087 (0.1%)
7	V	0.30	0/798	0.55	1/1087 (0.1%)
All	All	0.34	0/41122	0.57	28/55896 (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	C	0	3
6	K	0	1
6	M	0	1
6	a	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
All	All	0	6

There are no bond length outliers.

All (28) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	E	70	ASP	CB-CG-OD1	6.98	124.58	118.30
3	P	70	ASP	CB-CG-OD1	6.98	124.58	118.30
3	Q	70	ASP	CB-CG-OD1	6.93	124.54	118.30
4	H	86	LEU	CB-CG-CD2	-6.52	99.92	111.00
4	S	86	LEU	CB-CG-CD2	-6.50	99.96	111.00
4	T	86	LEU	CB-CG-CD2	-6.49	99.97	111.00
1	A	892	PRO	N-CA-CB	6.30	110.86	103.30
1	C	892	PRO	N-CA-CB	6.28	110.84	103.30
1	C	649	CYS	CA-CB-SG	6.21	125.18	114.00
1	B	892	PRO	N-CA-CB	6.18	110.72	103.30
4	H	87	ARG	CB-CG-CD	6.12	127.51	111.60
4	S	87	ARG	CB-CG-CD	6.12	127.51	111.60
4	T	87	ARG	CB-CG-CD	6.12	127.51	111.60
1	B	942	PRO	N-CA-CB	6.11	110.64	103.30
1	A	942	PRO	N-CA-CB	6.02	110.52	103.30
1	C	942	PRO	N-CA-CB	5.89	110.37	103.30
1	B	432	CYS	CA-CB-SG	5.80	124.43	114.00
1	C	899	PRO	N-CA-CB	5.73	110.18	103.30
1	A	899	PRO	N-CA-CB	5.72	110.16	103.30
1	B	899	PRO	N-CA-CB	5.66	110.10	103.30
7	V	58	PRO	N-CD-CG	-5.49	94.96	103.20
7	U	58	PRO	N-CD-CG	-5.49	94.96	103.20
7	L	58	PRO	N-CD-CG	-5.49	94.96	103.20
1	C	320	VAL	C-N-CA	-5.21	108.68	121.70
6	a	29	PHE	CB-CG-CD1	5.20	124.44	120.80
6	M	29	PHE	CB-CG-CD1	5.20	124.44	120.80
6	K	29	PHE	CB-CG-CD1	5.18	124.42	120.80
1	C	166	CYS	CA-CB-SG	5.18	123.32	114.00

There are no chirality outliers.

All (6) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	C	276	LEU	Peptide
1	C	332	ILE	Peptide

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Mol	Chain	Res	Type	Group
1	C	526	GLY	Peptide
6	K	100	ARG	Peptide
6	M	100	ARG	Peptide
6	a	100	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	8216	0	7990	170	0
1	B	8226	0	7996	218	0
1	C	8210	0	7985	170	0
2	D	874	0	859	31	0
2	N	874	0	859	32	0
2	O	874	0	859	33	0
3	E	803	0	783	26	0
3	P	803	0	783	26	0
3	Q	803	0	783	31	0
4	H	938	0	896	30	0
4	S	938	0	896	32	0
4	T	938	0	896	32	0
5	I	852	0	838	37	0
5	J	852	0	838	36	0
5	Z	852	0	838	36	0
6	K	944	0	903	44	0
6	M	944	0	903	38	0
6	a	944	0	903	0	0
7	L	780	0	743	19	0
7	U	780	0	743	19	0
7	V	780	0	743	20	0
All	All	40225	0	39037	1023	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 13.

All (1023) 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:330:PRO:HB2	1:B:527:PRO:CD	1.17	1.57
1:B:330:PRO:CB	1:B:527:PRO:CG	1.89	1.49
1:B:330:PRO:CB	1:B:527:PRO:HD3	1.44	1.29
1:B:330:PRO:N	1:B:527:PRO:CG	1.90	1.22
1:B:330:PRO:N	1:B:527:PRO:HG3	1.17	1.17
1:C:14:GLN:HE21	1:C:14:GLN:N	1.45	1.15
1:B:330:PRO:CB	1:B:527:PRO:CD	1.92	1.13
1:B:330:PRO:HB2	1:B:527:PRO:CG	1.56	1.12
1:B:330:PRO:CD	1:B:527:PRO:HG3	1.85	1.06
1:B:330:PRO:CB	1:B:527:PRO:HG3	1.41	1.04
1:B:330:PRO:HD2	1:B:527:PRO:HB3	1.39	1.04
1:B:330:PRO:HD2	1:B:527:PRO:CB	1.95	0.95
1:B:330:PRO:HB3	1:B:527:PRO:HD3	1.48	0.92
1:B:330:PRO:CD	1:B:527:PRO:CB	2.48	0.90
6:K:67:ARG:HH12	6:K:87:ARG:HE	1.19	0.90
1:B:330:PRO:CD	1:B:527:PRO:HB3	2.02	0.89
2:O:30:SER:HA	2:O:71:ARG:HH12	1.37	0.89
1:C:14:GLN:N	1:C:14:GLN:NE2	2.20	0.88
2:D:30:SER:HA	2:D:71:ARG:HH12	1.37	0.88
6:M:67:ARG:HH12	6:M:87:ARG:HE	1.19	0.88
1:B:490:PHE:HD2	6:K:102:ARG:HE	1.19	0.88
2:N:30:SER:HA	2:N:71:ARG:HH12	1.37	0.88
1:B:330:PRO:HB2	1:B:527:PRO:N	1.89	0.86
1:B:330:PRO:CG	1:B:527:PRO:HG3	2.02	0.86
1:B:492:LEU:O	6:K:102:ARG:NH2	2.09	0.86
1:B:330:PRO:HB2	1:B:527:PRO:HD3	0.98	0.84
6:M:22:CYS:HB3	6:M:79:LEU:HB3	1.61	0.83
1:A:971:GLY:HA3	1:A:995:ARG:HH21	1.42	0.83
1:B:330:PRO:CD	1:B:527:PRO:CG	2.49	0.83
5:Z:51:LEU:HD21	5:Z:54:TYR:HB3	1.60	0.83
1:A:599:THR:HG22	1:A:601:GLY:H	1.44	0.82
3:E:30:SER:HA	3:E:68:GLY:H	1.44	0.82
6:K:22:CYS:HB3	6:K:79:LEU:HB3	1.61	0.82
5:I:51:LEU:HD21	5:I:54:TYR:HB3	1.60	0.81
5:J:51:LEU:HD21	5:J:54:TYR:HB3	1.60	0.81
3:P:30:SER:HA	3:P:68:GLY:H	1.44	0.81
3:Q:30:SER:HA	3:Q:68:GLY:H	1.44	0.81
6:M:65:LYS:HE2	6:M:65:LYS:HA	1.63	0.80
1:A:131:CYS:HA	1:A:166:CYS:HB3	1.63	0.80
1:A:41:LYS:HD2	1:C:563:GLN:HA	1.64	0.80
1:B:131:CYS:HA	1:B:166:CYS:HB3	1.64	0.79
5:I:40:TRP:HB2	5:I:53:ILE:HB	1.64	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:P:35:TRP:HD1	3:P:48:ILE:HB	1.48	0.79
3:Q:35:TRP:HD1	3:Q:48:ILE:HB	1.48	0.79
4:T:62:ASP:HA	4:T:65:LYS:HZ2	1.46	0.79
1:B:490:PHE:HD1	1:B:491:PRO:HD2	1.48	0.79
4:S:62:ASP:HA	4:S:65:LYS:HZ2	1.47	0.79
2:D:30:SER:HA	2:D:71:ARG:NH1	1.98	0.78
6:K:65:LYS:HA	6:K:65:LYS:HE2	1.63	0.78
2:O:30:SER:HA	2:O:71:ARG:NH1	1.98	0.78
5:Z:40:TRP:HB2	5:Z:53:ILE:HB	1.64	0.78
5:J:40:TRP:HB2	5:J:53:ILE:HB	1.64	0.78
2:N:30:SER:HA	2:N:71:ARG:NH1	1.98	0.78
1:A:560:LEU:HB2	1:A:563:GLN:HG3	1.66	0.76
3:E:35:TRP:HD1	3:E:48:ILE:HB	1.48	0.76
1:C:331:ASN:HB2	1:C:580:GLN:HG2	1.66	0.76
1:B:490:PHE:CD1	1:B:491:PRO:HD2	2.20	0.76
6:M:90:ASP:N	6:M:90:ASP:OD1	2.19	0.76
7:U:30:LYS:HE2	7:U:91:ASP:HB2	1.68	0.76
1:B:563:GLN:HB3	1:C:41:LYS:HB2	1.68	0.75
6:K:52:SER:O	6:K:72:ARG:NH1	2.18	0.75
1:B:811:LYS:HD2	1:B:812:PRO:HD2	1.68	0.75
6:M:52:SER:O	6:M:72:ARG:NH1	2.18	0.75
5:J:43:GLN:HB2	5:J:49:PRO:HG3	1.68	0.75
4:S:113:ASP:OD1	4:S:113:ASP:N	2.19	0.75
5:I:43:GLN:HB2	5:I:49:PRO:HG3	1.68	0.75
6:K:52:SER:HB2	6:K:57:SER:HB2	1.69	0.74
4:T:113:ASP:N	4:T:113:ASP:OD1	2.19	0.74
6:K:83:MET:HB3	6:K:86:LEU:HD11	1.68	0.74
1:C:131:CYS:HA	1:C:166:CYS:HB3	1.69	0.74
1:B:1126:CYS:HB2	1:B:1132:ILE:HD13	1.70	0.74
4:H:62:ASP:HA	4:H:65:LYS:HZ2	1.52	0.73
5:Z:43:GLN:HB2	5:Z:49:PRO:HG3	1.68	0.73
6:M:83:MET:HB3	6:M:86:LEU:HD11	1.68	0.73
7:L:30:LYS:HE2	7:L:91:ASP:HB2	1.68	0.73
6:M:52:SER:HB2	6:M:57:SER:HB2	1.69	0.73
7:V:30:LYS:HE2	7:V:91:ASP:HB2	1.68	0.73
7:L:20:ILE:HD11	7:L:103:LEU:HD13	1.71	0.73
1:B:329:PHE:HB3	1:B:527:PRO:HB2	1.69	0.73
7:V:20:ILE:HD11	7:V:103:LEU:HD13	1.71	0.73
7:U:20:ILE:HD11	7:U:103:LEU:HD13	1.70	0.73
1:A:333:THR:O	1:A:335:LEU:N	2.17	0.72
3:Q:36:TYR:HB2	3:Q:87:TYR:HB2	1.71	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:59:ARG:HG3	5:J:59:ARG:HH11	1.55	0.72
3:P:36:TYR:HB2	3:P:87:TYR:HB2	1.71	0.72
3:E:36:TYR:HB2	3:E:87:TYR:HB2	1.71	0.72
4:H:113:ASP:N	4:H:113:ASP:OD1	2.19	0.72
6:K:90:ASP:OD1	6:K:90:ASP:N	2.19	0.71
5:I:59:ARG:HG3	5:I:59:ARG:HH11	1.55	0.71
1:A:969:ASN:ND2	1:A:972:ALA:O	2.23	0.71
6:K:62:ASP:OD2	4:S:87:ARG:NH1	2.23	0.71
1:A:204:TYR:HA	1:A:225:PRO:HA	1.72	0.71
6:K:70:ILE:HG22	6:K:81:LEU:HD12	1.73	0.71
5:Z:59:ARG:HH21	5:Z:65:ASP:HA	1.56	0.71
5:J:59:ARG:HH21	5:J:65:ASP:HA	1.56	0.70
4:S:39:GLN:HG2	4:S:93:VAL:HB	1.73	0.70
5:Z:59:ARG:HG3	5:Z:59:ARG:HH11	1.55	0.70
1:A:552:LEU:HD23	1:A:587:ILE:HD13	1.73	0.70
6:M:70:ILE:HG22	6:M:81:LEU:HD12	1.73	0.70
1:C:298:GLU:HB3	1:C:315:THR:HG21	1.72	0.70
5:J:95:GLN:NE2	5:J:100:PRO:O	2.25	0.70
4:T:39:GLN:HG2	4:T:93:VAL:HB	1.73	0.70
5:I:59:ARG:HH21	5:I:65:ASP:HA	1.56	0.69
5:I:95:GLN:NE2	5:I:100:PRO:O	2.25	0.69
6:K:60:TYR:HB3	6:K:64:VAL:HG23	1.74	0.69
5:Z:95:GLN:NE2	5:Z:100:PRO:O	2.25	0.69
4:H:39:GLN:HG2	4:H:93:VAL:HB	1.73	0.69
3:Q:55:GLN:OE1	3:Q:56:SER:N	2.25	0.69
1:A:357:ARG:HH12	1:B:167:THR:HA	1.57	0.69
1:B:330:PRO:CG	1:B:527:PRO:CG	2.67	0.69
1:B:350:VAL:HG12	1:B:422:ASN:HB3	1.74	0.69
3:E:55:GLN:OE1	3:E:56:SER:N	2.25	0.69
6:M:60:TYR:HB3	6:M:64:VAL:HG23	1.74	0.69
2:D:31:SER:C	2:D:32:ASN:HD22	1.97	0.69
6:K:67:ARG:NH1	6:K:87:ARG:HE	1.92	0.68
3:P:55:GLN:OE1	3:P:56:SER:N	2.25	0.68
2:O:31:SER:C	2:O:32:ASN:HD22	1.97	0.68
1:B:341:VAL:HG23	1:B:342:PHE:HD1	1.58	0.68
2:N:31:SER:C	2:N:32:ASN:HD22	1.97	0.68
1:A:18:LEU:HD21	1:A:258:TRP:HD1	1.58	0.68
1:B:330:PRO:HB2	1:B:527:PRO:CB	2.23	0.68
4:T:73:ASP:HB3	4:T:76:LYS:HB2	1.76	0.68
1:A:916:LEU:HD12	1:A:923:ILE:HD13	1.75	0.67
1:A:640:SER:OG	1:A:641:ASN:N	2.26	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:202:LYS:NZ	1:B:228:ASP:OD2	2.23	0.67
7:L:36:GLN:HG3	7:L:85:TYR:HE1	1.59	0.67
7:V:82:GLU:HG3	7:V:104:THR:HA	1.77	0.67
1:B:1104:VAL:HG23	1:B:1115:ILE:HG12	1.76	0.67
4:S:73:ASP:HB3	4:S:76:LYS:HB2	1.76	0.67
1:A:1104:VAL:HG23	1:A:1115:ILE:HG12	1.77	0.67
7:V:36:GLN:HG3	7:V:85:TYR:HE1	1.59	0.67
4:H:73:ASP:HB3	4:H:76:LYS:HB2	1.76	0.66
1:B:357:ARG:HD2	1:B:394:ASN:HD21	1.60	0.66
7:U:36:GLN:HG3	7:U:85:TYR:HE1	1.59	0.66
7:L:22:CYS:HB3	7:L:70:ALA:HB3	1.78	0.66
7:L:82:GLU:HG3	7:L:104:THR:HA	1.77	0.66
7:U:82:GLU:HG3	7:U:104:THR:HA	1.77	0.66
7:V:22:CYS:HB3	7:V:70:ALA:HB3	1.78	0.66
7:U:22:CYS:HB3	7:U:70:ALA:HB3	1.77	0.66
1:B:332:ILE:HD12	1:B:527:PRO:HD2	1.77	0.65
1:B:742:ILE:HG22	1:B:1000:ARG:HB3	1.79	0.65
1:A:707:TYR:HB2	1:B:883:THR:HG23	1.78	0.65
5:J:24:ARG:HG2	5:J:75:ASP:HA	1.79	0.65
5:I:24:ARG:HG2	5:I:75:ASP:HA	1.79	0.65
1:B:131:CYS:HA	1:B:166:CYS:CB	2.27	0.65
1:A:250:THR:HG22	1:A:256:SER:HB3	1.78	0.65
1:C:50:SER:HB2	1:C:276:LEU:HD13	1.78	0.65
6:M:67:ARG:NH1	6:M:87:ARG:HE	1.92	0.65
1:C:421:TYR:HD1	1:C:457:ARG:HB3	1.62	0.64
5:Z:24:ARG:HG2	5:Z:75:ASP:HA	1.79	0.64
1:A:759:PHE:HD2	1:A:1001:LEU:HD21	1.62	0.64
6:K:67:ARG:HG3	6:K:68:PHE:CD1	2.32	0.64
6:M:29:PHE:HD1	6:M:29:PHE:O	1.81	0.64
1:C:1104:VAL:HG23	1:C:1115:ILE:HG12	1.78	0.63
6:K:29:PHE:HD1	6:K:29:PHE:O	1.81	0.63
6:M:91:THR:HG22	6:M:123:VAL:H	1.63	0.63
3:P:2:ILE:HD12	3:P:27:GLN:HG2	1.80	0.63
1:B:1028:LYS:NZ	1:B:1042:PHE:O	2.31	0.63
1:B:971:GLY:HA3	1:B:995:ARG:HH21	1.62	0.63
1:A:821:LEU:HD11	1:A:939:SER:HB2	1.81	0.63
1:B:330:PRO:CB	1:B:527:PRO:CB	2.75	0.63
1:C:322:PRO:HG3	1:C:549:THR:HG21	1.79	0.63
5:Z:88:VAL:HG22	5:Z:110:GLU:HA	1.80	0.63
1:B:204:TYR:HA	1:B:225:PRO:HA	1.80	0.63
1:C:212:LEU:HD22	1:C:217:PRO:HA	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:I:88:VAL:HG22	5:I:110:GLU:HA	1.80	0.62
6:M:67:ARG:HG3	6:M:68:PHE:CD1	2.32	0.62
1:C:736:VAL:HG21	1:C:1004:LEU:HD11	1.81	0.62
6:K:91:THR:HG22	6:K:123:VAL:H	1.63	0.62
2:O:11:LEU:O	2:O:12:ILE:HD13	1.99	0.62
1:C:825:LYS:NZ	1:C:941:THR:O	2.32	0.62
2:D:11:LEU:O	2:D:12:ILE:HD13	1.99	0.62
3:E:2:ILE:HD12	3:E:27:GLN:HG2	1.80	0.62
1:A:19:THR:OG1	1:A:138:ASP:OD1	2.17	0.62
3:Q:2:ILE:HD12	3:Q:27:GLN:HG2	1.80	0.62
1:B:473:TYR:OH	2:N:31:SER:O	2.16	0.62
1:B:1045:LYS:HD2	1:C:786:LYS:NZ	2.15	0.62
1:B:330:PRO:N	1:B:527:PRO:HG2	2.08	0.62
2:N:11:LEU:O	2:N:12:ILE:HD13	1.99	0.62
1:B:330:PRO:CG	1:B:527:PRO:HB3	2.30	0.61
1:C:204:TYR:HA	1:C:225:PRO:HA	1.82	0.61
5:J:88:VAL:HG22	5:J:110:GLU:HA	1.80	0.61
3:P:32:ASP:OD1	3:P:92:ASN:ND2	2.33	0.61
1:B:449:TYR:HB3	6:K:28:ALA:HA	1.82	0.61
1:B:173:GLN:HG2	1:B:174:PRO:HD2	1.82	0.61
1:B:490:PHE:HD2	6:K:102:ARG:NE	1.96	0.61
1:A:563:GLN:O	1:A:577:ARG:NE	2.30	0.61
4:T:62:ASP:HA	4:T:65:LYS:NZ	2.15	0.61
1:B:64:TRP:HE1	1:B:264:ALA:HB1	1.66	0.60
1:C:454:ARG:HD3	1:C:491:PRO:HB2	1.81	0.60
4:H:62:ASP:HA	4:H:65:LYS:NZ	2.15	0.60
1:B:642:VAL:HG22	1:B:651:ILE:HG12	1.84	0.60
1:C:377:PHE:HE1	1:C:384:PRO:HB3	1.66	0.60
1:C:600:PRO:HG3	1:C:692:ILE:HD11	1.84	0.60
4:S:62:ASP:HA	4:S:65:LYS:NZ	2.15	0.60
1:B:379:CYS:HA	1:B:432:CYS:CB	2.30	0.60
1:A:111:ASP:OD1	1:A:134:GLN:NE2	2.28	0.60
1:A:729:VAL:HG22	1:A:1059:GLY:HA2	1.83	0.60
1:B:19:THR:OG1	1:B:138:ASP:OD1	2.20	0.60
1:B:332:ILE:HD11	1:B:526:GLY:O	2.00	0.59
1:C:642:VAL:HG22	1:C:651:ILE:HG22	1.84	0.59
1:A:736:VAL:HG21	1:A:1004:LEU:HD11	1.83	0.59
1:C:916:LEU:HD12	1:C:923:ILE:HD13	1.82	0.59
1:A:1129:VAL:HB	1:A:1132:ILE:HD11	1.84	0.59
2:N:32:ASN:OD1	2:N:97:ARG:NH1	2.36	0.59
1:B:248:TYR:H	1:B:257:GLY:HA3	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:358:ILE:HB	1:B:395:VAL:HB	1.84	0.59
6:K:100:ARG:HG2	6:K:101:GLY:HA3	1.85	0.59
5:J:66:ARG:NH1	5:J:82:ARG:O	2.36	0.59
2:O:63:VAL:HG13	2:O:67:PHE:HD2	1.68	0.59
3:Q:83:PHE:HB3	3:Q:106:ILE:HG12	1.85	0.59
1:B:156:GLU:HB3	4:T:106:THR:HG21	1.84	0.59
5:J:59:ARG:HG3	5:J:59:ARG:NH1	2.16	0.59
1:C:759:PHE:HD2	1:C:1001:LEU:HD21	1.67	0.59
2:O:32:ASN:OD1	2:O:97:ARG:NH1	2.36	0.59
1:B:874:THR:HG21	1:B:1055:SER:HB3	1.85	0.58
5:I:66:ARG:NH1	5:I:82:ARG:O	2.36	0.58
5:J:51:LEU:HD23	5:J:60:ALA:HB2	1.85	0.58
5:Z:51:LEU:HD23	5:Z:60:ALA:HB2	1.85	0.58
5:I:59:ARG:HG3	5:I:59:ARG:NH1	2.16	0.58
3:E:32:ASP:OD1	3:E:92:ASN:ND2	2.33	0.58
3:E:83:PHE:HB3	3:E:106:ILE:HG12	1.85	0.58
5:Z:66:ARG:NH1	5:Z:82:ARG:O	2.36	0.58
3:P:83:PHE:HB3	3:P:106:ILE:HG12	1.85	0.58
1:C:204:TYR:CD2	1:C:225:PRO:HB3	2.38	0.58
7:L:38:ARG:HG2	7:L:83:ALA:HB2	1.86	0.58
1:B:111:ASP:OD1	1:B:134:GLN:NE2	2.31	0.58
1:C:276:LEU:HD21	1:C:301:CYS:HA	1.86	0.58
2:D:63:VAL:HG13	2:D:67:PHE:HD2	1.68	0.58
1:A:1135:ASN:OD1	1:A:1136:THR:N	2.35	0.58
1:C:759:PHE:CD2	1:C:1001:LEU:HD21	2.39	0.58
7:L:79:ALA:HA	7:L:105:VAL:HG21	1.86	0.58
6:M:100:ARG:HG2	6:M:101:GLY:HA3	1.85	0.58
2:N:63:VAL:HG13	2:N:67:PHE:HD2	1.68	0.58
7:U:38:ARG:HG2	7:U:83:ALA:HB2	1.86	0.58
7:V:38:ARG:HG2	7:V:83:ALA:HB2	1.86	0.58
1:A:96:GLU:HG2	1:A:98:SER:O	2.04	0.57
1:A:568:ASP:OD1	1:A:569:ILE:N	2.37	0.57
3:Q:32:ASP:OD1	3:Q:92:ASN:ND2	2.33	0.57
6:K:64:VAL:HB	6:K:68:PHE:HB2	1.86	0.57
7:V:11:SER:HB2	7:V:104:THR:HB	1.86	0.57
3:P:6:GLN:HE22	3:P:87:TYR:HA	1.70	0.57
3:Q:6:GLN:HE22	3:Q:87:TYR:HA	1.70	0.57
1:B:379:CYS:HA	1:B:432:CYS:HB2	1.85	0.57
1:C:96:GLU:OE2	1:C:101:ILE:N	2.37	0.57
6:K:100:ARG:HG2	6:K:101:GLY:CA	2.34	0.57
7:V:79:ALA:HA	7:V:105:VAL:HG21	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:210:ILE:HG13	1:A:212:LEU:H	1.70	0.57
1:B:130:VAL:HG21	1:B:231:ILE:HD12	1.85	0.57
3:E:6:GLN:HE22	3:E:87:TYR:HA	1.70	0.57
7:L:11:SER:HB2	7:L:104:THR:HB	1.86	0.57
1:C:543:PHE:CE2	1:C:576:VAL:HG11	2.40	0.57
5:I:51:LEU:HD23	5:I:60:ALA:HB2	1.85	0.57
2:O:104:MET:N	3:Q:46:LEU:HD11	2.20	0.57
1:C:121:ASN:ND2	1:C:121:ASN:O	2.33	0.57
7:U:79:ALA:HA	7:U:105:VAL:HG21	1.86	0.57
1:A:118:LEU:HD12	1:A:135:PHE:HE1	1.69	0.56
1:B:749:CYS:SG	1:B:997:ILE:HD11	2.45	0.56
5:J:49:PRO:HG2	6:M:45:LEU:HD11	1.88	0.56
5:Z:15:PRO:HD3	5:Z:111:ILE:HD12	1.87	0.56
1:A:14:GLN:OE1	1:A:14:GLN:N	2.38	0.56
1:A:418:ILE:HA	1:A:422:ASN:HB2	1.88	0.56
1:A:722:VAL:HG22	1:A:930:ALA:HB1	1.87	0.56
1:B:456:PHE:HB3	1:B:473:TYR:CG	2.39	0.56
1:C:332:ILE:HG13	1:C:582:LEU:HD11	1.85	0.56
1:B:148:ASN:OD1	1:B:149:ASN:N	2.39	0.56
7:U:11:SER:HB2	7:U:104:THR:HB	1.86	0.56
1:A:148:ASN:OD1	1:A:149:ASN:N	2.34	0.56
1:A:826:VAL:HG11	1:A:1057:PRO:HG2	1.87	0.56
2:D:67:PHE:CE1	2:D:82:MET:HE3	2.41	0.56
6:M:64:VAL:HB	6:M:68:PHE:HB2	1.86	0.56
1:A:566:GLY:N	1:A:575:ALA:O	2.36	0.56
1:B:1107:ARG:HD2	1:C:904:TYR:CZ	2.40	0.56
6:M:100:ARG:HG2	6:M:101:GLY:CA	2.34	0.56
4:T:52:SER:HB2	4:T:57:GLN:HB2	1.88	0.56
1:A:126:VAL:HB	1:A:174:PRO:HA	1.88	0.56
1:A:333:THR:C	1:A:335:LEU:H	2.06	0.56
1:A:874:THR:HG21	1:A:1055:SER:HB3	1.87	0.56
4:H:52:SER:HB2	4:H:57:GLN:HB2	1.88	0.56
1:C:365:TYR:HB2	1:C:388:ASN:HB3	1.86	0.56
1:C:111:ASP:OD1	1:C:134:GLN:NE2	2.38	0.55
2:N:67:PHE:CE1	2:N:82:MET:HE3	2.41	0.55
1:A:130:VAL:HG21	1:A:231:ILE:HG23	1.87	0.55
1:B:811:LYS:NZ	1:B:820:ASP:OD2	2.39	0.55
1:C:50:SER:HA	1:C:276:LEU:HA	1.88	0.55
1:C:195:LYS:HG3	1:C:202:LYS:HB2	1.88	0.55
1:C:1126:CYS:SG	1:C:1132:ILE:HG21	2.47	0.55
5:Z:15:PRO:HD3	5:Z:111:ILE:HG23	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:813:SER:O	1:C:815:ARG:N	2.39	0.55
2:D:32:ASN:OD1	2:D:97:ARG:NH1	2.36	0.55
3:E:35:TRP:CD1	3:E:48:ILE:HB	2.37	0.55
1:B:329:PHE:C	1:B:527:PRO:CG	2.71	0.55
5:I:15:PRO:HD3	5:I:111:ILE:HD12	1.87	0.55
5:J:15:PRO:HD3	5:J:111:ILE:HD12	1.87	0.55
1:A:973:ILE:HG23	1:A:992:GLN:NE2	2.22	0.55
1:B:330:PRO:N	1:B:527:PRO:CB	2.62	0.55
1:B:355:ARG:HH12	1:B:464:PHE:HD2	1.52	0.55
3:E:27:GLN:N	3:E:27:GLN:OE1	2.40	0.55
3:P:27:GLN:N	3:P:27:GLN:OE1	2.40	0.55
5:Z:59:ARG:HG3	5:Z:59:ARG:NH1	2.16	0.55
1:A:885:GLY:HA2	1:A:901:GLN:NE2	2.22	0.55
1:B:53:ASP:OD1	1:B:54:LEU:N	2.34	0.55
1:C:16:VAL:HG21	1:C:254:SER:O	2.07	0.55
4:T:97:ALA:HB1	4:T:112:MET:HB3	1.88	0.55
1:B:945:LEU:HD23	1:B:948:LEU:HD12	1.88	0.54
3:Q:27:GLN:N	3:Q:27:GLN:OE1	2.40	0.54
4:S:52:SER:HB2	4:S:57:GLN:HB2	1.88	0.54
4:S:97:ALA:HB1	4:S:112:MET:HB3	1.88	0.54
1:B:739:THR:O	1:B:743:CYS:HB2	2.07	0.54
1:A:64:TRP:HE1	1:A:264:ALA:HB1	1.71	0.54
1:A:703:ASN:ND2	1:B:787:GLN:OE1	2.34	0.54
1:B:309:GLU:O	1:B:313:TYR:OH	2.15	0.54
5:I:15:PRO:HD3	5:I:111:ILE:HG23	1.89	0.54
1:A:724:THR:HG23	1:A:934:ILE:HD12	1.89	0.54
1:C:213:VAL:HG23	1:C:214:ARG:HG2	1.89	0.54
5:J:15:PRO:HD3	5:J:111:ILE:HG23	1.89	0.54
1:A:642:VAL:HG22	1:A:651:ILE:HG22	1.90	0.54
1:C:793:PRO:HG2	1:C:794:ILE:HD12	1.90	0.54
1:B:977:LEU:HD11	1:B:993:ILE:HG23	1.89	0.54
1:C:290:ASP:O	1:C:297:SER:HB3	2.07	0.54
2:D:90:THR:HG23	2:D:114:THR:HA	1.91	0.54
6:M:100:ARG:HA	6:M:113:ASP:HB2	1.90	0.54
1:B:611:LEU:HD11	1:B:666:ILE:HD12	1.91	0.53
1:C:108:THR:OG1	1:C:234:ASN:O	2.26	0.53
2:O:67:PHE:CE1	2:O:82:MET:HE3	2.43	0.53
1:A:231:ILE:HG22	1:A:233:ILE:HG12	1.91	0.53
1:B:406:GLU:OE1	1:B:495:TYR:OH	2.25	0.53
1:B:763:LEU:HD22	1:B:1008:VAL:HG21	1.90	0.53
1:B:903:ALA:HB1	1:B:913:GLN:HB2	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:318:PHE:HE2	1:C:615:VAL:HG11	1.73	0.53
5:J:59:ARG:HH11	5:J:59:ARG:CG	2.22	0.53
4:H:97:ALA:HB1	4:H:112:MET:HB3	1.88	0.53
7:V:37:GLN:HE21	7:V:86:PHE:HE1	1.55	0.53
1:A:121:ASN:O	1:A:121:ASN:ND2	2.36	0.53
1:C:30:ASN:HB3	1:C:32:PHE:HE1	1.73	0.53
5:I:33:ASN:HB3	6:K:105:TYR:CD2	2.43	0.53
1:B:870:ILE:O	1:B:874:THR:HG23	2.09	0.53
6:K:36:TRP:CD1	6:K:81:LEU:HD13	2.44	0.53
6:M:36:TRP:CD1	6:M:81:LEU:HD13	2.43	0.53
2:N:90:THR:HG23	2:N:114:THR:HA	1.90	0.53
1:A:212:LEU:HD22	1:A:217:PRO:HA	1.90	0.53
6:M:2:VAL:HG11	6:M:114:TYR:HD2	1.74	0.53
5:I:43:GLN:HB3	5:I:90:VAL:CG2	2.39	0.53
1:A:130:VAL:HG21	1:A:231:ILE:HD12	1.89	0.53
6:K:100:ARG:HA	6:K:113:ASP:HB2	1.90	0.53
1:C:376:THR:HB	1:C:435:ALA:HB3	1.91	0.53
1:C:716:THR:OG1	1:C:1071:GLN:O	2.18	0.53
3:E:54:LEU:HD22	5:Z:62:GLY:HA2	1.91	0.53
5:J:43:GLN:HB3	5:J:90:VAL:CG2	2.39	0.53
1:B:130:VAL:O	1:B:166:CYS:HB2	2.09	0.53
2:O:68:THR:O	2:O:81:GLN:N	2.35	0.53
1:A:813:SER:HB3	1:A:868:GLU:HG3	1.90	0.52
1:C:880:GLY:O	1:C:884:SER:OG	2.22	0.52
5:I:32:SER:HB3	5:I:37:TYR:CZ	2.45	0.52
6:K:2:VAL:HG11	6:K:114:TYR:HD2	1.74	0.52
5:Z:32:SER:HB3	5:Z:37:TYR:CZ	2.45	0.52
1:B:483:VAL:HA	6:K:106:ASP:OD1	2.09	0.52
5:Z:59:ARG:HH11	5:Z:59:ARG:CG	2.22	0.52
1:A:402:ILE:HD11	1:A:510:VAL:HG21	1.92	0.52
2:N:68:THR:O	2:N:81:GLN:N	2.35	0.52
1:A:156:GLU:OE2	1:A:158:ARG:NH2	2.35	0.52
5:J:32:SER:HB3	5:J:37:TYR:CZ	2.44	0.52
1:A:895:GLN:HB3	1:C:705:VAL:HG12	1.89	0.52
1:B:332:ILE:CG2	1:B:335:LEU:HB3	2.39	0.52
1:B:350:VAL:HG21	1:B:402:ILE:HG22	1.90	0.52
1:A:28:TYR:HE1	1:A:63:THR:HG22	1.73	0.52
1:A:1039:ARG:HD3	1:B:1039:ARG:HD2	1.90	0.52
1:B:14:GLN:HA	4:T:31:SER:HA	1.92	0.52
1:B:462:LYS:HB2	1:B:465:GLU:HG3	1.91	0.52
5:Z:4:MET:HG2	5:Z:25:SER:HA	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:562:PHE:CD2	1:B:41:LYS:HD3	2.45	0.52
4:H:117:GLN:CD	4:H:117:GLN:H	2.13	0.52
2:N:6:GLU:H	2:N:109:GLN:HE22	1.57	0.52
2:O:35:THR:HG22	2:O:50:VAL:HB	1.92	0.52
1:B:736:VAL:O	1:B:764:ASN:ND2	2.43	0.52
1:C:749:CYS:HB2	1:C:993:ILE:HD11	1.91	0.52
4:H:29:PHE:HD2	4:H:77:LYS:HA	1.75	0.52
1:B:90:VAL:HG11	1:B:238:PHE:CE1	2.45	0.52
5:I:59:ARG:HH11	5:I:59:ARG:CG	2.22	0.52
6:K:29:PHE:O	6:K:72:ARG:NH2	2.43	0.52
2:O:90:THR:HG23	2:O:114:THR:HA	1.91	0.52
5:Z:43:GLN:HB3	5:Z:90:VAL:CG2	2.39	0.52
1:C:18:LEU:HD21	1:C:258:TRP:HD1	1.74	0.52
4:H:49:SER:OG	4:H:50:SER:N	2.43	0.51
4:T:49:SER:OG	4:T:50:SER:N	2.43	0.51
1:B:1116:THR:OG1	1:B:1118:ASP:OD1	2.19	0.51
1:C:350:VAL:HG11	1:C:418:ILE:HD12	1.93	0.51
1:C:644:GLN:HA	1:C:649:CYS:HB2	1.91	0.51
4:S:117:GLN:H	4:S:117:GLN:CD	2.13	0.51
4:T:29:PHE:HD2	4:T:77:LYS:HA	1.75	0.51
1:C:96:GLU:OE1	1:C:101:ILE:HB	2.10	0.51
4:S:29:PHE:HD2	4:S:77:LYS:HA	1.75	0.51
4:T:117:GLN:CD	4:T:117:GLN:H	2.13	0.51
5:Z:59:ARG:HB2	5:Z:63:VAL:HG21	1.93	0.51
1:A:995:ARG:HH11	1:A:995:ARG:HG2	1.75	0.51
1:A:1106:GLN:HE21	1:A:1109:PHE:HB3	1.76	0.51
1:C:307:THR:HA	1:C:602:THR:HG21	1.92	0.51
7:L:37:GLN:HE21	7:L:86:PHE:HE1	1.55	0.51
2:O:70:SER:OG	2:O:79:TYR:HB2	2.11	0.51
3:P:30:SER:HA	3:P:68:GLY:N	2.22	0.51
3:Q:2:ILE:HB	3:Q:90:GLN:HE22	1.76	0.51
1:B:346:ARG:NH2	1:B:451:TYR:OH	2.43	0.51
1:B:776:LYS:NZ	1:B:780:GLU:OE1	2.41	0.51
1:A:225:PRO:HG2	1:C:562:PHE:CZ	2.46	0.51
1:A:722:VAL:HG12	1:A:1065:VAL:HG22	1.92	0.51
1:C:853:GLN:HE21	1:C:855:PHE:HE1	1.58	0.51
3:E:2:ILE:HB	3:E:90:GLN:HE22	1.76	0.51
5:J:59:ARG:HB2	5:J:63:VAL:HG21	1.93	0.51
6:M:29:PHE:O	6:M:72:ARG:NH2	2.43	0.51
2:O:6:GLU:H	2:O:109:GLN:HE22	1.57	0.51
1:A:449:TYR:HD2	1:A:494:SER:HB3	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:553:THR:O	1:A:586:ASP:N	2.22	0.51
1:B:598:ILE:HD11	1:B:611:LEU:CD1	2.41	0.51
1:B:705:VAL:HG12	1:C:895:GLN:HB3	1.93	0.51
5:I:4:MET:HG2	5:I:25:SER:HA	1.92	0.51
6:K:24:ALA:HB3	6:K:29:PHE:CD2	2.46	0.51
4:S:49:SER:OG	4:S:50:SER:N	2.43	0.51
1:A:333:THR:C	1:A:335:LEU:N	2.65	0.51
1:C:481:ASN:HB2	5:Z:33:ASN:HB2	1.93	0.51
2:N:70:SER:OG	2:N:79:TYR:HB2	2.11	0.51
1:B:1045:LYS:HD2	1:C:786:LYS:HZ3	1.75	0.51
1:C:310:LYS:HG3	1:C:600:PRO:HA	1.93	0.51
2:D:35:THR:HG22	2:D:50:VAL:HB	1.92	0.51
5:J:4:MET:HG2	5:J:25:SER:HA	1.92	0.51
1:A:108:THR:OG1	1:A:234:ASN:O	2.28	0.50
1:A:1105:THR:HG22	1:A:1112:PRO:HA	1.92	0.50
1:B:130:VAL:HG21	1:B:231:ILE:HG23	1.92	0.50
2:D:6:GLU:H	2:D:109:GLN:HE22	1.57	0.50
5:I:31:HIS:HA	5:I:34:GLY:H	1.76	0.50
2:O:6:GLU:H	2:O:109:GLN:NE2	2.10	0.50
1:A:357:ARG:NH2	1:B:167:THR:O	2.44	0.50
1:B:176:LEU:HD23	1:B:190:ARG:HE	1.75	0.50
1:C:143:VAL:HG21	1:C:243:ALA:HB1	1.93	0.50
2:O:45:LEU:HD11	3:Q:44:PRO:HG2	1.94	0.50
3:P:2:ILE:HB	3:P:90:GLN:HE22	1.76	0.50
4:T:69:THR:HB	4:T:82:GLN:HB3	1.93	0.50
2:D:15:GLY:N	2:D:85:LEU:O	2.32	0.50
4:H:104:SER:HA	4:H:107:TRP:CD2	2.46	0.50
6:M:24:ALA:HB3	6:M:29:PHE:CD2	2.46	0.50
4:T:104:SER:HA	4:T:107:TRP:CD2	2.46	0.50
1:C:403:ARG:HG2	1:C:497:PHE:HE1	1.76	0.50
1:C:421:TYR:CD1	1:C:457:ARG:HB3	2.45	0.50
2:N:6:GLU:H	2:N:109:GLN:NE2	2.10	0.50
3:P:35:TRP:CD1	3:P:48:ILE:HB	2.37	0.50
1:B:825:LYS:NZ	1:B:941:THR:O	2.44	0.50
2:D:68:THR:O	2:D:81:GLN:N	2.35	0.50
6:M:19:ARG:HG2	6:M:81:LEU:O	2.11	0.50
1:B:213:VAL:HG23	1:B:214:ARG:H	1.77	0.50
1:C:105:ILE:HD11	1:C:239:GLN:HB3	1.94	0.50
5:J:31:HIS:HA	5:J:34:GLY:H	1.77	0.50
1:A:461:LEU:HG	1:A:465:GLU:HB3	1.92	0.50
1:C:90:VAL:HG11	1:C:238:PHE:CE1	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:189:LEU:HD22	1:C:210:ILE:HD12	1.93	0.50
5:I:59:ARG:HB2	5:I:63:VAL:HG21	1.93	0.50
1:A:1086:LYS:HD3	1:A:1122:VAL:HG21	1.92	0.49
1:B:383:SER:HB2	1:B:386:LYS:HD3	1.94	0.49
6:K:19:ARG:HG2	6:K:81:LEU:O	2.11	0.49
1:B:121:ASN:HD21	1:B:176:LEU:HD13	1.77	0.49
2:D:40:ALA:HB3	2:D:43:LYS:HD2	1.94	0.49
2:D:70:SER:OG	2:D:79:TYR:HB2	2.11	0.49
5:J:36:LEU:HD11	5:J:73:GLY:H	1.77	0.49
2:N:35:THR:HG22	2:N:50:VAL:HB	1.92	0.49
1:A:102:ARG:HH21	1:A:122:ASN:HA	1.77	0.49
1:B:212:LEU:HD22	1:B:217:PRO:HA	1.93	0.49
1:C:1080:ALA:HB3	1:C:1132:ILE:HD13	1.93	0.49
5:Z:31:HIS:HA	5:Z:34:GLY:H	1.77	0.49
1:B:756:TYR:OH	1:B:998:THR:OG1	2.30	0.49
2:O:103:GLY:CA	3:Q:46:LEU:HD21	2.41	0.49
1:C:19:THR:OG1	1:C:138:ASP:OD1	2.28	0.49
2:D:6:GLU:H	2:D:109:GLN:NE2	2.10	0.49
5:I:36:LEU:HD11	5:I:73:GLY:H	1.77	0.49
4:T:83:MET:CE	4:T:86:LEU:HD21	2.43	0.49
1:A:1129:VAL:HG13	1:B:917:TYR:HB3	1.95	0.49
1:C:106:PHE:CD1	1:C:238:PHE:HB2	2.48	0.49
1:C:815:ARG:HD2	1:C:820:ASP:OD1	2.13	0.49
5:I:7:SER:N	5:I:22:SER:O	2.42	0.49
2:N:15:GLY:N	2:N:85:LEU:O	2.32	0.49
5:Z:36:LEU:HD11	5:Z:73:GLY:H	1.77	0.49
3:E:30:SER:HA	3:E:68:GLY:N	2.22	0.49
4:S:104:SER:HA	4:S:107:TRP:CD2	2.46	0.49
4:S:69:THR:HB	4:S:82:GLN:HB3	1.93	0.49
7:V:36:GLN:HG3	7:V:85:TYR:CE1	2.45	0.49
1:B:329:PHE:H	1:B:530:SER:HB2	1.78	0.49
1:C:96:GLU:OE2	1:C:100:ILE:N	2.44	0.49
1:C:318:PHE:CE2	1:C:615:VAL:HG11	2.48	0.49
4:H:69:THR:HB	4:H:82:GLN:HB3	1.93	0.49
4:S:83:MET:CE	4:S:86:LEU:HD21	2.43	0.49
5:Z:42:LEU:HD13	5:Z:91:TYR:CE1	2.48	0.49
1:B:395:VAL:HG22	1:B:515:PHE:HD1	1.78	0.49
1:B:763:LEU:HD21	1:B:1005:GLN:OE1	2.12	0.49
6:M:47:TRP:HZ2	6:M:50:ALA:HB2	1.78	0.49
5:Z:7:SER:N	5:Z:22:SER:O	2.42	0.49
1:A:324:GLU:OE2	1:A:534:VAL:HG21	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:912:THR:HG23	1:A:1106:GLN:OE1	2.13	0.48
1:C:299:THR:OG1	1:C:597:VAL:HG11	2.12	0.48
5:J:42:LEU:HD13	5:J:91:TYR:CE1	2.48	0.48
2:N:40:ALA:HB3	2:N:43:LYS:HD2	1.95	0.48
3:P:6:GLN:O	3:P:100:GLN:NE2	2.46	0.48
3:Q:35:TRP:CD1	3:Q:48:ILE:HB	2.37	0.48
1:A:39:PRO:HG3	1:A:55:PHE:HZ	1.78	0.48
1:C:870:ILE:O	1:C:874:THR:HG23	2.13	0.48
4:H:83:MET:CE	4:H:86:LEU:HD21	2.43	0.48
1:A:716:THR:HG21	1:A:1073:LYS:HE3	1.94	0.48
1:A:1106:GLN:NE2	1:A:1109:PHE:HB3	2.28	0.48
6:K:47:TRP:HZ2	6:K:50:ALA:HB2	1.78	0.48
2:O:12:ILE:HG12	2:O:18:LEU:HD22	1.95	0.48
2:O:40:ALA:HB3	2:O:43:LYS:HD2	1.95	0.48
1:C:905:ARG:HD3	1:C:1049:LEU:O	2.13	0.48
3:E:6:GLN:O	3:E:100:GLN:NE2	2.46	0.48
1:A:826:VAL:HG11	1:A:1057:PRO:CG	2.43	0.48
1:A:873:TYR:CZ	1:C:699:LEU:HD22	2.49	0.48
1:B:560:LEU:H	1:B:563:GLN:CD	2.16	0.48
1:B:726:ILE:HG13	1:B:1061:VAL:HG22	1.95	0.48
1:C:402:ILE:HD11	1:C:510:VAL:HG21	1.94	0.48
5:I:42:LEU:HD13	5:I:91:TYR:CE1	2.48	0.48
1:B:421:TYR:HA	1:B:461:LEU:HD13	1.95	0.48
1:C:128:ILE:HD13	1:C:229:LEU:HD11	1.95	0.48
2:D:51:ILE:HG21	2:D:71:ARG:HD3	1.96	0.48
4:S:51:ILE:HG12	4:S:55:GLY:HA2	1.95	0.48
7:U:37:GLN:HE21	7:U:86:PHE:HE1	1.55	0.48
2:D:12:ILE:HG12	2:D:18:LEU:HD22	1.95	0.48
5:J:83:VAL:HG13	5:J:109:LEU:HD21	1.96	0.48
6:K:9:GLY:HA2	6:K:18:LEU:HD21	1.96	0.48
3:Q:6:GLN:O	3:Q:100:GLN:NE2	2.46	0.48
4:T:51:ILE:HG12	4:T:55:GLY:HA2	1.95	0.48
5:Z:83:VAL:HG13	5:Z:109:LEU:HD21	1.96	0.48
1:A:813:SER:OG	1:A:815:ARG:HG3	2.14	0.48
1:A:989:ALA:O	1:A:993:ILE:HG12	2.14	0.48
1:B:551:VAL:HG22	1:B:588:THR:HB	1.95	0.48
1:B:825:LYS:HE3	1:B:942:PRO:HA	1.95	0.48
7:L:38:ARG:O	7:L:41:GLN:HB2	2.14	0.48
2:N:12:ILE:HG12	2:N:18:LEU:HD22	1.95	0.48
4:S:47:TRP:NE1	4:S:49:SER:O	2.47	0.48
7:V:38:ARG:O	7:V:41:GLN:HB2	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:190:ARG:HG3	1:A:207:HIS:ND1	2.29	0.48
1:A:276:LEU:HB3	1:A:289:VAL:HG22	1.96	0.48
1:A:770:ILE:O	1:A:774:GLN:HG2	2.14	0.48
1:B:611:LEU:HD11	1:B:666:ILE:HG23	1.95	0.48
1:B:616:ASN:O	1:B:618:THR:N	2.42	0.48
4:H:39:GLN:N	4:H:93:VAL:O	2.40	0.48
4:H:47:TRP:NE1	4:H:49:SER:O	2.47	0.48
4:H:51:ILE:HG12	4:H:55:GLY:HA2	1.96	0.48
4:T:18:LEU:HB2	4:T:86:LEU:HD11	1.96	0.48
2:O:51:ILE:HG21	2:O:71:ARG:HD3	1.96	0.47
7:V:48:TYR:HD1	7:V:49:GLN:HG3	1.79	0.47
1:B:329:PHE:H	1:B:530:SER:CB	2.26	0.47
1:B:1051:SER:OG	1:B:1064:HIS:ND1	2.40	0.47
5:J:54:TYR:H	5:J:54:TYR:HD1	1.63	0.47
3:Q:17:ASP:O	3:Q:78:LEU:HG	2.15	0.47
4:S:18:LEU:HB2	4:S:86:LEU:HD11	1.96	0.47
1:A:456:PHE:HB2	1:A:491:PRO:HA	1.96	0.47
1:B:199:GLY:HA2	1:B:232:GLY:HA2	1.96	0.47
1:B:856:ASN:HD21	1:B:966:LEU:HD13	1.79	0.47
1:C:34:ARG:NH2	1:C:217:PRO:HG2	2.29	0.47
1:C:403:ARG:HD2	1:C:505:TYR:HA	1.94	0.47
1:C:1090:PRO:HD3	1:C:1095:PHE:CE2	2.49	0.47
4:T:47:TRP:NE1	4:T:49:SER:O	2.47	0.47
7:V:37:GLN:HB3	7:V:84:ALA:HB3	1.97	0.47
1:C:276:LEU:O	1:C:277:LEU:HG	2.13	0.47
4:H:117:GLN:OE1	4:H:117:GLN:N	2.47	0.47
4:S:29:PHE:HE1	4:S:34:MET:SD	2.38	0.47
7:U:37:GLN:HB3	7:U:84:ALA:HB3	1.97	0.47
1:A:562:PHE:O	1:A:564:GLN:NE2	2.42	0.47
1:B:108:THR:OG1	1:B:234:ASN:O	2.33	0.47
1:B:330:PRO:CG	1:B:527:PRO:CB	2.89	0.47
1:B:355:ARG:NH1	1:B:464:PHE:HD2	2.12	0.47
3:E:17:ASP:O	3:E:78:LEU:HG	2.14	0.47
7:L:22:CYS:N	7:L:70:ALA:O	2.48	0.47
4:S:117:GLN:N	4:S:117:GLN:OE1	2.47	0.47
5:Z:54:TYR:HD1	5:Z:54:TYR:H	1.63	0.47
1:A:357:ARG:C	1:A:357:ARG:HD2	2.35	0.47
1:B:96:GLU:OE2	1:B:101:ILE:N	2.47	0.47
1:B:358:ILE:N	1:B:395:VAL:O	2.48	0.47
1:C:770:ILE:O	1:C:774:GLN:HG2	2.15	0.47
5:I:16:GLY:HA2	5:I:82:ARG:HG3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:I:83:VAL:HG13	5:I:109:LEU:HD21	1.96	0.47
7:L:48:TYR:HD1	7:L:49:GLN:HG3	1.79	0.47
6:M:100:ARG:HG2	6:M:101:GLY:N	2.29	0.47
7:U:36:GLN:HG3	7:U:85:TYR:CE1	2.45	0.47
1:A:124:THR:C	1:A:174:PRO:HD3	2.35	0.47
1:A:213:VAL:HG23	1:A:214:ARG:H	1.79	0.47
1:A:811:LYS:HB3	1:A:812:PRO:HD2	1.96	0.47
1:B:86:PHE:HB2	1:B:238:PHE:HD1	1.79	0.47
1:C:148:ASN:OD1	1:C:149:ASN:N	2.46	0.47
7:U:22:CYS:N	7:U:70:ALA:O	2.48	0.47
7:U:48:TYR:HD1	7:U:49:GLN:HG3	1.79	0.47
1:B:294:ASP:N	1:B:294:ASP:OD1	2.46	0.47
1:B:332:ILE:HD11	1:B:526:GLY:C	2.36	0.47
1:C:748:GLU:HG2	1:C:981:LEU:HD21	1.95	0.47
2:N:51:ILE:HG21	2:N:71:ARG:HD3	1.96	0.47
4:T:117:GLN:OE1	4:T:117:GLN:N	2.47	0.47
7:V:22:CYS:N	7:V:70:ALA:O	2.48	0.47
1:A:104:TRP:HB2	1:A:106:PHE:CE1	2.50	0.47
1:A:870:ILE:O	1:A:874:THR:HG23	2.15	0.47
1:B:105:ILE:HD11	1:B:239:GLN:HB3	1.97	0.47
1:C:749:CYS:SG	1:C:997:ILE:HD11	2.54	0.47
5:I:54:TYR:HD1	5:I:54:TYR:H	1.63	0.47
7:L:36:GLN:HG3	7:L:85:TYR:CE1	2.45	0.47
7:U:38:ARG:O	7:U:41:GLN:HB2	2.14	0.47
1:C:309:GLU:O	1:C:313:TYR:OH	2.22	0.47
4:H:83:MET:HE3	4:H:86:LEU:HD21	1.96	0.47
6:M:9:GLY:HA2	6:M:18:LEU:HD21	1.96	0.47
4:T:29:PHE:HE1	4:T:34:MET:SD	2.38	0.47
1:B:811:LYS:HG3	1:B:812:PRO:O	2.15	0.46
7:L:37:GLN:HB3	7:L:84:ALA:HB3	1.97	0.46
4:T:45:LEU:HD11	7:V:43:PRO:HG2	1.97	0.46
1:A:821:LEU:HD21	1:A:939:SER:HA	1.98	0.46
1:B:481:ASN:O	5:I:33:ASN:ND2	2.40	0.46
1:C:144:TYR:OH	1:C:156:GLU:OE2	2.28	0.46
4:H:18:LEU:HB2	4:H:86:LEU:HD11	1.96	0.46
4:H:29:PHE:HE1	4:H:34:MET:SD	2.38	0.46
5:J:16:GLY:HA2	5:J:82:ARG:HG3	1.97	0.46
3:P:37:GLN:HB2	3:P:86:TYR:CE2	2.50	0.46
1:B:298:GLU:HG2	1:B:315:THR:HB	1.97	0.46
1:B:374:PHE:HA	1:B:436:TRP:HB3	1.97	0.46
1:C:543:PHE:CD2	1:C:576:VAL:HG11	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:379:CYS:HA	1:B:432:CYS:HB3	1.95	0.46
4:H:12:VAL:HG11	4:H:18:LEU:HG	1.98	0.46
3:Q:37:GLN:HB2	3:Q:86:TYR:CE2	2.50	0.46
1:A:567:ARG:HD3	1:A:571:ASP:HA	1.96	0.46
3:E:37:GLN:HB2	3:E:86:TYR:CE2	2.50	0.46
6:K:67:ARG:HG3	6:K:68:PHE:HD1	1.78	0.46
4:S:12:VAL:HG11	4:S:18:LEU:HG	1.98	0.46
1:A:30:ASN:HB3	1:A:32:PHE:CE1	2.50	0.46
1:A:1090:PRO:HD3	1:A:1095:PHE:CE2	2.51	0.46
1:B:553:THR:O	1:B:586:ASP:N	2.41	0.46
1:C:425:LEU:HD23	1:C:425:LEU:HA	1.73	0.46
3:E:70:ASP:OD1	3:E:70:ASP:C	2.54	0.46
2:N:33:TYR:HE2	2:N:52:TYR:HD1	1.64	0.46
4:S:98:THR:O	4:S:112:MET:HA	2.16	0.46
5:Z:16:GLY:HA2	5:Z:82:ARG:HG3	1.97	0.46
1:A:1053:PRO:O	1:A:1054:GLN:NE2	2.45	0.46
1:B:303:LEU:HD13	1:B:308:VAL:HG23	1.98	0.46
1:B:317:ASN:ND2	1:C:737:ASP:OD2	2.49	0.46
1:B:825:LYS:HD3	1:B:945:LEU:HD13	1.98	0.46
1:C:993:ILE:O	1:C:997:ILE:HG12	2.16	0.46
4:H:98:THR:O	4:H:112:MET:HA	2.16	0.46
3:P:17:ASP:O	3:P:78:LEU:HG	2.14	0.46
1:A:807:PRO:HB3	1:A:814:LYS:O	2.15	0.46
1:B:552:LEU:HA	1:B:586:ASP:O	2.16	0.46
1:B:308:VAL:HG12	1:B:602:THR:HG23	1.98	0.46
1:C:27:ALA:O	1:C:64:TRP:N	2.44	0.46
1:C:802:PHE:HZ	1:C:898:PHE:CZ	2.34	0.46
1:C:990:GLU:HA	1:C:993:ILE:HG22	1.96	0.46
6:M:2:VAL:HG11	6:M:114:TYR:CD2	2.51	0.46
3:P:35:TRP:CZ3	3:P:88:CYS:HB3	2.51	0.46
3:P:70:ASP:OD1	3:P:70:ASP:C	2.54	0.46
1:A:103:GLY:HA3	1:A:119:ILE:O	2.16	0.46
1:A:134:GLN:HB3	1:A:162:SER:H	1.80	0.46
1:A:726:ILE:HG13	1:A:1061:VAL:HG22	1.98	0.46
1:B:106:PHE:HB3	1:B:235:ILE:HD13	1.98	0.46
1:B:231:ILE:HG22	1:B:233:ILE:HG12	1.96	0.46
1:C:106:PHE:HD1	1:C:238:PHE:HB2	1.80	0.46
1:C:350:VAL:HG21	1:C:418:ILE:HG23	1.98	0.46
2:D:33:TYR:HE2	2:D:52:TYR:HD1	1.64	0.46
1:B:290:ASP:HB2	1:B:293:LEU:HB2	1.97	0.45
1:C:190:ARG:HG3	1:C:207:HIS:ND1	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:878:LEU:HA	1:C:881:THR:HG22	1.97	0.45
4:S:38:ARG:HA	4:S:94:TYR:HA	1.98	0.45
4:T:98:THR:O	4:T:112:MET:HA	2.16	0.45
7:V:48:TYR:HE1	7:V:52:LYS:HE2	1.82	0.45
5:J:6:GLN:HG2	5:J:23:CYS:HB2	1.98	0.45
2:N:18:LEU:HB3	2:N:82:MET:HB2	1.99	0.45
2:O:15:GLY:N	2:O:85:LEU:O	2.32	0.45
2:O:18:LEU:HB3	2:O:82:MET:HB2	1.99	0.45
1:B:103:GLY:HA3	1:B:119:ILE:O	2.16	0.45
1:B:566:GLY:O	1:B:573:THR:HA	2.17	0.45
5:I:31:HIS:O	5:I:31:HIS:ND1	2.49	0.45
5:J:7:SER:HA	5:J:8:PRO:HA	1.79	0.45
1:A:34:ARG:HD2	1:A:191:GLU:OE2	2.17	0.45
1:A:121:ASN:HD22	1:A:121:ASN:C	2.14	0.45
1:B:971:GLY:HA3	1:B:995:ARG:NH2	2.30	0.45
1:C:472:ILE:HD13	1:C:472:ILE:HA	1.80	0.45
1:C:551:VAL:O	1:C:587:ILE:HA	2.17	0.45
1:C:662:CYS:HB2	1:C:671:CYS:HB3	1.68	0.45
4:H:38:ARG:HA	4:H:94:TYR:HA	1.98	0.45
4:T:38:ARG:HA	4:T:94:TYR:HA	1.98	0.45
1:B:490:PHE:CD2	6:K:102:ARG:HB2	2.51	0.45
1:C:193:VAL:HB	1:C:204:TYR:HB2	1.98	0.45
6:K:12:VAL:HG21	6:K:86:LEU:HD22	1.99	0.45
6:M:67:ARG:HG3	6:M:68:PHE:HD1	1.78	0.45
5:Z:6:GLN:HG2	5:Z:23:CYS:HB2	1.98	0.45
1:A:53:ASP:OD1	1:A:54:LEU:N	2.40	0.45
1:A:980:ILE:HD11	1:A:993:ILE:HD13	1.99	0.45
1:A:1030:SER:HB3	1:C:1041:ASP:HB2	1.99	0.45
1:B:449:TYR:HD1	1:B:494:SER:HG	1.65	0.45
3:E:35:TRP:CZ3	3:E:88:CYS:HB3	2.51	0.45
1:A:335:LEU:HD22	1:A:335:LEU:HA	1.85	0.45
1:A:438:SER:HB2	1:A:509:ARG:HG3	1.99	0.45
1:A:1080:ALA:HB3	1:A:1132:ILE:HG12	1.99	0.45
1:C:528:LYS:HE2	1:C:528:LYS:HB3	1.73	0.45
1:C:644:GLN:HA	1:C:649:CYS:CB	2.46	0.45
3:P:82:ASP:OD1	3:P:86:TYR:OH	2.34	0.45
4:T:12:VAL:HG11	4:T:18:LEU:HG	1.98	0.45
1:A:749:CYS:SG	1:A:997:ILE:HD11	2.57	0.45
1:A:903:ALA:HB1	1:A:913:GLN:HG2	1.97	0.45
1:B:977:LEU:HD12	1:B:980:ILE:HD11	1.99	0.45
3:E:82:ASP:OD1	3:E:86:TYR:OH	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:Q:35:TRP:CZ3	3:Q:88:CYS:HB3	2.51	0.45
3:Q:70:ASP:C	3:Q:70:ASP:OD1	2.54	0.45
1:B:328:ARG:HA	1:B:328:ARG:HD2	1.82	0.44
1:B:498:GLN:HG3	1:B:499:PRO:HD2	1.99	0.44
1:B:916:LEU:HD12	1:B:923:ILE:HD12	2.00	0.44
5:J:92:TYR:OH	6:M:44:GLY:HA2	2.17	0.44
7:L:48:TYR:HE1	7:L:52:LYS:HE2	1.82	0.44
1:A:546:LEU:HD11	1:A:565:PHE:CD2	2.52	0.44
1:B:141:LEU:O	1:B:243:ALA:HA	2.16	0.44
1:B:391:CYS:HB3	1:B:522:ALA:HB1	1.99	0.44
1:B:922:LEU:O	1:B:926:GLN:HG3	2.17	0.44
1:B:984:LEU:HD23	1:B:988:GLU:HB3	1.99	0.44
1:C:33:THR:HG22	1:C:220:PHE:HD1	1.82	0.44
1:C:296:LEU:HB2	1:C:608:VAL:HG21	2.00	0.44
5:I:6:GLN:HG2	5:I:23:CYS:HB2	1.98	0.44
4:S:34:MET:SD	4:S:98:THR:HG22	2.58	0.44
4:T:83:MET:HE2	4:T:86:LEU:HD21	1.99	0.44
1:A:825:LYS:NZ	1:A:941:THR:O	2.48	0.44
1:B:365:TYR:HD1	1:B:388:ASN:HB3	1.83	0.44
1:B:1045:LYS:HD2	1:C:786:LYS:HZ1	1.83	0.44
1:C:322:PRO:HA	1:C:538:CYS:O	2.17	0.44
1:C:908:GLY:O	1:C:1038:LYS:HE3	2.17	0.44
3:Q:82:ASP:OD1	3:Q:86:TYR:OH	2.34	0.44
1:A:357:ARG:HH12	1:B:167:THR:CA	2.29	0.44
1:A:780:GLU:OE2	1:A:1019:ARG:NH1	2.50	0.44
1:B:150:LYS:HA	1:B:150:LYS:HD3	1.84	0.44
1:B:290:ASP:O	1:B:297:SER:HB3	2.17	0.44
1:B:1106:GLN:HE21	1:B:1109:PHE:HB3	1.82	0.44
1:C:130:VAL:O	1:C:166:CYS:HB2	2.18	0.44
6:M:12:VAL:HG21	6:M:86:LEU:HD22	1.99	0.44
6:M:29:PHE:O	6:M:29:PHE:CD1	2.66	0.44
2:O:67:PHE:CD1	2:O:82:MET:HA	2.52	0.44
7:U:57:ILE:HD13	7:U:57:ILE:HA	1.80	0.44
1:A:346:ARG:HG2	1:A:346:ARG:HH11	1.82	0.44
1:A:406:GLU:HA	1:A:409:GLN:HG3	1.99	0.44
1:A:901:GLN:HE21	1:A:905:ARG:HH21	1.66	0.44
1:C:278:LYS:N	1:C:287:ASP:O	2.45	0.44
1:C:560:LEU:HB2	1:C:562:PHE:CZ	2.53	0.44
2:D:18:LEU:HB3	2:D:82:MET:HB2	1.99	0.44
2:D:67:PHE:CD1	2:D:82:MET:HA	2.53	0.44
3:E:7:SER:HA	3:E:8:PRO:HA	1.79	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:I:7:SER:HA	5:I:8:PRO:HA	1.79	0.44
1:A:193:VAL:HG13	1:A:270:LEU:HD11	1.99	0.44
1:A:346:ARG:HG2	1:A:346:ARG:NH1	2.33	0.44
1:A:551:VAL:O	1:A:587:ILE:HD12	2.18	0.44
1:B:456:PHE:HD2	1:B:491:PRO:HA	1.82	0.44
1:B:812:PRO:O	1:B:813:SER:OG	2.32	0.44
1:C:294:ASP:OD1	1:C:294:ASP:N	2.51	0.44
1:C:984:LEU:HD22	1:C:988:GLU:HB3	1.99	0.44
4:H:34:MET:SD	4:H:98:THR:HG22	2.57	0.44
4:T:34:MET:SD	4:T:98:THR:HG22	2.58	0.44
5:Z:88:VAL:HA	5:Z:109:LEU:O	2.17	0.44
1:B:353:TRP:HZ3	1:B:355:ARG:HH11	1.66	0.44
1:C:810:SER:OG	1:C:811:LYS:N	2.49	0.44
2:D:11:LEU:HD11	2:D:116:SER:HB2	1.99	0.44
5:I:88:VAL:HA	5:I:109:LEU:O	2.18	0.44
5:J:10:SER:HA	5:J:107:THR:HG23	1.99	0.44
6:M:18:LEU:HD12	6:M:18:LEU:HA	1.86	0.44
5:Z:31:HIS:O	5:Z:31:HIS:ND1	2.49	0.44
1:A:128:ILE:HG21	1:A:229:LEU:HD13	1.99	0.43
1:A:328:ARG:NH2	1:A:533:LEU:HD23	2.32	0.43
1:C:121:ASN:HD22	1:C:121:ASN:C	2.17	0.43
1:C:1086:LYS:HE2	1:C:1122:VAL:HG21	1.99	0.43
4:H:83:MET:HE1	4:H:121:VAL:HG21	2.00	0.43
6:K:100:ARG:HG2	6:K:101:GLY:N	2.29	0.43
2:O:33:TYR:HE2	2:O:52:TYR:HD1	1.64	0.43
7:U:48:TYR:HE1	7:U:52:LYS:HE2	1.82	0.43
1:A:33:THR:HG22	1:A:220:PHE:HD1	1.84	0.43
1:C:329:PHE:CD2	1:C:527:PRO:HD2	2.53	0.43
1:C:538:CYS:HA	1:C:550:GLY:O	2.18	0.43
2:N:11:LEU:HD11	2:N:116:SER:HB2	1.99	0.43
3:Q:30:SER:HA	3:Q:68:GLY:N	2.22	0.43
1:B:426:PRO:HD3	1:B:463:PRO:HB3	2.01	0.43
1:B:691:SER:O	1:B:692:ILE:HG12	2.18	0.43
5:J:38:LEU:HD13	5:J:76:PHE:CD2	2.53	0.43
2:N:98:ASP:HA	2:N:104:MET:HE2	2.00	0.43
3:P:7:SER:HA	3:P:8:PRO:HA	1.79	0.43
3:P:30:SER:HB2	3:P:68:GLY:HA2	2.00	0.43
3:Q:33:LEU:HD12	3:Q:33:LEU:HA	1.85	0.43
1:A:948:LEU:O	1:A:951:VAL:HG22	2.19	0.43
5:I:38:LEU:HD13	5:I:76:PHE:CD2	2.53	0.43
2:N:67:PHE:CD1	2:N:82:MET:HA	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:41:LYS:HA	1:A:41:LYS:HD3	1.47	0.43
1:A:309:GLU:O	1:A:313:TYR:OH	2.29	0.43
1:A:903:ALA:N	1:A:916:LEU:HD22	2.32	0.43
1:A:1082:CYS:HB2	1:A:1132:ILE:CG2	2.47	0.43
1:B:389:ASP:OD1	1:B:390:LEU:HG	2.19	0.43
1:B:1116:THR:HG22	1:B:1138:TYR:HB3	2.01	0.43
2:D:63:VAL:HG13	2:D:67:PHE:CD2	2.52	0.43
2:D:68:THR:HB	2:D:81:GLN:HB3	2.00	0.43
5:I:10:SER:HA	5:I:107:THR:HG23	1.99	0.43
5:J:88:VAL:HA	5:J:109:LEU:O	2.18	0.43
6:K:13:GLN:OE1	6:K:14:PRO:HD2	2.19	0.43
2:O:11:LEU:HD11	2:O:116:SER:HB2	1.99	0.43
2:O:68:THR:HB	2:O:81:GLN:HB3	2.00	0.43
5:Z:10:SER:HA	5:Z:107:THR:HG23	1.99	0.43
1:A:864:LEU:HD13	1:C:665:PRO:HB3	2.01	0.43
1:B:357:ARG:HG3	1:B:396:TYR:CE1	2.54	0.43
1:B:433:VAL:HG12	1:B:512:VAL:HG13	2.00	0.43
5:Z:38:LEU:HD13	5:Z:76:PHE:CD2	2.53	0.43
1:A:102:ARG:NH2	1:A:122:ASN:HA	2.34	0.43
1:A:172:SER:OG	1:A:173:GLN:N	2.51	0.43
1:A:563:GLN:HA	1:B:41:LYS:HB3	2.00	0.43
1:B:560:LEU:HB2	1:B:563:GLN:NE2	2.33	0.43
5:I:94:MET:HB2	5:I:103:PHE:CD1	2.54	0.43
6:K:29:PHE:O	6:K:29:PHE:CD1	2.66	0.43
2:N:34:MET:HB3	2:N:78:LEU:HD22	2.01	0.43
2:N:68:THR:HB	2:N:81:GLN:HB3	2.00	0.43
2:O:66:ARG:HD3	2:O:86:ARG:NH2	2.34	0.43
3:P:90:GLN:HG2	3:P:93:SER:HB2	2.01	0.43
1:A:388:ASN:HA	1:A:527:PRO:HD2	2.01	0.43
1:B:676:THR:HA	1:B:690:GLN:HA	2.01	0.43
1:B:802:PHE:HZ	1:B:898:PHE:CZ	2.37	0.43
1:C:329:PHE:HD1	1:C:329:PHE:HA	1.62	0.43
1:C:559:PHE:CD2	1:C:584:ILE:HG21	2.54	0.43
1:C:826:VAL:O	1:C:828:LEU:N	2.48	0.43
3:E:30:SER:HB2	3:E:68:GLY:HA2	2.00	0.43
5:J:6:GLN:CG	5:J:23:CYS:HB2	2.49	0.43
5:J:94:MET:HB2	5:J:103:PHE:CD1	2.54	0.43
2:N:63:VAL:HG13	2:N:67:PHE:CD2	2.52	0.43
5:Z:6:GLN:CG	5:Z:23:CYS:HB2	2.49	0.43
1:B:118:LEU:HD12	1:B:135:PHE:HE1	1.84	0.43
1:B:231:ILE:CG2	1:B:233:ILE:HG12	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:375:SER:N	1:B:435:ALA:O	2.51	0.43
1:C:139:PRO:HD2	1:C:239:GLN:NE2	2.34	0.43
1:C:1135:ASN:OD1	1:C:1136:THR:N	2.52	0.43
3:Q:30:SER:HB2	3:Q:68:GLY:HA2	2.00	0.43
7:V:57:ILE:HD12	7:V:58:PRO:HD3	2.01	0.43
1:A:175:PHE:HB2	1:A:176:LEU:HD12	2.01	0.42
1:A:705:VAL:HG12	1:B:895:GLN:HB3	2.00	0.42
1:B:34:ARG:HD2	1:B:191:GLU:OE2	2.19	0.42
1:B:332:ILE:HG13	1:B:362:VAL:HB	2.01	0.42
1:B:339:GLY:O	1:B:343:ASN:HB2	2.19	0.42
1:C:48:LEU:HD13	1:C:306:PHE:HD1	1.82	0.42
1:C:605:SER:OG	1:C:606:ASN:N	2.50	0.42
1:C:712:ILE:HG22	1:C:1075:PHE:HB2	2.01	0.42
1:C:722:VAL:HG12	1:C:934:ILE:HD11	2.00	0.42
1:C:726:ILE:HG13	1:C:1061:VAL:HG22	2.00	0.42
2:D:66:ARG:HD3	2:D:86:ARG:NH2	2.34	0.42
5:J:7:SER:N	5:J:22:SER:O	2.42	0.42
4:S:83:MET:HE2	4:S:83:MET:HB3	1.82	0.42
1:A:382:VAL:HG11	1:A:390:LEU:HD13	2.00	0.42
1:A:484:GLU:HB2	6:M:100:ARG:HD2	2.00	0.42
1:C:1141:LEU:O	1:C:1144:GLU:HG3	2.19	0.42
2:D:94:TYR:HD2	2:D:107:TRP:CE3	2.38	0.42
3:E:90:GLN:HG2	3:E:93:SER:HB2	2.01	0.42
5:I:6:GLN:CG	5:I:23:CYS:HB2	2.49	0.42
7:L:57:ILE:HD12	7:L:58:PRO:HD3	2.01	0.42
1:A:231:ILE:CG2	1:A:233:ILE:HG12	2.48	0.42
1:A:777:ASN:OD1	1:A:1019:ARG:NH1	2.51	0.42
1:B:418:ILE:HA	1:B:422:ASN:HB2	2.00	0.42
1:B:733:LYS:NZ	1:B:775:ASP:OD2	2.49	0.42
2:D:34:MET:HB3	2:D:78:LEU:HD22	2.01	0.42
2:N:94:TYR:HD2	2:N:107:TRP:CE3	2.38	0.42
2:O:34:MET:HB3	2:O:78:LEU:HD22	2.01	0.42
2:O:103:GLY:HA3	3:Q:46:LEU:HD21	2.00	0.42
3:Q:94:ASP:OD1	3:Q:95:LEU:HD12	2.19	0.42
5:Z:94:MET:HB2	5:Z:103:PHE:CD1	2.54	0.42
1:A:325:SER:HB2	1:A:540:ASN:HB3	2.01	0.42
1:B:557:LYS:HD3	1:C:43:PHE:HB3	2.02	0.42
1:B:979:ASP:O	1:B:983:ARG:HG2	2.18	0.42
1:C:103:GLY:HA3	1:C:119:ILE:O	2.19	0.42
1:C:558:LYS:HB2	1:C:558:LYS:HE2	1.86	0.42
5:J:31:HIS:O	5:J:31:HIS:ND1	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:K:62:ASP:OD1	4:S:87:ARG:NH2	2.53	0.42
2:N:66:ARG:HD3	2:N:86:ARG:NH2	2.34	0.42
3:P:94:ASP:OD1	3:P:95:LEU:HD12	2.19	0.42
3:Q:7:SER:HA	3:Q:8:PRO:HA	1.79	0.42
4:T:51:ILE:HG13	4:T:58:ILE:HG12	2.01	0.42
1:B:402:ILE:HD11	1:B:407:VAL:HG22	2.00	0.42
1:B:462:LYS:HB2	1:B:465:GLU:CG	2.50	0.42
1:B:1011:GLN:OE1	1:B:1014:ARG:NH1	2.53	0.42
7:U:57:ILE:HD12	7:U:58:PRO:HD3	2.01	0.42
1:B:126:VAL:HB	1:B:174:PRO:HA	2.00	0.42
1:B:934:ILE:HD13	1:B:1063:LEU:HD22	2.02	0.42
1:C:130:VAL:HG21	1:C:231:ILE:HD12	2.01	0.42
1:C:978:ASN:O	1:C:982:SER:HB3	2.19	0.42
6:K:2:VAL:HG11	6:K:114:TYR:CD2	2.51	0.42
6:K:5:LEU:HD13	6:K:5:LEU:HA	1.76	0.42
6:K:60:TYR:HE1	6:K:70:ILE:HG23	1.85	0.42
3:P:39:LYS:HB2	3:P:42:LYS:HB2	2.02	0.42
3:Q:39:LYS:HB2	3:Q:42:LYS:HB2	2.02	0.42
1:C:187:LYS:HB3	1:C:187:LYS:HE2	1.90	0.42
3:E:94:ASP:OD1	3:E:95:LEU:HD12	2.19	0.42
2:O:47:TRP:HZ2	2:O:50:VAL:HG12	1.85	0.42
1:A:350:VAL:HG11	1:A:418:ILE:HD12	2.02	0.42
1:C:100:ILE:HD12	1:C:263:ALA:HB2	2.01	0.42
2:D:47:TRP:HZ2	2:D:50:VAL:HG12	1.85	0.42
1:A:39:PRO:HG2	1:A:51:THR:HG21	2.01	0.42
1:B:439:ASN:O	1:B:443:SER:OG	2.25	0.42
7:U:48:TYR:CE1	7:U:52:LYS:HE2	2.55	0.42
1:A:327:VAL:HG12	1:A:542:ASN:HB3	2.01	0.42
1:B:718:PHE:HE1	1:B:923:ILE:HG12	1.85	0.42
4:H:32:TYR:HB3	4:H:98:THR:HB	2.02	0.42
6:M:28:ALA:O	6:M:29:PHE:HB3	2.20	0.42
6:M:60:TYR:HE1	6:M:70:ILE:HG23	1.85	0.42
3:Q:90:GLN:HG2	3:Q:93:SER:HB2	2.01	0.42
4:T:32:TYR:HB3	4:T:98:THR:HB	2.02	0.42
1:A:173:GLN:HG3	1:A:174:PRO:HD2	2.01	0.41
1:A:703:ASN:OD1	1:A:704:SER:N	2.53	0.41
1:B:551:VAL:HG22	1:B:588:THR:O	2.19	0.41
1:B:566:GLY:HA2	1:C:42:VAL:HG22	2.02	0.41
1:C:176:LEU:HD23	1:C:190:ARG:CZ	2.50	0.41
3:E:39:LYS:HB2	3:E:42:LYS:HB2	2.02	0.41
6:K:28:ALA:O	6:K:29:PHE:HB3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:308:VAL:HG13	1:A:599:THR:HG21	2.02	0.41
1:A:444:LYS:HA	1:A:444:LYS:HD2	1.81	0.41
1:B:715:PRO:HA	1:B:1072:GLU:HA	2.00	0.41
2:D:98:ASP:HA	2:D:104:MET:HE2	2.01	0.41
6:M:13:GLN:OE1	6:M:14:PRO:HD2	2.19	0.41
2:N:67:PHE:HD1	2:N:82:MET:HA	1.85	0.41
2:O:67:PHE:HD1	2:O:82:MET:HA	1.85	0.41
1:A:556:ASN:OD1	1:A:556:ASN:N	2.50	0.41
1:B:128:ILE:HD12	1:B:170:TYR:CD1	2.55	0.41
1:C:18:LEU:HD11	1:C:258:TRP:CD1	2.55	0.41
1:C:377:PHE:CE1	1:C:384:PRO:HB3	2.51	0.41
4:H:51:ILE:HG13	4:H:58:ILE:HG12	2.02	0.41
5:I:36:LEU:HD12	5:I:76:PHE:CZ	2.55	0.41
2:N:47:TRP:HZ2	2:N:50:VAL:HG12	1.85	0.41
5:Z:36:LEU:HD12	5:Z:76:PHE:CZ	2.55	0.41
1:A:32:PHE:CD2	1:A:218:GLN:HG3	2.55	0.41
1:A:96:GLU:OE2	1:A:101:ILE:N	2.53	0.41
1:B:14:GLN:HG3	4:T:53:SER:HB2	2.01	0.41
1:C:145:TYR:CZ	1:C:245:HIS:CE1	3.08	0.41
1:C:527:PRO:HB2	1:C:528:LYS:H	1.45	0.41
1:C:822:LEU:HD22	1:C:945:LEU:HD11	2.03	0.41
5:J:36:LEU:HD12	5:J:76:PHE:CZ	2.55	0.41
6:K:73:ASP:O	6:K:77:ASN:N	2.52	0.41
7:L:48:TYR:CE1	7:L:52:LYS:HE2	2.55	0.41
2:O:94:TYR:HD2	2:O:107:TRP:CE3	2.38	0.41
4:T:35:ASN:HD21	4:T:99:ASN:HB2	1.86	0.41
1:A:37:TYR:OH	1:A:54:LEU:O	2.17	0.41
1:A:421:TYR:HB3	1:A:457:ARG:HD2	2.02	0.41
1:A:720:ILE:CD1	1:A:923:ILE:HG23	2.51	0.41
1:B:250:THR:HG23	1:B:256:SER:HB2	2.02	0.41
1:B:538:CYS:HA	1:B:550:GLY:O	2.20	0.41
1:B:915:VAL:HG21	1:B:1106:GLN:HE22	1.84	0.41
1:B:997:ILE:HD13	1:B:997:ILE:HA	1.91	0.41
1:C:30:ASN:HB3	1:C:32:PHE:CE1	2.55	0.41
1:C:106:PHE:CD1	1:C:238:PHE:CB	3.03	0.41
1:C:538:CYS:HB2	1:C:590:CYS:HB3	1.73	0.41
7:L:48:TYR:CD2	7:L:54:PRO:HG3	2.56	0.41
1:A:1039:ARG:HD2	1:B:1031:GLU:OE2	2.21	0.41
1:A:1114:ILE:HD12	1:A:1114:ILE:H	1.86	0.41
1:B:53:ASP:HB3	1:B:55:PHE:CE2	2.55	0.41
1:B:433:VAL:HG12	1:B:512:VAL:HG22	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:562:PHE:CE1	1:C:225:PRO:HG2	2.56	0.41
1:C:417:LYS:H	1:C:417:LYS:HG2	1.47	0.41
1:C:977:LEU:HD11	1:C:993:ILE:CD1	2.50	0.41
2:O:103:GLY:H	3:Q:46:LEU:HD21	1.86	0.41
3:P:2:ILE:CB	3:P:90:GLN:HE22	2.34	0.41
4:S:35:ASN:HD21	4:S:99:ASN:HB2	1.86	0.41
1:A:96:GLU:CD	1:A:190:ARG:HH11	2.20	0.41
1:A:128:ILE:HD12	1:A:170:TYR:CD1	2.56	0.41
1:A:554:GLU:HA	1:A:585:LEU:HA	2.03	0.41
1:C:176:LEU:HB3	1:C:190:ARG:NH2	2.35	0.41
1:C:981:LEU:HD23	1:C:981:LEU:HA	1.90	0.41
3:E:2:ILE:CB	3:E:90:GLN:HE22	2.34	0.41
4:H:34:MET:HB3	4:H:79:LEU:HD22	2.02	0.41
5:I:33:ASN:HB3	6:K:105:TYR:HD2	1.84	0.41
4:S:34:MET:HB3	4:S:79:LEU:HD22	2.02	0.41
1:A:448:ASN:HB3	1:A:497:PHE:HB2	2.02	0.41
1:B:748:GLU:HG2	1:B:749:CYS:N	2.36	0.41
1:C:231:ILE:HG22	1:C:233:ILE:HG23	2.02	0.41
1:C:330:PRO:HA	1:C:579:PRO:HB2	2.02	0.41
3:Q:14:SER:O	3:Q:78:LEU:HD12	2.21	0.41
4:S:32:TYR:HB3	4:S:98:THR:HB	2.02	0.41
4:T:83:MET:HE3	4:T:121:VAL:HG21	2.03	0.41
1:A:334:ASN:O	1:A:335:LEU:C	2.59	0.41
1:A:425:LEU:HD23	1:A:425:LEU:HA	1.73	0.41
1:A:825:LYS:HB3	1:A:825:LYS:HE3	1.87	0.41
1:A:1130:ILE:O	1:A:1130:ILE:HG13	2.20	0.41
1:B:1093:GLY:HA2	1:B:1107:ARG:HG3	2.03	0.41
1:C:748:GLU:HB3	1:C:981:LEU:HD11	2.02	0.41
1:C:984:LEU:HD23	1:C:984:LEU:HA	1.92	0.41
1:C:1011:GLN:OE1	1:C:1014:ARG:NH1	2.54	0.41
2:D:67:PHE:HD1	2:D:82:MET:HA	1.85	0.41
3:E:33:LEU:HA	3:E:33:LEU:HD12	1.85	0.41
7:L:45:LEU:HD21	7:L:48:TYR:HD2	1.86	0.41
6:M:31:THR:O	6:M:31:THR:OG1	2.36	0.41
2:N:98:ASP:HA	2:N:104:MET:CE	2.51	0.41
2:O:98:ASP:HA	2:O:104:MET:CE	2.51	0.41
3:P:14:SER:O	3:P:78:LEU:HD12	2.21	0.41
3:P:46:LEU:HB3	3:P:55:GLN:HG3	2.03	0.41
3:Q:46:LEU:HB3	3:Q:55:GLN:HG3	2.03	0.41
4:S:83:MET:HE2	4:S:86:LEU:HD21	2.03	0.41
4:T:34:MET:HB3	4:T:79:LEU:HD22	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:V:48:TYR:CE1	7:V:52:LYS:HE2	2.55	0.41
1:C:1048:HIS:HA	1:C:1066:THR:HG22	2.02	0.41
6:M:73:ASP:O	6:M:77:ASN:N	2.52	0.41
1:A:210:ILE:HD12	1:A:210:ILE:HA	1.93	0.40
1:B:33:THR:HG22	1:B:58:PHE:CD2	2.56	0.40
1:C:492:LEU:HD23	1:C:492:LEU:HA	1.78	0.40
2:D:98:ASP:HA	2:D:104:MET:CE	2.51	0.40
7:V:45:LEU:HD21	7:V:48:TYR:HD2	1.86	0.40
1:B:112:SER:O	1:B:113:LYS:HB2	2.21	0.40
1:B:388:ASN:ND2	1:B:528:LYS:HA	2.36	0.40
7:V:48:TYR:CD2	7:V:54:PRO:HG3	2.56	0.40
1:A:19:THR:HG1	1:A:138:ASP:CG	2.24	0.40
1:A:294:ASP:HB2	1:A:295:PRO:HD2	2.02	0.40
1:B:817:PHE:O	1:B:820:ASP:HB2	2.21	0.40
1:C:986:PRO:O	1:C:990:GLU:HG2	2.21	0.40
4:H:35:ASN:HD21	4:H:99:ASN:HB2	1.86	0.40
4:S:39:GLN:N	4:S:93:VAL:O	2.40	0.40
4:S:51:ILE:HG13	4:S:58:ILE:HG12	2.01	0.40
1:A:14:GLN:HA	4:H:31:SER:HA	2.03	0.40
1:A:722:VAL:HA	1:A:1064:HIS:O	2.22	0.40
1:B:369:TYR:HE2	1:B:384:PRO:HG2	1.86	0.40
1:C:14:GLN:HA	4:S:31:SER:HA	2.03	0.40
1:C:213:VAL:HG23	1:C:214:ARG:H	1.87	0.40
1:C:329:PHE:HD2	1:C:527:PRO:HD2	1.85	0.40
1:C:922:LEU:O	1:C:926:GLN:HG3	2.21	0.40
2:D:2:VAL:HG11	2:D:106:VAL:HG11	2.04	0.40
7:U:45:LEU:HD21	7:U:48:TYR:HD2	1.86	0.40
1:A:37:TYR:O	1:A:39:PRO:HD3	2.21	0.40
1:A:402:ILE:H	1:A:402:ILE:HG13	1.79	0.40
1:A:564:GLN:H	1:B:41:LYS:HB3	1.86	0.40
1:B:281:GLU:HG2	1:B:282:ASN:N	2.36	0.40
1:B:331:ASN:O	1:B:332:ILE:HB	2.21	0.40
1:B:565:PHE:O	1:C:41:LYS:HG3	2.22	0.40
1:C:553:THR:O	1:C:586:ASP:N	2.51	0.40
1:C:560:LEU:O	1:C:562:PHE:N	2.55	0.40
1:C:1142:GLN:HB2	1:C:1143:PRO:HD3	2.04	0.40
2:N:2:VAL:HG11	2:N:106:VAL:HG11	2.04	0.40
5:Z:42:LEU:HB2	5:Z:52:LEU:HD11	2.04	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	1038/1288 (81%)	937 (90%)	99 (10%)	2 (0%)	47	78
1	B	1040/1288 (81%)	957 (92%)	81 (8%)	2 (0%)	47	78
1	C	1037/1288 (80%)	917 (88%)	110 (11%)	10 (1%)	15	51
2	D	114/221 (52%)	112 (98%)	2 (2%)	0	100	100
2	N	114/221 (52%)	112 (98%)	2 (2%)	0	100	100
2	O	114/221 (52%)	112 (98%)	2 (2%)	0	100	100
3	E	104/214 (49%)	95 (91%)	9 (9%)	0	100	100
3	P	104/214 (49%)	95 (91%)	9 (9%)	0	100	100
3	Q	104/214 (49%)	95 (91%)	9 (9%)	0	100	100
4	H	122/230 (53%)	116 (95%)	6 (5%)	0	100	100
4	S	122/230 (53%)	116 (95%)	6 (5%)	0	100	100
4	T	122/230 (53%)	116 (95%)	6 (5%)	0	100	100
5	I	110/219 (50%)	106 (96%)	4 (4%)	0	100	100
5	J	110/219 (50%)	106 (96%)	4 (4%)	0	100	100
5	Z	110/219 (50%)	106 (96%)	4 (4%)	0	100	100
6	K	122/230 (53%)	112 (92%)	10 (8%)	0	100	100
6	M	122/230 (53%)	112 (92%)	10 (8%)	0	100	100
6	a	122/230 (53%)	112 (92%)	10 (8%)	0	100	100
7	L	103/212 (49%)	99 (96%)	4 (4%)	0	100	100
7	U	103/212 (49%)	99 (96%)	4 (4%)	0	100	100
7	V	103/212 (49%)	99 (96%)	4 (4%)	0	100	100
All	All	5140/7842 (66%)	4731 (92%)	395 (8%)	14 (0%)	44	73

All (14) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	334	ASN
1	C	335	LEU
1	C	527	PRO
1	C	277	LEU
1	C	530	SER
1	C	561	PRO
1	C	562	PHE
1	C	570	ALA
1	A	335	LEU
1	B	332	ILE
1	C	332	ILE
1	C	333	THR
1	C	412	PRO
1	B	527	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	918/1116 (82%)	858 (94%)	60 (6%)	17 48
1	B	919/1116 (82%)	911 (99%)	8 (1%)	78 91
1	C	917/1116 (82%)	872 (95%)	45 (5%)	25 59
2	D	94/185 (51%)	79 (84%)	15 (16%)	2 10
2	N	94/185 (51%)	79 (84%)	15 (16%)	2 10
2	O	94/185 (51%)	79 (84%)	15 (16%)	2 10
3	E	90/187 (48%)	76 (84%)	14 (16%)	2 11
3	P	90/187 (48%)	76 (84%)	14 (16%)	2 11
3	Q	90/187 (48%)	76 (84%)	14 (16%)	2 11
4	H	102/194 (53%)	85 (83%)	17 (17%)	2 9
4	S	102/194 (53%)	86 (84%)	16 (16%)	2 11
4	T	102/194 (53%)	86 (84%)	16 (16%)	2 11
5	I	96/192 (50%)	82 (85%)	14 (15%)	3 14
5	J	96/192 (50%)	82 (85%)	14 (15%)	3 14

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
5	Z	96/192 (50%)	82 (85%)	14 (15%)	3 14
6	K	96/188 (51%)	74 (77%)	22 (23%)	1 4
6	M	96/188 (51%)	74 (77%)	22 (23%)	1 4
6	a	96/188 (51%)	74 (77%)	22 (23%)	1 4
7	L	85/178 (48%)	67 (79%)	18 (21%)	1 5
7	U	85/178 (48%)	68 (80%)	17 (20%)	1 6
7	V	85/178 (48%)	68 (80%)	17 (20%)	1 6
All	All	4443/6720 (66%)	4034 (91%)	409 (9%)	13 31

All (409) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	121	ASN
1	A	190	ARG
1	A	333	THR
1	A	334	ASN
1	A	335	LEU
1	A	366	SER
1	A	369	TYR
1	A	371	SER
1	A	375	SER
1	A	376	THR
1	A	377	PHE
1	A	378	LYS
1	A	383	SER
1	A	385	THR
1	A	389	ASP
1	A	390	LEU
1	A	393	THR
1	A	399	SER
1	A	402	ILE
1	A	417	LYS
1	A	421	TYR
1	A	425	LEU
1	A	428	ASP
1	A	430	THR
1	A	434	ILE
1	A	436	TRP
1	A	440	ASN
1	A	441	LEU

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Mol	Chain	Res	Type
1	A	442	ASP
1	A	443	SER
1	A	444	LYS
1	A	445	VAL
1	A	452	LEU
1	A	455	LEU
1	A	458	LYS
1	A	459	SER
1	A	460	ASN
1	A	462	LYS
1	A	465	GLU
1	A	466	ARG
1	A	467	ASP
1	A	468	ILE
1	A	469	SER
1	A	472	ILE
1	A	480	CYS
1	A	492	LEU
1	A	494	SER
1	A	500	THR
1	A	503	VAL
1	A	508	TYR
1	A	514	SER
1	A	524	VAL
1	A	528	LYS
1	A	529	LYS
1	A	530	SER
1	A	790	LYS
1	A	791	THR
1	A	858	LEU
1	A	859	THR
1	A	861	LEU
1	B	207	HIS
1	B	331	ASN
1	B	334	ASN
1	B	335	LEU
1	B	528	LYS
1	B	530	SER
1	B	791	THR
1	B	1086	LYS
1	C	14	GLN
1	C	121	ASN

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Mol	Chain	Res	Type
1	C	329	PHE
1	C	332	ILE
1	C	333	THR
1	C	341	VAL
1	C	346	ARG
1	C	393	THR
1	C	399	SER
1	C	402	ILE
1	C	405	ASP
1	C	417	LYS
1	C	427	ASP
1	C	430	THR
1	C	443	SER
1	C	444	LYS
1	C	445	VAL
1	C	452	LEU
1	C	454	ARG
1	C	457	ARG
1	C	461	LEU
1	C	462	LYS
1	C	466	ARG
1	C	468	ILE
1	C	469	SER
1	C	471	GLU
1	C	480	CYS
1	C	481	ASN
1	C	483	VAL
1	C	484	GLU
1	C	489	TYR
1	C	494	SER
1	C	500	THR
1	C	503	VAL
1	C	512	VAL
1	C	513	LEU
1	C	514	SER
1	C	516	GLU
1	C	525	CYS
1	C	529	LYS
1	C	530	SER
1	C	531	THR
1	C	533	LEU
1	C	555	SER

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Mol	Chain	Res	Type
1	C	567	ARG
2	D	5	VAL
2	D	12	ILE
2	D	25	SER
2	D	28	ILE
2	D	32	ASN
2	D	38	ARG
2	D	46	GLU
2	D	58	PHE
2	D	81	GLN
2	D	82	MET
2	D	83	SER
2	D	94	TYR
2	D	95	CYS
2	D	104	MET
2	D	111	THR
3	E	11	LEU
3	E	14	SER
3	E	20	THR
3	E	22	THR
3	E	27	GLN
3	E	47	LEU
3	E	49	TYR
3	E	54	LEU
3	E	55	GLN
3	E	67	SER
3	E	70	ASP
3	E	73	LEU
3	E	85	THR
3	E	107	LYS
4	H	3	GLN
4	H	5	VAL
4	H	12	VAL
4	H	33	SER
4	H	39	GLN
4	H	43	LYS
4	H	46	GLU
4	H	65	LYS
4	H	87	ARG
4	H	88	VAL
4	H	89	GLU
4	H	104	SER

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Mol	Chain	Res	Type
4	H	112	MET
4	H	113	ASP
4	H	117	GLN
4	H	120	THR
4	H	123	VAL
5	I	11	LEU
5	I	14	THR
5	I	23	CYS
5	I	24	ARG
5	I	26	SER
5	I	30	LEU
5	I	54	TYR
5	I	59	ARG
5	I	63	VAL
5	I	75	ASP
5	I	87	ASP
5	I	88	VAL
5	I	102	THR
5	I	109	LEU
5	J	11	LEU
5	J	14	THR
5	J	23	CYS
5	J	24	ARG
5	J	26	SER
5	J	30	LEU
5	J	54	TYR
5	J	59	ARG
5	J	63	VAL
5	J	75	ASP
5	J	87	ASP
5	J	88	VAL
5	J	102	THR
5	J	109	LEU
6	K	3	GLN
6	K	4	LEU
6	K	5	LEU
6	K	7	SER
6	K	13	GLN
6	K	17	SER
6	K	19	ARG
6	K	20	LEU
6	K	25	SER

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Mol	Chain	Res	Type
6	K	29	PHE
6	K	30	THR
6	K	31	THR
6	K	49	SER
6	K	52	SER
6	K	65	LYS
6	K	67	ARG
6	K	69	THR
6	K	73	ASP
6	K	90	ASP
6	K	100	ARG
6	K	106	ASP
6	K	119	THR
7	L	5	THR
7	L	11	SER
7	L	13	SER
7	L	21	THR
7	L	23	SER
7	L	44	VAL
7	L	51	SER
7	L	55	SER
7	L	57	ILE
7	L	62	SER
7	L	66	SER
7	L	69	THR
7	L	71	THR
7	L	78	GLN
7	L	80	MET
7	L	91	ASP
7	L	94	THR
7	L	105	VAL
6	M	3	GLN
6	M	4	LEU
6	M	5	LEU
6	M	7	SER
6	M	13	GLN
6	M	17	SER
6	M	19	ARG
6	M	20	LEU
6	M	25	SER
6	M	29	PHE
6	M	30	THR

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Mol	Chain	Res	Type
6	M	31	THR
6	M	49	SER
6	M	52	SER
6	M	65	LYS
6	M	67	ARG
6	M	69	THR
6	M	73	ASP
6	M	90	ASP
6	M	100	ARG
6	M	106	ASP
6	M	119	THR
2	N	5	VAL
2	N	12	ILE
2	N	25	SER
2	N	28	ILE
2	N	32	ASN
2	N	38	ARG
2	N	46	GLU
2	N	58	PHE
2	N	81	GLN
2	N	82	MET
2	N	83	SER
2	N	94	TYR
2	N	95	CYS
2	N	104	MET
2	N	111	THR
2	O	5	VAL
2	O	12	ILE
2	O	25	SER
2	O	28	ILE
2	O	32	ASN
2	O	38	ARG
2	O	46	GLU
2	O	58	PHE
2	O	81	GLN
2	O	82	MET
2	O	83	SER
2	O	94	TYR
2	O	95	CYS
2	O	104	MET
2	O	111	THR
3	P	11	LEU

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Mol	Chain	Res	Type
3	P	14	SER
3	P	20	THR
3	P	22	THR
3	P	27	GLN
3	P	47	LEU
3	P	49	TYR
3	P	54	LEU
3	P	55	GLN
3	P	67	SER
3	P	70	ASP
3	P	73	LEU
3	P	85	THR
3	P	107	LYS
3	Q	11	LEU
3	Q	14	SER
3	Q	20	THR
3	Q	22	THR
3	Q	27	GLN
3	Q	47	LEU
3	Q	49	TYR
3	Q	54	LEU
3	Q	55	GLN
3	Q	67	SER
3	Q	70	ASP
3	Q	73	LEU
3	Q	85	THR
3	Q	107	LYS
4	S	3	GLN
4	S	5	VAL
4	S	33	SER
4	S	39	GLN
4	S	43	LYS
4	S	46	GLU
4	S	65	LYS
4	S	87	ARG
4	S	88	VAL
4	S	89	GLU
4	S	104	SER
4	S	112	MET
4	S	113	ASP
4	S	117	GLN
4	S	120	THR

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Mol	Chain	Res	Type
4	S	123	VAL
4	T	3	GLN
4	T	5	VAL
4	T	33	SER
4	T	39	GLN
4	T	43	LYS
4	T	46	GLU
4	T	65	LYS
4	T	87	ARG
4	T	88	VAL
4	T	89	GLU
4	T	104	SER
4	T	112	MET
4	T	113	ASP
4	T	117	GLN
4	T	120	THR
4	T	123	VAL
7	U	5	THR
7	U	11	SER
7	U	13	SER
7	U	21	THR
7	U	23	SER
7	U	44	VAL
7	U	51	SER
7	U	55	SER
7	U	57	ILE
7	U	62	SER
7	U	66	SER
7	U	69	THR
7	U	71	THR
7	U	80	MET
7	U	91	ASP
7	U	94	THR
7	U	105	VAL
7	V	5	THR
7	V	11	SER
7	V	13	SER
7	V	21	THR
7	V	23	SER
7	V	44	VAL
7	V	51	SER
7	V	55	SER

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Mol	Chain	Res	Type
7	V	57	ILE
7	V	62	SER
7	V	66	SER
7	V	69	THR
7	V	71	THR
7	V	80	MET
7	V	91	ASP
7	V	94	THR
7	V	105	VAL
5	Z	11	LEU
5	Z	14	THR
5	Z	23	CYS
5	Z	24	ARG
5	Z	26	SER
5	Z	30	LEU
5	Z	54	TYR
5	Z	59	ARG
5	Z	63	VAL
5	Z	75	ASP
5	Z	87	ASP
5	Z	88	VAL
5	Z	102	THR
5	Z	109	LEU
6	a	3	GLN
6	a	4	LEU
6	a	5	LEU
6	a	7	SER
6	a	13	GLN
6	a	17	SER
6	a	19	ARG
6	a	20	LEU
6	a	25	SER
6	a	29	PHE
6	a	30	THR
6	a	31	THR
6	a	49	SER
6	a	52	SER
6	a	65	LYS
6	a	67	ARG
6	a	69	THR
6	a	73	ASP
6	a	90	ASP

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Mol	Chain	Res	Type
6	a	100	ARG
6	a	106	ASP
6	a	119	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (11) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	14	GLN
1	A	437	ASN
1	A	658	ASN
1	A	901	GLN
1	B	856	ASN
1	C	658	ASN
1	C	955	ASN
3	E	6	GLN
7	L	93	ASN
3	P	6	GLN
3	Q	6	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

There are no ligands in this entry.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

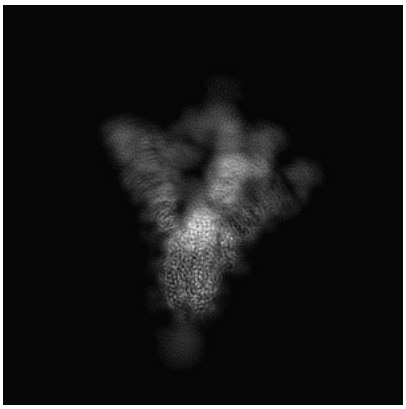
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-31014. These allow visual inspection of the internal detail of the map and identification of artifacts.

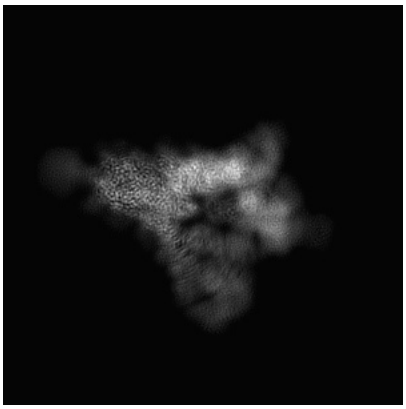
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

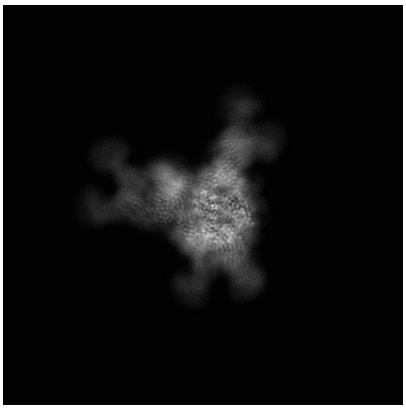
6.1.1 Primary map



X

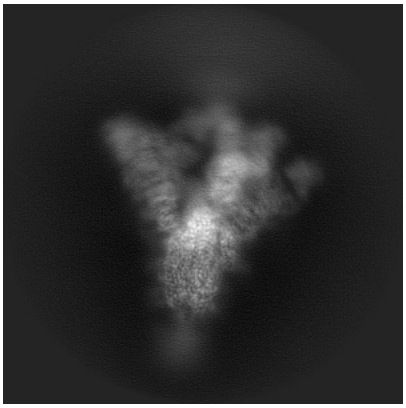


Y

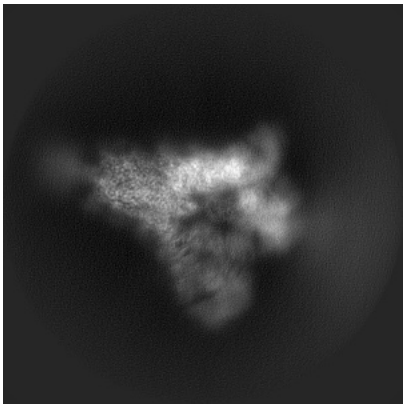


Z

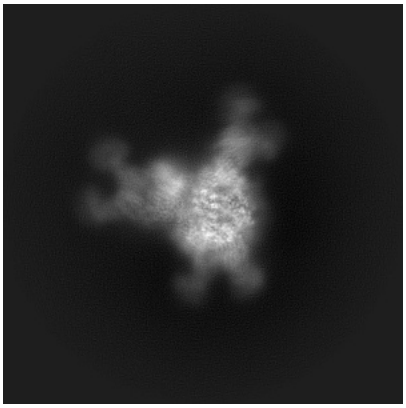
6.1.2 Raw map



X



Y

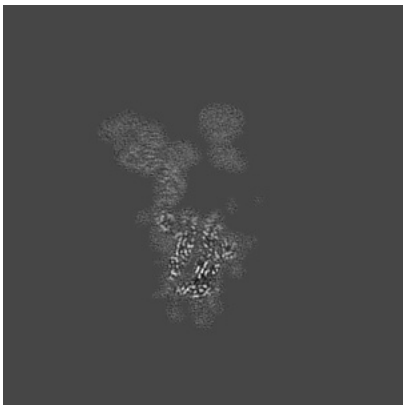


Z

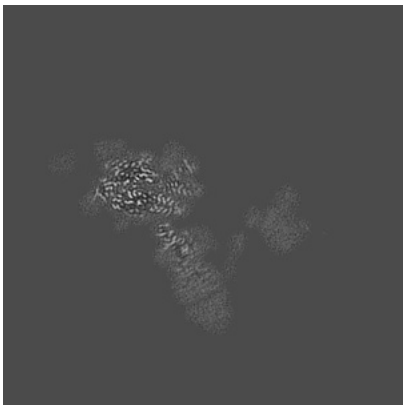
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

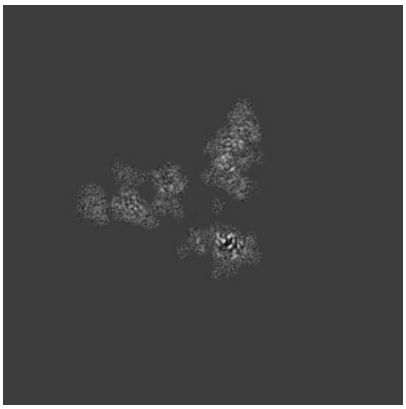
6.2.1 Primary map



X Index: 200

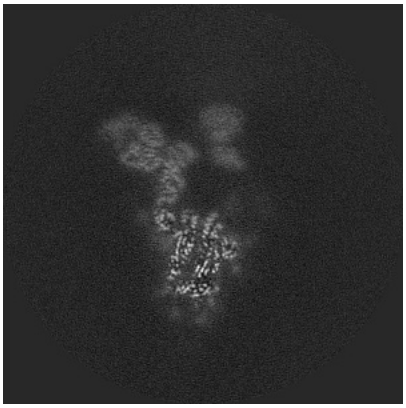


Y Index: 200

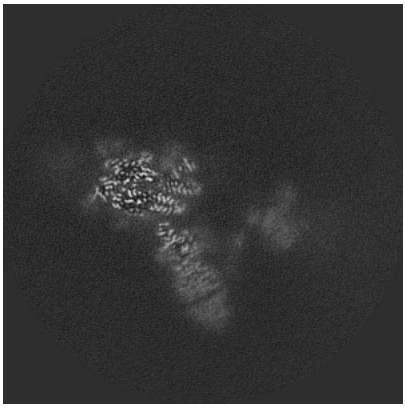


Z Index: 200

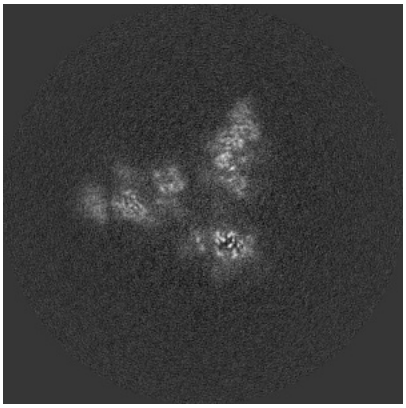
6.2.2 Raw map



X Index: 200



Y Index: 200



Z Index: 200

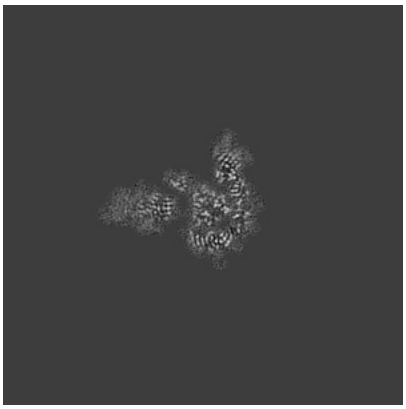
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

6.3.1 Primary map

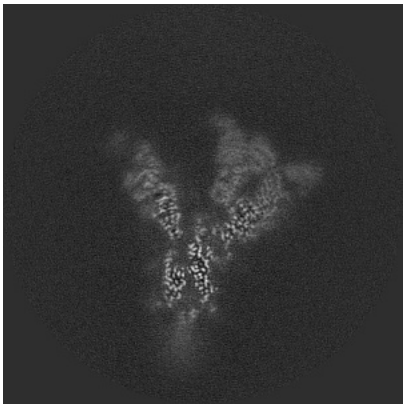
X Index: 226

Y Index: 196

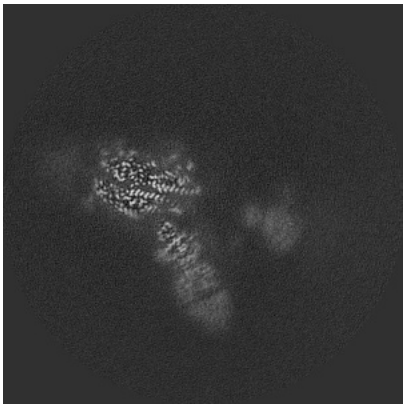


Z Index: 176

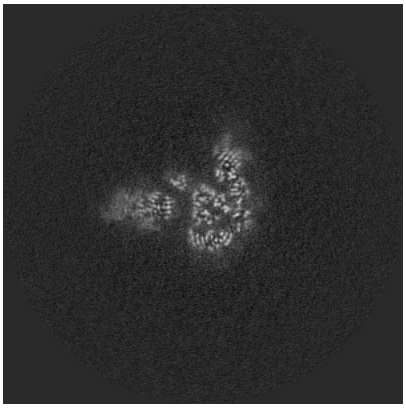
6.3.2 Raw map



X Index: 226



Y Index: 196



Z Index: 176

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

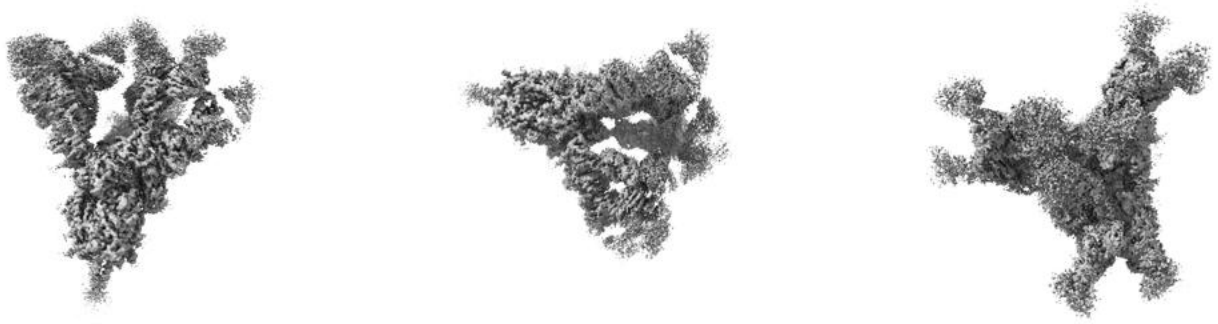
6.4 Orthogonal surface views (i)

6.4.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.0204. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.4.2 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.

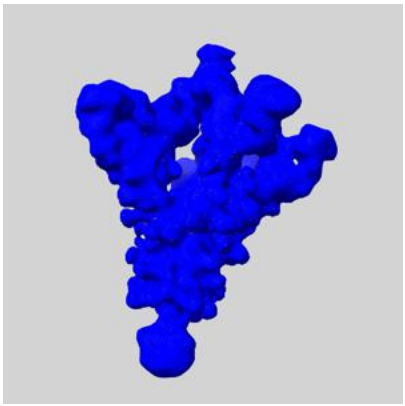
6.5 Mask visualisation

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

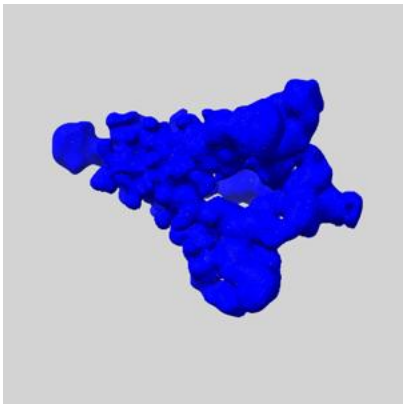
A mask typically either:

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

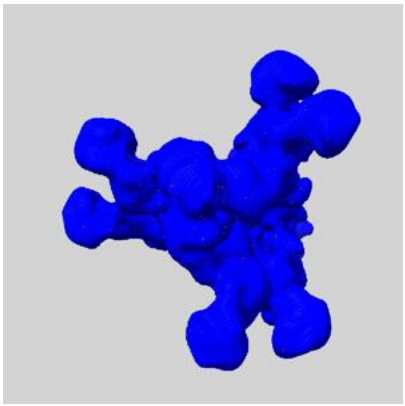
6.5.1 emd_31014_msk_1.map



X



Y

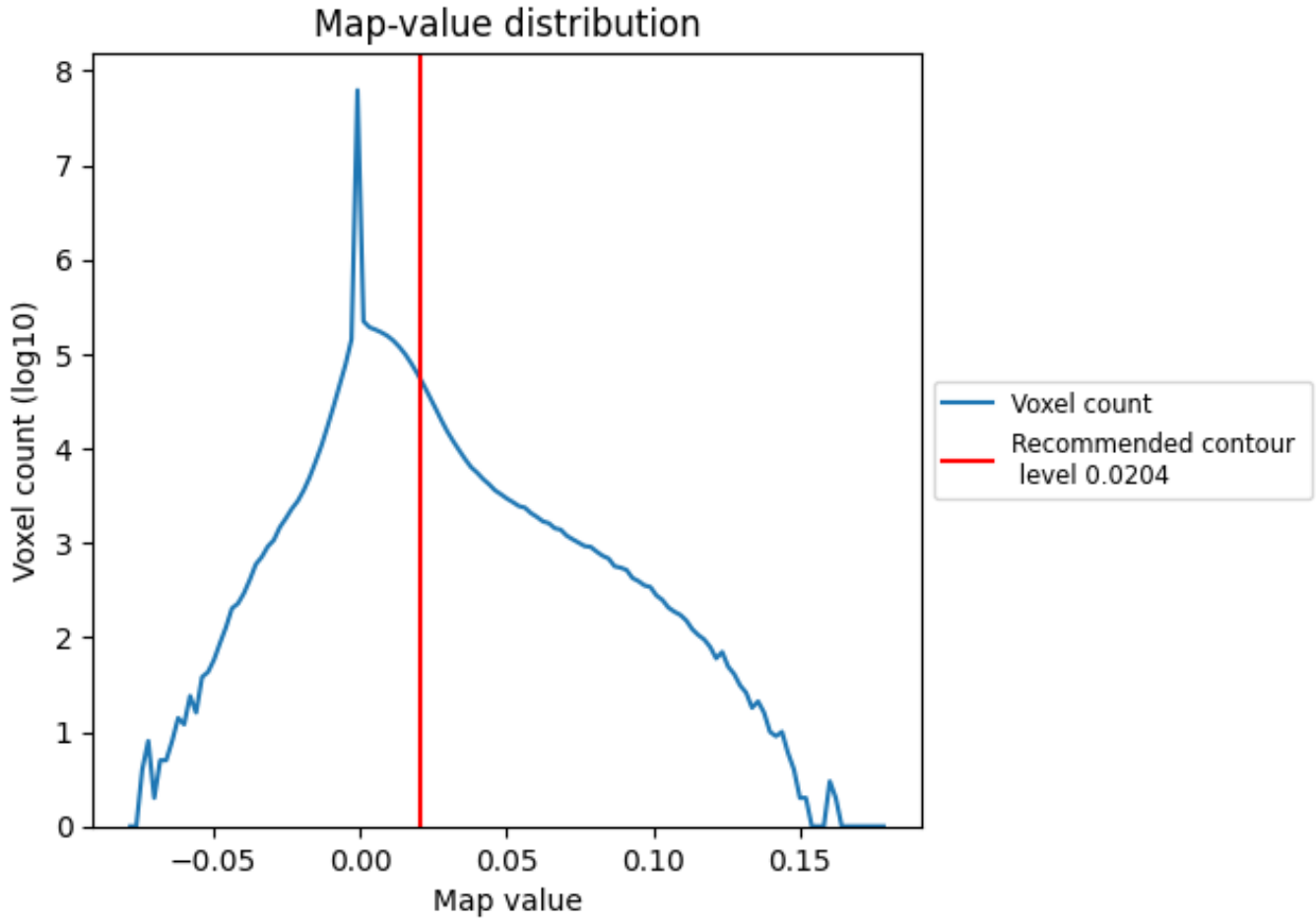


Z

7 Map analysis

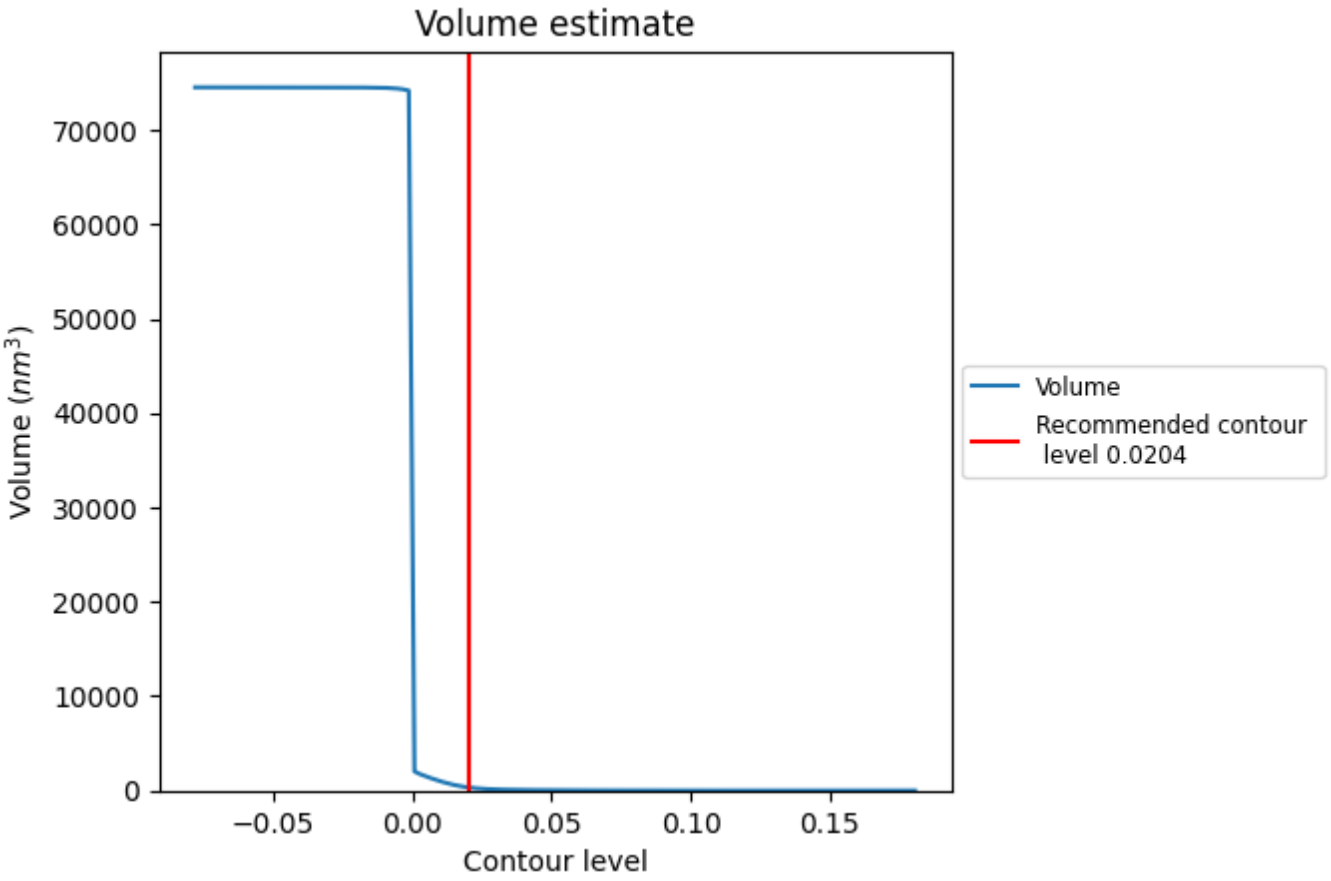
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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.

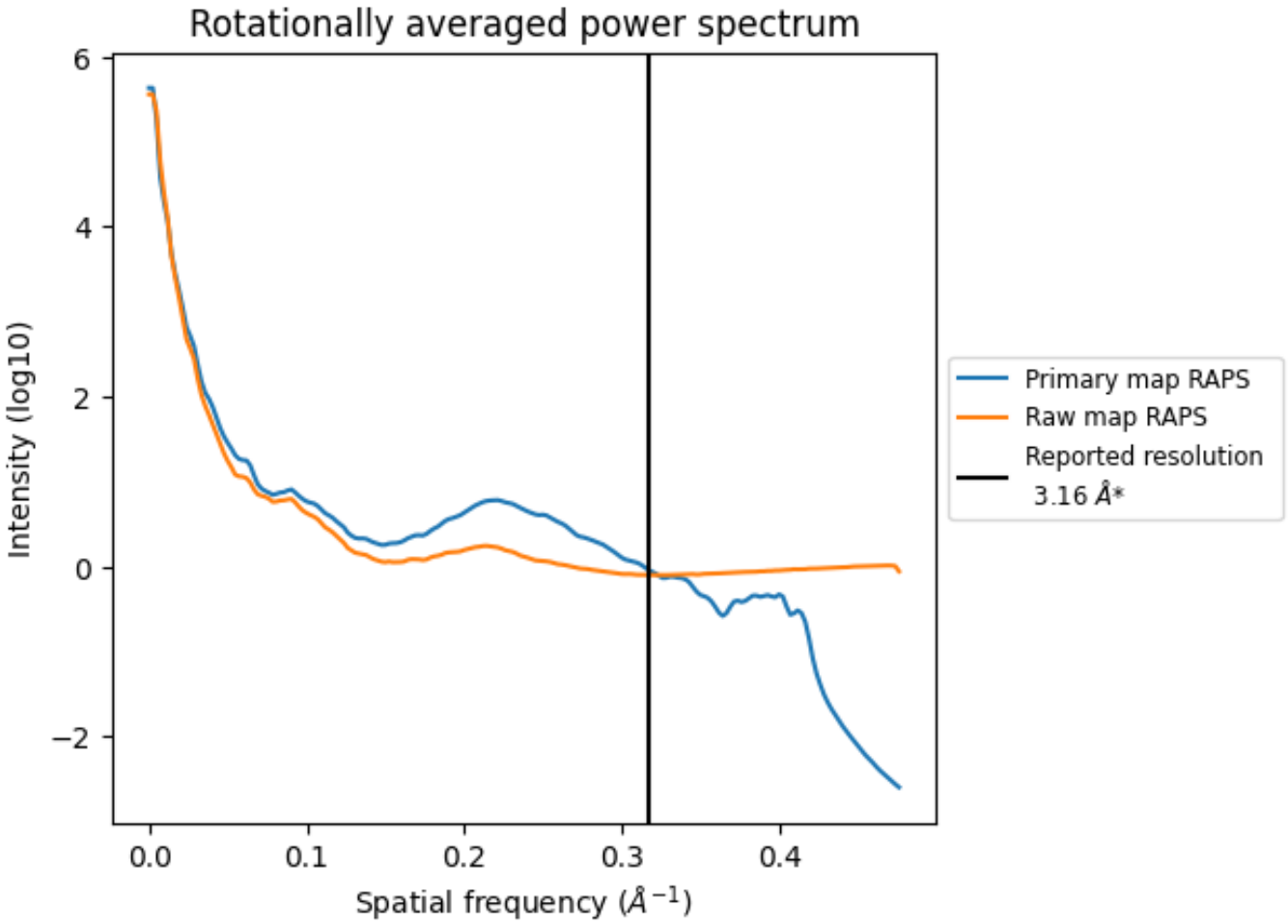
7.2 Volume estimate



The volume at the recommended contour level is 318 nm^3; this corresponds to an approximate mass of 287 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)

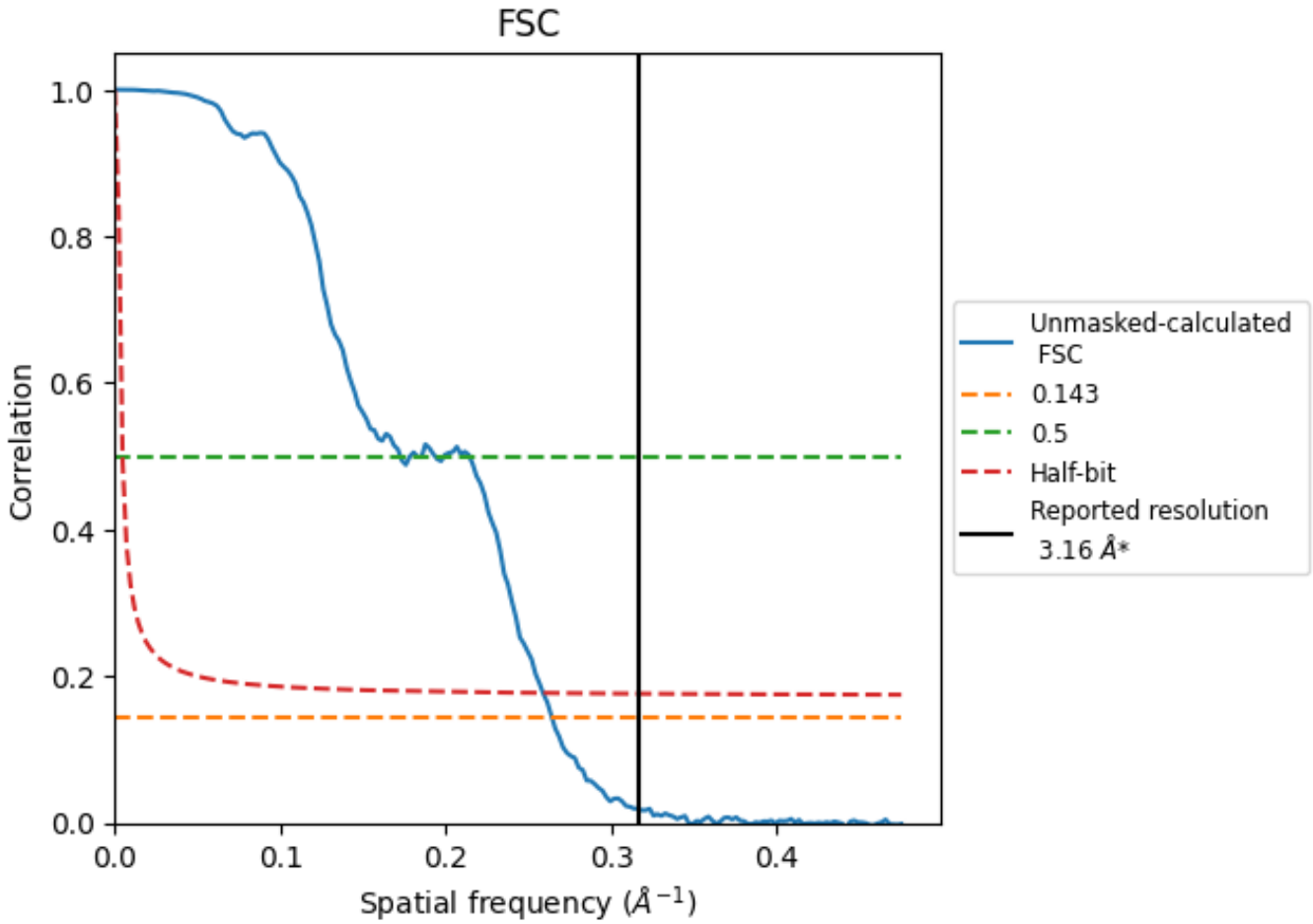


*Reported resolution corresponds to spatial frequency of 0.316 $Å^{-1}$

8 Fourier-Shell correlation

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



*Reported resolution corresponds to spatial frequency of 0.316 Å^{-1}

8.2 Resolution estimates (i)

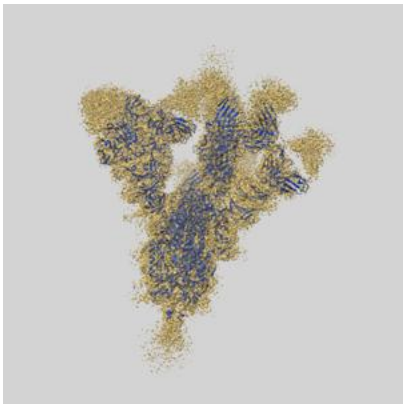
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.16	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.79	5.79	3.86

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.79 differs from the reported value 3.16 by more than 10 %

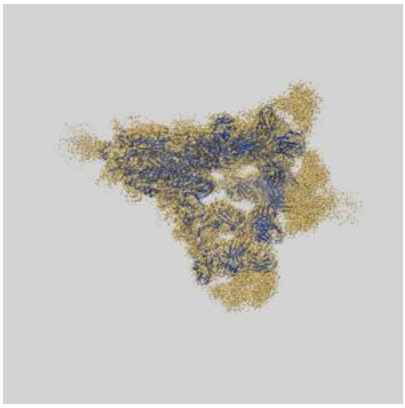
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-31014 and PDB model 7E8C. Per-residue inclusion information can be found in section 3 on page 13.

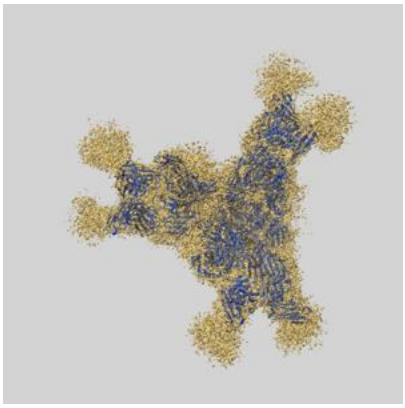
9.1 Map-model overlay



X



Y



Z

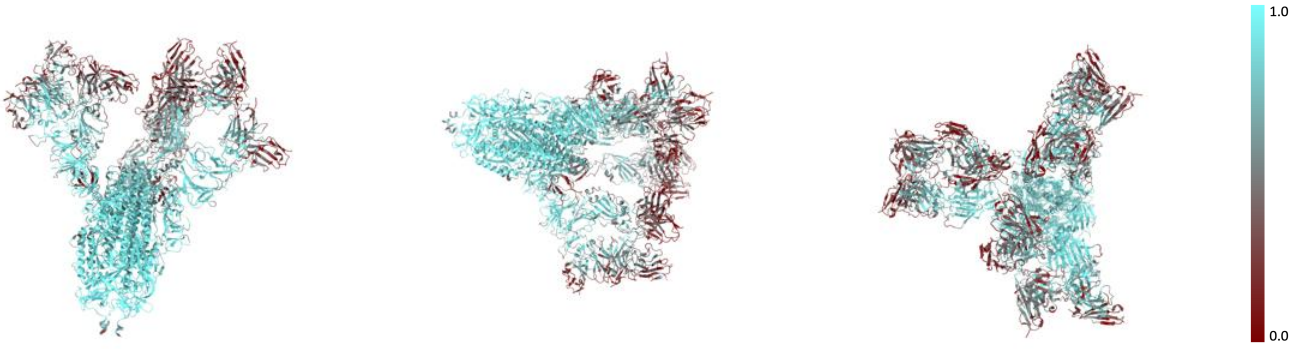
The images above show the 3D surface view of the map at the recommended contour level 0.0204 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model

X Y Z

The images above show the model with each residue coloured according 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.

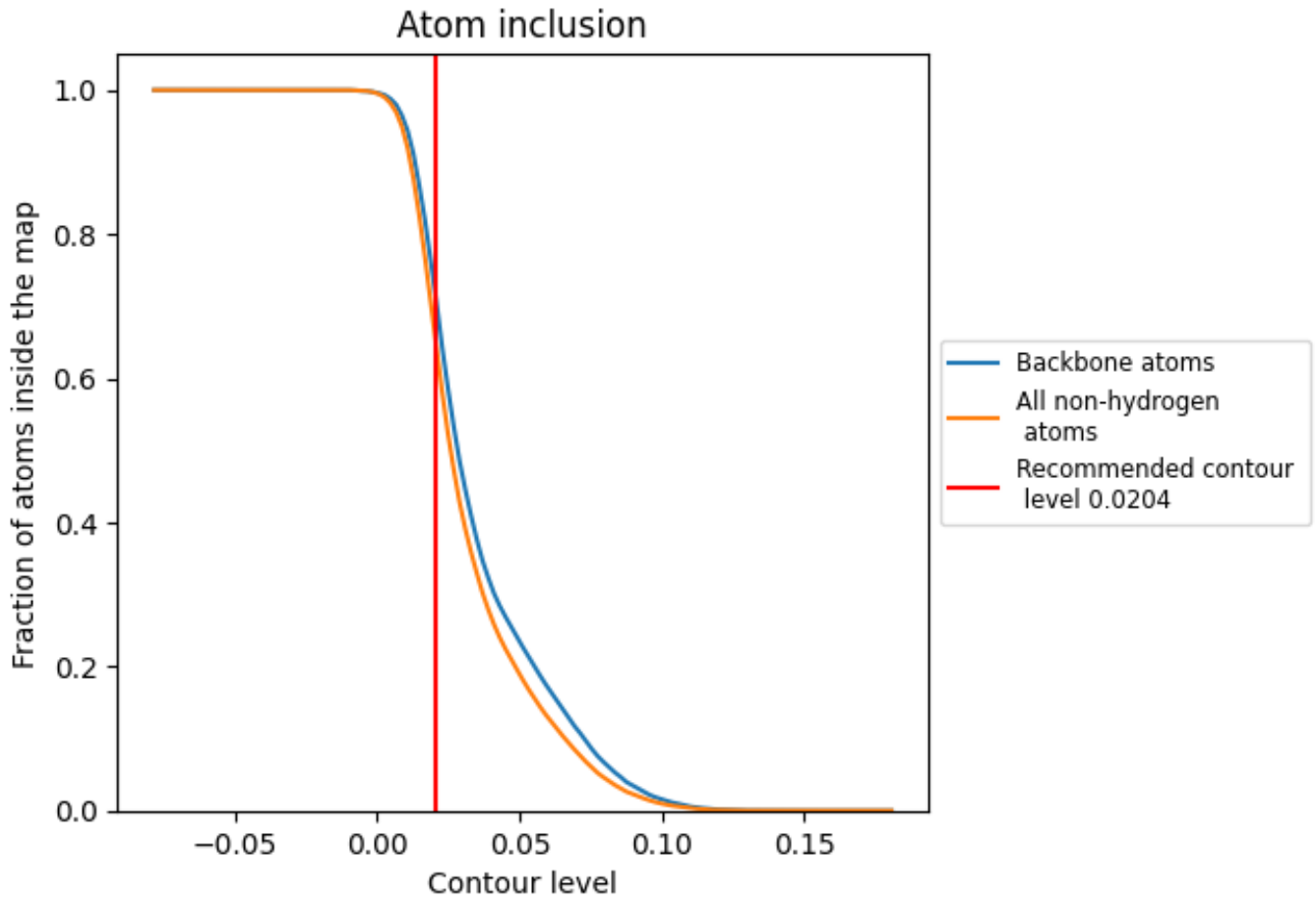
9.3 Atom inclusion mapped to coordinate model



X Y Z

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 (0.0204).

9.4 Atom inclusion (i)



At the recommended contour level, 72% of all backbone atoms, 66% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.0204) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6560	0.3900
A	0.8122	0.4830
B	0.8057	0.4760
C	0.7966	0.4700
D	0.3134	0.1870
E	0.2895	0.1760
H	0.6914	0.4070
I	0.3545	0.2540
J	0.3090	0.2060
K	0.4699	0.2670
L	0.4902	0.3450
M	0.4852	0.2640
N	0.2782	0.1490
O	0.2359	0.1230
P	0.2693	0.1790
Q	0.2882	0.1620
S	0.5976	0.3570
T	0.6052	0.3480
U	0.3598	0.2430
V	0.3898	0.2570
Z	0.4551	0.2640
a	0.5563	0.3300