Full wwPDB EM Validation Report (i)

Nov 14, 2022 – 04:43 PM EST

PDB ID	:	7K90
EMDB ID	:	EMD-22737
Title	:	Structure of the SARS-CoV-2 S 6P trimer in complex with the human neutralizing antibody Fab fragment, C144
Authors	:	Barnes, C.O.; Esswein, S.R.; Bjorkman, P.J.
Deposited on	:	2020-09-27
Resolution	:	3.24 Å(reported)
Based on initial model	:	6XKL

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 (i) 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 (i)) were used in the production of this report:

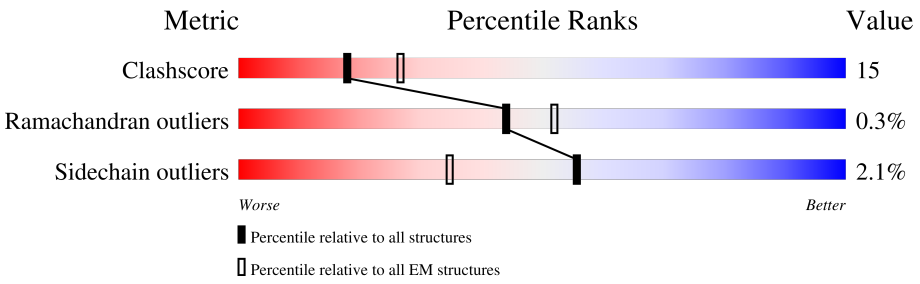
EMDB validation analysis	:	0.0.1.dev43
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.24 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	7% 61% 16% • 22%
1	B	1288	8% 60% 17% • 22%
1	C	1288	7% 60% 17% • 22%
2	H	243	21% 35% 17% • 47%
2	M	243	22% 36% 16% 47%
2	O	243	21% 36% 16% 47%
3	L	216	32% 37% 12% 50%
3	N	216	32% 36% 13% • 50%

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Mol	Chain	Length	Quality of chain
3	P	216	31% 34% 15% • 50%

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 28863 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Spike glycoprotein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	1000	7664	4894	1271	1464	35	0	0
1	B	1000	7664	4894	1271	1464	35	0	0
1	C	1000	7664	4894	1271	1464	35	0	0

There are 267 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	682	GLY	ARG	conflict	UNP P0DTC2
A	683	SER	ARG	conflict	UNP P0DTC2
A	685	SER	ARG	conflict	UNP P0DTC2
A	817	PRO	PHE	conflict	UNP P0DTC2
A	892	PRO	ALA	conflict	UNP P0DTC2
A	899	PRO	ALA	conflict	UNP P0DTC2
A	942	PRO	ALA	conflict	UNP P0DTC2
A	986	PRO	LYS	conflict	UNP P0DTC2
A	987	PRO	VAL	conflict	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

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Chain	Residue	Modelled	Actual	Comment	Reference
A	1224	VAL	-	expression tag	UNP P0DTC2
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	HIS	-	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

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Chain	Residue	Modelled	Actual	Comment	Reference
A	1266	GLU	-	expression tag	UNP P0DTC2
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	conflict	UNP P0DTC2
B	683	SER	ARG	conflict	UNP P0DTC2
B	685	SER	ARG	conflict	UNP P0DTC2
B	817	PRO	PHE	conflict	UNP P0DTC2
B	892	PRO	ALA	conflict	UNP P0DTC2
B	899	PRO	ALA	conflict	UNP P0DTC2
B	942	PRO	ALA	conflict	UNP P0DTC2
B	986	PRO	LYS	conflict	UNP P0DTC2
B	987	PRO	VAL	conflict	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

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Chain	Residue	Modelled	Actual	Comment	Reference
B	1219	ASP	-	expression tag	UNP P0DTC2
B	1220	GLY	-	expression tag	UNP P0DTC2
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	HIS	-	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

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Chain	Residue	Modelled	Actual	Comment	Reference
B	1261	SER	-	expression tag	UNP P0DTC2
B	1262	HIS	-	expression tag	UNP P0DTC2
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	conflict	UNP P0DTC2
C	683	SER	ARG	conflict	UNP P0DTC2
C	685	SER	ARG	conflict	UNP P0DTC2
C	817	PRO	PHE	conflict	UNP P0DTC2
C	892	PRO	ALA	conflict	UNP P0DTC2
C	899	PRO	ALA	conflict	UNP P0DTC2
C	942	PRO	ALA	conflict	UNP P0DTC2
C	986	PRO	LYS	conflict	UNP P0DTC2
C	987	PRO	VAL	conflict	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

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Chain	Residue	Modelled	Actual	Comment	Reference
C	1214	PRO	-	expression tag	UNP P0DTC2
C	1215	GLU	-	expression tag	UNP P0DTC2
C	1216	ALA	-	expression tag	UNP P0DTC2
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	HIS	-	expression tag	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
C	1256	HIS	-	expression tag	UNP P0DTC2
C	1257	HIS	-	expression tag	UNP P0DTC2
C	1258	SER	-	expression tag	UNP P0DTC2
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

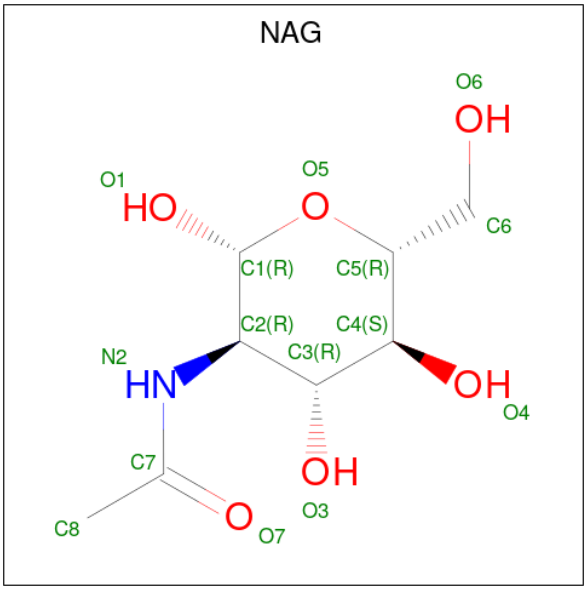
- Molecule 2 is a protein called C144 Fab Heavy Chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	H	129	1013	641	171	197	4	0	0
			Total	C	N	O	S		
2	M	129	1013	641	171	197	4	0	0
			Total	C	N	O	S		
2	O	129	1013	641	171	197	4	0	0

- Molecule 3 is a protein called C144 Fab Light Chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	L	108	790	486	133	168	3	0	0
3	N	108	790	486	133	168	3	0	0
3	P	108	790	486	133	168	3	0	0

- Molecule 4 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: $C_8H_{15}NO_6$).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
4	A	1	154	88	11	55	0
4	A	1	154	88	11	55	0
4	A	1	154	88	11	55	0
4	A	1	154	88	11	55	0
4	A	1	154	88	11	55	0
4	A	1	154	88	11	55	0
4	A	1	154	88	11	55	0

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Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
4	A	1	154	88	11	55	0
4	A	1	154	88	11	55	0
4	A	1	154	88	11	55	0
4	A	1	154	88	11	55	0
4	B	1	154	88	11	55	0
4	B	1	154	88	11	55	0
4	B	1	154	88	11	55	0
4	B	1	154	88	11	55	0
4	B	1	154	88	11	55	0
4	B	1	154	88	11	55	0
4	B	1	154	88	11	55	0
4	B	1	154	88	11	55	0
4	B	1	154	88	11	55	0
4	B	1	154	88	11	55	0
4	C	1	154	88	11	55	0
4	C	1	154	88	11	55	0
4	C	1	154	88	11	55	0
4	C	1	154	88	11	55	0
4	C	1	154	88	11	55	0
4	C	1	154	88	11	55	0

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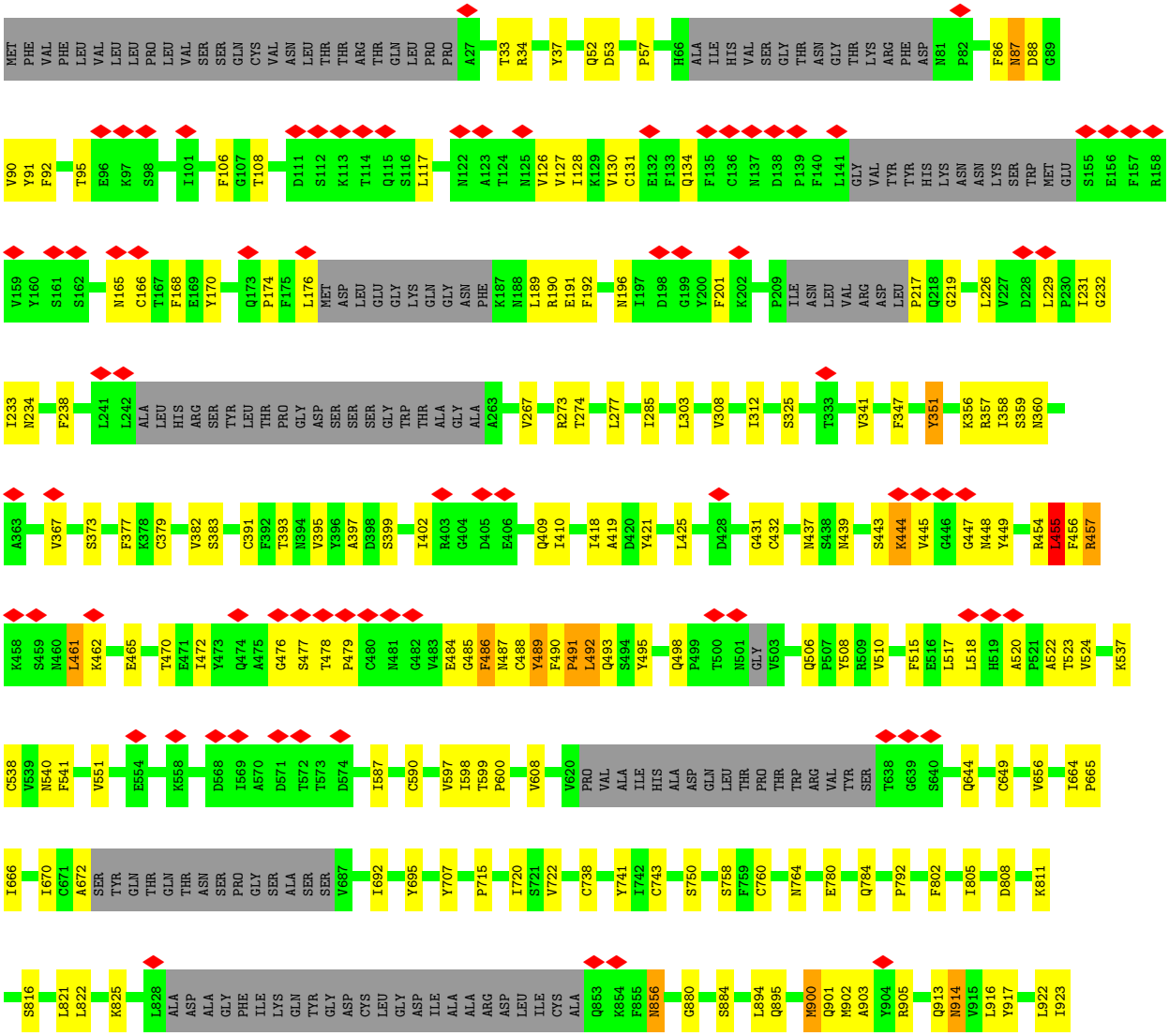
Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
4	C	1	154	88	11	55	0
4	C	1	154	88	11	55	0
4	C	1	154	88	11	55	0
4	C	1	154	88	11	55	0
4	C	1	154	88	11	55	0

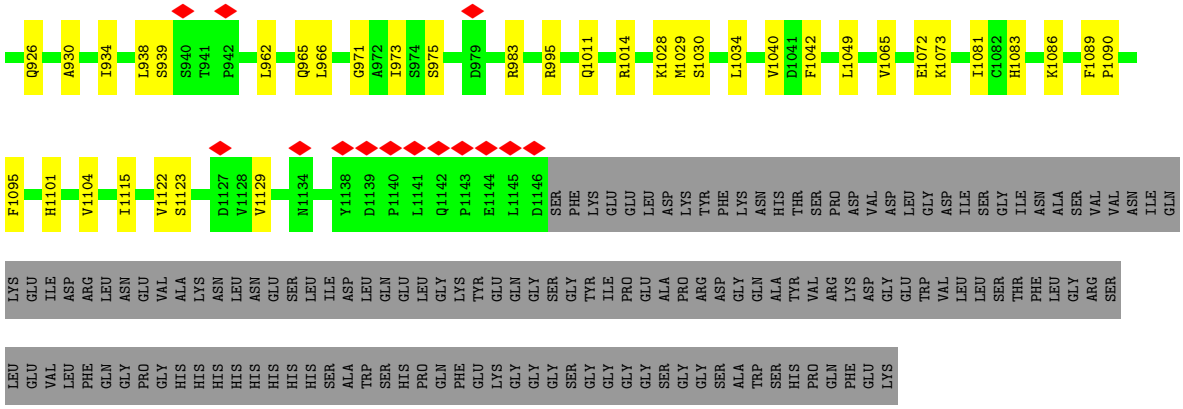
3 Residue-property plots (i)

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

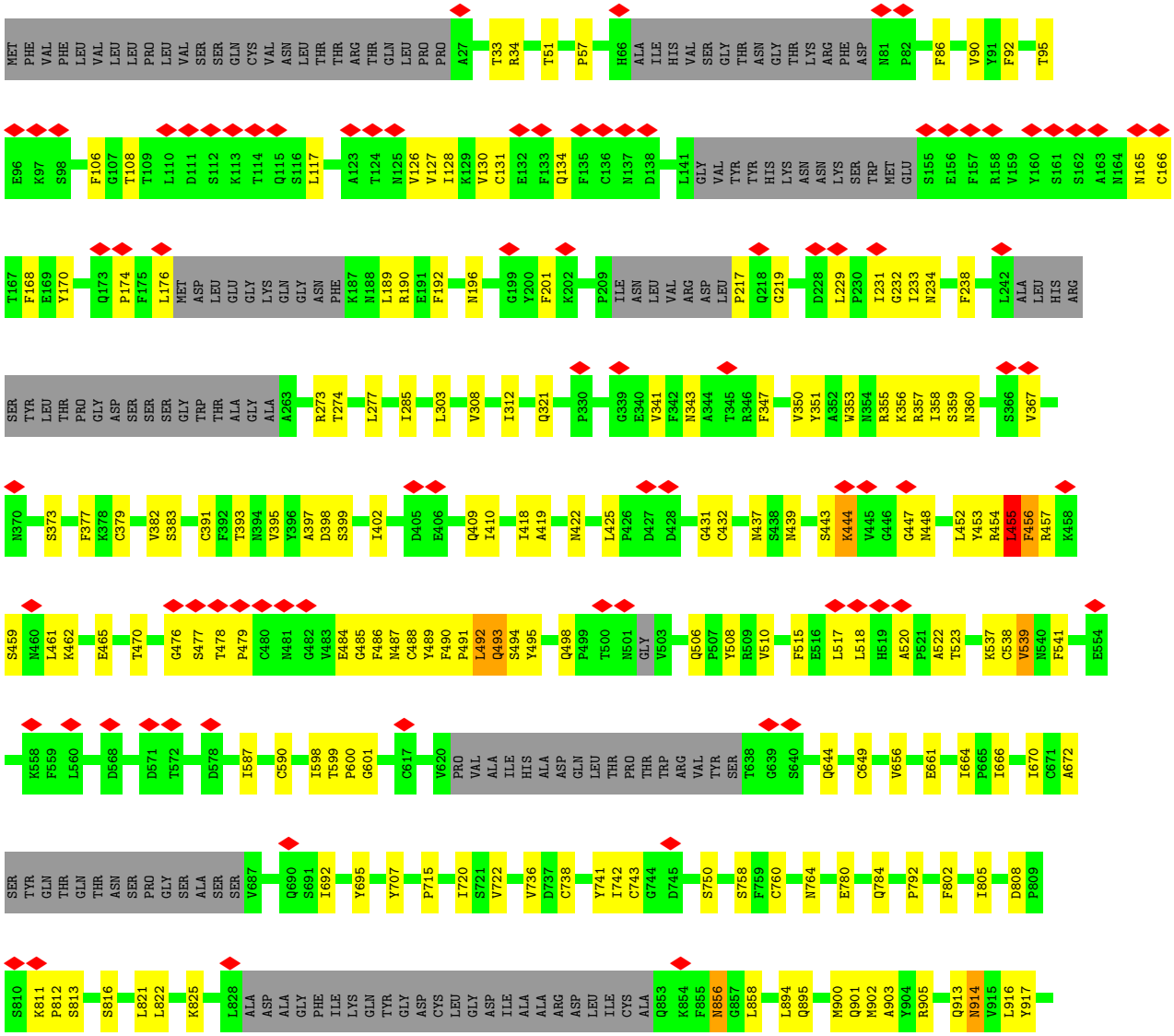
Chain A: 7% 61% 16% 22%

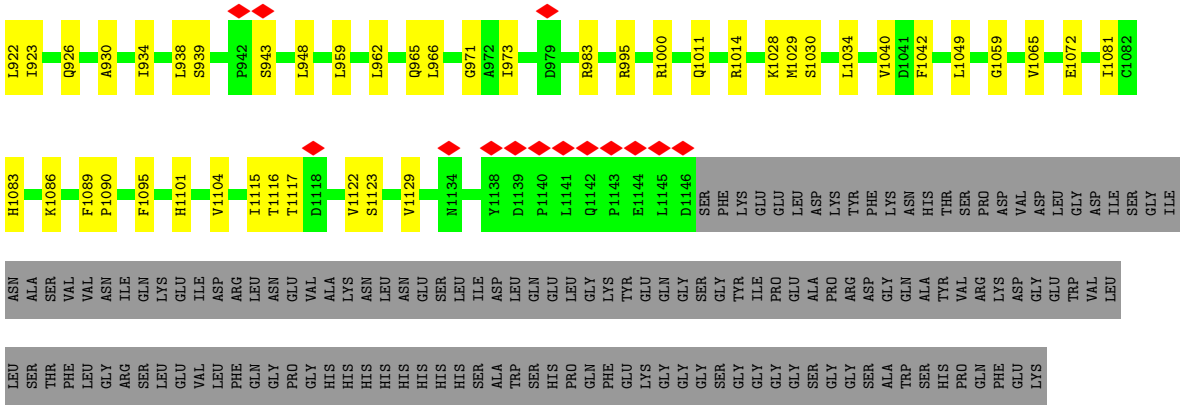




- Molecule 1: Spike glycoprotein

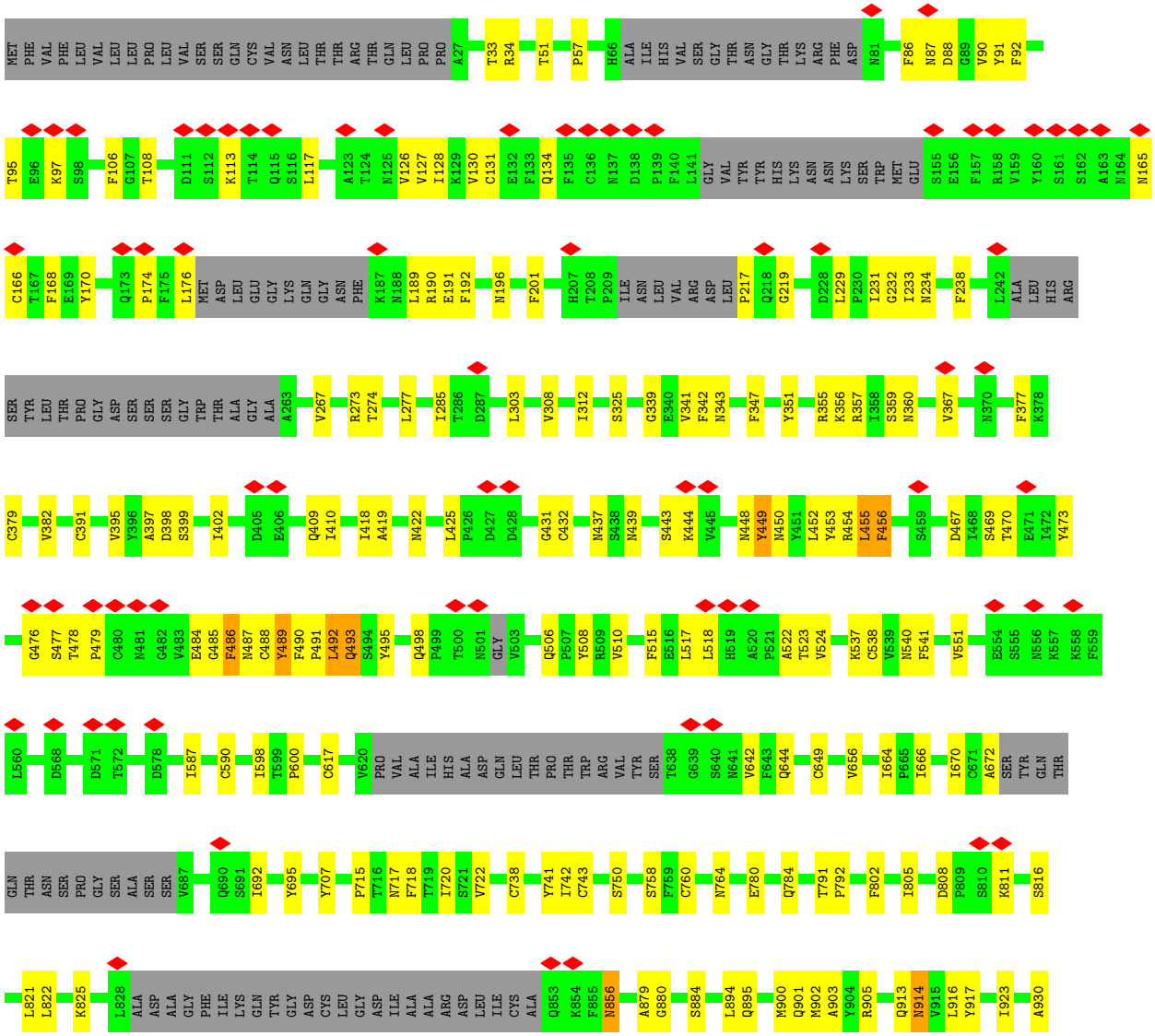
Chain B: 8% 60% 17% • 22%

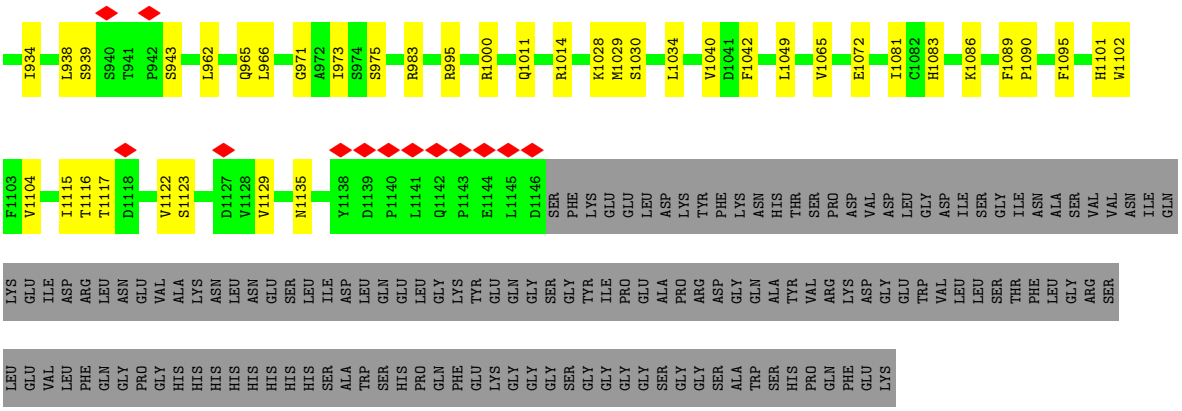




- Molecule 1: Spike glycoprotein

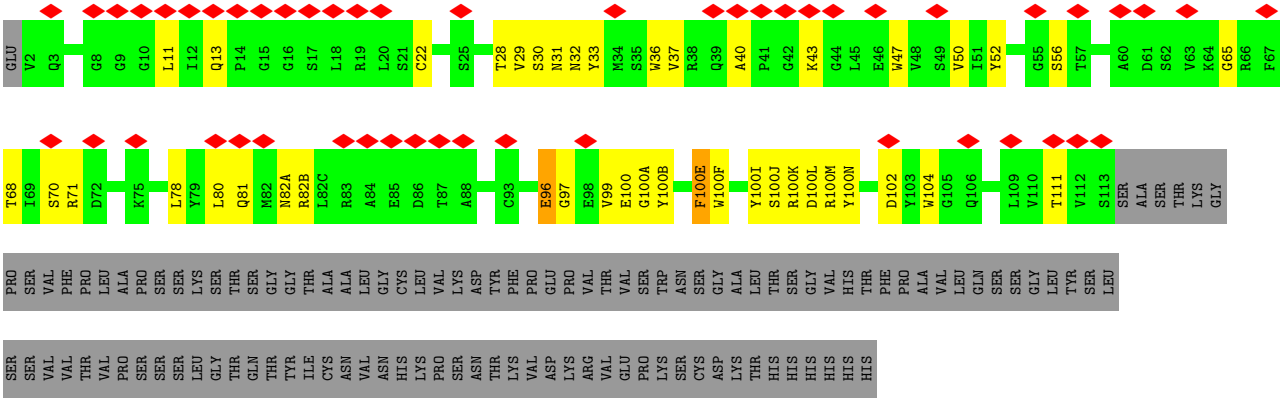
Chain C:





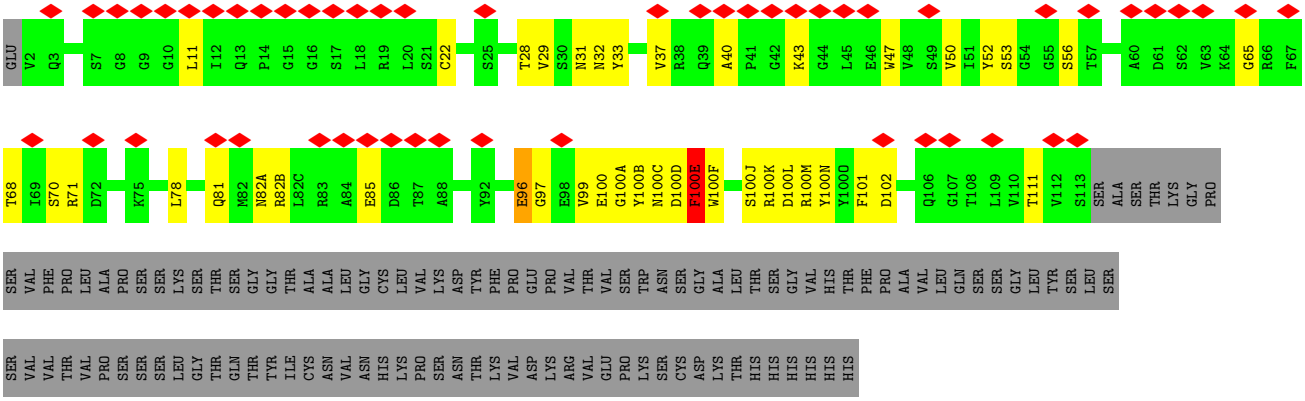
- Molecule 2: C144 Fab Heavy Chain

Chain H:



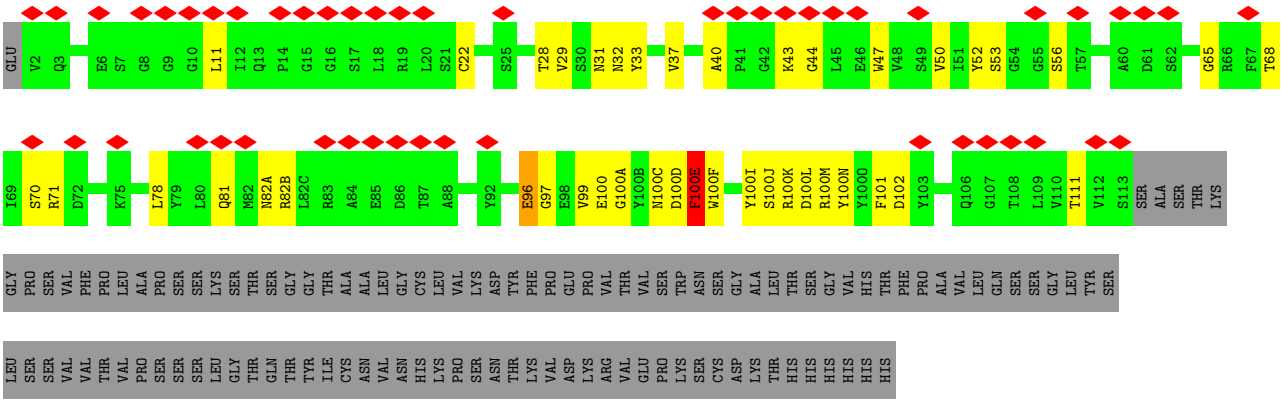
- Molecule 2: C144 Fab Heavy Chain

Chain M:



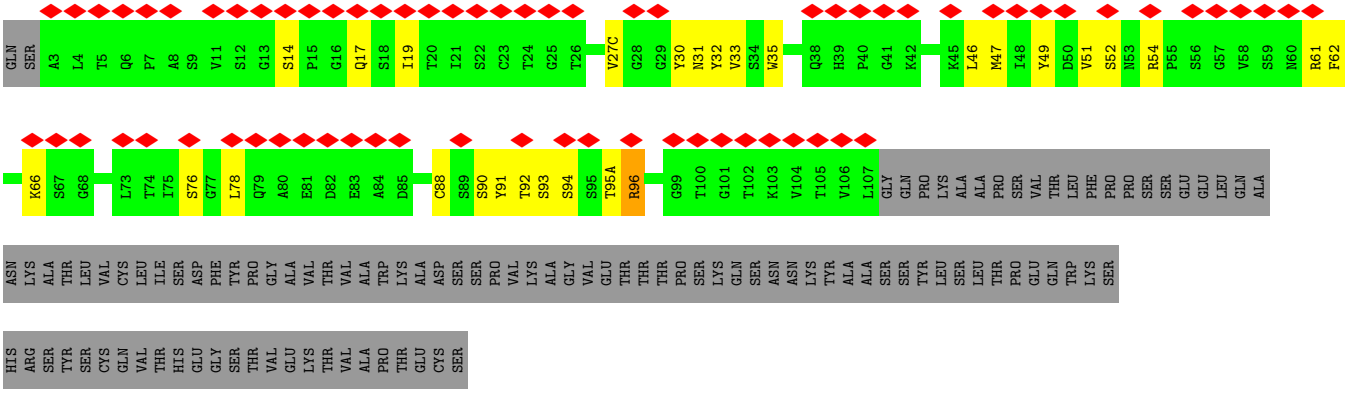
- Molecule 2: C144 Fab Heavy Chain

Chain O:



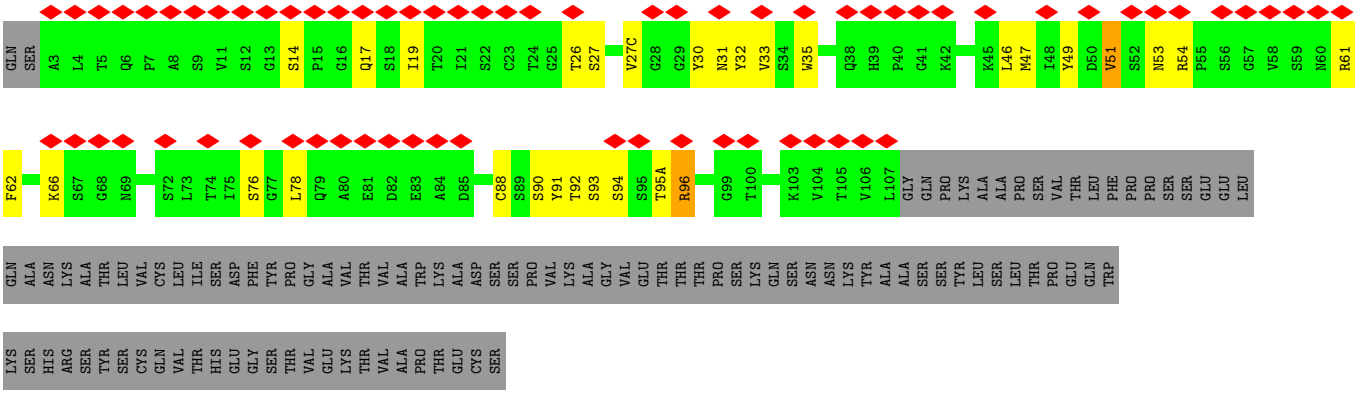
- Molecule 3: C144 Fab Light Chain

Chain L:



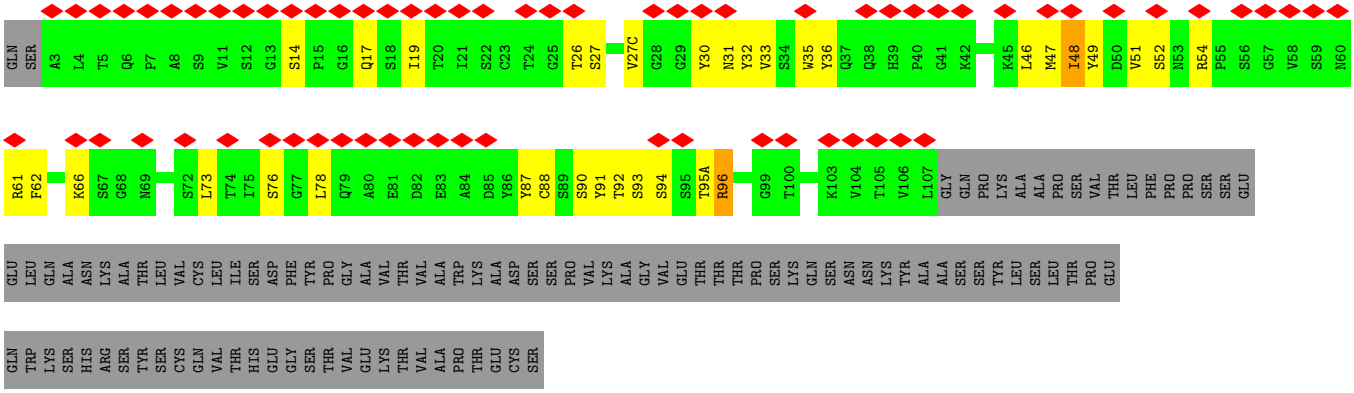
- Molecule 3: C144 Fab Light Chain

Chain N:



- Molecule 3: C144 Fab Light Chain

Chain P:


GLN
SER
A3
L4
T5
Q6
P7
A8
S9
V11
S12
G13
S14
P15
G16
Q17
S18
I19
T20
I21
S22
C23
T24
G25
T26
S27
V27C
G28
G29
Y30
N31
Y32
V33
S34
W35
Y36
Q37
Q38
H39
P40
G41
K42
K45
L46
M47
I48
Y49
D50
V51
S52
N53
R54
P55
S56
G57
V58
S59
N60
R61
F62
K66
S67
G68
N69
S72
L73
T74
I75
S76
G77
L78
Q79
A80
E81
D82
E83
A84
D85
Y86
Y87
C88
S89
S90
Y91
T92
S93
S94
S95
T95A
R96
G99
T100
K103
V104
T105
V106
L107
GLY
GLN
PRO
LYS
ALA
ALA
PRO
SER
VAL
THR
LEU
PHE
PRO
PRO
SER
SER
GLU
GLU
LEU
GLN
ALA
ASN
LYS
ALA
THR
LEU
VAL
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, C3	Depositor
Number of particles used	212876	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TALOS ARCTICA	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/Å^2$)	60	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	45000	Depositor
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	1.654	Depositor
Minimum map value	-1.105	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.032	Depositor
Recommended contour level	0.18	Depositor
Map size (Å)	375.40802, 375.40802, 375.40802	wwPDB
Map dimensions	432, 432, 432	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.869, 0.869, 0.869	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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

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	0.30	0/7835	0.47	0/10676
1	B	0.30	0/7835	0.47	0/10676
1	C	0.30	0/7835	0.48	0/10676
2	H	0.31	0/1038	0.53	1/1406 (0.1%)
2	M	0.28	0/1038	0.50	0/1406
2	O	0.28	0/1038	0.50	0/1406
3	L	0.31	0/806	0.56	0/1096
3	N	0.30	0/806	0.54	0/1096
3	P	0.30	0/806	0.56	0/1096
All	All	0.30	0/29037	0.49	1/39534 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	H	100(B)	TYR	CB-CA-C	5.99	122.38	110.40

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	7664	0	7373	236	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	7664	0	7373	193	0
1	C	7664	0	7375	210	0
2	H	1013	0	948	42	0
2	M	1013	0	949	40	0
2	O	1013	0	949	45	0
3	L	790	0	753	54	0
3	N	790	0	753	37	0
3	P	790	0	753	60	0
4	A	154	0	143	4	0
4	B	154	0	143	4	0
4	C	154	0	143	4	0
All	All	28863	0	27655	842	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 15.

All (842) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:33:VAL:HB	3:L:51:VAL:CG1	1.41	1.51
3:P:33:VAL:HB	3:P:51:VAL:CG1	1.43	1.45
1:B:1081:ILE:HD12	1:B:1095:PHE:CE1	1.76	1.20
1:B:455:LEU:CD1	1:B:493:GLN:HG2	1.71	1.20
1:C:455:LEU:CD1	1:C:493:GLN:HG2	1.72	1.20
3:N:31:ASN:HA	3:N:66:LYS:NZ	1.58	1.19
1:A:312:ILE:HG23	1:A:664:ILE:CG2	1.71	1.18
1:C:1081:ILE:HD12	1:C:1095:PHE:CE1	1.76	1.18
3:L:31:ASN:HA	3:L:66:LYS:NZ	1.58	1.18
1:A:1081:ILE:HD12	1:A:1095:PHE:CE1	1.76	1.17
3:L:33:VAL:CB	3:L:51:VAL:CG1	2.24	1.15
1:A:1081:ILE:HD12	1:A:1095:PHE:CZ	1.82	1.15
1:C:1081:ILE:HD12	1:C:1095:PHE:CZ	1.82	1.14
1:B:1081:ILE:HD12	1:B:1095:PHE:CZ	1.82	1.14
3:L:47:MET:HE2	3:L:62:PHE:CE1	1.81	1.14
3:N:47:MET:CE	3:N:62:PHE:CE1	2.31	1.13
3:P:47:MET:CE	3:P:62:PHE:CE1	2.31	1.13
3:L:47:MET:CE	3:L:62:PHE:CE1	2.31	1.13
3:P:51:VAL:HG21	3:P:66:LYS:HE3	1.29	1.13
3:P:33:VAL:CB	3:P:51:VAL:CG1	2.26	1.12
3:L:33:VAL:CB	3:L:51:VAL:HG11	1.80	1.10
3:P:47:MET:HE2	3:P:62:PHE:CE1	1.86	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:457:ARG:NH2	1:B:459:SER:O	1.85	1.08
1:B:858:LEU:HD22	1:B:959:LEU:HD11	1.31	1.08
1:A:325:SER:HA	1:A:540:ASN:OD1	1.53	1.08
1:B:455:LEU:HD12	1:B:493:GLN:HG2	1.11	1.08
3:P:33:VAL:CB	3:P:51:VAL:HG11	1.83	1.07
3:L:31:ASN:HA	3:L:66:LYS:HZ1	1.09	1.07
3:N:47:MET:HE2	3:N:62:PHE:CE1	1.89	1.06
3:P:35:TRP:HB2	3:P:48:ILE:HG12	1.35	1.05
1:B:455:LEU:HD12	1:B:493:GLN:CG	1.85	1.05
1:B:1081:ILE:CD1	1:B:1095:PHE:CE1	2.40	1.04
1:C:455:LEU:HD13	1:C:493:GLN:HG2	1.08	1.04
1:A:1081:ILE:CD1	1:A:1095:PHE:CE1	2.41	1.03
1:C:1081:ILE:CD1	1:C:1095:PHE:CE1	2.40	1.03
1:C:452:LEU:CD1	1:C:492:LEU:HD13	1.89	1.02
1:A:599:THR:HG22	1:A:608:VAL:CG1	1.90	1.02
3:L:33:VAL:HB	3:L:51:VAL:HG12	1.39	1.01
1:B:51:THR:O	1:B:274:THR:HG23	1.61	1.00
3:P:33:VAL:HB	3:P:51:VAL:HG12	1.42	1.00
1:A:470:THR:O	1:A:491:PRO:HG2	1.61	1.00
1:A:1081:ILE:HD11	1:A:1095:PHE:CD1	1.97	0.99
1:C:51:THR:O	1:C:274:THR:HG23	1.62	0.99
1:B:1081:ILE:HD11	1:B:1095:PHE:CD1	1.97	0.99
3:L:33:VAL:CB	3:L:51:VAL:HG12	1.91	0.98
1:C:1081:ILE:HD11	1:C:1095:PHE:CD1	1.97	0.98
1:C:87:ASN:OD1	1:C:88:ASP:N	1.97	0.98
1:B:493:GLN:NE2	2:H:31:ASN:OD1	1.97	0.96
3:P:33:VAL:HB	3:P:51:VAL:HG11	0.95	0.95
3:P:33:VAL:CB	3:P:51:VAL:HG12	1.92	0.95
1:A:490:PHE:CD1	1:A:491:PRO:HD2	2.01	0.94
1:B:452:LEU:HD13	1:B:492:LEU:HD13	1.47	0.94
1:B:736:VAL:HG22	1:B:858:LEU:HD23	1.47	0.94
1:C:490:PHE:HD1	1:C:491:PRO:HD2	1.32	0.94
1:A:470:THR:O	1:A:491:PRO:CG	2.17	0.93
3:N:31:ASN:HA	3:N:66:LYS:HZ1	1.22	0.93
3:P:35:TRP:HB2	3:P:48:ILE:CG1	1.98	0.93
3:L:33:VAL:HB	3:L:51:VAL:HG11	0.95	0.93
3:N:47:MET:HE1	3:N:62:PHE:CZ	2.04	0.93
1:A:916:LEU:HD12	1:A:923:ILE:HD12	1.51	0.92
3:P:47:MET:HE1	3:P:62:PHE:CZ	2.04	0.92
1:A:312:ILE:HG23	1:A:664:ILE:HG22	1.50	0.91
1:C:359:SER:HA	1:C:524:VAL:CG2	2.00	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:916:LEU:HD12	1:C:923:ILE:HD12	1.51	0.91
1:B:916:LEU:HD12	1:B:923:ILE:HD12	1.51	0.91
3:P:51:VAL:HG21	3:P:66:LYS:CE	1.99	0.91
1:A:359:SER:HA	1:A:524:VAL:CG2	2.00	0.90
1:B:490:PHE:HD1	1:B:491:PRO:HD2	1.32	0.90
1:A:52:GLN:CB	1:A:274:THR:HG22	2.00	0.90
3:P:51:VAL:CG2	3:P:66:LYS:HE3	2.02	0.90
1:A:312:ILE:CG2	1:A:664:ILE:CG2	2.50	0.90
1:B:1081:ILE:CD1	1:B:1095:PHE:CD1	2.56	0.89
3:L:47:MET:HE1	3:L:62:PHE:CZ	2.08	0.89
1:B:490:PHE:CD1	1:B:491:PRO:HD2	2.08	0.89
1:C:339:GLY:O	1:C:343:ASN:HB2	1.72	0.88
1:A:1081:ILE:CD1	1:A:1095:PHE:CD1	2.56	0.88
1:C:1081:ILE:CD1	1:C:1095:PHE:CD1	2.56	0.88
3:N:47:MET:CE	3:N:62:PHE:CZ	2.57	0.88
1:C:490:PHE:CD1	1:C:491:PRO:HD2	2.09	0.87
1:B:541:PHE:CZ	1:B:587:ILE:HD13	2.10	0.86
1:C:452:LEU:HD12	1:C:492:LEU:HD13	1.57	0.86
2:H:99:VAL:HG12	2:H:100:GLU:HG2	1.56	0.86
3:L:47:MET:CE	3:L:62:PHE:CZ	2.57	0.86
1:C:470:THR:OG1	1:C:490:PHE:HE1	1.58	0.86
1:C:455:LEU:CD1	1:C:493:GLN:CG	2.54	0.86
3:P:33:VAL:O	3:P:51:VAL:HG12	1.75	0.86
3:P:47:MET:CE	3:P:62:PHE:CZ	2.57	0.85
2:H:28:THR:HG22	2:H:30:SER:H	1.40	0.85
1:A:312:ILE:CG2	1:A:664:ILE:HG22	2.06	0.85
1:B:454:ARG:HG3	1:B:454:ARG:HH11	1.39	0.85
1:C:452:LEU:HD13	1:C:492:LEU:HD13	1.57	0.85
2:H:100:GLU:HG3	2:H:100(I):TYR:CD1	2.12	0.84
1:A:312:ILE:HD13	1:A:665:PRO:O	1.78	0.84
2:M:100(J):SER:O	2:M:100(M):ARG:NH2	2.10	0.84
2:H:100(J):SER:O	2:H:100(M):ARG:NH2	2.10	0.84
1:B:470:THR:OG1	1:B:490:PHE:HE1	1.61	0.84
2:O:100(J):SER:O	2:O:100(M):ARG:NH2	2.10	0.84
1:A:367:VAL:CG2	2:O:100(F):TRP:O	2.26	0.83
1:C:95:THR:HG23	1:C:189:LEU:HD13	1.61	0.83
3:L:33:VAL:O	3:L:51:VAL:HG12	1.77	0.83
1:A:95:THR:HG23	1:A:189:LEU:HD13	1.61	0.82
1:C:540:ASN:OD1	1:C:540:ASN:O	1.95	0.82
1:A:599:THR:HG22	1:A:608:VAL:HG12	1.60	0.82
1:A:367:VAL:HG22	2:O:100(F):TRP:O	1.78	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:599:THR:HG22	1:A:608:VAL:HG11	1.62	0.81
1:A:456:PHE:CE2	1:A:489:TYR:HD2	1.99	0.81
1:B:95:THR:HG23	1:B:189:LEU:HD13	1.61	0.81
1:B:95:THR:CG2	1:B:189:LEU:HD13	2.11	0.80
1:C:452:LEU:CD1	1:C:492:LEU:CD1	2.59	0.80
1:A:325:SER:CA	1:A:540:ASN:OD1	2.29	0.80
1:C:95:THR:CG2	1:C:189:LEU:HD13	2.12	0.80
1:A:95:THR:CG2	1:A:189:LEU:HD13	2.12	0.80
1:C:95:THR:HG23	1:C:189:LEU:CD1	2.12	0.80
1:A:95:THR:HG23	1:A:189:LEU:CD1	2.11	0.80
1:B:452:LEU:CD1	1:B:492:LEU:HD13	2.11	0.80
3:L:33:VAL:CA	3:L:51:VAL:CG1	2.59	0.80
3:L:31:ASN:CA	3:L:66:LYS:HZ1	1.91	0.79
3:L:51:VAL:HG21	3:L:66:LYS:HE2	1.62	0.79
1:B:95:THR:HG23	1:B:189:LEU:CD1	2.11	0.79
1:A:470:THR:OG1	1:A:491:PRO:HG2	1.84	0.78
1:B:537:LYS:O	1:B:539:VAL:HG13	1.83	0.78
1:B:599:THR:HG22	1:B:601:GLY:H	1.48	0.78
1:C:448:ASN:OD1	1:C:450:ASN:HB2	1.83	0.78
1:A:52:GLN:HA	1:A:274:THR:HG22	1.64	0.78
3:N:31:ASN:HA	3:N:66:LYS:HZ3	1.43	0.78
1:C:95:THR:HG22	1:C:189:LEU:HA	1.66	0.77
1:B:95:THR:HG22	1:B:189:LEU:HA	1.66	0.77
1:A:95:THR:HG22	1:A:189:LEU:HA	1.67	0.77
1:C:325:SER:HA	1:C:540:ASN:OD1	1.85	0.77
3:L:33:VAL:N	3:L:51:VAL:CG1	2.48	0.77
3:P:33:VAL:CA	3:P:51:VAL:CG1	2.62	0.77
1:A:52:GLN:HB2	1:A:274:THR:HG22	1.66	0.76
2:H:100:GLU:CG	2:H:100(I):TYR:CD1	2.69	0.76
3:L:51:VAL:HG21	3:L:66:LYS:CE	2.15	0.76
1:A:456:PHE:CE2	1:A:489:TYR:CD2	2.75	0.75
1:B:444:LYS:O	1:B:447:GLY:O	2.04	0.75
1:C:455:LEU:HD13	1:C:493:GLN:CG	2.04	0.75
2:H:100:GLU:CG	2:H:100(I):TYR:HD1	2.00	0.75
1:A:359:SER:HA	1:A:524:VAL:HG23	1.69	0.75
3:P:33:VAL:N	3:P:51:VAL:CG1	2.50	0.75
1:A:454:ARG:HG3	1:A:454:ARG:HH11	1.51	0.75
1:C:493:GLN:OE1	2:O:31:ASN:OD1	2.04	0.75
1:A:52:GLN:CA	1:A:274:THR:HG22	2.17	0.74
1:C:452:LEU:HD12	1:C:492:LEU:CD1	2.18	0.74
1:C:341:VAL:HG11	1:C:397:ALA:HB1	1.70	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:231:ILE:HD12	1:A:233:ILE:HG12	1.70	0.74
1:B:341:VAL:HG11	1:B:397:ALA:HB1	1.70	0.73
1:A:597:VAL:HG12	1:A:599:THR:HG23	1.69	0.73
1:C:617:CYS:HB3	1:C:649:CYS:SG	2.27	0.73
1:A:341:VAL:HG11	1:A:397:ALA:HB1	1.70	0.73
1:C:359:SER:HA	1:C:524:VAL:HG23	1.69	0.73
1:B:367:VAL:CG1	2:M:100(F):TRP:O	2.37	0.72
3:L:33:VAL:CA	3:L:51:VAL:HG12	2.19	0.72
1:C:325:SER:HB2	1:C:540:ASN:OD1	1.89	0.72
3:P:33:VAL:CA	3:P:51:VAL:HG12	2.19	0.72
1:B:231:ILE:HD12	1:B:233:ILE:HG12	1.70	0.72
1:B:455:LEU:HD13	1:B:493:GLN:HG2	1.70	0.72
1:C:231:ILE:HD12	1:C:233:ILE:HG12	1.70	0.72
3:P:47:MET:HE1	3:P:62:PHE:CE1	2.22	0.72
1:B:454:ARG:HG3	1:B:454:ARG:NH1	2.03	0.71
1:C:422:ASN:ND2	1:C:453:TYR:O	2.24	0.71
1:A:454:ARG:HG3	1:A:454:ARG:NH1	2.04	0.70
1:C:95:THR:CG2	1:C:189:LEU:CD1	2.70	0.70
1:B:95:THR:CG2	1:B:189:LEU:CD1	2.69	0.70
1:A:455:LEU:HG	1:A:493:GLN:CG	2.22	0.70
1:C:452:LEU:HD13	1:C:492:LEU:CD1	2.18	0.69
1:A:443:SER:O	1:A:448:ASN:HB2	1.93	0.69
1:A:312:ILE:HG23	1:A:664:ILE:HG21	1.68	0.69
3:N:47:MET:HE2	3:N:62:PHE:CD1	2.26	0.69
1:C:448:ASN:O	1:C:450:ASN:N	2.26	0.69
1:A:95:THR:CG2	1:A:189:LEU:CD1	2.70	0.68
1:C:856:ASN:OD1	1:C:856:ASN:N	2.18	0.68
1:B:444:LYS:HB3	1:B:448:ASN:HB2	1.74	0.68
1:B:422:ASN:ND2	1:B:453:TYR:O	2.26	0.68
1:C:455:LEU:HD11	1:C:493:GLN:HE21	1.58	0.68
1:B:452:LEU:HD13	1:B:492:LEU:CD1	2.24	0.68
3:L:31:ASN:HA	3:L:66:LYS:HZ3	1.58	0.68
1:A:455:LEU:HG	1:A:493:GLN:HG3	1.76	0.67
1:A:470:THR:C	1:A:491:PRO:HG2	2.14	0.67
1:B:367:VAL:HG13	2:M:100(F):TRP:O	1.94	0.67
1:C:916:LEU:HD12	1:C:923:ILE:CD1	2.25	0.67
3:L:33:VAL:H	3:L:51:VAL:CG1	2.07	0.67
1:C:439:ASN:ND2	1:C:506:GLN:OE1	2.28	0.67
1:C:821:LEU:HD21	1:C:939:SER:HB2	1.76	0.67
1:A:439:ASN:ND2	1:A:506:GLN:OE1	2.28	0.67
1:A:359:SER:HA	1:A:524:VAL:HG21	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:395:VAL:HG22	1:C:515:PHE:HD1	1.60	0.67
2:H:100:GLU:HG3	2:H:100(I):TYR:CE1	2.29	0.67
1:B:916:LEU:HD12	1:B:923:ILE:CD1	2.25	0.67
3:N:33:VAL:HA	3:N:90:SER:HA	1.77	0.67
1:A:821:LEU:HD21	1:A:939:SER:HB2	1.76	0.67
2:O:100(A):GLY:H	2:O:100(M):ARG:HD3	1.58	0.67
1:B:439:ASN:ND2	1:B:506:GLN:OE1	2.28	0.66
2:M:100(A):GLY:H	2:M:100(M):ARG:HD3	1.58	0.66
3:N:47:MET:HE1	3:N:62:PHE:CE1	2.17	0.66
3:P:33:VAL:H	3:P:51:VAL:CG1	2.08	0.66
1:B:821:LEU:HD21	1:B:939:SER:HB2	1.76	0.66
2:H:37:VAL:HG11	2:H:104:TRP:CZ3	2.31	0.66
1:C:470:THR:OG1	1:C:490:PHE:CE1	2.46	0.66
1:A:131:CYS:HA	1:A:166:CYS:HB3	1.78	0.66
1:B:321:GLN:OE1	1:B:321:GLN:HA	1.95	0.65
3:L:19:ILE:HD13	3:L:78:LEU:HD21	1.78	0.65
3:P:19:ILE:HD13	3:P:78:LEU:HD21	1.78	0.65
3:P:47:MET:HE2	3:P:62:PHE:CD1	2.30	0.65
1:C:131:CYS:HA	1:C:166:CYS:HB3	1.78	0.65
1:A:358:ILE:HB	1:A:395:VAL:HG13	1.79	0.65
3:N:19:ILE:HD13	3:N:78:LEU:HD21	1.78	0.65
1:A:1028:LYS:NZ	1:A:1042:PHE:O	2.29	0.65
1:C:1028:LYS:NZ	1:C:1042:PHE:O	2.29	0.64
3:N:92:THR:OG1	3:N:95(A):THR:N	2.31	0.64
1:B:128:ILE:HB	1:B:170:TYR:HB3	1.79	0.64
1:C:359:SER:HA	1:C:524:VAL:HG21	1.77	0.64
1:B:395:VAL:HG23	1:B:515:PHE:CD1	2.33	0.64
3:L:33:VAL:C	3:L:51:VAL:HG12	2.17	0.64
3:P:33:VAL:C	3:P:51:VAL:HG12	2.17	0.64
1:B:131:CYS:HA	1:B:166:CYS:HB3	1.78	0.64
3:P:92:THR:OG1	3:P:95(A):THR:N	2.31	0.64
1:A:916:LEU:HD12	1:A:923:ILE:CD1	2.25	0.64
3:L:92:THR:HB	3:L:96:ARG:HG3	1.80	0.64
1:A:128:ILE:HB	1:A:170:TYR:HB3	1.79	0.64
1:B:358:ILE:HB	1:B:395:VAL:HG13	1.79	0.64
1:B:1028:LYS:NZ	1:B:1042:PHE:O	2.29	0.64
3:N:92:THR:HB	3:N:96:ARG:HG3	1.80	0.64
1:A:472:ILE:HD13	1:A:491:PRO:HD3	1.78	0.64
3:L:92:THR:OG1	3:L:95(A):THR:N	2.31	0.63
3:P:33:VAL:HA	3:P:90:SER:HA	1.80	0.63
1:B:201:PHE:HB3	1:B:229:LEU:HB2	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:28:THR:HG22	2:H:29:VAL:N	2.14	0.63
1:B:95:THR:HG22	1:B:189:LEU:CA	2.29	0.63
1:B:1081:ILE:HD11	1:B:1095:PHE:CG	2.34	0.63
1:C:128:ILE:HB	1:C:170:TYR:HB3	1.79	0.63
1:C:201:PHE:HB3	1:C:229:LEU:HB2	1.81	0.63
3:L:33:VAL:HA	3:L:90:SER:HA	1.79	0.63
3:N:31:ASN:CA	3:N:66:LYS:HZ1	2.02	0.63
1:A:52:GLN:HB2	1:A:274:THR:CG2	2.29	0.63
1:A:277:LEU:HD22	1:A:285:ILE:HD13	1.81	0.63
1:A:95:THR:HG22	1:A:189:LEU:CA	2.29	0.63
1:A:395:VAL:HG23	1:A:515:PHE:CD1	2.33	0.63
3:P:92:THR:HB	3:P:96:ARG:HG3	1.80	0.63
1:A:490:PHE:CG	1:A:491:PRO:HD2	2.34	0.63
1:C:277:LEU:HD22	1:C:285:ILE:HD13	1.81	0.63
3:L:33:VAL:O	3:L:51:VAL:CG1	2.46	0.62
1:C:1081:ILE:HD11	1:C:1095:PHE:CG	2.34	0.62
1:A:312:ILE:HG13	1:A:312:ILE:O	1.98	0.62
1:A:470:THR:C	1:A:491:PRO:CG	2.68	0.62
1:A:1081:ILE:HD11	1:A:1095:PHE:CG	2.34	0.62
1:C:95:THR:HG22	1:C:189:LEU:CA	2.29	0.62
1:C:325:SER:CB	1:C:540:ASN:OD1	2.48	0.62
1:C:439:ASN:O	1:C:443:SER:HB2	1.99	0.62
1:A:201:PHE:HB3	1:A:229:LEU:HB2	1.81	0.62
1:B:422:ASN:HD21	1:B:453:TYR:C	2.02	0.62
3:L:47:MET:CE	3:L:62:PHE:CD1	2.83	0.62
1:B:277:LEU:HD22	1:B:285:ILE:HD13	1.81	0.62
3:L:51:VAL:CG2	3:L:66:LYS:HE2	2.30	0.62
1:C:422:ASN:HD21	1:C:453:TYR:C	2.03	0.61
3:P:61:ARG:NH1	3:P:76:SER:O	2.34	0.61
1:B:470:THR:OG1	1:B:490:PHE:CE1	2.50	0.61
1:C:493:GLN:HG3	1:C:493:GLN:O	2.00	0.61
3:P:47:MET:CE	3:P:62:PHE:CD1	2.83	0.61
3:P:51:VAL:HG23	3:P:51:VAL:O	2.01	0.61
1:B:666:ILE:HD11	1:B:672:ALA:HB2	1.83	0.61
3:L:61:ARG:NH1	3:L:76:SER:O	2.34	0.60
1:B:493:GLN:O	1:B:493:GLN:HG3	2.01	0.60
1:B:858:LEU:HD22	1:B:959:LEU:CD1	2.20	0.60
1:A:421:TYR:CD1	1:A:457:ARG:HG2	2.37	0.60
1:A:470:THR:O	1:A:491:PRO:HG3	2.02	0.60
1:A:780:GLU:O	1:A:784:GLN:NE2	2.35	0.60
1:B:780:GLU:O	1:B:784:GLN:NE2	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:666:ILE:HD11	1:C:672:ALA:HB2	1.83	0.60
1:C:780:GLU:O	1:C:784:GLN:NE2	2.35	0.60
1:A:666:ILE:HD11	1:A:672:ALA:HB2	1.83	0.59
3:L:51:VAL:HG23	3:L:51:VAL:O	2.01	0.59
3:N:47:MET:CE	3:N:62:PHE:CD1	2.83	0.59
3:N:61:ARG:NH1	3:N:76:SER:O	2.34	0.59
3:P:33:VAL:O	3:P:51:VAL:CG1	2.47	0.59
1:B:455:LEU:CD1	1:B:493:GLN:CG	2.59	0.59
1:B:901:GLN:HE21	1:B:905:ARG:HE	1.50	0.59
1:A:439:ASN:O	1:A:443:SER:HB2	2.02	0.59
2:O:40:ALA:CB	2:O:43:LYS:HD2	2.33	0.59
3:P:19:ILE:HG23	3:P:78:LEU:HD11	1.84	0.59
1:C:456:PHE:HE1	2:O:100(I):TYR:O	1.84	0.59
1:B:439:ASN:O	1:B:443:SER:HB2	2.01	0.59
2:O:99:VAL:HG22	2:O:100(K):ARG:HG3	1.84	0.59
1:C:127:VAL:HG21	4:C:1301:NAG:H62	1.85	0.59
1:C:106:PHE:HB2	1:C:117:LEU:HB3	1.85	0.58
2:M:40:ALA:CB	2:M:43:LYS:HD2	2.32	0.58
3:L:19:ILE:HG23	3:L:78:LEU:HD11	1.84	0.58
1:A:917:TYR:HB3	1:C:1129:VAL:HG13	1.84	0.58
1:B:106:PHE:HB2	1:B:117:LEU:HB3	1.85	0.58
2:H:40:ALA:CB	2:H:43:LYS:HD2	2.33	0.58
2:H:68:THR:HG22	2:H:81:GLN:HB3	1.85	0.58
1:A:312:ILE:HG23	1:A:664:ILE:HG23	1.80	0.58
1:A:1129:VAL:HG13	1:B:917:TYR:HB3	1.84	0.58
1:C:57:PRO:HG3	1:C:273:ARG:HD3	1.86	0.58
3:N:19:ILE:HG23	3:N:78:LEU:HD11	1.84	0.58
1:C:456:PHE:CE1	2:O:100(I):TYR:O	2.56	0.58
1:A:57:PRO:HG3	1:A:273:ARG:HD3	1.86	0.58
1:C:454:ARG:NH2	1:C:469:SER:O	2.31	0.58
2:H:99:VAL:HG22	2:H:100(K):ARG:HG3	1.84	0.58
2:O:40:ALA:HB3	2:O:43:LYS:HD2	1.86	0.58
1:A:106:PHE:HB2	1:A:117:LEU:HB3	1.86	0.58
1:A:325:SER:CB	1:A:540:ASN:OD1	2.51	0.58
1:C:367:VAL:O	1:C:367:VAL:HG12	2.04	0.58
1:B:127:VAL:HG21	4:B:1301:NAG:H62	1.85	0.58
2:M:40:ALA:HB3	2:M:43:LYS:HD2	1.85	0.58
2:M:68:THR:HG22	2:M:81:GLN:HB3	1.85	0.58
1:A:901:GLN:HE21	1:A:905:ARG:HE	1.50	0.58
1:A:127:VAL:HG21	4:A:1301:NAG:H62	1.85	0.58
2:O:68:THR:HG22	2:O:81:GLN:HB3	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:901:GLN:HE21	1:C:905:ARG:HE	1.50	0.57
2:O:47:TRP:CG	3:P:96:ARG:HB2	2.39	0.57
3:L:33:VAL:N	3:L:51:VAL:HG13	2.18	0.57
2:H:100(E):PHE:CD1	2:H:100(E):PHE:N	2.73	0.57
1:B:57:PRO:HG3	1:B:273:ARG:HD3	1.86	0.57
1:C:325:SER:CA	1:C:540:ASN:OD1	2.53	0.57
1:B:1129:VAL:HG13	1:C:917:TYR:HB3	1.85	0.57
1:C:617:CYS:CB	1:C:649:CYS:SG	2.93	0.57
2:O:100:GLU:OE2	2:O:100(M):ARG:NH1	2.38	0.57
1:A:454:ARG:H	1:A:492:LEU:HB3	1.69	0.56
1:A:34:ARG:NH1	1:A:217:PRO:O	2.38	0.56
2:H:40:ALA:HB3	2:H:43:LYS:HD2	1.86	0.56
1:A:715:PRO:HA	1:A:1072:GLU:HA	1.87	0.56
1:B:34:ARG:NH1	1:B:217:PRO:O	2.38	0.56
1:B:485:GLY:H	1:B:488:CYS:HB2	1.71	0.56
1:C:485:GLY:H	1:C:488:CYS:HB2	1.71	0.56
2:O:11:LEU:HA	2:O:111:THR:HG23	1.87	0.56
3:L:33:VAL:H	3:L:51:VAL:HG11	1.69	0.56
1:B:312:ILE:O	1:B:312:ILE:HG23	2.06	0.56
2:M:100:GLU:OE2	2:M:100(M):ARG:NH1	2.38	0.56
1:B:905:ARG:NH1	1:B:1049:LEU:O	2.37	0.56
1:C:791:THR:HG23	1:C:879:ALA:HB2	1.88	0.56
1:C:973:ILE:HD12	1:C:983:ARG:HH21	1.71	0.56
2:H:28:THR:HG22	2:H:30:SER:N	2.18	0.56
1:A:485:GLY:H	1:A:488:CYS:HB2	1.71	0.56
1:B:454:ARG:O	1:B:454:ARG:HG2	2.05	0.56
1:B:715:PRO:HA	1:B:1072:GLU:HA	1.87	0.56
1:C:470:THR:HG1	1:C:490:PHE:HE1	1.51	0.56
2:H:11:LEU:HA	2:H:111:THR:HG23	1.87	0.56
1:A:973:ILE:HD12	1:A:983:ARG:HH21	1.71	0.56
1:A:722:VAL:HG22	1:A:1065:VAL:HG22	1.88	0.55
1:C:34:ARG:NH1	1:C:217:PRO:O	2.38	0.55
1:C:490:PHE:O	2:O:100(K):ARG:NH2	2.38	0.55
2:M:99:VAL:HG12	2:M:100(K):ARG:HG3	1.87	0.55
1:A:905:ARG:NH1	1:A:1049:LEU:O	2.37	0.55
1:A:914:ASN:ND2	1:C:1123:SER:OG	2.39	0.55
1:B:973:ILE:HD12	1:B:983:ARG:HH21	1.71	0.55
2:M:11:LEU:HA	2:M:111:THR:HG23	1.87	0.55
1:A:490:PHE:HB3	2:M:53:SER:OG	2.06	0.55
1:A:117:LEU:HD12	1:A:130:VAL:HG22	1.89	0.55
1:A:126:VAL:HG13	1:A:174:PRO:HA	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:P:33:VAL:H	3:P:51:VAL:HG11	1.71	0.55
1:C:312:ILE:HG23	1:C:312:ILE:O	2.06	0.55
1:C:715:PRO:HA	1:C:1072:GLU:HA	1.87	0.55
2:M:22:CYS:HB3	2:M:78:LEU:HB3	1.89	0.55
1:B:95:THR:HG23	1:B:189:LEU:HD12	1.89	0.54
2:H:22:CYS:HB3	2:H:78:LEU:HB3	1.89	0.54
2:O:22:CYS:HB3	2:O:78:LEU:HB3	1.89	0.54
1:B:126:VAL:HG13	1:B:174:PRO:HA	1.88	0.54
3:P:54:ARG:NH1	3:P:62:PHE:O	2.39	0.54
1:A:95:THR:HG23	1:A:189:LEU:HD12	1.89	0.54
1:A:1123:SER:OG	1:B:914:ASN:ND2	2.40	0.54
2:O:37:VAL:HG21	2:O:101:PHE:HE1	1.73	0.54
1:C:126:VAL:HG13	1:C:174:PRO:HA	1.88	0.54
1:A:760:CYS:O	1:A:764:ASN:ND2	2.40	0.54
1:A:456:PHE:CE2	1:A:489:TYR:HB2	2.42	0.54
1:B:722:VAL:HG22	1:B:1065:VAL:HG22	1.88	0.54
1:C:722:VAL:HG22	1:C:1065:VAL:HG22	1.88	0.54
1:A:312:ILE:CG2	1:A:664:ILE:HG21	2.32	0.54
2:M:37:VAL:HG21	2:M:101:PHE:HE1	1.73	0.54
1:A:455:LEU:HG	1:A:493:GLN:HG2	1.88	0.54
1:A:856:ASN:OD1	1:A:856:ASN:N	2.18	0.54
1:B:117:LEU:HD12	1:B:130:VAL:HG22	1.89	0.54
1:C:117:LEU:HD12	1:C:130:VAL:HG22	1.89	0.54
2:O:47:TRP:CD2	3:P:96:ARG:HB2	2.43	0.54
1:A:87:ASN:OD1	1:A:87:ASN:N	2.41	0.54
3:N:54:ARG:NH1	3:N:62:PHE:O	2.39	0.53
1:B:1123:SER:OG	1:C:914:ASN:ND2	2.41	0.53
2:O:100:GLU:O	2:O:100(C):ASN:OD1	2.25	0.53
1:A:360:ASN:OD1	1:A:523:THR:OG1	2.24	0.53
1:A:351:TYR:CD2	1:A:492:LEU:HD22	2.44	0.53
1:C:449:TYR:CG	2:O:28:THR:CG2	2.91	0.53
1:A:490:PHE:CE1	1:A:491:PRO:HD2	2.43	0.53
1:C:825:LYS:HE3	1:C:939:SER:HA	1.91	0.53
1:A:1104:VAL:HG23	1:A:1115:ILE:HG12	1.90	0.53
1:B:825:LYS:HE3	1:B:939:SER:HA	1.91	0.53
1:C:760:CYS:O	1:C:764:ASN:ND2	2.40	0.53
3:P:33:VAL:CG1	3:P:51:VAL:HG12	2.38	0.53
1:A:312:ILE:HG22	1:A:598:ILE:HG12	1.90	0.52
1:A:965:GLN:HE22	1:B:758:SER:H	1.57	0.52
1:C:916:LEU:CD1	1:C:923:ILE:CD1	2.87	0.52
1:C:1086:LYS:HD3	1:C:1122:VAL:HG21	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:100:GLU:O	2:M:100(C):ASN:OD1	2.27	0.52
3:L:31:ASN:OD1	3:L:66:LYS:HE2	2.09	0.52
1:A:373:SER:OG	2:O:100(E):PHE:HB3	2.09	0.52
1:A:825:LYS:HE3	1:A:939:SER:HA	1.91	0.52
1:A:916:LEU:CD1	1:A:923:ILE:CD1	2.87	0.52
1:B:707:TYR:HB3	1:C:792:PRO:HG3	1.91	0.52
1:B:720:ILE:HD12	1:B:923:ILE:HG23	1.92	0.52
3:P:31:ASN:OD1	3:P:66:LYS:CE	2.57	0.52
1:B:1104:VAL:HG23	1:B:1115:ILE:HG12	1.90	0.52
1:C:33:THR:OG1	1:C:219:GLY:O	2.28	0.52
2:M:99:VAL:CG1	2:M:100(K):ARG:HG3	2.38	0.52
1:B:1086:LYS:HD3	1:B:1122:VAL:HG21	1.90	0.52
1:A:600:PRO:HD3	1:A:692:ILE:HD11	1.92	0.52
1:A:792:PRO:HG3	1:C:707:TYR:HB3	1.92	0.52
1:B:477:SER:HB2	1:B:479:PRO:HD2	1.91	0.52
1:C:720:ILE:HD12	1:C:923:ILE:HG23	1.92	0.52
2:M:47:TRP:HZ2	2:M:50:VAL:HG12	1.75	0.52
1:B:965:GLN:HE22	1:C:758:SER:H	1.57	0.52
1:C:95:THR:HG23	1:C:189:LEU:HD12	1.89	0.52
3:P:33:VAL:N	3:P:51:VAL:HG13	2.22	0.52
1:B:439:ASN:O	1:B:443:SER:CB	2.58	0.52
1:B:600:PRO:HD3	1:B:692:ILE:HD11	1.92	0.52
1:C:1104:VAL:HG23	1:C:1115:ILE:HG12	1.90	0.52
1:A:1086:LYS:HD3	1:A:1122:VAL:HG21	1.90	0.52
1:B:916:LEU:CD1	1:B:923:ILE:CD1	2.87	0.52
2:H:47:TRP:HZ2	2:H:50:VAL:HG12	1.75	0.52
3:L:47:MET:HE3	3:L:62:PHE:CD1	2.45	0.52
1:A:707:TYR:HB3	1:B:792:PRO:HG3	1.92	0.52
1:A:33:THR:OG1	1:A:219:GLY:O	2.28	0.51
1:A:477:SER:HB2	1:A:479:PRO:HD2	1.91	0.51
1:C:477:SER:HB2	1:C:479:PRO:HD2	1.91	0.51
1:A:449:TYR:CG	2:M:28:THR:CG2	2.93	0.51
1:A:720:ILE:HD12	1:A:923:ILE:HG23	1.92	0.51
1:C:600:PRO:HD3	1:C:692:ILE:HD11	1.92	0.51
2:O:47:TRP:HZ2	2:O:50:VAL:HG12	1.75	0.51
3:L:33:VAL:CG1	3:L:51:VAL:HG12	2.40	0.51
3:L:54:ARG:NH1	3:L:62:PHE:O	2.39	0.51
1:A:917:TYR:HD2	1:C:1089:PHE:HE2	1.58	0.51
1:A:437:ASN:HB3	1:A:508:TYR:CZ	2.46	0.51
1:A:1101:HIS:CD2	4:A:1310:NAG:H5	2.46	0.51
1:C:1101:HIS:CD2	4:C:1310:NAG:H5	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:351:TYR:CD2	1:A:492:LEU:CD2	2.94	0.51
1:B:1101:HIS:CD2	4:B:1310:NAG:H5	2.46	0.51
3:L:46:LEU:HD11	3:L:49:TYR:HB3	1.92	0.51
3:N:31:ASN:OD1	3:N:66:LYS:HE2	2.10	0.51
1:B:33:THR:OG1	1:B:219:GLY:O	2.28	0.51
1:C:51:THR:C	1:C:274:THR:HG23	2.31	0.51
1:C:880:GLY:O	1:C:884:SER:OG	2.23	0.51
1:B:858:LEU:HD21	1:B:962:LEU:HD23	1.93	0.50
1:B:760:CYS:O	1:B:764:ASN:ND2	2.40	0.50
1:C:484:GLU:CD	1:C:484:GLU:H	2.15	0.50
1:A:758:SER:H	1:C:965:GLN:HE22	1.58	0.50
1:B:484:GLU:CD	1:B:484:GLU:H	2.15	0.50
3:P:35:TRP:CB	3:P:48:ILE:HG12	2.24	0.50
1:A:484:GLU:H	1:A:484:GLU:CD	2.15	0.50
1:B:437:ASN:HB3	1:B:508:TYR:CZ	2.46	0.50
2:M:33:TYR:HD1	2:M:52:TYR:HA	1.77	0.50
1:A:966:LEU:O	1:A:975:SER:OG	2.28	0.50
1:C:360:ASN:OD1	1:C:523:THR:OG1	2.24	0.50
1:C:437:ASN:HB3	1:C:508:TYR:CZ	2.46	0.50
1:C:966:LEU:O	1:C:975:SER:OG	2.28	0.50
3:P:46:LEU:HD11	3:P:49:TYR:HB3	1.92	0.50
2:O:33:TYR:HD1	2:O:52:TYR:HA	1.76	0.50
1:A:165:ASN:HB3	4:A:1302:NAG:O5	2.12	0.50
1:A:456:PHE:CZ	1:A:489:TYR:CD2	2.99	0.50
1:A:478:THR:N	1:A:479:PRO:HD2	2.27	0.50
1:A:808:ASP:OD2	1:A:811:LYS:NZ	2.37	0.50
1:B:86:PHE:CD1	1:B:90:VAL:HG23	2.47	0.50
2:H:33:TYR:HD1	2:H:52:TYR:HA	1.76	0.50
2:O:99:VAL:CG2	2:O:100(K):ARG:HG3	2.41	0.50
1:B:165:ASN:HB3	4:B:1302:NAG:O5	2.12	0.50
1:C:486:PHE:HE2	3:P:32:TYR:HE2	1.59	0.50
2:M:29:VAL:O	2:M:71:ARG:NH1	2.45	0.50
1:A:1095:PHE:CE1	1:A:1104:VAL:HG22	2.47	0.49
1:B:341:VAL:CG2	1:B:356:LYS:HD3	2.42	0.49
1:B:470:THR:HG1	1:B:490:PHE:HE1	1.55	0.49
2:H:29:VAL:O	2:H:71:ARG:NH1	2.45	0.49
1:A:52:GLN:CG	1:A:274:THR:HG22	2.42	0.49
1:A:541:PHE:CZ	1:A:587:ILE:HD13	2.48	0.49
1:A:1083:HIS:O	1:A:1086:LYS:HG2	2.12	0.49
2:H:99:VAL:CG2	2:H:100(K):ARG:HG3	2.41	0.49
2:M:100(D):ASP:OD2	3:N:53:ASN:ND2	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:86:PHE:CD1	1:C:90:VAL:CG2	2.96	0.49
1:C:1095:PHE:CE1	1:C:1104:VAL:HG22	2.47	0.49
2:O:29:VAL:O	2:O:71:ARG:NH1	2.45	0.49
1:B:409:GLN:HE22	1:B:418:ILE:H	1.61	0.49
1:C:409:GLN:HE22	1:C:418:ILE:H	1.61	0.49
1:C:478:THR:N	1:C:479:PRO:HD2	2.27	0.49
1:C:541:PHE:CZ	1:C:587:ILE:HD13	2.47	0.49
3:N:46:LEU:HD11	3:N:49:TYR:HB3	1.92	0.49
1:A:476:GLY:HA3	1:A:487:ASN:HD22	1.78	0.49
1:B:478:THR:N	1:B:479:PRO:HD2	2.27	0.49
1:B:1083:HIS:O	1:B:1086:LYS:HG2	2.12	0.49
1:C:905:ARG:NH1	1:C:1049:LEU:O	2.37	0.49
1:B:1095:PHE:CE1	1:B:1104:VAL:HG22	2.47	0.49
1:B:360:ASN:OD1	1:B:523:THR:OG1	2.24	0.49
1:C:86:PHE:CD1	1:C:90:VAL:HG23	2.47	0.49
1:C:165:ASN:HB3	4:C:1302:NAG:O5	2.12	0.49
2:H:40:ALA:HB3	2:H:43:LYS:HB2	1.94	0.49
1:A:409:GLN:HE22	1:A:418:ILE:H	1.60	0.49
1:A:409:GLN:NE2	1:A:419:ALA:H	2.11	0.49
1:C:1083:HIS:O	1:C:1086:LYS:HG2	2.12	0.49
1:A:341:VAL:CG2	1:A:356:LYS:HD3	2.42	0.49
1:A:880:GLY:O	1:A:884:SER:OG	2.23	0.49
1:B:86:PHE:CD1	1:B:90:VAL:CG2	2.96	0.49
1:B:476:GLY:HA3	1:B:487:ASN:HD22	1.78	0.49
2:H:28:THR:CG2	2:H:29:VAL:N	2.76	0.49
1:B:490:PHE:O	2:H:100(K):ARG:NH2	2.46	0.48
1:C:341:VAL:CG2	1:C:356:LYS:HD3	2.42	0.48
1:B:409:GLN:NE2	1:B:419:ALA:H	2.11	0.48
1:C:409:GLN:NE2	1:C:419:ALA:H	2.11	0.48
1:C:476:GLY:HA3	1:C:487:ASN:HD22	1.78	0.48
2:O:100(D):ASP:O	2:O:100(F):TRP:N	2.43	0.48
1:C:617:CYS:CB	1:C:649:CYS:HG	2.23	0.48
1:C:1101:HIS:HD2	4:C:1310:NAG:H5	1.79	0.48
1:A:470:THR:CA	1:A:491:PRO:HG2	2.43	0.48
1:C:342:PHE:HB3	2:H:100(E):PHE:HE2	1.77	0.48
1:C:486:PHE:O	2:O:100(N):TYR:OH	2.29	0.48
2:O:40:ALA:HB3	2:O:43:LYS:HB2	1.95	0.48
2:O:101:PHE:HB2	3:P:36:TYR:CE2	2.48	0.48
1:B:1101:HIS:HD2	4:B:1310:NAG:H5	1.79	0.48
2:H:100:GLU:HG2	2:H:100(I):TYR:HD1	1.78	0.48
2:M:40:ALA:HB3	2:M:43:LYS:HB2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:51:VAL:HG21	3:N:66:LYS:HE2	1.94	0.48
1:A:312:ILE:CD1	1:A:665:PRO:O	2.55	0.48
1:A:490:PHE:CD1	1:A:491:PRO:CD	2.86	0.48
1:A:1089:PHE:HE2	1:B:917:TYR:HD2	1.60	0.48
1:B:943:SER:O	1:B:943:SER:OG	2.32	0.48
1:C:490:PHE:HB3	2:O:53:SER:OG	2.13	0.48
3:N:27(C):VAL:HG13	3:N:33:VAL:HG21	1.96	0.48
1:A:1101:HIS:HD2	4:A:1310:NAG:H5	1.79	0.47
1:A:486:PHE:O	2:M:100(N):TYR:OH	2.30	0.47
1:B:395:VAL:HG23	1:B:515:PHE:HD1	1.78	0.47
3:L:51:VAL:HG21	3:L:66:LYS:CD	2.44	0.47
1:A:461:LEU:HD11	1:A:465:GLU:HB3	1.95	0.47
1:B:51:THR:C	1:B:274:THR:HG23	2.31	0.47
1:C:617:CYS:SG	1:C:642:VAL:CG1	3.03	0.47
1:B:1089:PHE:HE2	1:C:917:TYR:HD2	1.60	0.47
1:A:472:ILE:HD12	1:A:490:PHE:HA	1.97	0.47
1:A:913:GLN:HE21	1:C:1089:PHE:HD2	1.63	0.47
2:H:70:SER:OG	2:H:71:ARG:N	2.48	0.47
3:N:31:ASN:OD1	3:N:66:LYS:CE	2.63	0.47
1:C:91:TYR:OH	1:C:191:GLU:OE1	2.28	0.47
1:B:358:ILE:HB	1:B:395:VAL:CG1	2.44	0.47
1:B:856:ASN:N	1:B:856:ASN:OD1	2.38	0.47
2:H:100(A):GLY:H	2:H:100(M):ARG:HD3	1.79	0.47
2:O:70:SER:OG	2:O:71:ARG:N	2.48	0.47
3:L:31:ASN:OD1	3:L:66:LYS:CE	2.63	0.47
3:L:91:TYR:CG	3:L:92:THR:N	2.83	0.47
3:N:30:TYR:O	3:N:66:LYS:NZ	2.47	0.47
1:C:108:THR:OG1	1:C:234:ASN:O	2.33	0.47
1:C:1081:ILE:HD12	1:C:1095:PHE:CE2	2.43	0.47
1:A:517:LEU:O	1:A:518:LEU:HD23	2.15	0.46
1:C:130:VAL:O	1:C:166:CYS:HB2	2.15	0.46
2:M:100(B):TYR:HD2	3:N:49:TYR:HH	1.63	0.46
1:A:86:PHE:CE1	1:A:106:PHE:CE2	3.03	0.46
1:A:231:ILE:HG13	1:A:232:GLY:N	2.30	0.46
1:A:983:ARG:HB3	1:C:382:VAL:HG23	1.97	0.46
1:B:517:LEU:O	1:B:518:LEU:HD23	2.15	0.46
1:C:231:ILE:HG13	1:C:232:GLY:N	2.30	0.46
3:N:91:TYR:CG	3:N:92:THR:N	2.83	0.46
1:A:52:GLN:HG3	1:A:274:THR:CG2	2.45	0.46
1:A:1089:PHE:HD2	1:B:913:GLN:HE21	1.63	0.46
1:C:517:LEU:O	1:C:518:LEU:HD23	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:382:VAL:HG23	1:C:983:ARG:HB3	1.96	0.46
2:M:70:SER:OG	2:M:71:ARG:N	2.48	0.46
1:B:108:THR:OG1	1:B:234:ASN:O	2.33	0.46
1:B:444:LYS:O	1:B:444:LYS:HG2	2.15	0.46
1:A:130:VAL:O	1:A:166:CYS:HB2	2.15	0.46
1:B:130:VAL:O	1:B:166:CYS:HB2	2.15	0.46
1:B:231:ILE:HG13	1:B:232:GLY:N	2.30	0.46
2:M:99:VAL:HG12	2:M:100(K):ARG:HA	1.98	0.46
2:M:100(D):ASP:O	2:M:100(F):TRP:N	2.42	0.46
1:A:743:CYS:SG	1:A:750:SER:N	2.89	0.46
1:A:917:TYR:HD2	1:C:1089:PHE:CE2	2.34	0.46
1:B:538:CYS:HB2	1:B:590:CYS:HB3	1.63	0.46
3:L:91:TYR:CE1	3:L:92:THR:HG22	2.51	0.46
3:L:33:VAL:N	3:L:51:VAL:HG11	2.27	0.46
3:P:91:TYR:CG	3:P:92:THR:N	2.83	0.46
1:A:382:VAL:HG23	1:B:983:ARG:HB3	1.96	0.46
2:M:100(L):ASP:HB3	2:M:100(N):TYR:CE2	2.51	0.46
1:A:108:THR:OG1	1:A:234:ASN:O	2.32	0.46
1:C:743:CYS:SG	1:C:750:SER:N	2.89	0.46
2:O:100(L):ASP:HB3	2:O:100(N):TYR:CE2	2.51	0.46
1:A:312:ILE:HG21	1:A:664:ILE:HG22	1.97	0.45
1:A:447:GLY:HA3	1:A:449:TYR:CE2	2.51	0.45
1:A:802:PHE:CD1	1:A:805:ILE:HD11	2.51	0.45
1:B:743:CYS:SG	1:B:750:SER:N	2.89	0.45
1:A:538:CYS:HB2	1:A:590:CYS:HB3	1.63	0.45
1:A:805:ILE:O	1:A:816:SER:OG	2.29	0.45
2:H:100(L):ASP:HB3	2:H:100(N):TYR:CE2	2.51	0.45
3:N:91:TYR:CE1	3:N:92:THR:HG22	2.51	0.45
3:P:91:TYR:CE1	3:P:92:THR:HG22	2.51	0.45
1:A:802:PHE:HD1	1:A:805:ILE:HD11	1.81	0.45
1:C:738:CYS:HB3	1:C:760:CYS:HB3	1.71	0.45
3:L:27(C):VAL:HG13	3:L:33:VAL:HG21	1.98	0.45
1:A:470:THR:C	1:A:491:PRO:HG3	2.36	0.45
1:B:661:GLU:O	1:B:695:TYR:OH	2.23	0.45
1:C:92:PHE:O	1:C:192:PHE:N	2.48	0.45
1:C:437:ASN:HA	1:C:508:TYR:HA	1.98	0.45
1:A:90:VAL:HG11	1:A:238:PHE:CE1	2.52	0.45
1:B:176:LEU:HD23	1:B:190:ARG:HD2	1.98	0.45
1:C:453:TYR:OH	1:C:493:GLN:NE2	2.50	0.45
1:C:802:PHE:CD1	1:C:805:ILE:HD11	2.51	0.45
1:A:656:VAL:HG22	1:A:695:TYR:HB3	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:738:CYS:HB3	1:A:760:CYS:HB3	1.71	0.45
1:A:1090:PRO:HD2	1:B:913:GLN:NE2	2.32	0.45
1:B:90:VAL:HG11	1:B:238:PHE:CE1	2.52	0.45
1:B:656:VAL:HG22	1:B:695:TYR:HB3	1.99	0.45
1:B:666:ILE:HD12	1:B:670:ILE:HG22	1.99	0.45
1:C:90:VAL:HG11	1:C:238:PHE:CE1	2.52	0.45
1:A:666:ILE:HD12	1:A:670:ILE:HG22	1.99	0.45
2:H:37:VAL:HG11	2:H:104:TRP:HZ3	1.79	0.45
3:P:27(C):VAL:HG13	3:P:33:VAL:HG21	1.98	0.45
1:A:358:ILE:HB	1:A:395:VAL:CG1	2.44	0.45
1:C:113:LYS:HE2	1:C:113:LYS:HB3	1.85	0.45
1:C:176:LEU:HD23	1:C:190:ARG:HD2	1.98	0.45
1:C:644:GLN:HA	1:C:649:CYS:HB2	1.98	0.45
2:M:32:ASN:N	2:M:32:ASN:OD1	2.50	0.45
3:L:30:TYR:O	3:L:66:LYS:NZ	2.47	0.45
1:A:913:GLN:NE2	1:C:1090:PRO:HD2	2.32	0.45
1:B:644:GLN:HA	1:B:649:CYS:HB2	1.98	0.45
3:N:30:TYR:CD2	3:N:91:TYR:HD2	2.35	0.45
1:A:52:GLN:CB	1:A:274:THR:CG2	2.82	0.44
1:A:176:LEU:HD23	1:A:190:ARG:HD2	1.98	0.44
1:A:379:CYS:HA	1:A:432:CYS:HA	2.00	0.44
1:A:395:VAL:HG23	1:A:515:PHE:HD1	1.78	0.44
1:B:802:PHE:CD1	1:B:805:ILE:HD11	2.51	0.44
2:O:32:ASN:OD1	2:O:32:ASN:N	2.50	0.44
1:A:437:ASN:HA	1:A:508:TYR:HA	1.99	0.44
1:B:802:PHE:HD1	1:B:805:ILE:HD11	1.81	0.44
1:B:1089:PHE:HD2	1:C:913:GLN:HE21	1.64	0.44
1:A:894:LEU:HD13	1:C:715:PRO:HD3	2.00	0.44
1:C:347:PHE:CE2	1:C:399:SER:HB2	2.52	0.44
1:C:656:VAL:HG22	1:C:695:TYR:HB3	1.99	0.44
1:C:802:PHE:HD1	1:C:805:ILE:HD11	1.81	0.44
1:A:456:PHE:CZ	1:A:489:TYR:HB2	2.53	0.44
1:B:347:PHE:CE2	1:B:399:SER:HB2	2.52	0.44
1:B:715:PRO:HD3	1:C:894:LEU:HD13	2.00	0.44
1:C:379:CYS:HA	1:C:432:CYS:HA	2.00	0.44
1:A:86:PHE:CD2	1:A:86:PHE:O	2.70	0.44
1:A:715:PRO:HD3	1:B:894:LEU:HD13	2.00	0.44
1:A:983:ARG:HH11	1:C:517:LEU:HD11	1.82	0.44
1:A:1081:ILE:HD12	1:A:1095:PHE:CE2	2.43	0.44
1:C:538:CYS:HB2	1:C:590:CYS:HB3	1.63	0.44
2:H:33:TYR:HB2	2:H:96:GLU:HB2	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:517:LEU:HD11	1:B:983:ARG:HH11	1.83	0.44
1:C:808:ASP:OD2	1:C:811:LYS:NZ	2.37	0.44
3:L:30:TYR:CD2	3:L:91:TYR:HD2	2.35	0.44
3:P:30:TYR:CD2	3:P:91:TYR:HD2	2.35	0.44
3:P:48:ILE:HD11	3:P:73:LEU:CD1	2.48	0.44
1:B:517:LEU:HD11	1:C:983:ARG:HH11	1.83	0.44
1:C:367:VAL:O	1:C:367:VAL:CG1	2.64	0.44
1:C:666:ILE:HD12	1:C:670:ILE:HG22	1.99	0.44
1:C:971:GLY:HA3	1:C:995:ARG:HE	1.83	0.44
2:H:32:ASN:OD1	2:H:32:ASN:N	2.50	0.44
1:B:409:GLN:HE21	1:B:419:ALA:H	1.65	0.44
1:B:437:ASN:HA	1:B:508:TYR:HA	1.99	0.44
1:B:1081:ILE:HD12	1:B:1095:PHE:CE2	2.43	0.44
1:C:342:PHE:HB3	2:H:100(E):PHE:CE2	2.53	0.44
1:A:1081:ILE:CD1	1:A:1095:PHE:CZ	2.74	0.44
1:B:431:GLY:HA2	1:B:515:PHE:CD2	2.53	0.44
1:B:971:GLY:HA3	1:B:995:ARG:HE	1.83	0.44
1:B:1090:PRO:HD2	1:C:913:GLN:NE2	2.32	0.44
3:P:27(C):VAL:HG22	3:P:90:SER:HB3	2.00	0.44
1:A:92:PHE:O	1:A:192:PHE:N	2.48	0.43
1:C:805:ILE:O	1:C:816:SER:OG	2.29	0.43
1:A:91:TYR:OH	1:A:191:GLU:OE1	2.29	0.43
1:A:347:PHE:CE2	1:A:399:SER:HB2	2.52	0.43
1:A:454:ARG:CG	1:A:457:ARG:HB3	2.48	0.43
1:A:1073:LYS:HE2	1:A:1073:LYS:HB3	1.82	0.43
1:C:598:ILE:HG23	1:C:664:ILE:HG21	2.00	0.43
3:P:31:ASN:HA	3:P:66:LYS:HE2	1.99	0.43
1:B:808:ASP:OD2	1:B:811:LYS:NZ	2.37	0.43
1:C:903:ALA:HB1	1:C:913:GLN:HB2	1.99	0.43
1:A:903:ALA:HB1	1:A:913:GLN:HB2	1.99	0.43
1:C:943:SER:O	1:C:943:SER:OG	2.32	0.43
1:A:421:TYR:O	1:A:454:ARG:HD2	2.18	0.43
1:A:486:PHE:HE2	3:N:32:TYR:HE2	1.66	0.43
1:A:644:GLN:HA	1:A:649:CYS:HB2	1.98	0.43
1:A:1011:GLN:OE1	1:A:1014:ARG:NH1	2.52	0.43
1:B:373:SER:OG	2:M:100(E):PHE:HB3	2.19	0.43
1:B:903:ALA:HB1	1:B:913:GLN:HB2	1.99	0.43
2:H:13:GLN:H	2:H:13:GLN:HG2	1.46	0.43
1:A:1089:PHE:CE2	1:B:917:TYR:HD2	2.35	0.43
1:B:598:ILE:HG23	1:B:664:ILE:HG21	2.00	0.43
1:A:454:ARG:O	1:A:454:ARG:HG2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:741:TYR:OH	1:A:962:LEU:O	2.28	0.43
1:A:971:GLY:HA3	1:A:995:ARG:HE	1.83	0.43
1:B:92:PHE:O	1:B:192:PHE:N	2.48	0.43
1:B:379:CYS:HA	1:B:432:CYS:HA	2.00	0.43
1:B:812:PRO:O	1:B:813:SER:OG	2.31	0.43
1:B:1089:PHE:CE2	1:C:917:TYR:HD2	2.36	0.43
2:O:33:TYR:HB2	2:O:96:GLU:HB2	2.00	0.43
3:N:51:VAL:HG11	3:N:66:LYS:HG2	2.01	0.43
1:B:168:PHE:HE1	1:B:170:TYR:HB2	1.83	0.43
1:C:168:PHE:HE1	1:C:170:TYR:HB2	1.83	0.43
1:A:822:LEU:HD21	1:A:938:LEU:HD22	2.00	0.43
1:B:391:CYS:HB3	1:B:522:ALA:HB1	2.00	0.43
1:B:930:ALA:O	1:B:934:ILE:HG12	2.19	0.43
2:M:65:GLY:O	2:M:82(B):ARG:NH1	2.51	0.43
2:O:81:GLN:HG2	2:O:82(A):ASN:OD1	2.19	0.43
3:L:47:MET:HE3	3:L:62:PHE:CE1	2.42	0.43
1:A:86:PHE:CE1	1:A:106:PHE:HE2	2.37	0.43
1:A:168:PHE:HE1	1:A:170:TYR:HB2	1.83	0.43
1:A:431:GLY:HA2	1:A:515:PHE:CD2	2.53	0.43
1:C:431:GLY:HA2	1:C:515:PHE:CD2	2.53	0.43
1:C:930:ALA:O	1:C:934:ILE:HG12	2.19	0.43
2:O:52:TYR:HB2	2:O:56:SER:HB2	2.01	0.43
1:A:409:GLN:HE21	1:A:419:ALA:H	1.65	0.42
2:H:65:GLY:O	2:H:82(B):ARG:NH1	2.51	0.42
3:L:27(C):VAL:HG22	3:L:90:SER:HB3	2.00	0.42
1:A:455:LEU:HA	1:A:455:LEU:HD23	1.71	0.42
1:B:1011:GLN:OE1	1:B:1014:ARG:NH1	2.52	0.42
1:C:196:ASN:HD21	1:C:231:ILE:HD11	1.85	0.42
1:C:409:GLN:HE21	1:C:419:ALA:H	1.65	0.42
2:M:52:TYR:HB2	2:M:56:SER:HB2	2.01	0.42
2:M:97:GLY:HA2	2:M:102:ASP:OD1	2.19	0.42
2:O:65:GLY:O	2:O:82(B):ARG:NH1	2.51	0.42
3:N:27(C):VAL:HG22	3:N:90:SER:HB3	2.00	0.42
3:P:51:VAL:HG21	3:P:66:LYS:CD	2.48	0.42
1:A:443:SER:O	1:A:448:ASN:CB	2.66	0.42
1:A:598:ILE:HG23	1:A:664:ILE:HG21	2.00	0.42
2:H:52:TYR:HB2	2:H:56:SER:HB2	2.01	0.42
2:M:81:GLN:HG2	2:M:82(A):ASN:OD1	2.19	0.42
2:O:97:GLY:HA2	2:O:102:ASP:OD1	2.20	0.42
3:N:93:SER:O	3:N:94:SER:OG	2.31	0.42
1:A:391:CYS:HB3	1:A:522:ALA:HB1	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1081:ILE:CD1	1:A:1095:PHE:CG	3.00	0.42
3:P:14:SER:H	3:P:17:GLN:NE2	2.18	0.42
1:A:196:ASN:HD21	1:A:231:ILE:HD11	1.85	0.42
1:B:822:LEU:HD21	1:B:938:LEU:HD22	2.00	0.42
1:C:489:TYR:HE1	2:O:100(L):ASP:OD1	2.02	0.42
3:L:92:THR:O	3:L:93:SER:OG	2.34	0.42
1:B:410:ILE:HG23	1:B:425:LEU:HD11	2.02	0.42
1:B:741:TYR:OH	1:B:962:LEU:O	2.28	0.42
1:C:822:LEU:HD21	1:C:938:LEU:HD22	2.00	0.42
2:M:33:TYR:HB2	2:M:96:GLU:HB2	2.00	0.42
3:L:35:TRP:CH2	3:L:88:CYS:HB2	2.55	0.42
1:A:461:LEU:HD12	1:A:462:LYS:N	2.34	0.42
1:A:900:MET:HE2	1:A:900:MET:HB2	1.93	0.42
1:A:1029:MET:O	1:A:1034:LEU:HG	2.20	0.42
1:C:95:THR:HG22	1:C:189:LEU:CB	2.50	0.42
1:C:490:PHE:CD1	1:C:491:PRO:CD	2.94	0.42
2:O:37:VAL:HG22	2:O:47:TRP:HA	2.01	0.42
1:A:86:PHE:O	1:A:86:PHE:HD2	2.02	0.42
1:A:489:TYR:CD1	2:M:100(K):ARG:HB3	2.55	0.42
1:A:930:ALA:O	1:A:934:ILE:HG12	2.19	0.42
1:B:196:ASN:HD21	1:B:231:ILE:HD11	1.85	0.42
1:C:452:LEU:N	1:C:452:LEU:HD23	2.35	0.42
1:C:1011:GLN:OE1	1:C:1014:ARG:NH1	2.52	0.42
2:H:81:GLN:HG2	2:H:82(A):ASN:OD1	2.19	0.42
3:P:35:TRP:CB	3:P:48:ILE:CG1	2.86	0.42
1:A:357:ARG:NH1	1:A:359:SER:OG	2.53	0.42
1:A:597:VAL:HG12	1:A:599:THR:CG2	2.45	0.42
1:C:391:CYS:HB3	1:C:522:ALA:HB1	2.00	0.42
1:A:410:ILE:HG23	1:A:425:LEU:HD11	2.02	0.42
1:A:472:ILE:CD1	1:A:491:PRO:HD3	2.49	0.42
1:B:95:THR:HG22	1:B:189:LEU:CB	2.50	0.42
1:B:395:VAL:HG13	1:B:395:VAL:O	2.20	0.42
1:C:402:ILE:HD11	1:C:510:VAL:HG21	2.02	0.42
2:H:97:GLY:HA2	2:H:102:ASP:OD1	2.20	0.42
3:L:14:SER:H	3:L:17:GLN:NE2	2.18	0.42
3:N:35:TRP:CH2	3:N:88:CYS:HB2	2.55	0.42
1:A:402:ILE:HD11	1:A:510:VAL:HG21	2.01	0.41
1:B:461:LEU:HD11	1:B:465:GLU:HB3	2.02	0.41
1:B:738:CYS:HB3	1:B:760:CYS:HB3	1.71	0.41
1:B:856:ASN:HD21	1:B:966:LEU:HD13	1.85	0.41
1:B:1029:MET:O	1:B:1034:LEU:HG	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:14:SER:H	3:N:17:GLN:NE2	2.18	0.41
3:N:32:TYR:HB2	3:N:91:TYR:HB2	2.02	0.41
1:A:489:TYR:HE1	2:M:100(L):ASP:OD1	2.04	0.41
1:B:357:ARG:NH1	1:B:359:SER:OG	2.53	0.41
2:M:37:VAL:HG22	2:M:47:TRP:HA	2.01	0.41
1:B:454:ARG:NH1	1:B:454:ARG:CG	2.73	0.41
1:C:454:ARG:HA	1:C:492:LEU:HA	2.01	0.41
1:C:1116:THR:HG22	1:C:1117:THR:N	2.36	0.41
1:A:95:THR:HG22	1:A:189:LEU:CB	2.50	0.41
1:A:444:LYS:HB2	1:A:444:LYS:HE2	1.67	0.41
1:B:343:ASN:HA	2:M:100(E):PHE:HE1	1.85	0.41
1:B:973:ILE:HD12	1:B:983:ARG:NH2	2.36	0.41
1:C:357:ARG:NH1	1:C:359:SER:OG	2.53	0.41
1:C:449:TYR:HB3	2:O:28:THR:HG21	2.03	0.41
3:P:32:TYR:HB2	3:P:91:TYR:HB2	2.03	0.41
3:P:35:TRP:CH2	3:P:88:CYS:HB2	2.55	0.41
1:A:52:GLN:HG3	1:A:274:THR:HG22	2.03	0.41
1:B:461:LEU:HD12	1:B:462:LYS:N	2.35	0.41
1:B:1116:THR:HG22	1:B:1117:THR:N	2.36	0.41
1:C:410:ILE:HG23	1:C:425:LEU:HD11	2.02	0.41
1:C:1081:ILE:CD1	1:C:1095:PHE:CG	3.00	0.41
1:A:37:TYR:OH	1:A:53:ASP:OD2	2.36	0.41
1:B:303:LEU:HD12	1:B:308:VAL:HG12	2.03	0.41
1:B:383:SER:N	1:C:983:ARG:O	2.54	0.41
1:C:717:ASN:OD1	1:C:718:PHE:N	2.53	0.41
1:B:57:PRO:HB3	1:B:273:ARG:NH1	2.36	0.41
1:C:742:ILE:HG22	1:C:1000:ARG:HB3	2.03	0.41
1:A:226:LEU:HD23	1:A:226:LEU:HA	1.92	0.41
1:A:395:VAL:HG13	1:A:395:VAL:O	2.20	0.41
1:B:402:ILE:HD11	1:B:510:VAL:HG21	2.02	0.41
1:B:1040:VAL:HB	1:C:1030:SER:O	2.21	0.41
2:M:85:GLU:H	2:M:85:GLU:HG2	1.70	0.41
1:A:128:ILE:HG21	1:A:229:LEU:HD13	2.03	0.41
1:A:303:LEU:HD12	1:A:308:VAL:HG12	2.03	0.41
1:A:456:PHE:HE2	1:A:489:TYR:HB2	1.85	0.41
1:C:57:PRO:HB3	1:C:273:ARG:NH1	2.36	0.41
1:C:97:LYS:HD2	1:C:97:LYS:HA	1.89	0.41
1:C:128:ILE:HG21	1:C:229:LEU:HD13	2.03	0.41
3:L:32:TYR:HB2	3:L:91:TYR:HB2	2.02	0.41
3:P:31:ASN:OD1	3:P:66:LYS:HE3	2.19	0.41
3:P:93:SER:O	3:P:94:SER:OG	2.31	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:383:SER:N	1:B:983:ARG:O	2.54	0.41
1:A:1040:VAL:HB	1:B:1030:SER:O	2.21	0.41
1:B:393:THR:HG21	1:B:520:ALA:H	1.86	0.41
1:C:467:ASP:N	1:C:467:ASP:OD2	2.53	0.41
1:C:1029:MET:O	1:C:1034:LEU:HG	2.20	0.41
2:H:52:TYR:H	2:H:56:SER:HB2	1.86	0.41
2:O:44:GLY:HA2	3:P:87:TYR:CE1	2.56	0.41
1:A:131:CYS:HA	1:A:166:CYS:CB	2.47	0.40
1:A:393:THR:HG21	1:A:520:ALA:H	1.86	0.40
1:C:90:VAL:HG13	1:C:267:VAL:HG13	2.03	0.40
1:C:489:TYR:CD1	2:O:100(K):ARG:HB3	2.56	0.40
1:C:741:TYR:OH	1:C:962:LEU:O	2.28	0.40
2:M:28:THR:OG1	2:M:31:ASN:N	2.55	0.40
3:L:93:SER:O	3:L:94:SER:OG	2.31	0.40
1:A:439:ASN:O	1:A:443:SER:CB	2.68	0.40
1:A:454:ARG:CG	1:A:454:ARG:O	2.69	0.40
1:C:303:LEU:HD12	1:C:308:VAL:HG12	2.03	0.40
1:A:922:LEU:HD11	1:A:926:GLN:HE21	1.86	0.40
1:B:355:ARG:HD3	1:B:398:ASP:OD2	2.21	0.40
1:B:922:LEU:HD11	1:B:926:GLN:HE21	1.86	0.40
1:C:456:PHE:HB2	1:C:473:TYR:CE2	2.56	0.40
1:C:1102:TRP:HB2	1:C:1135:ASN:ND2	2.37	0.40
3:N:26:THR:OG1	3:N:27:SER:N	2.54	0.40
3:P:26:THR:OG1	3:P:27:SER:N	2.54	0.40
1:A:913:GLN:HE22	1:C:1090:PRO:HD2	1.86	0.40
1:B:350:VAL:O	1:B:353:TRP:HD1	2.05	0.40
1:B:742:ILE:HG22	1:B:1000:ARG:HB3	2.03	0.40
1:B:805:ILE:O	1:B:816:SER:OG	2.29	0.40
1:B:948:LEU:HD22	1:B:1059:GLY:HA3	2.04	0.40
1:C:355:ARG:HD3	1:C:398:ASP:OD2	2.22	0.40
1:C:537:LYS:N	1:C:551:VAL:HG23	2.37	0.40
2:H:36:TRP:CG	2:H:80:LEU:HD22	2.57	0.40
1:A:90:VAL:HG13	1:A:267:VAL:HG13	2.03	0.40
1:A:537:LYS:N	1:A:551:VAL:HG23	2.37	0.40
1:A:1030:SER:O	1:C:1040:VAL:HB	2.21	0.40
1:B:128:ILE:HG21	1:B:229:LEU:HD13	2.03	0.40
1:B:456:PHE:HZ	2:H:100(K):ARG:HE	1.70	0.40
1:C:901:GLN:HE21	1:C:905:ARG:NE	2.17	0.40
1:C:1081:ILE:HD13	1:C:1115:ILE:HD13	2.04	0.40
2:O:44:GLY:HA2	3:P:87:TYR:HE1	1.86	0.40
2:O:52:TYR:H	2:O:56:SER:HB2	1.86	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	980/1288 (76%)	936 (96%)	42 (4%)	2 (0%)	47	78
1	B	980/1288 (76%)	935 (95%)	42 (4%)	3 (0%)	41	73
1	C	980/1288 (76%)	931 (95%)	47 (5%)	2 (0%)	47	78
2	H	127/243 (52%)	117 (92%)	10 (8%)	0	100	100
2	M	127/243 (52%)	111 (87%)	15 (12%)	1 (1%)	19	55
2	O	127/243 (52%)	111 (87%)	15 (12%)	1 (1%)	19	55
3	L	106/216 (49%)	101 (95%)	4 (4%)	1 (1%)	17	52
3	N	106/216 (49%)	101 (95%)	4 (4%)	1 (1%)	17	52
3	P	106/216 (49%)	101 (95%)	4 (4%)	1 (1%)	17	52
All	All	3639/5241 (69%)	3444 (95%)	183 (5%)	12 (0%)	44	73

All (12) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	492	LEU
1	C	492	LEU
1	A	491	PRO
1	B	444	LYS
1	B	455	LEU
1	C	449	TYR
3	L	52	SER
3	P	52	SER
1	A	455	LEU
2	M	100(E)	PHE
3	N	51	VAL
2	O	100(E)	PHE

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	842/1116 (75%)	822 (98%)	20 (2%)	49	75
1	B	842/1116 (75%)	825 (98%)	17 (2%)	55	78
1	C	842/1116 (75%)	826 (98%)	16 (2%)	57	79
2	H	105/206 (51%)	102 (97%)	3 (3%)	42	71
2	M	105/206 (51%)	103 (98%)	2 (2%)	57	79
2	O	105/206 (51%)	103 (98%)	2 (2%)	57	79
3	L	90/183 (49%)	89 (99%)	1 (1%)	73	87
3	N	90/183 (49%)	89 (99%)	1 (1%)	73	87
3	P	90/183 (49%)	88 (98%)	2 (2%)	52	76
All	All	3111/4515 (69%)	3047 (98%)	64 (2%)	56	77

All (64) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	87	ASN
1	A	88	ASP
1	A	134	GLN
1	A	351	TYR
1	A	377	PHE
1	A	444	LYS
1	A	445	VAL
1	A	455	LEU
1	A	457	ARG
1	A	461	LEU
1	A	486	PHE
1	A	489	TYR
1	A	492	LEU
1	A	495	TYR
1	A	498	GLN
1	A	856	ASN
1	A	895	GLN
1	A	900	MET

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Mol	Chain	Res	Type
1	A	902	MET
1	A	914	ASN
1	B	134	GLN
1	B	351	TYR
1	B	377	PHE
1	B	455	LEU
1	B	456	PHE
1	B	486	PHE
1	B	489	TYR
1	B	493	GLN
1	B	494	SER
1	B	495	TYR
1	B	498	GLN
1	B	539	VAL
1	B	856	ASN
1	B	895	GLN
1	B	900	MET
1	B	902	MET
1	B	914	ASN
1	C	134	GLN
1	C	351	TYR
1	C	377	PHE
1	C	444	LYS
1	C	455	LEU
1	C	456	PHE
1	C	486	PHE
1	C	489	TYR
1	C	493	GLN
1	C	495	TYR
1	C	498	GLN
1	C	856	ASN
1	C	895	GLN
1	C	900	MET
1	C	902	MET
1	C	914	ASN
2	H	96	GLU
2	H	100(E)	PHE
2	H	100(F)	TRP
2	M	96	GLU
2	M	100(E)	PHE
2	O	96	GLU
2	O	100(E)	PHE

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Mol	Chain	Res	Type
3	L	96	ARG
3	N	96	ARG
3	P	48	ILE
3	P	96	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (66) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	52	GLN
1	A	134	GLN
1	A	196	ASN
1	A	207	HIS
1	A	409	GLN
1	A	607	GLN
1	A	613	GLN
1	A	655	HIS
1	A	755	GLN
1	A	762	GLN
1	A	853	GLN
1	A	901	GLN
1	A	913	GLN
1	A	965	GLN
1	A	1101	HIS
1	A	1106	GLN
1	A	1135	ASN
1	B	52	GLN
1	B	134	GLN
1	B	196	ASN
1	B	207	HIS
1	B	409	GLN
1	B	607	GLN
1	B	613	GLN
1	B	655	HIS
1	B	755	GLN
1	B	762	GLN
1	B	901	GLN
1	B	913	GLN
1	B	965	GLN
1	B	1101	HIS
1	B	1106	GLN
1	B	1135	ASN
1	C	52	GLN

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Mol	Chain	Res	Type
1	C	134	GLN
1	C	196	ASN
1	C	207	HIS
1	C	409	GLN
1	C	493	GLN
1	C	607	GLN
1	C	613	GLN
1	C	655	HIS
1	C	755	GLN
1	C	762	GLN
1	C	853	GLN
1	C	901	GLN
1	C	913	GLN
1	C	965	GLN
1	C	1101	HIS
1	C	1106	GLN
1	C	1135	ASN
2	H	39	GLN
2	H	81	GLN
2	M	39	GLN
2	M	81	GLN
2	O	39	GLN
2	O	81	GLN
3	L	17	GLN
3	L	38	GLN
3	L	39	HIS
3	N	17	GLN
3	N	38	GLN
3	N	39	HIS
3	P	17	GLN
3	P	38	GLN
3	P	39	HIS

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

33 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
4	NAG	B	1301	1	14,14,15	0.98	1 (7%)	17,19,21	1.13	1 (5%)
4	NAG	A	1308	1	14,14,15	0.24	0	17,19,21	0.38	0
4	NAG	A	1304	1	14,14,15	0.27	0	17,19,21	0.49	0
4	NAG	A	1309	1	14,14,15	0.19	0	17,19,21	0.47	0
4	NAG	A	1301	1	14,14,15	0.98	1 (7%)	17,19,21	1.14	1 (5%)
4	NAG	B	1307	1	14,14,15	0.23	0	17,19,21	0.40	0
4	NAG	A	1306	1	14,14,15	0.15	0	17,19,21	0.42	0
4	NAG	C	1308	1	14,14,15	0.24	0	17,19,21	0.38	0
4	NAG	C	1305	1	14,14,15	0.23	0	17,19,21	0.50	0
4	NAG	C	1309	1	14,14,15	0.18	0	17,19,21	0.47	0
4	NAG	A	1311	1	14,14,15	0.22	0	17,19,21	0.47	0
4	NAG	A	1305	1	14,14,15	0.22	0	17,19,21	0.50	0
4	NAG	A	1310	1	14,14,15	0.27	0	17,19,21	0.43	0
4	NAG	B	1303	1	14,14,15	0.26	0	17,19,21	0.45	0
4	NAG	C	1310	1	14,14,15	0.26	0	17,19,21	0.44	0
4	NAG	C	1311	1	14,14,15	0.22	0	17,19,21	0.46	0
4	NAG	B	1302	1	14,14,15	0.37	0	17,19,21	0.56	0
4	NAG	B	1306	1	14,14,15	0.16	0	17,19,21	0.41	0
4	NAG	C	1303	1	14,14,15	0.26	0	17,19,21	0.45	0
4	NAG	C	1304	1	14,14,15	0.28	0	17,19,21	0.48	0
4	NAG	C	1301	1	14,14,15	0.97	1 (7%)	17,19,21	1.14	1 (5%)
4	NAG	A	1307	1	14,14,15	0.24	0	17,19,21	0.40	0
4	NAG	B	1305	1	14,14,15	0.22	0	17,19,21	0.50	0
4	NAG	B	1311	1	14,14,15	0.20	0	17,19,21	0.47	0
4	NAG	C	1306	1	14,14,15	0.16	0	17,19,21	0.42	0
4	NAG	A	1302	1	14,14,15	0.36	0	17,19,21	0.56	0
4	NAG	C	1307	1	14,14,15	0.25	0	17,19,21	0.41	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
4	NAG	B	1308	1	14,14,15	0.24	0	17,19,21	0.38	0
4	NAG	B	1310	1	14,14,15	0.26	0	17,19,21	0.43	0
4	NAG	B	1304	1	14,14,15	0.29	0	17,19,21	0.49	0
4	NAG	C	1302	1	14,14,15	0.37	0	17,19,21	0.56	0
4	NAG	B	1309	1	14,14,15	0.18	0	17,19,21	0.47	0
4	NAG	A	1303	1	14,14,15	0.25	0	17,19,21	0.45	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	NAG	B	1301	1	-	4/6/23/26	0/1/1/1
4	NAG	A	1308	1	-	2/6/23/26	0/1/1/1
4	NAG	A	1304	1	-	1/6/23/26	0/1/1/1
4	NAG	A	1309	1	-	2/6/23/26	0/1/1/1
4	NAG	A	1301	1	-	4/6/23/26	0/1/1/1
4	NAG	B	1307	1	-	2/6/23/26	0/1/1/1
4	NAG	A	1306	1	-	2/6/23/26	0/1/1/1
4	NAG	C	1308	1	-	2/6/23/26	0/1/1/1
4	NAG	C	1305	1	-	3/6/23/26	0/1/1/1
4	NAG	C	1309	1	-	2/6/23/26	0/1/1/1
4	NAG	A	1311	1	-	2/6/23/26	0/1/1/1
4	NAG	A	1305	1	-	3/6/23/26	0/1/1/1
4	NAG	A	1310	1	-	2/6/23/26	0/1/1/1
4	NAG	B	1303	1	-	4/6/23/26	0/1/1/1
4	NAG	C	1310	1	-	2/6/23/26	0/1/1/1
4	NAG	C	1311	1	-	2/6/23/26	0/1/1/1
4	NAG	B	1302	1	-	2/6/23/26	0/1/1/1
4	NAG	B	1306	1	-	2/6/23/26	0/1/1/1
4	NAG	C	1303	1	-	4/6/23/26	0/1/1/1
4	NAG	C	1304	1	-	1/6/23/26	0/1/1/1
4	NAG	C	1301	1	-	4/6/23/26	0/1/1/1
4	NAG	A	1307	1	-	2/6/23/26	0/1/1/1
4	NAG	B	1305	1	-	3/6/23/26	0/1/1/1
4	NAG	B	1311	1	-	2/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	NAG	C	1306	1	-	2/6/23/26	0/1/1/1
4	NAG	A	1302	1	-	2/6/23/26	0/1/1/1
4	NAG	C	1307	1	-	2/6/23/26	0/1/1/1
4	NAG	B	1308	1	-	2/6/23/26	0/1/1/1
4	NAG	B	1310	1	-	2/6/23/26	0/1/1/1
4	NAG	B	1304	1	-	1/6/23/26	0/1/1/1
4	NAG	C	1302	1	-	2/6/23/26	0/1/1/1
4	NAG	B	1309	1	-	2/6/23/26	0/1/1/1
4	NAG	A	1303	1	-	4/6/23/26	0/1/1/1

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	1301	NAG	O5-C1	3.40	1.49	1.43
4	A	1301	NAG	O5-C1	3.40	1.49	1.43
4	C	1301	NAG	O5-C1	3.31	1.49	1.43

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	A	1301	NAG	C1-O5-C5	4.46	118.23	112.19
4	C	1301	NAG	C1-O5-C5	4.45	118.22	112.19
4	B	1301	NAG	C1-O5-C5	4.42	118.18	112.19

There are no chirality outliers.

All (78) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	1307	NAG	C4-C5-C6-O6
4	B	1307	NAG	C4-C5-C6-O6
4	C	1307	NAG	C4-C5-C6-O6
4	A	1311	NAG	O5-C5-C6-O6
4	B	1311	NAG	O5-C5-C6-O6
4	C	1311	NAG	O5-C5-C6-O6
4	A	1307	NAG	O5-C5-C6-O6
4	B	1307	NAG	O5-C5-C6-O6
4	C	1307	NAG	O5-C5-C6-O6
4	A	1301	NAG	C4-C5-C6-O6
4	B	1301	NAG	C4-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
4	C	1301	NAG	C4-C5-C6-O6
4	A	1303	NAG	O5-C5-C6-O6
4	A	1305	NAG	O5-C5-C6-O6
4	B	1303	NAG	O5-C5-C6-O6
4	B	1305	NAG	O5-C5-C6-O6
4	C	1303	NAG	O5-C5-C6-O6
4	C	1305	NAG	O5-C5-C6-O6
4	A	1311	NAG	C4-C5-C6-O6
4	B	1311	NAG	C4-C5-C6-O6
4	C	1311	NAG	C4-C5-C6-O6
4	A	1309	NAG	O5-C5-C6-O6
4	B	1309	NAG	O5-C5-C6-O6
4	C	1309	NAG	O5-C5-C6-O6
4	A	1310	NAG	O5-C5-C6-O6
4	B	1310	NAG	O5-C5-C6-O6
4	C	1310	NAG	O5-C5-C6-O6
4	A	1303	NAG	C4-C5-C6-O6
4	B	1303	NAG	C4-C5-C6-O6
4	C	1303	NAG	C4-C5-C6-O6
4	A	1301	NAG	O5-C5-C6-O6
4	B	1301	NAG	O5-C5-C6-O6
4	C	1301	NAG	O5-C5-C6-O6
4	A	1301	NAG	C8-C7-N2-C2
4	A	1301	NAG	O7-C7-N2-C2
4	A	1303	NAG	C8-C7-N2-C2
4	A	1303	NAG	O7-C7-N2-C2
4	B	1301	NAG	C8-C7-N2-C2
4	B	1301	NAG	O7-C7-N2-C2
4	B	1303	NAG	C8-C7-N2-C2
4	B	1303	NAG	O7-C7-N2-C2
4	C	1301	NAG	C8-C7-N2-C2
4	C	1301	NAG	O7-C7-N2-C2
4	C	1303	NAG	C8-C7-N2-C2
4	C	1303	NAG	O7-C7-N2-C2
4	B	1310	NAG	C4-C5-C6-O6
4	C	1310	NAG	C4-C5-C6-O6
4	A	1310	NAG	C4-C5-C6-O6
4	A	1305	NAG	C4-C5-C6-O6
4	B	1305	NAG	C4-C5-C6-O6
4	C	1305	NAG	C4-C5-C6-O6
4	A	1308	NAG	O5-C5-C6-O6
4	B	1308	NAG	O5-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
4	C	1308	NAG	O5-C5-C6-O6
4	A	1306	NAG	C4-C5-C6-O6
4	B	1306	NAG	C4-C5-C6-O6
4	C	1306	NAG	C4-C5-C6-O6
4	A	1309	NAG	C4-C5-C6-O6
4	C	1309	NAG	C4-C5-C6-O6
4	B	1309	NAG	C4-C5-C6-O6
4	A	1306	NAG	O5-C5-C6-O6
4	C	1306	NAG	O5-C5-C6-O6
4	B	1306	NAG	O5-C5-C6-O6
4	B	1304	NAG	C4-C5-C6-O6
4	C	1304	NAG	C4-C5-C6-O6
4	A	1304	NAG	C4-C5-C6-O6
4	A	1305	NAG	C3-C2-N2-C7
4	B	1305	NAG	C3-C2-N2-C7
4	C	1305	NAG	C3-C2-N2-C7
4	A	1308	NAG	C4-C5-C6-O6
4	B	1308	NAG	C4-C5-C6-O6
4	C	1308	NAG	C4-C5-C6-O6
4	A	1302	NAG	C3-C2-N2-C7
4	B	1302	NAG	C3-C2-N2-C7
4	C	1302	NAG	C3-C2-N2-C7
4	A	1302	NAG	C1-C2-N2-C7
4	B	1302	NAG	C1-C2-N2-C7
4	C	1302	NAG	C1-C2-N2-C7

There are no ring outliers.

9 monomers are involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	B	1301	NAG	1	0
4	A	1301	NAG	1	0
4	A	1310	NAG	2	0
4	C	1310	NAG	2	0
4	B	1302	NAG	1	0
4	C	1301	NAG	1	0
4	A	1302	NAG	1	0
4	B	1310	NAG	2	0
4	C	1302	NAG	1	0

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

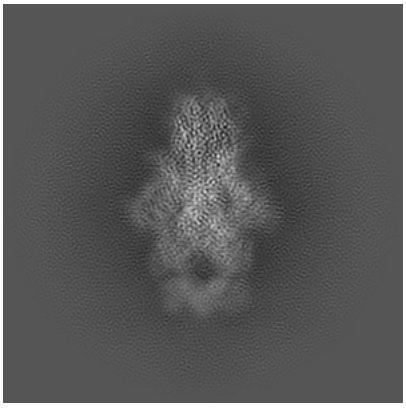
6 Map visualisation (i)

This section contains visualisations of the EMDB entry EMD-22737. These allow visual inspection of the internal detail of the map and identification of artifacts.

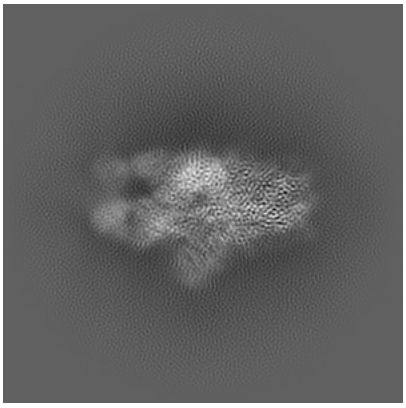
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections (i)

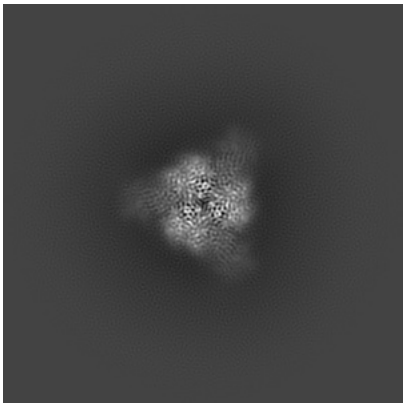
6.1.1 Primary map



X



Y

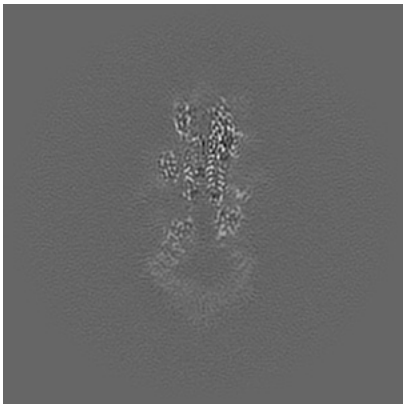


Z

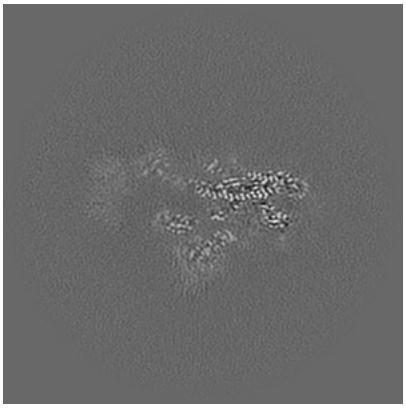
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

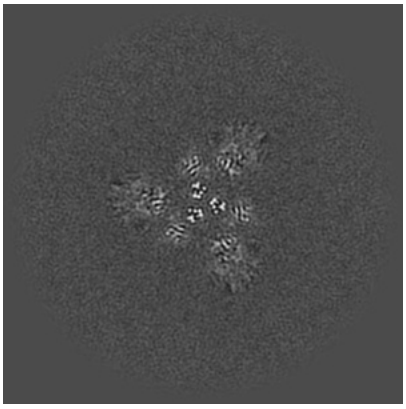
6.2.1 Primary map



X Index: 216



Y Index: 216

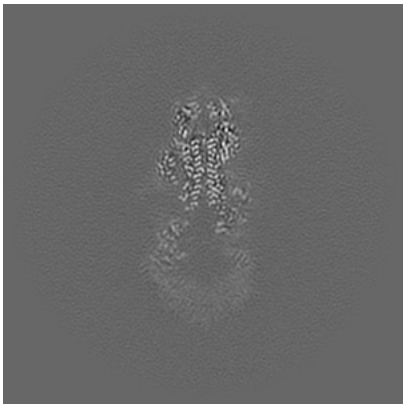


Z Index: 216

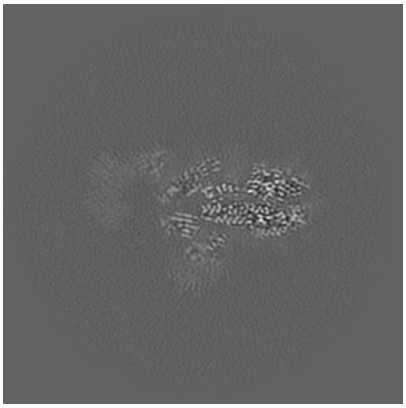
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

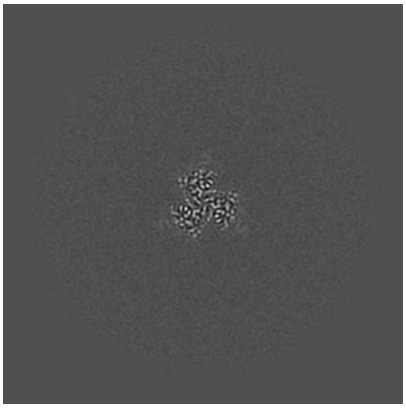
6.3.1 Primary map



X Index: 212



Y Index: 207



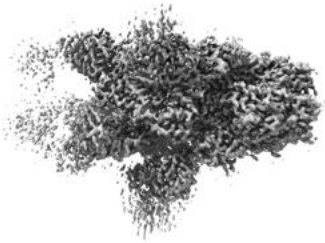
Z Index: 285

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

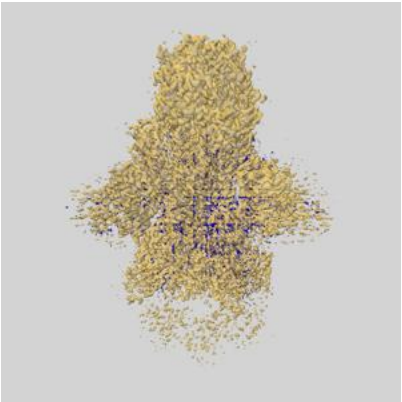
6.5 Mask visualisation (i)

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

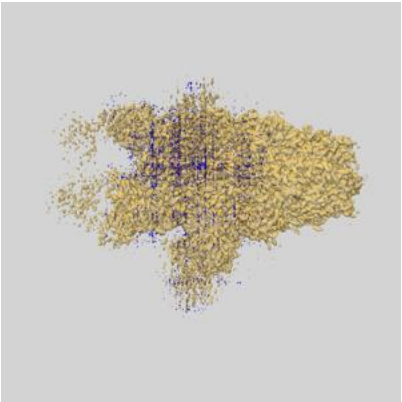
A mask typically either:

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

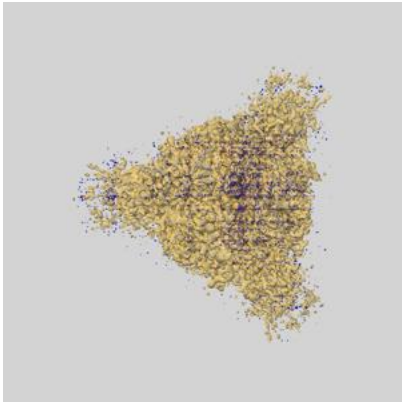
6.5.1 emd_22737_msk_1.map (i)



X



Y

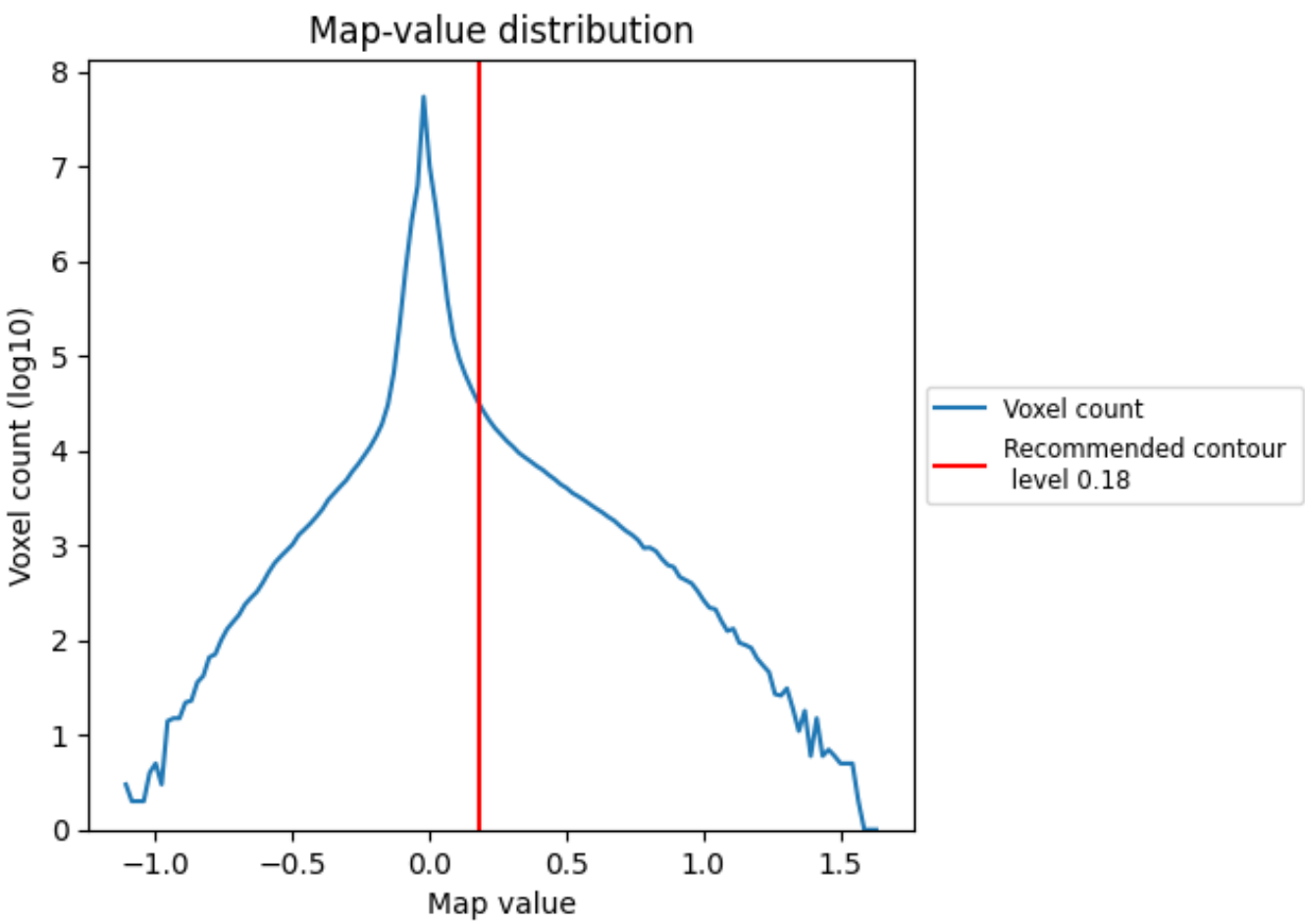


Z

7 Map analysis (i)

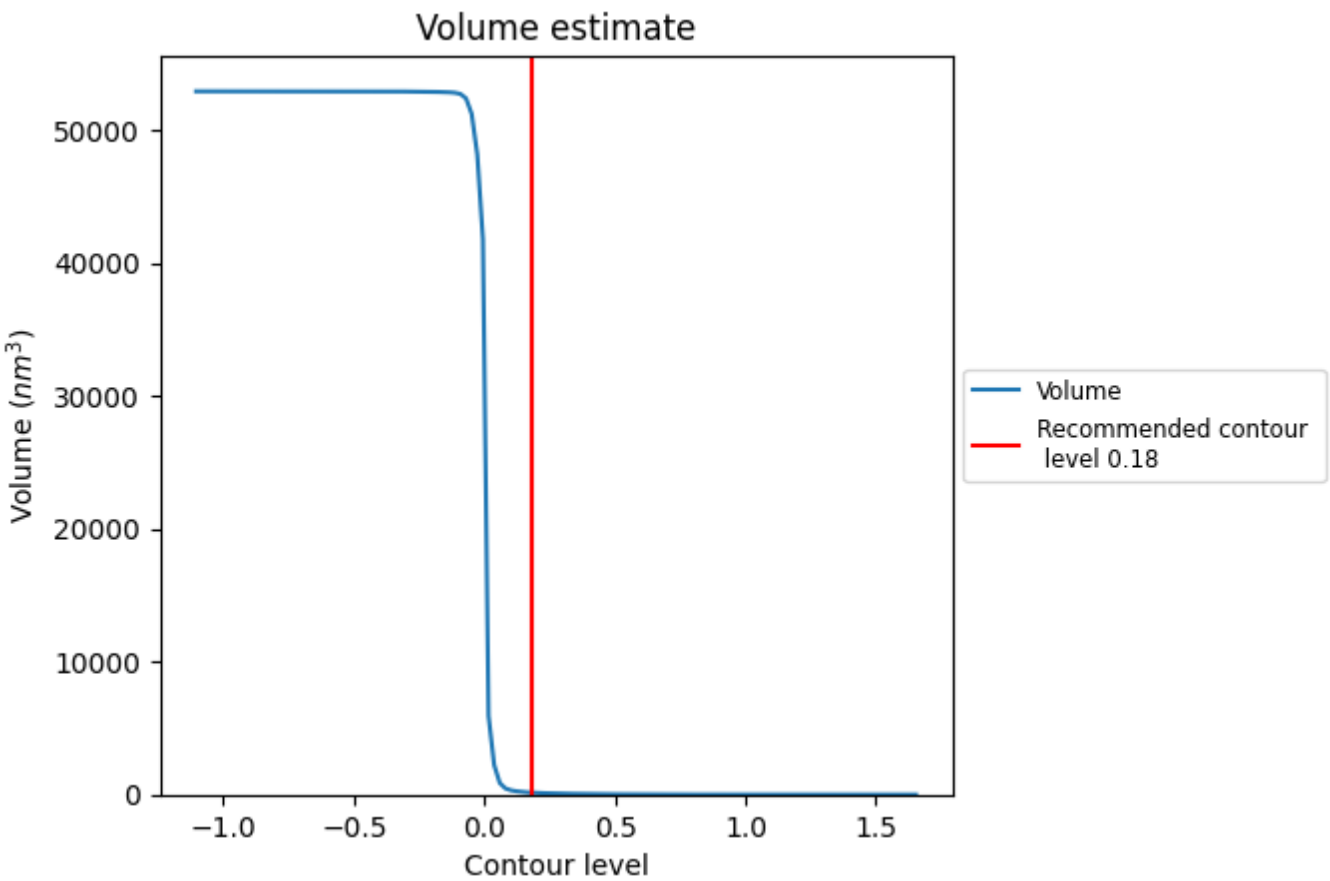
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution (i)



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

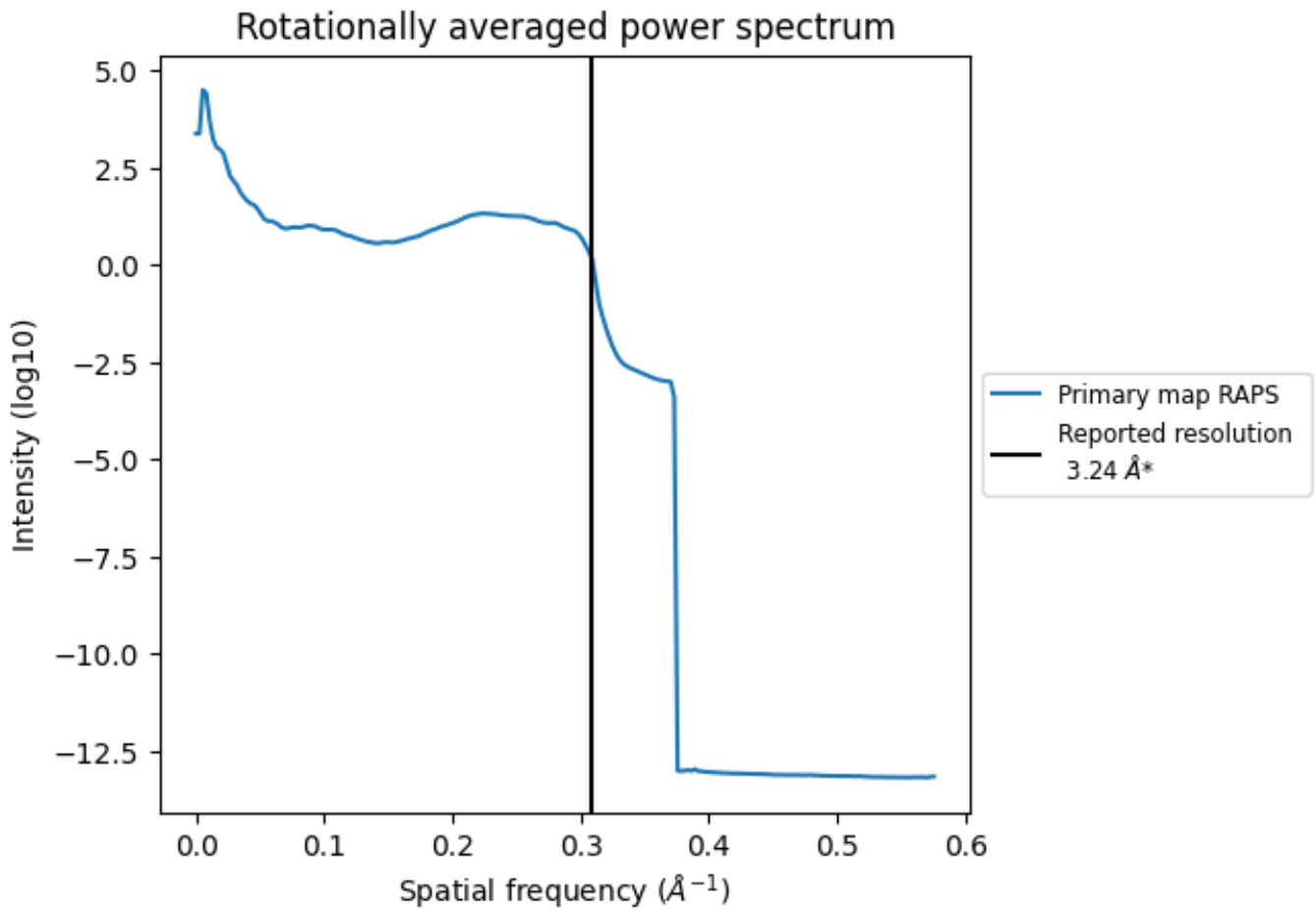
7.2 Volume estimate (i)



The volume at the recommended contour level is 147 nm^3; this corresponds to an approximate mass of 133 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)

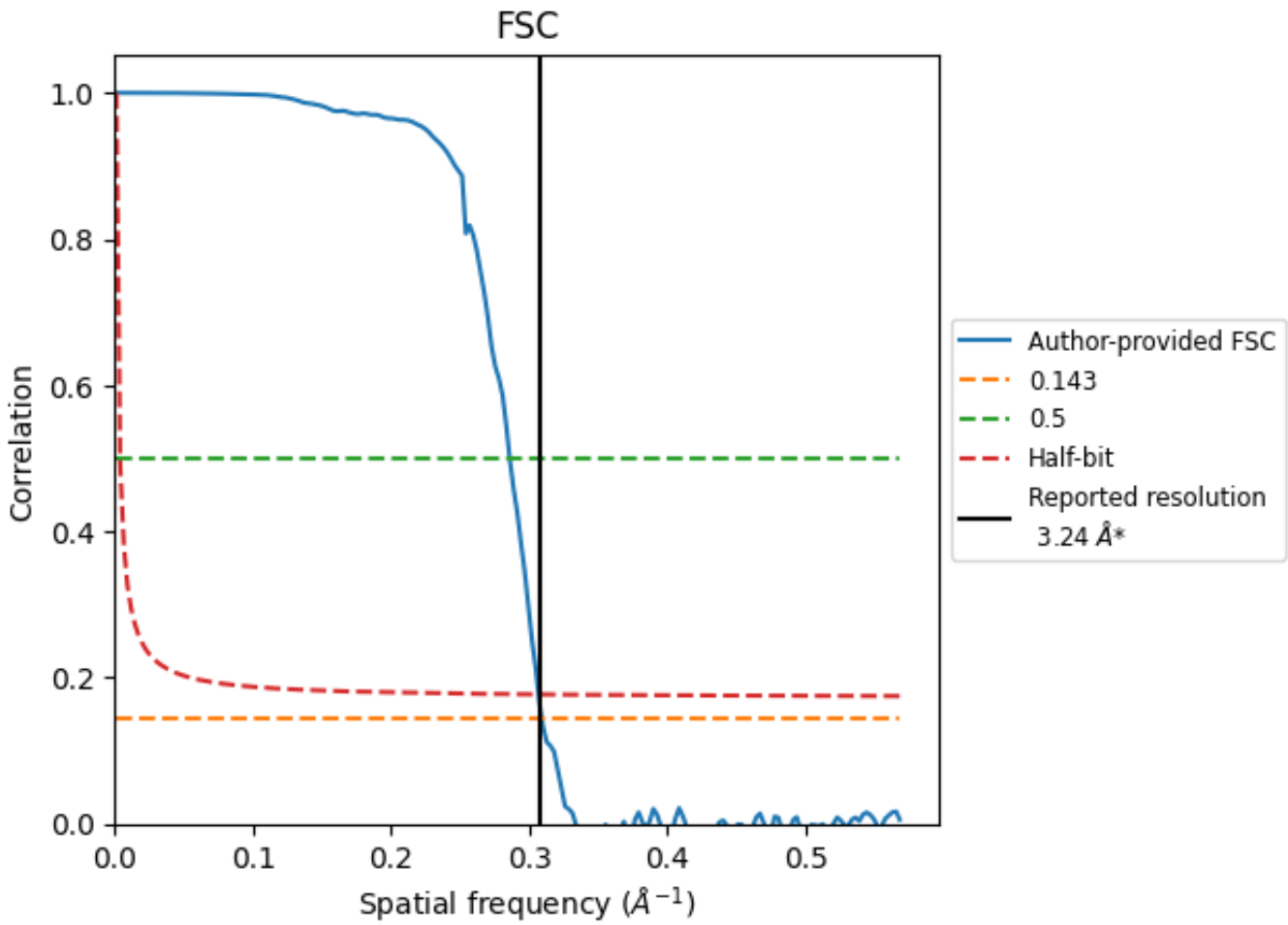


*Reported resolution corresponds to spatial frequency of 0.309 Å^{-1}

8 Fourier-Shell correlation (i)

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

8.1 FSC (i)



*Reported resolution corresponds to spatial frequency of 0.309 Å^{-1}

8.2 Resolution estimates (i)

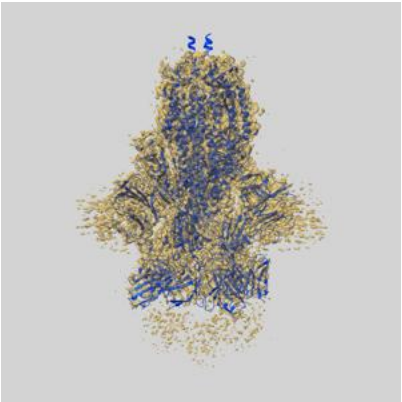
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.24	-	-
Author-provided FSC curve	3.23	3.50	3.26
Unmasked-calculated*	-	-	-

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

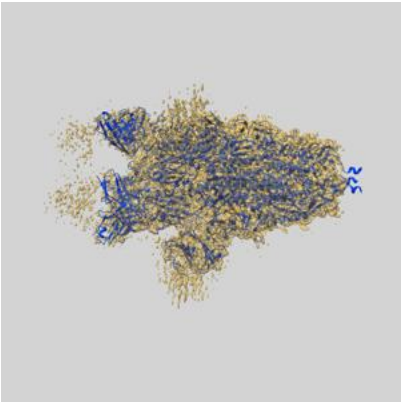
9 Map-model fit (i)

This section contains information regarding the fit between EMDB map EMD-22737 and PDB model 7K90. Per-residue inclusion information can be found in section 3 on page 14.

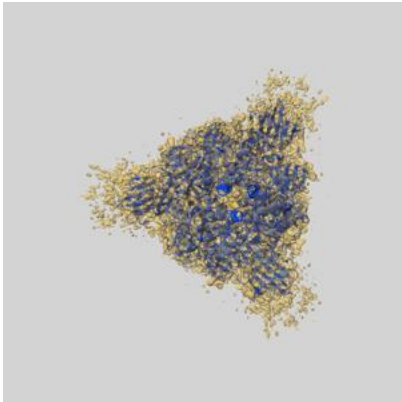
9.1 Map-model overlay (i)



X



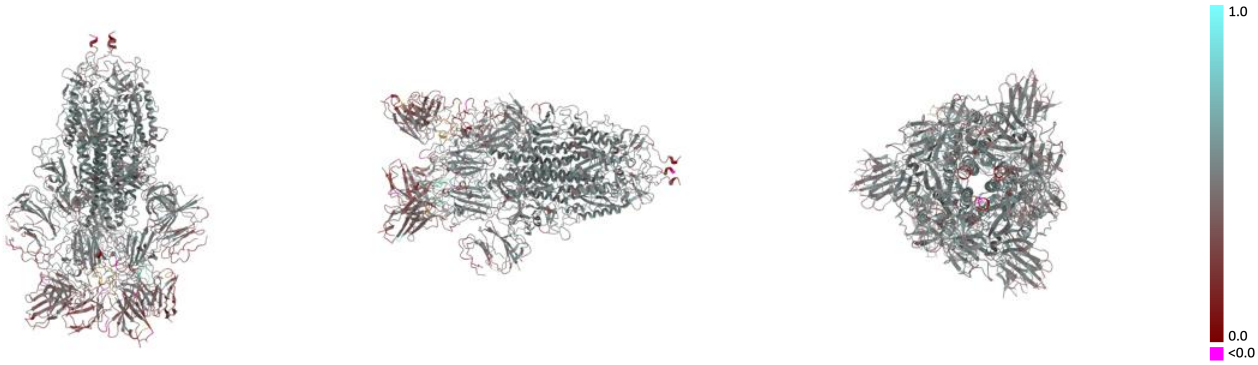
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.18 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

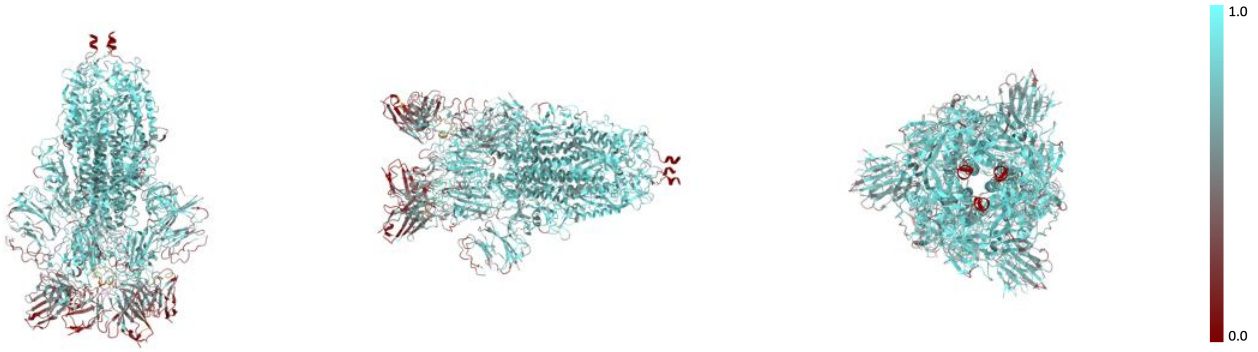
9.2 Q-score mapped to coordinate model (i)



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.

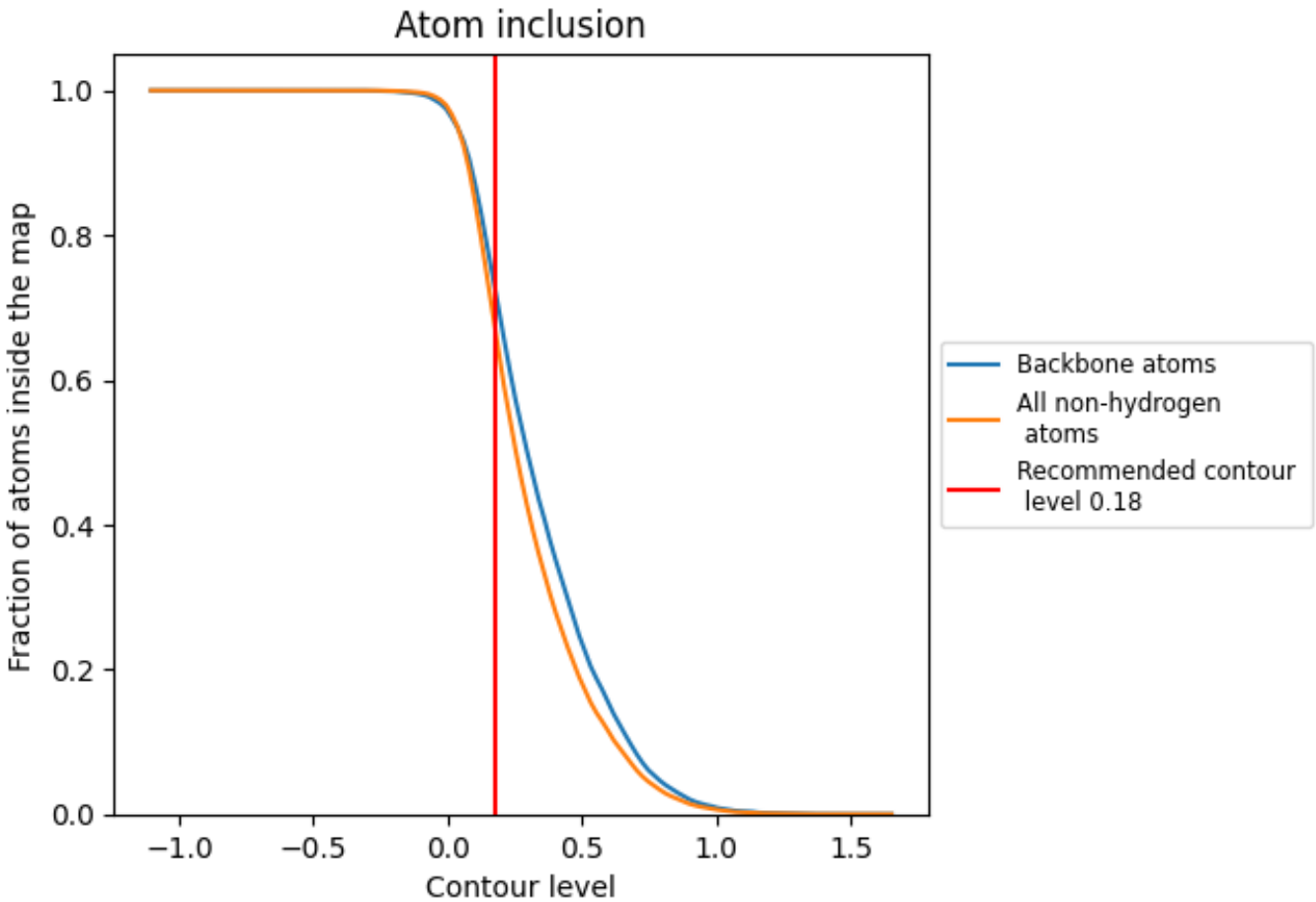
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.18).

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 (i)

The table lists the average atom inclusion at the recommended contour level (0.18) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6617	0.4550
A	0.7263	0.4760
B	0.7207	0.4720
C	0.7273	0.4790
H	0.4414	0.3850
L	0.3131	0.3460
M	0.4292	0.3790
N	0.3247	0.3440
O	0.4363	0.3890
P	0.3235	0.3400