Full wwPDB X-ray Structure Validation Report ⓘ

Sep 24, 2025 – 07:04 am BST

PDB ID	:	6ZHH / pdb_00006zhh
Title	:	Ca2+-ATPase from Listeria Monocytogenes with G4 insertion.
Authors	:	Basse Hansen, S.; Dyla, M.; Neumann, C.; Quistgaard, E.M.H.; Lauwring Andersen, J.; Kjaergaard, M.; Nissen, P.
Deposited on	:	2020-06-23
Resolution	:	3.00 Å(reported)

This is a Full wwPDB X-ray Structure 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/XrayValidationReportHelp
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:

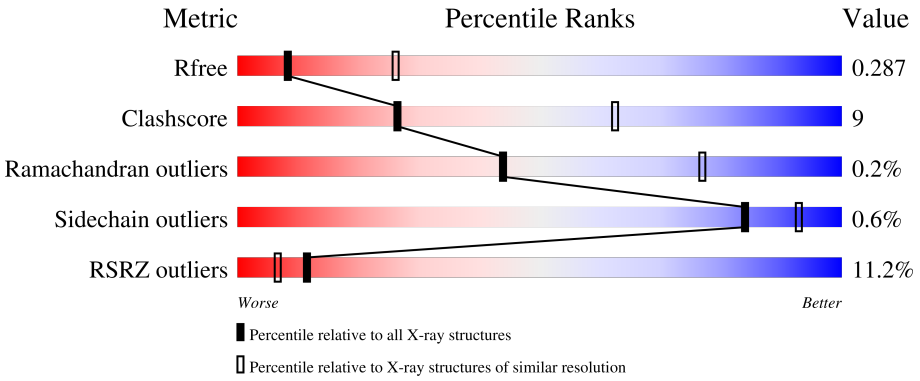
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.46

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 3.00 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)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	2511 (3.00-3.00)
Clashscore	180529	2866 (3.00-3.00)
Ramachandran outliers	177936	2778 (3.00-3.00)
Sidechain outliers	177891	2781 (3.00-3.00)
RSRZ outliers	164620	2523 (3.00-3.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower 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 electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	911	79% 17%
1	B	911	77% 20%
1	C	911	4% 76% 21%
1	D	911	5% 75% 21%
1	E	911	19% 73% 23%

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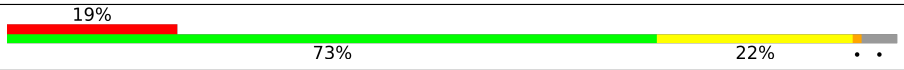
Mol	Chain	Length	Quality of chain
1	F	911	
1	G	911	
1	H	911	

2 Entry composition (i)

There are 6 unique types of molecules in this entry. The entry contains 54572 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, 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 Calcium-transporting ATPase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	883	Total	C	N	O	S	0	0	0
			6732	4298	1110	1290	34			
1	B	883	Total	C	N	O	S	0	0	0
			6732	4298	1110	1290	34			
1	C	883	Total	C	N	O	S	0	0	0
			6732	4298	1110	1290	34			
1	D	883	Total	C	N	O	S	0	0	0
			6732	4298	1110	1290	34			
1	E	876	Total	C	N	O	S	0	0	0
			6675	4262	1103	1276	34			
1	F	876	Total	C	N	O	S	0	0	0
			6675	4262	1103	1276	34			
1	G	875	Total	C	N	O	S	0	0	0
			6667	4258	1102	1273	34			
1	H	876	Total	C	N	O	S	0	0	0
			6675	4262	1103	1276	34			

There are 256 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	0	MET	-	initiating methionine	UNP A0A1C7PY84
A	1	ALA	-	expression tag	UNP A0A1C7PY84
A	40E	GLY	-	insertion	UNP A0A1C7PY84
A	40F	GLY	-	insertion	UNP A0A1C7PY84
A	40G	GLY	-	insertion	UNP A0A1C7PY84
A	40H	GLY	-	insertion	UNP A0A1C7PY84
A	881	ASP	-	expression tag	UNP A0A1C7PY84
A	882	TYR	-	expression tag	UNP A0A1C7PY84
A	883	ASP	-	expression tag	UNP A0A1C7PY84
A	884	ILE	-	expression tag	UNP A0A1C7PY84
A	885	PRO	-	expression tag	UNP A0A1C7PY84
A	886	THR	-	expression tag	UNP A0A1C7PY84
A	887	THR	-	expression tag	UNP A0A1C7PY84

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Chain	Residue	Modelled	Actual	Comment	Reference
A	888	GLU	-	expression tag	UNP A0A1C7PY84
A	889	ASN	-	expression tag	UNP A0A1C7PY84
A	890	LEU	-	expression tag	UNP A0A1C7PY84
A	891	TYR	-	expression tag	UNP A0A1C7PY84
A	892	PHE	-	expression tag	UNP A0A1C7PY84
A	893	GLN	-	expression tag	UNP A0A1C7PY84
A	894	GLY	-	expression tag	UNP A0A1C7PY84
A	895	LEU	-	expression tag	UNP A0A1C7PY84
A	896	GLU	-	expression tag	UNP A0A1C7PY84
A	897	HIS	-	expression tag	UNP A0A1C7PY84
A	898	HIS	-	expression tag	UNP A0A1C7PY84
A	899	HIS	-	expression tag	UNP A0A1C7PY84
A	900	HIS	-	expression tag	UNP A0A1C7PY84
A	901	HIS	-	expression tag	UNP A0A1C7PY84
A	902	HIS	-	expression tag	UNP A0A1C7PY84
A	903	HIS	-	expression tag	UNP A0A1C7PY84
A	904	HIS	-	expression tag	UNP A0A1C7PY84
A	905	HIS	-	expression tag	UNP A0A1C7PY84
A	906	HIS	-	expression tag	UNP A0A1C7PY84
B	0	MET	-	initiating methionine	UNP A0A1C7PY84
B	1	ALA	-	expression tag	UNP A0A1C7PY84
B	40E	GLY	-	insertion	UNP A0A1C7PY84
B	40F	GLY	-	insertion	UNP A0A1C7PY84
B	40G	GLY	-	insertion	UNP A0A1C7PY84
B	40H	GLY	-	insertion	UNP A0A1C7PY84
B	881	ASP	-	expression tag	UNP A0A1C7PY84
B	882	TYR	-	expression tag	UNP A0A1C7PY84
B	883	ASP	-	expression tag	UNP A0A1C7PY84
B	884	ILE	-	expression tag	UNP A0A1C7PY84
B	885	PRO	-	expression tag	UNP A0A1C7PY84
B	886	THR	-	expression tag	UNP A0A1C7PY84
B	887	THR	-	expression tag	UNP A0A1C7PY84
B	888	GLU	-	expression tag	UNP A0A1C7PY84
B	889	ASN	-	expression tag	UNP A0A1C7PY84
B	890	LEU	-	expression tag	UNP A0A1C7PY84
B	891	TYR	-	expression tag	UNP A0A1C7PY84
B	892	PHE	-	expression tag	UNP A0A1C7PY84
B	893	GLN	-	expression tag	UNP A0A1C7PY84
B	894	GLY	-	expression tag	UNP A0A1C7PY84
B	895	LEU	-	expression tag	UNP A0A1C7PY84
B	896	GLU	-	expression tag	UNP A0A1C7PY84
B	897	HIS	-	expression tag	UNP A0A1C7PY84

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Chain	Residue	Modelled	Actual	Comment	Reference
B	898	HIS	-	expression tag	UNP A0A1C7PY84
B	899	HIS	-	expression tag	UNP A0A1C7PY84
B	900	HIS	-	expression tag	UNP A0A1C7PY84
B	901	HIS	-	expression tag	UNP A0A1C7PY84
B	902	HIS	-	expression tag	UNP A0A1C7PY84
B	903	HIS	-	expression tag	UNP A0A1C7PY84
B	904	HIS	-	expression tag	UNP A0A1C7PY84
B	905	HIS	-	expression tag	UNP A0A1C7PY84
B	906	HIS	-	expression tag	UNP A0A1C7PY84
C	0	MET	-	initiating methionine	UNP A0A1C7PY84
C	1	ALA	-	expression tag	UNP A0A1C7PY84
C	40E	GLY	-	insertion	UNP A0A1C7PY84
C	40F	GLY	-	insertion	UNP A0A1C7PY84
C	40G	GLY	-	insertion	UNP A0A1C7PY84
C	40H	GLY	-	insertion	UNP A0A1C7PY84
C	881	ASP	-	expression tag	UNP A0A1C7PY84
C	882	TYR	-	expression tag	UNP A0A1C7PY84
C	883	ASP	-	expression tag	UNP A0A1C7PY84
C	884	ILE	-	expression tag	UNP A0A1C7PY84
C	885	PRO	-	expression tag	UNP A0A1C7PY84
C	886	THR	-	expression tag	UNP A0A1C7PY84
C	887	THR	-	expression tag	UNP A0A1C7PY84
C	888	GLU	-	expression tag	UNP A0A1C7PY84
C	889	ASN	-	expression tag	UNP A0A1C7PY84
C	890	LEU	-	expression tag	UNP A0A1C7PY84
C	891	TYR	-	expression tag	UNP A0A1C7PY84
C	892	PHE	-	expression tag	UNP A0A1C7PY84
C	893	GLN	-	expression tag	UNP A0A1C7PY84
C	894	GLY	-	expression tag	UNP A0A1C7PY84
C	895	LEU	-	expression tag	UNP A0A1C7PY84
C	896	GLU	-	expression tag	UNP A0A1C7PY84
C	897	HIS	-	expression tag	UNP A0A1C7PY84
C	898	HIS	-	expression tag	UNP A0A1C7PY84
C	899	HIS	-	expression tag	UNP A0A1C7PY84
C	900	HIS	-	expression tag	UNP A0A1C7PY84
C	901	HIS	-	expression tag	UNP A0A1C7PY84
C	902	HIS	-	expression tag	UNP A0A1C7PY84
C	903	HIS	-	expression tag	UNP A0A1C7PY84
C	904	HIS	-	expression tag	UNP A0A1C7PY84
C	905	HIS	-	expression tag	UNP A0A1C7PY84
C	906	HIS	-	expression tag	UNP A0A1C7PY84
D	0	MET	-	initiating methionine	UNP A0A1C7PY84

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Chain	Residue	Modelled	Actual	Comment	Reference
D	1	ALA	-	expression tag	UNP A0A1C7PY84
D	40E	GLY	-	insertion	UNP A0A1C7PY84
D	40F	GLY	-	insertion	UNP A0A1C7PY84
D	40G	GLY	-	insertion	UNP A0A1C7PY84
D	40H	GLY	-	insertion	UNP A0A1C7PY84
D	881	ASP	-	expression tag	UNP A0A1C7PY84
D	882	TYR	-	expression tag	UNP A0A1C7PY84
D	883	ASP	-	expression tag	UNP A0A1C7PY84
D	884	ILE	-	expression tag	UNP A0A1C7PY84
D	885	PRO	-	expression tag	UNP A0A1C7PY84
D	886	THR	-	expression tag	UNP A0A1C7PY84
D	887	THR	-	expression tag	UNP A0A1C7PY84
D	888	GLU	-	expression tag	UNP A0A1C7PY84
D	889	ASN	-	expression tag	UNP A0A1C7PY84
D	890	LEU	-	expression tag	UNP A0A1C7PY84
D	891	TYR	-	expression tag	UNP A0A1C7PY84
D	892	PHE	-	expression tag	UNP A0A1C7PY84
D	893	GLN	-	expression tag	UNP A0A1C7PY84
D	894	GLY	-	expression tag	UNP A0A1C7PY84
D	895	LEU	-	expression tag	UNP A0A1C7PY84
D	896	GLU	-	expression tag	UNP A0A1C7PY84
D	897	HIS	-	expression tag	UNP A0A1C7PY84
D	898	HIS	-	expression tag	UNP A0A1C7PY84
D	899	HIS	-	expression tag	UNP A0A1C7PY84
D	900	HIS	-	expression tag	UNP A0A1C7PY84
D	901	HIS	-	expression tag	UNP A0A1C7PY84
D	902	HIS	-	expression tag	UNP A0A1C7PY84
D	903	HIS	-	expression tag	UNP A0A1C7PY84
D	904	HIS	-	expression tag	UNP A0A1C7PY84
D	905	HIS	-	expression tag	UNP A0A1C7PY84
D	906	HIS	-	expression tag	UNP A0A1C7PY84
E	0	MET	-	initiating methionine	UNP A0A1C7PY84
E	1	ALA	-	expression tag	UNP A0A1C7PY84
E	40E	GLY	-	insertion	UNP A0A1C7PY84
E	40F	GLY	-	insertion	UNP A0A1C7PY84
E	40G	GLY	-	insertion	UNP A0A1C7PY84
E	40H	GLY	-	insertion	UNP A0A1C7PY84
E	881	ASP	-	expression tag	UNP A0A1C7PY84
E	882	TYR	-	expression tag	UNP A0A1C7PY84
E	883	ASP	-	expression tag	UNP A0A1C7PY84
E	884	ILE	-	expression tag	UNP A0A1C7PY84
E	885	PRO	-	expression tag	UNP A0A1C7PY84

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Chain	Residue	Modelled	Actual	Comment	Reference
E	886	THR	-	expression tag	UNP A0A1C7PY84
E	887	THR	-	expression tag	UNP A0A1C7PY84
E	888	GLU	-	expression tag	UNP A0A1C7PY84
E	889	ASN	-	expression tag	UNP A0A1C7PY84
E	890	LEU	-	expression tag	UNP A0A1C7PY84
E	891	TYR	-	expression tag	UNP A0A1C7PY84
E	892	PHE	-	expression tag	UNP A0A1C7PY84
E	893	GLN	-	expression tag	UNP A0A1C7PY84
E	894	GLY	-	expression tag	UNP A0A1C7PY84
E	895	LEU	-	expression tag	UNP A0A1C7PY84
E	896	GLU	-	expression tag	UNP A0A1C7PY84
E	897	HIS	-	expression tag	UNP A0A1C7PY84
E	898	HIS	-	expression tag	UNP A0A1C7PY84
E	899	HIS	-	expression tag	UNP A0A1C7PY84
E	900	HIS	-	expression tag	UNP A0A1C7PY84
E	901	HIS	-	expression tag	UNP A0A1C7PY84
E	902	HIS	-	expression tag	UNP A0A1C7PY84
E	903	HIS	-	expression tag	UNP A0A1C7PY84
E	904	HIS	-	expression tag	UNP A0A1C7PY84
E	905	HIS	-	expression tag	UNP A0A1C7PY84
E	906	HIS	-	expression tag	UNP A0A1C7PY84
F	0	MET	-	initiating methionine	UNP A0A1C7PY84
F	1	ALA	-	expression tag	UNP A0A1C7PY84
F	40E	GLY	-	insertion	UNP A0A1C7PY84
F	40F	GLY	-	insertion	UNP A0A1C7PY84
F	40G	GLY	-	insertion	UNP A0A1C7PY84
F	40H	GLY	-	insertion	UNP A0A1C7PY84
F	881	ASP	-	expression tag	UNP A0A1C7PY84
F	882	TYR	-	expression tag	UNP A0A1C7PY84
F	883	ASP	-	expression tag	UNP A0A1C7PY84
F	884	ILE	-	expression tag	UNP A0A1C7PY84
F	885	PRO	-	expression tag	UNP A0A1C7PY84
F	886	THR	-	expression tag	UNP A0A1C7PY84
F	887	THR	-	expression tag	UNP A0A1C7PY84
F	888	GLU	-	expression tag	UNP A0A1C7PY84
F	889	ASN	-	expression tag	UNP A0A1C7PY84
F	890	LEU	-	expression tag	UNP A0A1C7PY84
F	891	TYR	-	expression tag	UNP A0A1C7PY84
F	892	PHE	-	expression tag	UNP A0A1C7PY84
F	893	GLN	-	expression tag	UNP A0A1C7PY84
F	894	GLY	-	expression tag	UNP A0A1C7PY84
F	895	LEU	-	expression tag	UNP A0A1C7PY84

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Chain	Residue	Modelled	Actual	Comment	Reference
F	896	GLU	-	expression tag	UNP A0A1C7PY84
F	897	HIS	-	expression tag	UNP A0A1C7PY84
F	898	HIS	-	expression tag	UNP A0A1C7PY84
F	899	HIS	-	expression tag	UNP A0A1C7PY84
F	900	HIS	-	expression tag	UNP A0A1C7PY84
F	901	HIS	-	expression tag	UNP A0A1C7PY84
F	902	HIS	-	expression tag	UNP A0A1C7PY84
F	903	HIS	-	expression tag	UNP A0A1C7PY84
F	904	HIS	-	expression tag	UNP A0A1C7PY84
F	905	HIS	-	expression tag	UNP A0A1C7PY84
F	906	HIS	-	expression tag	UNP A0A1C7PY84
G	0	MET	-	initiating methionine	UNP A0A1C7PY84
G	1	ALA	-	expression tag	UNP A0A1C7PY84
G	40E	GLY	-	insertion	UNP A0A1C7PY84
G	40F	GLY	-	insertion	UNP A0A1C7PY84
G	40G	GLY	-	insertion	UNP A0A1C7PY84
G	40H	GLY	-	insertion	UNP A0A1C7PY84
G	881	ASP	-	expression tag	UNP A0A1C7PY84
G	882	TYR	-	expression tag	UNP A0A1C7PY84
G	883	ASP	-	expression tag	UNP A0A1C7PY84
G	884	ILE	-	expression tag	UNP A0A1C7PY84
G	885	PRO	-	expression tag	UNP A0A1C7PY84
G	886	THR	-	expression tag	UNP A0A1C7PY84
G	887	THR	-	expression tag	UNP A0A1C7PY84
G	888	GLU	-	expression tag	UNP A0A1C7PY84
G	889	ASN	-	expression tag	UNP A0A1C7PY84
G	890	LEU	-	expression tag	UNP A0A1C7PY84
G	891	TYR	-	expression tag	UNP A0A1C7PY84
G	892	PHE	-	expression tag	UNP A0A1C7PY84
G	893	GLN	-	expression tag	UNP A0A1C7PY84
G	894	GLY	-	expression tag	UNP A0A1C7PY84
G	895	LEU	-	expression tag	UNP A0A1C7PY84
G	896	GLU	-	expression tag	UNP A0A1C7PY84
G	897	HIS	-	expression tag	UNP A0A1C7PY84
G	898	HIS	-	expression tag	UNP A0A1C7PY84
G	899	HIS	-	expression tag	UNP A0A1C7PY84
G	900	HIS	-	expression tag	UNP A0A1C7PY84
G	901	HIS	-	expression tag	UNP A0A1C7PY84
G	902	HIS	-	expression tag	UNP A0A1C7PY84
G	903	HIS	-	expression tag	UNP A0A1C7PY84
G	904	HIS	-	expression tag	UNP A0A1C7PY84
G	905	HIS	-	expression tag	UNP A0A1C7PY84

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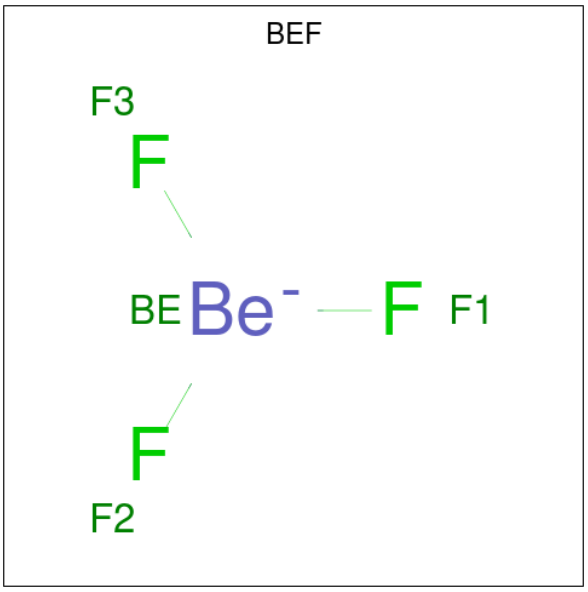
Chain	Residue	Modelled	Actual	Comment	Reference
G	906	HIS	-	expression tag	UNP A0A1C7PY84
H	0	MET	-	initiating methionine	UNP A0A1C7PY84
H	1	ALA	-	expression tag	UNP A0A1C7PY84
H	40E	GLY	-	insertion	UNP A0A1C7PY84
H	40F	GLY	-	insertion	UNP A0A1C7PY84
H	40G	GLY	-	insertion	UNP A0A1C7PY84
H	40H	GLY	-	insertion	UNP A0A1C7PY84
H	881	ASP	-	expression tag	UNP A0A1C7PY84
H	882	TYR	-	expression tag	UNP A0A1C7PY84
H	883	ASP	-	expression tag	UNP A0A1C7PY84
H	884	ILE	-	expression tag	UNP A0A1C7PY84
H	885	PRO	-	expression tag	UNP A0A1C7PY84
H	886	THR	-	expression tag	UNP A0A1C7PY84
H	887	THR	-	expression tag	UNP A0A1C7PY84
H	888	GLU	-	expression tag	UNP A0A1C7PY84
H	889	ASN	-	expression tag	UNP A0A1C7PY84
H	890	LEU	-	expression tag	UNP A0A1C7PY84
H	891	TYR	-	expression tag	UNP A0A1C7PY84
H	892	PHE	-	expression tag	UNP A0A1C7PY84
H	893	GLN	-	expression tag	UNP A0A1C7PY84
H	894	GLY	-	expression tag	UNP A0A1C7PY84
H	895	LEU	-	expression tag	UNP A0A1C7PY84
H	896	GLU	-	expression tag	UNP A0A1C7PY84
H	897	HIS	-	expression tag	UNP A0A1C7PY84
H	898	HIS	-	expression tag	UNP A0A1C7PY84
H	899	HIS	-	expression tag	UNP A0A1C7PY84
H	900	HIS	-	expression tag	UNP A0A1C7PY84
H	901	HIS	-	expression tag	UNP A0A1C7PY84
H	902	HIS	-	expression tag	UNP A0A1C7PY84
H	903	HIS	-	expression tag	UNP A0A1C7PY84
H	904	HIS	-	expression tag	UNP A0A1C7PY84
H	905	HIS	-	expression tag	UNP A0A1C7PY84
H	906	HIS	-	expression tag	UNP A0A1C7PY84

- Molecule 2 is BERYLLIUM TRIFLUORIDE ION (CCD ID: BEF) (formula: BeF_3) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total Be F 4 1 3	0	0
2	B	1	Total Be F 4 1 3	0	0
2	C	1	Total Be F 4 1 3	0	0
2	D	1	Total Be F 4 1 3	0	0
2	E	1	Total Be F 4 1 3	0	0
2	F	1	Total Be F 4 1 3	0	0
2	G	1	Total Be F 4 1 3	0	0
2	H	1	Total Be F 4 1 3	0	0

- Molecule 3 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total Mg 1 1	0	0
3	B	1	Total Mg 1 1	0	0
3	C	1	Total Mg 1 1	0	0

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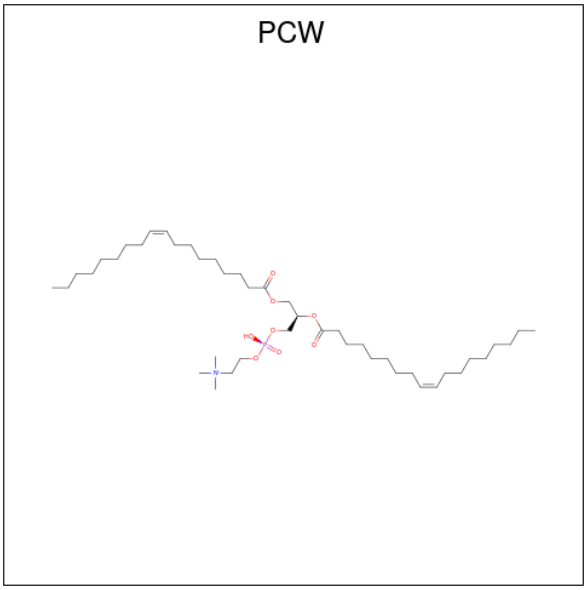
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	D	1	Total Mg 1 1	0	0
3	E	1	Total Mg 1 1	0	0
3	F	1	Total Mg 1 1	0	0
3	G	1	Total Mg 1 1	0	0
3	H	1	Total Mg 1 1	0	0

- Molecule 4 is 1,2-DIOLEOYL-SN-GLYCERO-3-PHOSPHOCHOLINE (CCD ID: PCW) (formula: $C_{44}H_{85}NO_8P$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C N O P 54 44 1 8 1	0	0
4	A	1	Total C N O P 54 44 1 8 1	0	0
4	B	1	Total C N O P 54 44 1 8 1	0	0
4	B	1	Total C N O P 54 44 1 8 1	0	0
4	B	1	Total C N O P 54 44 1 8 1	0	0
4	B	1	Total C N O P 54 44 1 8 1	0	0

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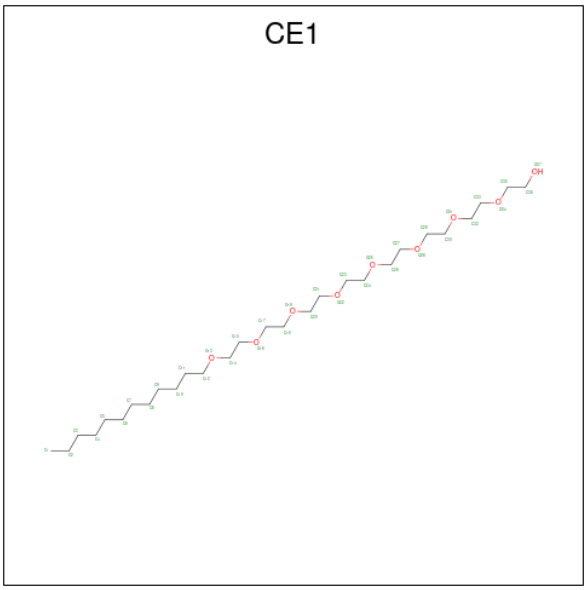
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	B	1	Total C N O P 54 44 1 8 1	0	0
4	B	1	Total C N O P 54 44 1 8 1	0	0
4	B	1	Total C N O P 54 44 1 8 1	0	0
4	C	1	Total C N O P 54 44 1 8 1	0	0
4	C	1	Total C N O P 54 44 1 8 1	0	0
4	C	1	Total C N O P 54 44 1 8 1	0	0
4	C	1	Total C N O P 54 44 1 8 1	0	0
4	C	1	Total C N O P 54 44 1 8 1	0	0
4	D	1	Total C N O P 54 44 1 8 1	0	0

- Molecule 5 is O-DODECANYL OCTAETHYLENE GLYCOL (CCD ID: CE1) (formula: $C_{28}H_{58}O_9$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	C	1	Total C O 15 14 1	0	0
5	D	1	Total C 12 12	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	D	1	Total C 12 12	0	0
5	D	1	Total C 12 12	0	0
5	D	1	Total C 12 12	0	0
5	D	1	Total C 11 11	0	0
5	D	1	Total C 12 12	0	0

- Molecule 6 is water.

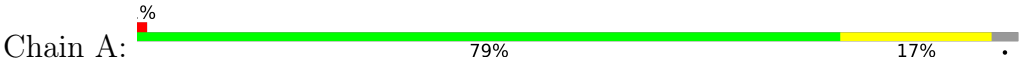
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	2	Total O 2 2	0	0
6	B	2	Total O 2 2	0	0
6	C	2	Total O 2 2	0	0
6	D	2	Total O 2 2	0	0
6	E	2	Total O 2 2	0	0
6	F	2	Total O 2 2	0	0
6	G	2	Total O 2 2	0	0
6	H	2	Total O 2 2	0	0

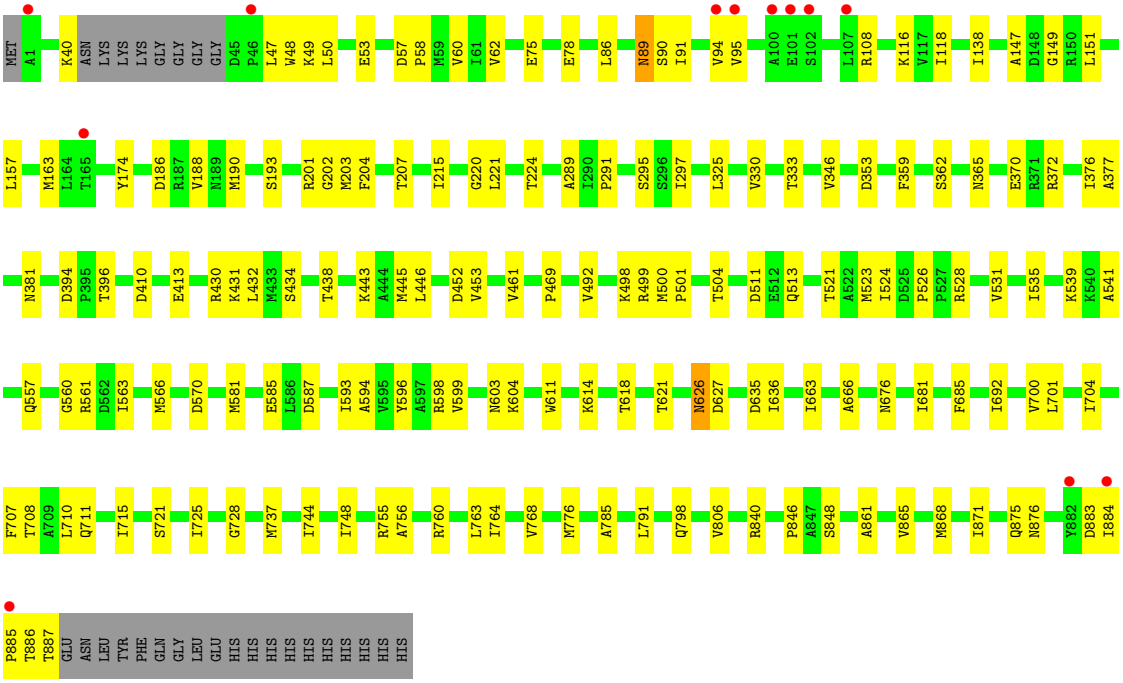
3 Residue-property plots (i)

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 electron 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 dot above a residue indicates a poor fit to the electron density (RSRZ > 2). 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: Calcium-transporting ATPase

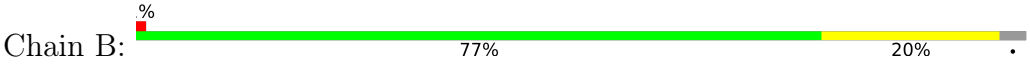
Chain A:

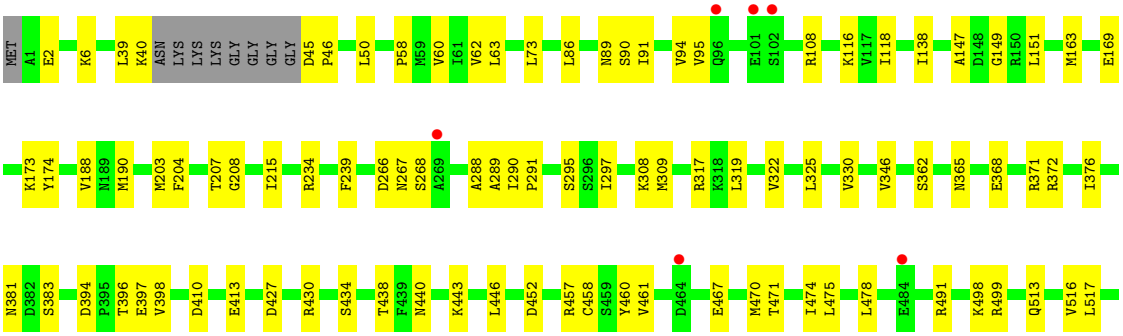


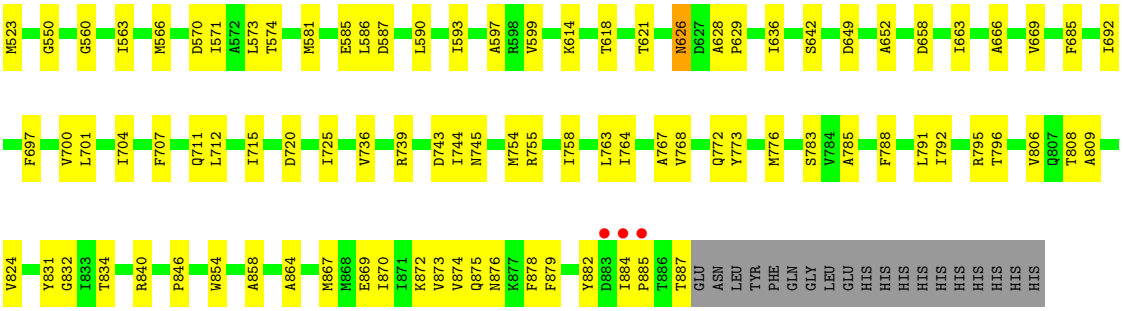


• Molecule 1: Calcium-transporting ATPase

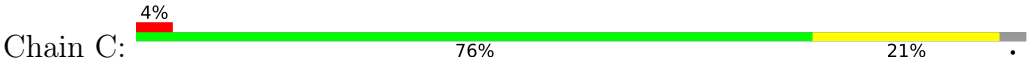
Chain B:

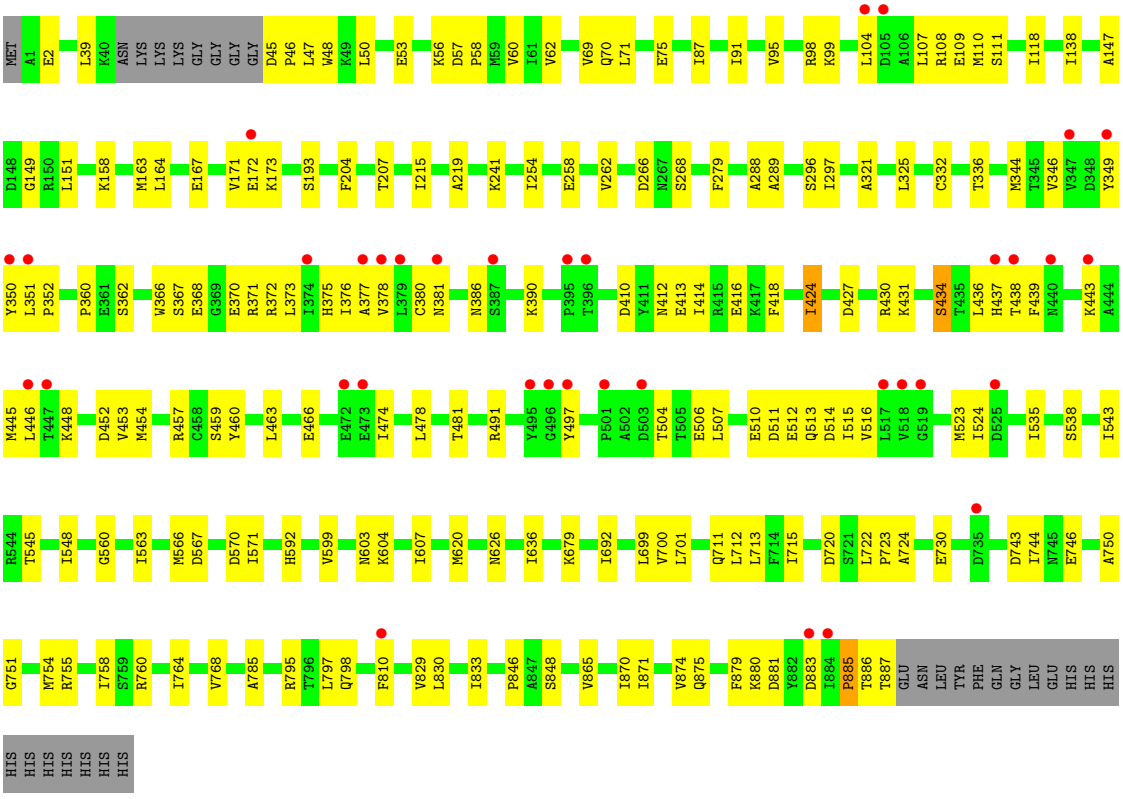




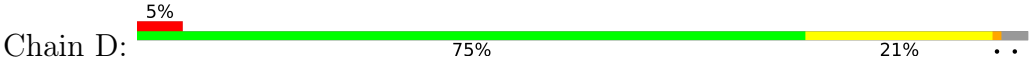


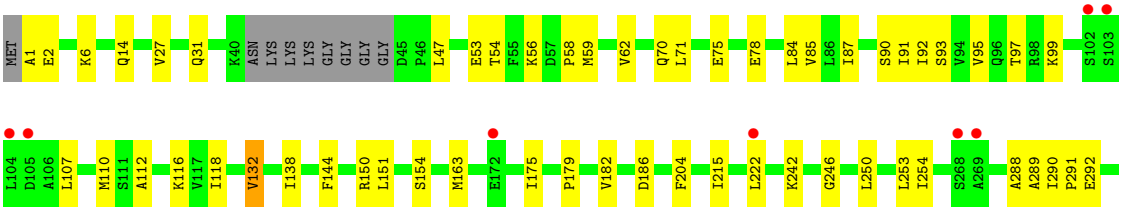
• Molecule 1: Calcium-transporting ATPase

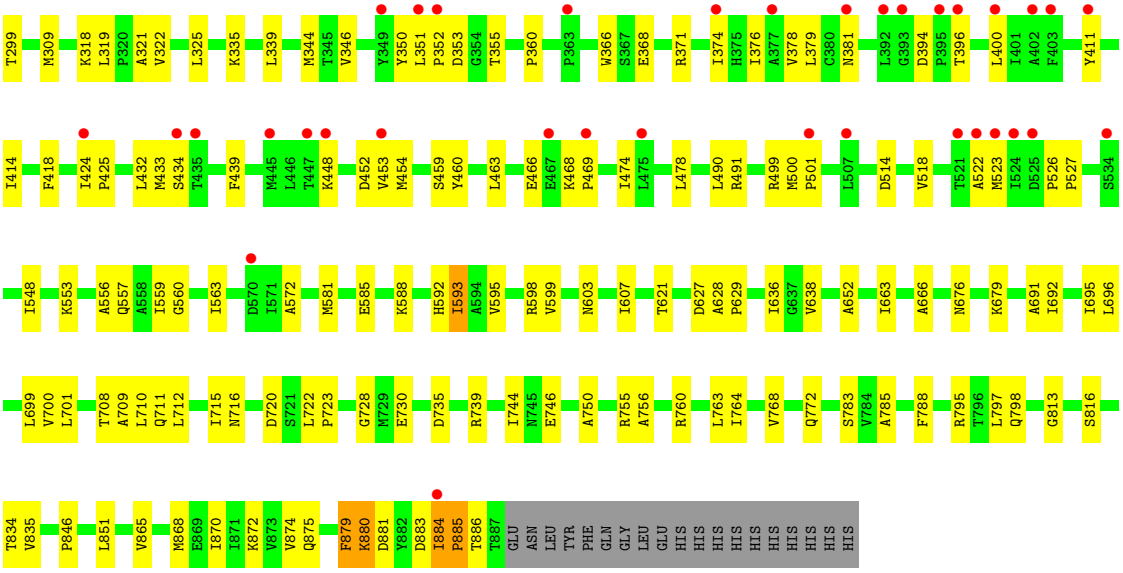




• Molecule 1: Calcium-transporting ATPase

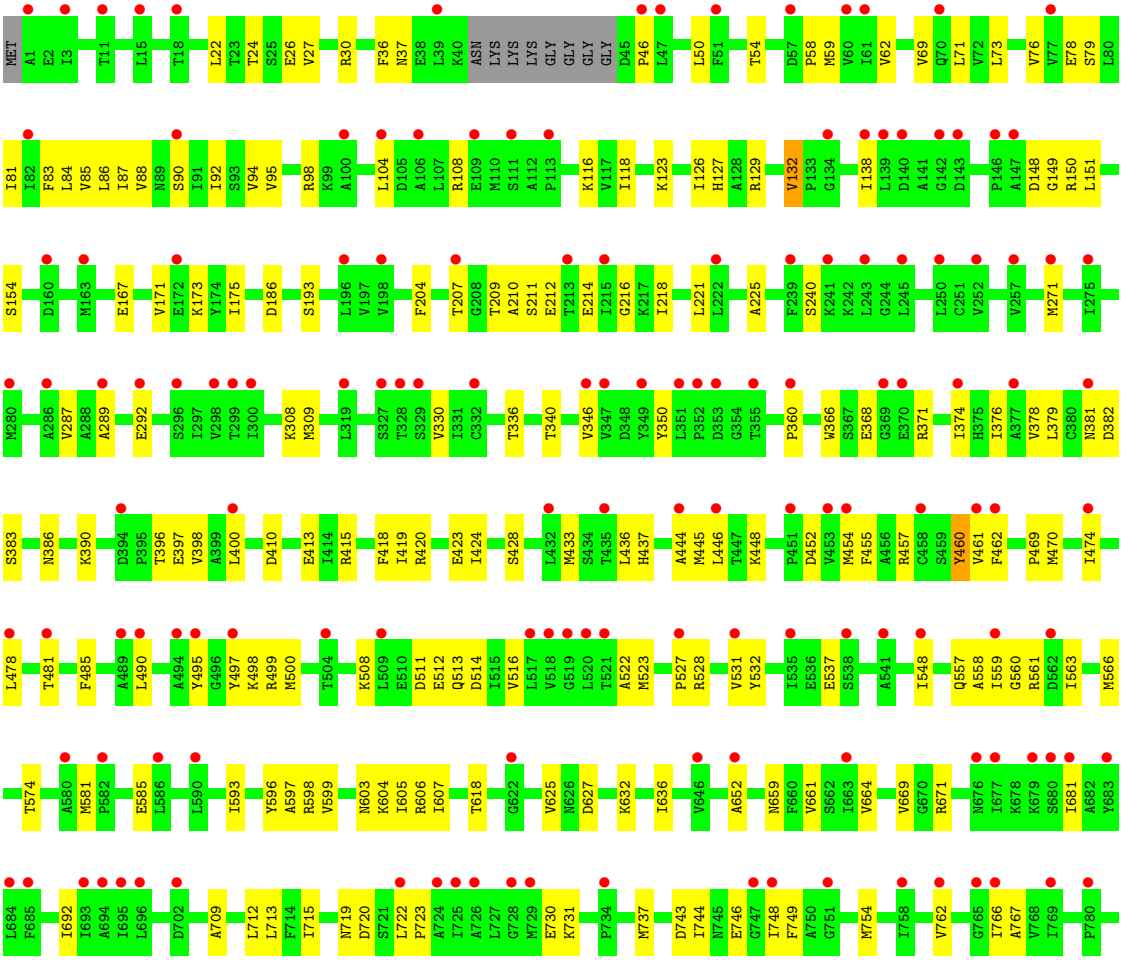


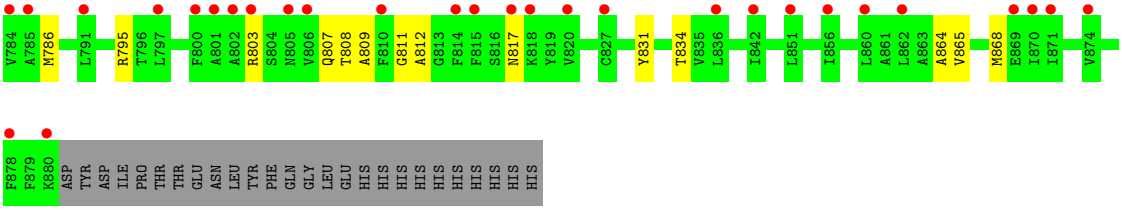




• Molecule 1: Calcium-transporting ATPase

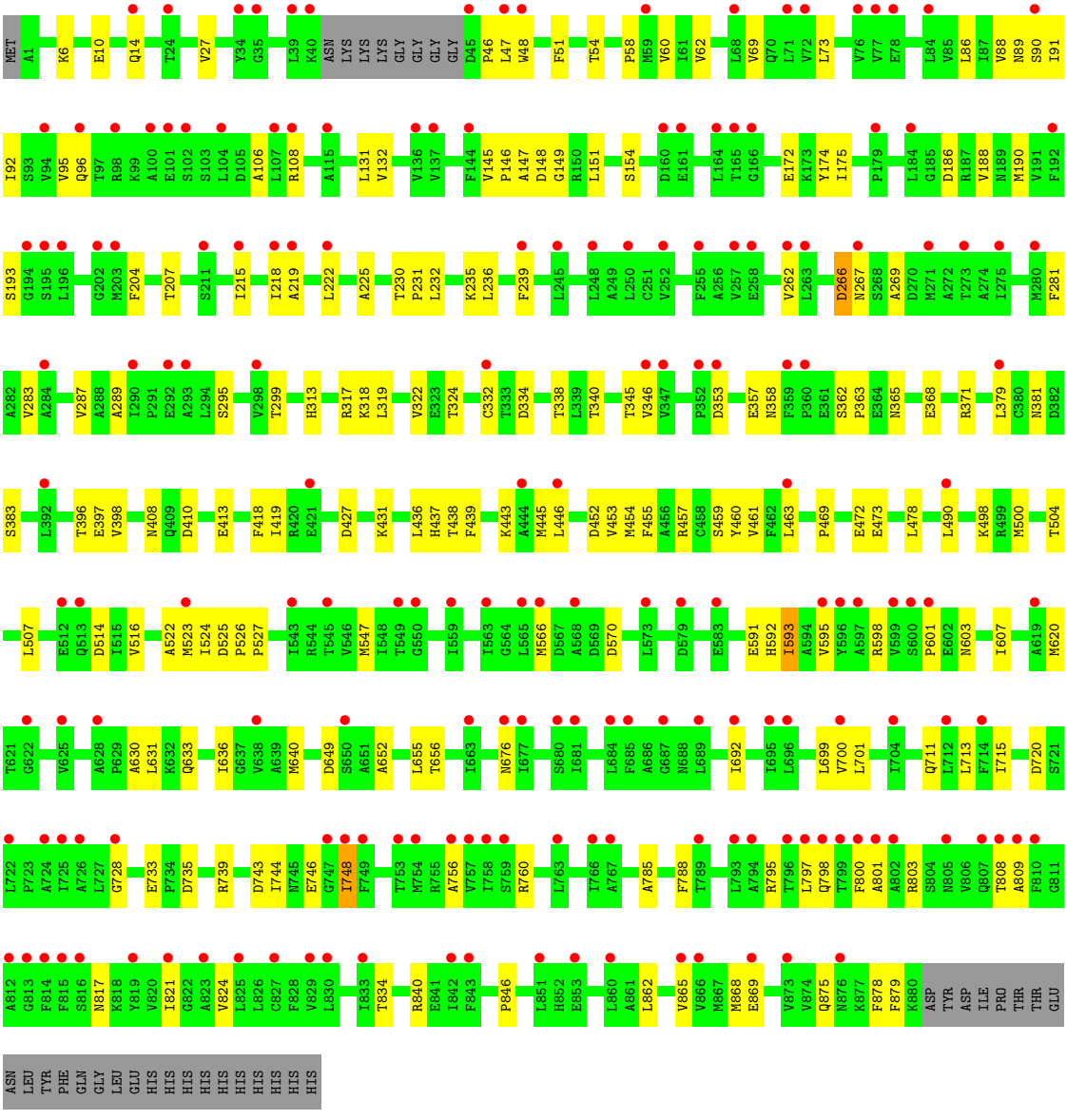
Chain E:





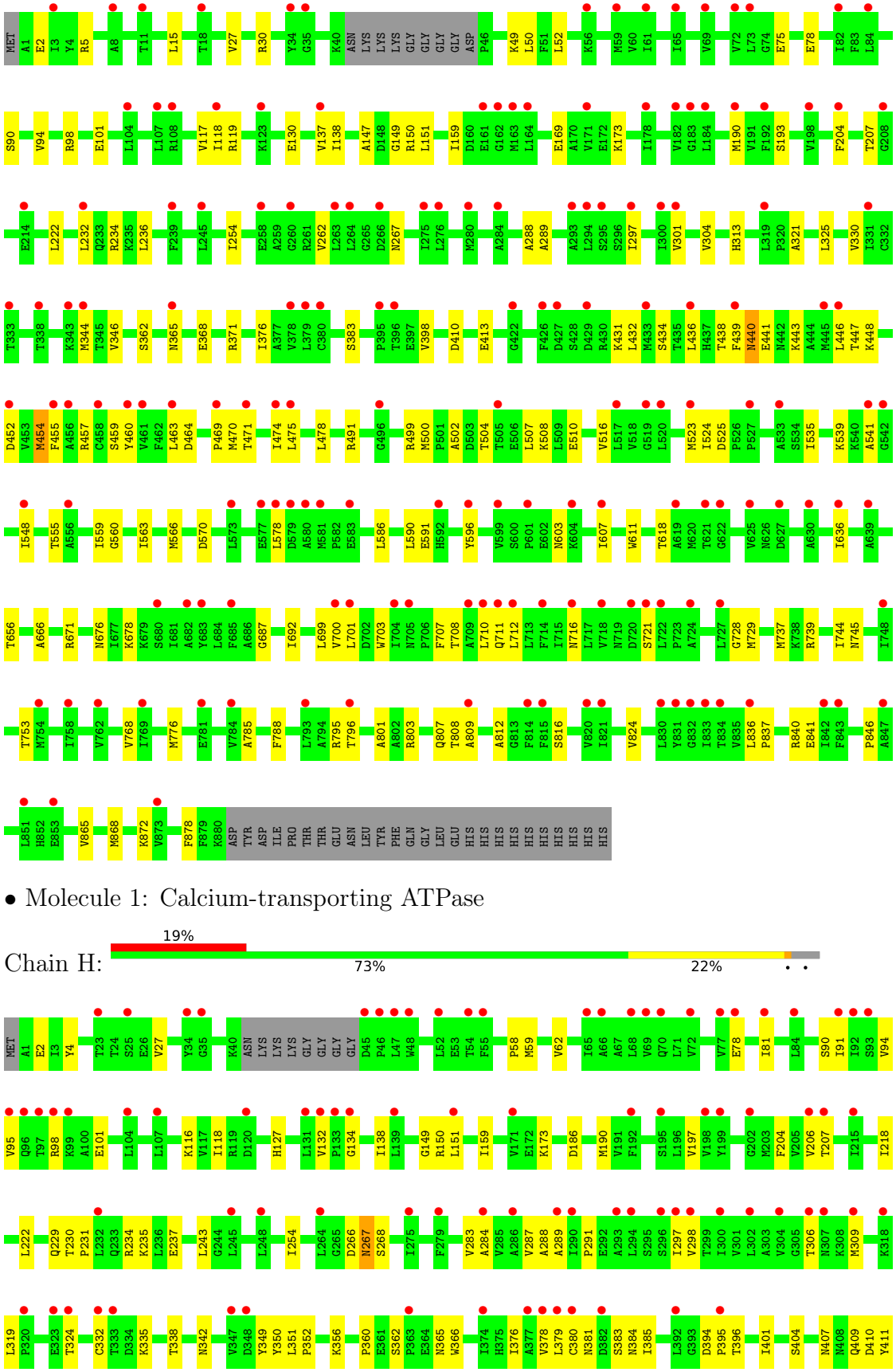
• Molecule 1: Calcium-transporting ATPase

Chain F:

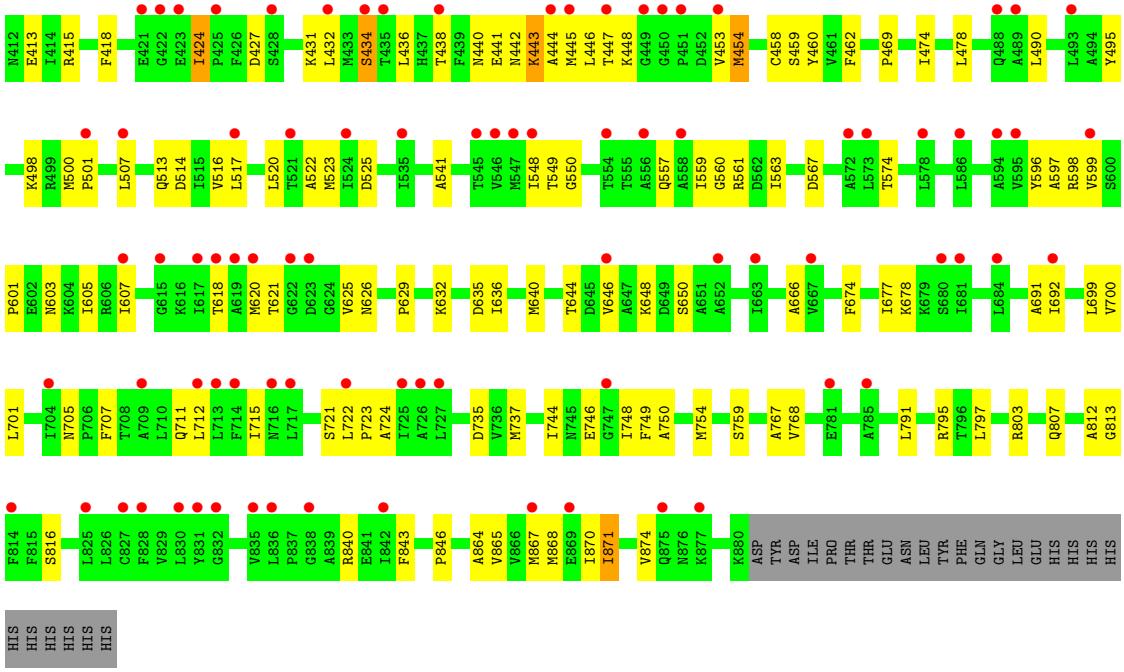


• Molecule 1: Calcium-transporting ATPase

Chain G:



• Molecule 1: Calcium-transporting ATPase


N412 E413 I414 R415 F418 E421 G422 E423 I424 P425 F426 D427 S428 K431 L432 M433 S434 T435 L436 H437 T438 F439 N440 E441 N442 K443 A444 M445 L446 T447 K448 G449 G450 P451 D452 V453 M454 C458 S459 Y460 V461 F462 P469 I474 L478 Q488 A489 L490 L493 A494 Y495
K498 R499 M500 P501 L507 Q513 D514 I515 V516 L517 L520 T521 A522 M523 I524 D525 I535 A541 T545 V546 M547 I548 T549 G550 T554 T555 A556 Q557 A558 I559 G560 R561 D562 I563 D567 A572 L573 T574 L578 L588 A594 V595 Y596 A597 R598 V599 S600
P601 E602 N603 K604 I605 R606 I607 G615 K616 I617 T618 A619 M620 T621 G622 D623 G624 V625 N626 P629 K632 D635 I636 M640 T644 D645 V646 A647 K648 D649 S650 A651 A652 I663 A666 V667 F674 I677 K678 K679 S680 I681 L684 A691 I692 L699 V700
L701 I704 N705 P706 F707 T708 A709 L710 Q711 L712 L713 F714 I715 N716 L717 S721 L722 P723 A724 I725 A726 L727 D735 V736 M737 I744 N745 E746 G747 I748 F749 A750 M754 S759 A767 V768 E781 A785 L791 R795 T796 L797 R803 Q807 A812 G813
F814 F815 S816 L825 L826 C827 F828 V829 L830 Y831 G832 V835 L836 P837 G838 A839 R840 E841 I842 F843 P846 A864 V865 V866 M867 M868 E869 I870 I871 V874 Q875 N876 K877 K880 ASP TYR ASP ILE PRO THR THR GLU ASN LEU TYR PHE GLN GLY LEU GLU HIS HIS HIS
HIS HIS HIS HIS HIS HIS

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	74.06Å 188.50Å 350.01Å 90.00° 91.94° 90.00°	Depositor
Resolution (Å)	49.58 – 3.00 49.58 – 3.00	Depositor EDS
% Data completeness (in resolution range)	96.1 (49.58-3.00) 96.0 (49.58-3.00)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.35 (at 3.01Å)	Xtriage
Refinement program	PHENIX 1.15.2_3472	Depositor
R, R_{free}	0.255 , 0.285 0.255 , 0.287	Depositor DCC
R_{free} test set	2000 reflections (1.04%)	wwPDB-VP
Wilson B-factor (Å^2)	67.1	Xtriage
Anisotropy	0.274	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.31 , 96.1	EDS
L-test for twinning[2]	$< \|L\| > = 0.47$, $< L^2 > = 0.30$	Xtriage
Estimated twinning fraction	0.066 for h,-k,-l	Xtriage
F_o,F_c correlation	0.90	EDS
Total number of atoms	54572	wwPDB-VP
Average B, all atoms (Å^2)	128.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 28.68 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 1.7655e-03. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: MG, CE1, PCW, BEF

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	0/6832	0.67	3/9248 (0.0%)
1	B	0.38	0/6832	0.66	0/9248
1	C	0.39	1/6832 (0.0%)	0.65	3/9248 (0.0%)
1	D	0.36	1/6832 (0.0%)	0.64	0/9248
1	E	0.25	1/6773 (0.0%)	0.52	0/9165
1	F	0.25	1/6773 (0.0%)	0.51	0/9165
1	G	0.24	0/6765	0.51	0/9153
1	H	0.28	2/6773 (0.0%)	0.52	1/9165 (0.0%)
All	All	0.32	6/54412 (0.0%)	0.59	7/73640 (0.0%)

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	424	ILE	CA-C	14.24	1.65	1.53
1	H	132	VAL	C-O	7.81	1.29	1.24
1	H	424	ILE	CA-C	-7.76	1.47	1.52
1	F	132	VAL	C-O	5.65	1.28	1.24
1	E	132	VAL	C-O	5.64	1.28	1.24
1	D	132	VAL	C-O	-5.36	1.20	1.24

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	424	ILE	O-C-N	10.24	130.65	121.12
1	A	594	ALA	N-CA-C	-7.64	105.91	114.62
1	A	499	ARG	CA-C-N	-6.05	112.28	123.65
1	A	499	ARG	C-N-CA	-6.05	112.28	123.65
1	C	424	ILE	CA-C-N	-5.62	114.18	119.85
1	C	424	ILE	C-N-CA	-5.62	114.18	119.85
1	H	132	VAL	O-C-N	-5.09	118.48	121.69

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	6732	0	6905	99	0
1	B	6732	0	6905	128	0
1	C	6732	0	6905	145	0
1	D	6732	0	6905	142	0
1	E	6675	0	6856	137	0
1	F	6675	0	6856	120	0
1	G	6667	0	6853	104	0
1	H	6675	0	6856	142	0
2	A	4	0	0	0	0
2	B	4	0	0	0	0
2	C	4	0	0	0	0
2	D	4	0	0	0	0
2	E	4	0	0	0	0
2	F	4	0	0	0	0
2	G	4	0	0	0	0
2	H	4	0	0	1	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
3	E	1	0	0	0	0
3	F	1	0	0	0	0
3	G	1	0	0	0	0
3	H	1	0	0	0	0
4	A	108	0	168	3	0
4	B	378	0	588	19	0
4	C	270	0	420	21	0
4	D	54	0	81	4	0
5	C	15	0	27	0	0
5	D	71	0	136	10	0
6	A	2	0	0	0	0
6	B	2	0	0	0	0
6	C	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	D	2	0	0	1	0
6	E	2	0	0	0	0
6	F	2	0	0	0	0
6	G	2	0	0	0	0
6	H	2	0	0	0	0
All	All	54572	0	56461	1025	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 9.

All (1025) 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:E:46:PRO:HG2	1:E:98:ARG:HH12	1.34	0.92
1:A:875:GLN:HB2	1:A:885:PRO:HB3	1.57	0.87
1:A:865:VAL:HA	1:A:868:MET:HE3	1.60	0.82
1:C:241:LYS:HE2	4:C:1004:PCW:H41	1.61	0.81
1:C:366:TRP:HE1	1:C:371:ARG:HB3	1.44	0.81
1:C:325:LEU:HG	1:C:636:ILE:HD13	1.63	0.81
1:H:149:GLY:HA2	1:H:207:THR:HG23	1.61	0.81
1:G:443:LYS:HG3	1:G:502:ALA:HA	1.64	0.80
1:G:149:GLY:HA2	1:G:207:THR:HG23	1.64	0.80
1:B:884:ILE:HD11	1:C:47:LEU:HB2	1.63	0.80
1:G:50:LEU:HD22	1:G:94:VAL:HG13	1.64	0.80
1:F:797:LEU:HD21	1:F:862:LEU:HA	1.64	0.80
1:F:149:GLY:HA2	1:F:207:THR:HG23	1.64	0.79
1:H:759:SER:HB3	1:H:871:ILE:HD13	1.63	0.79
1:F:368:GLU:OE2	1:F:371:ARG:NH1	2.14	0.78
1:F:410:ASP:HB3	1:F:413:GLU:HG3	1.66	0.78
1:E:743:ASP:HB3	1:E:746:GLU:HB2	1.64	0.78
1:F:108:ARG:HH22	1:F:219:ALA:HB2	1.48	0.78
1:B:875:GLN:HB3	1:B:885:PRO:HB3	1.66	0.77
1:A:755:ARG:HD3	1:A:885:PRO:HD3	1.63	0.77
1:C:424:ILE:HG13	1:C:507:LEU:HD11	1.66	0.77
1:E:382:ASP:OD1	1:E:420:ARG:NH1	2.16	0.77
1:A:47:LEU:HD23	1:A:49:LYS:H	1.51	0.76
1:E:54:THR:HG21	1:E:90:SER:HA	1.67	0.76
1:B:266:ASP:O	1:B:268:SER:N	2.18	0.75
1:D:851:LEU:HG	4:D:1003:PCW:H2	1.68	0.74
1:B:560:GLY:HA2	1:B:563:ILE:HG12	1.69	0.74
1:C:351:LEU:HD11	1:C:370:GLU:HG3	1.70	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:547:MET:HB3	1:F:595:VAL:HG12	1.70	0.73
1:F:266:ASP:OD1	1:F:266:ASP:N	2.21	0.73
1:E:330:VAL:HB	1:E:618:THR:HG22	1.70	0.73
1:D:6:LYS:NZ	1:D:14:GLN:OE1	2.22	0.73
1:H:803:ARG:NH1	1:H:813:GLY:O	2.22	0.73
1:A:581:MET:HE3	1:A:585:GLU:HG2	1.71	0.72
1:G:471:THR:HA	1:G:475:LEU:HB3	1.70	0.72
1:F:733:GLU:OE2	1:F:739:ARG:NH1	2.21	0.72
1:E:149:GLY:HA2	1:E:207:THR:HG22	1.69	0.72
1:H:335:LYS:HZ3	1:H:559:ILE:HD12	1.54	0.72
1:H:235:LYS:HB3	1:H:748:ILE:HG23	1.71	0.71
1:F:438:THR:HG22	1:F:443:LYS:HG3	1.71	0.71
1:H:396:THR:HA	1:H:523:MET:HE1	1.72	0.71
1:D:107:LEU:HD11	1:D:222:LEU:HD12	1.73	0.71
1:C:410:ASP:HB3	1:C:413:GLU:HG3	1.73	0.70
1:B:430:ARG:HD3	1:B:457:ARG:HH12	1.57	0.70
1:C:755:ARG:HD3	1:C:885:PRO:HG2	1.74	0.70
1:E:865:VAL:HA	1:E:868:MET:HE2	1.72	0.70
1:B:234:ARG:NH2	1:B:745:ASN:OD1	2.24	0.70
1:D:865:VAL:HA	1:D:868:MET:HE3	1.74	0.70
1:F:6:LYS:NZ	1:F:14:GLN:OE1	2.25	0.70
1:H:230:THR:O	1:H:234:ARG:HG3	1.92	0.70
1:B:581:MET:HE3	1:B:585:GLU:HG2	1.74	0.69
1:C:47:LEU:HD21	1:C:98:ARG:HD2	1.74	0.69
1:E:557:GLN:HG2	1:E:566:MET:HE1	1.74	0.69
1:H:711:GLN:NE2	1:H:843:PHE:O	2.24	0.69
1:D:151:LEU:HD23	1:D:204:PHE:HB3	1.74	0.69
1:H:490:LEU:HB3	1:H:522:ALA:HB1	1.73	0.69
1:G:865:VAL:HA	1:G:868:MET:HE3	1.75	0.69
1:D:70:GLN:NE2	1:D:75:GLU:OE2	2.23	0.69
1:D:360:PRO:HB2	1:D:366:TRP:CD1	2.27	0.69
1:B:867:MET:HE2	4:B:1008:PCW:H131	1.74	0.68
1:B:317:ARG:HH22	1:B:649:ASP:HA	1.58	0.68
1:A:871:ILE:HG23	1:A:885:PRO:HB2	1.75	0.68
1:E:366:TRP:HZ3	1:E:374:ILE:HG13	1.59	0.68
1:C:880:LYS:H	1:C:885:PRO:HB3	1.58	0.68
1:D:711:GLN:O	1:D:715:ILE:HG13	1.94	0.68
1:H:498:LYS:HD3	1:H:514:ASP:O	1.94	0.68
1:B:587:ASP:O	1:B:614:LYS:NZ	2.28	0.67
1:F:566:MET:HE2	1:F:570:ASP:HB3	1.76	0.67
1:H:91:ILE:HA	1:H:94:VAL:HG22	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:410:ASP:HB2	1:H:413:GLU:HG3	1.76	0.67
1:D:335:LYS:HD2	1:D:559:ILE:HD12	1.76	0.67
1:E:360:PRO:HB2	1:E:366:TRP:HE1	1.58	0.66
1:H:376:ILE:HA	1:H:446:LEU:HD23	1.78	0.66
1:B:151:LEU:HD23	1:B:204:PHE:HB3	1.77	0.66
1:D:557:GLN:HE21	1:D:572:ALA:H	1.43	0.66
1:C:459:SER:HB3	1:C:514:ASP:HA	1.77	0.66
1:G:803:ARG:HH22	1:G:816:SER:HG	1.42	0.66
1:F:427:ASP:HB2	1:F:431:LYS:HB2	1.76	0.66
1:A:163:MET:HE1	1:A:215:ILE:HB	1.77	0.66
1:A:151:LEU:HD23	1:A:204:PHE:HB3	1.78	0.66
1:B:704:ILE:HG22	1:B:776:MET:HE1	1.78	0.66
1:C:241:LYS:HD3	4:C:1008:PCW:H61	1.78	0.66
1:E:604:LYS:NZ	1:E:627:ASP:OD1	2.29	0.65
1:D:490:LEU:HB3	1:D:522:ALA:HB1	1.76	0.65
1:C:58:PRO:O	1:C:62:VAL:HG23	1.95	0.65
1:D:879:PHE:O	1:D:885:PRO:HG2	1.96	0.65
1:H:384:ASN:OD1	1:H:415:ARG:NH1	2.28	0.65
1:D:788:PHE:HE2	1:D:834:THR:HG21	1.60	0.65
1:E:88:VAL:O	1:E:92:ILE:HG13	1.97	0.65
1:G:700:VAL:HG23	1:G:701:LEU:HD12	1.79	0.65
1:C:70:GLN:HG3	1:C:75:GLU:HB2	1.80	0.64
1:E:95:VAL:HG11	1:F:878:PHE:HB3	1.79	0.64
1:C:344:MET:HE2	1:C:491:ARG:HD2	1.78	0.64
1:C:879:PHE:HB3	1:C:885:PRO:HB3	1.79	0.64
1:H:438:THR:HA	1:H:443:LYS:HA	1.78	0.64
1:B:149:GLY:HA2	1:B:207:THR:HG23	1.80	0.64
1:B:288:ALA:HB2	1:B:712:LEU:HD13	1.78	0.64
1:C:848:SER:HA	4:C:1003:PCW:H62	1.80	0.64
1:H:229:GLN:HG2	1:H:234:ARG:HG2	1.80	0.64
1:C:810:PHE:HE1	4:C:1006:PCW:H171	1.63	0.64
1:C:368:GLU:O	1:C:371:ARG:HG2	1.97	0.64
1:B:875:GLN:HB3	1:B:885:PRO:CB	2.28	0.64
1:E:218:ILE:HA	1:E:221:LEU:HD12	1.79	0.64
1:C:711:GLN:O	1:C:715:ILE:HG13	1.98	0.64
1:C:755:ARG:HH11	1:C:885:PRO:CG	2.10	0.64
1:D:746:GLU:HG2	1:D:750:ALA:HB3	1.80	0.64
4:C:1005:PCW:H172	1:D:253:LEU:HD21	1.79	0.63
1:D:581:MET:HE3	1:D:585:GLU:HG2	1.80	0.63
1:E:457:ARG:HD3	1:E:512:GLU:O	1.99	0.63
1:H:59:MET:HE1	1:H:291:PRO:HD2	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:360:PRO:HB2	1:C:366:TRP:HE3	1.63	0.63
1:B:755:ARG:NE	1:B:884:ILE:HG22	2.14	0.63
1:H:549:THR:OG1	2:H:1001:BEF:F2	2.04	0.63
1:C:378:VAL:HG21	1:C:414:ILE:HD12	1.80	0.63
1:D:84:LEU:HD22	5:D:1005:CE1:H81	1.81	0.63
1:D:788:PHE:CE2	1:D:834:THR:HG21	2.33	0.63
1:F:219:ALA:HA	1:F:222:LEU:HD12	1.81	0.62
1:F:797:LEU:HG	1:F:865:VAL:HG21	1.80	0.62
1:B:460:TYR:HB2	1:B:516:VAL:HG22	1.79	0.62
1:B:773:TYR:HE1	4:B:1007:PCW:H42	1.63	0.62
1:D:368:GLU:OE2	1:D:371:ARG:NH1	2.32	0.62
1:E:548:ILE:HG22	1:E:599:VAL:HG21	1.81	0.62
1:G:169:GLU:OE1	1:G:491:ARG:NH2	2.32	0.62
1:D:352:PRO:HB2	1:D:463:LEU:HD12	1.81	0.62
1:E:581:MET:O	1:E:606:ARG:NH2	2.30	0.62
1:E:433:MET:SD	1:E:448:LYS:NZ	2.66	0.62
1:G:711:GLN:N	1:G:711:GLN:OE1	2.32	0.62
1:F:106:ALA:HB1	1:F:222:LEU:HD13	1.81	0.61
1:H:459:SER:HA	1:H:469:PRO:HG3	1.80	0.61
1:B:566:MET:HE2	1:B:570:ASP:HB3	1.81	0.61
1:C:118:ILE:HG13	1:C:138:ILE:HD11	1.82	0.61
1:C:109:GLU:O	1:C:110:MET:HG2	2.01	0.61
1:H:432:LEU:HD11	1:H:453:VAL:HG13	1.82	0.61
4:C:1008:PCW:H262	1:D:870:ILE:HG21	1.82	0.61
1:A:410:ASP:HB3	1:A:413:GLU:HG3	1.82	0.61
1:E:410:ASP:HB3	1:E:413:GLU:HG2	1.82	0.61
4:C:1008:PCW:H322	4:C:1008:PCW:H121	1.81	0.61
1:D:91:ILE:O	1:D:95:VAL:HG23	2.00	0.61
1:D:379:LEU:HD13	1:D:439:PHE:HZ	1.66	0.61
1:B:89:ASN:OD1	1:B:295:SER:OG	2.18	0.60
1:C:158:LYS:HE2	1:C:172:GLU:HG2	1.83	0.60
1:H:284:ALA:HB2	1:H:705:ASN:HD21	1.66	0.60
1:H:380:CYS:O	1:H:448:LYS:NZ	2.34	0.60
1:H:711:GLN:O	1:H:715:ILE:HG13	2.01	0.60
1:C:875:GLN:HA	1:C:879:PHE:HD2	1.66	0.60
1:H:222:LEU:O	1:H:632:LYS:NZ	2.34	0.60
1:H:383:SER:O	1:H:415:ARG:NH2	2.34	0.60
1:H:459:SER:HB2	1:H:514:ASP:HA	1.83	0.60
1:E:346:VAL:HA	1:E:523:MET:HA	1.83	0.60
1:H:222:LEU:HD11	1:H:629:PRO:HG3	1.83	0.60
1:E:83:PHE:HD1	1:E:86:LEU:HD12	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:460:TYR:CE2	1:E:516:VAL:HG22	2.37	0.60
1:A:560:GLY:HA2	1:A:563:ILE:HG12	1.81	0.60
1:A:806:VAL:HG12	1:A:876:ASN:HD21	1.67	0.60
1:B:58:PRO:O	1:B:62:VAL:HG23	2.01	0.60
1:B:60:VAL:HG13	1:B:86:LEU:HD22	1.84	0.60
1:E:460:TYR:HA	1:E:469:PRO:HD3	1.82	0.60
1:E:537:GLU:HB3	1:E:664:VAL:HG11	1.84	0.60
1:G:460:TYR:HB2	1:G:516:VAL:HG22	1.84	0.60
1:C:349:TYR:HE1	1:C:351:LEU:HB3	1.67	0.60
1:G:118:ILE:HG13	1:G:138:ILE:HD11	1.83	0.60
1:H:118:ILE:HG13	1:H:138:ILE:HD11	1.83	0.60
1:B:736:VAL:HG23	1:B:739:ARG:NH2	2.17	0.60
1:F:743:ASP:HB3	1:F:746:GLU:HB2	1.83	0.59
1:D:755:ARG:NH1	1:D:875:GLN:HB3	2.17	0.59
1:B:289:ALA:HB2	1:B:692:ILE:HD11	1.82	0.59
1:D:879:PHE:HB3	1:D:885:PRO:HB2	1.83	0.59
1:F:788:PHE:HE2	1:F:834:THR:HG21	1.67	0.59
1:D:560:GLY:HA2	1:D:563:ILE:HG12	1.84	0.59
1:E:593:ILE:HD11	1:E:596:TYR:CZ	2.36	0.59
1:H:427:ASP:HB3	1:H:431:LYS:HG2	1.84	0.59
1:B:878:PHE:HB3	1:C:95:VAL:HG11	1.84	0.59
1:C:720:ASP:OD2	1:C:795:ARG:HD3	2.03	0.59
1:E:58:PRO:O	1:E:62:VAL:HG23	2.03	0.59
1:F:262:VAL:HG23	1:F:269:ALA:HB3	1.84	0.59
1:G:151:LEU:HD23	1:G:204:PHE:HB3	1.85	0.59
1:C:163:MET:HE1	1:C:215:ILE:HB	1.84	0.59
1:C:460:TYR:HD2	1:C:466:GLU:HB3	1.66	0.58
1:B:626:ASN:OD1	1:B:626:ASN:N	2.34	0.58
1:B:755:ARG:CZ	1:B:884:ILE:HG22	2.33	0.58
1:B:840:ARG:NH2	4:B:1003:PCW:O31	2.36	0.58
1:C:438:THR:HB	1:C:443:LYS:HG2	1.85	0.58
1:B:309:MET:HE2	1:B:309:MET:HA	1.83	0.58
1:C:880:LYS:HB3	1:C:885:PRO:HG3	1.85	0.58
1:D:886:THR:HA	5:D:1006:CE1:H51	1.84	0.58
1:C:151:LEU:HD23	1:C:204:PHE:HB3	1.86	0.58
1:F:340:THR:HA	1:F:527:PRO:HA	1.85	0.58
1:B:438:THR:HB	1:B:443:LYS:HD3	1.85	0.58
1:D:85:VAL:HG12	5:D:1005:CE1:H112	1.86	0.58
1:G:878:PHE:HB3	1:H:95:VAL:HG12	1.86	0.58
1:A:875:GLN:HB2	1:A:885:PRO:CB	2.32	0.58
1:C:755:ARG:HH11	1:C:885:PRO:HG2	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:163:MET:HE1	1:D:215:ILE:HB	1.84	0.58
1:H:459:SER:O	1:H:469:PRO:HD3	2.04	0.58
1:H:360:PRO:O	1:H:407:ASN:ND2	2.34	0.58
1:H:289:ALA:HB2	1:H:692:ILE:HD11	1.86	0.57
1:C:879:PHE:HB3	1:C:885:PRO:CB	2.33	0.57
1:A:376:ILE:HG12	1:A:446:LEU:HG	1.86	0.57
1:A:848:SER:HA	4:A:1003:PCW:H61	1.86	0.57
1:B:884:ILE:HD11	1:C:47:LEU:CB	2.34	0.57
1:H:222:LEU:CD1	1:H:629:PRO:HG3	2.33	0.57
1:D:58:PRO:O	1:D:62:VAL:HG23	2.04	0.57
1:D:700:VAL:HG23	1:D:701:LEU:HD12	1.86	0.57
1:F:379:LEU:HD13	1:F:437:HIS:NE2	2.19	0.57
1:G:362:SER:HB3	1:G:365:ASN:HB2	1.86	0.57
1:C:53:GLU:HG2	1:C:56:LYS:HE3	1.87	0.57
1:D:708:THR:HG22	1:D:710:LEU:H	1.68	0.57
1:C:427:ASP:HB2	1:C:431:LYS:HB2	1.86	0.57
1:F:108:ARG:HH21	1:F:215:ILE:HG12	1.69	0.57
1:G:234:ARG:NH2	1:G:745:ASN:OD1	2.36	0.57
1:G:368:GLU:OE2	1:G:371:ARG:NH1	2.38	0.57
1:A:708:THR:HG22	1:A:710:LEU:H	1.69	0.57
1:E:186:ASP:OD1	1:E:598:ARG:NH2	2.37	0.57
1:F:875:GLN:HA	1:F:879:PHE:HD2	1.70	0.57
1:H:306:THR:HG21	1:H:319:LEU:HD12	1.87	0.57
1:E:366:TRP:CZ3	1:E:374:ILE:HG13	2.40	0.56
1:F:436:LEU:HD21	1:F:443:LYS:HE2	1.87	0.56
1:G:678:LYS:NZ	1:G:753:THR:OG1	2.38	0.56
1:B:108:ARG:HH21	1:B:215:ILE:HD11	1.69	0.56
1:B:470:MET:HE1	1:B:478:LEU:HD12	1.88	0.56
1:G:807:GLN:HB3	1:G:812:ALA:HB2	1.86	0.56
1:A:330:VAL:HB	1:A:618:THR:HG22	1.87	0.56
1:E:498:LYS:HE3	1:E:500:MET:SD	2.44	0.56
1:E:560:GLY:HA2	1:E:563:ILE:HG12	1.86	0.56
1:F:151:LEU:HD23	1:F:204:PHE:HB3	1.87	0.56
1:H:797:LEU:HB2	1:H:865:VAL:HG21	1.87	0.56
1:F:443:LYS:NZ	1:F:504:THR:O	2.32	0.56
1:F:445:MET:SD	1:F:507:LEU:HD22	2.45	0.56
1:D:798:GLN:O	1:D:798:GLN:HG2	2.05	0.56
1:G:611:TRP:HB3	1:G:618:THR:HG21	1.86	0.56
1:G:566:MET:HE2	1:G:570:ASP:HB3	1.86	0.56
1:H:298:VAL:HG13	1:H:677:ILE:HD13	1.87	0.56
1:A:461:VAL:HG23	1:A:469:PRO:HB3	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:466:GLU:OE1	1:D:499:ARG:NE	2.34	0.56
1:B:720:ASP:OD2	1:B:795:ARG:NE	2.37	0.56
1:H:218:ILE:O	1:H:222:LEU:HD13	2.06	0.56
1:H:438:THR:OG1	1:H:443:LYS:HG2	2.06	0.56
1:C:366:TRP:NE1	1:C:371:ARG:HB3	2.17	0.56
1:E:831:TYR:O	1:E:834:THR:OG1	2.20	0.56
1:F:381:ASN:HB2	1:F:397:GLU:HB3	1.87	0.56
1:F:317:ARG:HH22	1:F:649:ASP:HA	1.71	0.55
1:A:346:VAL:HG22	1:A:523:MET:HE2	1.87	0.55
1:A:362:SER:HB3	1:A:365:ASN:HB2	1.88	0.55
1:C:288:ALA:HB2	1:C:712:LEU:HD13	1.88	0.55
1:D:59:MET:HE3	1:D:290:ILE:HG23	1.88	0.55
1:D:99:LYS:NZ	1:D:318:LYS:HB3	2.21	0.55
1:D:379:LEU:HD13	1:D:439:PHE:CZ	2.42	0.55
1:H:94:VAL:HB	1:H:98:ARG:HH11	1.71	0.55
4:B:1007:PCW:H241	4:B:1008:PCW:H421	1.89	0.55
1:F:295:SER:O	1:F:299:THR:OG1	2.25	0.55
1:B:832:GLY:HA3	4:B:1003:PCW:H162	1.88	0.55
1:E:360:PRO:HB2	1:E:366:TRP:NE1	2.21	0.55
1:G:840:ARG:HG3	1:G:841:GLU:H	1.71	0.55
1:H:871:ILE:HA	1:H:874:VAL:HG22	1.87	0.55
1:D:53:GLU:HG2	1:D:56:LYS:HE3	1.88	0.55
1:C:744:ILE:HD12	1:C:744:ILE:H	1.70	0.55
1:E:287:VAL:HG11	1:E:713:LEU:HD22	1.88	0.55
1:B:878:PHE:CZ	4:B:1009:PCW:H121	2.42	0.55
1:C:344:MET:HE3	1:C:524:ILE:HA	1.89	0.55
1:C:366:TRP:HD1	1:C:367:SER:O	1.89	0.55
1:H:309:MET:HE2	1:H:666:ALA:HB2	1.89	0.55
1:A:174:TYR:HD2	1:A:188:VAL:HG11	1.71	0.55
1:D:182:VAL:HG12	1:D:186:ASP:HB2	1.88	0.55
1:D:254:ILE:HG12	1:D:699:LEU:HD22	1.89	0.55
1:G:383:SER:HB2	1:G:398:VAL:HG22	1.89	0.55
1:C:436:LEU:HD13	1:C:507:LEU:HD12	1.88	0.55
1:C:535:ILE:HD12	1:C:545:THR:HG21	1.89	0.55
1:F:490:LEU:HB3	1:F:522:ALA:HB1	1.89	0.55
1:A:557:GLN:O	1:A:561:ARG:HB2	2.07	0.54
1:B:884:ILE:CD1	1:C:47:LEU:HB2	2.37	0.54
1:E:730:GLU:OE2	1:E:731:LYS:NZ	2.40	0.54
1:A:201:ARG:HH21	1:A:203:MET:HE2	1.72	0.54
1:C:453:VAL:HB	1:C:457:ARG:HH22	1.70	0.54
1:H:574:THR:HA	1:H:597:ALA:O	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:362:SER:HB3	1:B:365:ASN:HB2	1.90	0.54
1:C:149:GLY:HA2	1:C:207:THR:HG23	1.87	0.54
1:C:886:THR:HG22	1:C:887:THR:HG22	1.88	0.54
1:E:24:THR:O	1:E:27:VAL:HG12	2.08	0.54
1:G:801:ALA:O	1:G:872:LYS:NZ	2.40	0.54
1:C:46:PRO:HB2	1:C:48:TRP:CD1	2.43	0.54
1:C:368:GLU:HG3	1:C:371:ARG:HD3	1.90	0.54
1:E:368:GLU:OE2	1:E:371:ARG:NH2	2.40	0.54
1:A:325:LEU:HG	1:A:636:ILE:HG12	1.90	0.54
1:D:118:ILE:HG13	1:D:138:ILE:HD11	1.90	0.54
1:E:346:VAL:HG22	1:E:523:MET:HB3	1.89	0.54
1:A:325:LEU:HD13	1:A:666:ALA:HB1	1.90	0.54
1:C:883:ASP:O	1:C:885:PRO:HD3	2.07	0.54
1:D:744:ILE:HD12	1:D:744:ILE:H	1.72	0.54
1:D:755:ARG:HB2	5:D:1006:CE1:H72	1.90	0.54
1:D:772:GLN:HG2	1:D:783:SER:HB2	1.89	0.54
4:B:1009:PCW:H261	1:C:296:SER:OG	2.08	0.54
1:B:163:MET:HE1	1:B:215:ILE:HD13	1.89	0.54
1:B:621:THR:HG21	1:B:663:ILE:HD13	1.90	0.54
1:A:291:PRO:HG3	1:A:685:PHE:CE2	2.42	0.53
1:G:591:GLU:OE1	1:H:127:HIS:NE2	2.31	0.53
1:C:460:TYR:CD2	1:C:466:GLU:HB3	2.43	0.53
1:D:500:MET:HG3	1:D:501:PRO:HD2	1.89	0.53
1:G:78:GLU:HB3	1:G:710:LEU:HD13	1.90	0.53
1:H:707:PHE:HZ	1:H:768:VAL:HG11	1.72	0.53
1:A:587:ASP:O	1:A:614:LYS:NZ	2.40	0.53
1:G:463:LEU:HG	1:G:464:ASP:H	1.73	0.53
1:D:378:VAL:O	1:D:381:ASN:ND2	2.41	0.53
1:G:147:ALA:HA	1:G:193:SER:HB2	1.91	0.53
1:A:566:MET:HE2	1:A:570:ASP:HB3	1.91	0.53
1:A:700:VAL:HG23	1:A:701:LEU:HD12	1.91	0.53
1:B:831:TYR:O	1:B:834:THR:OG1	2.26	0.53
1:C:109:GLU:C	1:C:111:SER:H	2.16	0.53
1:E:85:VAL:HG11	1:E:292:GLU:HB3	1.91	0.53
1:F:711:GLN:O	1:F:715:ILE:HG13	2.07	0.53
1:H:436:LEU:HD22	1:H:507:LEU:HD21	1.91	0.53
1:F:289:ALA:HB2	1:F:692:ILE:HD11	1.90	0.53
4:B:1008:PCW:H321	4:B:1008:PCW:O11	2.09	0.53
1:E:557:GLN:HB3	1:E:561:ARG:HH11	1.73	0.53
1:F:427:ASP:HB2	1:F:431:LYS:CB	2.38	0.53
1:G:288:ALA:HB2	1:G:712:LEU:HD13	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:430:ARG:CD	1:B:457:ARG:HH12	2.20	0.53
1:D:344:MET:HE2	1:D:491:ARG:HD2	1.90	0.53
1:E:148:ASP:OD1	1:E:193:SER:N	2.37	0.53
1:E:470:MET:H	1:E:474:ILE:HD12	1.73	0.53
1:F:809:ALA:HB2	1:F:869:GLU:HB3	1.91	0.53
1:G:459:SER:O	1:G:469:PRO:HD3	2.09	0.53
1:B:467:GLU:OE2	1:B:499:ARG:NE	2.35	0.52
1:E:381:ASN:HB2	1:E:397:GLU:HB3	1.90	0.52
1:C:755:ARG:HH11	1:C:885:PRO:HG3	1.74	0.52
1:E:485:PHE:HB3	1:E:490:LEU:HB2	1.91	0.52
1:F:345:THR:HB	1:F:526:PRO:HG3	1.91	0.52
1:H:870:ILE:O	1:H:874:VAL:HG13	2.09	0.52
1:A:90:SER:O	1:A:94:VAL:HG23	2.09	0.52
1:B:430:ARG:HD3	1:B:457:ARG:HH22	1.75	0.52
1:C:754:MET:O	1:C:758:ILE:HG13	2.09	0.52
1:E:490:LEU:HD13	1:E:522:ALA:HB1	1.91	0.52
1:F:459:SER:HB2	1:F:514:ASP:HA	1.91	0.52
1:H:338:THR:HG23	1:H:640:MET:HE2	1.91	0.52
1:A:528:ARG:HB2	1:A:531:VAL:HG23	1.91	0.52
1:C:797:LEU:HB2	1:C:865:VAL:HG21	1.92	0.52
1:E:603:ASN:O	1:E:607:ILE:HG12	2.09	0.52
1:H:288:ALA:HB2	1:H:712:LEU:HD13	1.92	0.52
1:B:636:ILE:HD12	1:B:652:ALA:HB3	1.92	0.52
1:B:697:PHE:CE1	1:B:701:LEU:HD22	2.44	0.52
1:E:151:LEU:HD23	1:E:204:PHE:HB3	1.91	0.52
1:E:803:ARG:HD2	1:E:817:ASN:OD1	2.09	0.52
1:E:446:LEU:HA	1:E:497:TYR:HA	1.91	0.52
1:E:803:ARG:HH21	1:E:809:ALA:HA	1.75	0.52
1:D:75:GLU:HB3	1:D:78:GLU:CG	2.40	0.52
1:D:676:ASN:HB3	1:D:728:GLY:HA2	1.91	0.52
1:C:438:THR:O	1:C:439:PHE:HD1	1.93	0.52
1:D:432:LEU:HD11	1:D:453:VAL:HG23	1.91	0.52
1:G:803:ARG:NH2	1:G:816:SER:OG	2.35	0.52
1:B:867:MET:HE1	1:B:887:THR:HG23	1.92	0.52
1:D:289:ALA:HB2	1:D:692:ILE:HD11	1.92	0.52
1:D:679:LYS:HE2	1:D:730:GLU:HG2	1.92	0.52
1:E:720:ASP:OD2	1:E:795:ARG:HD3	2.10	0.52
1:H:297:ILE:HD11	1:H:721:SER:HA	1.92	0.52
1:A:60:VAL:HG13	1:A:86:LEU:HD22	1.92	0.51
1:A:431:LYS:H	1:A:431:LYS:HD2	1.75	0.51
1:D:553:LYS:H	1:D:553:LYS:HD2	1.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:346:VAL:HA	1:C:523:MET:HA	1.92	0.51
1:F:362:SER:HB3	1:F:365:ASN:HB2	1.93	0.51
1:G:325:LEU:HD13	1:G:666:ALA:HB1	1.93	0.51
1:H:474:ILE:O	1:H:478:LEU:HD13	2.10	0.51
1:B:309:MET:HE3	1:B:669:VAL:HG21	1.92	0.51
1:D:346:VAL:HG21	1:D:400:LEU:HD23	1.92	0.51
1:E:118:ILE:HG12	1:E:123:LYS:HG2	1.90	0.51
1:G:289:ALA:HB2	1:G:692:ILE:HD11	1.91	0.51
1:B:872:LYS:HA	1:B:875:GLN:HE21	1.76	0.51
1:C:321:ALA:HB1	1:C:636:ILE:HD12	1.93	0.51
1:E:452:ASP:OD1	1:E:452:ASP:N	2.43	0.51
1:H:767:ALA:HB2	1:H:864:ALA:HB2	1.91	0.51
1:D:246:GLY:HA3	5:D:1008:CE1:H21	1.92	0.51
1:E:383:SER:HB2	1:E:398:VAL:HG22	1.92	0.51
1:F:418:PHE:HB3	1:F:437:HIS:CE1	2.45	0.51
1:G:90:SER:O	1:G:94:VAL:HG23	2.11	0.51
1:A:755:ARG:HD3	1:A:884:ILE:HA	1.92	0.51
1:F:640:MET:HE1	1:F:655:LEU:HD12	1.93	0.51
1:G:785:ALA:HB2	1:G:846:PRO:HD2	1.93	0.51
1:C:452:ASP:N	1:C:452:ASP:OD1	2.43	0.51
1:D:309:MET:HE2	1:D:666:ALA:HB2	1.93	0.51
1:D:346:VAL:HA	1:D:523:MET:HA	1.92	0.51
1:G:2:GLU:HB3	1:G:5:ARG:HB2	1.93	0.51
1:A:58:PRO:O	1:A:62:VAL:HG23	2.11	0.51
1:B:711:GLN:O	1:B:715:ILE:HG13	2.10	0.51
1:D:182:VAL:CG1	1:D:186:ASP:HB2	2.41	0.51
1:G:470:MET:HB3	1:G:474:ILE:HB	1.93	0.51
1:H:700:VAL:HG23	1:H:701:LEU:HD12	1.92	0.51
1:F:154:SER:HB3	1:F:175:ILE:HG23	1.93	0.50
1:A:621:THR:HG21	1:A:663:ILE:HD13	1.92	0.50
1:B:45:ASP:N	1:B:46:PRO:HD2	2.27	0.50
1:H:58:PRO:O	1:H:62:VAL:HG23	2.11	0.50
1:A:452:ASP:N	1:A:452:ASP:OD1	2.44	0.50
1:C:147:ALA:HA	1:C:193:SER:HB2	1.92	0.50
1:C:755:ARG:CD	1:C:885:PRO:HG2	2.39	0.50
1:F:231:PRO:O	1:F:235:LYS:HG3	2.12	0.50
1:F:357:GLU:HG3	1:F:358:ASN:N	2.27	0.50
1:D:381:ASN:HB3	1:D:448:LYS:NZ	2.26	0.50
1:F:461:VAL:HG23	1:F:469:PRO:HG3	1.92	0.50
1:A:498:LYS:NZ	1:A:513:GLN:O	2.32	0.50
1:E:457:ARG:HH22	1:E:513:GLN:NE2	2.09	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:418:PHE:HB3	1:F:437:HIS:ND1	2.26	0.50
1:B:173:LYS:NZ	1:B:190:MET:O	2.41	0.50
1:C:2:GLU:O	1:C:2:GLU:HG2	2.11	0.50
1:F:700:VAL:HG23	1:F:701:LEU:HD12	1.93	0.50
1:G:447:THR:HG22	1:G:454:MET:HE1	1.93	0.50
1:B:319:LEU:O	1:B:322:VAL:HG12	2.10	0.50
1:B:872:LYS:O	1:B:875:GLN:HG2	2.11	0.50
1:C:567:ASP:O	1:C:570:ASP:HB2	2.12	0.50
1:C:700:VAL:HG23	1:C:701:LEU:HD12	1.94	0.50
1:D:452:ASP:OD1	1:D:452:ASP:N	2.45	0.50
1:D:459:SER:HB2	1:D:514:ASP:CB	2.42	0.50
1:G:119:ARG:NH2	1:G:130:GLU:O	2.44	0.50
1:A:149:GLY:HA2	1:A:207:THR:HG23	1.94	0.50
1:A:785:ALA:HB2	1:A:846:PRO:HD2	1.94	0.50
1:B:169:GLU:OE1	1:B:491:ARG:NH2	2.45	0.50
1:B:870:ILE:O	1:B:873:VAL:HG12	2.12	0.50
1:D:593:ILE:HD12	1:D:593:ILE:O	2.11	0.50
1:F:603:ASN:O	1:F:607:ILE:HG12	2.12	0.50
1:H:865:VAL:HA	1:H:868:MET:HB2	1.94	0.50
1:B:325:LEU:HD13	1:B:666:ALA:HB1	1.94	0.49
1:D:186:ASP:OD1	1:D:598:ARG:NH2	2.41	0.49
1:E:27:VAL:HG23	1:E:132:VAL:HG21	1.94	0.49
1:E:436:LEU:HD12	1:E:444:ALA:O	2.11	0.49
1:F:60:VAL:HG13	1:F:86:LEU:HD22	1.94	0.49
1:G:98:ARG:O	1:G:101:GLU:HG2	2.12	0.49
1:H:151:LEU:HD23	1:H:204:PHE:HB3	1.94	0.49
1:H:436:LEU:HD12	1:H:444:ALA:O	2.12	0.49
1:C:289:ALA:HB2	1:C:692:ILE:HD11	1.94	0.49
1:C:372:ARG:O	1:C:375:HIS:HB2	2.12	0.49
1:D:424:ILE:HD12	1:D:425:PRO:HD2	1.93	0.49
1:A:535:ILE:HG22	1:A:539:LYS:HE2	1.94	0.49
1:C:679:LYS:HE2	1:C:730:GLU:HG2	1.94	0.49
1:C:797:LEU:CB	1:C:865:VAL:HG21	2.43	0.49
1:H:134:GLY:N	1:H:206:VAL:O	2.40	0.49
1:B:39:LEU:O	1:B:40:LYS:HB2	2.12	0.49
1:B:461:VAL:HG21	1:B:474:ILE:HG21	1.93	0.49
1:C:69:VAL:HG21	4:C:1004:PCW:H241	1.94	0.49
1:F:88:VAL:O	1:F:92:ILE:HG13	2.12	0.49
1:A:626:ASN:N	1:A:626:ASN:HD22	2.10	0.49
1:H:379:LEU:HD11	1:H:418:PHE:HD2	1.77	0.49
1:A:438:THR:OG1	1:A:443:LYS:HD3	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:798:GLN:O	1:A:798:GLN:HG2	2.11	0.49
1:C:746:GLU:HG2	1:C:750:ALA:HB3	1.93	0.49
1:C:171:VAL:HG23	1:C:173:LYS:HE2	1.95	0.49
1:E:24:THR:HA	1:E:27:VAL:HG12	1.94	0.49
1:E:150:ARG:NH1	1:E:151:LEU:O	2.45	0.49
1:F:419:ILE:O	1:F:437:HIS:HB2	2.13	0.49
1:F:800:PHE:CZ	1:F:824:VAL:HG21	2.48	0.49
1:G:687:GLY:HA3	1:G:795:ARG:HD3	1.94	0.49
1:H:434:SER:HB3	1:H:447:THR:OG1	2.13	0.49
1:B:754:MET:HE2	1:B:758:ILE:HG13	1.94	0.49
1:F:460:TYR:HB2	1:F:516:VAL:HG22	1.93	0.49
1:F:676:ASN:HB3	1:F:728:GLY:HA2	1.94	0.49
1:A:75:GLU:HB3	1:A:78:GLU:CG	2.43	0.49
1:C:418:PHE:CE1	1:C:437:HIS:HA	2.48	0.49
1:D:319:LEU:O	1:D:322:VAL:HG12	2.13	0.49
1:F:48:TRP:O	1:F:51:PHE:HB3	2.12	0.49
1:H:460:TYR:HB2	1:H:516:VAL:HG22	1.95	0.49
1:B:470:MET:O	1:B:471:THR:OG1	2.25	0.49
1:E:309:MET:HE3	1:E:669:VAL:HG21	1.95	0.49
1:E:378:VAL:O	1:E:381:ASN:ND2	2.46	0.49
1:H:360:PRO:HB2	1:H:366:TRP:CD1	2.47	0.49
1:G:173:LYS:NZ	1:G:190:MET:O	2.46	0.48
1:H:90:SER:O	1:H:94:VAL:HG13	2.13	0.48
1:H:338:THR:HG21	1:H:621:THR:OG1	2.13	0.48
1:A:707:PHE:CZ	1:A:791:LEU:HD22	2.48	0.48
1:B:297:ILE:HG23	1:B:725:ILE:HD13	1.94	0.48
1:C:47:LEU:CD2	1:C:50:LEU:HD12	2.43	0.48
1:D:886:THR:OG1	5:D:1006:CE1:H62	2.12	0.48
1:B:461:VAL:HG23	1:B:470:MET:SD	2.53	0.48
1:A:118:ILE:HG13	1:A:138:ILE:HD11	1.95	0.48
1:A:886:THR:O	1:A:887:THR:HB	2.13	0.48
1:C:104:LEU:HD23	1:C:104:LEU:H	1.79	0.48
1:C:454:MET:HE3	1:C:515:ILE:HG21	1.96	0.48
1:D:376:ILE:HD12	1:D:518:VAL:HG21	1.95	0.48
1:D:474:ILE:O	1:D:478:LEU:HD13	2.12	0.48
1:E:340:THR:HA	1:E:527:PRO:HA	1.94	0.48
1:E:376:ILE:HG21	1:E:495:TYR:HB3	1.95	0.48
1:F:439:PHE:CZ	1:F:446:LEU:HD11	2.48	0.48
1:G:676:ASN:HB3	1:G:728:GLY:HA2	1.94	0.48
1:H:350:TYR:HB3	1:H:520:LEU:H	1.79	0.48
1:A:840:ARG:NH2	4:A:1003:PCW:O31	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:798:GLN:O	1:C:798:GLN:HG2	2.14	0.48
1:E:83:PHE:O	1:E:87:ILE:HG12	2.13	0.48
1:E:171:VAL:HG23	1:E:173:LYS:HE2	1.96	0.48
1:G:603:ASN:O	1:G:607:ILE:HG12	2.13	0.48
1:H:557:GLN:HB3	1:H:561:ARG:NH1	2.29	0.48
1:A:524:ILE:O	1:A:526:PRO:HD3	2.13	0.48
1:B:325:LEU:HG	1:B:636:ILE:HG12	1.94	0.48
1:B:642:SER:OG	1:B:658:ASP:OD2	2.19	0.48
1:A:711:GLN:O	1:A:715:ILE:HG13	2.14	0.48
1:B:50:LEU:HD22	1:B:94:VAL:HG13	1.95	0.48
4:C:1006:PCW:H321	4:C:1006:PCW:H2	1.59	0.48
1:D:691:ALA:O	1:D:695:ILE:HG13	2.14	0.48
1:E:26:GLU:OE1	1:E:30:ARG:HD2	2.14	0.48
1:A:289:ALA:HB2	1:A:692:ILE:HD11	1.96	0.48
1:D:835:VAL:HG21	4:D:1003:PCW:H122	1.96	0.48
1:E:225:ALA:HB3	1:E:632:LYS:HE3	1.95	0.48
1:E:807:GLN:HB3	1:E:812:ALA:HB2	1.95	0.48
1:F:148:ASP:OD1	1:F:193:SER:N	2.38	0.48
1:F:452:ASP:N	1:F:452:ASP:OD1	2.46	0.48
1:H:352:PRO:HB2	1:H:462:PHE:O	2.13	0.48
1:H:626:ASN:O	1:H:629:PRO:HD2	2.14	0.48
1:D:880:LYS:HD2	1:D:883:ASP:H	1.79	0.48
1:E:154:SER:HB3	1:E:175:ILE:HG23	1.95	0.48
1:G:321:ALA:HB1	1:G:636:ILE:HD13	1.95	0.48
1:G:452:ASP:OD1	1:G:452:ASP:N	2.46	0.48
1:H:548:ILE:HG12	1:H:596:TYR:HD2	1.78	0.48
1:D:813:GLY:HA3	1:D:816:SER:HB2	1.95	0.48
1:F:332:CYS:O	1:F:620:MET:HA	2.14	0.48
1:G:703:TRP:CG	1:G:776:MET:HE3	2.48	0.48
1:H:332:CYS:O	1:H:620:MET:HA	2.13	0.48
1:A:604:LYS:NZ	1:A:627:ASP:OD1	2.30	0.47
1:B:772:GLN:HG2	1:B:783:SER:HB2	1.96	0.47
1:G:535:ILE:HG22	1:G:539:LYS:HE2	1.94	0.47
1:H:541:ALA:HB2	1:H:737:MET:HE3	1.96	0.47
1:A:333:THR:HG22	1:A:621:THR:OG1	2.14	0.47
1:A:431:LYS:O	1:A:453:VAL:HG21	2.14	0.47
1:A:593:ILE:HD13	1:A:596:TYR:CE1	2.49	0.47
1:D:627:ASP:OD2	6:D:1101:HOH:O	2.20	0.47
1:H:513:GLN:HG3	1:H:514:ASP:H	1.78	0.47
1:A:500:MET:HE3	1:A:501:PRO:HD2	1.96	0.47
1:B:452:ASP:OD1	1:B:452:ASP:N	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:560:GLY:HA2	1:C:563:ILE:HG12	1.95	0.47
1:F:287:VAL:HG11	1:F:713:LEU:HG	1.96	0.47
1:F:383:SER:HB2	1:F:398:VAL:HG22	1.97	0.47
1:H:404:SER:OG	1:H:409:GLN:O	2.25	0.47
1:D:254:ILE:HA	1:D:699:LEU:HD21	1.96	0.47
1:F:319:LEU:O	1:F:322:VAL:HG12	2.15	0.47
1:G:878:PHE:HB3	1:H:95:VAL:CG1	2.44	0.47
1:A:190:MET:HE3	1:A:190:MET:HB3	1.75	0.47
1:B:90:SER:O	1:B:94:VAL:HG23	2.14	0.47
1:D:325:LEU:HD13	1:D:666:ALA:HB1	1.96	0.47
1:E:386:ASN:HD21	1:E:390:LYS:HB3	1.78	0.47
1:F:636:ILE:HD12	1:F:652:ALA:HB3	1.95	0.47
1:H:498:LYS:HG3	1:H:500:MET:HG2	1.96	0.47
1:B:858:ALA:HB1	4:B:1003:PCW:H451	1.96	0.47
1:B:875:GLN:HA	1:B:879:PHE:HD2	1.77	0.47
1:C:592:HIS:CE1	1:D:588:LYS:O	2.68	0.47
1:D:720:ASP:OD2	1:D:795:ARG:NE	2.44	0.47
1:D:722:LEU:HB2	1:D:723:PRO:HD3	1.97	0.47
1:G:548:ILE:HG23	1:G:596:TYR:HB2	1.97	0.47
1:H:478:LEU:HD21	1:H:517:LEU:HD13	1.96	0.47
1:A:89:ASN:N	1:A:89:ASN:HD22	2.13	0.47
1:A:377:ALA:O	1:A:381:ASN:ND2	2.48	0.47
1:B:574:THR:HA	1:B:597:ALA:O	2.14	0.47
1:G:344:MET:HE2	1:G:491:ARG:HD2	1.95	0.47
1:G:443:LYS:NZ	1:G:504:THR:O	2.46	0.47
1:A:445:MET:HE1	1:A:511:ASP:O	2.14	0.47
1:C:62:VAL:HG13	4:C:1004:PCW:H181	1.96	0.47
1:E:396:THR:HG23	1:E:523:MET:HE1	1.96	0.47
1:E:744:ILE:HD12	1:E:744:ILE:H	1.80	0.47
1:E:803:ARG:HH22	1:E:812:ALA:HB3	1.79	0.47
1:F:174:TYR:HD2	1:F:188:VAL:HG11	1.80	0.47
1:G:117:VAL:HG23	1:G:137:VAL:HG22	1.97	0.47
1:B:118:ILE:HG13	1:B:138:ILE:HD11	1.97	0.47
1:D:351:LEU:O	1:D:355:THR:HG23	2.15	0.47
1:E:126:ILE:HA	1:F:592:HIS:CE1	2.50	0.47
1:E:396:THR:HG23	1:E:523:MET:SD	2.55	0.47
1:E:461:VAL:HG23	1:E:469:PRO:HB3	1.95	0.47
1:F:186:ASP:OD1	1:F:598:ARG:NH2	2.45	0.47
1:A:50:LEU:HA	1:A:53:GLU:OE1	2.15	0.47
1:B:785:ALA:HB2	1:B:846:PRO:HD2	1.97	0.47
1:C:254:ILE:HA	1:C:699:LEU:HD21	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:1004:PCW:H20	4:C:1004:PCW:H232	1.58	0.47
1:E:808:THR:HB	1:E:811:GLY:HA3	1.97	0.47
1:F:353:ASP:HB3	1:F:463:LEU:HD12	1.97	0.47
1:H:432:LEU:HD21	1:H:454:MET:HB2	1.96	0.47
1:H:605:ILE:HB	1:H:629:PRO:HB2	1.97	0.47
1:H:644:THR:O	1:H:648:LYS:HG3	2.15	0.47
1:A:116:LYS:HB2	1:A:116:LYS:HE3	1.67	0.46
1:B:854:TRP:HZ2	4:B:1003:PCW:H412	1.79	0.46
1:C:504:THR:HG22	1:C:506:GLU:H	1.79	0.46
1:D:756:ALA:O	1:D:760:ARG:HG3	2.15	0.46
1:F:313:HIS:HB3	1:F:656:THR:HB	1.96	0.46
1:G:431:LYS:HD3	1:G:457:ARG:HH12	1.78	0.46
1:H:349:TYR:CE2	1:H:351:LEU:HG	2.50	0.46
1:C:751:GLY:H	4:C:1005:PCW:H71	1.81	0.46
1:D:381:ASN:HB3	1:D:448:LYS:HZ1	1.80	0.46
4:B:1006:PCW:H411	4:B:1006:PCW:H182	1.97	0.46
1:D:593:ILE:H	1:D:593:ILE:HG13	1.54	0.46
1:F:54:THR:HG21	1:F:90:SER:HA	1.98	0.46
4:C:1004:PCW:H283	4:C:1004:PCW:H251	1.64	0.46
1:H:98:ARG:O	1:H:101:GLU:HG2	2.15	0.46
1:H:378:VAL:O	1:H:381:ASN:ND2	2.48	0.46
1:H:744:ILE:HD12	1:H:744:ILE:H	1.81	0.46
1:C:445:MET:O	1:C:497:TYR:HA	2.15	0.46
1:G:837:PRO:O	1:G:840:ARG:HG2	2.16	0.46
1:B:190:MET:HE2	1:B:190:MET:HB3	1.79	0.46
1:C:548:ILE:O	1:C:604:LYS:NZ	2.44	0.46
1:F:108:ARG:NH2	1:F:219:ALA:HB2	2.25	0.46
1:F:760:ARG:HD2	1:F:798:GLN:NE2	2.30	0.46
1:H:567:ASP:OD1	1:H:567:ASP:N	2.47	0.46
1:C:474:ILE:O	1:C:478:LEU:HB2	2.16	0.46
1:E:78:GLU:HA	1:E:81:ILE:HB	1.98	0.46
1:E:118:ILE:HG13	1:E:138:ILE:HD11	1.97	0.46
1:A:147:ALA:HA	1:A:193:SER:HB2	1.98	0.46
1:F:498:LYS:HE3	1:F:500:MET:HE2	1.98	0.46
1:H:159:ILE:HD12	1:H:173:LYS:HE3	1.98	0.46
1:H:632:LYS:HG3	1:H:650:SER:OG	2.16	0.46
1:H:722:LEU:HB2	1:H:723:PRO:HD3	1.97	0.46
1:A:186:ASP:OD1	1:A:598:ARG:NH2	2.42	0.46
1:C:511:ASP:C	1:C:513:GLN:H	2.24	0.46
1:C:592:HIS:HE1	1:D:588:LYS:O	1.99	0.46
1:E:596:TYR:HB3	1:E:599:VAL:HG11	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:283:VAL:O	1:H:287:VAL:HG23	2.15	0.46
1:H:603:ASN:O	1:H:607:ILE:HG12	2.16	0.46
1:A:861:ALA:O	1:A:865:VAL:HG23	2.16	0.45
1:C:258:GLU:O	1:C:262:VAL:HG23	2.16	0.45
1:D:883:ASP:O	1:D:885:PRO:HD3	2.16	0.45
1:H:59:MET:SD	1:H:243:LEU:HD23	2.55	0.45
1:H:342:ASN:HA	1:H:525:ASP:OD2	2.16	0.45
4:C:1004:PCW:H73	4:C:1004:PCW:H42	1.56	0.45
1:D:116:LYS:HB2	1:D:116:LYS:HE3	1.73	0.45
1:E:346:VAL:HG21	1:E:400:LEU:HD23	1.98	0.45
1:F:283:VAL:O	1:F:287:VAL:HG23	2.15	0.45
1:G:49:LYS:HB3	1:G:52:LEU:CD2	2.46	0.45
1:G:254:ILE:HG12	1:G:699:LEU:HD22	1.99	0.45
1:G:313:HIS:HB3	1:G:656:THR:HB	1.98	0.45
1:G:432:LEU:HB2	1:G:448:LYS:O	2.16	0.45
1:H:150:ARG:NH1	1:H:151:LEU:O	2.49	0.45
1:H:424:ILE:HD12	1:H:434:SER:HB2	1.97	0.45
1:C:510:GLU:CD	1:C:510:GLU:H	2.24	0.45
1:E:36:PHE:O	1:E:210:ALA:HB2	2.16	0.45
1:H:865:VAL:HA	1:H:868:MET:HE3	1.98	0.45
1:E:214:GLU:O	1:E:218:ILE:HG13	2.16	0.45
1:E:420:ARG:HG2	1:E:423:GLU:OE1	2.16	0.45
1:C:457:ARG:HD3	1:C:512:GLU:O	2.17	0.45
1:D:1:ALA:O	1:D:2:GLU:HG2	2.16	0.45
1:D:154:SER:HB3	1:D:175:ILE:HG23	1.98	0.45
1:E:59:MET:HG3	1:E:240:SER:OG	2.17	0.45
1:E:104:LEU:HD23	1:E:104:LEU:O	2.17	0.45
1:E:498:LYS:HG3	1:E:514:ASP:O	2.17	0.45
1:G:432:LEU:H	1:G:432:LEU:HG	1.55	0.45
1:H:78:GLU:HA	1:H:81:ILE:HG22	1.98	0.45
1:A:744:ILE:H	1:A:744:ILE:HD12	1.82	0.45
1:B:346:VAL:HG22	1:B:523:MET:HE2	1.99	0.45
1:B:586:LEU:HD11	1:B:590:LEU:HD13	1.98	0.45
1:B:806:VAL:HA	1:B:876:ASN:ND2	2.32	0.45
1:D:764:ILE:O	1:D:768:VAL:HG23	2.17	0.45
1:F:396:THR:HG23	1:F:523:MET:SD	2.56	0.45
1:F:720:ASP:OD2	1:F:795:ARG:NH2	2.49	0.45
1:G:15:LEU:O	1:G:30:ARG:NH1	2.49	0.45
1:A:297:ILE:HG23	1:A:725:ILE:HD13	1.99	0.45
1:A:593:ILE:H	1:A:593:ILE:HG13	1.50	0.45
1:A:618:THR:O	1:A:635:ASP:HB2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2:GLU:HG3	1:B:6:LYS:HE3	1.98	0.45
1:B:700:VAL:HG23	1:B:701:LEU:HD12	1.99	0.45
1:B:763:LEU:HD23	1:B:763:LEU:HA	1.84	0.45
1:D:59:MET:CE	1:D:290:ILE:HG23	2.46	0.45
1:D:99:LYS:HZ1	1:D:318:LYS:HB3	1.81	0.45
1:E:83:PHE:HA	1:E:86:LEU:HD12	1.98	0.45
1:E:221:LEU:HD22	1:E:605:ILE:HG21	1.97	0.45
1:E:500:MET:HE3	1:E:511:ASP:HB3	1.99	0.45
1:F:803:ARG:CZ	1:F:817:ASN:HD22	2.30	0.45
1:G:707:PHE:HZ	1:G:768:VAL:HG11	1.82	0.45
1:H:218:ILE:HD11	1:H:601:PRO:HG2	1.98	0.45
1:H:297:ILE:HD13	1:H:724:ALA:HB3	1.98	0.45
1:A:157:LEU:HD22	1:A:202:GLY:HA3	1.99	0.45
1:A:220:GLY:O	1:A:224:THR:HG23	2.17	0.45
1:B:383:SER:HB2	1:B:398:VAL:HG22	1.99	0.45
1:C:592:HIS:NE2	1:D:592:HIS:CE1	2.85	0.45
1:D:112:ALA:HB2	1:D:144:PHE:HB3	1.98	0.45
1:H:411:TYR:HE2	1:H:415:ARG:NH2	2.14	0.45
1:B:330:VAL:HB	1:B:618:THR:HG22	1.99	0.45
1:D:353:ASP:OD1	1:D:353:ASP:N	2.41	0.45
1:E:289:ALA:HB2	1:E:692:ILE:HD11	1.99	0.45
1:F:58:PRO:O	1:F:62:VAL:HG23	2.17	0.45
1:A:443:LYS:NZ	1:A:504:THR:O	2.50	0.45
1:C:418:PHE:HB2	1:C:439:PHE:CZ	2.51	0.45
1:E:381:ASN:OD1	1:E:415:ARG:NH2	2.50	0.45
1:E:749:PHE:O	1:E:754:MET:N	2.46	0.45
1:F:232:LEU:O	1:F:236:LEU:HG	2.17	0.45
1:F:472:GLU:O	1:F:473:GLU:HB2	2.16	0.45
1:H:254:ILE:HA	1:H:699:LEU:HD21	1.99	0.45
1:H:266:ASP:C	1:H:268:SER:H	2.25	0.45
1:D:71:LEU:HA	1:D:71:LEU:HD12	1.67	0.44
1:E:116:LYS:HE3	1:E:116:LYS:HB2	1.70	0.44
1:F:131:LEU:HD12	1:F:146:PRO:HB2	1.98	0.44
1:H:4:TYR:HB3	1:H:190:MET:HE3	1.98	0.44
1:H:362:SER:HB3	1:H:365:ASN:HB3	1.99	0.44
4:B:1004:PCW:O2P	4:B:1004:PCW:H32	2.18	0.44
1:C:460:TYR:HB2	1:C:516:VAL:HG22	1.99	0.44
1:D:870:ILE:O	1:D:874:VAL:HG23	2.17	0.44
1:F:427:ASP:H	1:F:431:LYS:HB3	1.82	0.44
1:H:550:GLY:HA2	1:H:599:VAL:H	1.82	0.44
1:H:618:THR:O	1:H:635:ASP:HB2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:788:PHE:O	1:B:792:ILE:HG22	2.18	0.44
4:B:1004:PCW:H122	4:B:1004:PCW:H152	1.78	0.44
1:C:57:ASP:HB3	1:C:60:VAL:HG23	2.00	0.44
1:C:351:LEU:HD11	1:C:370:GLU:HA	1.99	0.44
1:E:508:LYS:HG2	1:E:511:ASP:OD2	2.18	0.44
1:E:528:ARG:HB2	1:E:531:VAL:HG23	1.99	0.44
1:F:455:PHE:CZ	1:F:478:LEU:HD22	2.52	0.44
1:G:716:ASN:OD1	1:G:795:ARG:NH2	2.50	0.44
4:C:1003:PCW:H41	4:C:1003:PCW:H83	1.66	0.44
1:F:281:PHE:HD2	1:F:699:LEU:HD12	1.82	0.44
1:G:708:THR:HB	1:G:711:GLN:OE1	2.16	0.44
1:H:267:ASN:OD1	1:H:267:ASN:N	2.49	0.44
1:H:840:ARG:NH1	1:H:846:PRO:O	2.51	0.44
1:A:221:LEU:HD23	1:A:221:LEU:HA	1.88	0.44
1:A:599:VAL:HB	1:A:603:ASN:HB2	1.98	0.44
1:B:394:ASP:OD2	1:B:396:THR:HB	2.17	0.44
1:C:603:ASN:O	1:C:607:ILE:HG12	2.17	0.44
4:D:1003:PCW:H221	4:D:1003:PCW:H251	1.68	0.44
1:F:106:ALA:CB	1:F:222:LEU:HD13	2.48	0.44
1:G:330:VAL:HG21	1:G:611:TRP:CE3	2.52	0.44
1:A:611:TRP:HB3	1:A:618:THR:HG21	2.00	0.44
1:A:871:ILE:HG12	1:A:887:THR:HG22	2.00	0.44
1:A:875:GLN:HG3	1:A:884:ILE:C	2.43	0.44
4:B:1004:PCW:H371	4:B:1004:PCW:H40	1.58	0.44
1:C:163:MET:HE2	1:C:164:LEU:HD21	1.99	0.44
1:C:885:PRO:HB2	1:C:886:THR:H	1.55	0.44
1:D:75:GLU:HB3	1:D:78:GLU:CD	2.42	0.44
1:D:93:SER:O	1:D:97:THR:HB	2.18	0.44
1:F:69:VAL:O	1:F:73:LEU:HG	2.18	0.44
1:F:735:ASP:OD1	1:F:735:ASP:N	2.50	0.44
1:G:118:ILE:CG1	1:G:138:ILE:HD11	2.46	0.44
1:A:394:ASP:OD2	1:A:396:THR:HB	2.18	0.44
1:A:492:VAL:HA	1:A:521:THR:O	2.17	0.44
1:C:870:ILE:O	1:C:874:VAL:HG23	2.18	0.44
1:D:603:ASN:O	1:D:607:ILE:HG12	2.15	0.44
1:E:379:LEU:HD22	1:E:418:PHE:CE1	2.53	0.44
1:G:440:ASN:HB3	1:G:441:GLU:H	1.63	0.44
1:H:159:ILE:HG12	1:H:197:VAL:HG22	1.99	0.44
1:B:808:THR:HG22	1:B:809:ALA:N	2.33	0.44
1:C:434:SER:HA	1:C:446:LEU:O	2.18	0.44
1:D:785:ALA:HB2	1:D:846:PRO:HD2	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:659:ASN:OD1	1:E:661:VAL:HG12	2.18	0.44
1:G:262:VAL:O	1:G:267:ASN:ND2	2.51	0.44
1:G:671:ARG:NH1	1:G:739:ARG:O	2.48	0.44
1:H:749:PHE:O	1:H:754:MET:N	2.51	0.44
1:D:460:TYR:HA	1:D:468:LYS:HA	2.00	0.44
1:E:715:ILE:HA	1:E:719:ASN:HB3	2.00	0.44
1:G:297:ILE:O	1:G:301:VAL:HG23	2.17	0.44
1:H:441:GLU:O	1:H:443:LYS:N	2.50	0.44
1:H:867:MET:O	1:H:871:ILE:HB	2.17	0.44
1:B:430:ARG:HD3	1:B:457:ARG:NH1	2.29	0.43
1:B:764:ILE:O	1:B:768:VAL:HG23	2.17	0.43
1:C:538:SER:HB2	1:C:543:ILE:HB	2.00	0.43
1:D:54:THR:HG21	1:D:90:SER:HA	1.99	0.43
1:D:350:TYR:HE2	1:D:478:LEU:HD12	1.83	0.43
1:D:556:ALA:O	1:D:595:VAL:HG11	2.18	0.43
5:D:1009:CE1:H21	5:D:1009:CE1:H52	1.90	0.43
1:E:50:LEU:HB3	1:E:94:VAL:HG13	1.99	0.43
1:G:325:LEU:HG	1:G:636:ILE:HG12	2.00	0.43
1:B:550:GLY:HA2	1:B:599:VAL:H	1.83	0.43
1:C:332:CYS:O	1:C:620:MET:HA	2.18	0.43
1:G:578:LEU:HD21	1:G:607:ILE:HD11	2.00	0.43
1:H:548:ILE:HG23	1:H:596:TYR:HB2	1.99	0.43
1:B:427:ASP:OD1	1:B:430:ARG:N	2.50	0.43
1:D:288:ALA:HB2	1:D:712:LEU:HD13	2.00	0.43
1:E:532:TYR:CE1	1:E:563:ILE:HG22	2.54	0.43
1:E:709:ALA:O	1:E:713:LEU:HD23	2.18	0.43
1:F:620:MET:HE2	1:F:630:ALA:HB3	2.01	0.43
1:G:150:ARG:NH1	1:G:151:LEU:O	2.51	0.43
1:G:410:ASP:HB3	1:G:413:GLU:HG3	2.00	0.43
1:H:356:LYS:HD2	1:H:356:LYS:HA	1.83	0.43
1:H:803:ARG:HH22	1:H:816:SER:HB3	1.83	0.43
1:A:89:ASN:OD1	1:A:295:SER:OG	2.36	0.43
1:A:681:ILE:HD12	1:A:748:ILE:HD11	2.00	0.43
1:B:628:ALA:HB3	1:B:629:PRO:HD3	2.00	0.43
1:E:84:LEU:O	1:E:88:VAL:HG23	2.19	0.43
1:E:209:THR:O	1:E:212:GLU:HG2	2.18	0.43
1:G:190:MET:HE3	1:G:190:MET:HB2	1.89	0.43
1:G:222:LEU:HD23	1:G:222:LEU:HA	1.82	0.43
1:C:87:ILE:O	1:C:91:ILE:HG13	2.18	0.43
1:D:710:LEU:HD11	5:D:1005:CE1:H13	2.01	0.43
1:D:720:ASP:OD2	1:D:795:ARG:NH2	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:76:VAL:O	1:E:79:SER:HB3	2.18	0.43
1:F:524:ILE:O	1:F:526:PRO:HD3	2.18	0.43
1:F:744:ILE:H	1:F:744:ILE:HD12	1.82	0.43
1:G:75:GLU:HB3	1:G:78:GLU:CD	2.44	0.43
1:B:754:MET:HE3	1:B:754:MET:HA	1.99	0.43
1:B:870:ILE:O	1:B:874:VAL:HG23	2.19	0.43
1:C:592:HIS:NE2	1:D:592:HIS:HE1	2.17	0.43
1:C:829:VAL:O	1:C:833:ILE:HG13	2.18	0.43
1:C:880:LYS:HB3	1:C:885:PRO:CG	2.47	0.43
4:D:1003:PCW:H381	4:D:1003:PCW:H352	1.50	0.43
1:E:581:MET:HE3	1:E:585:GLU:HG2	2.01	0.43
1:H:349:TYR:HE2	1:H:351:LEU:HG	1.83	0.43
1:A:704:ILE:HG22	1:A:776:MET:HE1	2.01	0.43
1:C:350:TYR:HE2	1:C:481:THR:HG1	1.61	0.43
1:D:772:GLN:CG	1:D:783:SER:HB2	2.48	0.43
1:E:69:VAL:O	1:E:73:LEU:HG	2.18	0.43
1:E:90:SER:O	1:E:94:VAL:HG23	2.18	0.43
1:F:700:VAL:HG23	1:F:701:LEU:CD1	2.48	0.43
1:G:439:PHE:CZ	1:G:446:LEU:HD11	2.53	0.43
1:G:508:LYS:HB3	1:G:510:GLU:OE1	2.18	0.43
1:G:808:THR:HG22	1:G:809:ALA:N	2.33	0.43
1:A:91:ILE:O	1:A:95:VAL:HG22	2.19	0.43
1:D:110:MET:HE2	1:D:110:MET:HB3	1.83	0.43
1:G:304:VAL:HG21	1:G:729:MET:SD	2.58	0.43
1:G:510:GLU:H	1:G:510:GLU:CD	2.25	0.43
1:B:707:PHE:CZ	1:B:791:LEU:HD22	2.52	0.43
1:F:756:ALA:O	1:F:760:ARG:HG3	2.19	0.43
1:B:308:LYS:HE3	1:B:308:LYS:HB2	1.82	0.43
1:B:470:MET:HE3	1:B:475:LEU:HB2	2.01	0.43
4:B:1003:PCW:H82	4:B:1003:PCW:H42	1.72	0.43
4:B:1007:PCW:H83	4:B:1007:PCW:H41	1.62	0.43
1:C:713:LEU:HD23	1:C:713:LEU:HA	1.94	0.43
1:C:785:ALA:HB2	1:C:846:PRO:HD2	2.01	0.43
4:C:1004:PCW:H442	4:C:1004:PCW:H281	2.00	0.43
1:D:87:ILE:O	1:D:91:ILE:HG13	2.19	0.43
1:B:869:GLU:OE2	1:B:872:LYS:NZ	2.40	0.42
1:D:379:LEU:HD22	1:D:418:PHE:HB2	2.01	0.42
1:D:763:LEU:HD23	1:D:763:LEU:HA	1.82	0.42
1:E:767:ALA:HB2	1:E:864:ALA:HB2	2.00	0.42
1:G:455:PHE:CZ	1:G:478:LEU:HB3	2.54	0.42
1:G:560:GLY:HA2	1:G:563:ILE:HG12	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:2:GLU:O	1:H:2:GLU:HG2	2.18	0.42
1:B:63:LEU:HA	1:B:63:LEU:HD23	1.73	0.42
1:B:91:ILE:O	1:B:95:VAL:HG22	2.19	0.42
1:B:239:PHE:HE2	1:B:685:PHE:CE2	2.37	0.42
1:B:381:ASN:HB2	1:B:397:GLU:CD	2.44	0.42
1:C:289:ALA:CB	1:C:692:ILE:HD11	2.49	0.42
1:F:620:MET:HG3	1:F:631:LEU:HD23	2.01	0.42
1:G:744:ILE:HD12	1:G:744:ILE:H	1.83	0.42
1:H:691:ALA:HB2	1:H:795:ARG:HH21	1.83	0.42
1:A:40:LYS:HA	1:A:40:LYS:HD2	1.81	0.42
1:C:349:TYR:OH	1:C:373:LEU:HB3	2.19	0.42
1:C:412:ASN:O	1:C:416:GLU:HG3	2.18	0.42
1:D:70:GLN:HE22	1:D:709:ALA:CB	2.32	0.42
1:G:75:GLU:HB3	1:G:78:GLU:CG	2.49	0.42
1:B:566:MET:HE1	1:B:571:ILE:C	2.44	0.42
1:B:872:LYS:HE3	1:B:872:LYS:HB2	1.67	0.42
1:C:45:ASP:N	1:C:46:PRO:CD	2.83	0.42
1:C:418:PHE:HZ	1:C:436:LEU:O	2.03	0.42
1:D:150:ARG:NH1	1:D:151:LEU:O	2.52	0.42
1:D:797:LEU:HB2	1:D:865:VAL:HG21	2.01	0.42
1:F:172:GLU:O	1:F:188:VAL:HG13	2.19	0.42
1:G:541:ALA:HB2	1:G:737:MET:HE3	2.02	0.42
1:G:555:THR:O	1:G:559:ILE:HD12	2.20	0.42
1:H:495:TYR:O	1:H:517:LEU:HG	2.19	0.42
1:A:763:LEU:HD23	1:A:763:LEU:HA	1.84	0.42
1:B:368:GLU:OE2	1:B:371:ARG:HD3	2.20	0.42
1:B:372:ARG:O	1:B:376:ILE:HG13	2.20	0.42
1:B:560:GLY:CA	1:B:563:ILE:HG12	2.46	0.42
1:B:796:THR:HG22	1:B:824:VAL:HG13	2.01	0.42
1:B:875:GLN:OE1	1:B:885:PRO:HD3	2.19	0.42
1:B:882:TYR:HB2	1:C:98:ARG:HH11	1.85	0.42
1:C:297:ILE:HD13	1:C:724:ALA:HB3	2.02	0.42
1:C:377:ALA:O	1:C:381:ASN:ND2	2.52	0.42
1:C:880:LYS:HG3	1:C:881:ASP:N	2.34	0.42
1:D:59:MET:HE1	1:D:291:PRO:HD2	2.02	0.42
1:E:211:SER:HA	1:E:216:GLY:HA3	2.02	0.42
1:E:762:VAL:O	1:E:766:ILE:HG13	2.19	0.42
1:E:786:MET:HE2	1:E:786:MET:HB3	1.86	0.42
1:G:297:ILE:HD11	1:G:721:SER:HA	2.01	0.42
1:G:840:ARG:HG3	1:G:841:GLU:N	2.33	0.42
1:H:445:MET:HE1	1:H:507:LEU:HD13	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:430:ARG:NH2	1:A:432:LEU:HB3	2.34	0.42
4:B:1009:PCW:H63	4:B:1009:PCW:H42	1.83	0.42
1:E:445:MET:HE1	1:E:511:ASP:HB3	2.02	0.42
1:H:807:GLN:HB3	1:H:812:ALA:HB2	2.02	0.42
1:F:865:VAL:HA	1:F:868:MET:HE3	2.02	0.42
1:H:229:GLN:NE2	1:H:237:GLU:OE1	2.52	0.42
1:H:324:THR:HB	1:H:636:ILE:HD11	2.02	0.42
1:H:560:GLY:HA2	1:H:563:ILE:HG12	2.01	0.42
1:H:735:ASP:OD1	1:H:735:ASP:N	2.53	0.42
1:A:108:ARG:HD2	1:A:215:ILE:HD11	2.02	0.42
1:A:359:PHE:CE1	1:A:370:GLU:HG2	2.54	0.42
1:C:167:GLU:OE2	1:C:336:THR:OG1	2.21	0.42
4:C:1008:PCW:H42	4:C:1008:PCW:H63	1.58	0.42
1:G:711:GLN:HB3	1:G:788:PHE:CE1	2.54	0.42
1:H:460:TYR:HB2	1:H:516:VAL:HA	2.02	0.42
1:C:266:ASP:O	1:C:268:SER:N	2.48	0.42
1:C:760:ARG:O	1:C:764:ILE:HG13	2.20	0.42
1:D:292:GLU:OE1	1:D:716:ASN:ND2	2.51	0.42
1:D:883:ASP:C	1:D:885:PRO:HD3	2.45	0.42
1:E:167:GLU:OE2	1:E:336:THR:OG1	2.21	0.42
1:F:6:LYS:HB3	1:F:10:GLU:HB2	2.02	0.42
1:F:147:ALA:HA	1:F:193:SER:HB2	2.01	0.42
1:H:454:MET:HE3	1:H:458:CYS:SG	2.59	0.42
1:A:721:SER:O	1:A:725:ILE:HG12	2.20	0.42
1:C:98:ARG:O	1:C:99:LYS:HB2	2.20	0.42
1:C:107:LEU:HD11	1:C:219:ALA:HB2	2.02	0.42
1:C:548:ILE:HG22	1:C:599:VAL:HG21	2.01	0.42
1:D:321:ALA:HB1	1:D:636:ILE:CD1	2.50	0.42
1:D:335:LYS:HA	1:D:339:LEU:HB2	2.01	0.42
1:D:621:THR:HA	1:D:638:VAL:O	2.19	0.42
1:E:558:ALA:O	1:E:561:ARG:HG2	2.20	0.42
1:F:346:VAL:HA	1:F:523:MET:HA	2.02	0.42
1:F:439:PHE:HZ	1:F:446:LEU:HD11	1.85	0.42
1:F:840:ARG:NH1	1:F:846:PRO:O	2.52	0.42
1:H:335:LYS:HB2	1:H:549:THR:HB	2.02	0.42
1:H:460:TYR:CB	1:H:516:VAL:HG22	2.50	0.42
1:E:37:ASN:HB3	1:E:129:ARG:HA	2.01	0.41
1:G:346:VAL:HG22	1:G:523:MET:HE2	2.02	0.41
1:G:432:LEU:CD1	1:G:447:THR:HG23	2.50	0.41
1:G:586:LEU:O	1:G:590:LEU:HB2	2.20	0.41
1:A:875:GLN:NE2	1:A:883:ASP:HB2	2.34	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:291:PRO:HG3	1:B:685:PHE:CE2	2.55	0.41
1:C:871:ILE:CD1	4:C:1005:PCW:H371	2.50	0.41
1:D:242:LYS:HD2	5:D:1008:CE1:H82	2.01	0.41
1:D:289:ALA:CB	1:D:692:ILE:HD11	2.50	0.41
1:E:108:ARG:HH12	1:E:625:VAL:HG13	1.85	0.41
1:F:357:GLU:HG3	1:F:358:ASN:H	1.84	0.41
1:F:593:ILE:H	1:F:593:ILE:HG13	1.58	0.41
1:H:746:GLU:HG2	1:H:750:ALA:HB3	2.02	0.41
1:A:353:ASP:OD1	1:A:353:ASP:N	2.48	0.41
1:B:147:ALA:HB1	1:B:208:GLY:O	2.20	0.41
1:E:108:ARG:HA	1:E:108:ARG:HD3	1.76	0.41
1:E:127:HIS:NE2	1:F:591:GLU:OE2	2.53	0.41
1:F:91:ILE:O	1:F:95:VAL:HG22	2.20	0.41
1:G:796:THR:HG22	1:G:824:VAL:HG13	2.02	0.41
1:H:868:MET:O	1:H:871:ILE:HG22	2.20	0.41
1:B:138:ILE:HG13	1:B:203:MET:HG3	2.02	0.41
1:C:279:PHE:CE1	4:C:1004:PCW:H242	2.54	0.41
1:C:460:TYR:CB	1:C:516:VAL:HG22	2.51	0.41
1:D:886:THR:HG23	5:D:1006:CE1:H42	2.02	0.41
1:E:636:ILE:HD12	1:E:652:ALA:HB3	2.02	0.41
1:F:145:VAL:HA	1:F:146:PRO:HD3	1.92	0.41
1:F:190:MET:HE2	1:F:190:MET:HB2	1.81	0.41
1:F:230:THR:HG23	1:F:324:THR:OG1	2.20	0.41
1:F:524:ILE:HG12	1:F:525:ASP:H	1.85	0.41
1:F:801:ALA:HA	1:F:808:THR:CG2	2.50	0.41
1:H:186:ASP:OD1	1:H:598:ARG:NH2	2.48	0.41
1:H:632:LYS:HB3	1:H:632:LYS:HE2	1.82	0.41
1:H:707:PHE:CZ	1:H:791:LEU:HD22	2.56	0.41
1:A:48:TRP:HB2	4:A:1004:PCW:H152	2.01	0.41
1:B:174:TYR:HD2	1:B:188:VAL:HG11	1.85	0.41
1:B:878:PHE:HE1	4:B:1009:PCW:H2	1.85	0.41
1:C:722:LEU:HB2	1:C:723:PRO:HD3	2.02	0.41
1:C:830:LEU:HD23	1:C:833:ILE:HD12	2.01	0.41
1:D:318:LYS:HE2	1:D:652:ALA:CB	2.51	0.41
1:D:360:PRO:HB2	1:D:366:TRP:NE1	2.35	0.41
1:F:47:LEU:HD13	1:F:47:LEU:HA	1.92	0.41
1:F:96:GLN:OE1	1:F:318:LYS:HD2	2.21	0.41
1:F:218:ILE:HD11	1:F:601:PRO:HG2	2.03	0.41
1:F:436:LEU:HB2	1:F:445:MET:HG3	2.02	0.41
1:H:548:ILE:HA	1:H:596:TYR:HB2	2.02	0.41
1:B:498:LYS:NZ	1:B:513:GLN:O	2.45	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:39:LEU:O	1:C:108:ARG:NH1	2.53	0.41
1:C:386:ASN:OD1	1:C:390:LYS:N	2.51	0.41
1:C:743:ASP:HB3	1:C:746:GLU:HB2	2.03	0.41
1:D:31:GLN:HG3	1:D:132:VAL:HG11	2.01	0.41
1:F:363:PRO:HD3	1:F:408:ASN:HB2	2.03	0.41
1:F:524:ILE:HG12	1:F:525:ASP:N	2.36	0.41
1:F:800:PHE:HE1	1:F:821:ILE:HD13	1.86	0.41
1:A:57:ASP:HB3	1:A:60:VAL:HG23	2.02	0.41
1:A:764:ILE:O	1:A:768:VAL:HG23	2.21	0.41
1:B:63:LEU:HD11	1:B:290:ILE:HG21	2.03	0.41
1:C:352:PRO:HB2	1:C:463:LEU:HD23	2.02	0.41
1:E:574:THR:HA	1:E:597:ALA:O	2.20	0.41
1:G:232:LEU:O	1:G:236:LEU:HG	2.21	0.41
1:H:674:PHE:CE2	1:H:678:LYS:HD2	2.56	0.41
1:B:376:ILE:HG12	1:B:446:LEU:HG	2.02	0.41
1:C:430:ARG:O	1:C:453:VAL:HG11	2.20	0.41
1:D:250:LEU:HD22	1:D:696:LEU:HD11	2.02	0.41
1:E:376:ILE:CG2	1:E:495:TYR:HB3	2.50	0.41
1:F:225:ALA:HA	1:F:633:GLN:OE1	2.19	0.41
1:G:346:VAL:HA	1:G:523:MET:HA	2.02	0.41
1:A:541:ALA:HB2	1:A:737:MET:HE3	2.03	0.41
1:A:756:ALA:O	1:A:760:ARG:HG3	2.20	0.41
1:B:73:LEU:HD23	1:B:73:LEU:HA	1.85	0.41
1:B:743:ASP:OD1	1:B:744:ILE:N	2.54	0.41
1:B:744:ILE:HD12	1:B:744:ILE:H	1.84	0.41
1:C:380:CYS:O	1:C:448:LYS:NZ	2.49	0.41
1:C:887:THR:O	1:C:887:THR:OG1	2.33	0.41
4:C:1005:PCW:H482	4:C:1005:PCW:H451	1.64	0.41
1:D:366:TRP:CZ3	1:D:374:ILE:HG13	2.56	0.41
1:D:548:ILE:HG22	1:D:599:VAL:HG21	2.03	0.41
1:E:346:VAL:HG13	1:E:522:ALA:O	2.21	0.41
1:E:419:ILE:HD12	1:E:419:ILE:HA	1.95	0.41
1:E:455:PHE:CE1	1:E:478:LEU:HD13	2.56	0.41
1:E:599:VAL:HB	1:E:603:ASN:HB2	2.03	0.41
1:E:681:ILE:HD12	1:E:748:ILE:HD11	2.03	0.41
1:E:722:LEU:HB2	1:E:723:PRO:HD3	2.03	0.41
1:F:218:ILE:O	1:F:222:LEU:HG	2.21	0.41
1:F:334:ASP:O	1:F:338:THR:HB	2.20	0.41
1:G:330:VAL:HB	1:G:618:THR:HG22	2.03	0.41
1:G:499:ARG:O	1:G:500:MET:HB2	2.21	0.41
1:H:116:LYS:HE3	1:H:116:LYS:HB2	1.78	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:445:MET:O	1:H:446:LEU:HD12	2.21	0.41
1:C:376:ILE:HG12	1:C:446:LEU:HD22	2.03	0.41
4:C:1005:PCW:H73	4:C:1005:PCW:H41	1.74	0.41
1:D:318:LYS:HE2	1:D:652:ALA:HB1	2.02	0.41
1:D:460:TYR:HA	1:D:469:PRO:HD3	2.03	0.41
1:D:872:LYS:HB2	1:D:872:LYS:HE3	1.69	0.41
1:E:379:LEU:HD21	1:E:437:HIS:CD2	2.56	0.41
1:H:235:LYS:HE2	1:H:674:PHE:CZ	2.55	0.41
1:A:755:ARG:HD3	1:A:885:PRO:CD	2.42	0.40
1:D:526:PRO:HA	1:D:527:PRO:HD3	1.98	0.40
1:E:22:LEU:HD13	1:E:27:VAL:HB	2.03	0.40
1:E:71:LEU:HD12	1:E:76:VAL:HG22	2.03	0.40
1:E:308:LYS:HE3	1:E:308:LYS:HB2	1.87	0.40
1:E:461:VAL:HG12	1:E:462:PHE:N	2.35	0.40
1:G:524:ILE:HG12	1:G:525:ASP:H	1.85	0.40
4:B:1006:PCW:H122	4:B:1006:PCW:H362	2.02	0.40
1:C:566:MET:HE1	1:C:571:ILE:O	2.21	0.40
1:E:498:LYS:CD	1:E:500:MET:HG2	2.52	0.40
1:E:712:LEU:HA	1:E:715:ILE:HG12	2.03	0.40
1:F:453:VAL:O	1:F:457:ARG:HG3	2.20	0.40
1:G:376:ILE:HG12	1:G:446:LEU:HG	2.03	0.40
1:H:385:ILE:HG13	1:H:401:ILE:HD12	2.03	0.40
1:B:108:ARG:NH2	1:B:215:ILE:HD11	2.36	0.40
1:B:116:LYS:HE3	1:B:116:LYS:HB2	1.61	0.40
1:B:573:LEU:HD22	1:B:593:ILE:HD13	2.02	0.40
1:C:764:ILE:O	1:C:768:VAL:HG23	2.21	0.40
1:D:628:ALA:HB3	1:D:629:PRO:HD3	2.03	0.40
1:F:785:ALA:HB2	1:F:846:PRO:HD2	2.03	0.40
1:G:346:VAL:HG22	1:G:523:MET:HB3	2.04	0.40
1:G:436:LEU:HB2	1:G:507:LEU:HD21	2.03	0.40
1:H:231:PRO:O	1:H:235:LYS:HG3	2.21	0.40
1:H:440:ASN:OD1	1:H:441:GLU:N	2.55	0.40
1:B:884:ILE:HG21	1:B:884:ILE:HD13	1.65	0.40
1:C:71:LEU:HD23	1:C:71:LEU:HA	1.86	0.40
1:D:411:TYR:O	1:D:414:ILE:HG13	2.22	0.40
1:D:621:THR:HG21	1:D:663:ILE:HD13	2.04	0.40
1:D:735:ASP:O	1:D:739:ARG:HG3	2.21	0.40
1:F:239:PHE:CG	1:F:748:ILE:HD11	2.57	0.40
1:G:159:ILE:HD12	1:G:173:LYS:HE3	2.02	0.40
1:G:478:LEU:HD23	1:G:478:LEU:HA	1.89	0.40
1:H:394:ASP:OD1	1:H:395:PRO:HD2	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:625:VAL:HG22	1:H:646:VAL:HG21	2.03	0.40
1:A:372:ARG:O	1:A:376:ILE:HG13	2.21	0.40
1:A:676:ASN:HB3	1:A:728:GLY:HA2	2.02	0.40
1:B:410:ASP:HB3	1:B:413:GLU:HG3	2.03	0.40
1:B:458:CYS:SG	1:B:517:LEU:HD12	2.62	0.40
1:B:767:ALA:HB2	1:B:864:ALA:HB2	2.03	0.40
1:D:92:ILE:CG2	1:D:299:THR:HG21	2.51	0.40
1:D:394:ASP:OD2	1:D:396:THR:HB	2.22	0.40
1:D:433:MET:HE2	1:D:433:MET:HB3	1.82	0.40
1:D:883:ASP:OD1	1:D:884:ILE:HG13	2.22	0.40
1:E:350:TYR:CD2	1:E:481:THR:HG21	2.57	0.40
1:E:498:LYS:NZ	1:E:499:ARG:O	2.41	0.40
1:E:671:ARG:HD2	1:E:737:MET:CE	2.51	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 X-ray entries followed by that with respect to entries of similar resolution.

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	879/911 (96%)	842 (96%)	37 (4%)	0	100	100
1	B	879/911 (96%)	844 (96%)	33 (4%)	2 (0%)	44	77
1	C	879/911 (96%)	836 (95%)	41 (5%)	2 (0%)	44	77
1	D	879/911 (96%)	838 (95%)	38 (4%)	3 (0%)	37	70
1	E	872/911 (96%)	843 (97%)	28 (3%)	1 (0%)	48	81
1	F	872/911 (96%)	830 (95%)	40 (5%)	2 (0%)	44	77
1	G	871/911 (96%)	838 (96%)	32 (4%)	1 (0%)	48	81
1	H	872/911 (96%)	830 (95%)	38 (4%)	4 (0%)	25	61
All	All	7003/7288 (96%)	6701 (96%)	287 (4%)	15 (0%)	44	77

All (15) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	267	ASN
1	C	885	PRO
1	D	879	PHE
1	D	885	PRO
1	H	442	ASN
1	F	46	PRO
1	H	267	ASN
1	B	440	ASN
1	F	267	ASN
1	D	179	PRO
1	E	428	SER
1	G	440	ASN
1	H	443	LYS
1	H	501	PRO
1	C	362	SER

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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	727/750 (97%)	724 (100%)	3 (0%)	89	95
1	B	727/750 (97%)	725 (100%)	2 (0%)	91	96
1	C	727/750 (97%)	725 (100%)	2 (0%)	91	96
1	D	727/750 (97%)	719 (99%)	8 (1%)	70	87
1	E	720/750 (96%)	715 (99%)	5 (1%)	81	91
1	F	720/750 (96%)	714 (99%)	6 (1%)	79	90
1	G	719/750 (96%)	714 (99%)	5 (1%)	81	91
1	H	720/750 (96%)	716 (99%)	4 (1%)	84	93
All	All	5787/6000 (96%)	5752 (99%)	35 (1%)	84	93

All (35) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	89	ASN
1	A	434	SER
1	A	626	ASN
1	B	434	SER
1	B	626	ASN
1	C	434	SER
1	C	626	ASN
1	D	27	VAL
1	D	47	LEU
1	D	434	SER
1	D	454	MET
1	D	593	ILE
1	D	880	LYS
1	D	881	ASP
1	D	884	ILE
1	E	271	MET
1	E	424	ILE
1	E	454	MET
1	E	460	TYR
1	E	559	ILE
1	F	27	VAL
1	F	89	ASN
1	F	266	ASP
1	F	454	MET
1	F	593	ILE
1	F	748	ILE
1	G	27	VAL
1	G	434	SER
1	G	438	THR
1	G	454	MET
1	G	836	LEU
1	H	27	VAL
1	H	434	SER
1	H	454	MET
1	H	871	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (42) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	552	HIS
1	A	626	ASN
1	B	229	GLN
1	B	375	HIS

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Mol	Chain	Res	Type
1	B	384	ASN
1	B	442	ASN
1	B	552	HIS
1	B	633	GLN
1	B	688	ASN
1	B	777	GLN
1	B	875	GLN
1	C	375	HIS
1	C	482	ASN
1	C	552	HIS
1	C	745	ASN
1	D	384	ASN
1	D	552	HIS
1	D	557	GLN
1	D	592	HIS
1	D	633	GLN
1	D	772	GLN
1	D	807	GLN
1	D	876	ASN
1	E	233	GLN
1	E	552	HIS
1	E	876	ASN
1	F	277	ASN
1	F	307	ASN
1	F	342	ASN
1	F	482	ASN
1	F	745	ASN
1	F	777	GLN
1	G	70	GLN
1	G	124	GLN
1	G	407	ASN
1	G	552	HIS
1	G	576	GLN
1	G	876	ASN
1	H	70	GLN
1	H	552	HIS
1	H	705	ASN
1	H	777	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 38 ligands modelled in this entry, 8 are monoatomic - leaving 30 for Mogul analysis.

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	PCW	A	1004	-	53,53,53	0.93	2 (3%)	59,61,61	1.07	5 (8%)
4	PCW	D	1003	-	53,53,53	1.04	4 (7%)	59,61,61	1.02	5 (8%)
4	PCW	B	1006	-	53,53,53	0.99	2 (3%)	59,61,61	0.99	3 (5%)
4	PCW	B	1007	-	53,53,53	1.07	4 (7%)	59,61,61	1.06	4 (6%)
5	CE1	D	1006	-	11,11,36	0.83	0	10,10,35	0.84	0
4	PCW	C	1005	-	53,53,53	1.09	5 (9%)	59,61,61	1.05	5 (8%)
4	PCW	C	1006	-	53,53,53	1.00	3 (5%)	59,61,61	1.09	6 (10%)
5	CE1	D	1004	-	11,11,36	0.54	0	10,10,35	0.72	0
5	CE1	D	1005	-	11,11,36	0.30	0	10,10,35	0.89	0
4	PCW	B	1008	-	53,53,53	1.10	4 (7%)	59,61,61	1.06	4 (6%)
2	BEF	H	1001	1	0,3,3	-	-	-		
4	PCW	C	1003	-	53,53,53	0.85	2 (3%)	59,61,61	1.07	6 (10%)
5	CE1	C	1007	-	14,14,36	0.55	0	13,13,35	0.95	1 (7%)
2	BEF	D	1001	1	0,3,3	-	-	-		
2	BEF	F	1001	1	0,3,3	-	-	-		
5	CE1	D	1009	-	11,11,36	0.42	0	10,10,35	0.75	0
2	BEF	E	1001	1	0,3,3	-	-	-		
4	PCW	B	1009	-	53,53,53	0.99	5 (9%)	59,61,61	1.01	4 (6%)
2	BEF	G	1001	1	0,3,3	-	-	-		
2	BEF	B	1001	1	0,3,3	-	-	-		

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
4	PCW	B	1005	-	53,53,53	0.85	2 (3%)	59,61,61	1.11	5 (8%)
4	PCW	B	1004	-	53,53,53	0.98	4 (7%)	59,61,61	1.00	5 (8%)
4	PCW	C	1004	-	53,53,53	0.95	3 (5%)	59,61,61	1.05	5 (8%)
2	BEF	C	1001	1	0,3,3	-	-	-		
2	BEF	A	1001	1	0,3,3	-	-	-		
5	CE1	D	1007	-	11,11,36	0.40	0	10,10,35	0.90	0
5	CE1	D	1008	-	10,10,36	0.64	0	9,9,35	0.62	0
4	PCW	C	1008	-	53,53,53	0.99	2 (3%)	59,61,61	1.10	5 (8%)
4	PCW	A	1003	-	53,53,53	0.83	2 (3%)	59,61,61	1.01	4 (6%)
4	PCW	B	1003	-	53,53,53	1.07	5 (9%)	59,61,61	1.05	6 (10%)

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	PCW	A	1004	-	-	28/57/57/57	-
4	PCW	D	1003	-	-	26/57/57/57	-
4	PCW	B	1006	-	-	30/57/57/57	-
4	PCW	B	1007	-	-	30/57/57/57	-
5	CE1	D	1006	-	-	4/9/9/34	-
4	PCW	C	1005	-	-	29/57/57/57	-
4	PCW	C	1006	-	-	36/57/57/57	-
5	CE1	D	1004	-	-	5/9/9/34	-
5	CE1	D	1005	-	-	3/9/9/34	-
4	PCW	B	1008	-	-	31/57/57/57	-
4	PCW	C	1003	-	-	22/57/57/57	-
5	CE1	C	1007	-	-	6/12/12/34	-
5	CE1	D	1009	-	-	5/9/9/34	-
4	PCW	B	1009	-	-	29/57/57/57	-
4	PCW	B	1005	-	-	31/57/57/57	-
4	PCW	B	1004	-	-	33/57/57/57	-
4	PCW	C	1004	-	-	32/57/57/57	-
5	CE1	D	1007	-	-	1/9/9/34	-
5	CE1	D	1008	-	-	5/8/8/34	-
4	PCW	C	1008	-	-	31/57/57/57	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	PCW	A	1003	-	-	27/57/57/57	-
4	PCW	B	1003	-	-	25/57/57/57	-

All (49) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	C	1005	PCW	P-O4P	4.43	1.77	1.59
4	B	1008	PCW	P-O4P	4.43	1.77	1.59
4	B	1007	PCW	P-O4P	4.36	1.76	1.59
4	C	1008	PCW	P-O4P	4.29	1.76	1.59
4	C	1006	PCW	P-O4P	4.28	1.76	1.59
4	B	1006	PCW	P-O4P	4.27	1.76	1.59
4	A	1004	PCW	P-O4P	4.11	1.75	1.59
4	B	1004	PCW	P-O4P	4.08	1.75	1.59
4	B	1005	PCW	P-O4P	3.98	1.75	1.59
4	C	1004	PCW	P-O4P	3.85	1.74	1.59
4	B	1009	PCW	P-O4P	3.79	1.74	1.59
4	D	1003	PCW	P-O4P	3.78	1.74	1.59
4	C	1003	PCW	P-O4P	3.52	1.73	1.59
4	A	1003	PCW	P-O4P	3.46	1.73	1.59
4	B	1003	PCW	P-O4P	3.36	1.72	1.59
4	B	1007	PCW	C3-C2	3.06	1.60	1.50
4	C	1006	PCW	C3-C2	2.99	1.59	1.50
4	B	1003	PCW	C3-C2	2.97	1.59	1.50
4	B	1008	PCW	C5-N	2.90	1.60	1.51
4	C	1005	PCW	C3-C2	2.41	1.58	1.50
4	D	1003	PCW	C8-N	2.40	1.57	1.50
4	C	1005	PCW	C5-N	2.31	1.59	1.51
4	B	1009	PCW	P-O3P	2.28	1.68	1.59
4	B	1003	PCW	P-O3P	2.25	1.68	1.59
4	B	1007	PCW	P-O3P	2.21	1.68	1.59
4	B	1003	PCW	O3-C11	2.19	1.39	1.33
4	C	1004	PCW	C3-C2	2.14	1.57	1.50
4	A	1003	PCW	P-O1P	-2.12	1.45	1.55
4	B	1008	PCW	P-O1P	-2.11	1.45	1.55
4	B	1003	PCW	P-O1P	-2.10	1.45	1.55
4	C	1003	PCW	P-O1P	-2.10	1.45	1.55
4	B	1008	PCW	P-O3P	2.10	1.67	1.59
4	B	1007	PCW	P-O1P	-2.10	1.45	1.55
4	B	1004	PCW	P-O1P	-2.09	1.45	1.55
4	D	1003	PCW	P-O1P	-2.09	1.45	1.55
4	C	1006	PCW	P-O1P	-2.09	1.45	1.55

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	1009	PCW	O2-C31	2.09	1.40	1.34
4	C	1005	PCW	P-O3P	2.08	1.67	1.59
4	A	1004	PCW	P-O1P	-2.08	1.45	1.55
4	C	1008	PCW	P-O1P	-2.08	1.45	1.55
4	B	1005	PCW	P-O1P	-2.08	1.45	1.55
4	B	1004	PCW	P-O3P	2.07	1.67	1.59
4	C	1005	PCW	P-O1P	-2.07	1.45	1.55
4	B	1006	PCW	P-O1P	-2.07	1.45	1.55
4	B	1009	PCW	P-O1P	-2.06	1.45	1.55
4	C	1004	PCW	P-O1P	-2.06	1.45	1.55
4	D	1003	PCW	O2-C31	2.04	1.40	1.34
4	B	1009	PCW	C3-C2	2.04	1.57	1.50
4	B	1004	PCW	O2-C31	2.04	1.40	1.34

All (73) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	C	1003	PCW	O1P-P-O2P	3.23	128.19	112.24
4	B	1006	PCW	O1P-P-O2P	3.12	127.67	112.24
4	D	1003	PCW	O4P-P-O2P	-3.12	96.89	109.07
4	B	1003	PCW	O1P-P-O2P	3.10	127.55	112.24
4	B	1008	PCW	O1P-P-O2P	3.07	127.43	112.24
4	C	1008	PCW	O4P-P-O2P	-3.04	97.19	109.07
4	B	1003	PCW	O4P-P-O2P	-3.02	97.25	109.07
4	C	1008	PCW	O1P-P-O2P	3.02	127.18	112.24
4	C	1008	PCW	O2-C31-C32	3.01	117.98	111.50
4	D	1003	PCW	O1P-P-O2P	2.99	127.03	112.24
4	B	1008	PCW	O4P-P-O2P	-2.99	97.39	109.07
4	B	1005	PCW	O2-C31-C32	2.99	117.93	111.50
4	B	1009	PCW	O1P-P-O2P	2.98	126.98	112.24
4	C	1006	PCW	O1P-P-O2P	2.97	126.92	112.24
4	B	1004	PCW	O1P-P-O2P	2.96	126.89	112.24
4	C	1006	PCW	O4P-P-O2P	-2.96	97.49	109.07
4	B	1007	PCW	O4P-P-O2P	-2.96	97.51	109.07
4	B	1004	PCW	O4P-P-O2P	-2.95	97.55	109.07
4	B	1005	PCW	O1P-P-O2P	2.95	126.81	112.24
4	A	1004	PCW	O1P-P-O2P	2.94	126.78	112.24
4	B	1009	PCW	O4P-P-O2P	-2.92	97.64	109.07
4	B	1003	PCW	P-O4P-C4	-2.91	107.24	121.59
4	C	1005	PCW	O1P-P-O2P	2.91	126.65	112.24
4	C	1006	PCW	O2-C31-C32	2.90	117.75	111.50
4	C	1004	PCW	O1P-P-O2P	2.90	126.56	112.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	A	1003	PCW	O4P-P-O2P	-2.88	97.83	109.07
4	B	1007	PCW	O1P-P-O2P	2.84	126.28	112.24
4	A	1004	PCW	O4P-P-O2P	-2.84	97.98	109.07
4	B	1004	PCW	O2-C31-C32	2.81	117.55	111.50
4	A	1003	PCW	O1P-P-O2P	2.79	126.06	112.24
4	B	1006	PCW	O4P-P-O2P	-2.79	98.16	109.07
4	C	1005	PCW	O4P-P-O2P	-2.79	98.16	109.07
4	C	1003	PCW	O4P-P-O2P	-2.78	98.19	109.07
4	C	1004	PCW	O4P-P-O2P	-2.76	98.28	109.07
4	B	1007	PCW	P-O4P-C4	-2.73	108.17	121.59
4	B	1005	PCW	P-O4P-C4	-2.71	108.22	121.59
4	B	1005	PCW	O4P-P-O2P	-2.71	98.47	109.07
4	C	1003	PCW	C4-C5-N	-2.67	106.86	115.78
4	B	1009	PCW	O2-C31-C32	2.67	117.25	111.50
4	B	1007	PCW	O2-C31-C32	2.66	117.24	111.50
4	C	1003	PCW	P-O4P-C4	-2.66	108.50	121.59
4	C	1004	PCW	O2-C31-C32	2.65	117.22	111.50
4	C	1008	PCW	P-O4P-C4	-2.61	108.74	121.59
4	A	1003	PCW	P-O4P-C4	-2.60	108.78	121.59
4	B	1008	PCW	O2-C31-C32	2.60	117.10	111.50
4	B	1009	PCW	P-O4P-C4	-2.59	108.83	121.59
4	B	1005	PCW	P-O3P-C1	-2.57	106.59	121.68
4	C	1005	PCW	O2-C31-C32	2.56	117.02	111.50
4	D	1003	PCW	P-O3P-C1	-2.56	106.69	121.68
4	C	1004	PCW	P-O4P-C4	-2.55	109.03	121.59
4	D	1003	PCW	P-O4P-C4	-2.55	109.06	121.59
4	B	1006	PCW	P-O4P-C4	-2.53	109.12	121.59
4	B	1008	PCW	P-O4P-C4	-2.50	109.27	121.59
4	C	1006	PCW	P-O3P-C1	-2.45	107.29	121.68
4	A	1004	PCW	O2-C31-C32	2.44	116.75	111.50
4	B	1004	PCW	P-O4P-C4	-2.43	109.60	121.59
4	C	1005	PCW	P-O4P-C4	-2.38	109.86	121.59
4	A	1004	PCW	P-O3P-C1	-2.38	107.72	121.68
4	C	1003	PCW	P-O3P-C1	-2.34	107.97	121.68
4	A	1004	PCW	P-O4P-C4	-2.34	110.08	121.59
4	B	1003	PCW	P-O3P-C1	-2.33	108.02	121.68
4	D	1003	PCW	C4-C5-N	-2.28	108.16	115.78
4	C	1006	PCW	P-O4P-C4	-2.22	110.68	121.59
4	C	1004	PCW	P-O3P-C1	-2.21	108.72	121.68
4	C	1008	PCW	P-O3P-C1	-2.19	108.84	121.68
4	A	1003	PCW	P-O3P-C1	-2.18	108.88	121.68
4	B	1004	PCW	P-O3P-C1	-2.14	109.13	121.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	C	1005	PCW	P-O3P-C1	-2.13	109.22	121.68
4	C	1003	PCW	O2-C31-C32	2.10	116.03	111.50
4	C	1006	PCW	O2-C31-O31	-2.06	118.72	123.70
4	B	1003	PCW	O2-C31-C32	2.03	115.87	111.50
4	B	1003	PCW	C4-C5-N	-2.02	109.03	115.78
5	C	1007	CE1	C14-O13-C12	-2.02	105.67	112.90

There are no chirality outliers.

All (469) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	1003	PCW	O4P-C4-C5-N
4	A	1003	PCW	C4-O4P-P-O1P
4	A	1003	PCW	C4-O4P-P-O2P
4	A	1003	PCW	C4-O4P-P-O3P
4	A	1004	PCW	O4P-C4-C5-N
4	A	1004	PCW	C32-C31-O2-C2
4	A	1004	PCW	C1-O3P-P-O1P
4	A	1004	PCW	C4-O4P-P-O2P
4	B	1003	PCW	O4P-C4-C5-N
4	B	1003	PCW	C4-O4P-P-O1P
4	B	1003	PCW	C4-O4P-P-O2P
4	B	1004	PCW	C32-C31-O2-C2
4	B	1004	PCW	O31-C31-O2-C2
4	B	1004	PCW	C4-O4P-P-O1P
4	B	1005	PCW	O4P-C4-C5-N
4	B	1005	PCW	C4-O4P-P-O2P
4	B	1006	PCW	C1-O3P-P-O2P
4	B	1006	PCW	C4-O4P-P-O1P
4	B	1006	PCW	C4-O4P-P-O2P
4	B	1007	PCW	C1-O3P-P-O1P
4	B	1007	PCW	C4-O4P-P-O1P
4	B	1007	PCW	C4-O4P-P-O2P
4	B	1008	PCW	O4P-C4-C5-N
4	B	1008	PCW	C32-C31-O2-C2
4	B	1008	PCW	C1-O3P-P-O1P
4	B	1008	PCW	C4-O4P-P-O1P
4	B	1009	PCW	C40-C41-C42-C43
4	B	1009	PCW	C1-O3P-P-O1P
4	B	1009	PCW	C1-O3P-P-O2P
4	B	1009	PCW	C4-O4P-P-O1P
4	C	1003	PCW	C4-O4P-P-O1P

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Mol	Chain	Res	Type	Atoms
4	C	1003	PCW	C4-O4P-P-O2P
4	C	1004	PCW	O4P-C4-C5-N
4	C	1004	PCW	C4-O4P-P-O1P
4	C	1005	PCW	O4P-C4-C5-N
4	C	1005	PCW	C32-C31-O2-C2
4	C	1006	PCW	O4P-C4-C5-N
4	C	1006	PCW	C5-C4-O4P-P
4	C	1006	PCW	C32-C31-O2-C2
4	C	1006	PCW	O31-C31-O2-C2
4	C	1006	PCW	C1-O3P-P-O2P
4	C	1008	PCW	O4P-C4-C5-N
4	C	1008	PCW	C1-O3P-P-O4P
4	D	1003	PCW	O4P-C4-C5-N
4	B	1005	PCW	O11-C11-O3-C3
4	B	1005	PCW	C12-C11-O3-C3
4	A	1004	PCW	O31-C31-O2-C2
4	B	1008	PCW	O31-C31-O2-C2
4	C	1005	PCW	O31-C31-O2-C2
4	B	1007	PCW	C12-C11-O3-C3
4	B	1007	PCW	O11-C11-O3-C3
4	B	1008	PCW	C12-C11-O3-C3
4	C	1003	PCW	C15-C16-C17-C18
4	D	1003	PCW	C22-C23-C24-C25
5	D	1004	CE1	C7-C8-C9-C10
4	D	1003	PCW	C42-C43-C44-C45
5	C	1007	CE1	C10-C11-C12-O13
4	B	1008	PCW	O11-C11-O3-C3
4	A	1004	PCW	C12-C11-O3-C3
4	A	1004	PCW	O11-C11-O3-C3
4	B	1004	PCW	C35-C36-C37-C38
4	B	1006	PCW	C4-C5-N-C6
4	C	1006	PCW	C12-C11-O3-C3
4	C	1005	PCW	C31-C32-C33-C34
4	B	1004	PCW	C12-C11-O3-C3
4	B	1004	PCW	C11-C12-C13-C14
4	B	1009	PCW	C31-C32-C33-C34
4	A	1003	PCW	C31-C32-C33-C34
4	A	1004	PCW	C31-C32-C33-C34
4	C	1005	PCW	C11-C12-C13-C14
4	C	1008	PCW	C31-C32-C33-C34
4	D	1003	PCW	C11-C12-C13-C14
4	D	1003	PCW	C31-C32-C33-C34

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Mol	Chain	Res	Type	Atoms
5	D	1005	CE1	C11-C10-C9-C8
4	B	1004	PCW	C4-C5-N-C8
4	B	1006	PCW	C31-C32-C33-C34
4	C	1005	PCW	C42-C43-C44-C45
4	C	1006	PCW	O11-C11-O3-C3
4	B	1004	PCW	O11-C11-O3-C3
4	C	1004	PCW	C20-C21-C22-C23
4	D	1003	PCW	C40-C41-C42-C43
4	A	1004	PCW	C4-O4P-P-O3P
4	B	1003	PCW	C4-O4P-P-O3P
4	B	1004	PCW	C4-O4P-P-O3P
4	B	1005	PCW	C4-O4P-P-O3P
4	B	1006	PCW	C1-O3P-P-O4P
4	B	1006	PCW	C4-O4P-P-O3P
4	B	1007	PCW	C1-O3P-P-O4P
4	B	1007	PCW	C4-O4P-P-O3P
4	B	1008	PCW	C1-O3P-P-O4P
4	B	1008	PCW	C4-O4P-P-O3P
4	B	1009	PCW	C1-O3P-P-O4P
4	B	1009	PCW	C4-O4P-P-O3P
4	C	1003	PCW	C1-O3P-P-O4P
4	C	1003	PCW	C4-O4P-P-O3P
4	C	1004	PCW	C4-O4P-P-O3P
4	C	1005	PCW	C4-O4P-P-O3P
4	C	1006	PCW	C1-O3P-P-O4P
4	C	1006	PCW	C4-O4P-P-O3P
4	B	1006	PCW	C4-C5-N-C7
4	B	1006	PCW	C4-C5-N-C8
4	B	1009	PCW	C4-C5-N-C6
4	B	1009	PCW	C4-C5-N-C7
4	B	1009	PCW	C4-C5-N-C8
4	C	1005	PCW	C4-C5-N-C6
4	C	1005	PCW	C4-C5-N-C7
4	C	1005	PCW	C4-C5-N-C8
4	C	1006	PCW	C4-C5-N-C6
4	C	1006	PCW	C4-C5-N-C7
4	C	1006	PCW	C4-C5-N-C8
4	B	1004	PCW	C12-C13-C14-C15
4	B	1008	PCW	C34-C35-C36-C37
4	C	1003	PCW	C44-C45-C46-C47
4	C	1005	PCW	C44-C45-C46-C47
4	D	1003	PCW	C43-C44-C45-C46

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Mol	Chain	Res	Type	Atoms
4	B	1009	PCW	C15-C16-C17-C18
4	C	1008	PCW	C14-C15-C16-C17
4	C	1008	PCW	C22-C23-C24-C25
4	A	1004	PCW	C21-C22-C23-C24
4	D	1003	PCW	C13-C14-C15-C16
4	C	1005	PCW	C3-C2-O2-C31
4	A	1003	PCW	C15-C16-C17-C18
4	A	1004	PCW	C44-C45-C46-C47
4	B	1005	PCW	C24-C25-C26-C27
4	B	1009	PCW	C32-C33-C34-C35
4	B	1009	PCW	C43-C44-C45-C46
4	C	1004	PCW	C21-C22-C23-C24
4	A	1004	PCW	C35-C36-C37-C38
4	B	1004	PCW	C43-C44-C45-C46
4	B	1006	PCW	C13-C14-C15-C16
4	A	1004	PCW	C43-C44-C45-C46
4	B	1007	PCW	C22-C23-C24-C25
4	C	1006	PCW	C21-C22-C23-C24
4	A	1003	PCW	C11-C12-C13-C14
4	C	1008	PCW	C11-C12-C13-C14
4	B	1003	PCW	O2-C2-C3-O3
5	D	1004	CE1	C4-C5-C6-C7
4	A	1004	PCW	C33-C34-C35-C36
4	B	1004	PCW	C15-C16-C17-C18
4	B	1004	PCW	C34-C35-C36-C37
4	C	1003	PCW	C22-C23-C24-C25
4	C	1008	PCW	C32-C33-C34-C35
4	C	1004	PCW	C11-C12-C13-C14
4	B	1008	PCW	C42-C43-C44-C45
4	C	1004	PCW	C12-C13-C14-C15
4	C	1008	PCW	C15-C16-C17-C18
4	D	1003	PCW	C15-C16-C17-C18
4	D	1003	PCW	C35-C36-C37-C38
5	D	1007	CE1	C4-C5-C6-C7
5	D	1009	CE1	C3-C4-C5-C6
4	B	1006	PCW	O31-C31-O2-C2
4	B	1006	PCW	C32-C31-O2-C2
4	B	1006	PCW	C33-C34-C35-C36
4	D	1003	PCW	C12-C13-C14-C15
4	B	1007	PCW	C12-C13-C14-C15
4	C	1006	PCW	C14-C15-C16-C17
4	B	1006	PCW	C21-C22-C23-C24

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Mol	Chain	Res	Type	Atoms
4	C	1005	PCW	C43-C44-C45-C46
4	C	1003	PCW	C31-C32-C33-C34
4	B	1005	PCW	C44-C45-C46-C47
5	D	1008	CE1	C6-C7-C8-C9
4	B	1005	PCW	C32-C33-C34-C35
4	C	1003	PCW	C41-C42-C43-C44
4	C	1006	PCW	C13-C14-C15-C16
4	B	1007	PCW	C32-C33-C34-C35
4	B	1008	PCW	C24-C25-C26-C27
4	D	1003	PCW	C14-C15-C16-C17
4	B	1006	PCW	C35-C36-C37-C38
5	C	1007	CE1	C7-C8-C9-C10
5	D	1009	CE1	C11-C10-C9-C8
4	B	1009	PCW	C32-C31-O2-C2
4	B	1004	PCW	C42-C43-C44-C45
4	B	1008	PCW	C13-C14-C15-C16
5	D	1008	CE1	C5-C6-C7-C8
4	B	1007	PCW	C40-C41-C42-C43
4	C	1006	PCW	C40-C41-C42-C43
4	B	1003	PCW	C21-C22-C23-C24
4	B	1005	PCW	C41-C42-C43-C44
5	D	1004	CE1	C3-C4-C5-C6
4	B	1003	PCW	C22-C23-C24-C25
4	C	1005	PCW	C32-C33-C34-C35
5	D	1006	CE1	C6-C7-C8-C9
4	B	1005	PCW	C31-C32-C33-C34
4	A	1003	PCW	C14-C15-C16-C17
4	C	1005	PCW	C45-C46-C47-C48
4	B	1003	PCW	C35-C36-C37-C38
4	B	1008	PCW	C43-C44-C45-C46
4	B	1008	PCW	C16-C17-C18-C19
4	B	1008	PCW	C36-C37-C38-C39
4	B	1009	PCW	C20-C21-C22-C23
4	C	1008	PCW	C20-C21-C22-C23
4	B	1009	PCW	O31-C31-O2-C2
4	C	1008	PCW	O31-C31-O2-C2
4	B	1006	PCW	C11-C12-C13-C14
4	B	1009	PCW	C11-C12-C13-C14
4	C	1004	PCW	C13-C14-C15-C16
4	B	1004	PCW	C31-C32-C33-C34
4	B	1004	PCW	C21-C22-C23-C24
4	B	1007	PCW	C41-C42-C43-C44

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Mol	Chain	Res	Type	Atoms
4	B	1009	PCW	C12-C13-C14-C15
5	D	1006	CE1	C9-C10-C11-C12
4	C	1005	PCW	C34-C35-C36-C37
4	C	1008	PCW	C24-C25-C26-C27
4	C	1008	PCW	C32-C31-O2-C2
4	C	1003	PCW	C21-C22-C23-C24
4	B	1009	PCW	C13-C14-C15-C16
4	B	1003	PCW	C41-C42-C43-C44
4	C	1006	PCW	C41-C42-C43-C44
4	B	1004	PCW	C4-C5-N-C6
4	B	1004	PCW	C4-C5-N-C7
4	C	1004	PCW	C4-C5-N-C7
4	A	1003	PCW	C36-C37-C38-C39
4	A	1003	PCW	C40-C41-C42-C43
4	A	1004	PCW	C36-C37-C38-C39
4	B	1006	PCW	C20-C21-C22-C23
4	C	1005	PCW	C20-C21-C22-C23
4	D	1003	PCW	C36-C37-C38-C39
4	D	1003	PCW	C33-C34-C35-C36
5	D	1009	CE1	C2-C3-C4-C5
5	C	1007	CE1	C9-C10-C11-C12
4	B	1006	PCW	C34-C35-C36-C37
4	C	1004	PCW	C32-C31-O2-C2
4	B	1003	PCW	C15-C16-C17-C18
4	B	1005	PCW	C19-C20-C21-C22
4	A	1004	PCW	C1-O3P-P-O4P
4	B	1005	PCW	C22-C23-C24-C25
4	A	1004	PCW	C13-C14-C15-C16
4	A	1003	PCW	C20-C21-C22-C23
4	B	1004	PCW	C20-C21-C22-C23
4	B	1004	PCW	C36-C37-C38-C39
4	B	1006	PCW	C44-C45-C46-C47
4	B	1008	PCW	C32-C33-C34-C35
4	B	1005	PCW	C43-C44-C45-C46
4	B	1003	PCW	C25-C26-C27-C28
4	B	1004	PCW	C45-C46-C47-C48
5	C	1007	CE1	C2-C3-C4-C5
4	B	1007	PCW	C25-C26-C27-C28
4	B	1003	PCW	C16-C17-C18-C19
4	C	1005	PCW	C40-C41-C42-C43
4	B	1005	PCW	C12-C13-C14-C15
4	B	1004	PCW	C39-C40-C41-C42

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Mol	Chain	Res	Type	Atoms
4	A	1003	PCW	C12-C13-C14-C15
4	C	1006	PCW	C33-C34-C35-C36
5	D	1008	CE1	C4-C5-C6-C7
4	B	1006	PCW	C12-C11-O3-C3
4	C	1004	PCW	C45-C46-C47-C48
4	B	1005	PCW	O2-C2-C3-O3
4	B	1004	PCW	C25-C26-C27-C28
4	A	1003	PCW	C41-C42-C43-C44
4	B	1008	PCW	C31-C32-C33-C34
4	B	1009	PCW	C19-C20-C21-C22
4	B	1004	PCW	C41-C42-C43-C44
4	B	1006	PCW	C25-C26-C27-C28
4	C	1008	PCW	C21-C22-C23-C24
4	B	1009	PCW	C37-C38-C39-C40
4	B	1003	PCW	O3P-C1-C2-C3
4	B	1007	PCW	O3P-C1-C2-C3
4	C	1004	PCW	O3P-C1-C2-C3
4	C	1005	PCW	O3P-C1-C2-C3
4	C	1005	PCW	C24-C25-C26-C27
4	B	1007	PCW	C11-C12-C13-C14
4	B	1005	PCW	C14-C15-C16-C17
4	B	1009	PCW	C33-C34-C35-C36
4	B	1008	PCW	C2-C1-O3P-P
4	C	1006	PCW	C2-C1-O3P-P
4	B	1003	PCW	C1-C2-C3-O3
4	B	1004	PCW	C1-C2-C3-O3
4	B	1006	PCW	C1-C2-C3-O3
4	B	1007	PCW	C1-C2-C3-O3
4	B	1008	PCW	C1-C2-C3-O3
4	C	1004	PCW	C1-C2-C3-O3
4	C	1004	PCW	O31-C31-O2-C2
4	C	1006	PCW	C23-C24-C25-C26
4	C	1004	PCW	C15-C16-C17-C18
4	B	1003	PCW	C14-C15-C16-C17
4	B	1006	PCW	O3P-C1-C2-O2
4	B	1009	PCW	O3P-C1-C2-O2
4	C	1004	PCW	O3P-C1-C2-O2
4	B	1006	PCW	O11-C11-O3-C3
4	A	1003	PCW	O2-C2-C3-O3
4	B	1006	PCW	O2-C2-C3-O3
4	B	1008	PCW	O2-C2-C3-O3
4	C	1004	PCW	O2-C2-C3-O3

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Mol	Chain	Res	Type	Atoms
4	B	1006	PCW	C17-C18-C19-C20
4	A	1003	PCW	C22-C23-C24-C25
4	B	1003	PCW	C34-C35-C36-C37
4	B	1005	PCW	C40-C41-C42-C43
4	C	1003	PCW	C45-C46-C47-C48
4	C	1005	PCW	C13-C14-C15-C16
4	C	1004	PCW	C4-C5-N-C8
4	B	1007	PCW	C35-C36-C37-C38
5	D	1009	CE1	C7-C8-C9-C10
4	C	1005	PCW	C15-C16-C17-C18
4	C	1008	PCW	C42-C43-C44-C45
4	A	1003	PCW	O3P-C1-C2-C3
4	D	1003	PCW	O3P-C1-C2-C3
4	C	1005	PCW	C12-C13-C14-C15
4	D	1003	PCW	C23-C24-C25-C26
4	B	1006	PCW	C24-C25-C26-C27
4	B	1007	PCW	O31-C31-O2-C2
4	B	1009	PCW	C12-C11-O3-C3
4	B	1003	PCW	C33-C34-C35-C36
4	A	1004	PCW	C25-C26-C27-C28
5	D	1004	CE1	C5-C6-C7-C8
4	A	1003	PCW	C1-C2-C3-O3
4	B	1007	PCW	C32-C31-O2-C2
4	A	1003	PCW	O3P-C1-C2-O2
4	C	1008	PCW	O3P-C1-C2-O2
4	A	1003	PCW	C21-C22-C23-C24
4	C	1004	PCW	C44-C45-C46-C47
4	B	1009	PCW	C14-C15-C16-C17
4	A	1004	PCW	O2-C2-C3-O3
4	B	1004	PCW	O2-C2-C3-O3
4	D	1003	PCW	O2-C2-C3-O3
4	B	1008	PCW	C15-C16-C17-C18
4	B	1009	PCW	O11-C11-O3-C3
4	C	1006	PCW	C32-C33-C34-C35
4	B	1005	PCW	C13-C14-C15-C16
4	C	1008	PCW	C25-C26-C27-C28
4	B	1008	PCW	C41-C42-C43-C44
4	B	1003	PCW	C1-O3P-P-O4P
4	C	1005	PCW	C1-O3P-P-O4P
4	D	1003	PCW	C1-O3P-P-O4P
4	B	1007	PCW	C33-C34-C35-C36
4	A	1004	PCW	C4-O4P-P-O1P

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Mol	Chain	Res	Type	Atoms
4	B	1005	PCW	C4-O4P-P-O1P
4	B	1006	PCW	C1-O3P-P-O1P
4	B	1007	PCW	C4-C5-N-C8
4	B	1007	PCW	C1-O3P-P-O2P
4	B	1008	PCW	C1-O3P-P-O2P
4	B	1008	PCW	C4-O4P-P-O2P
4	B	1009	PCW	C4-O4P-P-O2P
4	C	1003	PCW	C1-O3P-P-O1P
4	C	1005	PCW	C4-O4P-P-O1P
4	C	1006	PCW	C4-O4P-P-O2P
4	C	1008	PCW	C1-O3P-P-O1P
4	B	1004	PCW	O3P-C1-C2-C3
4	C	1008	PCW	O3P-C1-C2-C3
4	B	1008	PCW	C40-C41-C42-C43
4	C	1008	PCW	C41-C42-C43-C44
5	C	1007	CE1	C11-C10-C9-C8
4	B	1004	PCW	O3P-C1-C2-O2
4	B	1007	PCW	O3P-C1-C2-O2
4	C	1005	PCW	O3P-C1-C2-O2
4	C	1006	PCW	C31-C32-C33-C34
5	D	1006	CE1	C11-C10-C9-C8
4	A	1004	PCW	C11-C12-C13-C14
4	B	1005	PCW	C34-C35-C36-C37
4	B	1004	PCW	O4P-C4-C5-N
4	B	1005	PCW	C1-C2-C3-O3
4	C	1003	PCW	O4P-C4-C5-N
4	B	1007	PCW	O2-C2-C3-O3
4	C	1006	PCW	O2-C2-C3-O3
4	C	1004	PCW	C41-C42-C43-C44
4	B	1009	PCW	C23-C24-C25-C26
5	C	1007	CE1	C1-C2-C3-C4
4	C	1008	PCW	O11-C11-O3-C3
5	D	1008	CE1	C11-C10-C9-C8
4	C	1003	PCW	C24-C25-C26-C27
4	C	1004	PCW	C25-C26-C27-C28
4	C	1004	PCW	C40-C41-C42-C43
4	B	1005	PCW	C42-C43-C44-C45
4	B	1005	PCW	C33-C34-C35-C36
4	A	1004	PCW	C1-C2-O2-C31
4	B	1009	PCW	O3P-C1-C2-C3
4	C	1006	PCW	C22-C23-C24-C25
4	C	1005	PCW	C33-C34-C35-C36

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Mol	Chain	Res	Type	Atoms
4	C	1006	PCW	C25-C26-C27-C28
4	D	1003	PCW	O3P-C1-C2-O2
4	B	1007	PCW	C4-C5-N-C6
4	C	1004	PCW	C4-C5-N-C6
4	C	1008	PCW	C12-C11-O3-C3
4	B	1004	PCW	C1-O3P-P-O4P
4	A	1003	PCW	C17-C18-C19-C20
4	B	1003	PCW	C19-C20-C21-C22
4	B	1008	PCW	C20-C21-C22-C23
4	B	1003	PCW	C12-C11-O3-C3
4	B	1003	PCW	O11-C11-O3-C3
4	B	1007	PCW	C14-C15-C16-C17
4	B	1004	PCW	C2-C1-O3P-P
4	C	1004	PCW	C17-C18-C19-C20
4	A	1004	PCW	C20-C21-C22-C23
4	C	1003	PCW	C32-C33-C34-C35
4	D	1003	PCW	C44-C45-C46-C47
4	C	1008	PCW	C44-C45-C46-C47
4	B	1008	PCW	C14-C15-C16-C17
4	C	1006	PCW	C15-C16-C17-C18
5	D	1008	CE1	C3-C4-C5-C6
4	A	1003	PCW	C13-C14-C15-C16
4	D	1003	PCW	C1-C2-C3-O3
4	C	1004	PCW	C12-C11-O3-C3
5	D	1006	CE1	C5-C6-C7-C8
4	B	1007	PCW	C20-C21-C22-C23
4	B	1008	PCW	C21-C22-C23-C24
4	B	1007	PCW	C4-C5-N-C7
4	D	1003	PCW	C19-C20-C21-C22
4	C	1008	PCW	C12-C13-C14-C15
4	C	1006	PCW	O3P-C1-C2-O2
5	D	1009	CE1	C5-C6-C7-C8
4	C	1004	PCW	O11-C11-O3-C3
4	A	1004	PCW	C42-C43-C44-C45
4	D	1003	PCW	C21-C22-C23-C24
4	B	1005	PCW	C15-C16-C17-C18
4	C	1006	PCW	C44-C45-C46-C47
5	D	1004	CE1	C9-C10-C11-C12
5	D	1005	CE1	C7-C8-C9-C10
4	A	1004	PCW	C37-C38-C39-C40
4	B	1004	PCW	C37-C38-C39-C40
4	B	1003	PCW	O3P-C1-C2-O2

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Mol	Chain	Res	Type	Atoms
4	B	1006	PCW	O3P-C1-C2-C3
4	C	1006	PCW	C37-C38-C39-C40
4	C	1004	PCW	C2-C1-O3P-P
4	B	1005	PCW	O2-C31-C32-C33
4	C	1003	PCW	O3-C11-C12-C13
4	B	1003	PCW	C45-C46-C47-C48
4	C	1004	PCW	C42-C43-C44-C45
4	B	1003	PCW	C17-C18-C19-C20
4	B	1003	PCW	C39-C40-C41-C42
4	C	1008	PCW	C17-C18-C19-C20
4	C	1008	PCW	C4-C5-N-C6
4	C	1003	PCW	O2-C31-C32-C33
4	A	1003	PCW	C25-C26-C27-C28
4	C	1008	PCW	C13-C14-C15-C16
4	B	1005	PCW	C39-C40-C41-C42
4	B	1007	PCW	C17-C18-C19-C20
4	B	1008	PCW	C19-C20-C21-C22
4	C	1004	PCW	C37-C38-C39-C40
4	C	1008	PCW	O3-C11-C12-C13
4	A	1004	PCW	C19-C20-C21-C22
4	C	1004	PCW	C19-C20-C21-C22
4	C	1006	PCW	C19-C20-C21-C22
4	C	1008	PCW	C37-C38-C39-C40
4	A	1004	PCW	C40-C41-C42-C43
4	A	1004	PCW	C1-C2-C3-O3
4	C	1006	PCW	C45-C46-C47-C48
4	C	1004	PCW	C14-C15-C16-C17
4	C	1006	PCW	O2-C31-C32-C33
4	C	1003	PCW	C23-C24-C25-C26
4	C	1003	PCW	C17-C18-C19-C20
4	A	1003	PCW	O2-C31-C32-C33
4	B	1005	PCW	C25-C26-C27-C28
4	A	1003	PCW	C39-C40-C41-C42
4	B	1005	PCW	C17-C18-C19-C20
4	C	1004	PCW	C23-C24-C25-C26
4	B	1005	PCW	O31-C31-C32-C33
4	B	1008	PCW	C39-C40-C41-C42
4	C	1005	PCW	C37-C38-C39-C40
4	B	1005	PCW	C35-C36-C37-C38
4	D	1003	PCW	O11-C11-O3-C3
4	C	1003	PCW	O31-C31-C32-C33
4	A	1003	PCW	C34-C35-C36-C37

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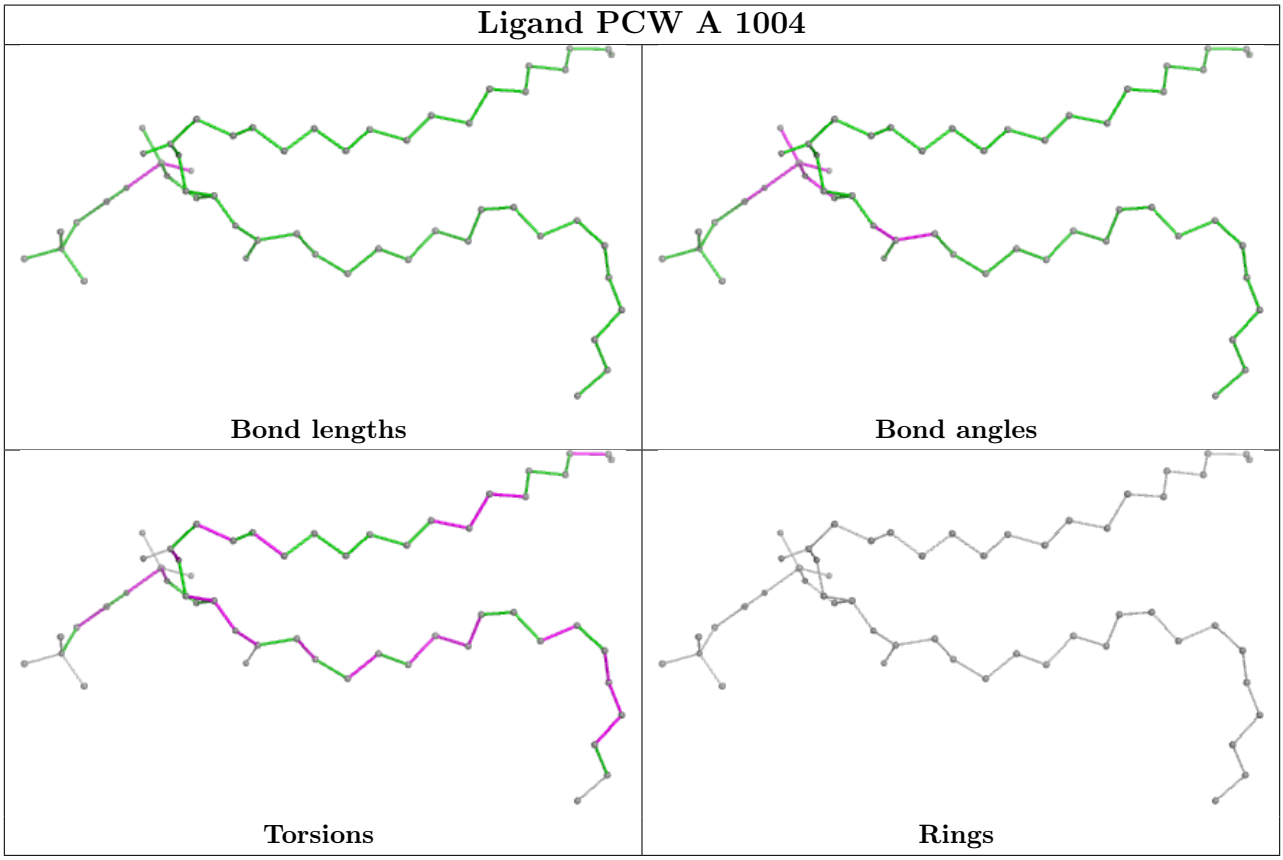
Mol	Chain	Res	Type	Atoms
4	B	1007	PCW	C39-C40-C41-C42
4	C	1003	PCW	O11-C11-C12-C13
4	C	1006	PCW	C1-C2-C3-O3
4	C	1008	PCW	O11-C11-C12-C13
4	B	1004	PCW	C1-O3P-P-O2P
4	C	1003	PCW	C1-O3P-P-O2P
4	D	1003	PCW	C1-O3P-P-O2P
4	C	1006	PCW	O3P-C1-C2-C3
4	C	1006	PCW	O31-C31-C32-C33
4	B	1005	PCW	C5-C4-O4P-P
4	A	1003	PCW	C33-C34-C35-C36
4	D	1003	PCW	C12-C11-O3-C3
4	C	1008	PCW	C4-C5-N-C7
4	C	1008	PCW	C4-C5-N-C8
4	B	1006	PCW	C43-C44-C45-C46
4	A	1003	PCW	O31-C31-C32-C33
5	D	1005	CE1	C6-C7-C8-C9
4	C	1005	PCW	C19-C20-C21-C22

There are no ring outliers.

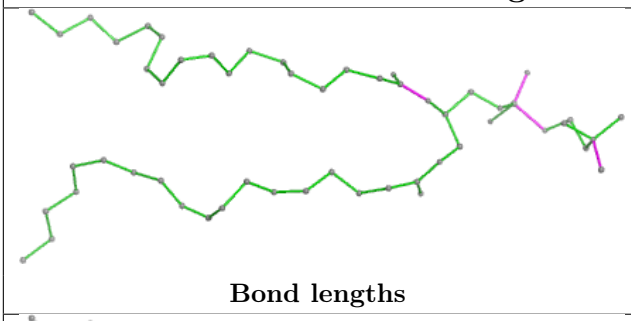
19 monomers are involved in 58 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	1004	PCW	1	0
4	D	1003	PCW	4	0
4	B	1006	PCW	2	0
4	B	1007	PCW	3	0
5	D	1006	CE1	4	0
4	C	1005	PCW	5	0
4	C	1006	PCW	2	0
5	D	1005	CE1	3	0
4	B	1008	PCW	3	0
2	H	1001	BEF	1	0
4	C	1003	PCW	2	0
5	D	1009	CE1	1	0
4	B	1009	PCW	4	0
4	B	1004	PCW	3	0
4	C	1004	PCW	8	0
5	D	1008	CE1	2	0
4	C	1008	PCW	4	0
4	A	1003	PCW	2	0
4	B	1003	PCW	5	0

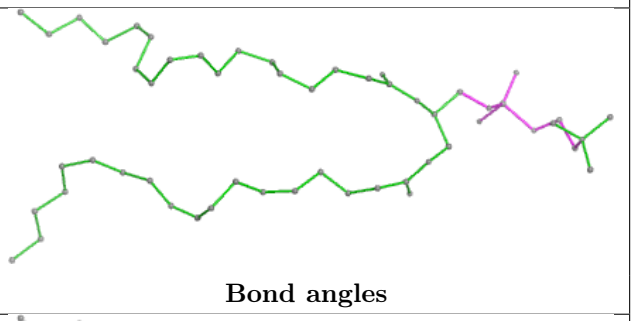
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



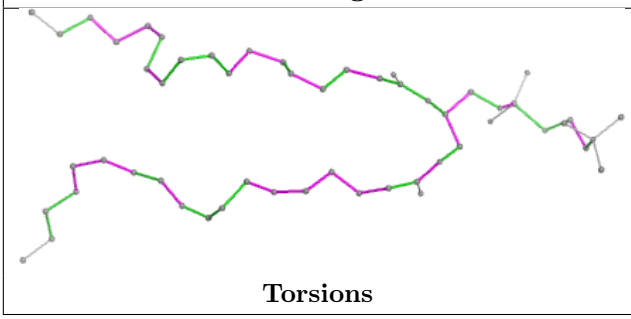
Ligand PCW D 1003



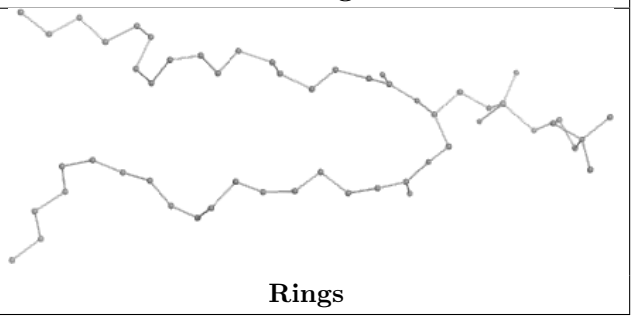
Bond lengths



Bond angles

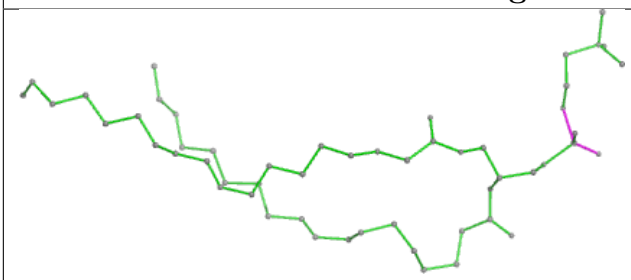


Torsions

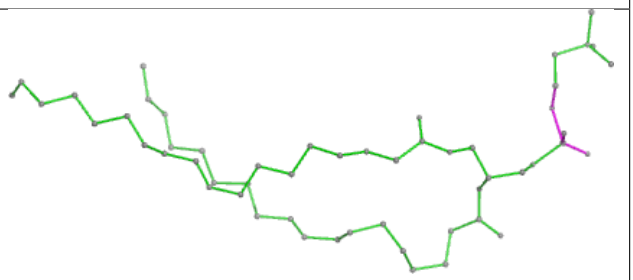


Rings

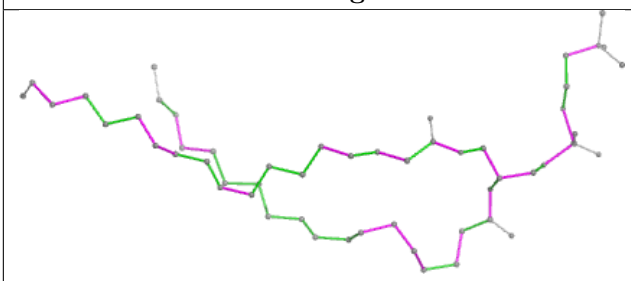
Ligand PCW B 1006



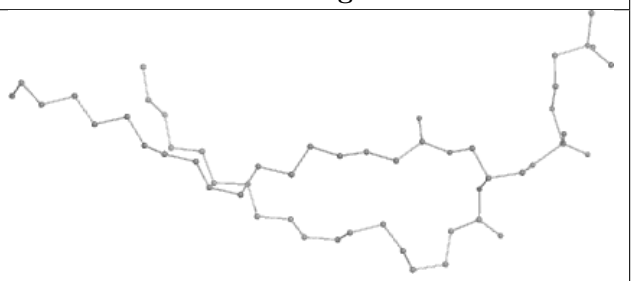
Bond lengths



Bond angles

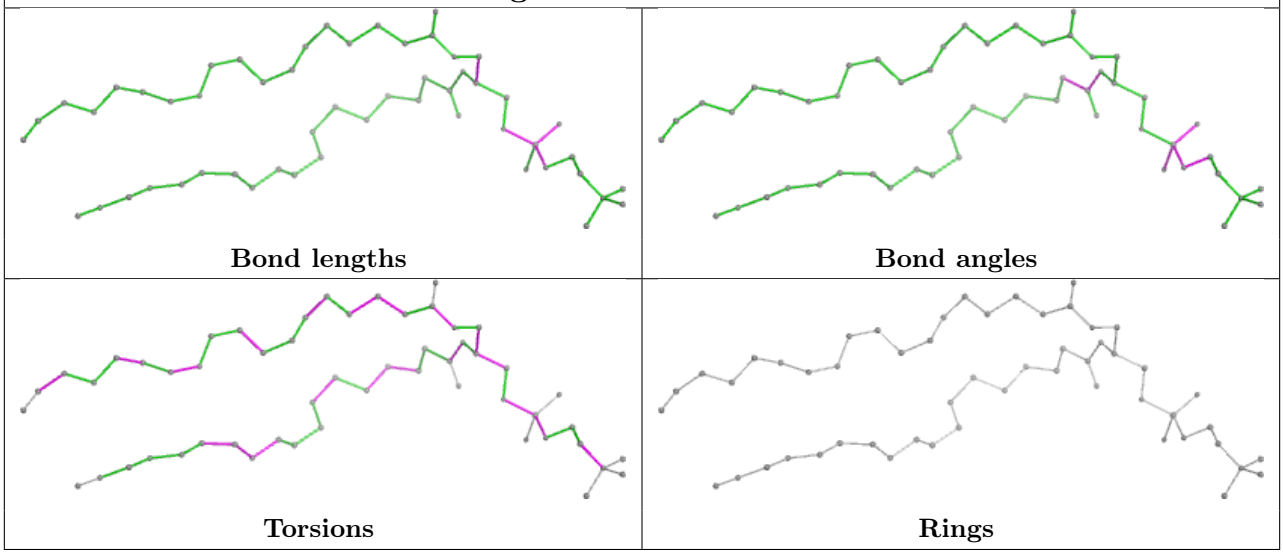


Torsions

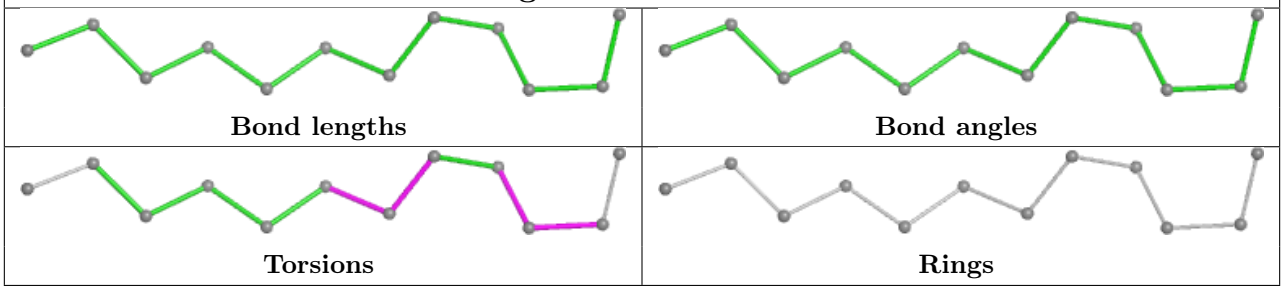


Rings

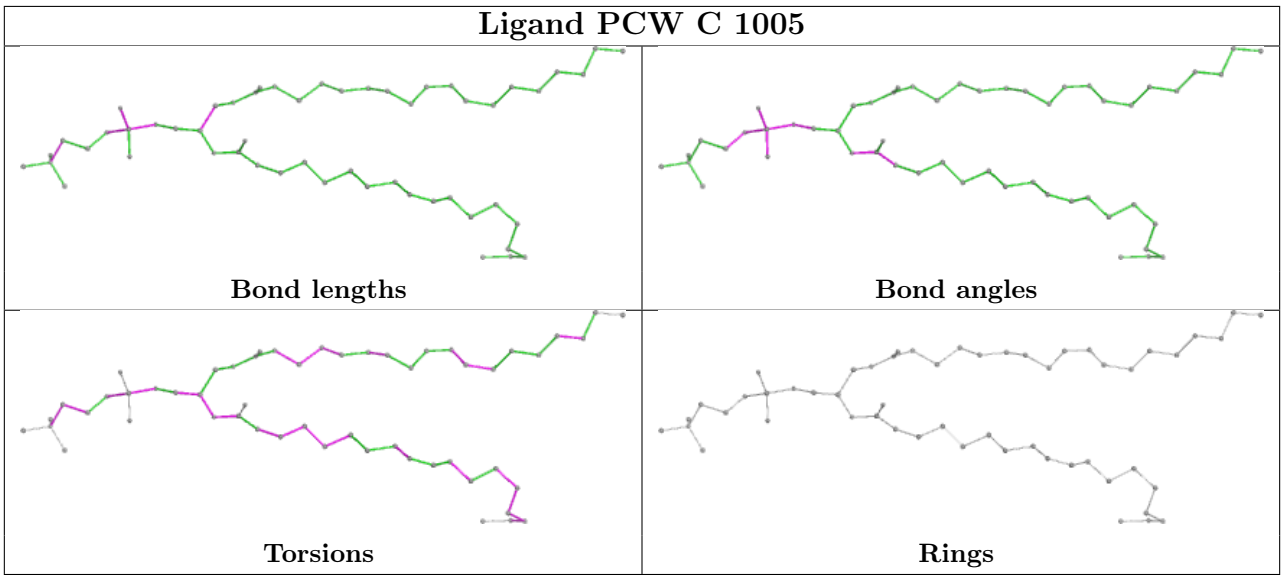
Ligand PCW B 1007



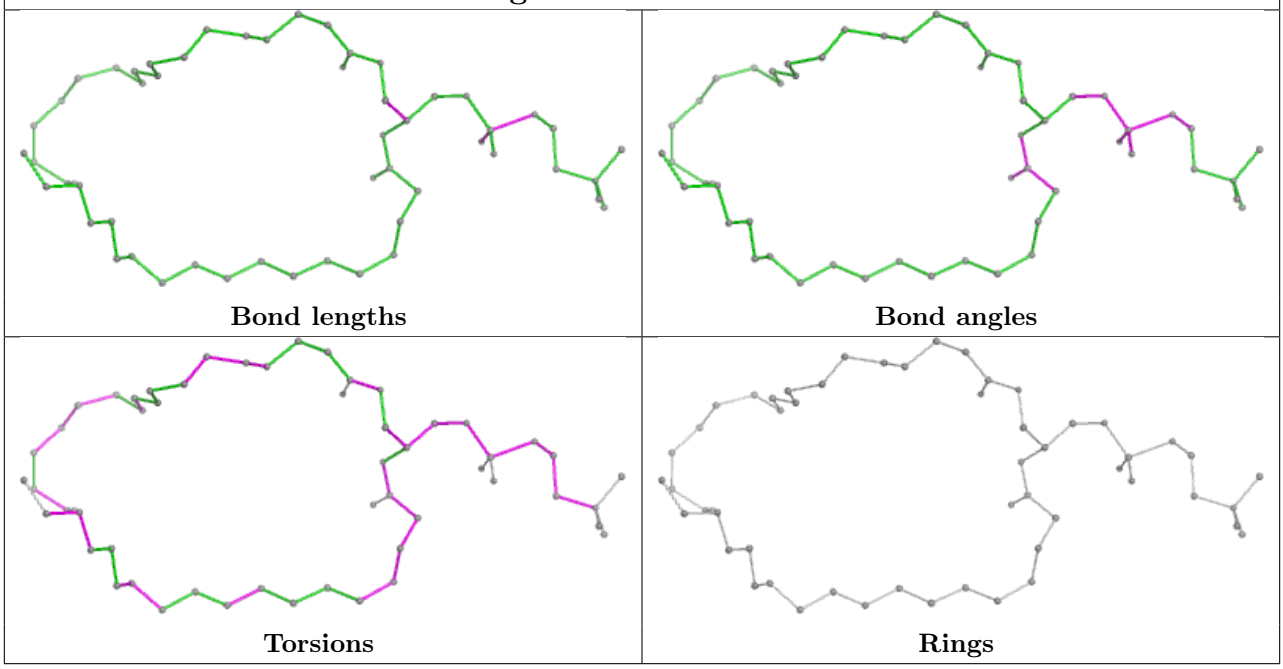
Ligand CE1 D 1006



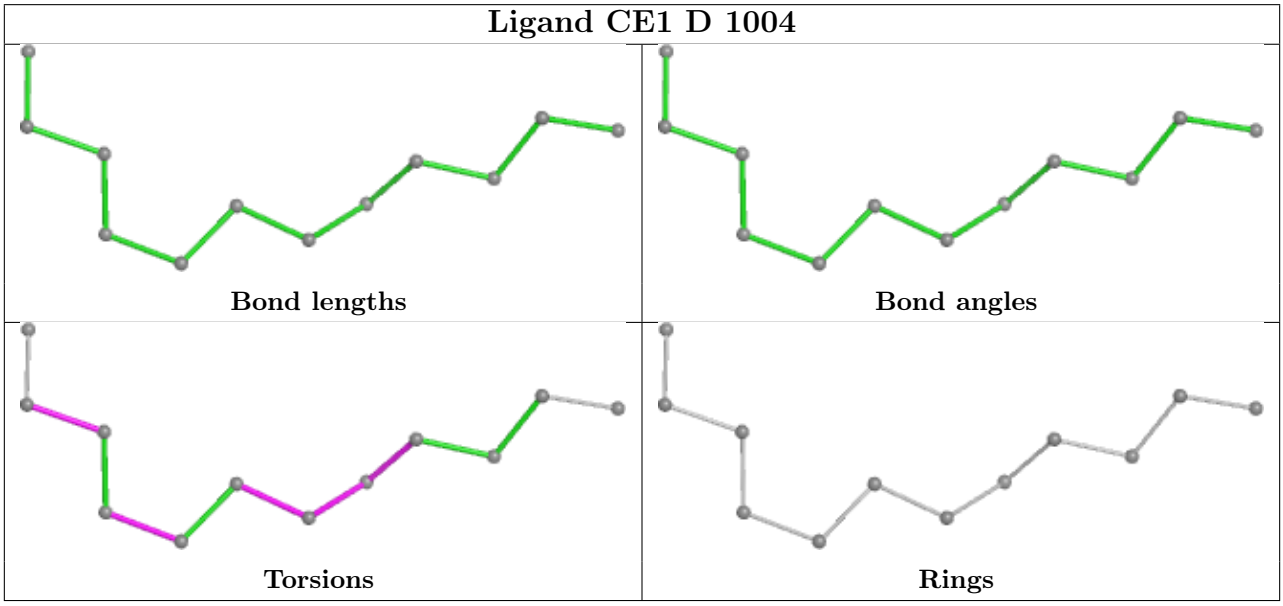
Ligand PCW C 1005



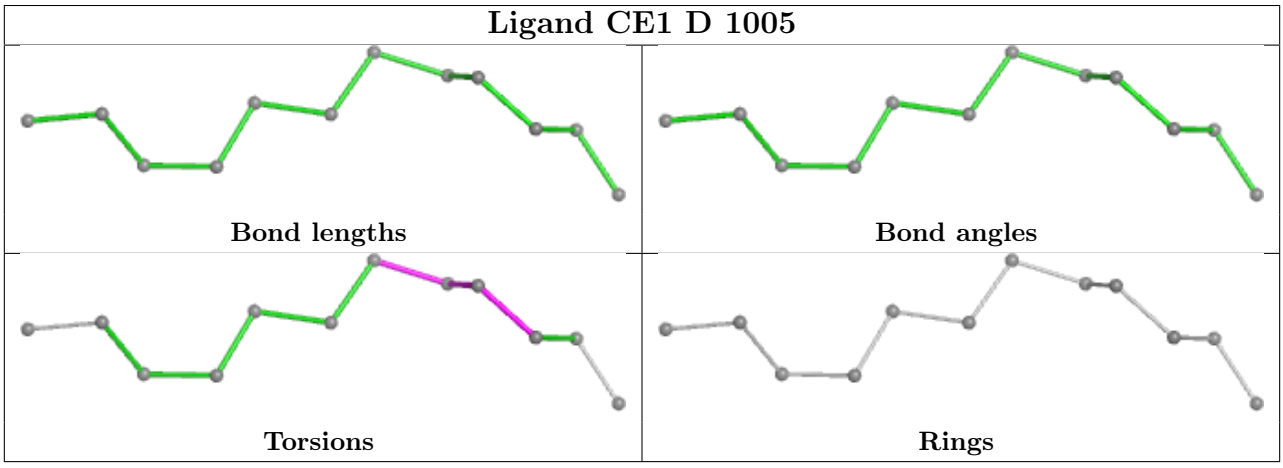
Ligand PCW C 1006



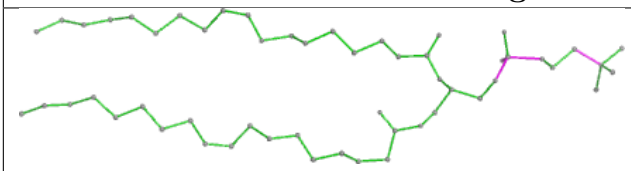
Ligand CE1 D 1004



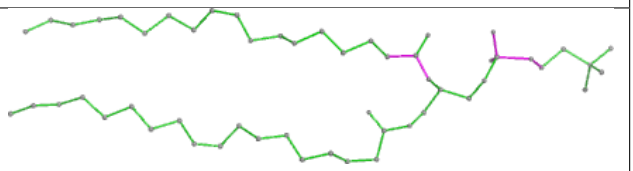
Ligand CE1 D 1005



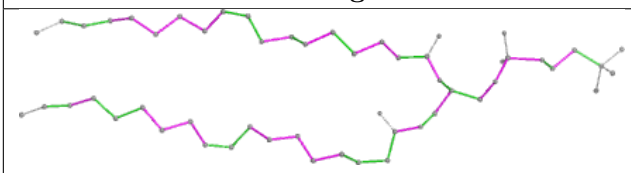
Ligand PCW B 1008



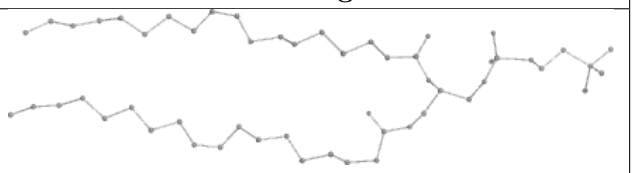
Bond lengths



Bond angles

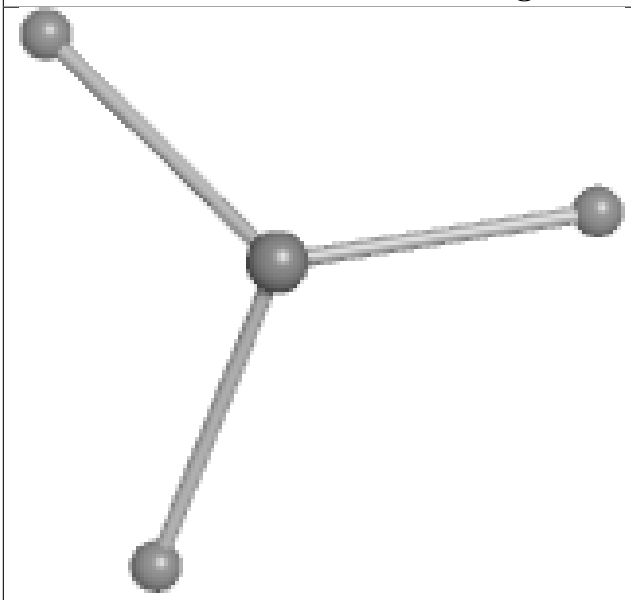


Torsions

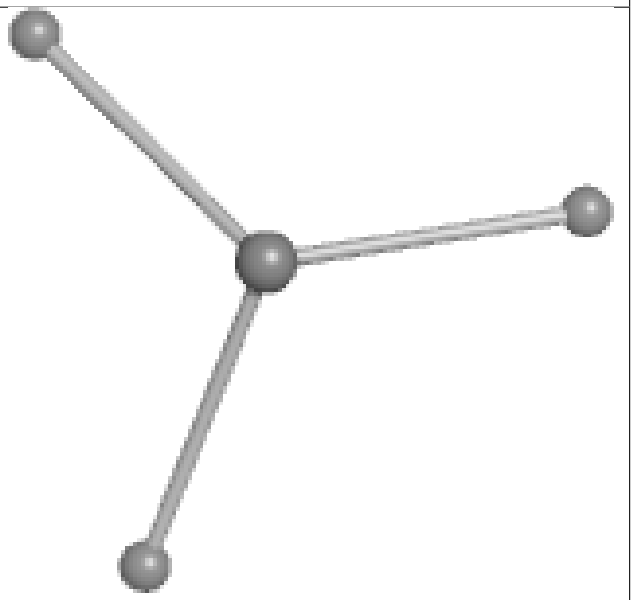


Rings

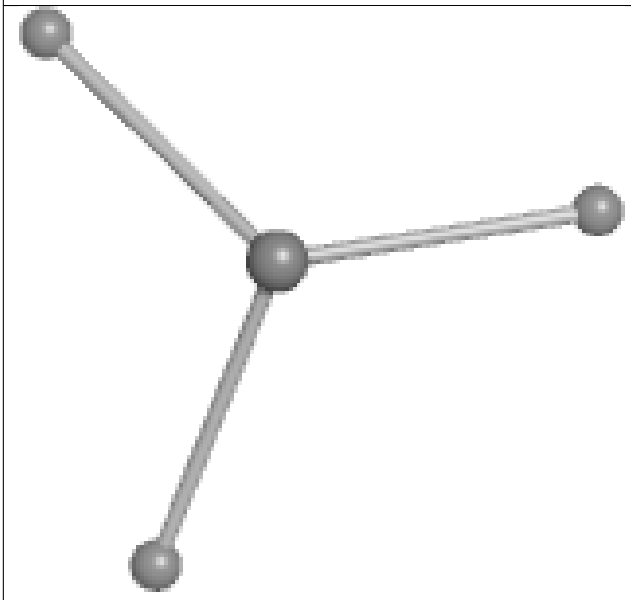
Ligand BEF H 1001



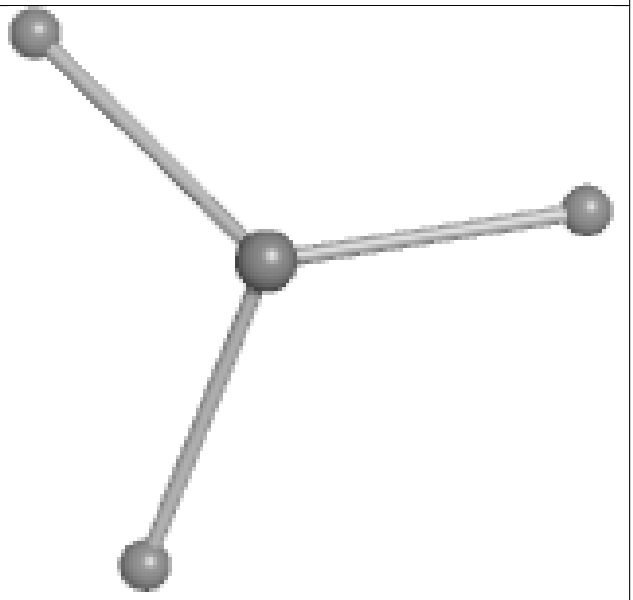
Bond lengths



Bond angles

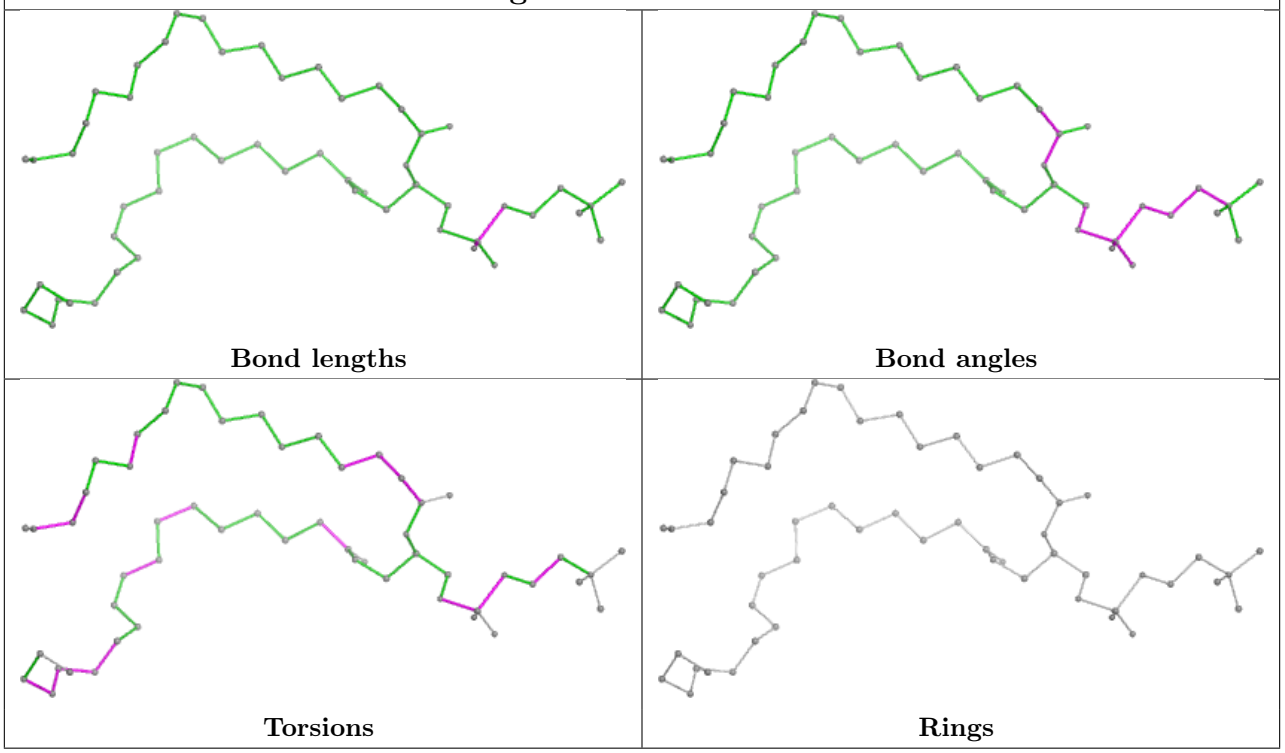


Torsions

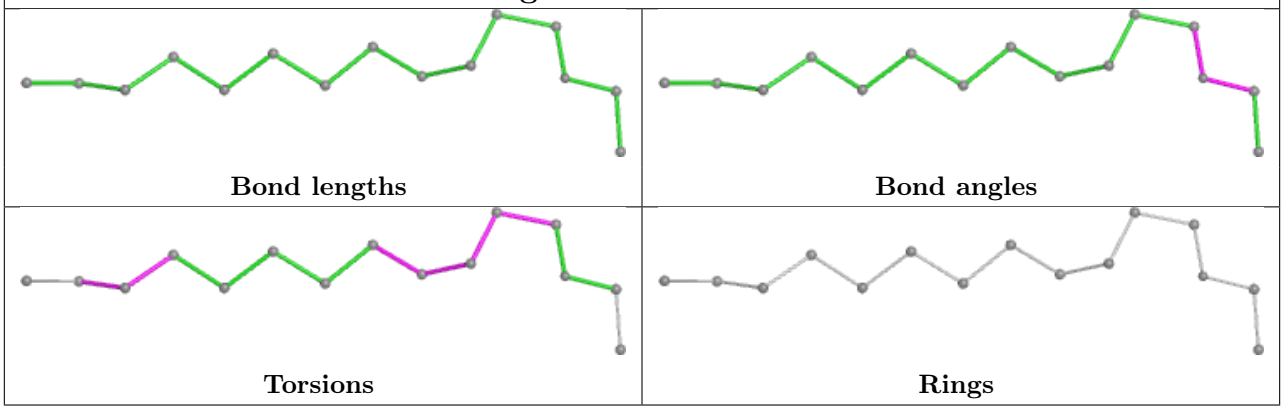


Rings

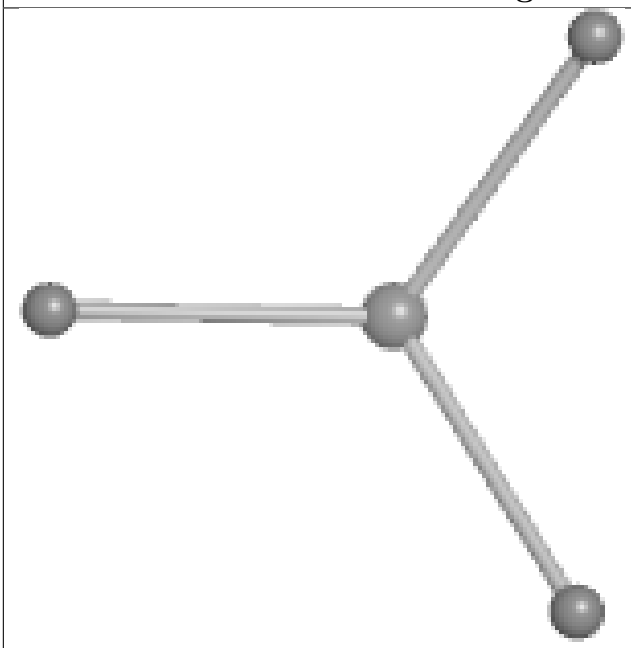
Ligand PCW C 1003



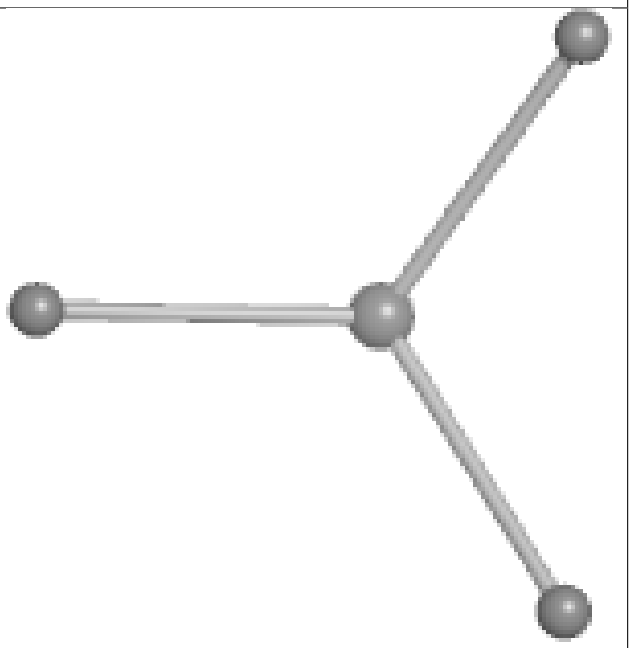
Ligand CE1 C 1007



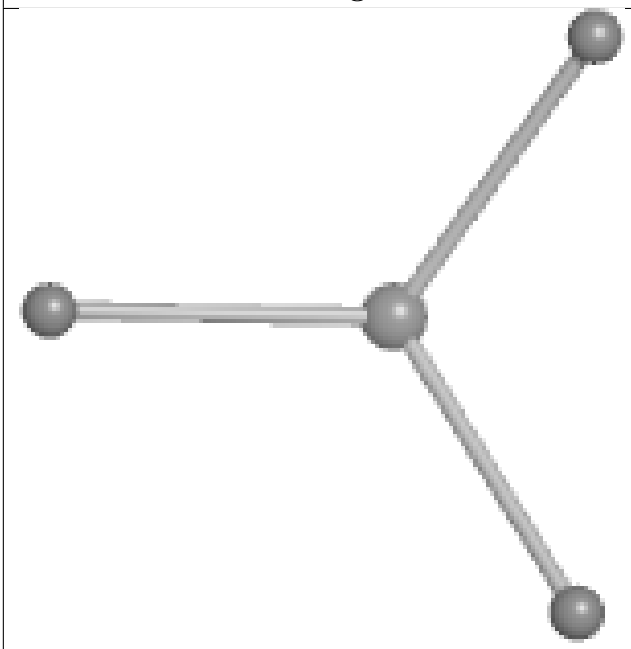
Ligand BEF D 1001



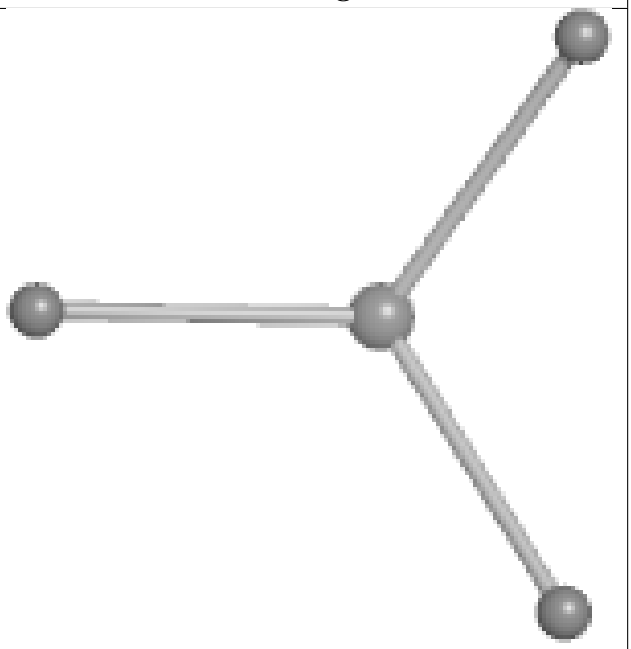
Bond lengths



Bond angles

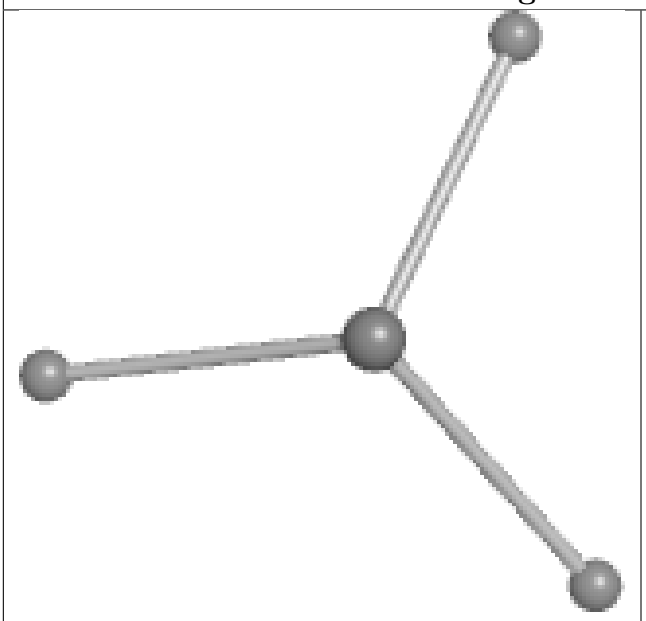


Torsions

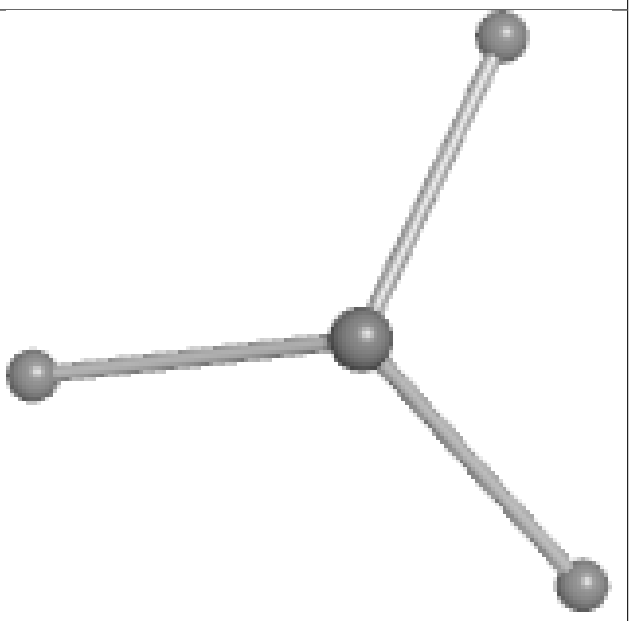


Rings

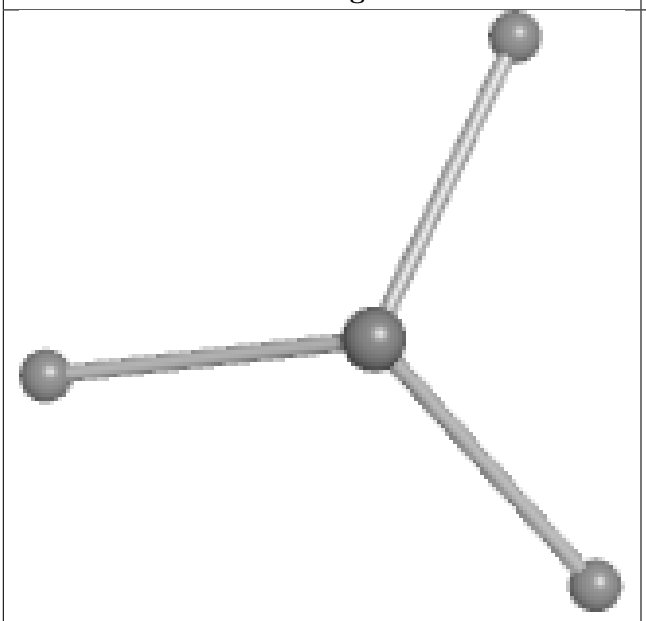
Ligand BEF F 1001



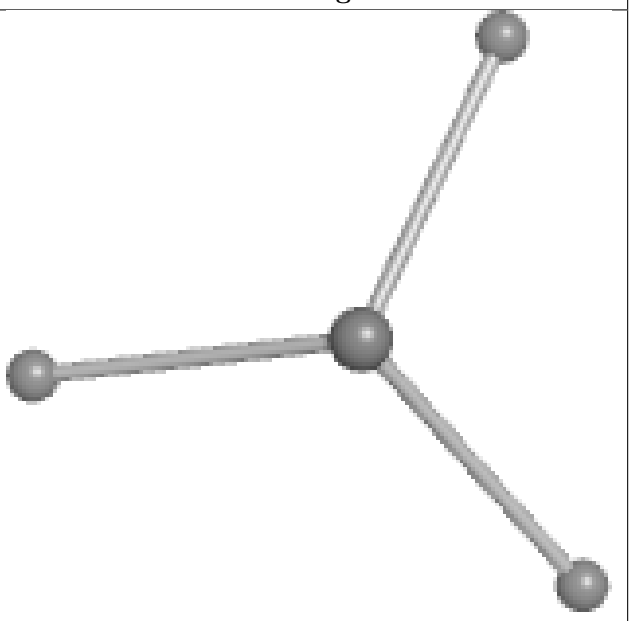
Bond lengths



Bond angles



Torsions



Rings

Ligand CE1 D 1009

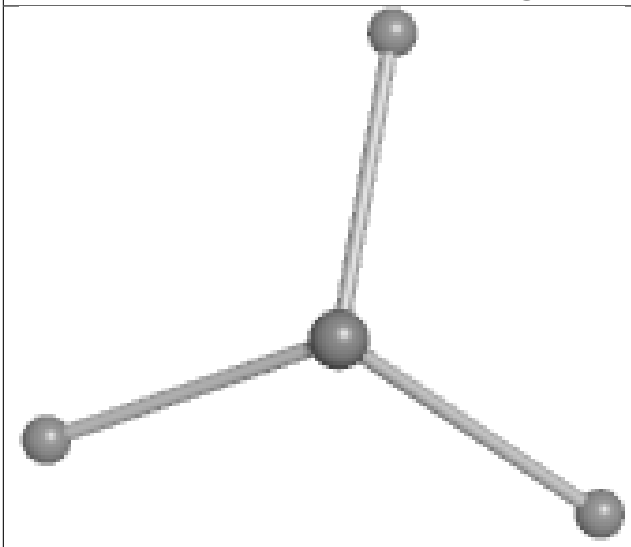
Bond lengths

Bond angles

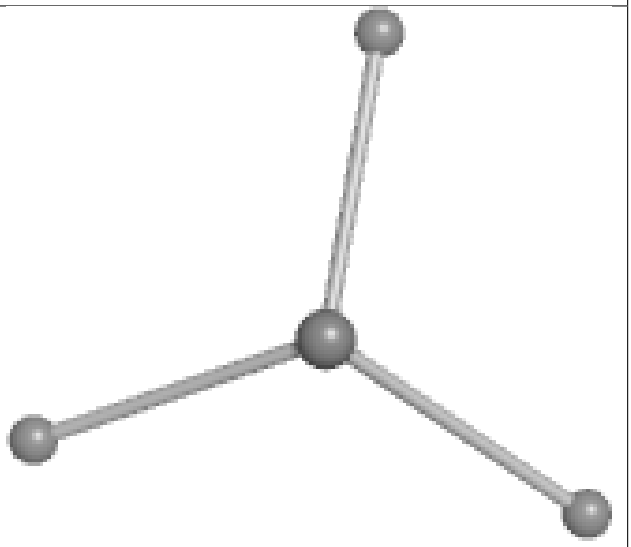
Torsions

Rings

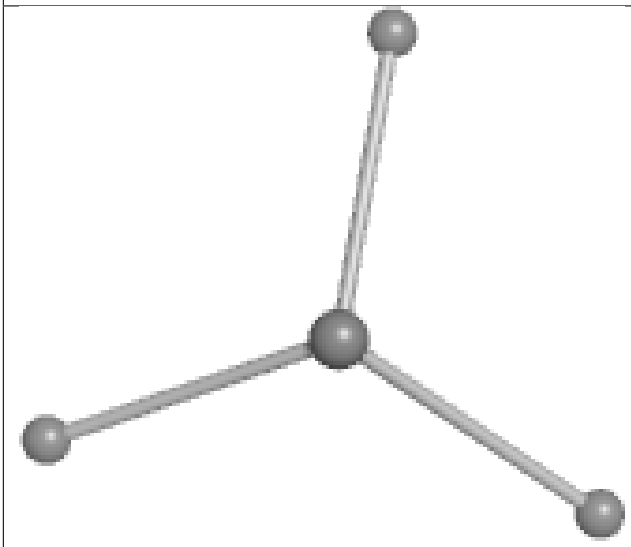
Ligand BEF E 1001



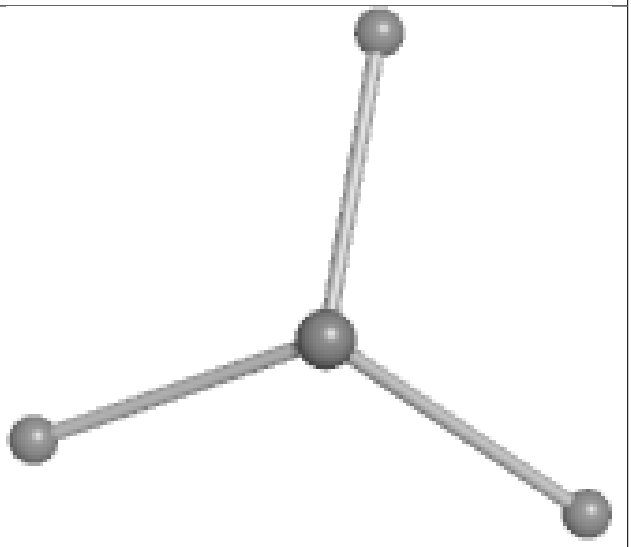
Bond lengths



Bond angles

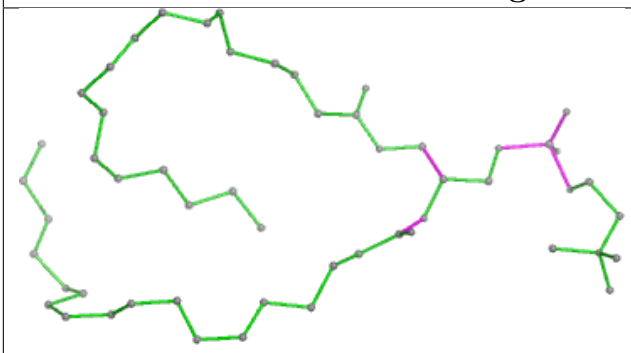


Torsions

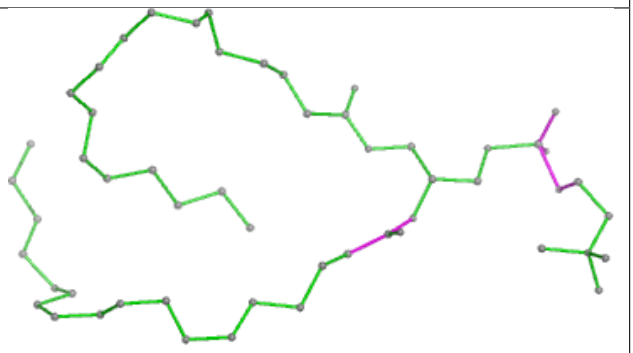


Rings

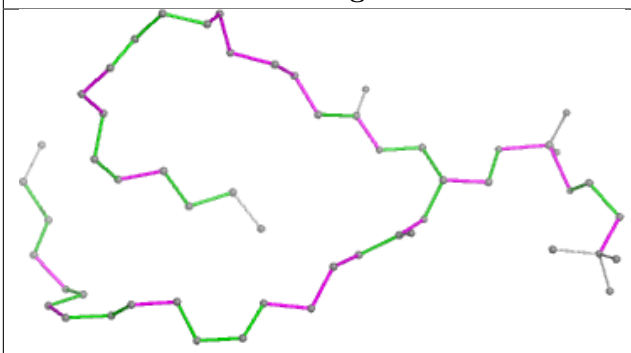
Ligand PCW B 1009



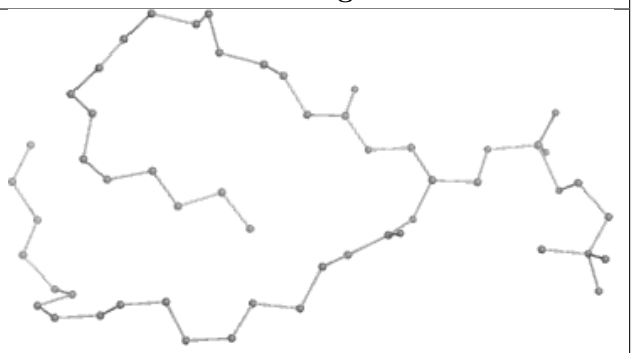
Bond lengths



Bond angles

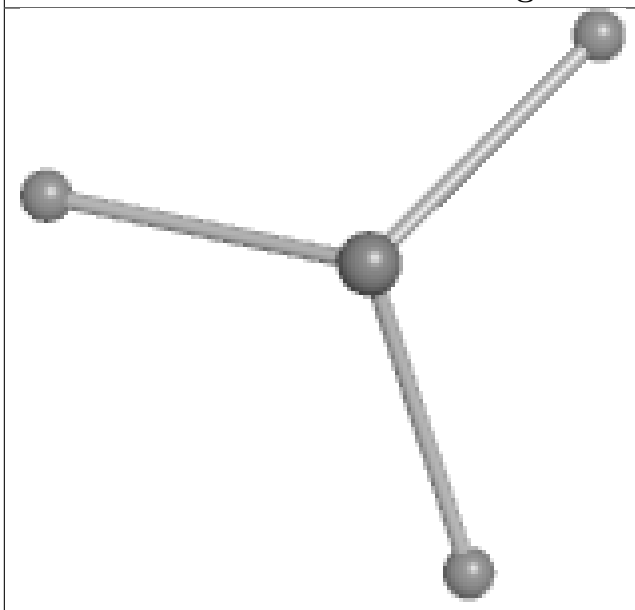


Torsions

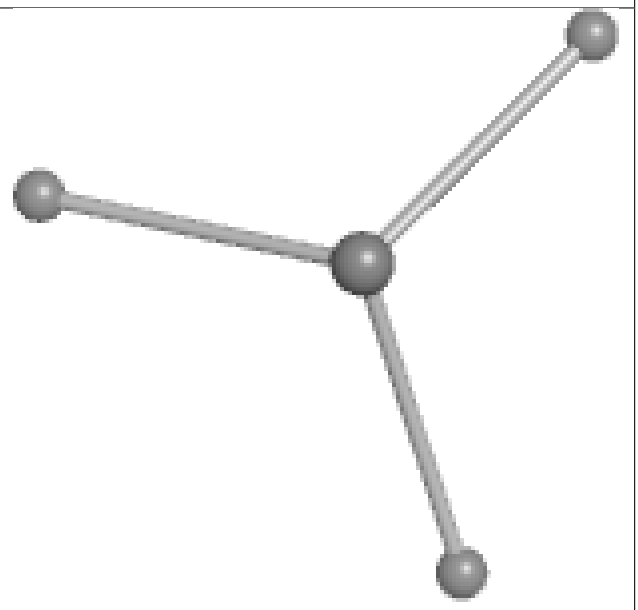


Rings

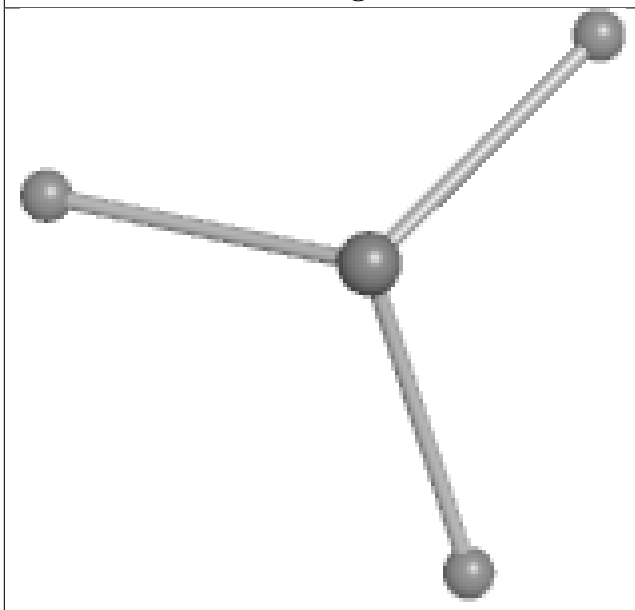
Ligand BEF G 1001



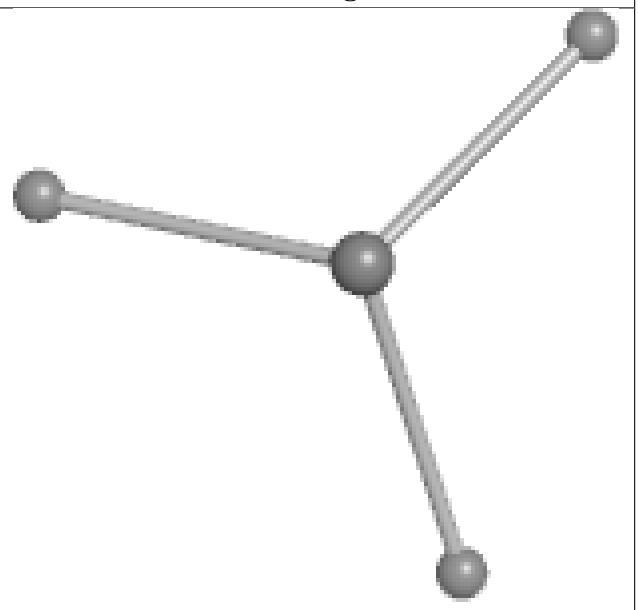
Bond lengths



Bond angles

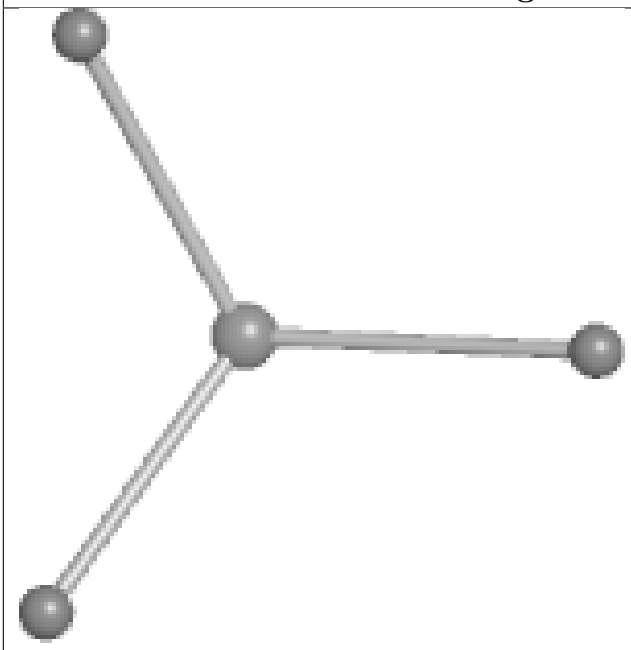


Torsions

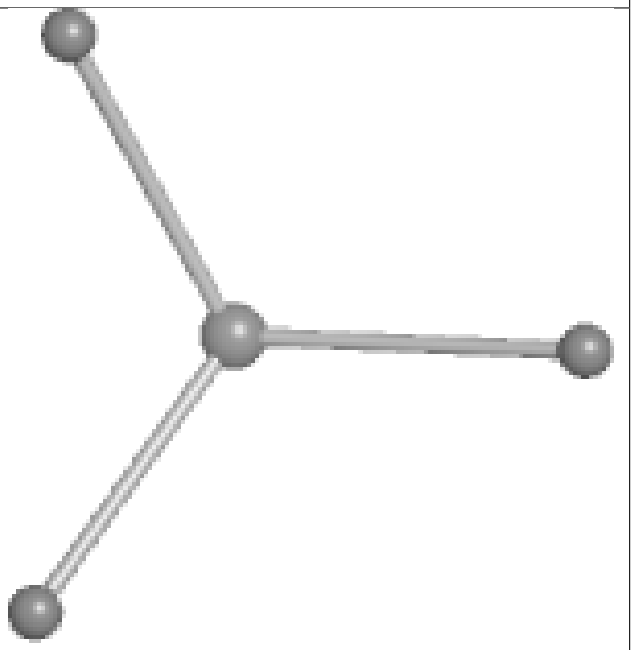


Rings

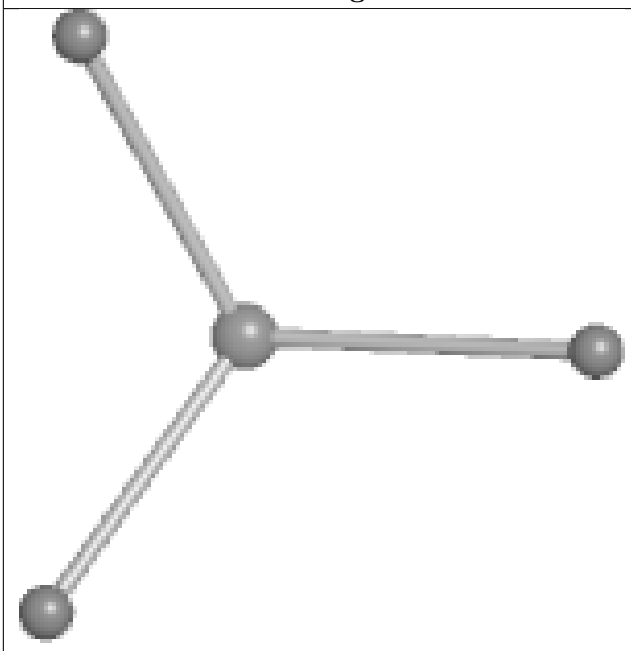
Ligand BEF B 1001



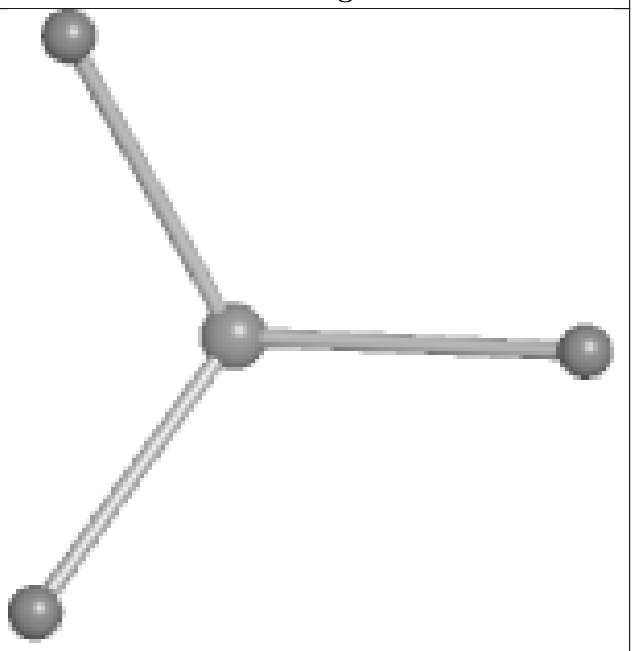
Bond lengths



Bond angles

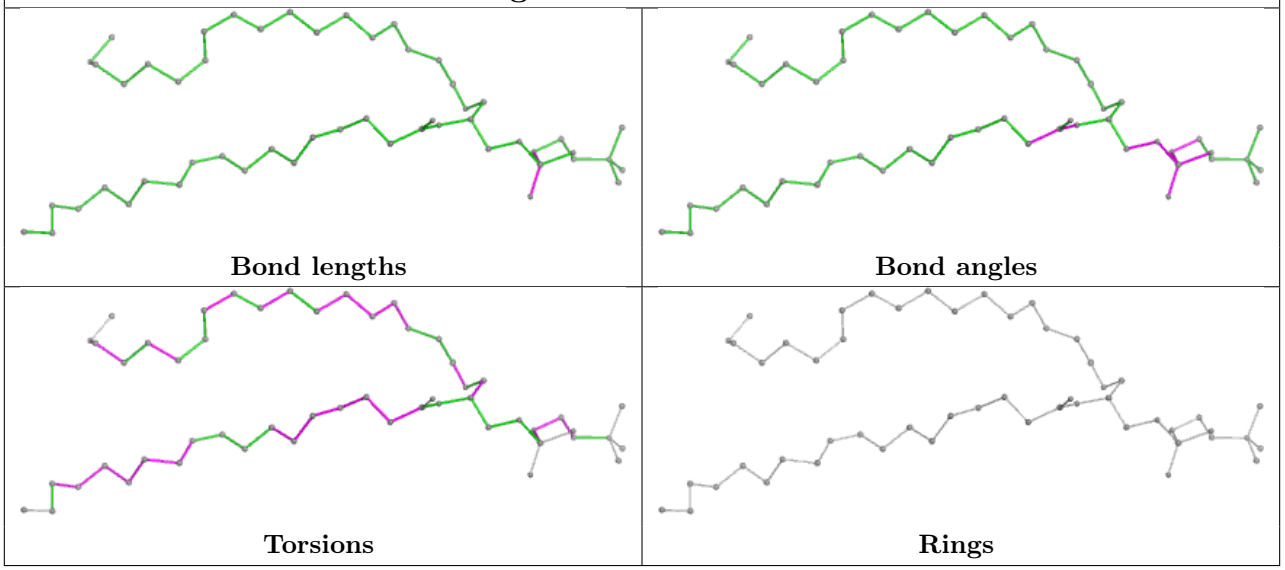


Torsions

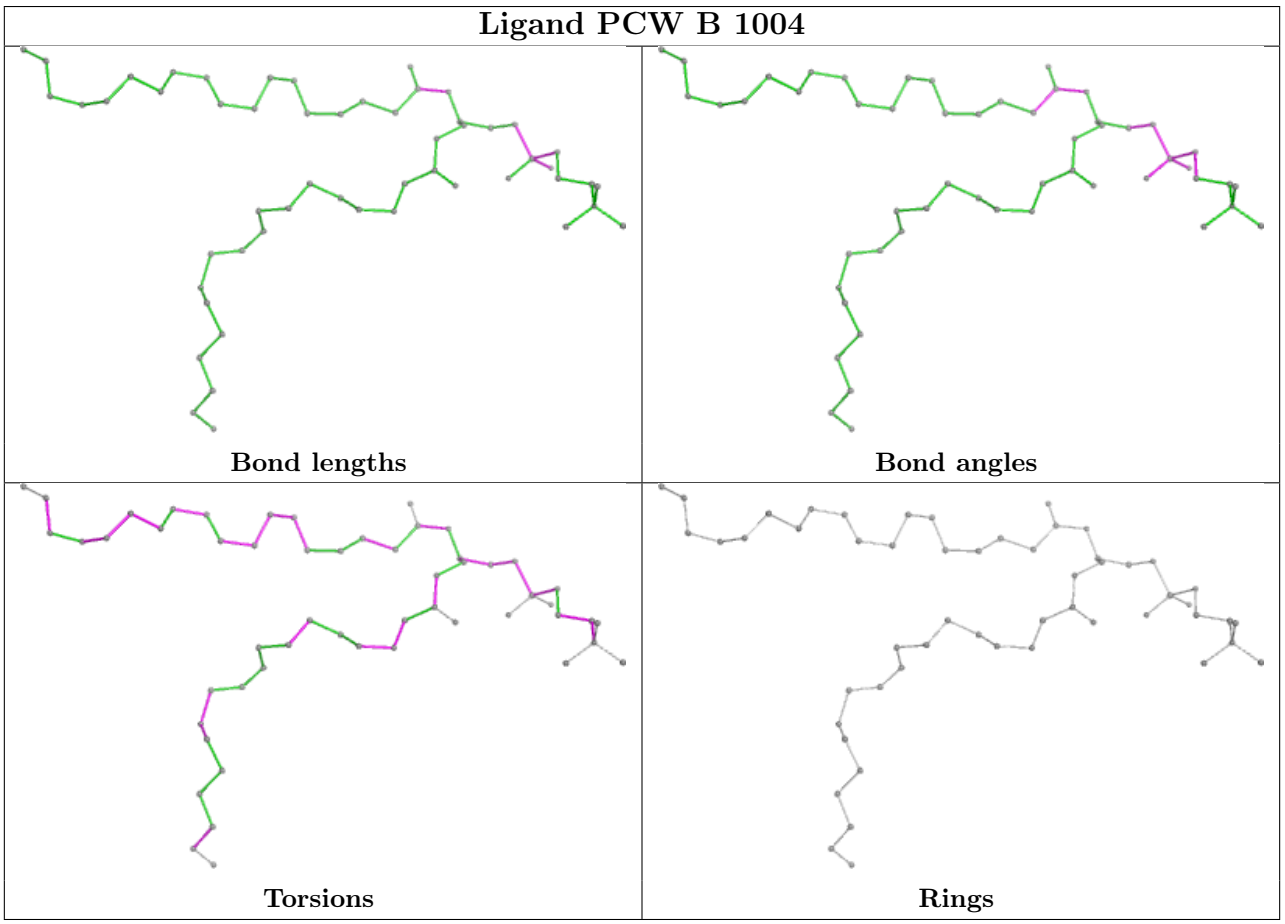


Rings

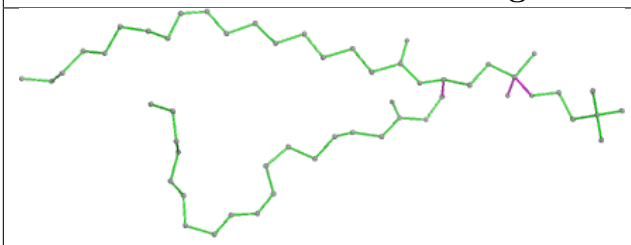
Ligand PCW B 1005



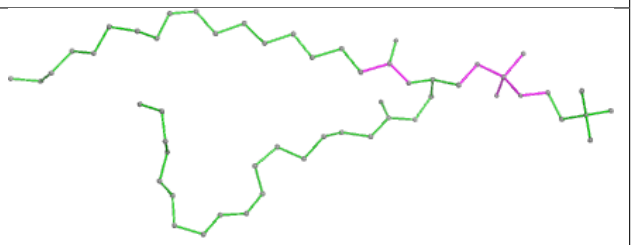
Ligand PCW B 1004



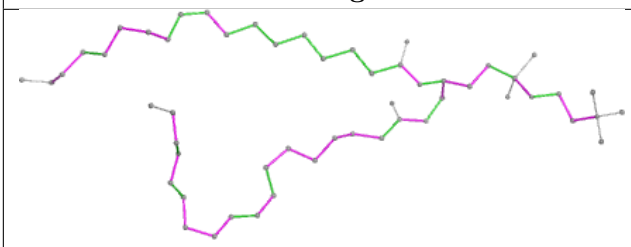
Ligand PCW C 1004



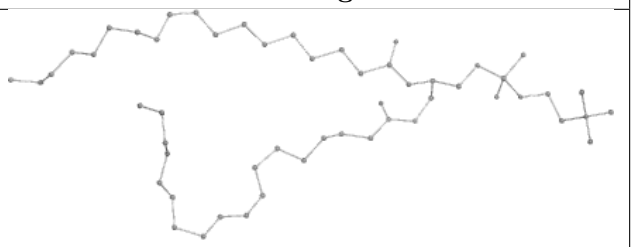
Bond lengths



Bond angles

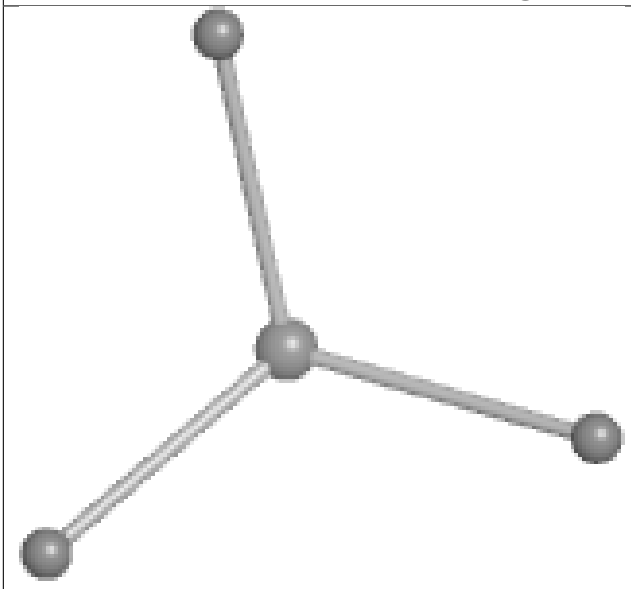


Torsions

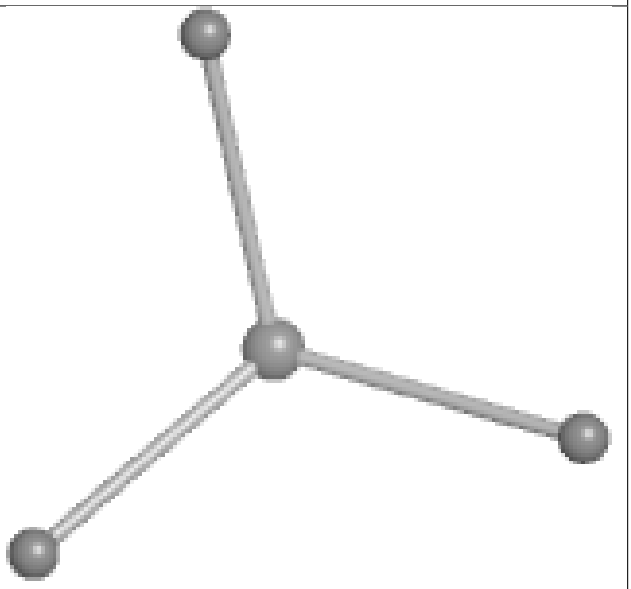


Rings

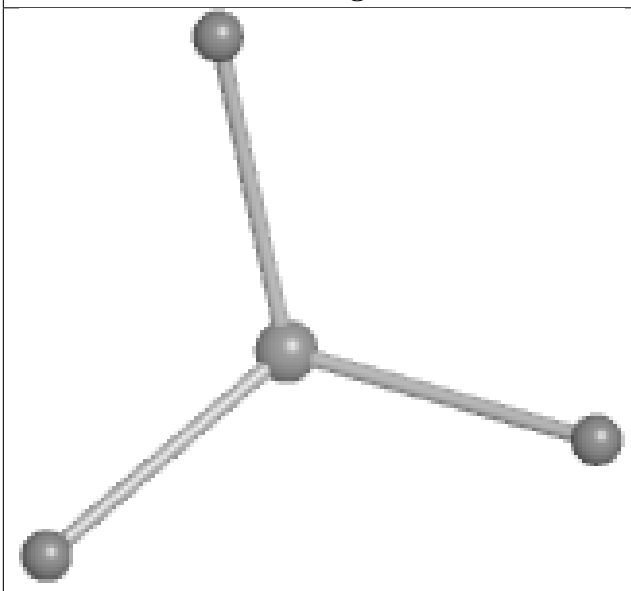
Ligand BEF C 1001



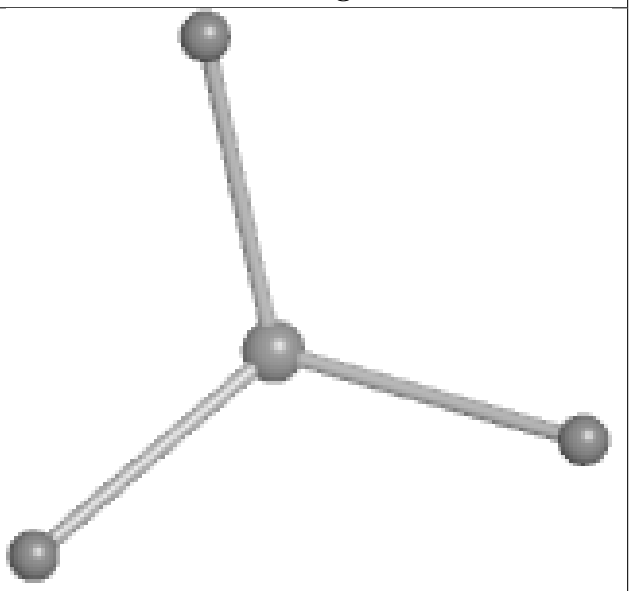
Bond lengths



Bond angles

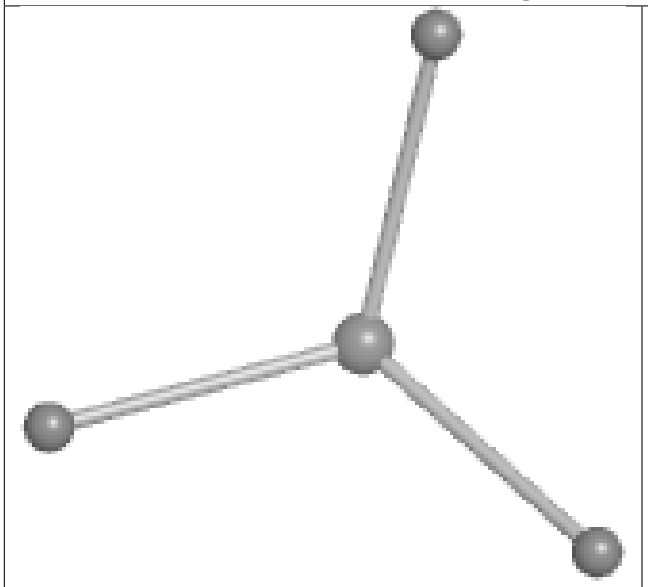


Torsions

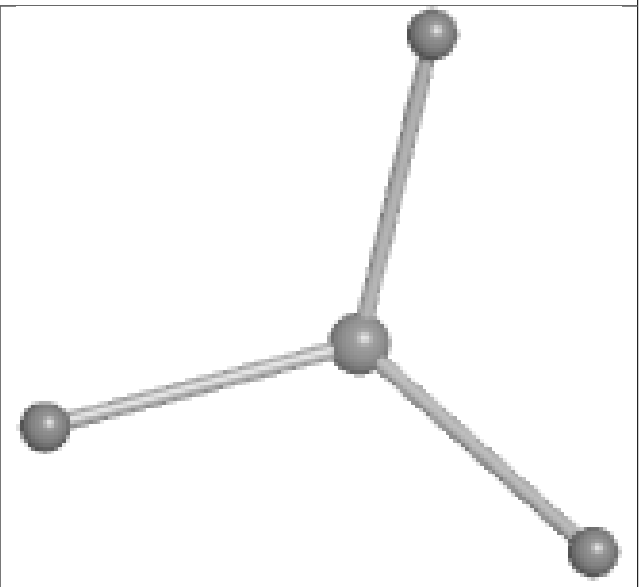


Rings

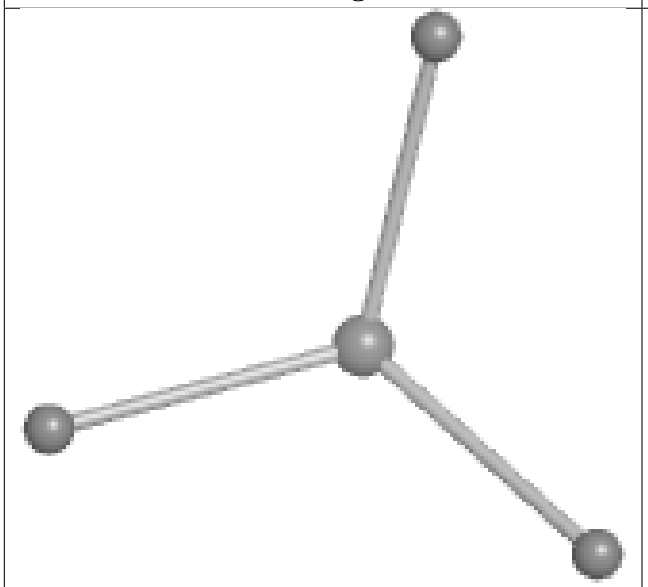
Ligand BEF A 1001



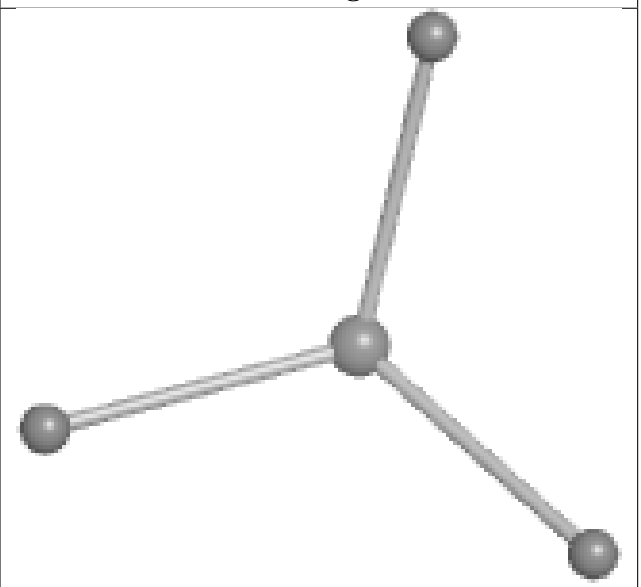
Bond lengths



Bond angles

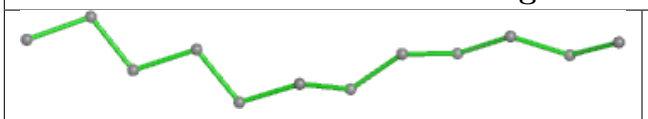


Torsions

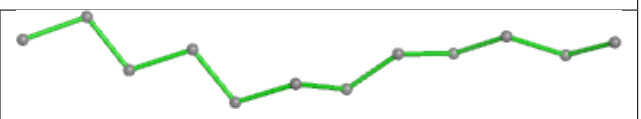


Rings

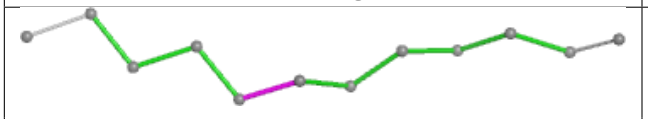
Ligand CE1 D 1007



Bond lengths

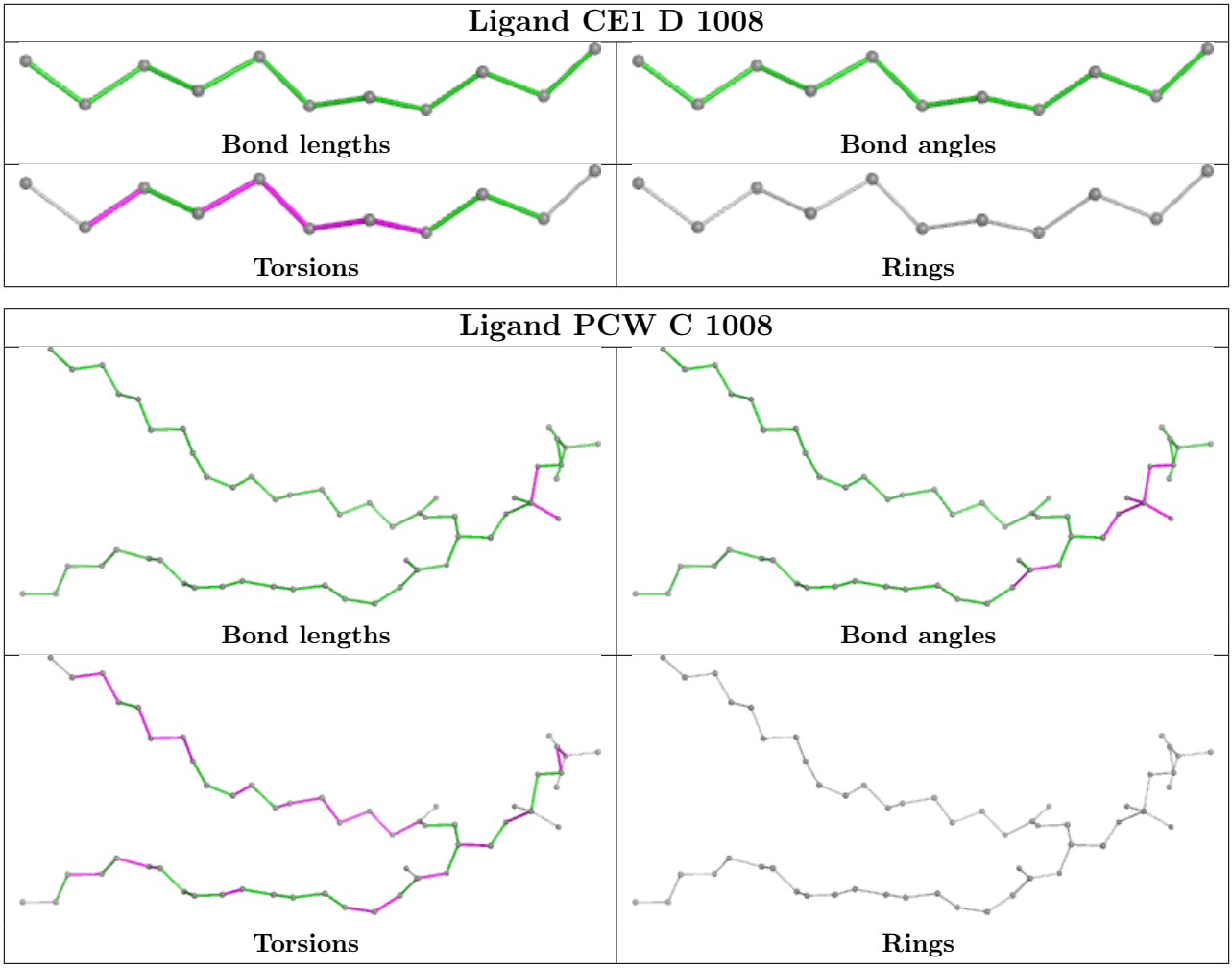


Bond angles

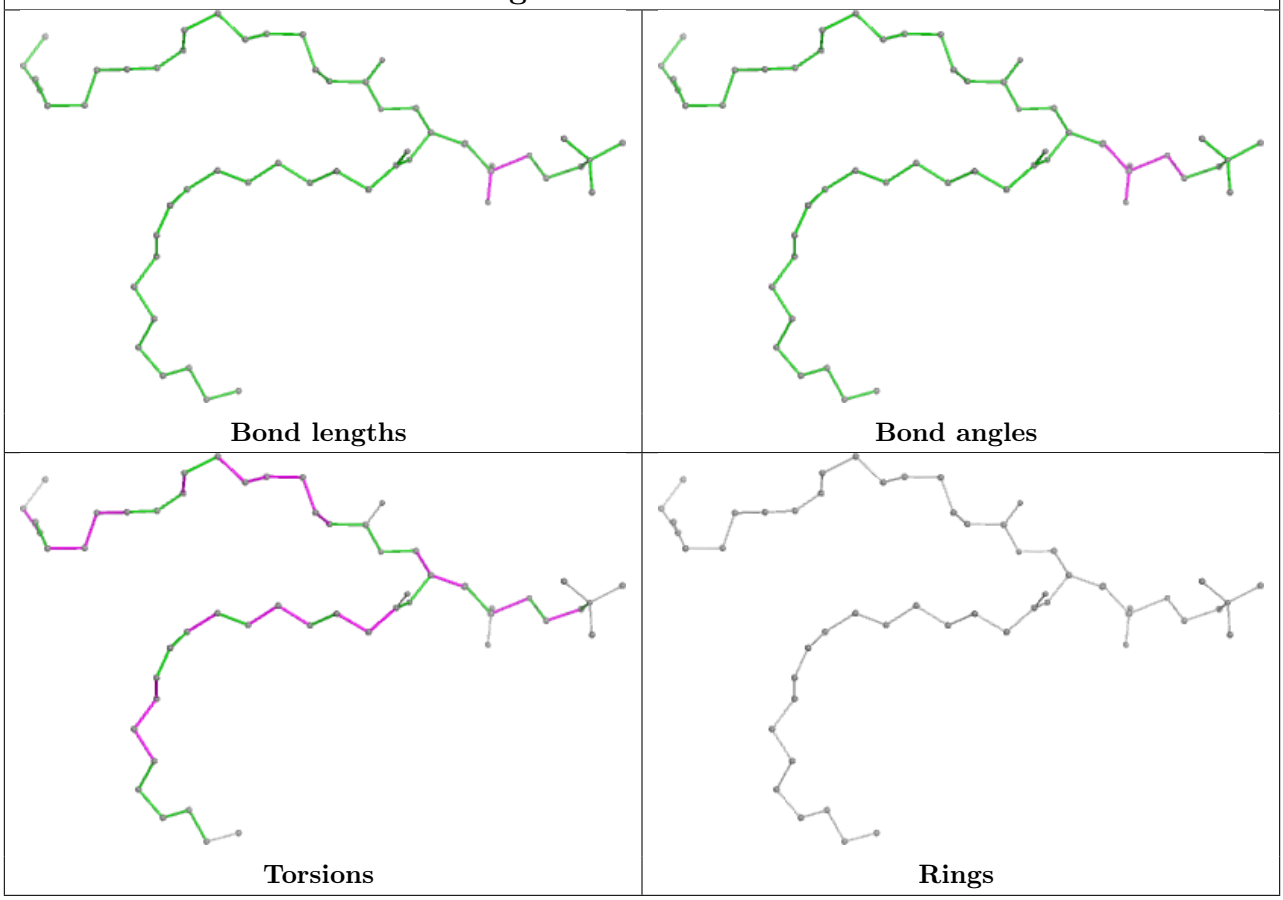


Torsions

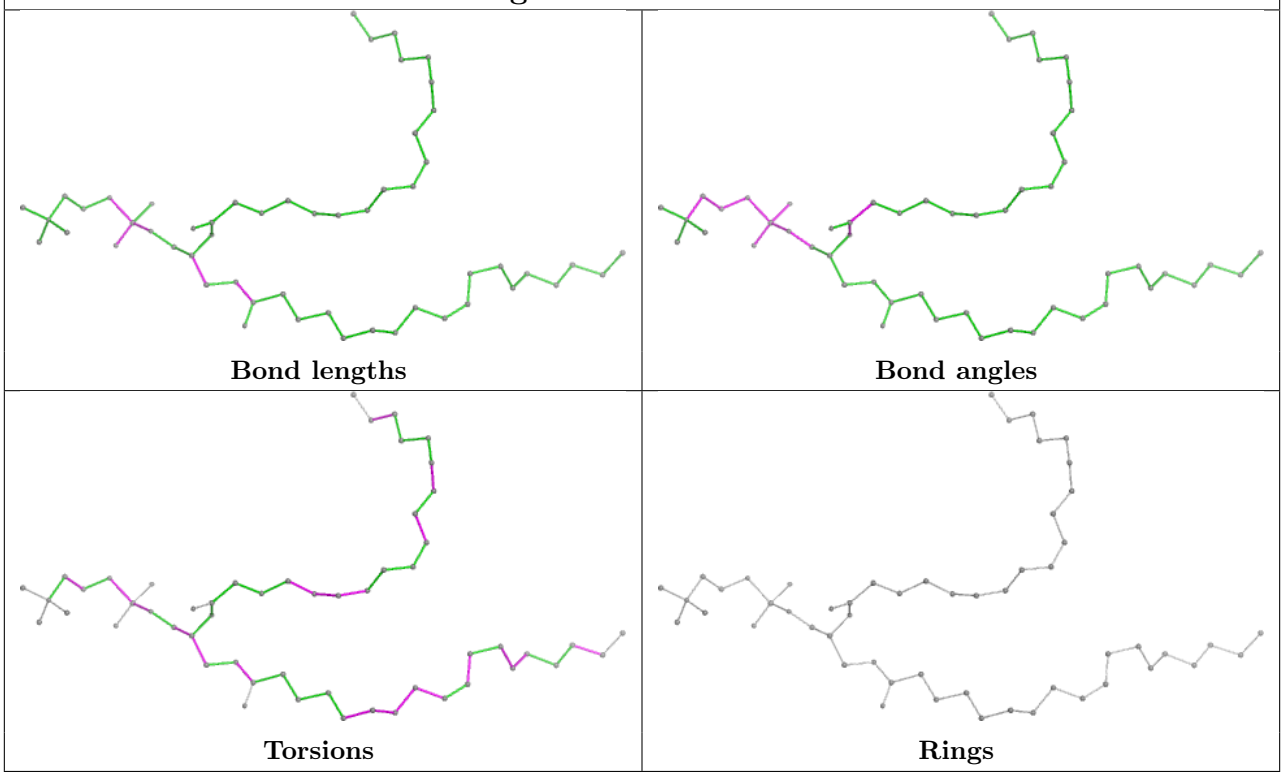
Rings


Ligand CE1 D 1008
Bond lengths
Bond angles
Torsions
Rings
Ligand PCW C 1008
Bond lengths
Bond angles
Torsions
Rings

Ligand PCW A 1003



Ligand PCW B 1003



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 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	A	883/911 (96%)	-0.26	12 (1%) 73 52	25, 51, 97, 128	0
1	B	883/911 (96%)	-0.26	9 (1%) 79 60	26, 51, 98, 130	0
1	C	883/911 (96%)	0.12	36 (4%) 42 24	26, 68, 215, 259	0
1	D	883/911 (96%)	0.14	43 (4%) 36 20	25, 68, 231, 279	0
1	E	876/911 (96%)	1.35	175 (19%) 3 2	159, 182, 261, 273	0
1	F	876/911 (96%)	1.36	181 (20%) 3 2	155, 174, 199, 221	0
1	G	875/911 (96%)	1.32	165 (18%) 4 3	153, 173, 198, 226	0
1	H	876/911 (96%)	1.31	169 (19%) 4 2	144, 179, 265, 300	0
All	All	7035/7288 (96%)	0.63	790 (11%) 11 7	25, 162, 234, 300	0

All (790) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	G	458	CYS	7.5
1	E	728	GLY	7.0
1	E	725	ILE	6.5
1	E	377	ALA	6.2
1	E	680	SER	6.0
1	E	802	ALA	5.7
1	F	523	MET	5.3
1	F	108	ARG	5.0
1	G	396	THR	5.0
1	E	292	GLU	4.8
1	E	77	VAL	4.8
1	H	869	GLU	4.8
1	B	884	ILE	4.7
1	F	689	LEU	4.7
1	H	377	ALA	4.7
1	F	573	LEU	4.7

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Mol	Chain	Res	Type	RSRZ
1	E	142	GLY	4.7
1	E	681	ILE	4.6
1	H	302	LEU	4.6
1	F	725	ILE	4.5
1	H	594	ALA	4.5
1	G	461	VAL	4.5
1	B	883	ASP	4.4
1	G	517	LEU	4.4
1	E	347	VAL	4.3
1	E	495	TYR	4.3
1	F	275	ILE	4.3
1	H	95	VAL	4.2
1	H	548	ILE	4.2
1	F	248	LEU	4.2
1	F	332	CYS	4.2
1	G	830	LEU	4.2
1	E	138	ILE	4.1
1	H	304	VAL	4.1
1	H	722	LEU	4.0
1	H	332	CYS	4.0
1	F	830	LEU	4.0
1	F	161	GLU	4.0
1	E	275	ILE	4.0
1	G	446	LEU	4.0
1	G	11	THR	3.9
1	H	264	LEU	3.9
1	F	255	PHE	3.9
1	H	298	VAL	3.9
1	F	271	MET	3.9
1	H	300	ILE	3.9
1	E	518	VAL	3.8
1	H	293	ALA	3.8
1	G	455	PHE	3.8
1	B	885	PRO	3.8
1	G	639	ALA	3.8
1	F	676	ASN	3.7
1	F	267	ASN	3.7
1	F	757	VAL	3.7
1	G	833	ILE	3.7
1	E	815	PHE	3.7
1	E	729	MET	3.7
1	C	446	LEU	3.7

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Mol	Chain	Res	Type	RSRZ
1	F	263	LEU	3.7
1	E	519	GLY	3.7
1	G	198	VAL	3.7
1	F	292	GLU	3.6
1	H	202	GLY	3.6
1	F	184	LEU	3.6
1	E	298	VAL	3.6
1	G	72	VAL	3.6
1	E	856	ILE	3.6
1	D	475	LEU	3.6
1	G	710	LEU	3.6
1	H	814	PHE	3.6
1	E	784	VAL	3.6
1	D	395	PRO	3.6
1	E	451	PRO	3.6
1	G	452	ASP	3.6
1	E	748	ILE	3.6
1	C	377	ALA	3.5
1	D	377	ALA	3.5
1	E	726	ALA	3.5
1	E	851	LEU	3.5
1	G	34	TYR	3.5
1	F	684	LEU	3.5
1	H	447	THR	3.5
1	F	252	VAL	3.5
1	F	68	LEU	3.5
1	E	801	ALA	3.5
1	H	435	THR	3.5
1	E	370	GLU	3.4
1	F	681	ILE	3.4
1	F	579	ASP	3.4
1	H	712	LEU	3.4
1	G	380	CYS	3.4
1	F	165	THR	3.4
1	F	513	GLN	3.4
1	G	573	LEU	3.4
1	D	172	GLU	3.4
1	F	802	ALA	3.4
1	E	497	TYR	3.4
1	G	300	ILE	3.4
1	G	842	ILE	3.4
1	F	40	LYS	3.4

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Mol	Chain	Res	Type	RSRZ
1	G	280	MET	3.4
1	F	829	VAL	3.4
1	G	853	GLU	3.4
1	B	269	ALA	3.3
1	F	625	VAL	3.3
1	F	622	GLY	3.3
1	E	143	ASP	3.3
1	G	73	LEU	3.3
1	E	814	PHE	3.3
1	E	160	ASP	3.3
1	F	549	THR	3.3
1	E	538	SER	3.3
1	G	680	SER	3.3
1	F	748	ILE	3.3
1	H	493	LEU	3.3
1	E	394	ASP	3.3
1	F	749	PHE	3.3
1	F	35	GLY	3.3
1	H	34	TYR	3.3
1	G	630	ALA	3.3
1	H	726	ALA	3.3
1	E	381	ASN	3.3
1	H	98	ARG	3.2
1	G	724	ALA	3.2
1	A	884	ILE	3.2
1	E	677	ILE	3.2
1	F	663	ILE	3.2
1	G	378	VAL	3.2
1	F	600	SER	3.2
1	C	497	TYR	3.2
1	H	378	VAL	3.2
1	H	714	PHE	3.2
1	G	793	LEU	3.2
1	G	333	THR	3.2
1	G	61	ILE	3.2
1	F	202	GLY	3.2
1	F	45	ASP	3.2
1	C	447	THR	3.2
1	E	61	ILE	3.2
1	E	104	LEU	3.2
1	G	722	LEU	3.2
1	G	542	GLY	3.1

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Mol	Chain	Res	Type	RSRZ
1	F	801	ALA	3.1
1	F	796	THR	3.1
1	E	352	PRO	3.1
1	F	758	ILE	3.1
1	G	59	MET	3.1
1	F	346	VAL	3.1
1	G	284	ALA	3.1
1	E	332	CYS	3.1
1	H	96	GLN	3.1
1	E	198	VAL	3.1
1	G	815	PHE	3.1
1	F	595	VAL	3.1
1	H	69	VAL	3.1
1	E	400	LEU	3.1
1	E	810	PHE	3.1
1	G	683	TYR	3.1
1	E	360	PRO	3.0
1	D	435	THR	3.0
1	F	753	THR	3.0
1	G	69	VAL	3.0
1	F	825	LEU	3.0
1	G	727	LEU	3.0
1	C	374	ILE	3.0
1	C	437	HIS	3.0
1	D	374	ILE	3.0
1	E	694	ALA	3.0
1	G	580	ALA	3.0
1	H	535	ILE	3.0
1	G	579	ASP	3.0
1	E	747	GLY	3.0
1	H	867	MET	3.0
1	C	347	VAL	3.0
1	E	245	LEU	3.0
1	E	827	CYS	3.0
1	F	766	ILE	3.0
1	H	709	ALA	3.0
1	C	379	LEU	3.0
1	F	696	LEU	3.0
1	G	108	ARG	3.0
1	G	276	LEU	3.0
1	G	682	ALA	3.0
1	G	395	PRO	3.0

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Mol	Chain	Res	Type	RSRZ
1	H	747	GLY	3.0
1	H	382	ASP	3.0
1	F	722	LEU	3.0
1	H	507	LEU	3.0
1	G	832	GLY	3.0
1	F	638	VAL	3.0
1	H	667	VAL	3.0
1	E	18	THR	3.0
1	F	816	SER	3.0
1	H	207	THR	3.0
1	F	596	TYR	2.9
1	F	245	LEU	2.9
1	F	583	GLU	2.9
1	G	851	LEU	2.9
1	G	192	PHE	2.9
1	F	545	THR	2.9
1	G	178	ILE	2.9
1	F	628	ALA	2.9
1	D	507	LEU	2.9
1	G	762	VAL	2.9
1	G	118	ILE	2.9
1	F	812	ALA	2.9
1	B	464	ASP	2.9
1	E	517	LEU	2.9
1	G	475	LEU	2.9
1	H	104	LEU	2.9
1	H	578	LEU	2.9
1	F	810	PHE	2.9
1	G	843	PHE	2.9
1	H	45	ASP	2.9
1	F	680	SER	2.9
1	H	107	LEU	2.9
1	H	72	VAL	2.9
1	H	421	GLU	2.9
1	F	293	ALA	2.9
1	G	709	ALA	2.9
1	E	207	THR	2.9
1	F	203	MET	2.9
1	E	817	ASN	2.9
1	F	813	GLY	2.9
1	G	700	VAL	2.9
1	H	835	VAL	2.9

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Mol	Chain	Res	Type	RSRZ
1	F	215	ILE	2.9
1	A	1	ALA	2.8
1	F	793	LEU	2.8
1	C	496	GLY	2.8
1	D	434	SER	2.8
1	G	343	LYS	2.8
1	A	101	GLU	2.8
1	F	823	ALA	2.8
1	F	869	GLU	2.8
1	E	213	THR	2.8
1	D	523	MET	2.8
1	H	830	LEU	2.8
1	C	443	LYS	2.8
1	C	518	VAL	2.8
1	E	880	LYS	2.8
1	G	784	VAL	2.8
1	H	198	VAL	2.8
1	F	360	PRO	2.8
1	H	133	PRO	2.8
1	E	548	ILE	2.8
1	F	284	ALA	2.8
1	E	280	MET	2.8
1	F	754	MET	2.8
1	C	378	VAL	2.8
1	F	347	VAL	2.8
1	F	687	GLY	2.8
1	F	798	GLN	2.8
1	E	870	ILE	2.8
1	H	65	ILE	2.8
1	H	374	ILE	2.8
1	F	102	SER	2.8
1	E	444	ALA	2.8
1	H	66	ALA	2.8
1	G	460	TYR	2.8
1	G	365	ASN	2.8
1	H	716	ASN	2.8
1	G	433	MET	2.8
1	F	685	PHE	2.8
1	F	714	PHE	2.8
1	G	275	ILE	2.8
1	G	711	GLN	2.7
1	E	286	ALA	2.7

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Mol	Chain	Res	Type	RSRZ
1	H	284	ALA	2.7
1	G	429	ASP	2.7
1	H	348	ASP	2.7
1	C	517	LEU	2.7
1	F	463	LEU	2.7
1	H	432	LEU	2.7
1	H	684	LEU	2.7
1	B	484	GLU	2.7
1	H	445	MET	2.7
1	H	453	VAL	2.7
1	C	884	ILE	2.7
1	E	693	ILE	2.7
1	F	808	THR	2.7
1	E	46	PRO	2.7
1	H	488	GLN	2.7
1	C	387	SER	2.7
1	H	423	GLU	2.7
1	H	297	ILE	2.7
1	F	84	LEU	2.7
1	F	565	LEU	2.7
1	D	102	SER	2.7
1	F	94	VAL	2.7
1	D	521	THR	2.7
1	G	469	PRO	2.7
1	C	495	TYR	2.7
1	G	548	ILE	2.7
1	H	91	ILE	2.7
1	H	615	GLY	2.7
1	A	885	PRO	2.7
1	H	286	ALA	2.7
1	G	581	MET	2.7
1	E	300	ILE	2.6
1	F	842	ILE	2.6
1	G	161	GLU	2.6
1	H	704	ILE	2.6
1	E	51	PHE	2.6
1	H	296	SER	2.6
1	G	164	LEU	2.6
1	H	232	LEU	2.6
1	H	289	ALA	2.6
1	F	48	TRP	2.6
1	H	828	PHE	2.6

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Mol	Chain	Res	Type	RSRZ
1	D	104	LEU	2.6
1	F	104	LEU	2.6
1	E	106	ALA	2.6
1	F	704	ILE	2.6
1	F	821	ILE	2.6
1	G	239	PHE	2.6
1	D	351	LEU	2.6
1	E	791	LEU	2.6
1	F	756	ALA	2.6
1	F	799	THR	2.6
1	G	592	HIS	2.6
1	E	818	LYS	2.6
1	E	769	ILE	2.6
1	G	831	TYR	2.6
1	H	517	LEU	2.6
1	C	105	ASP	2.6
1	C	525	ASP	2.6
1	F	90	SER	2.6
1	G	163	MET	2.6
1	H	93	SER	2.6
1	C	440	ASN	2.6
1	F	866	VAL	2.6
1	F	873	VAL	2.6
1	G	471	THR	2.6
1	H	48	TRP	2.6
1	H	663	ILE	2.6
1	F	550	GLY	2.6
1	F	851	LEU	2.6
1	H	438	THR	2.6
1	D	884	ILE	2.5
1	F	290	ILE	2.5
1	G	319	LEU	2.5
1	G	701	LEU	2.5
1	H	832	GLY	2.5
1	D	269	ALA	2.5
1	E	785	ALA	2.5
1	C	172	GLU	2.5
1	F	601	PRO	2.5
1	H	363	PRO	2.5
1	A	94	VAL	2.5
1	F	298	VAL	2.5
1	F	700	VAL	2.5

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Mol	Chain	Res	Type	RSRZ
1	C	396	THR	2.5
1	E	328	THR	2.5
1	H	681	ILE	2.5
1	E	222	LEU	2.5
1	F	446	LEU	2.5
1	G	463	LEU	2.5
1	E	751	GLY	2.5
1	F	166	GLY	2.5
1	E	100	ALA	2.5
1	H	489	ALA	2.5
1	E	146	PRO	2.5
1	E	60	VAL	2.5
1	E	346	VAL	2.5
1	G	137	VAL	2.5
1	E	842	ILE	2.5
1	G	65	ILE	2.5
1	H	554	THR	2.5
1	D	392	LEU	2.5
1	G	232	LEU	2.5
1	H	717	LEU	2.5
1	F	747	GLY	2.5
1	H	785	ALA	2.5
1	E	163	MET	2.5
1	H	547	MET	2.5
1	H	46	PRO	2.5
1	F	512	GLU	2.5
1	H	77	VAL	2.5
1	E	663	ILE	2.5
1	G	607	ILE	2.5
1	H	81	ILE	2.5
1	E	521	THR	2.5
1	G	245	LEU	2.5
1	C	349	TYR	2.5
1	C	350	TYR	2.5
1	E	369	GLY	2.5
1	G	183	GLY	2.5
1	H	134	GLY	2.5
1	H	444	ALA	2.5
1	E	780	PRO	2.5
1	H	451	PRO	2.5
1	H	646	VAL	2.5
1	E	15	LEU	2.5

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Mol	Chain	Res	Type	RSRZ
1	E	462	PHE	2.5
1	D	447	THR	2.5
1	G	18	THR	2.5
1	G	621	THR	2.5
1	F	14	GLN	2.5
1	E	676	ASN	2.5
1	E	805	ASN	2.5
1	F	726	ALA	2.5
1	H	831	TYR	2.5
1	E	820	VAL	2.5
1	F	599	VAL	2.5
1	C	473	GLU	2.5
1	E	172	GLU	2.5
1	E	374	ILE	2.4
1	E	139	LEU	2.4
1	E	520	LEU	2.4
1	H	294	LEU	2.4
1	E	481	THR	2.4
1	H	54	THR	2.4
1	D	402	ALA	2.4
1	E	349	TYR	2.4
1	E	683	TYR	2.4
1	F	115	ALA	2.4
1	G	809	ALA	2.4
1	D	424	ILE	2.4
1	E	215	ILE	2.4
1	H	215	ILE	2.4
1	H	275	ILE	2.4
1	E	684	LEU	2.4
1	F	39	LEU	2.4
1	F	222	LEU	2.4
1	F	379	LEU	2.4
1	G	436	LEU	2.4
1	H	379	LEU	2.4
1	D	403	PHE	2.4
1	G	204	PHE	2.4
1	H	521	THR	2.4
1	G	496	GLY	2.4
1	F	724	ALA	2.4
1	H	572	ALA	2.4
1	F	34	TYR	2.4
1	D	525	ASP	2.4

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Mol	Chain	Res	Type	RSRZ
1	D	363	PRO	2.4
1	G	601	PRO	2.4
1	H	380	CYS	2.4
1	E	535	ILE	2.4
1	E	695	ILE	2.4
1	E	696	LEU	2.4
1	F	98	ARG	2.4
1	F	196	LEU	2.4
1	F	563	ILE	2.4
1	F	692	ILE	2.4
1	H	47	LEU	2.4
1	F	239	PHE	2.4
1	F	814	PHE	2.4
1	G	208	GLY	2.4
1	H	450	GLY	2.4
1	G	523	MET	2.4
1	F	96	GLN	2.4
1	F	257	VAL	2.4
1	G	718	VAL	2.4
1	H	70	GLN	2.4
1	H	320	PRO	2.4
1	E	39	LEU	2.4
1	F	47	LEU	2.4
1	H	323	GLU	2.4
1	G	519	GLY	2.4
1	A	165	THR	2.4
1	H	558	ALA	2.4
1	E	722	LEU	2.4
1	E	766	ILE	2.4
1	E	860	LEU	2.4
1	F	218	ILE	2.4
1	G	84	LEU	2.4
1	H	586	LEU	2.4
1	C	503	ASP	2.4
1	C	735	ASP	2.4
1	F	805	ASN	2.4
1	G	716	ASN	2.4
1	F	827	CYS	2.4
1	E	869	GLU	2.4
1	F	421	GLU	2.4
1	F	728	GLY	2.4
1	G	35	GLY	2.4

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Mol	Chain	Res	Type	RSRZ
1	G	331	ILE	2.3
1	G	748	ILE	2.3
1	G	685	PHE	2.3
1	F	160	ASP	2.3
1	E	806	VAL	2.3
1	H	599	VAL	2.3
1	E	446	LEU	2.3
1	F	763	LEU	2.3
1	G	104	LEU	2.3
1	G	184	LEU	2.3
1	H	392	LEU	2.3
1	E	70	GLN	2.3
1	C	395	PRO	2.3
1	D	352	PRO	2.3
1	G	758	ILE	2.3
1	H	425	PRO	2.3
1	F	144	PHE	2.3
1	F	101	GLU	2.3
1	F	853	GLU	2.3
1	G	781	GLU	2.3
1	F	59	MET	2.3
1	G	754	MET	2.3
1	D	393	GLY	2.3
1	E	494	ALA	2.3
1	F	809	ALA	2.3
1	H	827	CYS	2.3
1	G	171	VAL	2.3
1	E	299	THR	2.3
1	E	474	ILE	2.3
1	G	297	ILE	2.3
1	H	725	ILE	2.3
1	C	810	PHE	2.3
1	F	815	PHE	2.3
1	E	90	SER	2.3
1	F	650	SER	2.3
1	F	759	SER	2.3
1	H	680	SER	2.3
1	D	445	MET	2.3
1	A	100	ALA	2.3
1	F	262	VAL	2.3
1	F	444	ALA	2.3
1	G	847	ALA	2.3

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Mol	Chain	Res	Type	RSRZ
1	H	318	LYS	2.3
1	F	490	LEU	2.3
1	H	825	LEU	2.3
1	F	833	ILE	2.3
1	D	469	PRO	2.3
1	E	878	PHE	2.3
1	G	596	TYR	2.3
1	C	519	GLY	2.3
1	E	1	ALA	2.3
1	E	453	VAL	2.3
1	G	293	ALA	2.3
1	H	171	VAL	2.3
1	H	206	VAL	2.3
1	H	422	GLY	2.3
1	H	449	GLY	2.3
1	H	556	ALA	2.3
1	H	877	LYS	2.3
1	E	432	LEU	2.3
1	F	107	LEU	2.3
1	F	797	LEU	2.3
1	G	294	LEU	2.3
1	G	836	LEU	2.3
1	H	92	ILE	2.3
1	H	524	ILE	2.3
1	E	11	THR	2.3
1	F	789	THR	2.3
1	H	97	THR	2.3
1	F	819	TYR	2.3
1	G	456	ALA	2.3
1	C	472	GLU	2.3
1	D	222	LEU	2.3
1	E	490	LEU	2.3
1	H	139	LEU	2.3
1	H	836	LEU	2.3
1	D	524	ILE	2.2
1	E	57	ASP	2.2
1	E	140	ASP	2.2
1	E	562	ASP	2.2
1	F	353	ASP	2.2
1	F	559	ILE	2.2
1	F	876	ASN	2.2
1	G	474	ILE	2.2

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Mol	Chain	Res	Type	RSRZ
1	H	120	ASP	2.2
1	H	617	ILE	2.2
1	F	352	PRO	2.2
1	H	306	THR	2.2
1	H	324	THR	2.2
1	E	461	VAL	2.2
1	E	874	VAL	2.2
1	F	137	VAL	2.2
1	G	599	VAL	2.2
1	E	134	GLY	2.2
1	F	194	GLY	2.2
1	G	541	ALA	2.2
1	G	556	ALA	2.2
1	H	68	LEU	2.2
1	F	695	ILE	2.2
1	C	883	ASP	2.2
1	E	702	ASP	2.2
1	G	720	ASP	2.2
1	E	454	MET	2.2
1	A	95	VAL	2.2
1	E	351	LEU	2.2
1	E	590	LEU	2.2
1	F	219	ALA	2.2
1	F	767	ALA	2.2
1	H	84	LEU	2.2
1	H	652	ALA	2.2
1	H	713	LEU	2.2
1	H	727	LEU	2.2
1	G	3	ILE	2.2
1	G	769	ILE	2.2
1	H	842	ILE	2.2
1	A	102	SER	2.2
1	H	434	SER	2.2
1	E	800	PHE	2.2
1	H	55	PHE	2.2
1	G	505	THR	2.2
1	H	23	THR	2.2
1	A	882	TYR	2.2
1	D	411	TYR	2.2
1	F	280	MET	2.2
1	G	344	MET	2.2
1	E	252	VAL	2.2

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Mol	Chain	Res	Type	RSRZ
1	C	351	LEU	2.2
1	G	520	LEU	2.2
1	H	573	LEU	2.2
1	E	289	ALA	2.2
1	E	724	ALA	2.2
1	E	622	GLY	2.2
1	G	622	GLY	2.2
1	H	35	GLY	2.2
1	D	467	GLU	2.2
1	D	103	SER	2.2
1	E	111	SER	2.2
1	C	501	PRO	2.2
1	E	803	ARG	2.2
1	F	800	PHE	2.2
1	G	705	ASN	2.2
1	D	570	ASP	2.2
1	A	107	LEU	2.2
1	F	807	GLN	2.2
1	G	182	VAL	2.2
1	G	578	LEU	2.2
1	H	52	LEU	2.2
1	H	131	LEU	2.2
1	H	132	VAL	2.2
1	H	546	VAL	2.2
1	E	458	CYS	2.2
1	F	794	ALA	2.2
1	G	162	GLY	2.2
1	E	758	ILE	2.2
1	E	241	LYS	2.2
1	E	679	LYS	2.2
1	E	685	PHE	2.2
1	E	296	SER	2.2
1	D	381	ASN	2.2
1	G	445	MET	2.2
1	D	105	ASP	2.2
1	E	257	VAL	2.2
1	F	164	LEU	2.2
1	G	264	LEU	2.2
1	G	820	VAL	2.2
1	H	347	VAL	2.2
1	H	545	THR	2.2
1	E	580	ALA	2.1

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Mol	Chain	Res	Type	RSRZ
1	F	568	ALA	2.1
1	H	619	ALA	2.1
1	H	290	ILE	2.1
1	G	56	LYS	2.1
1	G	814	PHE	2.1
1	E	113	PRO	2.1
1	E	527	PRO	2.1
1	G	527	PRO	2.1
1	E	271	MET	2.1
1	D	453	VAL	2.1
1	E	47	LEU	2.1
1	F	76	VAL	2.1
1	G	625	VAL	2.1
1	H	195	SER	2.1
1	E	504	THR	2.1
1	F	24	THR	2.1
1	H	333	THR	2.1
1	E	353	ASP	2.1
1	B	96	GLN	2.1
1	F	597	ALA	2.1
1	G	427	ASP	2.1
1	G	533	ALA	2.1
1	H	199	TYR	2.1
1	H	875	GLN	2.1
1	H	692	ILE	2.1
1	G	426	PHE	2.1
1	E	582	PRO	2.1
1	H	395	PRO	2.1
1	H	501	PRO	2.1
1	F	392	LEU	2.1
1	G	107	LEU	2.1
1	G	263	LEU	2.1
1	F	865	VAL	2.1
1	G	873	VAL	2.1
1	D	268	SER	2.1
1	G	295	SER	2.1
1	F	619	ALA	2.1
1	G	834	THR	2.1
1	E	765	GLY	2.1
1	H	99	LYS	2.1
1	E	239	PHE	2.1
1	F	192	PHE	2.1

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Mol	Chain	Res	Type	RSRZ
1	G	439	PHE	2.1
1	G	714	PHE	2.1
1	H	192	PHE	2.1
1	B	101	GLU	2.1
1	D	400	LEU	2.1
1	D	501	PRO	2.1
1	F	78	GLU	2.1
1	F	258	GLU	2.1
1	E	478	LEU	2.1
1	E	509	LEU	2.1
1	E	586	LEU	2.1
1	F	250	LEU	2.1
1	G	190	MET	2.1
1	H	248	LEU	2.1
1	E	531	VAL	2.1
1	G	301	VAL	2.1
1	H	595	VAL	2.1
1	D	522	ALA	2.1
1	E	541	ALA	2.1
1	F	100	ALA	2.1
1	C	438	THR	2.1
1	E	355	THR	2.1
1	E	871	ILE	2.1
1	F	543	ILE	2.1
1	F	677	ILE	2.1
1	G	338	THR	2.1
1	G	123	LYS	2.1
1	G	260	GLY	2.1
1	F	359	PHE	2.1
1	F	843	PHE	2.1
1	C	104	LEU	2.1
1	E	196	LEU	2.1
1	E	734	PRO	2.1
1	F	179	PRO	2.1
1	F	566	MET	2.1
1	H	245	LEU	2.1
1	E	109	GLU	2.1
1	E	646	VAL	2.1
1	G	258	GLU	2.1
1	E	489	ALA	2.1
1	E	3	ILE	2.1
1	H	607	ILE	2.1

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Mol	Chain	Res	Type	RSRZ
1	G	422	GLY	2.1
1	G	796	THR	2.1
1	H	622	GLY	2.1
1	H	838	GLY	2.1
1	D	534	SER	2.1
1	F	195	SER	2.1
1	F	211	SER	2.1
1	H	25	SER	2.1
1	C	381	ASN	2.1
1	H	307	ASN	2.1
1	H	623	ASP	2.1
1	E	250	LEU	2.1
1	E	797	LEU	2.1
1	E	836	LEU	2.1
1	F	71	LEU	2.1
1	H	151	LEU	2.1
1	F	77	VAL	2.1
1	G	214	GLU	2.1
1	H	78	GLU	2.1
1	D	448	LYS	2.0
1	E	82	ILE	2.0
1	E	559	ILE	2.0
1	G	82	ILE	2.0
1	G	604	LYS	2.0
1	G	704	ILE	2.0
1	D	349	TYR	2.0
1	E	435	THR	2.0
1	E	327	SER	2.0
1	E	329	SER	2.0
1	G	721	SER	2.0
1	H	279	PHE	2.0
1	F	712	LEU	2.0
1	F	860	LEU	2.0
1	A	46	PRO	2.0
1	G	577	GLU	2.0
1	G	583	GLU	2.0
1	H	781	GLU	2.0
1	G	619	ALA	2.0
1	D	396	THR	2.0
1	F	273	THR	2.0
1	H	618	THR	2.0
1	B	102	SER	2.0

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Mol	Chain	Res	Type	RSRZ
1	E	243	LEU	2.0
1	E	319	LEU	2.0
1	E	862	LEU	2.0
1	G	379	LEU	2.0
1	G	712	LEU	2.0
1	H	428	SER	2.0
1	H	309	MET	2.0
1	H	620	MET	2.0
1	E	762	VAL	2.0
1	F	72	VAL	2.0
1	F	136	VAL	2.0
1	G	266	ASP	2.0
1	G	627	ASP	2.0
1	E	147	ALA	2.0
1	E	652	ALA	2.0
1	G	8	ALA	2.0
1	G	636	ILE	2.0
1	G	821	ILE	2.0

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

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

6.3 Carbohydrates (i)

There are no oligosaccharides in this entry.

6.4 Ligands (i)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	MG	H	1002	1/1	0.56	0.16	225,225,225,225	0
2	BEF	G	1001	4/4	0.67	0.17	198,200,202,203	0
2	BEF	F	1001	4/4	0.67	0.16	206,207,209,213	0
2	BEF	H	1001	4/4	0.71	0.15	228,228,229,232	0
4	PCW	B	1008	54/54	0.74	0.18	48,72,103,130	0

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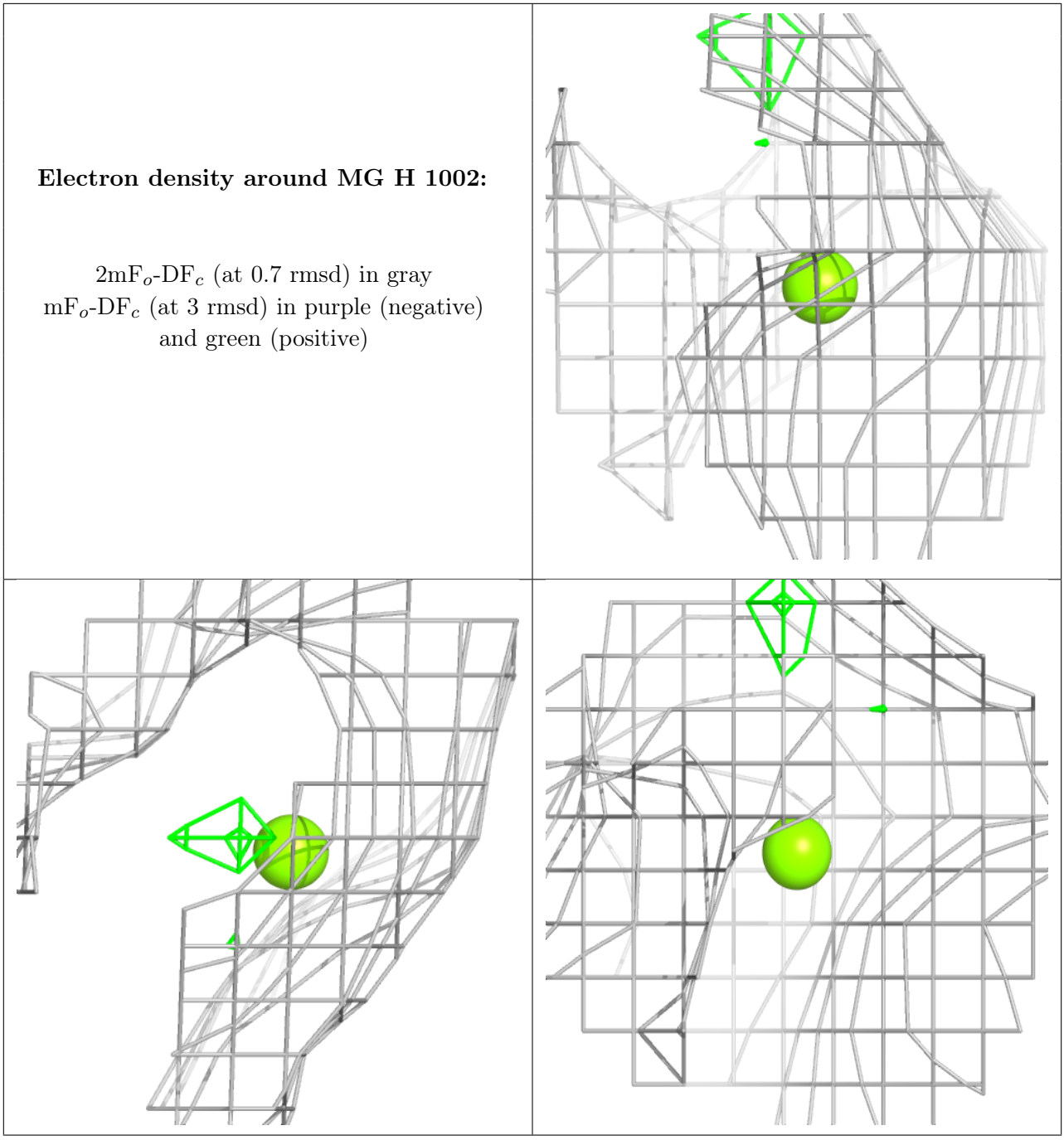
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	PCW	B	1006	54/54	0.75	0.20	48,78,119,132	0
3	MG	G	1002	1/1	0.75	0.14	213,213,213,213	0
4	PCW	C	1006	54/54	0.79	0.16	31,82,108,121	0
4	PCW	B	1007	54/54	0.80	0.17	38,70,111,132	0
2	BEF	E	1001	4/4	0.81	0.12	224,224,225,227	0
4	PCW	B	1004	54/54	0.81	0.17	52,87,129,138	0
4	PCW	A	1004	54/54	0.82	0.17	40,77,124,128	0
4	PCW	C	1004	54/54	0.82	0.18	28,80,119,130	0
4	PCW	C	1005	54/54	0.82	0.15	26,67,108,120	0
3	MG	F	1002	1/1	0.82	0.10	182,182,182,182	0
5	CE1	C	1007	15/37	0.83	0.12	21,37,49,50	0
5	CE1	D	1009	12/37	0.84	0.16	49,54,73,77	0
4	PCW	C	1008	54/54	0.85	0.18	15,71,117,129	0
5	CE1	D	1006	12/37	0.85	0.19	48,61,76,81	0
4	PCW	D	1003	54/54	0.85	0.15	25,70,100,109	0
4	PCW	C	1003	54/54	0.86	0.16	19,82,111,128	0
5	CE1	D	1008	11/37	0.87	0.13	23,41,49,52	0
3	MG	E	1002	1/1	0.88	0.12	218,218,218,218	0
4	PCW	B	1003	54/54	0.88	0.14	17,67,82,100	0
5	CE1	D	1005	12/37	0.89	0.14	26,46,60,65	0
5	CE1	D	1004	12/37	0.89	0.10	19,33,37,44	0
4	PCW	B	1005	54/54	0.90	0.21	78,98,128,137	0
2	BEF	C	1001	4/4	0.90	0.12	84,84,86,86	0
2	BEF	D	1001	4/4	0.90	0.10	70,71,75,87	0
4	PCW	A	1003	54/54	0.90	0.19	53,93,127,137	0
4	PCW	B	1009	54/54	0.91	0.13	25,56,104,111	0
2	BEF	B	1001	4/4	0.93	0.12	47,48,48,57	0
2	BEF	A	1001	4/4	0.94	0.07	46,46,46,63	0
5	CE1	D	1007	12/37	0.96	0.07	12,17,36,44	0
3	MG	C	1002	1/1	0.98	0.04	64,64,64,64	0
3	MG	D	1002	1/1	0.99	0.06	53,53,53,53	0
3	MG	A	1002	1/1	1.00	0.01	44,44,44,44	0
3	MG	B	1002	1/1	1.00	0.04	44,44,44,44	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

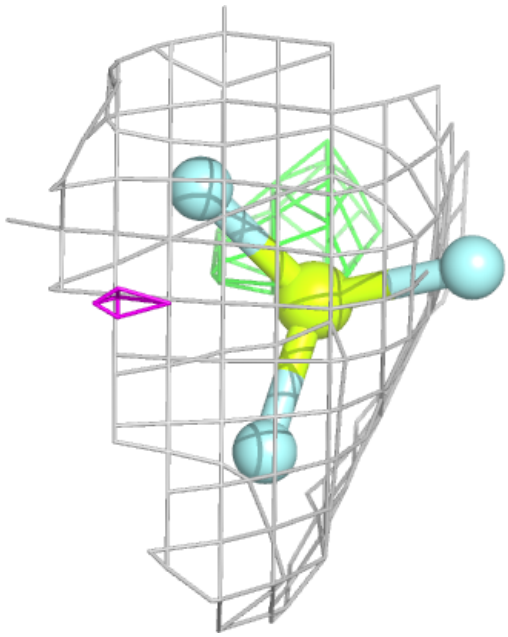
Electron density around MG H 1002:

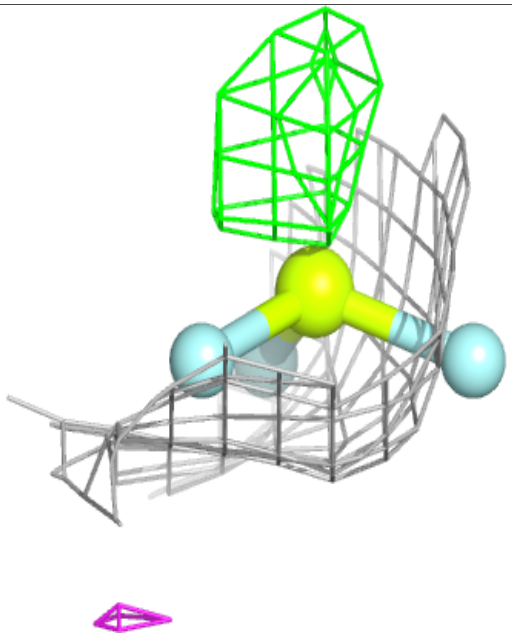
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

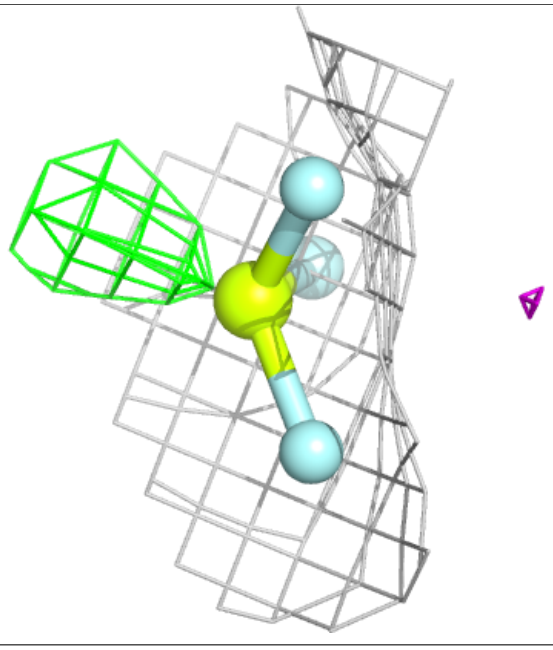


Electron density around BEF G 1001:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

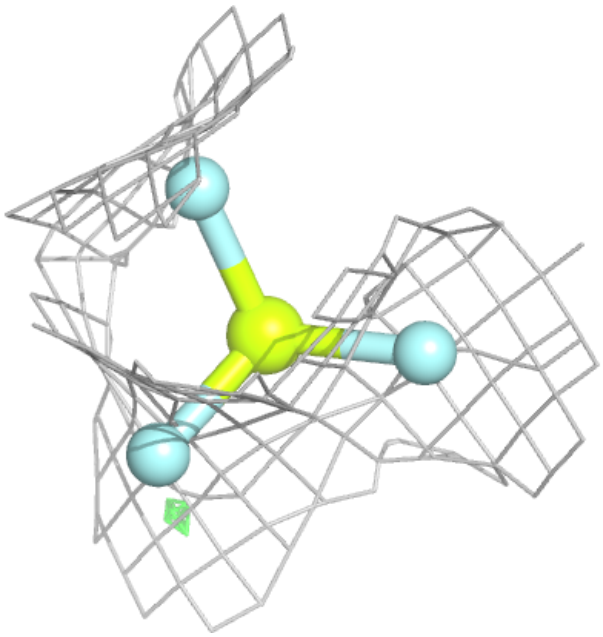


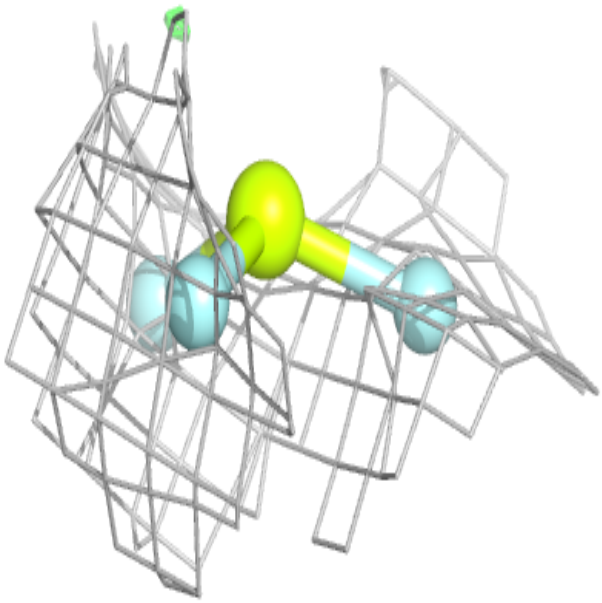


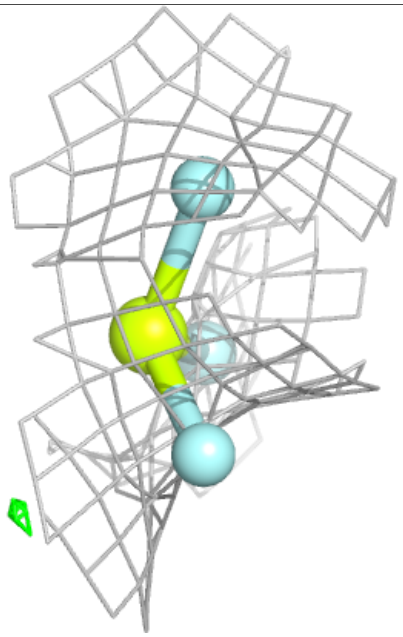


Electron density around BEF F 1001:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

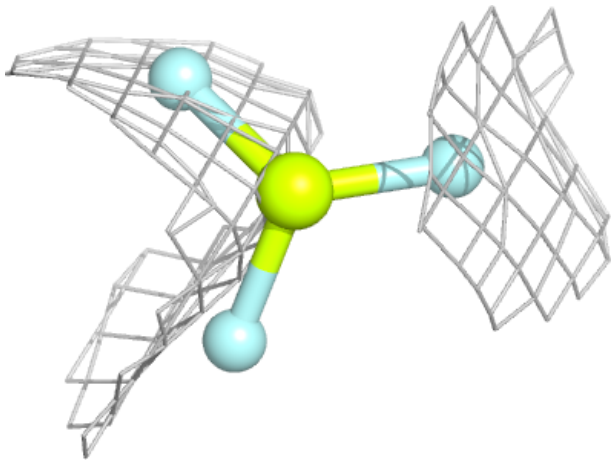


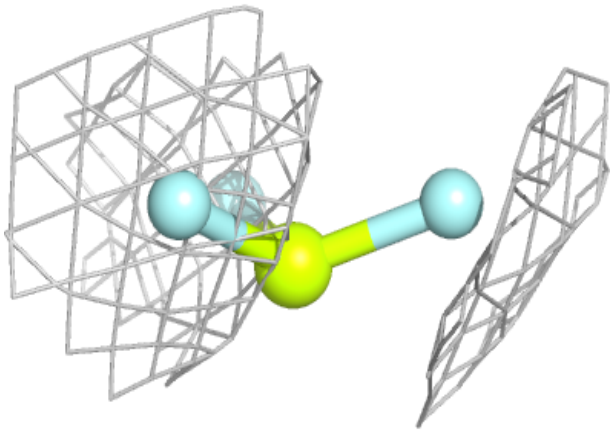


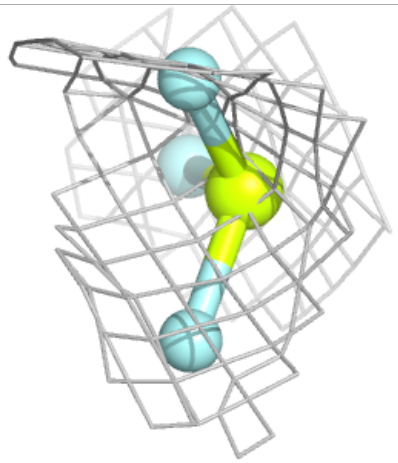


Electron density around BEF H 1001:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

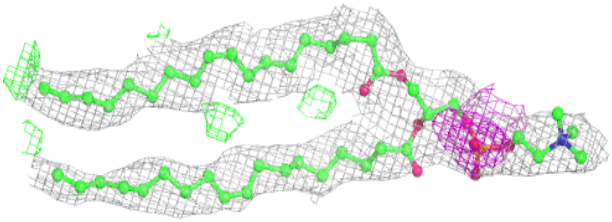


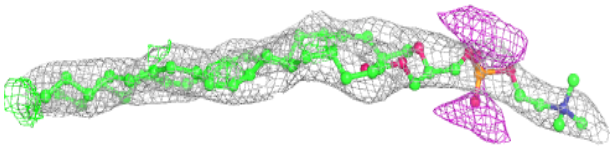


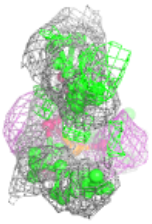


Electron density around PCW B 1008:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

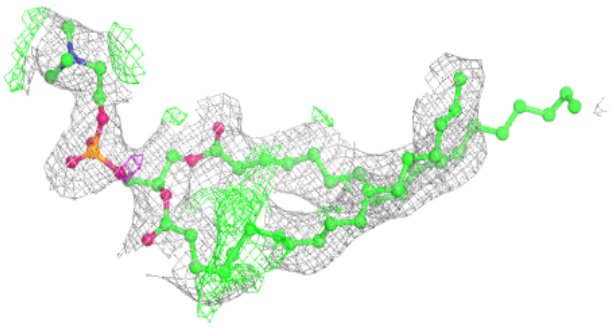


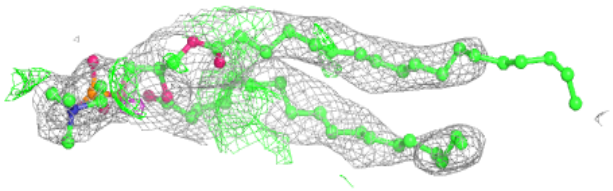


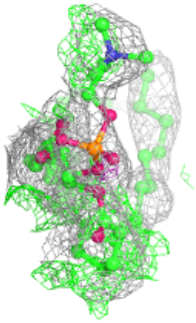


Electron density around PCW B 1006:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

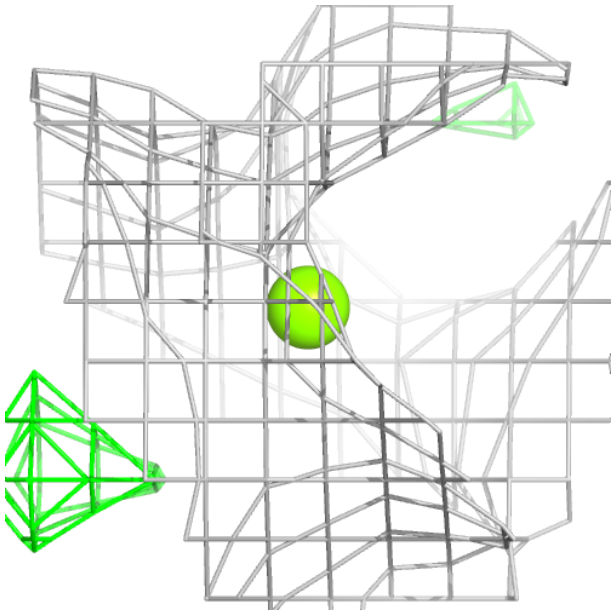


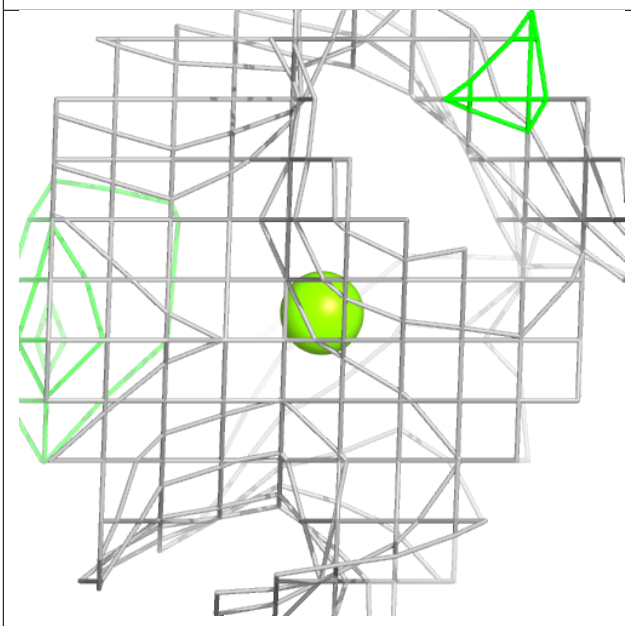


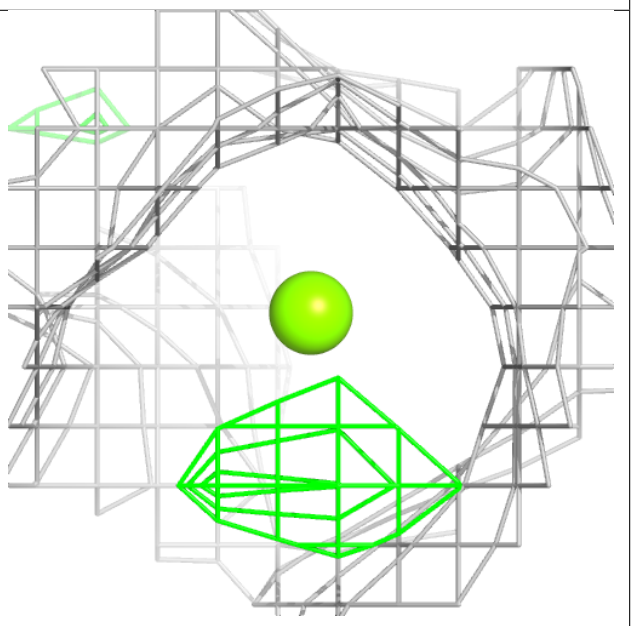


Electron density around MG G 1002:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

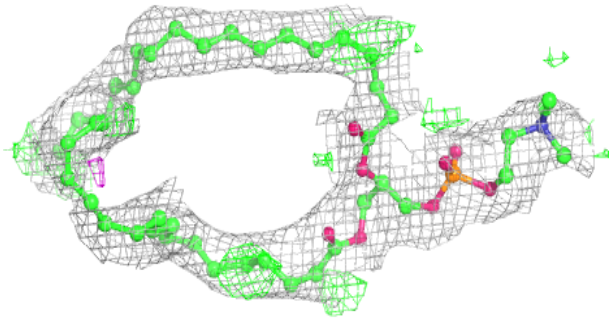


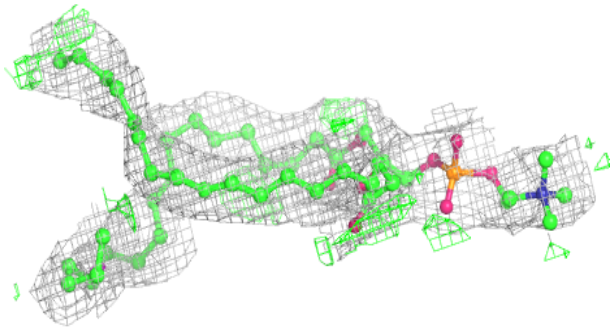


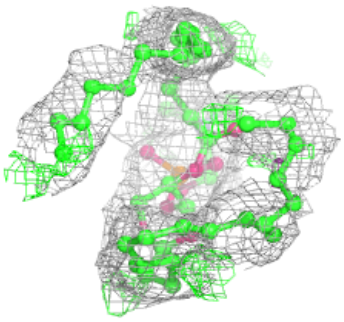


Electron density around PCW C 1006:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

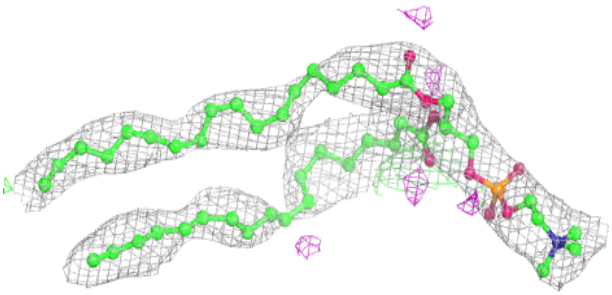


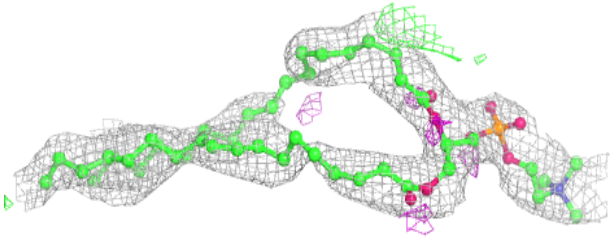


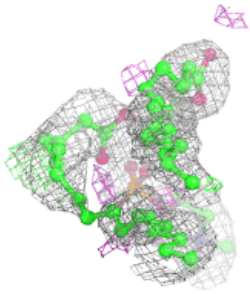


Electron density around PCW B 1007:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

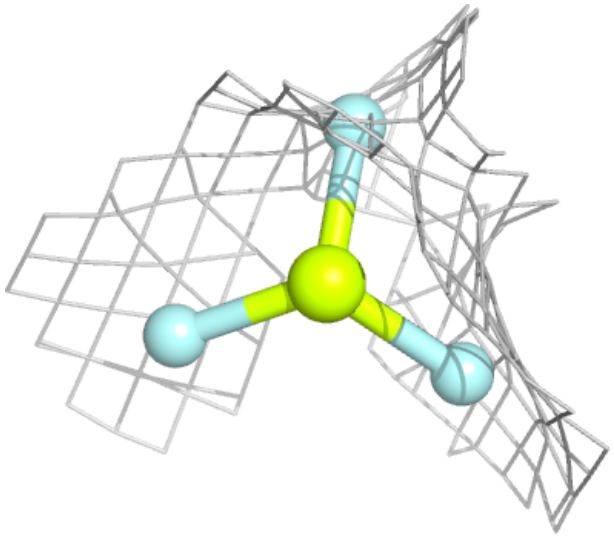


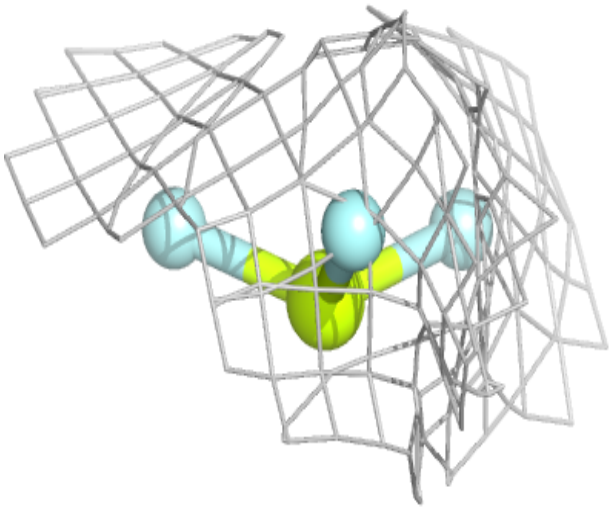


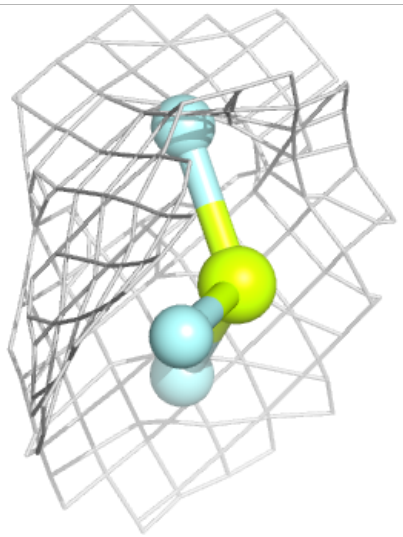


Electron density around BEF E 1001:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

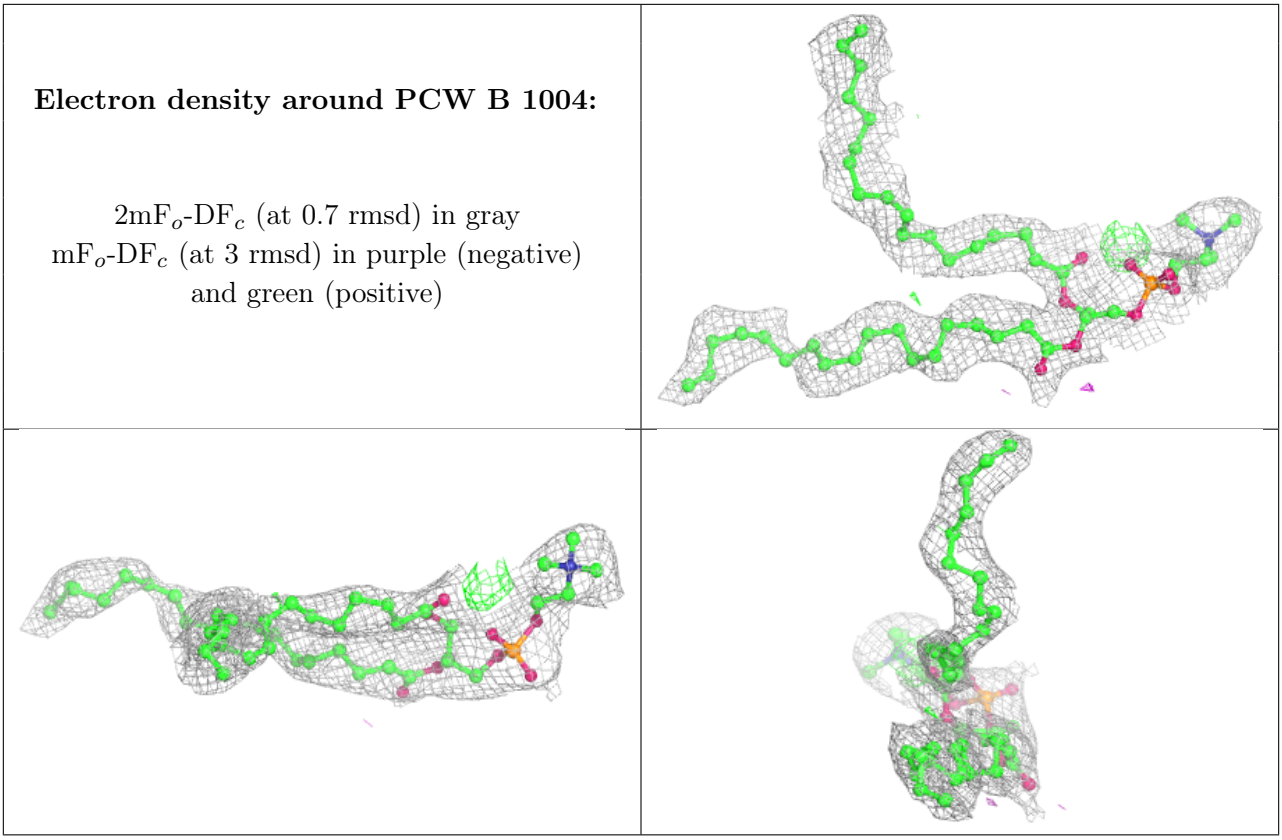






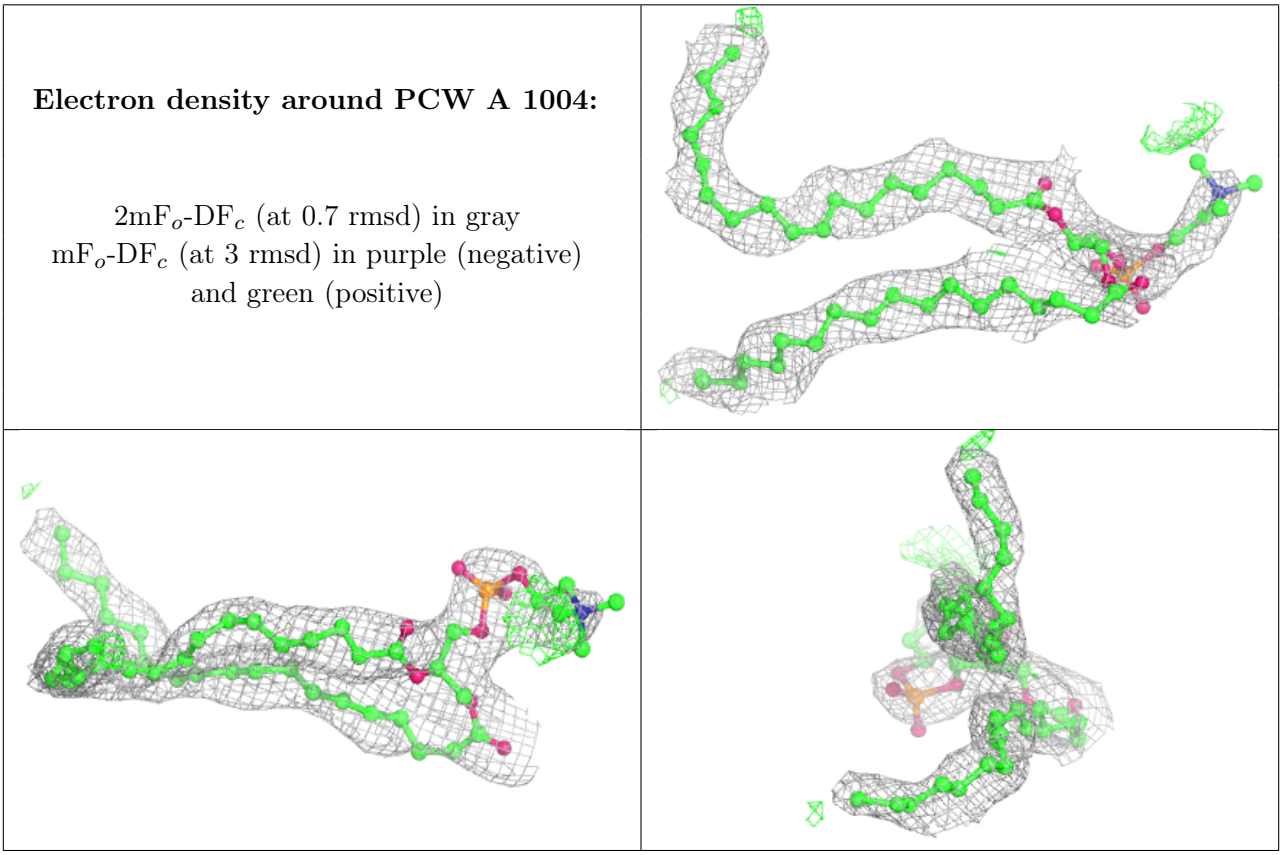
Electron density around PCW B 1004:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



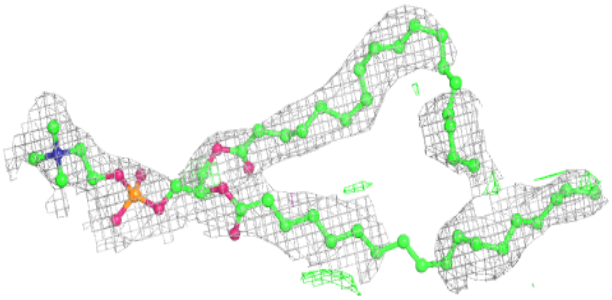
Electron density around PCW A 1004:

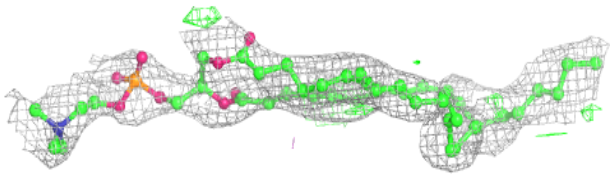
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



Electron density around PCW C 1004:

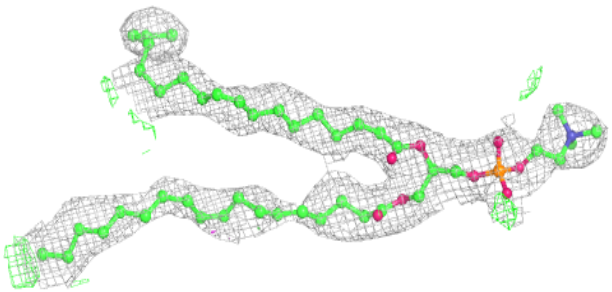
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

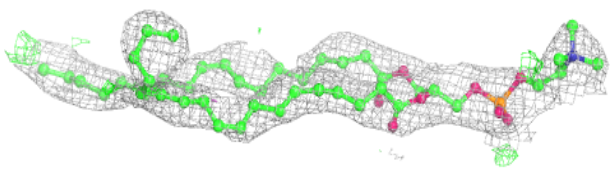


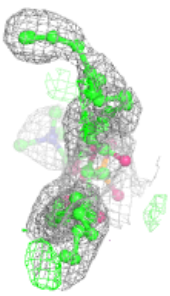


Electron density around PCW C 1005:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

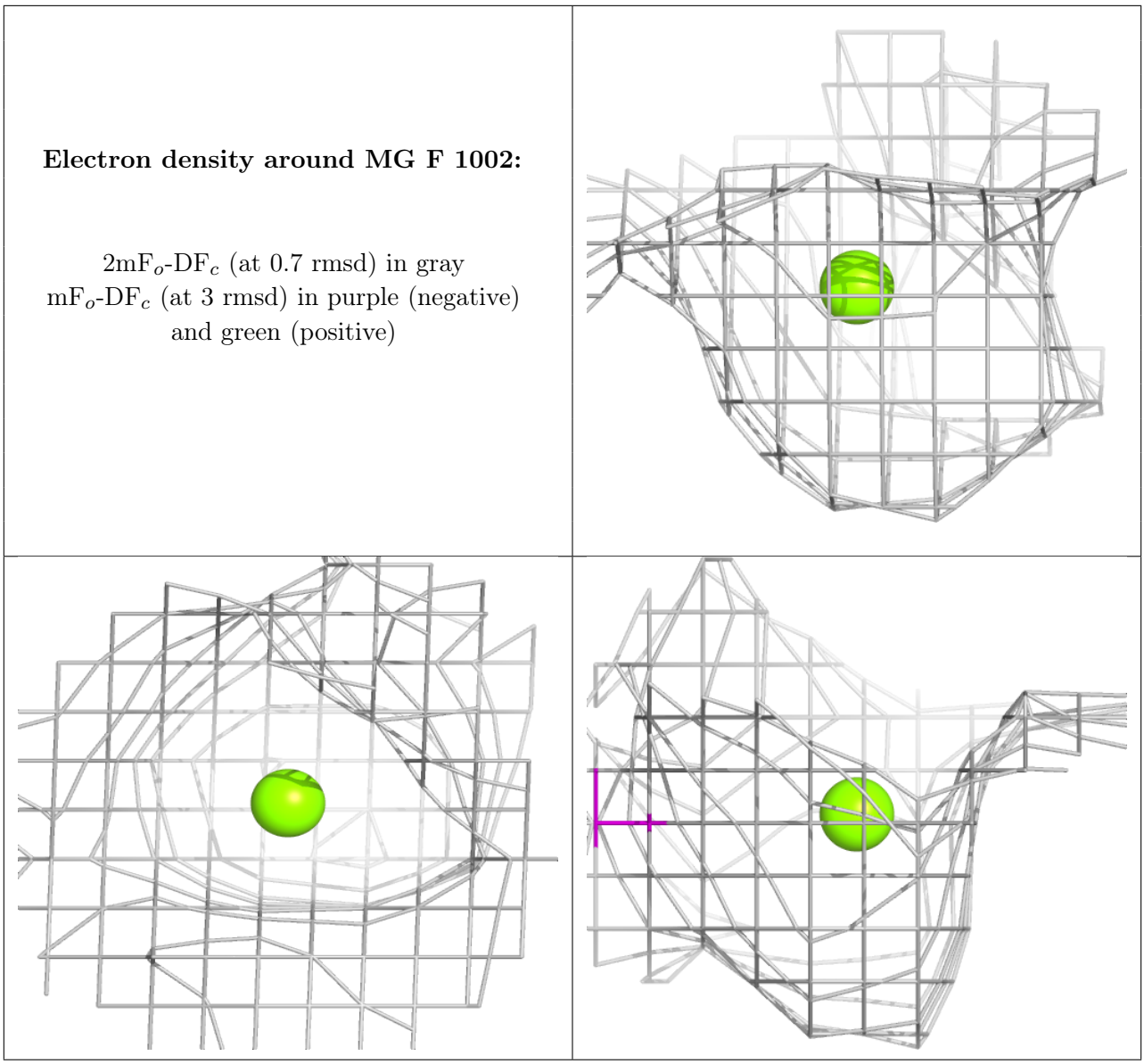






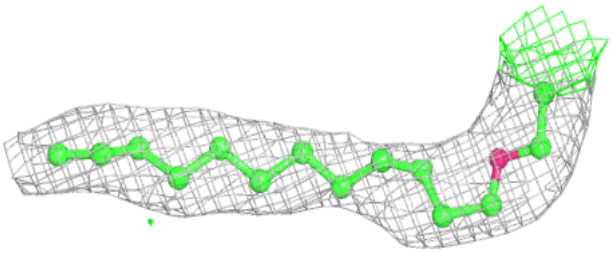
Electron density around MG F 1002:

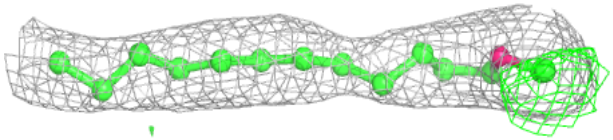
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

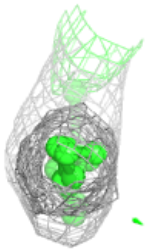


Electron density around CE1 C 1007:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

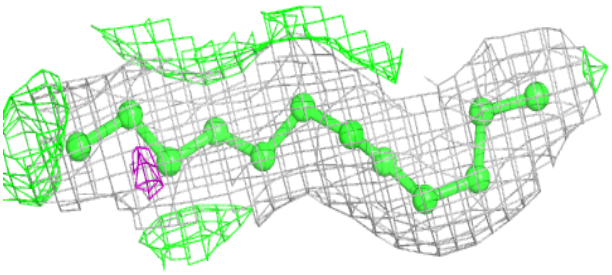


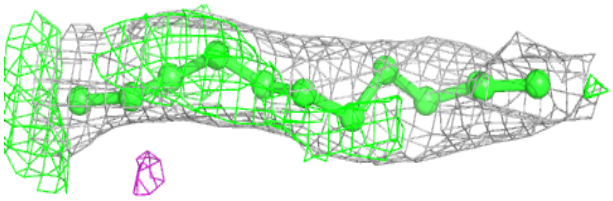


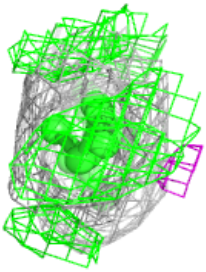


Electron density around CE1 D 1009:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

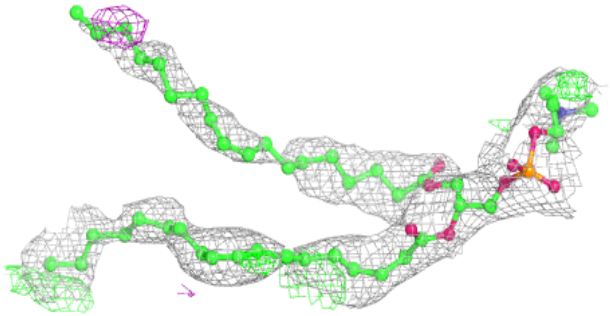


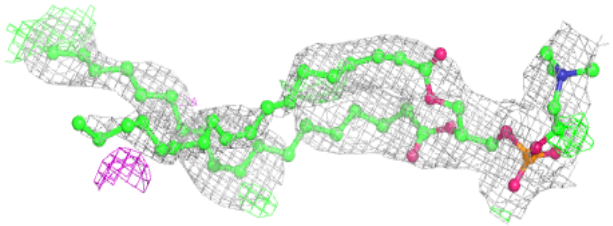


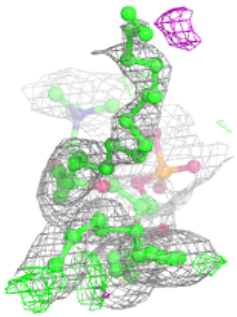


Electron density around PCW C 1008:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

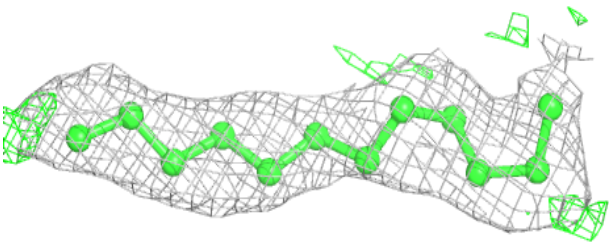


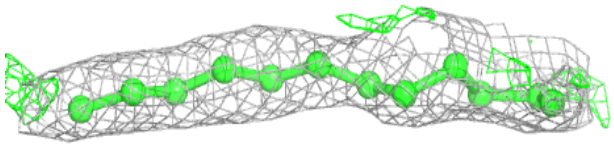


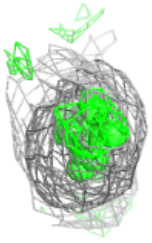


Electron density around CE1 D 1006:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

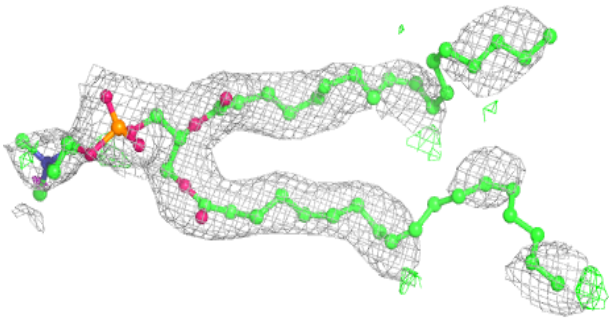


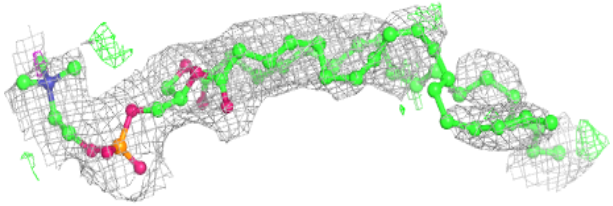


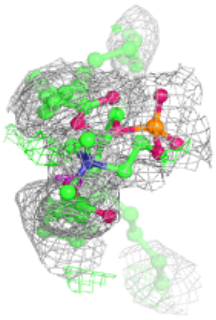


Electron density around PCW D 1003:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

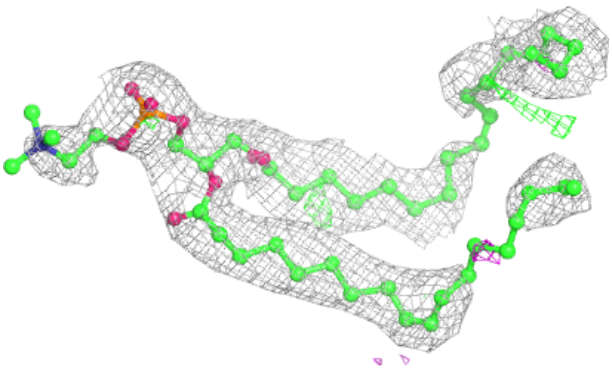


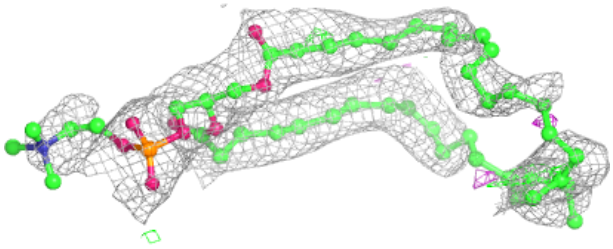


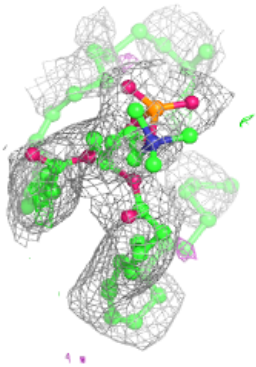


Electron density around PCW C 1003:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

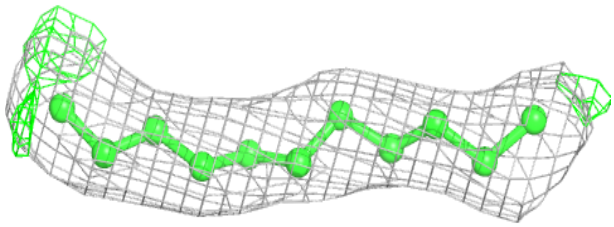


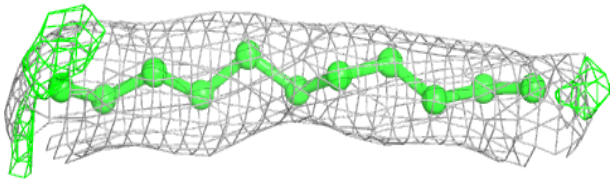


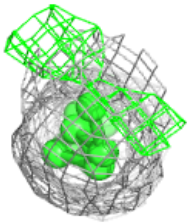


Electron density around CE1 D 1008:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

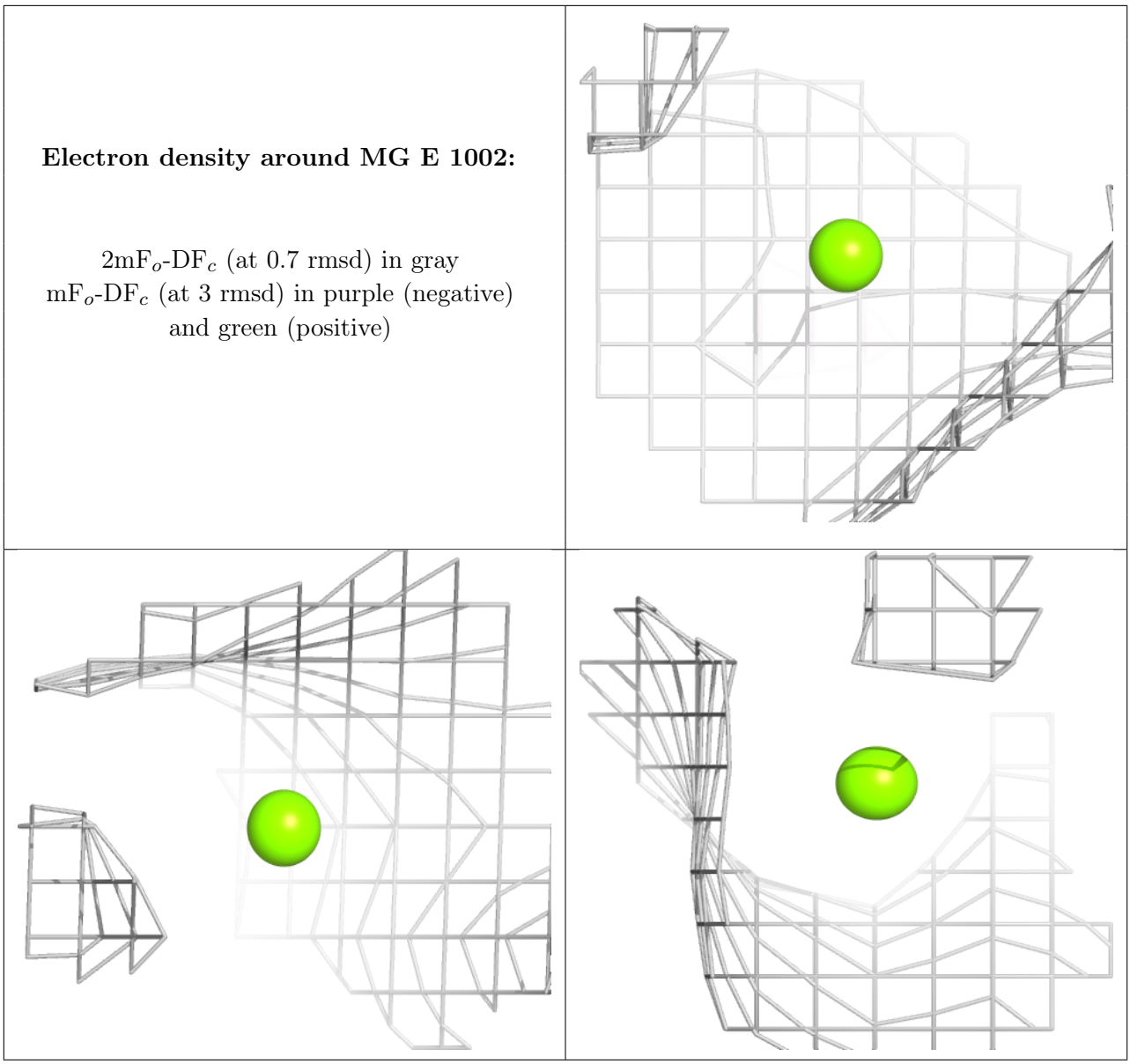






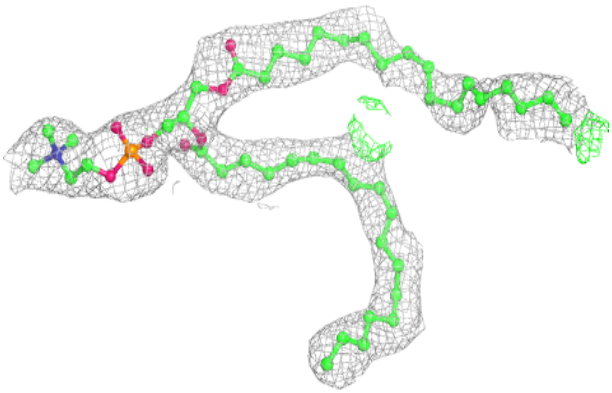
Electron density around MG E 1002:

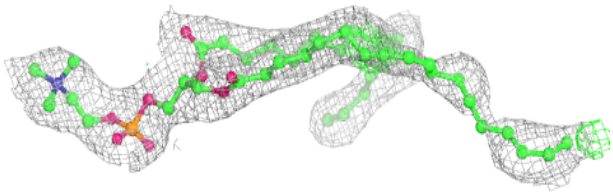
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



Electron density around PCW B 1003:

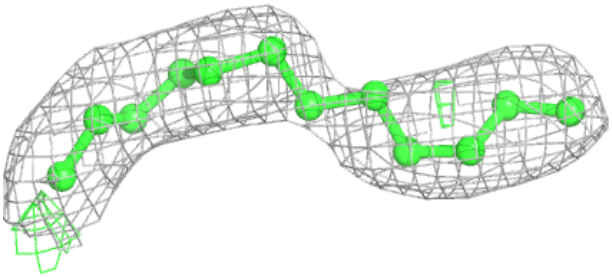
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

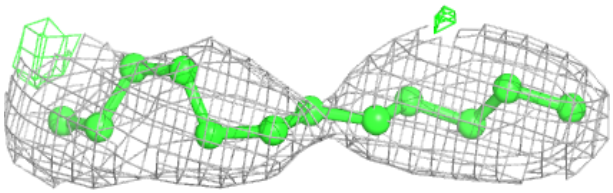


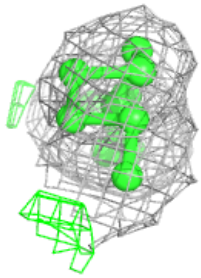


Electron density around CE1 D 1005:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

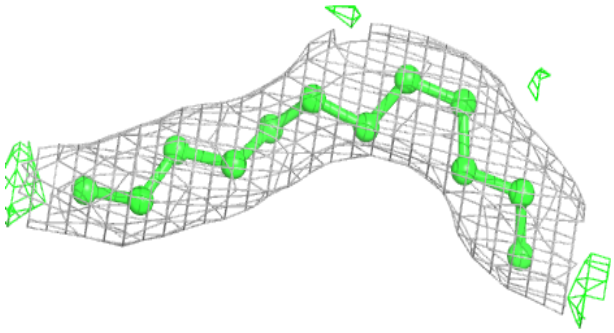


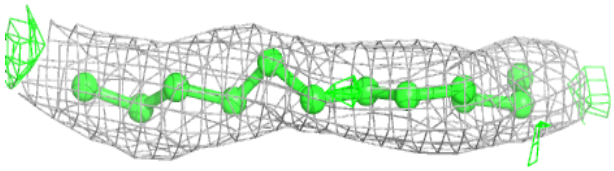


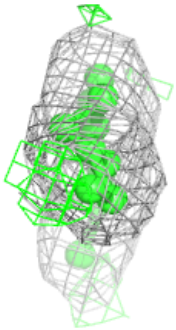


Electron density around CE1 D 1004:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

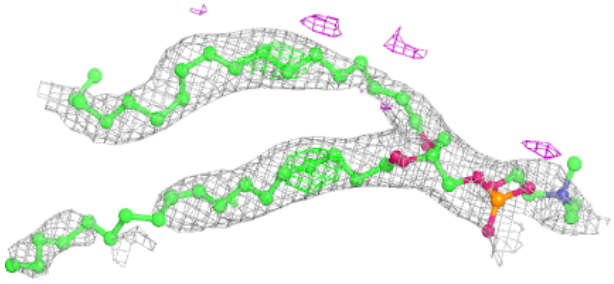


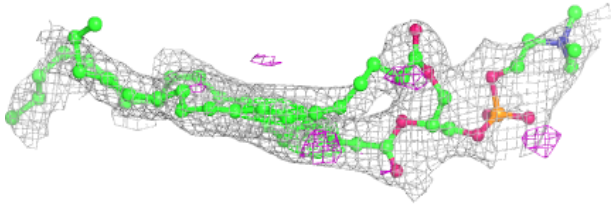


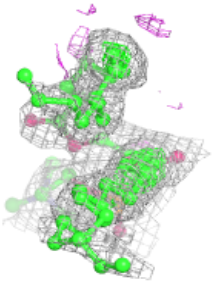


Electron density around PCW B 1005:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

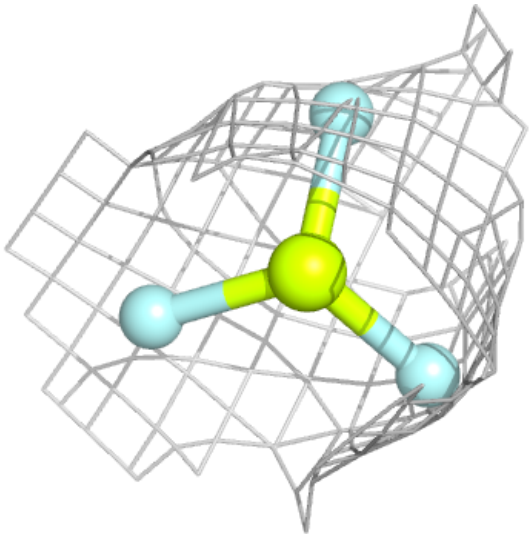


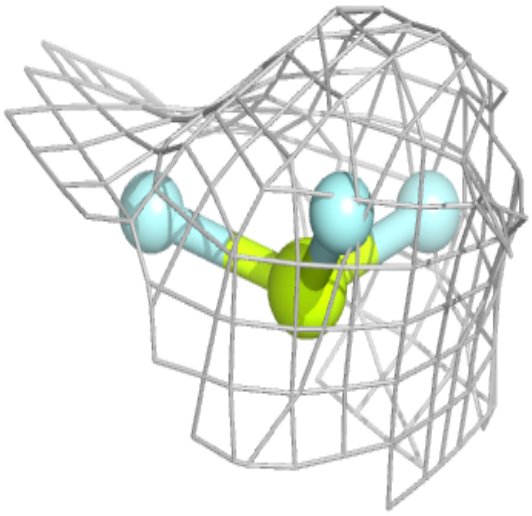


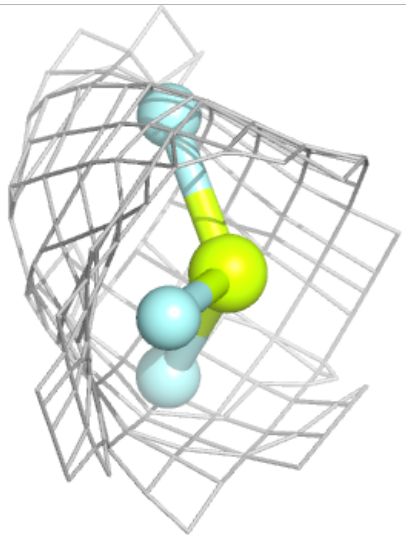


Electron density around BEF C 1001:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

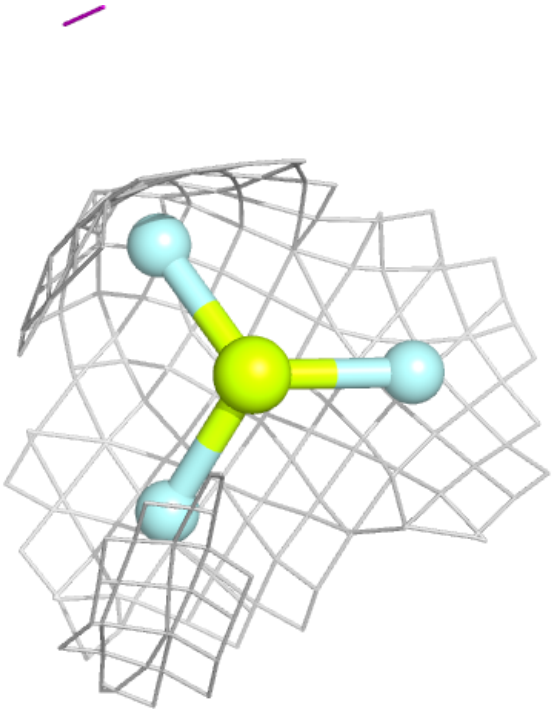


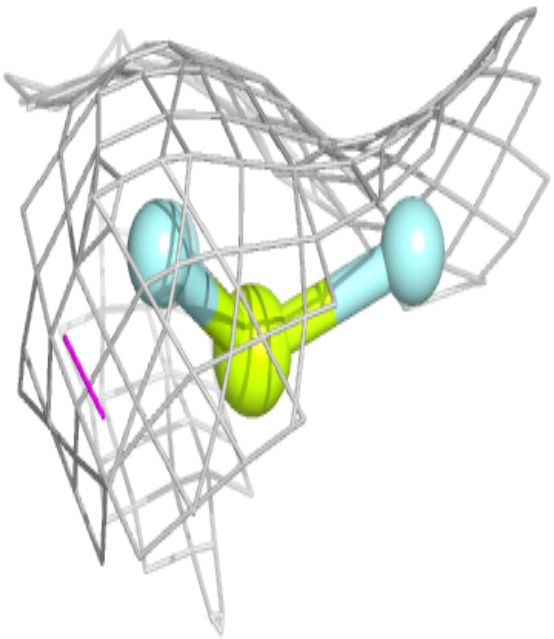


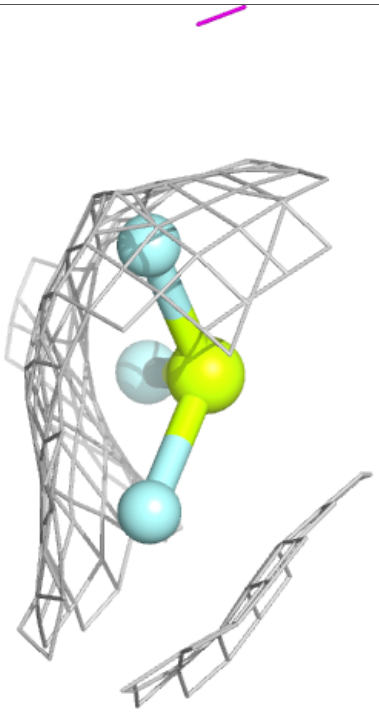


Electron density around BEF D 1001:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

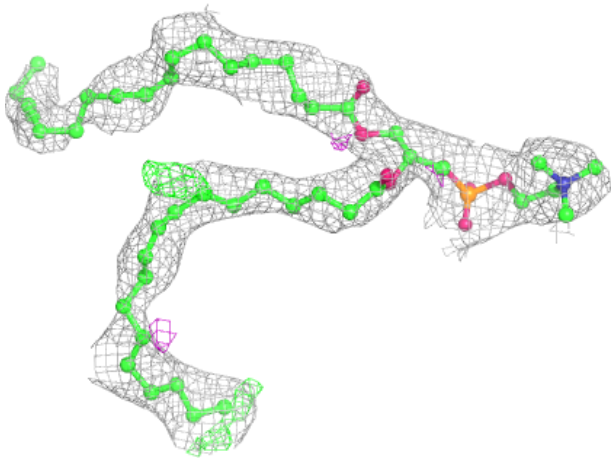


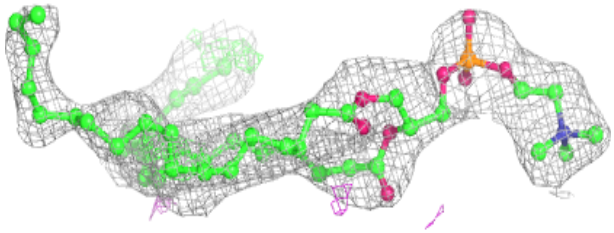


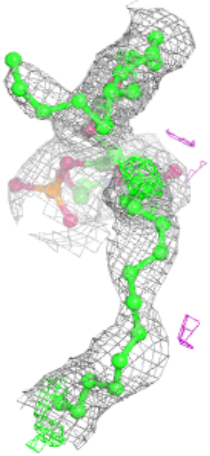


Electron density around PCW A 1003:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

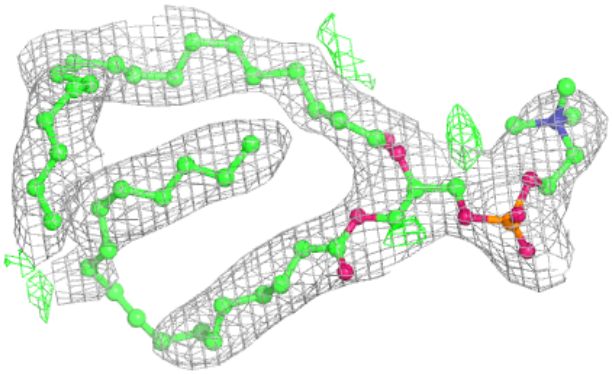


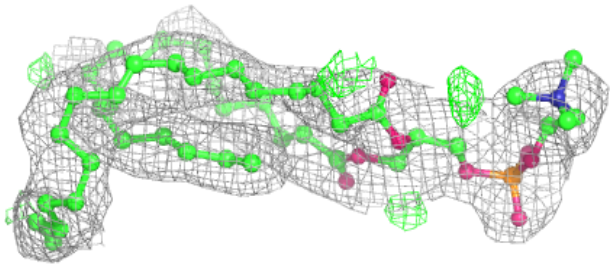


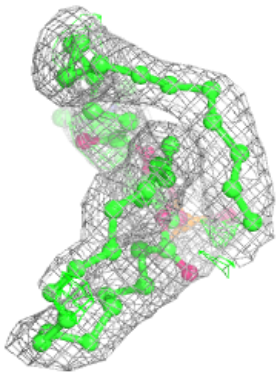


Electron density around PCW B 1009:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

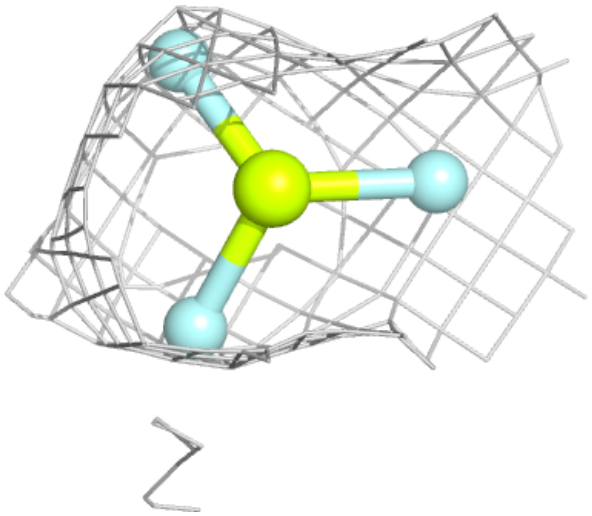


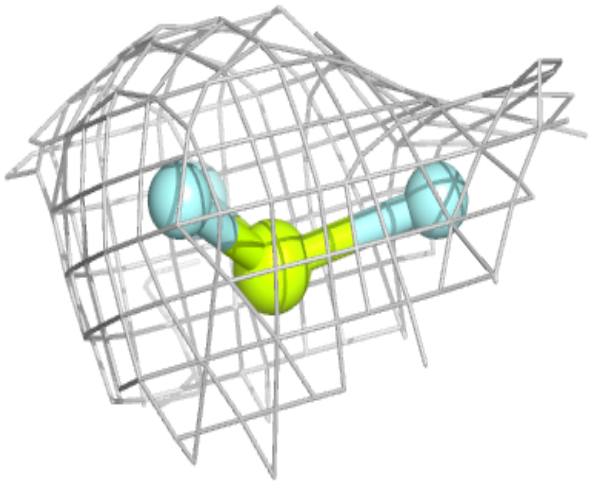


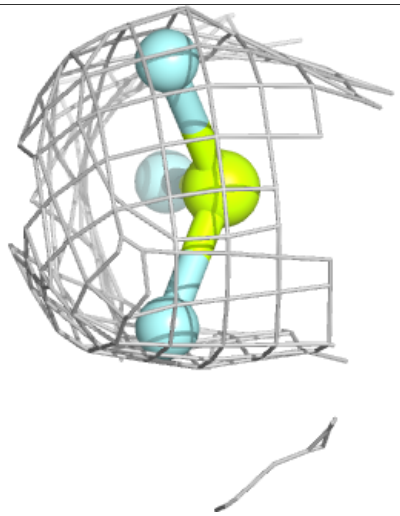


Electron density around BEF B 1001:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

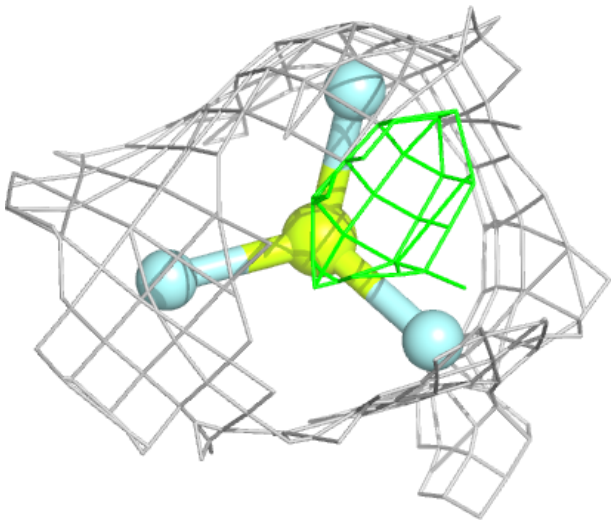


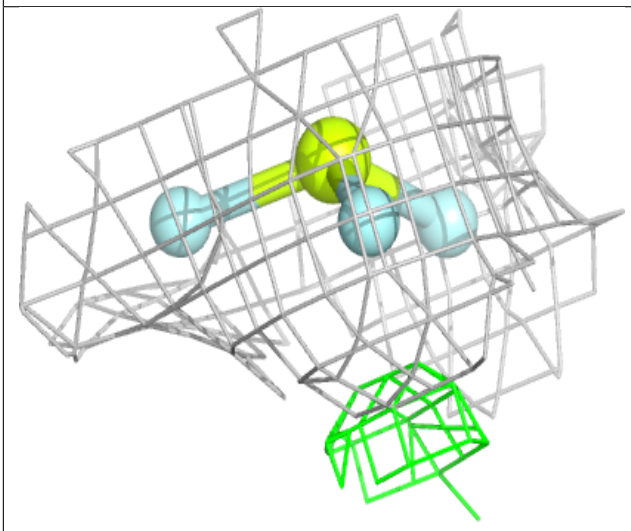


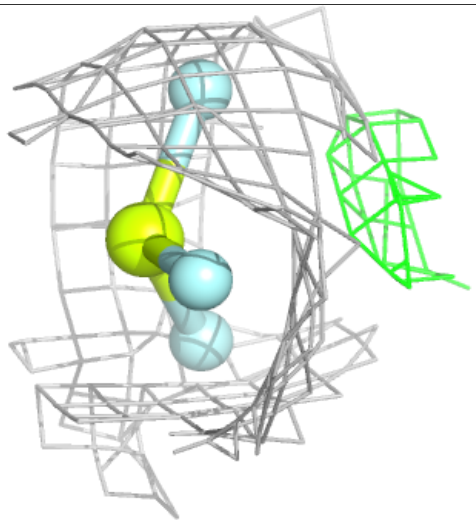


Electron density around BEF A 1001:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

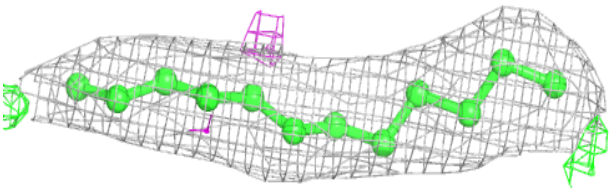


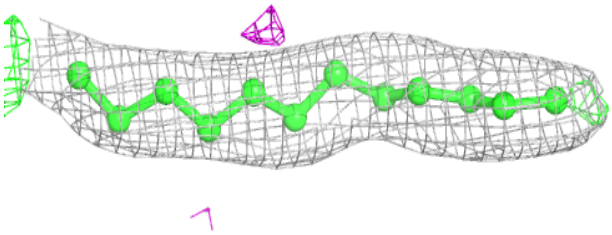


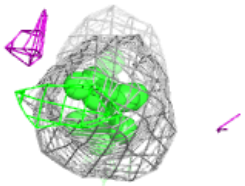


Electron density around CE1 D 1007:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

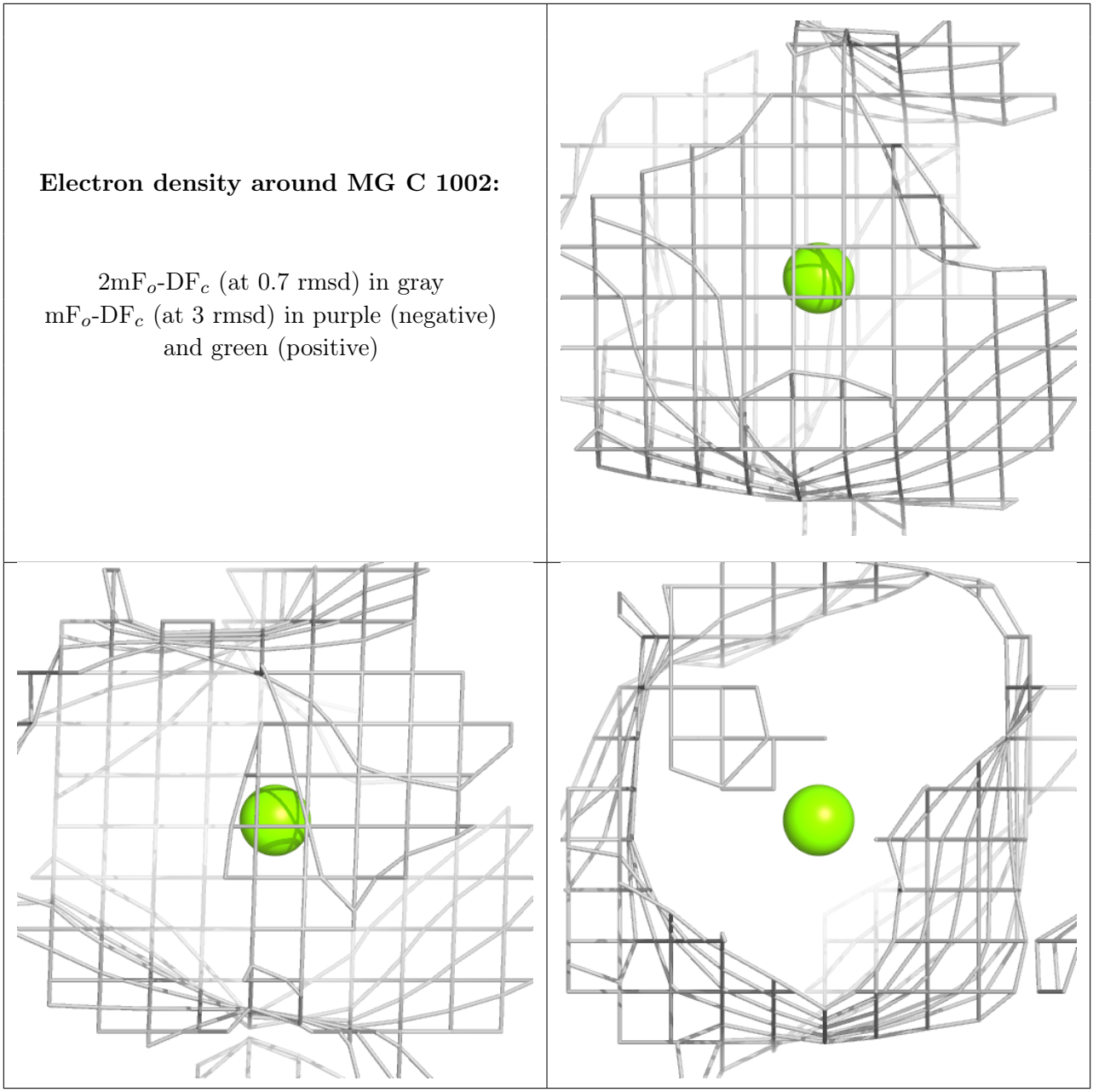






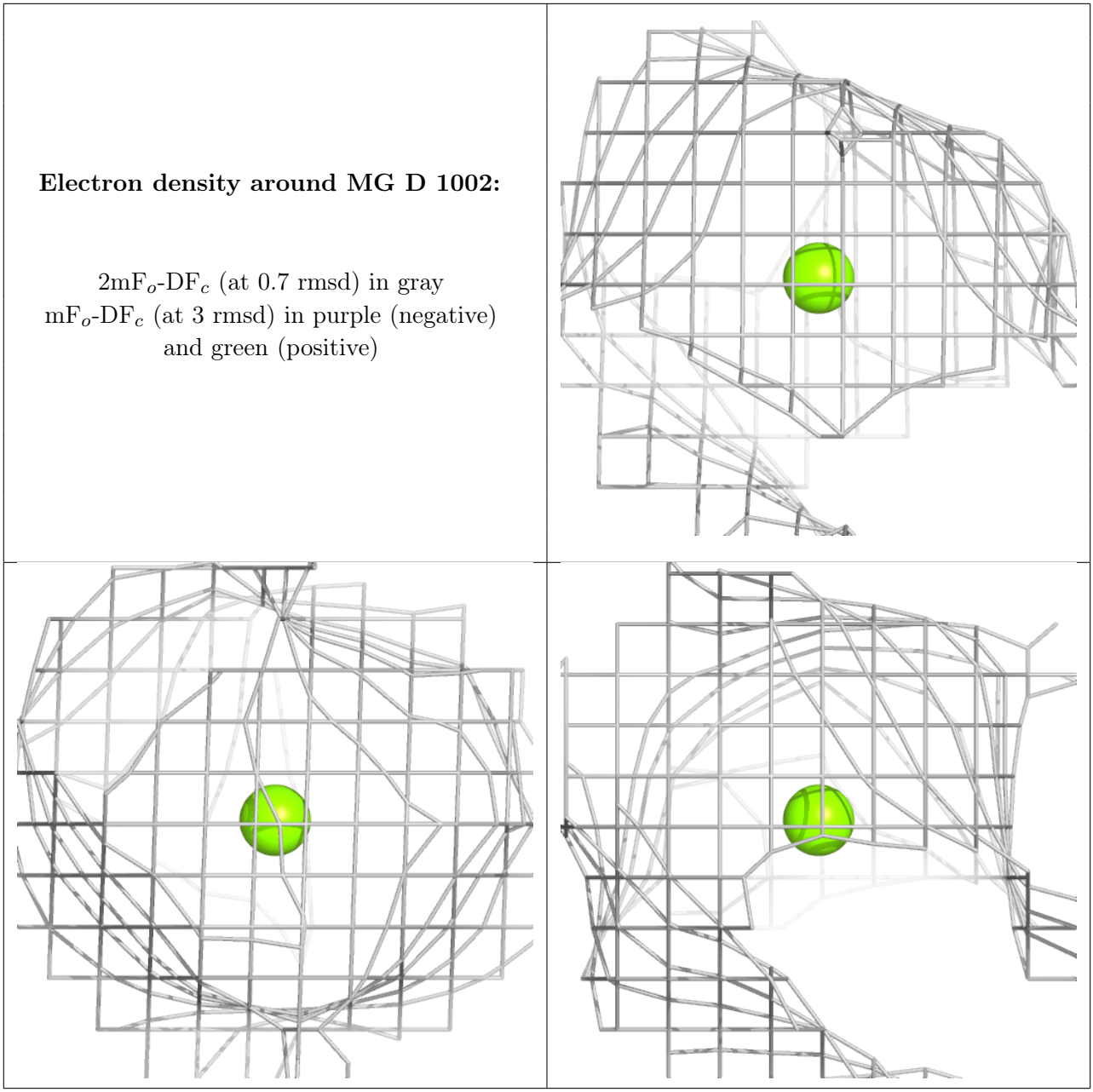
Electron density around MG C 1002:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



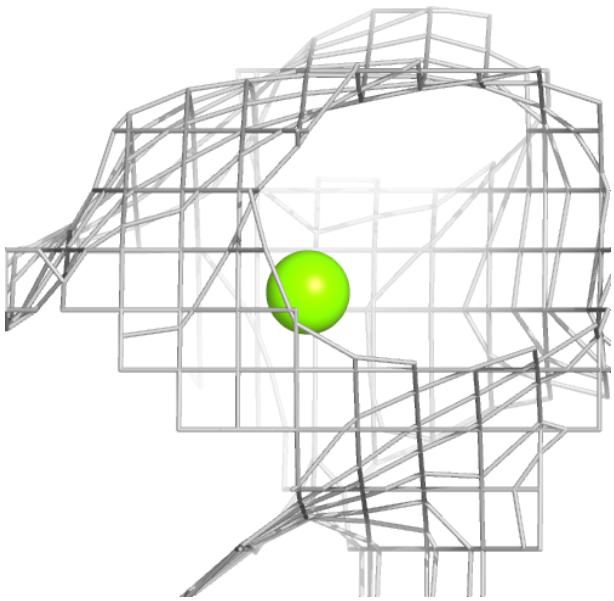
Electron density around MG D 1002:

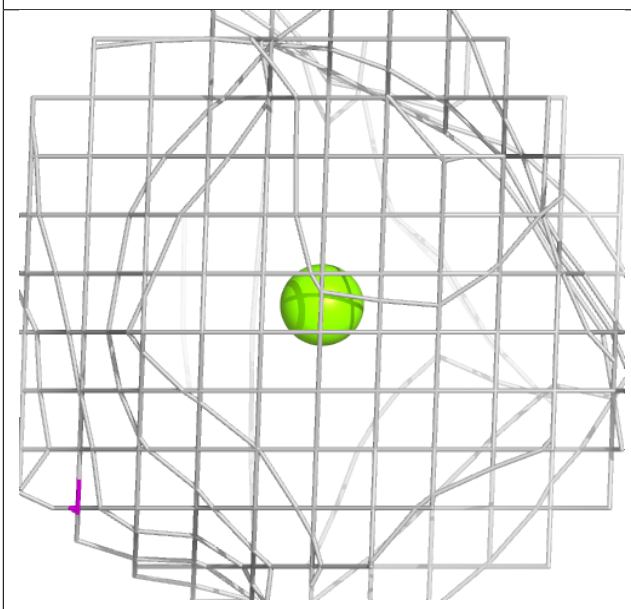
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

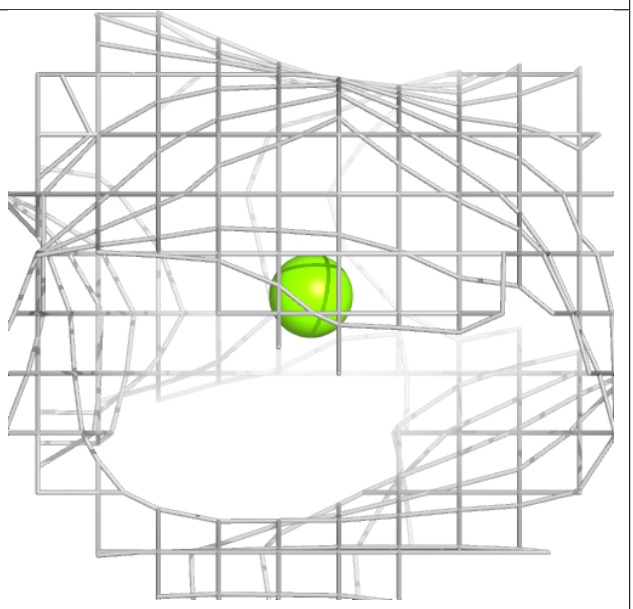


Electron density around MG A 1002:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

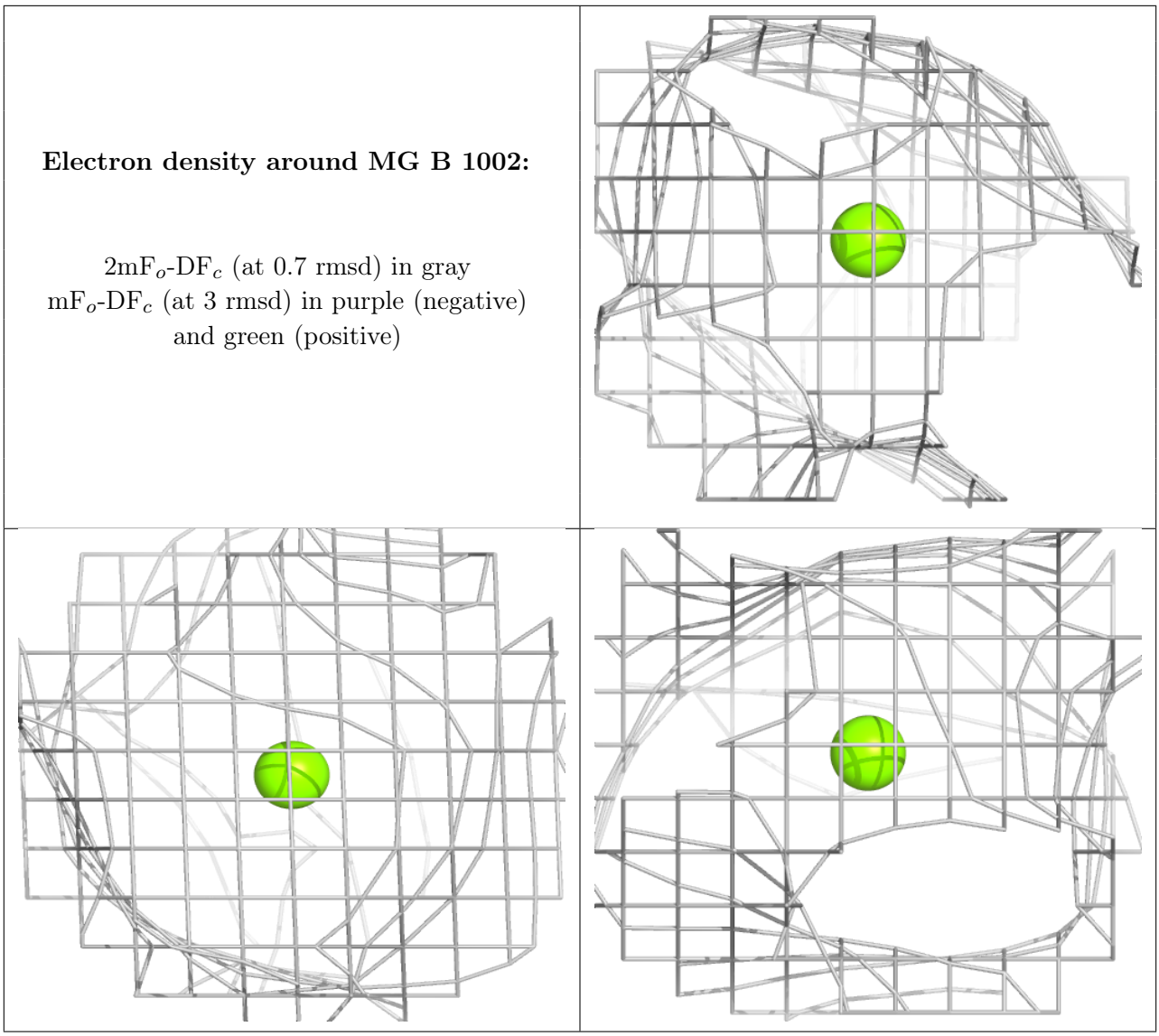






Electron density around MG B 1002:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



6.5 Other polymers

There are no such residues in this entry.