



wwPDB X-ray Structure Validation Summary Report ⓘ

Sep 24, 2025 – 07:00 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 wwPDB X-ray Structure Validation Summary 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

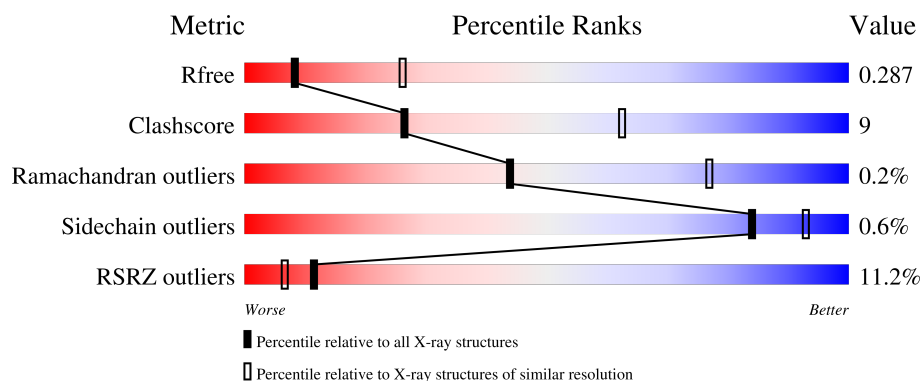
1 Overall quality at a glance

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 $\leq 5\%$. 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	4% 79% 17% .
1	B	911	4% 77% 20% .
1	C	911	19% 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	20% 75% 21% .
1	G	911	18% 78% 18% .
1	H	911	19% 73% 22% ..

2 Entry composition

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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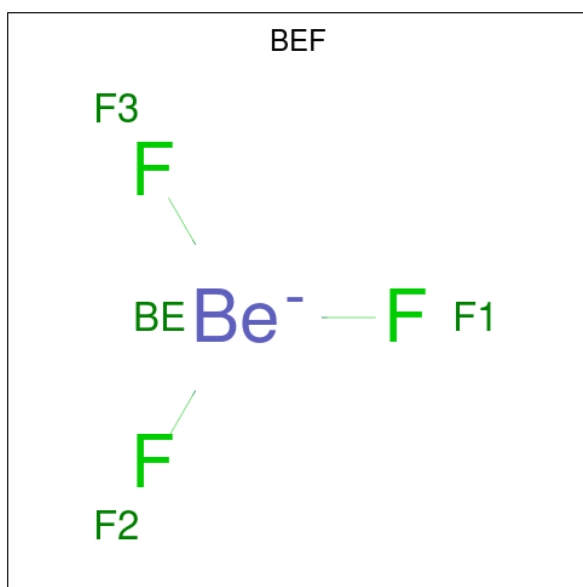
Chain	Residue	Modelled	Actual	Comment	Reference
F	896	GLU	-	expression tag	UNP A0A1C7PY84
F	897	HIS	-	expression tag	UNP A0A1C7PY84
F	898	HIS	-	expression tag	UNP A0A1C7PY84
F	899	HIS	-	expression tag	UNP A0A1C7PY84
F	900	HIS	-	expression tag	UNP A0A1C7PY84
F	901	HIS	-	expression tag	UNP A0A1C7PY84
F	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: BeF₃) (labeled as "Ligand of Interest" by depositor).



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

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

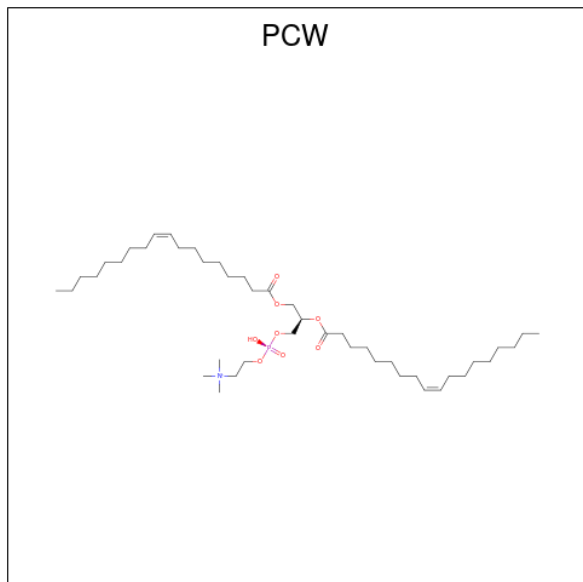
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	1	Total	Mg	0	0
			1	1		
3	B	1	Total	Mg	0	0
			1	1		
3	C	1	Total	Mg	0	0
			1	1		

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

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



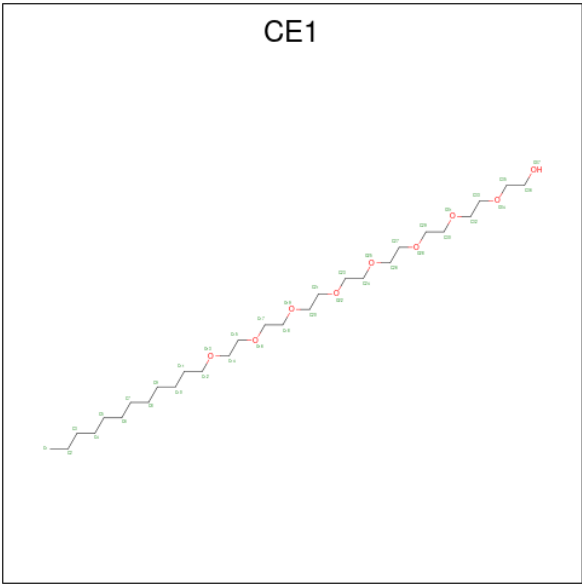
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
4	A	1	Total	C	N	O	P	0	0
			54	44	1	8	1		
4	A	1	Total	C	N	O	P	0	0
			54	44	1	8	1		
4	B	1	Total	C	N	O	P	0	0
			54	44	1	8	1		
4	B	1	Total	C	N	O	P	0	0
			54	44	1	8	1		
4	B	1	Total	C	N	O	P	0	0
			54	44	1	8	1		

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

- 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	0	0
			15 14	1		
5	D	1	Total	C	0	0
			12 12			

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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

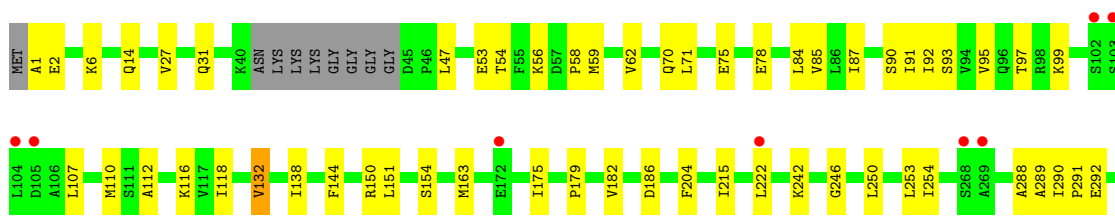
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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.

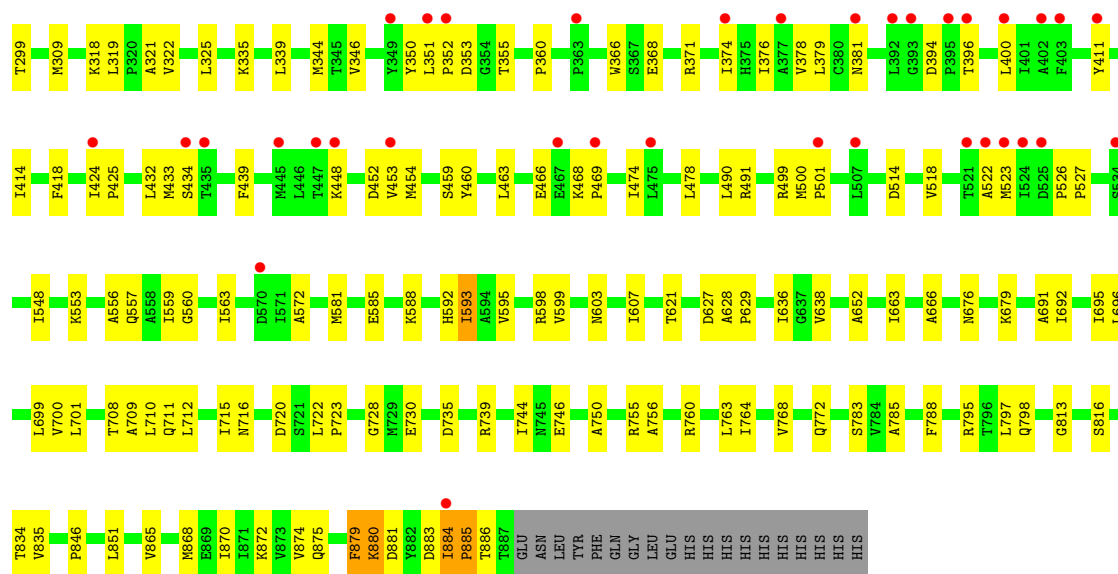
Chain A:

79% 17%

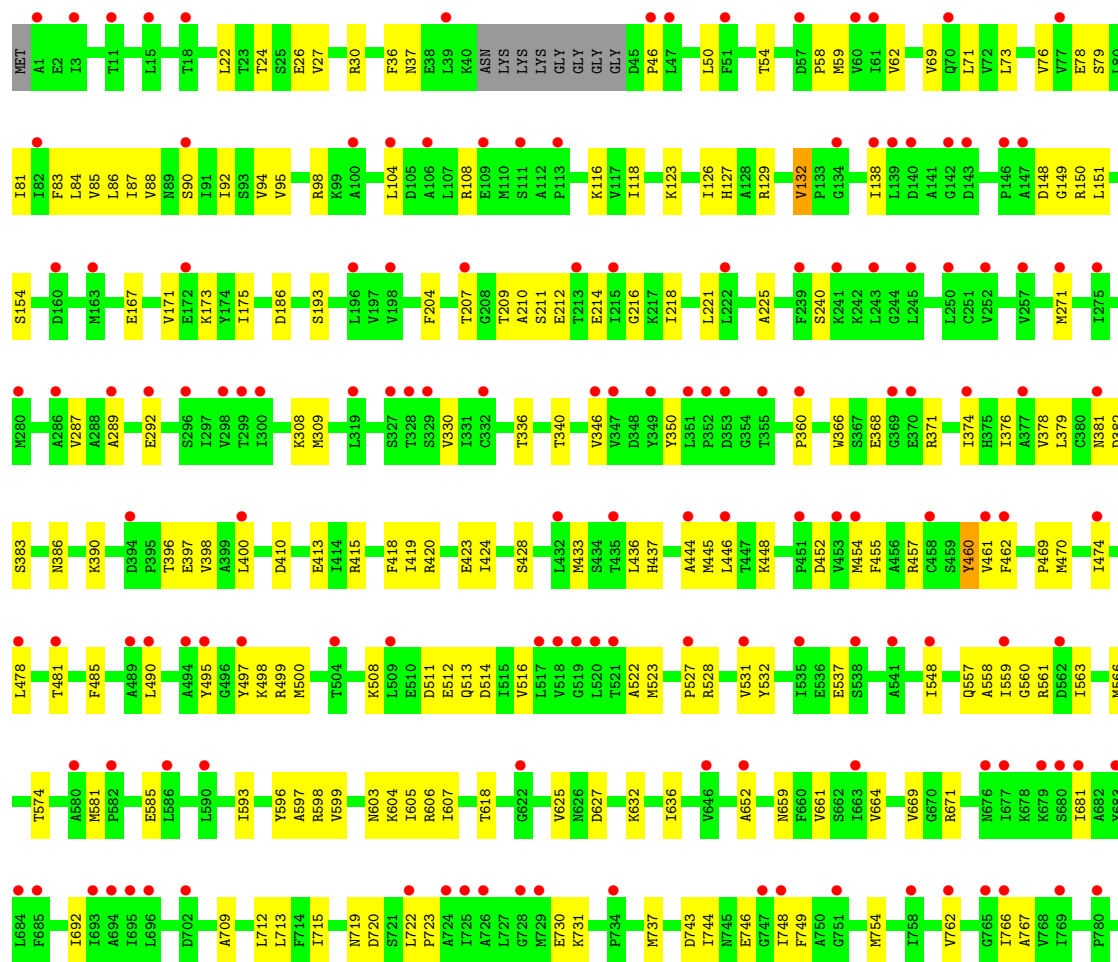
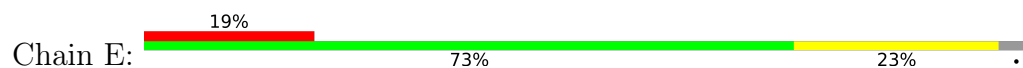
Met A1 K40 ASN LYS LYS GLY GLY GLY D45 P46 L47 W48 K49 L50 E53 D57 P58 W59 V60 I61 V62 E75 E78 L86 N89 S90 I91 V94 V95 A100 E101 S102 L107 R108 K116 V117 I118 I138 A147 D148 G149 R150 L151 L157 M163 L164 T165 Y174 D186 R187 Y188 W189 M190 S193 R201 G202 M203 P204 T207 I215 G220 L221 T224 A289 T290 P291 S295 S296 I297 L325 V330 T333 V346 D353 F359 P362 S362 N365 E370 R371 R372 I376 I377 N381 D394 P395 T396 D410 E413 R430 K431 L432 S434 T438 K443 A444 M445 L446 D452 V453 V461 P469 V492 K498 R499 M500 P501 T504 D511 S512 Q513 T521 A522 M523 I524 P526 P527 R528 V531 T535 L540 L541 Q557 Q560 R561 S562 I563 M566 D570 M581 E585 L586 D587 I593 A594 V595 V596 A597 R598 V599 M603 K604 K611 K614 T618 T621 N626 D627 D635 T636 T663 A666 K676 T681 P685 T692 V700 L701 I704 F707 T708 A709 L710 Q711 Y715 S721 S721 L725 G728 M737 M737 I744 I748 R755 A756 A756 R760 L763 I764 V768 M776 A785 L791 Q798 V806 R840 P846 A847 S848 A861 V865 M868 I871 Q875 N876 V882 D883 T884

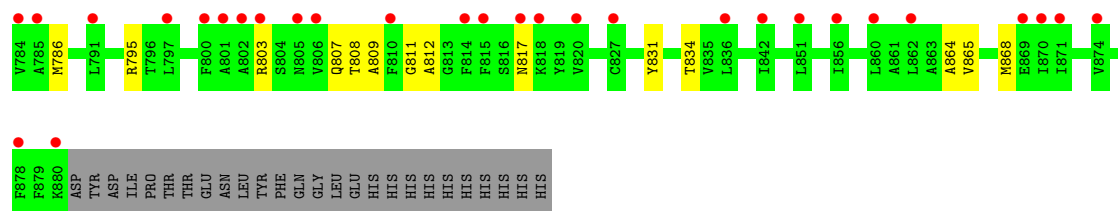
Chain B:



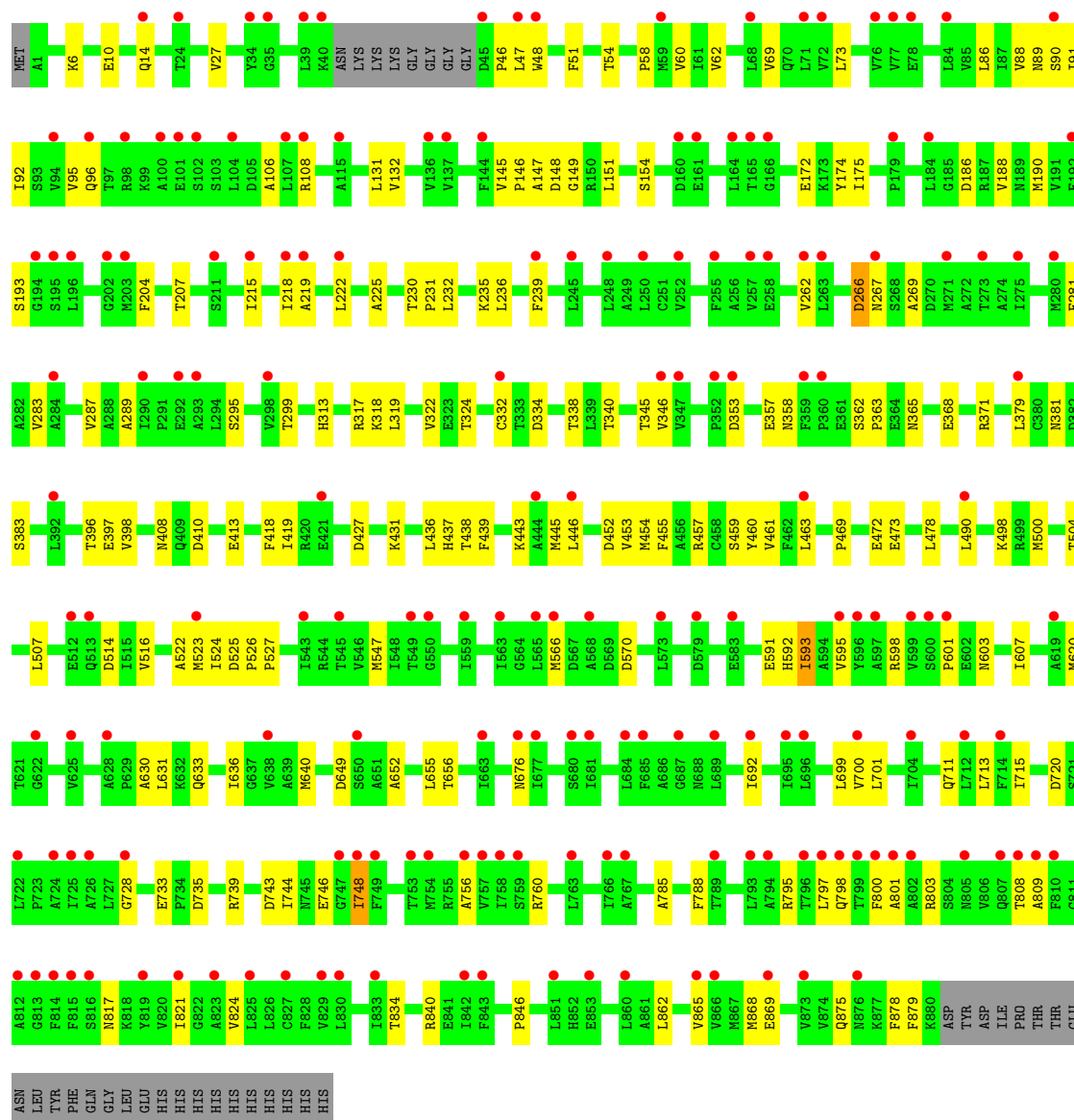
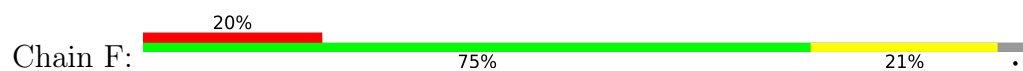


• Molecule 1: Calcium-transporting ATPase

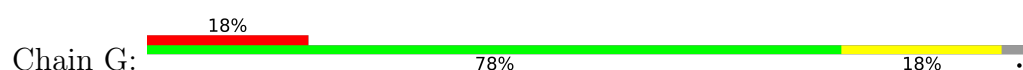


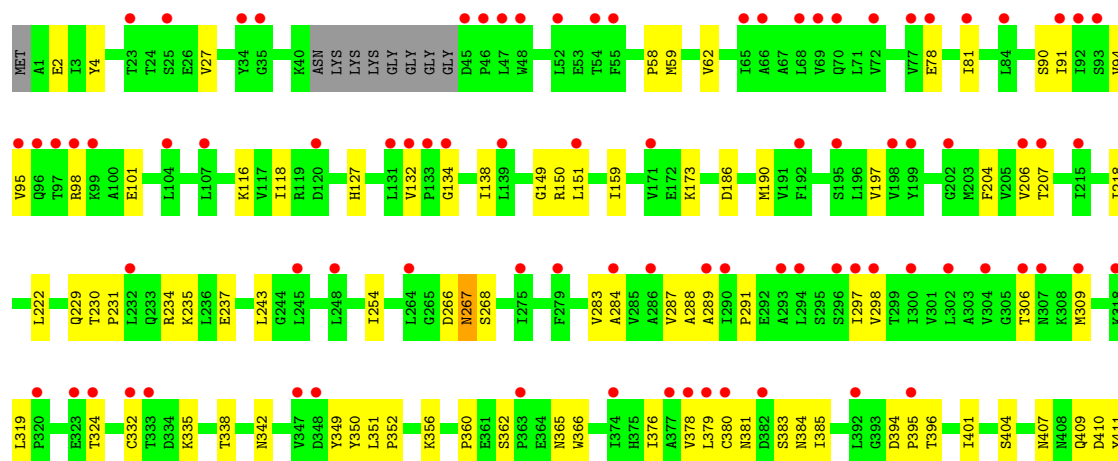


● Molecule 1: Calcium-transporting ATPase



● Molecule 1: Calcium-transporting ATPase







4 Data and refinement statistics

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
$\langle I/\sigma(I) \rangle$ 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	$\langle L \rangle = 0.47$, $\langle L^2 \rangle = 0.30$	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.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ 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%)

The worst 5 of 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

The worst 5 of 7 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	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
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

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
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.

The worst 5 of 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

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

5 of 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

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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

5 of 35 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	G	438	THR
1	G	454	MET
1	H	434	SER
1	D	880	LYS
1	D	593	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 42 such sidechains are listed below:

Mol	Chain	Res	Type
1	F	342	ASN
1	G	552	HIS
1	F	482	ASN
1	G	70	GLN
1	G	876	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
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	-	-	-	-	-
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	-

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

The worst 5 of 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

The worst 5 of 73 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

There are no chirality outliers.

5 of 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

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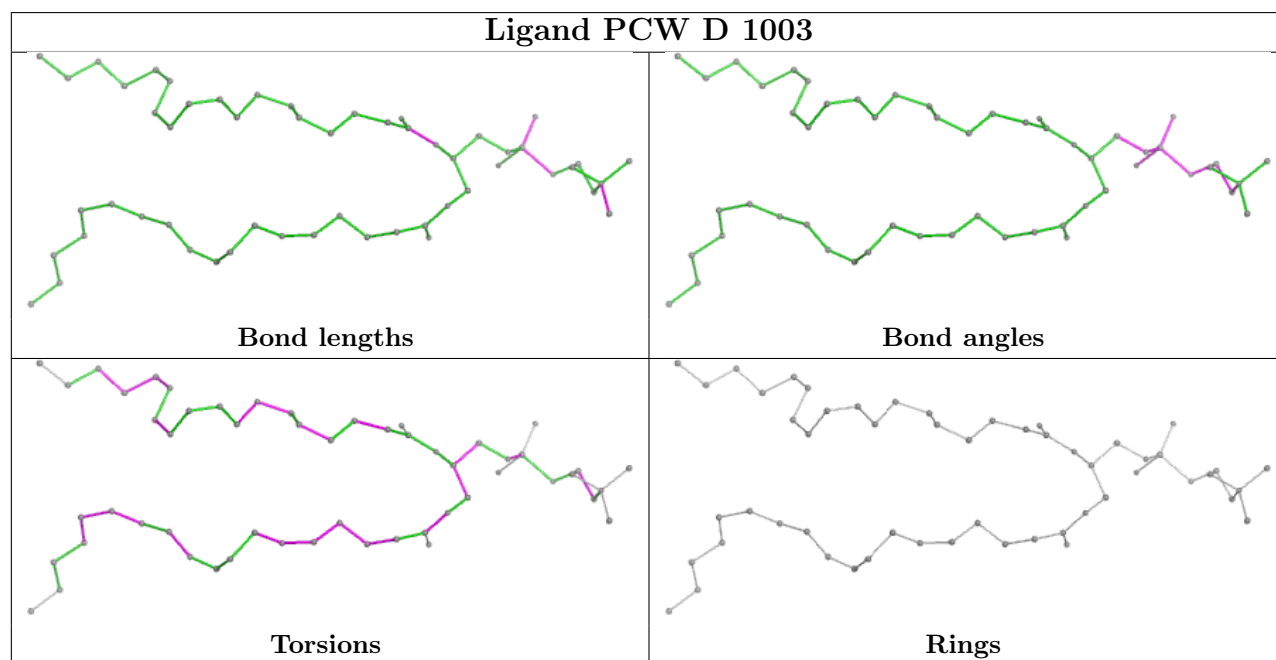
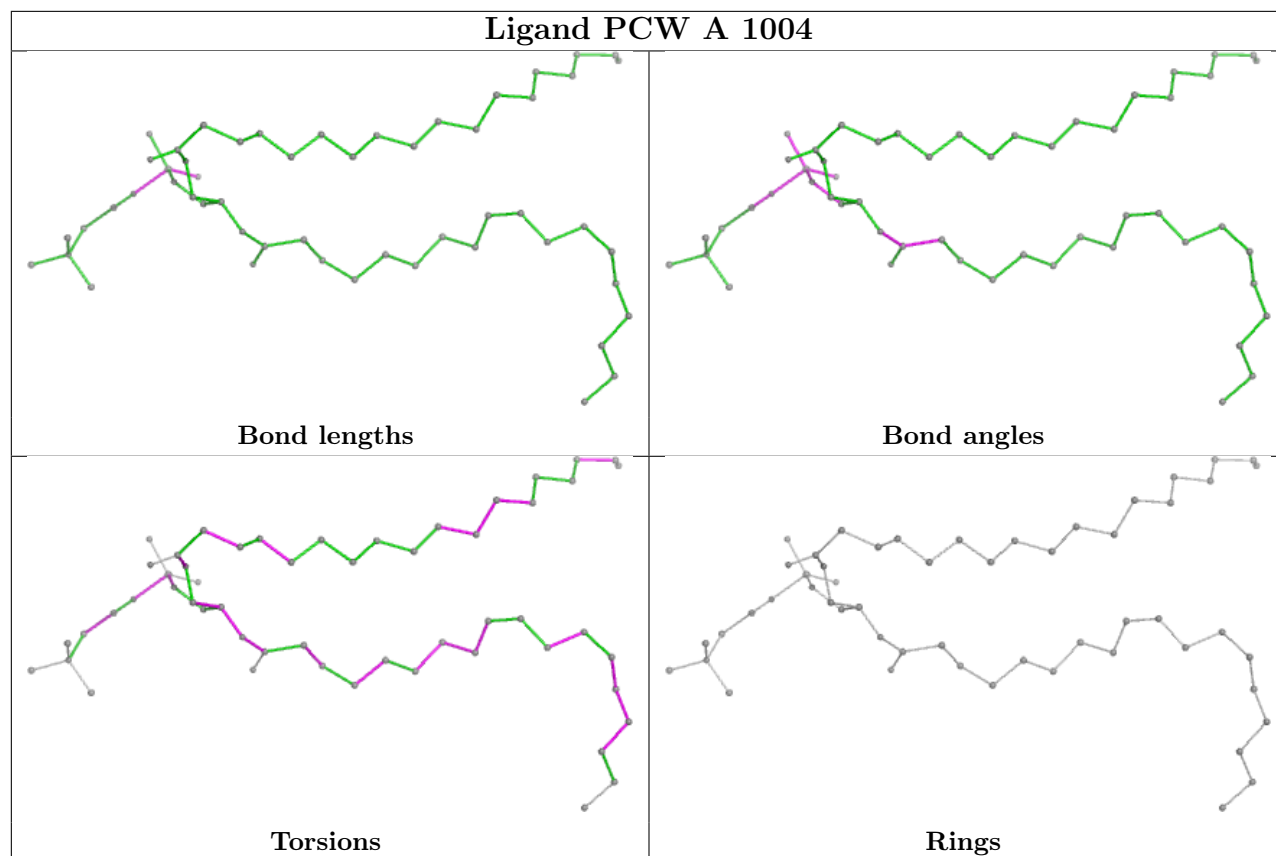
Mol	Chain	Res	Type	Atoms
4	A	1003	PCW	C4-O4P-P-O3P
4	A	1004	PCW	O4P-C4-C5-N

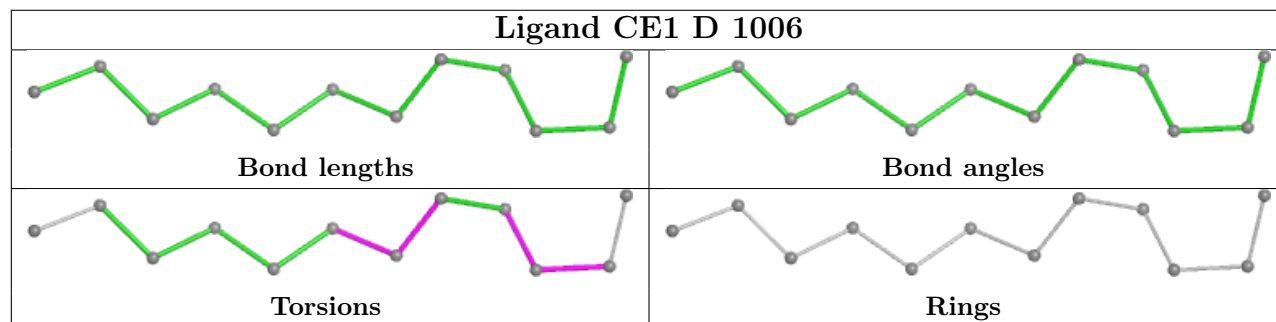
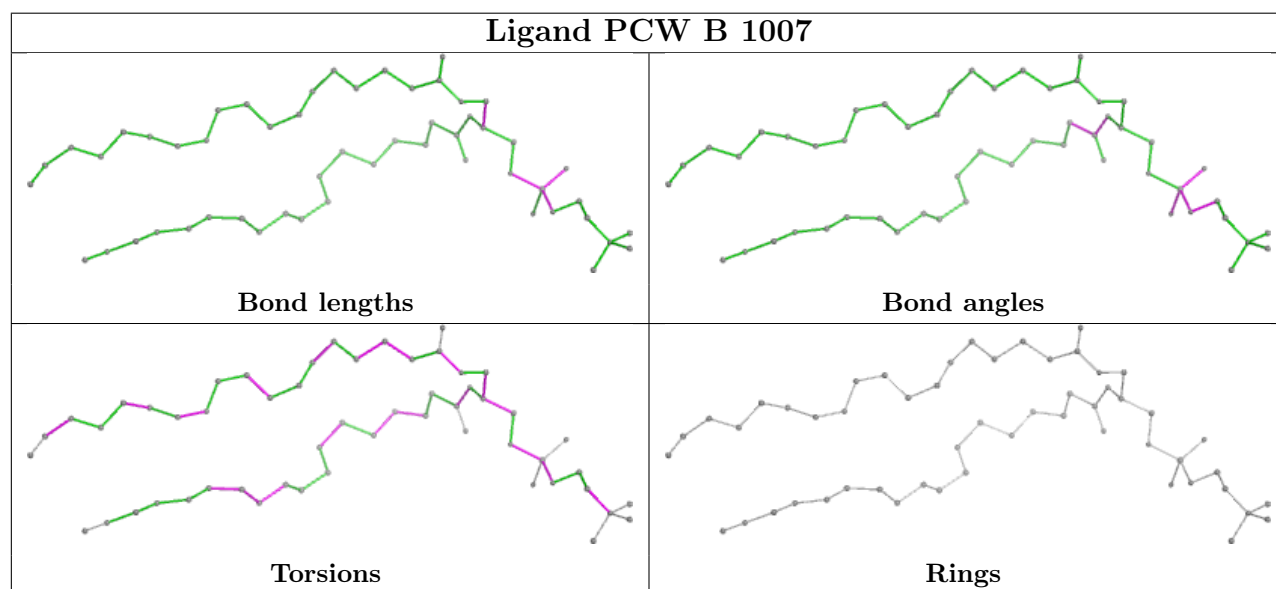
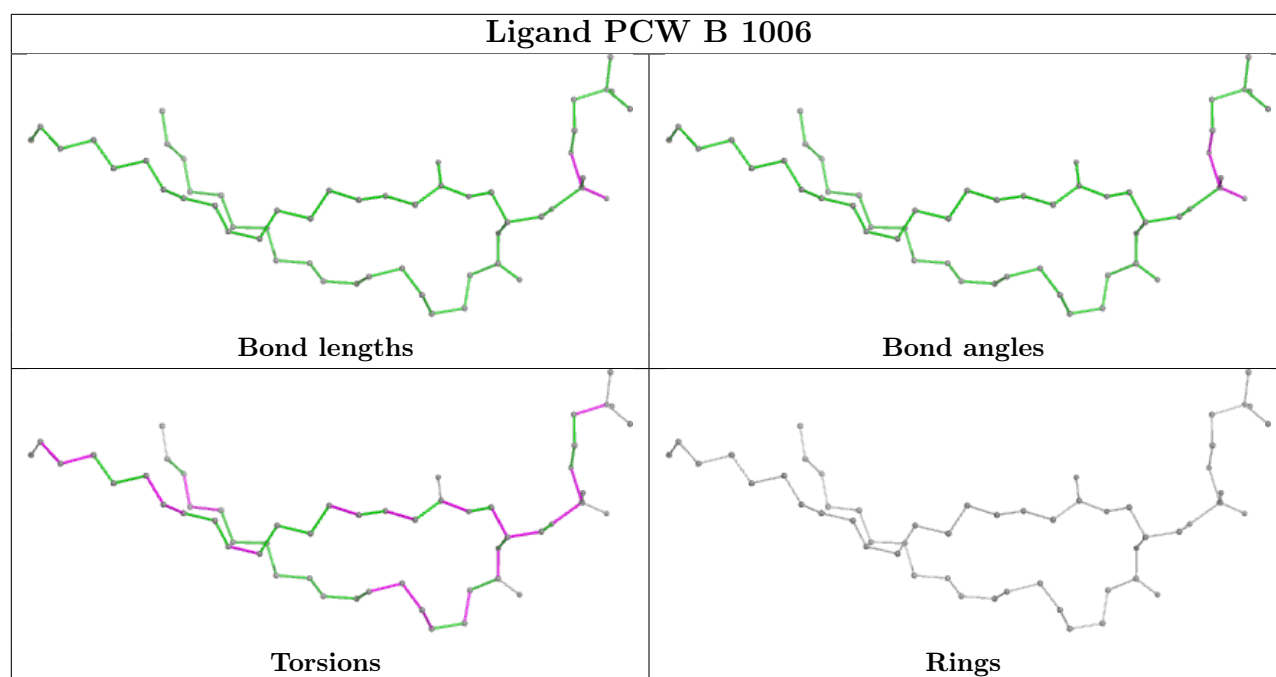
There are no ring outliers.

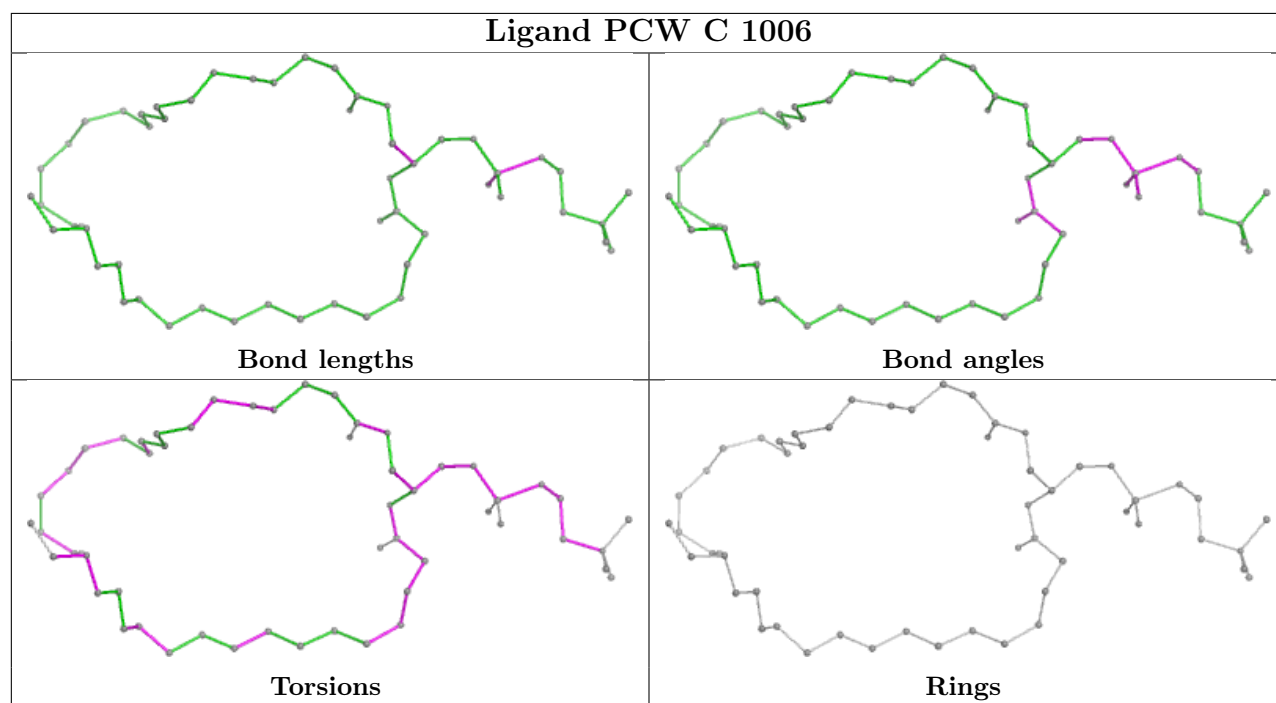
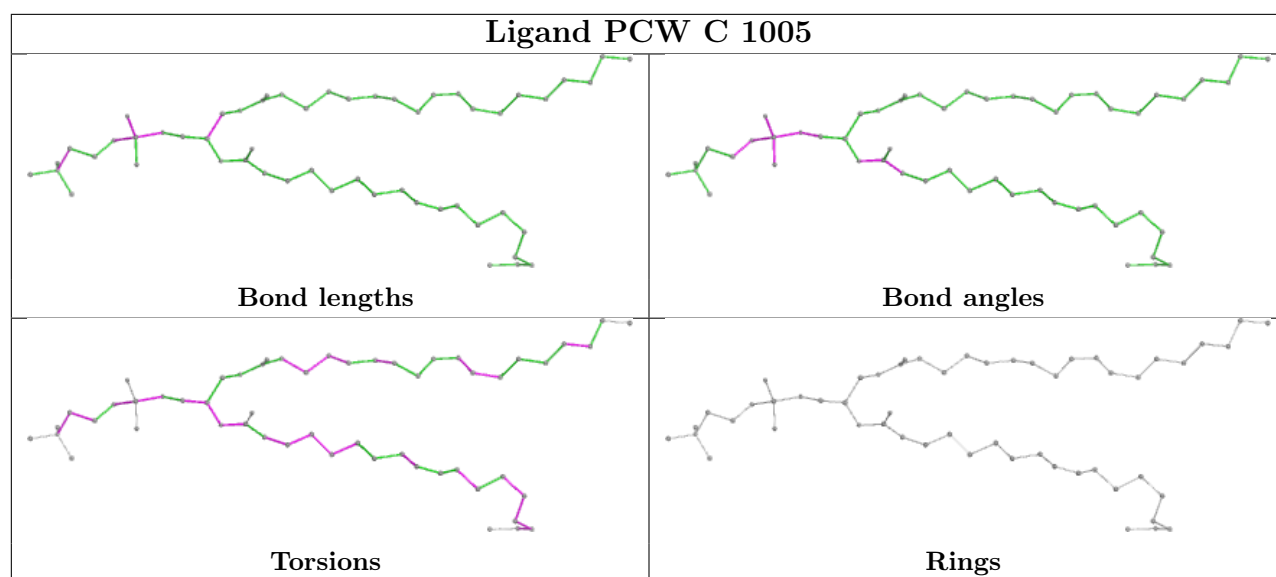
19 monomers are involved in 58 short contacts:

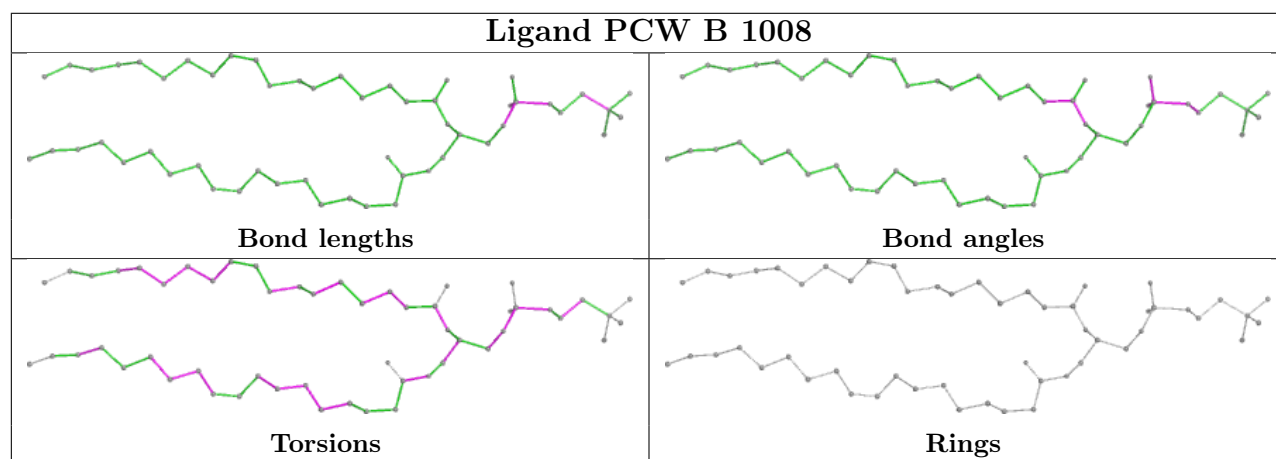
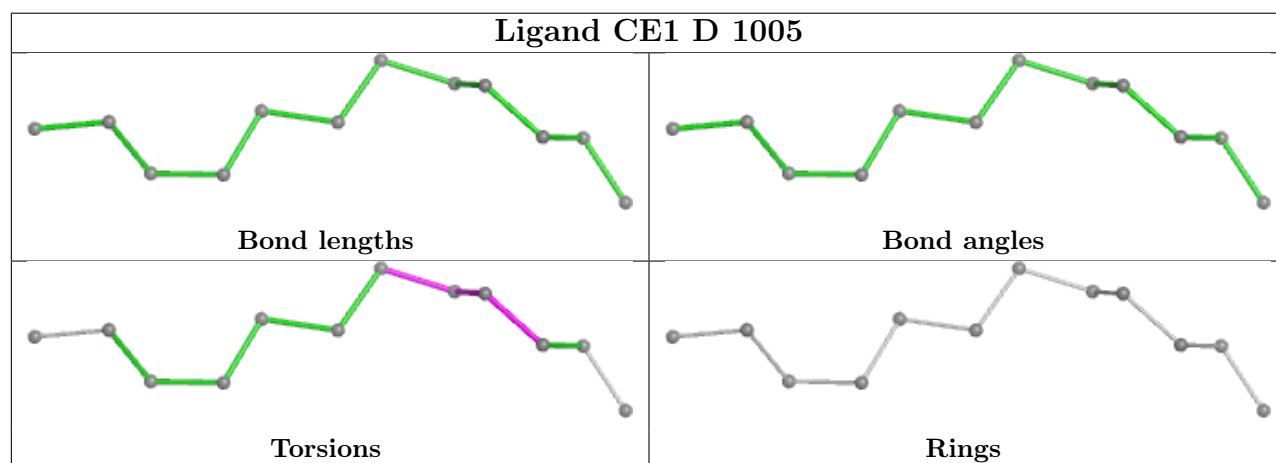
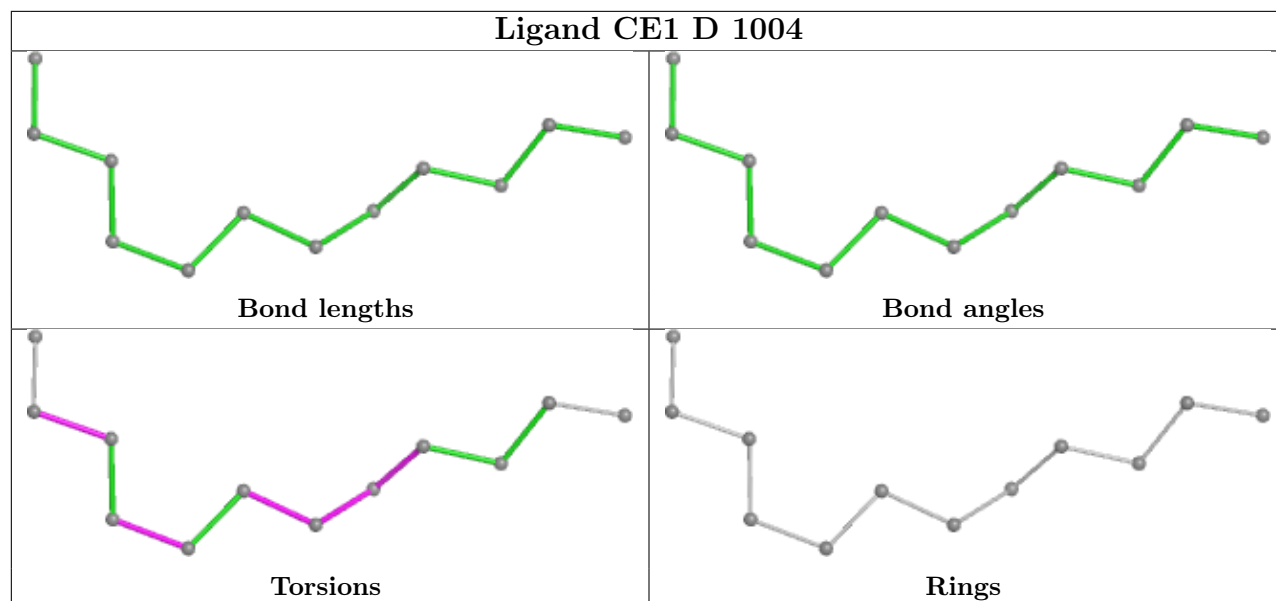
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	1004	PCW	1	0
4	D	1003	PCW	4	0
4	B	1006	PCW	2	0
4	B	1007	PCW	3	0
5	D	1006	CE1	4	0
4	C	1005	PCW	5	0
4	C	1006	PCW	2	0
5	D	1005	CE1	3	0
4	B	1008	PCW	3	0
2	H	1001	BEF	1	0
4	C	1003	PCW	2	0
5	D	1009	CE1	1	0
4	B	1009	PCW	4	0
4	B	1004	PCW	3	0
4	C	1004	PCW	8	0
5	D	1008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

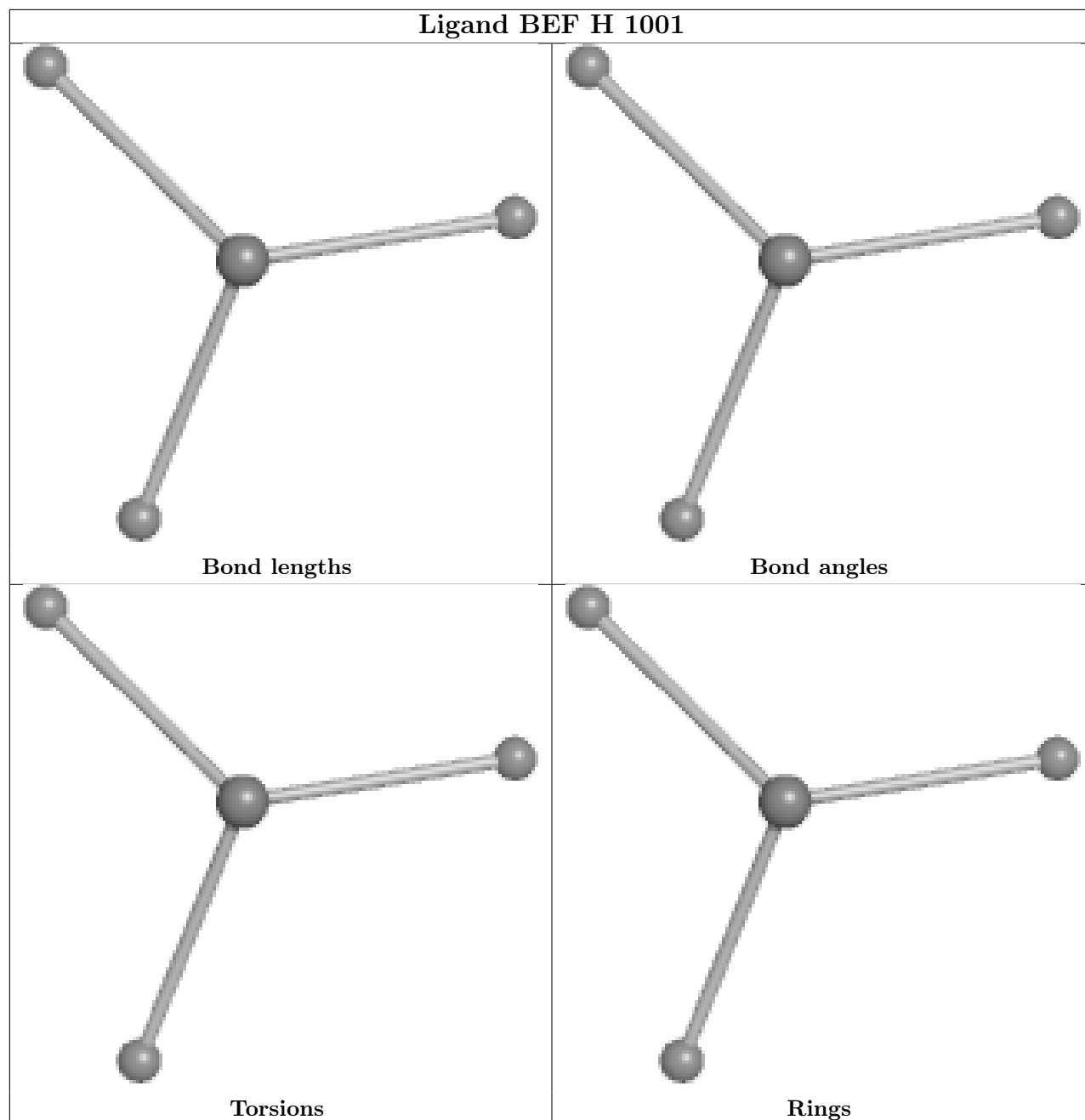
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

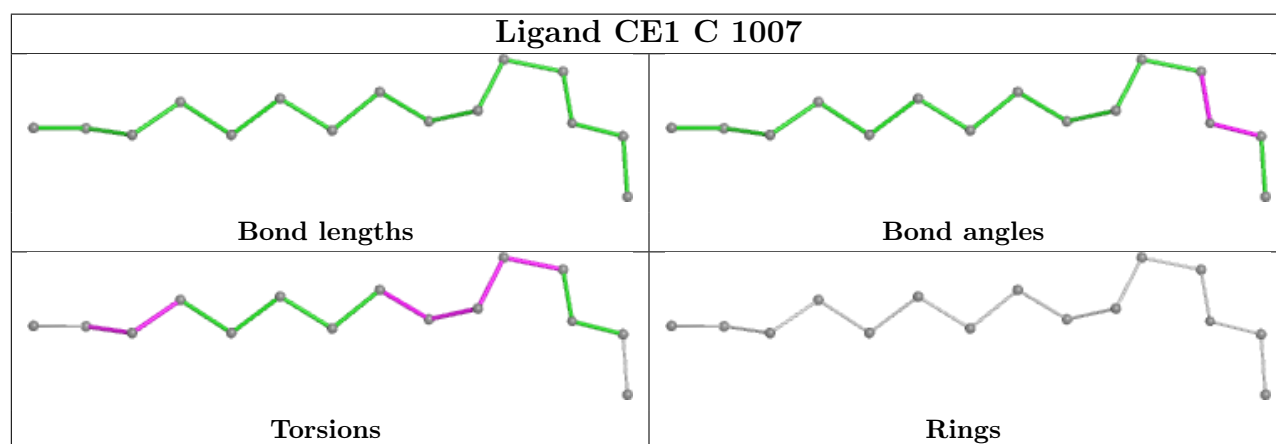
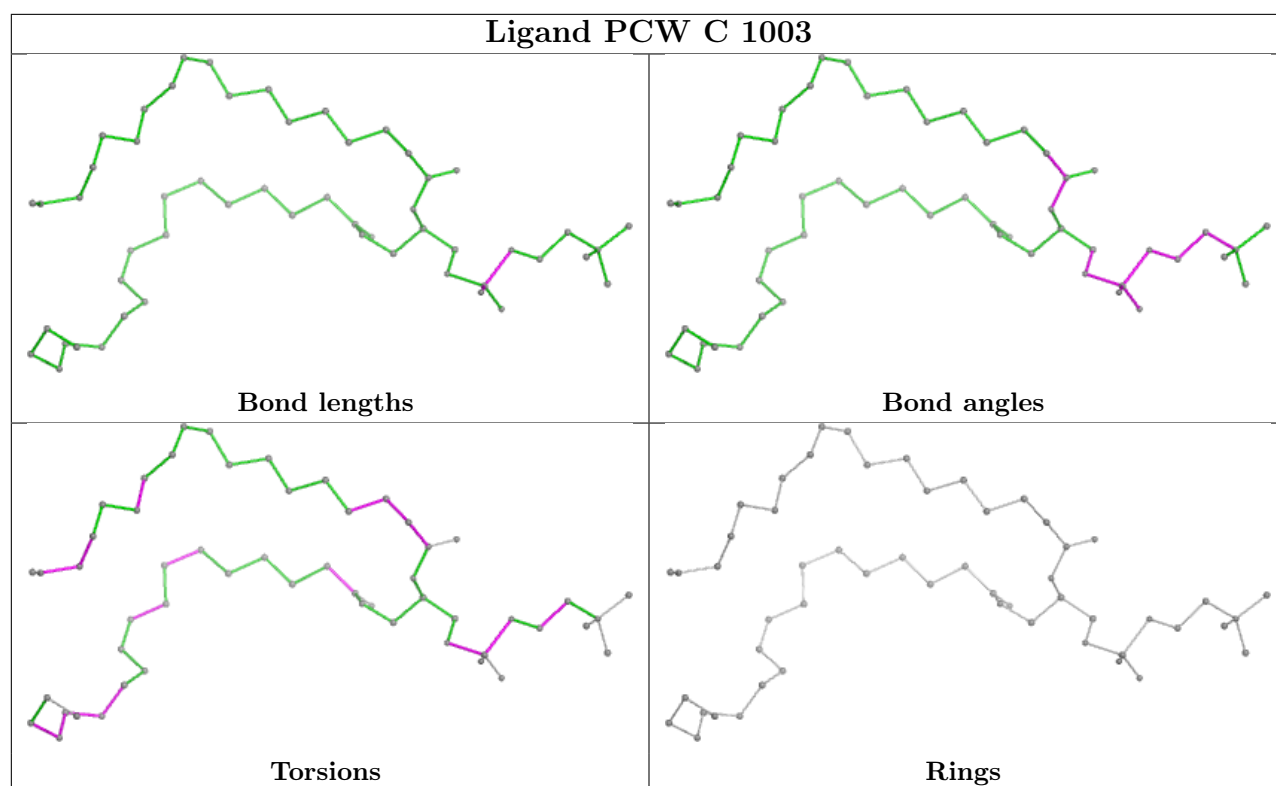


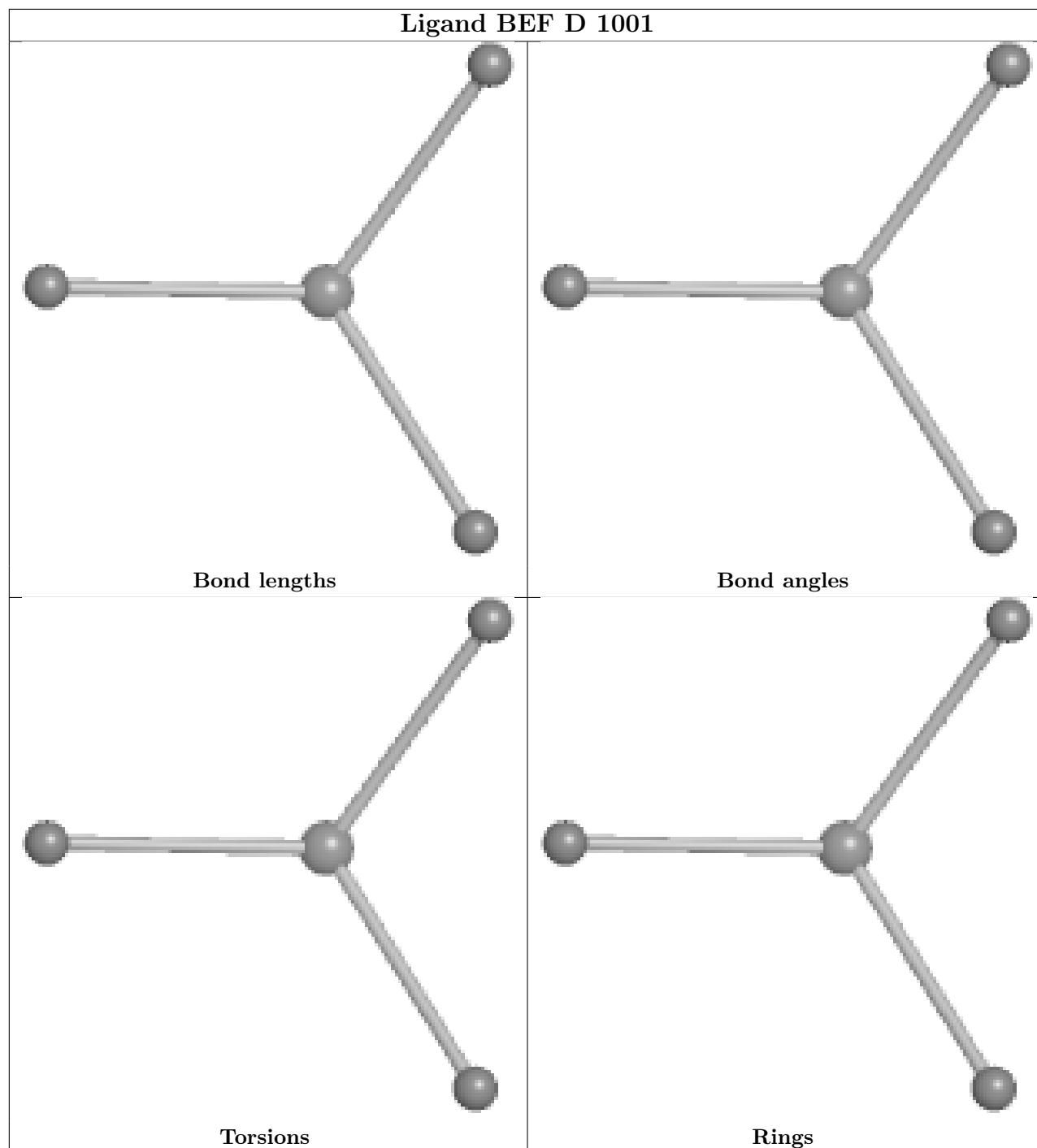


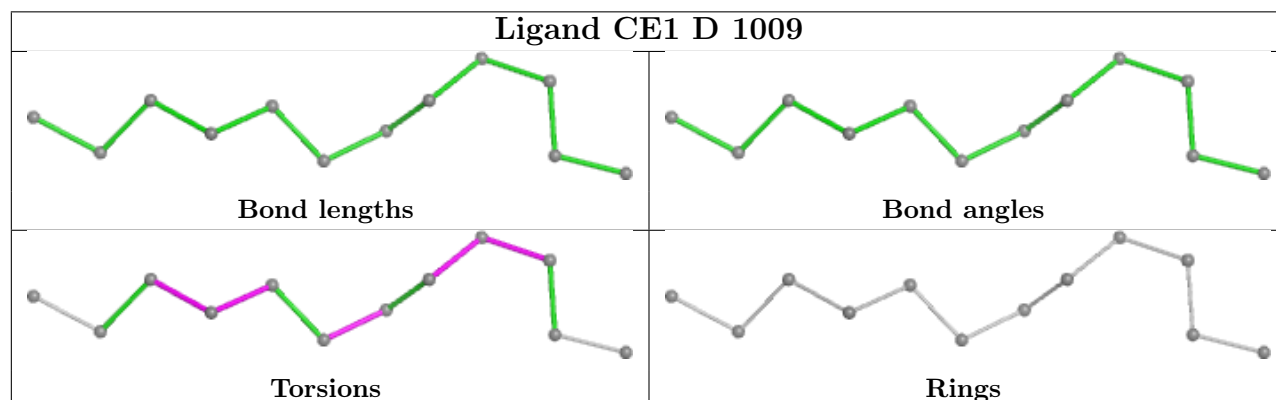
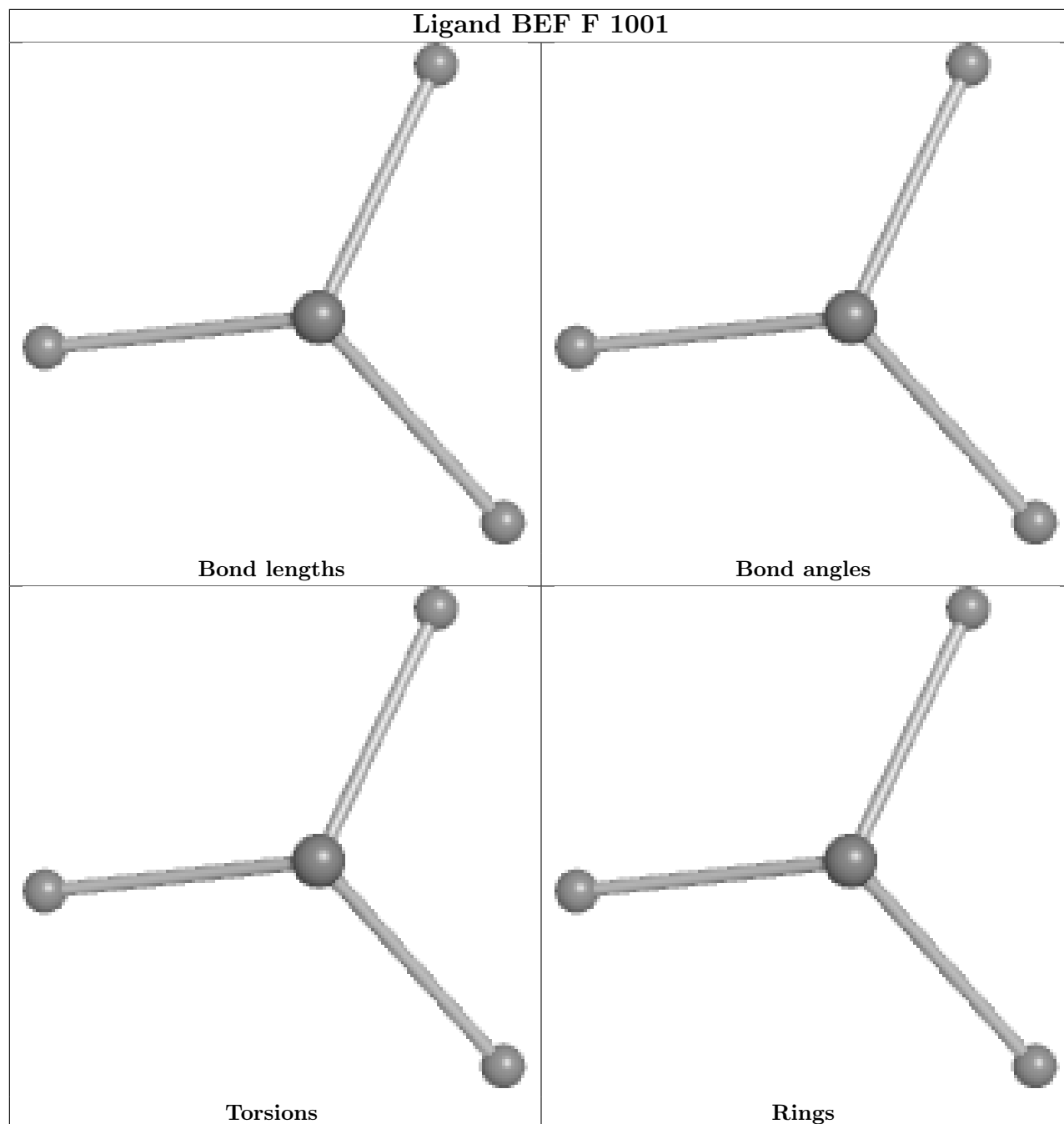


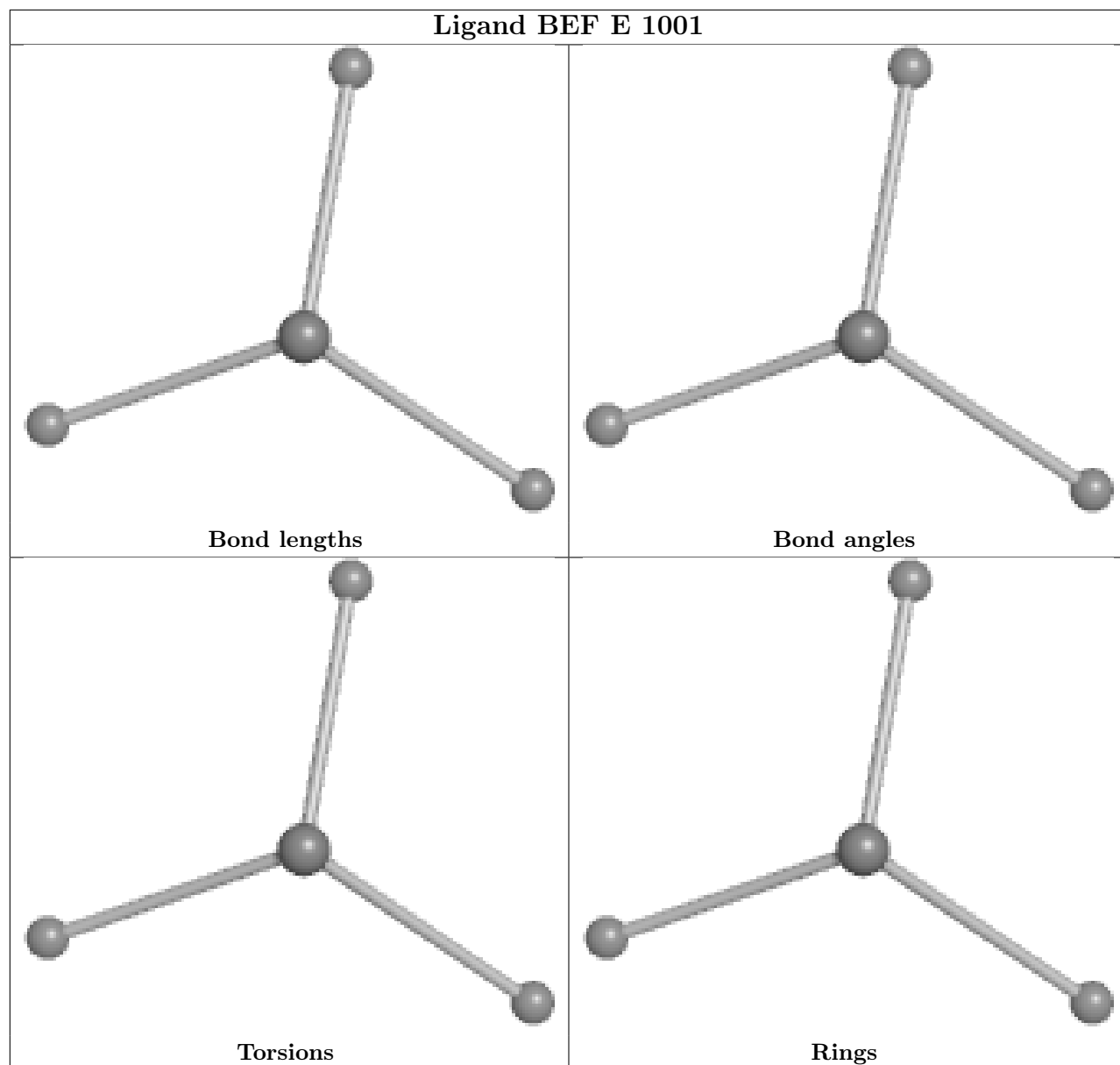


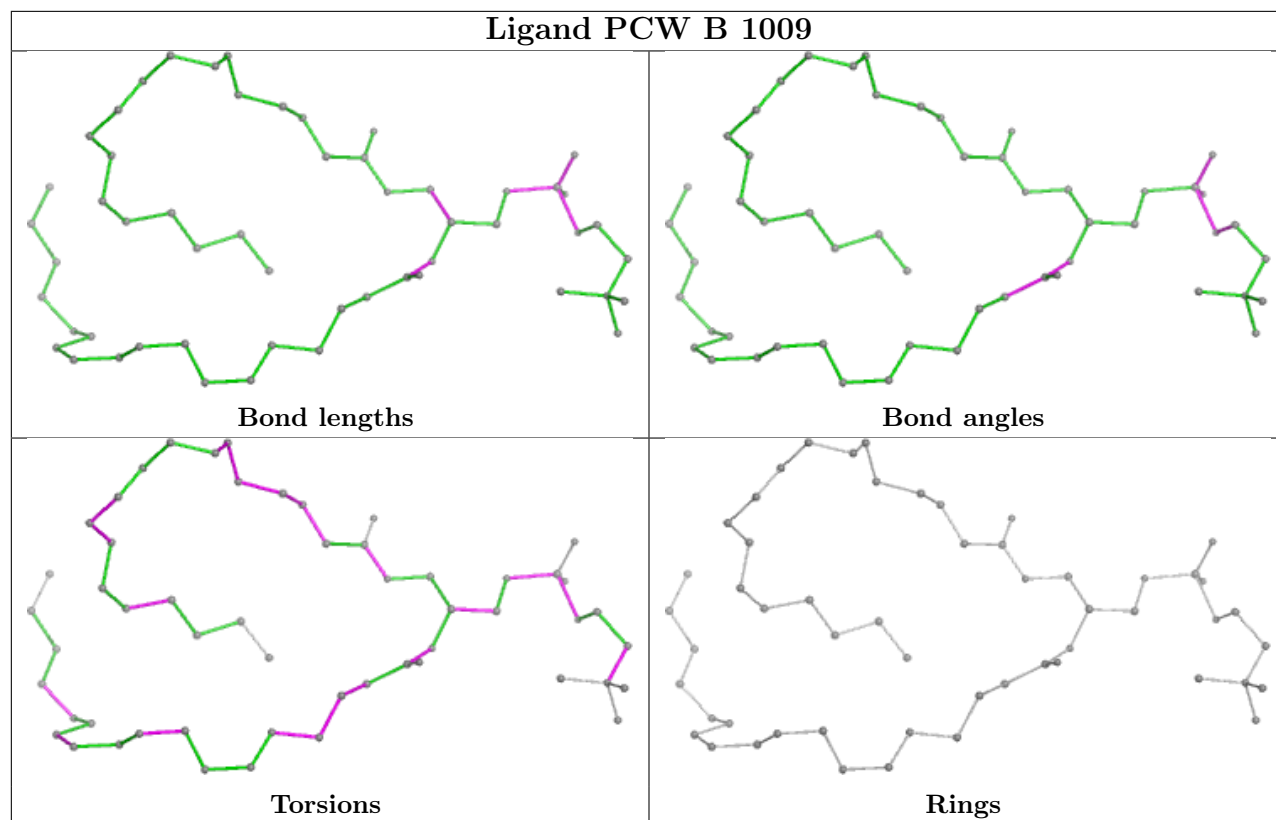


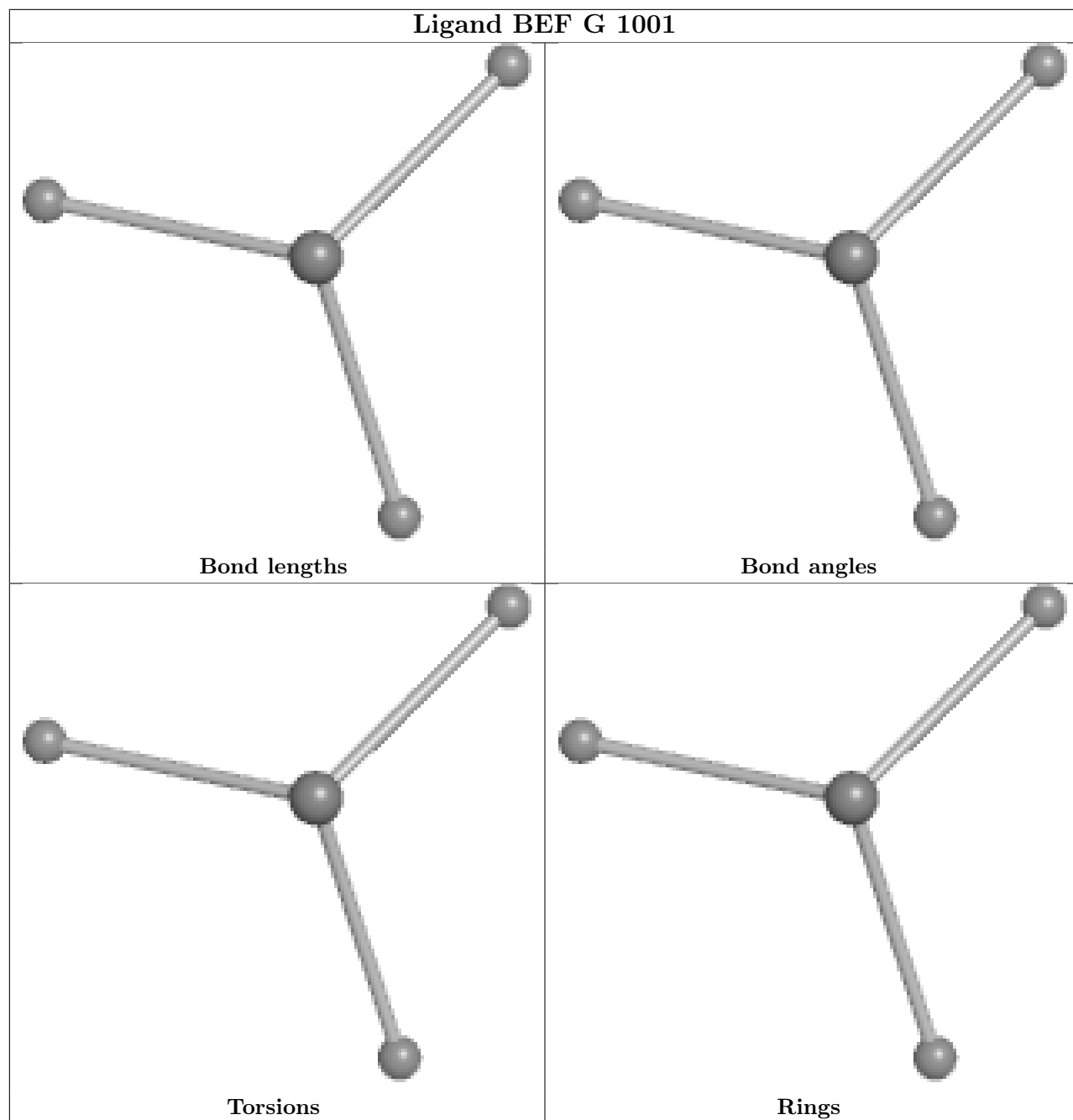


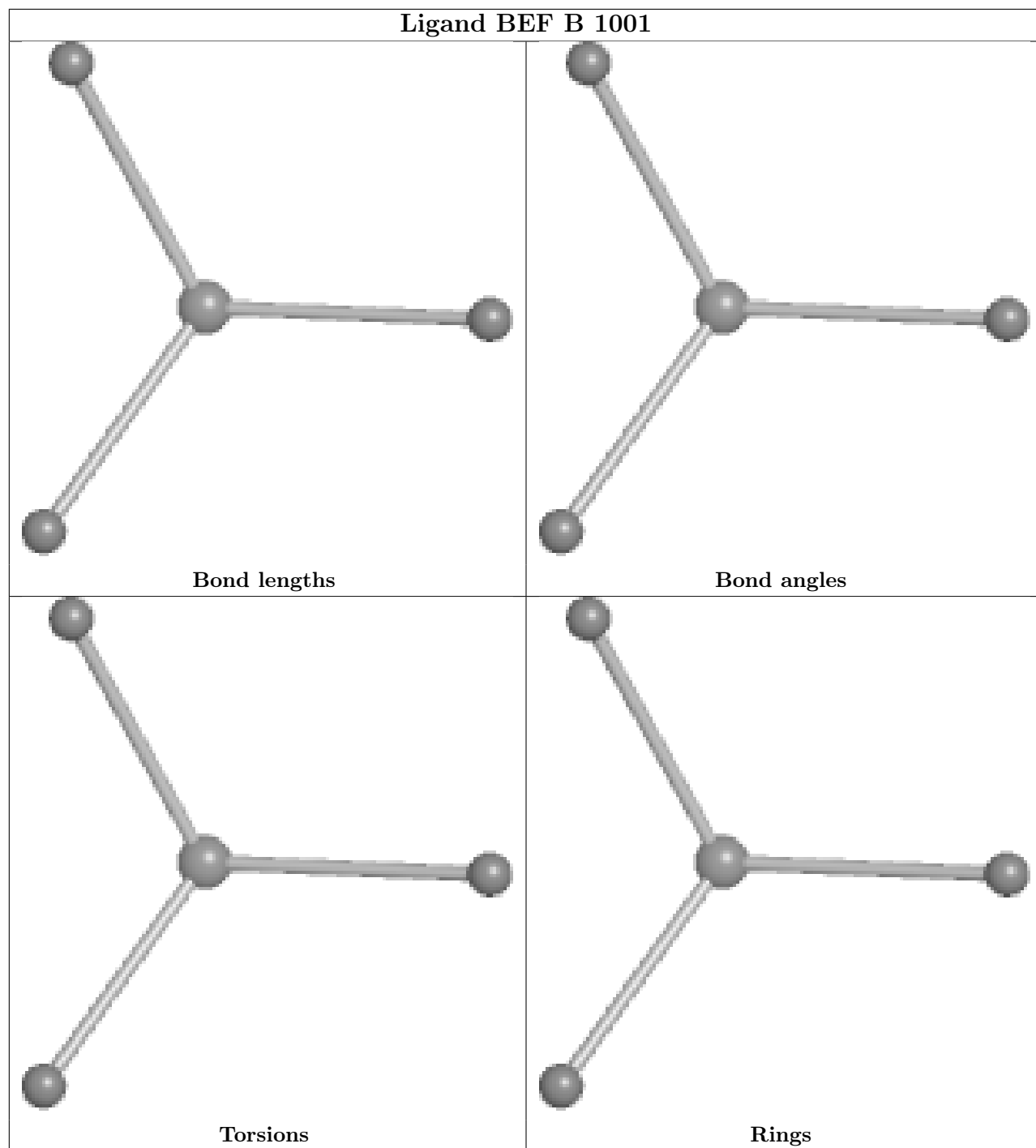


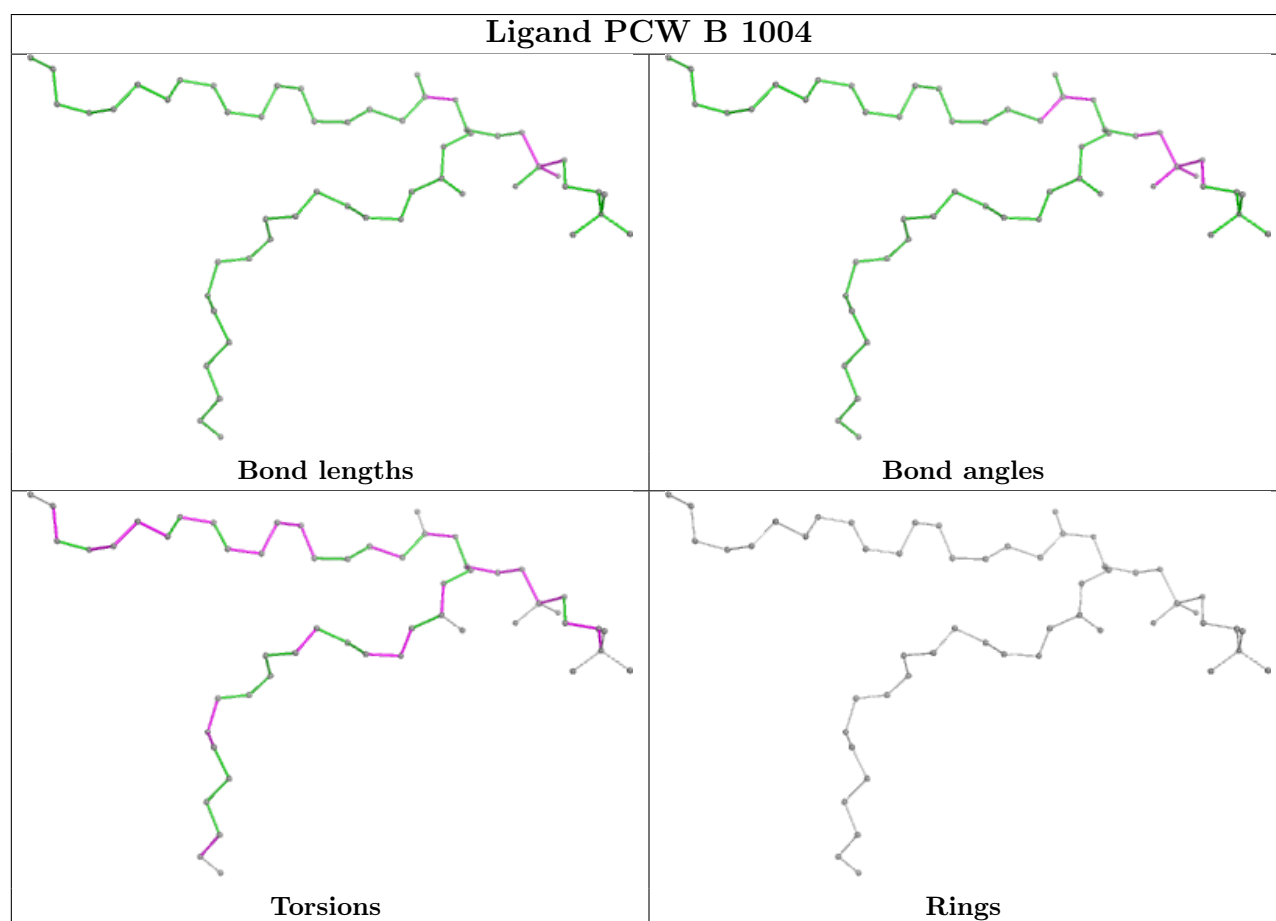
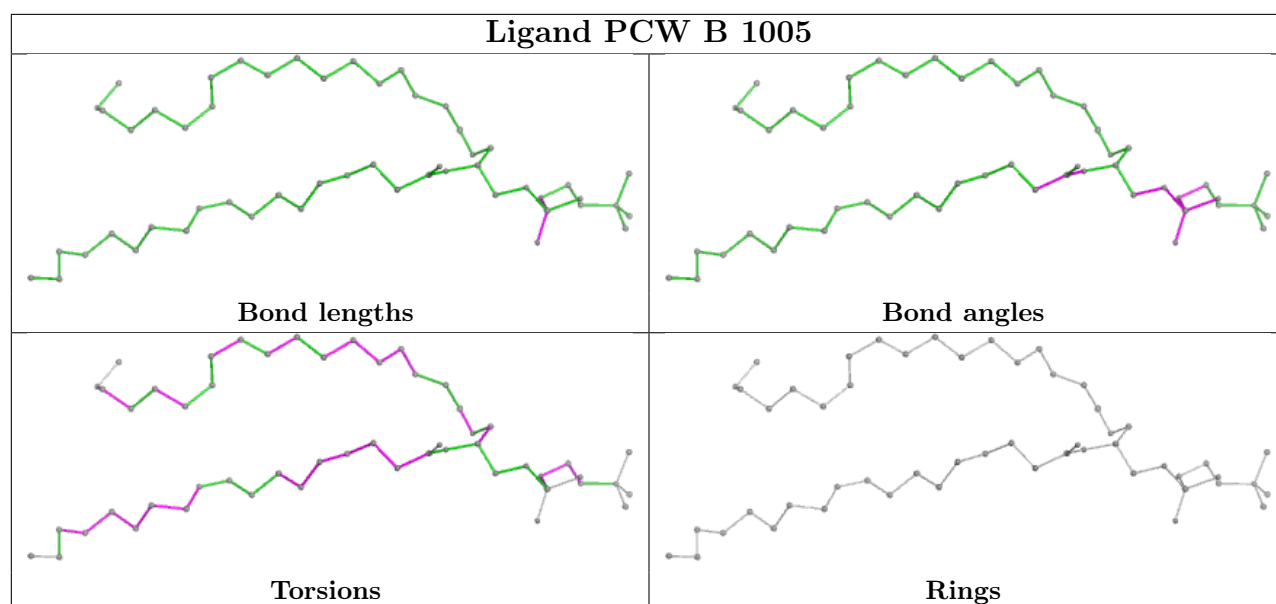


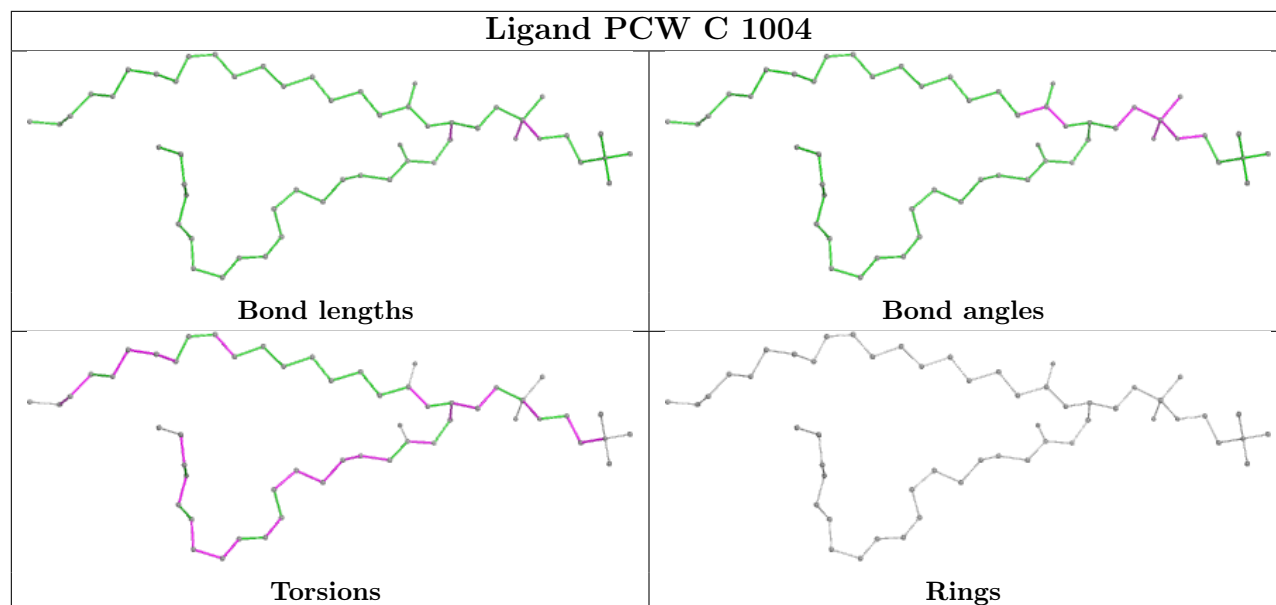


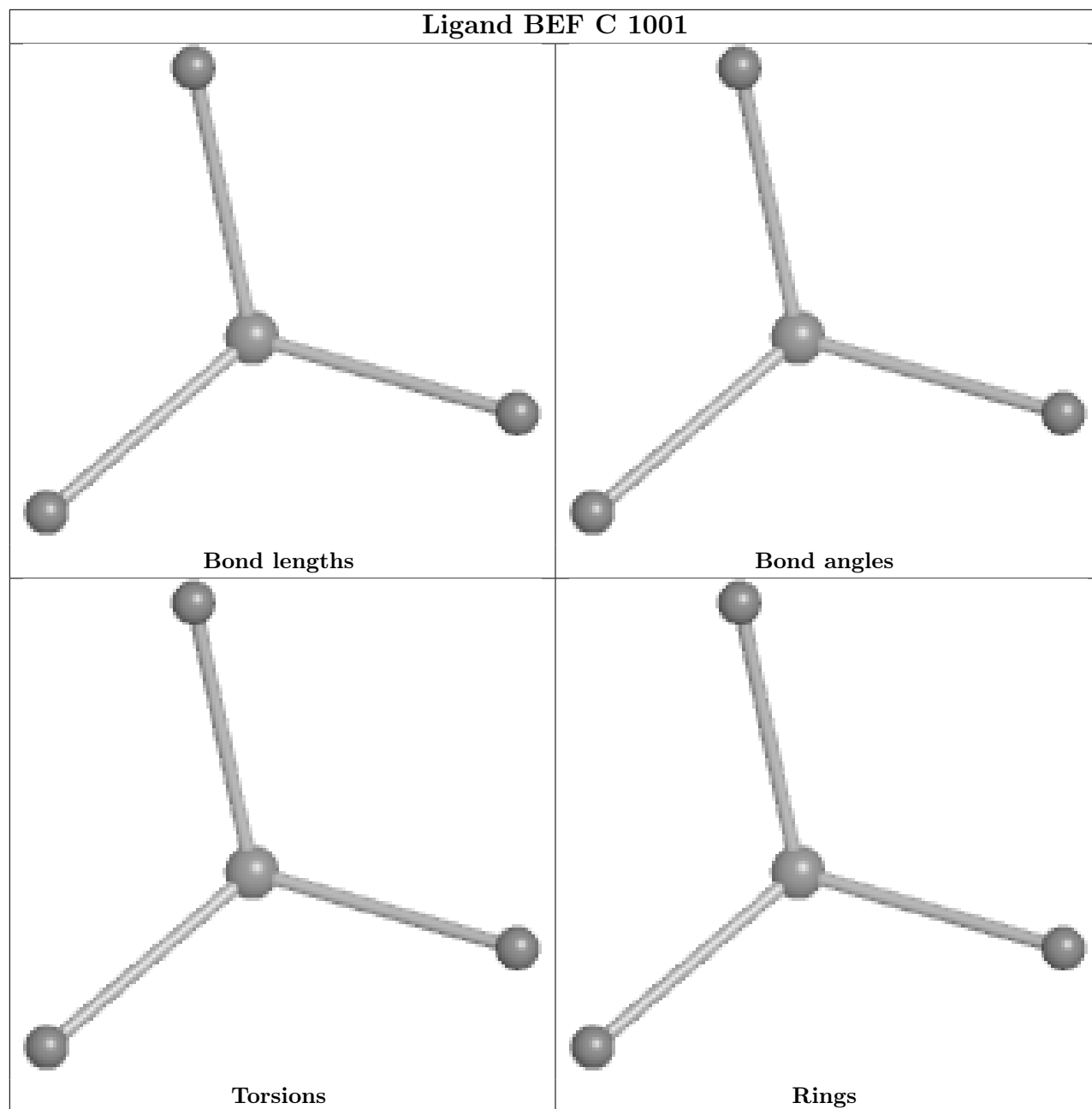


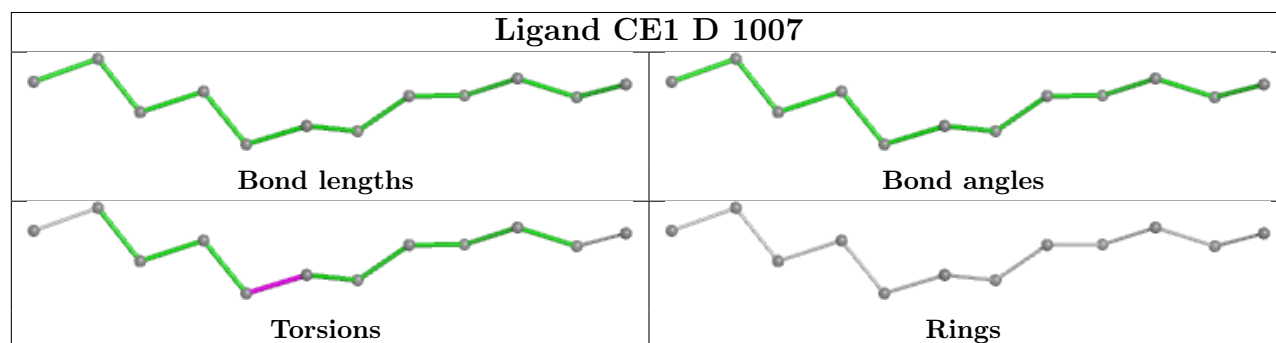
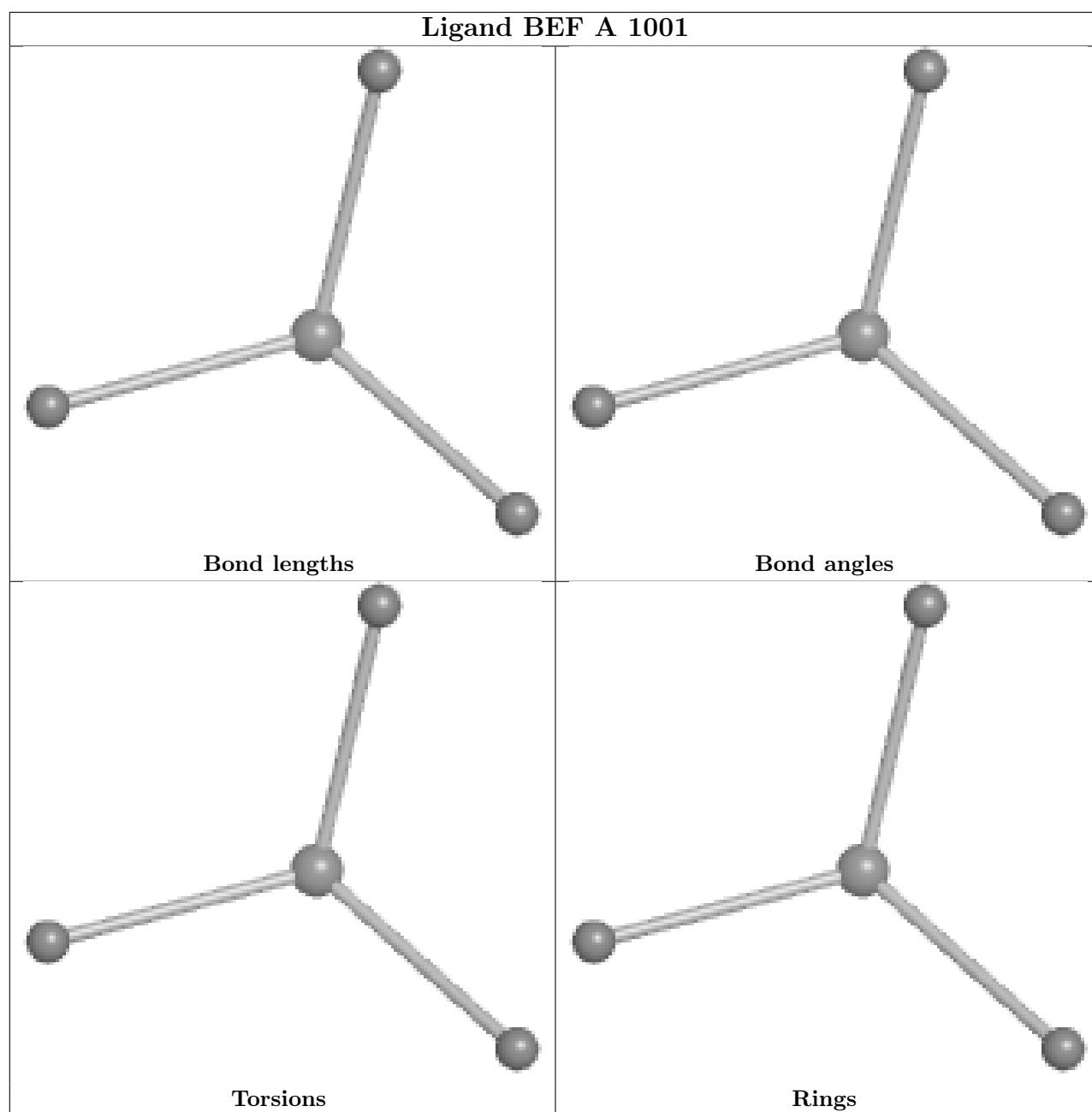


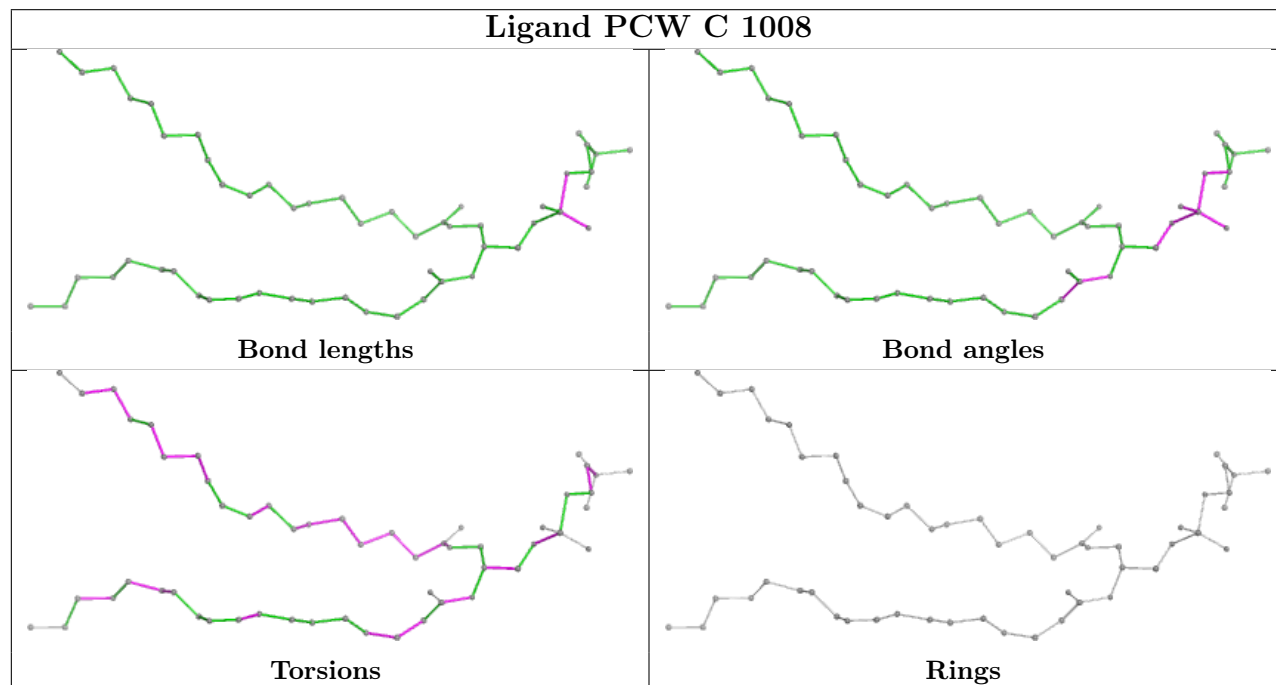
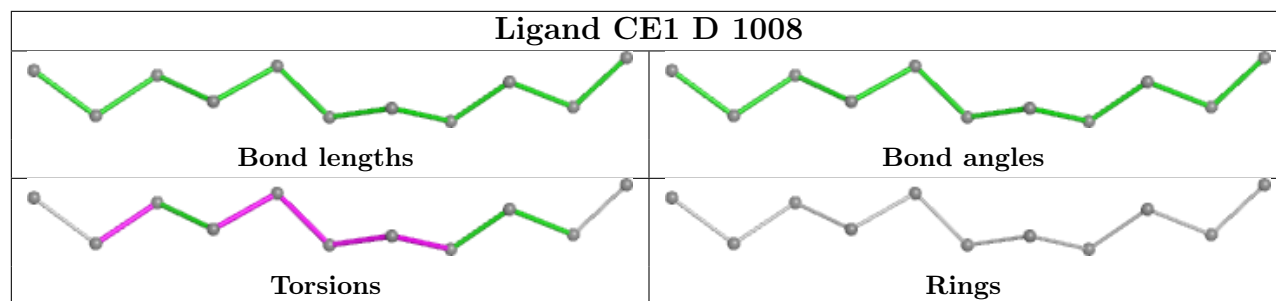




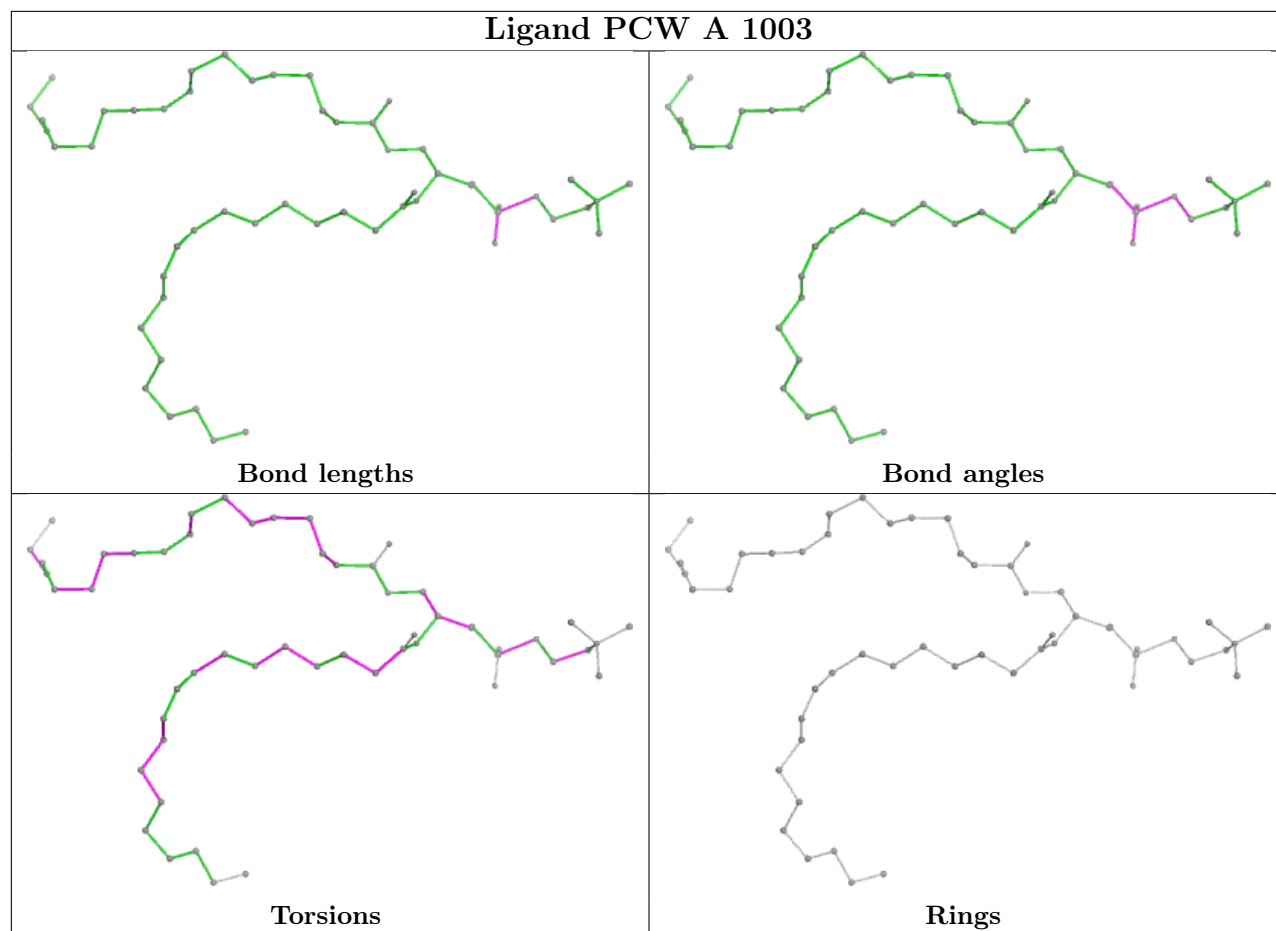




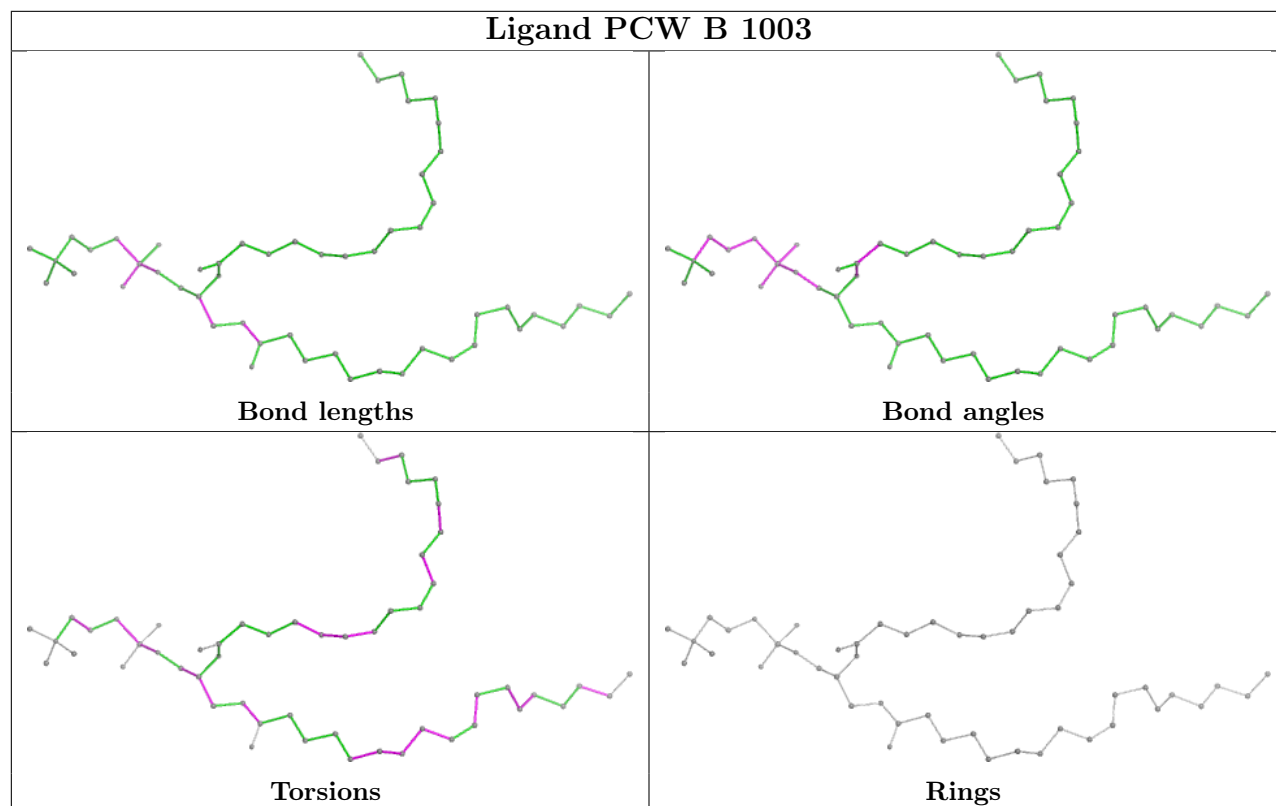




Ligand PCW A 1003



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 [i](#)

6.1 Protein, DNA and RNA chains [i](#)

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, 95th 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

The worst 5 of 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

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 ⓘ

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, 95th 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.

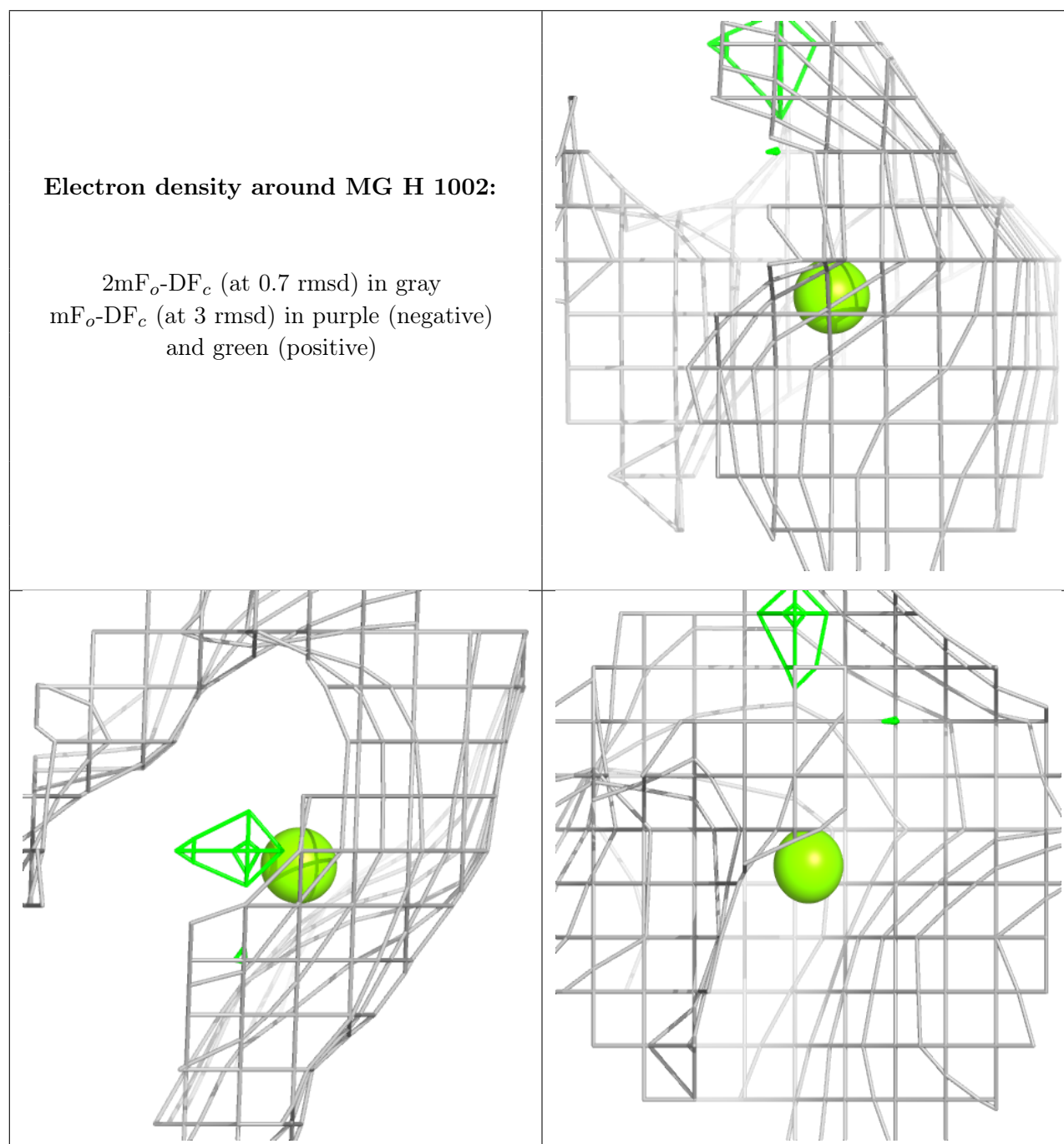
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
3	MG	H	1002	1/1	0.56	0.16	225,225,225,225	0
2	BEF	G	1001	4/4	0.67	0.17	198,200,202,203	0
2	BEF	F	1001	4/4	0.67	0.16	206,207,209,213	0
2	BEF	H	1001	4/4	0.71	0.15	228,228,229,232	0
4	PCW	B	1008	54/54	0.74	0.18	48,72,103,130	0
4	PCW	B	1006	54/54	0.75	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

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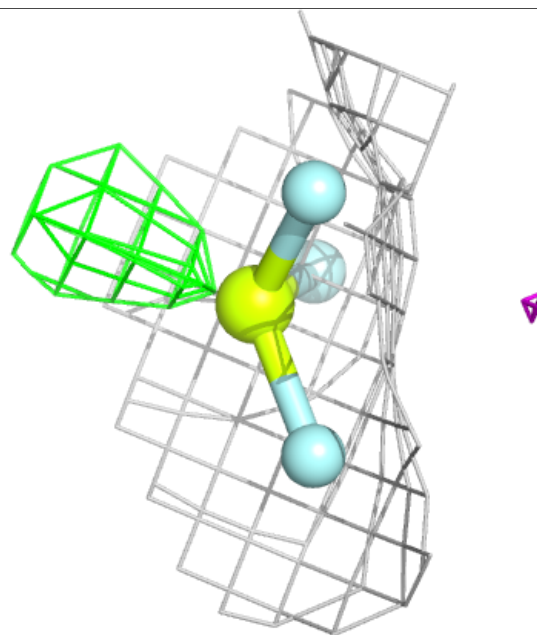
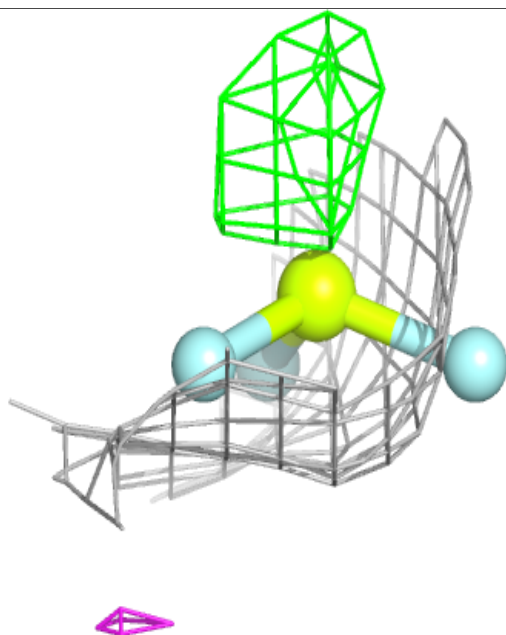
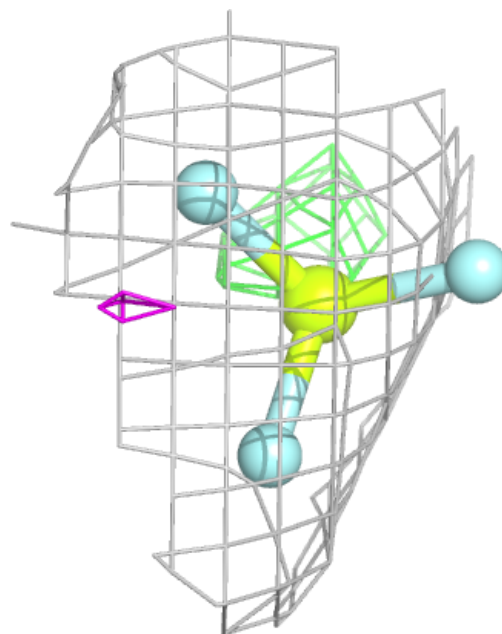
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
3	MG	B	1002	1/1	1.00	0.04	44,44,44,44	0

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.



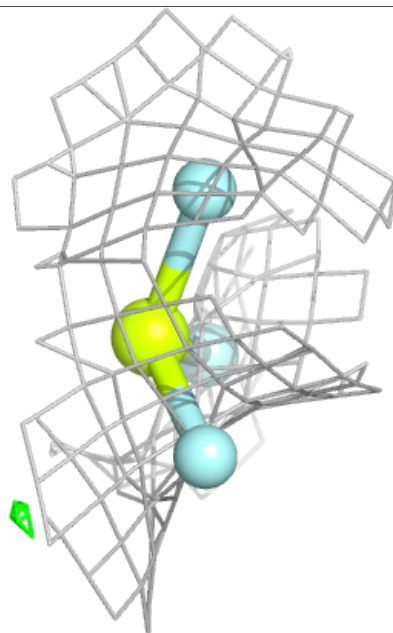
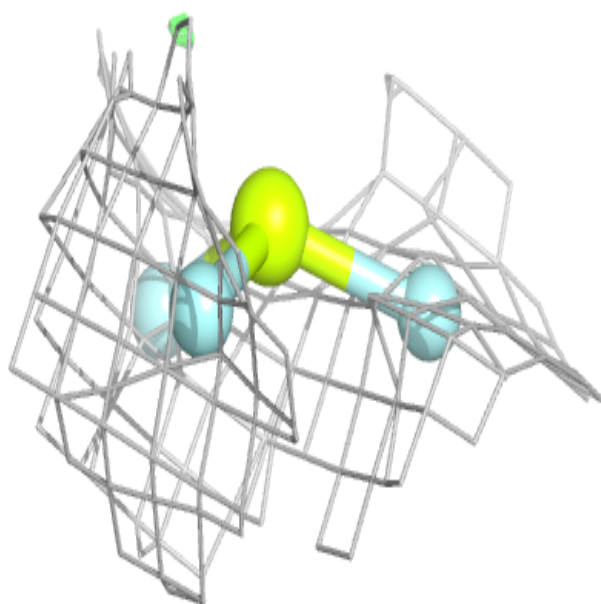
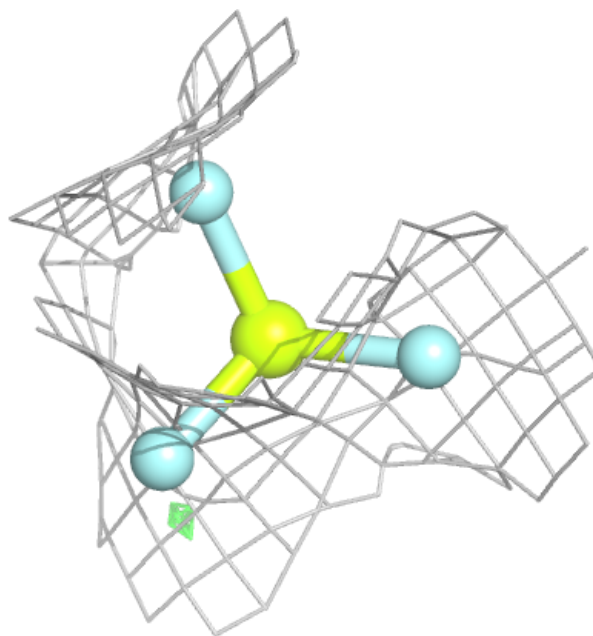
Electron density around BEF G 1001:

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



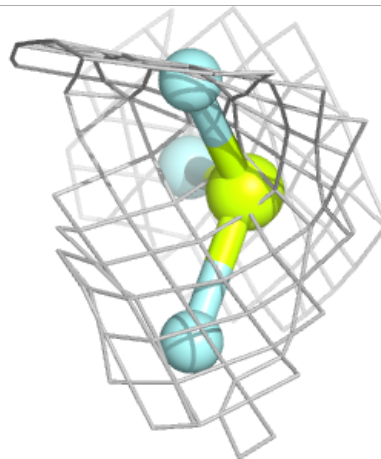
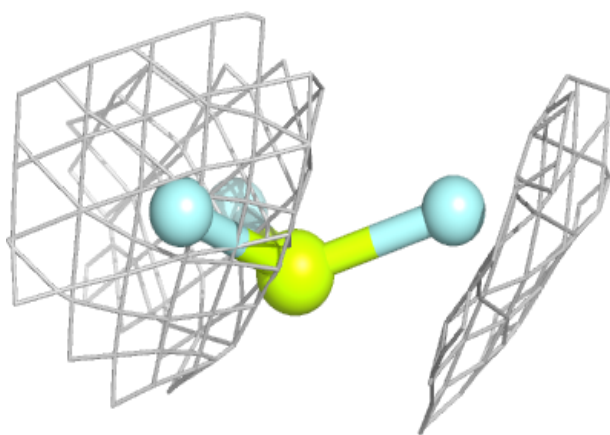
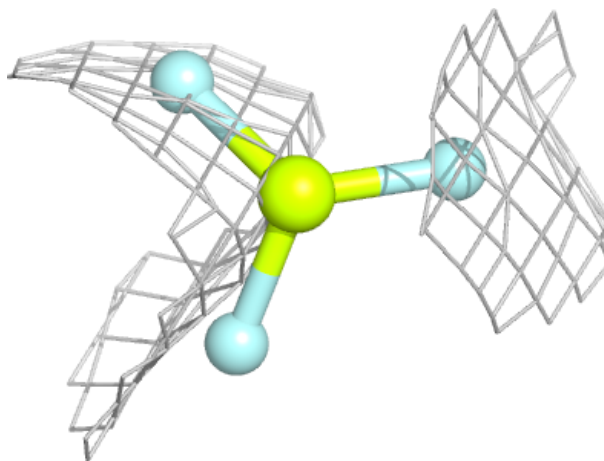
Electron density around BEF F 1001:

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



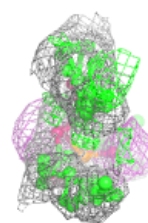
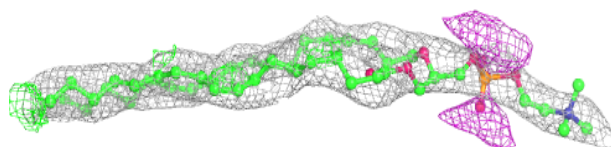
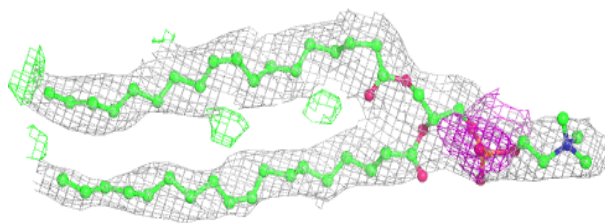
Electron density around BEF H 1001:

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 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

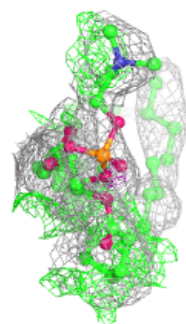
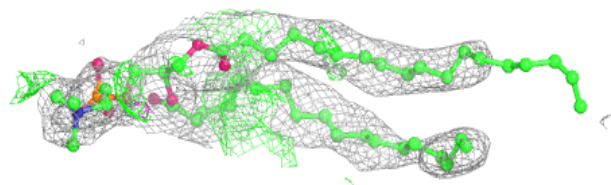
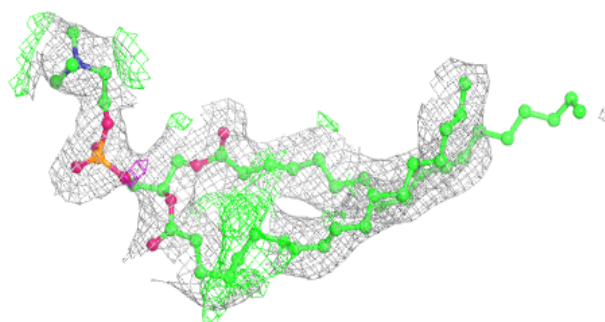


Electron density around PCW B 1008:

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

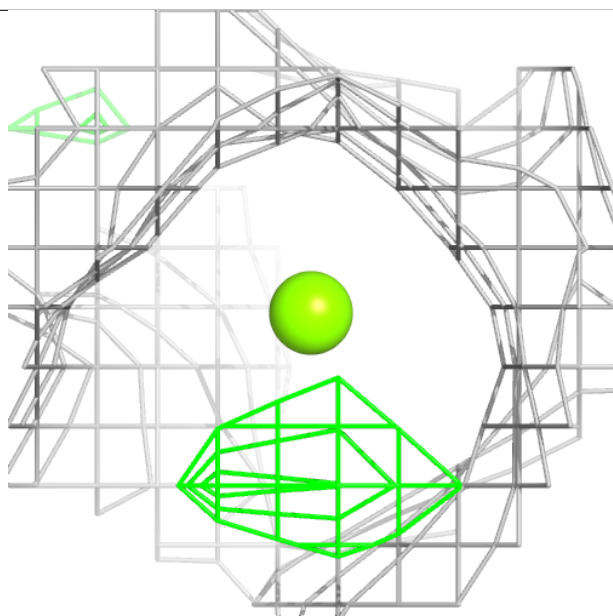
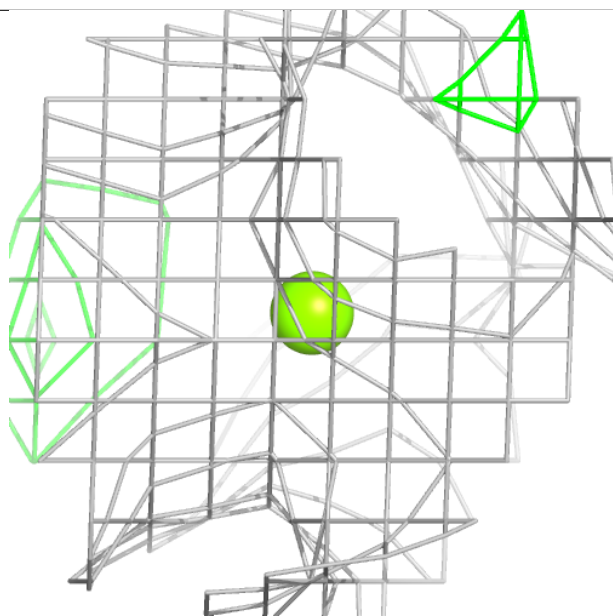
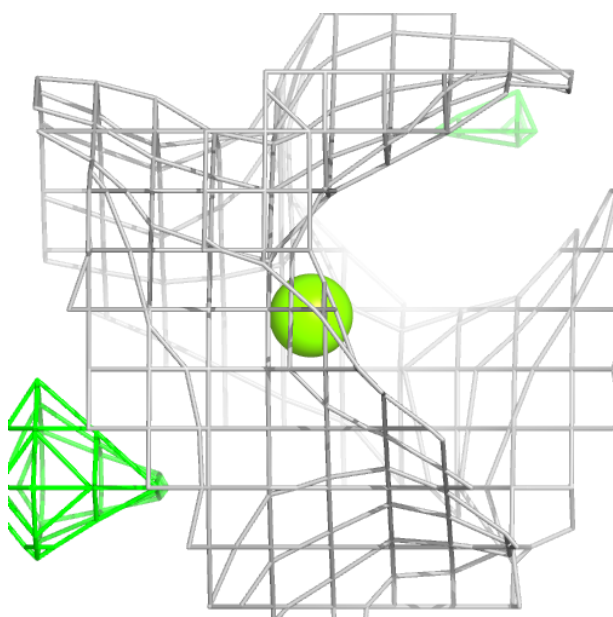
**Electron density around PCW B 1006:**

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



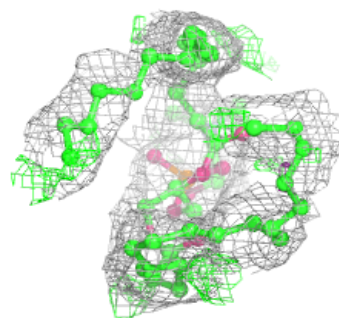
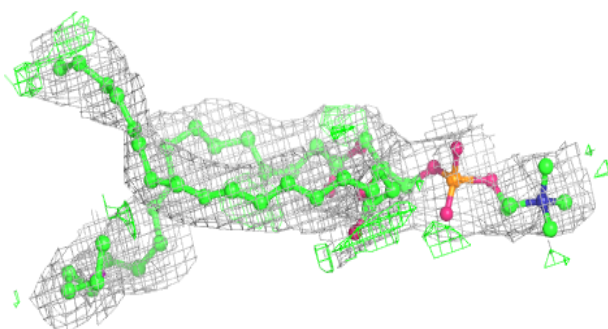
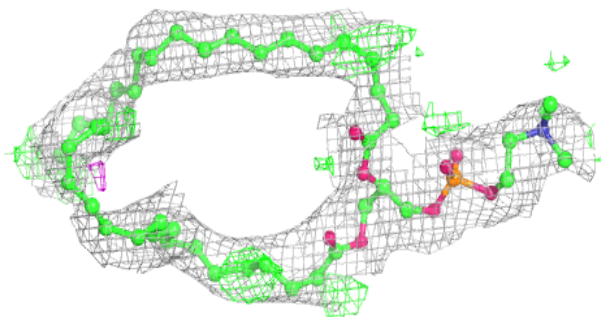
Electron density around MG G 1002:

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

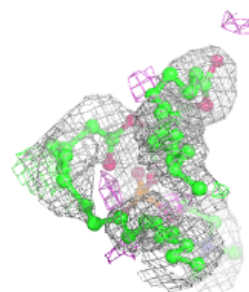
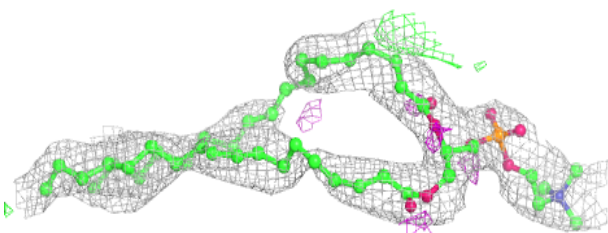
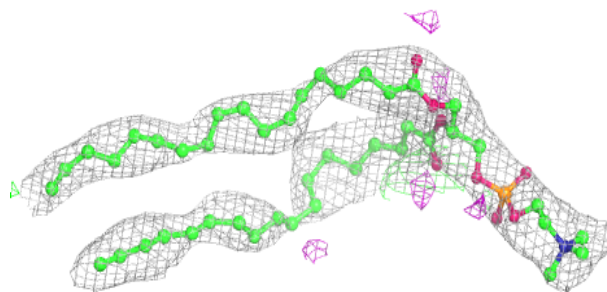


Electron density around PCW C 1006:

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

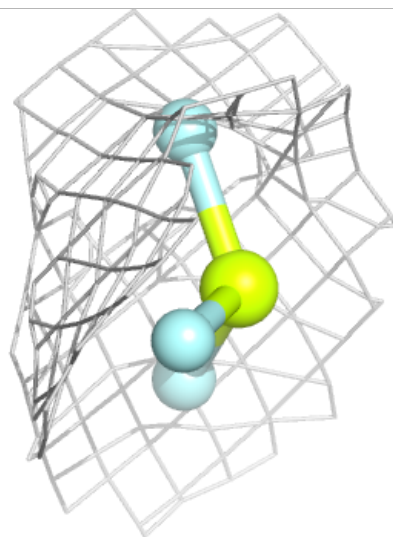
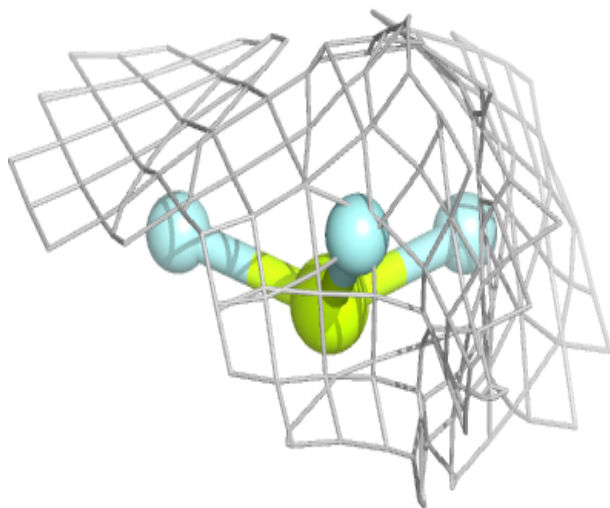
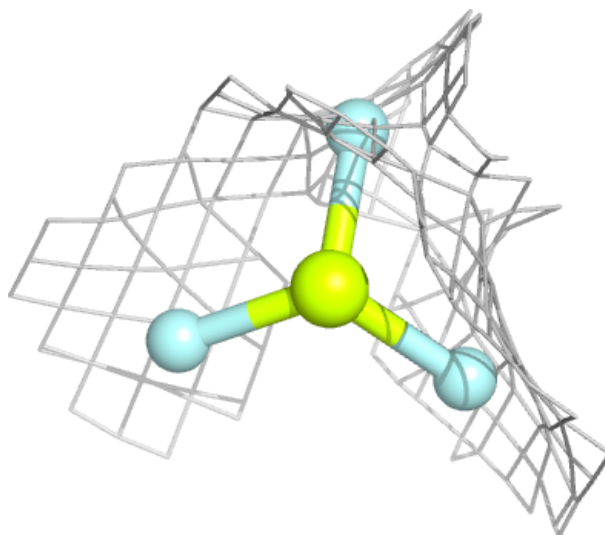
**Electron density around PCW B 1007:**

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



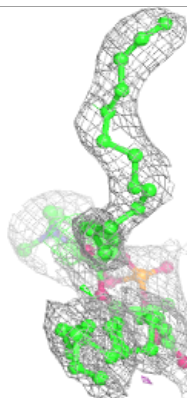
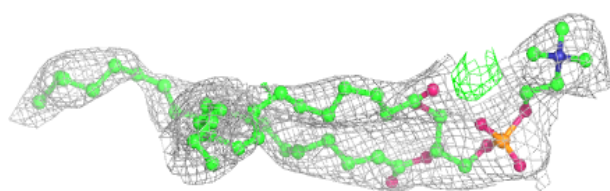
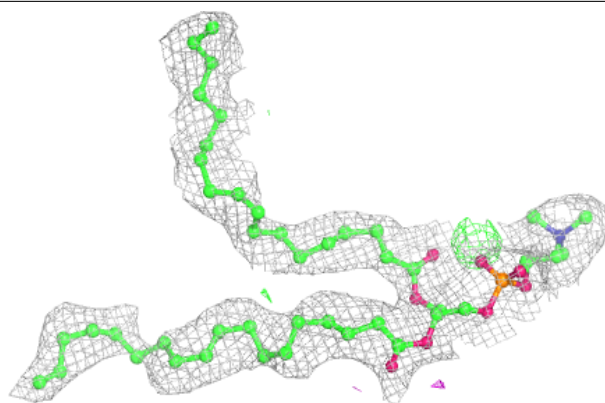
Electron density around BEF E 1001:

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

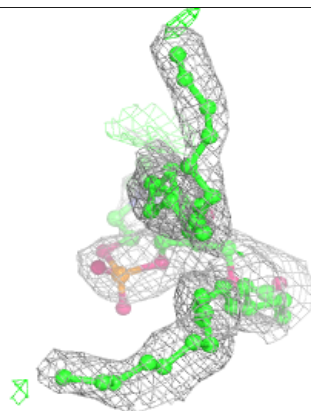
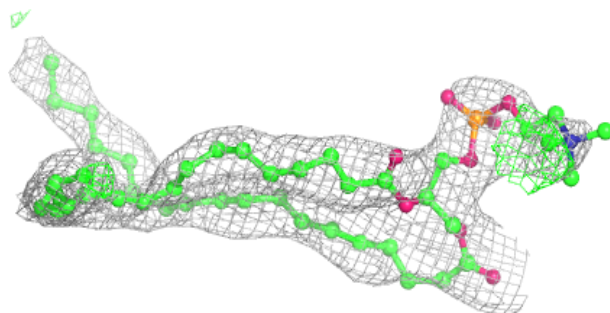
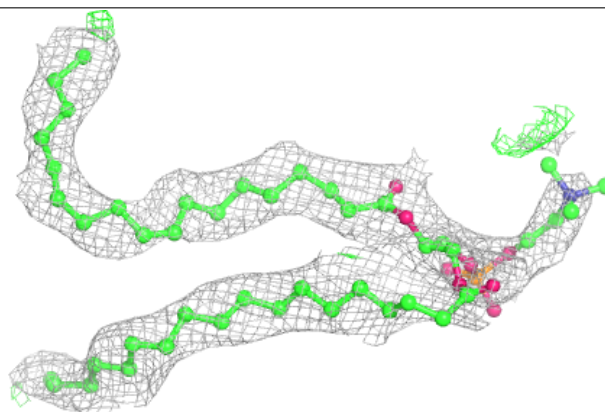


Electron density around PCW B 1004:

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

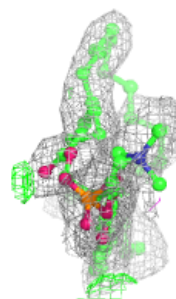
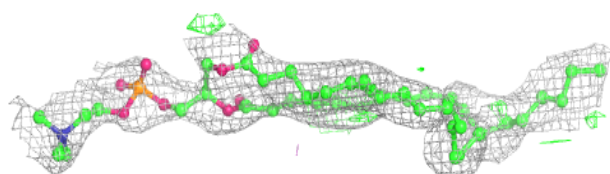
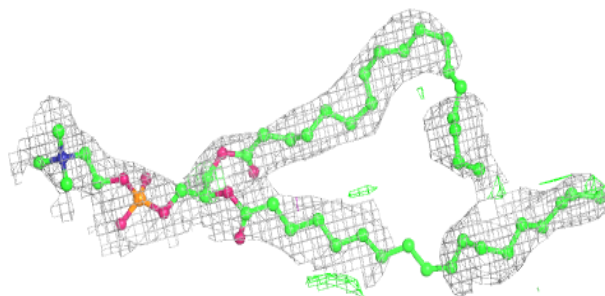
**Electron density around PCW A 1004:**

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

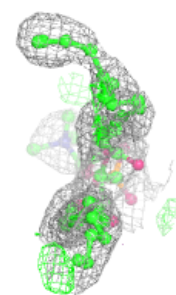
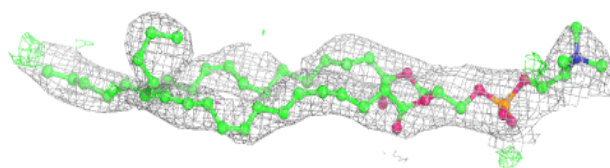
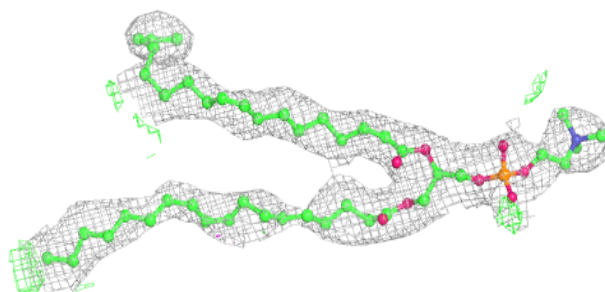


Electron density around PCW C 1004:

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

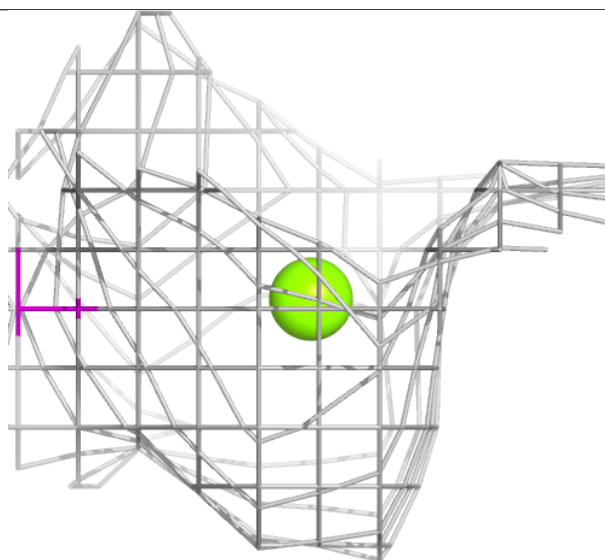
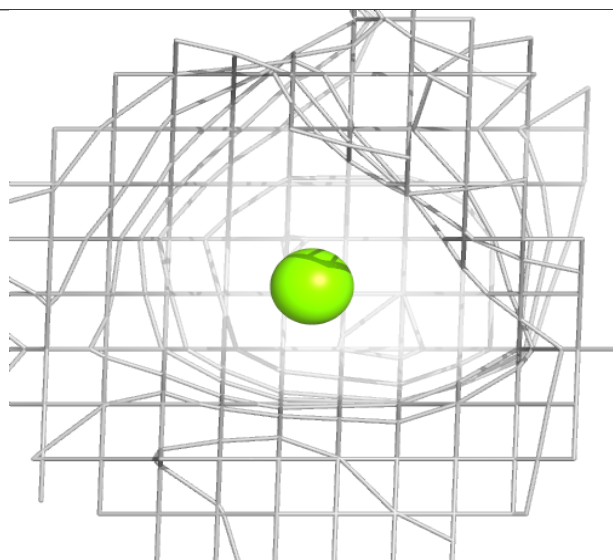
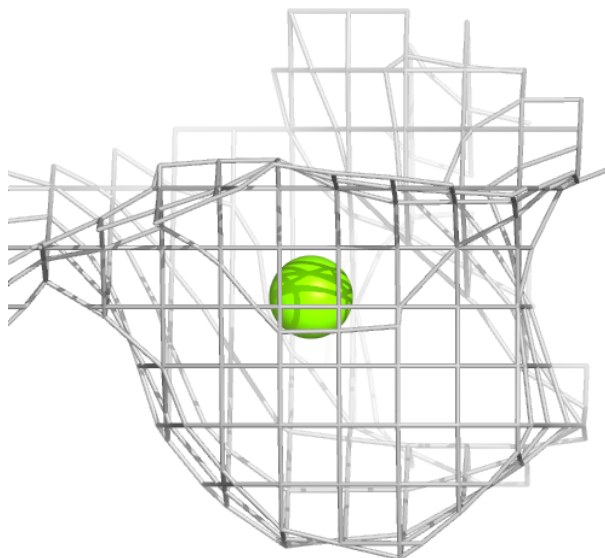
**Electron density around PCW C 1005:**

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



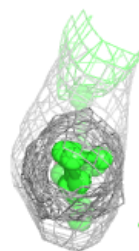
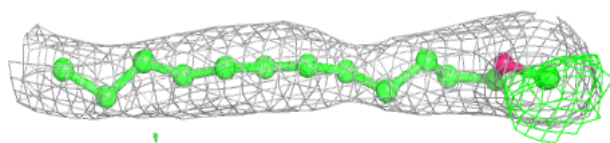
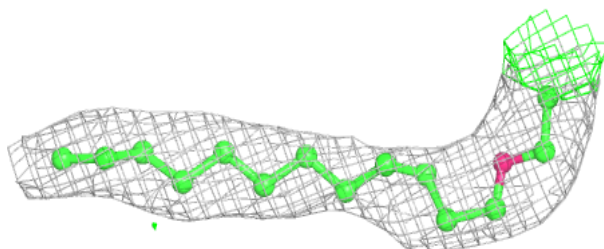
Electron density around MG F 1002:

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

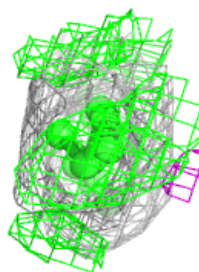
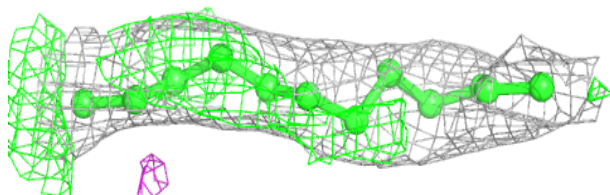
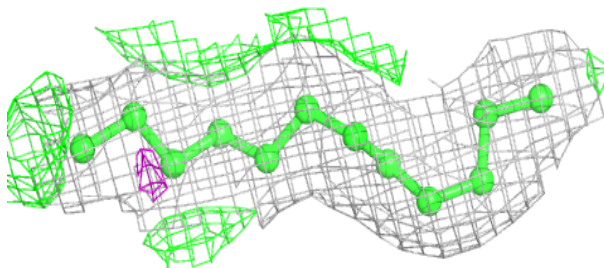


Electron density around CE1 C 1007:

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

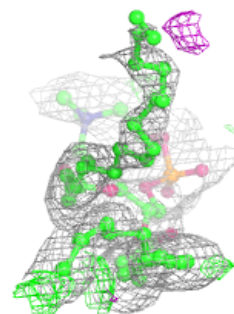
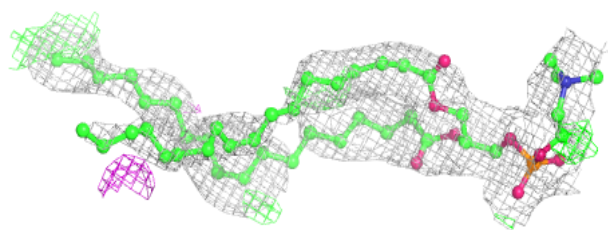
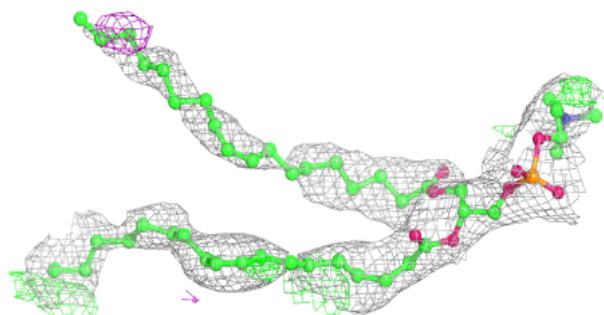
**Electron density around CE1 D 1009:**

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

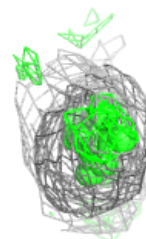
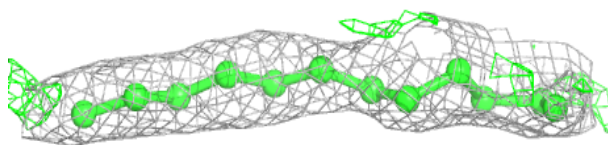
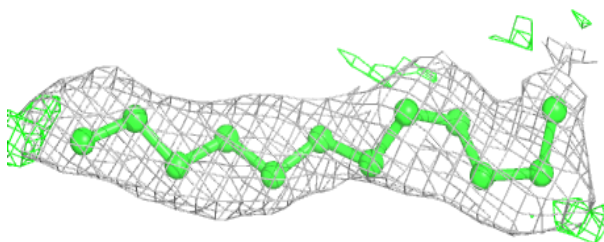


Electron density around PCW C 1008:

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

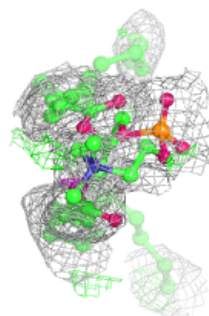
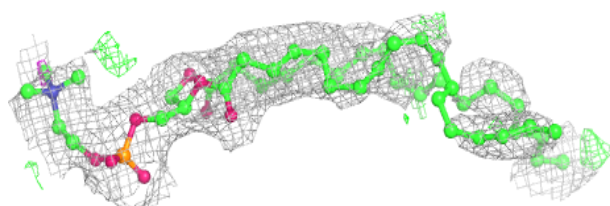
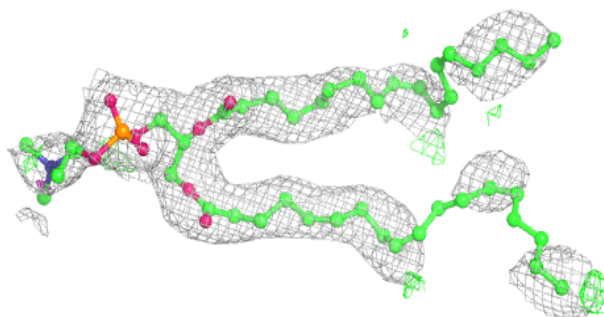
**Electron density around CE1 D 1006:**

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

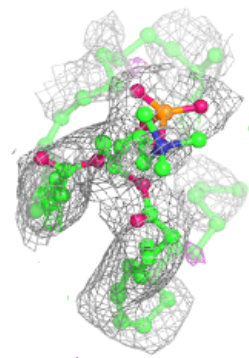
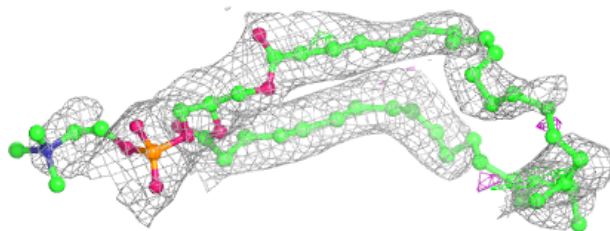
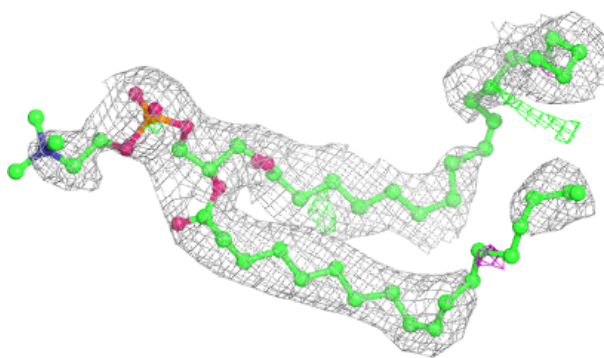


Electron density around PCW D 1003:

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

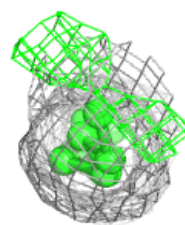
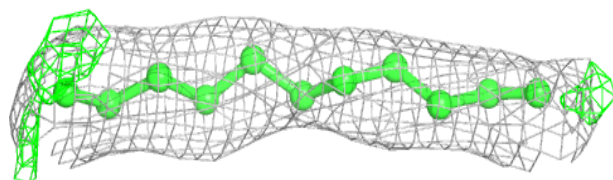
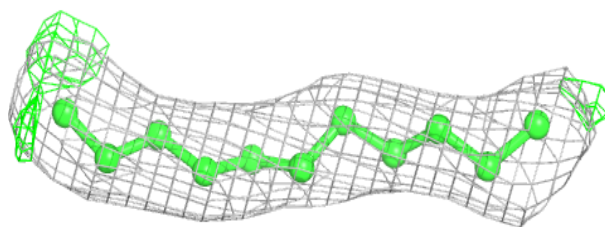
**Electron density around PCW C 1003:**

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



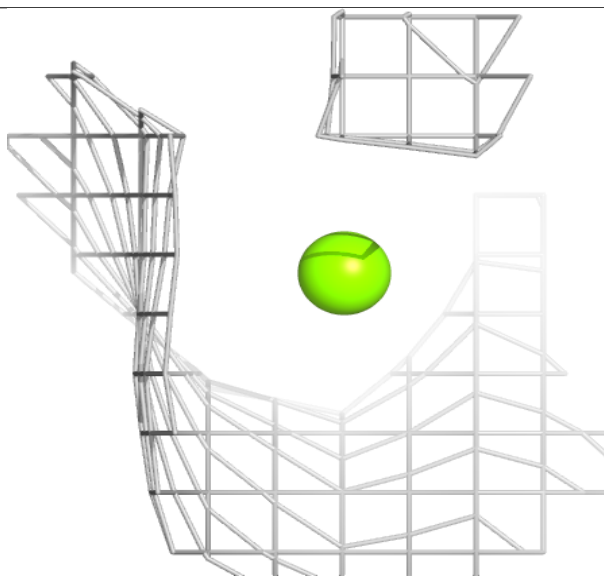
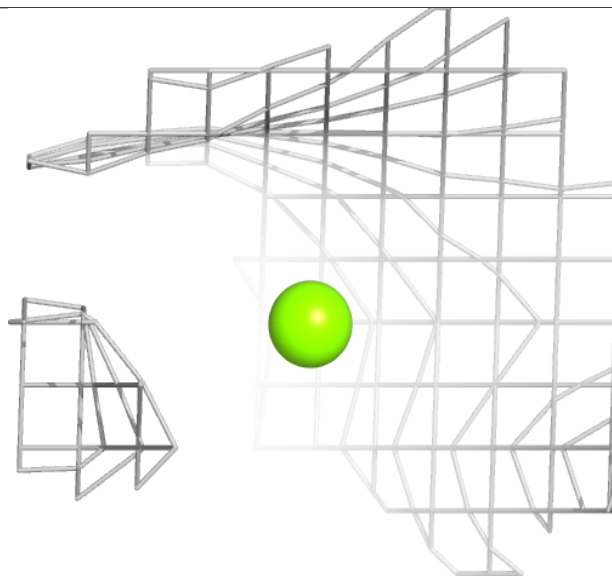
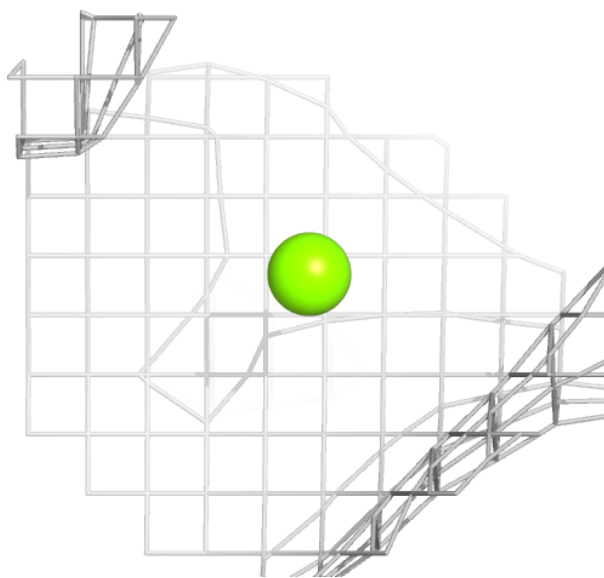
Electron density around CE1 D 1008:

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



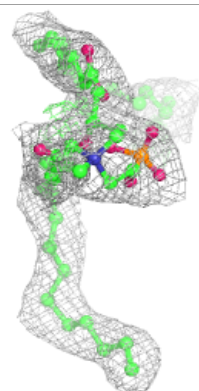
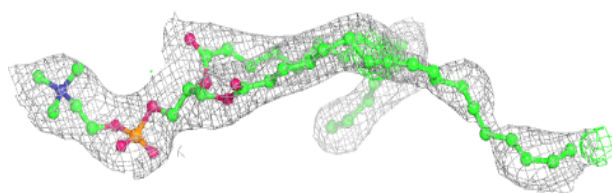
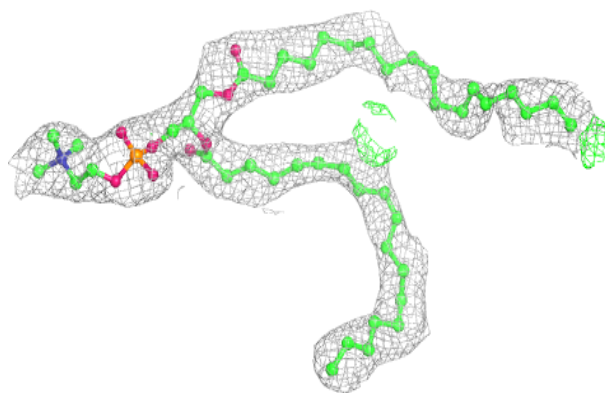
Electron density around MG E 1002:

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

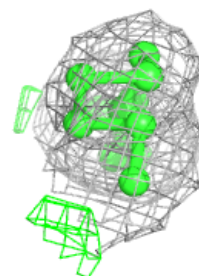
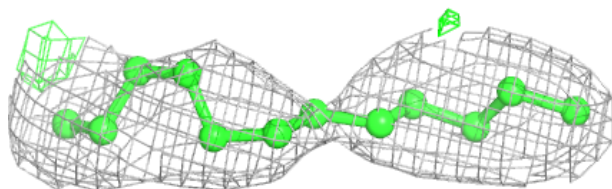
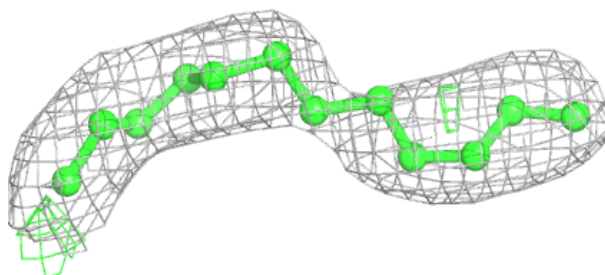


Electron density around PCW B 1003:

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

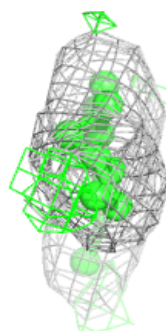
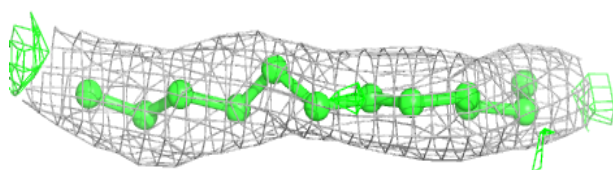
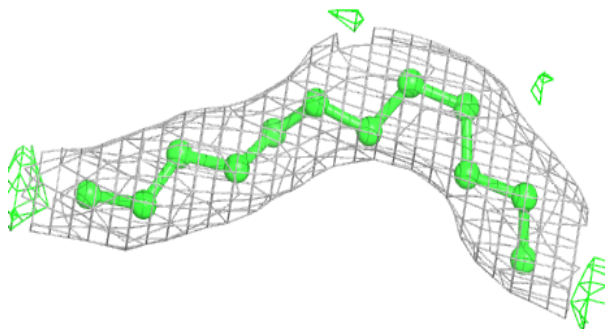
**Electron density around CE1 D 1005:**

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

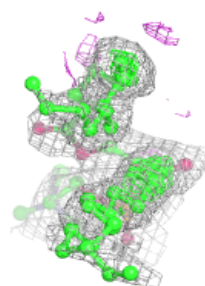
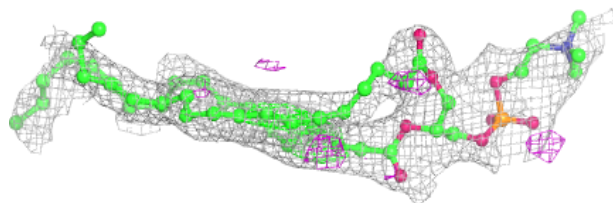
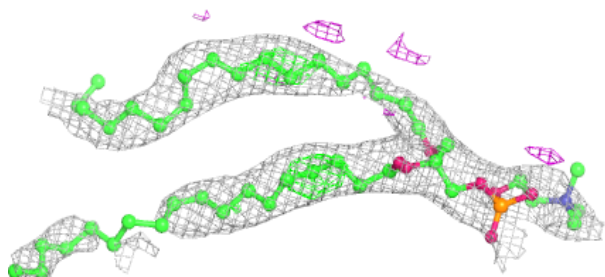


Electron density around CE1 D 1004:

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

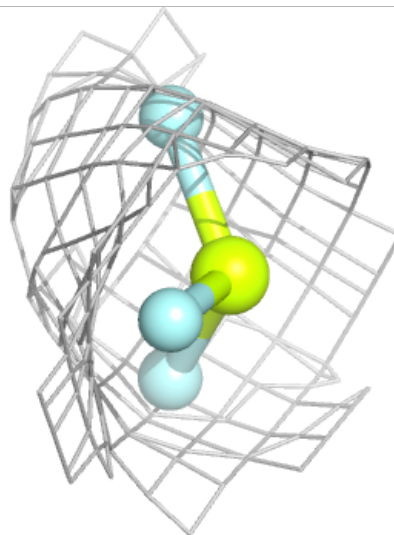
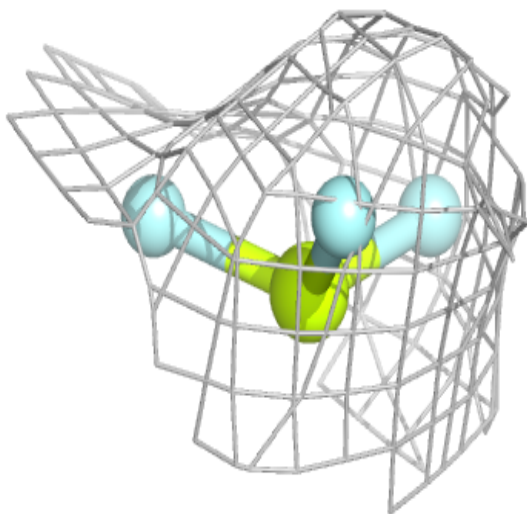
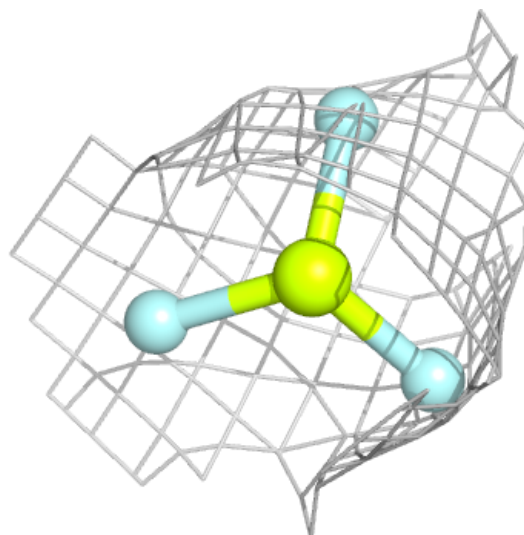
**Electron density around PCW B 1005:**

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



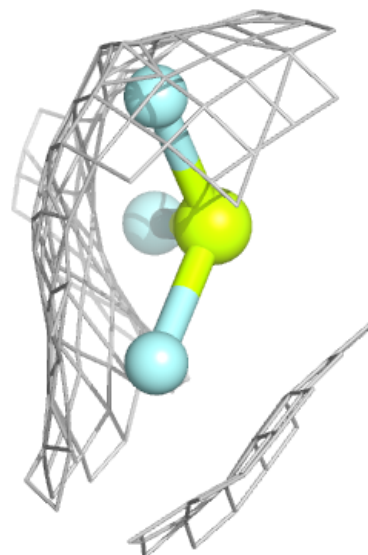
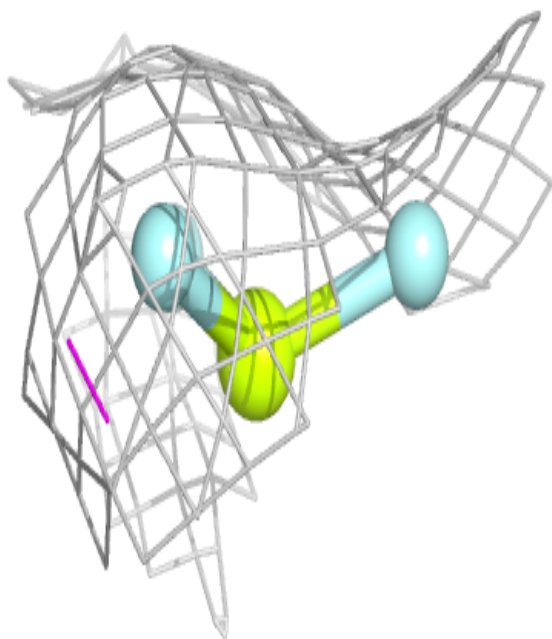
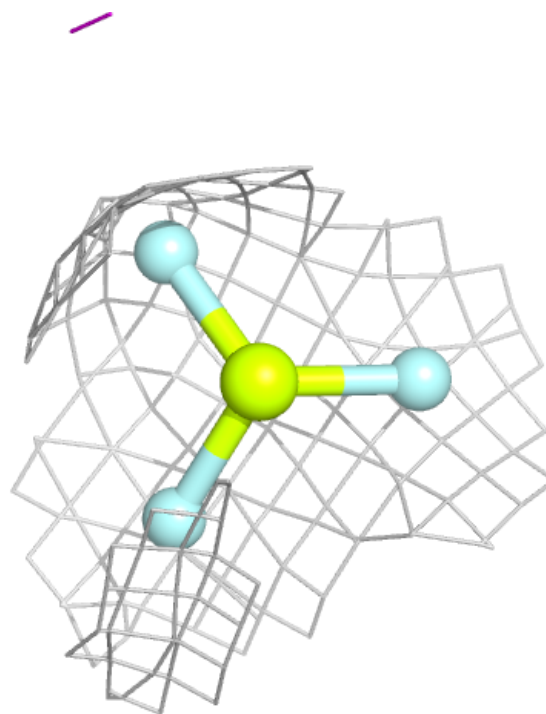
Electron density around BEF C 1001:

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



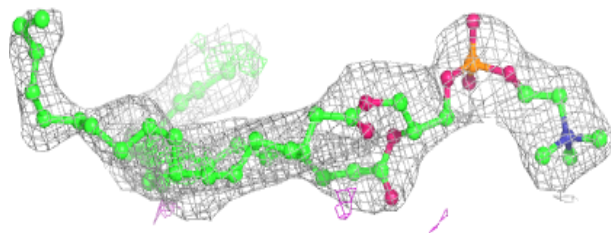
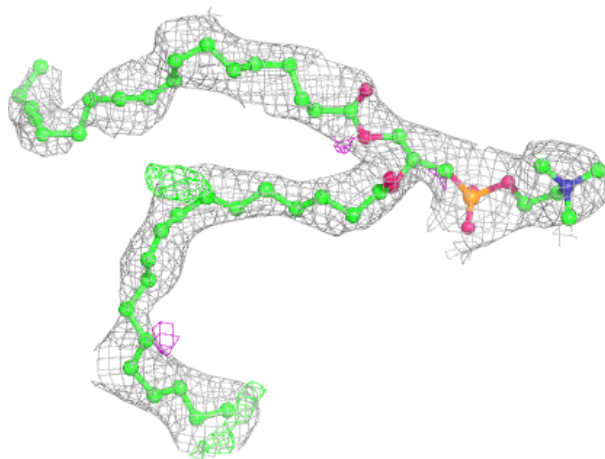
Electron density around BEF D 1001:

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



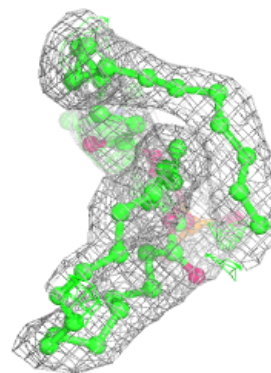
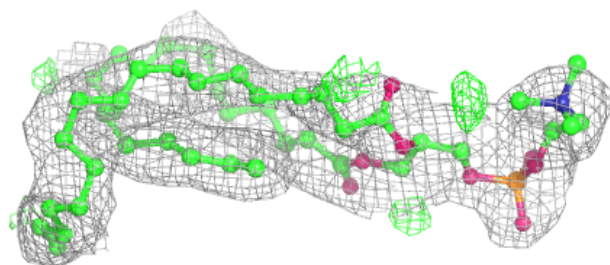
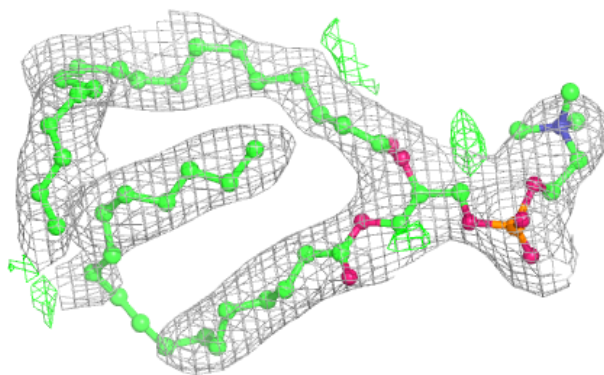
Electron density around PCW A 1003:

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



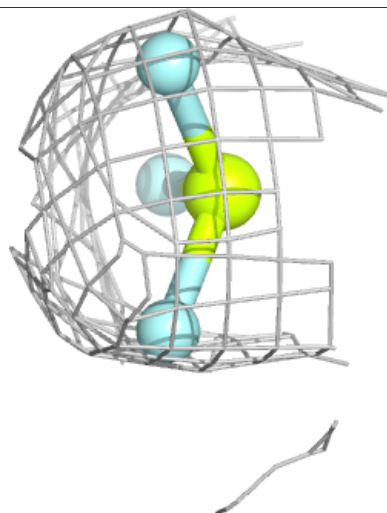
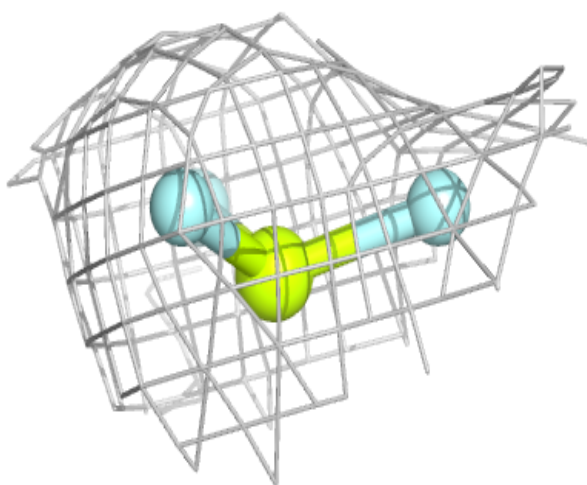
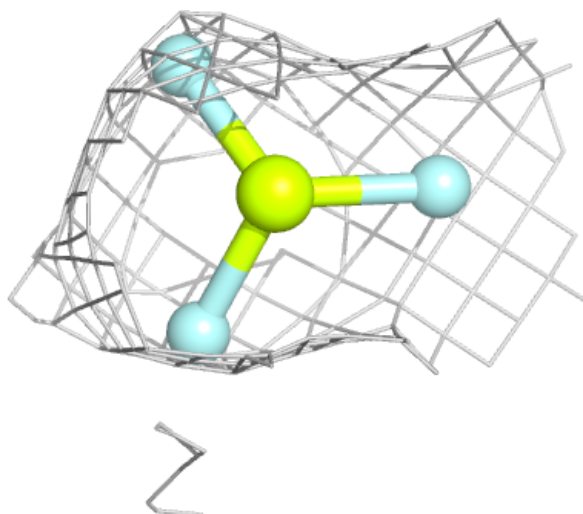
Electron density around PCW B 1009:

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



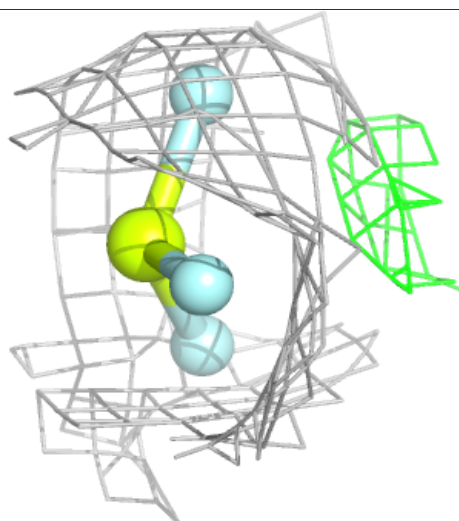
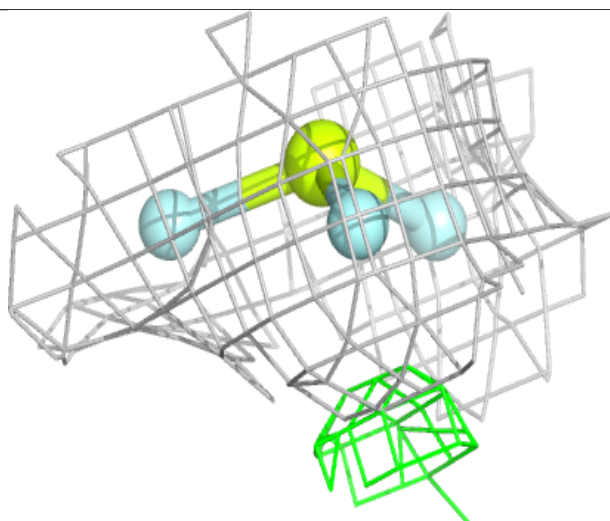
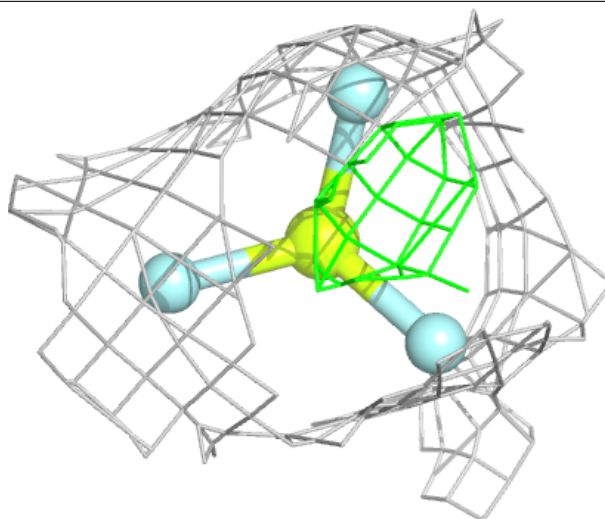
Electron density around BEF B 1001:

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



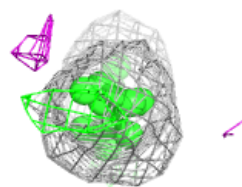
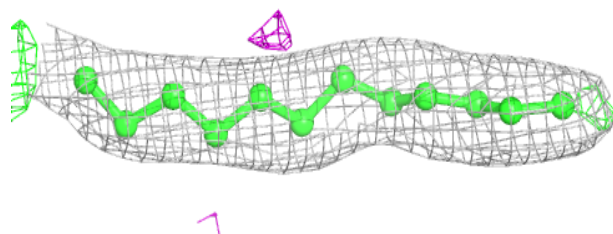
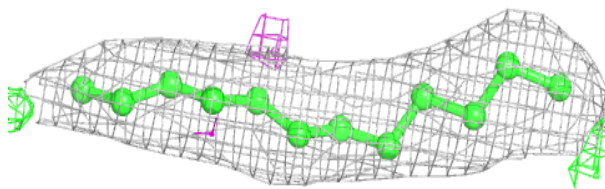
Electron density around BEF A 1001:

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



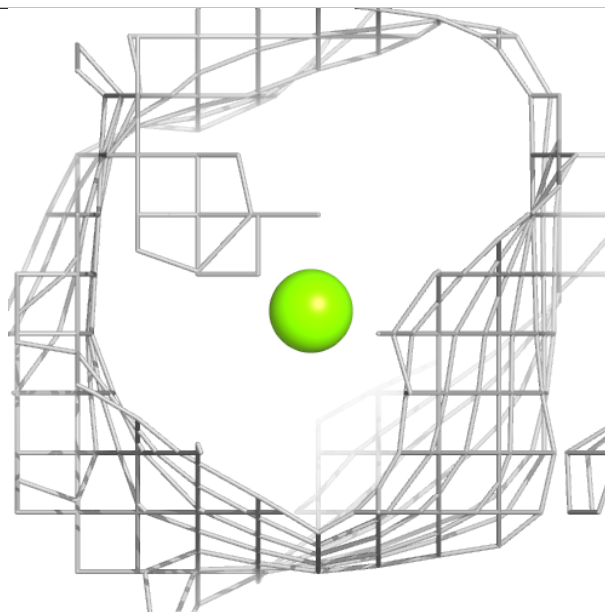
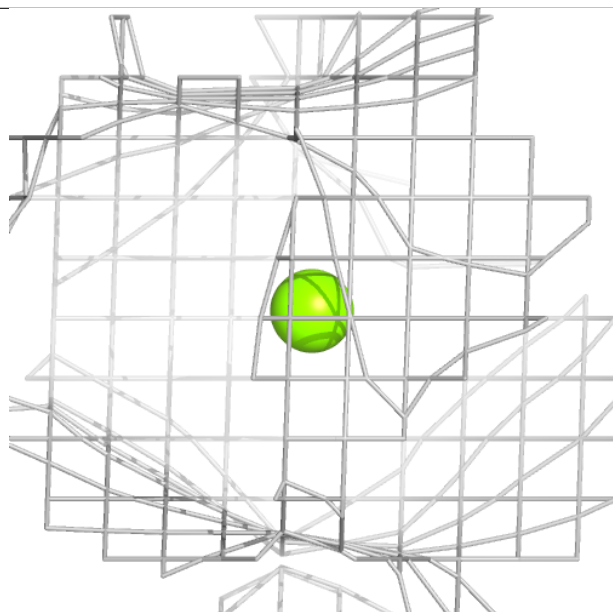
Electron density around CE1 D 1007:

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



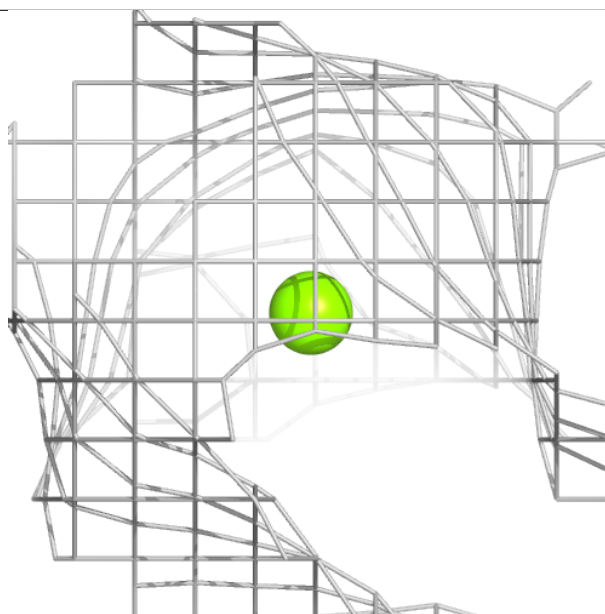
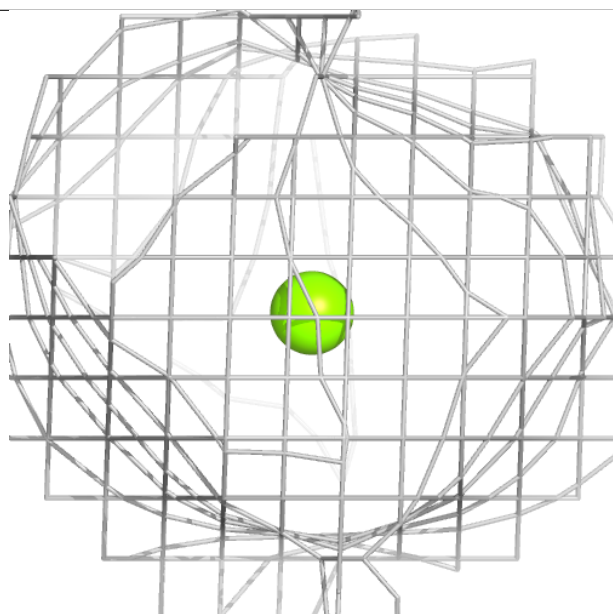
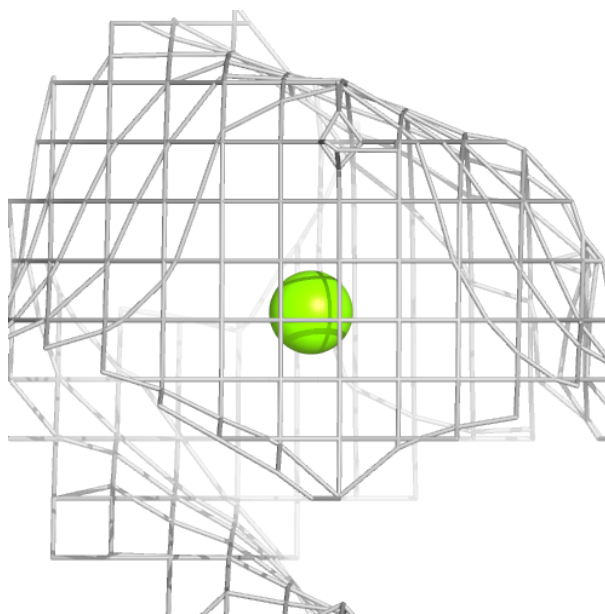
Electron density around MG C 1002:

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



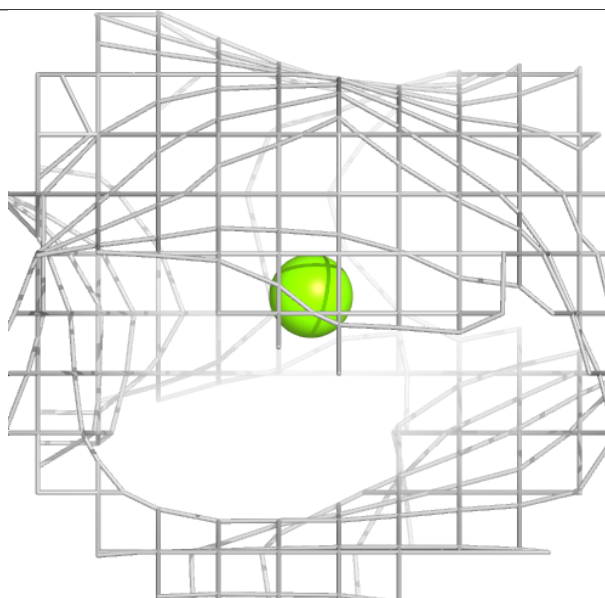
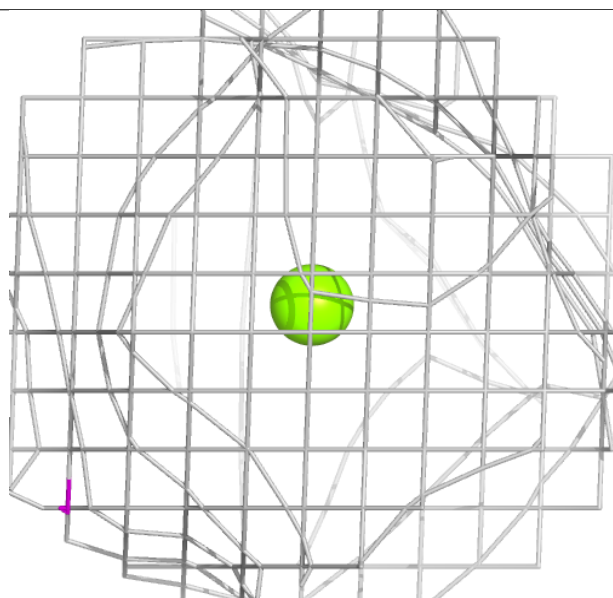
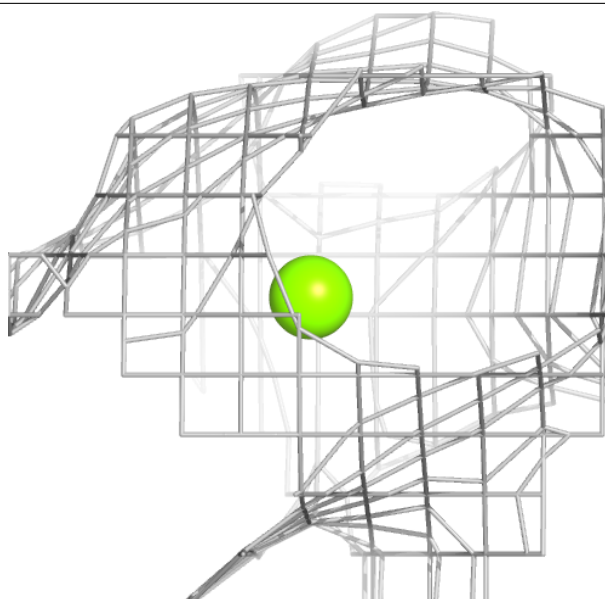
Electron density around MG D 1002:

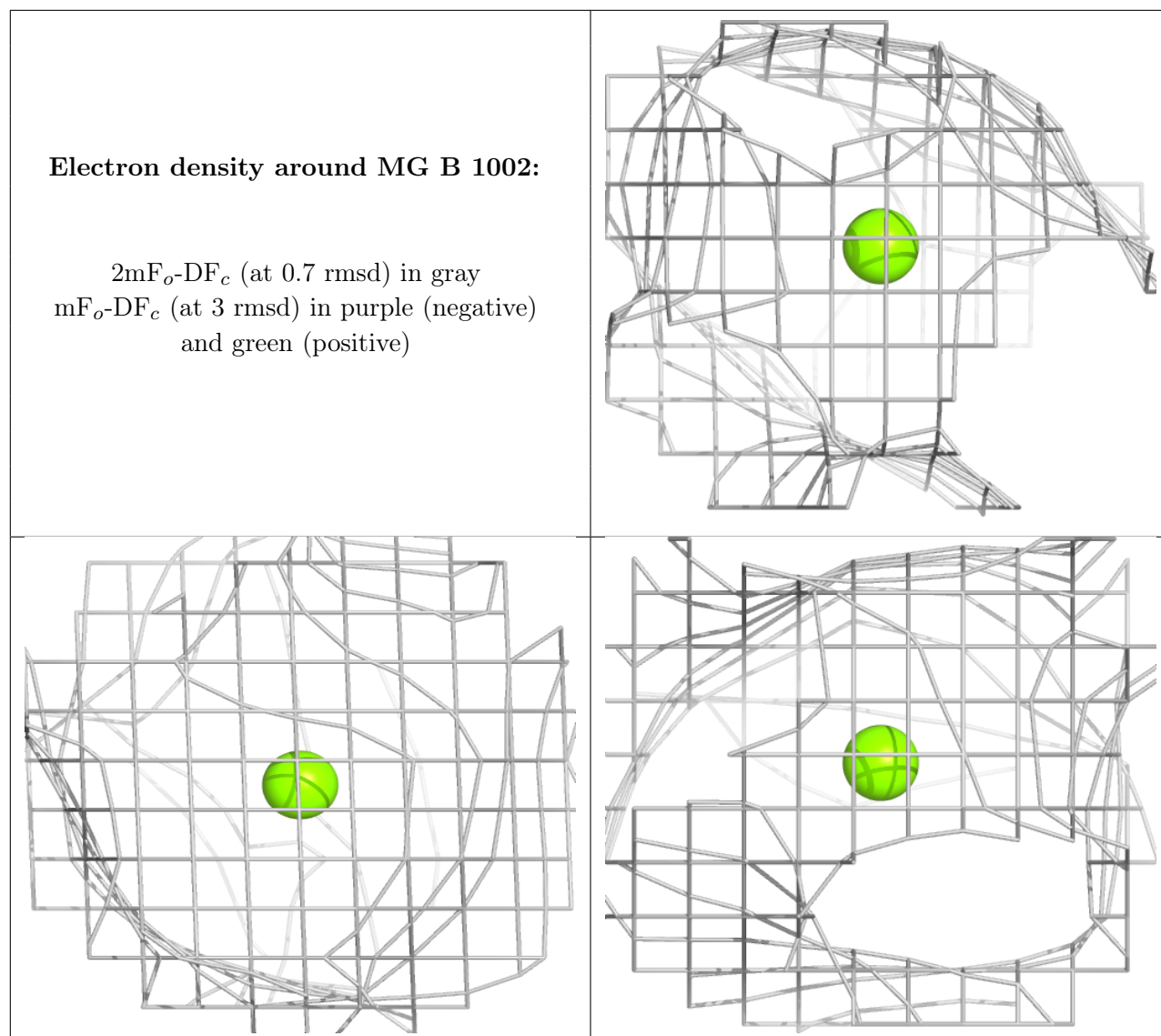
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



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)





6.5 Other polymers [i](#)

There are no such residues in this entry.