



Full wwPDB X-ray Structure Validation Report ⓘ

Jun 3, 2026 – 02:15 PM EDT

PDB ID : 35YT / pdb_000035yt
Title : Re-refined Phosphate-Binding Protein (PstS2) from *Xanthomonas citri* pv. *citri* A306 Bound to Phosphate
Authors : Santos, L.S.; Balan, A.
Deposited on : 2026-05-23
Resolution : 2.98 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:

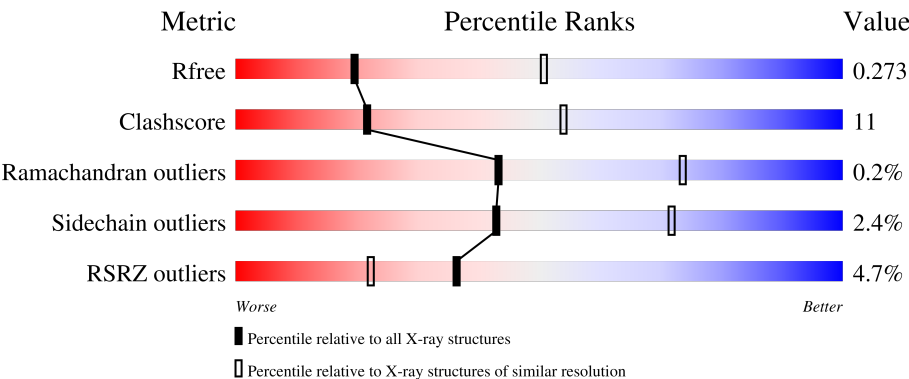
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

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 2.98 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}	180053	3580 (3.00-2.96)
Clashscore	190562	3904 (3.00-2.96)
Ramachandran outliers	187476	3761 (3.00-2.96)
Sidechain outliers	187428	3764 (3.00-2.96)
RSRZ outliers	180081	3579 (3.00-2.96)

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	335	<div><div>6%</div><div><div></div><div></div><div></div><div></div></div><div>72%21%• 6%</div></div>
1	B	335	<div><div>5%</div><div><div></div><div></div><div></div><div></div></div><div>75%17%• 7%</div></div>
1	C	335	<div><div>5%</div><div><div></div><div></div><div></div><div></div></div><div>76%17%7%</div></div>
1	D	335	<div><div>3%</div><div><div></div><div></div><div></div><div></div></div><div>77%16%• 6%</div></div>
1	E	335	<div><div>3%</div><div><div></div><div></div><div></div><div></div></div><div>77%16%• 6%</div></div>

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Mol	Chain	Length	Quality of chain
1	F	335	<div><div>4%</div><div><div></div><div>76%</div><div>17%</div><div>7%</div></div></div>
1	G	335	<div><div>5%</div><div><div></div><div>73%</div><div>18%</div><div>7%</div></div></div>
1	H	335	<div><div>4%</div><div><div></div><div>71%</div><div>21%</div><div>7%</div></div></div>

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 37540 atoms, of which 18551 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 Phosphate-binding protein PstS.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	314	Total	C	H	N	O	S	0	0	0
			4665	1505	2324	389	443	4			
1	B	312	Total	C	H	N	O	S	0	0	0
			4637	1496	2311	387	439	4			
1	C	313	Total	C	H	N	O	S	0	0	0
			4648	1499	2317	386	442	4			
1	D	314	Total	C	H	N	O	S	0	0	0
			4665	1505	2324	389	443	4			
1	E	314	Total	C	H	N	O	S	0	0	0
			4665	1505	2324	389	443	4			
1	F	313	Total	C	H	N	O	S	0	0	0
			4648	1499	2317	386	442	4			
1	G	313	Total	C	H	N	O	S	0	0	0
			4648	1499	2317	386	442	4			
1	H	313	Total	C	H	N	O	S	0	0	0
			4648	1499	2317	386	442	4			

There are 160 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	6	MET	-	initiating methionine	UNP A0AAI8ERC0
A	7	GLY	-	expression tag	UNP A0AAI8ERC0
A	8	SER	-	expression tag	UNP A0AAI8ERC0
A	9	SER	-	expression tag	UNP A0AAI8ERC0
A	10	HIS	-	expression tag	UNP A0AAI8ERC0
A	11	HIS	-	expression tag	UNP A0AAI8ERC0
A	12	HIS	-	expression tag	UNP A0AAI8ERC0
A	13	HIS	-	expression tag	UNP A0AAI8ERC0
A	14	HIS	-	expression tag	UNP A0AAI8ERC0
A	15	SER	-	expression tag	UNP A0AAI8ERC0
A	16	SER	-	expression tag	UNP A0AAI8ERC0
A	17	GLY	-	expression tag	UNP A0AAI8ERC0
A	18	LEU	-	expression tag	UNP A0AAI8ERC0

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Chain	Residue	Modelled	Actual	Comment	Reference
A	19	VAL	-	expression tag	UNP A0AAI8ERC0
A	20	PRO	-	expression tag	UNP A0AAI8ERC0
A	21	ARG	-	expression tag	UNP A0AAI8ERC0
A	22	GLY	-	expression tag	UNP A0AAI8ERC0
A	23	SER	-	expression tag	UNP A0AAI8ERC0
A	24	HIS	-	expression tag	UNP A0AAI8ERC0
A	25	MET	-	expression tag	UNP A0AAI8ERC0
B	6	MET	-	initiating methionine	UNP A0AAI8ERC0
B	7	GLY	-	expression tag	UNP A0AAI8ERC0
B	8	SER	-	expression tag	UNP A0AAI8ERC0
B	9	SER	-	expression tag	UNP A0AAI8ERC0
B	10	HIS	-	expression tag	UNP A0AAI8ERC0
B	11	HIS	-	expression tag	UNP A0AAI8ERC0
B	12	HIS	-	expression tag	UNP A0AAI8ERC0
B	13	HIS	-	expression tag	UNP A0AAI8ERC0
B	14	HIS	-	expression tag	UNP A0AAI8ERC0
B	15	SER	-	expression tag	UNP A0AAI8ERC0
B	16	SER	-	expression tag	UNP A0AAI8ERC0
B	17	GLY	-	expression tag	UNP A0AAI8ERC0
B	18	LEU	-	expression tag	UNP A0AAI8ERC0
B	19	VAL	-	expression tag	UNP A0AAI8ERC0
B	20	PRO	-	expression tag	UNP A0AAI8ERC0
B	21	ARG	-	expression tag	UNP A0AAI8ERC0
B	22	GLY	-	expression tag	UNP A0AAI8ERC0
B	23	SER	-	expression tag	UNP A0AAI8ERC0
B	24	HIS	-	expression tag	UNP A0AAI8ERC0
B	25	MET	-	expression tag	UNP A0AAI8ERC0
C	6	MET	-	initiating methionine	UNP A0AAI8ERC0
C	7	GLY	-	expression tag	UNP A0AAI8ERC0
C	8	SER	-	expression tag	UNP A0AAI8ERC0
C	9	SER	-	expression tag	UNP A0AAI8ERC0
C	10	HIS	-	expression tag	UNP A0AAI8ERC0
C	11	HIS	-	expression tag	UNP A0AAI8ERC0
C	12	HIS	-	expression tag	UNP A0AAI8ERC0
C	13	HIS	-	expression tag	UNP A0AAI8ERC0
C	14	HIS	-	expression tag	UNP A0AAI8ERC0
C	15	SER	-	expression tag	UNP A0AAI8ERC0
C	16	SER	-	expression tag	UNP A0AAI8ERC0
C	17	GLY	-	expression tag	UNP A0AAI8ERC0
C	18	LEU	-	expression tag	UNP A0AAI8ERC0
C	19	VAL	-	expression tag	UNP A0AAI8ERC0
C	20	PRO	-	expression tag	UNP A0AAI8ERC0

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Chain	Residue	Modelled	Actual	Comment	Reference
C	21	ARG	-	expression tag	UNP A0AAI8ERC0
C	22	GLY	-	expression tag	UNP A0AAI8ERC0
C	23	SER	-	expression tag	UNP A0AAI8ERC0
C	24	HIS	-	expression tag	UNP A0AAI8ERC0
C	25	MET	-	expression tag	UNP A0AAI8ERC0
D	6	MET	-	initiating methionine	UNP A0AAI8ERC0
D	7	GLY	-	expression tag	UNP A0AAI8ERC0
D	8	SER	-	expression tag	UNP A0AAI8ERC0
D	9	SER	-	expression tag	UNP A0AAI8ERC0
D	10	HIS	-	expression tag	UNP A0AAI8ERC0
D	11	HIS	-	expression tag	UNP A0AAI8ERC0
D	12	HIS	-	expression tag	UNP A0AAI8ERC0
D	13	HIS	-	expression tag	UNP A0AAI8ERC0
D	14	HIS	-	expression tag	UNP A0AAI8ERC0
D	15	SER	-	expression tag	UNP A0AAI8ERC0
D	16	SER	-	expression tag	UNP A0AAI8ERC0
D	17	GLY	-	expression tag	UNP A0AAI8ERC0
D	18	LEU	-	expression tag	UNP A0AAI8ERC0
D	19	VAL	-	expression tag	UNP A0AAI8ERC0
D	20	PRO	-	expression tag	UNP A0AAI8ERC0
D	21	ARG	-	expression tag	UNP A0AAI8ERC0
D	22	GLY	-	expression tag	UNP A0AAI8ERC0
D	23	SER	-	expression tag	UNP A0AAI8ERC0
D	24	HIS	-	expression tag	UNP A0AAI8ERC0
D	25	MET	-	expression tag	UNP A0AAI8ERC0
E	6	MET	-	initiating methionine	UNP A0AAI8ERC0
E	7	GLY	-	expression tag	UNP A0AAI8ERC0
E	8	SER	-	expression tag	UNP A0AAI8ERC0
E	9	SER	-	expression tag	UNP A0AAI8ERC0
E	10	HIS	-	expression tag	UNP A0AAI8ERC0
E	11	HIS	-	expression tag	UNP A0AAI8ERC0
E	12	HIS	-	expression tag	UNP A0AAI8ERC0
E	13	HIS	-	expression tag	UNP A0AAI8ERC0
E	14	HIS	-	expression tag	UNP A0AAI8ERC0
E	15	SER	-	expression tag	UNP A0AAI8ERC0
E	16	SER	-	expression tag	UNP A0AAI8ERC0
E	17	GLY	-	expression tag	UNP A0AAI8ERC0
E	18	LEU	-	expression tag	UNP A0AAI8ERC0
E	19	VAL	-	expression tag	UNP A0AAI8ERC0
E	20	PRO	-	expression tag	UNP A0AAI8ERC0
E	21	ARG	-	expression tag	UNP A0AAI8ERC0
E	22	GLY	-	expression tag	UNP A0AAI8ERC0

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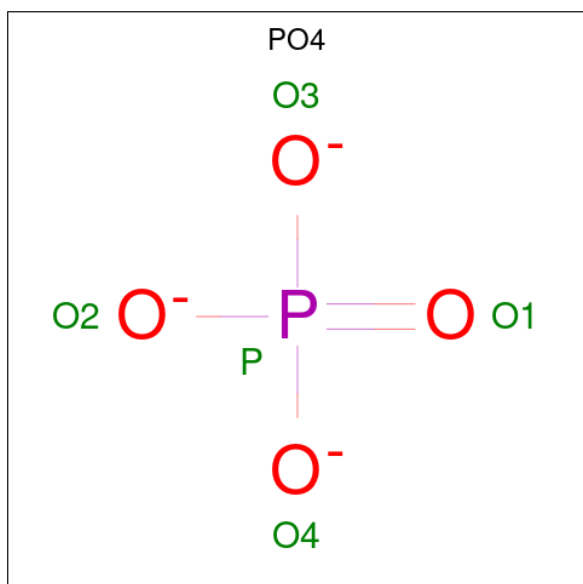
Chain	Residue	Modelled	Actual	Comment	Reference
E	23	SER	-	expression tag	UNP A0AAI8ERC0
E	24	HIS	-	expression tag	UNP A0AAI8ERC0
E	25	MET	-	expression tag	UNP A0AAI8ERC0
F	6	MET	-	initiating methionine	UNP A0AAI8ERC0
F	7	GLY	-	expression tag	UNP A0AAI8ERC0
F	8	SER	-	expression tag	UNP A0AAI8ERC0
F	9	SER	-	expression tag	UNP A0AAI8ERC0
F	10	HIS	-	expression tag	UNP A0AAI8ERC0
F	11	HIS	-	expression tag	UNP A0AAI8ERC0
F	12	HIS	-	expression tag	UNP A0AAI8ERC0
F	13	HIS	-	expression tag	UNP A0AAI8ERC0
F	14	HIS	-	expression tag	UNP A0AAI8ERC0
F	15	SER	-	expression tag	UNP A0AAI8ERC0
F	16	SER	-	expression tag	UNP A0AAI8ERC0
F	17	GLY	-	expression tag	UNP A0AAI8ERC0
F	18	LEU	-	expression tag	UNP A0AAI8ERC0
F	19	VAL	-	expression tag	UNP A0AAI8ERC0
F	20	PRO	-	expression tag	UNP A0AAI8ERC0
F	21	ARG	-	expression tag	UNP A0AAI8ERC0
F	22	GLY	-	expression tag	UNP A0AAI8ERC0
F	23	SER	-	expression tag	UNP A0AAI8ERC0
F	24	HIS	-	expression tag	UNP A0AAI8ERC0
F	25	MET	-	expression tag	UNP A0AAI8ERC0
G	6	MET	-	initiating methionine	UNP A0AAI8ERC0
G	7	GLY	-	expression tag	UNP A0AAI8ERC0
G	8	SER	-	expression tag	UNP A0AAI8ERC0
G	9	SER	-	expression tag	UNP A0AAI8ERC0
G	10	HIS	-	expression tag	UNP A0AAI8ERC0
G	11	HIS	-	expression tag	UNP A0AAI8ERC0
G	12	HIS	-	expression tag	UNP A0AAI8ERC0
G	13	HIS	-	expression tag	UNP A0AAI8ERC0
G	14	HIS	-	expression tag	UNP A0AAI8ERC0
G	15	SER	-	expression tag	UNP A0AAI8ERC0
G	16	SER	-	expression tag	UNP A0AAI8ERC0
G	17	GLY	-	expression tag	UNP A0AAI8ERC0
G	18	LEU	-	expression tag	UNP A0AAI8ERC0
G	19	VAL	-	expression tag	UNP A0AAI8ERC0
G	20	PRO	-	expression tag	UNP A0AAI8ERC0
G	21	ARG	-	expression tag	UNP A0AAI8ERC0
G	22	GLY	-	expression tag	UNP A0AAI8ERC0
G	23	SER	-	expression tag	UNP A0AAI8ERC0
G	24	HIS	-	expression tag	UNP A0AAI8ERC0

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Chain	Residue	Modelled	Actual	Comment	Reference
G	25	MET	-	expression tag	UNP A0AAI8ERC0
H	6	MET	-	initiating methionine	UNP A0AAI8ERC0
H	7	GLY	-	expression tag	UNP A0AAI8ERC0
H	8	SER	-	expression tag	UNP A0AAI8ERC0
H	9	SER	-	expression tag	UNP A0AAI8ERC0
H	10	HIS	-	expression tag	UNP A0AAI8ERC0
H	11	HIS	-	expression tag	UNP A0AAI8ERC0
H	12	HIS	-	expression tag	UNP A0AAI8ERC0
H	13	HIS	-	expression tag	UNP A0AAI8ERC0
H	14	HIS	-	expression tag	UNP A0AAI8ERC0
H	15	SER	-	expression tag	UNP A0AAI8ERC0
H	16	SER	-	expression tag	UNP A0AAI8ERC0
H	17	GLY	-	expression tag	UNP A0AAI8ERC0
H	18	LEU	-	expression tag	UNP A0AAI8ERC0
H	19	VAL	-	expression tag	UNP A0AAI8ERC0
H	20	PRO	-	expression tag	UNP A0AAI8ERC0
H	21	ARG	-	expression tag	UNP A0AAI8ERC0
H	22	GLY	-	expression tag	UNP A0AAI8ERC0
H	23	SER	-	expression tag	UNP A0AAI8ERC0
H	24	HIS	-	expression tag	UNP A0AAI8ERC0
H	25	MET	-	expression tag	UNP A0AAI8ERC0

- Molecule 2 is PHOSPHATE ION (CCD ID: PO4) (formula: O_4P) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total O P 5 4 1	0	0
2	A	1	Total O P 5 4 1	0	0
2	A	1	Total O P 5 4 1	0	0
2	A	1	Total O P 5 4 1	0	0
2	A	1	Total O P 5 4 1	0	0
2	A	1	Total O P 5 4 1	0	0
2	A	1	Total O P 5 4 1	0	0
2	A	1	Total O P 5 4 1	0	0
2	A	1	Total O P 5 4 1	0	0
2	A	1	Total O P 5 4 1	0	0
2	B	1	Total O P 5 4 1	0	0
2	B	1	Total O P 5 4 1	0	0
2	B	1	Total O P 5 4 1	0	0
2	B	1	Total O P 5 4 1	0	0
2	B	1	Total O P 5 4 1	0	0
2	B	1	Total O P 5 4 1	0	0
2	B	1	Total O P 5 4 1	0	0
2	B	1	Total O P 5 4 1	0	0
2	C	1	Total O P 5 4 1	0	0
2	C	1	Total O P 5 4 1	0	0
2	C	1	Total O P 5 4 1	0	0
2	C	1	Total O P 5 4 1	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	C	1	Total	O	P	0	0
			5	4	1		
2	C	1	Total	O	P	0	0
			5	4	1		
2	D	1	Total	O	P	0	0
			5	4	1		
2	D	1	Total	O	P	0	0
			5	4	1		
2	D	1	Total	O	P	0	0
			5	4	1		
2	D	1	Total	O	P	0	0
			5	4	1		
2	D	1	Total	O	P	0	0
			5	4	1		
2	D	1	Total	O	P	0	0
			5	4	1		
2	E	1	Total	O	P	0	0
			5	4	1		
2	E	1	Total	O	P	0	0
			5	4	1		
2	E	1	Total	O	P	0	0
			5	4	1		
2	E	1	Total	O	P	0	0
			5	4	1		
2	E	1	Total	O	P	0	0
			5	4	1		
2	E	1	Total	O	P	0	0
			5	4	1		
2	F	1	Total	O	P	0	0
			5	4	1		
2	F	1	Total	O	P	0	0
			5	4	1		
2	F	1	Total	O	P	0	0
			5	4	1		
2	F	1	Total	O	P	0	0
			5	4	1		

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	F	1	Total	O	P	0	0
			5	4	1		
2	F	1	Total	O	P	0	0
			5	4	1		
2	F	1	Total	O	P	0	0
			5	4	1		
2	G	1	Total	O	P	0	0
			5	4	1		
2	G	1	Total	O	P	0	0
			5	4	1		
2	G	1	Total	O	P	0	0
			5	4	1		
2	G	1	Total	O	P	0	0
			5	4	1		
2	G	1	Total	O	P	0	0
			5	4	1		
2	H	1	Total	O	P	0	0
			5	4	1		
2	H	1	Total	O	P	0	0
			5	4	1		
2	H	1	Total	O	P	0	0
			5	4	1		
2	H	1	Total	O	P	0	0
			5	4	1		
2	H	1	Total	O	P	0	0
			5	4	1		
2	H	1	Total	O	P	0	0
			5	4	1		
2	H	1	Total	O	P	0	0
			5	4	1		

- Molecule 3 is IODIDE ION (CCD ID: IOD) (formula: I).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	1	Total	I	0	0
			1	1		

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	C	1	Total I 1 1	0	0
3	D	1	Total I 1 1	0	0
3	H	1	Total I 1 1	0	0

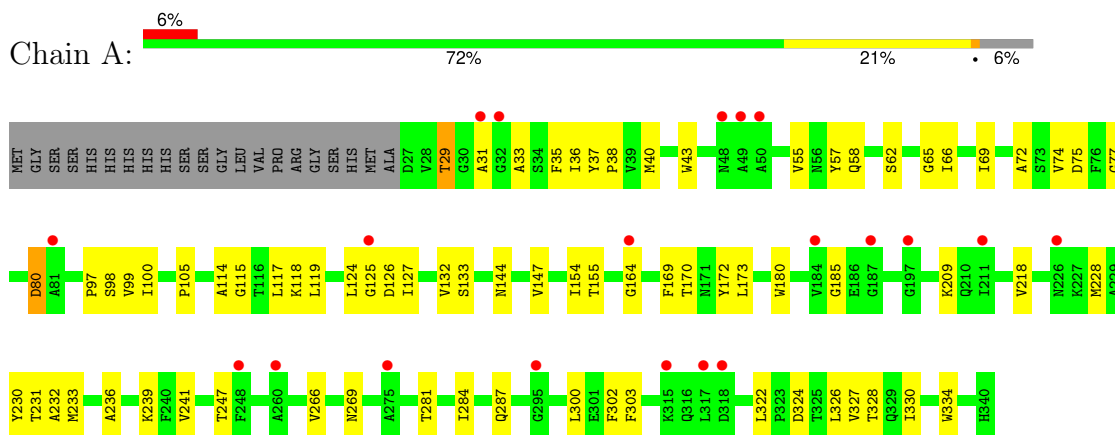
- Molecule 4 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	D	1	Total O 1 1	0	0
4	E	1	Total O 1 1	0	0
4	F	4	Total O 4 4	0	0
4	G	1	Total O 1 1	0	0

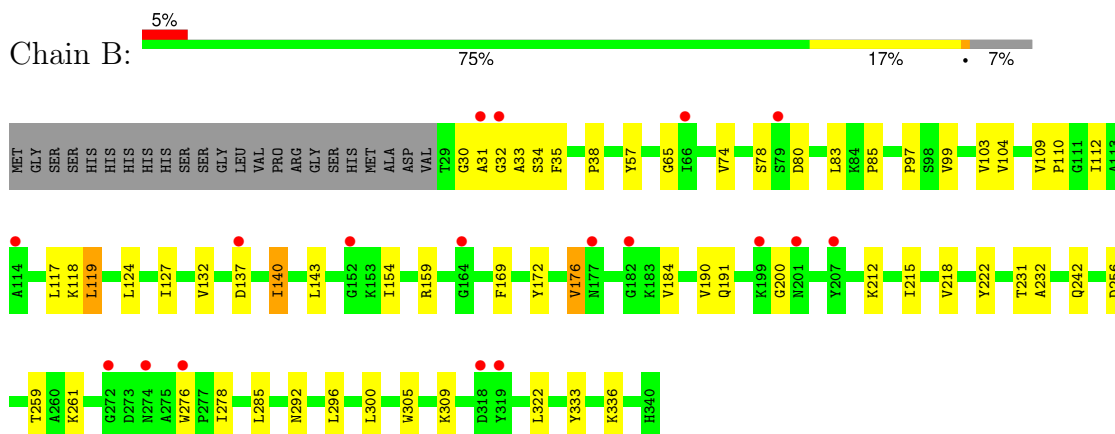
3 Residue-property plots [i](#)

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.

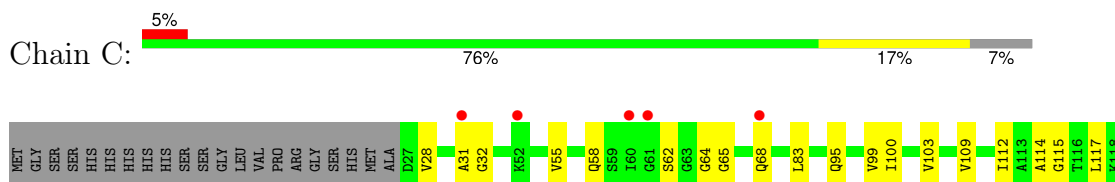
• Molecule 1: Phosphate-binding protein PstS

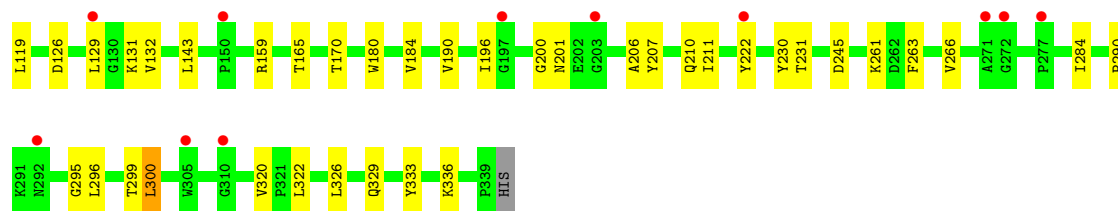


• Molecule 1: Phosphate-binding protein PstS

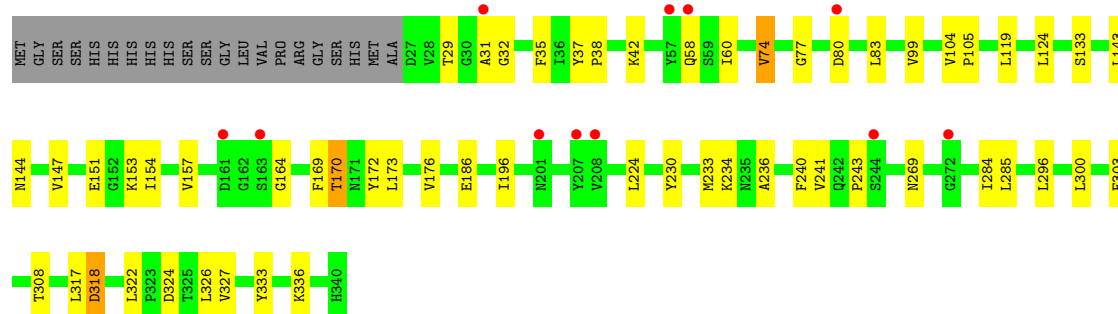
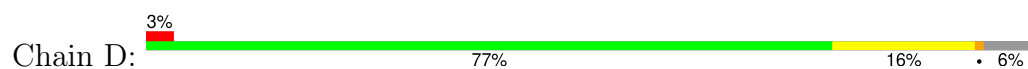


• Molecule 1: Phosphate-binding protein PstS

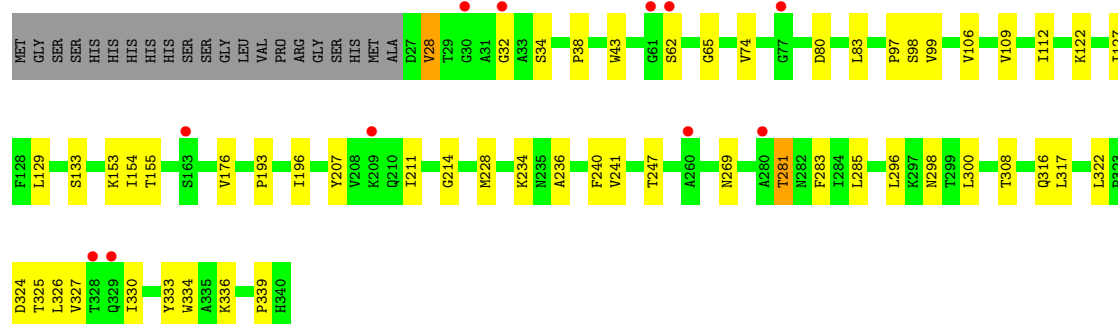
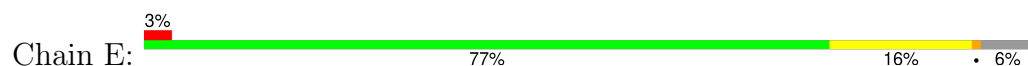




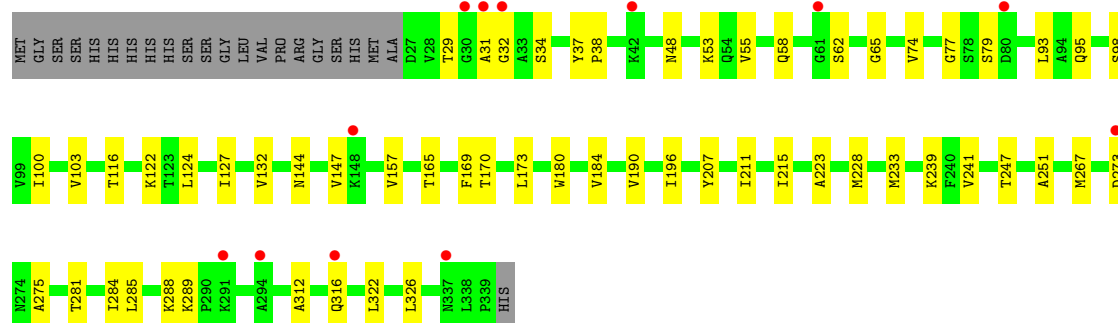
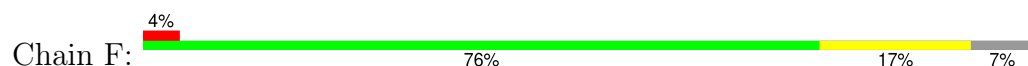
• Molecule 1: Phosphate-binding protein PstS



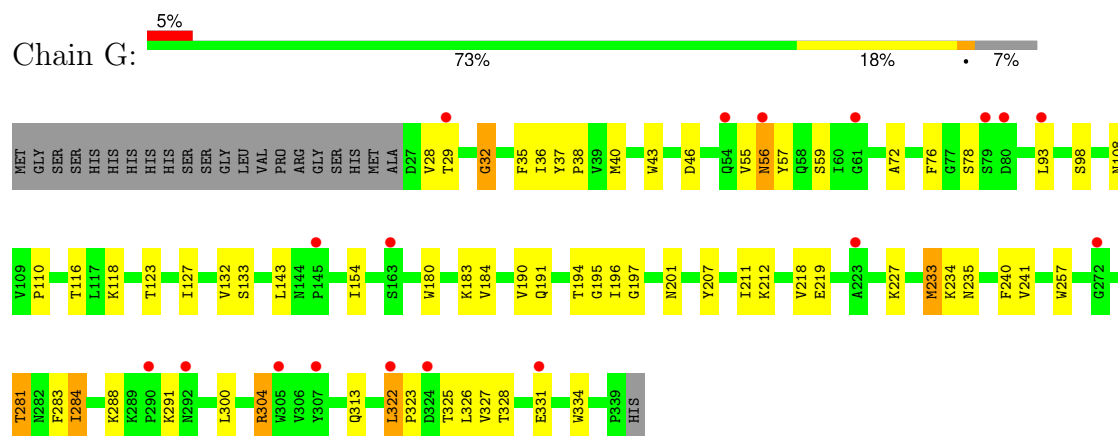
• Molecule 1: Phosphate-binding protein PstS



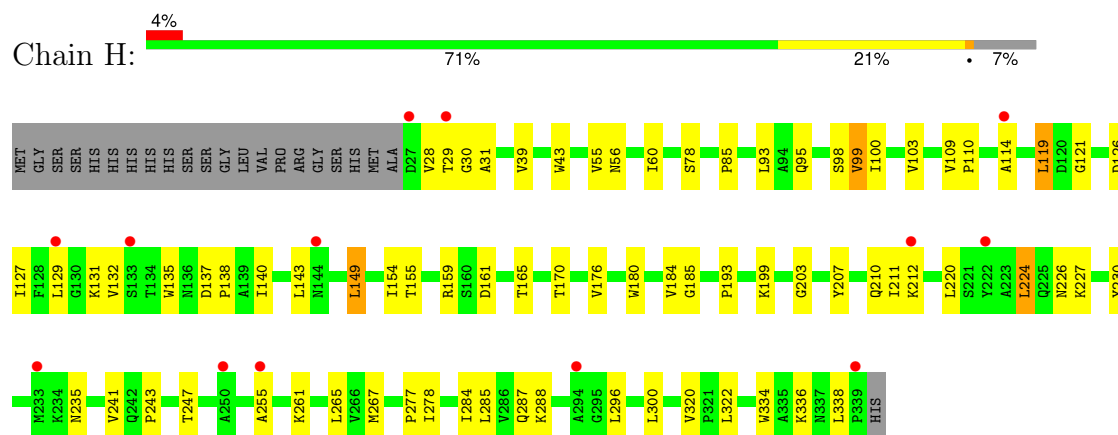
• Molecule 1: Phosphate-binding protein PstS



• Molecule 1: Phosphate-binding protein PstS



• Molecule 1: Phosphate-binding protein PstS



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	81.56Å 115.64Å 133.32Å 90.00° 90.33° 90.00°	Depositor
Resolution (Å)	17.06 – 2.98 17.06 – 2.98	Depositor EDS
% Data completeness (in resolution range)	98.6 (17.06-2.98) 98.1 (17.06-2.98)	Depositor EDS
R_{merge}	0.12	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.53 (at 2.97Å)	Xtriage
Refinement program	PHENIX 2.0_5936	Depositor
R, R_{free}	0.250 , 0.273 0.252 , 0.273	Depositor DCC
R_{free} test set	2492 reflections (4.94%)	wwPDB-VP
Wilson B-factor (Å ²)	48.2	Xtriage
Anisotropy	0.181	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.34 , 38.0	EDS
L-test for twinning ²	$\langle L \rangle = 0.47$, $\langle L^2 \rangle = 0.30$	Xtriage
Estimated twinning fraction	0.039 for h,-k,-l	Xtriage
F_o, F_c correlation	0.87	EDS
Total number of atoms	37540	wwPDB-VP
Average B, all atoms (Å ²)	50.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.11% of the height of the origin peak. No significant pseudotranslation is detected.*

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 [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: IOD, PO4

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	0.24	0/2400	0.40	0/3269
1	B	0.21	0/2385	0.41	0/3248
1	C	0.26	0/2389	0.42	1/3254 (0.0%)
1	D	0.22	0/2400	0.42	0/3269
1	E	0.20	0/2400	0.41	0/3269
1	F	0.22	0/2389	0.44	0/3254
1	G	0.35	2/2389 (0.1%)	0.53	2/3254 (0.1%)
1	H	0.26	0/2389	0.47	0/3254
All	All	0.25	2/19141 (0.0%)	0.44	3/26071 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	C	0	1

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	G	56	ASN	CG-OD1	-6.06	1.12	1.23
1	G	322	LEU	CG-CD1	-5.30	1.35	1.52

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	G	46	ASP	OD1-CG-OD2	-9.07	101.14	122.90
1	G	46	ASP	CB-CG-OD2	6.98	134.46	118.40
1	C	68	GLN	CG-CD-NE2	5.54	124.70	116.40

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	C	64	GLY	Mainchain

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	2341	2324	2324	70	0
1	B	2326	2311	2311	54	0
1	C	2331	2317	2317	37	0
1	D	2341	2324	2324	38	0
1	E	2341	2324	2324	39	0
1	F	2331	2317	2317	43	0
1	G	2331	2317	2317	68	0
1	H	2331	2317	2317	58	0
2	A	50	0	0	0	0
2	B	40	0	0	1	0
2	C	30	0	0	1	0
2	D	35	0	0	0	0
2	E	35	0	0	1	0
2	F	40	0	0	0	0
2	G	30	0	0	1	0
2	H	45	0	0	0	0
3	A	1	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
3	H	1	0	0	0	0
4	D	1	0	0	0	0
4	E	1	0	0	0	0
4	F	4	0	0	0	0
4	G	1	0	0	0	0
All	All	18989	18551	18551	404	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 11.

All (404) 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:G:110:PRO:HD3	1:G:212:LYS:HE3	1.44	0.97
1:H:255:ALA:HB1	1:H:265:LEU:HD21	1.57	0.86
1:G:29:THR:HA	1:G:56:ASN:OD1	1.75	0.86
1:D:322:LEU:HD12	1:D:326:LEU:HD23	1.62	0.80
1:F:267:MET:HE2	1:F:281:THR:OG1	1.81	0.80
1:F:124:LEU:HD22	1:F:233:MET:HE1	1.69	0.75
1:C:322:LEU:HD22	1:C:326:LEU:HD23	1.68	0.74
1:A:144:ASN:HB3	1:A:147:VAL:HG22	1.70	0.73
1:E:109:VAL:HB	1:E:112:ILE:HD12	1.70	0.73
1:C:109:VAL:HB	1:C:112:ILE:HD12	1.71	0.72
1:E:155:THR:HG21	1:E:211:ILE:HG21	1.71	0.72
1:B:109:VAL:HB	1:B:112:ILE:HG13	1.71	0.72
1:C:28:VAL:HG13	1:C:299:THR:HG22	1.71	0.72
1:G:184:VAL:HG12	1:G:190:VAL:HG11	1.72	0.72
1:H:241:VAL:CG1	1:H:247:THR:HG21	2.20	0.71
1:F:241:VAL:HG13	1:F:247:THR:HG21	1.72	0.71
1:A:300:LEU:HD22	1:A:334:TRP:CD2	2.26	0.70
1:C:295:GLY:O	1:C:299:THR:HG23	1.90	0.70
1:B:127:ILE:HG21	1:B:215:ILE:HD13	1.73	0.70
1:A:322:LEU:HD22	1:A:326:LEU:HD23	1.72	0.69
1:E:122:LYS:HD2	1:E:176:VAL:O	1.92	0.69
1:B:184:VAL:HG12	1:B:190:VAL:HG11	1.75	0.68
1:A:241:VAL:CG1	1:A:247:THR:HG21	2.22	0.68
1:G:183:LYS:HE3	2:G:405:PO4:O1	1.93	0.68
1:A:125:GLY:HA2	1:A:173:LEU:HD23	1.74	0.68
1:C:207:TYR:O	1:C:211:ILE:HG22	1.94	0.67
1:H:149:LEU:HD23	1:H:149:LEU:H	1.59	0.67
1:B:172:TYR:O	1:B:176:VAL:HG22	1.93	0.67
1:A:97:PRO:HG2	1:A:330:ILE:HD11	1.77	0.67
1:E:207:TYR:O	1:E:211:ILE:HD12	1.95	0.67
1:E:43:TRP:HH2	1:E:99:VAL:HG11	1.60	0.66
1:G:29:THR:HG22	1:G:29:THR:O	1.92	0.66
1:F:124:LEU:HD22	1:F:233:MET:CE	2.25	0.66
1:B:333:TYR:HA	1:B:336:LYS:HE3	1.77	0.66
1:C:184:VAL:HG12	1:C:190:VAL:HG11	1.77	0.65
1:G:98:SER:HB3	1:G:284:ILE:HD13	1.79	0.65
1:E:155:THR:HG21	1:E:211:ILE:CG2	2.27	0.65
1:F:144:ASN:O	1:F:147:VAL:HG22	1.96	0.65
1:F:157:VAL:HG22	1:F:196:ILE:HD11	1.78	0.65
1:H:132:VAL:HG11	1:H:137:ASP:CG	2.22	0.65
1:G:29:THR:HG23	1:G:56:ASN:ND2	2.11	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:170:THR:HG23	1:F:180:TRP:HE1	1.64	0.63
1:B:110:PRO:HD3	1:B:212:LYS:HE2	1.80	0.63
1:G:322:LEU:CD1	1:G:326:LEU:HD23	2.28	0.63
1:E:241:VAL:CG1	1:E:247:THR:HG21	2.29	0.62
1:F:241:VAL:CG1	1:F:247:THR:HG21	2.29	0.62
1:D:284:ILE:HD13	1:D:303:PHE:CZ	2.35	0.61
1:A:117:LEU:HD12	1:A:231:THR:CG2	2.30	0.61
1:E:43:TRP:CH2	1:E:99:VAL:HG11	2.35	0.61
1:A:328:THR:HG21	1:B:292:ASN:OD1	2.00	0.61
1:B:132:VAL:HG22	1:B:137:ASP:OD2	2.01	0.61
1:G:72:ALA:CB	1:G:291:LYS:HD2	2.30	0.61
1:B:103:VAL:HB	1:B:278:ILE:HG21	1.83	0.60
1:C:28:VAL:CG1	1:C:299:THR:HG22	2.31	0.60
1:A:117:LEU:HD13	1:A:118:LYS:N	2.16	0.60
1:G:110:PRO:CD	1:G:212:LYS:HE3	2.25	0.60
1:E:241:VAL:HG13	1:E:247:THR:HG21	1.82	0.60
1:G:110:PRO:HD3	1:G:212:LYS:CE	2.26	0.60
1:B:117:LEU:HD13	1:B:118:LYS:N	2.17	0.60
1:B:104:VAL:HG12	1:B:276:TRP:CZ2	2.36	0.59
1:A:300:LEU:HD22	1:A:334:TRP:CE3	2.37	0.59
1:A:29:THR:O	1:A:74:VAL:CG1	2.50	0.59
1:B:278:ILE:HG22	1:B:278:ILE:O	2.01	0.59
1:E:43:TRP:HH2	1:E:99:VAL:CG1	2.14	0.59
1:G:284:ILE:N	1:G:284:ILE:HD12	2.18	0.59
1:A:72:ALA:HB2	1:A:287:GLN:HE22	1.69	0.58
1:A:218:VAL:HG11	1:A:228:MET:HE1	1.84	0.58
1:B:33:ALA:HB3	1:B:57:TYR:OH	2.03	0.58
1:A:105:PRO:HG2	1:A:233:MET:HE2	1.86	0.58
1:A:100:ILE:HD12	1:A:281:THR:OG1	2.04	0.58
1:B:296:LEU:O	1:B:300:LEU:HD13	2.03	0.58
1:F:31:ALA:HB2	1:F:74:VAL:HG21	1.86	0.58
1:B:232:ALA:HB2	1:B:242:GLN:NE2	2.18	0.57
1:A:29:THR:HG23	1:A:75:ASP:H	1.69	0.57
1:G:29:THR:HG23	1:G:56:ASN:HD21	1.68	0.57
1:A:328:THR:HG21	1:B:292:ASN:CG	2.29	0.57
1:E:300:LEU:HD22	1:E:334:TRP:CD2	2.40	0.57
1:E:106:VAL:HG21	1:E:228:MET:HE1	1.87	0.57
1:A:117:LEU:HD12	1:A:231:THR:HG23	1.85	0.56
1:A:126:ASP:C	1:A:132:VAL:HG22	2.29	0.56
1:G:72:ALA:HB1	1:G:291:LYS:HD2	1.86	0.56
1:H:129:LEU:HG	1:H:180:TRP:HE3	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:169:PHE:O	1:A:173:LEU:HD13	2.05	0.56
1:G:304:ARG:HG3	1:G:331:GLU:OE2	2.05	0.56
1:G:234:LYS:HE3	1:G:240:PHE:CE2	2.41	0.56
1:H:135:TRP:O	1:H:149:LEU:HD11	2.04	0.56
1:A:324:ASP:O	1:A:327:VAL:HG22	2.06	0.56
1:A:284:ILE:HD13	1:A:303:PHE:CZ	2.40	0.56
1:C:126:ASP:CG	1:C:131:LYS:HE3	2.31	0.56
1:A:29:THR:HG23	1:A:74:VAL:HG13	1.88	0.56
1:A:170:THR:HG22	1:A:185:GLY:O	2.06	0.56
1:B:140:ILE:HD12	1:B:140:ILE:N	2.21	0.56
1:D:124:LEU:HD22	1:D:233:MET:CE	2.36	0.56
1:C:32:GLY:HA3	1:C:65:GLY:HA3	1.87	0.56
1:H:100:ILE:HB	1:H:320:VAL:HB	1.87	0.55
1:B:231:THR:HG22	1:B:232:ALA:O	2.07	0.55
1:H:95:GLN:HB3	1:H:285:LEU:HD23	1.87	0.55
1:C:28:VAL:HB	1:C:55:VAL:HG12	1.88	0.55
1:D:224:LEU:HD12	1:D:318:ASP:OD2	2.07	0.55
1:H:129:LEU:HD23	1:H:193:PRO:HG2	1.89	0.55
1:A:36:ILE:HD13	1:A:40:MET:HB2	1.88	0.54
1:E:122:LYS:CD	1:E:176:VAL:O	2.55	0.54
1:E:127:ILE:HG23	1:E:154:ILE:HG21	1.89	0.54
1:B:305:TRP:CD1	1:B:309:LYS:HE3	2.42	0.54
1:F:223:ALA:HA	1:F:228:MET:HE3	1.88	0.54
1:A:300:LEU:CD2	1:A:334:TRP:CE2	2.91	0.54
1:F:95:GLN:HB2	1:F:285:LEU:HD23	1.88	0.54
1:A:100:ILE:CD1	1:A:281:THR:HG23	2.38	0.54
1:H:43:TRP:HH2	1:H:99:VAL:HG11	1.73	0.53
1:A:36:ILE:C	1:A:36:ILE:HD12	2.33	0.53
1:F:144:ASN:HB3	1:F:147:VAL:CG2	2.38	0.53
1:F:196:ILE:HD12	1:F:196:ILE:O	2.08	0.53
1:A:144:ASN:CB	1:A:147:VAL:HG22	2.37	0.53
1:D:31:ALA:CB	1:D:77:GLY:HA2	2.39	0.53
1:E:324:ASP:O	1:E:327:VAL:HG22	2.09	0.53
1:H:129:LEU:HD21	1:H:184:VAL:HG21	1.90	0.53
1:F:31:ALA:HB1	1:F:65:GLY:HA2	1.90	0.53
1:G:72:ALA:HB2	1:G:291:LYS:NZ	2.24	0.53
1:H:93:LEU:HD21	1:H:287:GLN:NE2	2.24	0.53
1:A:43:TRP:HH2	1:A:99:VAL:CG1	2.22	0.53
1:C:119:LEU:HA	1:C:143:LEU:HD13	1.91	0.53
1:D:169:PHE:O	1:D:173:LEU:HD13	2.10	0.52
1:H:132:VAL:HG11	1:H:137:ASP:CB	2.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:201:ASN:HB3	1:C:222:TYR:CE2	2.45	0.52
1:A:241:VAL:HG12	1:A:247:THR:HG21	1.92	0.52
1:B:30:GLY:HA2	1:B:74:VAL:HG11	1.90	0.52
1:A:127:ILE:HA	1:A:132:VAL:HG23	1.93	0.51
1:A:170:THR:HG23	1:A:180:TRP:HE1	1.75	0.51
1:F:62:SER:OG	1:F:79:SER:CB	2.58	0.51
1:B:190:VAL:HG12	1:B:191:GLN:N	2.25	0.51
1:D:318:ASP:OD1	1:D:318:ASP:N	2.39	0.51
1:F:31:ALA:HB3	1:F:77:GLY:HA2	1.91	0.51
1:H:159:ARG:HG2	1:H:161:ASP:OD1	2.11	0.51
1:G:118:LYS:HB3	1:G:240:PHE:CE1	2.46	0.51
1:A:35:PHE:HB2	1:A:80:ASP:OD2	2.09	0.51
1:B:83:LEU:HD12	1:B:285:LEU:CD2	2.40	0.51
1:F:196:ILE:HD13	1:F:207:TYR:HD2	1.74	0.51
1:B:103:VAL:HB	1:B:278:ILE:CG2	2.40	0.51
1:C:55:VAL:HG23	1:C:55:VAL:O	2.11	0.51
1:D:234:LYS:HE3	1:D:240:PHE:CZ	2.45	0.51
1:G:331:GLU:OE2	1:G:334:TRP:CZ3	2.64	0.51
1:G:325:THR:O	1:G:328:THR:HG22	2.10	0.50
1:C:201:ASN:HB3	1:C:222:TYR:HE2	1.75	0.50
1:A:31:ALA:O	1:A:58:GLN:O	2.28	0.50
1:B:137:ASP:HB3	1:B:140:ILE:HD13	1.93	0.50
1:G:323:PRO:O	1:G:327:VAL:HG23	2.11	0.50
1:B:333:TYR:HA	1:B:336:LYS:HG2	1.93	0.50
1:C:129:LEU:HD13	2:C:404:PO4:O4	2.12	0.50
1:H:85:PRO:HG3	1:H:261:LYS:HG2	1.94	0.50
1:G:281:THR:HG23	1:G:283:PHE:CE2	2.47	0.50
1:F:196:ILE:HD12	1:F:196:ILE:C	2.37	0.50
1:C:206:ALA:O	1:C:210:GLN:HG3	2.12	0.49
1:D:170:THR:HB	1:D:186:GLU:HA	1.94	0.49
1:A:37:TYR:N	1:A:38:PRO:HD2	2.27	0.49
1:E:234:LYS:HE3	1:E:240:PHE:CZ	2.47	0.49
1:D:172:TYR:O	1:D:176:VAL:HG22	2.11	0.49
1:F:267:MET:HE2	1:F:281:THR:HG1	1.76	0.49
1:E:106:VAL:HG21	1:E:228:MET:CE	2.43	0.49
1:F:55:VAL:O	1:F:55:VAL:HG23	2.13	0.49
1:G:218:VAL:HG22	1:G:219:GLU:N	2.27	0.49
1:A:100:ILE:HD13	1:A:281:THR:HG23	1.94	0.49
1:B:33:ALA:HB3	1:B:57:TYR:HH	1.77	0.49
1:A:133:SER:HA	1:A:154:ILE:CG2	2.42	0.49
1:C:333:TYR:HA	1:C:336:LYS:HE3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:32:GLY:HA3	1:E:65:GLY:HA3	1.95	0.48
1:H:114:ALA:O	1:H:230:TYR:O	2.32	0.48
1:A:36:ILE:CD1	1:A:40:MET:HB2	2.43	0.48
1:B:30:GLY:HA2	1:B:74:VAL:CG1	2.44	0.48
1:A:33:ALA:HB3	1:A:57:TYR:OH	2.12	0.48
1:G:184:VAL:HG12	1:G:190:VAL:CG1	2.43	0.48
1:A:62:SER:O	1:A:66:ILE:HG12	2.14	0.48
1:E:106:VAL:HG11	1:E:228:MET:HE2	1.94	0.48
1:H:220:LEU:O	1:H:224:LEU:HD23	2.14	0.48
1:A:74:VAL:HG12	1:A:75:ASP:N	2.27	0.48
1:G:43:TRP:HD1	1:G:313:GLN:OE1	1.96	0.48
1:B:34:SER:O	1:B:222:TYR:OH	2.25	0.48
1:E:333:TYR:HA	1:E:336:LYS:HE3	1.96	0.48
1:F:196:ILE:HD13	1:F:207:TYR:CD2	2.49	0.48
1:H:129:LEU:HD21	1:H:184:VAL:CG2	2.43	0.48
1:H:132:VAL:CG1	1:H:137:ASP:CG	2.85	0.48
1:H:110:PRO:HD3	1:H:212:LYS:HE2	1.95	0.48
1:H:114:ALA:HB1	1:H:230:TYR:CZ	2.49	0.48
1:A:144:ASN:HB3	1:A:147:VAL:CG2	2.40	0.47
1:A:132:VAL:HG23	1:A:132:VAL:O	2.14	0.47
1:H:98:SER:O	1:H:99:VAL:HG13	2.15	0.47
1:H:226:ASN:O	1:H:227:LYS:HG3	2.14	0.47
1:G:35:PHE:HD2	1:G:36:ILE:HG23	1.79	0.47
1:A:133:SER:HA	1:A:154:ILE:HG22	1.95	0.47
1:A:209:LYS:HD3	1:A:228:MET:HG2	1.95	0.47
1:F:144:ASN:HB3	1:F:147:VAL:HG22	1.96	0.47
1:B:256:ASP:OD2	1:B:259:THR:HG23	2.14	0.47
1:G:180:TRP:CZ2	1:G:184:VAL:HG11	2.50	0.47
1:A:300:LEU:HD22	1:A:334:TRP:CE2	2.49	0.47
1:D:32:GLY:HA2	1:D:58:GLN:O	2.14	0.47
1:D:124:LEU:HD22	1:D:233:MET:HE1	1.96	0.47
1:G:283:PHE:C	1:G:284:ILE:HD12	2.40	0.47
1:G:300:LEU:HD23	1:G:334:TRP:CE3	2.50	0.47
1:F:32:GLY:HA2	1:F:58:GLN:O	2.15	0.47
1:G:194:THR:HG22	1:G:195:GLY:N	2.30	0.47
1:C:263:PHE:CZ	1:C:329:GLN:HG2	2.50	0.47
1:E:133:SER:O	1:E:153:LYS:HG3	2.15	0.47
1:E:28:VAL:HG22	1:E:298:ASN:HB3	1.96	0.46
1:H:103:VAL:HG22	1:H:165:THR:HG23	1.97	0.46
1:A:124:LEU:HD22	1:A:233:MET:CE	2.46	0.46
1:A:29:THR:CG2	1:A:74:VAL:HG13	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:85:PRO:HG3	1:B:261:LYS:HG2	1.97	0.46
1:C:290:PRO:HG3	1:C:296:LEU:HD22	1.97	0.46
1:D:324:ASP:O	1:D:327:VAL:HG22	2.15	0.46
1:B:35:PHE:HB2	1:B:80:ASP:OD2	2.16	0.46
1:E:300:LEU:HD22	1:E:334:TRP:CE2	2.50	0.46
1:H:227:LYS:HD2	1:H:227:LYS:C	2.41	0.46
1:D:105:PRO:HG2	1:D:233:MET:HE2	1.97	0.46
1:G:29:THR:HG23	1:G:56:ASN:CG	2.41	0.46
1:C:83:LEU:N	1:C:83:LEU:HD12	2.30	0.46
1:D:29:THR:HG22	1:D:74:VAL:HG12	1.97	0.46
1:G:201:ASN:CG	1:G:218:VAL:HG23	2.40	0.46
1:H:103:VAL:HB	1:H:278:ILE:HG22	1.98	0.46
1:G:197:GLY:O	1:G:207:TYR:HE2	1.99	0.46
1:G:227:LYS:N	1:G:227:LYS:HD2	2.31	0.46
1:G:257:TRP:NE1	1:G:326:LEU:HD22	2.31	0.46
1:H:30:GLY:HA2	1:H:56:ASN:O	2.16	0.46
1:E:98:SER:C	1:E:99:VAL:HG13	2.41	0.46
1:H:288:LYS:HA	1:H:338:LEU:HD23	1.97	0.46
1:E:97:PRO:HG2	1:E:330:ILE:HD11	1.98	0.45
1:F:322:LEU:HG	1:F:326:LEU:HD23	1.98	0.45
1:H:99:VAL:HA	1:H:322:LEU:CD1	2.47	0.45
1:A:40:MET:HE1	1:A:302:PHE:CE2	2.51	0.45
1:B:333:TYR:CA	1:B:336:LYS:HE3	2.46	0.45
1:C:99:VAL:HG22	1:C:100:ILE:H	1.80	0.45
1:B:124:LEU:HD21	1:B:169:PHE:CE1	2.51	0.45
1:C:180:TRP:CZ2	1:C:184:VAL:HG11	2.51	0.45
1:F:132:VAL:HG23	1:F:132:VAL:O	2.16	0.45
1:B:117:LEU:HD11	1:B:119:LEU:HD13	1.99	0.45
1:B:85:PRO:CG	1:B:261:LYS:HG2	2.47	0.45
1:D:157:VAL:HG22	1:D:196:ILE:HG22	1.98	0.45
1:A:29:THR:OG1	1:A:74:VAL:HG13	2.17	0.45
1:A:31:ALA:CB	1:A:77:GLY:HA2	2.47	0.45
1:B:190:VAL:CG1	1:B:191:GLN:N	2.79	0.45
1:D:31:ALA:HB2	1:D:77:GLY:HA2	1.97	0.45
1:H:170:THR:HG22	1:H:185:GLY:O	2.16	0.45
1:G:36:ILE:C	1:G:36:ILE:HD12	2.41	0.45
1:G:196:ILE:HD11	1:G:211:ILE:HD11	1.99	0.45
1:H:127:ILE:HD11	1:H:140:ILE:HD11	1.97	0.45
1:H:129:LEU:HG	1:H:180:TRP:CE3	2.50	0.45
1:H:135:TRP:O	1:H:149:LEU:CD1	2.64	0.45
1:H:261:LYS:HD3	1:H:261:LYS:H	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:300:LEU:HD22	1:H:334:TRP:CE2	2.52	0.45
1:B:97:PRO:HB2	1:B:322:LEU:HD21	1.98	0.45
1:C:103:VAL:HG22	1:C:165:THR:HG23	1.99	0.45
1:C:32:GLY:O	1:C:62:SER:HA	2.17	0.44
1:F:180:TRP:CZ2	1:F:184:VAL:HG11	2.52	0.44
1:G:72:ALA:HB2	1:G:291:LYS:HD2	1.98	0.44
1:F:93:LEU:O	1:F:288:LYS:HE2	2.17	0.44
1:F:312:ALA:O	1:F:316:GLN:HG2	2.16	0.44
1:G:132:VAL:HG23	1:G:132:VAL:O	2.16	0.44
1:B:184:VAL:HG12	1:B:190:VAL:CG1	2.47	0.44
1:B:119:LEU:HD21	1:B:127:ILE:HD12	1.99	0.44
1:F:144:ASN:CB	1:F:147:VAL:CG2	2.96	0.44
1:A:127:ILE:N	1:A:132:VAL:HG22	2.33	0.44
1:D:37:TYR:N	1:D:38:PRO:HD2	2.31	0.44
1:E:129:LEU:HD23	1:E:193:PRO:HG2	2.00	0.44
1:F:127:ILE:HG21	1:F:215:ILE:HD13	1.98	0.44
1:H:109:VAL:HG13	1:H:110:PRO:HD2	1.99	0.44
1:H:203:GLY:O	1:H:207:TYR:HD2	2.00	0.44
1:G:190:VAL:HG12	1:G:191:GLN:N	2.33	0.44
1:A:117:LEU:CD1	1:A:119:LEU:HG	2.48	0.44
1:G:76:PHE:CD1	1:G:76:PHE:C	2.96	0.44
1:H:121:GLY:HA3	1:H:176:VAL:HG21	1.98	0.44
1:H:137:ASP:CG	1:H:138:PRO:HD2	2.42	0.44
1:C:196:ILE:HD12	1:C:207:TYR:CD2	2.53	0.44
1:A:36:ILE:HD11	1:A:57:TYR:CZ	2.53	0.43
1:A:127:ILE:HG13	1:A:132:VAL:HG21	2.00	0.43
1:B:140:ILE:N	1:B:140:ILE:CD1	2.81	0.43
1:B:218:VAL:HG22	1:B:222:TYR:HB2	2.00	0.43
1:C:159:ARG:HH12	1:C:200:GLY:HA2	1.82	0.43
1:D:119:LEU:HA	1:D:143:LEU:HD13	2.00	0.43
1:D:157:VAL:HG22	1:D:196:ILE:CG2	2.48	0.43
1:G:284:ILE:N	1:G:284:ILE:CD1	2.81	0.43
1:H:110:PRO:HG3	1:H:212:LYS:HE2	2.00	0.43
1:H:296:LEU:HD23	1:H:296:LEU:O	2.17	0.43
1:A:80:ASP:HB2	1:A:164:GLY:HA3	2.00	0.43
1:B:159:ARG:NH1	1:B:200:GLY:HA2	2.33	0.43
1:C:322:LEU:HD22	1:C:326:LEU:CD2	2.44	0.43
1:G:28:VAL:HB	1:G:55:VAL:HG12	2.00	0.43
1:G:36:ILE:HD11	1:G:57:TYR:CZ	2.53	0.43
1:C:170:THR:HG22	1:C:180:TRP:CZ2	2.54	0.43
1:H:155:THR:HG21	1:H:211:ILE:HG21	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:170:THR:CG2	1:A:180:TRP:HE1	2.31	0.43
1:A:236:ALA:HB2	1:A:269:ASN:OD1	2.19	0.43
1:E:325:THR:HG23	1:E:326:LEU:N	2.34	0.43
1:A:231:THR:HG22	1:A:232:ALA:O	2.17	0.43
1:D:236:ALA:HB2	1:D:269:ASN:OD1	2.19	0.43
1:E:196:ILE:HG22	1:G:211:ILE:HG13	2.01	0.43
1:G:32:GLY:O	1:G:78:SER:O	2.36	0.43
1:H:98:SER:HB3	1:H:284:ILE:HG12	2.00	0.43
1:B:30:GLY:O	1:B:31:ALA:HB2	2.19	0.43
1:C:95:GLN:HA	1:C:284:ILE:O	2.19	0.43
1:E:98:SER:O	1:E:322:LEU:HD13	2.18	0.43
1:G:29:THR:CG2	1:G:56:ASN:HD21	2.31	0.43
1:G:72:ALA:HB2	1:G:291:LYS:HZ2	1.83	0.43
1:G:201:ASN:OD1	1:G:218:VAL:HG23	2.19	0.43
1:H:28:VAL:HB	1:H:55:VAL:HG22	2.00	0.43
1:C:170:THR:HG22	1:C:180:TRP:HZ2	1.84	0.43
1:G:133:SER:HA	1:G:154:ILE:HG22	2.01	0.43
1:G:322:LEU:HD12	1:G:326:LEU:HD23	2.00	0.43
1:H:126:ASP:CG	1:H:131:LYS:HE3	2.43	0.43
1:G:43:TRP:CD1	1:G:313:GLN:OE1	2.71	0.43
1:B:140:ILE:CD1	1:B:140:ILE:H	2.32	0.43
1:D:31:ALA:O	1:D:58:GLN:O	2.37	0.43
1:B:109:VAL:CG1	1:B:110:PRO:HD2	2.49	0.42
1:F:37:TYR:N	1:F:38:PRO:HD2	2.34	0.42
1:H:85:PRO:HG2	1:H:261:LYS:HG3	2.00	0.42
1:F:184:VAL:CG1	1:F:190:VAL:CG1	2.97	0.42
1:F:251:ALA:HB2	1:F:275:ALA:HB1	2.01	0.42
1:C:114:ALA:O	1:C:230:TYR:CE1	2.71	0.42
1:C:245:ASP:OD1	1:C:320:VAL:HG22	2.20	0.42
1:D:104:VAL:HG21	1:D:243:PRO:HG3	2.01	0.42
1:E:228:MET:HA	2:E:405:PO4:O1	2.18	0.42
1:E:296:LEU:C	1:E:296:LEU:HD13	2.44	0.42
1:F:103:VAL:HG22	1:F:165:THR:HG23	2.01	0.42
1:G:29:THR:O	1:G:29:THR:CG2	2.63	0.42
1:C:99:VAL:HG22	1:C:100:ILE:N	2.34	0.42
1:G:36:ILE:HD13	1:G:40:MET:CG	2.49	0.42
1:G:98:SER:HB3	1:G:284:ILE:CD1	2.48	0.42
1:B:261:LYS:H	1:B:261:LYS:HD3	1.83	0.42
1:D:35:PHE:HB2	1:D:80:ASP:OD2	2.19	0.42
1:A:284:ILE:HD13	1:A:303:PHE:CE1	2.54	0.42
1:G:37:TYR:N	1:G:38:PRO:HD2	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:99:VAL:HA	1:H:322:LEU:HD13	2.02	0.42
1:H:227:LYS:HD2	1:H:227:LYS:O	2.20	0.42
1:D:83:LEU:HD12	1:D:285:LEU:CD2	2.49	0.42
1:E:32:GLY:O	1:E:62:SER:HA	2.20	0.42
1:G:123:THR:O	1:G:127:ILE:CD1	2.68	0.42
1:G:184:VAL:CG1	1:G:190:VAL:HG11	2.43	0.42
1:A:98:SER:HB3	1:A:284:ILE:CD1	2.50	0.42
1:B:127:ILE:HG23	1:B:154:ILE:HG21	2.02	0.42
1:E:281:THR:HG23	1:E:283:PHE:CE2	2.55	0.42
1:F:62:SER:OG	1:F:79:SER:HA	2.19	0.42
1:G:55:VAL:O	1:G:55:VAL:HG23	2.20	0.42
1:H:119:LEU:HA	1:H:143:LEU:HD13	2.01	0.42
1:A:324:ASP:HA	1:A:327:VAL:HG22	2.01	0.42
1:C:117:LEU:O	1:C:231:THR:HG23	2.20	0.42
1:D:296:LEU:O	1:D:300:LEU:HD13	2.20	0.42
1:F:100:ILE:HG23	1:F:267:MET:HE1	2.01	0.42
1:F:239:LYS:HD3	1:F:273:ASP:O	2.19	0.42
1:H:110:PRO:CG	1:H:212:LYS:HE2	2.50	0.42
1:D:32:GLY:HA3	1:D:60:ILE:CG1	2.50	0.41
1:E:155:THR:HG23	1:E:214:GLY:HA2	2.01	0.41
1:F:98:SER:HB3	1:F:284:ILE:HG12	2.02	0.41
1:A:36:ILE:HD12	1:A:36:ILE:O	2.20	0.41
1:D:42:LYS:N	1:D:42:LYS:HD2	2.35	0.41
1:G:233:MET:O	1:G:241:VAL:HG22	2.20	0.41
1:B:32:GLY:O	1:B:78:SER:O	2.37	0.41
1:C:296:LEU:O	1:C:300:LEU:HD13	2.20	0.41
1:D:144:ASN:HB3	1:D:147:VAL:CG1	2.50	0.41
1:D:333:TYR:HA	1:D:336:LYS:HE2	2.01	0.41
1:F:289:LYS:N	1:F:289:LYS:HD2	2.36	0.41
1:H:95:GLN:HA	1:H:284:ILE:O	2.20	0.41
1:H:220:LEU:HD13	1:H:243:PRO:HB2	2.03	0.41
1:B:32:GLY:HA3	1:B:65:GLY:CA	2.49	0.41
1:F:48:ASN:HA	1:F:53:LYS:O	2.20	0.41
1:F:169:PHE:CE2	1:F:173:LEU:HD11	2.55	0.41
1:G:36:ILE:HD13	1:G:40:MET:HG3	2.02	0.41
1:G:93:LEU:O	1:G:288:LYS:NZ	2.54	0.41
1:H:161:ASP:HB3	1:H:199:LYS:CD	2.51	0.41
1:D:80:ASP:HB2	1:D:164:GLY:HA3	2.02	0.41
1:D:133:SER:O	1:D:153:LYS:HG2	2.20	0.41
1:D:324:ASP:HA	1:D:327:VAL:HG22	2.01	0.41
1:A:117:LEU:HD11	1:A:119:LEU:HG	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:144:ASN:CB	1:F:147:VAL:HG21	2.51	0.41
1:D:31:ALA:HB3	1:D:77:GLY:HA2	2.02	0.41
1:G:325:THR:O	1:G:328:THR:CG2	2.69	0.41
1:A:65:GLY:O	1:A:69:ILE:HG22	2.20	0.41
1:A:114:ALA:O	1:A:230:TYR:CE1	2.73	0.41
1:A:172:TYR:HD2	1:A:173:LEU:HD12	1.85	0.41
1:A:300:LEU:CD2	1:A:334:TRP:CD2	3.00	0.41
1:C:31:ALA:HB2	1:C:58:GLN:HB2	2.02	0.41
1:D:124:LEU:HD22	1:D:233:MET:HE3	2.02	0.41
1:E:155:THR:CG2	1:E:211:ILE:HG21	2.45	0.41
1:G:108:ASN:ND2	1:G:211:ILE:O	2.54	0.41
1:H:39:VAL:HG22	1:H:43:TRP:CE2	2.56	0.41
1:H:255:ALA:HB2	1:H:267:MET:HE2	2.03	0.41
1:B:32:GLY:HA3	1:B:65:GLY:HA3	2.03	0.41
1:E:38:PRO:HB2	1:E:317:LEU:HD13	2.03	0.41
1:E:99:VAL:HA	1:E:322:LEU:CD1	2.51	0.41
1:G:123:THR:HG22	1:G:127:ILE:CD1	2.51	0.41
1:G:127:ILE:HD12	1:G:132:VAL:HG21	2.03	0.41
1:H:235:ASN:HA	1:H:277:PRO:HG3	2.03	0.41
1:B:119:LEU:HA	1:B:143:LEU:HD13	2.03	0.40
1:B:172:TYR:CD2	1:B:278:ILE:HD11	2.56	0.40
1:C:132:VAL:HG23	1:C:132:VAL:O	2.21	0.40
1:D:153:LYS:HD3	1:D:154:ILE:O	2.21	0.40
1:H:43:TRP:CH2	1:H:99:VAL:HG11	2.54	0.40
1:B:85:PRO:HG2	1:B:261:LYS:CG	2.51	0.40
1:D:42:LYS:HD3	1:D:317:LEU:HD11	2.02	0.40
1:D:104:VAL:HG21	1:D:230:TYR:HB2	2.03	0.40
1:F:124:LEU:HD21	1:F:169:PHE:CE1	2.57	0.40
1:G:37:TYR:CD1	1:G:59:SER:HB2	2.56	0.40
1:H:31:ALA:HB1	1:H:78:SER:N	2.37	0.40
1:A:266:VAL:O	1:A:266:VAL:HG23	2.21	0.40
1:E:236:ALA:HB2	1:E:269:ASN:OD1	2.21	0.40
1:E:83:LEU:HD12	1:E:285:LEU:HD21	2.03	0.40
1:G:143:LEU:HD12	1:G:143:LEU:N	2.37	0.40
1:B:34:SER:HB3	2:B:401:PO4:O2	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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	312/335 (93%)	299 (96%)	12 (4%)	1 (0%)	36	67
1	B	310/335 (92%)	299 (96%)	10 (3%)	1 (0%)	36	67
1	C	311/335 (93%)	300 (96%)	10 (3%)	1 (0%)	36	67
1	D	312/335 (93%)	300 (96%)	12 (4%)	0	100	100
1	E	312/335 (93%)	299 (96%)	12 (4%)	1 (0%)	36	67
1	F	311/335 (93%)	299 (96%)	12 (4%)	0	100	100
1	G	311/335 (93%)	299 (96%)	11 (4%)	1 (0%)	36	67
1	H	311/335 (93%)	295 (95%)	15 (5%)	1 (0%)	36	67
All	All	2490/2680 (93%)	2390 (96%)	94 (4%)	6 (0%)	43	73

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	115	GLY
1	C	115	GLY
1	G	32	GLY
1	H	60	ILE
1	E	339	PRO
1	B	38	PRO

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	238/255 (93%)	233 (98%)	5 (2%)	47	74
1	B	236/255 (92%)	232 (98%)	4 (2%)	53	77
1	C	237/255 (93%)	234 (99%)	3 (1%)	61	81
1	D	238/255 (93%)	231 (97%)	7 (3%)	37	68
1	E	238/255 (93%)	231 (97%)	7 (3%)	37	68
1	F	237/255 (93%)	232 (98%)	5 (2%)	47	74
1	G	237/255 (93%)	231 (98%)	6 (2%)	42	71
1	H	237/255 (93%)	229 (97%)	8 (3%)	32	64
All	All	1898/2040 (93%)	1853 (98%)	45 (2%)	43	72

All (45) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	29	THR
1	A	55	VAL
1	A	80	ASP
1	A	155	THR
1	A	239	LYS
1	B	99	VAL
1	B	119	LEU
1	B	140	ILE
1	B	176	VAL
1	C	261	LYS
1	C	266	VAL
1	C	300	LEU
1	D	74	VAL
1	D	99	VAL
1	D	151	GLU
1	D	170	THR
1	D	241	VAL
1	D	308	THR
1	D	318	ASP
1	E	28	VAL
1	E	34	SER
1	E	74	VAL
1	E	80	ASP
1	E	281	THR
1	E	308	THR
1	E	316	GLN
1	F	29	THR

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Mol	Chain	Res	Type
1	F	34	SER
1	F	116	THR
1	F	122	LYS
1	F	211	ILE
1	G	116	THR
1	G	233	MET
1	G	235	ASN
1	G	281	THR
1	G	284	ILE
1	G	304	ARG
1	H	29	THR
1	H	99	VAL
1	H	119	LEU
1	H	149	LEU
1	H	154	ILE
1	H	210	GLN
1	H	224	LEU
1	H	336	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (12) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	274	ASN
1	A	287	GLN
1	B	48	ASN
1	C	242	GLN
1	D	298	ASN
1	E	313	GLN
1	F	58	GLN
1	F	282	ASN
1	G	282	ASN
1	H	282	ASN
1	H	298	ASN
1	H	329	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 65 ligands modelled in this entry, 4 are monoatomic - leaving 61 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	$\# Z > 2$
2	PO4	C	407	-	4,4,4	1.57	1 (25%)	6,6,6	0.52	0
2	PO4	D	403	-	4,4,4	1.56	1 (25%)	6,6,6	0.47	0
2	PO4	E	401	-	4,4,4	1.37	1 (25%)	6,6,6	0.51	0
2	PO4	G	403	-	4,4,4	1.35	1 (25%)	6,6,6	0.61	0
2	PO4	B	402	-	4,4,4	1.58	1 (25%)	6,6,6	0.49	0
2	PO4	D	408	-	4,4,4	1.50	1 (25%)	6,6,6	0.44	0
2	PO4	B	404	-	4,4,4	1.55	1 (25%)	6,6,6	0.52	0
2	PO4	A	407	-	4,4,4	1.55	1 (25%)	6,6,6	0.49	0
2	PO4	A	406	-	4,4,4	1.57	1 (25%)	6,6,6	0.47	0
2	PO4	G	404	-	4,4,4	1.55	1 (25%)	6,6,6	0.56	0
2	PO4	A	402	-	4,4,4	1.48	1 (25%)	6,6,6	0.56	0
2	PO4	A	403	-	4,4,4	1.53	1 (25%)	6,6,6	0.50	0
2	PO4	D	404	-	4,4,4	1.63	1 (25%)	6,6,6	0.50	0
2	PO4	A	401	-	4,4,4	1.60	1 (25%)	6,6,6	0.55	0
2	PO4	C	402	-	4,4,4	1.47	1 (25%)	6,6,6	0.71	0
2	PO4	F	405	-	4,4,4	1.38	1 (25%)	6,6,6	0.56	0
2	PO4	H	407	-	4,4,4	1.50	1 (25%)	6,6,6	0.50	0
2	PO4	C	403	-	4,4,4	1.38	1 (25%)	6,6,6	0.57	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	PO4	A	410	-	4,4,4	1.51	1 (25%)	6,6,6	0.50	0
2	PO4	C	404	-	4,4,4	1.48	1 (25%)	6,6,6	0.40	0
2	PO4	H	402	-	4,4,4	1.49	1 (25%)	6,6,6	0.47	0
2	PO4	B	407	-	4,4,4	1.58	1 (25%)	6,6,6	0.54	0
2	PO4	H	410	-	4,4,4	1.63	1 (25%)	6,6,6	0.49	0
2	PO4	E	404	-	4,4,4	1.40	1 (25%)	6,6,6	0.52	0
2	PO4	H	403	-	4,4,4	1.61	1 (25%)	6,6,6	0.55	0
2	PO4	D	405	-	4,4,4	1.52	1 (25%)	6,6,6	0.58	0
2	PO4	F	402	-	4,4,4	1.49	1 (25%)	6,6,6	0.45	0
2	PO4	B	401	-	4,4,4	1.46	1 (25%)	6,6,6	0.40	0
2	PO4	G	405	-	4,4,4	0.98	0	6,6,6	0.96	0
2	PO4	H	409	-	4,4,4	1.61	1 (25%)	6,6,6	0.50	0
2	PO4	F	403	-	4,4,4	1.51	1 (25%)	6,6,6	0.59	0
2	PO4	H	408	-	4,4,4	1.50	1 (25%)	6,6,6	0.49	0
2	PO4	A	405	-	4,4,4	1.59	1 (25%)	6,6,6	0.58	0
2	PO4	C	405	-	4,4,4	1.48	1 (25%)	6,6,6	0.55	0
2	PO4	H	401	-	4,4,4	1.30	1 (25%)	6,6,6	0.62	0
2	PO4	F	408	-	4,4,4	1.56	1 (25%)	6,6,6	0.55	0
2	PO4	B	403	-	4,4,4	1.46	1 (25%)	6,6,6	0.55	0
2	PO4	E	406	-	4,4,4	1.53	1 (25%)	6,6,6	0.40	0
2	PO4	E	407	-	4,4,4	1.63	1 (25%)	6,6,6	0.45	0
2	PO4	F	401	-	4,4,4	1.62	1 (25%)	6,6,6	0.77	0
2	PO4	D	402	-	4,4,4	1.36	1 (25%)	6,6,6	0.61	0
2	PO4	G	402	-	4,4,4	1.33	1 (25%)	6,6,6	0.67	0
2	PO4	F	407	-	4,4,4	1.56	1 (25%)	6,6,6	0.54	0
2	PO4	E	405	-	4,4,4	1.44	1 (25%)	6,6,6	0.65	0
2	PO4	B	408	-	4,4,4	1.62	1 (25%)	6,6,6	0.50	0
2	PO4	B	405	-	4,4,4	1.57	1 (25%)	6,6,6	0.46	0
2	PO4	A	404	-	4,4,4	1.63	1 (25%)	6,6,6	0.48	0
2	PO4	H	405	-	4,4,4	1.52	1 (25%)	6,6,6	0.47	0
2	PO4	D	406	-	4,4,4	1.32	1 (25%)	6,6,6	0.55	0
2	PO4	A	408	-	4,4,4	1.58	1 (25%)	6,6,6	0.52	0
2	PO4	G	401	-	4,4,4	1.61	1 (25%)	6,6,6	0.54	0
2	PO4	D	401	-	4,4,4	1.31	1 (25%)	6,6,6	0.54	0
2	PO4	E	402	-	4,4,4	1.44	1 (25%)	6,6,6	0.53	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	PO4	F	406	-	4,4,4	1.53	1 (25%)	6,6,6	0.60	0
2	PO4	H	404	-	4,4,4	1.49	1 (25%)	6,6,6	0.29	0
2	PO4	B	406	-	4,4,4	1.53	1 (25%)	6,6,6	0.52	0
2	PO4	G	406	-	4,4,4	1.57	1 (25%)	6,6,6	0.50	0
2	PO4	E	403	-	4,4,4	1.31	1 (25%)	6,6,6	0.57	0
2	PO4	A	411	-	4,4,4	1.49	1 (25%)	6,6,6	0.40	0
2	PO4	F	404	-	4,4,4	1.51	1 (25%)	6,6,6	0.54	0
2	PO4	C	401	-	4,4,4	1.50	1 (25%)	6,6,6	0.47	0

All (60) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	407	PO4	P-O1	2.85	1.57	1.50
2	A	401	PO4	P-O1	2.84	1.57	1.50
2	E	407	PO4	P-O1	2.83	1.57	1.50
2	H	410	PO4	P-O1	2.81	1.57	1.50
2	D	404	PO4	P-O1	2.81	1.57	1.50
2	A	404	PO4	P-O1	2.79	1.57	1.50
2	B	408	PO4	P-O1	2.78	1.57	1.50
2	B	402	PO4	P-O1	2.77	1.57	1.50
2	F	402	PO4	P-O1	2.73	1.57	1.50
2	D	403	PO4	P-O1	2.73	1.57	1.50
2	G	401	PO4	P-O1	2.73	1.57	1.50
2	A	407	PO4	P-O1	2.72	1.56	1.50
2	B	405	PO4	P-O1	2.72	1.56	1.50
2	A	406	PO4	P-O1	2.72	1.56	1.50
2	A	408	PO4	P-O1	2.72	1.56	1.50
2	G	406	PO4	P-O1	2.72	1.56	1.50
2	C	407	PO4	P-O1	2.71	1.56	1.50
2	B	401	PO4	P-O1	2.71	1.56	1.50
2	B	404	PO4	P-O1	2.71	1.56	1.50
2	F	403	PO4	P-O1	2.71	1.56	1.50
2	A	405	PO4	P-O1	2.71	1.56	1.50
2	H	403	PO4	P-O1	2.71	1.56	1.50
2	H	409	PO4	P-O1	2.71	1.56	1.50
2	F	406	PO4	P-O1	2.70	1.56	1.50
2	F	401	PO4	P-O1	2.69	1.56	1.50
2	F	404	PO4	P-O1	2.68	1.56	1.50
2	F	407	PO4	P-O1	2.68	1.56	1.50
2	A	411	PO4	P-O1	2.66	1.56	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	401	PO4	P-O1	2.66	1.56	1.50
2	E	406	PO4	P-O1	2.66	1.56	1.50
2	A	403	PO4	P-O1	2.65	1.56	1.50
2	H	405	PO4	P-O1	2.64	1.56	1.50
2	H	404	PO4	P-O1	2.64	1.56	1.50
2	H	408	PO4	P-O1	2.64	1.56	1.50
2	D	408	PO4	P-O1	2.64	1.56	1.50
2	G	404	PO4	P-O1	2.63	1.56	1.50
2	F	408	PO4	P-O1	2.63	1.56	1.50
2	H	402	PO4	P-O1	2.62	1.56	1.50
2	C	404	PO4	P-O1	2.61	1.56	1.50
2	A	402	PO4	P-O1	2.61	1.56	1.50
2	A	410	PO4	P-O1	2.60	1.56	1.50
2	H	407	PO4	P-O1	2.59	1.56	1.50
2	D	402	PO4	P-O1	2.59	1.56	1.50
2	B	406	PO4	P-O1	2.58	1.56	1.50
2	E	402	PO4	P-O1	2.58	1.56	1.50
2	D	405	PO4	P-O1	2.58	1.56	1.50
2	C	405	PO4	P-O1	2.56	1.56	1.50
2	E	404	PO4	P-O1	2.55	1.56	1.50
2	C	402	PO4	P-O1	2.53	1.56	1.50
2	B	403	PO4	P-O1	2.48	1.56	1.50
2	C	403	PO4	P-O1	2.44	1.56	1.50
2	G	402	PO4	P-O1	2.41	1.56	1.50
2	G	403	PO4	P-O1	2.40	1.56	1.50
2	F	405	PO4	P-O1	2.36	1.56	1.50
2	E	405	PO4	P-O1	2.34	1.56	1.50
2	E	401	PO4	P-O1	2.33	1.56	1.50
2	D	406	PO4	P-O1	2.32	1.56	1.50
2	E	403	PO4	P-O1	2.30	1.56	1.50
2	D	401	PO4	P-O1	2.21	1.55	1.50
2	H	401	PO4	P-O1	2.17	1.55	1.50

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

4 monomers are involved in 4 short contacts:

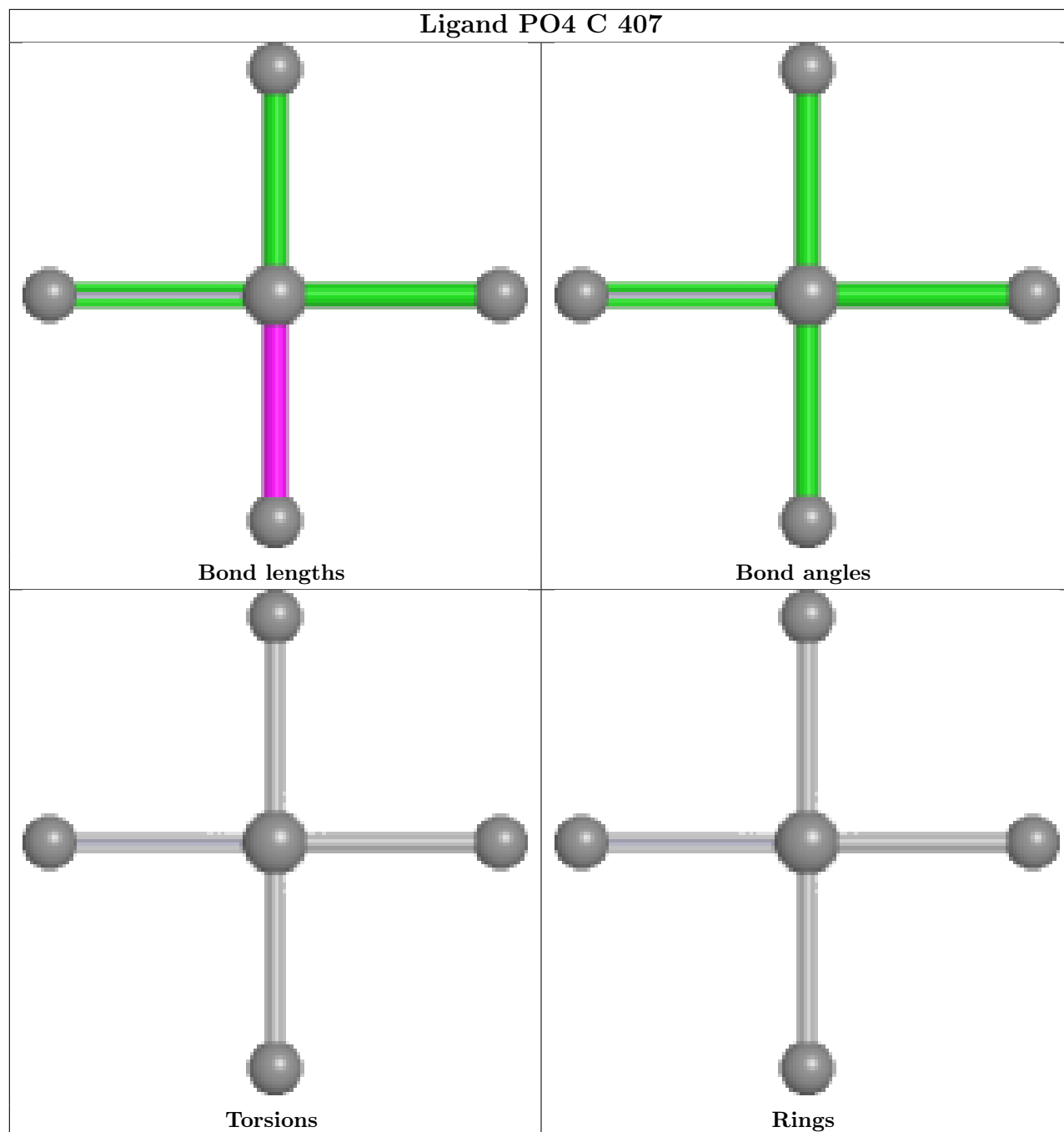
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	C	404	PO4	1	0

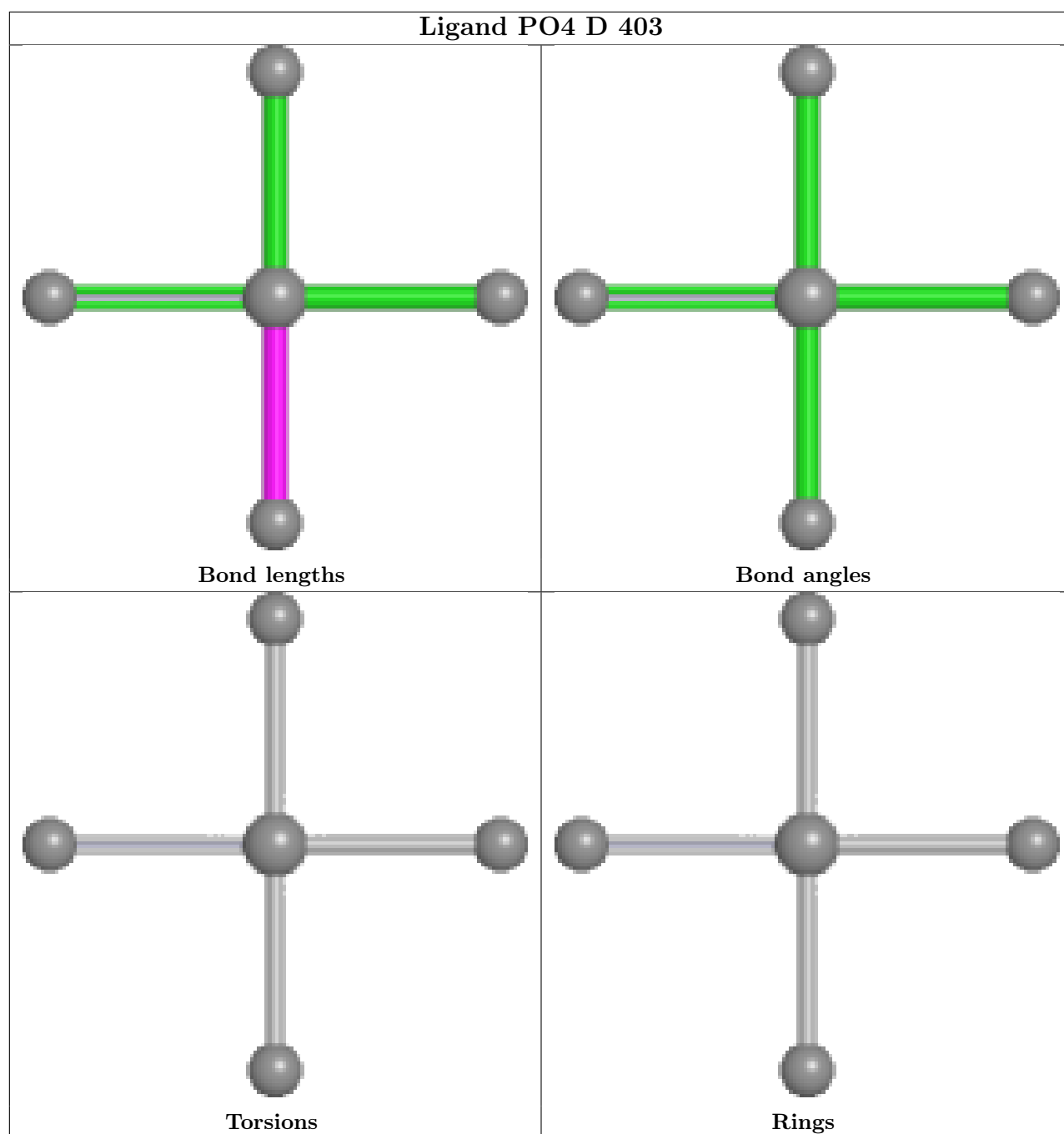
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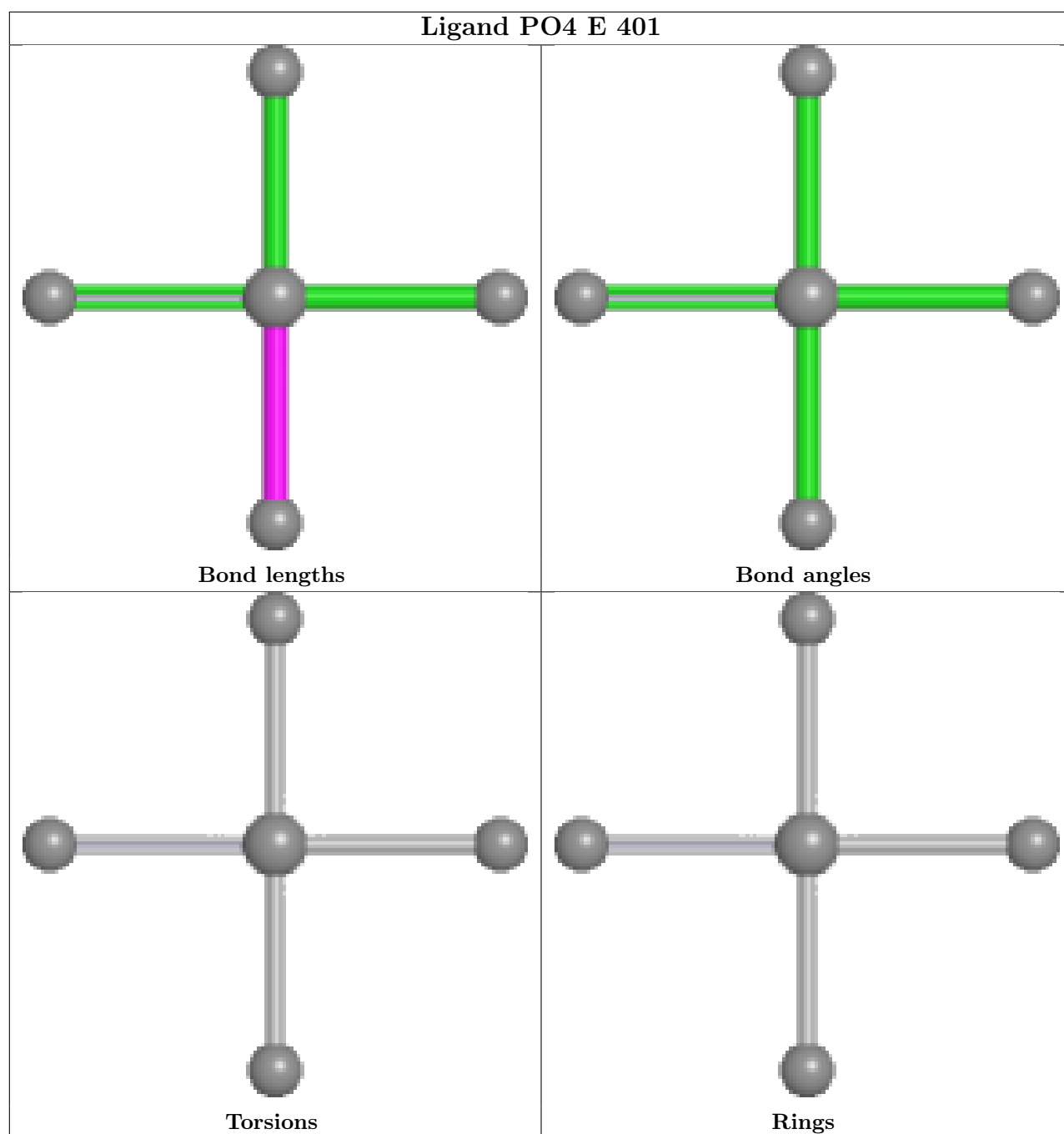
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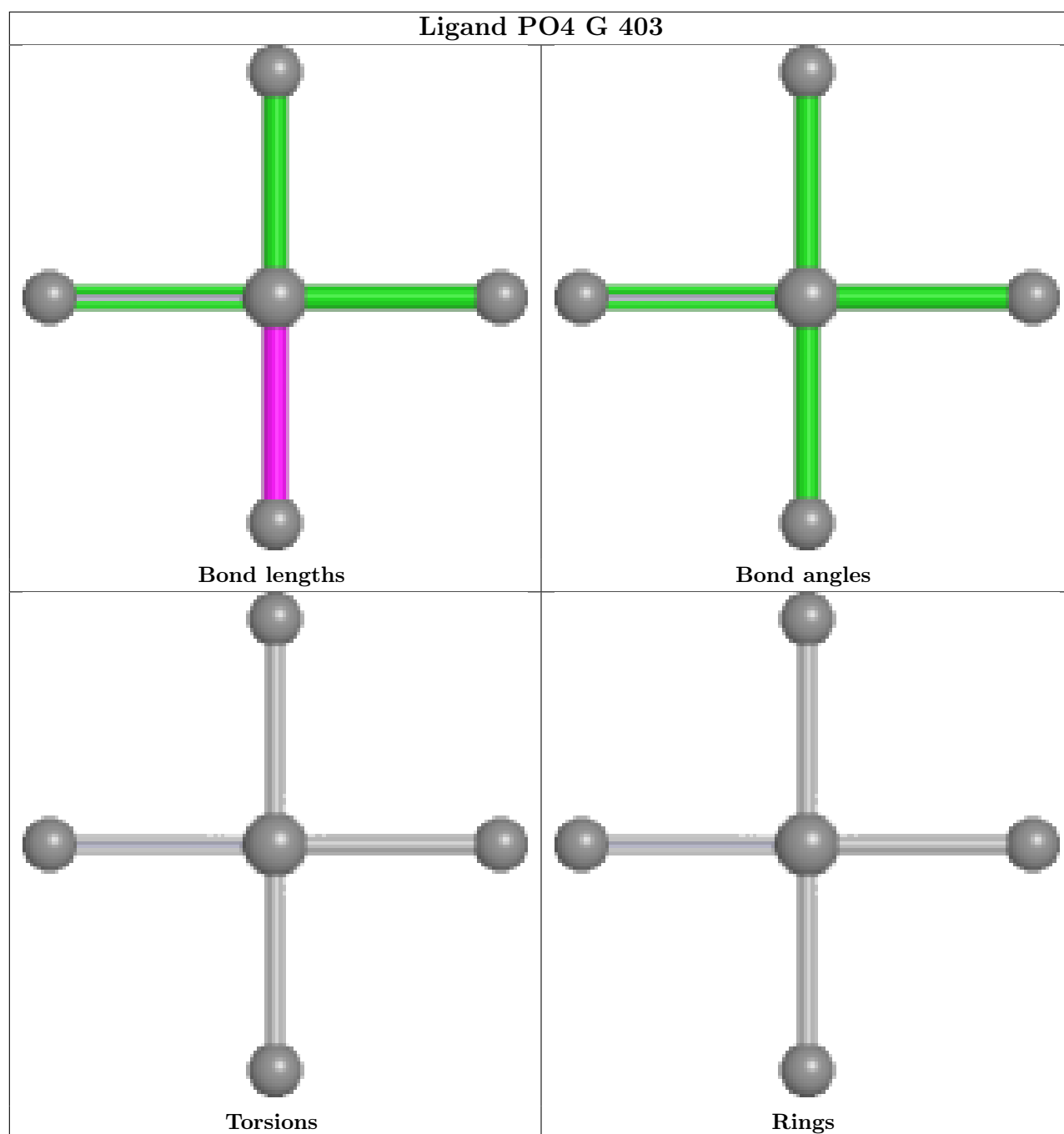
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	401	PO4	1	0
2	G	405	PO4	1	0
2	E	405	PO4	1	0

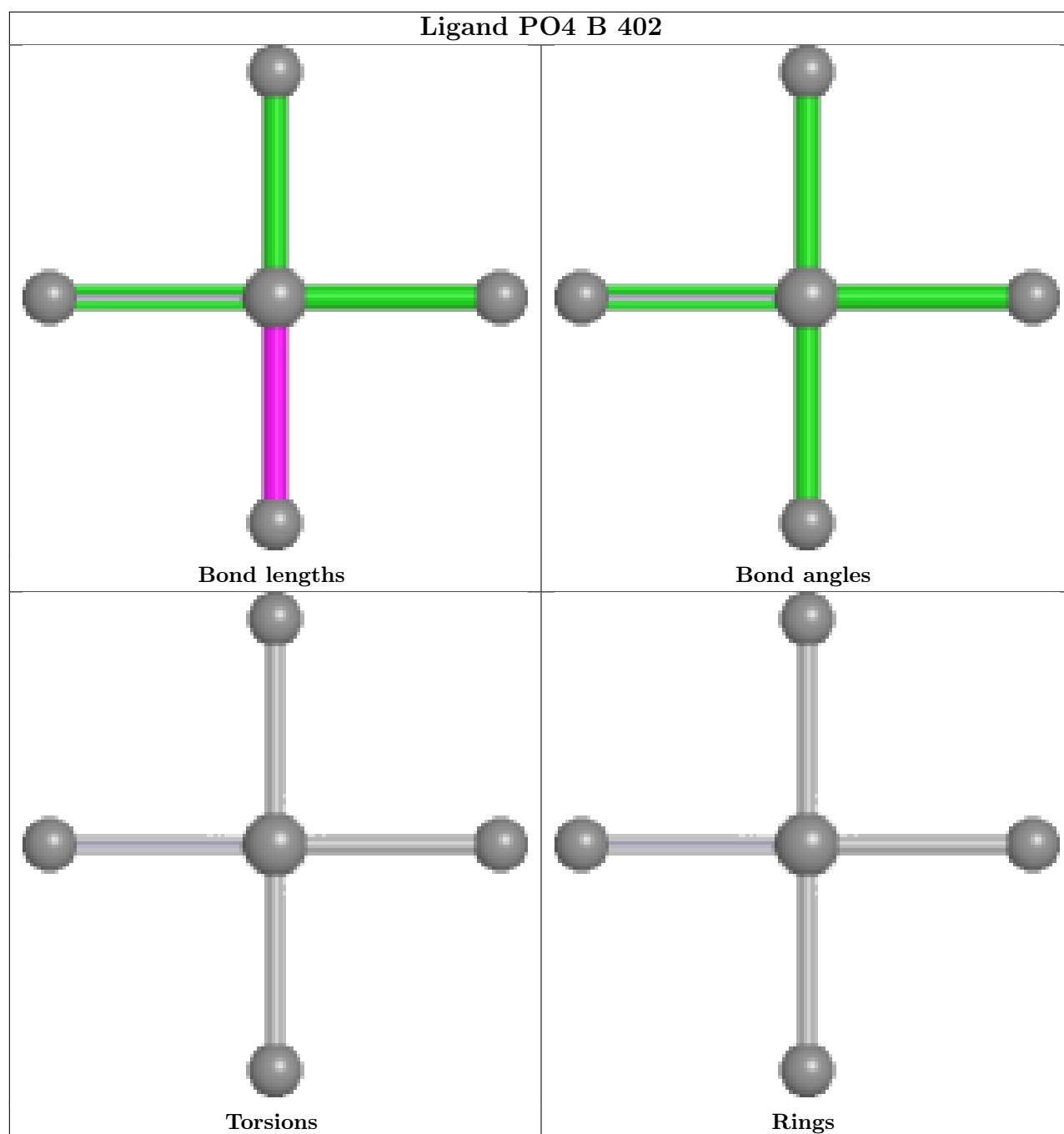
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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.

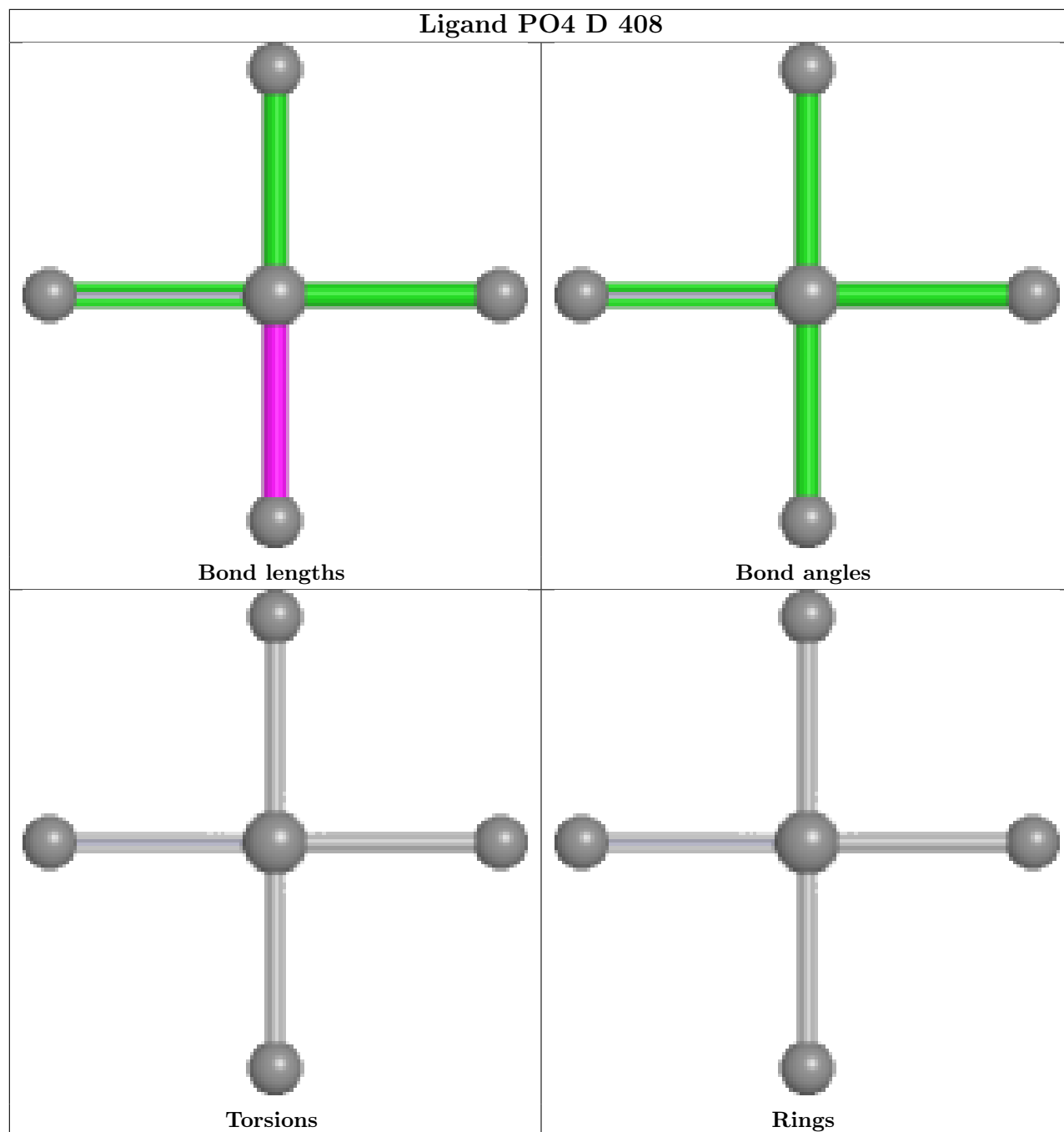


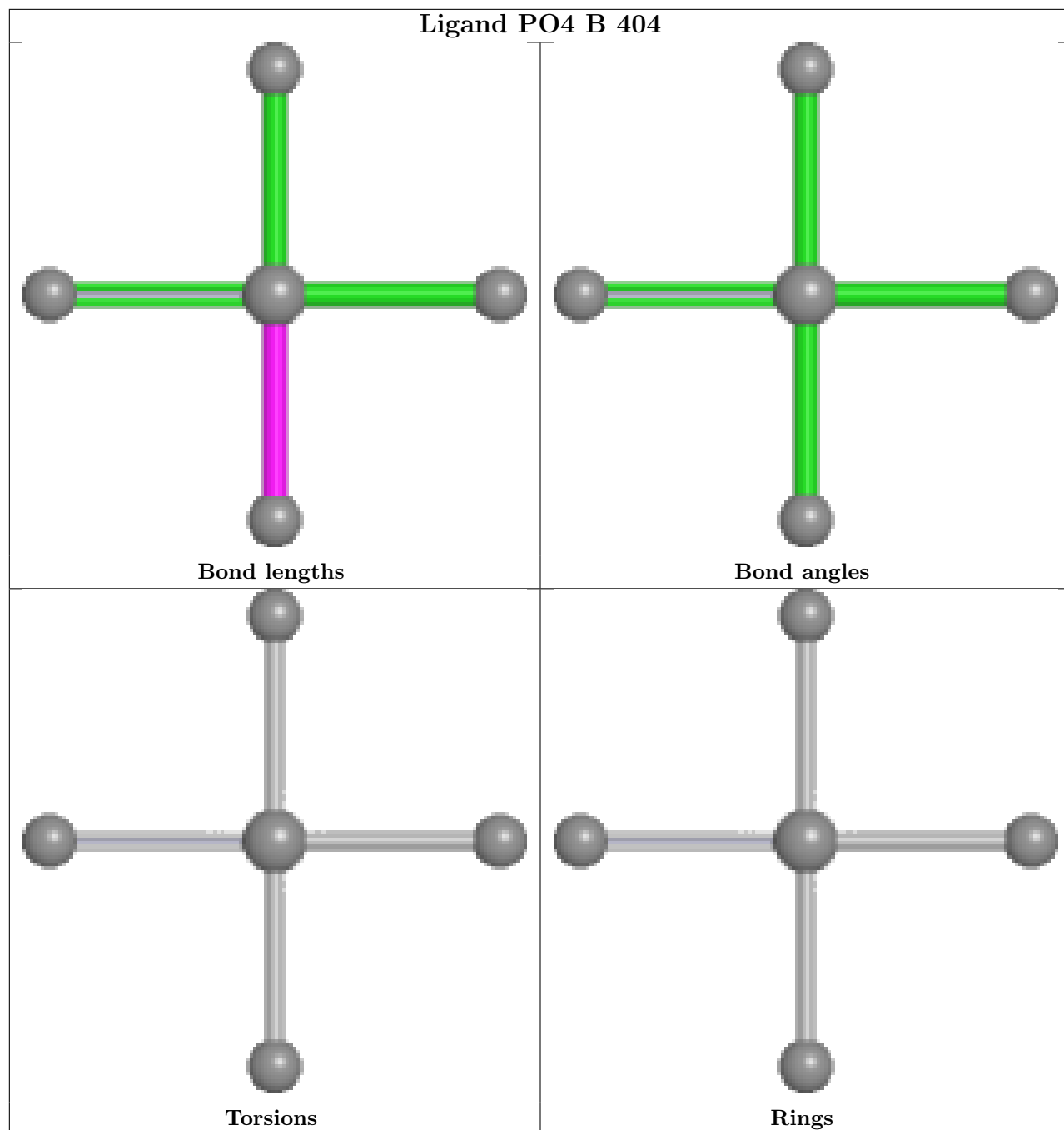


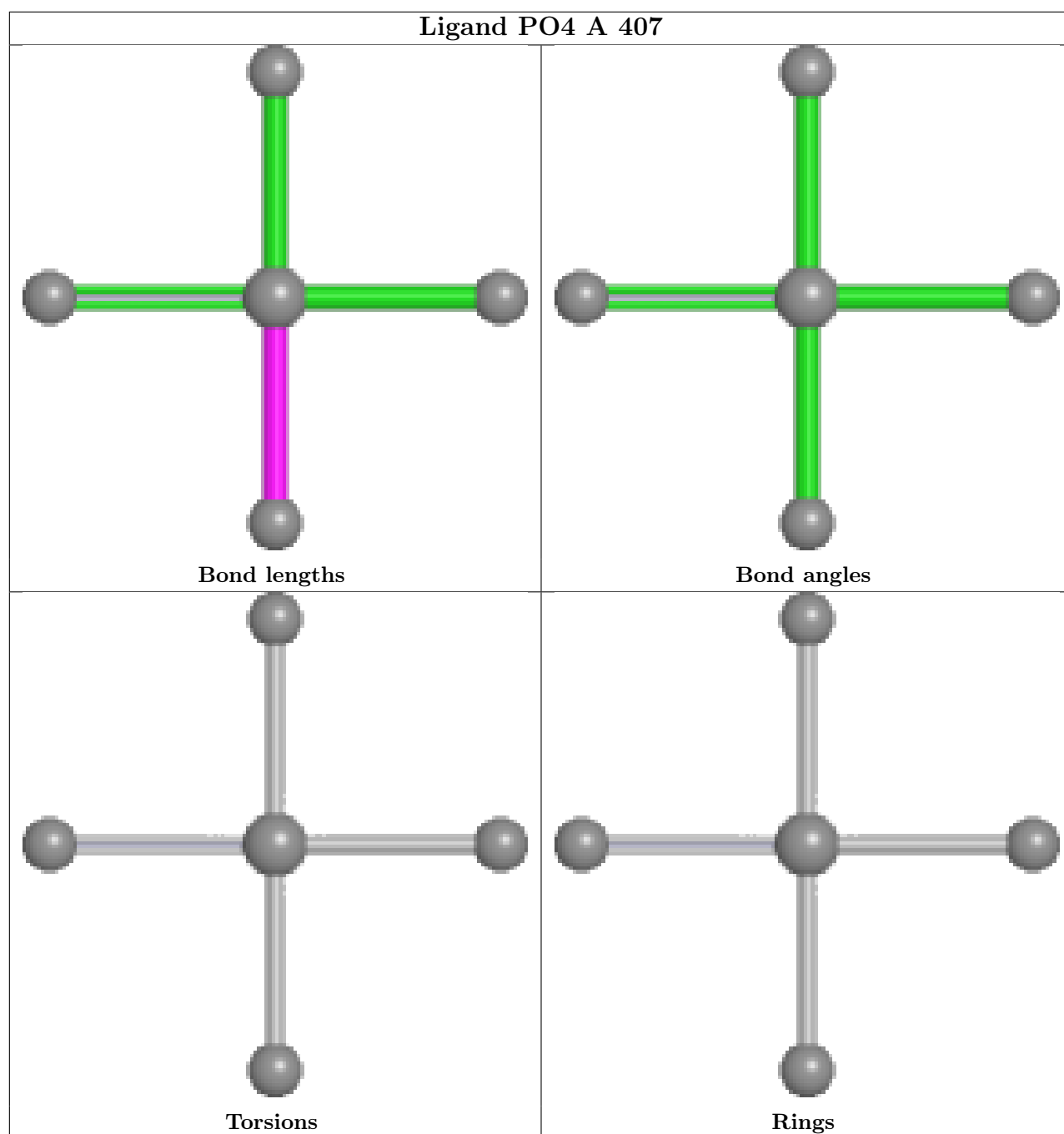


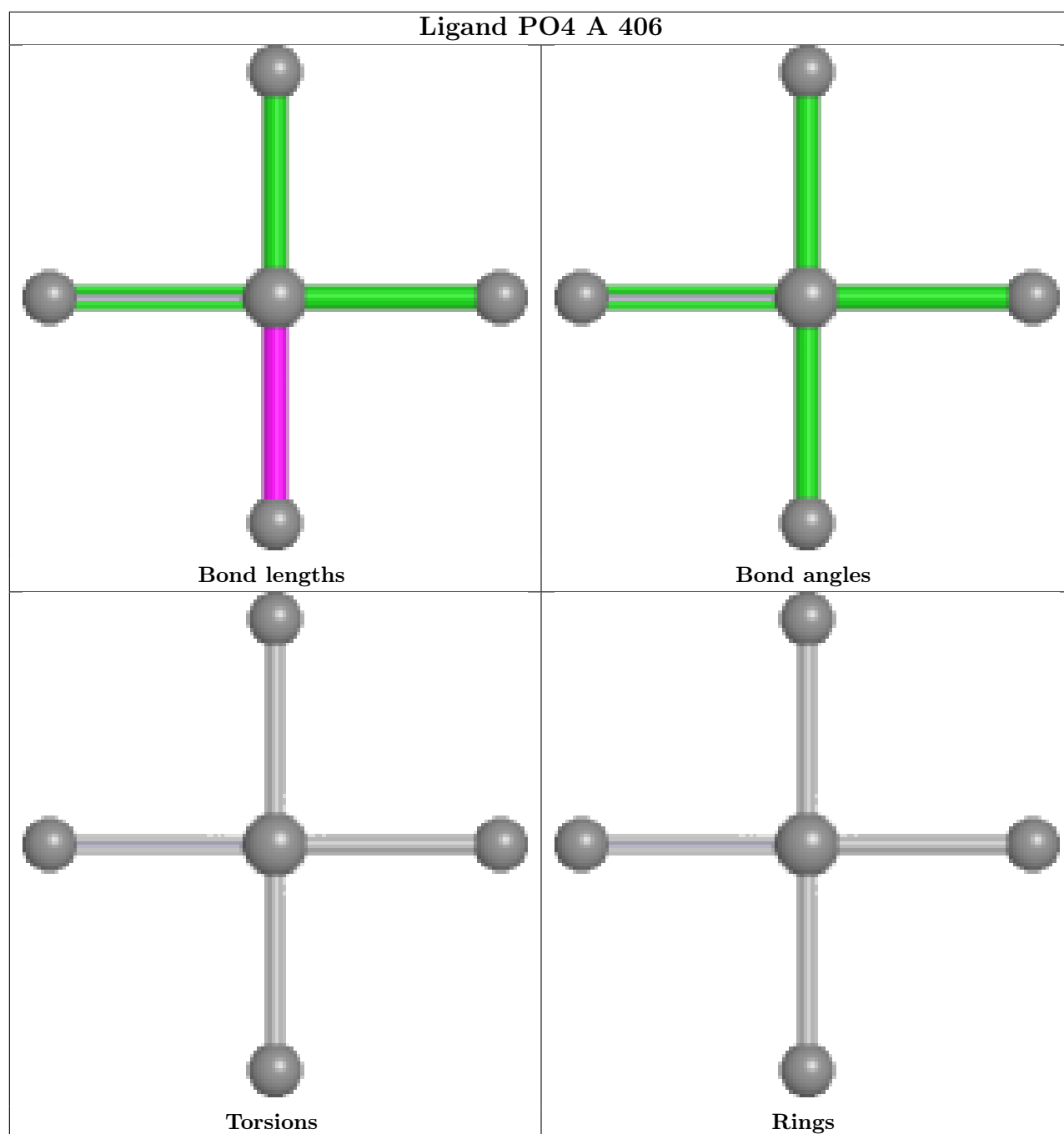


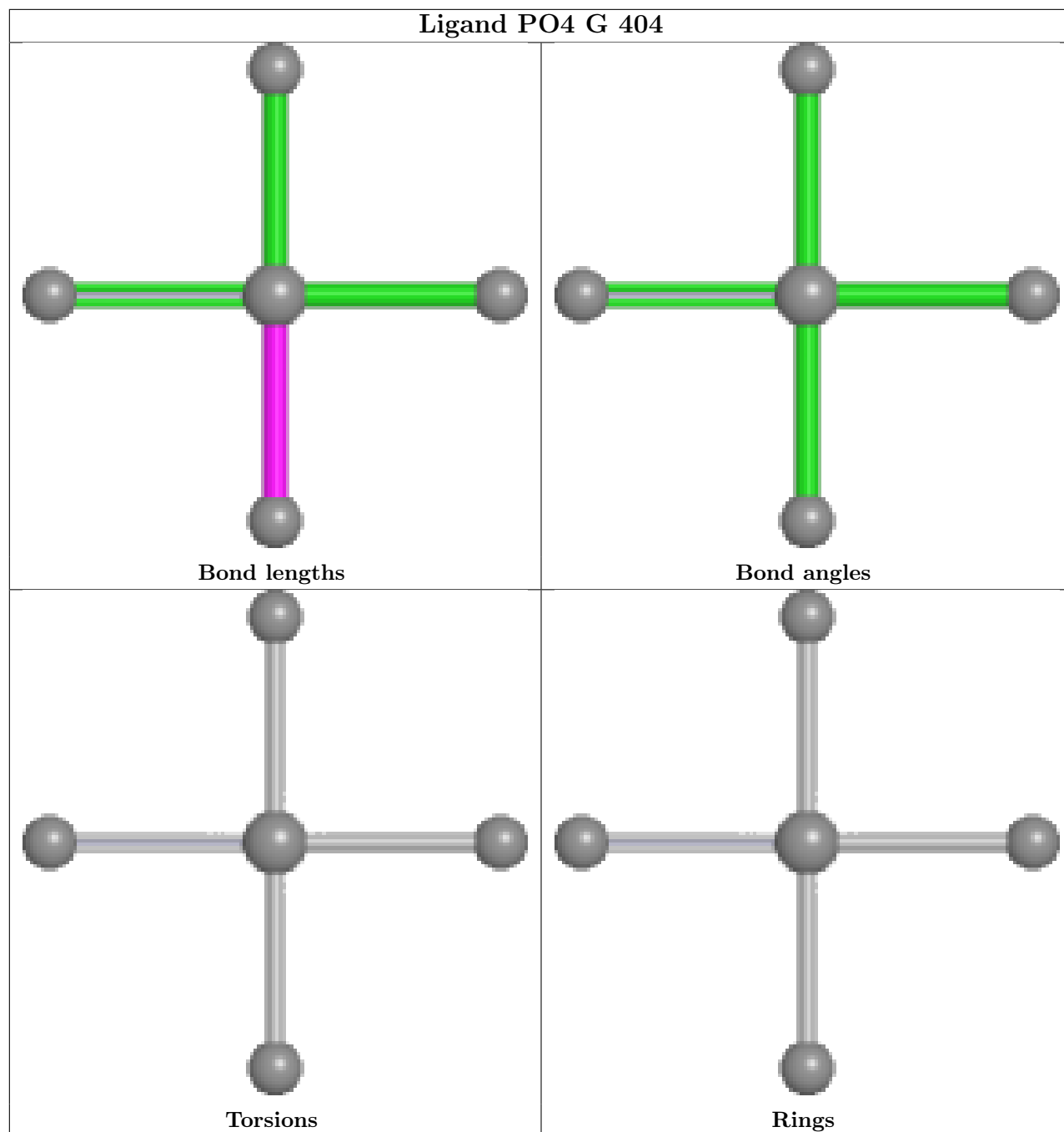


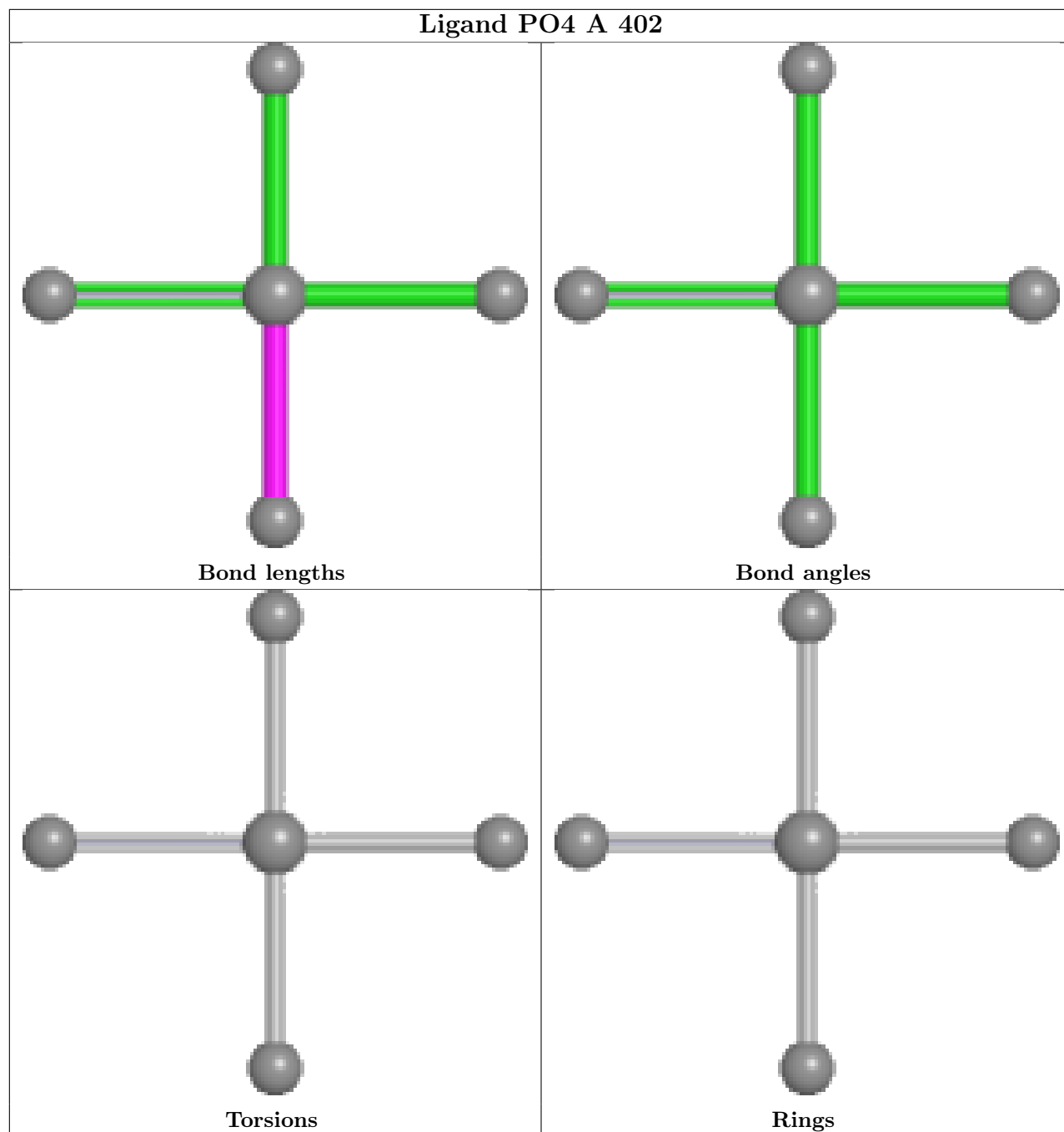


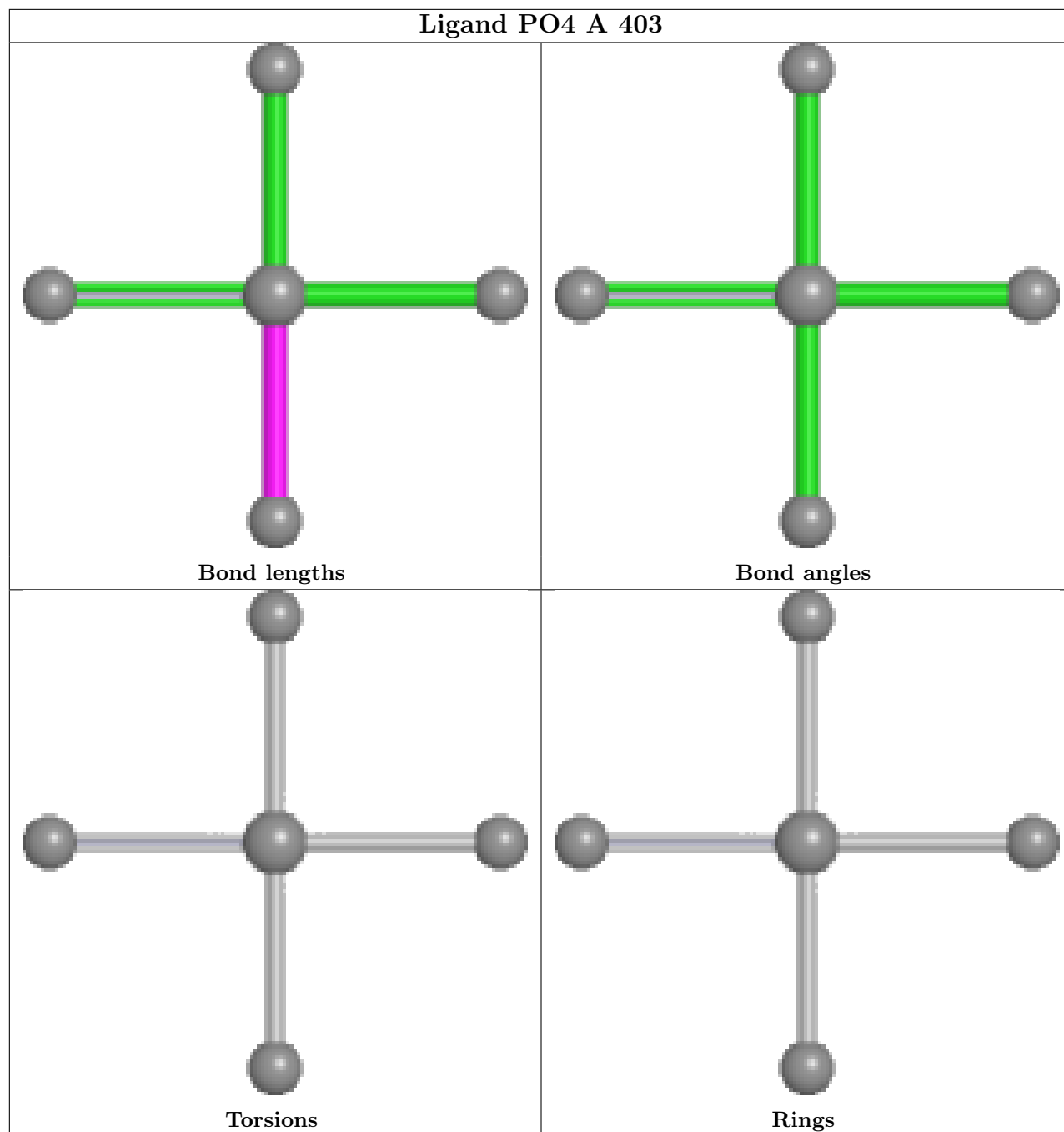


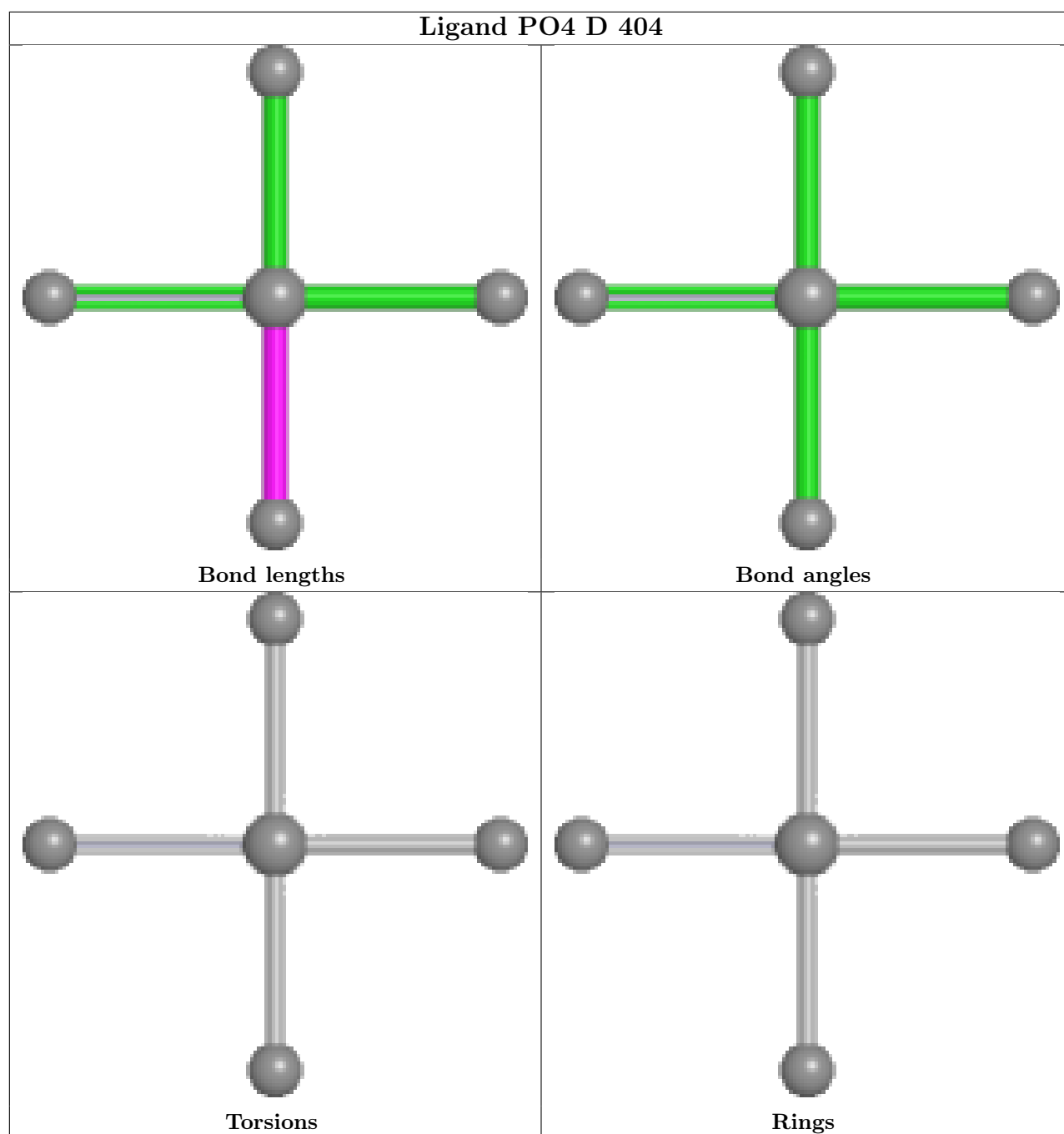


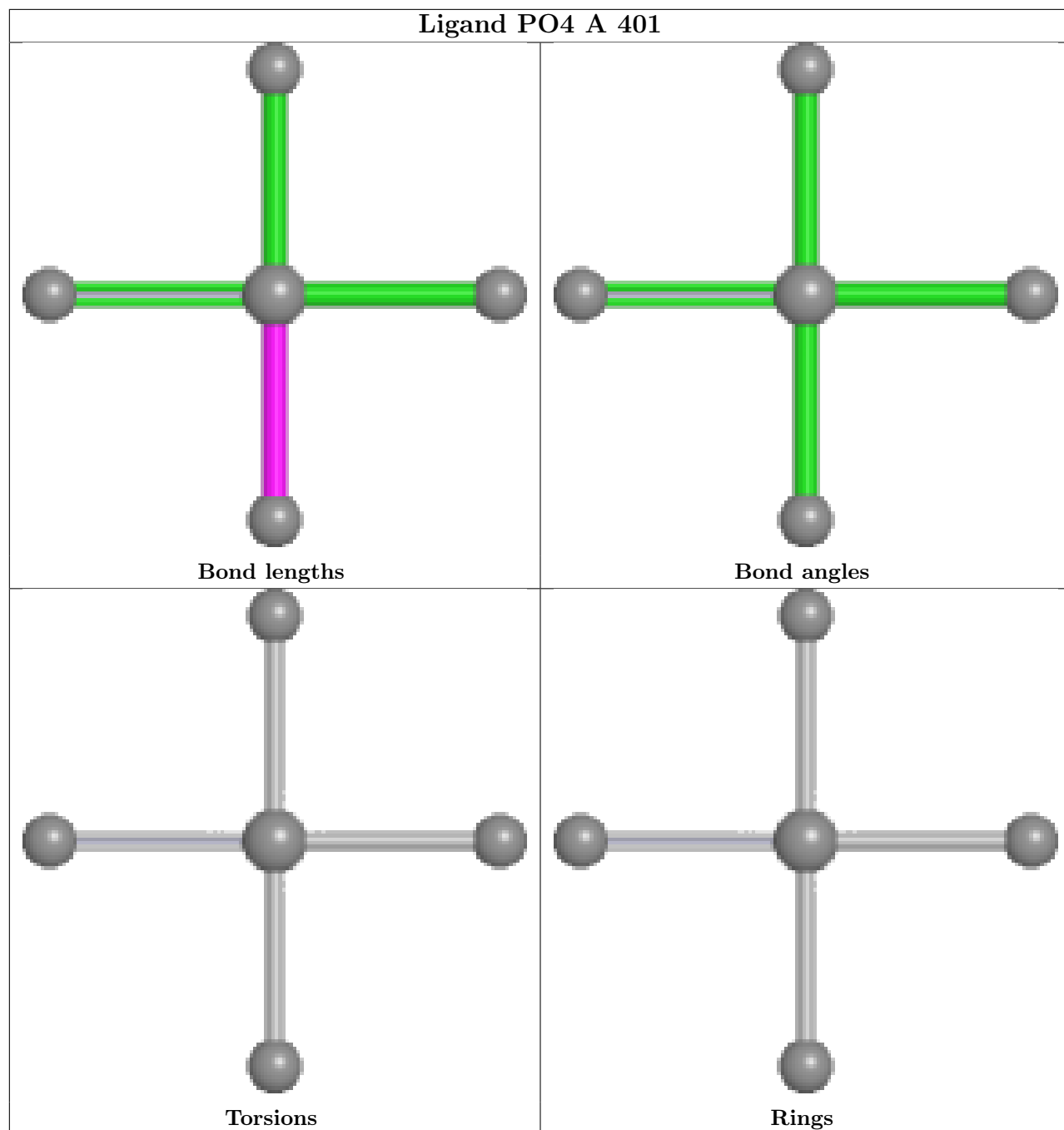


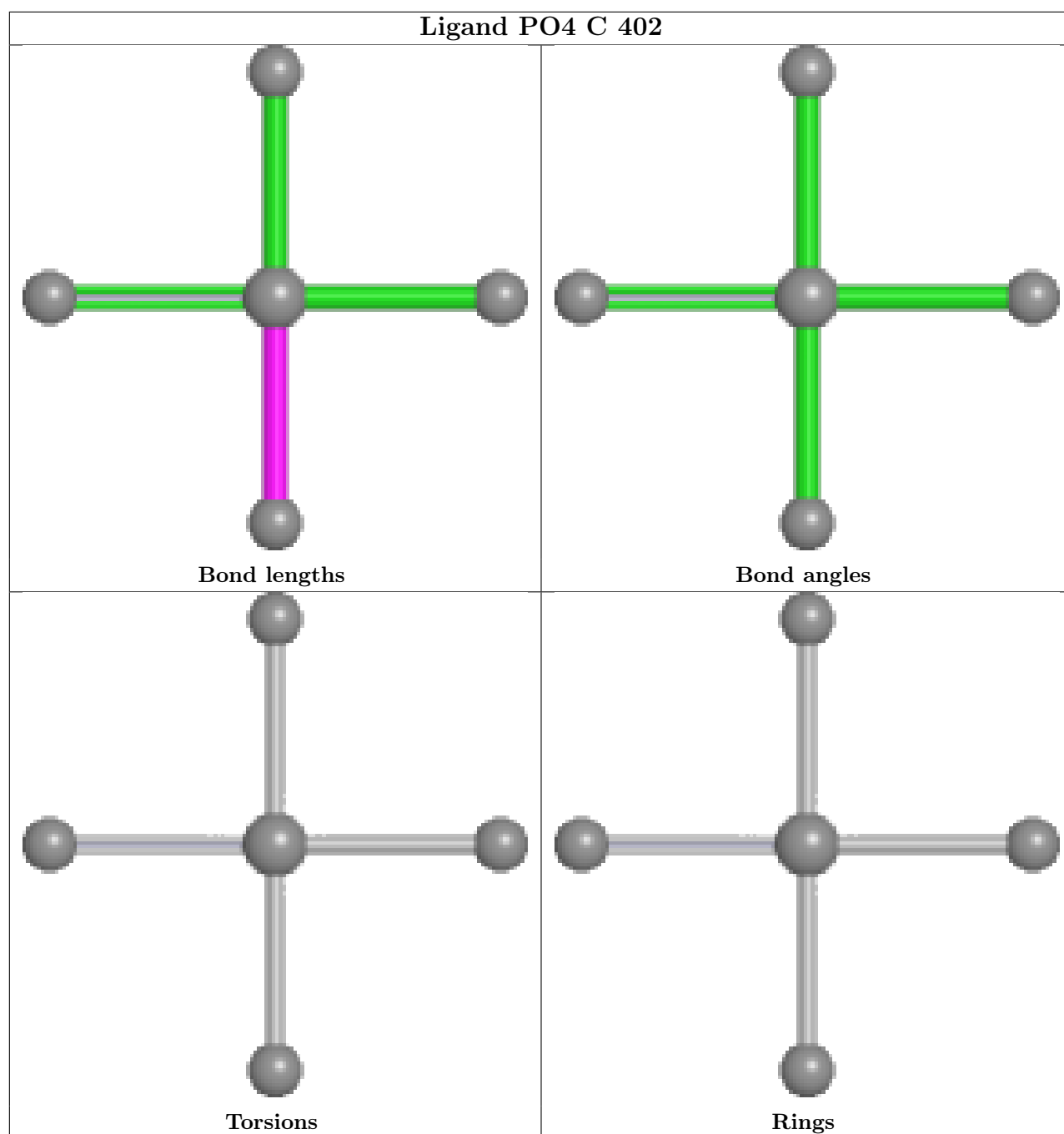


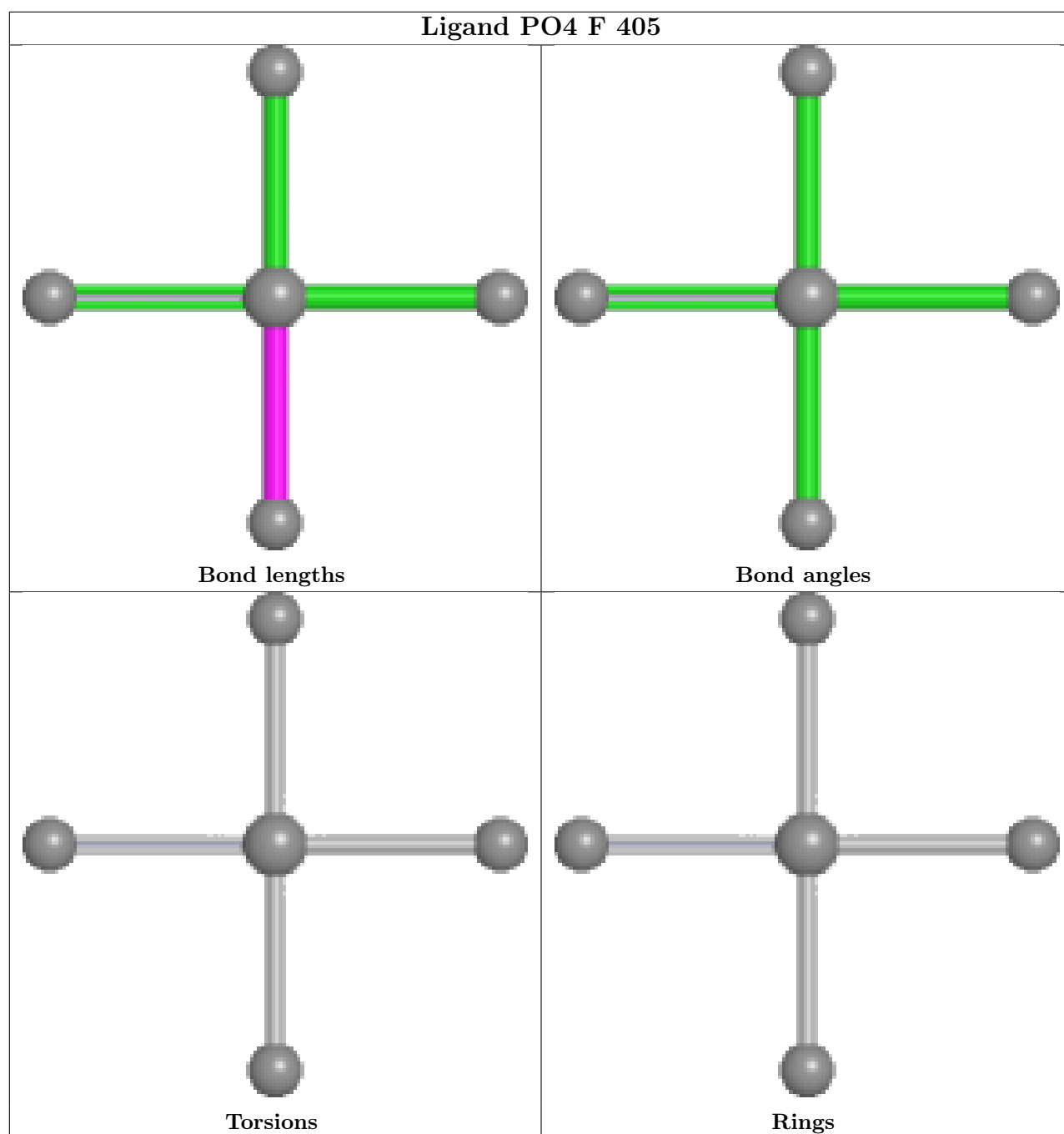


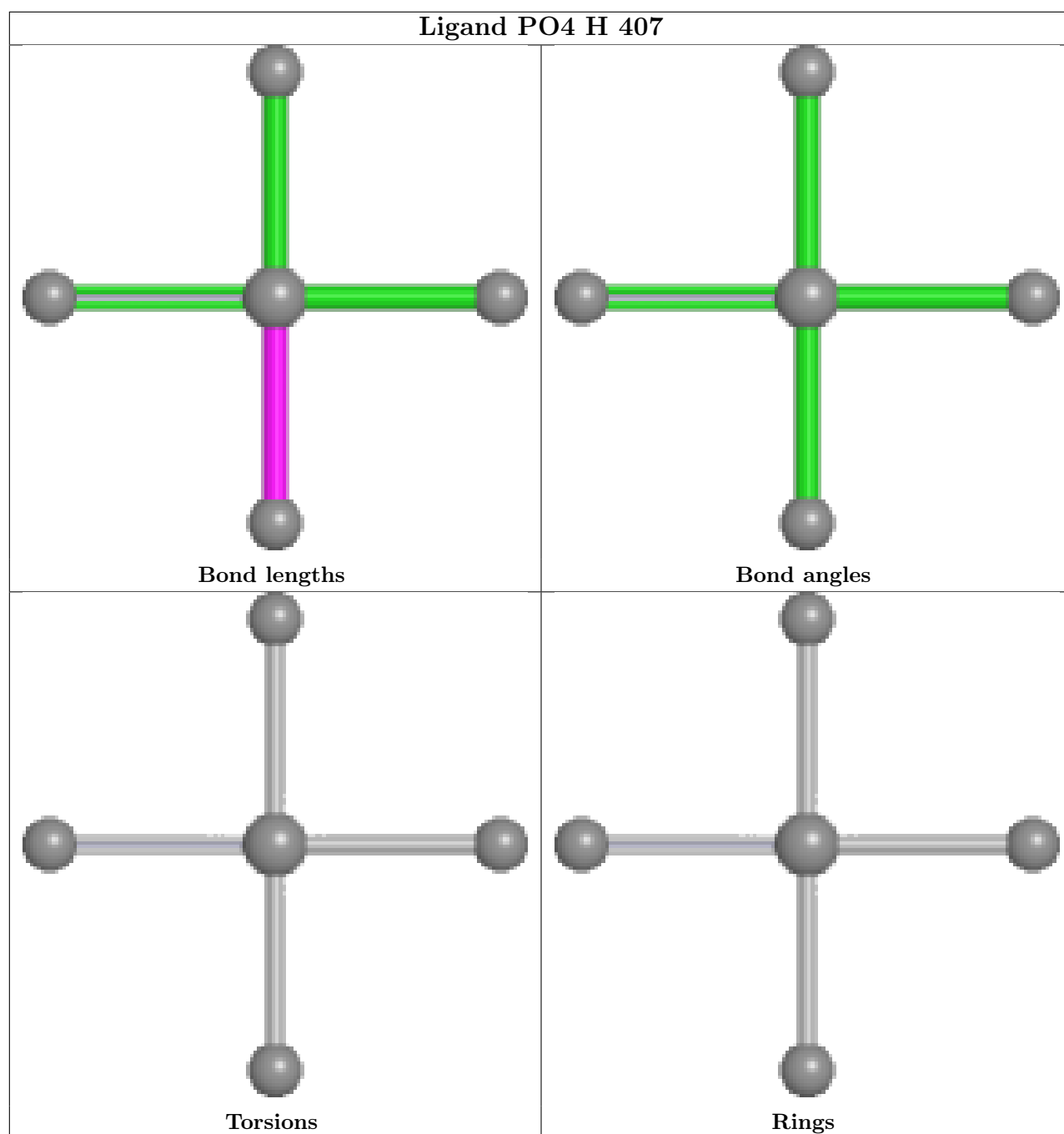


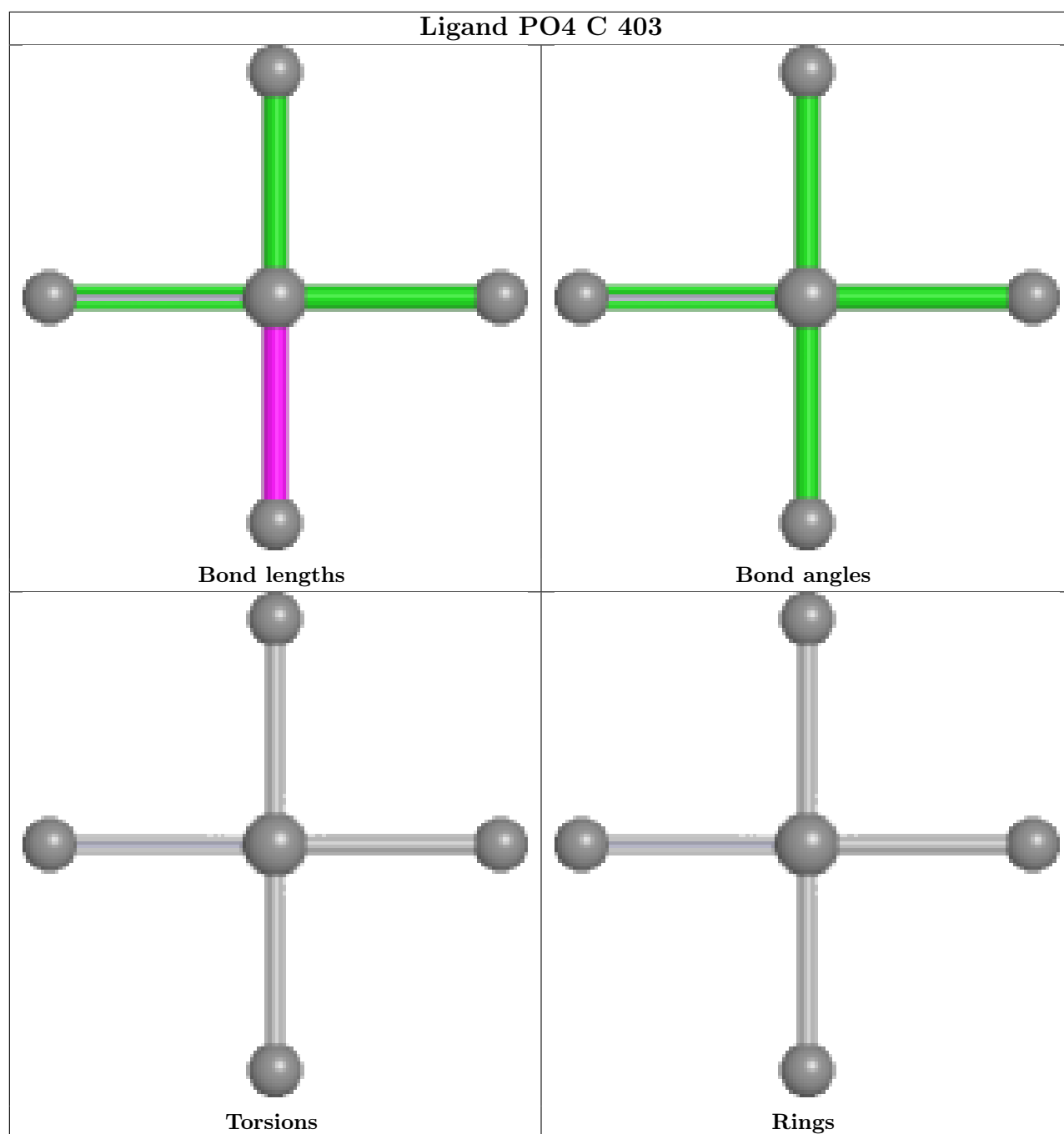


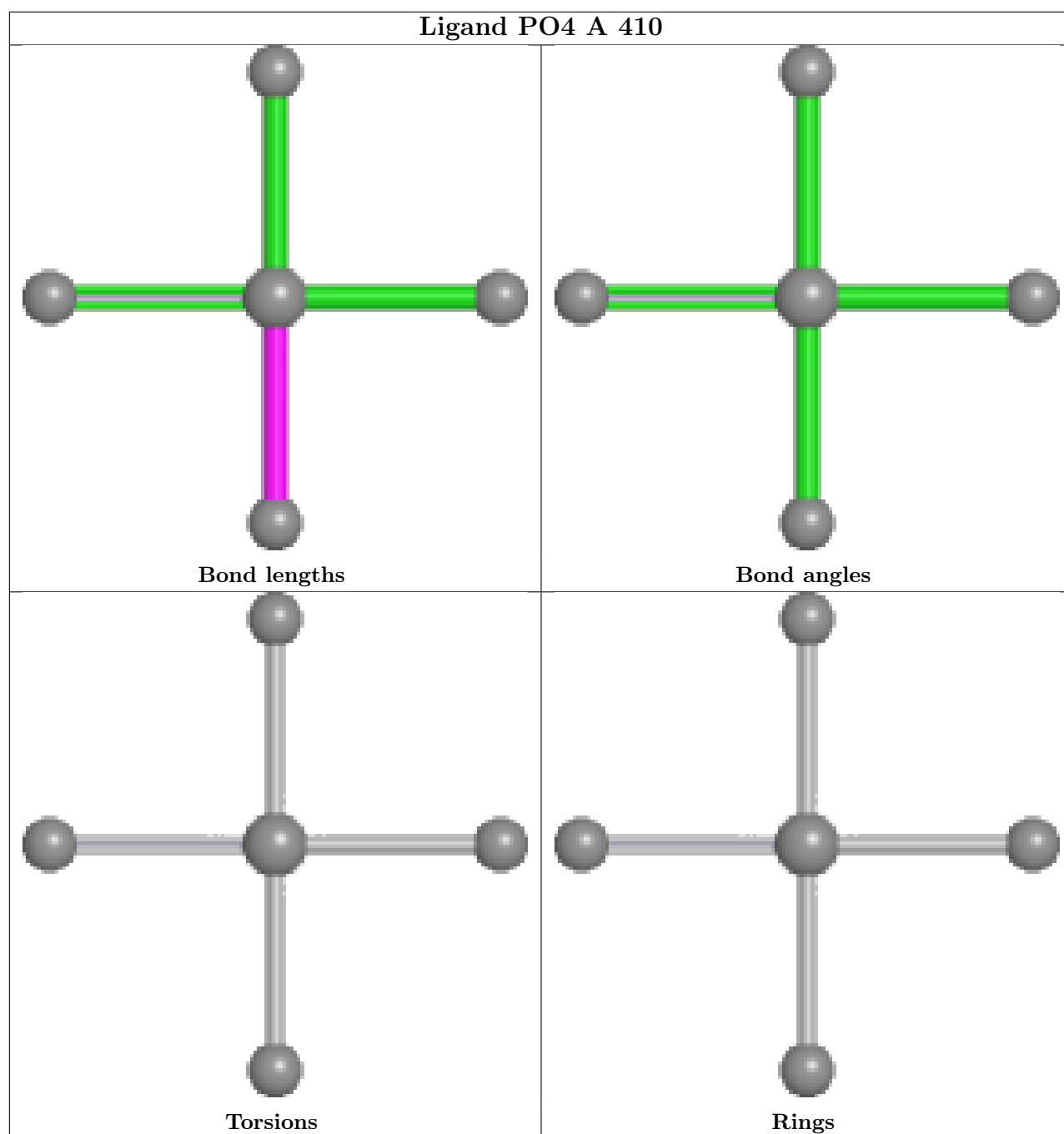


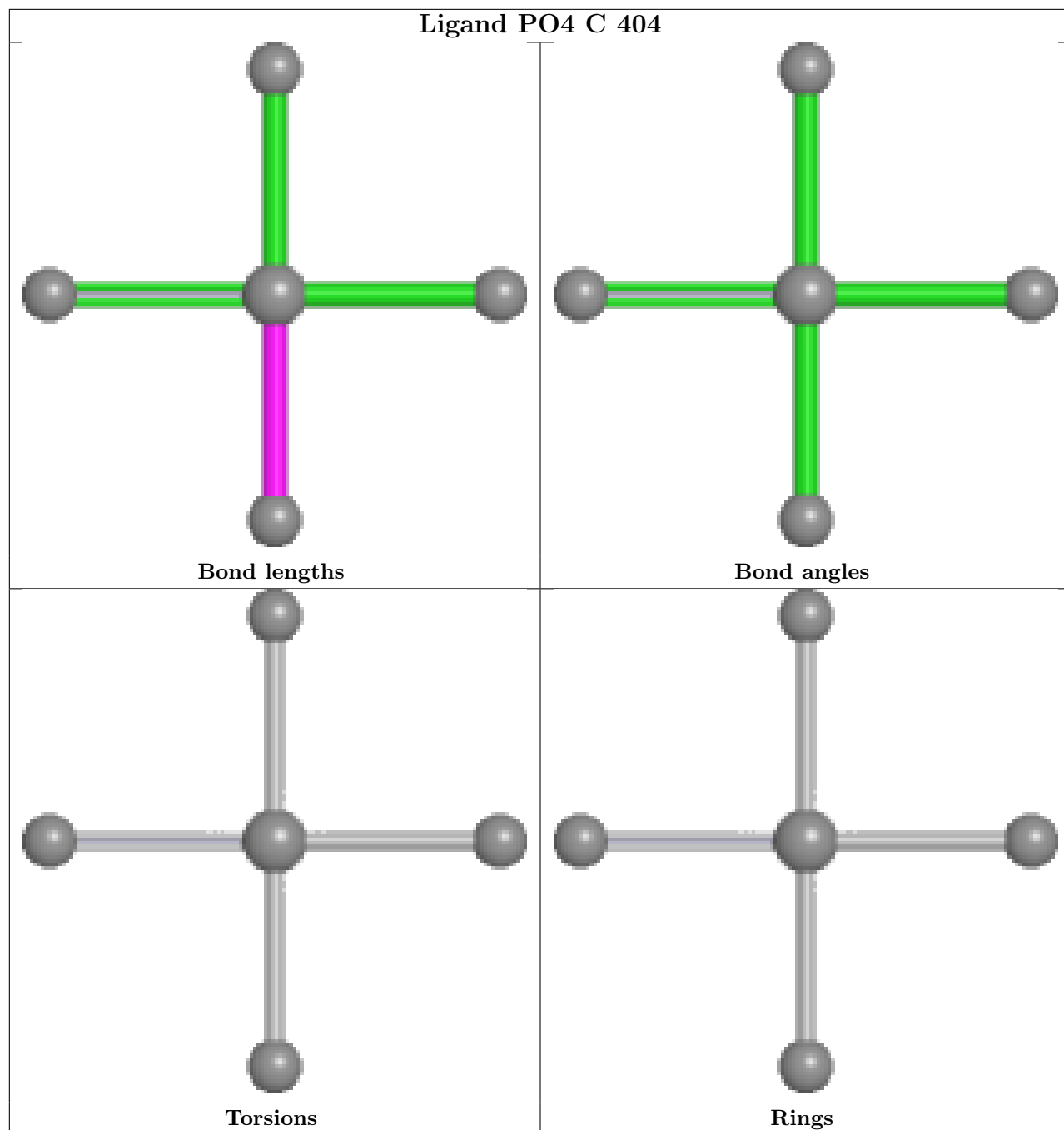


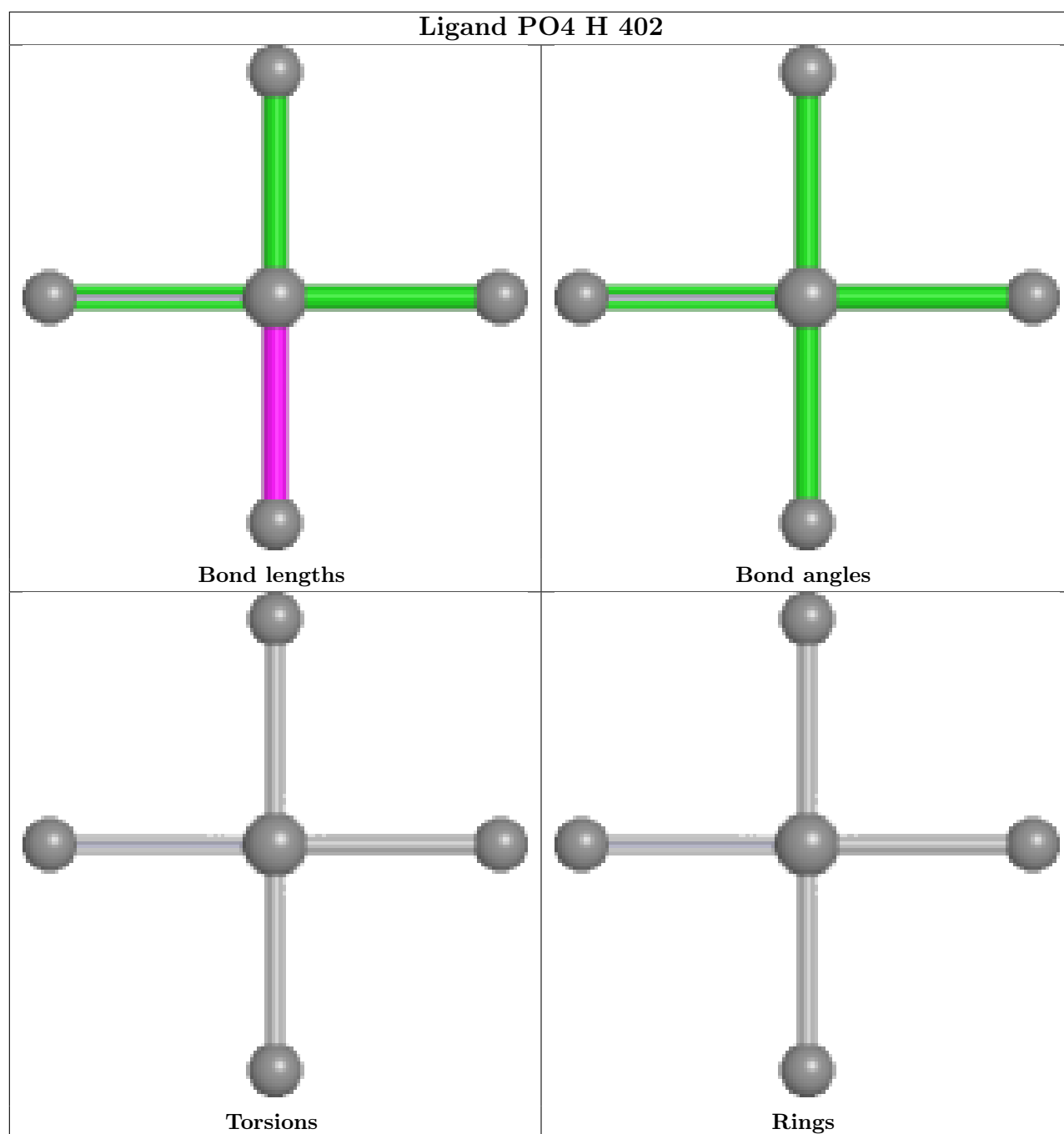


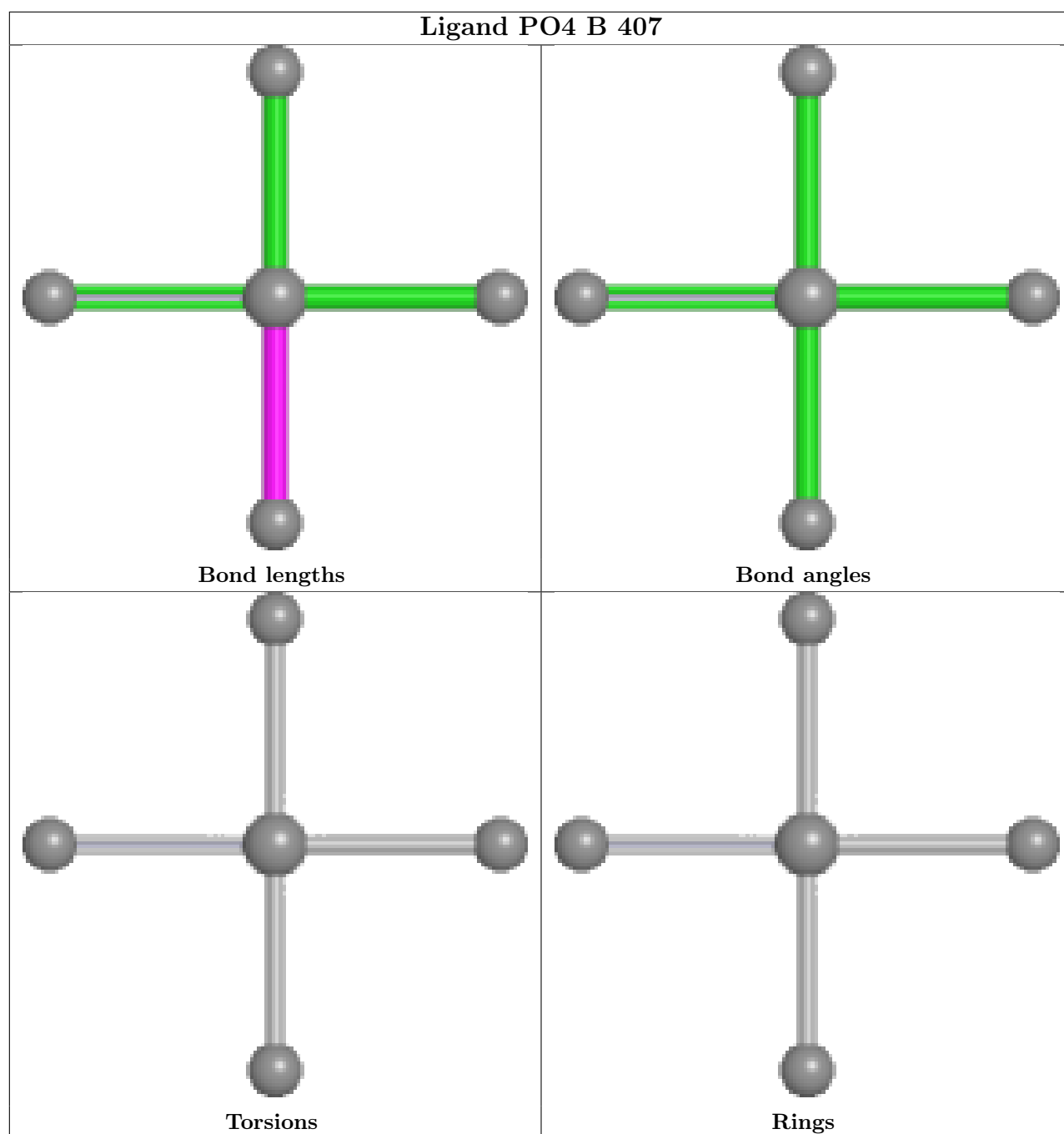


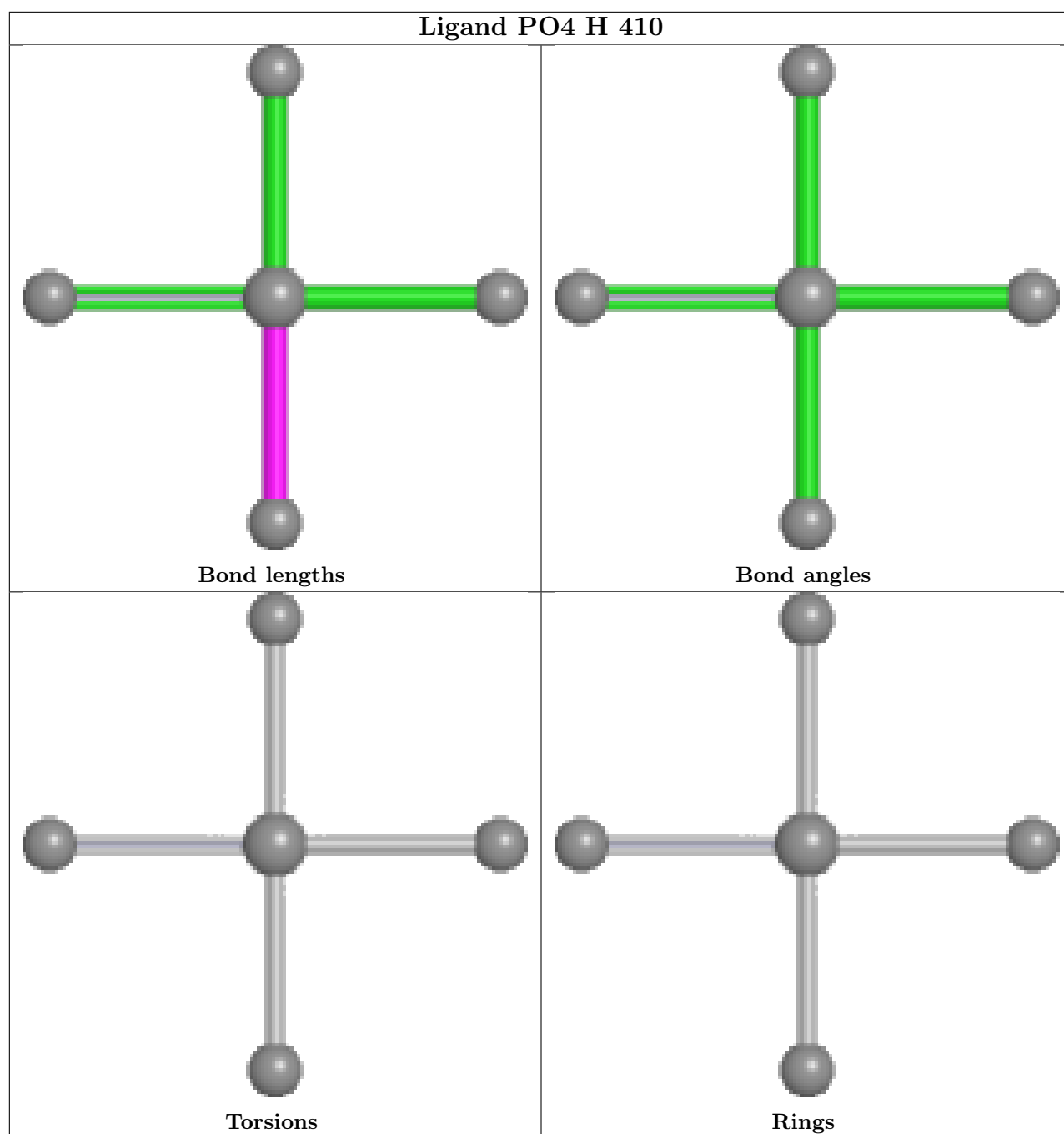


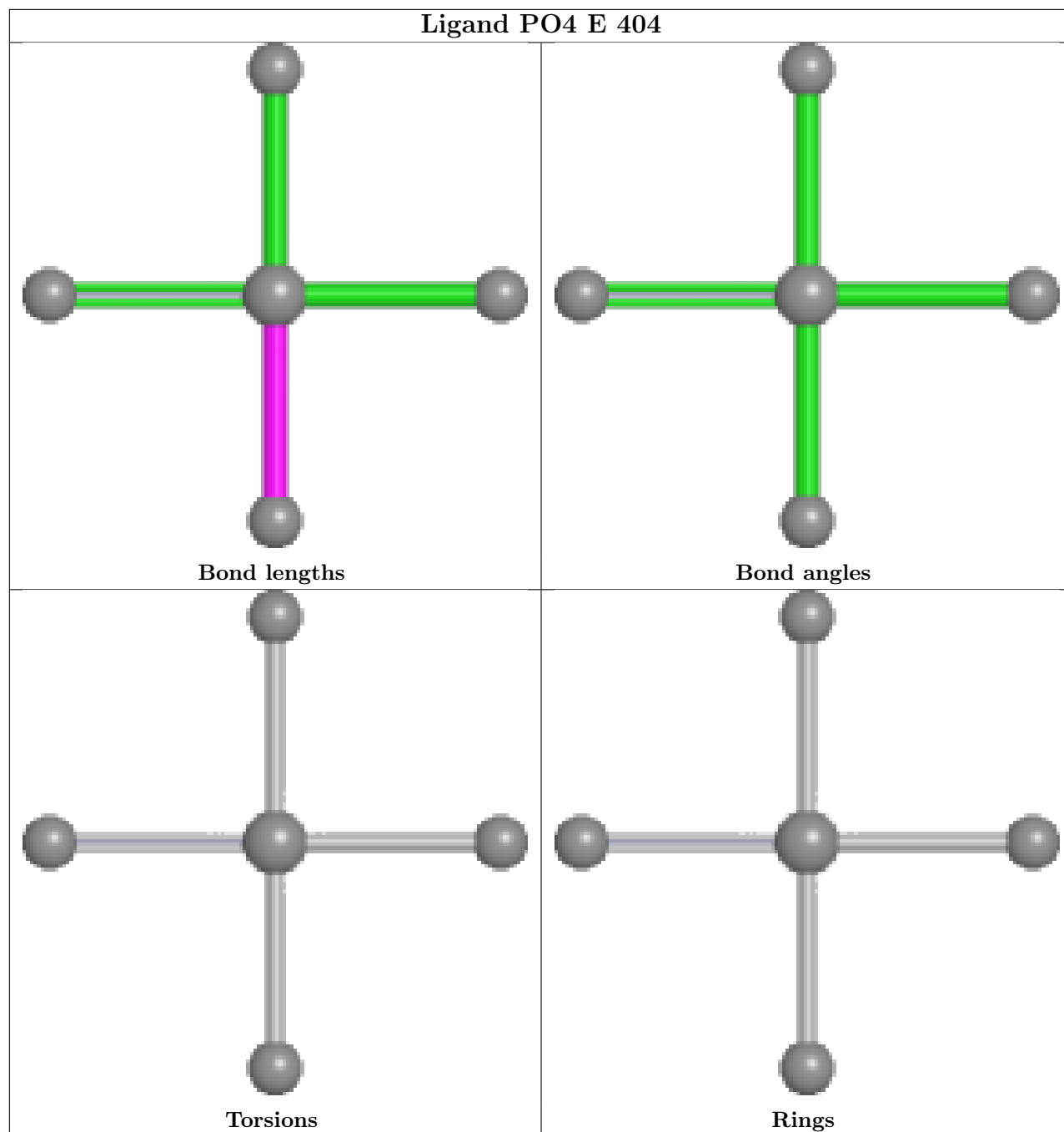


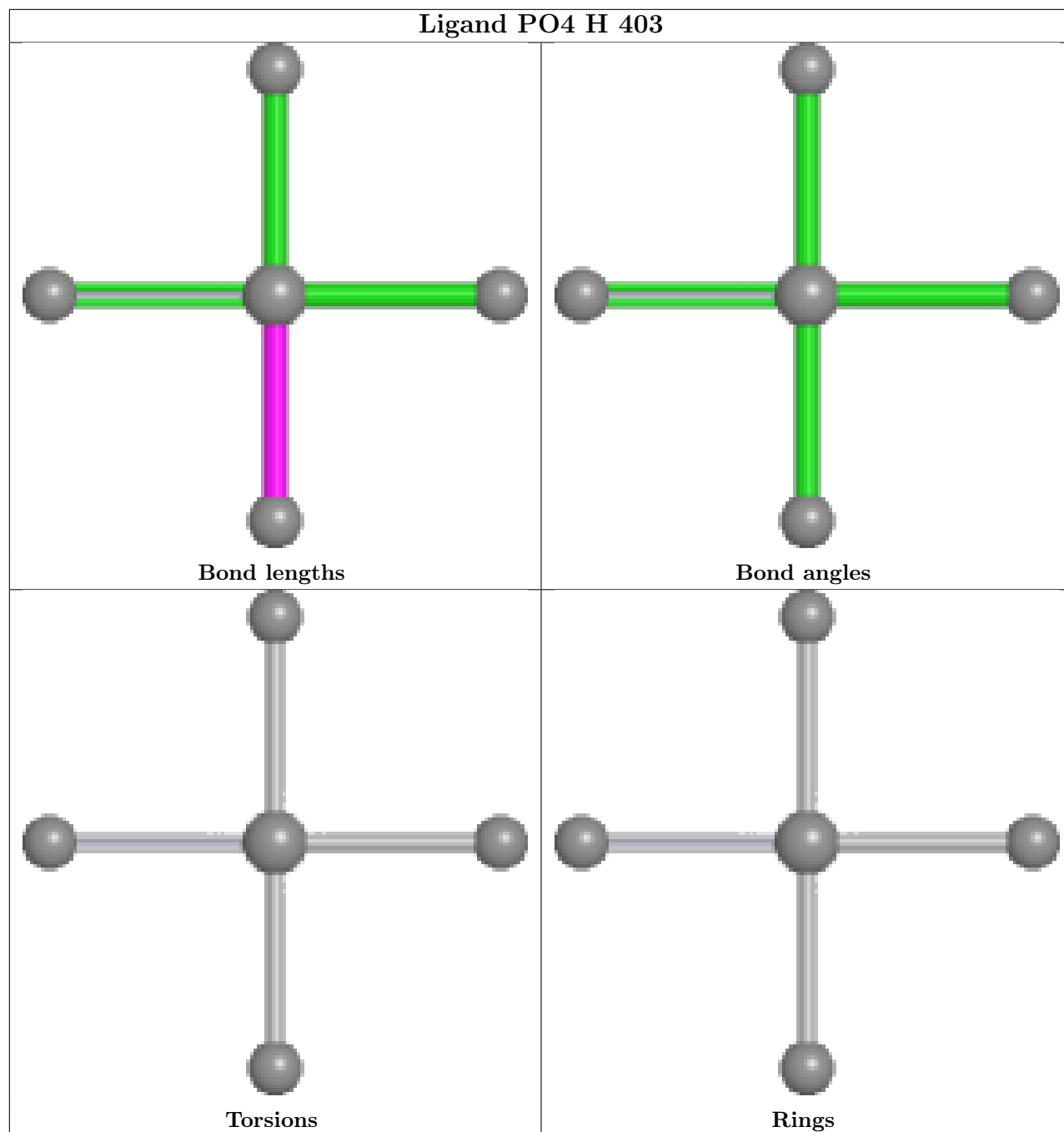


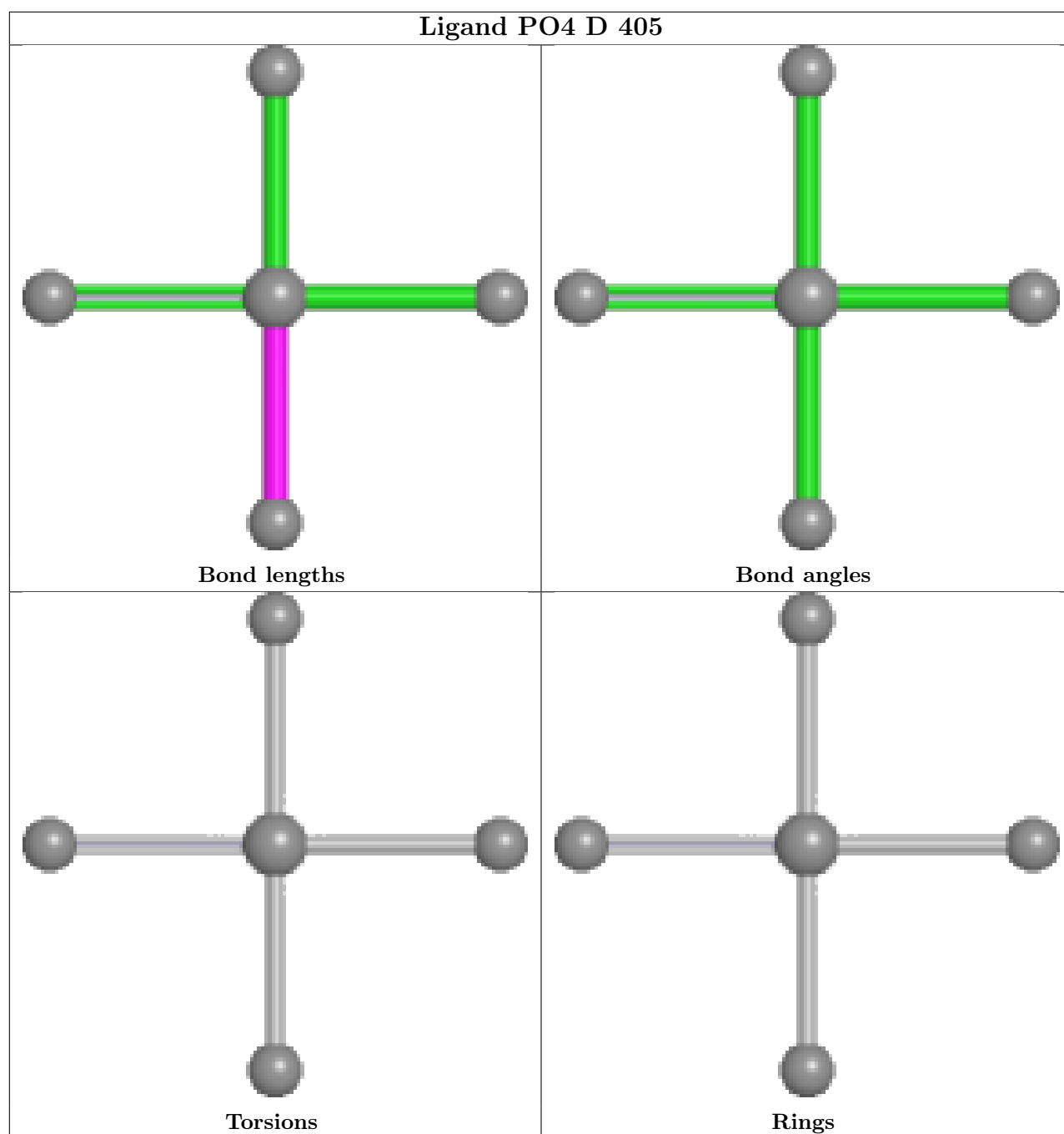


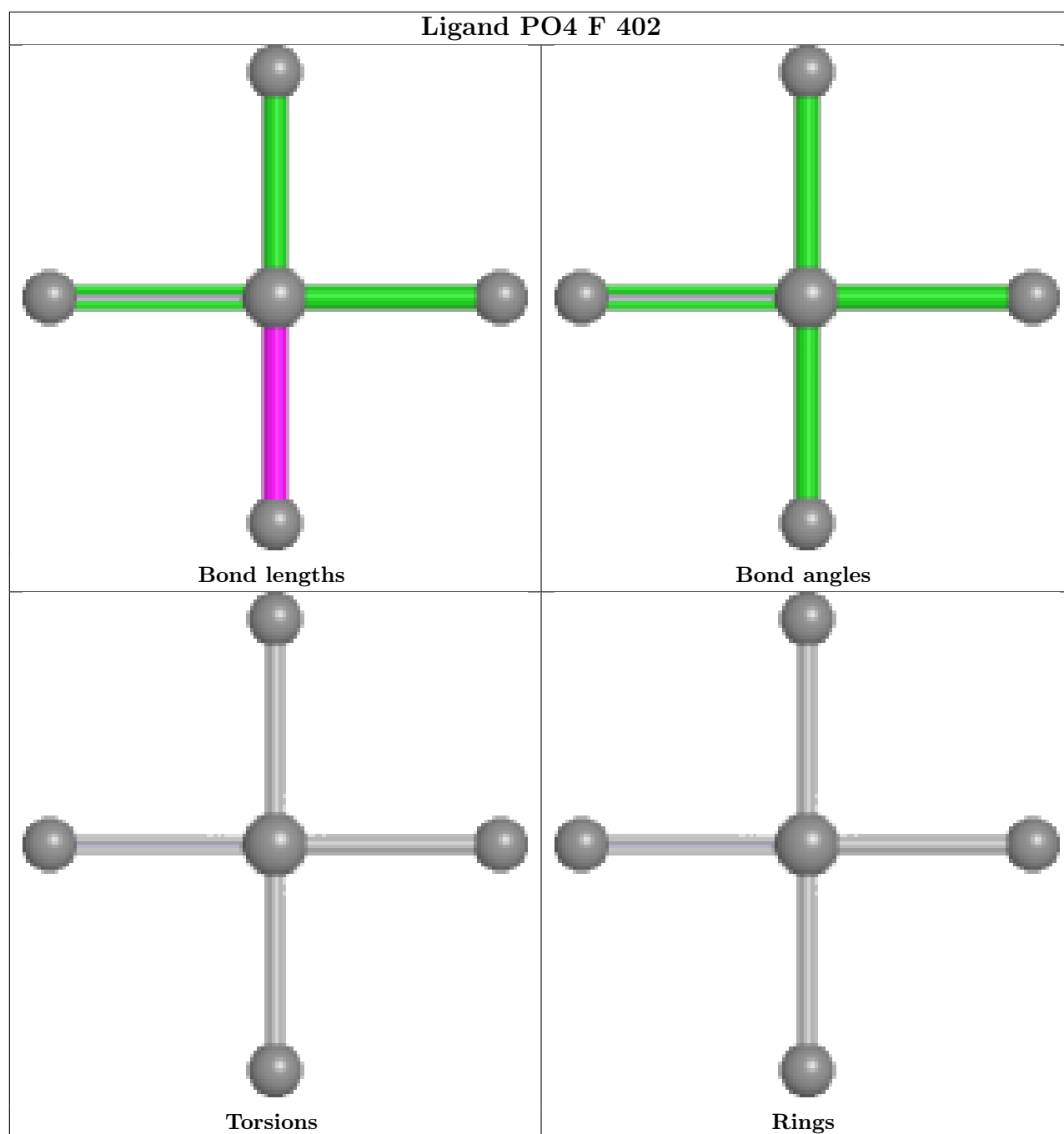


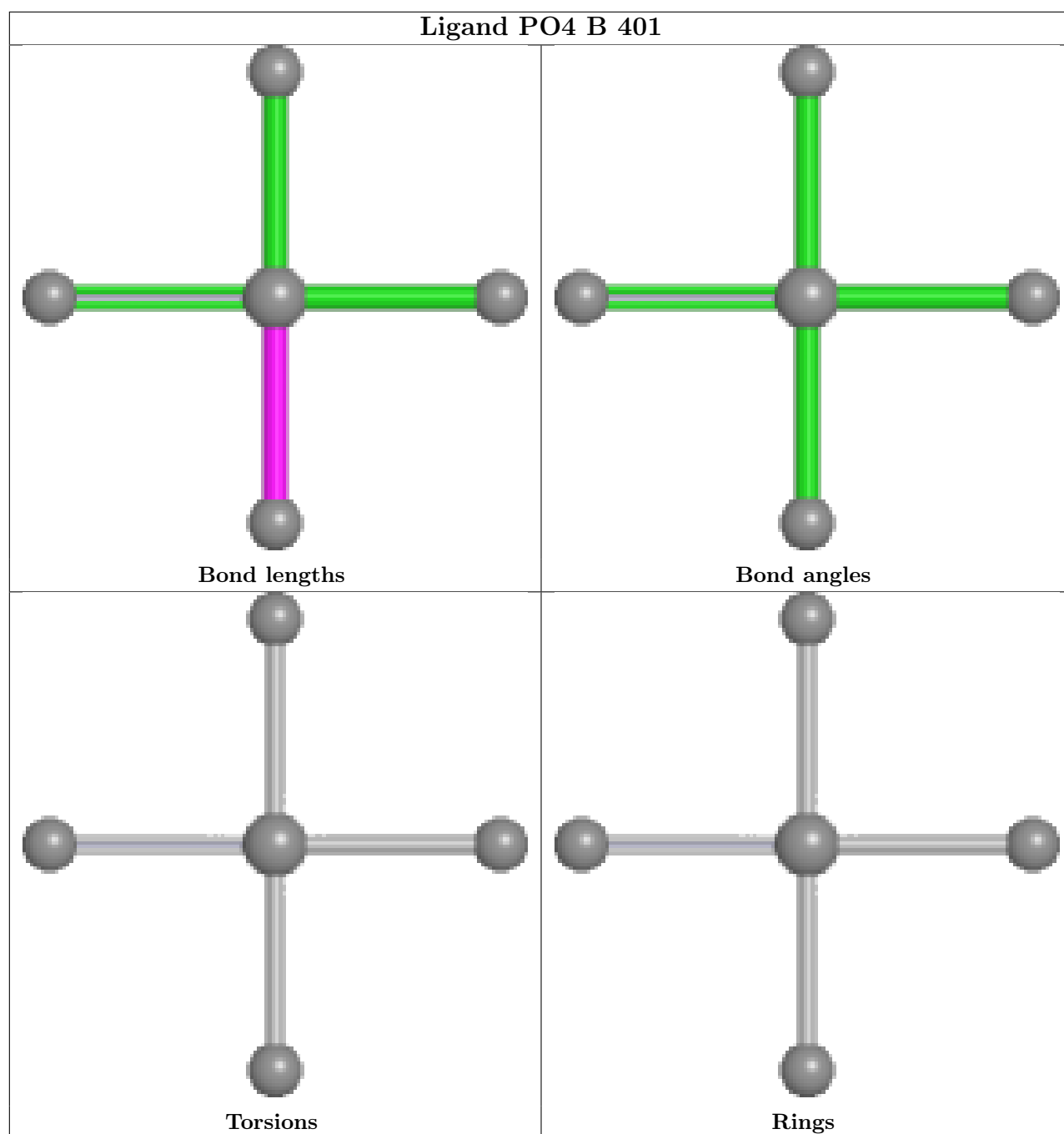


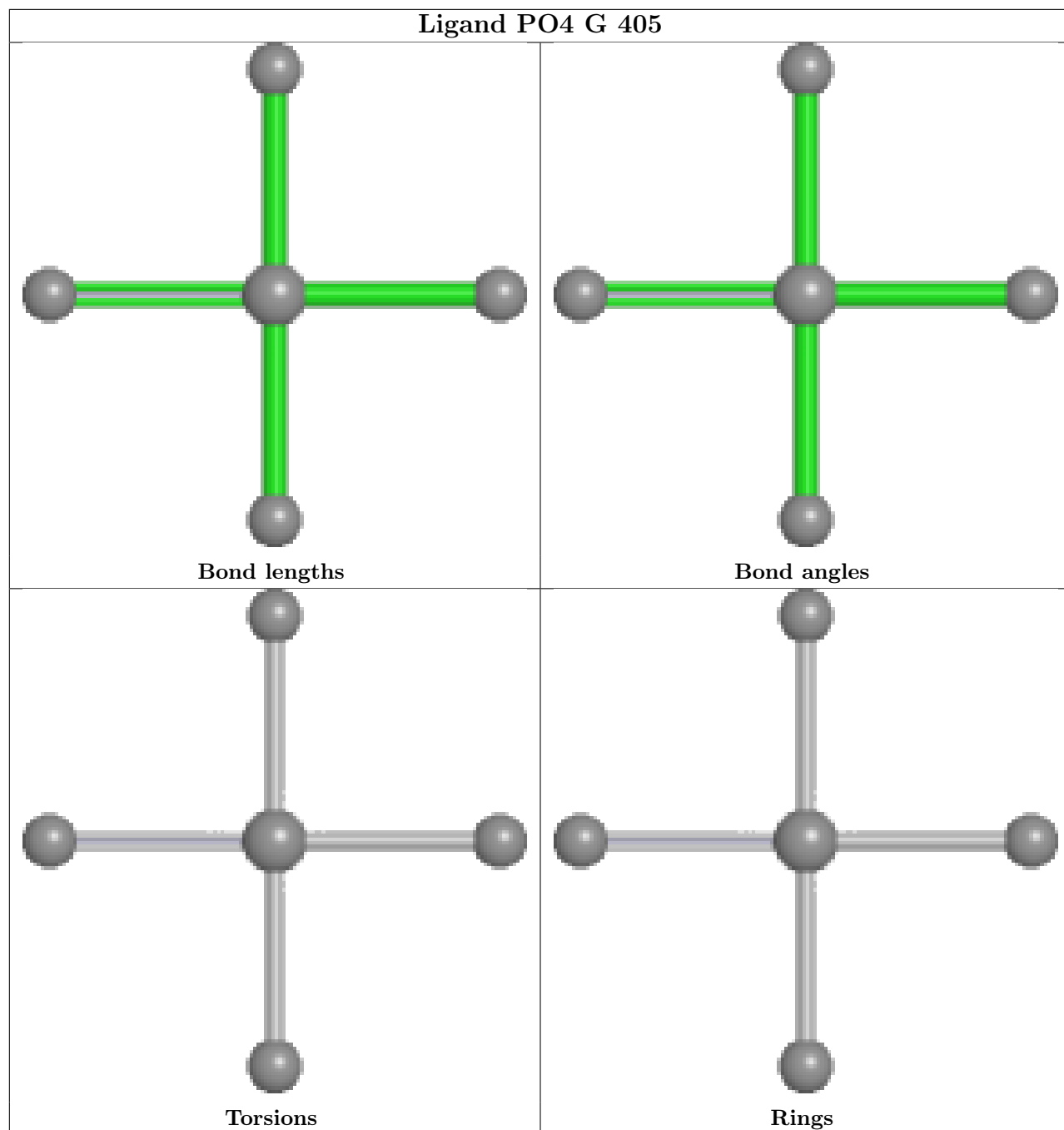


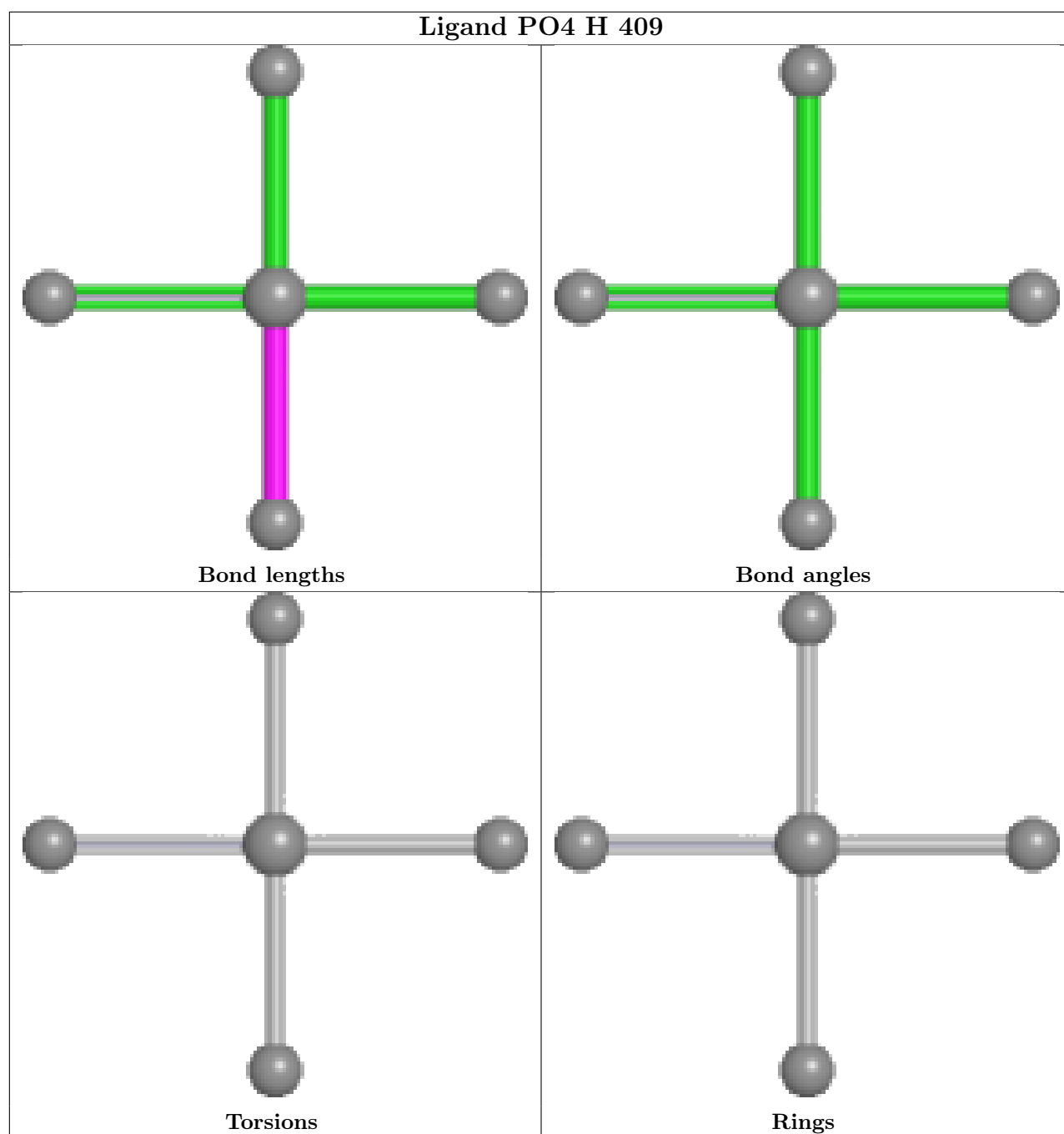


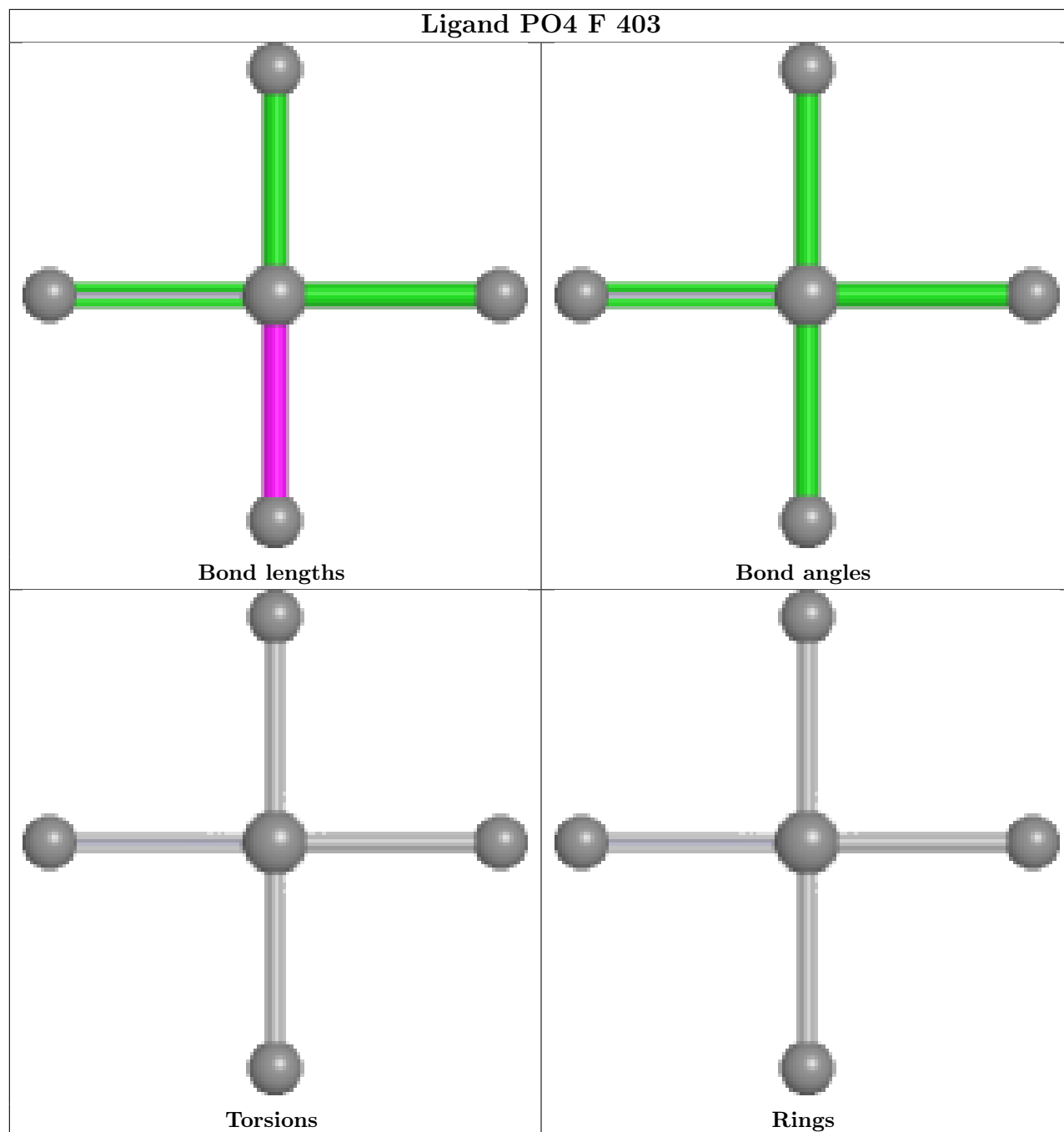


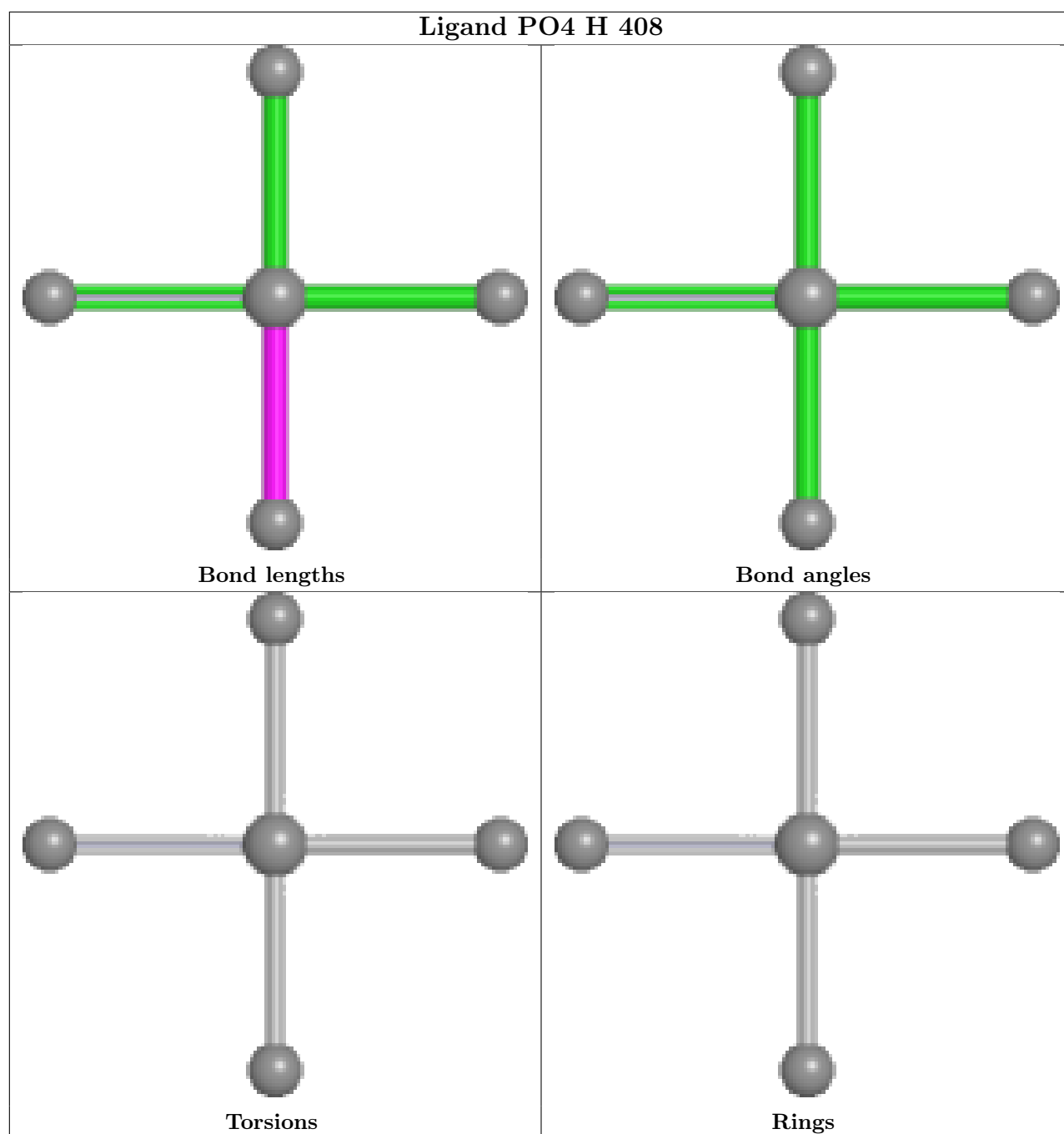


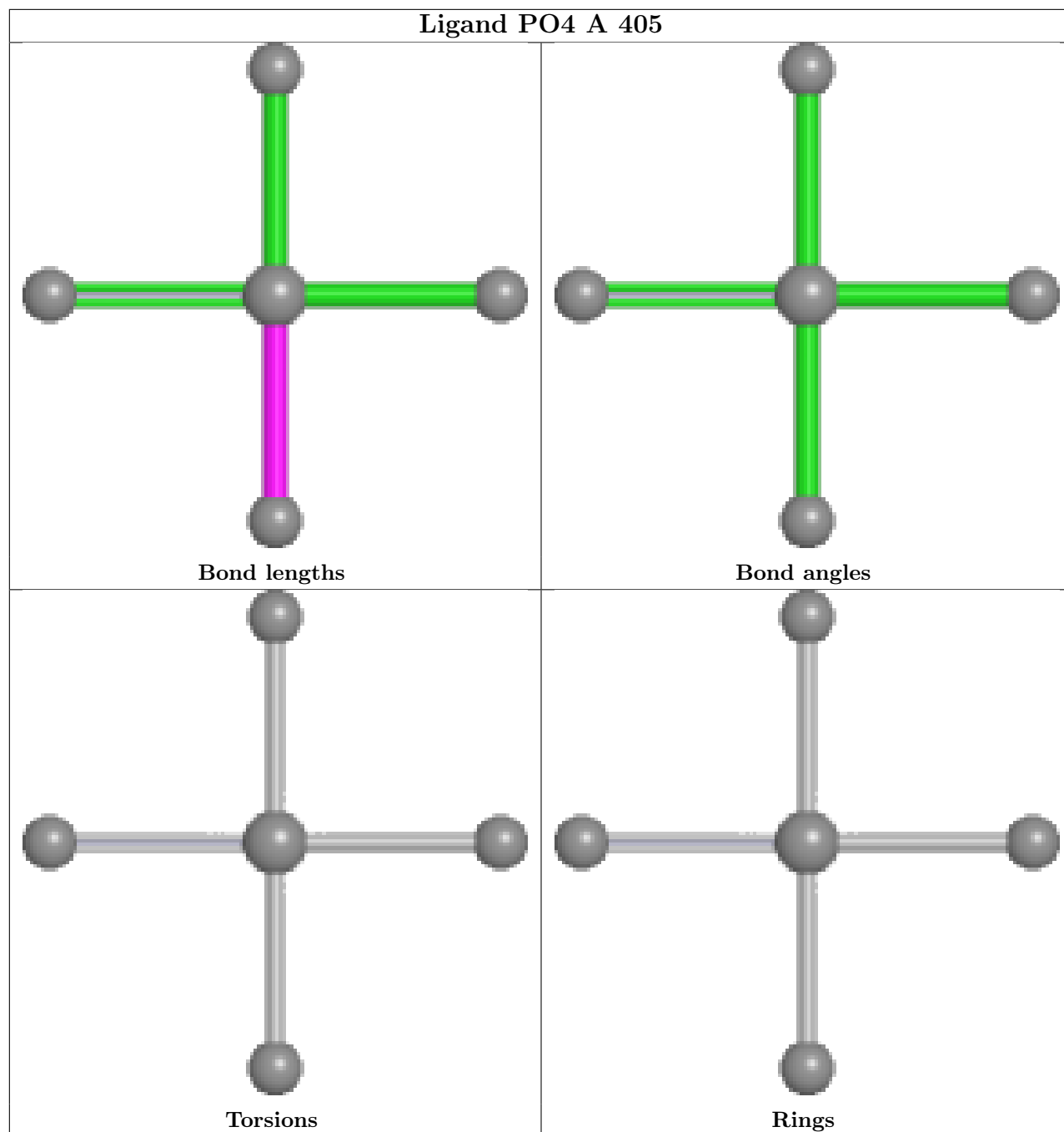


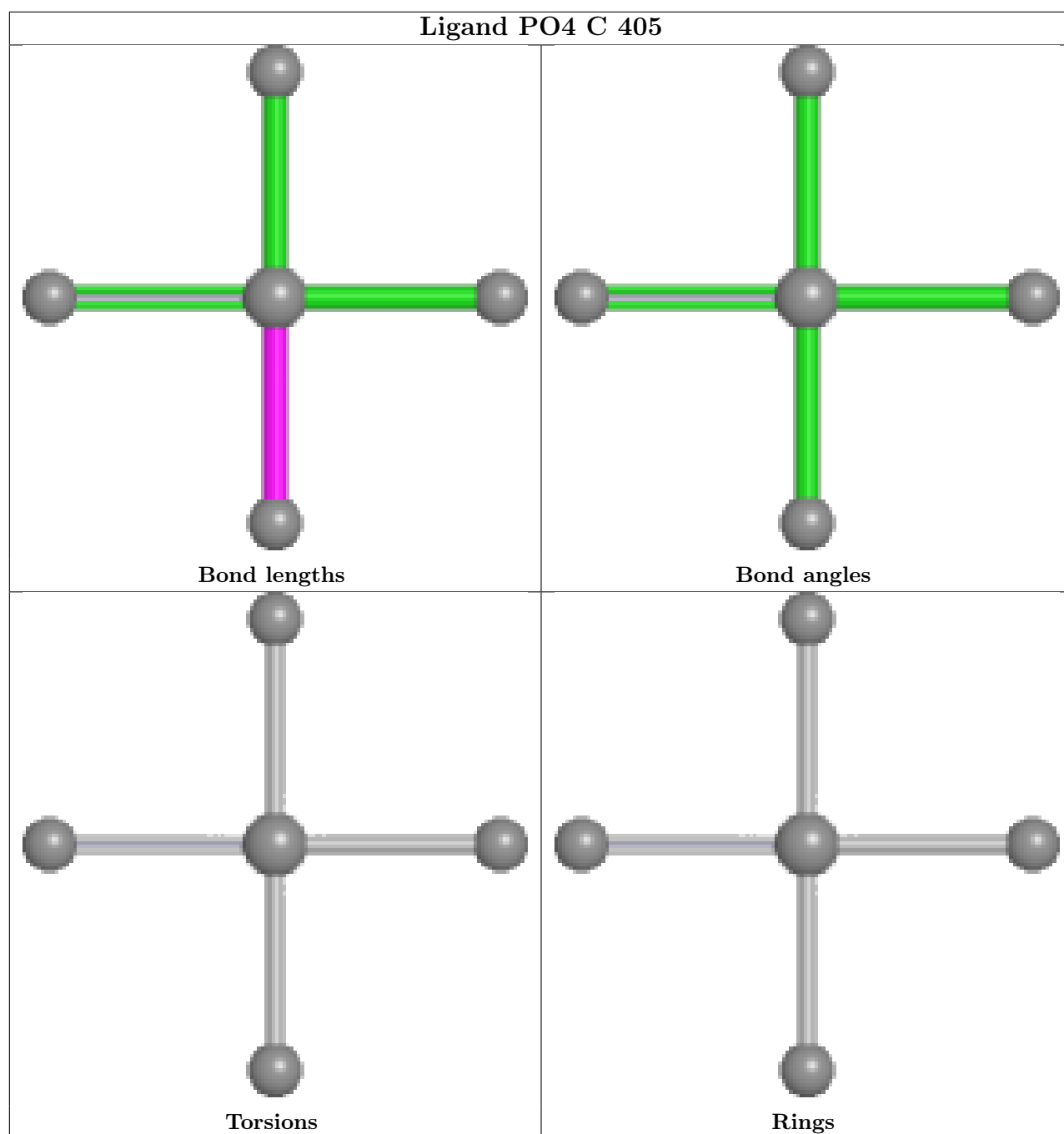


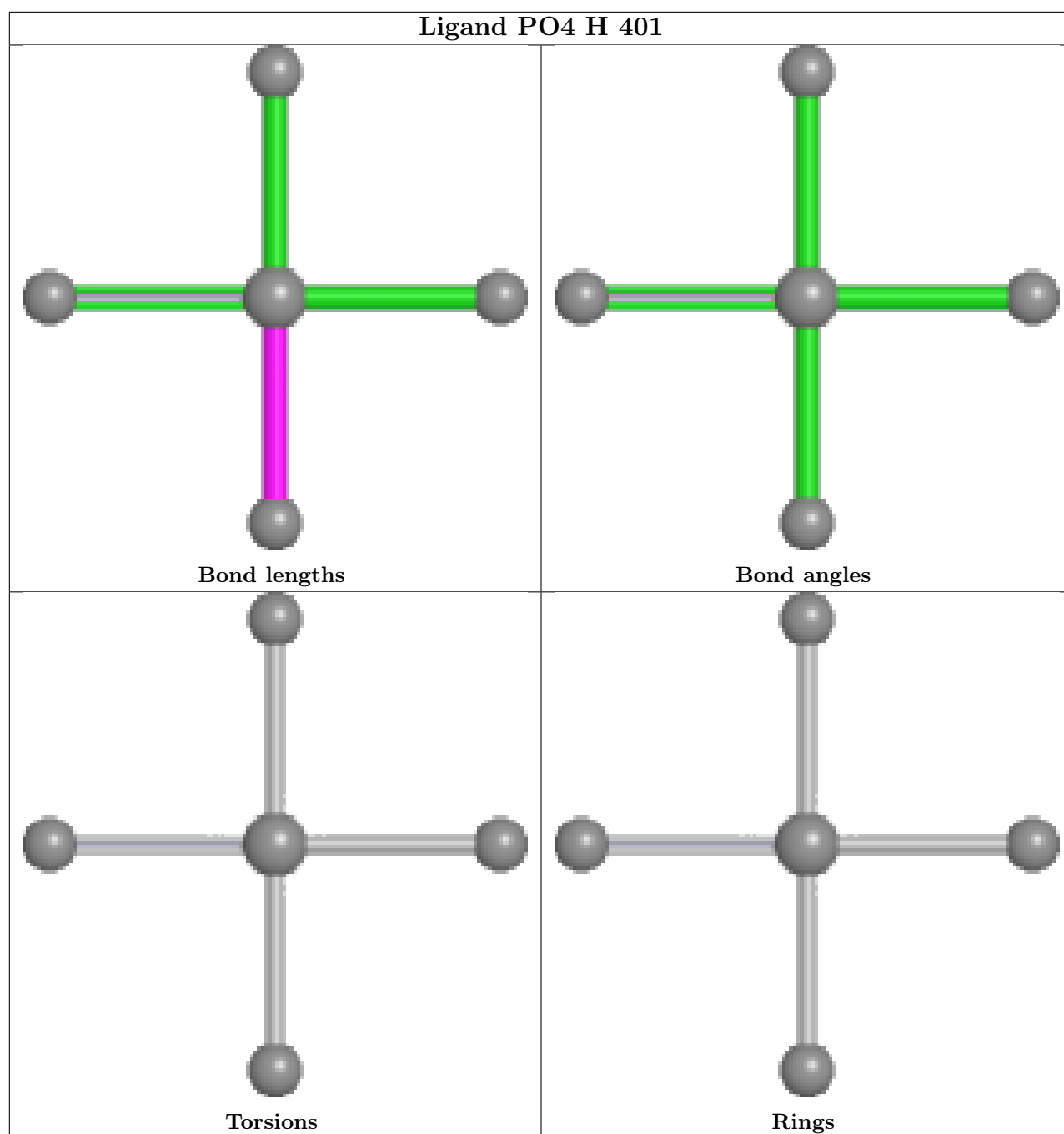


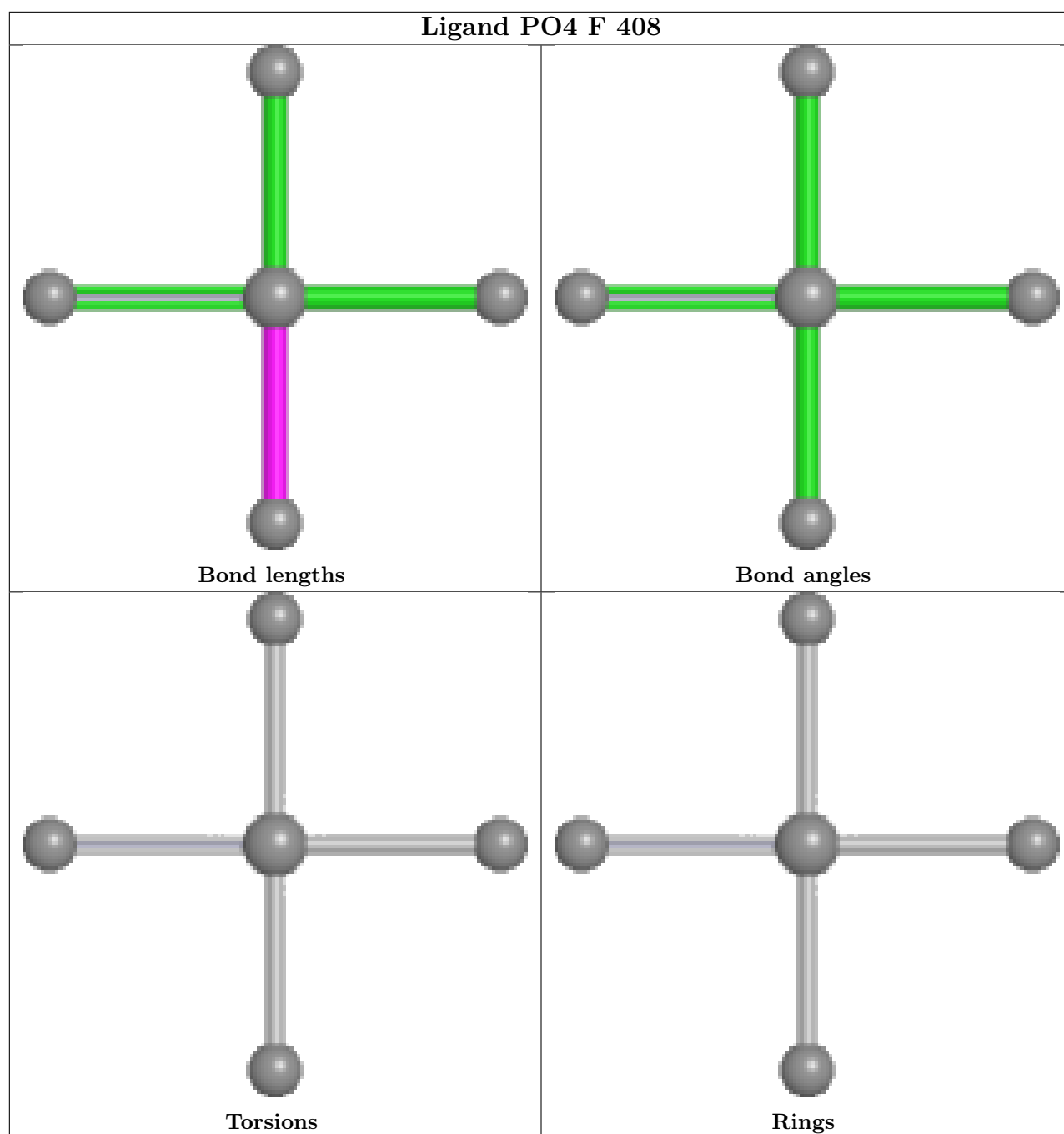


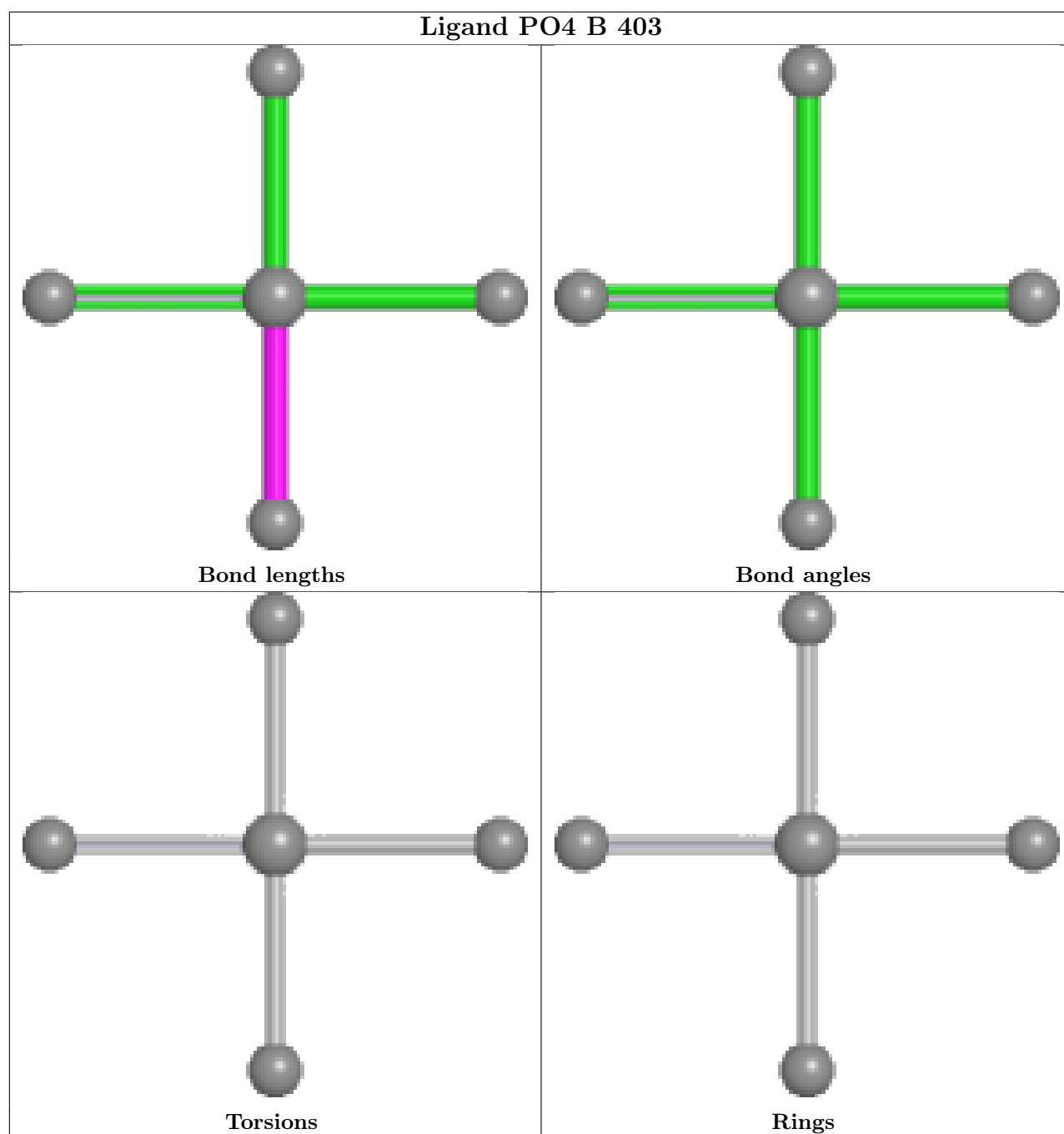


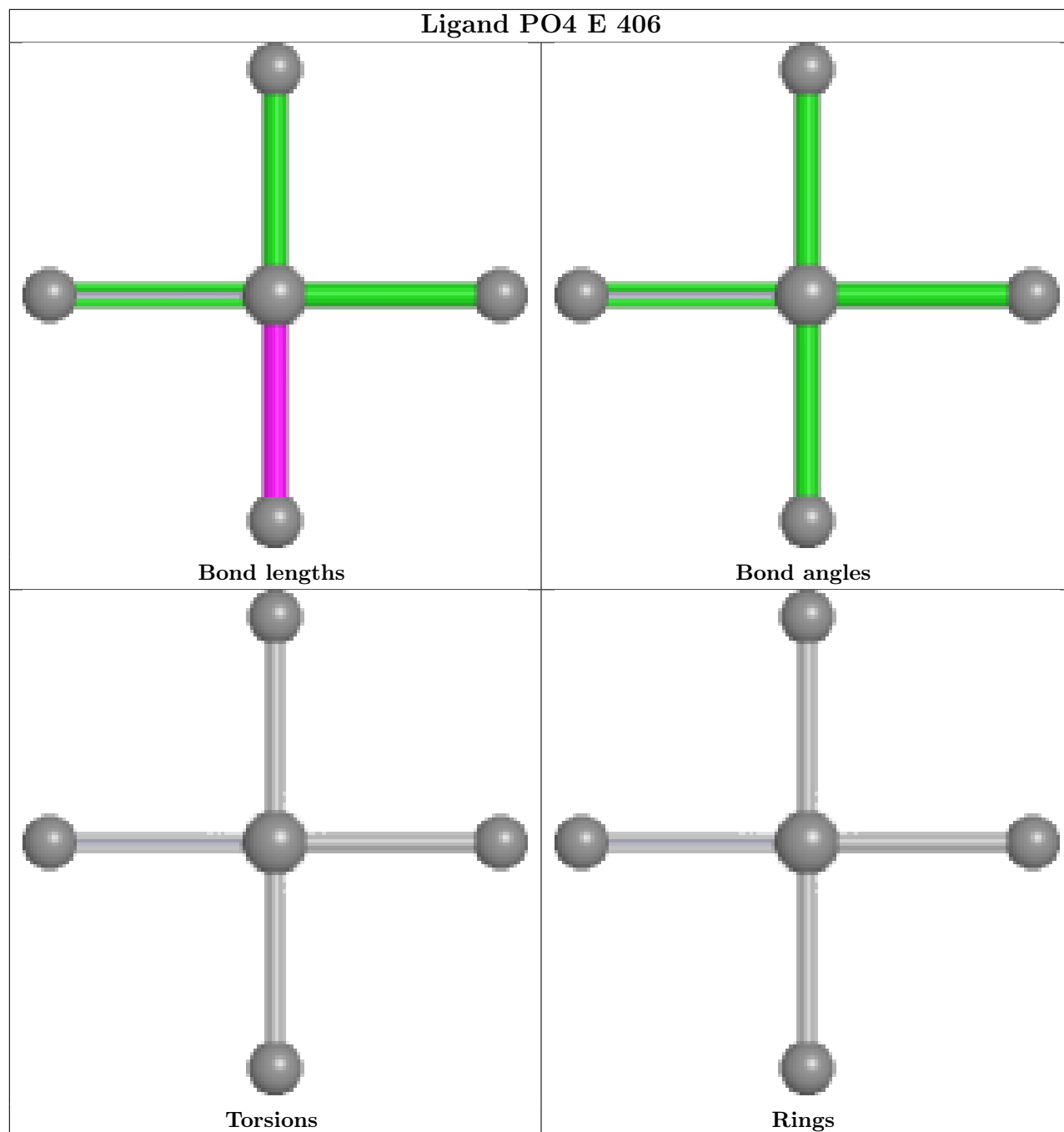


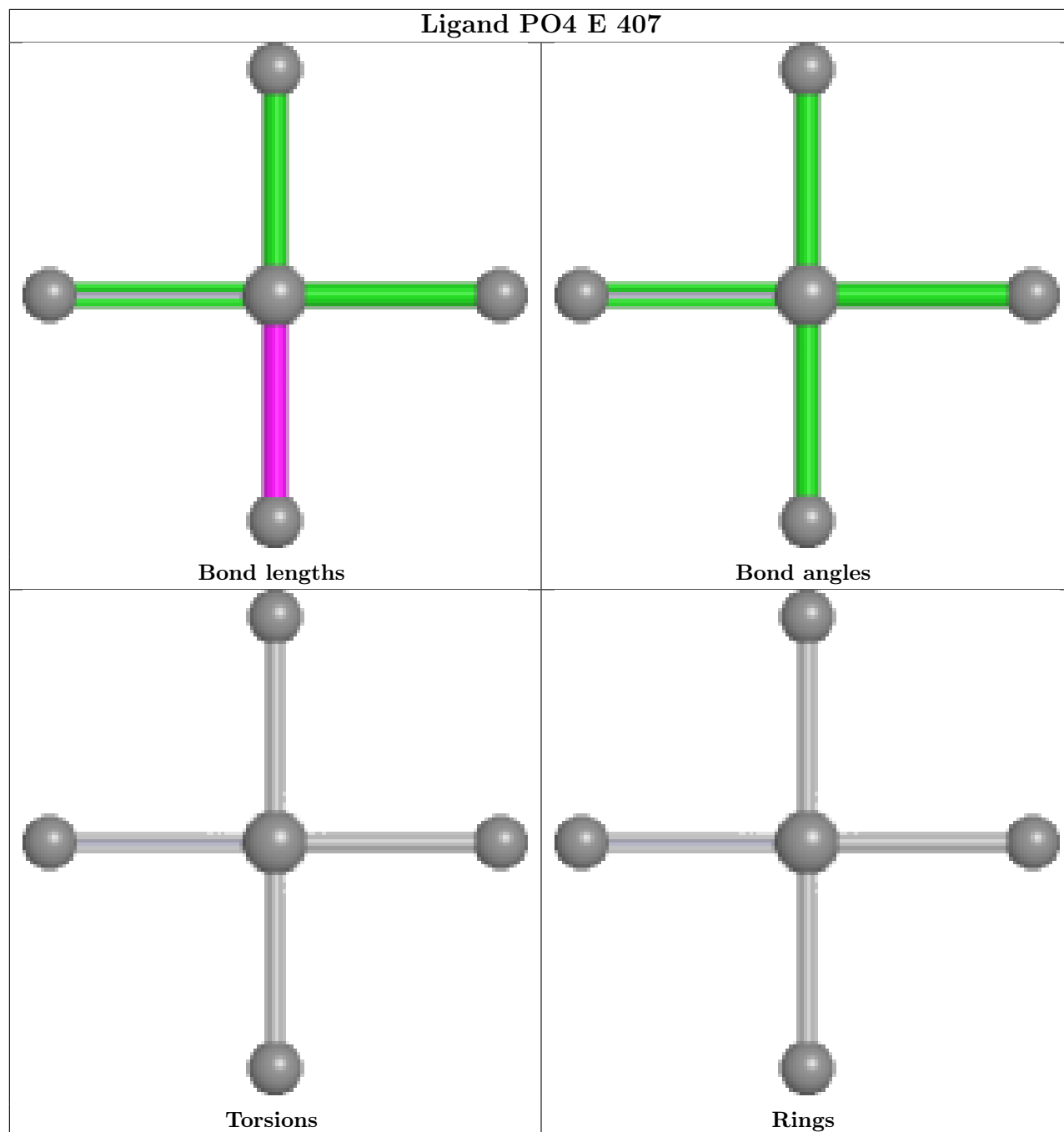


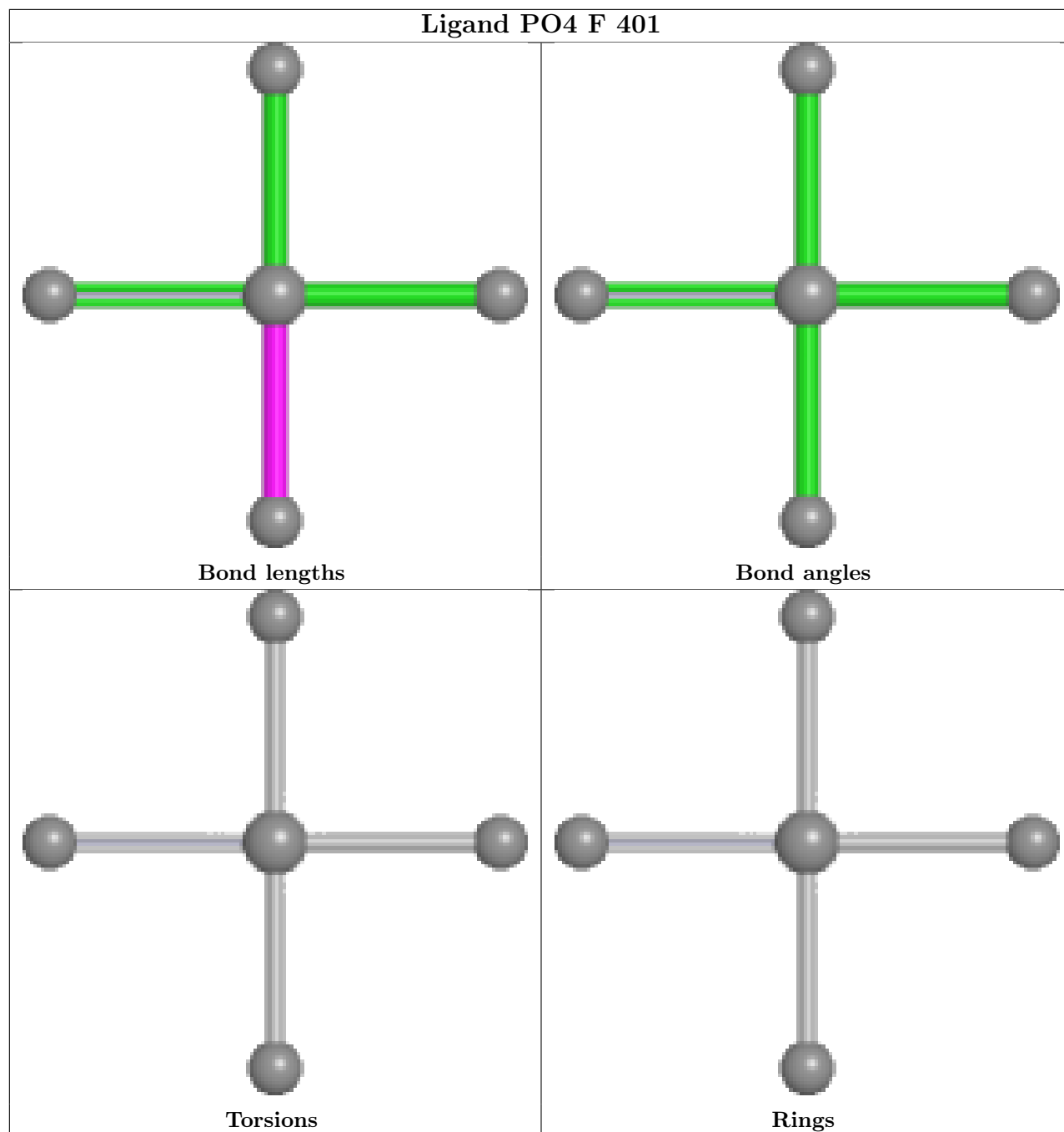


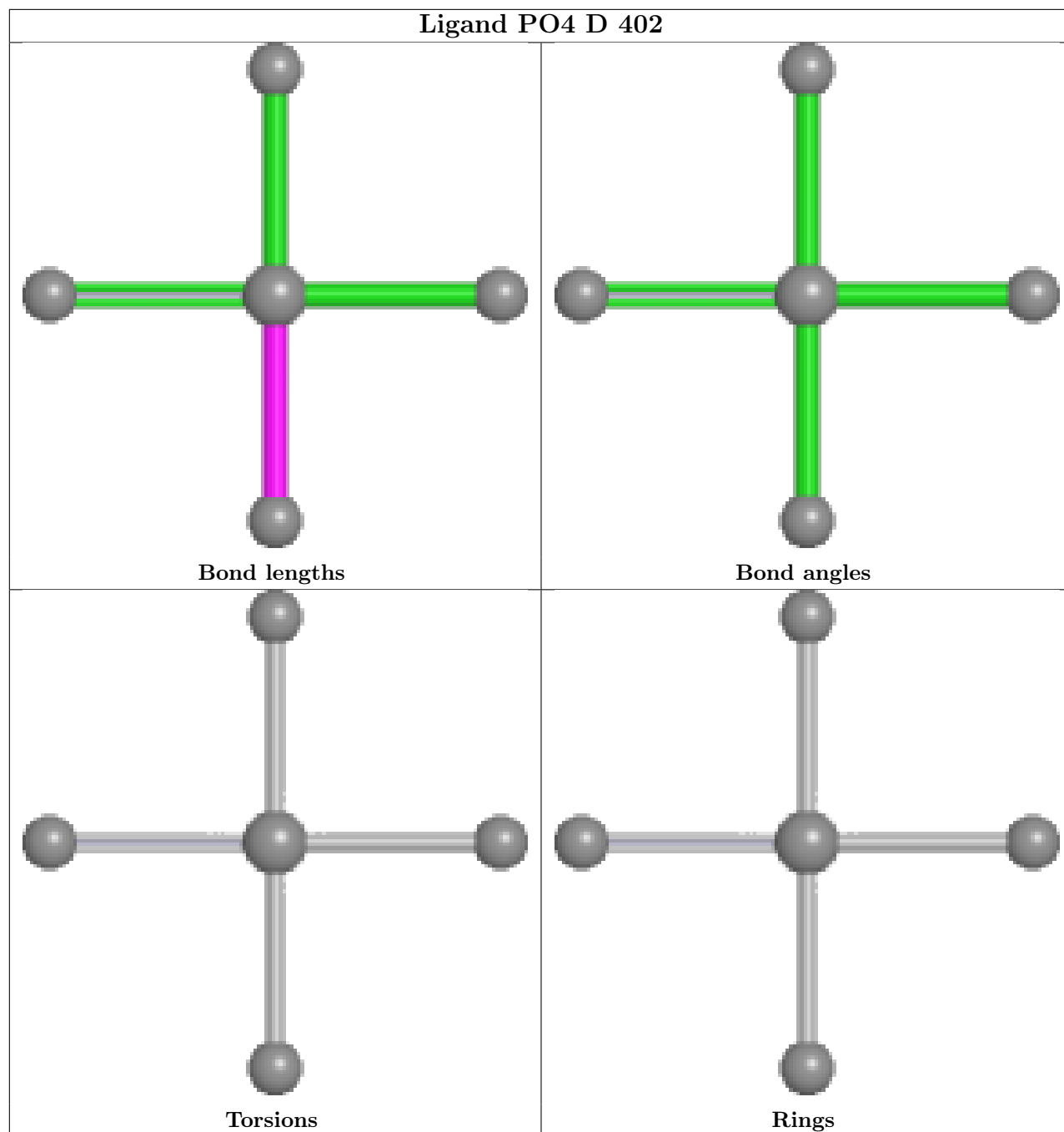


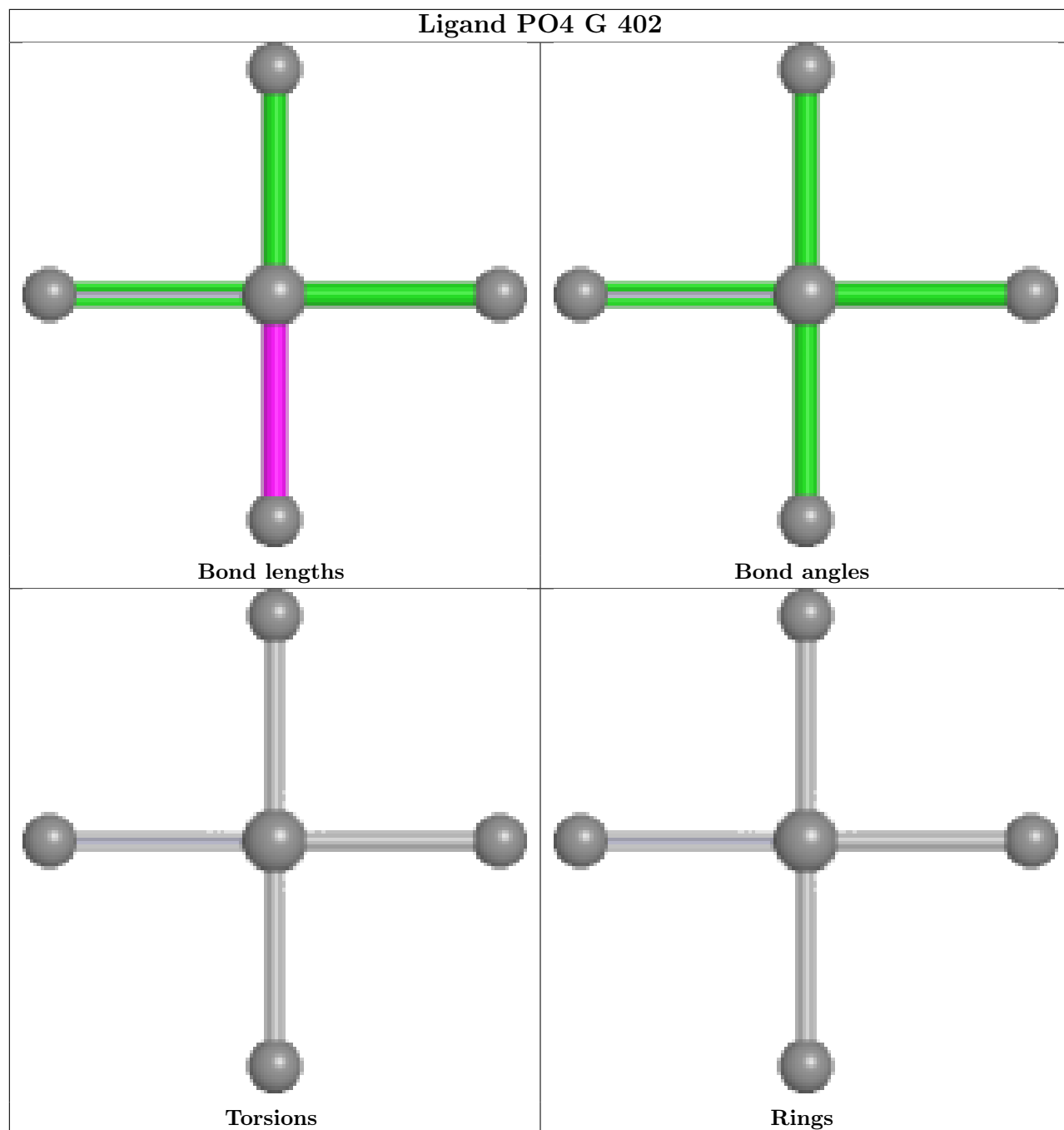


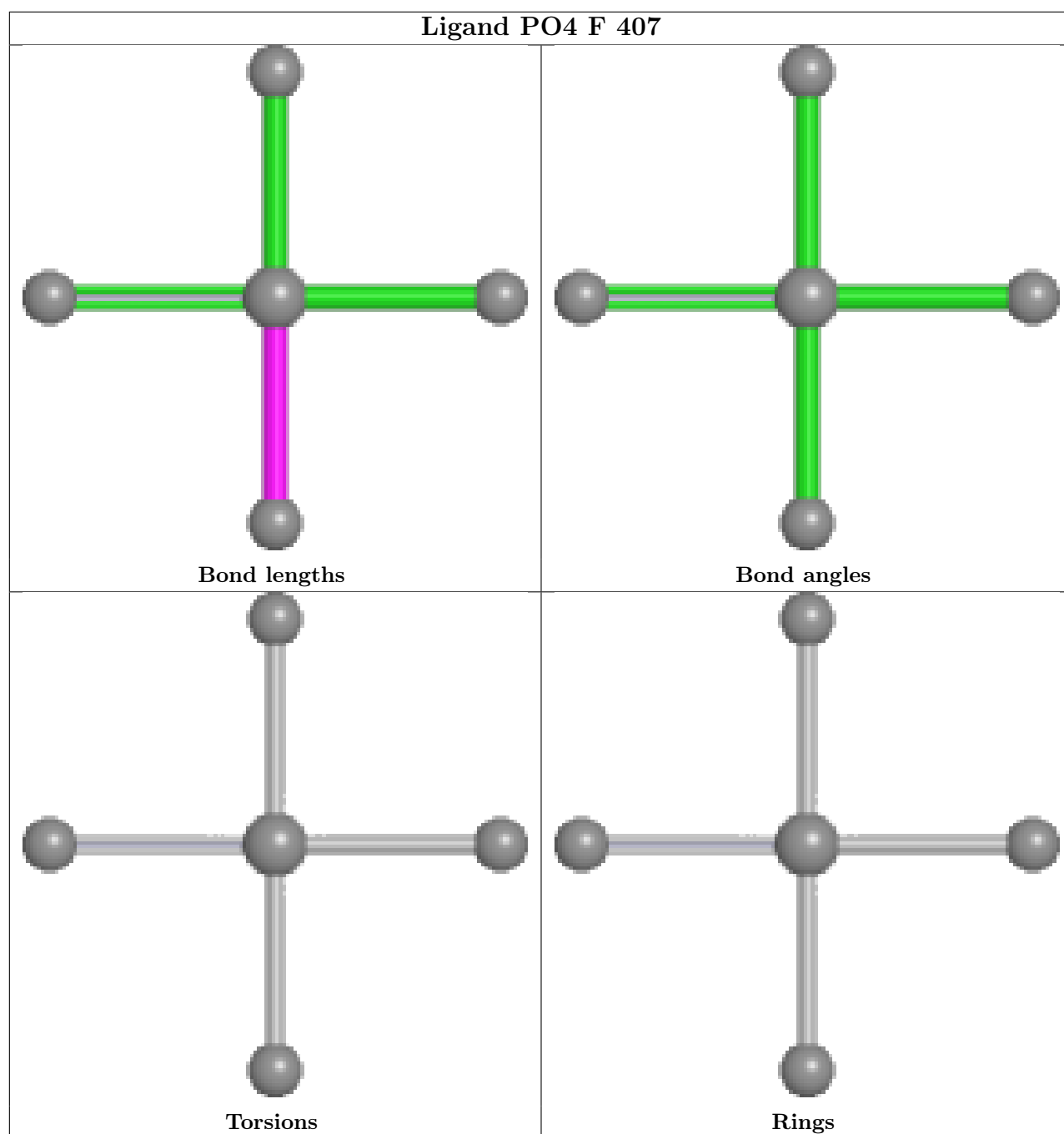


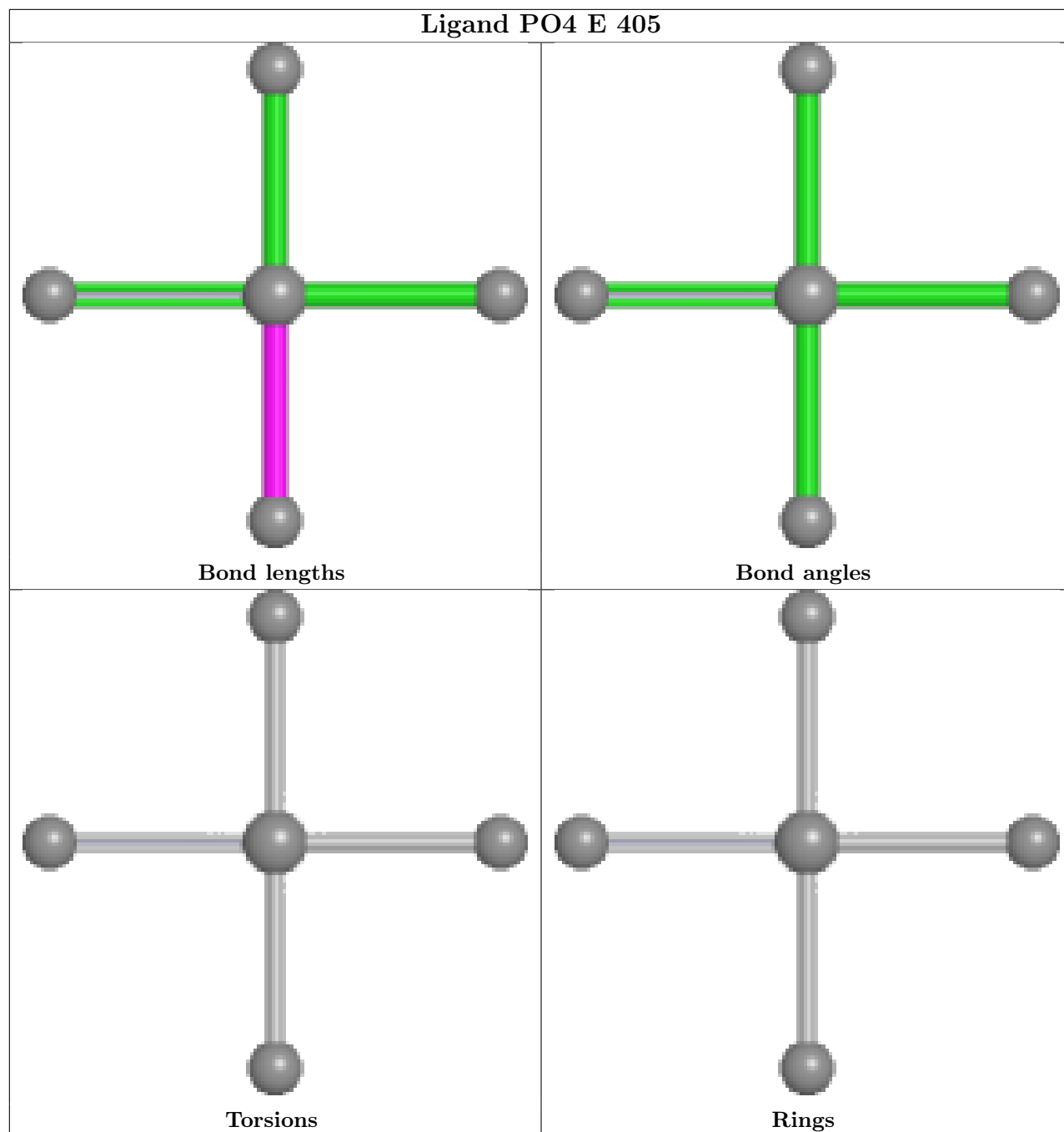


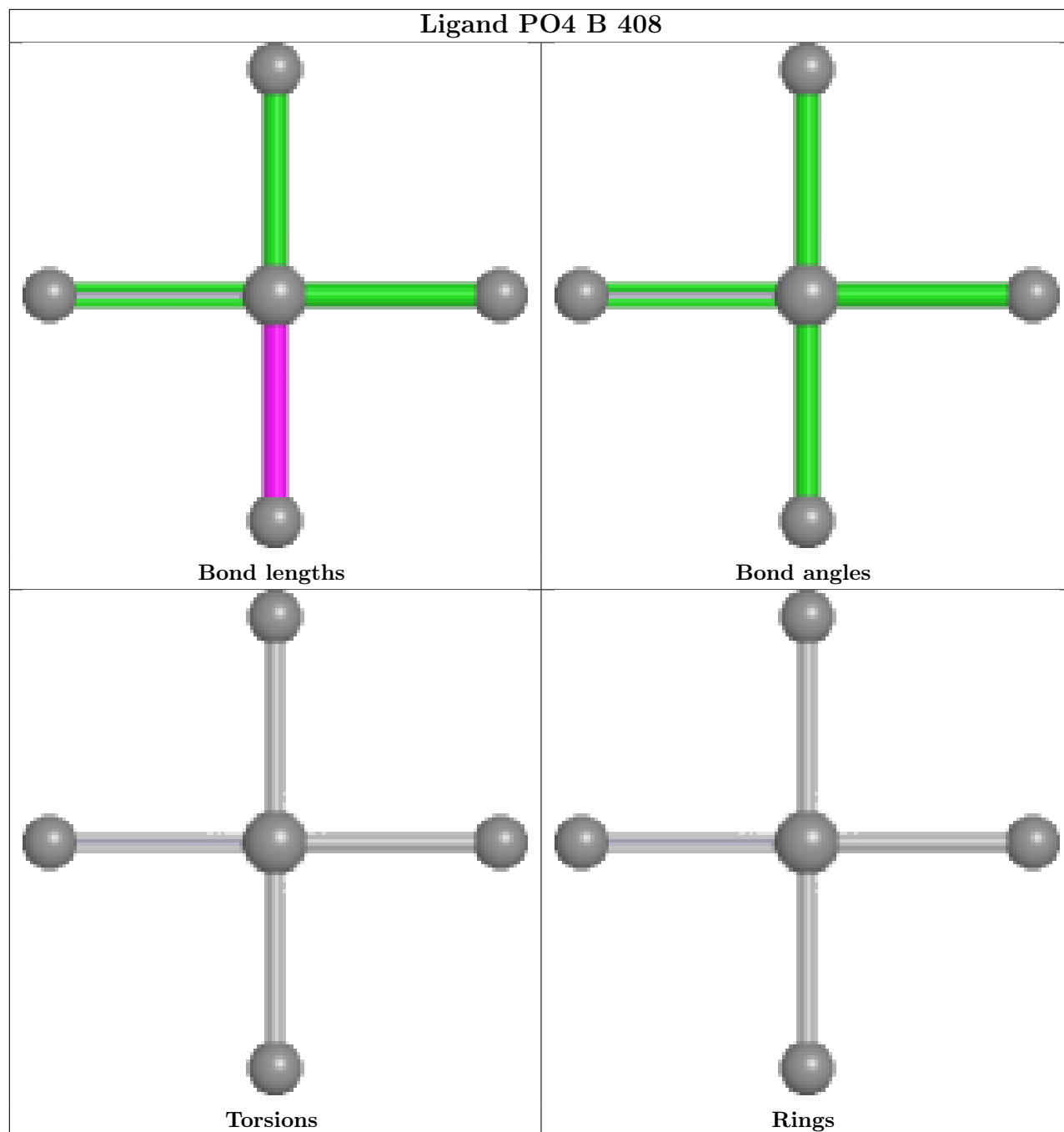


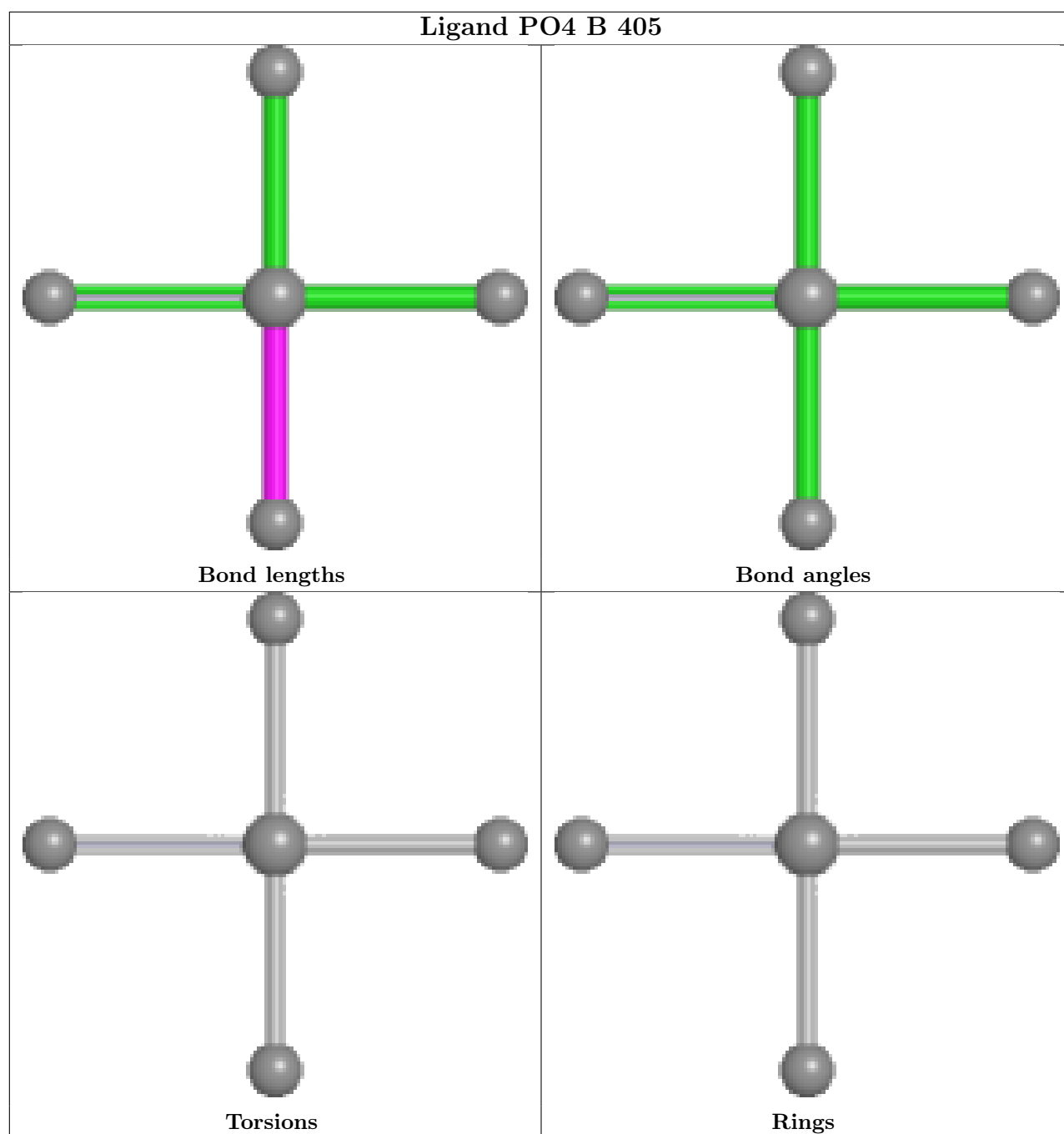


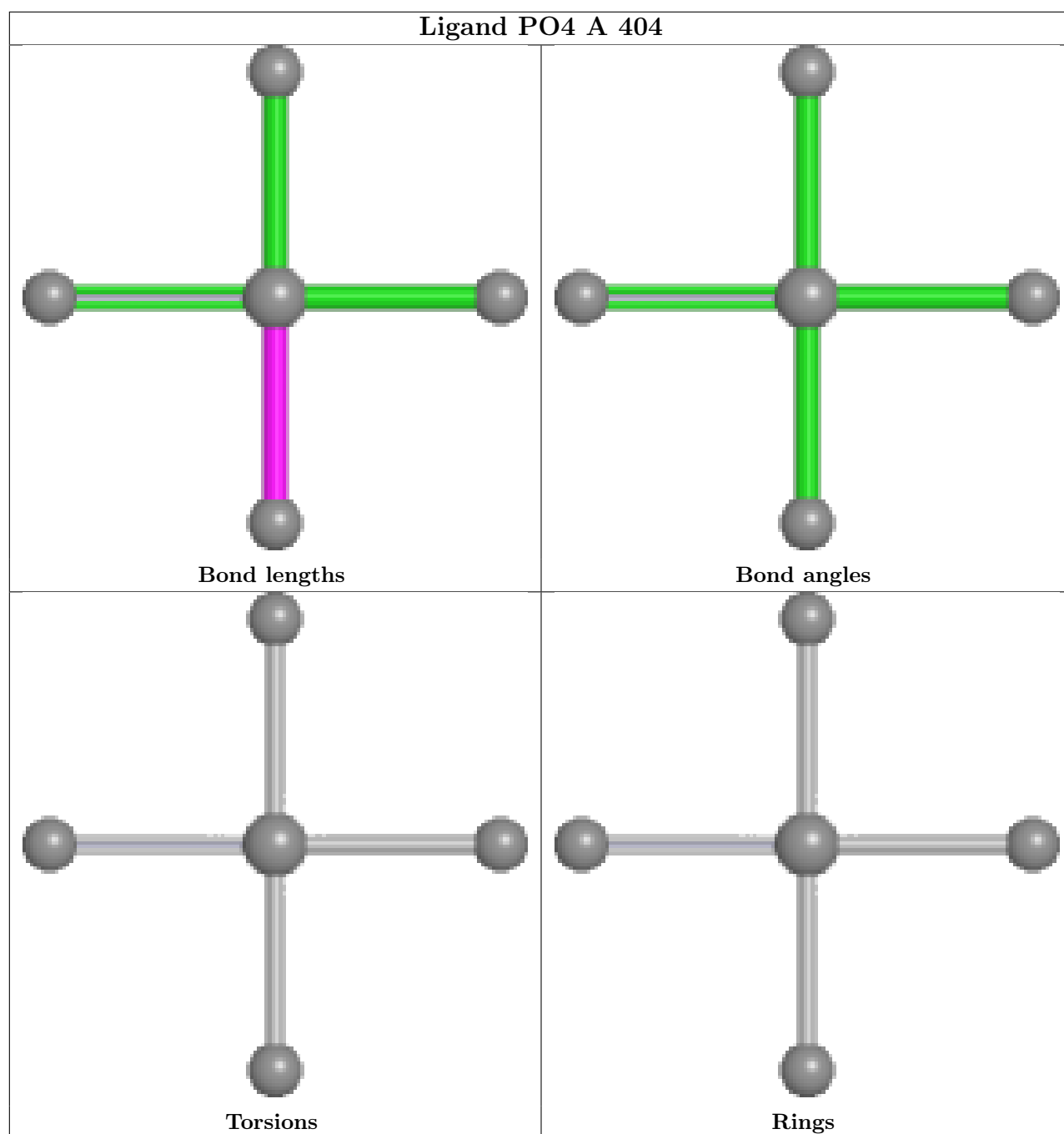


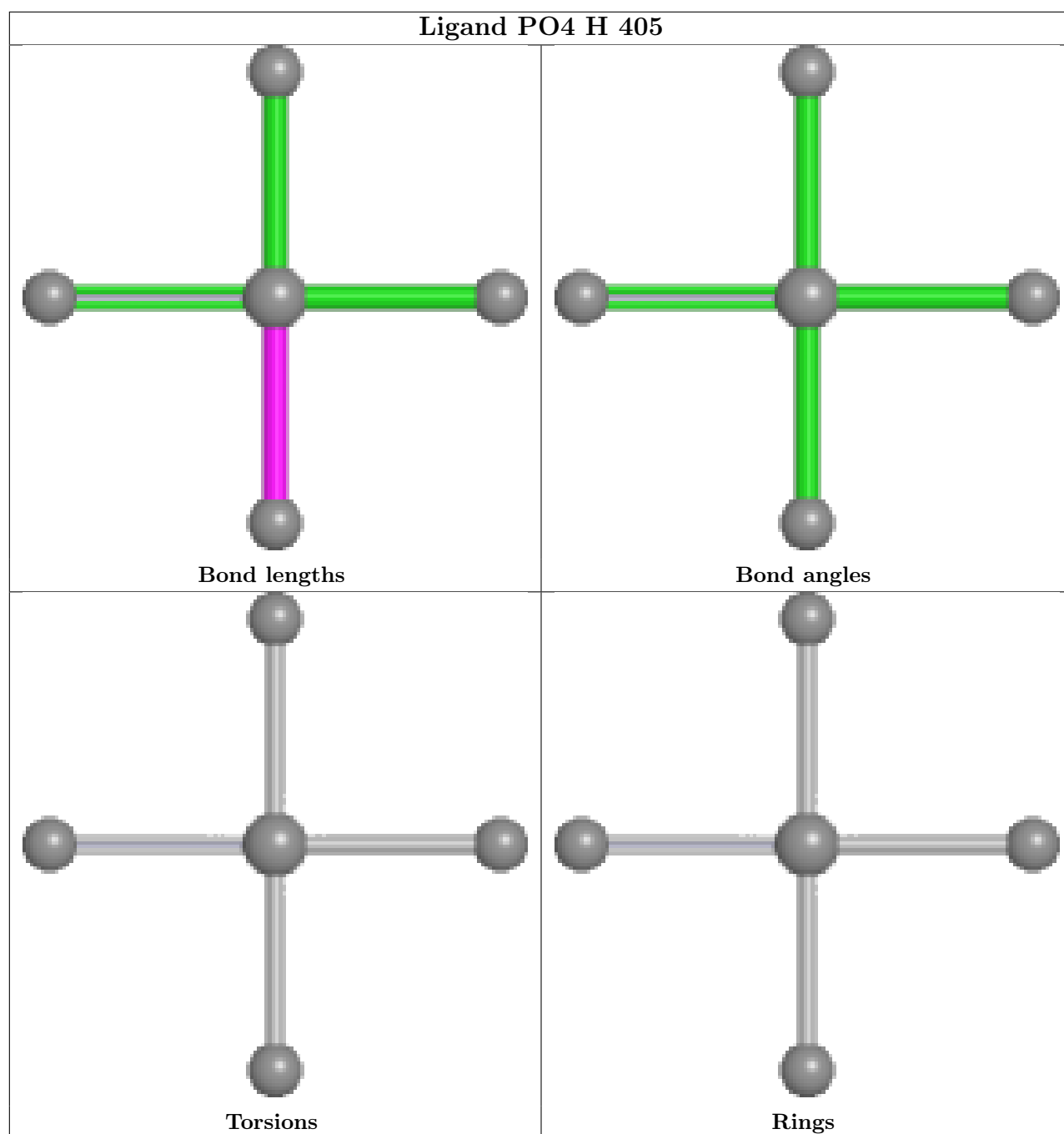


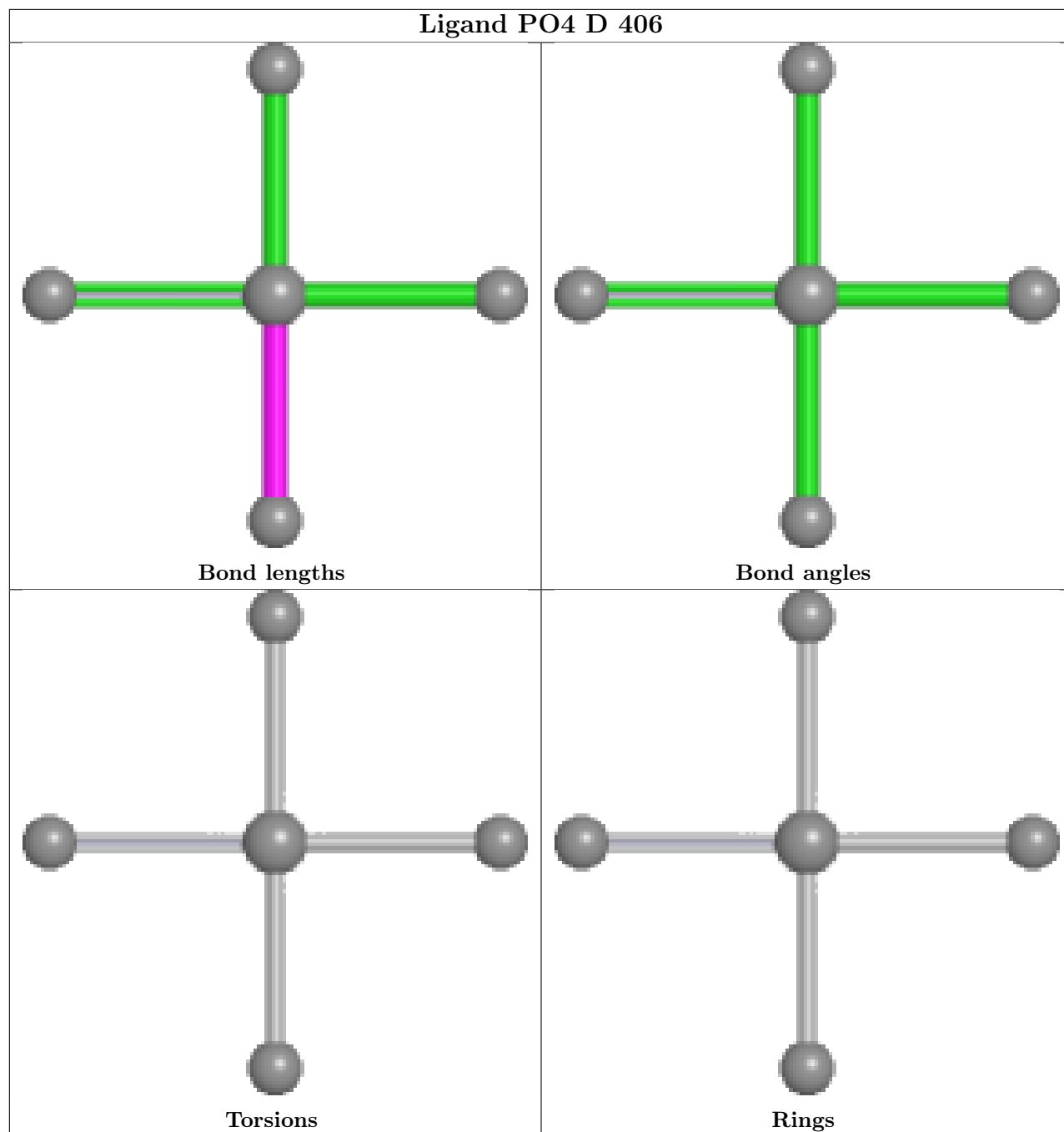


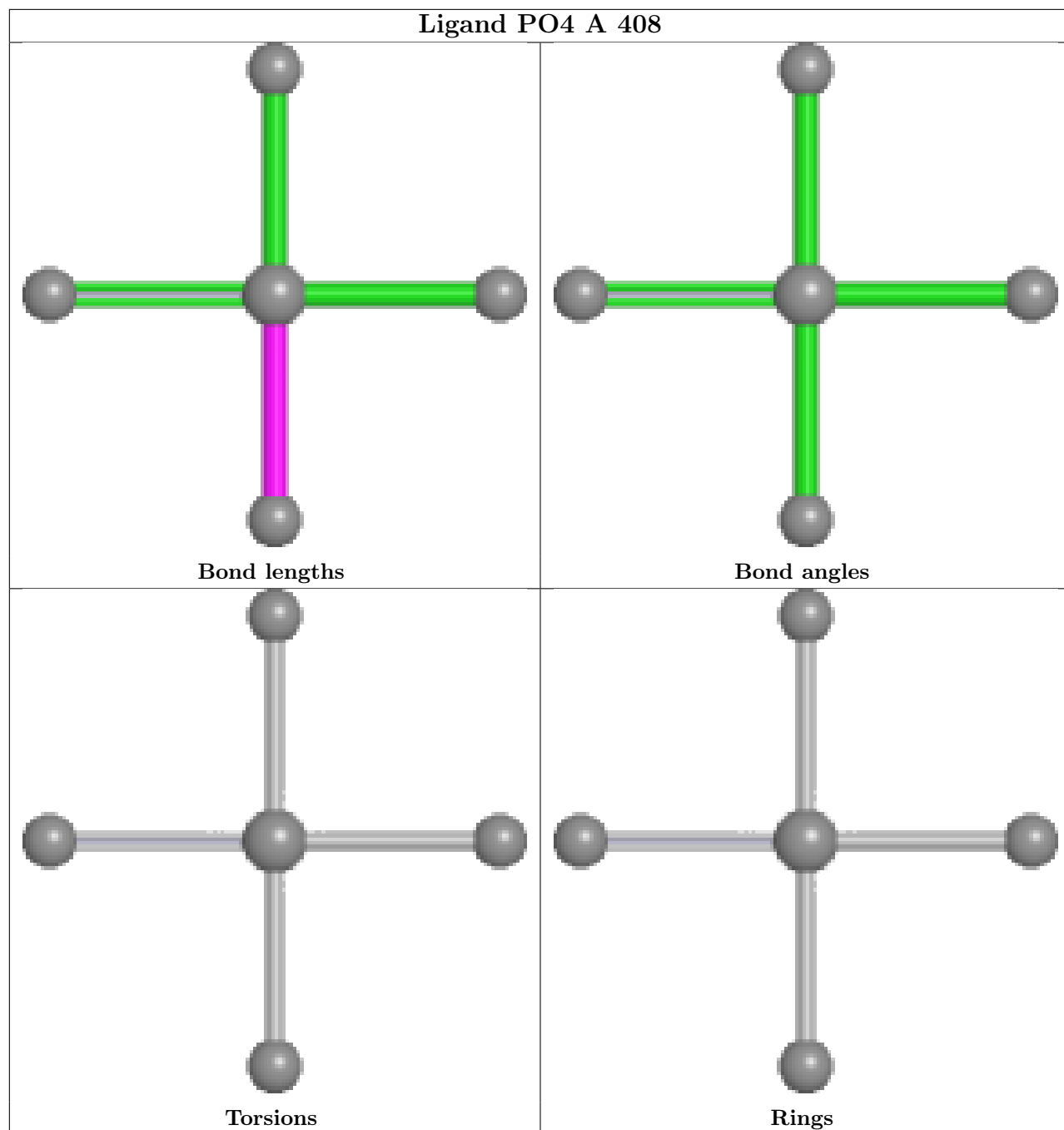


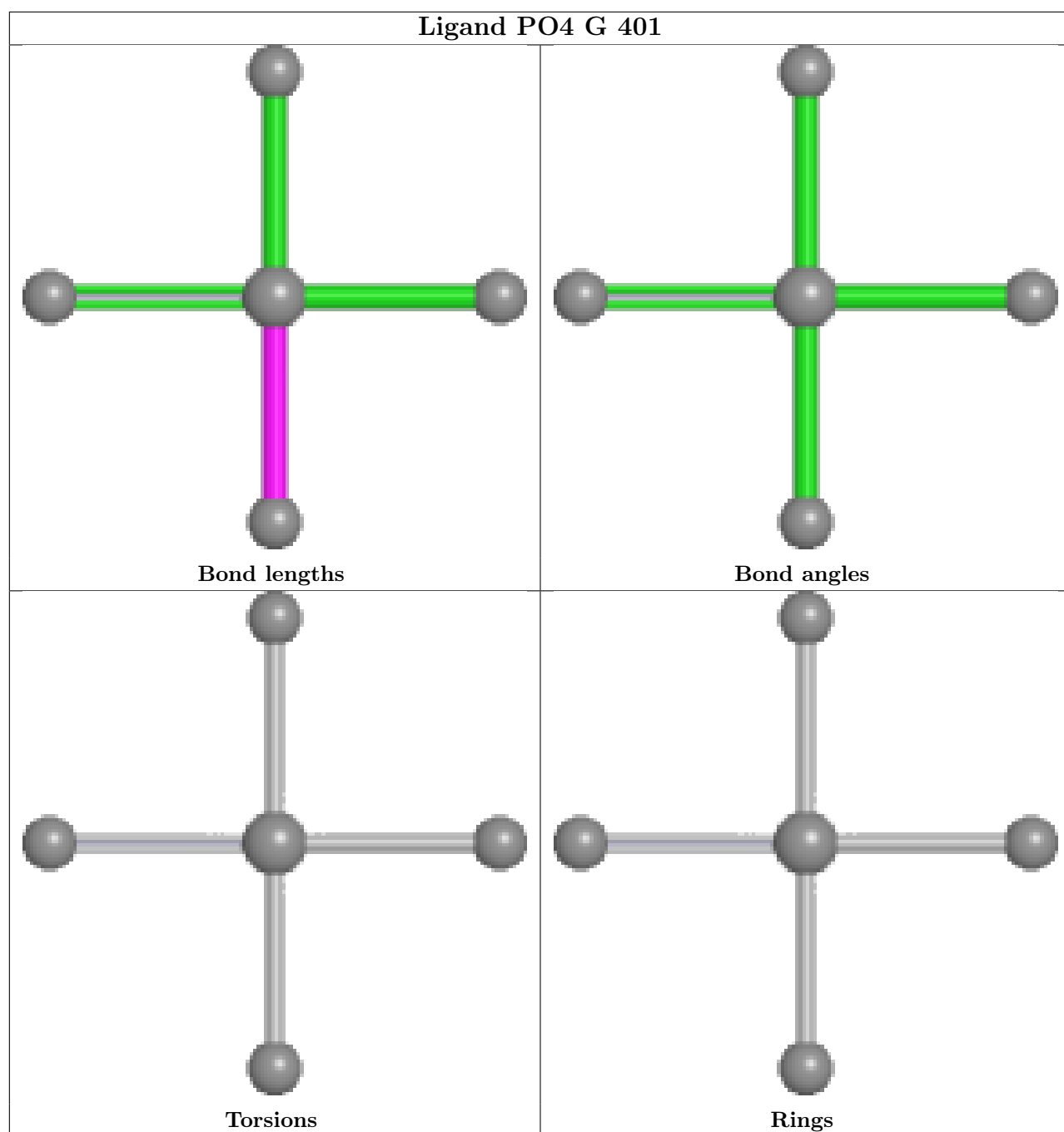


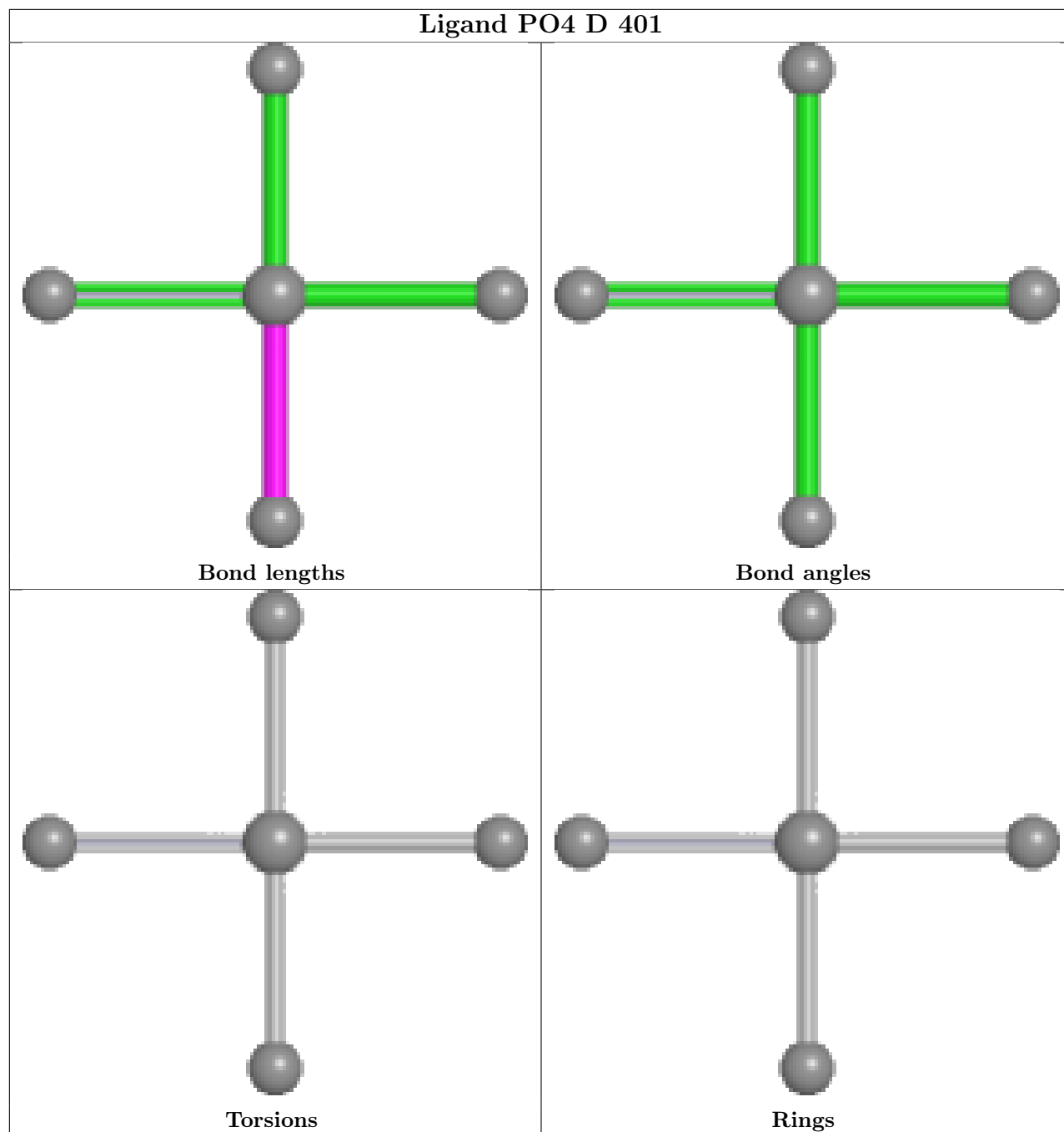


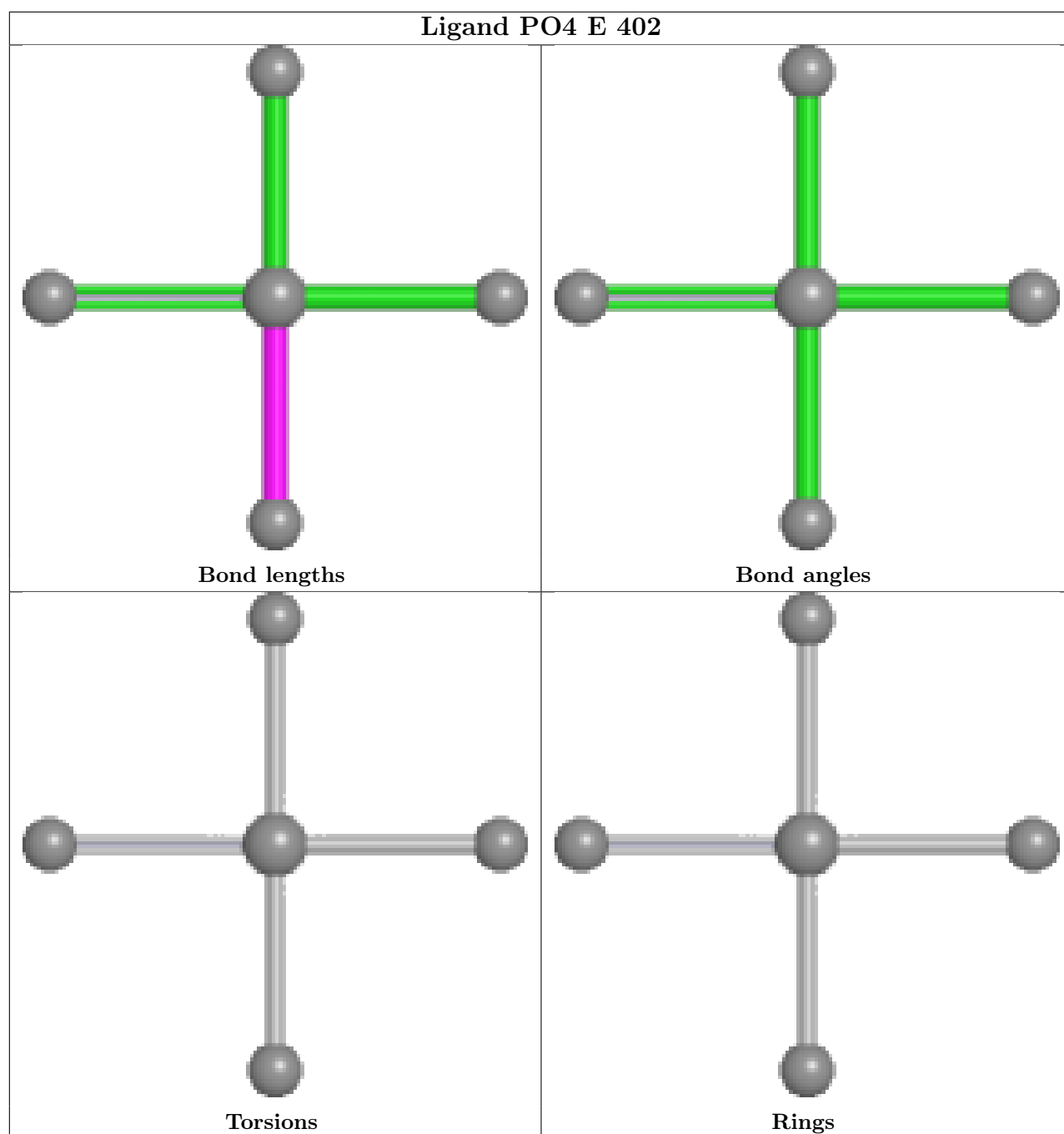


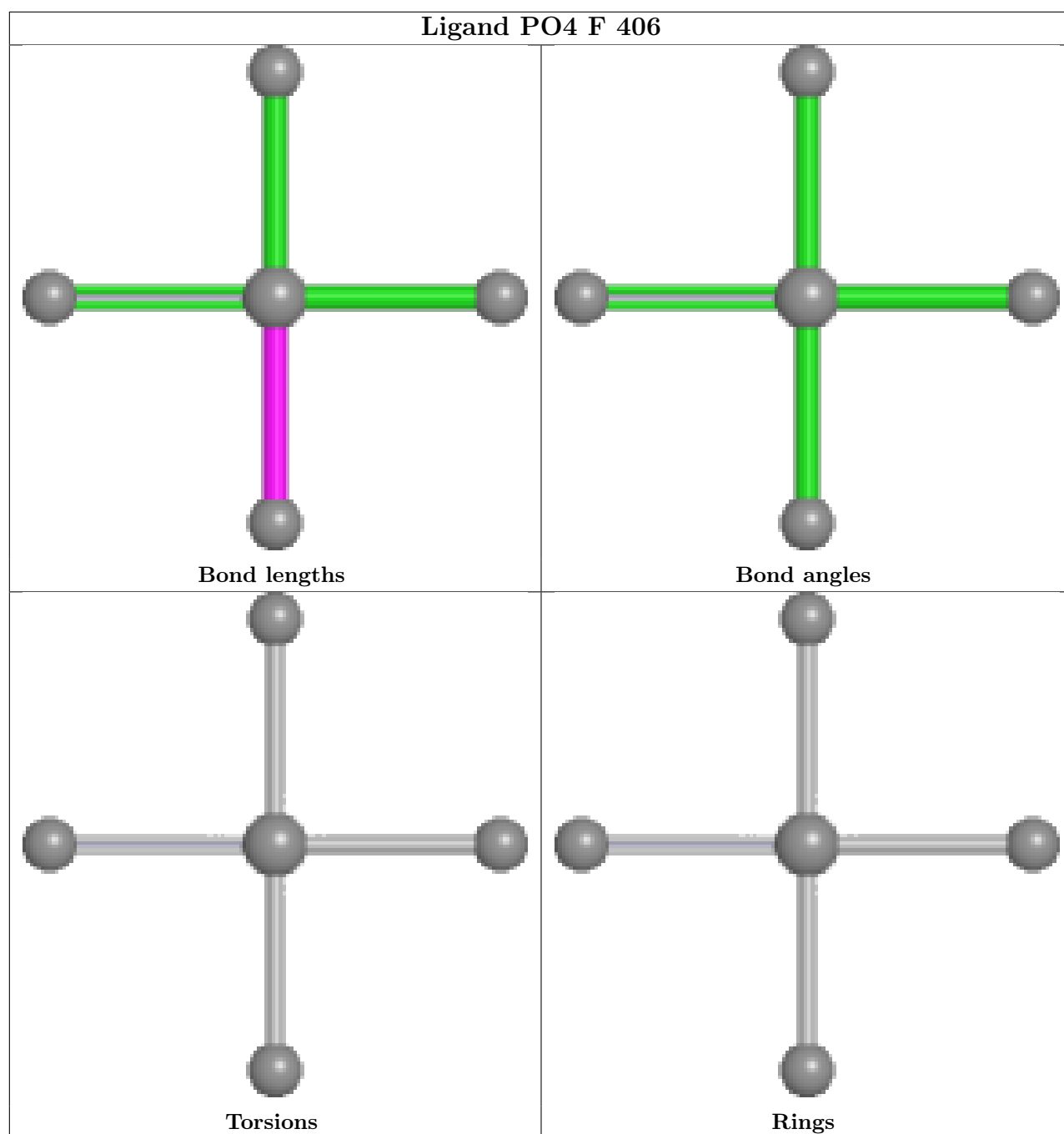


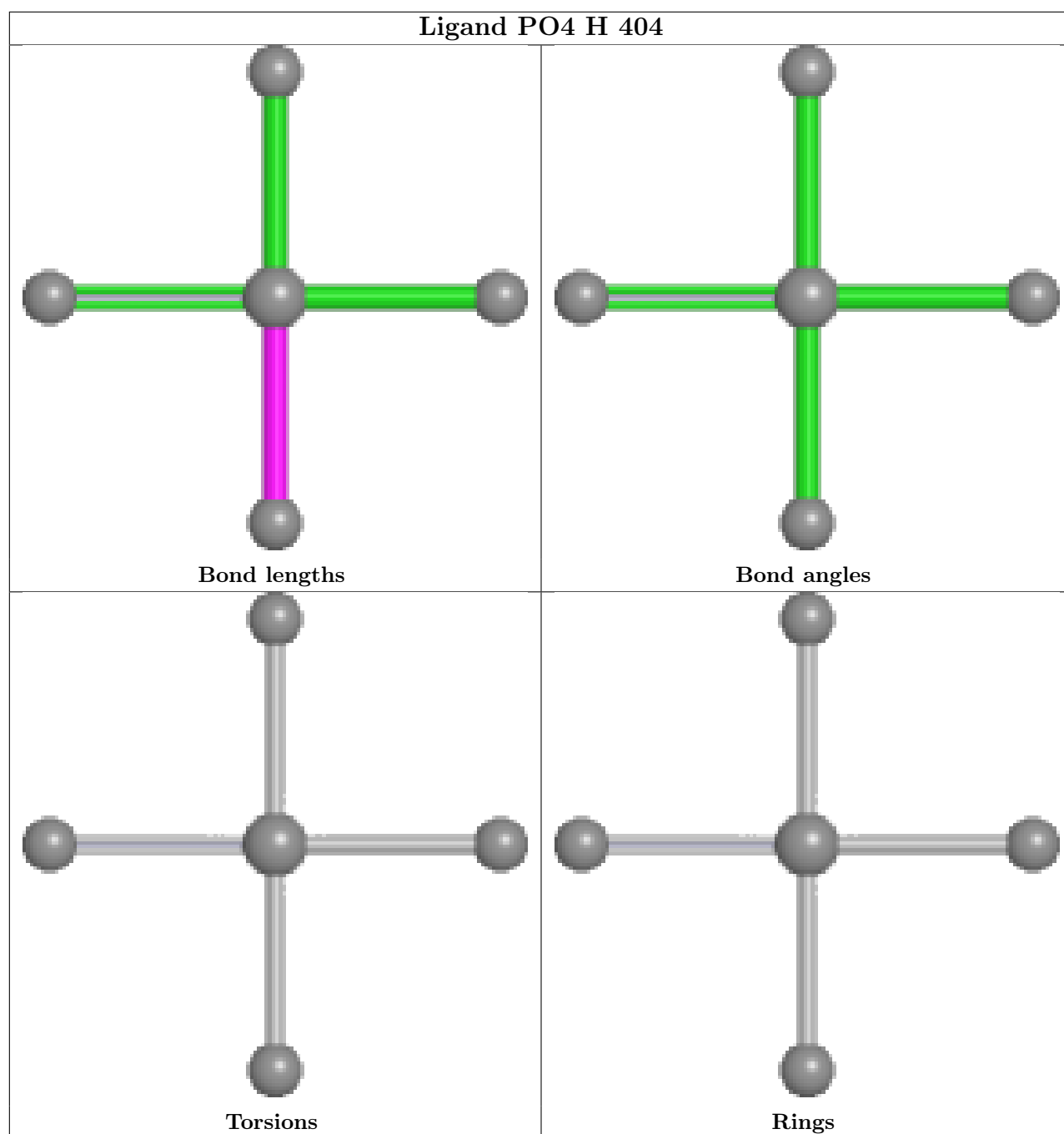


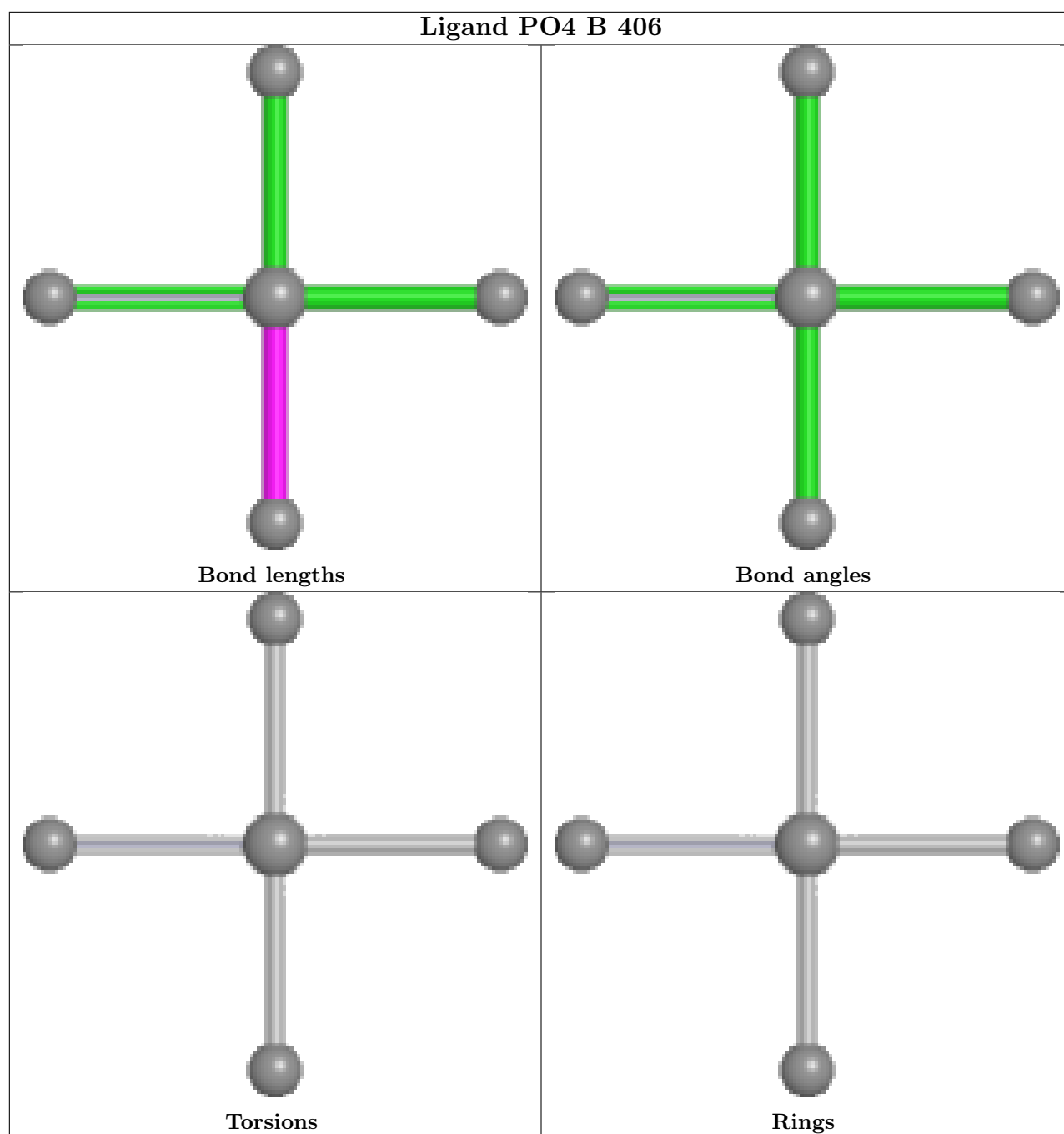


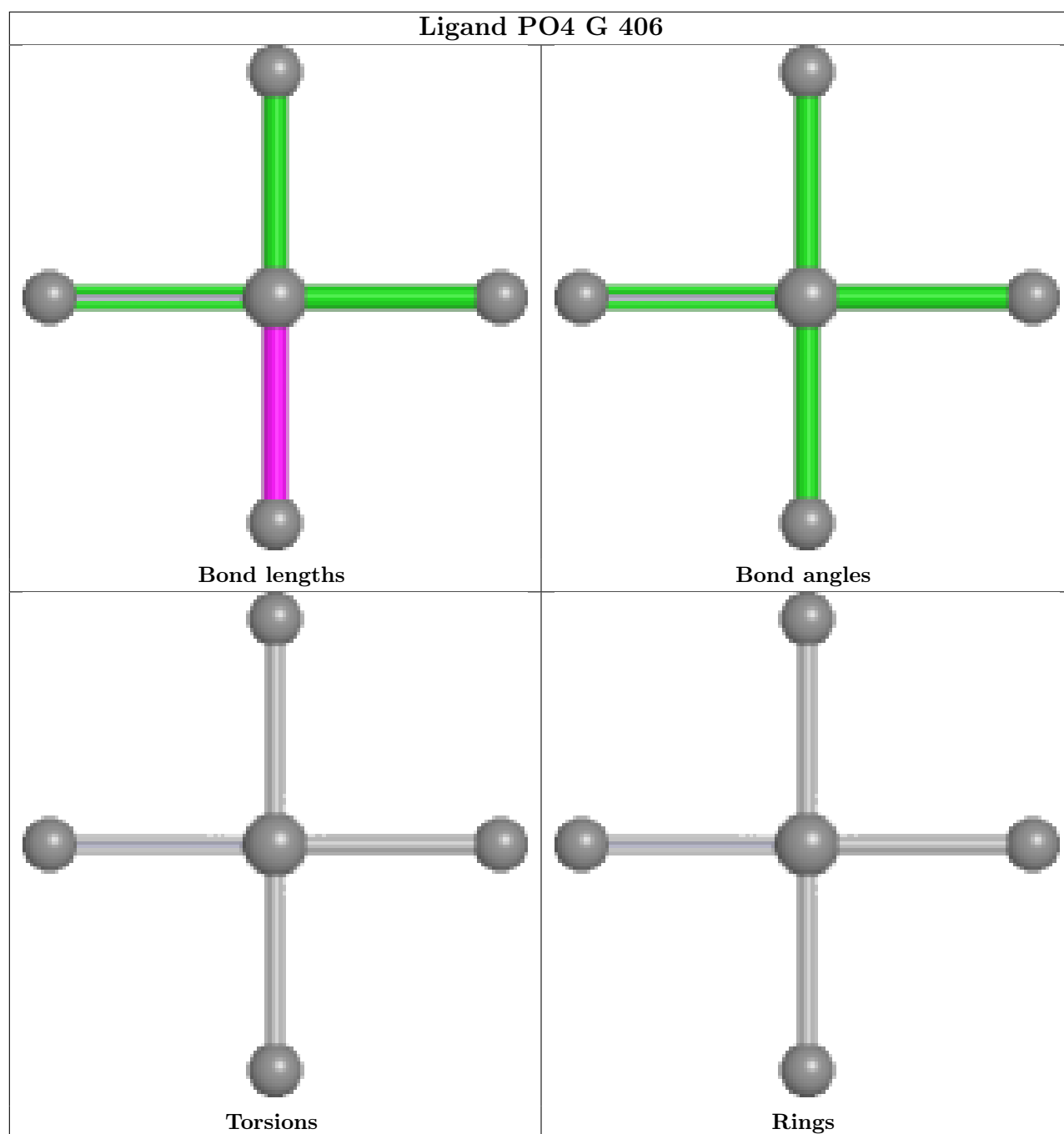


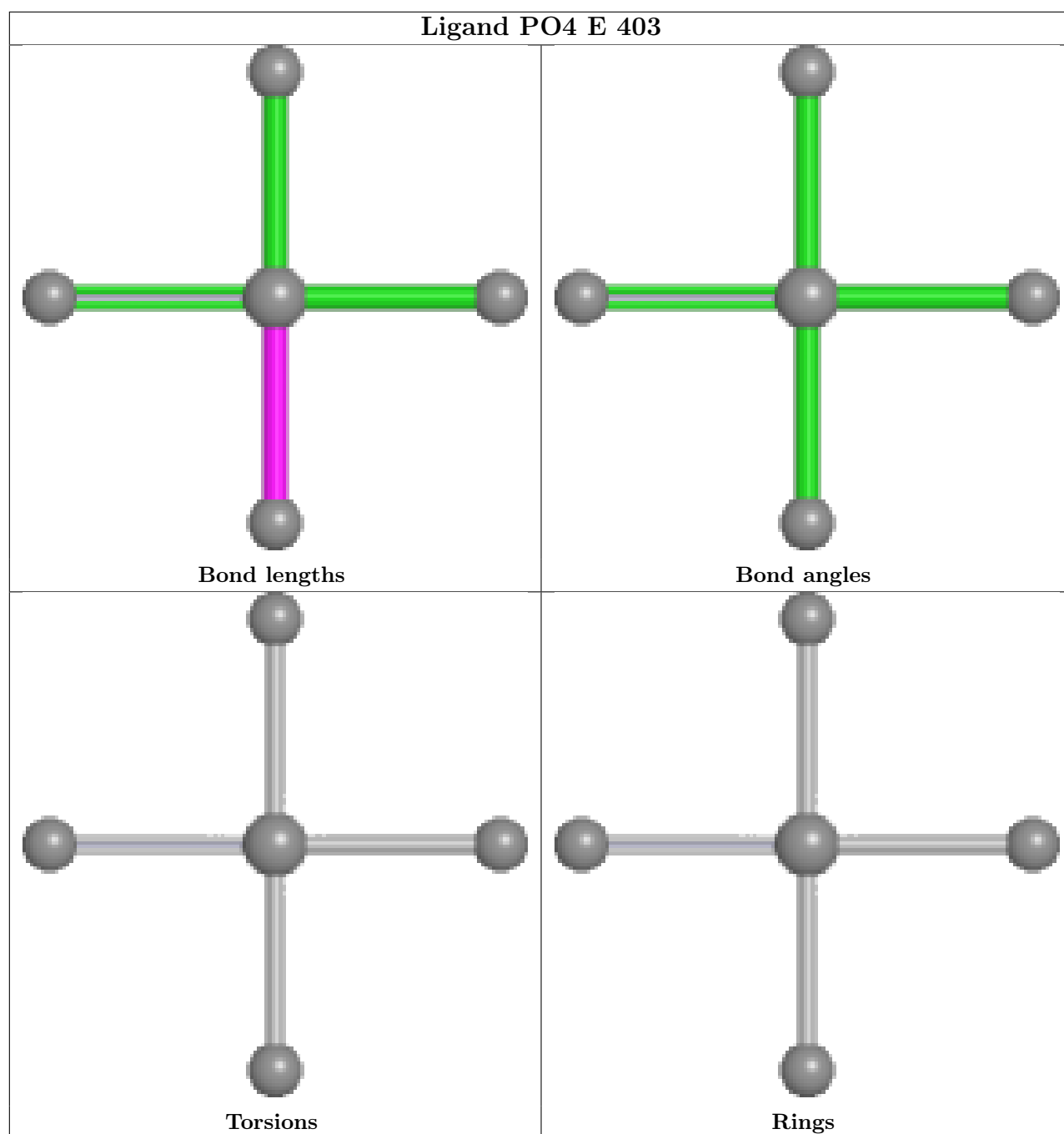


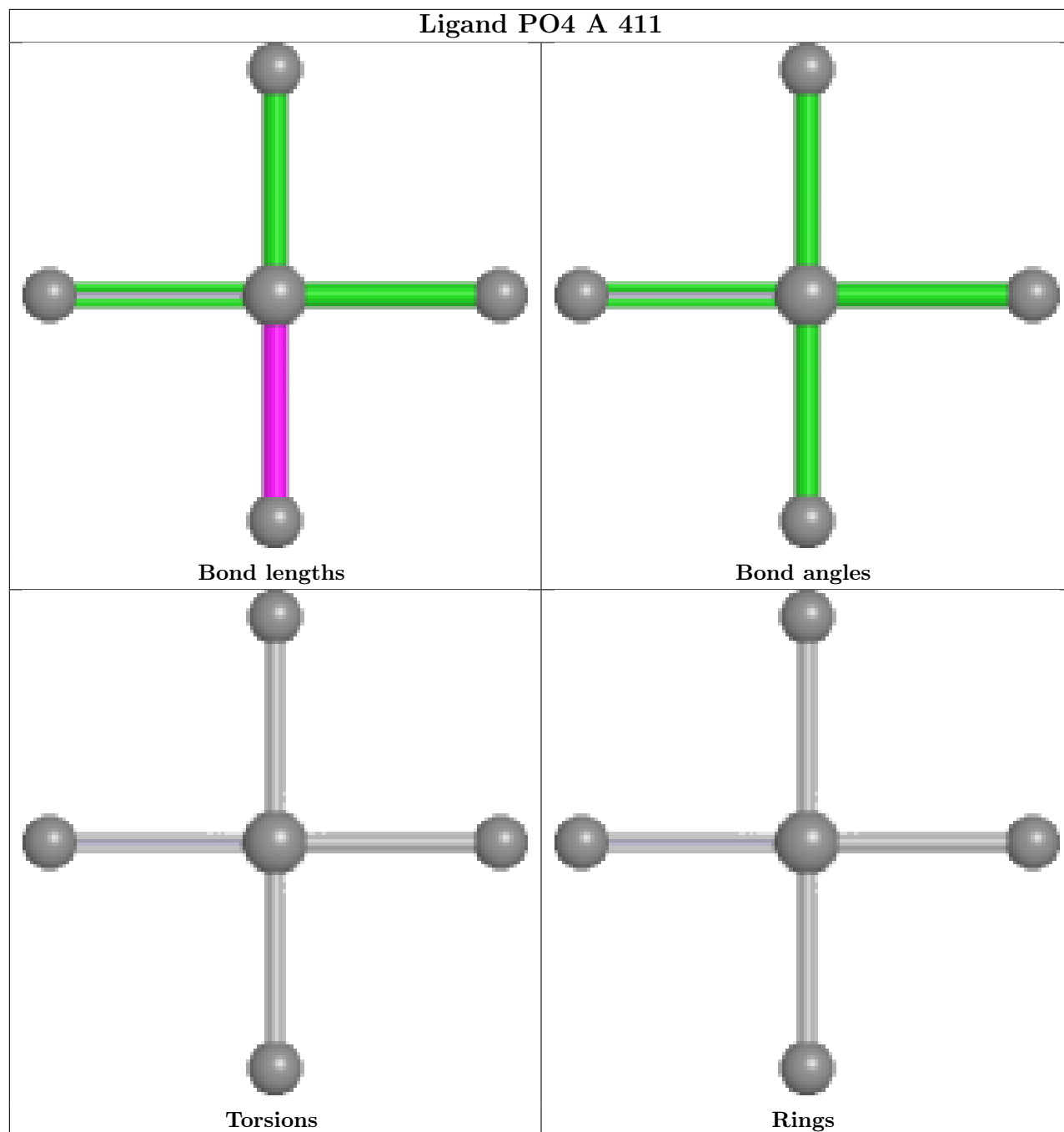


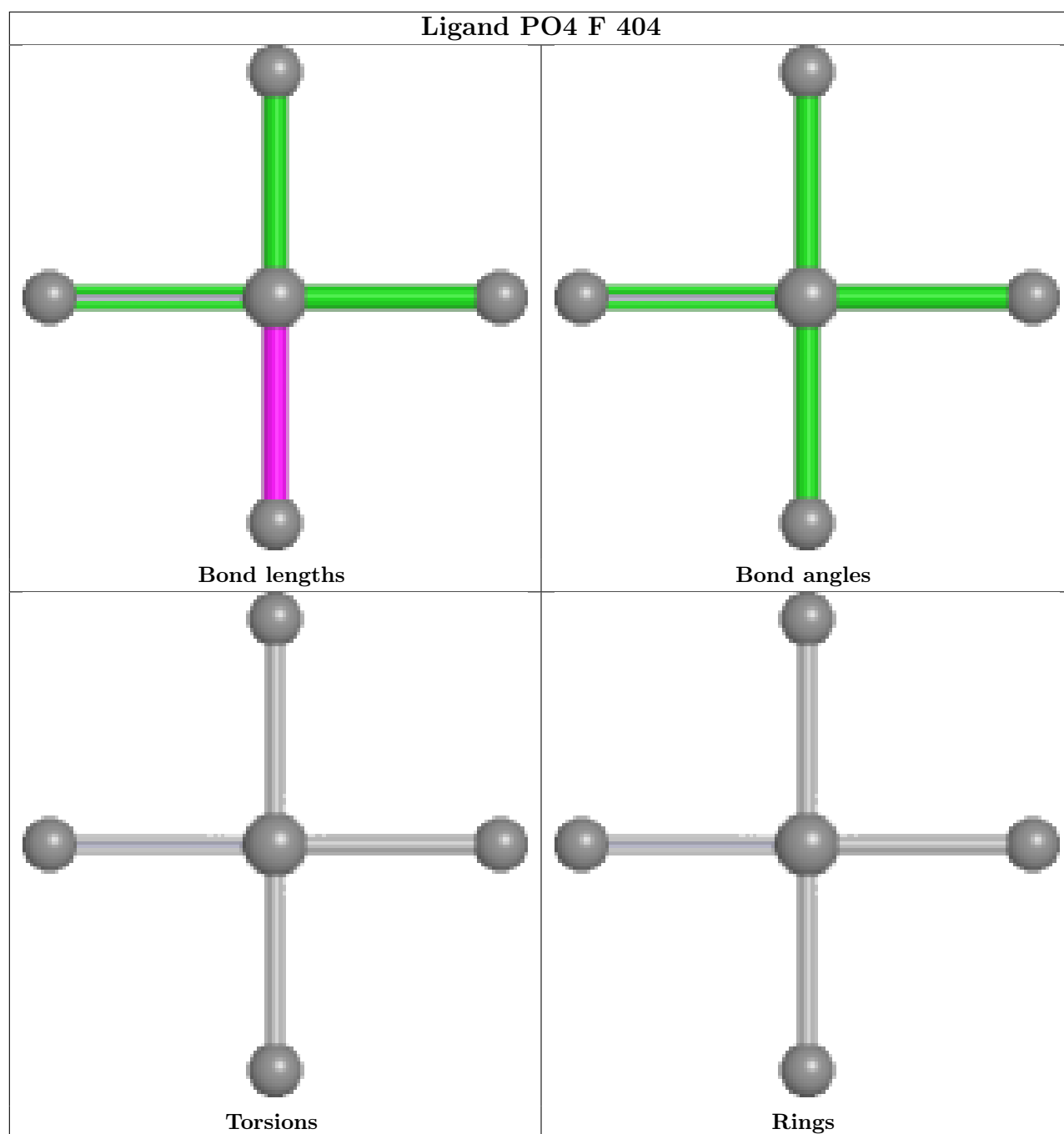


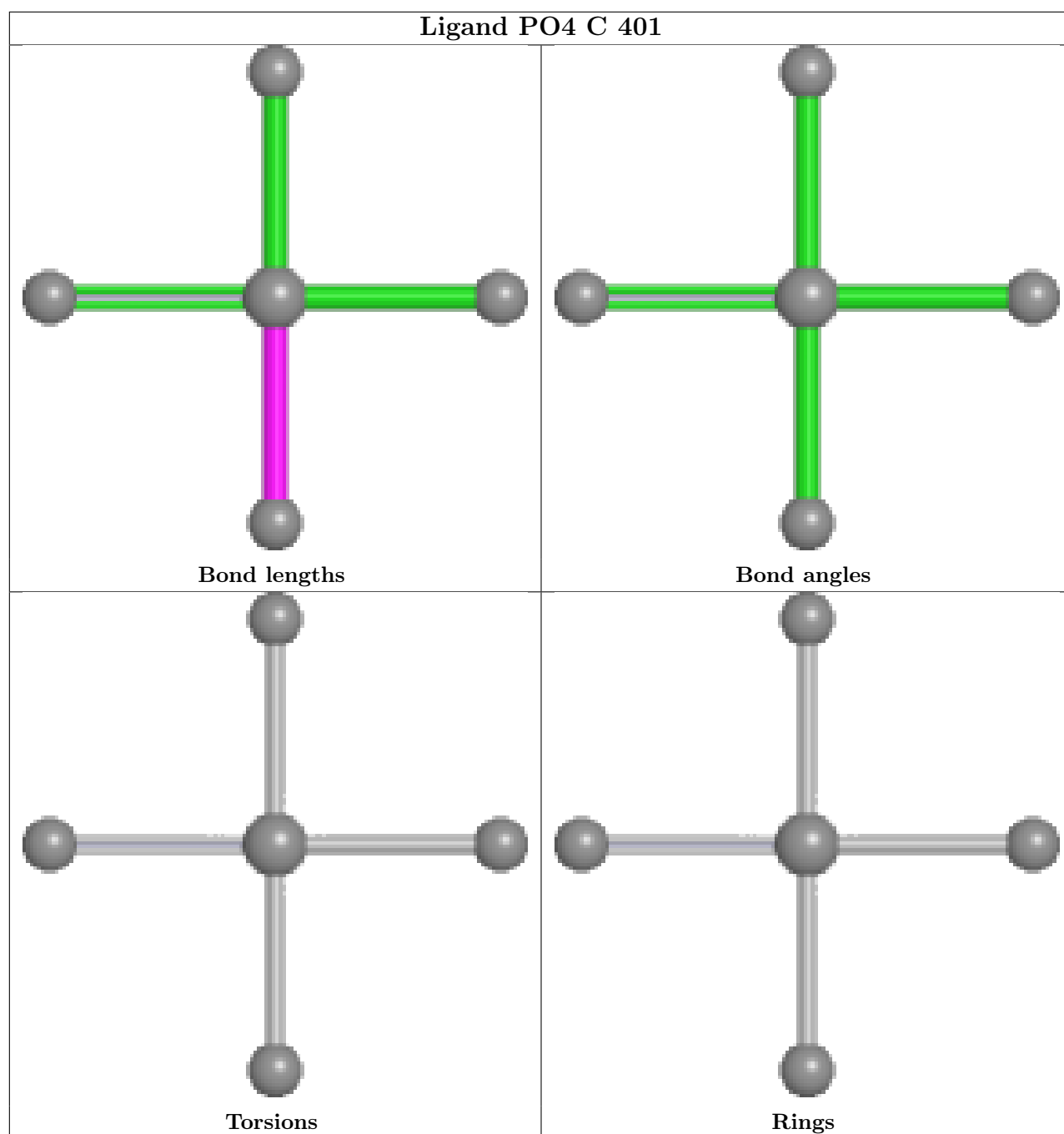












5.7 Other polymers [i](#)

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, 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	314/335 (93%)	0.88	20 (6%)	25	15	41, 59, 74, 81	0
1	B	312/335 (93%)	0.81	18 (5%)	29	17	38, 54, 72, 83	0
1	C	313/335 (93%)	0.60	16 (5%)	33	20	30, 41, 60, 74	0
1	D	314/335 (93%)	0.61	11 (3%)	47	30	28, 41, 65, 78	0
1	E	314/335 (93%)	0.64	11 (3%)	47	30	34, 44, 61, 74	0
1	F	313/335 (93%)	0.48	12 (3%)	44	27	28, 38, 54, 76	0
1	G	313/335 (93%)	0.76	18 (5%)	29	17	37, 53, 73, 88	0
1	H	313/335 (93%)	0.74	13 (4%)	40	25	42, 53, 79, 90	0
All	All	2506/2680 (93%)	0.69	119 (4%)	36	22	28, 49, 71, 90	0

All (119) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	163	SER	4.7
1	G	93	LEU	4.5
1	B	182	GLY	4.5
1	F	30	GLY	4.4
1	A	50	ALA	3.8
1	A	260	ALA	3.7
1	A	32	GLY	3.5
1	E	30	GLY	3.5
1	B	274	ASN	3.4
1	G	290	PRO	3.3
1	D	272	GLY	3.2
1	F	316	GLN	3.2
1	C	277	PRO	3.2
1	F	31	ALA	3.1
1	G	331	GLU	3.1
1	H	144	ASN	3.1

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Mol	Chain	Res	Type	RSRZ
1	F	42	LYS	3.0
1	A	184	VAL	3.0
1	A	164	GLY	2.9
1	F	273	ASP	2.9
1	G	272	GLY	2.9
1	D	244	SER	2.9
1	E	62	SER	2.9
1	E	61	GLY	2.8
1	G	305	TRP	2.8
1	C	271	ALA	2.8
1	A	226	ASN	2.8
1	B	152	GLY	2.8
1	A	211	ILE	2.8
1	F	148	LYS	2.8
1	A	31	ALA	2.7
1	H	129	LEU	2.7
1	H	294	ALA	2.7
1	G	29	THR	2.7
1	B	318	ASP	2.7
1	G	307	TYR	2.6
1	C	52	LYS	2.6
1	B	114	ALA	2.6
1	G	56	ASN	2.6
1	D	161	ASP	2.6
1	G	80	ASP	2.6
1	B	199	LYS	2.6
1	F	32	GLY	2.5
1	F	337	ASN	2.5
1	C	61	GLY	2.5
1	C	272	GLY	2.5
1	F	61	GLY	2.5
1	A	48	ASN	2.5
1	D	31	ALA	2.5
1	E	260	ALA	2.5
1	B	201	ASN	2.5
1	F	80	ASP	2.4
1	G	163	SER	2.4
1	E	329	GLN	2.4
1	H	29	THR	2.4
1	H	133	SER	2.4
1	C	68	GLN	2.4
1	C	305	TRP	2.4

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Mol	Chain	Res	Type	RSRZ
1	C	222	TYR	2.4
1	A	295	GLY	2.4
1	B	272	GLY	2.4
1	G	54	GLN	2.4
1	E	209	LYS	2.3
1	B	32	GLY	2.3
1	E	163	SER	2.3
1	A	315	LYS	2.3
1	H	339	PRO	2.3
1	H	27	ASP	2.3
1	D	208	VAL	2.3
1	C	310	GLY	2.3
1	B	31	ALA	2.3
1	F	294	ALA	2.3
1	D	80	ASP	2.3
1	B	79	SER	2.3
1	B	276	TRP	2.2
1	C	197	GLY	2.2
1	A	317	LEU	2.2
1	B	177	ASN	2.2
1	G	324	ASP	2.2
1	H	222	TYR	2.2
1	A	197	GLY	2.2
1	C	203	GLY	2.2
1	B	66	ILE	2.2
1	G	145	PRO	2.2
1	H	212	LYS	2.2
1	G	322	LEU	2.2
1	A	49	ALA	2.2
1	A	81	ALA	2.2
1	E	280	ALA	2.2
1	C	60	ILE	2.2
1	A	187	GLY	2.2
1	G	61	GLY	2.2
1	D	57	TYR	2.2
1	H	114	ALA	2.2
1	C	292	ASN	2.1
1	E	32	GLY	2.1
1	E	328	THR	2.1
1	C	129	LEU	2.1
1	A	275	ALA	2.1
1	A	125	GLY	2.1

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Mol	Chain	Res	Type	RSRZ
1	B	207	TYR	2.1
1	B	319	TYR	2.1
1	D	207	TYR	2.1
1	A	248	PHE	2.1
1	G	79	SER	2.0
1	D	58	GLN	2.0
1	H	233	MET	2.0
1	C	150	PRO	2.0
1	G	292	ASN	2.0
1	E	77	GLY	2.0
1	A	318	ASP	2.0
1	H	250	ALA	2.0
1	D	201	ASN	2.0
1	B	164	GLY	2.0
1	C	31	ALA	2.0
1	G	223	ALA	2.0
1	H	255	ALA	2.0
1	B	137	ASP	2.0
1	F	291	LYS	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, 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(\AA^2)	Q<0.9
2	PO4	H	409	5/5	0.60	0.18	62,63,72,78	0
2	PO4	A	405	5/5	0.63	0.21	65,66,71,72	0
2	PO4	G	405	5/5	0.65	0.19	56,56,69,70	0
2	PO4	A	401	5/5	0.72	0.18	60,61,64,67	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
2	PO4	E	405	5/5	0.73	0.23	43,45,54,61	0
2	PO4	B	405	5/5	0.76	0.15	64,67,70,73	0
2	PO4	G	406	5/5	0.78	0.25	66,68,73,81	0
2	PO4	H	410	5/5	0.80	0.13	56,56,69,71	0
2	PO4	G	401	5/5	0.81	0.20	50,51,63,65	0
2	PO4	A	406	5/5	0.82	0.15	52,58,59,60	0
2	PO4	H	403	5/5	0.82	0.13	50,54,58,66	0
2	PO4	H	407	5/5	0.82	0.16	59,63,64,68	0
2	PO4	B	406	5/5	0.82	0.12	59,62,72,77	0
2	PO4	C	407	5/5	0.82	0.15	58,61,65,66	0
2	PO4	E	407	5/5	0.83	0.18	54,57,69,77	0
2	PO4	B	408	5/5	0.83	0.12	54,54,58,66	0
2	PO4	D	401	5/5	0.84	0.15	34,37,37,42	0
2	PO4	H	408	5/5	0.84	0.12	63,66,68,69	0
2	PO4	H	401	5/5	0.85	0.16	45,46,47,51	0
2	PO4	F	401	5/5	0.85	0.15	21,31,32,32	0
2	PO4	B	407	5/5	0.85	0.14	36,38,39,40	0
2	PO4	D	404	5/5	0.86	0.15	41,42,49,50	0
2	PO4	A	408	5/5	0.87	0.13	56,57,63,65	0
2	PO4	G	402	5/5	0.88	0.15	47,48,51,53	0
2	PO4	C	405	5/5	0.88	0.16	43,45,50,50	0
2	PO4	B	401	5/5	0.88	0.15	47,48,50,51	0
2	PO4	B	404	5/5	0.89	0.13	49,52,53,66	0
2	PO4	A	404	5/5	0.89	0.13	54,57,62,67	0
2	PO4	C	402	5/5	0.90	0.15	29,29,30,30	0
2	PO4	A	407	5/5	0.90	0.11	48,52,53,54	0
2	PO4	B	403	5/5	0.91	0.10	47,48,49,52	0
2	PO4	D	403	5/5	0.91	0.10	42,44,46,54	0
2	PO4	F	408	5/5	0.91	0.19	39,39,43,49	0
2	PO4	H	404	5/5	0.91	0.16	36,37,43,51	0
2	PO4	E	401	5/5	0.92	0.13	38,39,40,41	0
2	PO4	D	402	5/5	0.92	0.14	32,33,34,35	0
2	PO4	F	404	5/5	0.92	0.14	28,29,29,30	0
2	PO4	F	407	5/5	0.93	0.12	35,35,37,40	0
2	PO4	A	411	5/5	0.93	0.12	41,45,46,49	0
2	PO4	G	404	5/5	0.93	0.09	34,37,38,40	0
2	PO4	D	406	5/5	0.94	0.14	38,40,41,43	0
2	PO4	H	402	5/5	0.94	0.10	47,47,50,50	0
2	PO4	E	406	5/5	0.94	0.11	37,37,40,43	0
2	PO4	A	403	5/5	0.94	0.10	46,46,50,52	0
2	PO4	C	401	5/5	0.95	0.10	37,40,41,44	0
2	PO4	A	402	5/5	0.95	0.15	38,39,39,40	0

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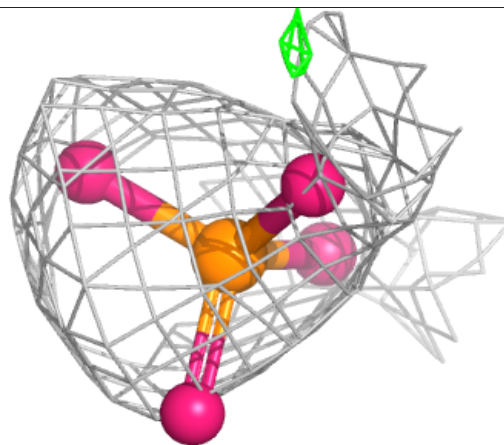
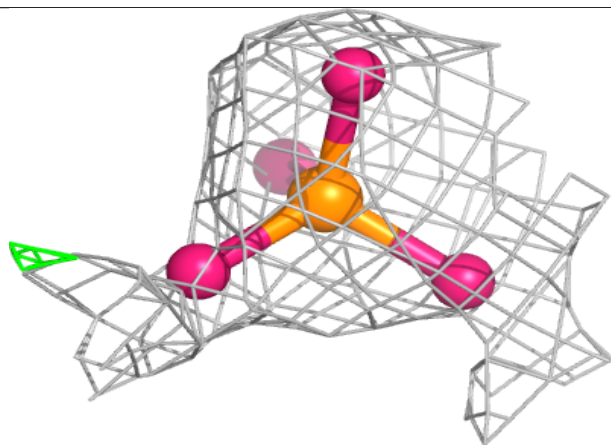
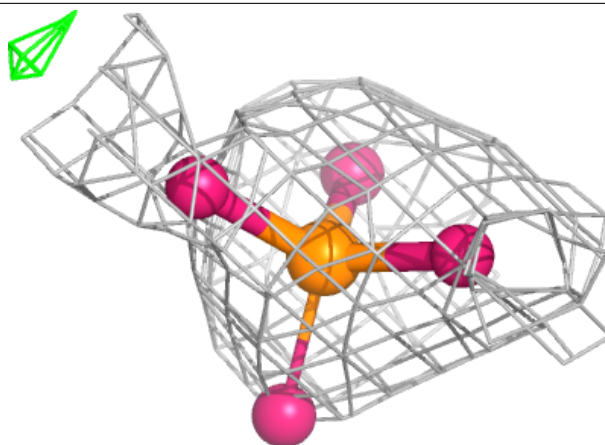
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
2	PO4	D	405	5/5	0.95	0.12	35,35,36,39	0
2	PO4	F	402	5/5	0.95	0.08	34,34,35,35	0
2	PO4	E	402	5/5	0.96	0.15	27,32,34,34	0
2	PO4	B	402	5/5	0.96	0.08	34,35,35,37	0
2	PO4	F	406	5/5	0.96	0.09	28,29,29,31	0
2	PO4	C	403	5/5	0.96	0.12	23,36,36,36	0
2	PO4	C	404	5/5	0.96	0.09	30,31,31,34	0
2	PO4	A	410	5/5	0.96	0.08	50,51,51,59	0
2	PO4	E	403	5/5	0.97	0.11	3,33,36,38	0
2	PO4	G	403	5/5	0.97	0.14	31,39,40,41	0
2	PO4	E	404	5/5	0.97	0.13	40,41,41,44	0
2	PO4	H	405	5/5	0.97	0.10	49,50,53,57	0
2	PO4	F	403	5/5	0.98	0.13	26,32,34,34	0
2	PO4	D	408	5/5	0.98	0.10	27,30,32,33	0
3	IOD	A	409	1/1	0.98	0.03	62,62,62,62	0
3	IOD	H	406	1/1	0.98	0.02	59,59,59,59	0
3	IOD	C	406	1/1	0.99	0.02	40,40,40,40	0
2	PO4	F	405	5/5	0.99	0.06	20,26,27,28	0
3	IOD	D	407	1/1	1.00	0.02	38,38,38,38	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.

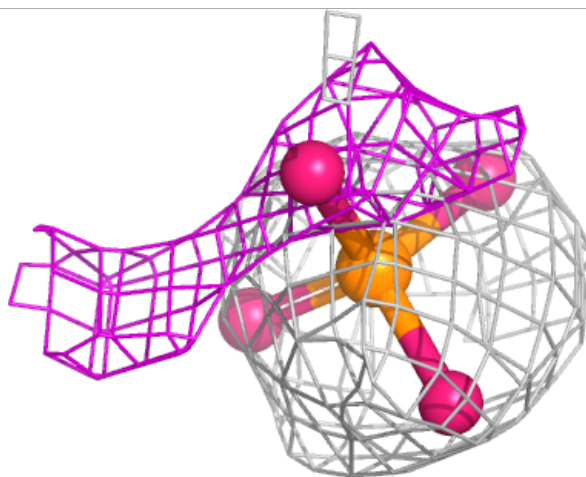
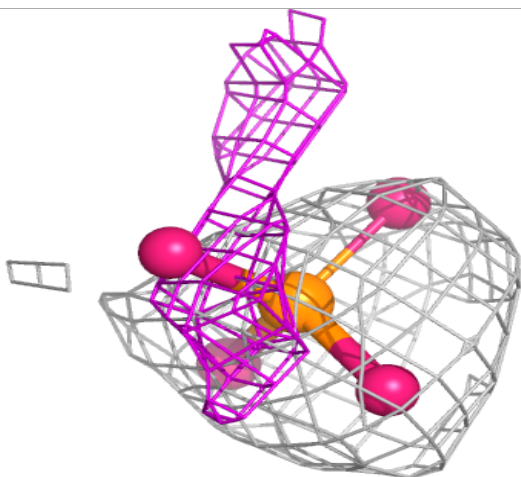
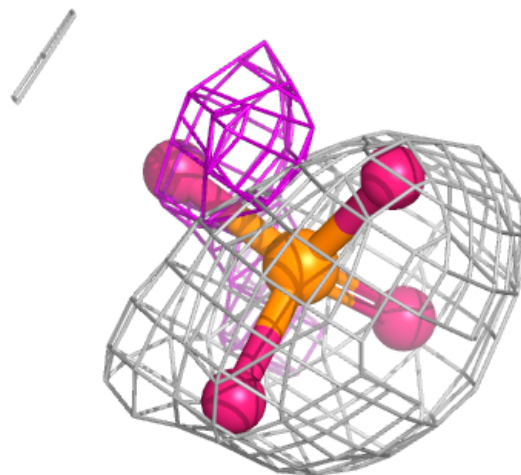
Electron density around PO4 H 409:

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



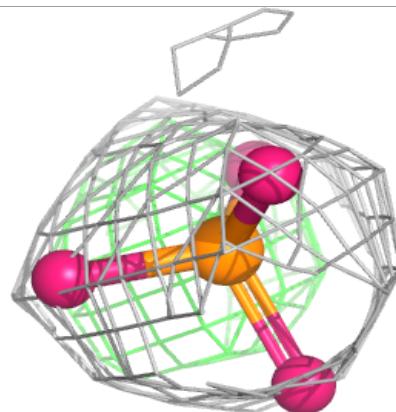
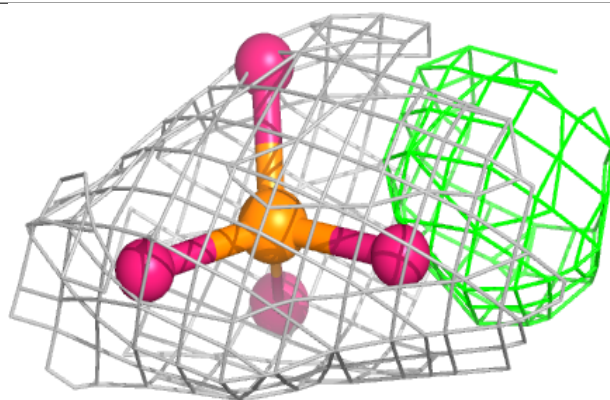
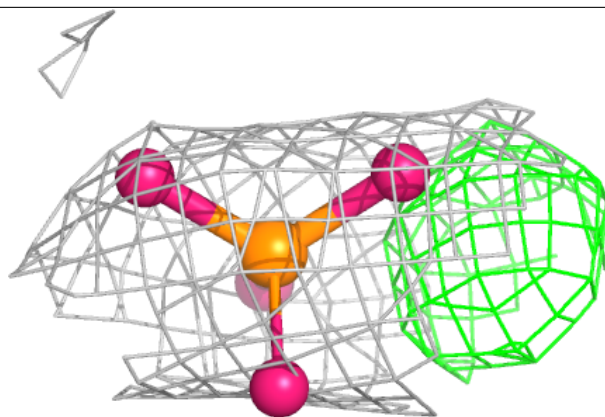
Electron density around PO4 A 405:

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



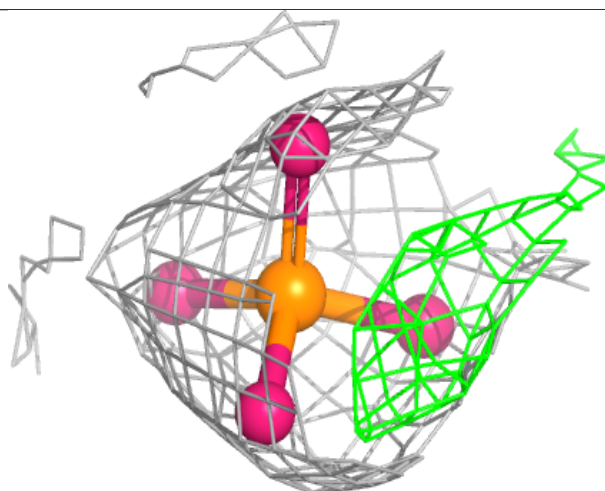
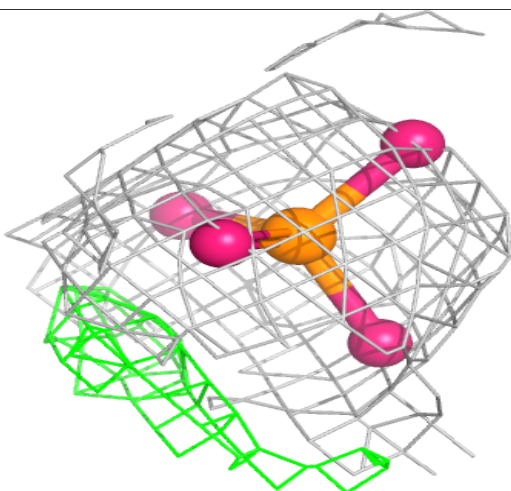
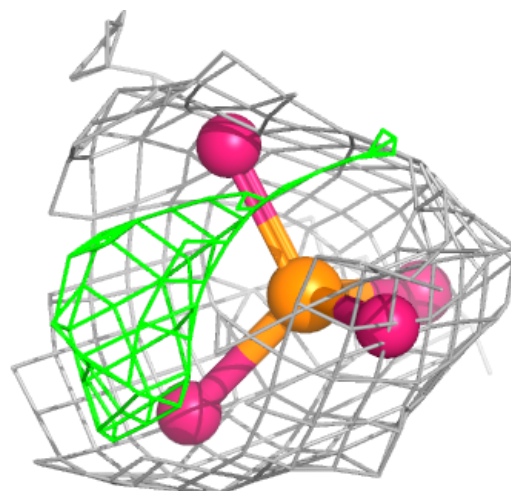
Electron density around PO4 G 405:

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



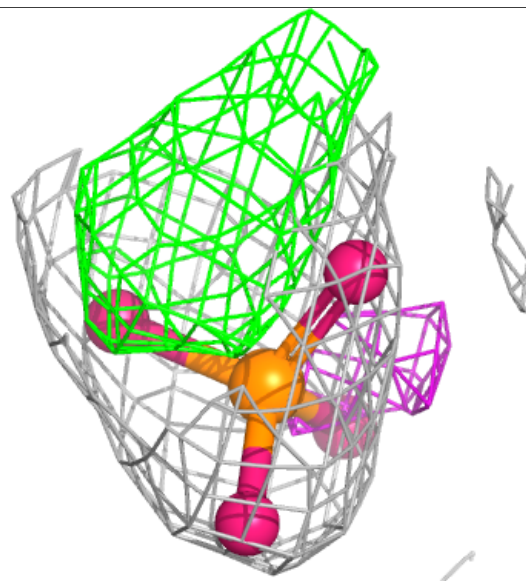
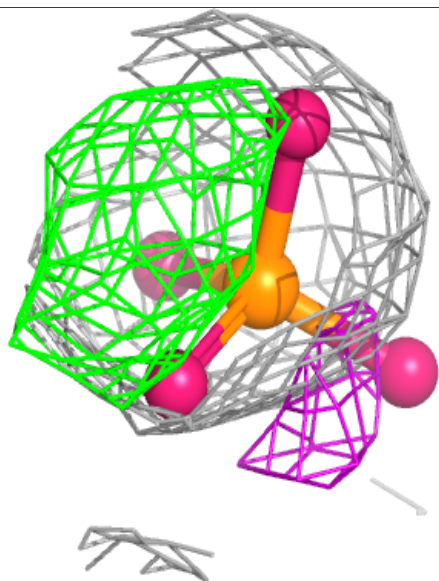
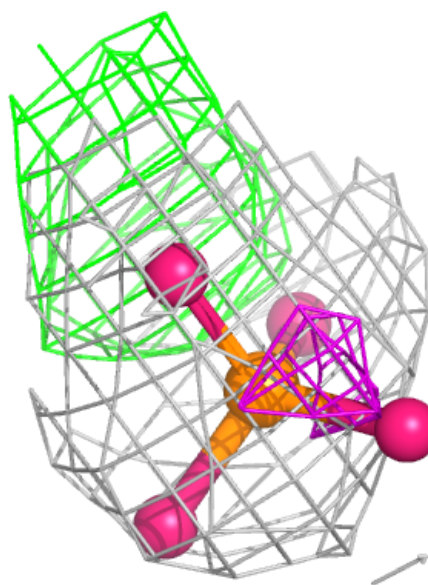
Electron density around PO4 A 401:

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



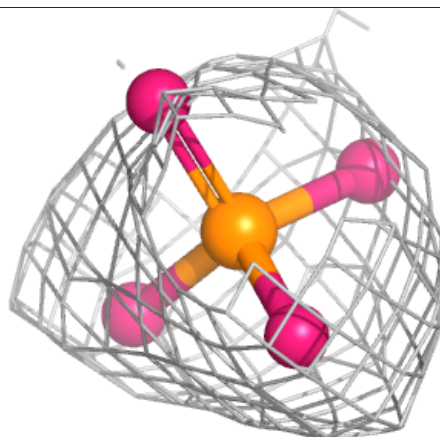
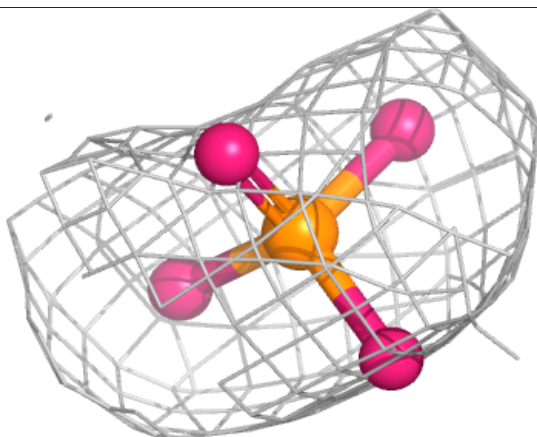
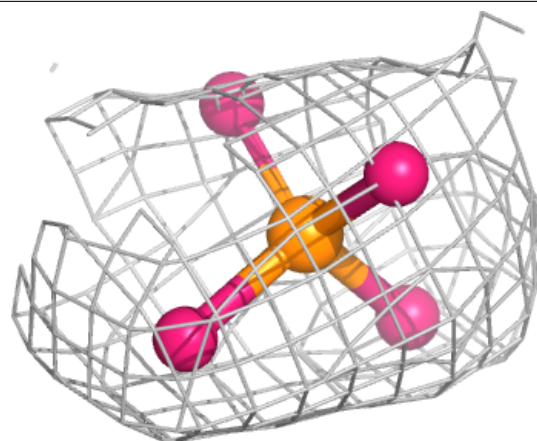
Electron density around PO4 E 405:

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



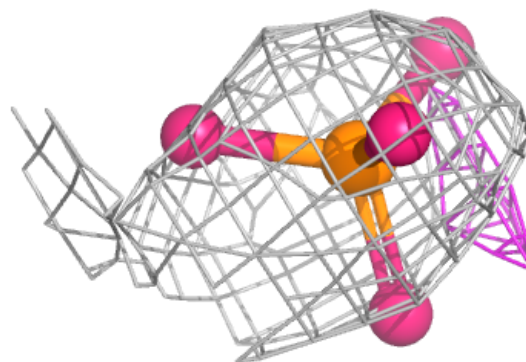
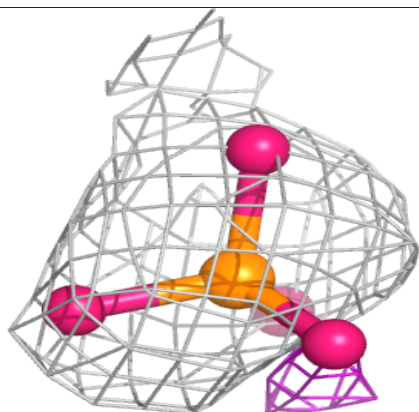
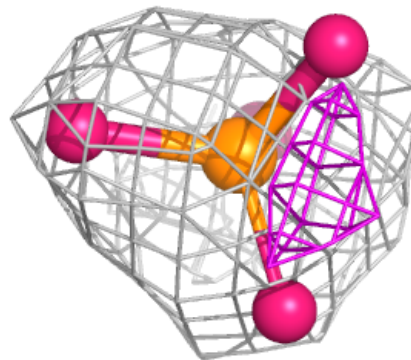
Electron density around PO4 B 405:

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



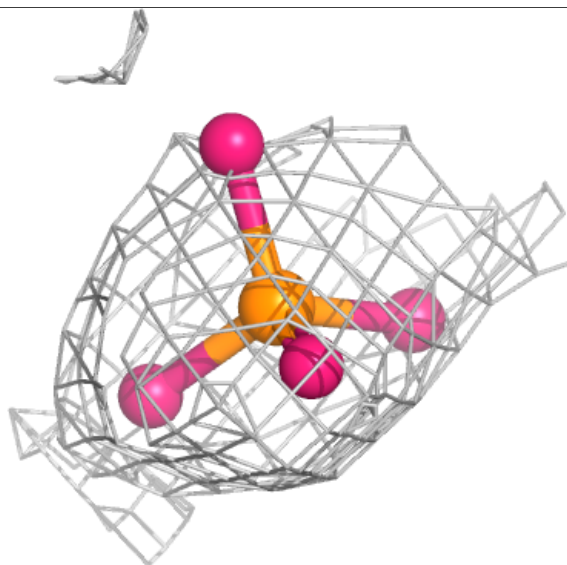
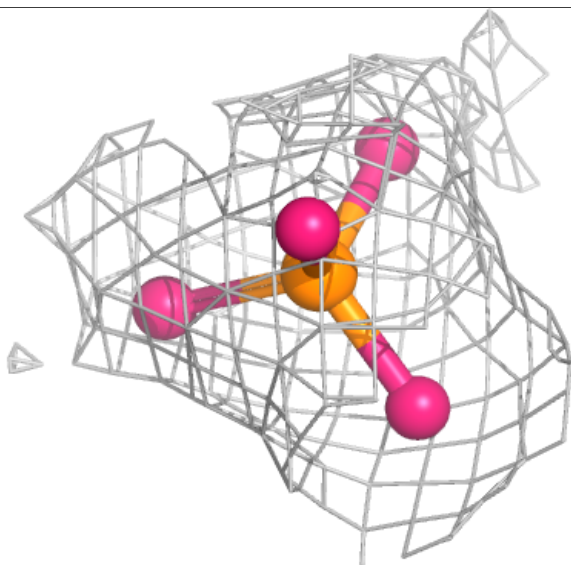
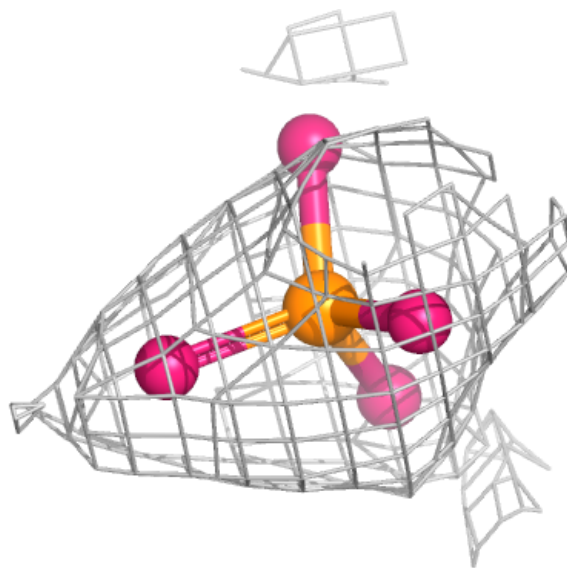
Electron density around PO4 G 406:

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



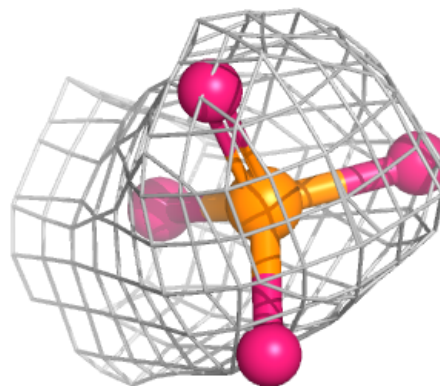
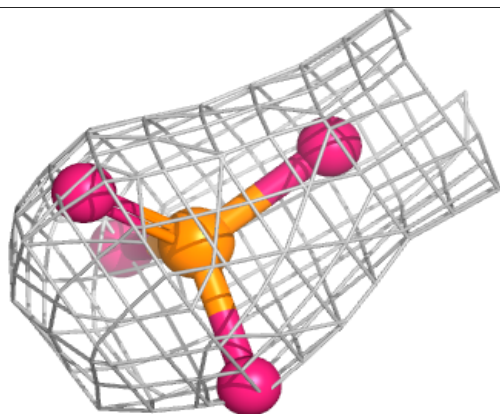
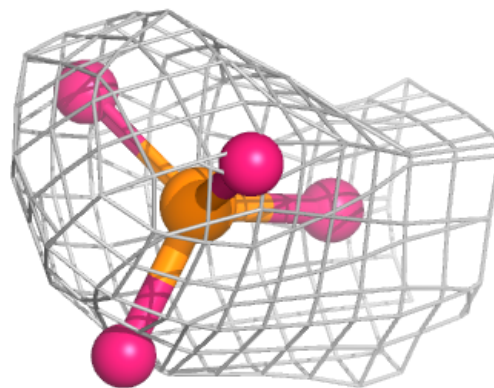
Electron density around PO4 H 410:

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



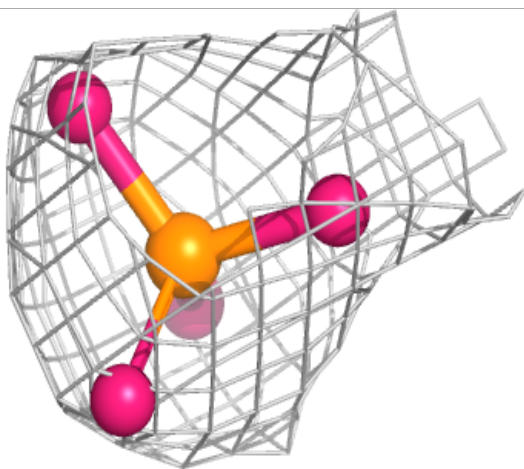
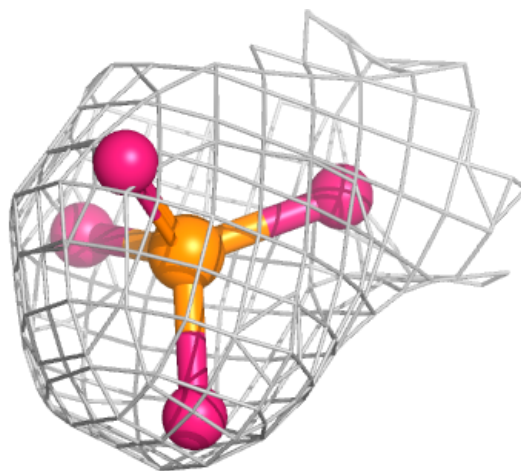
Electron density around PO4 G 401:

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



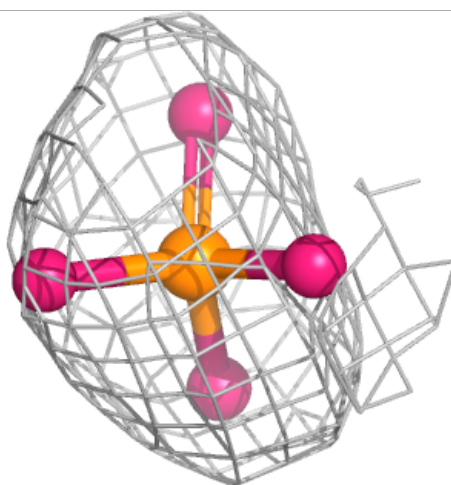
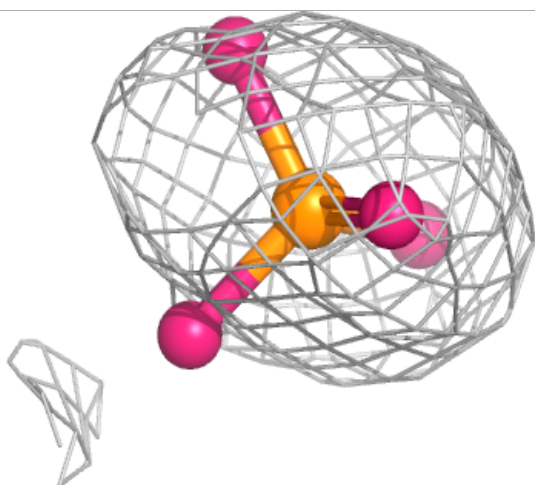
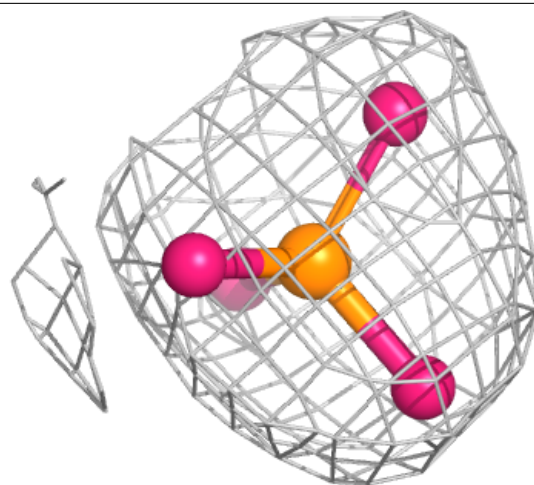
Electron density around PO4 A 406:

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



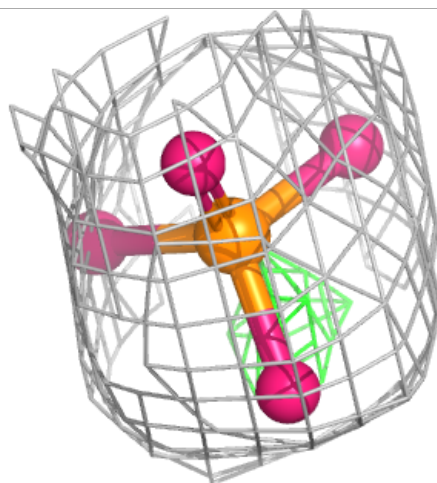
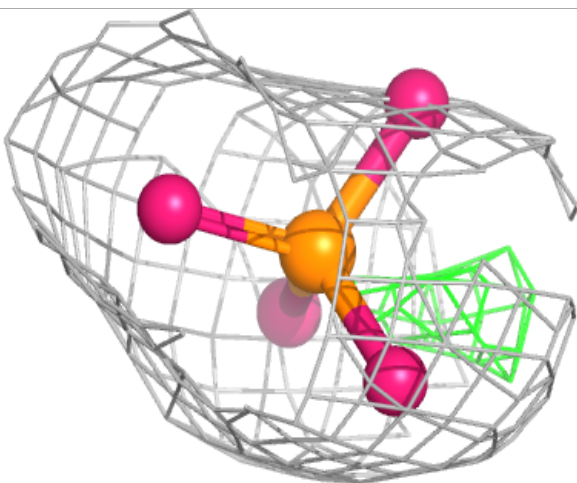
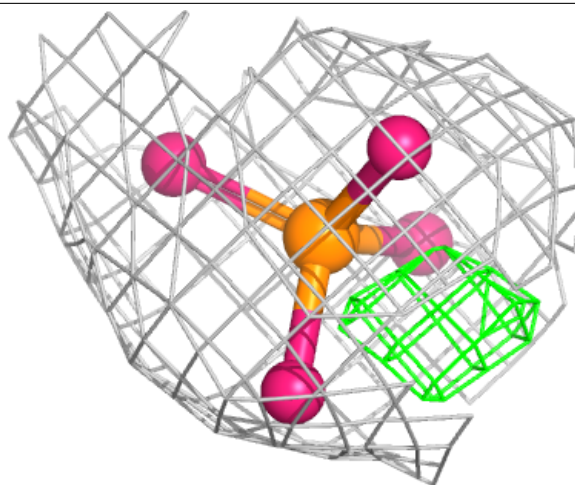
Electron density around PO4 H 403:

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



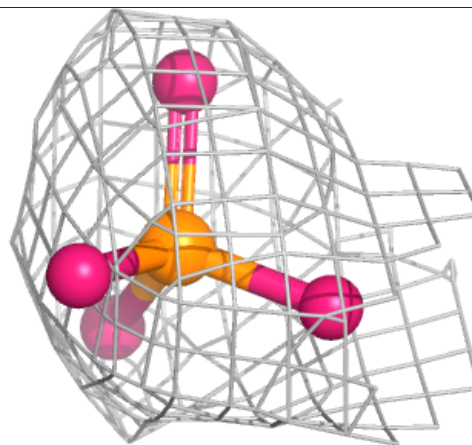
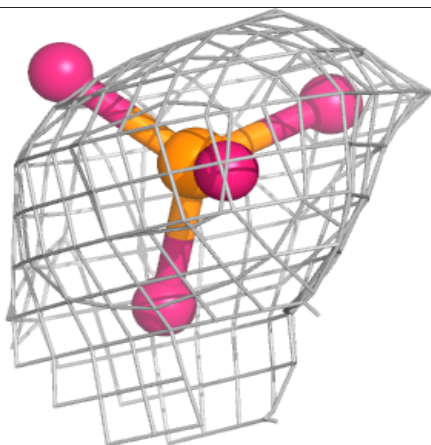
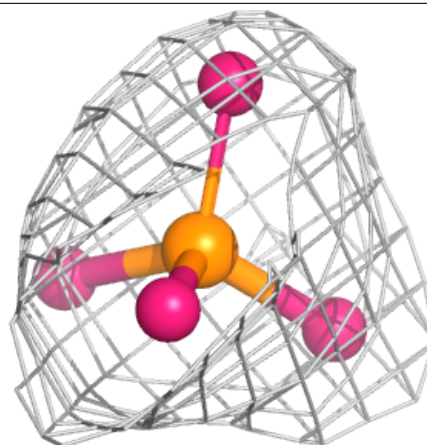
Electron density around PO4 H 407:

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



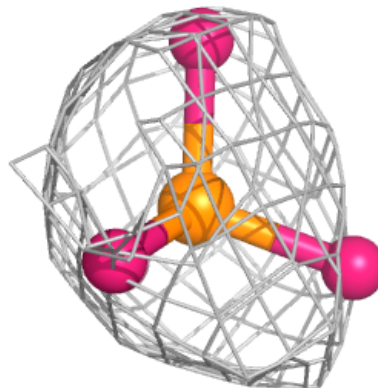
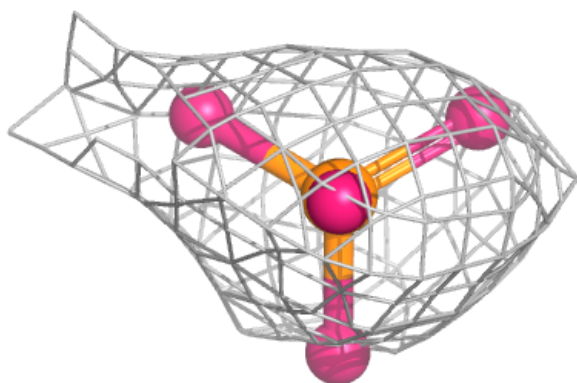
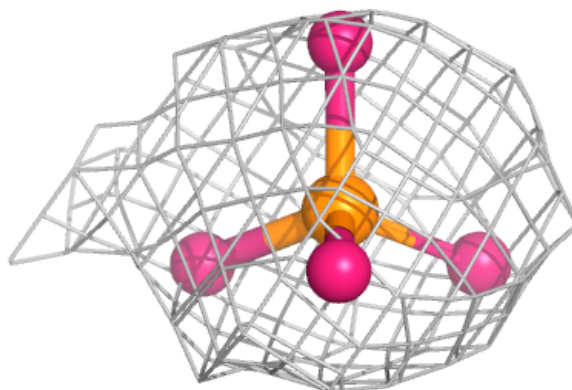
Electron density around PO4 B 406:

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

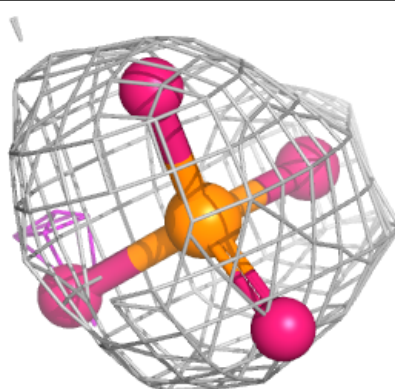
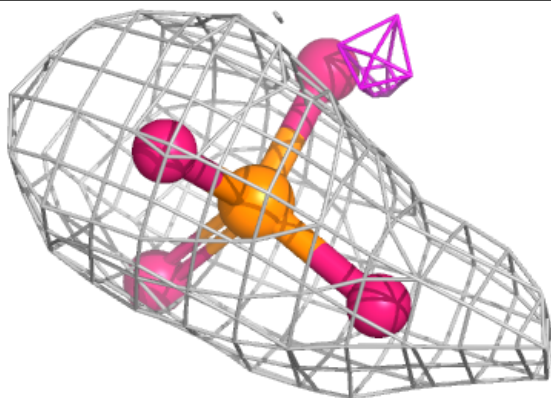
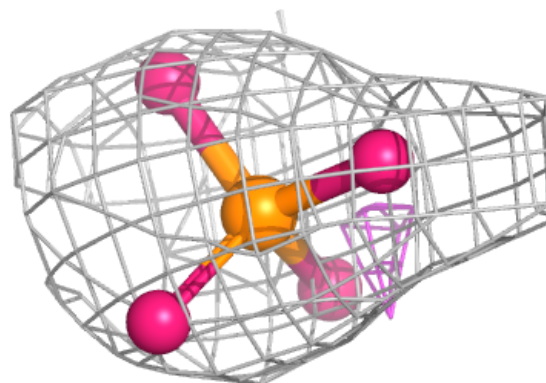


Electron density around PO4 C 407:

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

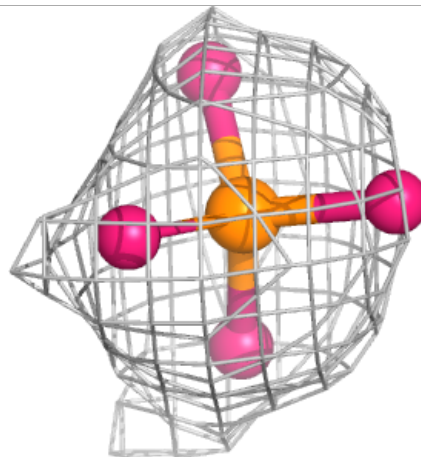
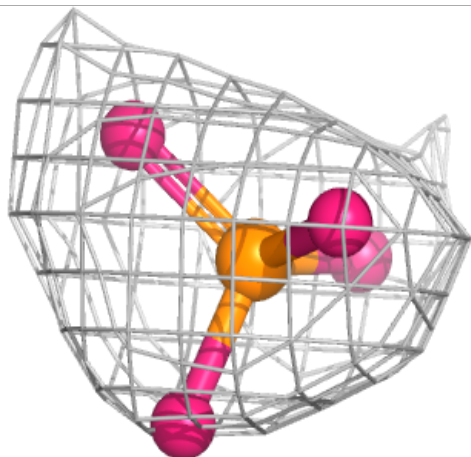
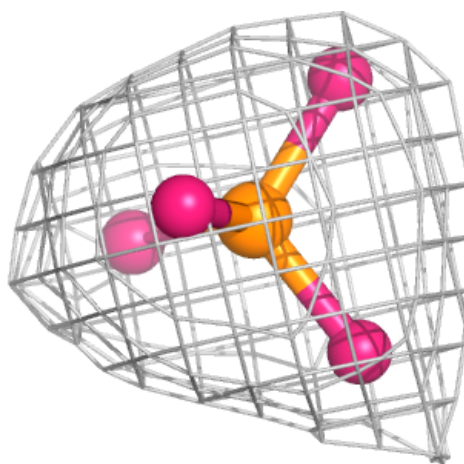
**Electron density around PO4 E 407:**

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



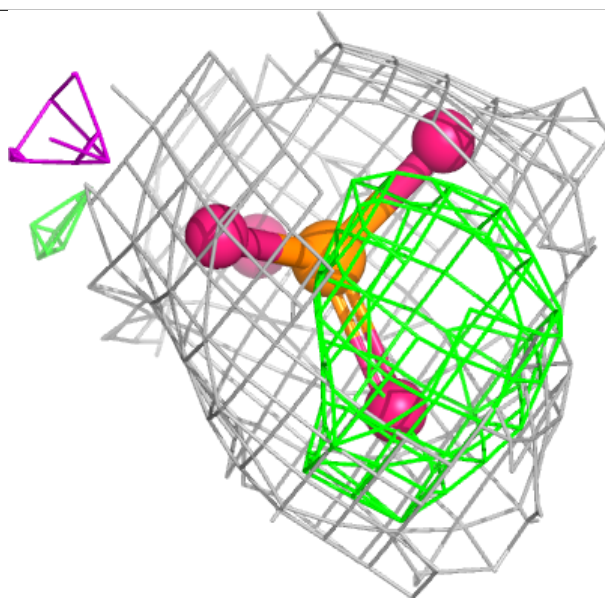
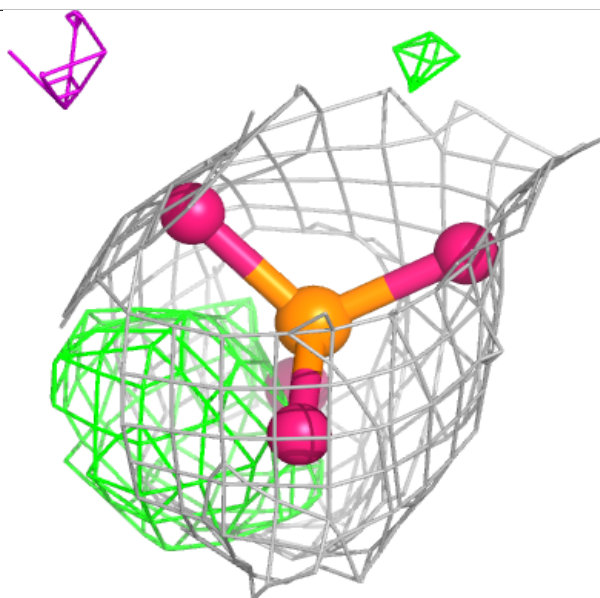
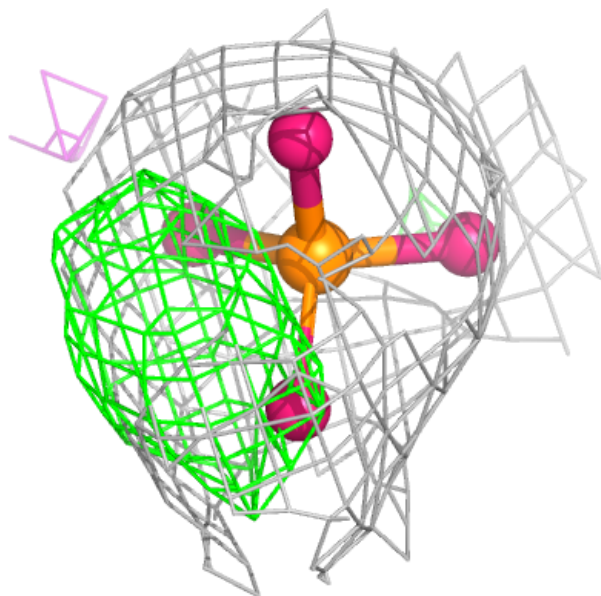
Electron density around PO4 B 408:

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



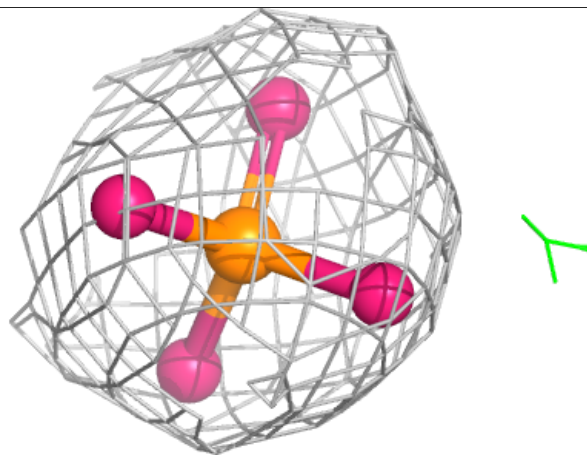
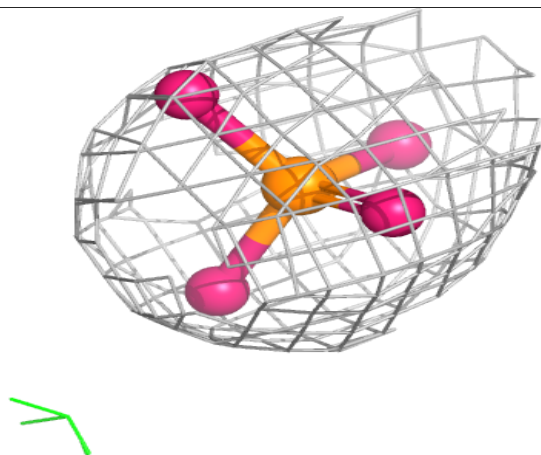
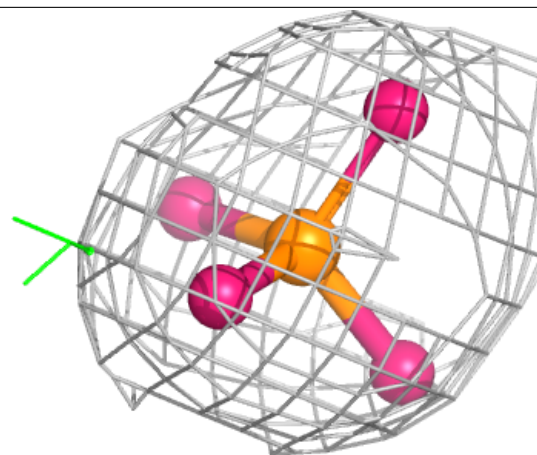
Electron density around PO4 D 401:

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



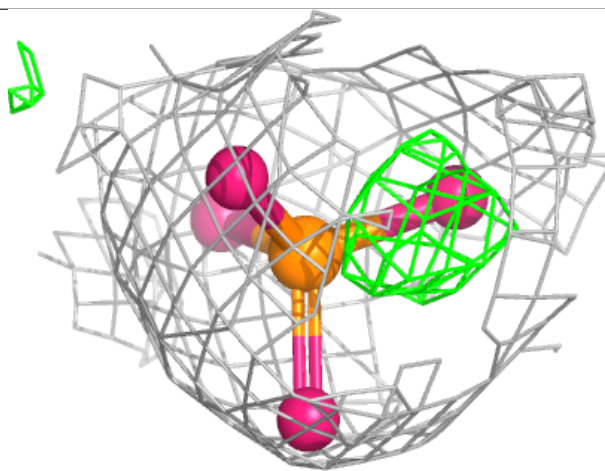
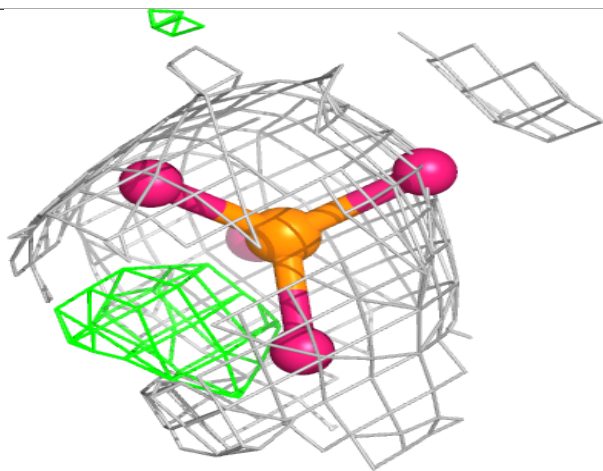
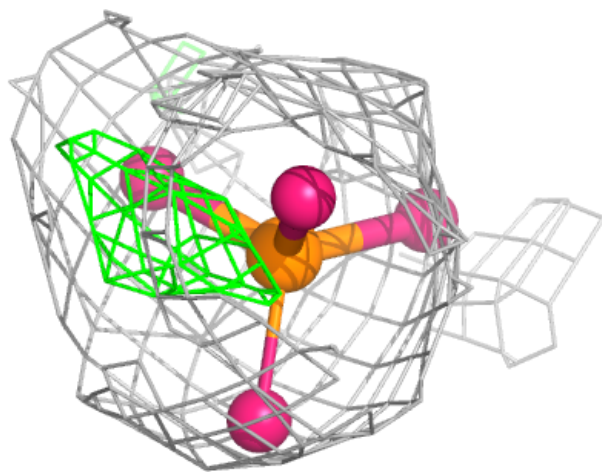
Electron density around PO4 H 408:

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



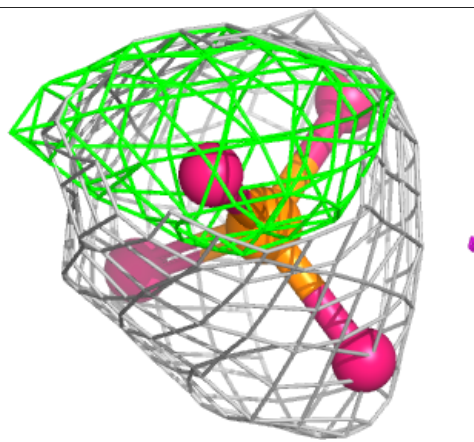
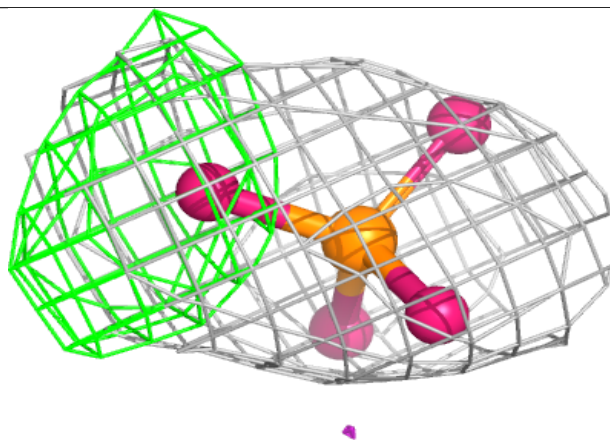
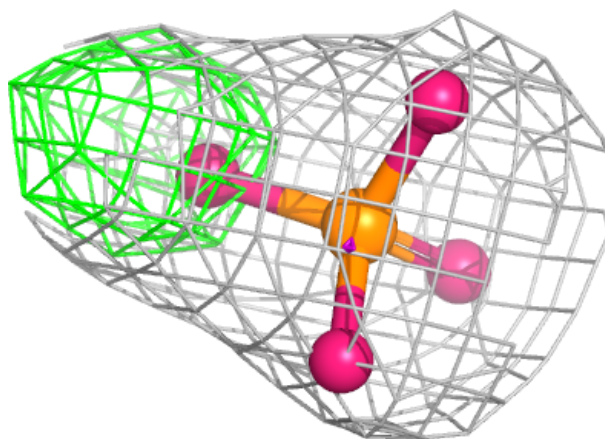
Electron density around PO4 H 401:

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



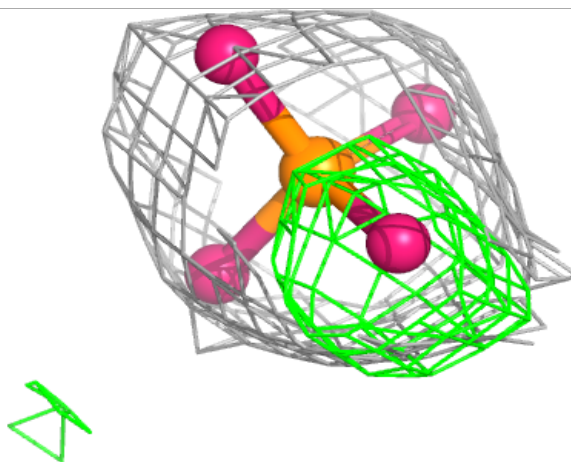
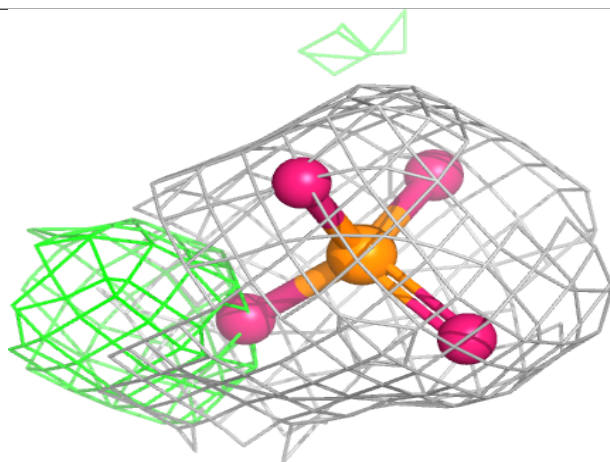
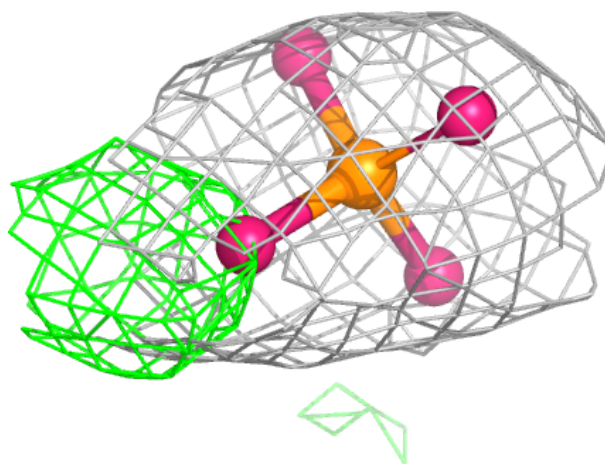
Electron density around PO4 F 401:

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



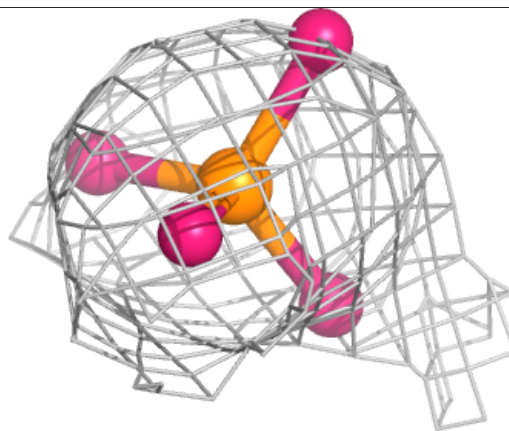
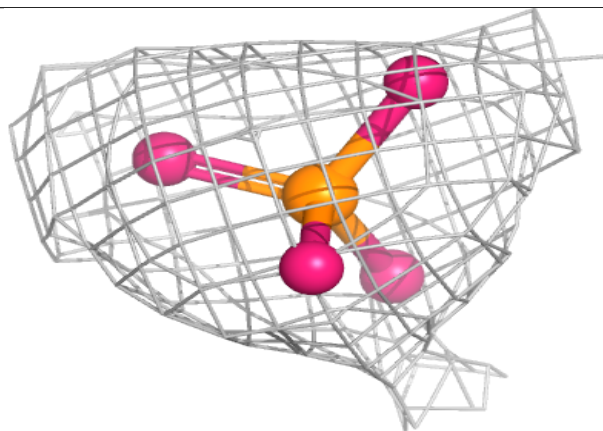
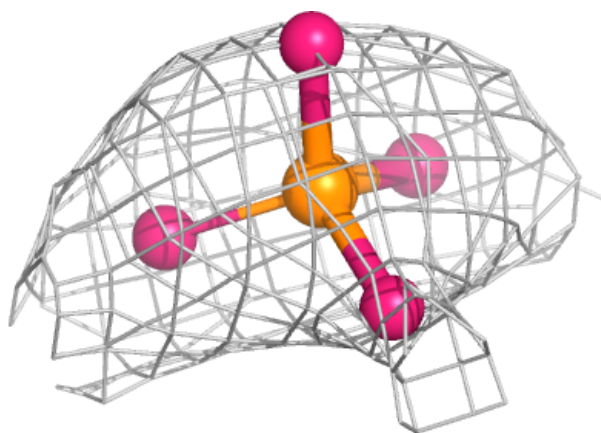
Electron density around PO4 B 407:

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

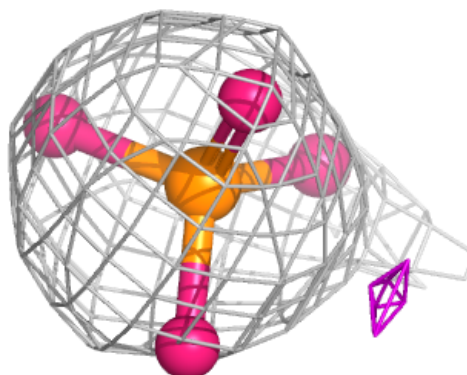
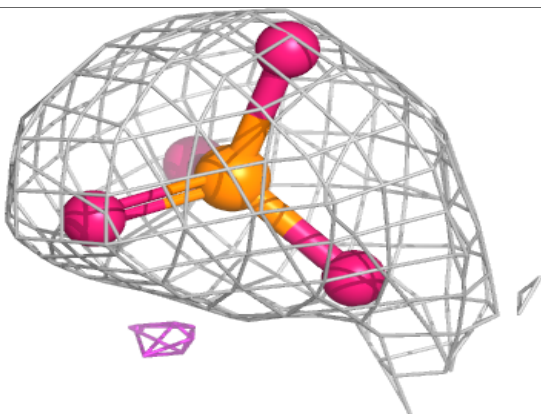
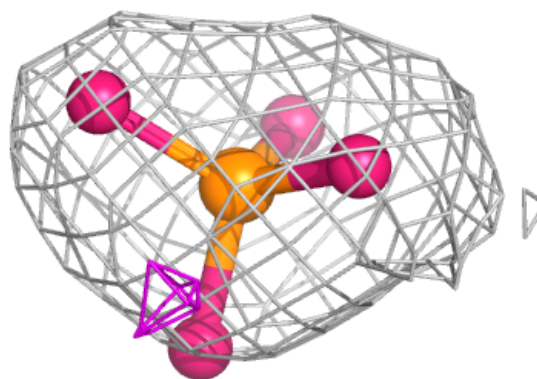


Electron density around PO4 D 404:

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

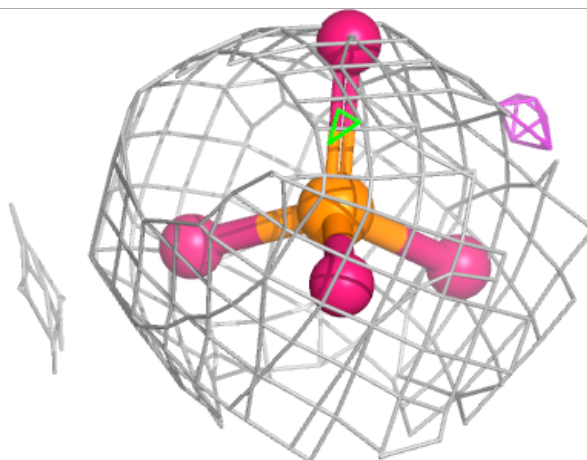
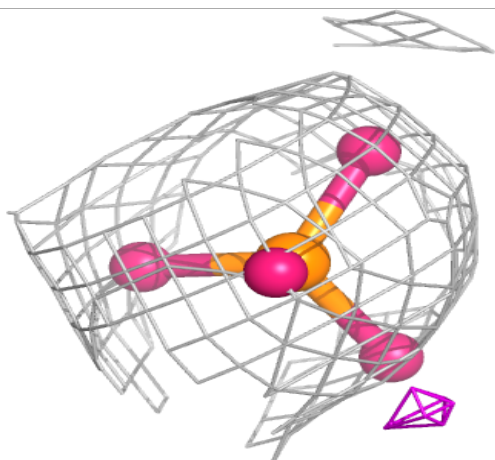
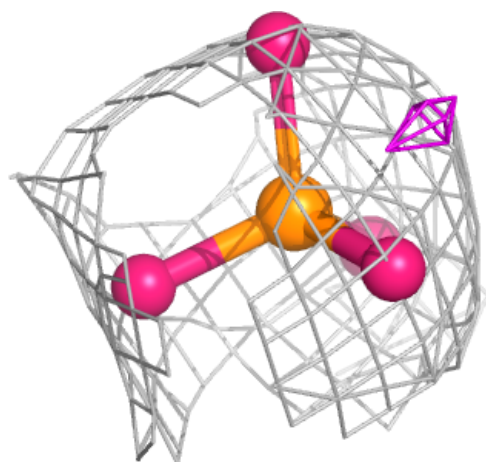
**Electron density around PO4 A 408:**

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



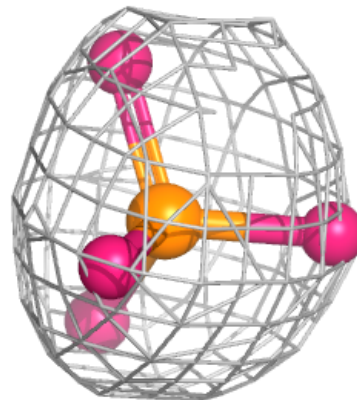
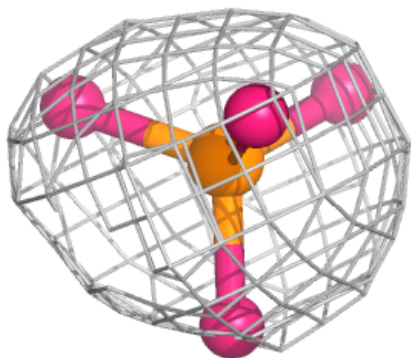
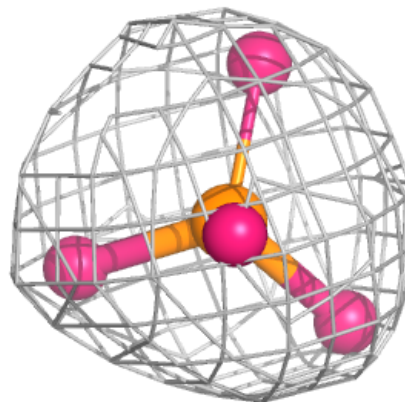
Electron density around PO4 G 402:

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



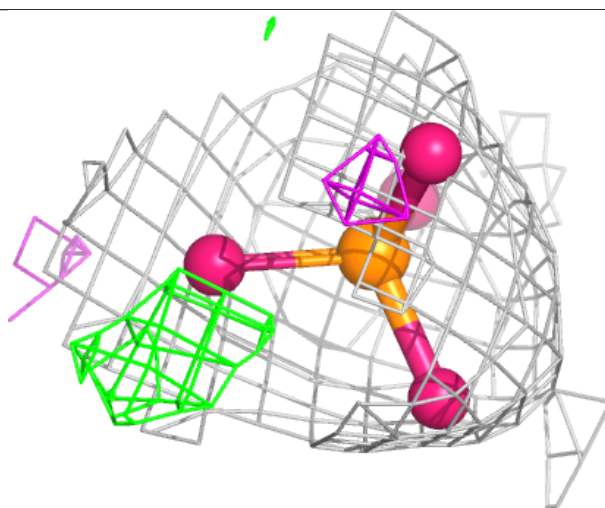
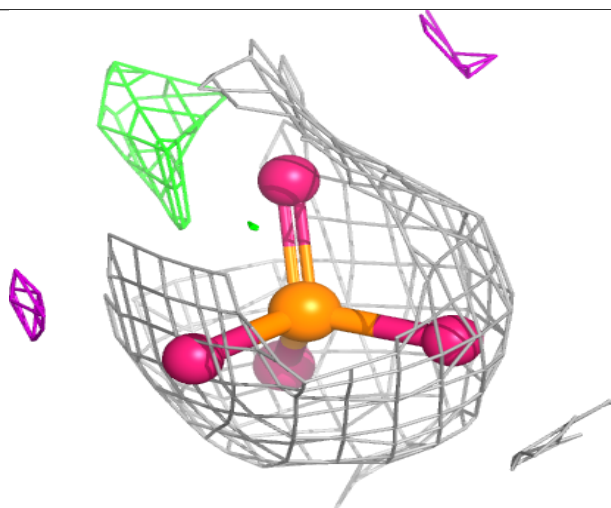
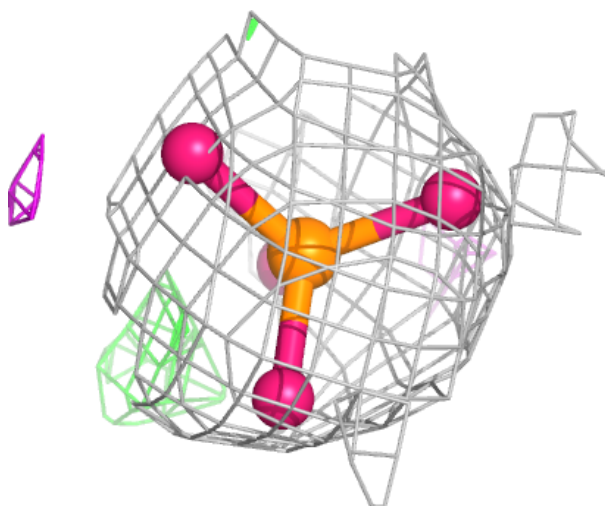
Electron density around PO4 C 405:

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



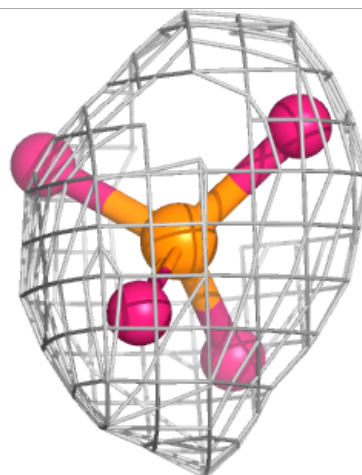
Electron density around PO4 B 401:

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



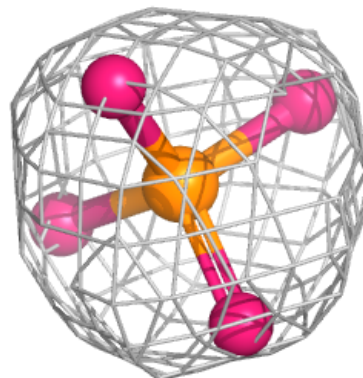
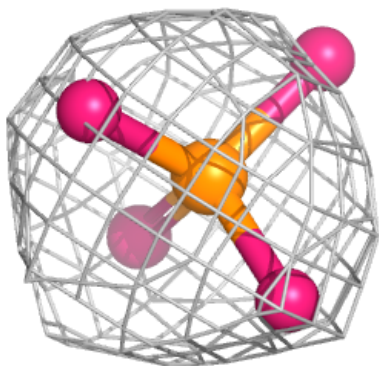
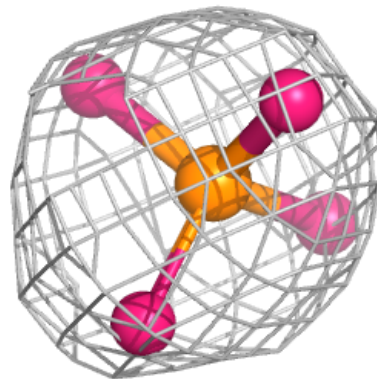
Electron density around PO4 B 404:

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

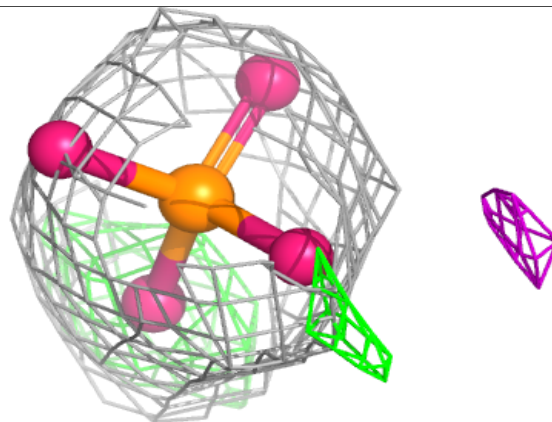
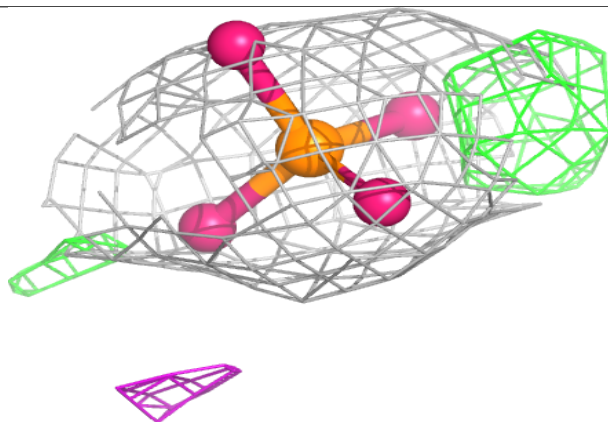
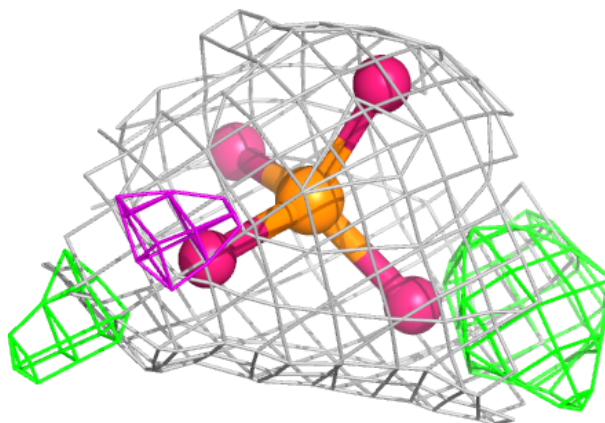


Electron density around PO4 A 404:

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

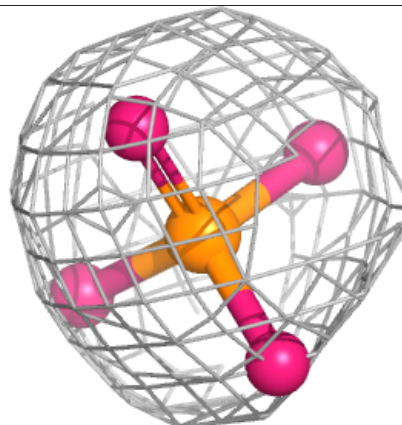
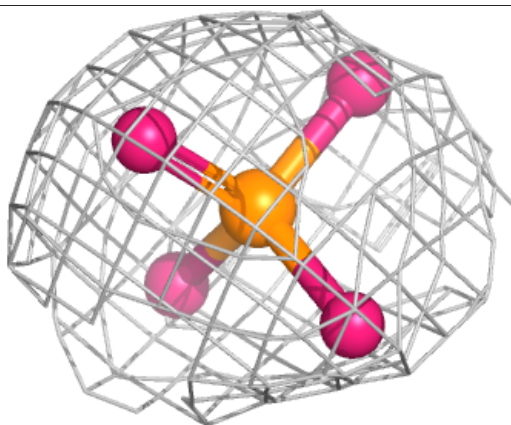
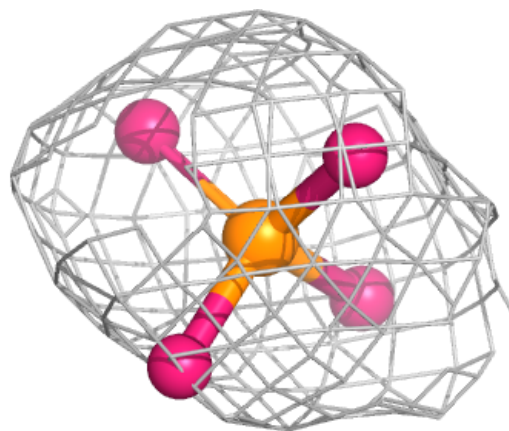
**Electron density around PO4 C 402:**

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



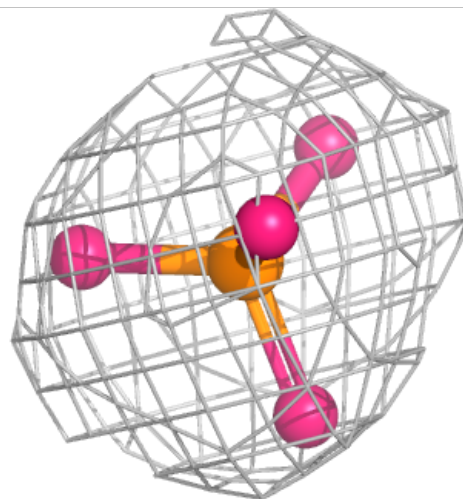
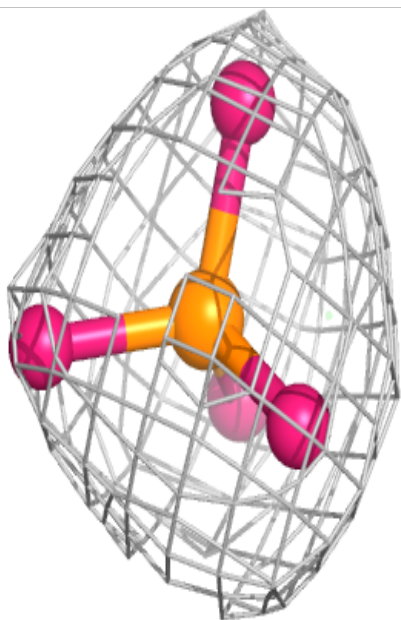
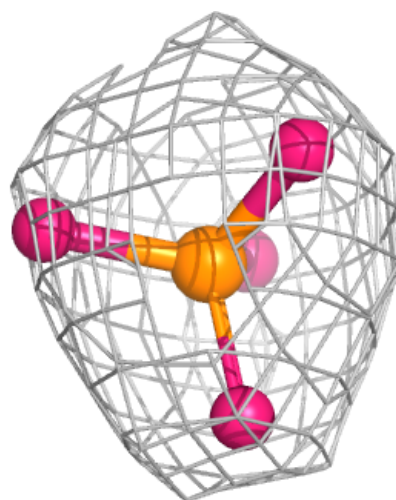
Electron density around PO4 A 407:

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



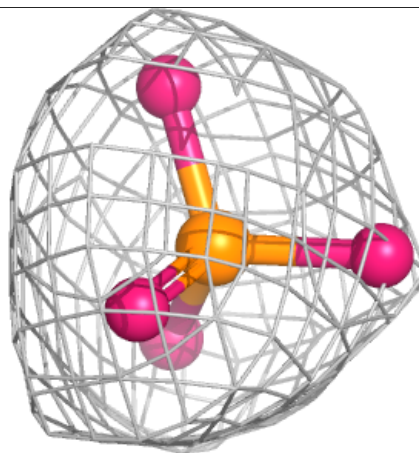
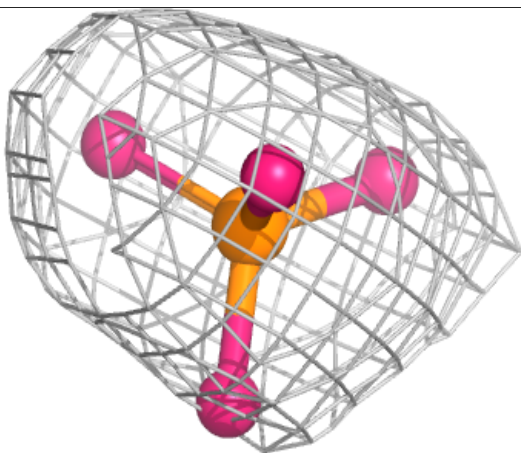
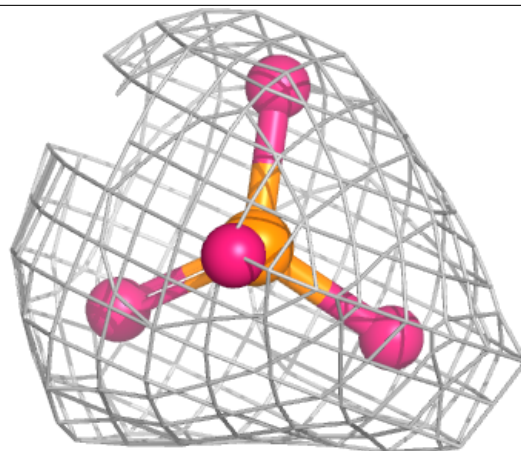
Electron density around PO4 B 403:

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



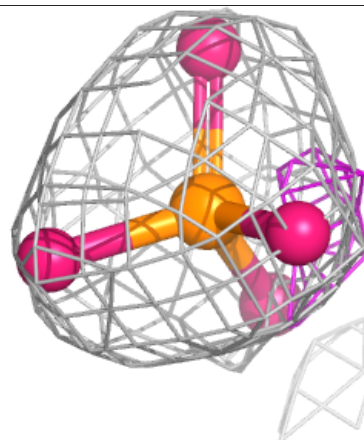
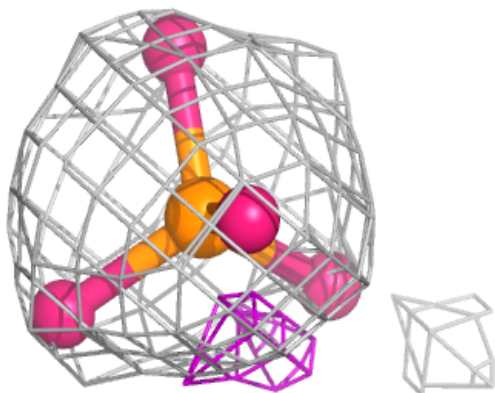
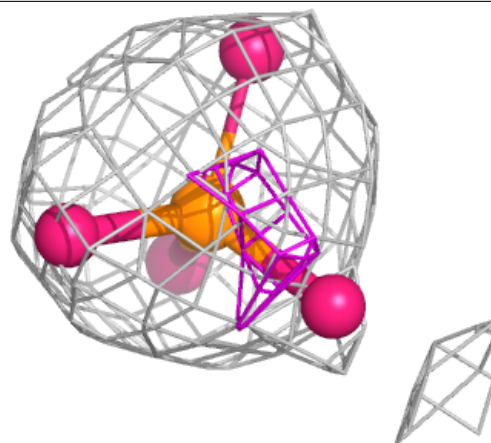
Electron density around PO4 D 403:

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

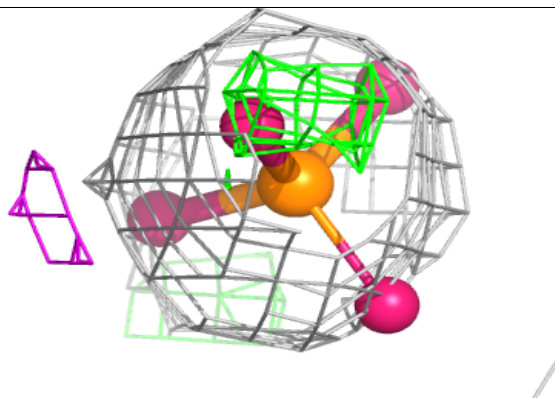
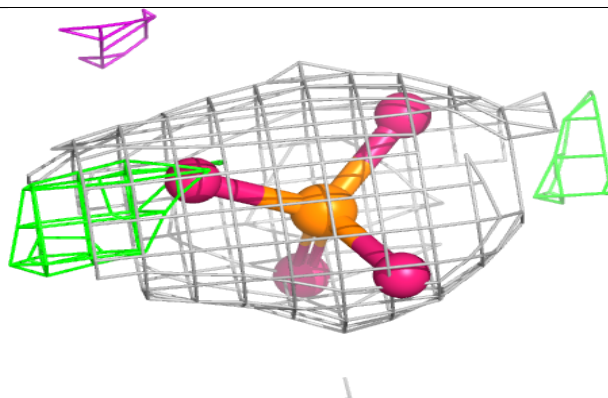
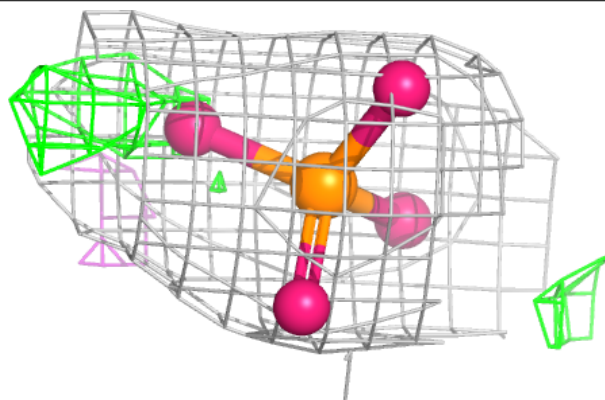


Electron density around PO4 F 408:

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

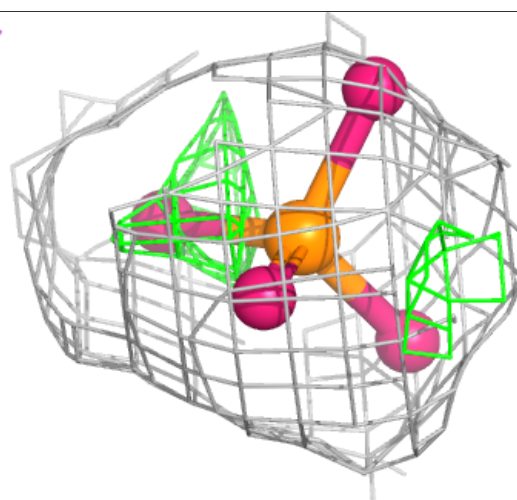
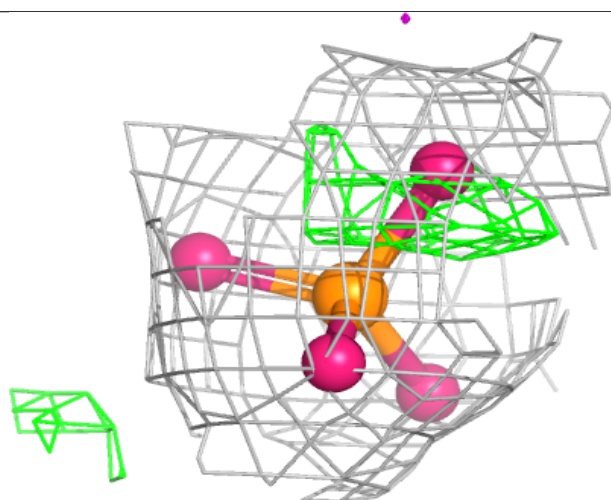
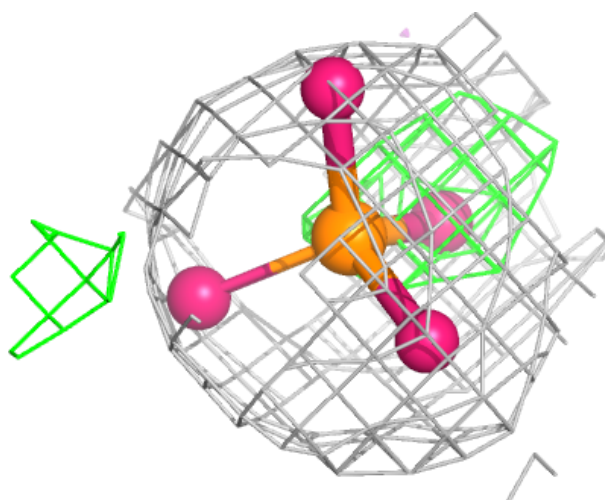
**Electron density around PO4 H 404:**

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



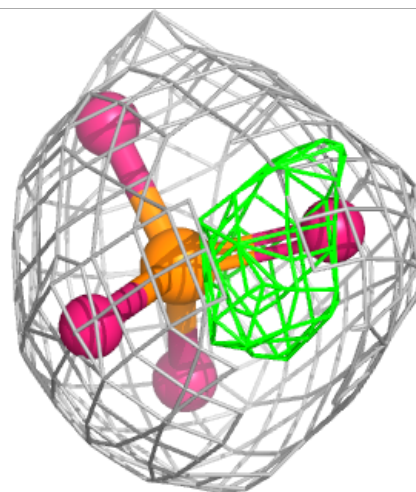
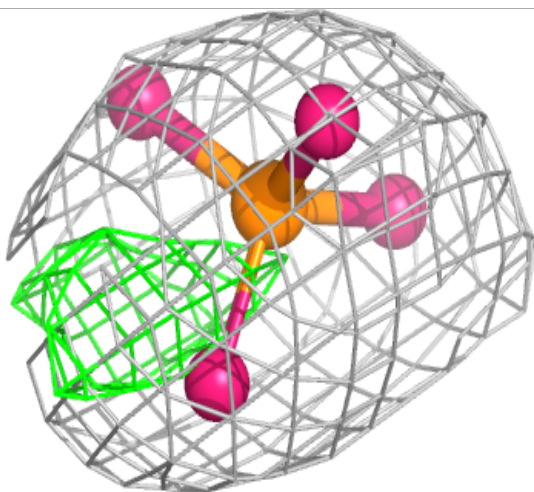
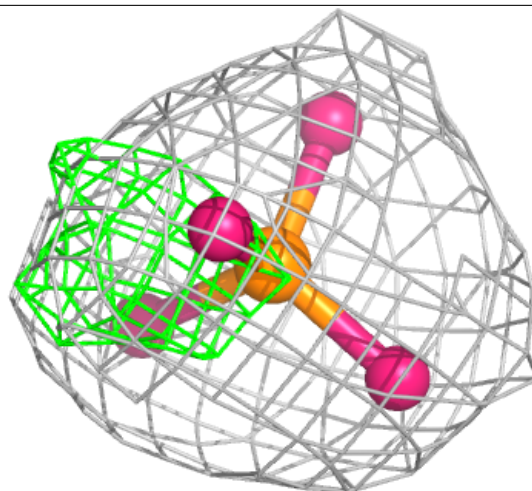
Electron density around PO4 E 401:

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



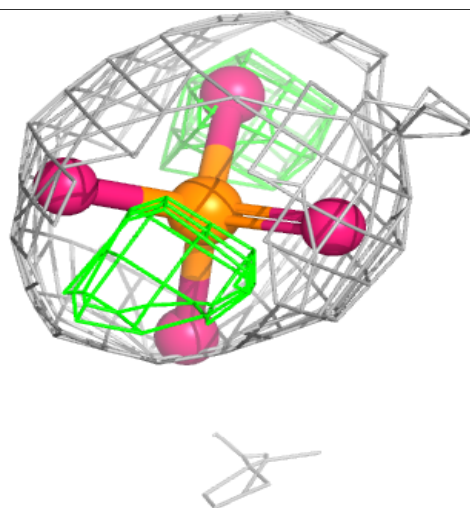
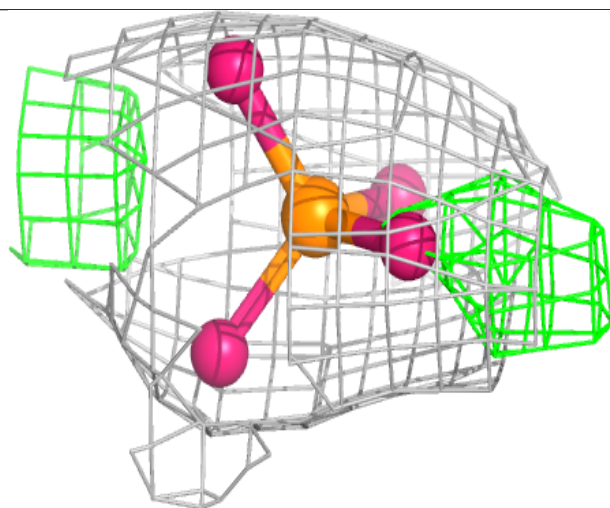
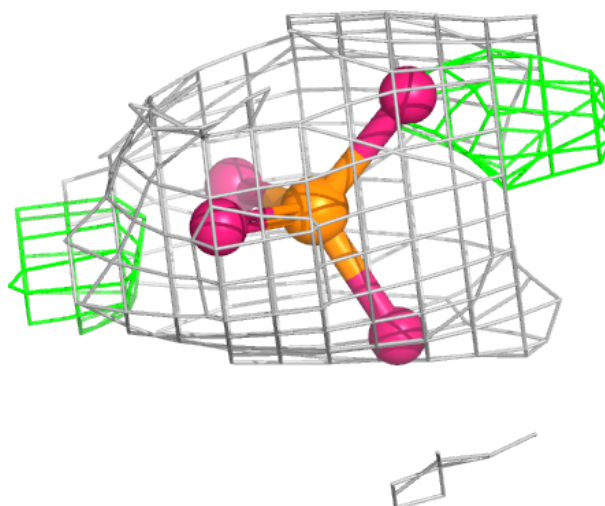
Electron density around PO4 D 402:

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



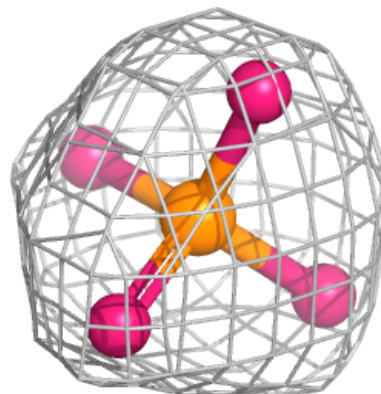
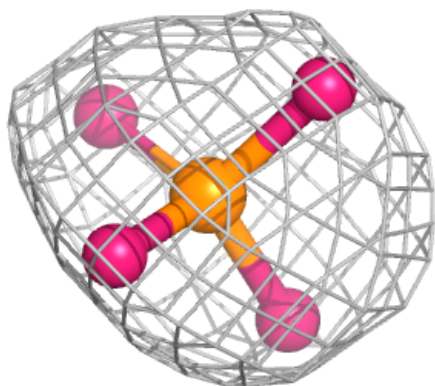
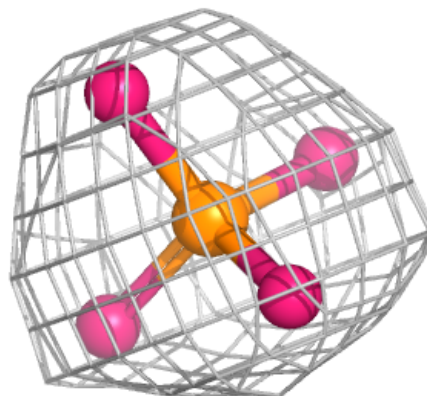
Electron density around PO4 F 404:

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



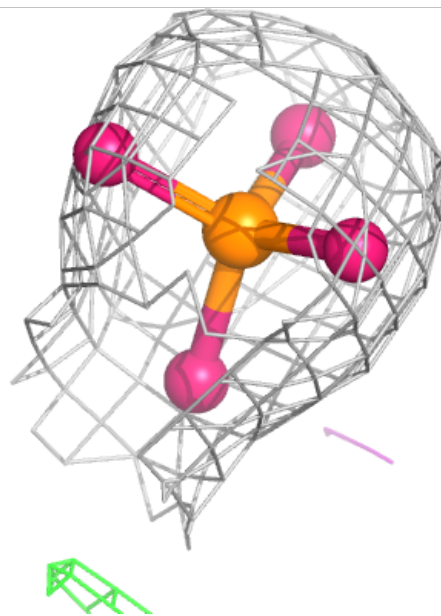
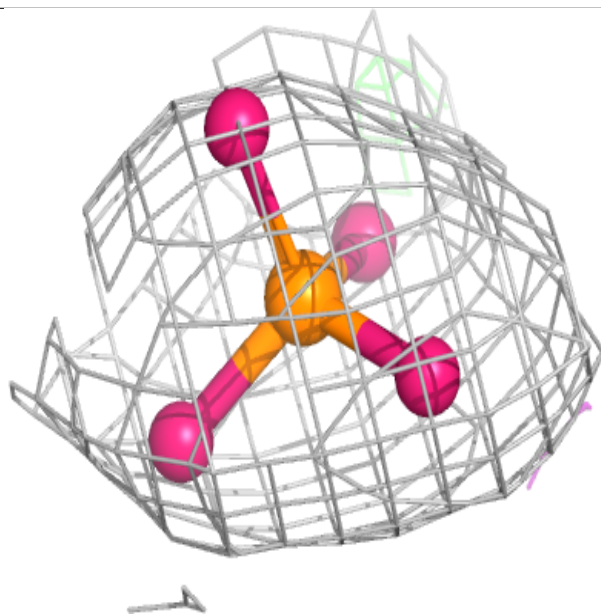
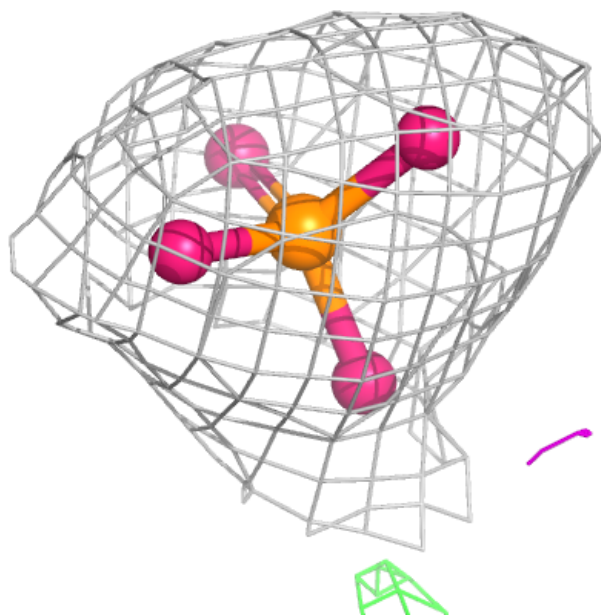
Electron density around PO4 F 407:

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



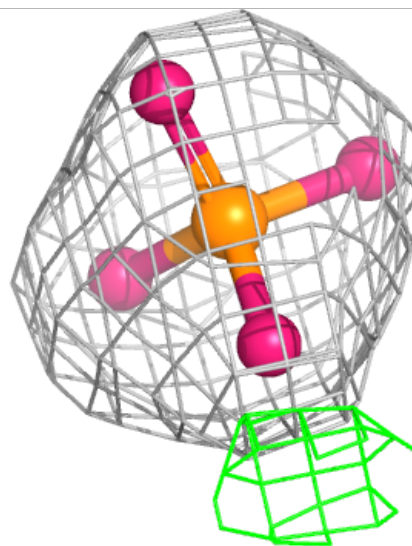
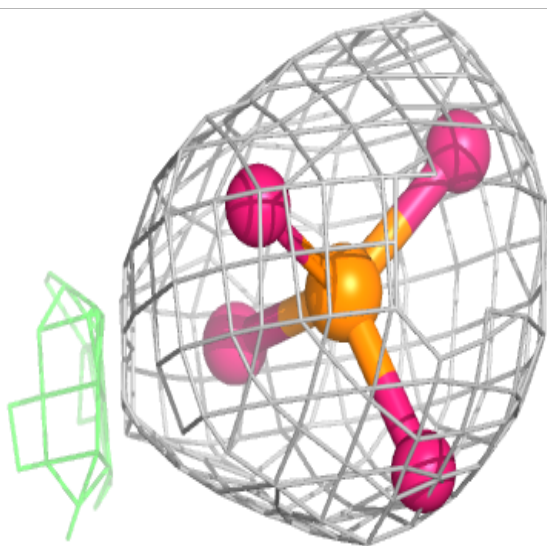
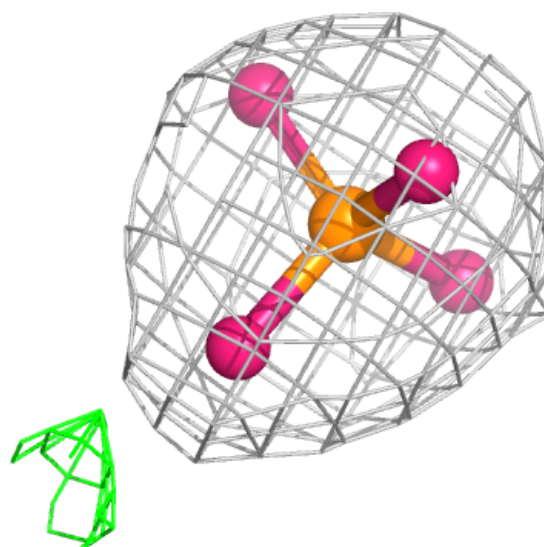
Electron density around PO4 A 411:

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



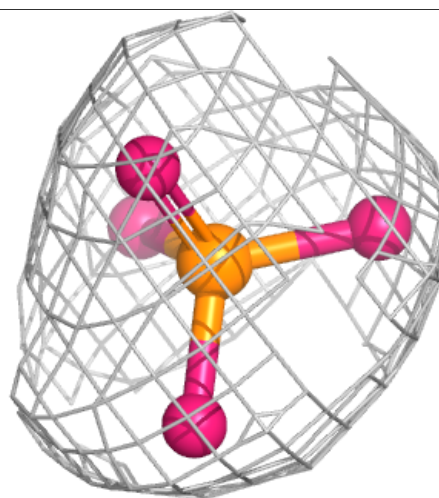
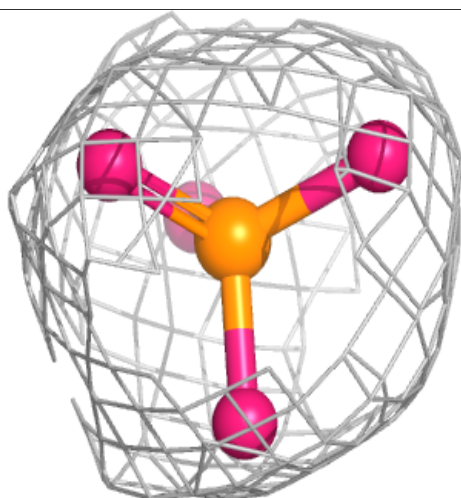
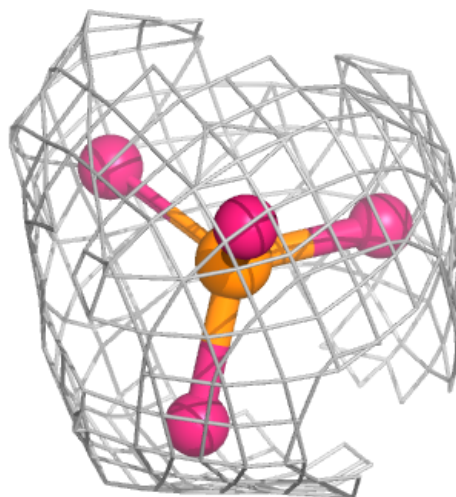
Electron density around PO4 G 404:

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



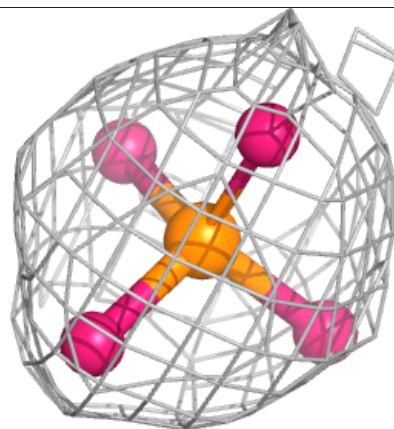
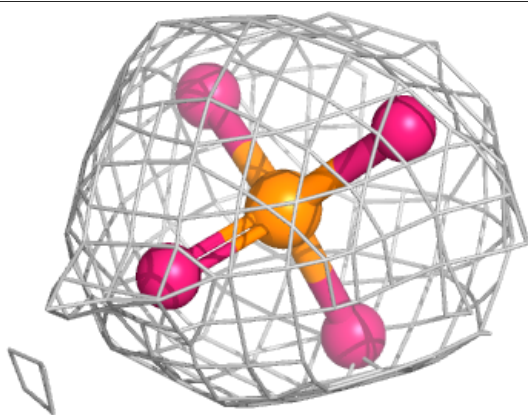
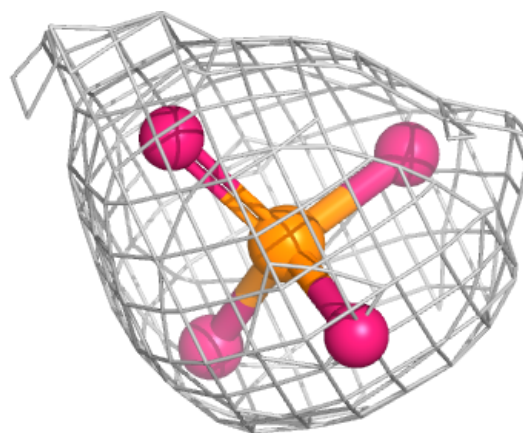
Electron density around PO4 D 406:

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



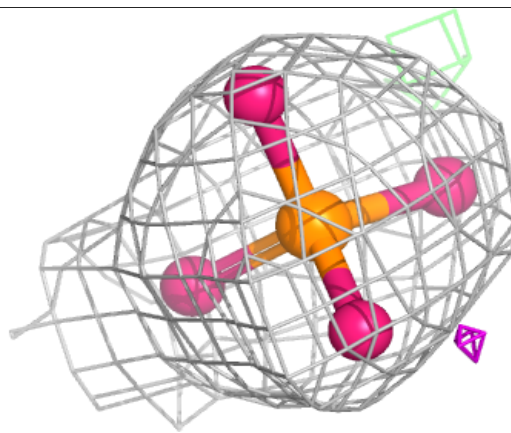
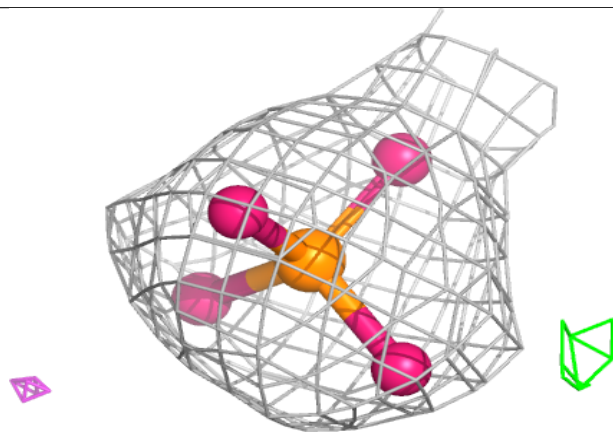
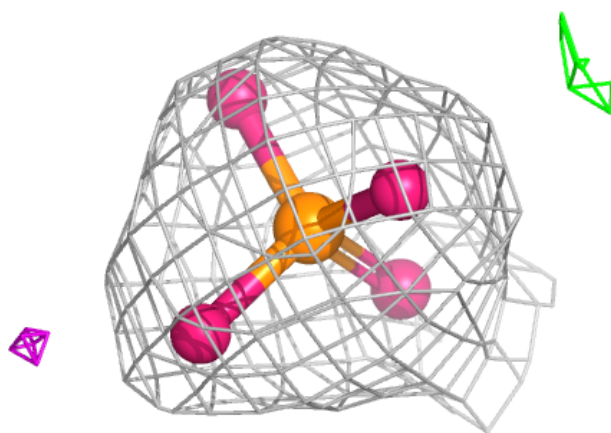
Electron density around PO4 H 402:

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



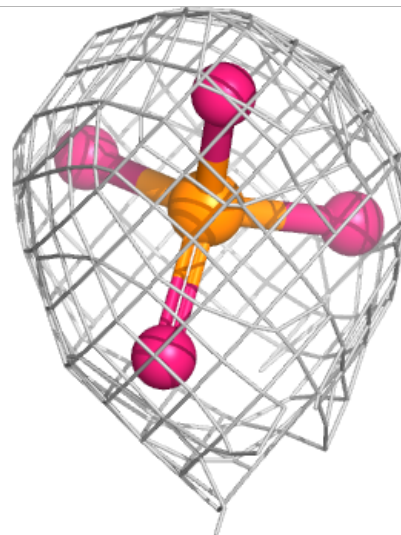
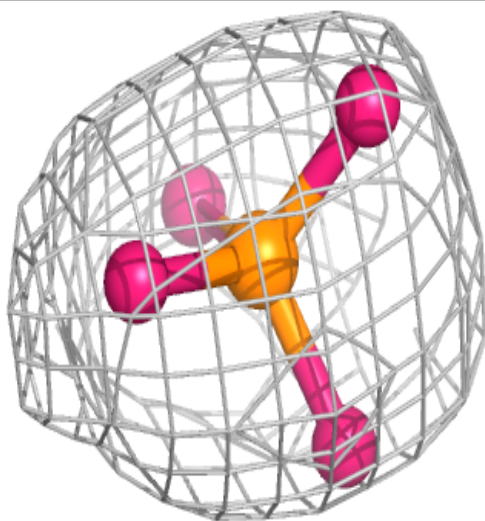
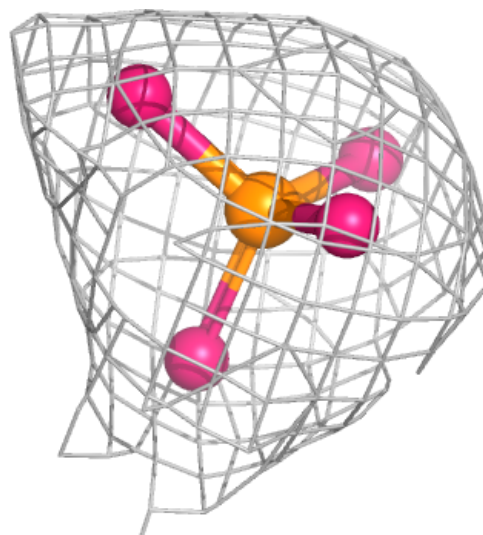
Electron density around PO4 E 406:

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



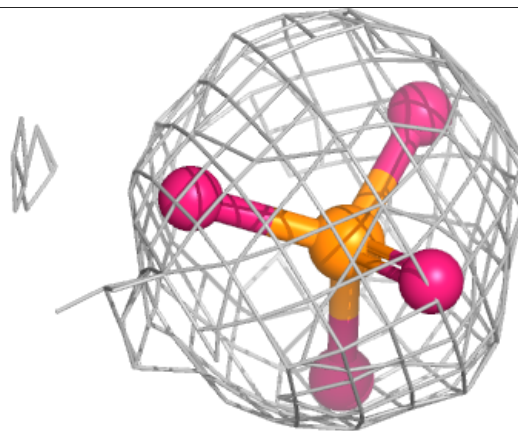
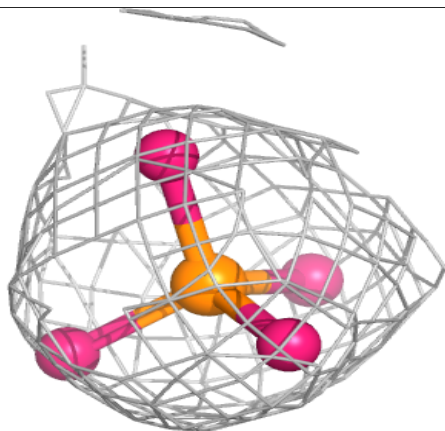
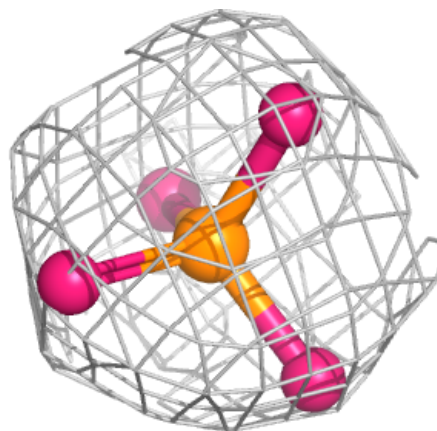
Electron density around PO4 A 403:

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



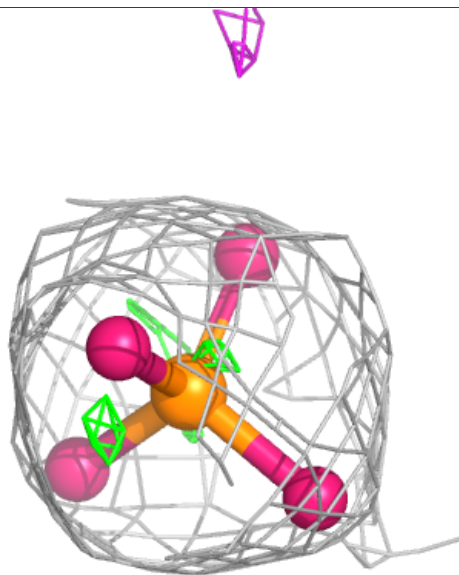
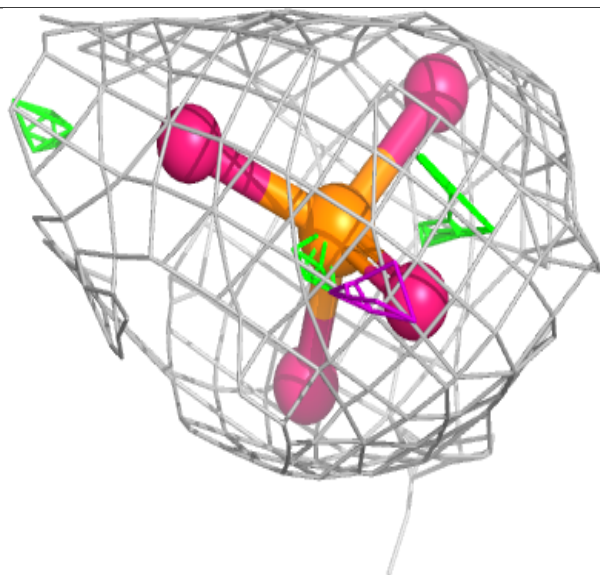
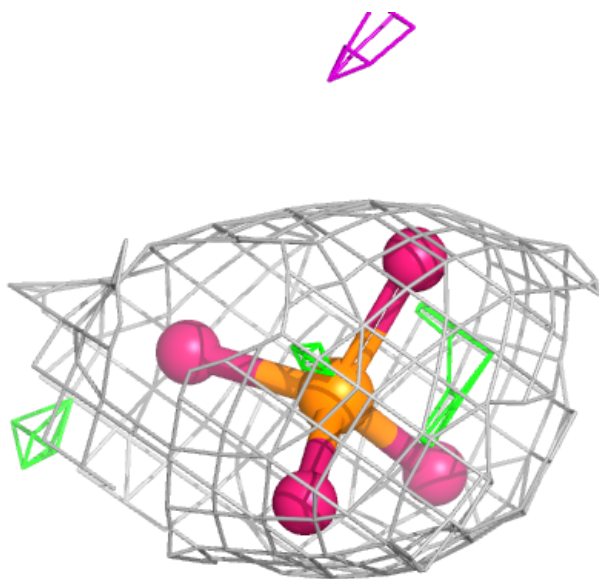
Electron density around PO4 C 401:

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



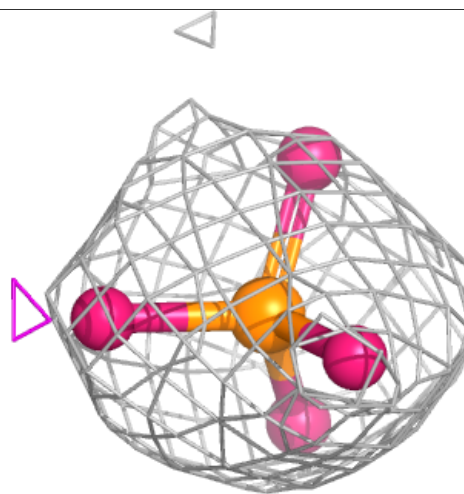
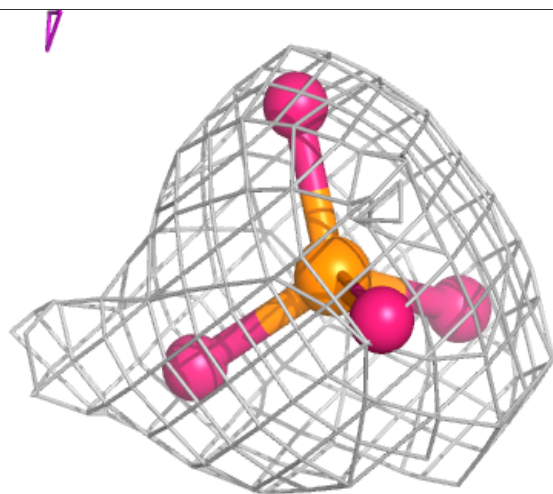
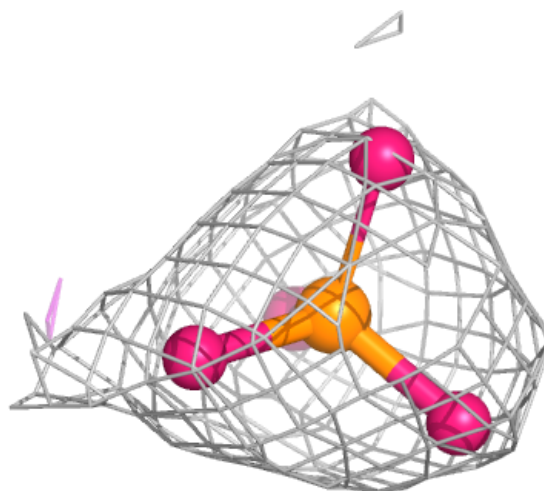
Electron density around PO4 A 402:

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



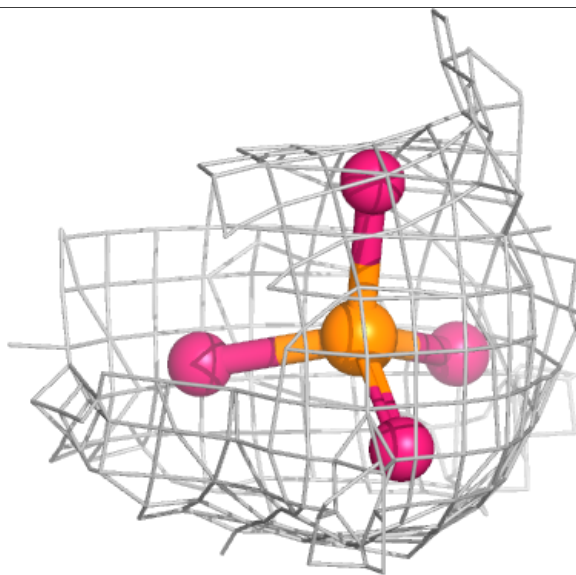
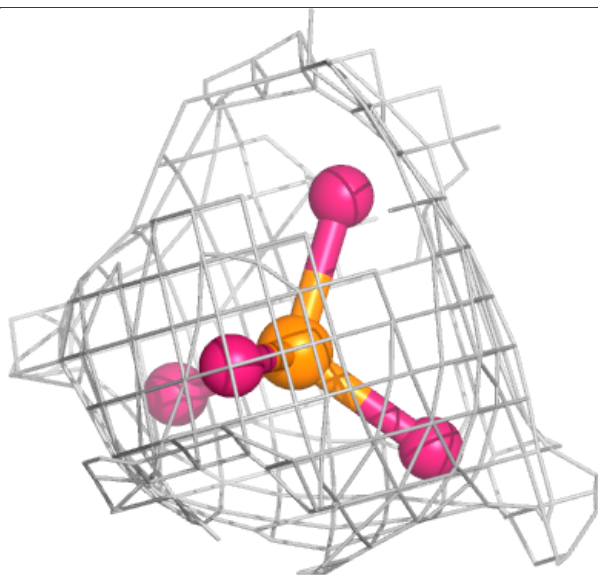
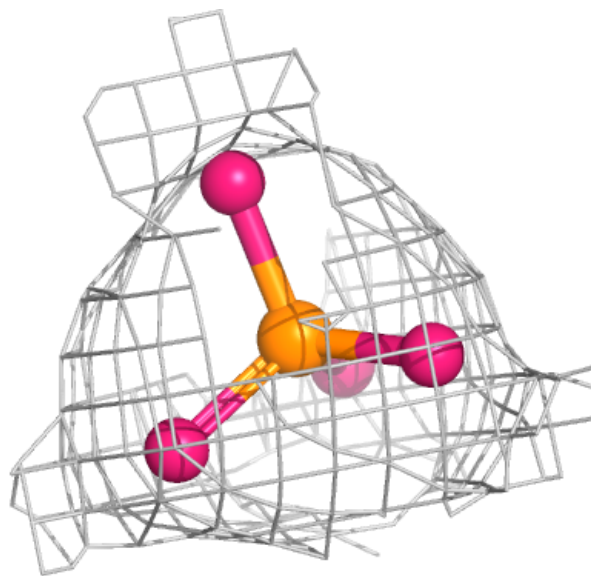
Electron density around PO4 D 405:

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



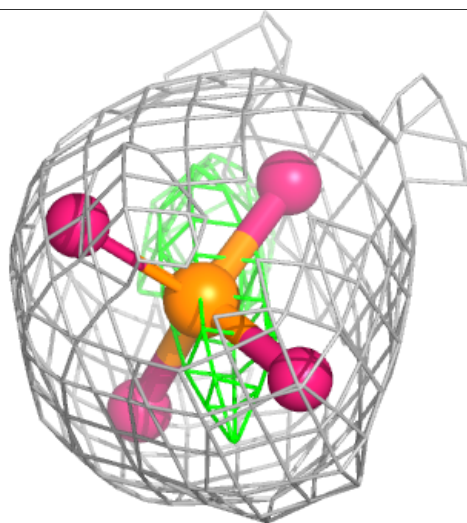
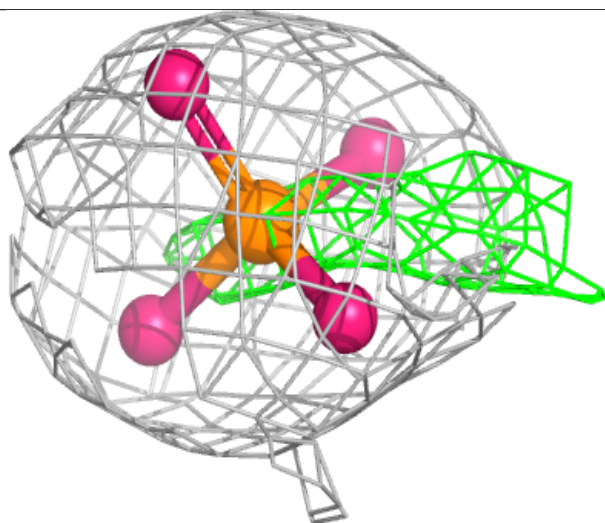
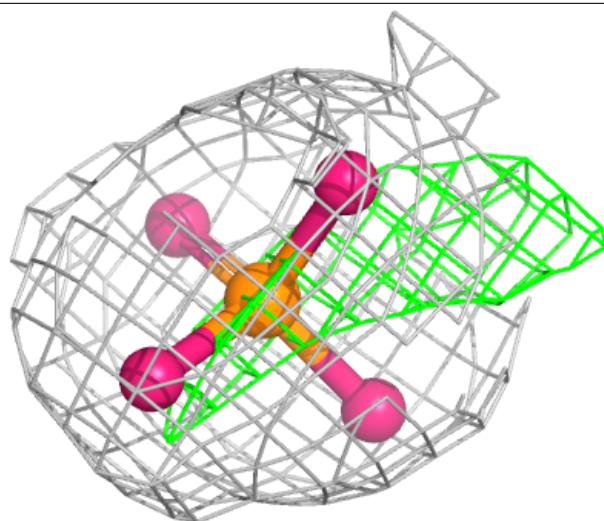
Electron density around PO4 F 402:

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



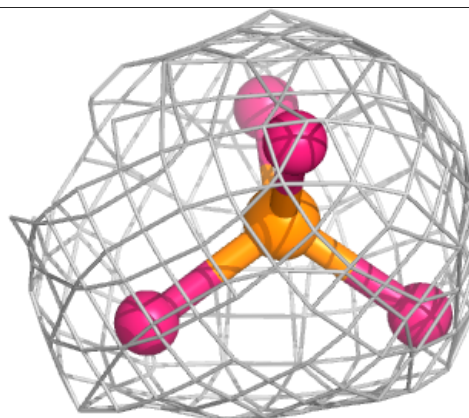
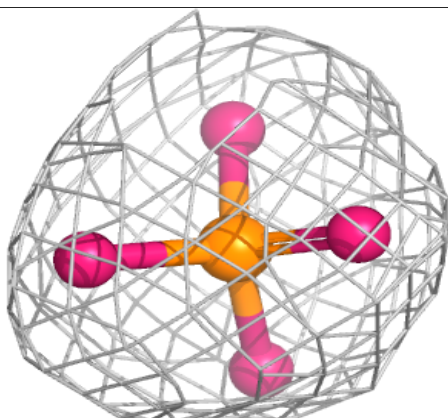
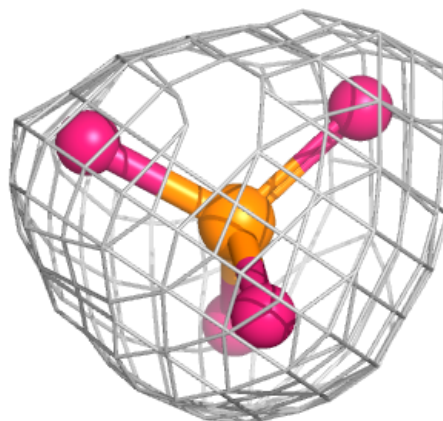
Electron density around PO4 E 402:

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



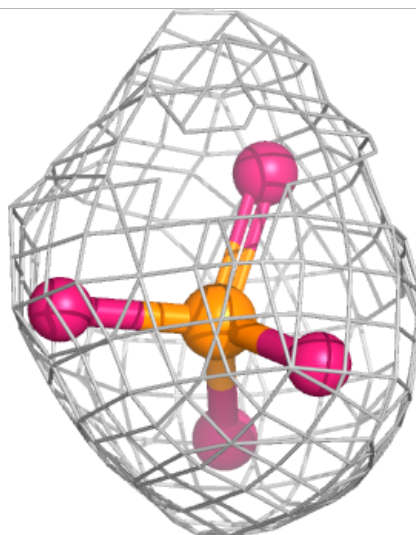
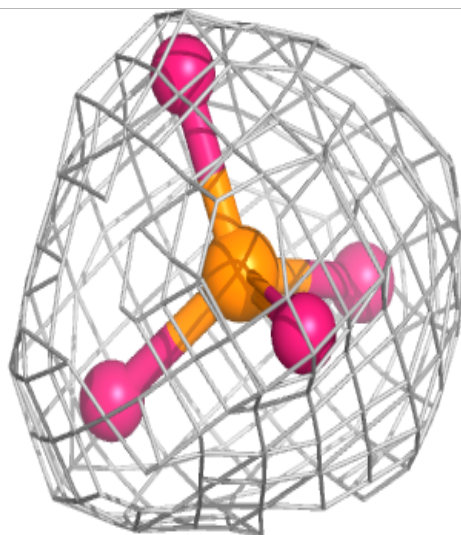
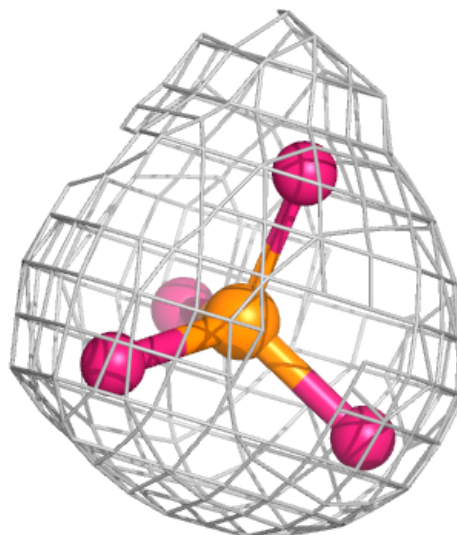
Electron density around PO4 B 402:

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



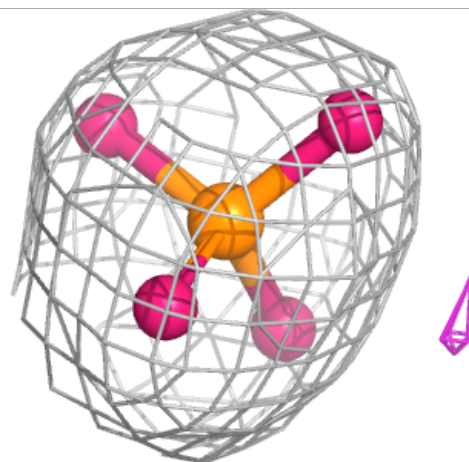
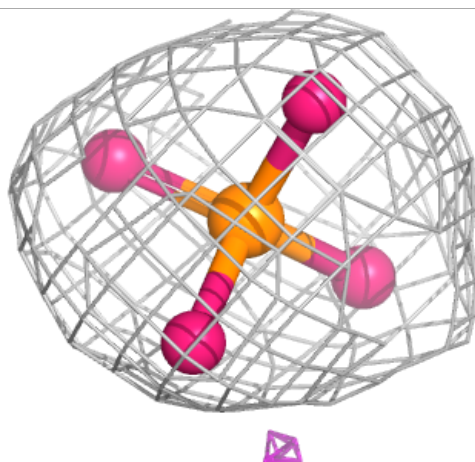
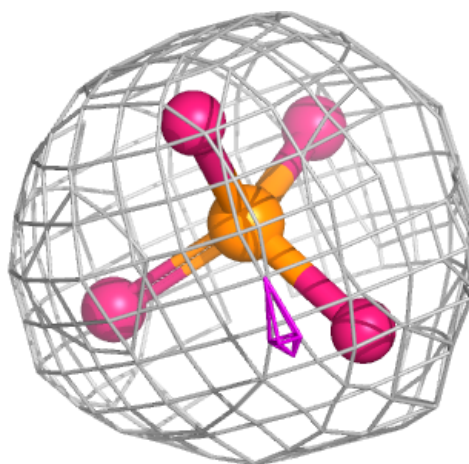
Electron density around PO4 F 406:

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



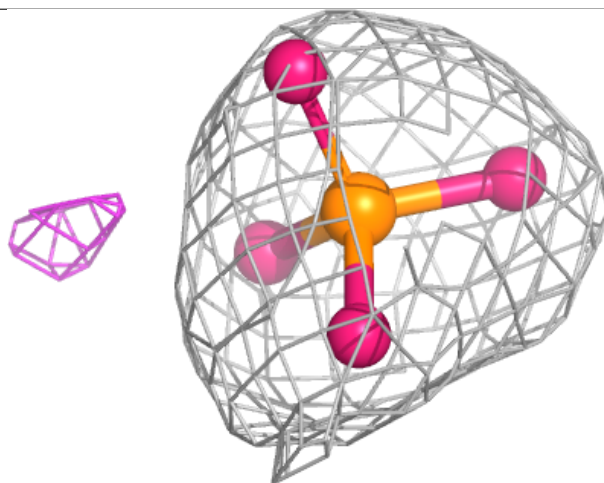
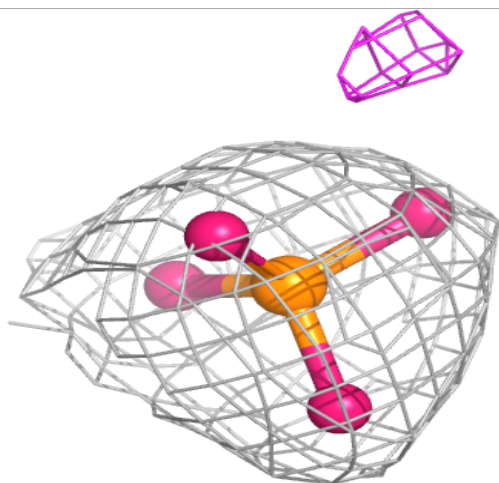
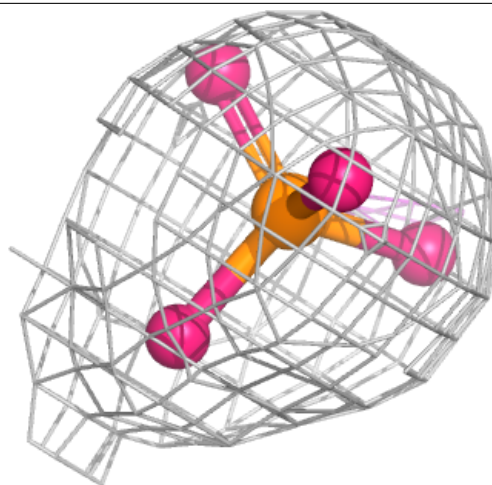
Electron density around PO4 C 403:

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



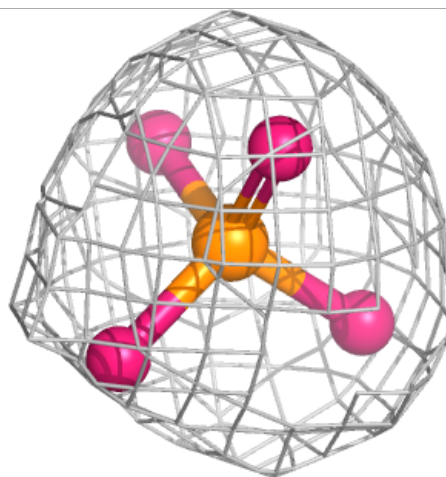
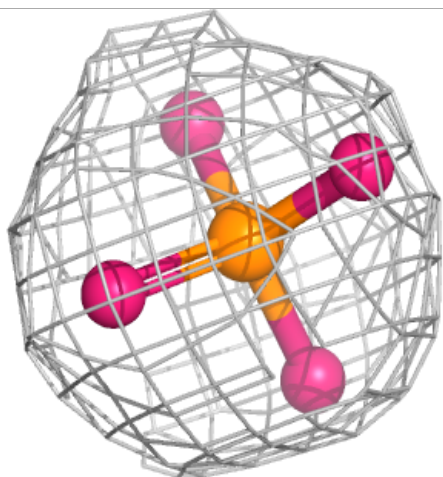
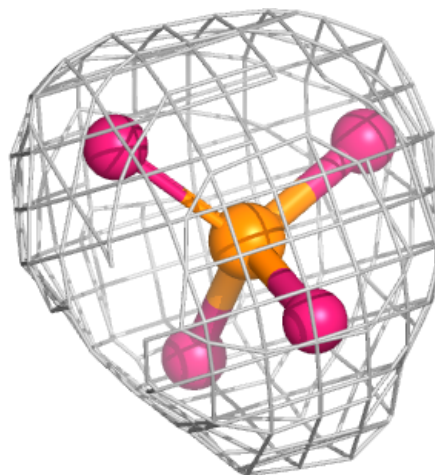
Electron density around PO4 C 404:

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



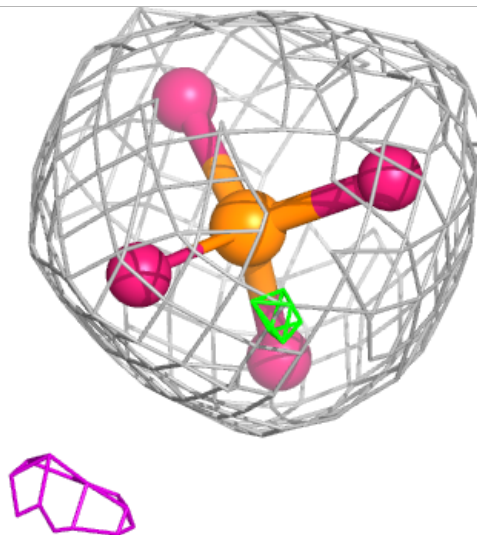
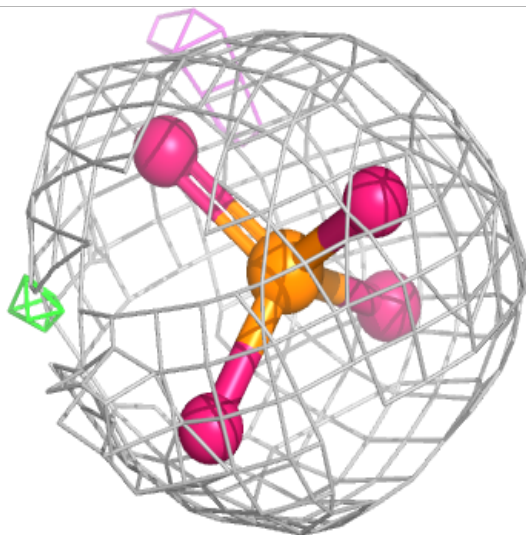
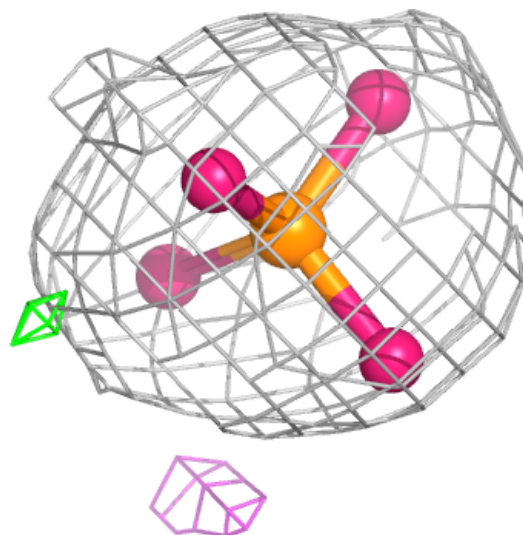
Electron density around PO4 A 410:

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



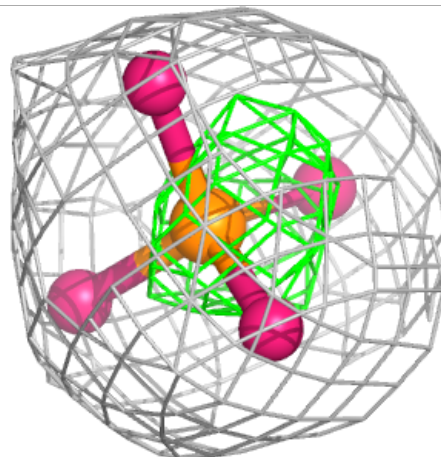
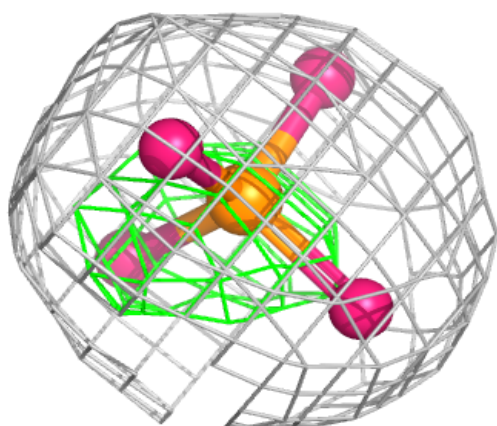
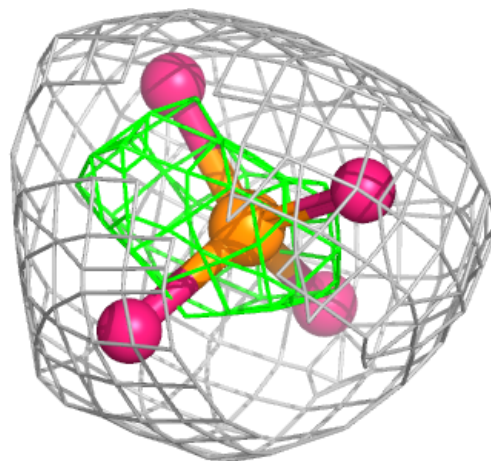
Electron density around PO4 E 403:

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



Electron density around PO4 G 403:

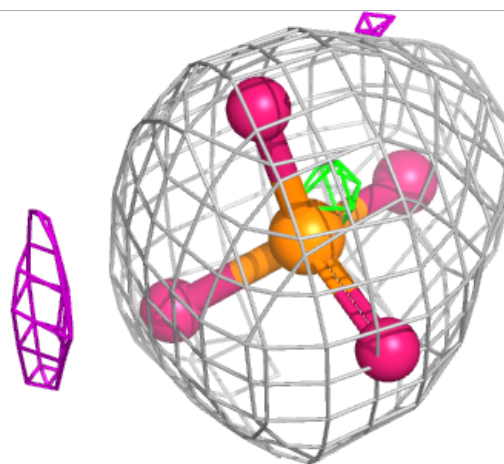
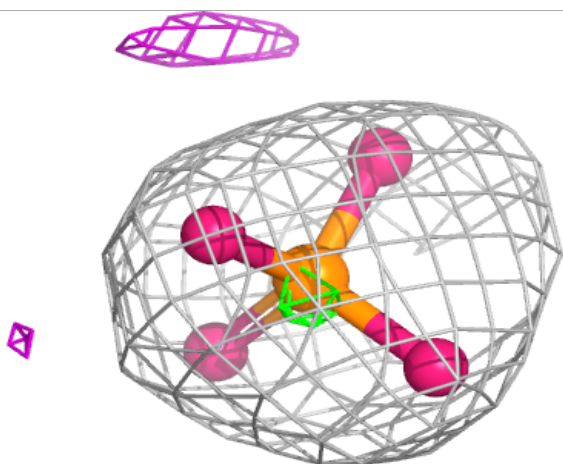
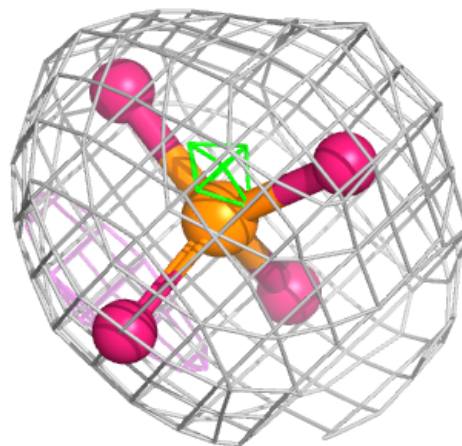
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around PO4 E 404:

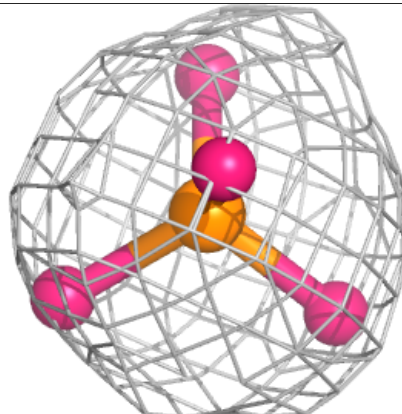
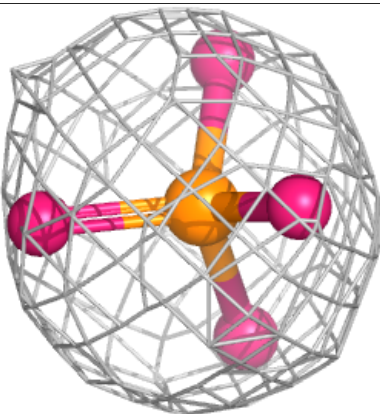
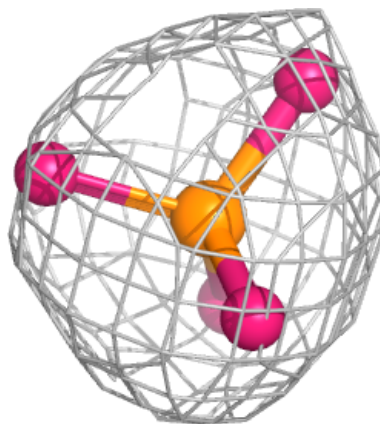
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

A



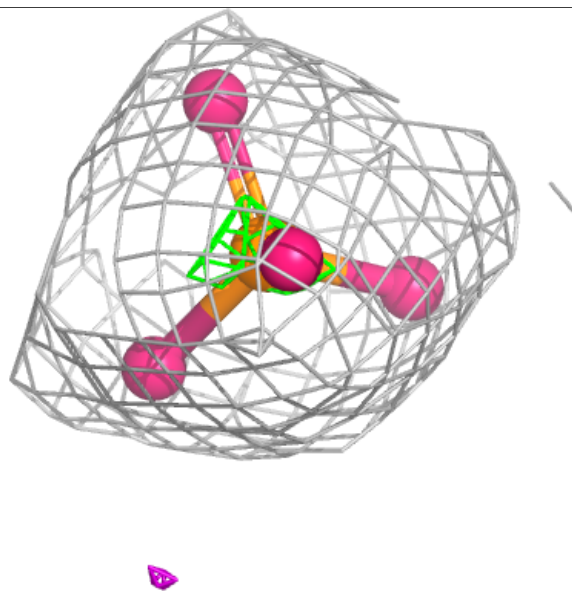
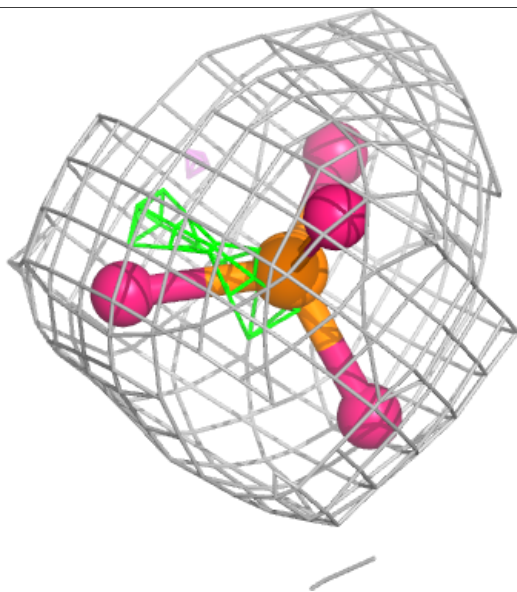
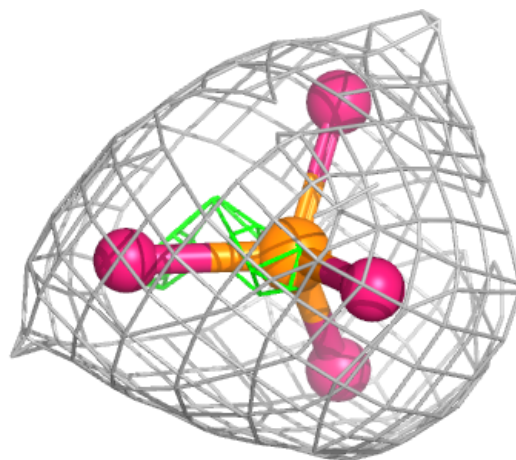
Electron density around PO4 H 405:

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



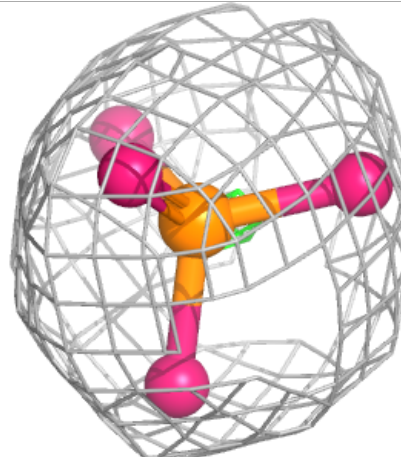
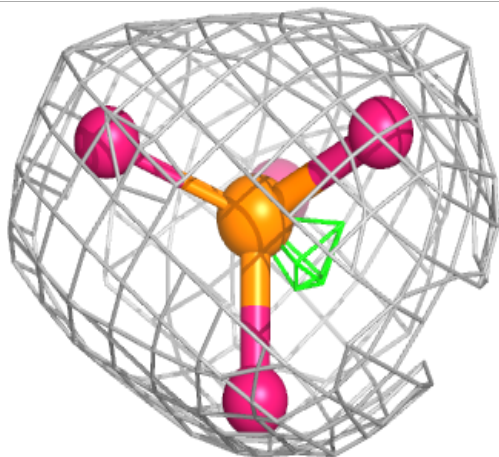
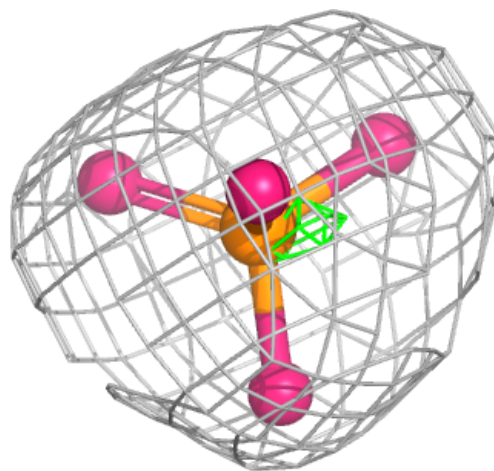
Electron density around PO4 F 403:

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



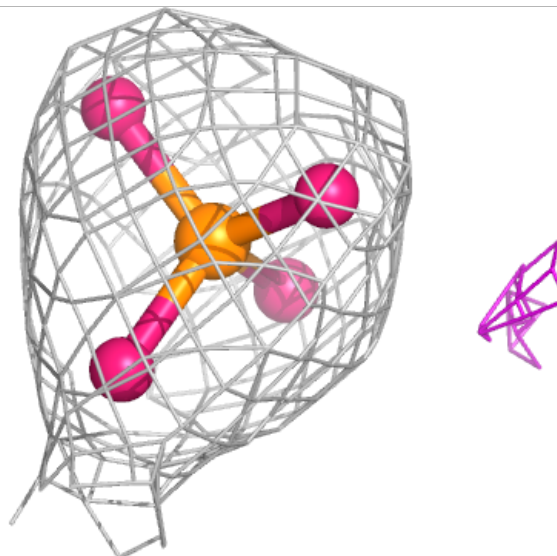
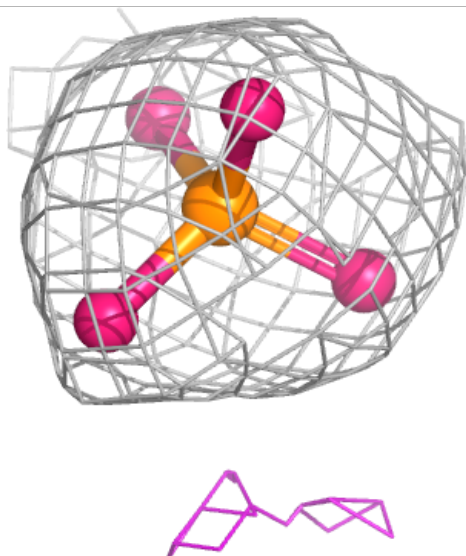
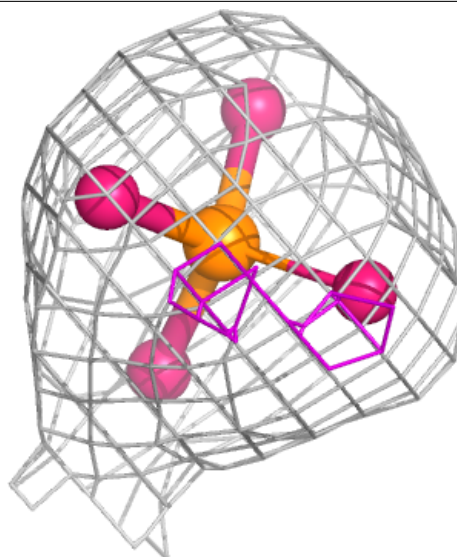
Electron density around PO4 D 408:

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



Electron density around PO4 F 405:

$2mF_o - DF_c$ (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.