wwPDB X-ray Structure Validation Summary Report (i)

Sep 8, 2025 – 02:01 pm BST

PDB ID	:	9S0V / pdb_00009s0v
Title	:	The Crystal Structure of Human Tissue Nonspecific Alkaline Phosphatase (hT-NAP) in complex with phosphate
Authors	:	Ballut, L.; Violot, S.; Imam, I.
Deposited on	:	2025-07-17
Resolution	:	3.35 Å(reported)

This is a wwPDB X-ray Structure Validation Summary Report for a publicly released PDB entry.

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

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

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

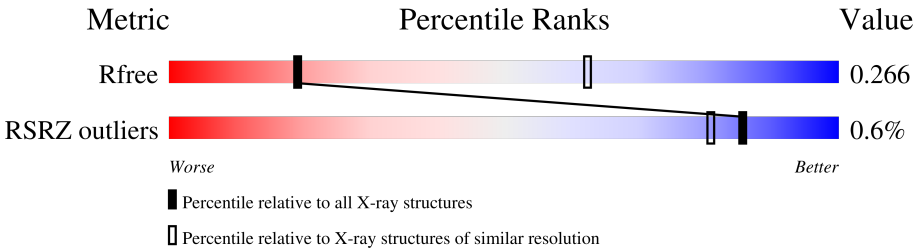
MolProbity	:	FAILED
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	2.0rc1
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.006 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.45.1

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.35 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	1012 (3.40-3.32)
RSRZ outliers	164620	1012 (3.40-3.32)

MolProbity failed to run properly - the sequence quality summary graphics cannot be shown.

2 Entry composition (i)

There are 9 unique types of molecules in this entry. The entry contains 19230 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Alkaline phosphatase, tissue-nonspecific isozyme.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	482	Total	C	N	O	S	0	0	0
			3709	2320	658	712	19			
1	B	482	Total	C	N	O	S	0	0	0
			3734	2337	663	715	19			
1	C	482	Total	C	N	O	S	0	0	0
			3738	2339	663	717	19			
1	D	483	Total	C	N	O	S	0	0	0
			3737	2339	661	718	19			
1	E	482	Total	C	N	O	S	0	0	0
			3738	2339	663	717	19			

There are 130 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	501	ALA	-	expression tag	UNP P05186
A	502	ALA	-	expression tag	UNP P05186
A	503	ALA	-	expression tag	UNP P05186
A	504	GLU	-	expression tag	UNP P05186
A	505	ASN	-	expression tag	UNP P05186
A	506	LEU	-	expression tag	UNP P05186
A	507	TYR	-	expression tag	UNP P05186
A	508	PHE	-	expression tag	UNP P05186
A	509	GLN	-	expression tag	UNP P05186
A	510	GLY	-	expression tag	UNP P05186
A	511	ASP	-	expression tag	UNP P05186
A	512	TYR	-	expression tag	UNP P05186
A	513	LYS	-	expression tag	UNP P05186
A	514	ASP	-	expression tag	UNP P05186
A	515	ASP	-	expression tag	UNP P05186
A	516	ASP	-	expression tag	UNP P05186
A	517	ASP	-	expression tag	UNP P05186
A	518	LYS	-	expression tag	UNP P05186
A	519	HIS	-	expression tag	UNP P05186

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Chain	Residue	Modelled	Actual	Comment	Reference
A	520	HIS	-	expression tag	UNP P05186
A	521	HIS	-	expression tag	UNP P05186
A	522	HIS	-	expression tag	UNP P05186
A	523	HIS	-	expression tag	UNP P05186
A	524	HIS	-	expression tag	UNP P05186
A	525	HIS	-	expression tag	UNP P05186
A	526	HIS	-	expression tag	UNP P05186
B	501	ALA	-	expression tag	UNP P05186
B	502	ALA	-	expression tag	UNP P05186
B	503	ALA	-	expression tag	UNP P05186
B	504	GLU	-	expression tag	UNP P05186
B	505	ASN	-	expression tag	UNP P05186
B	506	LEU	-	expression tag	UNP P05186
B	507	TYR	-	expression tag	UNP P05186
B	508	PHE	-	expression tag	UNP P05186
B	509	GLN	-	expression tag	UNP P05186
B	510	GLY	-	expression tag	UNP P05186
B	511	ASP	-	expression tag	UNP P05186
B	512	TYR	-	expression tag	UNP P05186
B	513	LYS	-	expression tag	UNP P05186
B	514	ASP	-	expression tag	UNP P05186
B	515	ASP	-	expression tag	UNP P05186
B	516	ASP	-	expression tag	UNP P05186
B	517	ASP	-	expression tag	UNP P05186
B	518	LYS	-	expression tag	UNP P05186
B	519	HIS	-	expression tag	UNP P05186
B	520	HIS	-	expression tag	UNP P05186
B	521	HIS	-	expression tag	UNP P05186
B	522	HIS	-	expression tag	UNP P05186
B	523	HIS	-	expression tag	UNP P05186
B	524	HIS	-	expression tag	UNP P05186
B	525	HIS	-	expression tag	UNP P05186
B	526	HIS	-	expression tag	UNP P05186
C	501	ALA	-	expression tag	UNP P05186
C	502	ALA	-	expression tag	UNP P05186
C	503	ALA	-	expression tag	UNP P05186
C	504	GLU	-	expression tag	UNP P05186
C	505	ASN	-	expression tag	UNP P05186
C	506	LEU	-	expression tag	UNP P05186
C	507	TYR	-	expression tag	UNP P05186
C	508	PHE	-	expression tag	UNP P05186
C	509	GLN	-	expression tag	UNP P05186

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Chain	Residue	Modelled	Actual	Comment	Reference
C	510	GLY	-	expression tag	UNP P05186
C	511	ASP	-	expression tag	UNP P05186
C	512	TYR	-	expression tag	UNP P05186
C	513	LYS	-	expression tag	UNP P05186
C	514	ASP	-	expression tag	UNP P05186
C	515	ASP	-	expression tag	UNP P05186
C	516	ASP	-	expression tag	UNP P05186
C	517	ASP	-	expression tag	UNP P05186
C	518	LYS	-	expression tag	UNP P05186
C	519	HIS	-	expression tag	UNP P05186
C	520	HIS	-	expression tag	UNP P05186
C	521	HIS	-	expression tag	UNP P05186
C	522	HIS	-	expression tag	UNP P05186
C	523	HIS	-	expression tag	UNP P05186
C	524	HIS	-	expression tag	UNP P05186
C	525	HIS	-	expression tag	UNP P05186
C	526	HIS	-	expression tag	UNP P05186
D	501	ALA	-	expression tag	UNP P05186
D	502	ALA	-	expression tag	UNP P05186
D	503	ALA	-	expression tag	UNP P05186
D	504	GLU	-	expression tag	UNP P05186
D	505	ASN	-	expression tag	UNP P05186
D	506	LEU	-	expression tag	UNP P05186
D	507	TYR	-	expression tag	UNP P05186
D	508	PHE	-	expression tag	UNP P05186
D	509	GLN	-	expression tag	UNP P05186
D	510	GLY	-	expression tag	UNP P05186
D	511	ASP	-	expression tag	UNP P05186
D	512	TYR	-	expression tag	UNP P05186
D	513	LYS	-	expression tag	UNP P05186
D	514	ASP	-	expression tag	UNP P05186
D	515	ASP	-	expression tag	UNP P05186
D	516	ASP	-	expression tag	UNP P05186
D	517	ASP	-	expression tag	UNP P05186
D	518	LYS	-	expression tag	UNP P05186
D	519	HIS	-	expression tag	UNP P05186
D	520	HIS	-	expression tag	UNP P05186
D	521	HIS	-	expression tag	UNP P05186
D	522	HIS	-	expression tag	UNP P05186
D	523	HIS	-	expression tag	UNP P05186
D	524	HIS	-	expression tag	UNP P05186
D	525	HIS	-	expression tag	UNP P05186

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Chain	Residue	Modelled	Actual	Comment	Reference
D	526	HIS	-	expression tag	UNP P05186
E	501	ALA	-	expression tag	UNP P05186
E	502	ALA	-	expression tag	UNP P05186
E	503	ALA	-	expression tag	UNP P05186
E	504	GLU	-	expression tag	UNP P05186
E	505	ASN	-	expression tag	UNP P05186
E	506	LEU	-	expression tag	UNP P05186
E	507	TYR	-	expression tag	UNP P05186
E	508	PHE	-	expression tag	UNP P05186
E	509	GLN	-	expression tag	UNP P05186
E	510	GLY	-	expression tag	UNP P05186
E	511	ASP	-	expression tag	UNP P05186
E	512	TYR	-	expression tag	UNP P05186
E	513	LYS	-	expression tag	UNP P05186
E	514	ASP	-	expression tag	UNP P05186
E	515	ASP	-	expression tag	UNP P05186
E	516	ASP	-	expression tag	UNP P05186
E	517	ASP	-	expression tag	UNP P05186
E	518	LYS	-	expression tag	UNP P05186
E	519	HIS	-	expression tag	UNP P05186
E	520	HIS	-	expression tag	UNP P05186
E	521	HIS	-	expression tag	UNP P05186
E	522	HIS	-	expression tag	UNP P05186
E	523	HIS	-	expression tag	UNP P05186
E	524	HIS	-	expression tag	UNP P05186
E	525	HIS	-	expression tag	UNP P05186
E	526	HIS	-	expression tag	UNP P05186

- Molecule 2 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	F	2	Total	C	N	O	0	0	0
			28	16	2	10			
2	G	2	Total	C	N	O	0	0	0
			28	16	2	10			
2	I	2	Total	C	N	O	0	0	0
			28	16	2	10			

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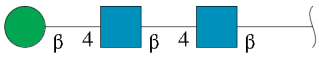
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
2	J	2	Total C N O 28 16 2 10	0	0	0
2	L	2	Total C N O 28 16 2 10	0	0	0
2	M	2	Total C N O 28 16 2 10	0	0	0
2	N	2	Total C N O 28 16 2 10	0	0	0
2	O	2	Total C N O 28 16 2 10	0	0	0
2	P	2	Total C N O 28 16 2 10	0	0	0
2	R	2	Total C N O 28 16 2 10	0	0	0

- Molecule 3 is an oligosaccharide called beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
3	H	3	Total C N O 39 22 2 15	0	0	0
3	K	3	Total C N O 39 22 2 15	0	0	0
3	Q	3	Total C N O 39 22 2 15	0	0	0
3	S	3	Total C N O 39 22 2 15	0	0	0

- Molecule 4 is ZINC ION (CCD ID: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	2	Total Zn 2 2	0	0
4	B	2	Total Zn 2 2	0	0
4	C	2	Total Zn 2 2	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	D	2	Total Zn 2 2	0	0
4	E	2	Total Zn 2 2	0	0

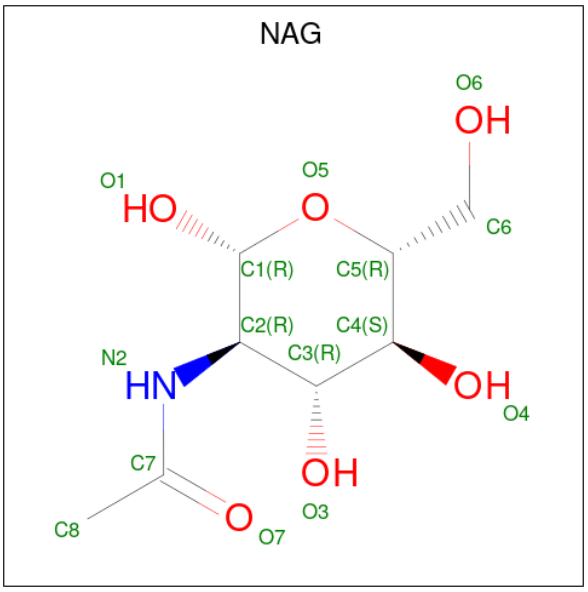
- Molecule 5 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total Mg 1 1	0	0
5	B	1	Total Mg 1 1	0	0
5	C	1	Total Mg 1 1	0	0
5	D	1	Total Mg 1 1	0	0
5	E	1	Total Mg 1 1	0	0

- Molecule 6 is CALCIUM ION (CCD ID: CA) (formula: Ca) (labeled as "Ligand of Interest" by depositor).

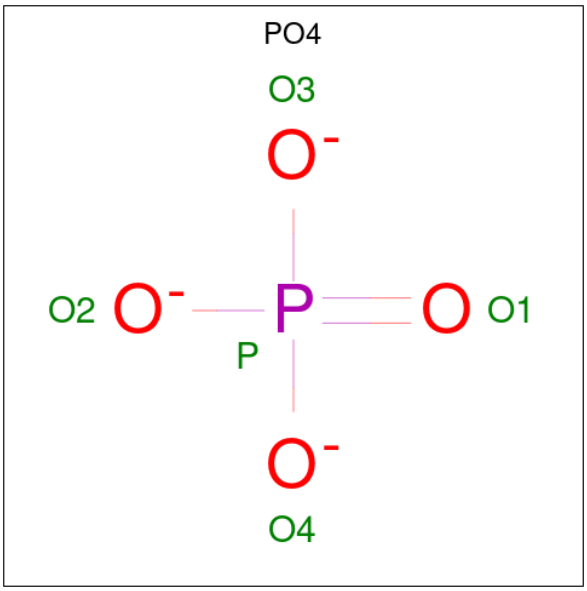
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	1	Total Ca 1 1	0	0
6	B	1	Total Ca 1 1	0	0
6	C	1	Total Ca 1 1	0	0
6	D	1	Total Ca 1 1	0	0
6	E	1	Total Ca 1 1	0	0

- Molecule 7 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: $C_8H_{15}NO_6$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	A	1	Total C N O 14 8 1 5	0	0
7	B	1	Total C N O 14 8 1 5	0	0
7	C	1	Total C N O 14 8 1 5	0	0
7	D	1	Total C N O 14 8 1 5	0	0
7	E	1	Total C N O 14 8 1 5	0	0
7	E	1	Total C N O 14 8 1 5	0	0

- Molecule 8 is PHOSPHATE ION (CCD ID: PO4) (formula: O_4P) (labeled as "Ligand of Interest" by depositor).



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

- Molecule 9 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
9	A	4	Total O 4 4	0	0
9	B	2	Total O 2 2	0	0
9	C	2	Total O 2 2	0	0
9	E	1	Total O 1 1	0	0

MolProbity failed to run properly - this section is therefore empty.

3 Data and refinement statistics (i)

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α, β, γ	156.73Å 297.70Å 205.16Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	39.56 – 3.35 39.56 – 3.35	Depositor EDS
% Data completeness (in resolution range)	99.7 (39.56-3.35) 99.6 (39.56-3.35)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.36 (at 3.32Å)	Xtriage
Refinement program	PHENIX (1.21.2_5419: ???)	Depositor
R, R_{free}	0.215 , 0.266 0.215 , 0.266	Depositor DCC
R_{free} test set	3438 reflections (4.98%)	wwPDB-VP
Wilson B-factor (Å^2)	71.4	Xtriage
Anisotropy	0.164	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.27 , 47.1	EDS
L-test for twinning[2]	$< \|L\| > = 0.43$, $< L^2 > = 0.26$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.90	EDS
Total number of atoms	19230	wwPDB-VP
Average B, all atoms (Å^2)	73.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.57% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

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

4 Model quality

4.1 Standard geometry

MolProbity failed to run properly - this section is therefore empty.

4.2 Too-close contacts

MolProbity failed to run properly - this section is therefore empty.

4.3 Torsion angles

4.3.1 Protein backbone

MolProbity failed to run properly - this section is therefore empty.

4.3.2 Protein sidechains

MolProbity failed to run properly - this section is therefore empty.

4.3.3 RNA

MolProbity failed to run properly - this section is therefore empty.

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

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

4.5 Carbohydrates

32 monosaccharides are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
2	NAG	F	1	1,2	14,14,15	0.88	0	17,19,21	3.36	9 (52%)
2	NAG	F	2	2	14,14,15	0.79	0	17,19,21	0.89	0
2	NAG	G	1	1,2	14,14,15	0.80	0	17,19,21	1.07	1 (5%)
2	NAG	G	2	2	14,14,15	0.77	0	17,19,21	1.18	2 (11%)
3	NAG	H	1	1,3	14,14,15	0.77	0	17,19,21	1.44	4 (23%)
3	NAG	H	2	3	14,14,15	0.71	0	17,19,21	1.11	1 (5%)
3	BMA	H	3	3	11,11,12	0.97	0	15,15,17	2.06	5 (33%)
2	NAG	I	1	1,2	14,14,15	0.92	1 (7%)	17,19,21	2.95	7 (41%)
2	NAG	I	2	2	14,14,15	0.81	0	17,19,21	0.82	0
2	NAG	J	1	1,2	14,14,15	0.76	0	17,19,21	1.28	3 (17%)
2	NAG	J	2	2	14,14,15	0.73	0	17,19,21	1.01	1 (5%)
3	NAG	K	1	1,3	14,14,15	0.74	0	17,19,21	1.27	3 (17%)
3	NAG	K	2	3	14,14,15	0.73	0	17,19,21	0.98	0
3	BMA	K	3	3	11,11,12	0.92	0	15,15,17	2.71	6 (40%)
2	NAG	L	1	1,2	14,14,15	0.63	0	17,19,21	3.40	6 (35%)
2	NAG	L	2	2	14,14,15	0.67	0	17,19,21	3.16	9 (52%)
2	NAG	M	1	1,2	14,14,15	0.78	0	17,19,21	1.69	4 (23%)
2	NAG	M	2	2	14,14,15	0.68	0	17,19,21	0.98	1 (5%)
2	NAG	N	1	1,2	14,14,15	0.94	1 (7%)	17,19,21	1.06	1 (5%)
2	NAG	N	2	2	14,14,15	0.71	0	17,19,21	1.09	1 (5%)
2	NAG	O	1	1,2	14,14,15	0.93	1 (7%)	17,19,21	3.03	9 (52%)
2	NAG	O	2	2	14,14,15	0.82	1 (7%)	17,19,21	1.48	2 (11%)
2	NAG	P	1	1,2	14,14,15	0.78	0	17,19,21	1.12	3 (17%)
2	NAG	P	2	2	14,14,15	0.72	0	17,19,21	1.03	1 (5%)
3	NAG	Q	1	1,3	14,14,15	0.77	0	17,19,21	1.62	4 (23%)
3	NAG	Q	2	3	14,14,15	0.75	0	17,19,21	1.60	4 (23%)
3	BMA	Q	3	3	11,11,12	0.95	0	15,15,17	2.25	5 (33%)
2	NAG	R	1	1,2	14,14,15	0.94	0	17,19,21	3.14	8 (47%)
2	NAG	R	2	2	14,14,15	0.77	0	17,19,21	0.77	0
3	NAG	S	1	1,3	14,14,15	0.74	0	17,19,21	2.57	4 (23%)
3	NAG	S	2	3	14,14,15	0.67	0	17,19,21	1.26	4 (23%)
3	BMA	S	3	3	11,11,12	0.95	1 (9%)	15,15,17	2.36	4 (26%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns.

'-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	NAG	F	1	1,2	-	1/6/23/26	0/1/1/1
2	NAG	F	2	2	-	1/6/23/26	0/1/1/1
2	NAG	G	1	1,2	-	4/6/23/26	0/1/1/1
2	NAG	G	2	2	-	1/6/23/26	0/1/1/1
3	NAG	H	1	1,3	-	2/6/23/26	0/1/1/1
3	NAG	H	2	3	-	2/6/23/26	0/1/1/1
3	BMA	H	3	3	-	2/2/19/22	0/1/1/1
2	NAG	I	1	1,2	-	2/6/23/26	0/1/1/1
2	NAG	I	2	2	-	1/6/23/26	0/1/1/1
2	NAG	J	1	1,2	-	1/6/23/26	0/1/1/1
2	NAG	J	2	2	-	2/6/23/26	0/1/1/1
3	NAG	K	1	1,3	-	0/6/23/26	0/1/1/1
3	NAG	K	2	3	-	2/6/23/26	0/1/1/1
3	BMA	K	3	3	-	1/2/19/22	0/1/1/1
2	NAG	L	1	1,2	-	4/6/23/26	0/1/1/1
2	NAG	L	2	2	-	2/6/23/26	0/1/1/1
2	NAG	M	1	1,2	-	2/6/23/26	0/1/1/1
2	NAG	M	2	2	-	0/6/23/26	0/1/1/1
2	NAG	N	1	1,2	-	2/6/23/26	0/1/1/1
2	NAG	N	2	2	-	0/6/23/26	0/1/1/1
2	NAG	O	1	1,2	-	0/6/23/26	0/1/1/1
2	NAG	O	2	2	-	1/6/23/26	0/1/1/1
2	NAG	P	1	1,2	-	0/6/23/26	0/1/1/1
2	NAG	P	2	2	-	1/6/23/26	0/1/1/1
3	NAG	Q	1	1,3	-	2/6/23/26	0/1/1/1
3	NAG	Q	2	3	-	0/6/23/26	0/1/1/1
3	BMA	Q	3	3	-	1/2/19/22	0/1/1/1
2	NAG	R	1	1,2	-	2/6/23/26	0/1/1/1
2	NAG	R	2	2	-	1/6/23/26	0/1/1/1
3	NAG	S	1	1,3	-	3/6/23/26	0/1/1/1
3	NAG	S	2	3	-	2/6/23/26	0/1/1/1
3	BMA	S	3	3	-	2/2/19/22	0/1/1/1

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	N	1	NAG	O5-C1	-2.16	1.40	1.43
2	I	1	NAG	C1-C2	2.12	1.55	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	O	2	NAG	O5-C1	-2.12	1.40	1.43
3	S	3	BMA	C2-C3	2.11	1.55	1.52
2	O	1	NAG	C1-C2	2.07	1.55	1.52

The worst 5 of 112 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	S	1	NAG	C2-N2-C7	8.62	135.17	122.90
2	L	2	NAG	C1-O5-C5	8.46	123.65	112.19
2	F	1	NAG	C2-N2-C7	-8.31	111.07	122.90
2	R	1	NAG	C2-N2-C7	-8.09	111.38	122.90
2	I	1	NAG	C2-N2-C7	-8.04	111.46	122.90

There are no chirality outliers.

5 of 47 torsion outliers are listed below:

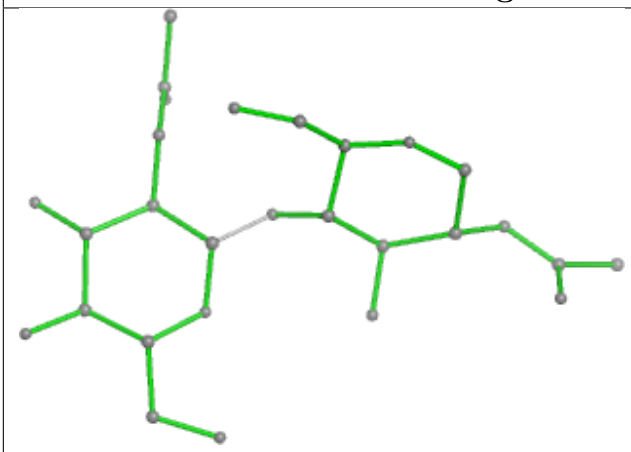
Mol	Chain	Res	Type	Atoms
2	J	2	NAG	C4-C5-C6-O6
2	G	1	NAG	O5-C5-C6-O6
2	M	1	NAG	O5-C5-C6-O6
3	Q	1	NAG	O5-C5-C6-O6
2	N	1	NAG	C4-C5-C6-O6

There are no ring outliers.

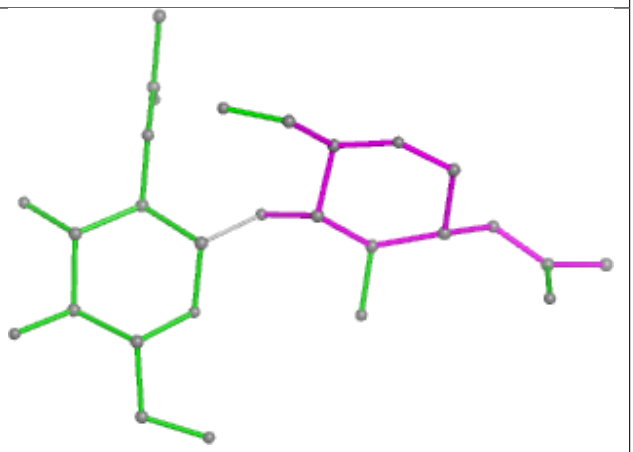
No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.

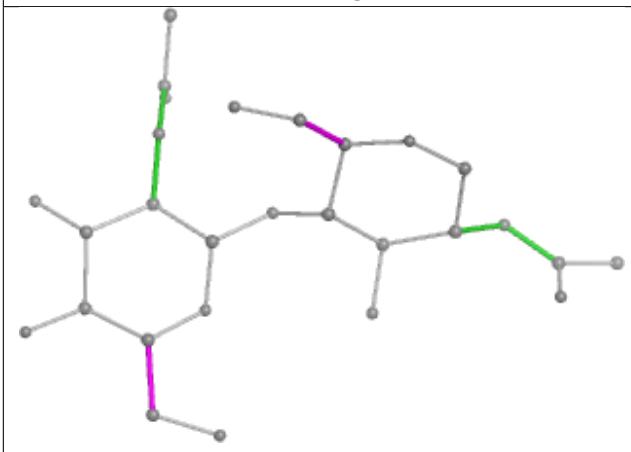
Oligosaccharide Chain F



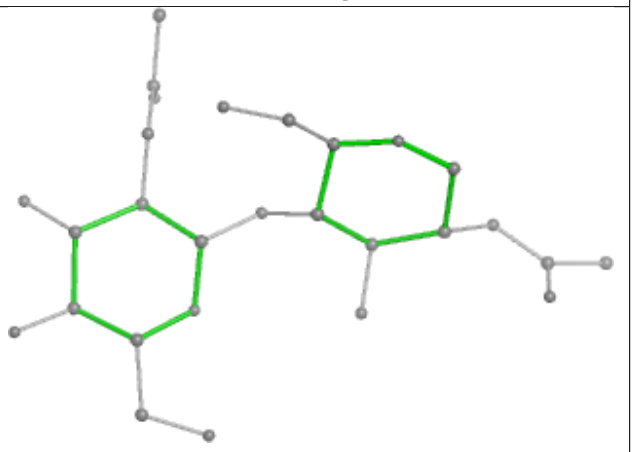
Bond lengths



Bond angles

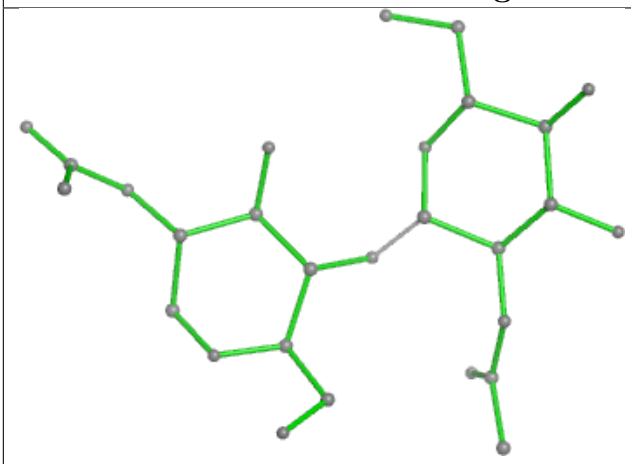


Torsions

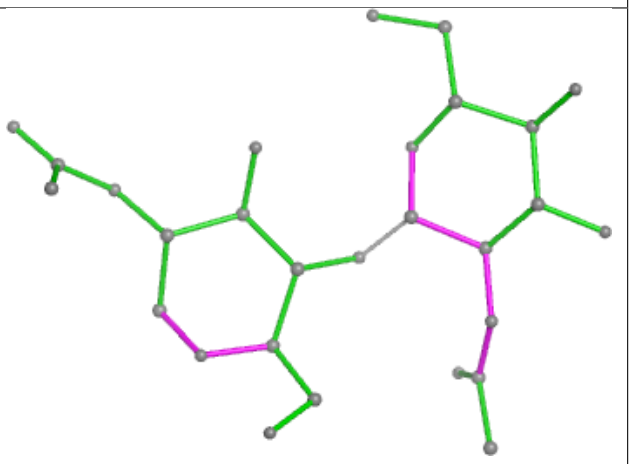


Rings

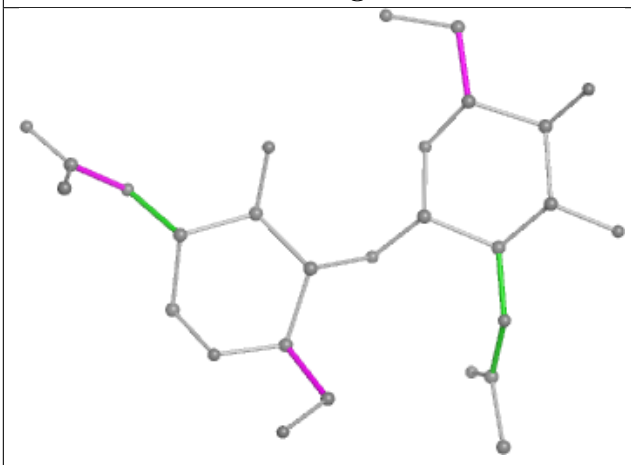
Oligosaccharide Chain G



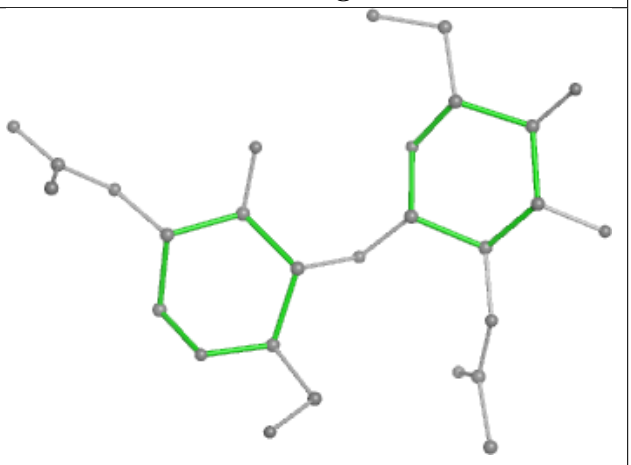
Bond lengths



Bond angles

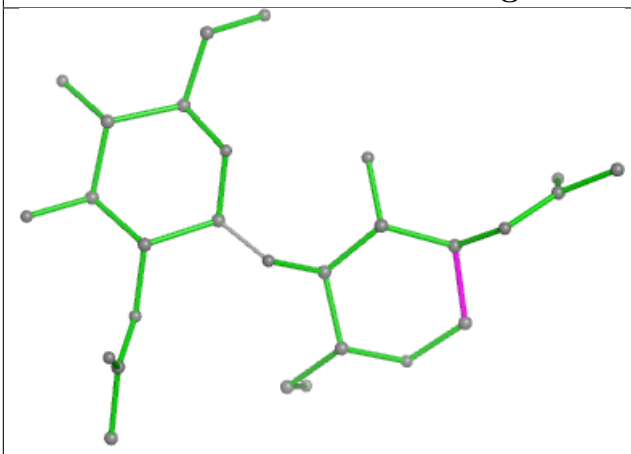


Torsions

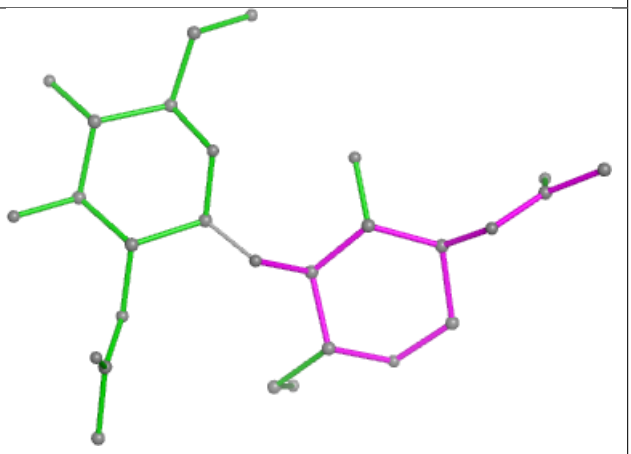


Rings

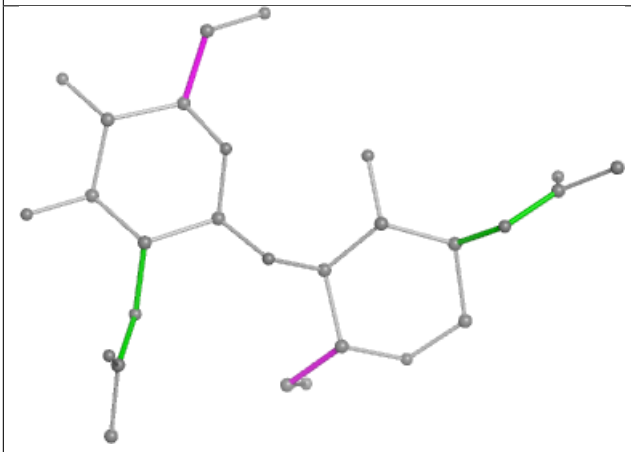
Oligosaccharide Chain I



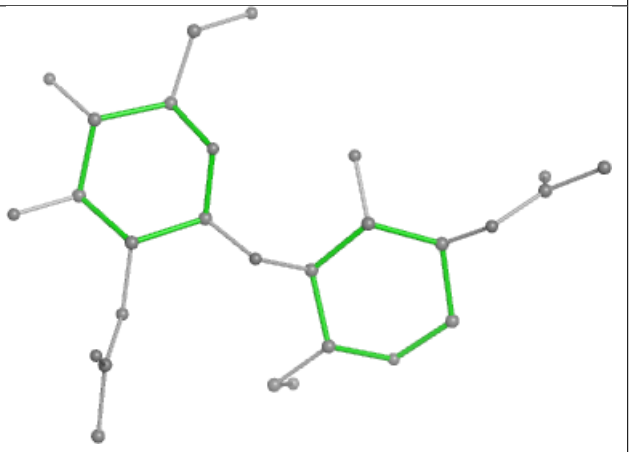
Bond lengths



Bond angles

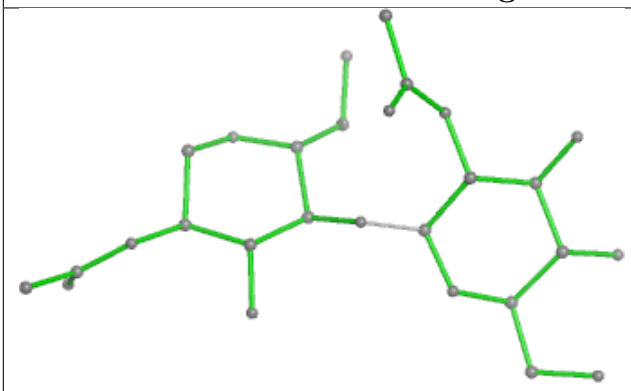


Torsions

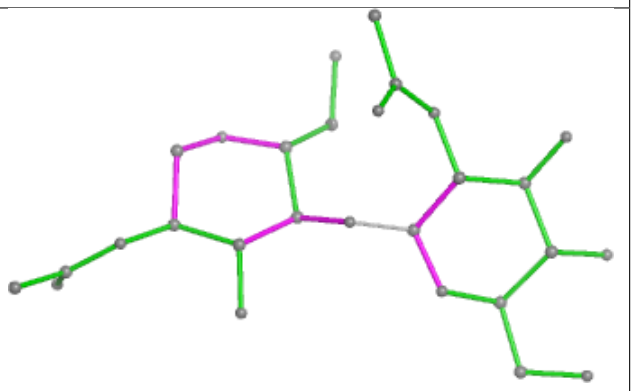


Rings

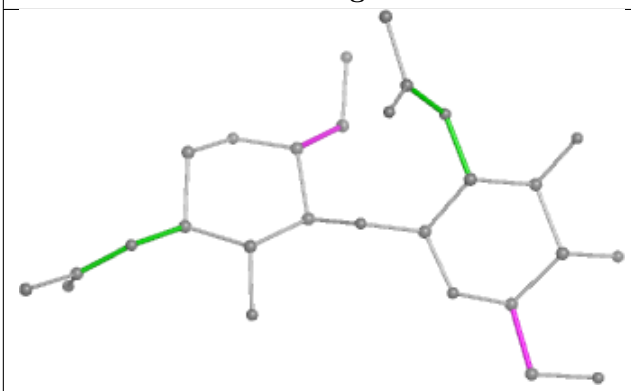
Oligosaccharide Chain J



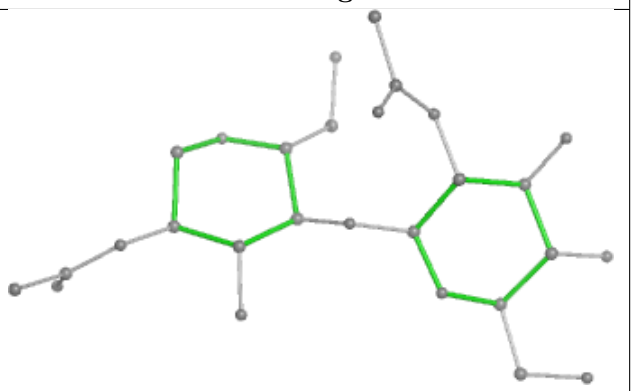
Bond lengths



Bond angles

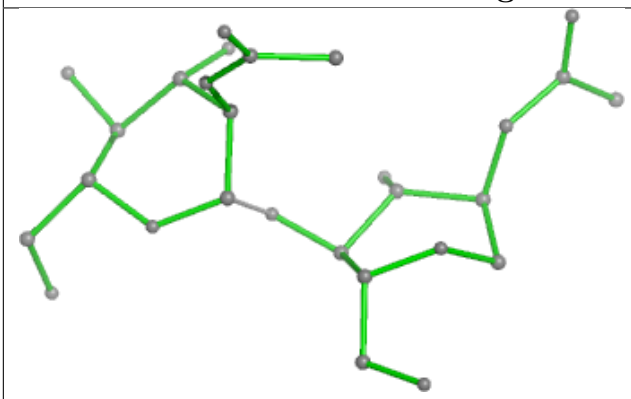


Torsions

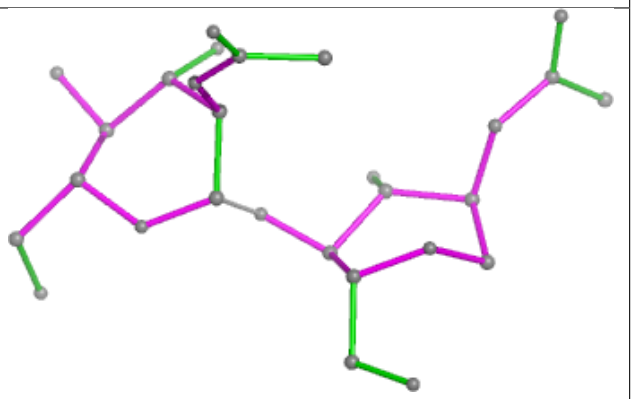


Rings

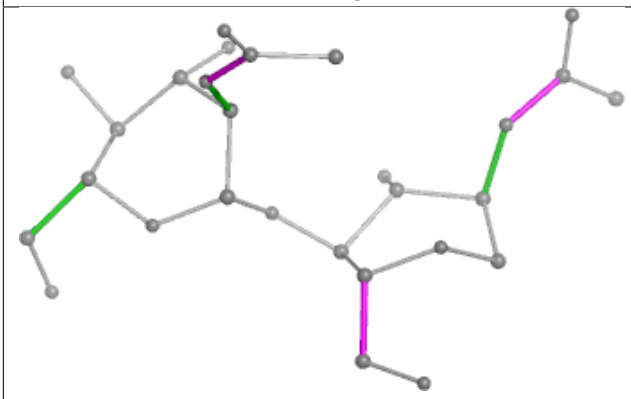
Oligosaccharide Chain L



Bond lengths



Bond angles



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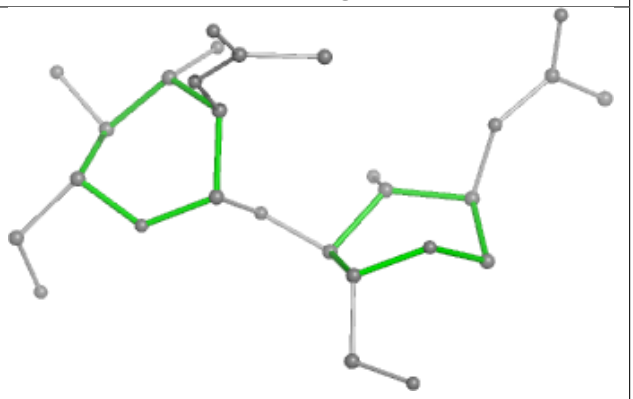
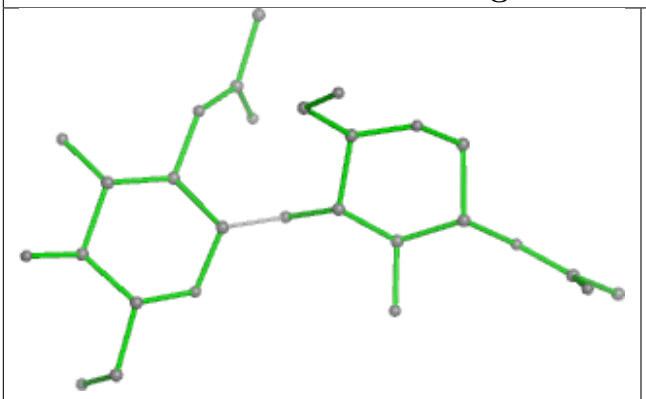
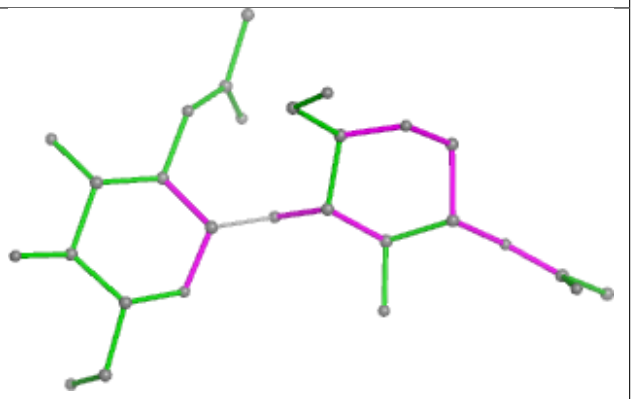


Rings

Oligosaccharide Chain M



Bond lengths



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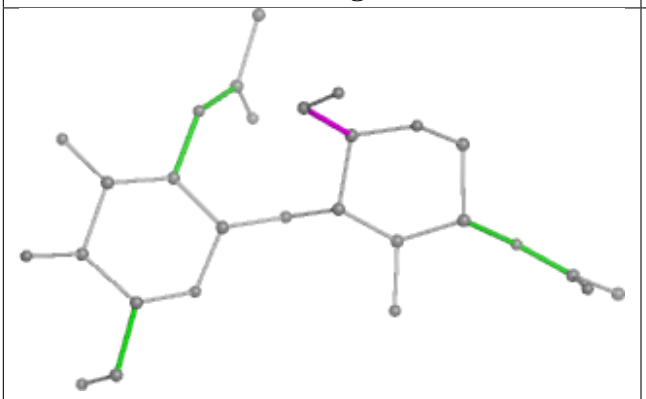

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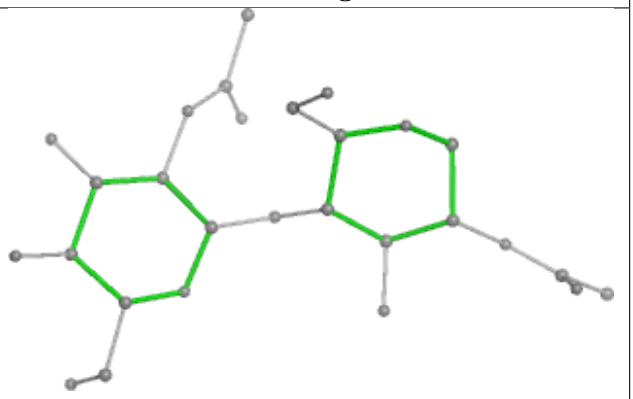
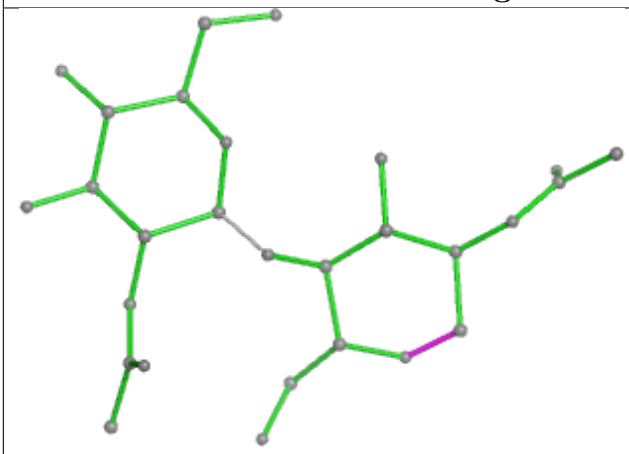
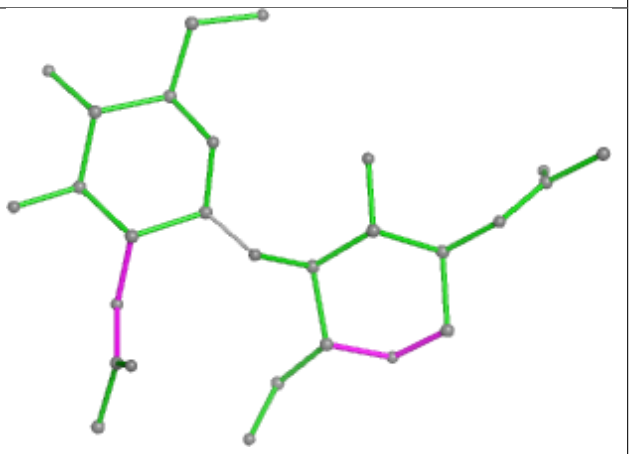


Rings

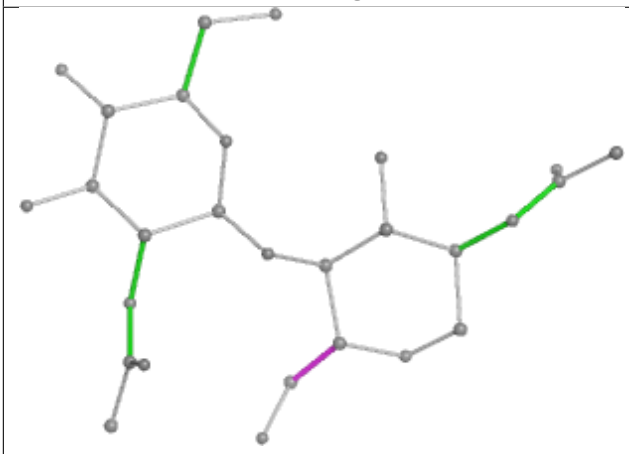
Oligosaccharide Chain N



Bond lengths



Bond angles



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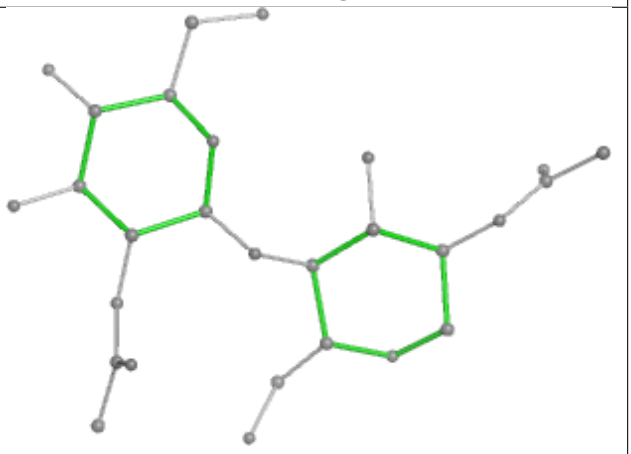
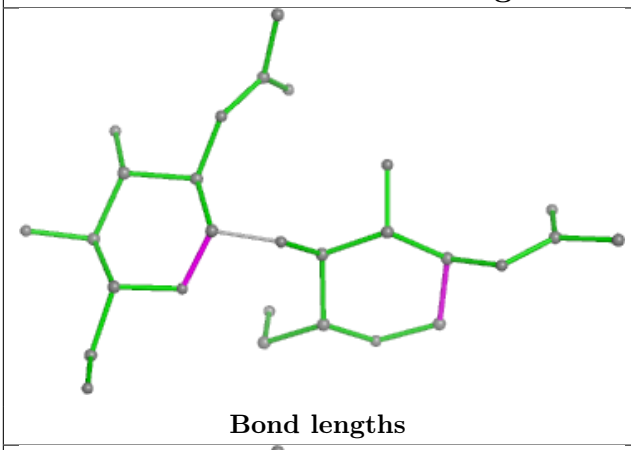


Rings

Oligosaccharide Chain O



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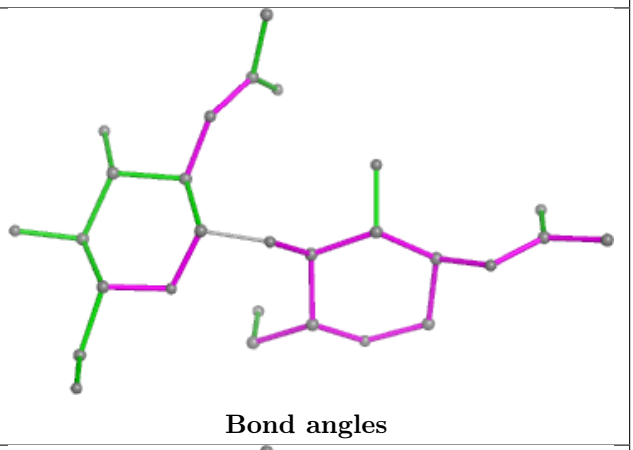

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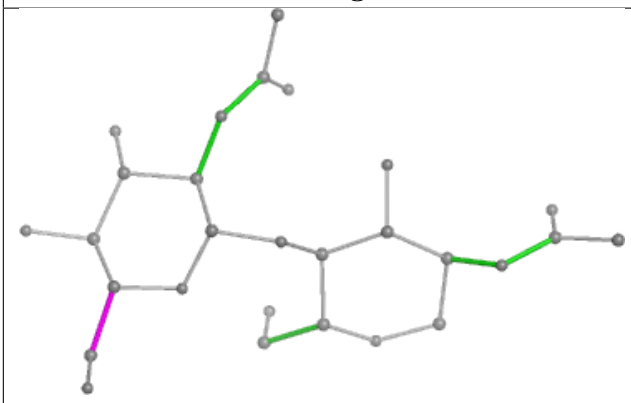

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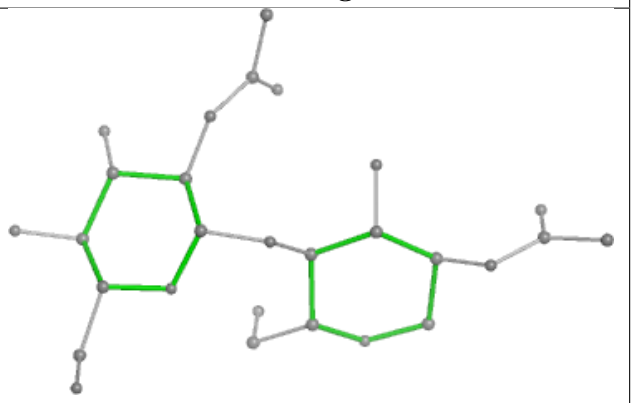
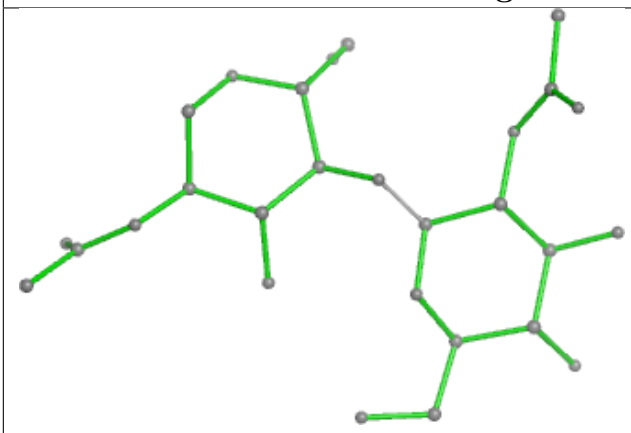
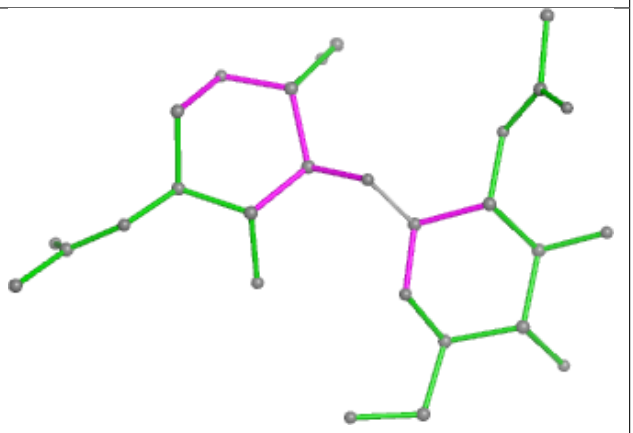


Rings

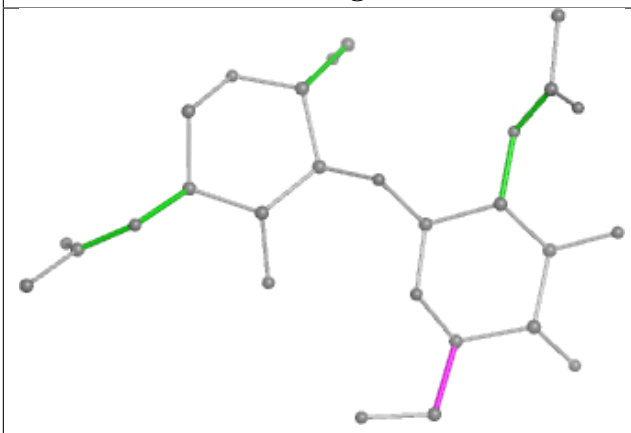
Oligosaccharide Chain P



Bond lengths



Bond angles



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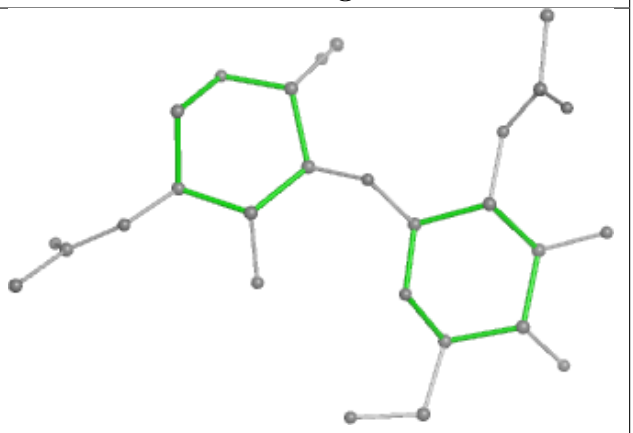
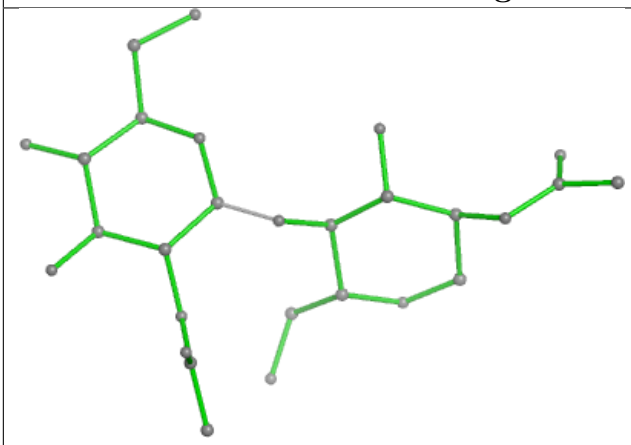
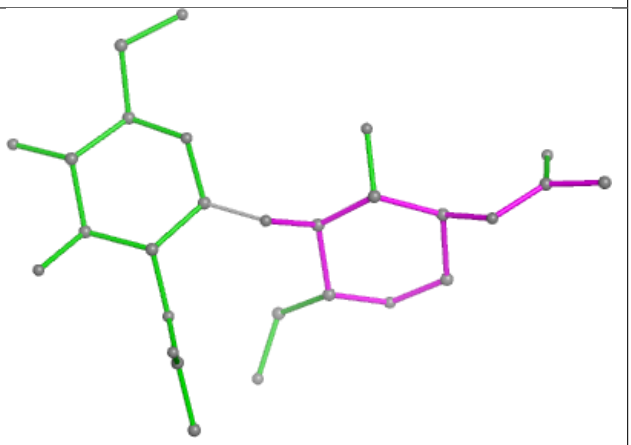


Rings

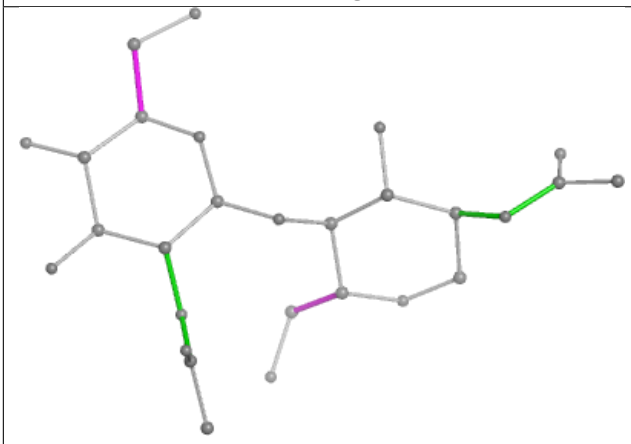
Oligosaccharide Chain R



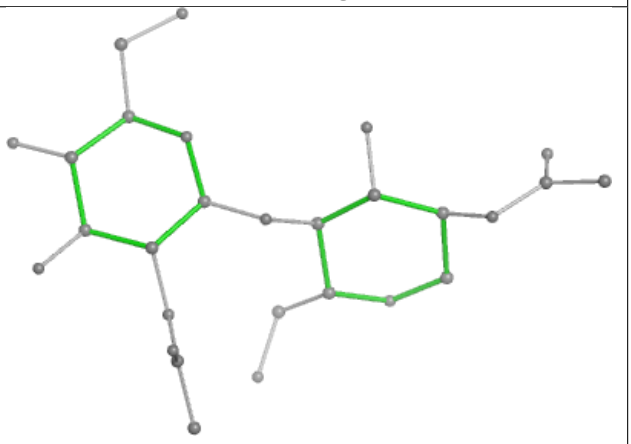
Bond lengths



Bond angles

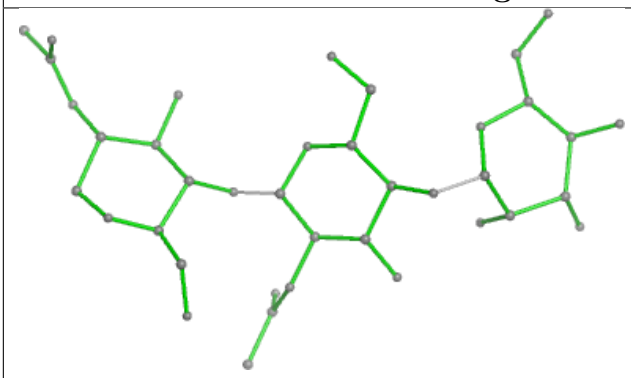


Torsions

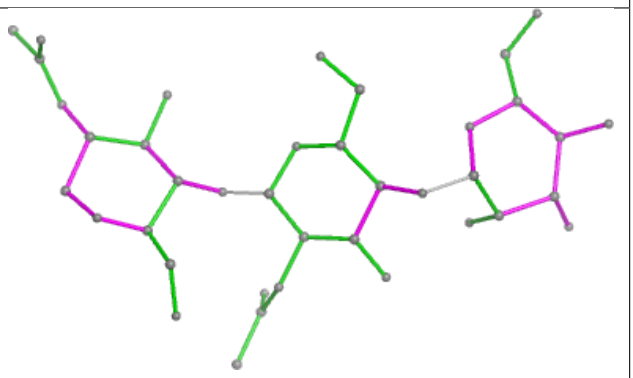


Rings

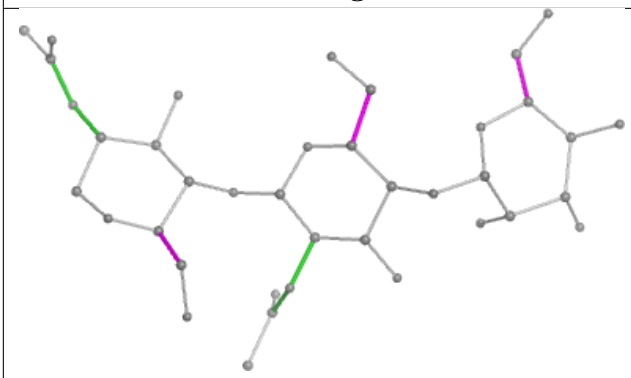
Oligosaccharide Chain H



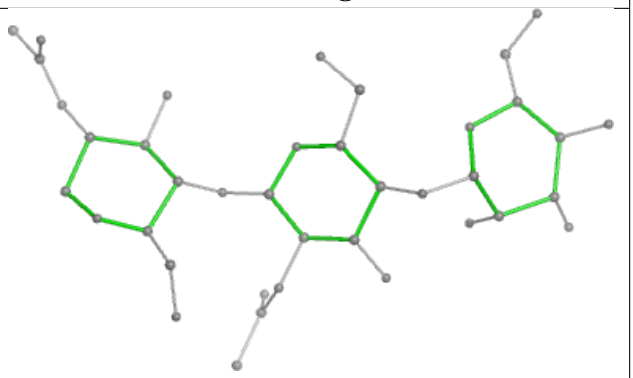
Bond lengths



Bond angles

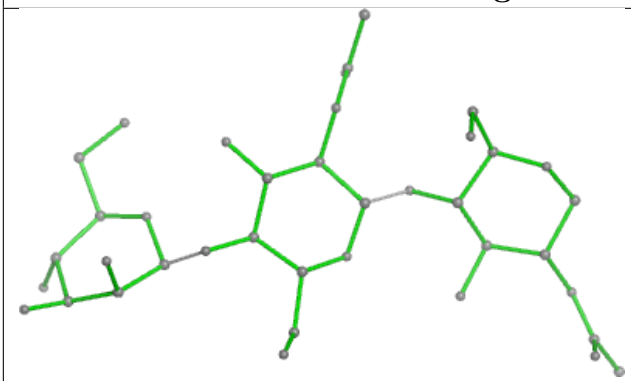


Torsions

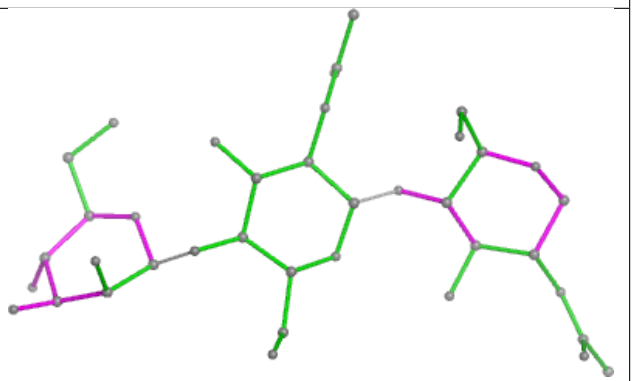


Rings

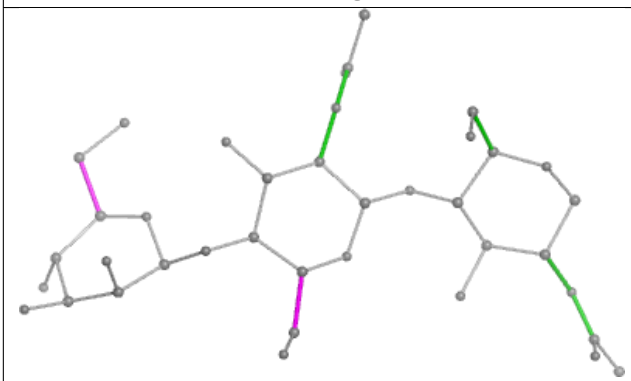
Oligosaccharide Chain K



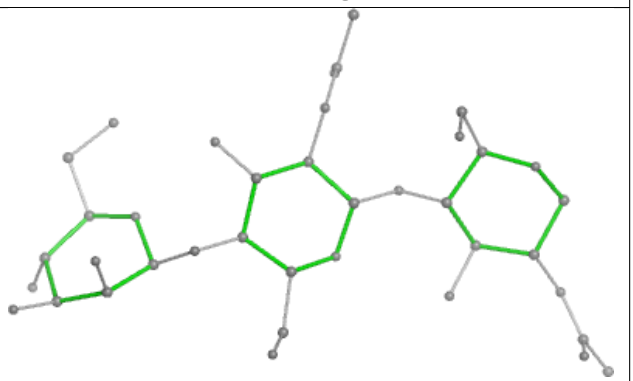
Bond lengths



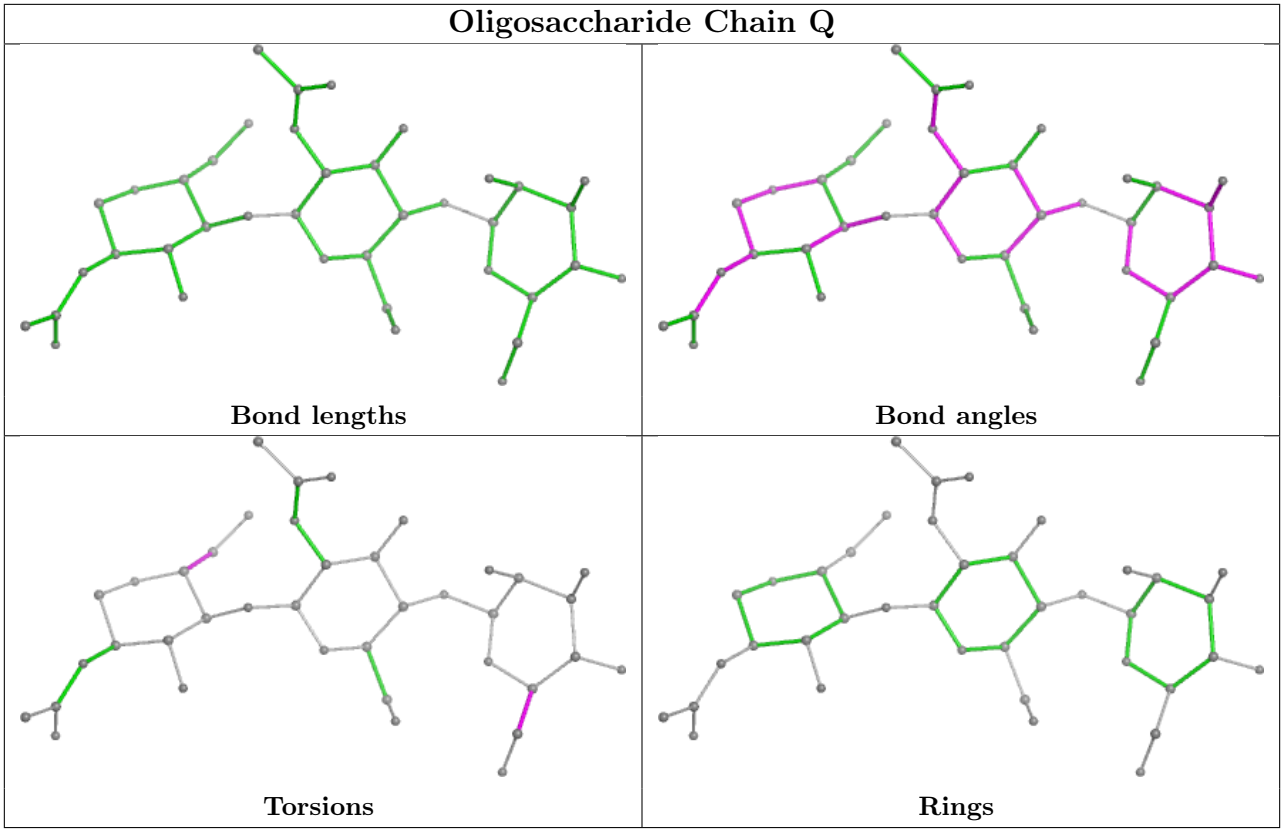
Bond angles

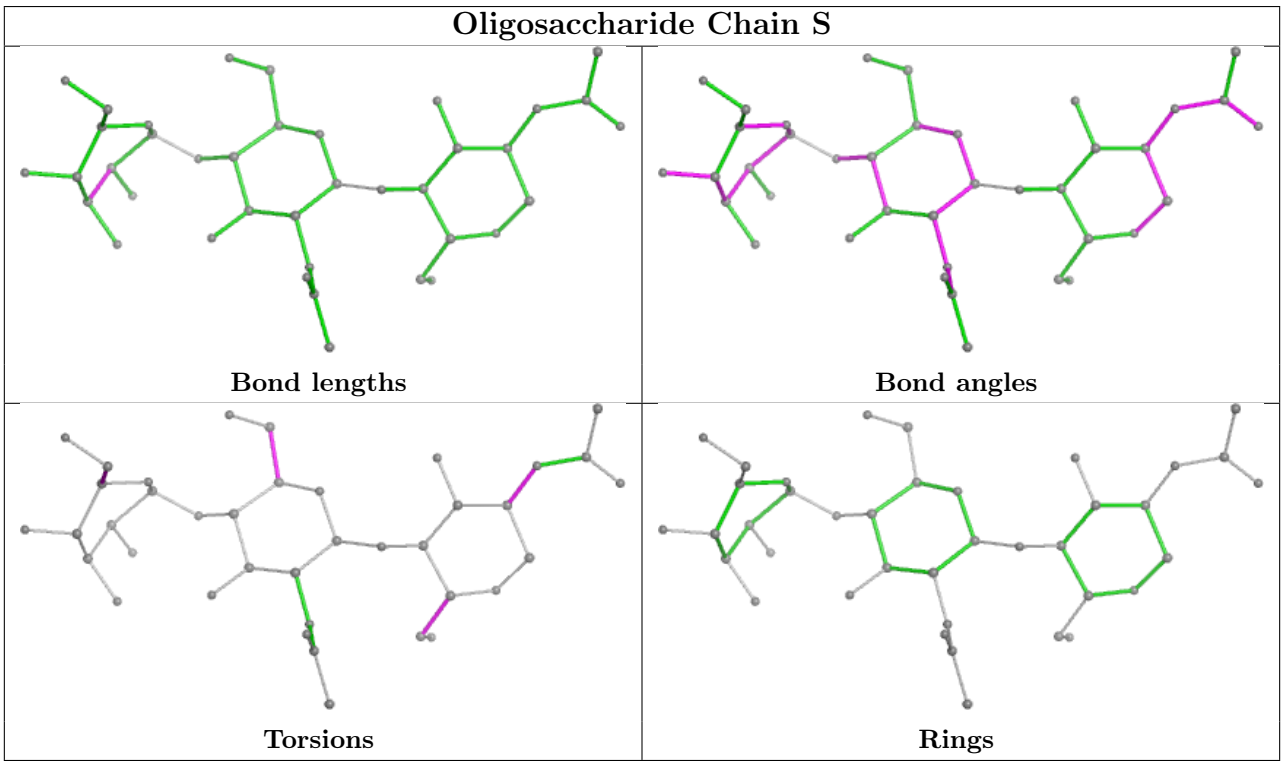


Torsions



Rings





4.6 Ligand geometry (i)

Of 31 ligands modelled in this entry, 20 are monoatomic - leaving 11 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	$\#\|Z\| > 2$
7	NAG	C	605	1	14,14,15	0.66	0	17,19,21	0.84	0
8	PO4	D	606	-	4,4,4	1.46	1 (25%)	6,6,6	0.46	0
7	NAG	D	605	1	14,14,15	0.83	1 (7%)	17,19,21	1.69	3 (17%)
7	NAG	E	605	1	14,14,15	0.28	0	17,19,21	1.22	2 (11%)
8	PO4	B	606	-	4,4,4	1.46	1 (25%)	6,6,6	0.45	0
8	PO4	E	607	-	4,4,4	1.48	1 (25%)	6,6,6	0.43	0
7	NAG	E	606	1	14,14,15	0.76	0	17,19,21	1.15	3 (17%)
8	PO4	C	606	4	4,4,4	1.22	0	6,6,6	0.60	0
8	PO4	A	606	-	4,4,4	1.43	1 (25%)	6,6,6	0.73	0
7	NAG	B	605	1	14,14,15	0.58	0	17,19,21	3.57	7 (41%)
7	NAG	A	605	1	14,14,15	0.54	0	17,19,21	4.10	10 (58%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
7	NAG	C	605	1	-	1/6/23/26	0/1/1/1
7	NAG	D	605	1	-	0/6/23/26	0/1/1/1
7	NAG	E	605	1	-	4/6/23/26	0/1/1/1
7	NAG	E	606	1	-	2/6/23/26	0/1/1/1
7	NAG	B	605	1	-	2/6/23/26	0/1/1/1
7	NAG	A	605	1	-	2/6/23/26	0/1/1/1

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	E	607	PO4	P-O1	2.61	1.57	1.50
8	D	606	PO4	P-O1	2.54	1.56	1.50
8	B	606	PO4	P-O1	2.54	1.56	1.50
8	A	606	PO4	P-O1	2.43	1.56	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	D	605	NAG	C1-C2	2.04	1.55	1.52

The worst 5 of 25 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	B	605	NAG	C1-O5-C5	8.67	123.94	112.19
7	A	605	NAG	C1-O5-C5	8.37	123.53	112.19
7	A	605	NAG	O5-C1-C2	7.85	123.69	111.29
7	A	605	NAG	C2-N2-C7	6.71	132.46	122.90
7	B	605	NAG	O5-C1-C2	6.03	120.81	111.29

There are no chirality outliers.

5 of 11 torsion outliers are listed below:

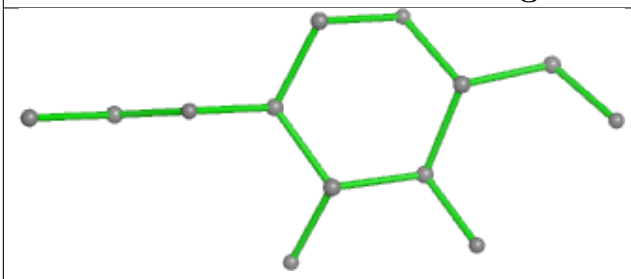
Mol	Chain	Res	Type	Atoms
7	E	605	NAG	C1-C2-N2-C7
7	E	605	NAG	C8-C7-N2-C2
7	E	605	NAG	O7-C7-N2-C2
7	B	605	NAG	O5-C5-C6-O6
7	E	606	NAG	C8-C7-N2-C2

There are no ring outliers.

No monomer is involved in short contacts.

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

Ligand NAG C 605



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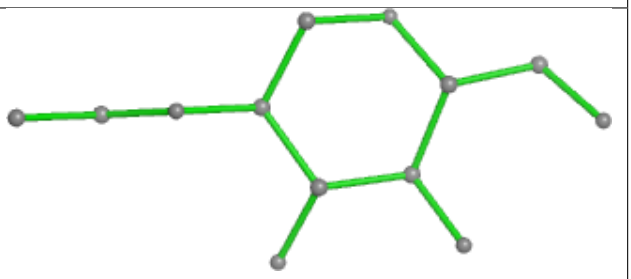
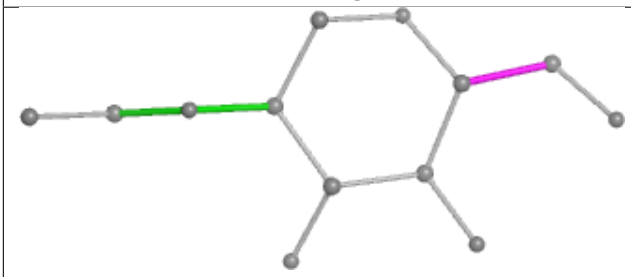


Bond angles



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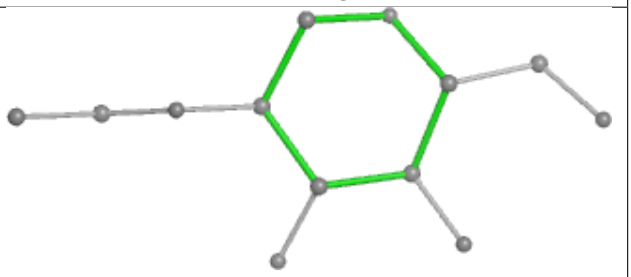
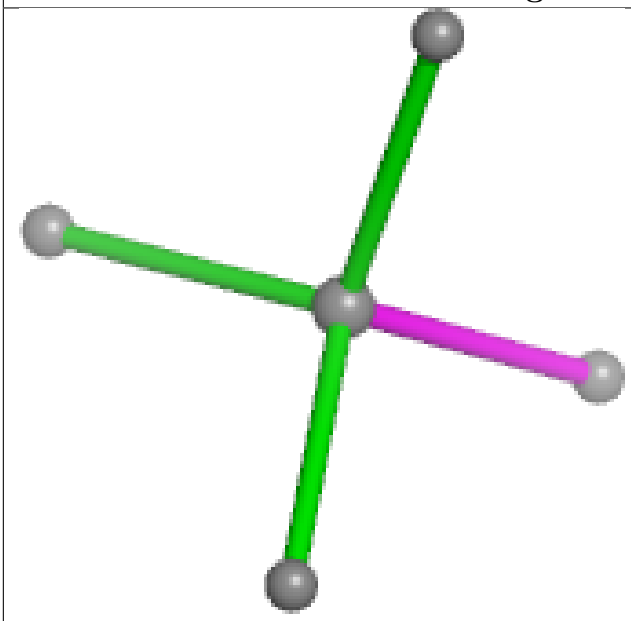


Rings

Ligand PO4 D 606



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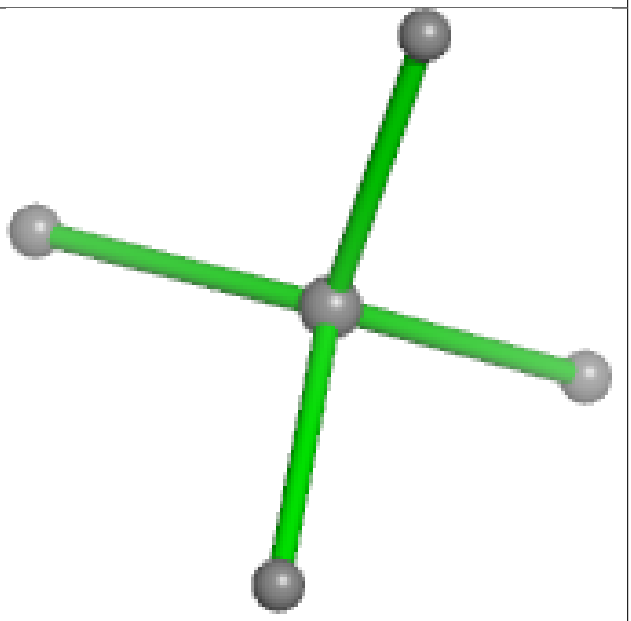

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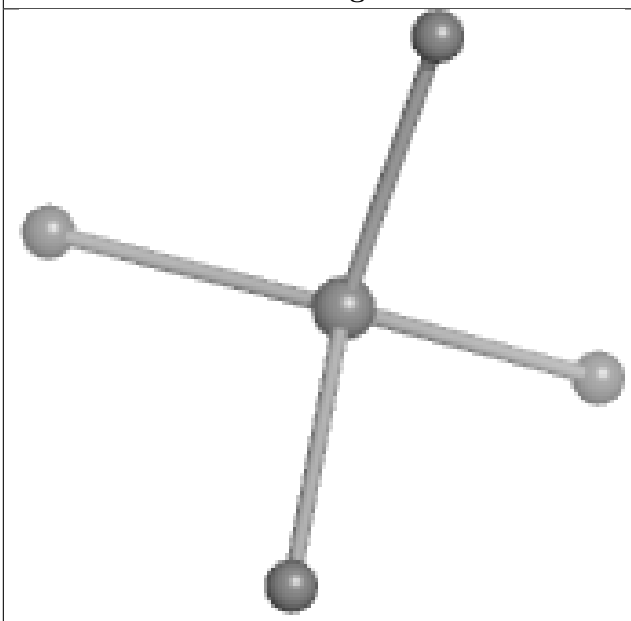

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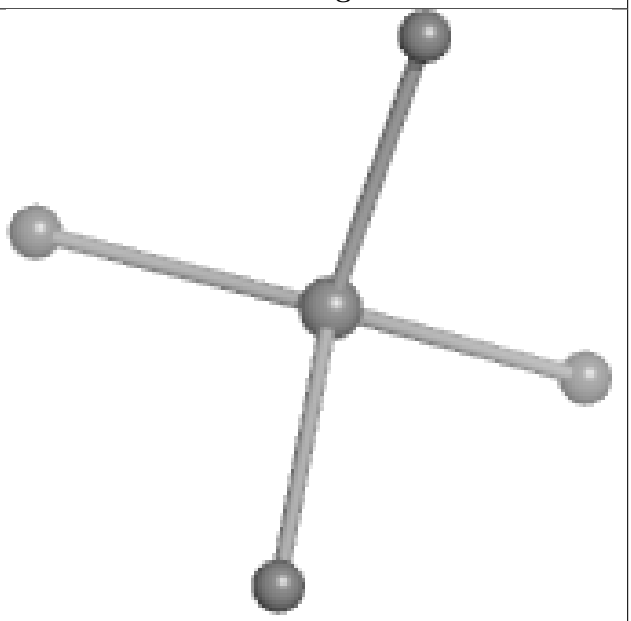

Rings

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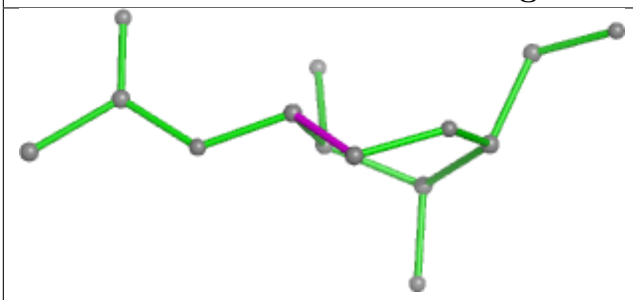

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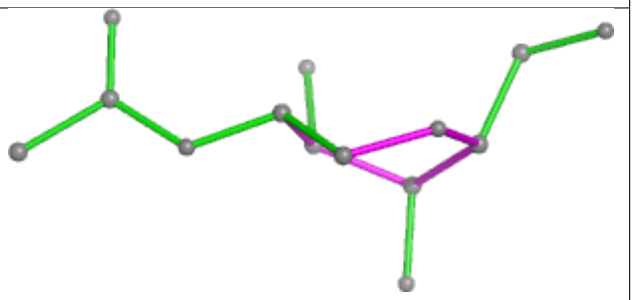

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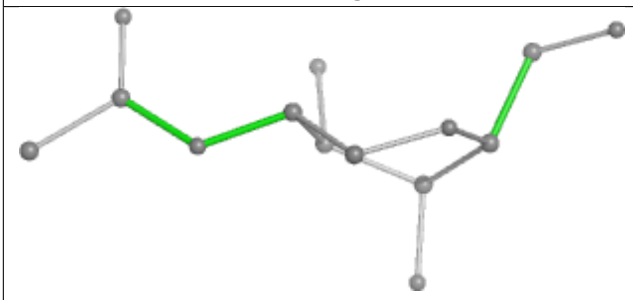

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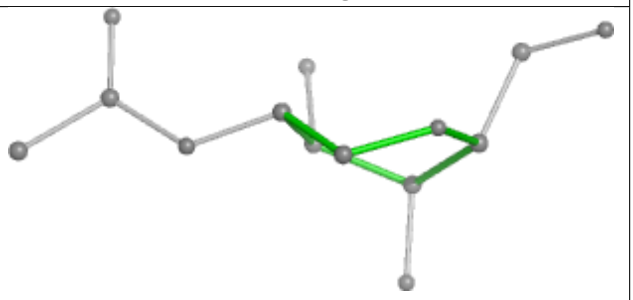
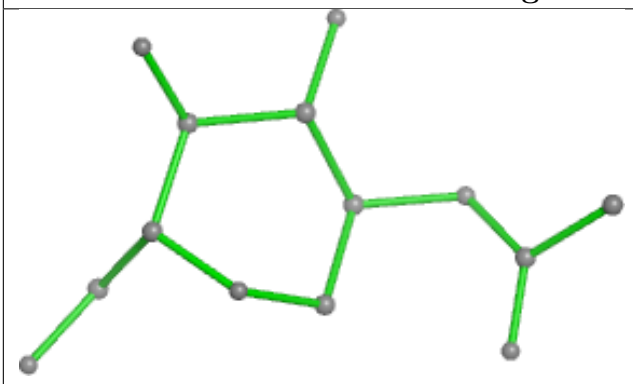


Rings

Ligand NAG E 605



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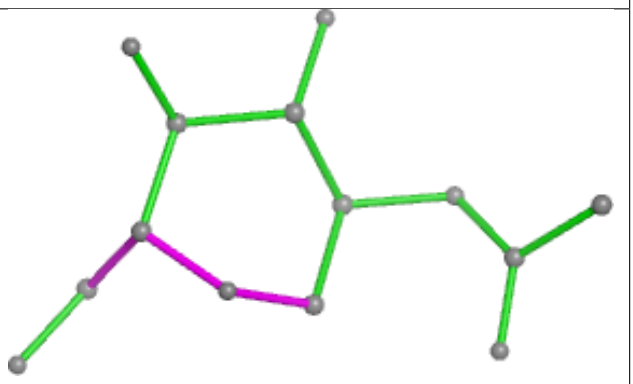

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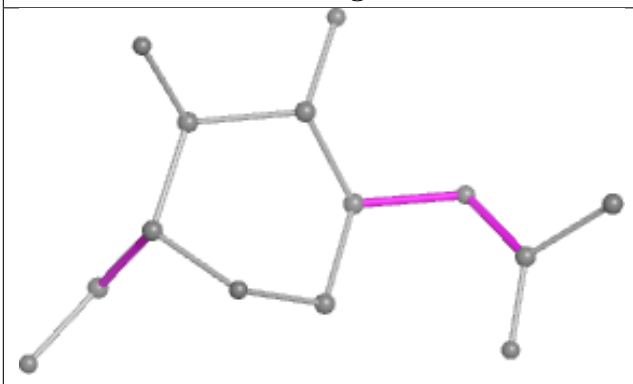

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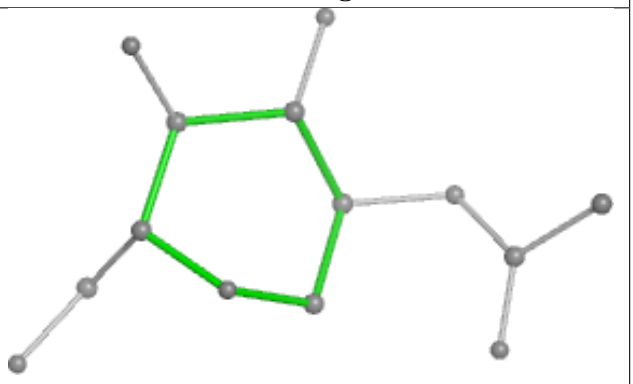
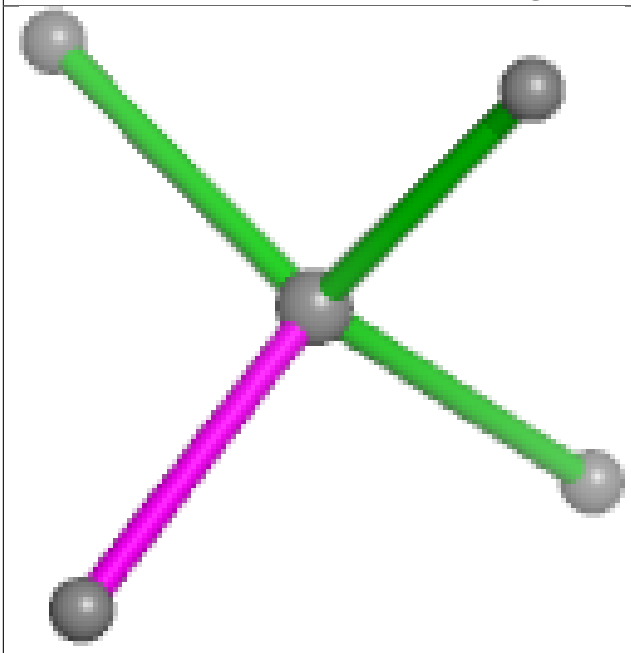


Rings

Ligand PO4 B 606



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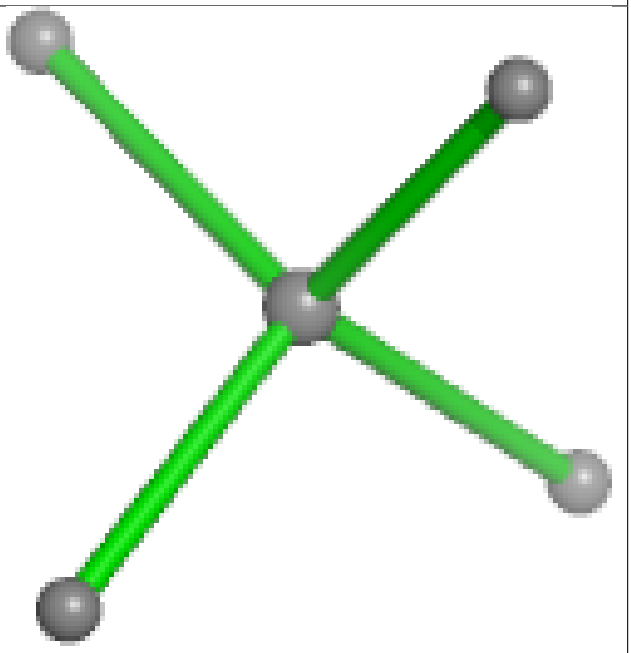

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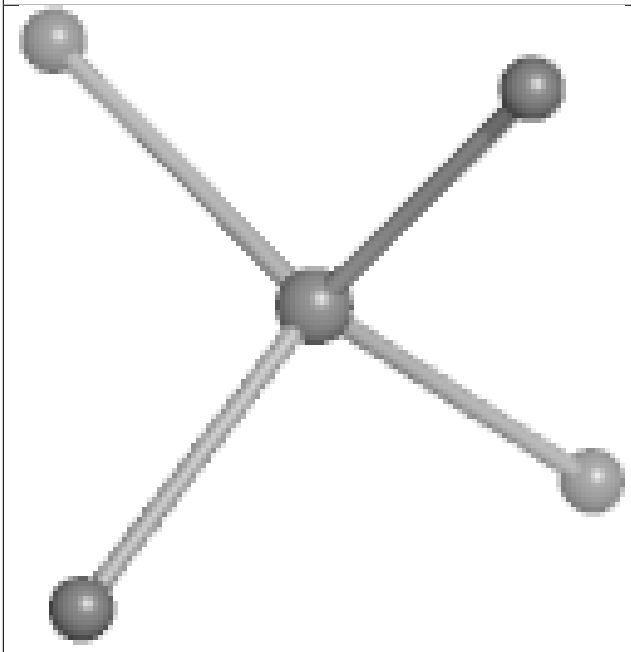

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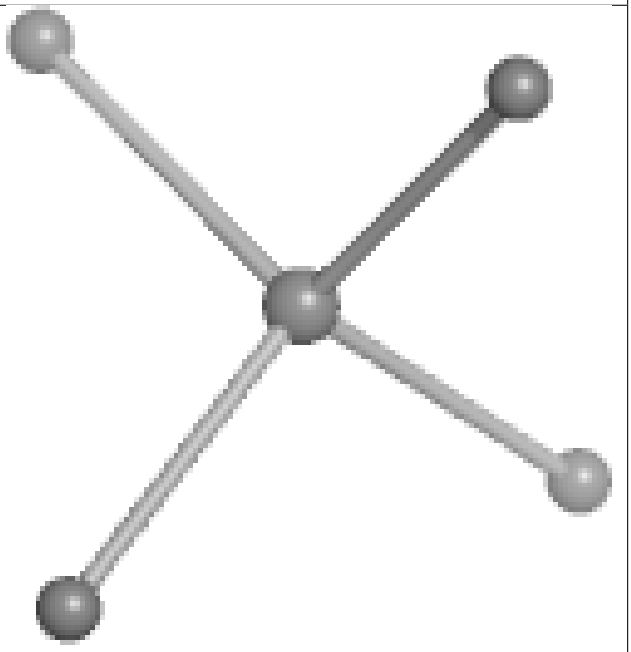

Rings

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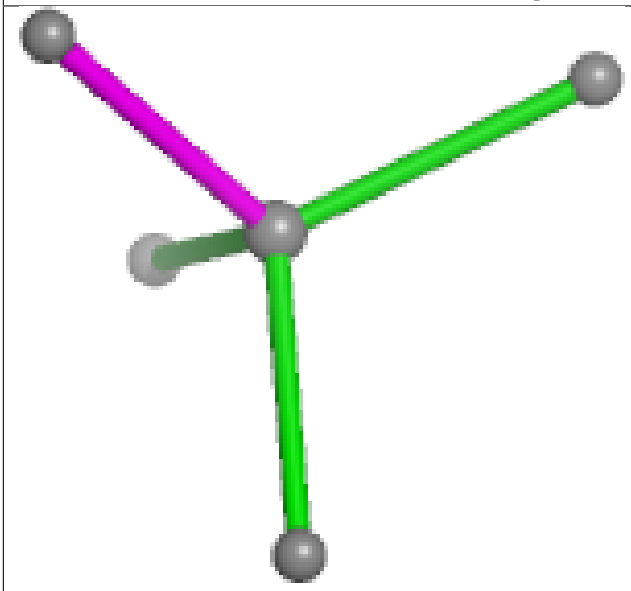

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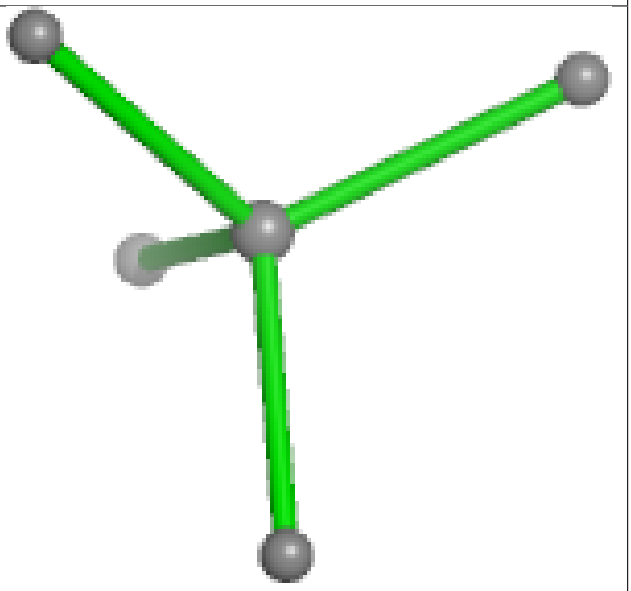

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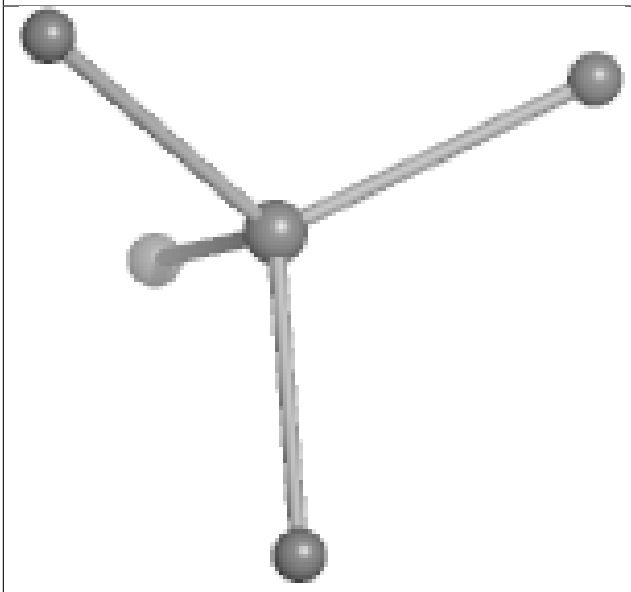

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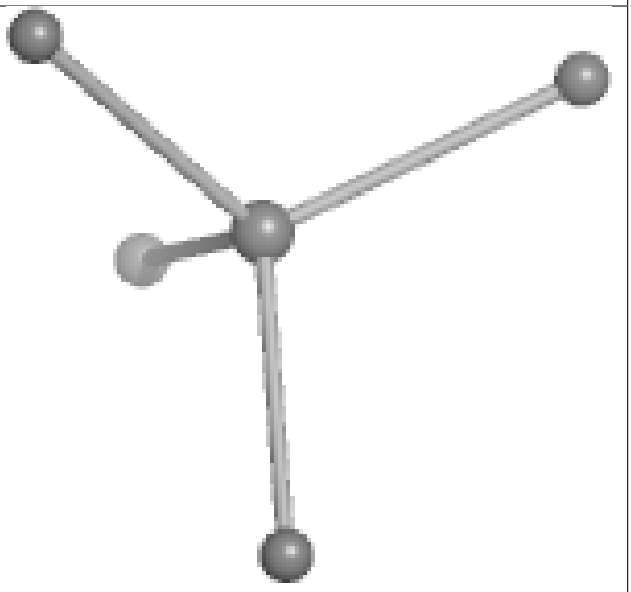

Rings

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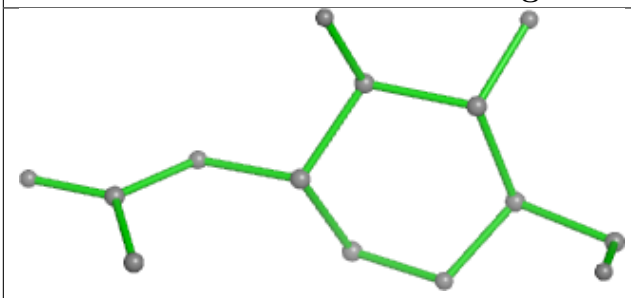

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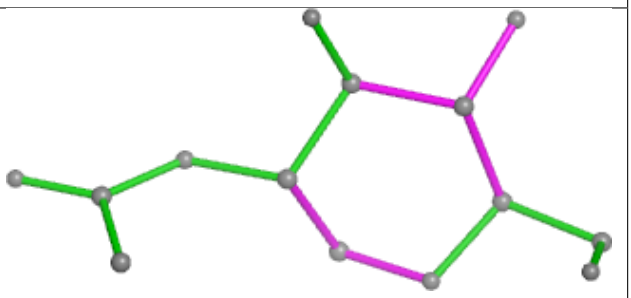

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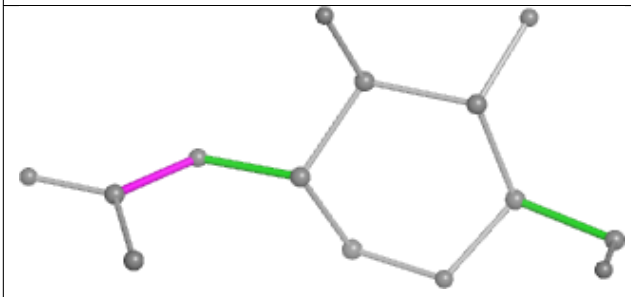

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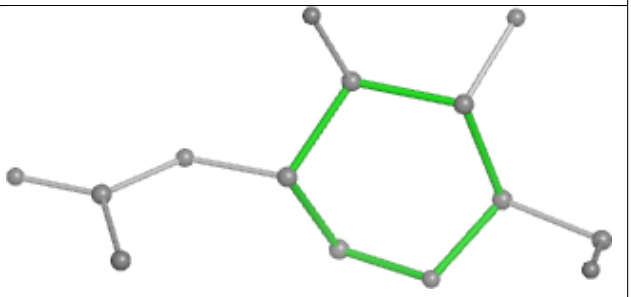
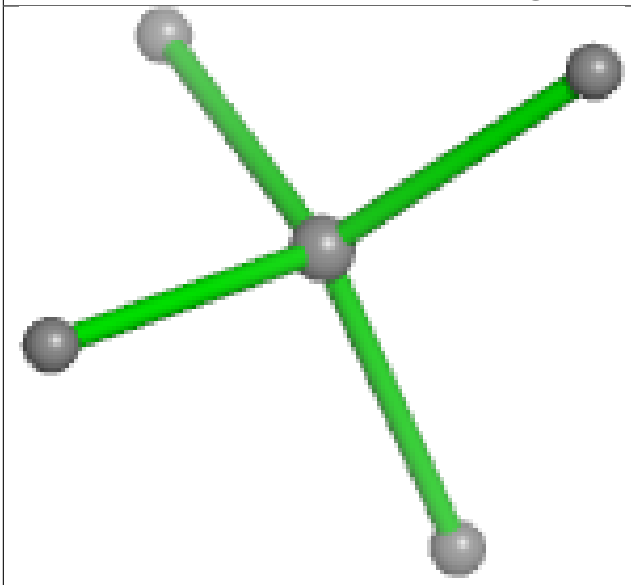


Rings

Ligand PO4 C 606



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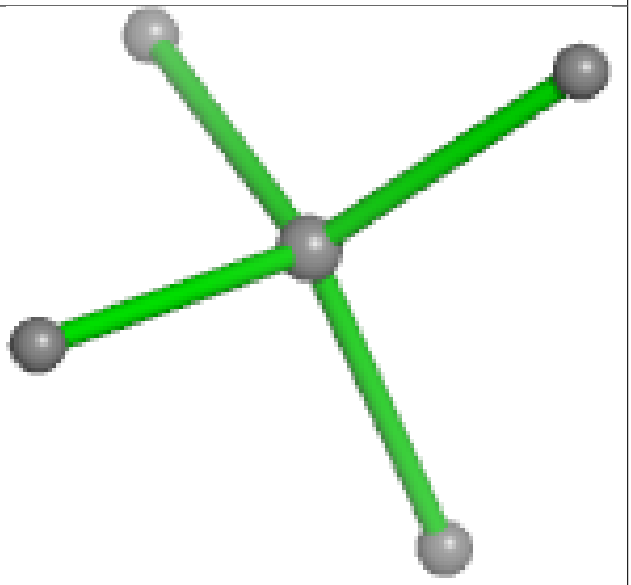

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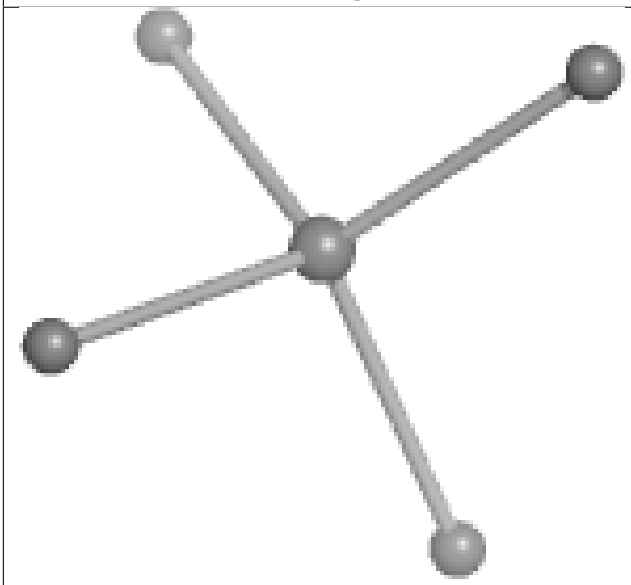

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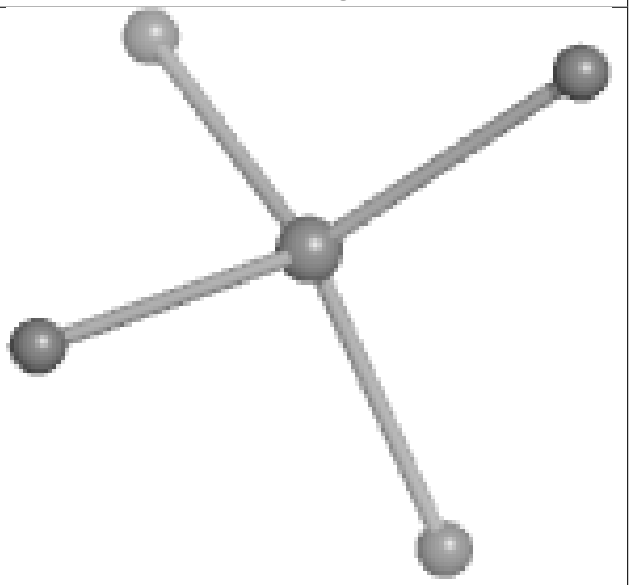

Rings

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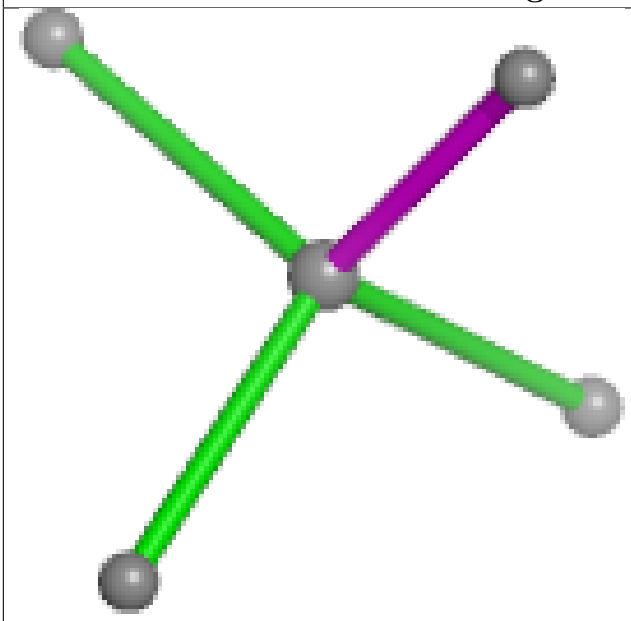

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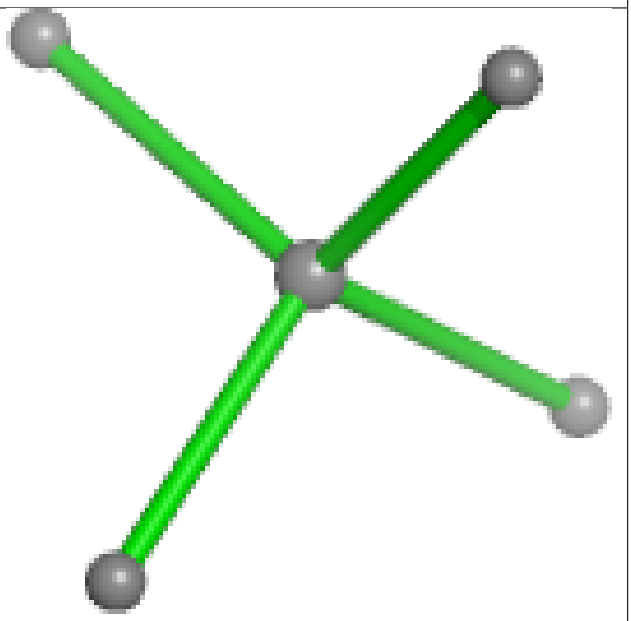

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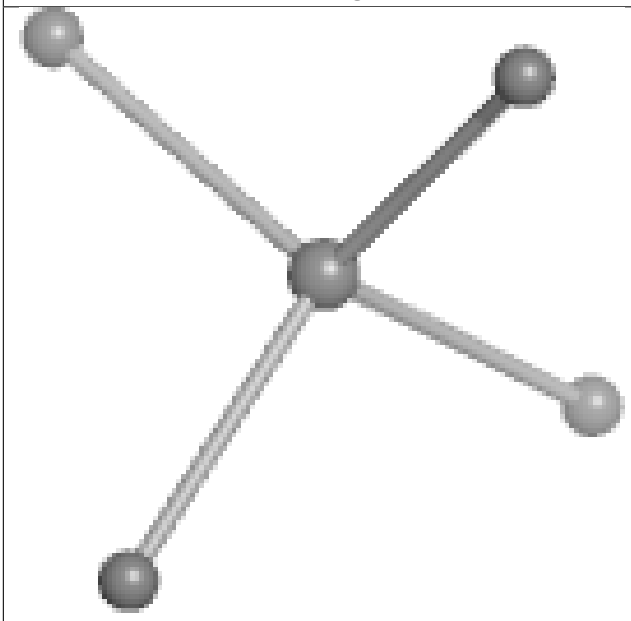

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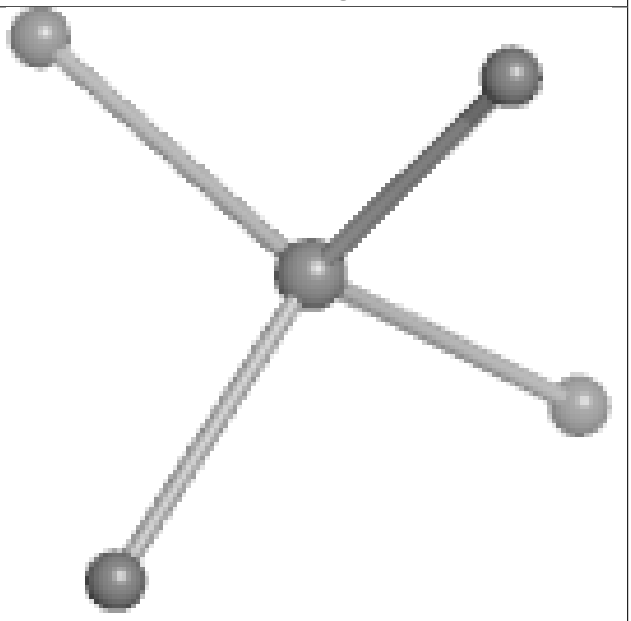
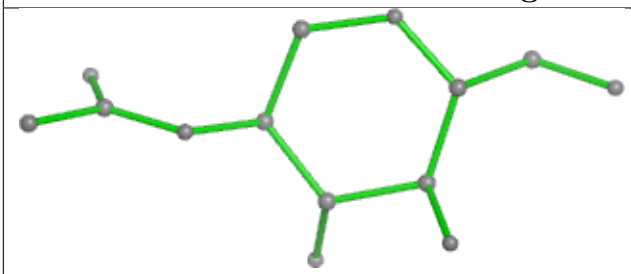


Rings

Ligand NAG B 605



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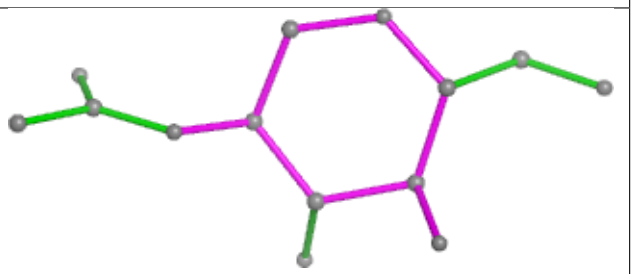

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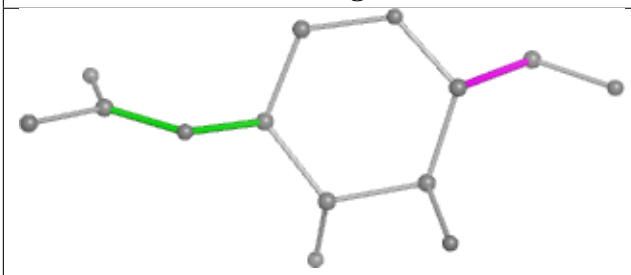

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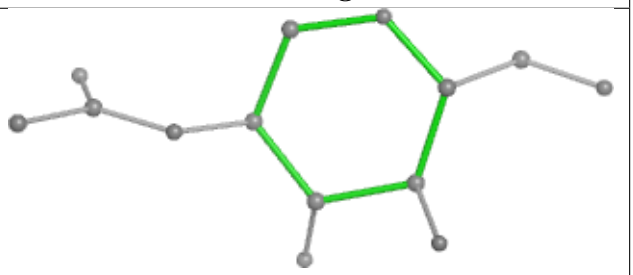

Rings

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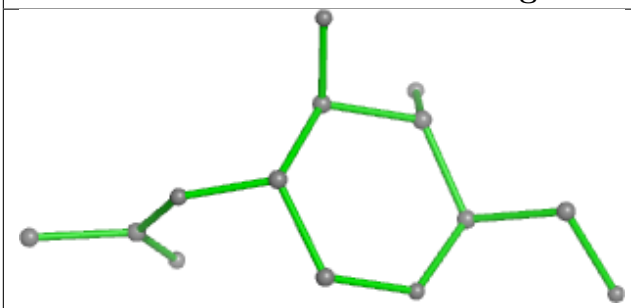

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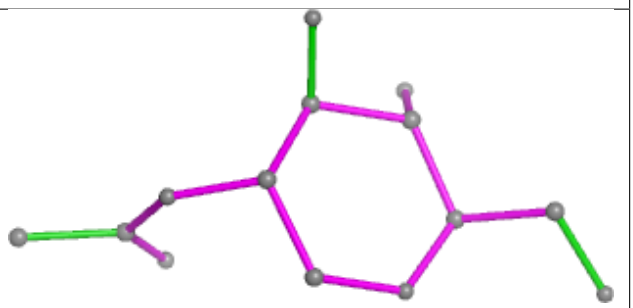

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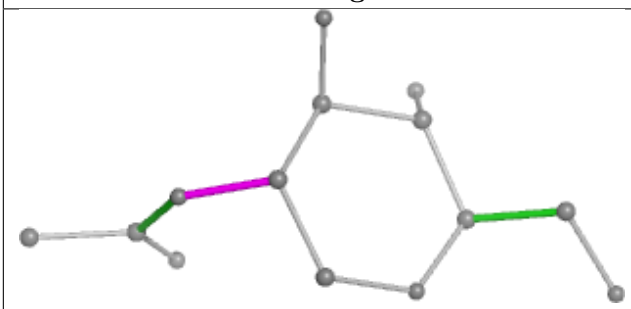
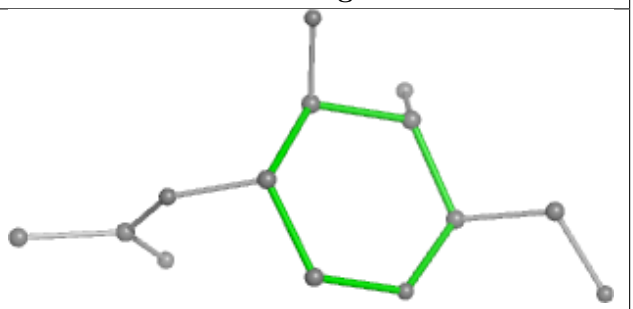


Torsions



Rings

4.7 Other polymers (i)

There are no such residues in this entry.

4.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

5 Fit of model and data

5.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	482/509 (94%)	-0.02	3 (0%)	85	81	25, 60, 95, 137	0
1	B	482/509 (94%)	-0.04	2 (0%)	89	86	30, 63, 101, 126	0
1	C	482/509 (94%)	0.01	3 (0%)	85	81	32, 68, 111, 138	0
1	D	483/509 (94%)	-0.05	2 (0%)	89	86	34, 71, 112, 140	0
1	E	482/509 (94%)	0.06	5 (1%)	79	72	44, 83, 116, 142	0
All	All	2411/2545 (94%)	-0.01	15 (0%)	85	81	25, 69, 109, 142	0

The worst 5 of 15 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	338	HIS	2.9
1	D	184	ARG	2.9
1	E	221	GLY	2.8
1	D	338	HIS	2.7
1	B	338	HIS	2.6

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

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

5.3 Carbohydrates

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	NAG	L	2	14/15	0.34	0.11	109,144,167,168	0

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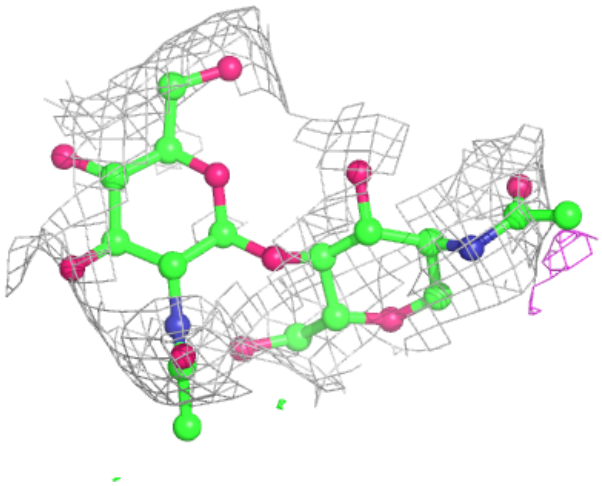
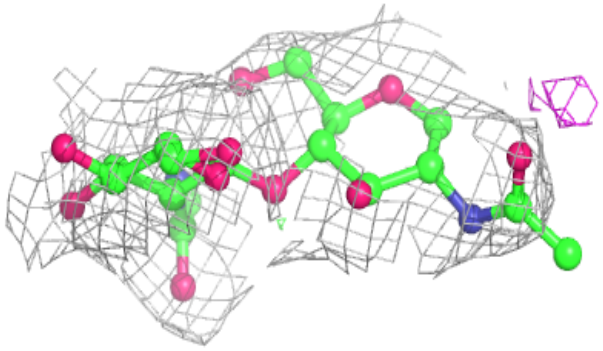
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	BMA	S	3	11/12	0.42	0.12	92,148,161,163	0
2	NAG	N	2	14/15	0.43	0.10	80,144,162,175	0
3	BMA	K	3	11/12	0.50	0.11	113,148,171,181	0
2	NAG	O	2	14/15	0.54	0.14	92,123,153,172	0
3	BMA	Q	3	11/12	0.55	0.14	100,162,172,184	0
2	NAG	R	2	14/15	0.60	0.12	125,142,157,174	0
3	BMA	H	3	11/12	0.61	0.15	125,149,156,169	0
2	NAG	L	1	14/15	0.63	0.10	100,151,161,161	0
3	NAG	S	2	14/15	0.68	0.11	85,122,161,165	0
2	NAG	I	2	14/15	0.69	0.10	61,115,138,139	0
2	NAG	M	2	14/15	0.69	0.11	100,129,146,148	0
2	NAG	J	2	14/15	0.70	0.12	110,122,135,142	0
2	NAG	P	2	14/15	0.70	0.11	94,128,152,153	0
2	NAG	F	2	14/15	0.72	0.09	94,123,137,160	0
2	NAG	G	2	14/15	0.73	0.11	106,131,137,142	0
2	NAG	M	1	14/15	0.76	0.11	92,105,119,123	0
3	NAG	K	2	14/15	0.76	0.10	88,118,145,161	0
3	NAG	H	2	14/15	0.76	0.09	117,136,160,169	0
2	NAG	R	1	14/15	0.77	0.12	100,133,151,152	0
2	NAG	G	1	14/15	0.78	0.10	70,94,128,131	0
3	NAG	S	1	14/15	0.78	0.09	67,114,127,128	0
3	NAG	K	1	14/15	0.82	0.10	66,101,118,119	0
3	NAG	Q	1	14/15	0.84	0.09	78,99,115,118	0
2	NAG	J	1	14/15	0.85	0.09	55,91,122,122	0
3	NAG	H	1	14/15	0.86	0.12	70,95,117,142	0
3	NAG	Q	2	14/15	0.86	0.09	125,142,168,169	0
2	NAG	P	1	14/15	0.86	0.09	68,93,118,124	0
2	NAG	N	1	14/15	0.88	0.07	65,82,113,124	0
2	NAG	O	1	14/15	0.91	0.09	78,94,108,138	0
2	NAG	I	1	14/15	0.91	0.09	81,101,118,129	0
2	NAG	F	1	14/15	0.92	0.09	85,99,125,134	0

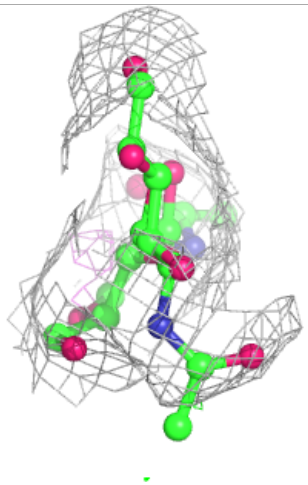
The following is a graphical depiction of the model fit to experimental electron density for oligosaccharide. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around Chain F:

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

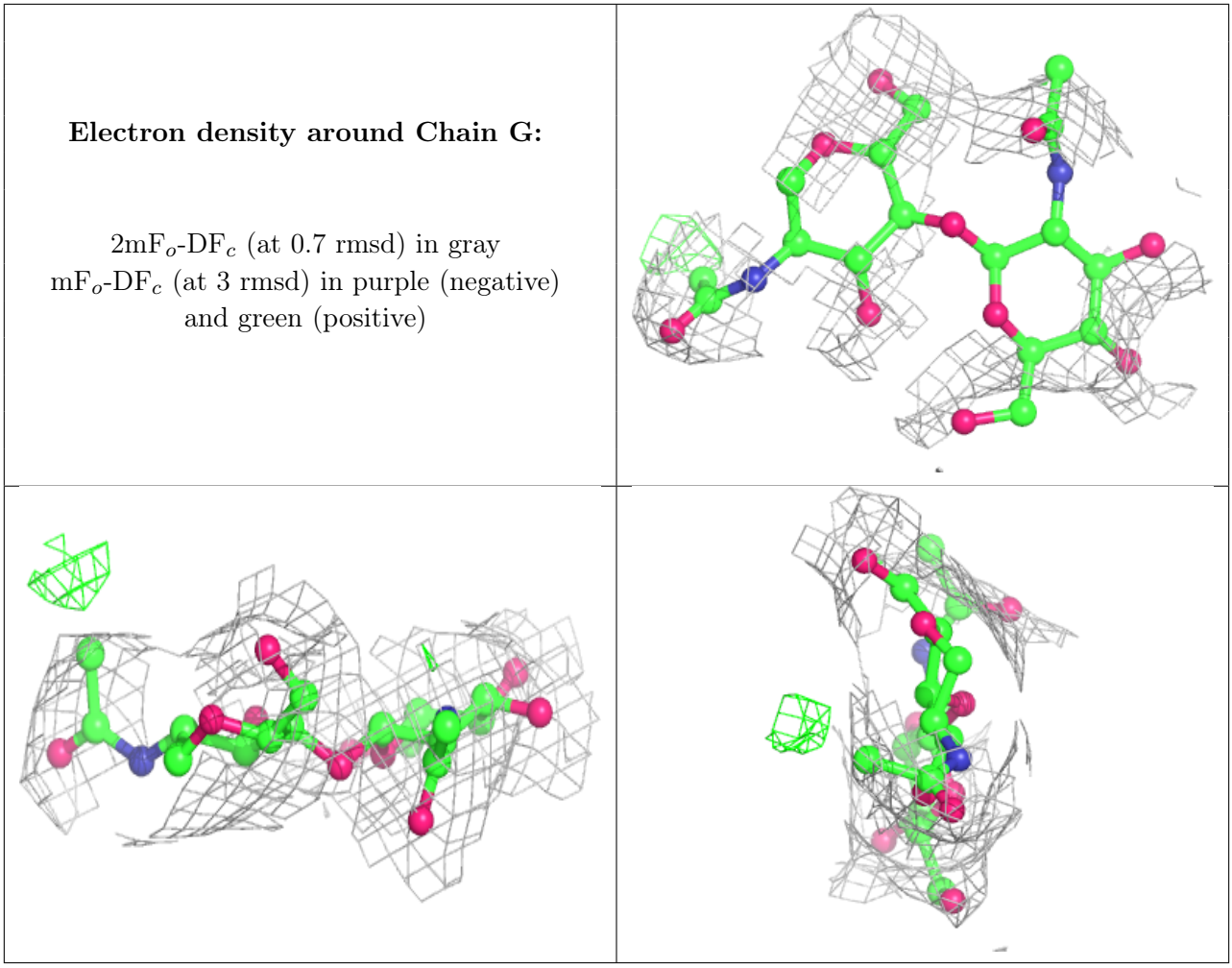






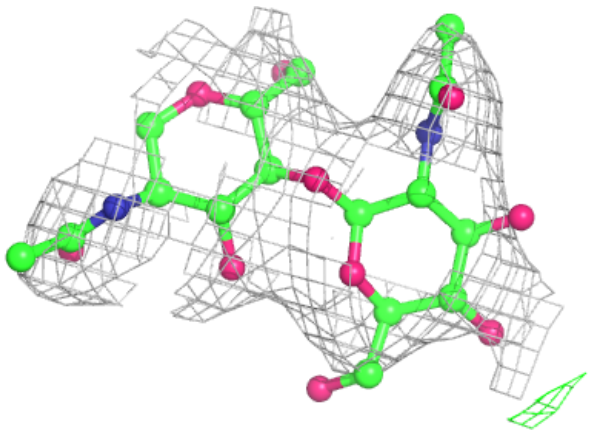
Electron density around Chain G:

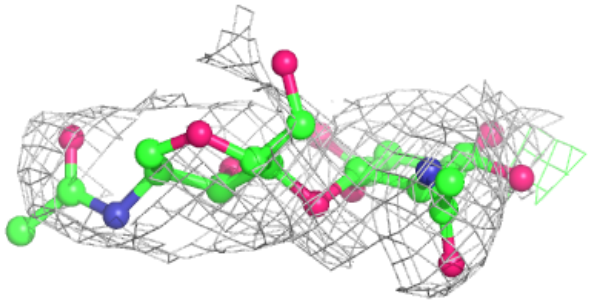
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

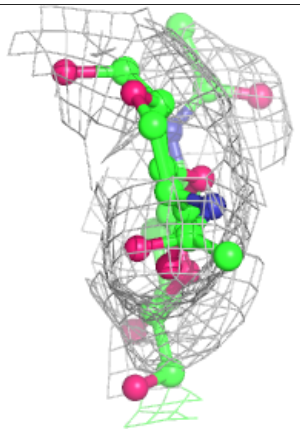


Electron density around Chain I:

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

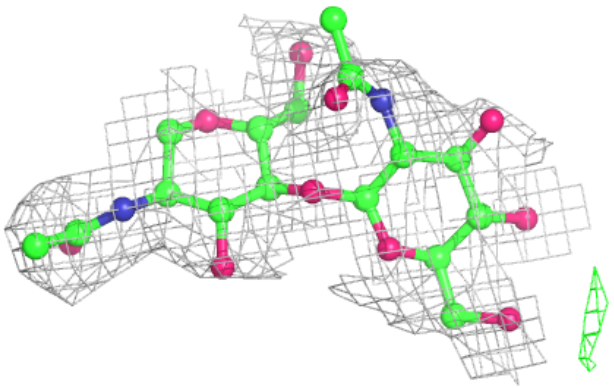


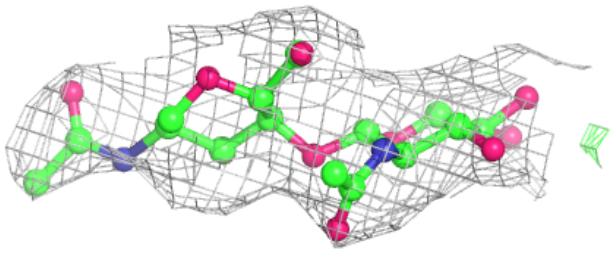


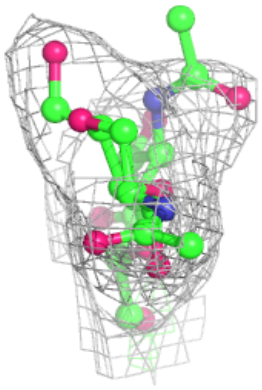


Electron density around Chain J:

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

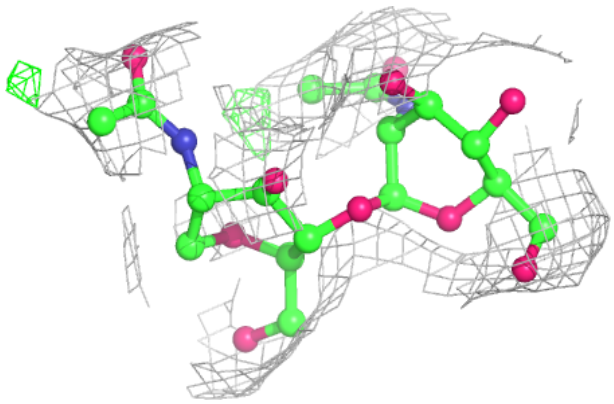


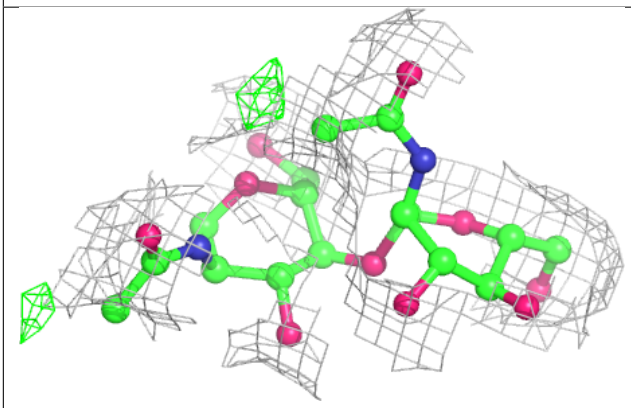


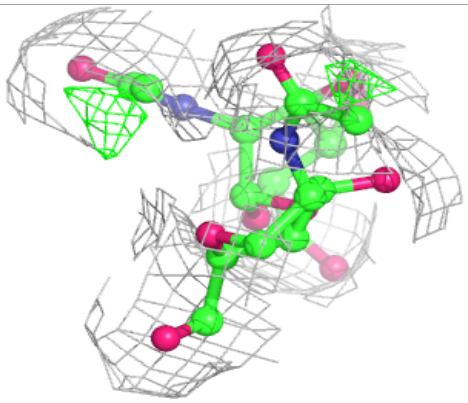


Electron density around Chain L:

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

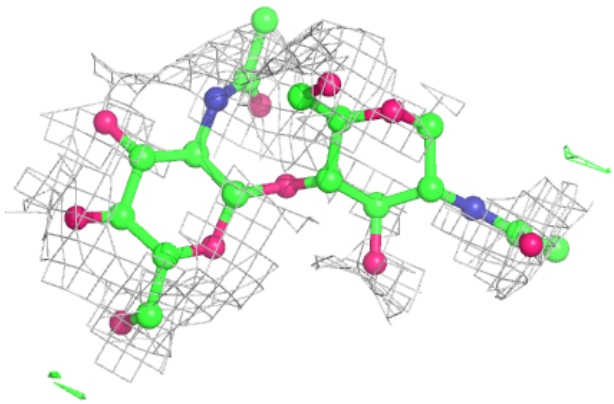


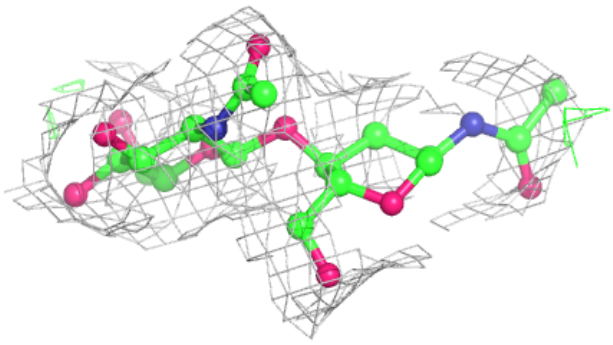


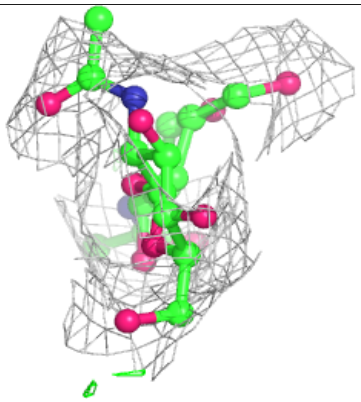


Electron density around Chain M:

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

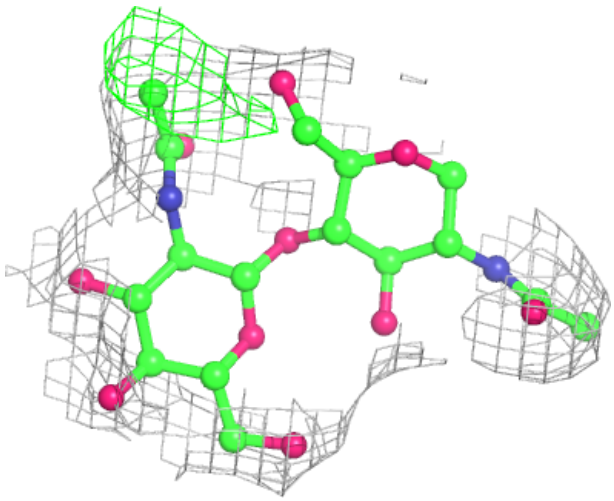


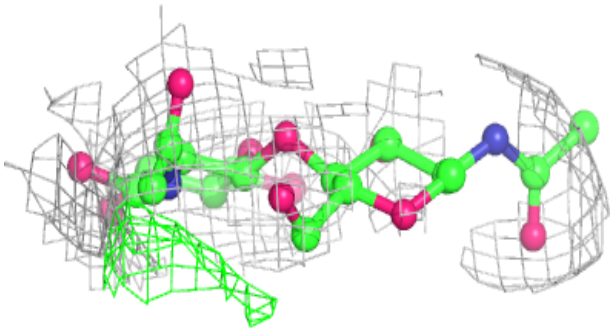


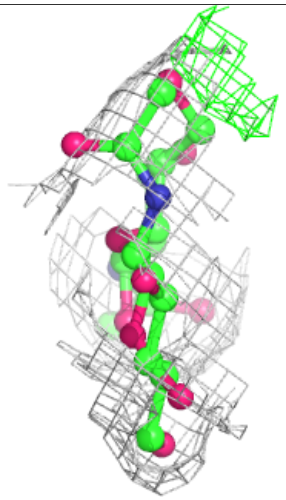


Electron density around Chain N:

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

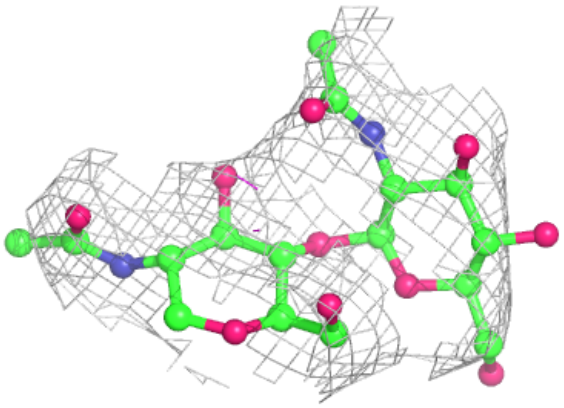


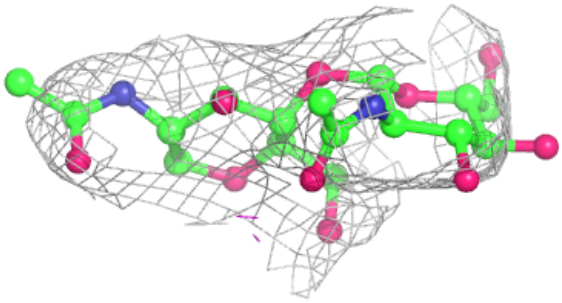


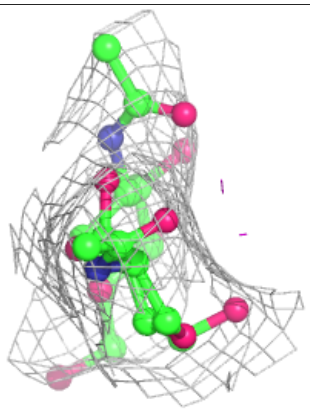


Electron density around Chain O:

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

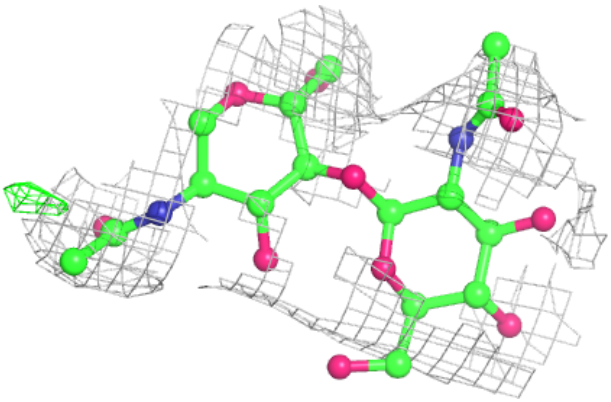


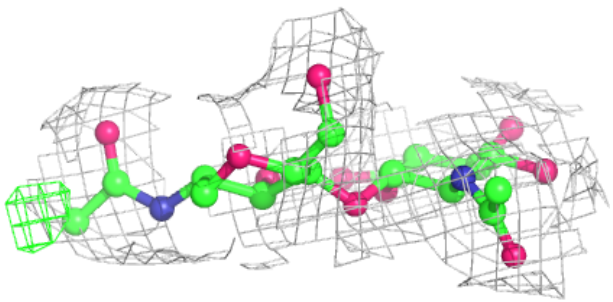


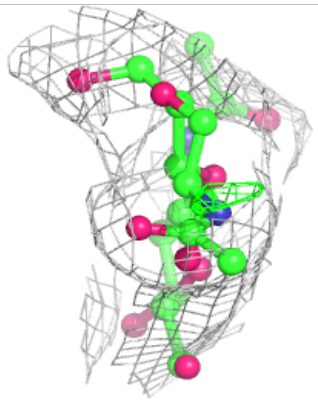


Electron density around Chain P:

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

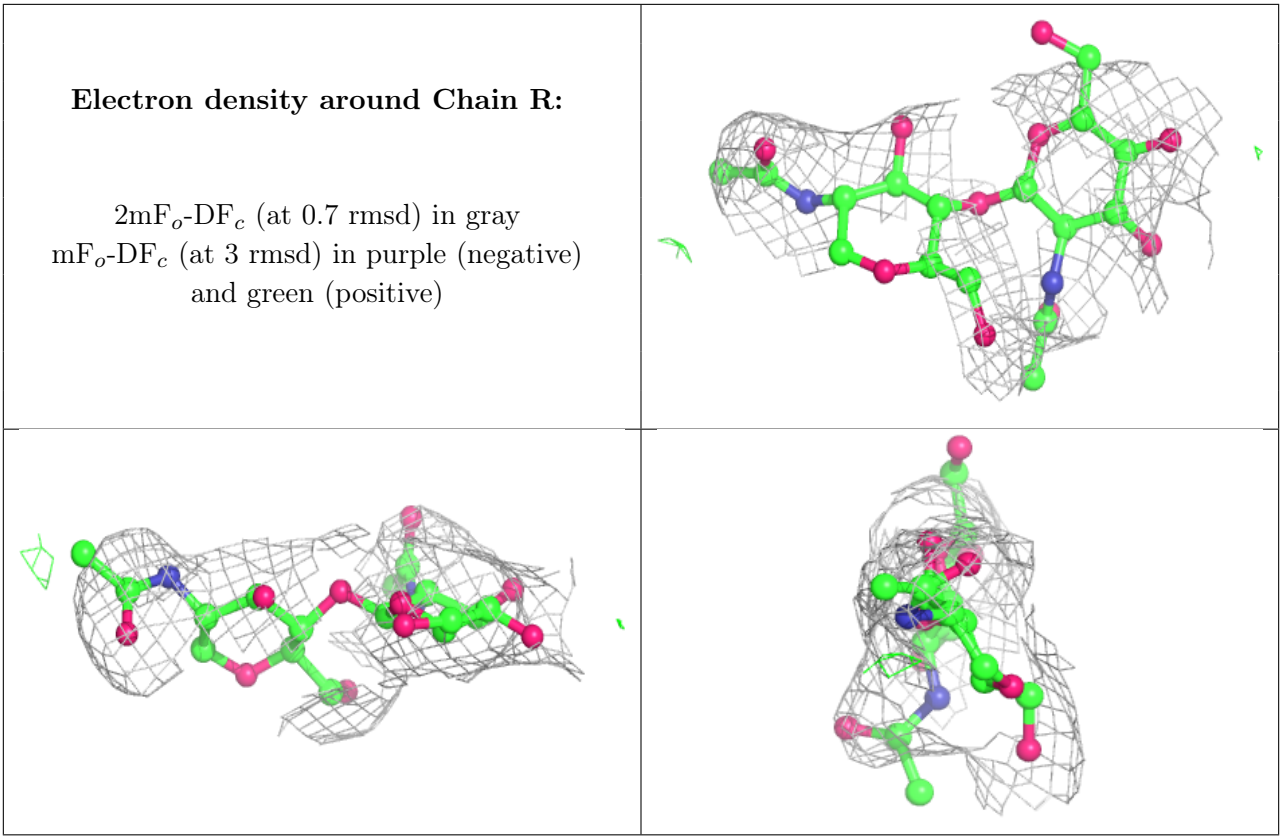






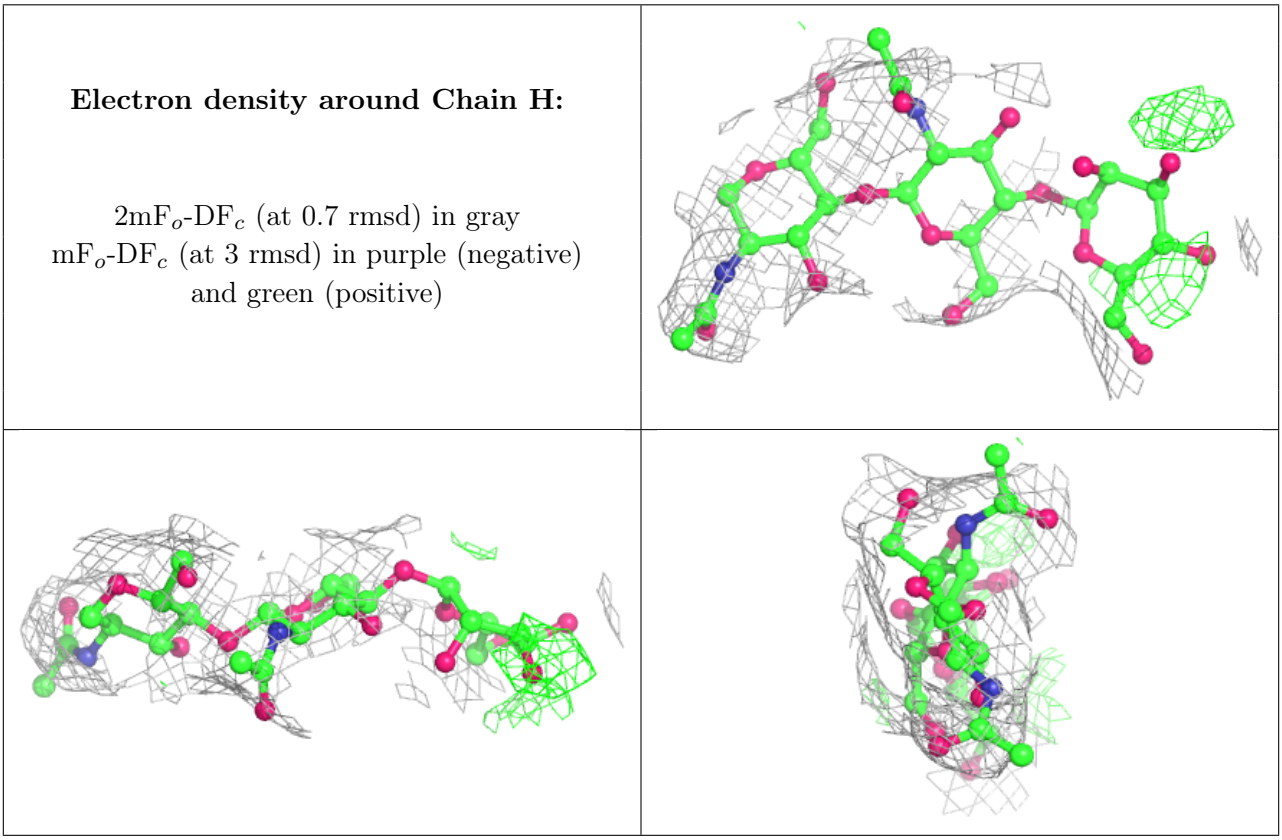
Electron density around Chain R:

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



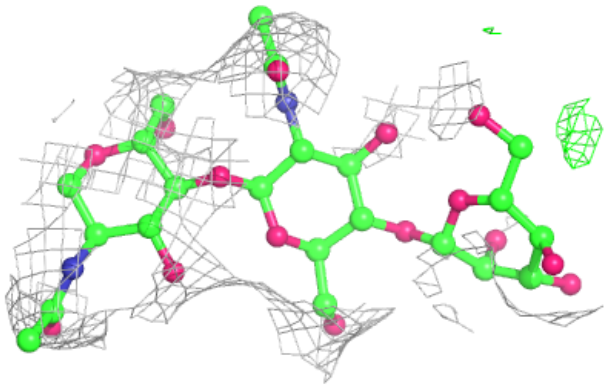
Electron density around Chain H:

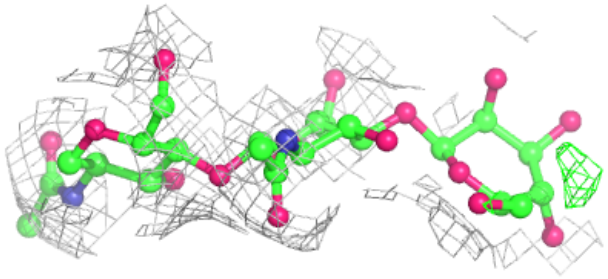
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

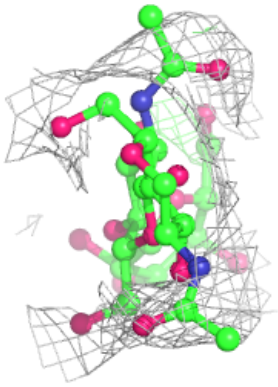


Electron density around Chain K:

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

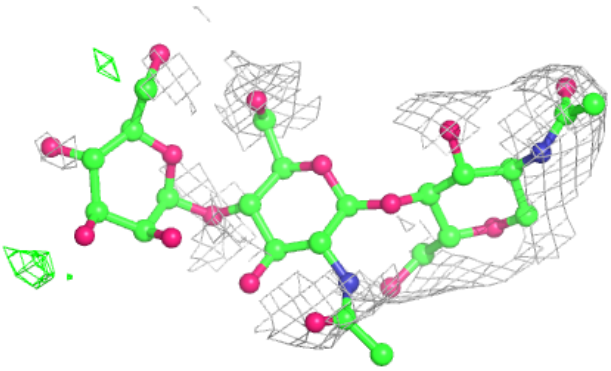


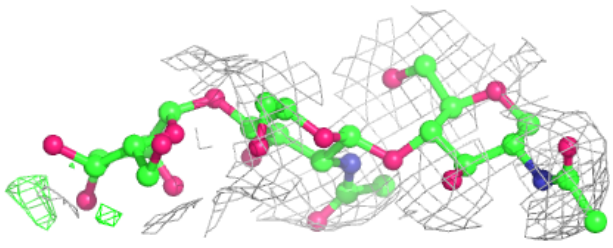


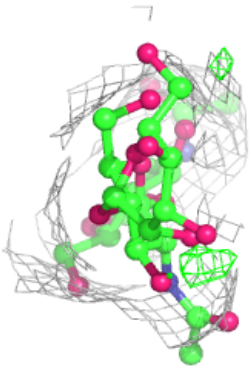


Electron density around Chain Q:

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

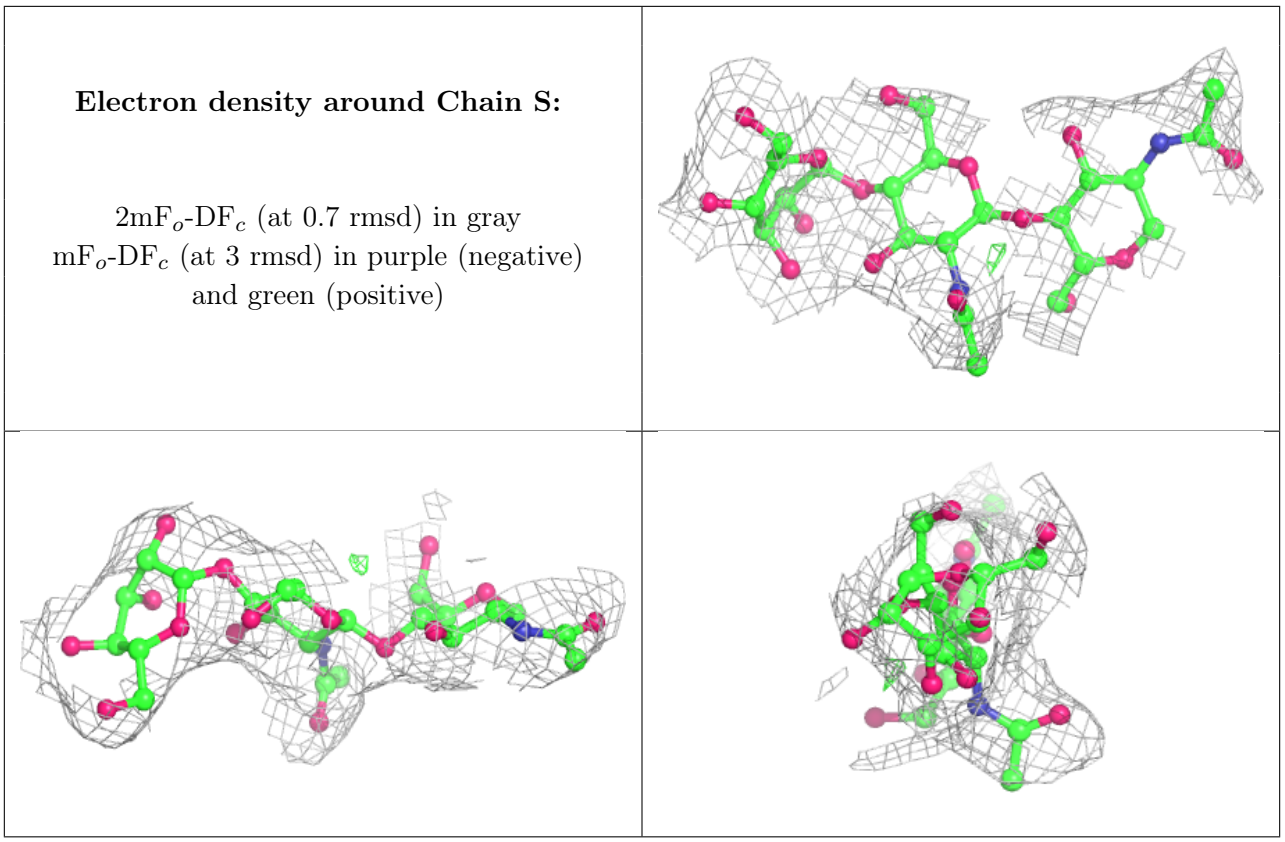






Electron density around Chain S:

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



5.4 Ligands

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
7	NAG	D	605	14/15	0.51	0.15	105,172,188,191	0
7	NAG	E	605	14/15	0.52	0.18	70,122,138,155	0
7	NAG	A	605	14/15	0.56	0.15	73,123,132,142	0
7	NAG	E	606	14/15	0.61	0.12	82,109,142,144	0
7	NAG	B	605	14/15	0.79	0.10	81,128,157,159	0
8	PO4	D	606	5/5	0.82	0.16	115,116,154,161	0
5	MG	C	603	1/1	0.84	0.17	62,62,62,62	0
8	PO4	A	606	5/5	0.87	0.13	91,97,118,124	0
7	NAG	C	605	14/15	0.87	0.11	70,98,117,150	0
8	PO4	B	606	5/5	0.90	0.14	76,86,114,126	0
5	MG	E	603	1/1	0.90	0.16	95,95,95,95	0
8	PO4	C	606	5/5	0.91	0.14	82,100,116,119	0
4	ZN	E	602	1/1	0.91	0.09	207,207,207,207	0
5	MG	B	603	1/1	0.92	0.19	67,67,67,67	0

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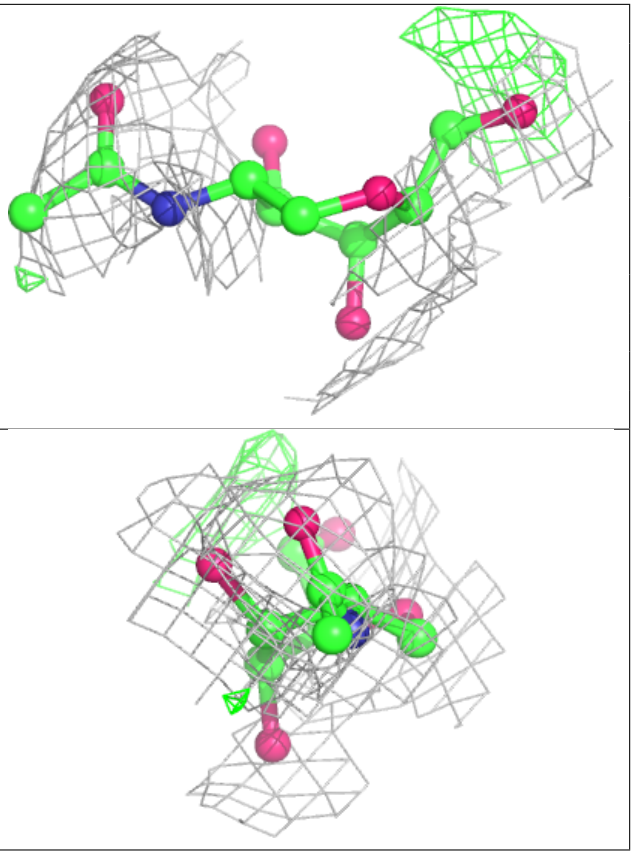
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
6	CA	E	604	1/1	0.94	0.09	116,116,116,116	0
8	PO4	E	607	5/5	0.94	0.09	92,116,130,141	0
5	MG	A	603	1/1	0.95	0.11	35,35,35,35	0
5	MG	D	603	1/1	0.95	0.11	60,60,60,60	0
4	ZN	D	602	1/1	0.95	0.06	195,195,195,195	0
4	ZN	B	602	1/1	0.96	0.09	228,228,228,228	0
4	ZN	C	601	1/1	0.97	0.12	193,193,193,193	0
4	ZN	C	602	1/1	0.97	0.05	151,151,151,151	0
6	CA	A	604	1/1	0.97	0.11	83,83,83,83	0
4	ZN	B	601	1/1	0.97	0.10	94,94,94,94	0
4	ZN	E	601	1/1	0.97	0.05	80,80,80,80	0
6	CA	B	604	1/1	0.98	0.04	92,92,92,92	0
6	CA	C	604	1/1	0.98	0.03	90,90,90,90	0
6	CA	D	604	1/1	0.98	0.05	93,93,93,93	0
4	ZN	D	601	1/1	0.98	0.03	84,84,84,84	0
4	ZN	A	602	1/1	0.98	0.05	160,160,160,160	0
4	ZN	A	601	1/1	0.99	0.03	56,56,56,56	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.

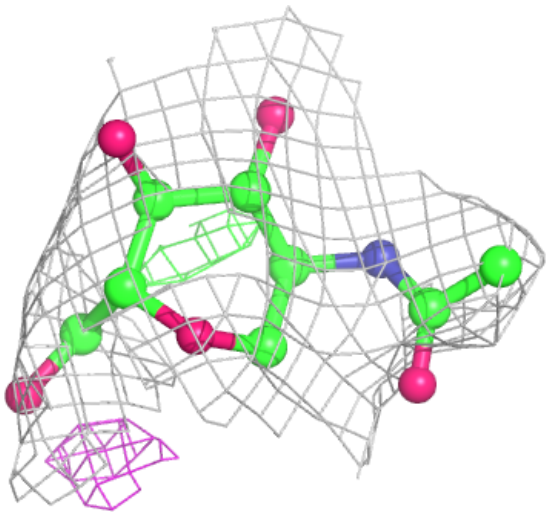
Electron density around NAG D 605:

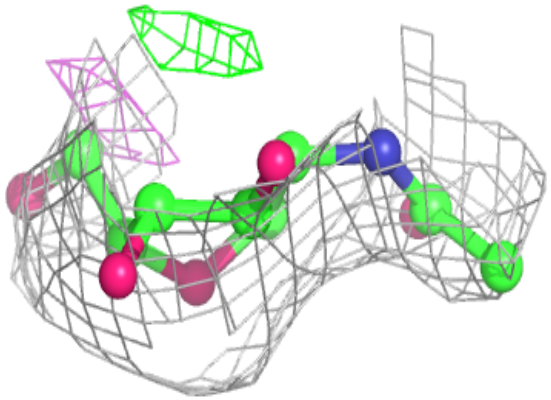
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

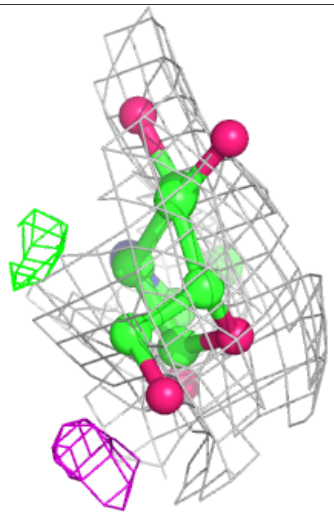


Electron density around NAG E 605:

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

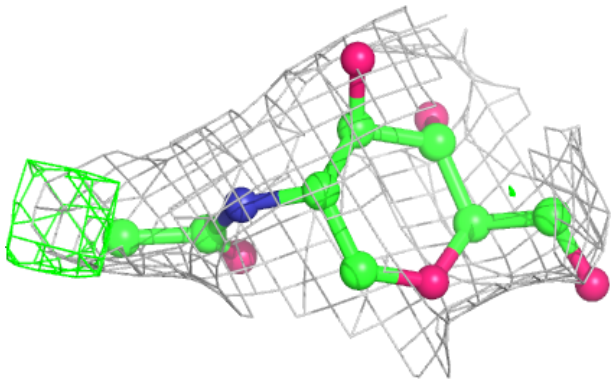


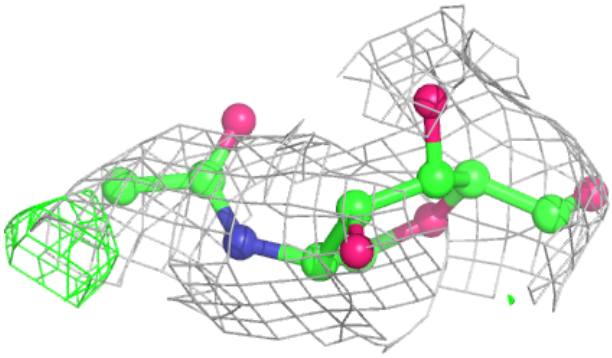


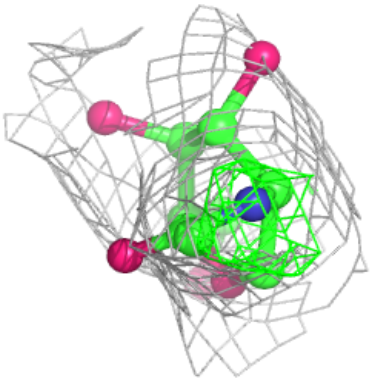


Electron density around NAG A 605:

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

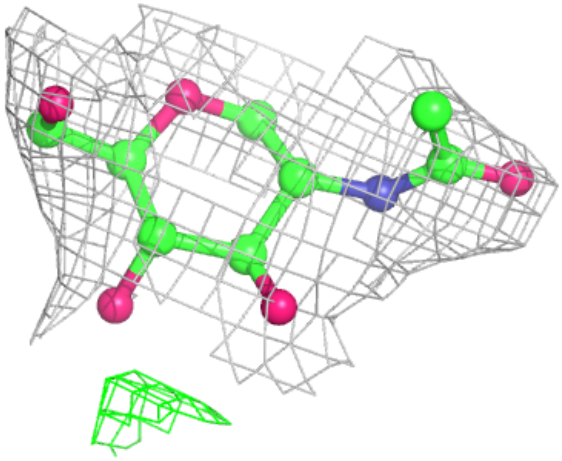


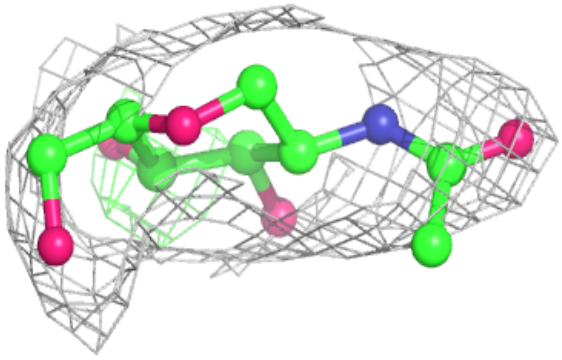


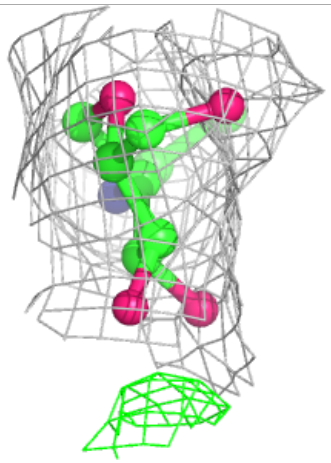


Electron density around NAG E 606:

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

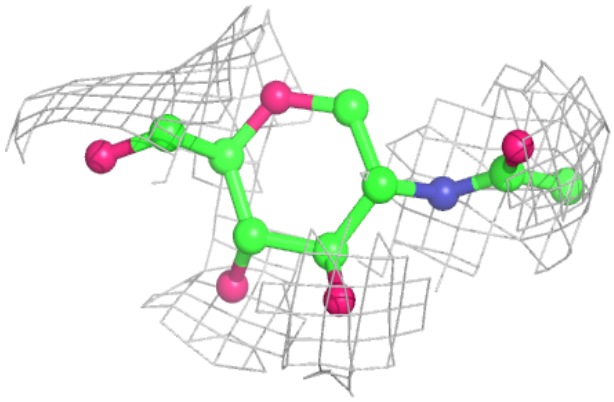


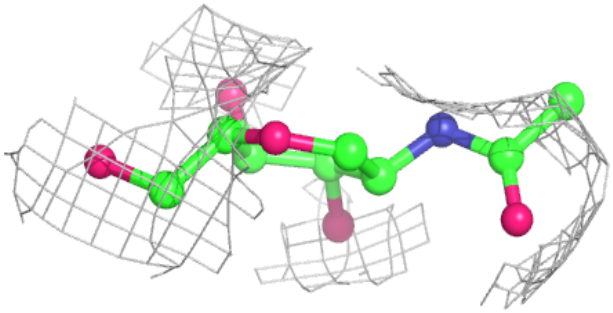


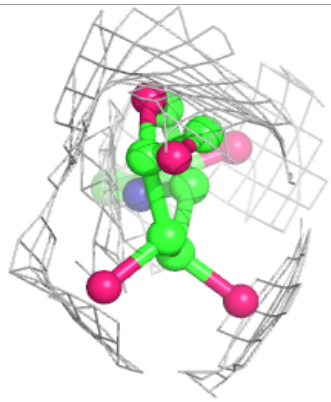


Electron density around NAG B 605:

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

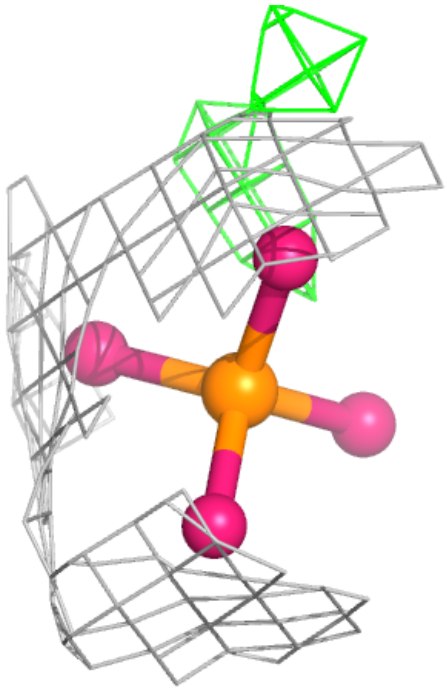


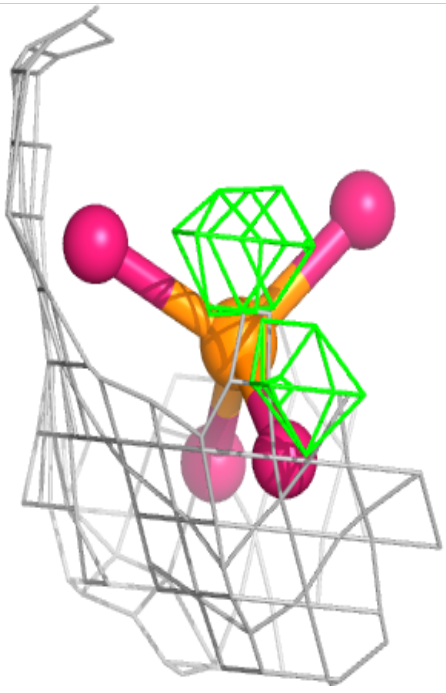


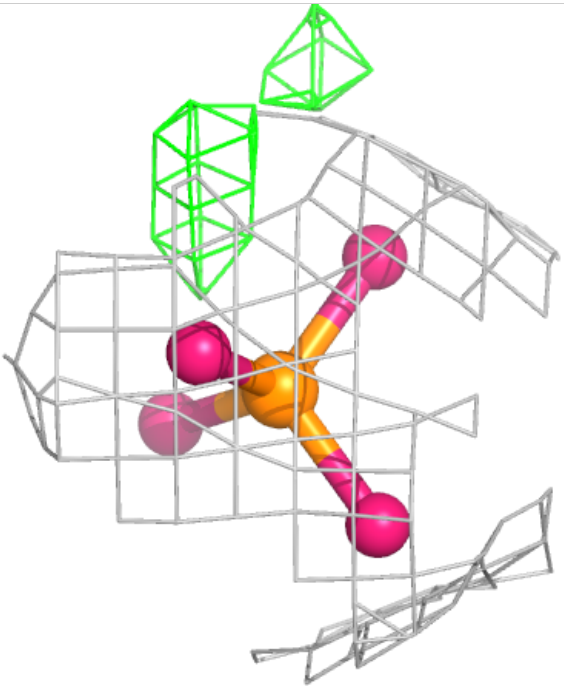


Electron density around PO4 D 606:

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

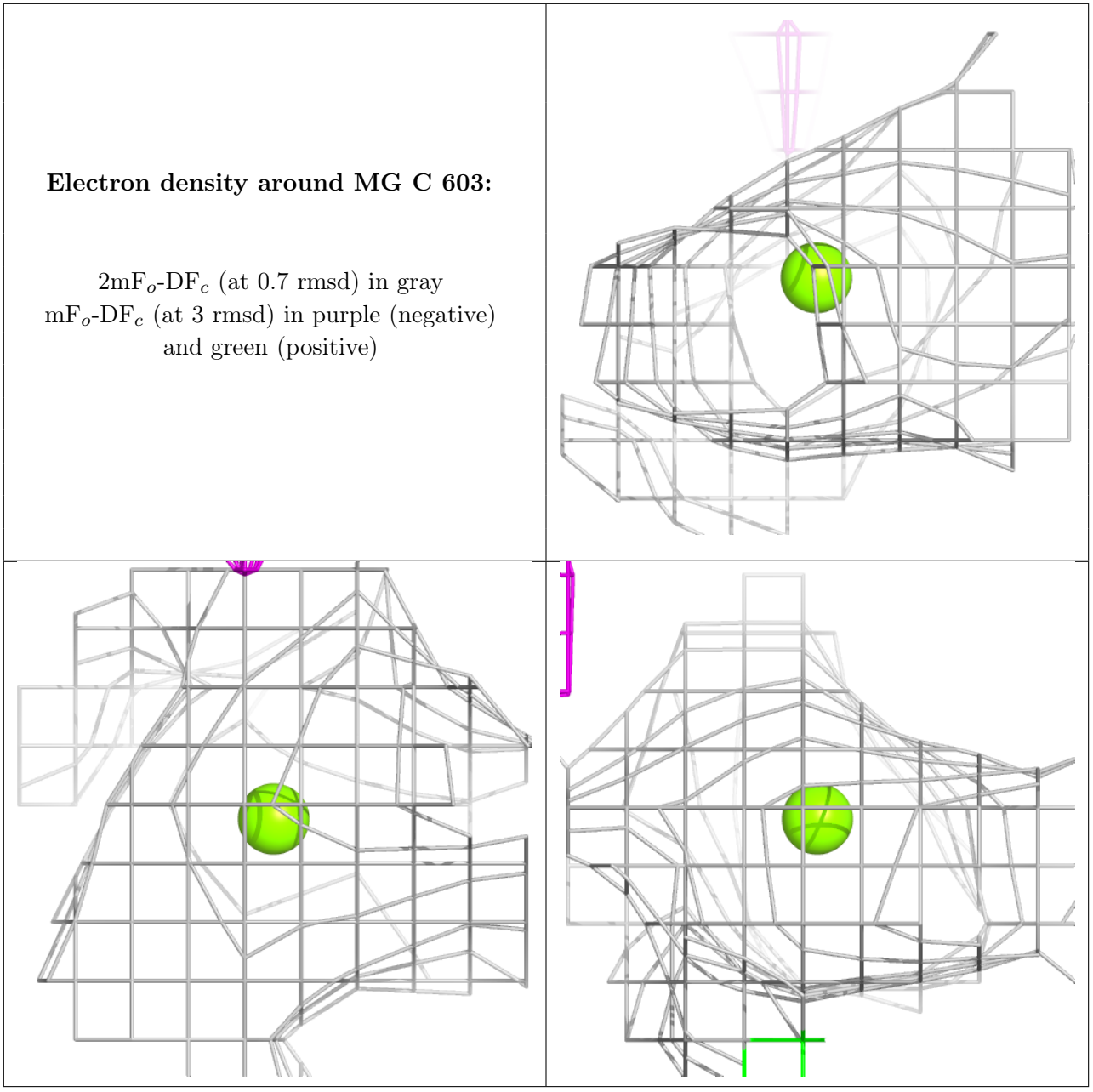






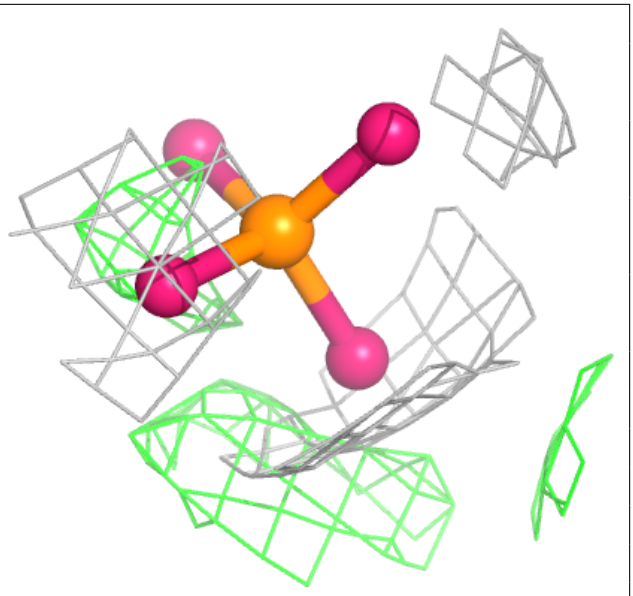
Electron density around MG C 603:

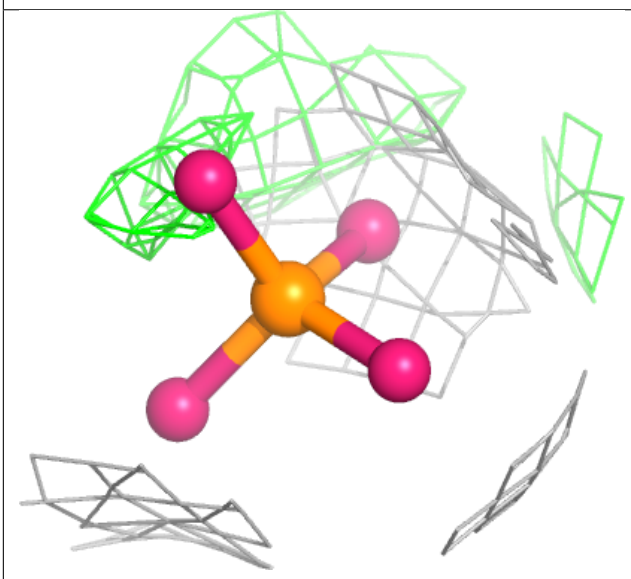
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

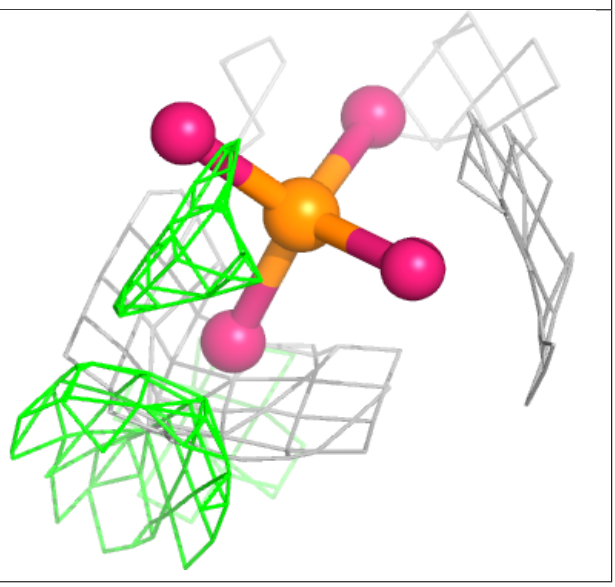


Electron density around PO4 A 606:

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

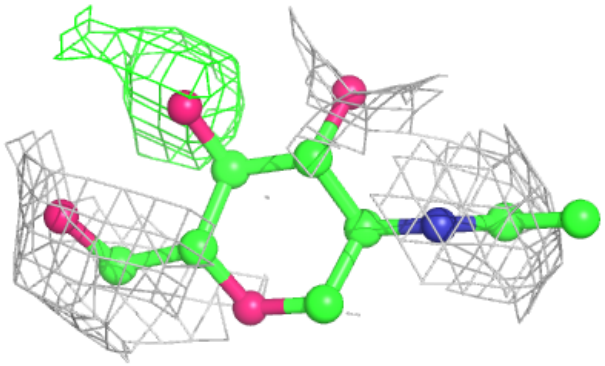


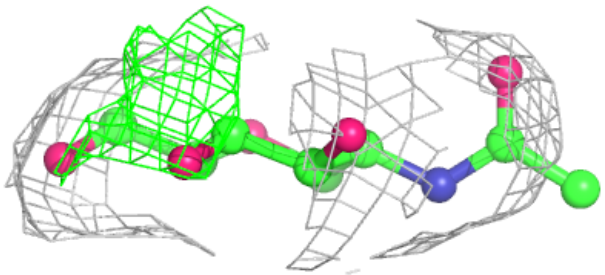




Electron density around NAG C 605:

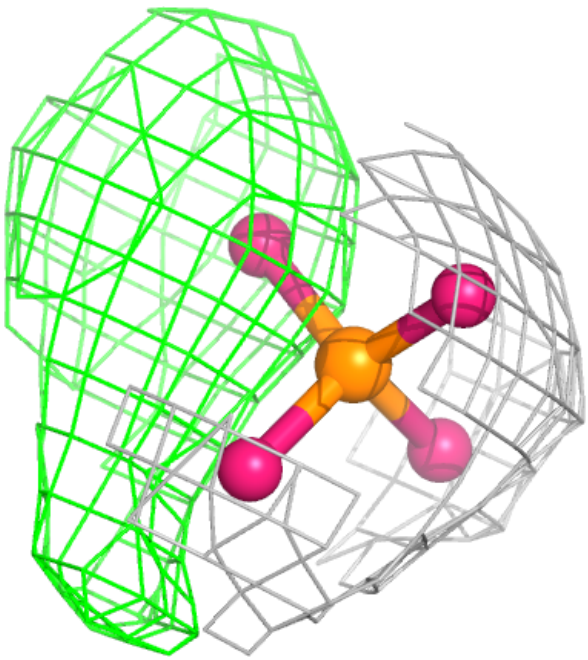
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

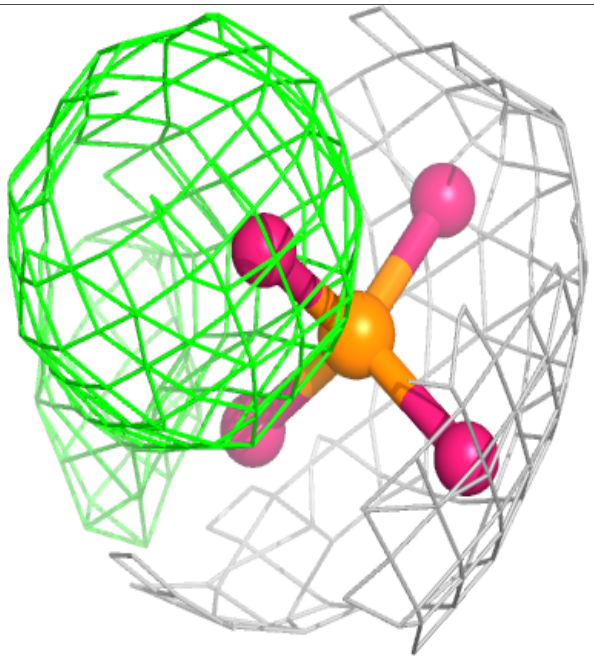


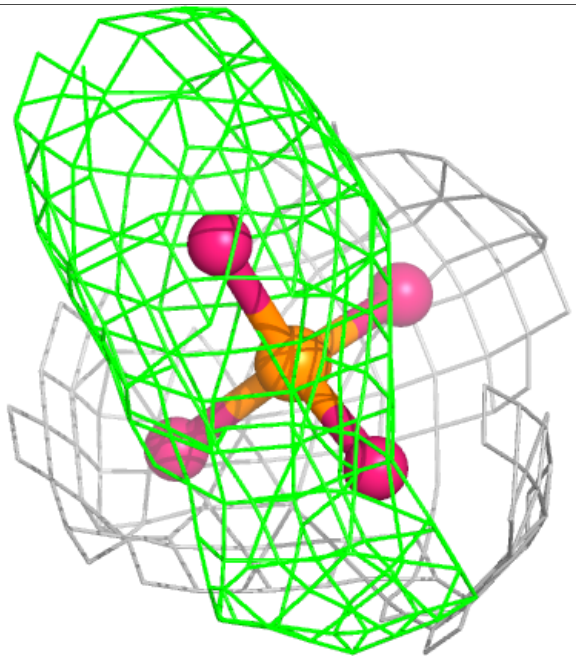


Electron density around PO4 B 606:

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

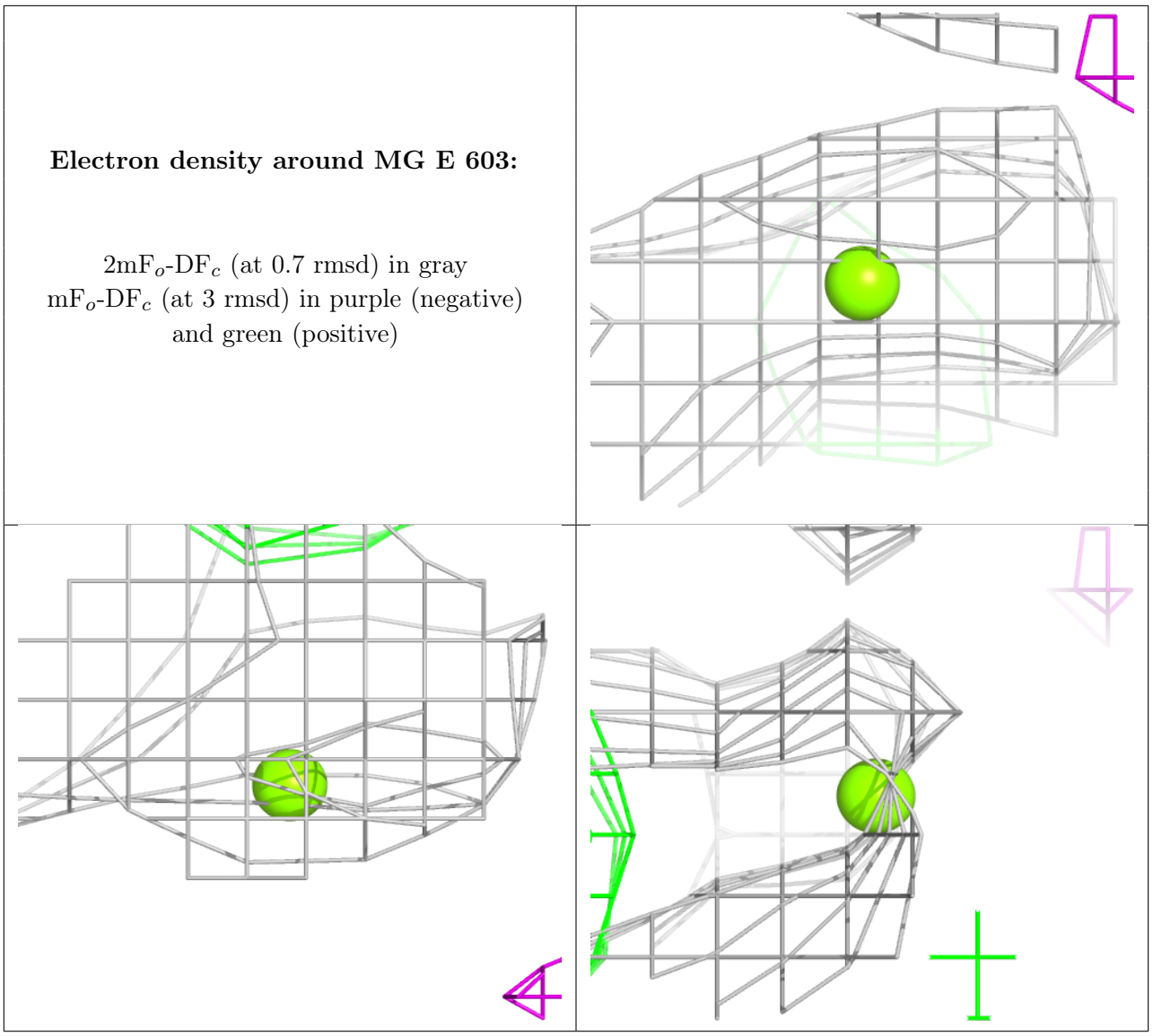






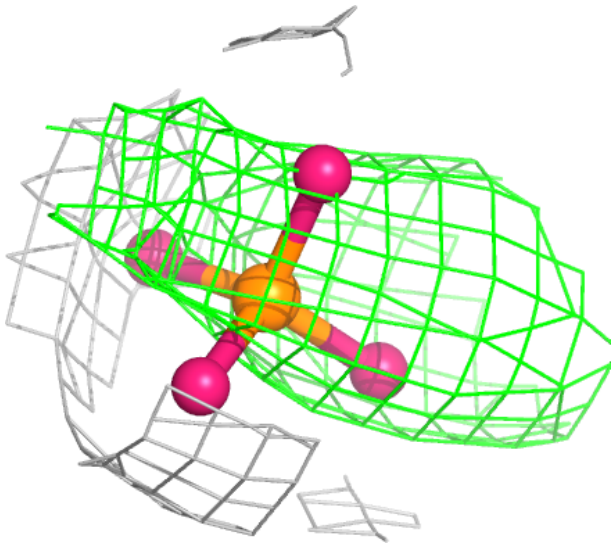
Electron density around MG E 603:

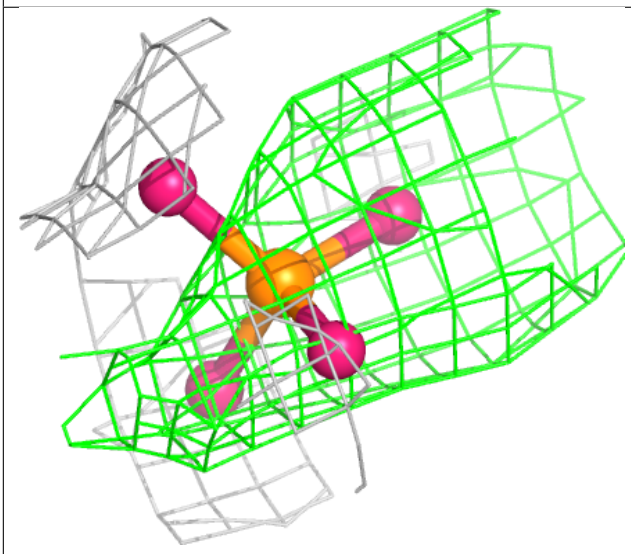
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

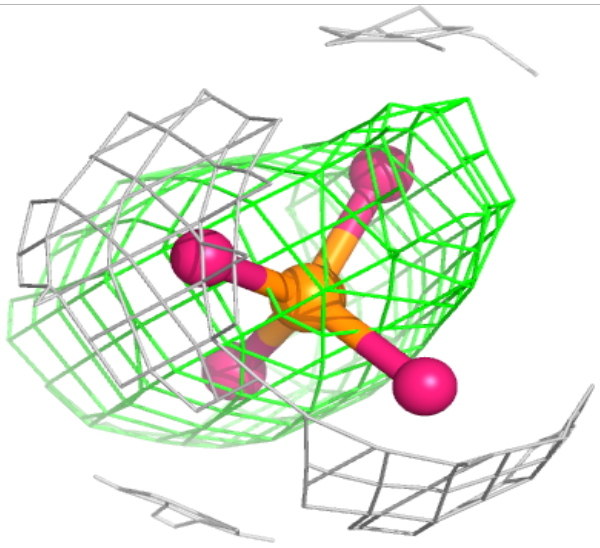


Electron density around PO4 C 606:

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

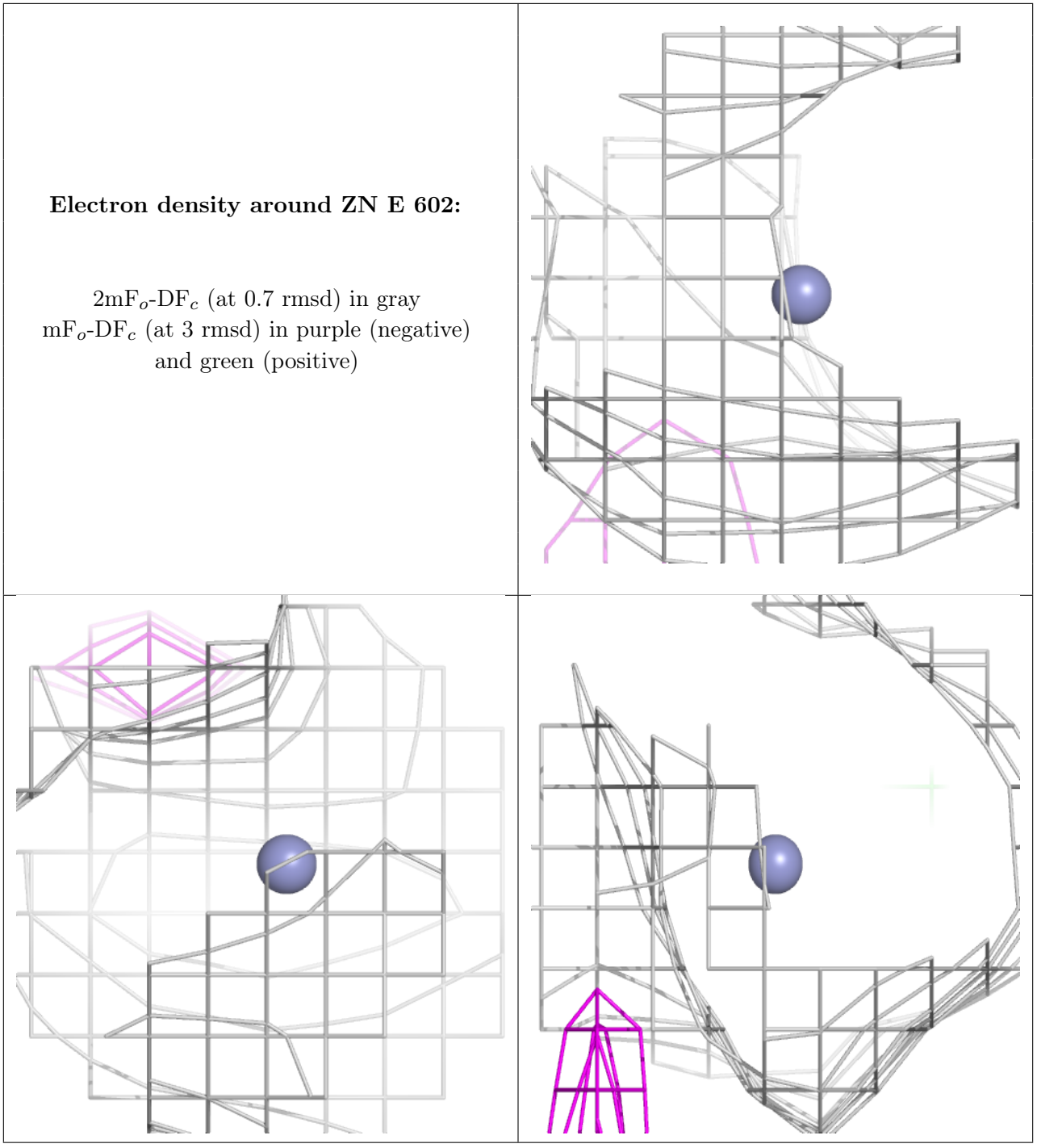






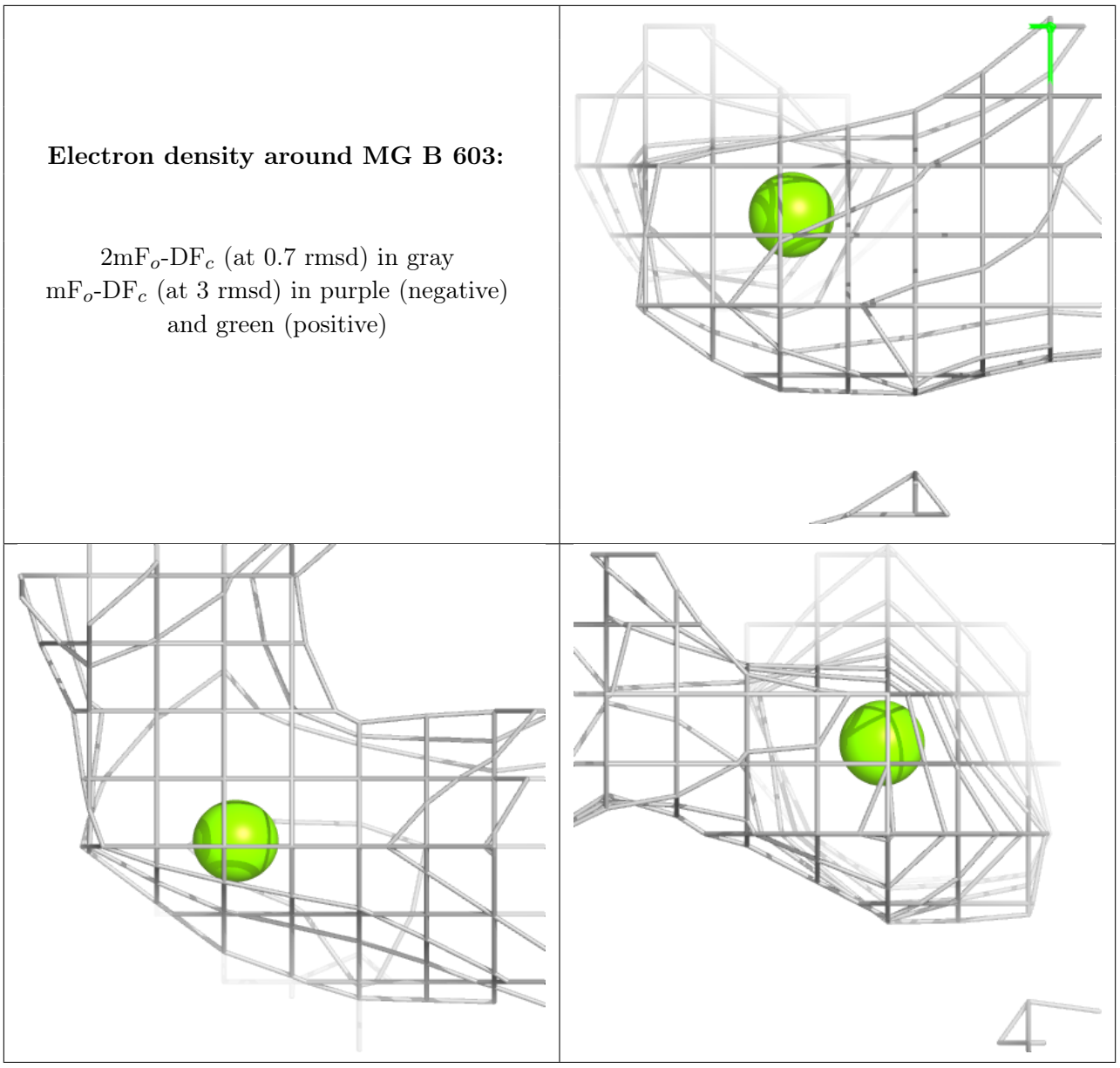
Electron density around ZN E 602:

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



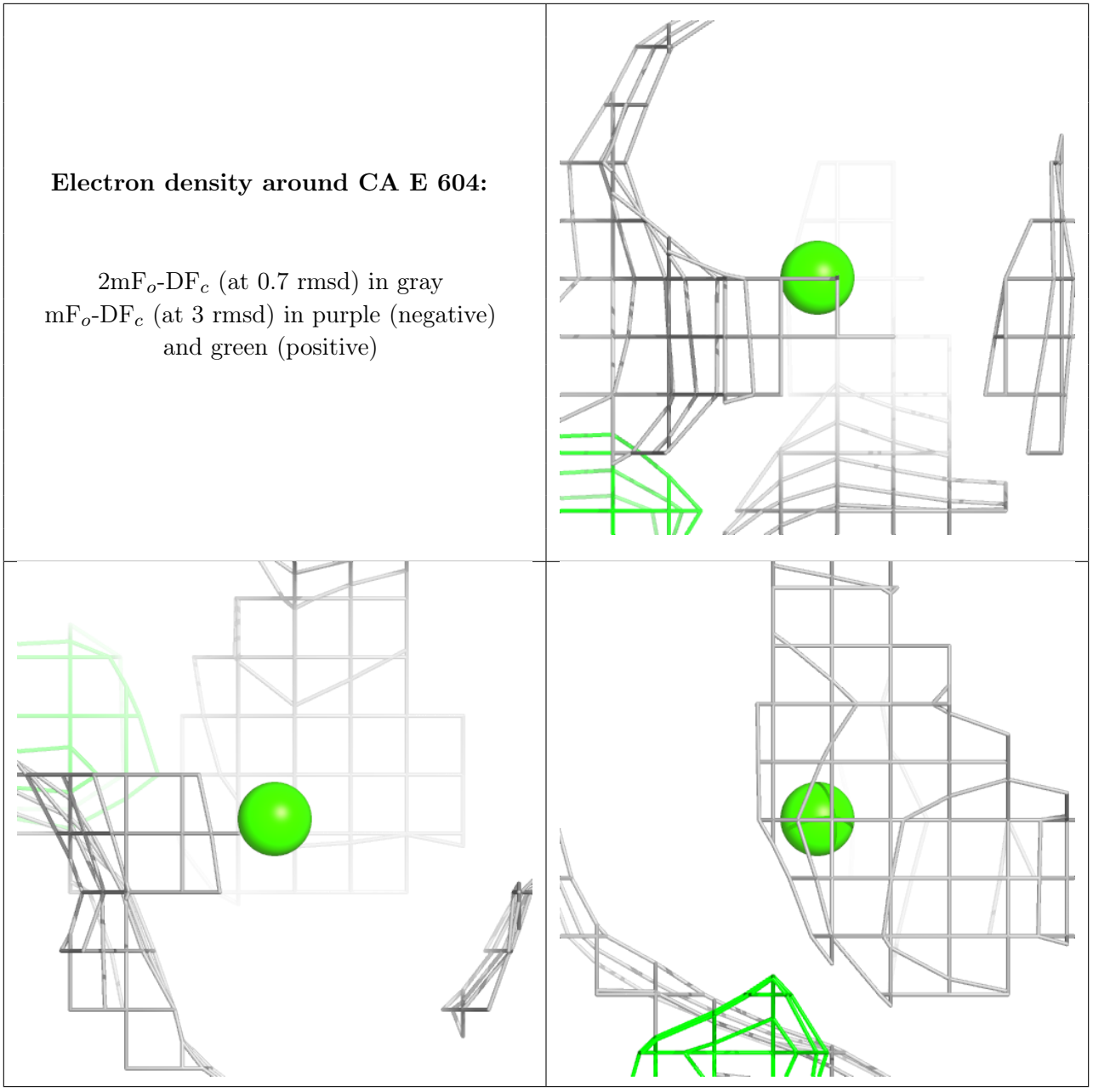
Electron density around MG B 603:

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



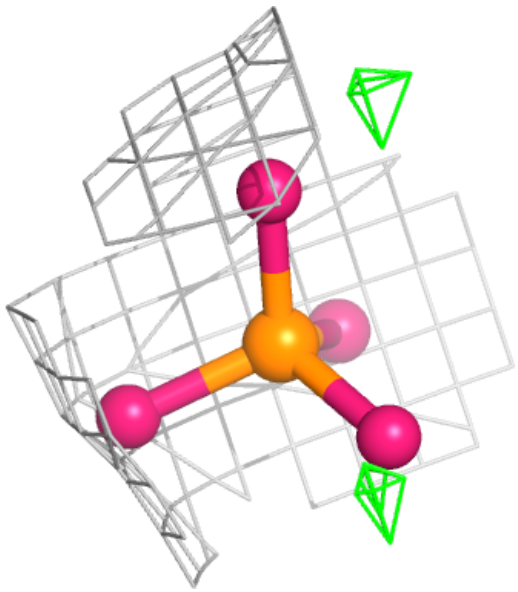
Electron density around CA E 604:

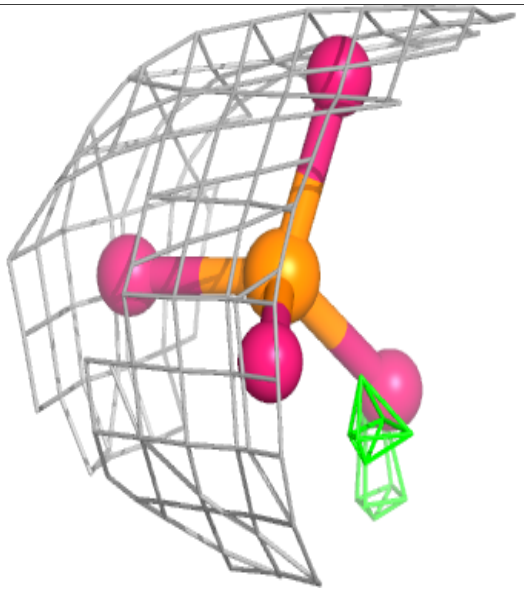
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

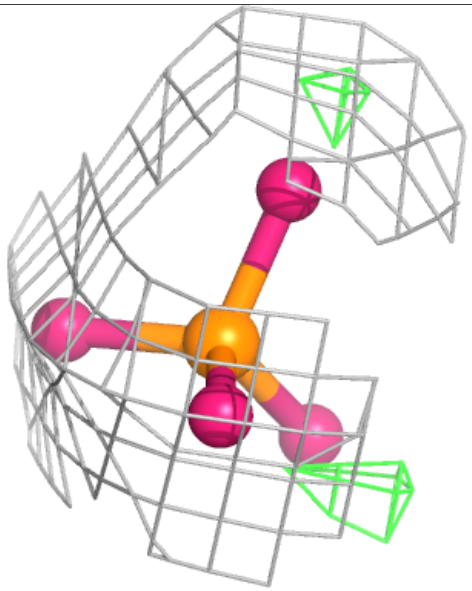


Electron density around PO4 E 607:

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

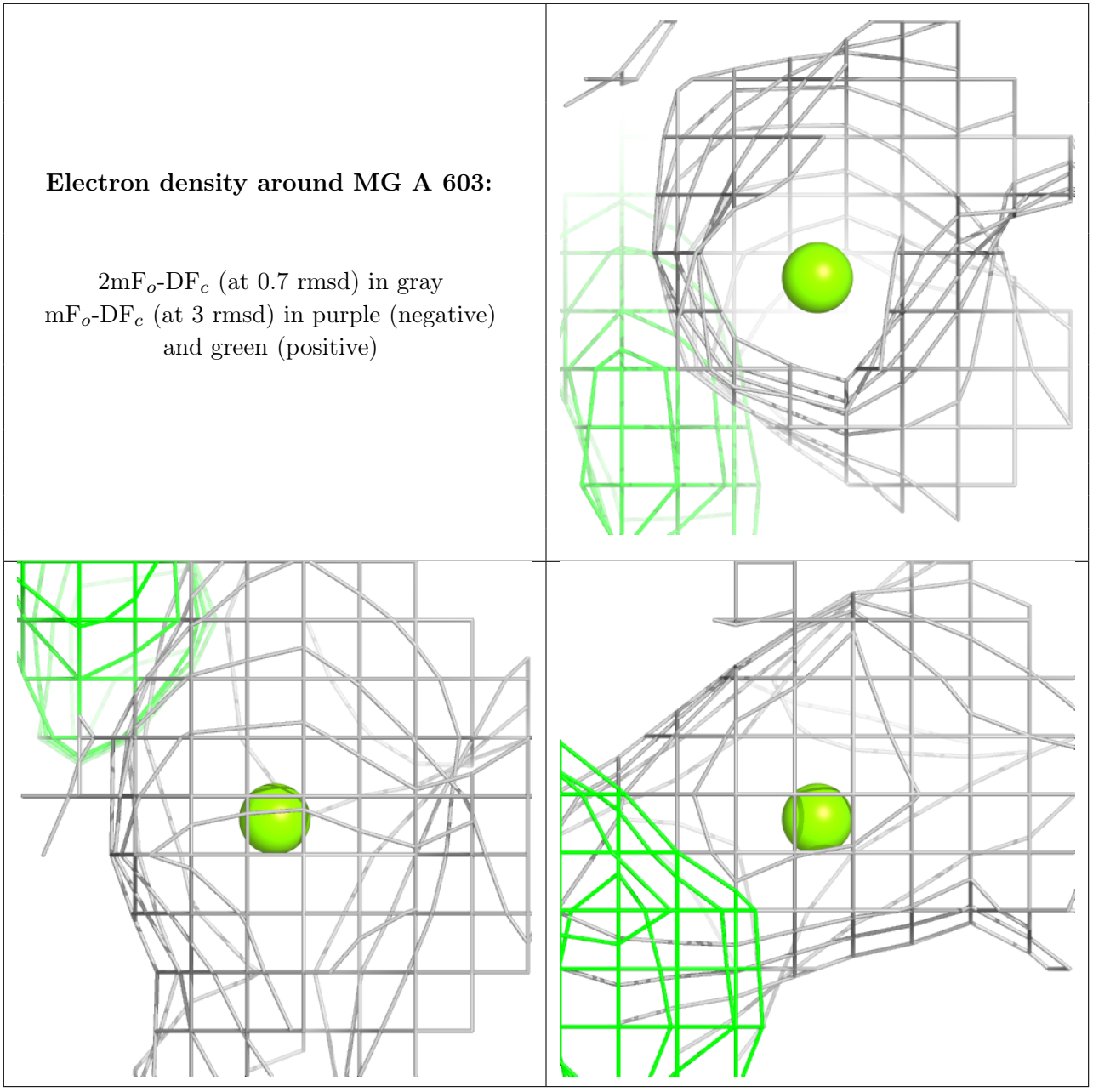






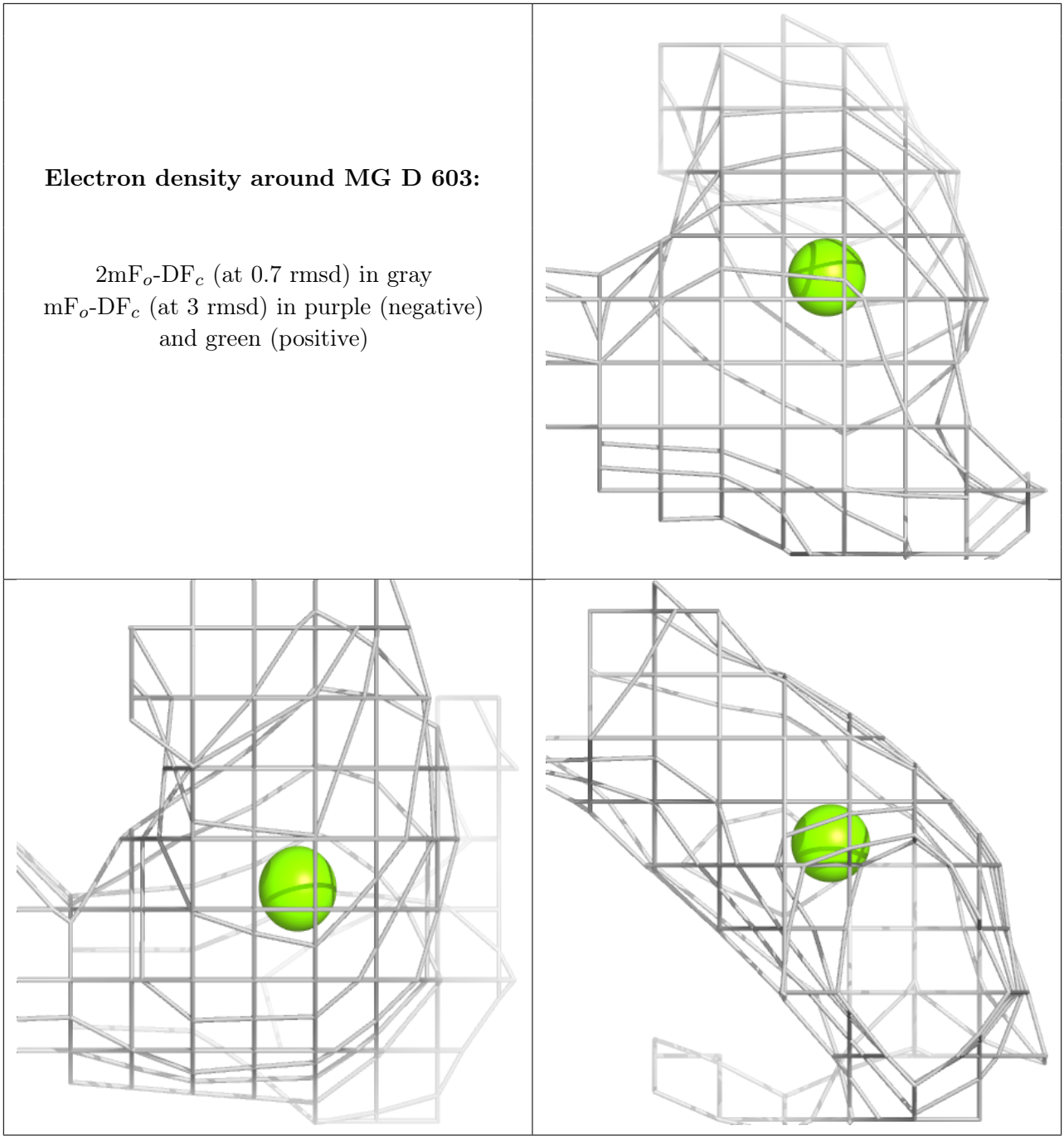
Electron density around MG A 603:

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



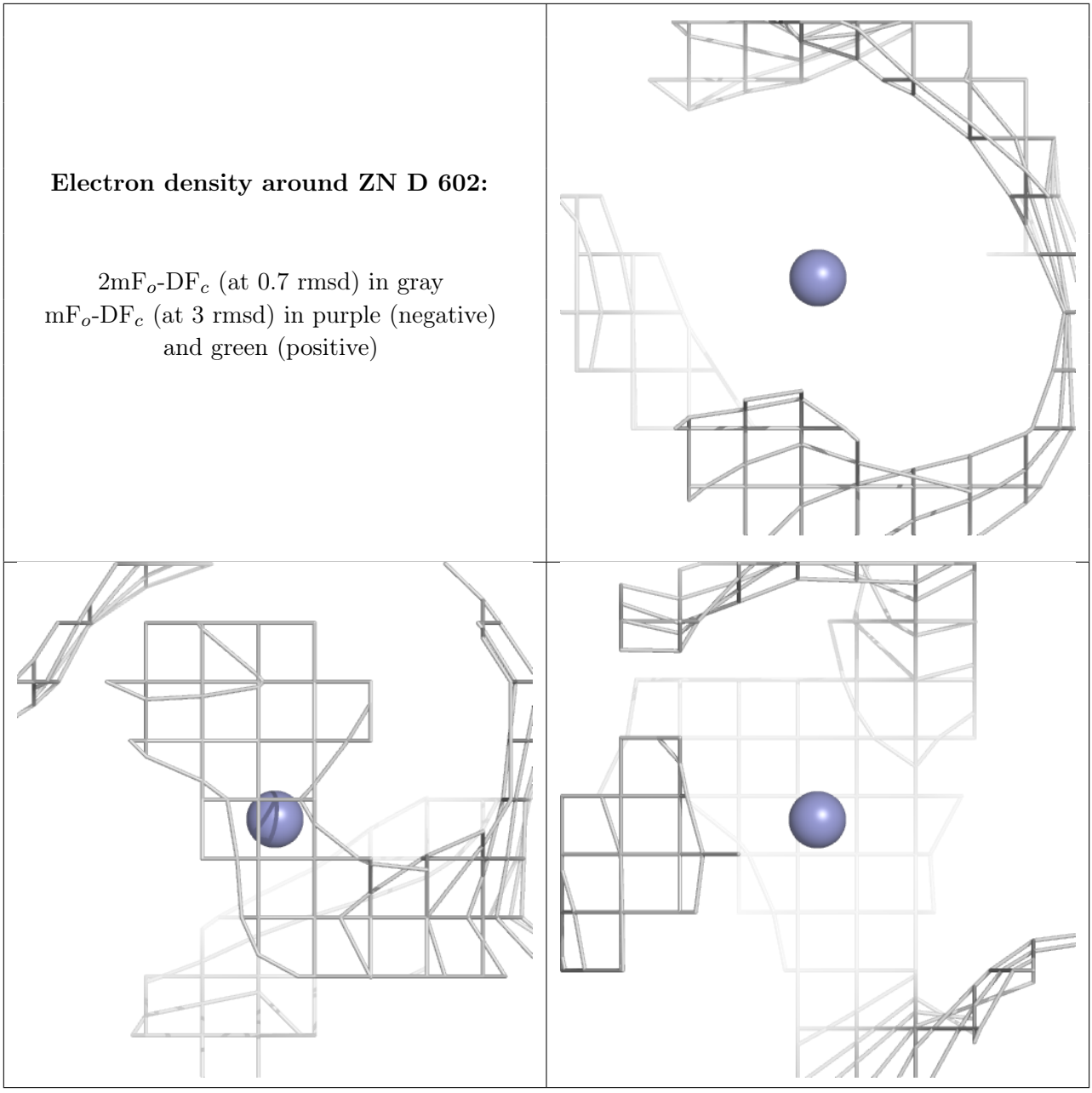
Electron density around MG D 603:

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



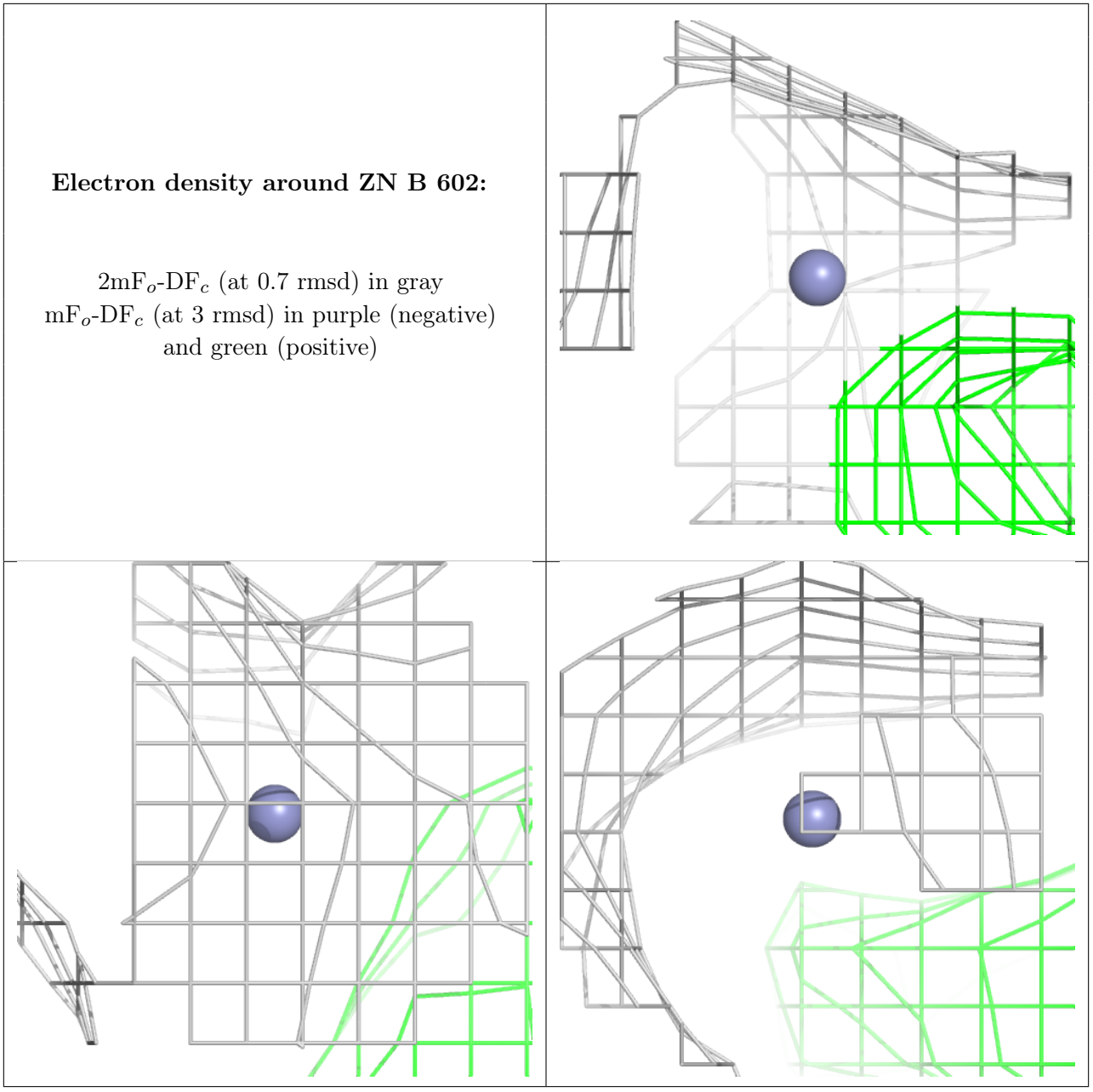
Electron density around ZN D 602:

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



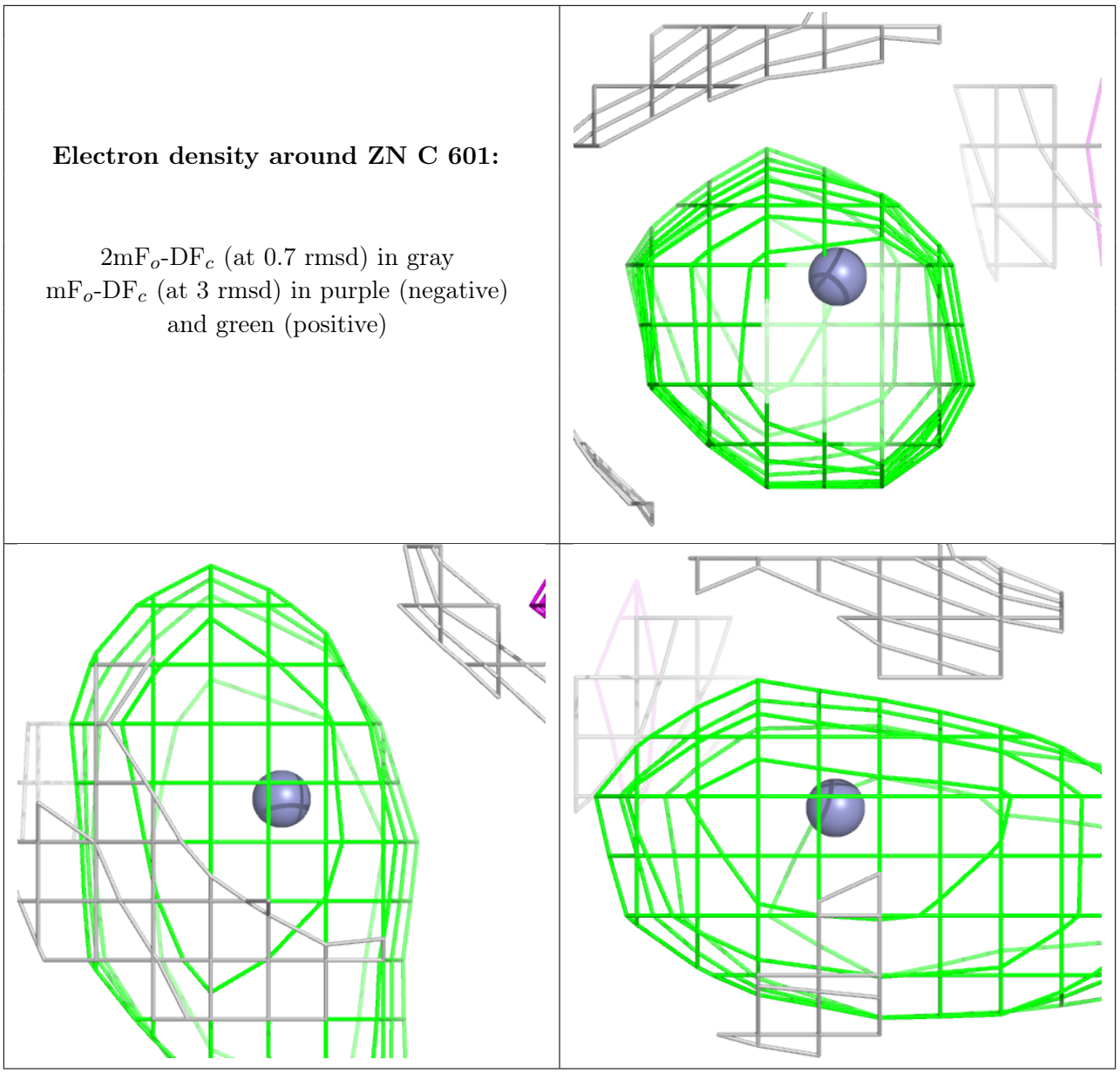
Electron density around ZN B 602:

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



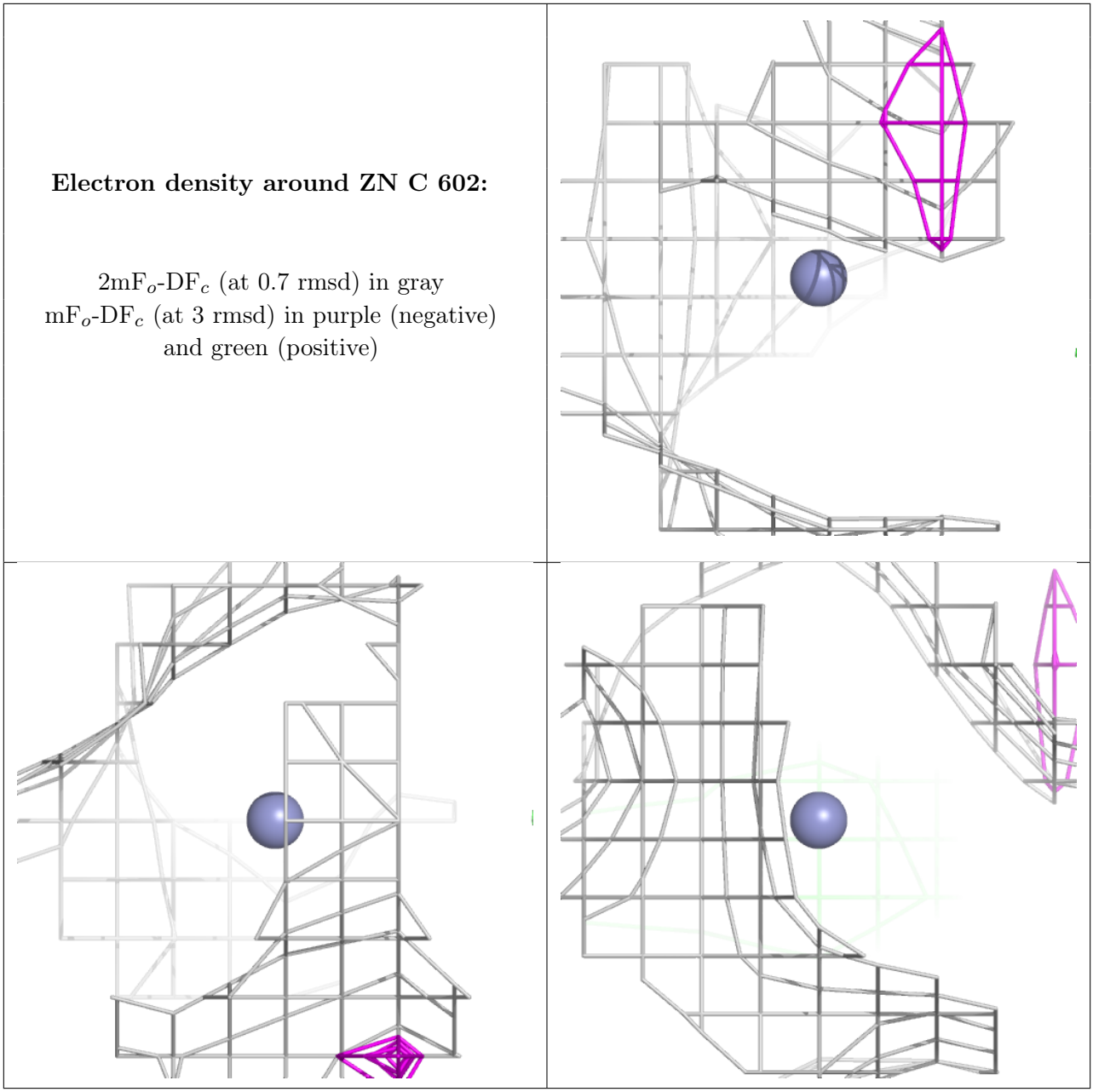
Electron density around ZN C 601:

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



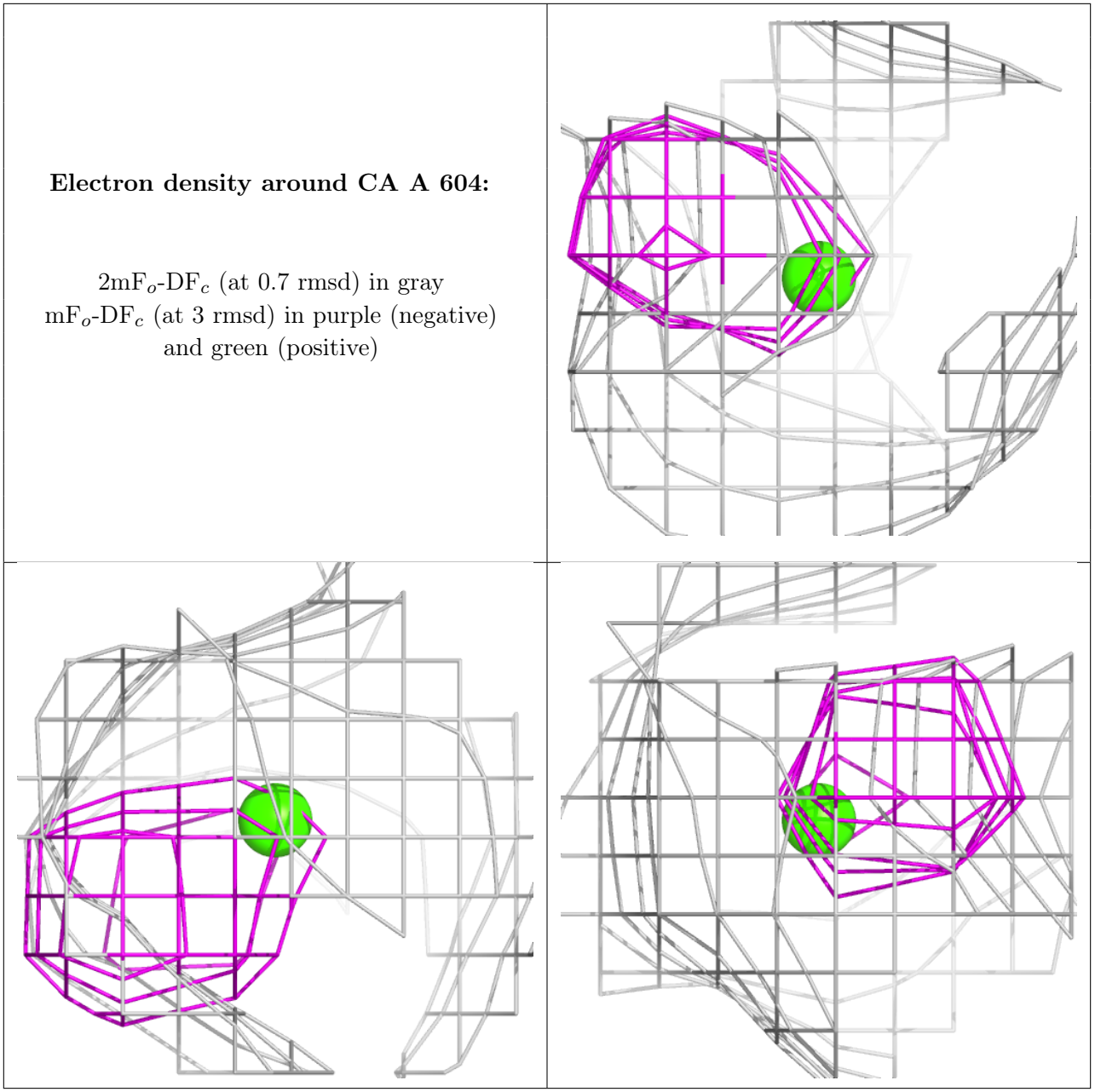
Electron density around ZN C 602:

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



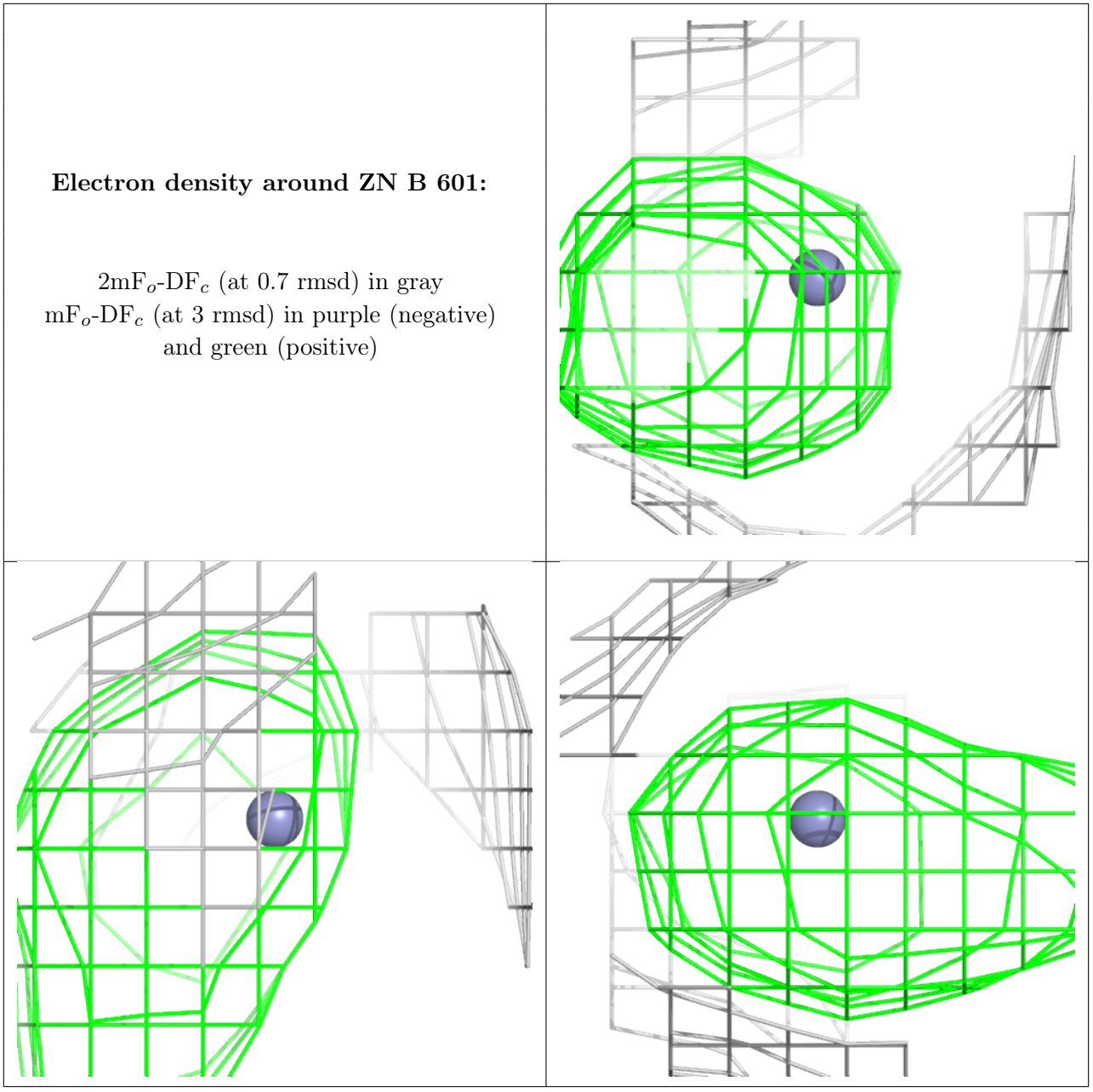
Electron density around CA A 604:

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



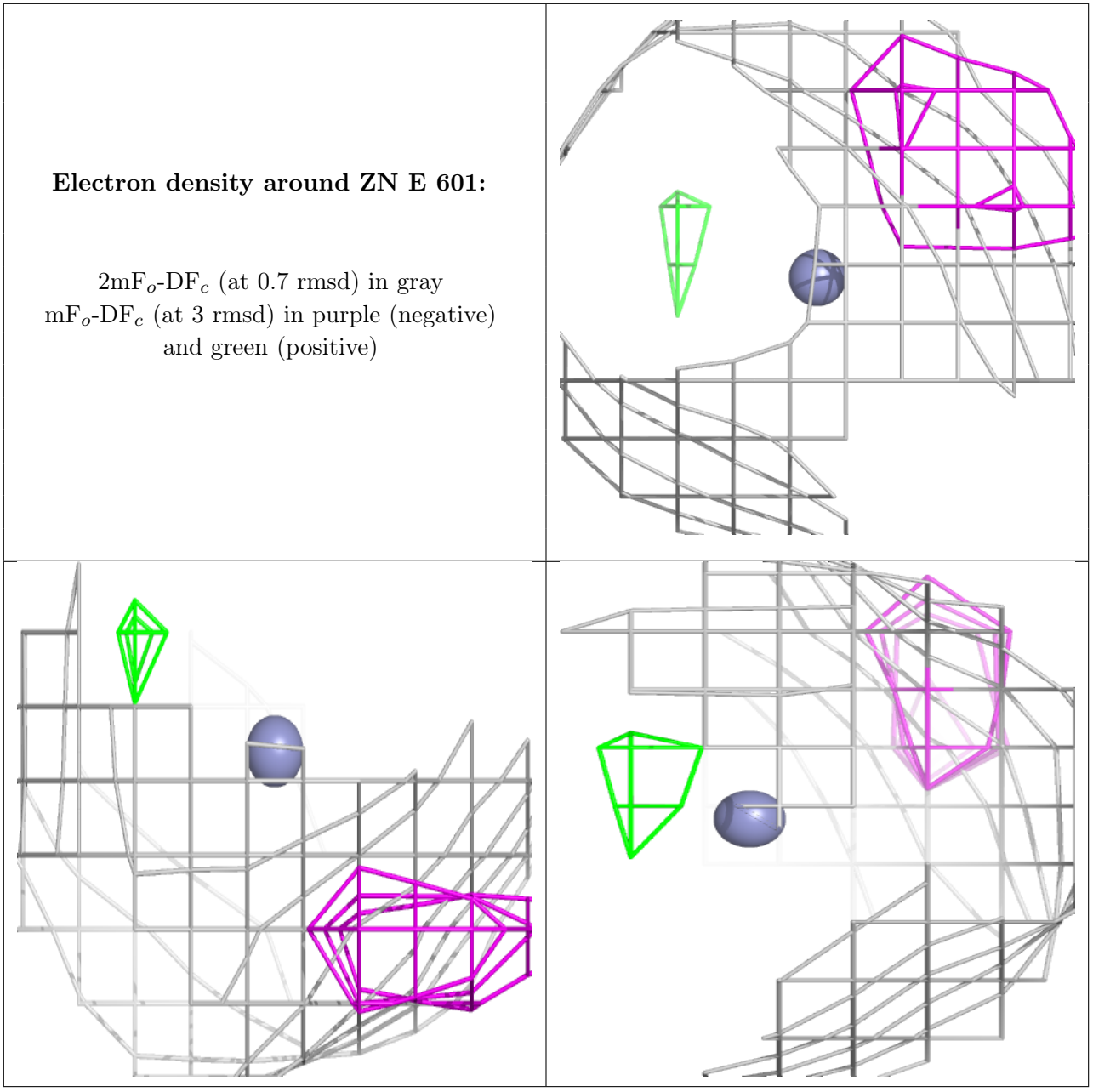
Electron density around ZN B 601:

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



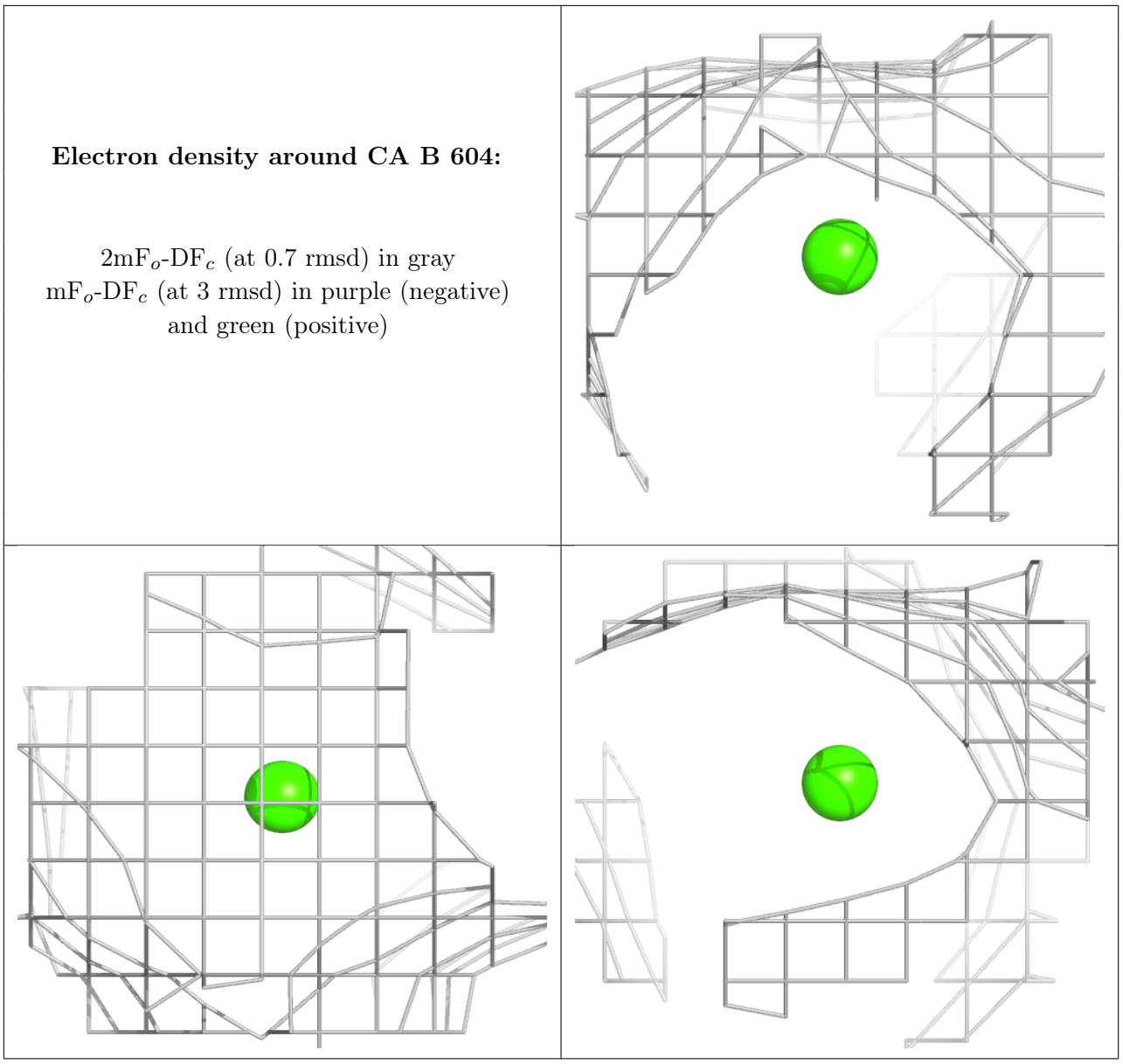
Electron density around ZN E 601:

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



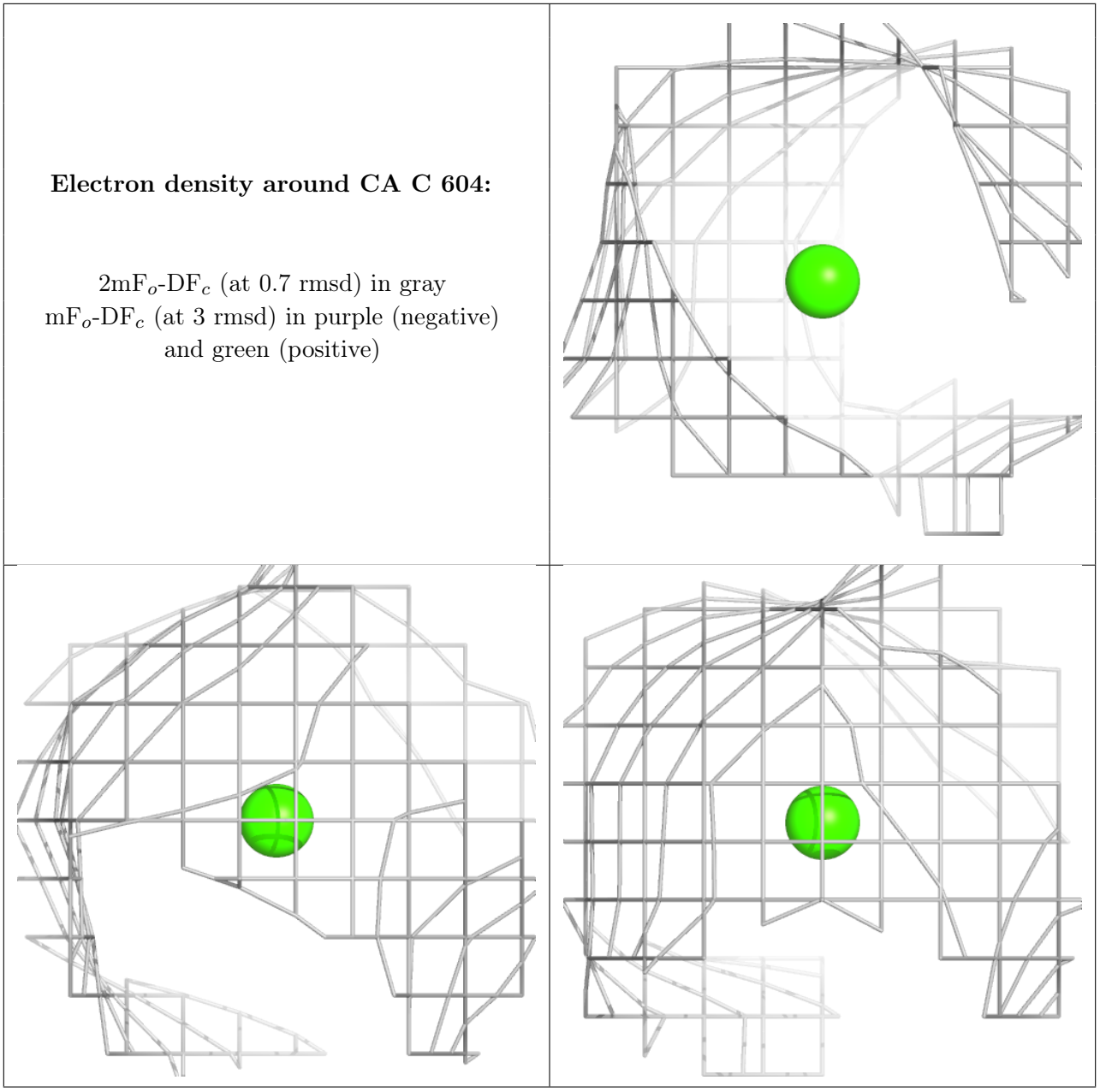
Electron density around CA B 604:

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



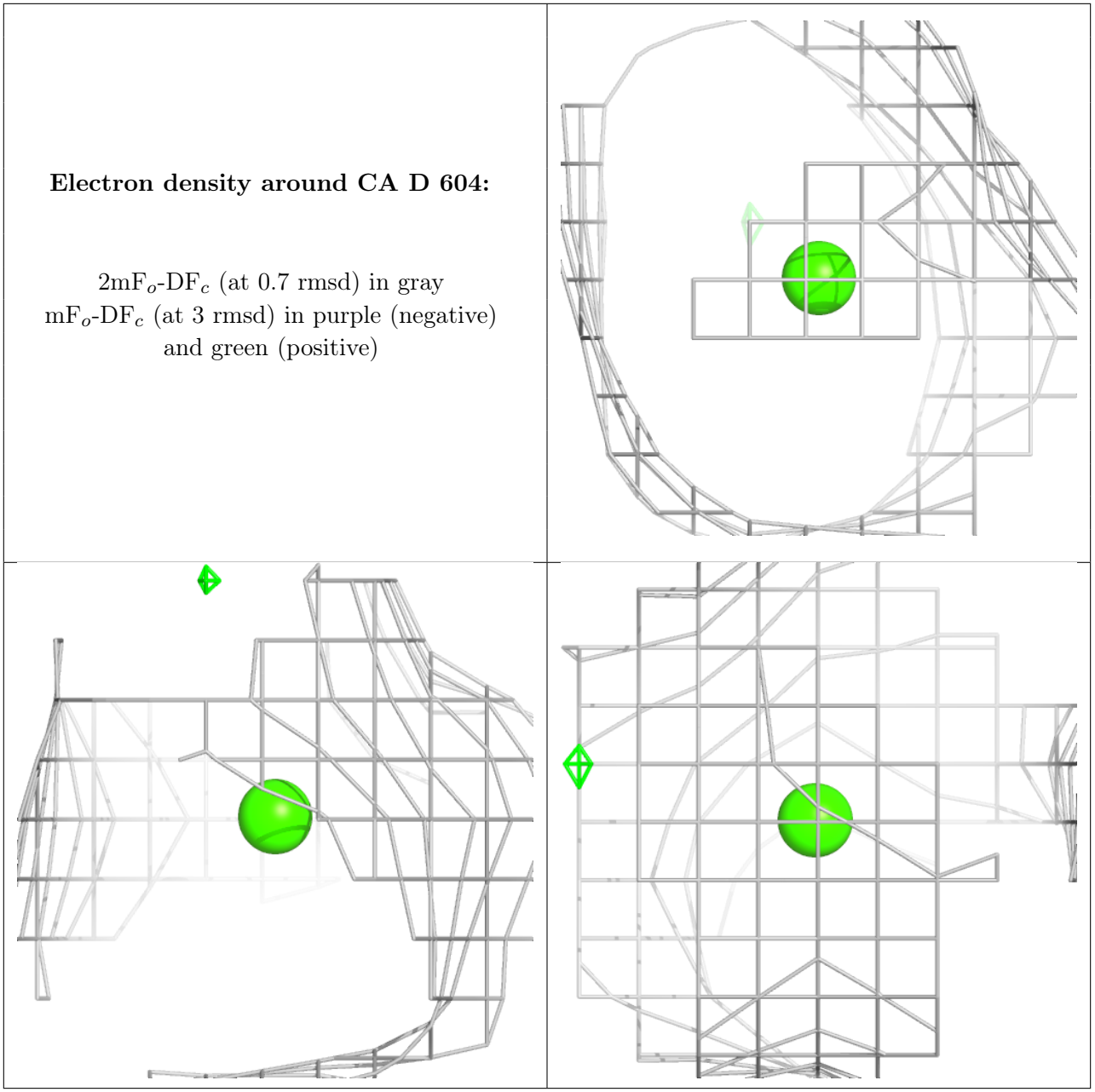
Electron density around CA C 604:

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



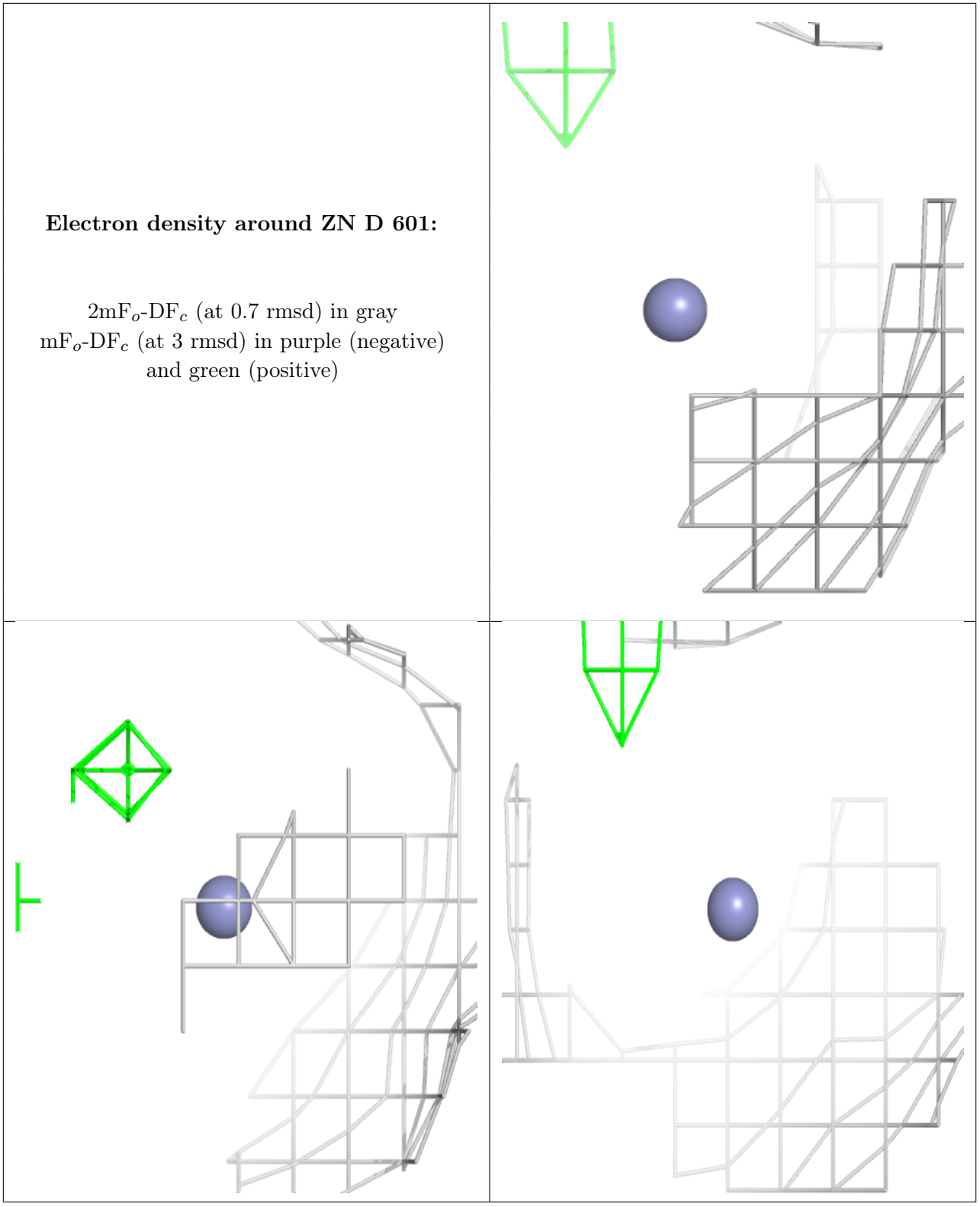
Electron density around CA D 604:

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



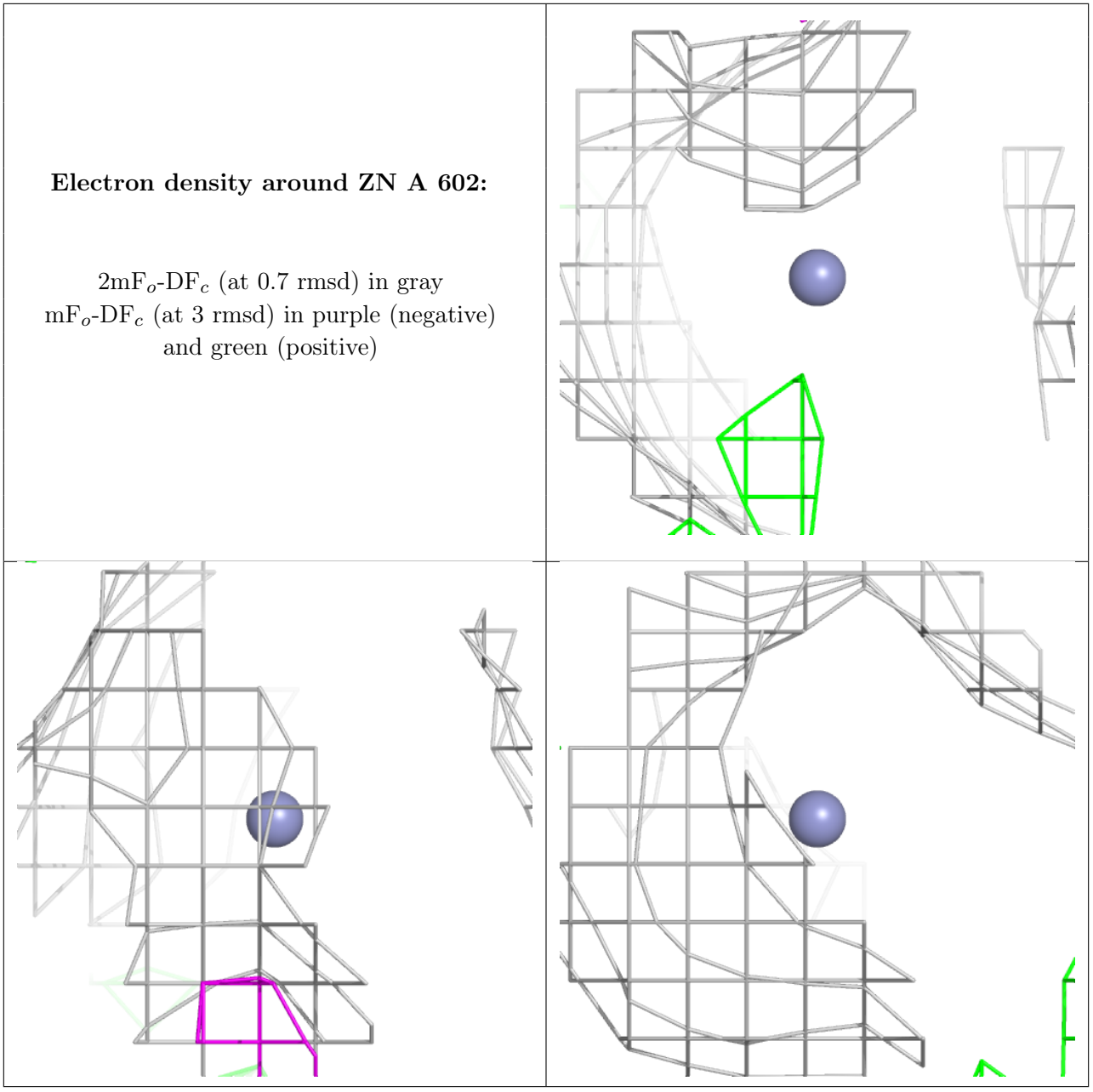
Electron density around ZN D 601:

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



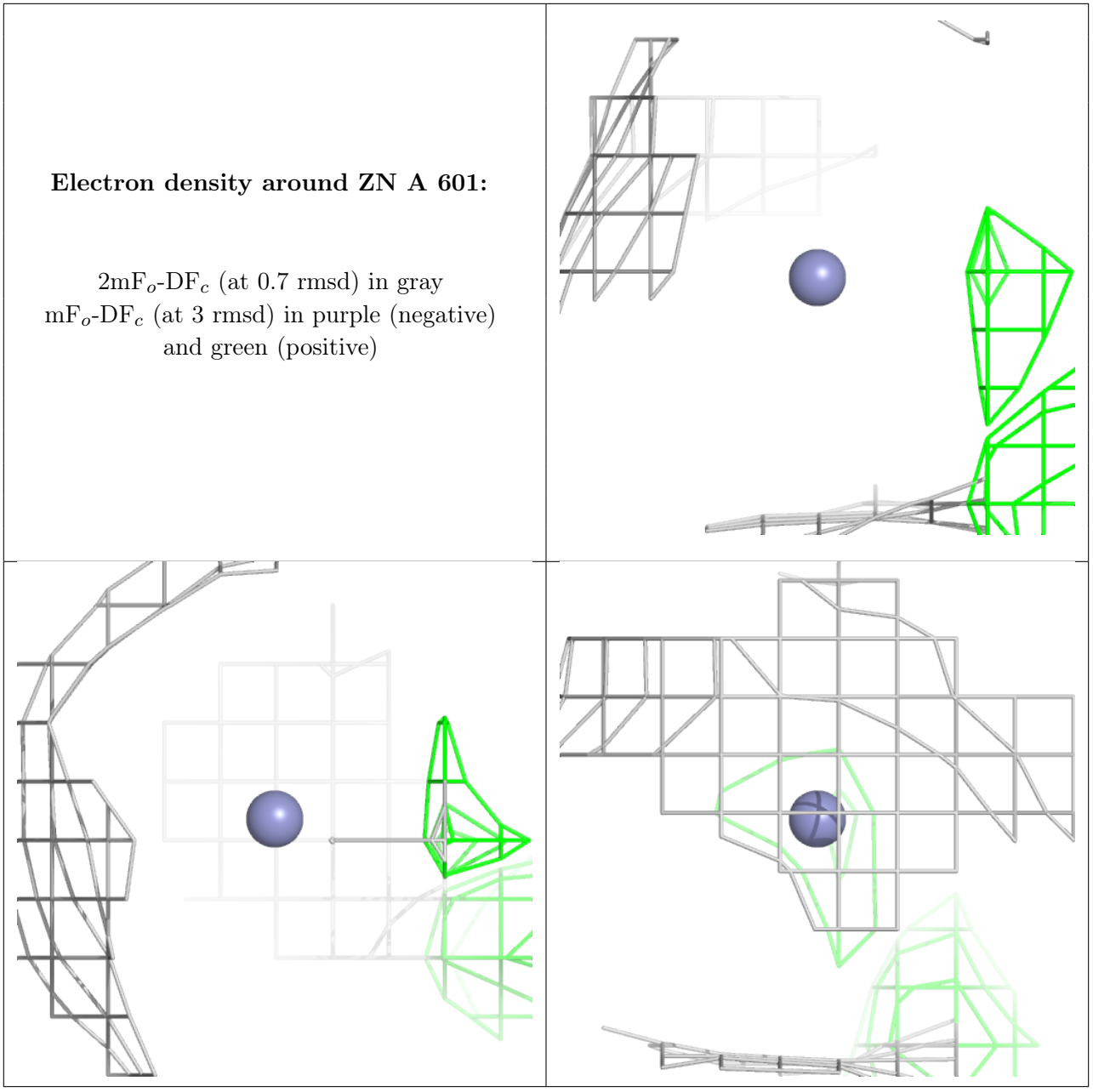
Electron density around ZN A 602:

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



Electron density around ZN A 601:

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



5.5 Other polymers (i)

There are no such residues in this entry.