wwPDB X-ray Structure Validation Summary Report (i)

Mar 5, 2024 – 04:30 PM JST

PDB ID	:	8WT1
Title	:	Crystal structure of S9 carboxypeptidase from Geobacillus sterothermophilus
Authors	:	Chandravanshi, K.; Kumar, A.; Sen, C.; Singh, R.; Bhange, G.B.; Makde, R.D.
Deposited on	:	2023-10-17
Resolution	:	2.00 Å(reported)

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

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

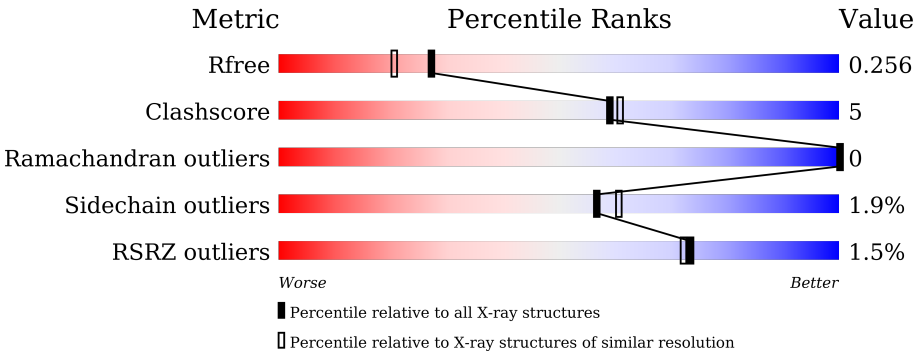
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

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 2.00 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	8085 (2.00-2.00)
Clashscore	141614	9178 (2.00-2.00)
Ramachandran outliers	138981	9054 (2.00-2.00)
Sidechain outliers	138945	9053 (2.00-2.00)
RSRZ outliers	127900	7900 (2.00-2.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	691	82% 12% 6%
1	B	691	85% 9% 6%
1	C	691	84% 10% 6%
1	D	691	83% 11% 6%
1	E	691	84% 10% 6%
1	F	691	84% 10% 6%

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Mol	Chain	Length	Quality of chain
1	G	691	5% 81% 12% 6%
1	H	691	3% 85% 9% 6%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	SO4	C	707	-	-	X	-
5	ALA	A	716	-	-	X	-
5	ALA	B	719	-	-	X	-
5	ALA	C	713	-	X	-	-
5	ALA	D	714	-	X	X	-
5	ALA	E	715	-	X	X	-
5	ALA	F	713	-	X	X	-
5	ALA	G	709	-	X	-	-
6	FLC	A	717	-	X	-	-
6	FLC	H	713	-	X	-	-

2 Entry composition (i)

There are 7 unique types of molecules in this entry. The entry contains 42813 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 S9 family peptidase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	650	Total	C	N	O	S	0	0	0
			5067	3239	873	944	11			
1	B	650	Total	C	N	O	S	0	0	0
			5063	3239	870	943	11			
1	C	651	Total	C	N	O	S	0	0	0
			5053	3232	867	943	11			
1	D	649	Total	C	N	O	S	0	0	0
			5032	3221	863	937	11			
1	E	650	Total	C	N	O	S	0	0	0
			5027	3215	861	940	11			
1	F	649	Total	C	N	O	S	0	0	0
			5014	3211	862	930	11			
1	G	647	Total	C	N	O	S	0	0	0
			4904	3159	829	905	11			
1	H	651	Total	C	N	O	S	0	0	0
			4985	3203	852	919	11			

There are 304 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-20	MET	-	initiating methionine	UNP A0A3L7D5Q2
A	-19	ALA	-	expression tag	UNP A0A3L7D5Q2
A	-18	SER	-	expression tag	UNP A0A3L7D5Q2
A	-17	TRP	-	expression tag	UNP A0A3L7D5Q2
A	-16	SER	-	expression tag	UNP A0A3L7D5Q2
A	-15	HIS	-	expression tag	UNP A0A3L7D5Q2
A	-14	PRO	-	expression tag	UNP A0A3L7D5Q2
A	-13	GLN	-	expression tag	UNP A0A3L7D5Q2
A	-12	PHE	-	expression tag	UNP A0A3L7D5Q2
A	-11	GLU	-	expression tag	UNP A0A3L7D5Q2
A	-10	LYS	-	expression tag	UNP A0A3L7D5Q2
A	-9	GLY	-	expression tag	UNP A0A3L7D5Q2
A	-8	SER	-	expression tag	UNP A0A3L7D5Q2

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-7	SER	-	expression tag	UNP A0A3L7D5Q2
A	-6	HIS	-	expression tag	UNP A0A3L7D5Q2
A	-5	HIS	-	expression tag	UNP A0A3L7D5Q2
A	-4	HIS	-	expression tag	UNP A0A3L7D5Q2
A	-3	HIS	-	expression tag	UNP A0A3L7D5Q2
A	-2	HIS	-	expression tag	UNP A0A3L7D5Q2
A	-1	HIS	-	expression tag	UNP A0A3L7D5Q2
A	0	SER	-	expression tag	UNP A0A3L7D5Q2
A	1	SER	-	expression tag	UNP A0A3L7D5Q2
A	2	GLY	-	expression tag	UNP A0A3L7D5Q2
A	3	SER	-	expression tag	UNP A0A3L7D5Q2
A	4	GLY	-	expression tag	UNP A0A3L7D5Q2
A	5	GLY	-	expression tag	UNP A0A3L7D5Q2
A	6	GLY	-	expression tag	UNP A0A3L7D5Q2
A	7	GLY	-	expression tag	UNP A0A3L7D5Q2
A	8	GLY	-	expression tag	UNP A0A3L7D5Q2
A	9	GLU	-	expression tag	UNP A0A3L7D5Q2
A	10	ASN	-	expression tag	UNP A0A3L7D5Q2
A	11	LEU	-	expression tag	UNP A0A3L7D5Q2
A	12	TYR	-	expression tag	UNP A0A3L7D5Q2
A	13	PHE	-	expression tag	UNP A0A3L7D5Q2
A	14	GLN	-	expression tag	UNP A0A3L7D5Q2
A	15	GLY	-	expression tag	UNP A0A3L7D5Q2
A	16	THR	-	expression tag	UNP A0A3L7D5Q2
A	332	SER	LEU	conflict	UNP A0A3L7D5Q2
B	-20	MET	-	initiating methionine	UNP A0A3L7D5Q2
B	-19	ALA	-	expression tag	UNP A0A3L7D5Q2
B	-18	SER	-	expression tag	UNP A0A3L7D5Q2
B	-17	TRP	-	expression tag	UNP A0A3L7D5Q2
B	-16	SER	-	expression tag	UNP A0A3L7D5Q2
B	-15	HIS	-	expression tag	UNP A0A3L7D5Q2
B	-14	PRO	-	expression tag	UNP A0A3L7D5Q2
B	-13	GLN	-	expression tag	UNP A0A3L7D5Q2
B	-12	PHE	-	expression tag	UNP A0A3L7D5Q2
B	-11	GLU	-	expression tag	UNP A0A3L7D5Q2
B	-10	LYS	-	expression tag	UNP A0A3L7D5Q2
B	-9	GLY	-	expression tag	UNP A0A3L7D5Q2
B	-8	SER	-	expression tag	UNP A0A3L7D5Q2
B	-7	SER	-	expression tag	UNP A0A3L7D5Q2
B	-6	HIS	-	expression tag	UNP A0A3L7D5Q2
B	-5	HIS	-	expression tag	UNP A0A3L7D5Q2
B	-4	HIS	-	expression tag	UNP A0A3L7D5Q2

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Chain	Residue	Modelled	Actual	Comment	Reference
B	-3	HIS	-	expression tag	UNP A0A3L7D5Q2
B	-2	HIS	-	expression tag	UNP A0A3L7D5Q2
B	-1	HIS	-	expression tag	UNP A0A3L7D5Q2
B	0	SER	-	expression tag	UNP A0A3L7D5Q2
B	1	SER	-	expression tag	UNP A0A3L7D5Q2
B	2	GLY	-	expression tag	UNP A0A3L7D5Q2
B	3	SER	-	expression tag	UNP A0A3L7D5Q2
B	4	GLY	-	expression tag	UNP A0A3L7D5Q2
B	5	GLY	-	expression tag	UNP A0A3L7D5Q2
B	6	GLY	-	expression tag	UNP A0A3L7D5Q2
B	7	GLY	-	expression tag	UNP A0A3L7D5Q2
B	8	GLY	-	expression tag	UNP A0A3L7D5Q2
B	9	GLU	-	expression tag	UNP A0A3L7D5Q2
B	10	ASN	-	expression tag	UNP A0A3L7D5Q2
B	11	LEU	-	expression tag	UNP A0A3L7D5Q2
B	12	TYR	-	expression tag	UNP A0A3L7D5Q2
B	13	PHE	-	expression tag	UNP A0A3L7D5Q2
B	14	GLN	-	expression tag	UNP A0A3L7D5Q2
B	15	GLY	-	expression tag	UNP A0A3L7D5Q2
B	16	THR	-	expression tag	UNP A0A3L7D5Q2
B	332	SER	LEU	conflict	UNP A0A3L7D5Q2
C	-20	MET	-	initiating methionine	UNP A0A3L7D5Q2
C	-19	ALA	-	expression tag	UNP A0A3L7D5Q2
C	-18	SER	-	expression tag	UNP A0A3L7D5Q2
C	-17	TRP	-	expression tag	UNP A0A3L7D5Q2
C	-16	SER	-	expression tag	UNP A0A3L7D5Q2
C	-15	HIS	-	expression tag	UNP A0A3L7D5Q2
C	-14	PRO	-	expression tag	UNP A0A3L7D5Q2
C	-13	GLN	-	expression tag	UNP A0A3L7D5Q2
C	-12	PHE	-	expression tag	UNP A0A3L7D5Q2
C	-11	GLU	-	expression tag	UNP A0A3L7D5Q2
C	-10	LYS	-	expression tag	UNP A0A3L7D5Q2
C	-9	GLY	-	expression tag	UNP A0A3L7D5Q2
C	-8	SER	-	expression tag	UNP A0A3L7D5Q2
C	-7	SER	-	expression tag	UNP A0A3L7D5Q2
C	-6	HIS	-	expression tag	UNP A0A3L7D5Q2
C	-5	HIS	-	expression tag	UNP A0A3L7D5Q2
C	-4	HIS	-	expression tag	UNP A0A3L7D5Q2
C	-3	HIS	-	expression tag	UNP A0A3L7D5Q2
C	-2	HIS	-	expression tag	UNP A0A3L7D5Q2
C	-1	HIS	-	expression tag	UNP A0A3L7D5Q2
C	0	SER	-	expression tag	UNP A0A3L7D5Q2

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Chain	Residue	Modelled	Actual	Comment	Reference
C	1	SER	-	expression tag	UNP A0A3L7D5Q2
C	2	GLY	-	expression tag	UNP A0A3L7D5Q2
C	3	SER	-	expression tag	UNP A0A3L7D5Q2
C	4	GLY	-	expression tag	UNP A0A3L7D5Q2
C	5	GLY	-	expression tag	UNP A0A3L7D5Q2
C	6	GLY	-	expression tag	UNP A0A3L7D5Q2
C	7	GLY	-	expression tag	UNP A0A3L7D5Q2
C	8	GLY	-	expression tag	UNP A0A3L7D5Q2
C	9	GLU	-	expression tag	UNP A0A3L7D5Q2
C	10	ASN	-	expression tag	UNP A0A3L7D5Q2
C	11	LEU	-	expression tag	UNP A0A3L7D5Q2
C	12	TYR	-	expression tag	UNP A0A3L7D5Q2
C	13	PHE	-	expression tag	UNP A0A3L7D5Q2
C	14	GLN	-	expression tag	UNP A0A3L7D5Q2
C	15	GLY	-	expression tag	UNP A0A3L7D5Q2
C	16	THR	-	expression tag	UNP A0A3L7D5Q2
C	332	SER	LEU	conflict	UNP A0A3L7D5Q2
D	-20	MET	-	initiating methionine	UNP A0A3L7D5Q2
D	-19	ALA	-	expression tag	UNP A0A3L7D5Q2
D	-18	SER	-	expression tag	UNP A0A3L7D5Q2
D	-17	TRP	-	expression tag	UNP A0A3L7D5Q2
D	-16	SER	-	expression tag	UNP A0A3L7D5Q2
D	-15	HIS	-	expression tag	UNP A0A3L7D5Q2
D	-14	PRO	-	expression tag	UNP A0A3L7D5Q2
D	-13	GLN	-	expression tag	UNP A0A3L7D5Q2
D	-12	PHE	-	expression tag	UNP A0A3L7D5Q2
D	-11	GLU	-	expression tag	UNP A0A3L7D5Q2
D	-10	LYS	-	expression tag	UNP A0A3L7D5Q2
D	-9	GLY	-	expression tag	UNP A0A3L7D5Q2
D	-8	SER	-	expression tag	UNP A0A3L7D5Q2
D	-7	SER	-	expression tag	UNP A0A3L7D5Q2
D	-6	HIS	-	expression tag	UNP A0A3L7D5Q2
D	-5	HIS	-	expression tag	UNP A0A3L7D5Q2
D	-4	HIS	-	expression tag	UNP A0A3L7D5Q2
D	-3	HIS	-	expression tag	UNP A0A3L7D5Q2
D	-2	HIS	-	expression tag	UNP A0A3L7D5Q2
D	-1	HIS	-	expression tag	UNP A0A3L7D5Q2
D	0	SER	-	expression tag	UNP A0A3L7D5Q2
D	1	SER	-	expression tag	UNP A0A3L7D5Q2
D	2	GLY	-	expression tag	UNP A0A3L7D5Q2
D	3	SER	-	expression tag	UNP A0A3L7D5Q2
D	4	GLY	-	expression tag	UNP A0A3L7D5Q2

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Chain	Residue	Modelled	Actual	Comment	Reference
D	5	GLY	-	expression tag	UNP A0A3L7D5Q2
D	6	GLY	-	expression tag	UNP A0A3L7D5Q2
D	7	GLY	-	expression tag	UNP A0A3L7D5Q2
D	8	GLY	-	expression tag	UNP A0A3L7D5Q2
D	9	GLU	-	expression tag	UNP A0A3L7D5Q2
D	10	ASN	-	expression tag	UNP A0A3L7D5Q2
D	11	LEU	-	expression tag	UNP A0A3L7D5Q2
D	12	TYR	-	expression tag	UNP A0A3L7D5Q2
D	13	PHE	-	expression tag	UNP A0A3L7D5Q2
D	14	GLN	-	expression tag	UNP A0A3L7D5Q2
D	15	GLY	-	expression tag	UNP A0A3L7D5Q2
D	16	THR	-	expression tag	UNP A0A3L7D5Q2
D	332	SER	LEU	conflict	UNP A0A3L7D5Q2
E	-20	MET	-	initiating methionine	UNP A0A3L7D5Q2
E	-19	ALA	-	expression tag	UNP A0A3L7D5Q2
E	-18	SER	-	expression tag	UNP A0A3L7D5Q2
E	-17	TRP	-	expression tag	UNP A0A3L7D5Q2
E	-16	SER	-	expression tag	UNP A0A3L7D5Q2
E	-15	HIS	-	expression tag	UNP A0A3L7D5Q2
E	-14	PRO	-	expression tag	UNP A0A3L7D5Q2
E	-13	GLN	-	expression tag	UNP A0A3L7D5Q2
E	-12	PHE	-	expression tag	UNP A0A3L7D5Q2
E	-11	GLU	-	expression tag	UNP A0A3L7D5Q2
E	-10	LYS	-	expression tag	UNP A0A3L7D5Q2
E	-9	GLY	-	expression tag	UNP A0A3L7D5Q2
E	-8	SER	-	expression tag	UNP A0A3L7D5Q2
E	-7	SER	-	expression tag	UNP A0A3L7D5Q2
E	-6	HIS	-	expression tag	UNP A0A3L7D5Q2
E	-5	HIS	-	expression tag	UNP A0A3L7D5Q2
E	-4	HIS	-	expression tag	UNP A0A3L7D5Q2
E	-3	HIS	-	expression tag	UNP A0A3L7D5Q2
E	-2	HIS	-	expression tag	UNP A0A3L7D5Q2
E	-1	HIS	-	expression tag	UNP A0A3L7D5Q2
E	0	SER	-	expression tag	UNP A0A3L7D5Q2
E	1	SER	-	expression tag	UNP A0A3L7D5Q2
E	2	GLY	-	expression tag	UNP A0A3L7D5Q2
E	3	SER	-	expression tag	UNP A0A3L7D5Q2
E	4	GLY	-	expression tag	UNP A0A3L7D5Q2
E	5	GLY	-	expression tag	UNP A0A3L7D5Q2
E	6	GLY	-	expression tag	UNP A0A3L7D5Q2
E	7	GLY	-	expression tag	UNP A0A3L7D5Q2
E	8	GLY	-	expression tag	UNP A0A3L7D5Q2

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Chain	Residue	Modelled	Actual	Comment	Reference
E	9	GLU	-	expression tag	UNP A0A3L7D5Q2
E	10	ASN	-	expression tag	UNP A0A3L7D5Q2
E	11	LEU	-	expression tag	UNP A0A3L7D5Q2
E	12	TYR	-	expression tag	UNP A0A3L7D5Q2
E	13	PHE	-	expression tag	UNP A0A3L7D5Q2
E	14	GLN	-	expression tag	UNP A0A3L7D5Q2
E	15	GLY	-	expression tag	UNP A0A3L7D5Q2
E	16	THR	-	expression tag	UNP A0A3L7D5Q2
E	332	SER	LEU	conflict	UNP A0A3L7D5Q2
F	-20	MET	-	initiating methionine	UNP A0A3L7D5Q2
F	-19	ALA	-	expression tag	UNP A0A3L7D5Q2
F	-18	SER	-	expression tag	UNP A0A3L7D5Q2
F	-17	TRP	-	expression tag	UNP A0A3L7D5Q2
F	-16	SER	-	expression tag	UNP A0A3L7D5Q2
F	-15	HIS	-	expression tag	UNP A0A3L7D5Q2
F	-14	PRO	-	expression tag	UNP A0A3L7D5Q2
F	-13	GLN	-	expression tag	UNP A0A3L7D5Q2
F	-12	PHE	-	expression tag	UNP A0A3L7D5Q2
F	-11	GLU	-	expression tag	UNP A0A3L7D5Q2
F	-10	LYS	-	expression tag	UNP A0A3L7D5Q2
F	-9	GLY	-	expression tag	UNP A0A3L7D5Q2
F	-8	SER	-	expression tag	UNP A0A3L7D5Q2
F	-7	SER	-	expression tag	UNP A0A3L7D5Q2
F	-6	HIS	-	expression tag	UNP A0A3L7D5Q2
F	-5	HIS	-	expression tag	UNP A0A3L7D5Q2
F	-4	HIS	-	expression tag	UNP A0A3L7D5Q2
F	-3	HIS	-	expression tag	UNP A0A3L7D5Q2
F	-2	HIS	-	expression tag	UNP A0A3L7D5Q2
F	-1	HIS	-	expression tag	UNP A0A3L7D5Q2
F	0	SER	-	expression tag	UNP A0A3L7D5Q2
F	1	SER	-	expression tag	UNP A0A3L7D5Q2
F	2	GLY	-	expression tag	UNP A0A3L7D5Q2
F	3	SER	-	expression tag	UNP A0A3L7D5Q2
F	4	GLY	-	expression tag	UNP A0A3L7D5Q2
F	5	GLY	-	expression tag	UNP A0A3L7D5Q2
F	6	GLY	-	expression tag	UNP A0A3L7D5Q2
F	7	GLY	-	expression tag	UNP A0A3L7D5Q2
F	8	GLY	-	expression tag	UNP A0A3L7D5Q2
F	9	GLU	-	expression tag	UNP A0A3L7D5Q2
F	10	ASN	-	expression tag	UNP A0A3L7D5Q2
F	11	LEU	-	expression tag	UNP A0A3L7D5Q2
F	12	TYR	-	expression tag	UNP A0A3L7D5Q2

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Chain	Residue	Modelled	Actual	Comment	Reference
F	13	PHE	-	expression tag	UNP A0A3L7D5Q2
F	14	GLN	-	expression tag	UNP A0A3L7D5Q2
F	15	GLY	-	expression tag	UNP A0A3L7D5Q2
F	16	THR	-	expression tag	UNP A0A3L7D5Q2
F	332	SER	LEU	conflict	UNP A0A3L7D5Q2
G	-20	MET	-	initiating methionine	UNP A0A3L7D5Q2
G	-19	ALA	-	expression tag	UNP A0A3L7D5Q2
G	-18	SER	-	expression tag	UNP A0A3L7D5Q2
G	-17	TRP	-	expression tag	UNP A0A3L7D5Q2
G	-16	SER	-	expression tag	UNP A0A3L7D5Q2
G	-15	HIS	-	expression tag	UNP A0A3L7D5Q2
G	-14	PRO	-	expression tag	UNP A0A3L7D5Q2
G	-13	GLN	-	expression tag	UNP A0A3L7D5Q2
G	-12	PHE	-	expression tag	UNP A0A3L7D5Q2
G	-11	GLU	-	expression tag	UNP A0A3L7D5Q2
G	-10	LYS	-	expression tag	UNP A0A3L7D5Q2
G	-9	GLY	-	expression tag	UNP A0A3L7D5Q2
G	-8	SER	-	expression tag	UNP A0A3L7D5Q2
G	-7	SER	-	expression tag	UNP A0A3L7D5Q2
G	-6	HIS	-	expression tag	UNP A0A3L7D5Q2
G	-5	HIS	-	expression tag	UNP A0A3L7D5Q2
G	-4	HIS	-	expression tag	UNP A0A3L7D5Q2
G	-3	HIS	-	expression tag	UNP A0A3L7D5Q2
G	-2	HIS	-	expression tag	UNP A0A3L7D5Q2
G	-1	HIS	-	expression tag	UNP A0A3L7D5Q2
G	0	SER	-	expression tag	UNP A0A3L7D5Q2
G	1	SER	-	expression tag	UNP A0A3L7D5Q2
G	2	GLY	-	expression tag	UNP A0A3L7D5Q2
G	3	SER	-	expression tag	UNP A0A3L7D5Q2
G	4	GLY	-	expression tag	UNP A0A3L7D5Q2
G	5	GLY	-	expression tag	UNP A0A3L7D5Q2
G	6	GLY	-	expression tag	UNP A0A3L7D5Q2
G	7	GLY	-	expression tag	UNP A0A3L7D5Q2
G	8	GLY	-	expression tag	UNP A0A3L7D5Q2
G	9	GLU	-	expression tag	UNP A0A3L7D5Q2
G	10	ASN	-	expression tag	UNP A0A3L7D5Q2
G	11	LEU	-	expression tag	UNP A0A3L7D5Q2
G	12	TYR	-	expression tag	UNP A0A3L7D5Q2
G	13	PHE	-	expression tag	UNP A0A3L7D5Q2
G	14	GLN	-	expression tag	UNP A0A3L7D5Q2
G	15	GLY	-	expression tag	UNP A0A3L7D5Q2
G	16	THR	-	expression tag	UNP A0A3L7D5Q2

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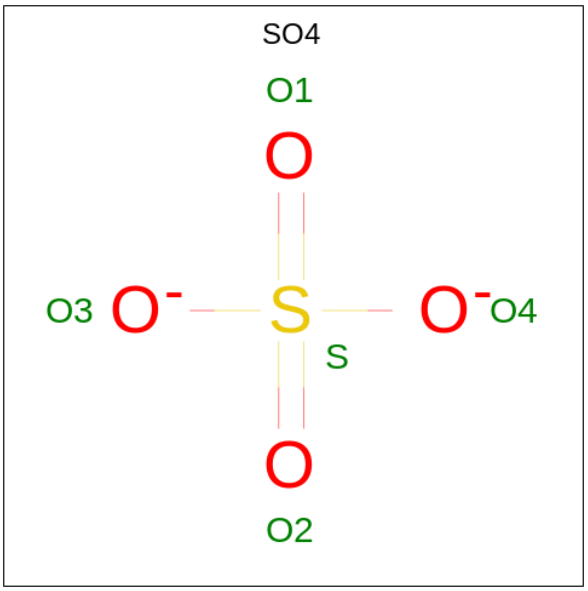
Chain	Residue	Modelled	Actual	Comment	Reference
G	332	SER	LEU	conflict	UNP A0A3L7D5Q2
H	-20	MET	-	initiating methionine	UNP A0A3L7D5Q2
H	-19	ALA	-	expression tag	UNP A0A3L7D5Q2
H	-18	SER	-	expression tag	UNP A0A3L7D5Q2
H	-17	TRP	-	expression tag	UNP A0A3L7D5Q2
H	-16	SER	-	expression tag	UNP A0A3L7D5Q2
H	-15	HIS	-	expression tag	UNP A0A3L7D5Q2
H	-14	PRO	-	expression tag	UNP A0A3L7D5Q2
H	-13	GLN	-	expression tag	UNP A0A3L7D5Q2
H	-12	PHE	-	expression tag	UNP A0A3L7D5Q2
H	-11	GLU	-	expression tag	UNP A0A3L7D5Q2
H	-10	LYS	-	expression tag	UNP A0A3L7D5Q2
H	-9	GLY	-	expression tag	UNP A0A3L7D5Q2
H	-8	SER	-	expression tag	UNP A0A3L7D5Q2
H	-7	SER	-	expression tag	UNP A0A3L7D5Q2
H	-6	HIS	-	expression tag	UNP A0A3L7D5Q2
H	-5	HIS	-	expression tag	UNP A0A3L7D5Q2
H	-4	HIS	-	expression tag	UNP A0A3L7D5Q2
H	-3	HIS	-	expression tag	UNP A0A3L7D5Q2
H	-2	HIS	-	expression tag	UNP A0A3L7D5Q2
H	-1	HIS	-	expression tag	UNP A0A3L7D5Q2
H	0	SER	-	expression tag	UNP A0A3L7D5Q2
H	1	SER	-	expression tag	UNP A0A3L7D5Q2
H	2	GLY	-	expression tag	UNP A0A3L7D5Q2
H	3	SER	-	expression tag	UNP A0A3L7D5Q2
H	4	GLY	-	expression tag	UNP A0A3L7D5Q2
H	5	GLY	-	expression tag	UNP A0A3L7D5Q2
H	6	GLY	-	expression tag	UNP A0A3L7D5Q2
H	7	GLY	-	expression tag	UNP A0A3L7D5Q2
H	8	GLY	-	expression tag	UNP A0A3L7D5Q2
H	9	GLU	-	expression tag	UNP A0A3L7D5Q2
H	10	ASN	-	expression tag	UNP A0A3L7D5Q2
H	11	LEU	-	expression tag	UNP A0A3L7D5Q2
H	12	TYR	-	expression tag	UNP A0A3L7D5Q2
H	13	PHE	-	expression tag	UNP A0A3L7D5Q2
H	14	GLN	-	expression tag	UNP A0A3L7D5Q2
H	15	GLY	-	expression tag	UNP A0A3L7D5Q2
H	16	THR	-	expression tag	UNP A0A3L7D5Q2
H	332	SER	LEU	conflict	UNP A0A3L7D5Q2

- Molecule 2 is SULFATE ION (three-letter code: SO4) (formula: O_4S) (labeled as "Ligand of Interest" by depositor).



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

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	B	1	Total O S 5 4 1	0	0
2	B	1	Total O S 5 4 1	0	0
2	B	1	Total O S 5 4 1	0	0
2	B	1	Total O S 5 4 1	0	0
2	B	1	Total O S 5 4 1	0	0
2	B	1	Total O S 5 4 1	0	0
2	C	1	Total O S 5 4 1	0	0
2	C	1	Total O S 5 4 1	0	0
2	C	1	Total O S 5 4 1	0	0
2	C	1	Total O S 5 4 1	0	0
2	C	1	Total O S 5 4 1	0	0
2	C	1	Total O S 5 4 1	0	0
2	C	1	Total O S 5 4 1	0	0
2	D	1	Total O S 5 4 1	0	0
2	D	1	Total O S 5 4 1	0	0
2	D	1	Total O S 5 4 1	0	0
2	D	1	Total O S 5 4 1	0	0
2	D	1	Total O S 5 4 1	0	0
2	D	1	Total O S 5 4 1	0	0
2	D	1	Total O S 5 4 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	E	1	Total O S 5 4 1	0	0
2	E	1	Total O S 5 4 1	0	0
2	E	1	Total O S 5 4 1	0	0
2	E	1	Total O S 5 4 1	0	0
2	E	1	Total O S 5 4 1	0	0
2	E	1	Total O S 5 4 1	0	0
2	E	1	Total O S 5 4 1	0	0
2	E	1	Total O S 5 4 1	0	0
2	E	1	Total O S 5 4 1	0	0
2	F	1	Total O S 5 4 1	0	0
2	F	1	Total O S 5 4 1	0	0
2	F	1	Total O S 5 4 1	0	0
2	F	1	Total O S 5 4 1	0	0
2	F	1	Total O S 5 4 1	0	0
2	F	1	Total O S 5 4 1	0	0
2	F	1	Total O S 5 4 1	0	0
2	G	1	Total O S 5 4 1	0	0
2	G	1	Total O S 5 4 1	0	0
2	G	1	Total O S 5 4 1	0	0
2	G	1	Total O S 5 4 1	0	0
2	G	1	Total O S 5 4 1	0	0

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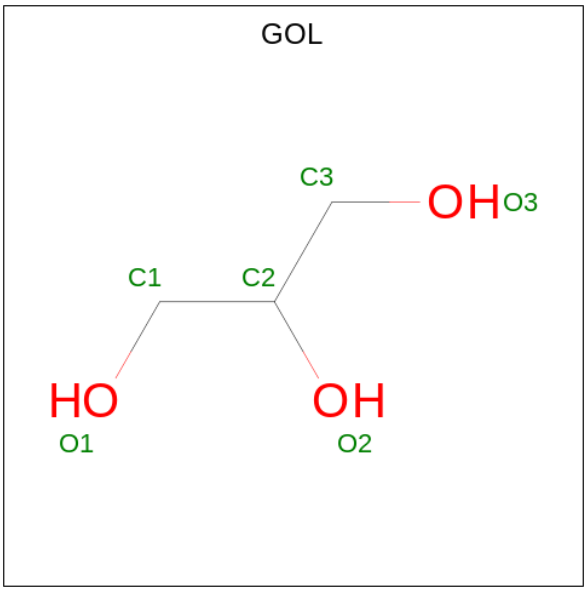
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	H	1	Total O S 5 4 1	0	0
2	H	1	Total O S 5 4 1	0	0
2	H	1	Total O S 5 4 1	0	0
2	H	1	Total O S 5 4 1	0	0
2	H	1	Total O S 5 4 1	0	0
2	H	1	Total O S 5 4 1	0	0
2	H	1	Total O S 5 4 1	0	0
2	H	1	Total O S 5 4 1	0	0
2	H	1	Total O S 5 4 1	0	0

- Molecule 3 is SODIUM ION (three-letter code: NA) (formula: Na) (labeled as "Ligand of Interest" by depositor).

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

- Molecule 4 is GLYCEROL (three-letter code: GOL) (formula: $C_3H_8O_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	A	1	Total	C	O	0	0
			6	3	3		
4	A	1	Total	C	O	0	0
			6	3	3		
4	A	1	Total	C	O	0	0
			6	3	3		
4	B	1	Total	C	O	0	0
			6	3	3		
4	B	1	Total	C	O	0	0
			6	3	3		
4	C	1	Total	C	O	0	0
			6	3	3		
4	C	1	Total	C	O	0	0
			6	3	3		
4	C	1	Total	C	O	0	0
			6	3	3		
4	C	1	Total	C	O	0	0
			6	3	3		
4	D	1	Total	C	O	0	0
			6	3	3		
4	D	1	Total	C	O	0	0
			6	3	3		
4	D	1	Total	C	O	0	0
			6	3	3		
4	D	1	Total	C	O	0	0
			6	3	3		
4	E	1	Total	C	O	0	0
			6	3	3		

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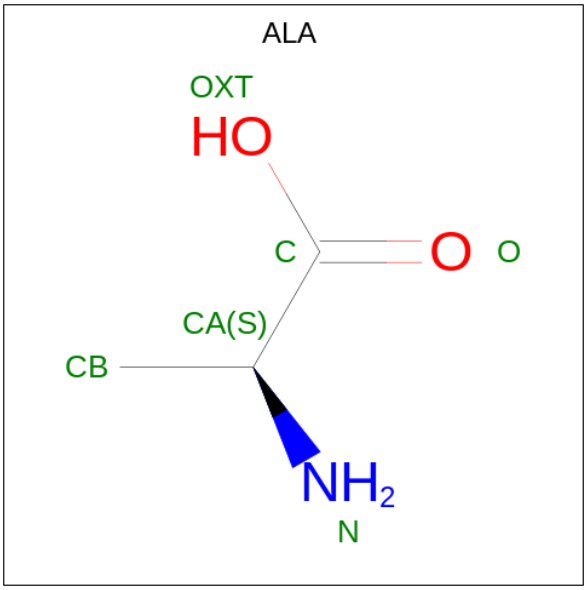
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	E	1	Total C O 6 3 3	0	0
4	E	1	Total C O 6 3 3	0	0
4	F	1	Total C O 6 3 3	0	0
4	F	1	Total C O 6 3 3	0	0
4	F	1	Total C O 6 3 3	0	0
4	F	1	Total C O 6 3 3	0	0
4	F	1	Total C O 6 3 3	0	0
4	G	1	Total C O 6 3 3	0	0
4	G	1	Total C O 6 3 3	0	0
4	H	1	Total C O 6 3 3	0	0

- Molecule 5 is ALANINE (three-letter code: ALA) (formula: $C_3H_7NO_2$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C N O 6 3 1 2	0	0

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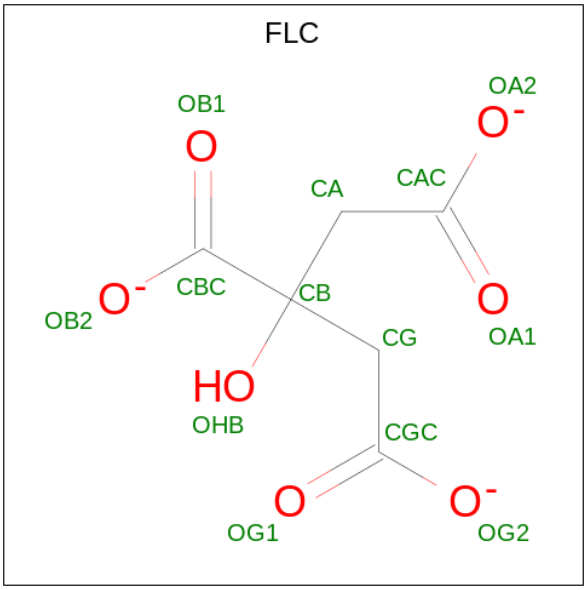
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	B	1	Total C N O 6 3 1 2	0	0
5	C	1	Total C N O 6 3 1 2	0	0
5	D	1	Total C N O 6 3 1 2	0	0
5	E	1	Total C N O 6 3 1 2	0	0
5	F	1	Total C N O 6 3 1 2	0	0
5	G	1	Total C N O 6 3 1 2	0	0
5	H	1	Total C N O 6 3 1 2	0	0

- Molecule 6 is CITRATE ANION (three-letter code: FLC) (formula: $C_6H_5O_7$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	1	Total C O 13 6 7	0	0
6	H	1	Total C O 13 6 7	0	0

- Molecule 7 is water.

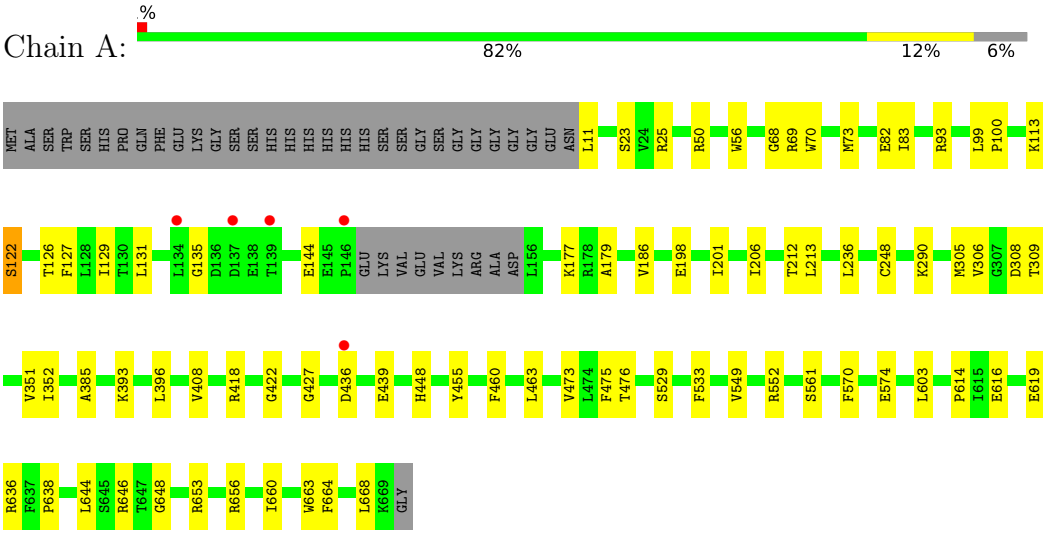
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	A	337	Total O 342 342	0	5
7	B	342	Total O 347 347	0	5
7	C	302	Total O 307 307	0	5
7	D	225	Total O 228 228	0	3
7	E	301	Total O 305 305	0	4
7	F	250	Total O 255 255	0	5
7	G	121	Total O 123 123	0	2
7	H	203	Total O 204 204	0	1

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.

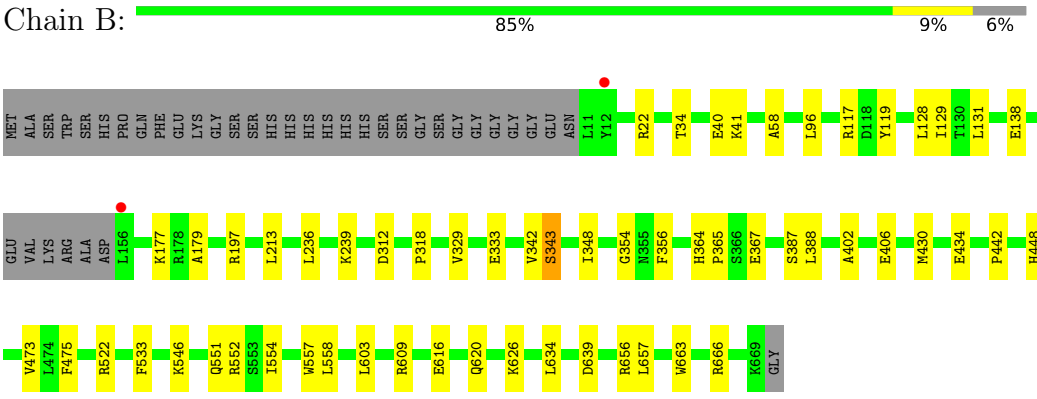
• Molecule 1: S9 family peptidase

Chain A:



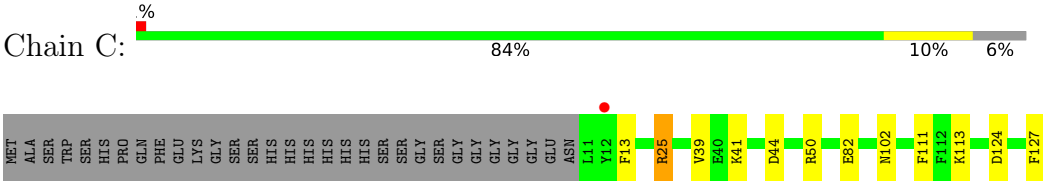
• Molecule 1: S9 family peptidase

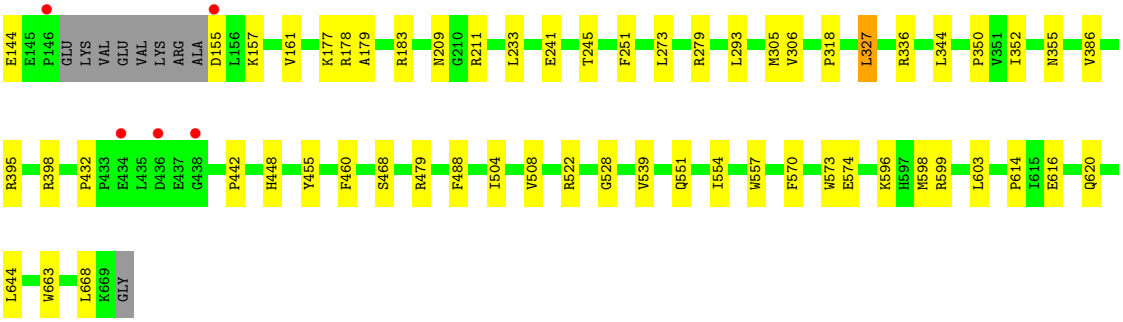
Chain B:



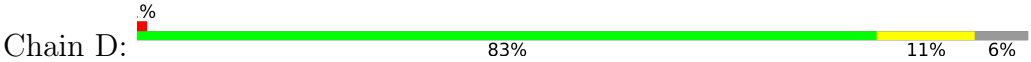
• Molecule 1: S9 family peptidase

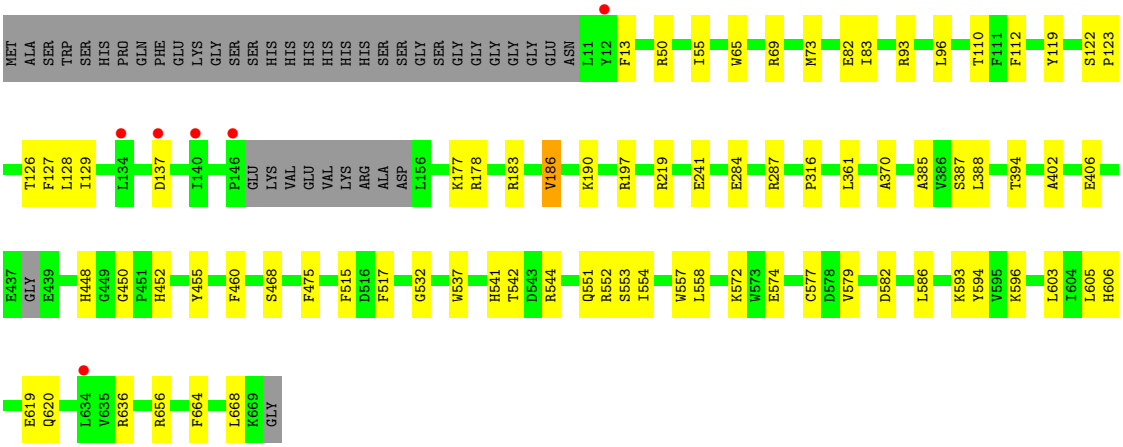
Chain C:



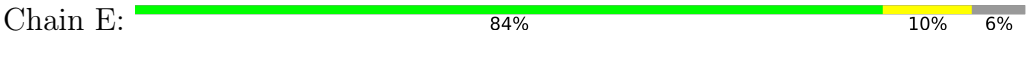


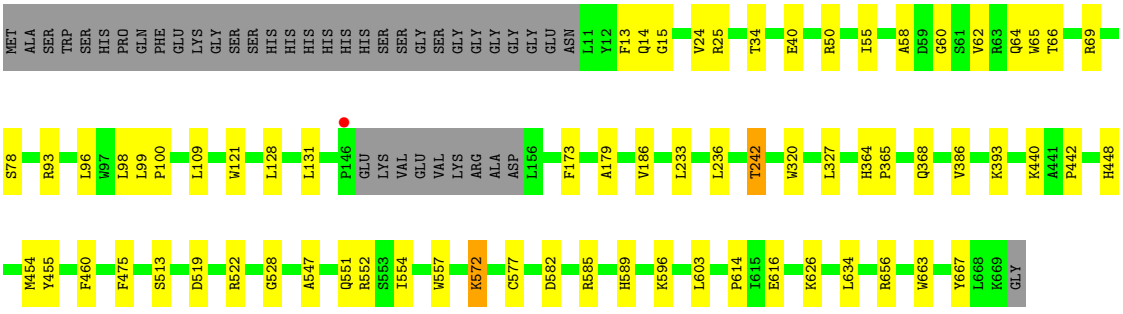
• Molecule 1: S9 family peptidase



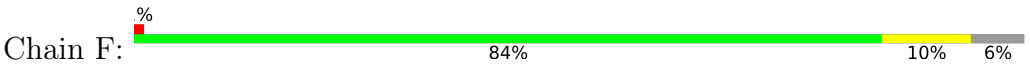


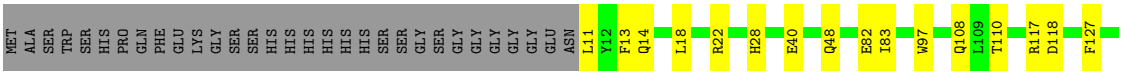
• Molecule 1: S9 family peptidase

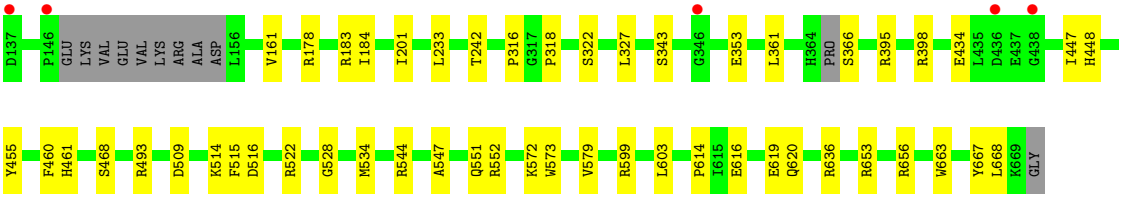




• Molecule 1: S9 family peptidase

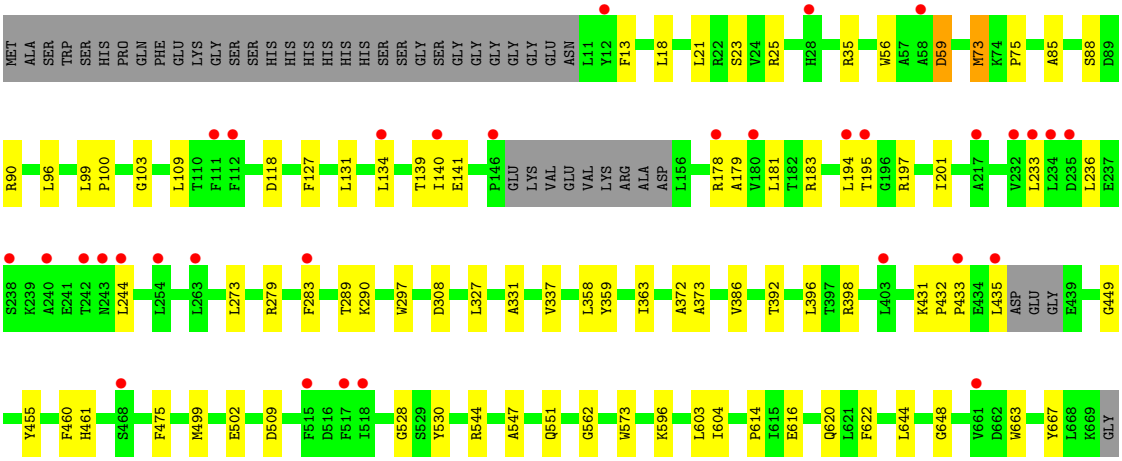






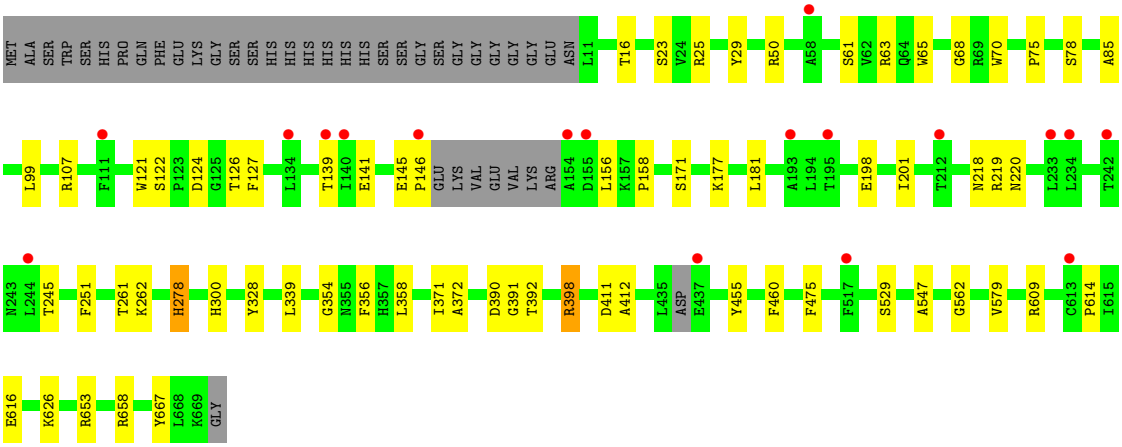
• Molecule 1: S9 family peptidase

Chain G:



• Molecule 1: S9 family peptidase

Chain H:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	194.12Å 75.44Å 219.74Å 90.00° 93.27° 90.00°	Depositor
Resolution (Å)	48.94 – 2.00 48.94 – 2.00	Depositor EDS
% Data completeness (in resolution range)	91.7 (48.94-2.00) 91.9 (48.94-2.00)	Depositor EDS
R_{merge}	0.11	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.52 (at 2.00Å)	Xtriage
Refinement program	PHENIX 1.20.1_4487	Depositor
R, R_{free}	0.212 , 0.256 0.213 , 0.256	Depositor DCC
R_{free} test set	19886 reflections (5.04%)	wwPDB-VP
Wilson B-factor (Å^2)	29.4	Xtriage
Anisotropy	0.395	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.36 , 46.5	EDS
L-test for twinning[2]	$< \|L\| > = 0.51$, $< L^2 > = 0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	42813	wwPDB-VP
Average B, all atoms (Å^2)	36.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 68.23 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 4.5178e-06. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

[1] Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: NA, GOL, SO4, FLC

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	0.43	0/5201	0.64	0/7069
1	B	0.42	0/5197	0.64	0/7062
1	C	0.43	0/5187	0.64	2/7052 (0.0%)
1	D	0.42	0/5165	0.62	0/7022
1	E	0.42	0/5161	0.63	0/7020
1	F	0.42	0/5146	0.64	0/6990
1	G	0.38	0/5037	0.59	0/6862
1	H	0.38	0/5118	0.60	0/6963
All	All	0.41	0/41212	0.62	2/56040 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	124	ASP	CB-CG-OD1	5.55	123.29	118.30
1	C	25	ARG	CA-CB-CG	-5.41	101.51	113.40

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	5067	0	4822	52	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	5063	0	4830	46	0
1	C	5053	0	4803	42	0
1	D	5032	0	4774	48	0
1	E	5027	0	4752	41	0
1	F	5014	0	4732	50	0
1	G	4904	0	4560	51	0
1	H	4985	0	4700	40	0
2	A	40	0	0	1	0
2	B	60	0	0	2	0
2	C	35	0	0	3	0
2	D	40	0	0	1	0
2	E	45	0	0	0	0
2	F	35	0	0	1	0
2	G	25	0	0	1	0
2	H	45	0	0	2	0
3	A	4	0	0	0	0
3	B	4	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
3	E	2	0	0	0	0
3	G	1	0	0	0	0
3	H	1	0	0	0	0
4	A	18	0	23	0	0
4	B	12	0	15	0	0
4	C	24	0	31	3	0
4	D	24	0	32	1	0
4	E	18	0	24	2	0
4	F	30	0	40	8	0
4	G	12	0	16	1	0
4	H	6	0	8	1	0
5	A	6	0	4	4	0
5	B	6	0	4	8	0
5	C	6	0	4	2	0
5	D	6	0	4	7	0
5	E	6	0	4	4	0
5	F	6	0	4	8	0
5	G	6	0	4	0	0
5	H	6	0	4	0	0
6	A	13	0	5	3	0
6	H	13	0	5	2	0
7	A	342	0	0	1	0
7	B	347	0	0	7	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
7	C	307	0	0	3	0
7	D	228	0	0	5	0
7	E	305	0	0	4	0
7	F	255	0	0	7	0
7	G	123	0	0	4	0
7	H	204	0	0	1	0
All	All	42813	0	38204	370	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 5.

The worst 5 of 370 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:B:552:ARG:HH11	5:B:719:ALA:HB2	1.30	0.96
1:D:552:ARG:HH11	5:D:714:ALA:HB2	1.33	0.94
1:F:552:ARG:HH11	5:F:713:ALA:HB2	1.39	0.84
1:H:139:THR:HG23	1:H:141:GLU:H	1.45	0.82
1:C:82:GLU:OE1	1:C:102:ASN:ND2	2.12	0.82

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	646/691 (94%)	623 (96%)	23 (4%)	0	100	100
1	B	646/691 (94%)	631 (98%)	15 (2%)	0	100	100
1	C	647/691 (94%)	631 (98%)	16 (2%)	0	100	100
1	D	643/691 (93%)	623 (97%)	20 (3%)	0	100	100
1	E	646/691 (94%)	631 (98%)	15 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	F	643/691 (93%)	627 (98%)	16 (2%)	0	100	100
1	G	641/691 (93%)	621 (97%)	20 (3%)	0	100	100
1	H	645/691 (93%)	620 (96%)	25 (4%)	0	100	100
All	All	5157/5528 (93%)	5007 (97%)	150 (3%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains (i)

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

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	509/568 (90%)	500 (98%)	9 (2%)	59	63
1	B	509/568 (90%)	504 (99%)	5 (1%)	76	81
1	C	507/568 (89%)	499 (98%)	8 (2%)	62	67
1	D	504/568 (89%)	494 (98%)	10 (2%)	55	58
1	E	505/568 (89%)	494 (98%)	11 (2%)	52	55
1	F	496/568 (87%)	487 (98%)	9 (2%)	59	63
1	G	469/568 (83%)	458 (98%)	11 (2%)	50	53
1	H	486/568 (86%)	475 (98%)	11 (2%)	50	53
All	All	3985/4544 (88%)	3911 (98%)	74 (2%)	57	61

5 of 74 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	G	118	ASP
1	H	460	PHE
1	G	327	LEU
1	H	50	ARG
1	D	93	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 7 such sidechains are listed below:

Mol	Chain	Res	Type
1	E	48	GLN
1	G	28	HIS
1	H	300	HIS
1	H	278	HIS
1	E	14	GLN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 113 ligands modelled in this entry, 14 are monoatomic - leaving 99 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	SO4	G	703	-	4,4,4	0.15	0	6,6,6	0.19	0
2	SO4	B	706	-	4,4,4	0.16	0	6,6,6	0.21	0
4	GOL	C	709	-	5,5,5	0.91	0	5,5,5	0.81	0
4	GOL	F	712	-	5,5,5	1.09	0	5,5,5	0.83	0
4	GOL	B	718	-	5,5,5	1.02	0	5,5,5	1.08	0
2	SO4	H	709	-	4,4,4	0.22	0	6,6,6	0.14	0
5	ALA	G	709	-	5,5,5	1.10	1 (20%)	6,6,6	1.65	2 (33%)
2	SO4	G	704	-	4,4,4	0.13	0	6,6,6	0.21	0
2	SO4	A	702	3	4,4,4	0.14	0	6,6,6	0.49	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
4	GOL	G	707	-	5,5,5	0.59	0	5,5,5	1.42	1 (20%)
5	ALA	E	715	-	5,5,5	1.73	1 (20%)	6,6,6	1.07	1 (16%)
2	SO4	C	707	-	4,4,4	0.14	0	6,6,6	0.28	0
6	FLC	A	717	-	12,12,12	2.06	5 (41%)	17,17,17	2.52	7 (41%)
2	SO4	H	707	-	4,4,4	0.19	0	6,6,6	0.14	0
4	GOL	D	710	-	5,5,5	0.97	0	5,5,5	1.15	1 (20%)
2	SO4	G	701	-	4,4,4	0.15	0	6,6,6	0.50	0
2	SO4	A	708	-	4,4,4	0.11	0	6,6,6	0.27	0
2	SO4	C	701	-	4,4,4	0.13	0	6,6,6	0.19	0
2	SO4	G	702	-	4,4,4	0.18	0	6,6,6	0.17	0
2	SO4	A	706	-	4,4,4	0.15	0	6,6,6	0.36	0
4	GOL	E	713	-	5,5,5	0.63	0	5,5,5	1.10	0
2	SO4	C	706	-	4,4,4	0.16	0	6,6,6	0.23	0
2	SO4	B	710	-	4,4,4	0.18	0	6,6,6	0.21	0
2	SO4	C	705	-	4,4,4	0.15	0	6,6,6	0.09	0
4	GOL	C	710	-	5,5,5	1.28	1 (20%)	5,5,5	1.10	0
2	SO4	D	707	-	4,4,4	0.28	0	6,6,6	0.28	0
2	SO4	H	708	-	4,4,4	0.11	0	6,6,6	0.18	0
2	SO4	D	701	-	4,4,4	0.22	0	6,6,6	0.21	0
2	SO4	B	711	-	4,4,4	0.17	0	6,6,6	0.14	0
2	SO4	H	704	-	4,4,4	0.14	0	6,6,6	0.15	0
4	GOL	E	712	-	5,5,5	0.82	0	5,5,5	1.21	0
2	SO4	E	709	-	4,4,4	0.28	0	6,6,6	0.30	0
5	ALA	A	716	3	5,5,5	1.94	2 (40%)	6,6,6	1.60	1 (16%)
2	SO4	E	707	-	4,4,4	0.13	0	6,6,6	0.28	0
2	SO4	E	702	-	4,4,4	0.15	0	6,6,6	0.32	0
2	SO4	A	704	-	4,4,4	0.20	0	6,6,6	0.27	0
2	SO4	F	704	-	4,4,4	0.16	0	6,6,6	0.27	0
5	ALA	B	719	-	5,5,5	1.53	2 (40%)	6,6,6	1.64	2 (33%)
2	SO4	H	703	-	4,4,4	0.15	0	6,6,6	0.21	0
2	SO4	D	705	-	4,4,4	0.27	0	6,6,6	0.24	0
2	SO4	E	703	-	4,4,4	0.17	0	6,6,6	0.27	0
2	SO4	H	702	-	4,4,4	0.18	0	6,6,6	0.31	0
2	SO4	B	704	-	4,4,4	0.23	0	6,6,6	0.14	0
2	SO4	B	702	-	4,4,4	0.14	0	6,6,6	0.28	0
2	SO4	F	702	-	4,4,4	0.11	0	6,6,6	0.46	0
2	SO4	E	708	-	4,4,4	0.13	0	6,6,6	0.57	0
4	GOL	F	711	-	5,5,5	0.81	0	5,5,5	1.08	0
2	SO4	B	712	-	4,4,4	0.14	0	6,6,6	0.12	0
2	SO4	B	709	3	4,4,4	0.13	0	6,6,6	0.29	0
2	SO4	B	708	-	4,4,4	0.16	0	6,6,6	0.07	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
4	GOL	G	708	-	5,5,5	0.82	0	5,5,5	1.13	0
5	ALA	C	713	-	5,5,5	1.39	1 (20%)	6,6,6	1.55	2 (33%)
2	SO4	B	703	-	4,4,4	0.18	0	6,6,6	0.31	0
2	SO4	D	702	-	4,4,4	0.13	0	6,6,6	0.30	0
4	GOL	E	714	-	5,5,5	0.75	0	5,5,5	0.98	0
4	GOL	F	709	-	5,5,5	0.96	0	5,5,5	0.97	0
2	SO4	E	704	-	4,4,4	0.23	0	6,6,6	0.35	0
2	SO4	G	705	-	4,4,4	0.17	0	6,6,6	0.21	0
5	ALA	F	713	-	5,5,5	1.68	2 (40%)	6,6,6	1.48	2 (33%)
2	SO4	D	708	-	4,4,4	0.13	0	6,6,6	0.20	0
6	FLC	H	713	-	12,12,12	1.95	6 (50%)	17,17,17	2.36	6 (35%)
4	GOL	D	713	-	5,5,5	0.96	0	5,5,5	0.93	0
2	SO4	F	705	-	4,4,4	0.19	0	6,6,6	0.22	0
4	GOL	B	717	-	5,5,5	1.21	1 (20%)	5,5,5	1.13	1 (20%)
2	SO4	H	701	-	4,4,4	0.14	0	6,6,6	0.31	0
2	SO4	C	704	-	4,4,4	0.12	0	6,6,6	0.18	0
2	SO4	F	707	-	4,4,4	0.20	0	6,6,6	0.13	0
2	SO4	D	704	-	4,4,4	0.19	0	6,6,6	0.19	0
2	SO4	E	706	-	4,4,4	0.16	0	6,6,6	0.10	0
2	SO4	H	705	-	4,4,4	0.31	0	6,6,6	0.17	0
2	SO4	E	701	-	4,4,4	0.18	0	6,6,6	0.35	0
2	SO4	C	703	-	4,4,4	0.24	0	6,6,6	0.18	0
2	SO4	B	701	-	4,4,4	0.15	0	6,6,6	0.12	0
2	SO4	F	701	-	4,4,4	0.20	0	6,6,6	0.31	0
2	SO4	D	703	-	4,4,4	0.24	0	6,6,6	0.27	0
4	GOL	D	712	-	5,5,5	0.87	0	5,5,5	0.97	0
2	SO4	F	706	-	4,4,4	0.29	0	6,6,6	0.13	0
4	GOL	A	714	-	5,5,5	0.88	0	5,5,5	1.15	1 (20%)
2	SO4	A	703	-	4,4,4	0.11	0	6,6,6	0.27	0
4	GOL	C	712	-	5,5,5	0.85	0	5,5,5	1.03	0
2	SO4	A	707	-	4,4,4	0.13	0	6,6,6	0.31	0
2	SO4	H	706	-	4,4,4	0.12	0	6,6,6	0.19	0
2	SO4	C	702	-	4,4,4	0.15	0	6,6,6	0.34	0
4	GOL	F	708	-	5,5,5	0.98	0	5,5,5	0.94	0
4	GOL	H	711	-	5,5,5	0.77	0	5,5,5	1.10	0
2	SO4	A	701	-	4,4,4	0.34	0	6,6,6	0.27	0
4	GOL	A	713	-	5,5,5	1.36	1 (20%)	5,5,5	0.73	0
5	ALA	D	714	-	5,5,5	2.05	2 (40%)	6,6,6	1.34	2 (33%)
2	SO4	F	703	3	4,4,4	0.17	0	6,6,6	0.16	0
5	ALA	H	712	-	5,5,5	1.32	1 (20%)	6,6,6	1.10	1 (16%)
2	SO4	E	705	-	4,4,4	0.15	0	6,6,6	0.42	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
2	SO4	A	705	-	4,4,4	0.18	0	6,6,6	0.31	0
2	SO4	D	706	-	4,4,4	0.24	0	6,6,6	0.32	0
4	GOL	D	711	-	5,5,5	1.05	0	5,5,5	1.19	0
2	SO4	B	707	-	4,4,4	0.18	0	6,6,6	0.23	0
4	GOL	F	710	-	5,5,5	1.00	0	5,5,5	0.99	0
4	GOL	A	715	-	5,5,5	1.20	1 (20%)	5,5,5	1.02	0
4	GOL	C	711	-	5,5,5	0.96	0	5,5,5	0.89	0
2	SO4	B	705	-	4,4,4	0.15	0	6,6,6	0.25	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	GOL	C	710	-	-	2/4/4/4	-
4	GOL	D	712	-	-	2/4/4/4	-
4	GOL	A	714	-	-	4/4/4/4	-
4	GOL	C	709	-	-	3/4/4/4	-
4	GOL	G	708	-	-	4/4/4/4	-
4	GOL	F	712	-	-	0/4/4/4	-
4	GOL	B	718	-	-	0/4/4/4	-
4	GOL	C	712	-	-	2/4/4/4	-
5	ALA	C	713	-	-	4/4/4/4	-
5	ALA	G	709	-	-	4/4/4/4	-
4	GOL	F	708	-	-	4/4/4/4	-
4	GOL	H	711	-	-	4/4/4/4	-
4	GOL	E	712	-	-	3/4/4/4	-
4	GOL	G	707	-	-	4/4/4/4	-
4	GOL	E	714	-	-	4/4/4/4	-
5	ALA	A	716	3	-	0/4/4/4	-
5	ALA	E	715	-	-	4/4/4/4	-
4	GOL	A	713	-	-	0/4/4/4	-
4	GOL	F	709	-	-	4/4/4/4	-
5	ALA	D	714	-	-	3/4/4/4	-
5	ALA	B	719	-	-	0/4/4/4	-
5	ALA	F	713	-	-	3/4/4/4	-
6	FLC	A	717	-	-	8/16/16/16	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	FLC	H	713	-	-	9/16/16/16	-
4	GOL	D	713	-	-	2/4/4/4	-
5	ALA	H	712	-	-	2/4/4/4	-
4	GOL	B	717	-	-	2/4/4/4	-
4	GOL	D	710	-	-	2/4/4/4	-
4	GOL	D	711	-	-	2/4/4/4	-
4	GOL	F	710	-	-	4/4/4/4	-
4	GOL	A	715	-	-	4/4/4/4	-
4	GOL	C	711	-	-	3/4/4/4	-
4	GOL	E	713	-	-	2/4/4/4	-
4	GOL	F	711	-	-	2/4/4/4	-

The worst 5 of 27 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	A	717	FLC	OA1-CAC	3.30	1.33	1.22
5	D	714	ALA	CA-C	-3.29	1.50	1.54
6	A	717	FLC	CA-CB	3.13	1.57	1.53
6	H	713	FLC	OA1-CAC	3.06	1.32	1.22
6	A	717	FLC	OB1-CBC	2.98	1.31	1.22

The worst 5 of 30 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	A	717	FLC	OB1-CBC-CB	-6.06	113.67	122.25
6	H	713	FLC	OB1-CBC-CB	-6.00	113.76	122.25
6	H	713	FLC	OB2-CBC-CB	5.39	122.41	113.05
6	A	717	FLC	OB2-CBC-CB	5.01	121.75	113.05
5	G	709	ALA	OXT-C-O	-3.34	116.50	124.09

There are no chirality outliers.

5 of 100 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	715	GOL	O1-C1-C2-C3
4	A	715	GOL	C1-C2-C3-O3
4	B	717	GOL	O1-C1-C2-C3
4	C	710	GOL	O1-C1-C2-C3
4	C	712	GOL	O1-C1-C2-C3

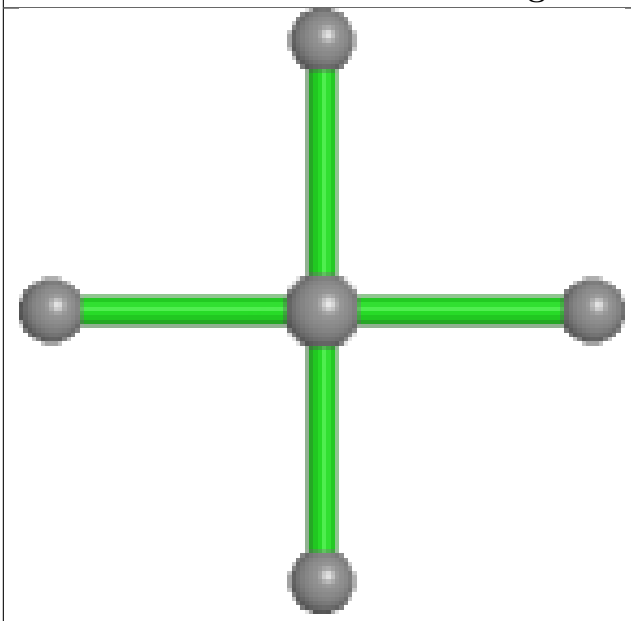
There are no ring outliers.

28 monomers are involved in 64 short contacts:

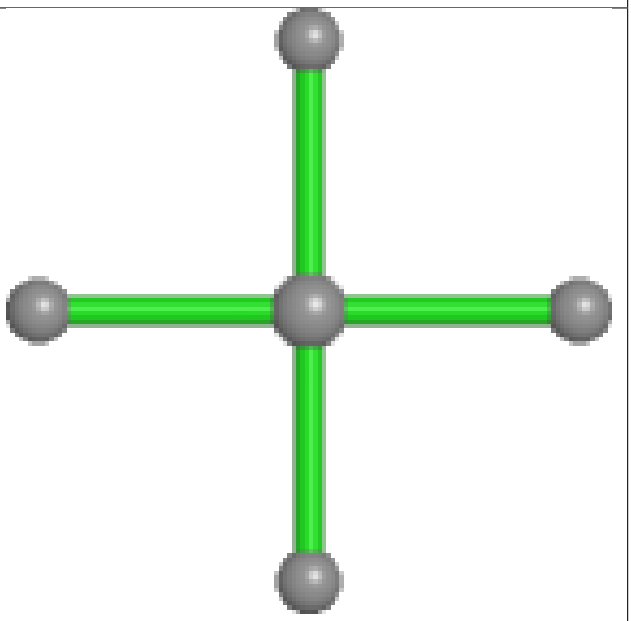
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	C	709	GOL	1	0
4	F	712	GOL	3	0
2	G	704	SO4	1	0
4	G	707	GOL	1	0
5	E	715	ALA	4	0
2	C	707	SO4	2	0
6	A	717	FLC	3	0
2	H	707	SO4	1	0
2	C	701	SO4	1	0
2	H	708	SO4	1	0
4	E	712	GOL	2	0
5	A	716	ALA	4	0
5	B	719	ALA	8	0
4	F	711	GOL	2	0
2	B	709	SO4	1	0
5	C	713	ALA	2	0
2	B	703	SO4	1	0
5	F	713	ALA	8	0
6	H	713	FLC	2	0
4	D	712	GOL	1	0
2	F	706	SO4	1	0
4	F	708	GOL	2	0
4	H	711	GOL	1	0
2	A	701	SO4	1	0
5	D	714	ALA	7	0
2	D	706	SO4	1	0
4	F	710	GOL	1	0
4	C	711	GOL	2	0

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

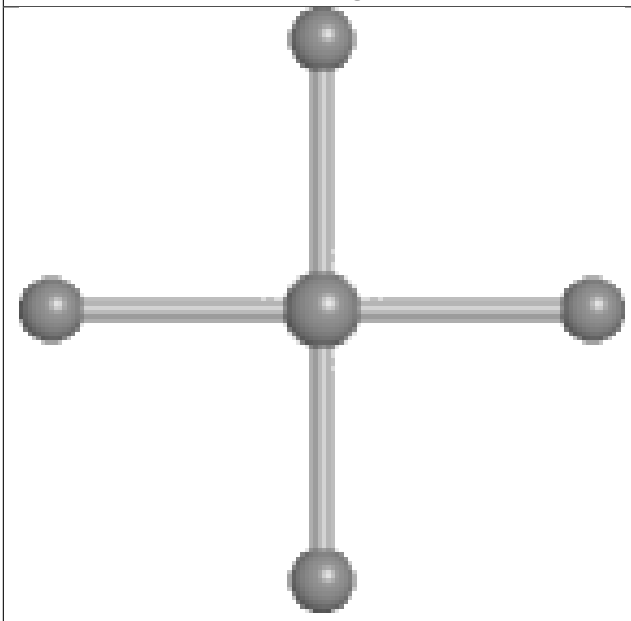
Ligand SO4 G 703



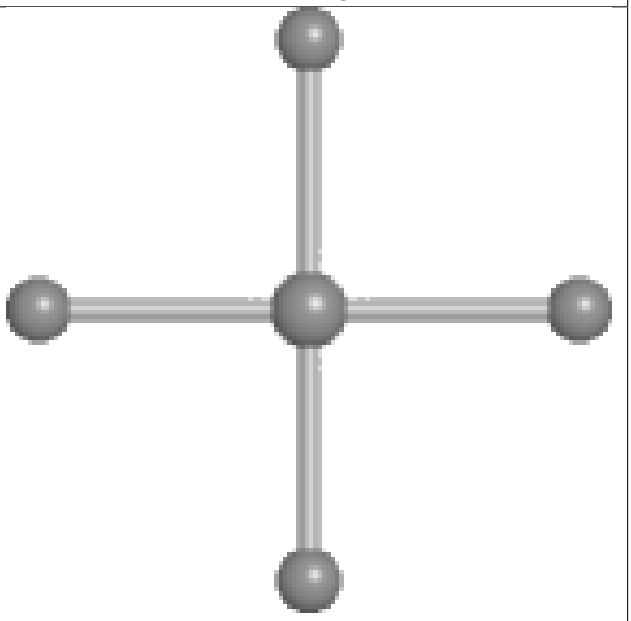
Bond lengths



Bond angles

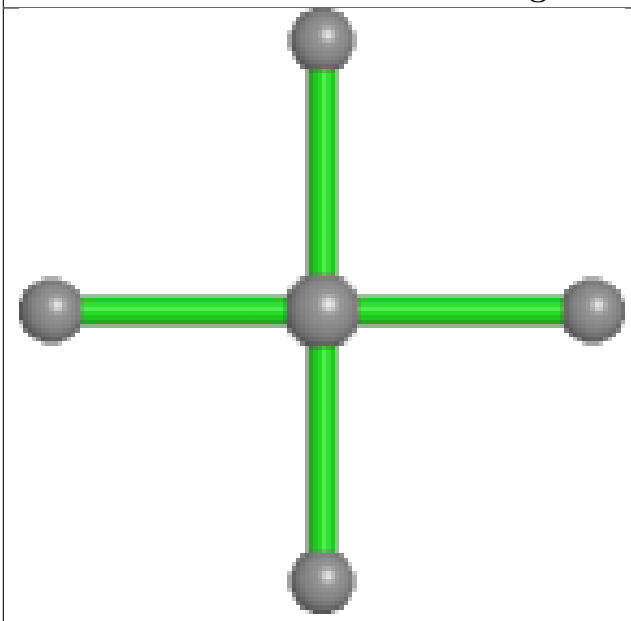


Torsions



Rings

Ligand SO4 B 706



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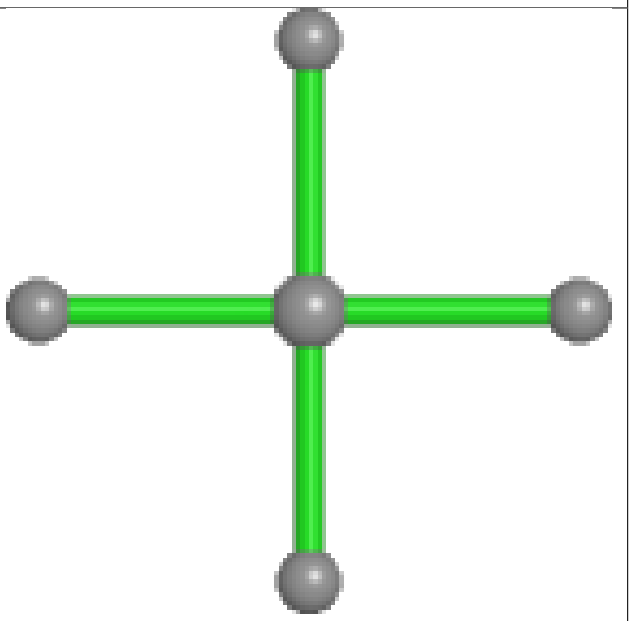
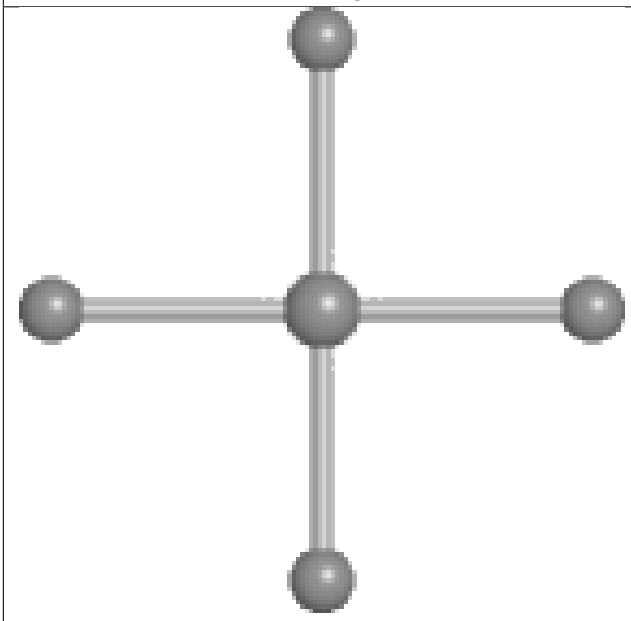
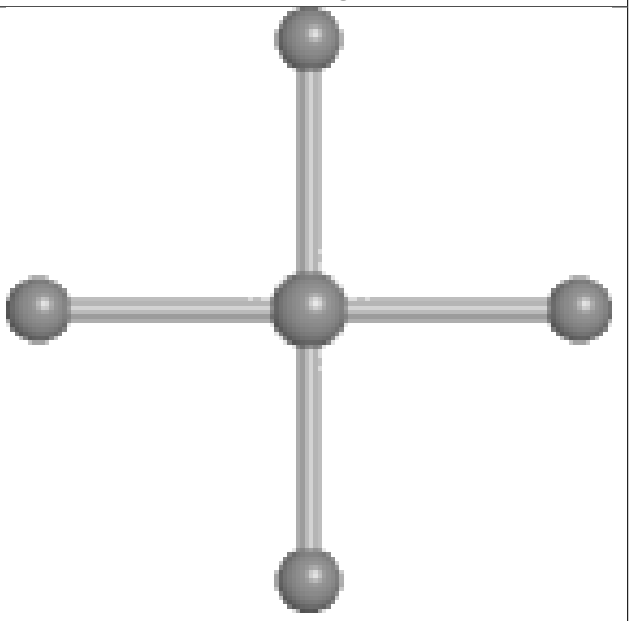


Bond angles

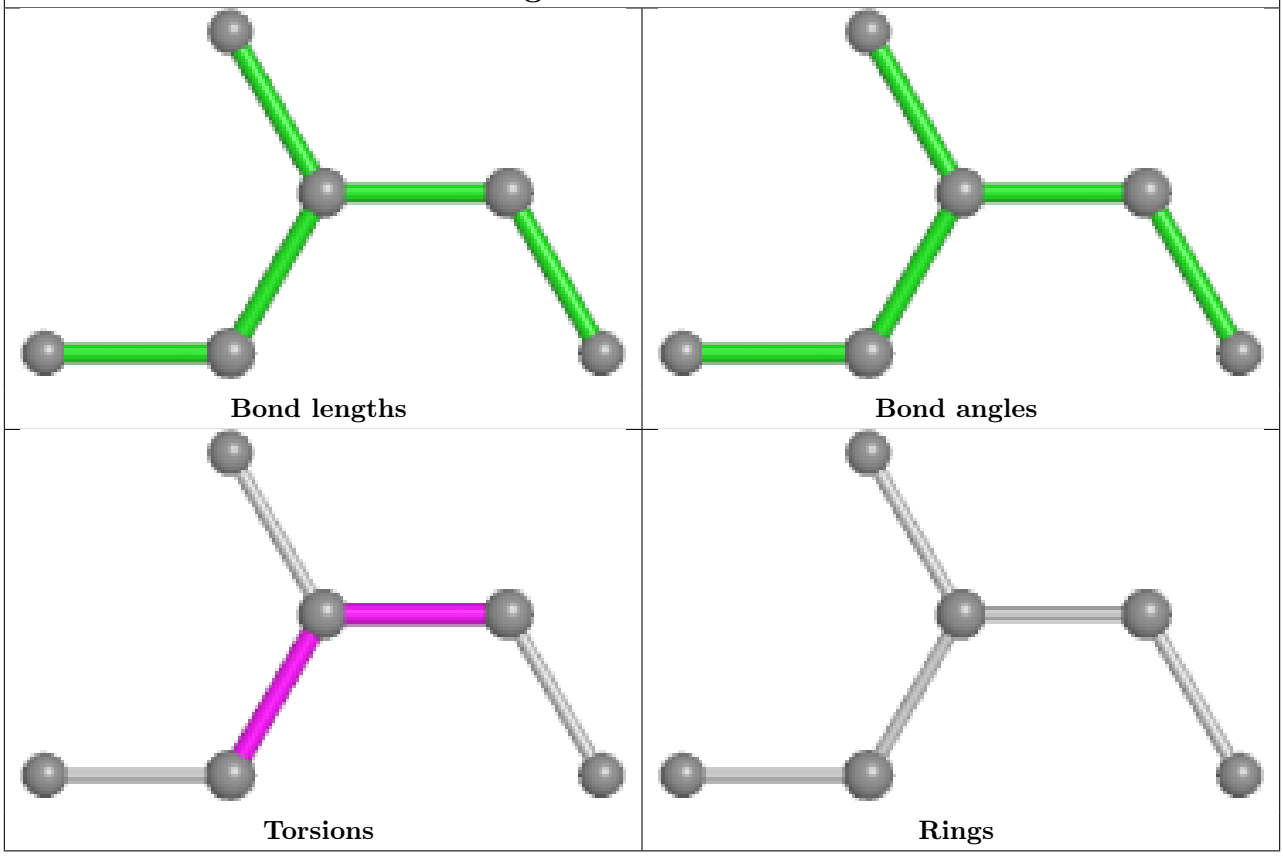


Torsions

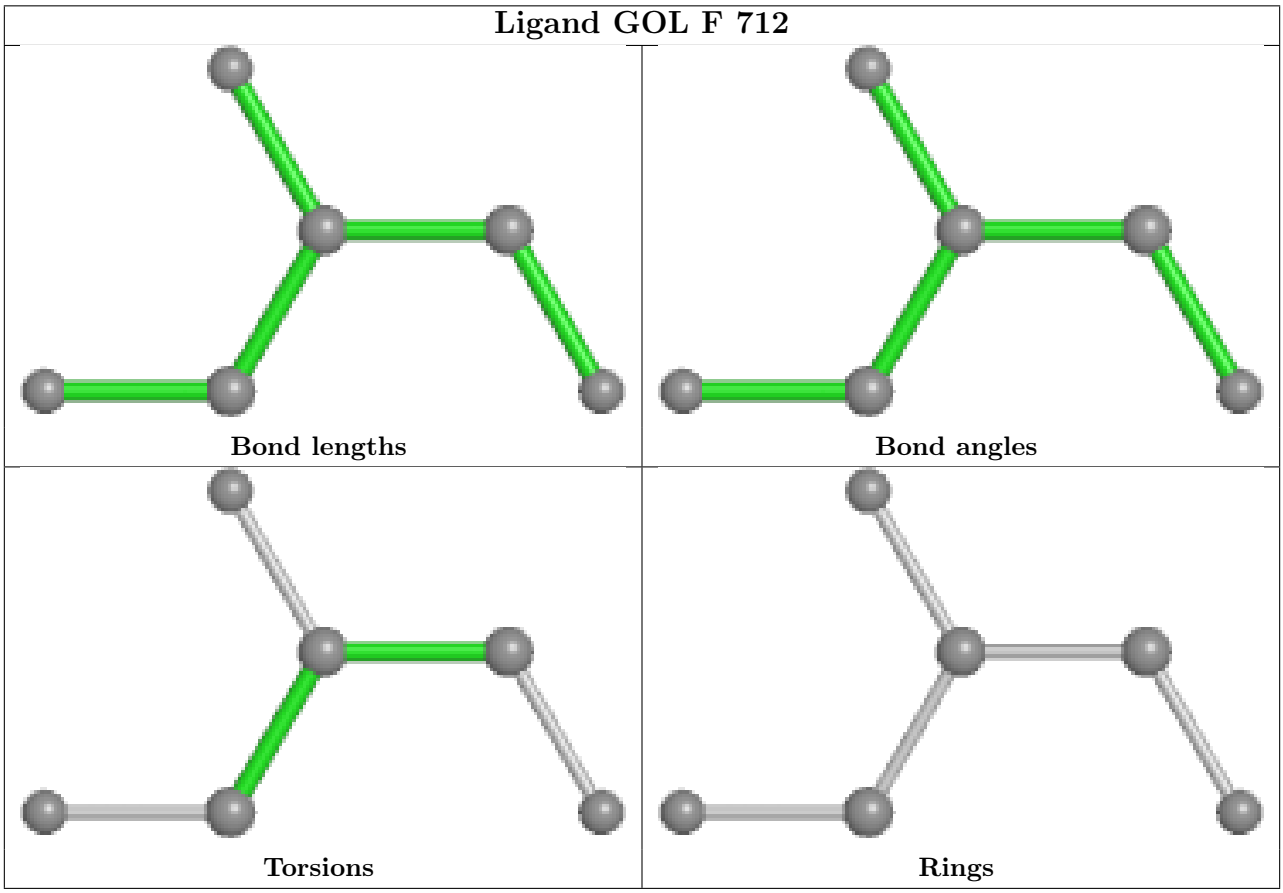


Rings

Ligand GOL C 709



Ligand GOL F 712



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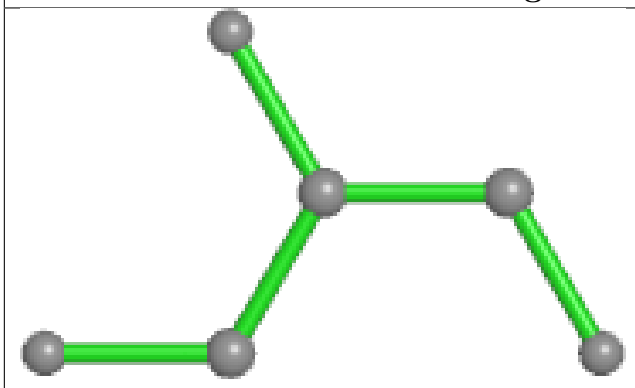
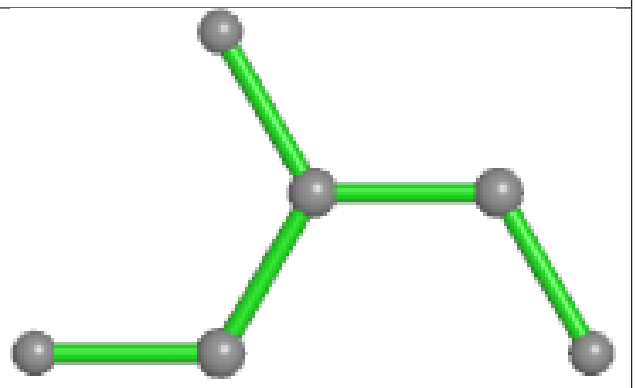
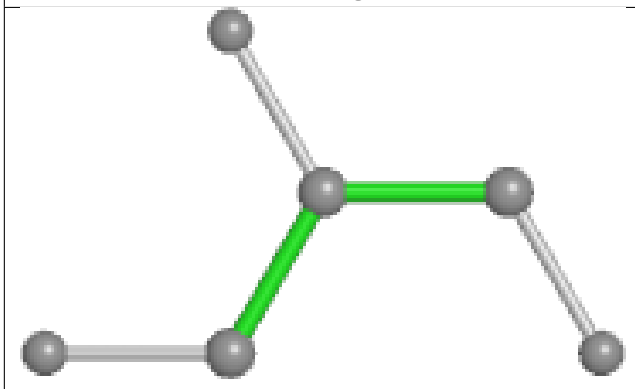


Bond lengths



Bond angles



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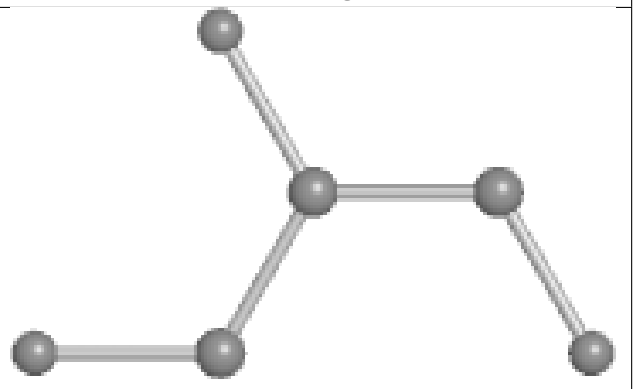
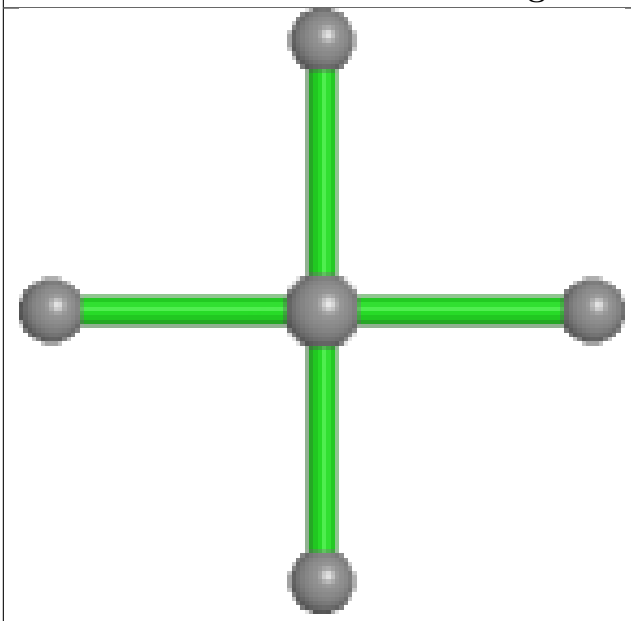
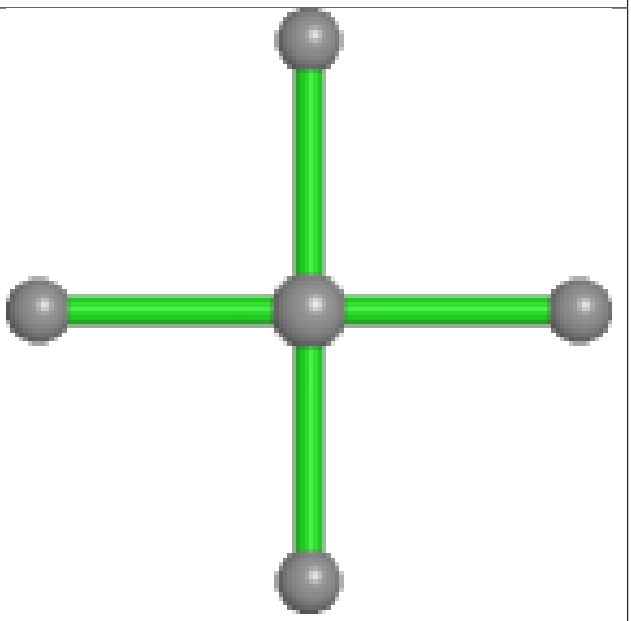


Rings

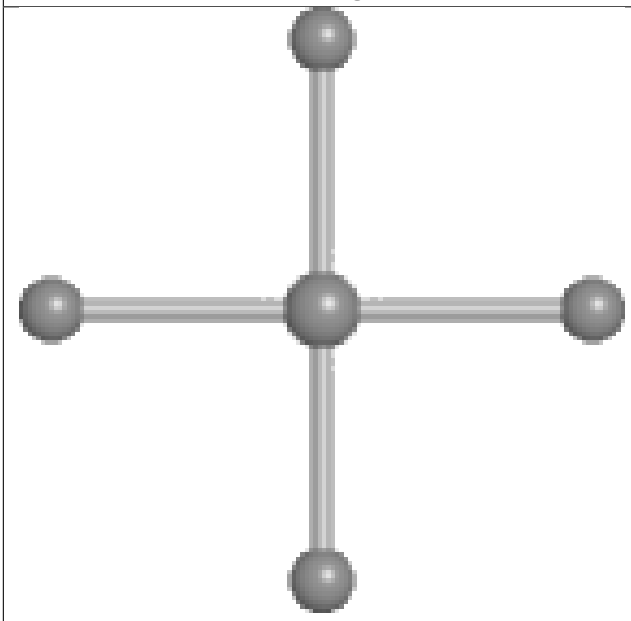
Ligand SO4 H 709



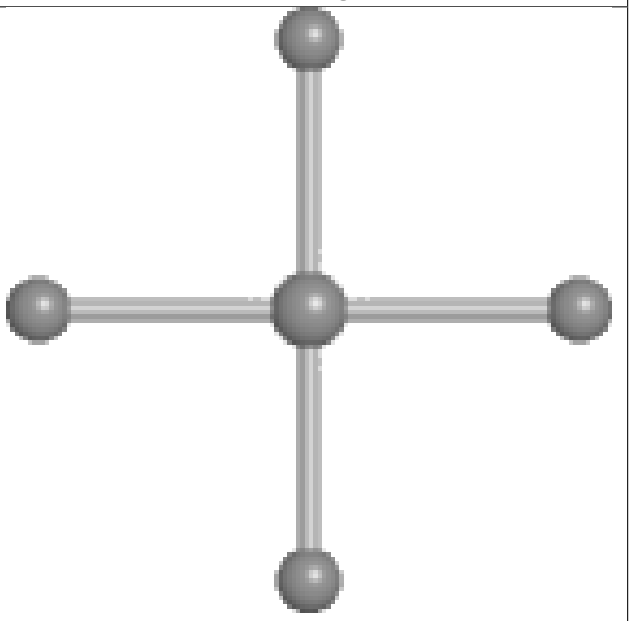
Bond lengths



Bond angles

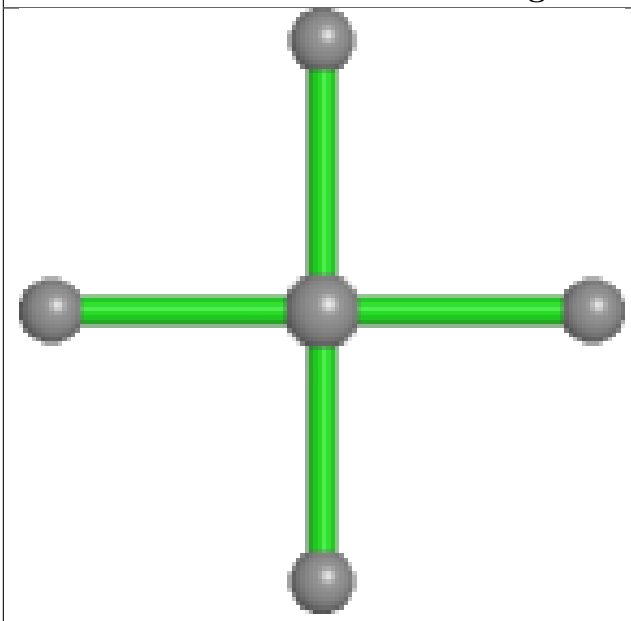


Torsions

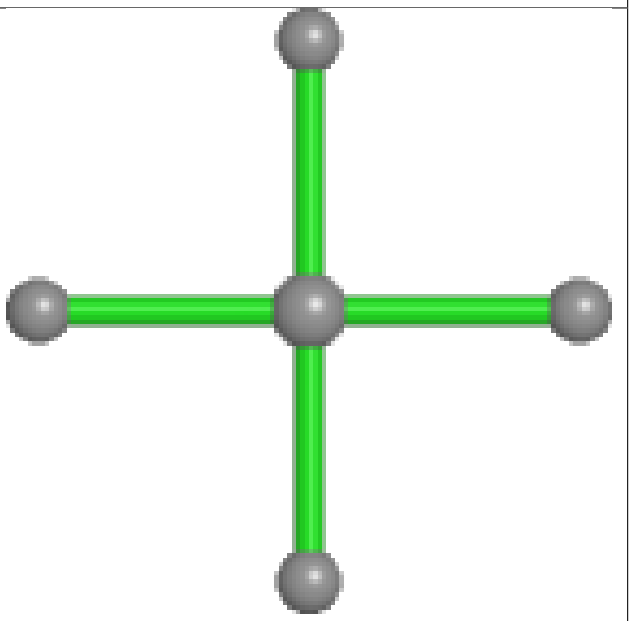


Rings

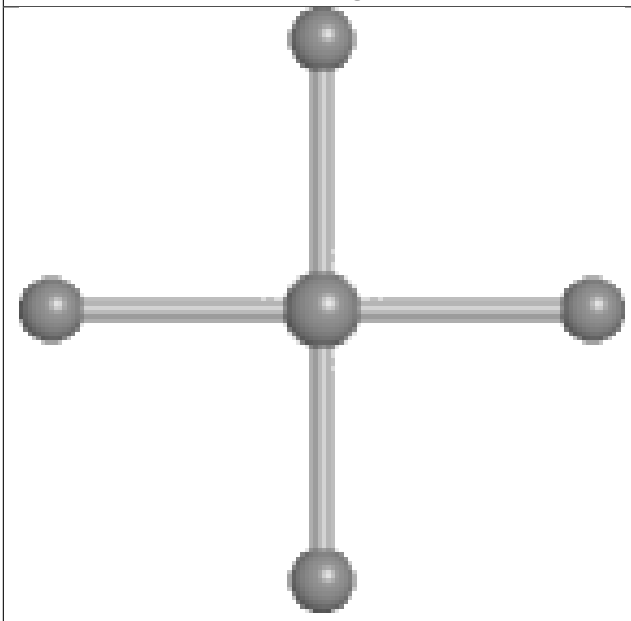
Ligand SO4 G 704



Bond lengths



Bond angles



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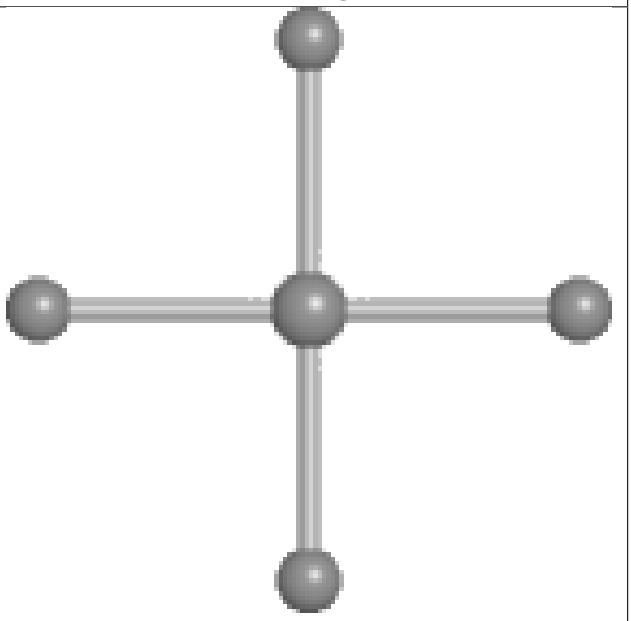
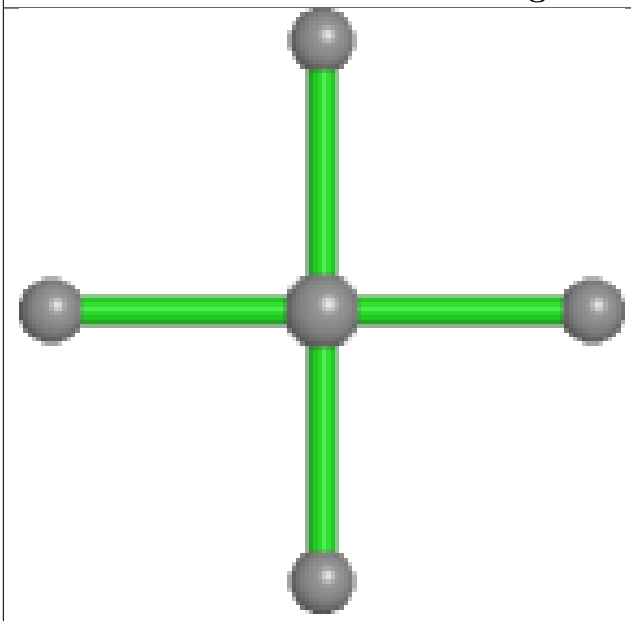


Rings

Ligand SO4 A 702



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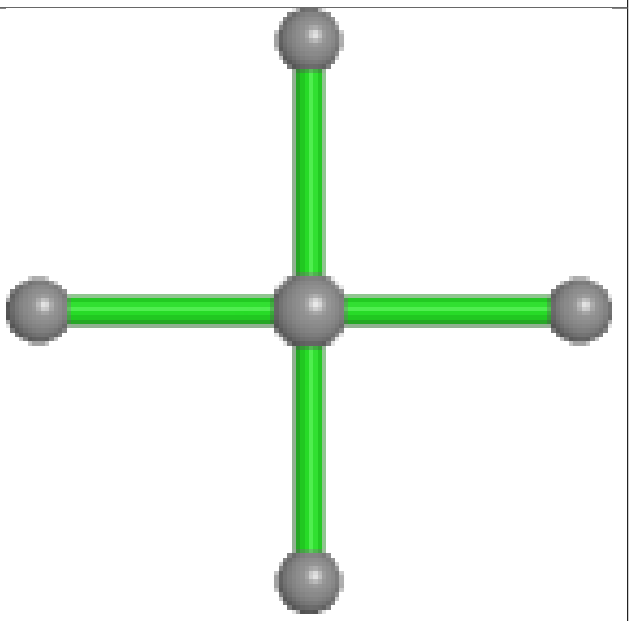
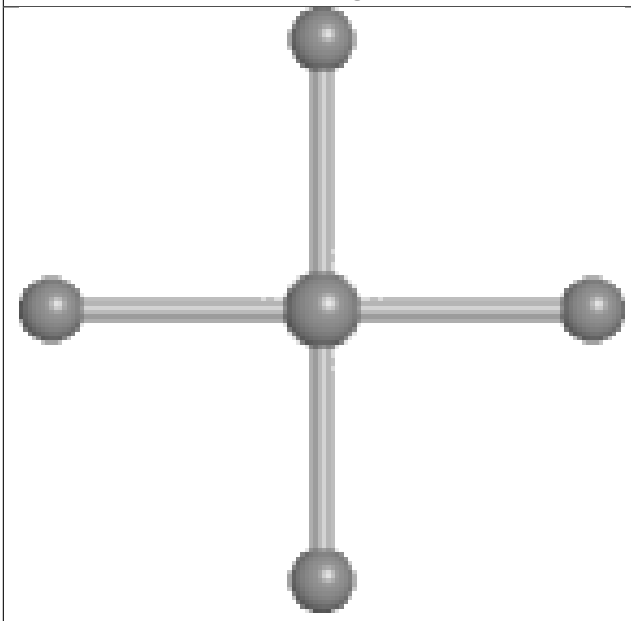


Bond angles



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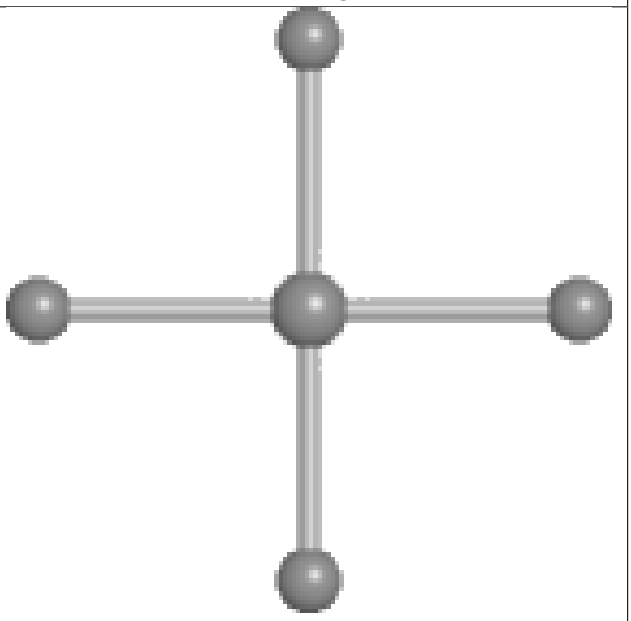
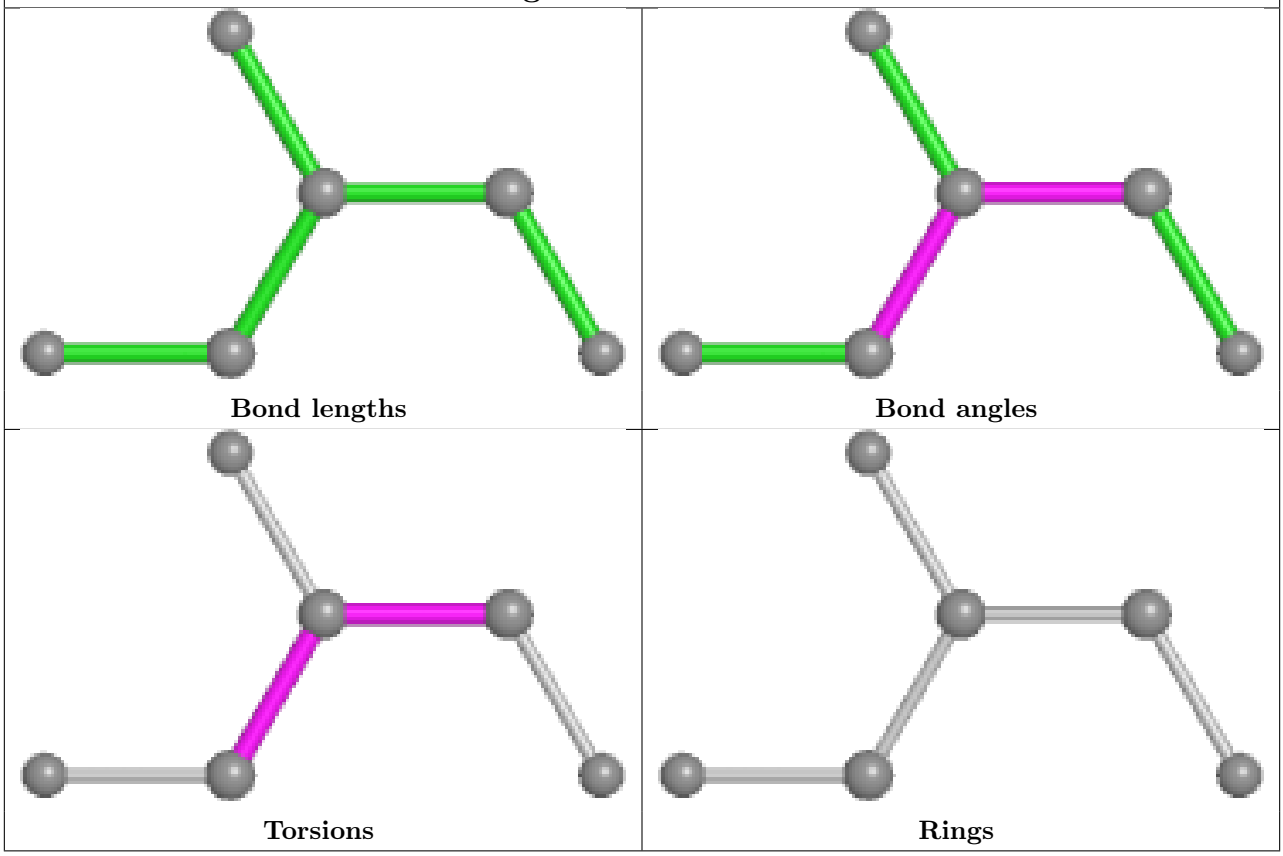
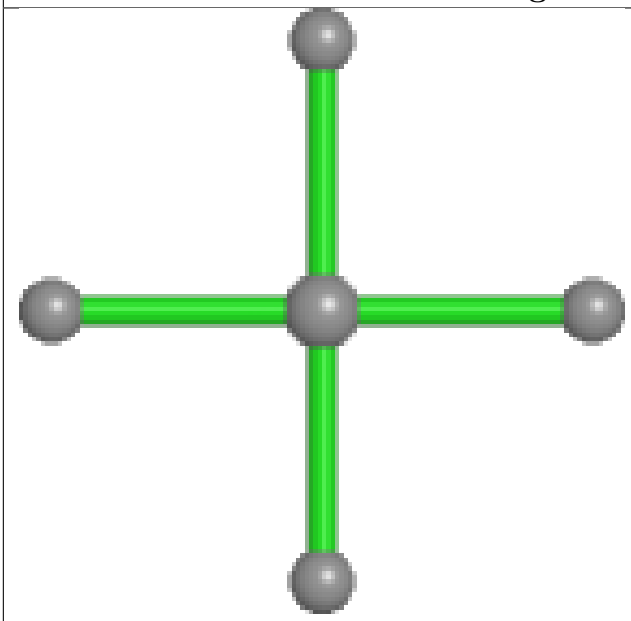


Rings

Ligand GOL G 707



Ligand SO4 C 707



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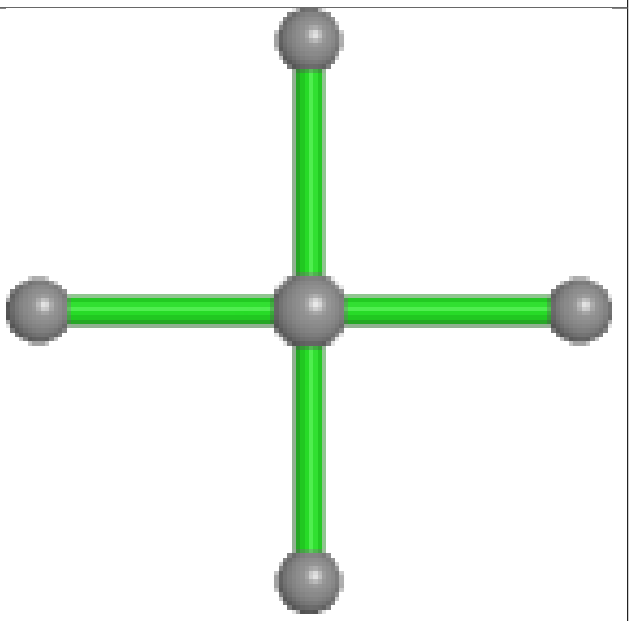
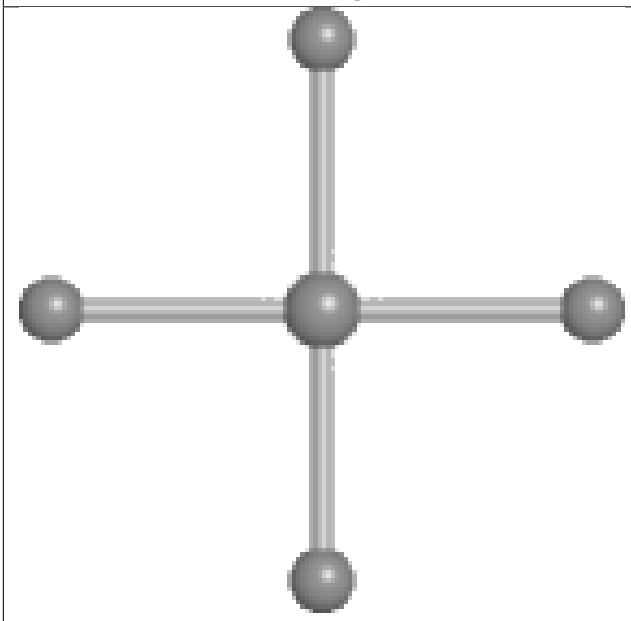


Bond angles



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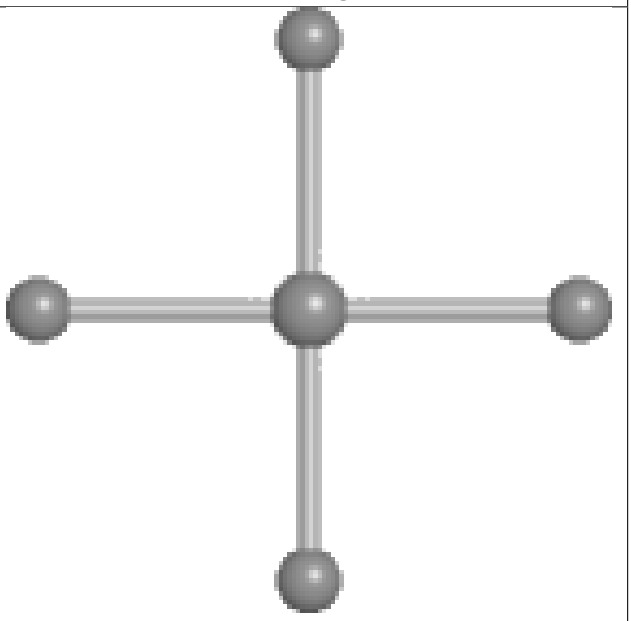
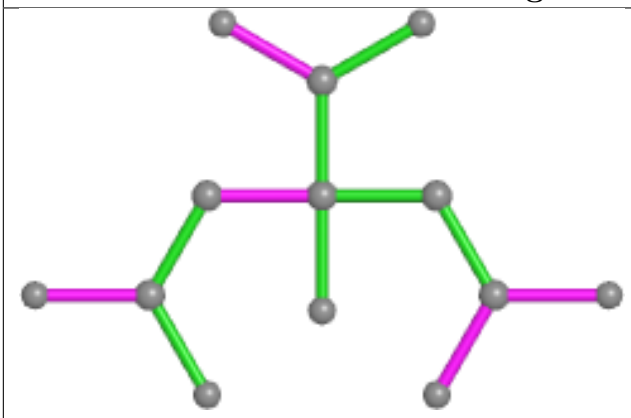


Rings

Ligand FLC A 717



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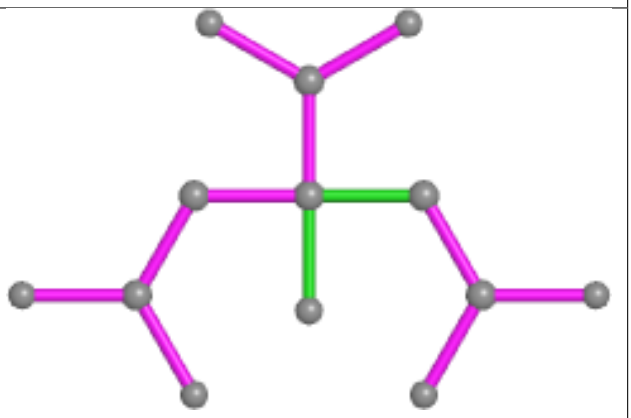
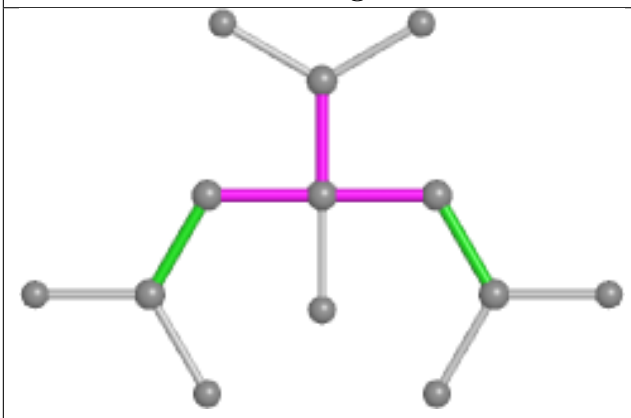


Bond angles



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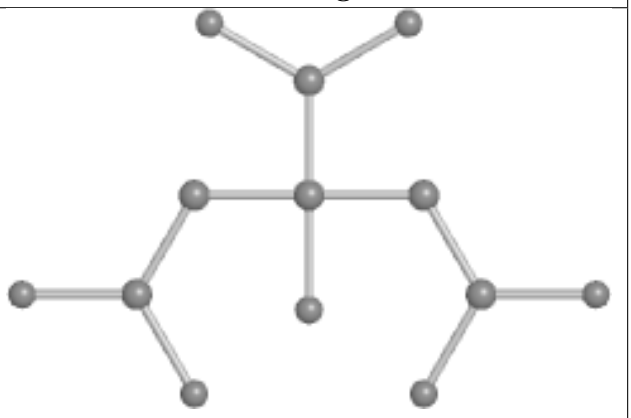
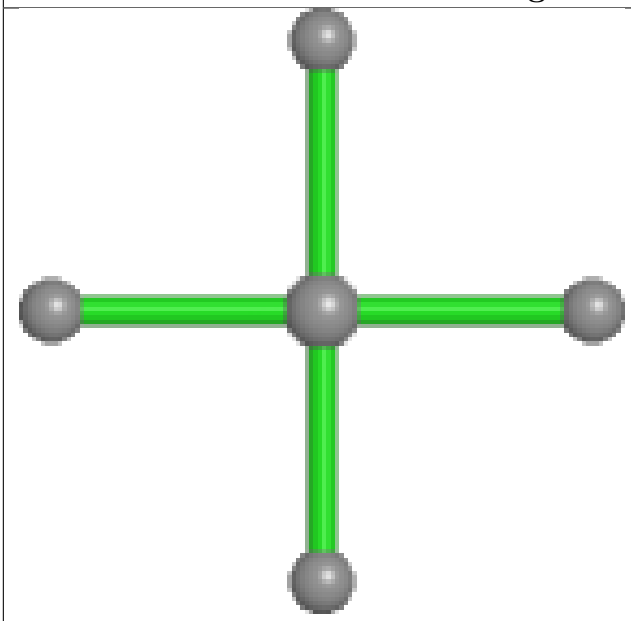


Rings

Ligand SO4 H 707



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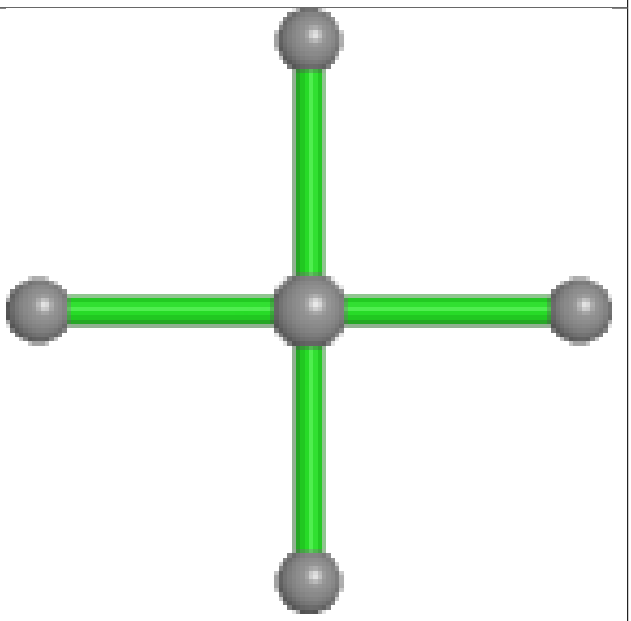
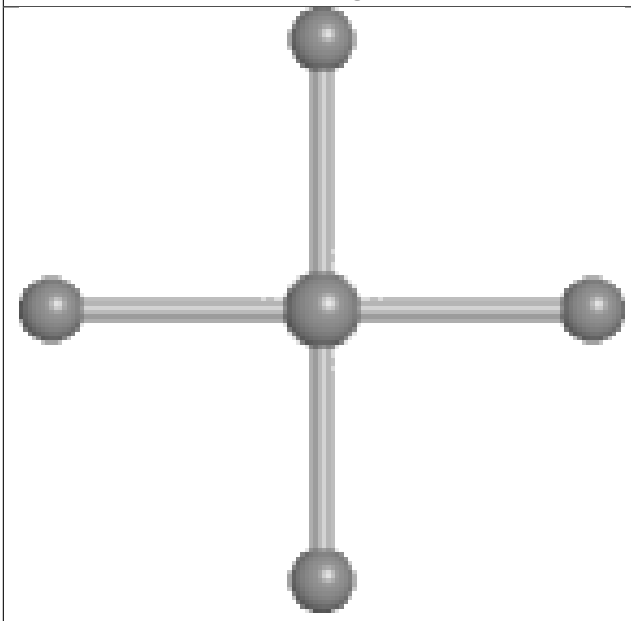


Bond angles



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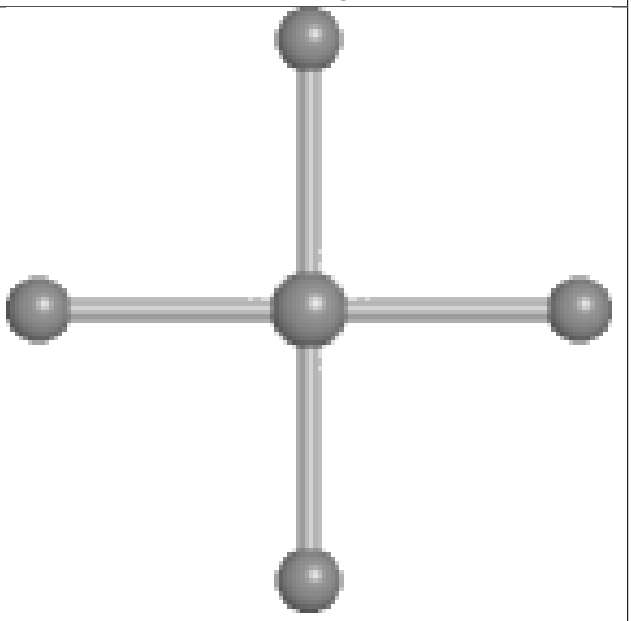
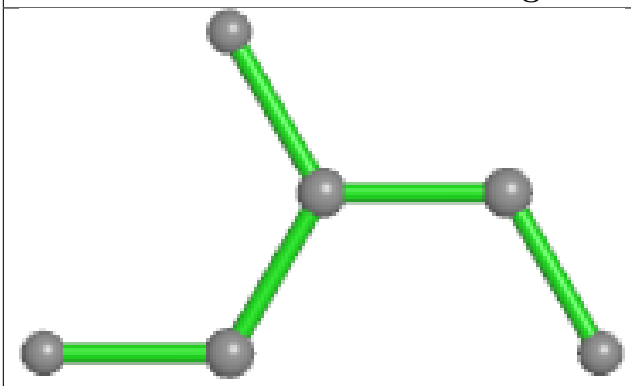


Rings

Ligand GOL D 710



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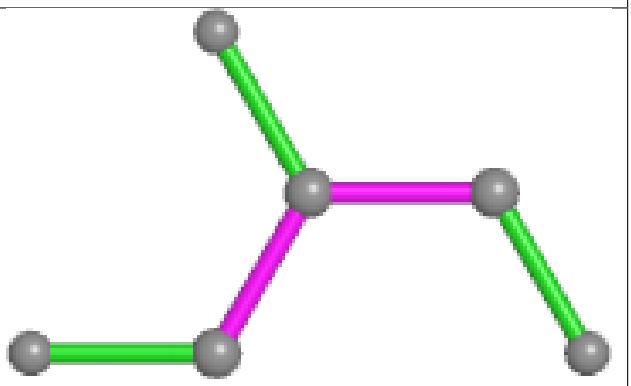

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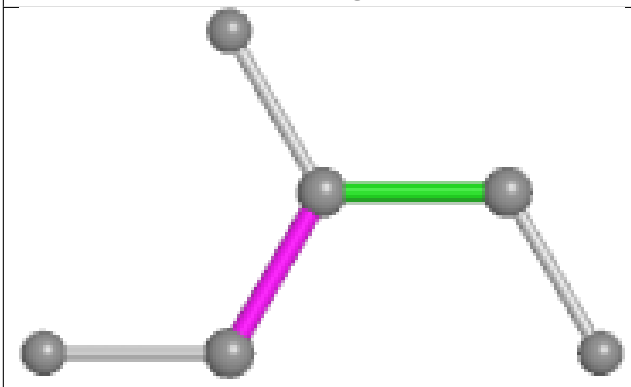

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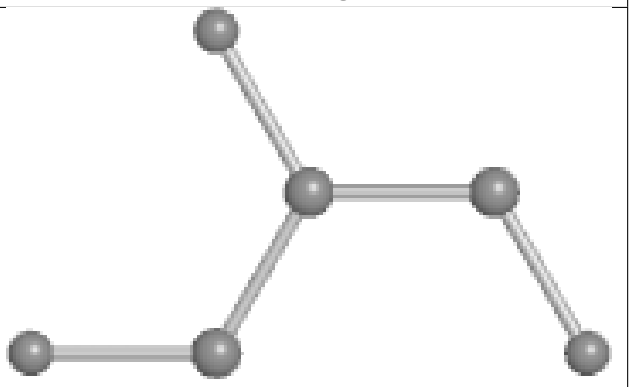
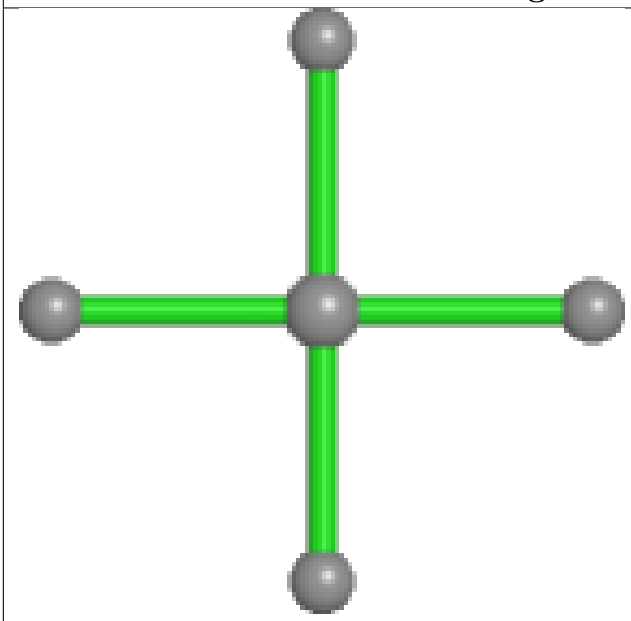


Rings

Ligand SO4 G 701



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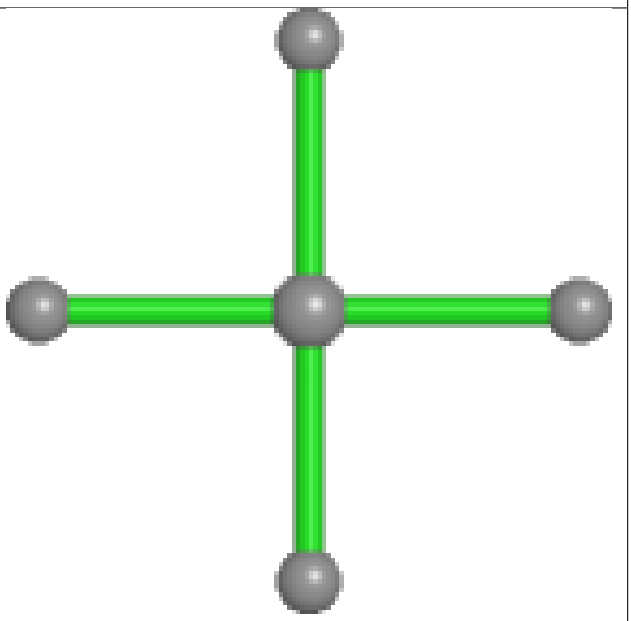
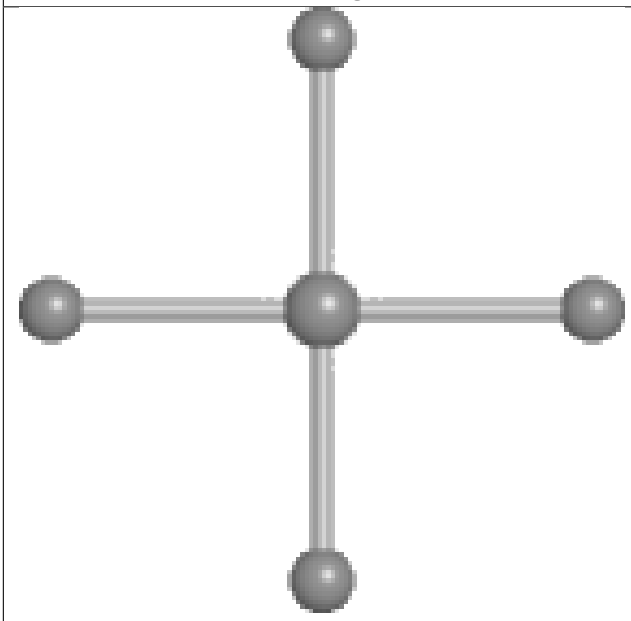
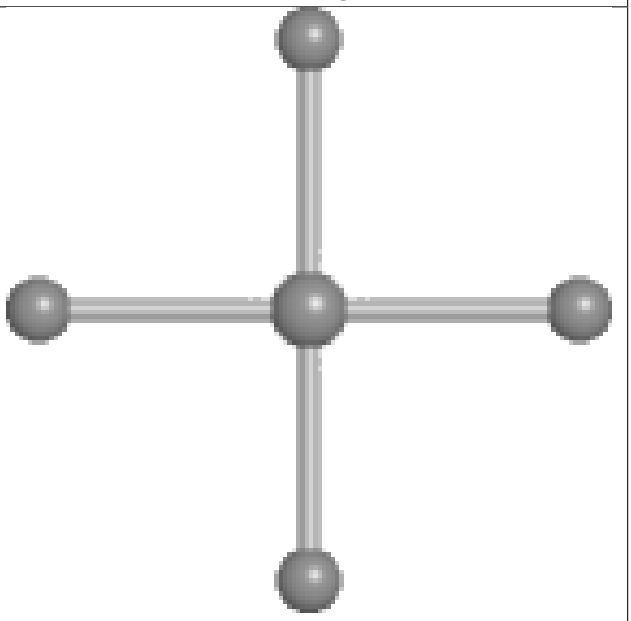


Bond angles

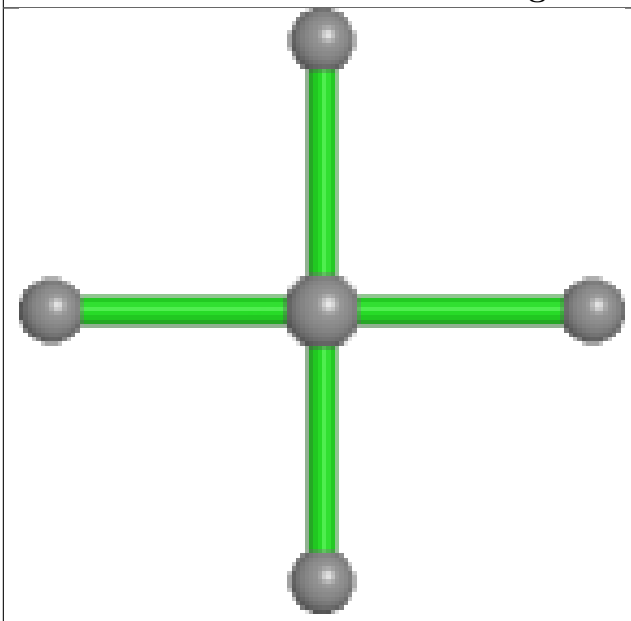


Torsions



Rings

Ligand SO4 A 708



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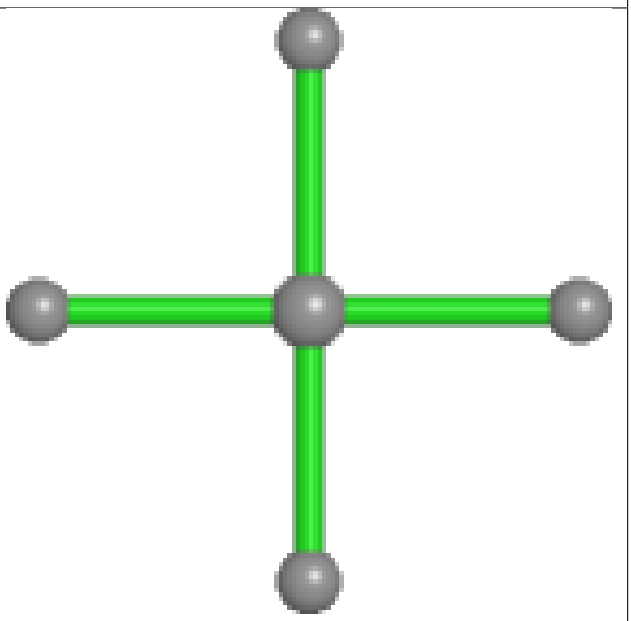
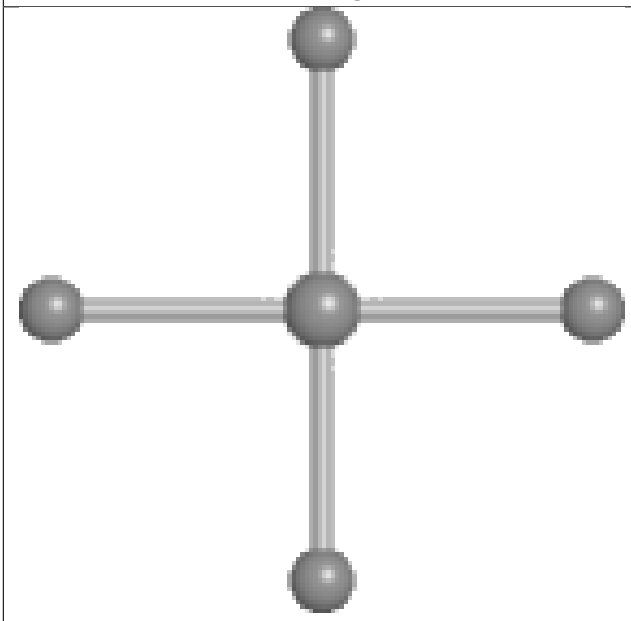
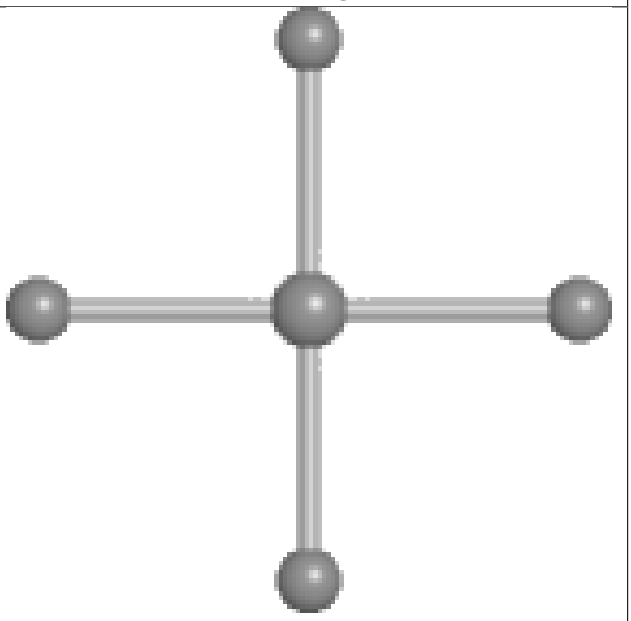


Bond angles

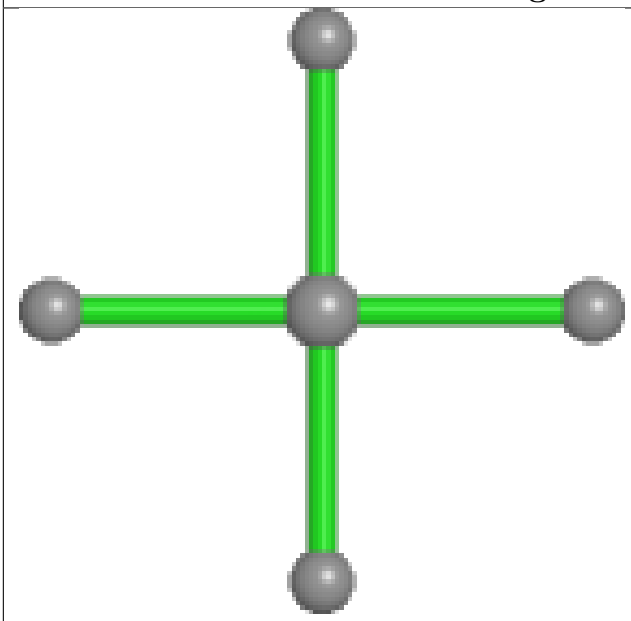


Torsions



Rings

Ligand SO4 C 701



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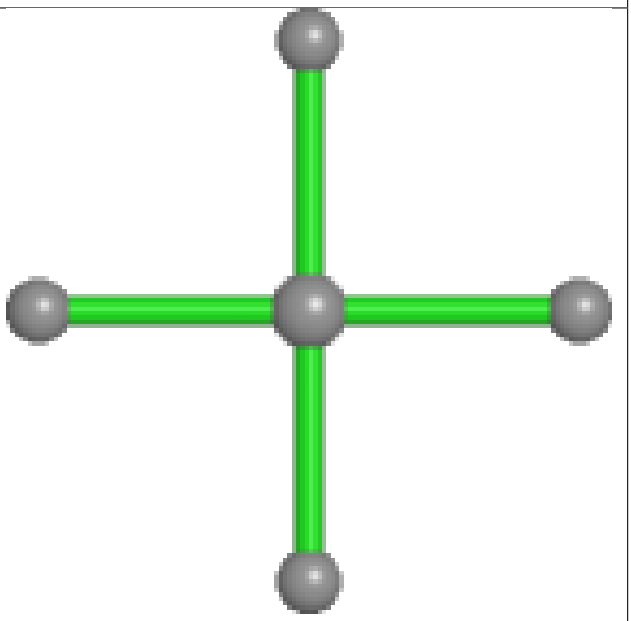
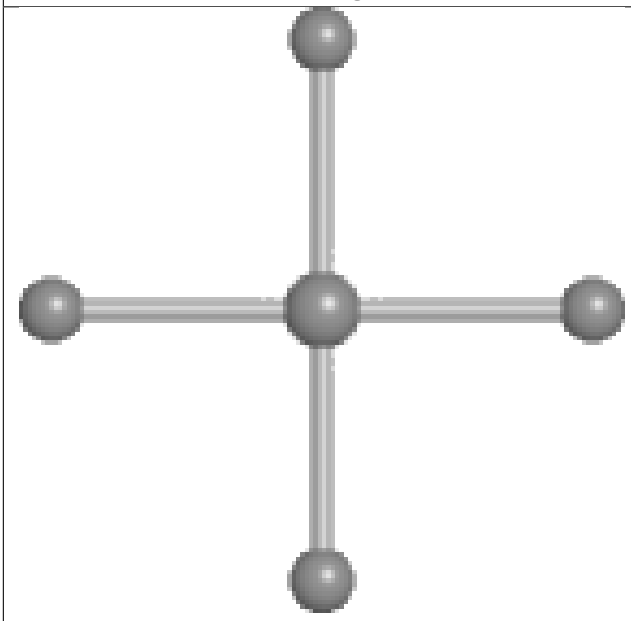


Bond angles



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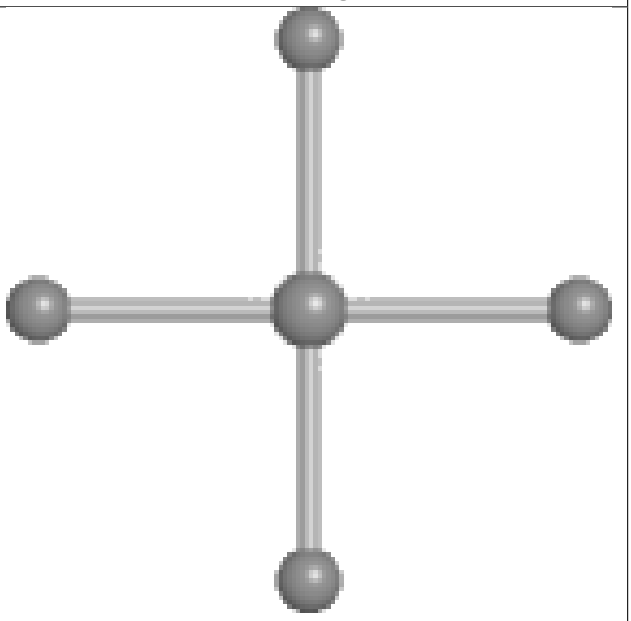
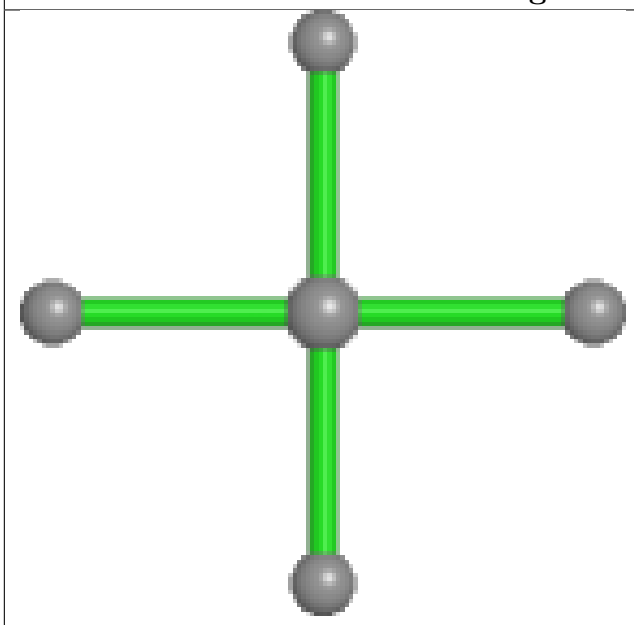
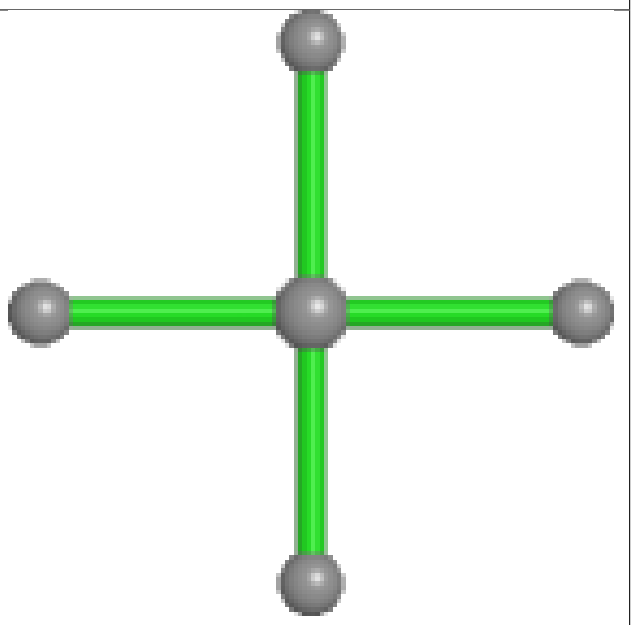


Rings

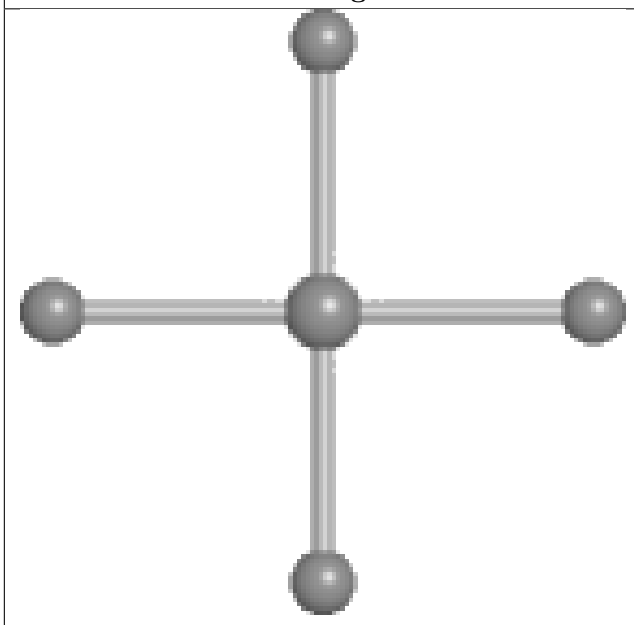
Ligand SO4 G 702



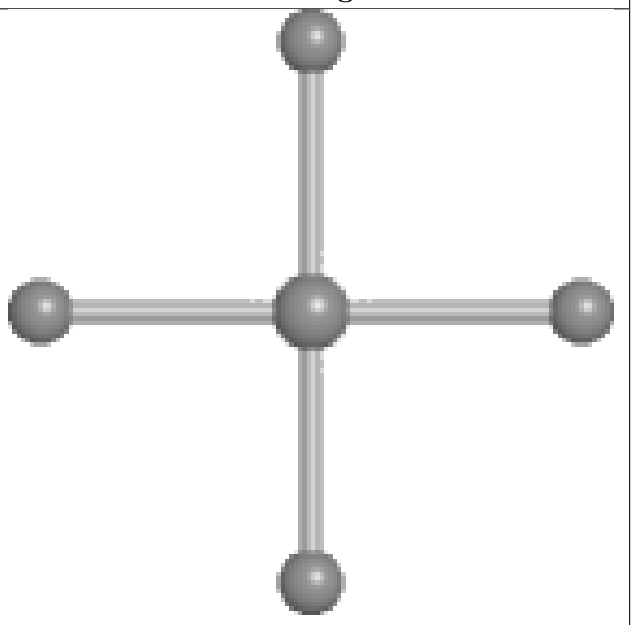
Bond lengths



Bond angles

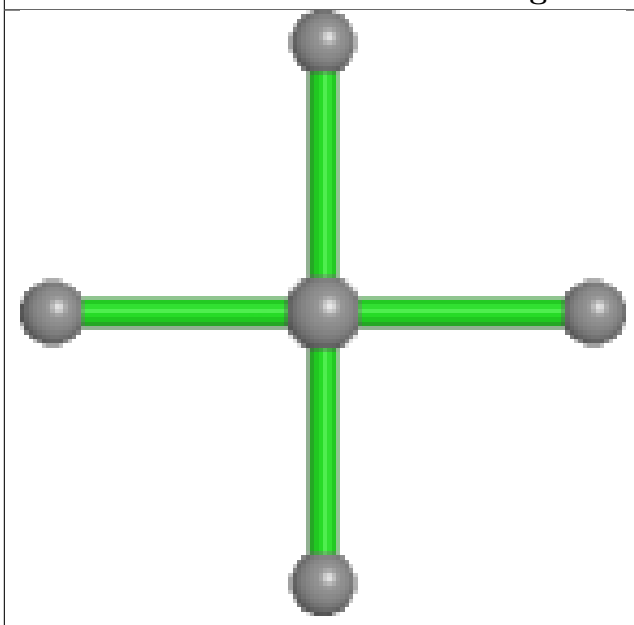


Torsions



Rings

Ligand SO4 A 706



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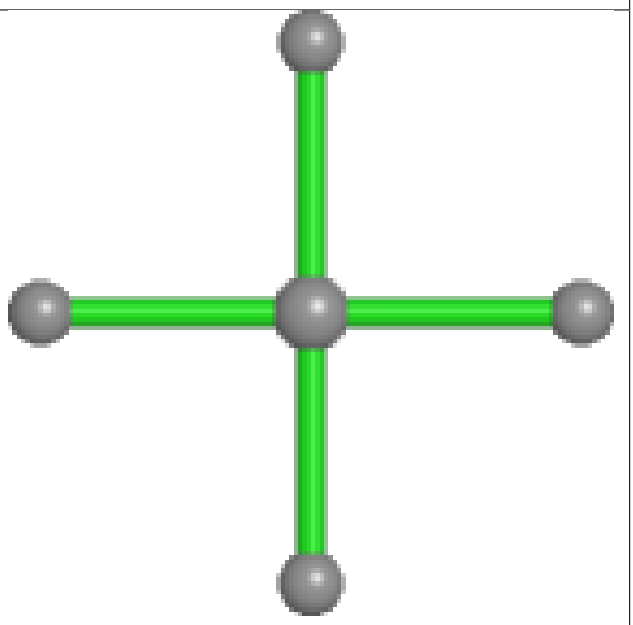

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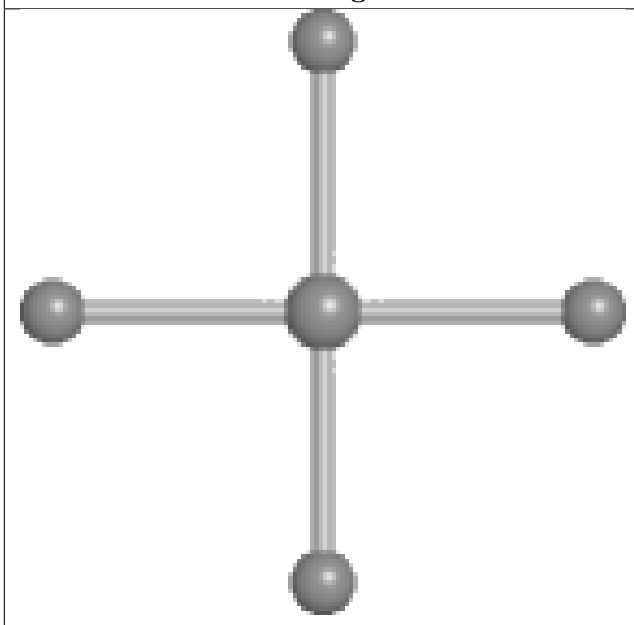

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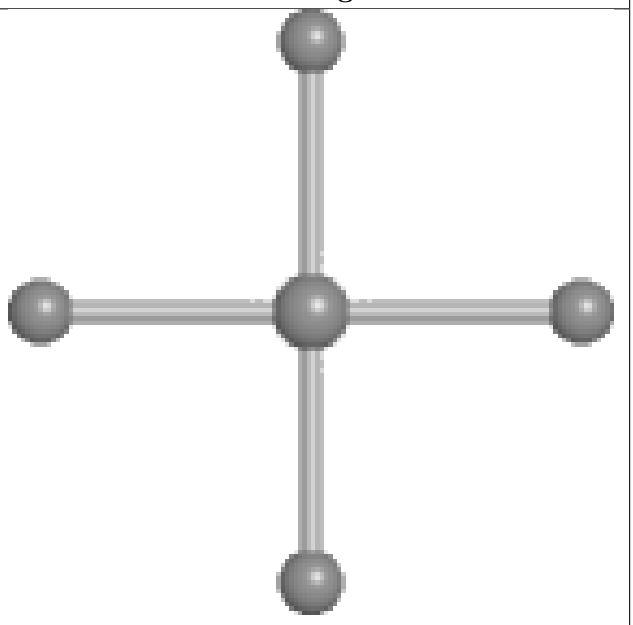
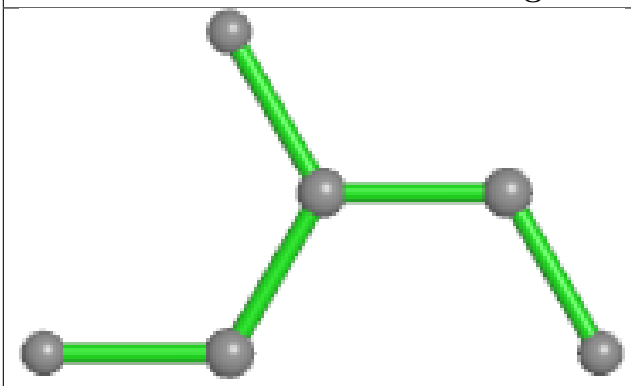


Rings

Ligand GOL E 713



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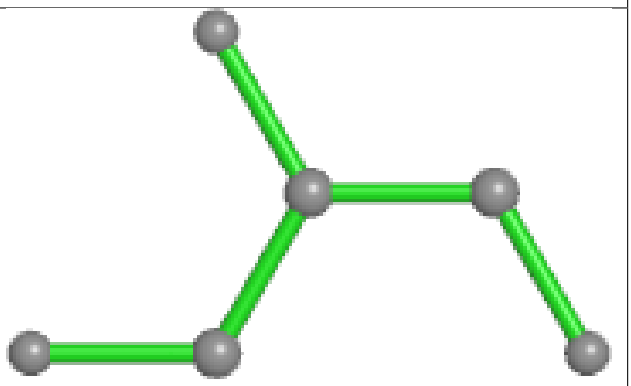
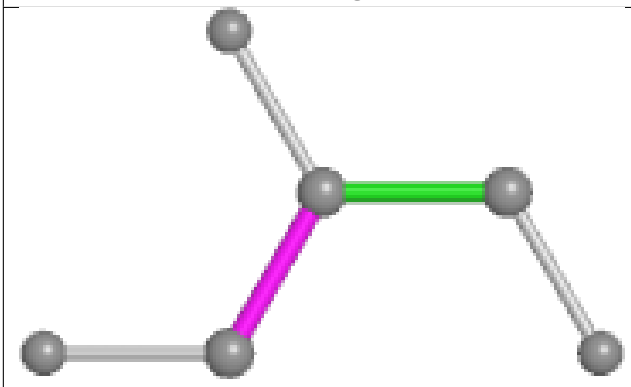


Bond angles



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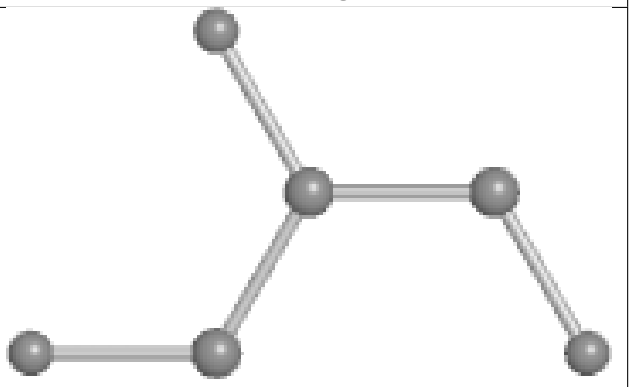
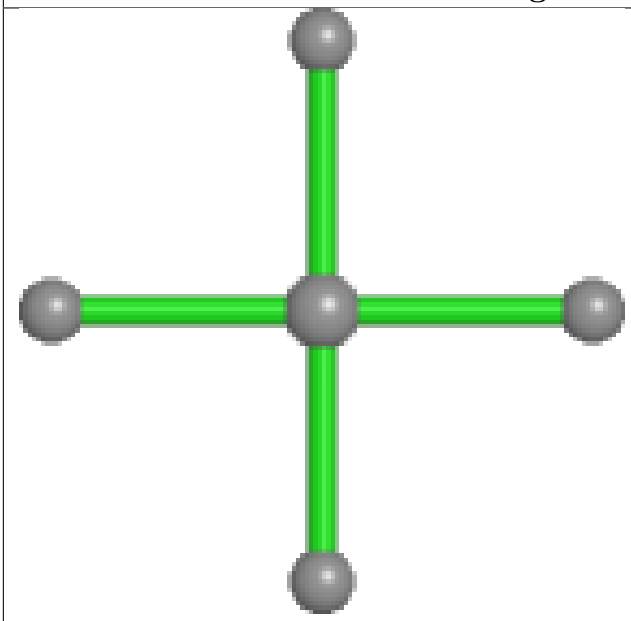


Rings

Ligand SO4 C 706



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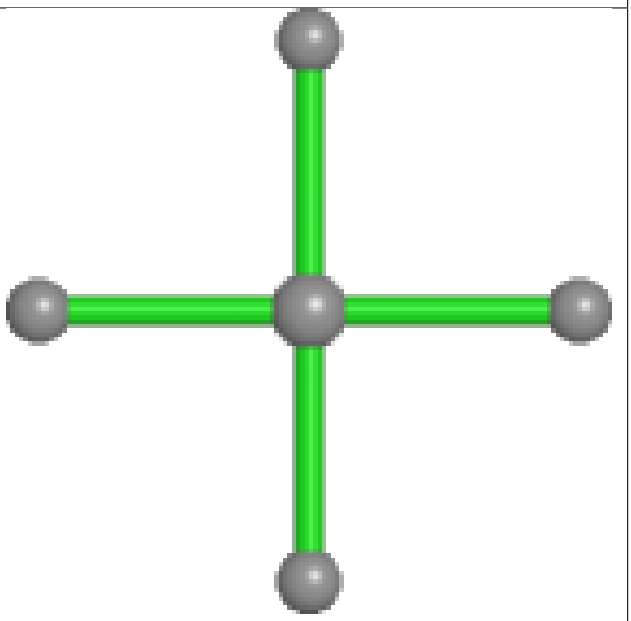
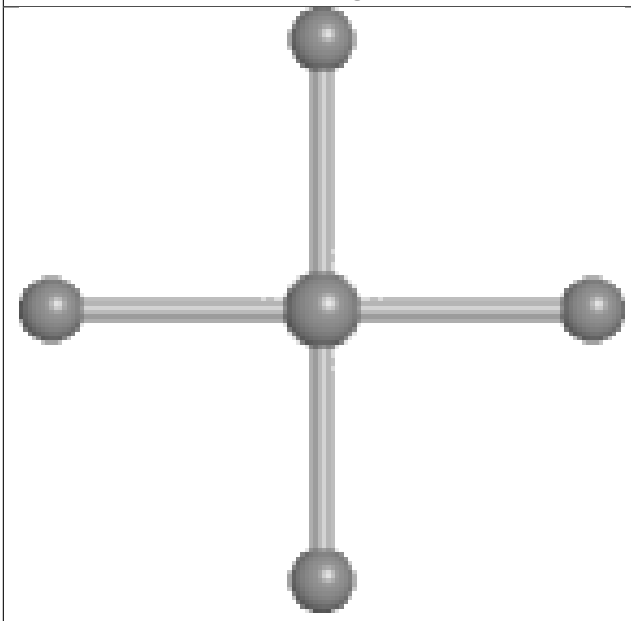


Bond angles



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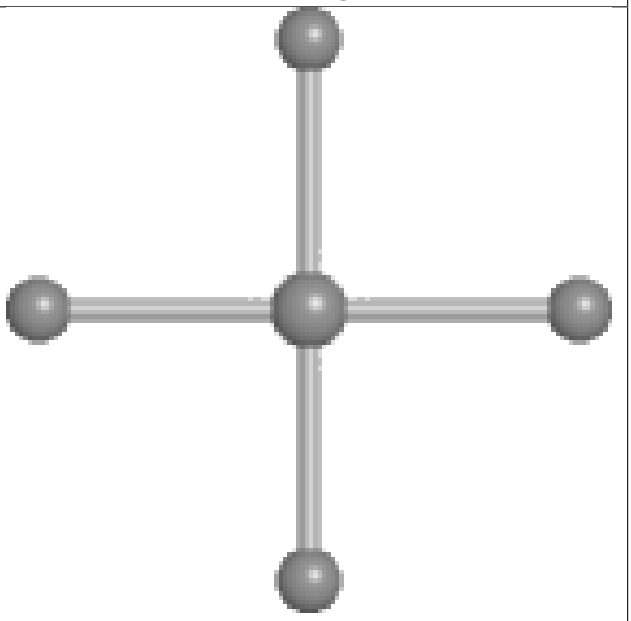
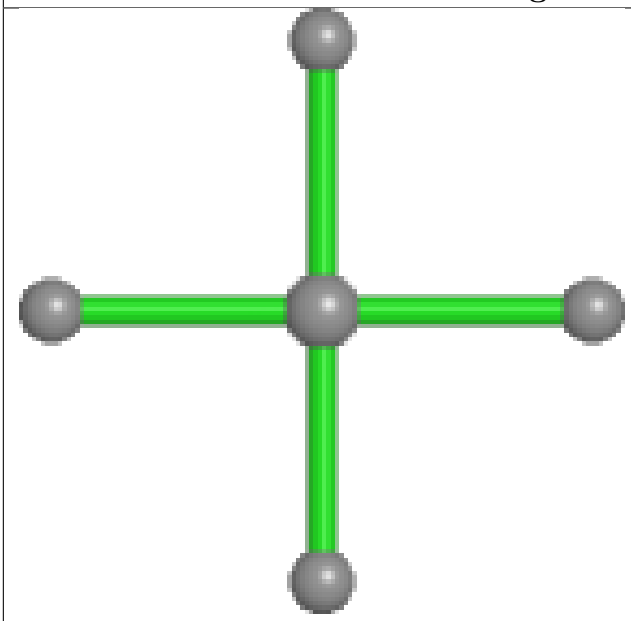


Rings

Ligand SO4 B 710



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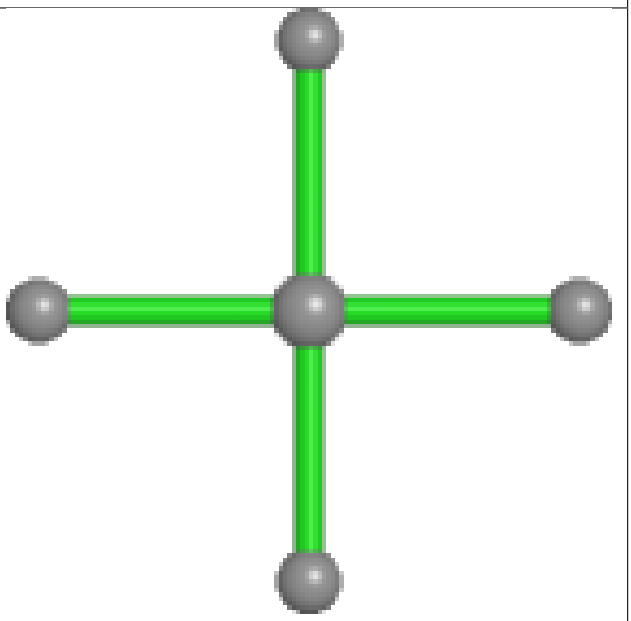

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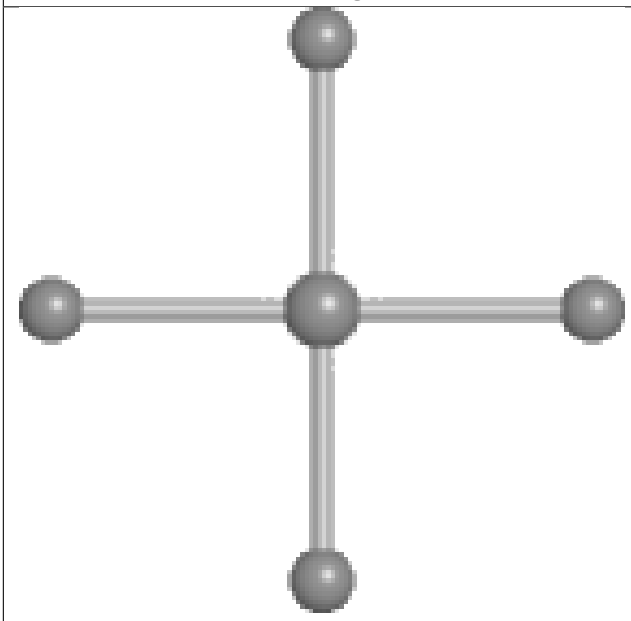

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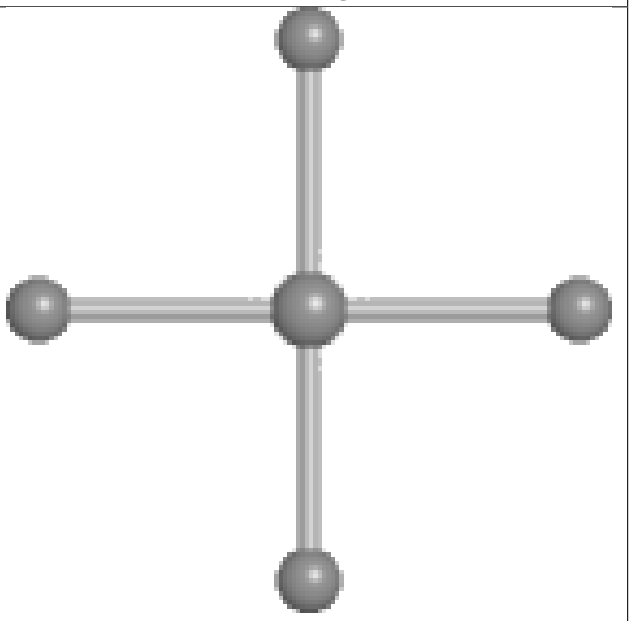
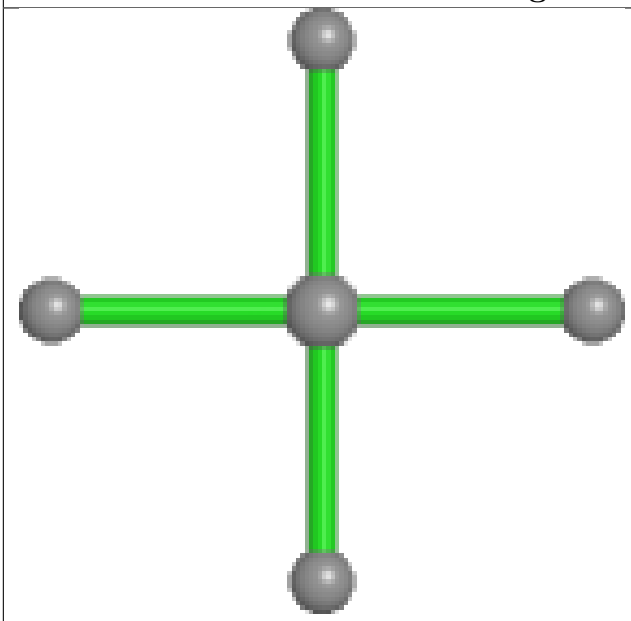


Rings

Ligand SO4 C 705



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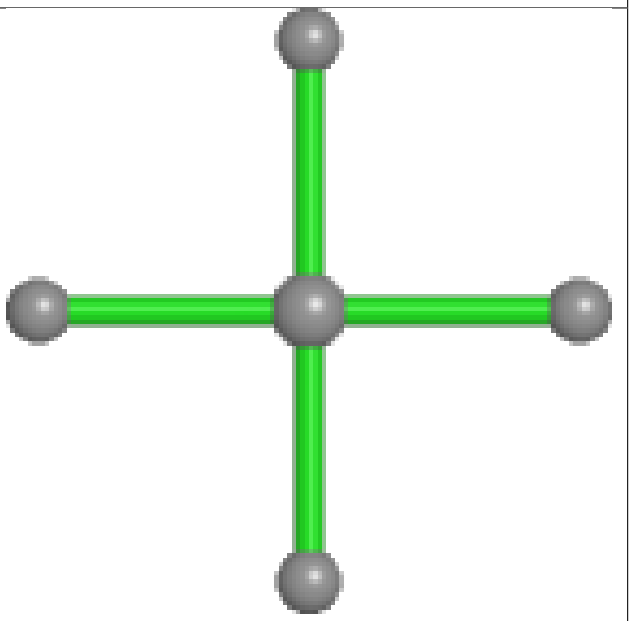
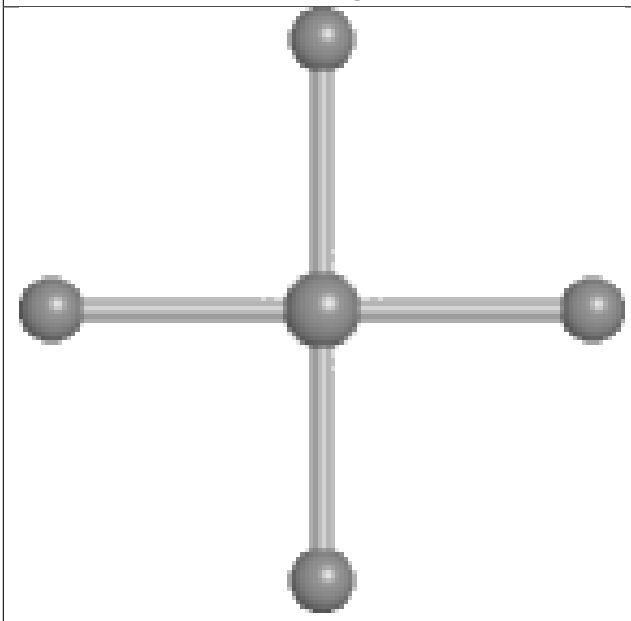


Bond angles



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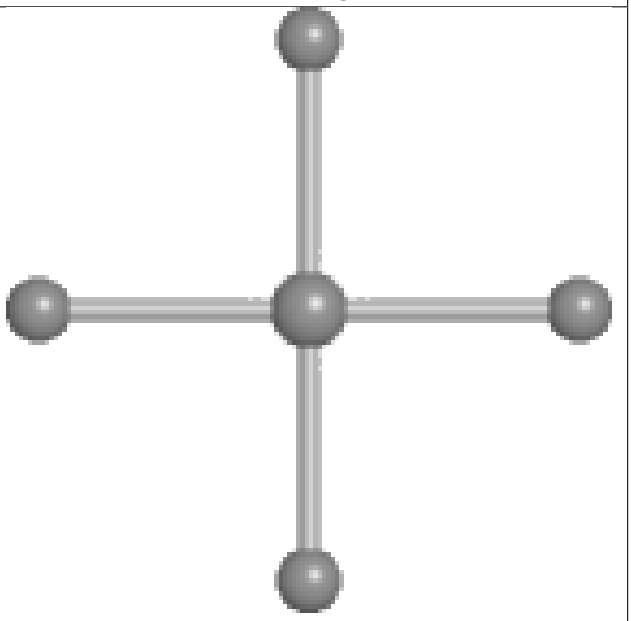
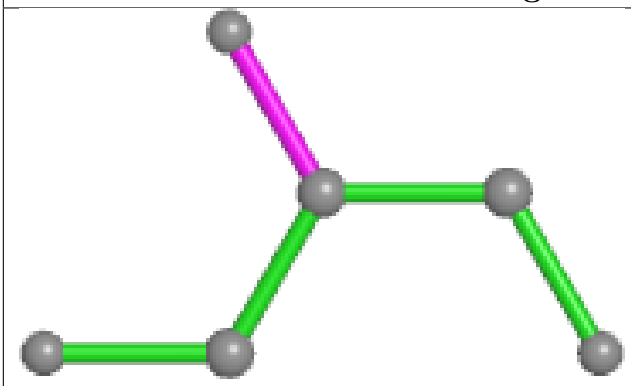


Rings

Ligand GOL C 710



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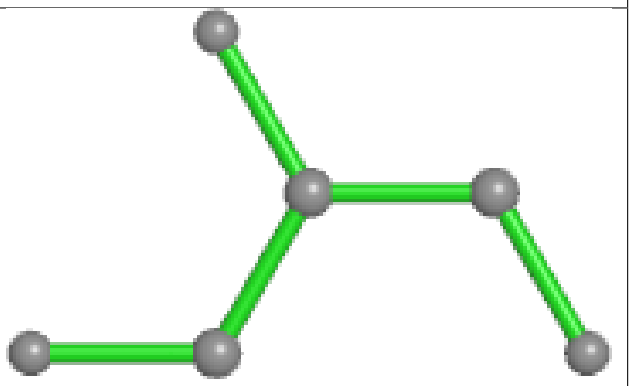
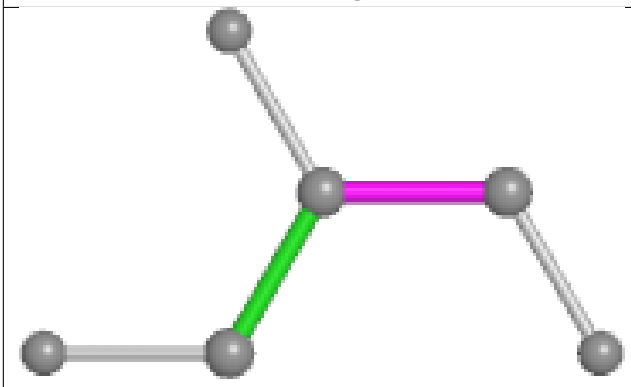


Bond angles



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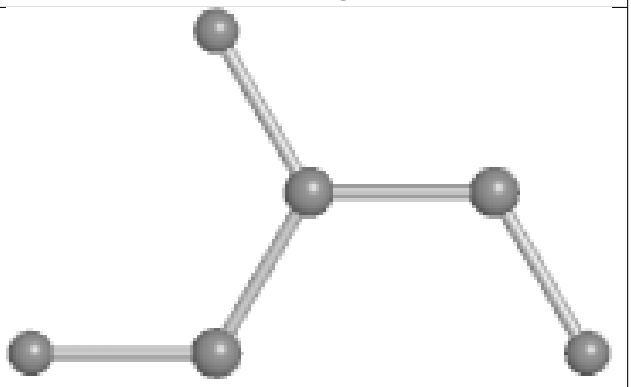
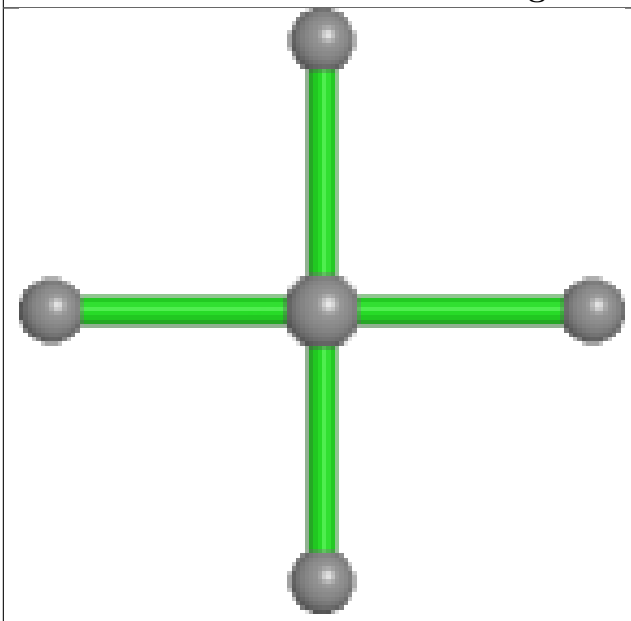


Rings

Ligand SO4 D 707



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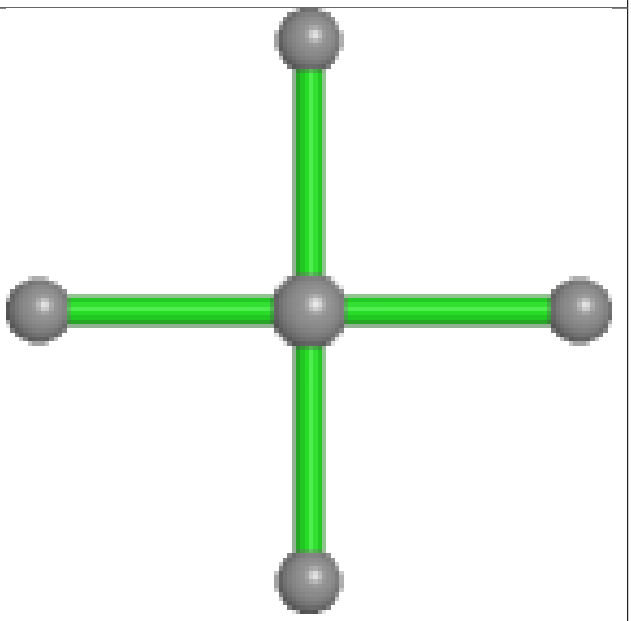

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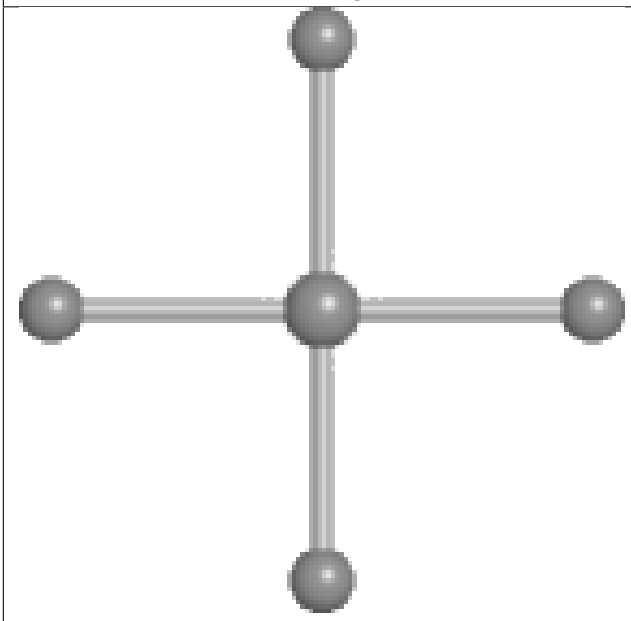

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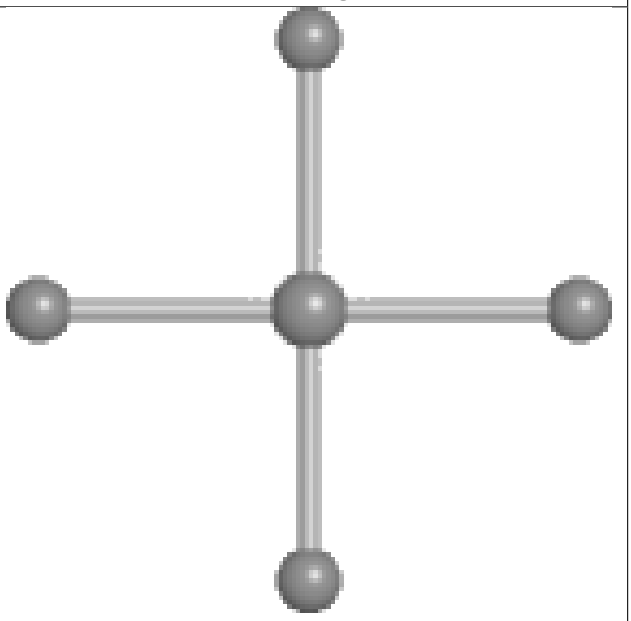
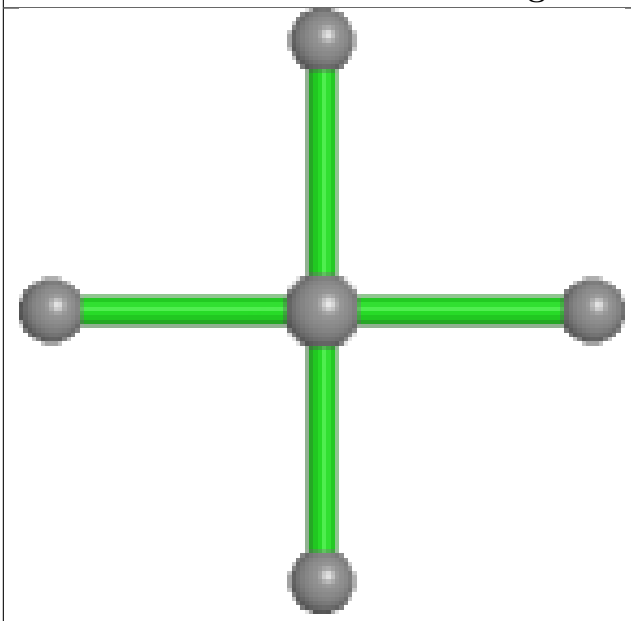


Rings

Ligand SO4 H 708



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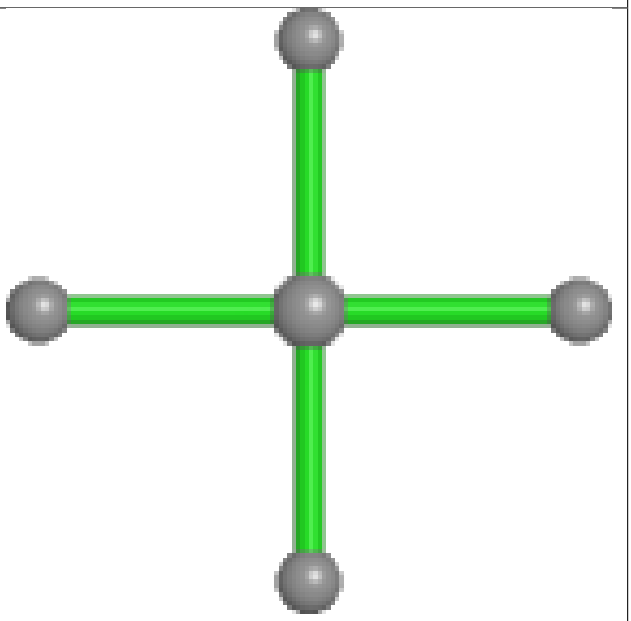
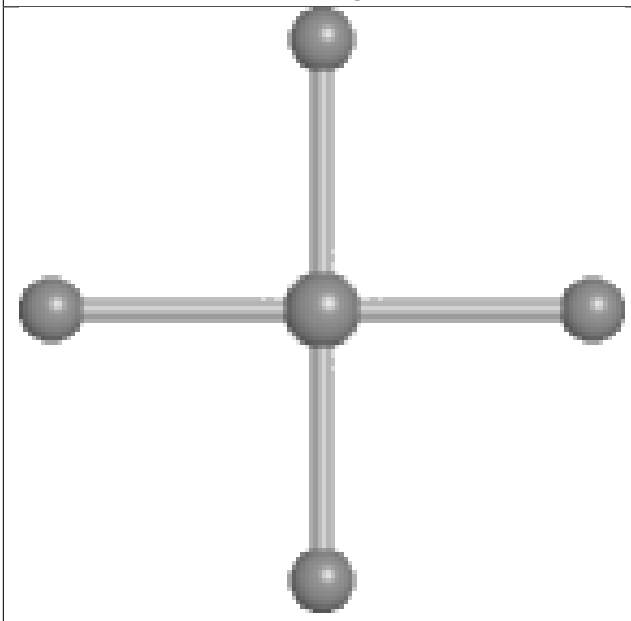


Bond angles



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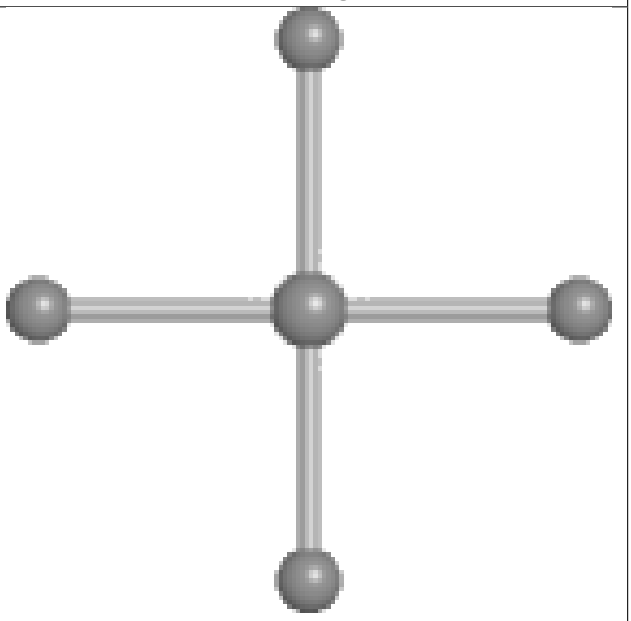
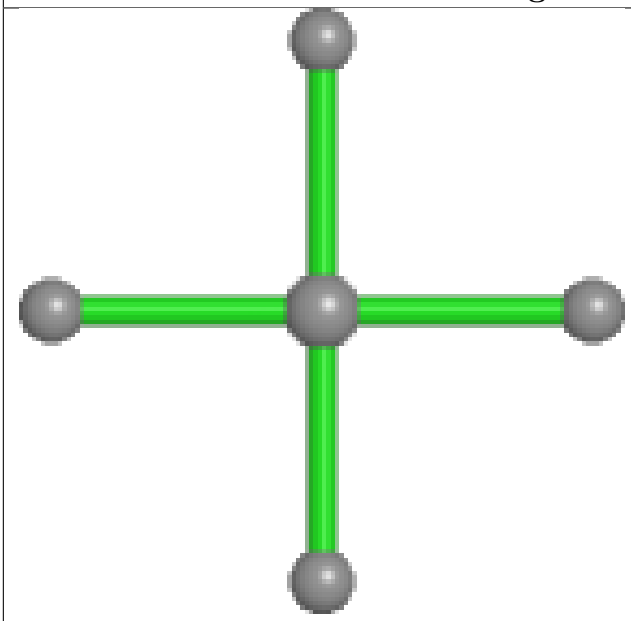


Rings

Ligand SO4 D 701



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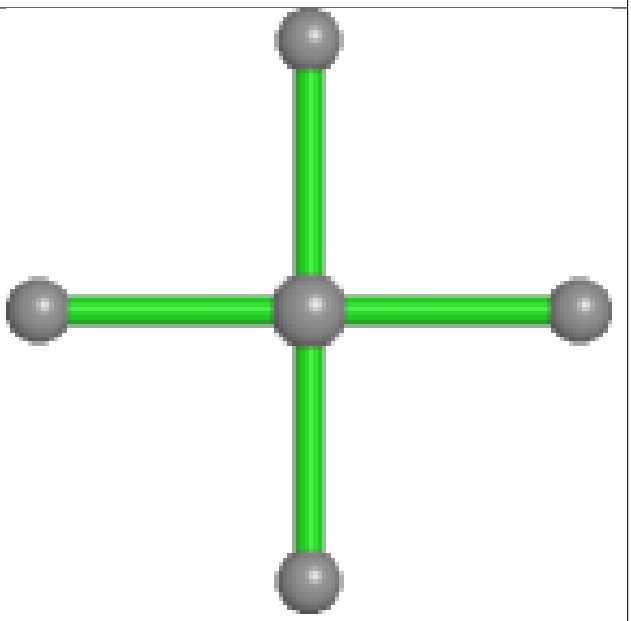

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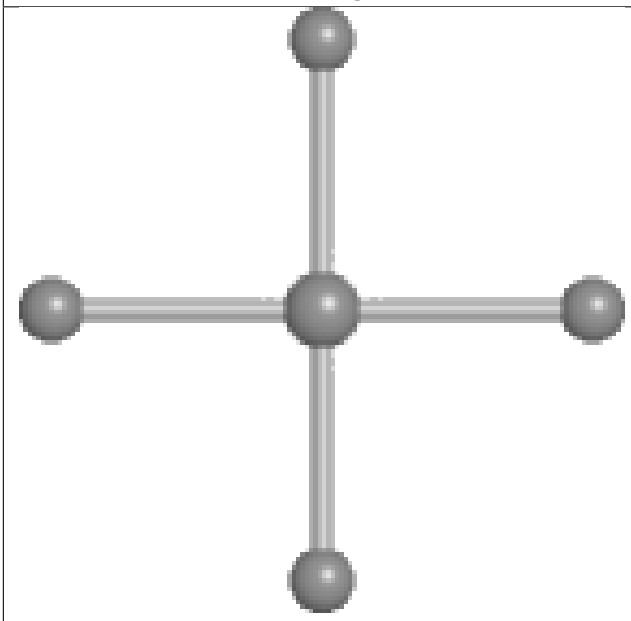

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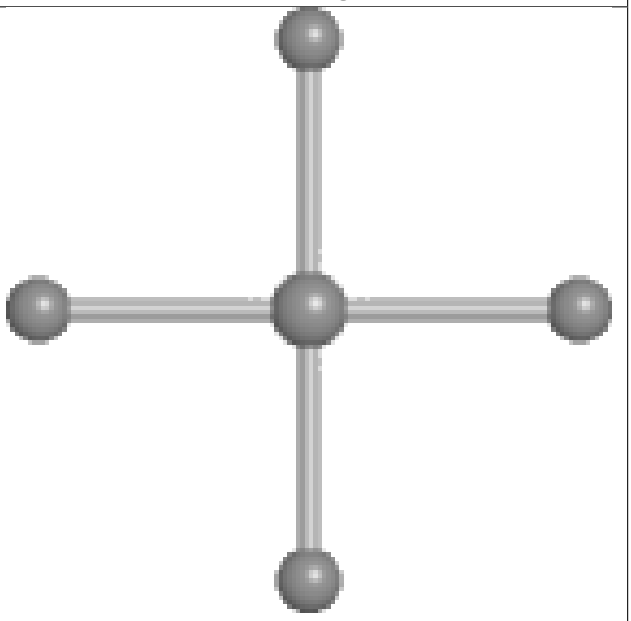
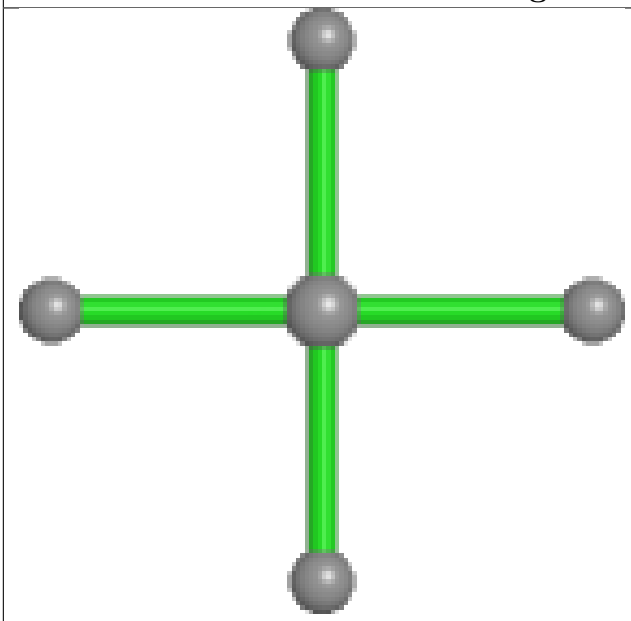


Rings

Ligand SO4 B 711



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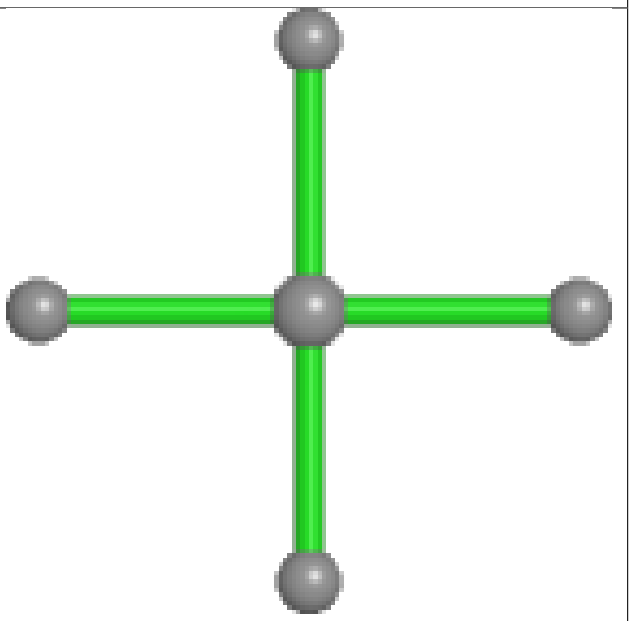
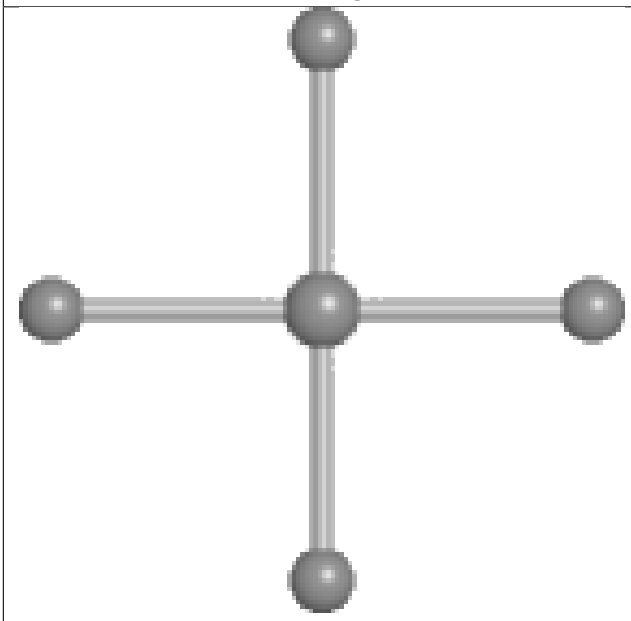


Bond angles



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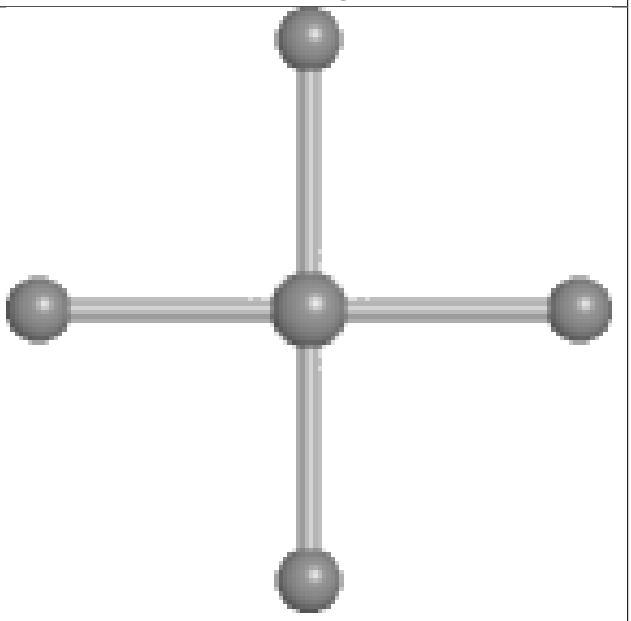
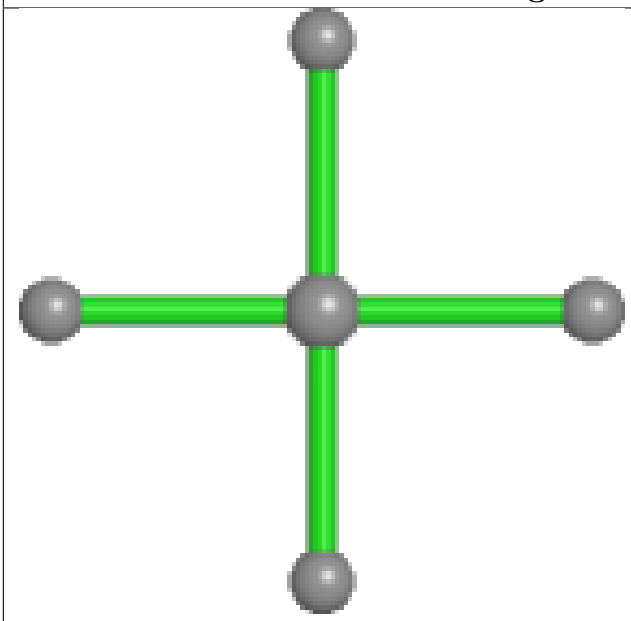


Rings

Ligand SO4 H 704



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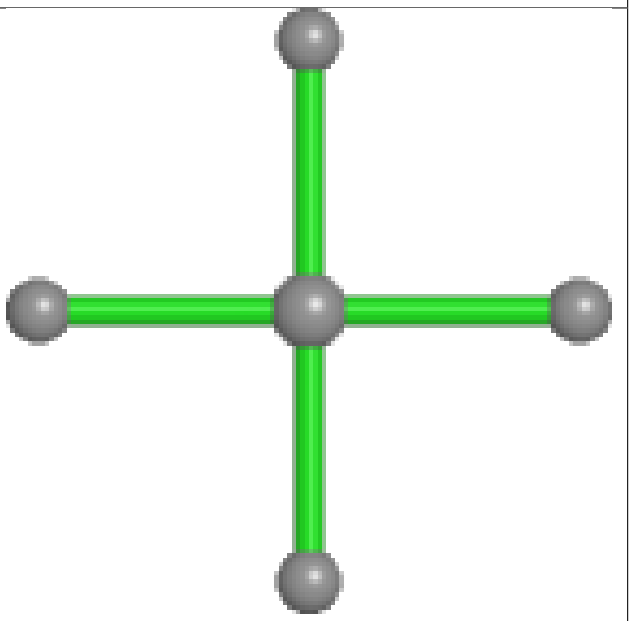
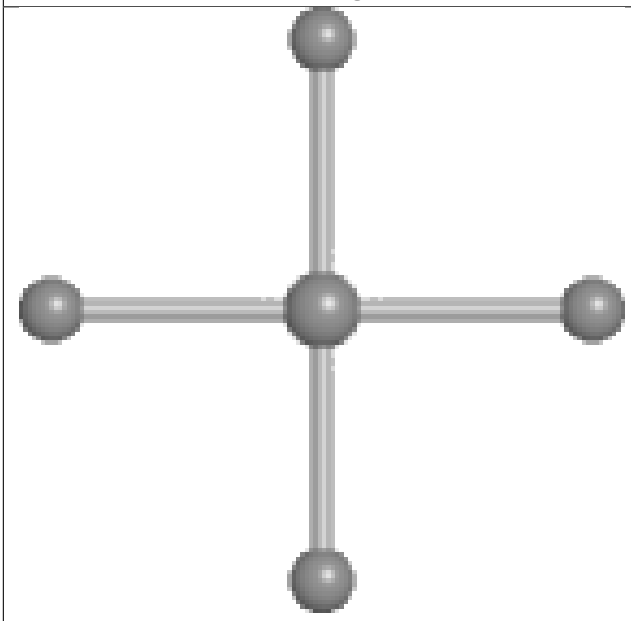


Bond angles



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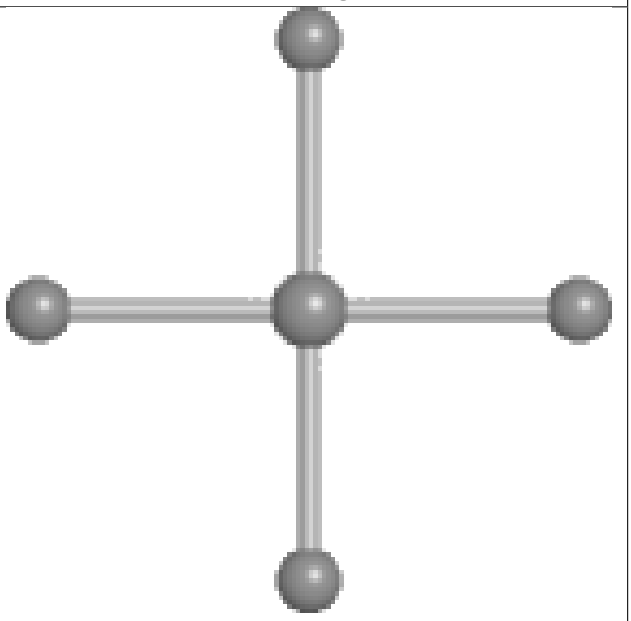
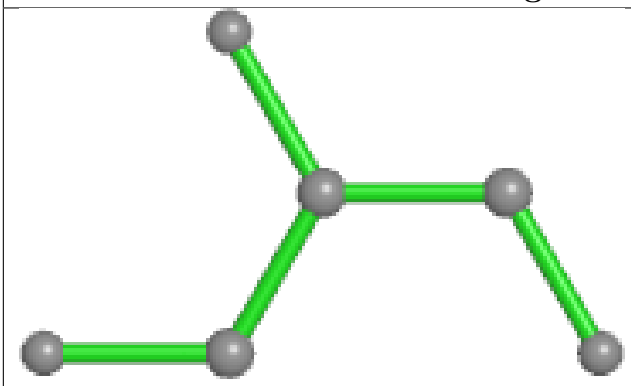


Rings

Ligand GOL E 712



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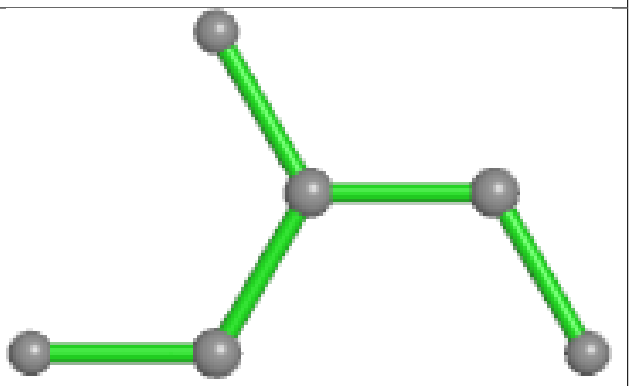
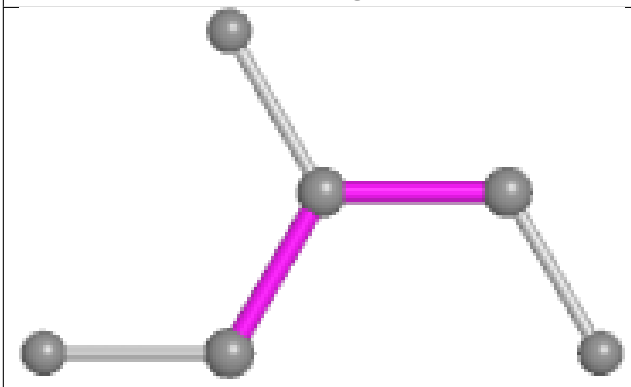


Bond angles



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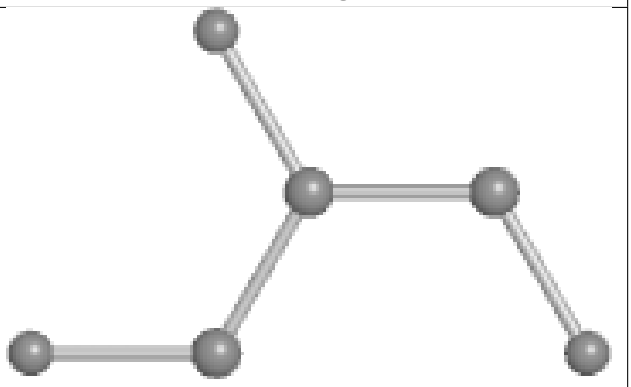
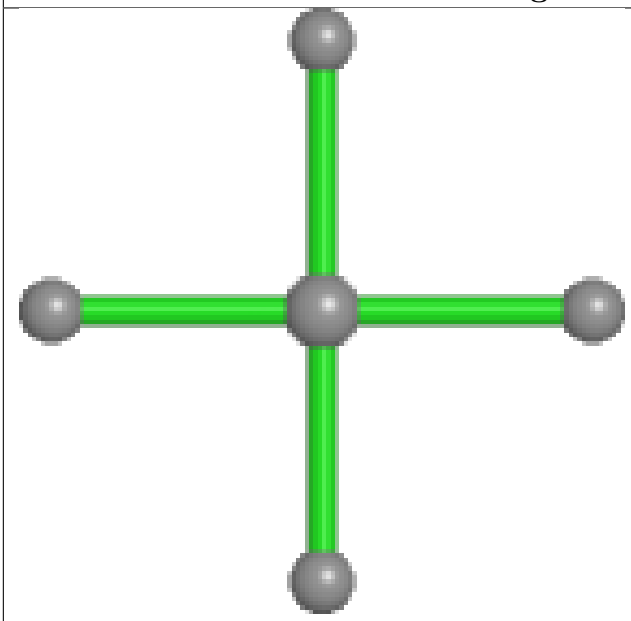
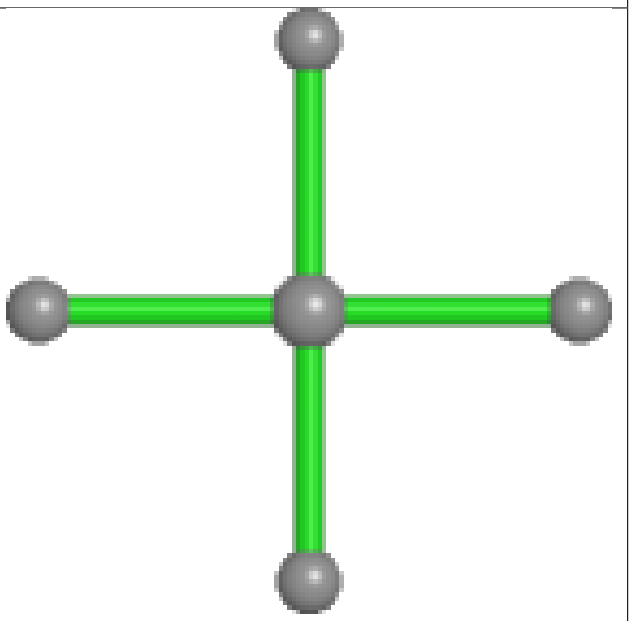


Rings

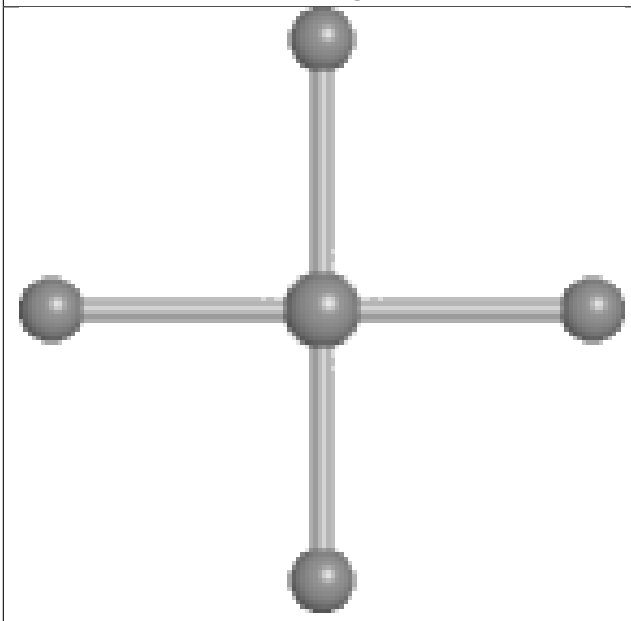
Ligand SO4 E 709



Bond lengths



Bond angles



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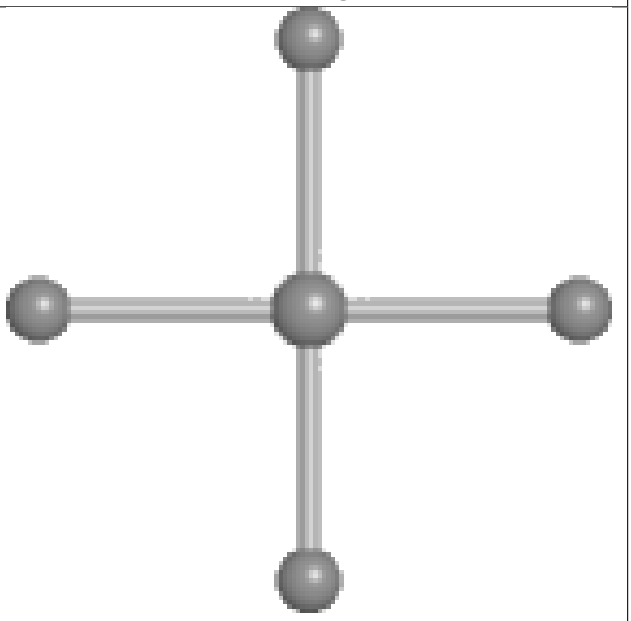
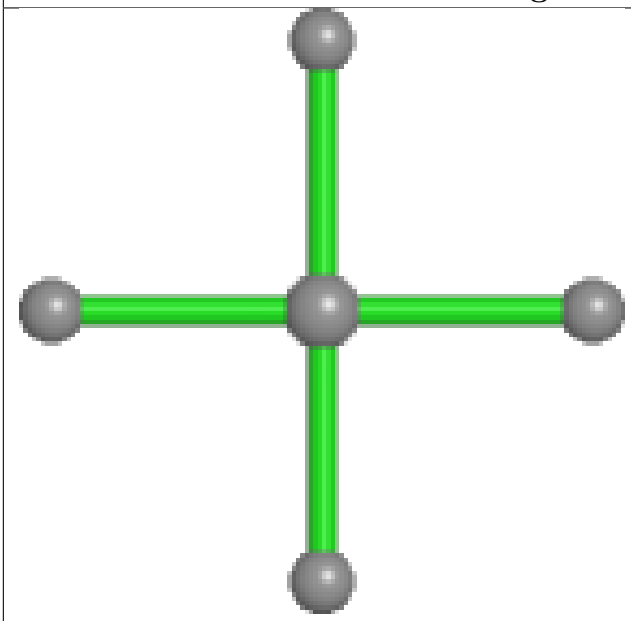
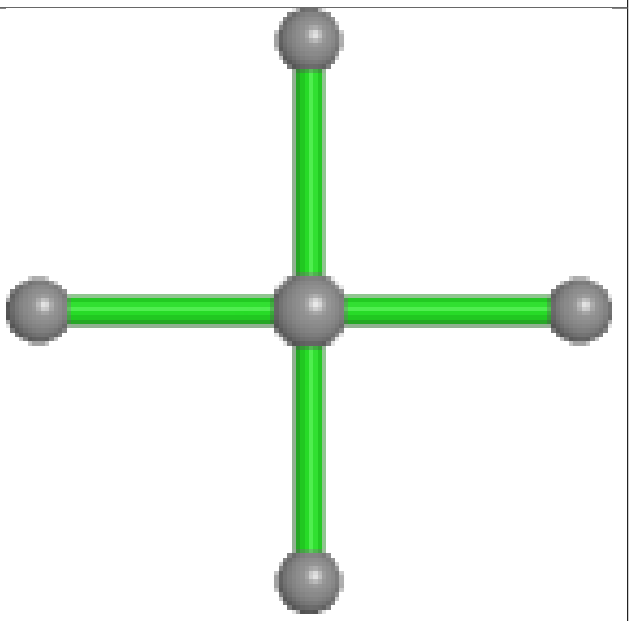


Rings

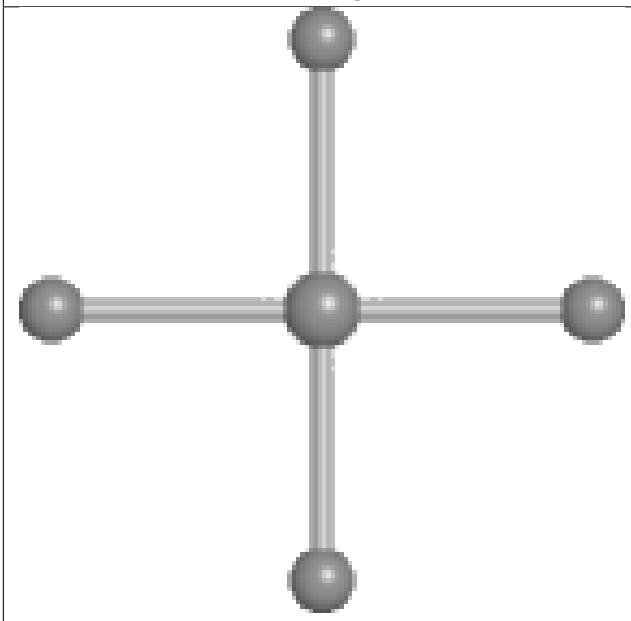
Ligand SO4 E 707



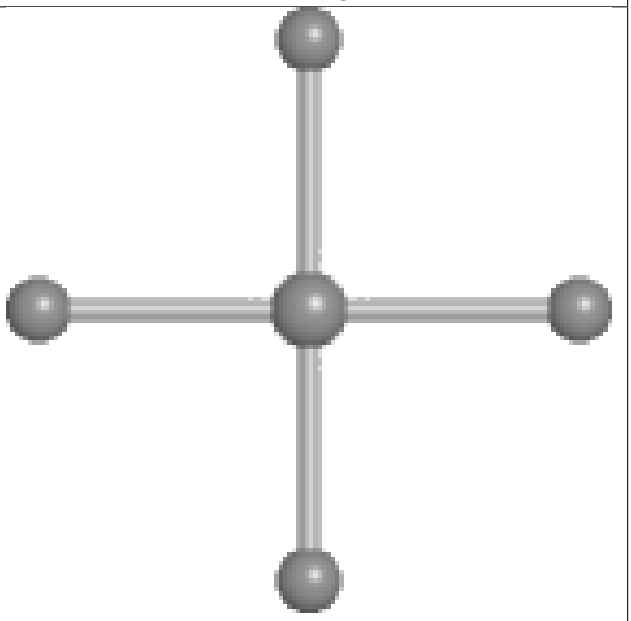
Bond lengths



Bond angles

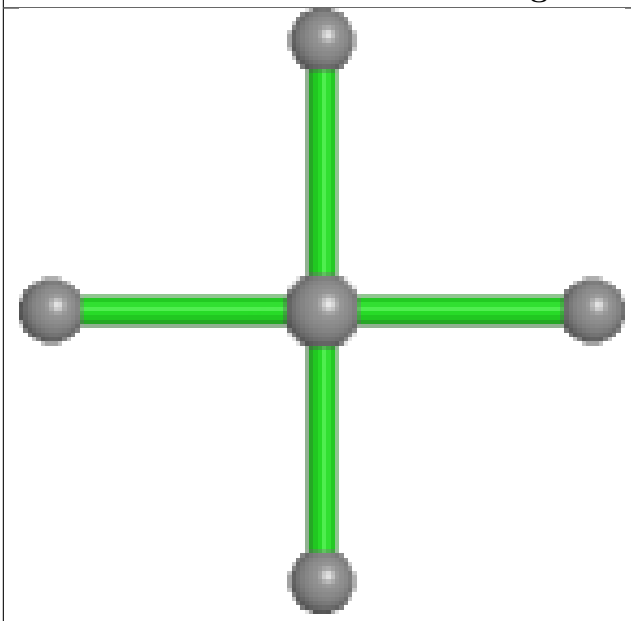


Torsions



Rings

Ligand SO4 E 702



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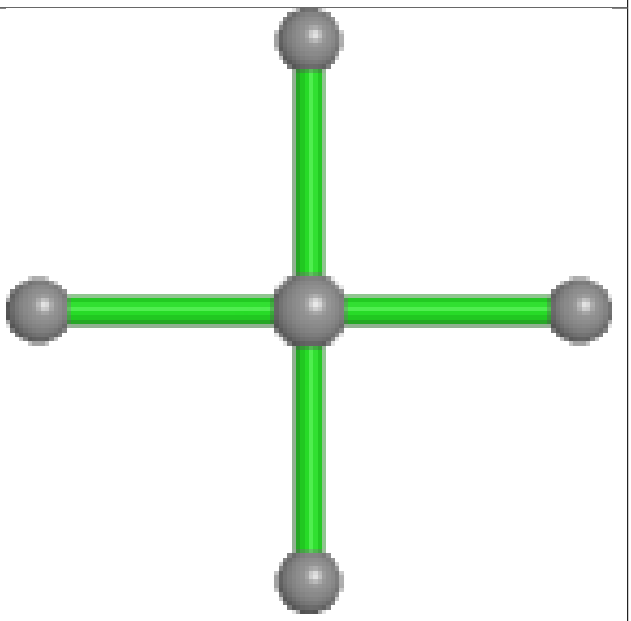

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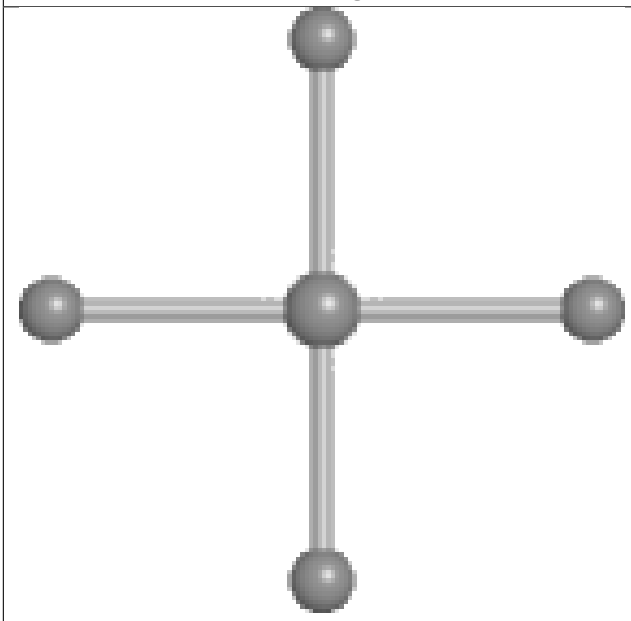

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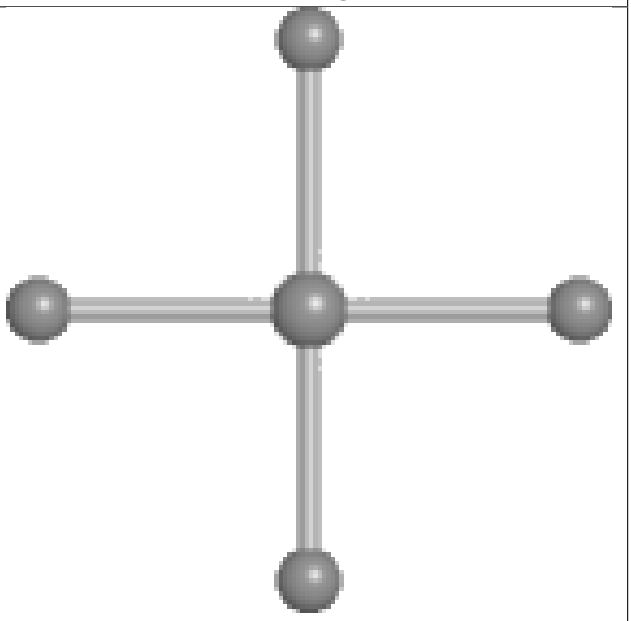
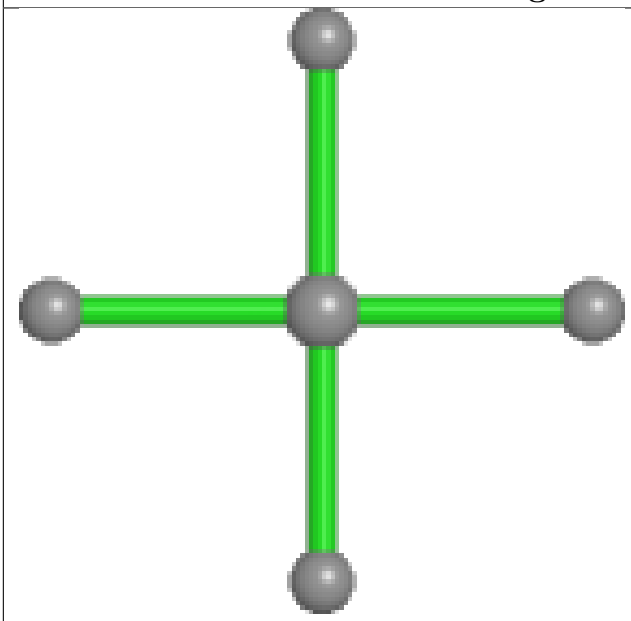


Rings

Ligand SO4 A 704



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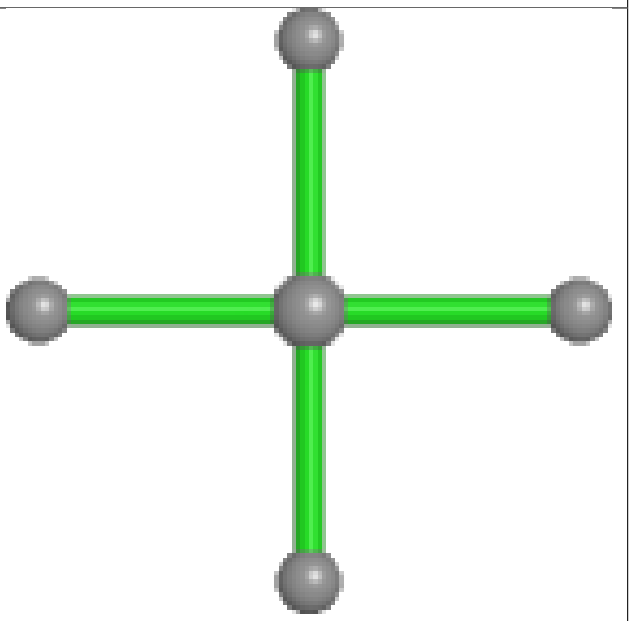
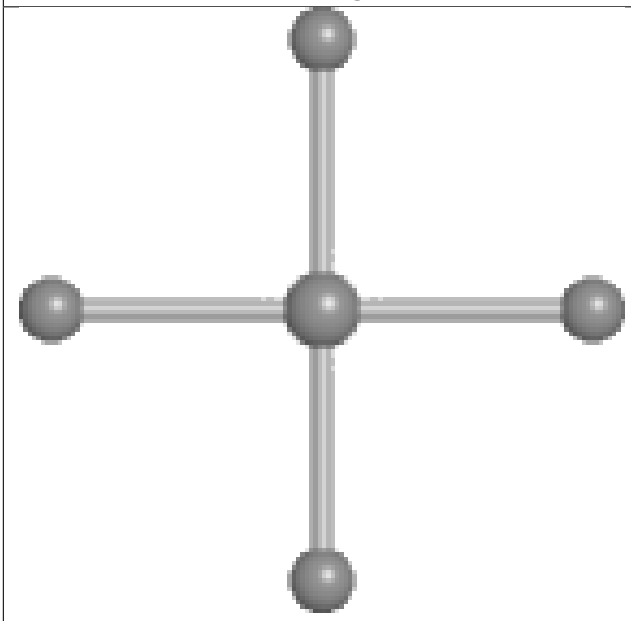


Bond angles



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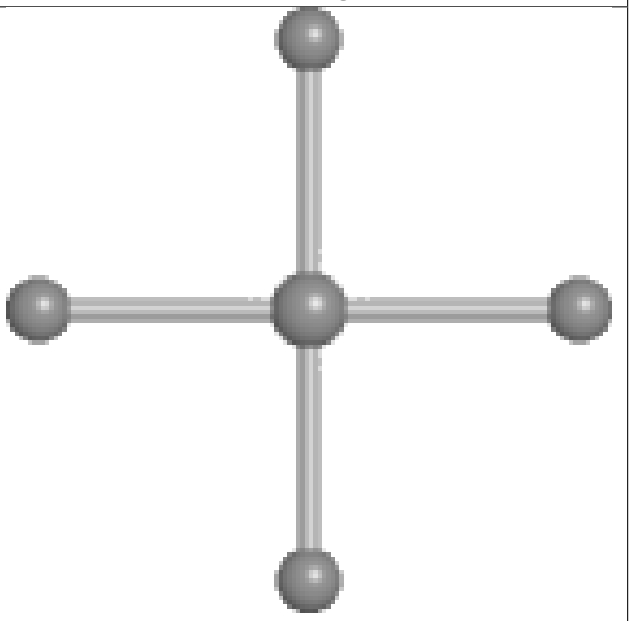
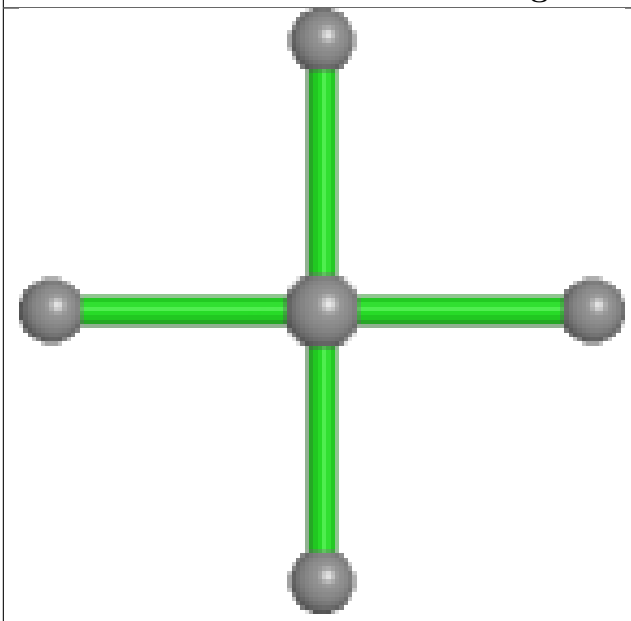


Rings

Ligand SO4 F 704



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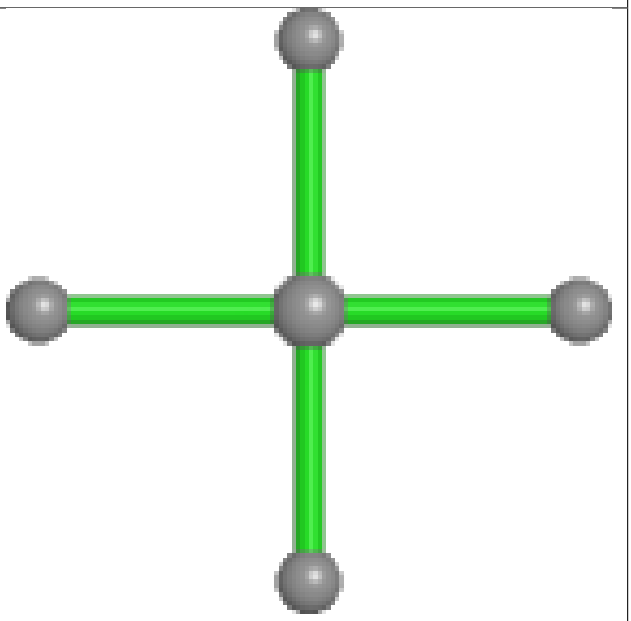

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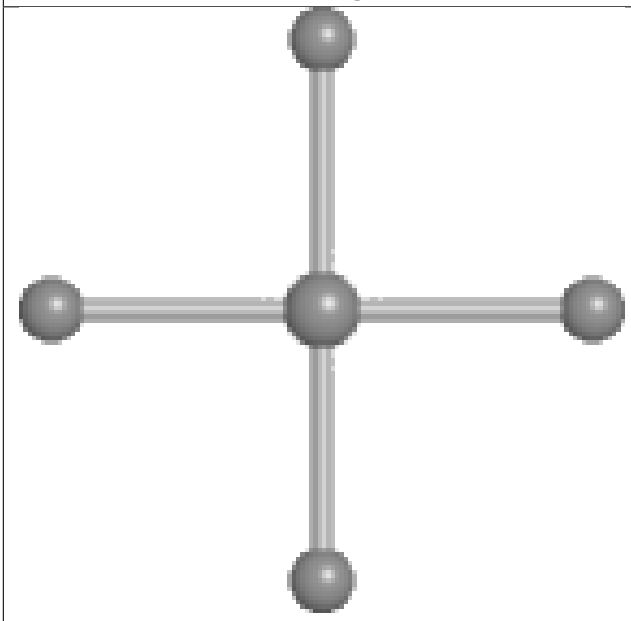

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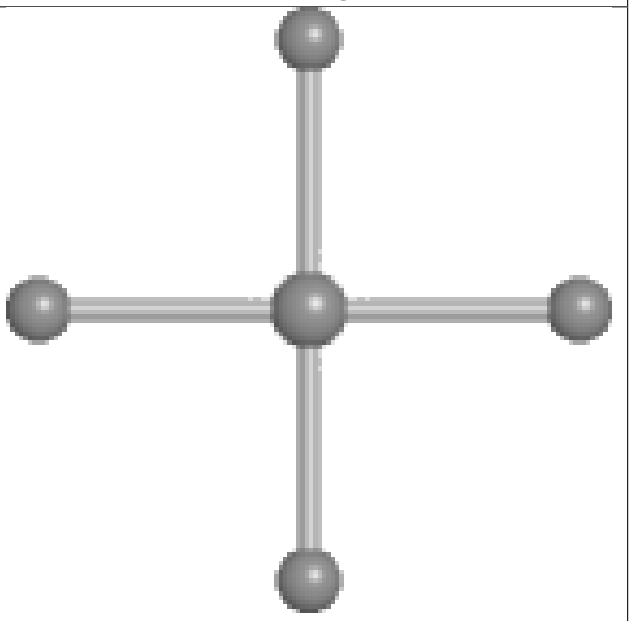
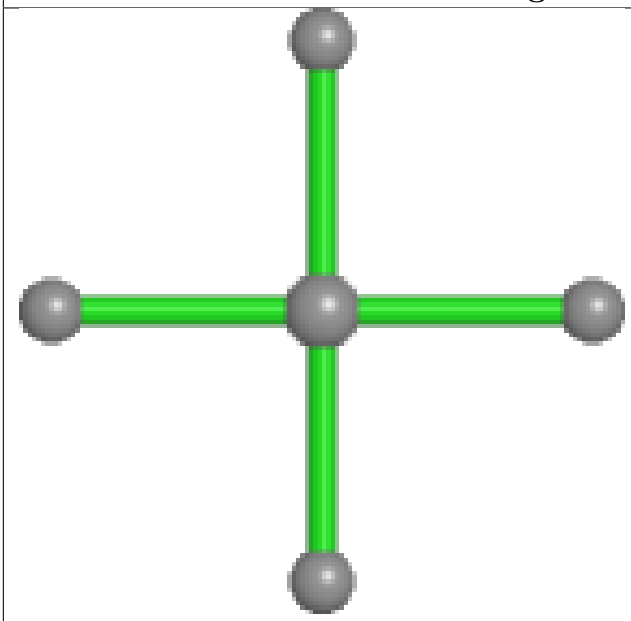


Rings

Ligand SO4 H 703



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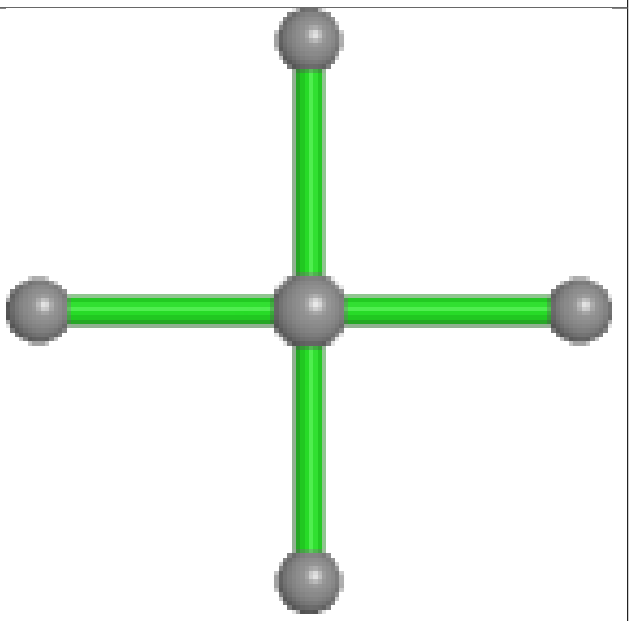
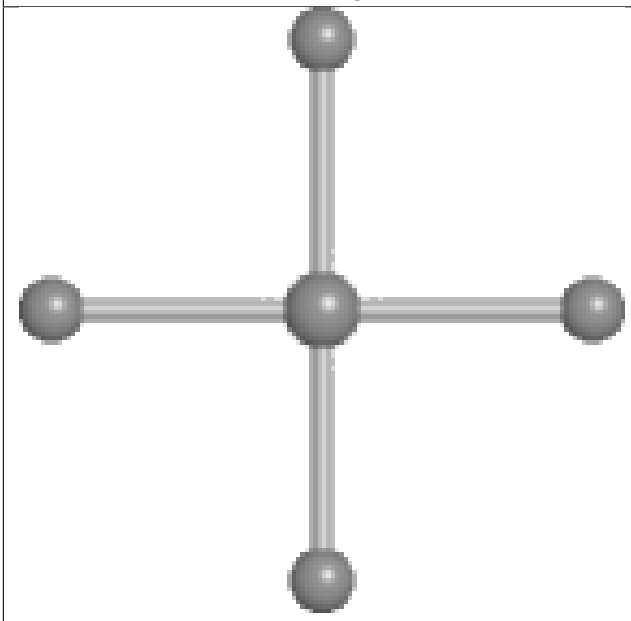


Bond angles



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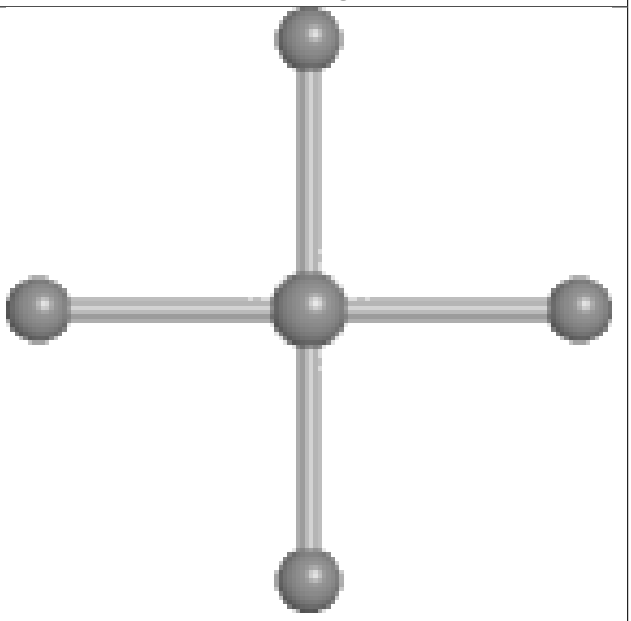
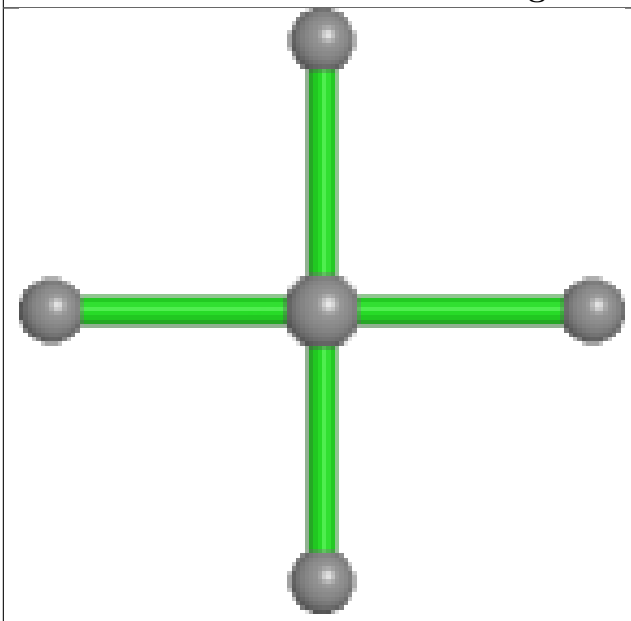


Rings

Ligand SO4 D 705



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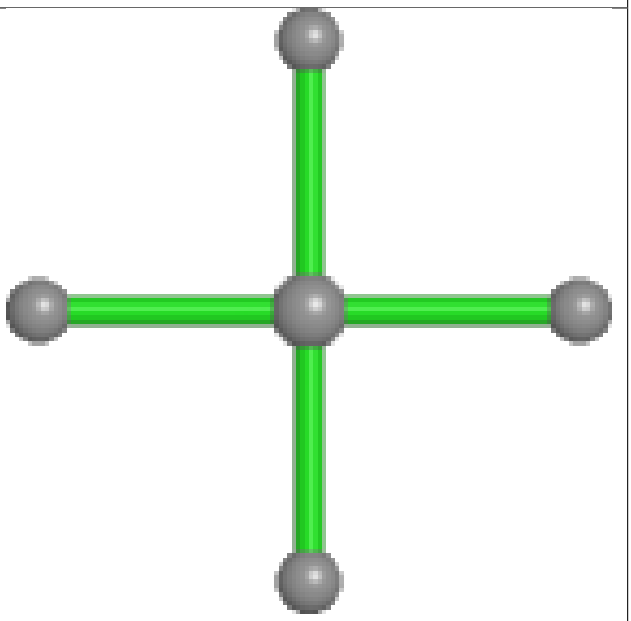
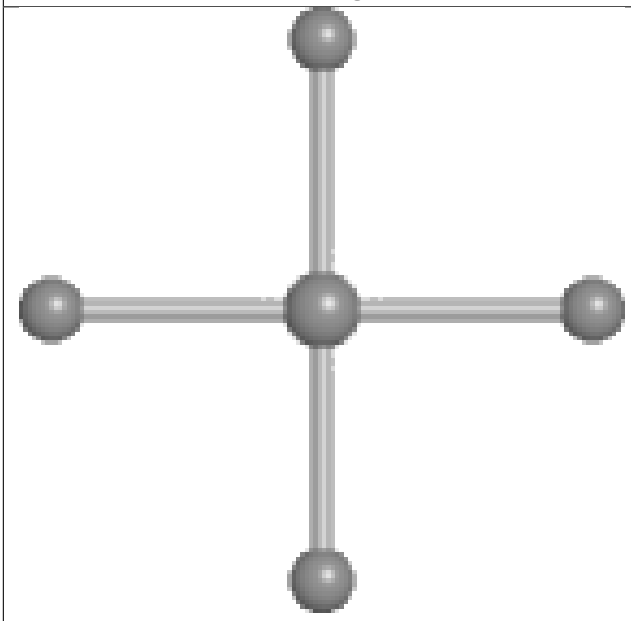


Bond angles



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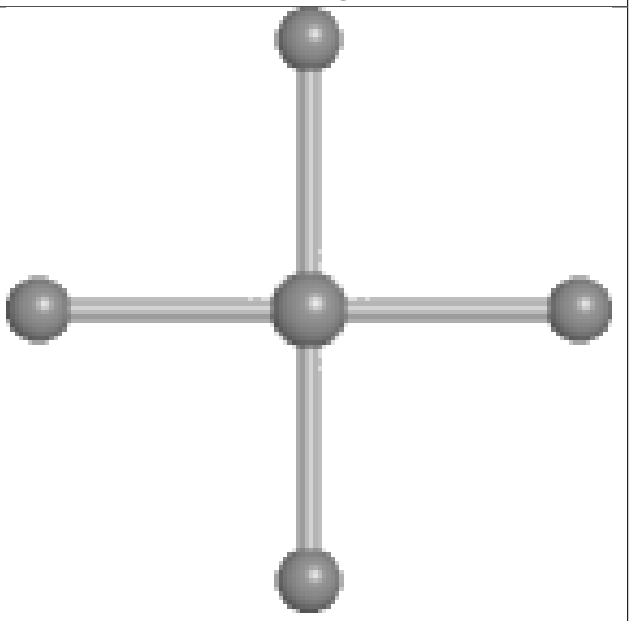
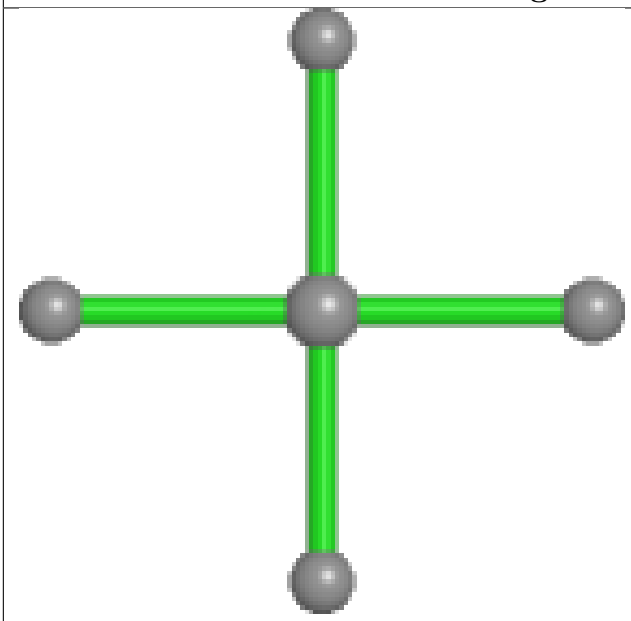


Rings

Ligand SO4 E 703



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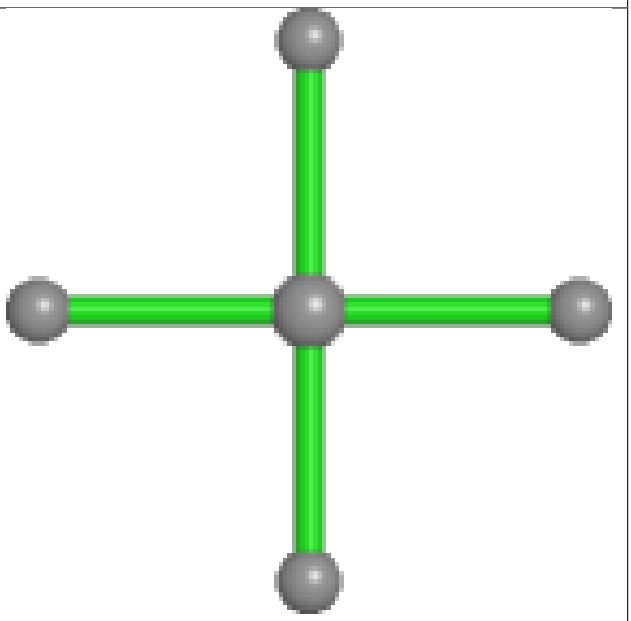
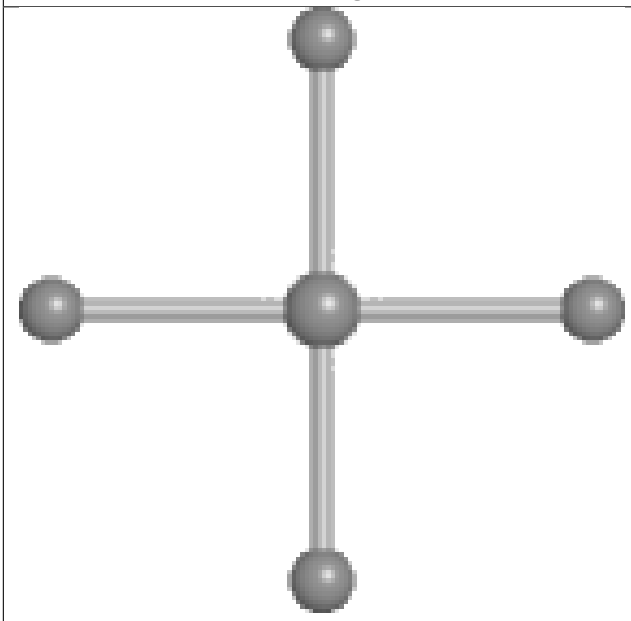


Bond angles



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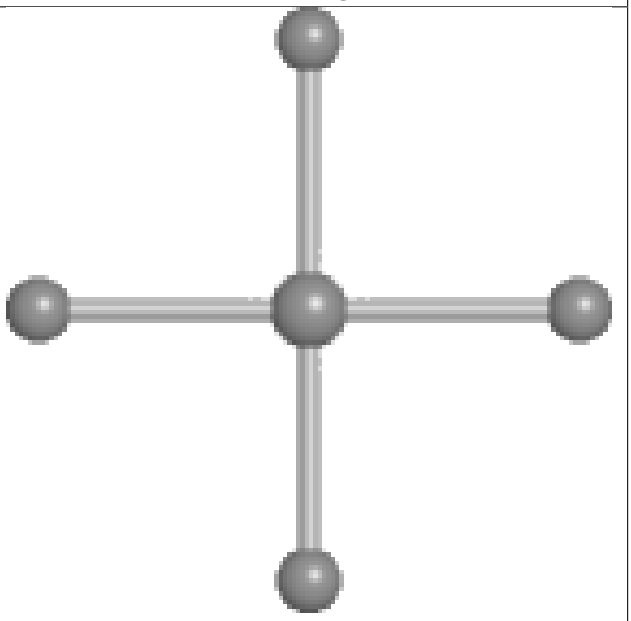
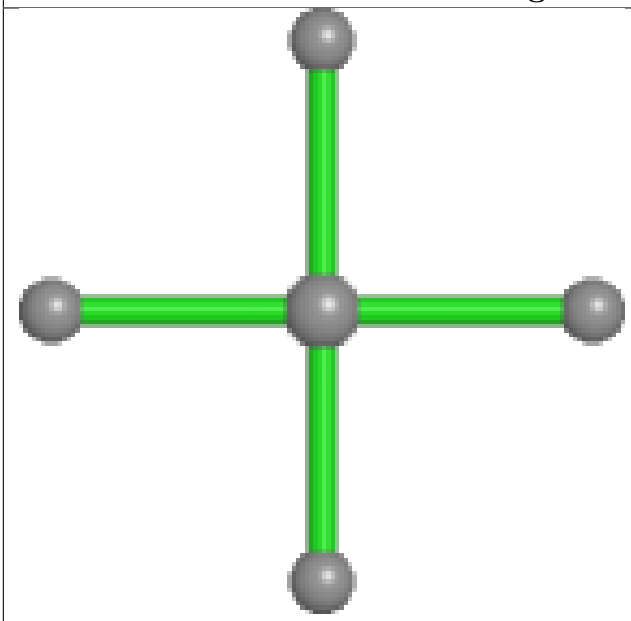


Rings

Ligand SO4 H 702



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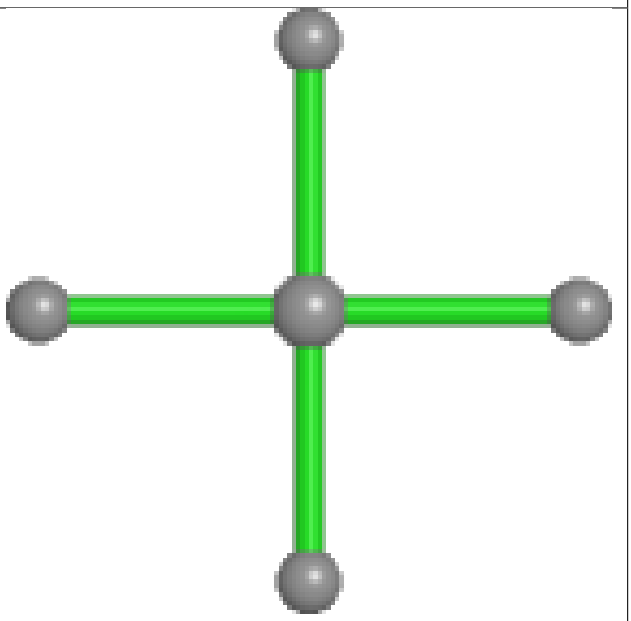
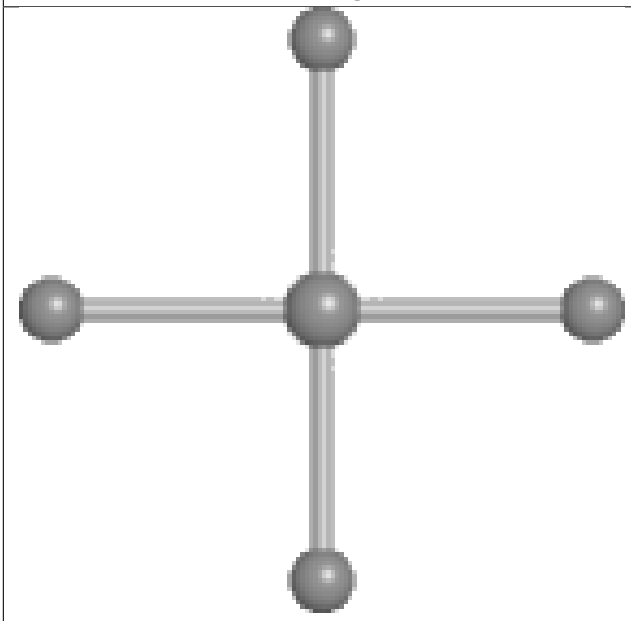


Bond angles



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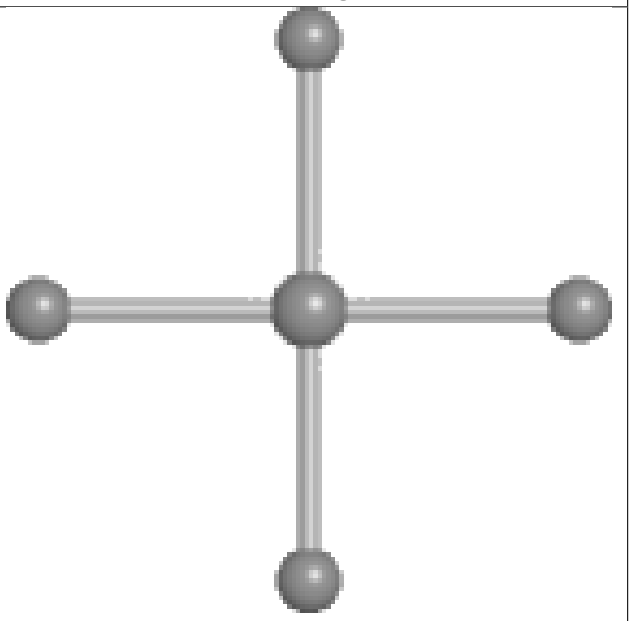
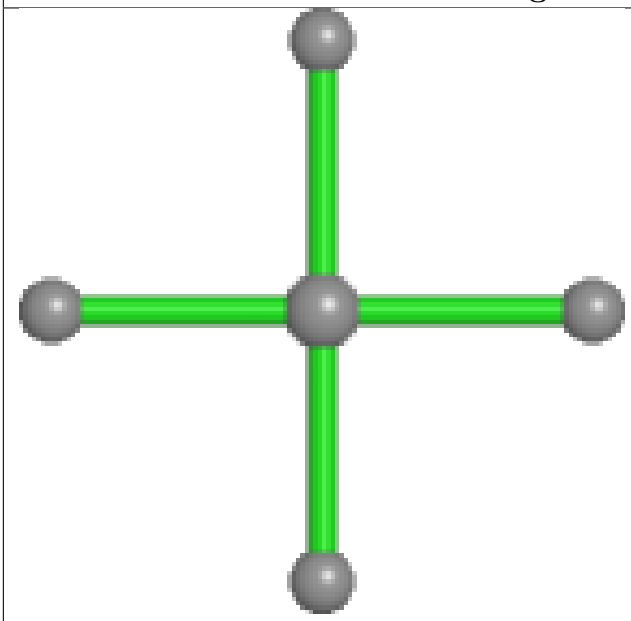


Rings

Ligand SO4 B 704



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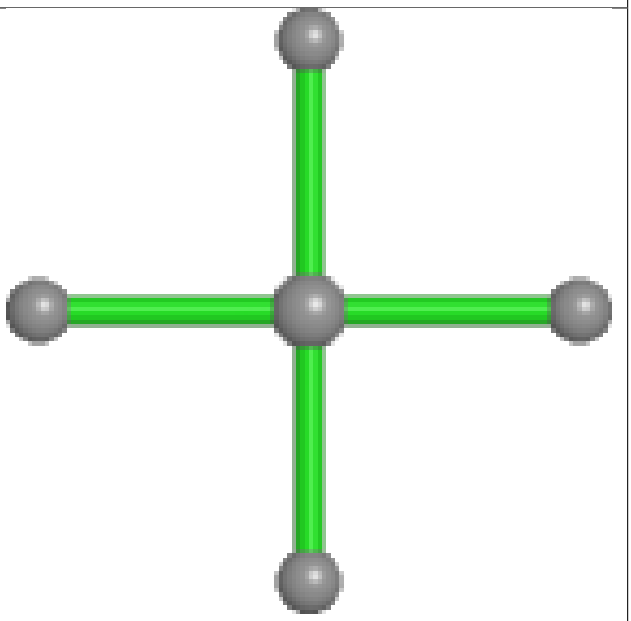
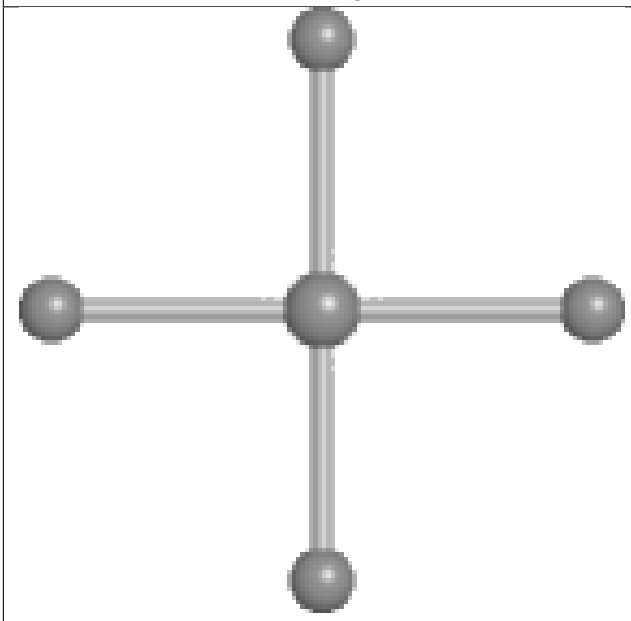


Bond angles



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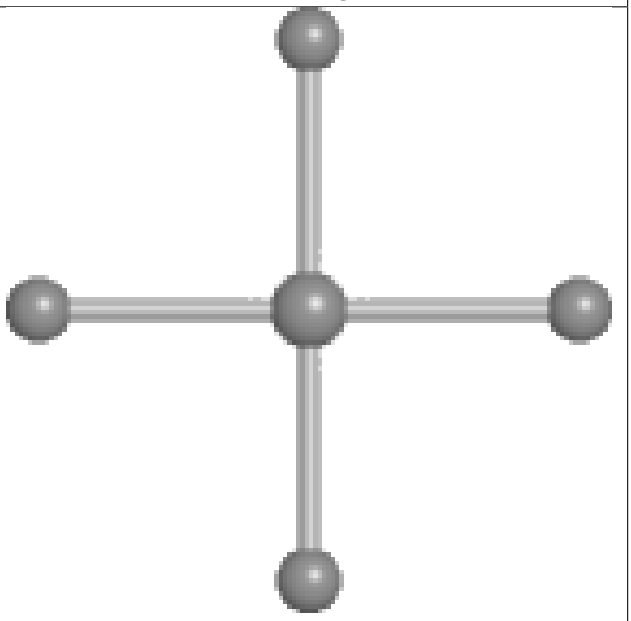
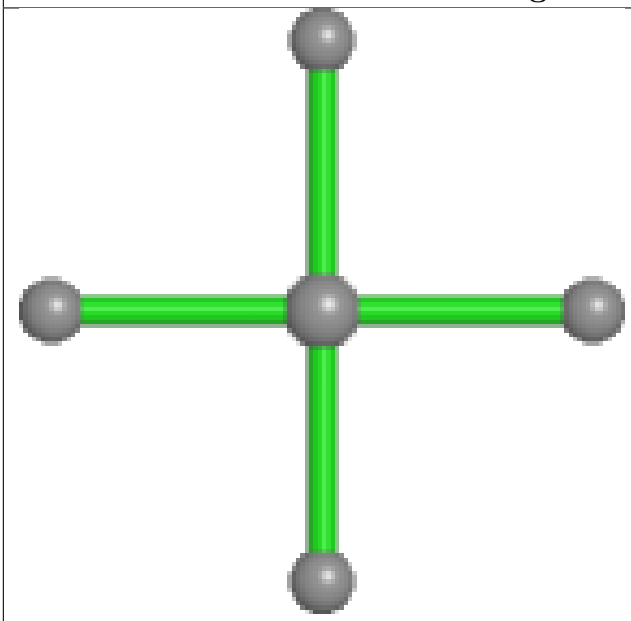


Rings

Ligand SO4 B 702



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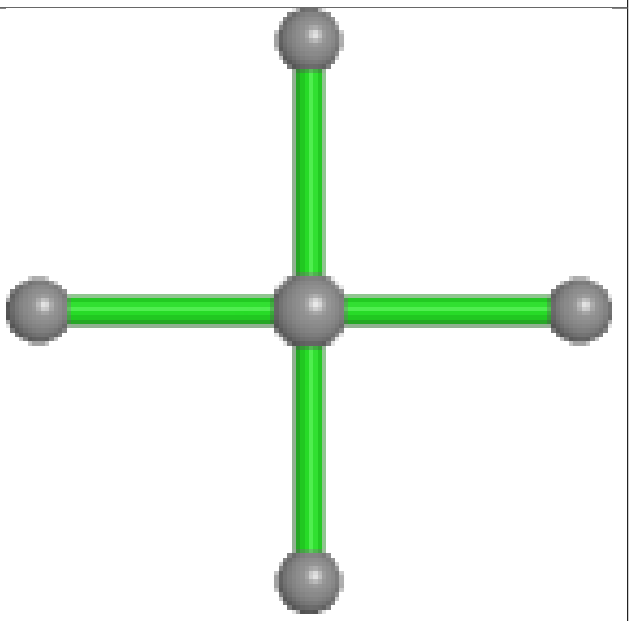

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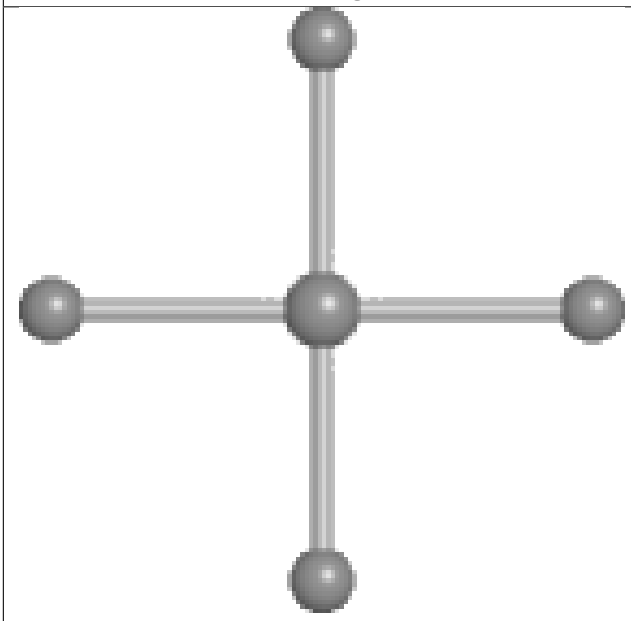

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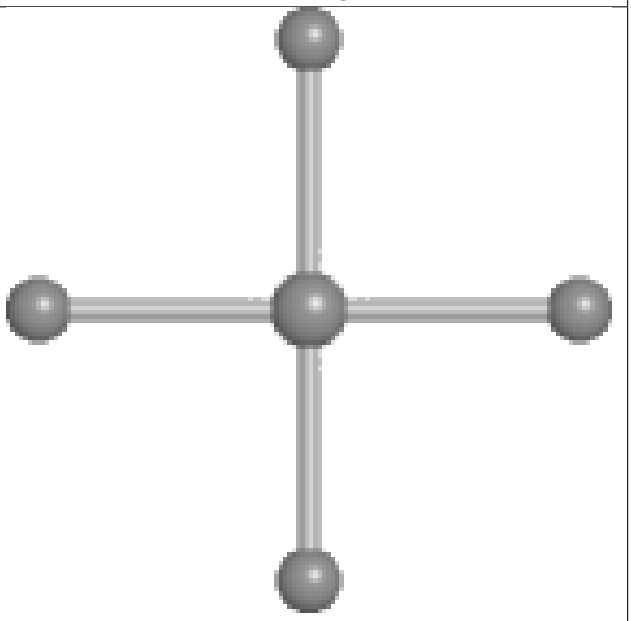
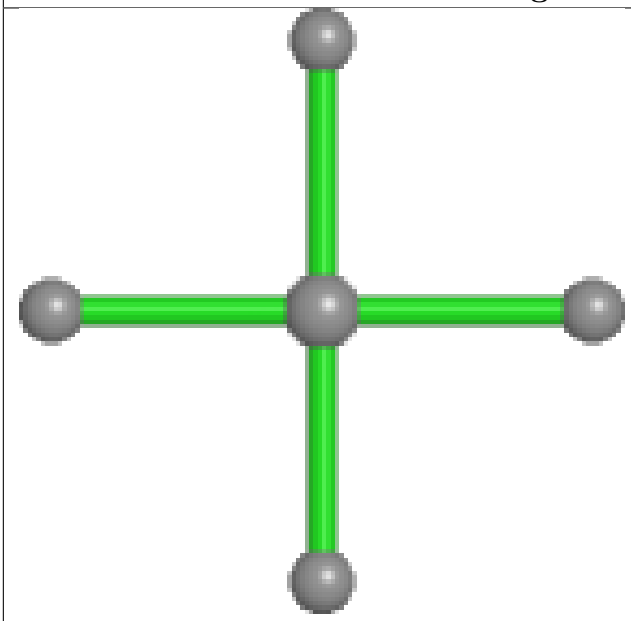


Rings

Ligand SO4 F 702



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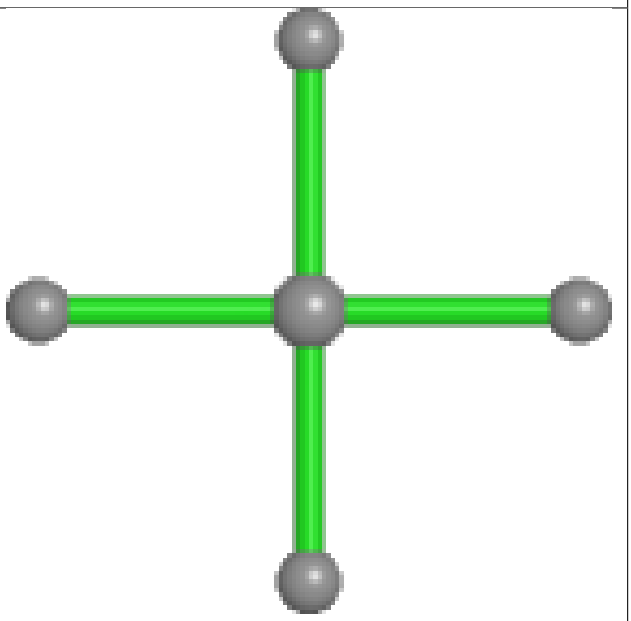

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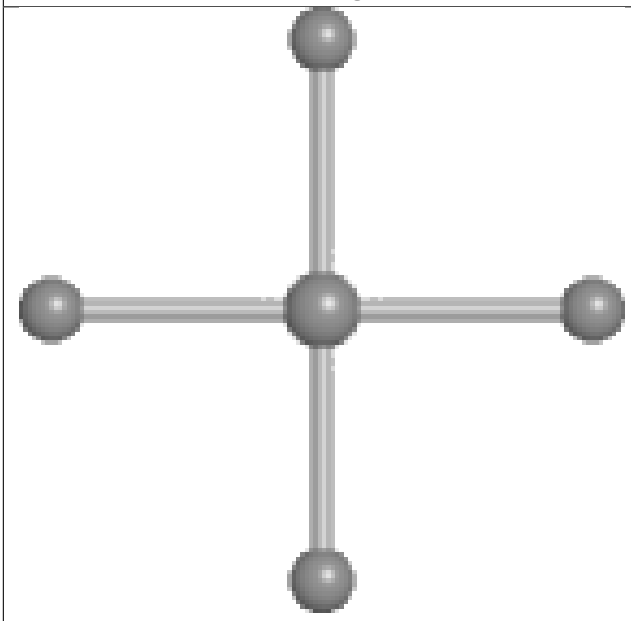

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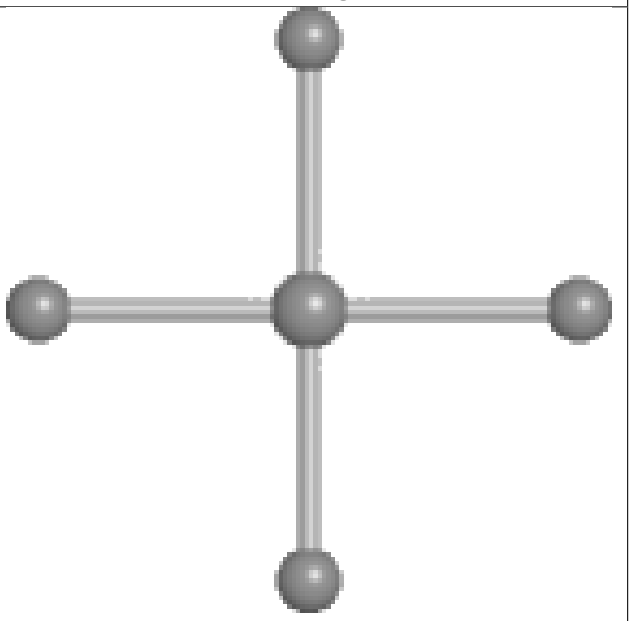
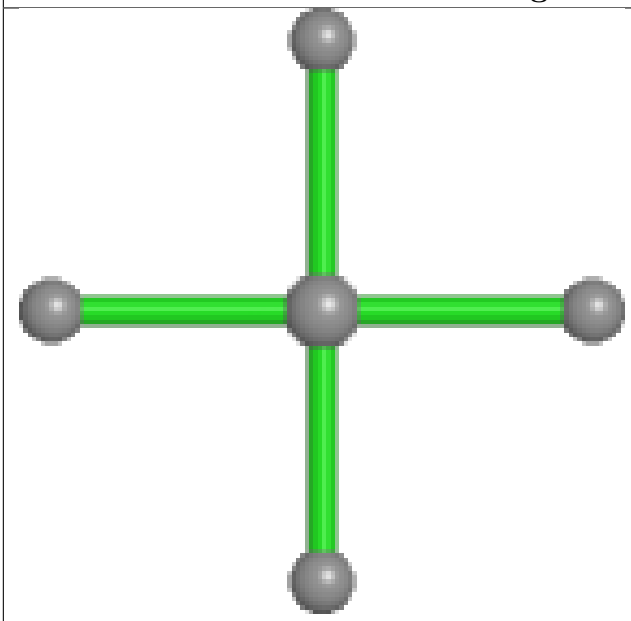


Rings

Ligand SO4 E 708



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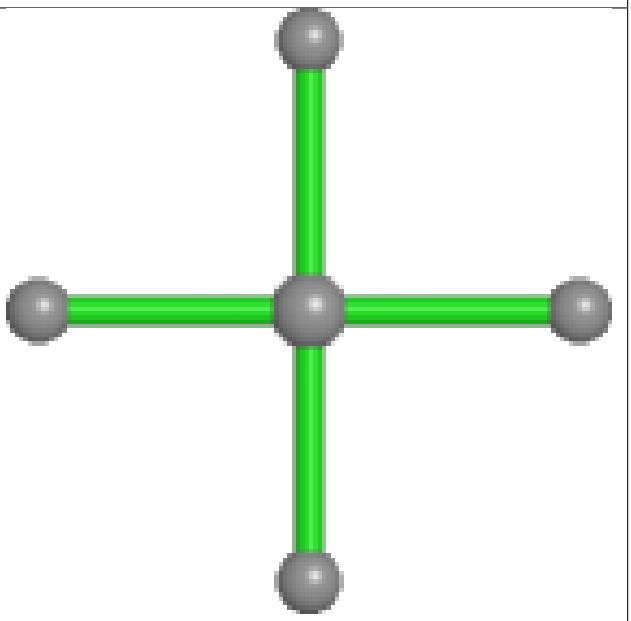
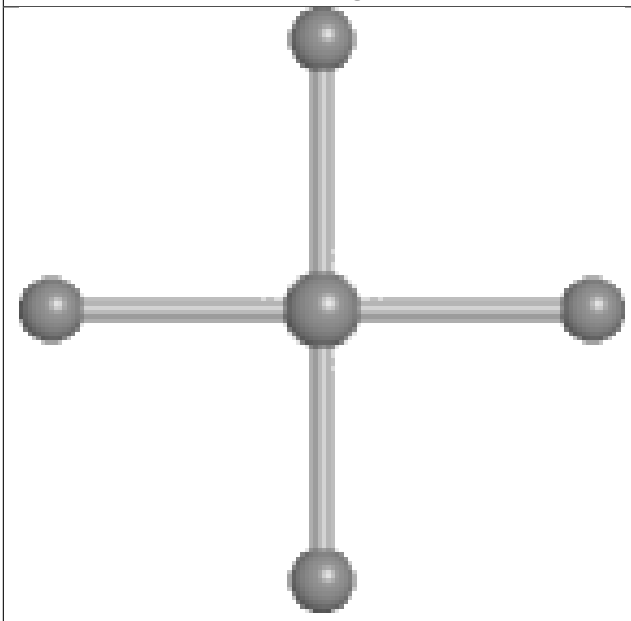


Bond angles



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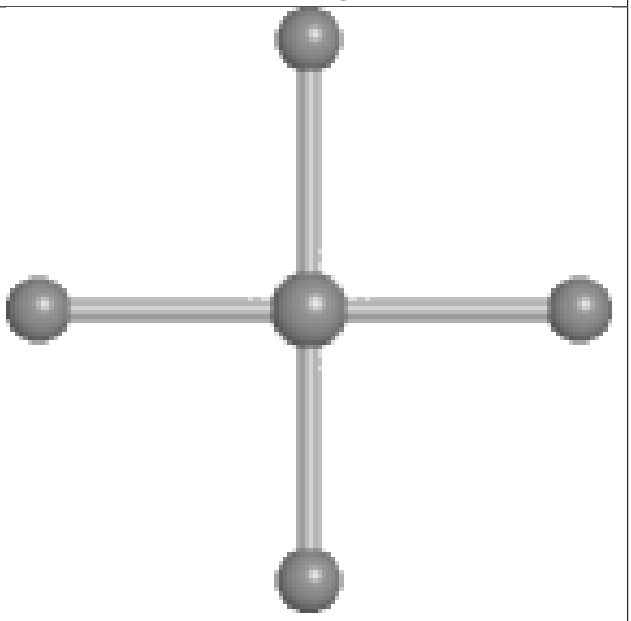
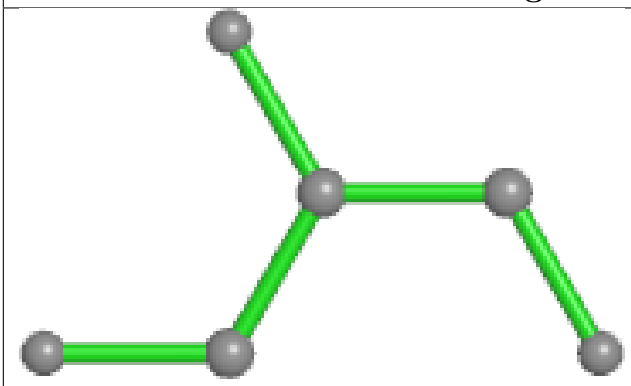


Rings

Ligand GOL F 711



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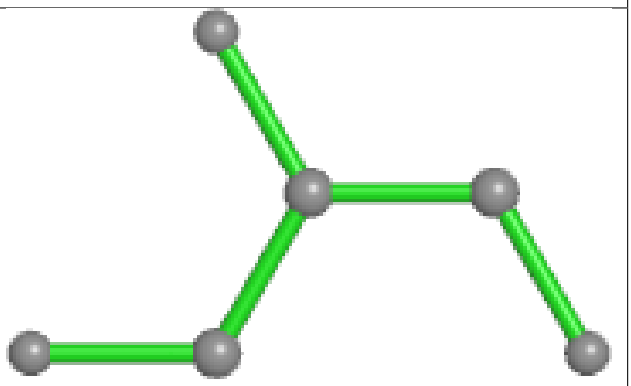
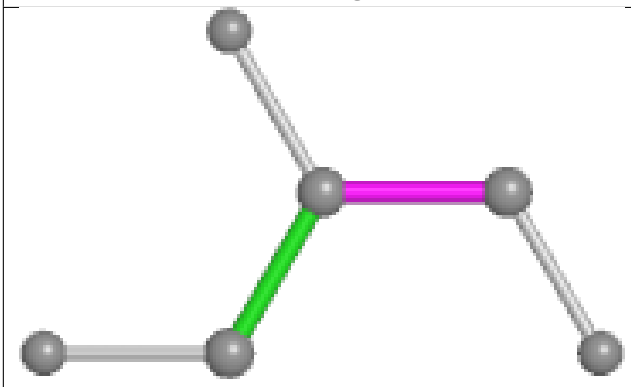


Bond angles



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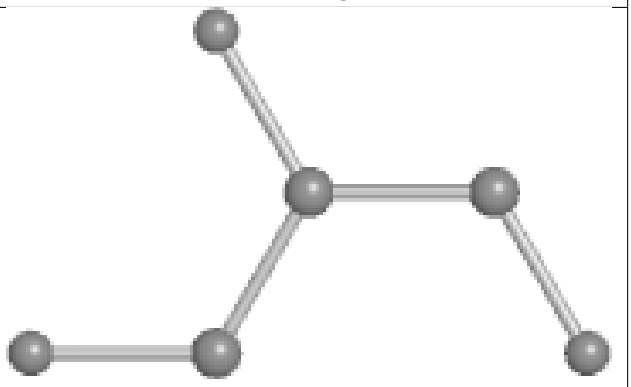
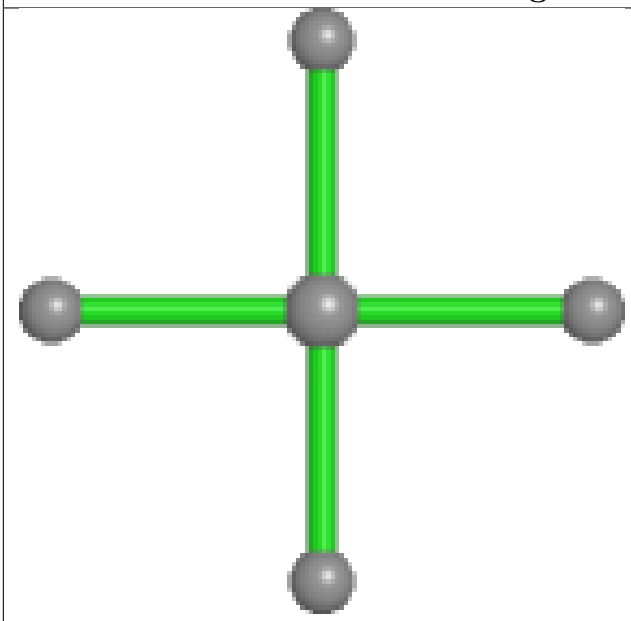


Rings

Ligand SO4 B 712



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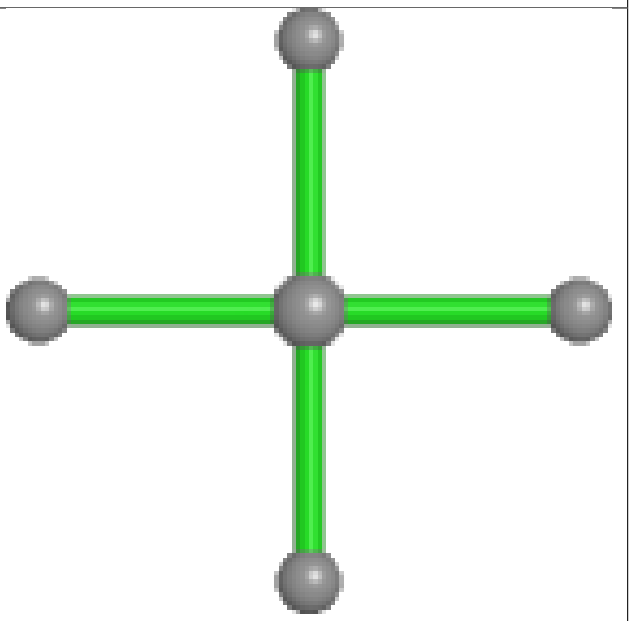
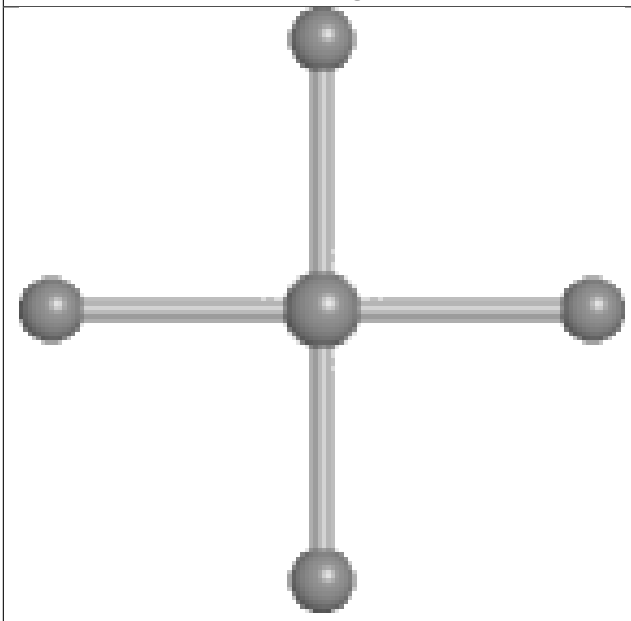


Bond angles



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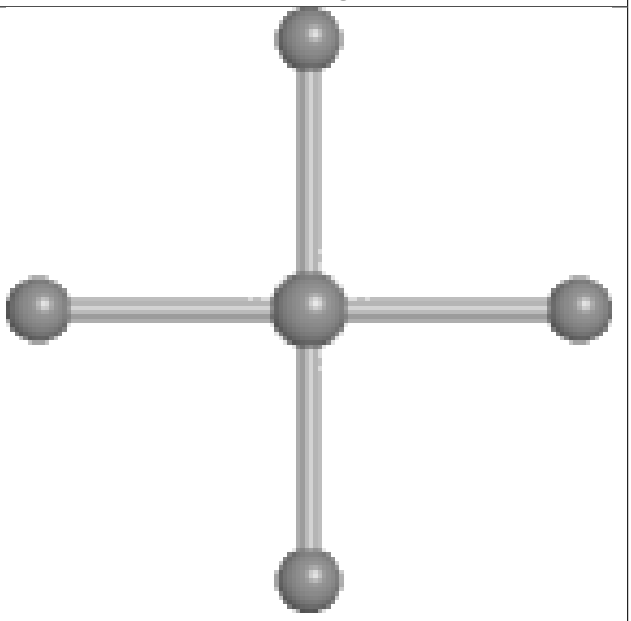
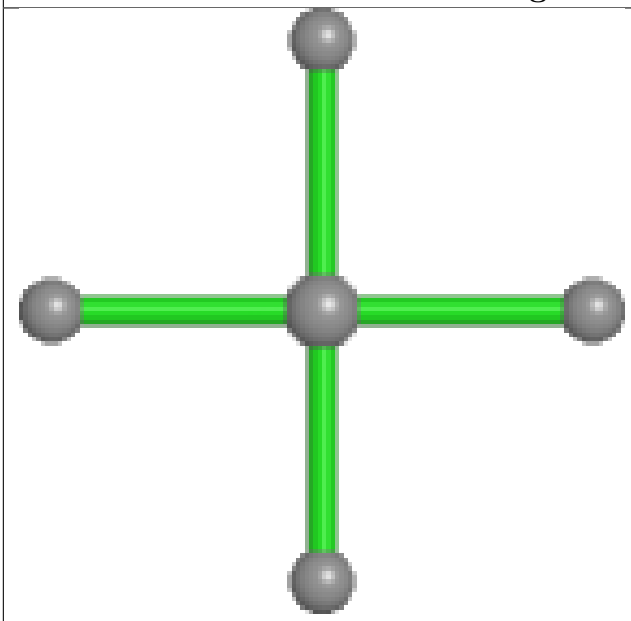
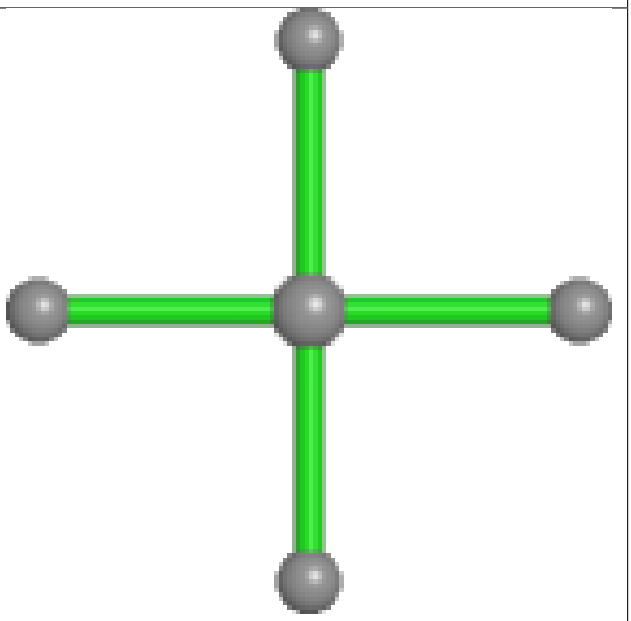


Rings

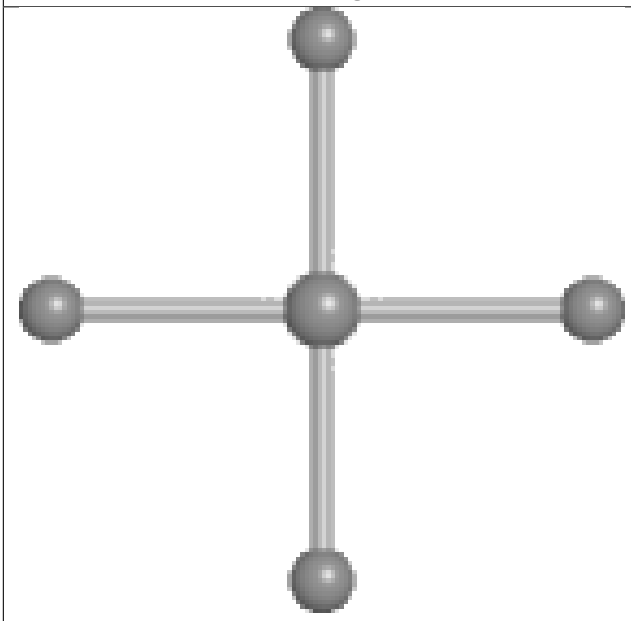
Ligand SO4 B 709



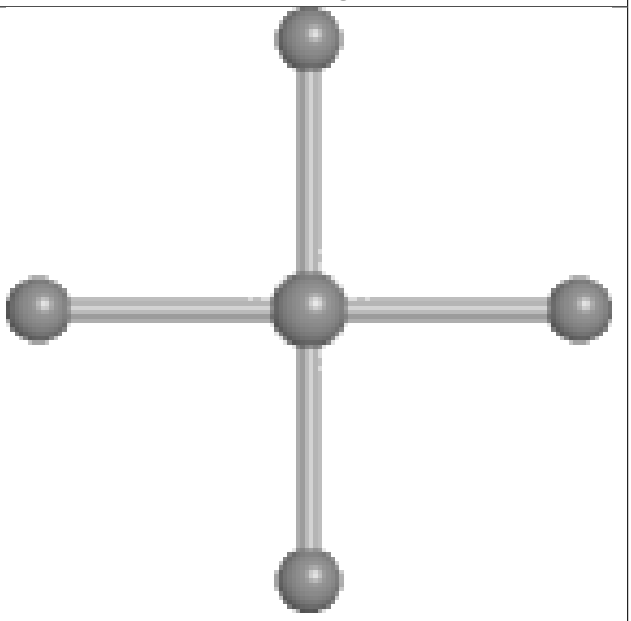
Bond lengths



Bond angles

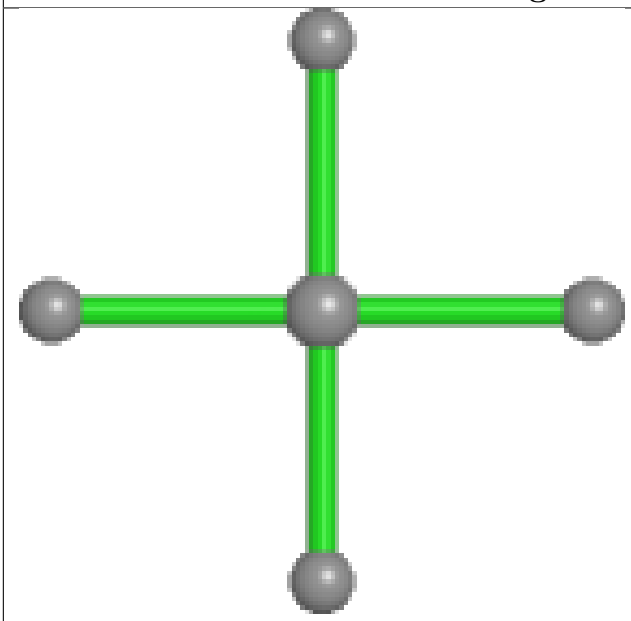


Torsions



Rings

Ligand SO4 B 708



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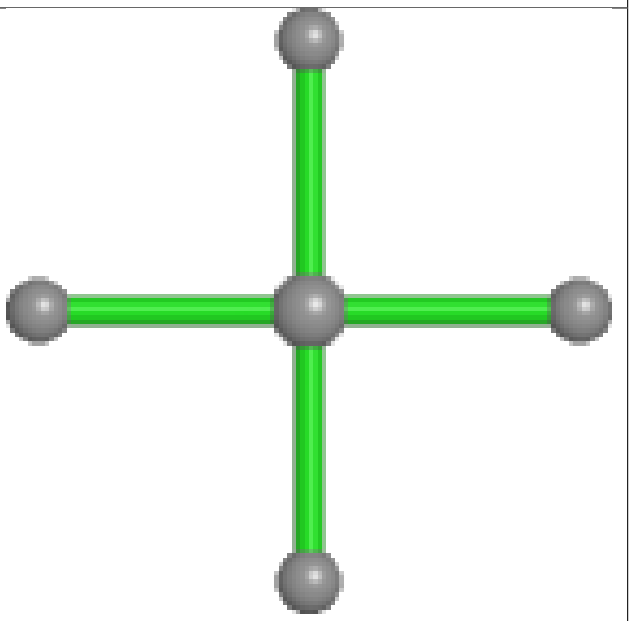
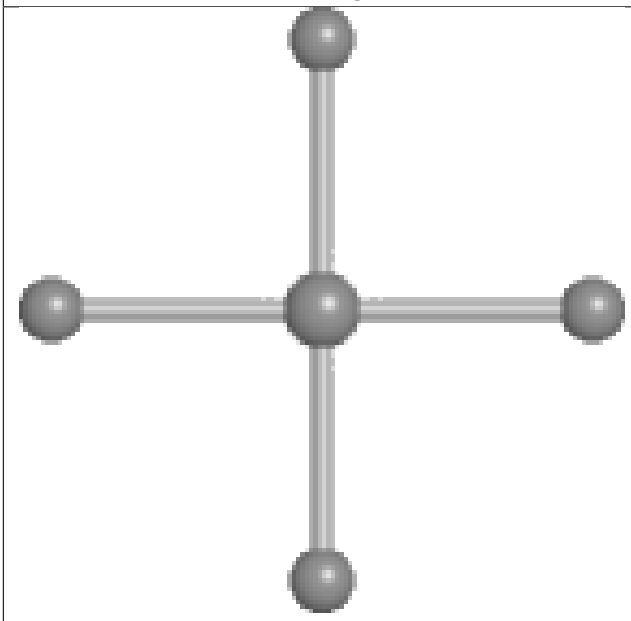


Bond angles



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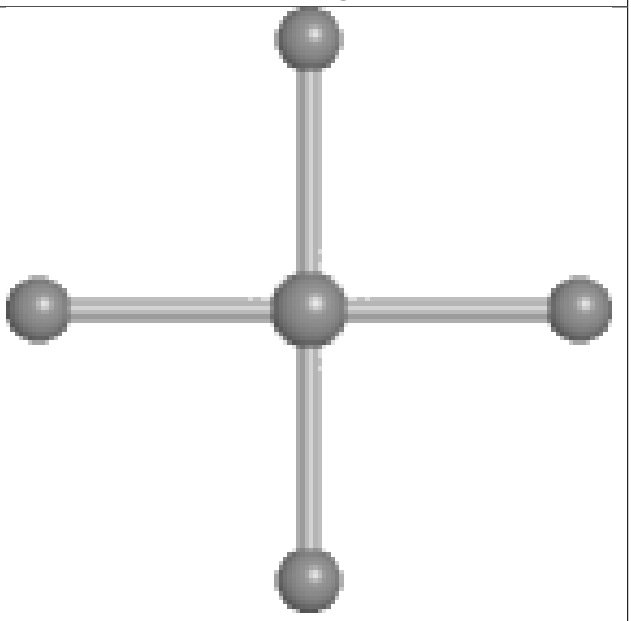
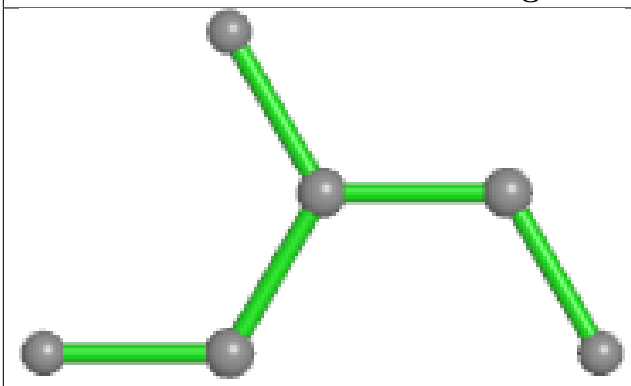


Rings

Ligand GOL G 708



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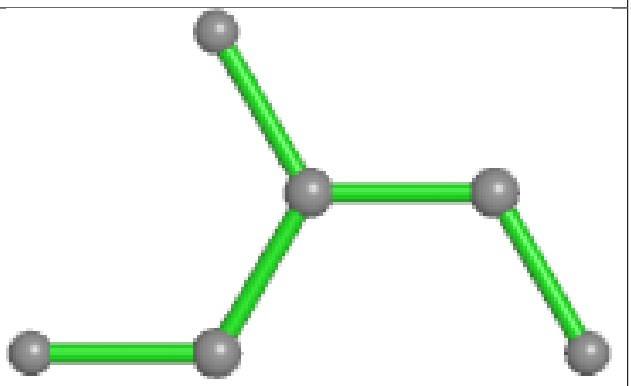
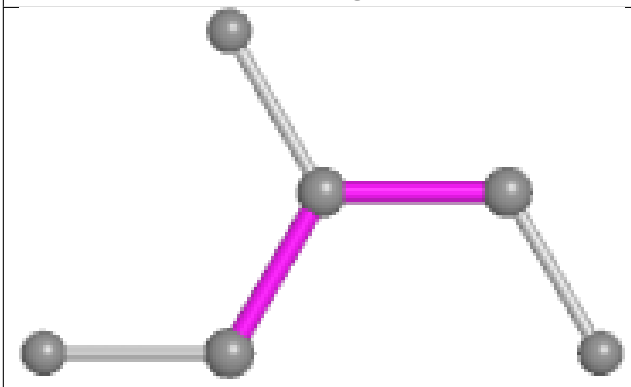


Bond angles



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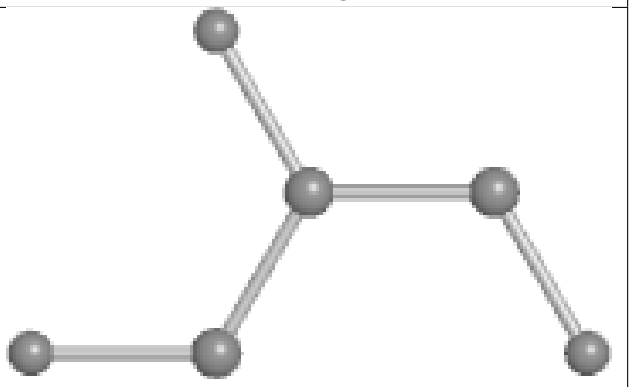
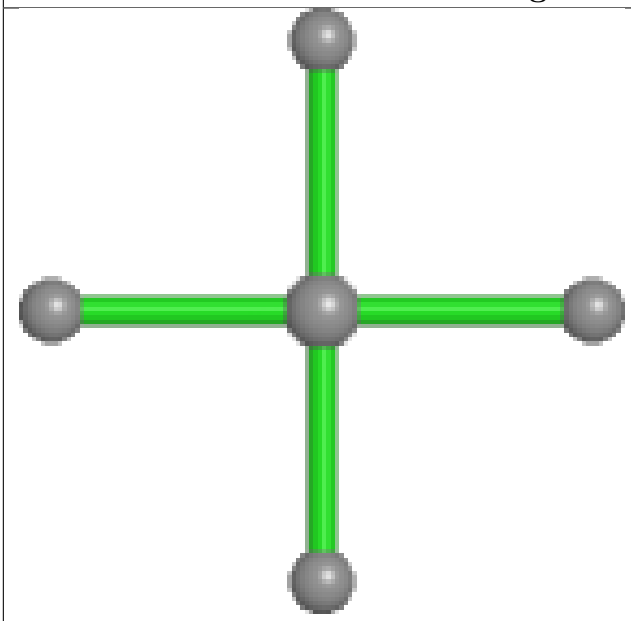


Rings

Ligand SO4 B 703



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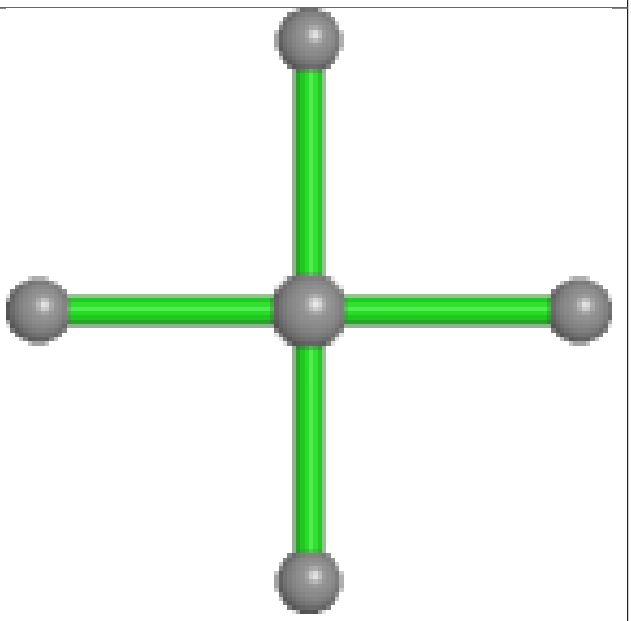
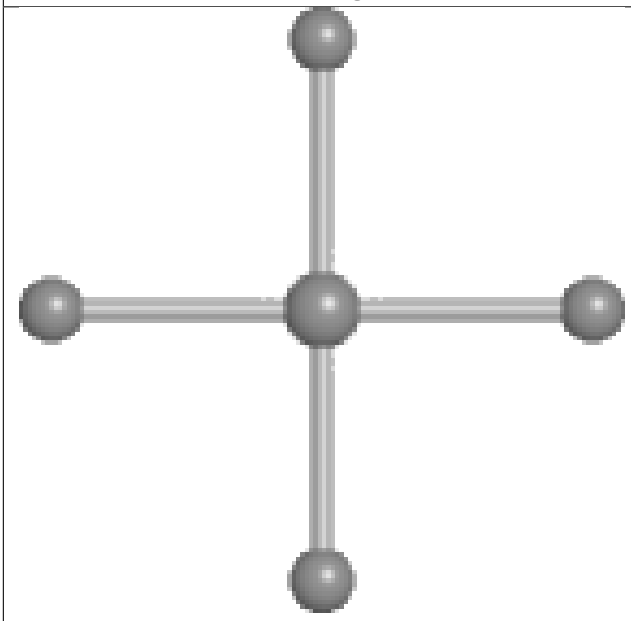


Bond angles



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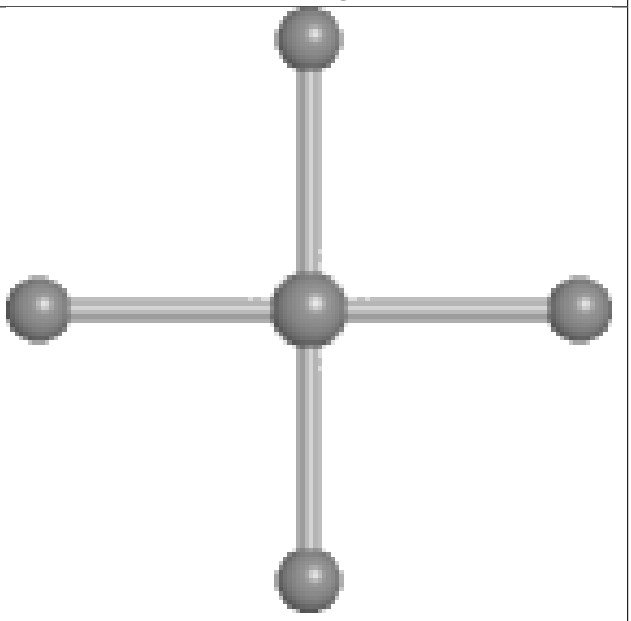
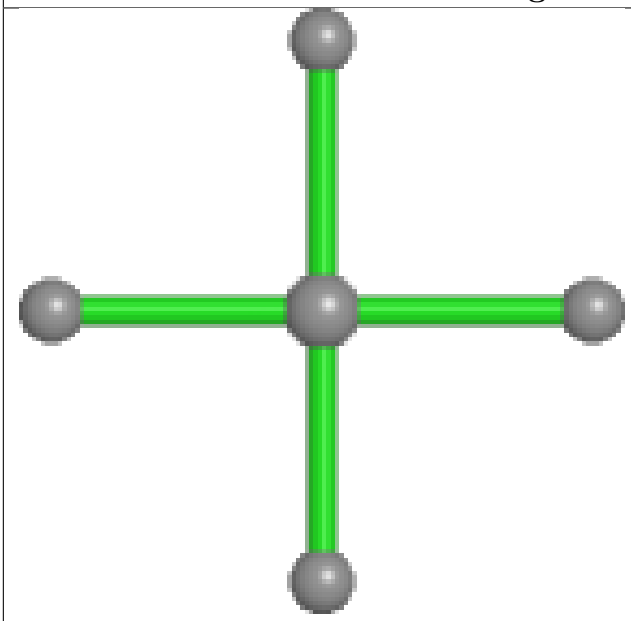


Rings

Ligand SO4 D 702



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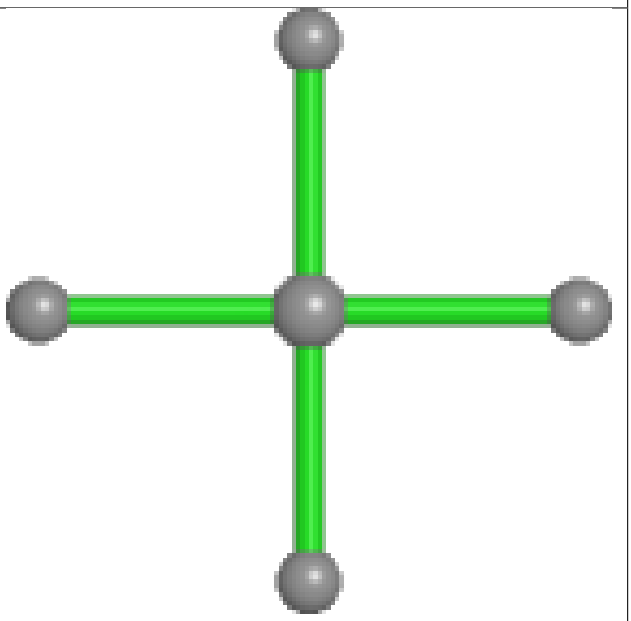

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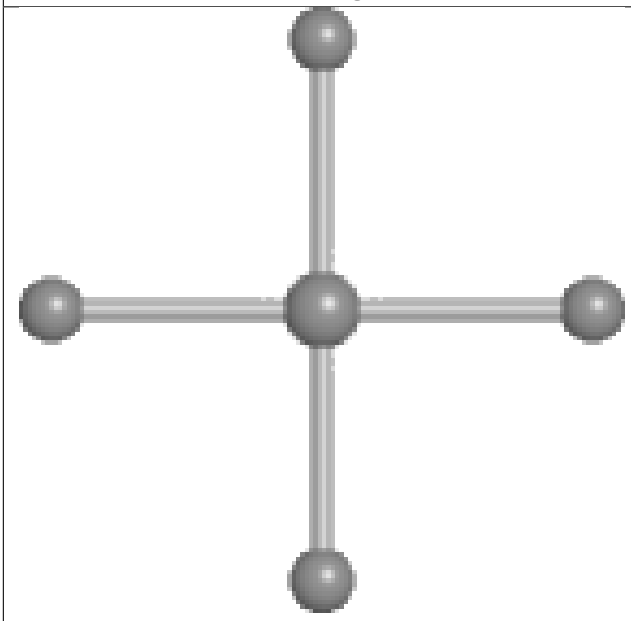

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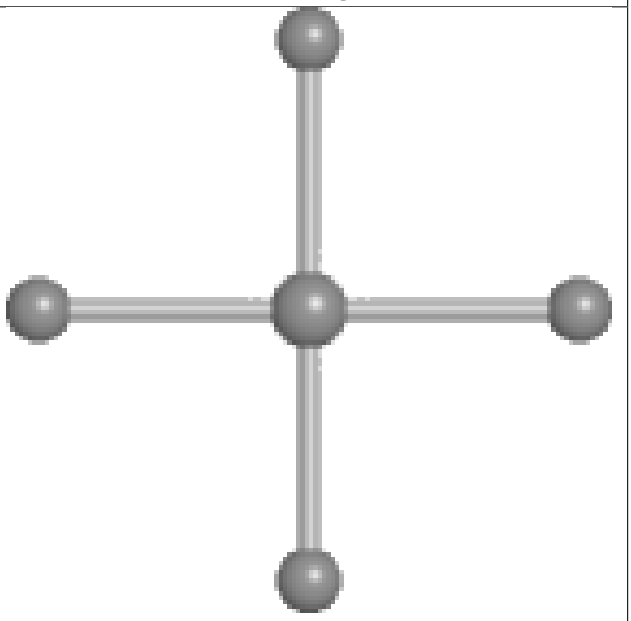
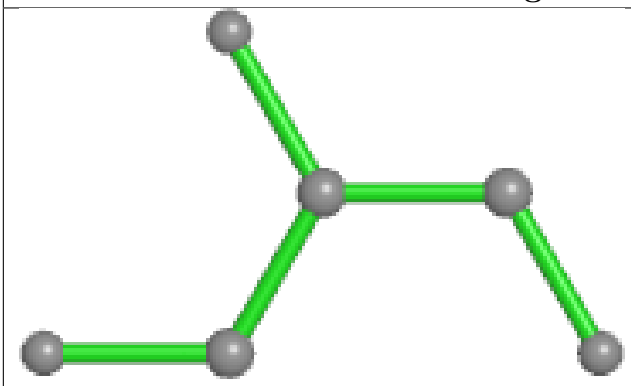


Rings

Ligand GOL E 714



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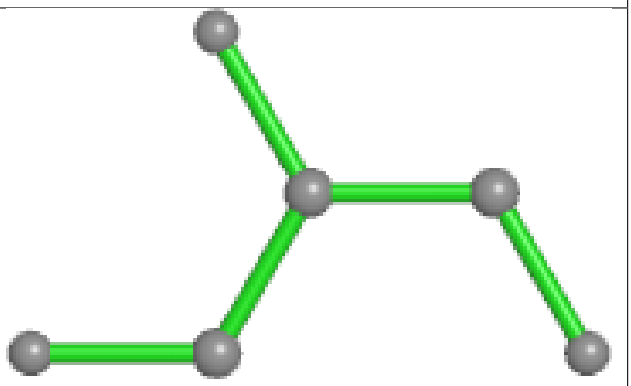
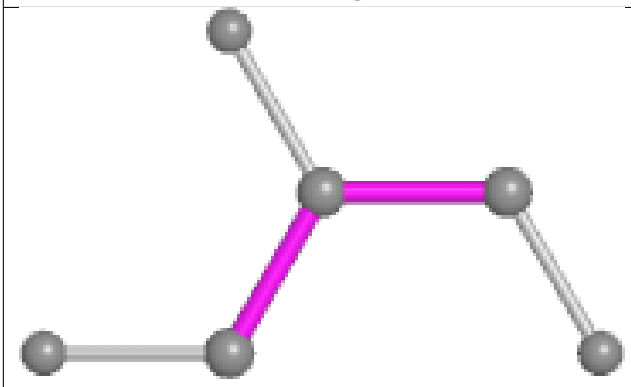


Bond angles



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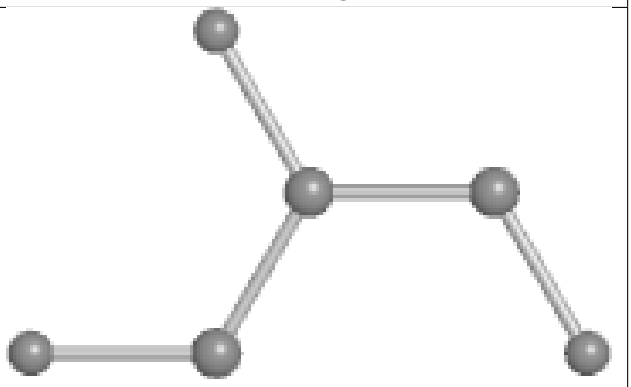
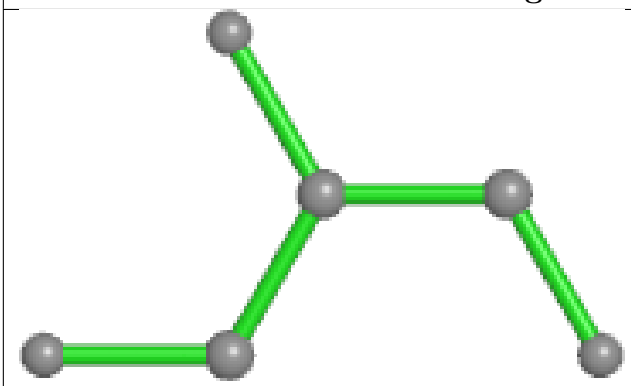


Rings

Ligand GOL F 709



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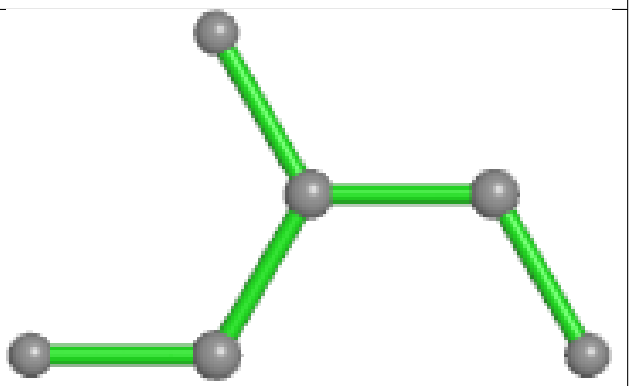

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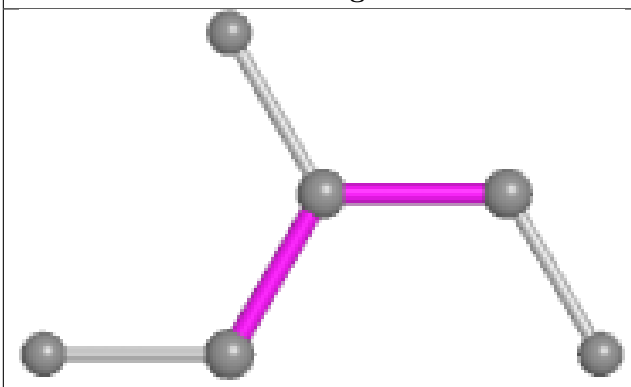

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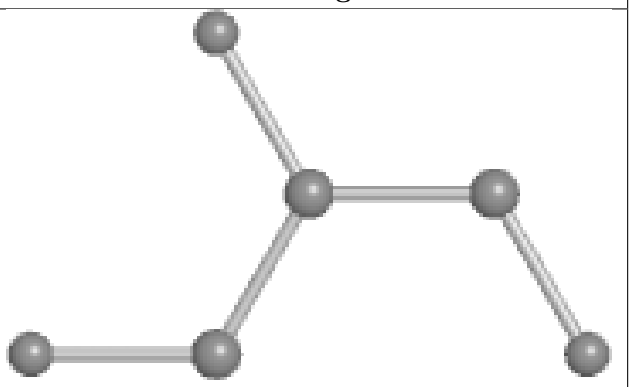
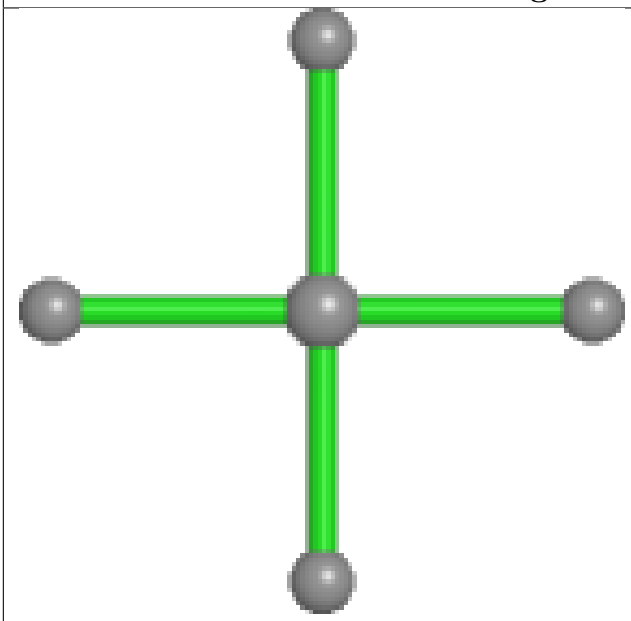


Rings

Ligand SO4 E 704



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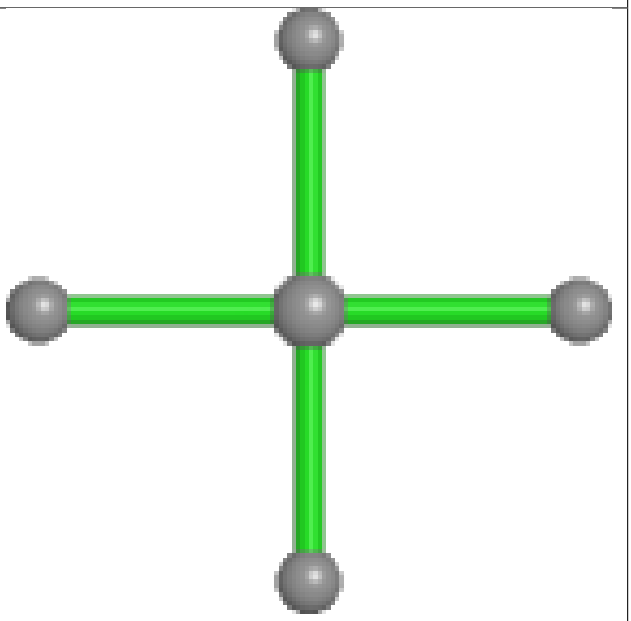

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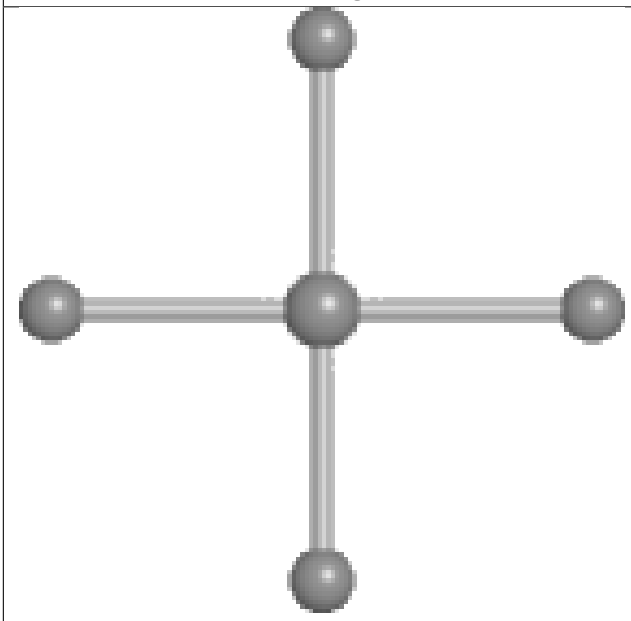

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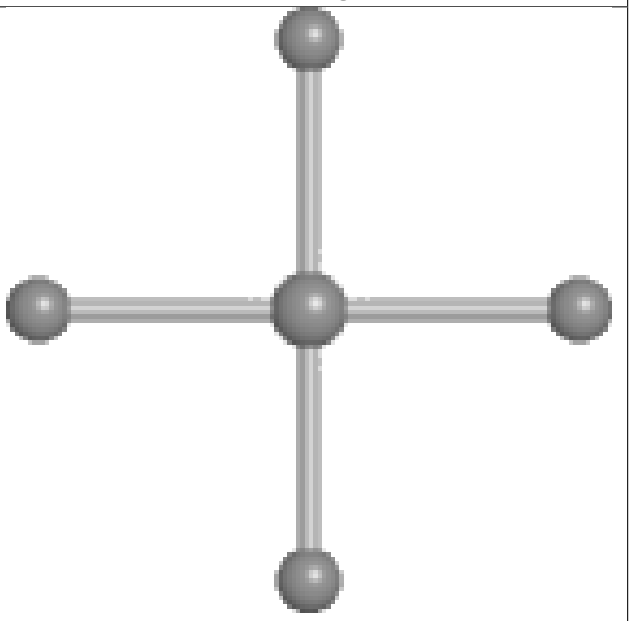
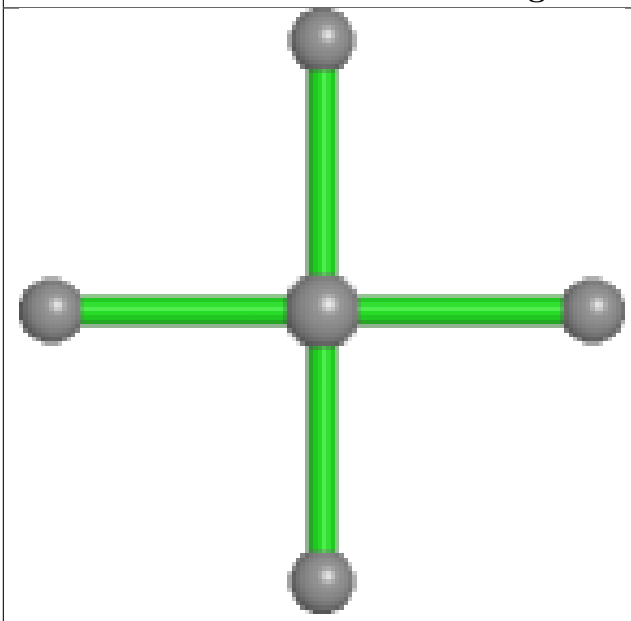


Rings

Ligand SO4 G 705



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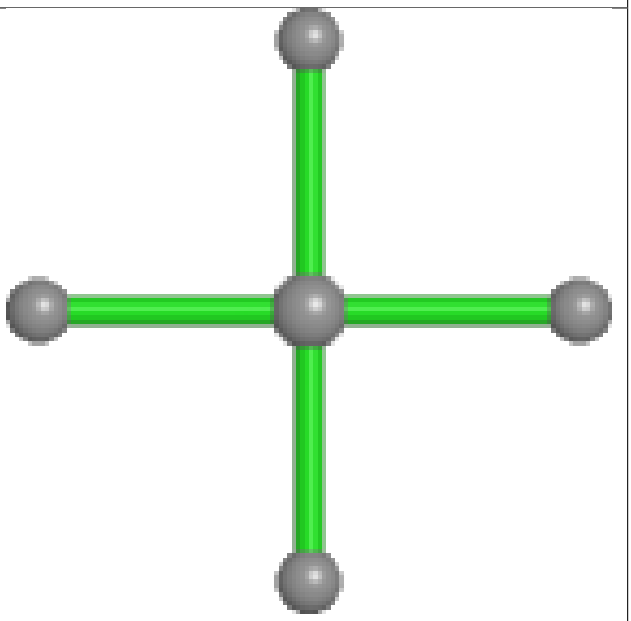

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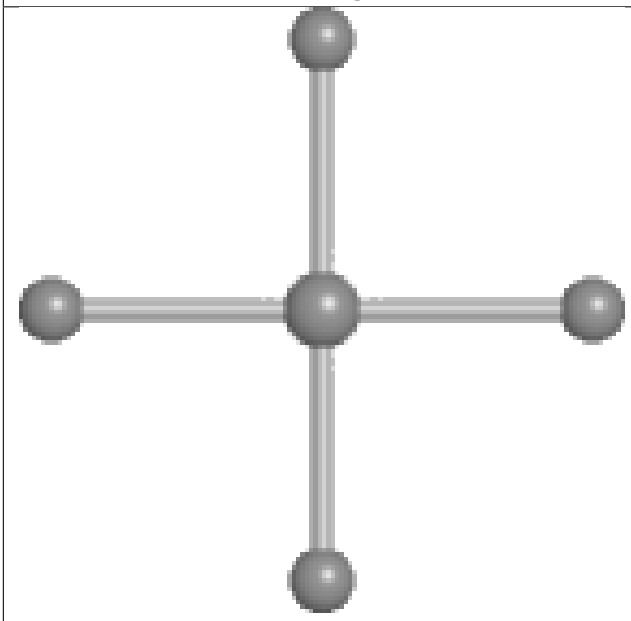

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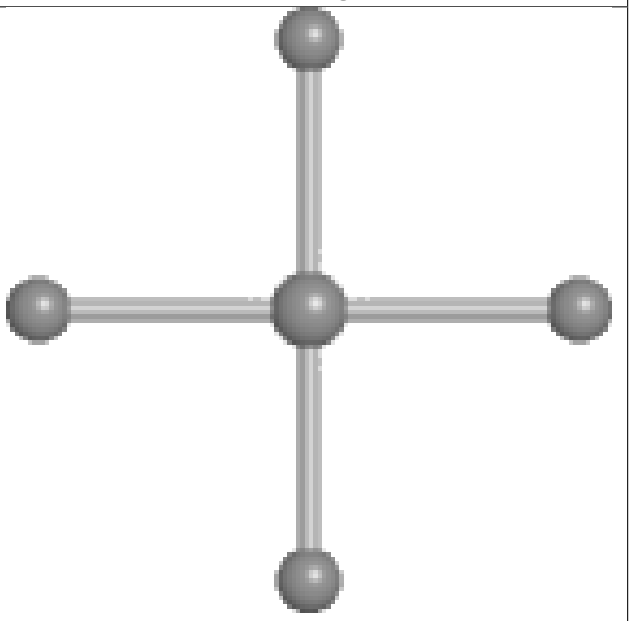
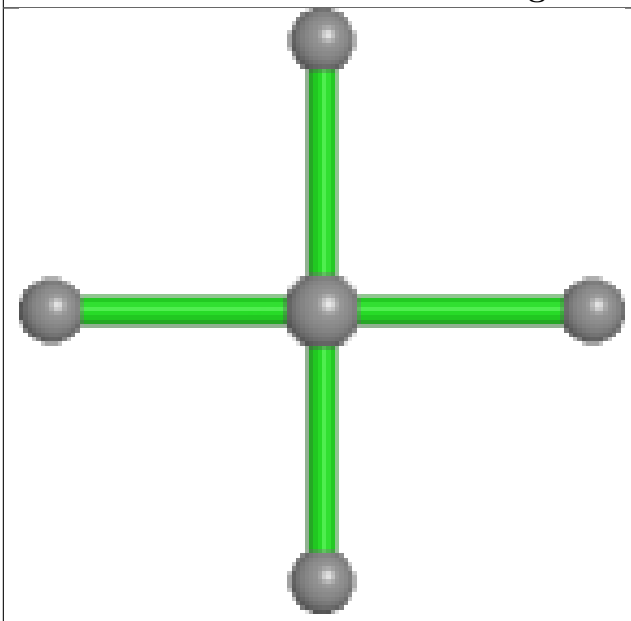


Rings

Ligand SO4 D 708



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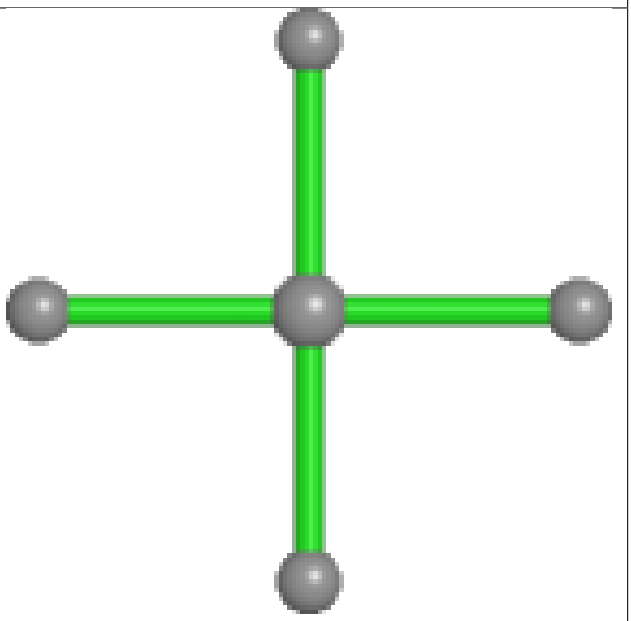

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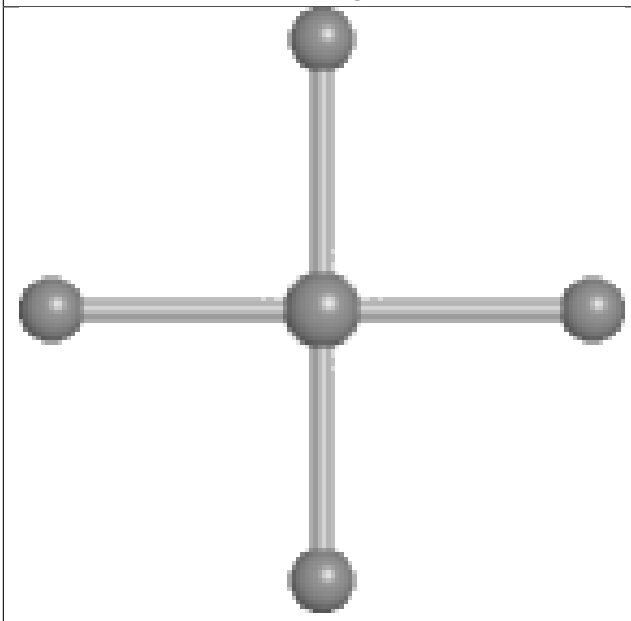

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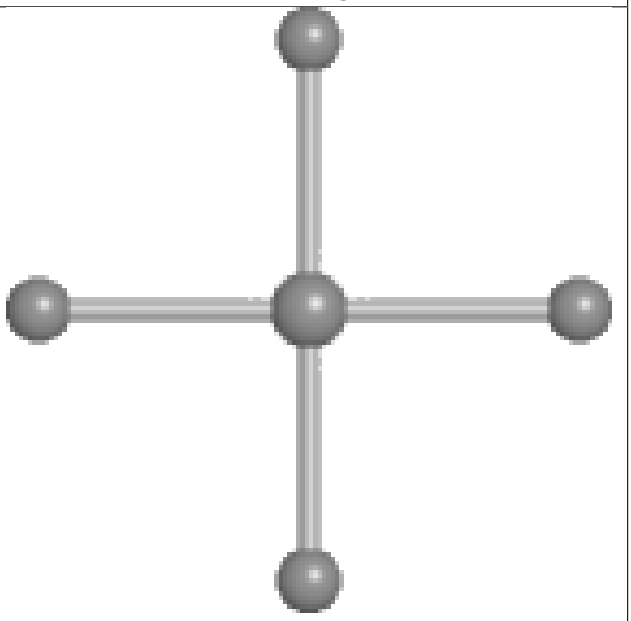
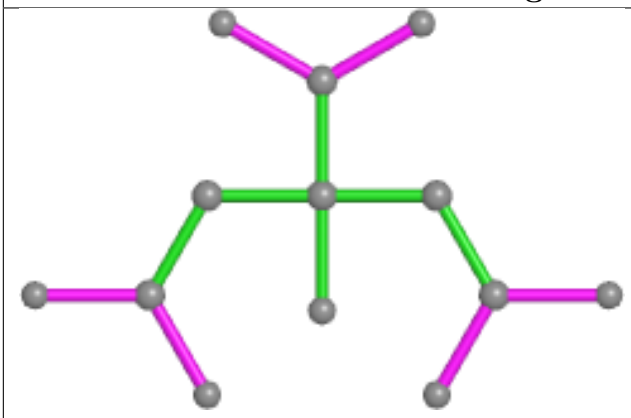


Rings

Ligand FLC H 713



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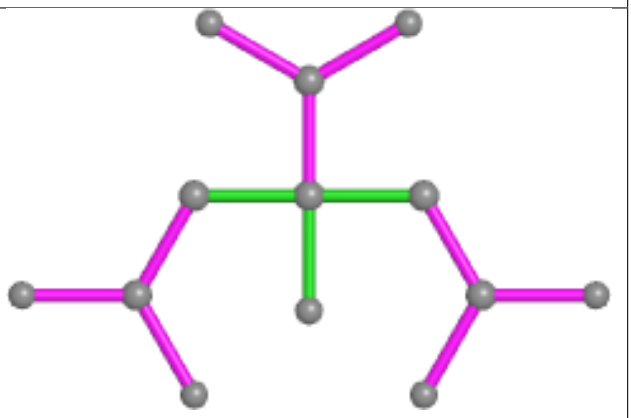
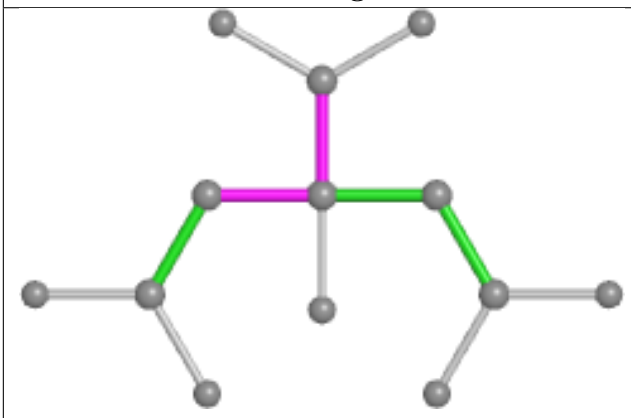


Bond angles



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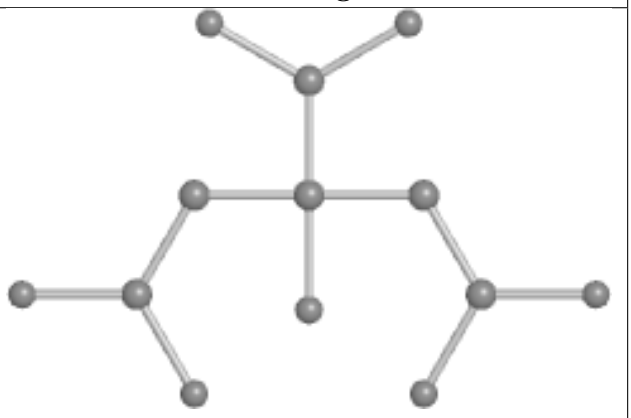
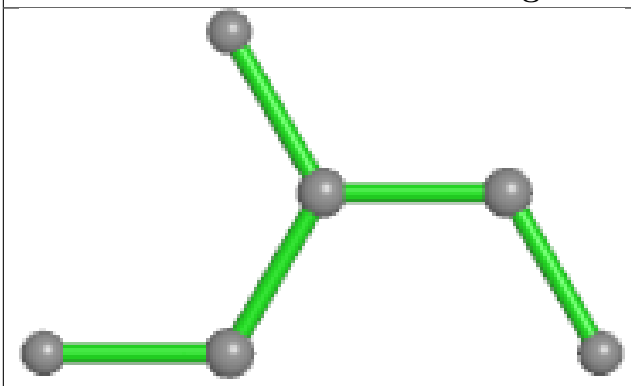


Rings

Ligand GOL D 713



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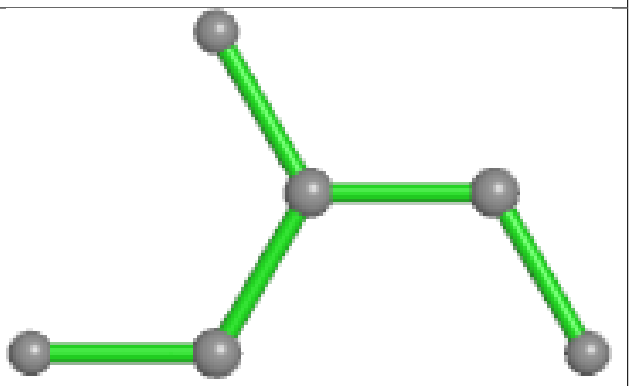

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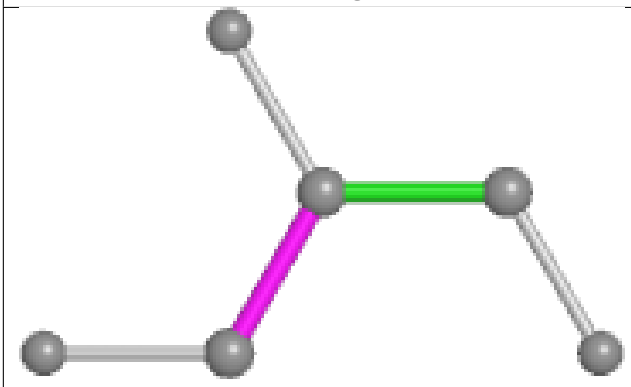

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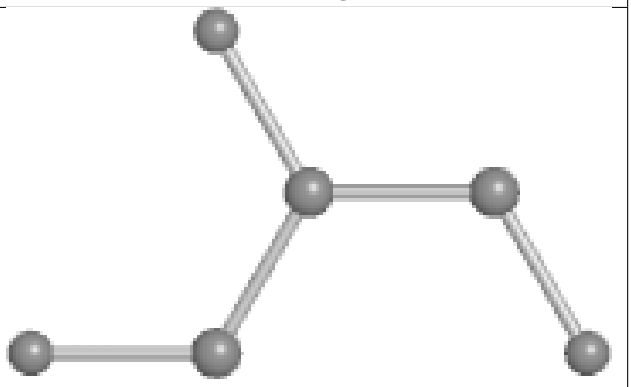
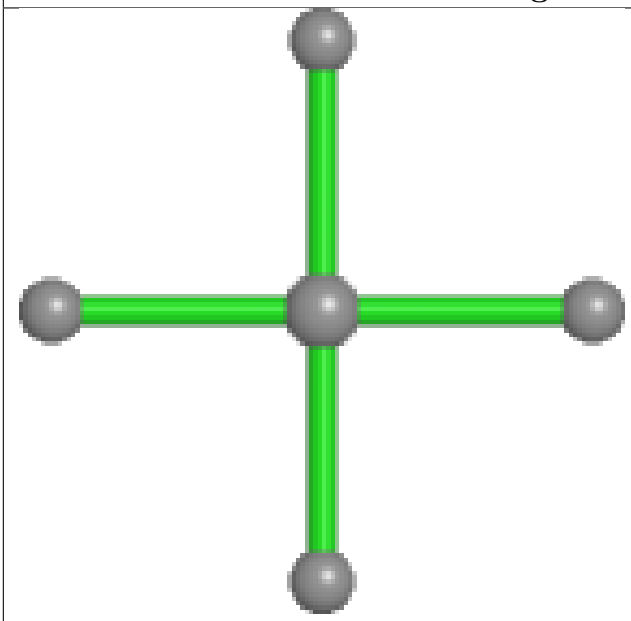


Rings

Ligand SO4 F 705



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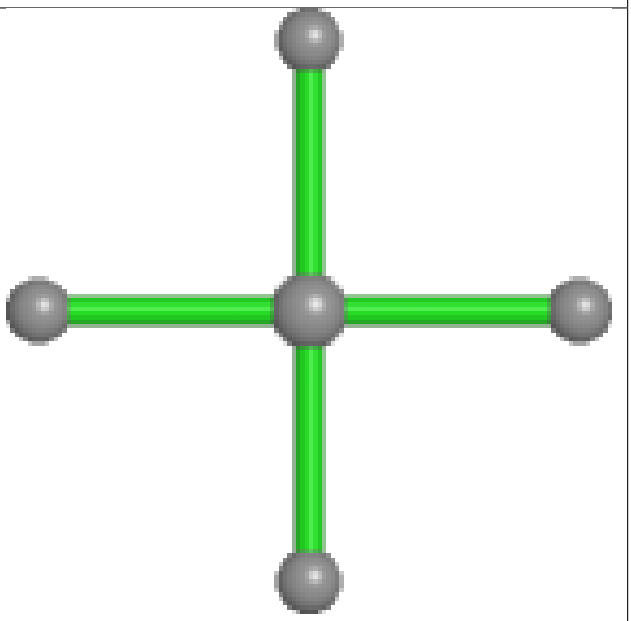
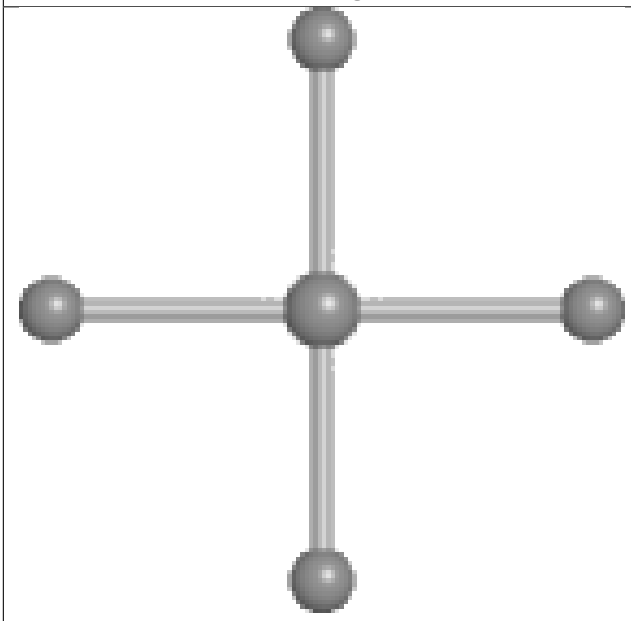


Bond angles



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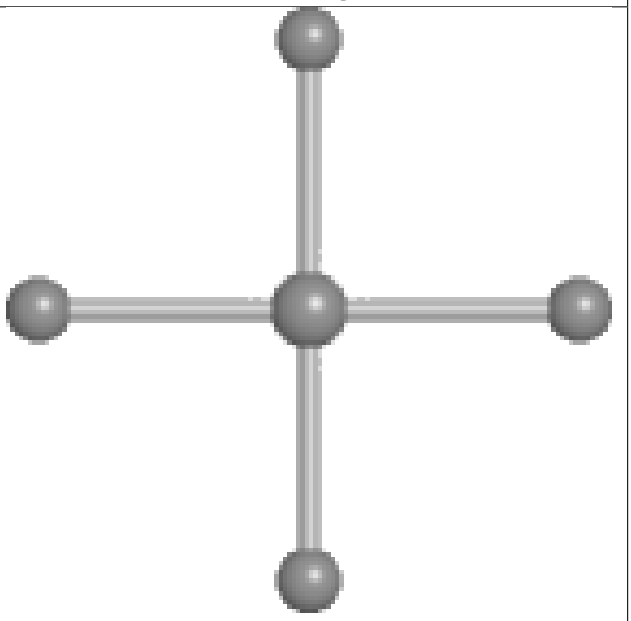
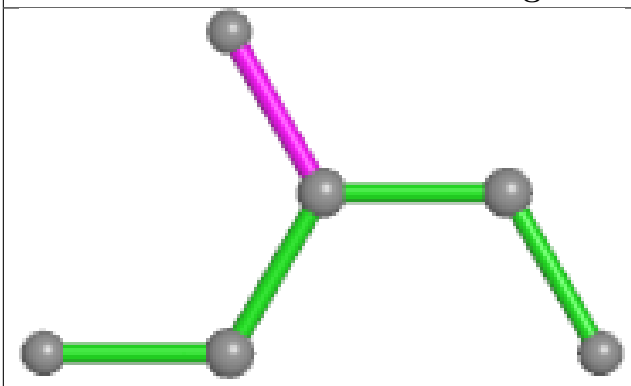


Rings

Ligand GOL B 717



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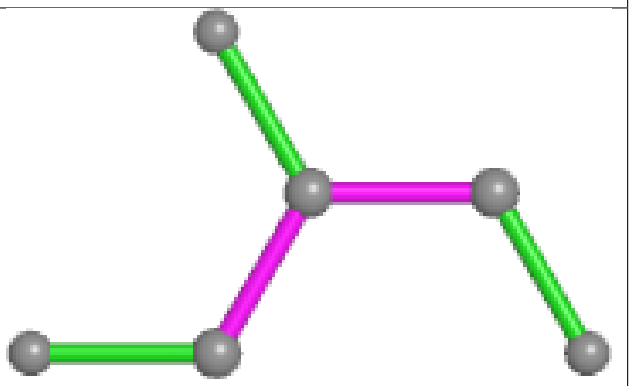
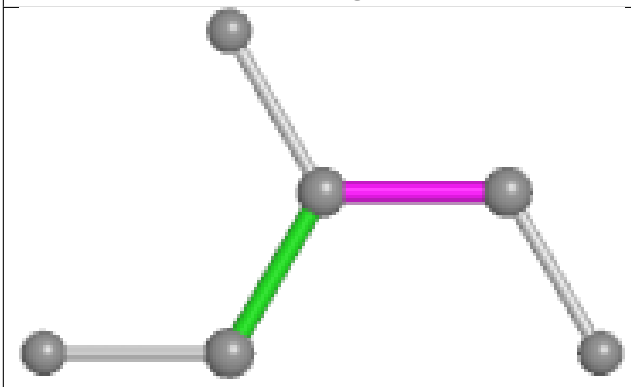


Bond angles



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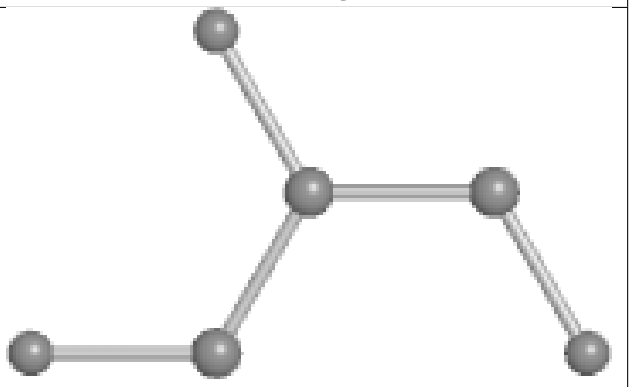
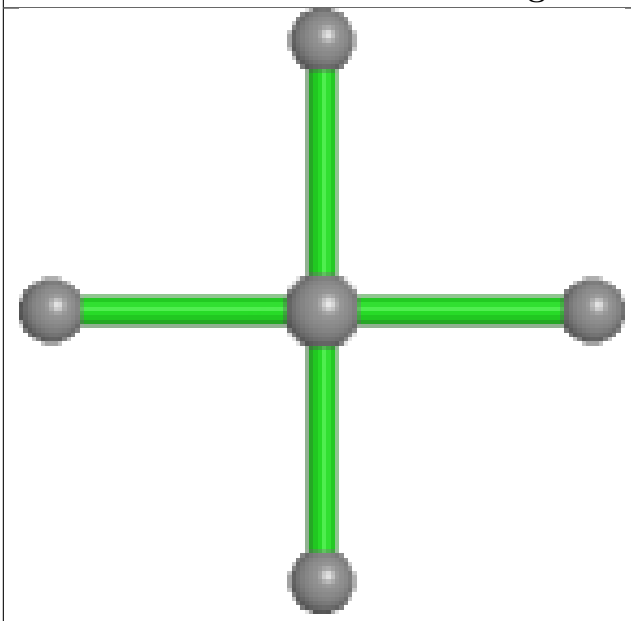
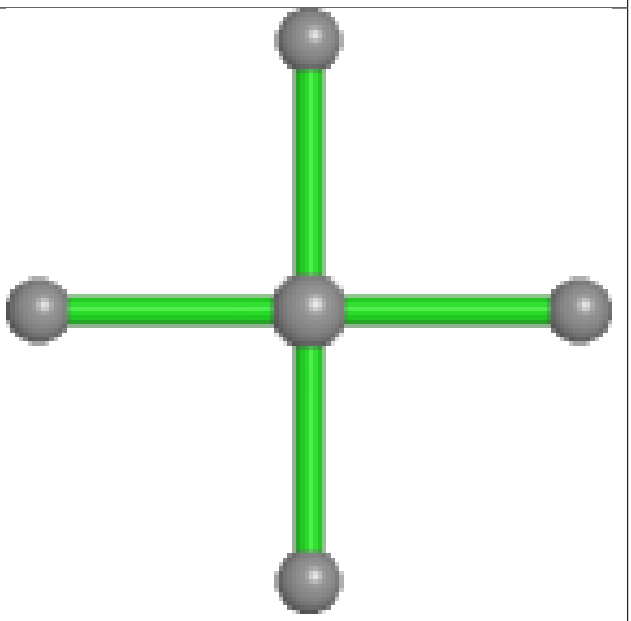


Rings

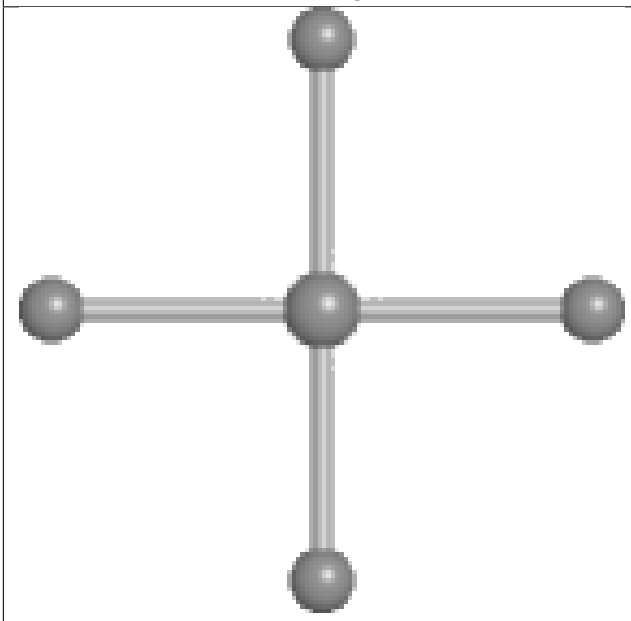
Ligand SO4 H 701



Bond lengths



Bond angles



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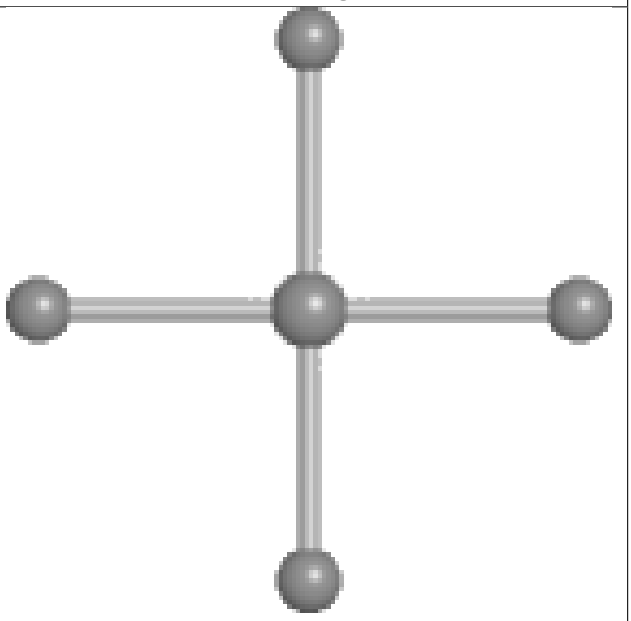
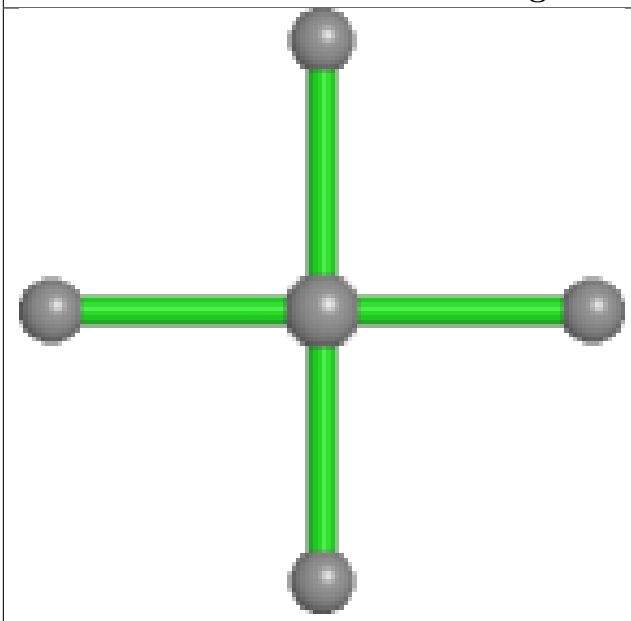
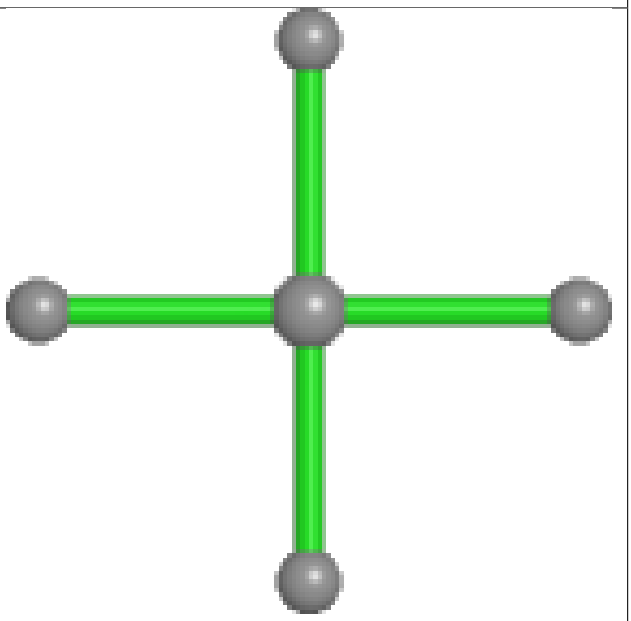


Rings

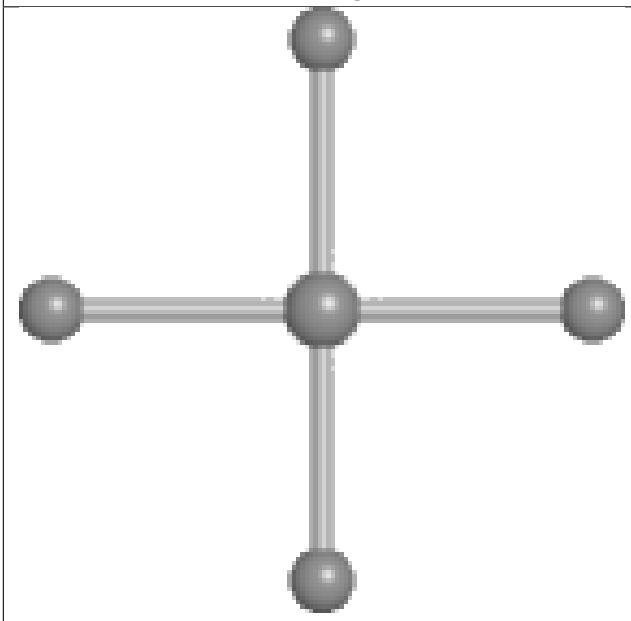
Ligand SO4 C 704



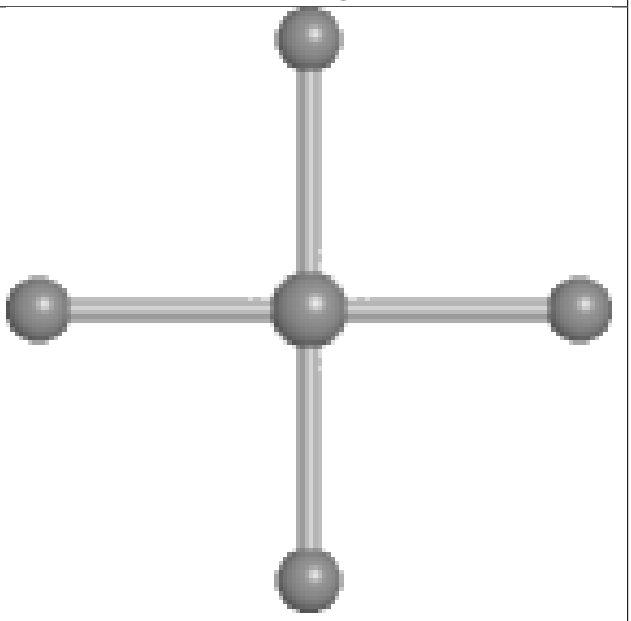
Bond lengths



Bond angles

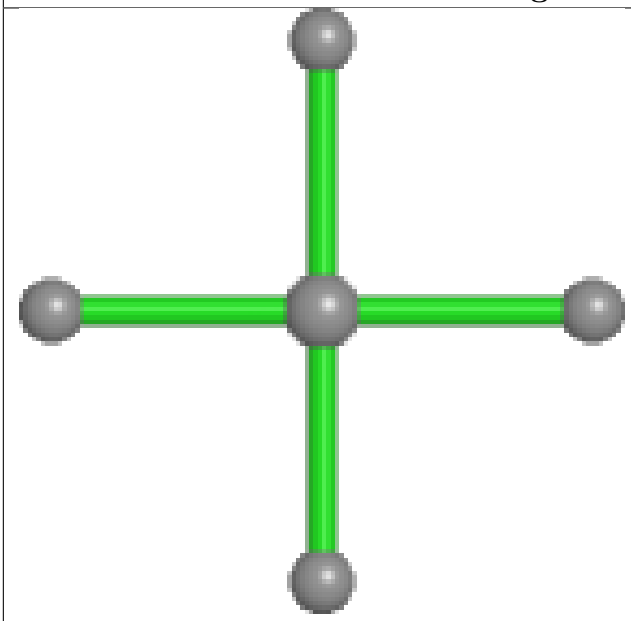


Torsions



Rings

Ligand SO4 F 707



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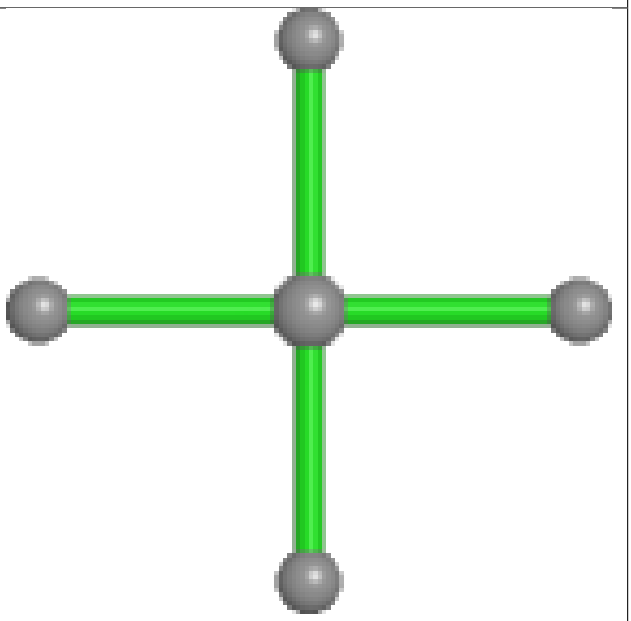

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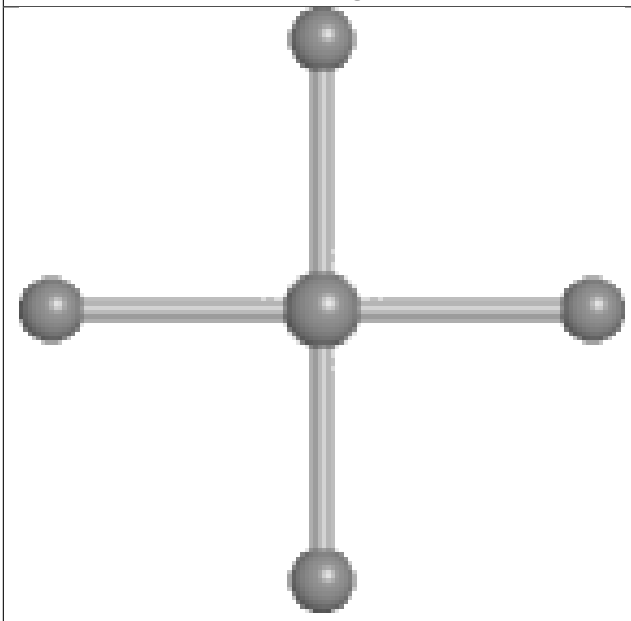

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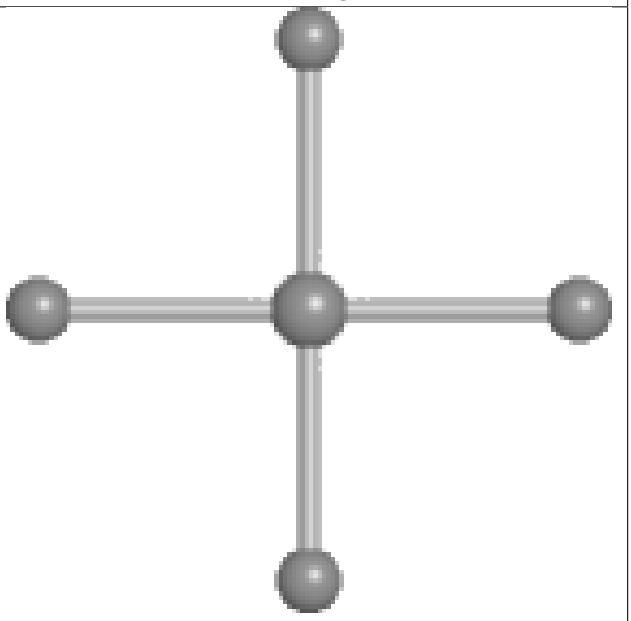
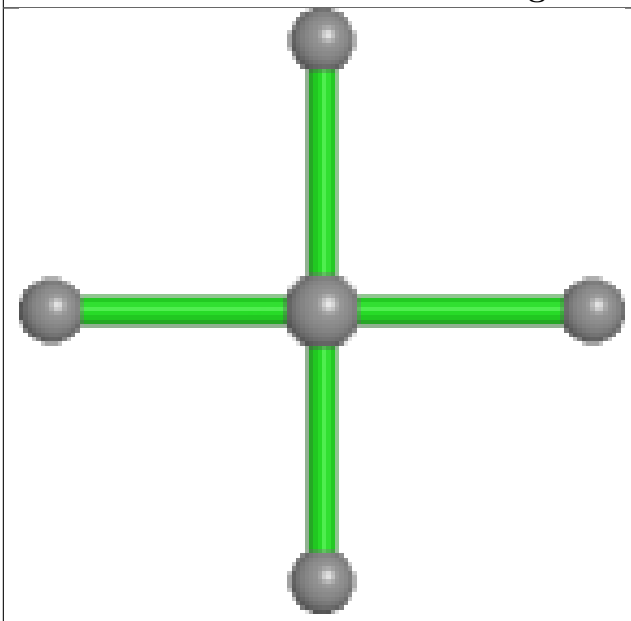


Rings

Ligand SO4 D 704



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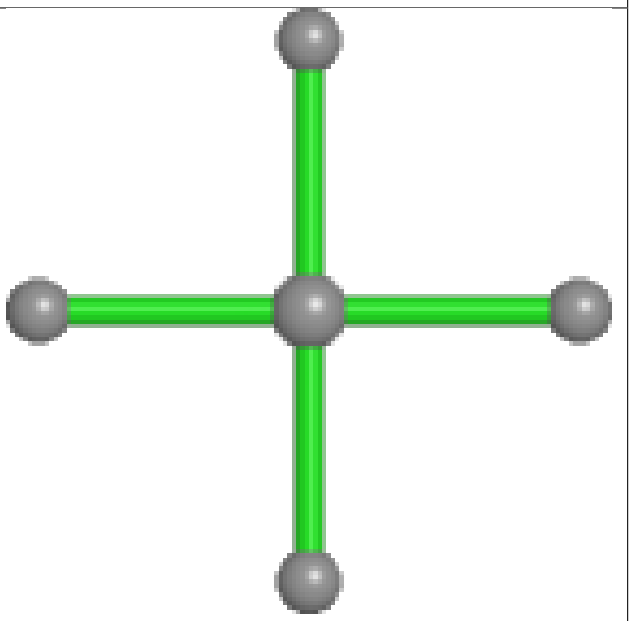
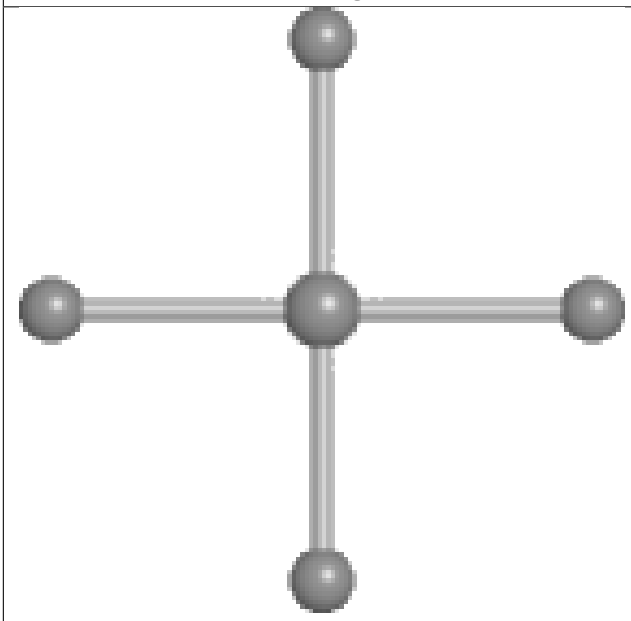


Bond angles



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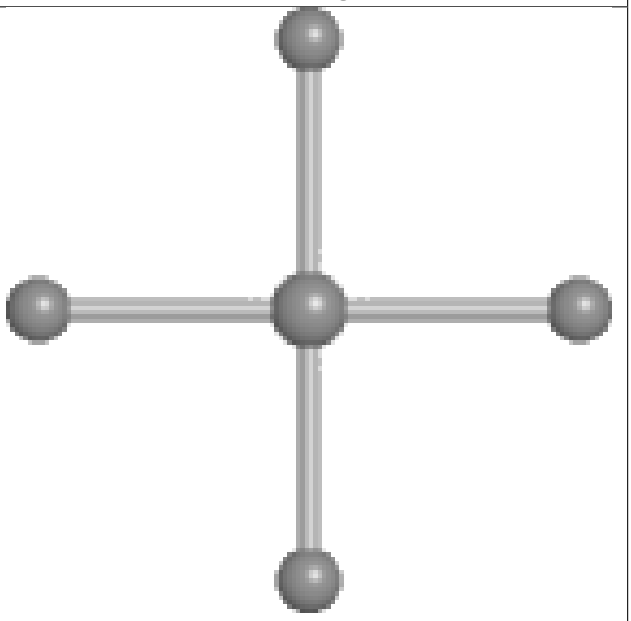
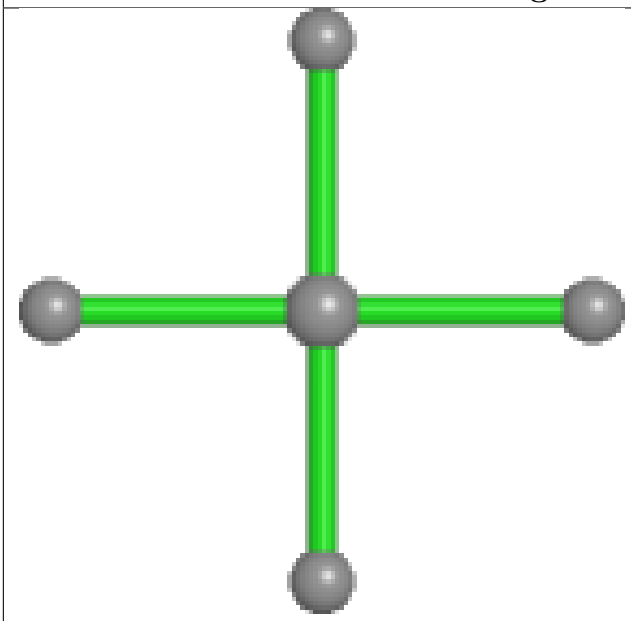


Rings

Ligand SO4 E 706



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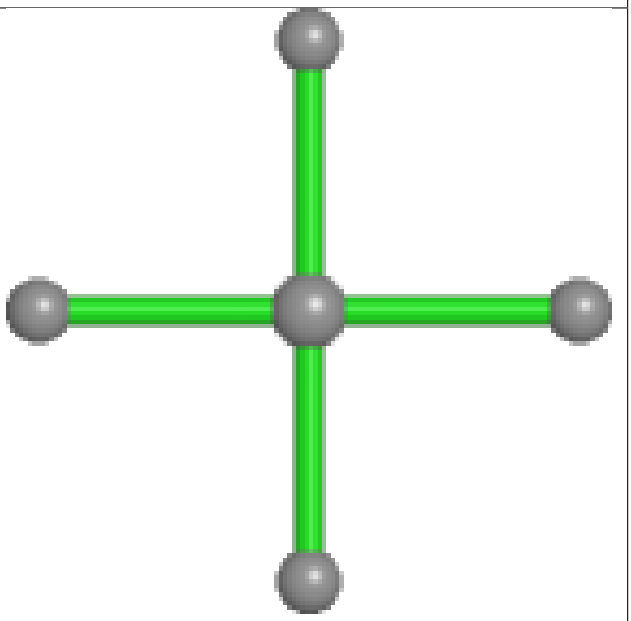
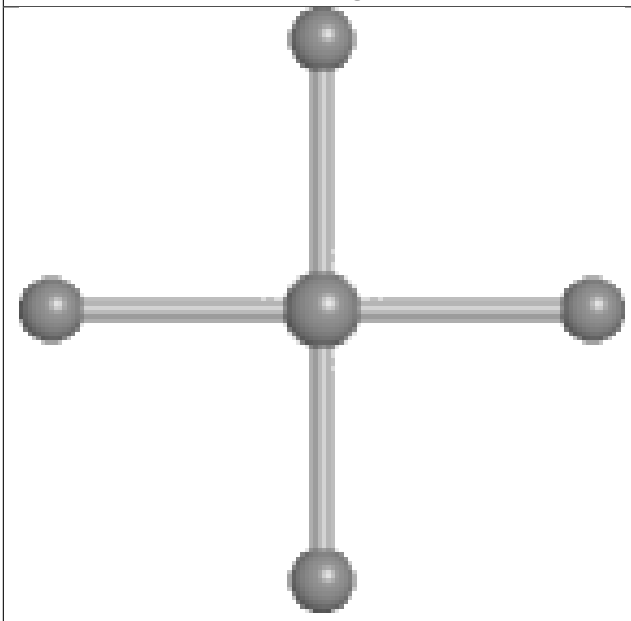


Bond angles



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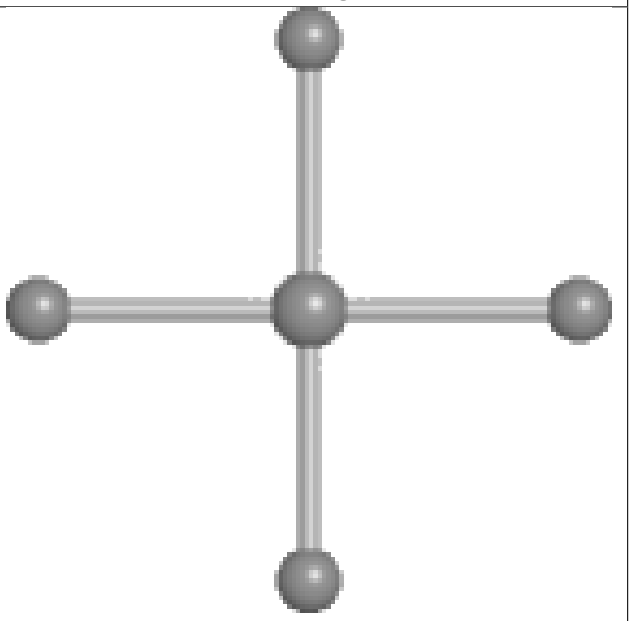
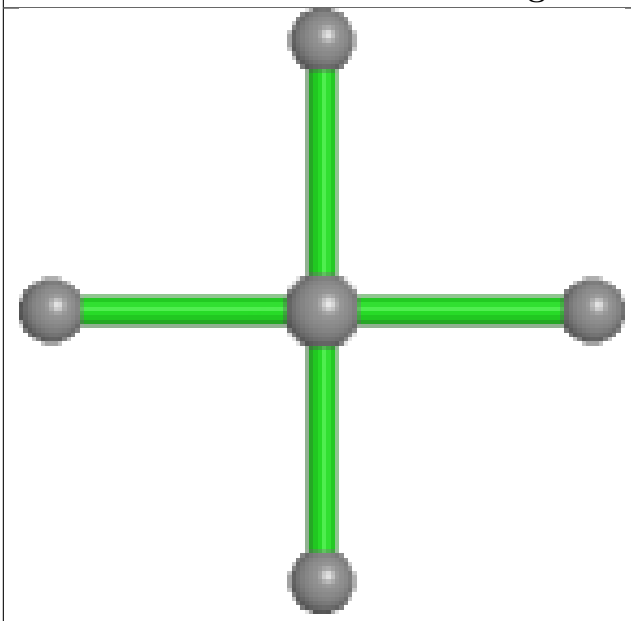


Rings

Ligand SO4 H 705



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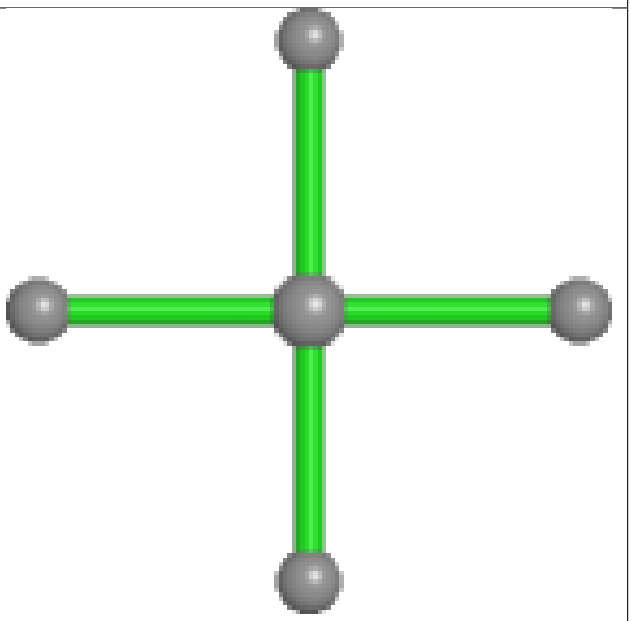
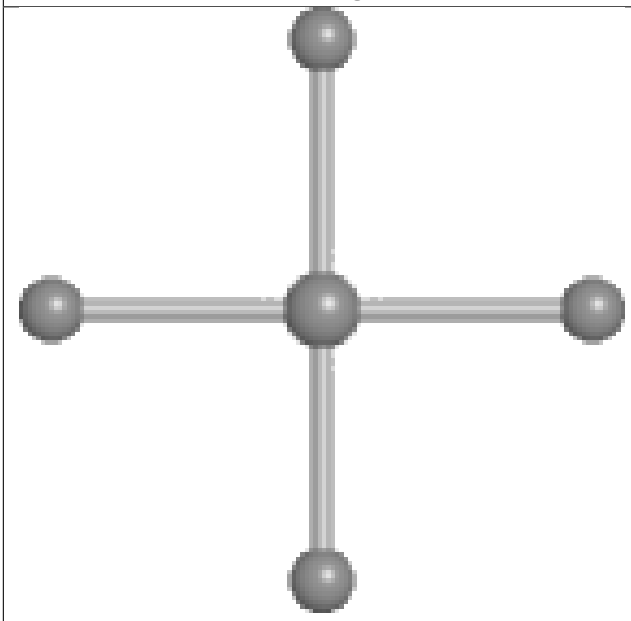


Bond angles



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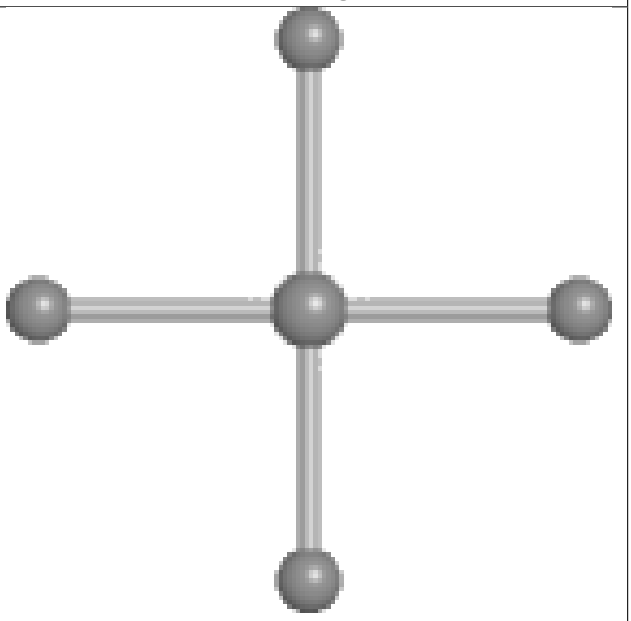
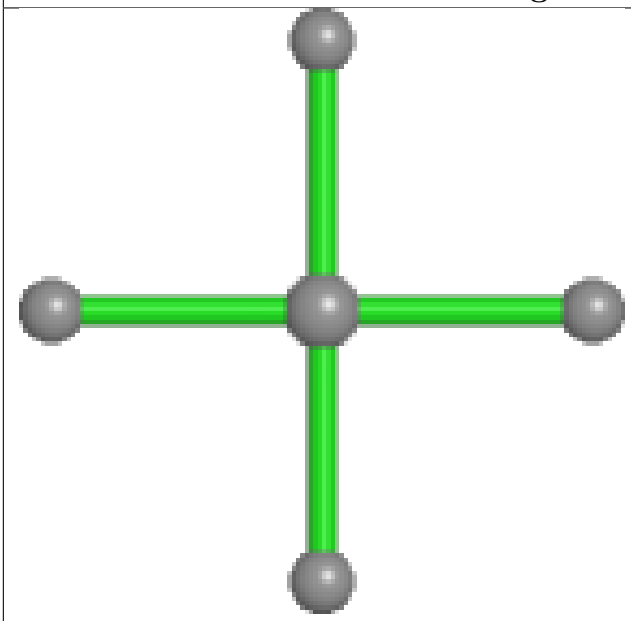


Rings

Ligand SO4 E 701



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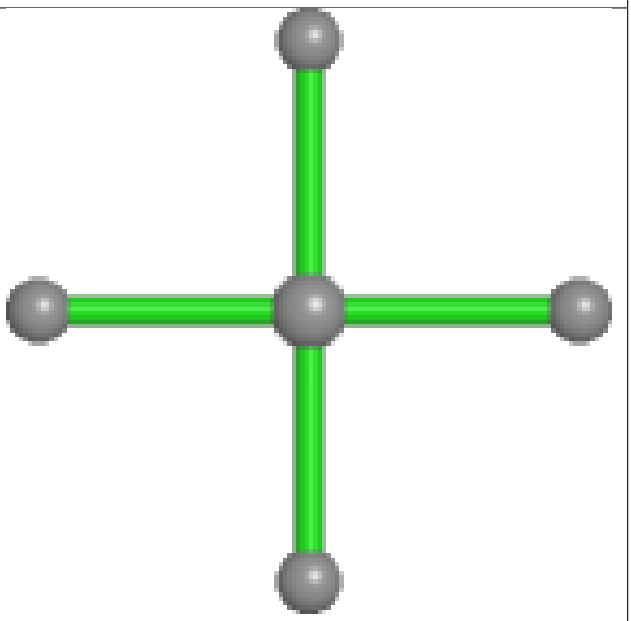
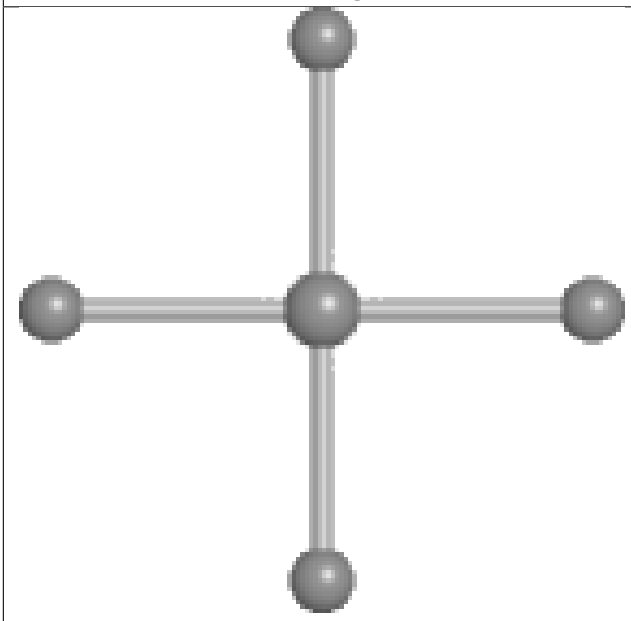


Bond angles



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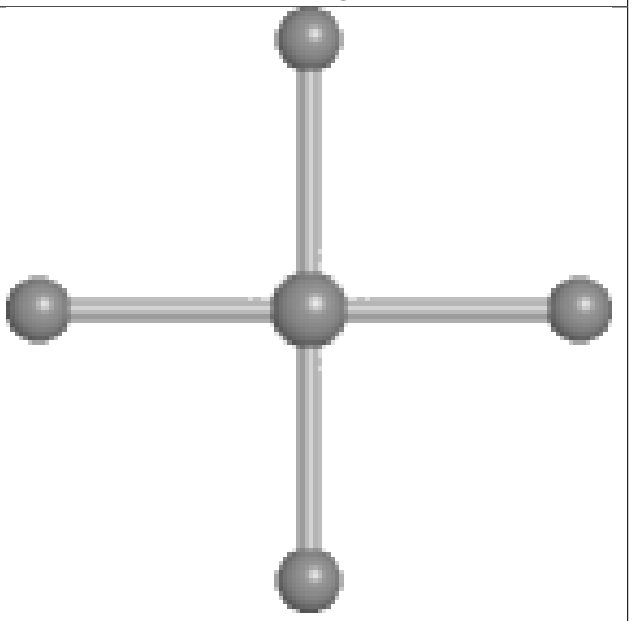
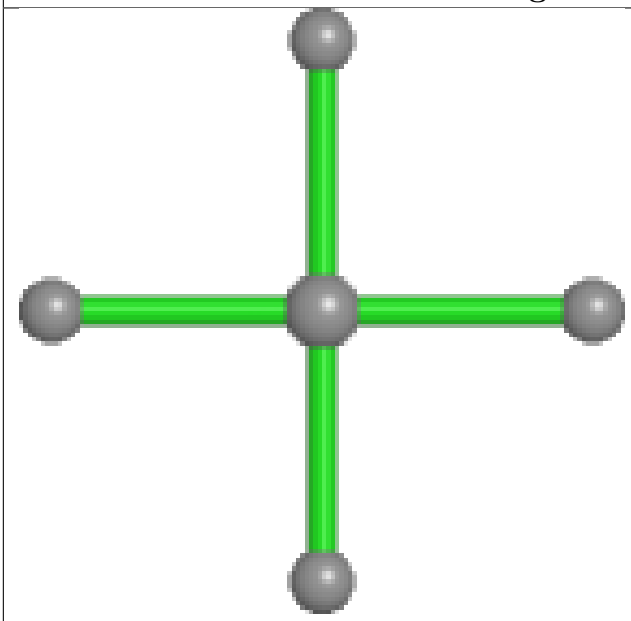


Rings

Ligand SO4 C 703



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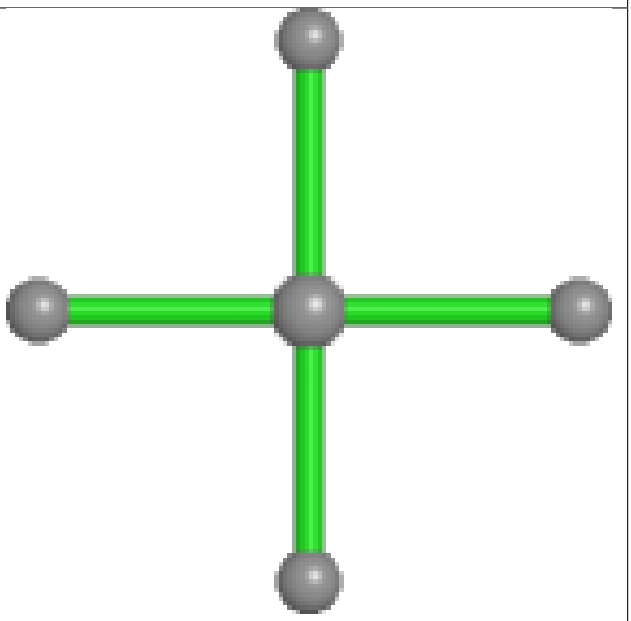
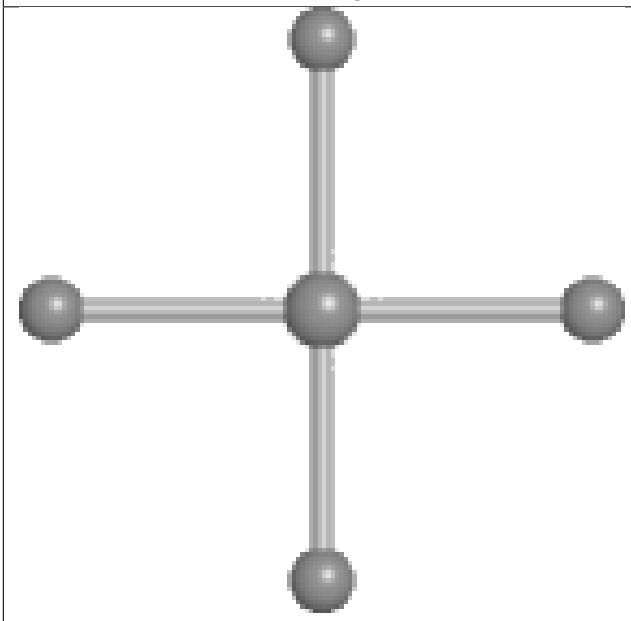


Bond angles



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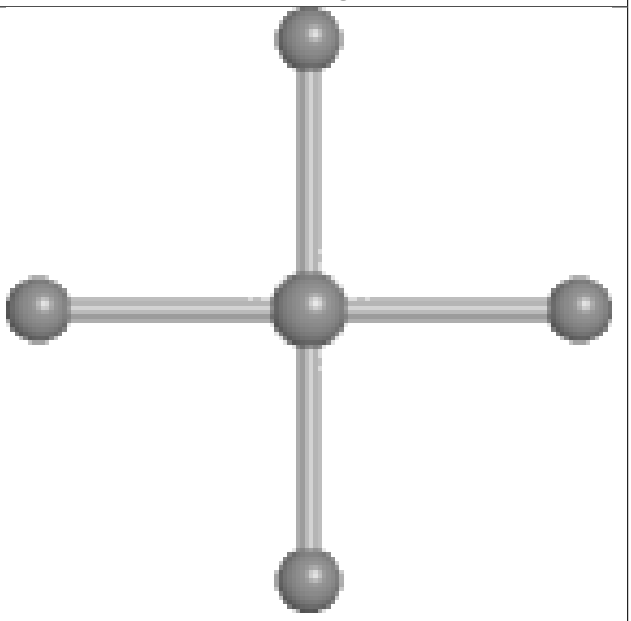
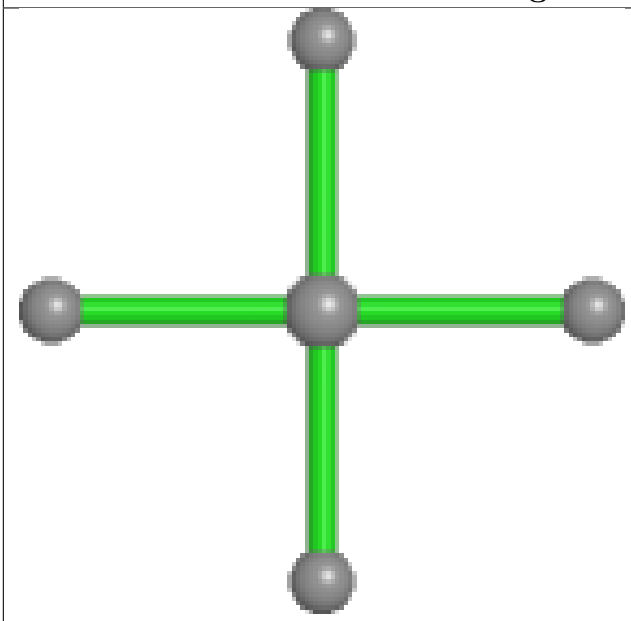


Rings

Ligand SO4 B 701



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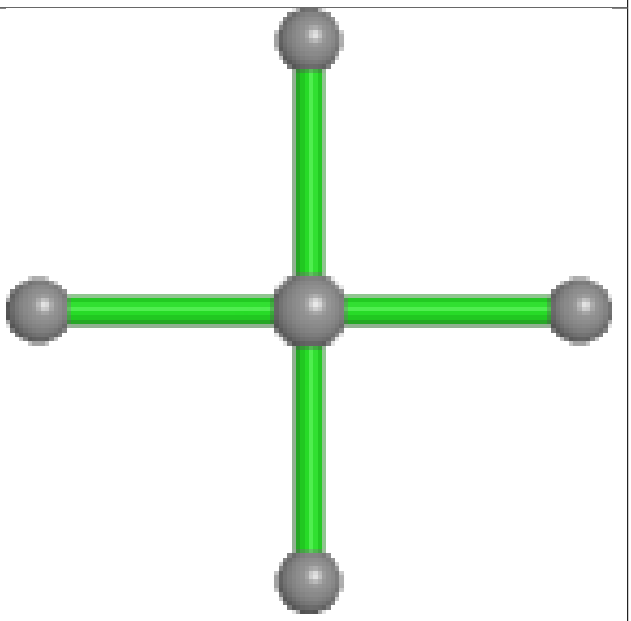
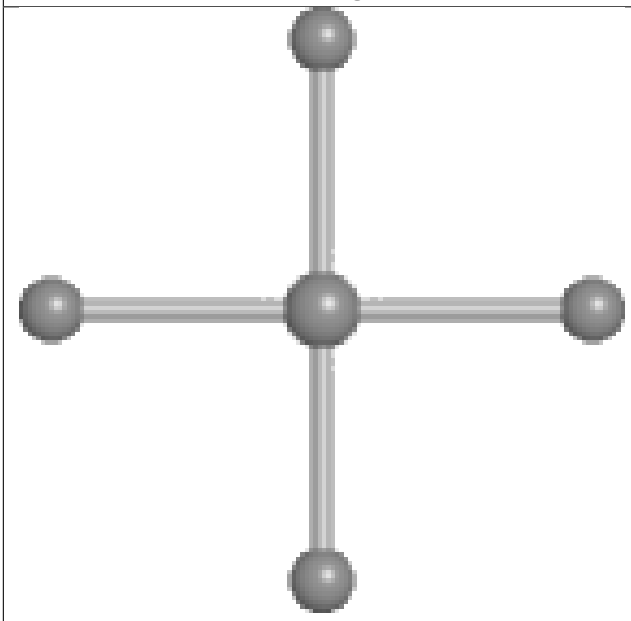


Bond angles



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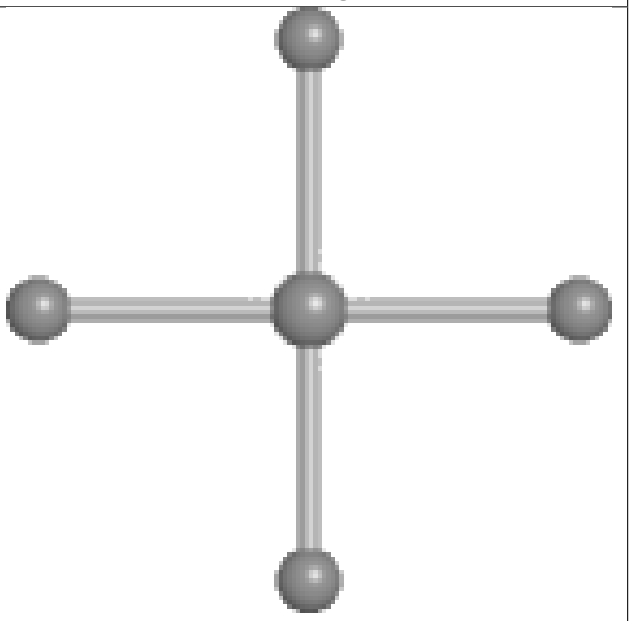
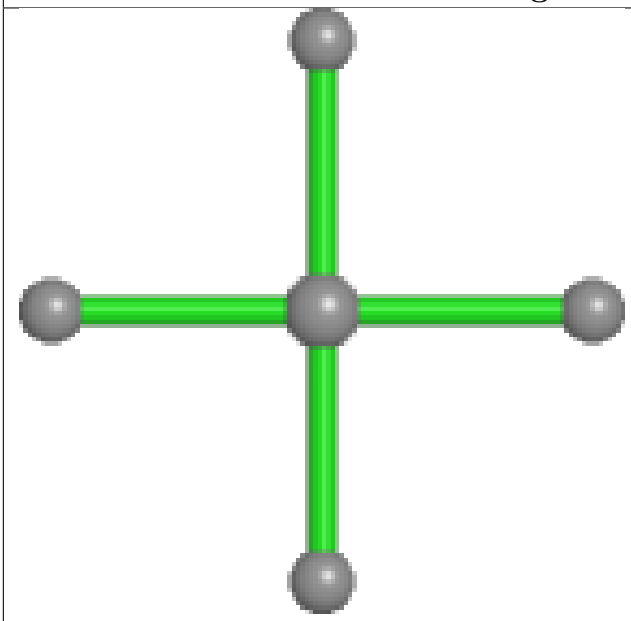


Rings

Ligand SO4 F 701



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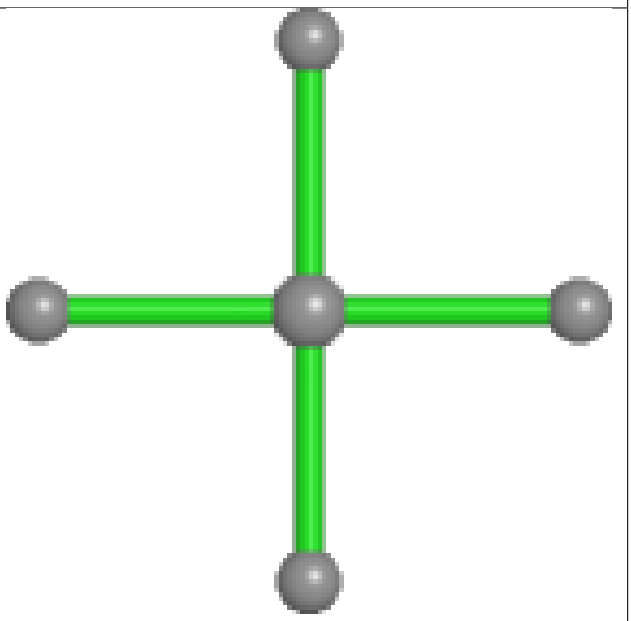

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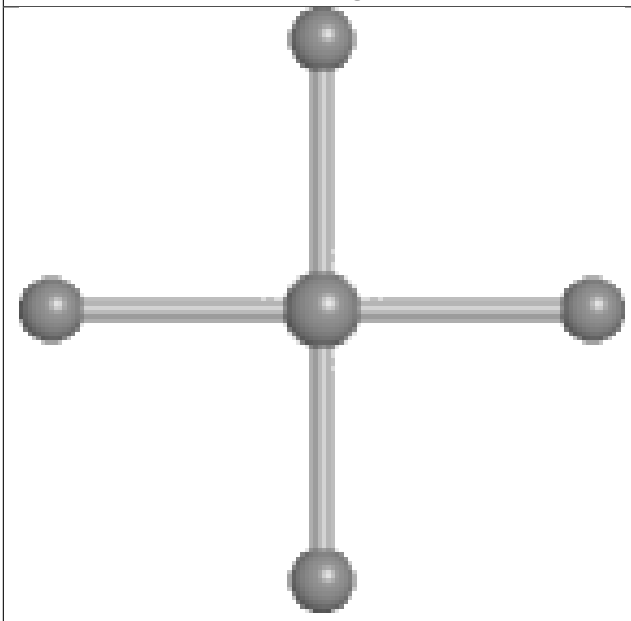

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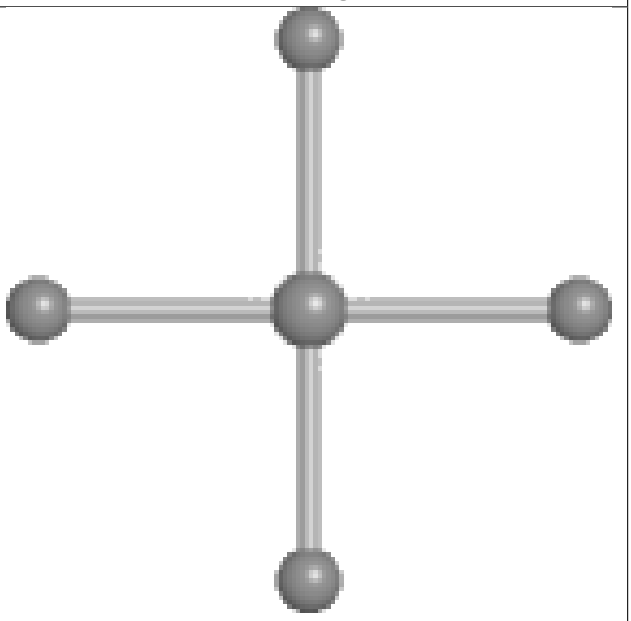
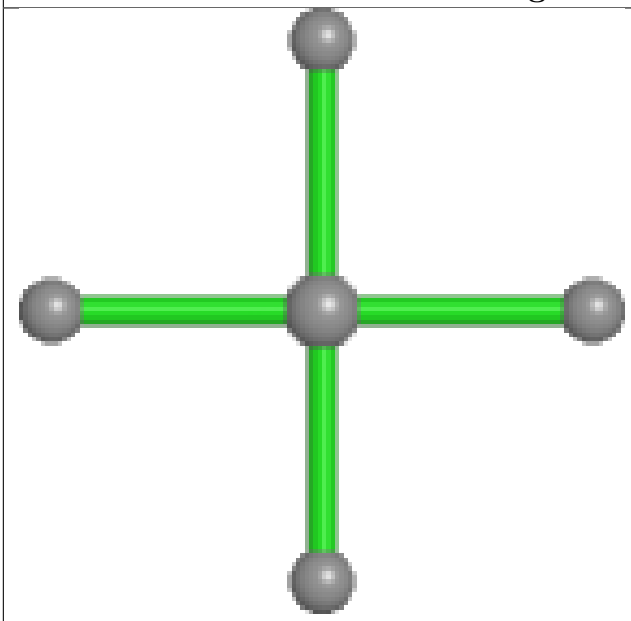


Rings

Ligand SO4 D 703



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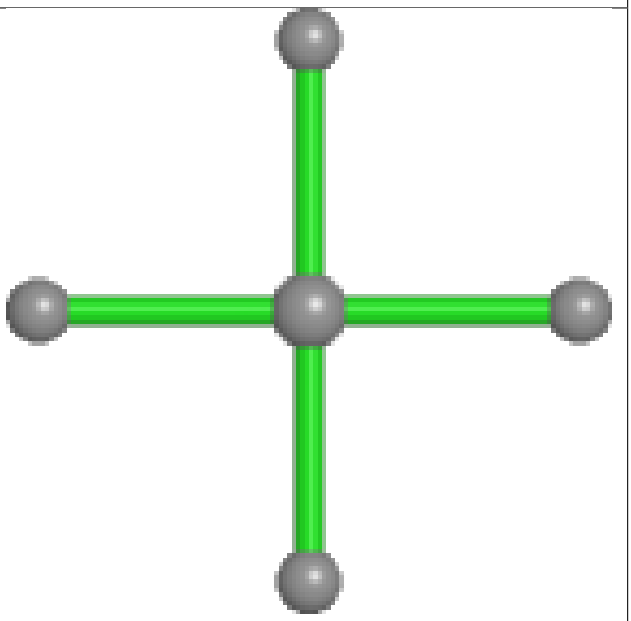

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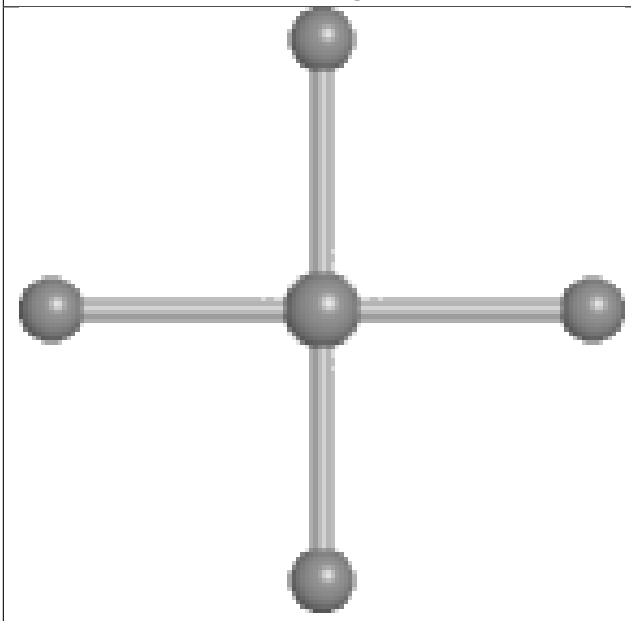

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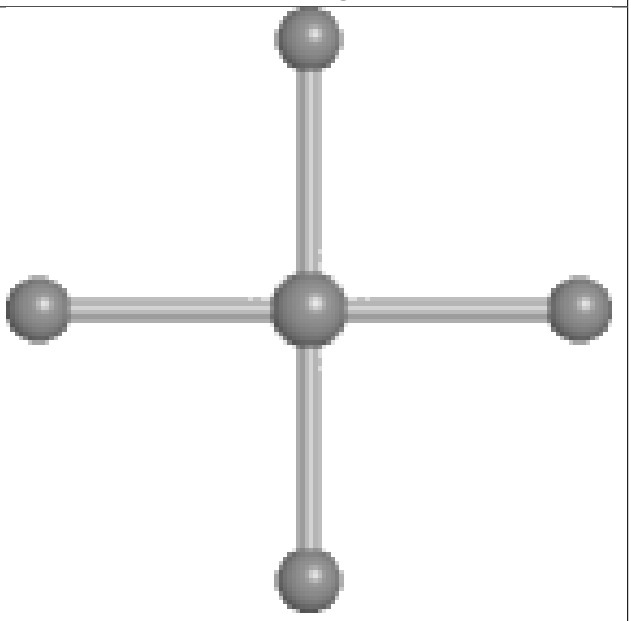
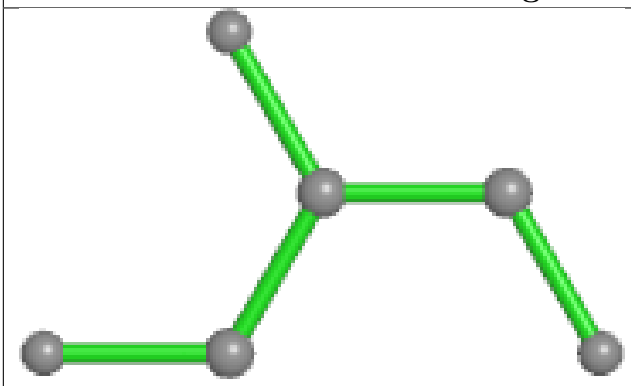


Rings

Ligand GOL D 712



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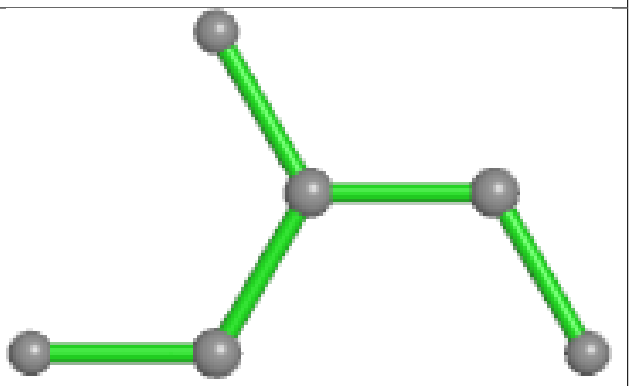
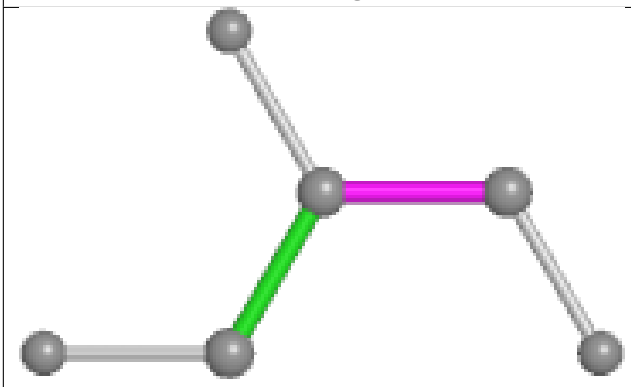


Bond angles



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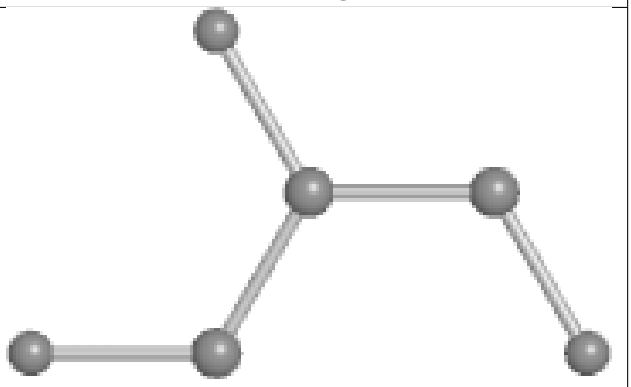
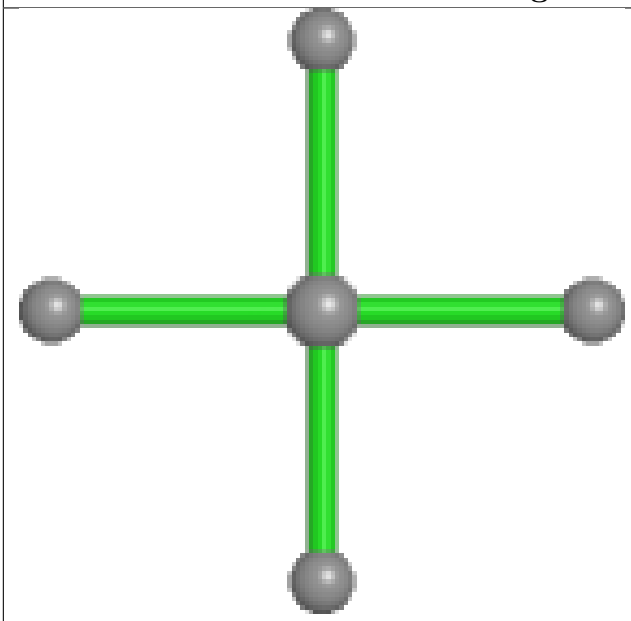


Rings

Ligand SO4 F 706



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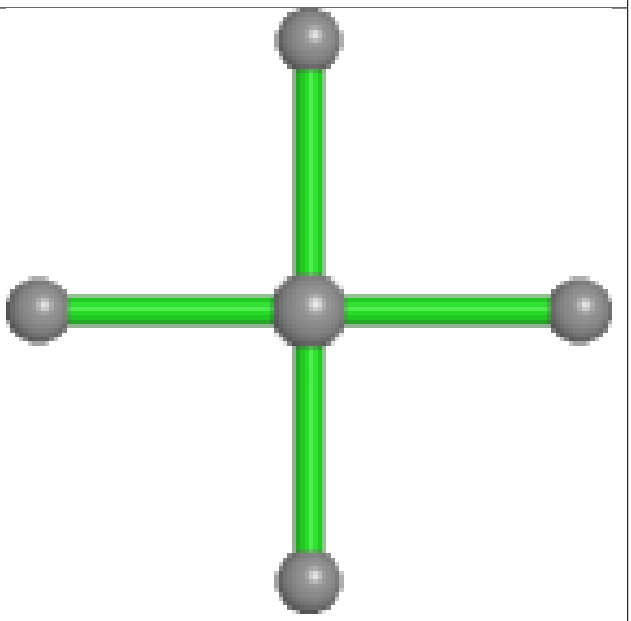
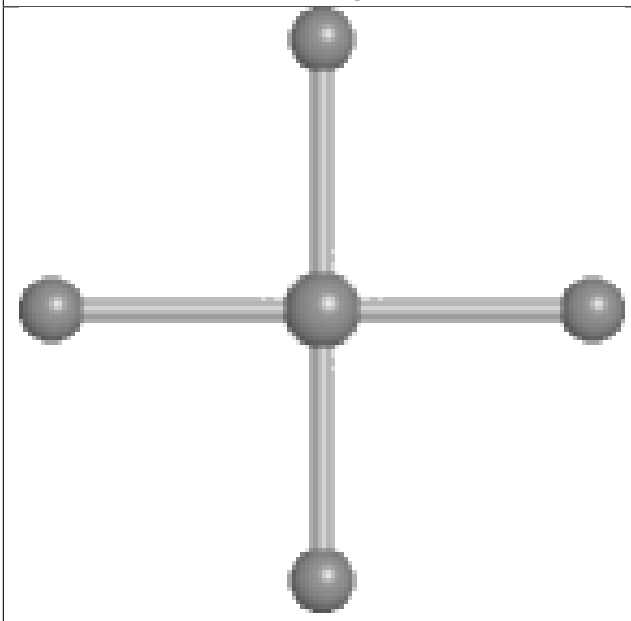


Bond angles



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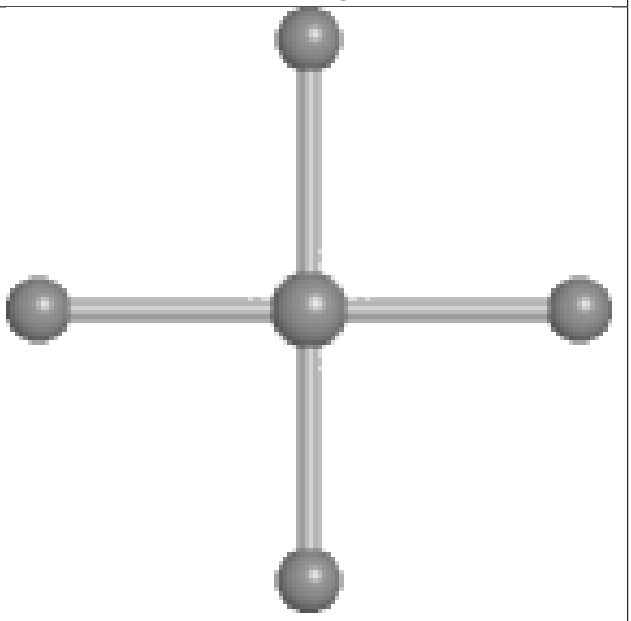
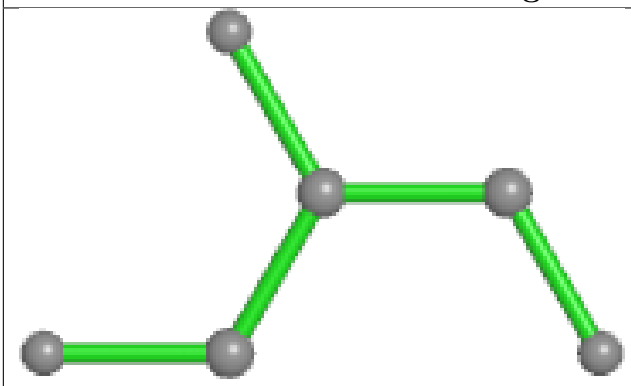
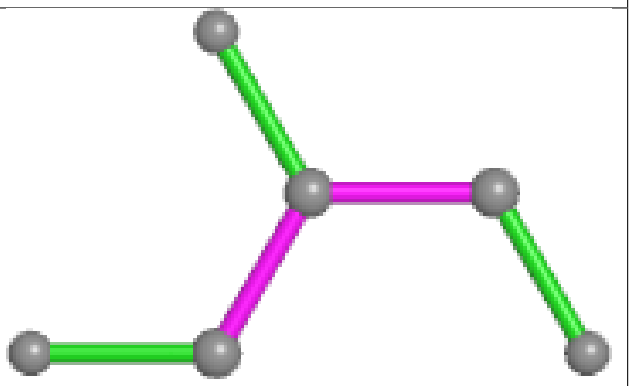


Rings

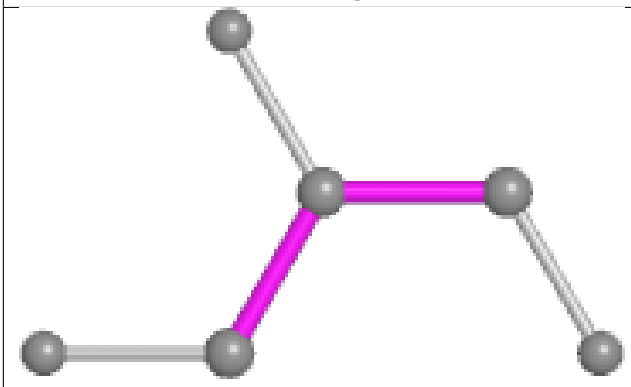
Ligand GOL A 714



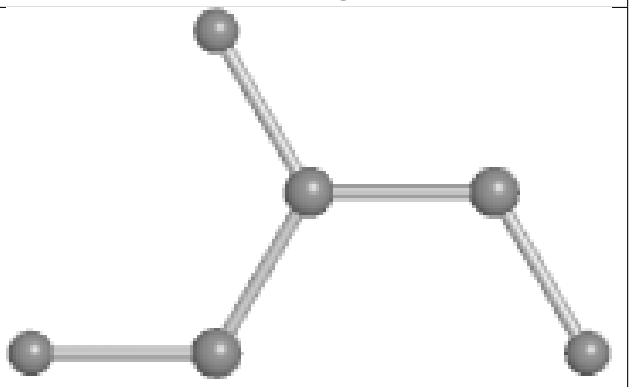
Bond lengths



Bond angles

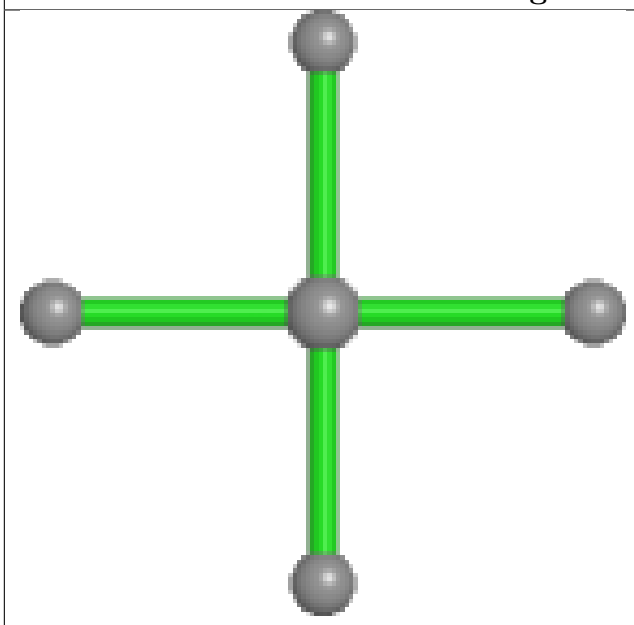


Torsions

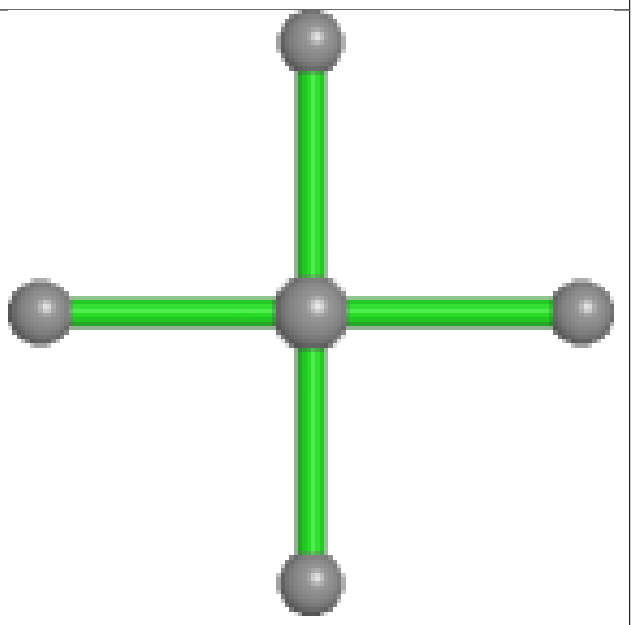


Rings

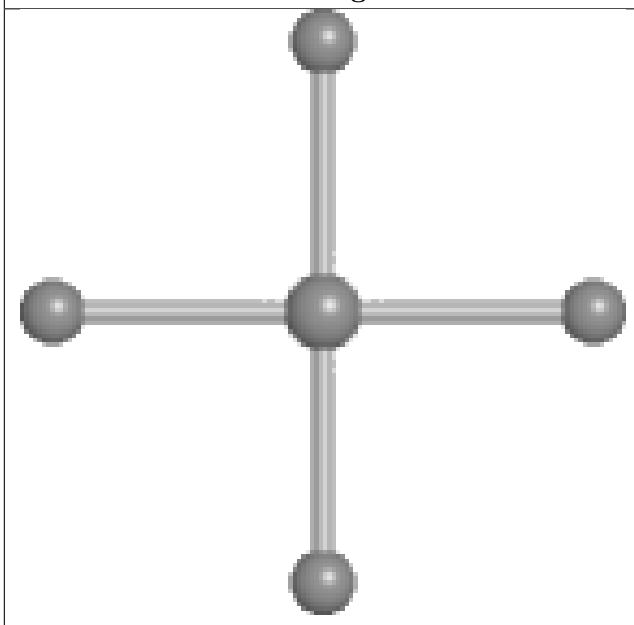
Ligand SO4 A 703



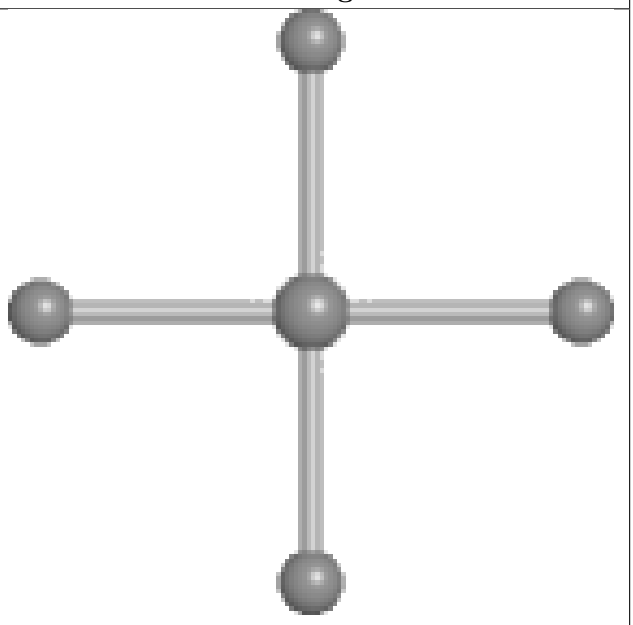
Bond lengths



Bond angles

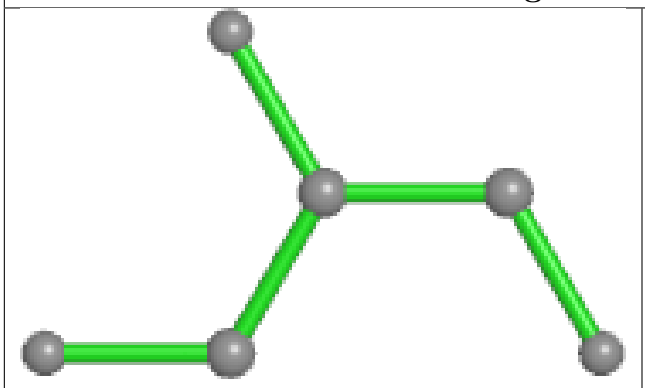


Torsions

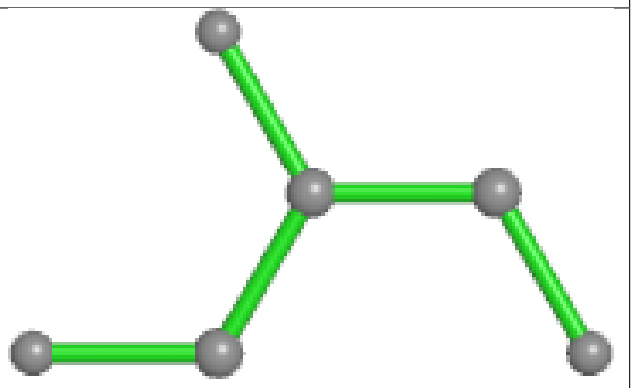


Rings

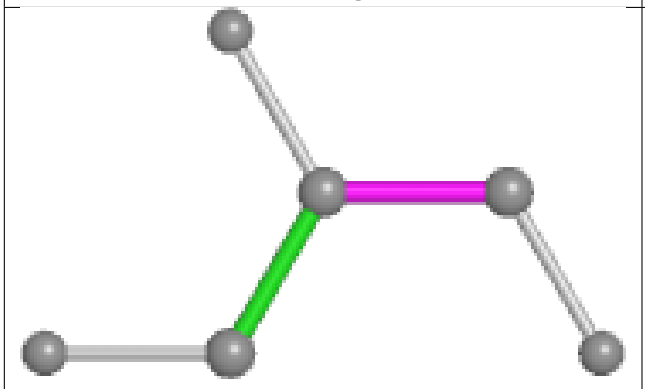
Ligand GOL C 712



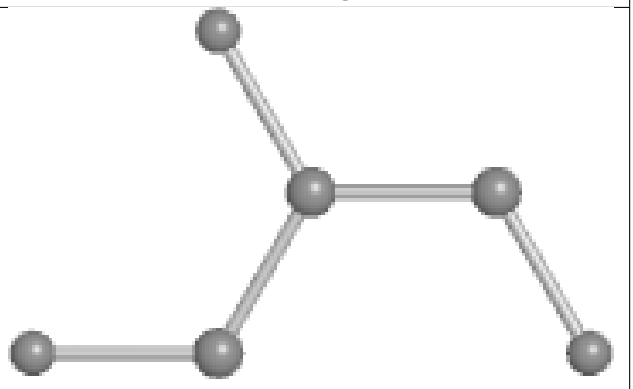
Bond lengths



Bond angles

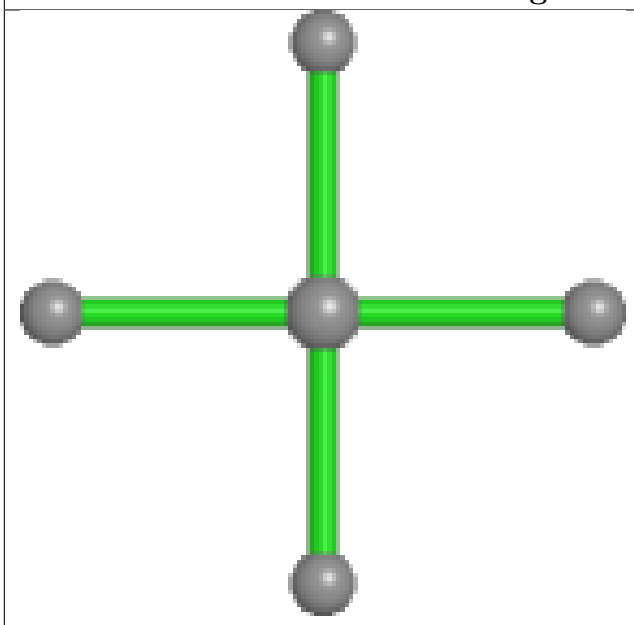


Torsions

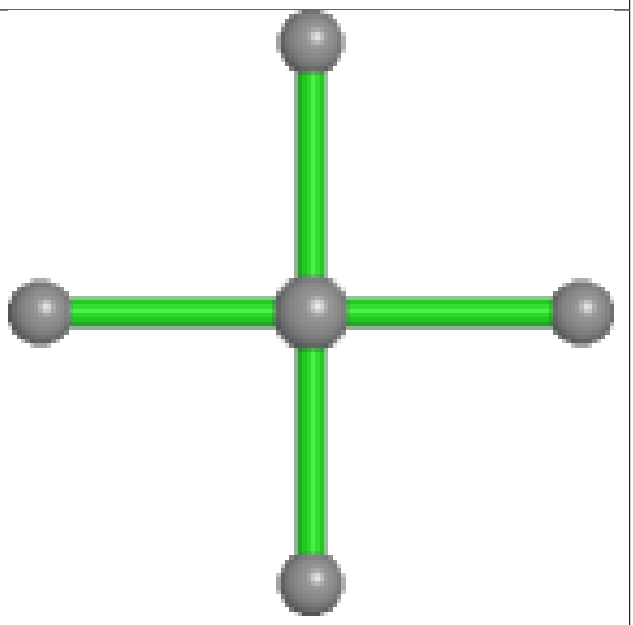


Rings

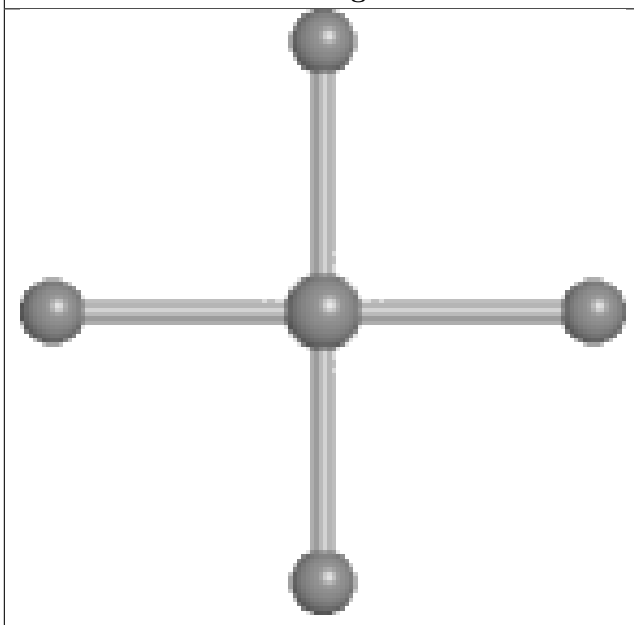
Ligand SO4 A 707



Bond lengths



Bond angles



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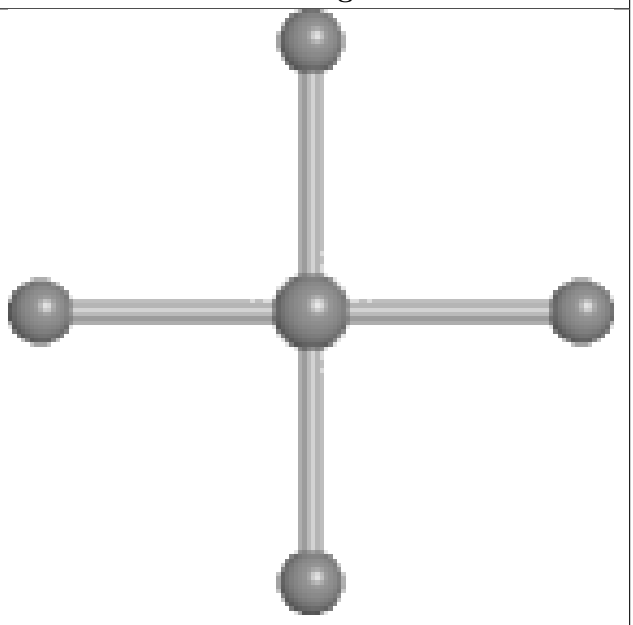
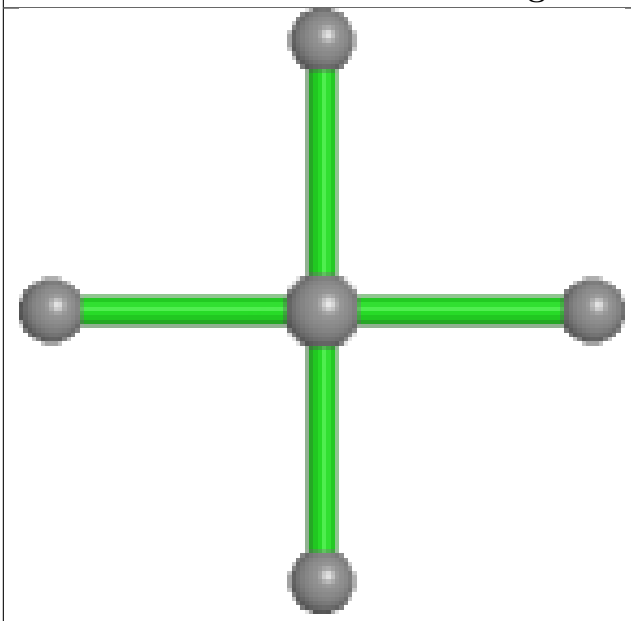


Rings

Ligand SO4 H 706



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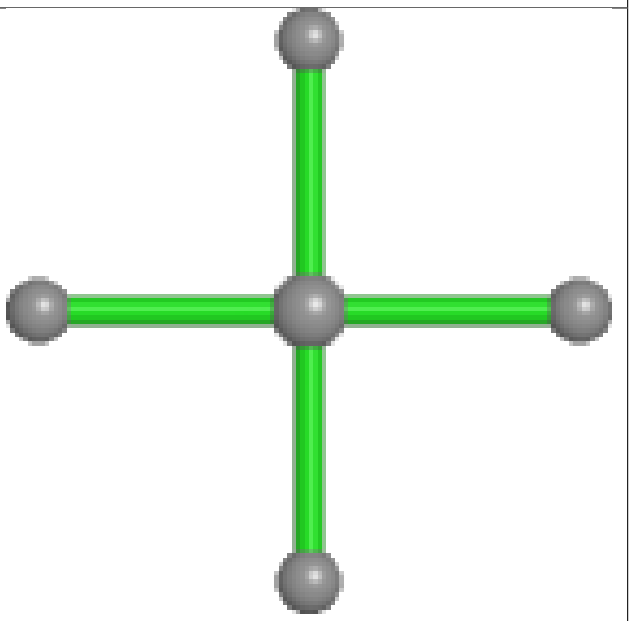
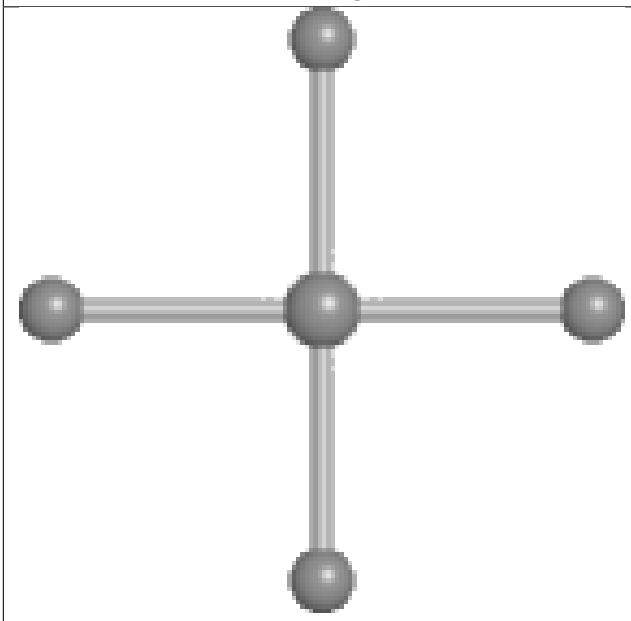


Bond angles



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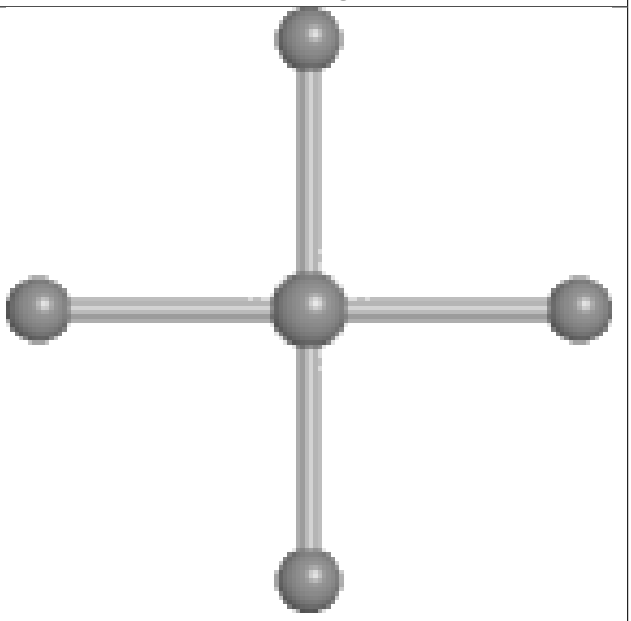
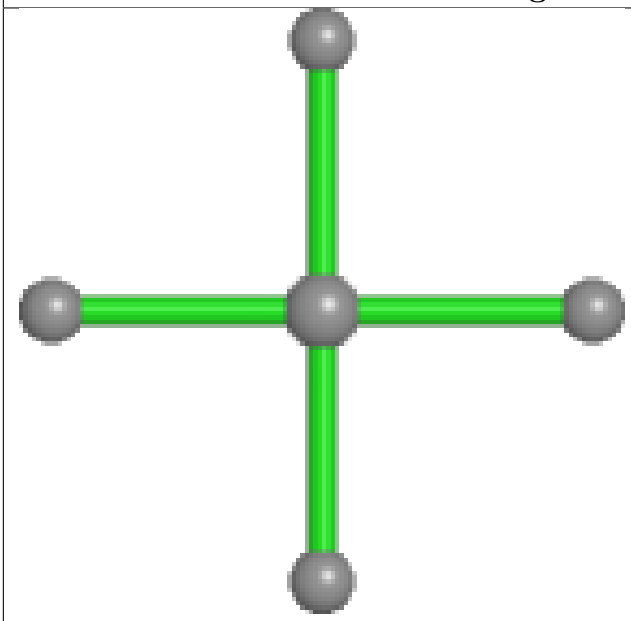


Rings

Ligand SO4 C 702



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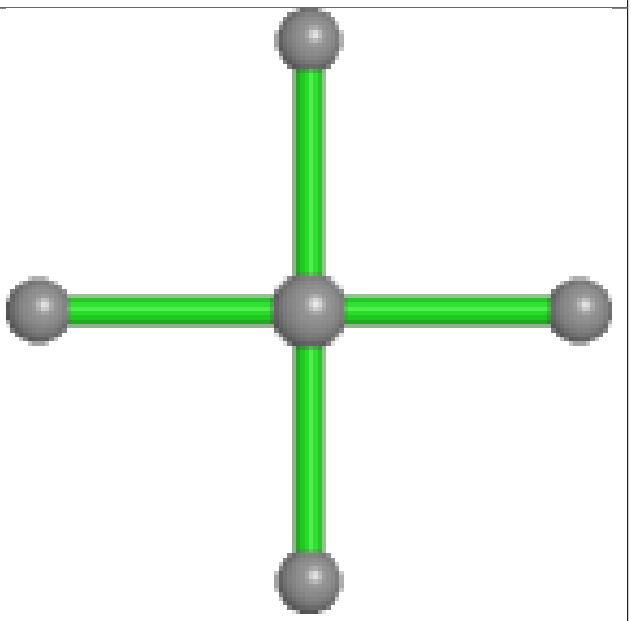
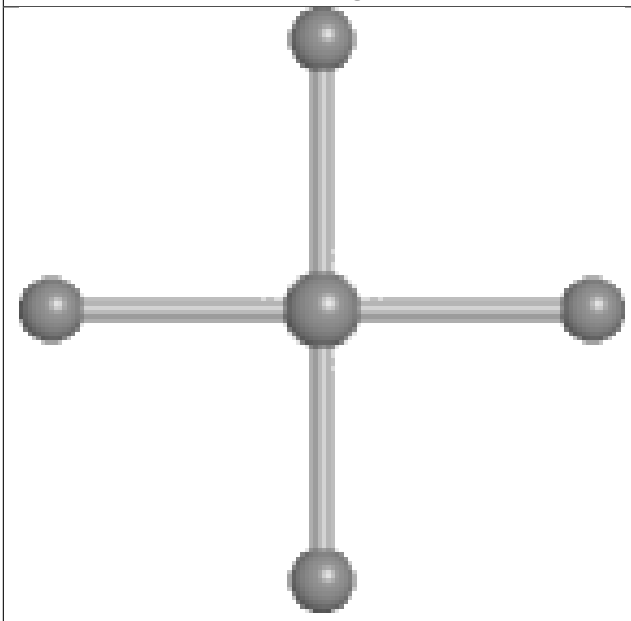


Bond angles



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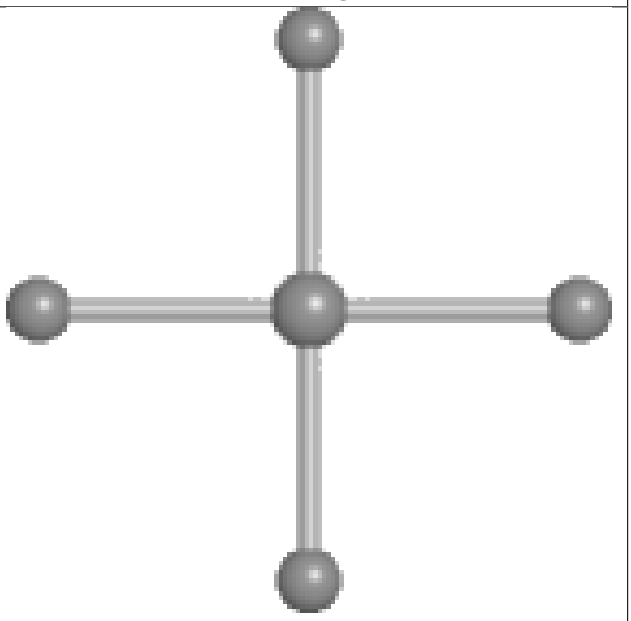
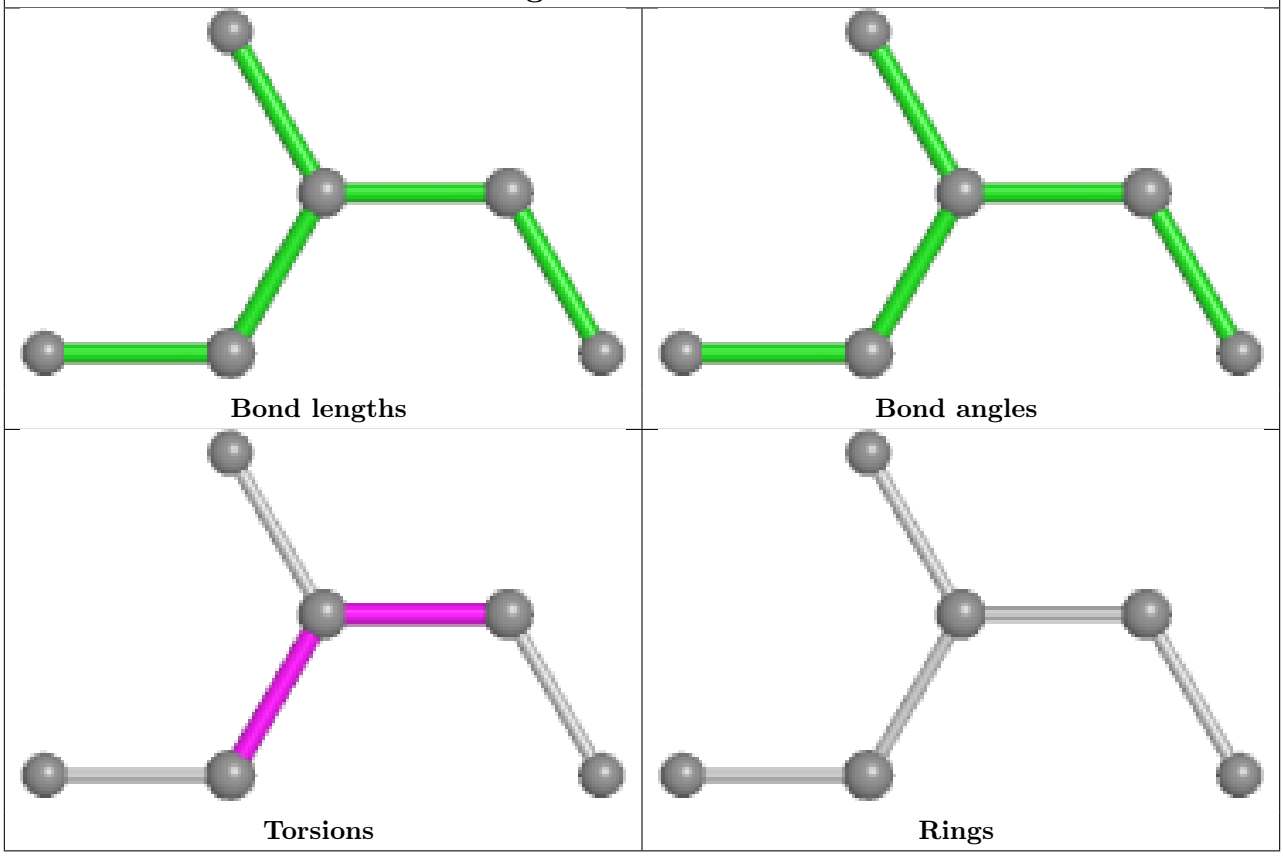
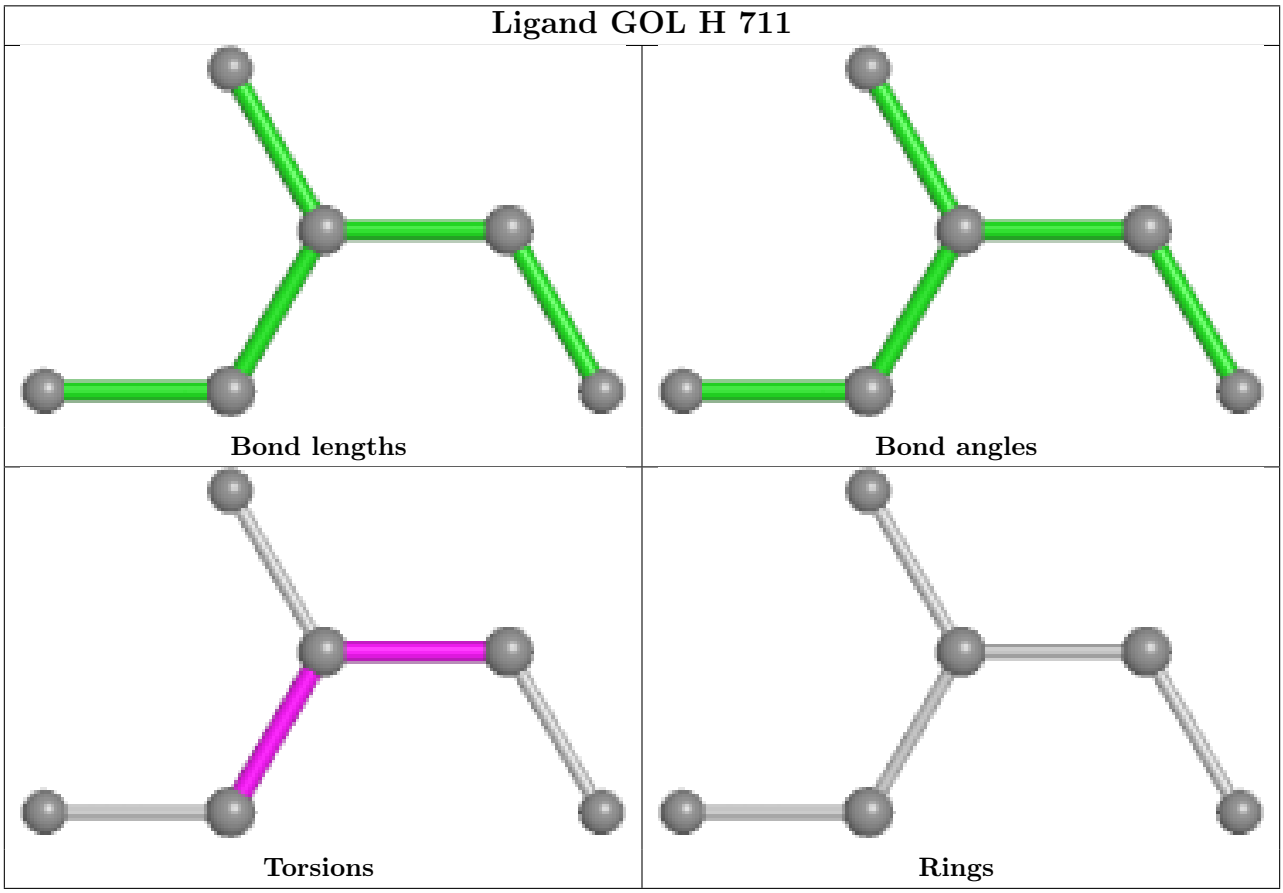


Rings

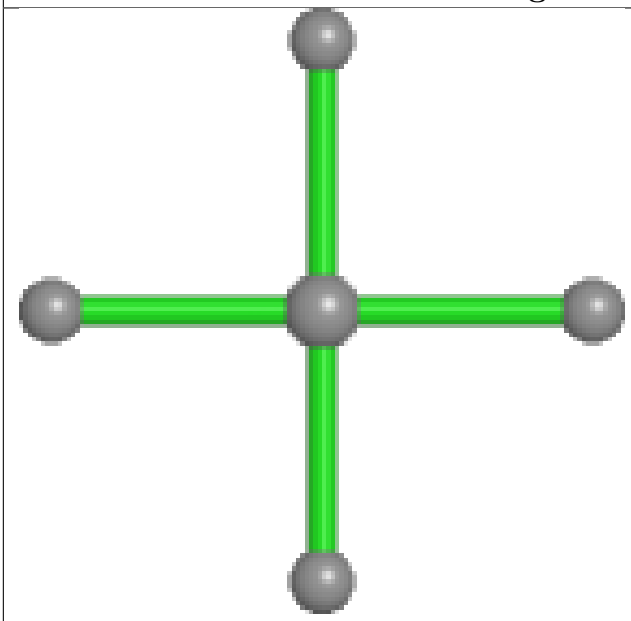
Ligand GOL F 708



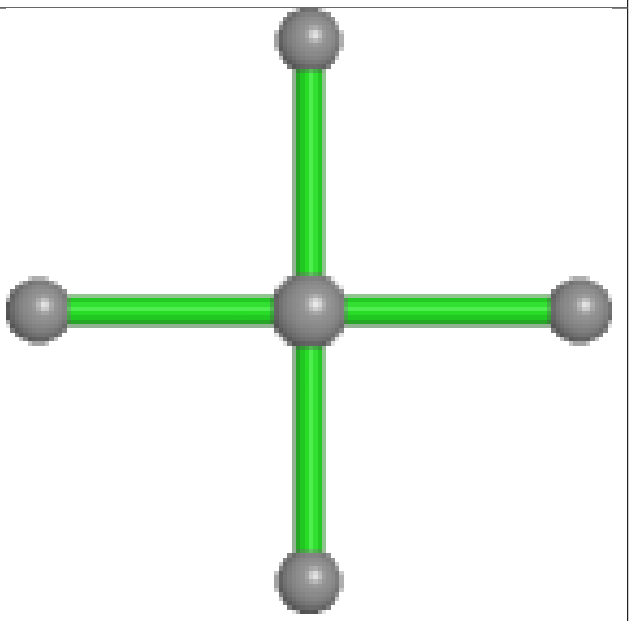
Ligand GOL H 711



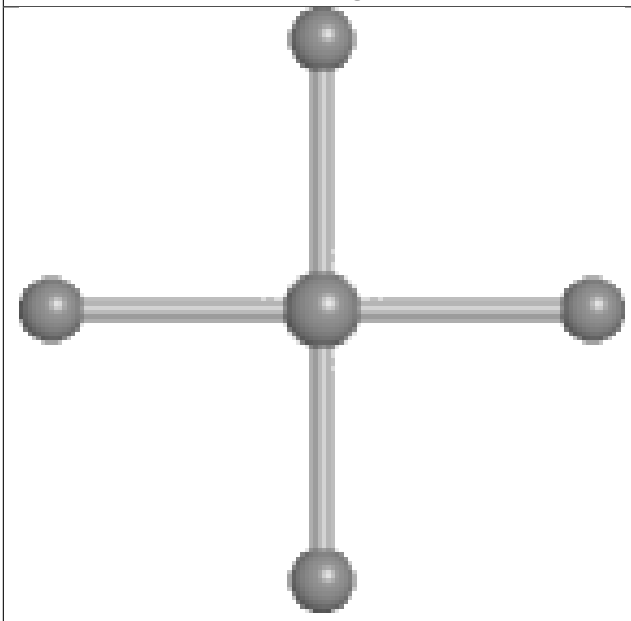
Ligand SO4 A 701



Bond lengths



Bond angles



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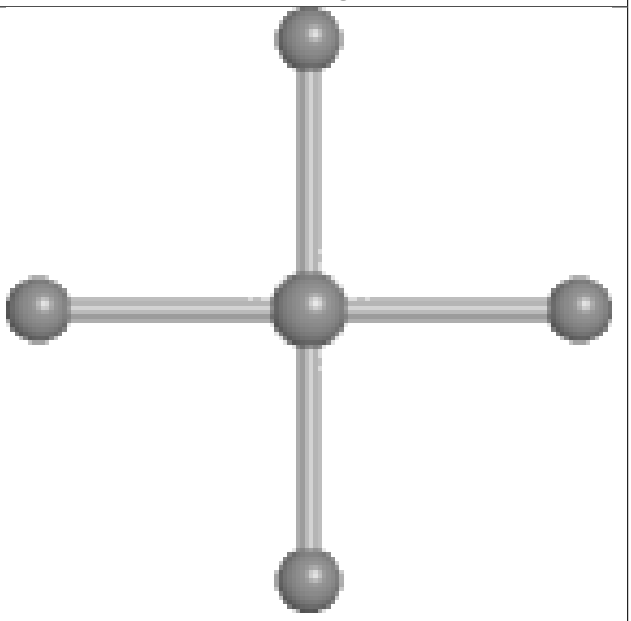
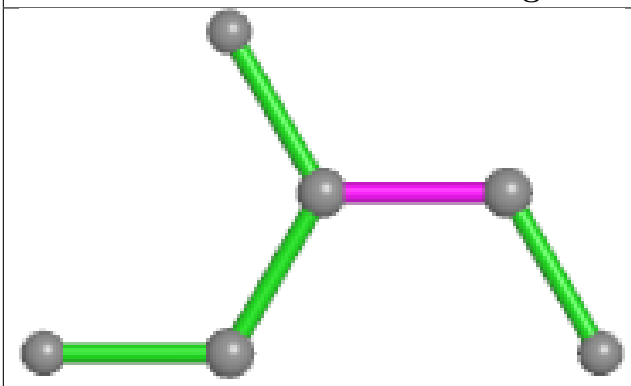


Rings

Ligand GOL A 713



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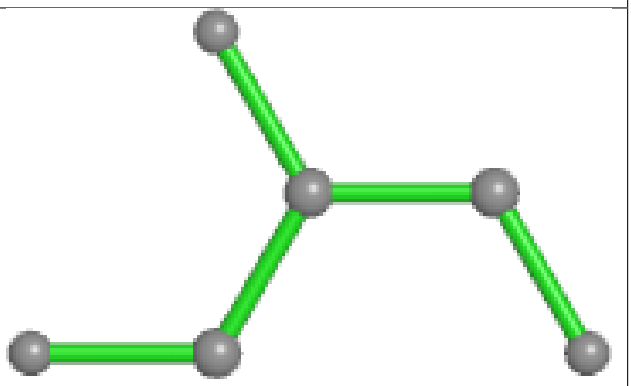
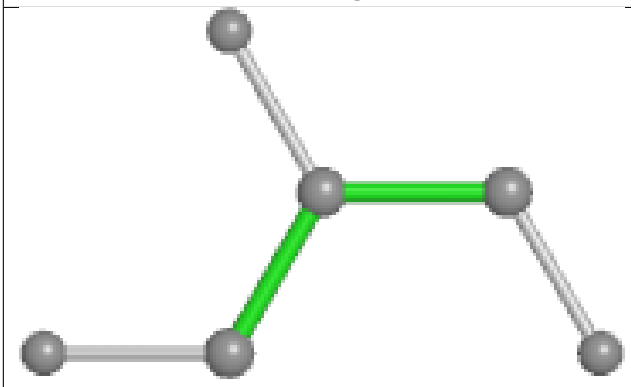
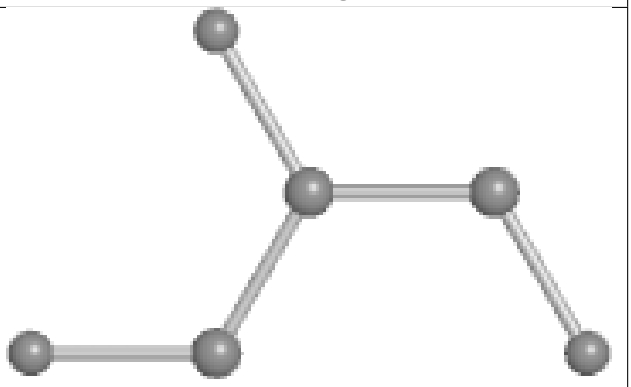


Bond angles

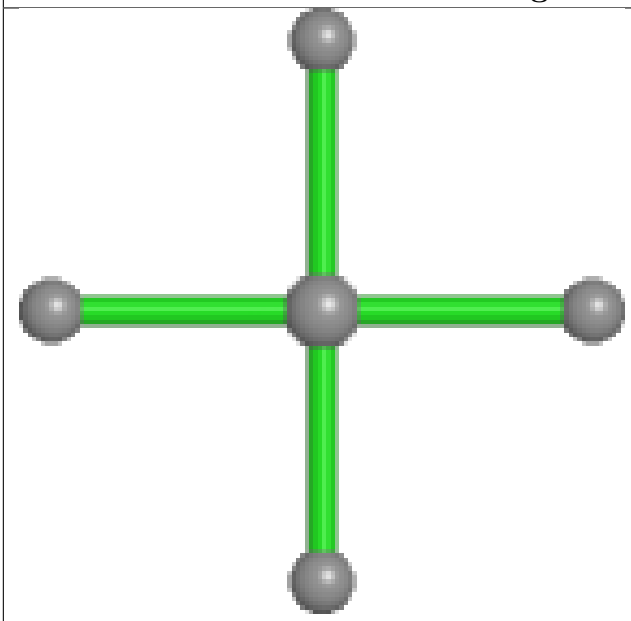


Torsions

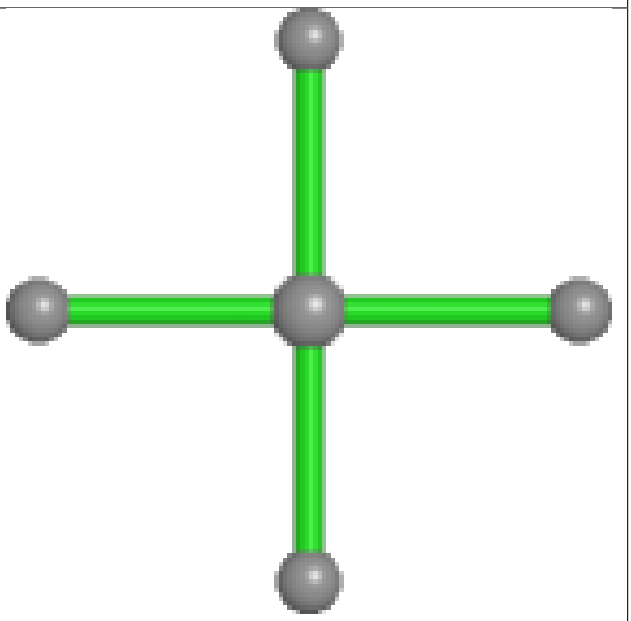


Rings

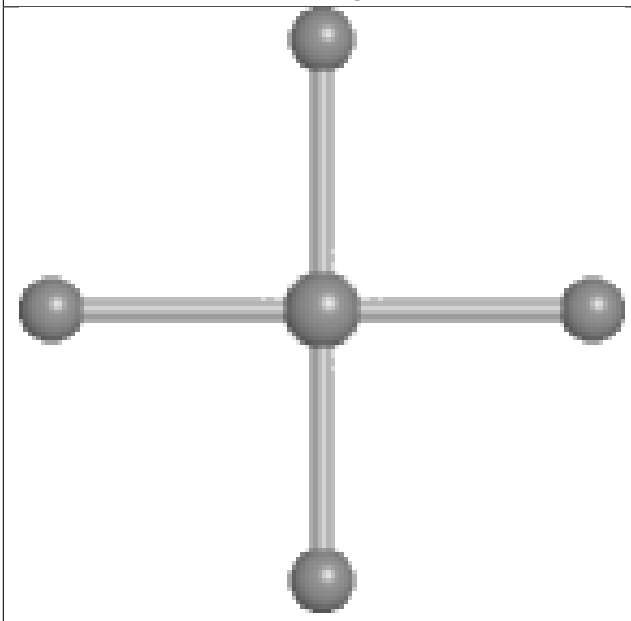
Ligand SO4 F 703



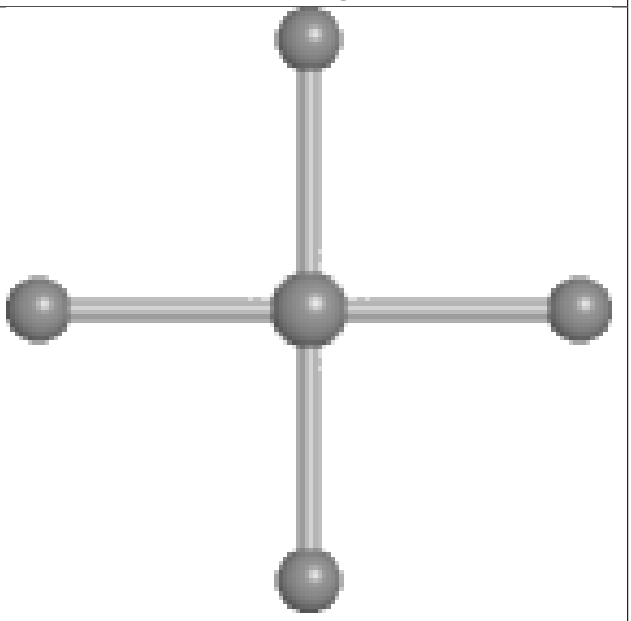
Bond lengths



Bond angles

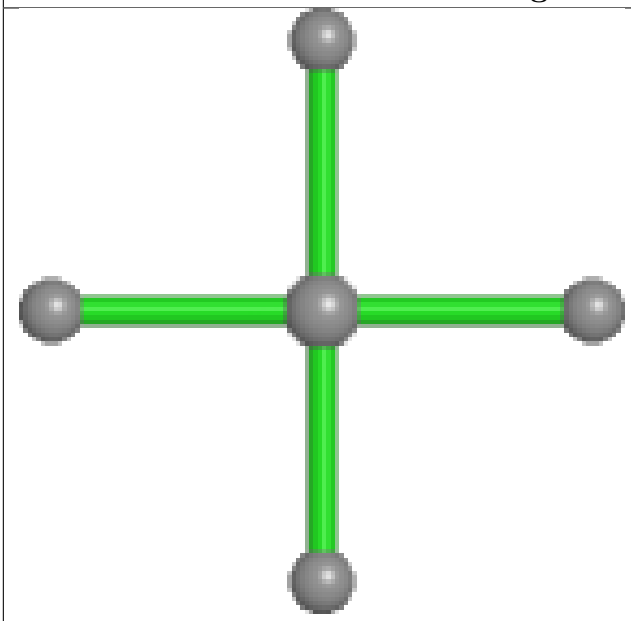


Torsions



Rings

Ligand SO4 E 705



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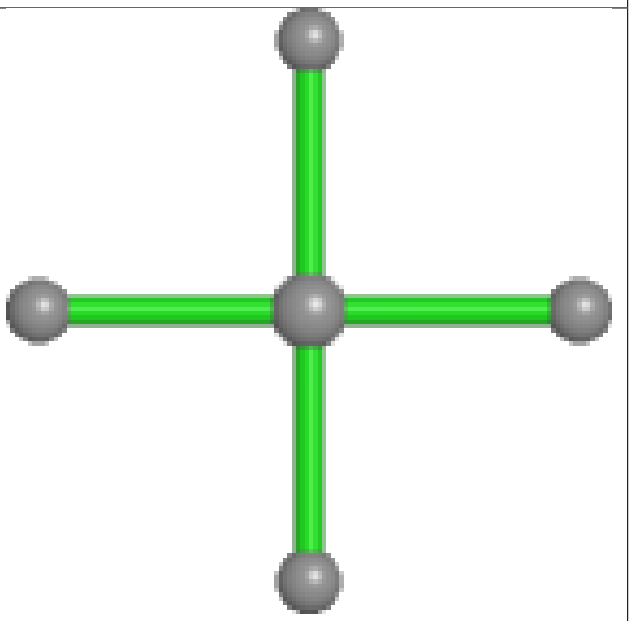
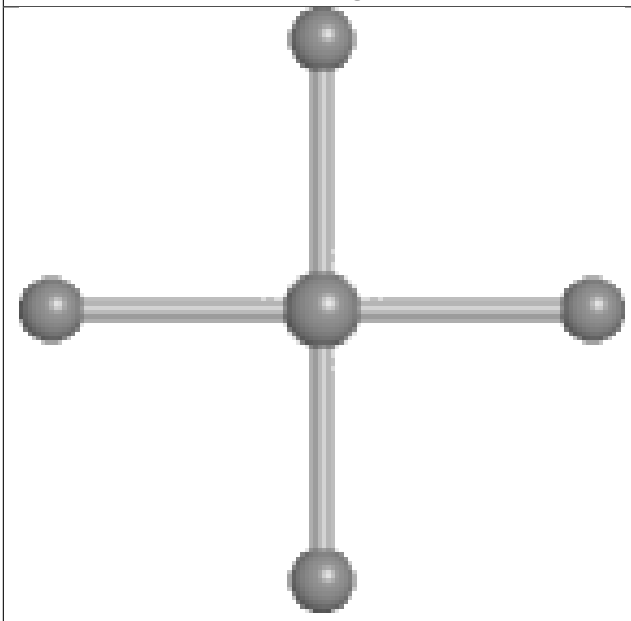
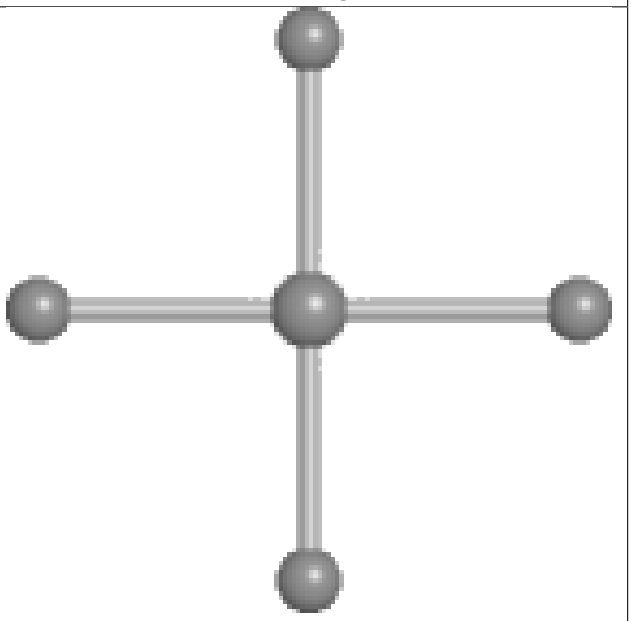


Bond angles

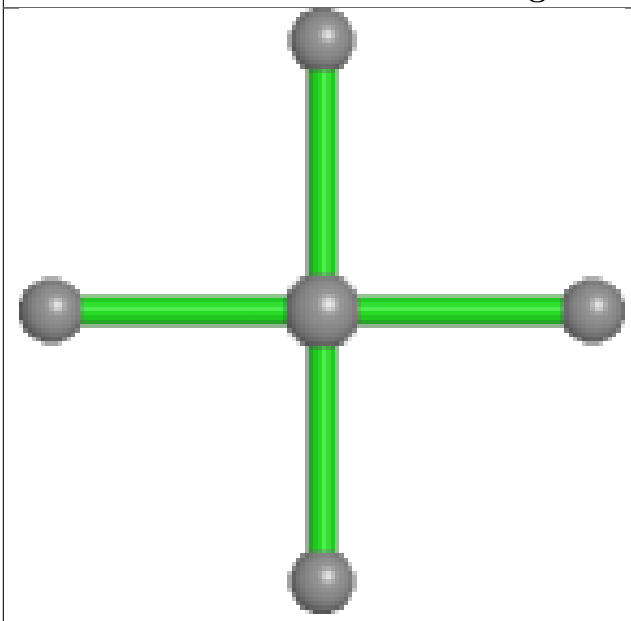


Torsions

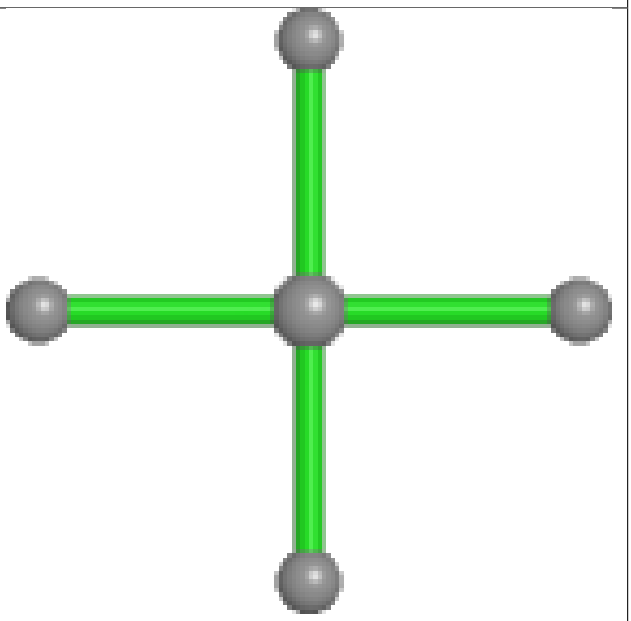


Rings

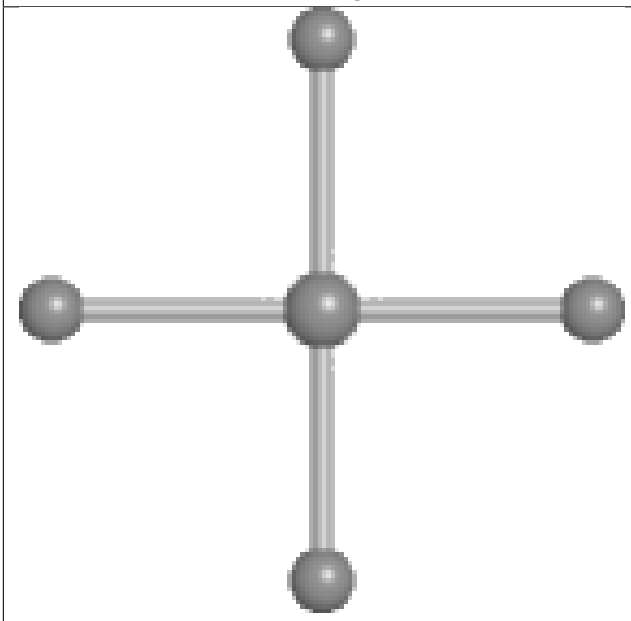
Ligand SO4 A 705



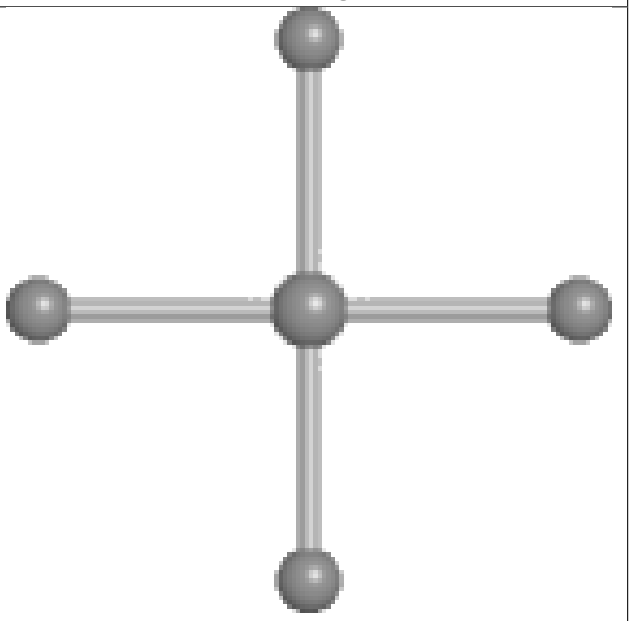
Bond lengths



Bond angles

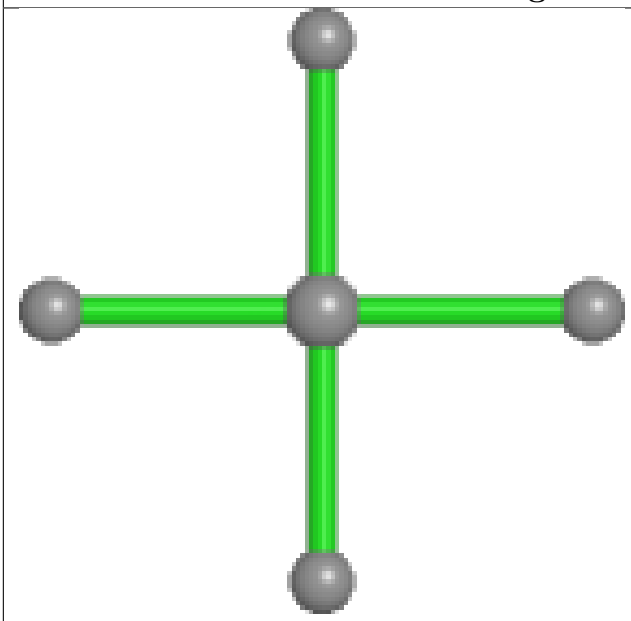


Torsions

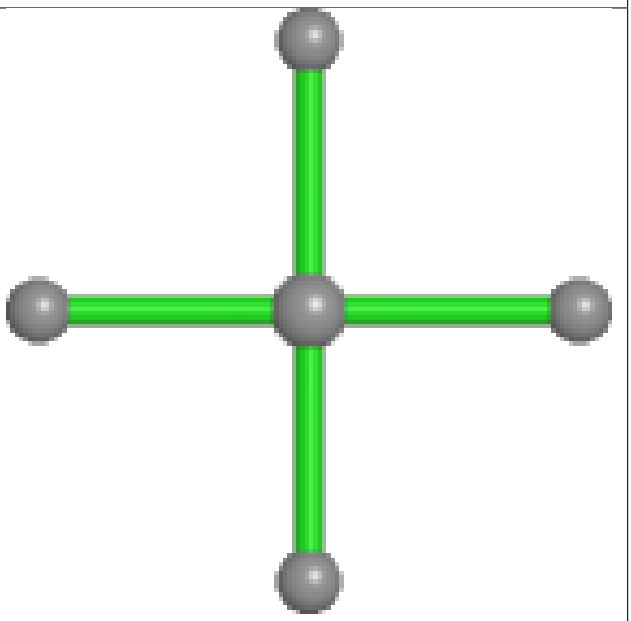


Rings

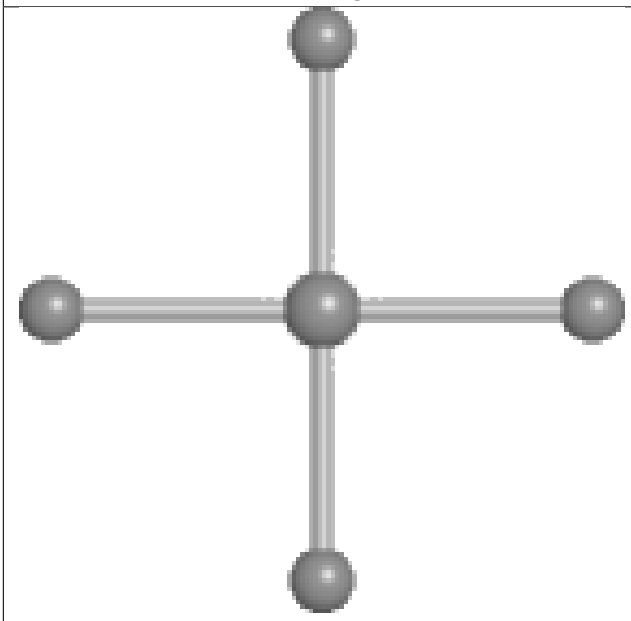
Ligand SO4 D 706



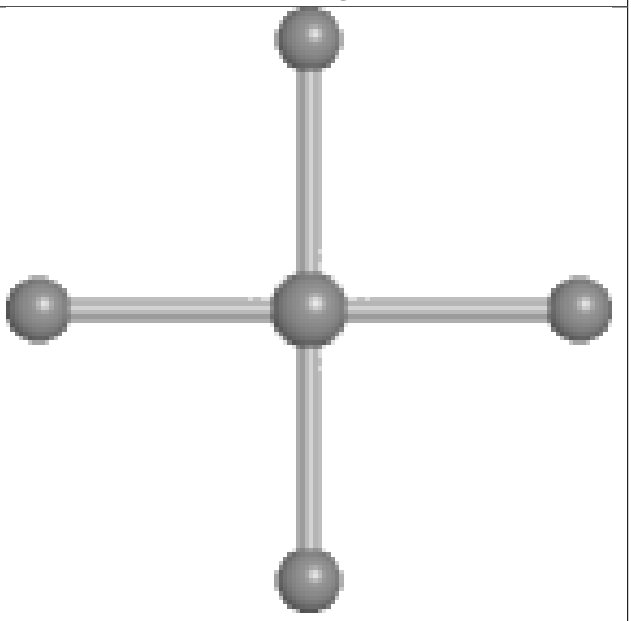
Bond lengths



Bond angles

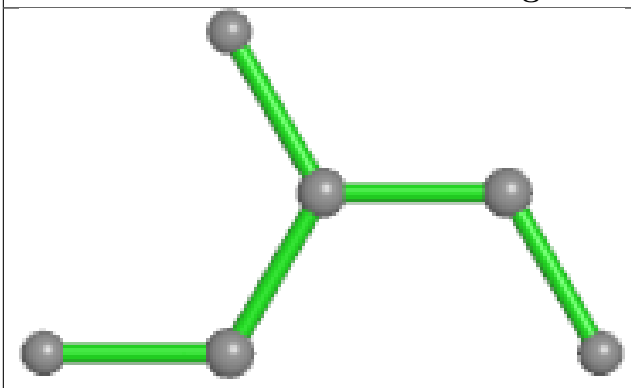


Torsions

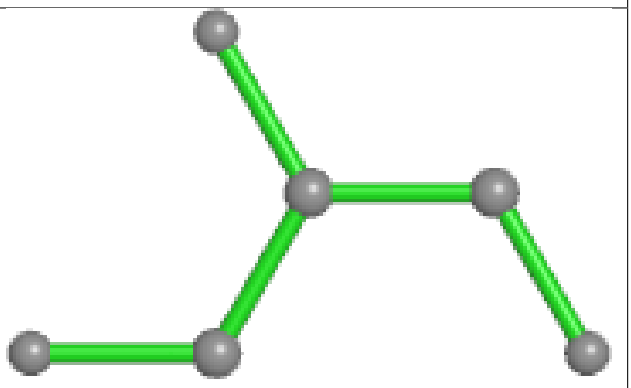


Rings

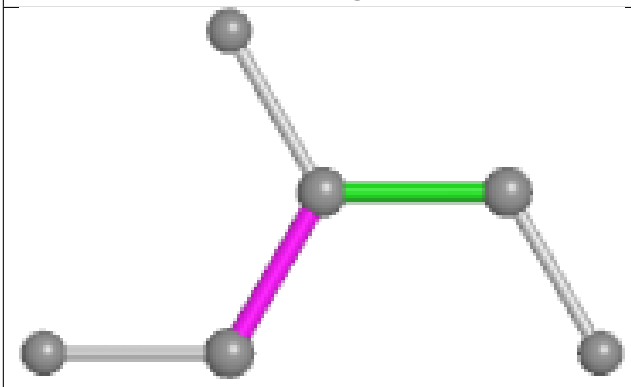
Ligand GOL D 711



Bond lengths



Bond angles



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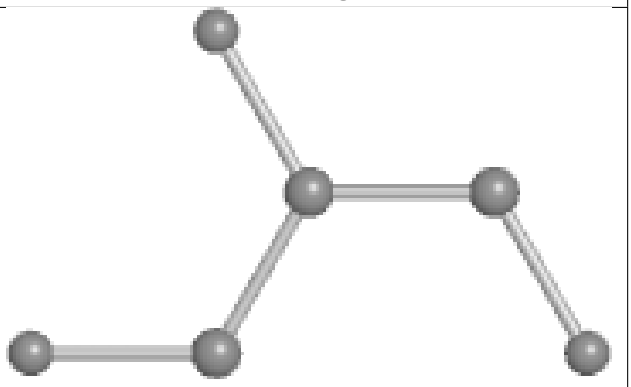
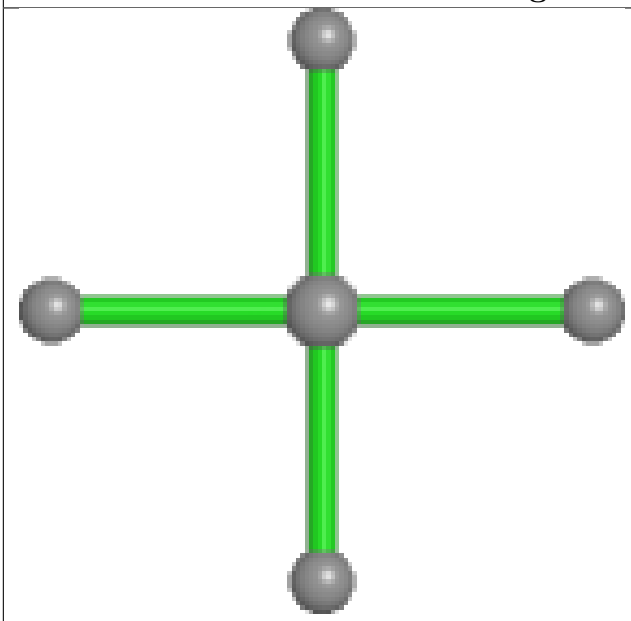
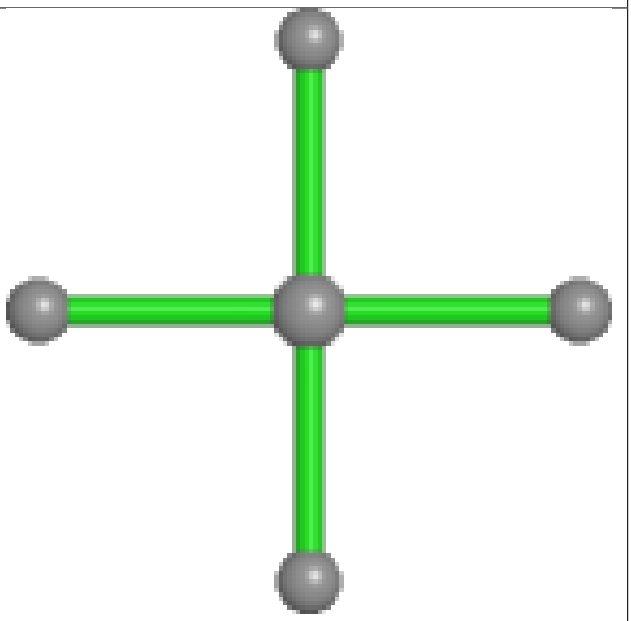


Rings

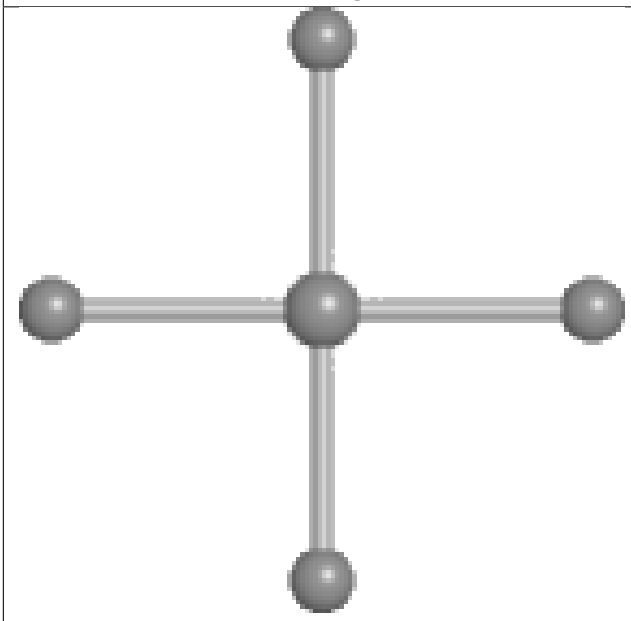
Ligand SO4 B 707



Bond lengths



Bond angles



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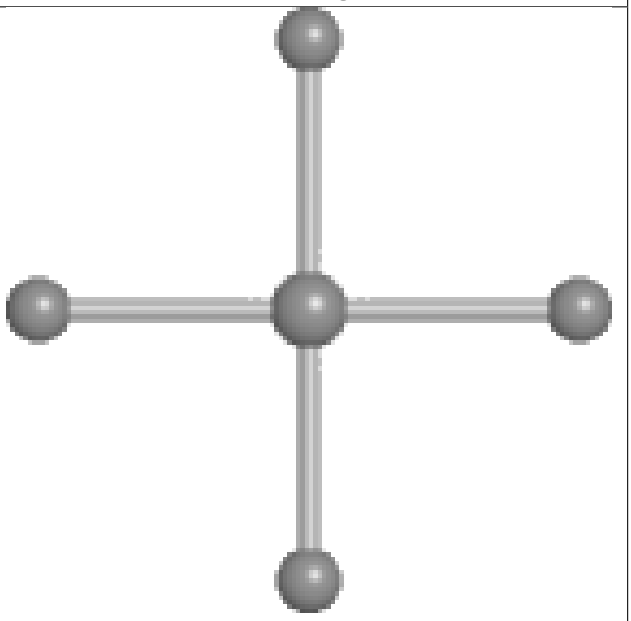
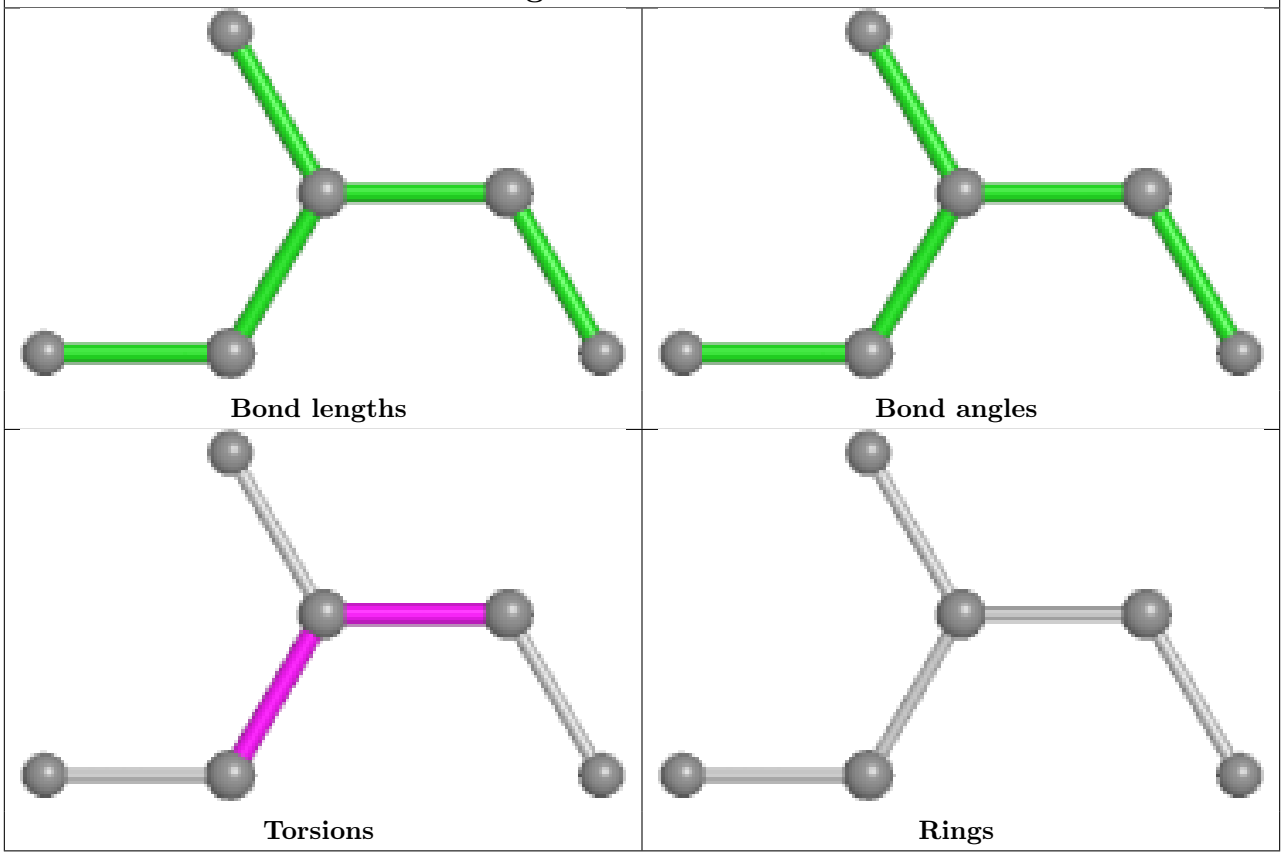
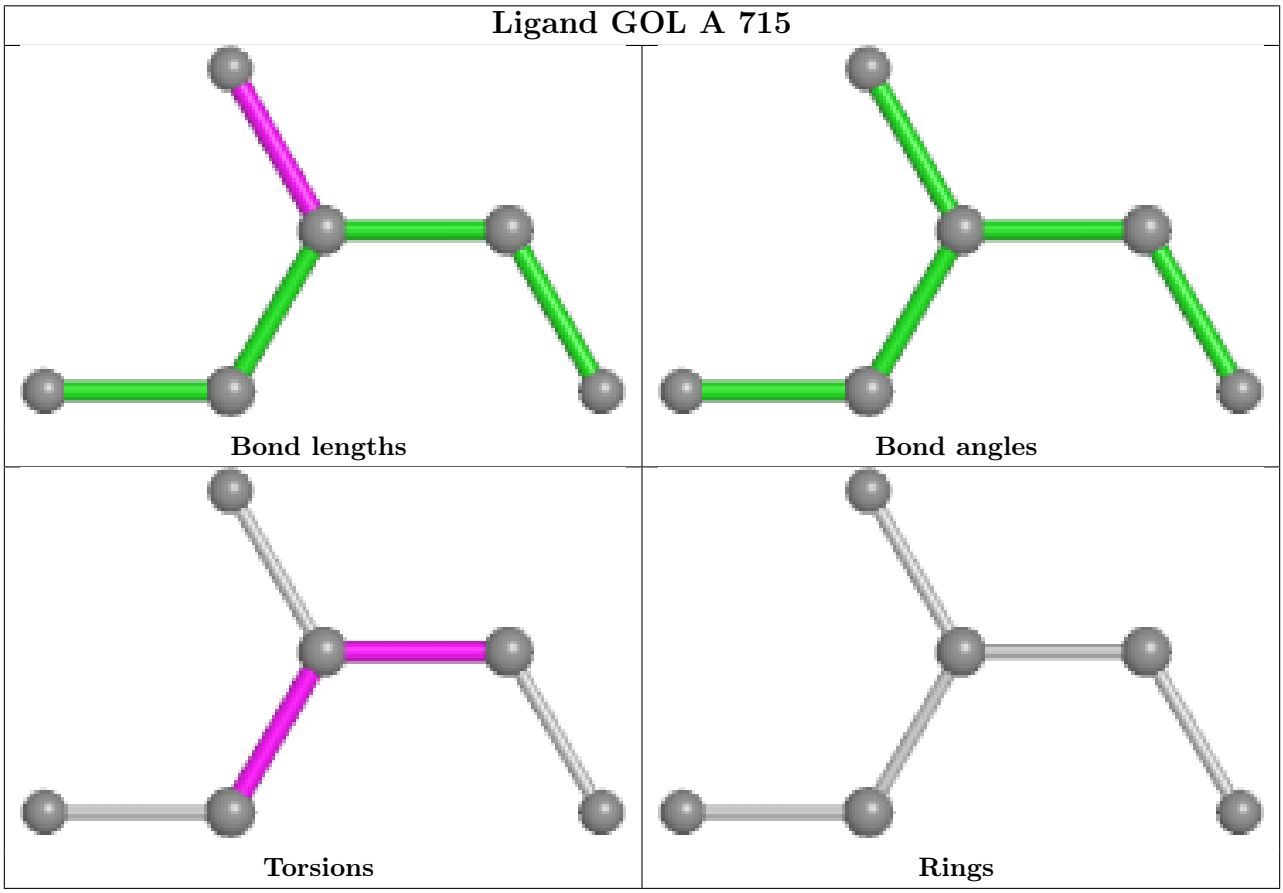


Rings

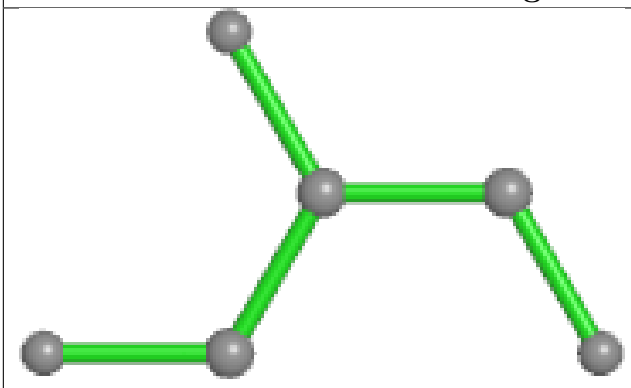
Ligand GOL F 710



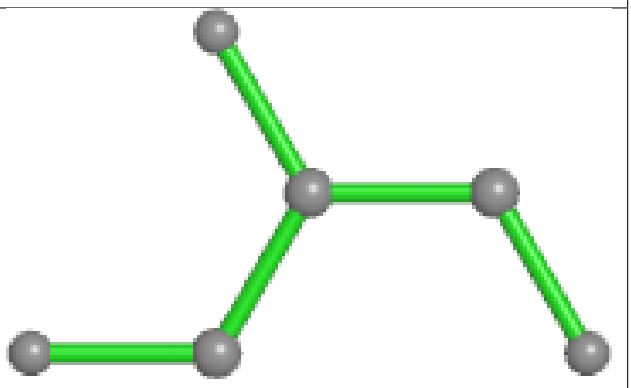
Ligand GOL A 715



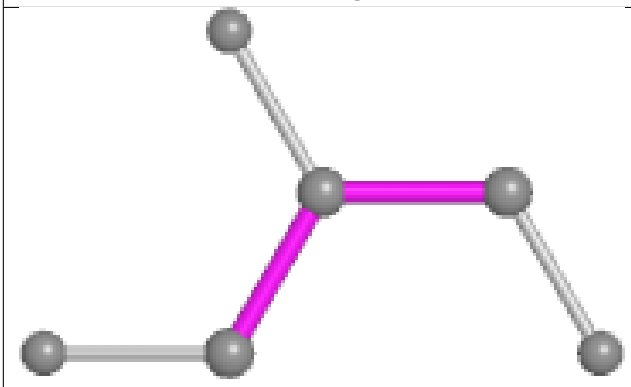
Ligand GOL C 711



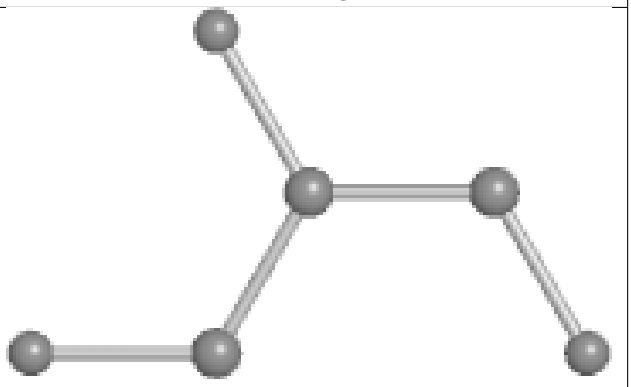
Bond lengths



Bond angles

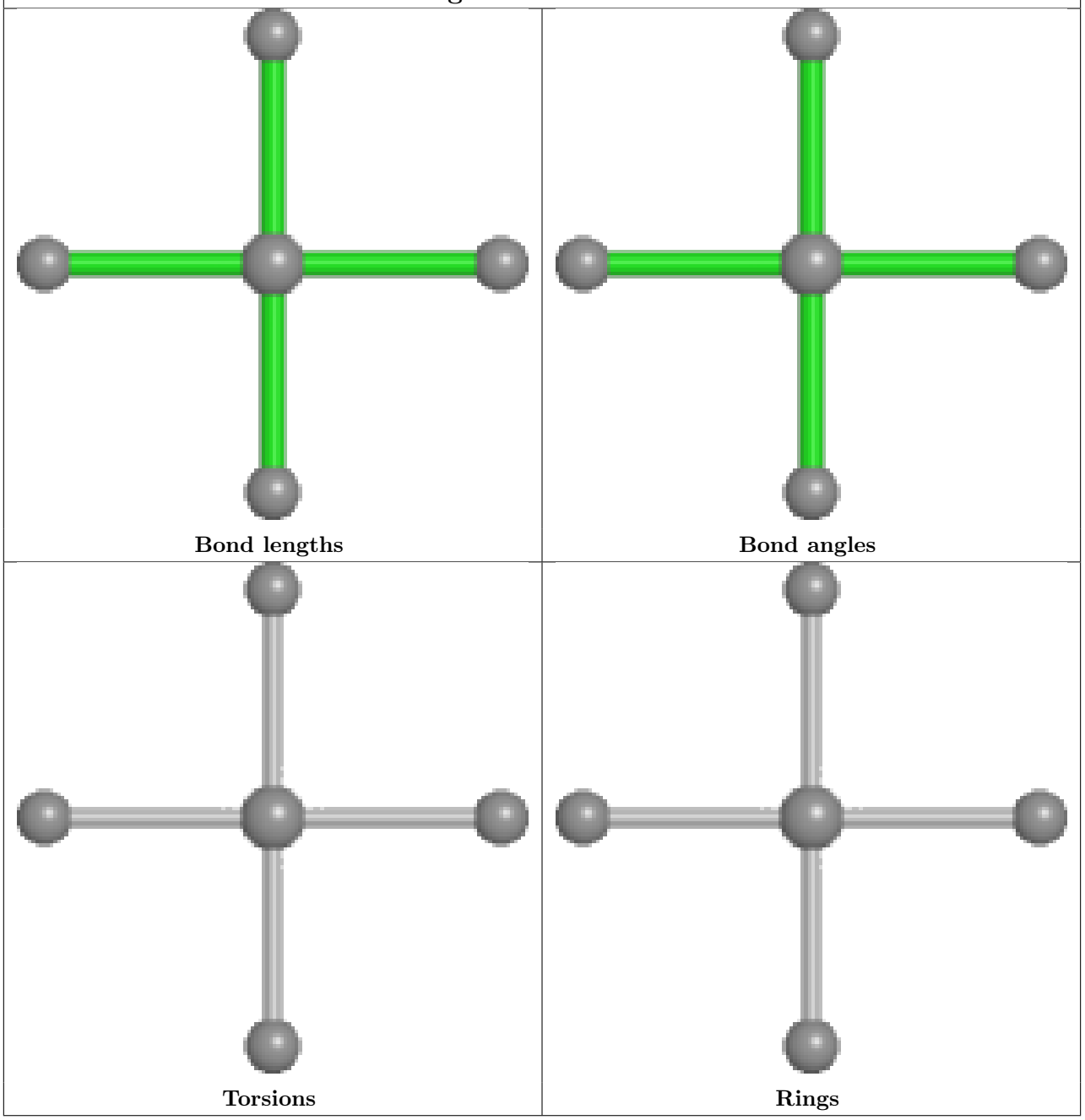


Torsions



Rings

Ligand SO4 B 705



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	650/691 (94%)	-0.13	5 (0%)	86	85	23, 32, 45, 62	0
1	B	650/691 (94%)	-0.25	3 (0%)	91	90	23, 33, 46, 69	0
1	C	651/691 (94%)	-0.13	6 (0%)	84	83	24, 32, 45, 68	0
1	D	649/691 (93%)	-0.07	6 (0%)	84	83	24, 35, 49, 75	0
1	E	650/691 (94%)	-0.23	1 (0%)	95	94	22, 33, 48, 74	0
1	F	649/691 (93%)	-0.05	5 (0%)	86	85	22, 34, 49, 67	0
1	G	647/691 (93%)	0.22	33 (5%)	28	27	31, 42, 58, 80	0
1	H	651/691 (94%)	0.10	18 (2%)	53	51	26, 39, 56, 71	0
All	All	5197/5528 (94%)	-0.07	77 (1%)	73	72	22, 35, 52, 80	0

The worst 5 of 77 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	H	58	ALA	6.2
1	E	146	PRO	4.7
1	D	146	PRO	4.5
1	A	146	PRO	3.9
1	F	146	PRO	3.5

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

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

6.3 Carbohydrates

There are no monosaccharides in this entry.

6.4 Ligands (i)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
6	FLC	A	717	13/13	0.54	0.34	38,47,54,56	0
6	FLC	H	713	13/13	0.60	0.34	47,53,59,60	0
4	GOL	G	707	6/6	0.68	0.21	42,46,48,57	0
4	GOL	D	710	6/6	0.74	0.17	40,42,48,57	0
2	SO4	D	707	5/5	0.74	0.23	61,66,70,84	0
4	GOL	D	712	6/6	0.78	0.20	36,39,48,48	0
4	GOL	H	711	6/6	0.78	0.24	46,49,55,59	0
5	ALA	G	709	6/6	0.80	0.22	32,35,37,38	0
4	GOL	C	709	6/6	0.81	0.15	36,40,42,42	0
4	GOL	D	711	6/6	0.82	0.24	41,47,49,50	0
4	GOL	G	708	6/6	0.82	0.12	50,54,56,58	0
4	GOL	C	712	6/6	0.82	0.20	42,45,51,53	0
4	GOL	A	713	6/6	0.84	0.19	35,38,40,44	0
2	SO4	D	706	5/5	0.84	0.17	50,56,64,69	0
2	SO4	F	705	5/5	0.84	0.26	53,60,72,77	0
4	GOL	E	712	6/6	0.84	0.29	42,46,47,57	0
4	GOL	E	714	6/6	0.84	0.26	45,51,51,55	0
4	GOL	F	709	6/6	0.84	0.21	46,51,55,55	0
3	NA	A	712	1/1	0.85	0.13	41,41,41,41	0
4	GOL	D	713	6/6	0.86	0.17	44,45,48,61	0
4	GOL	C	710	6/6	0.86	0.16	38,42,45,46	0
4	GOL	F	712	6/6	0.86	0.27	47,52,54,63	0
4	GOL	F	711	6/6	0.87	0.12	50,52,57,58	0
2	SO4	H	708	5/5	0.87	0.20	72,74,82,86	0
5	ALA	C	713	6/6	0.88	0.19	22,28,30,30	0
2	SO4	G	702	5/5	0.88	0.21	58,63,71,74	0
2	SO4	E	709	5/5	0.88	0.20	41,51,55,67	0
4	GOL	B	718	6/6	0.88	0.12	39,42,46,46	0
3	NA	G	706	1/1	0.89	0.16	48,48,48,48	0
4	GOL	C	711	6/6	0.89	0.13	46,48,53,58	0
4	GOL	E	713	6/6	0.89	0.18	40,48,56,60	0
2	SO4	F	706	5/5	0.89	0.21	34,37,42,45	5
4	GOL	F	708	6/6	0.89	0.17	40,43,46,48	0
5	ALA	H	712	6/6	0.90	0.20	27,28,33,34	0
5	ALA	F	713	6/6	0.90	0.22	25,28,32,33	0
3	NA	H	710	1/1	0.90	0.29	49,49,49,49	0
4	GOL	F	710	6/6	0.91	0.28	40,51,57,64	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	GOL	A	715	6/6	0.91	0.15	38,41,42,50	0
2	SO4	B	712	5/5	0.91	0.20	60,61,73,80	0
4	GOL	A	714	6/6	0.91	0.21	36,41,46,48	0
2	SO4	H	709	5/5	0.92	0.17	58,64,78,82	0
2	SO4	F	707	5/5	0.92	0.34	59,60,76,86	0
2	SO4	A	705	5/5	0.92	0.18	53,54,60,63	0
4	GOL	B	717	6/6	0.92	0.20	39,48,50,52	0
2	SO4	A	707	5/5	0.92	0.21	62,70,74,86	0
5	ALA	E	715	6/6	0.93	0.22	21,29,36,37	0
2	SO4	C	706	5/5	0.93	0.17	50,57,66,70	0
3	NA	A	710	1/1	0.93	0.13	42,42,42,42	0
2	SO4	A	708	5/5	0.94	0.24	59,60,74,79	0
2	SO4	E	708	5/5	0.94	0.16	54,57,60,62	0
3	NA	A	711	1/1	0.94	0.10	43,43,43,43	0
5	ALA	B	719	6/6	0.94	0.20	26,27,30,32	0
2	SO4	B	707	5/5	0.94	0.10	46,48,65,65	0
3	NA	B	716	1/1	0.94	0.32	40,40,40,40	0
3	NA	D	709	1/1	0.94	0.31	47,47,47,47	0
3	NA	E	711	1/1	0.94	0.22	42,42,42,42	0
2	SO4	H	704	5/5	0.94	0.11	56,57,58,60	0
2	SO4	H	706	5/5	0.94	0.16	51,58,68,72	0
2	SO4	B	711	5/5	0.94	0.18	65,70,78,78	0
2	SO4	G	705	5/5	0.95	0.09	59,61,65,65	0
2	SO4	B	708	5/5	0.95	0.11	61,64,75,81	0
2	SO4	H	705	5/5	0.95	0.12	40,41,47,48	0
2	SO4	C	707	5/5	0.95	0.14	52,53,55,58	0
2	SO4	E	707	5/5	0.95	0.17	62,63,68,68	0
5	ALA	D	714	6/6	0.95	0.25	25,30,33,34	0
2	SO4	D	708	5/5	0.96	0.15	62,65,69,69	0
2	SO4	E	705	5/5	0.96	0.10	45,51,60,61	0
2	SO4	F	702	5/5	0.96	0.14	33,34,38,40	0
3	NA	B	713	1/1	0.96	0.12	40,40,40,40	0
3	NA	B	715	1/1	0.96	0.17	34,34,34,34	0
2	SO4	G	703	5/5	0.96	0.17	58,59,63,64	0
5	ALA	A	716	6/6	0.96	0.28	24,29,34,36	0
2	SO4	D	705	5/5	0.96	0.08	42,44,50,56	0
2	SO4	C	705	5/5	0.97	0.17	50,55,68,71	0
2	SO4	H	707	5/5	0.97	0.19	53,54,56,60	0
2	SO4	B	704	5/5	0.97	0.09	44,45,46,49	0
2	SO4	B	706	5/5	0.97	0.12	29,32,35,36	5
3	NA	A	709	1/1	0.97	0.09	35,35,35,35	0
2	SO4	F	703	5/5	0.97	0.08	41,42,48,51	0

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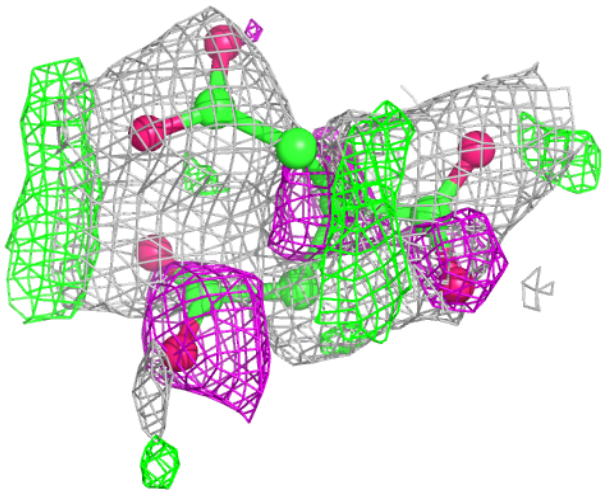
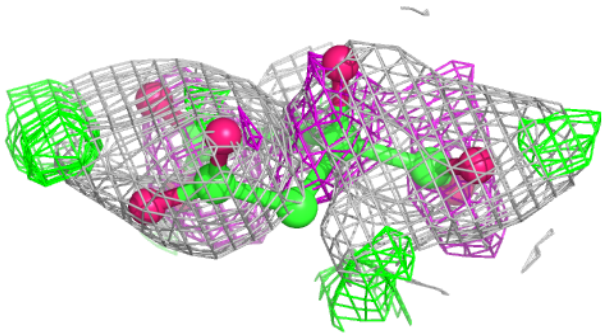
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	SO4	D	702	5/5	0.97	0.10	44,49,53,53	0
2	SO4	A	702	5/5	0.97	0.14	36,37,41,43	0
2	SO4	A	706	5/5	0.97	0.11	23,35,40,43	5
3	NA	B	714	1/1	0.97	0.10	35,35,35,35	0
2	SO4	G	701	5/5	0.97	0.14	40,45,49,49	0
2	SO4	A	703	5/5	0.97	0.10	46,47,50,55	0
2	SO4	A	704	5/5	0.97	0.19	45,46,56,58	0
3	NA	E	710	1/1	0.97	0.11	40,40,40,40	0
2	SO4	E	701	5/5	0.97	0.12	26,30,33,36	5
2	SO4	C	702	5/5	0.97	0.10	33,36,39,40	0
2	SO4	C	704	5/5	0.97	0.17	48,52,55,58	0
2	SO4	H	701	5/5	0.98	0.08	36,37,42,44	0
2	SO4	H	702	5/5	0.98	0.07	42,42,47,47	0
2	SO4	H	703	5/5	0.98	0.13	36,39,41,45	0
2	SO4	D	703	5/5	0.98	0.12	36,41,41,42	0
2	SO4	D	704	5/5	0.98	0.23	49,50,56,56	0
2	SO4	C	703	5/5	0.98	0.15	31,33,39,45	0
2	SO4	F	701	5/5	0.98	0.08	33,36,44,48	0
2	SO4	B	709	5/5	0.98	0.06	40,46,48,49	0
2	SO4	B	710	5/5	0.98	0.11	49,54,57,60	0
2	SO4	F	704	5/5	0.98	0.09	52,52,52,58	0
2	SO4	B	701	5/5	0.98	0.09	32,34,36,38	0
2	SO4	B	703	5/5	0.98	0.10	49,51,52,53	0
2	SO4	E	702	5/5	0.98	0.14	34,37,39,42	0
2	SO4	E	703	5/5	0.98	0.08	40,42,45,47	0
2	SO4	E	704	5/5	0.98	0.11	42,45,49,53	0
2	SO4	A	701	5/5	0.98	0.09	25,27,37,38	5
2	SO4	G	704	5/5	0.98	0.07	36,38,42,43	0
3	NA	C	708	1/1	0.98	0.06	39,39,39,39	0
2	SO4	E	706	5/5	0.98	0.10	31,32,36,36	5
2	SO4	B	702	5/5	0.99	0.09	35,37,39,42	0
2	SO4	C	701	5/5	0.99	0.08	29,32,37,38	0
2	SO4	D	701	5/5	0.99	0.07	24,31,40,41	0
2	SO4	B	705	5/5	0.99	0.11	36,36,41,43	0

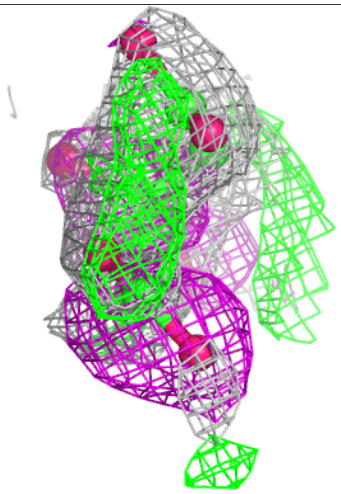
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around FLC A 717:

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

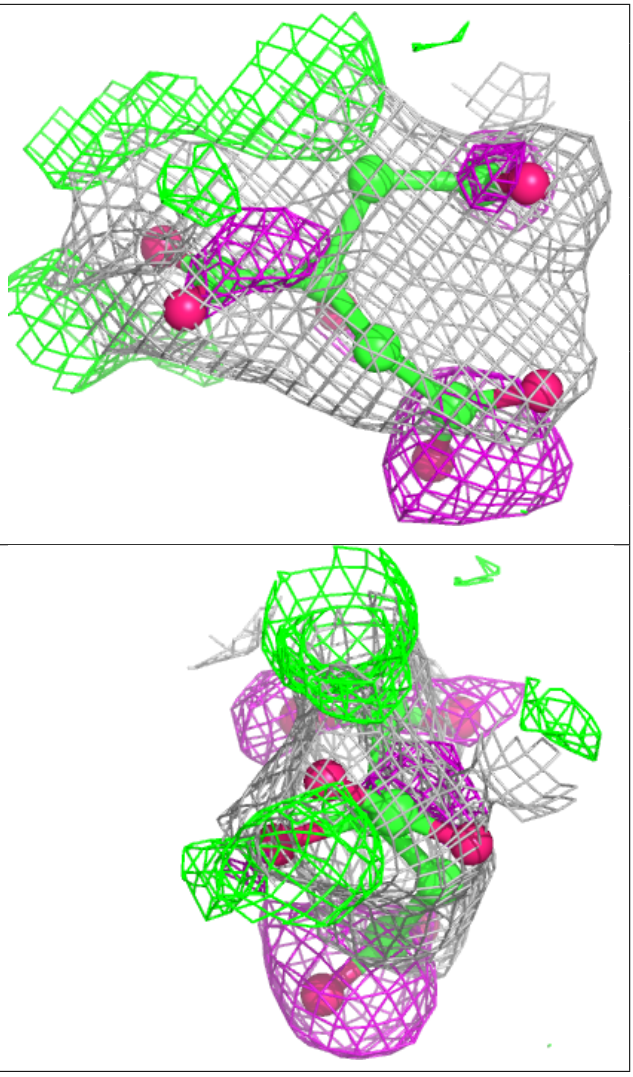






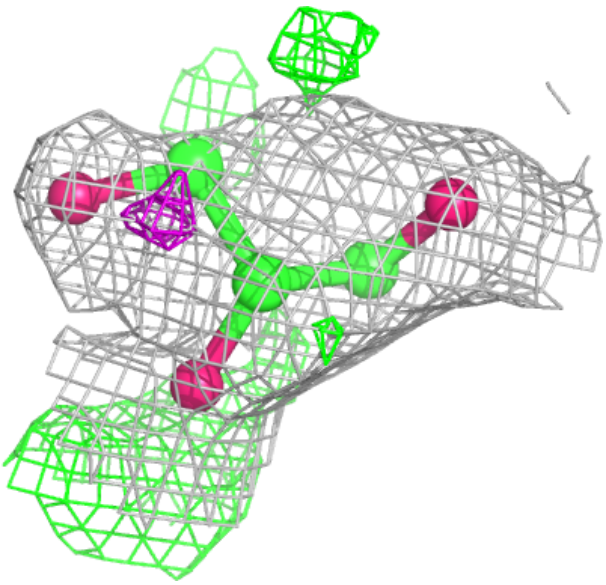
Electron density around FLC H 713:

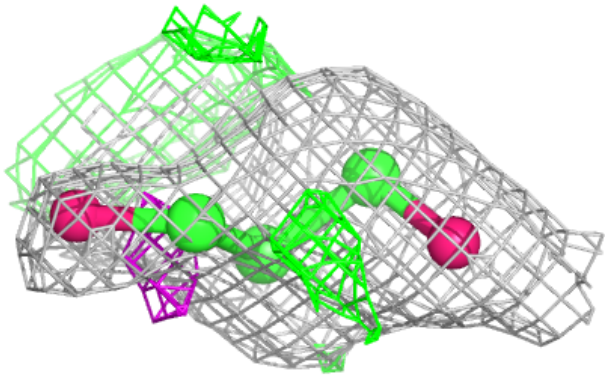
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

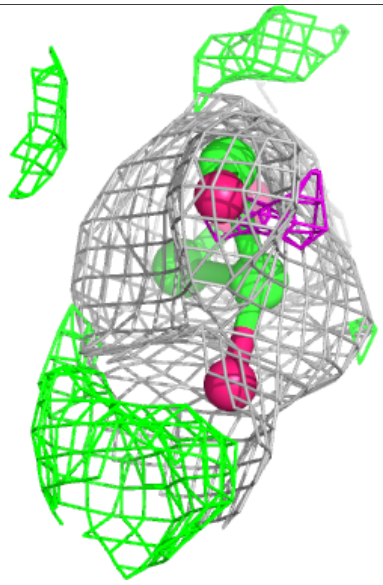


Electron density around GOL G 707:

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

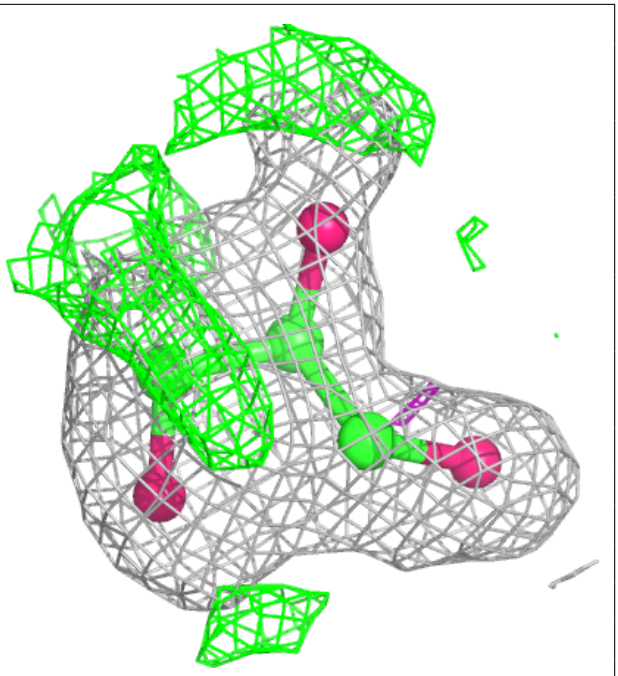


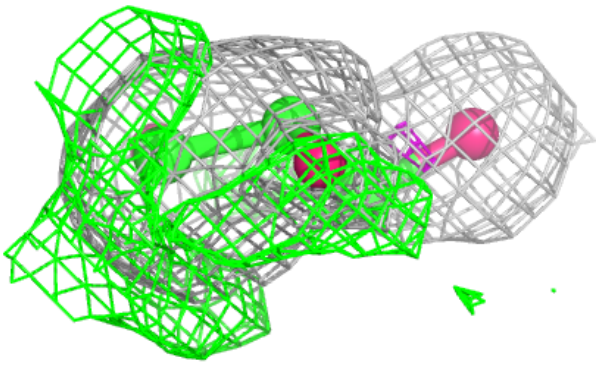


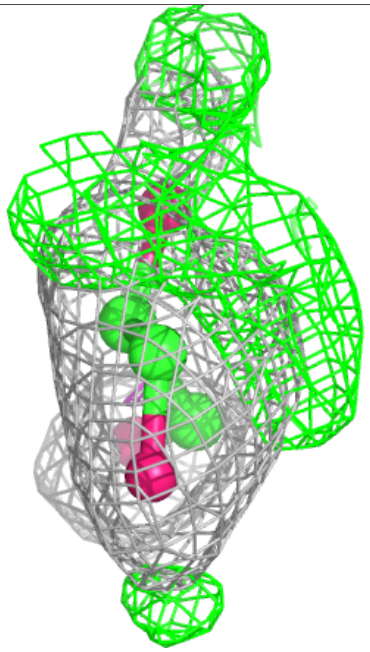


Electron density around GOL D 710:

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

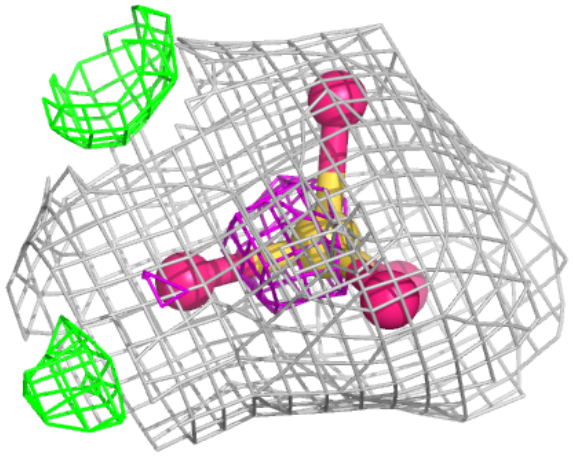


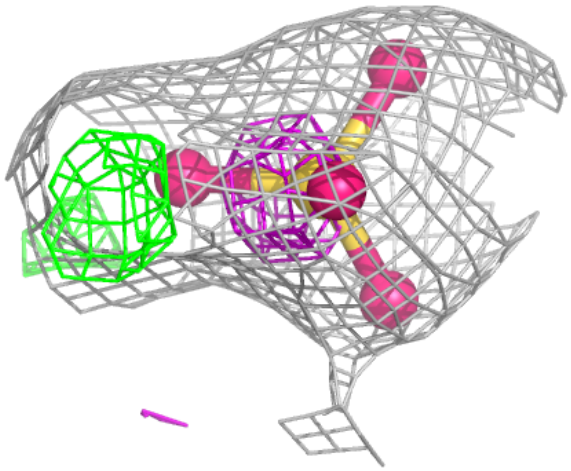


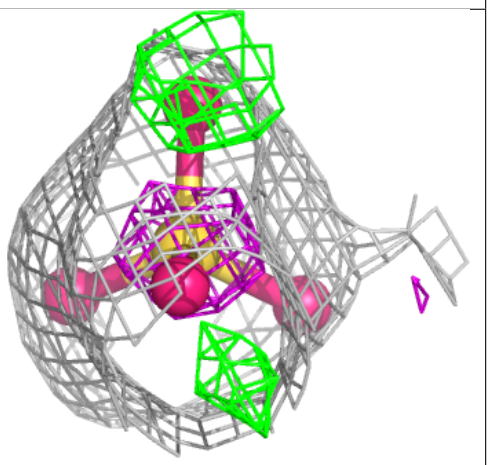


Electron density around SO4 D 707:

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

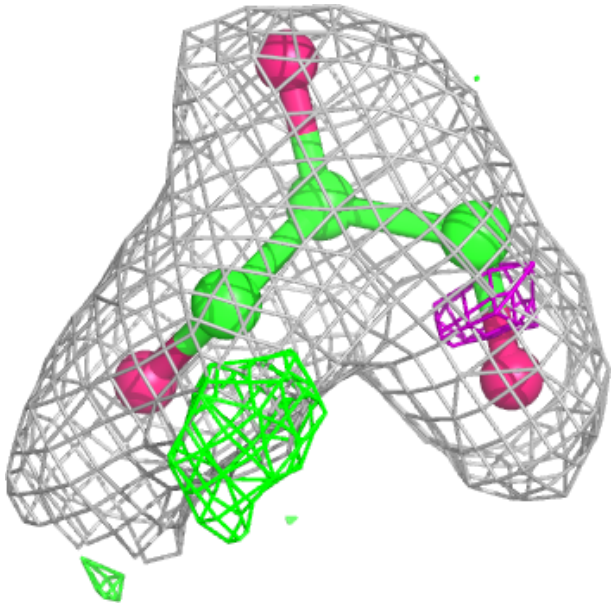


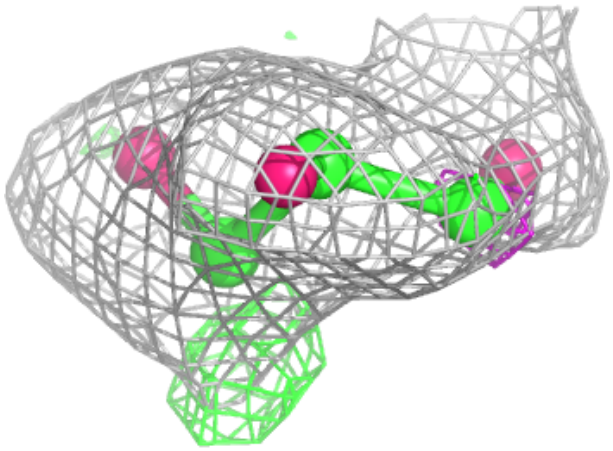


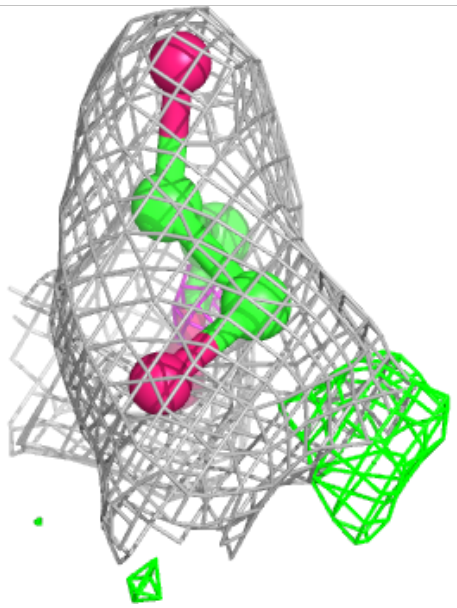


Electron density around GOL D 712:

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

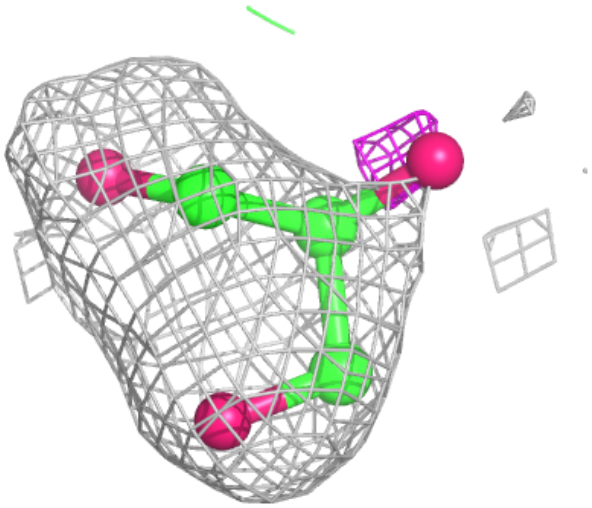


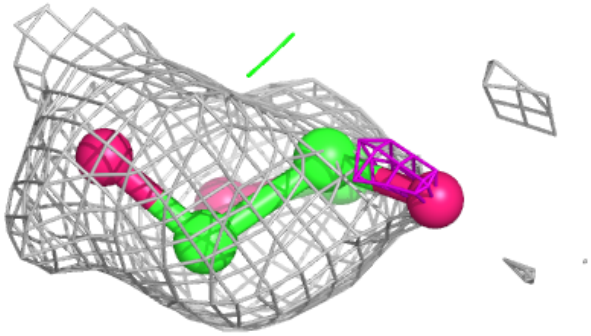


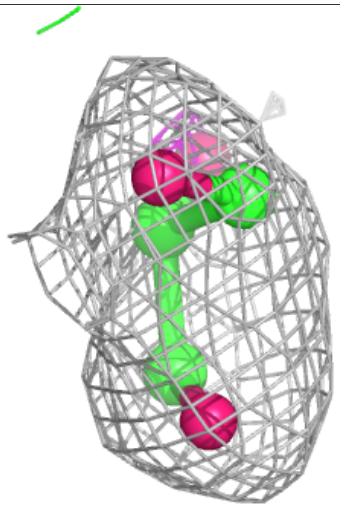


Electron density around GOL H 711:

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

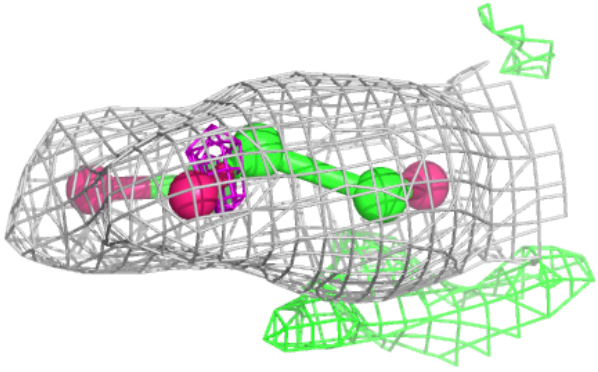


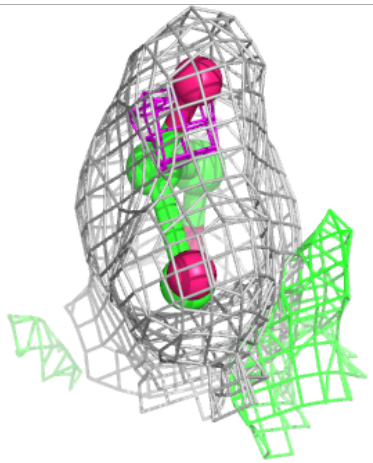




Electron density around GOL C 709:

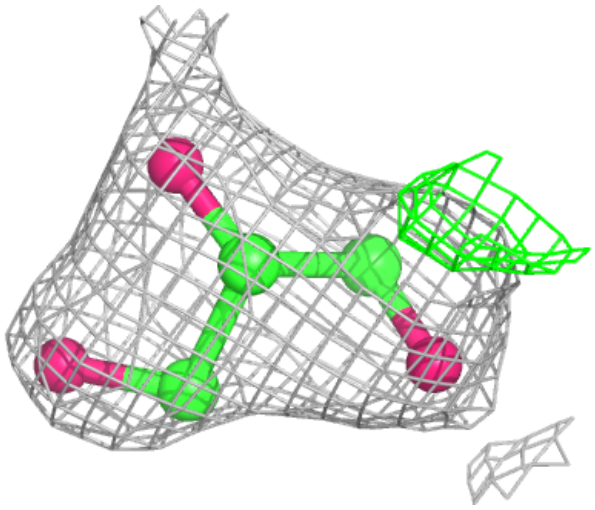
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

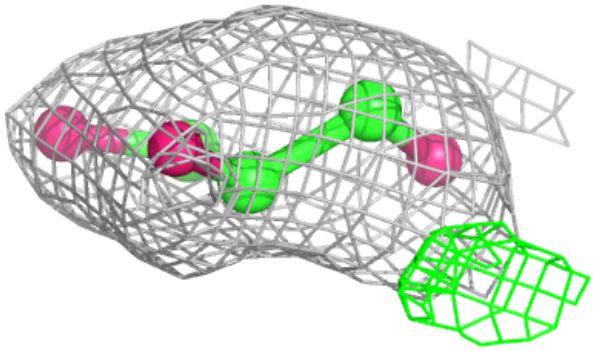


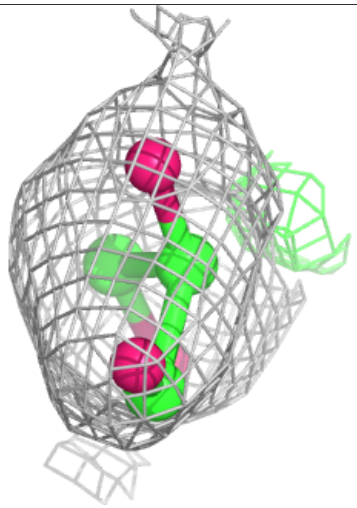


Electron density around GOL D 711:

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

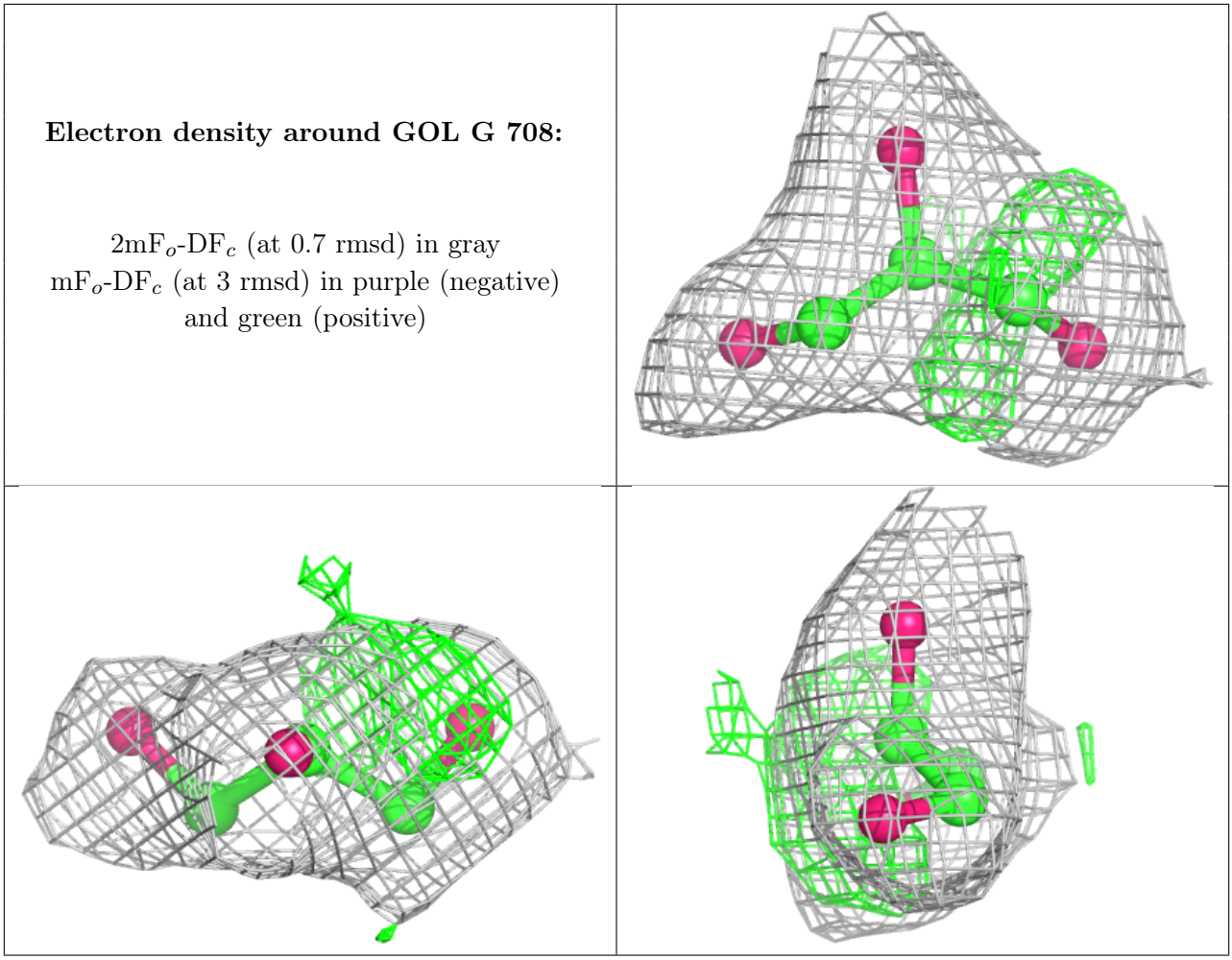






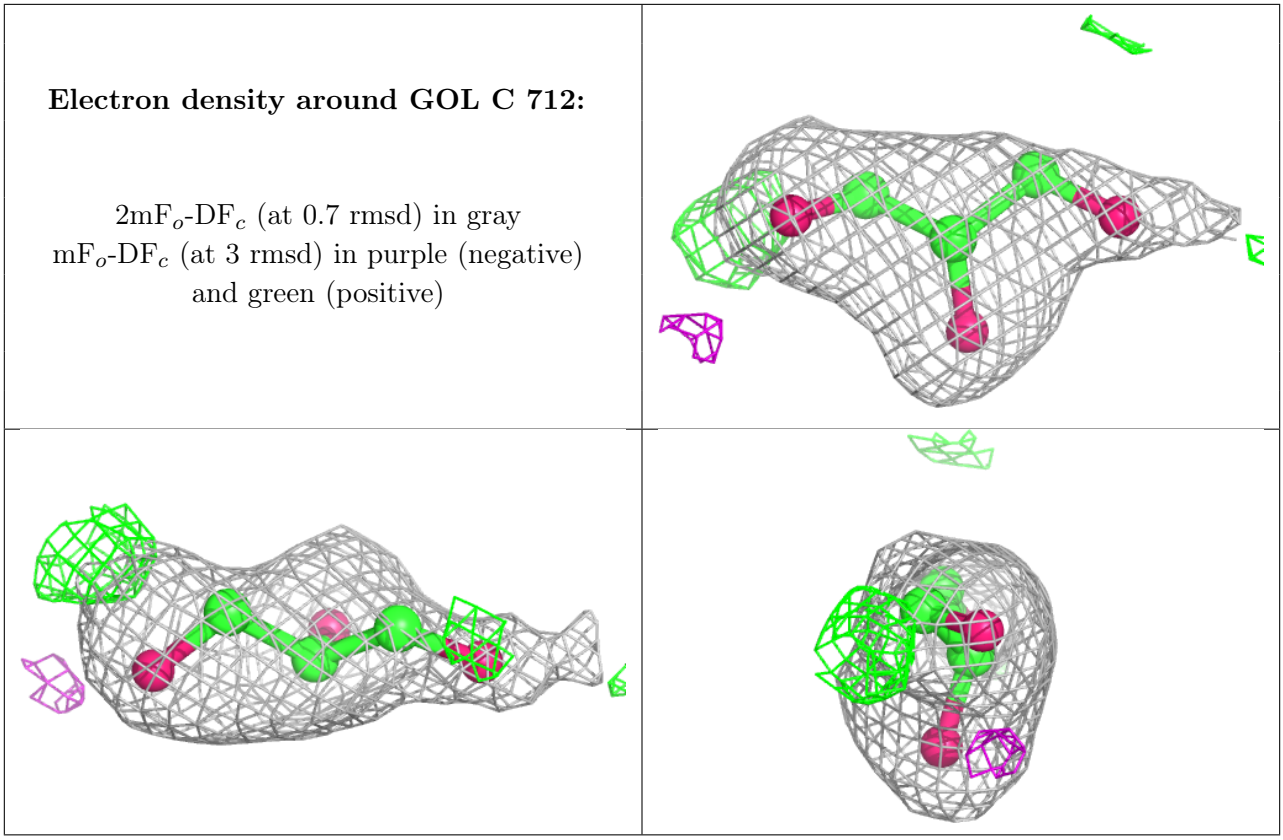
Electron density around GOL G 708:

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



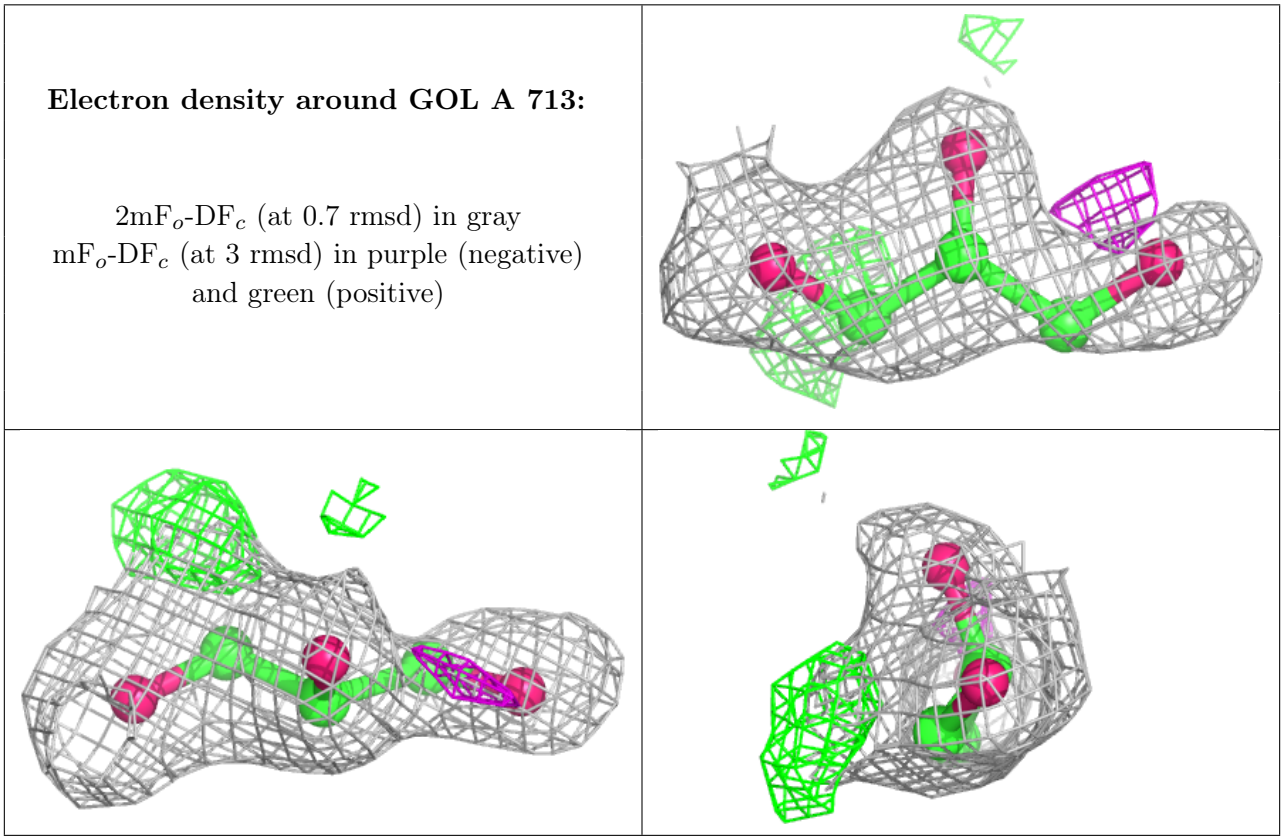
Electron density around GOL C 712:

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



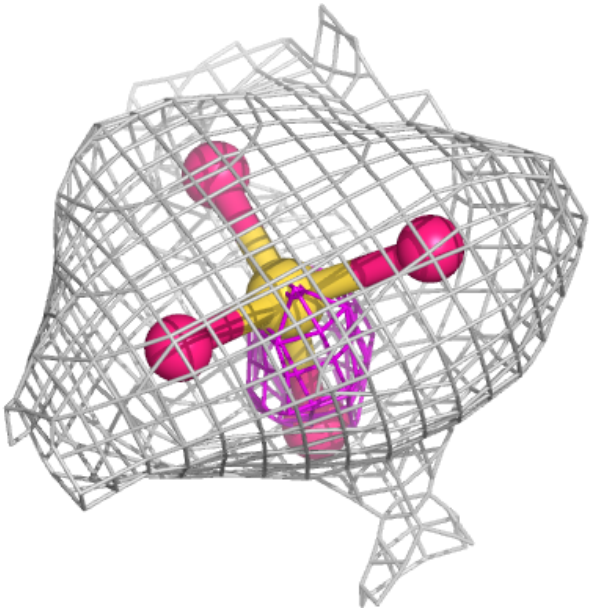
Electron density around GOL A 713:

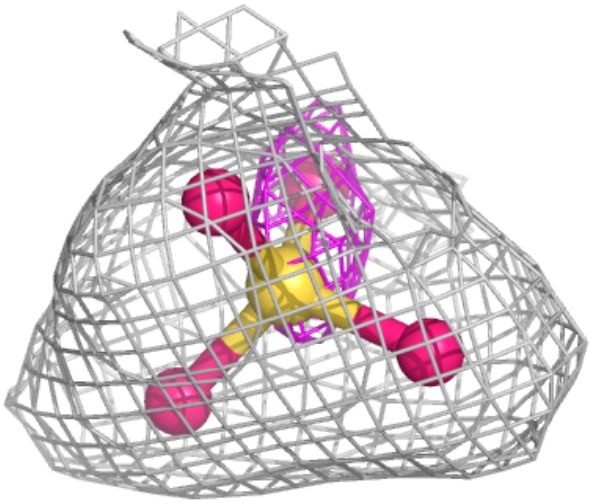
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

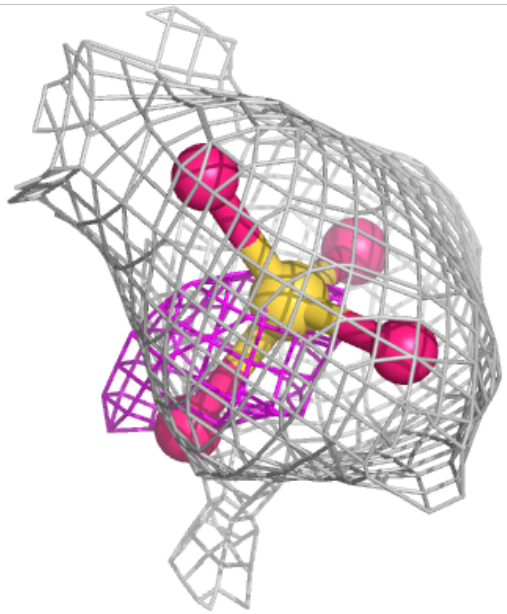


Electron density around SO4 D 706:

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

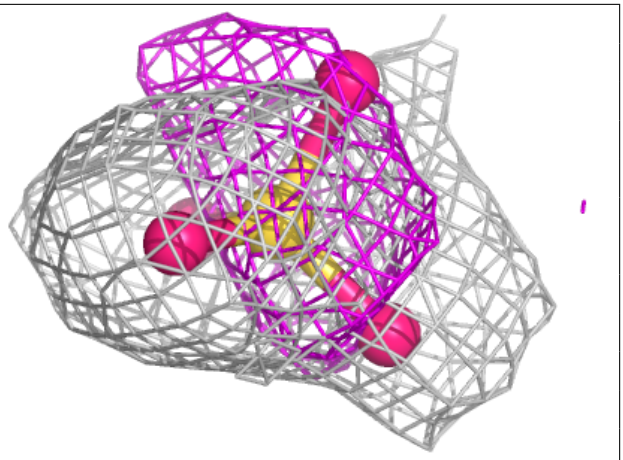


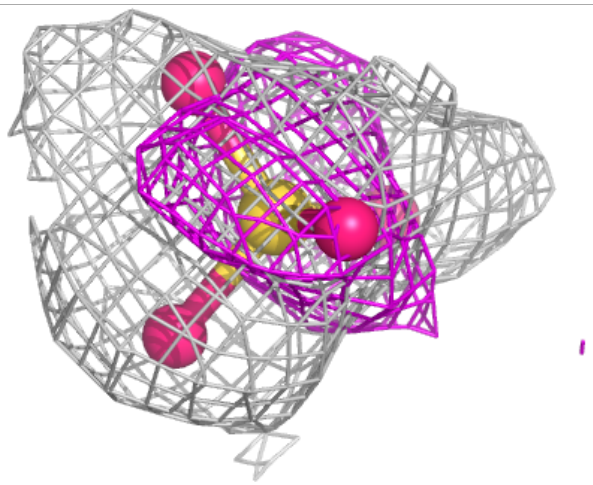


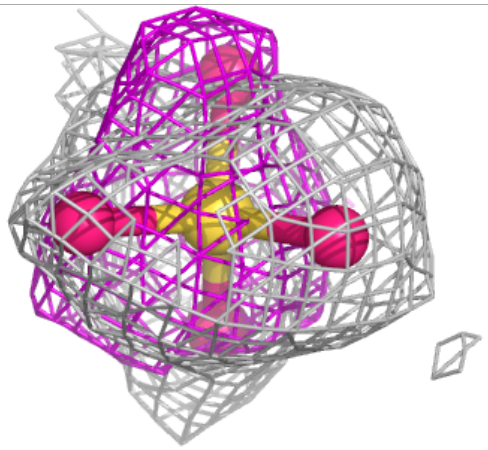


Electron density around SO4 F 705:

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

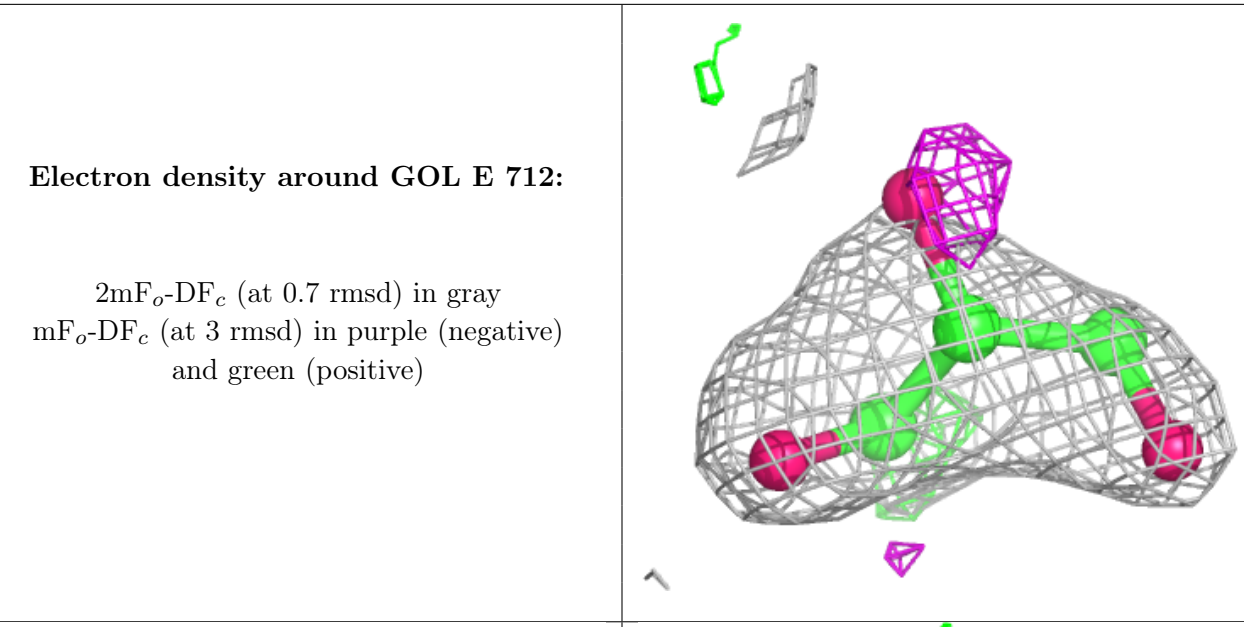


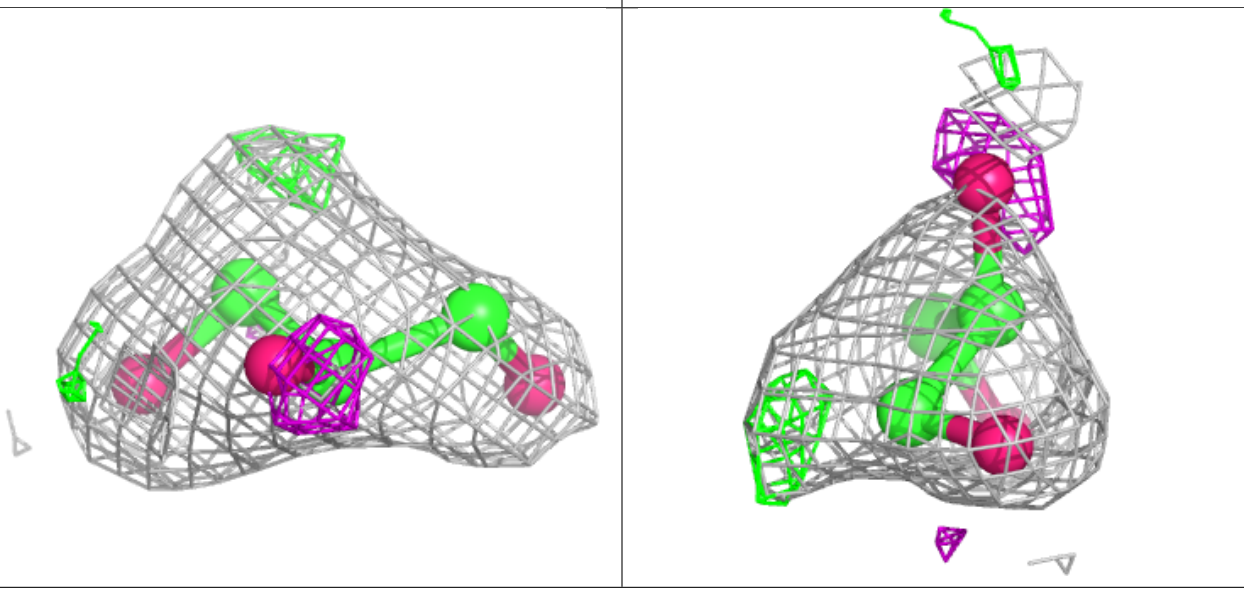




Electron density around GOL E 712:

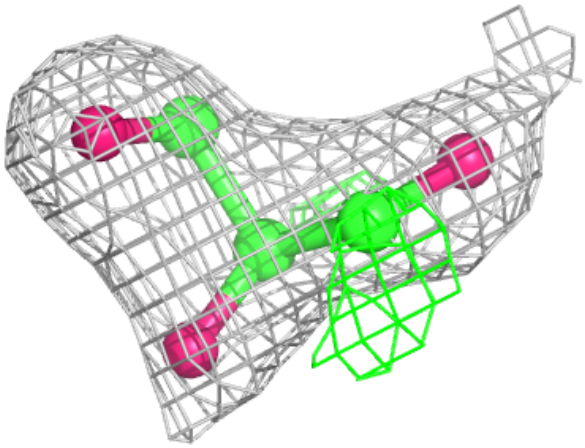
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

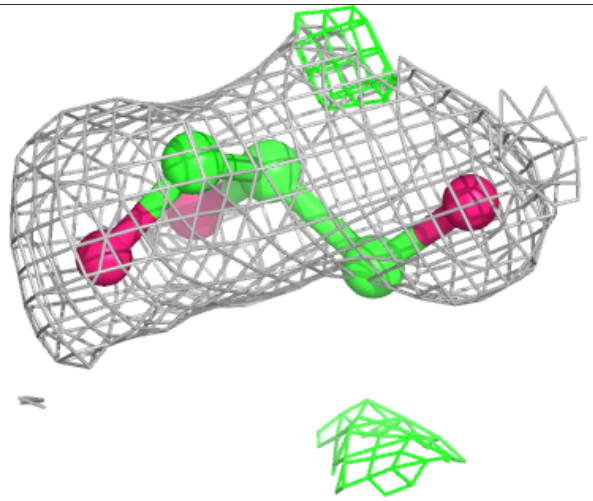


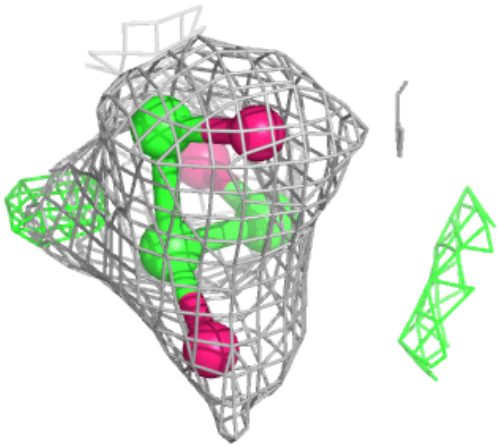


Electron density around GOL E 714:

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

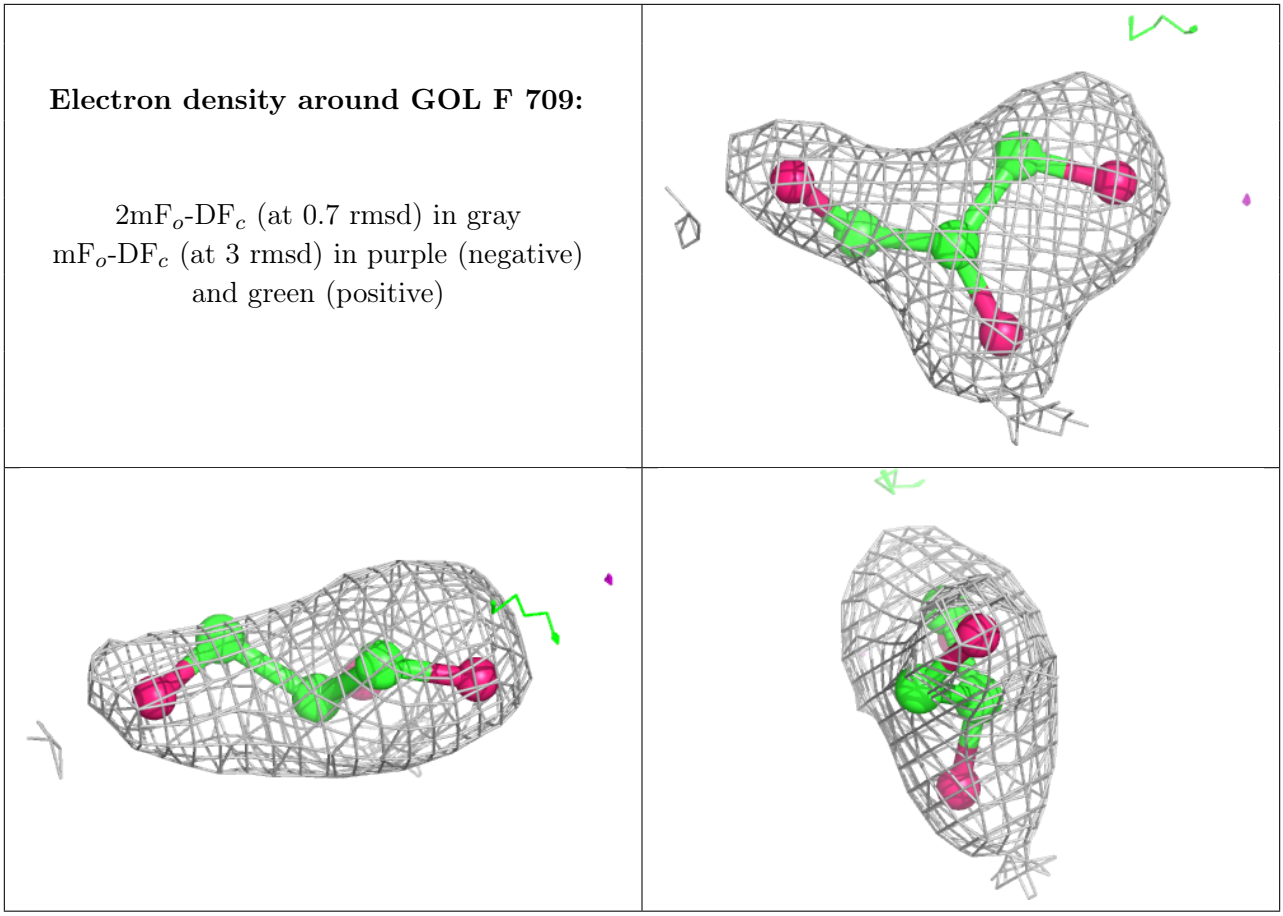






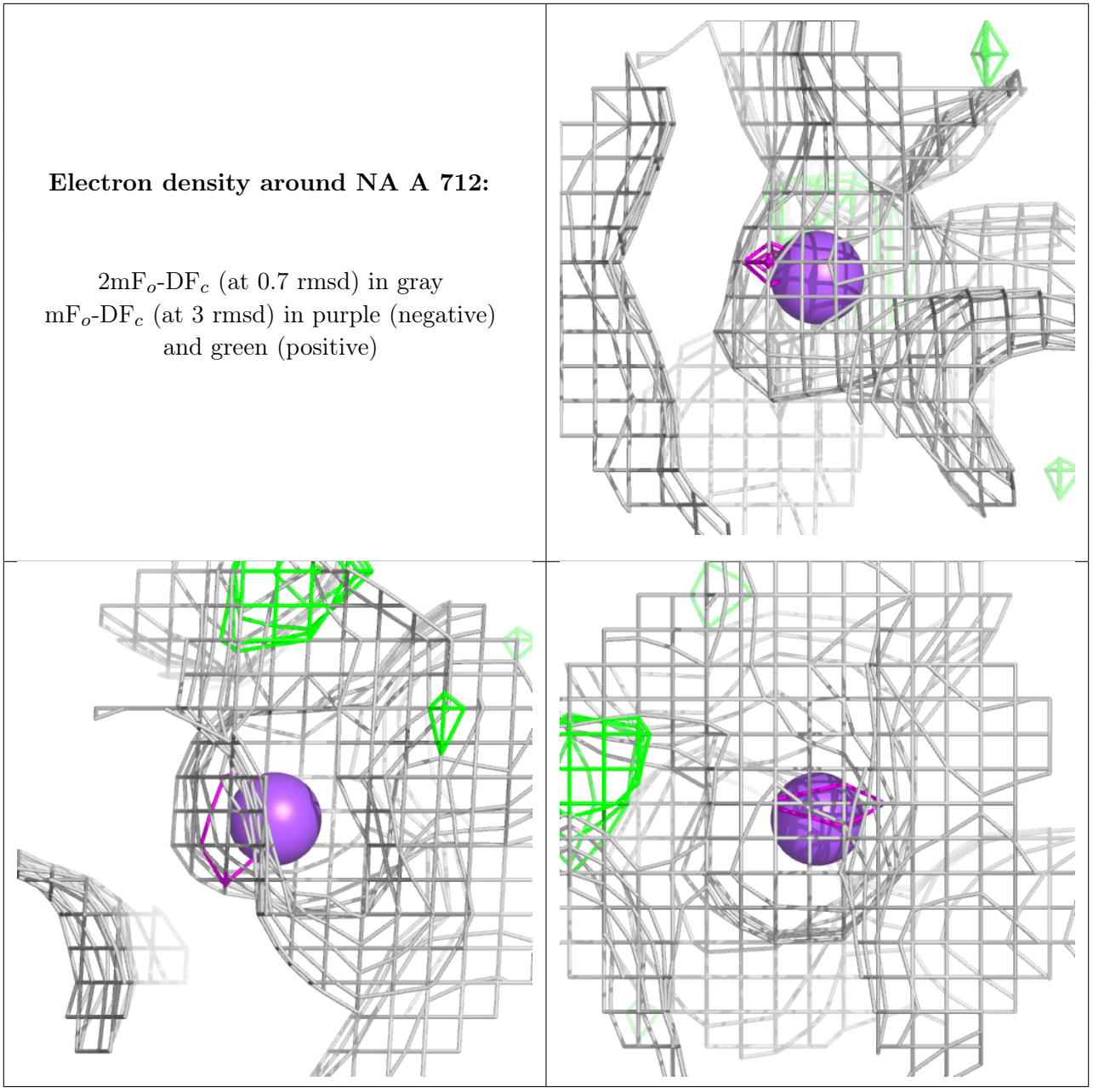
Electron density around GOL F 709:

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



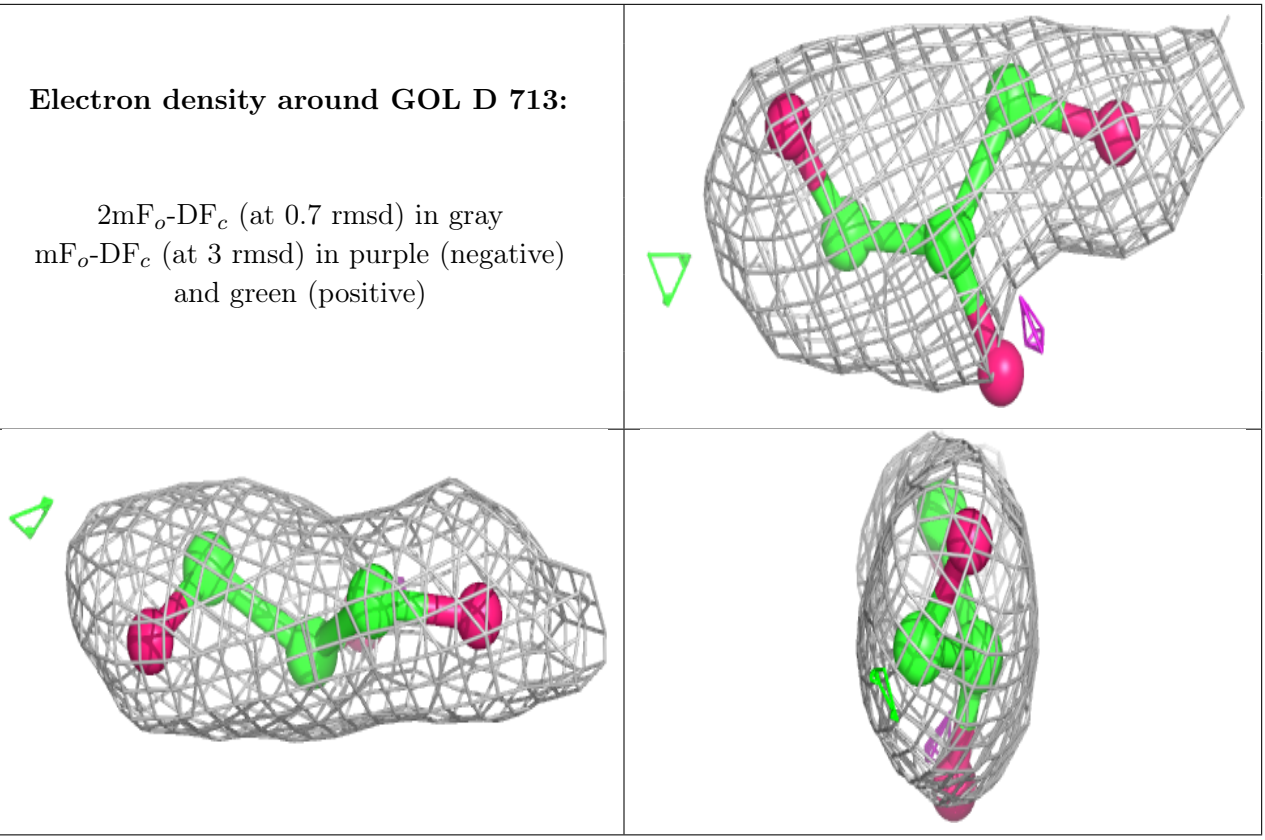
Electron density around NA A 712:

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



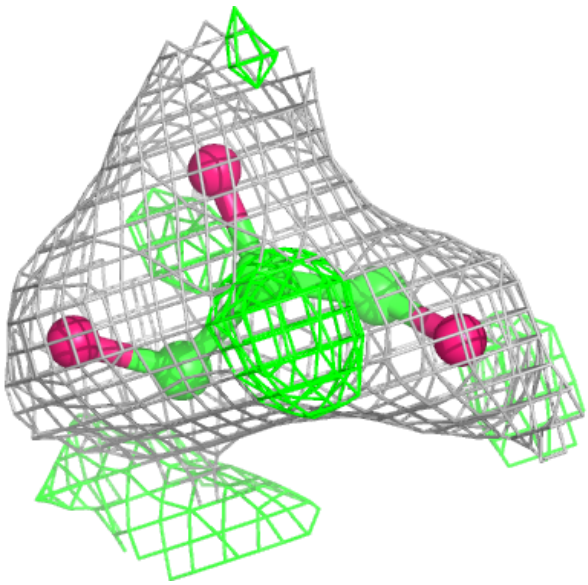
Electron density around GOL D 713:

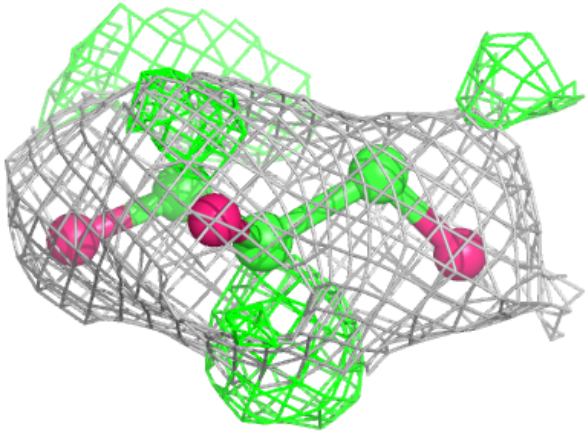
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

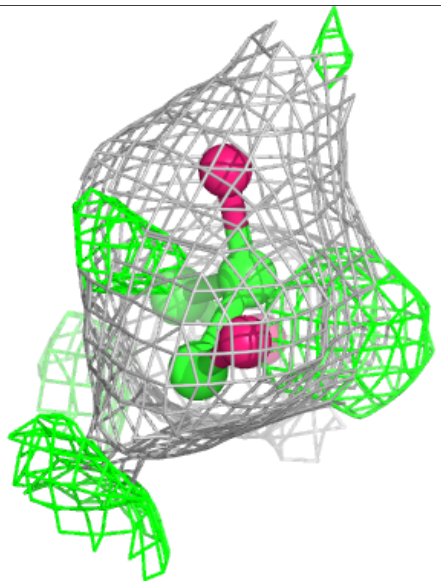


Electron density around GOL C 710:

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

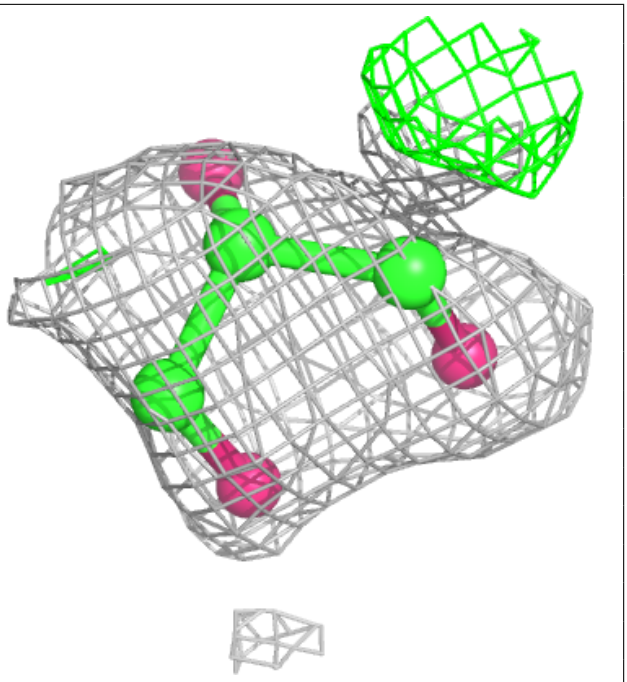


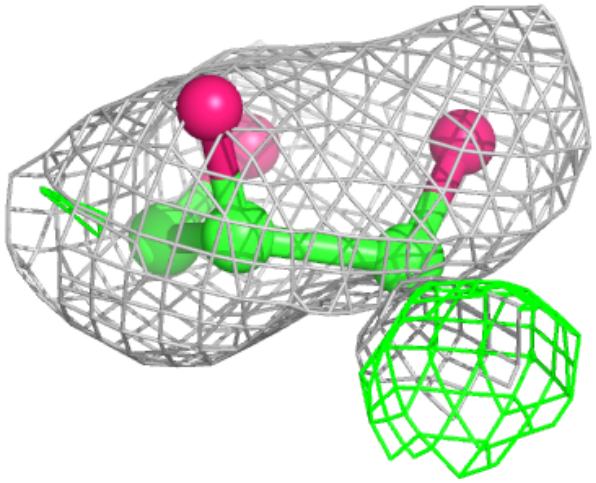


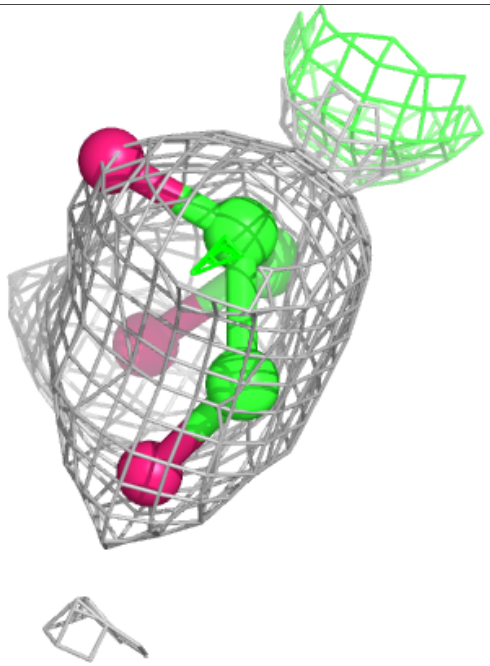


Electron density around GOL F 712:

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

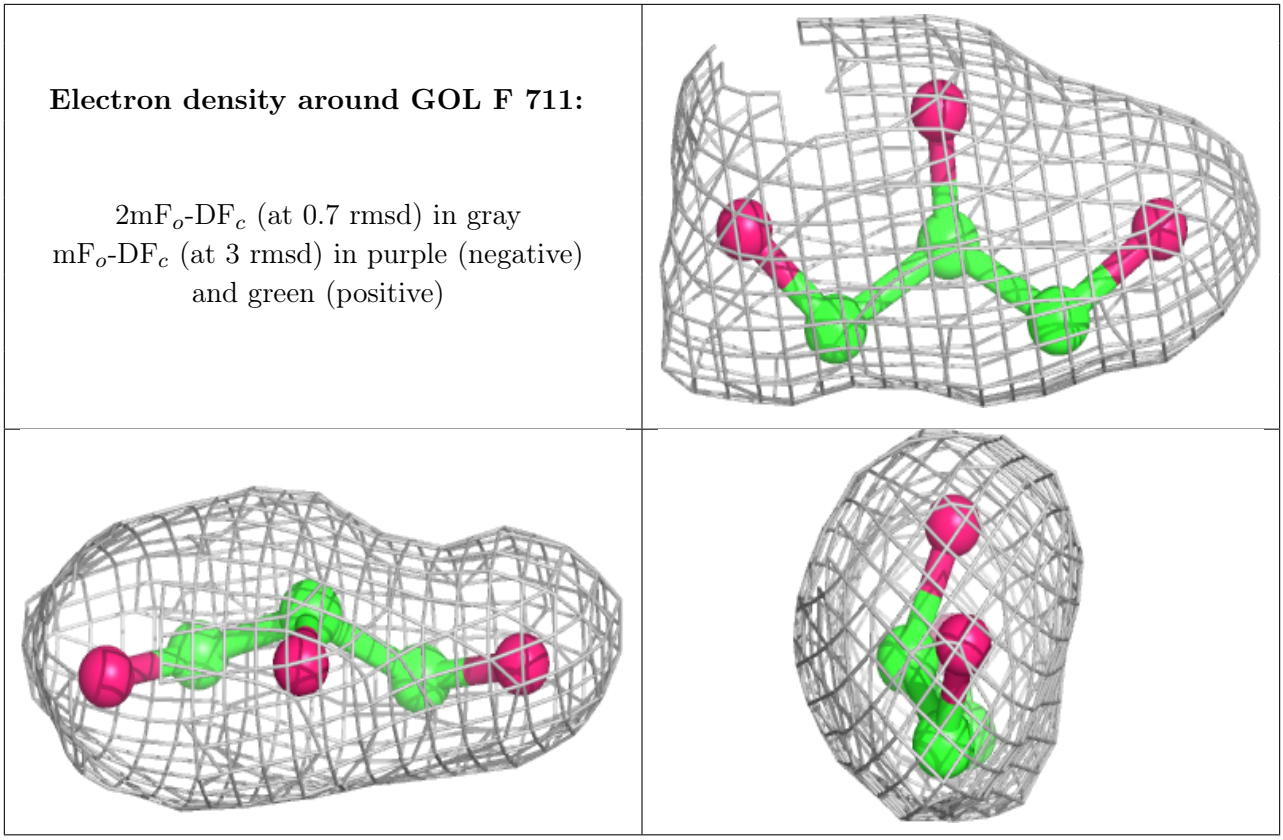






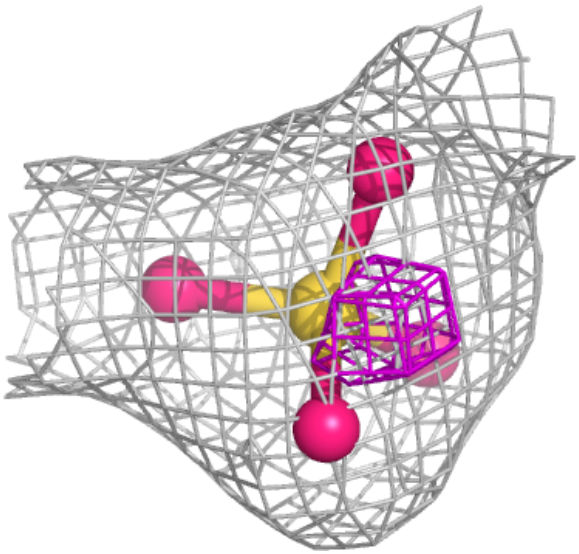
Electron density around GOL F 711:

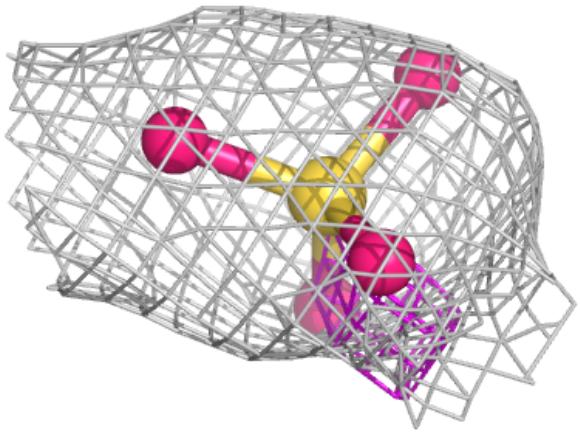
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

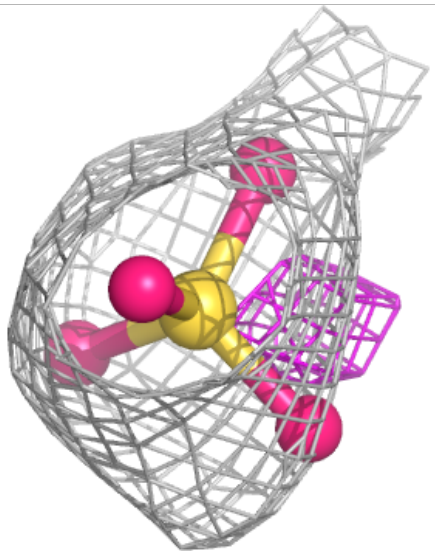


Electron density around SO4 H 708:

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

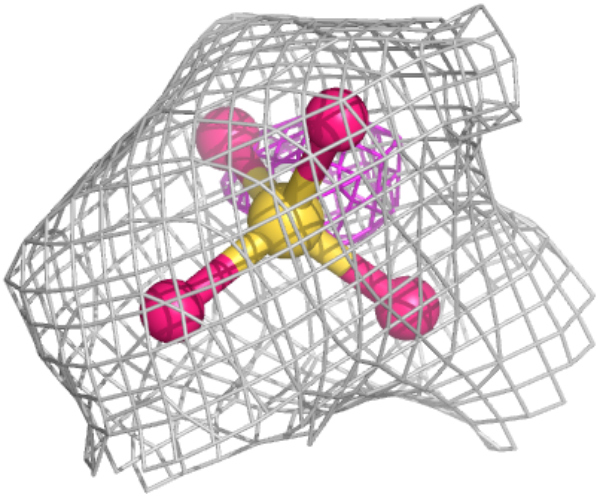


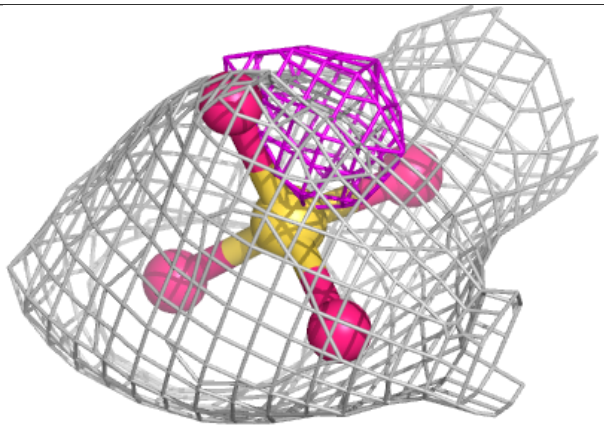


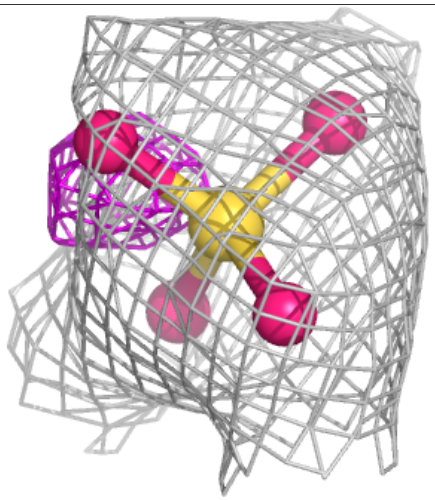


Electron density around SO4 G 702:

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

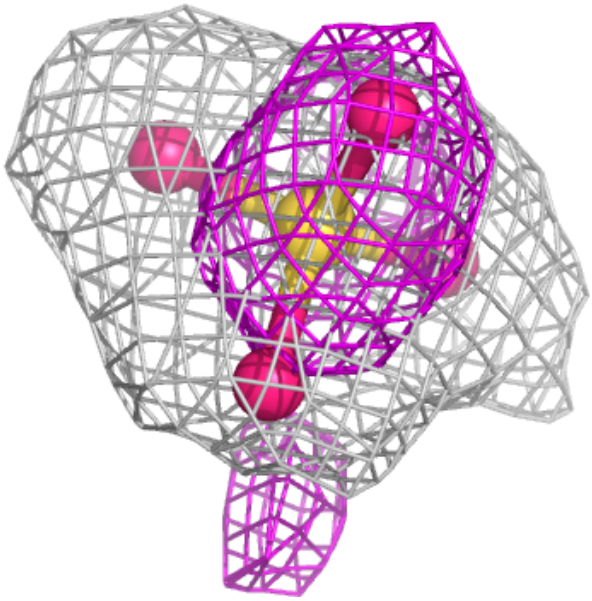


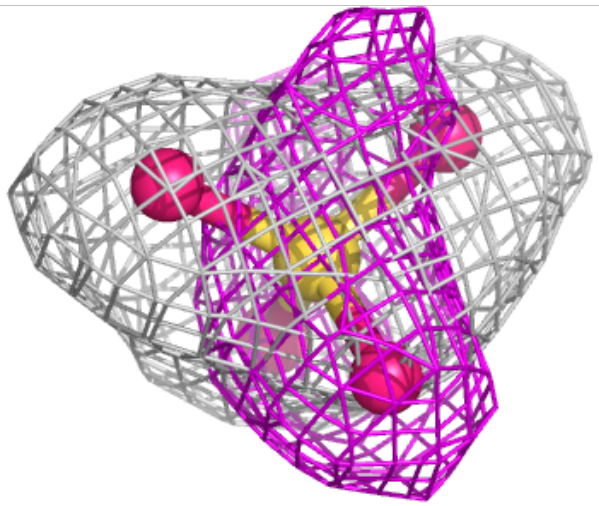


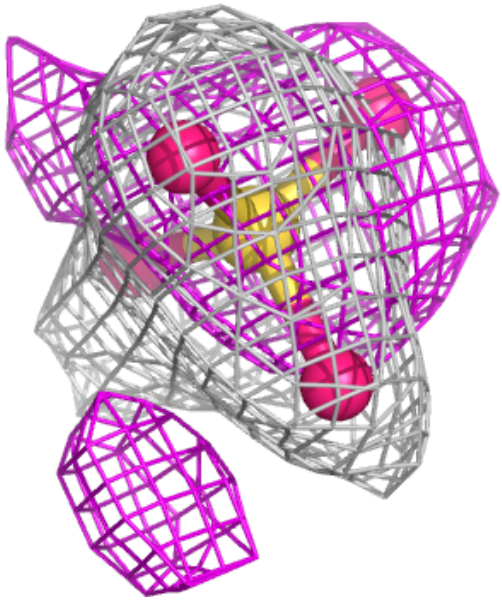


Electron density around SO4 E 709:

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

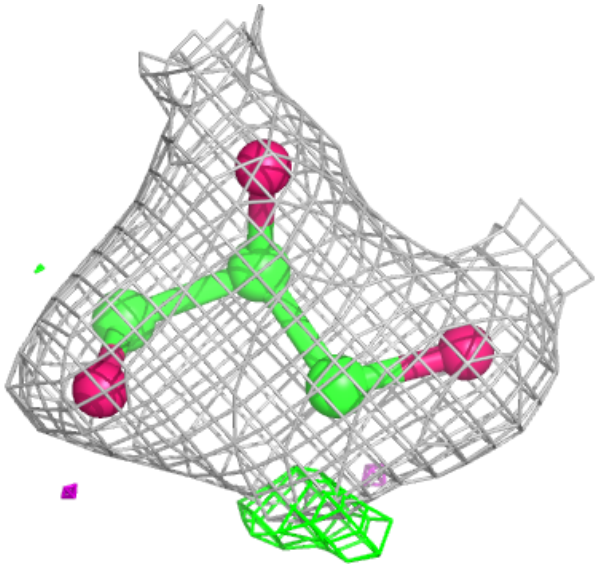


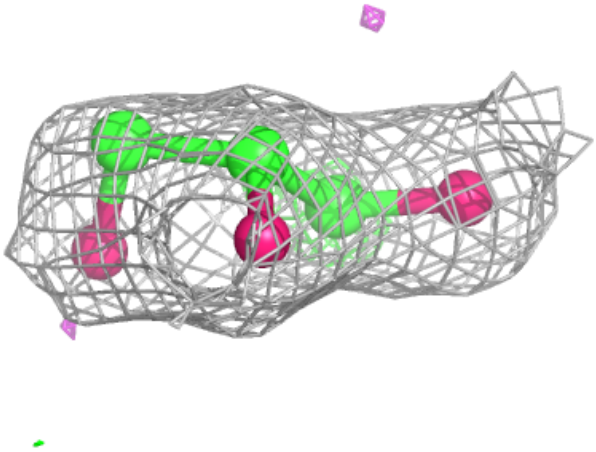


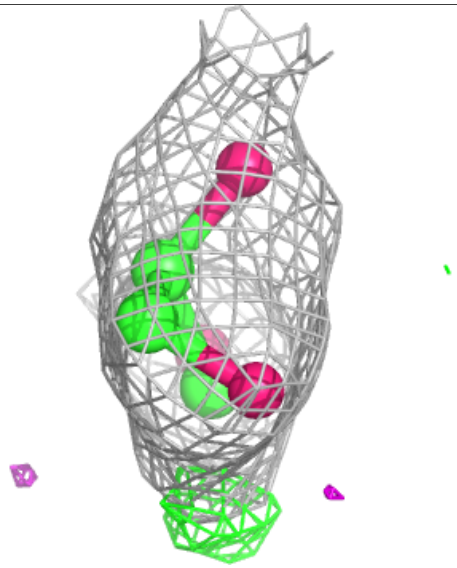


Electron density around GOL B 718:

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

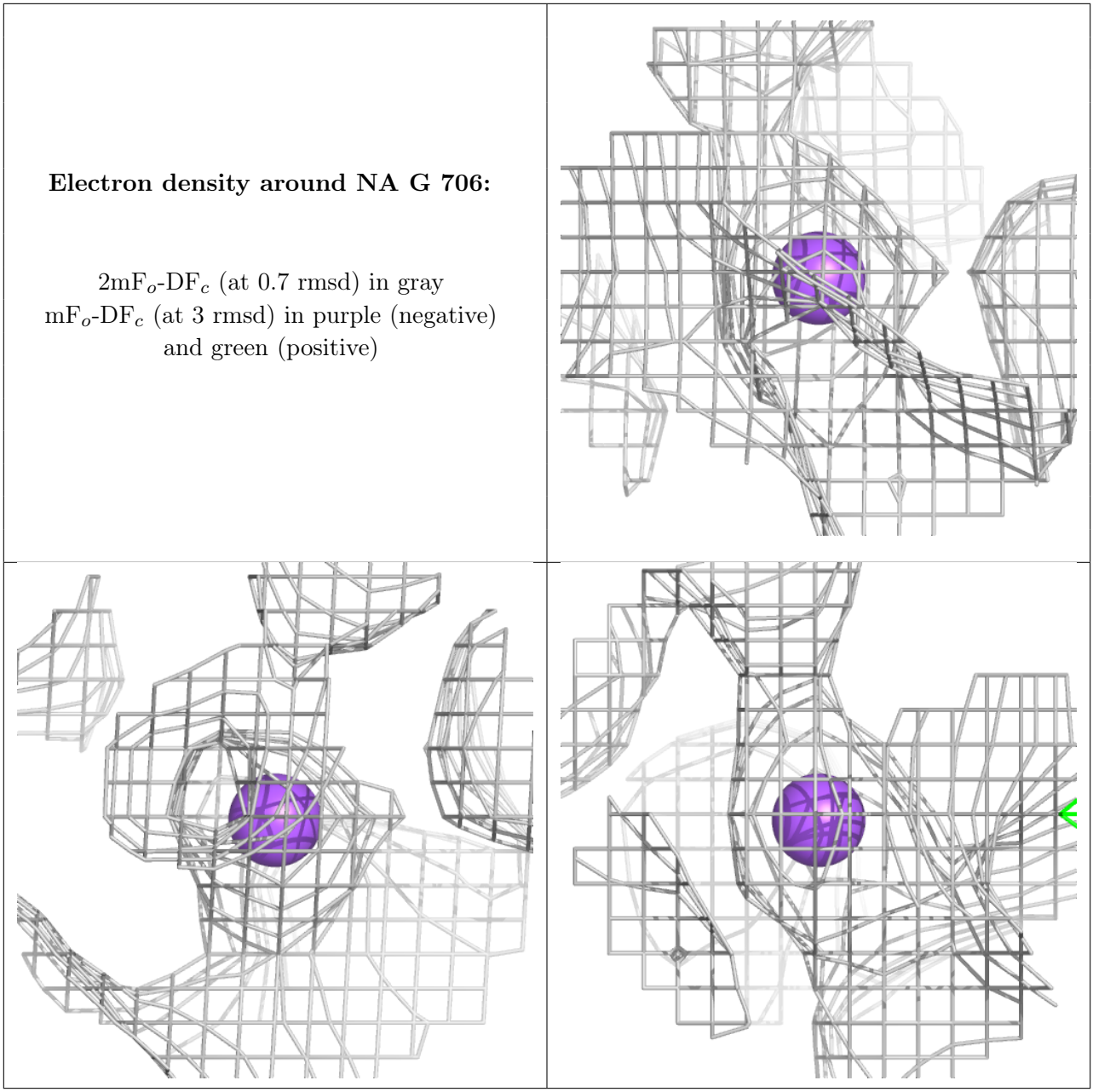






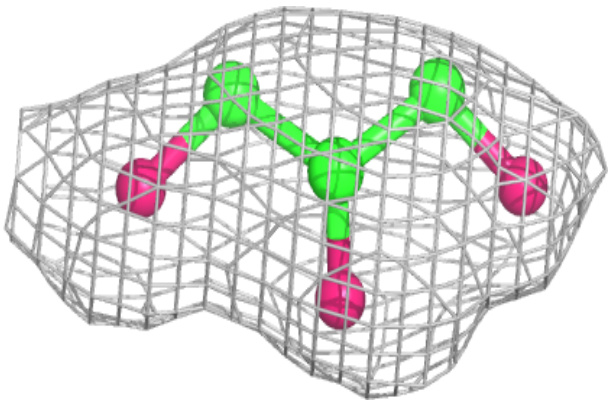
Electron density around NA G 706:

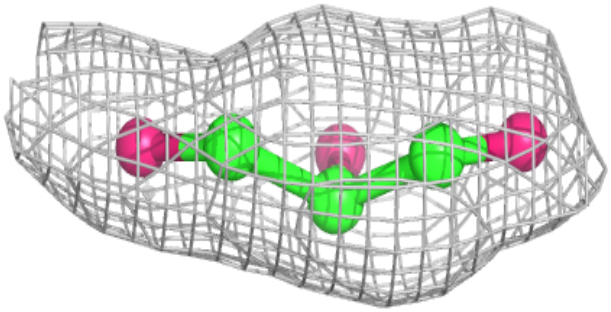
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

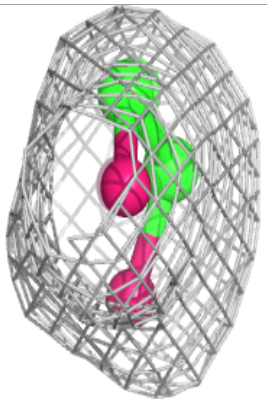


Electron density around GOL C 711:

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

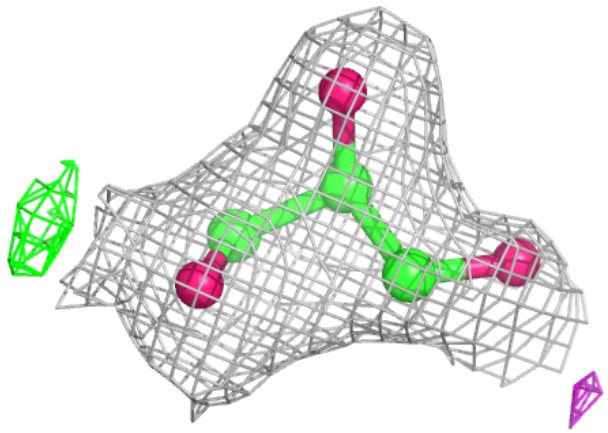


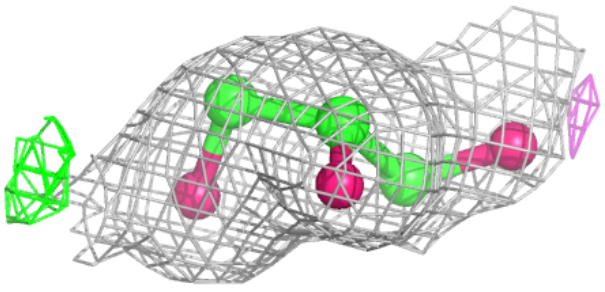


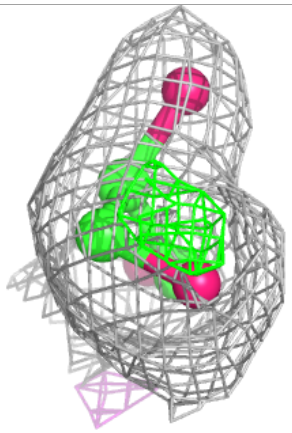


Electron density around GOL E 713:

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

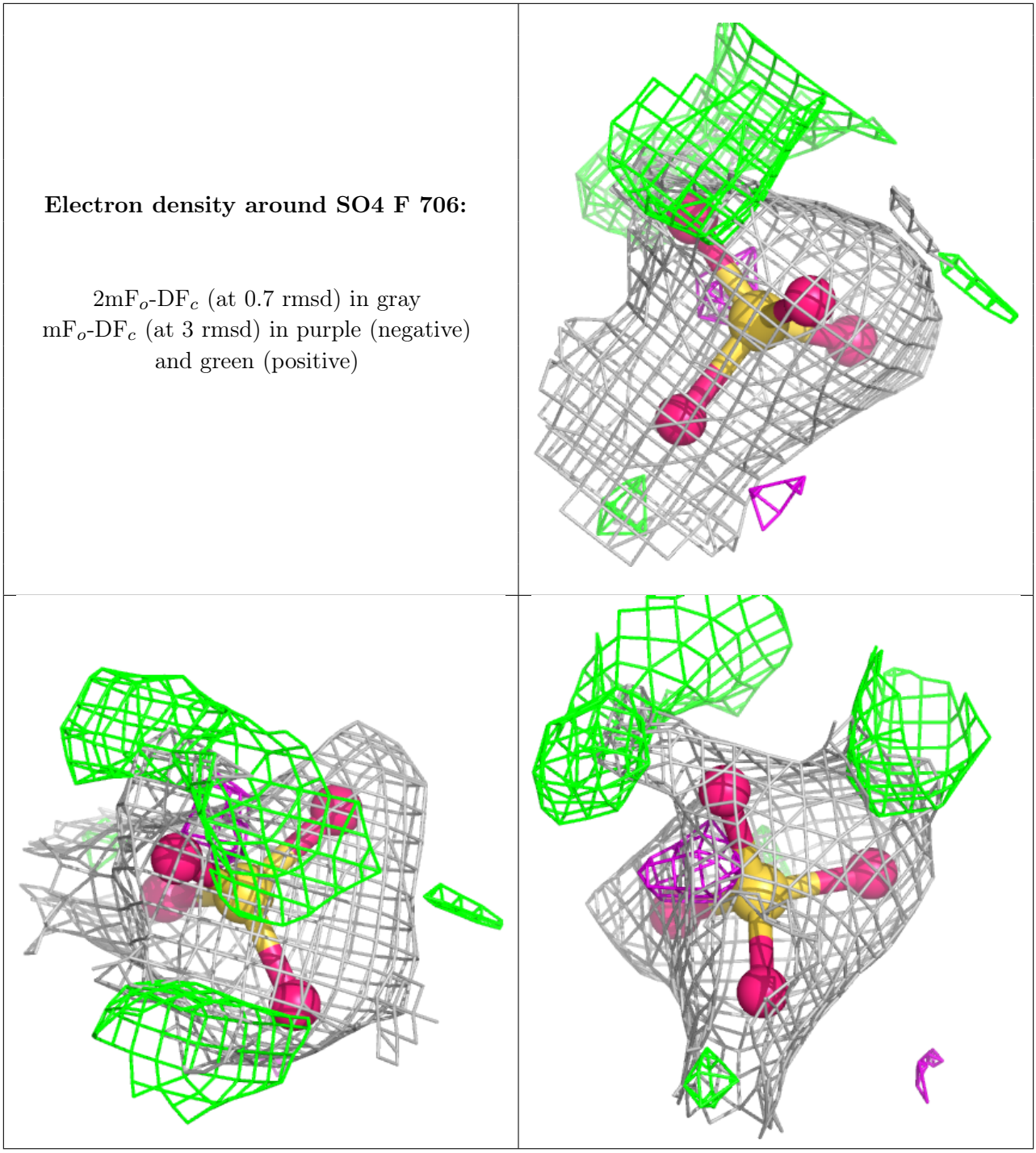






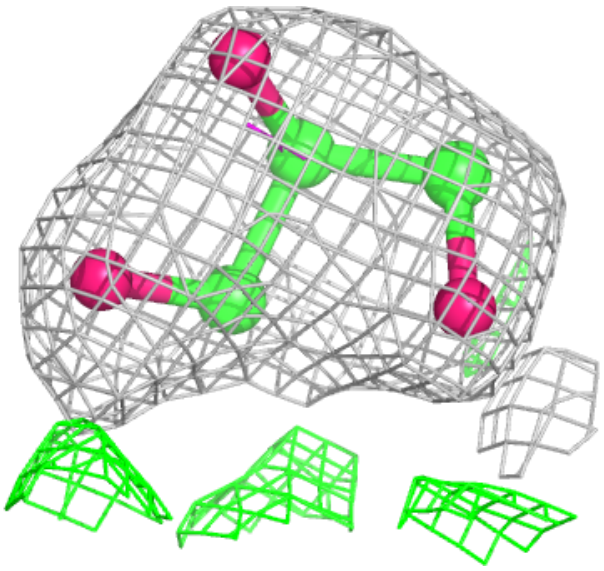
Electron density around SO4 F 706:

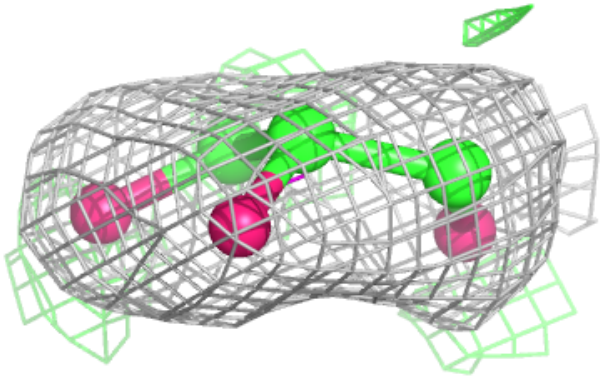
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

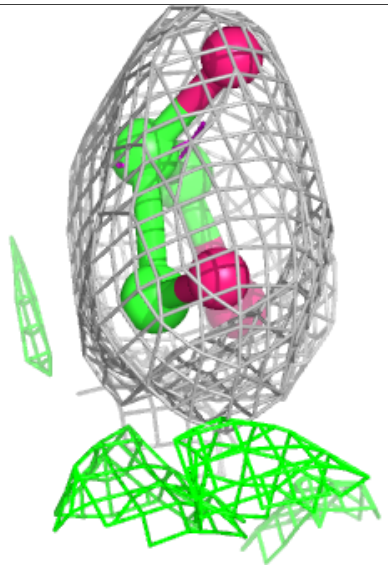


Electron density around GOL F 708:

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

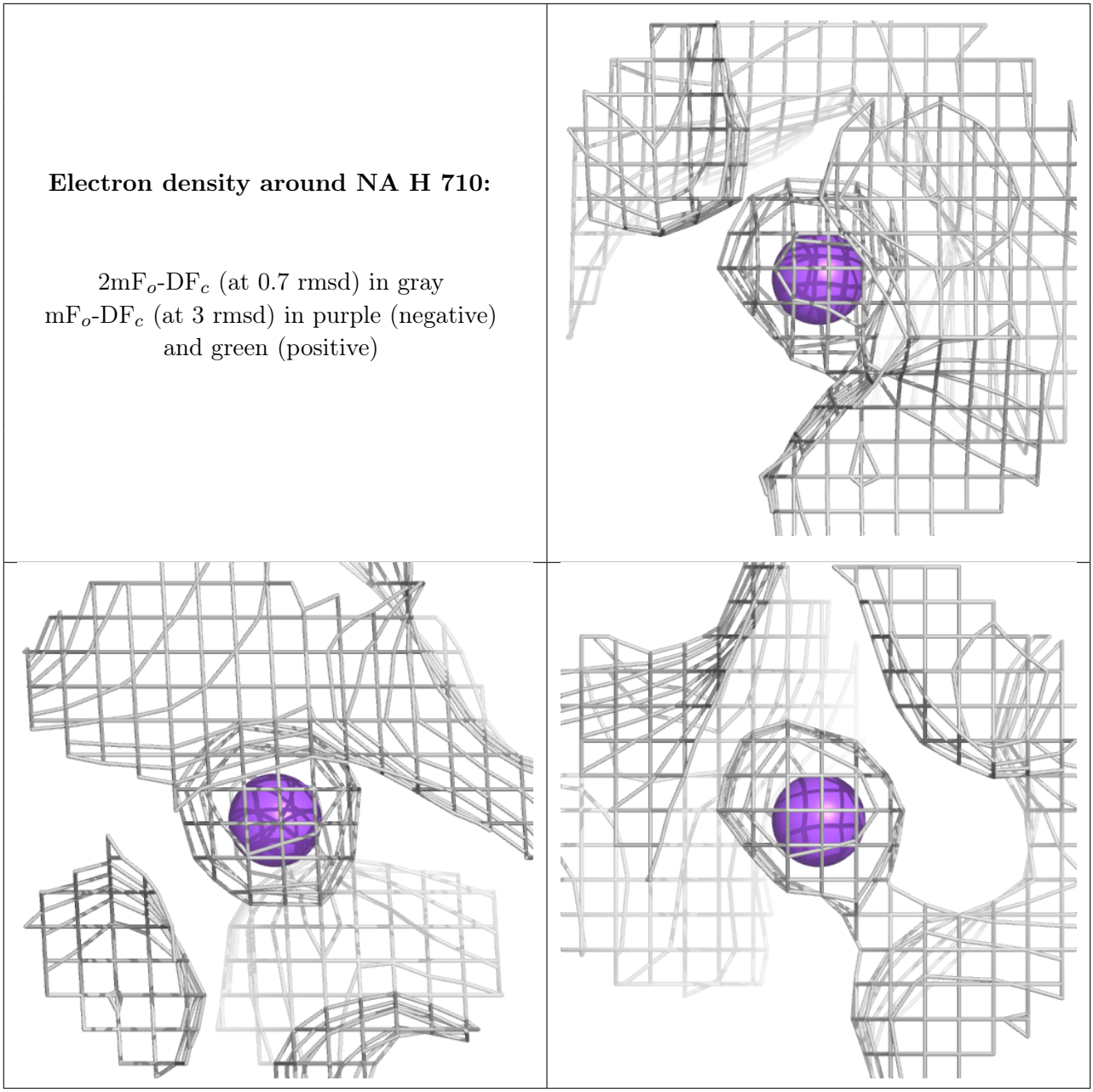






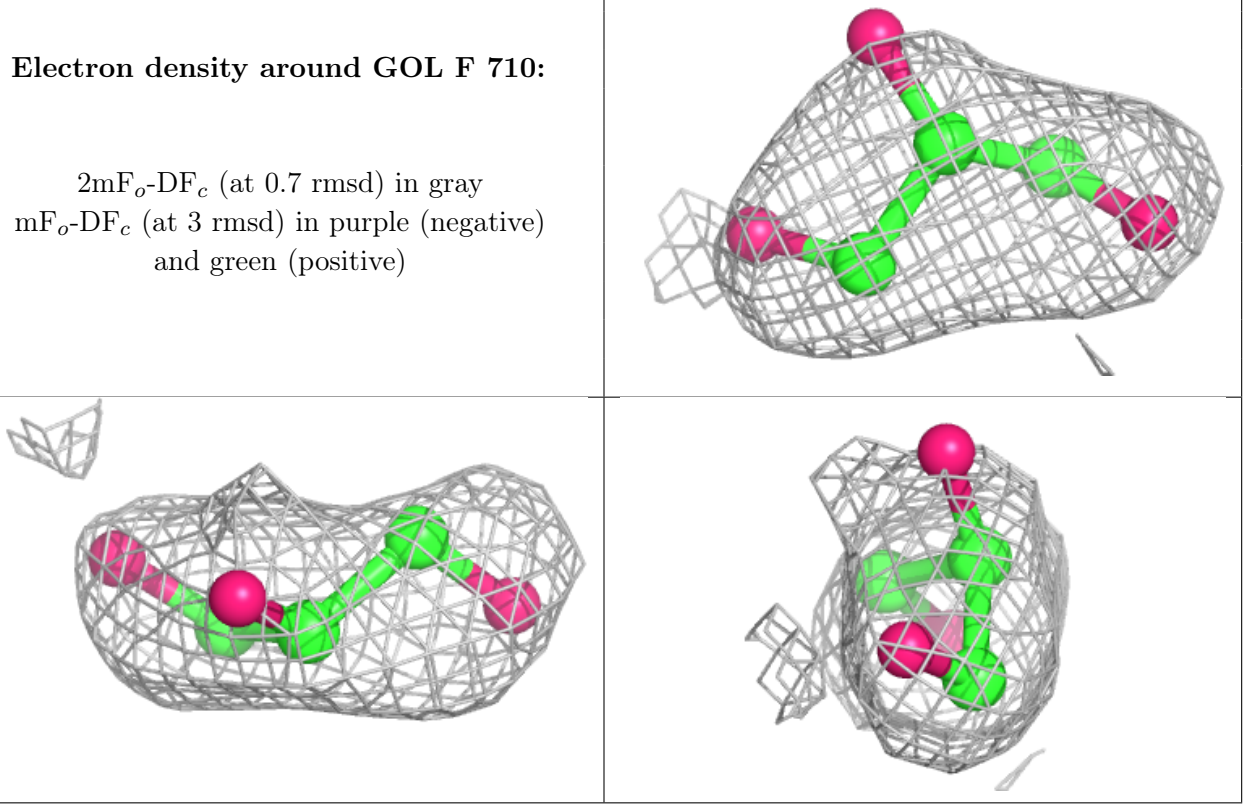
Electron density around NA H 710:

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



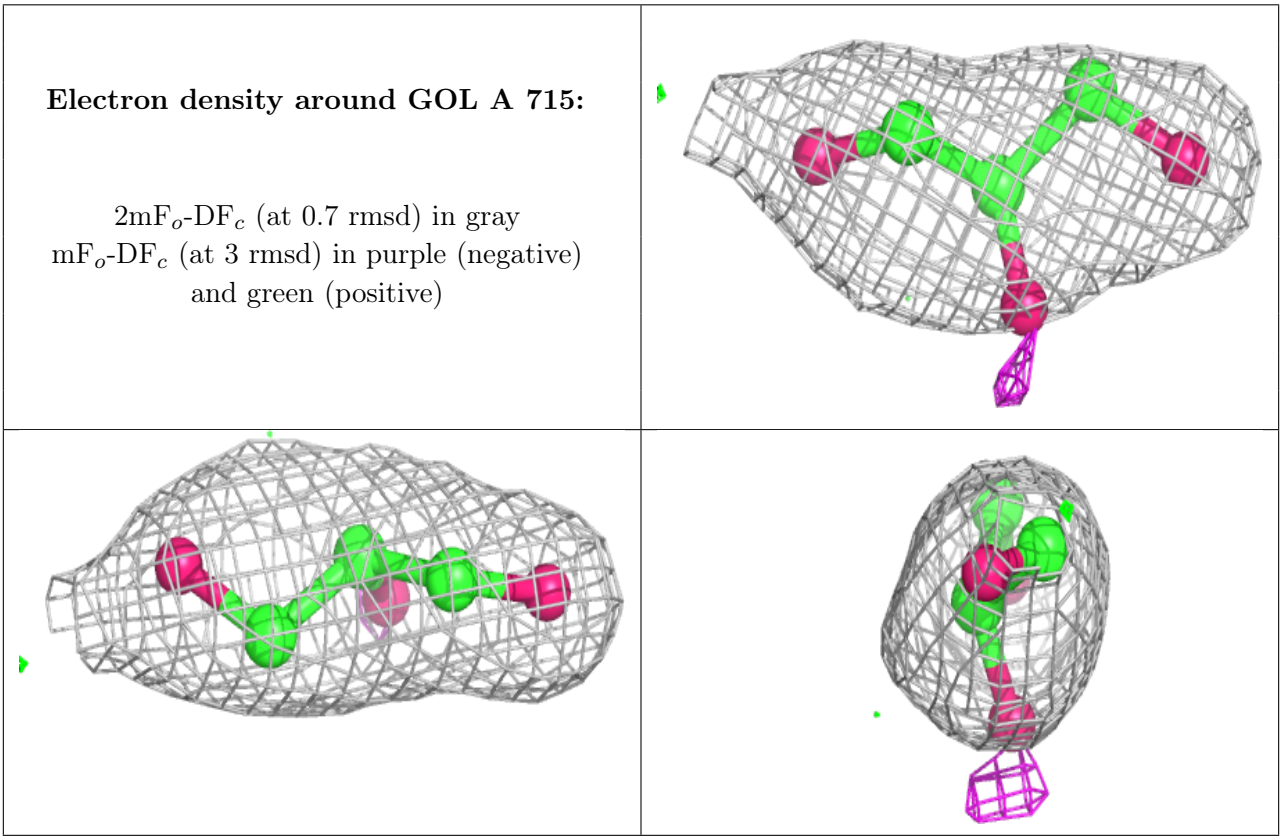
Electron density around GOL F 710:

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



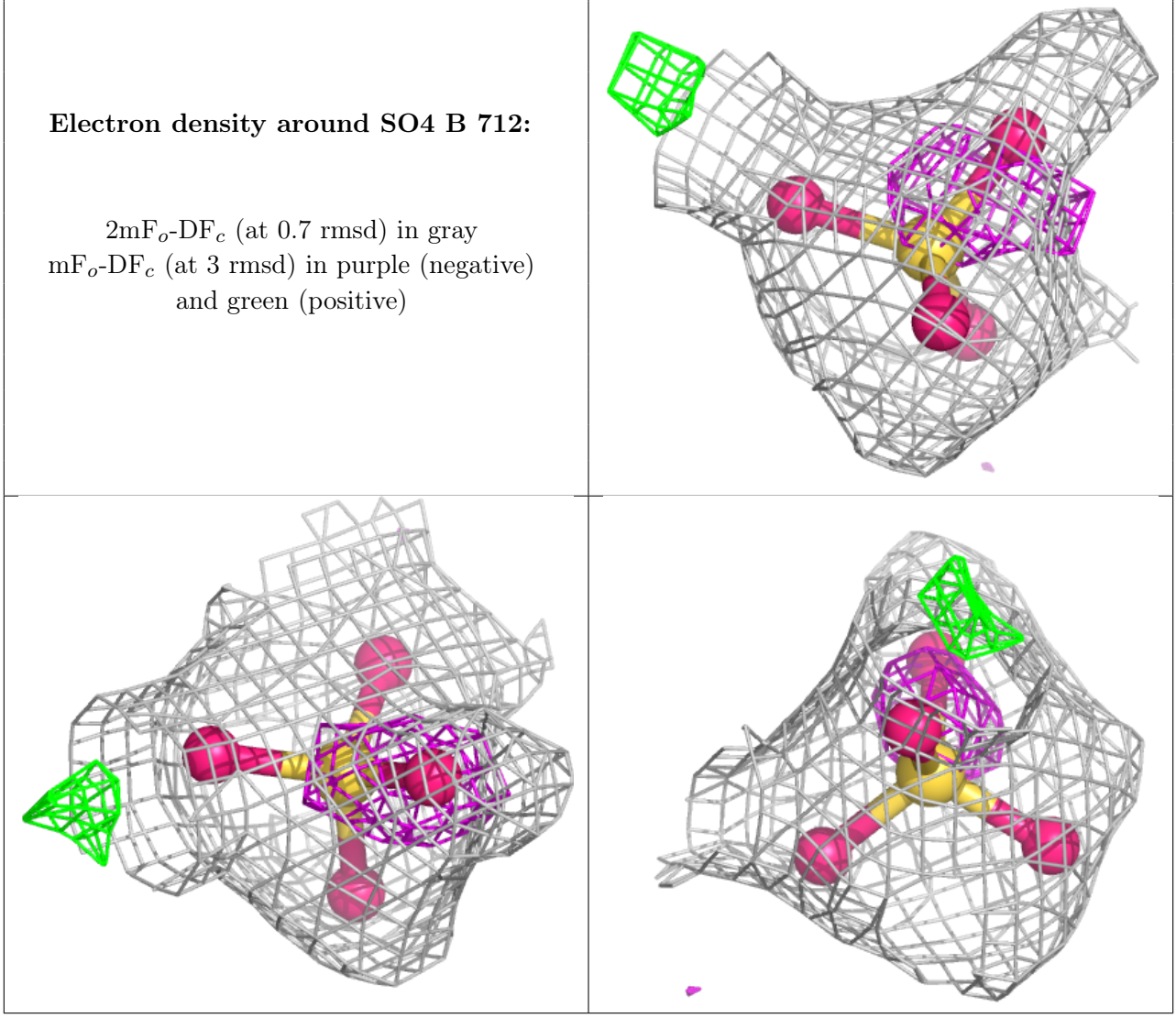
Electron density around GOL A 715:

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



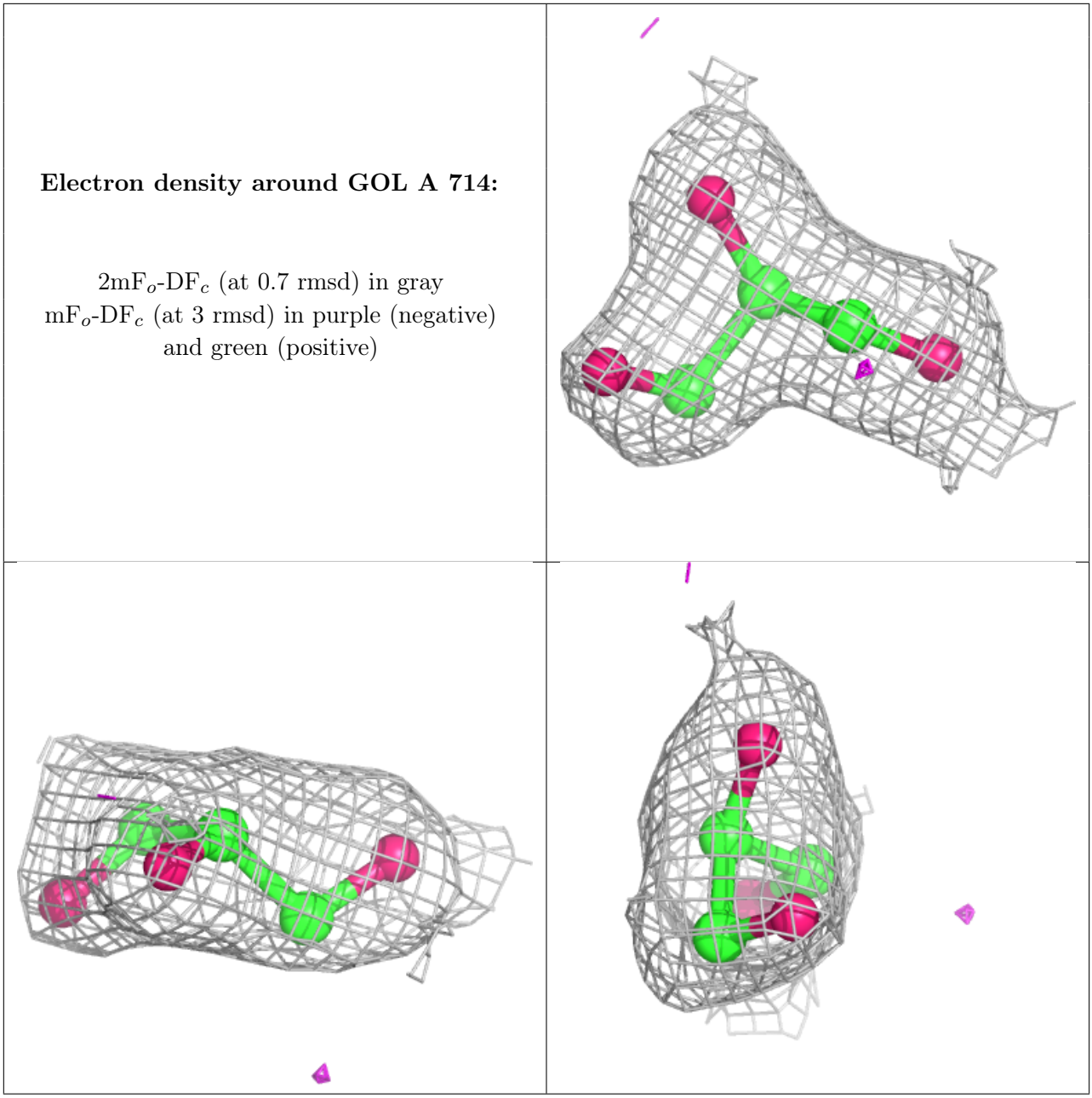
Electron density around SO4 B 712:

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



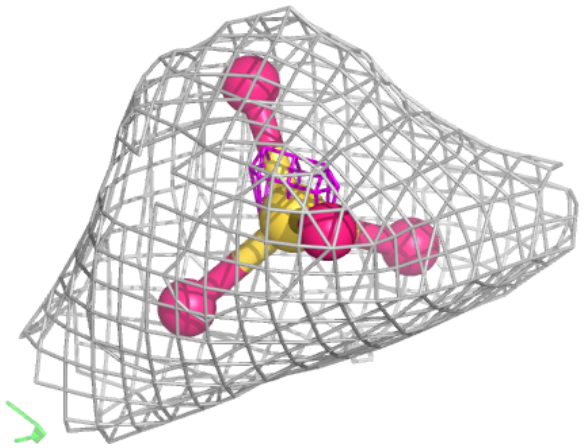
Electron density around GOL A 714:

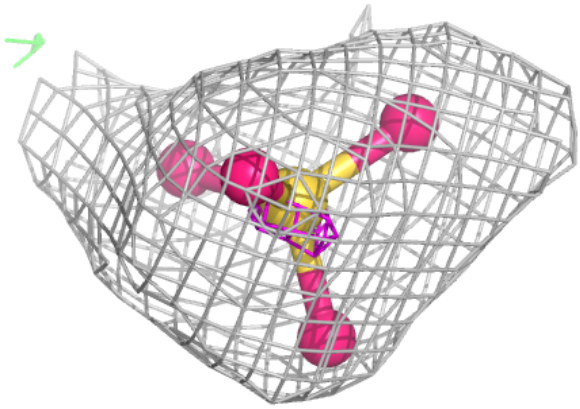
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

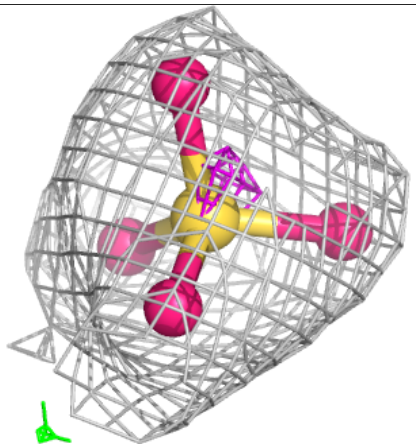


Electron density around SO4 H 709:

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

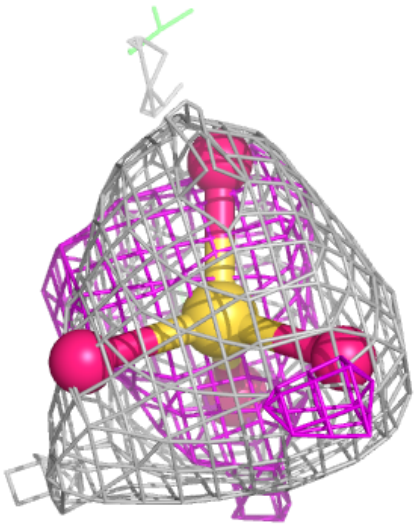


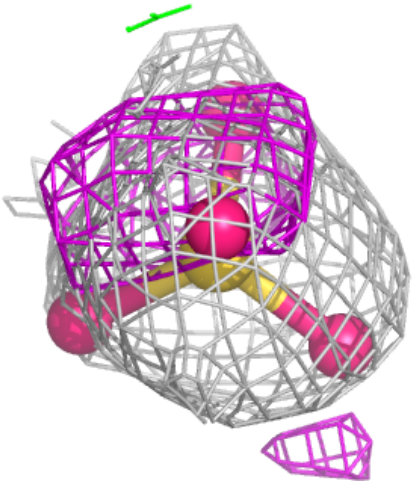


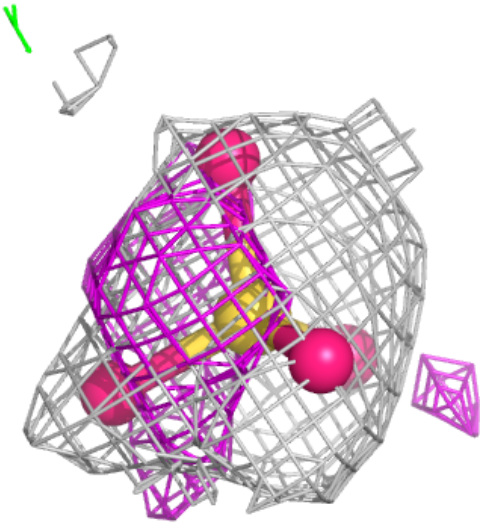


Electron density around SO4 F 707:

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

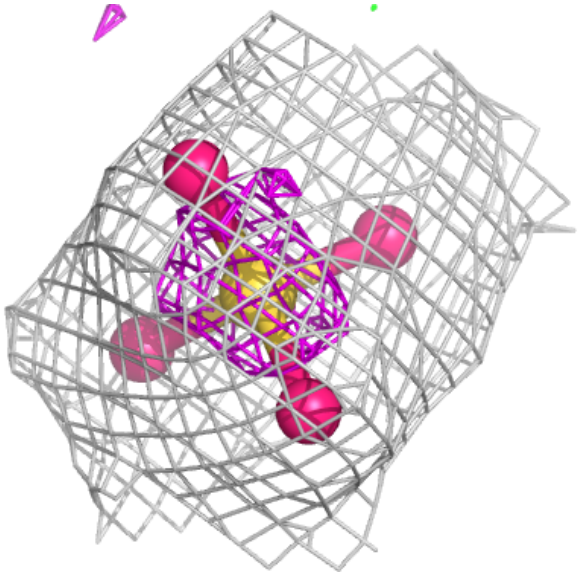


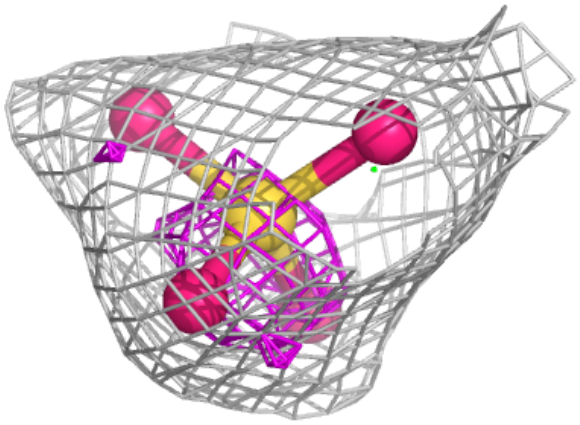


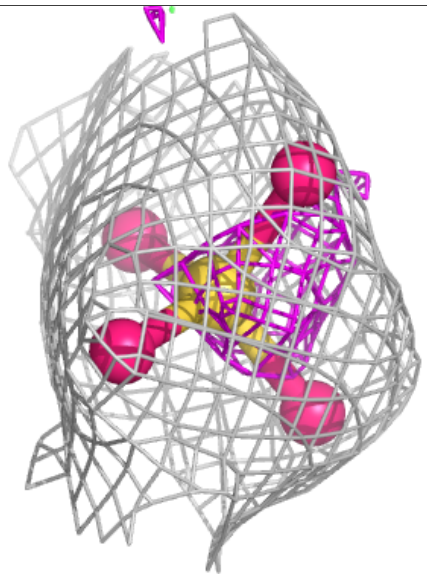


Electron density around SO4 A 705:

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

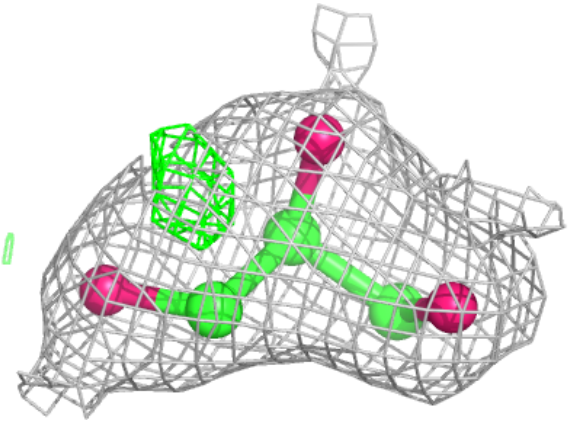


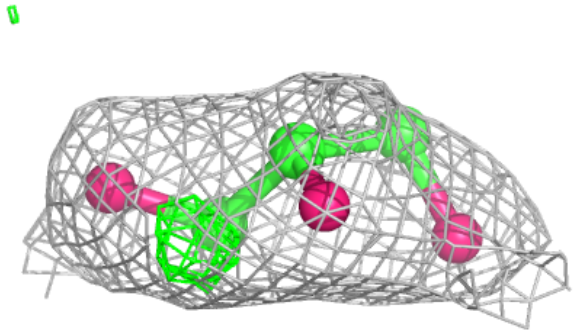


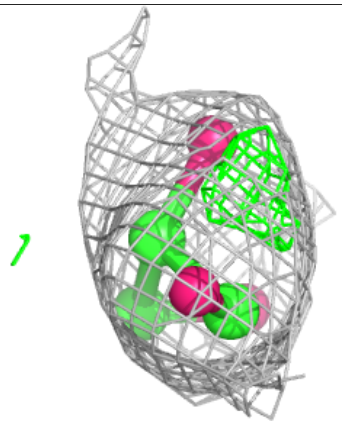


Electron density around GOL B 717:

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

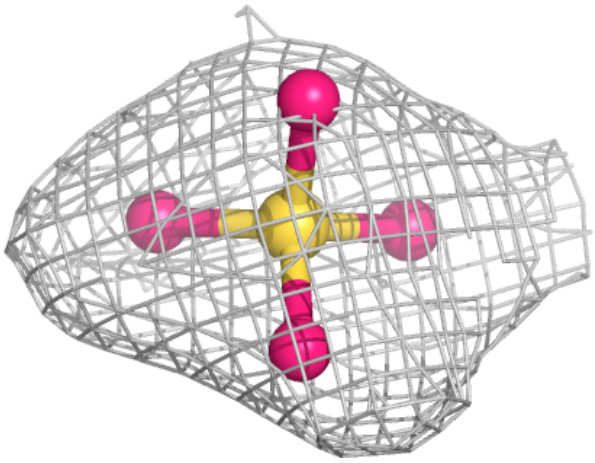


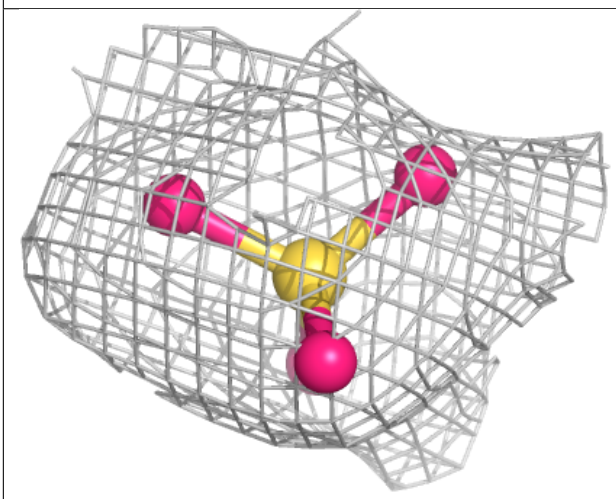


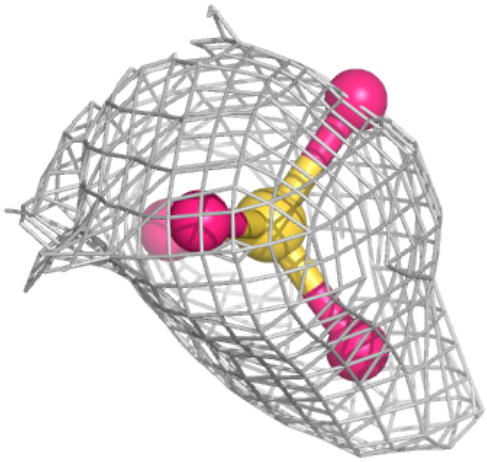


Electron density around SO4 A 707:

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

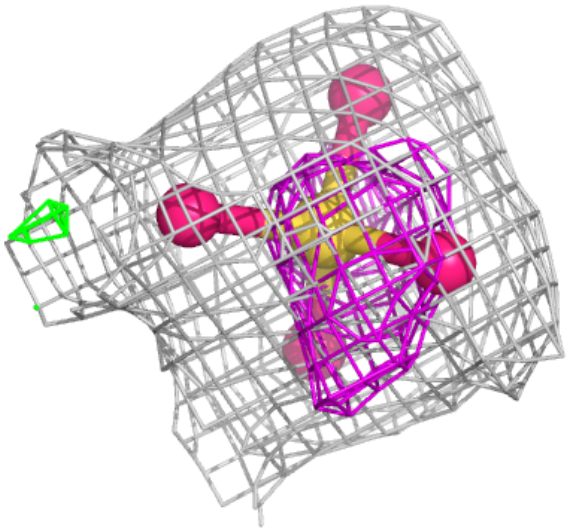


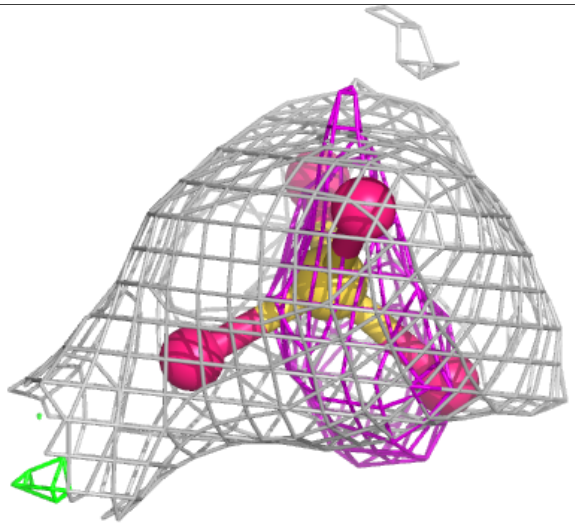


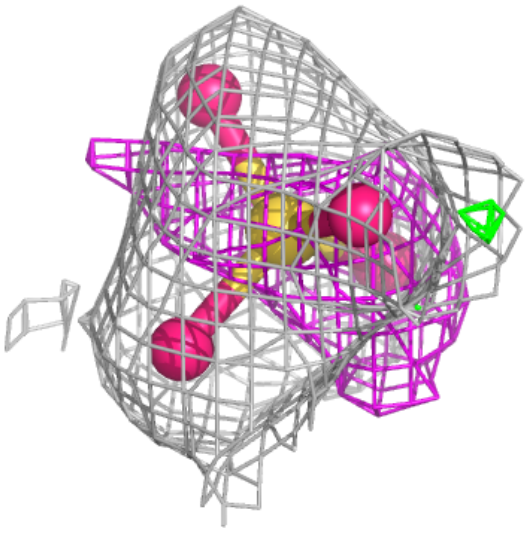


Electron density around SO4 C 706:

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

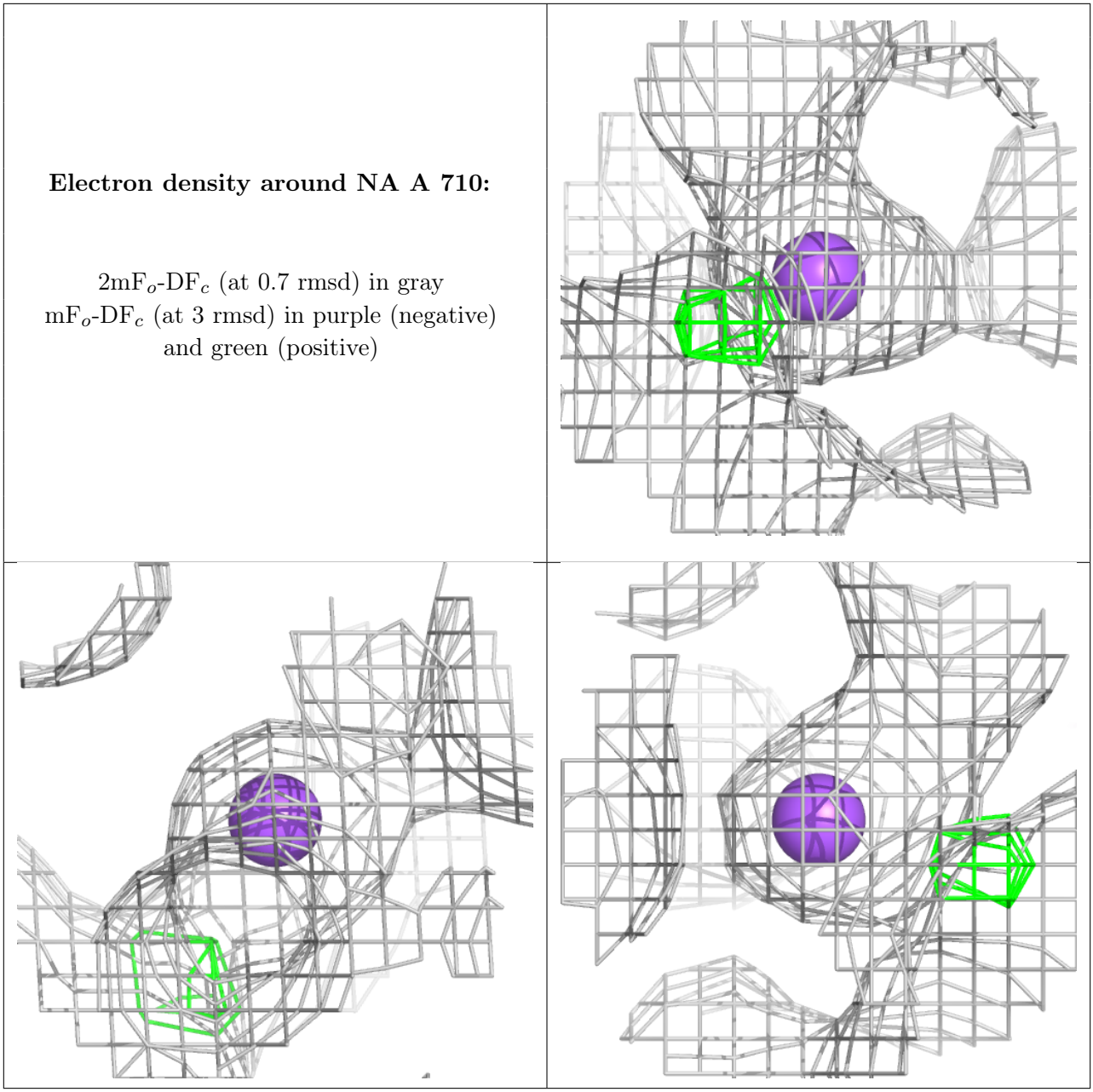






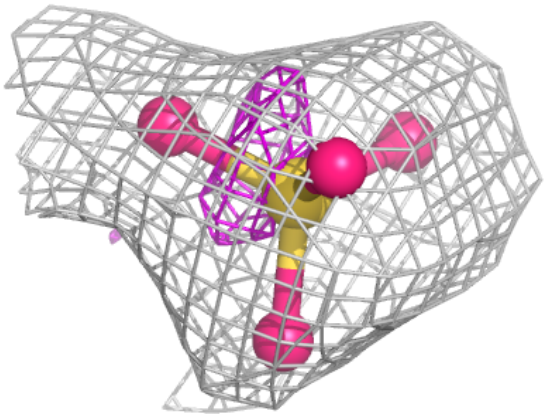
Electron density around NA A 710:

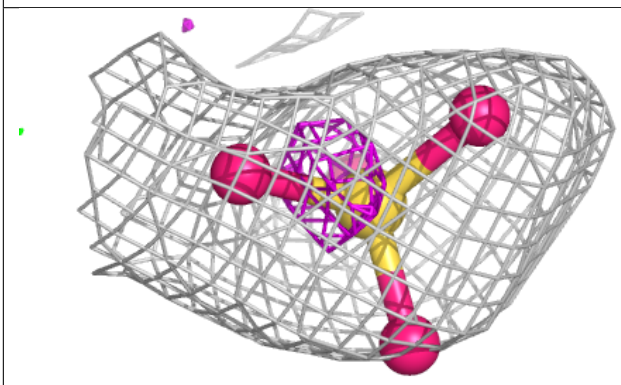
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

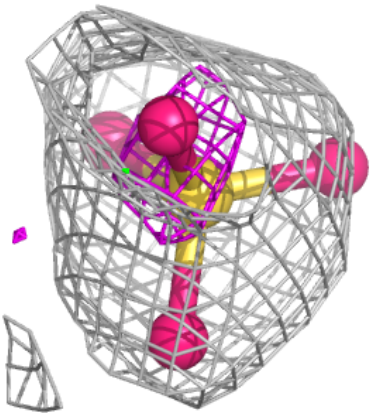


Electron density around SO4 A 708:

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

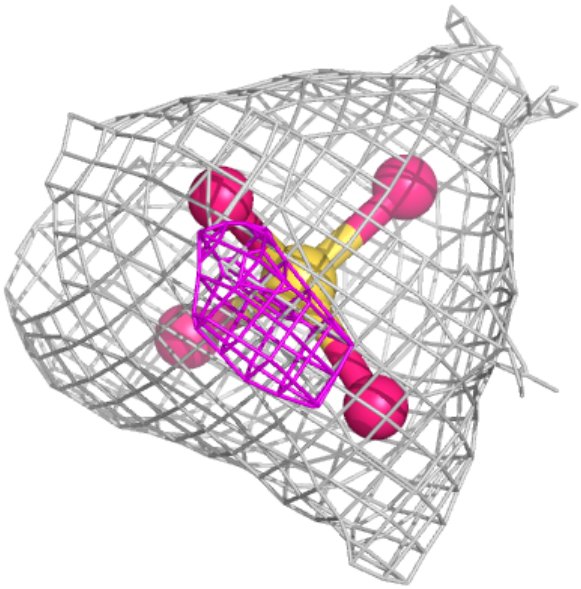


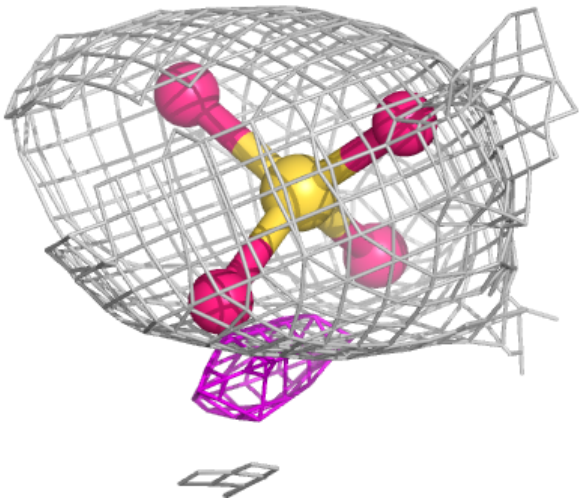


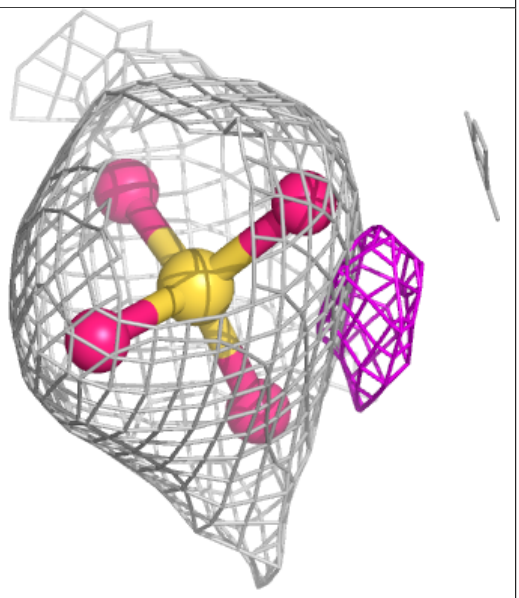


Electron density around SO4 E 708:

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

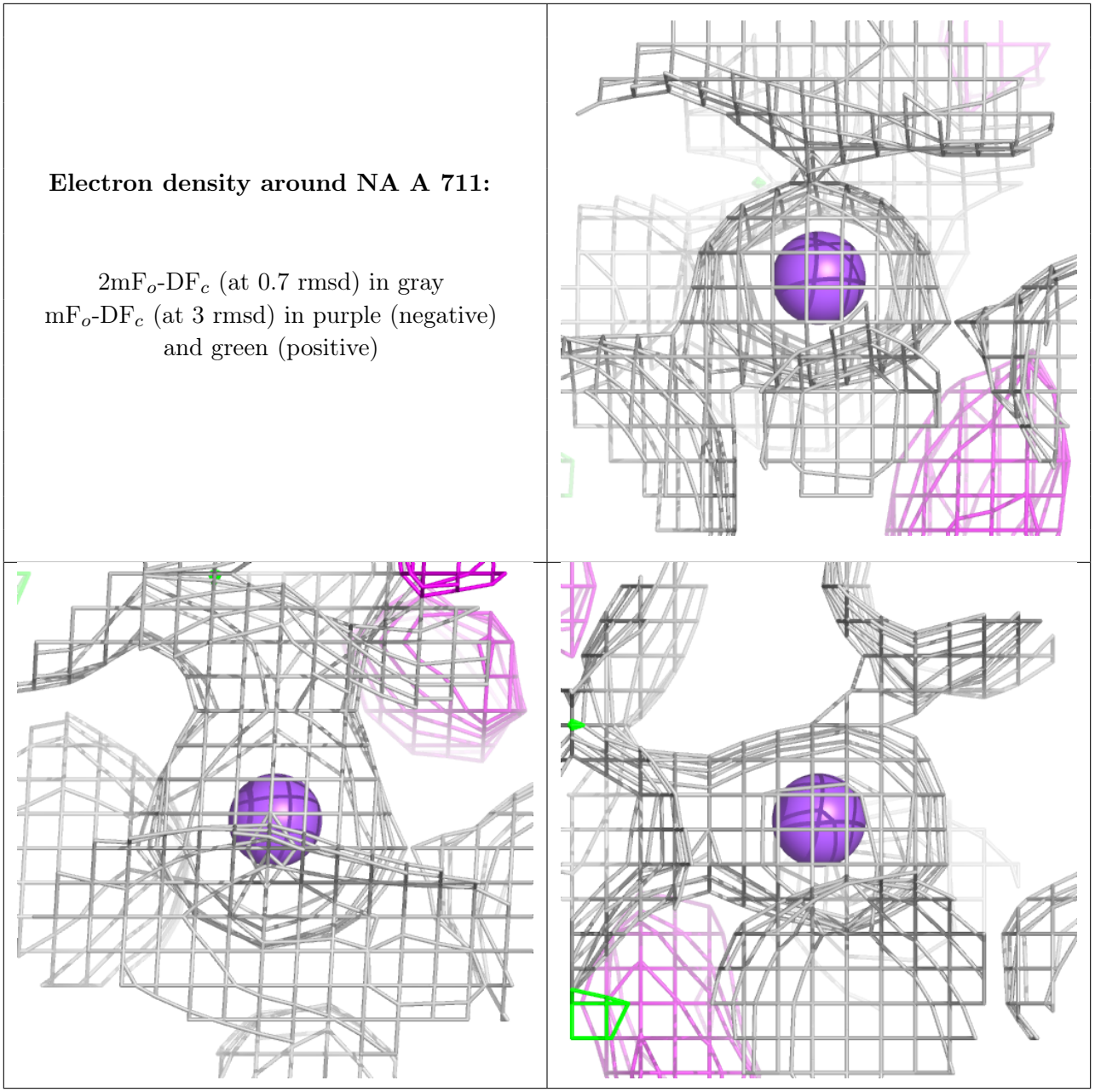






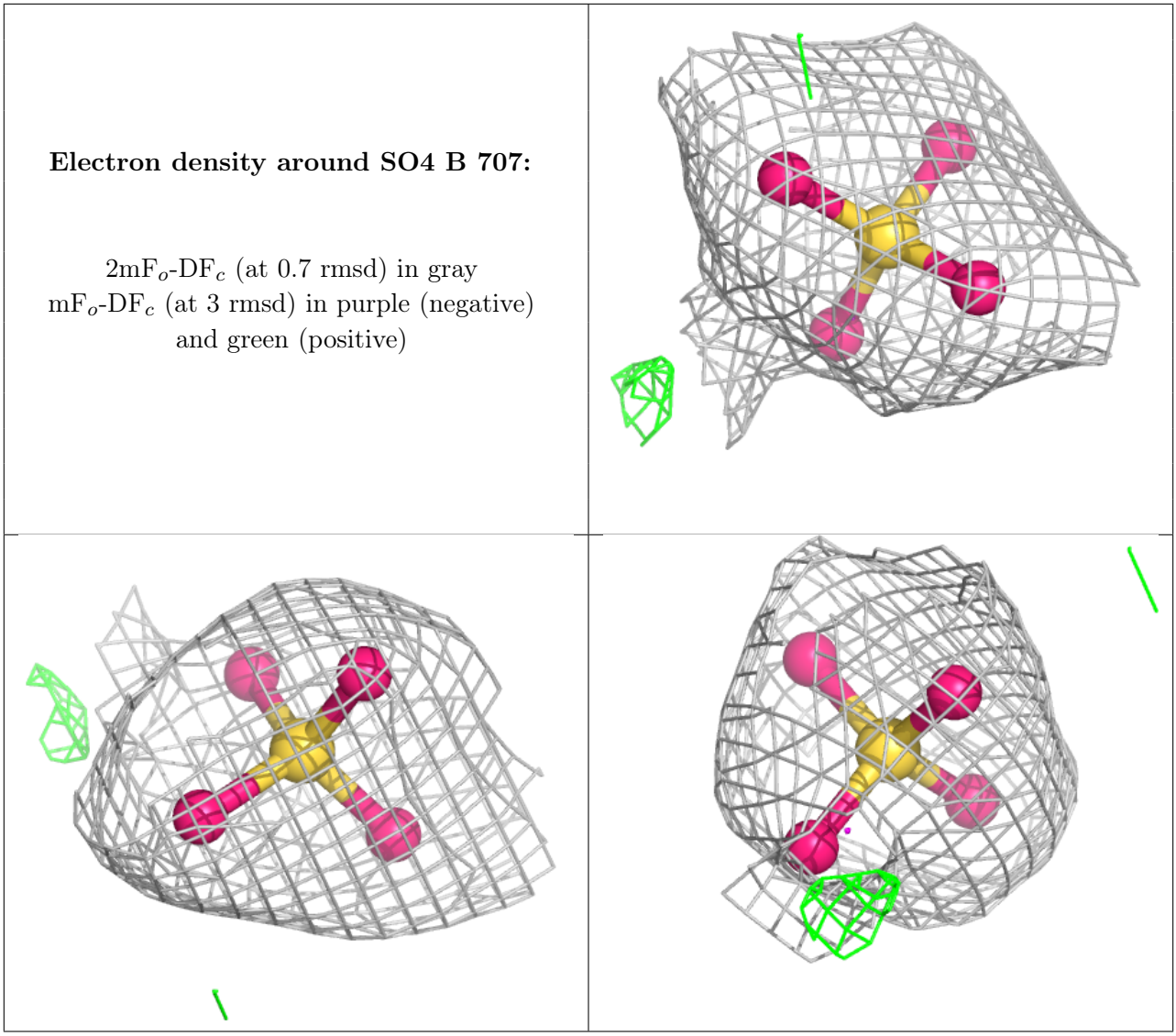
Electron density around NA A 711:

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



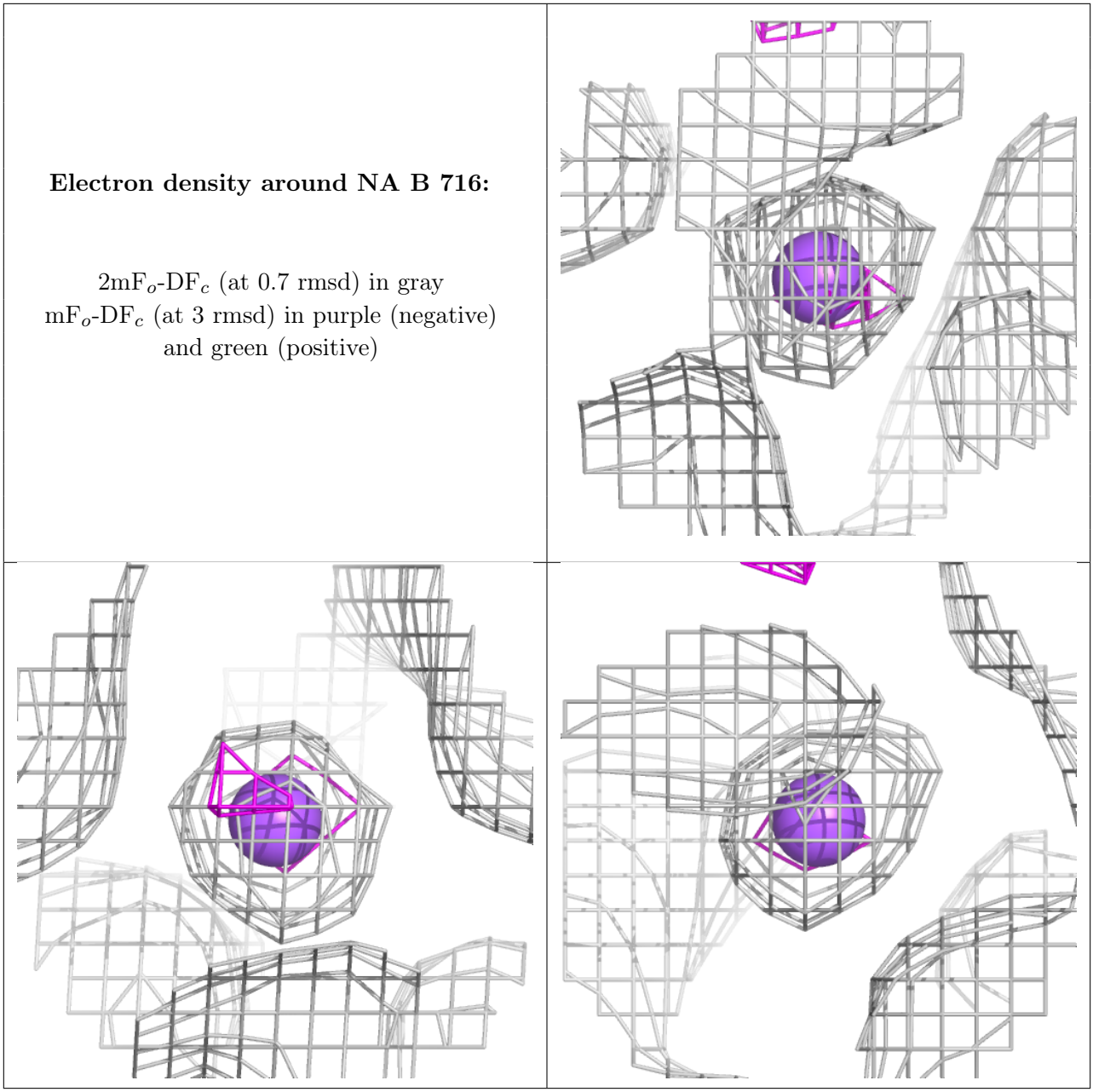
Electron density around SO4 B 707:

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



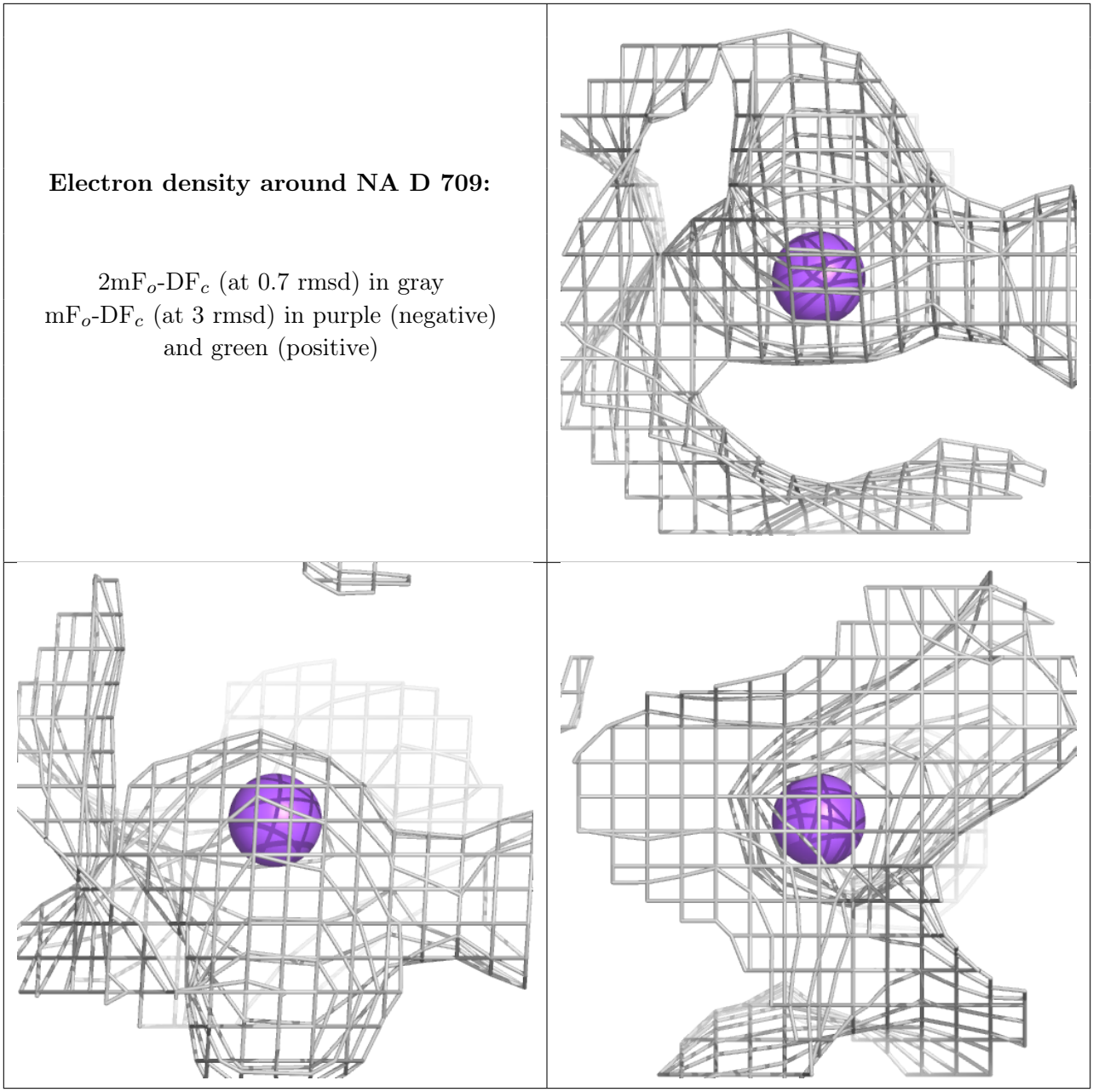
Electron density around NA B 716:

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



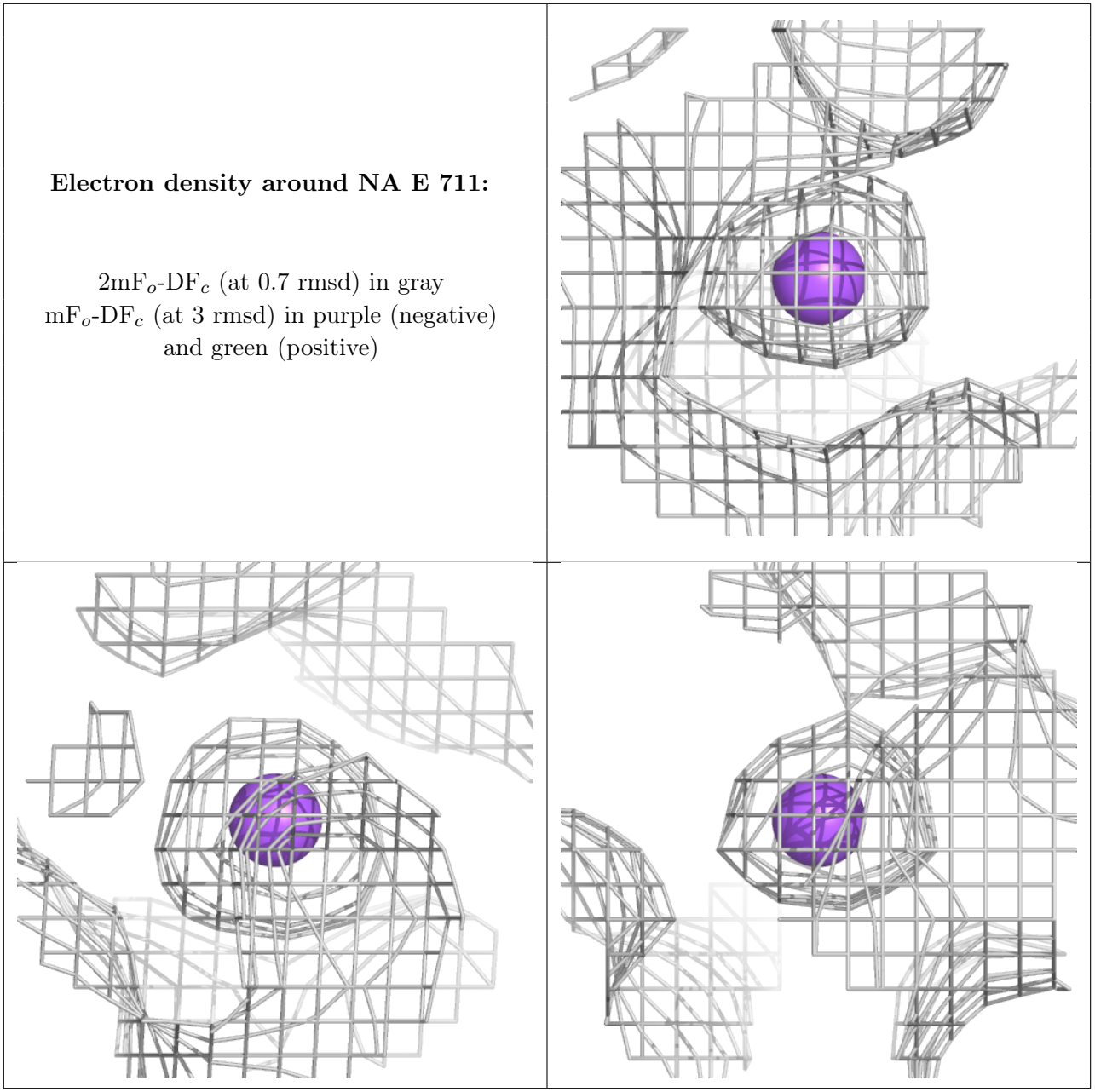
Electron density around NA D 709:

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



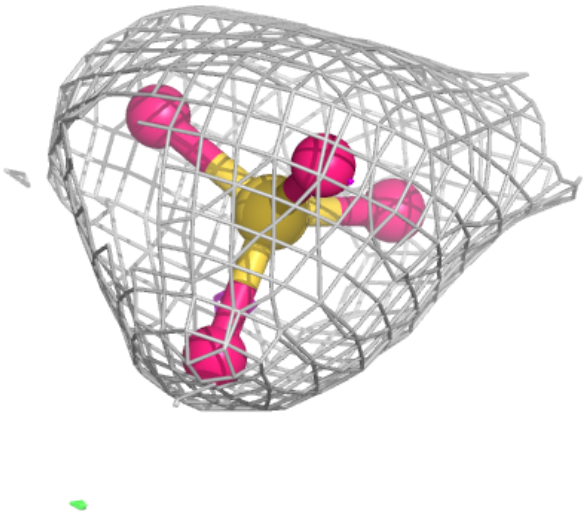
Electron density around NA E 711:

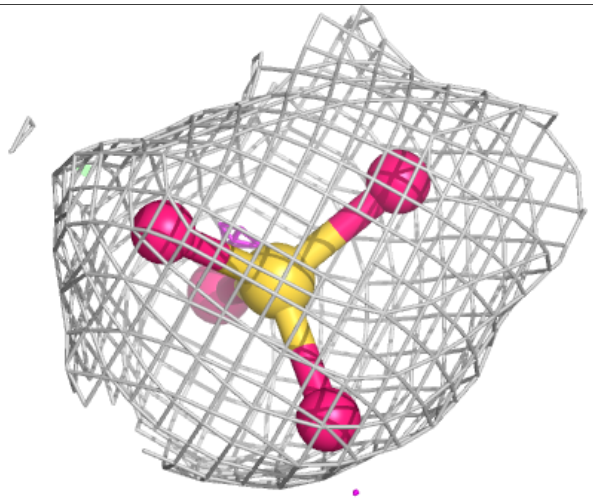
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

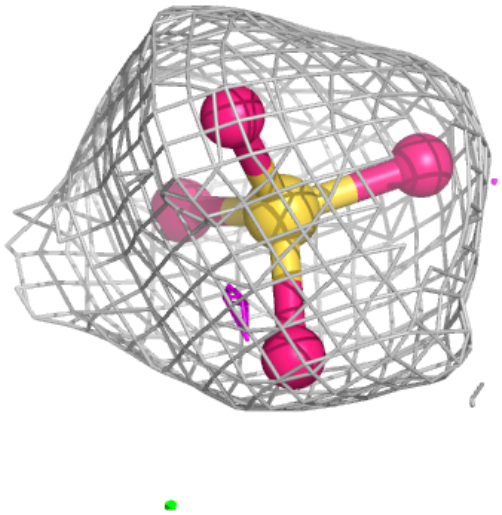


Electron density around SO4 H 704:

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

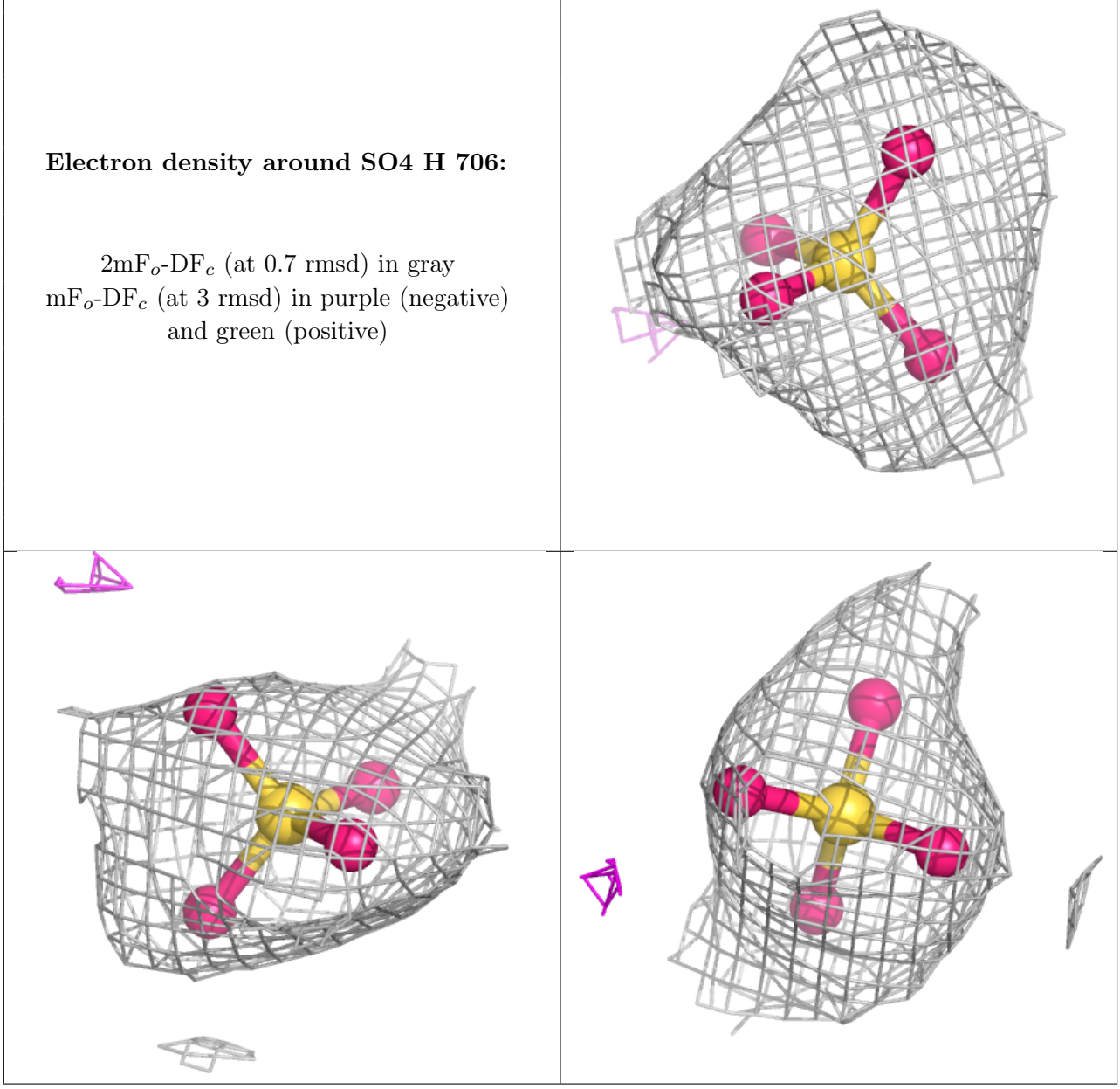






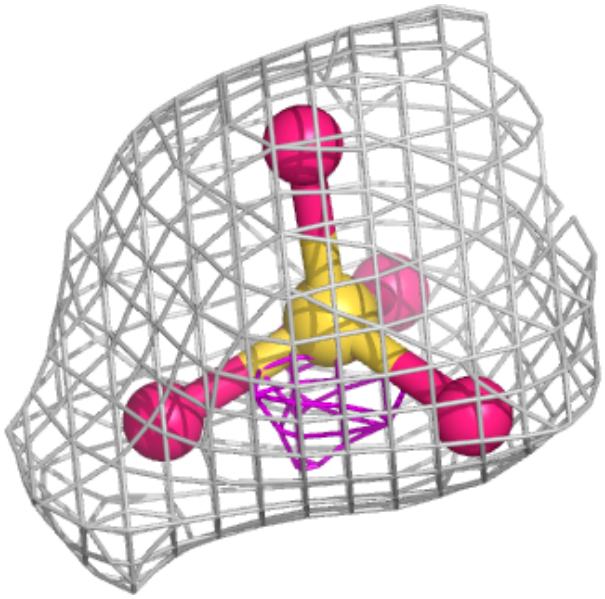
Electron density around SO4 H 706:

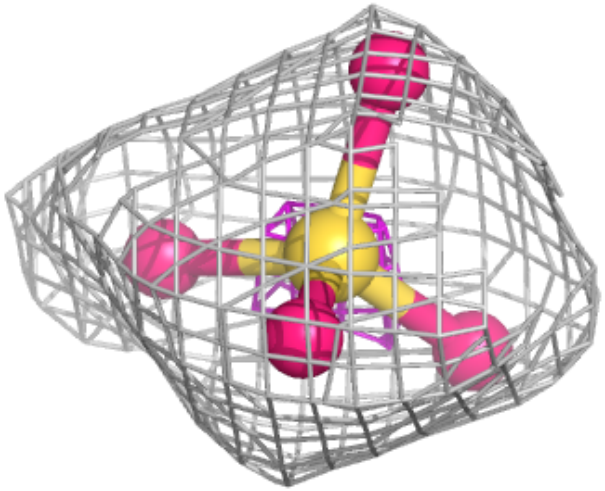
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

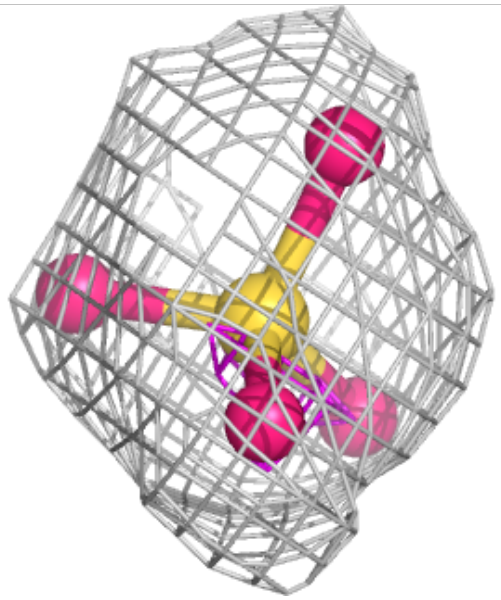


Electron density around SO4 B 711:

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

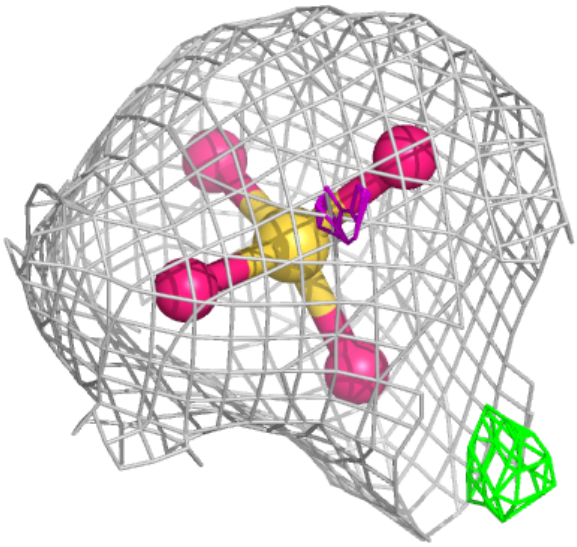


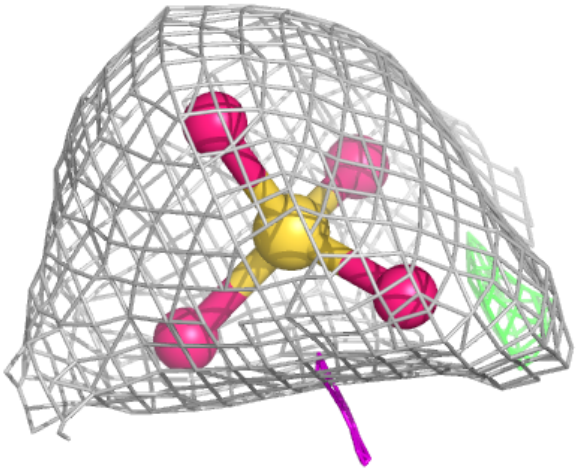


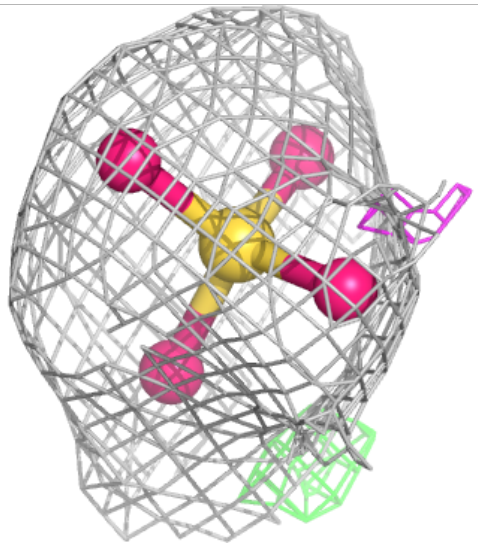


Electron density around SO4 G 705:

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

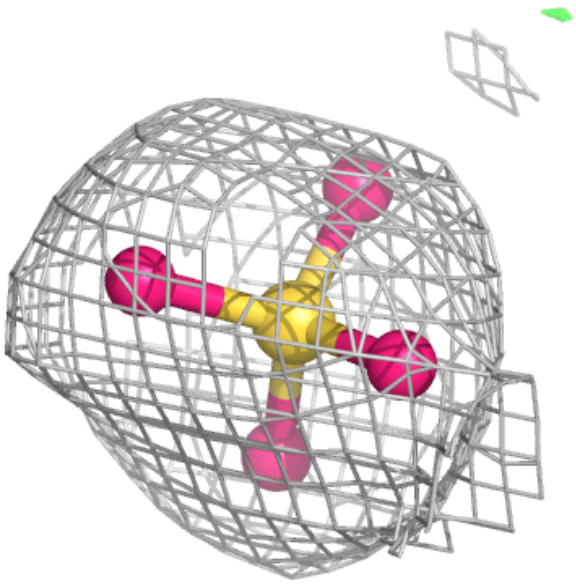


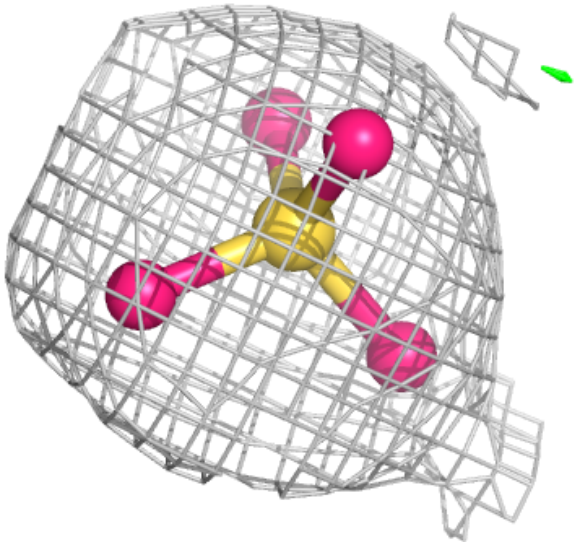


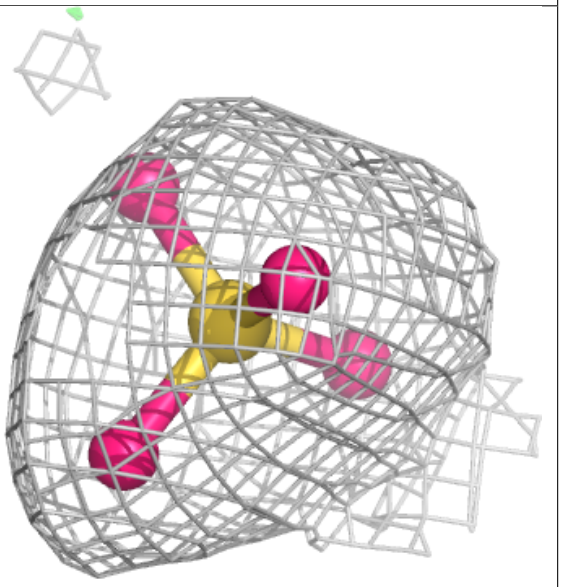


Electron density around SO4 B 708:

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

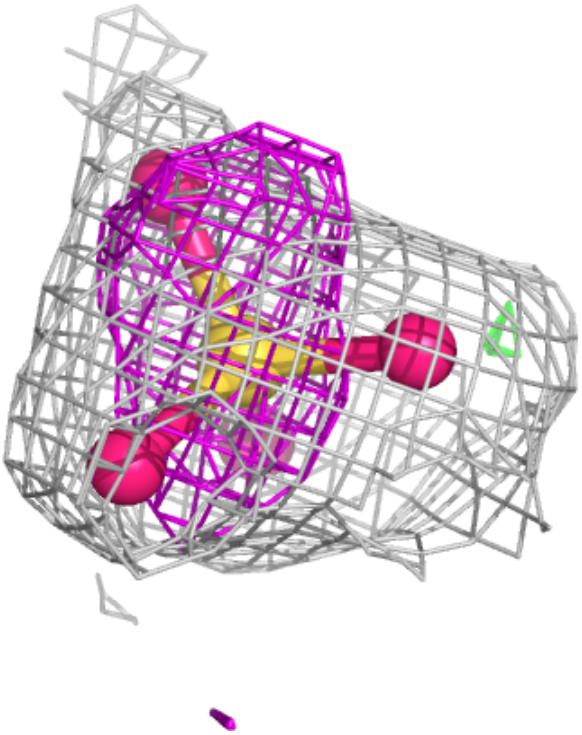


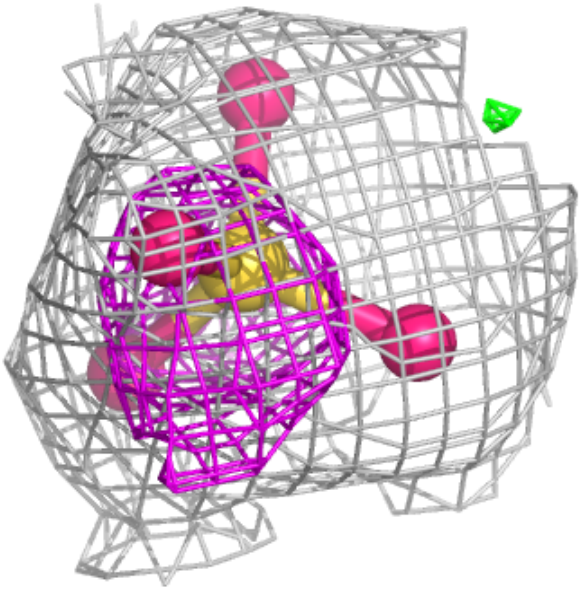


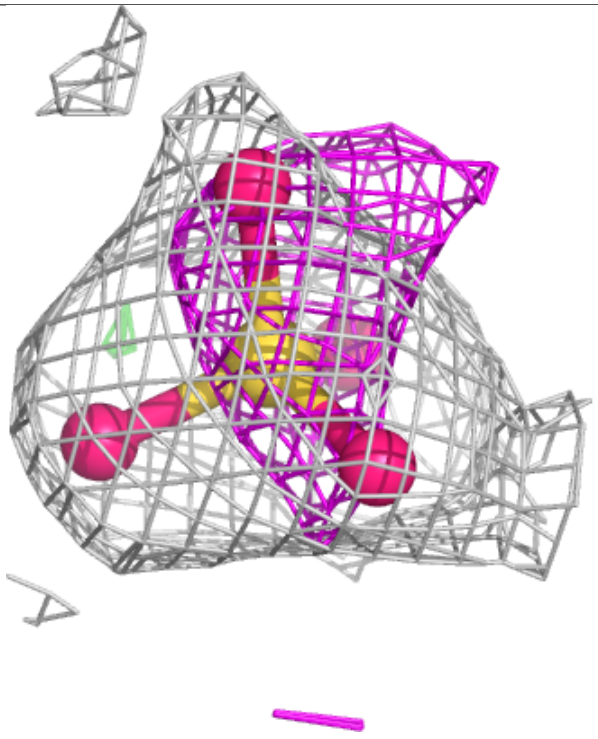


Electron density around SO4 H 705:

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

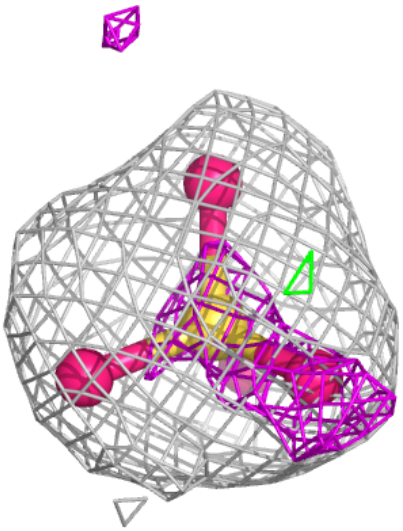


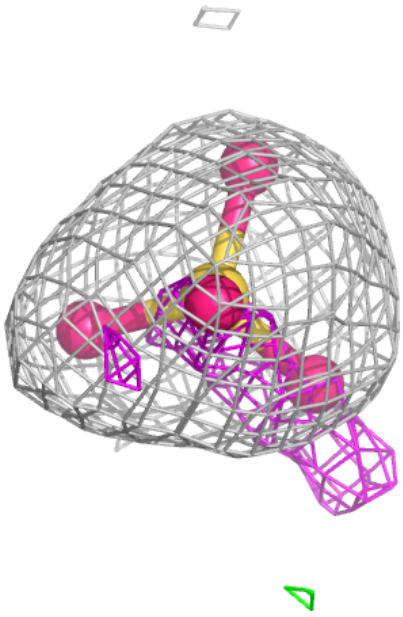


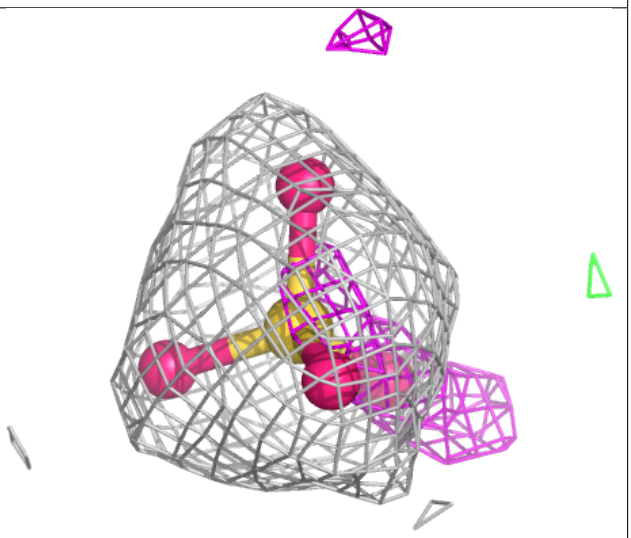


Electron density around SO4 C 707:

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

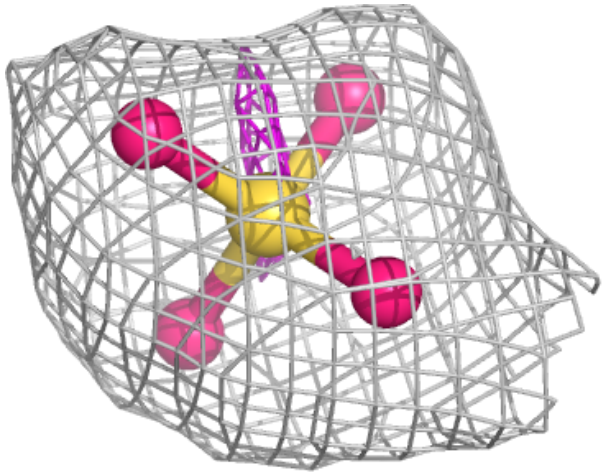


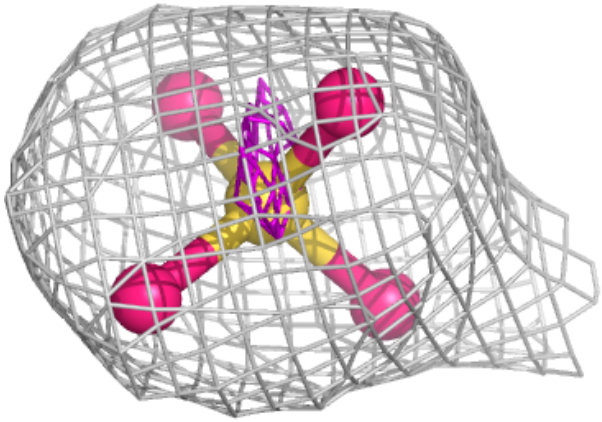


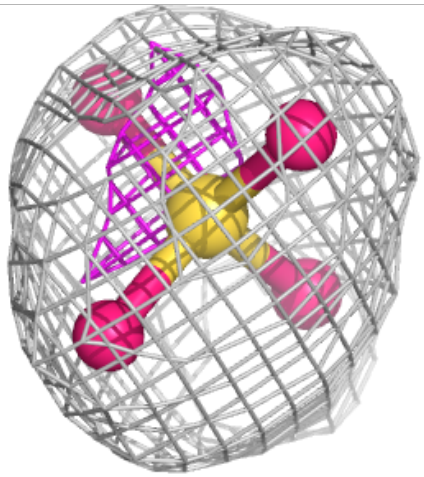


Electron density around SO4 E 707:

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

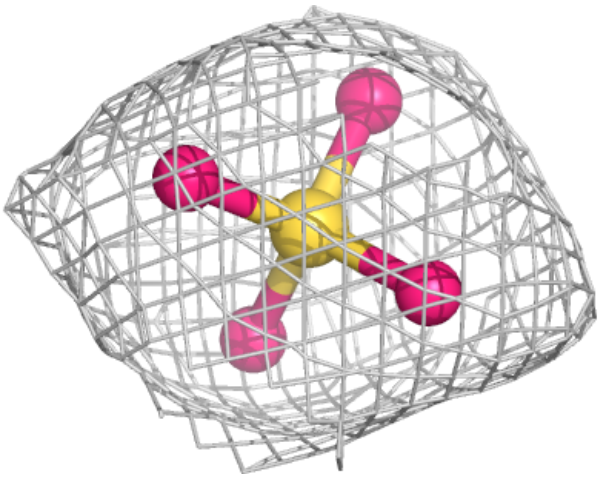


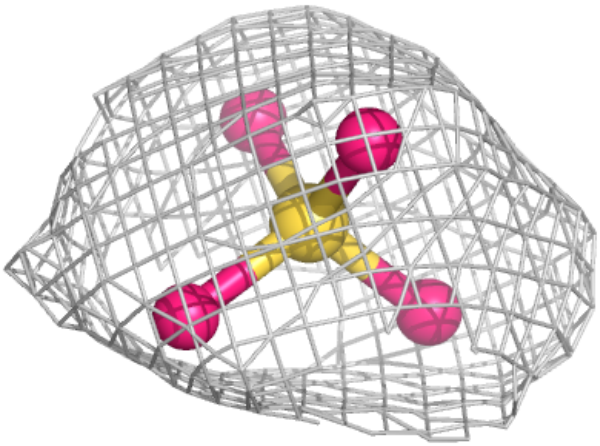


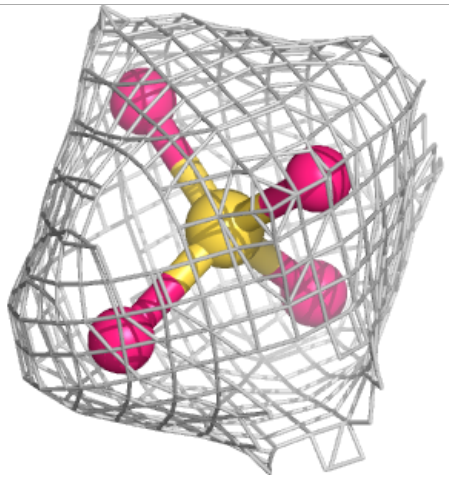


Electron density around SO4 D 708:

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

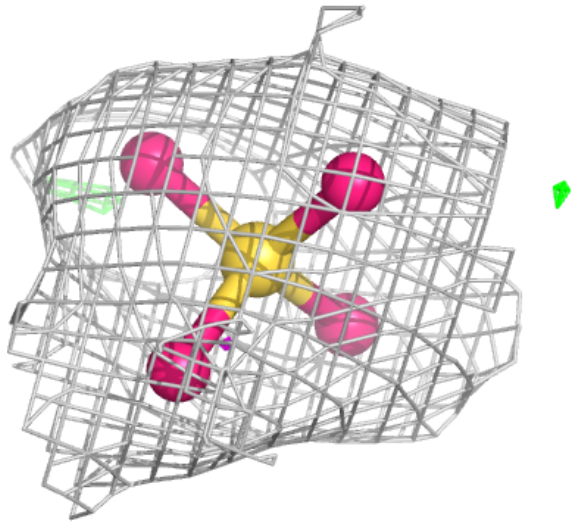


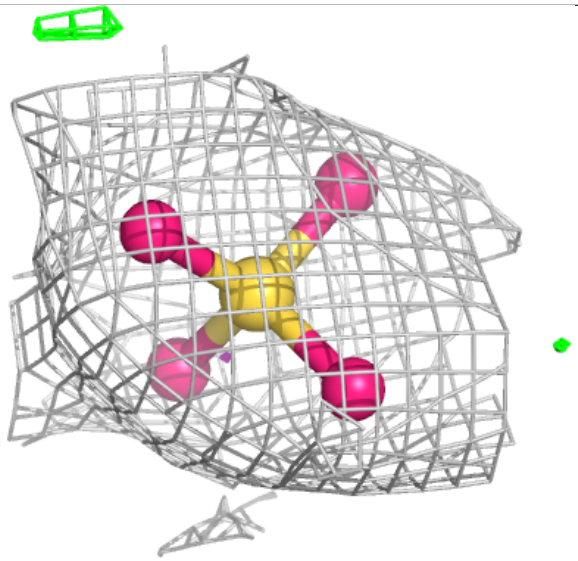


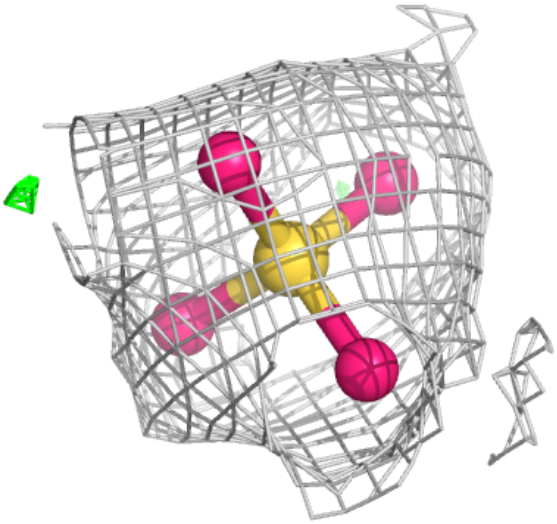


Electron density around SO4 E 705:

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

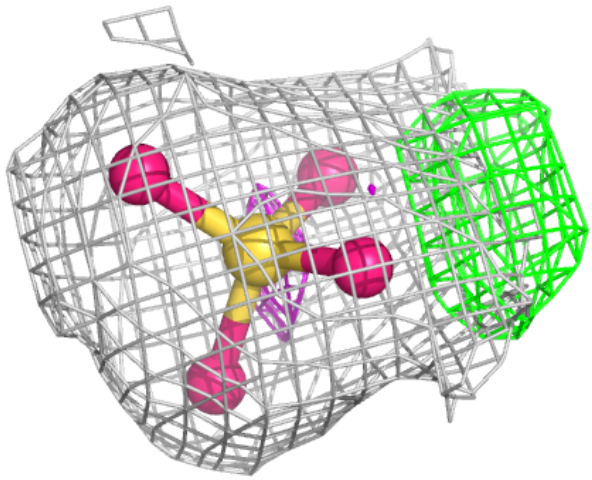


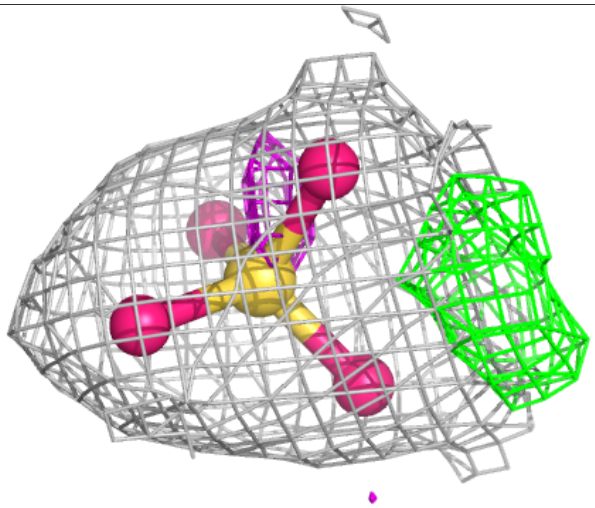


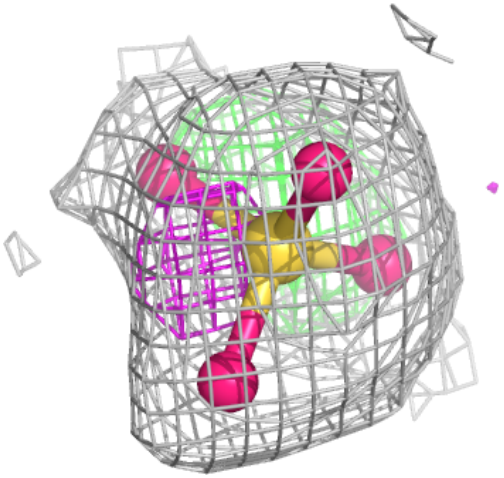


Electron density around SO4 F 702:

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

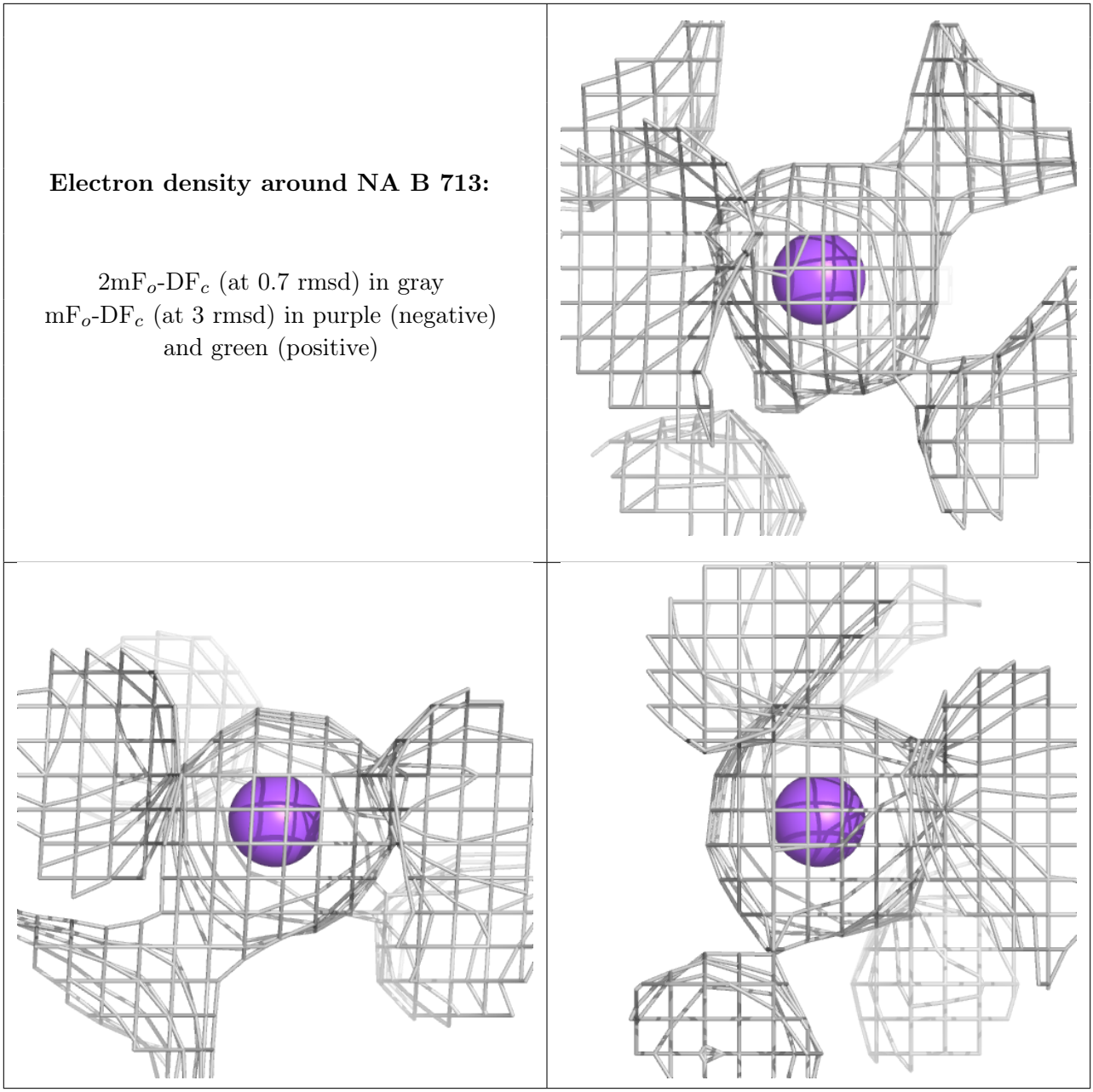






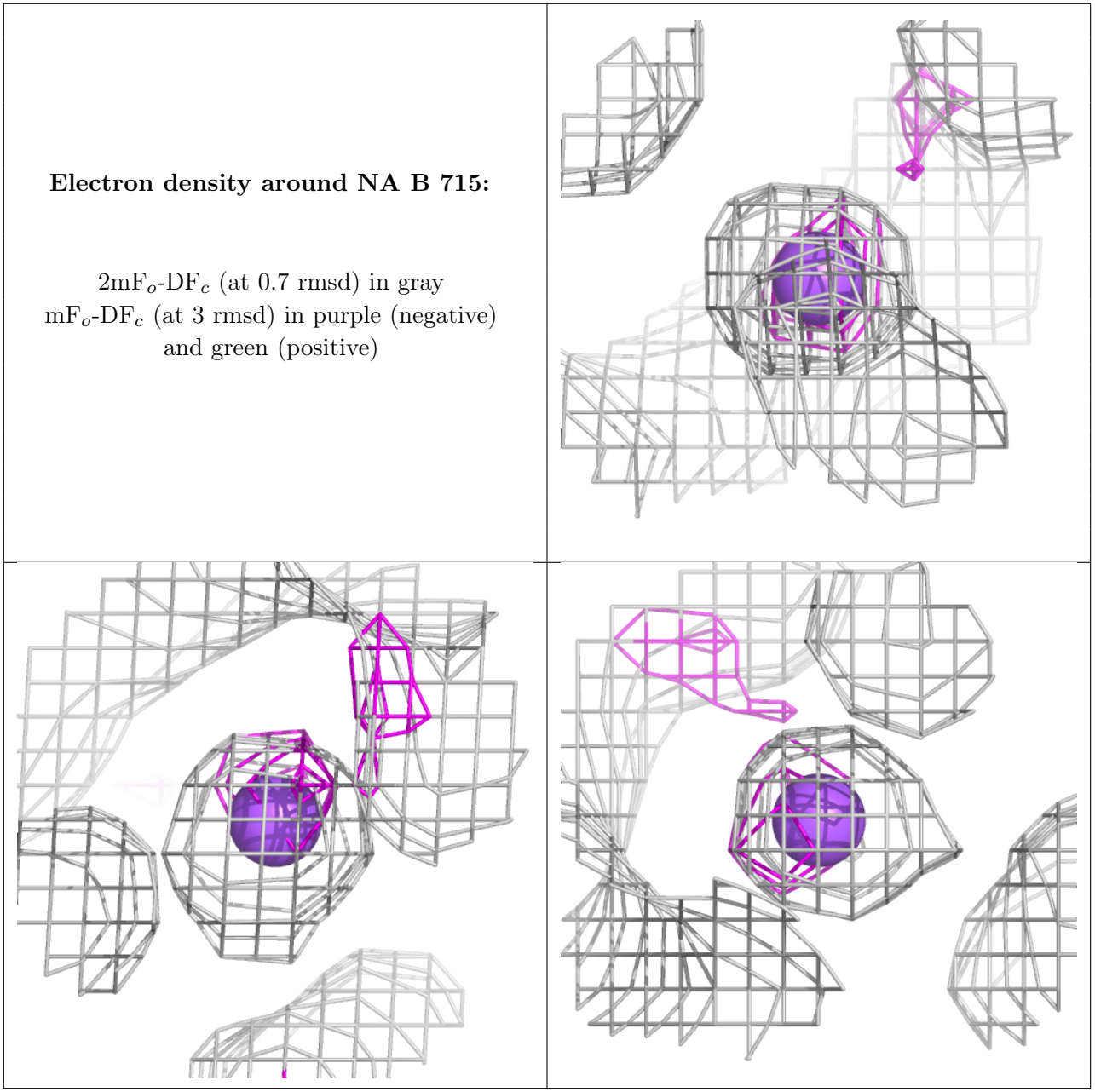
Electron density around NA B 713:

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



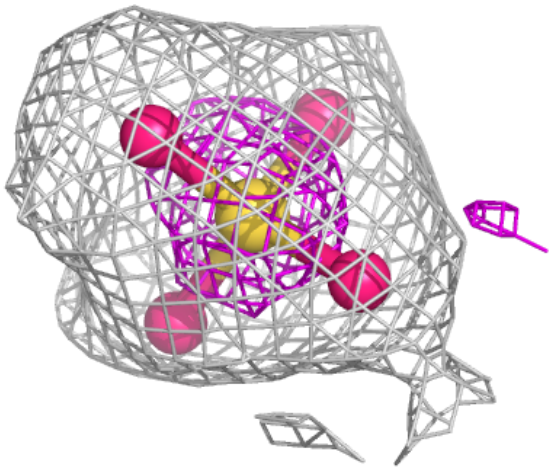
Electron density around NA B 715:

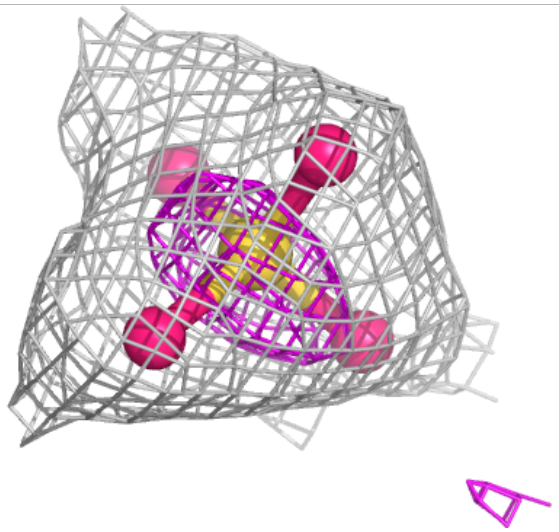
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

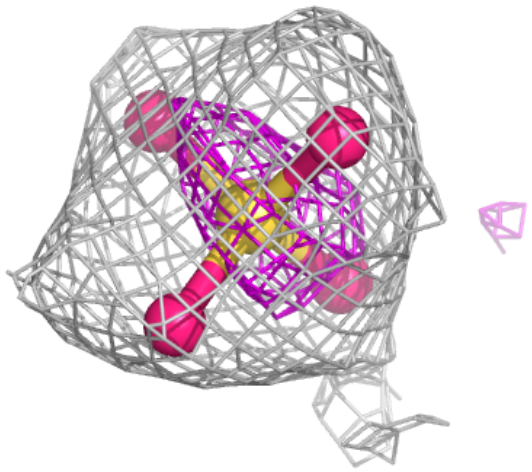


Electron density around SO4 G 703:

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

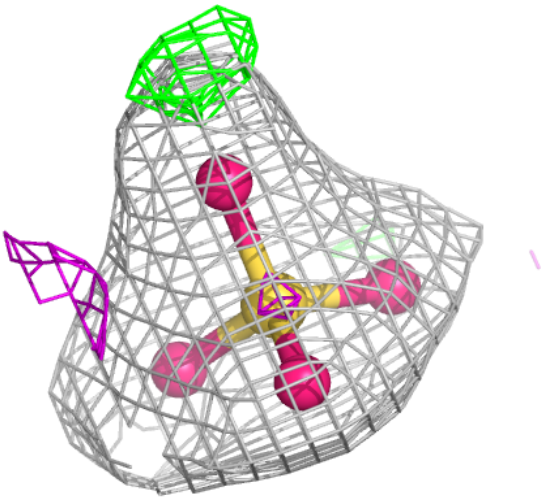


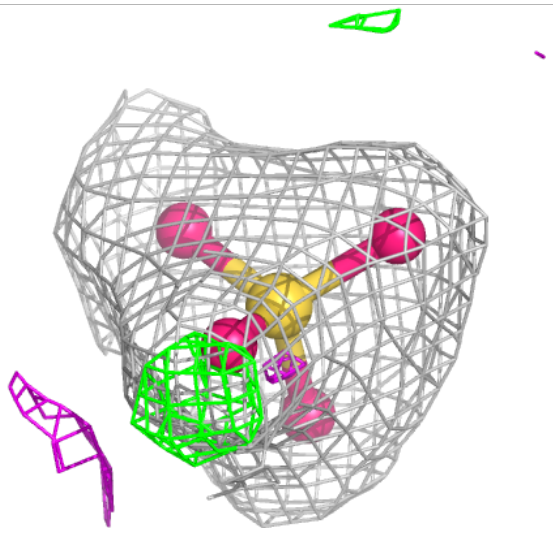


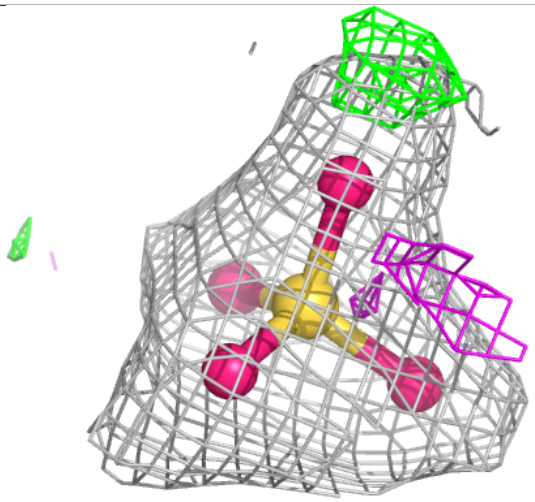


Electron density around SO4 D 705:

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

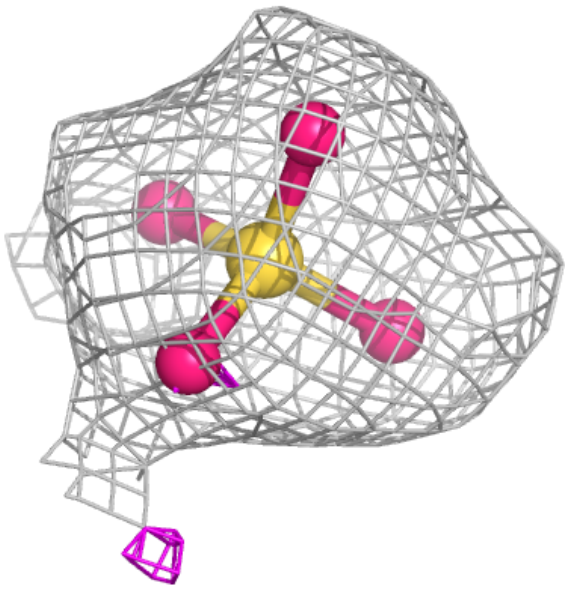


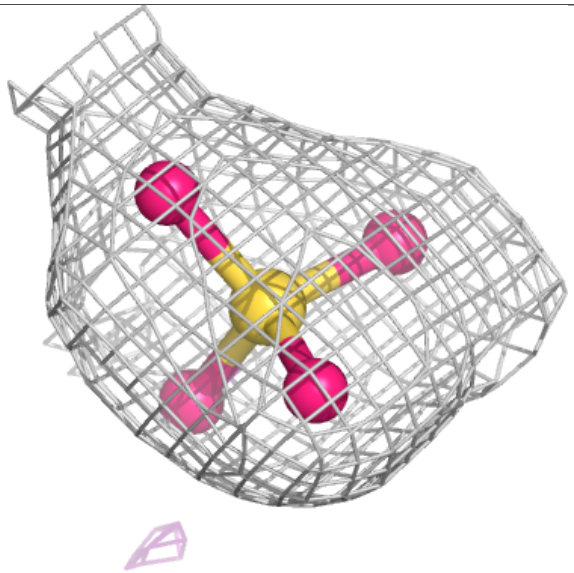


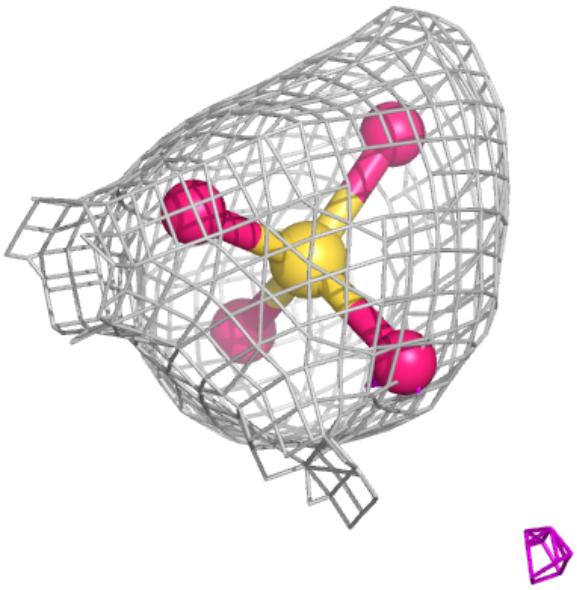


Electron density around SO4 C 705:

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

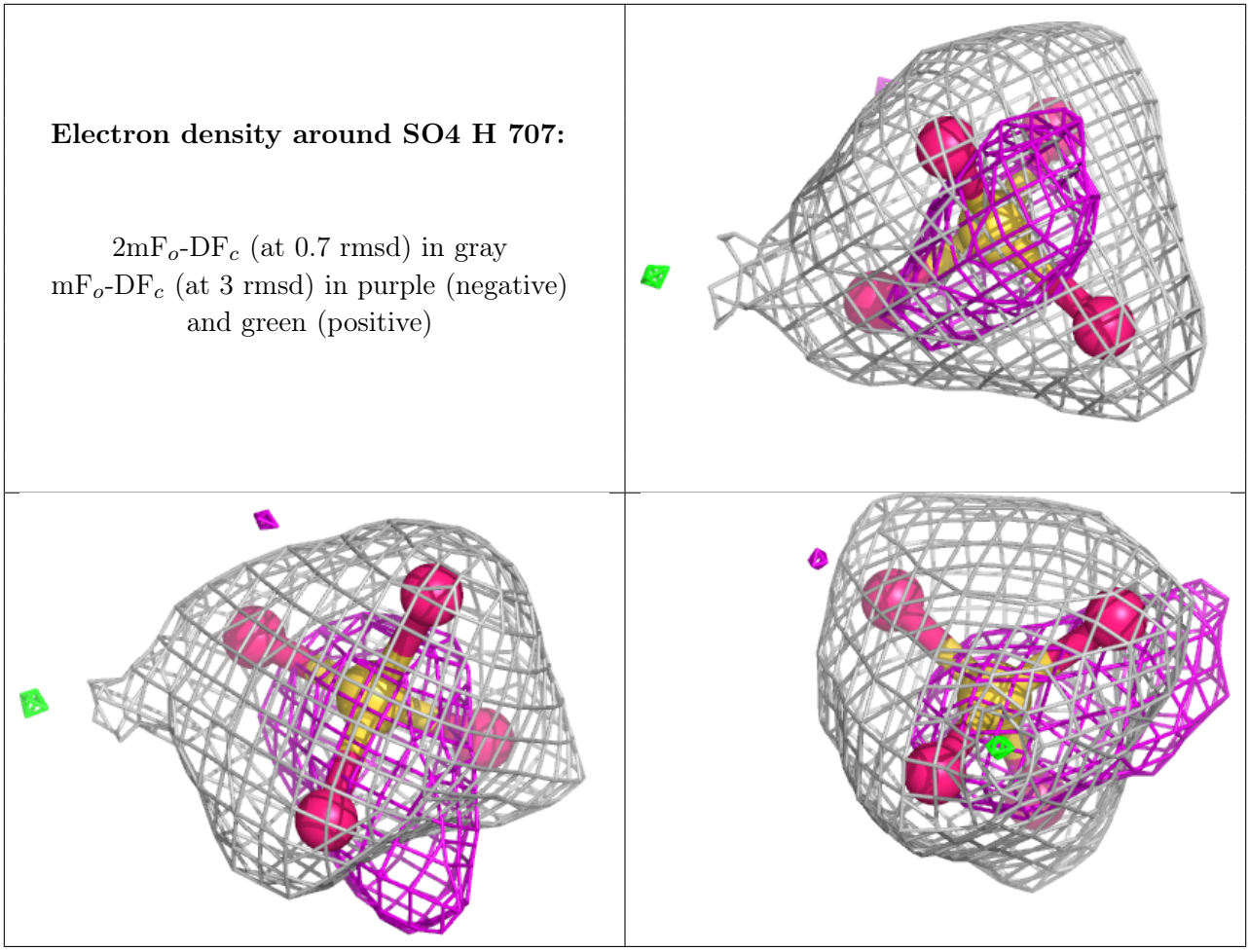






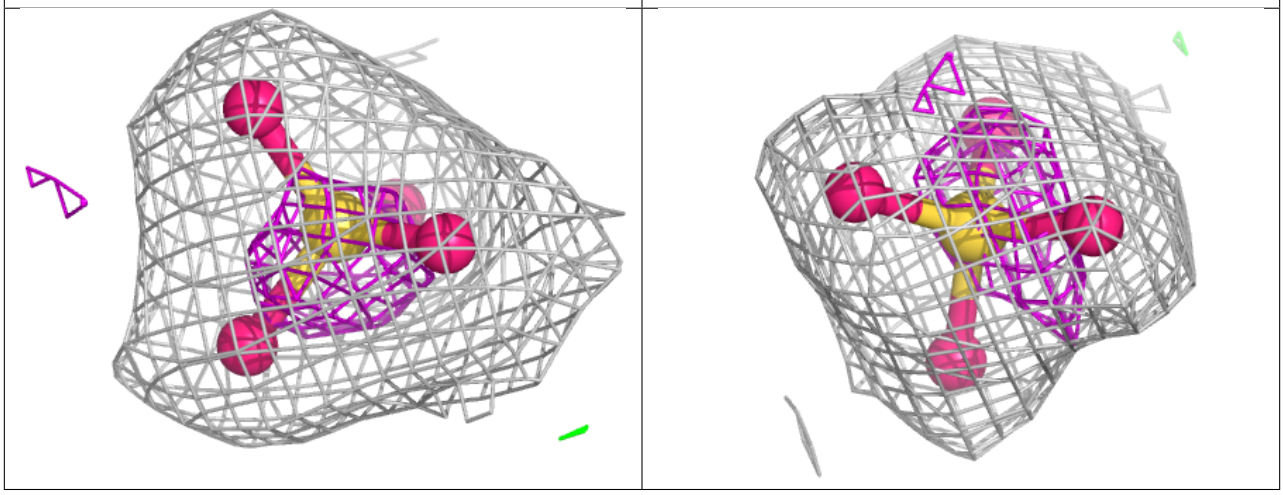
Electron density around SO4 H 707:

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



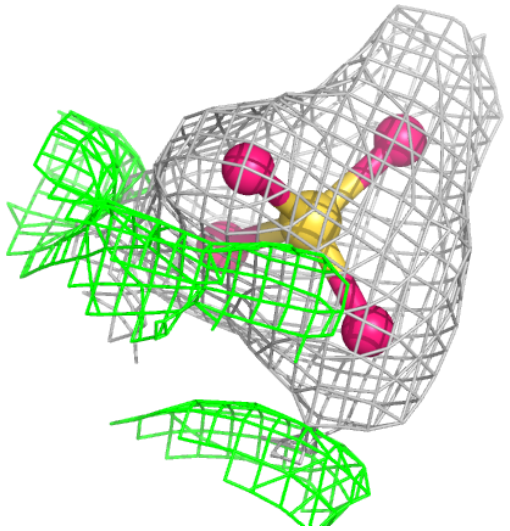
Electron density around SO4 B 704:

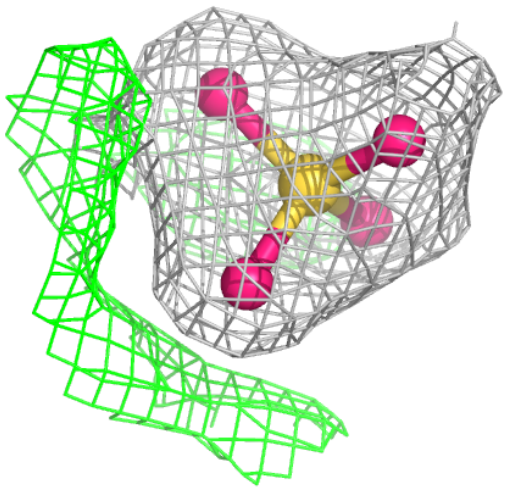
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

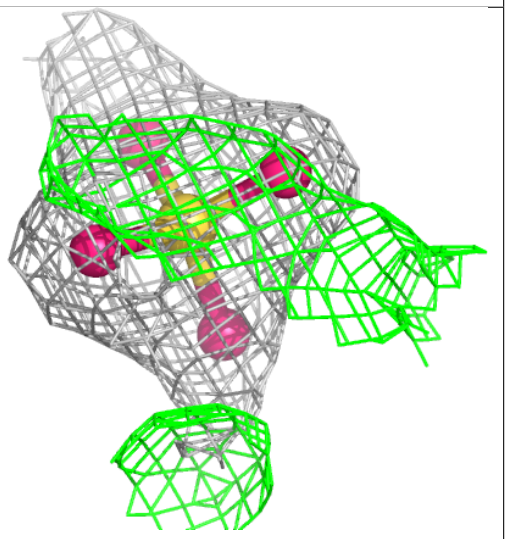


Electron density around SO4 B 706:

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

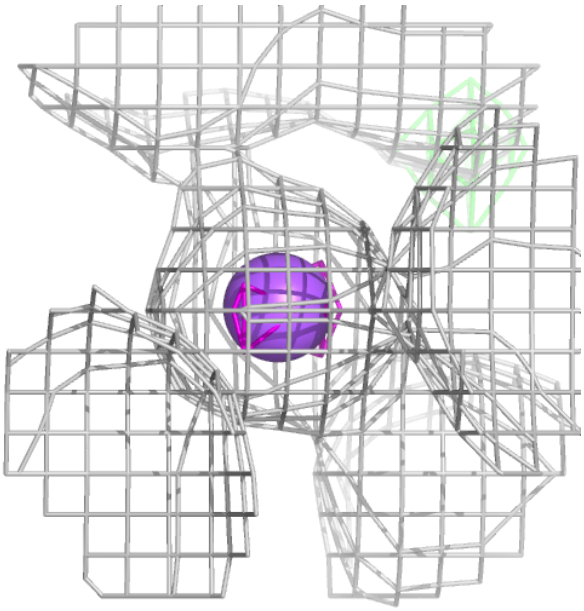


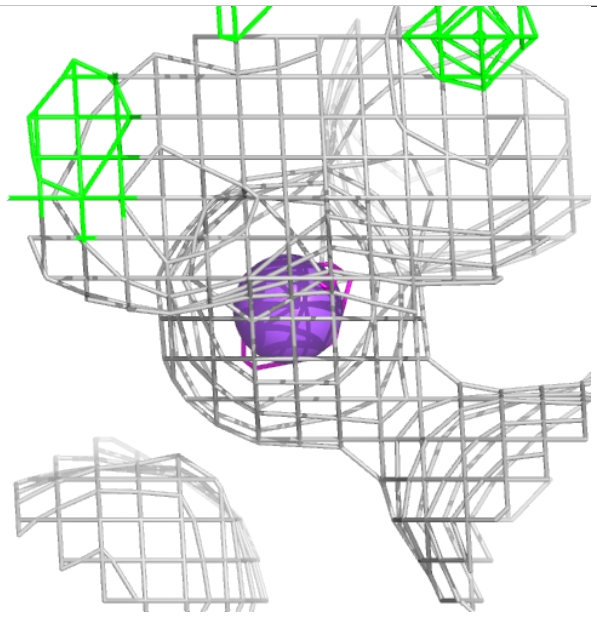


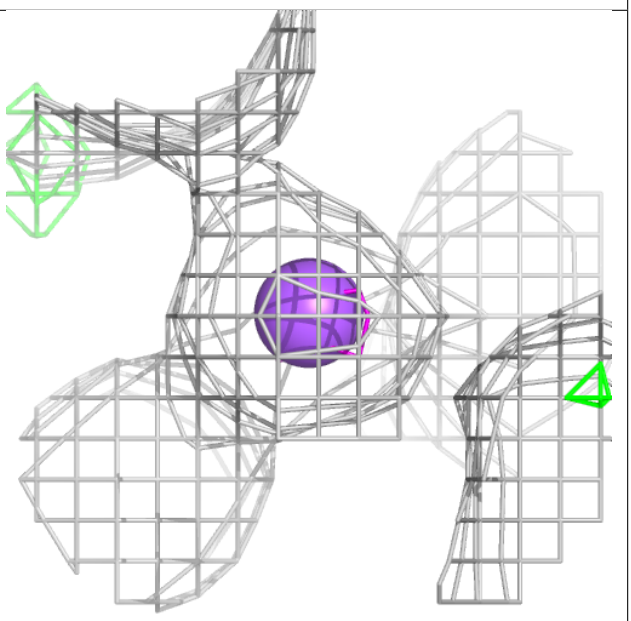


Electron density around NA A 709:

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

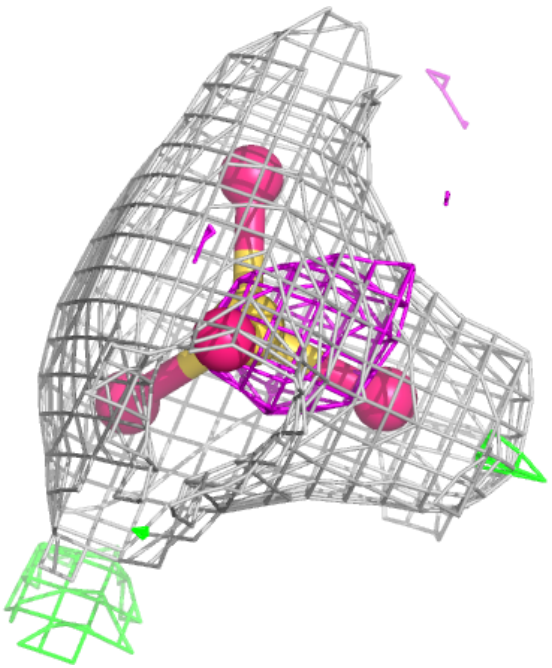


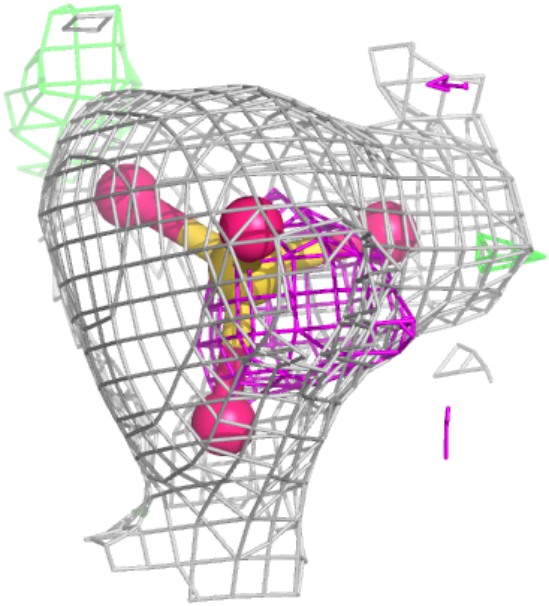


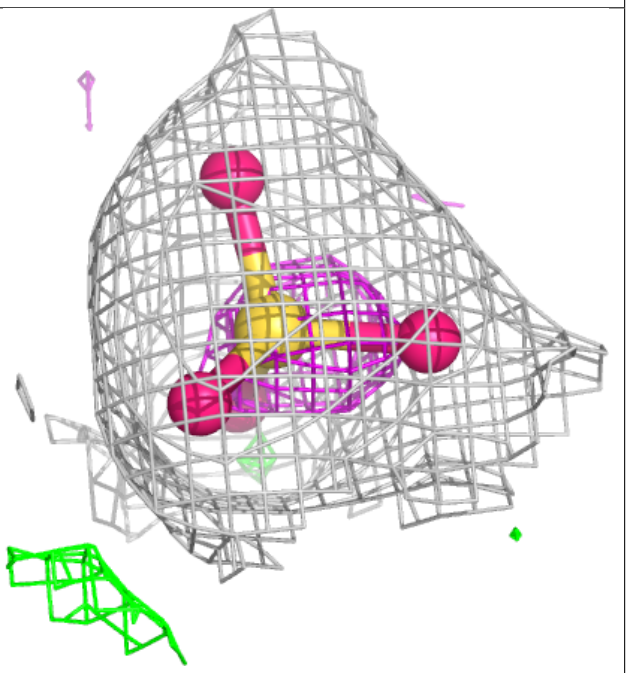


Electron density around SO4 F 703:

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

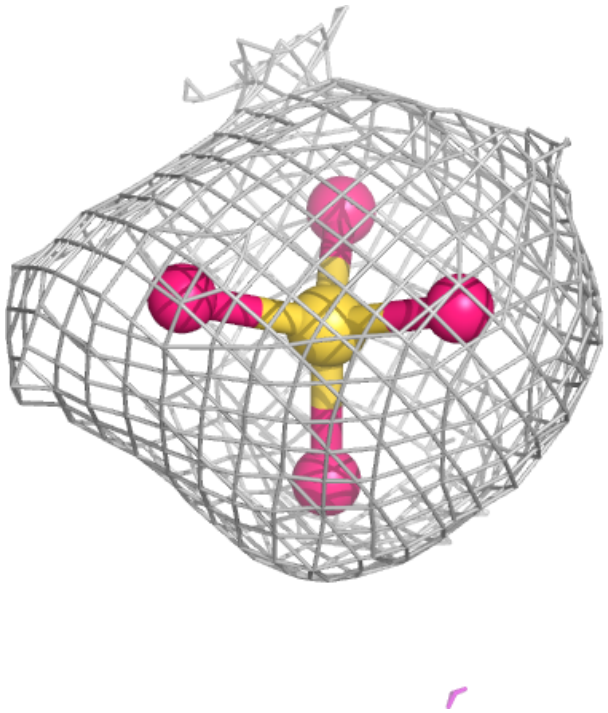


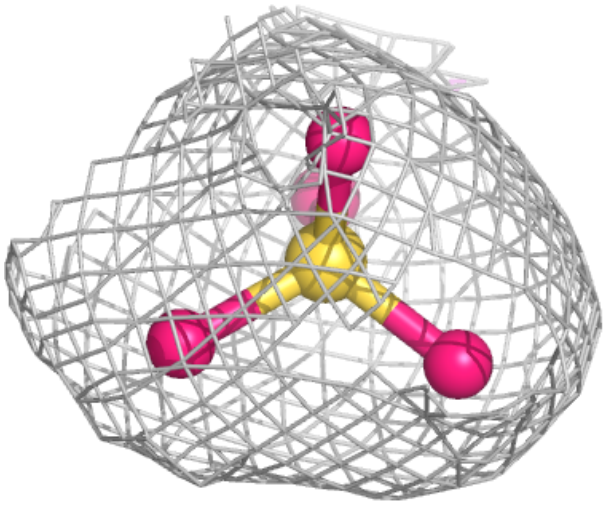


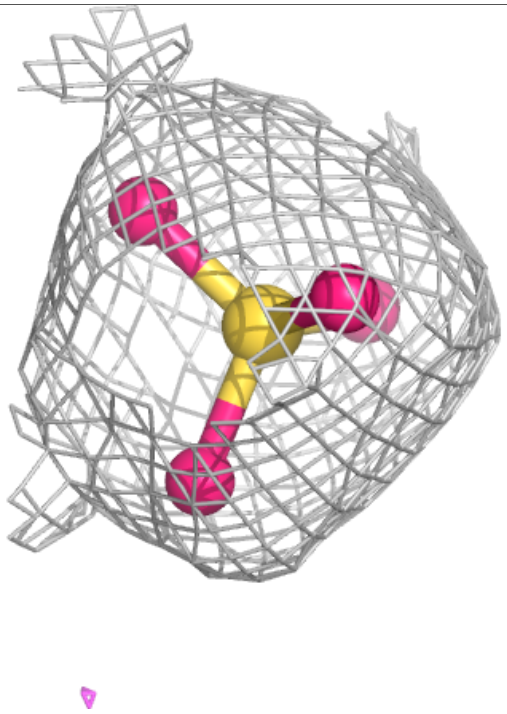


Electron density around SO4 D 702:

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

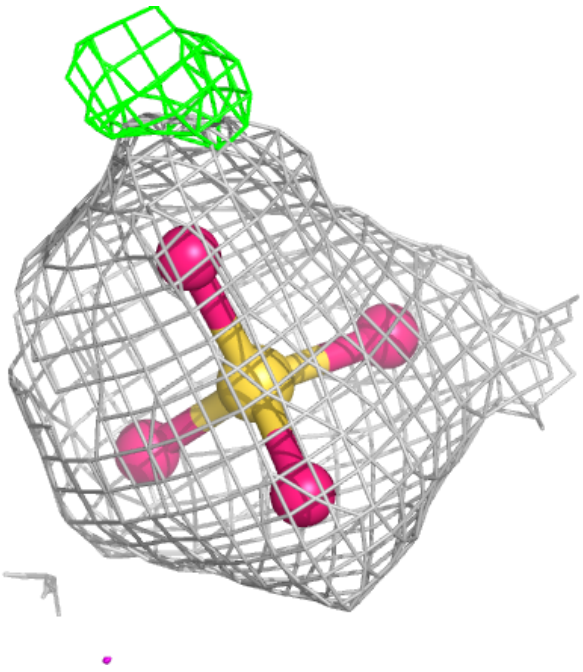


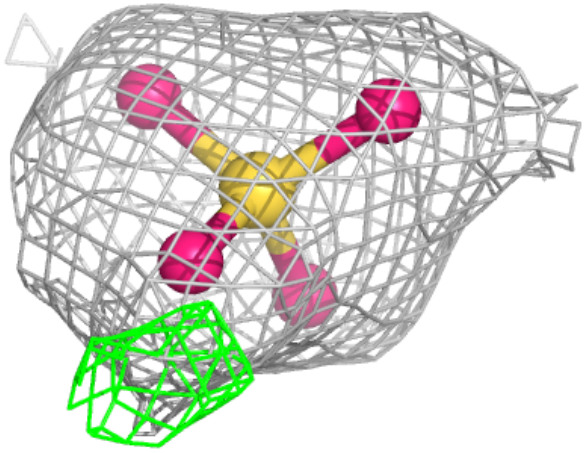


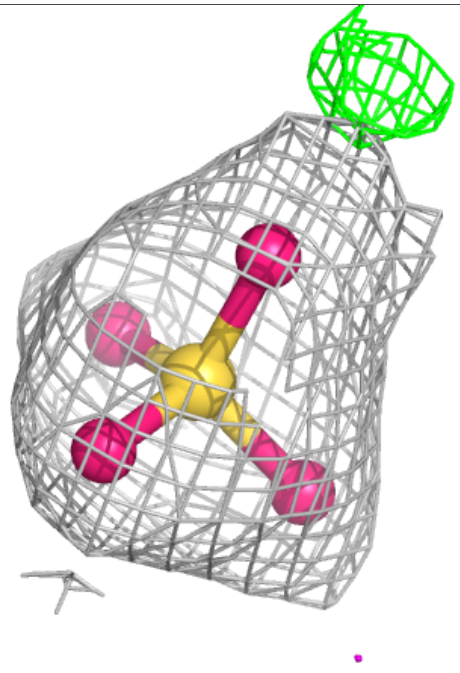


Electron density around SO4 A 702:

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

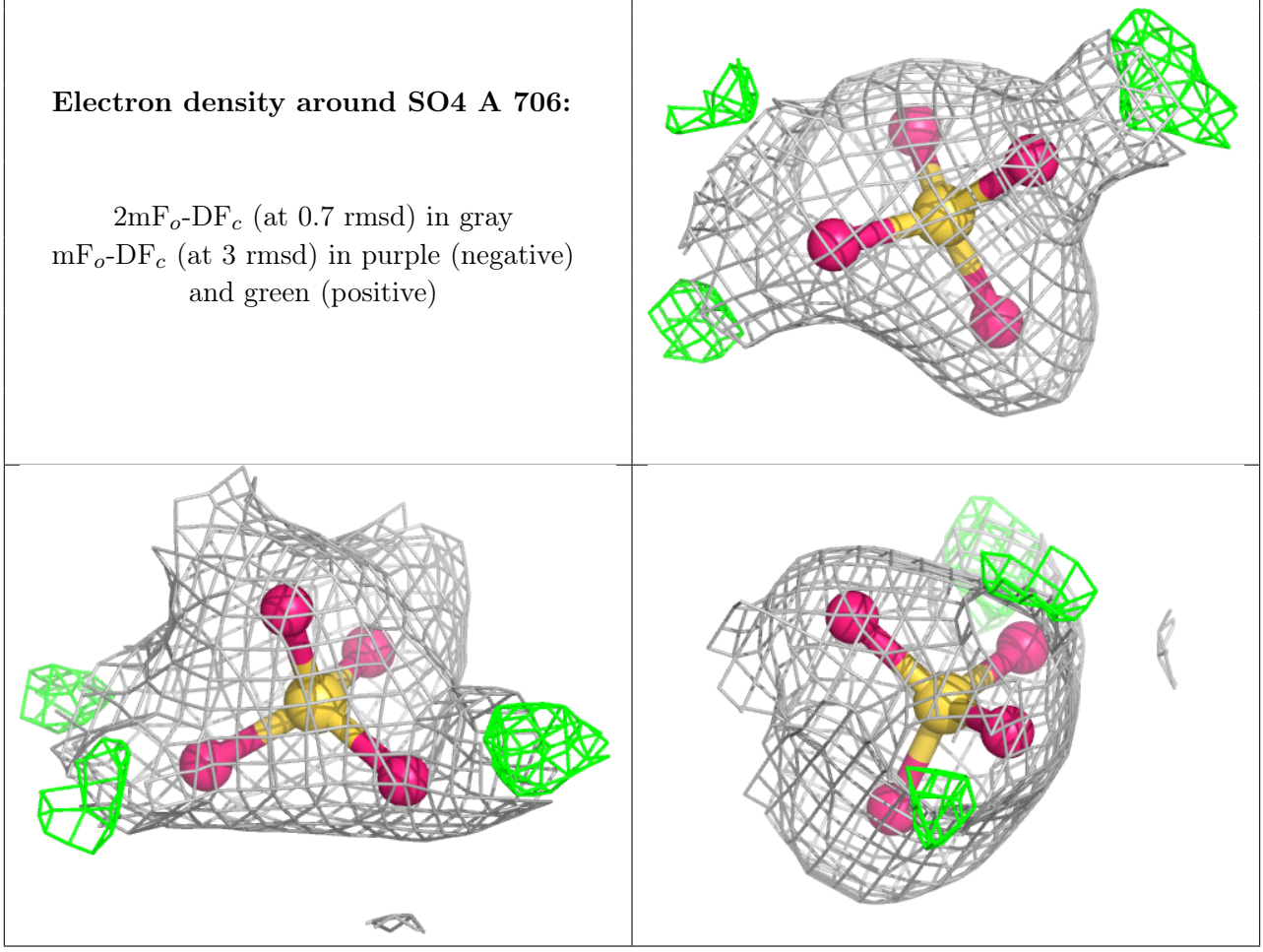






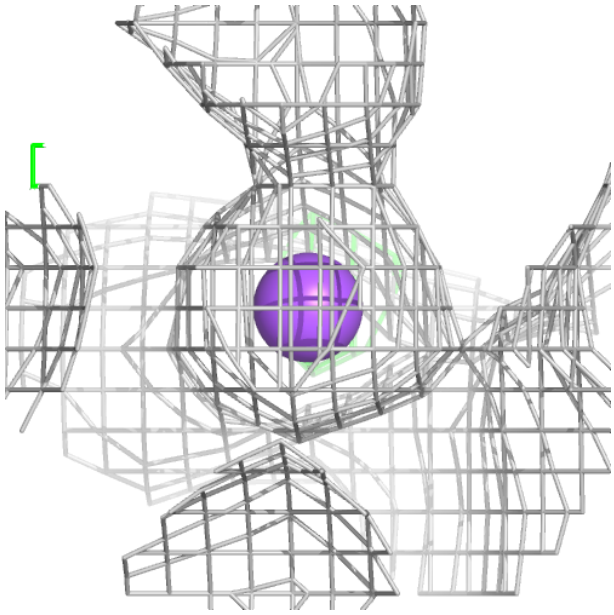
Electron density around SO4 A 706:

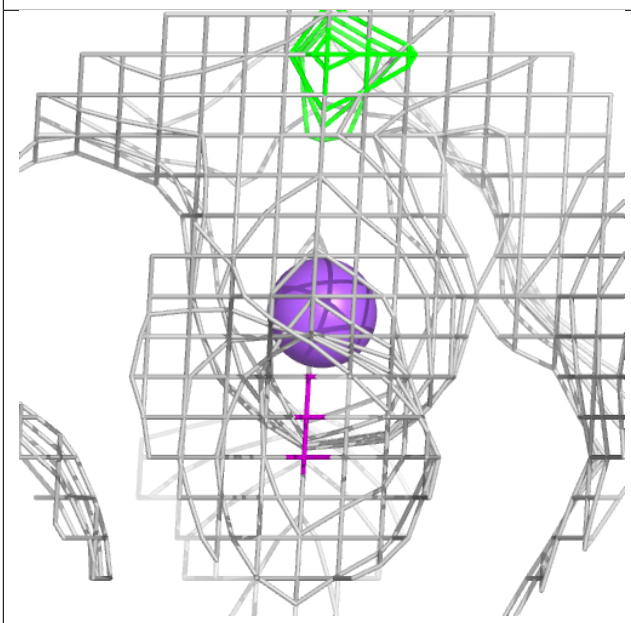
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

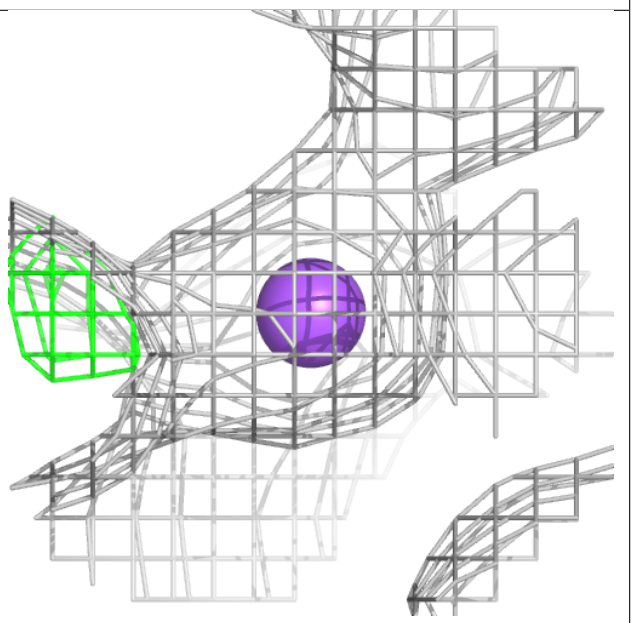


Electron density around NA B 714:

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

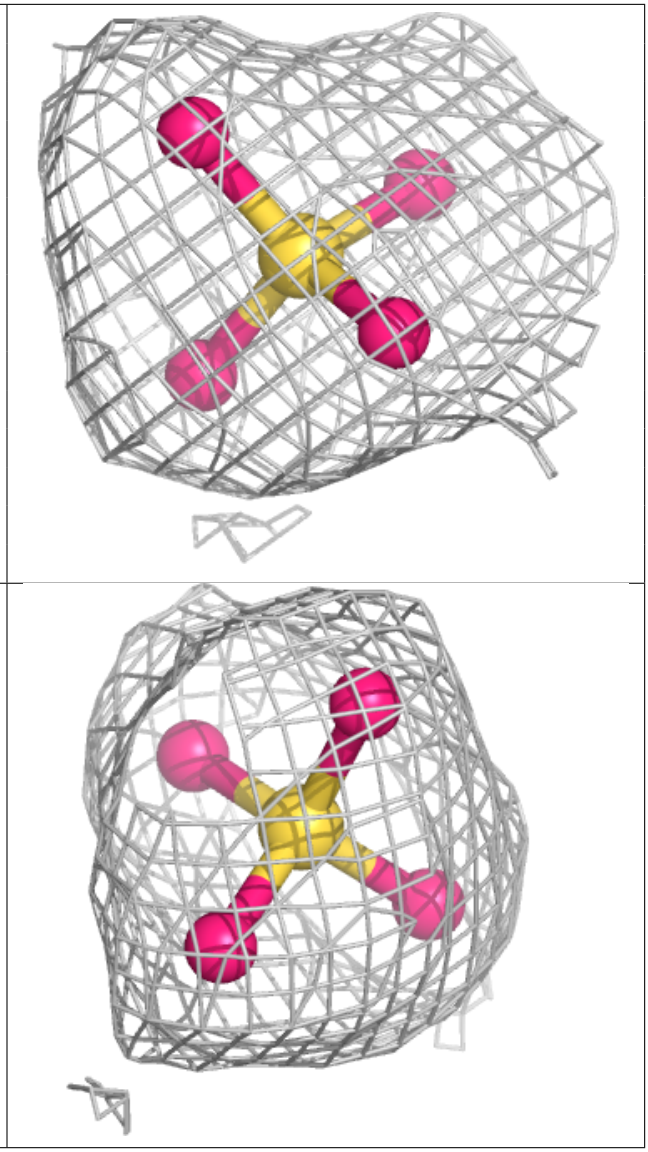






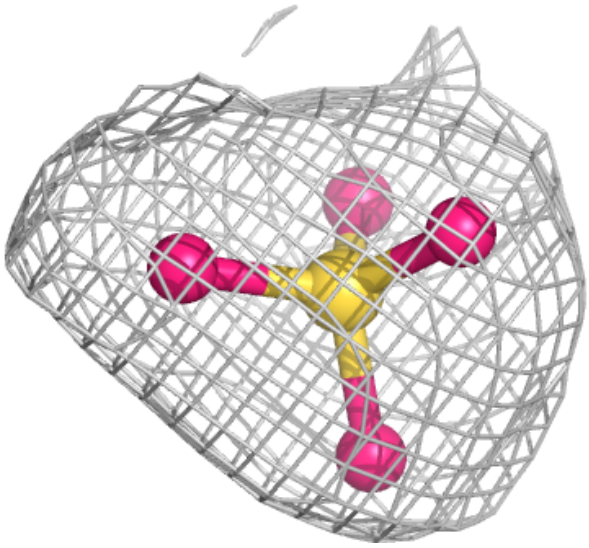
Electron density around SO4 G 701:

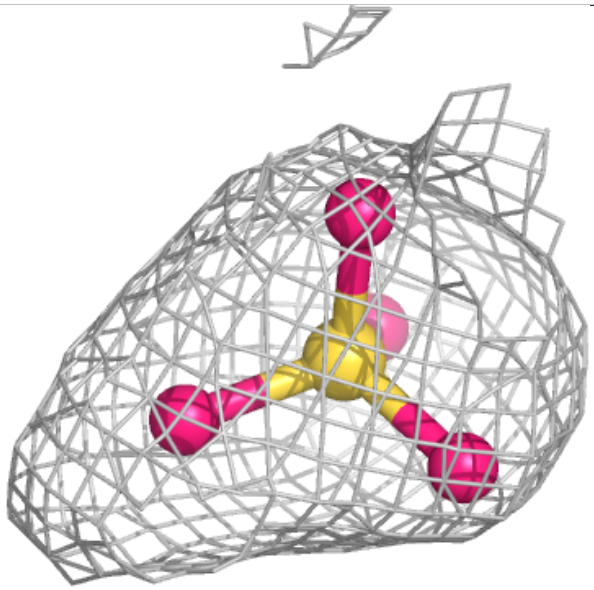
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

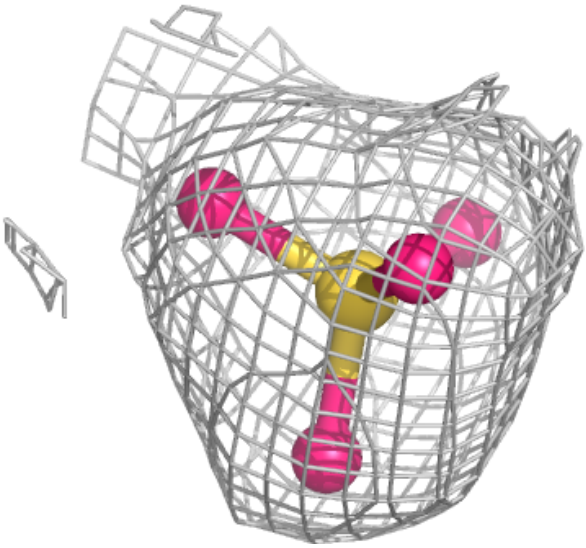


Electron density around SO4 A 703:

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

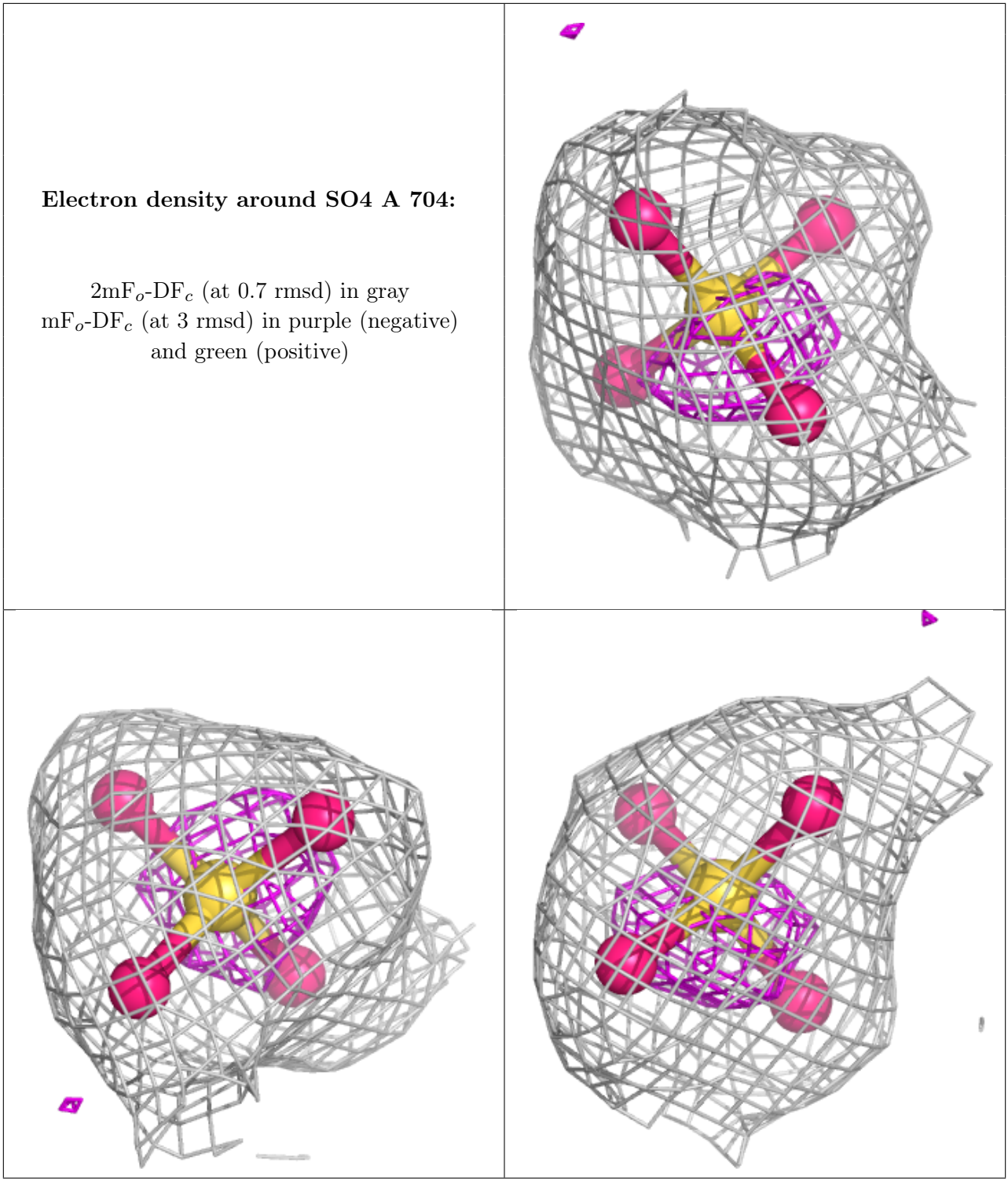






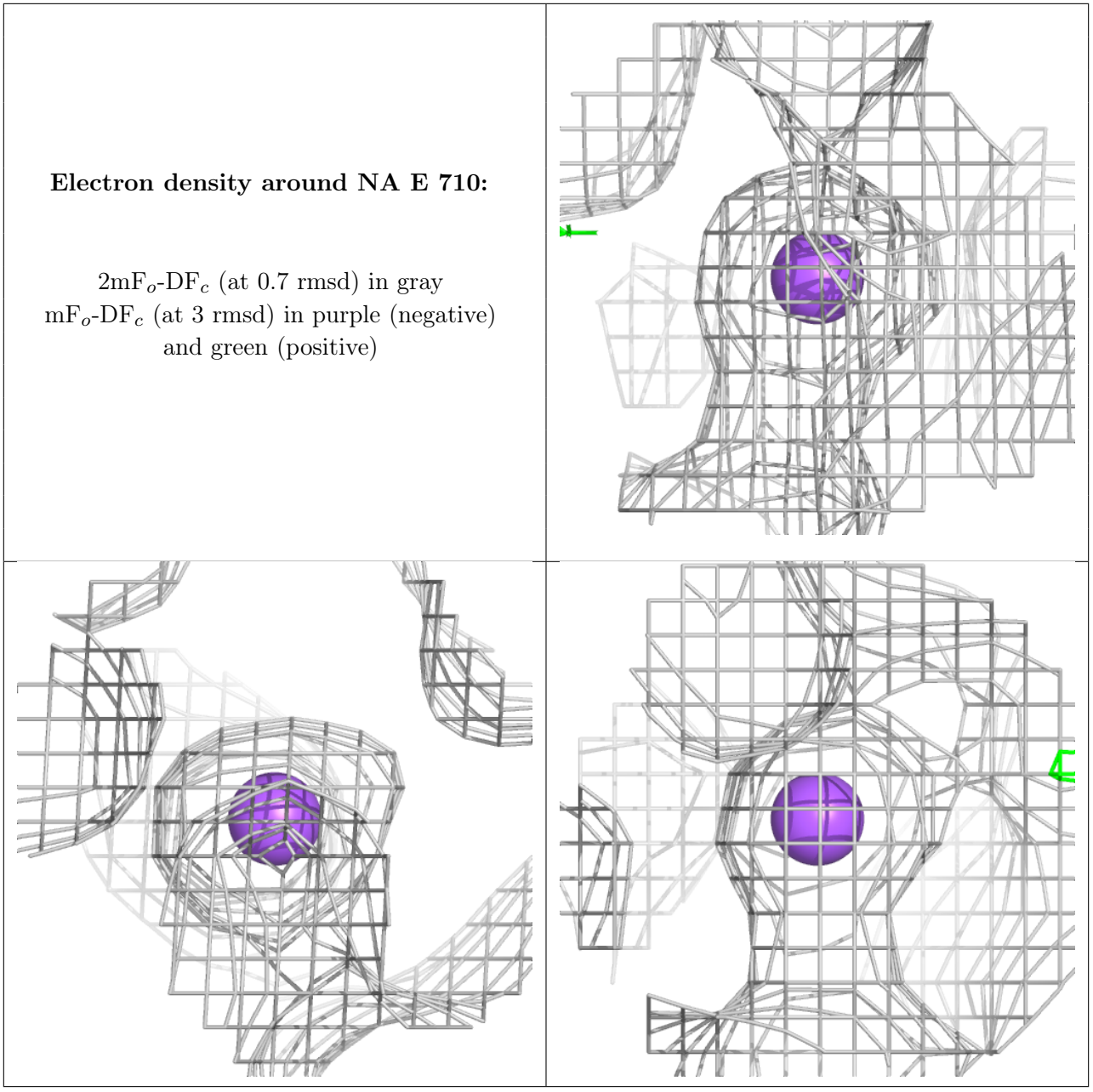
Electron density around SO4 A 704:

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



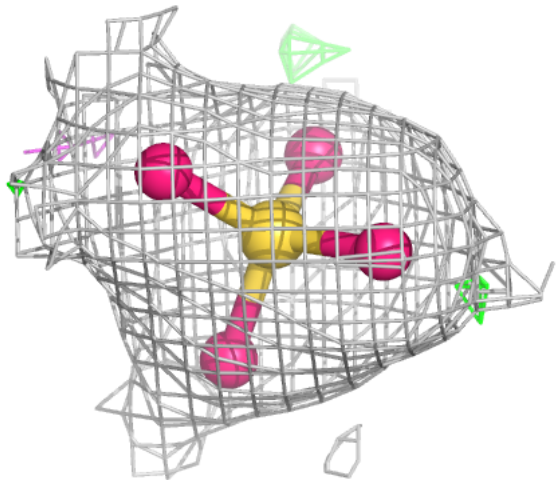
Electron density around NA E 710:

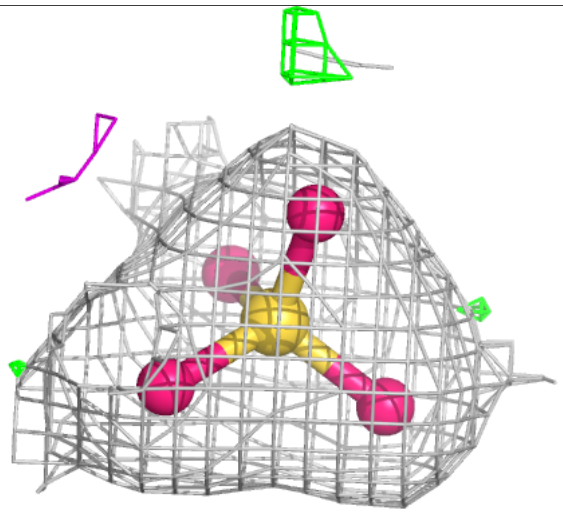
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

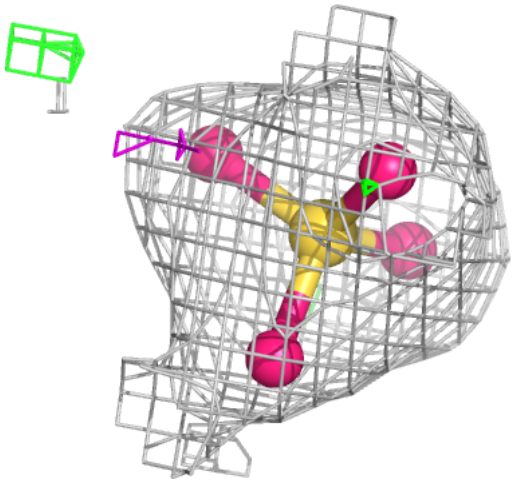


Electron density around SO4 E 701:

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

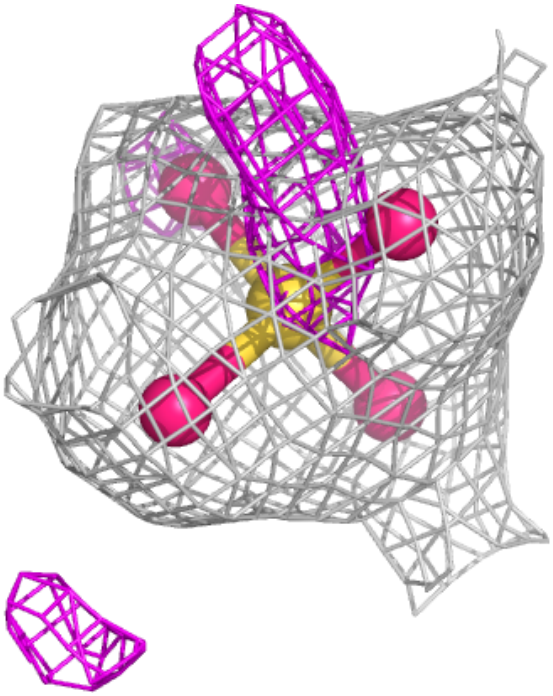


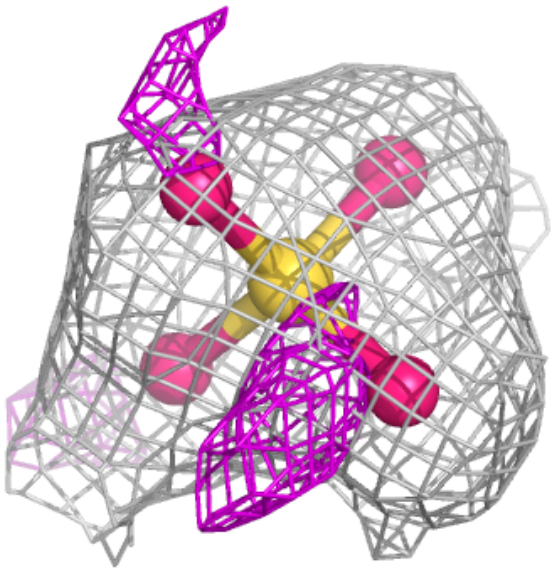


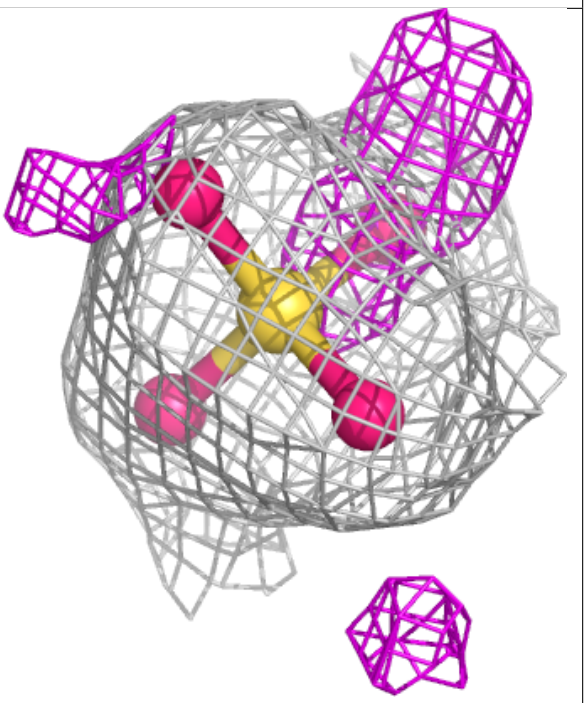


Electron density around SO4 C 702:

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

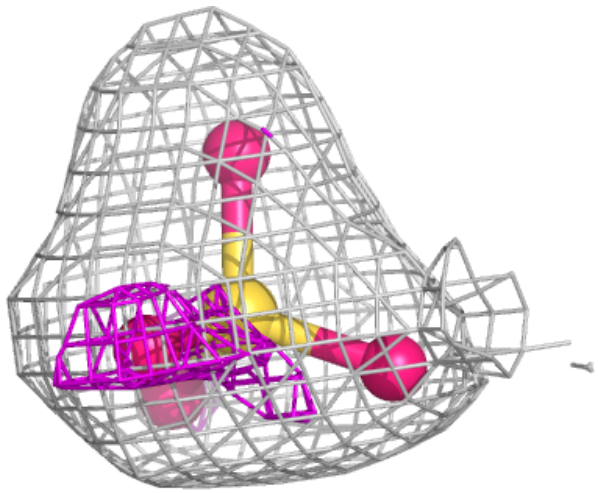


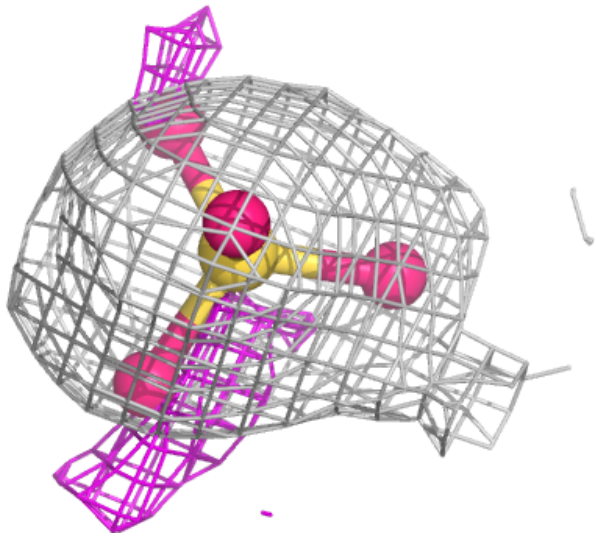


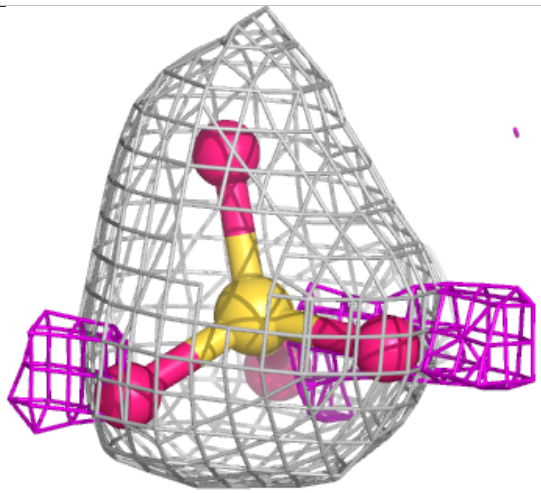


Electron density around SO4 C 704:

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

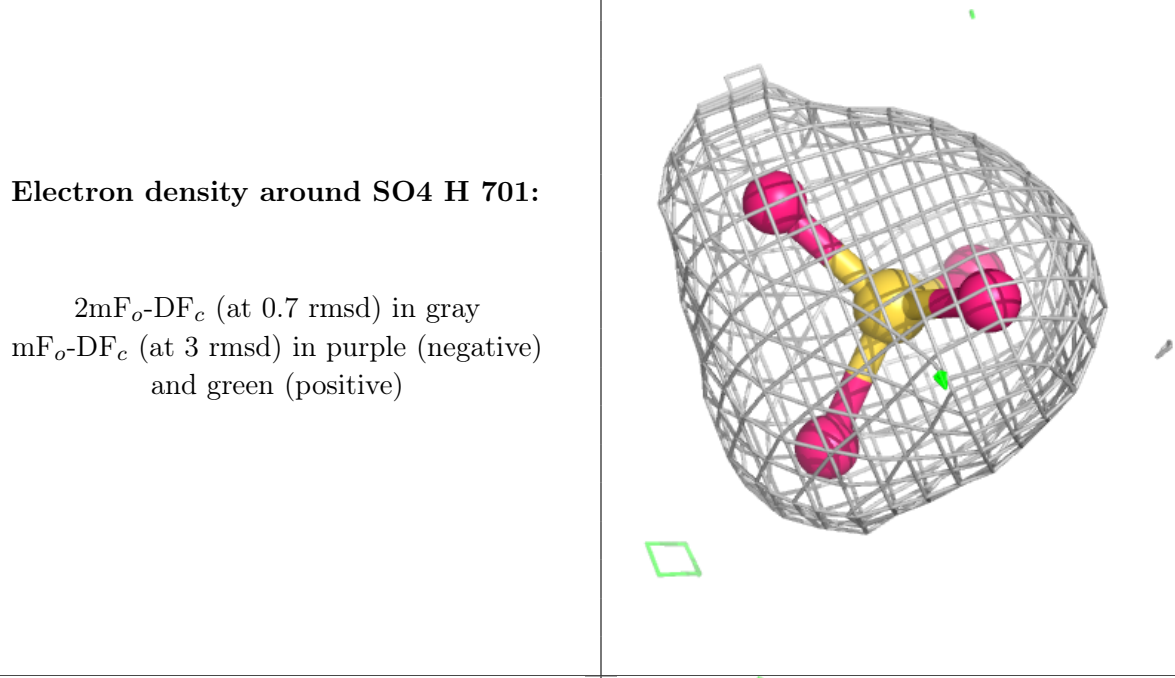


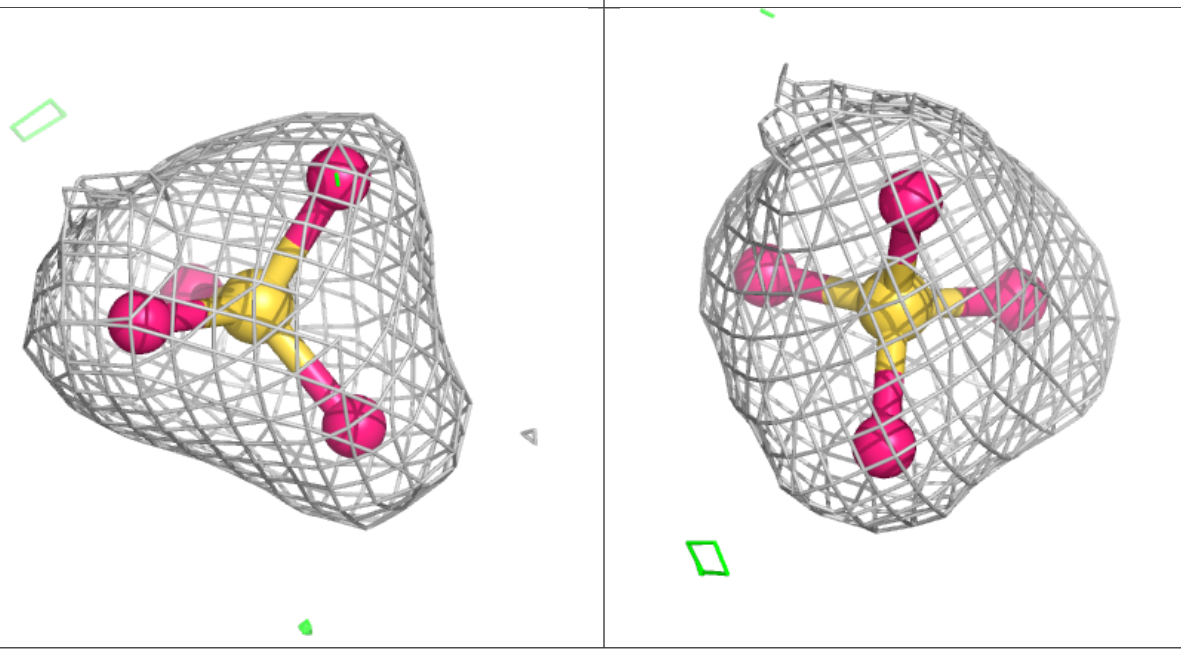




Electron density around SO4 H 701:

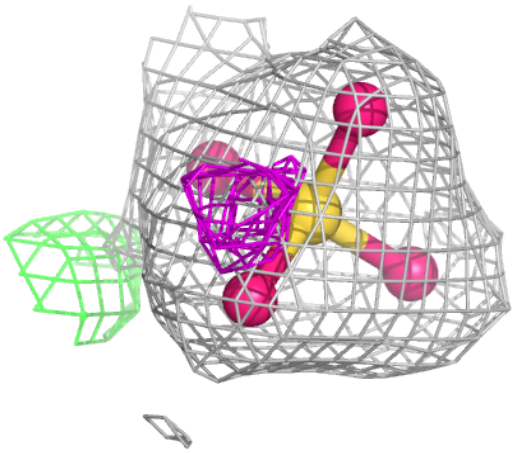
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

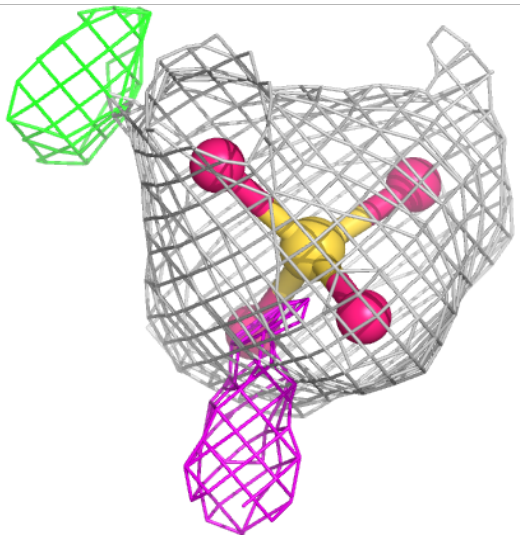


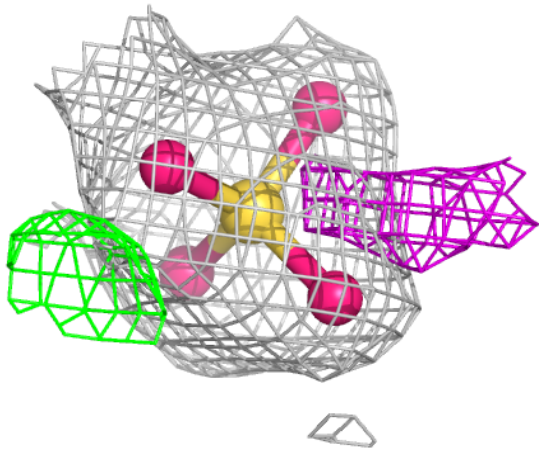


Electron density around SO4 H 702:

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

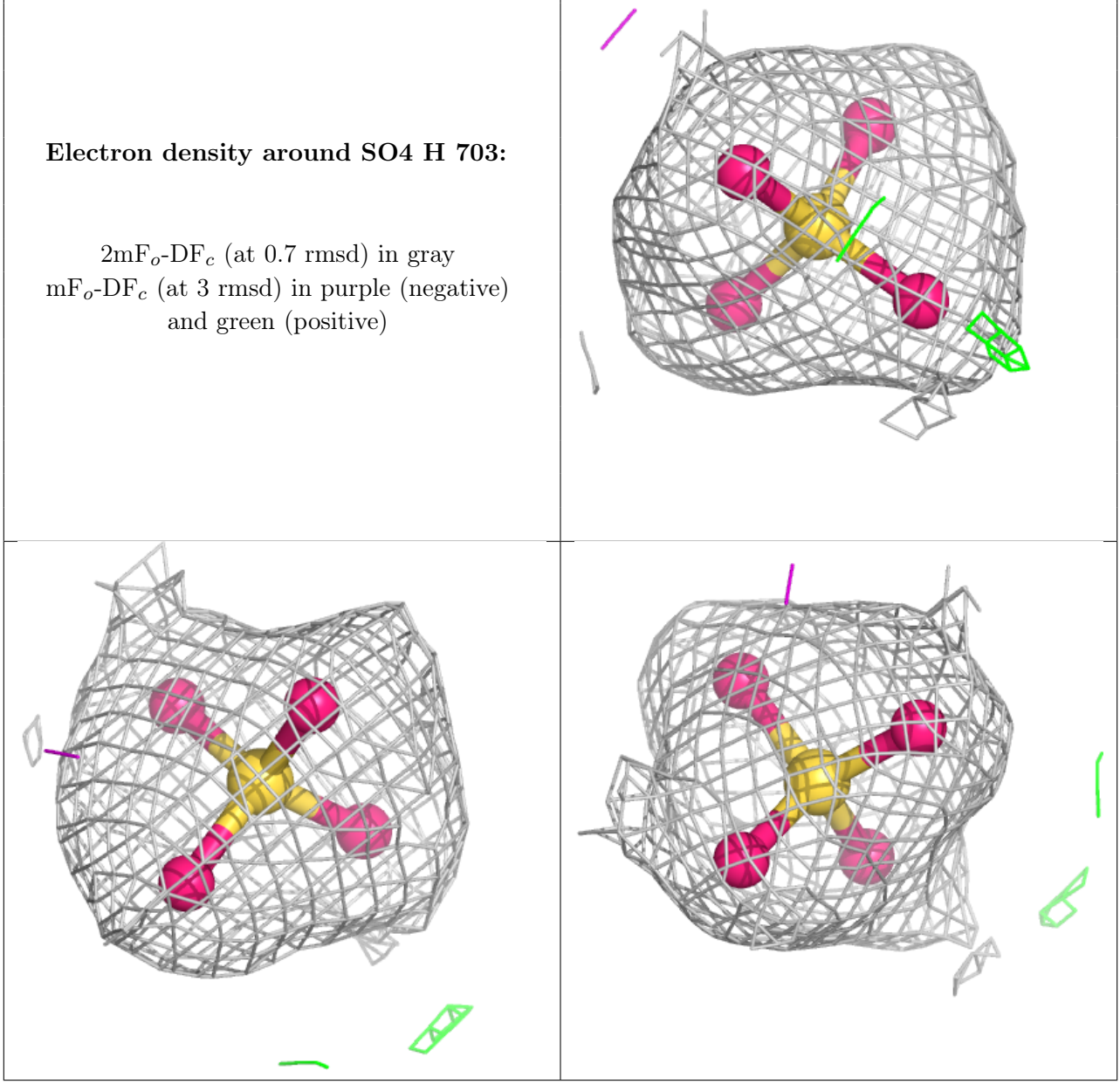






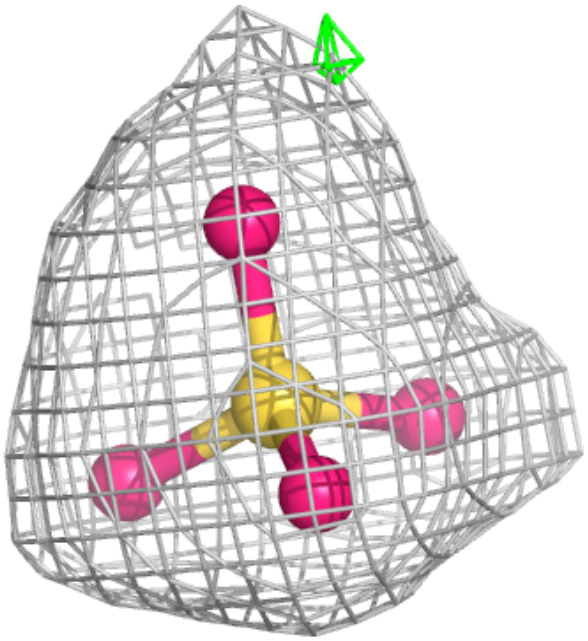
Electron density around SO4 H 703:

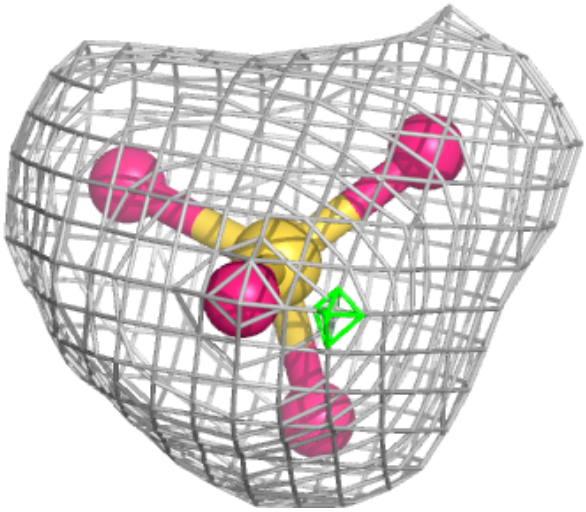
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

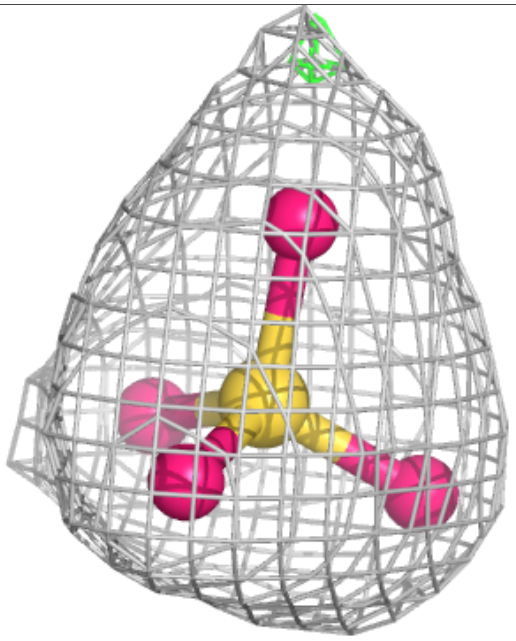


Electron density around SO4 D 703:

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

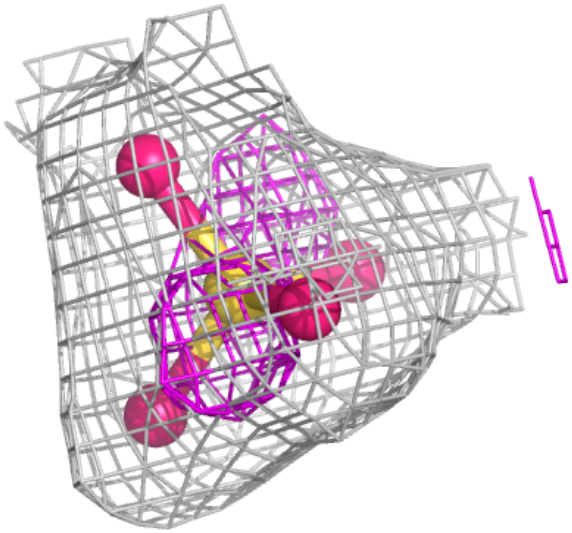


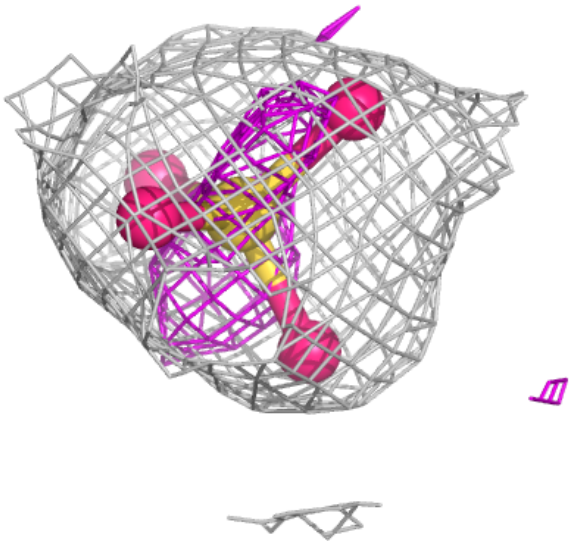


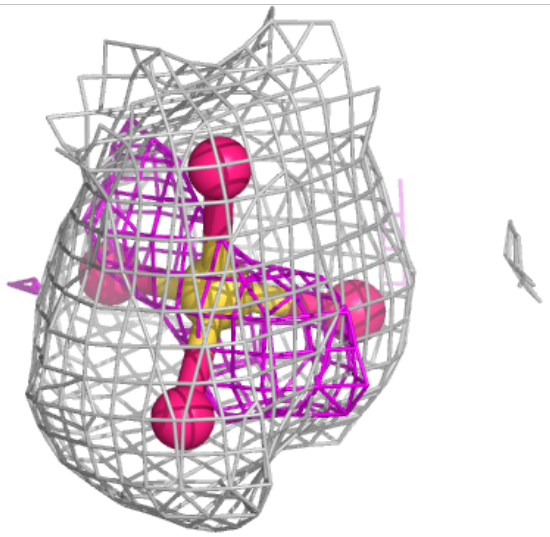


Electron density around SO4 D 704:

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

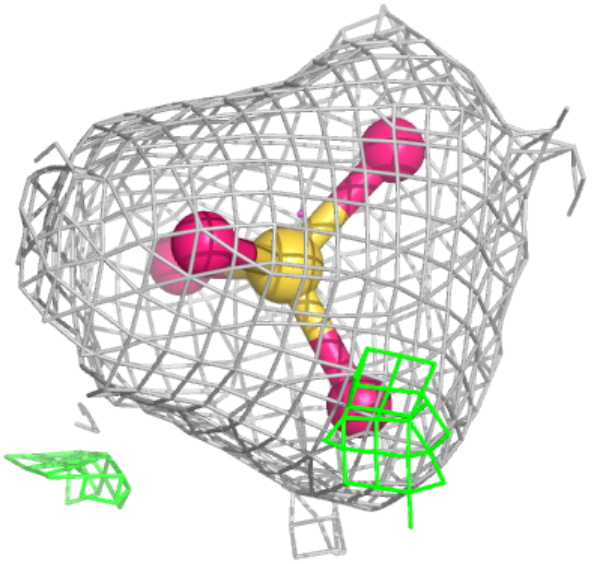


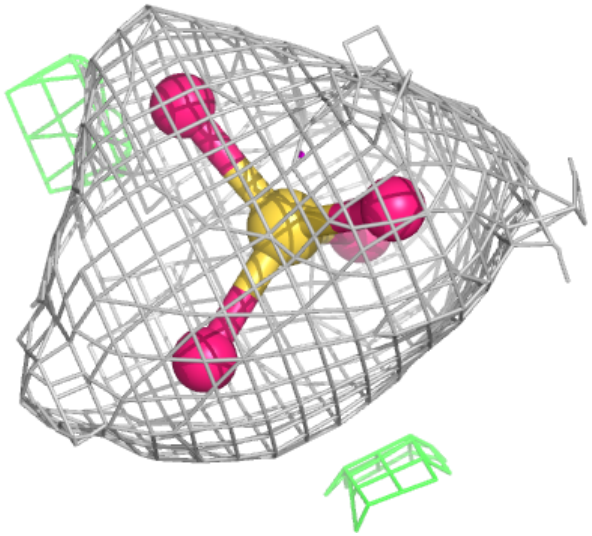


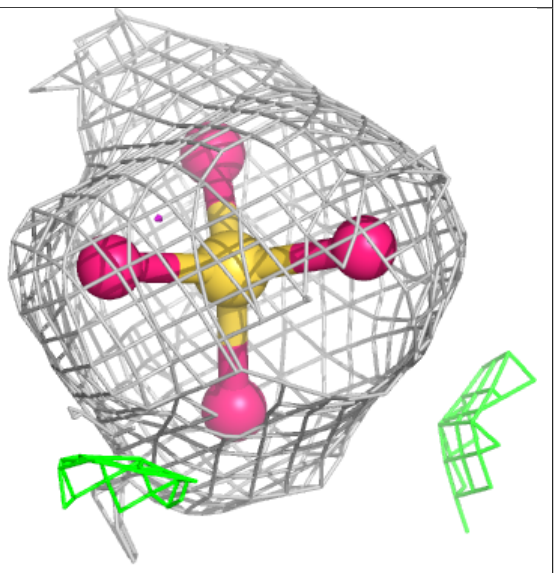


Electron density around SO4 C 703:

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

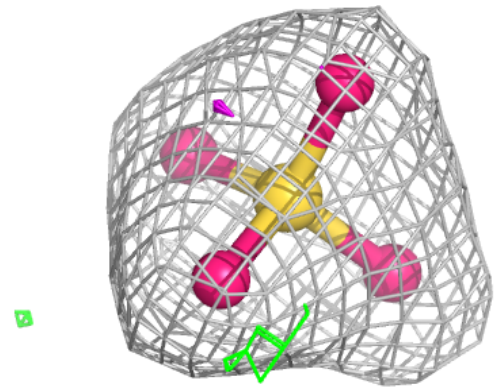


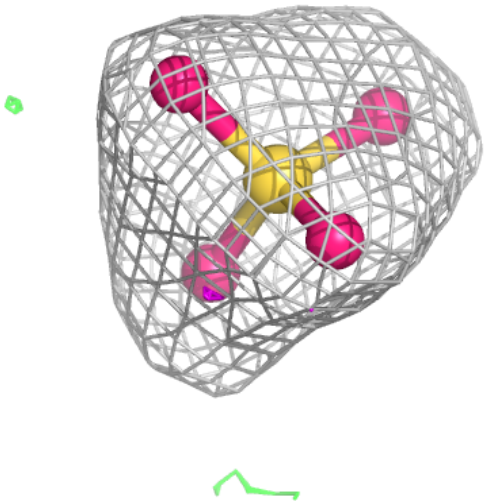


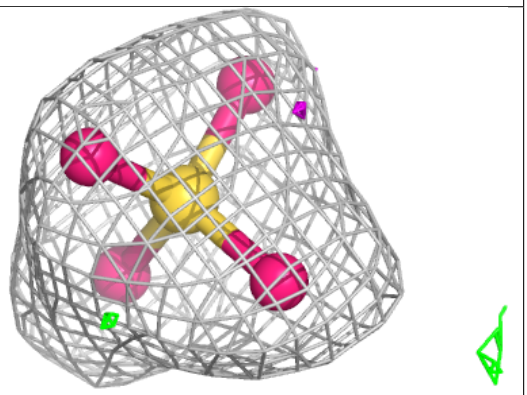


Electron density around SO4 F 701:

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

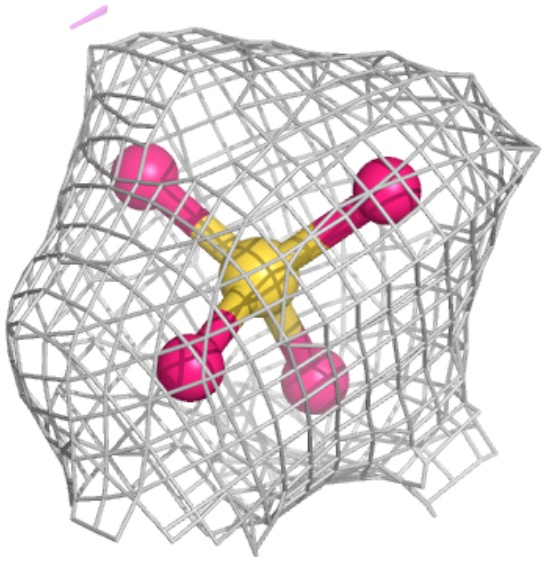


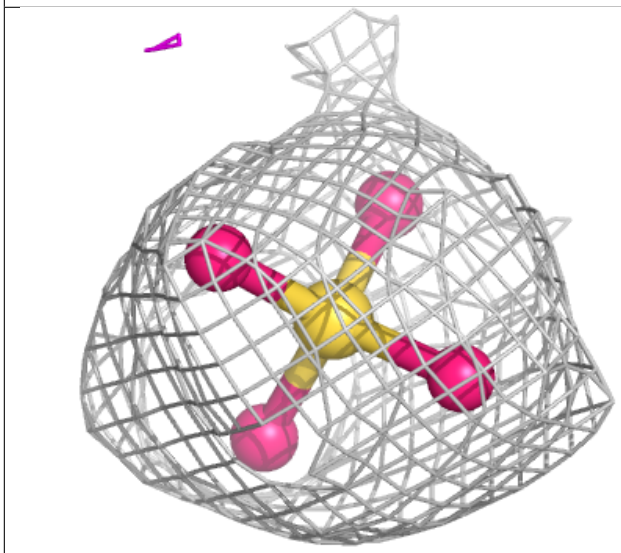


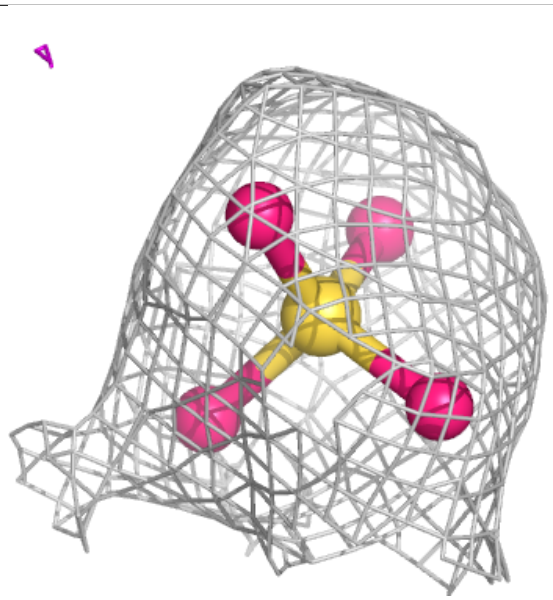


Electron density around SO4 B 709:

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

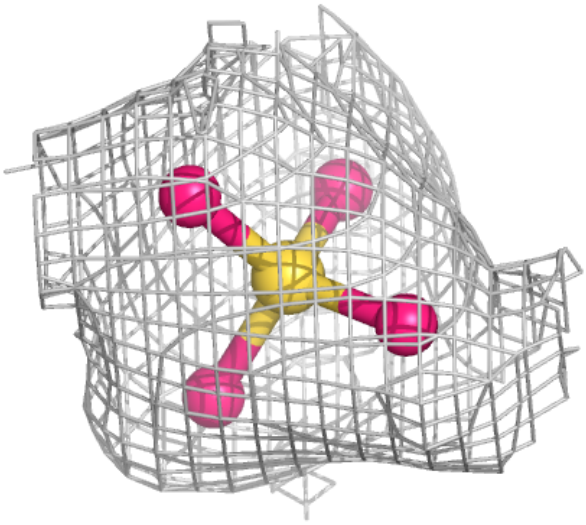


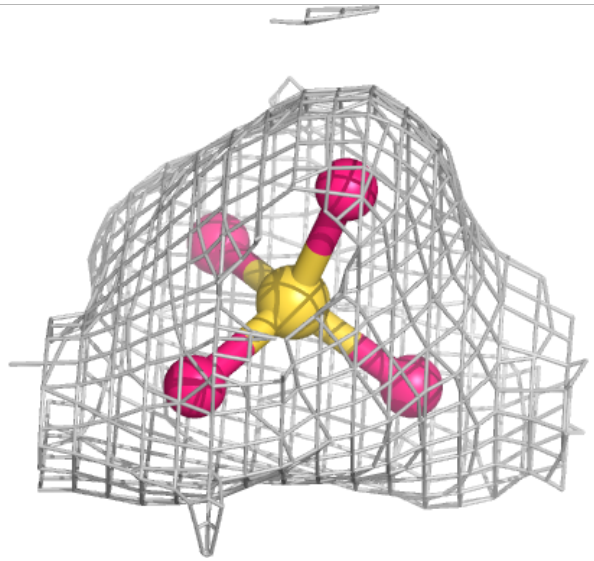


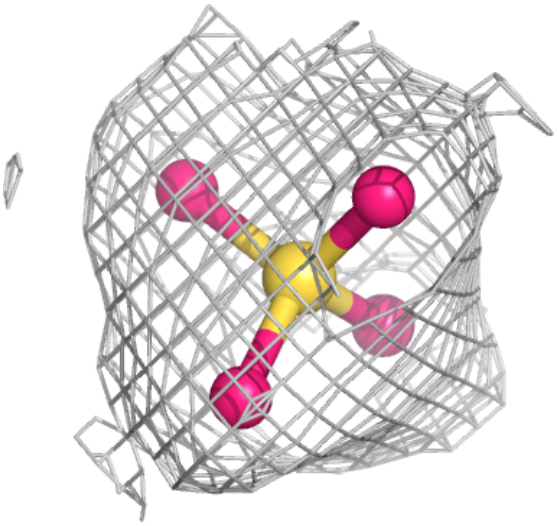


Electron density around SO4 B 710:

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

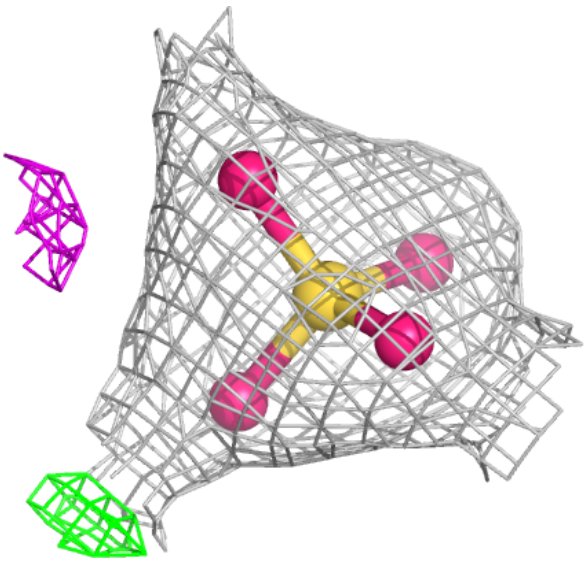


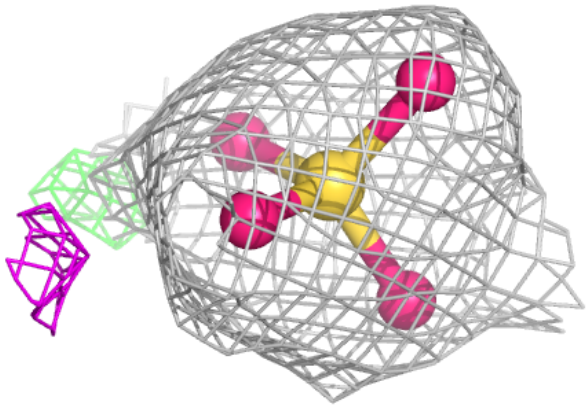


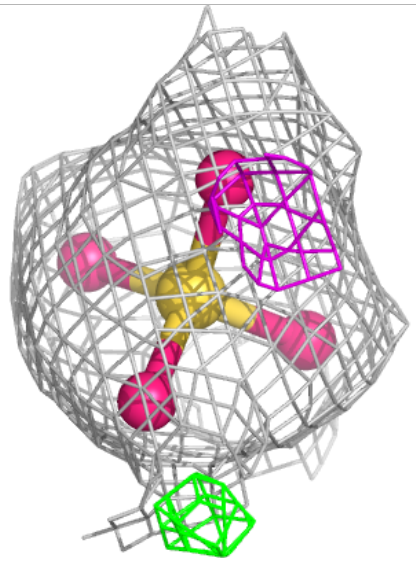


Electron density around SO4 F 704:

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

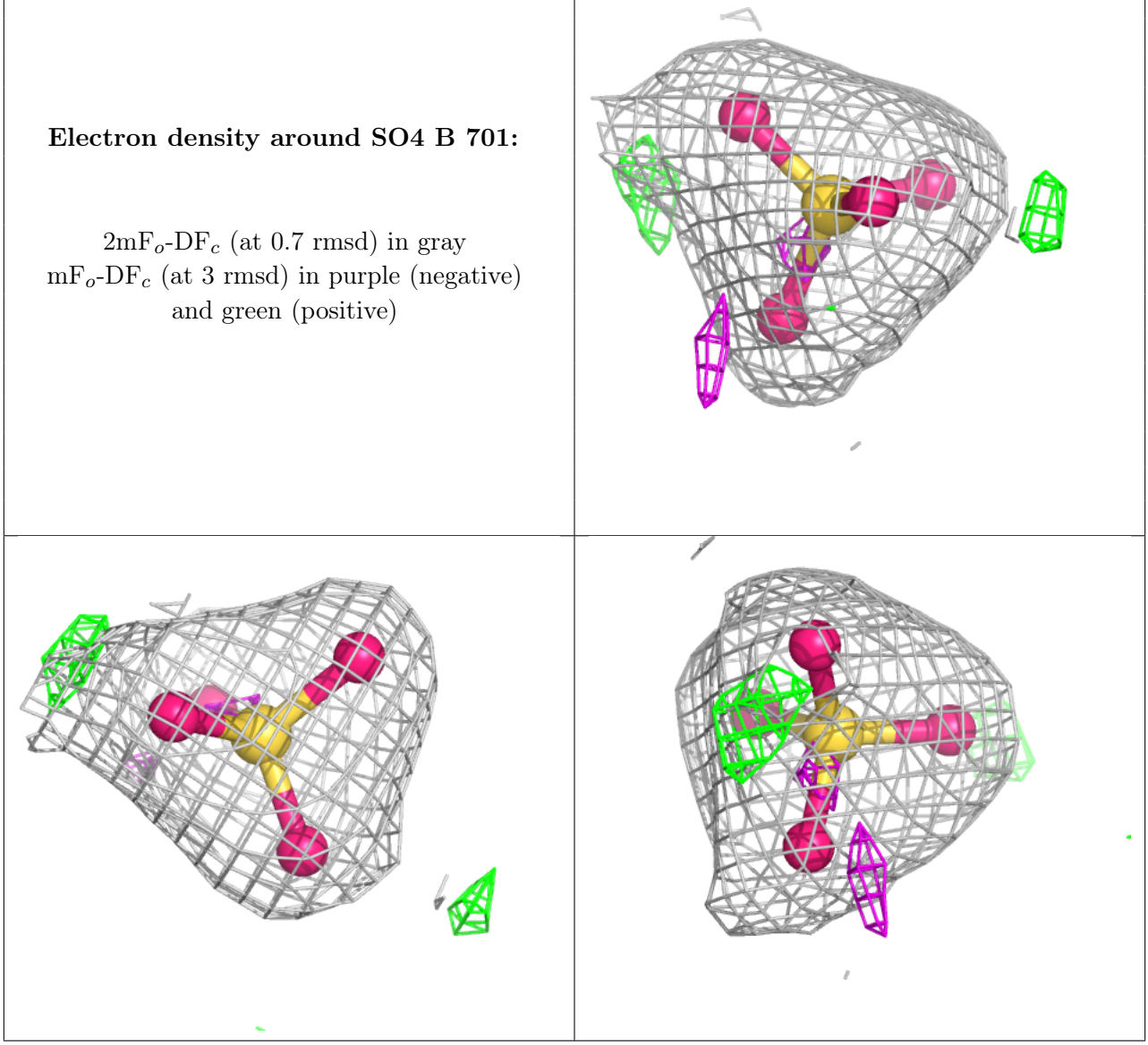






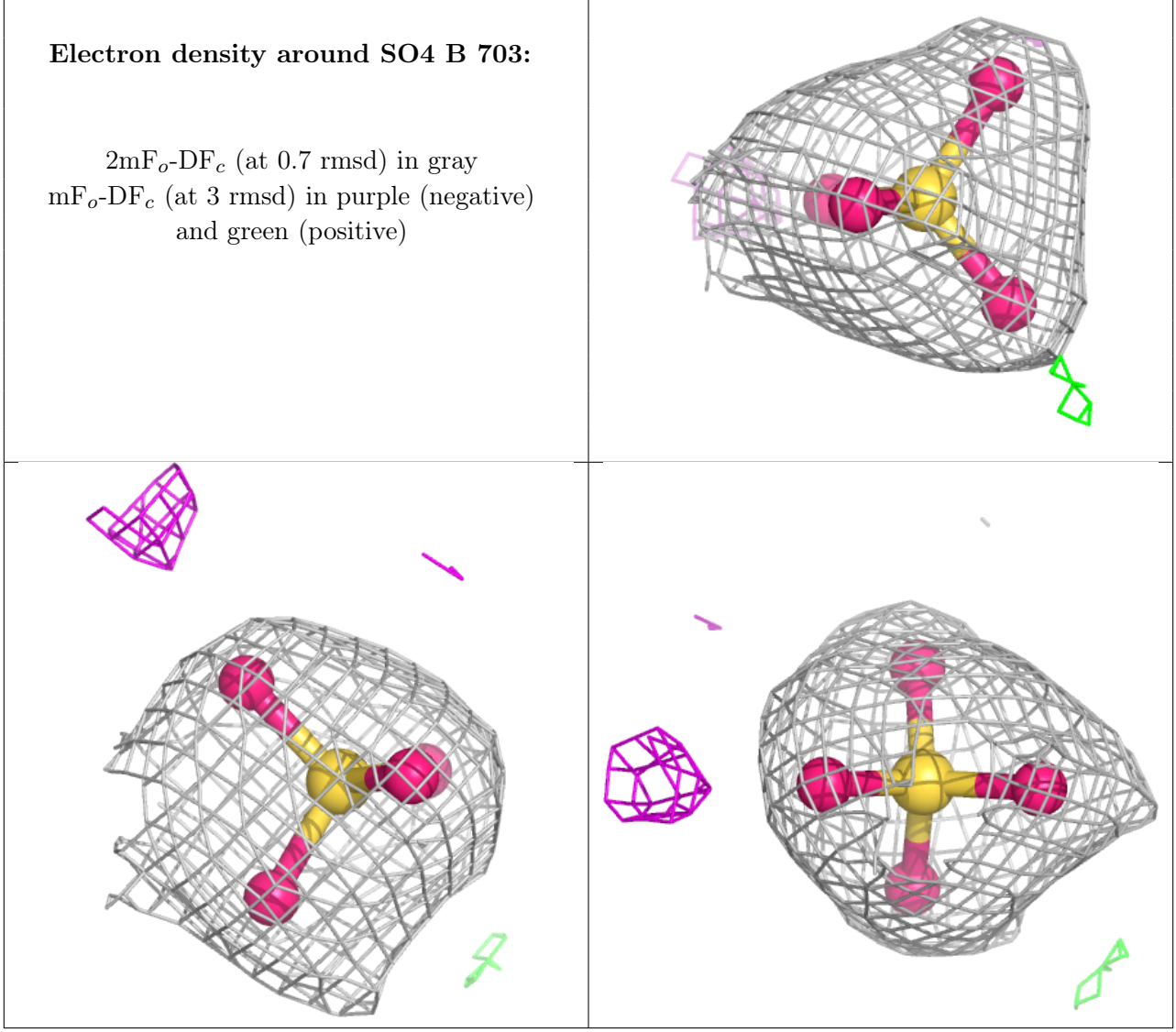
Electron density around SO4 B 701:

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



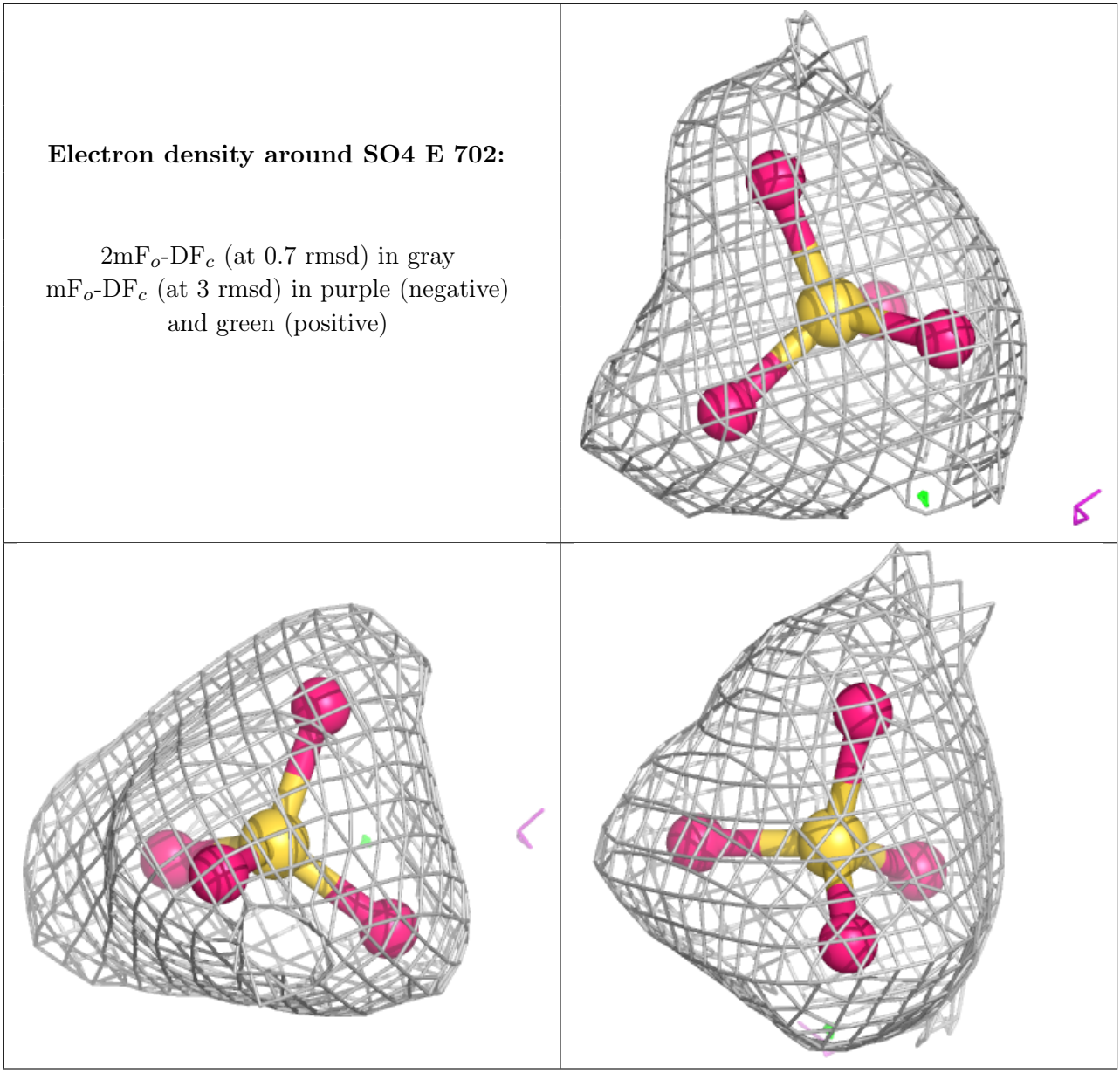
Electron density around SO4 B 703:

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



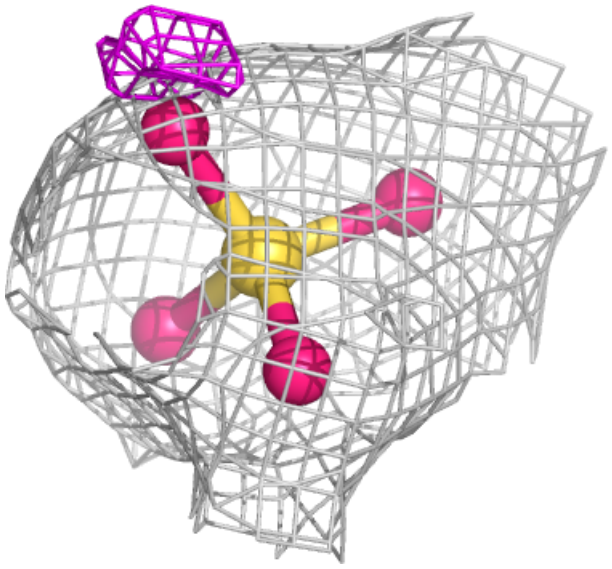
Electron density around SO4 E 702:

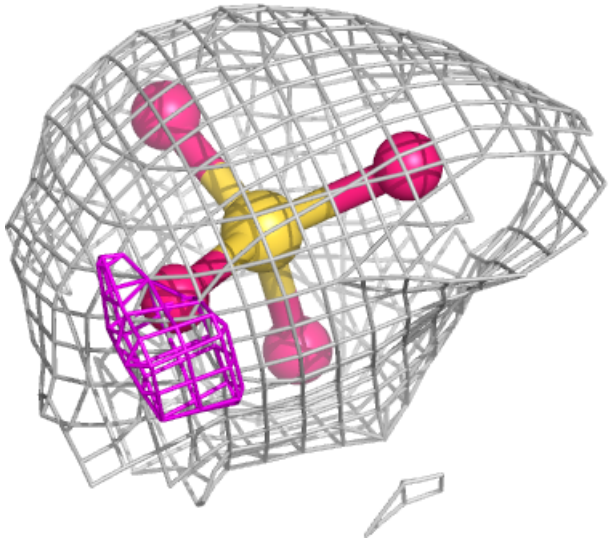
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

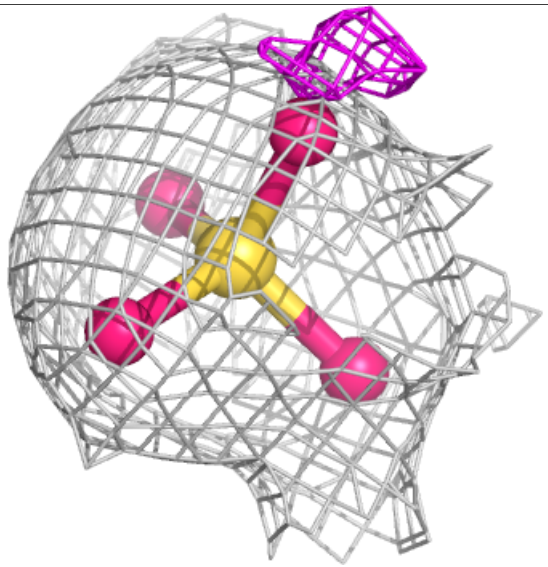


Electron density around SO4 E 703:

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

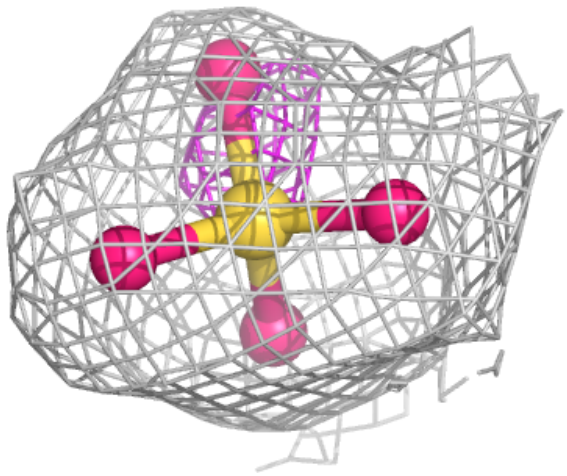


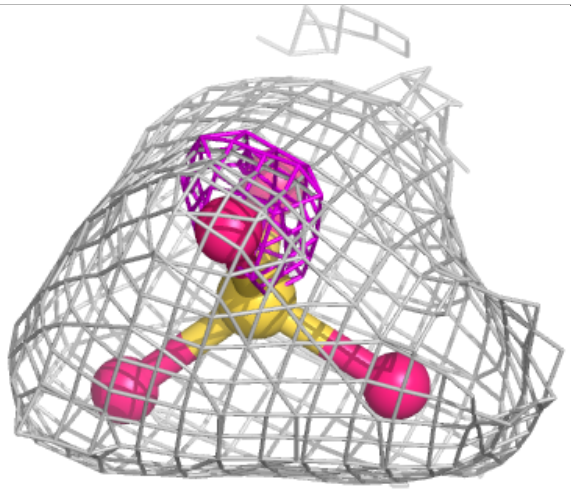


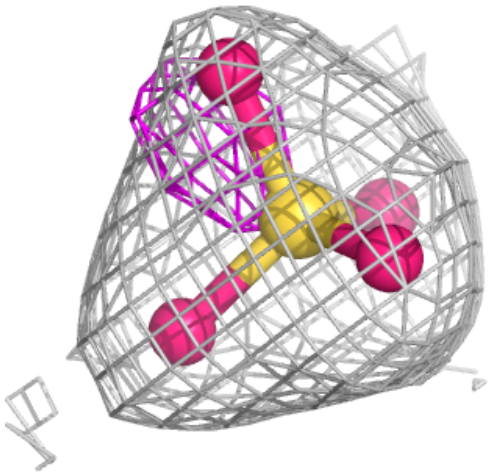


Electron density around SO4 E 704:

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

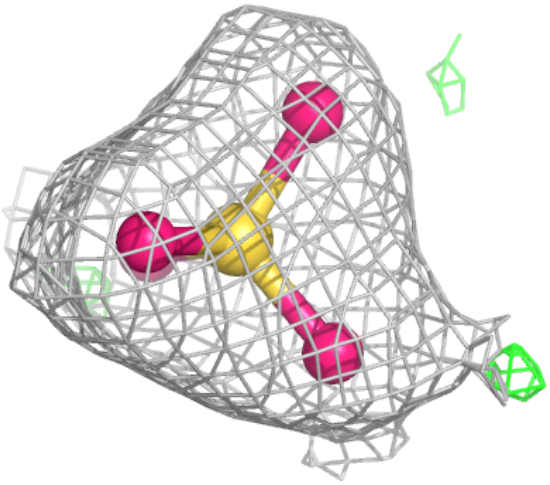


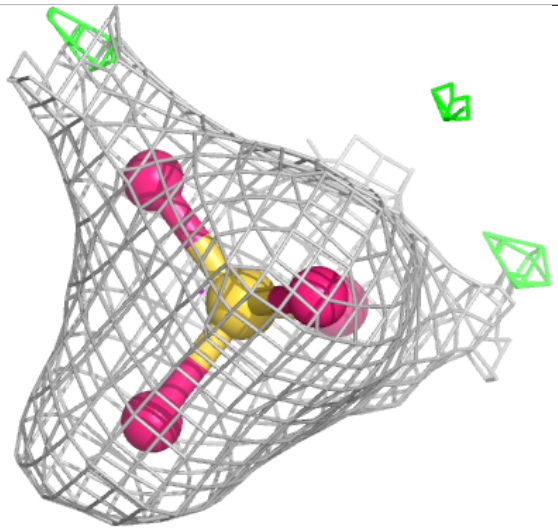


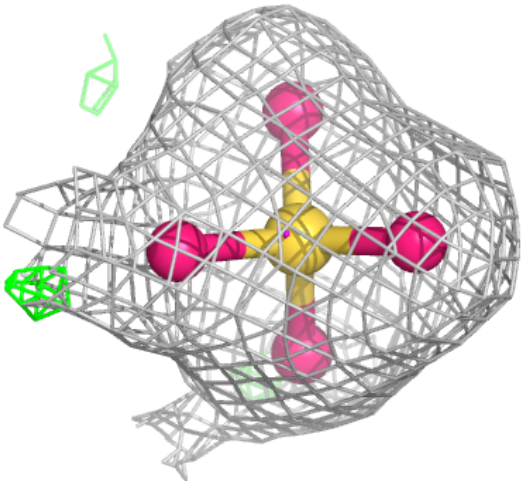


Electron density around SO4 A 701:

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

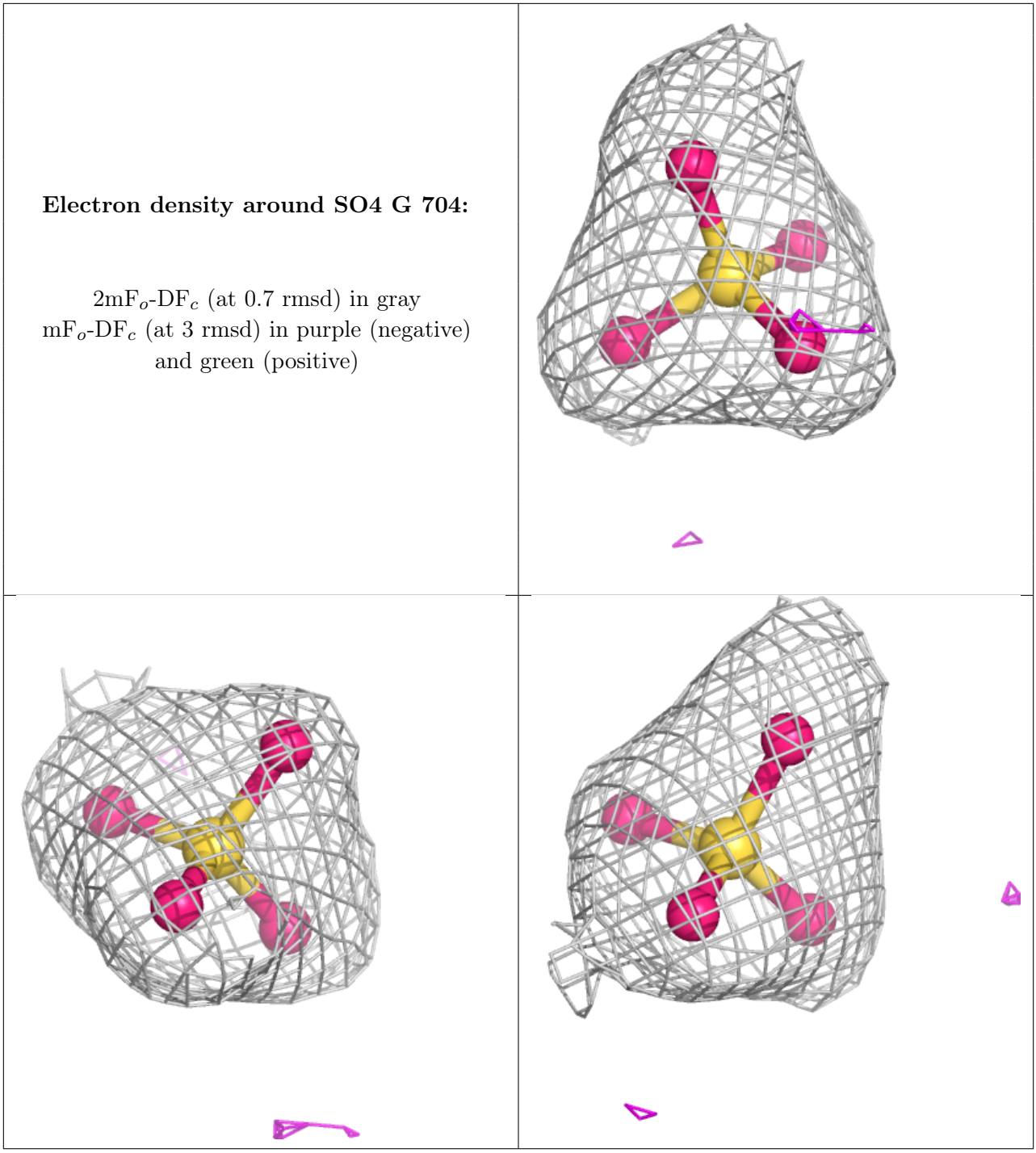






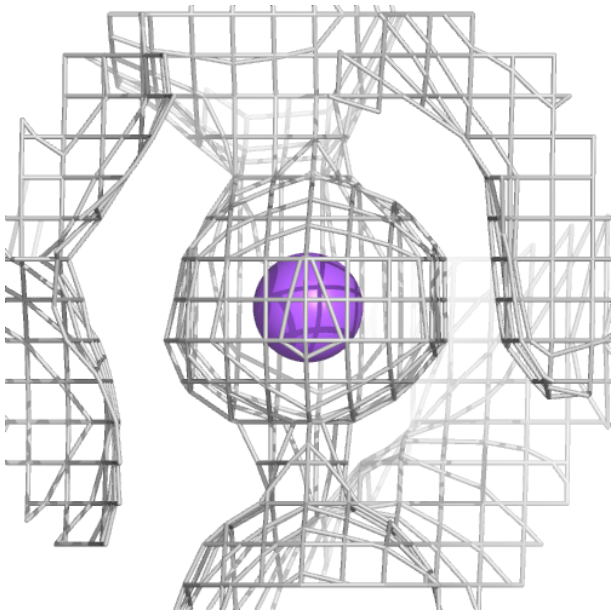
Electron density around SO4 G 704:

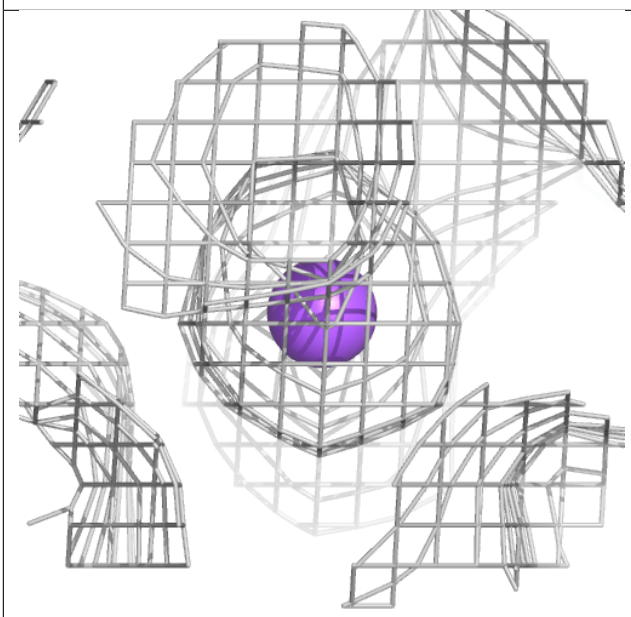
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

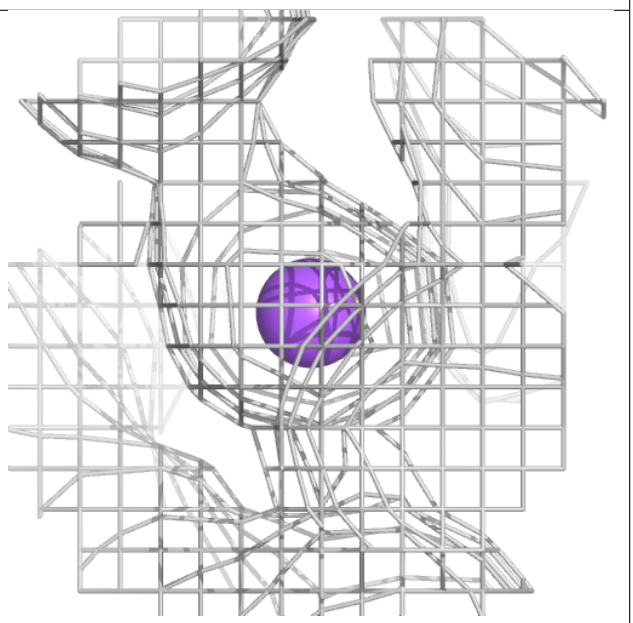


Electron density around NA C 708:

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

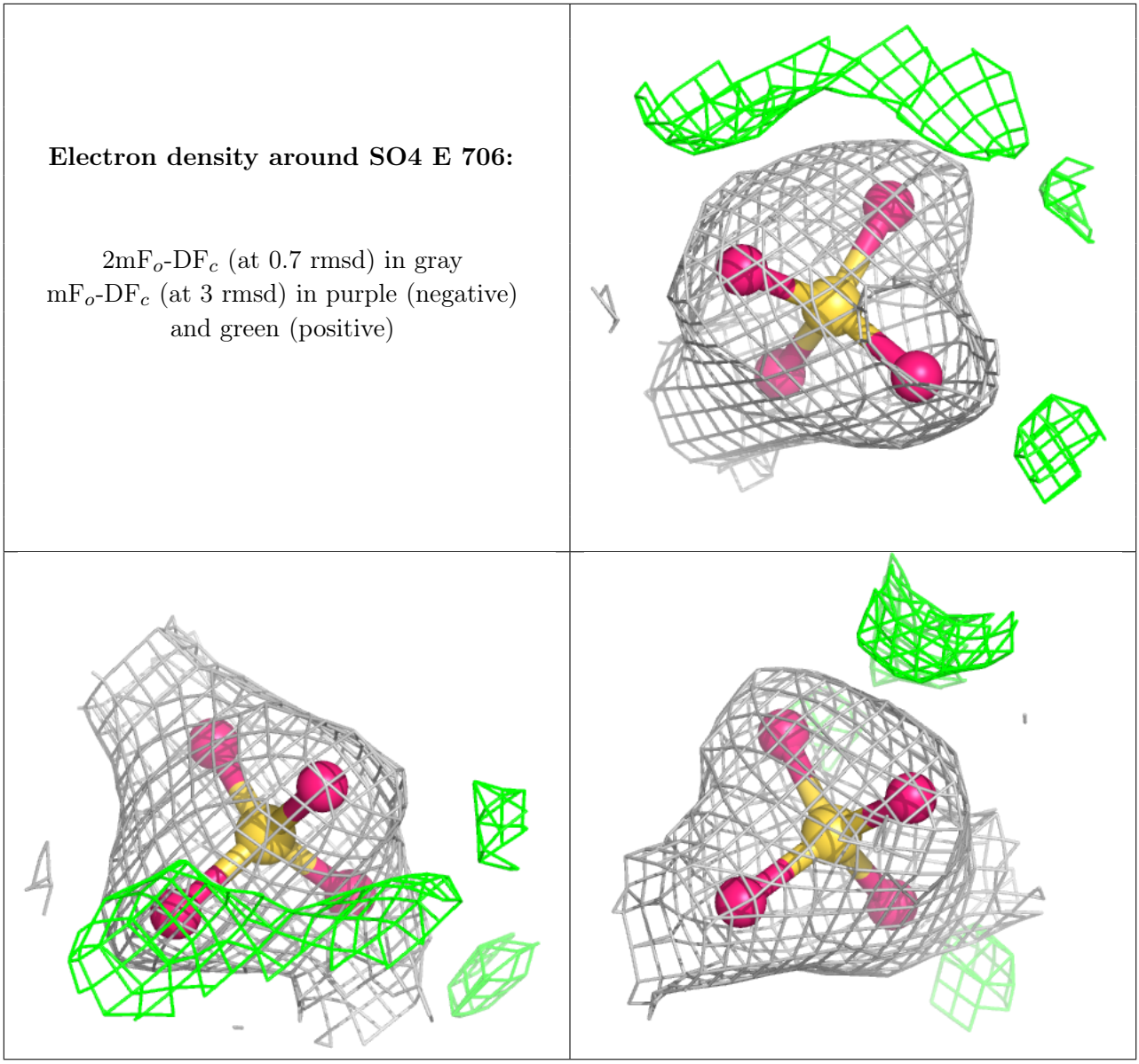






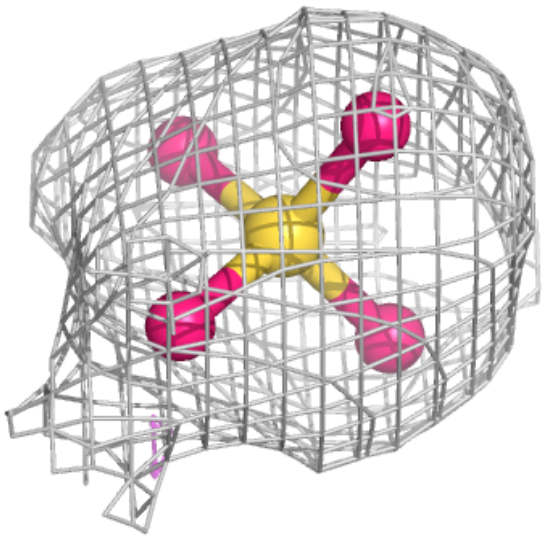
Electron density around SO4 E 706:

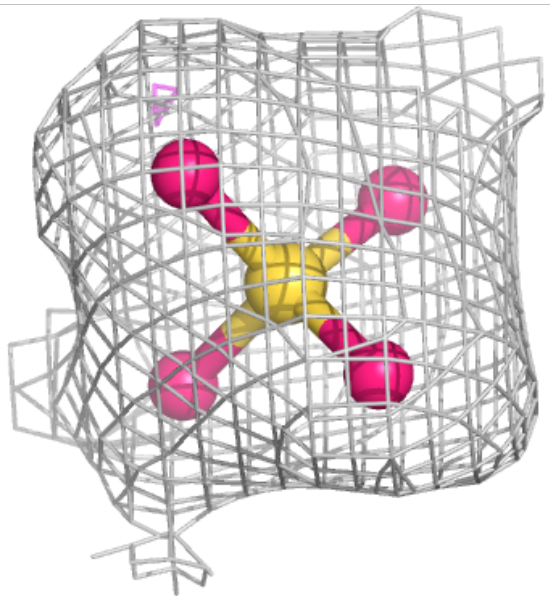
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

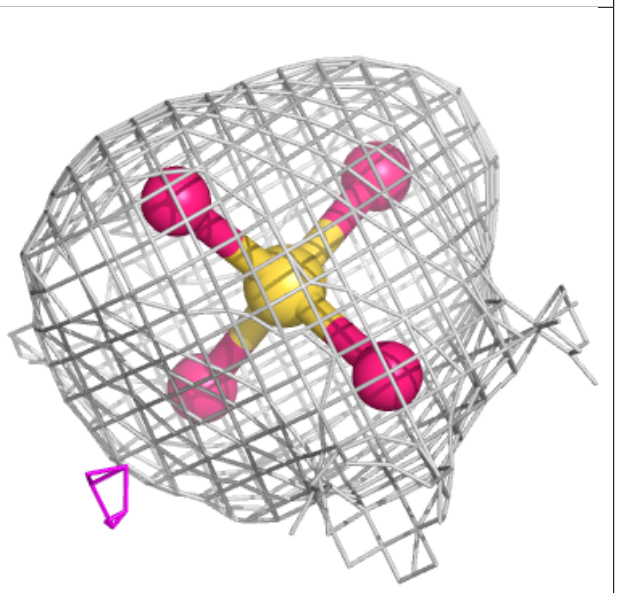


Electron density around SO4 B 702:

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

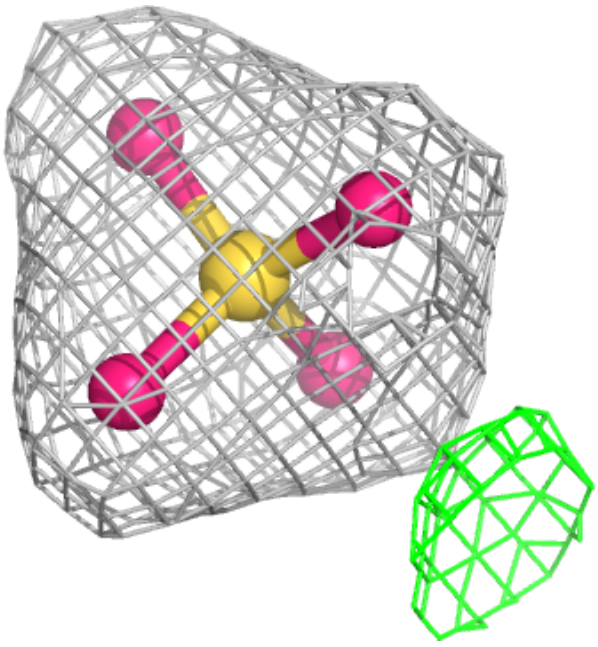


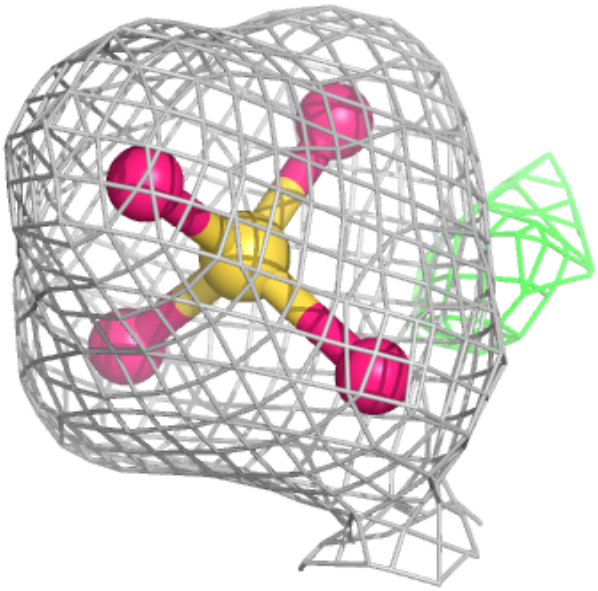


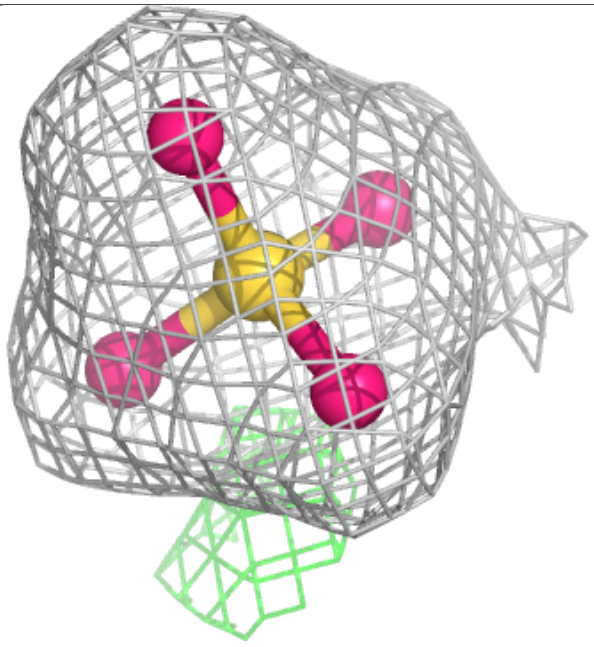


Electron density around SO4 C 701:

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

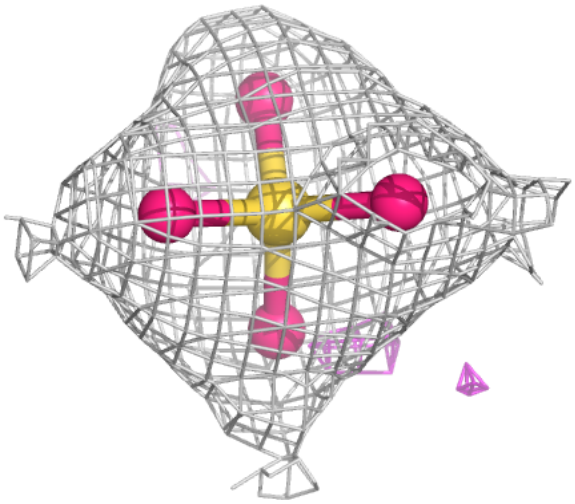


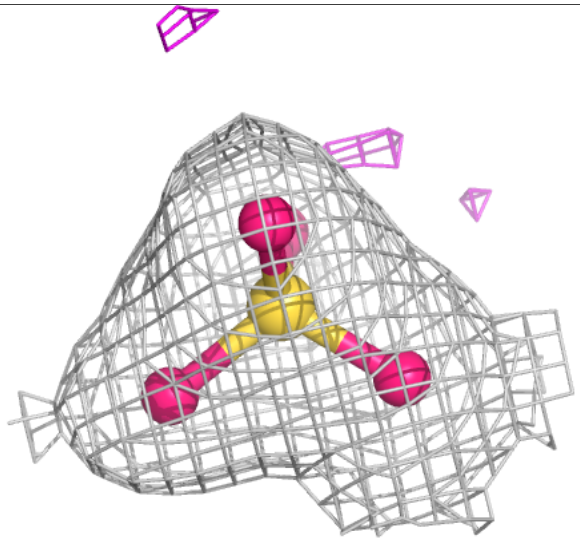


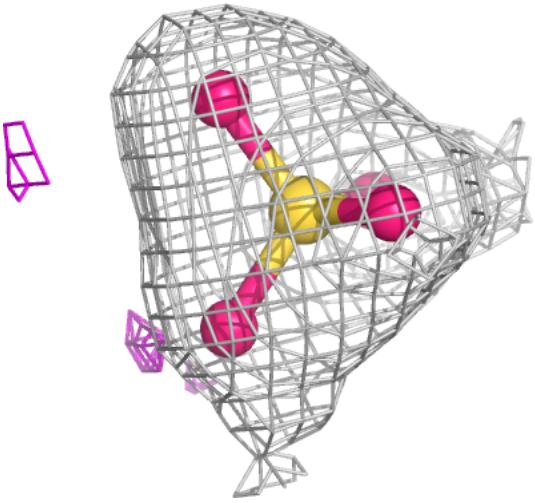


Electron density around SO4 D 701:

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

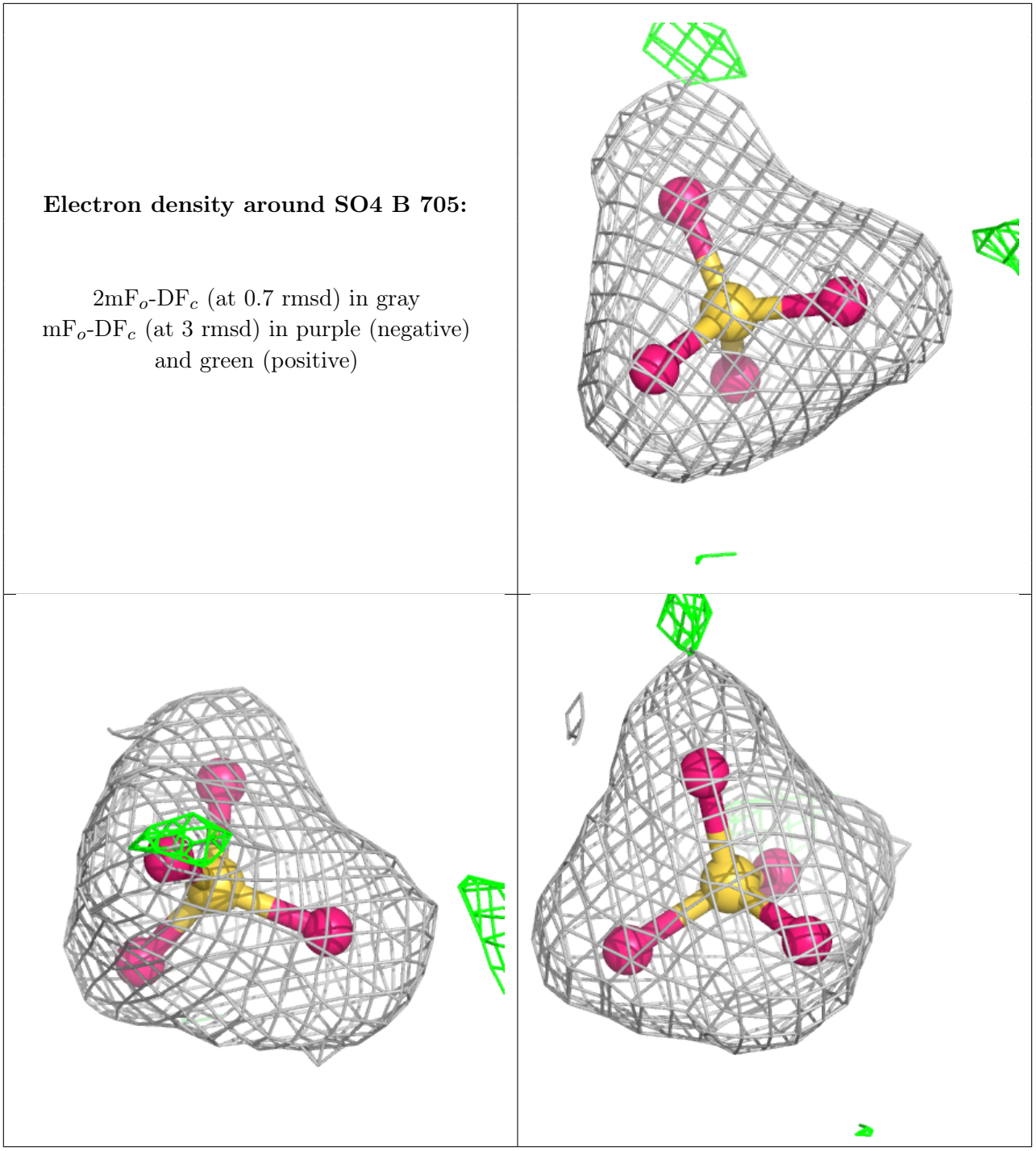






Electron density around SO4 B 705:

$2mF_o$-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.