Full wwPDB X-ray Structure Validation Report ⓘ

Feb 17, 2024 – 09:41 PM EST

PDB ID	:	3VC1
Title	:	Crystal structure of geranyl diphosphate C-methyltransferase from Streptomyces coelicolor A3(2) in complex with Mg2+, geranyl-S-thiolodiphosphate, and S-adenosyl-L-homocysteine
Authors	:	Koksal, M.; Christianson, D.W.
Deposited on	:	2012-01-03
Resolution	:	1.82 Å(reported)

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

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

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

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

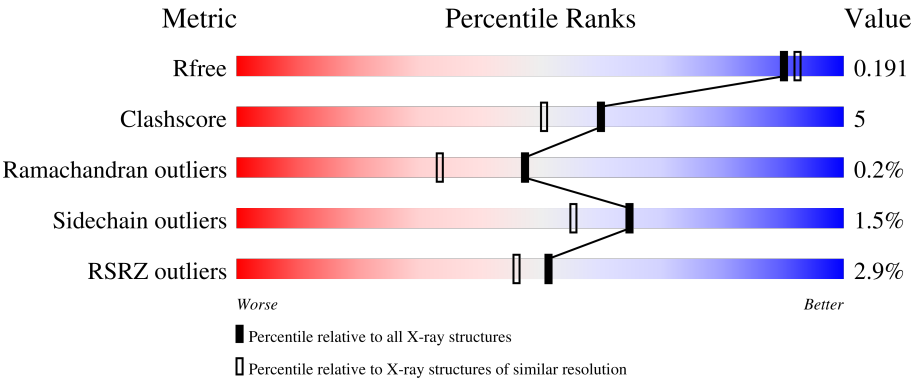
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (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 1.82 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	7484 (1.84-1.80)
Clashscore	141614	8401 (1.84-1.80)
Ramachandran outliers	138981	8290 (1.84-1.80)
Sidechain outliers	138945	8290 (1.84-1.80)
RSRZ outliers	127900	7371 (1.84-1.80)

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	312	2% 80% 8% 11%
1	B	312	81% 8% 11%
1	C	312	% 79% 10% 11%
1	D	312	3% 83% 9% 8%

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Mol	Chain	Length	Quality of chain
1	E	312	2% 81% 8% 11%
1	F	312	7% 75% 13% 11%
1	G	312	4% 80% 8% 11%
1	H	312	% 81% 7% 11%
1	I	312	3% 80% 8% 11%
1	J	312	3% 79% 9% 12%
1	K	312	4% 80% 9% 11%
1	L	312	2% 80% 9% 11%

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
5	GOL	A	304	-	-	X	-
5	GOL	E	305[A]	-	-	X	-

2 Entry composition (i)

There are 7 unique types of molecules in this entry. The entry contains 29215 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 Geranyl diphosphate 2-C-methyltransferase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	277	Total	C	N	O	S	0	2	0
			2209	1378	407	414	10			
1	B	278	Total	C	N	O	S	0	3	0
			2217	1383	408	416	10			
1	C	278	Total	C	N	O	S	0	3	0
			2217	1383	408	416	10			
1	D	288	Total	C	N	O	S	0	5	0
			2293	1428	423	432	10			
1	E	278	Total	C	N	O	S	0	1	0
			2214	1381	408	415	10			
1	F	278	Total	C	N	O	S	0	2	0
			2216	1383	408	415	10			
1	G	278	Total	C	N	O	S	0	4	0
			2220	1387	408	415	10			
1	H	278	Total	C	N	O	S	0	2	0
			2216	1383	408	415	10			
1	I	278	Total	C	N	O	S	0	2	0
			2219	1384	410	415	10			
1	J	276	Total	C	N	O	S	0	2	0
			2204	1375	406	413	10			
1	K	278	Total	C	N	O	S	0	3	0
			2219	1384	408	417	10			
1	L	278	Total	C	N	O	S	0	1	0
			2214	1381	408	415	10			

There are 240 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-19	MET	-	expression tag	UNP Q9F1Y5
A	-18	GLY	-	expression tag	UNP Q9F1Y5
A	-17	SER	-	expression tag	UNP Q9F1Y5
A	-16	SER	-	expression tag	UNP Q9F1Y5
A	-15	HIS	-	expression tag	UNP Q9F1Y5

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-14	HIS	-	expression tag	UNP Q9F1Y5
A	-13	HIS	-	expression tag	UNP Q9F1Y5
A	-12	HIS	-	expression tag	UNP Q9F1Y5
A	-11	HIS	-	expression tag	UNP Q9F1Y5
A	-10	HIS	-	expression tag	UNP Q9F1Y5
A	-9	SER	-	expression tag	UNP Q9F1Y5
A	-8	SER	-	expression tag	UNP Q9F1Y5
A	-7	GLY	-	expression tag	UNP Q9F1Y5
A	-6	LEU	-	expression tag	UNP Q9F1Y5
A	-5	VAL	-	expression tag	UNP Q9F1Y5
A	-4	PRO	-	expression tag	UNP Q9F1Y5
A	-3	ARG	-	expression tag	UNP Q9F1Y5
A	-2	GLY	-	expression tag	UNP Q9F1Y5
A	-1	SER	-	expression tag	UNP Q9F1Y5
A	0	HIS	-	expression tag	UNP Q9F1Y5
B	-19	MET	-	expression tag	UNP Q9F1Y5
B	-18	GLY	-	expression tag	UNP Q9F1Y5
B	-17	SER	-	expression tag	UNP Q9F1Y5
B	-16	SER	-	expression tag	UNP Q9F1Y5
B	-15	HIS	-	expression tag	UNP Q9F1Y5
B	-14	HIS	-	expression tag	UNP Q9F1Y5
B	-13	HIS	-	expression tag	UNP Q9F1Y5
B	-12	HIS	-	expression tag	UNP Q9F1Y5
B	-11	HIS	-	expression tag	UNP Q9F1Y5
B	-10	HIS	-	expression tag	UNP Q9F1Y5
B	-9	SER	-	expression tag	UNP Q9F1Y5
B	-8	SER	-	expression tag	UNP Q9F1Y5
B	-7	GLY	-	expression tag	UNP Q9F1Y5
B	-6	LEU	-	expression tag	UNP Q9F1Y5
B	-5	VAL	-	expression tag	UNP Q9F1Y5
B	-4	PRO	-	expression tag	UNP Q9F1Y5
B	-3	ARG	-	expression tag	UNP Q9F1Y5
B	-2	GLY	-	expression tag	UNP Q9F1Y5
B	-1	SER	-	expression tag	UNP Q9F1Y5
B	0	HIS	-	expression tag	UNP Q9F1Y5
C	-19	MET	-	expression tag	UNP Q9F1Y5
C	-18	GLY	-	expression tag	UNP Q9F1Y5
C	-17	SER	-	expression tag	UNP Q9F1Y5
C	-16	SER	-	expression tag	UNP Q9F1Y5
C	-15	HIS	-	expression tag	UNP Q9F1Y5
C	-14	HIS	-	expression tag	UNP Q9F1Y5
C	-13	HIS	-	expression tag	UNP Q9F1Y5

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Chain	Residue	Modelled	Actual	Comment	Reference
C	-12	HIS	-	expression tag	UNP Q9F1Y5
C	-11	HIS	-	expression tag	UNP Q9F1Y5
C	-10	HIS	-	expression tag	UNP Q9F1Y5
C	-9	SER	-	expression tag	UNP Q9F1Y5
C	-8	SER	-	expression tag	UNP Q9F1Y5
C	-7	GLY	-	expression tag	UNP Q9F1Y5
C	-6	LEU	-	expression tag	UNP Q9F1Y5
C	-5	VAL	-	expression tag	UNP Q9F1Y5
C	-4	PRO	-	expression tag	UNP Q9F1Y5
C	-3	ARG	-	expression tag	UNP Q9F1Y5
C	-2	GLY	-	expression tag	UNP Q9F1Y5
C	-1	SER	-	expression tag	UNP Q9F1Y5
C	0	HIS	-	expression tag	UNP Q9F1Y5
D	-19	MET	-	expression tag	UNP Q9F1Y5
D	-18	GLY	-	expression tag	UNP Q9F1Y5
D	-17	SER	-	expression tag	UNP Q9F1Y5
D	-16	SER	-	expression tag	UNP Q9F1Y5
D	-15	HIS	-	expression tag	UNP Q9F1Y5
D	-14	HIS	-	expression tag	UNP Q9F1Y5
D	-13	HIS	-	expression tag	UNP Q9F1Y5
D	-12	HIS	-	expression tag	UNP Q9F1Y5
D	-11	HIS	-	expression tag	UNP Q9F1Y5
D	-10	HIS	-	expression tag	UNP Q9F1Y5
D	-9	SER	-	expression tag	UNP Q9F1Y5
D	-8	SER	-	expression tag	UNP Q9F1Y5
D	-7	GLY	-	expression tag	UNP Q9F1Y5
D	-6	LEU	-	expression tag	UNP Q9F1Y5
D	-5	VAL	-	expression tag	UNP Q9F1Y5
D	-4	PRO	-	expression tag	UNP Q9F1Y5
D	-3	ARG	-	expression tag	UNP Q9F1Y5
D	-2	GLY	-	expression tag	UNP Q9F1Y5
D	-1	SER	-	expression tag	UNP Q9F1Y5
D	0	HIS	-	expression tag	UNP Q9F1Y5
E	-19	MET	-	expression tag	UNP Q9F1Y5
E	-18	GLY	-	expression tag	UNP Q9F1Y5
E	-17	SER	-	expression tag	UNP Q9F1Y5
E	-16	SER	-	expression tag	UNP Q9F1Y5
E	-15	HIS	-	expression tag	UNP Q9F1Y5
E	-14	HIS	-	expression tag	UNP Q9F1Y5
E	-13	HIS	-	expression tag	UNP Q9F1Y5
E	-12	HIS	-	expression tag	UNP Q9F1Y5
E	-11	HIS	-	expression tag	UNP Q9F1Y5

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Chain	Residue	Modelled	Actual	Comment	Reference
E	-10	HIS	-	expression tag	UNP Q9F1Y5
E	-9	SER	-	expression tag	UNP Q9F1Y5
E	-8	SER	-	expression tag	UNP Q9F1Y5
E	-7	GLY	-	expression tag	UNP Q9F1Y5
E	-6	LEU	-	expression tag	UNP Q9F1Y5
E	-5	VAL	-	expression tag	UNP Q9F1Y5
E	-4	PRO	-	expression tag	UNP Q9F1Y5
E	-3	ARG	-	expression tag	UNP Q9F1Y5
E	-2	GLY	-	expression tag	UNP Q9F1Y5
E	-1	SER	-	expression tag	UNP Q9F1Y5
E	0	HIS	-	expression tag	UNP Q9F1Y5
F	-19	MET	-	expression tag	UNP Q9F1Y5
F	-18	GLY	-	expression tag	UNP Q9F1Y5
F	-17	SER	-	expression tag	UNP Q9F1Y5
F	-16	SER	-	expression tag	UNP Q9F1Y5
F	-15	HIS	-	expression tag	UNP Q9F1Y5
F	-14	HIS	-	expression tag	UNP Q9F1Y5
F	-13	HIS	-	expression tag	UNP Q9F1Y5
F	-12	HIS	-	expression tag	UNP Q9F1Y5
F	-11	HIS	-	expression tag	UNP Q9F1Y5
F	-10	HIS	-	expression tag	UNP Q9F1Y5
F	-9	SER	-	expression tag	UNP Q9F1Y5
F	-8	SER	-	expression tag	UNP Q9F1Y5
F	-7	GLY	-	expression tag	UNP Q9F1Y5
F	-6	LEU	-	expression tag	UNP Q9F1Y5
F	-5	VAL	-	expression tag	UNP Q9F1Y5
F	-4	PRO	-	expression tag	UNP Q9F1Y5
F	-3	ARG	-	expression tag	UNP Q9F1Y5
F	-2	GLY	-	expression tag	UNP Q9F1Y5
F	-1	SER	-	expression tag	UNP Q9F1Y5
F	0	HIS	-	expression tag	UNP Q9F1Y5
G	-19	MET	-	expression tag	UNP Q9F1Y5
G	-18	GLY	-	expression tag	UNP Q9F1Y5
G	-17	SER	-	expression tag	UNP Q9F1Y5
G	-16	SER	-	expression tag	UNP Q9F1Y5
G	-15	HIS	-	expression tag	UNP Q9F1Y5
G	-14	HIS	-	expression tag	UNP Q9F1Y5
G	-13	HIS	-	expression tag	UNP Q9F1Y5
G	-12	HIS	-	expression tag	UNP Q9F1Y5
G	-11	HIS	-	expression tag	UNP Q9F1Y5
G	-10	HIS	-	expression tag	UNP Q9F1Y5
G	-9	SER	-	expression tag	UNP Q9F1Y5

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Chain	Residue	Modelled	Actual	Comment	Reference
G	-8	SER	-	expression tag	UNP Q9F1Y5
G	-7	GLY	-	expression tag	UNP Q9F1Y5
G	-6	LEU	-	expression tag	UNP Q9F1Y5
G	-5	VAL	-	expression tag	UNP Q9F1Y5
G	-4	PRO	-	expression tag	UNP Q9F1Y5
G	-3	ARG	-	expression tag	UNP Q9F1Y5
G	-2	GLY	-	expression tag	UNP Q9F1Y5
G	-1	SER	-	expression tag	UNP Q9F1Y5
G	0	HIS	-	expression tag	UNP Q9F1Y5
H	-19	MET	-	expression tag	UNP Q9F1Y5
H	-18	GLY	-	expression tag	UNP Q9F1Y5
H	-17	SER	-	expression tag	UNP Q9F1Y5
H	-16	SER	-	expression tag	UNP Q9F1Y5
H	-15	HIS	-	expression tag	UNP Q9F1Y5
H	-14	HIS	-	expression tag	UNP Q9F1Y5
H	-13	HIS	-	expression tag	UNP Q9F1Y5
H	-12	HIS	-	expression tag	UNP Q9F1Y5
H	-11	HIS	-	expression tag	UNP Q9F1Y5
H	-10	HIS	-	expression tag	UNP Q9F1Y5
H	-9	SER	-	expression tag	UNP Q9F1Y5
H	-8	SER	-	expression tag	UNP Q9F1Y5
H	-7	GLY	-	expression tag	UNP Q9F1Y5
H	-6	LEU	-	expression tag	UNP Q9F1Y5
H	-5	VAL	-	expression tag	UNP Q9F1Y5
H	-4	PRO	-	expression tag	UNP Q9F1Y5
H	-3	ARG	-	expression tag	UNP Q9F1Y5
H	-2	GLY	-	expression tag	UNP Q9F1Y5
H	-1	SER	-	expression tag	UNP Q9F1Y5
H	0	HIS	-	expression tag	UNP Q9F1Y5
I	-19	MET	-	expression tag	UNP Q9F1Y5
I	-18	GLY	-	expression tag	UNP Q9F1Y5
I	-17	SER	-	expression tag	UNP Q9F1Y5
I	-16	SER	-	expression tag	UNP Q9F1Y5
I	-15	HIS	-	expression tag	UNP Q9F1Y5
I	-14	HIS	-	expression tag	UNP Q9F1Y5
I	-13	HIS	-	expression tag	UNP Q9F1Y5
I	-12	HIS	-	expression tag	UNP Q9F1Y5
I	-11	HIS	-	expression tag	UNP Q9F1Y5
I	-10	HIS	-	expression tag	UNP Q9F1Y5
I	-9	SER	-	expression tag	UNP Q9F1Y5
I	-8	SER	-	expression tag	UNP Q9F1Y5
I	-7	GLY	-	expression tag	UNP Q9F1Y5

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Chain	Residue	Modelled	Actual	Comment	Reference
I	-6	LEU	-	expression tag	UNP Q9F1Y5
I	-5	VAL	-	expression tag	UNP Q9F1Y5
I	-4	PRO	-	expression tag	UNP Q9F1Y5
I	-3	ARG	-	expression tag	UNP Q9F1Y5
I	-2	GLY	-	expression tag	UNP Q9F1Y5
I	-1	SER	-	expression tag	UNP Q9F1Y5
I	0	HIS	-	expression tag	UNP Q9F1Y5
J	-19	MET	-	expression tag	UNP Q9F1Y5
J	-18	GLY	-	expression tag	UNP Q9F1Y5
J	-17	SER	-	expression tag	UNP Q9F1Y5
J	-16	SER	-	expression tag	UNP Q9F1Y5
J	-15	HIS	-	expression tag	UNP Q9F1Y5
J	-14	HIS	-	expression tag	UNP Q9F1Y5
J	-13	HIS	-	expression tag	UNP Q9F1Y5
J	-12	HIS	-	expression tag	UNP Q9F1Y5
J	-11	HIS	-	expression tag	UNP Q9F1Y5
J	-10	HIS	-	expression tag	UNP Q9F1Y5
J	-9	SER	-	expression tag	UNP Q9F1Y5
J	-8	SER	-	expression tag	UNP Q9F1Y5
J	-7	GLY	-	expression tag	UNP Q9F1Y5
J	-6	LEU	-	expression tag	UNP Q9F1Y5
J	-5	VAL	-	expression tag	UNP Q9F1Y5
J	-4	PRO	-	expression tag	UNP Q9F1Y5
J	-3	ARG	-	expression tag	UNP Q9F1Y5
J	-2	GLY	-	expression tag	UNP Q9F1Y5
J	-1	SER	-	expression tag	UNP Q9F1Y5
J	0	HIS	-	expression tag	UNP Q9F1Y5
K	-19	MET	-	expression tag	UNP Q9F1Y5
K	-18	GLY	-	expression tag	UNP Q9F1Y5
K	-17	SER	-	expression tag	UNP Q9F1Y5
K	-16	SER	-	expression tag	UNP Q9F1Y5
K	-15	HIS	-	expression tag	UNP Q9F1Y5
K	-14	HIS	-	expression tag	UNP Q9F1Y5
K	-13	HIS	-	expression tag	UNP Q9F1Y5
K	-12	HIS	-	expression tag	UNP Q9F1Y5
K	-11	HIS	-	expression tag	UNP Q9F1Y5
K	-10	HIS	-	expression tag	UNP Q9F1Y5
K	-9	SER	-	expression tag	UNP Q9F1Y5
K	-8	SER	-	expression tag	UNP Q9F1Y5
K	-7	GLY	-	expression tag	UNP Q9F1Y5
K	-6	LEU	-	expression tag	UNP Q9F1Y5
K	-5	VAL	-	expression tag	UNP Q9F1Y5

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Chain	Residue	Modelled	Actual	Comment	Reference
K	-4	PRO	-	expression tag	UNP Q9F1Y5
K	-3	ARG	-	expression tag	UNP Q9F1Y5
K	-2	GLY	-	expression tag	UNP Q9F1Y5
K	-1	SER	-	expression tag	UNP Q9F1Y5
K	0	HIS	-	expression tag	UNP Q9F1Y5
L	-19	MET	-	expression tag	UNP Q9F1Y5
L	-18	GLY	-	expression tag	UNP Q9F1Y5
L	-17	SER	-	expression tag	UNP Q9F1Y5
L	-16	SER	-	expression tag	UNP Q9F1Y5
L	-15	HIS	-	expression tag	UNP Q9F1Y5
L	-14	HIS	-	expression tag	UNP Q9F1Y5
L	-13	HIS	-	expression tag	UNP Q9F1Y5
L	-12	HIS	-	expression tag	UNP Q9F1Y5
L	-11	HIS	-	expression tag	UNP Q9F1Y5
L	-10	HIS	-	expression tag	UNP Q9F1Y5
L	-9	SER	-	expression tag	UNP Q9F1Y5
L	-8	SER	-	expression tag	UNP Q9F1Y5
L	-7	GLY	-	expression tag	UNP Q9F1Y5
L	-6	LEU	-	expression tag	UNP Q9F1Y5
L	-5	VAL	-	expression tag	UNP Q9F1Y5
L	-4	PRO	-	expression tag	UNP Q9F1Y5
L	-3	ARG	-	expression tag	UNP Q9F1Y5
L	-2	GLY	-	expression tag	UNP Q9F1Y5
L	-1	SER	-	expression tag	UNP Q9F1Y5
L	0	HIS	-	expression tag	UNP Q9F1Y5

- Molecule 2 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total Mg 1 1	0	0
2	B	1	Total Mg 1 1	0	0
2	C	1	Total Mg 1 1	0	0
2	D	1	Total Mg 1 1	0	0
2	E	1	Total Mg 1 1	0	0
2	F	1	Total Mg 1 1	0	0
2	G	1	Total Mg 1 1	0	0

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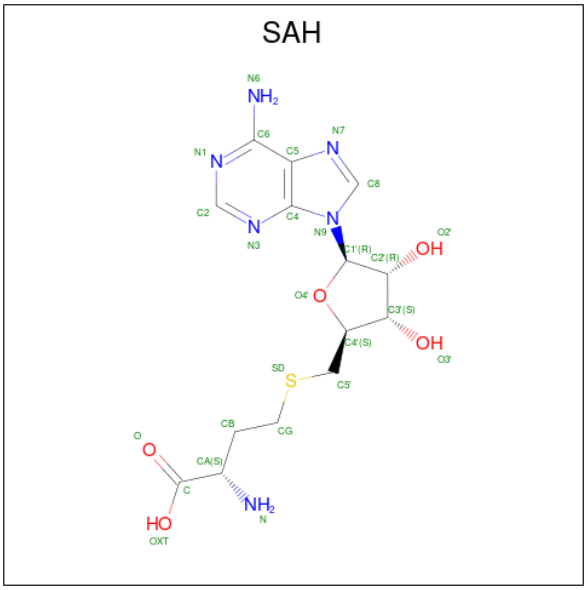
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	H	1	Total Mg 1 1	0	0
2	I	1	Total Mg 1 1	0	0
2	J	1	Total Mg 1 1	0	0
2	K	1	Total Mg 1 1	0	0
2	L	1	Total Mg 1 1	0	0

- Molecule 3 is S-ADENOSYL-L-HOMOCYSTEINE (three-letter code: SAH) (formula: $C_{14}H_{20}N_6O_5S$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C N O S 26 14 6 5 1	0	0
3	B	1	Total C N O S 26 14 6 5 1	0	0
3	C	1	Total C N O S 26 14 6 5 1	0	0
3	D	1	Total C N O S 26 14 6 5 1	0	0
3	E	1	Total C N O S 26 14 6 5 1	0	0
3	F	1	Total C N O S 26 14 6 5 1	0	0

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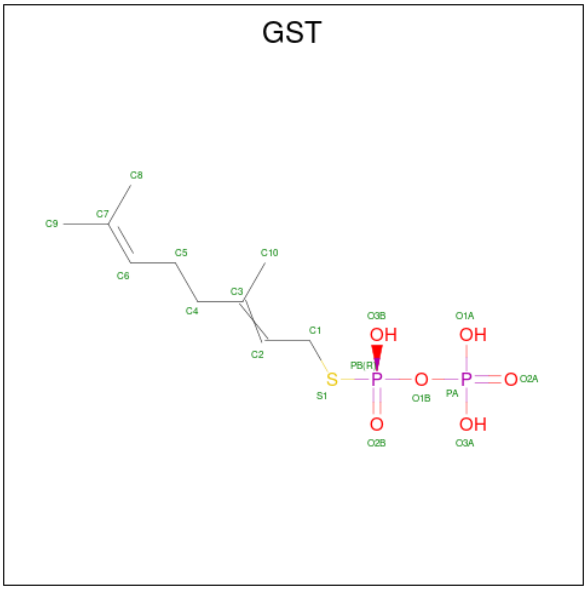
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	G	1	Total	C	N	O	S	0	0
			26	14	6	5	1		
3	H	1	Total	C	N	O	S	0	0
			26	14	6	5	1		
3	I	1	Total	C	N	O	S	0	0
			26	14	6	5	1		
3	J	1	Total	C	N	O	S	0	0
			26	14	6	5	1		
3	K	1	Total	C	N	O	S	0	0
			26	14	6	5	1		
3	L	1	Total	C	N	O	S	0	0
			26	14	6	5	1		

- Molecule 4 is GERANYL S-THIOLODIPHOSPHATE (three-letter code: GST) (formula: $C_{10}H_{20}O_6P_2S$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
4	A	1	Total	C	O	P	S	0	0
			19	10	6	2	1		
4	B	1	Total	C	O	P	S	0	0
			19	10	6	2	1		
4	C	1	Total	C	O	P	S	0	0
			19	10	6	2	1		
4	D	1	Total	C	O	P	S	0	0
			19	10	6	2	1		
4	E	1	Total	C	O	P	S	0	0
			19	10	6	2	1		

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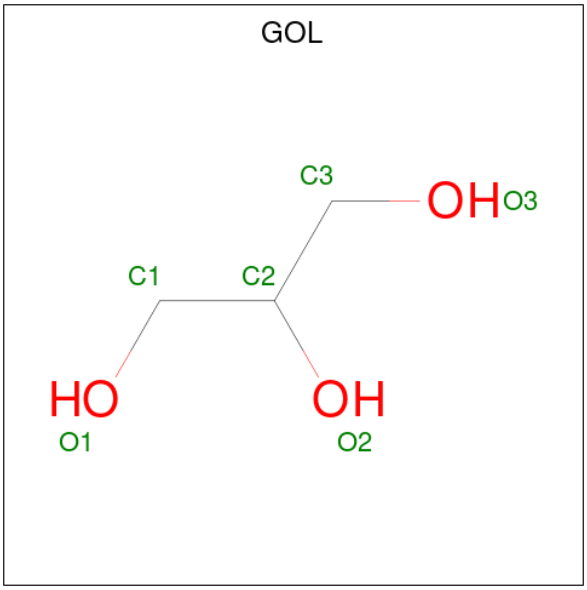
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
4	F	1	Total	C	O	P	S	0	0
			19	10	6	2	1		
4	G	1	Total	C	O	P	S	0	0
			19	10	6	2	1		
4	H	1	Total	C	O	P	S	0	0
			19	10	6	2	1		
4	I	1	Total	C	O	P	S	0	0
			19	10	6	2	1		
4	J	1	Total	C	O	P	S	0	0
			19	10	6	2	1		
4	K	1	Total	C	O	P	S	0	0
			19	10	6	2	1		
4	L	1	Total	C	O	P	S	0	0
			19	10	6	2	1		

- Molecule 5 is GLYCEROL (three-letter code: GOL) (formula: $C_3H_8O_3$).



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

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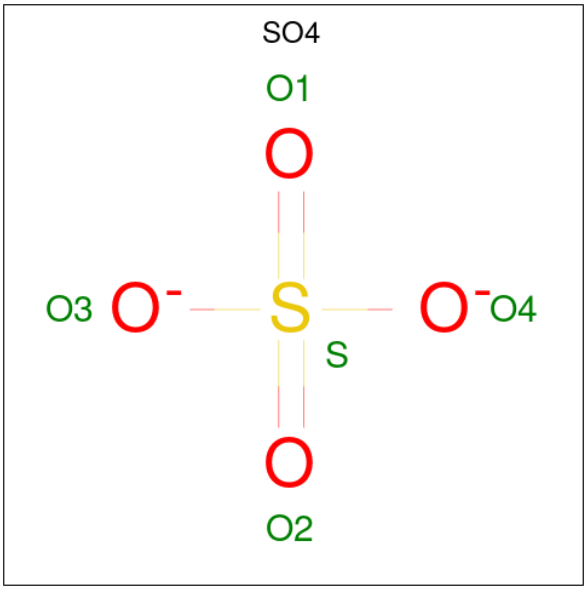
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	C	1	Total C O 6 3 3	0	0
5	C	1	Total C O 6 3 3	0	0
5	D	1	Total C O 6 3 3	0	0
5	E	1	Total C O 12 6 6	0	1
5	E	1	Total C O 6 3 3	0	0
5	F	1	Total C O 6 3 3	0	0
5	G	1	Total C O 6 3 3	0	0
5	H	1	Total C O 6 3 3	0	0
5	I	1	Total C O 6 3 3	0	0
5	J	1	Total C O 6 3 3	0	0
5	L	1	Total C O 6 3 3	0	0

- Molecule 6 is SULFATE ION (three-letter code: SO4) (formula: O_4S).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	E	1	Total O S 5 4 1	0	0

- Molecule 7 is water.

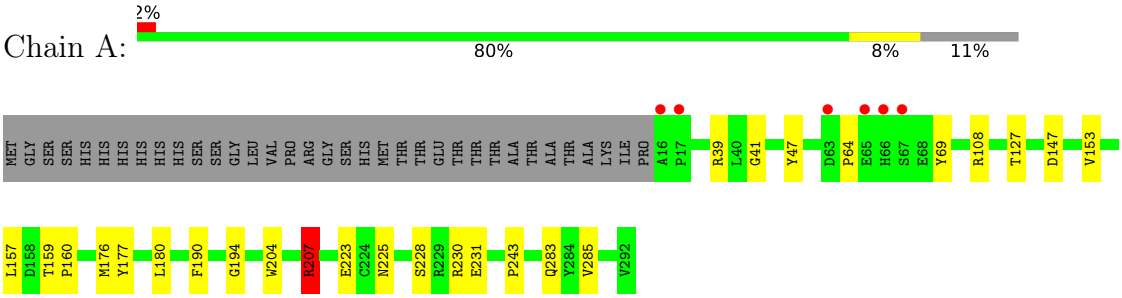
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	A	185	Total O 185 185	0	0
7	B	175	Total O 175 175	0	0
7	C	151	Total O 151 151	0	0
7	D	182	Total O 182 182	0	0
7	E	165	Total O 165 165	0	0
7	F	99	Total O 99 99	0	0
7	G	157	Total O 157 157	0	0
7	H	187	Total O 187 187	0	0
7	I	161	Total O 161 161	0	0
7	J	157	Total O 157 157	0	0
7	K	133	Total O 133 133	0	0
7	L	152	Total O 152 152	0	0

3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

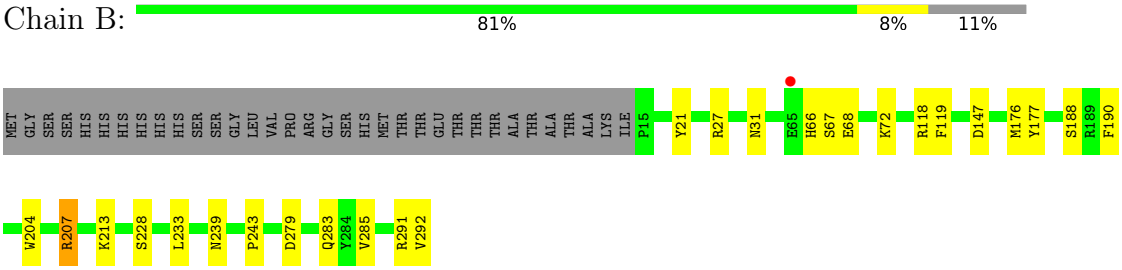
• Molecule 1: Geranyl diphosphate 2-C-methyltransferase

Chain A:



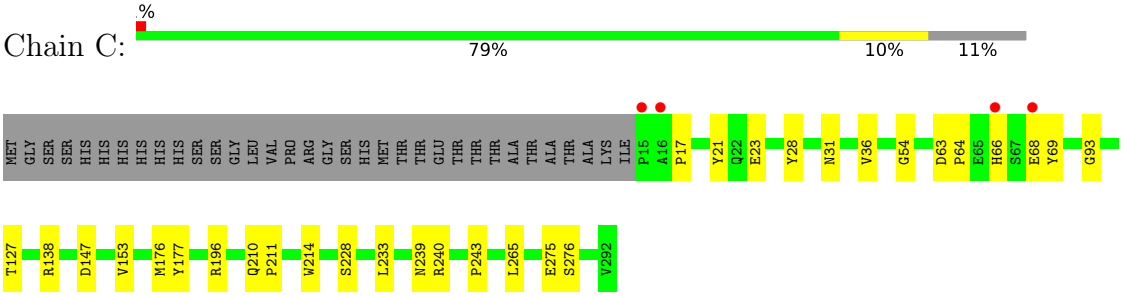
• Molecule 1: Geranyl diphosphate 2-C-methyltransferase

Chain B:



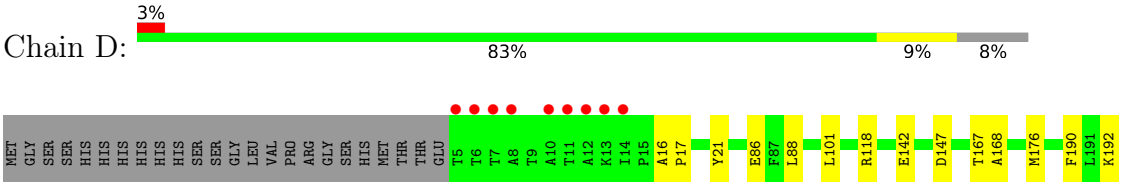
• Molecule 1: Geranyl diphosphate 2-C-methyltransferase

Chain C:

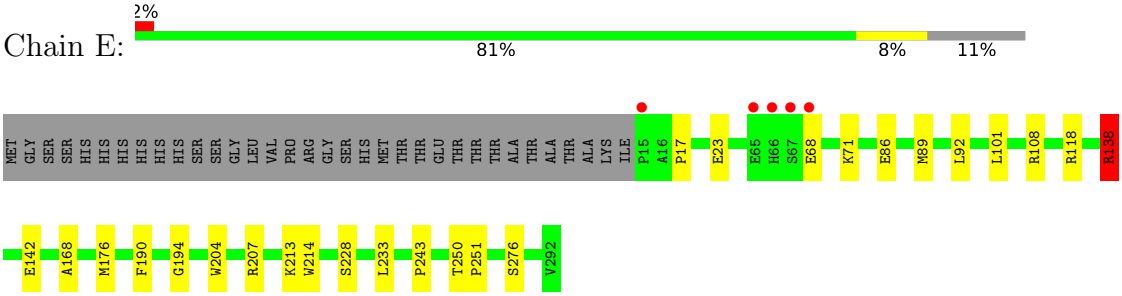


• Molecule 1: Geranyl diphosphate 2-C-methyltransferase

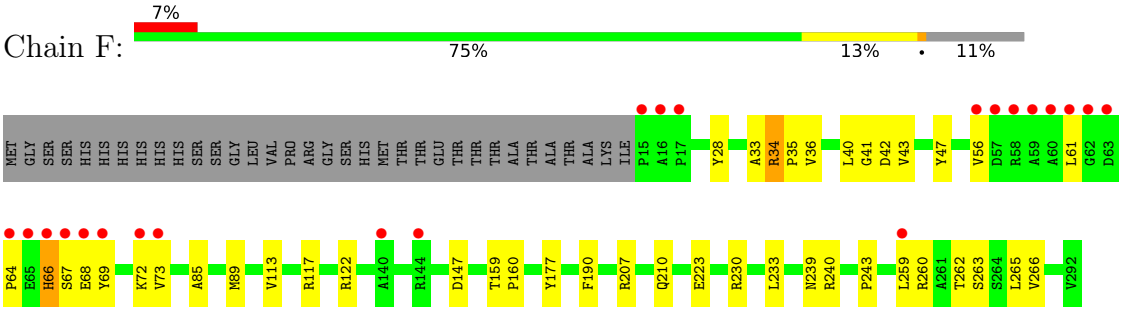
Chain D:



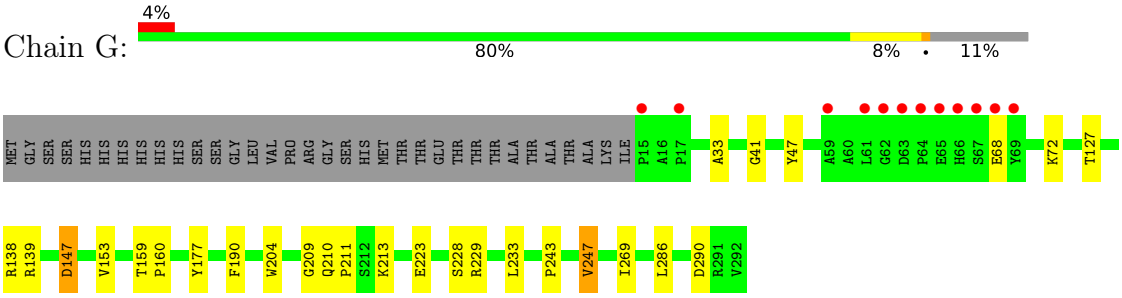
• Molecule 1: Geranyl diphosphate 2-C-methyltransferase



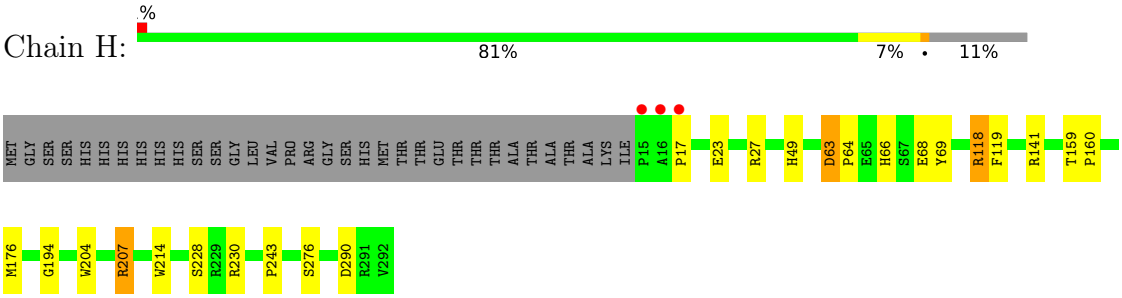
• Molecule 1: Geranyl diphosphate 2-C-methyltransferase



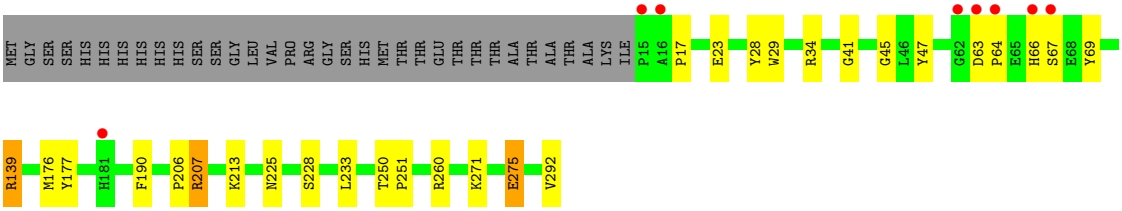
• Molecule 1: Geranyl diphosphate 2-C-methyltransferase



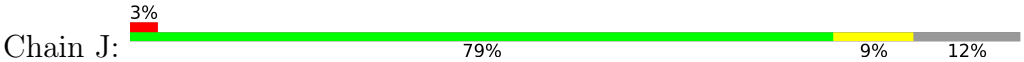
• Molecule 1: Geranyl diphosphate 2-C-methyltransferase

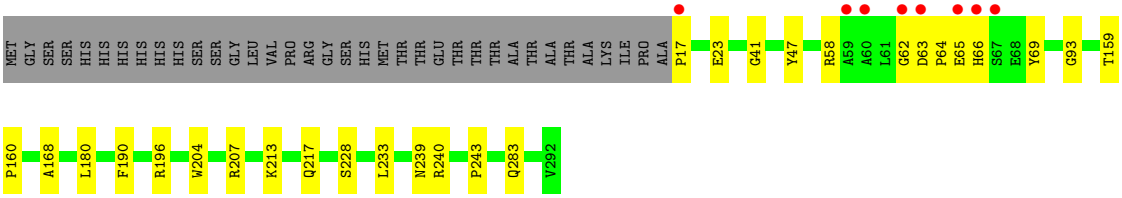


• Molecule 1: Geranyl diphosphate 2-C-methyltransferase

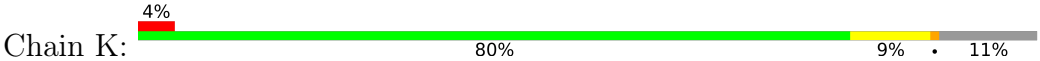


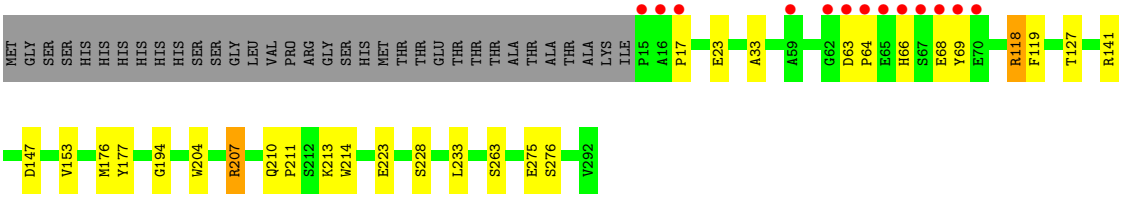
• Molecule 1: Geranyl diphosphate 2-C-methyltransferase



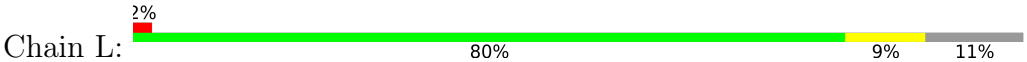


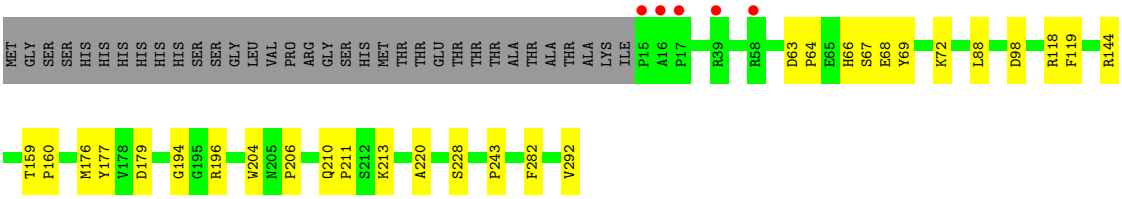
• Molecule 1: Geranyl diphosphate 2-C-methyltransferase





• Molecule 1: Geranyl diphosphate 2-C-methyltransferase





4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	97.03Å 102.90Å 203.58Å 90.00° 99.59° 90.00°	Depositor
Resolution (Å)	46.28 – 1.82 46.28 – 1.82	Depositor EDS
% Data completeness (in resolution range)	92.0 (46.28-1.82) 92.0 (46.28-1.82)	Depositor EDS
R_{merge}	0.11	Depositor
R_{sym}	0.11	Depositor
$< I/\sigma(I) >$ [1]	1.56 (at 1.82Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.5_2)	Depositor
R, R_{free}	0.167 , 0.194 0.164 , 0.191	Depositor DCC
R_{free} test set	1998 reflections (0.57%)	wwPDB-VP
Wilson B-factor (Å^2)	21.7	Xtriage
Anisotropy	0.320	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.38 , 44.9	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.97	EDS
Total number of atoms	29215	wwPDB-VP
Average B, all atoms (Å^2)	25.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.94% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

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

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: GST, SO4, GOL, SAH, MG

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	0.78	0/2269	0.82	4/3078 (0.1%)
1	B	0.80	0/2283	0.76	2/3097 (0.1%)
1	C	0.75	0/2283	0.75	1/3097 (0.0%)
1	D	0.79	0/2373	0.80	2/3220 (0.1%)
1	E	0.76	0/2270	0.74	1/3079 (0.0%)
1	F	0.63	0/2277	0.71	2/3089 (0.1%)
1	G	0.73	0/2292	0.74	1/3110 (0.0%)
1	H	0.80	0/2277	0.85	3/3089 (0.1%)
1	I	0.74	0/2281	0.78	3/3094 (0.1%)
1	J	0.77	0/2264	0.77	0/3070
1	K	0.71	0/2285	0.73	3/3100 (0.1%)
1	L	0.73	0/2270	0.74	0/3079
All	All	0.75	0/27424	0.77	22/37202 (0.1%)

There are no bond length outliers.

All (22) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	207	ARG	NE-CZ-NH1	-13.72	113.44	120.30
1	H	207	ARG	NE-CZ-NH1	-8.53	116.03	120.30
1	I	207	ARG	NE-CZ-NH1	-8.30	116.15	120.30
1	D	207	ARG	NE-CZ-NH1	-7.27	116.66	120.30
1	B	207	ARG	NE-CZ-NH1	-6.36	117.12	120.30
1	A	207	ARG	NE-CZ-NH2	6.33	123.46	120.30
1	I	139	ARG	NE-CZ-NH1	6.30	123.45	120.30
1	F	34	ARG	NE-CZ-NH2	-6.16	117.22	120.30
1	H	118	ARG	NE-CZ-NH1	6.04	123.32	120.30
1	A	108	ARG	NE-CZ-NH2	-5.95	117.33	120.30
1	E	138	ARG	NE-CZ-NH2	-5.93	117.33	120.30
1	H	63	ASP	CB-CG-OD1	5.77	123.49	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	K	141	ARG	NE-CZ-NH2	-5.69	117.45	120.30
1	D	196	ARG	NE-CZ-NH2	-5.66	117.47	120.30
1	K	118	ARG	NE-CZ-NH1	5.59	123.09	120.30
1	I	34	ARG	NE-CZ-NH2	-5.48	117.56	120.30
1	K	207	ARG	NE-CZ-NH1	-5.44	117.58	120.30
1	B	279	ASP	CB-CG-OD1	5.34	123.10	118.30
1	A	108	ARG	NE-CZ-NH1	5.22	122.91	120.30
1	C	63	ASP	CB-CG-OD1	5.08	122.88	118.30
1	G	229	ARG	NE-CZ-NH2	-5.07	117.77	120.30
1	F	207	ARG	NE-CZ-NH1	-5.03	117.79	120.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2209	0	2102	23	0
1	B	2217	0	2113	21	0
1	C	2217	0	2113	22	0
1	D	2293	0	2187	18	0
1	E	2214	0	2107	23	0
1	F	2216	0	2112	33	0
1	G	2220	0	2118	22	0
1	H	2216	0	2112	22	0
1	I	2219	0	2110	22	0
1	J	2204	0	2098	20	0
1	K	2219	0	2112	21	0
1	L	2214	0	2107	24	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0
2	D	1	0	0	0	0
2	E	1	0	0	0	0
2	F	1	0	0	0	0
2	G	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	H	1	0	0	0	0
2	I	1	0	0	0	0
2	J	1	0	0	0	0
2	K	1	0	0	0	0
2	L	1	0	0	0	0
3	A	26	0	19	0	0
3	B	26	0	19	0	0
3	C	26	0	19	0	0
3	D	26	0	19	0	0
3	E	26	0	19	1	0
3	F	26	0	19	1	0
3	G	26	0	19	1	0
3	H	26	0	19	1	0
3	I	26	0	19	1	0
3	J	26	0	19	0	0
3	K	26	0	19	1	0
3	L	26	0	19	0	0
4	A	19	0	17	1	0
4	B	19	0	17	2	0
4	C	19	0	17	1	0
4	D	19	0	17	1	0
4	E	19	0	17	0	0
4	F	19	0	17	1	0
4	G	19	0	17	1	0
4	H	19	0	17	0	0
4	I	19	0	17	1	0
4	J	19	0	17	0	0
4	K	19	0	17	1	0
4	L	19	0	17	2	0
5	A	18	0	24	9	0
5	B	6	0	8	0	0
5	C	12	0	16	2	0
5	D	6	0	8	0	0
5	E	18	0	24	5	0
5	F	6	0	8	1	0
5	G	6	0	8	2	0
5	H	6	0	8	1	0
5	I	6	0	7	1	0
5	J	6	0	8	1	0
5	L	6	0	8	0	0
6	E	5	0	0	0	0
7	A	185	0	0	4	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
7	B	175	0	0	4	0
7	C	151	0	0	2	0
7	D	182	0	0	1	0
7	E	165	0	0	5	0
7	F	99	0	0	0	0
7	G	157	0	0	0	0
7	H	187	0	0	2	0
7	I	161	0	0	1	0
7	J	157	0	0	0	0
7	K	133	0	0	1	0
7	L	152	0	0	1	0
All	All	29215	0	25950	245	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.

All (245) 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:C:17:PRO:HG2	1:C:23:GLU:HG2	1.42	1.01
1:B:243:PRO:HD2	1:E:233:LEU:HD23	1.41	1.00
1:E:138:ARG:HD2	7:H:579:HOH:O	1.74	0.86
1:C:17:PRO:CG	1:C:23:GLU:HG2	2.10	0.82
1:F:177:TYR:OH	4:F:303:GST:H101	1.85	0.76
1:F:66:HIS:CD2	1:F:68:GLU:H	2.03	0.76
1:F:66:HIS:HD2	1:F:68:GLU:H	1.31	0.76
1:A:243:PRO:HD2	1:D:233:LEU:HD22	1.68	0.75
1:B:233:LEU:HD23	1:E:243:PRO:HD2	1.69	0.75
1:I:207:ARG:NH1	1:L:194:GLY:O	2.19	0.74
1:E:207:ARG:HD3	7:E:556:HOH:O	1.88	0.72
1:H:230:ARG:HH11	5:H:304:GOL:H11	1.53	0.72
1:J:17:PRO:HG2	1:J:23:GLU:HG2	1.71	0.70
1:I:17:PRO:HG2	1:I:23:GLU:HG2	1.74	0.69
1:L:68:GLU:O	1:L:72:LYS:HG2	1.93	0.68
1:H:17:PRO:CB	1:H:23:GLU:HG2	2.25	0.67
1:F:64:PRO:HA	1:F:69:TYR:CD2	2.30	0.67
1:A:230:ARG:HH11	5:A:306:GOL:H12	1.62	0.65
1:H:17:PRO:HG2	1:H:23:GLU:HG2	1.78	0.65
1:F:61:LEU:O	1:F:72:LYS:HG3	1.99	0.62
1:A:204:TRP:CE2	1:A:228:SER:HB3	2.35	0.62
1:B:31:ASN:ND2	7:B:555:HOH:O	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:35:PRO:HB2	1:F:265:LEU:HD22	1.81	0.61
1:J:204:TRP:CE2	1:J:228:SER:HB3	2.35	0.61
1:E:101:LEU:HD22	1:E:168:ALA:HB3	1.83	0.61
1:G:213:LYS:HD2	1:L:220:ALA:O	2.01	0.60
1:E:138:ARG:HH21	5:E:305[A]:GOL:C2	2.15	0.59
1:H:17:PRO:CG	1:H:23:GLU:HG2	2.32	0.59
1:B:213:LYS:HB3	1:F:223:GLU:HG2	1.85	0.59
1:H:118:ARG:HD2	1:H:119:PHE:CZ	2.38	0.59
1:L:204:TRP:CE2	1:L:228:SER:HB3	2.38	0.58
1:G:233[B]:LEU:CD2	1:J:243:PRO:HD2	2.34	0.58
1:K:204:TRP:CE2	1:K:228:SER:HB3	2.39	0.58
1:C:17:PRO:CB	1:C:23:GLU:HG2	2.33	0.58
1:I:17:PRO:HB2	1:I:23:GLU:HG3	1.86	0.58
1:B:66:HIS:NE2	1:B:68:GLU:OE1	2.37	0.57
5:E:306:GOL:H11	7:E:420:HOH:O	2.04	0.57
1:L:64:PRO:HA	1:L:69:TYR:CD2	2.39	0.57
7:I:547:HOH:O	1:K:213:LYS:HG3	2.05	0.57
1:B:188[B]:SER:OG	1:B:239:ASN:O	2.17	0.57
1:B:243:PRO:HD2	1:E:233:LEU:CD2	2.28	0.56
1:I:225:ASN:HB2	7:K:421:HOH:O	2.06	0.56
1:A:230:ARG:HH11	5:A:306:GOL:C1	2.17	0.56
5:G:304:GOL:O3	1:L:179:ASP:HB2	2.06	0.55
1:B:207:ARG:NH1	1:E:194:GLY:O	2.37	0.55
1:F:230:ARG:HH11	5:F:304:GOL:H11	1.72	0.54
1:A:230:ARG:NH1	5:A:306:GOL:H12	2.22	0.54
1:H:290:ASP:OD1	1:K:207:ARG:HD2	2.07	0.54
1:H:141:ARG:NH2	7:H:537:HOH:O	2.40	0.54
1:K:118:ARG:HD2	1:K:119:PHE:CZ	2.42	0.54
1:J:17:PRO:CG	1:J:23:GLU:HG2	2.37	0.54
1:J:180:LEU:HB2	5:J:304:GOL:H11	1.89	0.54
1:B:27:ARG:HD3	7:B:563:HOH:O	2.08	0.54
1:A:194:GLY:O	1:D:207:ARG:NH1	2.26	0.53
1:B:204:TRP:CE2	1:B:228:SER:HB3	2.43	0.53
1:A:207:ARG:NH1	1:D:194:GLY:O	2.35	0.53
1:F:41:GLY:HA3	1:F:47:TYR:CD1	2.43	0.53
1:I:292:VAL:HG11	1:L:206:PRO:HB2	1.91	0.53
1:F:35:PRO:HB2	1:F:265:LEU:CD2	2.39	0.53
1:F:259:LEU:O	1:F:259:LEU:HD23	2.09	0.53
1:G:247[A]:VAL:CG1	1:G:286:LEU:HB3	2.38	0.53
1:L:118:ARG:HD2	1:L:119:PHE:CZ	2.44	0.53
1:K:177:TYR:OH	4:K:303:GST:H101	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:68:GLU:HB3	1:L:72:LYS:HE3	1.91	0.53
1:B:66:HIS:HE2	1:B:68:GLU:CD	2.12	0.53
1:C:17:PRO:HB2	1:C:23:GLU:HG3	1.89	0.53
1:G:247[A]:VAL:HG13	1:G:286:LEU:HB3	1.91	0.53
1:F:56:VAL:CG1	1:F:259:LEU:HD12	2.39	0.52
1:L:144:ARG:NH2	7:L:533:HOH:O	2.34	0.52
1:K:66:HIS:NE2	1:K:68:GLU:HB2	2.24	0.52
1:B:31:ASN:CG	7:B:555:HOH:O	2.46	0.52
1:D:86:GLU:HG3	1:D:118:ARG:HH21	1.74	0.52
1:A:204:TRP:CZ2	1:A:228:SER:HB3	2.45	0.51
1:I:17:PRO:CG	1:I:23:GLU:HG2	2.41	0.51
1:F:36:VAL:O	1:F:40:LEU:HD13	2.10	0.50
1:I:64:PRO:HA	1:I:69:TYR:CD2	2.47	0.50
1:F:113:VAL:O	1:F:117:ARG:HG3	2.11	0.50
1:H:64:PRO:HA	1:H:69:TYR:CD2	2.47	0.50
1:G:233[A]:LEU:HD13	1:J:243:PRO:HD2	1.94	0.50
1:K:66:HIS:CD2	1:K:68:GLU:H	2.30	0.50
1:L:177:TYR:OH	4:L:303:GST:H101	2.11	0.50
1:B:177:TYR:OH	4:B:303:GST:H101	2.12	0.50
1:E:250:THR:HB	1:E:251:PRO:HD3	1.93	0.50
1:F:42:ASP:O	1:F:43:VAL:C	2.49	0.50
1:I:213:LYS:HB3	1:K:223:GLU:HG2	1.92	0.50
1:E:138:ARG:NH2	5:E:305[A]:GOL:H2	2.27	0.49
1:E:17:PRO:CB	1:E:23:GLU:HG3	2.42	0.49
1:C:17:PRO:CB	1:C:23:GLU:CG	2.90	0.49
1:E:68:GLU:O	1:E:68:GLU:HG2	2.12	0.49
1:H:194:GLY:O	1:K:207:ARG:NH1	2.27	0.49
1:C:17:PRO:HB2	1:C:23:GLU:CG	2.42	0.49
1:I:233:LEU:HD13	1:L:243:PRO:HD2	1.94	0.48
1:I:177:TYR:OH	4:I:303:GST:H101	2.13	0.48
1:G:209:GLY:O	5:G:304:GOL:H31	2.13	0.48
5:A:304:GOL:C1	7:A:421:HOH:O	2.61	0.48
1:I:207:ARG:NH2	1:L:196:ARG:NH2	2.61	0.48
1:G:159:THR:HB	1:G:160:PRO:HD2	1.95	0.48
1:K:210:GLN:HB3	1:K:211:PRO:HD2	1.96	0.48
1:D:167:THR:HA	1:D:192[B]:LYS:HE2	1.94	0.48
1:A:177:TYR:OH	4:A:303:GST:H101	2.13	0.48
1:E:142:GLU:HG2	7:E:503:HOH:O	2.13	0.48
1:C:239:ASN:O	1:C:240:ARG:HB2	2.14	0.47
1:B:68:GLU:HG2	1:B:72:LYS:HE3	1.96	0.47
1:D:167:THR:HA	1:D:192[A]:LYS:HE3	1.94	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:283:GLN:HG3	1:A:285[A]:VAL:HG13	1.96	0.47
1:B:118:ARG:HD2	1:B:119:PHE:CZ	2.50	0.47
1:F:28:TYR:OH	1:F:34:ARG:NH2	2.39	0.47
1:A:157:LEU:HD12	5:A:304:GOL:H2	1.95	0.47
1:A:223:GLU:HG2	1:E:213:LYS:HB3	1.96	0.47
1:A:283:GLN:HG3	1:A:285[B]:VAL:HG23	1.97	0.47
1:F:260:ARG:O	1:F:263:SER:HB3	2.14	0.47
1:I:66:HIS:CG	1:I:67:SER:N	2.83	0.47
1:E:138:ARG:HH21	5:E:305[A]:GOL:H2	1.80	0.47
1:F:61:LEU:HA	1:F:72:LYS:HB3	1.97	0.47
1:H:17:PRO:HB2	1:H:23:GLU:HG2	1.97	0.47
1:H:49:HIS:HB2	3:H:302:SAH:HB2	1.97	0.46
1:G:243:PRO:HD2	1:J:233:LEU:HD13	1.96	0.46
1:D:192[A]:LYS:NZ	7:D:561:HOH:O	2.38	0.46
1:F:259:LEU:O	1:F:262:THR:HB	2.15	0.46
1:G:204:TRP:CE2	1:G:228:SER:HB3	2.50	0.46
1:C:21:TYR:CD2	1:D:210:GLN:HB2	2.51	0.46
1:H:204:TRP:CE2	1:H:228:SER:HB3	2.51	0.46
1:E:86:GLU:HG3	1:E:118:ARG:HH21	1.80	0.46
1:F:122:ARG:NH1	1:F:122:ARG:HG3	2.30	0.46
3:F:302:SAH:HB1	3:F:302:SAH:H4'	1.98	0.46
1:J:63:ASP:C	1:J:65:GLU:H	2.19	0.46
1:L:159:THR:HB	1:L:160:PRO:HD2	1.97	0.46
5:A:304:GOL:C2	7:A:526:HOH:O	2.64	0.46
1:J:204:TRP:CZ2	1:J:228:SER:HB3	2.51	0.46
3:E:302:SAH:HB1	3:E:302:SAH:H4'	1.98	0.45
1:C:64:PRO:HA	1:C:69:TYR:CD2	2.52	0.45
1:C:93:GLY:HA3	1:C:196:ARG:HD2	1.97	0.45
1:K:66:HIS:CD2	1:K:68:GLU:HB2	2.52	0.45
1:J:213:LYS:HE2	1:J:217:GLN:HE21	1.82	0.45
1:G:223:GLU:CD	1:L:213:LYS:HE2	2.36	0.45
1:L:204:TRP:CZ2	1:L:228:SER:HB3	2.51	0.45
1:B:66:HIS:NE2	1:B:68:GLU:CD	2.70	0.45
1:H:159:THR:HB	1:H:160:PRO:HD2	1.97	0.45
1:G:213:LYS:HZ2	1:L:220:ALA:HB1	1.81	0.45
1:I:260:ARG:HD2	5:I:304:GOL:O2	2.17	0.45
1:B:147:ASP:HB2	7:B:568:HOH:O	2.16	0.45
1:H:17:PRO:HB2	1:H:23:GLU:CG	2.47	0.45
1:H:243:PRO:HD2	1:K:233:LEU:HD12	1.99	0.45
1:I:271:LYS:O	1:I:275:GLU:HB2	2.16	0.45
1:G:127:THR:O	1:G:153:VAL:HA	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:250:THR:HB	1:I:251:PRO:HD3	1.99	0.45
1:J:41:GLY:HA3	1:J:47:TYR:CD1	2.52	0.45
1:J:159:THR:HB	1:J:160:PRO:HD2	1.98	0.45
1:I:206:PRO:HB2	1:L:292:VAL:HG11	1.98	0.45
1:J:239:ASN:O	1:J:240:ARG:HB2	2.17	0.45
1:K:64:PRO:HA	1:K:69:TYR:CD2	2.52	0.45
1:A:207:ARG:NH1	1:A:207:ARG:CG	2.75	0.44
1:G:68:GLU:O	1:G:72:LYS:HG2	2.17	0.44
1:A:64:PRO:HA	1:A:69:TYR:CD2	2.53	0.44
1:E:204:TRP:CE2	1:E:228:SER:HB3	2.52	0.44
1:I:45:GLY:O	1:I:139:ARG:HD3	2.18	0.44
1:A:159:THR:HB	1:A:160:PRO:HD2	1.99	0.44
1:F:64:PRO:HA	1:F:69:TYR:CG	2.52	0.44
1:C:243:PRO:HD2	1:F:233:LEU:HD13	2.00	0.44
5:A:304:GOL:H2	7:A:526:HOH:O	2.17	0.44
5:C:305:GOL:H2	7:C:486:HOH:O	2.18	0.44
1:J:64:PRO:HA	1:J:69:TYR:CD2	2.53	0.44
1:A:127:THR:O	1:A:153:VAL:HA	2.18	0.43
1:K:214:TRP:HB2	1:K:276:SER:HB3	1.99	0.43
1:I:41:GLY:HA3	1:I:47:TYR:CD1	2.54	0.43
1:G:233[B]:LEU:HD23	1:J:243:PRO:HD2	2.00	0.43
1:J:168:ALA:HA	1:J:196:ARG:O	2.19	0.43
1:K:177:TYR:CD2	3:K:302:SAH:H8	2.52	0.43
1:G:210:GLN:HB3	1:G:211:PRO:HD2	2.01	0.43
1:C:66:HIS:CD2	1:C:68:GLU:HB2	2.54	0.43
1:F:66:HIS:CD2	1:F:67:SER:N	2.87	0.43
1:J:62:GLY:O	1:J:64:PRO:HD3	2.18	0.43
1:A:39:ARG:HD3	7:A:556:HOH:O	2.17	0.43
1:A:231:GLU:HB3	5:A:305:GOL:O2	2.18	0.43
1:D:269:ILE:HD12	1:D:269:ILE:HA	1.86	0.43
1:F:56:VAL:HG11	1:F:259:LEU:HD12	2.00	0.43
1:K:17:PRO:HG2	1:K:23:GLU:HG3	2.00	0.43
1:I:28:TYR:CD2	1:I:28:TYR:C	2.92	0.43
1:K:63:ASP:HA	1:K:64:PRO:HD3	1.83	0.43
1:C:210:GLN:HB2	1:D:21:TYR:CD2	2.54	0.42
1:F:85:ALA:O	1:F:89:MET:HG3	2.19	0.42
1:F:159:THR:HB	1:F:160:PRO:HD2	2.00	0.42
1:G:177:TYR:CD2	3:G:302:SAH:H8	2.54	0.42
1:A:41:GLY:HA3	1:A:47:TYR:CD1	2.55	0.42
1:C:36:VAL:HA	1:C:265:LEU:HD13	2.01	0.42
1:C:233:LEU:HD12	1:F:243:PRO:HD2	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:63:ASP:HA	1:H:64:PRO:HD3	1.91	0.42
1:K:204:TRP:CZ2	1:K:228:SER:HB3	2.54	0.42
1:D:260:ARG:O	1:D:263:SER:HB3	2.19	0.42
1:G:147:ASP:OD1	1:G:147:ASP:N	2.42	0.42
1:K:127:THR:O	1:K:153:VAL:HA	2.20	0.42
1:A:207:ARG:CG	1:A:207:ARG:HH11	2.28	0.42
1:C:54:GLY:HA3	7:C:432:HOH:O	2.19	0.42
1:L:66:HIS:ND1	1:L:67:SER:N	2.68	0.42
1:F:66:HIS:CG	1:F:67:SER:N	2.88	0.42
1:C:28:TYR:CE1	5:C:305:GOL:H31	2.54	0.42
1:B:66:HIS:CG	1:B:67:SER:N	2.87	0.42
1:A:180:LEU:HB2	5:A:305:GOL:H31	2.02	0.42
1:C:214:TRP:HB2	1:C:276:SER:HB3	2.01	0.42
1:F:28:TYR:CD2	1:F:28:TYR:C	2.93	0.42
1:H:243:PRO:HD2	1:K:233:LEU:CD1	2.50	0.42
1:L:210:GLN:HB3	1:L:211:PRO:CD	2.50	0.42
1:E:89:MET:SD	7:E:548:HOH:O	2.62	0.41
1:I:29:TRP:CD1	3:I:302:SAH:H2'	2.55	0.41
1:J:93:GLY:HA3	1:J:196:ARG:HD2	2.01	0.41
1:C:177:TYR:OH	4:C:303:GST:H101	2.19	0.41
1:I:63:ASP:HA	1:I:64:PRO:HD3	1.88	0.41
1:L:88:LEU:C	1:L:88:LEU:HD23	2.41	0.41
1:E:138:ARG:NH2	5:E:305[A]:GOL:C2	2.81	0.41
1:B:291:ARG:NH1	1:B:292:VAL:OXT	2.52	0.41
1:D:250:THR:HG23	1:D:277:TYR:CD1	2.55	0.41
1:F:41:GLY:HA3	1:F:47:TYR:CE1	2.56	0.41
1:G:41:GLY:HA3	1:G:47:TYR:CD1	2.55	0.41
1:E:17:PRO:HB2	1:E:23:GLU:HG3	2.02	0.41
1:E:92:LEU:HD22	1:E:168:ALA:HB1	2.03	0.41
1:G:177:TYR:OH	4:G:303:GST:H101	2.21	0.41
1:G:269:ILE:HD12	1:G:269:ILE:HA	1.99	0.41
1:H:66:HIS:ND1	1:H:68:GLU:HG2	2.36	0.41
4:B:303:GST:H103	4:B:303:GST:H11	1.81	0.41
1:H:207:ARG:NH1	1:H:207:ARG:CG	2.82	0.41
1:J:58:ARG:HD3	1:J:58:ARG:HA	1.82	0.41
1:D:88:LEU:HD23	1:D:88:LEU:C	2.42	0.41
1:D:214:TRP:HB2	1:D:276:SER:HB3	2.03	0.41
1:G:290:ASP:CG	1:J:207:ARG:HD2	2.41	0.41
1:H:207:ARG:NH1	1:K:194:GLY:O	2.38	0.41
1:I:66:HIS:ND1	1:I:67:SER:N	2.68	0.41
1:L:63:ASP:OD2	1:L:64:PRO:HD2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:239:ASN:O	1:F:240:ARG:HB2	2.20	0.41
1:G:213:LYS:CD	1:L:220:ALA:O	2.68	0.41
1:B:21:TYR:CD2	1:F:210:GLN:HB2	2.56	0.40
1:D:282:PHE:HZ	4:D:303:GST:H91	1.85	0.40
1:E:108:ARG:HH21	1:E:108:ARG:HD2	1.70	0.40
1:H:214:TRP:HB2	1:H:276:SER:HB3	2.02	0.40
1:C:210:GLN:HB3	1:C:211:PRO:HD2	2.02	0.40
1:D:16:ALA:N	1:D:17:PRO:CD	2.84	0.40
1:L:282:PHE:HZ	4:L:303:GST:H91	1.85	0.40
1:D:101:LEU:HD22	1:D:168:ALA:HB3	2.02	0.40
1:E:214:TRP:HB2	1:E:276:SER:HB3	2.02	0.40
1:A:225:ASN:HB2	7:E:520:HOH:O	2.21	0.40
1:B:283:GLN:HG3	1:B:285[B]:VAL:HG13	2.04	0.40
1:C:127:THR:O	1:C:153:VAL:HA	2.22	0.40
1:C:147:ASP:OD1	1:C:147:ASP:N	2.51	0.40
1:H:17:PRO:CB	1:H:23:GLU:CG	2.98	0.40
1:F:69:TYR:O	1:F:73:VAL:HG23	2.21	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	276/312 (88%)	268 (97%)	8 (3%)	0	100 100
1	B	278/312 (89%)	269 (97%)	9 (3%)	0	100 100
1	C	278/312 (89%)	271 (98%)	7 (2%)	0	100 100
1	D	290/312 (93%)	281 (97%)	9 (3%)	0	100 100
1	E	276/312 (88%)	268 (97%)	8 (3%)	0	100 100
1	F	277/312 (89%)	267 (96%)	7 (2%)	3 (1%)	14 4
1	G	279/312 (89%)	270 (97%)	8 (3%)	1 (0%)	34 21

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	H	277/312 (89%)	269 (97%)	8 (3%)	0	100	100
1	I	277/312 (89%)	267 (96%)	10 (4%)	0	100	100
1	J	275/312 (88%)	263 (96%)	11 (4%)	1 (0%)	34	21
1	K	278/312 (89%)	270 (97%)	7 (2%)	1 (0%)	34	21
1	L	276/312 (88%)	266 (96%)	10 (4%)	0	100	100
All	All	3337/3744 (89%)	3229 (97%)	102 (3%)	6 (0%)	47	33

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	J	66	HIS
1	F	33	ALA
1	F	66	HIS
1	K	33	ALA
1	G	33	ALA
1	F	266	VAL

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	232/260 (89%)	228 (98%)	4 (2%)	60	50
1	B	234/260 (90%)	232 (99%)	2 (1%)	78	74
1	C	234/260 (90%)	229 (98%)	5 (2%)	53	41
1	D	243/260 (94%)	238 (98%)	5 (2%)	53	41
1	E	232/260 (89%)	228 (98%)	4 (2%)	60	50
1	F	233/260 (90%)	231 (99%)	2 (1%)	78	74
1	G	235/260 (90%)	229 (97%)	6 (3%)	46	32
1	H	233/260 (90%)	231 (99%)	2 (1%)	78	74
1	I	233/260 (90%)	229 (98%)	4 (2%)	60	50
1	J	232/260 (89%)	230 (99%)	2 (1%)	78	74

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	K	234/260 (90%)	229 (98%)	5 (2%)	53 41
1	L	232/260 (89%)	230 (99%)	2 (1%)	78 74
All	All	2807/3120 (90%)	2764 (98%)	43 (2%)	65 55

All (43) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	147	ASP
1	A	176	MET
1	A	190	PHE
1	A	207	ARG
1	B	176	MET
1	B	190	PHE
1	C	31	ASN
1	C	138	ARG
1	C	176	MET
1	C	228	SER
1	C	275	GLU
1	D	147	ASP
1	D	176	MET
1	D	190	PHE
1	D	207	ARG
1	D	228	SER
1	E	71	LYS
1	E	138	ARG
1	E	176	MET
1	E	190	PHE
1	F	147	ASP
1	F	190	PHE
1	G	138	ARG
1	G	139	ARG
1	G	147	ASP
1	G	190	PHE
1	G	247[A]	VAL
1	G	247[B]	VAL
1	H	27	ARG
1	H	176	MET
1	I	176	MET
1	I	190	PHE
1	I	228	SER
1	I	275	GLU

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Mol	Chain	Res	Type
1	J	190	PHE
1	J	283	GLN
1	K	147[A]	ASP
1	K	147[B]	ASP
1	K	176	MET
1	K	263	SER
1	K	275	GLU
1	L	98	ASP
1	L	176	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (8) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	132	GLN
1	D	94	GLN
1	E	66	HIS
1	E	94	GLN
1	F	66	HIS
1	F	221	HIS
1	G	31	ASN
1	K	66	HIS

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 53 ligands modelled in this entry, 12 are monoatomic - leaving 41 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
4	GST	K	303	2	14,18,18	1.55	2 (14%)	17,25,25	1.33	3 (17%)
3	SAH	F	302	-	24,28,28	2.35	4 (16%)	25,40,40	2.30	6 (24%)
3	SAH	I	302	-	24,28,28	2.33	4 (16%)	25,40,40	2.40	4 (16%)
5	GOL	E	306	-	5,5,5	0.42	0	5,5,5	0.69	0
5	GOL	B	304	-	5,5,5	0.30	0	5,5,5	1.19	0
3	SAH	H	302	-	24,28,28	2.41	3 (12%)	25,40,40	2.65	5 (20%)
4	GST	J	303	2	14,18,18	1.68	2 (14%)	17,25,25	1.18	1 (5%)
5	GOL	C	305	-	5,5,5	0.43	0	5,5,5	0.62	0
5	GOL	A	306	-	5,5,5	0.41	0	5,5,5	0.54	0
5	GOL	E	305[A]	-	5,5,5	0.77	0	5,5,5	0.65	0
3	SAH	A	302	-	24,28,28	2.11	3 (12%)	25,40,40	2.60	6 (24%)
5	GOL	D	304	-	5,5,5	0.44	0	5,5,5	0.69	0
3	SAH	E	302	-	24,28,28	2.58	4 (16%)	25,40,40	2.38	6 (24%)
4	GST	I	303	2	14,18,18	1.84	2 (14%)	17,25,25	1.72	4 (23%)
4	GST	H	303	2	14,18,18	1.63	2 (14%)	17,25,25	1.34	2 (11%)
5	GOL	E	305[B]	-	5,5,5	0.39	0	5,5,5	0.78	0
4	GST	C	303	2	14,18,18	1.52	2 (14%)	17,25,25	1.57	5 (29%)
4	GST	A	303	2	14,18,18	1.77	2 (14%)	17,25,25	1.69	3 (17%)
3	SAH	K	302	-	24,28,28	2.36	3 (12%)	25,40,40	2.35	6 (24%)
5	GOL	J	304	-	5,5,5	0.45	0	5,5,5	0.96	0
4	GST	B	303	2	14,18,18	1.86	2 (14%)	17,25,25	1.44	3 (17%)
5	GOL	C	304	-	5,5,5	0.54	0	5,5,5	1.61	1 (20%)
4	GST	L	303	2	14,18,18	1.80	1 (7%)	17,25,25	1.54	3 (17%)
4	GST	E	303	2	14,18,18	1.82	2 (14%)	17,25,25	1.60	2 (11%)
3	SAH	D	302	-	24,28,28	2.30	4 (16%)	25,40,40	2.16	4 (16%)
3	SAH	J	302	-	24,28,28	2.21	5 (20%)	25,40,40	2.59	5 (20%)
5	GOL	H	304	-	5,5,5	0.59	0	5,5,5	0.60	0
3	SAH	L	302	-	24,28,28	2.28	4 (16%)	25,40,40	2.38	4 (16%)
3	SAH	B	302	-	24,28,28	2.39	3 (12%)	25,40,40	2.42	4 (16%)
5	GOL	A	304	-	5,5,5	0.27	0	5,5,5	0.71	0
4	GST	F	303	2	14,18,18	1.64	2 (14%)	17,25,25	1.77	5 (29%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
5	GOL	A	305	-	5,5,5	0.51	0	5,5,5	0.72	0
6	SO4	E	304	-	4,4,4	0.27	0	6,6,6	0.53	0
3	SAH	G	302	-	24,28,28	2.37	3 (12%)	25,40,40	2.51	4 (16%)
4	GST	G	303	2	14,18,18	1.53	2 (14%)	17,25,25	1.16	1 (5%)
5	GOL	I	304	2	5,5,5	0.40	0	5,5,5	0.15	0
3	SAH	C	302	-	24,28,28	2.34	4 (16%)	25,40,40	2.39	6 (24%)
4	GST	D	303	2	14,18,18	1.48	2 (14%)	17,25,25	1.38	3 (17%)
5	GOL	F	304	-	5,5,5	0.57	0	5,5,5	0.23	0
5	GOL	L	304	-	5,5,5	0.29	0	5,5,5	0.57	0
5	GOL	G	304	-	5,5,5	0.49	0	5,5,5	0.89	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	GST	K	303	2	-	1/13/19/19	-
3	SAH	F	302	-	-	0/11/31/31	0/3/3/3
3	SAH	I	302	-	-	0/11/31/31	0/3/3/3
5	GOL	E	306	-	-	4/4/4/4	-
5	GOL	B	304	-	-	2/4/4/4	-
3	SAH	H	302	-	-	2/11/31/31	0/3/3/3
4	GST	J	303	2	-	0/13/19/19	-
5	GOL	C	305	-	-	4/4/4/4	-
5	GOL	A	306	-	-	2/4/4/4	-
5	GOL	E	305[A]	-	-	0/4/4/4	-
3	SAH	A	302	-	-	0/11/31/31	0/3/3/3
5	GOL	D	304	-	-	2/4/4/4	-
3	SAH	E	302	-	-	0/11/31/31	0/3/3/3
4	GST	I	303	2	-	5/13/19/19	-
4	GST	H	303	2	-	3/13/19/19	-
5	GOL	E	305[B]	-	-	2/4/4/4	-
4	GST	C	303	2	-	1/13/19/19	-
4	GST	A	303	2	-	0/13/19/19	-
3	SAH	K	302	-	-	1/11/31/31	0/3/3/3
5	GOL	J	304	-	-	2/4/4/4	-
4	GST	B	303	2	-	0/13/19/19	-
5	GOL	C	304	-	-	2/4/4/4	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	GST	L	303	2	-	0/13/19/19	-
4	GST	E	303	2	-	3/13/19/19	-
3	SAH	D	302	-	-	0/11/31/31	0/3/3/3
3	SAH	J	302	-	-	2/11/31/31	0/3/3/3
5	GOL	H	304	-	-	3/4/4/4	-
3	SAH	L	302	-	-	0/11/31/31	0/3/3/3
3	SAH	B	302	-	-	0/11/31/31	0/3/3/3
5	GOL	A	304	-	-	2/4/4/4	-
4	GST	F	303	2	-	3/13/19/19	-
5	GOL	A	305	-	-	0/4/4/4	-
3	SAH	G	302	-	-	0/11/31/31	0/3/3/3
4	GST	G	303	2	-	2/13/19/19	-
5	GOL	I	304	2	-	0/4/4/4	-
3	SAH	C	302	-	-	0/11/31/31	0/3/3/3
4	GST	D	303	2	-	1/13/19/19	-
5	GOL	F	304	-	-	4/4/4/4	-
5	GOL	L	304	-	-	0/4/4/4	-
5	GOL	G	304	-	-	4/4/4/4	-

All (67) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	E	302	SAH	C2-N3	9.13	1.46	1.32
3	H	302	SAH	C2-N3	8.75	1.46	1.32
3	G	302	SAH	C2-N3	8.42	1.45	1.32
3	B	302	SAH	C2-N3	8.23	1.45	1.32
3	L	302	SAH	C2-N3	8.12	1.45	1.32
3	F	302	SAH	C2-N3	8.08	1.45	1.32
3	D	302	SAH	C2-N3	7.79	1.44	1.32
3	I	302	SAH	C2-N3	7.78	1.44	1.32
3	K	302	SAH	C2-N3	7.78	1.44	1.32
3	C	302	SAH	C2-N3	7.71	1.44	1.32
3	J	302	SAH	C2-N3	7.00	1.43	1.32
3	A	302	SAH	C2-N3	6.89	1.43	1.32
3	K	302	SAH	C2-N1	6.40	1.45	1.33
3	F	302	SAH	C2-N1	6.40	1.45	1.33
4	B	303	GST	C1-S1	-6.30	1.76	1.84
3	E	302	SAH	C2-N1	6.21	1.45	1.33
3	I	302	SAH	C2-N1	6.15	1.45	1.33
4	L	303	GST	C1-S1	-6.08	1.77	1.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	A	302	SAH	C2-N1	6.08	1.45	1.33
3	J	302	SAH	C2-N1	6.06	1.45	1.33
3	B	302	SAH	C2-N1	5.95	1.45	1.33
4	I	303	GST	C1-S1	-5.87	1.77	1.84
3	H	302	SAH	C2-N1	5.78	1.44	1.33
3	D	302	SAH	C2-N1	5.74	1.44	1.33
4	E	303	GST	C1-S1	-5.57	1.77	1.84
3	C	302	SAH	C2-N1	5.57	1.44	1.33
3	G	302	SAH	C2-N1	5.45	1.44	1.33
3	L	302	SAH	C2-N1	5.45	1.44	1.33
4	J	303	GST	C1-S1	-5.35	1.77	1.84
4	F	303	GST	C1-S1	-5.34	1.77	1.84
4	A	303	GST	C1-S1	-5.09	1.78	1.84
4	D	303	GST	C1-S1	-4.48	1.78	1.84
4	H	303	GST	C1-S1	-4.44	1.79	1.84
4	G	303	GST	C1-S1	-4.39	1.79	1.84
4	K	303	GST	C1-S1	-4.38	1.79	1.84
3	E	302	SAH	C6-N6	4.05	1.48	1.34
3	I	302	SAH	C6-N6	3.77	1.47	1.34
4	C	303	GST	C1-S1	-3.76	1.79	1.84
3	H	302	SAH	C6-N6	3.59	1.47	1.34
4	A	303	GST	PB-O3B	-3.58	1.47	1.56
3	F	302	SAH	C6-N6	3.56	1.47	1.34
4	C	303	GST	PB-O3B	-3.56	1.47	1.56
3	C	302	SAH	C6-N6	3.51	1.46	1.34
3	G	302	SAH	C6-N6	3.42	1.46	1.34
3	J	302	SAH	C6-N6	3.38	1.46	1.34
3	K	302	SAH	C6-N6	3.36	1.46	1.34
3	A	302	SAH	C6-N6	3.27	1.46	1.34
4	H	303	GST	PB-O3B	-3.25	1.48	1.56
4	K	303	GST	PB-O3B	-3.13	1.48	1.56
3	B	302	SAH	C6-N6	3.13	1.45	1.34
3	L	302	SAH	C6-N6	2.89	1.44	1.34
4	E	303	GST	PB-O3B	-2.87	1.49	1.56
3	D	302	SAH	C6-N6	2.73	1.44	1.34
4	G	303	GST	PB-O3B	-2.73	1.49	1.56
4	J	303	GST	PB-O3B	-2.58	1.50	1.56
3	I	302	SAH	C5-C4	2.52	1.47	1.40
4	I	303	GST	PB-O3B	-2.51	1.50	1.56
3	D	302	SAH	O-C	2.48	1.29	1.22
3	F	302	SAH	C5-C4	2.39	1.47	1.40
3	E	302	SAH	C5-C4	2.38	1.47	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	J	302	SAH	C5-C4	2.34	1.47	1.40
4	D	303	GST	PB-O3B	-2.33	1.50	1.56
3	J	302	SAH	OXT-C	-2.30	1.23	1.30
4	F	303	GST	PB-O3B	-2.25	1.51	1.56
3	L	302	SAH	C2'-C1'	-2.23	1.50	1.53
3	C	302	SAH	C5-C4	2.22	1.46	1.40
4	B	303	GST	PB-O3B	-2.11	1.51	1.56

All (96) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	A	302	SAH	N3-C2-N1	-10.43	112.38	128.68
3	J	302	SAH	N3-C2-N1	-10.21	112.72	128.68
3	B	302	SAH	N3-C2-N1	-10.10	112.90	128.68
3	H	302	SAH	N3-C2-N1	-9.73	113.47	128.68
3	L	302	SAH	N3-C2-N1	-9.64	113.62	128.68
3	I	302	SAH	N3-C2-N1	-9.60	113.68	128.68
3	E	302	SAH	N3-C2-N1	-9.55	113.75	128.68
3	C	302	SAH	N3-C2-N1	-9.50	113.83	128.68
3	K	302	SAH	N3-C2-N1	-9.45	113.90	128.68
3	G	302	SAH	N3-C2-N1	-9.38	114.01	128.68
3	F	302	SAH	N3-C2-N1	-8.71	115.07	128.68
3	D	302	SAH	N3-C2-N1	-8.51	115.38	128.68
4	E	303	GST	O3B-PB-O2B	4.86	121.59	109.82
3	G	302	SAH	O4'-C1'-C2'	-4.82	99.88	106.93
3	H	302	SAH	C2-N1-C6	4.74	126.85	118.75
3	J	302	SAH	C2-N1-C6	4.63	126.68	118.75
3	G	302	SAH	C2-N1-C6	4.48	126.42	118.75
4	I	303	GST	O3B-PB-O2B	4.31	120.26	109.82
3	H	302	SAH	CB-CG-SD	-4.11	104.10	113.31
3	I	302	SAH	C2-N1-C6	4.04	125.66	118.75
3	C	302	SAH	C2-N1-C6	3.99	125.57	118.75
4	A	303	GST	O3B-PB-O2B	3.81	119.05	109.82
3	H	302	SAH	O4'-C1'-C2'	-3.73	101.48	106.93
4	F	303	GST	O3B-PB-O2B	3.64	118.62	109.82
3	L	302	SAH	C2-N1-C6	3.57	124.87	118.75
3	D	302	SAH	C2-N1-C6	3.56	124.85	118.75
3	K	302	SAH	C1'-N9-C4	-3.56	120.39	126.64
3	A	302	SAH	C2-N1-C6	3.42	124.61	118.75
3	B	302	SAH	C2-N1-C6	3.41	124.58	118.75
4	F	303	GST	C10-C3-C4	3.40	120.98	115.27
3	I	302	SAH	O4'-C1'-C2'	-3.40	101.96	106.93

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	C	304	GOL	C3-C2-C1	-3.39	98.53	111.70
3	B	302	SAH	C1'-N9-C4	-3.37	120.72	126.64
3	J	302	SAH	O4'-C1'-C2'	-3.24	102.19	106.93
3	F	302	SAH	O4'-C1'-C2'	-3.18	102.29	106.93
3	E	302	SAH	C2-N1-C6	3.17	124.17	118.75
3	J	302	SAH	C1'-N9-C4	-3.16	121.09	126.64
3	C	302	SAH	C1'-N9-C4	-3.12	121.17	126.64
3	H	302	SAH	C1'-N9-C4	-3.06	121.26	126.64
3	L	302	SAH	C1'-N9-C4	-3.04	121.29	126.64
3	A	302	SAH	CB-CG-SD	-3.04	106.48	113.31
4	L	303	GST	C5-C6-C7	-3.04	117.35	127.75
3	I	302	SAH	C1'-N9-C4	-3.02	121.33	126.64
4	A	303	GST	C10-C3-C2	-3.00	115.98	123.68
4	L	303	GST	C10-C3-C2	-2.91	116.22	123.68
3	D	302	SAH	C1'-N9-C4	-2.88	121.58	126.64
4	C	303	GST	O3B-PB-O2B	2.87	116.76	109.82
3	A	302	SAH	C1'-N9-C4	-2.86	121.62	126.64
3	A	302	SAH	O4'-C1'-C2'	-2.84	102.77	106.93
3	F	302	SAH	C2-N1-C6	2.83	123.59	118.75
3	F	302	SAH	CB-CG-SD	-2.81	107.00	113.31
3	G	302	SAH	C1'-N9-C4	-2.80	121.72	126.64
3	E	302	SAH	O4'-C1'-C2'	-2.73	102.93	106.93
4	I	303	GST	O3A-PA-O1A	2.72	118.02	107.64
3	D	302	SAH	O4'-C1'-C2'	-2.72	102.96	106.93
4	C	303	GST	C8-C7-C9	2.70	120.56	114.60
3	K	302	SAH	C2-N1-C6	2.69	123.36	118.75
4	A	303	GST	C10-C3-C4	2.68	119.78	115.27
4	F	303	GST	O1A-PA-O2A	2.67	121.12	110.68
4	L	303	GST	C4-C3-C2	2.67	126.51	121.12
4	C	303	GST	C10-C3-C2	-2.66	116.84	123.68
4	B	303	GST	C10-C3-C2	-2.66	116.86	123.68
3	K	302	SAH	C5'-SD-CG	2.62	110.11	102.27
4	B	303	GST	O3B-PB-O2B	2.60	116.11	109.82
3	E	302	SAH	C1'-N9-C4	-2.59	122.08	126.64
3	J	302	SAH	CB-CG-SD	-2.58	107.53	113.31
4	D	303	GST	C8-C7-C9	2.55	120.24	114.60
3	F	302	SAH	C1'-N9-C4	-2.52	122.21	126.64
4	F	303	GST	C10-C3-C2	-2.49	117.29	123.68
4	G	303	GST	O3B-PB-O2B	2.46	115.79	109.82
4	D	303	GST	O3B-PB-O2B	2.41	115.65	109.82
4	C	303	GST	C5-C6-C7	-2.37	119.64	127.75
4	J	303	GST	O3B-PB-O2B	2.32	115.44	109.82

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	B	303	GST	C10-C3-C4	2.29	119.12	115.27
4	D	303	GST	O3A-PA-O1A	2.28	116.33	107.64
4	H	303	GST	C10-C3-C2	-2.27	117.84	123.68
4	F	303	GST	O3A-PA-O1A	2.26	116.26	107.64
3	E	302	SAH	C4-C5-N7	-2.24	107.07	109.40
4	K	303	GST	O3B-PB-O2B	2.23	115.21	109.82
4	K	303	GST	C10-C3-C4	2.21	118.98	115.27
4	I	303	GST	C8-C7-C9	2.19	119.44	114.60
4	K	303	GST	C5-C6-C7	-2.19	120.26	127.75
3	A	302	SAH	O3'-C3'-C2'	-2.18	104.78	111.82
3	L	302	SAH	CB-CG-SD	-2.17	108.45	113.31
3	C	302	SAH	CB-CA-N	2.15	115.81	110.17
3	C	302	SAH	O4'-C1'-C2'	-2.15	103.79	106.93
3	E	302	SAH	C5'-SD-CG	2.13	108.67	102.27
4	C	303	GST	C4-C3-C2	2.13	125.43	121.12
4	H	303	GST	C5-C6-C7	-2.12	120.49	127.75
3	C	302	SAH	CB-CG-SD	-2.08	108.64	113.31
4	E	303	GST	O3A-PA-O1A	2.08	115.58	107.64
3	K	302	SAH	CB-CG-SD	-2.07	108.66	113.31
3	K	302	SAH	O3'-C3'-C2'	-2.06	105.17	111.82
4	I	303	GST	C8-C7-C6	-2.06	116.71	122.65
3	B	302	SAH	O4'-C1'-C2'	-2.04	103.94	106.93
3	F	302	SAH	C4-C5-N7	-2.01	107.30	109.40

There are no chirality outliers.

All (57) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	A	304	GOL	O1-C1-C2-C3
5	C	304	GOL	C1-C2-C3-O3
5	C	305	GOL	O1-C1-C2-O2
5	C	305	GOL	O1-C1-C2-C3
5	C	305	GOL	C1-C2-C3-O3
5	E	306	GOL	C1-C2-C3-O3
5	E	306	GOL	O2-C2-C3-O3
5	F	304	GOL	O1-C1-C2-C3
5	G	304	GOL	O1-C1-C2-C3
5	G	304	GOL	C1-C2-C3-O3
5	H	304	GOL	O1-C1-C2-C3
5	A	304	GOL	O1-C1-C2-O2
5	C	305	GOL	O2-C2-C3-O3
5	E	306	GOL	O1-C1-C2-O2

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Mol	Chain	Res	Type	Atoms
5	J	304	GOL	O1-C1-C2-O2
5	A	306	GOL	O1-C1-C2-C3
5	B	304	GOL	C1-C2-C3-O3
5	D	304	GOL	C1-C2-C3-O3
5	E	306	GOL	O1-C1-C2-C3
5	F	304	GOL	C1-C2-C3-O3
5	H	304	GOL	C1-C2-C3-O3
5	J	304	GOL	O1-C1-C2-C3
4	I	303	GST	C2-C3-C4-C5
5	F	304	GOL	O1-C1-C2-O2
5	G	304	GOL	O1-C1-C2-O2
5	G	304	GOL	O2-C2-C3-O3
5	H	304	GOL	O1-C1-C2-O2
4	I	303	GST	C10-C3-C4-C5
5	B	304	GOL	O2-C2-C3-O3
5	D	304	GOL	O2-C2-C3-O3
5	C	304	GOL	O2-C2-C3-O3
4	H	303	GST	PB-O1B-PA-O2A
4	E	303	GST	PB-O1B-PA-O1A
4	H	303	GST	PB-O1B-PA-O3A
4	I	303	GST	PB-O1B-PA-O3A
5	F	304	GOL	O2-C2-C3-O3
3	H	302	SAH	C-CA-CB-CG
3	J	302	SAH	C-CA-CB-CG
3	K	302	SAH	O4'-C4'-C5'-SD
4	E	303	GST	PA-O1B-PB-O3B
4	H	303	GST	PA-O1B-PB-O3B
5	E	305[B]	GOL	C1-C2-C3-O3
4	F	303	GST	C2-C3-C4-C5
4	F	303	GST	C10-C3-C4-C5
4	I	303	GST	PB-O1B-PA-O2A
4	F	303	GST	C3-C4-C5-C6
4	E	303	GST	PA-O1B-PB-O2B
4	G	303	GST	PA-O1B-PB-O3B
4	I	303	GST	C3-C4-C5-C6
4	D	303	GST	PB-O1B-PA-O3A
3	H	302	SAH	N-CA-CB-CG
5	E	305[B]	GOL	O2-C2-C3-O3
4	G	303	GST	PA-O1B-PB-O2B
4	C	303	GST	PA-O1B-PB-O3B
4	K	303	GST	PA-O1B-PB-O3B
5	A	306	GOL	O1-C1-C2-O2

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Mol	Chain	Res	Type	Atoms
3	J	302	SAH	CB-CG-SD-C5'

There are no ring outliers.

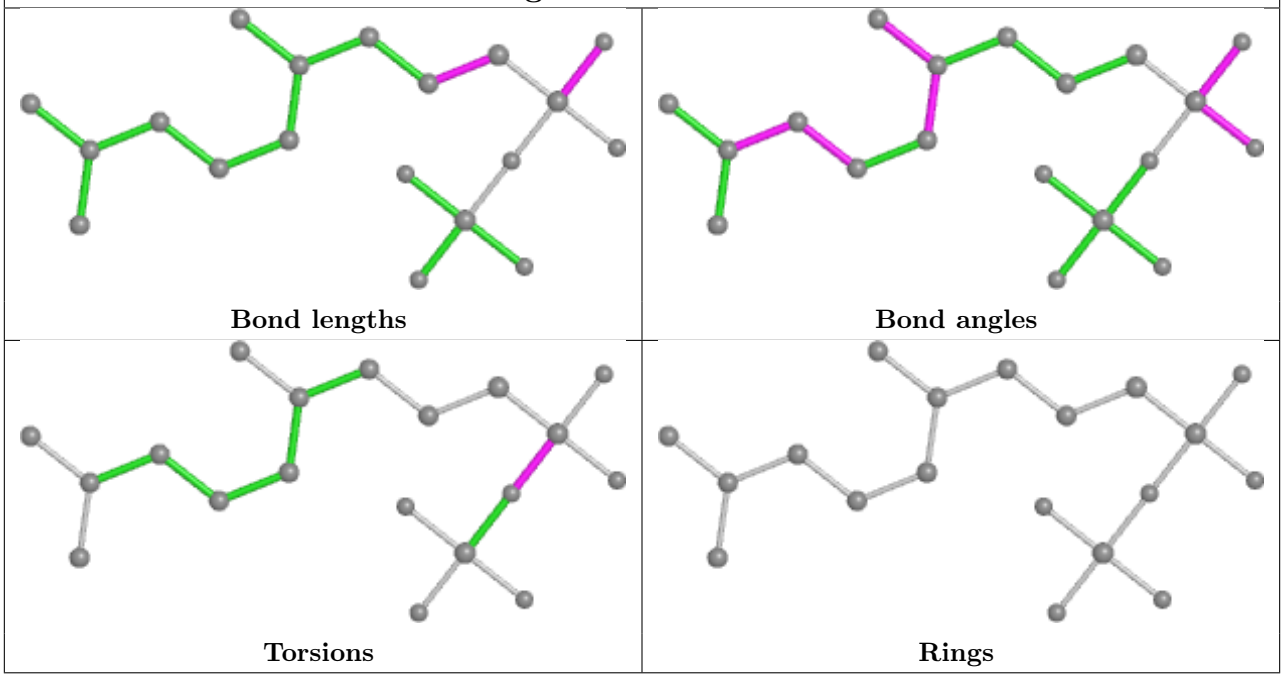
26 monomers are involved in 39 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	K	303	GST	1	0
3	F	302	SAH	1	0
3	I	302	SAH	1	0
5	E	306	GOL	1	0
3	H	302	SAH	1	0
5	C	305	GOL	2	0
5	A	306	GOL	3	0
5	E	305[A]	GOL	4	0
3	E	302	SAH	1	0
4	I	303	GST	1	0
4	C	303	GST	1	0
4	A	303	GST	1	0
3	K	302	SAH	1	0
5	J	304	GOL	1	0
4	B	303	GST	2	0
4	L	303	GST	2	0
5	H	304	GOL	1	0
5	A	304	GOL	4	0
4	F	303	GST	1	0
5	A	305	GOL	2	0
3	G	302	SAH	1	0
4	G	303	GST	1	0
5	I	304	GOL	1	0
4	D	303	GST	1	0
5	F	304	GOL	1	0
5	G	304	GOL	2	0

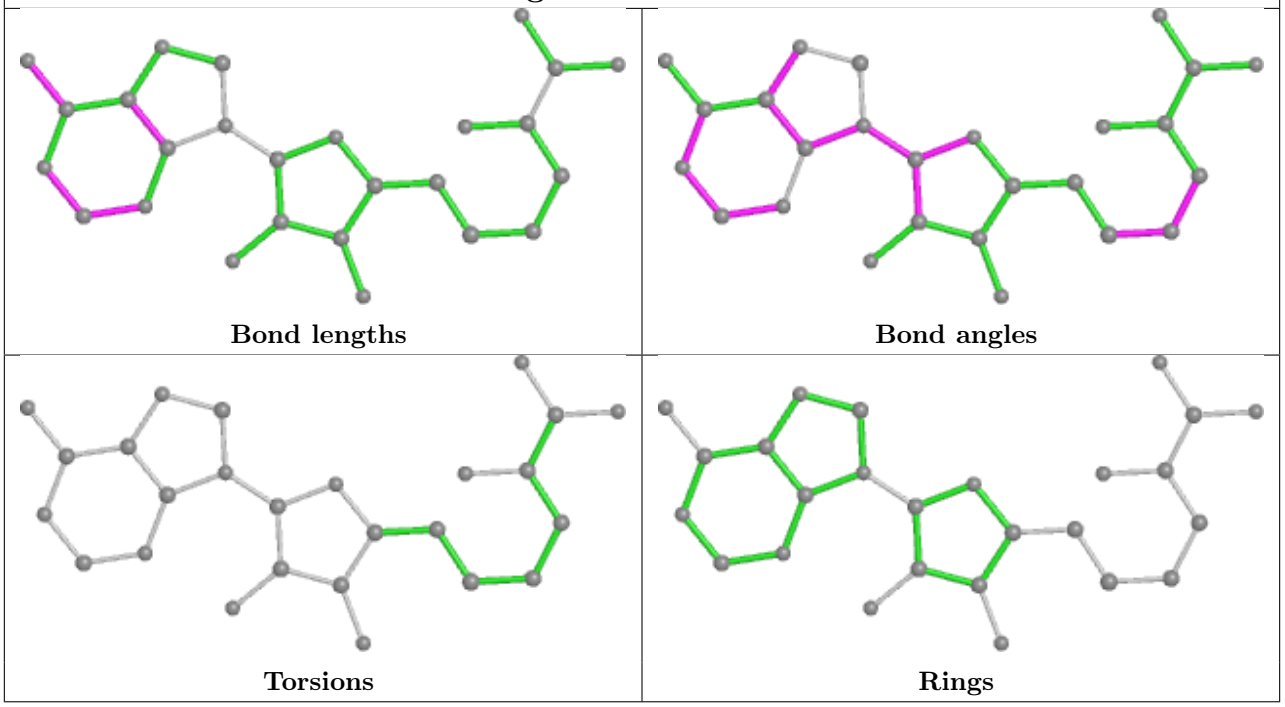
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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 GST K 303



Ligand SAH F 302



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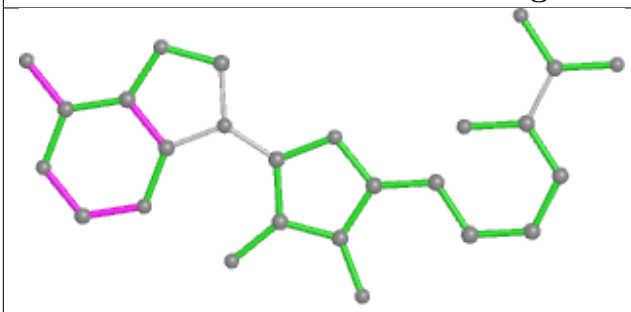
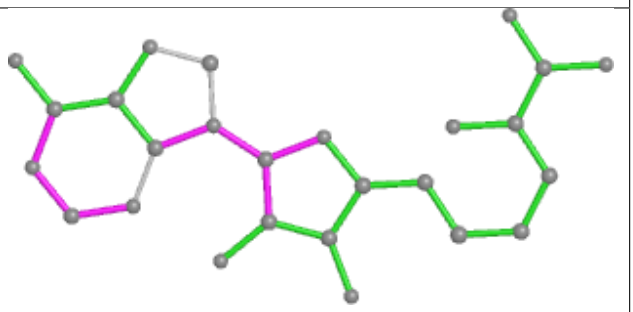
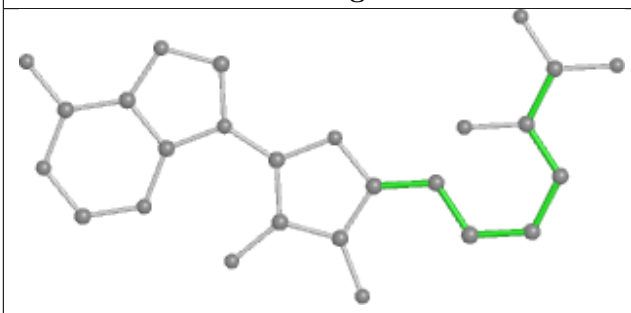


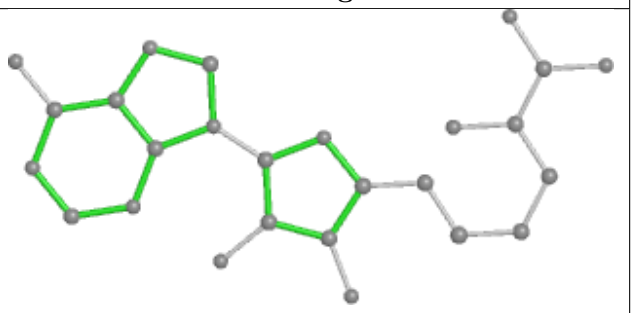
Bond lengths



Bond angles

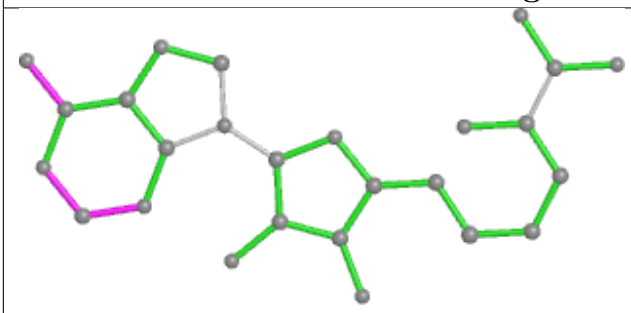


Torsions



Rings

Ligand SAH H 302



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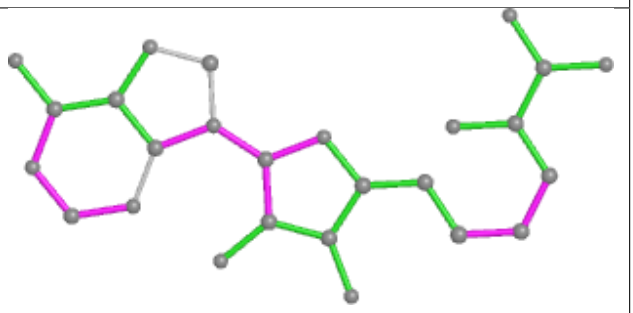

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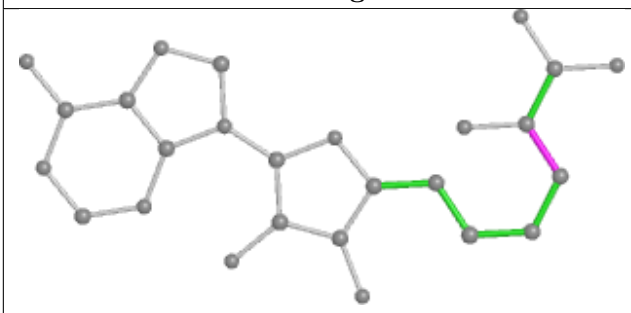

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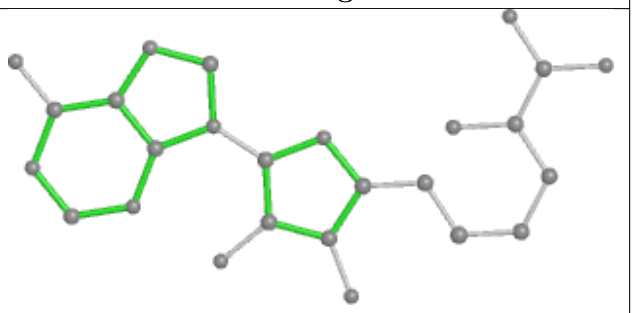
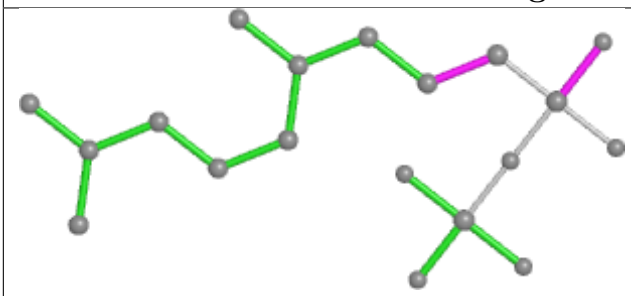


Rings

Ligand GST J 303



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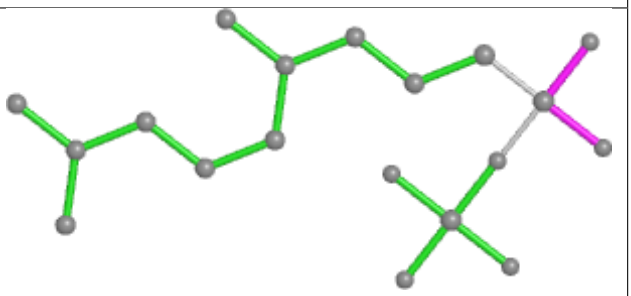

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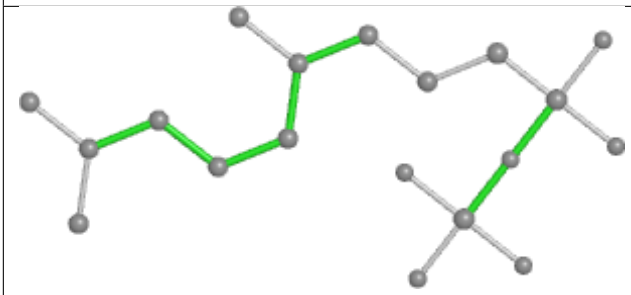

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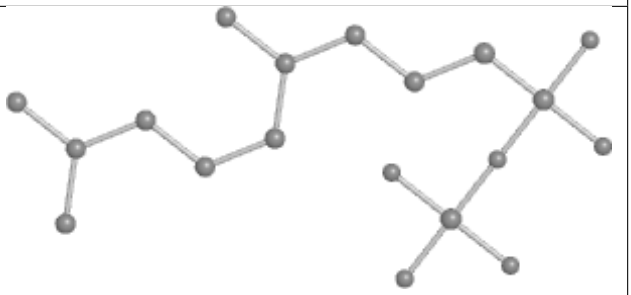

Rings

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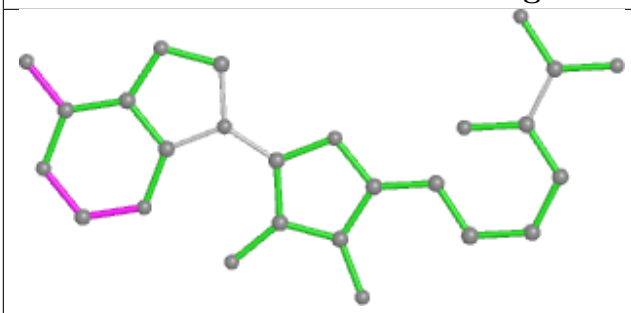

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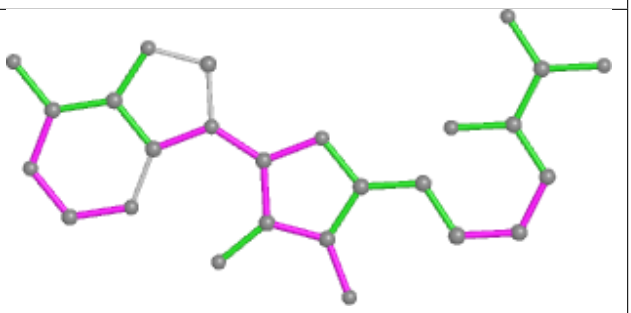
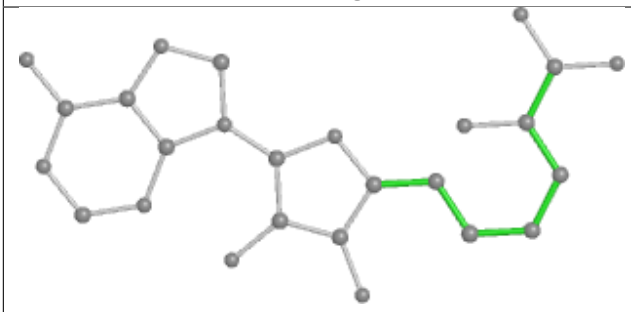


Bond angles



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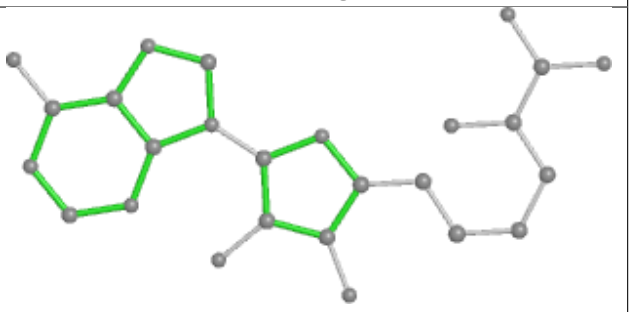
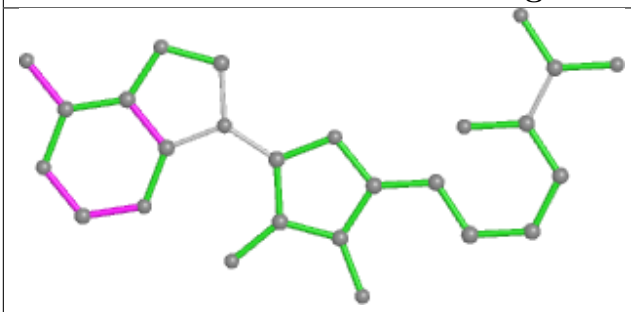


Rings

Ligand SAH E 302



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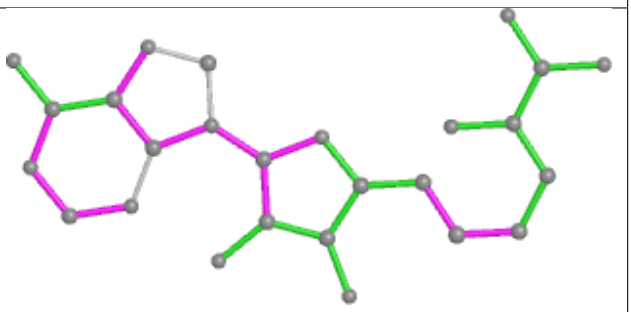

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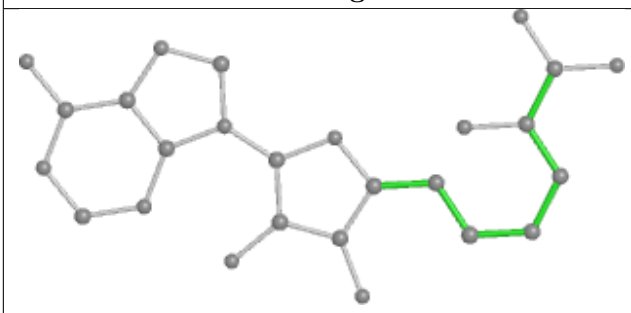

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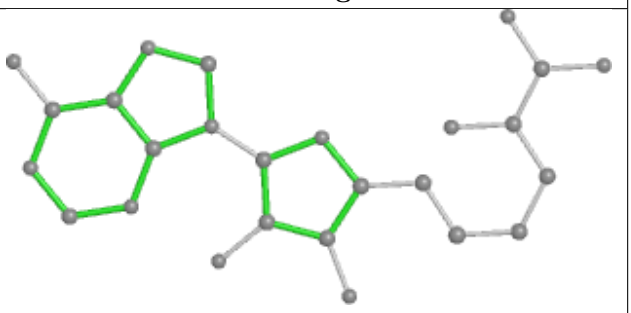
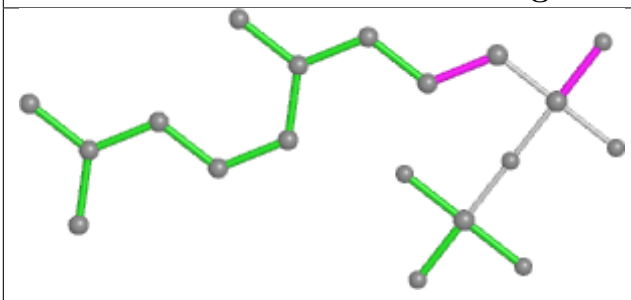


Rings

Ligand GST I 303



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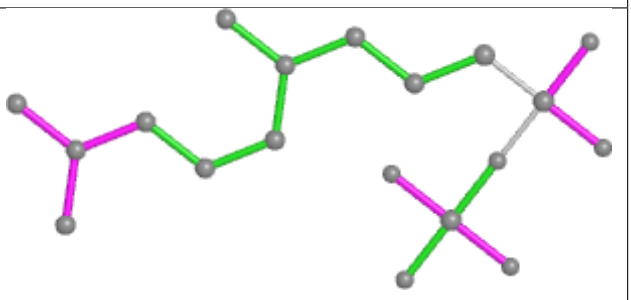

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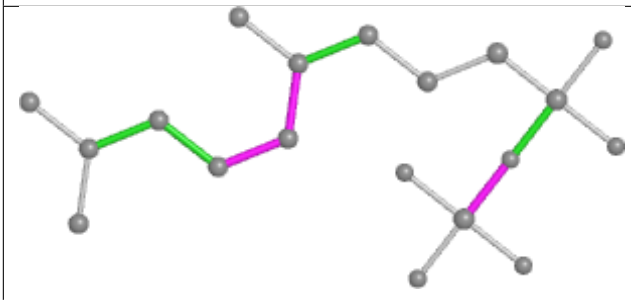

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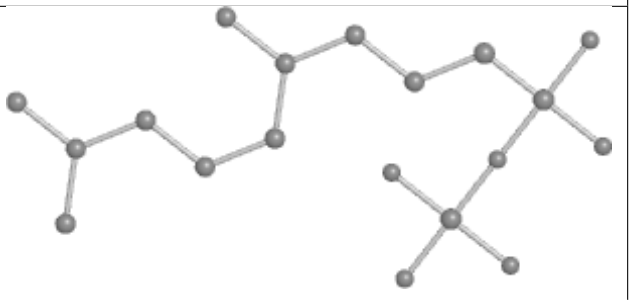
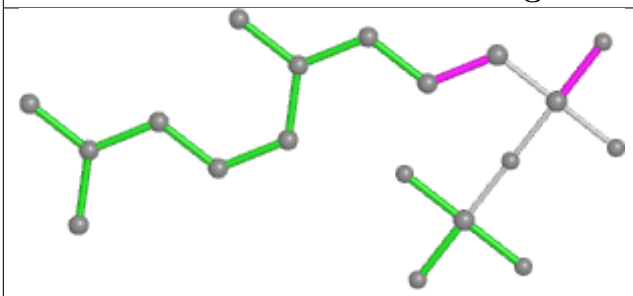


Rings

Ligand GST H 303



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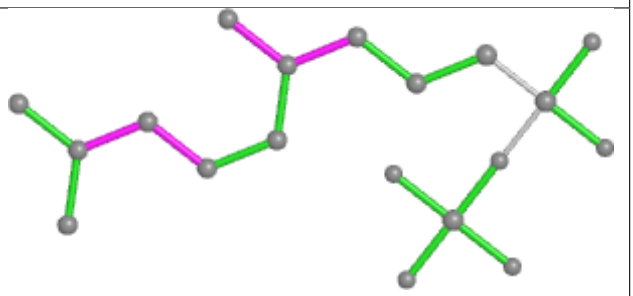

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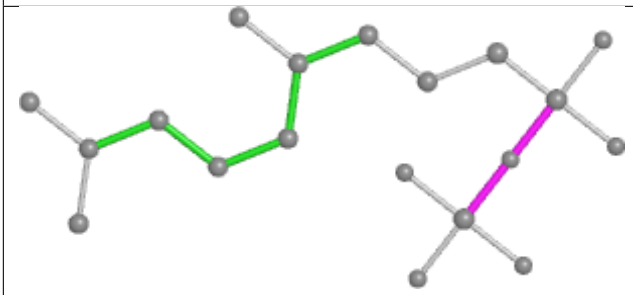

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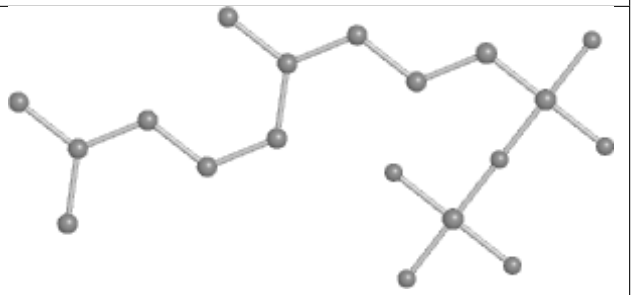
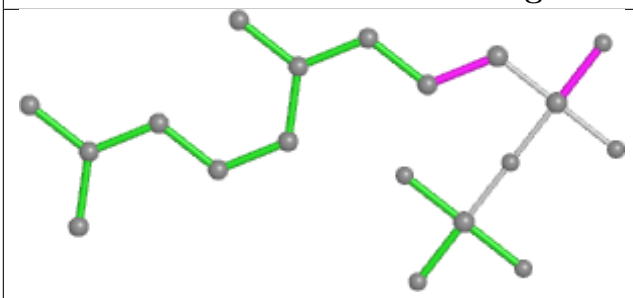
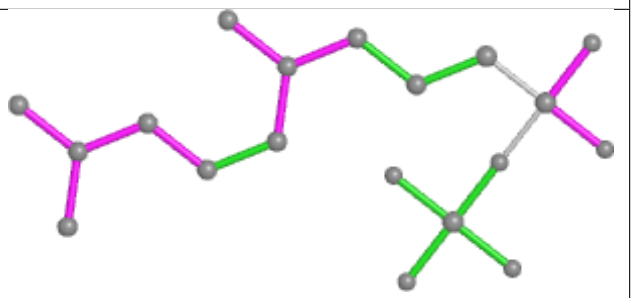


Rings

Ligand GST C 303



Bond lengths



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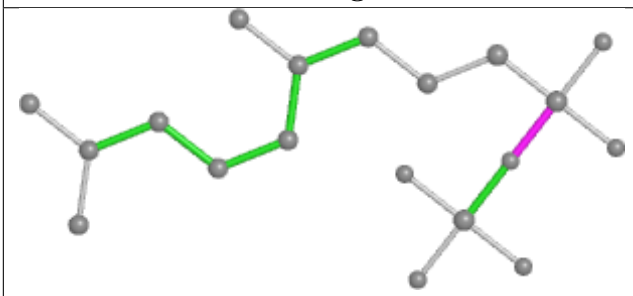
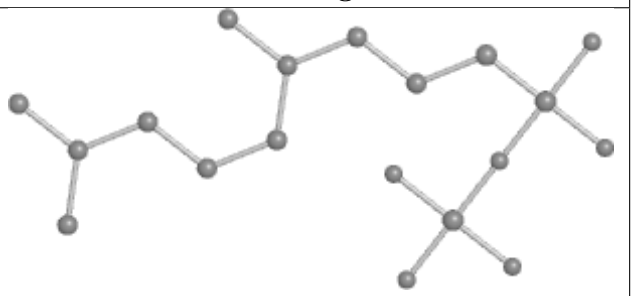
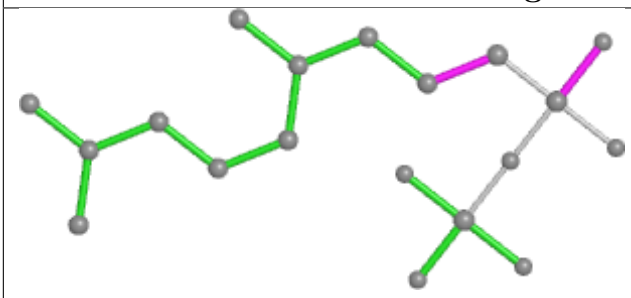


Torsions



Rings

Ligand GST A 303



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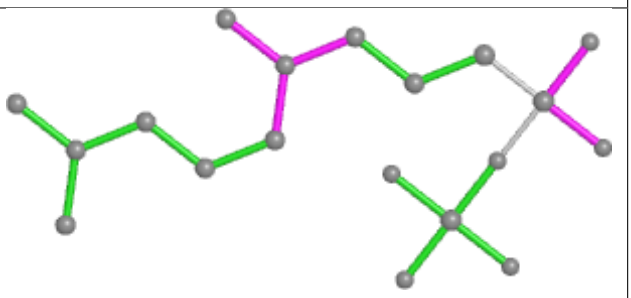

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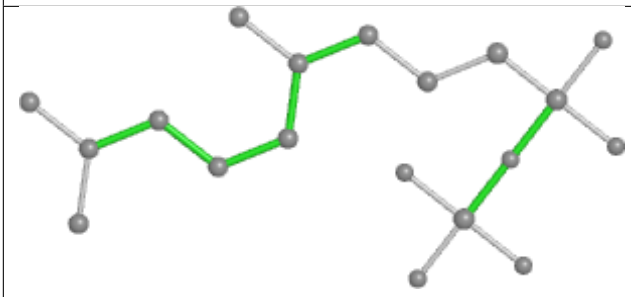

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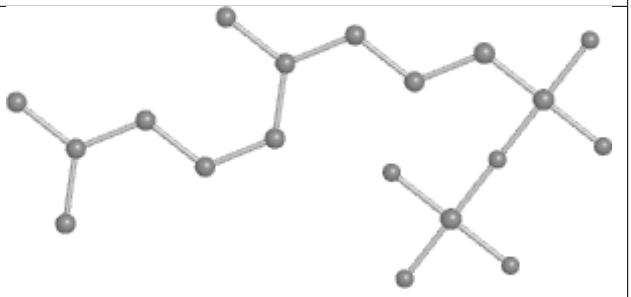
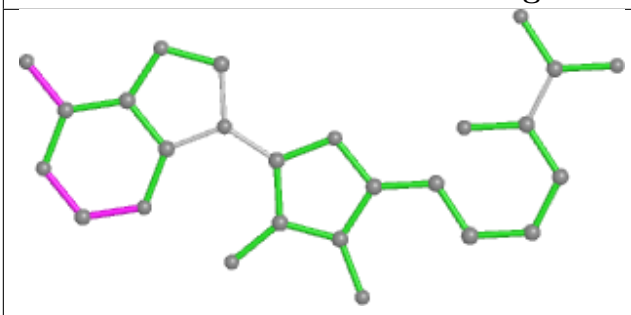


Rings

Ligand SAH K 302



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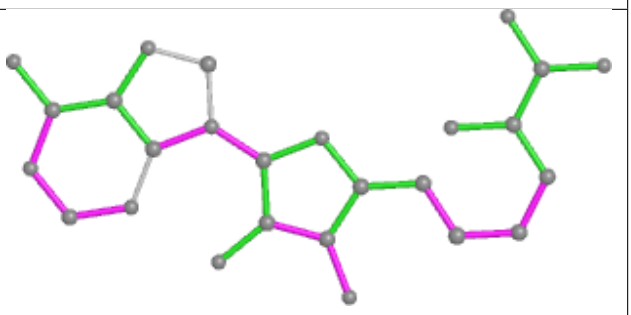

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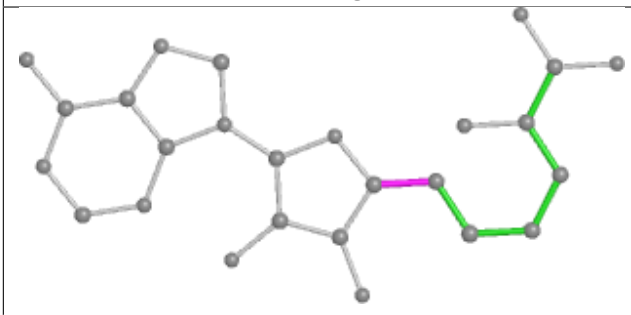

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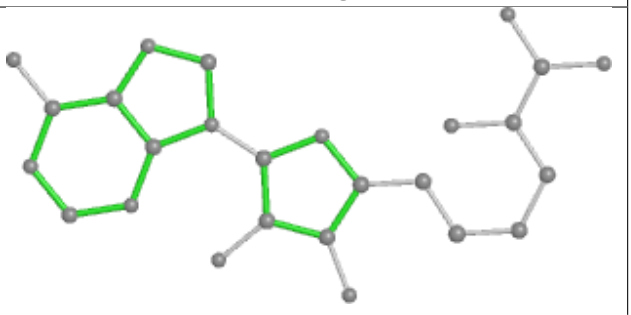
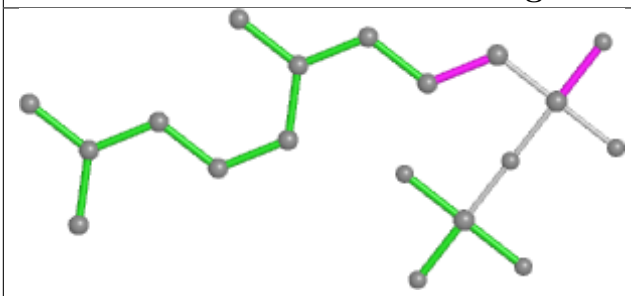


Rings

Ligand GST B 303



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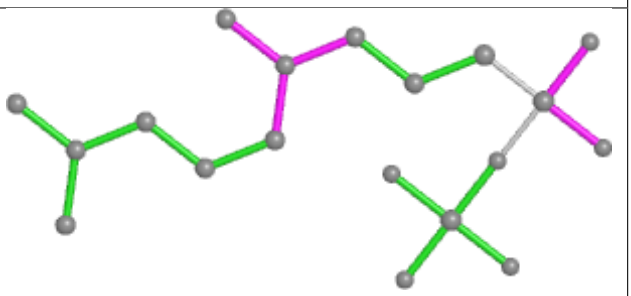
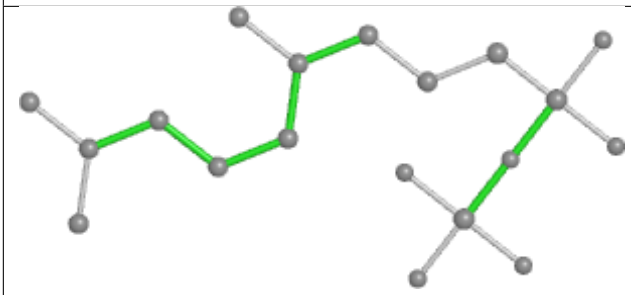


Bond angles



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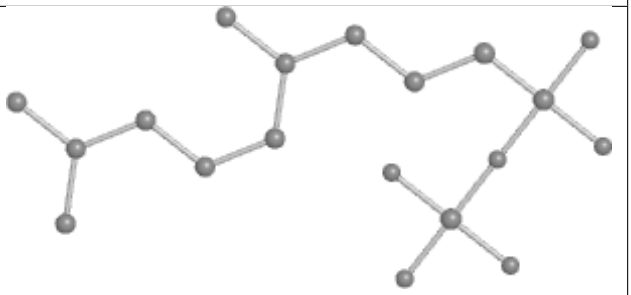
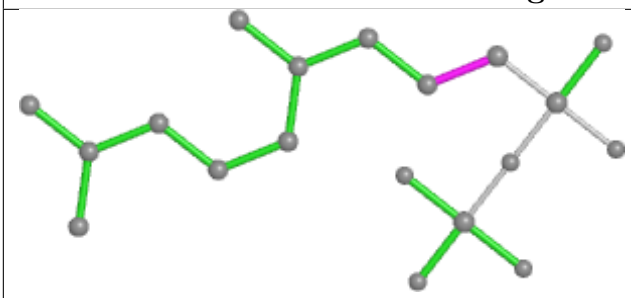


Rings

Ligand GST L 303



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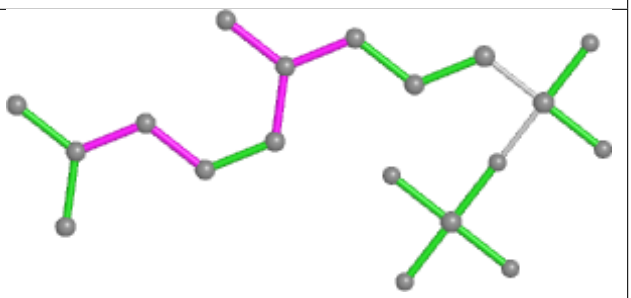

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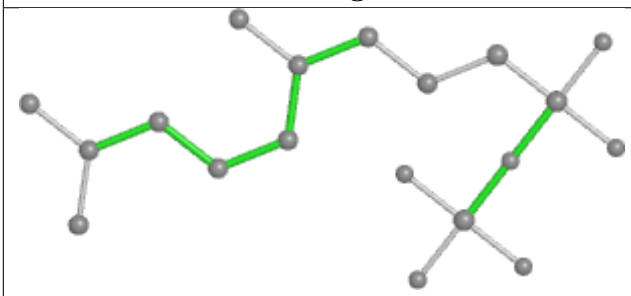

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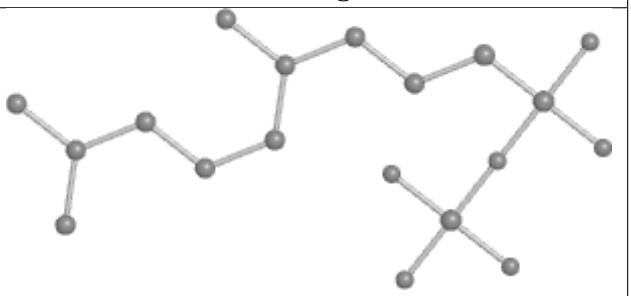
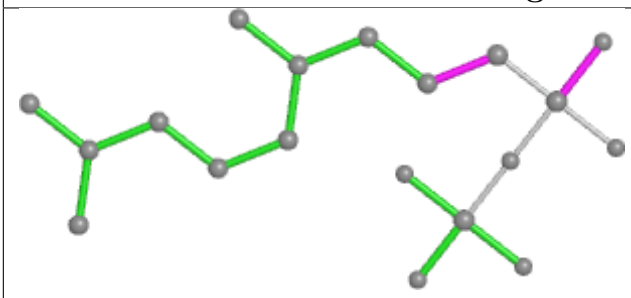


Rings

Ligand GST E 303



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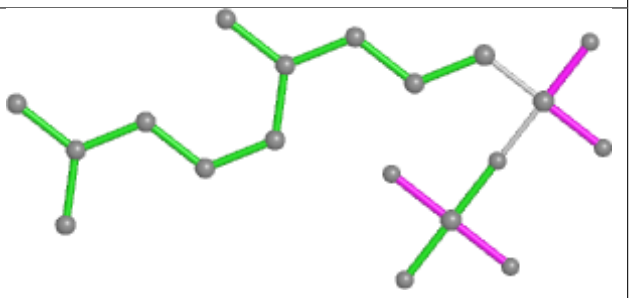

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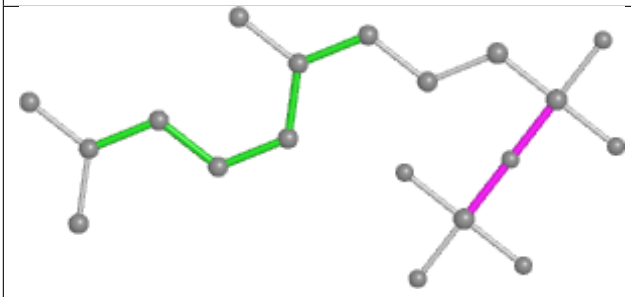

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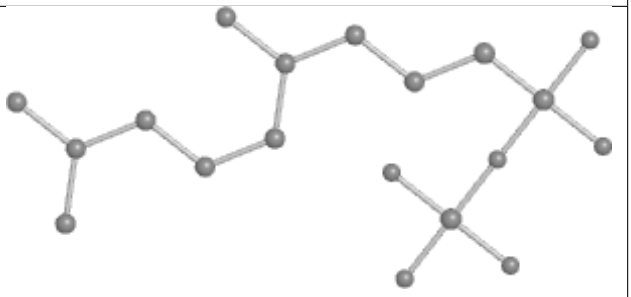
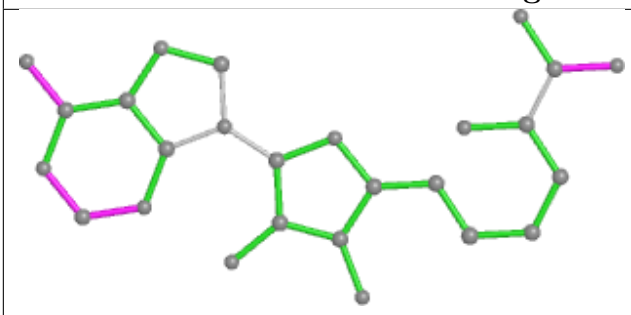


Rings

Ligand SAH D 302



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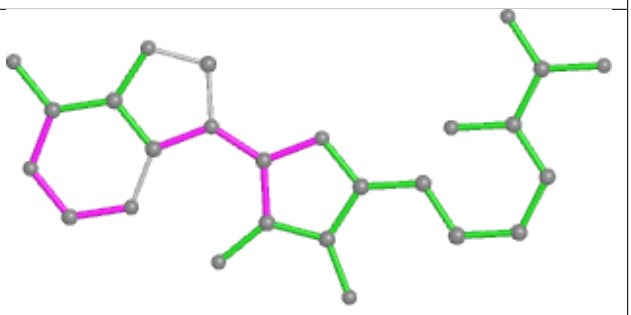

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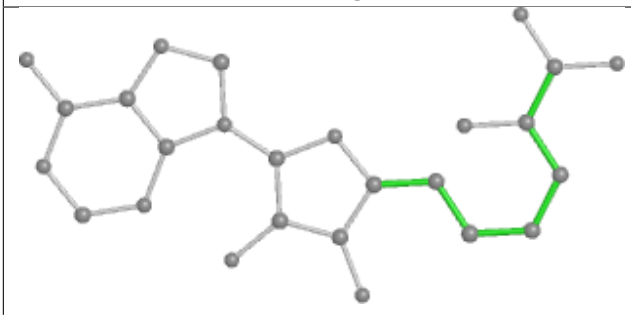

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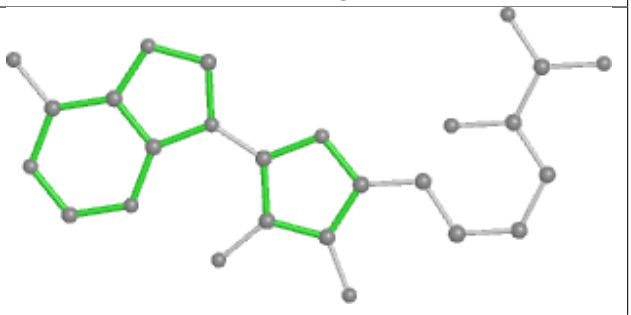
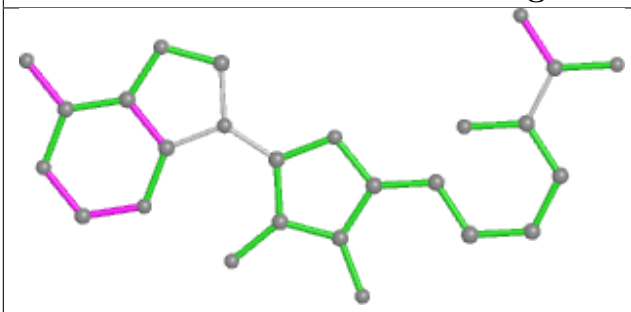


Rings

Ligand SAH J 302



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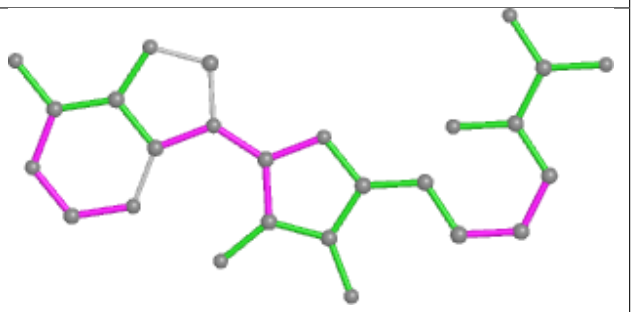

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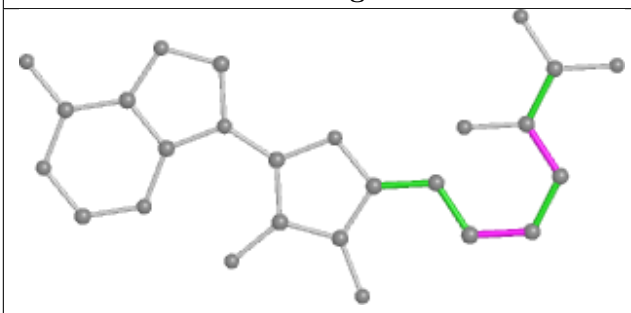

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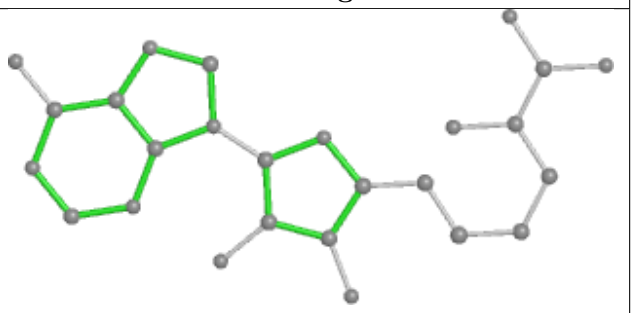
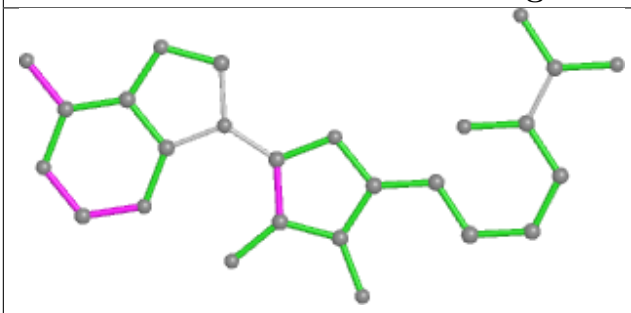


Rings

Ligand SAH L 302



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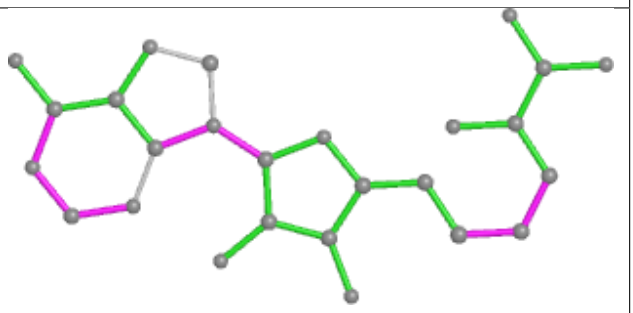
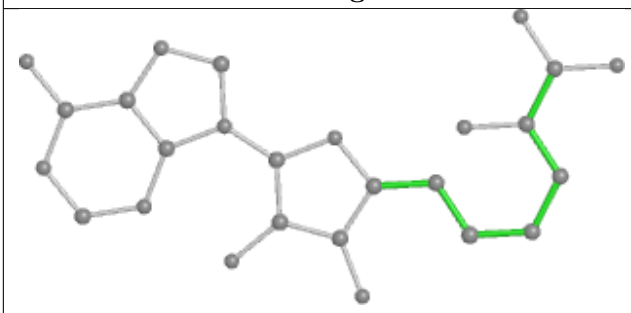


Bond angles



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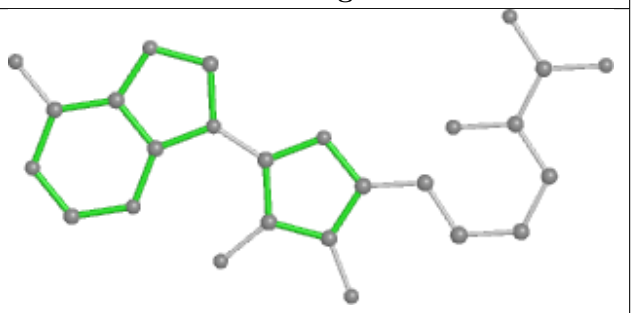
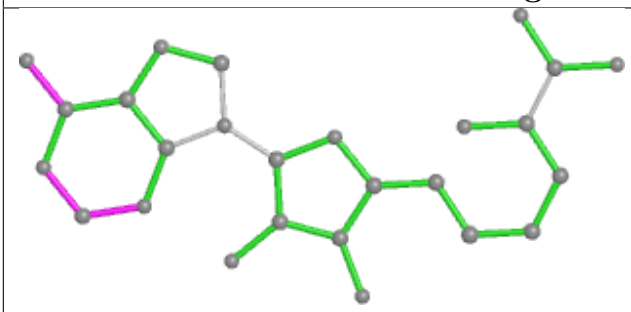


Rings

Ligand SAH B 302



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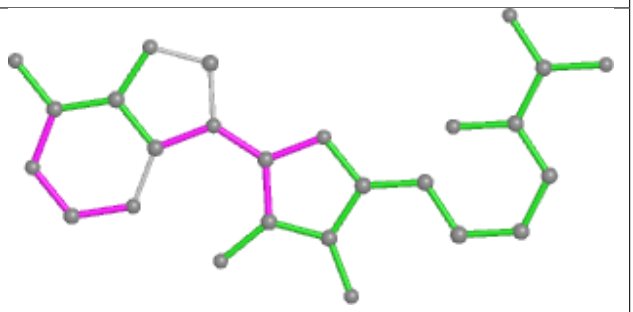

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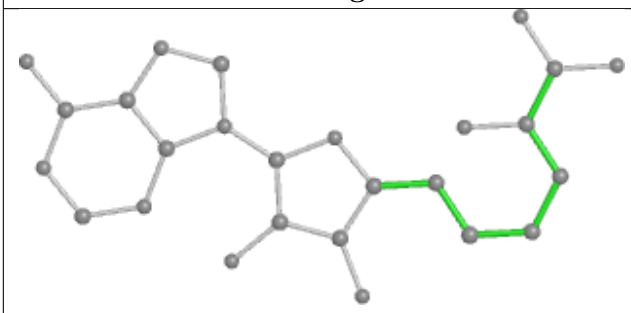

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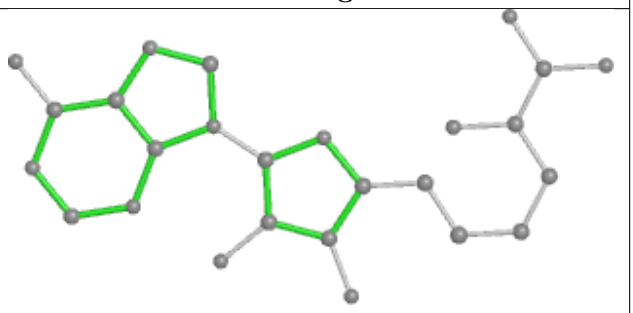
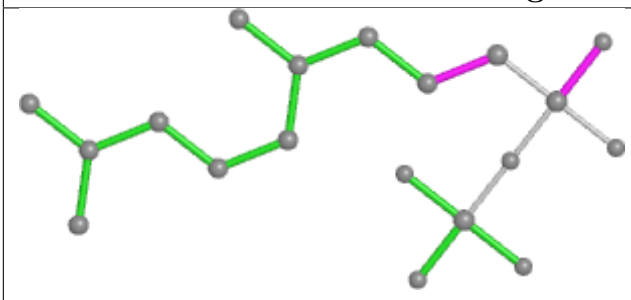


Rings

Ligand GST F 303



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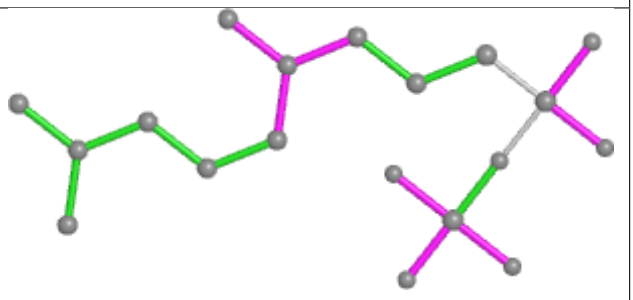
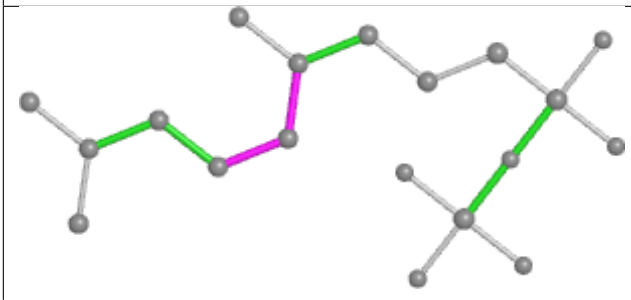


Bond angles



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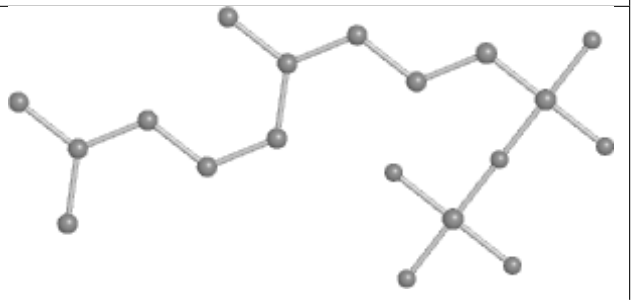
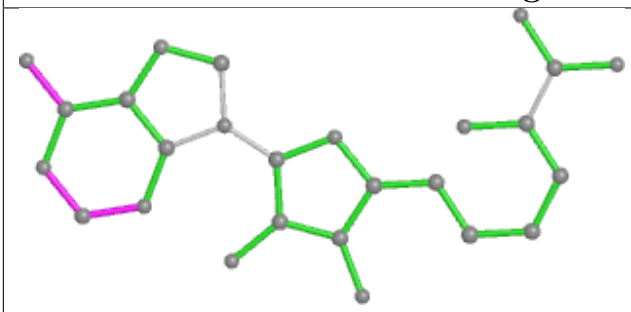


Rings

Ligand SAH G 302



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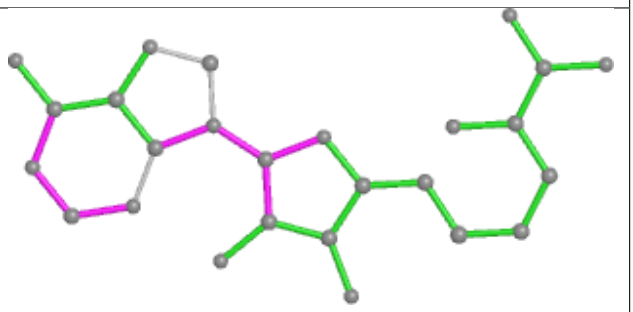
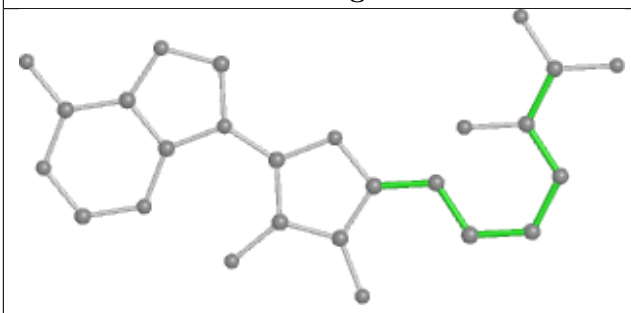
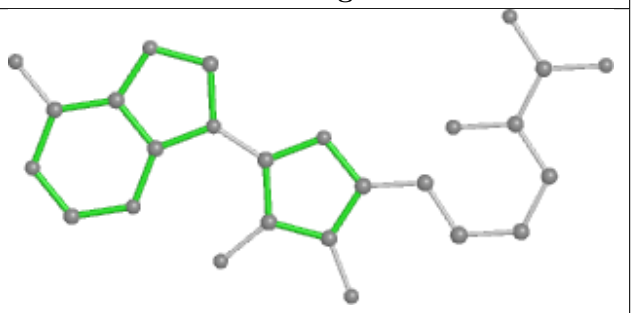


Bond angles

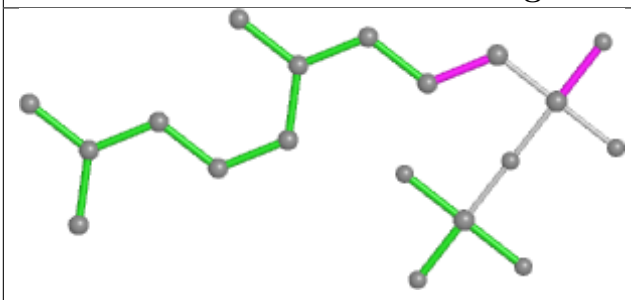


Torsions

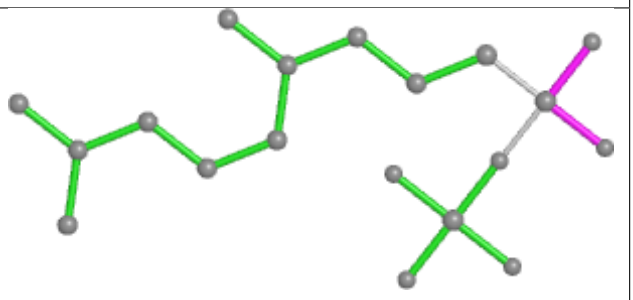


Rings

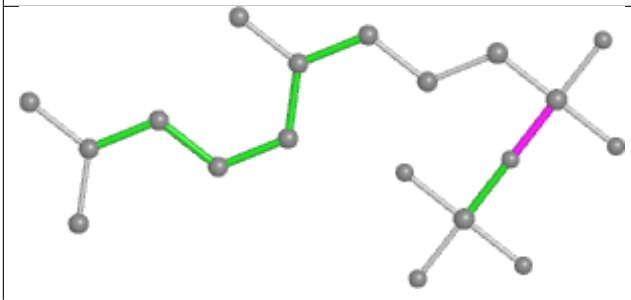
Ligand GST G 303



Bond lengths



Bond angles



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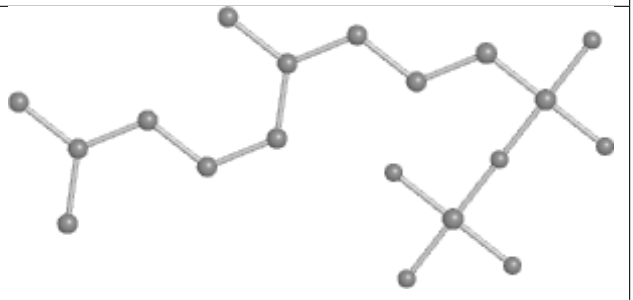
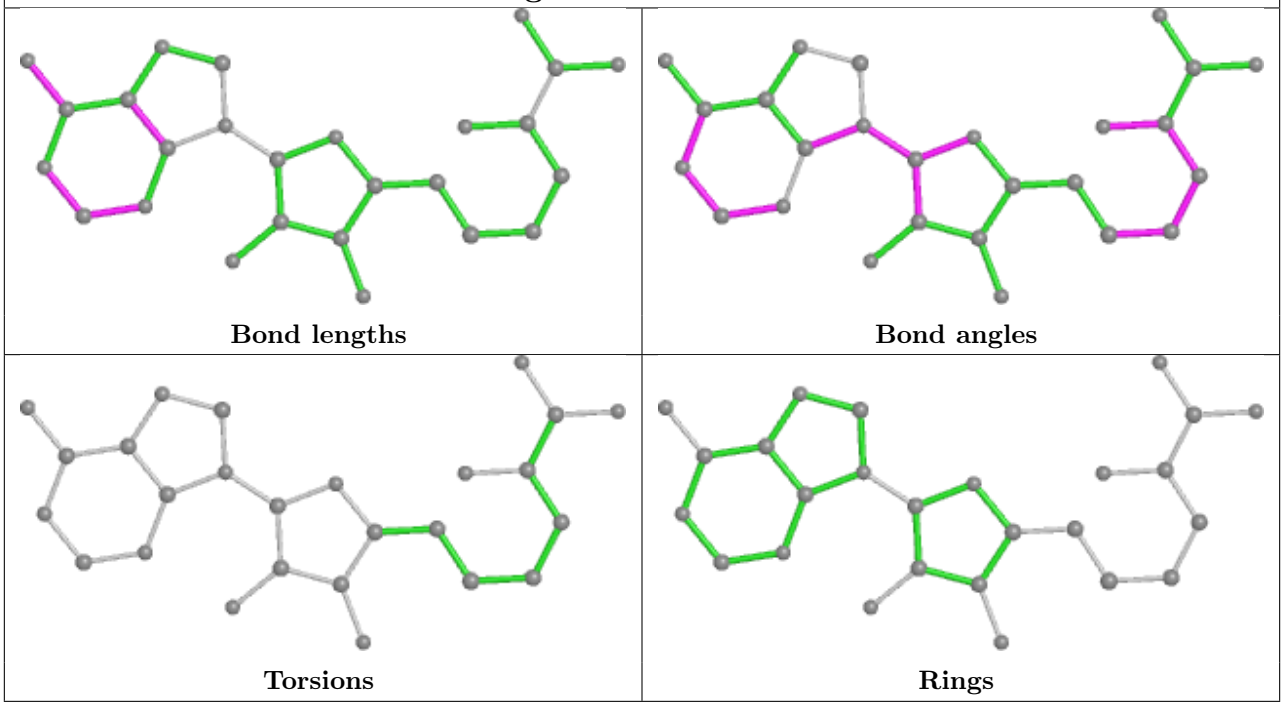
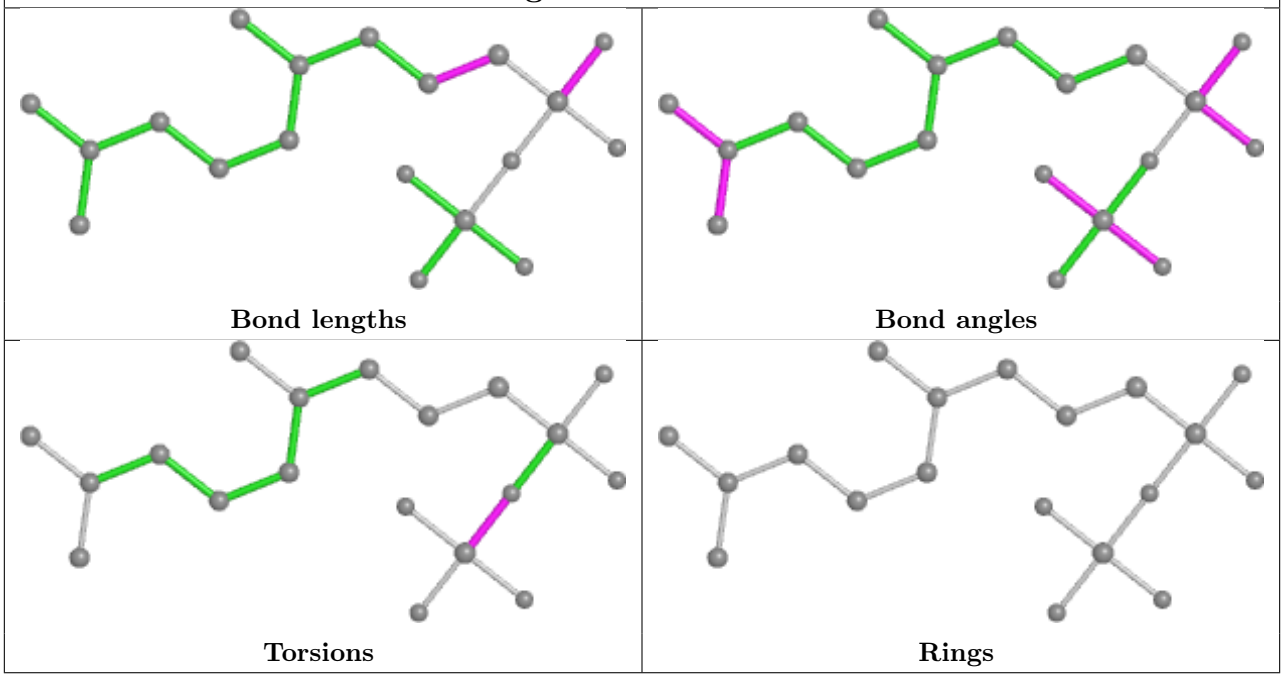


Rings

Ligand SAH C 302



Ligand GST D 303



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	277/312 (88%)	-0.44	6 (2%)	62	58	15, 21, 37, 55	1 (0%)
1	B	278/312 (89%)	-0.62	1 (0%)	92	91	17, 22, 37, 56	1 (0%)
1	C	278/312 (89%)	-0.47	4 (1%)	75	72	17, 22, 35, 56	1 (0%)
1	D	288/312 (92%)	-0.53	9 (3%)	49	43	16, 21, 43, 61	1 (0%)
1	E	278/312 (89%)	-0.36	5 (1%)	68	64	16, 23, 43, 63	1 (0%)
1	F	278/312 (89%)	0.11	22 (7%)	12	9	19, 31, 59, 92	1 (0%)
1	G	278/312 (89%)	-0.24	12 (4%)	35	29	17, 23, 43, 73	2 (0%)
1	H	278/312 (89%)	-0.68	3 (1%)	80	78	16, 21, 31, 57	2 (0%)
1	I	278/312 (89%)	-0.35	8 (2%)	51	46	17, 22, 45, 71	1 (0%)
1	J	276/312 (88%)	-0.30	8 (2%)	51	46	16, 22, 48, 76	1 (0%)
1	K	278/312 (89%)	-0.30	13 (4%)	31	25	17, 24, 47, 72	1 (0%)
1	L	278/312 (89%)	-0.51	5 (1%)	68	64	17, 24, 43, 69	2 (0%)
All	All	3343/3744 (89%)	-0.39	96 (2%)	51	46	15, 22, 44, 92	15 (0%)

All (96) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	F	66	HIS	6.8
1	F	62	GLY	6.6
1	J	63	ASP	5.9
1	F	65	GLU	5.8
1	F	63	ASP	5.3
1	F	64	PRO	5.2
1	J	17	PRO	5.1
1	G	65	GLU	5.0
1	G	63	ASP	4.8
1	F	61	LEU	4.7
1	K	65	GLU	4.4

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Mol	Chain	Res	Type	RSRZ
1	D	14	ILE	4.3
1	G	62	GLY	4.3
1	F	15	PRO	4.3
1	D	7	THR	4.3
1	J	66	HIS	4.3
1	F	69	TYR	4.1
1	F	68	GLU	4.0
1	J	62	GLY	4.0
1	H	15	PRO	4.0
1	F	60	ALA	3.9
1	K	66	HIS	3.9
1	D	12	ALA	3.9
1	F	72	LYS	3.8
1	G	67	SER	3.7
1	G	66	HIS	3.6
1	K	67	SER	3.6
1	K	63	ASP	3.5
1	K	62	GLY	3.4
1	F	144	ARG	3.4
1	K	68	GLU	3.4
1	F	59	ALA	3.4
1	K	15	PRO	3.3
1	J	67	SER	3.3
1	A	65	GLU	3.2
1	D	5	THR	3.2
1	A	16	ALA	3.2
1	K	16	ALA	3.2
1	C	15	PRO	3.1
1	A	66	HIS	3.0
1	D	6	THR	3.0
1	F	16	ALA	3.0
1	H	17	PRO	3.0
1	F	67	SER	2.9
1	L	15	PRO	2.9
1	K	59	ALA	2.9
1	F	56	VAL	2.9
1	G	61	LEU	2.9
1	K	17	PRO	2.9
1	C	16	ALA	2.8
1	G	64	PRO	2.8
1	J	59	ALA	2.8
1	A	17	PRO	2.8

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Mol	Chain	Res	Type	RSRZ
1	H	16	ALA	2.7
1	F	58	ARG	2.6
1	E	67	SER	2.6
1	G	17	PRO	2.6
1	F	17	PRO	2.5
1	I	64	PRO	2.5
1	B	65	GLU	2.5
1	I	15	PRO	2.5
1	L	16	ALA	2.4
1	F	57	ASP	2.4
1	K	69	TYR	2.4
1	G	15	PRO	2.4
1	G	68	GLU	2.4
1	E	15	PRO	2.4
1	E	68	GLU	2.4
1	I	66	HIS	2.4
1	F	259	LEU	2.4
1	K	64	PRO	2.4
1	J	60	ALA	2.3
1	D	8	ALA	2.3
1	G	59	ALA	2.2
1	I	16	ALA	2.2
1	L	58	ARG	2.2
1	E	66	HIS	2.2
1	D	11	THR	2.2
1	D	13	LYS	2.2
1	A	67	SER	2.2
1	I	67	SER	2.2
1	I	181[A]	HIS	2.2
1	I	62	GLY	2.2
1	A	63	ASP	2.2
1	F	140	ALA	2.2
1	D	10	ALA	2.1
1	G	69	TYR	2.1
1	J	65	GLU	2.1
1	L	17	PRO	2.1
1	E	65	GLU	2.1
1	I	63	ASP	2.1
1	F	73	VAL	2.1
1	K	70	GLU	2.0
1	C	66	HIS	2.0
1	L	39	ARG	2.0

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Mol	Chain	Res	Type	RSRZ
1	C	68	GLU	2.0

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

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

6.3 Carbohydrates (i)

There are no 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
5	GOL	G	304	6/6	0.85	0.15	27,40,41,42	0
5	GOL	E	306	6/6	0.88	0.13	31,34,38,43	0
5	GOL	F	304	6/6	0.88	0.12	34,35,36,40	0
5	GOL	C	304	6/6	0.88	0.18	29,31,36,37	0
5	GOL	J	304	6/6	0.88	0.15	24,29,33,40	0
5	GOL	E	305[A]	6/6	0.89	0.15	23,29,30,30	6
5	GOL	E	305[B]	6/6	0.89	0.15	27,28,30,32	6
5	GOL	A	305	6/6	0.91	0.14	23,28,34,42	0
5	GOL	D	304	6/6	0.91	0.11	30,33,34,39	0
5	GOL	B	304	6/6	0.92	0.14	34,36,38,41	0
5	GOL	A	306	6/6	0.94	0.10	32,34,35,36	0
5	GOL	H	304	6/6	0.94	0.11	32,34,36,37	0
2	MG	F	301	1/1	0.94	0.09	35,35,35,35	0
5	GOL	I	304	6/6	0.95	0.16	20,27,28,31	0
5	GOL	L	304	6/6	0.95	0.09	25,29,34,38	0
2	MG	C	301	1/1	0.96	0.05	26,26,26,26	0
5	GOL	C	305	6/6	0.96	0.13	25,36,38,39	0
3	SAH	F	302	26/26	0.96	0.07	24,27,29,31	0
5	GOL	A	304	6/6	0.96	0.21	28,32,34,40	0
3	SAH	B	302	26/26	0.97	0.06	16,19,21,22	0
3	SAH	C	302	26/26	0.97	0.09	16,18,20,21	0
2	MG	K	301	1/1	0.97	0.03	26,26,26,26	0

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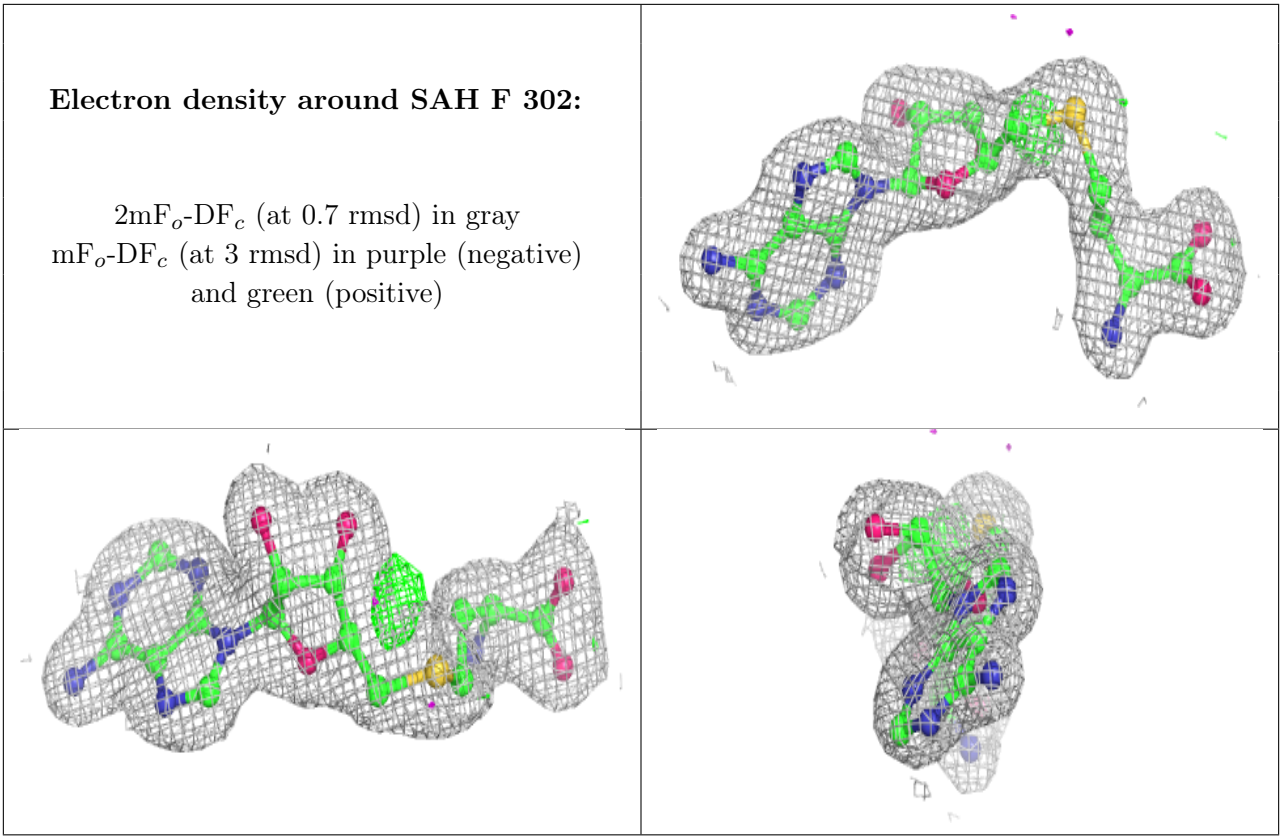
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	GST	F	303	19/19	0.97	0.08	24,32,35,37	0
4	GST	K	303	19/19	0.98	0.06	24,27,30,34	0
4	GST	L	303	19/19	0.98	0.06	21,24,28,31	0
2	MG	E	301	1/1	0.98	0.06	20,20,20,20	0
3	SAH	A	302	26/26	0.98	0.06	16,18,20,20	0
2	MG	B	301	1/1	0.98	0.04	21,21,21,21	0
2	MG	G	301	1/1	0.98	0.09	23,23,23,23	0
3	SAH	D	302	26/26	0.98	0.05	14,17,19,19	0
3	SAH	E	302	26/26	0.98	0.09	17,19,21,22	0
2	MG	I	301	1/1	0.98	0.10	22,22,22,22	0
3	SAH	G	302	26/26	0.98	0.08	15,20,22,22	0
3	SAH	H	302	26/26	0.98	0.06	15,17,19,20	0
3	SAH	I	302	26/26	0.98	0.10	16,18,20,21	0
3	SAH	J	302	26/26	0.98	0.11	15,17,19,21	0
3	SAH	K	302	26/26	0.98	0.06	19,22,23,25	0
3	SAH	L	302	26/26	0.98	0.07	17,20,21,23	0
4	GST	B	303	19/19	0.98	0.07	18,24,28,32	0
4	GST	C	303	19/19	0.98	0.08	20,26,30,30	0
2	MG	J	301	1/1	0.98	0.04	22,22,22,22	0
4	GST	I	303	19/19	0.99	0.08	18,23,27,27	0
4	GST	J	303	19/19	0.99	0.08	18,22,26,28	0
4	GST	A	303	19/19	0.99	0.07	17,22,27,29	0
2	MG	D	301	1/1	0.99	0.07	16,16,16,16	0
2	MG	A	301	1/1	0.99	0.06	19,19,19,19	0
4	GST	D	303	19/19	0.99	0.06	18,21,26,28	0
4	GST	E	303	19/19	0.99	0.08	18,22,25,29	0
2	MG	H	301	1/1	0.99	0.07	17,17,17,17	0
4	GST	G	303	19/19	0.99	0.09	20,24,27,29	0
4	GST	H	303	19/19	0.99	0.06	18,21,29,29	0
6	SO4	E	304	5/5	0.99	0.07	24,26,28,28	0
2	MG	L	301	1/1	1.00	0.05	20,20,20,20	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.

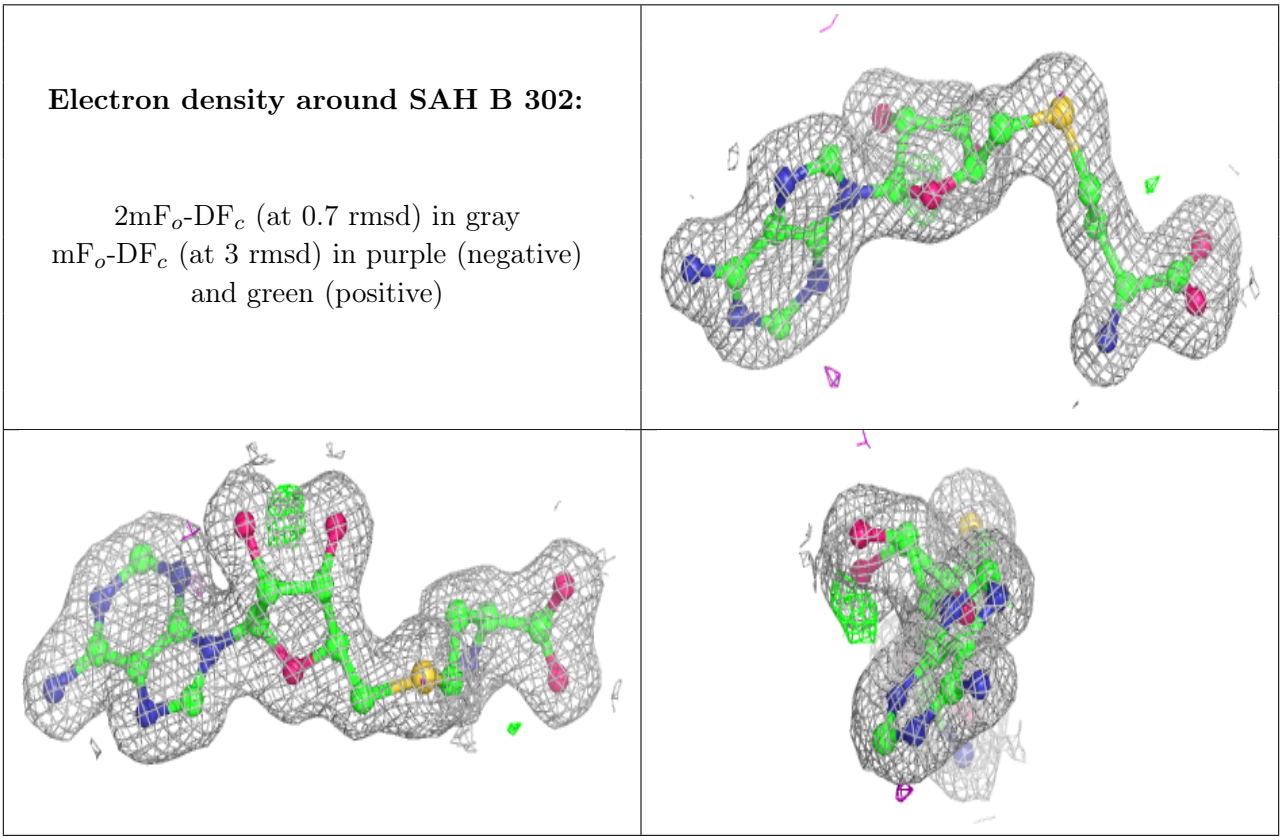
Electron density around SAH F 302:

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



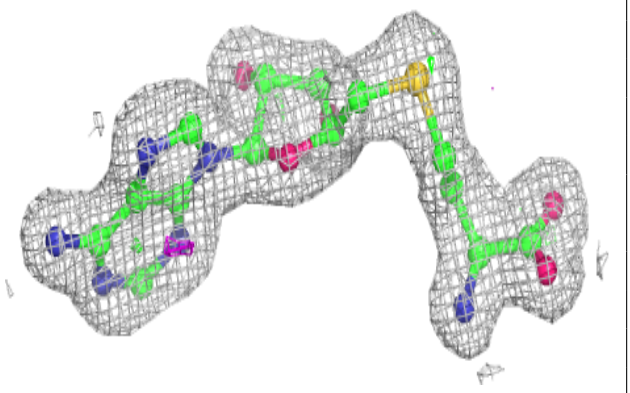
Electron density around SAH B 302:

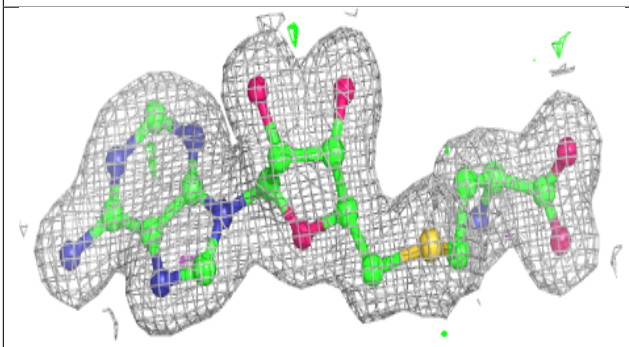
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

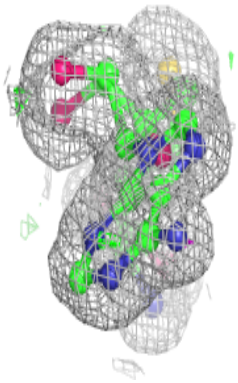


Electron density around SAH C 302:

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

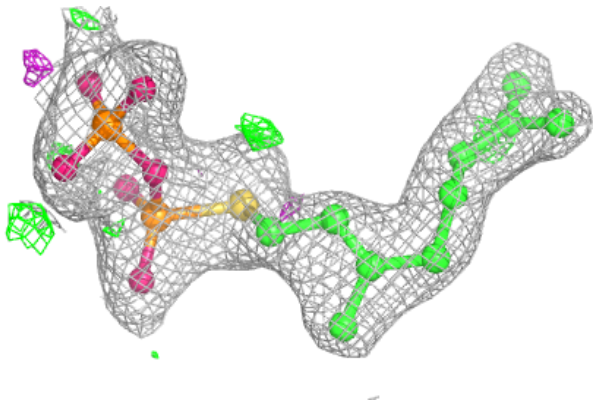


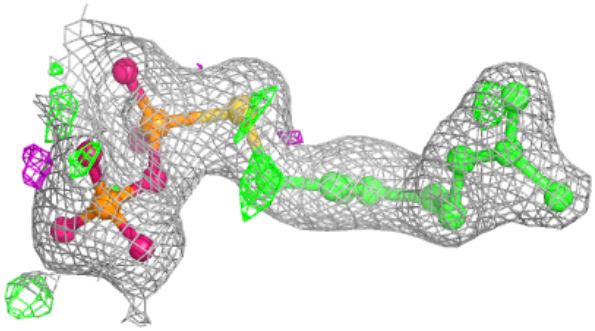


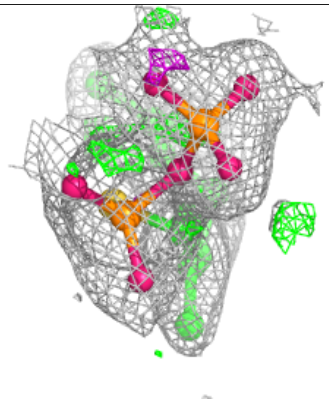


Electron density around GST F 303:

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

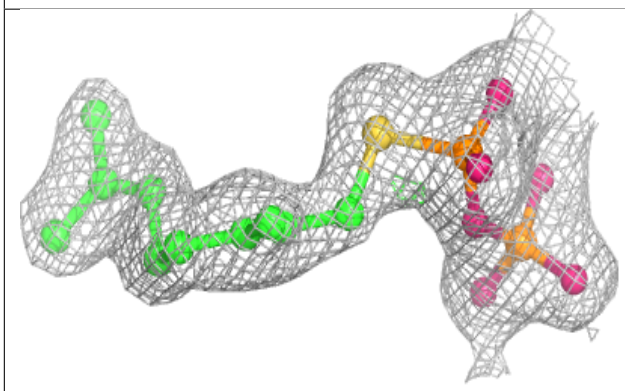


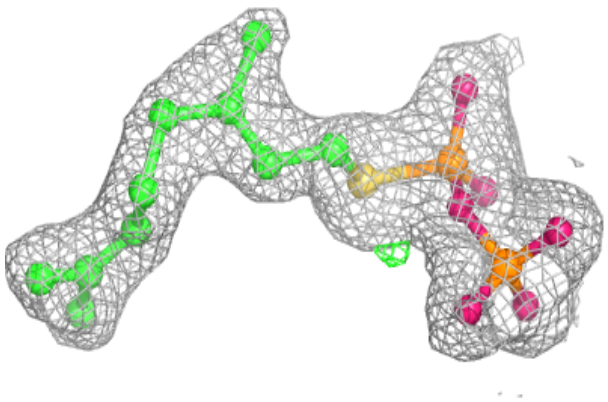


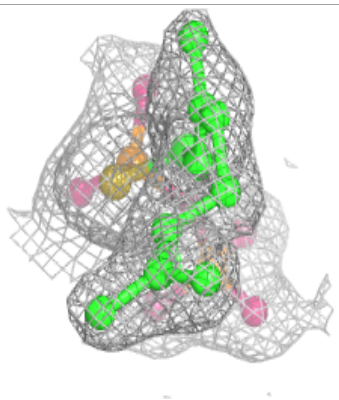


Electron density around GST K 303:

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

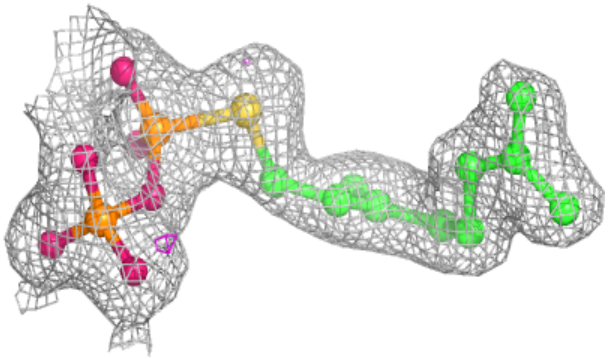


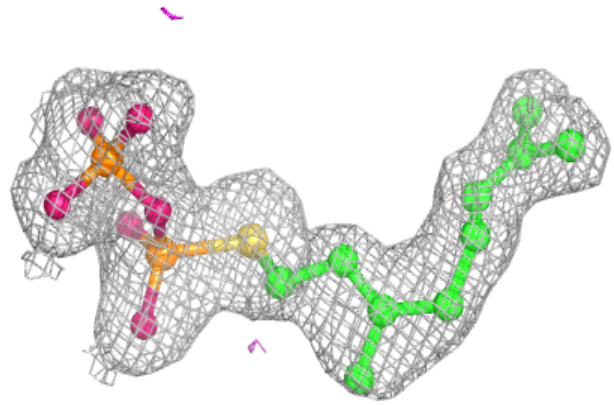


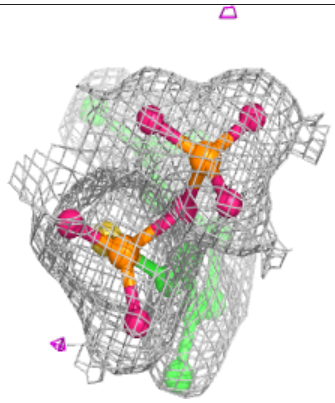


Electron density around GST L 303:

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

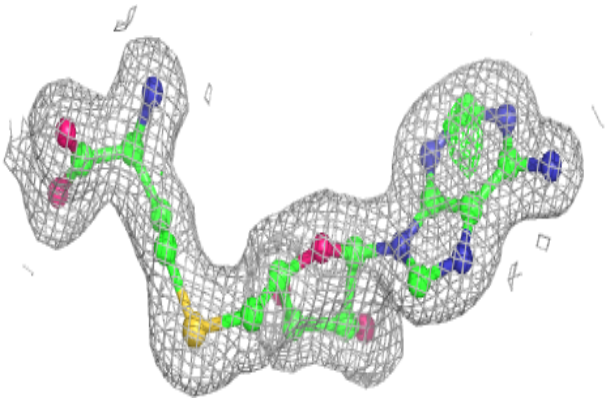


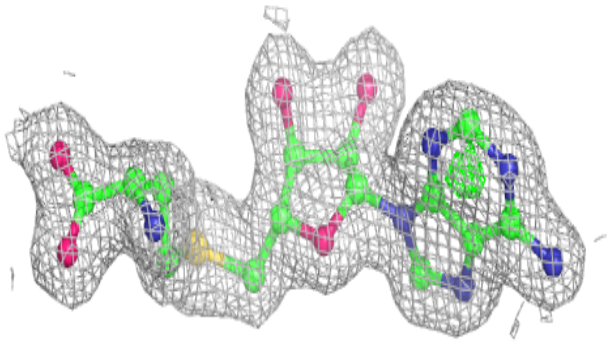


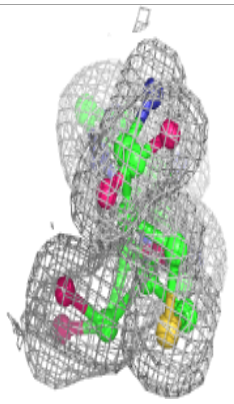


Electron density around SAH A 302:

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

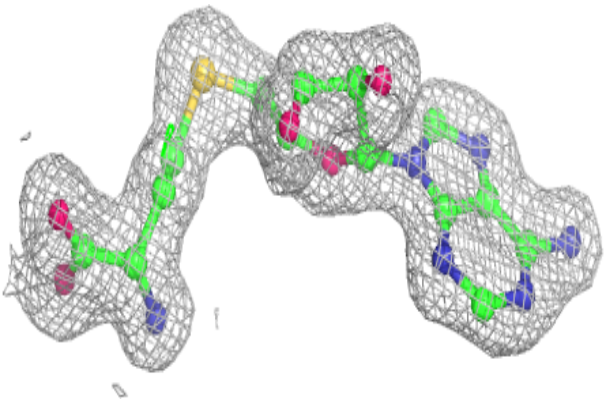


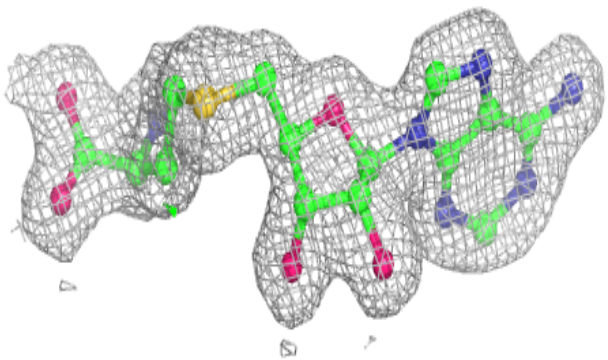


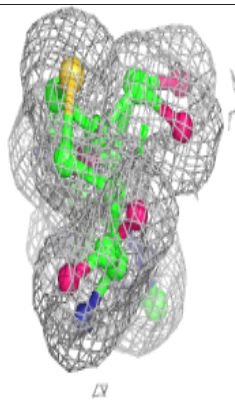


Electron density around SAH D 302:

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

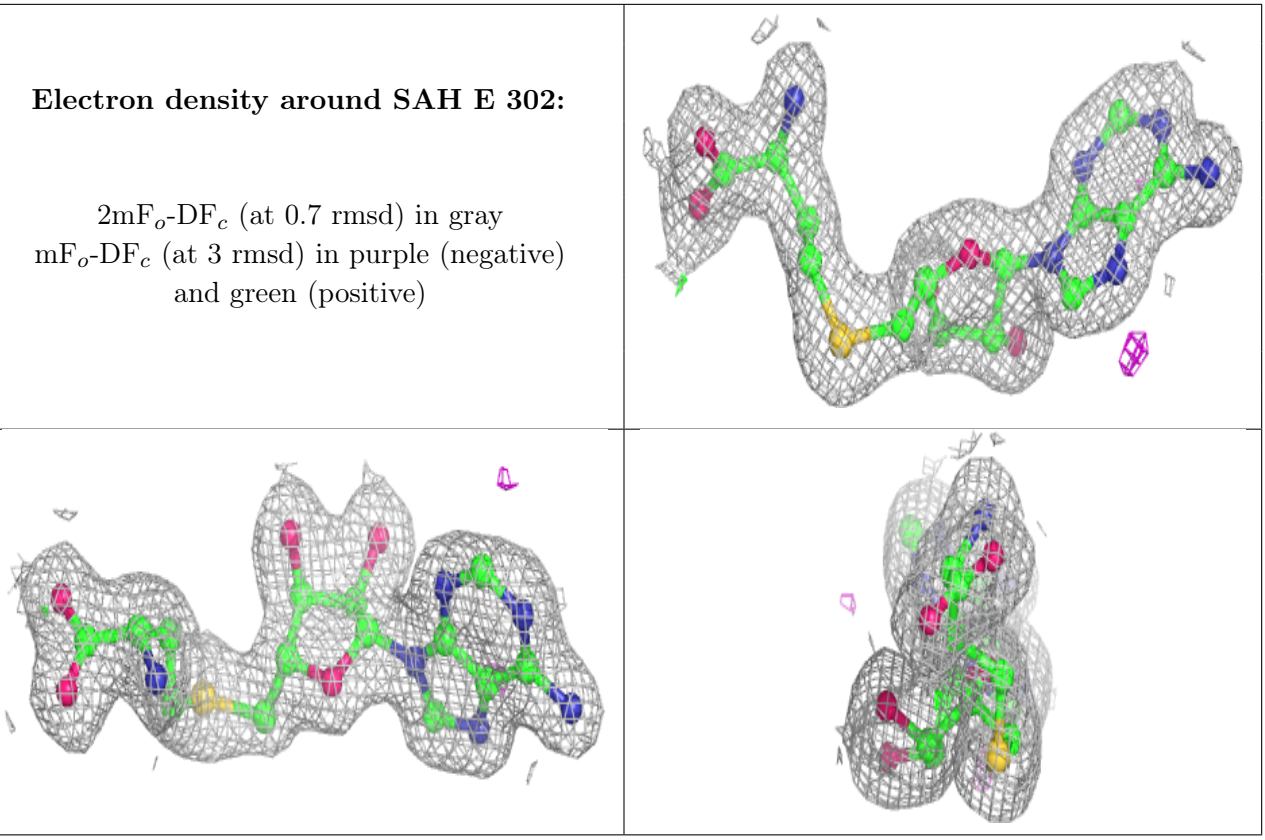






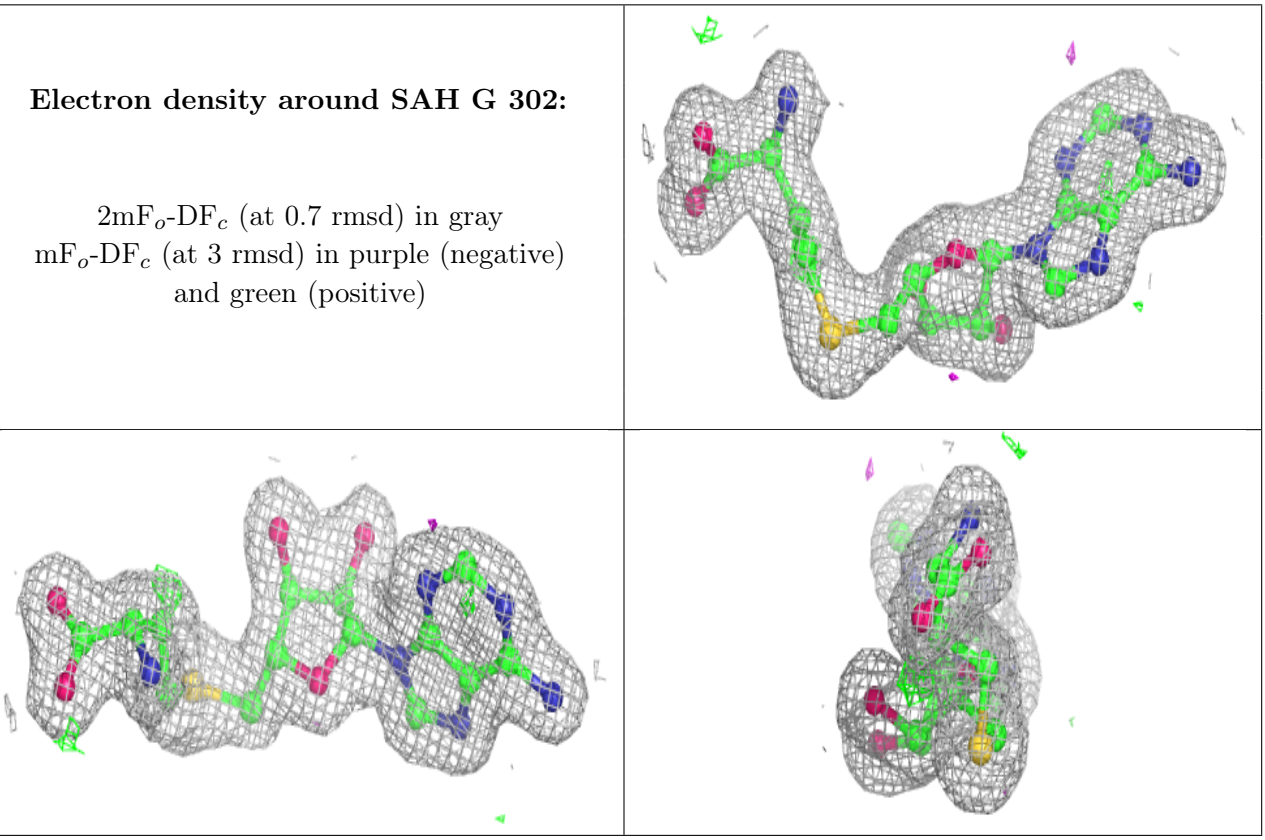
Electron density around SAH E 302:

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



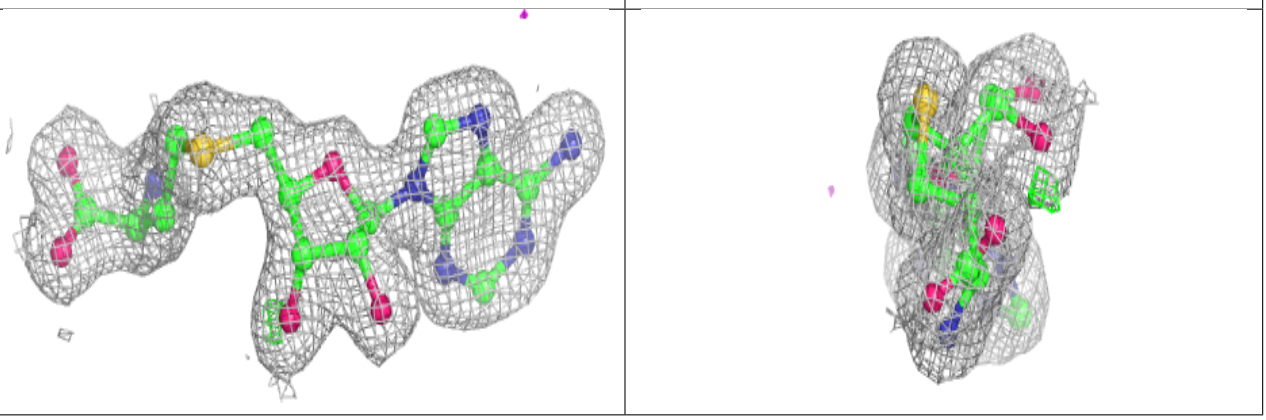
Electron density around SAH G 302:

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



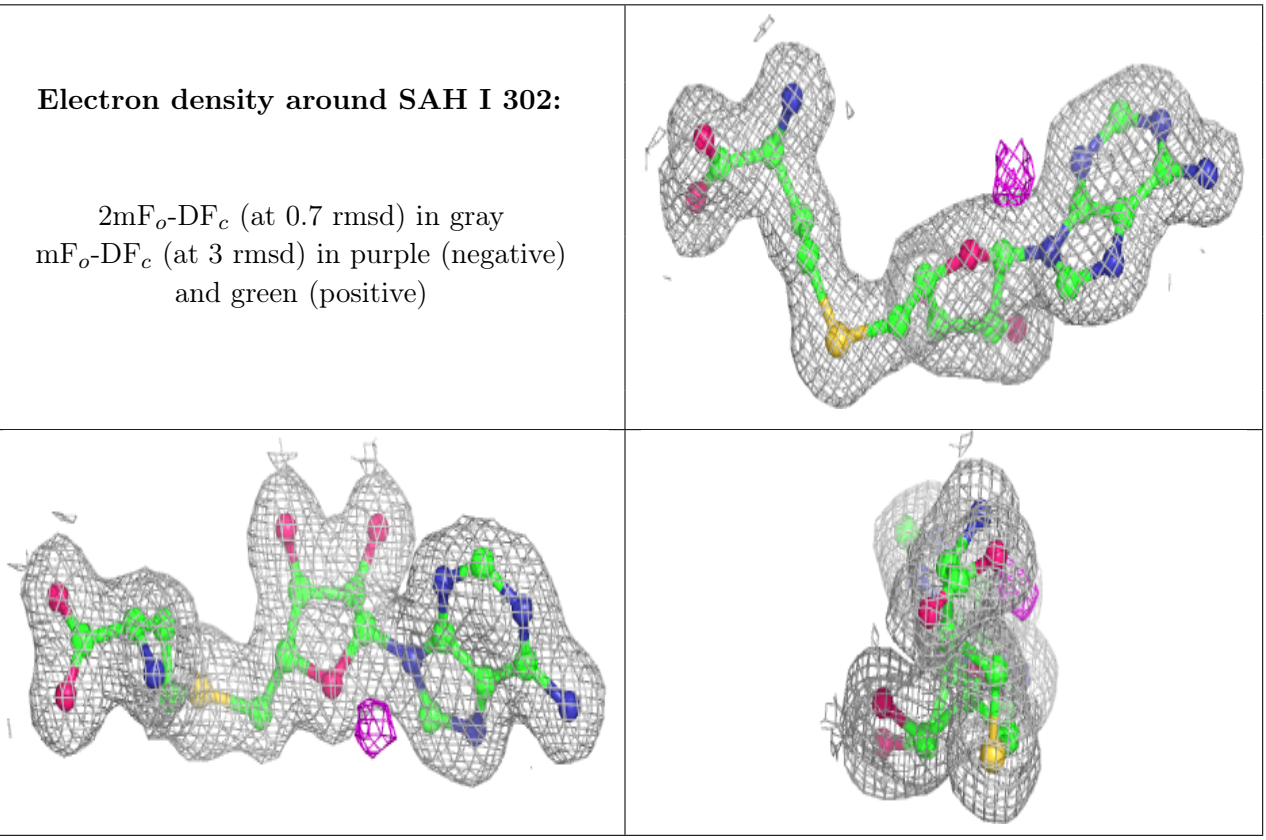
Electron density around SAH H 302:

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



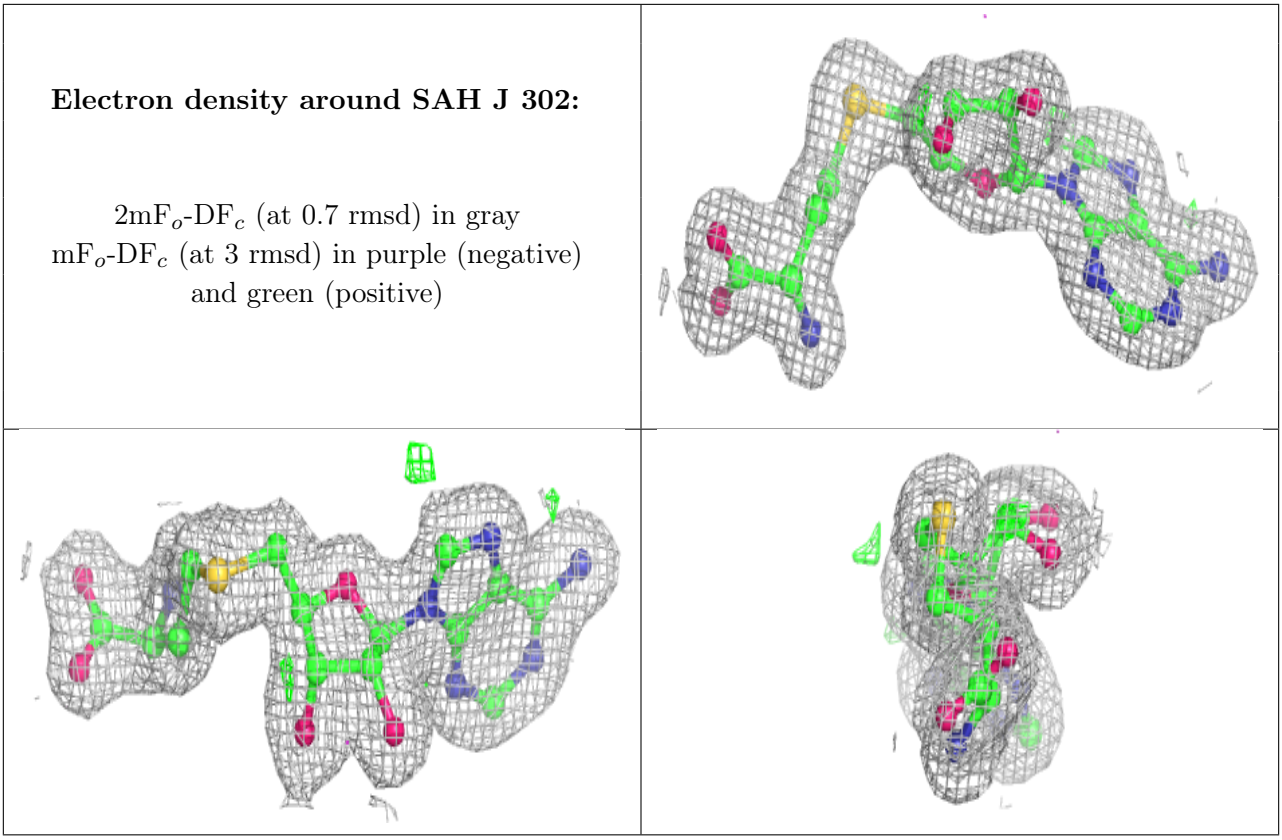
Electron density around SAH I 302:

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



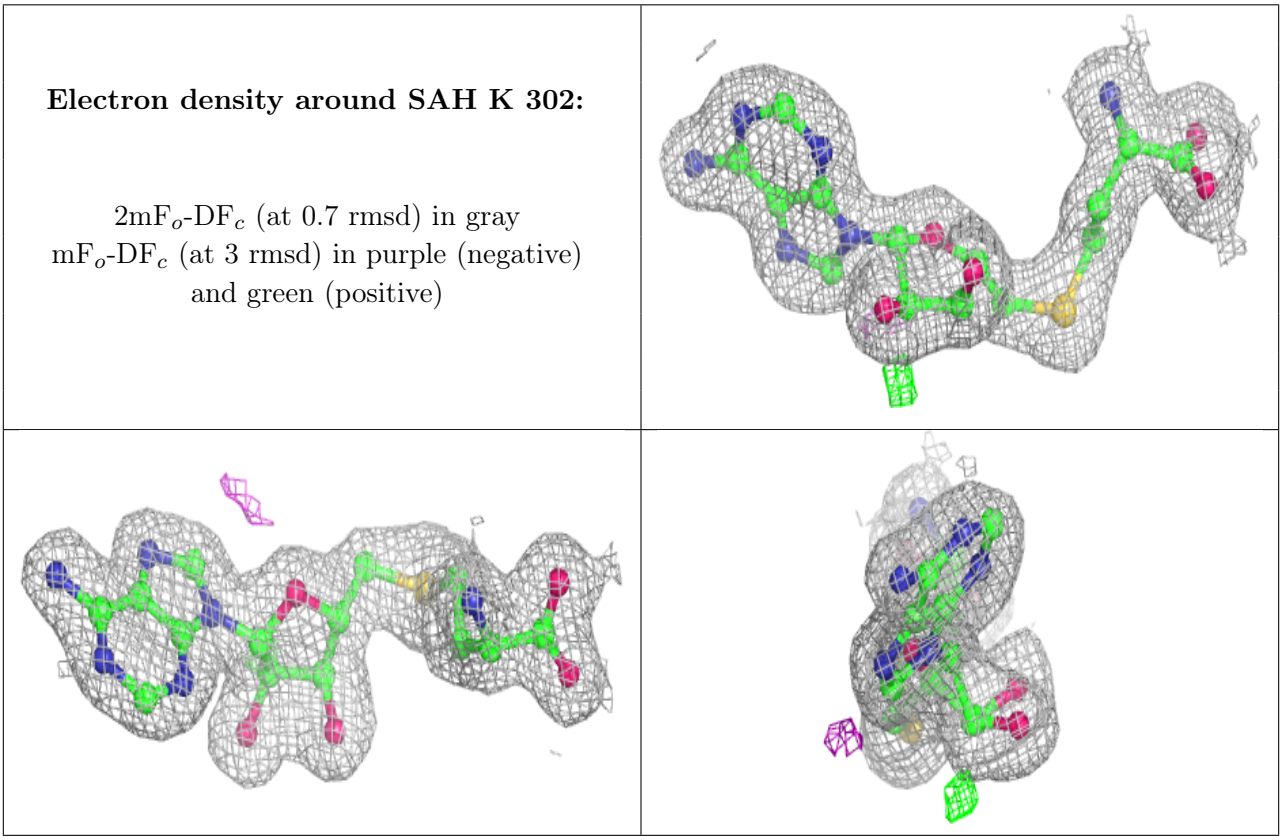
Electron density around SAH J 302:

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



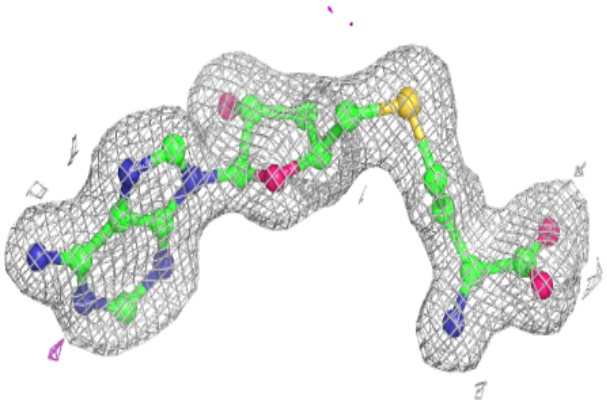
Electron density around SAH K 302:

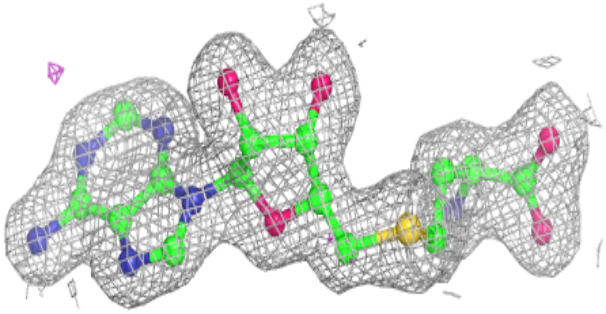
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

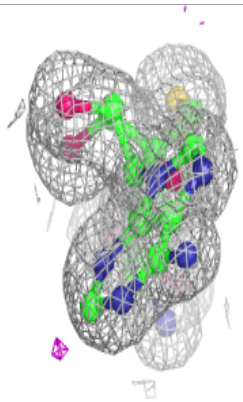


Electron density around SAH L 302:

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

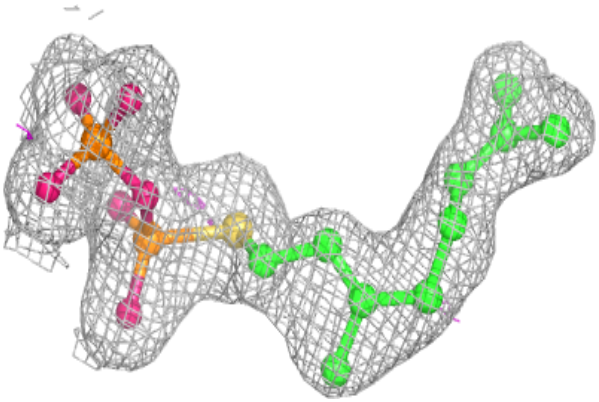


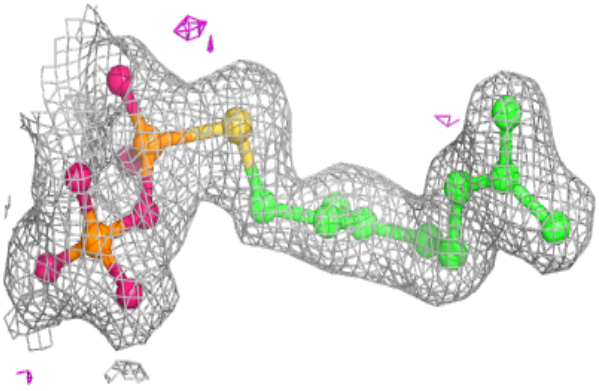


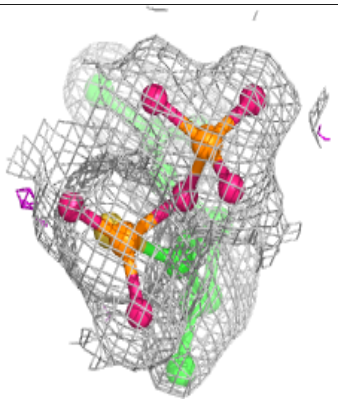


Electron density around GST B 303:

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

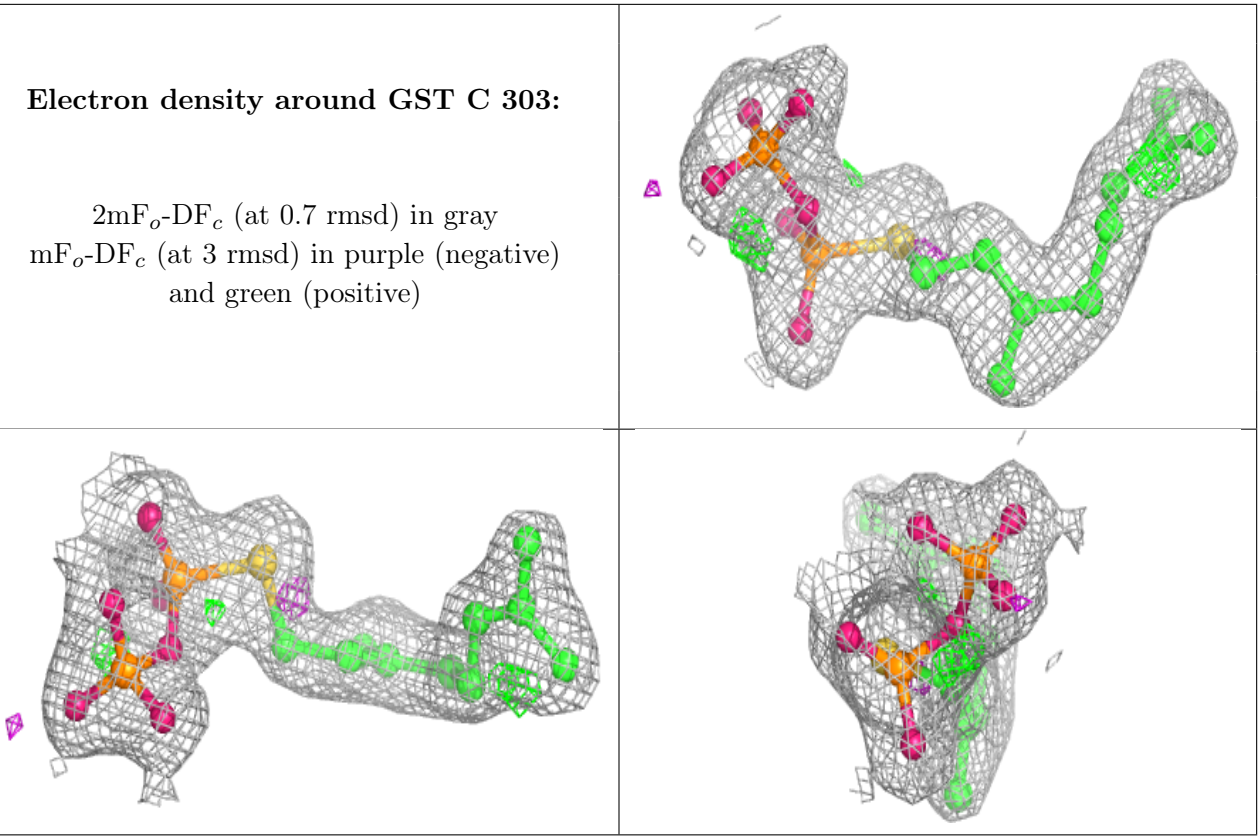






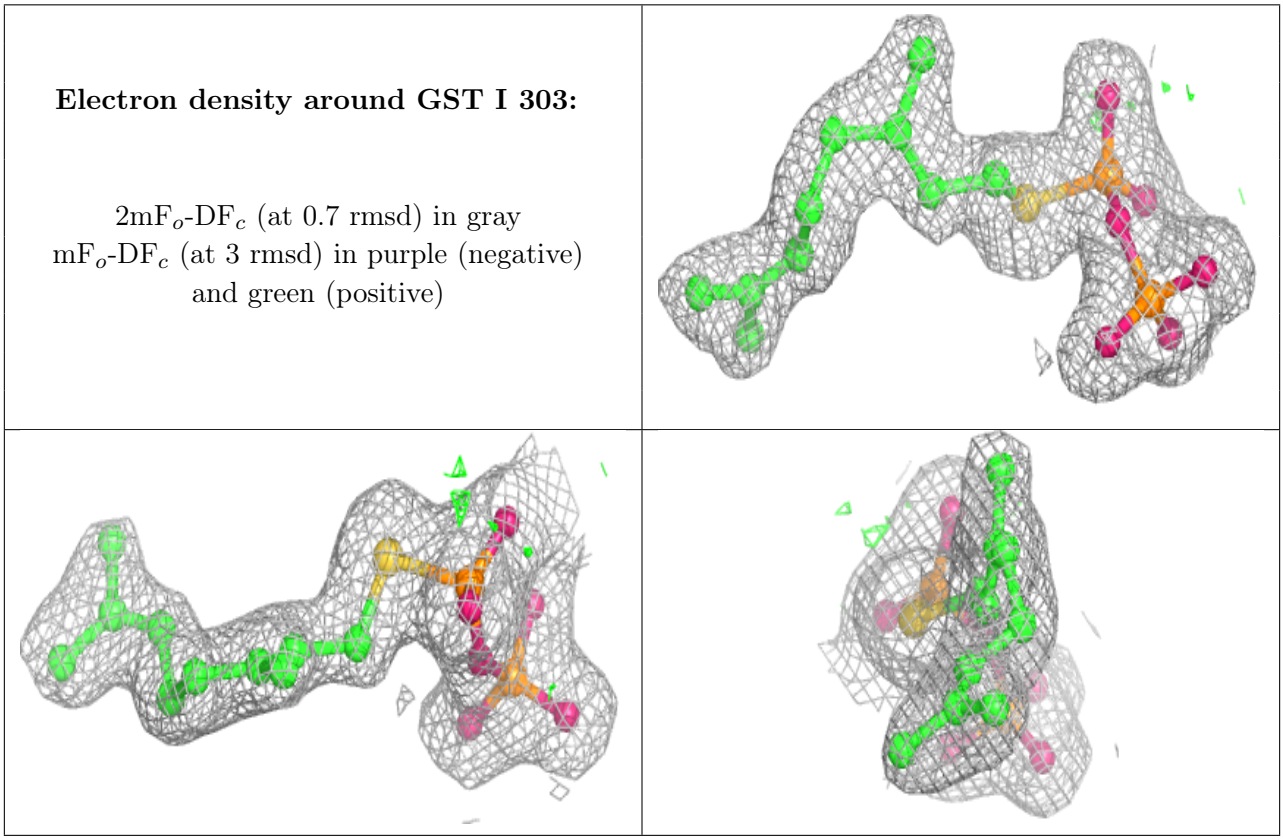
Electron density around GST C 303:

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



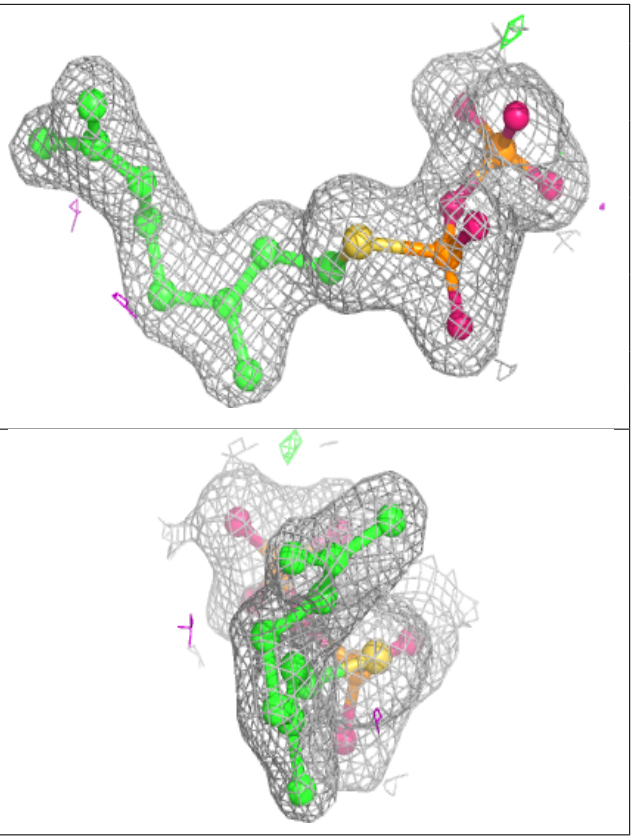
Electron density around GST I 303:

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



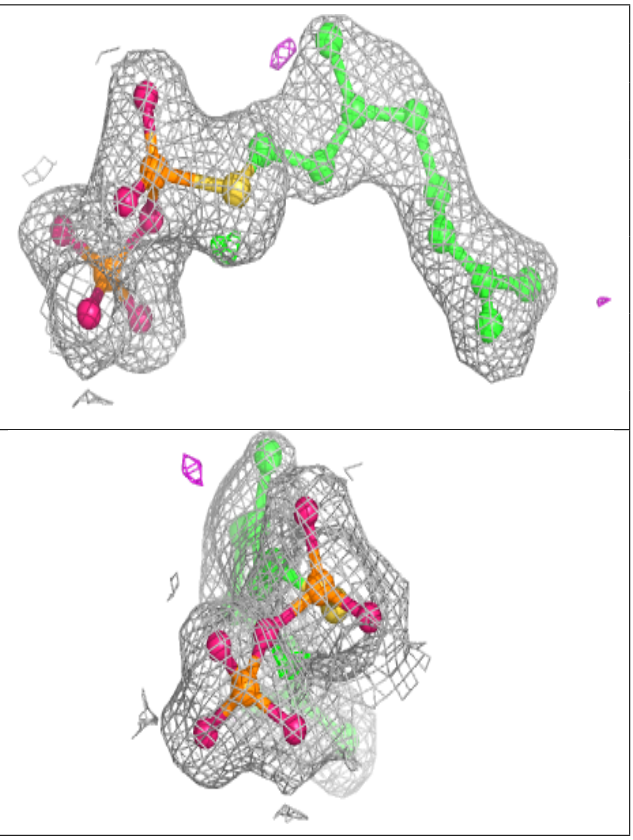
Electron density around GST J 303:

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



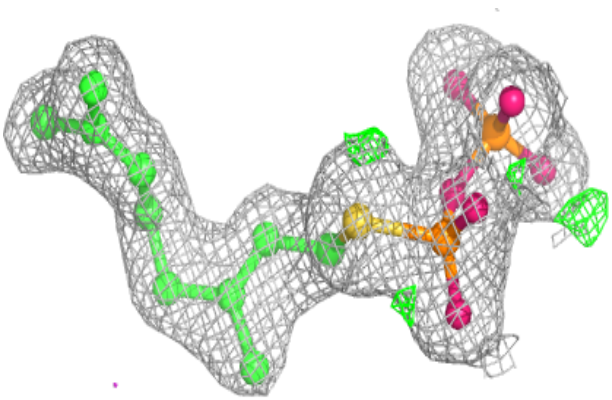
Electron density around GST A 303:

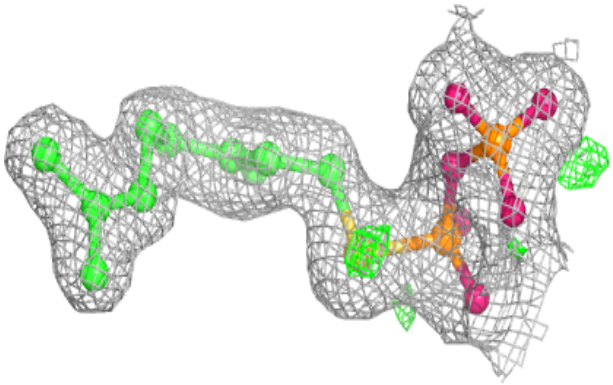
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

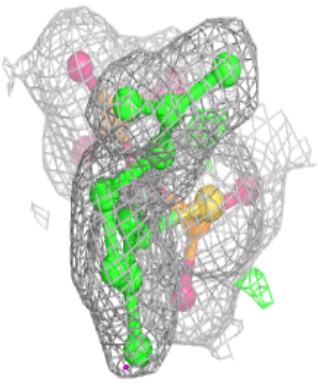


Electron density around GST D 303:

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

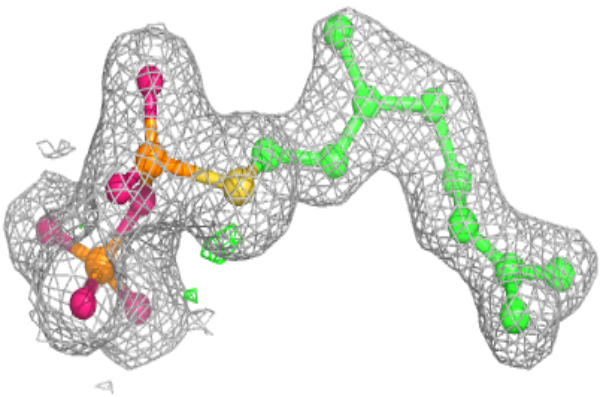


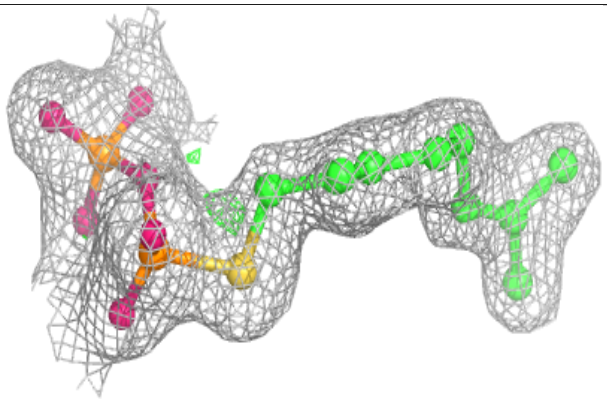


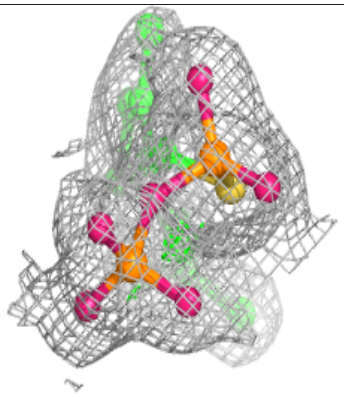


Electron density around GST E 303:

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

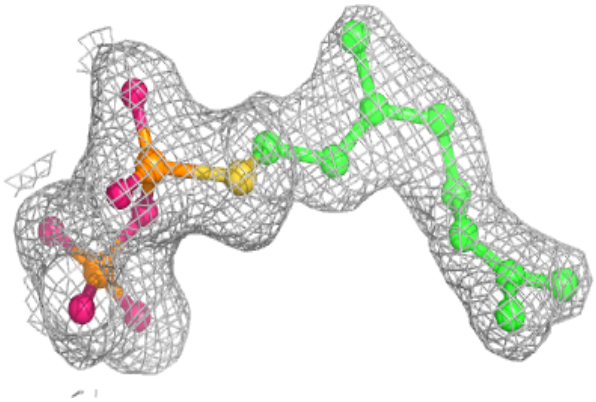


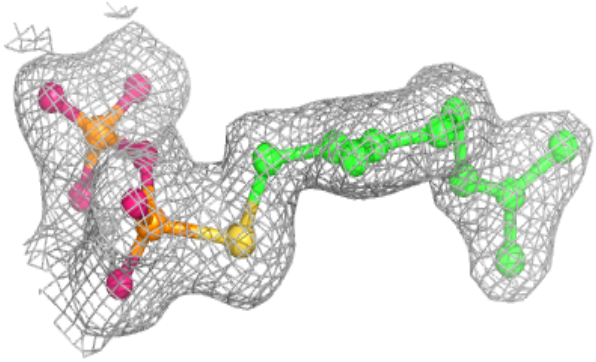


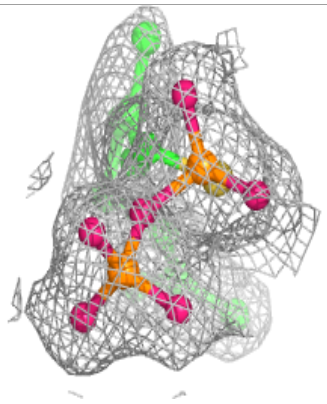


Electron density around GST G 303:

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

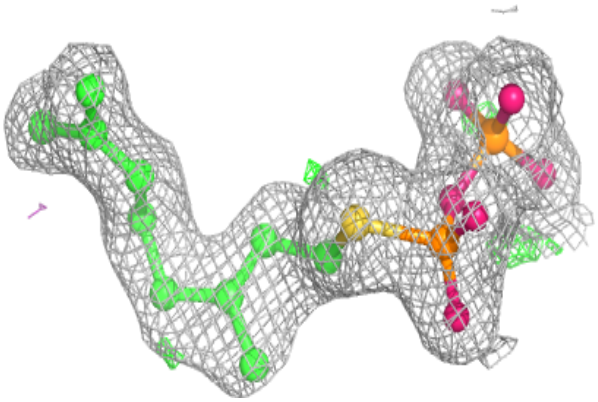


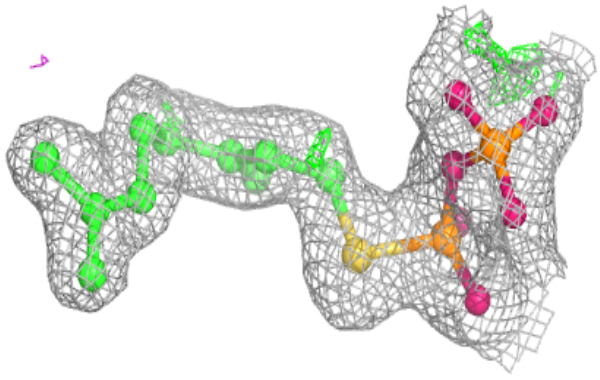


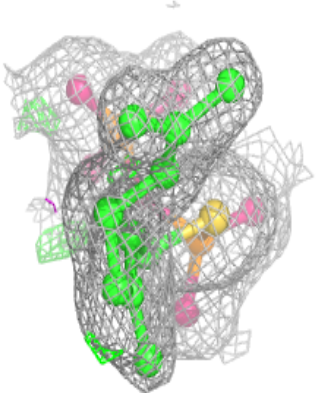


Electron density around GST H 303:

$2mF_o$-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.