Full wwPDB X-ray Structure Validation Report ⓘ

Oct 18, 2021 – 03:42 pm BST

PDB ID	:	7OKA
Title	:	Crystal structure of Pseudomonas aeruginosa LpxA in complex with compound 14
Authors	:	Ryan, M.D.; Parkes, A.L.; Southey, M.; Andersen, O.A.; Zahn, M.; Barker, J.; DeJonge, B.L.M.
Deposited on	:	2021-05-17
Resolution	:	2.74 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 following versions of software and data (see references ⓘ) were used in the production of this report:

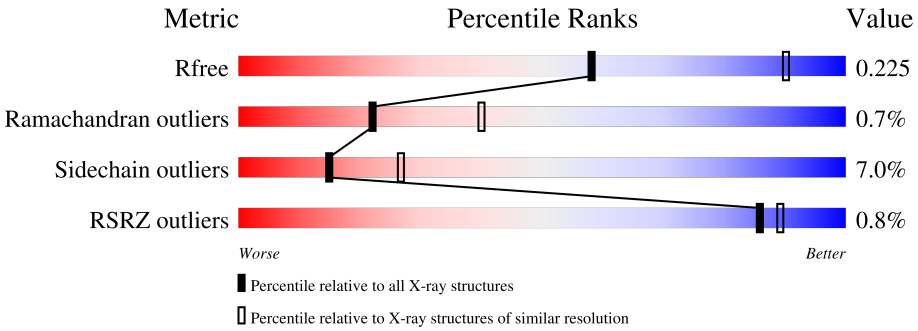
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.23.2
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0267
CCP4	:	7.1.010 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.23.2

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.74 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	1271 (2.76-2.72)
Ramachandran outliers	138981	1297 (2.76-2.72)
Sidechain outliers	138945	1298 (2.76-2.72)
RSRZ outliers	127900	1243 (2.76-2.72)

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	261	92% 6% •
1	B	261	92% 6% ••
1	C	261	93% 5% ••
1	D	261	89% 9% ••
1	E	261	90% 7% ••
1	F	261	88% 8% ••

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Mol	Chain	Length	Quality of chain
1	G	261	3% 93% 5%
1	H	261	90% 7%
1	I	261	% 92% 6%
1	J	261	90% 8%
1	K	261	90% 8%
1	L	261	90% 8%
1	M	261	2% 90% 8%
1	N	261	% 90% 8%
1	O	261	% 91% 7%
1	P	261	% 92% 5%
1	Q	261	2% 90% 6%
1	R	261	90% 7%
1	S	261	92% 5%
1	T	261	90% 8%
1	U	261	91% 6%
1	V	261	2% 90% 7%
1	W	261	6% 91% 7%
1	X	261	90% 7%
1	Y	261	2% 90% 7%
1	Z	261	89% 9%
1	a	261	2% 90% 8%
1	b	261	% 87% 10%
1	c	261	% 91% 7%
1	d	261	% 89% 8%

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 crite-

ria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
4	SO4	Q	306	-	-	-	X
4	SO4	V	303	-	-	-	X

2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 60786 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 Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	258	Total	C	N	O	S	0	3	0
			1994	1248	368	371	7			
1	B	258	Total	C	N	O	S	0	4	0
			2002	1253	371	371	7			
1	C	258	Total	C	N	O	S	0	3	0
			1996	1249	371	369	7			
1	D	258	Total	C	N	O	S	0	1	0
			1980	1239	365	369	7			
1	E	258	Total	C	N	O	S	0	0	0
			1974	1235	364	368	7			
1	F	258	Total	C	N	O	S	0	2	0
			1988	1244	368	369	7			
1	G	257	Total	C	N	O	S	0	0	0
			1966	1230	363	367	6			
1	H	257	Total	C	N	O	S	0	0	0
			1966	1230	363	367	6			
1	I	257	Total	C	N	O	S	0	0	0
			1966	1230	363	367	6			
1	M	257	Total	C	N	O	S	0	0	0
			1966	1230	363	367	6			
1	N	257	Total	C	N	O	S	0	0	0
			1966	1230	363	367	6			
1	O	257	Total	C	N	O	S	0	0	0
			1966	1230	363	367	6			
1	J	258	Total	C	N	O	S	0	1	0
			1982	1240	367	368	7			
1	K	258	Total	C	N	O	S	0	0	0
			1974	1235	364	368	7			
1	L	258	Total	C	N	O	S	0	0	0
			1974	1235	364	368	7			
1	P	257	Total	C	N	O	S	0	0	0
			1966	1230	363	367	6			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	Q	257	Total	C	N	O	S	0	1	0
			1974	1235	366	367	6			
1	R	257	Total	C	N	O	S	0	0	0
			1966	1230	363	367	6			
1	S	258	Total	C	N	O	S	0	0	0
			1974	1235	364	368	7			
1	T	258	Total	C	N	O	S	0	0	0
			1974	1235	364	368	7			
1	U	258	Total	C	N	O	S	0	0	0
			1974	1235	364	368	7			
1	V	257	Total	C	N	O	S	0	0	0
			1966	1230	363	367	6			
1	W	257	Total	C	N	O	S	0	1	0
			1972	1234	364	368	6			
1	X	257	Total	C	N	O	S	0	1	0
			1972	1234	364	368	6			
1	Y	258	Total	C	N	O	S	0	1	0
			1980	1239	365	369	7			
1	Z	258	Total	C	N	O	S	0	1	0
			1980	1239	365	369	7			
1	a	257	Total	C	N	O	S	0	1	0
			1972	1234	364	368	6			
1	b	257	Total	C	N	O	S	0	1	0
			1972	1234	364	368	6			
1	c	258	Total	C	N	O	S	0	1	0
			1980	1239	365	369	7			
1	d	257	Total	C	N	O	S	0	1	0
			1972	1234	364	368	6			

There are 90 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-2	GLY	-	expression tag	UNP A6V1E4
A	-1	SER	-	expression tag	UNP A6V1E4
A	0	HIS	-	expression tag	UNP A6V1E4
B	-2	GLY	-	expression tag	UNP A6V1E4
B	-1	SER	-	expression tag	UNP A6V1E4
B	0	HIS	-	expression tag	UNP A6V1E4
C	-2	GLY	-	expression tag	UNP A6V1E4
C	-1	SER	-	expression tag	UNP A6V1E4
C	0	HIS	-	expression tag	UNP A6V1E4
D	-2	GLY	-	expression tag	UNP A6V1E4
D	-1	SER	-	expression tag	UNP A6V1E4

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Chain	Residue	Modelled	Actual	Comment	Reference
D	0	HIS	-	expression tag	UNP A6V1E4
E	-2	GLY	-	expression tag	UNP A6V1E4
E	-1	SER	-	expression tag	UNP A6V1E4
E	0	HIS	-	expression tag	UNP A6V1E4
F	-2	GLY	-	expression tag	UNP A6V1E4
F	-1	SER	-	expression tag	UNP A6V1E4
F	0	HIS	-	expression tag	UNP A6V1E4
G	-2	GLY	-	expression tag	UNP A6V1E4
G	-1	SER	-	expression tag	UNP A6V1E4
G	0	HIS	-	expression tag	UNP A6V1E4
H	-2	GLY	-	expression tag	UNP A6V1E4
H	-1	SER	-	expression tag	UNP A6V1E4
H	0	HIS	-	expression tag	UNP A6V1E4
I	-2	GLY	-	expression tag	UNP A6V1E4
I	-1	SER	-	expression tag	UNP A6V1E4
I	0	HIS	-	expression tag	UNP A6V1E4
M	-2	GLY	-	expression tag	UNP A6V1E4
M	-1	SER	-	expression tag	UNP A6V1E4
M	0	HIS	-	expression tag	UNP A6V1E4
N	-2	GLY	-	expression tag	UNP A6V1E4
N	-1	SER	-	expression tag	UNP A6V1E4
N	0	HIS	-	expression tag	UNP A6V1E4
O	-2	GLY	-	expression tag	UNP A6V1E4
O	-1	SER	-	expression tag	UNP A6V1E4
O	0	HIS	-	expression tag	UNP A6V1E4
J	-2	GLY	-	expression tag	UNP A6V1E4
J	-1	SER	-	expression tag	UNP A6V1E4
J	0	HIS	-	expression tag	UNP A6V1E4
K	-2	GLY	-	expression tag	UNP A6V1E4
K	-1	SER	-	expression tag	UNP A6V1E4
K	0	HIS	-	expression tag	UNP A6V1E4
L	-2	GLY	-	expression tag	UNP A6V1E4
L	-1	SER	-	expression tag	UNP A6V1E4
L	0	HIS	-	expression tag	UNP A6V1E4
P	-2	GLY	-	expression tag	UNP A6V1E4
P	-1	SER	-	expression tag	UNP A6V1E4
P	0	HIS	-	expression tag	UNP A6V1E4
Q	-2	GLY	-	expression tag	UNP A6V1E4
Q	-1	SER	-	expression tag	UNP A6V1E4
Q	0	HIS	-	expression tag	UNP A6V1E4
R	-2	GLY	-	expression tag	UNP A6V1E4
R	-1	SER	-	expression tag	UNP A6V1E4

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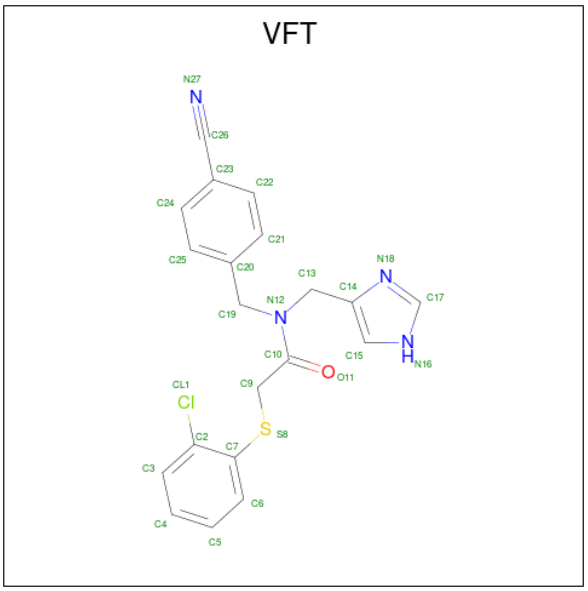
Chain	Residue	Modelled	Actual	Comment	Reference
R	0	HIS	-	expression tag	UNP A6V1E4
S	-2	GLY	-	expression tag	UNP A6V1E4
S	-1	SER	-	expression tag	UNP A6V1E4
S	0	HIS	-	expression tag	UNP A6V1E4
T	-2	GLY	-	expression tag	UNP A6V1E4
T	-1	SER	-	expression tag	UNP A6V1E4
T	0	HIS	-	expression tag	UNP A6V1E4
U	-2	GLY	-	expression tag	UNP A6V1E4
U	-1	SER	-	expression tag	UNP A6V1E4
U	0	HIS	-	expression tag	UNP A6V1E4
V	-2	GLY	-	expression tag	UNP A6V1E4
V	-1	SER	-	expression tag	UNP A6V1E4
V	0	HIS	-	expression tag	UNP A6V1E4
W	-2	GLY	-	expression tag	UNP A6V1E4
W	-1	SER	-	expression tag	UNP A6V1E4
W	0	HIS	-	expression tag	UNP A6V1E4
X	-2	GLY	-	expression tag	UNP A6V1E4
X	-1	SER	-	expression tag	UNP A6V1E4
X	0	HIS	-	expression tag	UNP A6V1E4
Y	-2	GLY	-	expression tag	UNP A6V1E4
Y	-1	SER	-	expression tag	UNP A6V1E4
Y	0	HIS	-	expression tag	UNP A6V1E4
Z	-2	GLY	-	expression tag	UNP A6V1E4
Z	-1	SER	-	expression tag	UNP A6V1E4
Z	0	HIS	-	expression tag	UNP A6V1E4
a	-2	GLY	-	expression tag	UNP A6V1E4
a	-1	SER	-	expression tag	UNP A6V1E4
a	0	HIS	-	expression tag	UNP A6V1E4
b	-2	GLY	-	expression tag	UNP A6V1E4
b	-1	SER	-	expression tag	UNP A6V1E4
b	0	HIS	-	expression tag	UNP A6V1E4
c	-2	GLY	-	expression tag	UNP A6V1E4
c	-1	SER	-	expression tag	UNP A6V1E4
c	0	HIS	-	expression tag	UNP A6V1E4
d	-2	GLY	-	expression tag	UNP A6V1E4
d	-1	SER	-	expression tag	UNP A6V1E4
d	0	HIS	-	expression tag	UNP A6V1E4

- Molecule 2 is 2-(2-chlorophenyl)sulfanyl- {N}-[(4-cyanophenyl)methyl]- {N}-(1 {H}-imidazol-4-ylmethyl)ethanamide (three-letter code: VFT) (formula: $C_{20}H_{17}ClN_4OS$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
2	A	1	Total	C	Cl	N	O	S	0	1
			33	24	1	6	1	1		
2	B	1	Total	C	Cl	N	O	S	0	1
			33	24	1	6	1	1		
2	B	1	Total	C	Cl	N	O	S	0	1
			33	24	1	6	1	1		
2	D	1	Total	C	Cl	N	O	S	0	1
			33	24	1	6	1	1		
2	E	1	Total	C	Cl	N	O	S	0	1
			33	24	1	6	1	1		
2	F	1	Total	C	Cl	N	O	S	0	0
			27	20	1	4	1	1		
2	G	1	Total	C	Cl	N	O	S	0	1
			33	24	1	6	1	1		
2	G	1	Total	C	Cl	N	O	S	0	1
			33	24	1	6	1	1		
2	H	1	Total	C	Cl	N	O	S	0	0
			27	20	1	4	1	1		
2	M	1	Total	C	Cl	N	O	S	0	0
			27	20	1	4	1	1		
2	N	1	Total	C	Cl	N	O	S	0	0
			27	20	1	4	1	1		
2	O	1	Total	C	Cl	N	O	S	0	0
			27	20	1	4	1	1		
2	J	1	Total	C	Cl	N	O	S	0	1
			33	24	1	6	1	1		
2	K	1	Total	C	Cl	N	O	S	0	1
			33	24	1	6	1	1		

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Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
2	L	1	Total	C	Cl	N	O	S	0	1
			33	24	1	6	1	1		
2	Q	1	Total	C	Cl	N	O	S	0	1
			33	24	1	6	1	1		
2	Q	1	Total	C	Cl	N	O	S	0	0
			27	20	1	4	1	1		
2	R	1	Total	C	Cl	N	O	S	0	1
			33	24	1	6	1	1		
2	S	1	Total	C	Cl	N	O	S	0	1
			33	24	1	6	1	1		
2	T	1	Total	C	Cl	N	O	S	0	1
			33	24	1	6	1	1		
2	U	1	Total	C	Cl	N	O	S	0	1
			33	24	1	6	1	1		
2	W	1	Total	C	Cl	N	O	S	0	1
			33	24	1	6	1	1		
2	W	1	Total	C	Cl	N	O	S	0	0
			27	20	1	4	1	1		
2	X	1	Total	C	Cl	N	O	S	0	1
			33	24	1	6	1	1		
2	Y	1	Total	C	Cl	N	O	S	0	1
			33	24	1	6	1	1		
2	a	1	Total	C	Cl	N	O	S	0	1
			33	24	1	6	1	1		
2	a	1	Total	C	Cl	N	O	S	0	0
			27	20	1	4	1	1		
2	b	1	Total	C	Cl	N	O	S	0	1
			33	24	1	6	1	1		
2	c	1	Total	C	Cl	N	O	S	0	1
			33	24	1	6	1	1		
2	c	1	Total	C	Cl	N	O	S	0	0
			27	20	1	4	1	1		

- Molecule 3 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	3	Total	Cl	0	0
			3	3		
3	B	1	Total	Cl	0	0
			1	1		
3	C	2	Total	Cl	0	0
			2	2		

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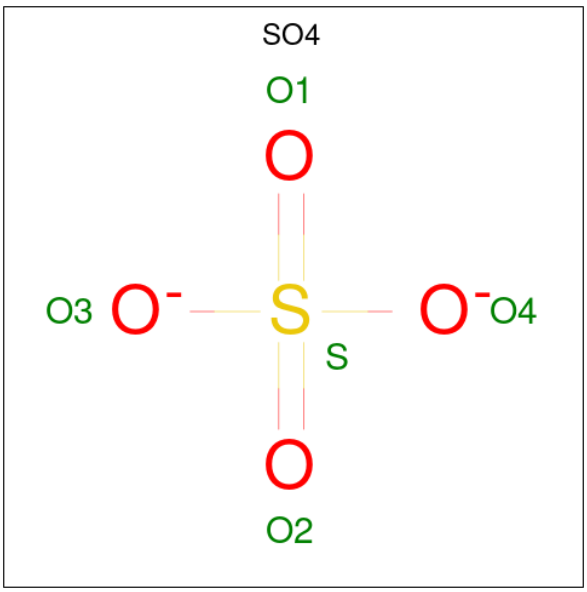
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	D	1	Total Cl 1 1	0	0
3	E	2	Total Cl 2 2	0	0
3	G	1	Total Cl 1 1	0	0
3	I	1	Total Cl 1 1	0	0
3	M	2	Total Cl 2 2	0	0
3	N	1	Total Cl 1 1	0	0
3	O	1	Total Cl 1 1	0	0
3	L	1	Total Cl 1 1	0	0
3	Q	1	Total Cl 1 1	0	0
3	S	1	Total Cl 1 1	0	0
3	T	1	Total Cl 1 1	0	0
3	X	2	Total Cl 2 2	0	0

- Molecule 4 is SULFATE ION (three-letter code: SO4) (formula: O_4S).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total O S 5 4 1	0	0
4	A	1	Total O S 5 4 1	0	0
4	A	1	Total O S 5 4 1	0	0
4	B	1	Total O S 5 4 1	0	0
4	B	1	Total O S 5 4 1	0	0
4	C	1	Total O S 5 4 1	0	0
4	C	1	Total O S 5 4 1	0	0
4	D	1	Total O S 5 4 1	0	0
4	D	1	Total O S 5 4 1	0	0
4	E	1	Total O S 5 4 1	0	0
4	E	1	Total O S 5 4 1	0	0
4	E	1	Total O S 5 4 1	0	0
4	F	1	Total O S 5 4 1	0	0
4	F	1	Total O S 5 4 1	0	0
4	G	1	Total O S 5 4 1	0	0
4	G	1	Total O S 5 4 1	0	0
4	G	1	Total O S 5 4 1	0	0
4	H	1	Total O S 5 4 1	0	0
4	H	1	Total O S 5 4 1	0	0
4	I	1	Total O S 5 4 1	0	0
4	I	1	Total O S 5 4 1	0	0
4	M	1	Total O S 5 4 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	M	1	Total O S 5 4 1	0	0
4	N	1	Total O S 5 4 1	0	0
4	N	1	Total O S 5 4 1	0	0
4	O	1	Total O S 5 4 1	0	0
4	O	1	Total O S 5 4 1	0	0
4	J	1	Total O S 5 4 1	0	0
4	J	1	Total O S 5 4 1	0	0
4	J	1	Total O S 5 4 1	0	0
4	K	1	Total O S 5 4 1	0	0
4	K	1	Total O S 5 4 1	0	0
4	L	1	Total O S 5 4 1	0	0
4	L	1	Total O S 5 4 1	0	0
4	P	1	Total O S 5 4 1	0	0
4	P	1	Total O S 5 4 1	0	0
4	P	1	Total O S 5 4 1	0	0
4	Q	1	Total O S 5 4 1	0	0
4	Q	1	Total O S 5 4 1	0	0
4	Q	1	Total O S 5 4 1	0	0
4	R	1	Total O S 5 4 1	0	0
4	R	1	Total O S 5 4 1	0	0
4	S	1	Total O S 5 4 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	S	1	Total O S 5 4 1	0	0
4	S	1	Total O S 5 4 1	0	0
4	T	1	Total O S 5 4 1	0	0
4	T	1	Total O S 5 4 1	0	0
4	U	1	Total O S 5 4 1	0	0
4	U	1	Total O S 5 4 1	0	0
4	U	1	Total O S 5 4 1	0	0
4	V	1	Total O S 5 4 1	0	0
4	V	1	Total O S 5 4 1	0	0
4	V	1	Total O S 5 4 1	0	0
4	W	1	Total O S 5 4 1	0	0
4	W	1	Total O S 5 4 1	0	0
4	X	1	Total O S 5 4 1	0	0
4	X	1	Total O S 5 4 1	0	0
4	Y	1	Total O S 5 4 1	0	0
4	Y	1	Total O S 5 4 1	0	0
4	Z	1	Total O S 5 4 1	0	0
4	Z	1	Total O S 5 4 1	0	0
4	a	1	Total O S 5 4 1	0	0
4	a	1	Total O S 5 4 1	0	0
4	a	1	Total O S 5 4 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	b	1	Total O S 5 4 1	0	0
4	b	1	Total O S 5 4 1	0	0
4	c	1	Total O S 5 4 1	0	0
4	c	1	Total O S 5 4 1	0	0
4	c	1	Total O S 5 4 1	0	0
4	d	1	Total O S 5 4 1	0	0
4	d	1	Total O S 5 4 1	0	0

- Molecule 5 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	11	Total O 11 11	0	0
5	B	19	Total O 19 19	0	0
5	C	15	Total O 15 15	0	0
5	D	13	Total O 13 13	0	0
5	E	11	Total O 11 11	0	0
5	F	7	Total O 7 7	0	0
5	G	4	Total O 4 4	0	0
5	H	7	Total O 7 7	0	0
5	I	4	Total O 4 4	0	0
5	M	6	Total O 6 6	0	0
5	N	4	Total O 4 4	0	0
5	O	8	Total O 8 8	0	0

Continued on next page...

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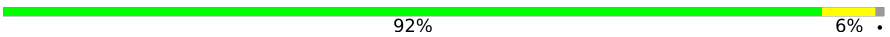
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	J	10	Total O 10 10	0	0
5	K	7	Total O 7 7	0	0
5	L	8	Total O 8 8	0	0
5	P	5	Total O 5 5	0	0
5	Q	5	Total O 5 5	0	0
5	R	7	Total O 7 7	0	0
5	S	8	Total O 8 8	0	0
5	T	8	Total O 8 8	0	0
5	U	9	Total O 9 9	0	0
5	V	6	Total O 6 6	0	0
5	W	5	Total O 5 5	0	0
5	X	2	Total O 2 2	0	0
5	Y	3	Total O 3 3	0	0
5	Z	4	Total O 4 4	0	0
5	a	6	Total O 6 6	0	0
5	b	6	Total O 6 6	0	0
5	c	7	Total O 7 7	0	0
5	d	5	Total O 5 5	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: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain A:

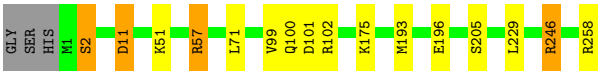


• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain B:

• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain C:



• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

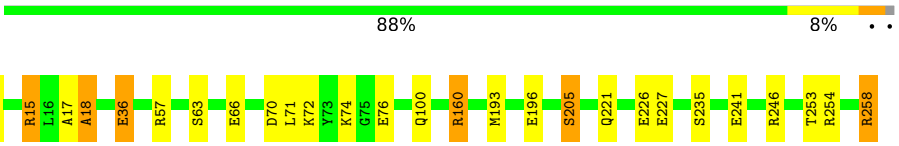
Chain D:

• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain E:

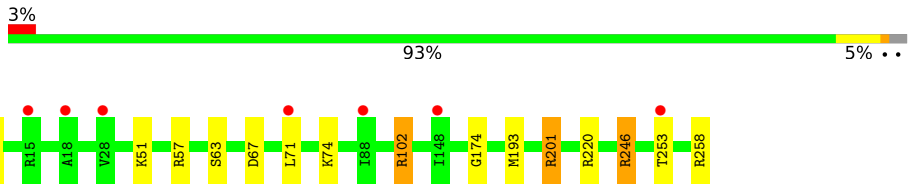
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain F:



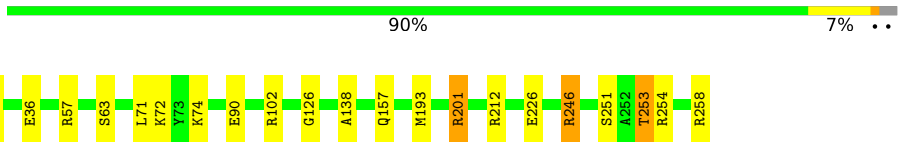
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain G:



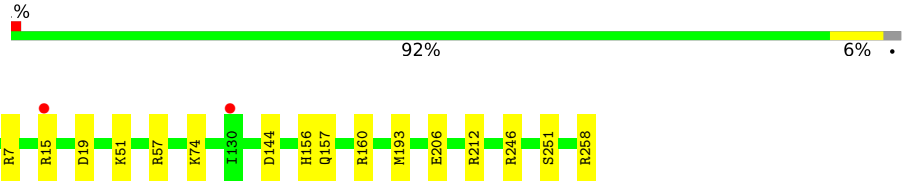
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain H:



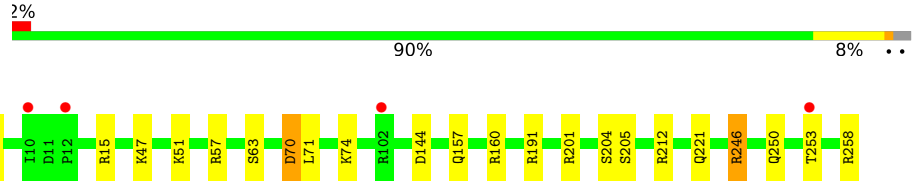
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain I:



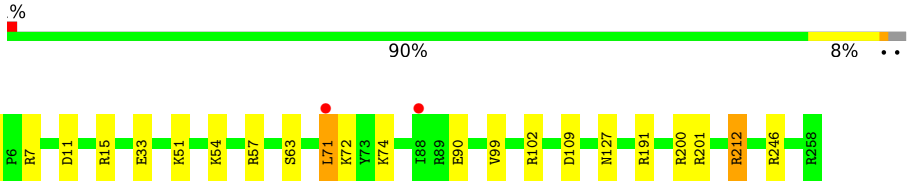
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain M:



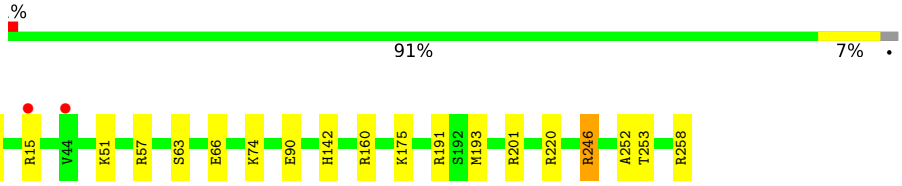
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain N:



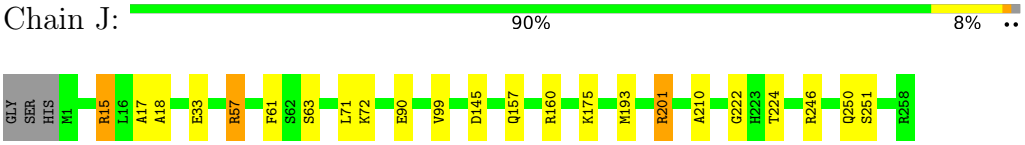
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain O:



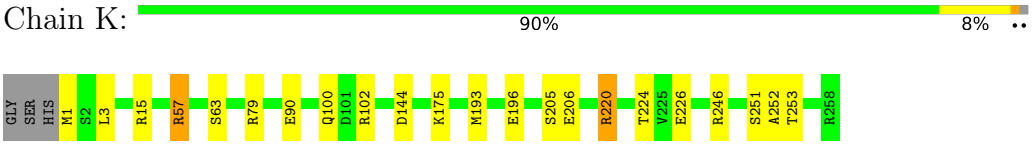
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain J:



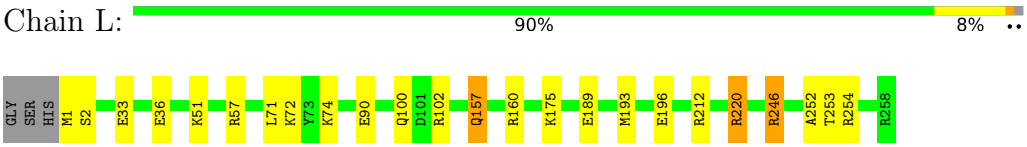
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain K:



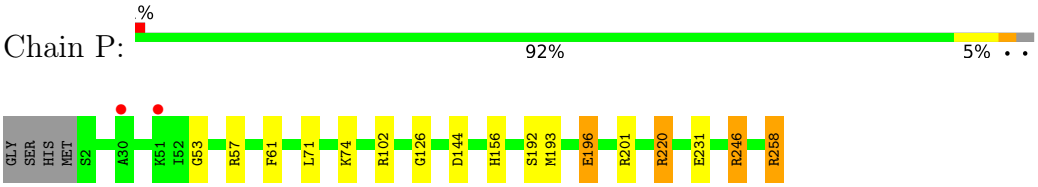
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain L:



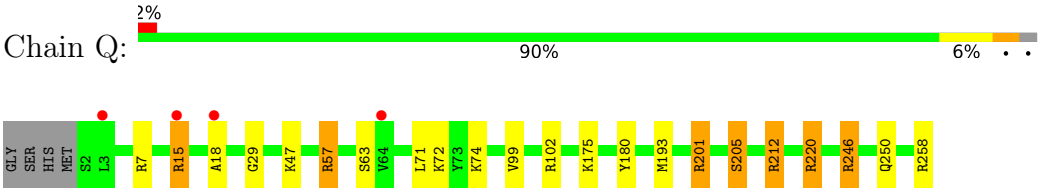
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain P:



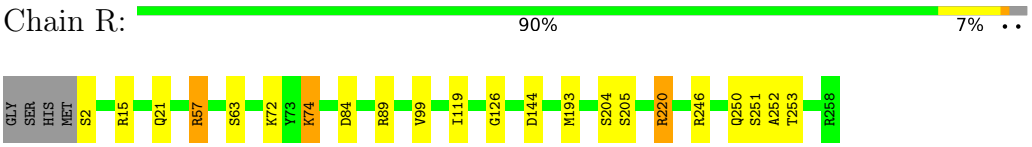
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain Q:



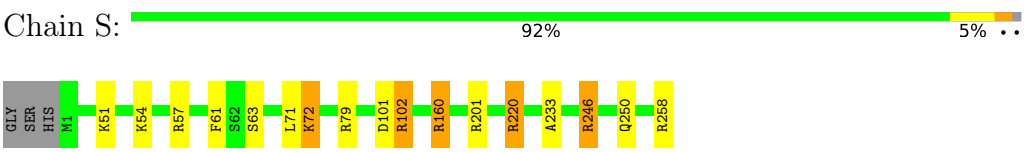
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain R:



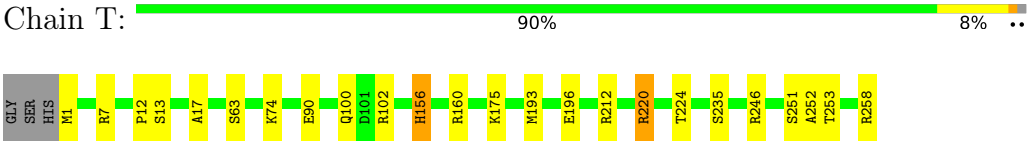
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain S:



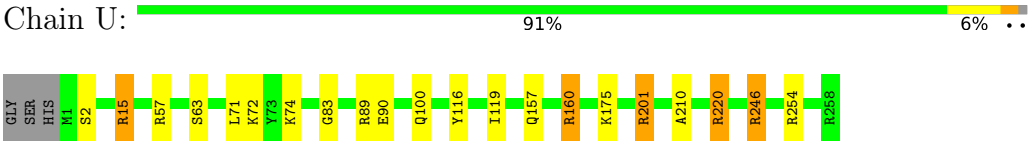
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain T:



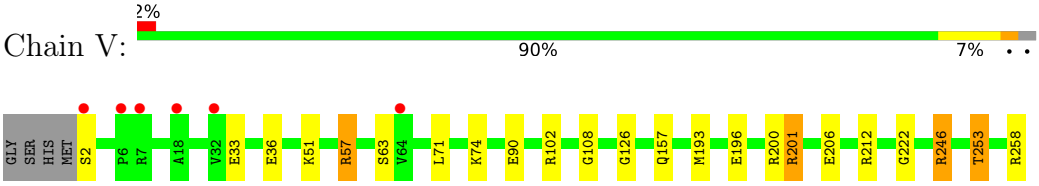
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain U:



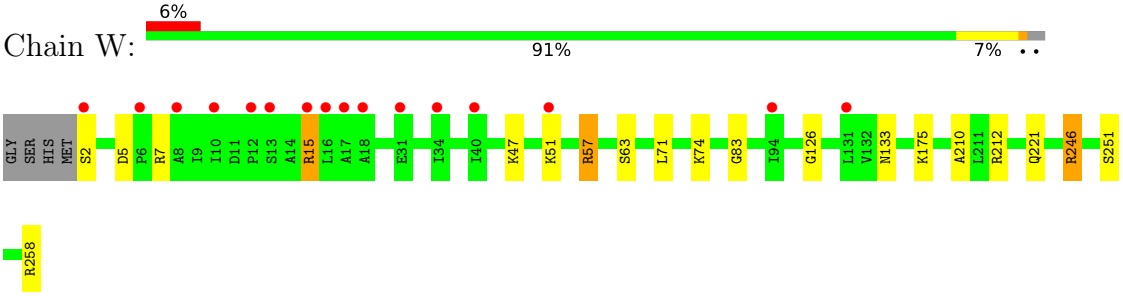
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain V:



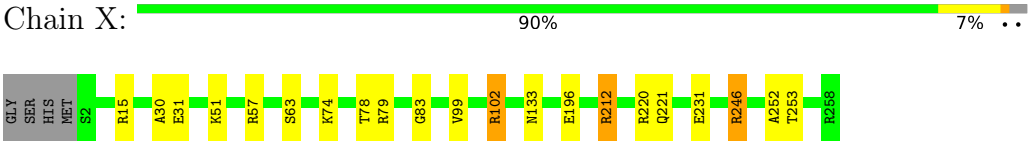
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain W:



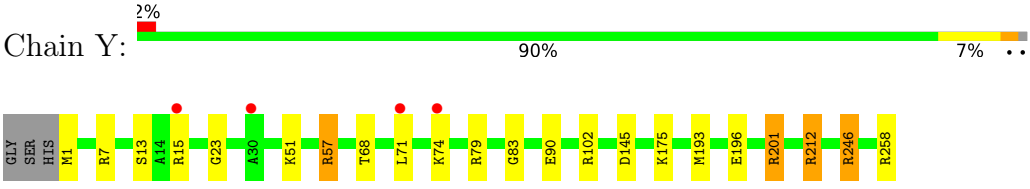
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain X:



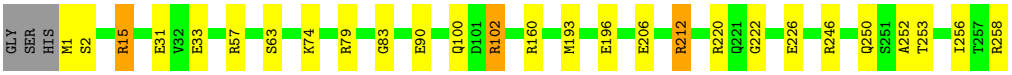
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain Y:



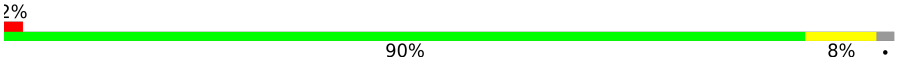
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

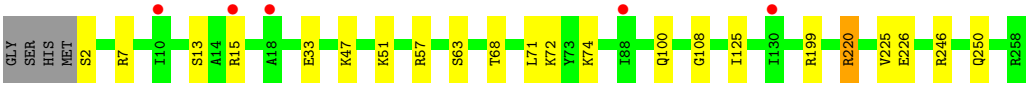
Chain Z:



• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

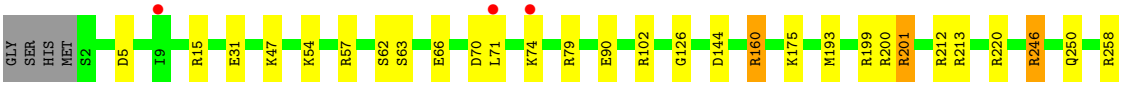
Chain a:





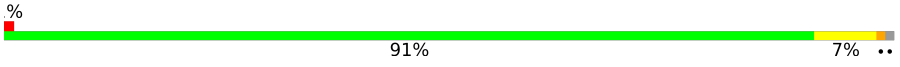
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain b:



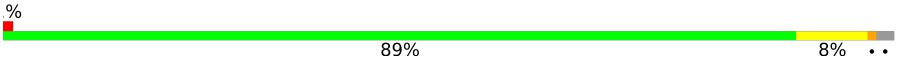
• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain c:



• Molecule 1: Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase

Chain d:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 42 21 2	Depositor
Cell constants a, b, c, α, β, γ	377.00Å 377.00Å 263.97Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	113.45 – 2.74 113.47 – 2.74	Depositor EDS
% Data completeness (in resolution range)	99.8 (113.45-2.74) 99.8 (113.47-2.74)	Depositor EDS
R_{merge}	0.40	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.47 (at 2.73Å)	Xtriage
Refinement program	REFMAC 5.8.0267	Depositor
R, R_{free}	0.187 , 0.225 0.191 , 0.225	Depositor DCC
R_{free} test set	24562 reflections (5.02%)	wwPDB-VP
Wilson B-factor (Å^2)	50.9	Xtriage
Anisotropy	0.144	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	(Not available) , (Not available)	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	60786	wwPDB-VP
Average B, all atoms (Å^2)	53.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.78% 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: VFT, SO4, CL

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	0.91	2/2045 (0.1%)	1.18	9/2772 (0.3%)
1	B	0.94	2/2056 (0.1%)	1.16	7/2786 (0.3%)
1	C	0.96	4/2047 (0.2%)	1.18	7/2774 (0.3%)
1	D	0.98	4/2025 (0.2%)	1.23	15/2746 (0.5%)
1	E	0.94	5/2016 (0.2%)	1.18	8/2734 (0.3%)
1	F	0.97	5/2036 (0.2%)	1.19	9/2760 (0.3%)
1	G	0.88	1/2008 (0.0%)	1.14	4/2724 (0.1%)
1	H	0.90	1/2008 (0.0%)	1.18	7/2724 (0.3%)
1	I	0.88	1/2008 (0.0%)	1.13	6/2724 (0.2%)
1	J	0.97	4/2027 (0.2%)	1.23	12/2748 (0.4%)
1	K	0.94	3/2016 (0.1%)	1.18	7/2734 (0.3%)
1	L	0.95	3/2016 (0.1%)	1.18	6/2734 (0.2%)
1	M	0.89	0/2008	1.16	8/2724 (0.3%)
1	N	0.88	1/2008 (0.0%)	1.15	7/2724 (0.3%)
1	O	0.86	0/2008	1.17	7/2724 (0.3%)
1	P	0.91	4/2008 (0.2%)	1.20	9/2724 (0.3%)
1	Q	0.88	1/2019 (0.0%)	1.19	14/2738 (0.5%)
1	R	0.87	1/2008 (0.0%)	1.17	8/2724 (0.3%)
1	S	0.94	3/2016 (0.1%)	1.25	12/2734 (0.4%)
1	T	0.95	2/2016 (0.1%)	1.21	8/2734 (0.3%)
1	U	0.92	2/2016 (0.1%)	1.23	14/2734 (0.5%)
1	V	0.88	2/2008 (0.1%)	1.16	5/2724 (0.2%)
1	W	0.87	1/2017 (0.0%)	1.16	3/2736 (0.1%)
1	X	0.90	3/2017 (0.1%)	1.18	9/2736 (0.3%)
1	Y	0.90	1/2025 (0.0%)	1.15	7/2746 (0.3%)
1	Z	0.92	5/2025 (0.2%)	1.20	9/2746 (0.3%)
1	a	0.88	1/2017 (0.0%)	1.13	5/2736 (0.2%)
1	b	0.90	2/2017 (0.1%)	1.19	9/2736 (0.3%)
1	c	0.90	5/2025 (0.2%)	1.14	4/2746 (0.1%)
1	d	0.86	0/2017	1.12	6/2736 (0.2%)
All	All	0.91	69/60583 (0.1%)	1.18	241/82162 (0.3%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	C	0	1
1	E	0	2
1	F	0	3
1	H	0	1
1	J	0	1
1	K	0	1
1	L	0	1
1	N	0	1
1	O	0	1
1	R	0	1
1	T	0	2
1	V	0	1
1	X	0	2
1	Z	0	2
1	c	0	1
All	All	0	22

All (69) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	K	196	GLU	CD-OE1	8.76	1.35	1.25
1	F	196	GLU	CD-OE1	8.22	1.34	1.25
1	T	196	GLU	CD-OE1	8.12	1.34	1.25
1	J	57	ARG	NE-CZ	8.04	1.43	1.33
1	D	206	GLU	CD-OE1	7.81	1.34	1.25
1	D	196	GLU	CD-OE2	7.70	1.34	1.25
1	X	196	GLU	CD-OE1	7.28	1.33	1.25
1	c	196	GLU	CD-OE1	7.22	1.33	1.25
1	C	57	ARG	NE-CZ	7.21	1.42	1.33
1	Y	196	GLU	CD-OE2	6.95	1.33	1.25
1	Z	206	GLU	CD-OE1	6.92	1.33	1.25
1	E	231	GLU	CD-OE1	6.91	1.33	1.25
1	U	220	ARG	NE-CZ	6.85	1.42	1.33
1	S	57	ARG	NE-CZ	6.74	1.41	1.33
1	D	57	ARG	NE-CZ	6.69	1.41	1.33
1	T	220	ARG	NE-CZ	6.67	1.41	1.33
1	L	196	GLU	CD-OE1	6.66	1.32	1.25
1	R	220	ARG	NE-CZ	6.62	1.41	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	c	220	ARG	NE-CZ	6.58	1.41	1.33
1	C	196	GLU	CD-OE1	6.49	1.32	1.25
1	B	220	ARG	NE-CZ	6.42	1.41	1.33
1	E	196	GLU	CD-OE1	6.37	1.32	1.25
1	Q	220	ARG	NE-CZ	6.36	1.41	1.33
1	P	231	GLU	CD-OE2	-6.30	1.18	1.25
1	X	231	GLU	CD-OE1	6.26	1.32	1.25
1	X	220	ARG	NE-CZ	6.25	1.41	1.33
1	D	220	ARG	NE-CZ	6.19	1.41	1.33
1	c	61	PHE	C-O	6.19	1.35	1.23
1	F	241	GLU	CD-OE1	6.09	1.32	1.25
1	V	196	GLU	CD-OE1	6.08	1.32	1.25
1	F	227	GLU	CD-OE2	-6.03	1.19	1.25
1	a	220	ARG	NE-CZ	6.01	1.40	1.33
1	W	210	ALA	C-O	5.91	1.34	1.23
1	Z	220	ARG	NE-CZ	5.86	1.40	1.33
1	B	196	GLU	CD-OE1	5.79	1.32	1.25
1	Z	196	GLU	CD-OE1	5.79	1.32	1.25
1	A	57	ARG	NE-CZ	5.78	1.40	1.33
1	J	210	ALA	C-O	5.78	1.34	1.23
1	P	196	GLU	CD-OE1	5.76	1.31	1.25
1	L	220	ARG	NE-CZ	5.67	1.40	1.33
1	C	205	SER	CA-CB	-5.63	1.44	1.52
1	E	61	PHE	C-O	5.63	1.34	1.23
1	c	97	GLY	C-O	5.62	1.32	1.23
1	K	220	ARG	NE-CZ	5.59	1.40	1.33
1	V	206	GLU	CD-OE1	5.53	1.31	1.25
1	E	205	SER	CA-CB	-5.53	1.44	1.52
1	P	61	PHE	C-O	5.52	1.33	1.23
1	G	174	GLY	C-O	-5.48	1.14	1.23
1	b	31	GLU	CD-OE2	5.41	1.31	1.25
1	N	90	GLU	CD-OE2	-5.41	1.19	1.25
1	c	31	GLU	CD-OE1	5.36	1.31	1.25
1	H	138	ALA	C-O	5.35	1.33	1.23
1	S	61	PHE	C-O	5.33	1.33	1.23
1	F	226	GLU	CD-OE2	5.31	1.31	1.25
1	J	57	ARG	CD-NE	5.22	1.55	1.46
1	K	206	GLU	CD-OE1	5.21	1.31	1.25
1	F	227	GLU	CD-OE1	-5.19	1.20	1.25
1	A	206	GLU	CD-OE1	5.14	1.31	1.25
1	C	229	LEU	C-O	5.13	1.33	1.23
1	Z	256	ILE	C-O	-5.11	1.13	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	P	220	ARG	NE-CZ	5.11	1.39	1.33
1	J	61	PHE	C-O	5.07	1.32	1.23
1	U	210	ALA	C-O	5.07	1.32	1.23
1	E	189	GLU	CD-OE1	-5.06	1.20	1.25
1	b	90	GLU	CD-OE2	-5.05	1.20	1.25
1	Z	31	GLU	CD-OE1	5.05	1.31	1.25
1	S	233	ALA	C-O	5.03	1.32	1.23
1	I	206	GLU	CD-OE1	5.02	1.31	1.25
1	L	189	GLU	CD-OE2	5.01	1.31	1.25

All (241) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	S	57	ARG	NE-CZ-NH1	14.32	127.46	120.30
1	R	220	ARG	NE-CZ-NH2	12.65	126.62	120.30
1	Z	220	ARG	NE-CZ-NH2	12.35	126.47	120.30
1	c	220	ARG	NE-CZ-NH2	12.08	126.34	120.30
1	B	220	ARG	NE-CZ-NH2	11.88	126.24	120.30
1	C	57	ARG	NE-CZ-NH1	11.69	126.14	120.30
1	Q	220	ARG	NE-CZ-NH2	11.57	126.08	120.30
1	U	220	ARG	NE-CZ-NH2	11.40	126.00	120.30
1	T	220	ARG	NE-CZ-NH2	11.17	125.89	120.30
1	A	57	ARG	NE-CZ-NH1	11.03	125.81	120.30
1	D	57	ARG	NE-CZ-NH1	10.56	125.58	120.30
1	Q	57	ARG	CB-CA-C	10.50	131.40	110.40
1	L	220	ARG	NE-CZ-NH2	10.40	125.50	120.30
1	W	57	ARG	CB-CA-C	9.81	130.02	110.40
1	P	258	ARG	NE-CZ-NH1	9.75	125.17	120.30
1	Z	246	ARG	CG-CD-NE	-9.36	92.14	111.80
1	G	57	ARG	CB-CA-C	9.32	129.04	110.40
1	H	57	ARG	CB-CA-C	9.29	128.97	110.40
1	X	212	ARG	NE-CZ-NH1	-9.23	115.69	120.30
1	E	191	ARG	NE-CZ-NH2	-9.04	115.78	120.30
1	C	57	ARG	CB-CA-C	9.01	128.42	110.40
1	J	15	ARG	NE-CZ-NH2	8.96	124.78	120.30
1	M	57	ARG	CB-CA-C	8.90	128.21	110.40
1	b	57	ARG	CB-CA-C	8.80	128.00	110.40
1	D	57	ARG	CB-CA-C	8.77	127.94	110.40
1	Y	102	ARG	NE-CZ-NH1	8.71	124.66	120.30
1	D	200	ARG	NE-CZ-NH2	8.62	124.61	120.30
1	I	57	ARG	NE-CZ-NH1	8.58	124.59	120.30
1	N	57	ARG	CB-CA-C	8.45	127.30	110.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	R	57	ARG	CB-CA-C	8.43	127.27	110.40
1	J	57	ARG	CB-CA-C	8.40	127.20	110.40
1	H	258	ARG	CA-C-O	8.38	137.71	120.10
1	J	57	ARG	NE-CZ-NH2	8.22	124.41	120.30
1	K	220	ARG	NE-CZ-NH2	8.19	124.39	120.30
1	T	246	ARG	CG-CD-NE	-8.13	94.72	111.80
1	Y	57	ARG	NE-CZ-NH1	8.12	124.36	120.30
1	V	200	ARG	NE-CZ-NH2	8.12	124.36	120.30
1	V	201	ARG	NE-CZ-NH1	8.10	124.35	120.30
1	Z	102	ARG	NE-CZ-NH2	7.88	124.24	120.30
1	Z	15	ARG	NE-CZ-NH2	7.84	124.22	120.30
1	Y	201	ARG	NE-CZ-NH1	7.83	124.22	120.30
1	a	220	ARG	NE-CZ-NH2	7.76	124.18	120.30
1	Q	201	ARG	NE-CZ-NH1	7.73	124.17	120.30
1	F	160	ARG	NE-CZ-NH2	7.68	124.14	120.30
1	V	246	ARG	CB-CG-CD	7.65	131.50	111.60
1	U	254	ARG	NE-CZ-NH1	7.62	124.11	120.30
1	P	246	ARG	CB-CG-CD	7.61	131.39	111.60
1	P	57	ARG	CB-CA-C	7.57	125.55	110.40
1	O	57	ARG	CB-CA-C	7.57	125.54	110.40
1	P	220	ARG	CB-CA-C	7.49	125.37	110.40
1	b	160	ARG	NE-CZ-NH2	7.40	124.00	120.30
1	V	57	ARG	CB-CA-C	7.39	125.17	110.40
1	D	51	LYS	CB-CA-C	7.37	125.14	110.40
1	X	212	ARG	NE-CZ-NH2	7.36	123.98	120.30
1	J	57	ARG	CB-CG-CD	7.34	130.69	111.60
1	Q	15	ARG	NE-CZ-NH2	7.34	123.97	120.30
1	S	220	ARG	NE-CZ-NH2	7.31	123.95	120.30
1	I	144	ASP	CB-CA-C	7.30	124.99	110.40
1	U	15	ARG	NE-CZ-NH2	7.28	123.94	120.30
1	S	57	ARG	CB-CA-C	7.28	124.95	110.40
1	Z	160	ARG	CG-CD-NE	-7.24	96.60	111.80
1	U	90	GLU	CB-CA-C	7.19	124.77	110.40
1	O	220	ARG	NE-CZ-NH2	-7.19	116.71	120.30
1	A	57	ARG	CB-CA-C	7.17	124.74	110.40
1	c	212	ARG	NE-CZ-NH1	-7.12	116.74	120.30
1	c	220	ARG	CD-NE-CZ	7.09	133.53	123.60
1	Q	220	ARG	CD-NE-CZ	7.04	133.46	123.60
1	D	57	ARG	CB-CG-CD	7.04	129.90	111.60
1	U	246	ARG	NE-CZ-NH1	7.03	123.81	120.30
1	S	160	ARG	NE-CZ-NH2	7.01	123.80	120.30
1	I	57	ARG	CB-CA-C	7.01	124.41	110.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	K	246	ARG	CG-CD-NE	-7.00	97.09	111.80
1	Z	220	ARG	NE-CZ-NH1	-7.00	116.80	120.30
1	D	15	ARG	NE-CZ-NH2	6.95	123.77	120.30
1	M	246	ARG	CB-CG-CD	6.91	129.55	111.60
1	a	33	GLU	CB-CA-C	6.89	124.19	110.40
1	J	57	ARG	NH1-CZ-NH2	-6.84	111.88	119.40
1	E	212	ARG	NE-CZ-NH1	-6.80	116.90	120.30
1	L	246	ARG	CB-CG-CD	6.80	129.27	111.60
1	J	57	ARG	NE-CZ-NH1	6.75	123.68	120.30
1	D	90	GLU	CB-CA-C	6.75	123.90	110.40
1	R	220	ARG	CD-NE-CZ	6.74	133.03	123.60
1	T	7	ARG	NE-CZ-NH1	-6.72	116.94	120.30
1	J	201	ARG	NE-CZ-NH1	6.71	123.66	120.30
1	Q	246	ARG	CB-CG-CD	6.65	128.90	111.60
1	H	246	ARG	CB-CG-CD	6.64	128.87	111.60
1	R	57	ARG	NE-CZ-NH1	6.59	123.59	120.30
1	b	200	ARG	NE-CZ-NH2	6.53	123.57	120.30
1	T	156	HIS	CB-CA-C	6.48	123.36	110.40
1	Q	258	ARG	NE-CZ-NH1	6.44	123.52	120.30
1	Y	246	ARG	CB-CG-CD	6.42	128.30	111.60
1	D	67	ASP	CB-CG-OD2	-6.41	112.53	118.30
1	D	246	ARG	CB-CG-CD	6.39	128.21	111.60
1	F	254	ARG	NE-CZ-NH1	6.38	123.49	120.30
1	B	257	THR	CA-CB-OG1	-6.38	95.61	109.00
1	T	160	ARG	NE-CZ-NH1	-6.37	117.11	120.30
1	R	144	ASP	CB-CA-C	6.37	123.14	110.40
1	Z	212	ARG	NE-CZ-NH1	-6.34	117.13	120.30
1	J	72	LYS	CB-CA-C	-6.33	97.75	110.40
1	E	258	ARG	CA-C-O	6.31	133.35	120.10
1	T	220	ARG	CD-NE-CZ	6.29	132.41	123.60
1	P	258	ARG	CA-C-O	-6.27	106.94	120.10
1	X	102	ARG	NE-CZ-NH1	6.26	123.43	120.30
1	X	220	ARG	CB-CA-C	6.26	122.92	110.40
1	M	191	ARG	NE-CZ-NH2	-6.25	117.17	120.30
1	K	57	ARG	NE-CZ-NH1	-6.20	117.20	120.30
1	S	57	ARG	CB-CG-CD	6.20	127.72	111.60
1	Q	258	ARG	CG-CD-NE	6.18	124.79	111.80
1	Q	201	ARG	NE-CZ-NH2	-6.18	117.21	120.30
1	U	220	ARG	CD-NE-CZ	6.17	132.24	123.60
1	a	220	ARG	CB-CA-C	6.15	122.69	110.40
1	E	246	ARG	NE-CZ-NH1	-6.14	117.23	120.30
1	d	246	ARG	CB-CG-CD	6.14	127.57	111.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	O	246	ARG	CB-CG-CD	6.14	127.56	111.60
1	b	246	ARG	CB-CG-CD	6.12	127.50	111.60
1	H	90	GLU	CB-CA-C	6.09	122.58	110.40
1	X	57	ARG	CB-CA-C	6.08	122.56	110.40
1	Y	212	ARG	NE-CZ-NH2	6.06	123.33	120.30
1	a	220	ARG	CD-NE-CZ	6.06	132.08	123.60
1	A	33	GLU	CB-CA-C	6.05	122.50	110.40
1	B	220	ARG	CD-NE-CZ	6.03	132.04	123.60
1	A	90	GLU	CB-CA-C	6.01	122.43	110.40
1	Z	90	GLU	CB-CA-C	6.01	122.42	110.40
1	S	220	ARG	CG-CD-NE	5.98	124.36	111.80
1	R	74	LYS	CB-CA-C	5.96	122.31	110.40
1	M	212	ARG	NE-CZ-NH2	5.95	123.27	120.30
1	C	11	ASP	CB-CG-OD1	-5.94	112.95	118.30
1	E	226	GLU	CB-CA-C	5.91	122.22	110.40
1	L	90	GLU	CB-CA-C	5.89	122.18	110.40
1	M	144	ASP	CB-CA-C	5.88	122.15	110.40
1	P	258	ARG	NE-CZ-NH2	-5.86	117.37	120.30
1	N	200	ARG	NE-CZ-NH2	5.86	123.23	120.30
1	K	90	GLU	CB-CA-C	5.86	122.11	110.40
1	G	201	ARG	CB-CG-CD	5.82	126.74	111.60
1	U	72	LYS	CB-CA-C	-5.82	98.75	110.40
1	S	79	ARG	NE-CZ-NH2	5.82	123.21	120.30
1	G	102	ARG	NE-CZ-NH1	5.81	123.21	120.30
1	N	212	ARG	NE-CZ-NH1	-5.78	117.41	120.30
1	F	205	SER	CB-CA-C	5.78	121.08	110.10
1	M	57	ARG	CB-CG-CD	5.77	126.60	111.60
1	J	90	GLU	CB-CA-C	5.75	121.89	110.40
1	U	160	ARG	NE-CZ-NH2	5.74	123.17	120.30
1	X	246	ARG	CB-CG-CD	5.74	126.51	111.60
1	A	101	ASP	CB-CA-C	5.72	121.83	110.40
1	d	258	ARG	CB-CG-CD	5.70	126.43	111.60
1	O	57	ARG	NE-CZ-NH1	5.70	123.15	120.30
1	P	220	ARG	NE-CZ-NH2	5.69	123.15	120.30
1	N	246	ARG	CB-CG-CD	5.69	126.40	111.60
1	U	220	ARG	NH1-CZ-NH2	-5.67	113.16	119.40
1	C	57	ARG	NH1-CZ-NH2	-5.67	113.16	119.40
1	U	160	ARG	NE-CZ-NH1	-5.66	117.47	120.30
1	F	258	ARG	CG-CD-NE	5.65	123.67	111.80
1	M	201	ARG	NE-CZ-NH1	5.65	123.13	120.30
1	B	246	ARG	CG-CD-NE	-5.65	99.94	111.80
1	K	15	ARG	CB-CA-C	5.63	121.67	110.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	S	57	ARG	CD-NE-CZ	5.63	131.48	123.60
1	Q	212	ARG	NE-CZ-NH2	5.62	123.11	120.30
1	G	246	ARG	CB-CG-CD	5.61	126.19	111.60
1	N	212	ARG	NE-CZ-NH2	5.59	123.10	120.30
1	U	116	TYR	CB-CG-CD2	5.58	124.35	121.00
1	T	90	GLU	CB-CA-C	5.57	121.54	110.40
1	A	2	SER	N-CA-CB	5.54	118.81	110.50
1	T	220	ARG	CB-CA-C	5.54	121.48	110.40
1	b	201	ARG	NE-CZ-NH1	5.52	123.06	120.30
1	S	246	ARG	NE-CZ-NH1	5.52	123.06	120.30
1	B	84	ASP	CB-CG-OD2	-5.52	113.34	118.30
1	W	246	ARG	CB-CG-CD	5.50	125.89	111.60
1	K	79	ARG	NE-CZ-NH2	5.49	123.05	120.30
1	K	144	ASP	CB-CA-C	5.48	121.35	110.40
1	F	15	ARG	NE-CZ-NH2	5.47	123.03	120.30
1	C	57	ARG	CB-CG-CD	5.45	125.76	111.60
1	E	212	ARG	NE-CZ-NH2	5.43	123.01	120.30
1	R	246	ARG	CB-CG-CD	5.42	125.70	111.60
1	L	102	ARG	NE-CZ-NH1	5.42	123.01	120.30
1	O	191	ARG	NE-CZ-NH2	-5.41	117.59	120.30
1	Q	72	LYS	CB-CA-C	-5.40	99.61	110.40
1	M	70	ASP	CB-CG-OD1	-5.38	113.46	118.30
1	Q	57	ARG	CB-CG-CD	5.38	125.59	111.60
1	U	89	ARG	NE-CZ-NH1	-5.38	117.61	120.30
1	b	213	ARG	NE-CZ-NH2	-5.38	117.61	120.30
1	E	145	ASP	CB-CG-OD1	5.36	123.13	118.30
1	N	109	ASP	CB-CG-OD1	5.36	123.12	118.30
1	Q	220	ARG	CB-CA-C	5.35	121.09	110.40
1	H	201	ARG	NE-CZ-NH1	5.34	122.97	120.30
1	X	220	ARG	NE-CZ-NH2	5.34	122.97	120.30
1	d	258	ARG	CG-CD-NE	5.34	123.02	111.80
1	Q	205	SER	CB-CA-C	5.33	120.22	110.10
1	D	57	ARG	NH1-CZ-NH2	-5.33	113.54	119.40
1	C	246	ARG	CB-CG-CD	5.32	125.42	111.60
1	D	57	ARG	N-CA-C	-5.32	96.64	111.00
1	D	70	ASP	CB-CG-OD2	5.32	123.09	118.30
1	S	72	LYS	CB-CA-C	5.32	121.04	110.40
1	P	144	ASP	CB-CA-C	5.31	121.01	110.40
1	B	212	ARG	NE-CZ-NH2	5.30	122.95	120.30
1	b	102	ARG	NE-CZ-NH1	5.30	122.95	120.30
1	V	33	GLU	CB-CA-C	5.30	120.99	110.40
1	b	220	ARG	CB-CA-C	5.29	120.98	110.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	J	33	GLU	N-CA-CB	-5.29	101.08	110.60
1	E	258	ARG	CG-CD-NE	5.29	122.91	111.80
1	d	226	GLU	CB-CA-C	5.28	120.95	110.40
1	F	76	GLU	CB-CA-C	5.27	120.94	110.40
1	S	101	ASP	CB-CA-C	5.26	120.91	110.40
1	X	246	ARG	NE-CZ-NH1	5.25	122.93	120.30
1	J	15	ARG	CD-NE-CZ	5.25	130.96	123.60
1	U	220	ARG	CB-CA-C	5.24	120.89	110.40
1	a	199	ARG	NE-CZ-NH2	5.24	122.92	120.30
1	d	144	ASP	CB-CA-C	5.22	120.85	110.40
1	Y	102	ARG	CD-NE-CZ	5.22	130.91	123.60
1	N	191	ARG	NE-CZ-NH1	-5.22	117.69	120.30
1	F	11	ASP	CB-CG-OD1	-5.20	113.62	118.30
1	W	15	ARG	NE-CZ-NH2	5.19	122.90	120.30
1	B	109	ASP	CB-CG-OD2	-5.19	113.63	118.30
1	L	254	ARG	NE-CZ-NH1	5.18	122.89	120.30
1	S	102	ARG	NE-CZ-NH1	5.18	122.89	120.30
1	X	220	ARG	CD-NE-CZ	5.17	130.83	123.60
1	Y	145	ASP	CB-CG-OD2	-5.17	113.65	118.30
1	I	156	HIS	CB-CA-C	5.15	120.70	110.40
1	A	66	GLU	N-CA-CB	-5.14	101.34	110.60
1	D	220	ARG	CB-CA-C	5.14	120.67	110.40
1	C	101	ASP	CB-CA-C	5.13	120.66	110.40
1	I	258	ARG	NE-CZ-NH1	5.12	122.86	120.30
1	c	220	ARG	CB-CA-C	5.12	120.65	110.40
1	F	246[A]	ARG	CG-CD-NE	5.11	122.53	111.80
1	F	246[B]	ARG	CG-CD-NE	5.11	122.53	111.80
1	D	220	ARG	NE-CZ-NH2	5.11	122.85	120.30
1	I	57	ARG	CB-CG-CD	5.11	124.88	111.60
1	H	201	ARG	NE-CZ-NH2	-5.08	117.76	120.30
1	A	57	ARG	CD-NE-CZ	5.08	130.71	123.60
1	d	90	GLU	CB-CA-C	5.07	120.55	110.40
1	A	51	LYS	CB-CA-C	5.07	120.54	110.40
1	b	144	ASP	CB-CA-C	5.07	120.53	110.40
1	O	220	ARG	NE-CZ-NH1	5.07	122.83	120.30
1	P	57	ARG	CB-CG-CD	5.07	124.77	111.60
1	H	57	ARG	CB-CG-CD	5.05	124.74	111.60
1	D	220	ARG	CD-NE-CZ	5.05	130.67	123.60
1	O	90	GLU	CB-CA-C	5.04	120.49	110.40
1	R	89	ARG	NE-CZ-NH1	5.04	122.82	120.30
1	U	201	ARG	CB-CG-CD	5.03	124.69	111.60
1	L	33	GLU	CB-CA-C	5.03	120.45	110.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	Z	33	GLU	CB-CA-C	5.01	120.41	110.40
1	J	145	ASP	CB-CG-OD2	-5.00	113.80	118.30

There are no chirality outliers.

All (22) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	2	SER	Peptide
1	C	2	SER	Peptide
1	E	17	ALA	Peptide
1	E	252	ALA	Peptide
1	F	17	ALA	Peptide
1	F	18	ALA	Peptide
1	F	2	SER	Peptide
1	H	253	THR	Peptide
1	J	17	ALA	Peptide
1	K	252	ALA	Peptide
1	L	252	ALA	Peptide
1	N	71	LEU	Peptide
1	O	252	ALA	Peptide
1	R	252	ALA	Peptide
1	T	17	ALA	Peptide
1	T	252	ALA	Peptide
1	V	253	THR	Peptide
1	X	252	ALA	Peptide
1	X	30	ALA	Peptide
1	Z	2	SER	Peptide
1	Z	252	ALA	Peptide
1	c	252	ALA	Peptide

5.2 Too-close contacts (i)

Due to software issues we are unable to calculate clashes - this section is therefore empty.

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	259/261 (99%)	242 (93%)	17 (7%)	0	100	100
1	B	260/261 (100%)	237 (91%)	21 (8%)	2 (1%)	19	36
1	C	259/261 (99%)	241 (93%)	18 (7%)	0	100	100
1	D	257/261 (98%)	239 (93%)	16 (6%)	2 (1%)	19	36
1	E	256/261 (98%)	240 (94%)	14 (6%)	2 (1%)	19	36
1	F	258/261 (99%)	245 (95%)	11 (4%)	2 (1%)	19	36
1	G	255/261 (98%)	238 (93%)	17 (7%)	0	100	100
1	H	255/261 (98%)	237 (93%)	16 (6%)	2 (1%)	19	36
1	I	255/261 (98%)	241 (94%)	13 (5%)	1 (0%)	34	55
1	J	257/261 (98%)	241 (94%)	13 (5%)	3 (1%)	13	24
1	K	256/261 (98%)	234 (91%)	22 (9%)	0	100	100
1	L	256/261 (98%)	237 (93%)	17 (7%)	2 (1%)	19	36
1	M	255/261 (98%)	233 (91%)	21 (8%)	1 (0%)	34	55
1	N	255/261 (98%)	227 (89%)	26 (10%)	2 (1%)	19	36
1	O	255/261 (98%)	230 (90%)	25 (10%)	0	100	100
1	P	255/261 (98%)	235 (92%)	18 (7%)	2 (1%)	19	36
1	Q	256/261 (98%)	231 (90%)	22 (9%)	3 (1%)	13	24
1	R	255/261 (98%)	234 (92%)	18 (7%)	3 (1%)	13	24
1	S	256/261 (98%)	236 (92%)	20 (8%)	0	100	100
1	T	256/261 (98%)	240 (94%)	15 (6%)	1 (0%)	34	55
1	U	256/261 (98%)	235 (92%)	19 (7%)	2 (1%)	19	36
1	V	255/261 (98%)	233 (91%)	17 (7%)	5 (2%)	7	13
1	W	256/261 (98%)	233 (91%)	20 (8%)	3 (1%)	13	24
1	X	256/261 (98%)	226 (88%)	26 (10%)	4 (2%)	9	17
1	Y	257/261 (98%)	236 (92%)	19 (7%)	2 (1%)	19	36
1	Z	257/261 (98%)	237 (92%)	18 (7%)	2 (1%)	19	36
1	a	256/261 (98%)	235 (92%)	20 (8%)	1 (0%)	34	55
1	b	256/261 (98%)	236 (92%)	19 (7%)	1 (0%)	34	55
1	c	257/261 (98%)	233 (91%)	23 (9%)	1 (0%)	34	55
1	d	256/261 (98%)	229 (90%)	21 (8%)	6 (2%)	6	10

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	7688/7830 (98%)	7071 (92%)	562 (7%)	55 (1%)	22 40

All (55) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	E	2	SER
1	J	18	ALA
1	J	224	THR
1	Q	18	ALA
1	R	72	LYS
1	V	36	GLU
1	X	31	GLU
1	F	18	ALA
1	M	157	GLN
1	N	72	LYS
1	P	53	GLY
1	P	126	GLY
1	Q	29	GLY
1	U	83	GLY
1	V	222	GLY
1	X	78	THR
1	X	83	GLY
1	Z	83	GLY
1	d	17	ALA
1	d	29	GLY
1	d	41	GLY
1	B	157[A]	GLN
1	B	157[B]	GLN
1	E	3	LEU
1	L	157	GLN
1	R	204	SER
1	T	224	THR
1	U	157	GLN
1	X	133	ASN
1	b	126	GLY
1	d	31	GLU
1	F	36	GLU
1	H	36	GLU
1	I	157	GLN
1	W	83	GLY
1	W	126	GLY
1	W	133	ASN

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Mol	Chain	Res	Type
1	d	36	GLU
1	L	36	GLU
1	Q	180	TYR
1	V	157	GLN
1	d	194	ASN
1	D	72	LYS
1	H	126	GLY
1	R	126	GLY
1	Z	222	GLY
1	V	108	GLY
1	N	5	ASP
1	a	108	GLY
1	J	222	GLY
1	V	126	GLY
1	Y	23	GLY
1	Y	83	GLY
1	c	83	GLY
1	D	83	GLY

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	209/208 (100%)	199 (95%)	10 (5%)	25	44
1	B	210/208 (101%)	199 (95%)	11 (5%)	23	39
1	C	209/208 (100%)	197 (94%)	12 (6%)	20	36
1	D	207/208 (100%)	189 (91%)	18 (9%)	10	19
1	E	206/208 (99%)	194 (94%)	12 (6%)	20	35
1	F	208/208 (100%)	189 (91%)	19 (9%)	9	17
1	G	205/208 (99%)	192 (94%)	13 (6%)	18	31
1	H	205/208 (99%)	190 (93%)	15 (7%)	14	25
1	I	205/208 (99%)	195 (95%)	10 (5%)	25	43
1	J	207/208 (100%)	194 (94%)	13 (6%)	18	31

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	K	206/208 (99%)	192 (93%)	14 (7%)	16	28
1	L	206/208 (99%)	190 (92%)	16 (8%)	12	22
1	M	205/208 (99%)	189 (92%)	16 (8%)	12	22
1	N	205/208 (99%)	191 (93%)	14 (7%)	16	28
1	O	205/208 (99%)	191 (93%)	14 (7%)	16	28
1	P	205/208 (99%)	194 (95%)	11 (5%)	22	38
1	Q	206/208 (99%)	189 (92%)	17 (8%)	11	20
1	R	205/208 (99%)	190 (93%)	15 (7%)	14	25
1	S	206/208 (99%)	194 (94%)	12 (6%)	20	35
1	T	206/208 (99%)	190 (92%)	16 (8%)	12	22
1	U	206/208 (99%)	193 (94%)	13 (6%)	18	31
1	V	205/208 (99%)	191 (93%)	14 (7%)	16	28
1	W	206/208 (99%)	190 (92%)	16 (8%)	12	22
1	X	206/208 (99%)	195 (95%)	11 (5%)	22	39
1	Y	207/208 (100%)	190 (92%)	17 (8%)	11	21
1	Z	207/208 (100%)	193 (93%)	14 (7%)	16	28
1	a	206/208 (99%)	187 (91%)	19 (9%)	9	17
1	b	206/208 (99%)	186 (90%)	20 (10%)	8	14
1	c	207/208 (100%)	192 (93%)	15 (7%)	14	25
1	d	206/208 (99%)	189 (92%)	17 (8%)	11	20
All	All	6188/6240 (99%)	5754 (93%)	434 (7%)	15	27

All (434) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	13	SER
1	A	63	SER
1	A	71	LEU
1	A	72	LYS
1	A	167	SER
1	A	201[A]	ARG
1	A	201[B]	ARG
1	A	212	ARG
1	A	235	SER
1	A	258	ARG

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Mol	Chain	Res	Type
1	B	1	MET
1	B	2	SER
1	B	51	LYS
1	B	63	SER
1	B	100	GLN
1	B	175	LYS
1	B	193	MET
1	B	212	ARG
1	B	220	ARG
1	B	226	GLU
1	B	253	THR
1	C	2	SER
1	C	11	ASP
1	C	51	LYS
1	C	57	ARG
1	C	71	LEU
1	C	99	VAL
1	C	100	GLN
1	C	102	ARG
1	C	175	LYS
1	C	193	MET
1	C	246	ARG
1	C	258	ARG
1	D	1	MET
1	D	15	ARG
1	D	51	LYS
1	D	54	LYS
1	D	63	SER
1	D	71	LEU
1	D	160	ARG
1	D	169	MET
1	D	175	LYS
1	D	192	SER
1	D	193	MET
1	D	201	ARG
1	D	212	ARG
1	D	220	ARG
1	D	226	GLU
1	D	246	ARG
1	D	250	GLN
1	D	253	THR
1	E	1	MET

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Mol	Chain	Res	Type
1	E	2	SER
1	E	63	SER
1	E	100	GLN
1	E	160	ARG
1	E	175	LYS
1	E	201	ARG
1	E	212	ARG
1	E	220	ARG
1	E	226	GLU
1	E	253	THR
1	E	258	ARG
1	F	1	MET
1	F	2	SER
1	F	15	ARG
1	F	36	GLU
1	F	57	ARG
1	F	63	SER
1	F	66	GLU
1	F	70	ASP
1	F	71	LEU
1	F	72	LYS
1	F	74	LYS
1	F	100	GLN
1	F	160	ARG
1	F	193	MET
1	F	205	SER
1	F	221	GLN
1	F	235	SER
1	F	253	THR
1	F	258	ARG
1	G	7	ARG
1	G	51	LYS
1	G	63	SER
1	G	67	ASP
1	G	71	LEU
1	G	74	LYS
1	G	102	ARG
1	G	193	MET
1	G	201	ARG
1	G	220	ARG
1	G	246	ARG
1	G	253	THR

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Mol	Chain	Res	Type
1	G	258	ARG
1	H	15	ARG
1	H	63	SER
1	H	71	LEU
1	H	72	LYS
1	H	74	LYS
1	H	102	ARG
1	H	157	GLN
1	H	193	MET
1	H	201	ARG
1	H	212	ARG
1	H	226	GLU
1	H	246	ARG
1	H	251	SER
1	H	253	THR
1	H	254	ARG
1	I	7	ARG
1	I	15	ARG
1	I	19	ASP
1	I	51	LYS
1	I	74	LYS
1	I	160	ARG
1	I	193	MET
1	I	212	ARG
1	I	246	ARG
1	I	251	SER
1	M	7	ARG
1	M	15	ARG
1	M	47	LYS
1	M	51	LYS
1	M	63	SER
1	M	70	ASP
1	M	71	LEU
1	M	74	LYS
1	M	160	ARG
1	M	204	SER
1	M	205	SER
1	M	221	GLN
1	M	246	ARG
1	M	250	GLN
1	M	253	THR
1	M	258	ARG

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Mol	Chain	Res	Type
1	N	7	ARG
1	N	11	ASP
1	N	15	ARG
1	N	33	GLU
1	N	51	LYS
1	N	54	LYS
1	N	63	SER
1	N	71	LEU
1	N	74	LYS
1	N	99	VAL
1	N	102	ARG
1	N	127	ASN
1	N	201	ARG
1	N	212	ARG
1	O	7	ARG
1	O	15	ARG
1	O	51	LYS
1	O	63	SER
1	O	66	GLU
1	O	74	LYS
1	O	142	HIS
1	O	160	ARG
1	O	175	LYS
1	O	193	MET
1	O	201	ARG
1	O	246	ARG
1	O	253	THR
1	O	258	ARG
1	J	15	ARG
1	J	57	ARG
1	J	63	SER
1	J	71	LEU
1	J	99	VAL
1	J	157	GLN
1	J	160	ARG
1	J	175	LYS
1	J	193	MET
1	J	201	ARG
1	J	246	ARG
1	J	250	GLN
1	J	251	SER
1	K	1	MET

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Mol	Chain	Res	Type
1	K	3	LEU
1	K	57	ARG
1	K	63	SER
1	K	100	GLN
1	K	102	ARG
1	K	175	LYS
1	K	193	MET
1	K	205	SER
1	K	220	ARG
1	K	224	THR
1	K	226	GLU
1	K	251	SER
1	K	253	THR
1	L	1	MET
1	L	2	SER
1	L	51	LYS
1	L	57	ARG
1	L	71	LEU
1	L	72	LYS
1	L	74	LYS
1	L	100	GLN
1	L	157	GLN
1	L	160	ARG
1	L	175	LYS
1	L	193	MET
1	L	212	ARG
1	L	220	ARG
1	L	246	ARG
1	L	253	THR
1	P	71	LEU
1	P	74	LYS
1	P	102	ARG
1	P	156	HIS
1	P	192	SER
1	P	193	MET
1	P	196	GLU
1	P	201	ARG
1	P	220	ARG
1	P	246	ARG
1	P	258	ARG
1	Q	7	ARG
1	Q	15	ARG

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Mol	Chain	Res	Type
1	Q	47	LYS
1	Q	57	ARG
1	Q	63	SER
1	Q	71	LEU
1	Q	74	LYS
1	Q	99	VAL
1	Q	102	ARG
1	Q	175	LYS
1	Q	193	MET
1	Q	201	ARG
1	Q	205	SER
1	Q	212	ARG
1	Q	220	ARG
1	Q	246	ARG
1	Q	250	GLN
1	R	2	SER
1	R	15	ARG
1	R	21	GLN
1	R	57	ARG
1	R	63	SER
1	R	74	LYS
1	R	84	ASP
1	R	99	VAL
1	R	119	ILE
1	R	193	MET
1	R	205	SER
1	R	220	ARG
1	R	250	GLN
1	R	251	SER
1	R	253	THR
1	S	51	LYS
1	S	54	LYS
1	S	63	SER
1	S	71	LEU
1	S	72	LYS
1	S	102	ARG
1	S	160	ARG
1	S	201	ARG
1	S	220	ARG
1	S	246	ARG
1	S	250	GLN
1	S	258	ARG

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Mol	Chain	Res	Type
1	T	1	MET
1	T	12	PRO
1	T	13	SER
1	T	63	SER
1	T	74	LYS
1	T	100	GLN
1	T	102	ARG
1	T	156	HIS
1	T	175	LYS
1	T	193	MET
1	T	212	ARG
1	T	220	ARG
1	T	235	SER
1	T	251	SER
1	T	253	THR
1	T	258	ARG
1	U	2	SER
1	U	15	ARG
1	U	57	ARG
1	U	63	SER
1	U	71	LEU
1	U	74	LYS
1	U	100	GLN
1	U	119	ILE
1	U	160	ARG
1	U	175	LYS
1	U	201	ARG
1	U	220	ARG
1	U	246	ARG
1	V	2	SER
1	V	51	LYS
1	V	57	ARG
1	V	63	SER
1	V	71	LEU
1	V	74	LYS
1	V	90	GLU
1	V	102	ARG
1	V	193	MET
1	V	201	ARG
1	V	212	ARG
1	V	246	ARG
1	V	253	THR

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Mol	Chain	Res	Type
1	V	258	ARG
1	W	2	SER
1	W	5	ASP
1	W	7	ARG
1	W	15	ARG
1	W	47	LYS
1	W	51	LYS
1	W	57	ARG
1	W	63	SER
1	W	71	LEU
1	W	74	LYS
1	W	175	LYS
1	W	212	ARG
1	W	221	GLN
1	W	246	ARG
1	W	251	SER
1	W	258	ARG
1	X	15	ARG
1	X	51	LYS
1	X	63	SER
1	X	74	LYS
1	X	79	ARG
1	X	99	VAL
1	X	102	ARG
1	X	212	ARG
1	X	221	GLN
1	X	246	ARG
1	X	253	THR
1	Y	1	MET
1	Y	7	ARG
1	Y	13	SER
1	Y	15	ARG
1	Y	51	LYS
1	Y	57	ARG
1	Y	68	THR
1	Y	71	LEU
1	Y	74	LYS
1	Y	79	ARG
1	Y	90	GLU
1	Y	175	LYS
1	Y	193	MET
1	Y	201	ARG

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Mol	Chain	Res	Type
1	Y	212	ARG
1	Y	246	ARG
1	Y	258	ARG
1	Z	1	MET
1	Z	15	ARG
1	Z	57	ARG
1	Z	63	SER
1	Z	74	LYS
1	Z	79	ARG
1	Z	100	GLN
1	Z	102	ARG
1	Z	193	MET
1	Z	212	ARG
1	Z	226	GLU
1	Z	250	GLN
1	Z	253	THR
1	Z	258	ARG
1	a	2	SER
1	a	7	ARG
1	a	13	SER
1	a	15	ARG
1	a	47	LYS
1	a	51	LYS
1	a	57	ARG
1	a	63	SER
1	a	68	THR
1	a	71	LEU
1	a	72	LYS
1	a	74	LYS
1	a	100	GLN
1	a	125	ILE
1	a	220	ARG
1	a	225	VAL
1	a	226	GLU
1	a	246	ARG
1	a	250	GLN
1	b	5	ASP
1	b	15	ARG
1	b	47	LYS
1	b	54	LYS
1	b	62	SER
1	b	63	SER

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Mol	Chain	Res	Type
1	b	66	GLU
1	b	70	ASP
1	b	71	LEU
1	b	74	LYS
1	b	79	ARG
1	b	160	ARG
1	b	175	LYS
1	b	193	MET
1	b	199	ARG
1	b	201	ARG
1	b	212	ARG
1	b	246	ARG
1	b	250	GLN
1	b	258	ARG
1	c	1	MET
1	c	2	SER
1	c	47	LYS
1	c	63	SER
1	c	72	LYS
1	c	74	LYS
1	c	100	GLN
1	c	102	ARG
1	c	193	MET
1	c	212	ARG
1	c	220	ARG
1	c	226	GLU
1	c	246	ARG
1	c	248	SER
1	c	253	THR
1	d	20	VAL
1	d	57	ARG
1	d	71	LEU
1	d	74	LYS
1	d	79	ARG
1	d	100	GLN
1	d	102	ARG
1	d	157[A]	GLN
1	d	157[B]	GLN
1	d	160	ARG
1	d	169	MET
1	d	193	MET
1	d	212	ARG

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Mol	Chain	Res	Type
1	d	226	GLU
1	d	246	ARG
1	d	253	THR
1	d	258	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (66) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	164	HIS
1	B	164	HIS
1	B	221	GLN
1	C	164	HIS
1	D	142	HIS
1	E	164	HIS
1	E	221	GLN
1	F	164	HIS
1	F	223	HIS
1	G	43	HIS
1	G	164	HIS
1	G	221	GLN
1	H	55	HIS
1	H	85	HIS
1	H	95	HIS
1	H	164	HIS
1	I	43	HIS
1	I	164	HIS
1	M	43	HIS
1	M	164	HIS
1	N	164	HIS
1	N	221	GLN
1	N	223	HIS
1	O	43	HIS
1	O	56	ASN
1	O	164	HIS
1	J	157	GLN
1	K	164	HIS
1	K	221	GLN
1	K	223	HIS
1	L	164	HIS
1	L	221	GLN
1	L	223	HIS
1	P	43	HIS

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Mol	Chain	Res	Type
1	P	157	GLN
1	P	164	HIS
1	Q	164	HIS
1	R	43	HIS
1	R	156	HIS
1	R	164	HIS
1	S	164	HIS
1	T	157	GLN
1	T	164	HIS
1	U	43	HIS
1	U	164	HIS
1	V	43	HIS
1	V	157	GLN
1	V	164	HIS
1	W	164	HIS
1	X	95	HIS
1	X	164	HIS
1	X	221	GLN
1	X	223	HIS
1	Y	156	HIS
1	Y	164	HIS
1	Z	164	HIS
1	a	142	HIS
1	a	164	HIS
1	a	221	GLN
1	a	223	HIS
1	b	164	HIS
1	b	221	GLN
1	c	164	HIS
1	c	221	GLN
1	d	164	HIS
1	d	223	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 143 ligands modelled in this entry, 21 are monoatomic - leaving 122 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
2	VFT	B	301[A]	-	25,29,29	1.06	1 (4%)	31,38,38	1.34	4 (12%)
2	VFT	U	301[A]	-	25,29,29	1.05	1 (4%)	31,38,38	1.54	5 (16%)
4	SO4	Q	305	-	4,4,4	0.28	0	6,6,6	0.17	0
2	VFT	c	301[A]	-	25,29,29	0.89	1 (4%)	31,38,38	1.43	5 (16%)
4	SO4	T	303	-	4,4,4	0.28	0	6,6,6	0.24	0
4	SO4	X	304	-	4,4,4	0.32	0	6,6,6	0.22	0
2	VFT	S	301[A]	-	25,29,29	0.71	0	31,38,38	1.26	3 (9%)
4	SO4	V	301	-	4,4,4	0.37	0	6,6,6	0.30	0
2	VFT	c	301[B]	-	25,29,29	0.87	1 (4%)	31,38,38	1.40	7 (22%)
4	SO4	E	305	-	4,4,4	0.30	0	6,6,6	0.20	0
4	SO4	S	303	-	4,4,4	0.29	0	6,6,6	0.21	0
4	SO4	A	305	-	4,4,4	0.40	0	6,6,6	0.16	0
4	SO4	V	303	-	4,4,4	0.31	0	6,6,6	0.26	0
2	VFT	F	301	-	25,29,29	0.92	2 (8%)	31,38,38	1.26	4 (12%)
2	VFT	S	301[B]	-	25,29,29	0.70	0	31,38,38	1.17	3 (9%)
4	SO4	D	304	-	4,4,4	0.33	0	6,6,6	0.33	0
4	SO4	Y	303	-	4,4,4	0.30	0	6,6,6	0.21	0
4	SO4	V	302	-	4,4,4	0.29	0	6,6,6	0.24	0
2	VFT	G	301[B]	-	25,29,29	1.02	2 (8%)	31,38,38	1.10	1 (3%)
2	VFT	W	301[B]	-	25,29,29	0.98	2 (8%)	31,38,38	1.33	5 (16%)
2	VFT	c	302	-	25,29,29	1.06	2 (8%)	31,38,38	1.53	4 (12%)
4	SO4	P	301	-	4,4,4	0.35	0	6,6,6	0.22	0
4	SO4	W	304	-	4,4,4	0.36	0	6,6,6	0.22	0
4	SO4	X	305	-	4,4,4	0.33	0	6,6,6	0.22	0
4	SO4	b	303	-	4,4,4	0.32	0	6,6,6	0.17	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
4	SO4	J	303	-	4,4,4	0.28	0	6,6,6	0.17	0
2	VFT	H	301	-	25,29,29	1.07	3 (12%)	31,38,38	1.57	4 (12%)
2	VFT	R	301[B]	-	25,29,29	1.06	2 (8%)	31,38,38	1.20	5 (16%)
4	SO4	K	302	-	4,4,4	0.26	0	6,6,6	0.28	0
2	VFT	a	302	-	25,29,29	0.82	0	31,38,38	1.52	4 (12%)
4	SO4	S	305	-	4,4,4	0.32	0	6,6,6	0.19	0
2	VFT	M	301	-	25,29,29	0.84	1 (4%)	31,38,38	1.22	2 (6%)
4	SO4	J	304	-	4,4,4	0.34	0	6,6,6	0.22	0
2	VFT	G	301[A]	-	25,29,29	1.02	2 (8%)	31,38,38	1.02	0
2	VFT	W	301[A]	-	25,29,29	0.93	2 (8%)	31,38,38	1.37	4 (12%)
4	SO4	O	304	-	4,4,4	0.30	0	6,6,6	0.24	0
2	VFT	a	301[B]	-	25,29,29	0.89	2 (8%)	31,38,38	1.07	2 (6%)
4	SO4	B	304	-	4,4,4	0.25	0	6,6,6	0.21	0
4	SO4	W	303	-	4,4,4	0.37	0	6,6,6	0.24	0
4	SO4	R	302	-	4,4,4	0.31	0	6,6,6	0.25	0
4	SO4	c	305	-	4,4,4	0.29	0	6,6,6	0.26	0
2	VFT	Q	301[B]	-	25,29,29	0.93	1 (4%)	31,38,38	1.00	2 (6%)
4	SO4	L	304	-	4,4,4	0.31	0	6,6,6	0.16	0
4	SO4	I	303	-	4,4,4	0.36	0	6,6,6	0.15	0
2	VFT	R	301[A]	-	25,29,29	0.95	2 (8%)	31,38,38	1.34	5 (16%)
2	VFT	K	301[B]	-	25,29,29	1.26	3 (12%)	31,38,38	1.32	4 (12%)
2	VFT	B	302[B]	-	25,29,29	0.98	1 (4%)	31,38,38	1.30	5 (16%)
2	VFT	D	301[B]	-	25,29,29	0.93	1 (4%)	31,38,38	1.11	2 (6%)
4	SO4	Q	306	-	4,4,4	0.34	0	6,6,6	0.24	0
4	SO4	Z	302	-	4,4,4	0.28	0	6,6,6	0.23	0
4	SO4	G	306	-	4,4,4	0.31	0	6,6,6	0.23	0
2	VFT	J	301[A]	-	25,29,29	0.79	0	31,38,38	1.20	1 (3%)
4	SO4	A	307	-	4,4,4	0.28	0	6,6,6	0.25	0
2	VFT	a	301[A]	-	25,29,29	0.88	2 (8%)	31,38,38	1.11	2 (6%)
4	SO4	O	303	-	4,4,4	0.32	0	6,6,6	0.19	0
4	SO4	D	303	-	4,4,4	0.32	0	6,6,6	0.25	0
2	VFT	L	301[A]	-	25,29,29	0.94	1 (4%)	31,38,38	1.41	2 (6%)
4	SO4	T	304	-	4,4,4	0.36	0	6,6,6	0.24	0
4	SO4	N	303	-	4,4,4	0.27	0	6,6,6	0.25	0
2	VFT	J	301[B]	-	25,29,29	0.73	0	31,38,38	1.19	2 (6%)
4	SO4	P	303	-	4,4,4	0.34	0	6,6,6	0.41	0
4	SO4	d	302	-	4,4,4	0.36	0	6,6,6	0.30	0
4	SO4	a	303	-	4,4,4	0.31	0	6,6,6	0.26	0
2	VFT	Q	301[A]	-	25,29,29	0.95	1 (4%)	31,38,38	1.21	3 (9%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
4	SO4	G	305	-	4,4,4	0.40	0	6,6,6	0.20	0
4	SO4	Y	302	-	4,4,4	0.32	0	6,6,6	0.24	0
2	VFT	E	301[B]	-	25,29,29	0.85	0	31,38,38	1.34	5 (16%)
4	SO4	C	304	-	4,4,4	0.32	0	6,6,6	0.20	0
4	SO4	P	302	-	4,4,4	0.34	0	6,6,6	0.06	0
4	SO4	N	304	-	4,4,4	0.30	0	6,6,6	0.30	0
2	VFT	K	301[A]	-	25,29,29	1.27	3 (12%)	31,38,38	1.40	4 (12%)
2	VFT	L	301[B]	-	25,29,29	0.94	1 (4%)	31,38,38	1.22	2 (6%)
4	SO4	F	303	-	4,4,4	0.35	0	6,6,6	0.18	0
4	SO4	Z	301	-	4,4,4	0.34	0	6,6,6	0.14	0
2	VFT	B	302[A]	-	25,29,29	0.97	1 (4%)	31,38,38	1.36	4 (12%)
2	VFT	D	301[A]	-	25,29,29	0.90	1 (4%)	31,38,38	1.38	2 (6%)
4	SO4	Q	304	-	4,4,4	0.33	0	6,6,6	0.31	0
4	SO4	c	303	-	4,4,4	0.31	0	6,6,6	0.15	0
2	VFT	X	301[B]	-	25,29,29	1.04	2 (8%)	31,38,38	0.97	2 (6%)
4	SO4	G	304	-	4,4,4	0.27	0	6,6,6	0.17	0
2	VFT	A	301[A]	-	25,29,29	1.10	2 (8%)	31,38,38	1.20	2 (6%)
2	VFT	G	302[B]	-	25,29,29	0.73	0	31,38,38	1.28	3 (9%)
2	VFT	Q	302	-	25,29,29	1.04	2 (8%)	31,38,38	1.61	6 (19%)
4	SO4	F	302	-	4,4,4	0.25	0	6,6,6	0.22	0
2	VFT	T	301[A]	-	25,29,29	1.19	2 (8%)	31,38,38	1.60	4 (12%)
4	SO4	M	304	-	4,4,4	0.35	0	6,6,6	0.22	0
4	SO4	B	305	-	4,4,4	0.35	0	6,6,6	0.30	0
4	SO4	J	302	-	4,4,4	0.33	0	6,6,6	0.25	0
4	SO4	U	303	-	4,4,4	0.31	0	6,6,6	0.11	0
4	SO4	a	304	-	4,4,4	0.22	0	6,6,6	0.20	0
4	SO4	E	304	-	4,4,4	0.33	0	6,6,6	0.20	0
2	VFT	B	301[B]	-	25,29,29	1.04	1 (4%)	31,38,38	1.17	2 (6%)
2	VFT	O	301	-	25,29,29	1.02	1 (4%)	31,38,38	1.42	4 (12%)
2	VFT	U	301[B]	-	25,29,29	1.06	1 (4%)	31,38,38	1.46	5 (16%)
4	SO4	M	305	-	4,4,4	0.33	0	6,6,6	0.32	0
2	VFT	Y	301[A]	-	25,29,29	0.87	1 (4%)	31,38,38	1.26	4 (12%)
2	VFT	A	301[B]	-	25,29,29	1.10	2 (8%)	31,38,38	1.23	3 (9%)
4	SO4	U	302	-	4,4,4	0.39	0	6,6,6	0.25	0
2	VFT	T	301[B]	-	25,29,29	1.17	2 (8%)	31,38,38	1.47	5 (16%)
4	SO4	U	304	-	4,4,4	0.34	0	6,6,6	0.25	0
4	SO4	K	303	-	4,4,4	0.28	0	6,6,6	0.30	0
2	VFT	E	301[A]	-	25,29,29	0.83	0	31,38,38	1.30	4 (12%)
4	SO4	L	303	-	4,4,4	0.26	0	6,6,6	0.18	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
2	VFT	Y	301[B]	-	25,29,29	0.88	1 (4%)	31,38,38	1.23	4 (12%)
2	VFT	b	301[A]	-	25,29,29	0.86	1 (4%)	31,38,38	1.20	4 (12%)
4	SO4	H	302	-	4,4,4	0.24	0	6,6,6	0.26	0
4	SO4	H	303	-	4,4,4	0.34	0	6,6,6	0.22	0
4	SO4	c	304	-	4,4,4	0.24	0	6,6,6	0.29	0
4	SO4	A	306	-	4,4,4	0.25	0	6,6,6	0.21	0
2	VFT	X	301[A]	-	25,29,29	1.03	2 (8%)	31,38,38	1.12	2 (6%)
2	VFT	N	301	-	25,29,29	1.05	2 (8%)	31,38,38	1.26	4 (12%)
4	SO4	d	301	-	4,4,4	0.32	0	6,6,6	0.20	0
4	SO4	E	306	-	4,4,4	0.40	0	6,6,6	0.24	0
2	VFT	G	302[A]	-	25,29,29	0.72	0	31,38,38	1.31	2 (6%)
4	SO4	C	303	-	4,4,4	0.38	0	6,6,6	0.19	0
2	VFT	W	302	-	25,29,29	1.10	1 (4%)	31,38,38	1.42	5 (16%)
4	SO4	S	304	-	4,4,4	0.27	0	6,6,6	0.30	0
4	SO4	R	303	-	4,4,4	0.35	0	6,6,6	0.22	0
4	SO4	b	302	-	4,4,4	0.28	0	6,6,6	0.22	0
4	SO4	I	302	-	4,4,4	0.29	0	6,6,6	0.26	0
2	VFT	b	301[B]	-	25,29,29	0.91	1 (4%)	31,38,38	1.11	4 (12%)
4	SO4	a	305	-	4,4,4	0.30	0	6,6,6	0.29	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
2	VFT	A	301[A]	-	-	0/19/19/19	0/3/3/3
2	VFT	B	301[A]	-	-	0/19/19/19	0/3/3/3
2	VFT	G	302[B]	-	-	0/19/19/19	0/3/3/3
2	VFT	Q	302	-	-	0/19/19/19	0/3/3/3
2	VFT	R	301[A]	-	-	2/19/19/19	0/3/3/3
2	VFT	K	301[B]	-	-	0/19/19/19	0/3/3/3
2	VFT	U	301[A]	-	-	0/19/19/19	0/3/3/3
2	VFT	T	301[A]	-	-	1/19/19/19	0/3/3/3
2	VFT	B	302[B]	-	-	0/19/19/19	0/3/3/3
2	VFT	D	301[B]	-	-	0/19/19/19	0/3/3/3
2	VFT	J	301[A]	-	-	1/19/19/19	0/3/3/3
2	VFT	c	301[A]	-	-	0/19/19/19	0/3/3/3
2	VFT	B	301[B]	-	-	0/19/19/19	0/3/3/3
2	VFT	O	301	-	-	0/19/19/19	0/3/3/3
2	VFT	U	301[B]	-	-	1/19/19/19	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	VFT	H	301	-	-	1/19/19/19	0/3/3/3
2	VFT	R	301[B]	-	-	0/19/19/19	0/3/3/3
2	VFT	Y	301[A]	-	-	0/19/19/19	0/3/3/3
2	VFT	A	301[B]	-	-	0/19/19/19	0/3/3/3
2	VFT	S	301[A]	-	-	1/19/19/19	0/3/3/3
2	VFT	T	301[B]	-	-	1/19/19/19	0/3/3/3
2	VFT	a	301[A]	-	-	0/19/19/19	0/3/3/3
2	VFT	a	302	-	-	1/19/19/19	0/3/3/3
2	VFT	E	301[A]	-	-	0/19/19/19	0/3/3/3
2	VFT	L	301[A]	-	-	1/19/19/19	0/3/3/3
2	VFT	M	301	-	-	1/19/19/19	0/3/3/3
2	VFT	J	301[B]	-	-	1/19/19/19	0/3/3/3
2	VFT	c	301[B]	-	-	0/19/19/19	0/3/3/3
2	VFT	G	301[A]	-	-	3/19/19/19	0/3/3/3
2	VFT	Y	301[B]	-	-	0/19/19/19	0/3/3/3
2	VFT	W	301[A]	-	-	0/19/19/19	0/3/3/3
2	VFT	b	301[A]	-	-	0/19/19/19	0/3/3/3
2	VFT	Q	301[A]	-	-	2/19/19/19	0/3/3/3
2	VFT	X	301[A]	-	-	1/19/19/19	0/3/3/3
2	VFT	F	301	-	-	0/19/19/19	0/3/3/3
2	VFT	S	301[B]	-	-	0/19/19/19	0/3/3/3
2	VFT	a	301[B]	-	-	0/19/19/19	0/3/3/3
2	VFT	N	301	-	-	0/19/19/19	0/3/3/3
2	VFT	E	301[B]	-	-	1/19/19/19	0/3/3/3
2	VFT	G	302[A]	-	-	1/19/19/19	0/3/3/3
2	VFT	K	301[A]	-	-	0/19/19/19	0/3/3/3
2	VFT	L	301[B]	-	-	0/19/19/19	0/3/3/3
2	VFT	W	302	-	-	0/19/19/19	0/3/3/3
2	VFT	B	302[A]	-	-	0/19/19/19	0/3/3/3
2	VFT	D	301[A]	-	-	1/19/19/19	0/3/3/3
2	VFT	G	301[B]	-	-	1/19/19/19	0/3/3/3
2	VFT	W	301[B]	-	-	0/19/19/19	0/3/3/3
2	VFT	Q	301[B]	-	-	0/19/19/19	0/3/3/3
2	VFT	X	301[B]	-	-	1/19/19/19	0/3/3/3
2	VFT	b	301[B]	-	-	0/19/19/19	0/3/3/3
2	VFT	c	302	-	-	0/19/19/19	0/3/3/3

All (66) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	K	301[A]	VFT	C10-N12	3.58	1.42	1.35
2	K	301[B]	VFT	C10-N12	3.58	1.42	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	301[A]	VFT	C10-N12	3.42	1.42	1.35
2	B	301[B]	VFT	C10-N12	3.42	1.42	1.35
2	Q	301[A]	VFT	C10-N12	3.32	1.42	1.35
2	Q	301[B]	VFT	C10-N12	3.32	1.42	1.35
2	O	301	VFT	C19-N12	-3.13	1.42	1.46
2	B	302[A]	VFT	C19-N12	-3.07	1.42	1.46
2	B	302[B]	VFT	C19-N12	-3.07	1.42	1.46
2	U	301[A]	VFT	C10-N12	3.07	1.41	1.35
2	U	301[B]	VFT	C10-N12	3.07	1.41	1.35
2	T	301[A]	VFT	C10-N12	3.06	1.41	1.35
2	T	301[B]	VFT	C10-N12	3.06	1.41	1.35
2	N	301	VFT	C10-N12	3.03	1.41	1.35
2	L	301[A]	VFT	C10-N12	2.98	1.41	1.35
2	L	301[B]	VFT	C10-N12	2.98	1.41	1.35
2	G	301[A]	VFT	C10-N12	2.91	1.41	1.35
2	G	301[B]	VFT	C10-N12	2.91	1.41	1.35
2	A	301[A]	VFT	C10-N12	2.82	1.41	1.35
2	A	301[B]	VFT	C10-N12	2.82	1.41	1.35
2	Q	302	VFT	C19-N12	-2.82	1.42	1.46
2	W	301[A]	VFT	C10-N12	2.70	1.40	1.35
2	W	301[B]	VFT	C10-N12	2.70	1.40	1.35
2	W	302	VFT	C19-N12	-2.69	1.42	1.46
2	X	301[A]	VFT	C10-N12	2.63	1.40	1.35
2	X	301[B]	VFT	C10-N12	2.63	1.40	1.35
2	H	301	VFT	C19-C20	-2.62	1.46	1.51
2	c	302	VFT	C7-S8	-2.55	1.73	1.77
2	M	301	VFT	C19-N12	-2.51	1.43	1.46
2	c	302	VFT	C19-N12	-2.49	1.43	1.46
2	F	301	VFT	C19-N12	-2.46	1.43	1.46
2	T	301[A]	VFT	C19-N12	-2.43	1.43	1.46
2	T	301[B]	VFT	C19-N12	-2.43	1.43	1.46
2	R	301[A]	VFT	C19-N12	-2.39	1.43	1.46
2	R	301[B]	VFT	C19-N12	-2.39	1.43	1.46
2	K	301[A]	VFT	C2-CL1	-2.38	1.68	1.73
2	K	301[B]	VFT	C2-CL1	-2.38	1.68	1.73
2	Q	302	VFT	C10-N12	2.37	1.40	1.35
2	G	301[A]	VFT	C19-N12	-2.35	1.43	1.46
2	G	301[B]	VFT	C19-N12	-2.35	1.43	1.46
2	R	301[A]	VFT	C10-N12	2.35	1.40	1.35
2	R	301[B]	VFT	C10-N12	2.35	1.40	1.35
2	K	301[A]	VFT	C19-C20	-2.34	1.47	1.51
2	K	301[B]	VFT	C19-C20	-2.34	1.47	1.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	H	301	VFT	C10-N12	2.34	1.40	1.35
2	N	301	VFT	C19-C20	-2.30	1.47	1.51
2	A	301[A]	VFT	C19-N12	-2.27	1.43	1.46
2	A	301[B]	VFT	C19-N12	-2.27	1.43	1.46
2	a	301[A]	VFT	C10-N12	2.24	1.39	1.35
2	a	301[B]	VFT	C10-N12	2.24	1.39	1.35
2	D	301[A]	VFT	C10-N12	2.19	1.39	1.35
2	D	301[B]	VFT	C10-N12	2.19	1.39	1.35
2	c	301[A]	VFT	C10-N12	2.15	1.39	1.35
2	c	301[B]	VFT	C10-N12	2.15	1.39	1.35
2	W	301[A]	VFT	C19-C20	-2.10	1.47	1.51
2	W	301[B]	VFT	C19-C20	-2.10	1.47	1.51
2	F	301	VFT	C19-C20	-2.09	1.47	1.51
2	Y	301[A]	VFT	C10-N12	2.07	1.39	1.35
2	Y	301[B]	VFT	C10-N12	2.07	1.39	1.35
2	X	301[A]	VFT	C2-CL1	-2.06	1.68	1.73
2	X	301[B]	VFT	C2-CL1	-2.06	1.68	1.73
2	b	301[A]	VFT	C10-N12	2.04	1.39	1.35
2	b	301[B]	VFT	C10-N12	2.04	1.39	1.35
2	H	301	VFT	C19-N12	-2.02	1.43	1.46
2	a	301[A]	VFT	C2-CL1	-2.00	1.68	1.73
2	a	301[B]	VFT	C2-CL1	-2.00	1.68	1.73

All (176) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	H	301	VFT	C14-C13-N12	-5.57	104.22	113.65
2	Q	302	VFT	C14-C13-N12	-5.40	104.50	113.65
2	a	302	VFT	C14-C13-N12	-5.36	104.57	113.65
2	c	302	VFT	C14-C13-N12	-5.33	104.63	113.65
2	D	301[A]	VFT	C14-C13-N12	5.03	122.17	113.65
2	L	301[A]	VFT	C14-C13-N12	4.93	122.00	113.65
2	T	301[A]	VFT	C14-C13-N12	4.87	121.89	113.65
2	M	301	VFT	C14-C13-N12	-4.40	106.20	113.65
2	Q	301[A]	VFT	C14-C13-N12	4.02	120.47	113.65
2	B	302[A]	VFT	C14-C13-N12	3.92	120.29	113.65
2	N	301	VFT	C14-C13-N12	-3.90	107.06	113.65
2	O	301	VFT	C14-C13-N12	-3.73	107.33	113.65
2	U	301[A]	VFT	C24-C23-C26	-3.67	113.88	119.99
2	U	301[B]	VFT	C24-C23-C26	-3.67	113.88	119.99
2	U	301[A]	VFT	C14-C13-N12	3.57	119.70	113.65
2	G	302[A]	VFT	C14-C13-N12	3.56	119.69	113.65

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	301[A]	VFT	C14-C13-N12	3.55	119.67	113.65
2	R	301[A]	VFT	C14-C13-N12	3.54	119.65	113.65
2	D	301[A]	VFT	C19-N12-C10	-3.38	113.15	121.91
2	D	301[B]	VFT	C19-N12-C10	-3.38	113.15	121.91
2	O	301	VFT	C13-N12-C10	3.34	130.55	121.91
2	K	301[A]	VFT	C14-C13-N12	3.24	119.14	113.65
2	J	301[A]	VFT	C19-N12-C10	-3.21	113.60	121.91
2	J	301[B]	VFT	C19-N12-C10	-3.21	113.60	121.91
2	G	302[A]	VFT	C19-N12-C10	-3.19	113.63	121.91
2	G	302[B]	VFT	C19-N12-C10	-3.19	113.63	121.91
2	X	301[A]	VFT	C14-C13-N12	3.16	119.01	113.65
2	E	301[A]	VFT	C14-C13-N12	3.15	118.99	113.65
2	W	301[A]	VFT	C19-N12-C10	-3.15	113.75	121.91
2	W	301[B]	VFT	C19-N12-C10	-3.15	113.75	121.91
2	c	301[A]	VFT	C19-N12-C10	-3.13	113.80	121.91
2	c	301[B]	VFT	C19-N12-C10	-3.13	113.80	121.91
2	A	301[A]	VFT	C19-N12-C10	-3.12	113.81	121.91
2	A	301[B]	VFT	C19-N12-C10	-3.12	113.81	121.91
2	W	302	VFT	C14-C13-N12	-3.02	108.53	113.65
2	K	301[A]	VFT	O11-C10-C9	-2.99	114.31	120.93
2	K	301[B]	VFT	O11-C10-C9	-2.99	114.31	120.93
2	T	301[A]	VFT	C19-N12-C10	-2.99	114.16	121.91
2	T	301[B]	VFT	C19-N12-C10	-2.99	114.16	121.91
2	S	301[A]	VFT	C14-C13-N12	2.95	118.65	113.65
2	A	301[B]	VFT	C13-N12-C10	2.95	129.55	121.91
2	b	301[A]	VFT	C14-C13-N12	2.95	118.64	113.65
2	F	301	VFT	C14-C13-N12	-2.92	108.71	113.65
2	B	301[A]	VFT	C20-C19-N12	-2.91	108.45	113.13
2	B	301[B]	VFT	C20-C19-N12	-2.91	108.45	113.13
2	Q	302	VFT	C9-S8-C7	2.90	107.07	102.61
2	W	302	VFT	C13-N12-C10	2.87	129.35	121.91
2	Y	301[B]	VFT	C13-N12-C10	2.84	129.26	121.91
2	S	301[A]	VFT	C19-N12-C10	-2.78	114.70	121.91
2	S	301[B]	VFT	C19-N12-C10	-2.78	114.70	121.91
2	H	301	VFT	C20-C19-N12	-2.78	108.67	113.13
2	Y	301[A]	VFT	C14-C13-N12	2.77	118.34	113.65
2	K	301[A]	VFT	C9-S8-C7	2.76	106.85	102.61
2	K	301[B]	VFT	C9-S8-C7	2.76	106.85	102.61
2	A	301[A]	VFT	C20-C19-N12	-2.76	108.70	113.13
2	A	301[B]	VFT	C20-C19-N12	-2.76	108.70	113.13
2	W	301[A]	VFT	C20-C19-N12	-2.75	108.71	113.13
2	W	301[B]	VFT	C20-C19-N12	-2.75	108.71	113.13

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	a	302	VFT	C19-N12-C10	-2.75	114.79	121.91
2	R	301[A]	VFT	C19-N12-C10	-2.73	114.83	121.91
2	R	301[B]	VFT	C19-N12-C10	-2.73	114.83	121.91
2	W	301[A]	VFT	C14-C13-N12	2.73	118.28	113.65
2	L	301[A]	VFT	C19-N12-C10	-2.71	114.88	121.91
2	L	301[B]	VFT	C19-N12-C10	-2.71	114.88	121.91
2	c	302	VFT	C9-S8-C7	2.70	106.75	102.61
2	c	301[A]	VFT	C9-S8-C7	2.69	106.74	102.61
2	c	301[B]	VFT	C9-S8-C7	2.69	106.74	102.61
2	O	301	VFT	C19-N12-C10	-2.67	114.99	121.91
2	S	301[A]	VFT	C21-C22-C23	-2.66	116.92	120.35
2	S	301[B]	VFT	C21-C22-C23	-2.66	116.92	120.35
2	Y	301[A]	VFT	C19-N12-C10	-2.64	115.06	121.91
2	Y	301[B]	VFT	C19-N12-C10	-2.64	115.06	121.91
2	L	301[B]	VFT	C14-C15-N16	-2.61	103.95	108.80
2	T	301[A]	VFT	C19-C20-C21	-2.59	115.91	120.77
2	T	301[B]	VFT	C19-C20-C21	-2.59	115.91	120.77
2	B	301[A]	VFT	C19-N12-C10	-2.58	115.23	121.91
2	B	301[B]	VFT	C19-N12-C10	-2.58	115.23	121.91
2	c	301[A]	VFT	C24-C23-C22	2.54	123.55	118.96
2	c	301[B]	VFT	C24-C23-C22	2.54	123.55	118.96
2	Q	302	VFT	C13-N12-C10	2.54	128.48	121.91
2	T	301[B]	VFT	C13-N12-C10	2.53	128.46	121.91
2	U	301[A]	VFT	C22-C23-C26	2.50	124.16	119.99
2	U	301[B]	VFT	C22-C23-C26	2.50	124.16	119.99
2	F	301	VFT	C19-N12-C10	-2.50	115.42	121.91
2	E	301[A]	VFT	C19-N12-C10	-2.49	115.45	121.91
2	E	301[B]	VFT	C19-N12-C10	-2.49	115.45	121.91
2	a	301[A]	VFT	C14-C13-N12	2.49	117.87	113.65
2	N	301	VFT	C13-N12-C10	2.49	128.35	121.91
2	B	302[B]	VFT	C14-C15-N16	-2.48	104.18	108.80
2	H	301	VFT	C25-C20-C21	2.47	122.06	118.17
2	B	302[A]	VFT	C19-N12-C10	-2.47	115.52	121.91
2	B	302[B]	VFT	C19-N12-C10	-2.47	115.52	121.91
2	G	302[B]	VFT	C14-C13-N12	2.45	117.81	113.65
2	K	301[B]	VFT	C13-N12-C10	2.43	128.22	121.91
2	E	301[B]	VFT	C13-N12-C10	2.43	128.21	121.91
2	c	301[A]	VFT	C25-C24-C23	-2.43	117.21	120.35
2	c	301[B]	VFT	C25-C24-C23	-2.43	117.21	120.35
2	R	301[A]	VFT	C7-C2-CL1	-2.43	115.43	119.69
2	R	301[B]	VFT	C7-C2-CL1	-2.43	115.43	119.69
2	B	302[B]	VFT	C13-N12-C10	2.41	128.15	121.91

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	c	301[A]	VFT	C25-C20-C21	2.40	121.94	118.17
2	c	301[B]	VFT	C25-C20-C21	2.40	121.94	118.17
2	R	301[A]	VFT	C6-C7-S8	2.40	127.30	121.46
2	R	301[B]	VFT	C6-C7-S8	2.40	127.30	121.46
2	E	301[A]	VFT	C6-C7-C2	2.39	120.69	117.52
2	E	301[B]	VFT	C6-C7-C2	2.39	120.69	117.52
2	a	301[A]	VFT	C19-N12-C10	-2.38	115.74	121.91
2	a	301[B]	VFT	C19-N12-C10	-2.38	115.74	121.91
2	U	301[A]	VFT	O11-C10-C9	-2.37	115.69	120.93
2	U	301[B]	VFT	O11-C10-C9	-2.37	115.69	120.93
2	b	301[A]	VFT	C19-N12-C10	-2.35	115.81	121.91
2	b	301[B]	VFT	C19-N12-C10	-2.35	115.81	121.91
2	G	302[B]	VFT	C13-N12-C10	2.34	127.98	121.91
2	c	302	VFT	C19-N12-C10	-2.33	115.88	121.91
2	T	301[B]	VFT	C14-C13-N12	2.33	117.59	113.65
2	J	301[B]	VFT	C13-N12-C10	2.31	127.89	121.91
2	F	301	VFT	C20-C19-N12	-2.30	109.44	113.13
2	E	301[B]	VFT	C13-C14-C15	-2.29	126.23	129.61
2	W	301[A]	VFT	C25-C20-C21	2.29	121.77	118.17
2	W	301[B]	VFT	C25-C20-C21	2.29	121.77	118.17
2	K	301[A]	VFT	C19-N12-C10	-2.28	116.00	121.91
2	K	301[B]	VFT	C19-N12-C10	-2.28	116.00	121.91
2	a	302	VFT	C13-N12-C10	2.27	127.80	121.91
2	W	301[B]	VFT	C13-N12-C10	2.27	127.79	121.91
2	G	301[B]	VFT	C14-C15-N16	-2.26	104.60	108.80
2	T	301[A]	VFT	O11-C10-N12	2.23	126.39	122.05
2	T	301[B]	VFT	O11-C10-N12	2.23	126.39	122.05
2	D	301[B]	VFT	C13-N12-C10	2.23	127.69	121.91
2	Q	301[A]	VFT	C19-N12-C10	-2.23	116.13	121.91
2	Q	301[B]	VFT	C19-N12-C10	-2.23	116.13	121.91
2	R	301[A]	VFT	C20-C19-N12	-2.22	109.56	113.13
2	R	301[B]	VFT	C20-C19-N12	-2.22	109.56	113.13
2	Q	302	VFT	C19-N12-C10	-2.22	116.16	121.91
2	E	301[A]	VFT	C21-C22-C23	-2.22	117.48	120.35
2	E	301[B]	VFT	C21-C22-C23	-2.22	117.48	120.35
2	Q	302	VFT	O11-C10-N12	2.22	126.36	122.05
2	W	302	VFT	C25-C20-C21	2.18	121.60	118.17
2	W	302	VFT	C9-S8-C7	2.16	105.93	102.61
2	X	301[B]	VFT	C13-N12-C10	2.15	127.49	121.91
2	c	301[B]	VFT	C13-N12-C10	2.15	127.48	121.91
2	W	302	VFT	O11-C10-N12	2.15	126.23	122.05
2	X	301[A]	VFT	C9-S8-C7	2.13	105.89	102.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	X	301[B]	VFT	C9-S8-C7	2.13	105.89	102.61
2	b	301[A]	VFT	C24-C23-C26	-2.13	116.44	119.99
2	b	301[B]	VFT	C24-C23-C26	-2.13	116.44	119.99
2	Y	301[A]	VFT	C22-C23-C26	2.13	123.53	119.99
2	Y	301[B]	VFT	C22-C23-C26	2.13	123.53	119.99
2	U	301[A]	VFT	C21-C22-C23	-2.12	117.61	120.35
2	U	301[B]	VFT	C21-C22-C23	-2.12	117.61	120.35
2	b	301[A]	VFT	C6-C7-C2	2.11	120.33	117.52
2	b	301[B]	VFT	C6-C7-C2	2.11	120.33	117.52
2	F	301	VFT	C5-C4-C3	-2.11	116.97	120.19
2	Y	301[A]	VFT	C24-C23-C26	-2.10	116.49	119.99
2	Y	301[B]	VFT	C24-C23-C26	-2.10	116.49	119.99
2	B	301[A]	VFT	C13-N12-C19	2.09	121.16	115.88
2	Q	302	VFT	C19-C20-C21	-2.08	116.86	120.77
2	H	301	VFT	C13-N12-C10	2.07	127.27	121.91
2	U	301[B]	VFT	C13-N12-C10	2.07	127.27	121.91
2	N	301	VFT	C19-N12-C10	-2.06	116.57	121.91
2	a	301[B]	VFT	C14-C15-N16	-2.06	104.97	108.80
2	B	302[A]	VFT	C5-C4-C3	-2.05	117.06	120.19
2	B	302[B]	VFT	C5-C4-C3	-2.05	117.06	120.19
2	S	301[B]	VFT	C14-C15-N16	-2.05	104.98	108.80
2	N	301	VFT	O11-C10-N12	2.05	126.03	122.05
2	O	301	VFT	C25-C20-C21	2.04	121.38	118.17
2	W	301[B]	VFT	C14-C15-N16	-2.04	105.01	108.80
2	M	301	VFT	C13-N12-C10	2.03	127.16	121.91
2	c	302	VFT	C25-C24-C23	-2.02	117.74	120.35
2	R	301[B]	VFT	C14-C15-N16	-2.02	105.05	108.80
2	c	301[B]	VFT	C14-C15-N16	-2.01	105.06	108.80
2	a	302	VFT	C22-C21-C20	-2.01	118.27	121.03
2	b	301[B]	VFT	C14-C15-N16	-2.00	105.07	108.80
2	B	302[A]	VFT	C9-S8-C7	2.00	105.69	102.61
2	B	302[B]	VFT	C9-S8-C7	2.00	105.69	102.61
2	Q	301[A]	VFT	C6-C7-S8	2.00	126.34	121.46
2	Q	301[B]	VFT	C6-C7-S8	2.00	126.34	121.46

There are no chirality outliers.

All (23) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	E	301[B]	VFT	N12-C13-C14-N18
2	M	301	VFT	N12-C13-C14-N18
2	T	301[B]	VFT	N12-C13-C14-N18

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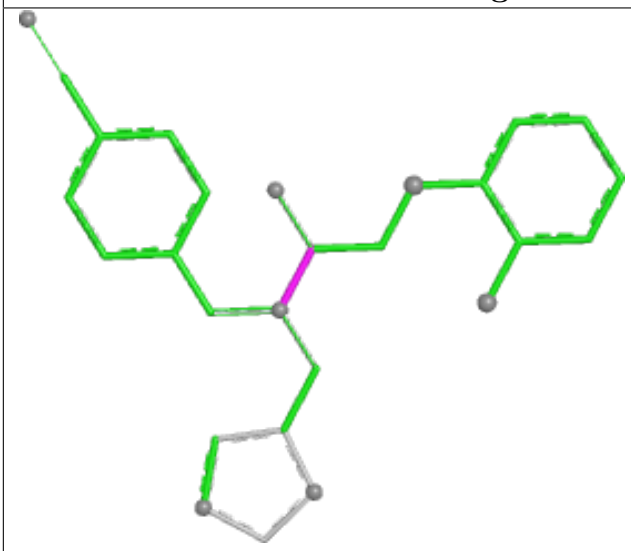
Mol	Chain	Res	Type	Atoms
2	U	301[B]	VFT	N12-C13-C14-N18
2	a	302	VFT	N12-C13-C14-N18
2	D	301[A]	VFT	C14-C13-N12-C19
2	G	302[A]	VFT	C14-C13-N12-C19
2	T	301[A]	VFT	C14-C13-N12-C19
2	R	301[A]	VFT	C14-C13-N12-C10
2	S	301[A]	VFT	C14-C13-N12-C10
2	G	301[A]	VFT	C14-C13-N12-C19
2	L	301[A]	VFT	C14-C13-N12-C19
2	Q	301[A]	VFT	C14-C13-N12-C19
2	R	301[A]	VFT	C14-C13-N12-C19
2	H	301	VFT	N12-C13-C14-N18
2	J	301[B]	VFT	N12-C13-C14-N18
2	G	301[A]	VFT	C14-C13-N12-C10
2	J	301[A]	VFT	C14-C13-N12-C10
2	Q	301[A]	VFT	C14-C13-N12-C10
2	X	301[A]	VFT	C22-C23-C26-N27
2	X	301[B]	VFT	C22-C23-C26-N27
2	G	301[A]	VFT	C24-C23-C26-N27
2	G	301[B]	VFT	C24-C23-C26-N27

There are no ring outliers.

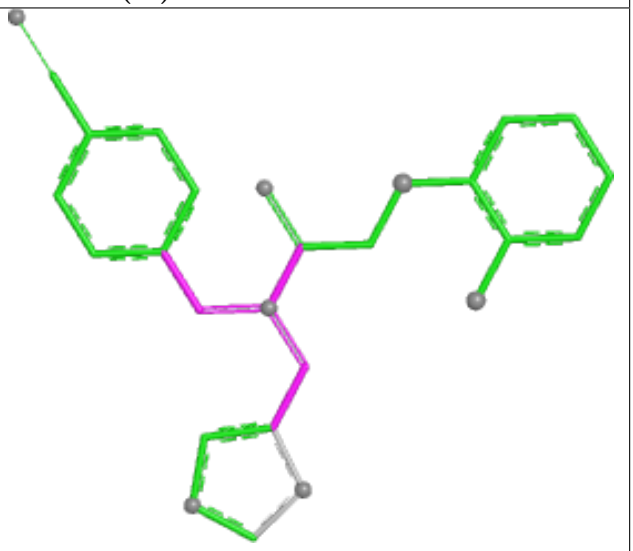
No monomer is involved in short contacts.

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

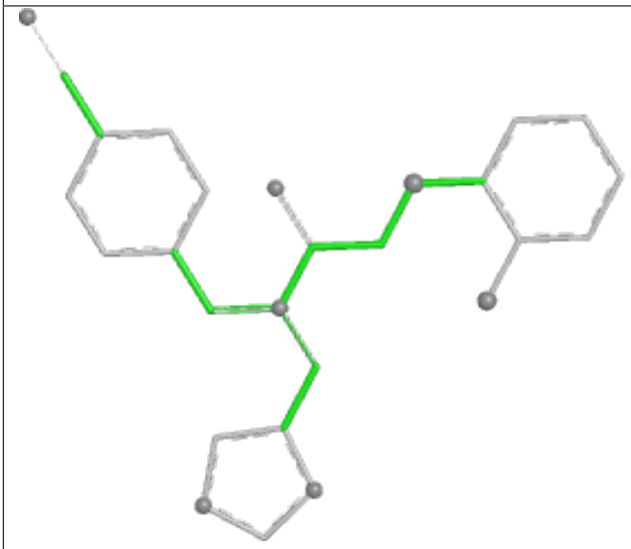
Ligand VFT B 301 (A)



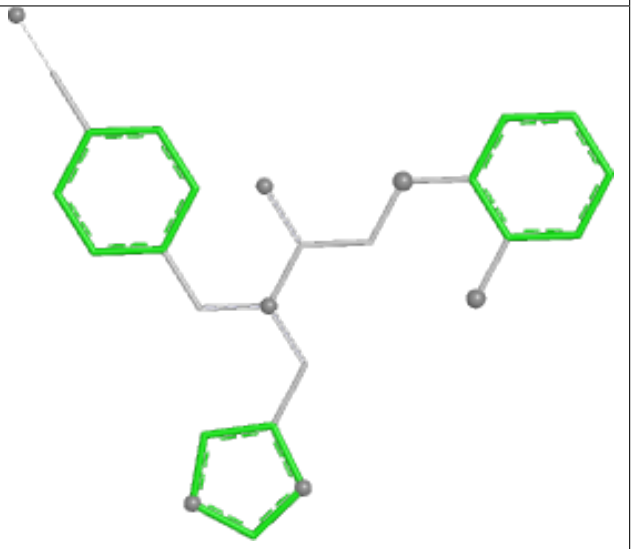
Bond lengths



Bond angles

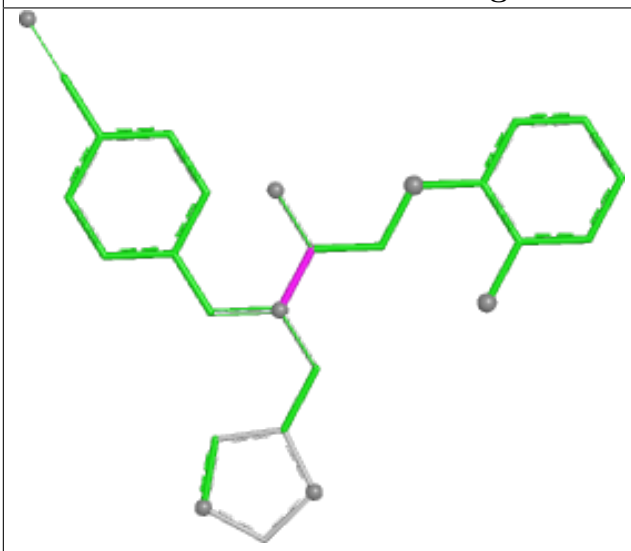


Torsions

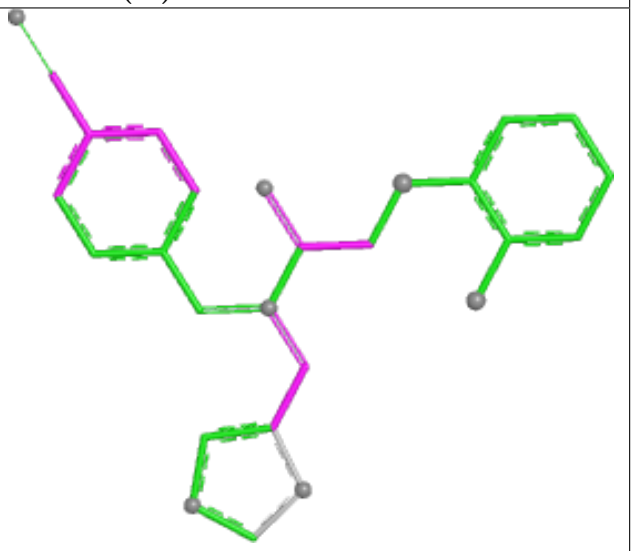


Rings

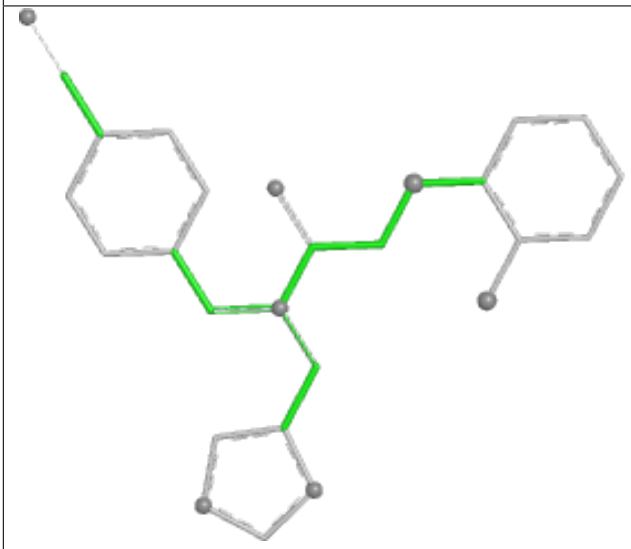
Ligand VFT U 301 (A)



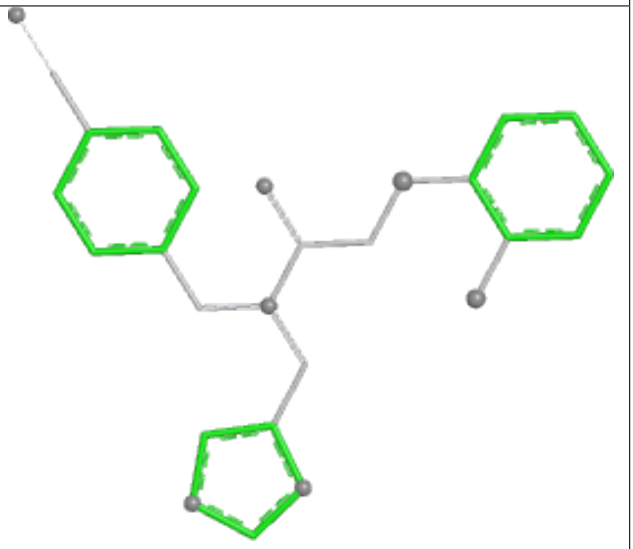
Bond lengths



Bond angles

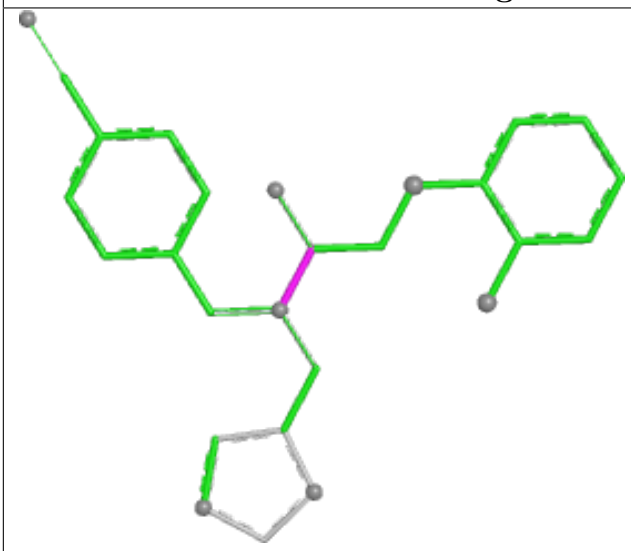


Torsions

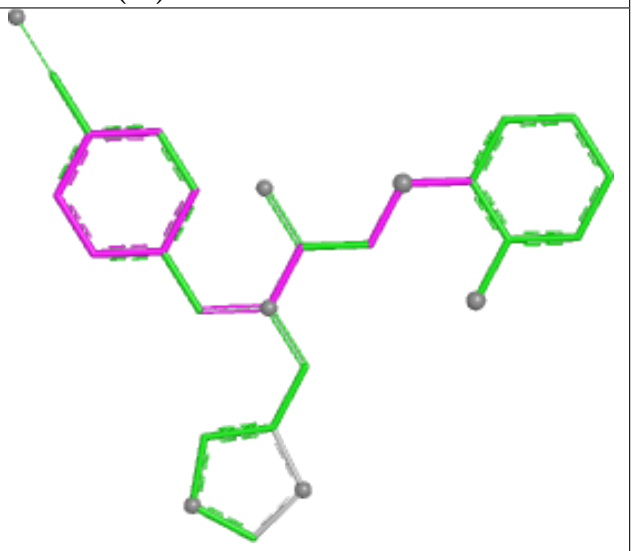


Rings

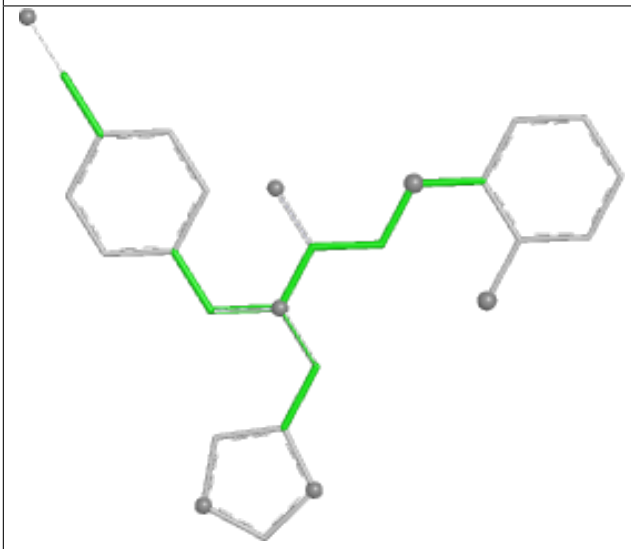
Ligand VFT c 301 (A)



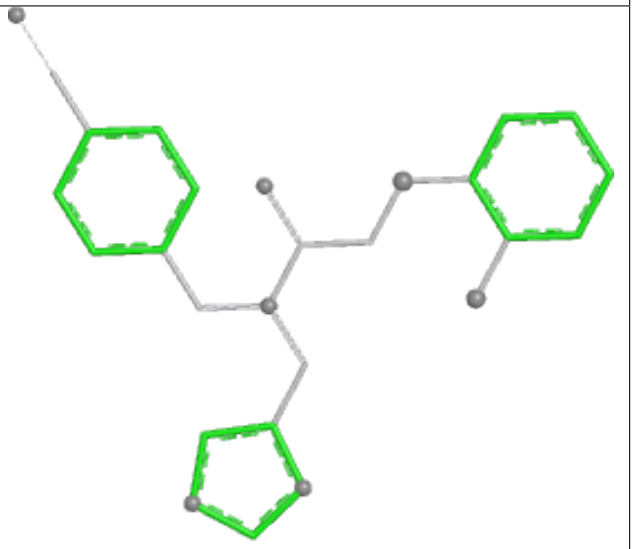
Bond lengths



Bond angles

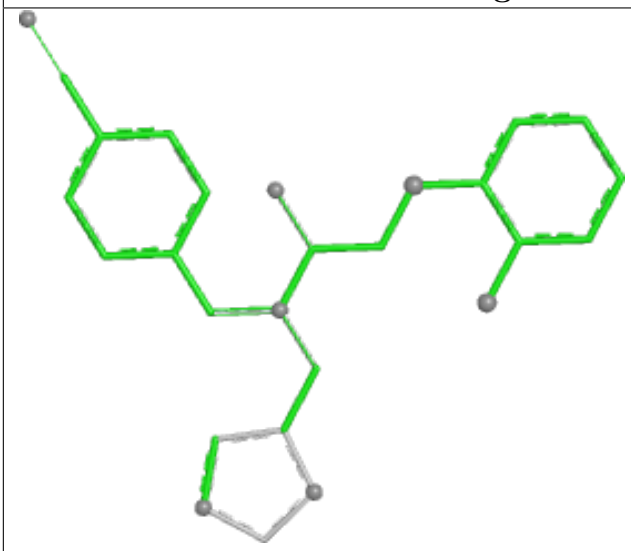


Torsions



Rings

Ligand VFT S 301 (A)



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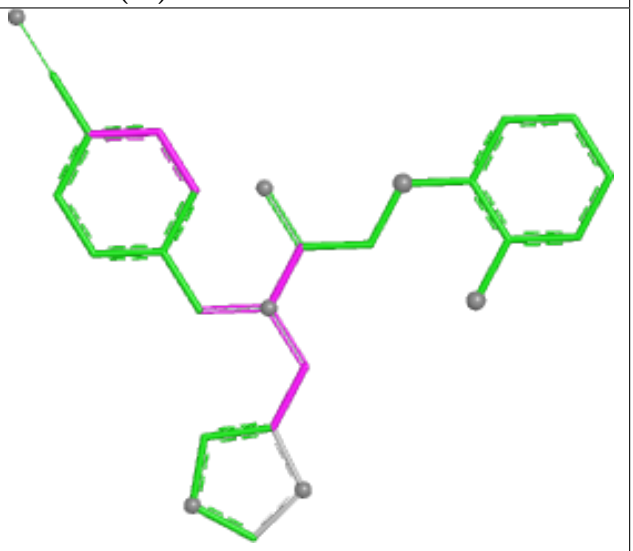

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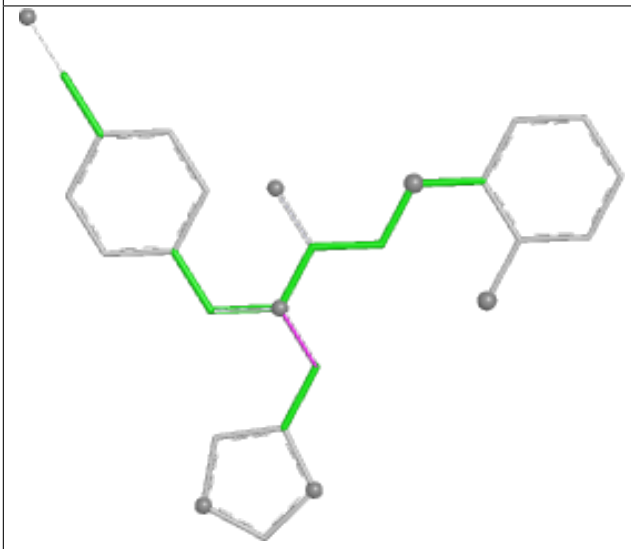

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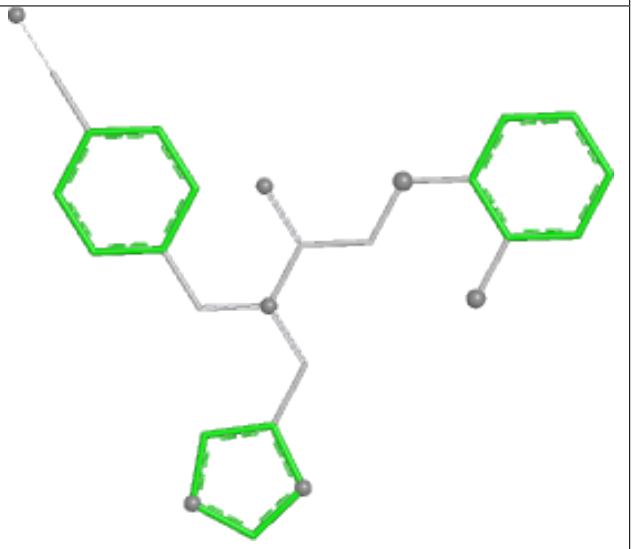
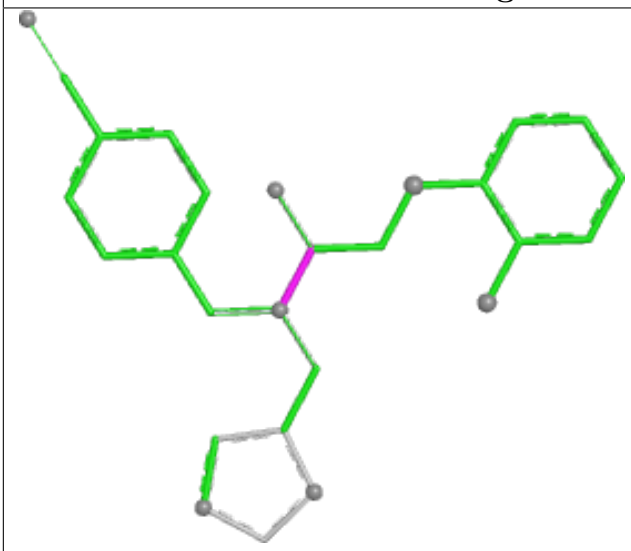


Rings

Ligand VFT c 301 (B)



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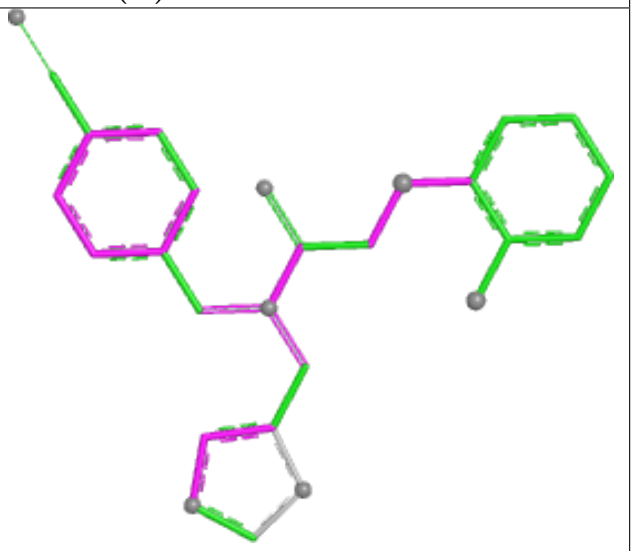

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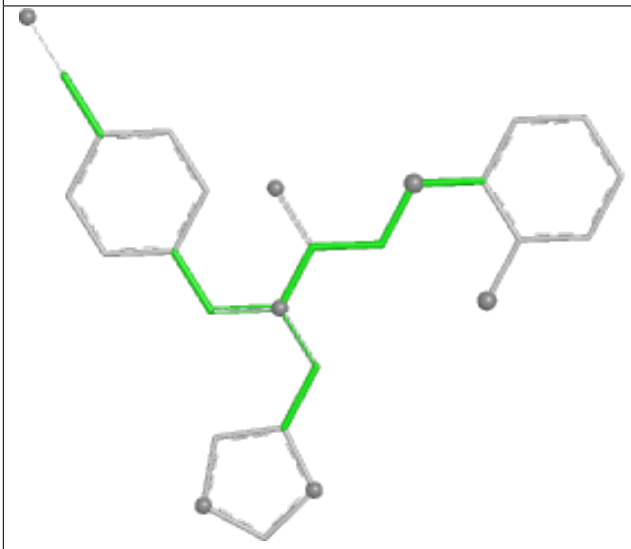

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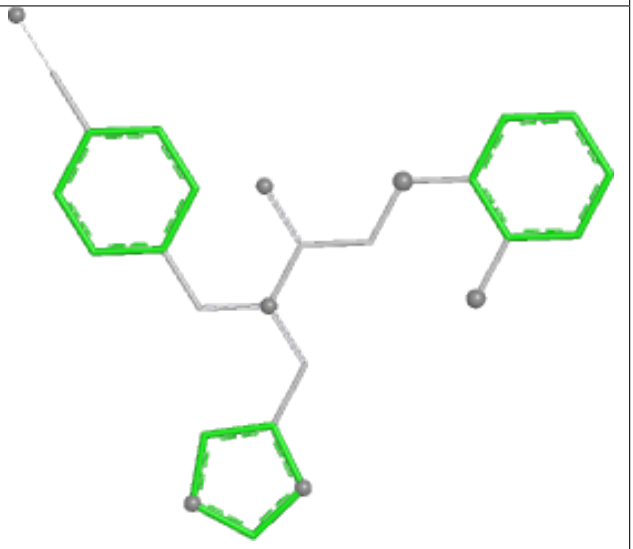
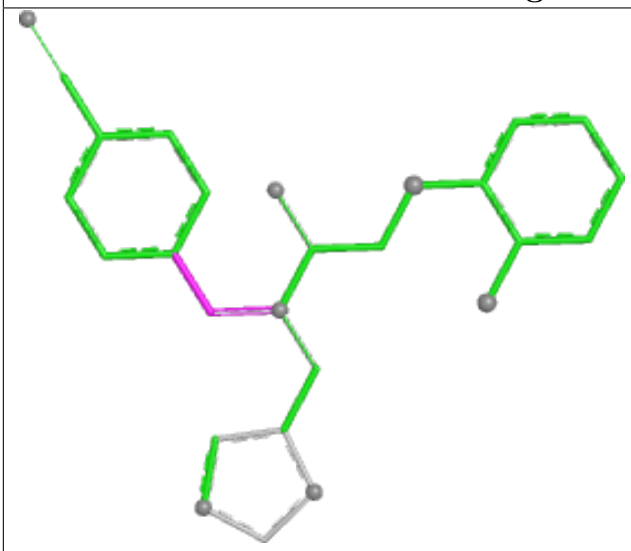


Rings

Ligand VFT F 301



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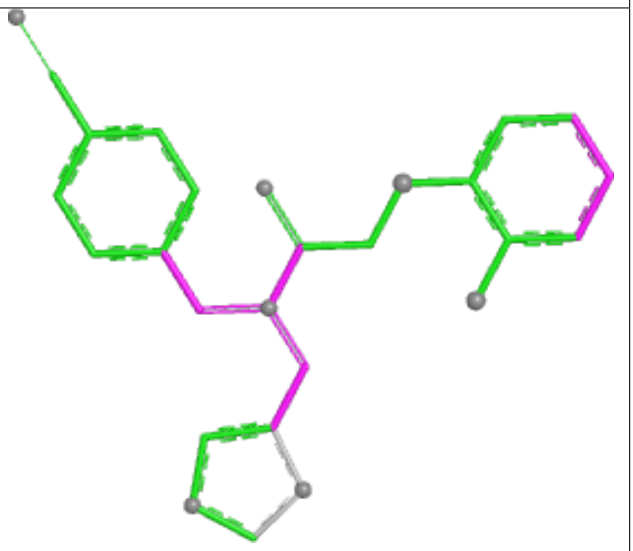
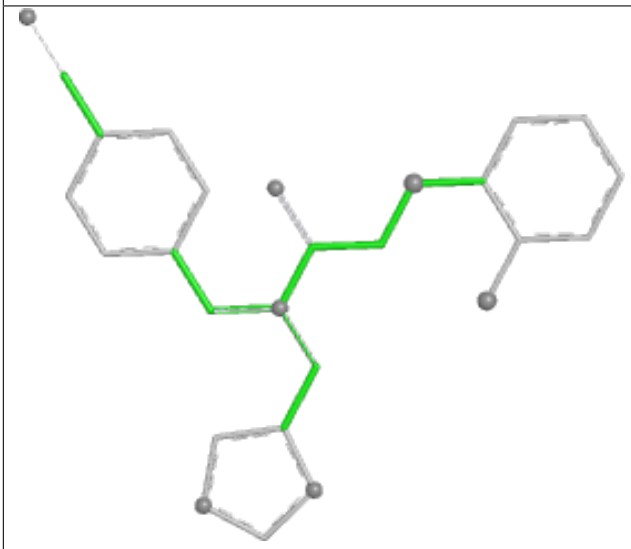


Bond angles



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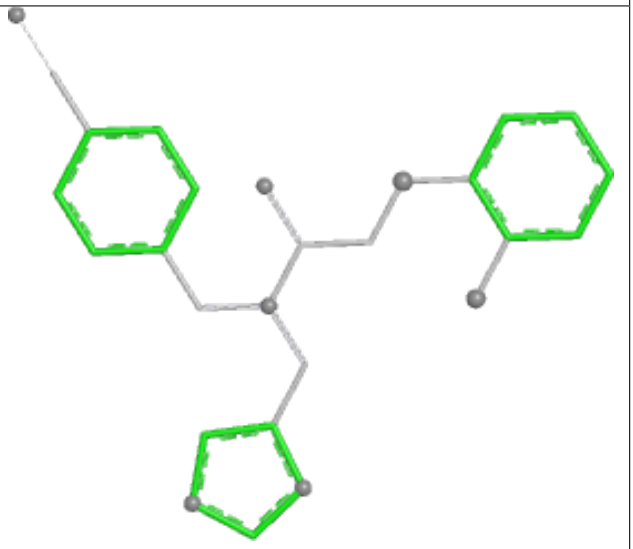

Rings

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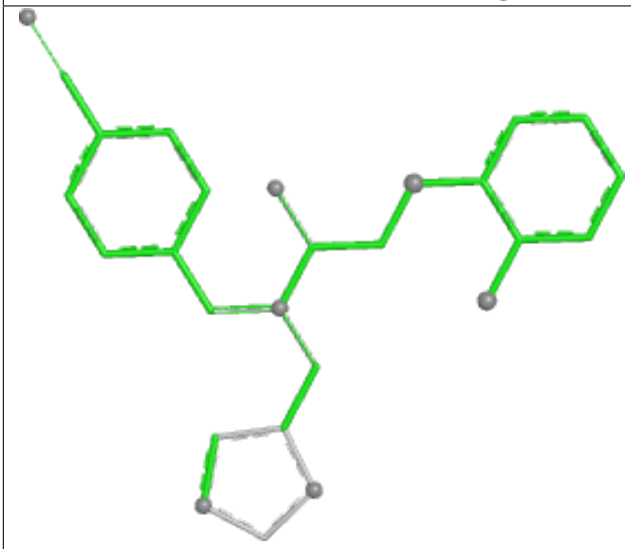

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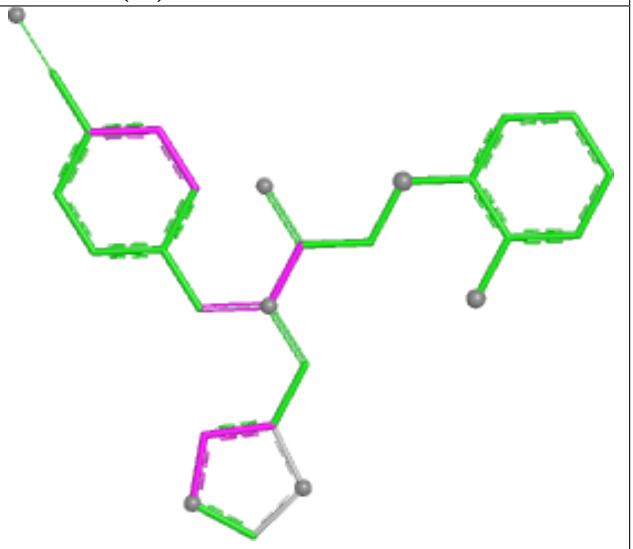

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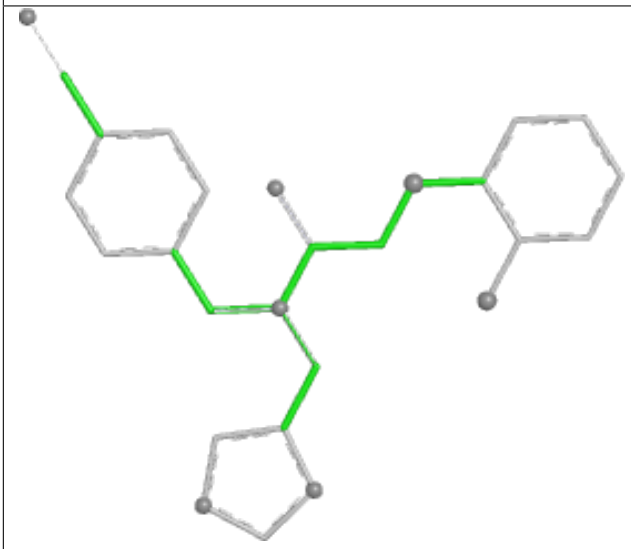

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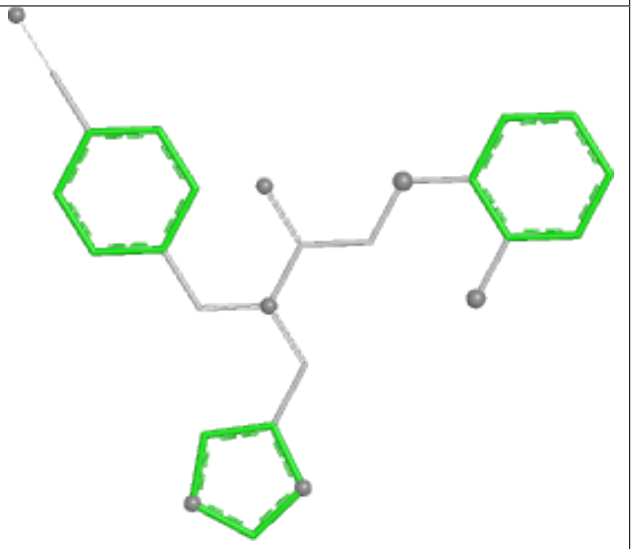
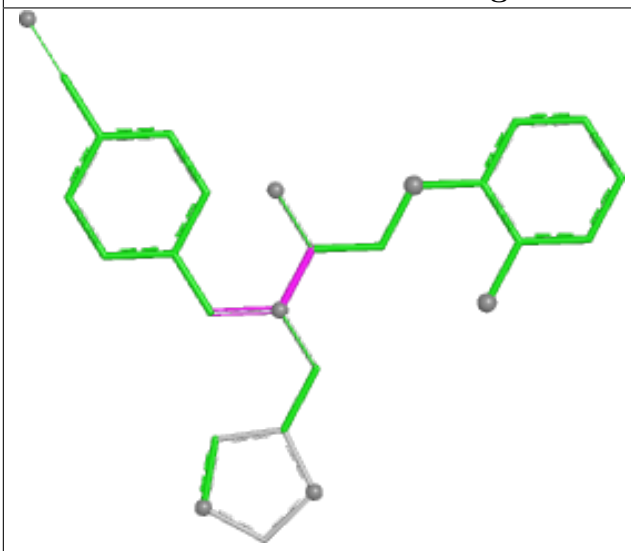


Rings

Ligand VFT G 301 (B)



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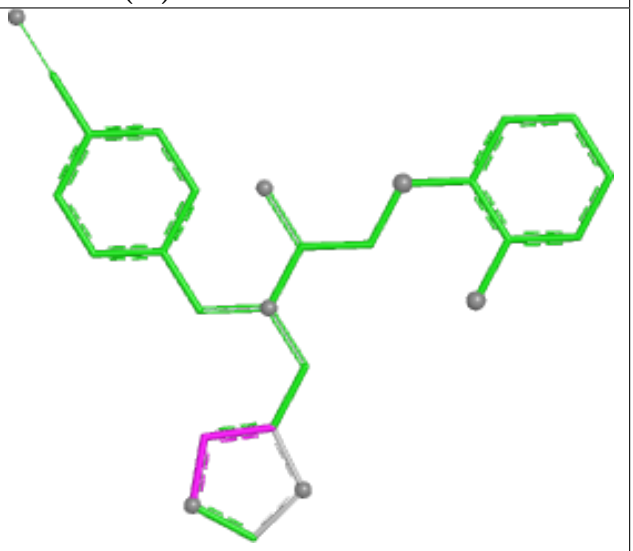
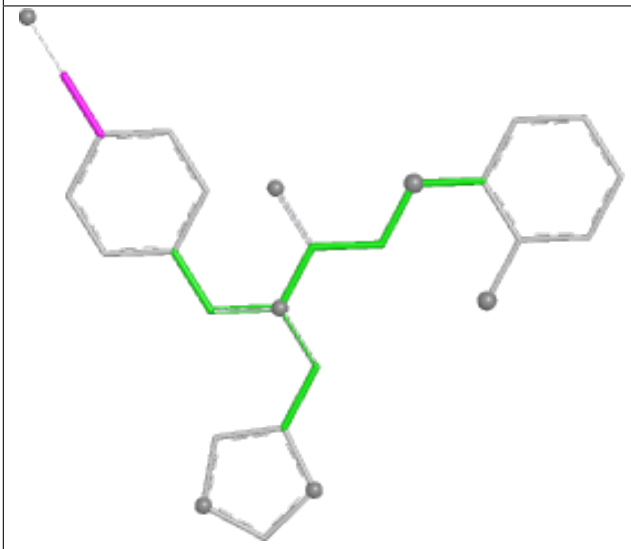
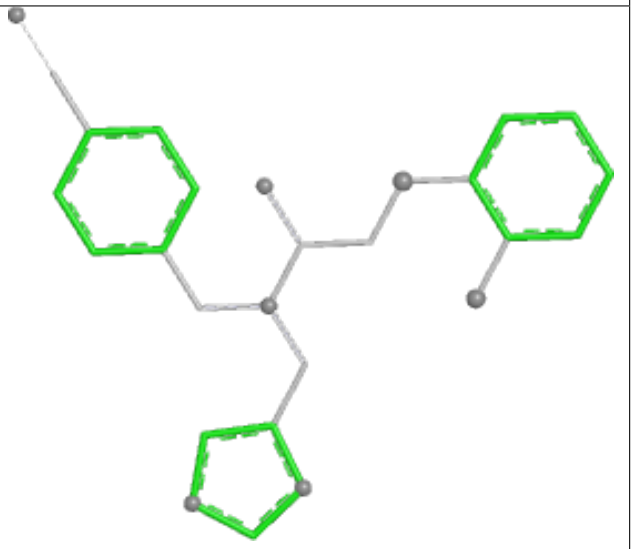


Bond angles

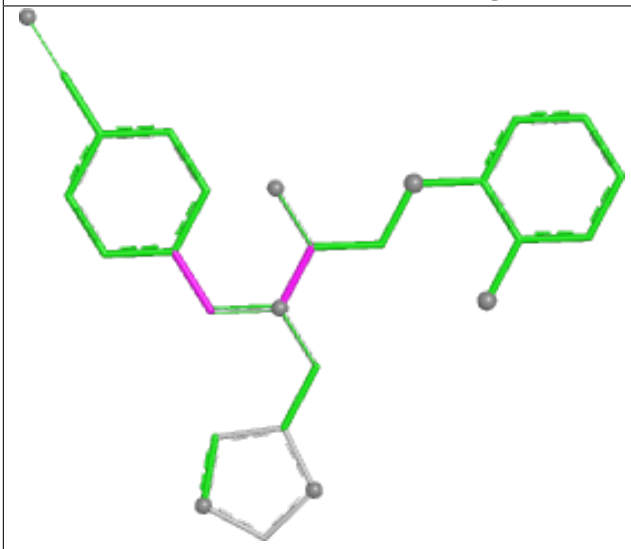


Torsions



Rings

Ligand VFT W 301 (B)



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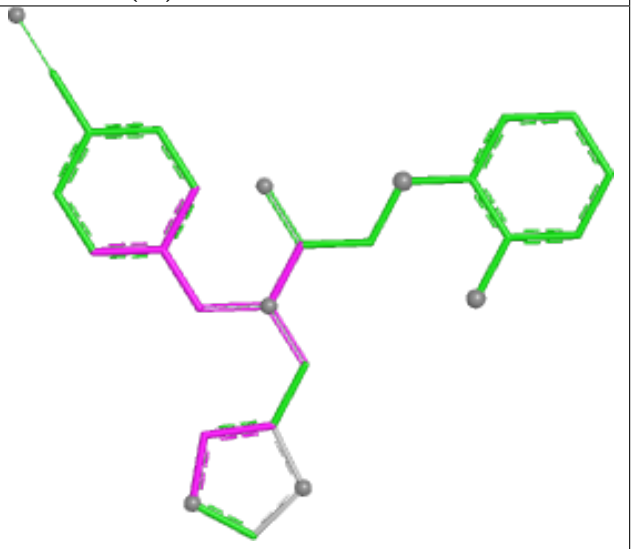
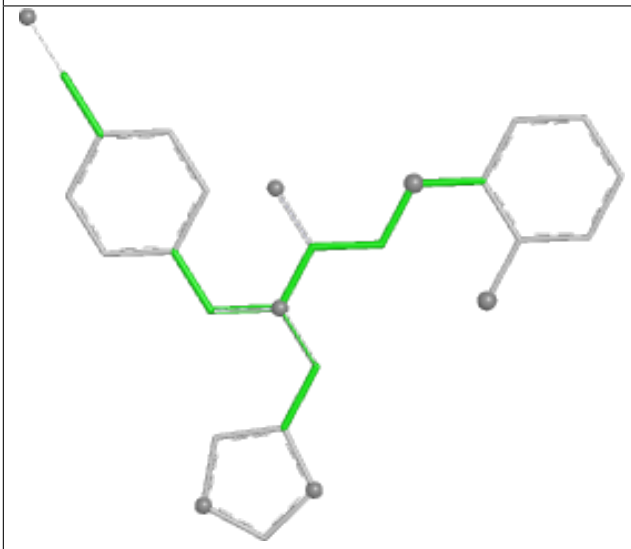


Bond angles



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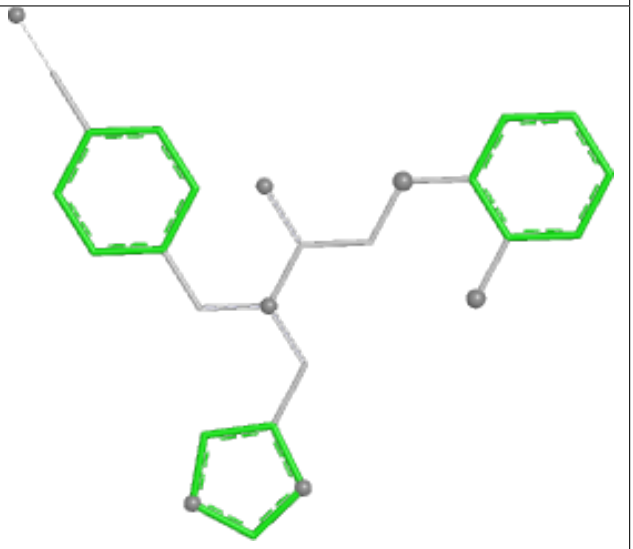
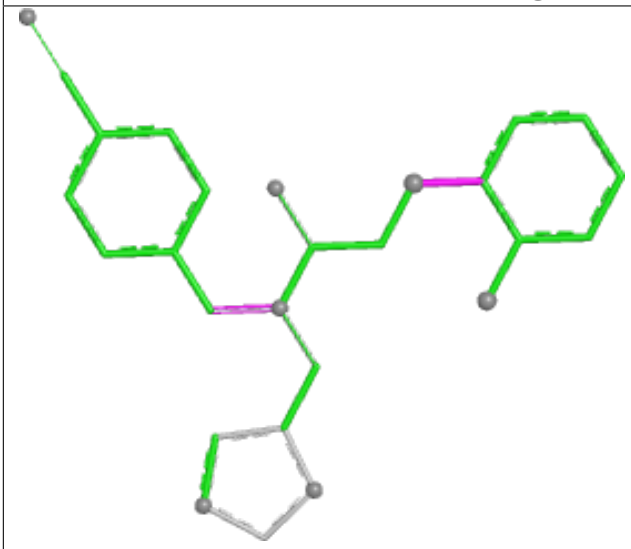


Rings

Ligand VFT c 302



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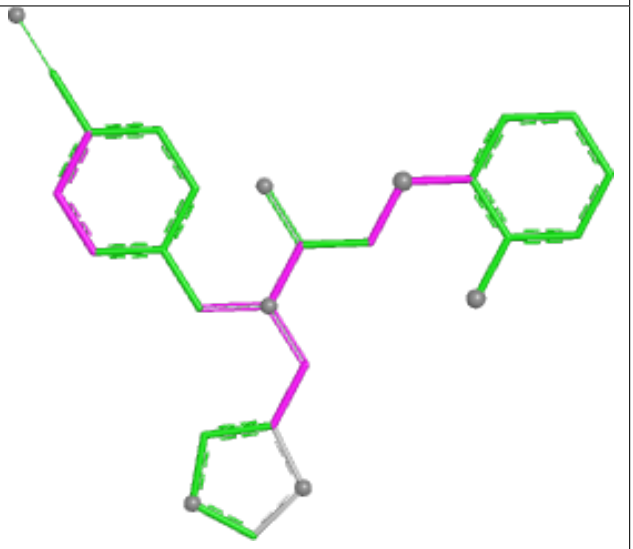

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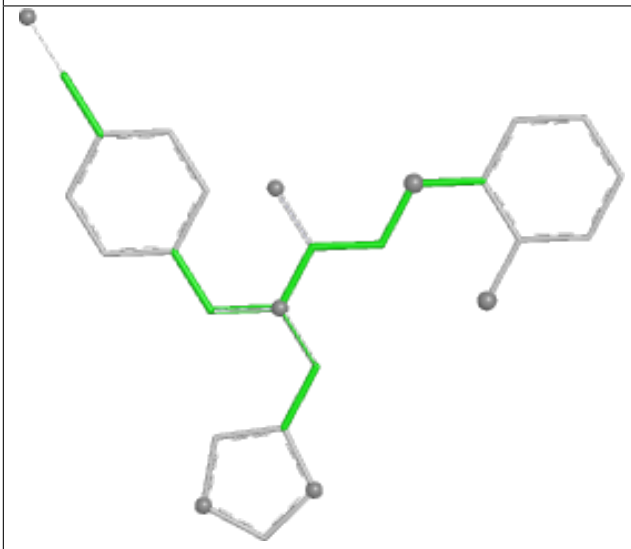

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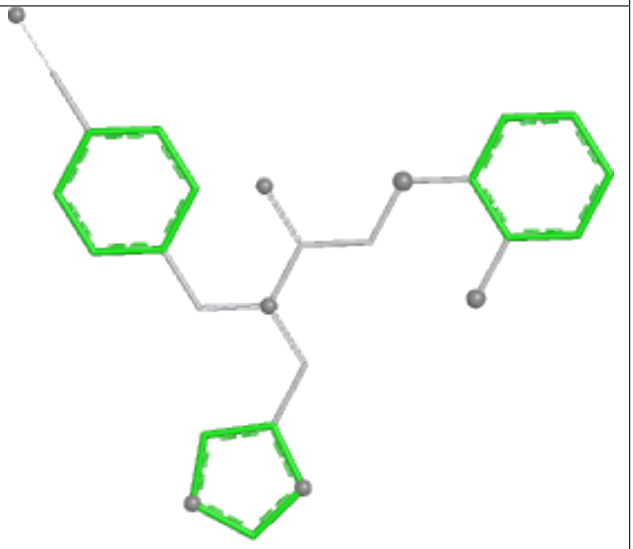
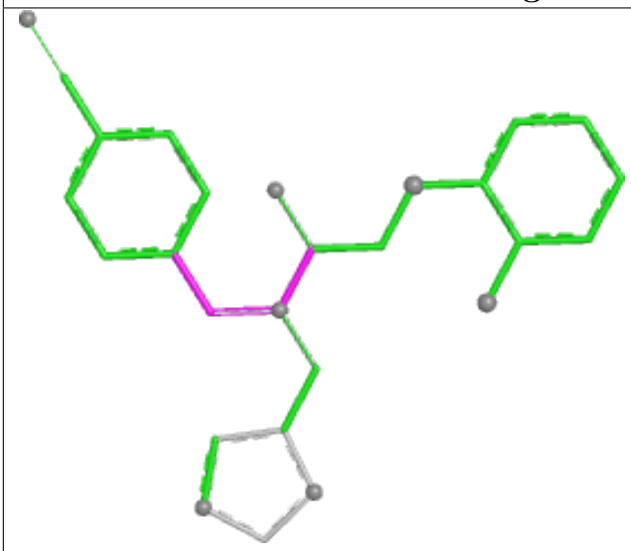


Rings

Ligand VFT H 301



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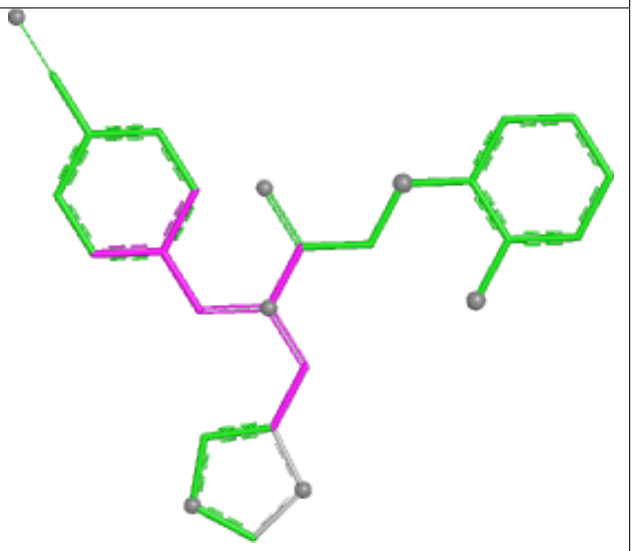
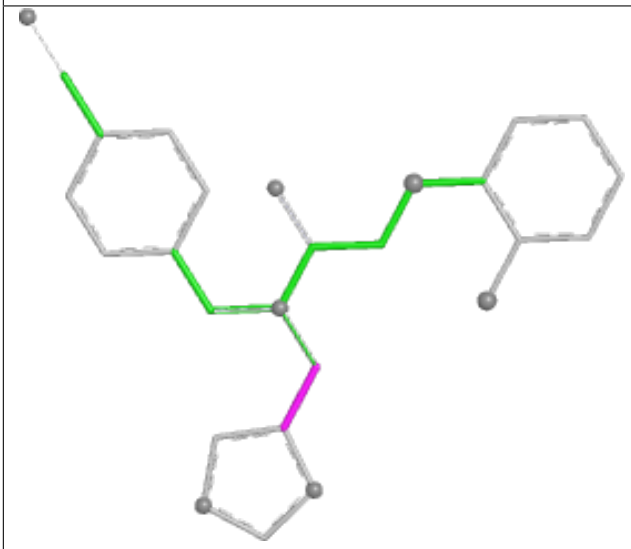


Bond angles



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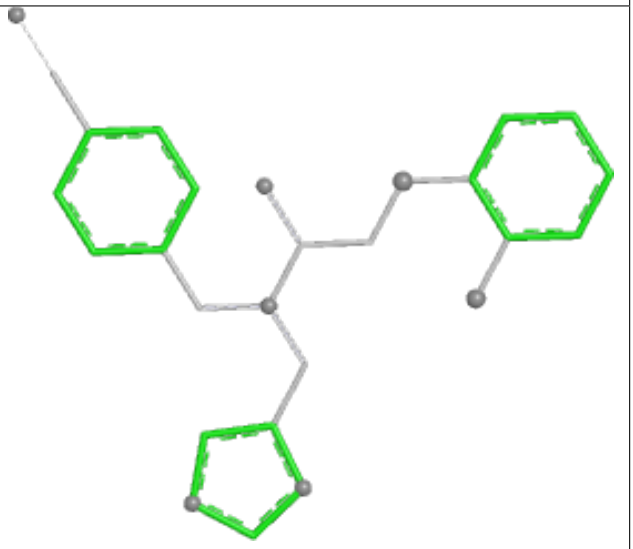
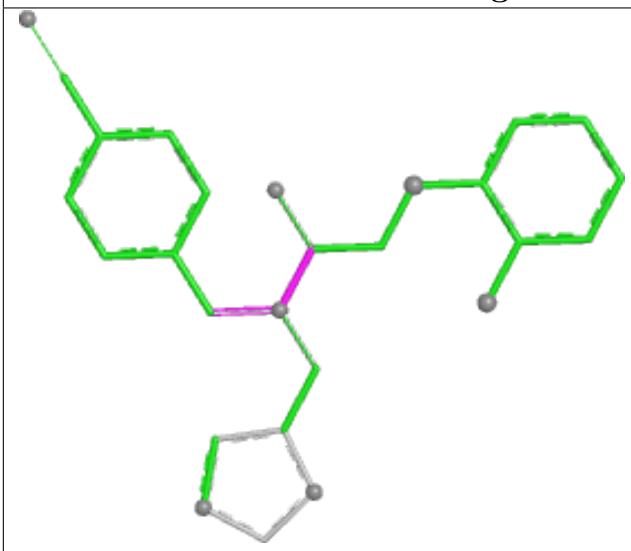
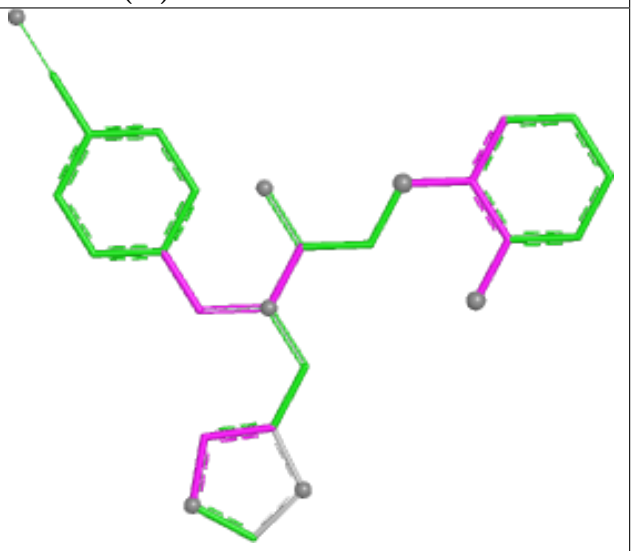


Rings

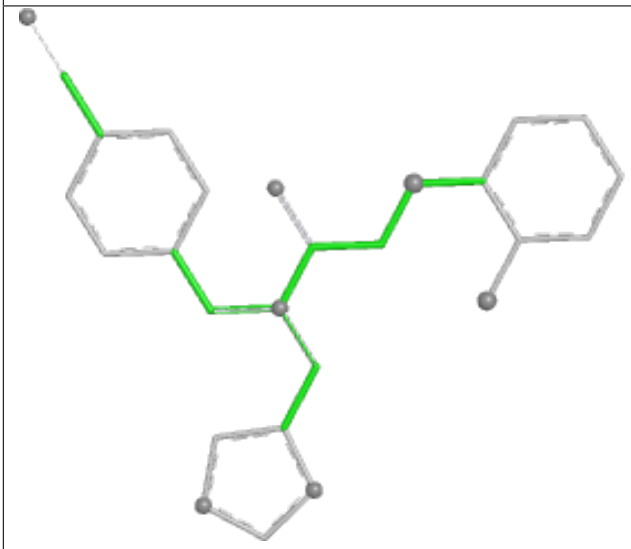
Ligand VFT R 301 (B)



Bond lengths



Bond angles



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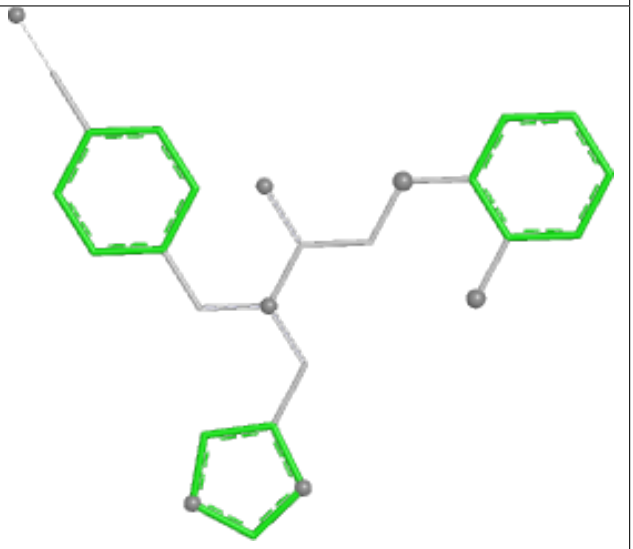
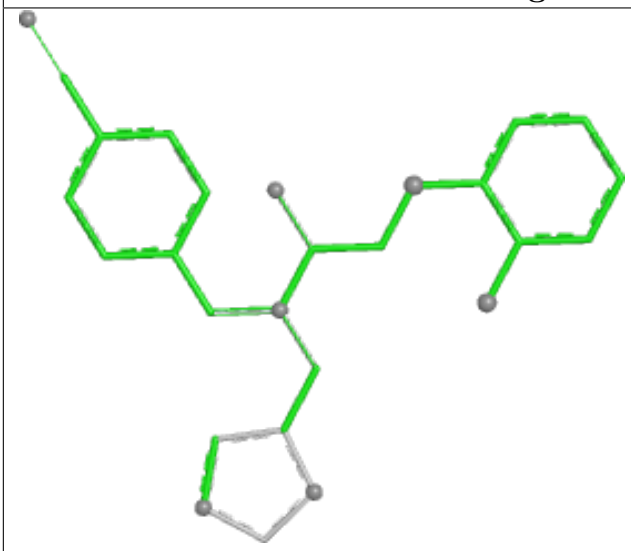


Rings

Ligand VFT a 302



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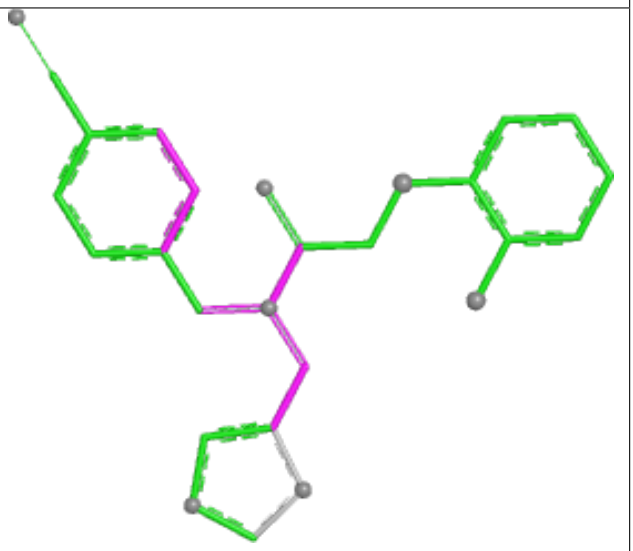
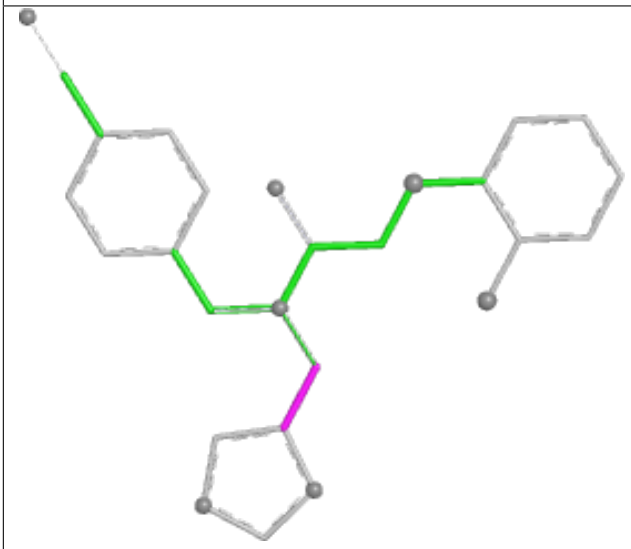
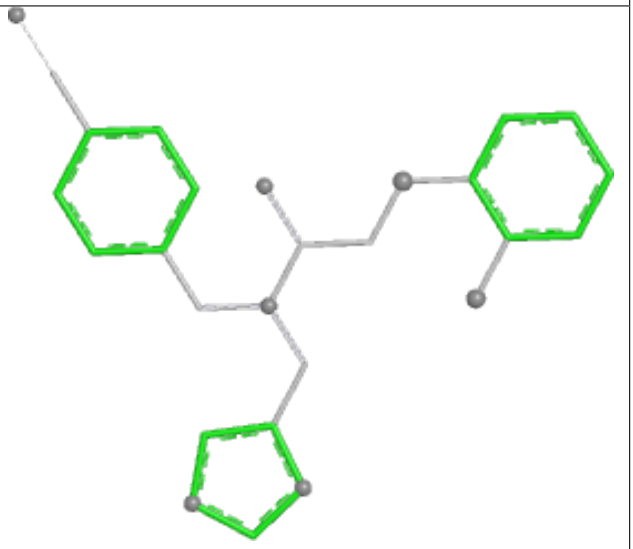


Bond angles

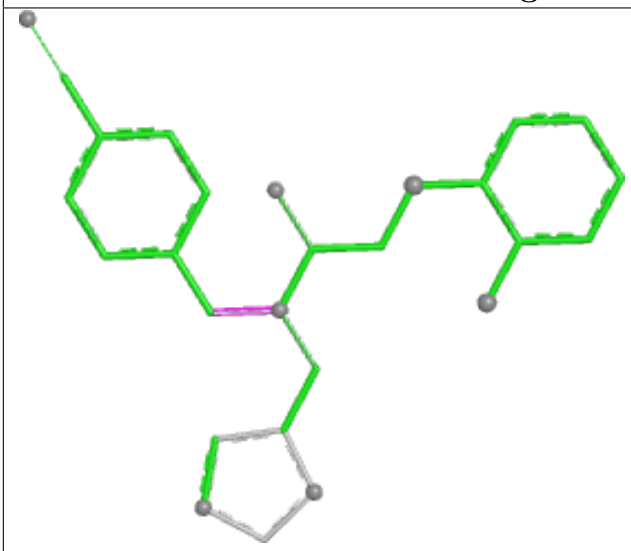


Torsions

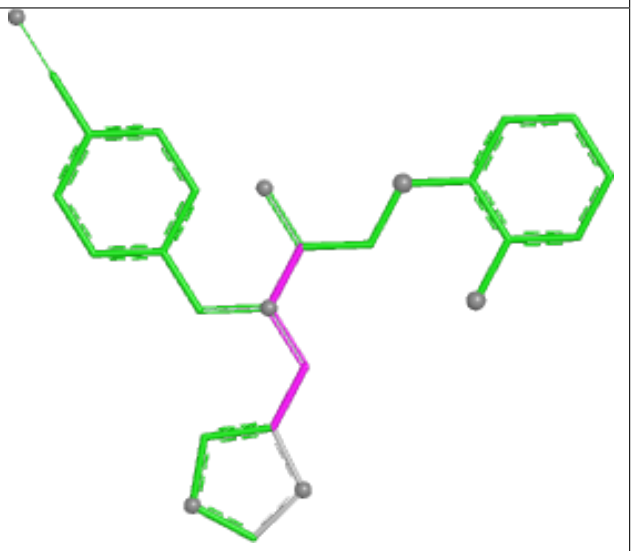


Rings

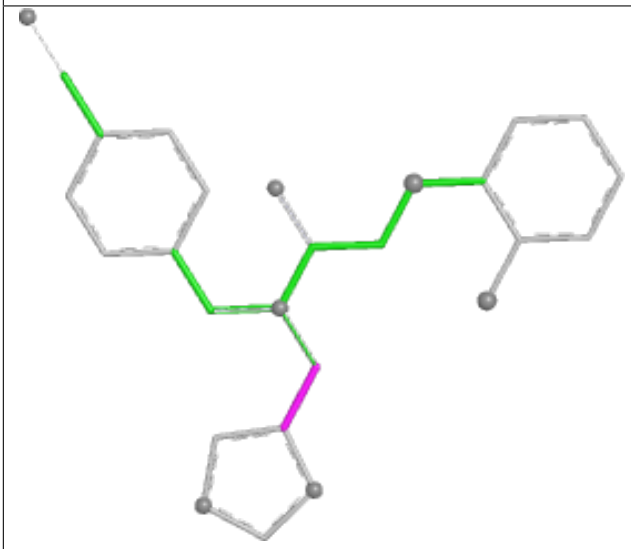
Ligand VFT M 301



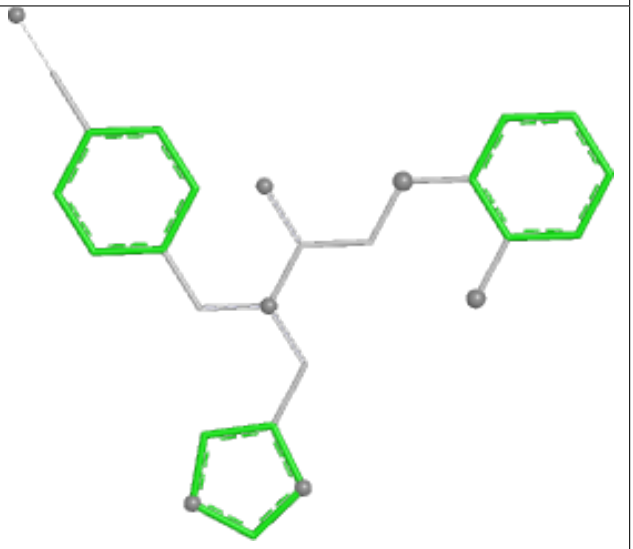
Bond lengths



Bond angles

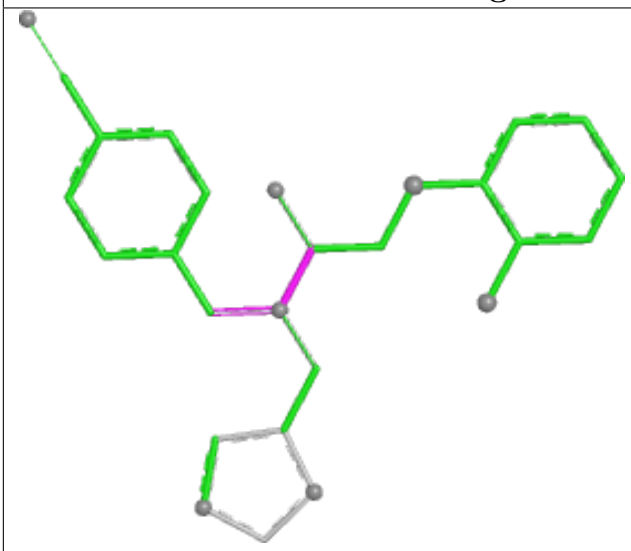


Torsions



Rings

Ligand VFT G 301 (A)



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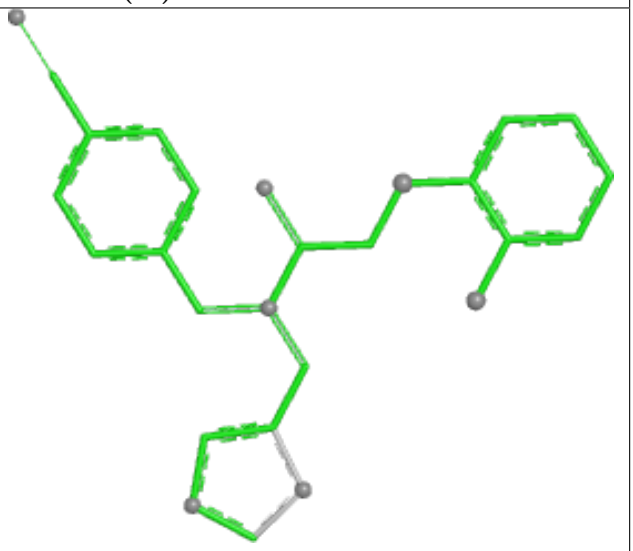
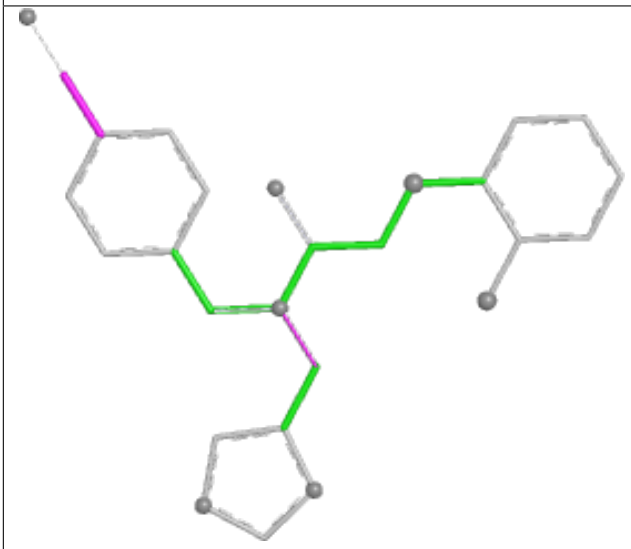


Bond angles



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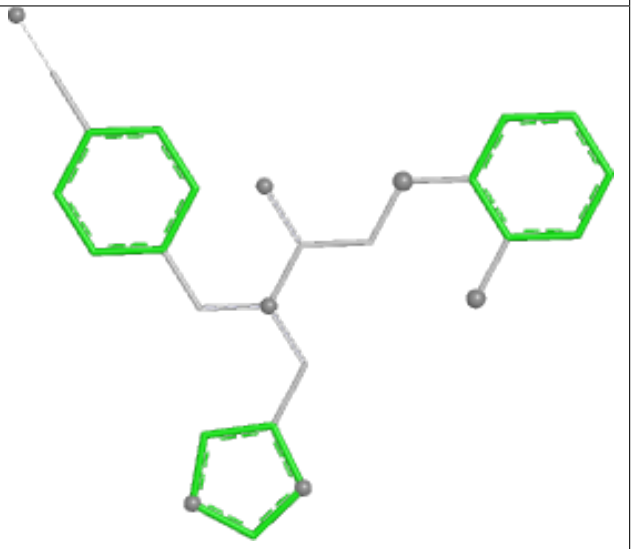
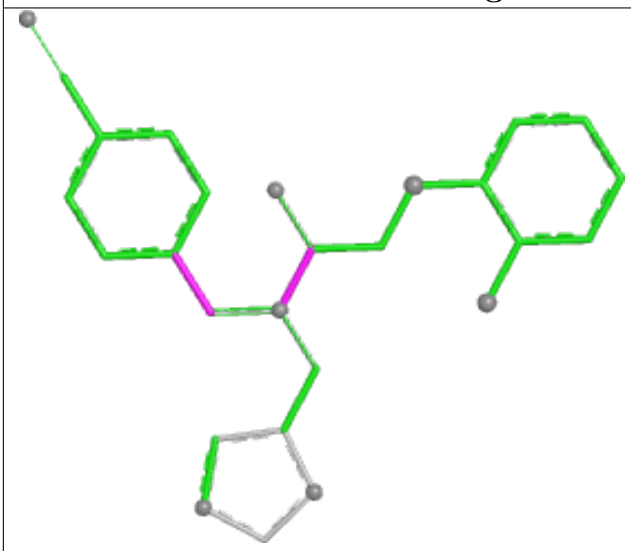


Rings

Ligand VFT W 301 (A)



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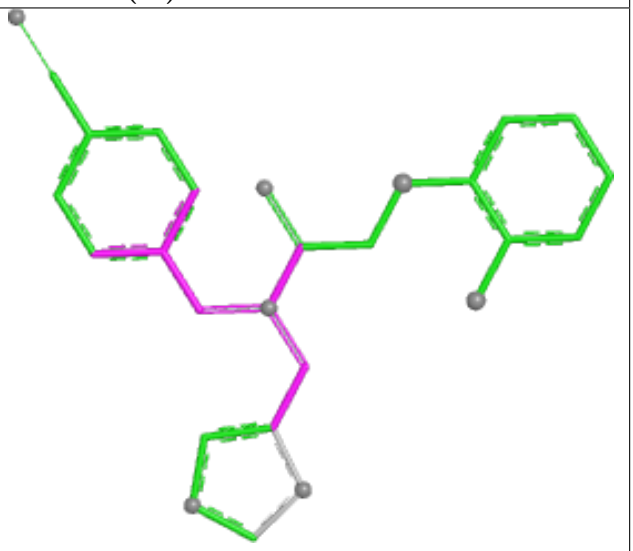
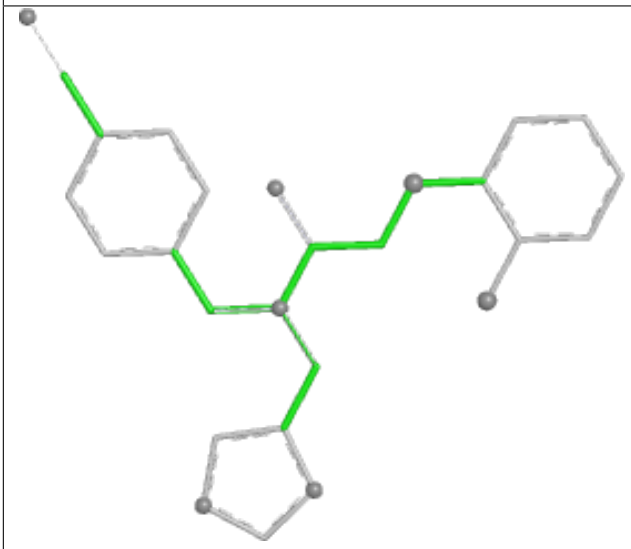
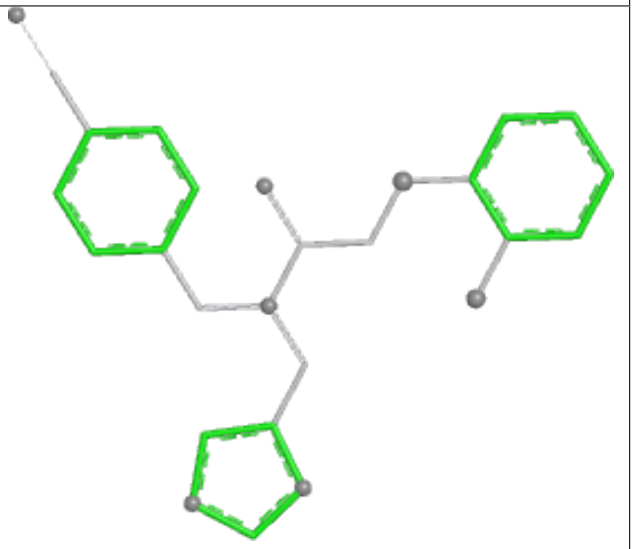


Bond angles

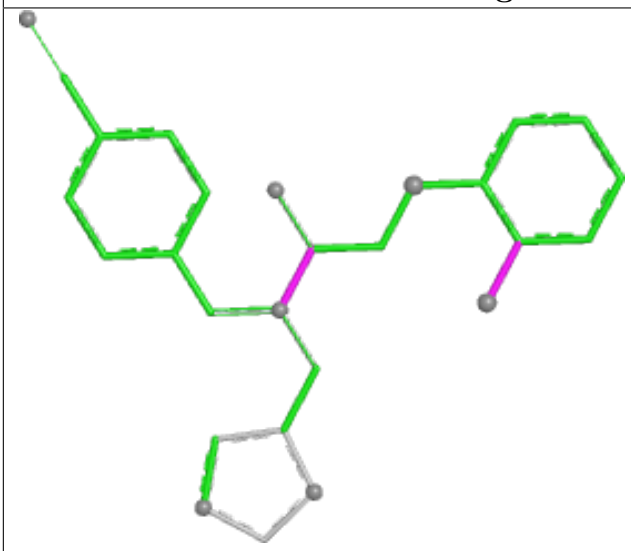


Torsions



Rings

Ligand VFT a 301 (B)



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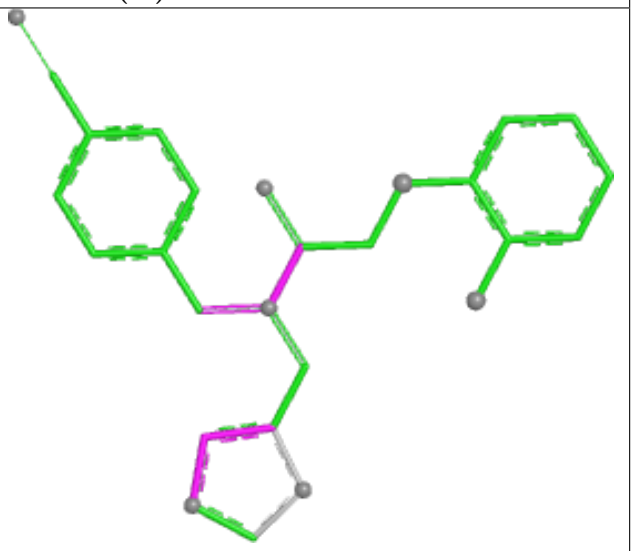
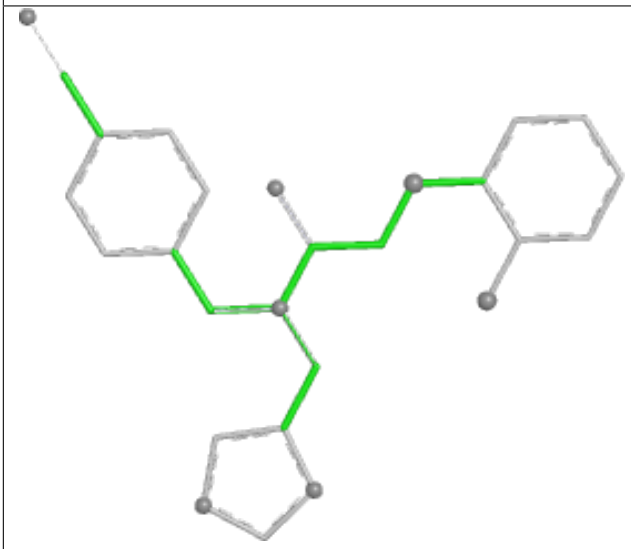


Bond angles



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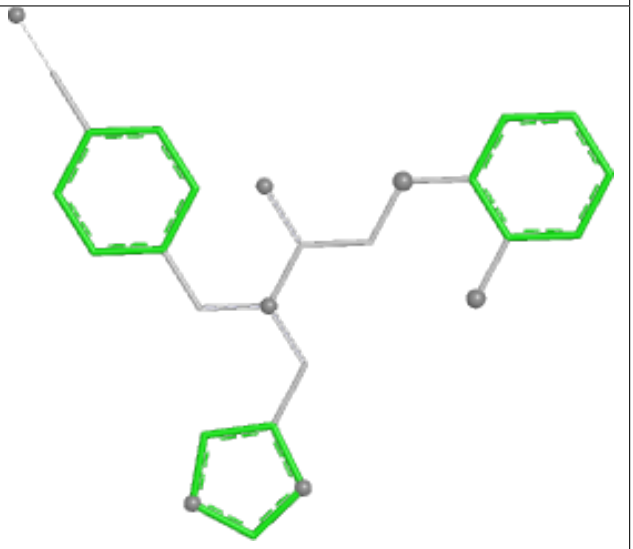
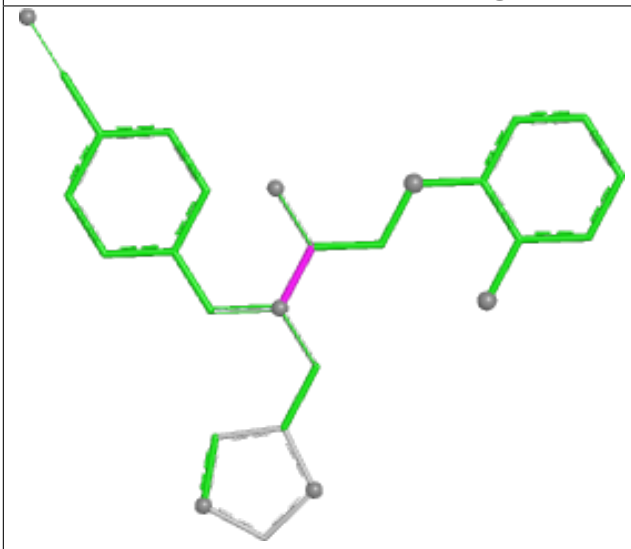


Rings

Ligand VFT Q 301 (B)



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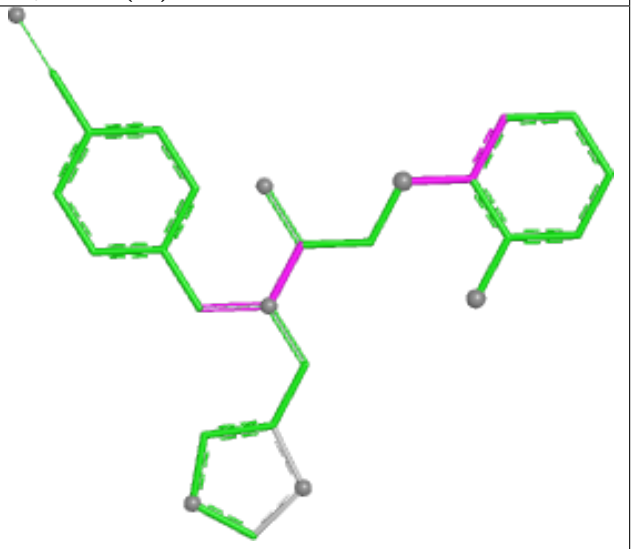
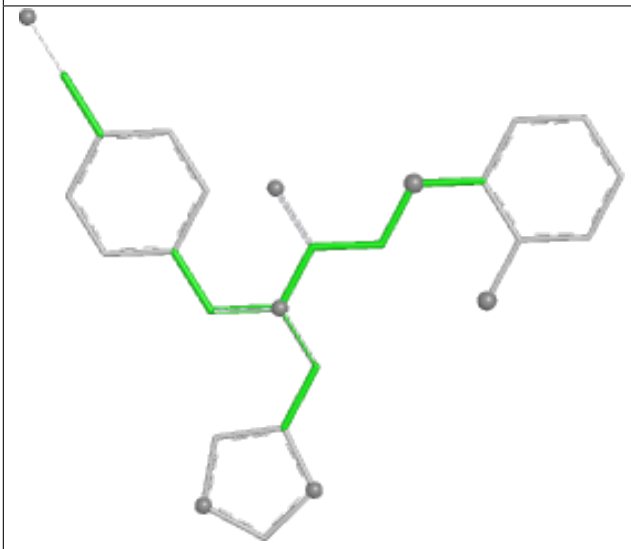


Bond angles



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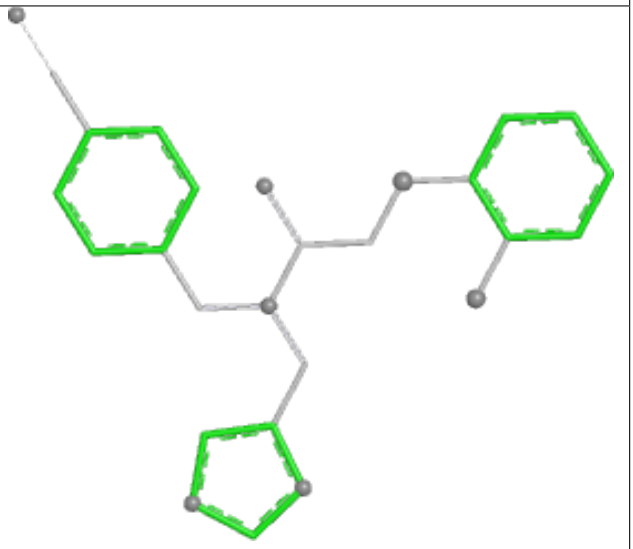
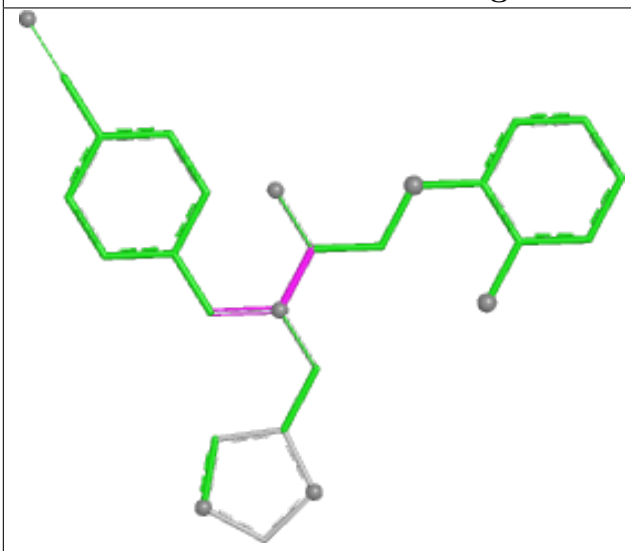


Rings

Ligand VFT R 301 (A)



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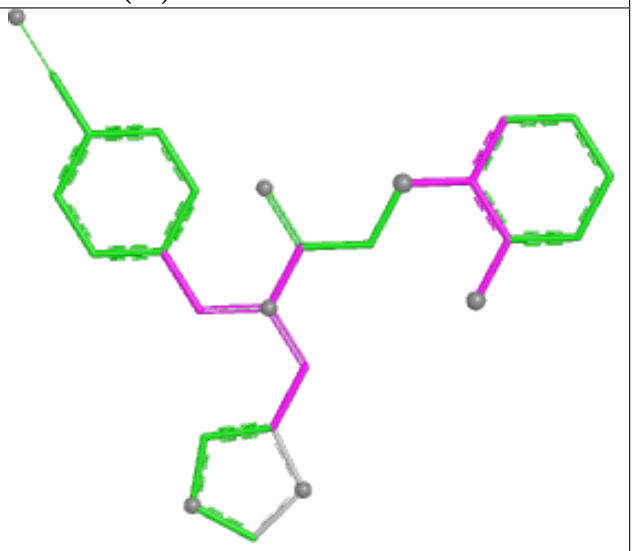

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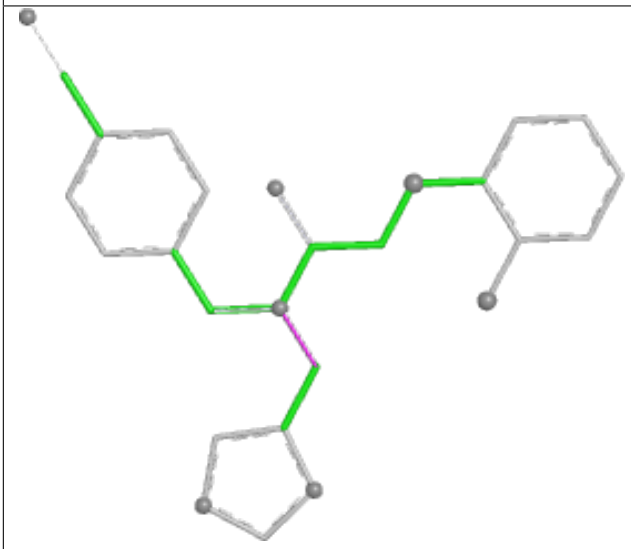

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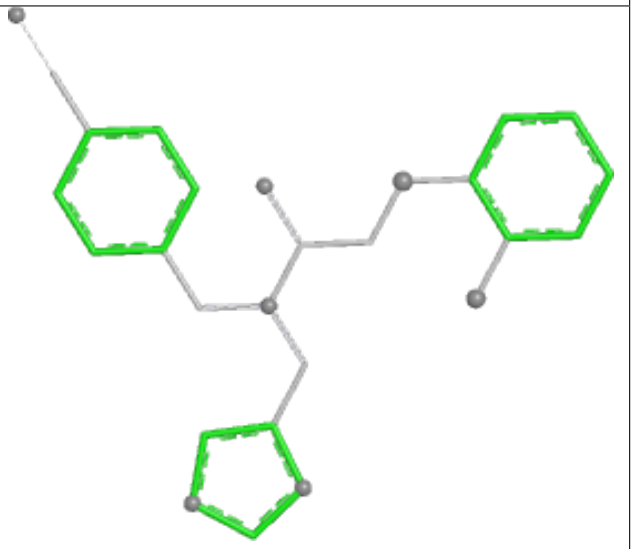
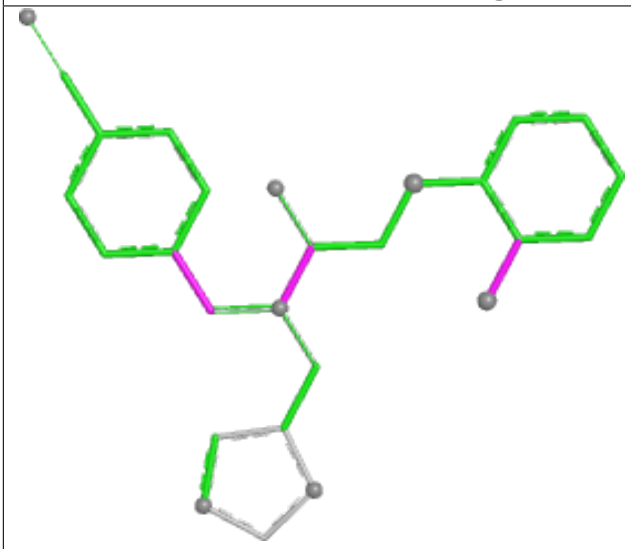


Rings

Ligand VFT K 301 (B)



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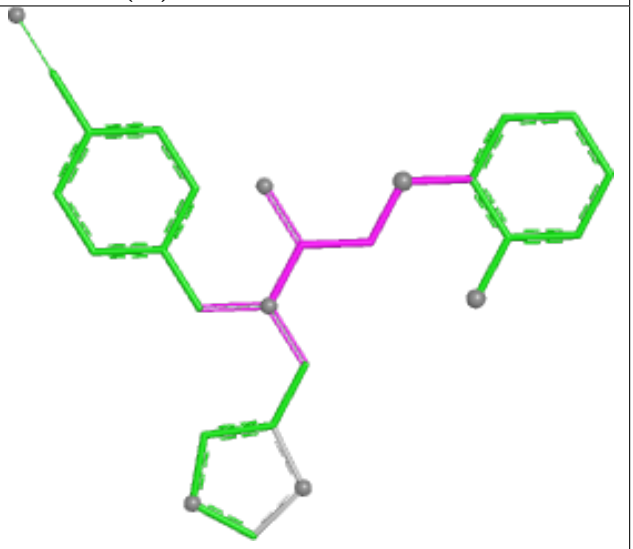
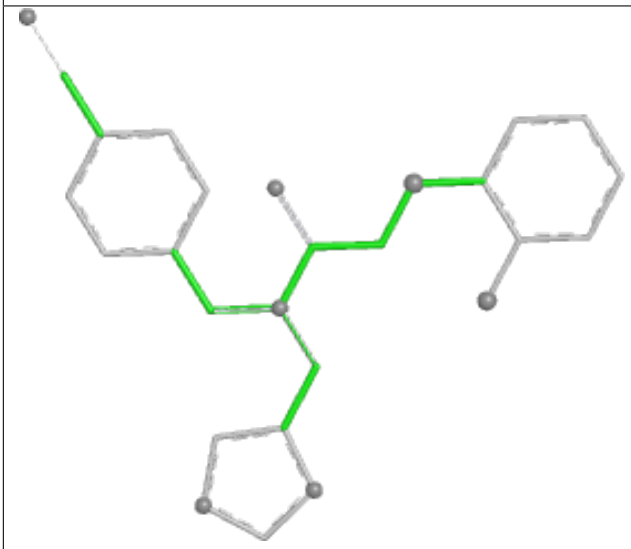


Bond angles



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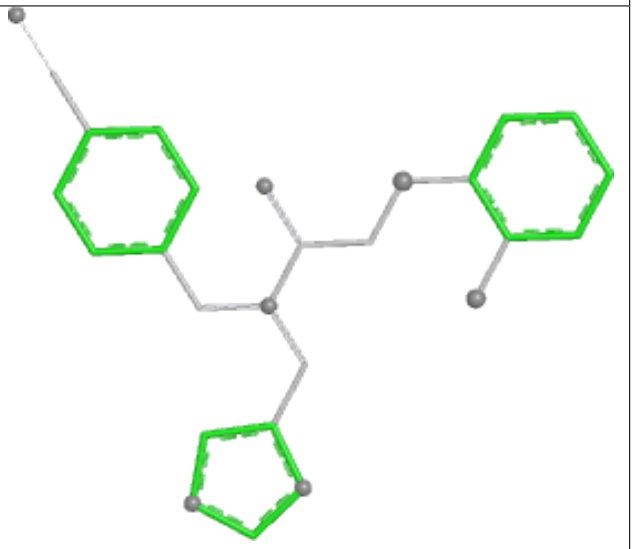
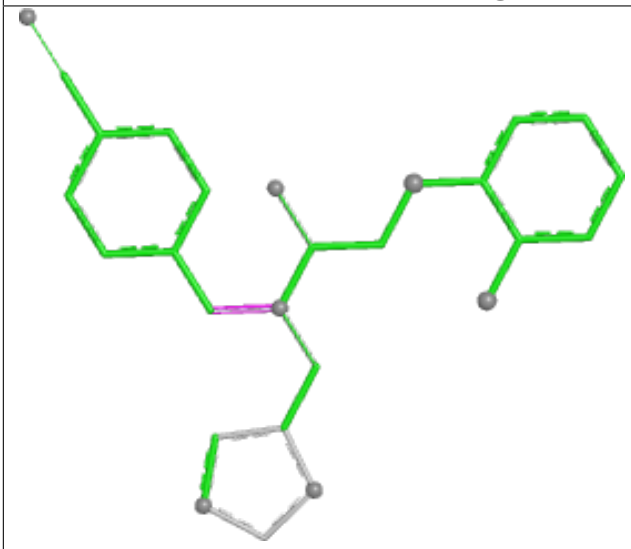


Rings

Ligand VFT B 302 (B)



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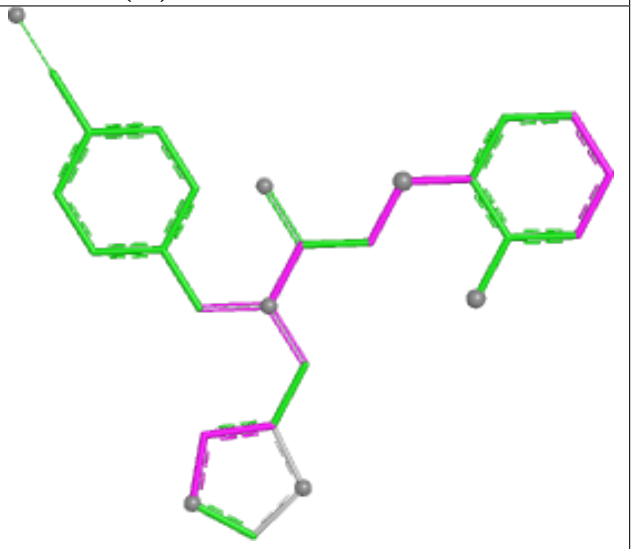
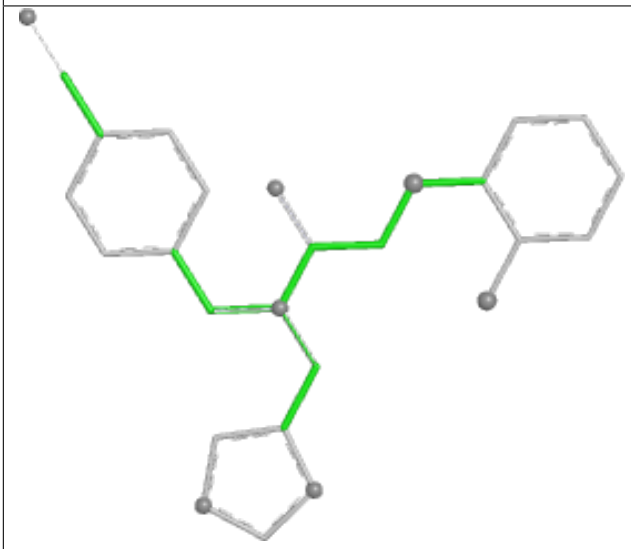
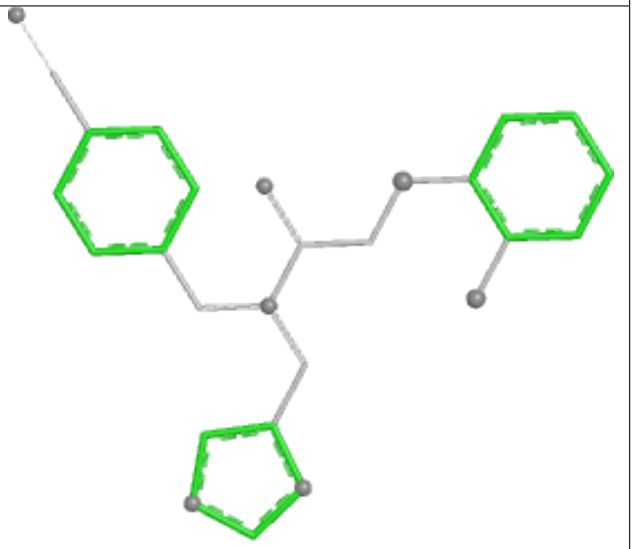


Bond angles

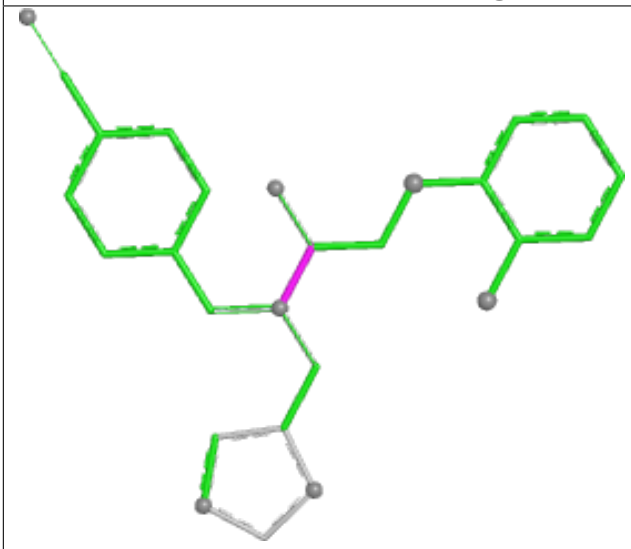


Torsions



Rings

Ligand VFT D 301 (B)



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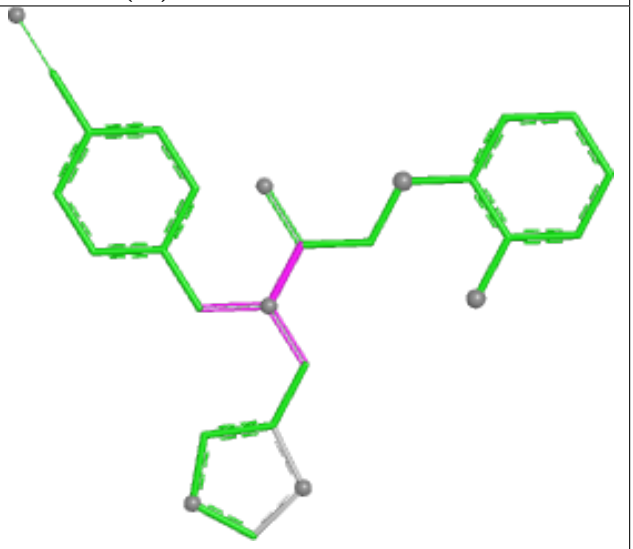
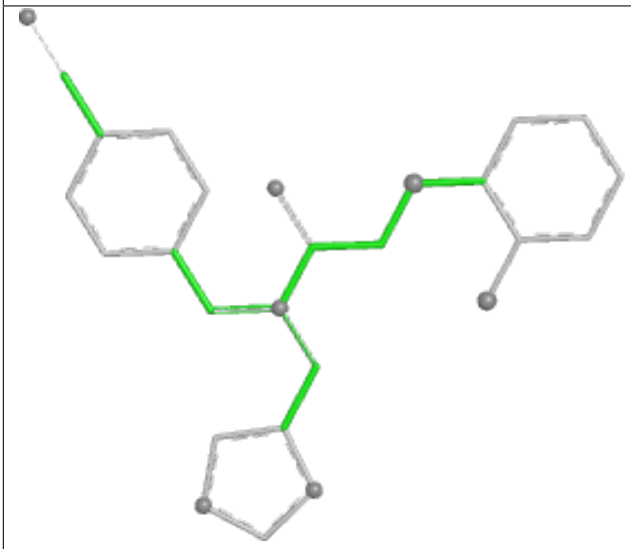


Bond angles



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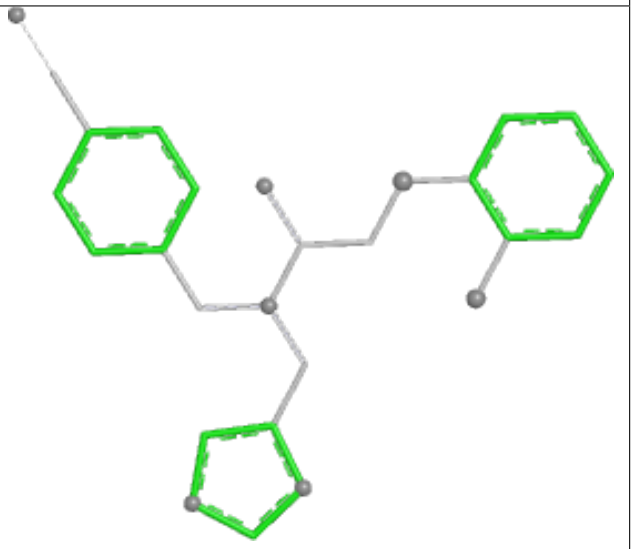
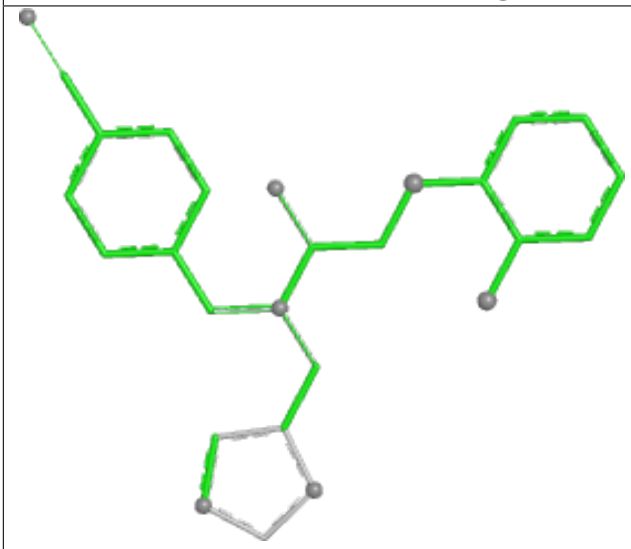


Rings

Ligand VFT J 301 (A)



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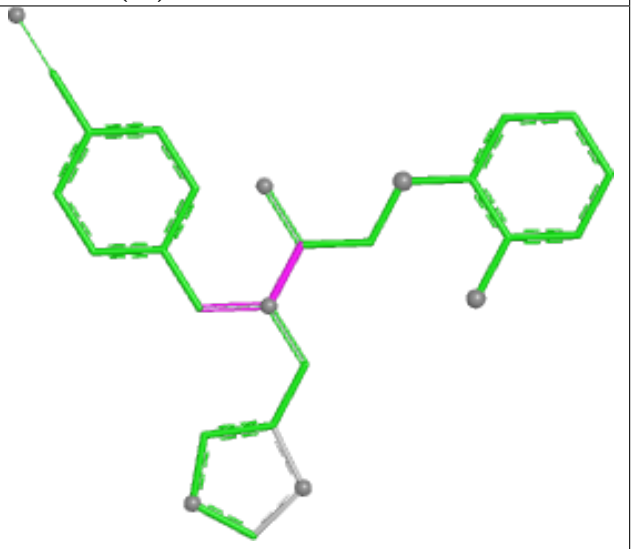
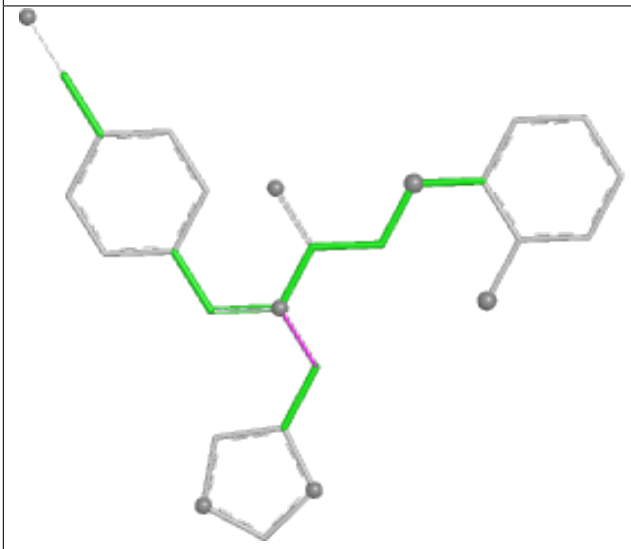


Bond angles



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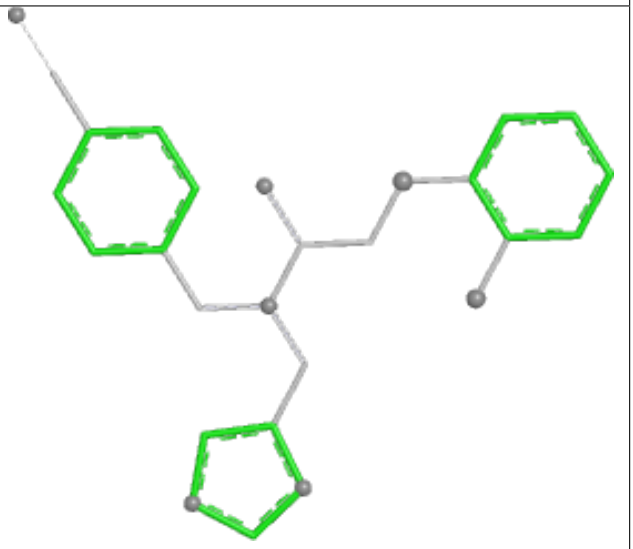
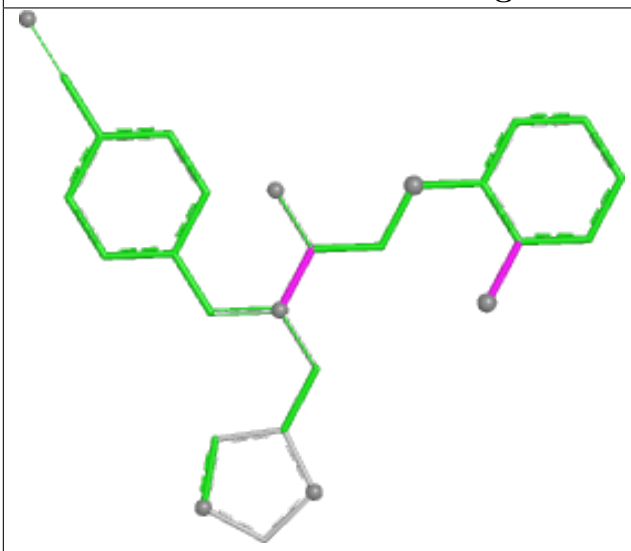


Rings

Ligand VFT a 301 (A)



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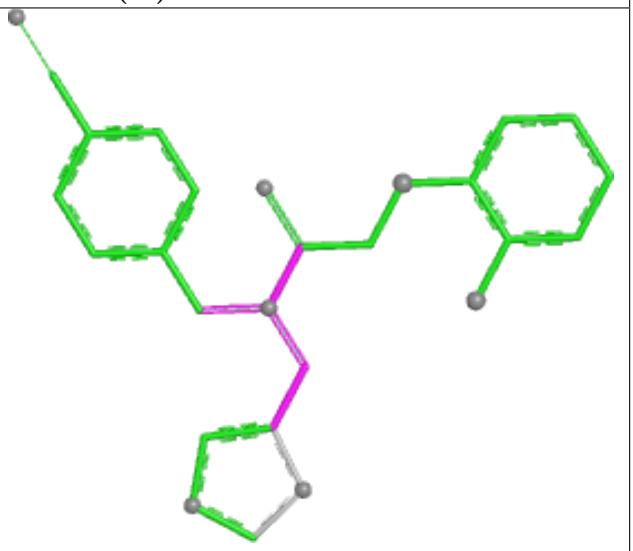
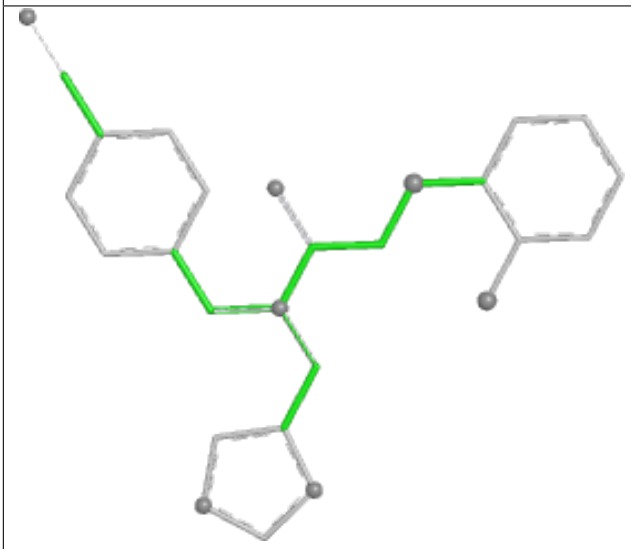


Bond angles



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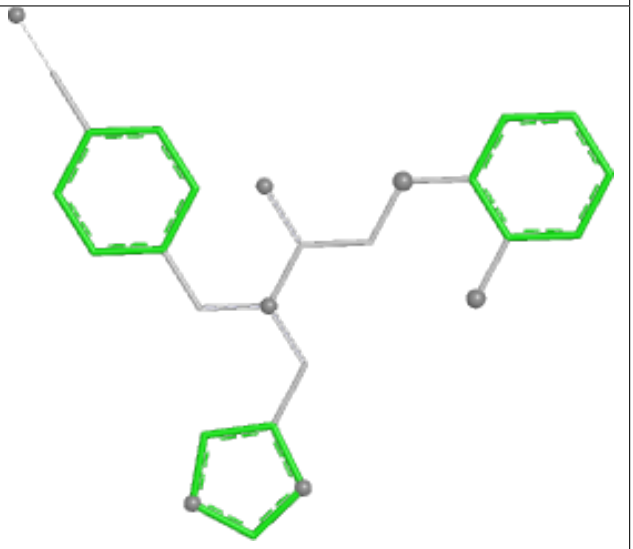
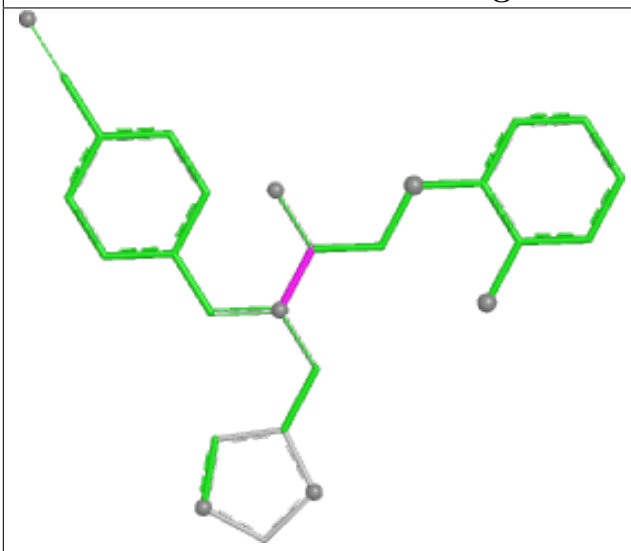
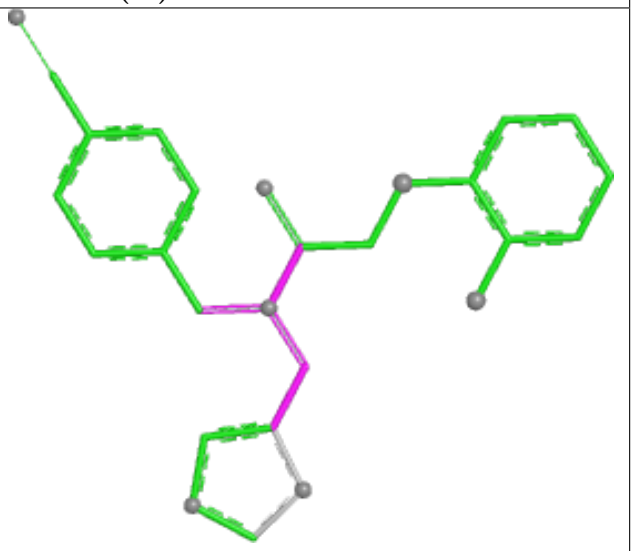


Rings

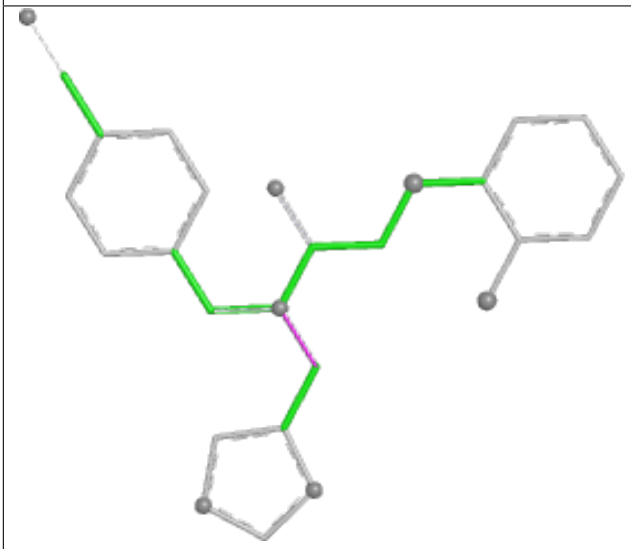
Ligand VFT L 301 (A)



Bond lengths



Bond angles



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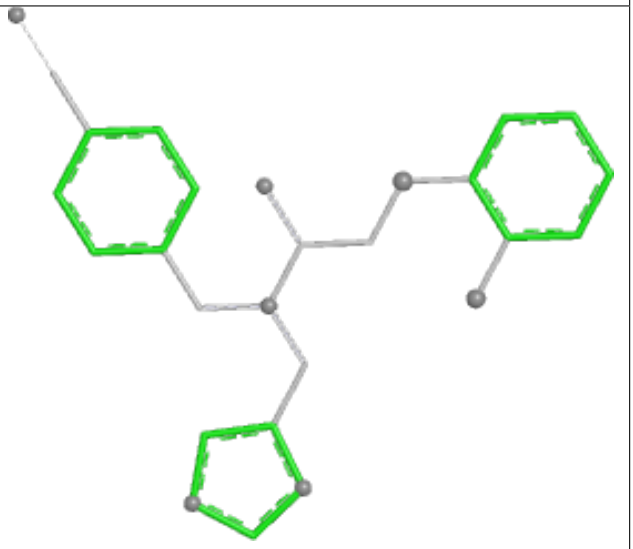
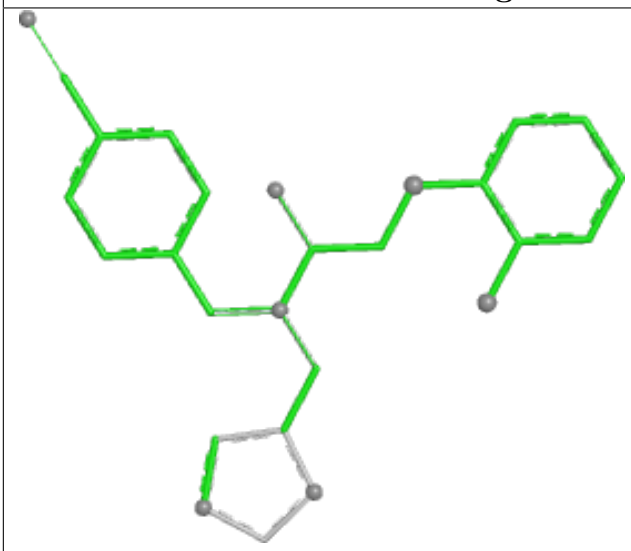
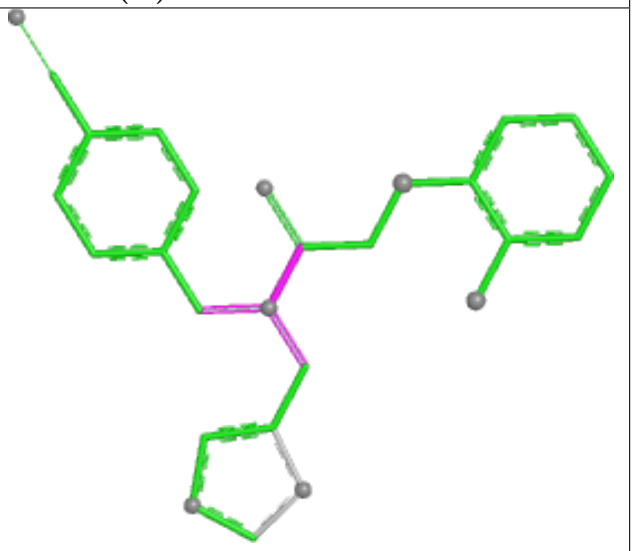


Rings

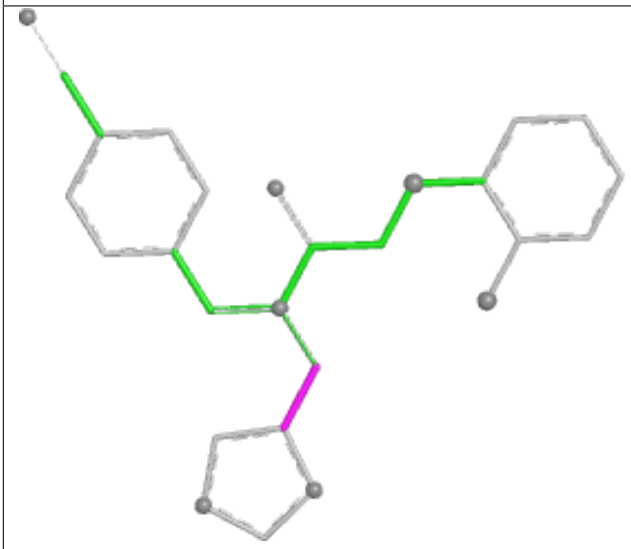
Ligand VFT J 301 (B)



Bond lengths



Bond angles



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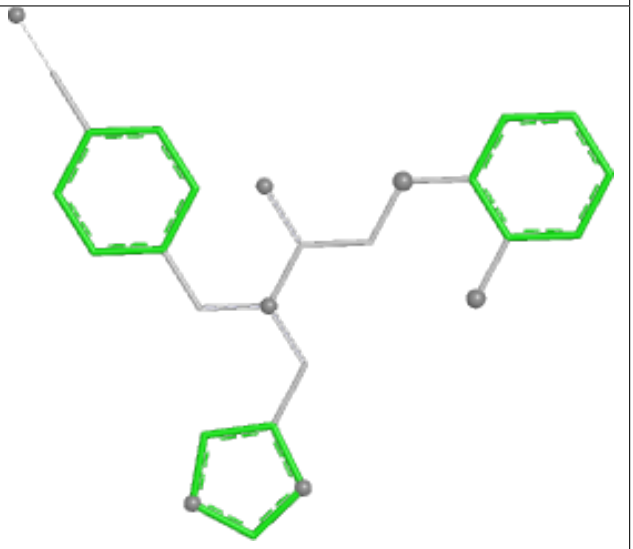
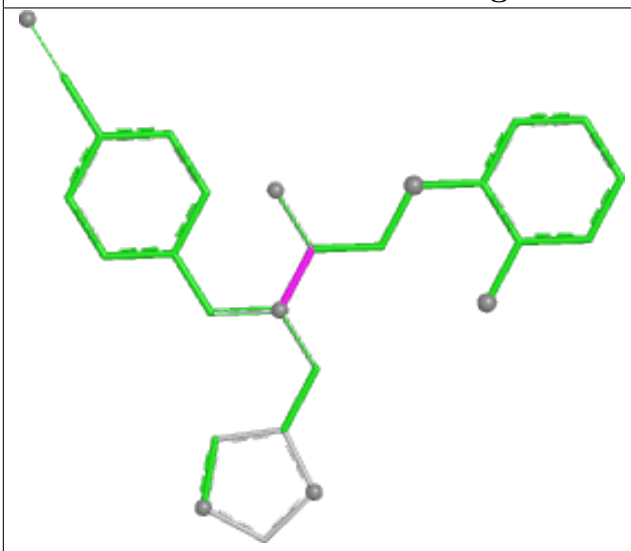
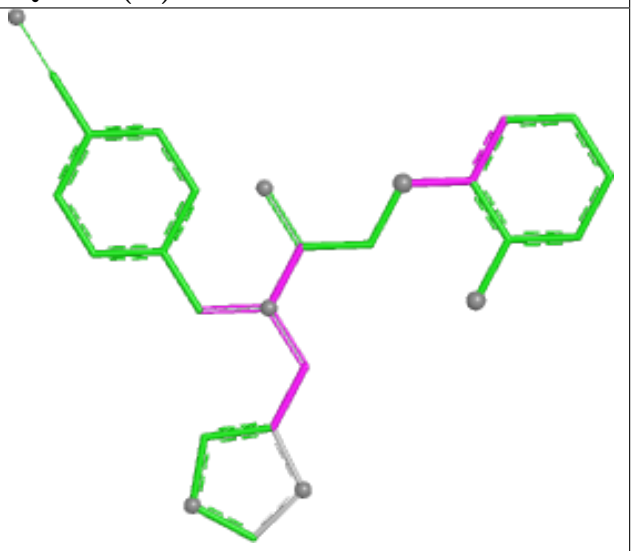


Rings

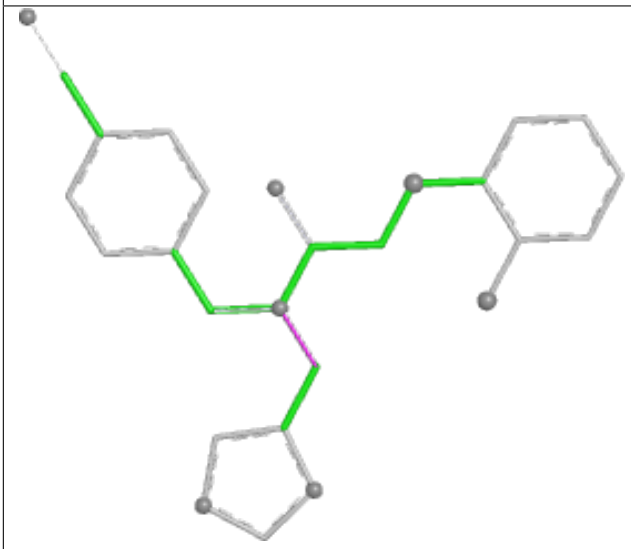
Ligand VFT Q 301 (A)



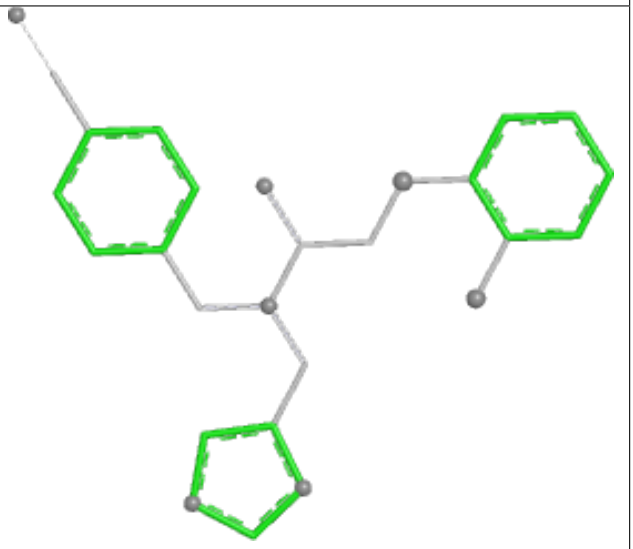
Bond lengths



Bond angles

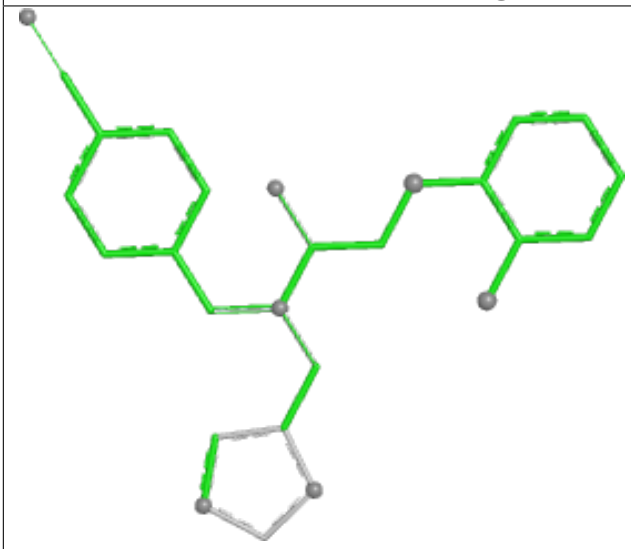


Torsions



Rings

Ligand VFT E 301 (B)



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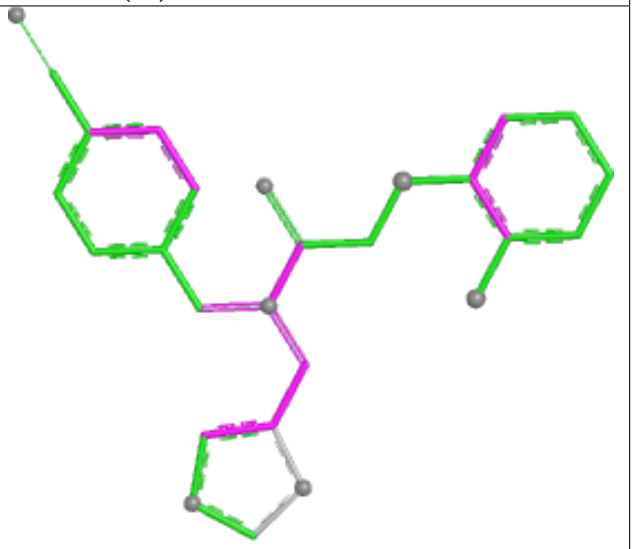
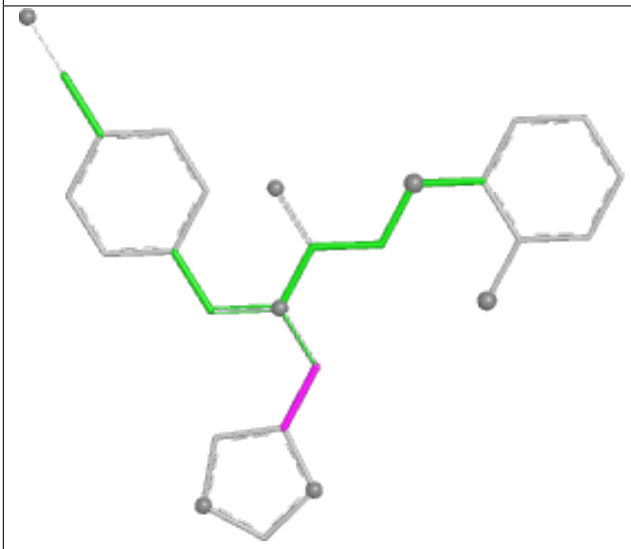


Bond angles



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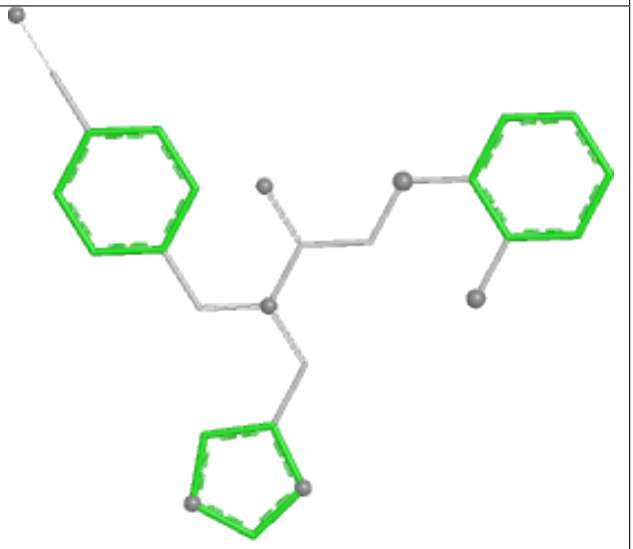
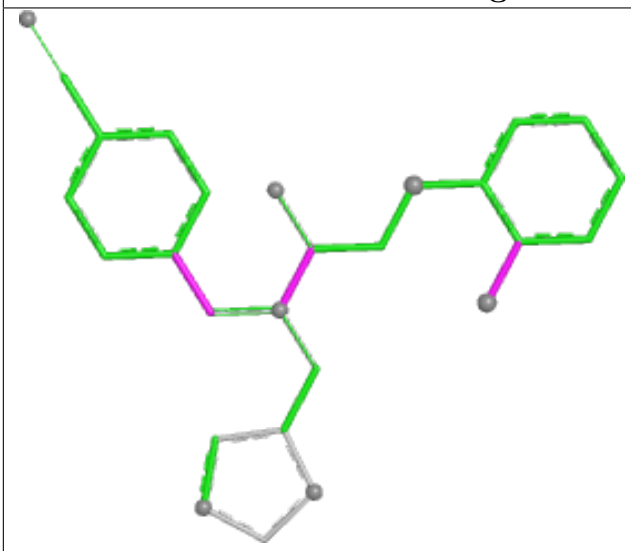


Rings

Ligand VFT K 301 (A)



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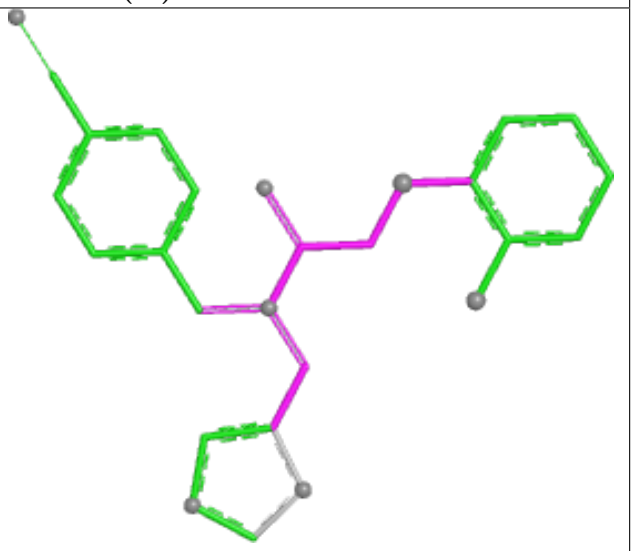
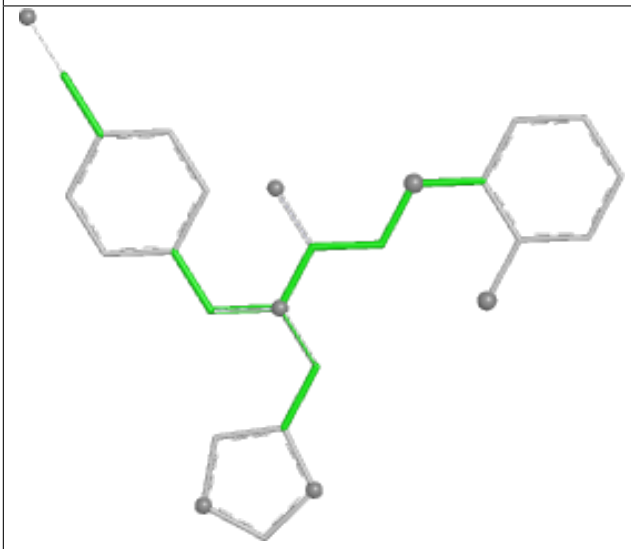
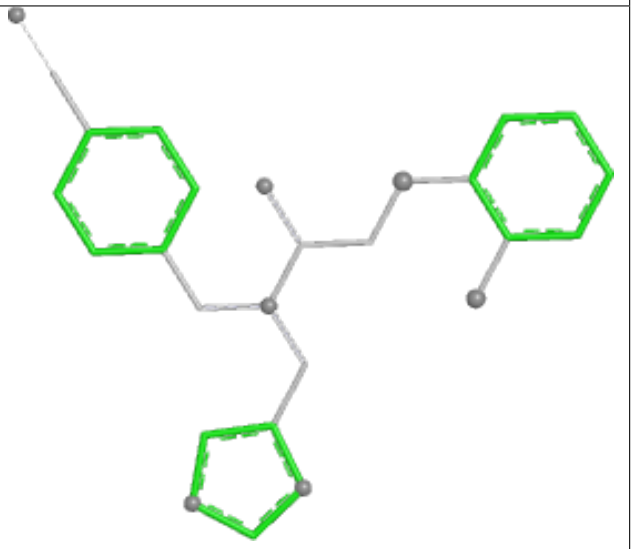


Bond angles

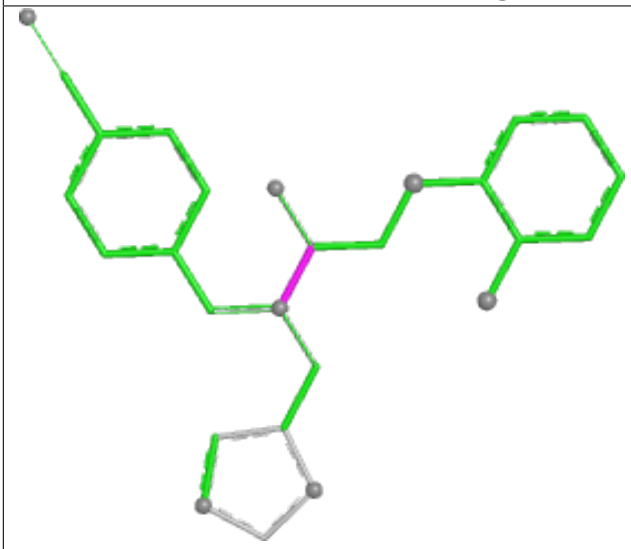


Torsions



Rings

Ligand VFT L 301 (B)



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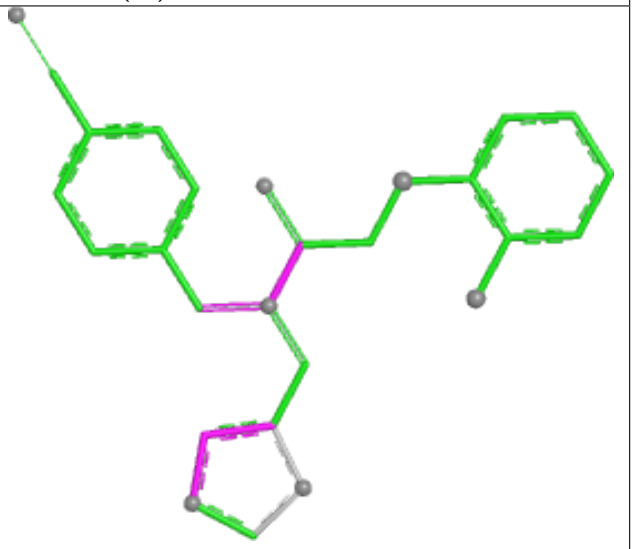
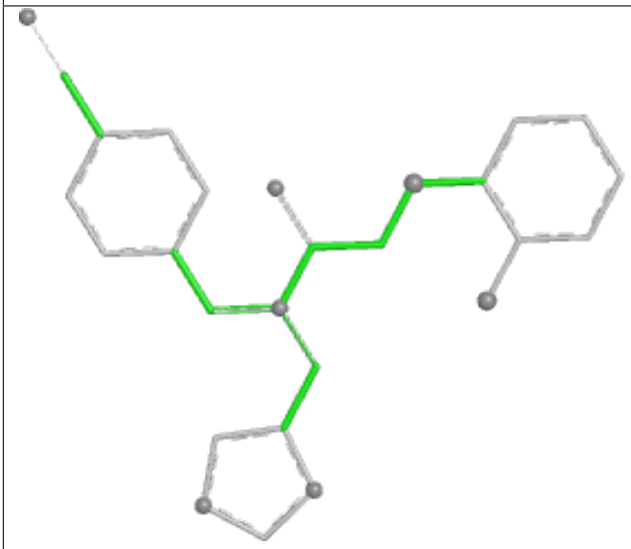


Bond angles



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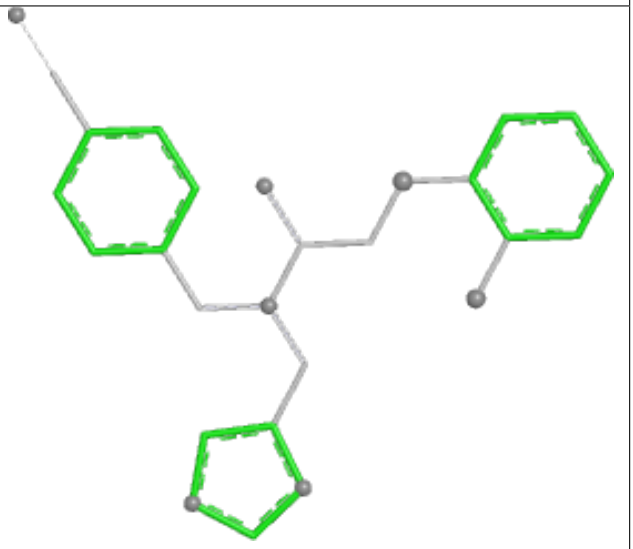
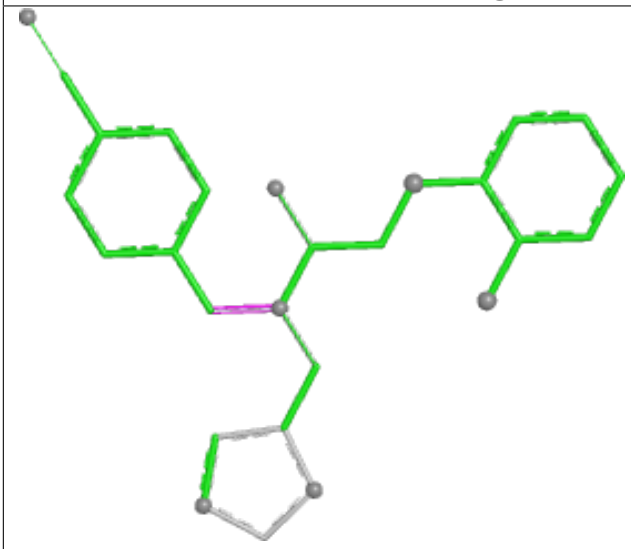


Rings

Ligand VFT B 302 (A)



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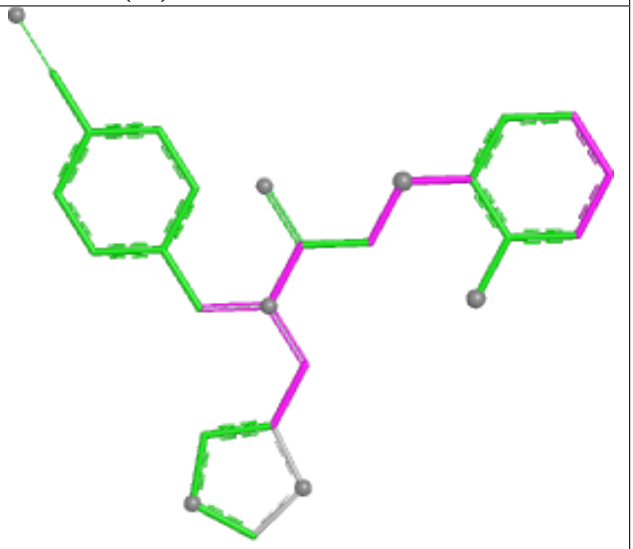

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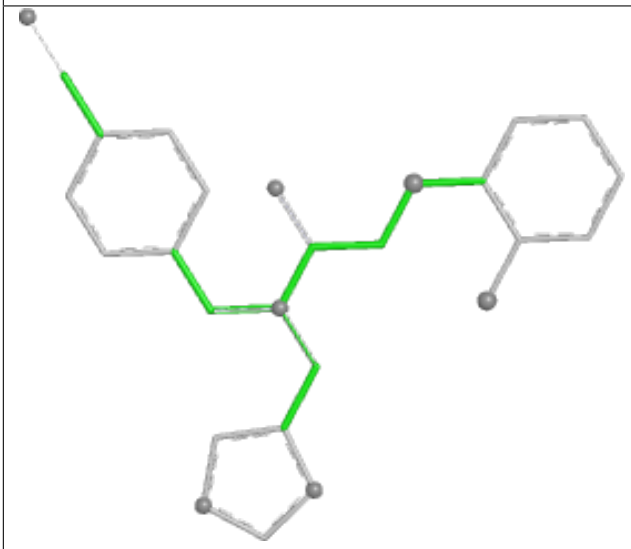

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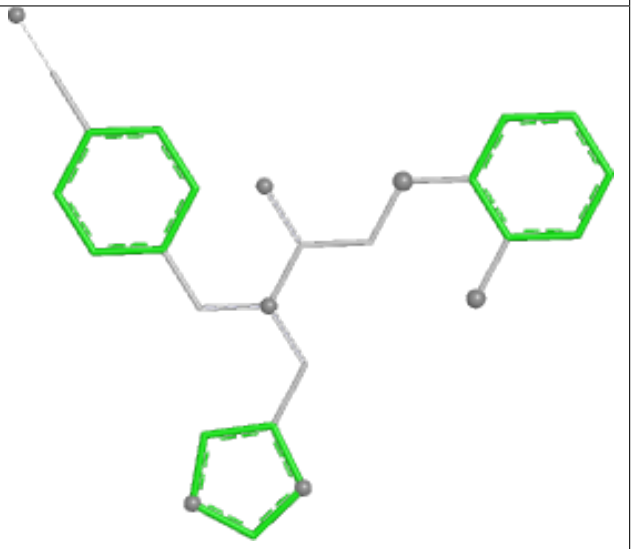
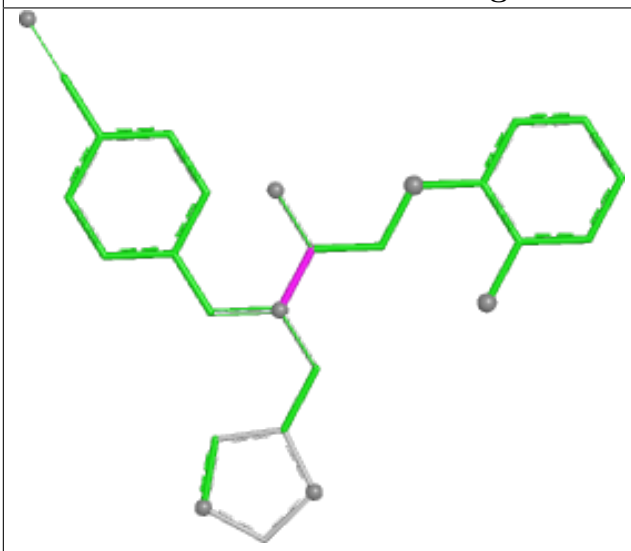


Rings

Ligand VFT D 301 (A)



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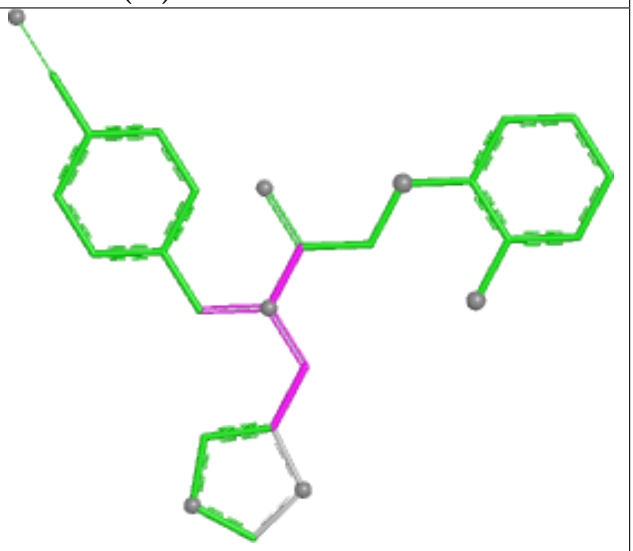
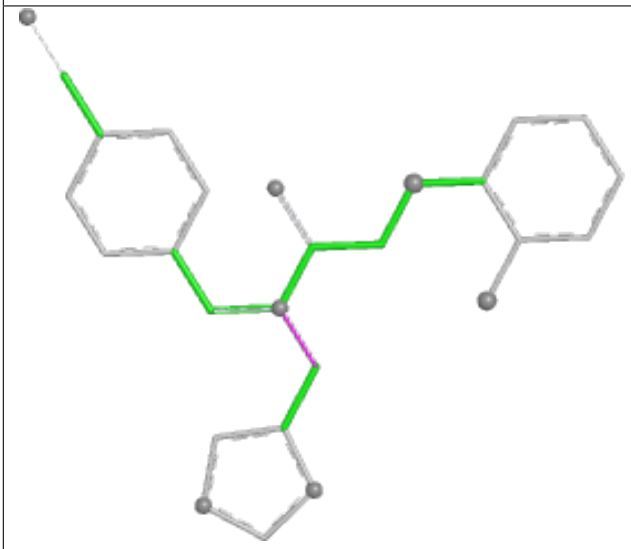


Bond angles



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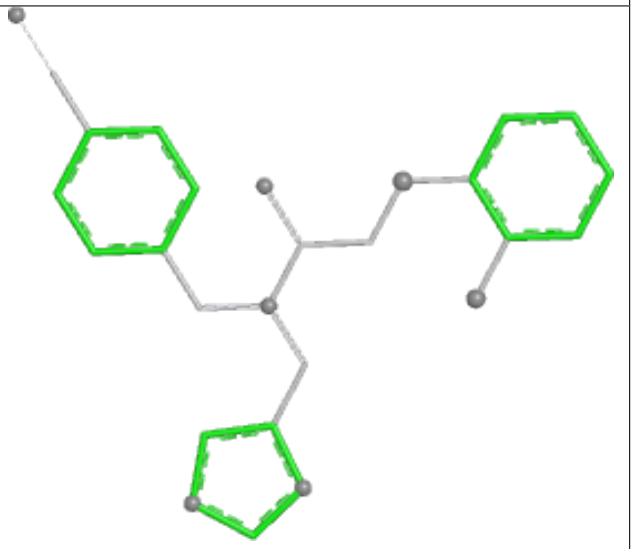
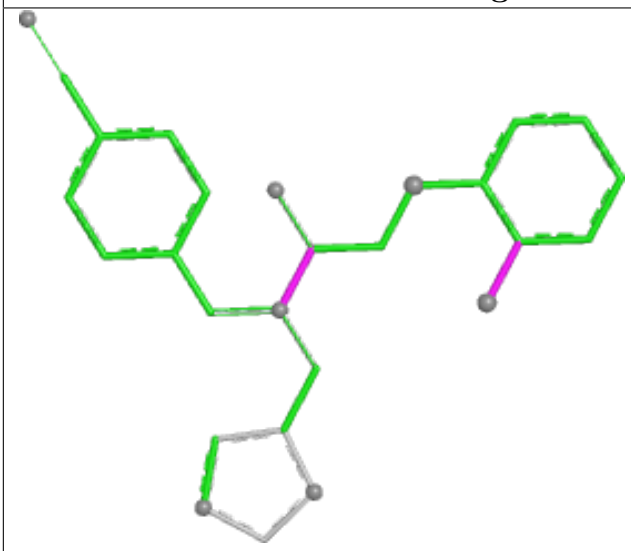


Rings

Ligand VFT X 301 (B)



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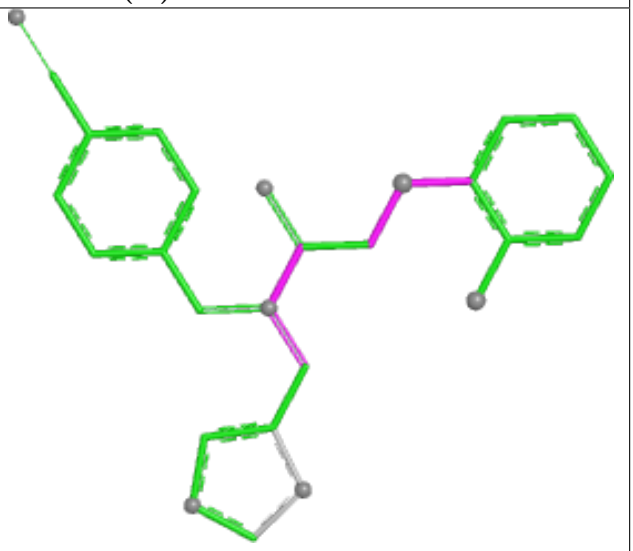
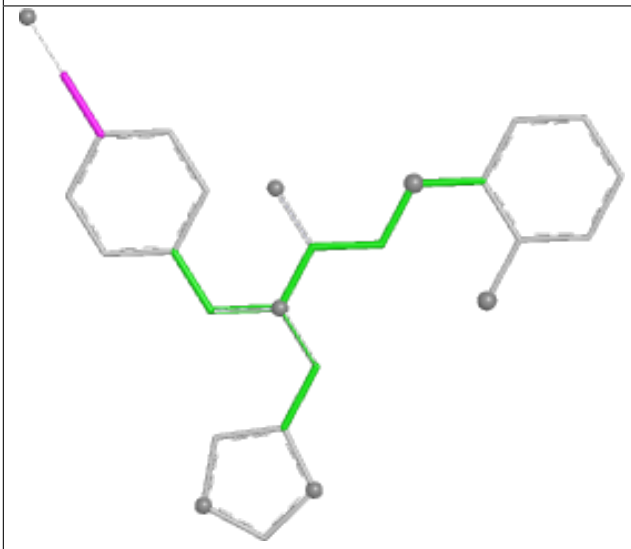


Bond angles



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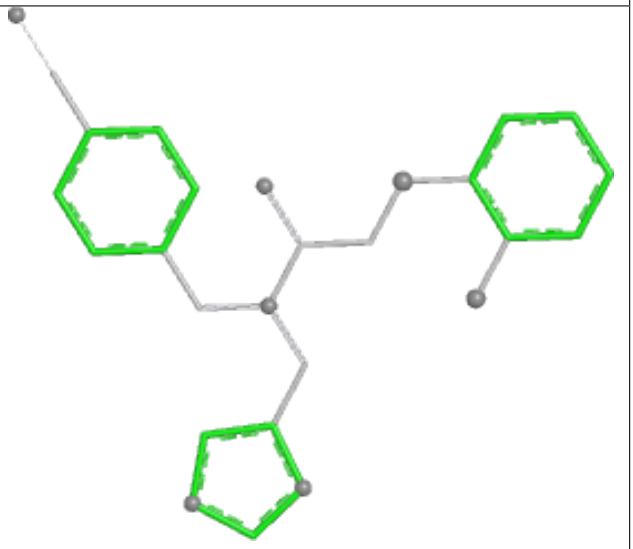
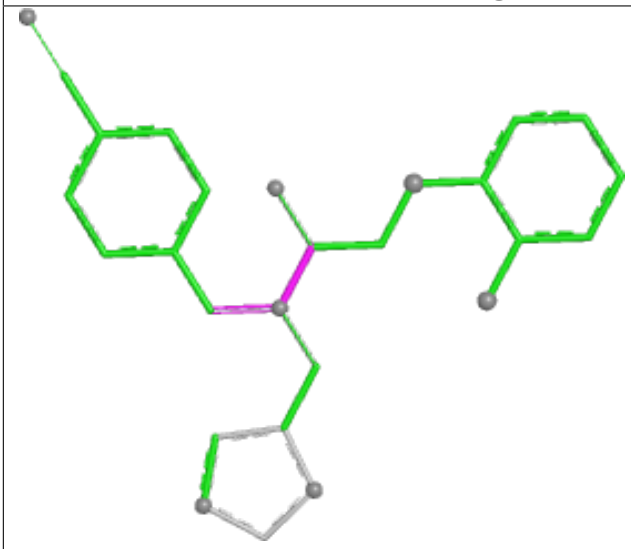


Rings

Ligand VFT A 301 (A)



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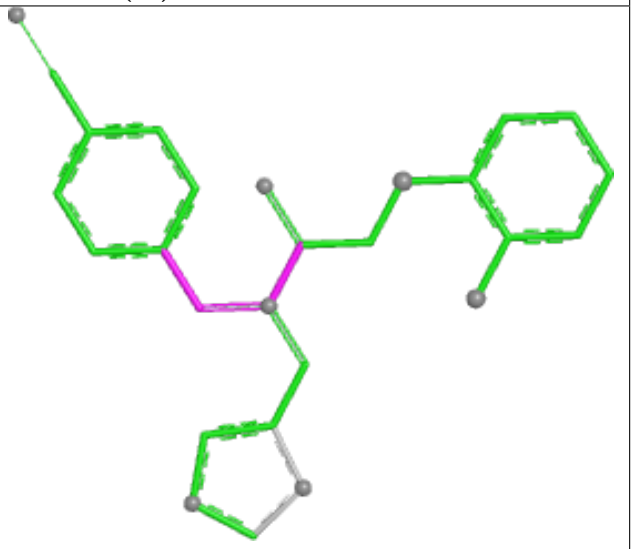
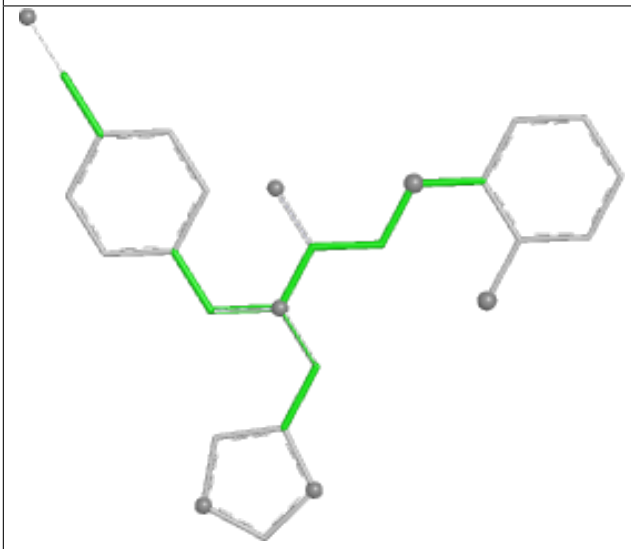
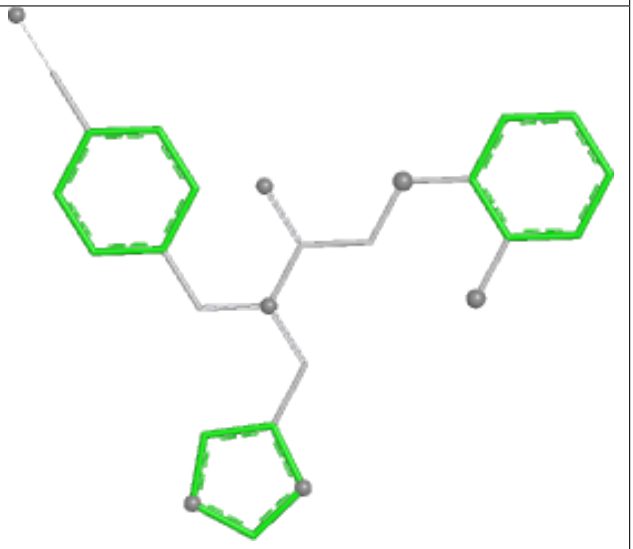


Bond angles

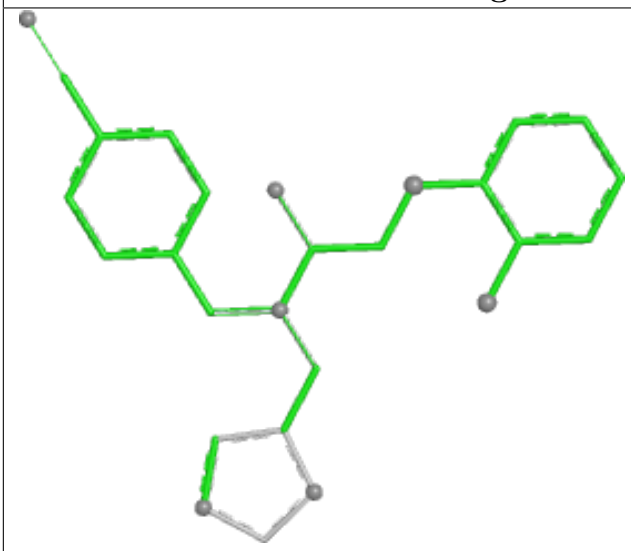


Torsions



Rings

Ligand VFT G 302 (B)



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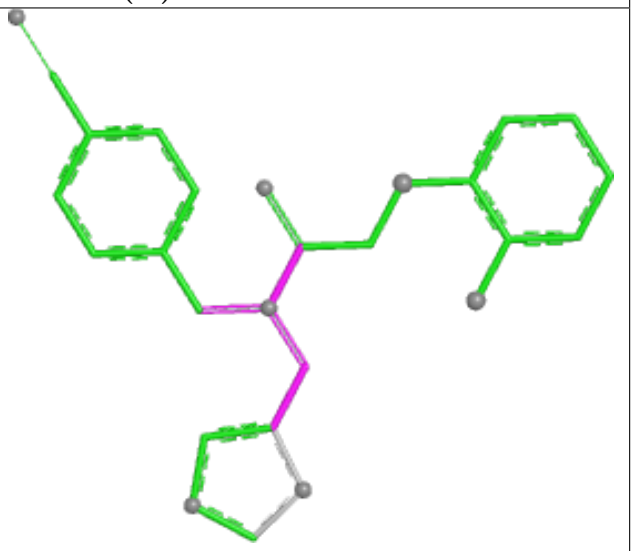
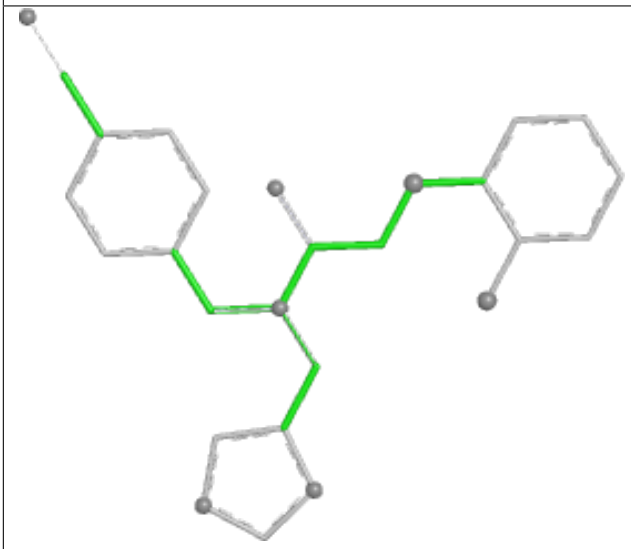


Bond angles



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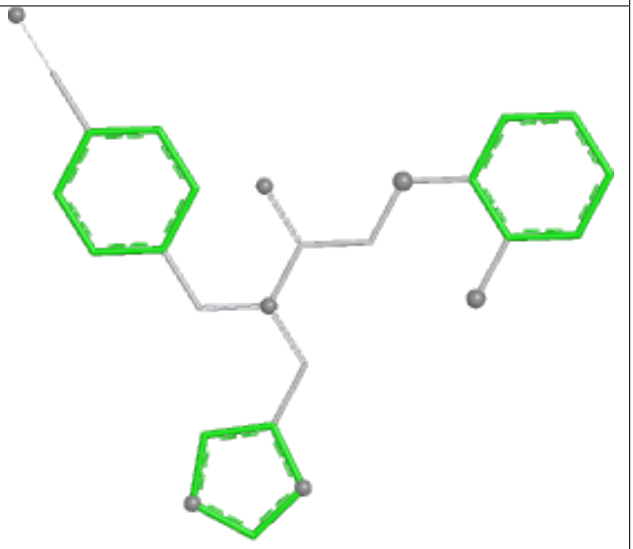
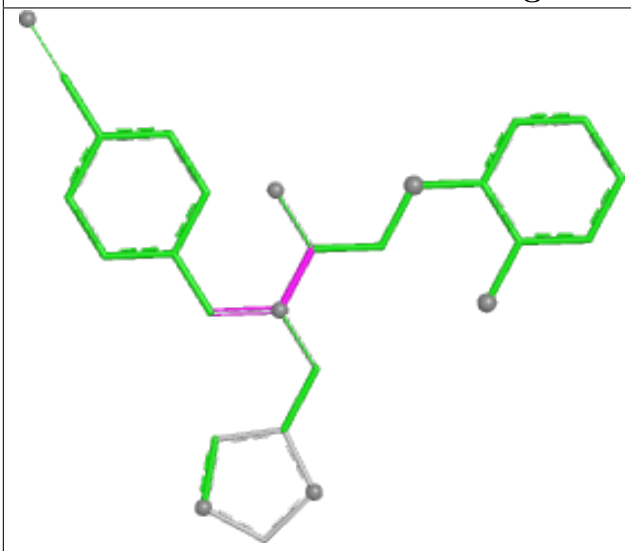


Rings

Ligand VFT Q 302



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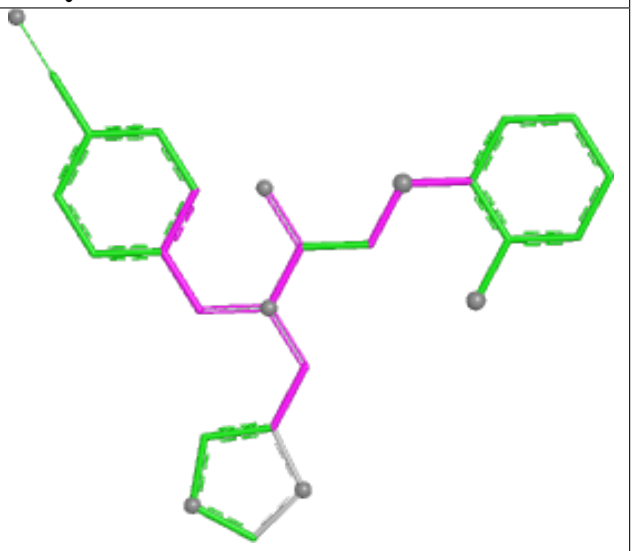
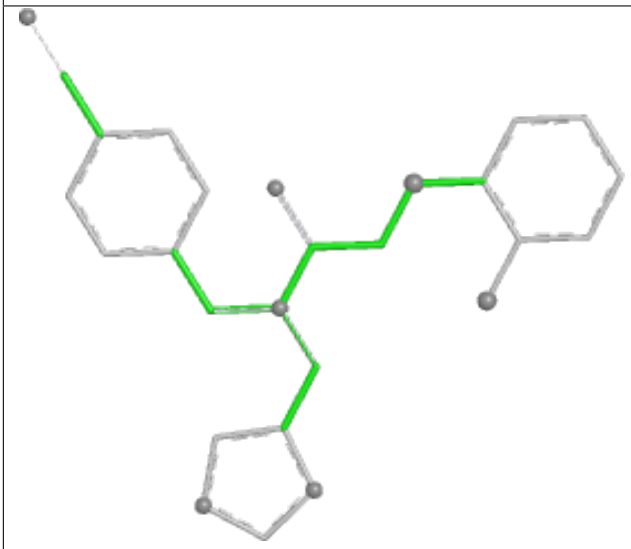


Bond angles



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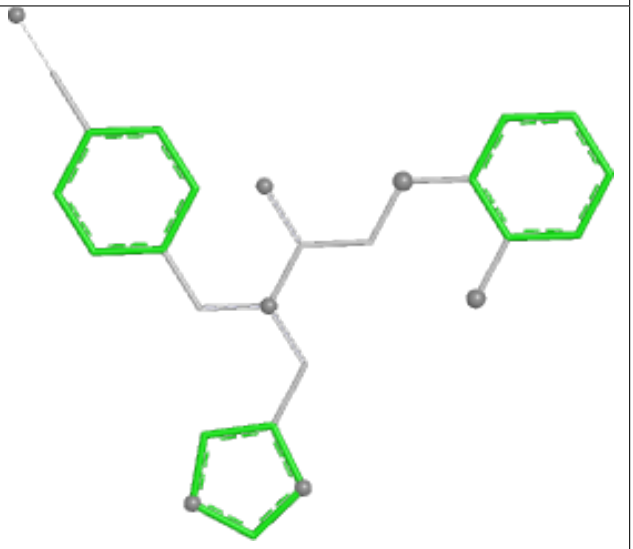
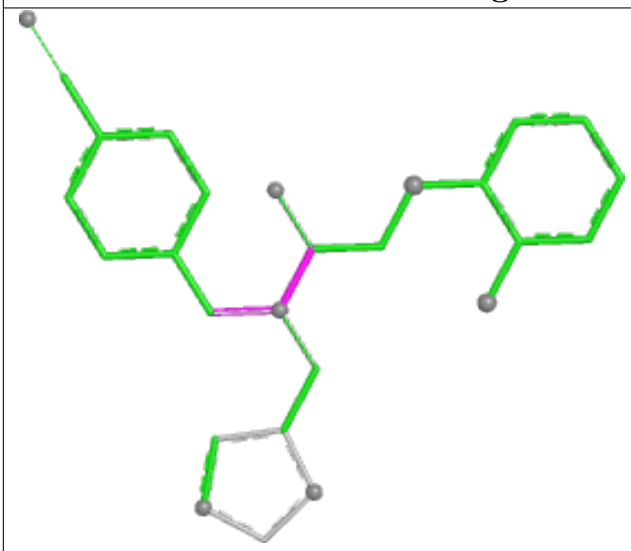


Rings

Ligand VFT T 301 (A)



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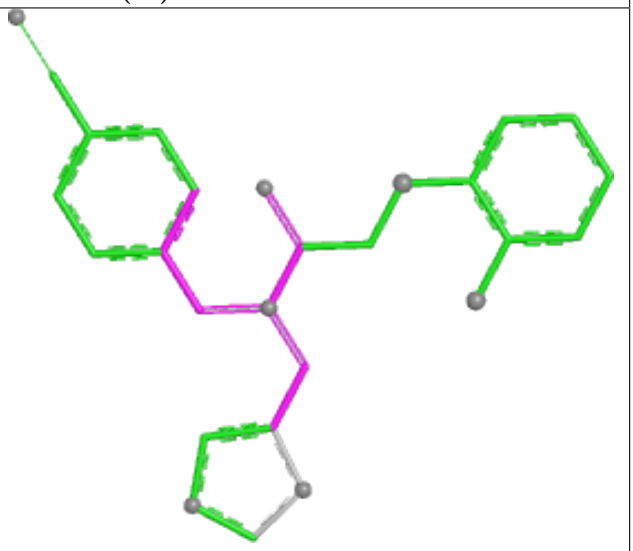
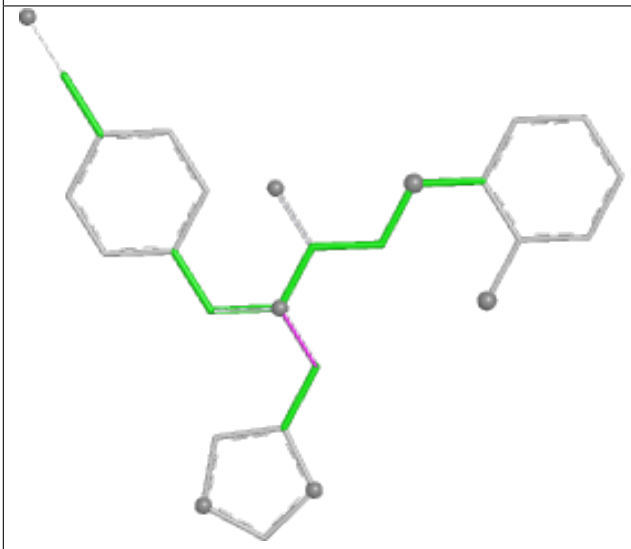


Bond angles



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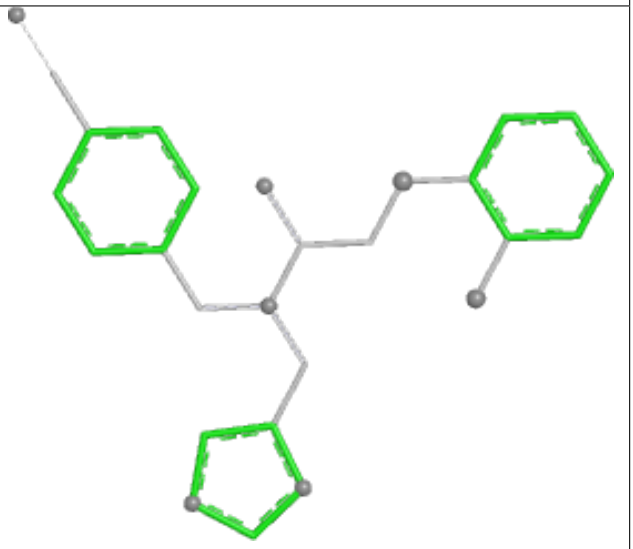
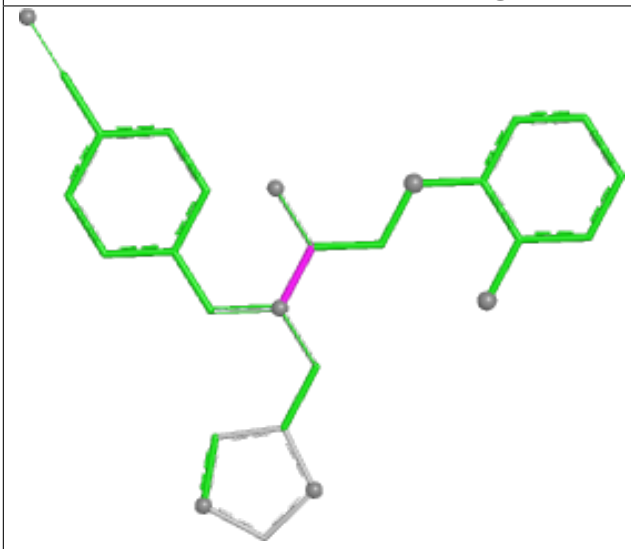
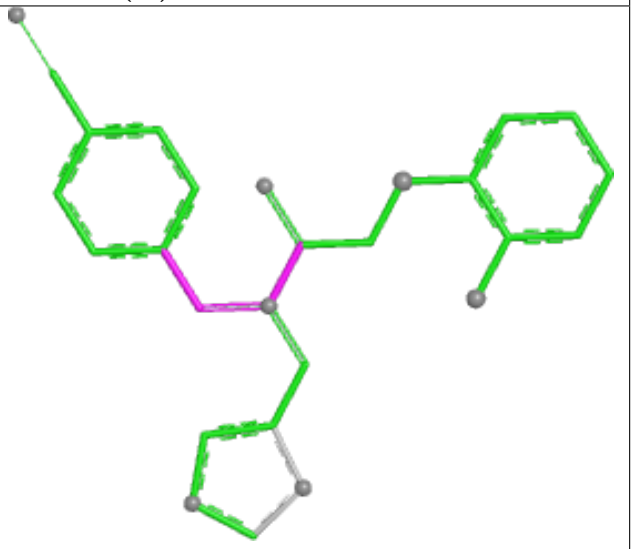


Rings

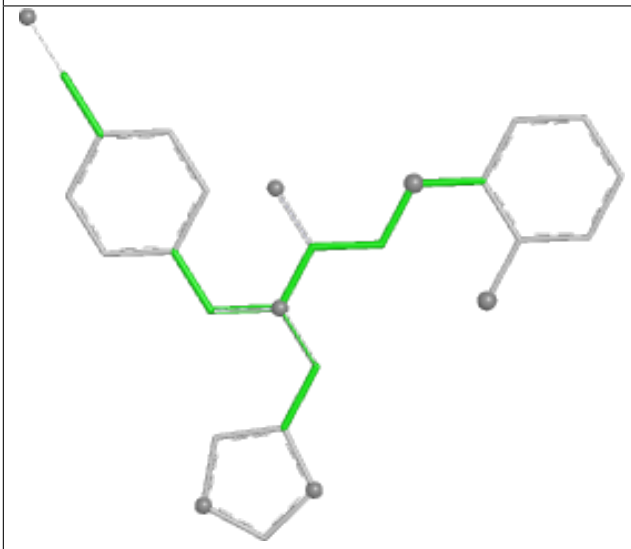
Ligand VFT B 301 (B)



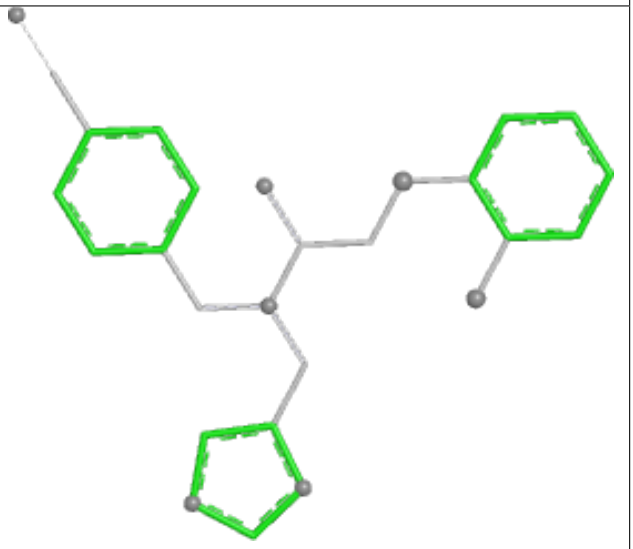
Bond lengths



Bond angles

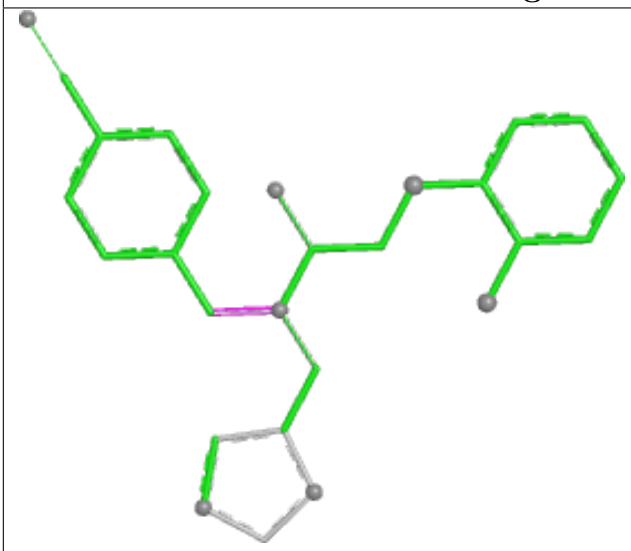


Torsions



Rings

Ligand VFT O 301



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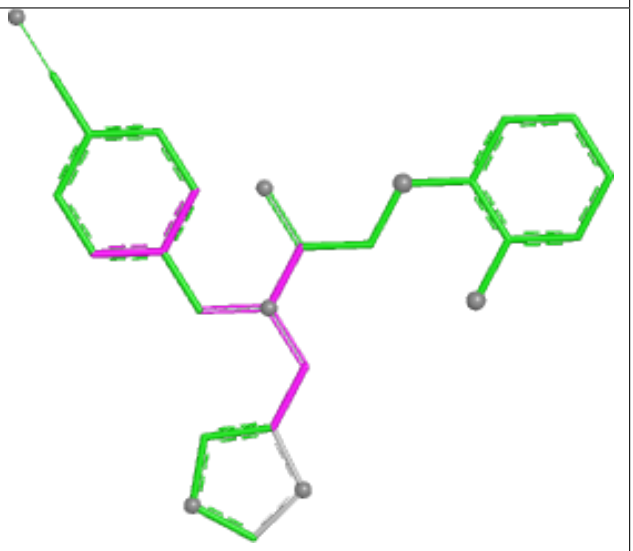
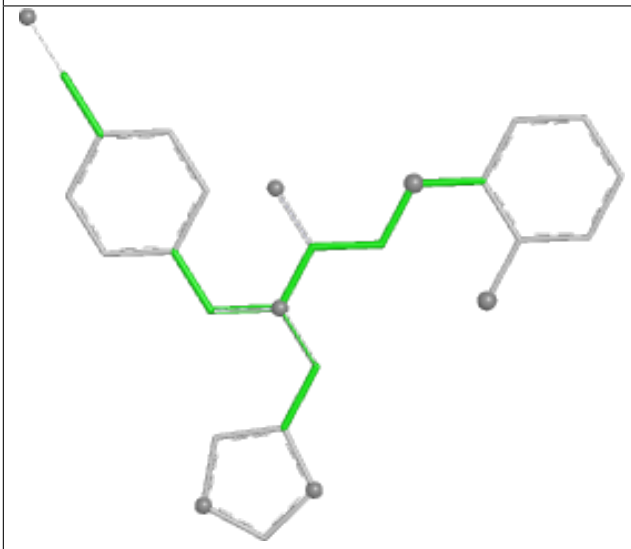


Bond angles



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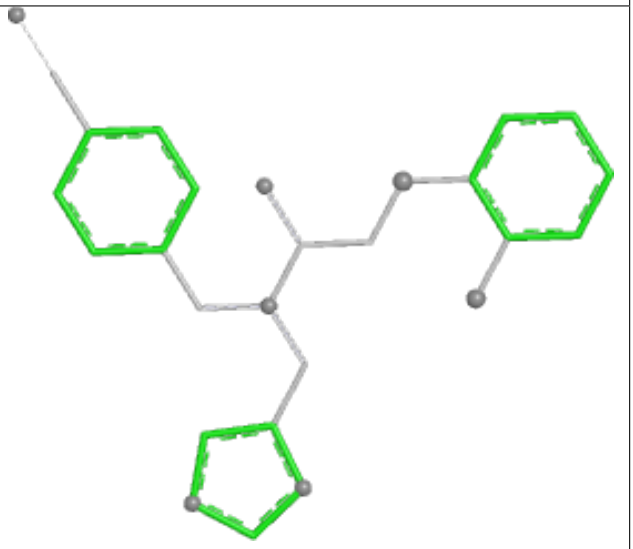
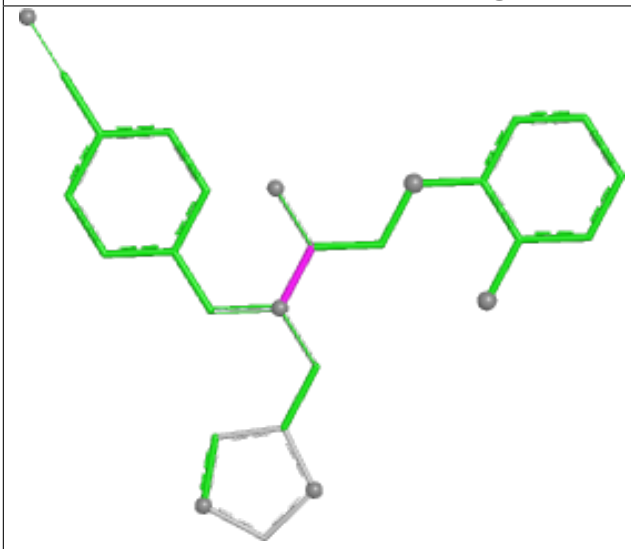
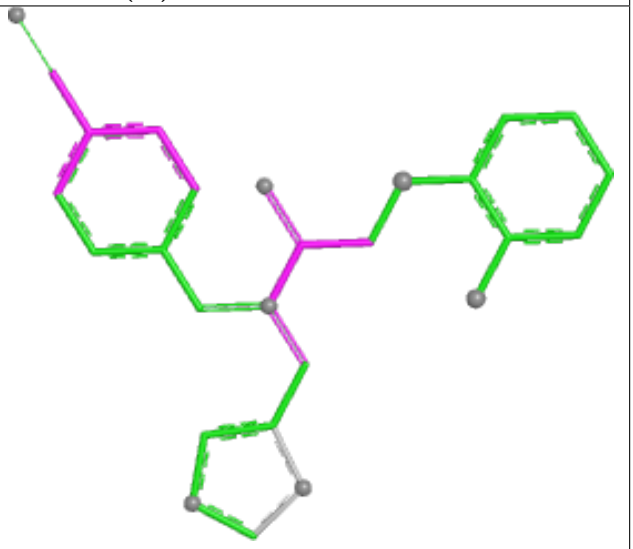


Rings

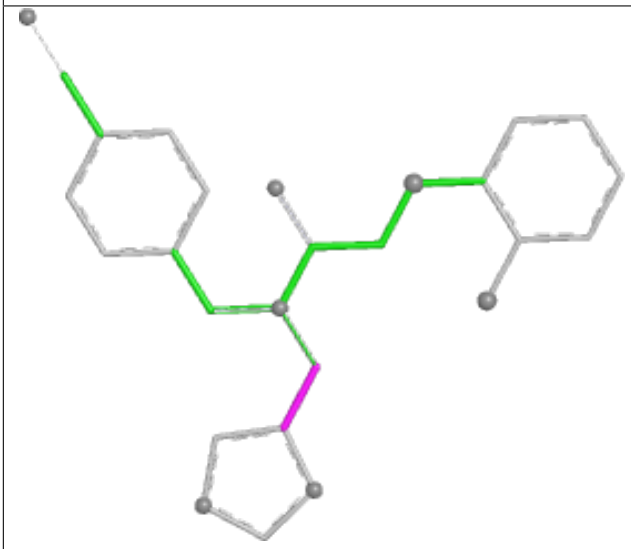
Ligand VFT U 301 (B)



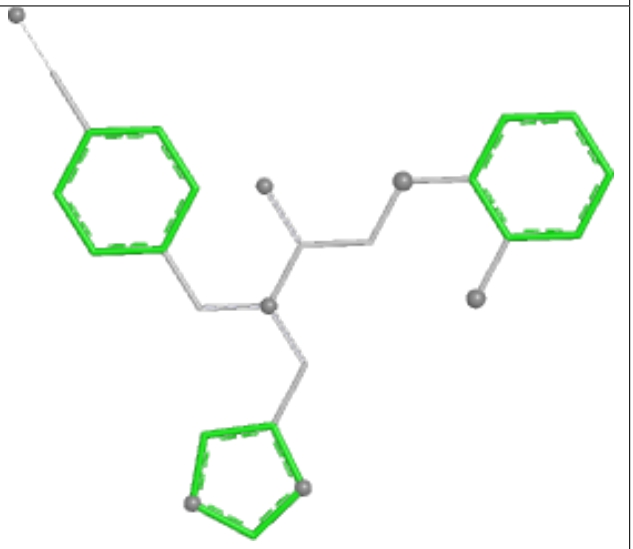
Bond lengths



Bond angles

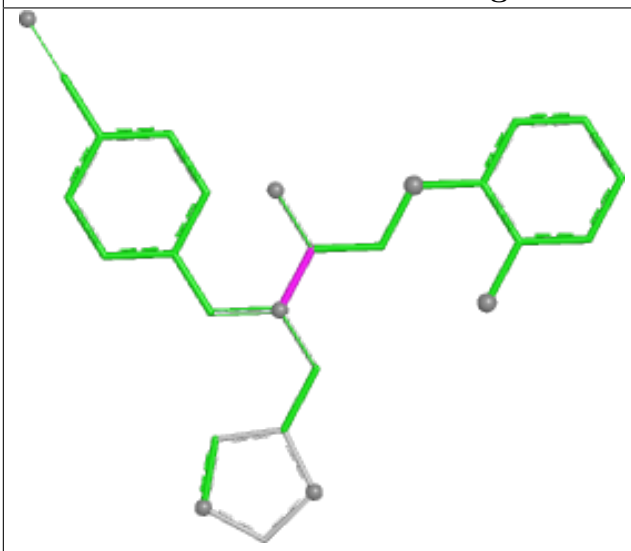


Torsions

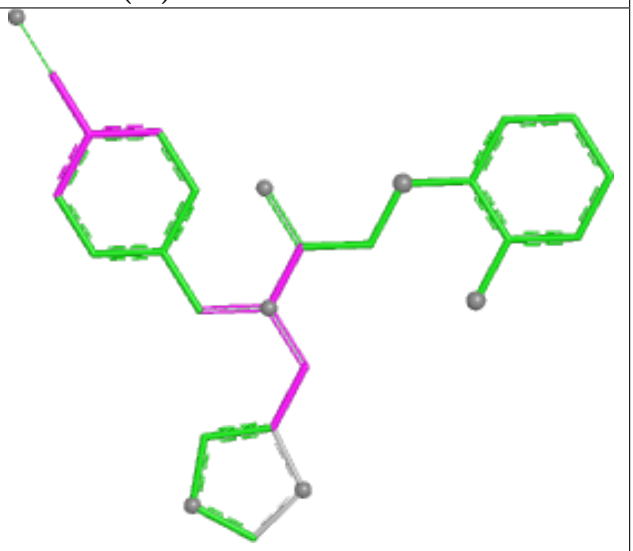


Rings

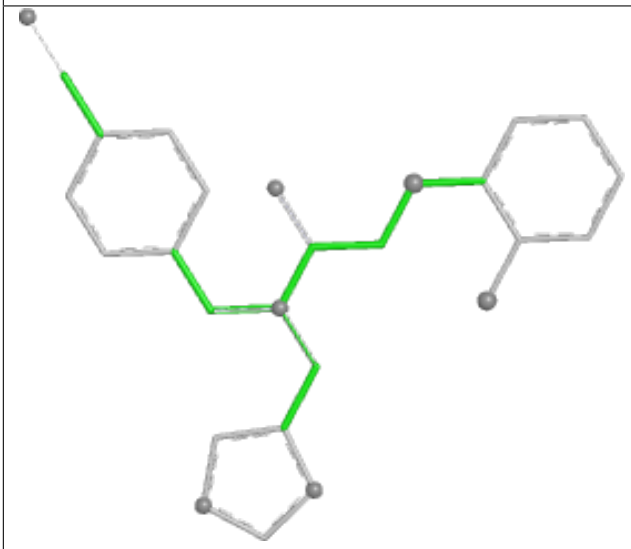
Ligand VFT Y 301 (A)



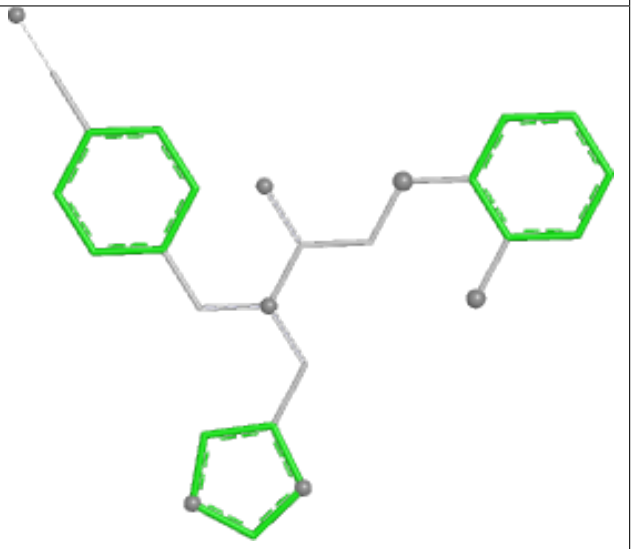
Bond lengths



Bond angles

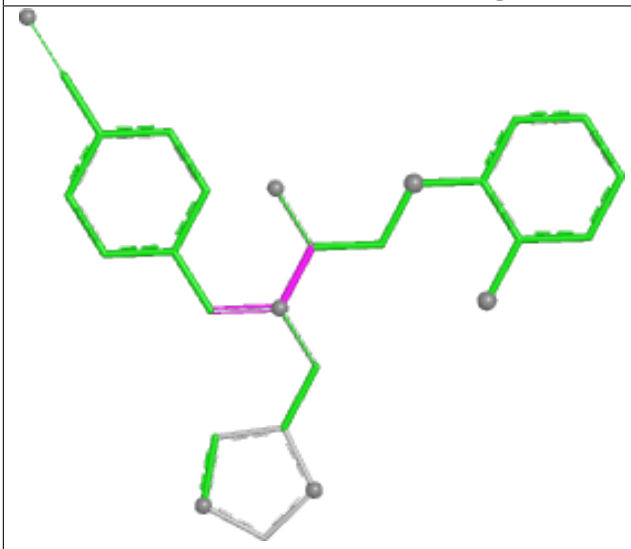


Torsions

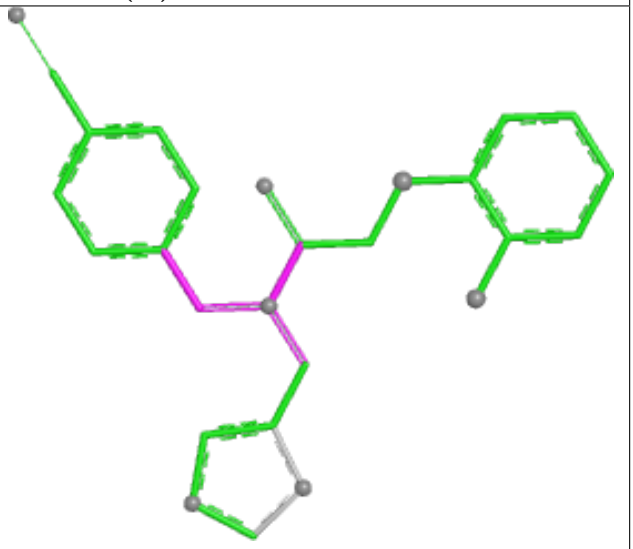


Rings

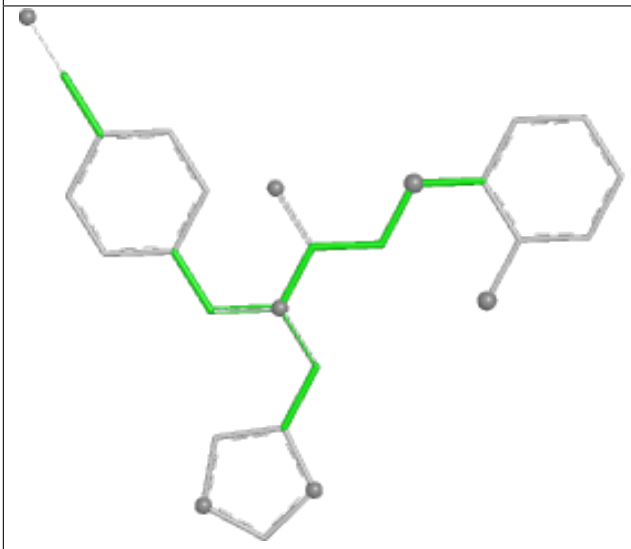
Ligand VFT A 301 (B)



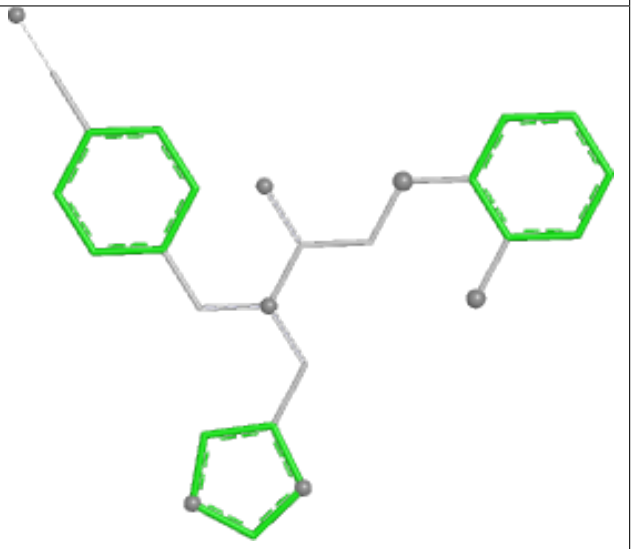
Bond lengths



Bond angles

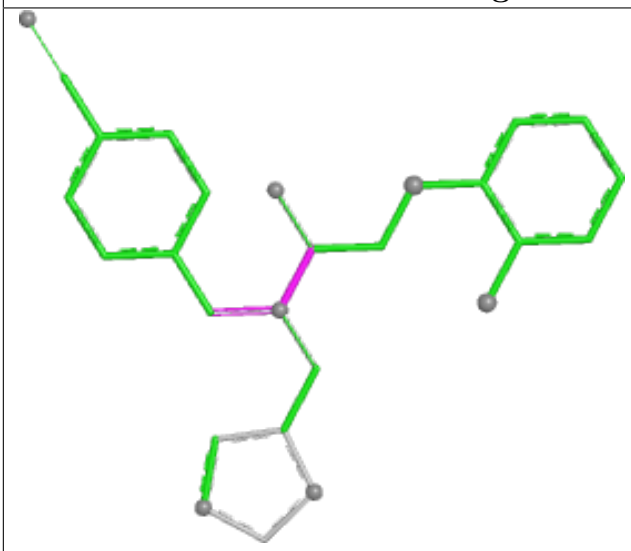


Torsions

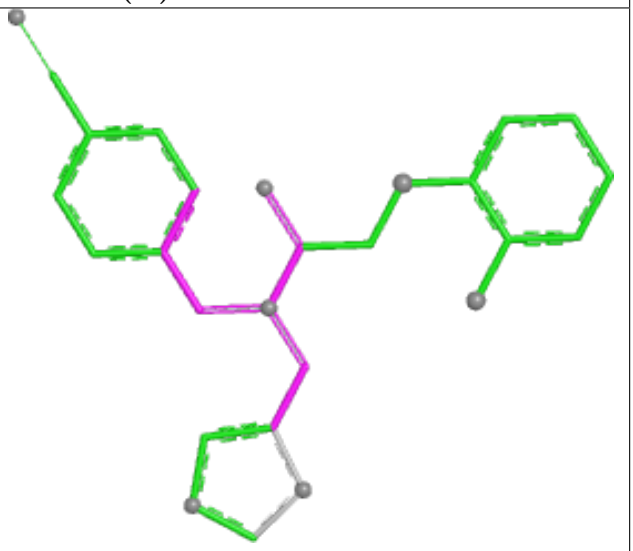


Rings

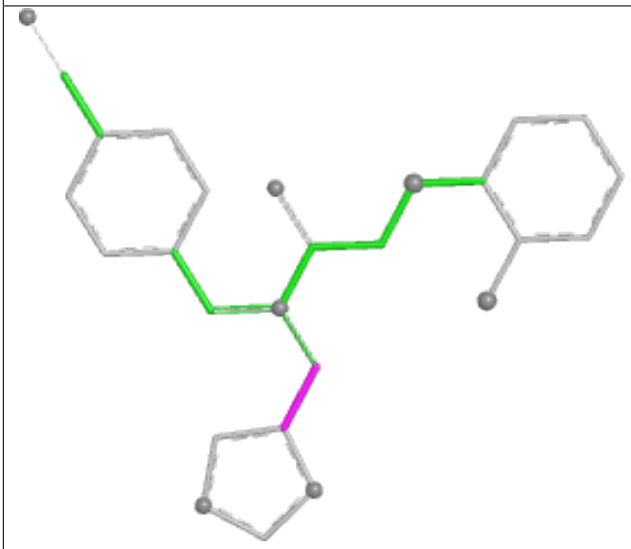
Ligand VFT T 301 (B)



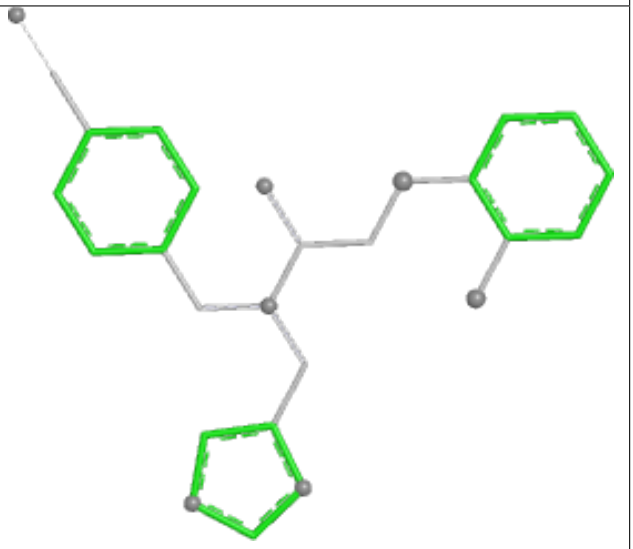
Bond lengths



Bond angles

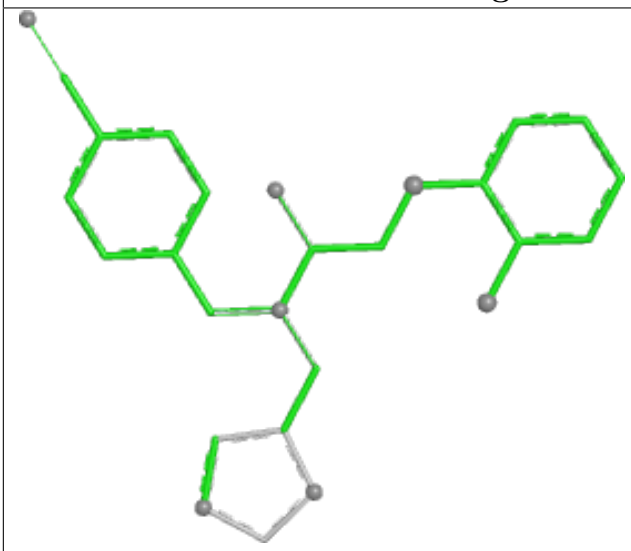


Torsions

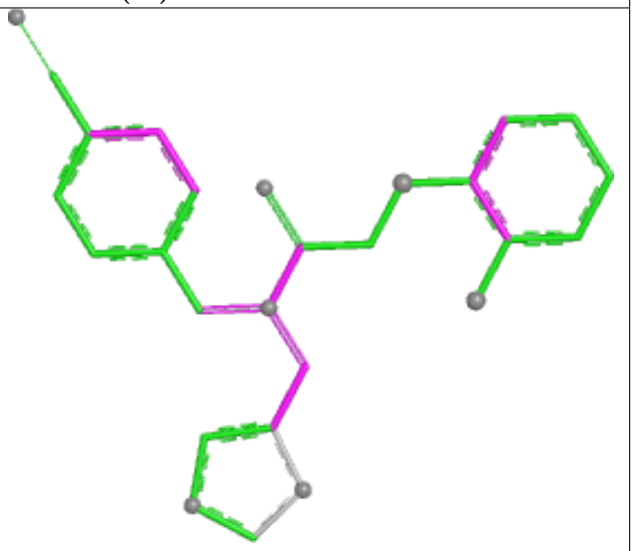


Rings

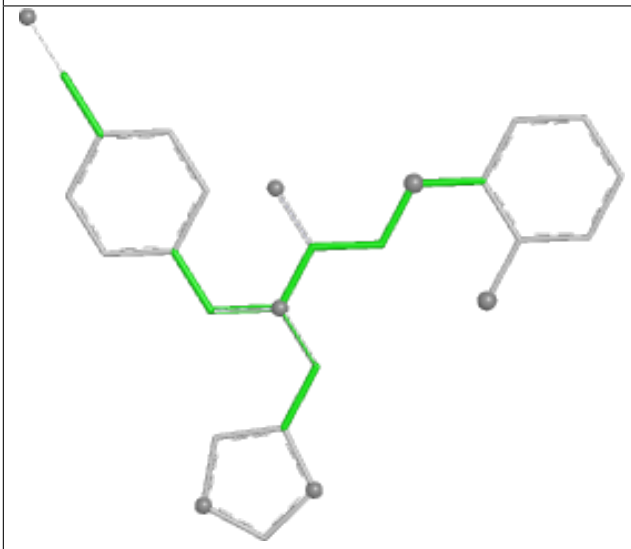
Ligand VFT E 301 (A)



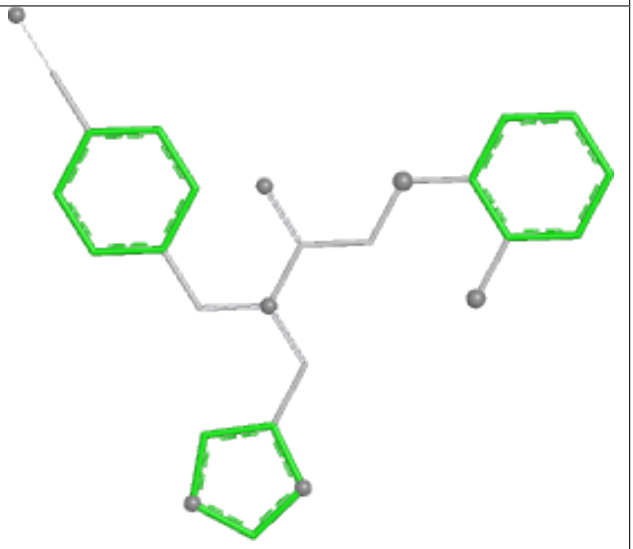
Bond lengths



Bond angles

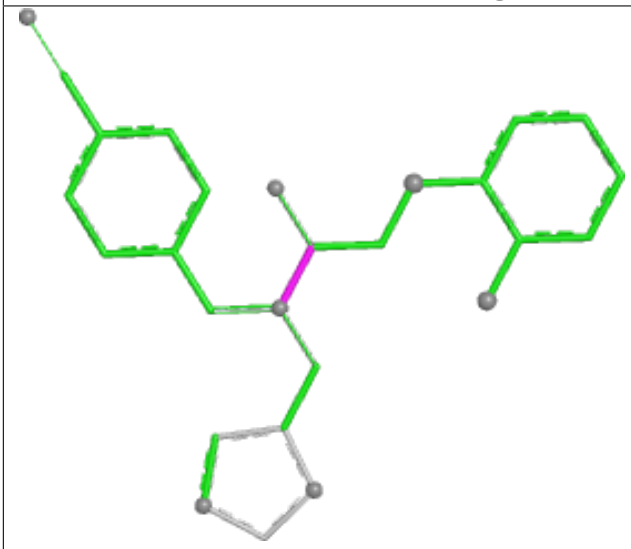


Torsions

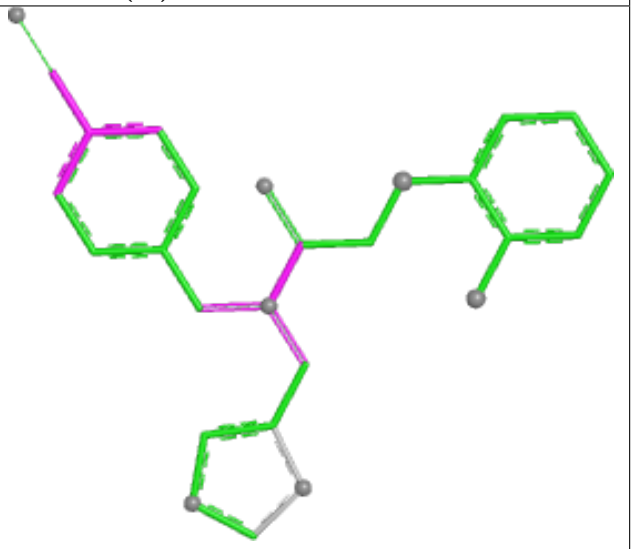


Rings

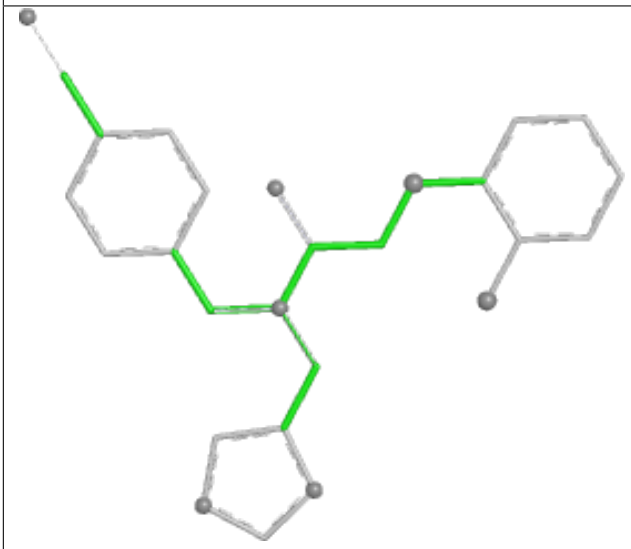
Ligand VFT Y 301 (B)



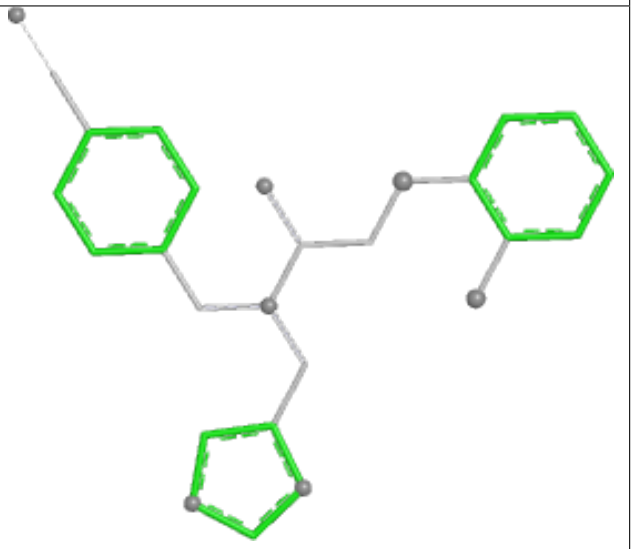
Bond lengths



Bond angles

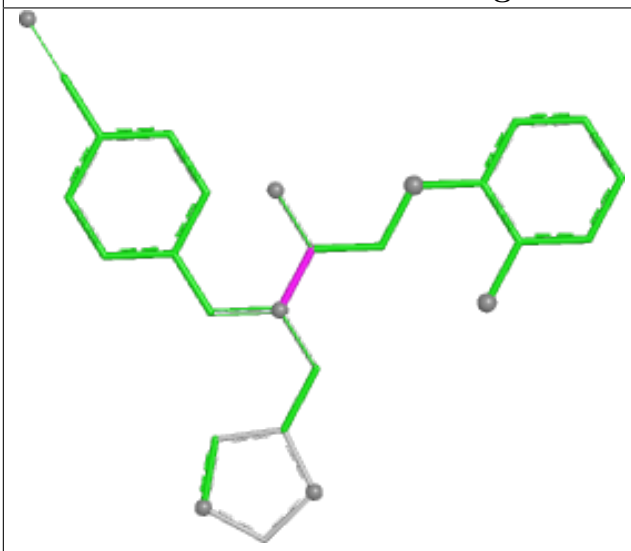


Torsions

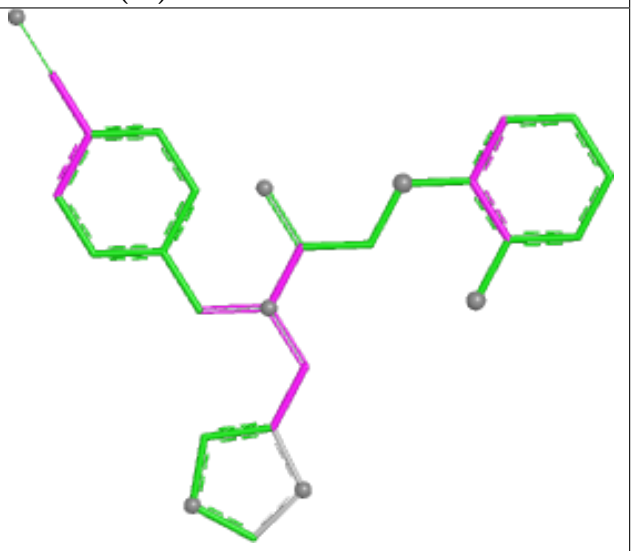


Rings

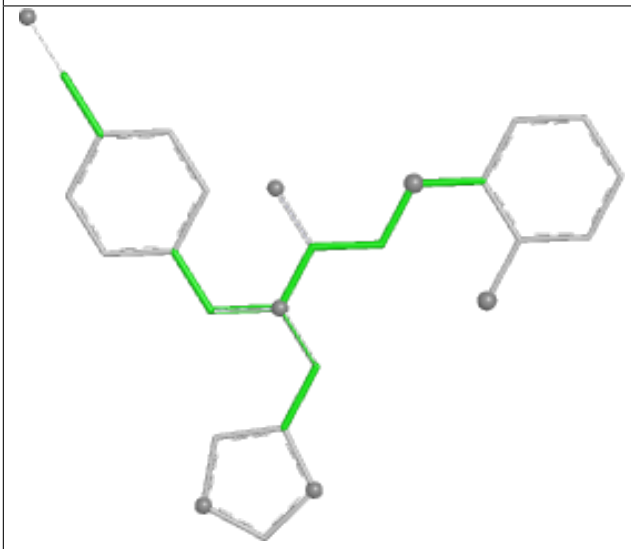
Ligand VFT b 301 (A)



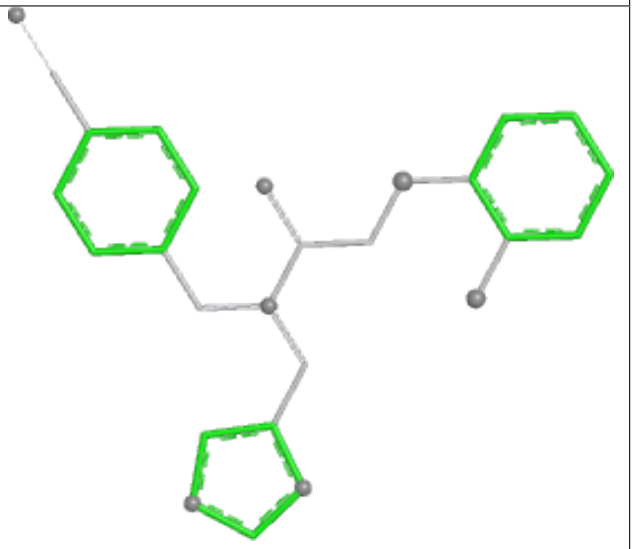
Bond lengths



Bond angles

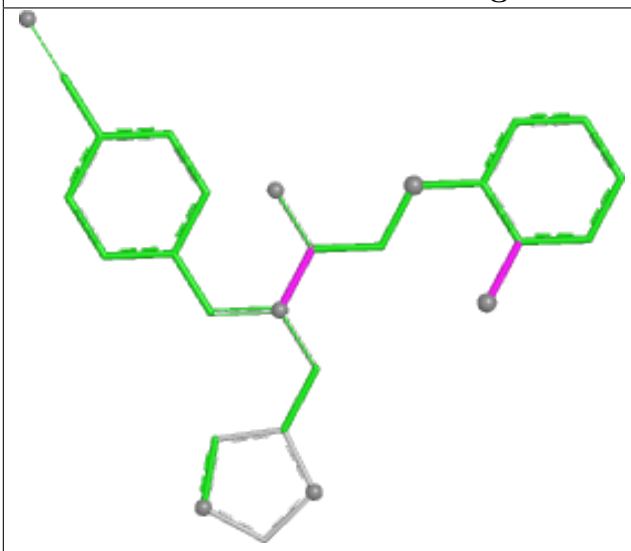


Torsions

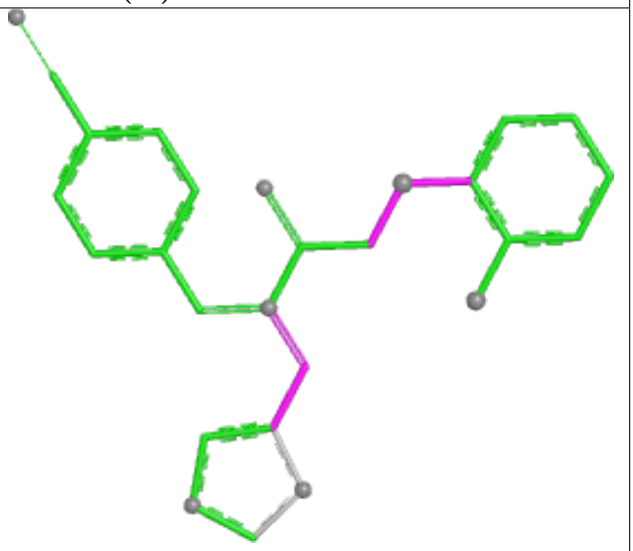


Rings

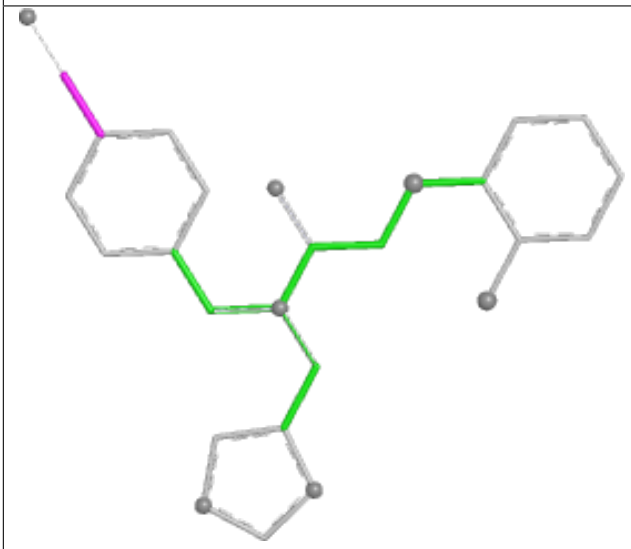
Ligand VFT X 301 (A)



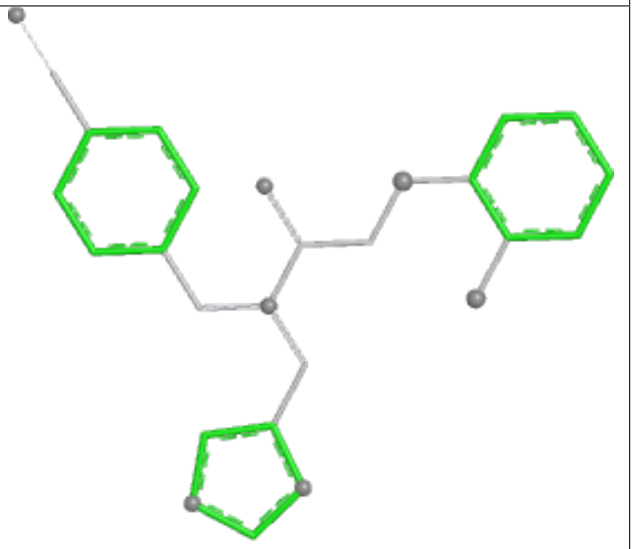
Bond lengths



Bond angles

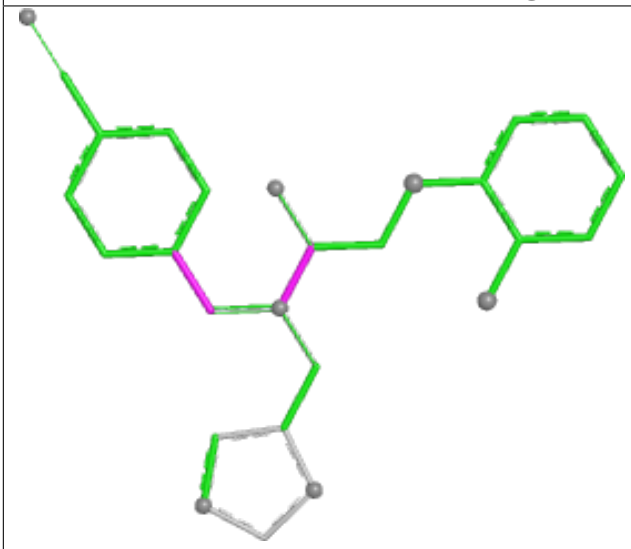


Torsions



Rings

Ligand VFT N 301



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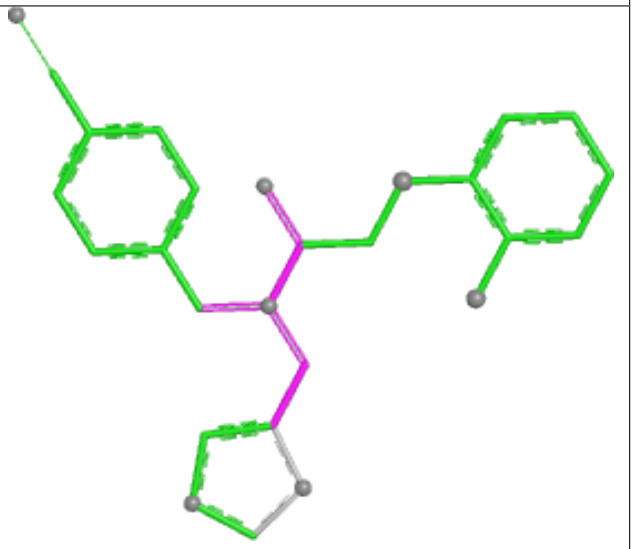
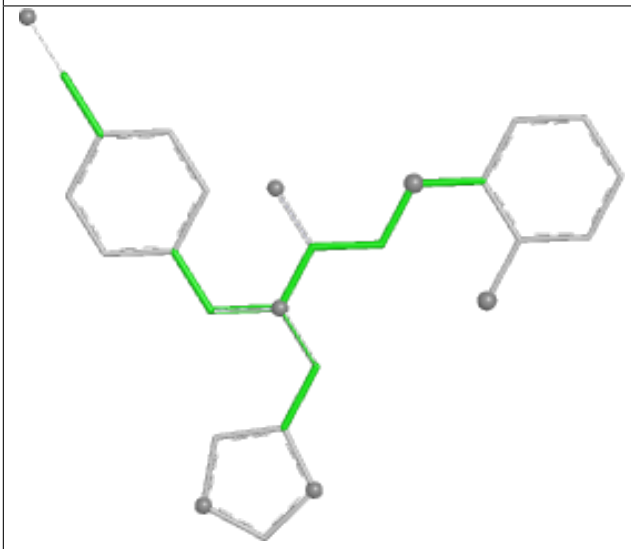
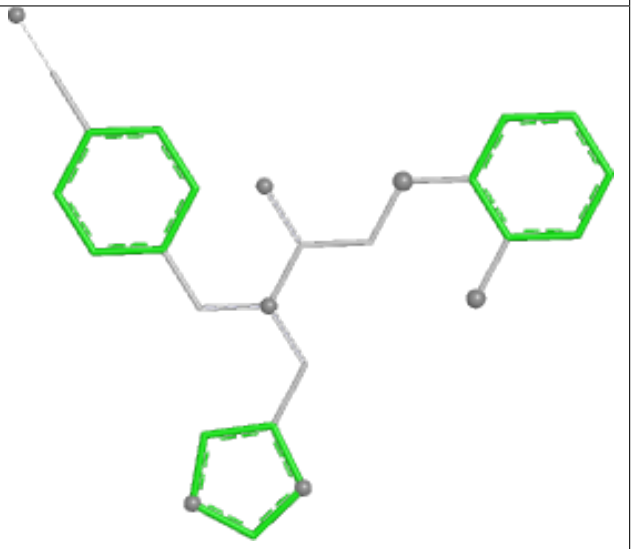


Bond angles

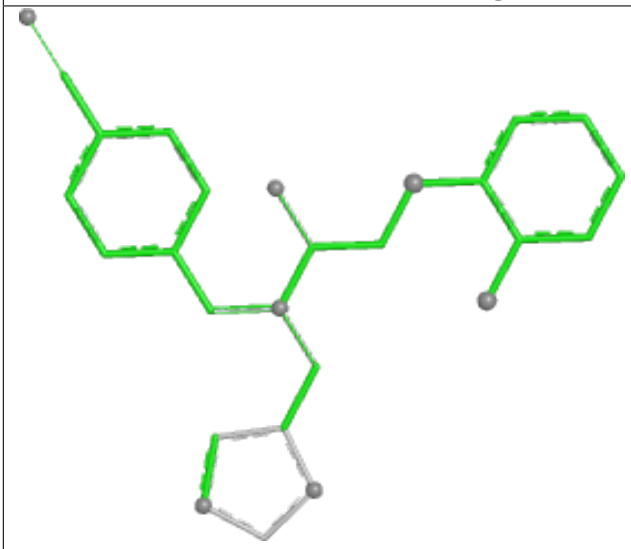


Torsions

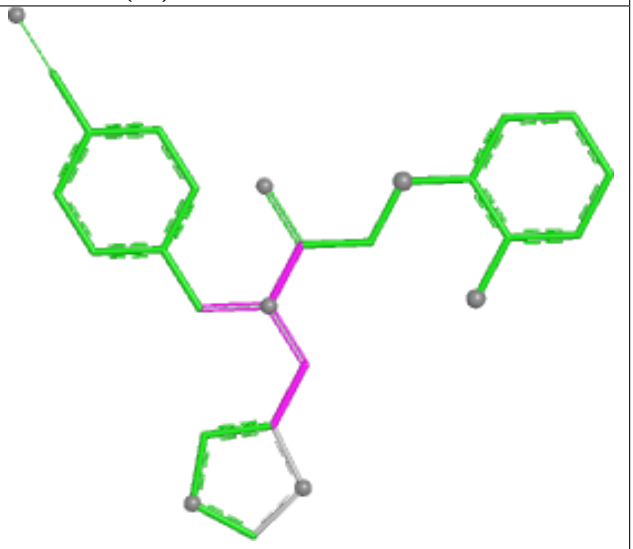


Rings

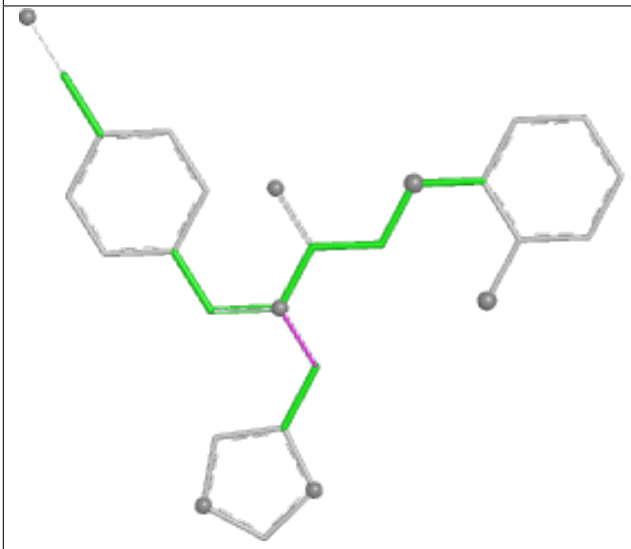
Ligand VFT G 302 (A)



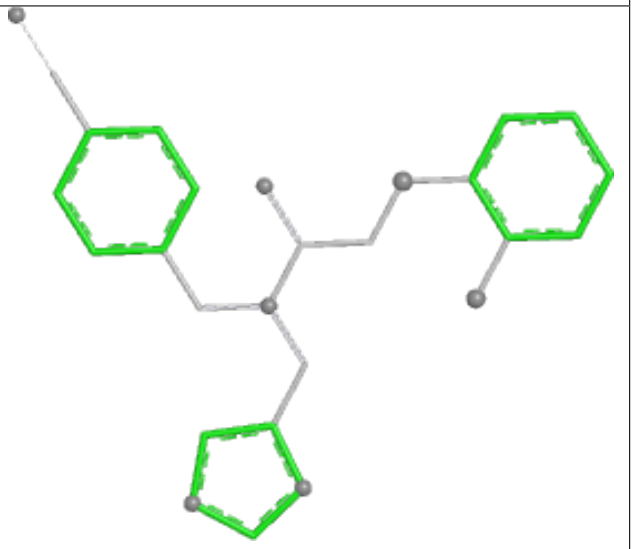
Bond lengths



Bond angles

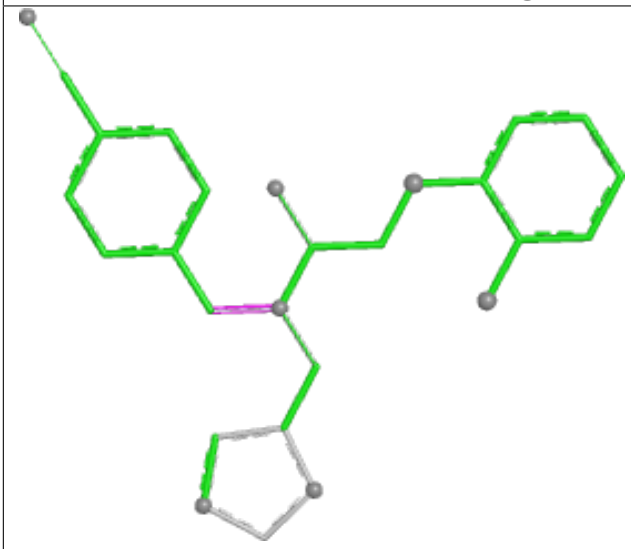


Torsions

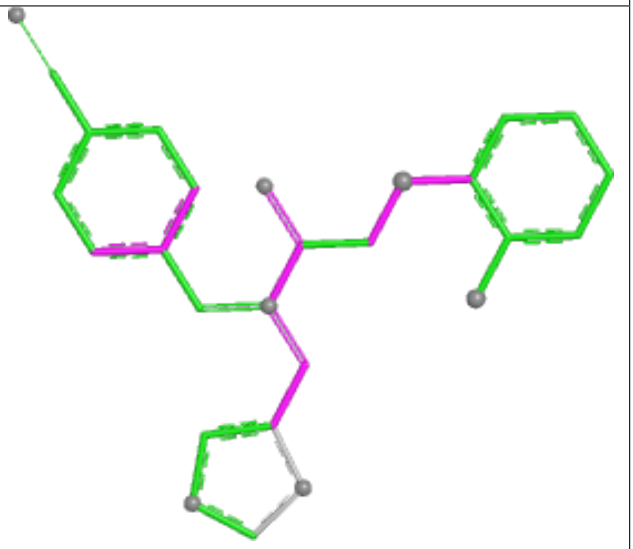


Rings

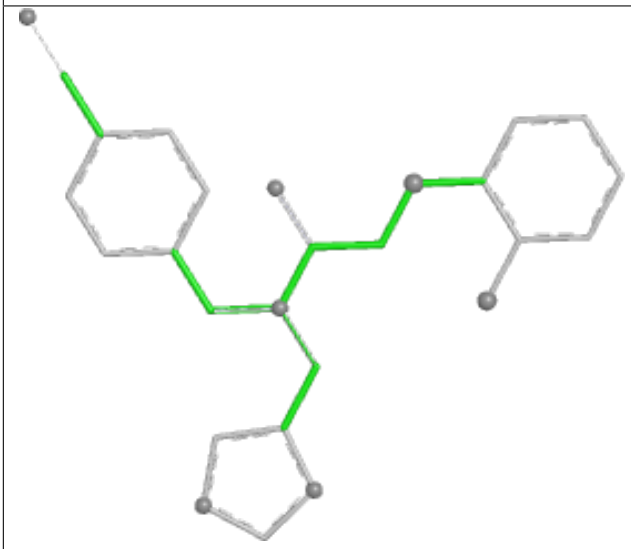
Ligand VFT W 302



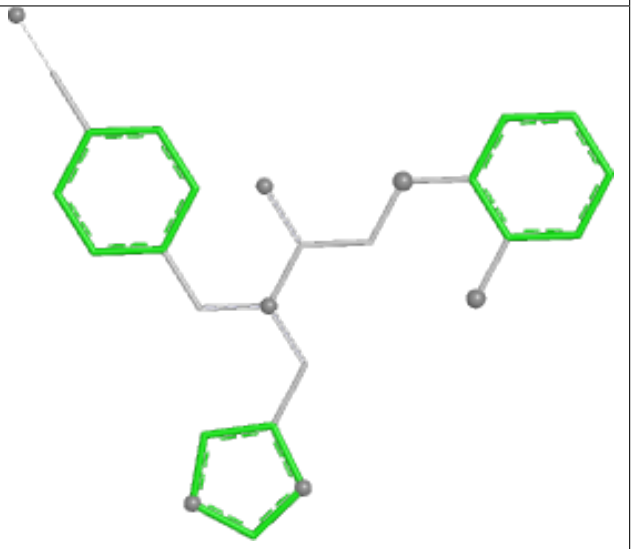
Bond lengths



Bond angles

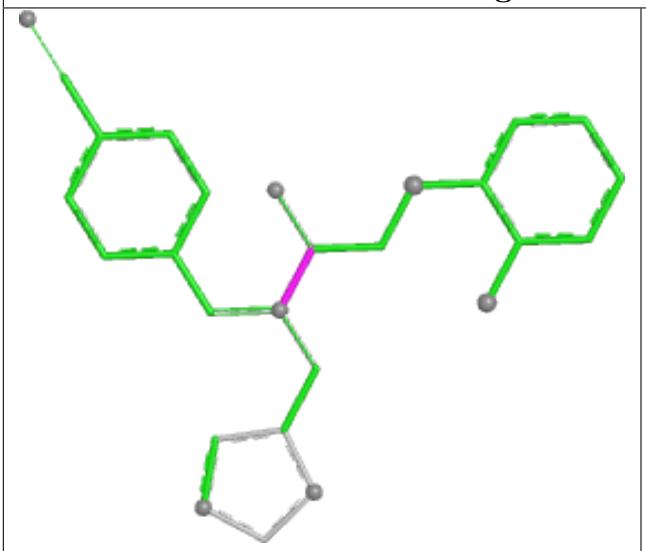


Torsions

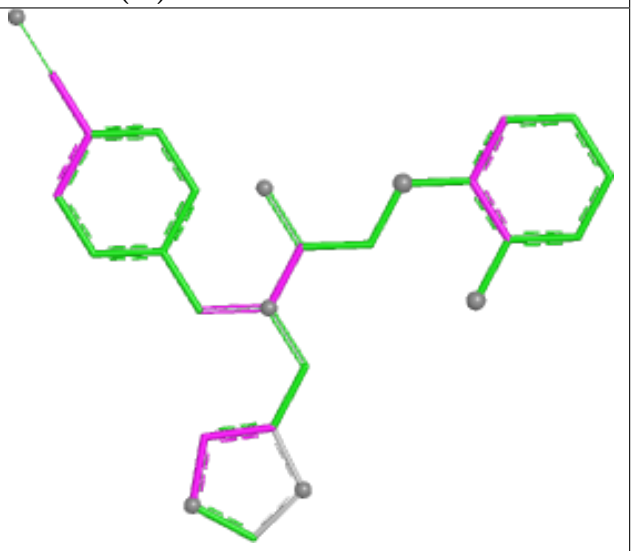


Rings

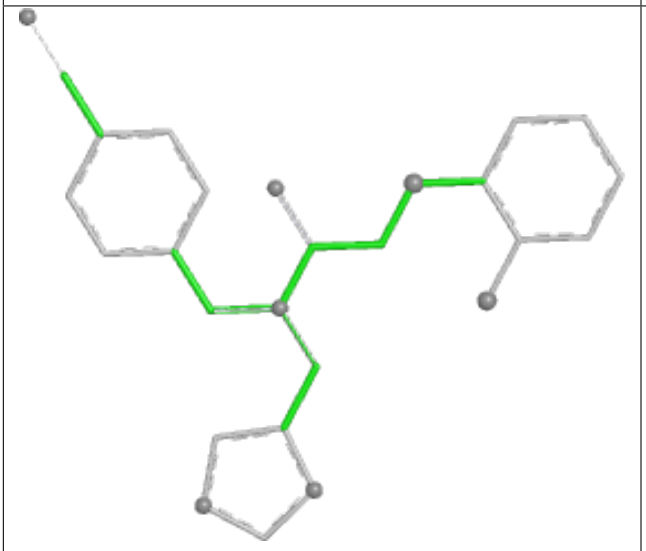
Ligand VFT b 301 (B)



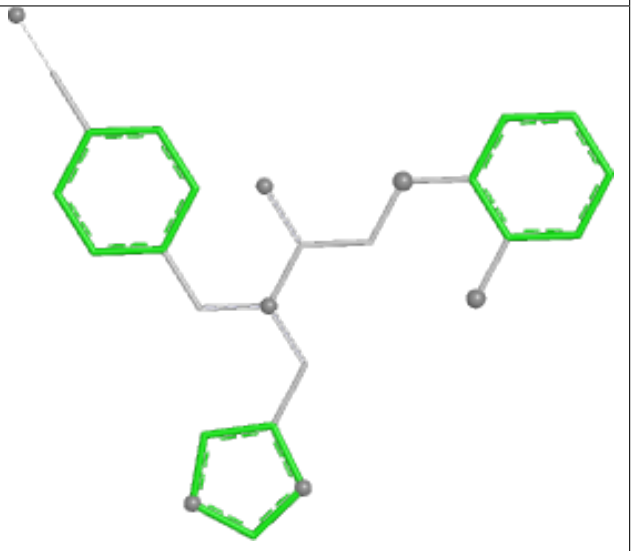
Bond lengths



Bond angles



Torsions



Rings

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	258/261 (98%)	0.52	0 100 100	31, 42, 70, 121	0
1	B	258/261 (98%)	0.48	0 100 100	32, 42, 66, 102	0
1	C	258/261 (98%)	0.49	0 100 100	31, 42, 66, 109	0
1	D	258/261 (98%)	0.50	0 100 100	30, 41, 64, 102	0
1	E	258/261 (98%)	0.52	1 (0%) 92 95	30, 41, 66, 121	0
1	F	258/261 (98%)	0.44	0 100 100	30, 42, 68, 106	0
1	G	257/261 (98%)	0.76	7 (2%) 54 61	37, 54, 83, 95	0
1	H	257/261 (98%)	0.53	0 100 100	36, 53, 84, 97	0
1	I	257/261 (98%)	0.62	2 (0%) 86 89	36, 52, 83, 105	0
1	J	258/261 (98%)	0.49	0 100 100	30, 43, 68, 103	0
1	K	258/261 (98%)	0.41	0 100 100	31, 45, 72, 123	0
1	L	258/261 (98%)	0.48	0 100 100	33, 44, 68, 113	0
1	M	257/261 (98%)	0.75	4 (1%) 72 78	35, 55, 86, 100	0
1	N	257/261 (98%)	0.52	2 (0%) 86 89	37, 53, 84, 102	0
1	O	257/261 (98%)	0.59	2 (0%) 86 89	36, 54, 85, 104	0
1	P	257/261 (98%)	0.52	2 (0%) 86 89	37, 54, 84, 105	0
1	Q	257/261 (98%)	0.62	4 (1%) 72 78	36, 56, 88, 109	0
1	R	257/261 (98%)	0.48	0 100 100	36, 54, 83, 106	0
1	S	258/261 (98%)	0.46	0 100 100	32, 43, 70, 107	0
1	T	258/261 (98%)	0.43	0 100 100	32, 42, 67, 99	0
1	U	258/261 (98%)	0.50	0 100 100	31, 43, 69, 108	0
1	V	257/261 (98%)	0.52	6 (2%) 60 67	37, 55, 84, 100	0
1	W	257/261 (98%)	0.76	16 (6%) 20 23	37, 54, 87, 104	0
1	X	257/261 (98%)	0.50	0 100 100	37, 53, 84, 110	0

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Continued from previous page...

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	Y	258/261 (98%)	0.70	4 (1%) 72 78	35, 53, 85, 133	0
1	Z	258/261 (98%)	0.52	0 100 100	36, 52, 84, 123	0
1	a	257/261 (98%)	0.54	5 (1%) 66 73	36, 54, 84, 101	0
1	b	257/261 (98%)	0.56	3 (1%) 79 83	36, 53, 87, 110	0
1	c	258/261 (98%)	0.55	2 (0%) 86 89	35, 53, 88, 141	0
1	d	257/261 (98%)	0.66	3 (1%) 79 83	36, 55, 86, 104	0
All	All	7725/7830 (98%)	0.55	63 (0%) 86 89	30, 49, 83, 141	0

All (63) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	W	18	ALA	4.7
1	c	1	MET	4.1
1	W	15	ARG	3.9
1	M	253	THR	3.4
1	Q	15	ARG	3.4
1	W	12	PRO	3.2
1	W	10	ILE	3.2
1	a	18	ALA	2.9
1	O	15	ARG	2.8
1	M	12	PRO	2.8
1	W	17	ALA	2.8
1	b	74	LYS	2.7
1	Y	74	LYS	2.7
1	Q	64	VAL	2.6
1	I	15	ARG	2.6
1	V	18	ALA	2.6
1	P	51	LYS	2.5
1	G	15	ARG	2.4
1	W	51	LYS	2.4
1	Q	3	LEU	2.4
1	W	8	ALA	2.4
1	a	15	ARG	2.4
1	W	34	ILE	2.4
1	V	7	ARG	2.4
1	V	6	PRO	2.3
1	W	40	ILE	2.3
1	Y	30	ALA	2.3
1	N	88	ILE	2.3
1	b	71	LEU	2.3

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Mol	Chain	Res	Type	RSRZ
1	W	2	SER	2.2
1	d	18	ALA	2.2
1	I	130	ILE	2.2
1	W	13	SER	2.2
1	P	30	ALA	2.2
1	Q	18	ALA	2.2
1	V	2	SER	2.2
1	V	64	VAL	2.2
1	G	148	ILE	2.2
1	a	130	ILE	2.2
1	d	64	VAL	2.2
1	W	6	PRO	2.2
1	b	9	ILE	2.2
1	G	18	ALA	2.2
1	d	166	PHE	2.2
1	G	28	VAL	2.1
1	W	31	GLU	2.1
1	a	10	ILE	2.1
1	O	44	VAL	2.1
1	G	71	LEU	2.1
1	Y	71	LEU	2.1
1	Y	15	ARG	2.1
1	V	32	VAL	2.1
1	G	253	THR	2.1
1	c	64	VAL	2.0
1	a	88	ILE	2.0
1	E	2	SER	2.0
1	W	131	LEU	2.0
1	G	88	ILE	2.0
1	M	10	ILE	2.0
1	W	94	ILE	2.0
1	N	71	LEU	2.0
1	M	102	ARG	2.0
1	W	16	LEU	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
3	CL	B	303	1/1	0.71	0.14	70,70,70,70	0
4	SO4	A	307	5/5	0.75	0.28	64,73,93,95	5
4	SO4	D	304	5/5	0.75	0.30	53,72,80,92	5
4	SO4	U	304	5/5	0.76	0.36	83,85,92,94	5
4	SO4	V	303	5/5	0.77	0.46	62,79,90,107	5
4	SO4	Y	303	5/5	0.77	0.40	68,75,93,99	5
4	SO4	Q	306	5/5	0.78	0.40	69,81,92,102	5
3	CL	C	301	1/1	0.78	0.11	69,69,69,69	0
3	CL	E	302	1/1	0.79	0.14	71,71,71,71	0
3	CL	C	302	1/1	0.80	0.10	82,82,82,82	0
4	SO4	Z	302	5/5	0.80	0.37	66,74,91,95	5
4	SO4	d	302	5/5	0.80	0.40	63,67,85,96	5
4	SO4	B	305	5/5	0.81	0.28	64,66,87,94	5
4	SO4	M	305	5/5	0.81	0.34	64,76,90,93	5
4	SO4	b	303	5/5	0.82	0.38	71,75,91,99	5
4	SO4	N	304	5/5	0.82	0.37	67,74,91,99	5
4	SO4	J	304	5/5	0.83	0.35	60,77,84,91	5
3	CL	M	303	1/1	0.83	0.09	65,65,65,65	0
4	SO4	a	305	5/5	0.83	0.27	68,80,85,93	5
3	CL	D	302	1/1	0.83	0.09	68,68,68,68	0
3	CL	M	302	1/1	0.83	0.14	65,65,65,65	0
3	CL	E	303	1/1	0.84	0.13	69,69,69,69	0
4	SO4	S	305	5/5	0.84	0.28	61,69,82,92	5
4	SO4	c	305	5/5	0.84	0.31	60,69,79,81	5
3	CL	T	302	1/1	0.84	0.13	66,66,66,66	0
4	SO4	K	303	5/5	0.85	0.35	57,61,83,90	5
3	CL	A	304	1/1	0.85	0.08	75,75,75,75	0
3	CL	A	302	1/1	0.85	0.10	71,71,71,71	0
4	SO4	U	303	5/5	0.85	0.22	100,100,110,113	0
4	SO4	T	304	5/5	0.86	0.35	69,70,81,91	5
4	SO4	X	305	5/5	0.86	0.39	70,76,87,90	5
3	CL	X	303	1/1	0.86	0.17	66,66,66,66	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	SO4	G	306	5/5	0.86	0.37	65,74,86,88	5
4	SO4	R	303	5/5	0.87	0.31	74,77,94,101	5
3	CL	G	303	1/1	0.87	0.11	66,66,66,66	0
3	CL	O	302	1/1	0.87	0.12	66,66,66,66	0
4	SO4	L	304	5/5	0.87	0.35	68,72,79,80	5
4	SO4	P	303	5/5	0.87	0.28	73,75,79,79	5
4	SO4	O	304	5/5	0.87	0.38	67,79,93,105	5
4	SO4	W	304	5/5	0.87	0.38	72,73,87,91	5
4	SO4	H	303	5/5	0.88	0.33	67,77,85,92	5
3	CL	I	301	1/1	0.89	0.07	65,65,65,65	0
4	SO4	P	302	5/5	0.89	0.19	101,104,110,114	0
4	SO4	J	303	5/5	0.90	0.24	85,99,117,117	0
4	SO4	F	303	5/5	0.90	0.36	62,65,80,84	5
4	SO4	E	306	5/5	0.90	0.36	67,72,90,94	5
3	CL	L	302	1/1	0.91	0.11	67,67,67,67	0
4	SO4	H	302	5/5	0.91	0.23	59,67,95,98	0
4	SO4	J	302	5/5	0.91	0.23	66,78,90,101	0
2	VFT	c	301[A]	27/27	0.92	0.24	37,49,57,62	6
2	VFT	c	301[B]	27/27	0.92	0.24	44,53,66,70	6
3	CL	Q	303	1/1	0.92	0.12	74,74,74,74	0
2	VFT	Y	301[A]	27/27	0.92	0.27	36,43,63,67	6
3	CL	A	303	1/1	0.92	0.08	79,79,79,79	0
2	VFT	Y	301[B]	27/27	0.92	0.27	36,54,64,67	6
4	SO4	c	304	5/5	0.92	0.16	75,76,98,114	0
4	SO4	I	303	5/5	0.92	0.35	64,74,81,83	5
3	CL	N	302	1/1	0.92	0.12	64,64,64,64	0
4	SO4	C	304	5/5	0.93	0.39	64,74,81,97	5
4	SO4	P	301	5/5	0.93	0.23	61,82,86,103	0
4	SO4	Z	301	5/5	0.93	0.26	72,75,95,106	0
2	VFT	W	301[B]	27/27	0.93	0.25	42,48,59,62	6
4	SO4	E	305	5/5	0.93	0.22	59,86,98,107	0
4	SO4	V	301	5/5	0.93	0.26	80,85,99,112	0
4	SO4	K	302	5/5	0.93	0.26	70,78,96,115	0
2	VFT	W	301[A]	27/27	0.93	0.25	32,45,54,57	6
4	SO4	X	304	5/5	0.93	0.23	64,67,90,104	0
2	VFT	L	301[A]	27/27	0.94	0.28	26,38,44,45	6
4	SO4	C	303	5/5	0.94	0.22	68,77,84,98	0
2	VFT	L	301[B]	27/27	0.94	0.28	36,40,57,63	6
4	SO4	D	303	5/5	0.94	0.22	63,67,85,107	0
2	VFT	R	301[A]	27/27	0.94	0.25	35,47,55,57	6
2	VFT	R	301[B]	27/27	0.94	0.25	41,50,75,78	6
2	VFT	U	301[A]	27/27	0.94	0.26	27,37,46,47	6

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	VFT	U	301[B]	27/27	0.94	0.26	33,42,56,59	6
4	SO4	G	305	5/5	0.94	0.25	77,82,91,93	0
2	VFT	B	301[A]	27/27	0.94	0.26	27,37,44,47	6
2	VFT	B	301[B]	27/27	0.94	0.26	32,40,60,64	6
2	VFT	D	301[A]	27/27	0.94	0.24	25,36,39,46	6
2	VFT	D	301[B]	27/27	0.94	0.24	34,37,64,68	6
2	VFT	a	301[A]	27/27	0.94	0.26	33,49,57,58	6
4	SO4	Y	302	5/5	0.94	0.27	69,72,102,105	0
2	VFT	a	301[B]	27/27	0.94	0.26	37,52,65,69	6
2	VFT	b	301[A]	27/27	0.94	0.30	30,41,53,61	6
2	VFT	b	301[B]	27/27	0.94	0.30	37,46,69,71	6
4	SO4	a	304	5/5	0.94	0.16	71,72,90,96	0
2	VFT	G	302[A]	27/27	0.94	0.30	34,45,61,63	6
2	VFT	G	302[B]	27/27	0.94	0.30	40,55,63,69	6
2	VFT	J	301[A]	27/27	0.94	0.26	25,38,41,48	6
4	SO4	A	305	5/5	0.94	0.24	78,79,92,101	0
4	SO4	d	301	5/5	0.94	0.21	67,69,101,104	0
2	VFT	J	301[B]	27/27	0.94	0.26	35,39,58,63	6
2	VFT	S	301[B]	27/27	0.95	0.28	33,39,62,67	6
4	SO4	S	303	5/5	0.95	0.26	68,81,101,107	0
4	SO4	S	304	5/5	0.95	0.18	48,51,64,67	5
4	SO4	I	302	5/5	0.95	0.20	61,76,87,98	0
2	VFT	T	301[A]	27/27	0.95	0.26	33,40,45,47	6
4	SO4	U	302	5/5	0.95	0.20	65,71,87,99	0
4	SO4	M	304	5/5	0.95	0.21	75,81,92,94	0
2	VFT	T	301[B]	27/27	0.95	0.26	33,41,45,47	6
4	SO4	N	303	5/5	0.95	0.22	66,72,90,99	0
4	SO4	V	302	5/5	0.95	0.13	73,77,95,100	0
2	VFT	E	301[A]	27/27	0.95	0.23	27,37,46,50	6
2	VFT	E	301[B]	27/27	0.95	0.23	33,41,57,63	6
2	VFT	Q	301[A]	27/27	0.95	0.28	37,46,55,67	6
2	VFT	Q	301[B]	27/27	0.95	0.28	38,49,64,67	6
2	VFT	X	301[A]	27/27	0.95	0.26	31,45,51,60	6
2	VFT	X	301[B]	27/27	0.95	0.26	43,47,65,72	6
4	SO4	F	302	5/5	0.95	0.18	65,72,85,89	0
4	SO4	L	303	5/5	0.95	0.20	62,66,96,97	0
4	SO4	a	303	5/5	0.95	0.26	66,84,96,107	0
2	VFT	G	301[A]	27/27	0.95	0.27	33,46,51,52	6
4	SO4	G	304	5/5	0.95	0.14	53,60,69,71	5
3	CL	S	302	1/1	0.95	0.06	83,83,83,83	0
4	SO4	c	303	5/5	0.95	0.27	72,78,89,92	0
2	VFT	G	301[B]	27/27	0.95	0.27	39,49,62,66	6

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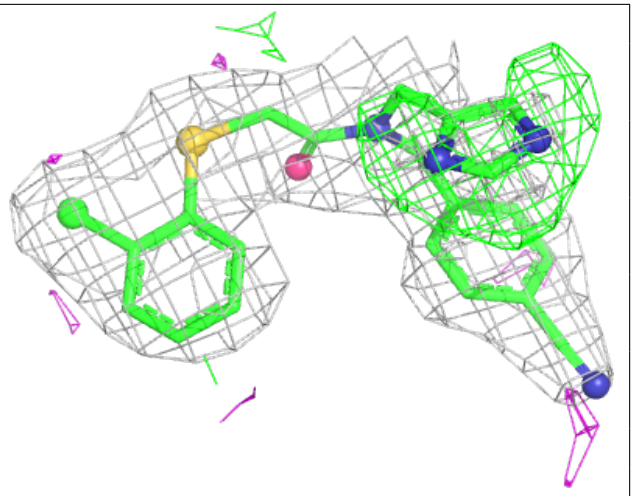
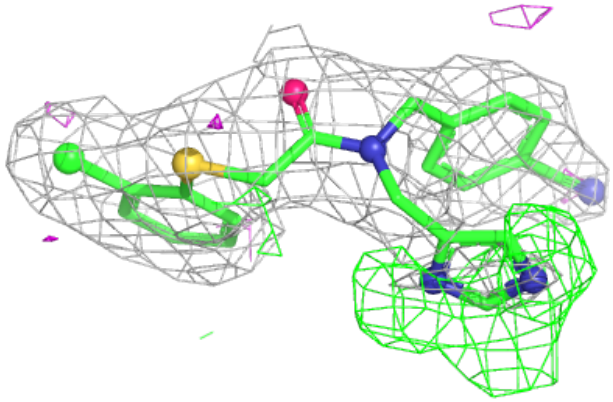
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	SO4	Q	304	5/5	0.95	0.22	63,76,88,94	0
4	SO4	Q	305	5/5	0.95	0.09	83,88,108,113	0
2	VFT	S	301[A]	27/27	0.95	0.28	29,38,42,46	6
2	VFT	a	302	27/27	0.96	0.30	44,48,84,88	0
4	SO4	T	303	5/5	0.96	0.23	70,71,88,97	0
2	VFT	A	301[A]	27/27	0.96	0.25	29,37,46,49	6
4	SO4	O	303	5/5	0.96	0.22	72,74,92,94	0
2	VFT	A	301[B]	27/27	0.96	0.25	29,44,59,64	6
2	VFT	K	301[A]	27/27	0.96	0.25	30,38,43,46	6
4	SO4	E	304	5/5	0.96	0.23	45,49,58,69	5
4	SO4	b	302	5/5	0.96	0.20	73,80,92,97	0
2	VFT	K	301[B]	27/27	0.96	0.25	36,39,57,59	6
4	SO4	R	302	5/5	0.96	0.20	70,80,88,103	0
4	SO4	W	303	5/5	0.96	0.21	74,79,87,87	0
2	VFT	B	302[A]	27/27	0.96	0.26	34,38,42,44	6
4	SO4	B	304	5/5	0.96	0.18	60,62,88,95	0
2	VFT	B	302[B]	27/27	0.96	0.26	34,36,39,44	6
2	VFT	N	301	27/27	0.97	0.24	36,49,83,99	0
2	VFT	Q	302	27/27	0.97	0.25	41,50,84,96	0
4	SO4	A	306	5/5	0.97	0.20	50,54,59,62	5
2	VFT	O	301	27/27	0.97	0.29	38,51,78,89	0
2	VFT	M	301	27/27	0.97	0.29	36,49,96,97	0
2	VFT	W	302	27/27	0.97	0.27	44,52,89,94	0
2	VFT	H	301	27/27	0.98	0.23	38,48,85,91	0
2	VFT	c	302	27/27	0.98	0.27	40,48,85,90	0
2	VFT	F	301	27/27	0.98	0.26	33,41,77,84	0
3	CL	X	302	1/1	0.98	0.11	66,66,66,66	0

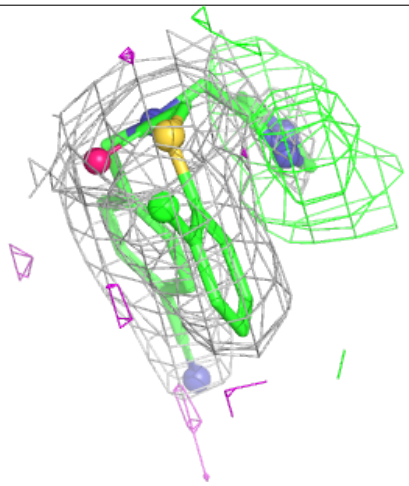
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around VFT c 301 (A):

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

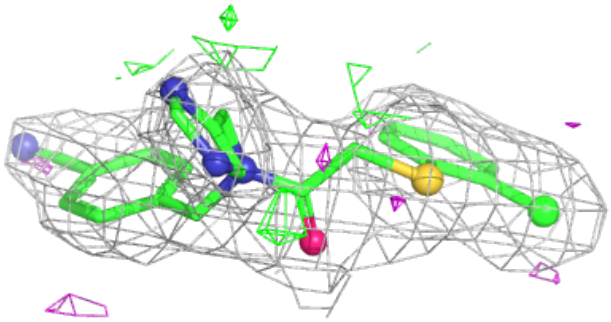






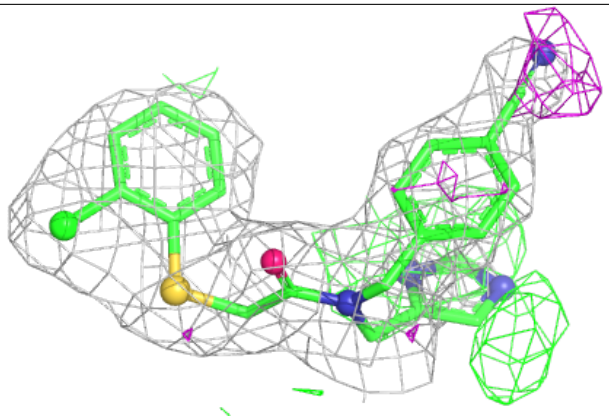
Electron density around VFT c 301 (B):

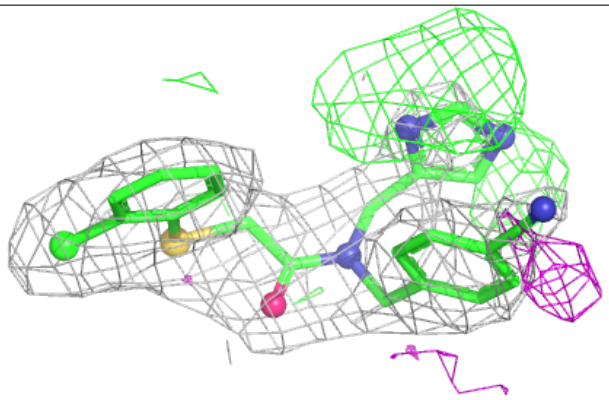
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

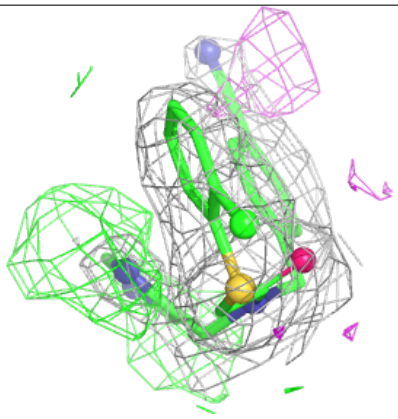


Electron density around VFT Y 301 (A):

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

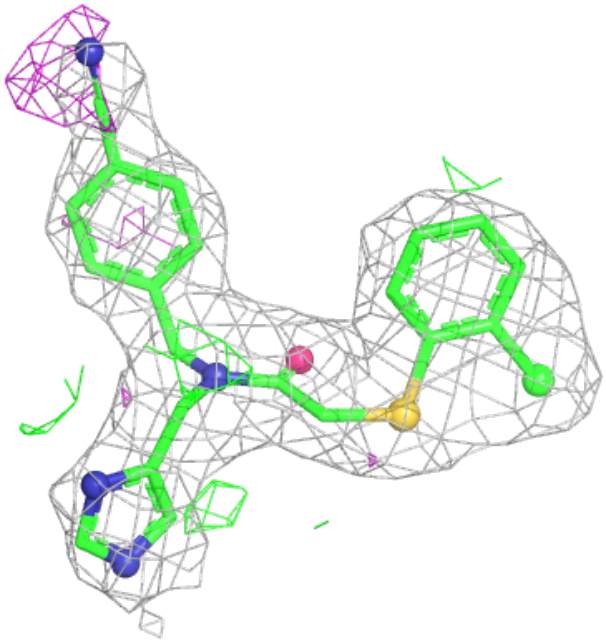


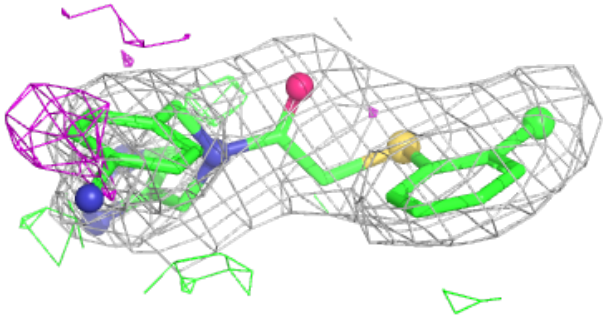


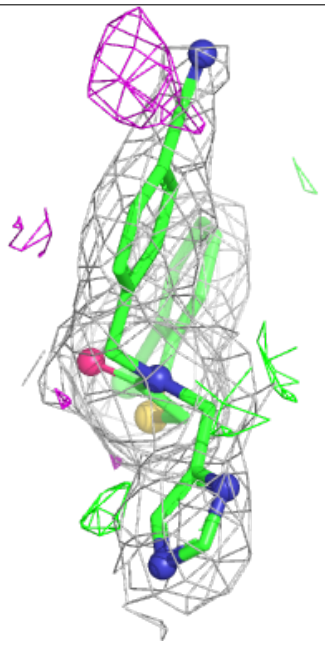


Electron density around VFT Y 301 (B):

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

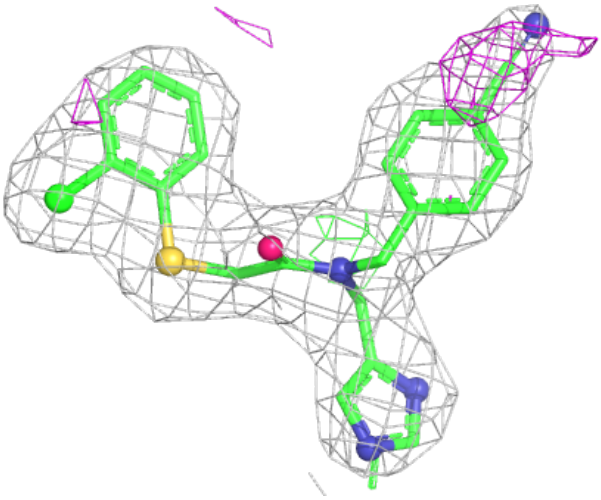


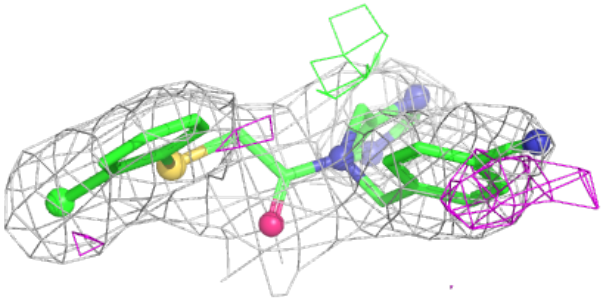




Electron density around VFT W 301 (B):

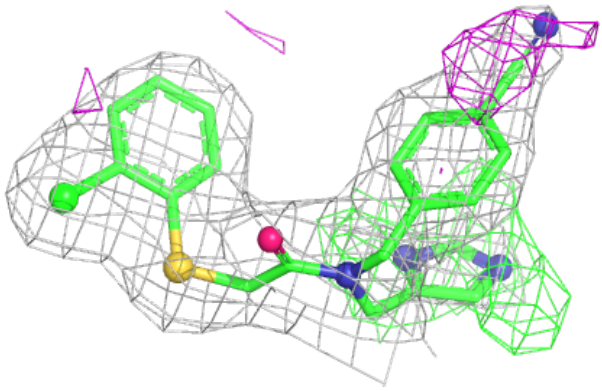
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

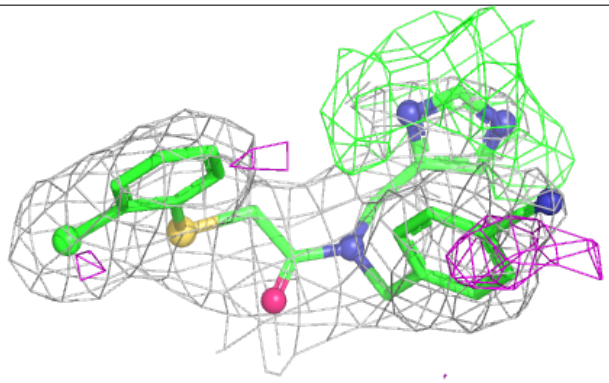


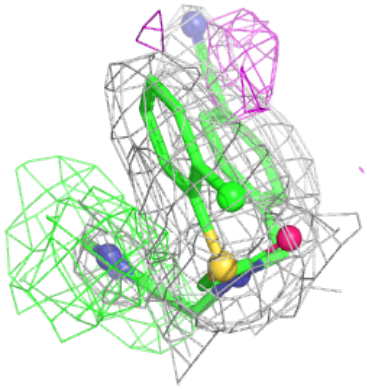


Electron density around VFT W 301 (A):

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

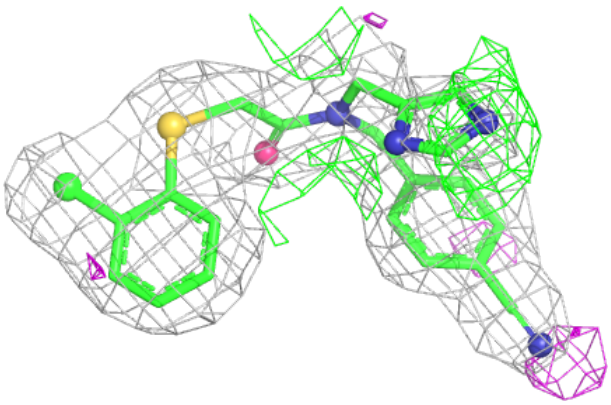


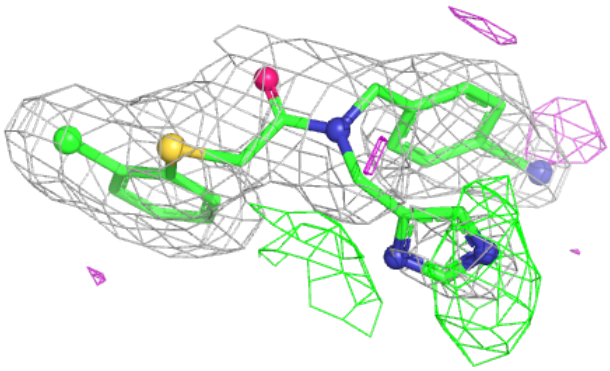


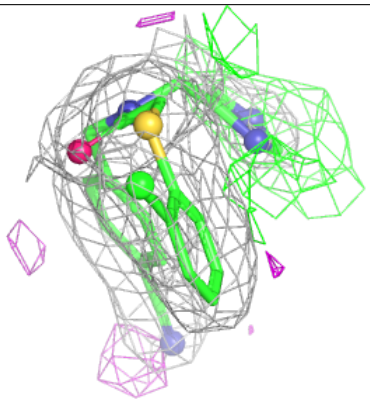


Electron density around VFT L 301 (A):

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

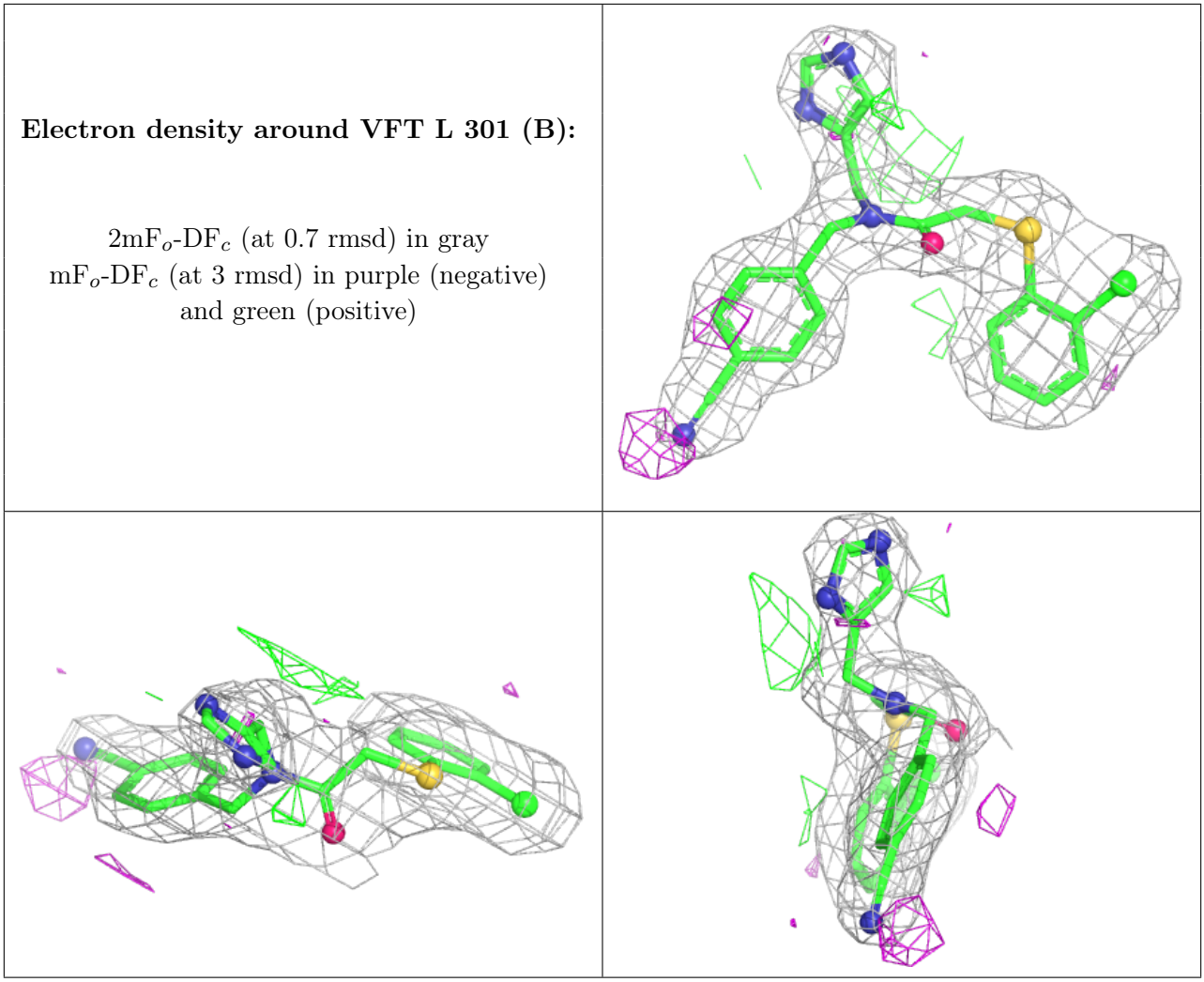






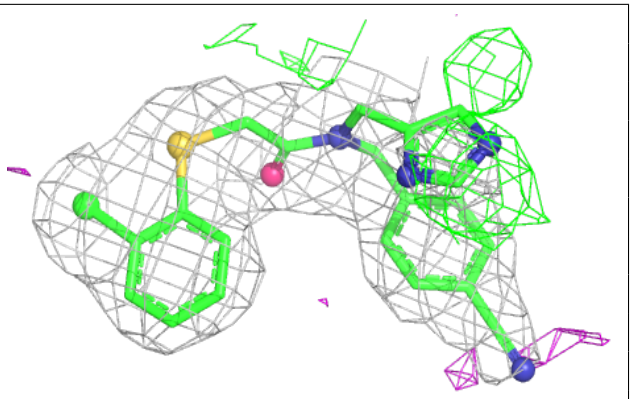
Electron density around VFT L 301 (B):

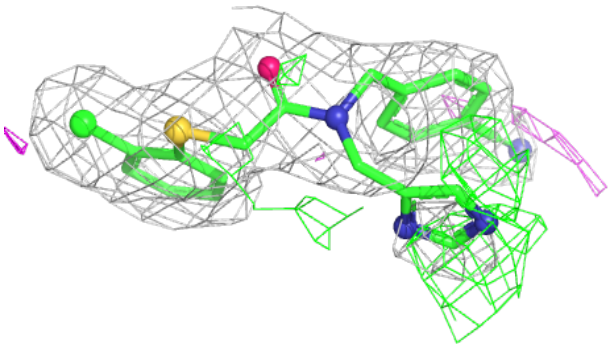
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

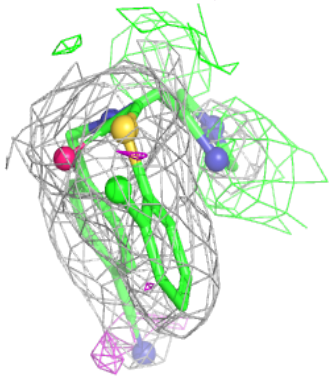


Electron density around VFT R 301 (A):

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

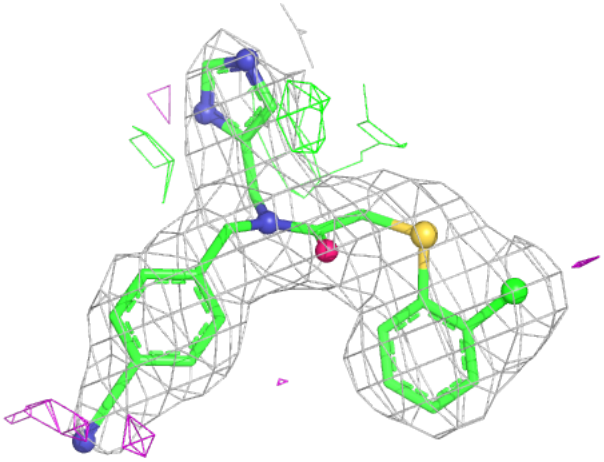


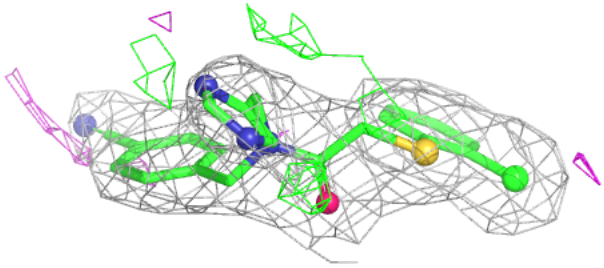




Electron density around VFT R 301 (B):

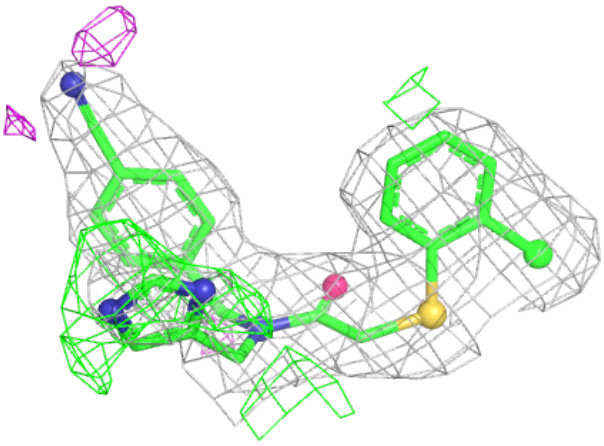
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

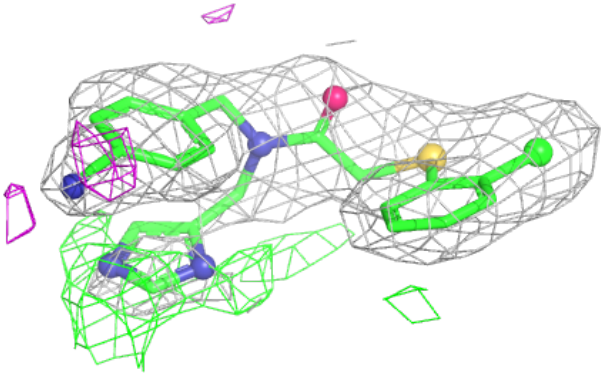


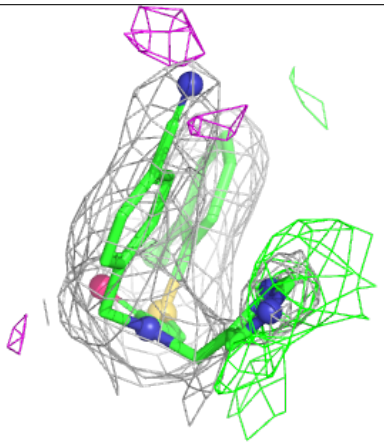


Electron density around VFT U 301 (A):

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

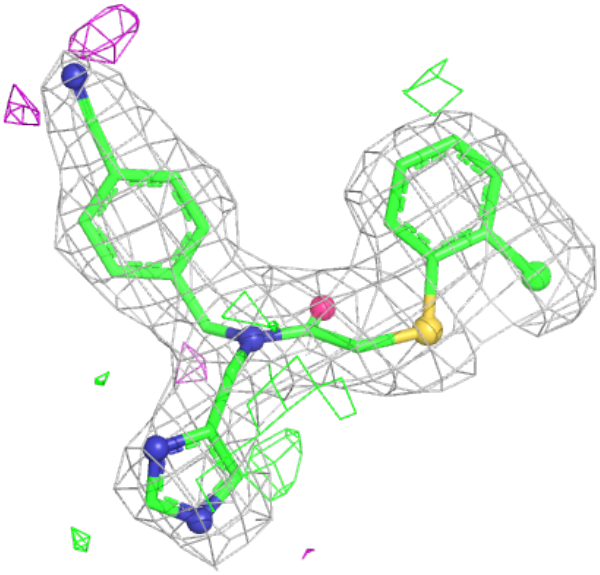


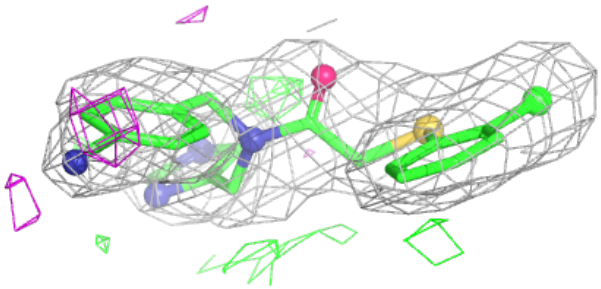


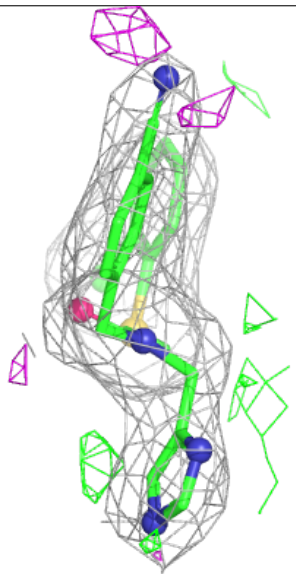


Electron density around VFT U 301 (B):

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

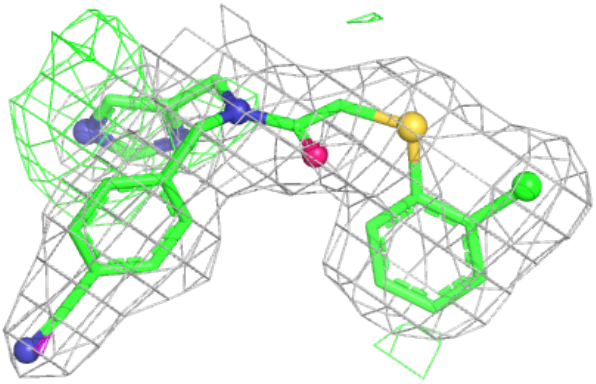


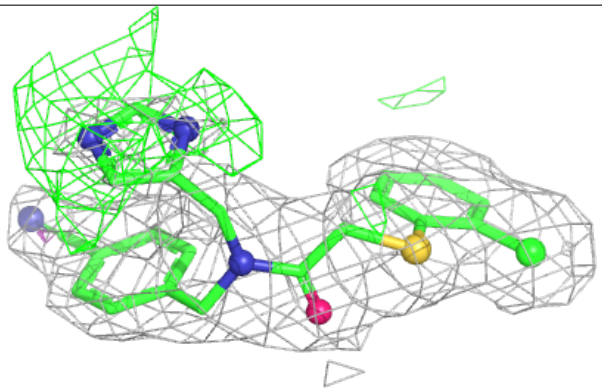


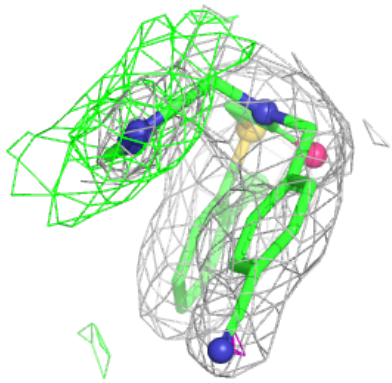


Electron density around VFT B 301 (A):

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

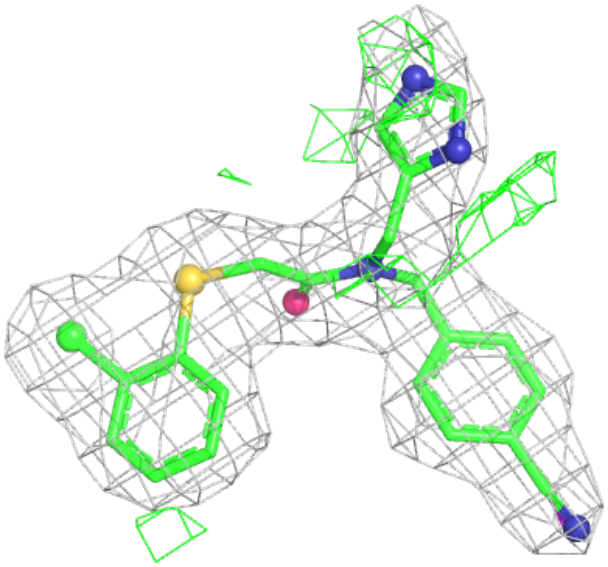


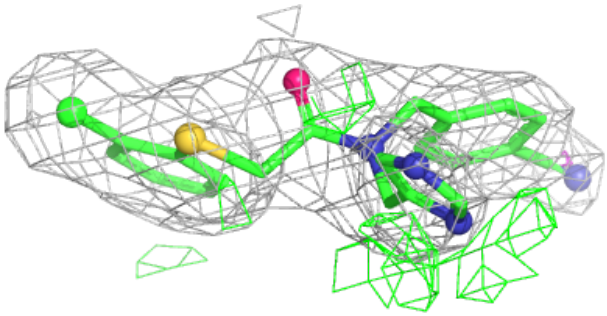




Electron density around VFT B 301 (B):

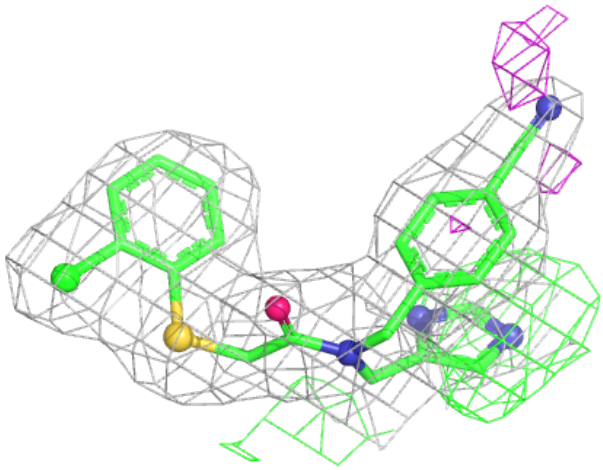
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

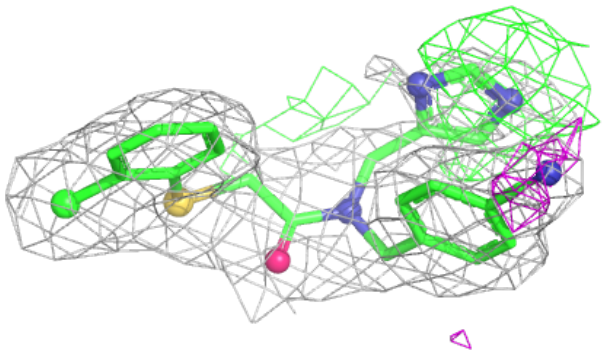


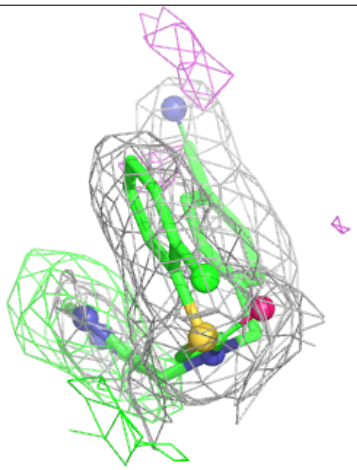


Electron density around VFT D 301 (A):

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

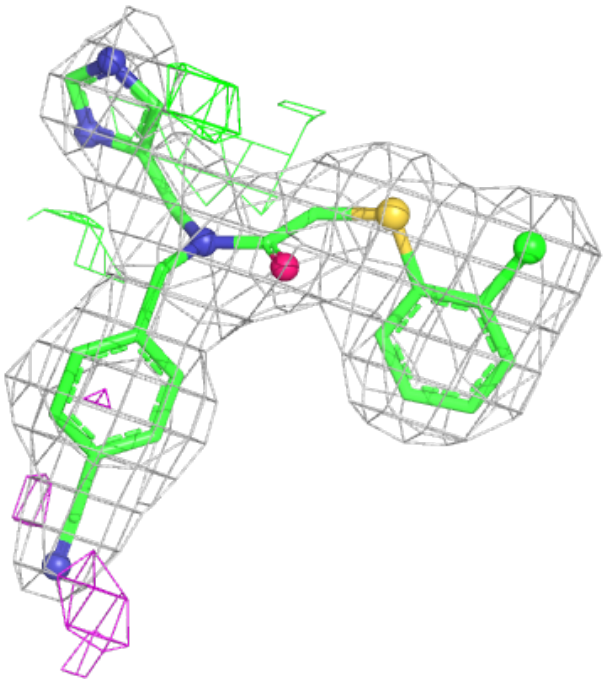


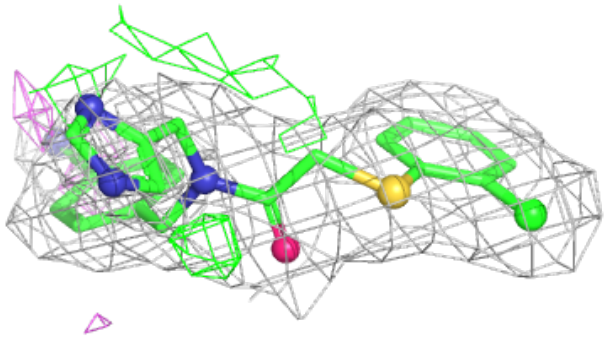


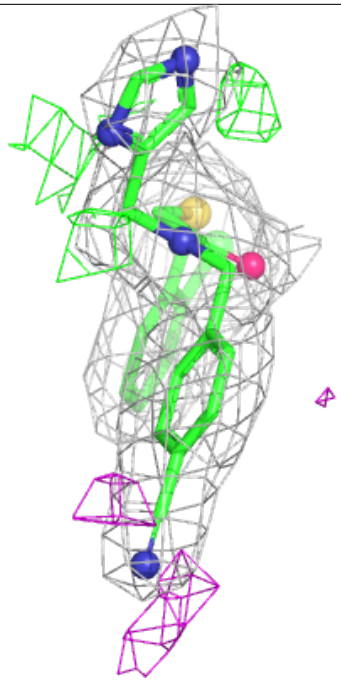


Electron density around VFT D 301 (B):

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

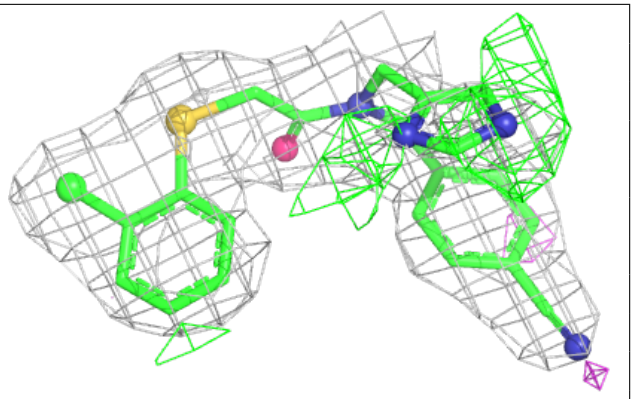


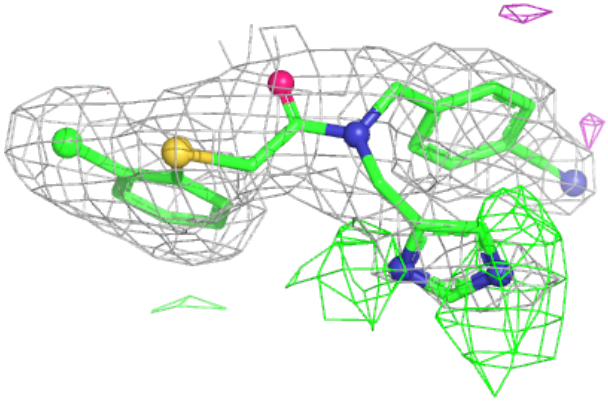


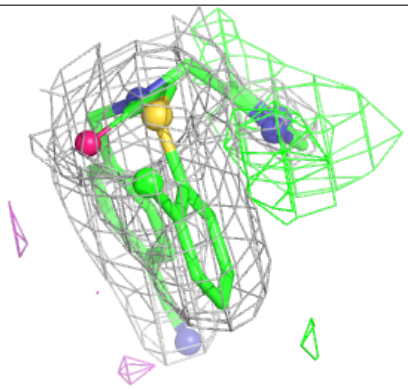


Electron density around VFT a 301 (A):

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

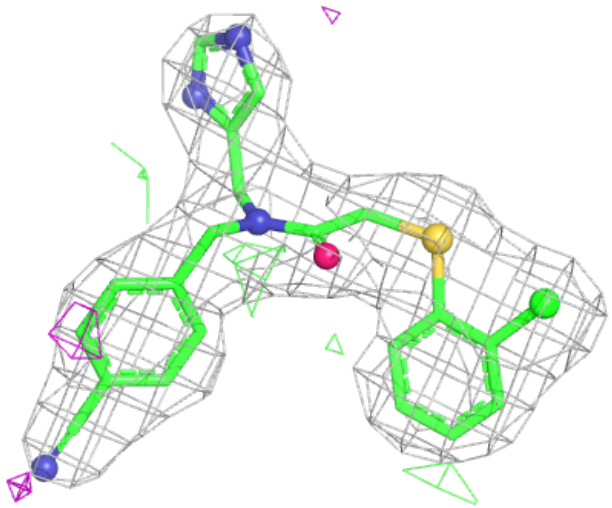


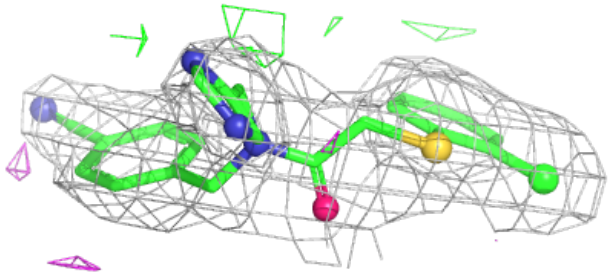


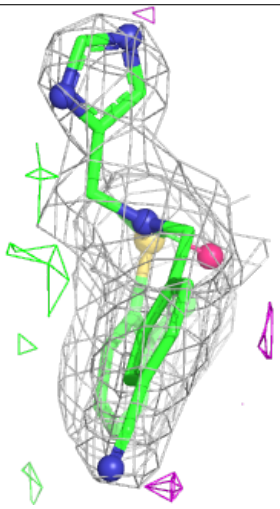


Electron density around VFT a 301 (B):

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

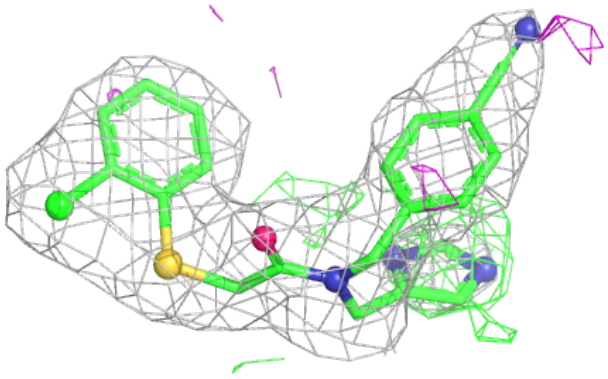


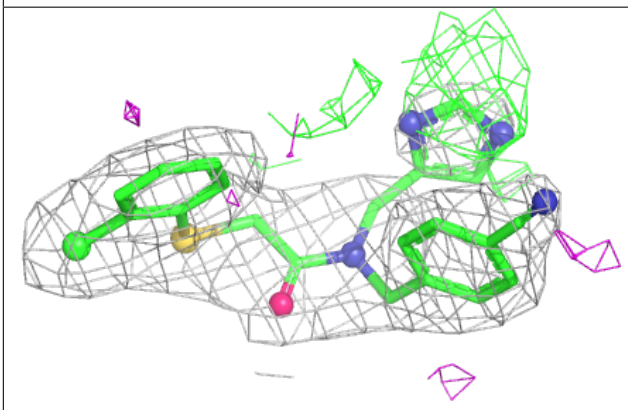


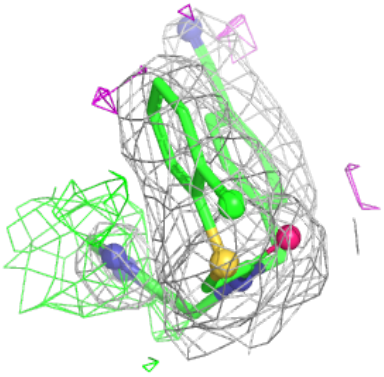


Electron density around VFT b 301 (A):

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

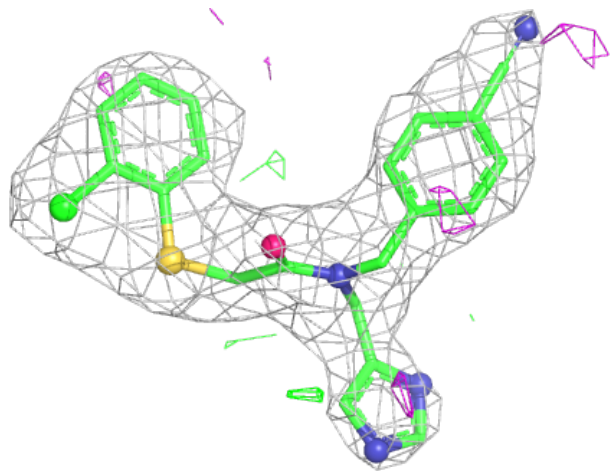


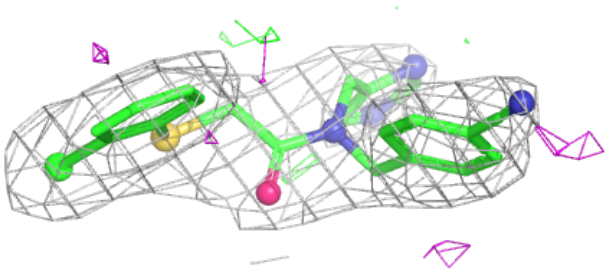


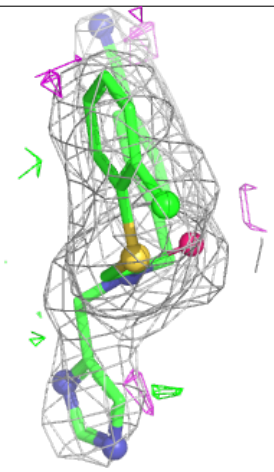


Electron density around VFT b 301 (B):

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

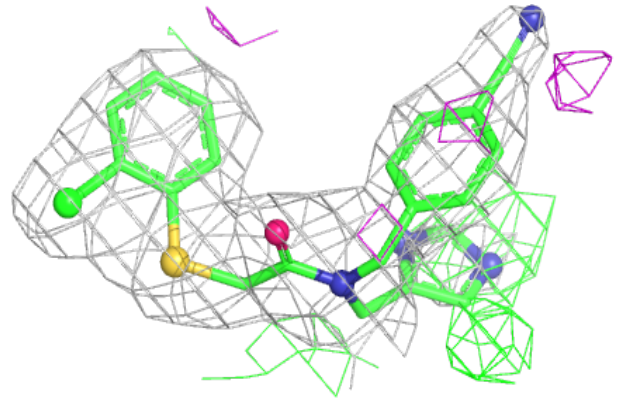


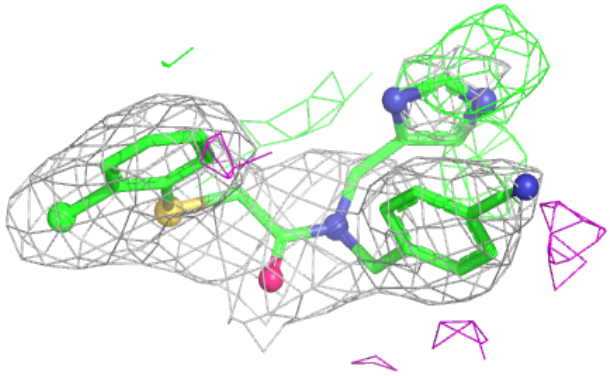


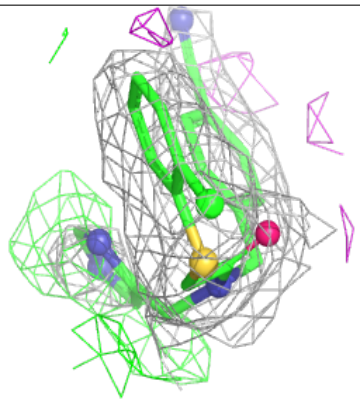


Electron density around VFT G 302 (A):

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

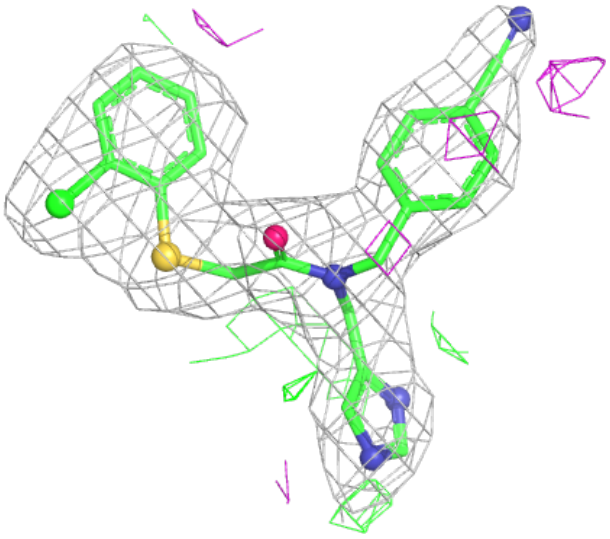


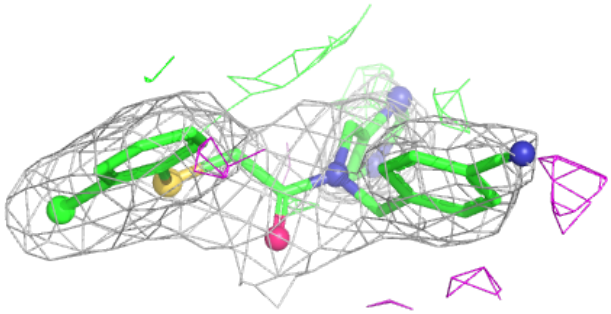


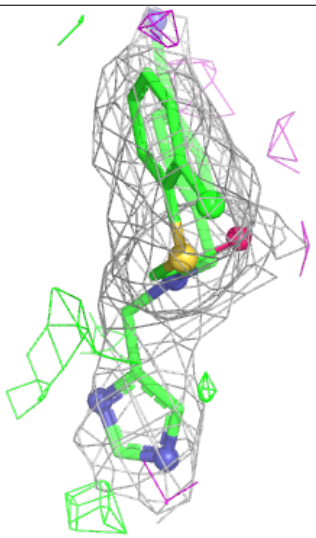


Electron density around VFT G 302 (B):

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

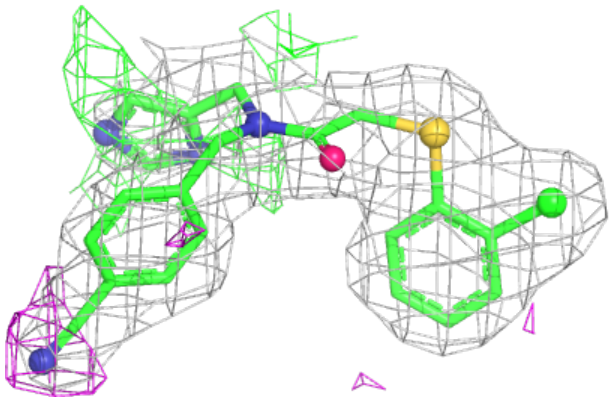


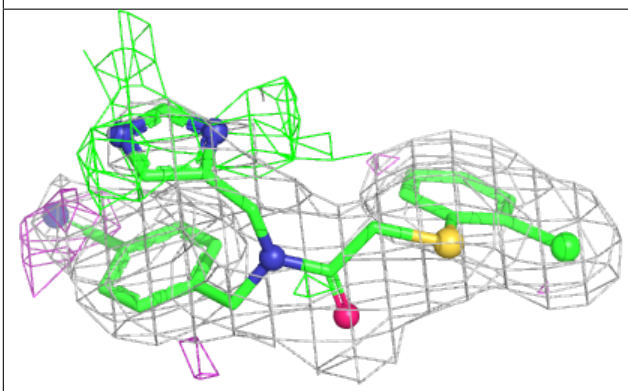


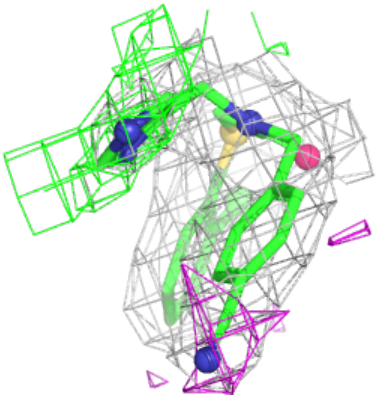


Electron density around VFT J 301 (A):

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

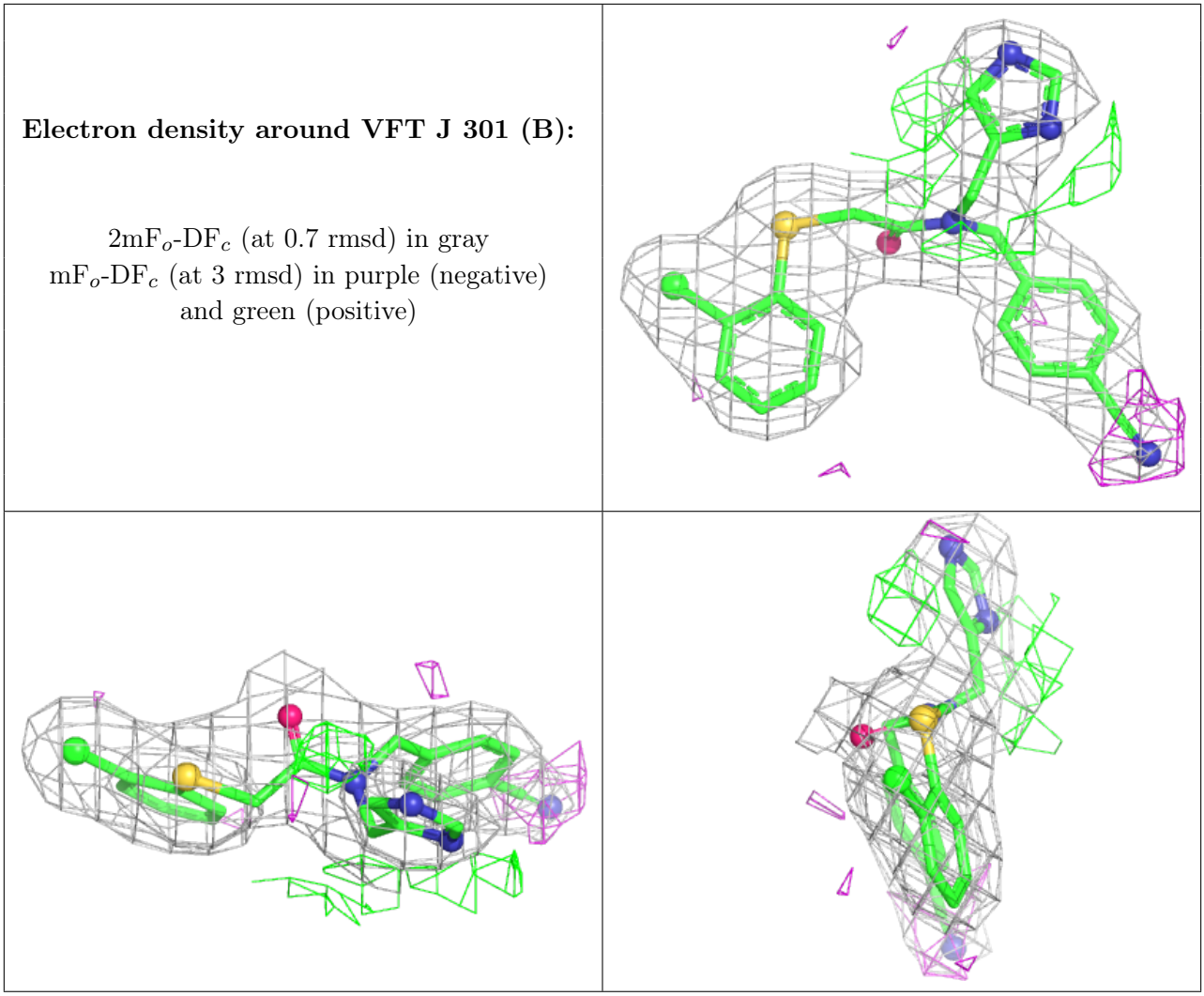






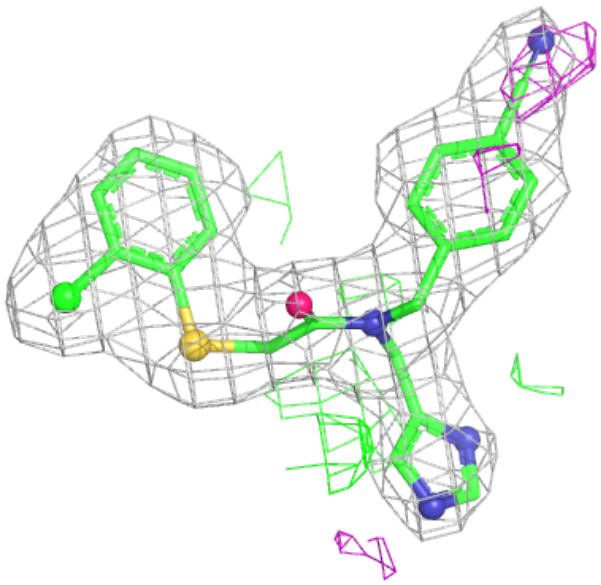
Electron density around VFT J 301 (B):

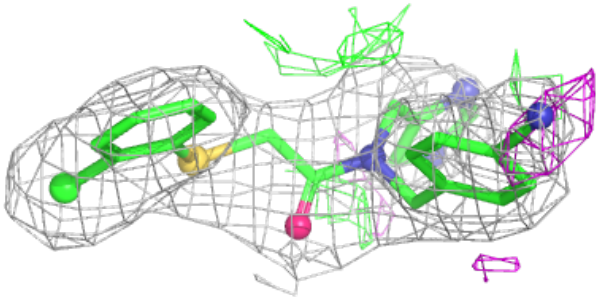
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

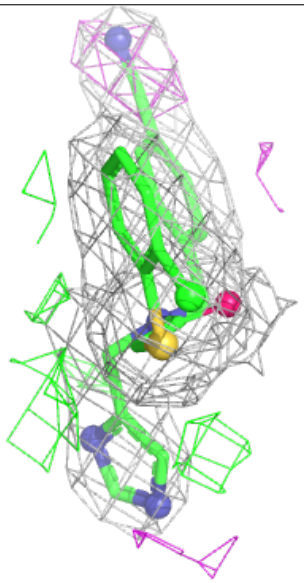


Electron density around VFT S 301 (B):

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

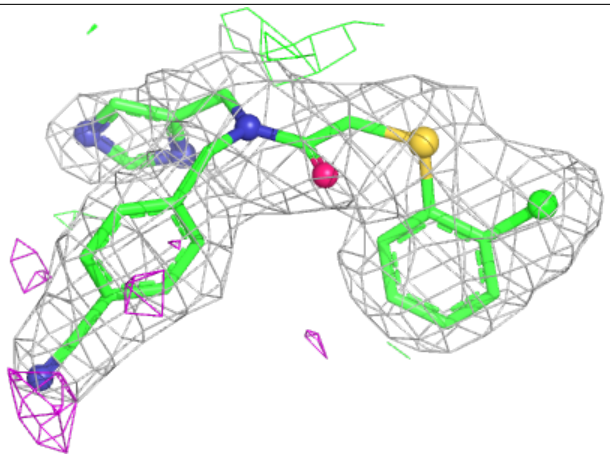


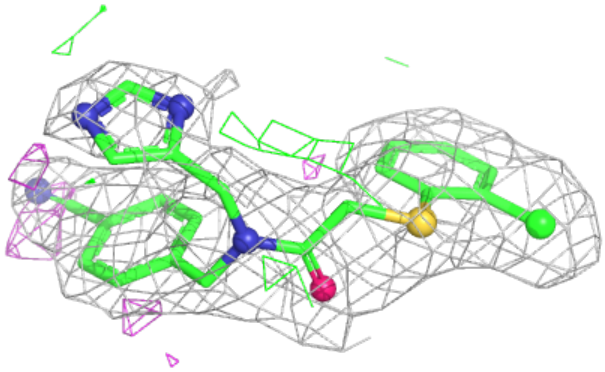




Electron density around VFT T 301 (A):

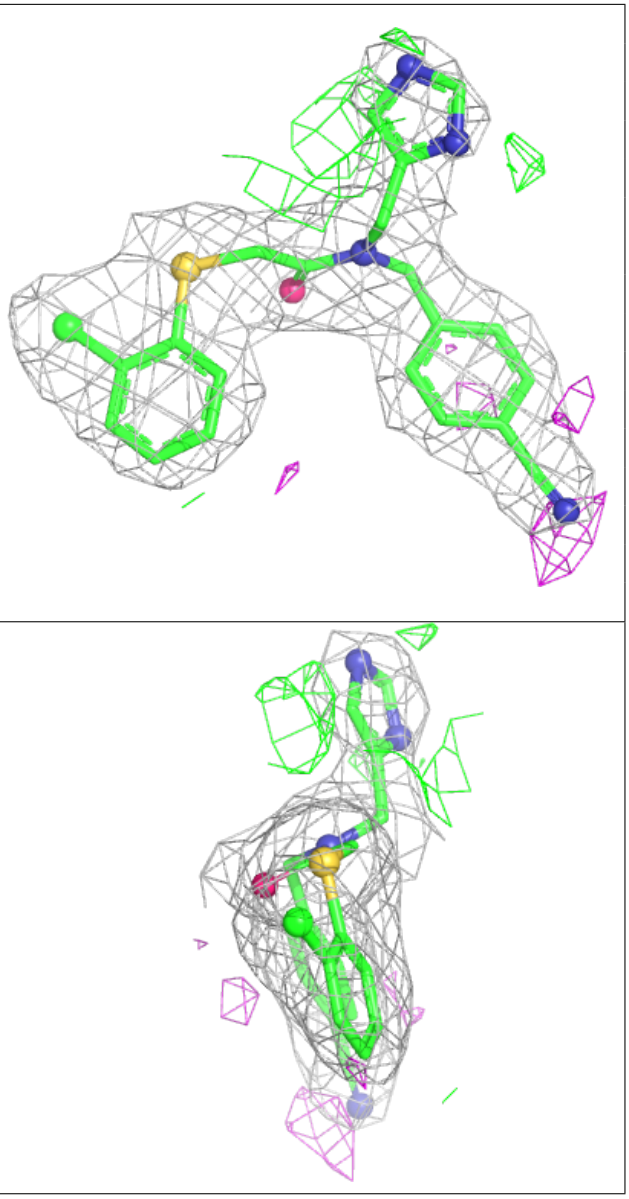
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

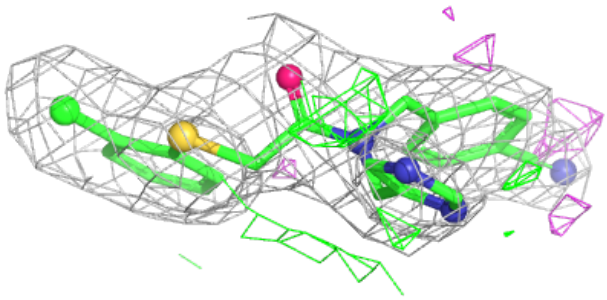




Electron density around VFT T 301 (B):

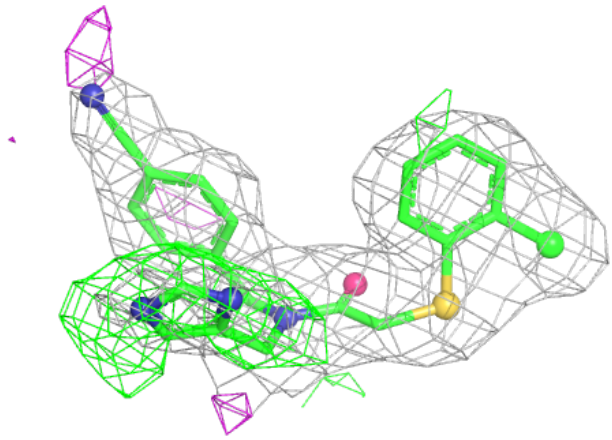
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

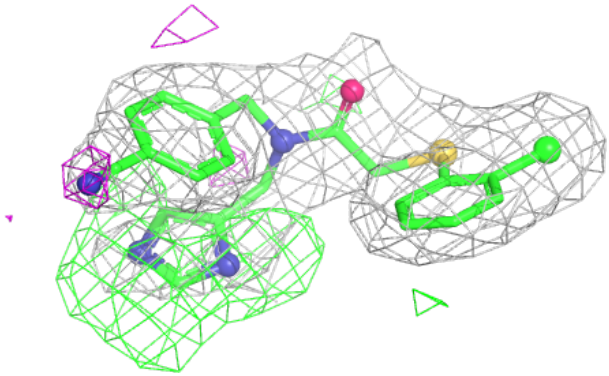


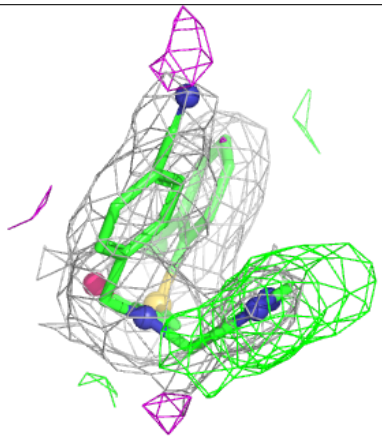


Electron density around VFT E 301 (A):

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

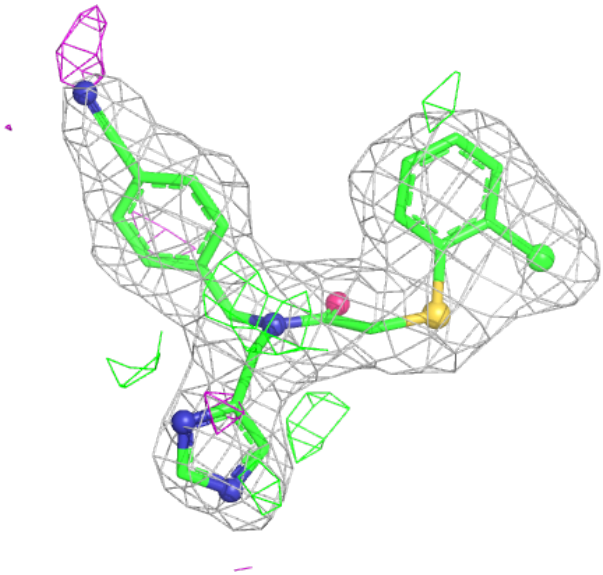


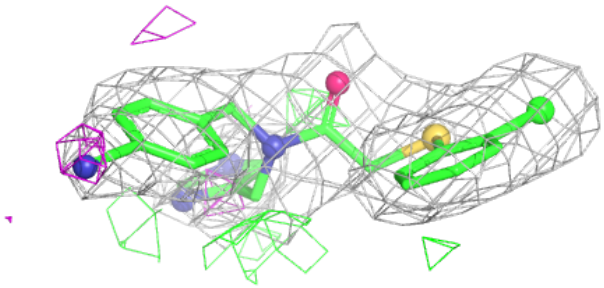


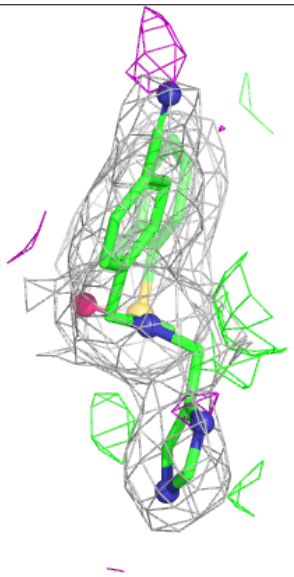


Electron density around VFT E 301 (B):

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

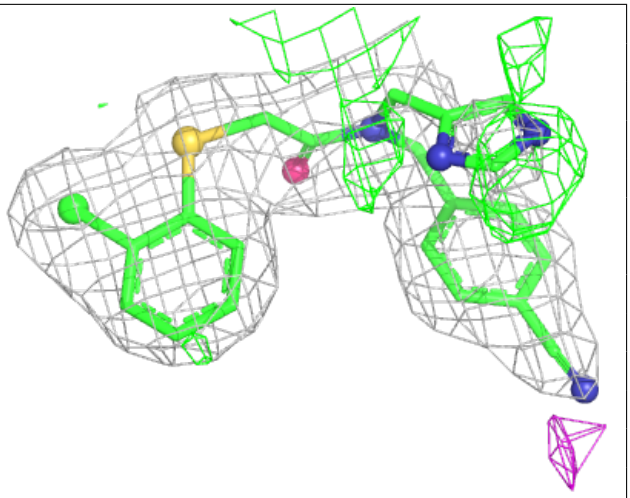


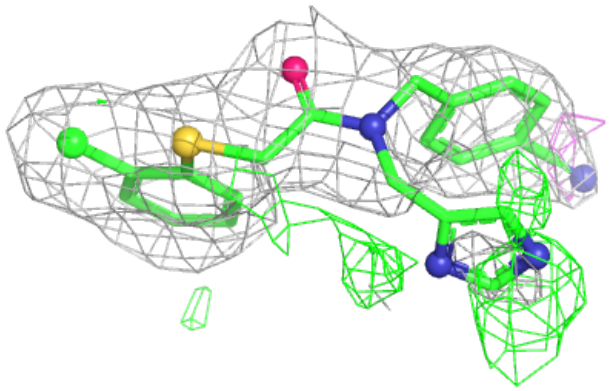


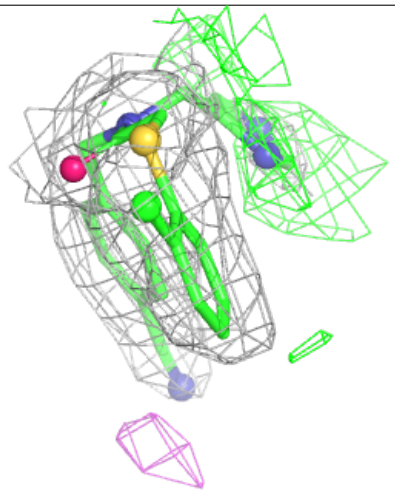


Electron density around VFT Q 301 (A):

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

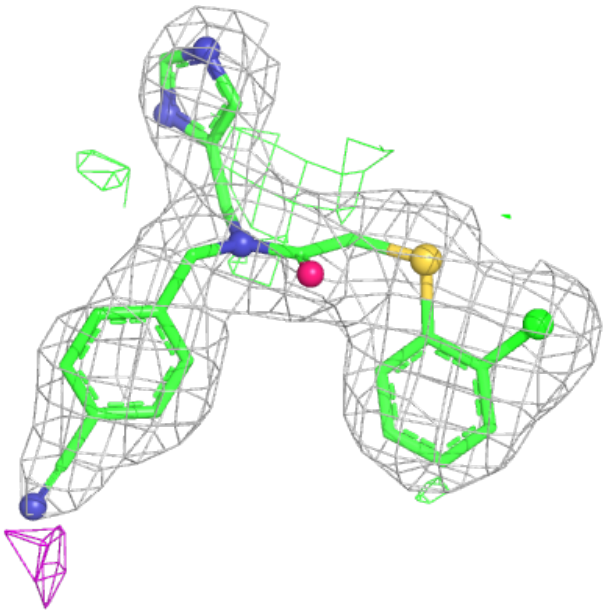


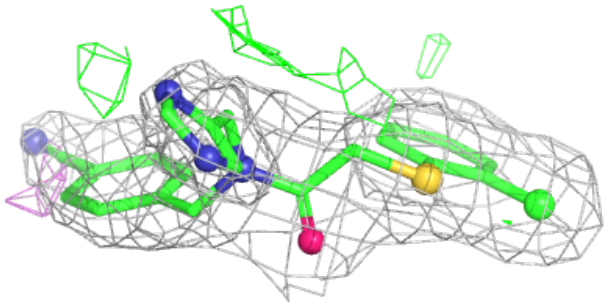


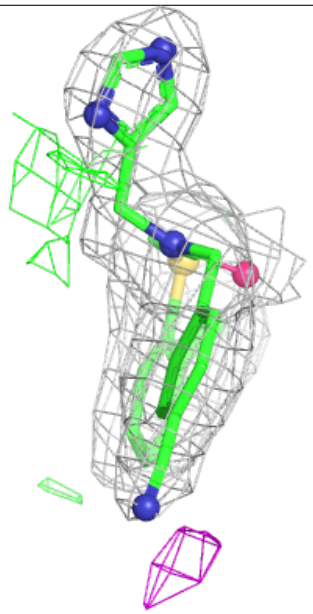


Electron density around VFT Q 301 (B):

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

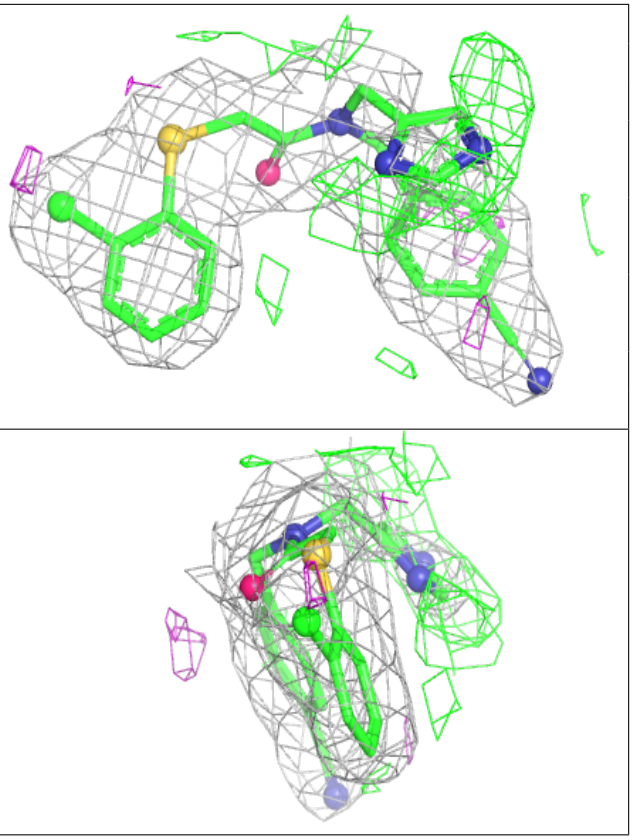


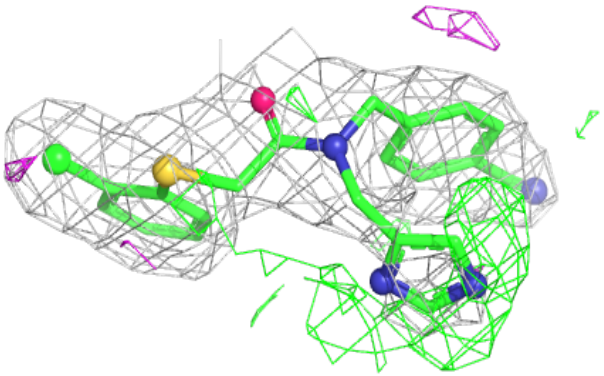




Electron density around VFT X 301 (A):

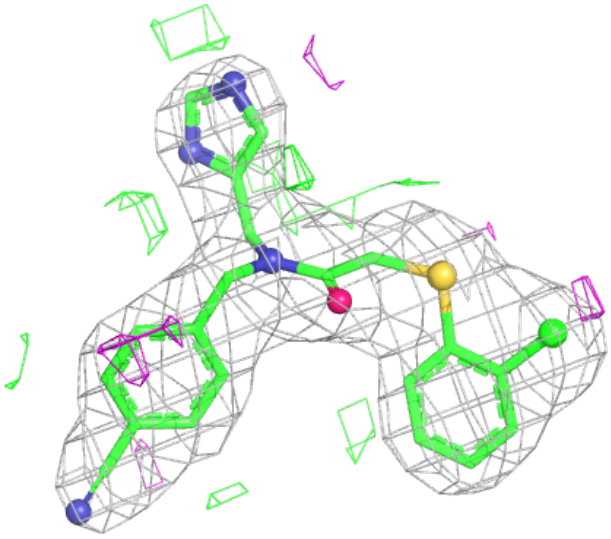
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

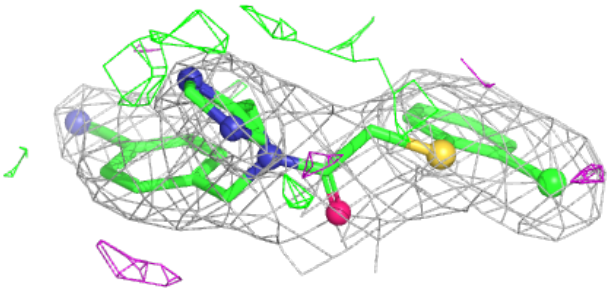




Electron density around VFT X 301 (B):

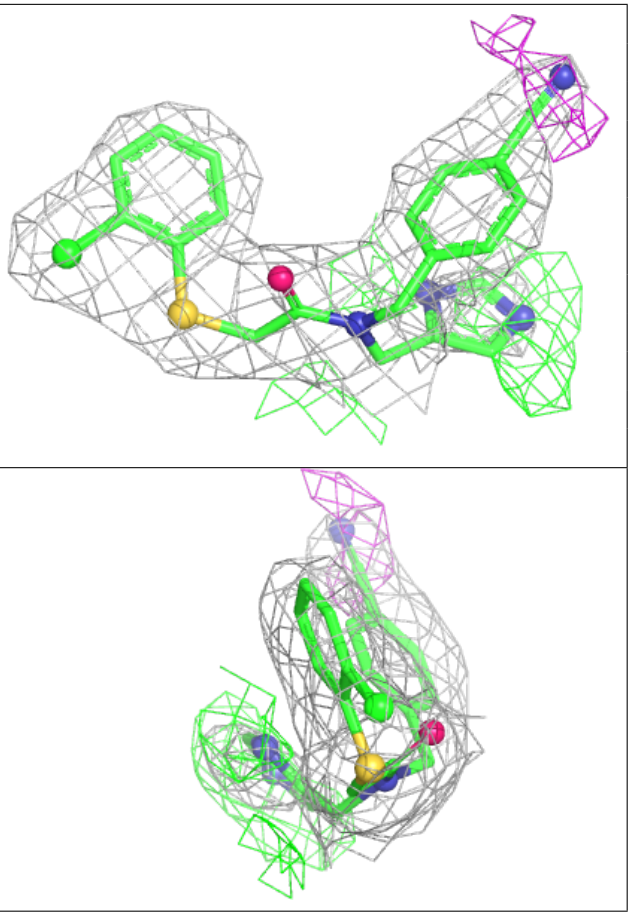
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

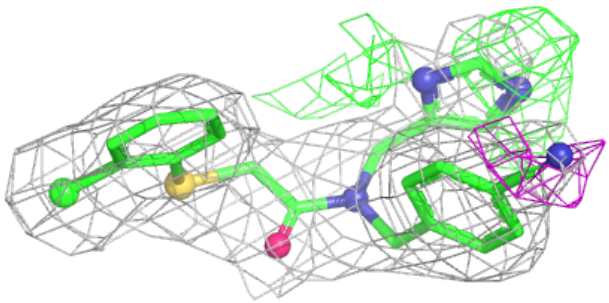




Electron density around VFT G 301 (A):

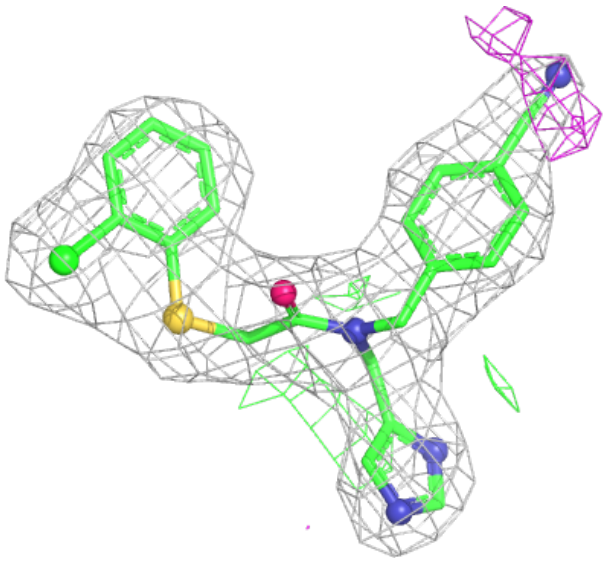
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

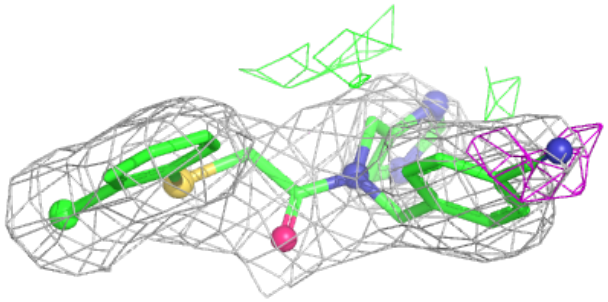


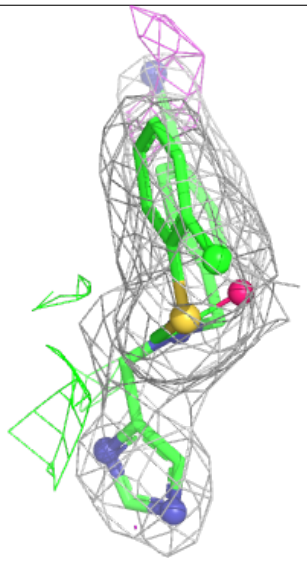


Electron density around VFT G 301 (B):

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

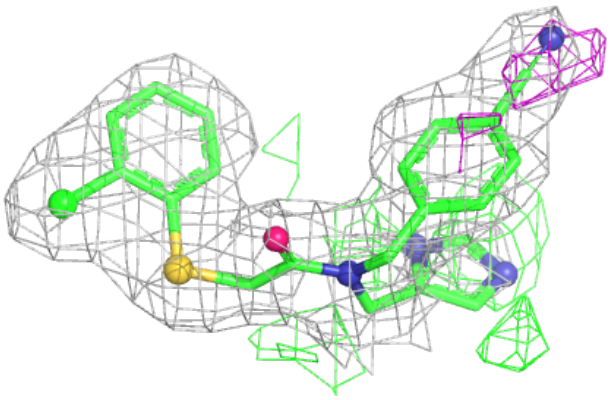


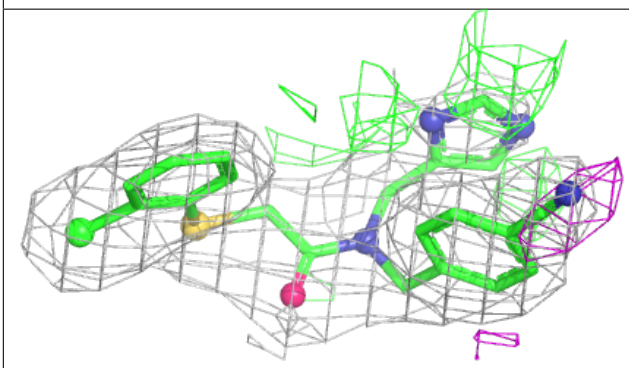


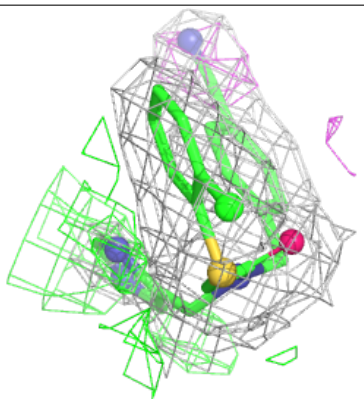


Electron density around VFT S 301 (A):

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

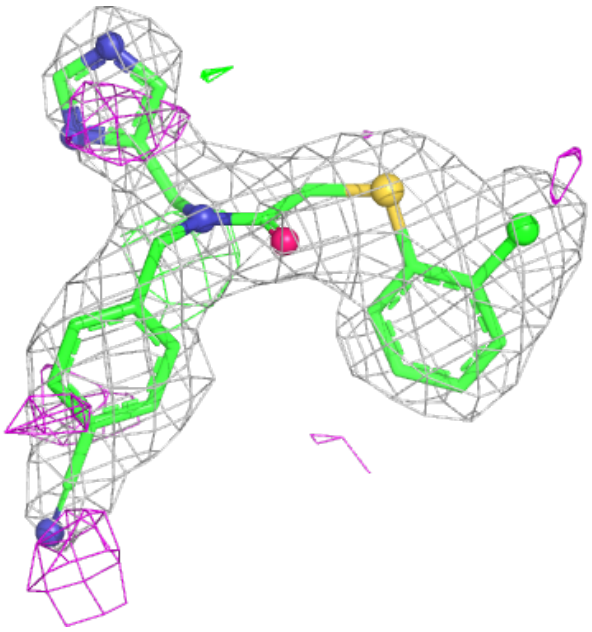


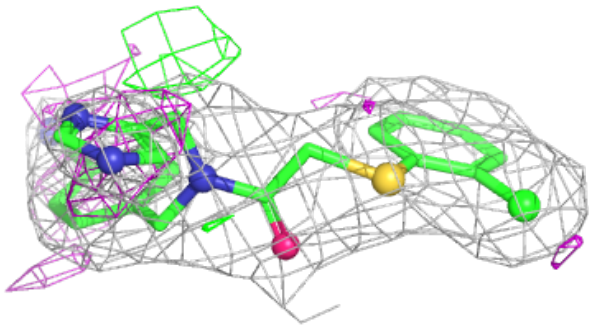




Electron density around VFT a 302:

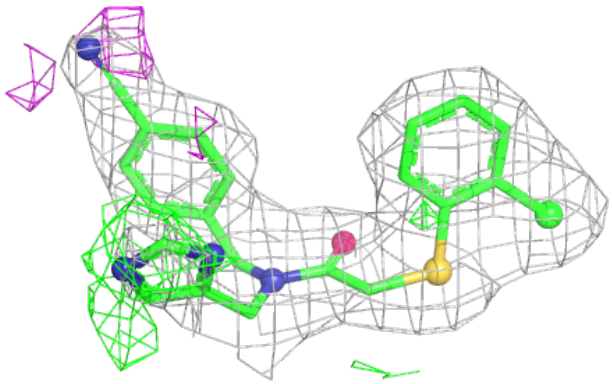
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

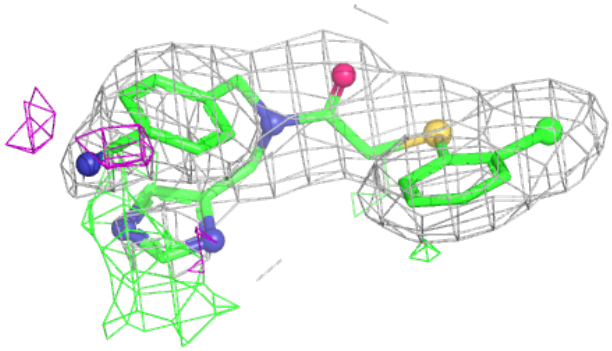


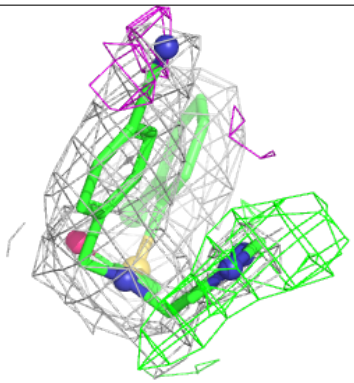


Electron density around VFT A 301 (A):

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

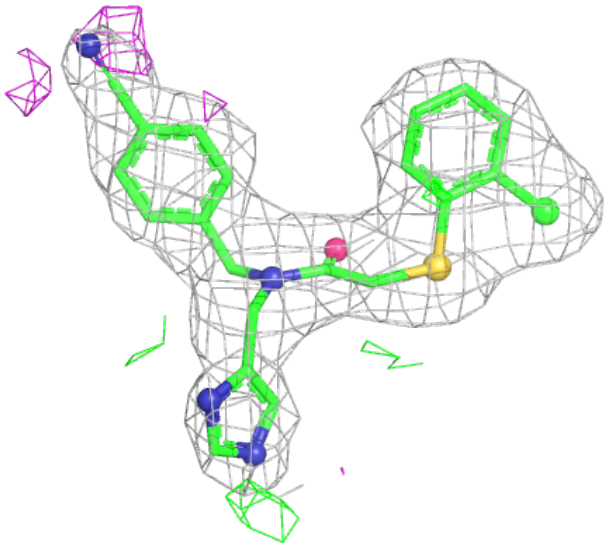


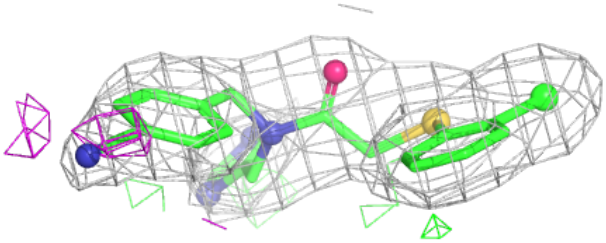


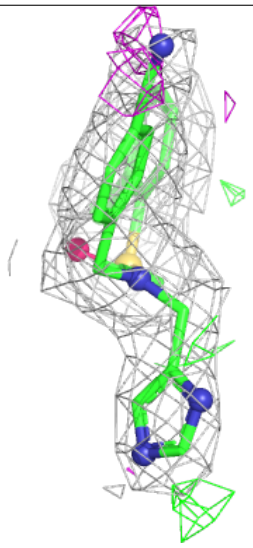


Electron density around VFT A 301 (B):

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

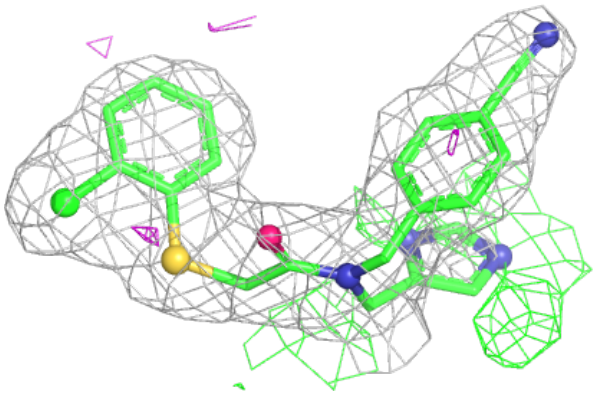


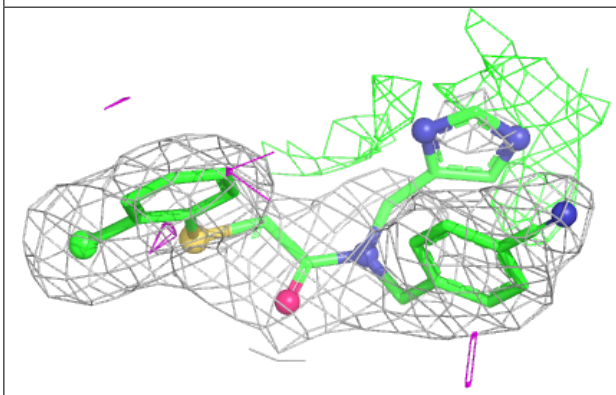


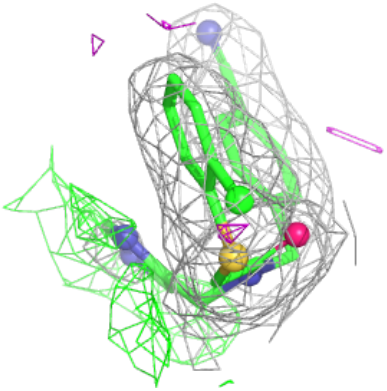


Electron density around VFT K 301 (A):

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

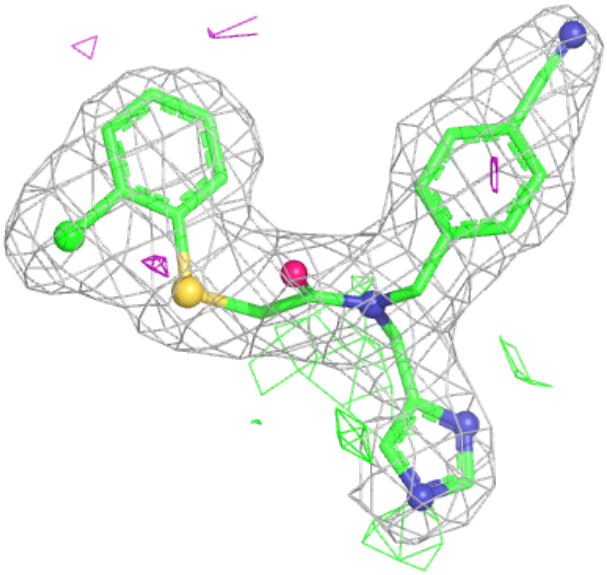


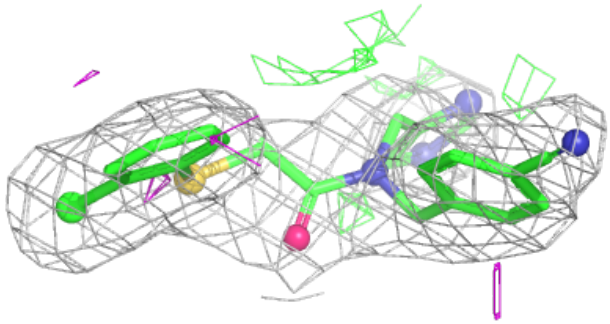




Electron density around VFT K 301 (B):

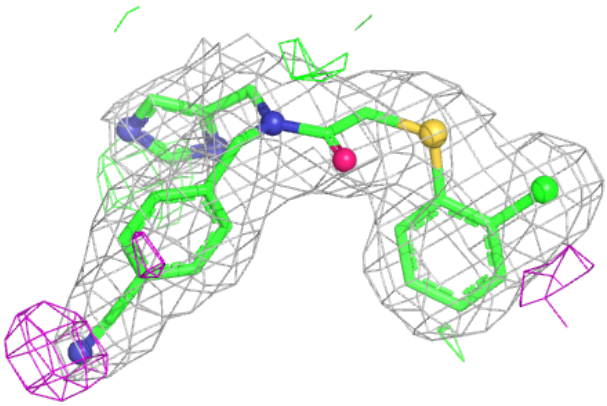
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

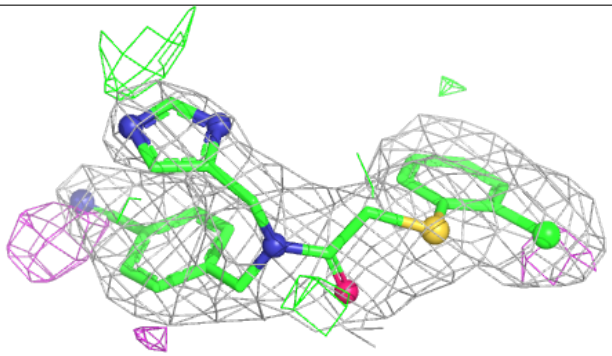


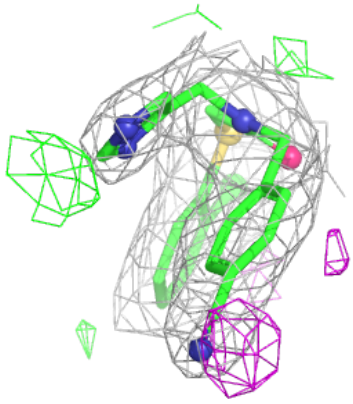


Electron density around VFT B 302 (A):

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

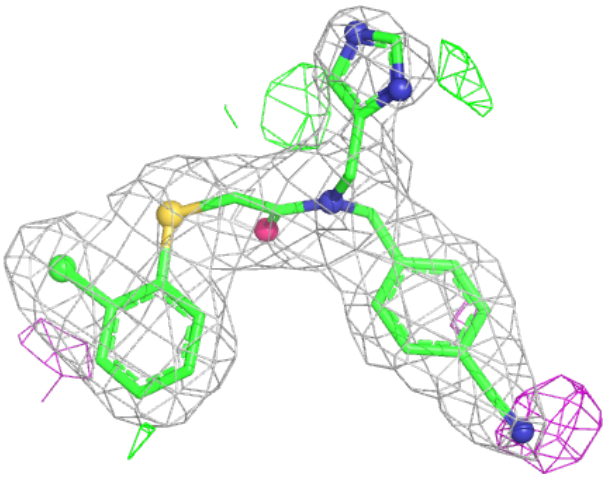


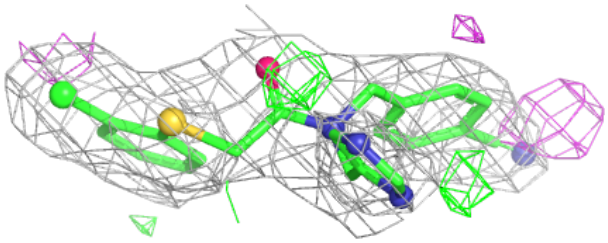


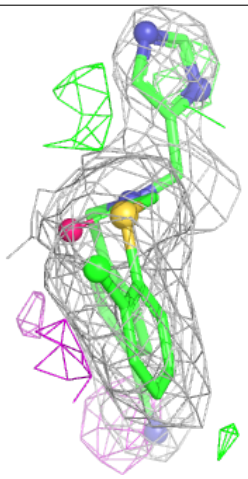


Electron density around VFT B 302 (B):

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

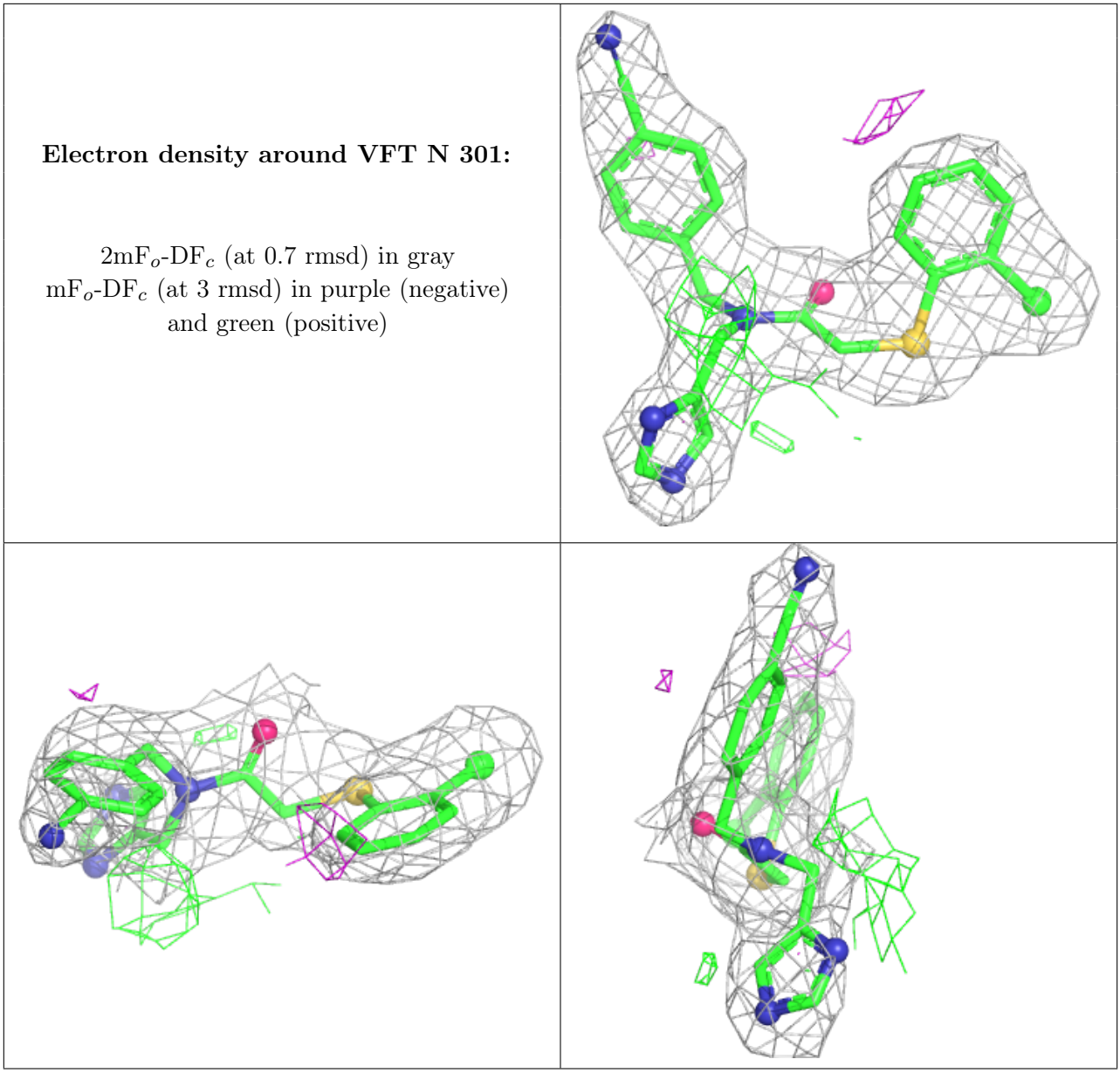






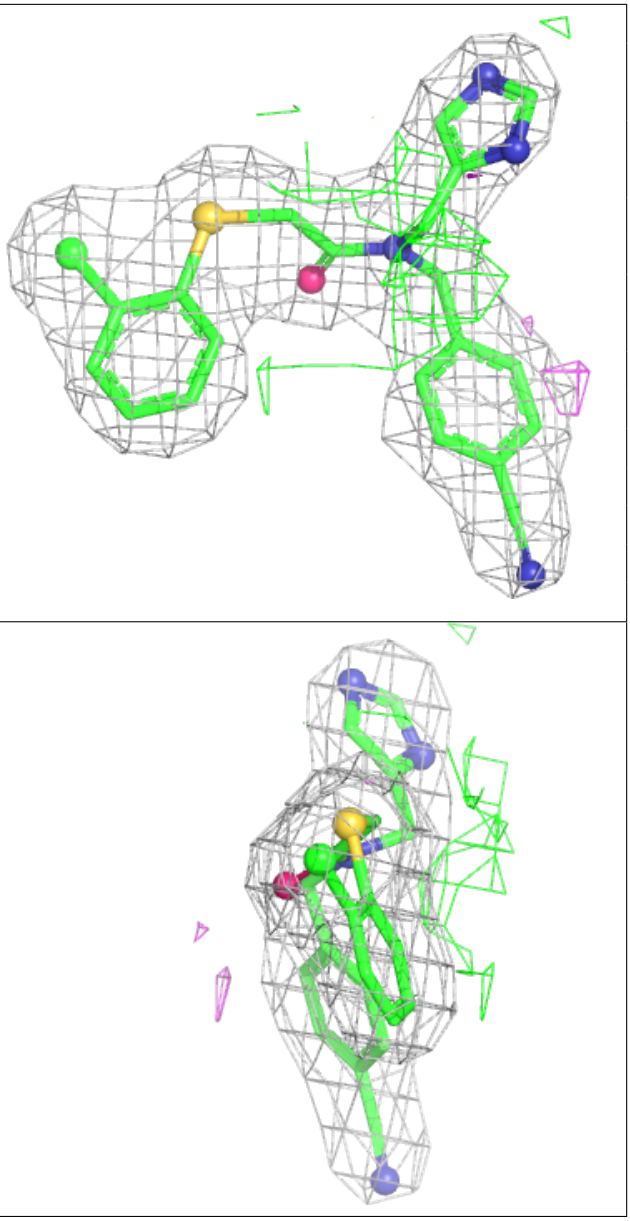
Electron density around VFT N 301:

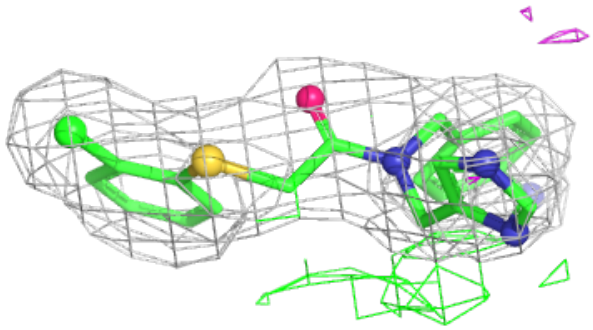
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



Electron density around VFT Q 302:

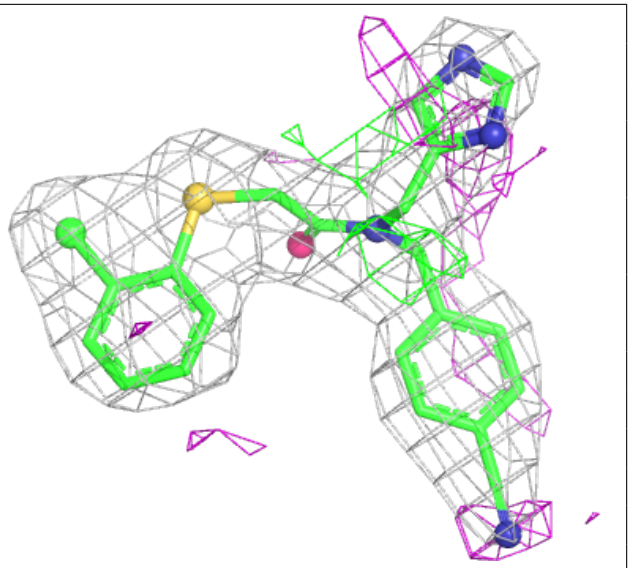
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

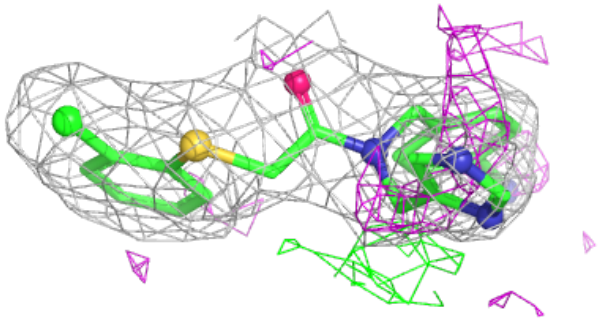


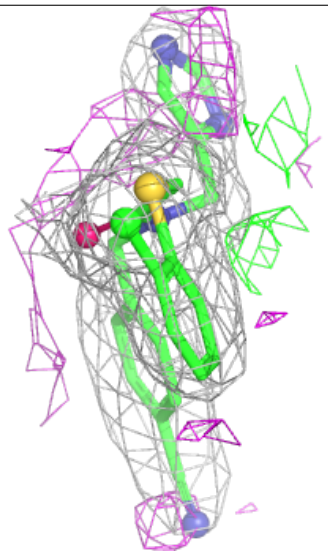


Electron density around VFT O 301:

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

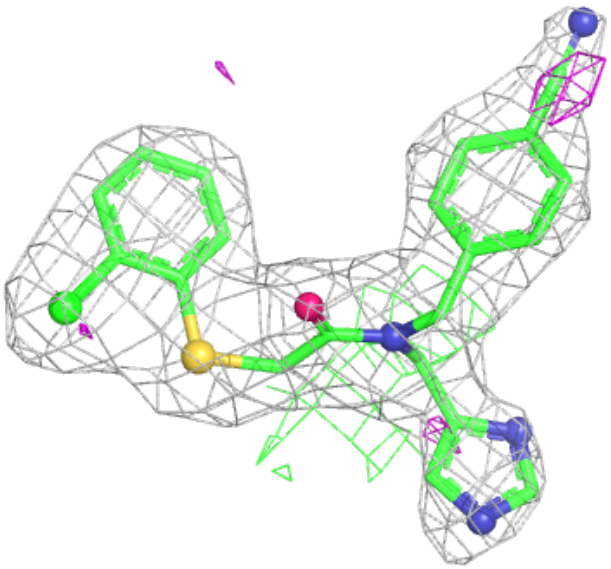


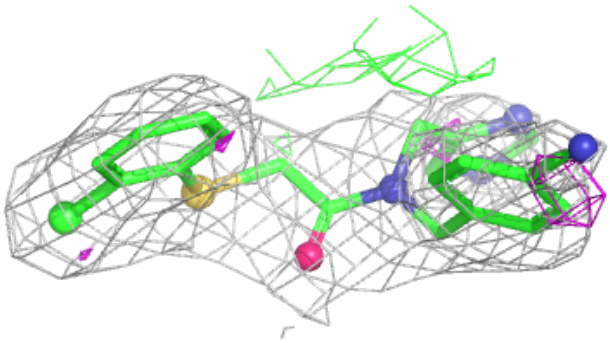


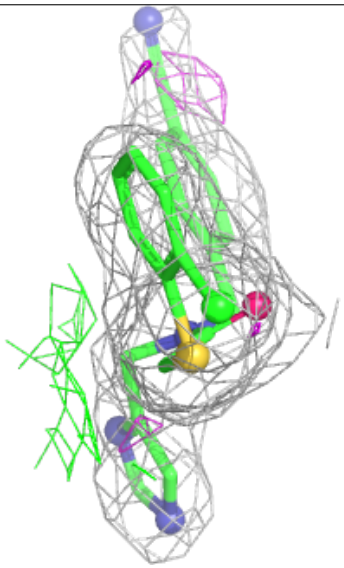


Electron density around VFT M 301:

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

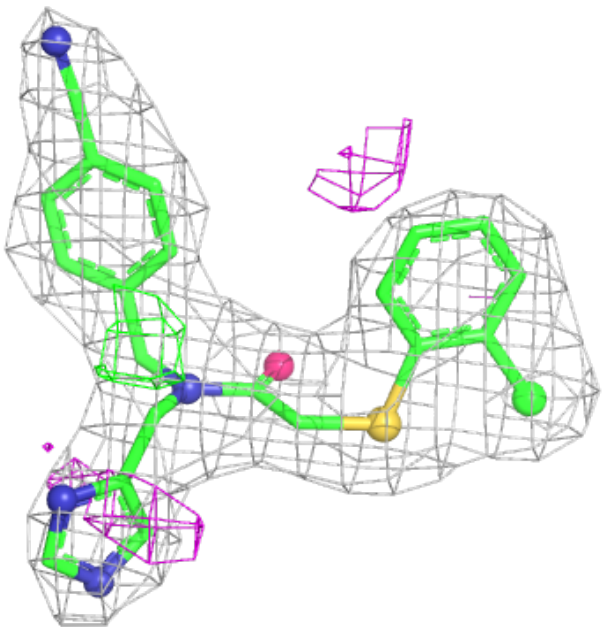


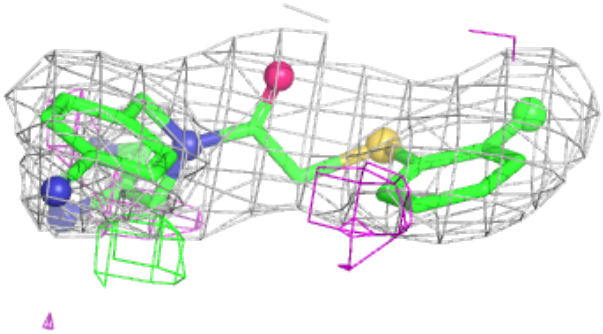


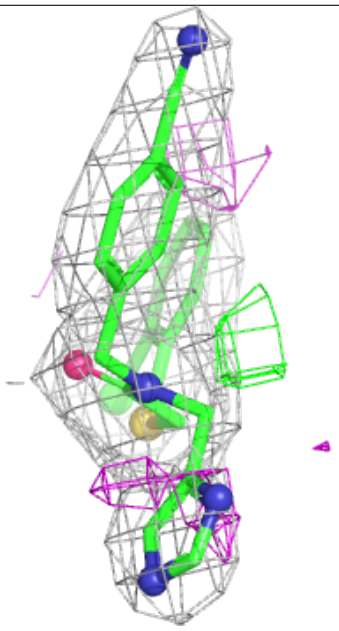


Electron density around VFT W 302:

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

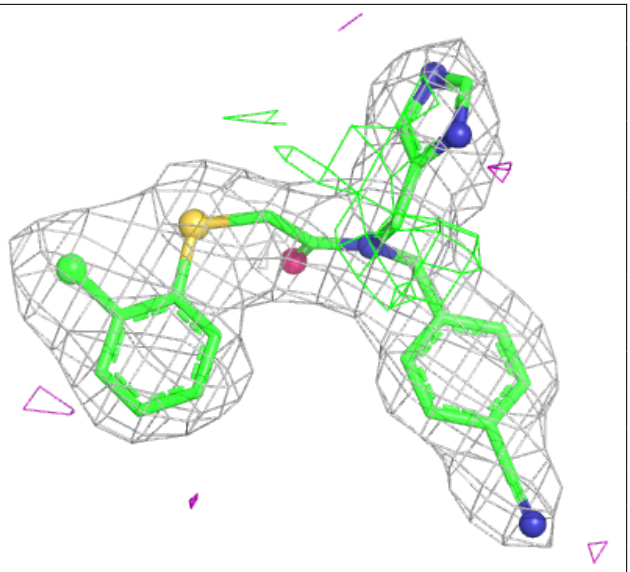


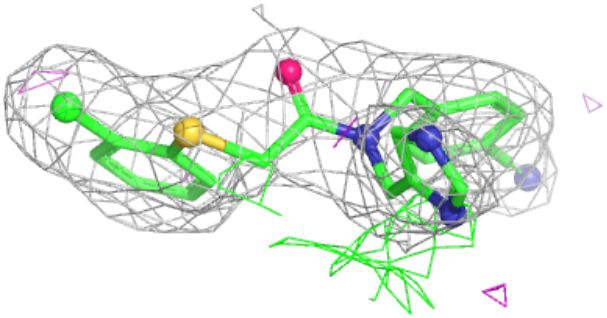




Electron density around VFT H 301:

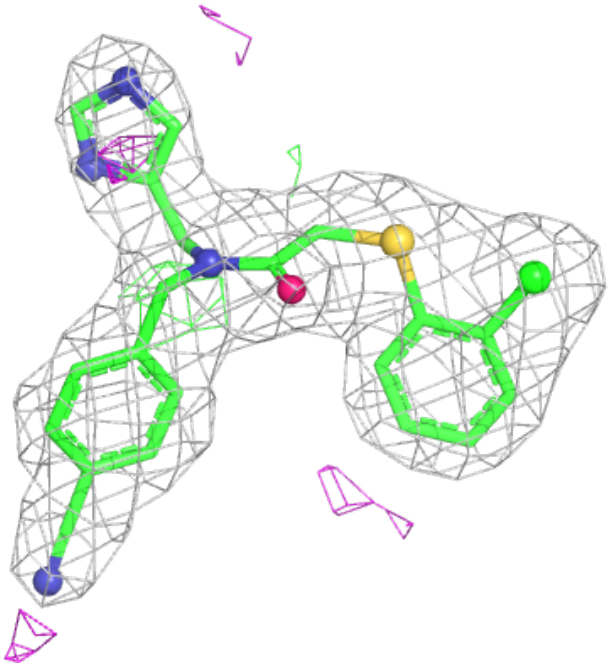
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

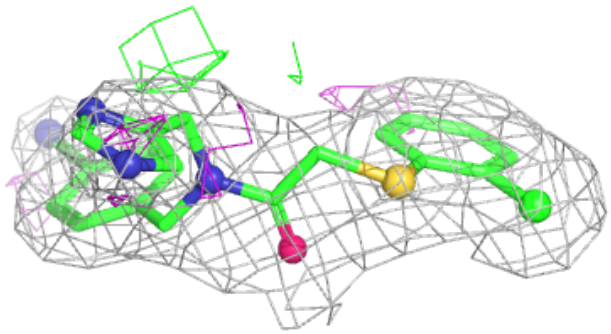


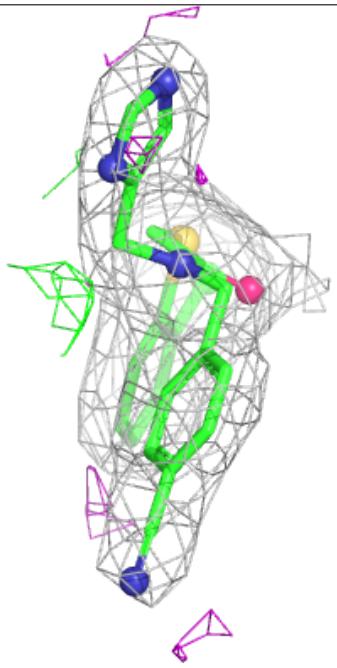


Electron density around VFT c 302:

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

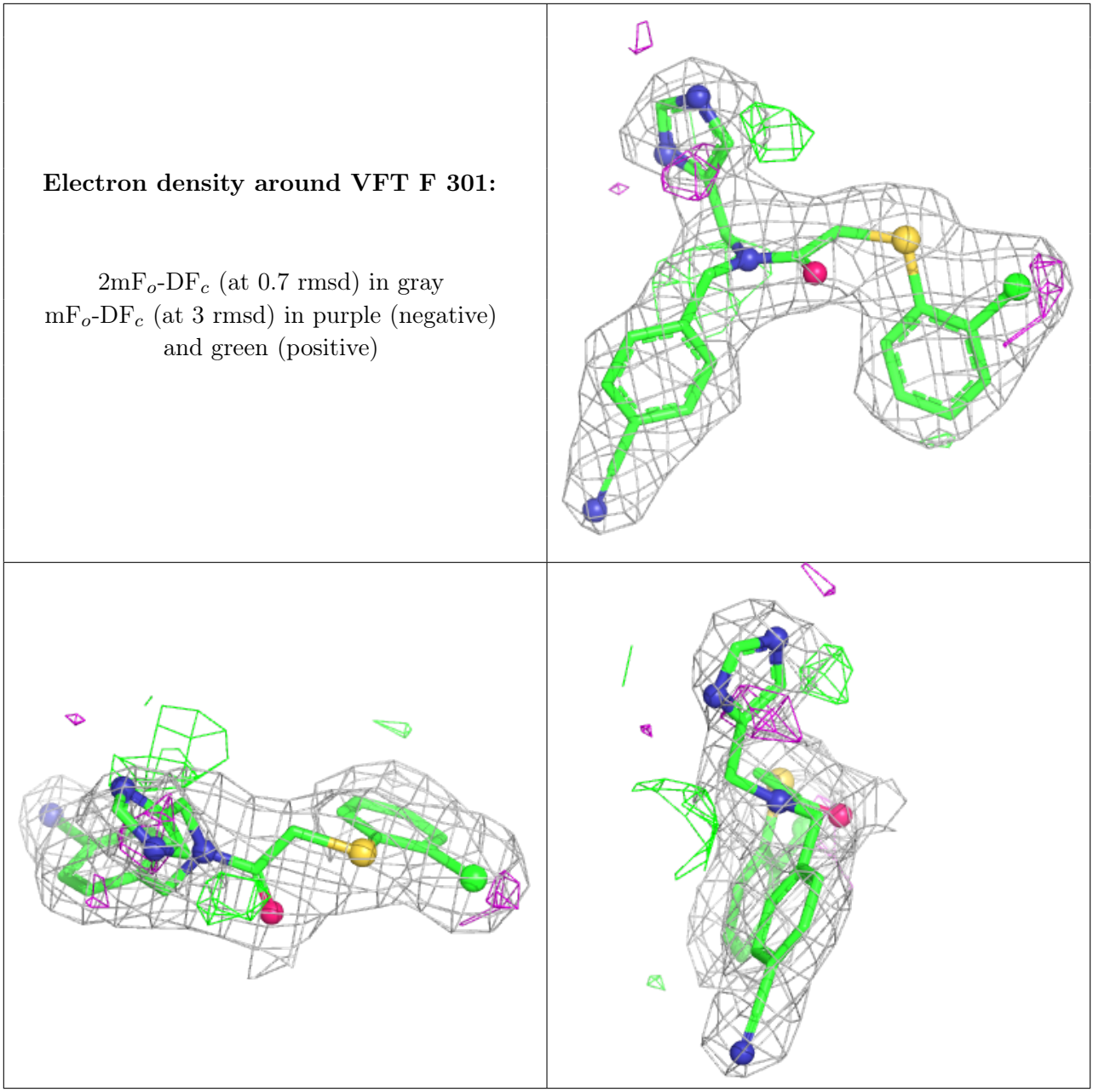






Electron density around VFT F 301:

$2mF_o$-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

There are no such residues in this entry.