



# wwPDB X-ray Structure Validation Summary Report ⓘ

Aug 29, 2020 – 12:19 PM BST

PDB ID : 6UXO  
Title : Crystal structure of BAK core domain BH3-groove-dimer in complex with DDM  
Authors : Cowan, A.D.; Colman, P.M.; Czabotar, P.E.  
Deposited on : 2019-11-07  
Resolution : 1.80 Å(reported)

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

We welcome your comments at [validation@mail.wwpdb.org](mailto: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.

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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 : 2.13  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Refmac : 5.8.0158  
CCP4 : 7.0.044 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.13

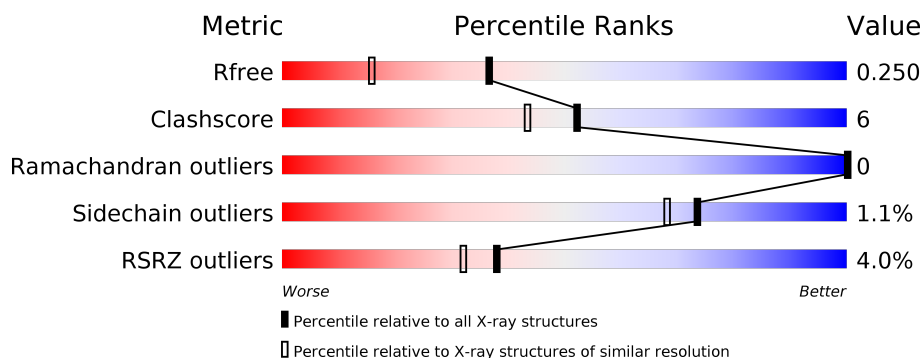
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 1.80 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	5950 (1.80-1.80)
Clashscore	141614	6793 (1.80-1.80)
Ramachandran outliers	138981	6697 (1.80-1.80)
Sidechain outliers	138945	6696 (1.80-1.80)
RSRZ outliers	127900	5850 (1.80-1.80)

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

Mol	Chain	Length	Quality of chain
1	A	85	<div> <div>4%</div> <div> <div></div> <div>82%</div> <div>12%</div> <div>6%</div> </div> </div>
1	B	85	<div> <div>2%</div> <div> <div></div> <div>79%</div> <div>12%</div> <div>8%</div> </div> </div>
1	C	85	<div> <div>5%</div> <div> <div></div> <div>92%</div> <div>5%</div> </div> </div>
1	D	85	<div> <div>5%</div> <div> <div></div> <div>87%</div> <div>6%</div> <div>7%</div> </div> </div>
1	E	85	<div> <div>5%</div> <div> <div></div> <div>81%</div> <div>13%</div> <div>6%</div> </div> </div>
1	F	85	<div> <div>4%</div> <div> <div></div> <div>82%</div> <div>11%</div> <div>7%</div> </div> </div>

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Mol	Chain	Length	Quality of chain
1	G	85	
1	H	85	
1	I	85	
1	J	85	
1	K	85	
1	L	85	

## 2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 9090 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 Bcl-2 homologous antagonist/killer.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	80	Total	C	N	O	S	0	0	0
			640	408	112	118	2			
1	B	78	Total	C	N	O	S	0	1	0
			629	401	110	116	2			
1	C	81	Total	C	N	O	S	0	0	0
			644	410	113	119	2			
1	D	79	Total	C	N	O	S	0	0	0
			634	405	111	116	2			
1	E	80	Total	C	N	O	S	0	0	0
			640	408	112	118	2			
1	F	79	Total	C	N	O	S	0	0	0
			634	405	111	116	2			
1	G	81	Total	C	N	O	S	0	1	0
			652	415	114	120	3			
1	H	78	Total	C	N	O	S	0	1	0
			635	404	112	117	2			
1	I	81	Total	C	N	O	S	0	0	0
			644	410	113	119	2			
1	J	78	Total	C	N	O	S	0	0	0
			626	399	110	115	2			
1	K	79	Total	C	N	O	S	0	1	0
			642	410	112	117	3			
1	L	81	Total	C	N	O	S	0	1	0
			655	417	114	121	3			

There are 48 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	64	GLY	-	expression tag	UNP Q16611
A	65	PRO	-	expression tag	UNP Q16611
A	66	LEU	-	expression tag	UNP Q16611
A	67	GLY	-	expression tag	UNP Q16611
B	64	GLY	-	expression tag	UNP Q16611

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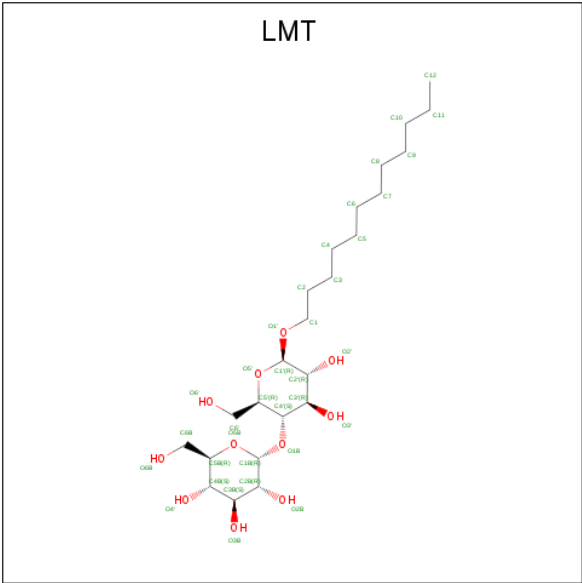
Chain	Residue	Modelled	Actual	Comment	Reference
B	65	PRO	-	expression tag	UNP Q16611
B	66	LEU	-	expression tag	UNP Q16611
B	67	GLY	-	expression tag	UNP Q16611
C	64	GLY	-	expression tag	UNP Q16611
C	65	PRO	-	expression tag	UNP Q16611
C	66	LEU	-	expression tag	UNP Q16611
C	67	GLY	-	expression tag	UNP Q16611
D	64	GLY	-	expression tag	UNP Q16611
D	65	PRO	-	expression tag	UNP Q16611
D	66	LEU	-	expression tag	UNP Q16611
D	67	GLY	-	expression tag	UNP Q16611
E	64	GLY	-	expression tag	UNP Q16611
E	65	PRO	-	expression tag	UNP Q16611
E	66	LEU	-	expression tag	UNP Q16611
E	67	GLY	-	expression tag	UNP Q16611
F	64	GLY	-	expression tag	UNP Q16611
F	65	PRO	-	expression tag	UNP Q16611
F	66	LEU	-	expression tag	UNP Q16611
F	67	GLY	-	expression tag	UNP Q16611
G	64	GLY	-	expression tag	UNP Q16611
G	65	PRO	-	expression tag	UNP Q16611
G	66	LEU	-	expression tag	UNP Q16611
G	67	GLY	-	expression tag	UNP Q16611
H	64	GLY	-	expression tag	UNP Q16611
H	65	PRO	-	expression tag	UNP Q16611
H	66	LEU	-	expression tag	UNP Q16611
H	67	GLY	-	expression tag	UNP Q16611
I	64	GLY	-	expression tag	UNP Q16611
I	65	PRO	-	expression tag	UNP Q16611
I	66	LEU	-	expression tag	UNP Q16611
I	67	GLY	-	expression tag	UNP Q16611
J	64	GLY	-	expression tag	UNP Q16611
J	65	PRO	-	expression tag	UNP Q16611
J	66	LEU	-	expression tag	UNP Q16611
J	67	GLY	-	expression tag	UNP Q16611
K	64	GLY	-	expression tag	UNP Q16611
K	65	PRO	-	expression tag	UNP Q16611
K	66	LEU	-	expression tag	UNP Q16611
K	67	GLY	-	expression tag	UNP Q16611
L	64	GLY	-	expression tag	UNP Q16611
L	65	PRO	-	expression tag	UNP Q16611
L	66	LEU	-	expression tag	UNP Q16611

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Chain	Residue	Modelled	Actual	Comment	Reference
L	67	GLY	-	expression tag	UNP Q16611

- Molecule 2 is DODECYL-BETA-D-MALTOSE (three-letter code: LMT) (formula: C<sub>24</sub>H<sub>46</sub>O<sub>11</sub>) (labeled as "Ligand of Interest" by author).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total	C	O	0	0
			35	24	11		
2	A	1	Total	C	O	0	0
			23	16	7		
2	B	1	Total	C		0	0
			12	12			
2	C	1	Total	C	O	0	0
			35	24	11		
2	C	1	Total	C	O	0	0
			35	24	11		
2	C	1	Total	C	O	0	0
			35	24	11		
2	D	1	Total	C	O	0	0
			23	18	5		
2	E	1	Total	C	O	0	0
			35	24	11		
2	E	1	Total	C	O	0	0
			30	19	11		
2	E	1	Total	C	O	0	0
			24	18	6		

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	F	1	Total	C	O	0	0
			35	24	11		
2	F	1	Total	C	O	0	0
			35	24	11		
2	G	1	Total	C	O	0	1
			70	48	22		
2	G	1	Total	C	O	0	0
			35	24	11		
2	H	1	Total	C	O	0	0
			31	20	11		
2	H	1	Total	C	O	0	0
			35	24	11		
2	I	1	Total	C	O	0	0
			35	24	11		
2	I	1	Total	C	O	0	0
			35	24	11		
2	J	1	Total	C	O	0	0
			35	24	11		
2	J	1	Total	C	O	0	0
			35	24	11		
2	J	1	Total	C	O	0	0
			28	20	8		
2	K	1	Total	C	O	0	0
			35	24	11		
2	K	1	Total	C	O	0	0
			35	24	11		
2	L	1	Total	C	O	0	0
			24	18	6		

- Molecule 3 is SULFATE ION (three-letter code: SO4) (formula: O<sub>4</sub>S).



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

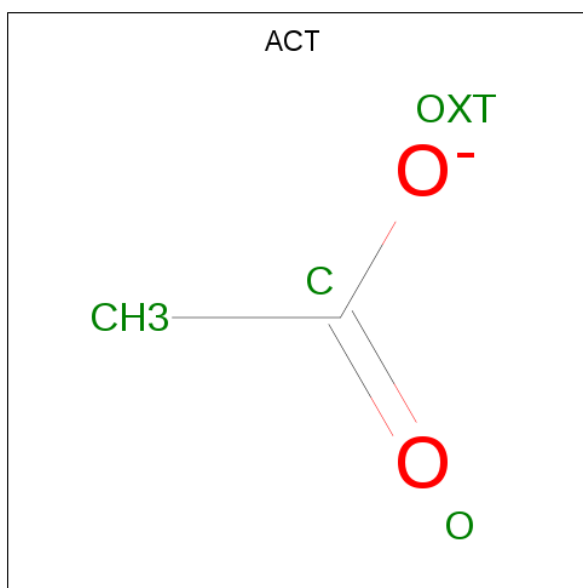
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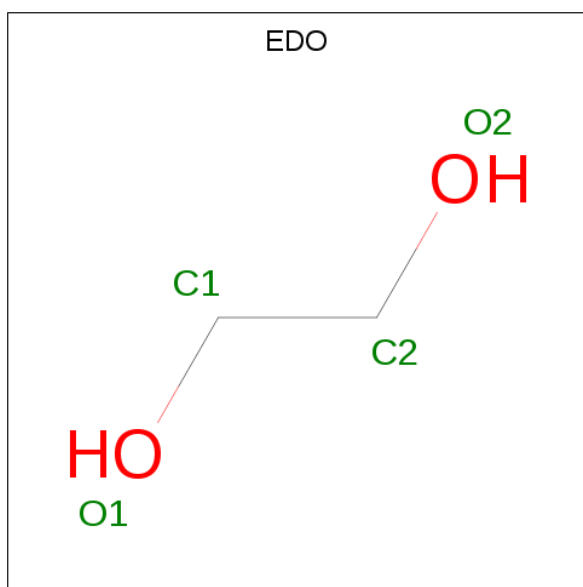
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	E	1	Total	O	S	0	0
			5	4	1		
3	E	1	Total	O	S	0	0
			5	4	1		
3	F	1	Total	O	S	0	0
			5	4	1		
3	F	1	Total	O	S	0	0
			5	4	1		
3	G	1	Total	O	S	0	0
			5	4	1		
3	G	1	Total	O	S	0	0
			5	4	1		
3	G	1	Total	O	S	0	0
			5	4	1		
3	G	1	Total	O	S	0	0
			5	4	1		
3	H	1	Total	O	S	0	0
			5	4	1		
3	H	1	Total	O	S	0	0
			5	4	1		
3	H	1	Total	O	S	0	0
			5	4	1		
3	I	1	Total	O	S	0	0
			5	4	1		
3	I	1	Total	O	S	0	0
			5	4	1		
3	J	1	Total	O	S	0	0
			5	4	1		
3	J	1	Total	O	S	0	0
			5	4	1		
3	J	1	Total	O	S	0	0
			5	4	1		
3	J	1	Total	O	S	0	0
			5	4	1		
3	K	1	Total	O	S	0	0
			5	4	1		
3	K	1	Total	O	S	0	0
			5	4	1		
3	L	1	Total	O	S	0	0
			5	4	1		
3	L	1	Total	O	S	0	0
			5	4	1		

- Molecule 4 is ACETATE ION (three-letter code: ACT) (formula:  $\text{C}_2\text{H}_3\text{O}_2$ ).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	A	1	Total	C	O	0	0
			4	2	2		
4	C	1	Total	C	O	0	0
			4	2	2		
4	E	1	Total	C	O	0	0
			4	2	2		
4	G	1	Total	C	O	0	0
			4	2	2		
4	I	1	Total	C	O	0	0
			4	2	2		
4	K	1	Total	C	O	0	0
			4	2	2		

- Molecule 5 is 1,2-ETHANEDIOL (three-letter code: EDO) (formula:  $\text{C}_2\text{H}_6\text{O}_2$ ).



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

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	G	1	Total 4	C 2	O 2	0	0
5	G	1	Total 4	C 2	O 2	0	0
5	H	1	Total 4	C 2	O 2	0	0
5	I	1	Total 4	C 2	O 2	0	0
5	I	1	Total 4	C 2	O 2	0	0
5	J	1	Total 4	C 2	O 2	0	0
5	J	1	Total 4	C 2	O 2	0	0
5	K	1	Total 4	C 2	O 2	0	0
5	L	1	Total 4	C 2	O 2	0	0
5	L	1	Total 4	C 2	O 2	0	0
5	L	1	Total 4	C 2	O 2	0	0

- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	25	Total 25	O 25	0	0
6	B	33	Total 33	O 33	0	0
6	C	28	Total 28	O 28	0	0
6	D	21	Total 21	O 21	0	0
6	E	35	Total 35	O 35	0	0
6	F	25	Total 25	O 25	0	0
6	G	23	Total 23	O 23	0	0
6	H	23	Total 23	O 23	0	0

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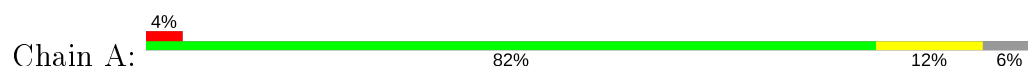
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	I	32	Total 32	O 32	0	0
6	J	22	Total 22	O 22	0	0
6	K	29	Total 29	O 29	0	0
6	L	30	Total 30	O 30	0	0

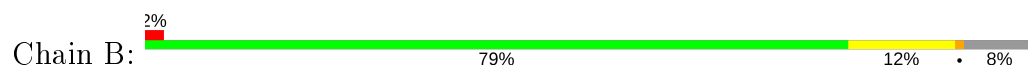
### 3 Residue-property plots [i](#)

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.

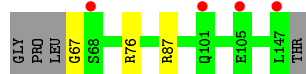
- Molecule 1: Bcl-2 homologous antagonist/killer



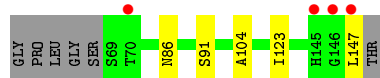
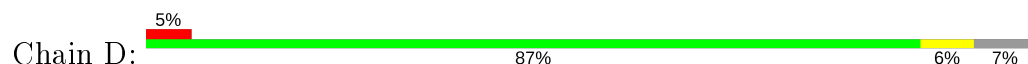
- Molecule 1: Bcl-2 homologous antagonist/killer



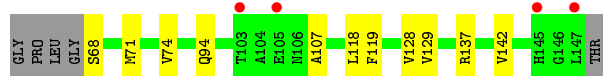
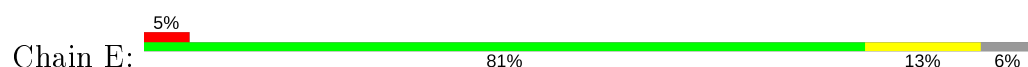
- Molecule 1: Bcl-2 homologous antagonist/killer



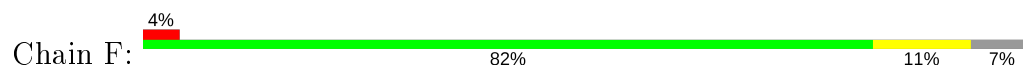
- Molecule 1: Bcl-2 homologous antagonist/killer



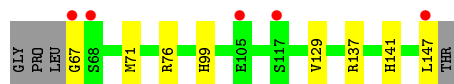
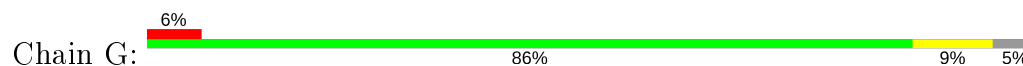
- Molecule 1: Bcl-2 homologous antagonist/killer



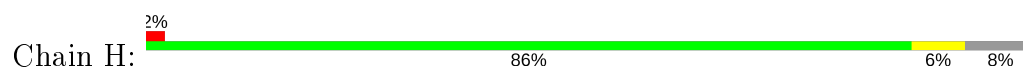
- Molecule 1: Bcl-2 homologous antagonist/killer



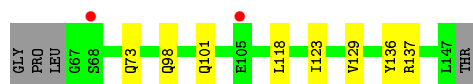
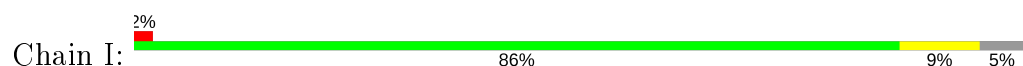
- Molecule 1: Bcl-2 homologous antagonist/killer



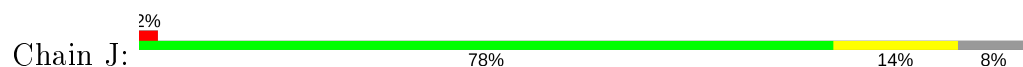
- Molecule 1: Bcl-2 homologous antagonist/killer



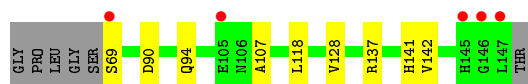
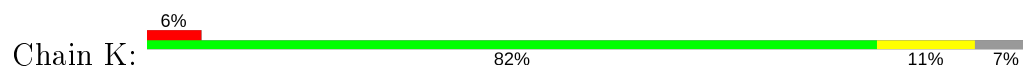
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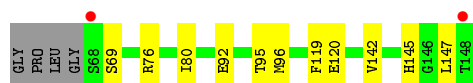
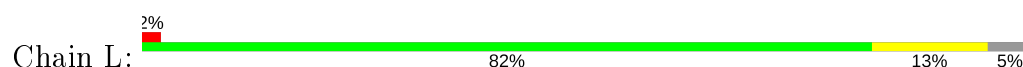
- Molecule 1: Bcl-2 homologous antagonist/killer



- Molecule 1: Bcl-2 homologous antagonist/killer



- Molecule 1: Bcl-2 homologous antagonist/killer



## 4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	158.94Å 91.83Å 95.72Å 90.00° 107.52° 90.00°	Depositor
Resolution (Å)	39.45 – 1.80 45.64 – 1.80	Depositor EDS
% Data completeness (in resolution range)	99.2 (39.45-1.80) 88.1 (45.64-1.80)	Depositor EDS
$R_{merge}$	0.08	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	0.21 (at 1.79Å)	Xtriage
Refinement program	PHENIX 1.14	Depositor
R, $R_{free}$	0.212 , 0.250 0.212 , 0.250	Depositor DCC
$R_{free}$ test set	2000 reflections (1.65%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	25.6	Xtriage
Anisotropy	0.140	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.37 , 68.7	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.44$ , $\langle L^2 \rangle = 0.27$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.95	EDS
Total number of atoms	9090	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	45.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 44.13 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 1.5949e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical values of  $\langle |L| \rangle$ ,  $\langle L^2 \rangle$  for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.



## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: ACT, LMT, EDO, SO4

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	0.38	0/654	0.51	0/884
1	B	0.41	0/646	0.51	0/873
1	C	0.36	0/658	0.49	0/889
1	D	0.37	0/648	0.51	0/876
1	E	0.43	0/654	0.54	0/884
1	F	0.43	0/648	0.60	0/876
1	G	0.37	0/666	0.51	0/899
1	H	0.38	0/649	0.52	0/877
1	I	0.43	0/658	0.56	0/889
1	J	0.43	0/640	0.54	0/865
1	K	0.40	0/656	0.54	0/886
1	L	0.43	0/669	0.57	0/904
All	All	0.40	0/7846	0.53	0/10602

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

### 5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	640	0	620	6	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	629	0	609	10	0
1	C	644	0	623	3	0
1	D	634	0	615	3	0
1	E	640	0	620	10	0
1	F	634	0	615	9	0
1	G	652	0	631	5	0
1	H	635	0	611	5	0
1	I	644	0	623	6	0
1	J	626	0	604	11	0
1	K	642	0	623	7	0
1	L	655	0	635	10	0
2	A	58	0	65	3	0
2	B	12	0	23	1	0
2	C	105	0	135	5	0
2	D	23	0	34	0	0
2	E	89	0	113	3	0
2	F	70	0	91	5	0
2	G	105	0	133	3	0
2	H	66	0	81	1	0
2	I	70	0	92	2	0
2	J	98	0	129	7	0
2	K	70	0	91	2	0
2	L	24	0	35	1	0
3	A	15	0	0	0	0
3	B	15	0	0	2	0
3	C	20	0	0	1	0
3	D	15	0	0	0	0
3	E	15	0	0	1	0
3	F	10	0	0	0	0
3	G	20	0	0	1	0
3	H	15	0	0	1	0
3	I	10	0	0	0	0
3	J	20	0	0	1	0
3	K	10	0	0	1	0
3	L	10	0	0	0	0
4	A	4	0	3	0	0
4	C	4	0	3	0	0
4	E	4	0	3	0	0
4	G	4	0	3	0	0
4	I	4	0	3	0	0
4	K	4	0	3	0	0
5	A	4	0	6	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	B	20	0	30	1	0
5	D	4	0	6	0	0
5	E	12	0	18	1	0
5	F	16	0	24	2	0
5	G	8	0	12	0	0
5	H	4	0	6	0	0
5	I	8	0	12	0	0
5	J	8	0	12	1	0
5	K	4	0	6	0	0
5	L	12	0	18	2	0
6	A	25	0	0	1	0
6	B	33	0	0	1	0
6	C	28	0	0	3	0
6	D	21	0	0	1	0
6	E	35	0	0	1	0
6	F	25	0	0	0	0
6	G	23	0	0	0	0
6	H	23	0	0	2	0
6	I	32	0	0	3	0
6	J	22	0	0	1	0
6	K	29	0	0	2	0
6	L	30	0	0	2	0
All	All	9090	0	8619	96	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 6.

The worst 5 of 96 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:137:ARG:NH1	6:K:301:HOH:O	2.11	0.83
1:L:145:HIS:HB2	1:L:147:LEU:HD11	1.62	0.82
1:I:98:GLN:O	1:I:101:GLN:NE2	2.16	0.76
1:J:98:GLN:OE1	6:J:301:HOH:O	2.07	0.72
1:G:141:HIS:ND1	3:G:501:SO4:O2	2.25	0.70

There are no symmetry-related clashes.

## 5.3 Torsion angles

### 5.3.1 Protein backbone

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	78/85 (92%)	78 (100%)	0	0	100	100
1	B	77/85 (91%)	76 (99%)	1 (1%)	0	100	100
1	C	79/85 (93%)	77 (98%)	2 (2%)	0	100	100
1	D	77/85 (91%)	76 (99%)	1 (1%)	0	100	100
1	E	78/85 (92%)	78 (100%)	0	0	100	100
1	F	77/85 (91%)	77 (100%)	0	0	100	100
1	G	80/85 (94%)	79 (99%)	1 (1%)	0	100	100
1	H	77/85 (91%)	77 (100%)	0	0	100	100
1	I	79/85 (93%)	79 (100%)	0	0	100	100
1	J	76/85 (89%)	76 (100%)	0	0	100	100
1	K	78/85 (92%)	78 (100%)	0	0	100	100
1	L	80/85 (94%)	80 (100%)	0	0	100	100
All	All	936/1020 (92%)	931 (100%)	5 (0%)	0	100	100

There are no Ramachandran outliers to report.

### 5.3.2 Protein sidechains

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	66/69 (96%)	65 (98%)	1 (2%)	65	56
1	B	65/69 (94%)	64 (98%)	1 (2%)	65	56

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	C	66/69 (96%)	66 (100%)	0	100	100
1	D	65/69 (94%)	64 (98%)	1 (2%)	65	56
1	E	66/69 (96%)	65 (98%)	1 (2%)	65	56
1	F	65/69 (94%)	65 (100%)	0	100	100
1	G	67/69 (97%)	65 (97%)	2 (3%)	41	27
1	H	65/69 (94%)	65 (100%)	0	100	100
1	I	66/69 (96%)	65 (98%)	1 (2%)	65	56
1	J	64/69 (93%)	64 (100%)	0	100	100
1	K	66/69 (96%)	65 (98%)	1 (2%)	65	56
1	L	68/69 (99%)	67 (98%)	1 (2%)	65	56
All	All	789/828 (95%)	780 (99%)	9 (1%)	73	68

5 of 9 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	G	71	MET
1	L	69	SER
1	I	118	LEU
1	D	86	ASN
1	G	147	LEU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (2) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	94	GLN
1	B	144	GLN

### 5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

## 5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

## 5.6 Ligand geometry ⓘ

91 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
2	LMT	F	202	-	36,36,36	1.12	4 (11%)	47,47,47	1.08	2 (4%)
5	EDO	I	207	-	3,3,3	0.46	0	2,2,2	0.35	0
3	SO4	J	204	-	4,4,4	0.14	0	6,6,6	0.07	0
5	EDO	B	208	-	3,3,3	0.47	0	2,2,2	0.29	0
5	EDO	G	508	-	3,3,3	0.49	0	2,2,2	0.34	0
3	SO4	E	205	-	4,4,4	0.13	0	6,6,6	0.13	0
2	LMT	I	201	-	36,36,36	1.14	6 (16%)	47,47,47	1.01	2 (4%)
2	LMT	A	202	-	23,24,36	1.20	2 (8%)	27,31,47	1.28	3 (11%)
5	EDO	B	207	-	3,3,3	0.46	0	2,2,2	0.37	0
2	LMT	K	202	-	36,36,36	1.05	4 (11%)	47,47,47	1.02	2 (4%)
3	SO4	K	204	-	4,4,4	0.15	0	6,6,6	0.08	0
5	EDO	B	206	-	3,3,3	0.47	0	2,2,2	0.36	0
5	EDO	B	209	-	3,3,3	0.46	0	2,2,2	0.36	0
3	SO4	A	204	-	4,4,4	0.15	0	6,6,6	0.09	0
3	SO4	J	206	-	4,4,4	0.15	0	6,6,6	0.06	0
3	SO4	G	503	-	4,4,4	0.14	0	6,6,6	0.07	0
5	EDO	F	208	-	3,3,3	0.48	0	2,2,2	0.37	0
5	EDO	J	208	-	3,3,3	0.38	0	2,2,2	0.67	0
3	SO4	B	201	-	4,4,4	0.18	0	6,6,6	0.14	0
3	SO4	A	205	-	4,4,4	0.13	0	6,6,6	0.10	0
5	EDO	D	205	-	3,3,3	0.49	0	2,2,2	0.36	0
4	ACT	E	207	-	1,3,3	6.77	1 (100%)	0,3,3	0.00	-
5	EDO	H	206	-	3,3,3	0.46	0	2,2,2	0.31	0
3	SO4	A	203	-	4,4,4	0.14	0	6,6,6	0.04	0
2	LMT	E	203	-	24,24,36	1.00	2 (8%)	29,29,47	1.13	2 (6%)
5	EDO	F	206	-	3,3,3	0.45	0	2,2,2	0.40	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
3	SO4	G	502	-	4,4,4	0.12	0	6,6,6	0.14	0
5	EDO	B	205	-	3,3,3	0.45	0	2,2,2	0.37	0
3	SO4	I	202	-	4,4,4	0.13	0	6,6,6	0.07	0
2	LMT	F	201	-	36,36,36	1.06	5 (13%)	47,47,47	1.05	4 (8%)
5	EDO	J	209	-	3,3,3	0.46	0	2,2,2	0.25	0
4	ACT	K	205	-	1,3,3	7.34	1 (100%)	0,3,3	0.00	-
2	LMT	J	201	-	36,36,36	1.18	4 (11%)	47,47,47	0.96	2 (4%)
2	LMT	L	201	-	24,24,36	1.00	1 (4%)	29,29,47	1.05	2 (6%)
3	SO4	H	204	-	4,4,4	0.14	0	6,6,6	0.05	0
2	LMT	J	203	-	28,28,36	0.91	1 (3%)	32,34,47	1.11	3 (9%)
2	LMT	G	506[B]	-	36,36,36	1.18	6 (16%)	47,47,47	1.12	3 (6%)
4	ACT	C	206	-	1,3,3	4.86	1 (100%)	0,3,3	0.00	-
3	SO4	I	203	-	4,4,4	0.14	0	6,6,6	0.11	0
2	LMT	H	201	-	32,32,36	1.15	5 (15%)	43,43,47	0.95	2 (4%)
5	EDO	L	206	-	3,3,3	0.45	0	2,2,2	0.50	0
2	LMT	D	202	-	23,23,36	1.15	4 (17%)	26,27,47	1.26	3 (11%)
5	EDO	K	206	-	3,3,3	0.49	0	2,2,2	0.26	0
5	EDO	I	206	-	3,3,3	0.38	0	2,2,2	0.66	0
3	SO4	C	205	-	4,4,4	0.14	0	6,6,6	0.08	0
2	LMT	C	207	-	36,36,36	1.13	3 (8%)	47,47,47	1.25	3 (6%)
3	SO4	C	202	-	4,4,4	0.13	0	6,6,6	0.09	0
3	SO4	D	203	-	4,4,4	0.13	0	6,6,6	0.11	0
2	LMT	B	202	-	11,11,36	0.23	0	10,10,47	0.77	0
2	LMT	H	203	-	36,36,36	1.12	3 (8%)	47,47,47	1.10	3 (6%)
5	EDO	L	204	-	3,3,3	0.37	0	2,2,2	1.04	0
5	EDO	E	208	-	3,3,3	0.47	0	2,2,2	0.34	0
2	LMT	C	201	-	36,36,36	1.13	4 (11%)	47,47,47	0.85	0
2	LMT	I	205	-	36,36,36	1.10	3 (8%)	47,47,47	0.97	2 (4%)
3	SO4	J	205	-	4,4,4	0.15	0	6,6,6	0.08	0
5	EDO	F	205	-	3,3,3	0.43	0	2,2,2	0.35	0
3	SO4	C	204	-	4,4,4	0.13	0	6,6,6	0.08	0
3	SO4	H	205	-	4,4,4	0.15	0	6,6,6	0.13	0
4	ACT	A	206	-	1,3,3	5.82	1 (100%)	0,3,3	0.00	-
4	ACT	I	204	-	1,3,3	4.85	1 (100%)	0,3,3	0.00	-
3	SO4	L	203	-	4,4,4	0.13	0	6,6,6	0.08	0
3	SO4	D	201	-	4,4,4	0.14	0	6,6,6	0.08	0
2	LMT	C	208	-	36,36,36	1.12	5 (13%)	47,47,47	1.19	6 (12%)
2	LMT	A	201	-	36,36,36	1.09	4 (11%)	47,47,47	1.00	1 (2%)
3	SO4	C	203	-	4,4,4	0.13	0	6,6,6	0.17	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
3	SO4	E	204	-	4,4,4	0.18	0	6,6,6	0.09	0
3	SO4	K	203	-	4,4,4	0.14	0	6,6,6	0.15	0
5	EDO	L	205	-	3,3,3	0.44	0	2,2,2	0.32	0
3	SO4	L	202	-	4,4,4	0.16	0	6,6,6	0.09	0
2	LMT	G	507	-	36,36,36	1.12	3 (8%)	47,47,47	1.06	2 (4%)
3	SO4	B	204	-	4,4,4	0.14	0	6,6,6	0.08	0
3	SO4	H	202	-	4,4,4	0.15	0	6,6,6	0.07	0
3	SO4	G	504	-	4,4,4	0.14	0	6,6,6	0.06	0
2	LMT	J	202	-	36,36,36	1.11	4 (11%)	47,47,47	1.10	4 (8%)
4	ACT	G	505	-	1,3,3	6.08	1 (100%)	0,3,3	0.00	-
5	EDO	F	207	-	3,3,3	0.42	0	2,2,2	0.44	0
3	SO4	J	207	-	4,4,4	0.14	0	6,6,6	0.07	0
5	EDO	E	210	-	3,3,3	0.43	0	2,2,2	0.39	0
5	EDO	G	509	-	3,3,3	0.53	0	2,2,2	0.21	0
3	SO4	F	203	-	4,4,4	0.13	0	6,6,6	0.08	0
3	SO4	F	204	-	4,4,4	0.15	0	6,6,6	0.10	0
3	SO4	G	501	-	4,4,4	0.13	0	6,6,6	0.06	0
2	LMT	K	201	-	36,36,36	1.18	5 (13%)	47,47,47	1.02	1 (2%)
2	LMT	G	506[A]	-	36,36,36	1.13	6 (16%)	47,47,47	1.09	3 (6%)
5	EDO	A	207	-	3,3,3	0.46	0	2,2,2	0.33	0
3	SO4	D	204	-	4,4,4	0.13	0	6,6,6	0.11	0
2	LMT	E	202	-	31,31,36	1.21	4 (12%)	42,42,47	1.12	4 (9%)
3	SO4	B	203	-	4,4,4	0.13	0	6,6,6	0.08	0
3	SO4	E	206	-	4,4,4	0.13	0	6,6,6	0.06	0
2	LMT	E	201	-	36,36,36	1.08	5 (13%)	47,47,47	0.92	0
5	EDO	E	209	-	3,3,3	0.44	0	2,2,2	0.51	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
5	EDO	K	206	-	-	0/1/1/1	-
5	EDO	J	208	-	-	1/1/1/1	-
2	LMT	F	202	-	-	14/21/61/61	0/2/2/2
5	EDO	I	207	-	-	1/1/1/1	-
2	LMT	C	207	-	-	13/21/61/61	0/2/2/2
5	EDO	D	205	-	-	1/1/1/1	-
2	LMT	G	506[A]	-	-	13/21/61/61	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	LMT	C	208	-	-	9/21/61/61	0/2/2/2
2	LMT	A	201	-	-	6/21/61/61	0/2/2/2
5	EDO	I	206	-	-	0/1/1/1	-
5	EDO	B	208	-	-	0/1/1/1	-
5	EDO	H	206	-	-	1/1/1/1	-
5	EDO	J	209	-	-	0/1/1/1	-
5	EDO	G	508	-	-	1/1/1/1	-
2	LMT	E	203	-	-	11/15/35/61	0/1/1/2
2	LMT	A	202	-	-	6/12/39/61	1/2/2/2
5	EDO	F	206	-	-	0/1/1/1	-
2	LMT	K	202	-	-	13/21/61/61	0/2/2/2
2	LMT	G	507	-	-	10/21/61/61	0/2/2/2
2	LMT	I	201	-	-	16/21/61/61	0/2/2/2
5	EDO	L	204	-	-	1/1/1/1	-
5	EDO	E	208	-	-	1/1/1/1	-
5	EDO	B	205	-	-	0/1/1/1	-
2	LMT	J	202	-	-	9/21/61/61	0/2/2/2
2	LMT	I	205	-	-	8/21/61/61	0/2/2/2
2	LMT	F	201	-	-	9/21/61/61	0/2/2/2
5	EDO	F	207	-	-	1/1/1/1	-
2	LMT	H	201	-	-	4/17/57/61	0/2/2/2
2	LMT	B	202	-	-	5/9/9/61	-
5	EDO	B	207	-	-	0/1/1/1	-
2	LMT	H	203	-	-	8/21/61/61	0/2/2/2
5	EDO	E	210	-	-	1/1/1/1	-
5	EDO	B	206	-	-	0/1/1/1	-
5	EDO	F	205	-	-	0/1/1/1	-
2	LMT	J	201	-	-	6/21/61/61	0/2/2/2
2	LMT	L	201	-	-	6/15/35/61	0/1/1/2
5	EDO	G	509	-	-	0/1/1/1	-
5	EDO	B	209	-	-	0/1/1/1	-
2	LMT	J	203	-	-	16/21/41/61	0/1/1/2
2	LMT	G	506[B]	-	-	6/21/61/61	0/2/2/2
5	EDO	L	205	-	-	0/1/1/1	-
2	LMT	K	201	-	-	9/21/61/61	0/2/2/2
2	LMT	C	201	-	-	7/21/61/61	0/2/2/2
5	EDO	A	207	-	-	1/1/1/1	-
2	LMT	E	202	-	-	11/16/56/61	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	EDO	L	206	-	-	1/1/1/1	-
2	LMT	E	201	-	-	7/21/61/61	0/2/2/2
5	EDO	E	209	-	-	0/1/1/1	-
2	LMT	D	202	-	-	10/15/31/61	0/1/1/2
5	EDO	F	208	-	-	1/1/1/1	-

The worst 5 of 99 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	K	205	ACT	CH3-C	7.34	1.58	1.48
4	E	207	ACT	CH3-C	6.77	1.57	1.48
4	G	505	ACT	CH3-C	6.08	1.56	1.48
4	A	206	ACT	CH3-C	5.82	1.56	1.48
4	C	206	ACT	CH3-C	4.86	1.54	1.48

The worst 5 of 59 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	202	LMT	O1'-C1'-C2'	3.97	113.16	109.04
2	C	207	LMT	C1'-O5'-C5'	-3.79	106.24	113.69
2	D	202	LMT	C3'-C4'-C5'	-3.42	105.32	111.22
2	G	506[B]	LMT	C3'-C4'-C5'	-3.25	103.48	110.93
2	G	507	LMT	C1-O1'-C1'	3.17	119.10	113.84

There are no chirality outliers.

5 of 244 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	F	202	LMT	C2-C1-O1'-C1'
2	I	201	LMT	C2'-C1'-O1'-C1
2	I	201	LMT	O5'-C1'-O1'-C1
2	I	201	LMT	C2-C1-O1'-C1'
2	A	202	LMT	C2'-C1'-O1'-C1

All (1) ring outliers are listed below:

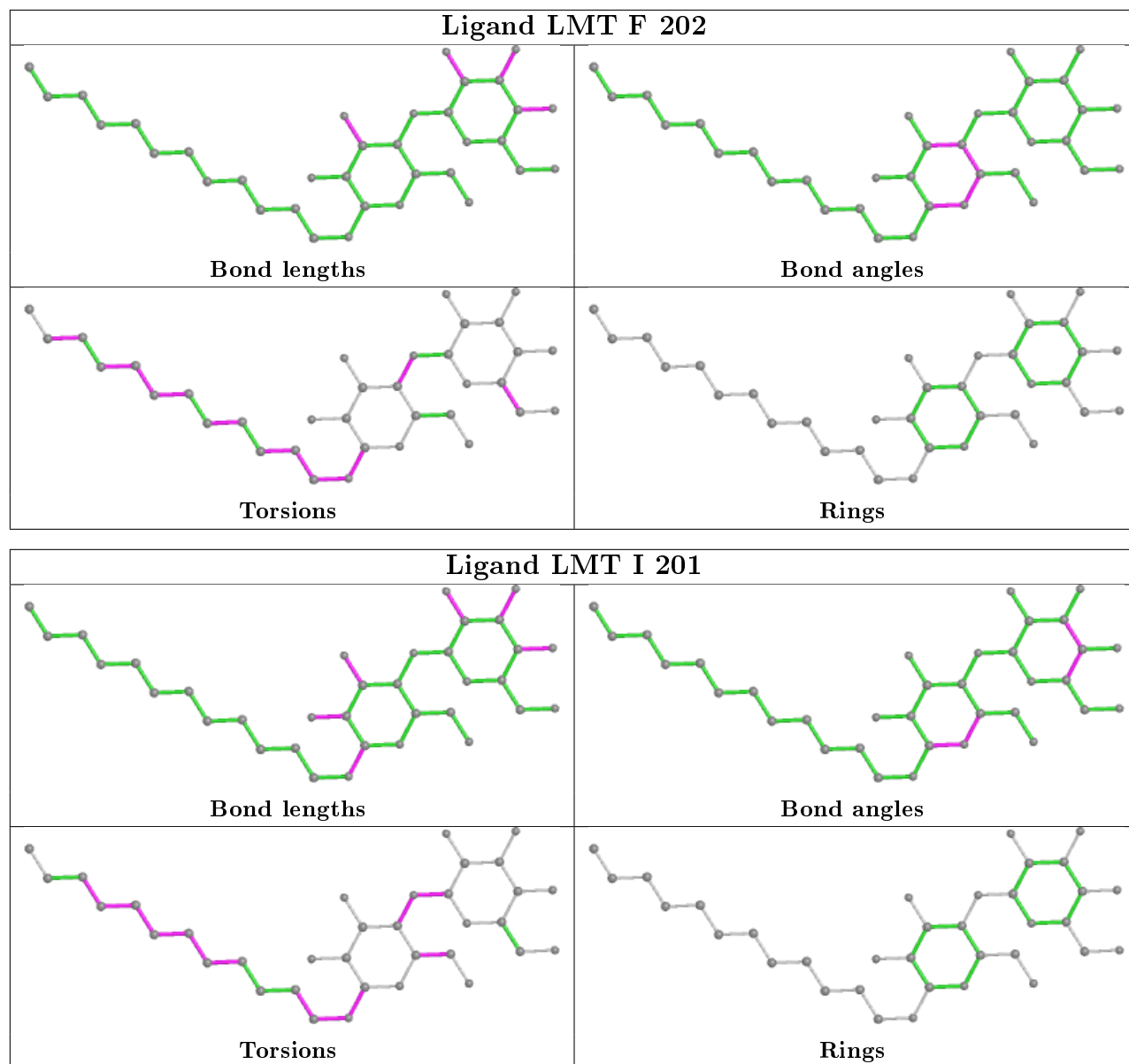
Mol	Chain	Res	Type	Atoms
2	A	202	LMT	C1'-C2'-C3'-C4'-C5'-O5'

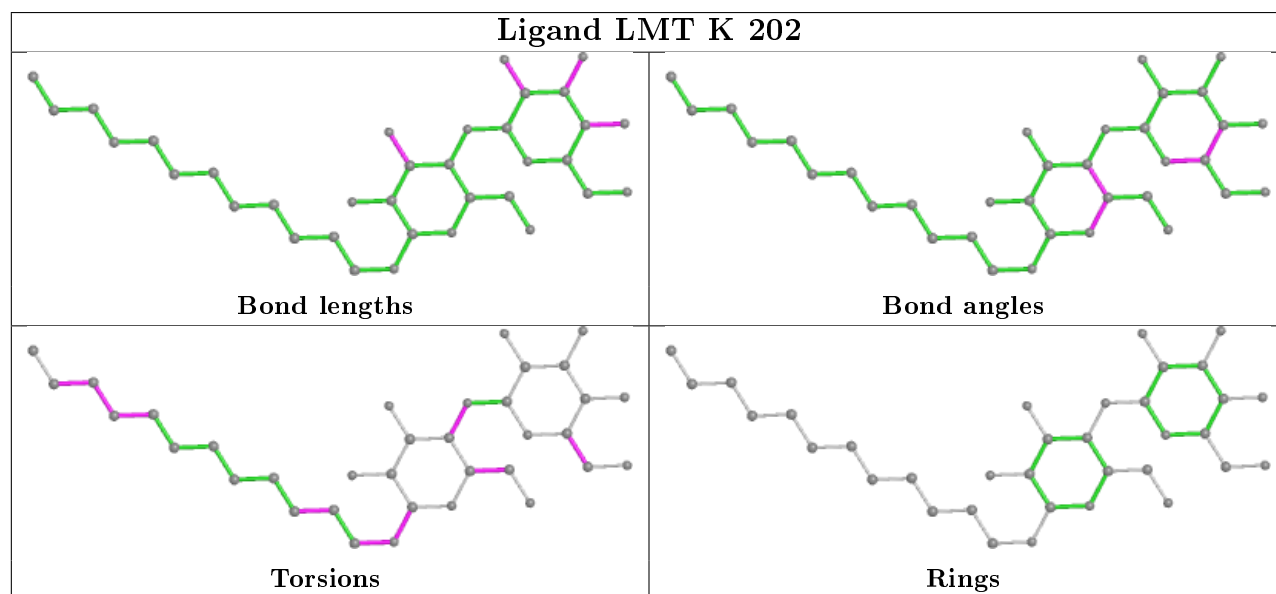
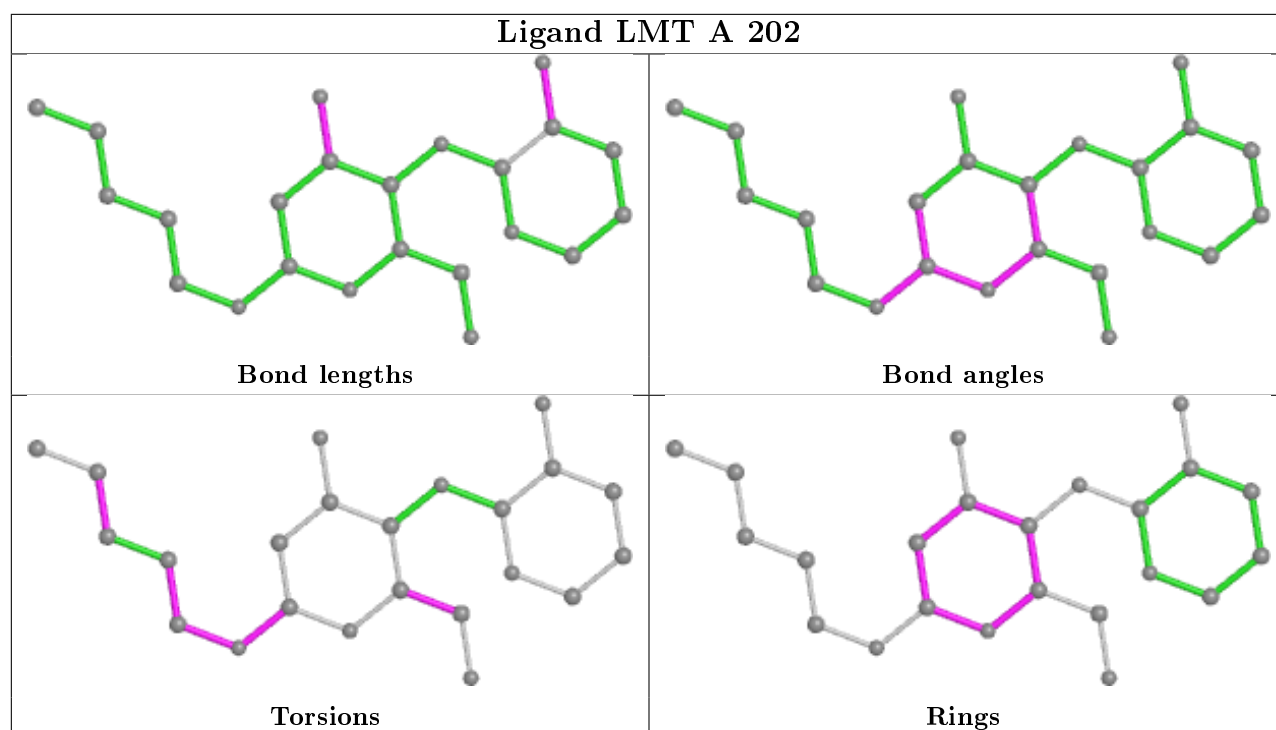
34 monomers are involved in 46 short contacts:

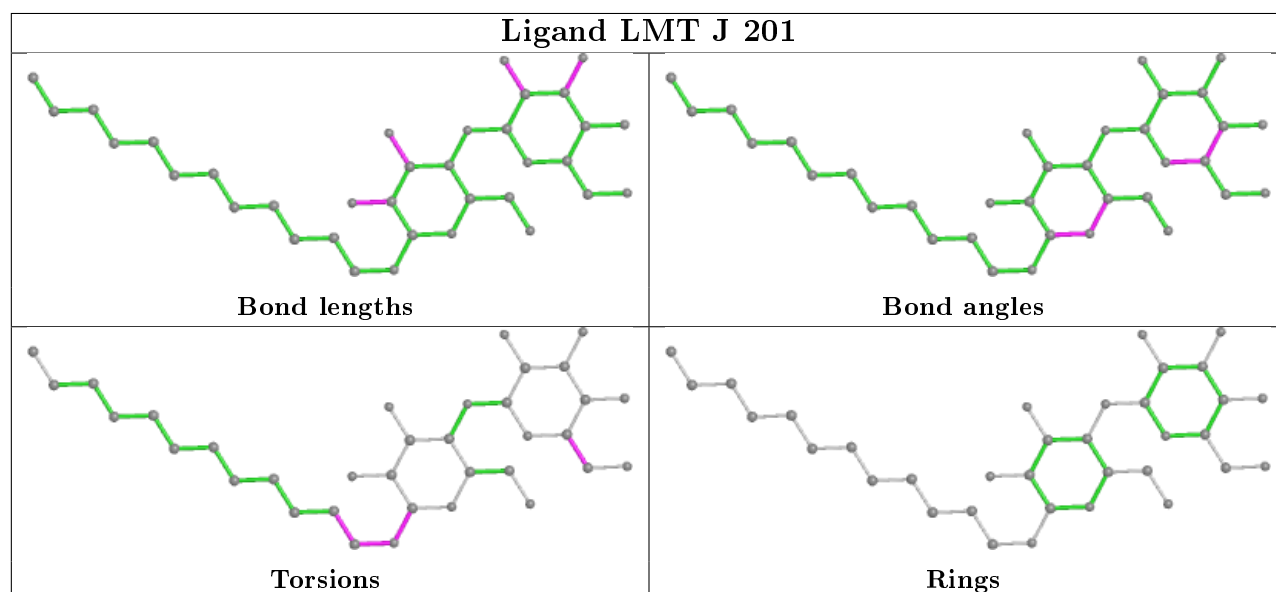
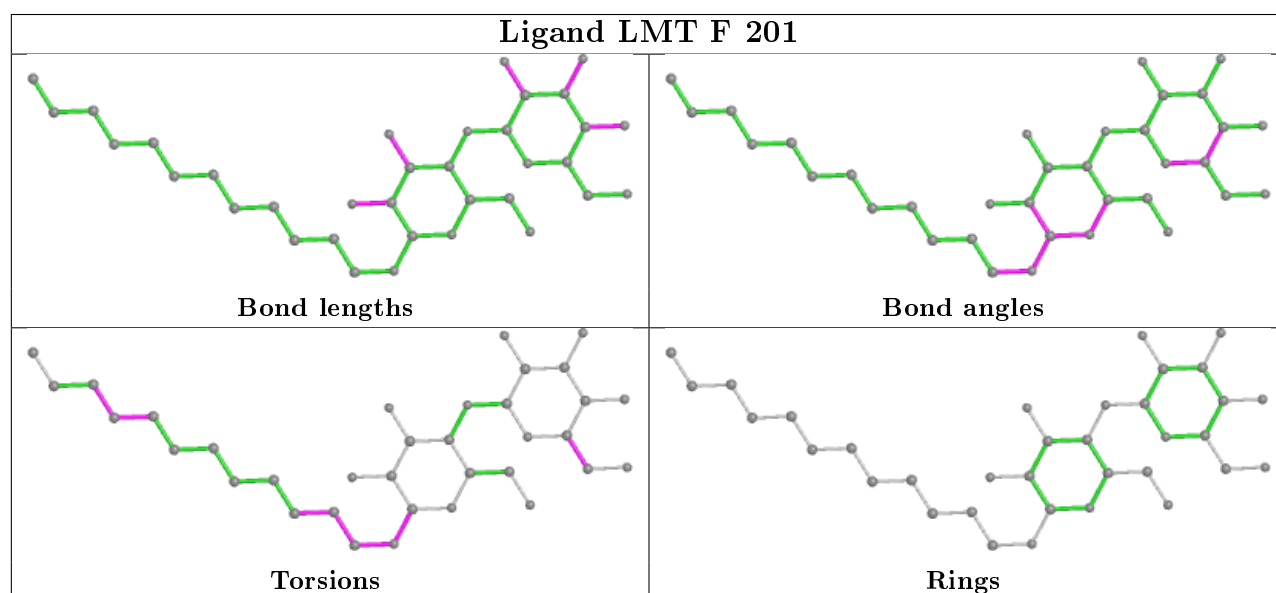
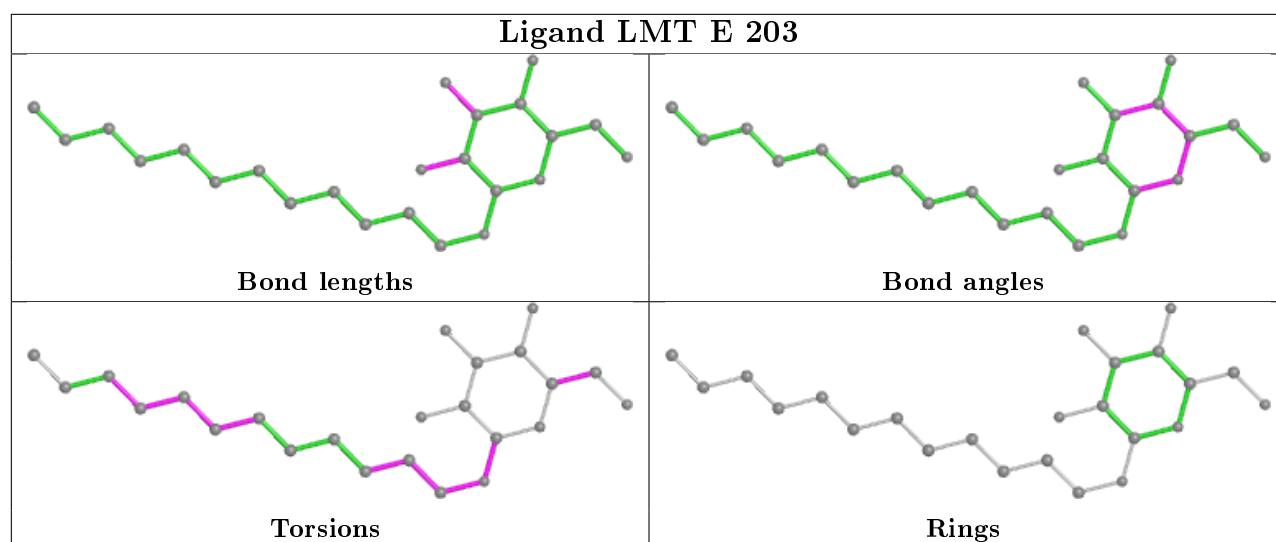
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	F	202	LMT	2	0
2	I	201	LMT	1	0
2	A	202	LMT	2	0
5	B	207	EDO	1	0
5	F	208	EDO	1	0
3	B	201	SO4	1	0
2	E	203	LMT	2	0
5	F	206	EDO	1	0
2	F	201	LMT	4	0
5	J	209	EDO	1	0
2	J	201	LMT	2	0
2	L	201	LMT	1	0
3	H	204	SO4	1	0
2	J	203	LMT	4	0
2	H	201	LMT	1	0
2	C	207	LMT	1	0
3	C	202	SO4	1	0
2	B	202	LMT	1	0
2	C	201	LMT	2	0
2	I	205	LMT	1	0
2	C	208	LMT	2	0
2	A	201	LMT	1	0
3	E	204	SO4	1	0
3	K	203	SO4	1	0
5	L	205	EDO	2	0
2	G	507	LMT	3	0
2	J	202	LMT	1	0
5	F	207	EDO	2	0
3	J	207	SO4	1	0
5	E	210	EDO	1	0
3	G	501	SO4	1	0
2	K	201	LMT	2	0
3	B	203	SO4	1	0
2	E	201	LMT	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and

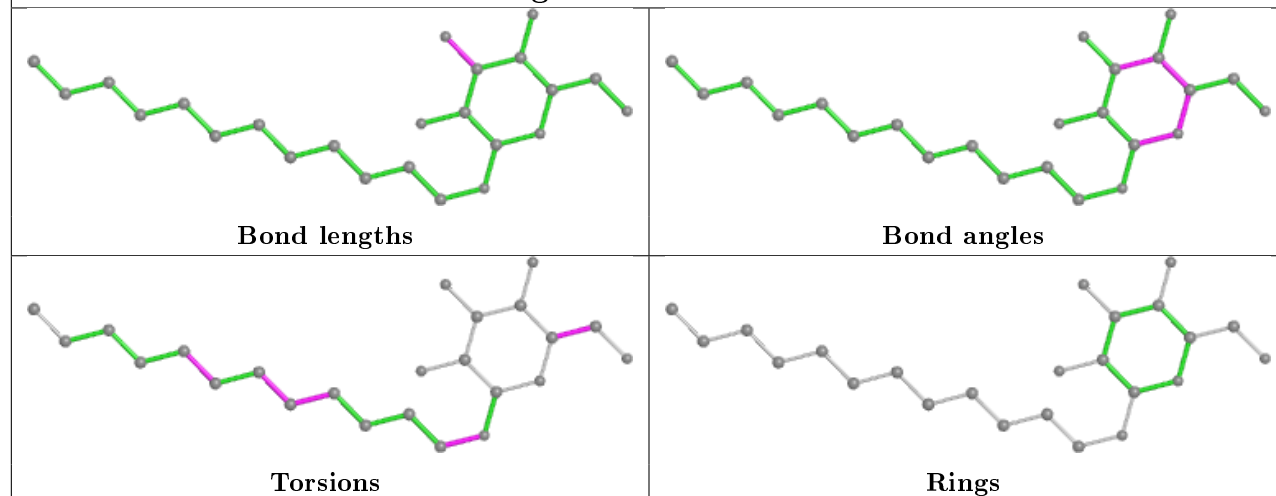
any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



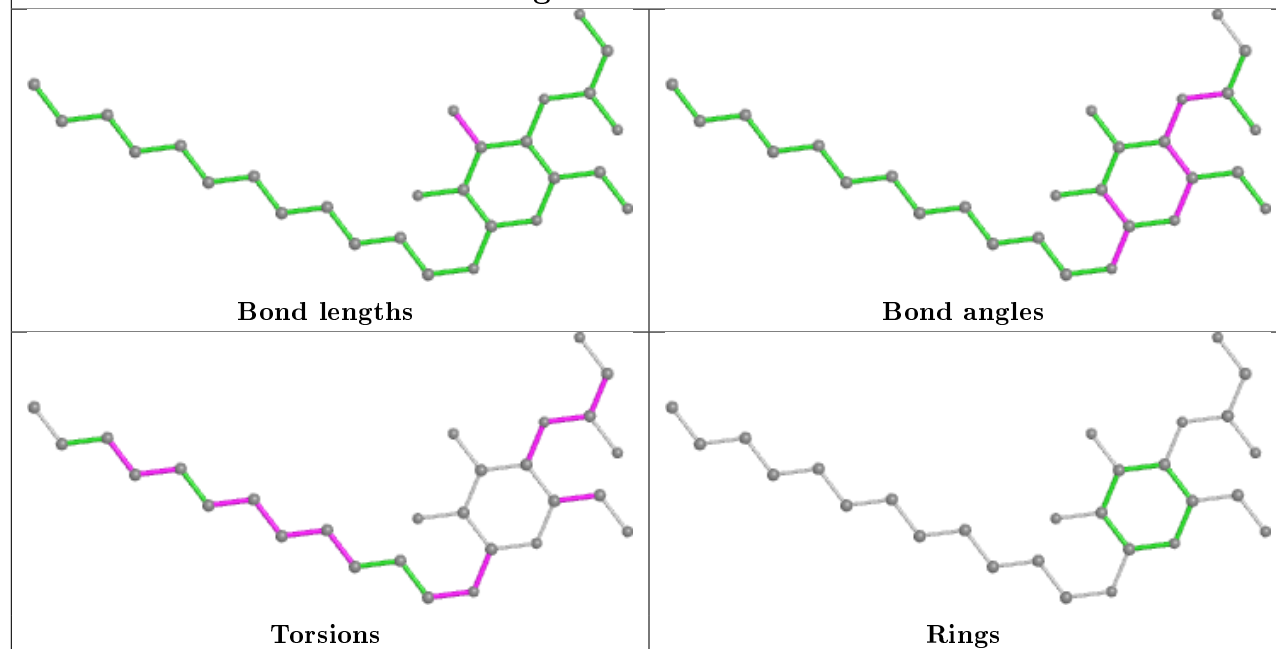


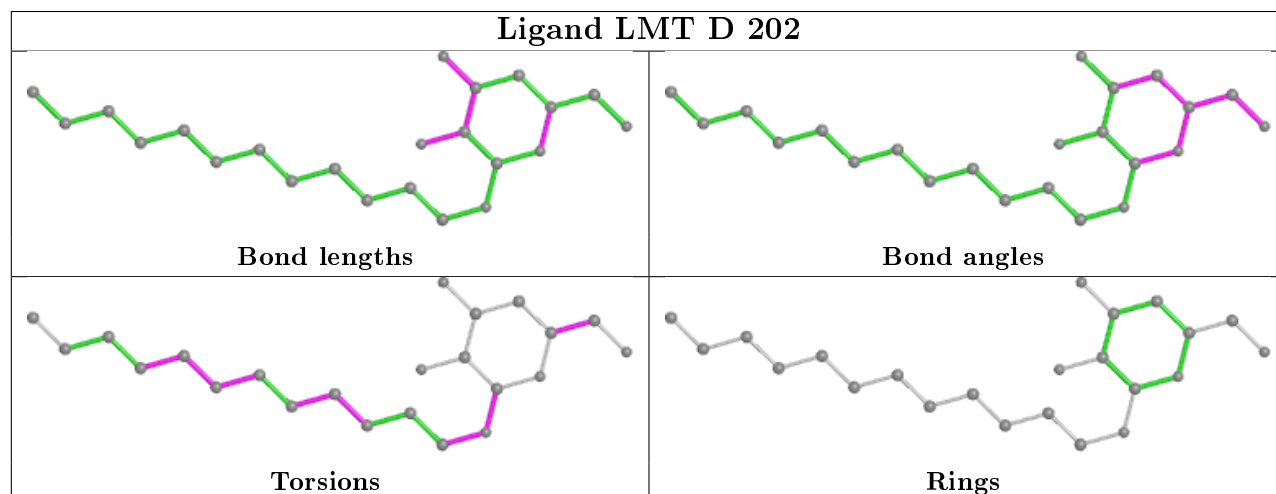
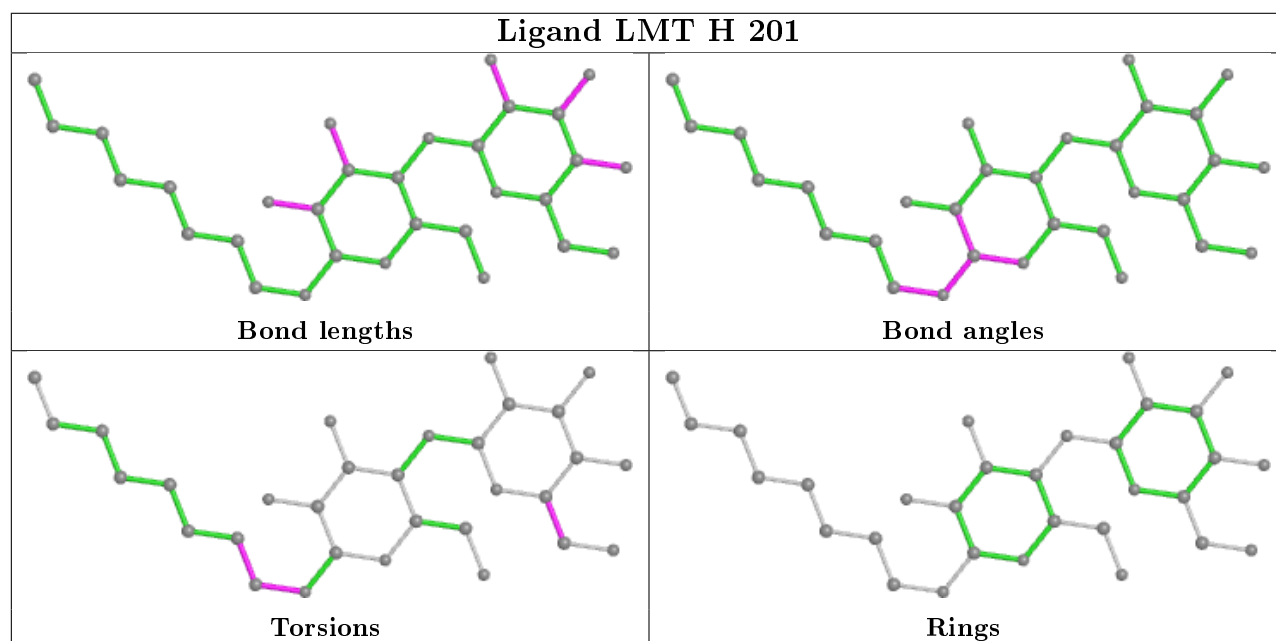
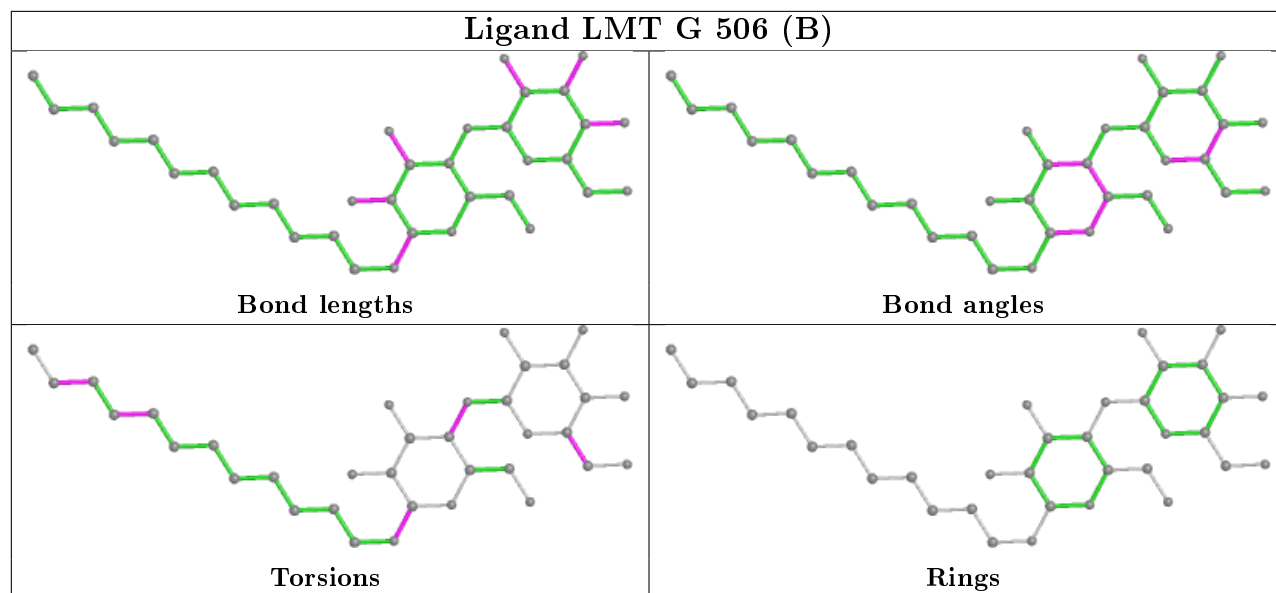


## Ligand LMT L 201

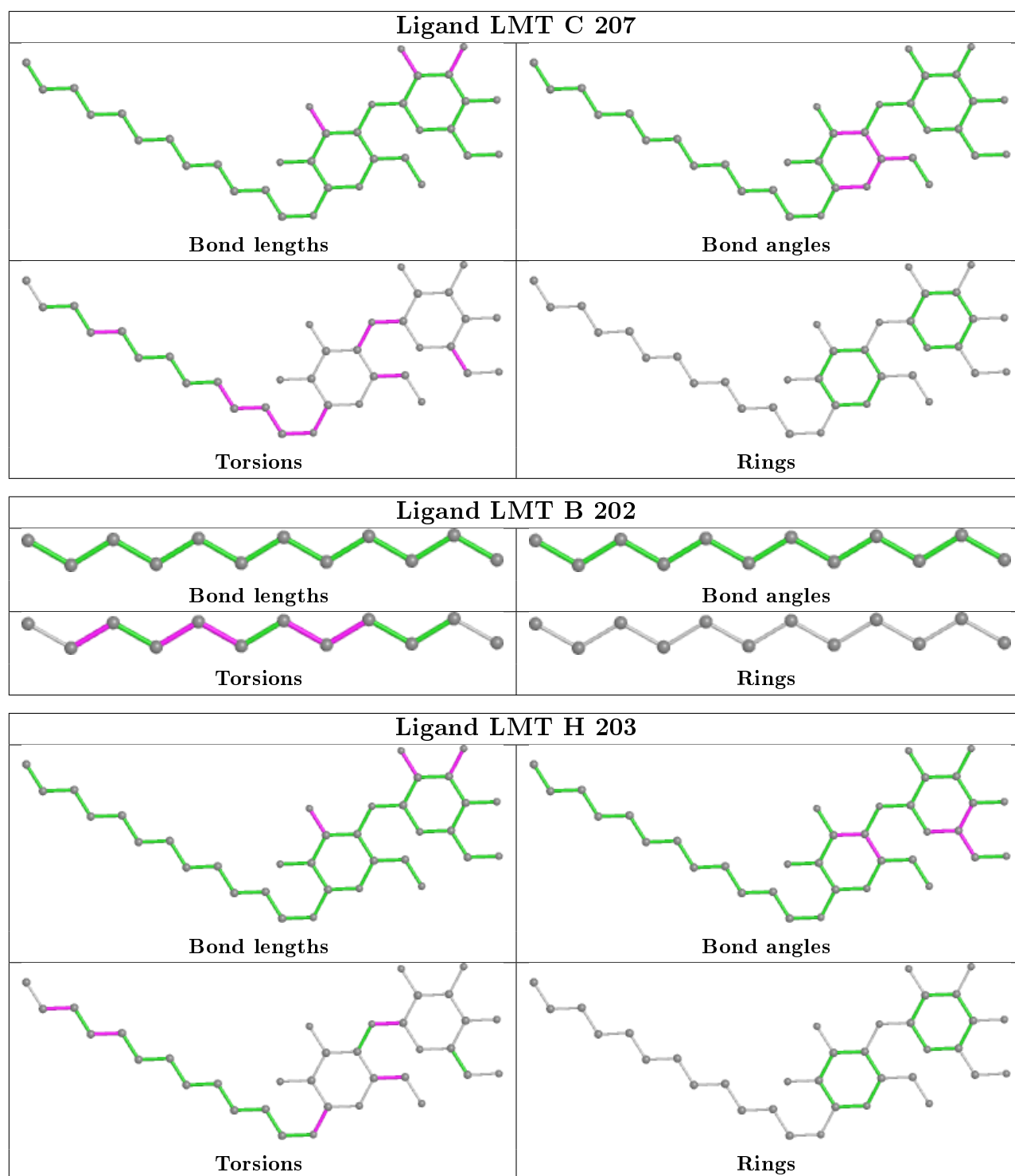


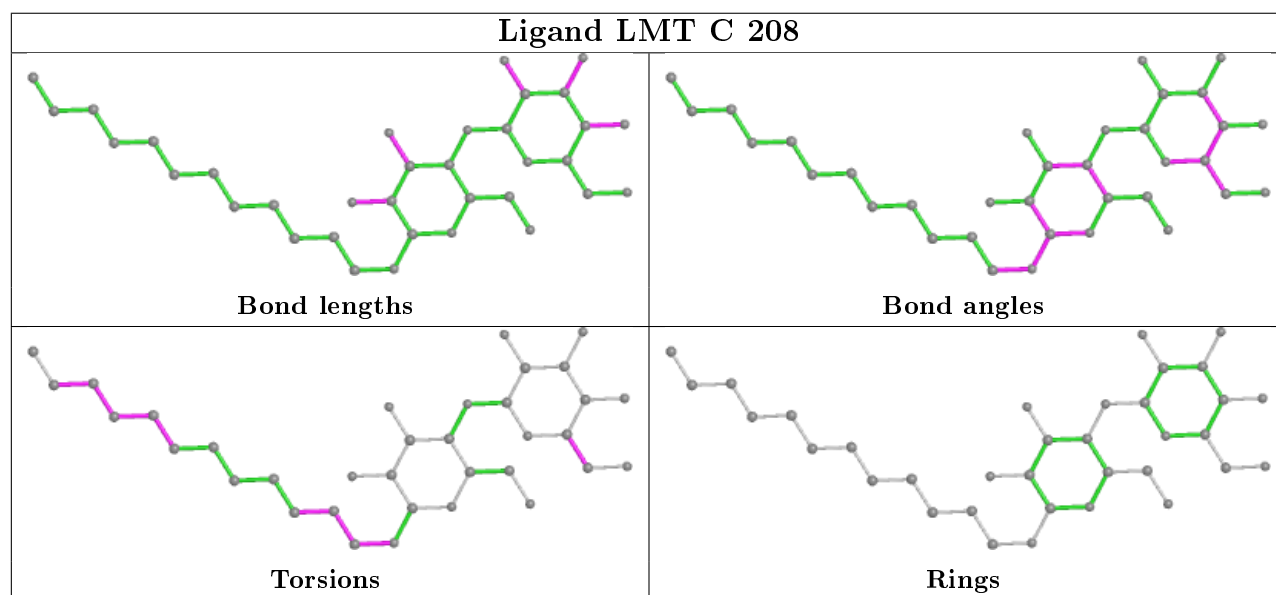
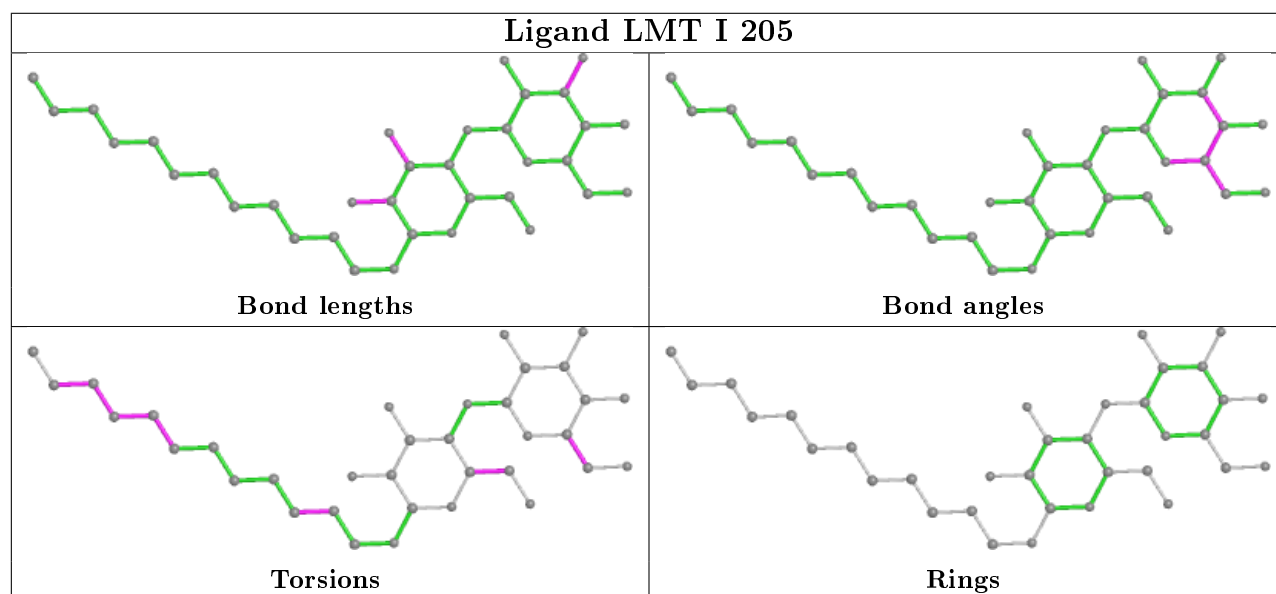
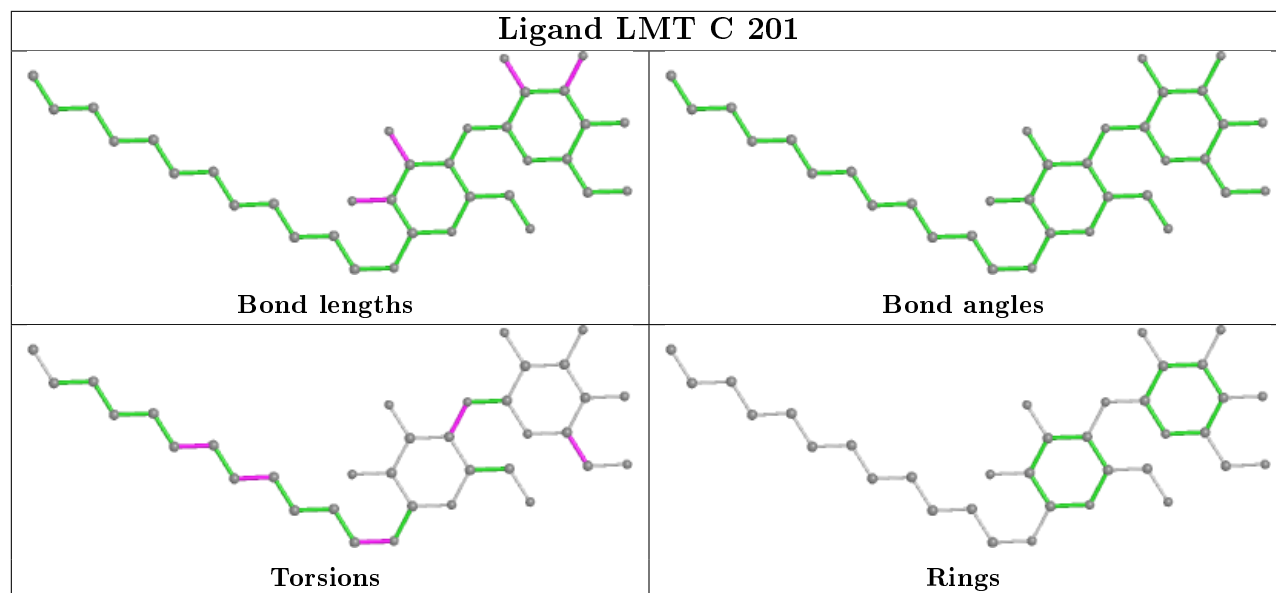
## Ligand LMT J 203

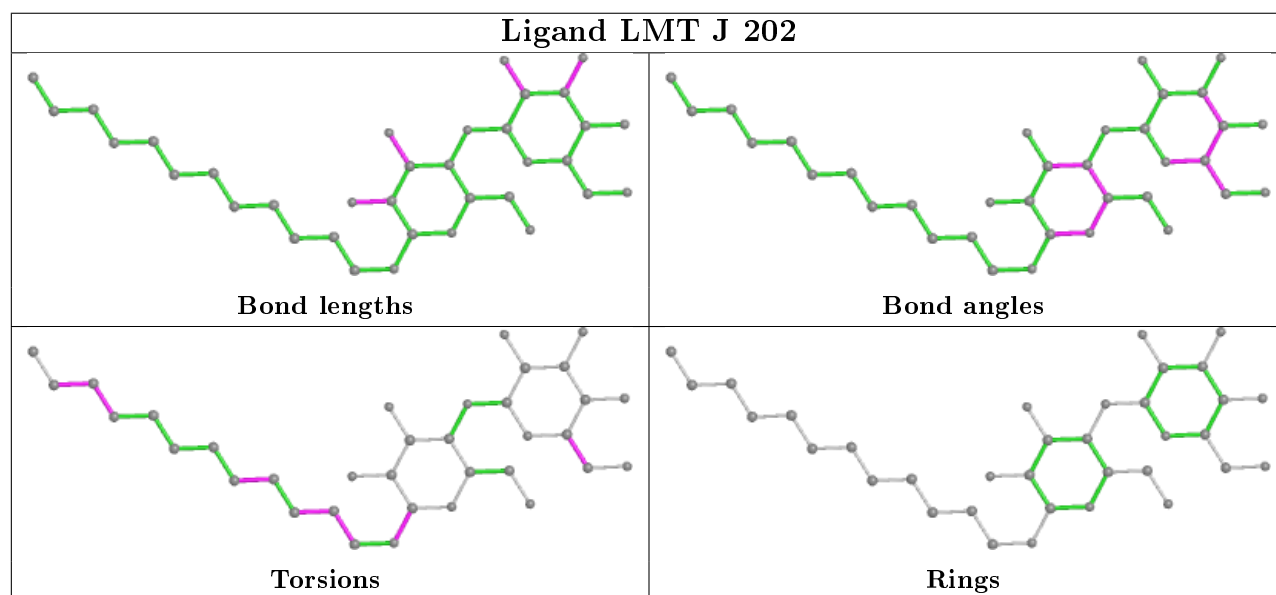
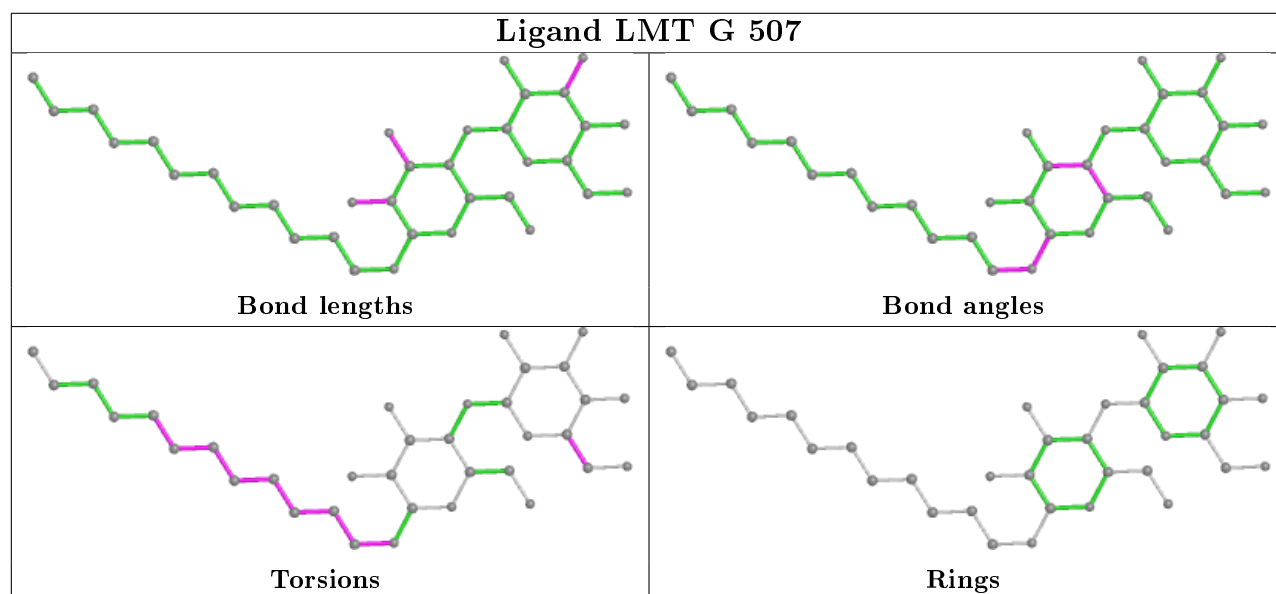
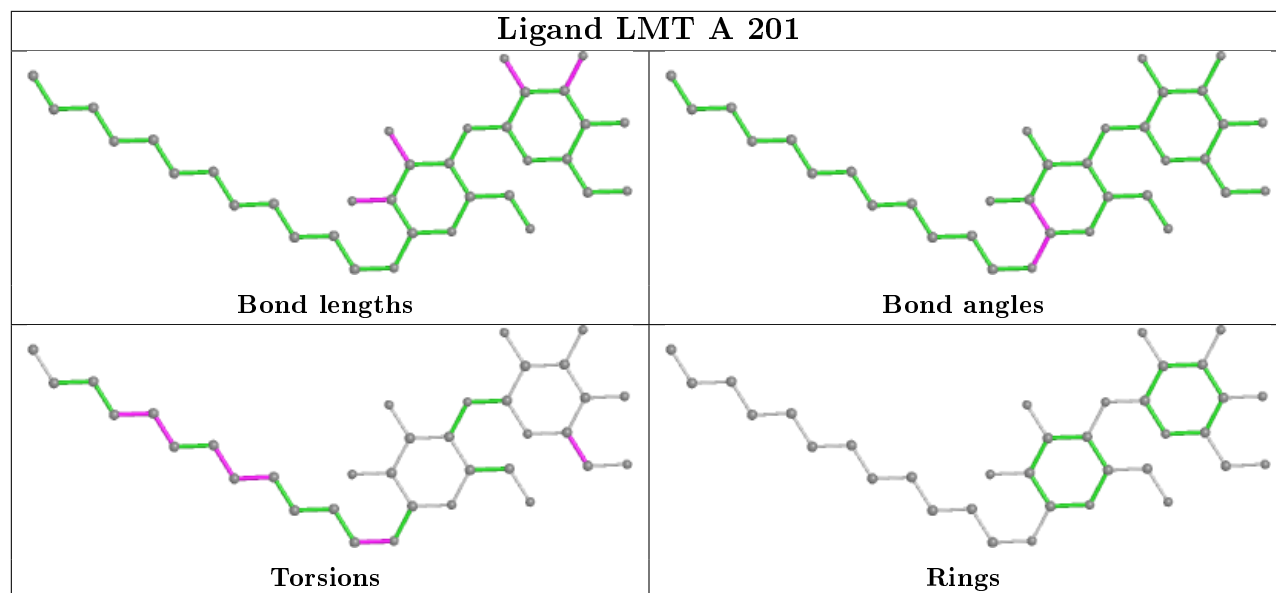


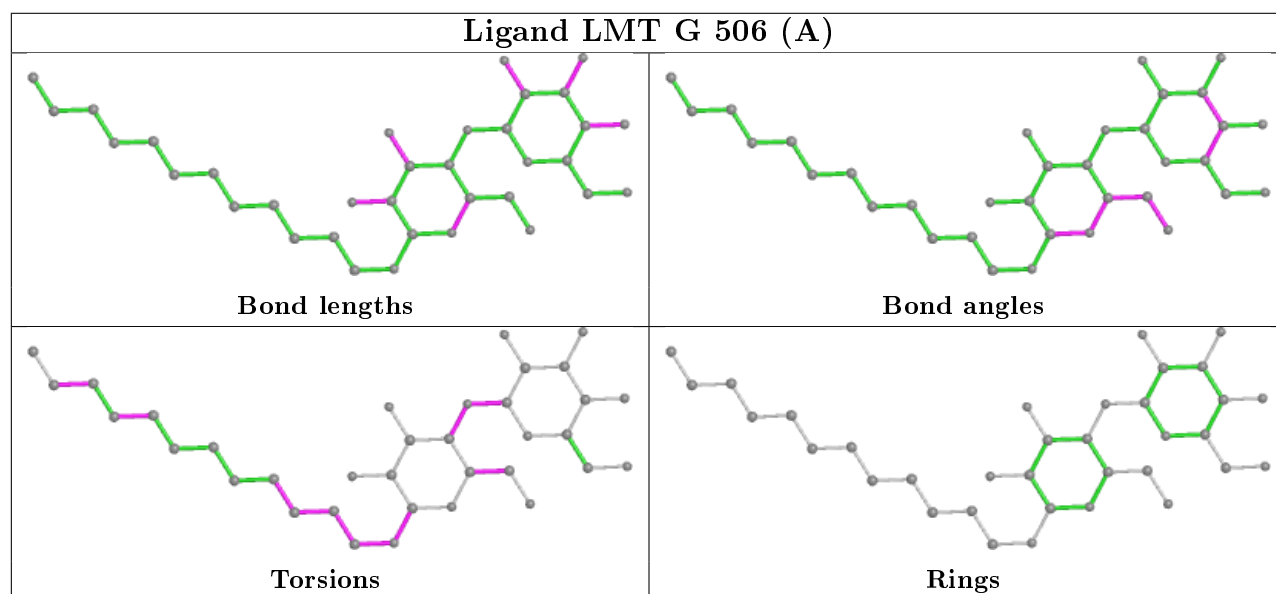
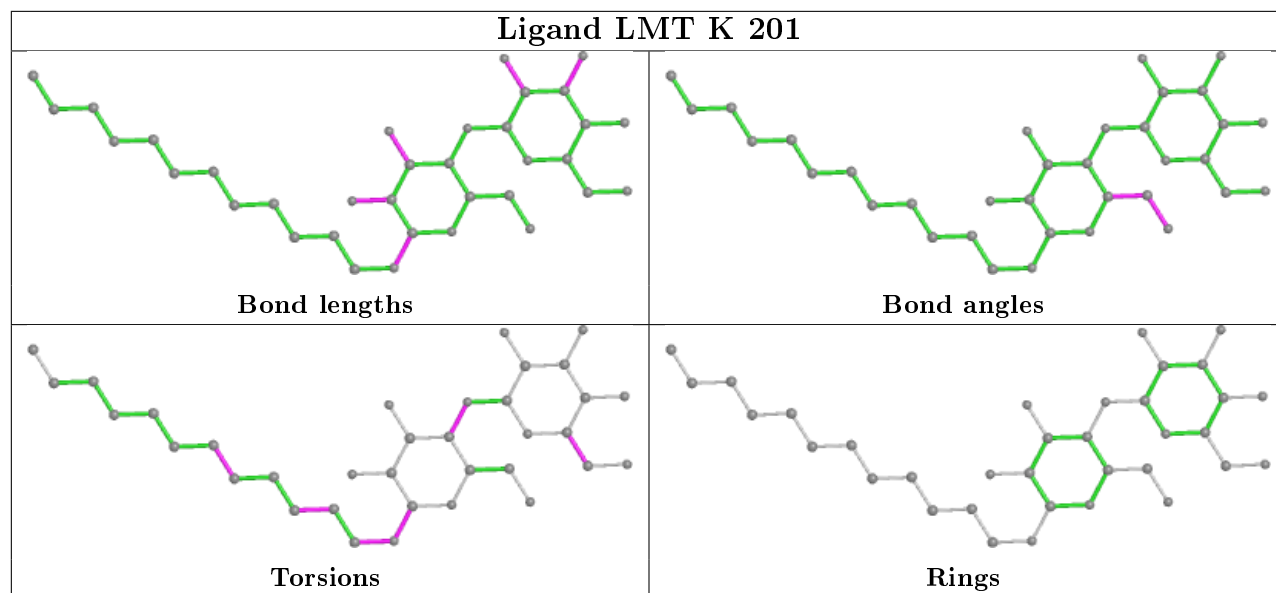


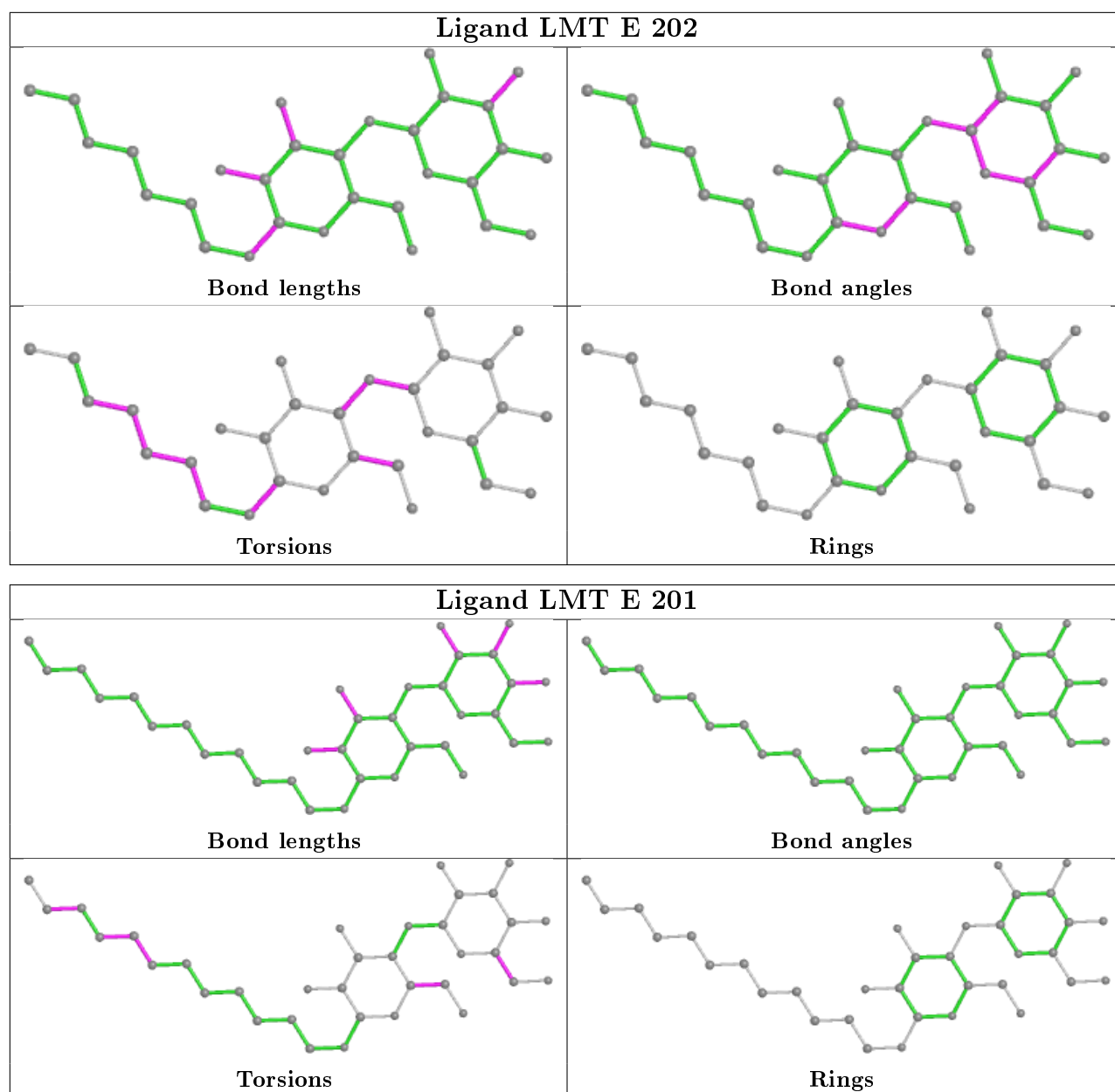












## 5.7 Other polymers [i](#)

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<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	80/85 (94%)	0.28	3 (3%) 40 35	24, 43, 69, 85	0
1	B	78/85 (91%)	0.13	2 (2%) 56 51	24, 37, 62, 113	0
1	C	81/85 (95%)	0.27	4 (4%) 29 24	25, 39, 79, 95	0
1	D	79/85 (92%)	0.20	4 (5%) 28 22	24, 38, 72, 101	0
1	E	80/85 (94%)	0.37	4 (5%) 28 23	24, 36, 69, 103	0
1	F	79/85 (92%)	0.27	3 (3%) 40 35	23, 35, 62, 72	0
1	G	81/85 (95%)	0.27	5 (6%) 20 16	27, 41, 75, 91	0
1	H	78/85 (91%)	0.10	2 (2%) 56 51	24, 38, 68, 88	0
1	I	81/85 (95%)	0.21	2 (2%) 57 52	22, 36, 66, 90	0
1	J	78/85 (91%)	0.02	2 (2%) 56 51	22, 34, 59, 90	0
1	K	79/85 (92%)	0.30	5 (6%) 20 15	22, 37, 75, 87	0
1	L	81/85 (95%)	0.22	2 (2%) 57 52	22, 34, 57, 89	0
All	All	955/1020 (93%)	0.22	38 (3%) 38 32	22, 38, 70, 113	0

The worst 5 of 38 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	145	HIS	6.9
1	B	145	HIS	6.7
1	A	68	SER	5.2
1	G	67	GLY	5.1
1	E	147	LEU	4.8

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

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

## 6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

## 6.4 Ligands ⓘ

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<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
2	LMT	I	201	35/35	0.16	0.35	49,108,128,128	0
2	LMT	A	202	23/35	0.27	0.37	76,119,125,126	0
2	LMT	E	202	30/35	0.46	0.32	65,107,121,125	0
2	LMT	E	203	24/35	0.47	0.32	61,104,121,122	0
2	LMT	H	203	35/35	0.51	0.32	52,110,128,129	0
2	LMT	K	202	35/35	0.52	0.35	58,105,125,127	0
3	SO4	J	206	5/5	0.59	0.32	137,138,141,141	0
2	LMT	D	202	23/35	0.60	0.21	52,72,93,96	0
5	EDO	G	509	4/4	0.61	0.20	66,66,67,68	0
2	LMT	J	202	35/35	0.63	0.22	40,77,100,103	0
2	LMT	J	203	28/35	0.64	0.27	42,88,102,105	0
2	LMT	F	202	35/35	0.64	0.20	46,81,101,102	0
2	LMT	L	201	24/35	0.64	0.21	46,71,86,88	0
3	SO4	A	203	5/5	0.67	0.23	164,164,165,165	0
5	EDO	J	209	4/4	0.68	0.13	67,70,70,70	0
3	SO4	H	204	5/5	0.68	0.18	146,146,148,148	0
3	SO4	J	207	5/5	0.69	0.26	112,112,113,114	0
2	LMT	G	507	35/35	0.69	0.20	32,61,92,96	0
2	LMT	J	201	35/35	0.69	0.19	36,58,83,84	0
2	LMT	I	205	35/35	0.70	0.22	28,67,91,93	0
2	LMT	C	208	35/35	0.72	0.17	30,52,78,81	0
2	LMT	C	207	35/35	0.73	0.19	39,72,88,94	0
5	EDO	H	206	4/4	0.77	0.12	70,76,79,83	0
3	SO4	G	501	5/5	0.77	0.18	127,128,130,131	0
3	SO4	D	201	5/5	0.77	0.23	110,111,113,116	0
2	LMT	C	201	35/35	0.78	0.19	35,58,88,90	0
3	SO4	J	205	5/5	0.78	0.20	109,110,115,118	0
2	LMT	E	201	35/35	0.78	0.16	36,63,89,95	0
5	EDO	E	209	4/4	0.78	0.18	56,61,65,66	0
5	EDO	I	206	4/4	0.79	0.20	65,66,66,67	0
3	SO4	D	203	5/5	0.80	0.20	99,102,105,106	0
2	LMT	F	201	35/35	0.81	0.15	36,60,79,81	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
3	SO4	B	203	5/5	0.81	0.12	126,128,128,128	0
5	EDO	B	206	4/4	0.81	0.16	55,63,68,72	0
5	EDO	B	209	4/4	0.81	0.18	62,63,68,70	0
2	LMT	A	201	35/35	0.82	0.17	33,58,98,99	0
3	SO4	E	205	5/5	0.82	0.23	94,100,105,105	0
3	SO4	F	203	5/5	0.82	0.16	112,112,114,116	0
5	EDO	F	206	4/4	0.82	0.15	59,61,66,71	0
5	EDO	E	208	4/4	0.83	0.12	50,53,54,57	0
3	SO4	C	205	5/5	0.83	0.13	102,104,104,105	0
3	SO4	B	204	5/5	0.83	0.31	112,113,118,118	0
2	LMT	G	506[A]	35/35	0.84	0.24	23,39,47,48	35
3	SO4	K	203	5/5	0.84	0.15	81,91,95,96	0
2	LMT	G	506[B]	35/35	0.84	0.24	28,40,62,69	35
5	EDO	B	205	4/4	0.84	0.08	62,68,72,75	0
5	EDO	K	206	4/4	0.84	0.13	47,50,53,54	0
2	LMT	B	202	12/35	0.85	0.14	38,50,61,62	0
3	SO4	J	204	5/5	0.85	0.13	82,84,91,95	0
2	LMT	H	201	31/35	0.85	0.17	35,72,96,97	0
4	ACT	I	204	4/4	0.85	0.11	38,42,43,43	0
5	EDO	L	205	4/4	0.86	0.19	42,51,53,61	0
2	LMT	K	201	35/35	0.87	0.14	25,51,90,97	0
3	SO4	G	502	5/5	0.87	0.20	76,88,94,95	0
5	EDO	B	208	4/4	0.88	0.17	59,60,62,64	0
3	SO4	C	204	5/5	0.89	0.15	93,95,97,99	0
5	EDO	D	205	4/4	0.89	0.19	49,52,53,56	0
5	EDO	B	207	4/4	0.89	0.09	68,70,70,71	0
3	SO4	B	201	5/5	0.89	0.12	56,69,76,77	0
5	EDO	L	206	4/4	0.90	0.12	53,53,57,59	0
5	EDO	A	207	4/4	0.90	0.29	50,52,56,59	0
3	SO4	A	205	5/5	0.90	0.13	89,92,95,98	0
3	SO4	C	203	5/5	0.91	0.15	83,89,93,96	0
3	SO4	E	204	5/5	0.91	0.12	69,70,77,81	0
4	ACT	G	505	4/4	0.91	0.13	37,38,49,62	0
5	EDO	F	207	4/4	0.91	0.11	52,54,58,62	0
5	EDO	G	508	4/4	0.91	0.15	52,52,54,59	0
5	EDO	E	210	4/4	0.91	0.11	54,57,61,66	0
3	SO4	I	202	5/5	0.91	0.11	93,94,97,99	0
3	SO4	C	202	5/5	0.91	0.18	98,105,107,109	0
3	SO4	H	205	5/5	0.92	0.18	75,78,81,81	0
4	ACT	E	207	4/4	0.92	0.11	36,44,44,46	0
3	SO4	L	203	5/5	0.92	0.13	81,84,87,89	0
5	EDO	F	208	4/4	0.93	0.11	54,54,55,59	0

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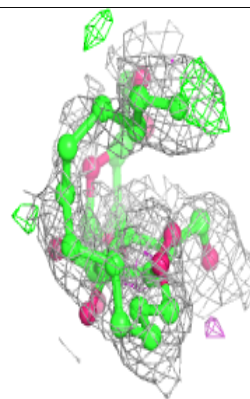
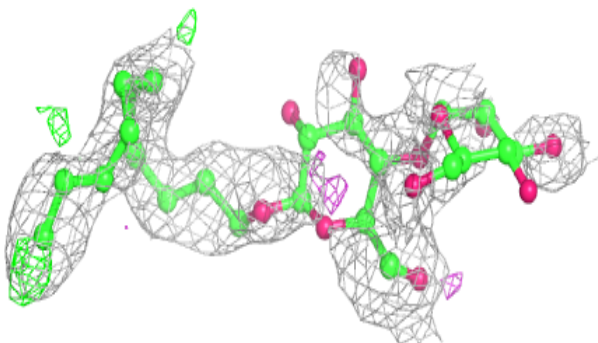
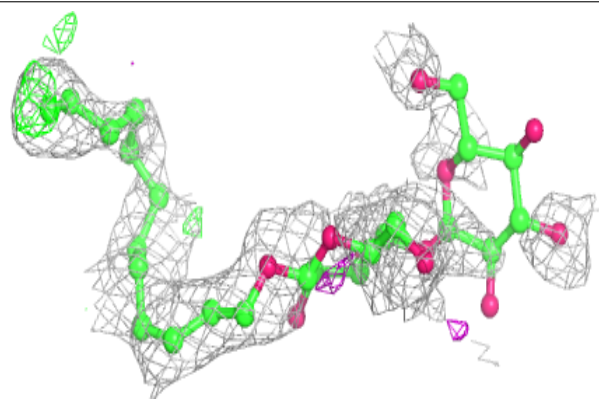
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
5	EDO	J	208	4/4	0.93	0.11	52,55,58,59	0
5	EDO	L	204	4/4	0.93	0.10	47,50,50,52	0
4	ACT	C	206	4/4	0.93	0.10	41,43,44,44	0
5	EDO	I	207	4/4	0.93	0.18	51,54,56,61	0
3	SO4	D	204	5/5	0.94	0.12	72,76,82,83	0
3	SO4	G	503	5/5	0.94	0.11	91,93,94,95	0
3	SO4	K	204	5/5	0.94	0.14	74,78,82,83	0
4	ACT	K	205	4/4	0.94	0.08	38,39,42,46	0
3	SO4	F	204	5/5	0.94	0.13	76,81,82,84	0
3	SO4	G	504	5/5	0.95	0.08	87,90,91,92	0
3	SO4	L	202	5/5	0.95	0.10	62,71,72,76	0
3	SO4	H	202	5/5	0.95	0.10	57,63,64,65	0
3	SO4	A	204	5/5	0.96	0.17	76,80,82,85	0
3	SO4	E	206	5/5	0.96	0.18	79,79,81,82	0
3	SO4	I	203	5/5	0.96	0.16	75,77,79,81	0
5	EDO	F	205	4/4	0.96	0.30	61,63,65,68	0
4	ACT	A	206	4/4	0.97	0.10	43,48,51,56	0

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

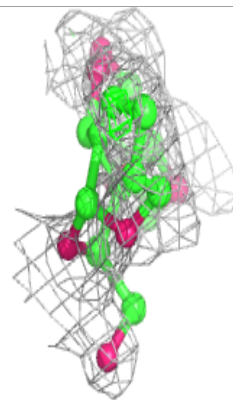
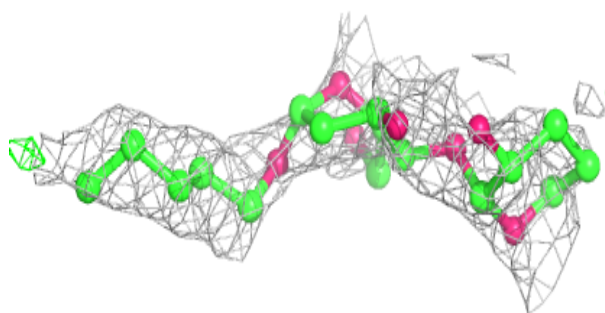
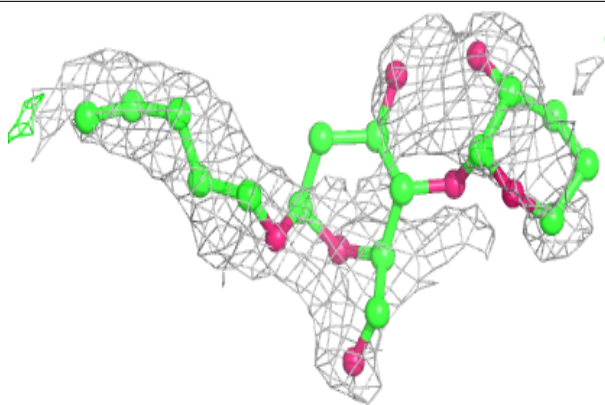
#### Electron density around LMT I 201:

2mF<sub>o</sub>-DF<sub>c</sub> (at 0.7 rmsd) in gray  
mF<sub>o</sub>-DF<sub>c</sub> (at 3 rmsd) in purple (negative)  
and green (positive)

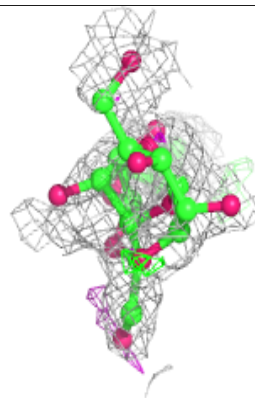
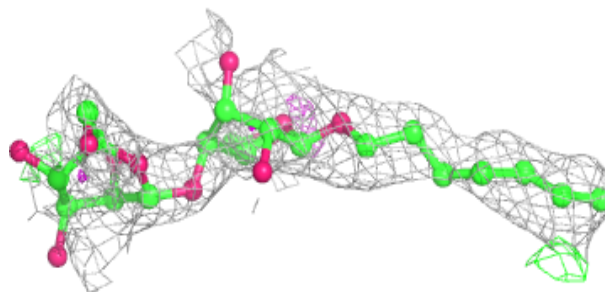
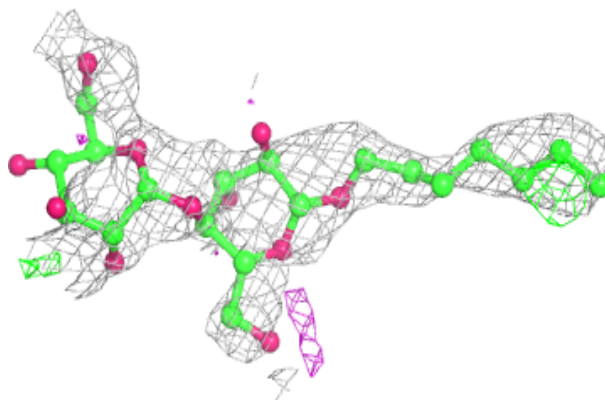


**Electron density around LMT A 202:**

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

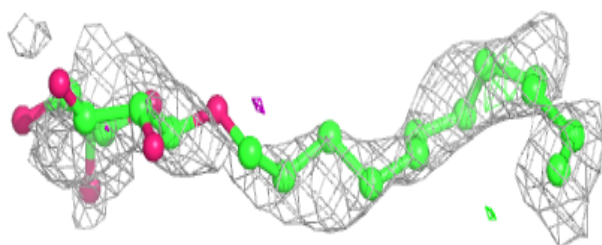
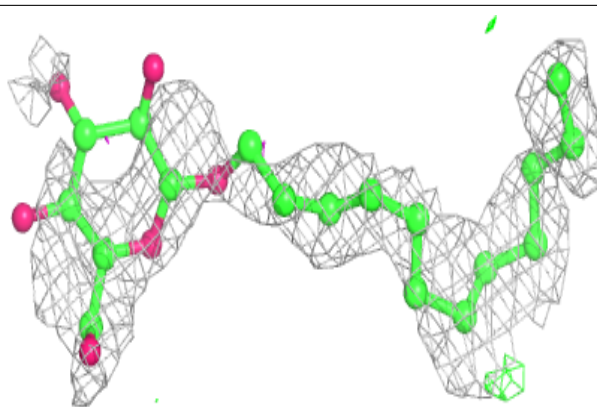
**Electron density around LMT E 202:**

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

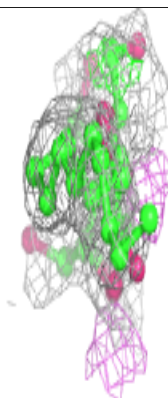
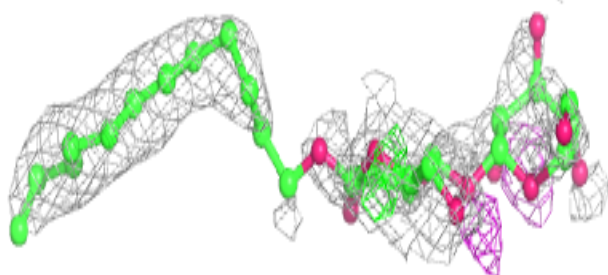
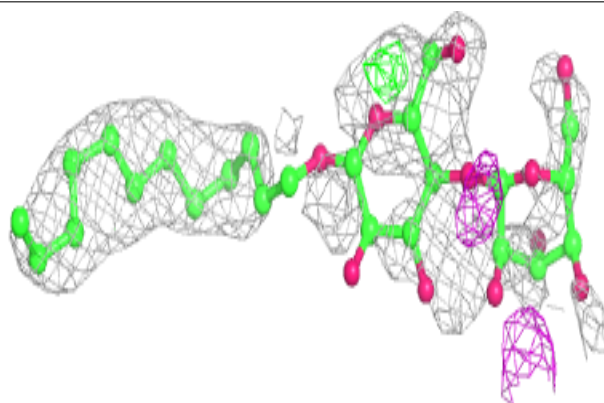


**Electron density around LMT E 203:**

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

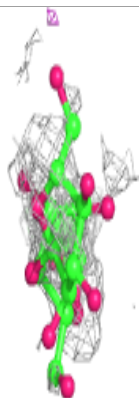
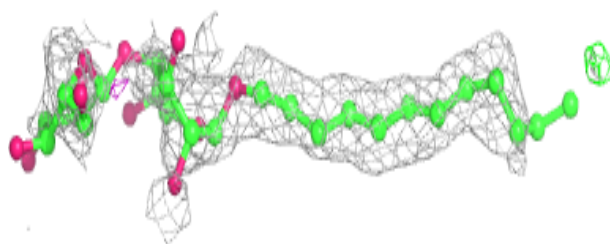
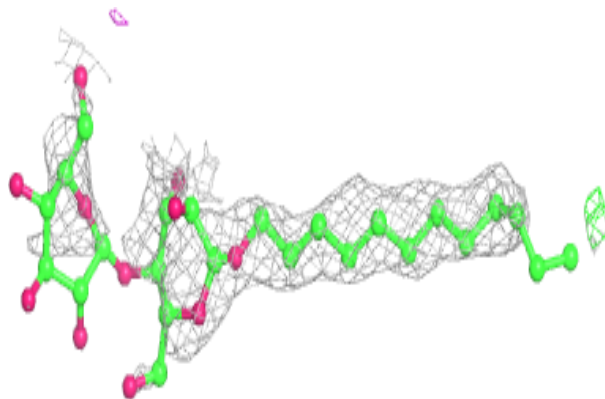
**Electron density around LMT H 203:**

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

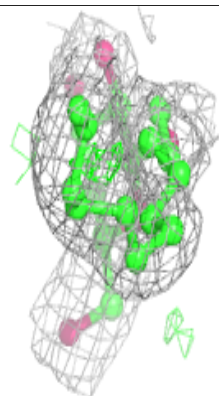
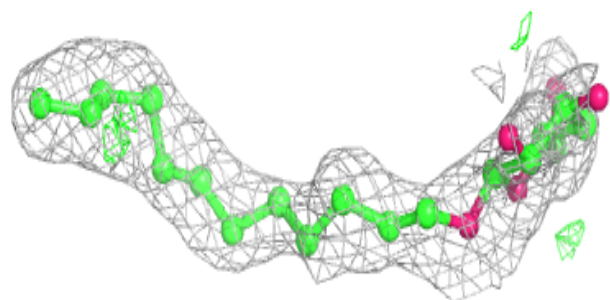
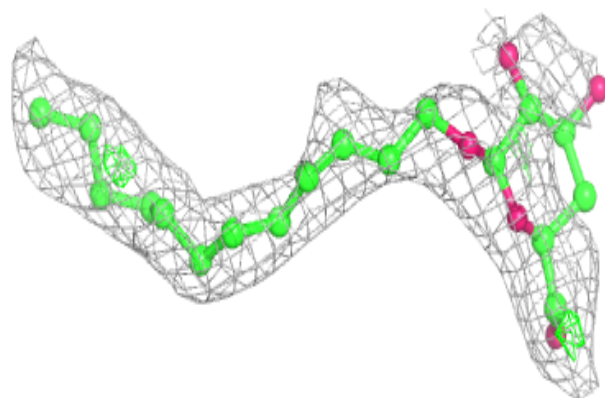


**Electron density around LMT K 202:**

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

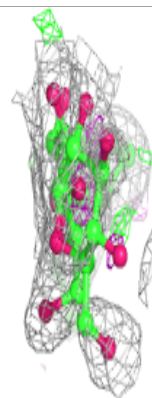
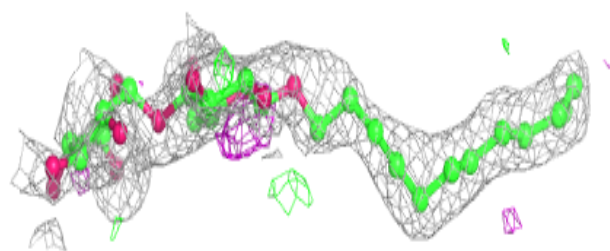
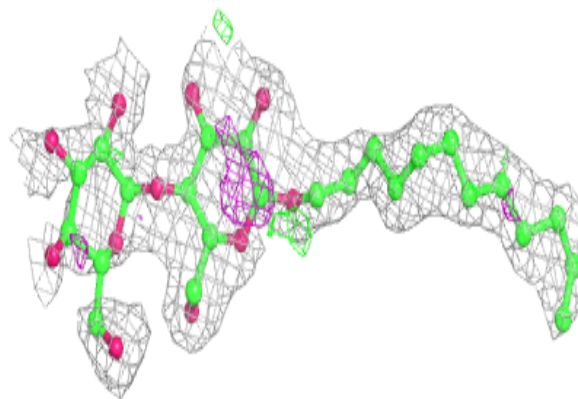
**Electron density around LMT D 202:**

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

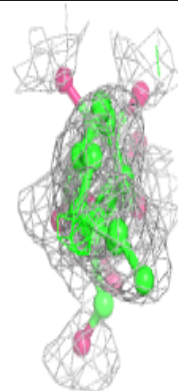
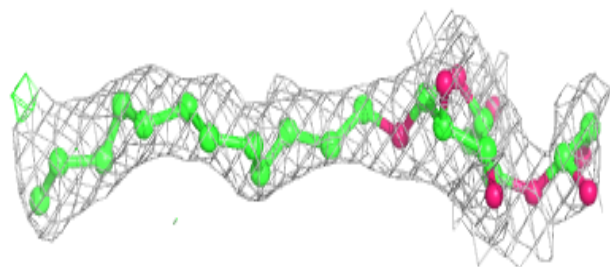
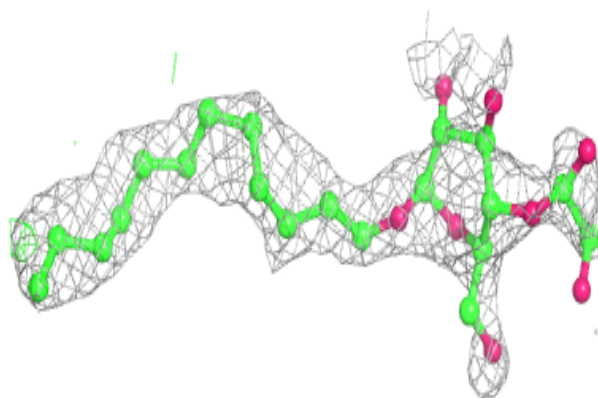


**Electron density around LMT J 202:**

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

**Electron density around LMT J 203:**

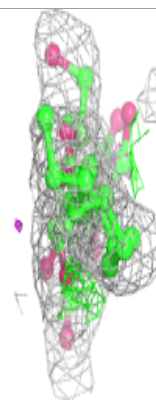
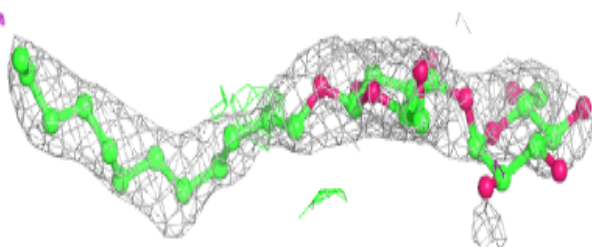
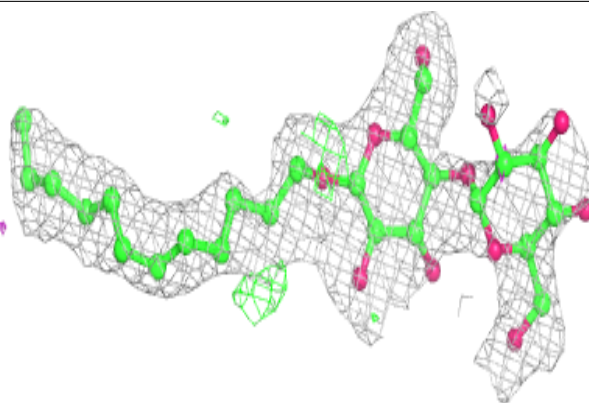
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



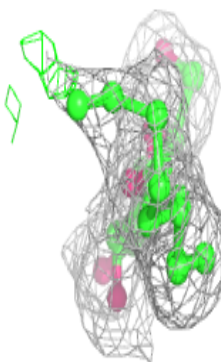
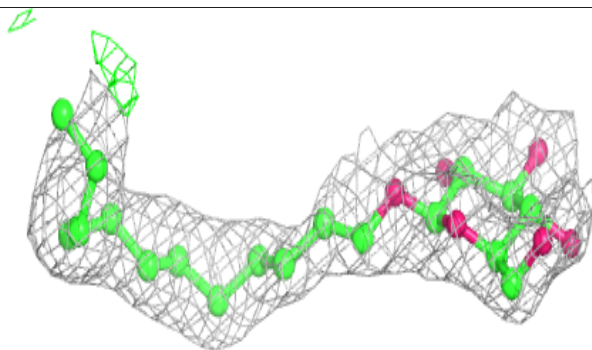
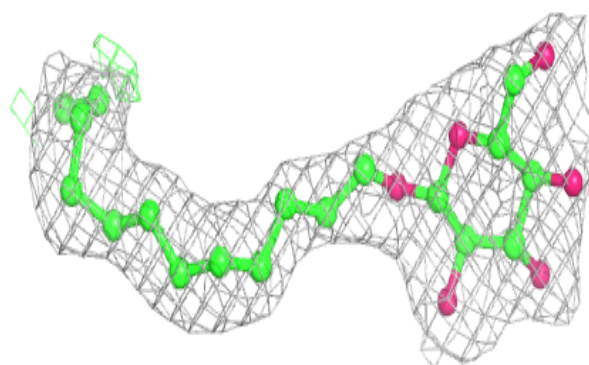


**Electron density around LMT F 202:**

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

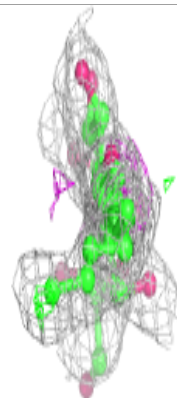
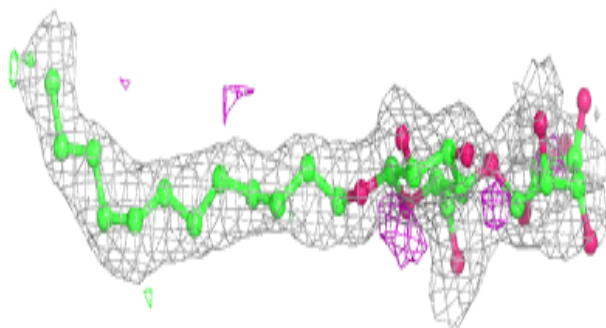
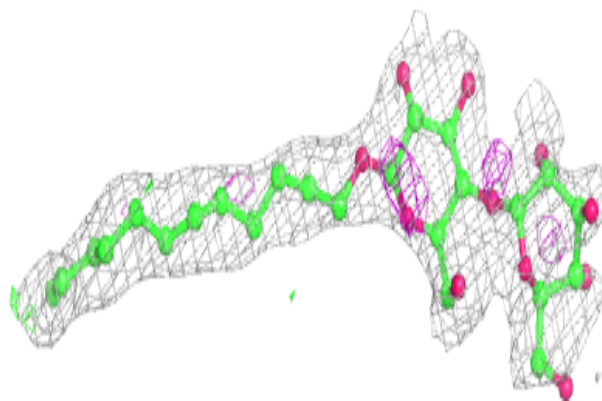
**Electron density around LMT L 201:**

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

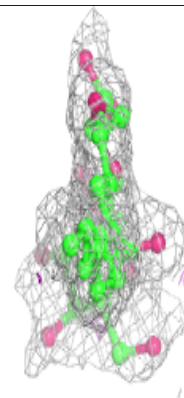
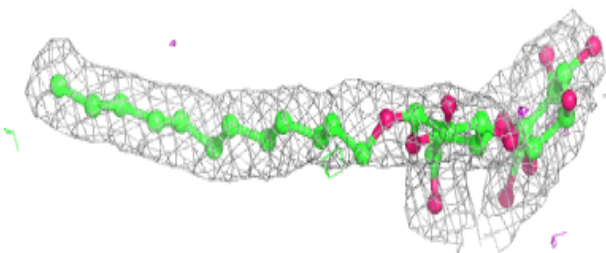
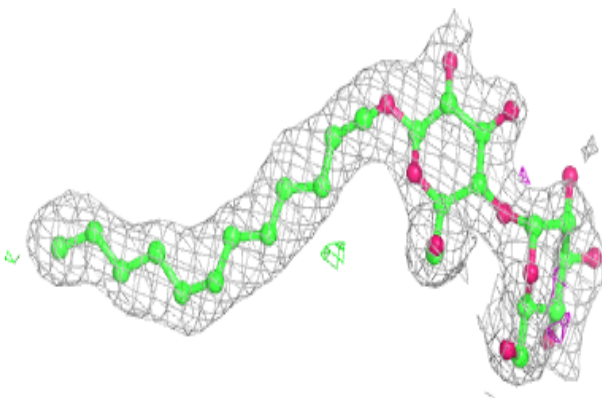


**Electron density around LMT G 507:**

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

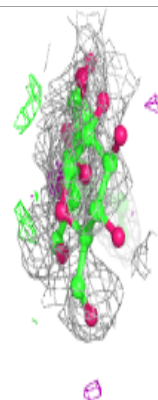
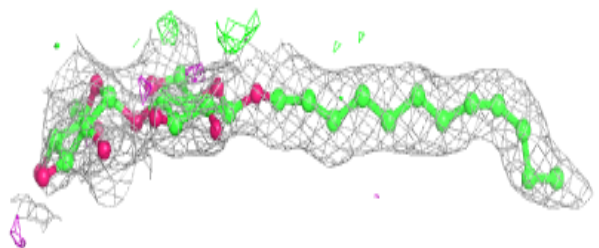
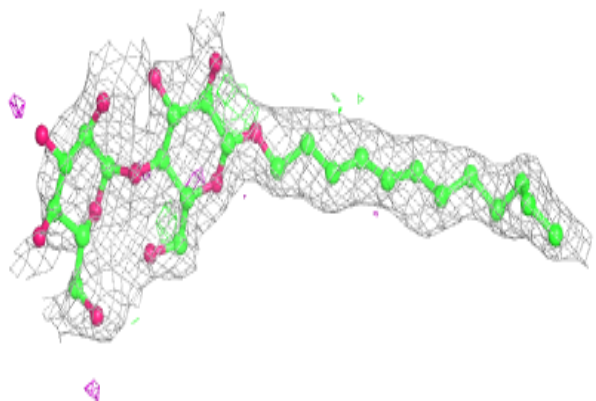
**Electron density around LMT J 201:**

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

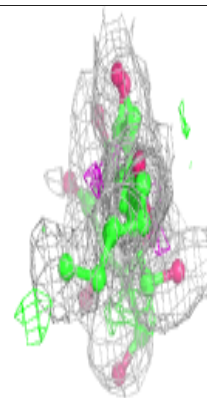
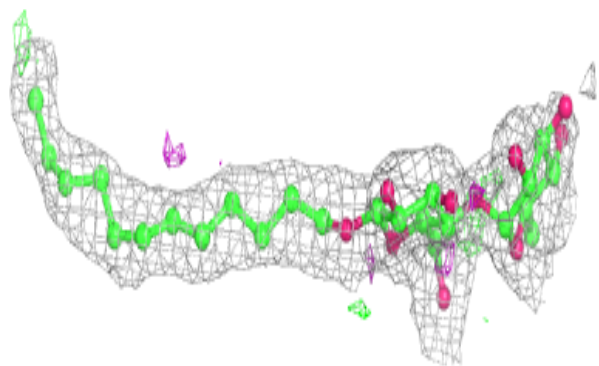
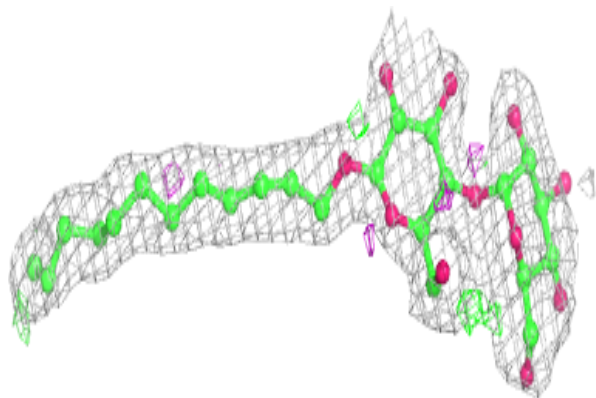


**Electron density around LMT I 205:**

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

**Electron density around LMT C 208:**

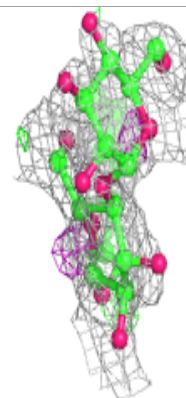
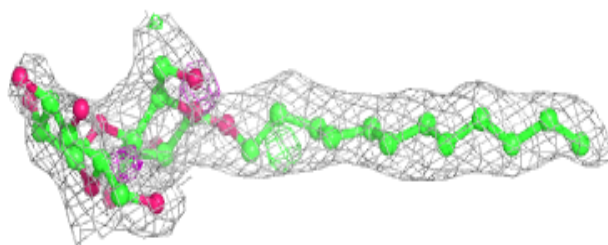
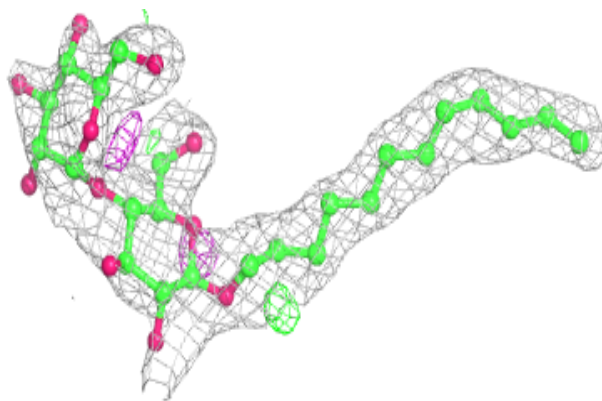
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



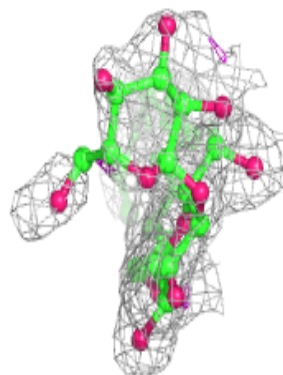
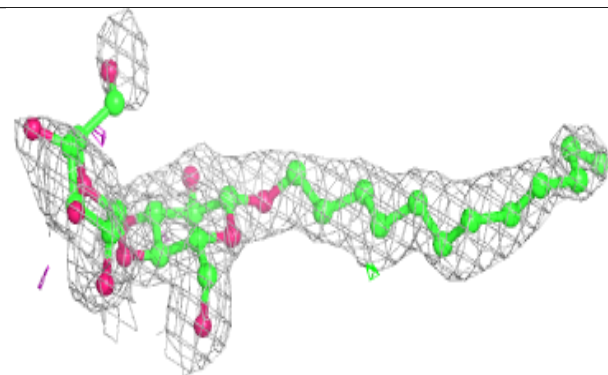
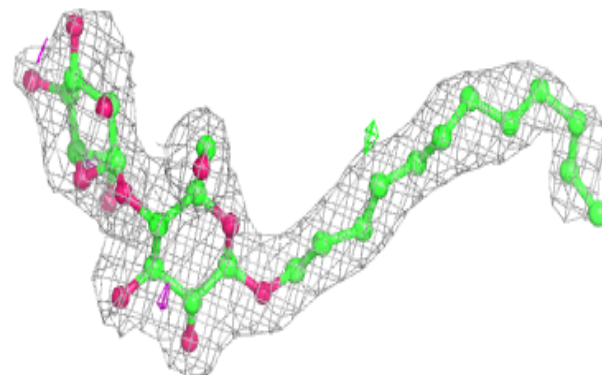


**Electron density around LMT C 207:**

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

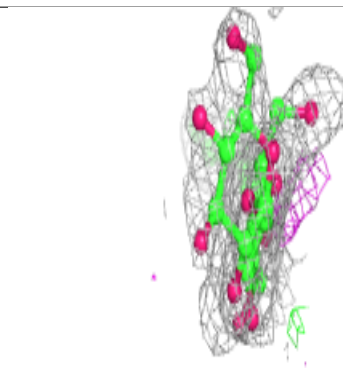
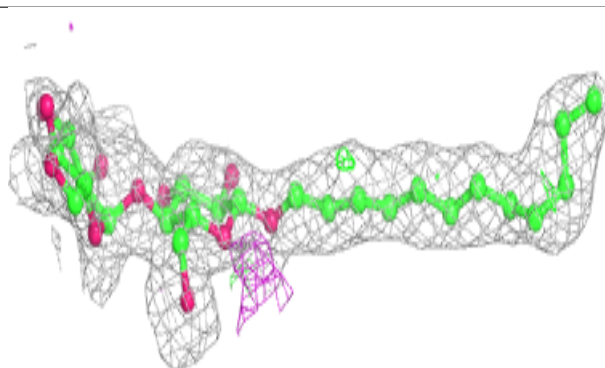
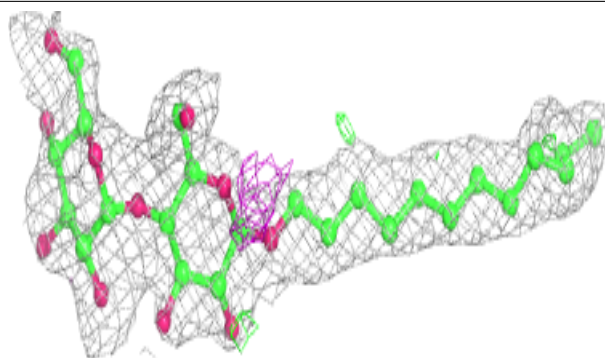
**Electron density around LMT C 201:**

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

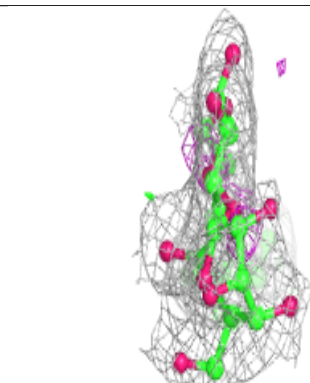
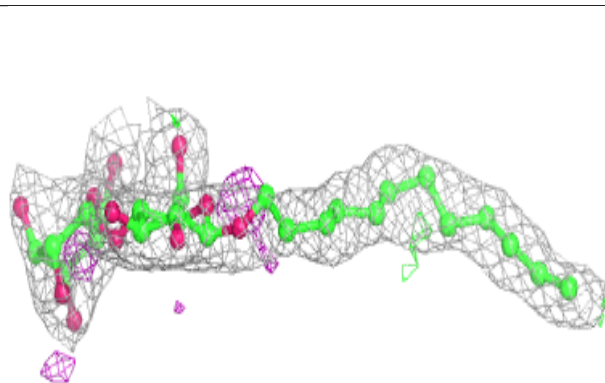
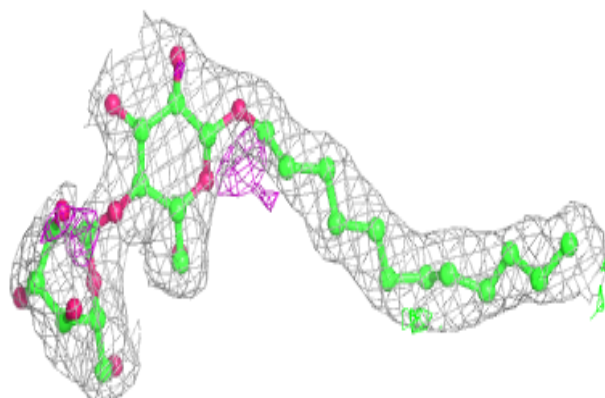


**Electron density around LMT E 201:**

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

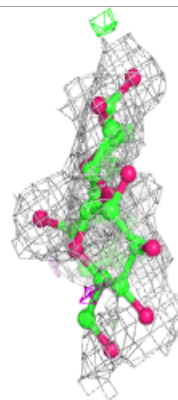
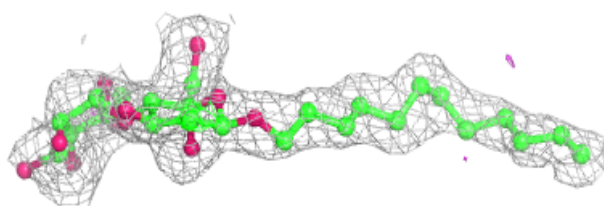
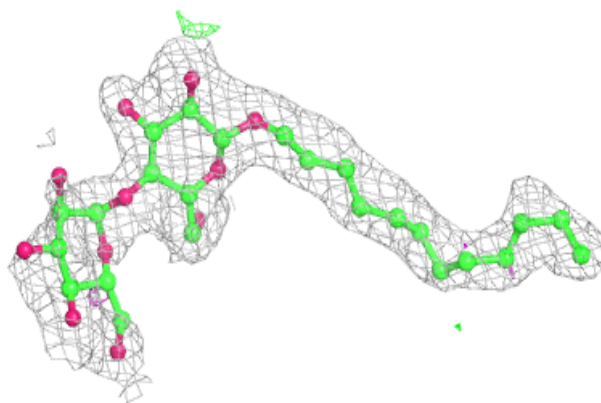
**Electron density around LMT F 201:**

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

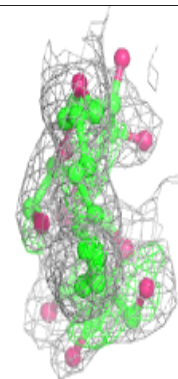
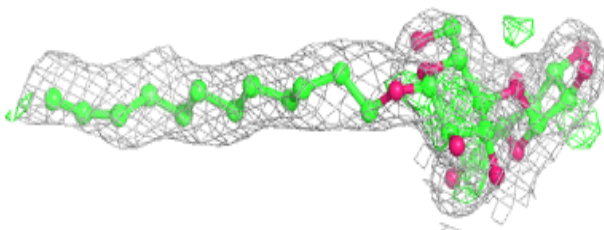
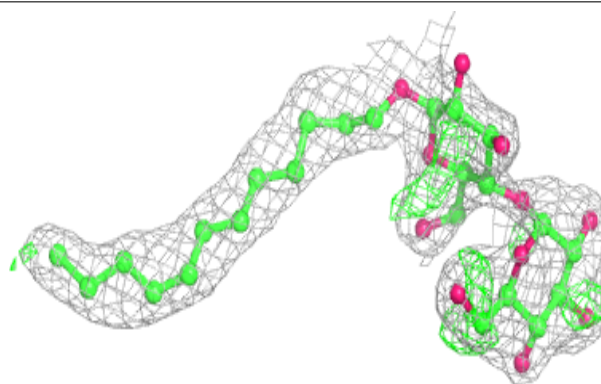


**Electron density around LMT A 201:**

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

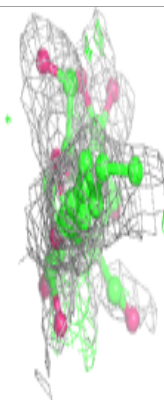
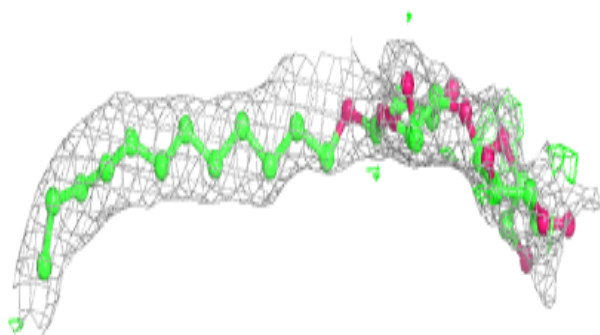
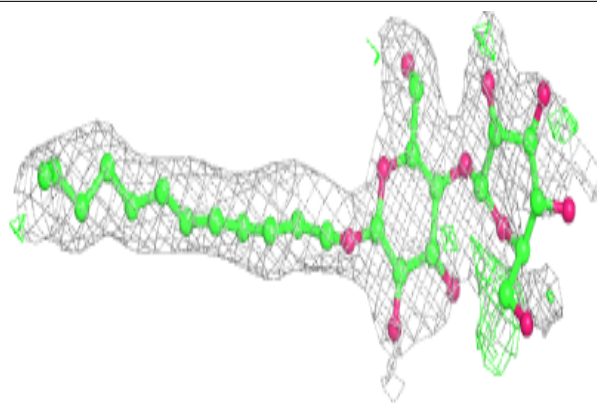
**Electron density around LMT G 506 (A):**

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

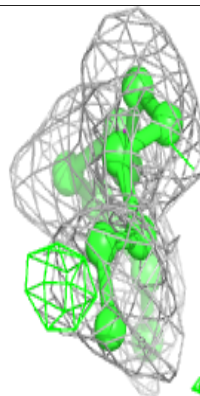
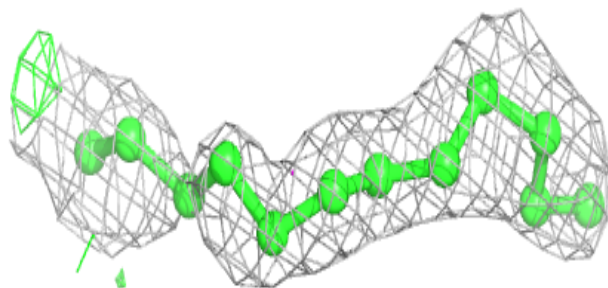
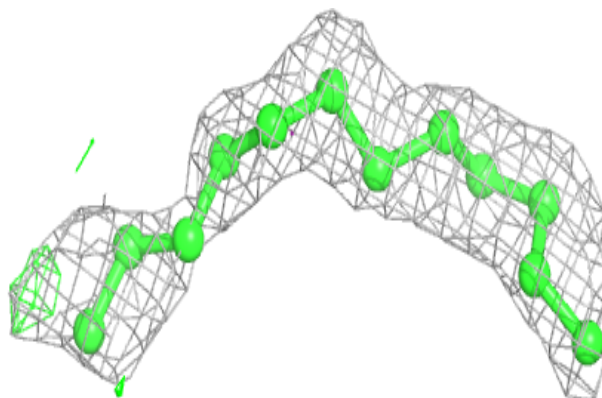


**Electron density around LMT G 506 (B):**

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

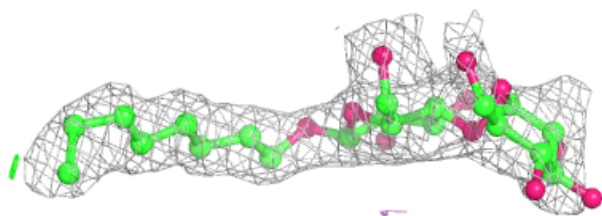
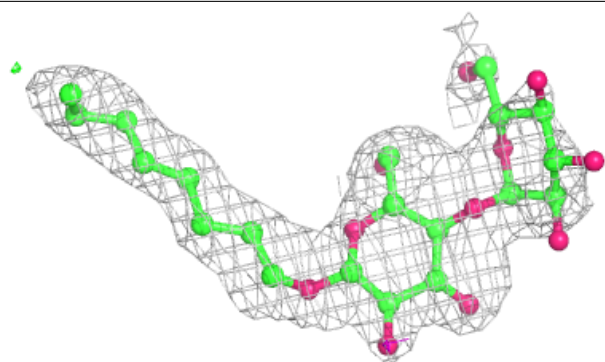
**Electron density around LMT B 202:**

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

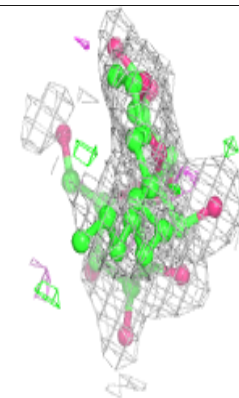
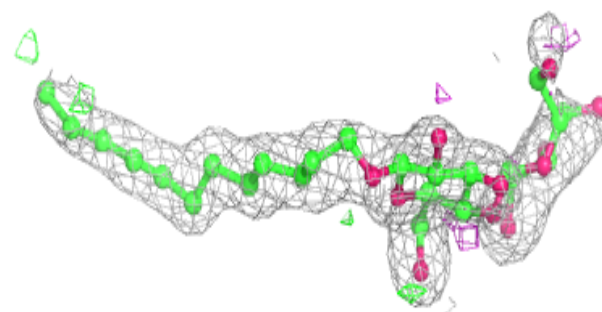
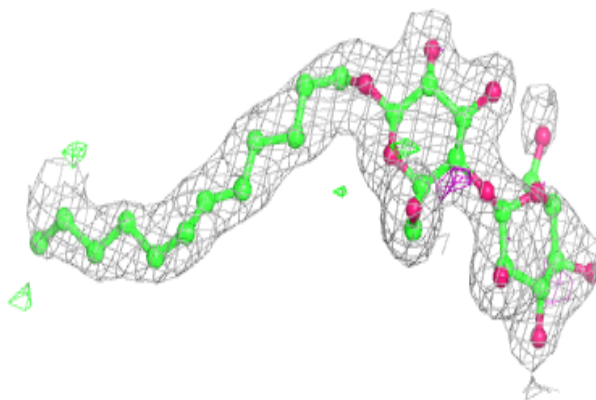


**Electron density around LMT H 201:**

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

**Electron density around LMT K 201:**

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



## 6.5 Other polymers [i](#)

There are no such residues in this entry.