



wwPDB X-ray Structure Validation Summary Report ⓘ

Mar 12, 2024 – 12:40 AM JST

PDB ID : 8H8S
Title : Bovine Heart Cytochrome c Oxidase in the Calcium-bound Fully Reduced State
Authors : Muramoto, K.; Shinzawa-Itoh, K.
Deposited on : 2022-10-24
Resolution : 1.70 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

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

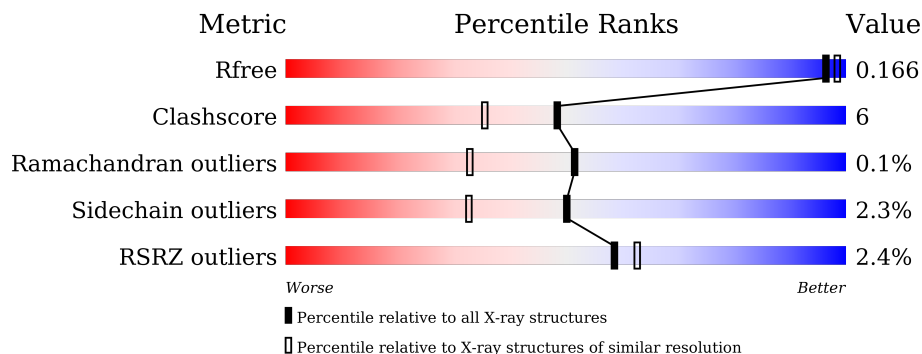
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.70 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.



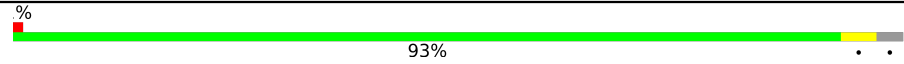
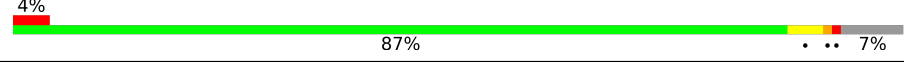
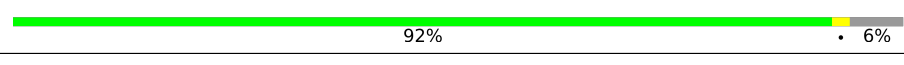
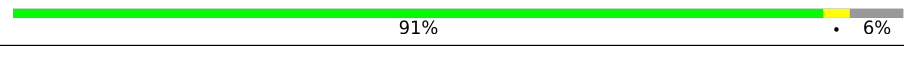

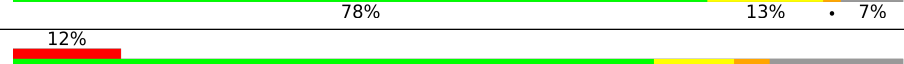
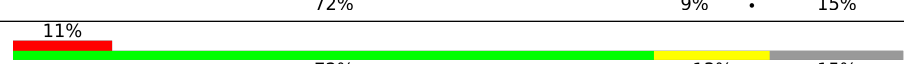
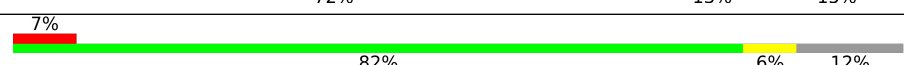
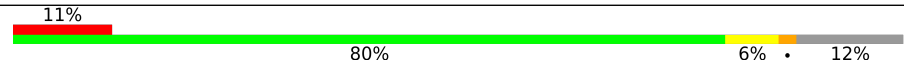
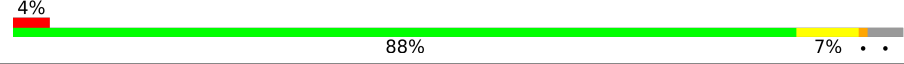

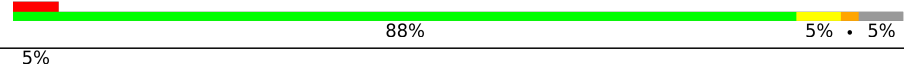
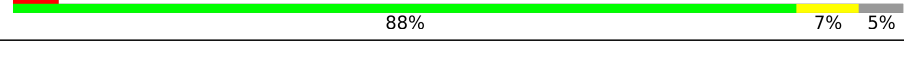

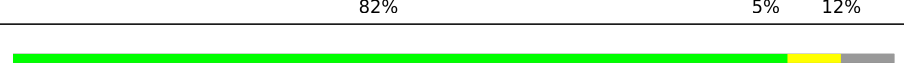



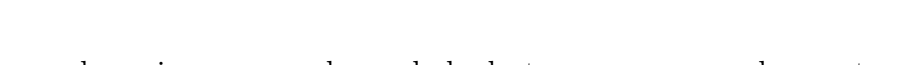
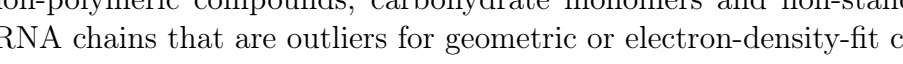
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	4298 (1.70-1.70)
Clashscore	141614	4695 (1.70-1.70)
Ramachandran outliers	138981	4610 (1.70-1.70)
Sidechain outliers	138945	4610 (1.70-1.70)
RSRZ outliers	127900	4222 (1.70-1.70)

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 $\leq 5\%$. 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	514	 92% 8%
1	N	514	 91% 9%
2	B	227	 4% 84% 14%
2	O	227	 4% 84% 14%
3	C	261	 87% 12%
3	P	261	 87% 11%

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Mol	Chain	Length	Quality of chain
4	D	147	
4	Q	147	
5	E	109	
5	R	109	
6	F	98	
6	S	98	
7	G	85	
7	T	85	
8	H	85	
8	U	85	
9	I	73	
9	V	73	
10	J	59	
10	W	59	
11	K	56	
11	X	56	
12	L	47	
12	Y	47	
13	M	46	
13	Z	46	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
19	LFA	C	308	-	-	-	X
19	LFA	P	307	-	-	-	X
19	LFA	P	308	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
20	DMU	P	316	-	-	-	X

2 Entry composition [i](#)

There are 28 unique types of molecules in this entry. The entry contains 33023 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 Cytochrome c oxidase subunit 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	513	4130	2757	636	696	41	0	15	0
1	N	513	4130	2757	636	696	41	0	15	0

- Molecule 2 is a protein called Cytochrome c oxidase subunit 2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	227	1870	1216	288	347	19	0	5	0
2	O	227	1870	1216	288	347	19	0	5	0

- Molecule 3 is a protein called Cytochrome c oxidase subunit 3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	C	258	2171	1449	342	364	16	0	9	0
3	P	258	2172	1449	343	364	16	0	9	0

- Molecule 4 is a protein called Cytochrome c oxidase subunit 4 isoform 1, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	D	143	1192	776	195	217	4	0	1	0
4	Q	137	1148	749	188	207	4	0	1	0

- Molecule 5 is a protein called Cytochrome c oxidase subunit 5A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	102	Total	C	N	O	S	0	0	0
			825	528	139	156	2			
5	R	102	Total	C	N	O	S	0	0	0
			825	528	139	156	2			

- Molecule 6 is a protein called Cytochrome c oxidase subunit 5B, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	F	91	Total	C	N	O	S	0	2	0
			709	441	124	138	6			
6	S	91	Total	C	N	O	S	0	2	0
			709	441	124	138	6			

- Molecule 7 is a protein called Cytochrome c oxidase subunit 6A2, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	G	72	Total	C	N	O	S	0	1	0
			606	396	114	95	1			
7	T	72	Total	C	N	O	S	0	1	0
			606	396	114	95	1			

- Molecule 8 is a protein called Cytochrome c oxidase subunit 6B1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	H	75	Total	C	N	O	S	0	0	0
			628	395	114	114	5			
8	U	75	Total	C	N	O	S	0	0	0
			628	395	114	114	5			

- Molecule 9 is a protein called Cytochrome c oxidase subunit 6C.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	I	70	Total	C	N	O	S	0	0	0
			575	375	103	93	4			
9	V	70	Total	C	N	O	S	0	0	0
			575	375	103	93	4			

- Molecule 10 is a protein called Cytochrome c oxidase subunit 7A1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	56	Total	C	N	O	S	0	0	0
			441	285	73	80	3			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	W	56	Total	C	N	O	S	0	0	0
			441	285	73	80	3			

- Molecule 11 is a protein called Cytochrome c oxidase subunit 7B, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	49	Total	C	N	O	S	0	0	0
			384	250	65	67	2			
11	X	49	Total	C	N	O	S	0	0	0
			384	250	65	67	2			

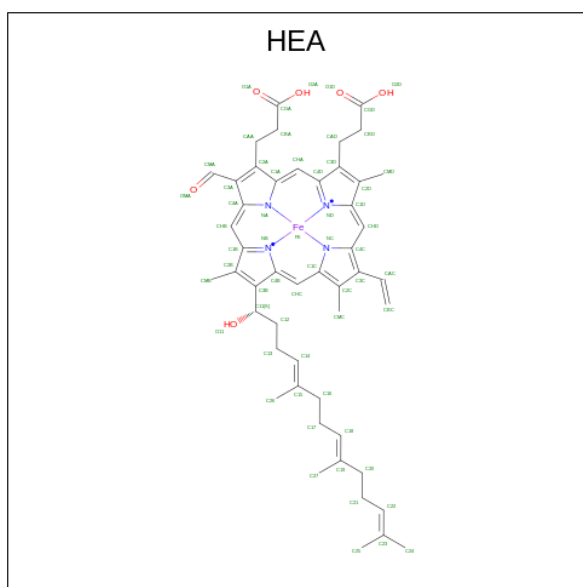
- Molecule 12 is a protein called Cytochrome c oxidase subunit 7C, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	L	44	Total	C	N	O	S	0	0	0
			360	242	59	57	2			
12	Y	44	Total	C	N	O	S	0	0	0
			360	242	59	57	2			

- Molecule 13 is a protein called Cytochrome c oxidase subunit 8B, mitochondrial.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
13	M	40	Total	C	N	O	0	0	0
			311	208	48	55			
13	Z	40	Total	C	N	O	0	0	0
			311	208	48	55			

- Molecule 14 is HEME-A (three-letter code: HEA) (formula: $C_{49}H_{56}FeN_4O_6$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	
14	A	1	Total	C	Fe	N	O	0	0
			60	49	1	4	6		
14	A	1	Total	C	Fe	N	O	0	0
			60	49	1	4	6		
14	N	1	Total	C	Fe	N	O	0	0
			60	49	1	4	6		
14	N	1	Total	C	Fe	N	O	0	0
			60	49	1	4	6		

- Molecule 15 is COPPER (II) ION (three-letter code: CU) (formula: Cu).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
15	A	1	Total	Cu	0	0
			1	1		
15	N	1	Total	Cu	0	0
			1	1		

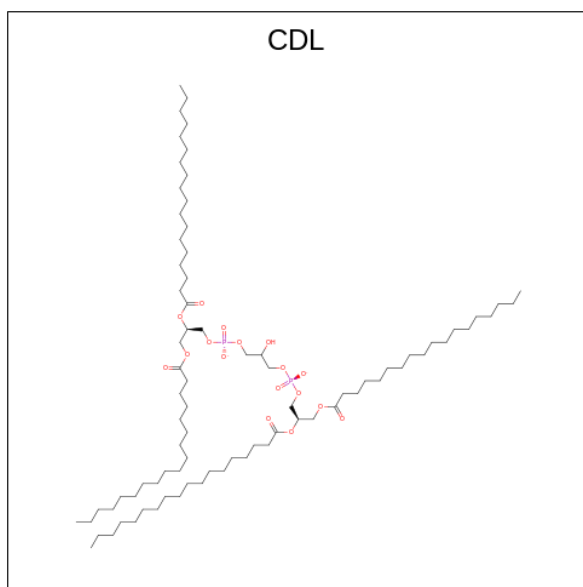
- Molecule 16 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
16	A	1	Total	Mg	0	0
			1	1		
16	N	1	Total	Mg	0	0
			1	1		

- Molecule 17 is CALCIUM ION (three-letter code: CA) (formula: Ca) (labeled as "Ligand of Interest" by depositor).

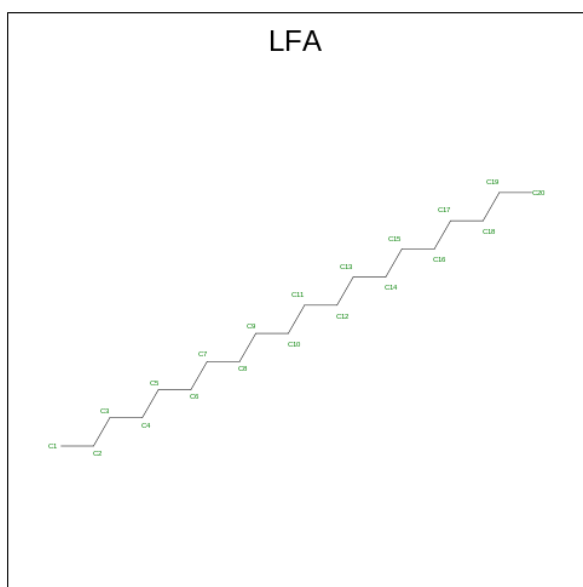
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
17	A	1	Total Ca 1 1	0	0
17	N	1	Total Ca 1 1	0	0

- Molecule 18 is CARDIOLIPIN (three-letter code: CDL) (formula: $C_{81}H_{156}O_{17}P_2$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
18	A	1	Total C O P 64 45 17 2	0	0
18	C	1	Total C O P 87 68 17 2	0	0
18	L	1	Total C O P 94 75 17 2	0	0
18	P	1	Total C O P 87 68 17 2	0	0
18	V	1	Total C O P 64 45 17 2	0	0
18	Y	1	Total C O P 94 75 17 2	0	0

- Molecule 19 is EICOSANE (three-letter code: LFA) (formula: $C_{20}H_{42}$).



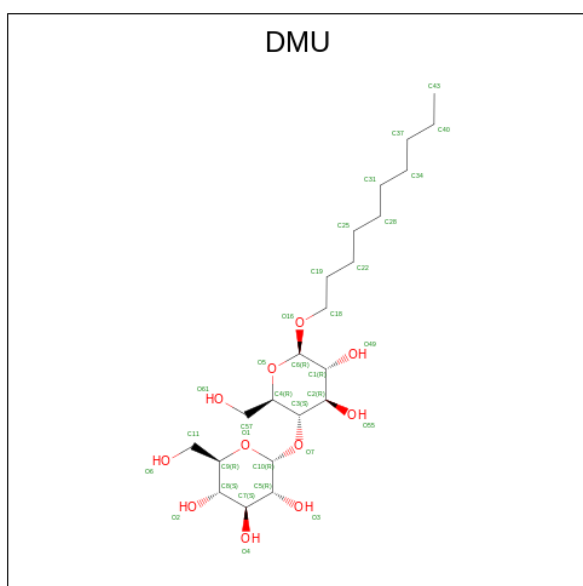
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
19	A	1	Total C 14 14	0	0
19	B	1	Total C 17 17	0	0
19	C	1	Total C 11 11	0	0
19	C	1	Total C 6 6	0	0
19	C	1	Total C 18 18	0	0
19	C	1	Total C 15 15	0	0
19	C	1	Total C 11 11	0	0
19	C	1	Total C 14 14	0	0
19	C	1	Total C 11 11	0	0
19	C	1	Total C 15 15	0	0
19	C	1	Total C 13 13	0	0
19	C	1	Total C 15 15	0	0
19	N	1	Total C 14 14	0	0
19	N	1	Total C 14 14	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
19	O	1	Total C 17 17	0	0
19	O	1	Total C 11 11	0	0
19	P	1	Total C 11 11	0	0
19	P	1	Total C 6 6	0	0
19	P	1	Total C 18 18	0	0
19	P	1	Total C 11 11	0	0
19	P	1	Total C 11 11	0	0
19	P	1	Total C 15 15	0	0
19	P	1	Total C 13 13	0	0
19	T	1	Total C 14 14	0	0
19	T	1	Total C 14 14	0	0
19	T	1	Total C 11 11	0	0

- Molecule 20 is DECYL-BETA-D-MALTOPYRANOSIDE (three-letter code: DMU) (formula: C₂₂H₄₂O₁₁).



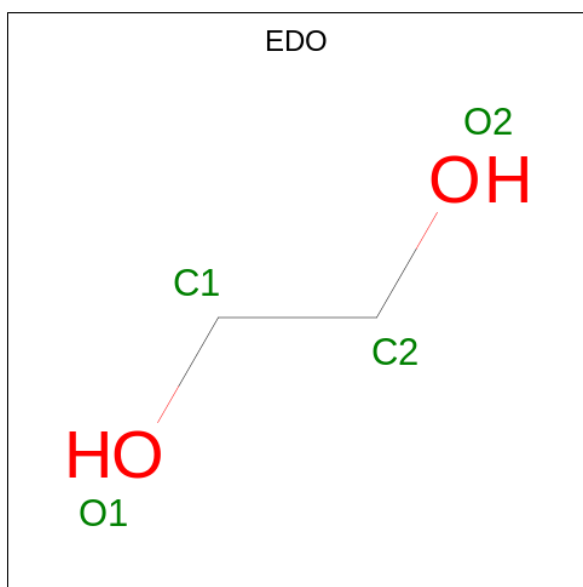
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
20	A	1	Total C 7 7	0	0
20	A	1	Total C O 33 22 11	0	0
20	A	1	Total C O 11 10 1	0	0
20	B	1	Total C O 11 10 1	0	0
20	B	1	Total C O 11 10 1	0	0
20	B	1	Total C O 22 16 6	0	0
20	B	1	Total C O 22 16 6	0	0
20	C	1	Total C O 11 10 1	0	0
20	C	1	Total C O 33 22 11	0	0
20	C	1	Total C 7 7	0	0
20	C	1	Total C O 22 16 6	0	0
20	C	1	Total C O 33 22 11	0	0
20	C	1	Total C O 33 22 11	0	0
20	C	1	Total C O 33 22 11	0	0
20	D	1	Total C O 33 22 11	0	0
20	G	1	Total C O 11 10 1	0	0
20	G	1	Total C O 22 16 6	0	0
20	H	1	Total C O 33 22 11	0	0
20	J	1	Total C O 11 10 1	0	0
20	L	1	Total C O 22 16 6	0	0
20	M	1	Total C O 33 22 11	0	0
20	M	1	Total C 8 8	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
20	N	1	Total C 7 7	0	0
20	N	1	Total C O 33 22 11	0	0
20	N	1	Total C O 33 22 11	0	0
20	O	1	Total C O 22 16 6	0	0
20	O	1	Total C O 11 10 1	0	0
20	O	1	Total C O 11 10 1	0	0
20	O	1	Total C O 22 16 6	0	0
20	P	1	Total C O 11 10 1	0	0
20	P	1	Total C O 33 22 11	0	0
20	P	1	Total C 7 7	0	0
20	P	1	Total C O 22 16 6	0	0
20	P	1	Total C O 33 22 11	0	0
20	P	1	Total C O 33 22 11	0	0
20	P	1	Total C O 33 22 11	0	0
20	Q	1	Total C O 33 22 11	0	0
20	T	1	Total C O 22 16 6	0	0
20	W	1	Total C O 11 10 1	0	0
20	Y	1	Total C O 22 16 6	0	0
20	Z	1	Total C O 33 22 11	0	0
20	Z	1	Total C 8 8	0	0

- Molecule 21 is 1,2-ETHANEDIOL (three-letter code: EDO) (formula: C₂H₆O₂).



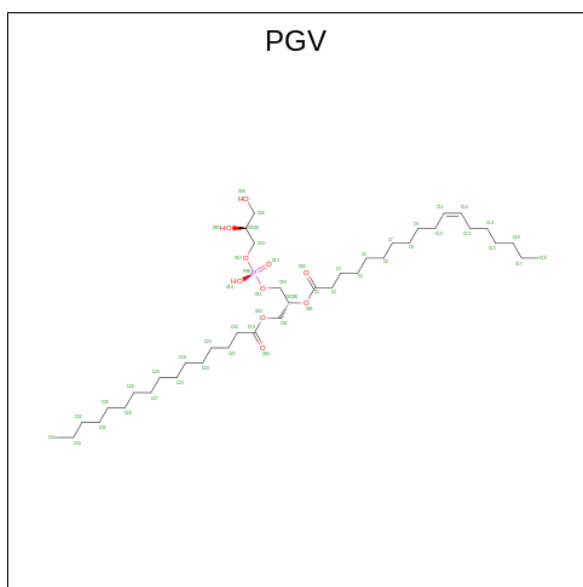
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
21	A	1	Total C O 4 2 2	0	0
21	A	1	Total C O 4 2 2	0	0
21	A	1	Total C O 4 2 2	0	0
21	A	1	Total C O 4 2 2	0	0
21	B	1	Total C O 4 2 2	0	0
21	C	1	Total C O 4 2 2	0	0
21	C	1	Total C O 4 2 2	0	0
21	C	1	Total C O 4 2 2	0	0
21	E	1	Total C O 4 2 2	0	0
21	E	1	Total C O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

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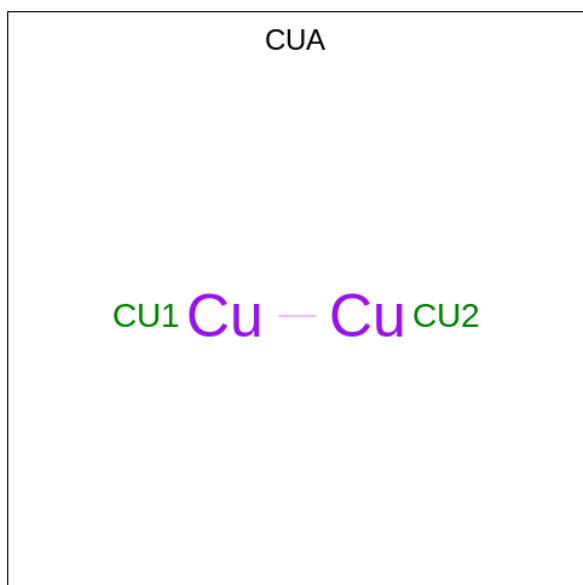
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
21	N	1	Total C O 4 2 2	0	0
21	N	1	Total C O 4 2 2	0	0
21	N	1	Total C O 4 2 2	0	0
21	N	1	Total C O 4 2 2	0	0
21	N	1	Total C O 4 2 2	0	0
21	O	1	Total C O 4 2 2	0	0
21	P	1	Total C O 4 2 2	0	0
21	P	1	Total C O 4 2 2	0	0
21	P	1	Total C O 4 2 2	0	0
21	R	1	Total C O 4 2 2	0	0
21	R	1	Total C O 4 2 2	0	0
21	R	1	Total C O 4 2 2	0	0
21	S	1	Total C O 4 2 2	0	0
21	S	1	Total C O 4 2 2	0	0
21	T	1	Total C O 4 2 2	0	0

- Molecule 22 is (1R)-2-{{{(2S)-2,3-DIHYDROXYPROPYL}OXY}(HYDROXY)PHOSPHORYL}OXY}-1-[(PALMITOYLOXY)METHYL]ETHYL (11E)-OCTADEC-11-ENOATE (three-letter code: PGV) (formula: C₄₀H₇₇O₁₀P).



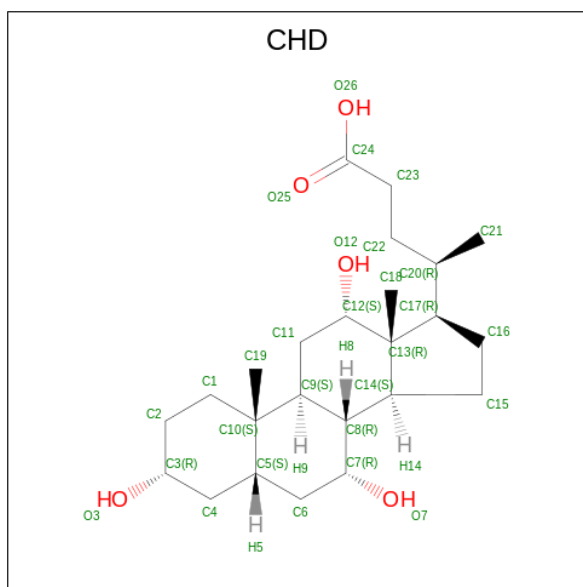
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	O	P		
22	A	1	51	40	10	1	0	0
22	C	1	51	40	10	1	0	0
22	N	1	51	40	10	1	0	0
22	P	1	51	40	10	1	0	0

- Molecule 23 is DINUCLEAR COPPER ION (three-letter code: CUA) (formula: Cu₂).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
23	B	1	Total Cu 2 2	0	0
23	O	1	Total Cu 2 2	0	0

- Molecule 24 is CHOLIC ACID (three-letter code: CHD) (formula: C₂₄H₄₀O₅).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
24	B	1	Total C O 29 24 5	0	0
24	C	1	Total C O 29 24 5	0	0
24	C	1	Total C O 29 24 5	0	0
24	O	1	Total C O 29 24 5	0	0
24	P	1	Total C O 29 24 5	0	0
24	P	1	Total C O 29 24 5	0	0

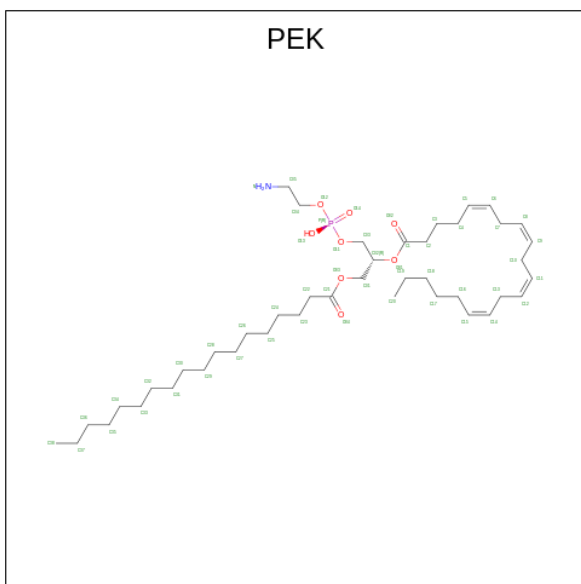
- Molecule 25 is UNKNOWN ATOM OR ION (three-letter code: UNX) (formula: X).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
25	C	1	Total X 1 1	0	0
25	P	1	Total X 1 1	0	0

- Molecule 26 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
26	F	1	Total Zn 1 1	0	0
26	S	1	Total Zn 1 1	0	0

- Molecule 27 is (1S)-2-[[[(2-AMINOETHOXY)(HYDROXY)PHOSPHORYL]OXY}-1-[(STEAROYLOXY)METHYL]ETHYL (5E,8E,11E,14E)-ICOSA-5,8,11,14-TETRAENOATE (three-letter code: PEK) (formula: C₄₃H₇₈NO₈P).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
27	G	1	Total C N O P 53 43 1 8 1	0	0
27	T	1	Total C N O P 53 43 1 8 1	0	0

- Molecule 28 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
28	A	238	Total O 249 249	0	11
28	B	171	Total O 173 173	0	2
28	C	105	Total O 106 106	0	1
28	D	135	Total O 144 144	0	9

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
28	E	108	Total O 115 115	0	7
28	F	100	Total O 107 107	0	7
28	G	42	Total O 43 43	0	1
28	H	63	Total O 63 63	0	0
28	I	40	Total O 40 40	0	0
28	J	21	Total O 21 21	0	0
28	K	21	Total O 21 21	0	0
28	L	26	Total O 28 28	0	2
28	M	21	Total O 21 21	0	0
28	N	227	Total O 237 237	0	10
28	O	146	Total O 147 147	0	1
28	P	103	Total O 104 104	0	1
28	Q	79	Total O 84 84	0	5
28	R	87	Total O 94 94	0	7
28	S	89	Total O 95 95	0	6
28	T	37	Total O 38 38	0	1
28	U	47	Total O 47 47	0	0
28	V	24	Total O 24 24	0	0
28	W	15	Total O 15 15	0	0
28	X	18	Total O 18 18	0	0
28	Y	23	Total O 25 25	0	2

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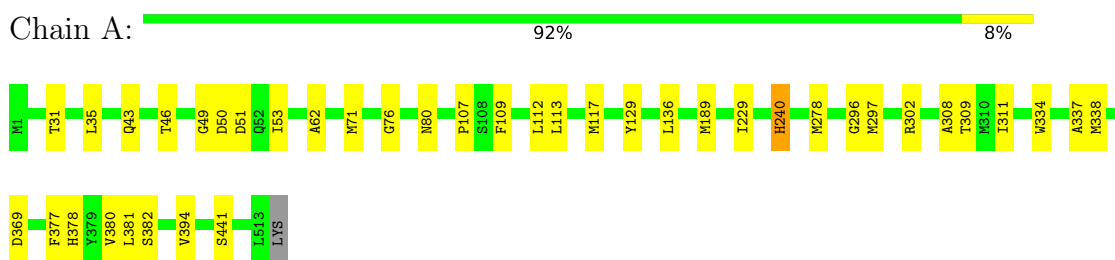
Continued from previous page...

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
28	Z	17	Total	O	0	0
			17	17		

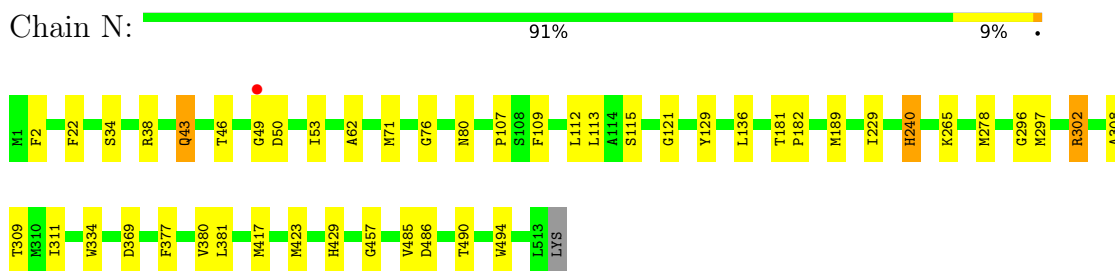
3 Residue-property plots

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.

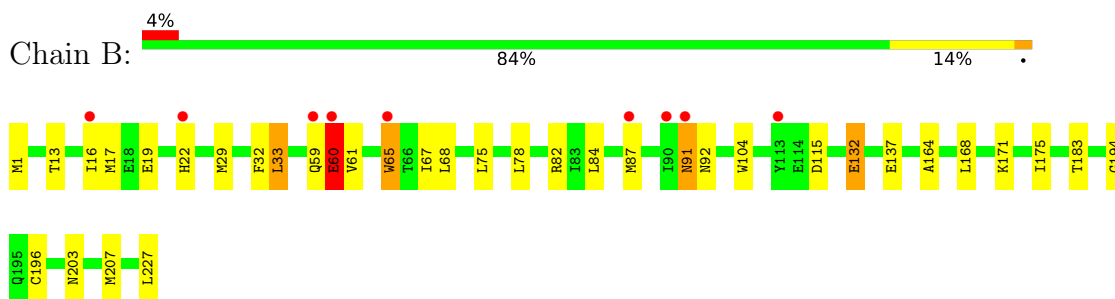
- Molecule 1: Cytochrome c oxidase subunit 1



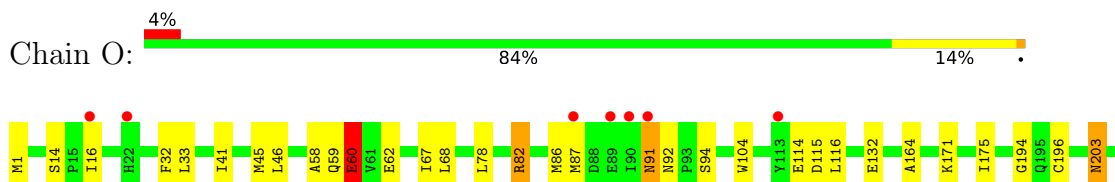
- Molecule 1: Cytochrome c oxidase subunit 1

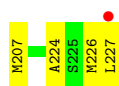


- Molecule 2: Cytochrome c oxidase subunit 2



- Molecule 2: Cytochrome c oxidase subunit 2





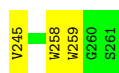
- Molecule 3: Cytochrome c oxidase subunit 3

Chain C: 87% 12%



- Molecule 3: Cytochrome c oxidase subunit 3

Chain P: 87% 11%



- Molecule 4: Cytochrome c oxidase subunit 4 isoform 1, mitochondrial

Chain D: 93%



- Molecule 4: Cytochrome c oxidase subunit 4 isoform 1, mitochondrial

Chain Q: 4% 87% 7%



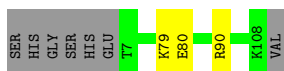
- Molecule 5: Cytochrome c oxidase subunit 5A

Chain E: 92% 6%

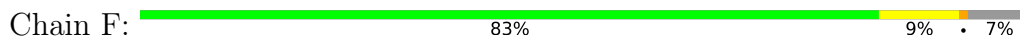


- Molecule 5: Cytochrome c oxidase subunit 5A

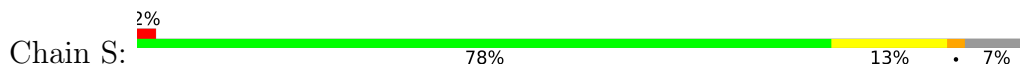
Chain R: 91% 6%



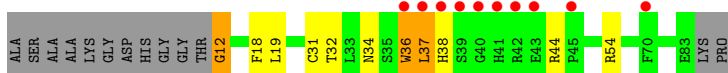
- Molecule 6: Cytochrome c oxidase subunit 5B, mitochondrial



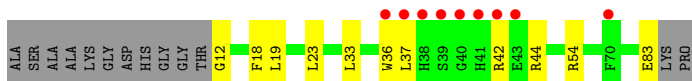
- Molecule 6: Cytochrome c oxidase subunit 5B, mitochondrial



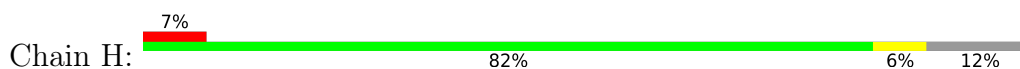
- Molecule 7: Cytochrome c oxidase subunit 6A2, mitochondrial



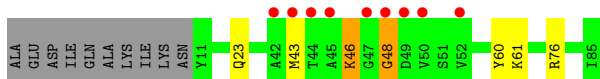
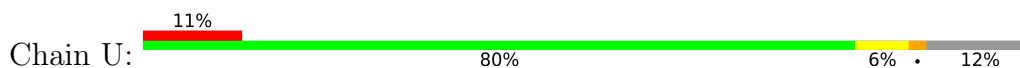
- Molecule 7: Cytochrome c oxidase subunit 6A2, mitochondrial



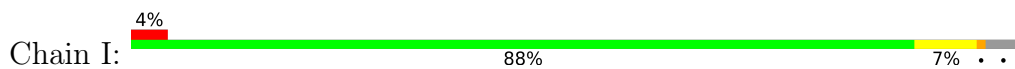
- Molecule 8: Cytochrome c oxidase subunit 6B1



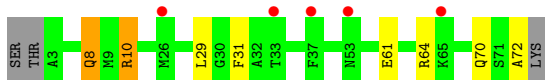
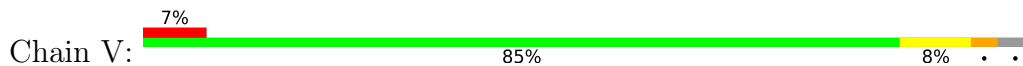
- Molecule 8: Cytochrome c oxidase subunit 6B1



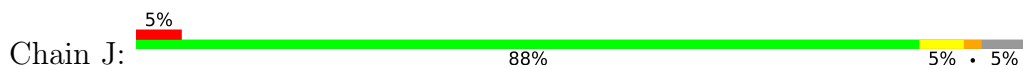
- Molecule 9: Cytochrome c oxidase subunit 6C



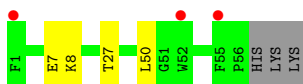
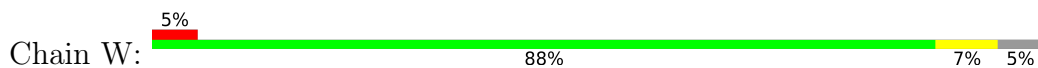
- Molecule 9: Cytochrome c oxidase subunit 6C



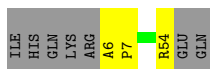
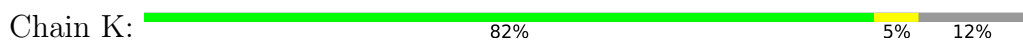
- Molecule 10: Cytochrome c oxidase subunit 7A1



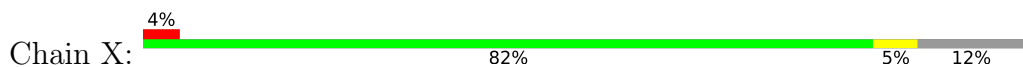
- Molecule 10: Cytochrome c oxidase subunit 7A1



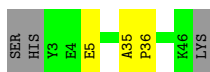
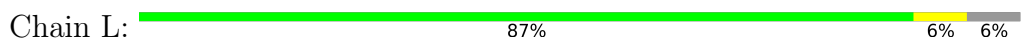
- Molecule 11: Cytochrome c oxidase subunit 7B, mitochondrial




- Molecule 11: Cytochrome c oxidase subunit 7B, mitochondrial



- Molecule 12: Cytochrome c oxidase subunit 7C, mitochondrial




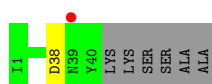
- Molecule 12: Cytochrome c oxidase subunit 7C, mitochondrial

Chain Y:  83% 11% 6%




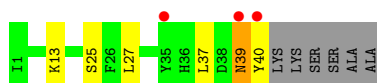
- Molecule 13: Cytochrome c oxidase subunit 8B, mitochondrial

Chain M:  85% 2% 13%



- Molecule 13: Cytochrome c oxidase subunit 8B, mitochondrial

Chain Z:  74% 7% 11% 13%



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	182.10Å 204.70Å 177.90Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	40.00 – 1.70 136.06 – 1.70	Depositor EDS
% Data completeness (in resolution range)	100.0 (40.00-1.70) 99.9 (136.06-1.70)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.06 (at 1.70Å)	Xtrriage
Refinement program	REFMAC 5.8.0253	Depositor
R, R_{free}	0.124 , 0.156 0.140 , 0.166	Depositor DCC
R_{free} test set	36339 reflections (5.01%)	wwPDB-VP
Wilson B-factor (Å ²)	32.1	Xtrriage
Anisotropy	0.575	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.36 , 64.5	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	0.006 for l,-k,h	Xtrriage
F_o, F_c correlation	0.97	EDS
Total number of atoms	33023	wwPDB-VP
Average B, all atoms (Å ²)	46.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.09% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical 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: PEK, MG, PGV, ZN, EDO, CHD, CUA, DMU, CU, HEA, FME, UNX, CA, LFA, CDL

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.78	2/4259 (0.0%)	0.88	5/5816 (0.1%)
1	N	0.78	2/4259 (0.0%)	0.86	5/5816 (0.1%)
2	B	0.88	3/1908 (0.2%)	0.95	3/2598 (0.1%)
2	O	0.81	3/1908 (0.2%)	0.92	2/2598 (0.1%)
3	C	0.78	1/2258 (0.0%)	0.82	1/3084 (0.0%)
3	P	0.80	2/2258 (0.1%)	0.83	3/3084 (0.1%)
4	D	1.00	2/1226 (0.2%)	0.90	3/1657 (0.2%)
4	Q	0.80	1/1182 (0.1%)	1.00	4/1598 (0.3%)
5	E	0.80	0/843	0.83	0/1145
5	R	0.88	1/843 (0.1%)	0.85	0/1145
6	F	0.85	1/724 (0.1%)	0.89	0/983
6	S	0.85	1/724 (0.1%)	0.92	2/983 (0.2%)
7	G	0.83	1/633 (0.2%)	0.94	2/864 (0.2%)
7	T	0.81	1/633 (0.2%)	0.89	2/864 (0.2%)
8	H	0.76	0/648	0.85	0/877
8	U	0.79	0/648	0.88	1/877 (0.1%)
9	I	0.89	2/588 (0.3%)	1.05	3/781 (0.4%)
9	V	0.77	0/588	0.94	3/781 (0.4%)
10	J	0.71	0/451	0.84	1/610 (0.2%)
10	W	0.75	0/451	0.82	0/610
11	K	0.82	0/398	0.86	0/546
11	X	0.74	0/398	0.77	0/546
12	L	0.87	1/372 (0.3%)	0.90	0/500
12	Y	0.88	2/372 (0.5%)	0.83	0/500
13	M	0.80	0/321	0.75	0/440
13	Z	0.76	0/321	0.77	0/440
All	All	0.81	26/29214 (0.1%)	0.88	40/39743 (0.1%)

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	2
1	N	0	1
6	S	0	1
All	All	0	4

The worst 5 of 26 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	D	58	GLU	CD-OE1	18.82	1.46	1.25
5	R	80	GLU	CD-OE1	11.13	1.37	1.25
1	A	189	MET	CG-SD	-7.08	1.62	1.81
9	I	72	ALA	C-O	7.04	1.36	1.23
12	L	5	GLU	CD-OE2	-6.85	1.18	1.25

The worst 5 of 40 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	Q	20	ARG	NE-CZ-NH1	15.96	128.28	120.30
4	Q	20	ARG	NE-CZ-NH2	-14.01	113.29	120.30
1	A	71	MET	CG-SD-CE	-13.98	77.82	100.20
1	N	71	MET	CG-SD-CE	-12.50	80.20	100.20
2	B	82	ARG	NE-CZ-NH2	-10.10	115.25	120.30

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	240	HIS	Sidechain
1	A	296	GLY	Mainchain
1	N	296	GLY	Mainchain
6	S	92	VAL	Mainchain

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	4130	0	4102	33	0
1	N	4130	0	4102	49	0
2	B	1870	0	1870	30	0
2	O	1870	0	1870	34	0
3	C	2171	0	2080	34	0
3	P	2172	0	2081	26	0
4	D	1192	0	1178	4	0
4	Q	1148	0	1131	7	0
5	E	825	0	823	1	0
5	R	825	0	823	1	0
6	F	709	0	691	8	0
6	S	709	0	691	8	0
7	G	606	0	577	7	0
7	T	606	0	577	4	0
8	H	628	0	580	6	0
8	U	628	0	580	7	0
9	I	575	0	584	4	0
9	V	575	0	584	3	0
10	J	441	0	439	5	0
10	W	441	0	439	4	0
11	K	384	0	366	1	0
11	X	384	0	366	2	0
12	L	360	0	360	1	0
12	Y	360	0	360	6	0
13	M	311	0	321	0	0
13	Z	311	0	321	6	0
14	A	120	0	108	3	0
14	N	120	0	108	5	0
15	A	1	0	0	0	0
15	N	1	0	0	0	0
16	A	1	0	0	0	0
16	N	1	0	0	0	0
17	A	1	0	0	0	0
17	N	1	0	0	0	0
18	A	64	0	72	0	0
18	C	87	0	124	18	0
18	L	94	0	141	2	0
18	P	87	0	124	13	0
18	V	64	0	72	2	0
18	Y	94	0	141	5	0
19	A	14	0	27	3	0
19	B	17	0	33	1	0
19	C	129	0	235	24	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
19	N	28	0	54	9	0
19	O	28	0	54	5	0
19	P	85	0	144	19	0
19	T	39	0	75	10	0
20	A	51	0	76	8	0
20	B	66	0	104	0	0
20	C	172	0	230	7	0
20	D	33	0	41	1	0
20	G	33	0	52	14	0
20	H	33	0	28	5	0
20	J	11	0	21	0	0
20	L	22	0	31	1	0
20	M	41	0	56	0	0
20	N	73	0	80	3	0
20	O	66	0	104	9	0
20	P	172	0	230	9	0
20	Q	33	0	41	1	0
20	T	22	0	31	5	0
20	W	11	0	21	0	0
20	Y	22	0	31	1	0
20	Z	41	0	56	1	0
21	A	16	0	24	0	0
21	B	4	0	6	0	0
21	C	12	0	17	2	0
21	E	12	0	18	0	0
21	F	8	0	12	1	0
21	G	4	0	6	0	0
21	N	20	0	30	4	0
21	O	4	0	6	0	0
21	P	12	0	18	1	0
21	R	12	0	18	0	0
21	S	8	0	12	1	0
21	T	4	0	6	0	0
22	A	51	0	76	0	0
22	C	51	0	76	1	0
22	N	51	0	76	1	0
22	P	51	0	76	0	0
23	B	2	0	0	0	0
23	O	2	0	0	0	0
24	B	29	0	39	0	0
24	C	58	0	78	2	0
24	O	29	0	39	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
24	P	58	0	78	2	0
25	C	1	0	0	1	0
25	P	1	0	0	1	0
26	F	1	0	0	0	0
26	S	1	0	0	0	0
27	G	53	0	77	3	0
27	T	53	0	77	5	0
28	A	249	0	0	5	0
28	B	173	0	0	4	0
28	C	106	0	0	9	0
28	D	144	0	0	2	0
28	E	115	0	0	0	0
28	F	107	0	0	2	0
28	G	43	0	0	1	0
28	H	63	0	0	7	0
28	I	40	0	0	1	0
28	J	21	0	0	0	0
28	K	21	0	0	0	0
28	L	28	0	0	0	0
28	M	21	0	0	0	0
28	N	237	0	0	13	0
28	O	147	0	0	2	0
28	P	104	0	0	8	0
28	Q	84	0	0	1	0
28	R	94	0	0	1	0
28	S	95	0	0	1	0
28	T	38	0	0	1	0
28	U	47	0	0	1	0
28	V	24	0	0	1	0
28	W	15	0	0	0	0
28	X	18	0	0	0	0
28	Y	25	0	0	2	0
28	Z	17	0	0	1	0
All	All	33023	0	31506	376	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 376 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:N:297[B]:MET:HB2	28:N:2883:HOH:O	1.21	1.30
20:P:317:DMU:O3	20:P:318:DMU:H29	1.38	1.22
1:A:112:LEU:HG	28:A:926:HOH:O	1.36	1.22
2:B:16[A]:ILE:HG21	2:B:87[A]:MET:CE	1.68	1.22
1:A:297[B]:MET:HB2	28:A:715:HOH:O	1.00	1.16

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	526/514 (102%)	513 (98%)	13 (2%)	0	100	100
1	N	526/514 (102%)	513 (98%)	13 (2%)	0	100	100
2	B	230/227 (101%)	224 (97%)	6 (3%)	0	100	100
2	O	230/227 (101%)	226 (98%)	4 (2%)	0	100	100
3	C	265/261 (102%)	261 (98%)	4 (2%)	0	100	100
3	P	265/261 (102%)	261 (98%)	4 (2%)	0	100	100
4	D	142/147 (97%)	139 (98%)	3 (2%)	0	100	100
4	Q	136/147 (92%)	131 (96%)	4 (3%)	1 (1%)	22	8
5	E	100/109 (92%)	100 (100%)	0	0	100	100
5	R	100/109 (92%)	100 (100%)	0	0	100	100
6	F	91/98 (93%)	91 (100%)	0	0	100	100
6	S	91/98 (93%)	90 (99%)	1 (1%)	0	100	100
7	G	71/85 (84%)	64 (90%)	7 (10%)	0	100	100
7	T	71/85 (84%)	68 (96%)	3 (4%)	0	100	100
8	H	73/85 (86%)	72 (99%)	1 (1%)	0	100	100
8	U	73/85 (86%)	71 (97%)	1 (1%)	1 (1%)	11	2

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
9	I	68/73 (93%)	67 (98%)	1 (2%)	0	100	100
9	V	68/73 (93%)	67 (98%)	1 (2%)	0	100	100
10	J	54/59 (92%)	54 (100%)	0	0	100	100
10	W	54/59 (92%)	54 (100%)	0	0	100	100
11	K	47/56 (84%)	46 (98%)	1 (2%)	0	100	100
11	X	47/56 (84%)	46 (98%)	1 (2%)	0	100	100
12	L	42/47 (89%)	41 (98%)	1 (2%)	0	100	100
12	Y	42/47 (89%)	41 (98%)	1 (2%)	0	100	100
13	M	38/46 (83%)	37 (97%)	1 (3%)	0	100	100
13	Z	38/46 (83%)	38 (100%)	0	0	100	100
All	All	3488/3614 (96%)	3415 (98%)	71 (2%)	2 (0%)	51	33

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	Q	11	TYR
8	U	48	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	440/426 (103%)	437 (99%)	3 (1%)	84	77
1	N	440/426 (103%)	436 (99%)	4 (1%)	78	70
2	B	215/210 (102%)	205 (95%)	10 (5%)	26	10
2	O	215/210 (102%)	205 (95%)	10 (5%)	26	10
3	C	232/226 (103%)	229 (99%)	3 (1%)	69	56
3	P	232/226 (103%)	229 (99%)	3 (1%)	69	56
4	D	128/129 (99%)	128 (100%)	0	100	100
4	Q	122/129 (95%)	120 (98%)	2 (2%)	62	48

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
5	E	89/95 (94%)	89 (100%)	0	100	100
5	R	89/95 (94%)	88 (99%)	1 (1%)	73	63
6	F	78/81 (96%)	77 (99%)	1 (1%)	69	56
6	S	78/81 (96%)	76 (97%)	2 (3%)	46	28
7	G	63/69 (91%)	59 (94%)	4 (6%)	18	5
7	T	63/69 (91%)	57 (90%)	6 (10%)	8	1
8	H	67/75 (89%)	64 (96%)	3 (4%)	27	10
8	U	67/75 (89%)	64 (96%)	3 (4%)	27	10
9	I	55/58 (95%)	54 (98%)	1 (2%)	59	43
9	V	55/58 (95%)	52 (94%)	3 (6%)	21	7
10	J	47/50 (94%)	46 (98%)	1 (2%)	53	36
10	W	47/50 (94%)	45 (96%)	2 (4%)	29	11
11	K	39/46 (85%)	38 (97%)	1 (3%)	46	28
11	X	39/46 (85%)	39 (100%)	0	100	100
12	L	37/40 (92%)	37 (100%)	0	100	100
12	Y	37/40 (92%)	37 (100%)	0	100	100
13	M	34/38 (90%)	33 (97%)	1 (3%)	42	23
13	Z	34/38 (90%)	31 (91%)	3 (9%)	10	2
All	All	3042/3086 (99%)	2975 (98%)	67 (2%)	50	34

5 of 67 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
8	U	60	TYR
9	V	8	GLN
13	Z	39	ASN
9	I	36	LYS
8	H	84	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 24 such sidechains are listed below:

Mol	Chain	Res	Type
3	P	38	ASN
4	Q	109	HIS
4	Q	101	HIS

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Mol	Chain	Res	Type
5	R	94	ASN
6	F	54	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

4 non-standard protein/DNA/RNA residues 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	FME	B	1	2	8,9,10	1.12	1 (12%)	7,9,11	1.29	1 (14%)
2	FME	O	1	2	8,9,10	0.64	0	7,9,11	1.31	2 (28%)
1	FME	N	1	1	8,9,10	0.69	0	7,9,11	0.75	0
1	FME	A	1	1	8,9,10	0.47	0	7,9,11	0.96	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	FME	B	1	2	-	0/7/9/11	-
2	FME	O	1	2	-	0/7/9/11	-
1	FME	N	1	1	-	3/7/9/11	-
1	FME	A	1	1	-	2/7/9/11	-

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	1	FME	CG-SD	-2.38	1.68	1.81

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	1	FME	CG-CB-CA	-2.74	105.33	112.95
2	O	1	FME	CA-N-CN	2.45	126.59	122.82
2	O	1	FME	O-C-CA	-2.05	119.41	124.78

There are no chirality outliers.

All (5) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	1	FME	N-CA-CB-CG
1	N	1	FME	N-CA-CB-CG
1	N	1	FME	C-CA-CB-CG
1	N	1	FME	CA-CB-CG-SD
1	A	1	FME	C-CA-CB-CG

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 131 ligands modelled in this entry, 8 are monoatomic and 2 are unknown - leaving 121 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	$\# Z > 2$
24	CHD	P	305	-	32,32,32	0.75	0	51,51,51	1.48	5 (9%)
20	DMU	P	322	-	34,34,34	0.74	0	45,45,45	1.62	6 (13%)
21	EDO	A	610	-	3,3,3	0.57	0	2,2,2	0.31	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
21	EDO	E	202	-	3,3,3	0.23	0	2,2,2	0.24	0
20	DMU	C	319	-	34,34,34	0.91	3 (8%)	45,45,45	1.32	4 (8%)
27	PEK	G	101	-	52,52,52	0.59	1 (1%)	55,57,57	0.67	1 (1%)
21	EDO	B	305	-	3,3,3	0.21	0	2,2,2	0.43	0
19	LFA	C	312	-	13,13,19	0.33	0	12,12,18	0.11	0
21	EDO	N	613	-	3,3,3	0.19	0	2,2,2	0.21	0
19	LFA	P	309	20	17,17,19	0.22	0	16,16,18	0.23	0
20	DMU	A	609	-	34,34,34	1.13	5 (14%)	45,45,45	1.24	4 (8%)
20	DMU	B	302	-	10,10,34	0.19	0	9,9,45	0.60	0
20	DMU	O	306	-	10,10,34	0.21	0	9,9,45	0.61	0
19	LFA	C	313	-	10,10,19	0.19	0	9,9,18	0.13	0
20	DMU	C	320	-	34,34,34	0.83	0	45,45,45	1.27	6 (13%)
19	LFA	P	312	-	14,14,19	0.38	0	13,13,18	0.19	0
20	DMU	C	318	-	22,22,34	0.80	1 (4%)	27,27,45	1.26	3 (11%)
19	LFA	T	101	-	13,13,19	0.66	0	12,12,18	0.36	0
18	CDL	A	606	-	63,63,99	0.48	0	69,75,111	1.05	4 (5%)
19	LFA	C	309	20	17,17,19	0.27	0	16,16,18	0.29	0
14	HEA	N	602	1	57,67,67	1.60	12 (21%)	61,103,103	2.40	25 (40%)
20	DMU	L	102	-	22,22,34	0.47	0	27,27,45	1.09	3 (11%)
21	EDO	R	203	-	3,3,3	0.36	0	2,2,2	0.54	0
19	LFA	C	311	-	10,10,19	0.22	0	9,9,18	0.11	0
21	EDO	A	613	-	3,3,3	0.38	0	2,2,2	0.22	0
20	DMU	B	308	-	22,22,34	0.58	0	27,27,45	1.34	5 (18%)
20	DMU	C	324	-	34,34,34	0.71	0	45,45,45	1.22	5 (11%)
20	DMU	O	304	-	22,22,34	0.83	1 (4%)	27,27,45	1.51	4 (14%)
19	LFA	C	315	-	12,12,19	0.21	0	11,11,18	0.17	0
21	EDO	O	309	-	3,3,3	0.22	0	2,2,2	0.27	0
20	DMU	O	308	-	22,22,34	0.66	0	27,27,45	1.12	3 (11%)
20	DMU	N	616	19	34,34,34	1.03	2 (5%)	45,45,45	1.67	9 (20%)
21	EDO	R	201	-	3,3,3	0.28	0	2,2,2	0.44	0
19	LFA	T	103	-	13,13,19	0.21	0	12,12,18	0.11	0
20	DMU	D	201	-	34,34,34	1.55	9 (26%)	45,45,45	1.54	6 (13%)
20	DMU	P	306	-	10,10,34	0.32	0	9,9,45	0.55	0
20	DMU	N	609	-	34,34,34	1.36	5 (14%)	45,45,45	1.11	2 (4%)
21	EDO	F	103	-	3,3,3	0.26	0	2,2,2	0.36	0
21	EDO	C	323	-	3,3,3	0.85	0	2,2,2	0.89	0
19	LFA	T	104	-	10,10,19	0.18	0	9,9,18	0.16	0
23	CUA	O	305	2	0,1,1	-	-	-	-	-
19	LFA	B	307	-	16,16,19	0.27	0	15,15,18	0.17	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
20	DMU	P	316	-	22,22,34	0.78	1 (4%)	27,27,45	1.42	3 (11%)
21	EDO	C	322	-	3,3,3	0.13	0	2,2,2	0.06	0
20	DMU	M	101	-	34,34,34	0.98	2 (5%)	45,45,45	0.98	3 (6%)
24	CHD	O	301	-	32,32,32	0.76	0	51,51,51	0.90	1 (1%)
21	EDO	S	103	-	3,3,3	0.20	0	2,2,2	0.17	0
20	DMU	H	101	19	34,34,34	1.26	5 (14%)	45,45,45	1.44	6 (13%)
20	DMU	P	315	-	6,6,34	0.32	0	5,5,45	0.47	0
19	LFA	P	310	-	10,10,19	0.13	0	9,9,18	0.12	0
20	DMU	W	101	-	10,10,34	0.20	0	9,9,45	0.62	0
20	DMU	T	105	-	22,22,34	0.78	0	27,27,45	1.53	4 (14%)
20	DMU	J	101	-	10,10,34	0.27	0	9,9,45	0.58	0
21	EDO	P	321	-	3,3,3	0.54	0	2,2,2	1.06	0
20	DMU	P	318	-	34,34,34	0.71	0	45,45,45	1.18	3 (6%)
22	PGV	N	615	-	50,50,50	0.81	2 (4%)	53,56,56	1.19	3 (5%)
19	LFA	C	308	-	5,5,19	0.23	0	4,4,18	0.08	0
19	LFA	C	310	-	14,14,19	0.19	0	13,13,18	0.13	0
23	CUA	B	301	2	0,1,1	-	-	-	-	-
24	CHD	B	306	-	32,32,32	0.75	0	51,51,51	0.82	0
21	EDO	E	201	-	3,3,3	0.37	0	2,2,2	0.54	0
20	DMU	C	306	-	10,10,34	0.33	0	9,9,45	0.49	0
19	LFA	C	307	-	10,10,19	0.14	0	9,9,18	0.14	0
20	DMU	C	316	-	34,34,34	1.05	3 (8%)	45,45,45	1.66	12 (26%)
19	LFA	O	303	-	10,10,19	0.21	0	9,9,18	0.14	0
21	EDO	N	610	-	3,3,3	0.35	0	2,2,2	0.08	0
20	DMU	G	102	-	10,10,34	0.43	0	9,9,45	0.48	0
20	DMU	Z	102	-	7,7,34	0.27	0	6,6,45	0.61	0
19	LFA	C	325	-	14,14,19	0.22	0	13,13,18	0.15	0
21	EDO	A	611	-	3,3,3	0.19	0	2,2,2	0.41	0
19	LFA	N	606	-	13,13,19	0.34	0	12,12,18	0.31	0
21	EDO	T	106	-	3,3,3	0.08	0	2,2,2	0.22	0
20	DMU	Y	102	-	22,22,34	0.59	0	27,27,45	1.13	2 (7%)
19	LFA	A	607	-	13,13,19	0.34	0	12,12,18	0.25	0
21	EDO	E	203	-	3,3,3	0.23	0	2,2,2	0.25	0
20	DMU	A	608	-	6,6,34	0.70	0	5,5,45	0.28	0
20	DMU	P	317	-	34,34,34	0.90	3 (8%)	45,45,45	1.15	4 (8%)
20	DMU	Q	201	-	34,34,34	1.27	7 (20%)	45,45,45	1.65	6 (13%)
21	EDO	N	614	-	3,3,3	0.65	0	2,2,2	1.48	0
21	EDO	R	202	-	3,3,3	0.42	0	2,2,2	0.16	0
20	DMU	B	303	-	10,10,34	0.30	0	9,9,45	0.64	0
22	PGV	C	303	-	50,50,50	0.69	0	53,56,56	0.96	3 (5%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
14	HEA	A	601	1	57,67,67	2.04	15 (26%)	61,103,103	2.78	22 (36%)
19	LFA	P	308	-	5,5,19	0.19	0	4,4,18	0.09	0
14	HEA	N	601	1	57,67,67	1.79	14 (24%)	61,103,103	2.60	23 (37%)
21	EDO	A	612	-	3,3,3	0.72	0	2,2,2	0.26	0
27	PEK	T	102	-	52,52,52	0.70	2 (3%)	55,57,57	1.08	3 (5%)
21	EDO	F	102	-	3,3,3	0.49	0	2,2,2	0.22	0
20	DMU	G	103	-	22,22,34	0.67	1 (4%)	27,27,45	0.88	2 (7%)
22	PGV	A	614	-	50,50,50	0.81	1 (2%)	53,56,56	1.07	3 (5%)
24	CHD	C	301	-	32,32,32	0.99	2 (6%)	51,51,51	0.71	0
24	CHD	C	305	-	32,32,32	0.70	0	51,51,51	1.53	6 (11%)
21	EDO	S	102	-	3,3,3	0.34	0	2,2,2	0.23	0
19	LFA	O	302	-	16,16,19	0.26	0	15,15,18	0.26	0
20	DMU	B	304	-	22,22,34	0.95	1 (4%)	27,27,45	1.04	1 (3%)
19	LFA	P	307	-	10,10,19	0.23	0	9,9,18	0.26	0
21	EDO	P	319	-	3,3,3	0.26	0	2,2,2	0.04	0
18	CDL	V	101	-	63,63,99	0.41	0	69,75,111	0.70	2 (2%)
20	DMU	C	317	-	6,6,34	0.25	0	5,5,45	0.44	0
21	EDO	P	320	-	3,3,3	0.33	0	2,2,2	0.19	0
21	EDO	N	611	-	3,3,3	0.25	0	2,2,2	0.35	0
21	EDO	N	612	-	3,3,3	0.44	0	2,2,2	0.14	0
20	DMU	O	307	-	10,10,34	0.34	0	9,9,45	0.56	0
18	CDL	L	101	-	93,93,99	0.41	0	99,105,111	0.58	2 (2%)
22	PGV	P	303	-	50,50,50	0.76	1 (2%)	53,56,56	0.95	2 (3%)
18	CDL	Y	101	-	93,93,99	0.34	0	99,105,111	0.46	1 (1%)
20	DMU	Z	101	-	34,34,34	1.01	3 (8%)	45,45,45	1.08	3 (6%)
19	LFA	N	607	-	13,13,19	0.42	0	12,12,18	0.34	0
19	LFA	C	314	-	14,14,19	0.29	0	13,13,18	0.43	0
18	CDL	P	304	-	86,86,99	0.53	1 (1%)	92,98,111	0.86	4 (4%)
21	EDO	C	321	-	3,3,3	0.04	0	2,2,2	0.21	0
21	EDO	G	104	-	3,3,3	0.26	0	2,2,2	0.15	0
20	DMU	A	615	-	10,10,34	0.34	0	9,9,45	0.52	0
19	LFA	P	313	-	12,12,19	0.33	0	11,11,18	0.20	0
20	DMU	P	314	-	34,34,34	0.90	2 (5%)	45,45,45	1.81	8 (17%)
14	HEA	A	602	1	57,67,67	1.60	10 (17%)	61,103,103	2.36	22 (36%)
20	DMU	N	608	-	6,6,34	0.50	0	5,5,45	0.28	0
18	CDL	C	304	-	86,86,99	0.55	1 (1%)	92,98,111	1.14	8 (8%)
20	DMU	M	102	-	7,7,34	0.28	0	6,6,45	0.37	0
19	LFA	P	311	-	10,10,19	0.30	0	9,9,18	0.22	0
24	CHD	P	301	-	32,32,32	0.85	2 (6%)	51,51,51	0.79	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
24	CHD	P	305	-	-	7/9/74/74	0/4/4/4
20	DMU	P	322	-	-	7/19/59/59	0/2/2/2
21	EDO	A	610	-	-	0/1/1/1	-
21	EDO	E	202	-	-	0/1/1/1	-
20	DMU	C	319	-	-	16/19/59/59	0/2/2/2
27	PEK	G	101	-	-	14/56/56/56	-
21	EDO	B	305	-	-	0/1/1/1	-
19	LFA	C	312	-	-	5/11/11/17	-
21	EDO	N	613	-	-	1/1/1/1	-
19	LFA	P	309	20	-	9/15/15/17	-
20	DMU	A	609	-	-	7/19/59/59	0/2/2/2
20	DMU	B	302	-	-	5/8/8/59	-
20	DMU	O	306	-	-	6/8/8/59	-
19	LFA	C	313	-	-	3/8/8/17	-
20	DMU	C	320	-	-	11/19/59/59	0/2/2/2
19	LFA	P	312	-	-	4/12/12/17	-
20	DMU	C	318	-	-	9/13/33/59	0/1/1/2
19	LFA	T	101	-	-	2/11/11/17	-
18	CDL	A	606	-	-	41/74/74/110	-
19	LFA	C	309	20	-	9/15/15/17	-
14	HEA	N	602	1	-	4/32/76/76	-
20	DMU	L	102	-	-	10/13/33/59	0/1/1/2
21	EDO	R	203	-	-	1/1/1/1	-
19	LFA	C	311	-	-	7/8/8/17	-
21	EDO	A	613	-	-	0/1/1/1	-
20	DMU	B	308	-	-	9/13/33/59	0/1/1/2
20	DMU	C	324	-	-	3/19/59/59	0/2/2/2
20	DMU	O	304	-	-	4/13/33/59	0/1/1/2
19	LFA	C	315	-	-	2/10/10/17	-
21	EDO	O	309	-	-	0/1/1/1	-
20	DMU	O	308	-	-	5/13/33/59	0/1/1/2
20	DMU	N	616	19	-	7/19/59/59	0/2/2/2
21	EDO	R	201	-	-	1/1/1/1	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	LFA	T	103	-	-	6/11/11/17	-
20	DMU	D	201	-	-	8/19/59/59	0/2/2/2
20	DMU	P	306	-	-	2/8/8/59	-
20	DMU	N	609	-	-	5/19/59/59	0/2/2/2
21	EDO	F	103	-	-	1/1/1/1	-
21	EDO	C	323	-	-	0/1/1/1	-
19	LFA	T	104	-	-	5/8/8/17	-
19	LFA	B	307	-	-	10/14/14/17	-
20	DMU	P	316	-	-	8/13/33/59	0/1/1/2
21	EDO	C	322	-	-	0/1/1/1	-
20	DMU	M	101	-	-	3/19/59/59	0/2/2/2
24	CHD	O	301	-	-	2/9/74/74	0/4/4/4
21	EDO	S	103	-	-	0/1/1/1	-
20	DMU	H	101	19	-	9/19/59/59	0/2/2/2
20	DMU	P	315	-	-	2/4/4/59	-
19	LFA	P	310	-	-	6/8/8/17	-
20	DMU	W	101	-	-	3/8/8/59	-
20	DMU	T	105	-	-	7/13/33/59	0/1/1/2
20	DMU	J	101	-	-	3/8/8/59	-
21	EDO	P	321	-	-	0/1/1/1	-
20	DMU	P	318	-	-	9/19/59/59	0/2/2/2
22	PGV	N	615	-	-	10/55/55/55	-
19	LFA	C	308	-	-	0/3/3/17	-
19	LFA	C	310	-	-	7/12/12/17	-
24	CHD	B	306	-	-	2/9/74/74	0/4/4/4
21	EDO	E	201	-	-	0/1/1/1	-
20	DMU	C	306	-	-	2/8/8/59	-
19	LFA	C	307	-	-	6/8/8/17	-
20	DMU	C	316	-	-	11/19/59/59	0/2/2/2
19	LFA	O	303	-	-	4/8/8/17	-
21	EDO	N	610	-	-	0/1/1/1	-
20	DMU	G	102	-	-	3/8/8/59	-
20	DMU	Z	102	-	-	2/5/5/59	-
19	LFA	C	325	-	-	6/12/12/17	-
21	EDO	A	611	-	-	1/1/1/1	-
19	LFA	N	606	-	-	3/11/11/17	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
21	EDO	T	106	-	-	0/1/1/1	-
20	DMU	Y	102	-	-	11/13/33/59	0/1/1/2
19	LFA	A	607	-	-	4/11/11/17	-
21	EDO	E	203	-	-	0/1/1/1	-
20	DMU	A	608	-	-	2/4/4/59	-
20	DMU	P	317	-	-	16/19/59/59	0/2/2/2
20	DMU	Q	201	-	-	5/19/59/59	0/2/2/2
21	EDO	N	614	-	-	0/1/1/1	-
21	EDO	R	202	-	-	0/1/1/1	-
20	DMU	B	303	-	-	5/8/8/59	-
22	PGV	C	303	-	-	15/55/55/55	-
14	HEA	A	601	1	-	4/32/76/76	-
19	LFA	P	308	-	-	0/3/3/17	-
14	HEA	N	601	1	-	4/32/76/76	-
21	EDO	A	612	-	-	0/1/1/1	-
27	PEK	T	102	-	-	18/56/56/56	-
21	EDO	F	102	-	-	0/1/1/1	-
20	DMU	G	103	-	-	8/13/33/59	0/1/1/2
22	PGV	A	614	-	-	9/55/55/55	-
24	CHD	C	301	-	-	2/9/74/74	0/4/4/4
24	CHD	C	305	-	-	8/9/74/74	0/4/4/4
21	EDO	S	102	-	-	0/1/1/1	-
19	LFA	O	302	-	-	7/14/14/17	-
20	DMU	B	304	-	-	7/13/33/59	0/1/1/2
19	LFA	P	307	-	-	4/8/8/17	-
21	EDO	P	319	-	-	1/1/1/1	-
18	CDL	V	101	-	-	42/74/74/110	-
20	DMU	C	317	-	-	2/4/4/59	-
21	EDO	P	320	-	-	0/1/1/1	-
21	EDO	N	611	-	-	1/1/1/1	-
21	EDO	N	612	-	-	0/1/1/1	-
20	DMU	O	307	-	-	5/8/8/59	-
18	CDL	L	101	-	-	49/104/104/110	-
22	PGV	P	303	-	-	9/55/55/55	-
18	CDL	Y	101	-	-	52/104/104/110	-
20	DMU	Z	101	-	-	7/19/59/59	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	LFA	N	607	-	-	6/11/11/17	-
19	LFA	C	314	-	-	4/12/12/17	-
18	CDL	P	304	-	-	51/97/97/110	-
21	EDO	C	321	-	-	0/1/1/1	-
21	EDO	G	104	-	-	0/1/1/1	-
20	DMU	A	615	-	-	5/8/8/59	-
19	LFA	P	313	-	-	2/10/10/17	-
20	DMU	P	314	-	-	7/19/59/59	0/2/2/2
14	HEA	A	602	1	-	6/32/76/76	-
20	DMU	N	608	-	-	2/4/4/59	-
18	CDL	C	304	-	-	51/97/97/110	-
20	DMU	M	102	-	-	4/5/5/59	-
19	LFA	P	311	-	-	5/8/8/17	-
24	CHD	P	301	-	-	2/9/74/74	0/4/4/4

The worst 5 of 118 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
14	A	601	HEA	CHD-C1D	5.60	1.49	1.35
14	N	601	HEA	C3B-C2B	5.18	1.46	1.34
14	A	601	HEA	C3A-C2A	4.92	1.47	1.40
14	A	601	HEA	C1D-ND	-4.86	1.31	1.40
14	A	601	HEA	C3B-C2B	4.72	1.45	1.34

The worst 5 of 257 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
14	N	601	HEA	C3D-C4D-ND	8.44	118.53	110.36
14	A	601	HEA	C3D-C4D-ND	7.68	117.79	110.36
14	A	601	HEA	C2B-C1B-NB	7.36	118.70	109.88
20	P	314	DMU	O16-C6-C1	7.29	119.68	108.30
14	A	602	HEA	C2B-C1B-NB	7.18	118.48	109.88

There are no chirality outliers.

5 of 797 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
18	A	606	CDL	C1-CA2-OA2-PA1
18	A	606	CDL	CA3-OA5-PA1-OA2

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Mol	Chain	Res	Type	Atoms
18	A	606	CDL	CA3-OA5-PA1-OA3
18	A	606	CDL	CA3-OA5-PA1-OA4
18	A	606	CDL	OA6-CA4-CA6-OA8

There are no ring outliers.

66 monomers are involved in 180 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
24	P	305	CHD	2	0
20	C	319	DMU	2	0
27	G	101	PEK	3	0
19	P	309	LFA	5	0
20	A	609	DMU	1	0
19	C	313	LFA	2	0
20	C	320	DMU	1	0
19	T	101	LFA	6	0
19	C	309	LFA	6	0
14	N	602	HEA	2	0
20	L	102	DMU	1	0
19	C	311	LFA	1	0
20	C	324	DMU	3	0
20	O	304	DMU	9	0
19	C	315	LFA	4	0
20	N	616	DMU	1	0
19	T	103	LFA	4	0
20	D	201	DMU	1	0
20	N	609	DMU	2	0
21	F	103	EDO	1	0
19	B	307	LFA	1	0
21	C	322	EDO	2	0
24	O	301	CHD	1	0
20	H	101	DMU	5	0
19	P	310	LFA	3	0
20	T	105	DMU	5	0
20	P	318	DMU	7	0
22	N	615	PGV	1	0
19	C	310	LFA	2	0
20	C	306	DMU	1	0
19	C	307	LFA	2	0
19	O	303	LFA	4	0
21	N	610	EDO	1	0
20	G	102	DMU	7	0

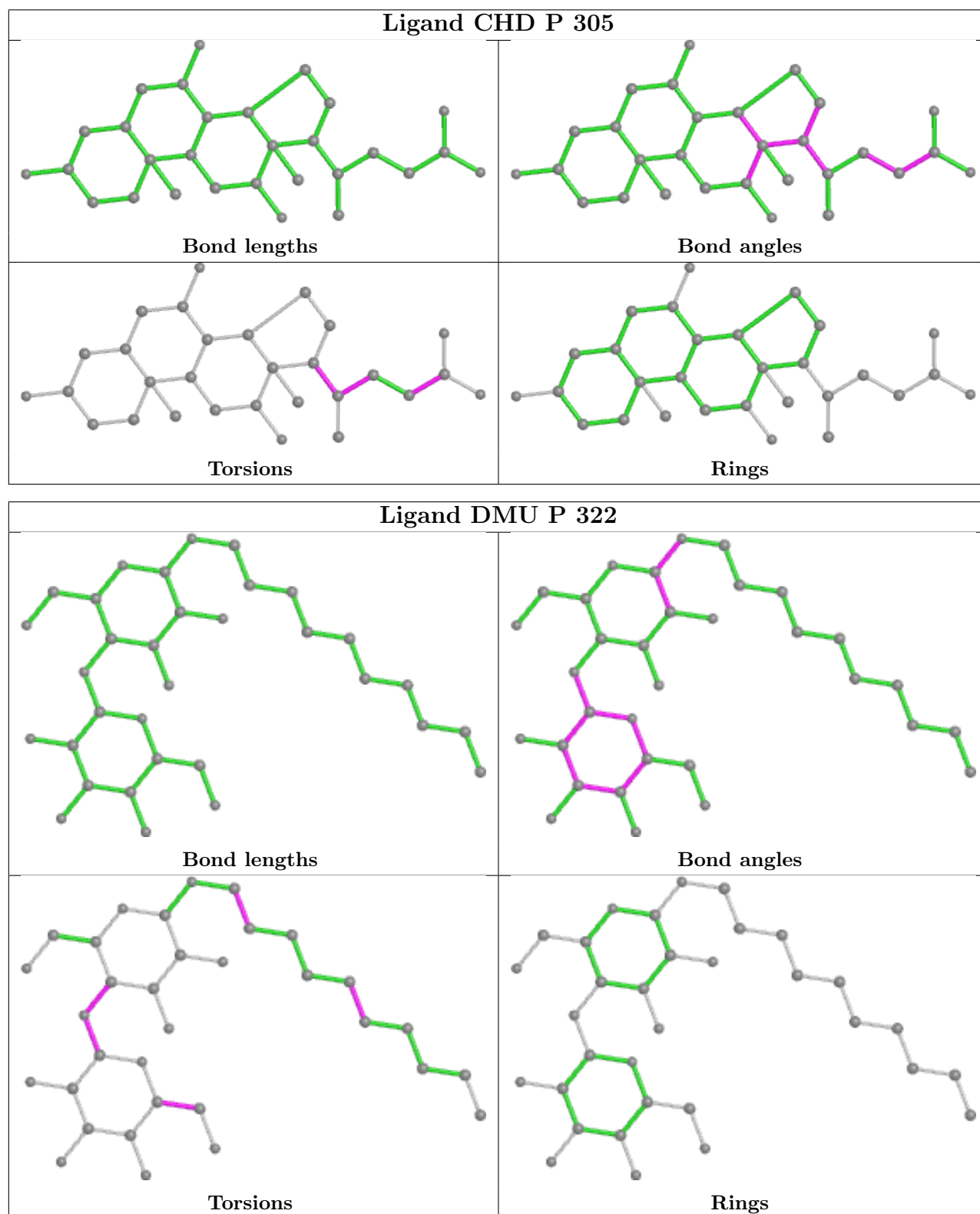
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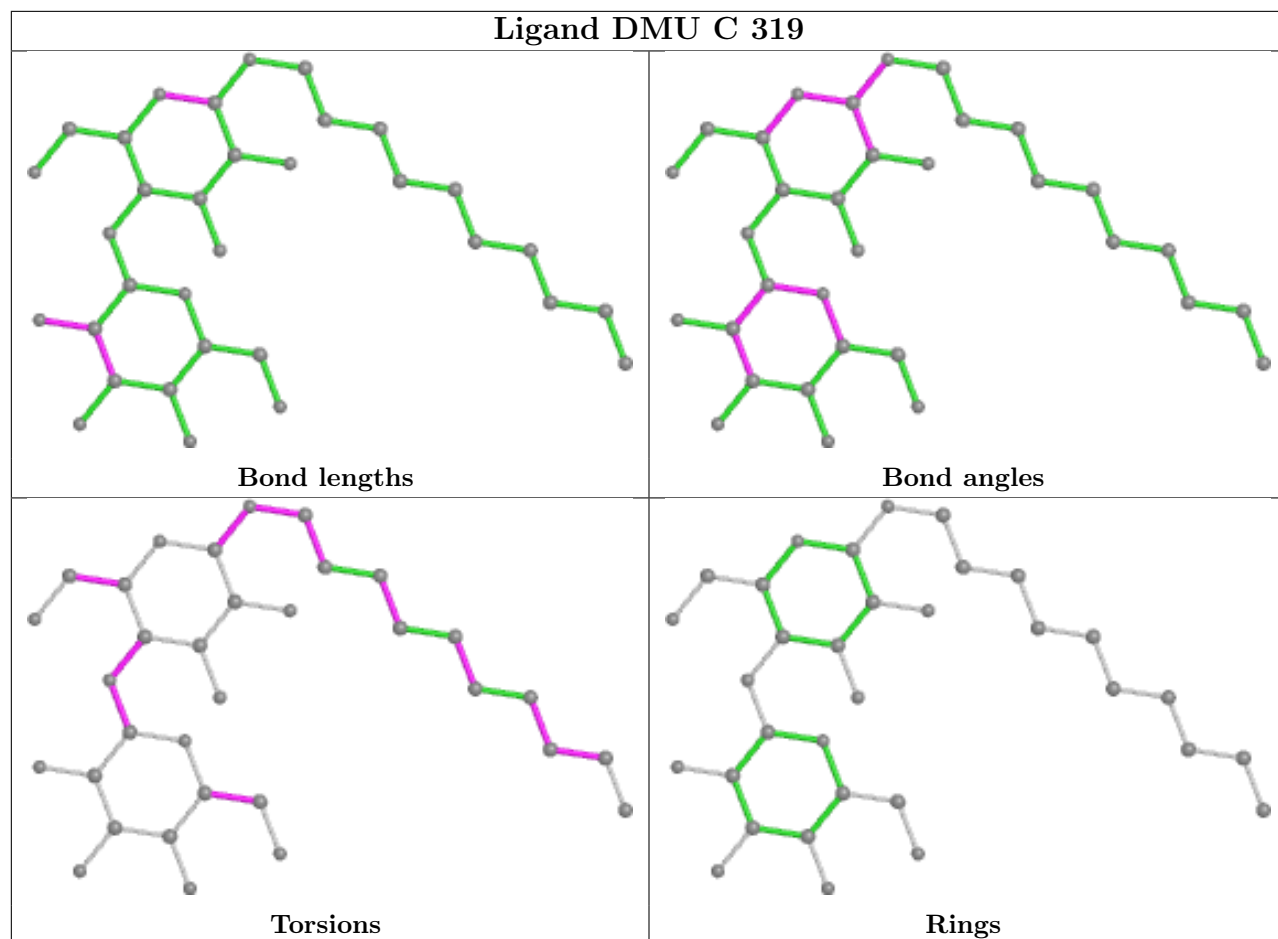
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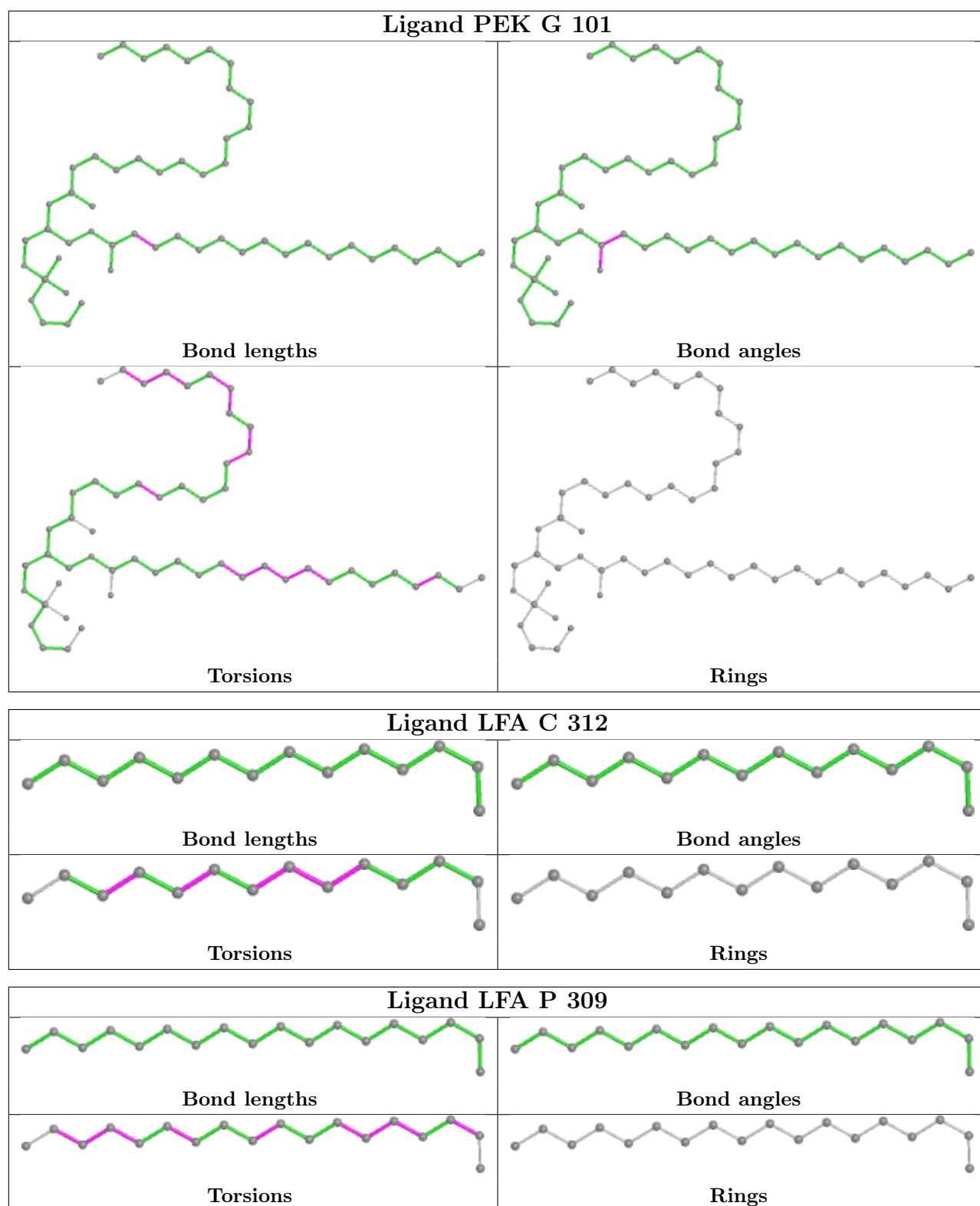
Mol	Chain	Res	Type	Clashes	Symm-Clashes
19	C	325	LFA	6	0
19	N	606	LFA	5	0
20	Y	102	DMU	1	0
19	A	607	LFA	3	0
20	A	608	DMU	1	0
20	P	317	DMU	3	0
20	Q	201	DMU	1	0
21	N	614	EDO	3	0
22	C	303	PGV	1	0
14	A	601	HEA	2	0
14	N	601	HEA	3	0
27	T	102	PEK	5	0
20	G	103	DMU	9	0
24	C	305	CHD	2	0
21	S	102	EDO	1	0
19	O	302	LFA	1	0
19	P	307	LFA	2	0
21	P	319	EDO	1	0
18	V	101	CDL	2	0
20	C	317	DMU	1	0
18	L	101	CDL	2	0
18	Y	101	CDL	5	0
20	Z	101	DMU	1	0
19	N	607	LFA	5	0
19	C	314	LFA	3	0
18	P	304	CDL	13	0
20	A	615	DMU	6	0
19	P	313	LFA	3	0
20	P	314	DMU	2	0
14	A	602	HEA	1	0
18	C	304	CDL	18	0
19	P	311	LFA	6	0

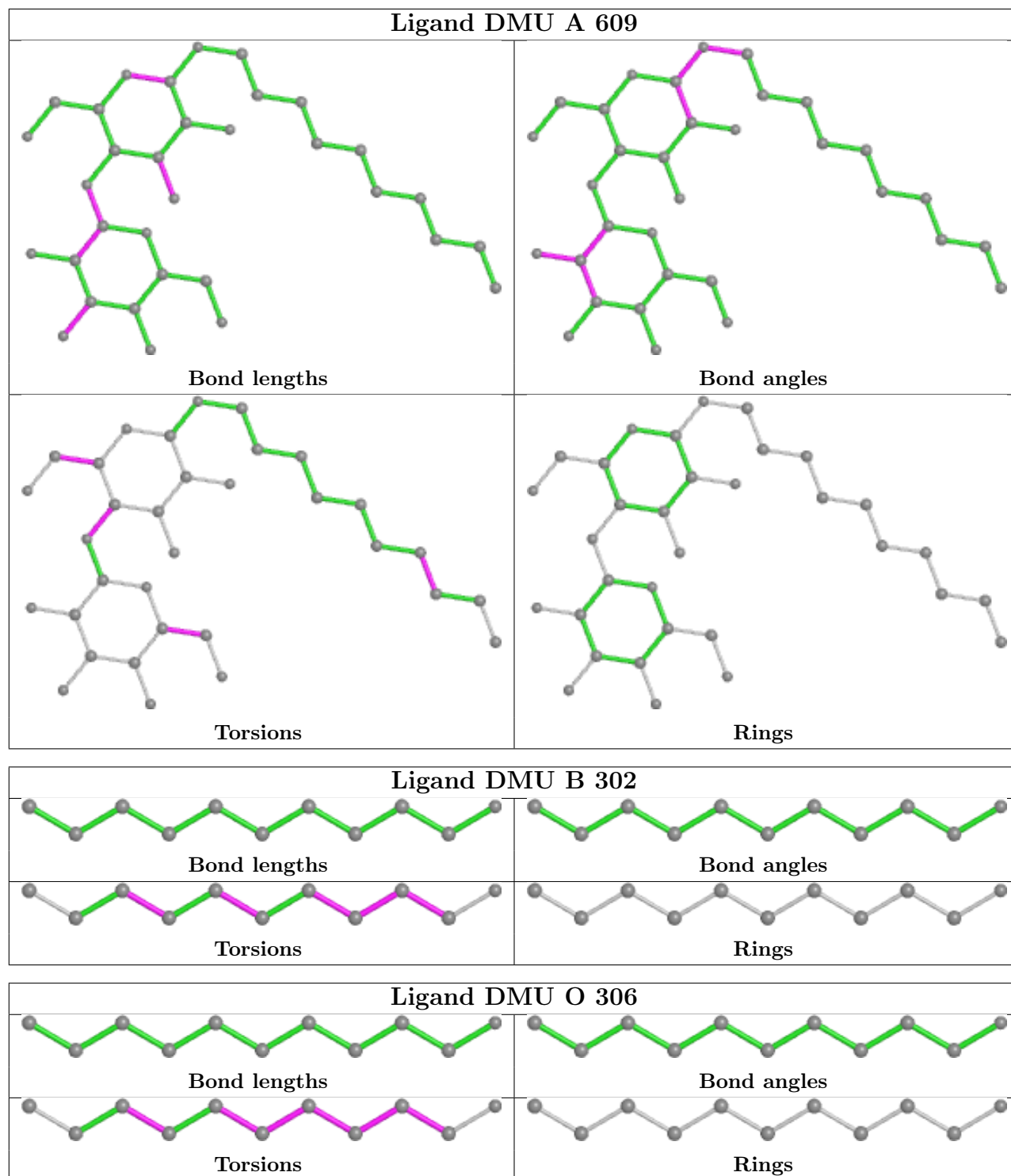
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

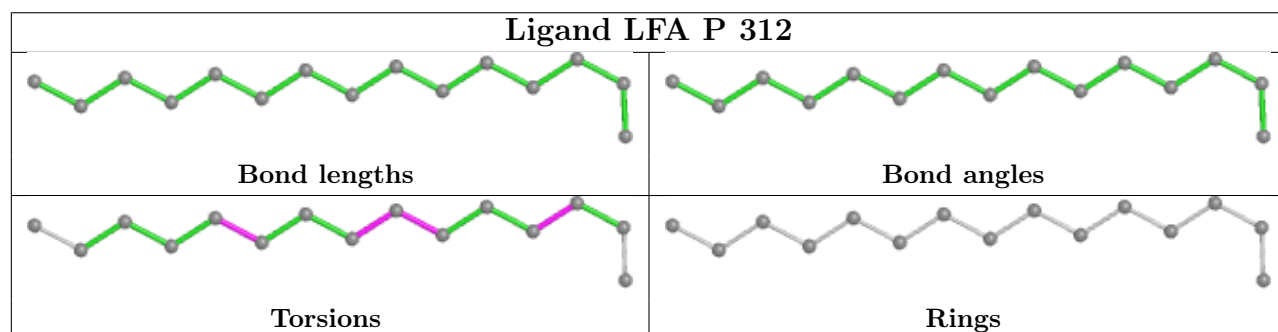
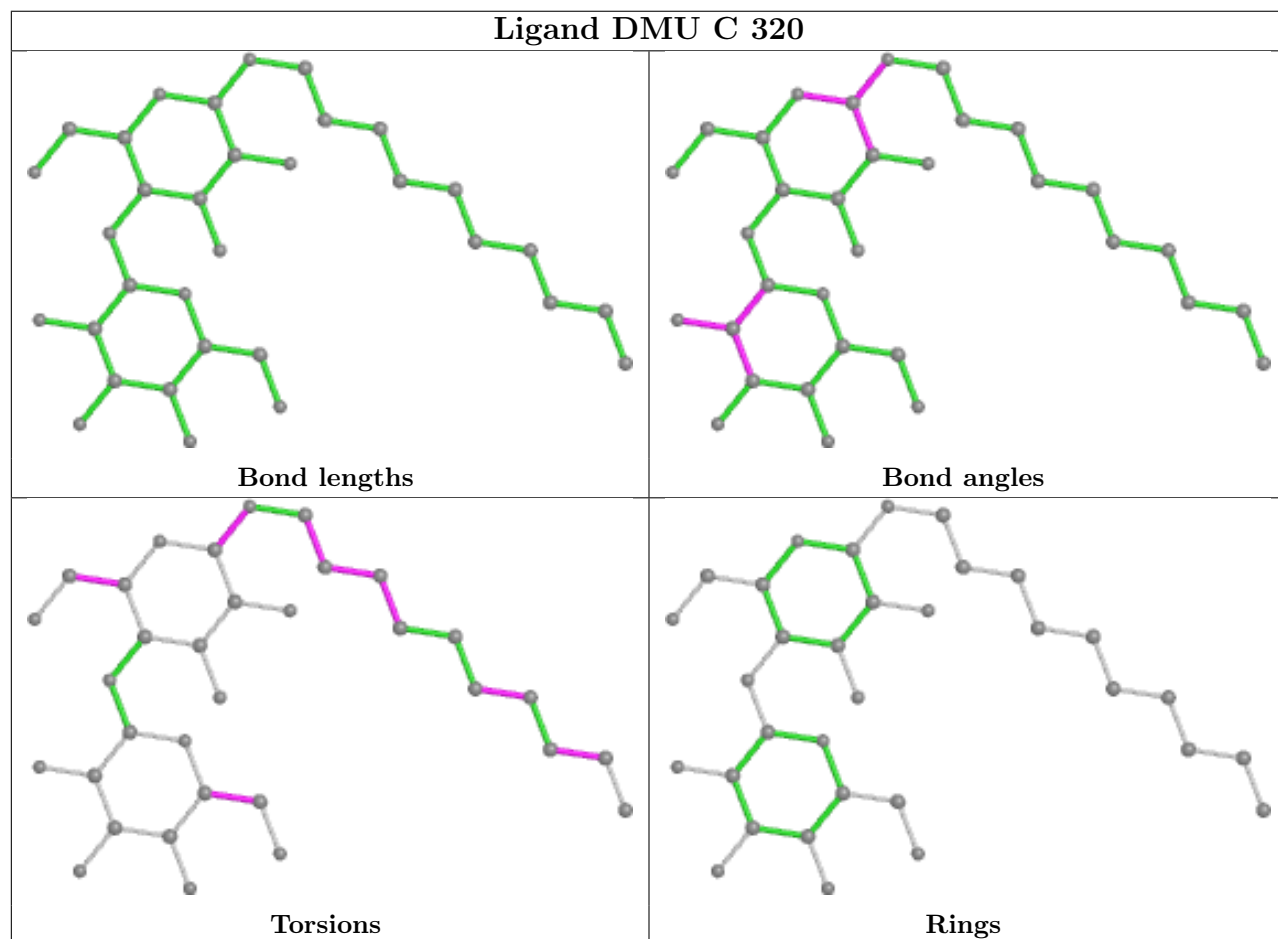
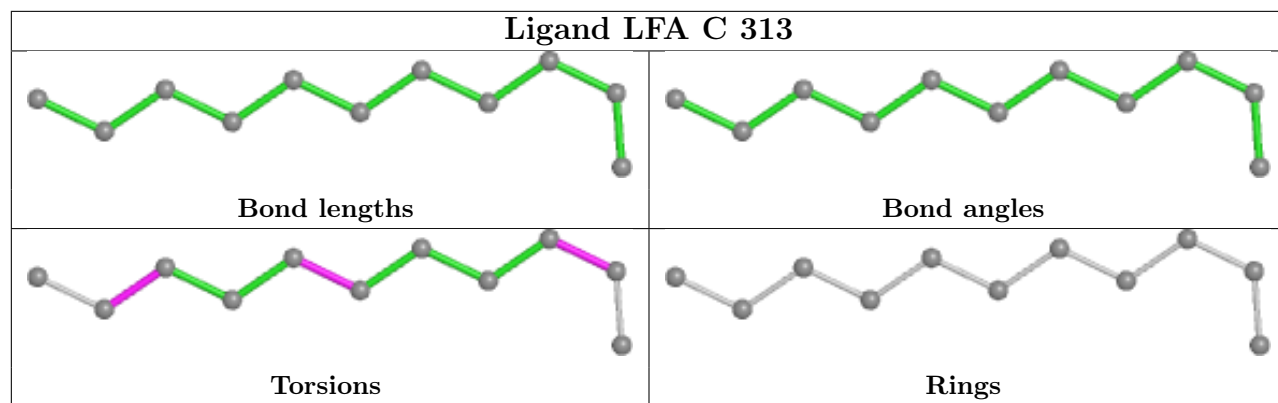
The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

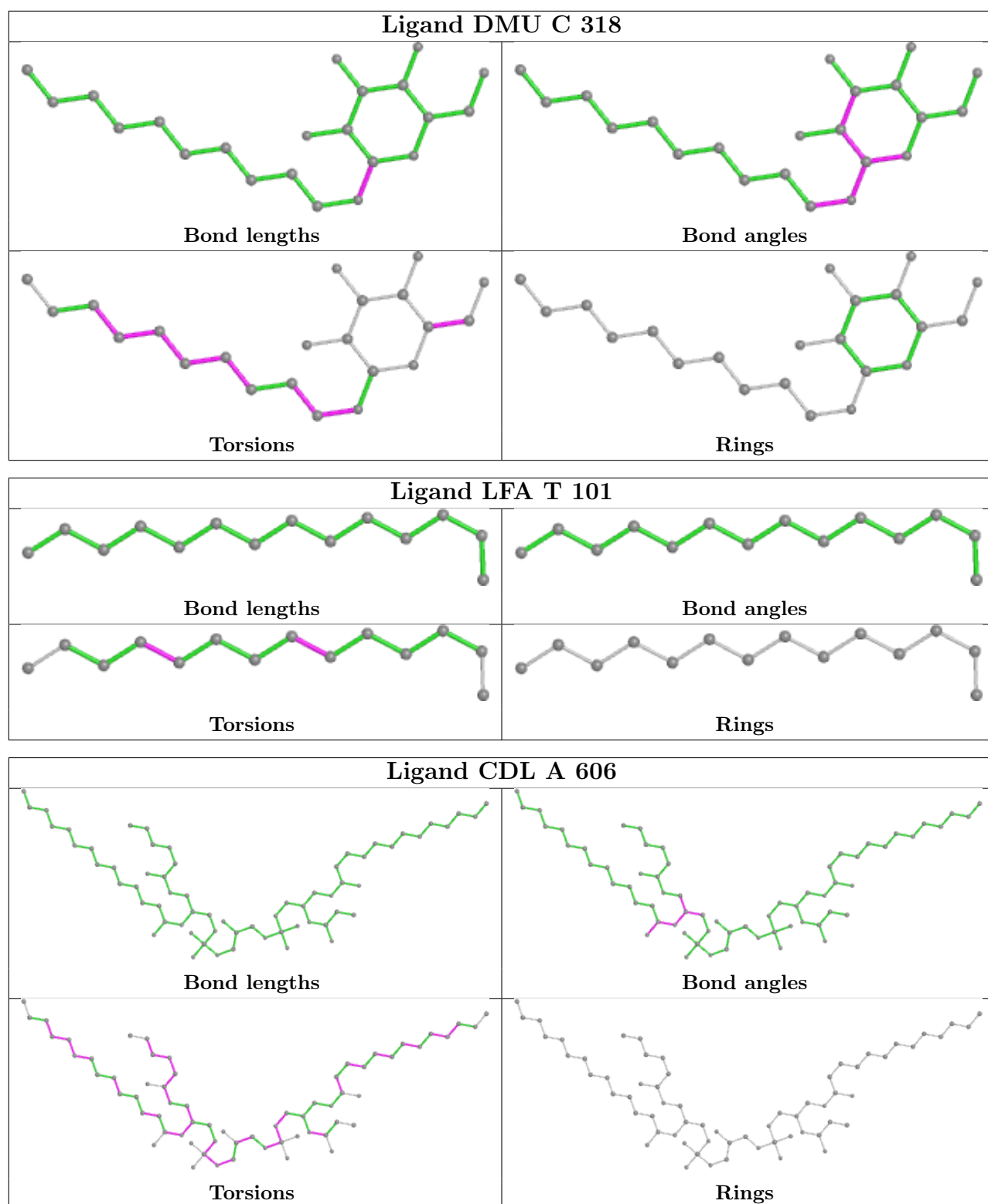


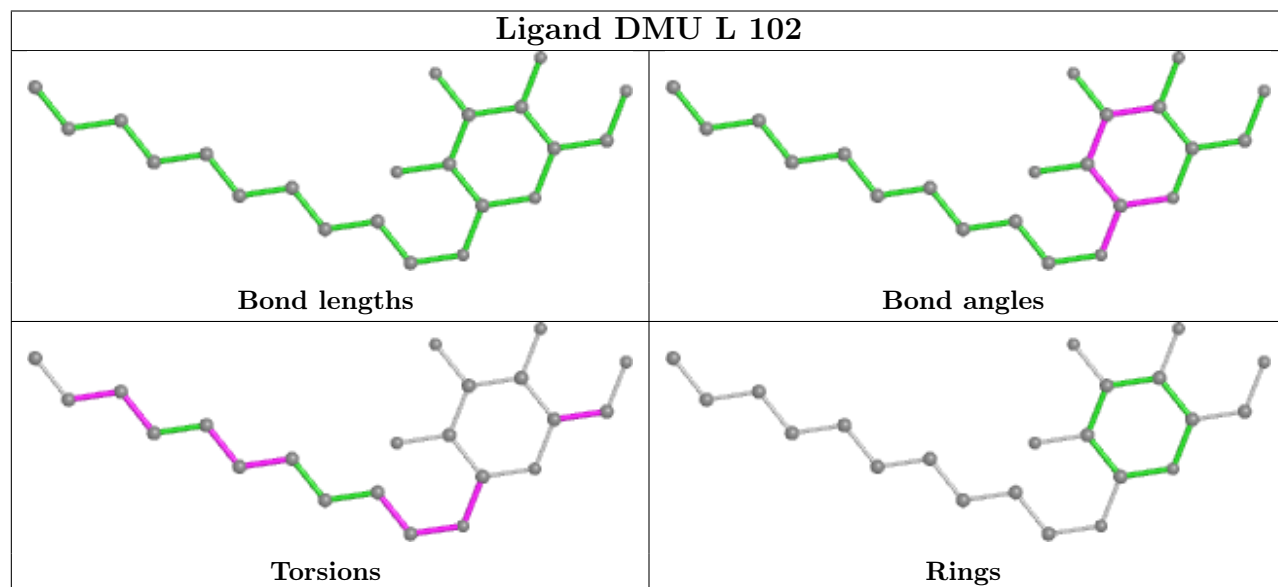
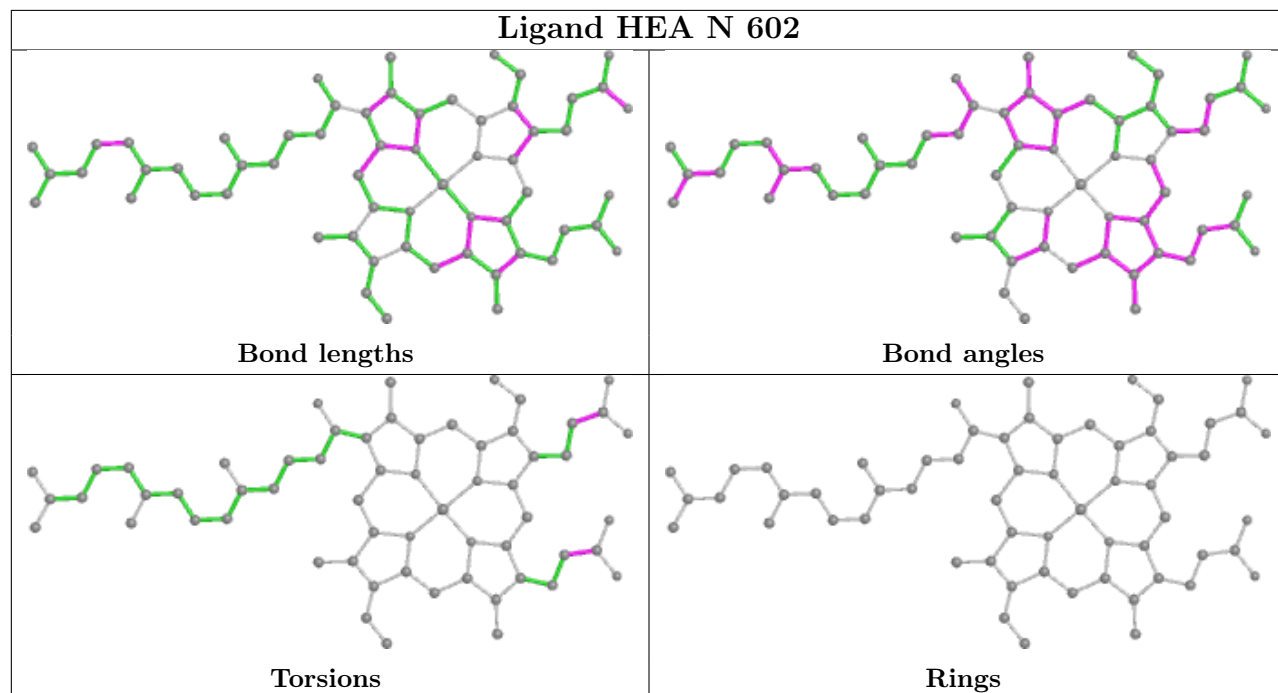
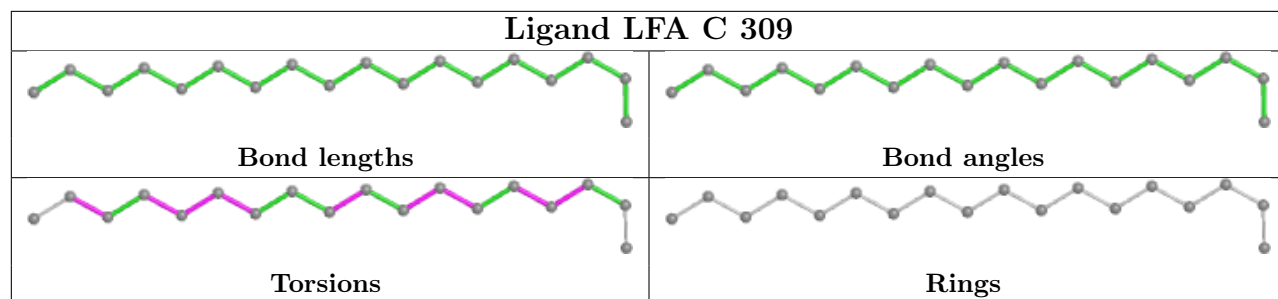


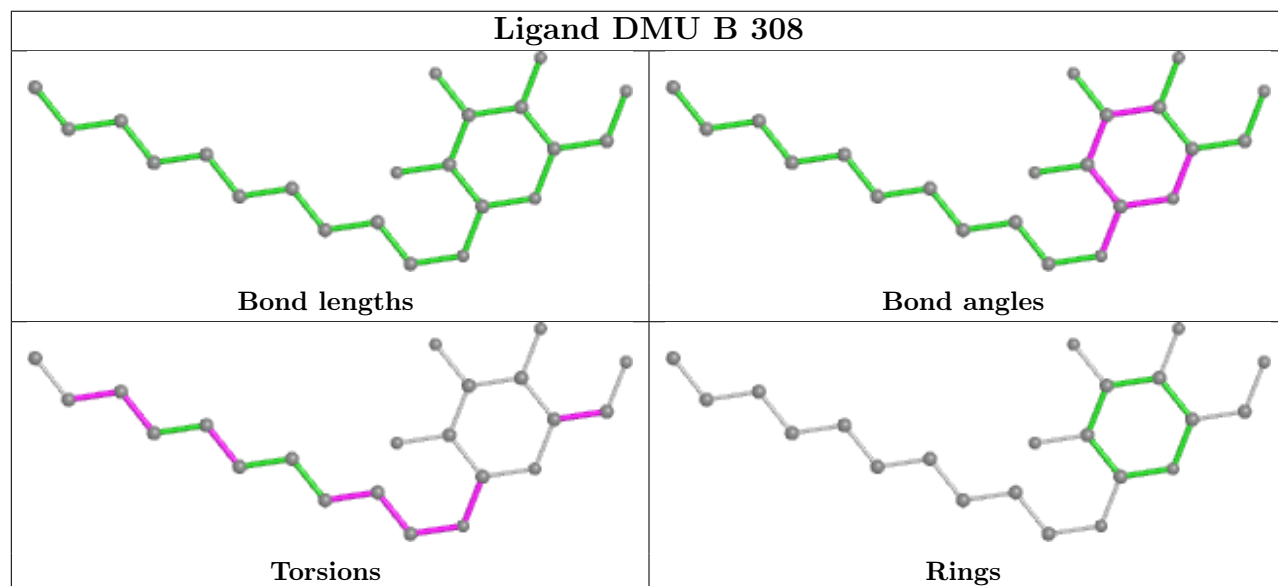
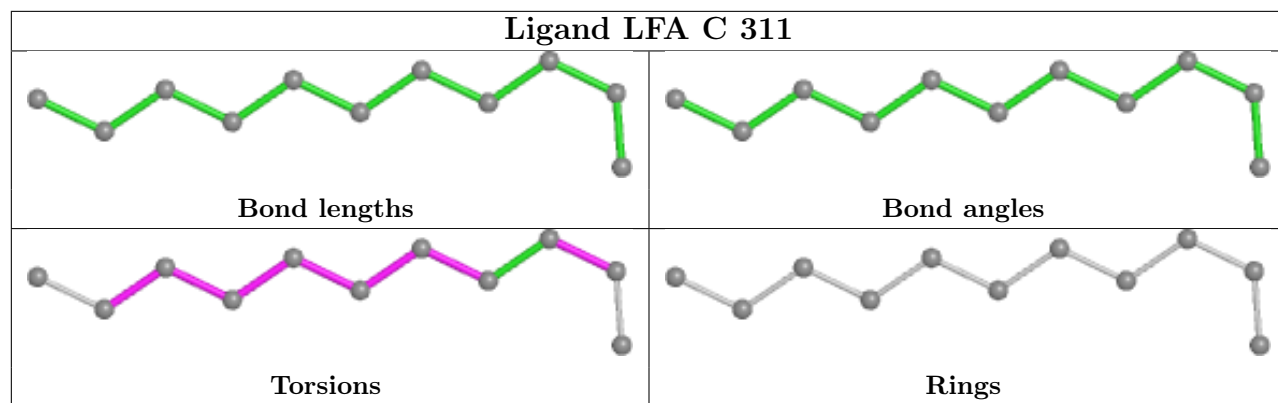


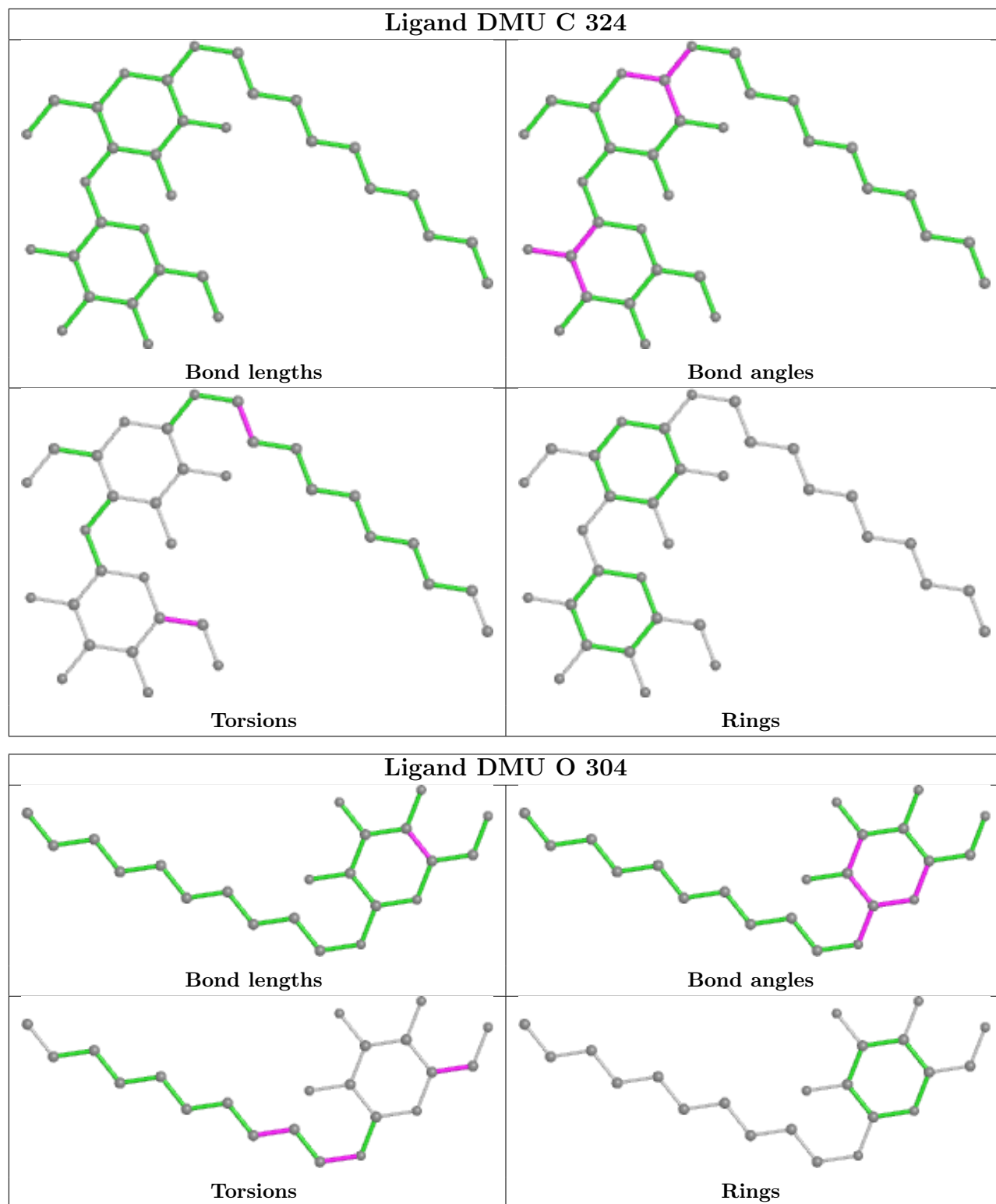


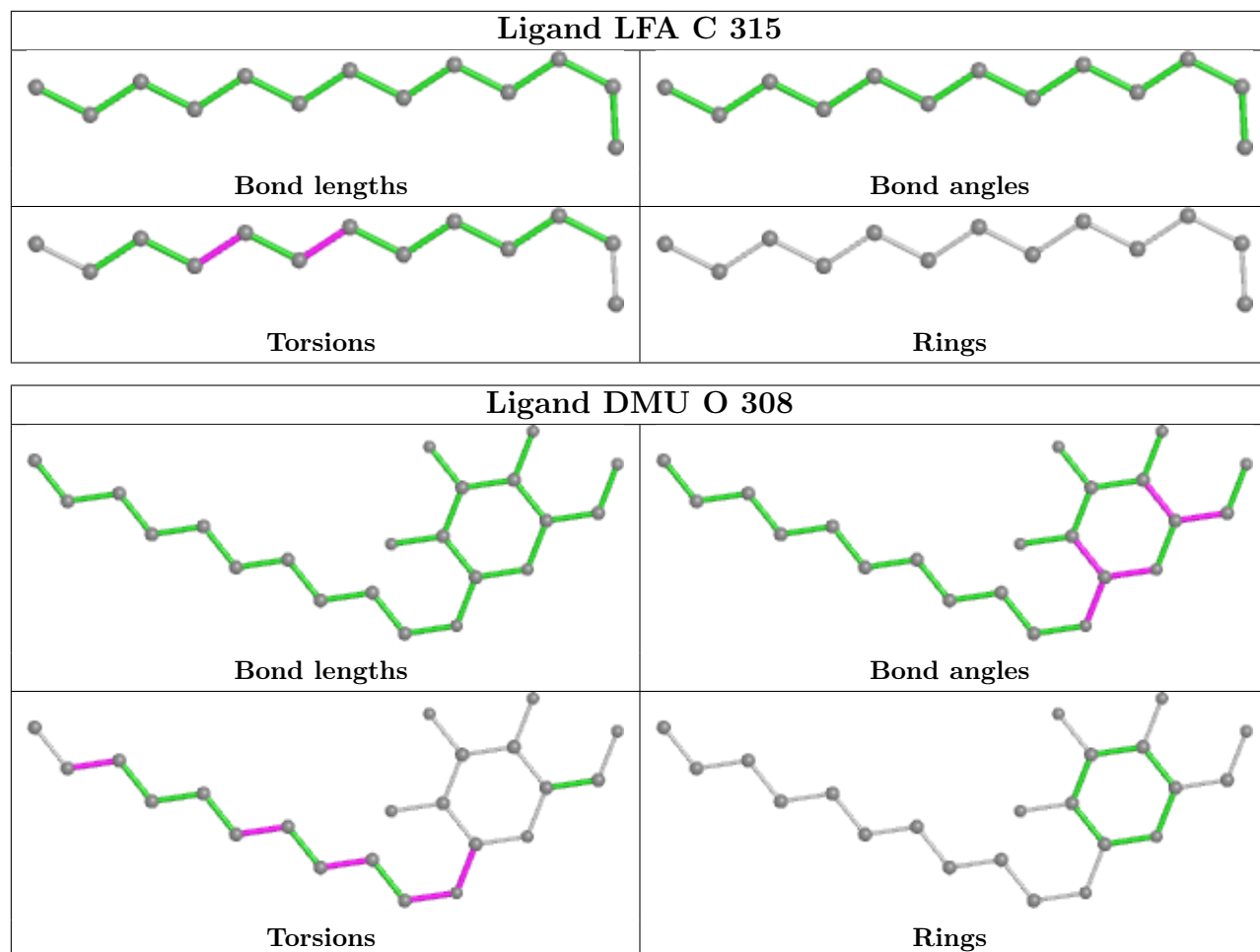


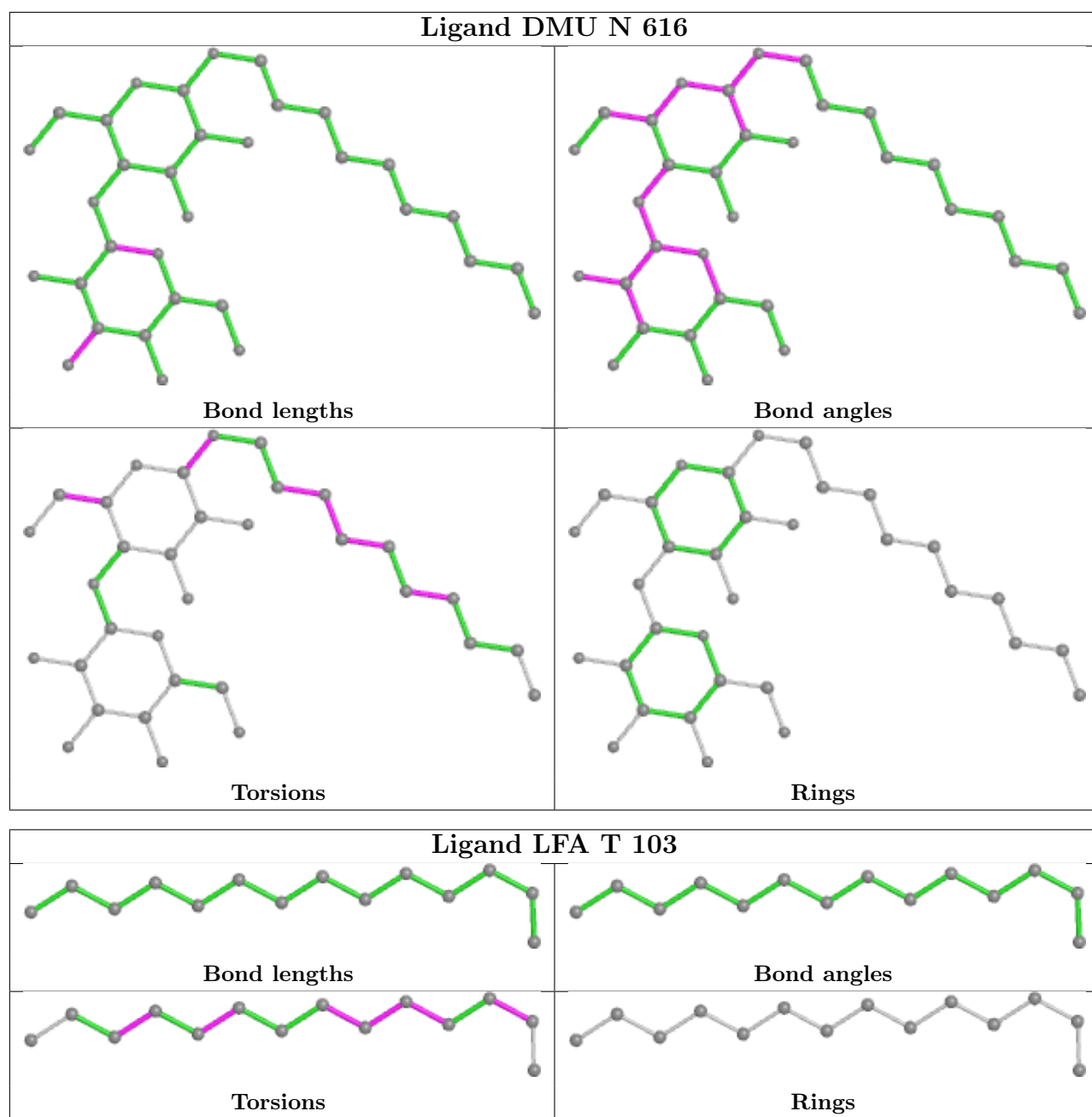


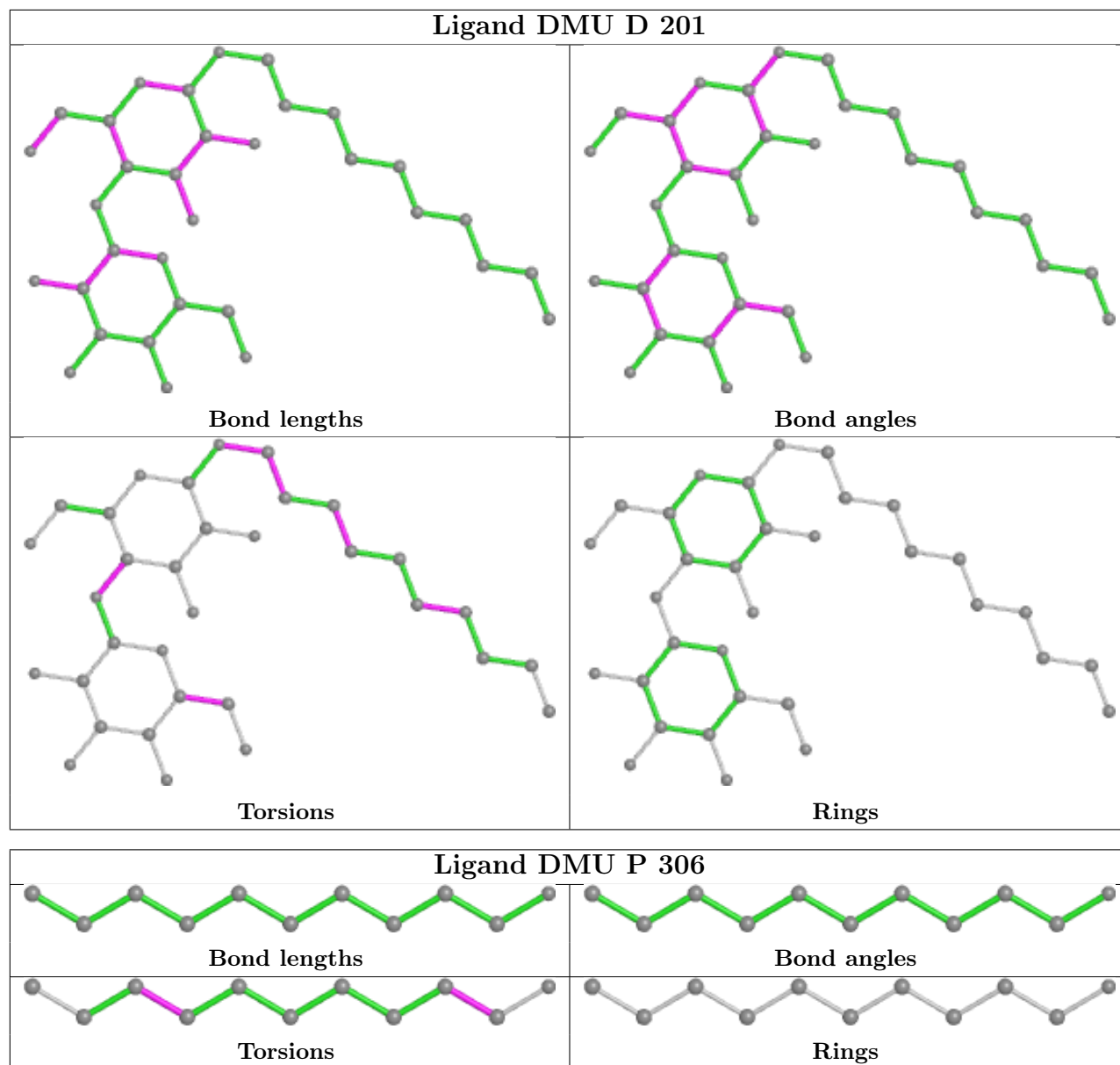


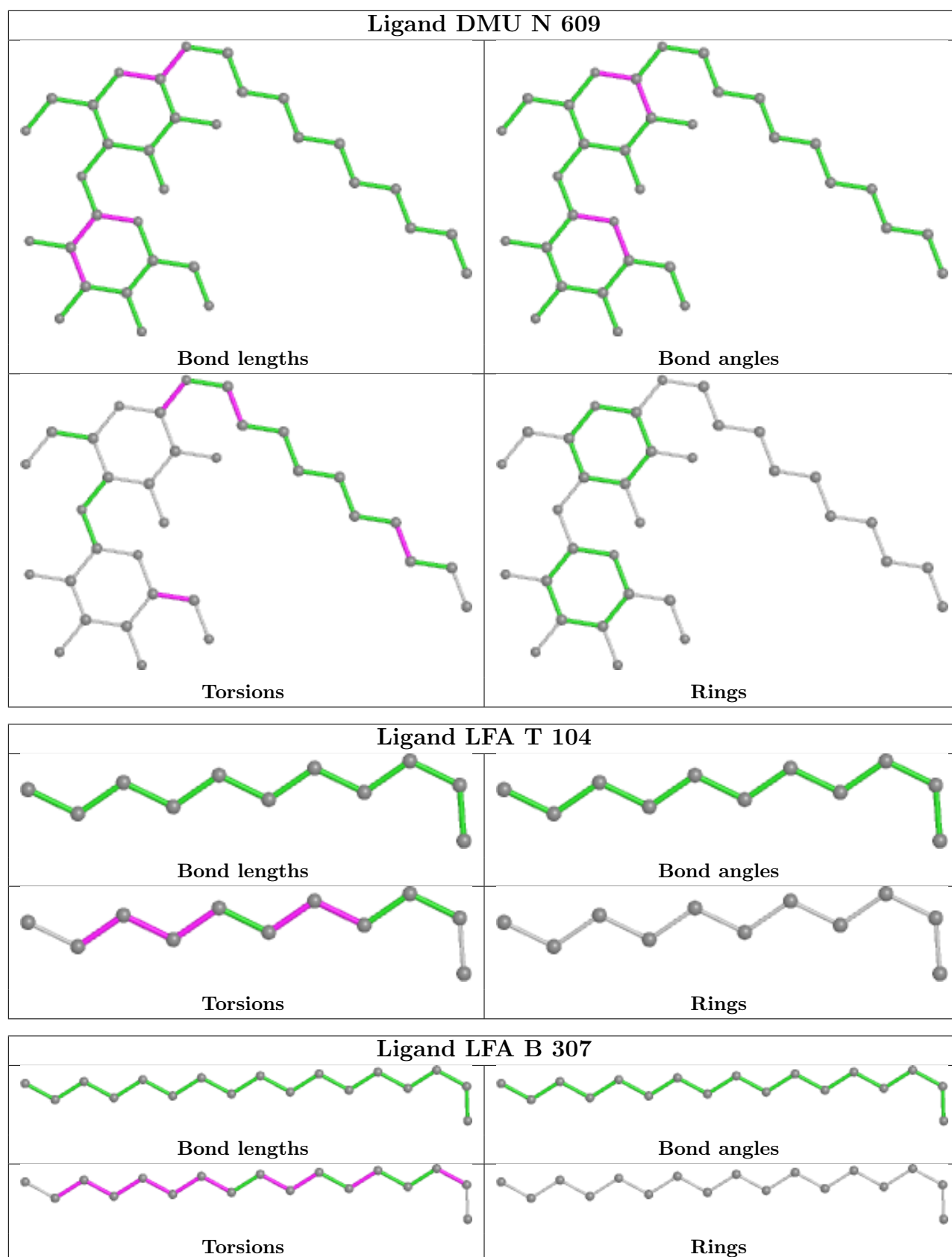


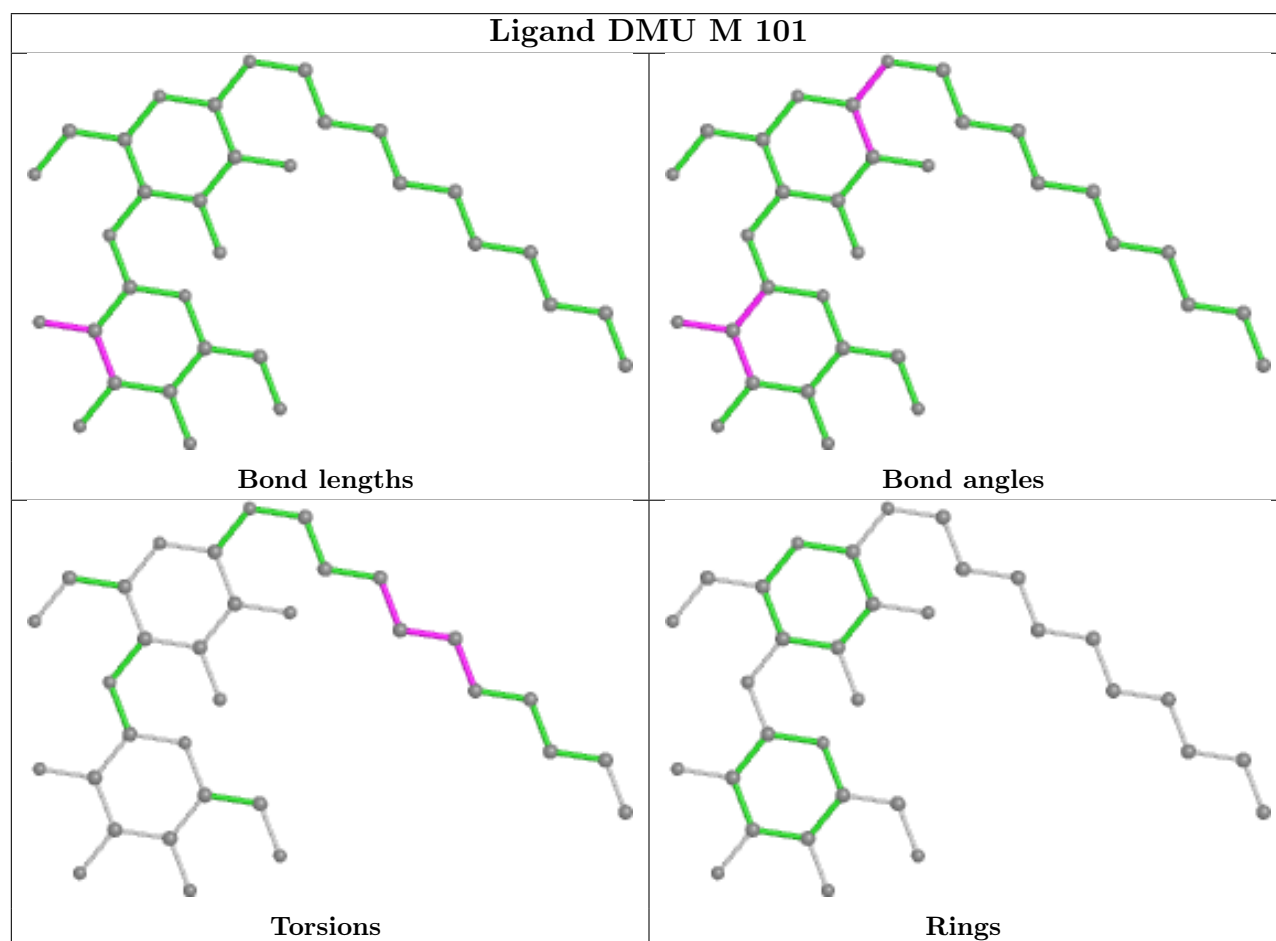
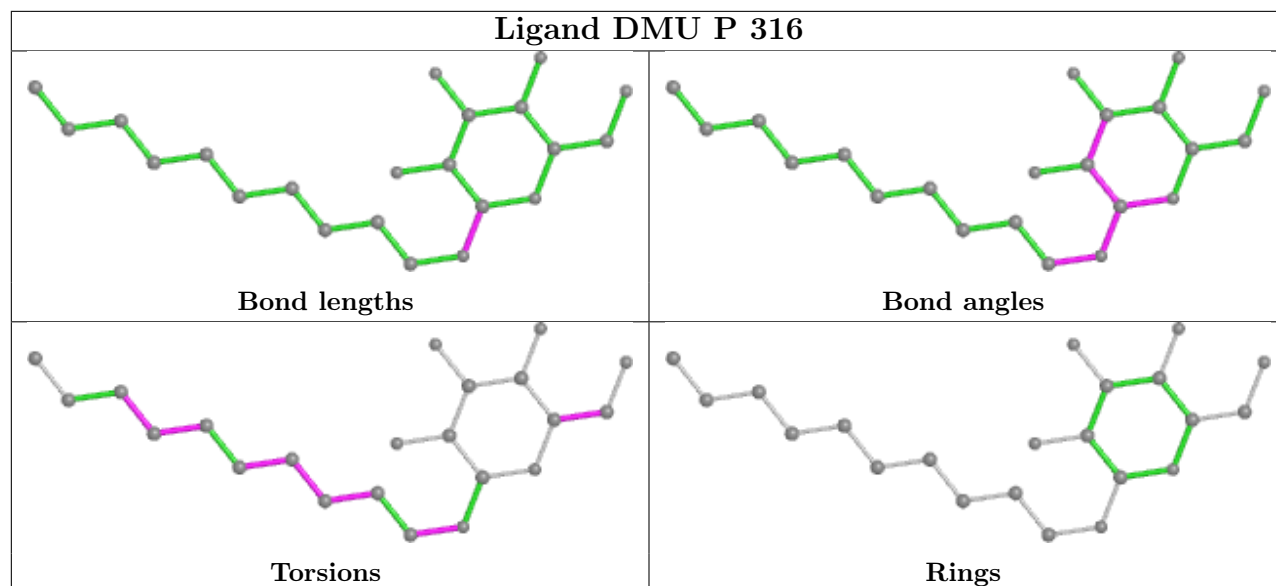


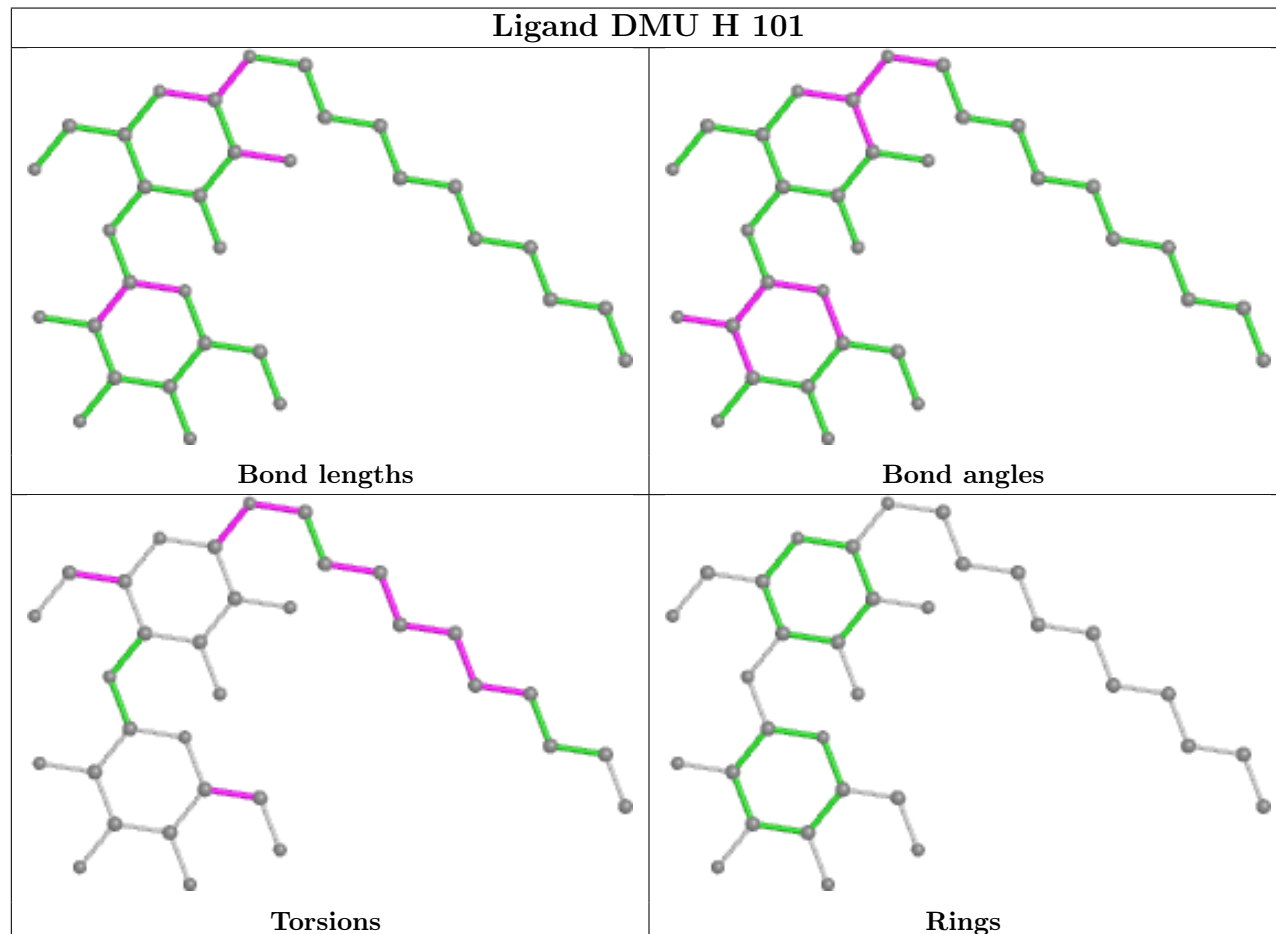
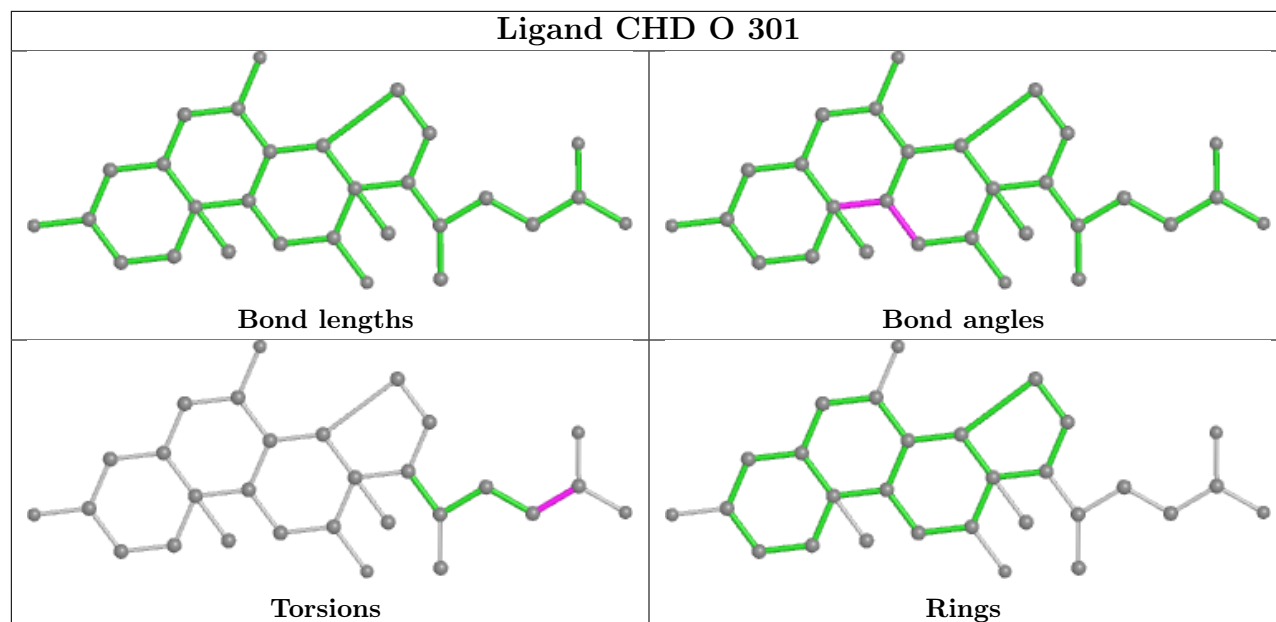


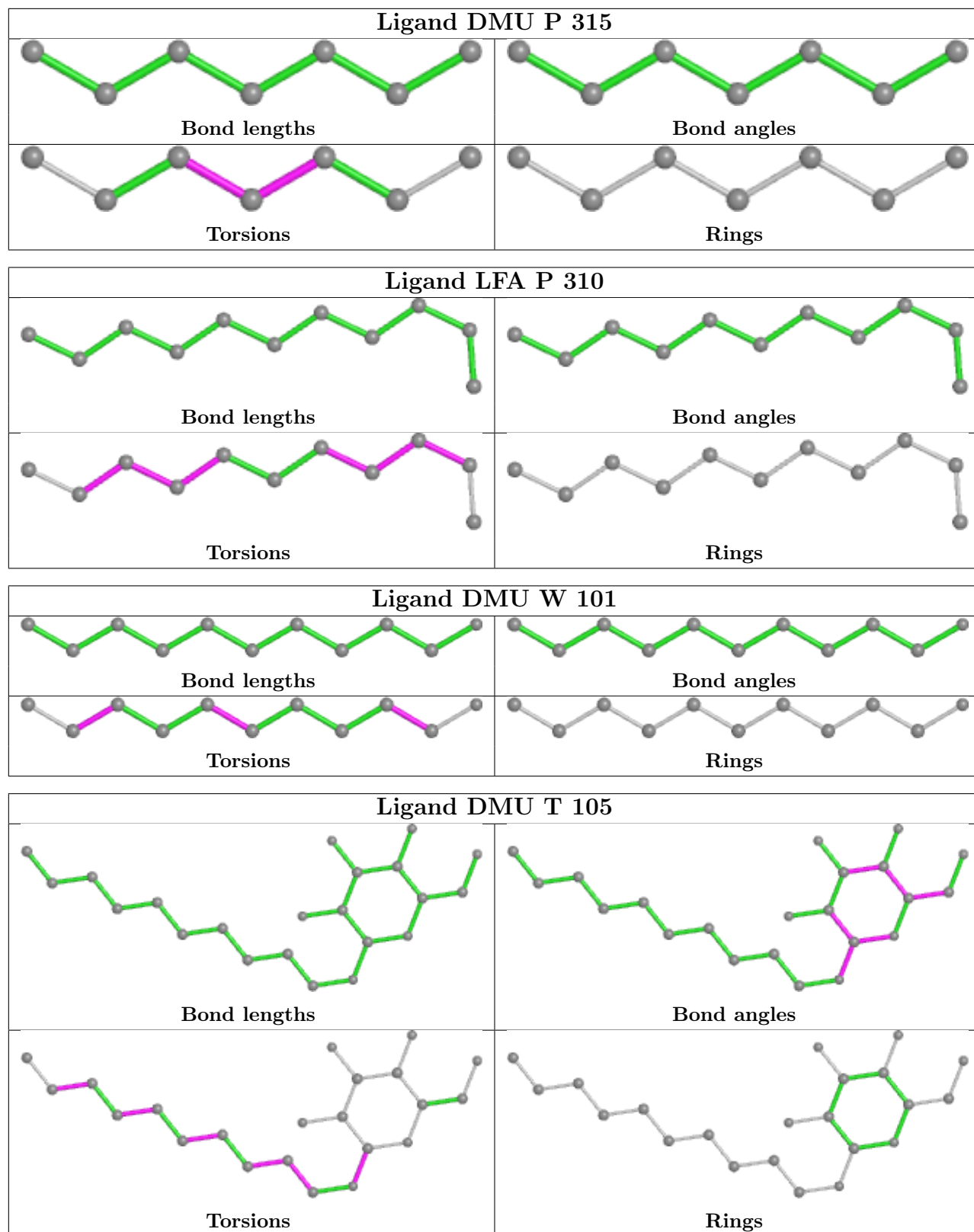


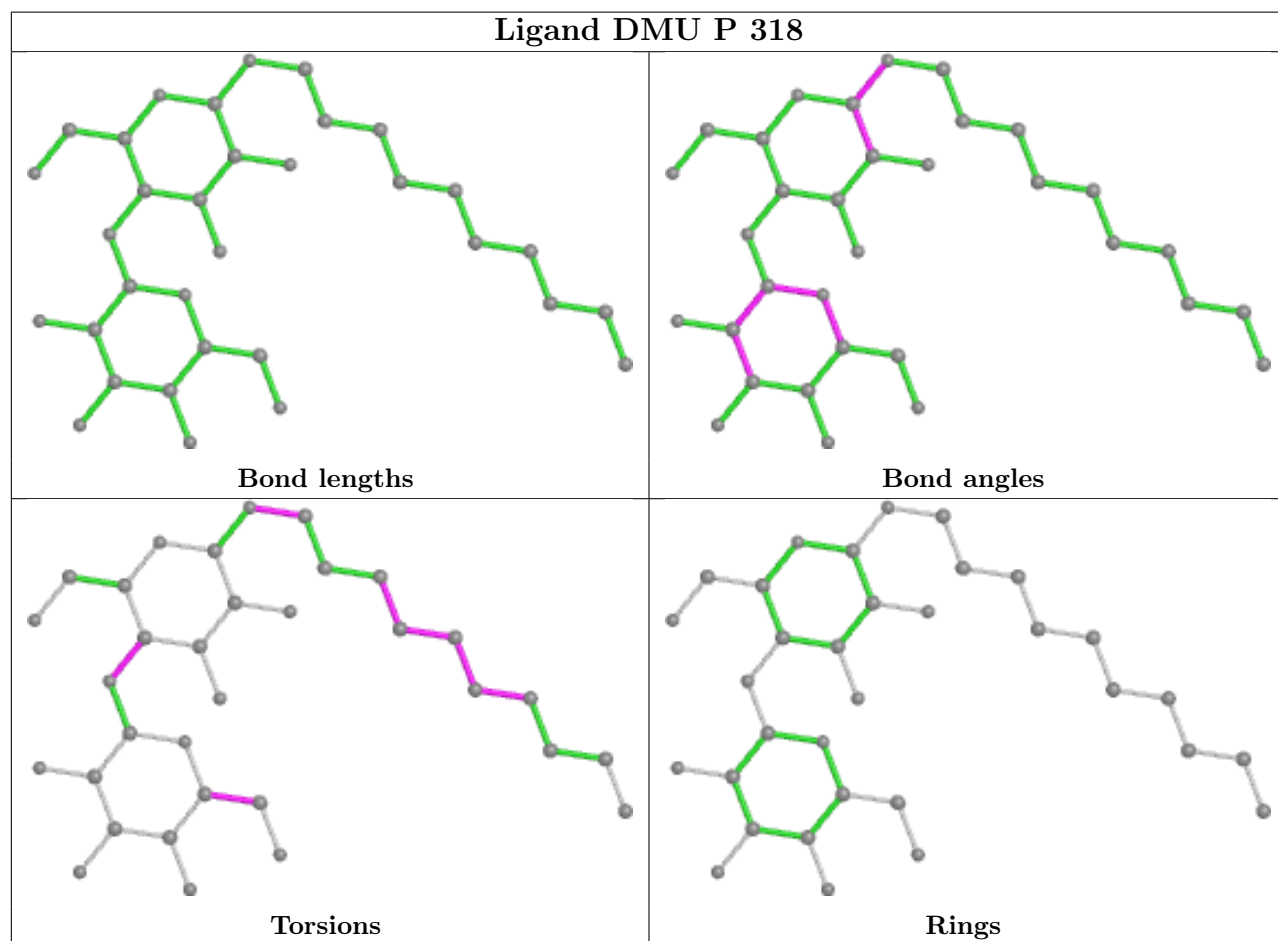
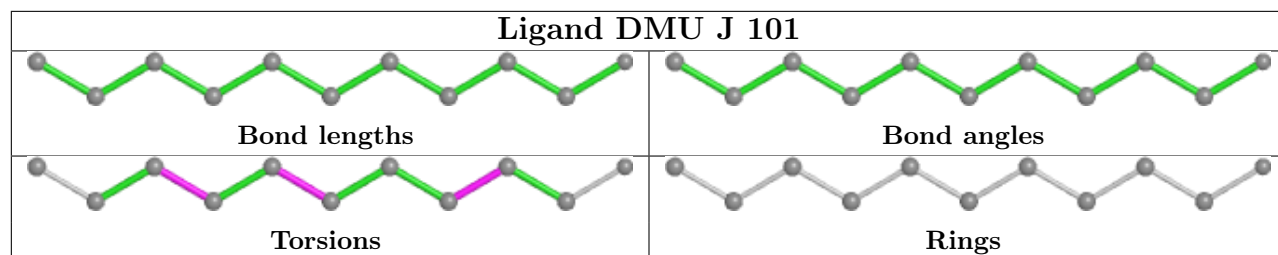


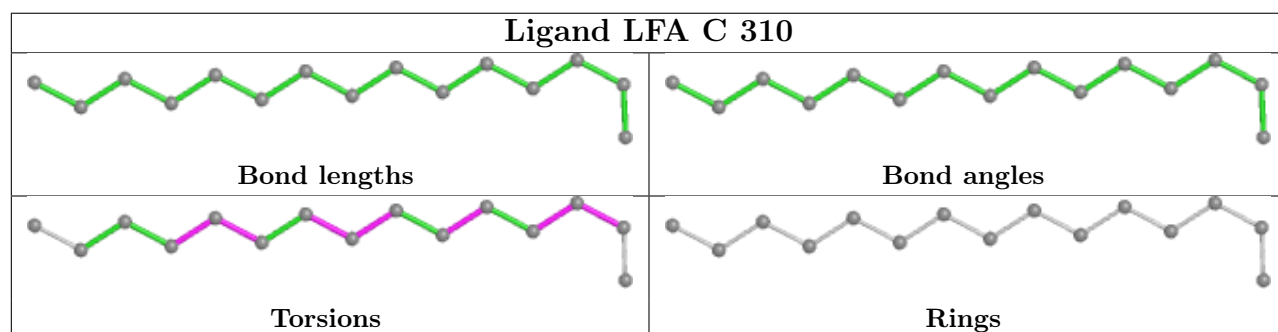
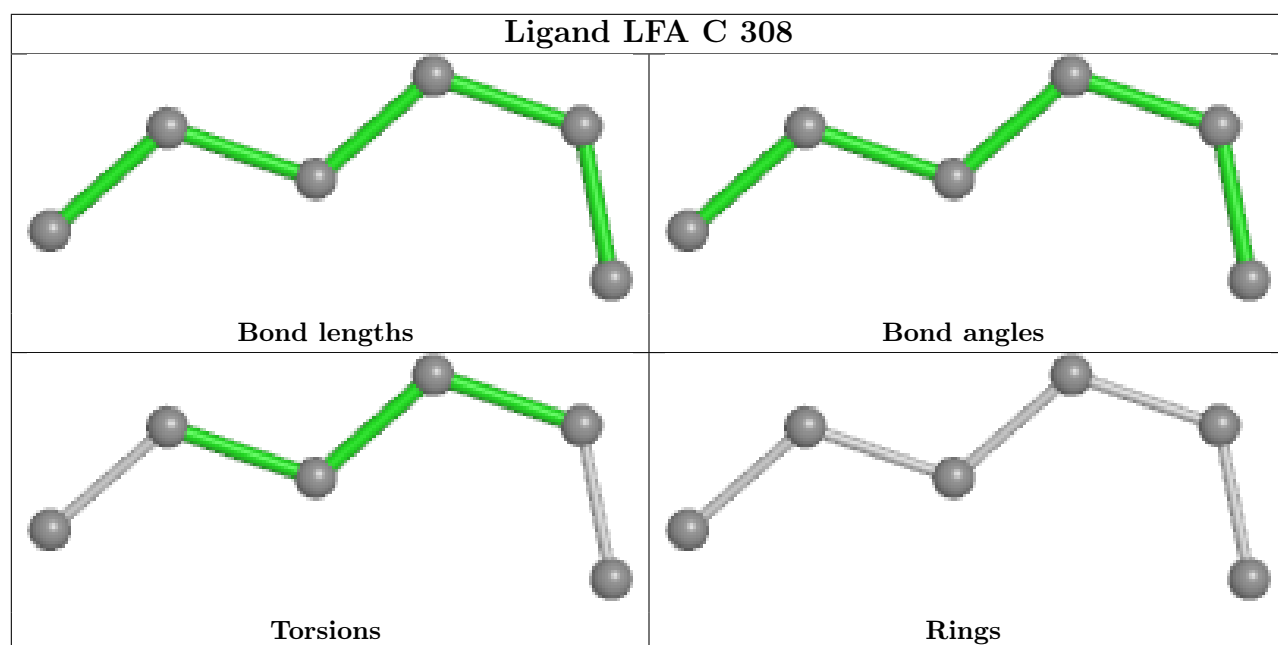
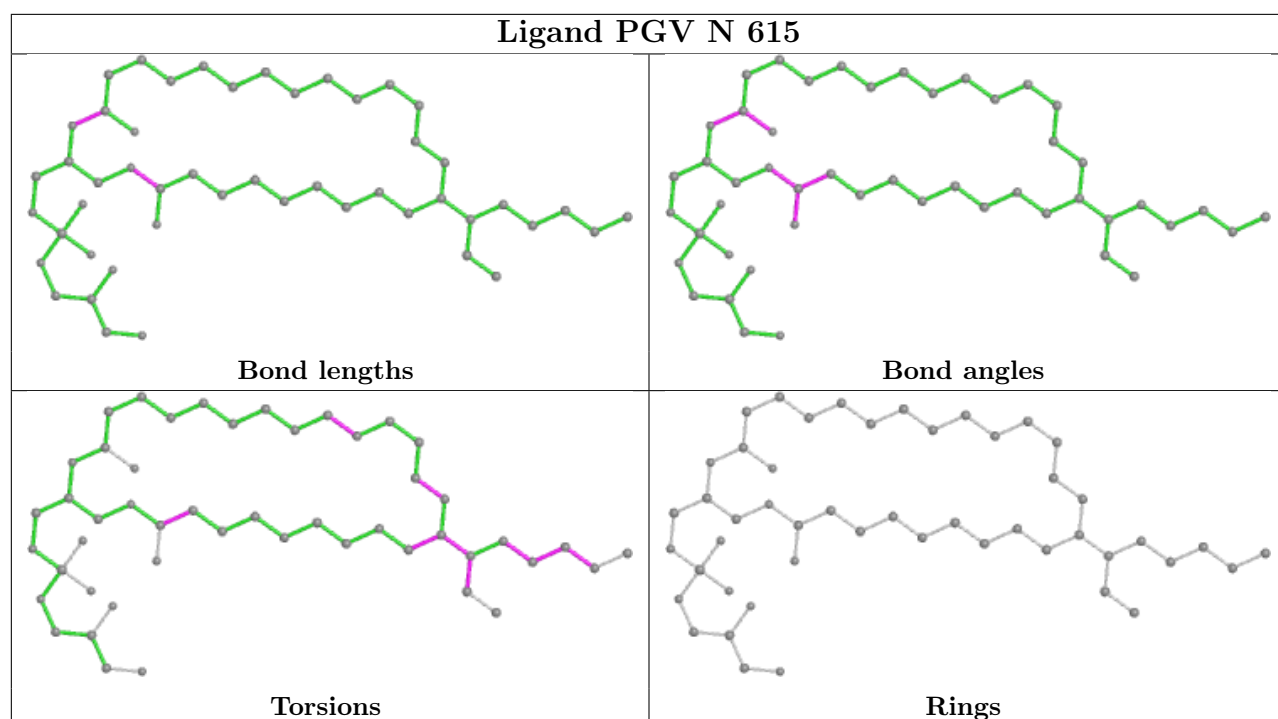


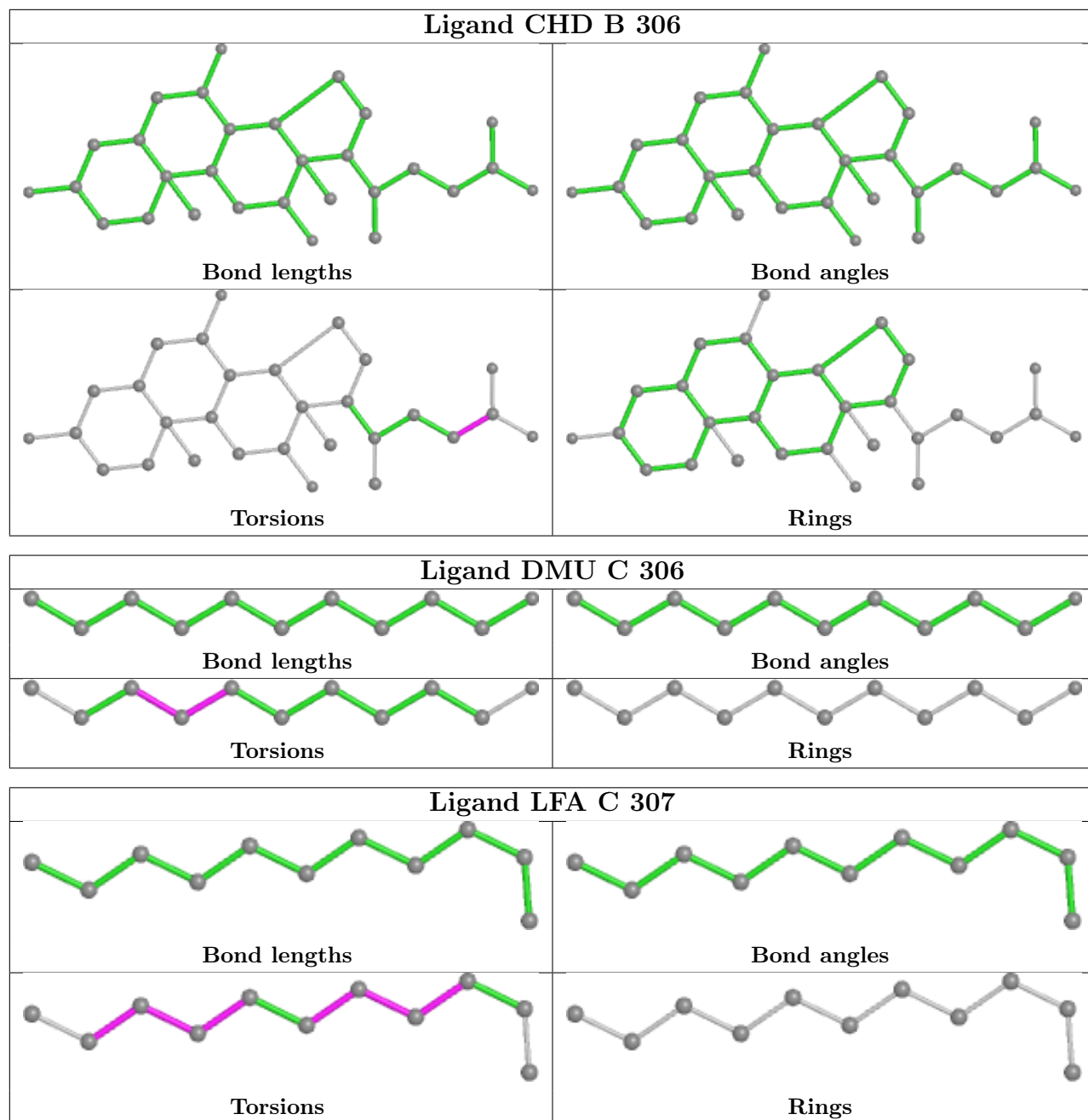


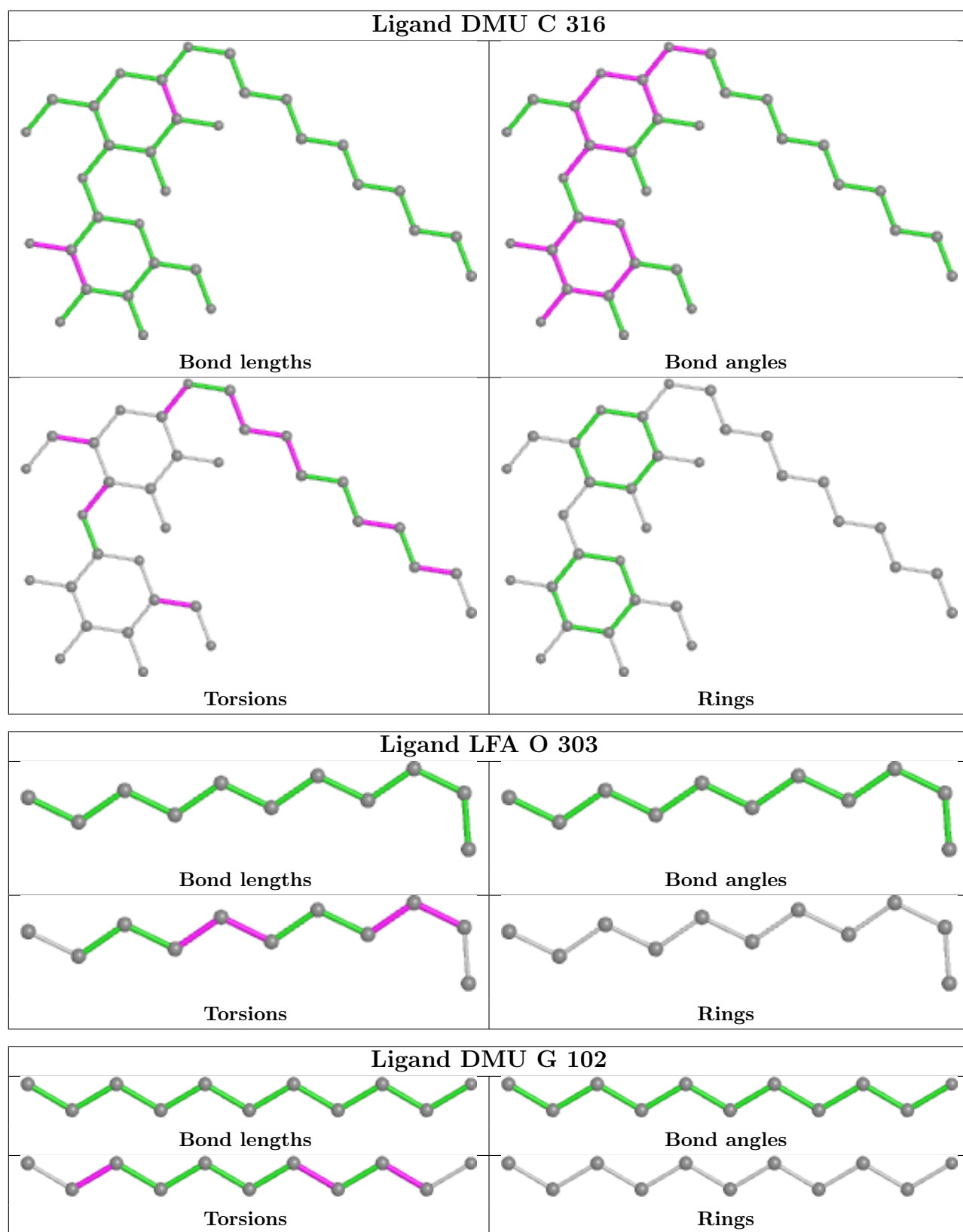


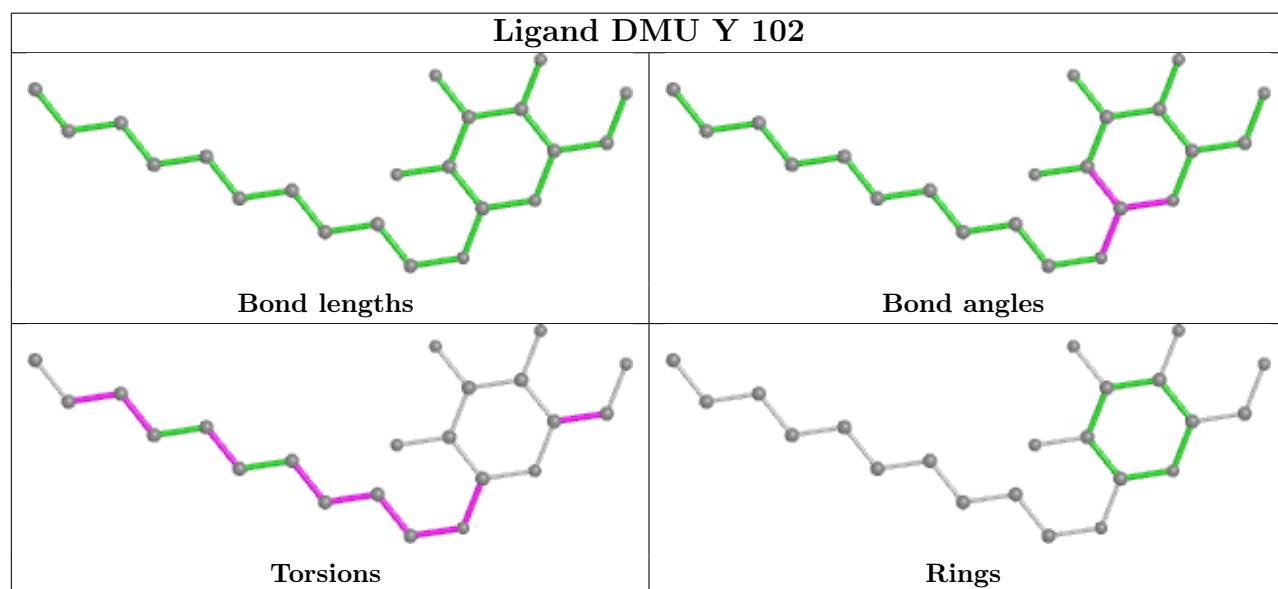
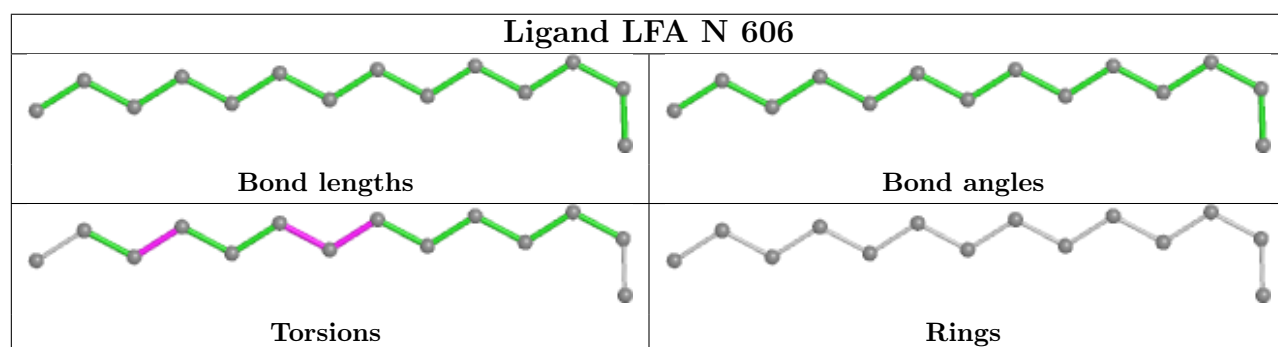
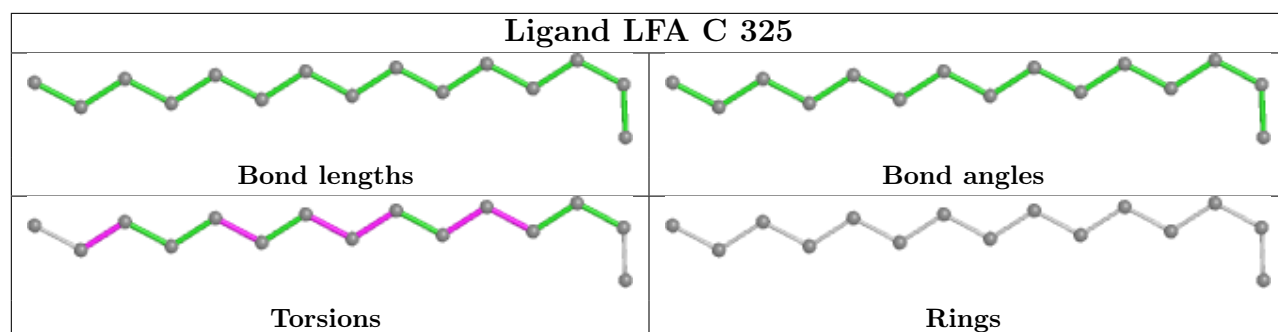
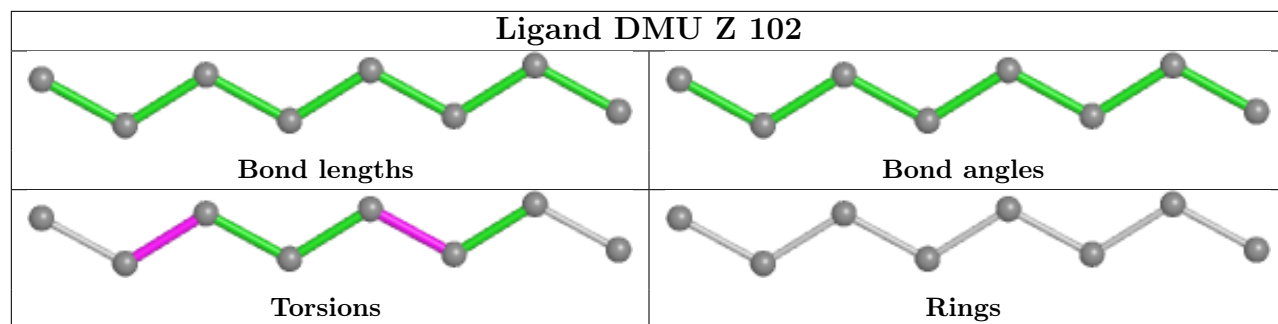


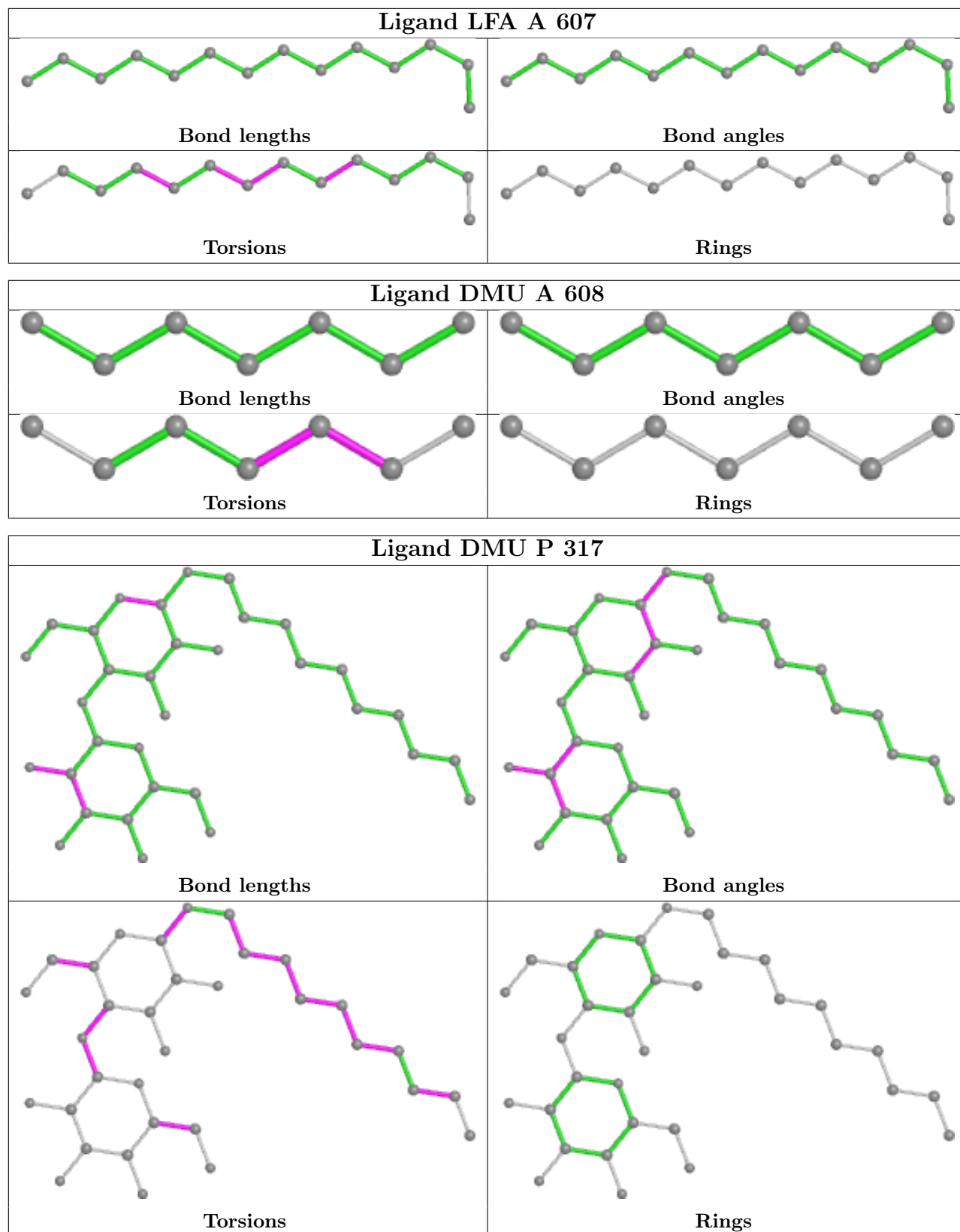


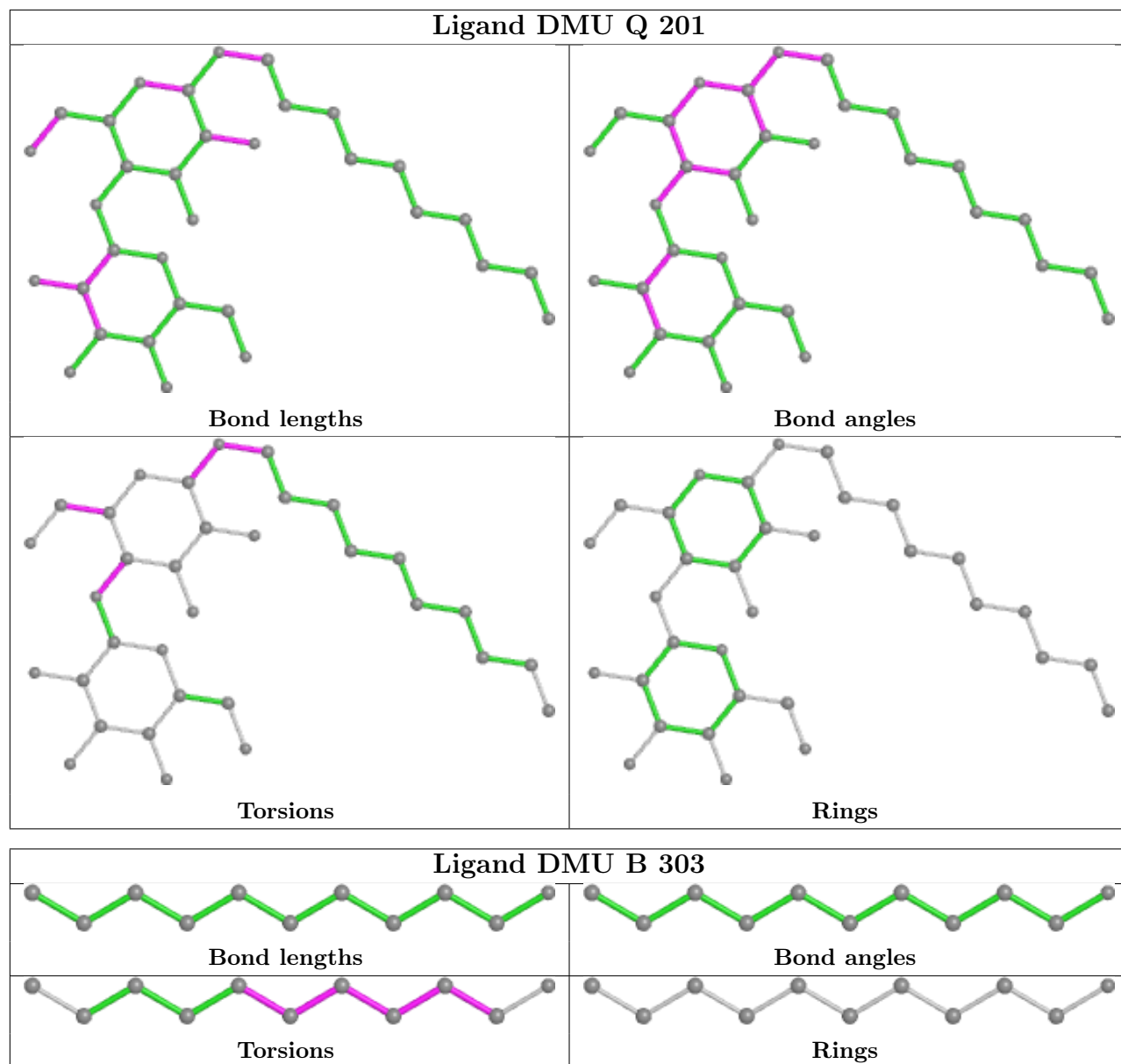


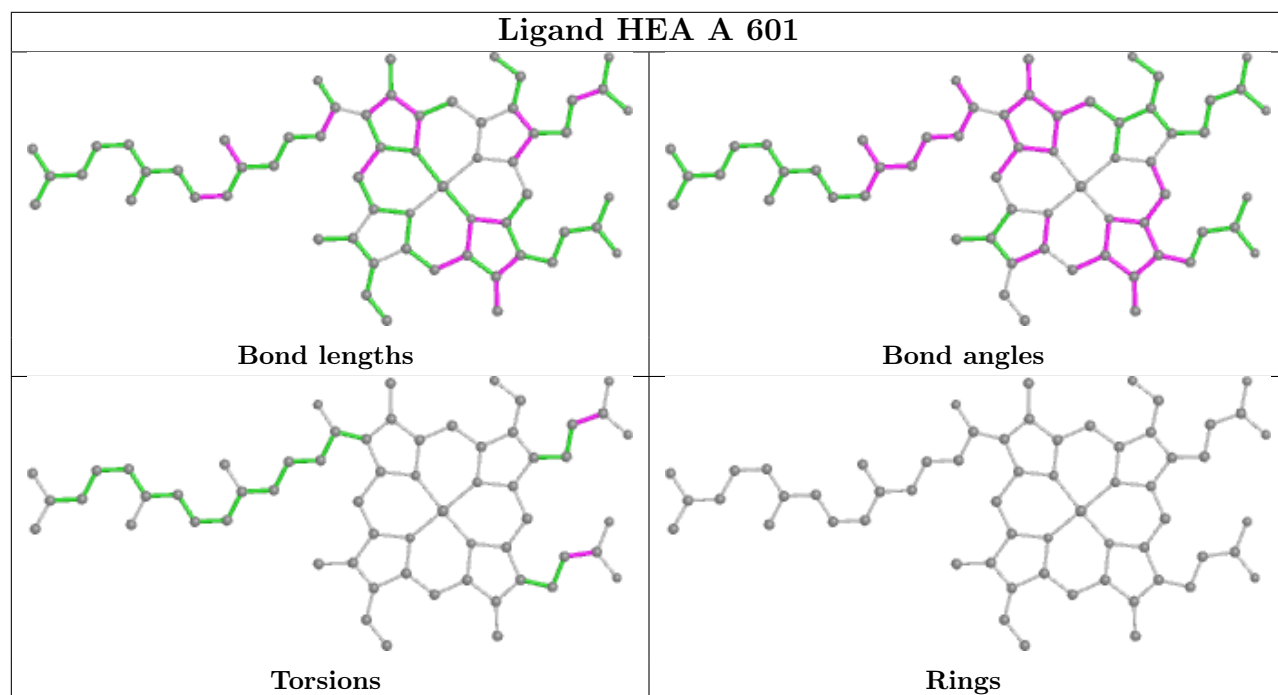
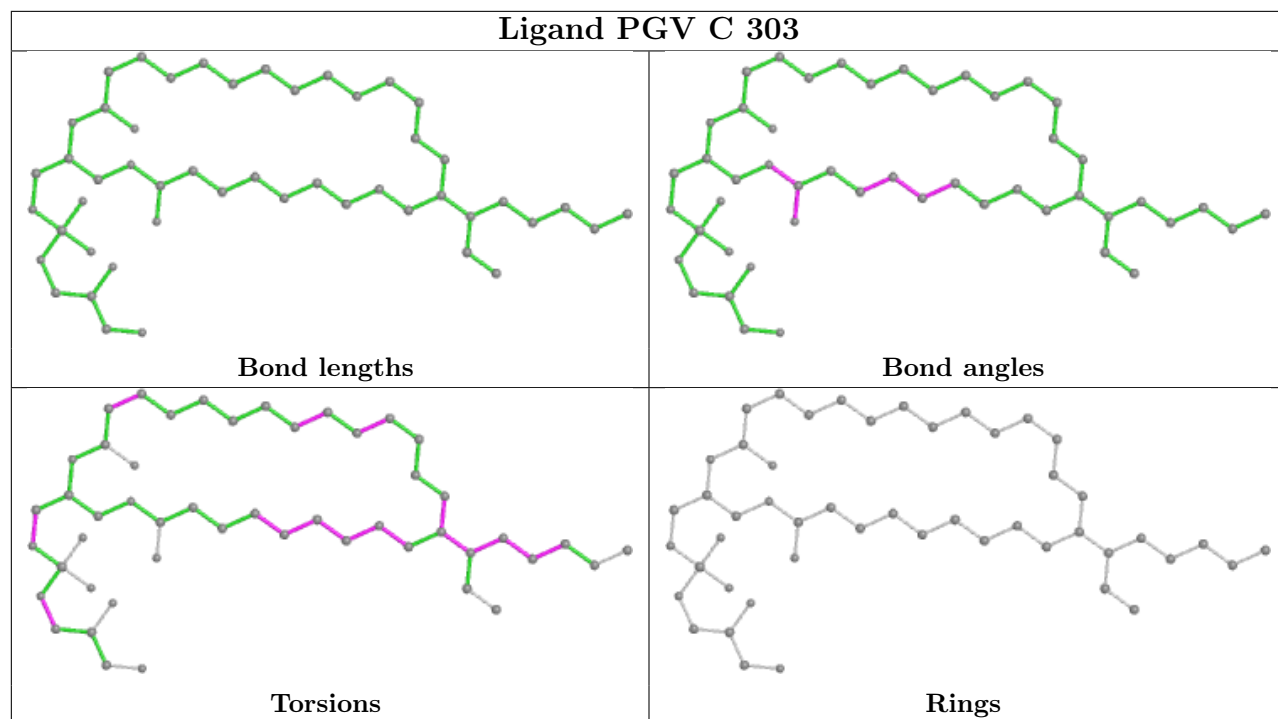


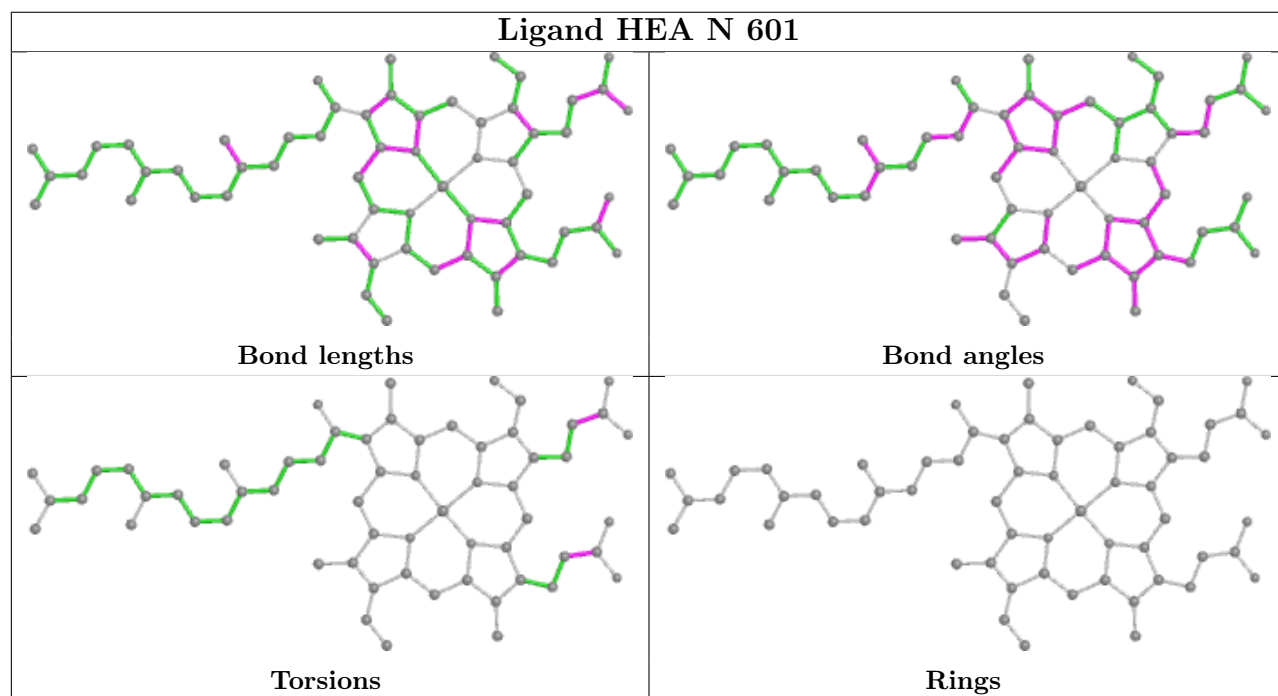
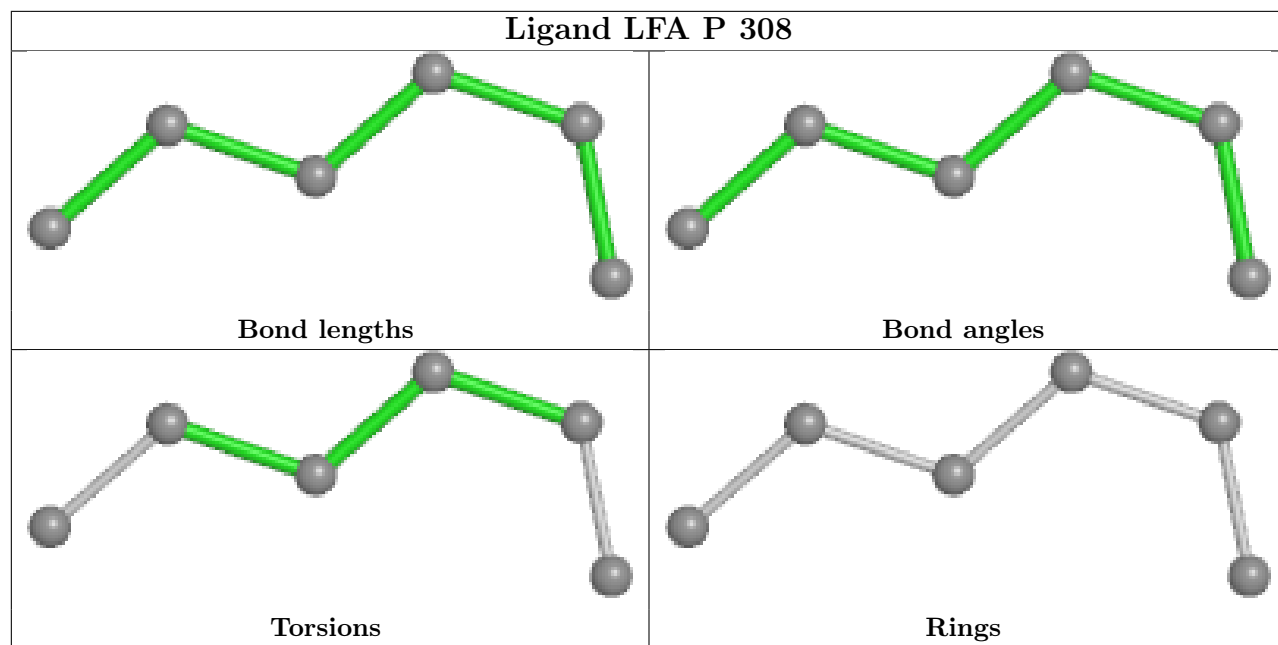


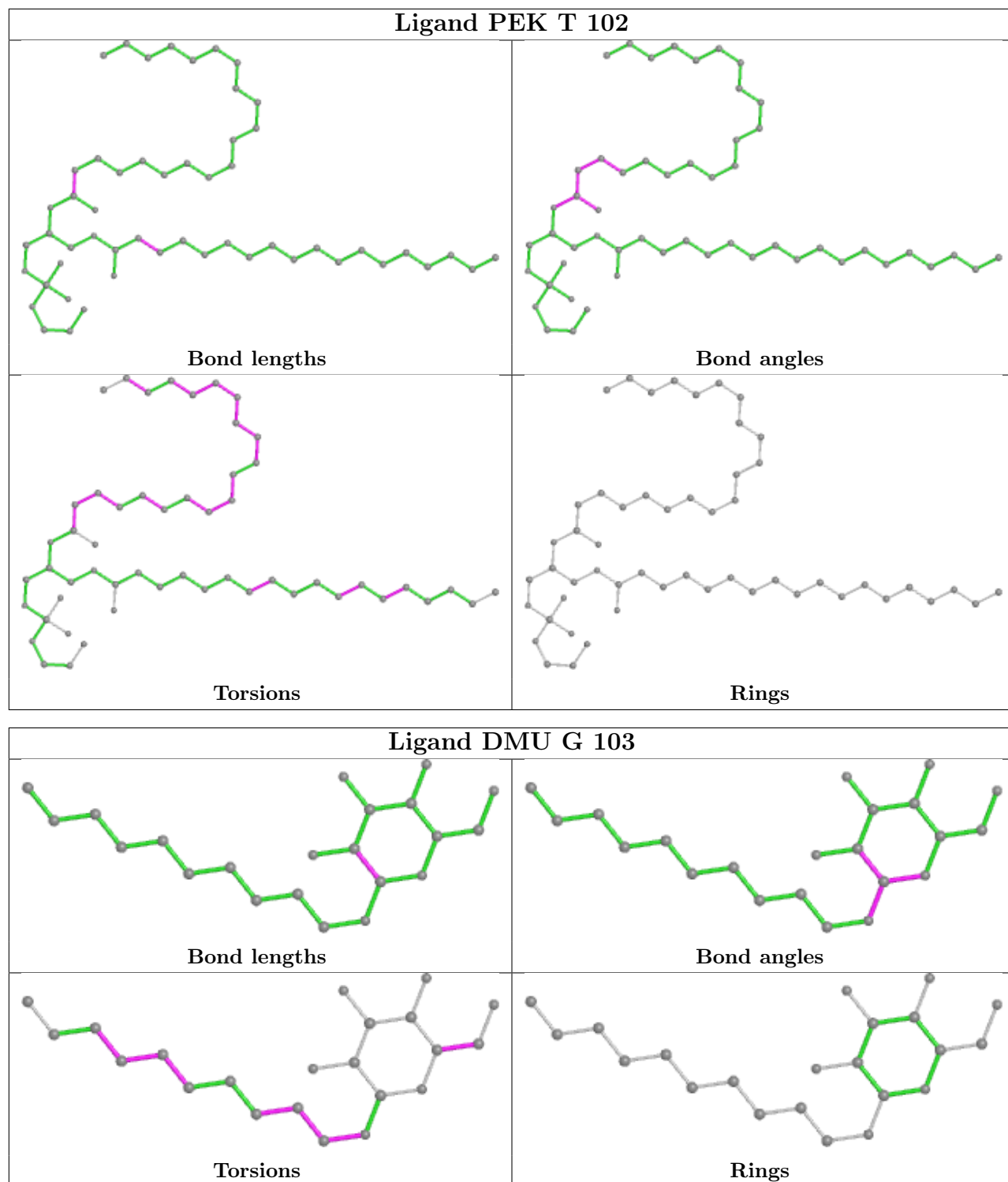


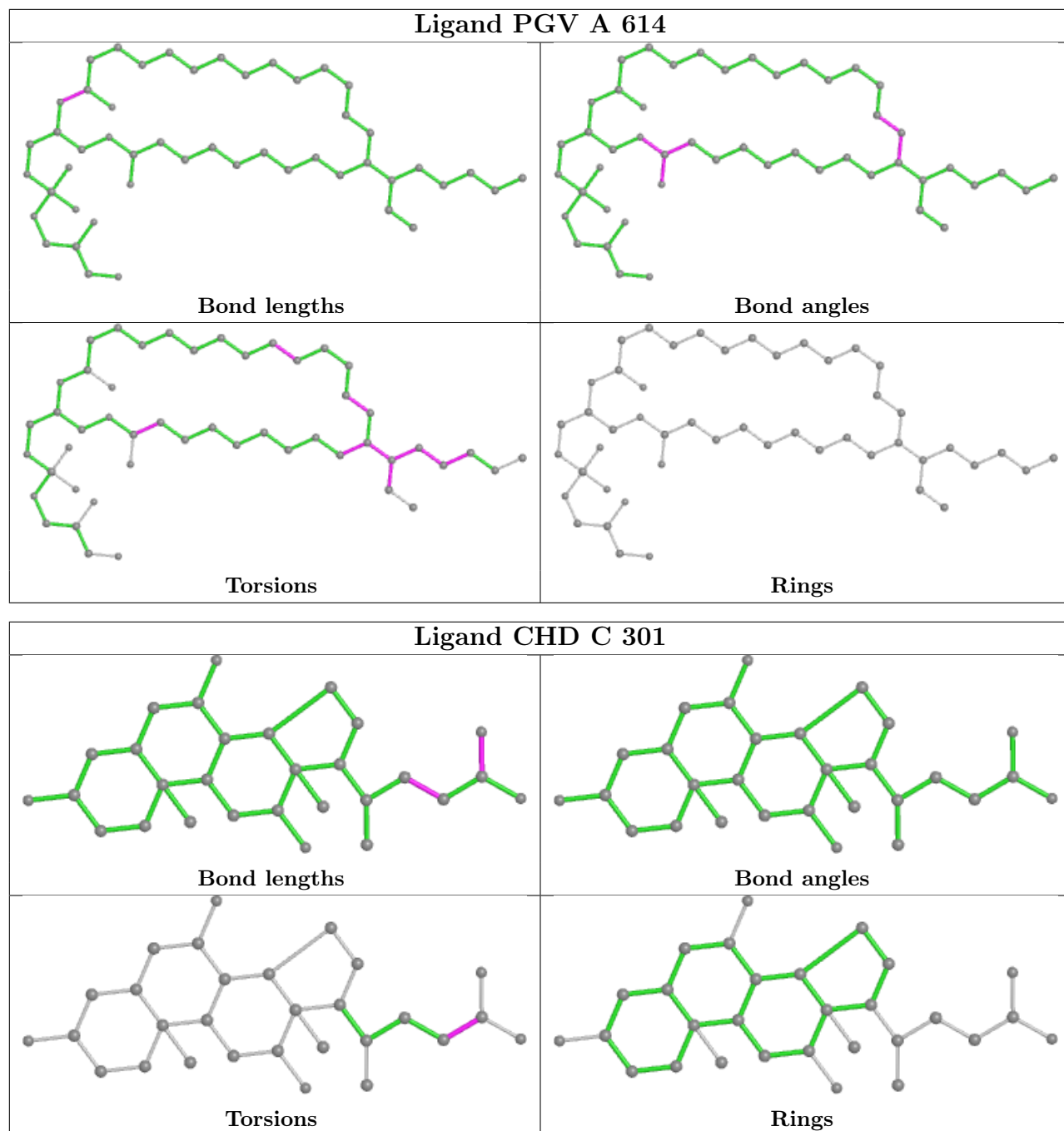


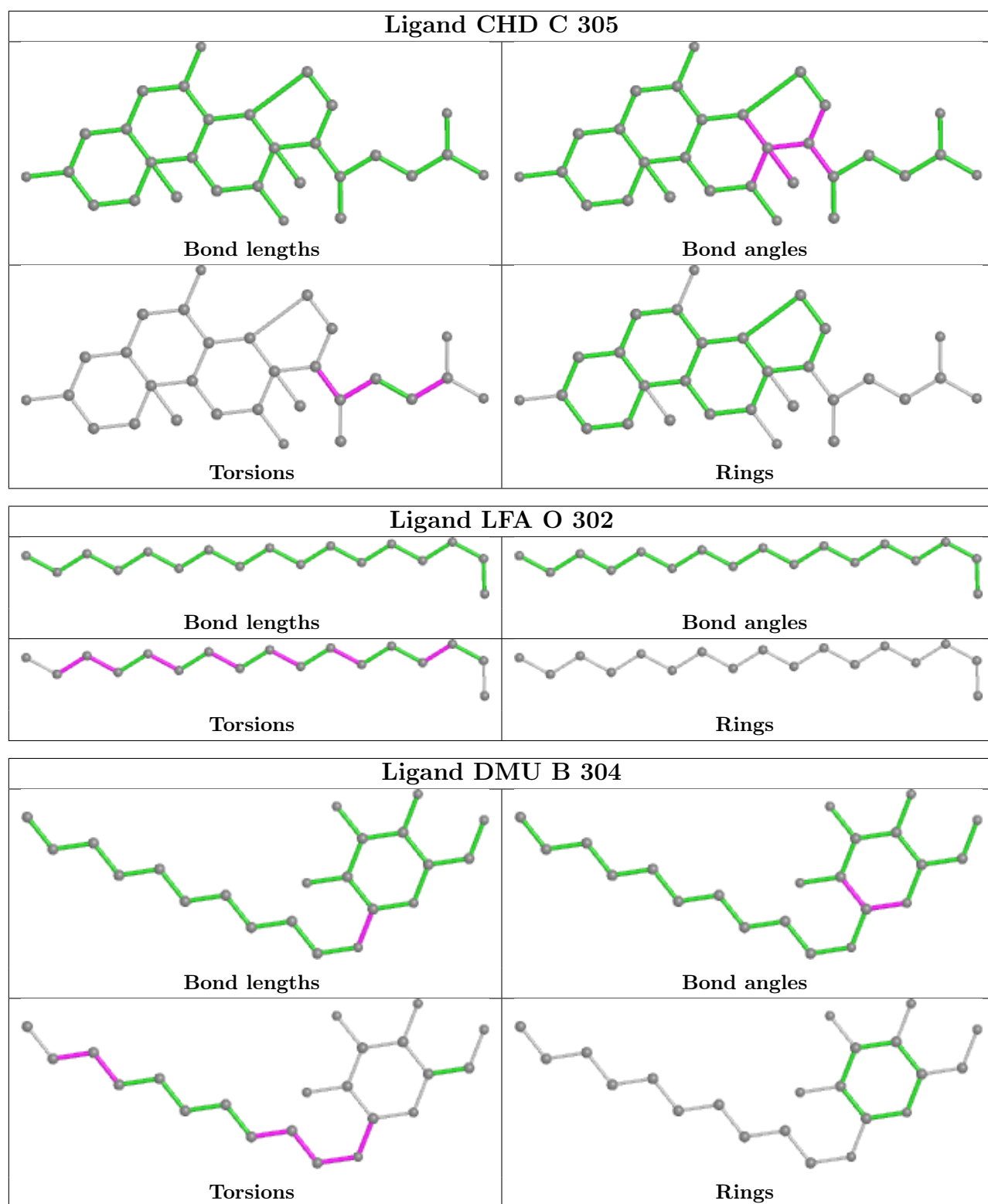


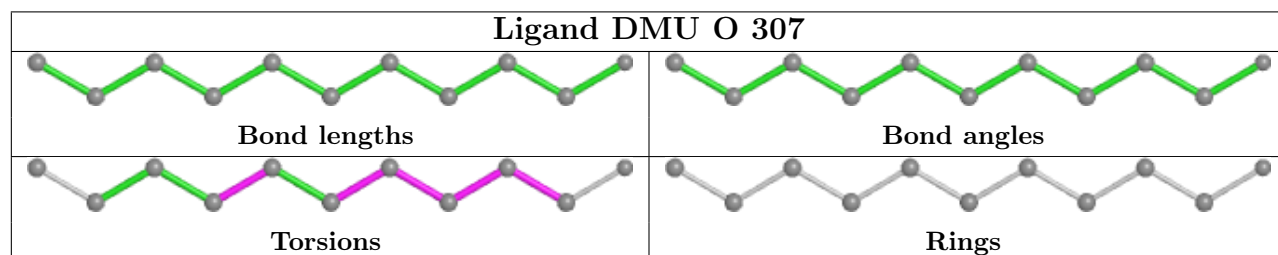
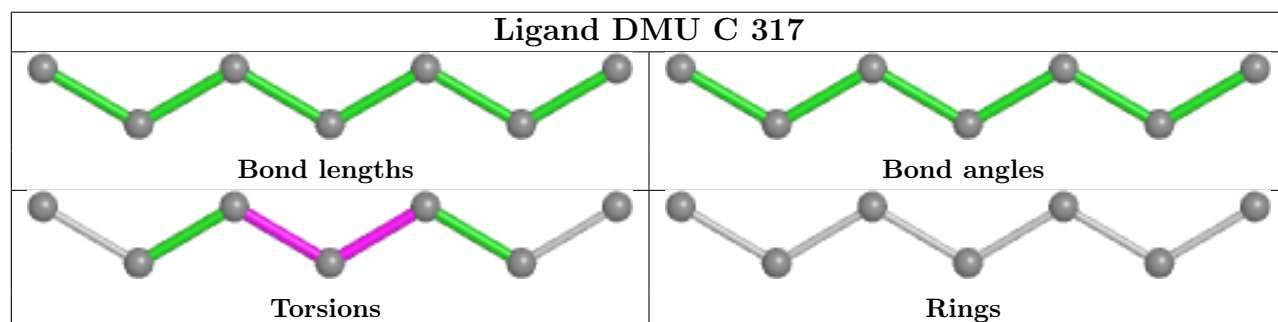
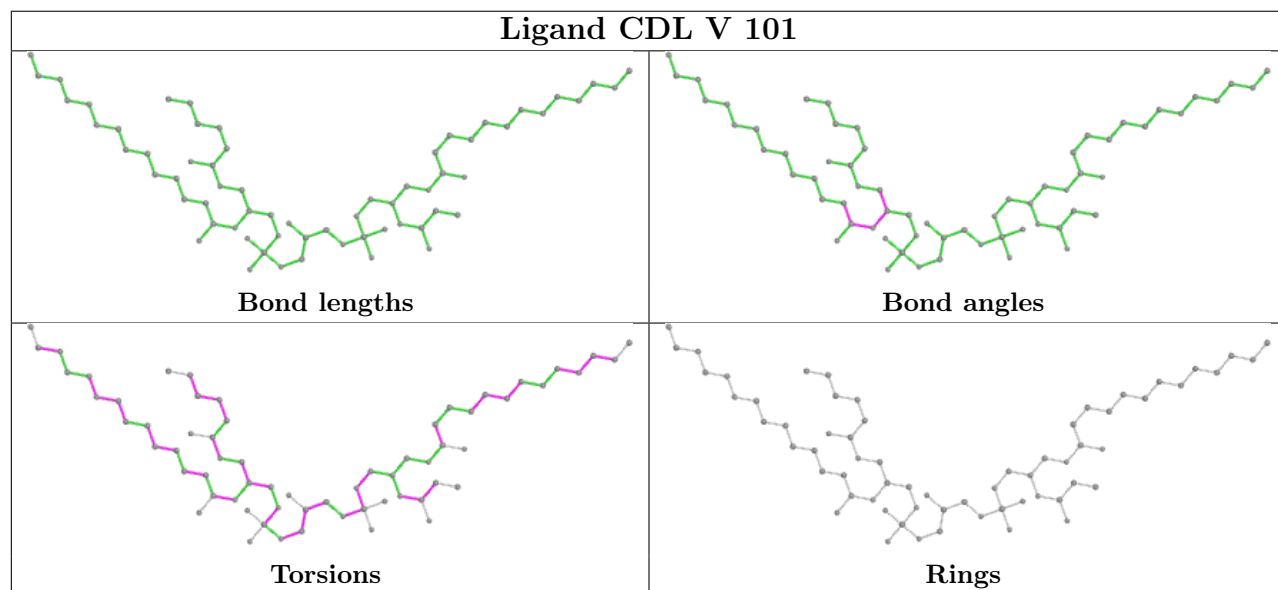
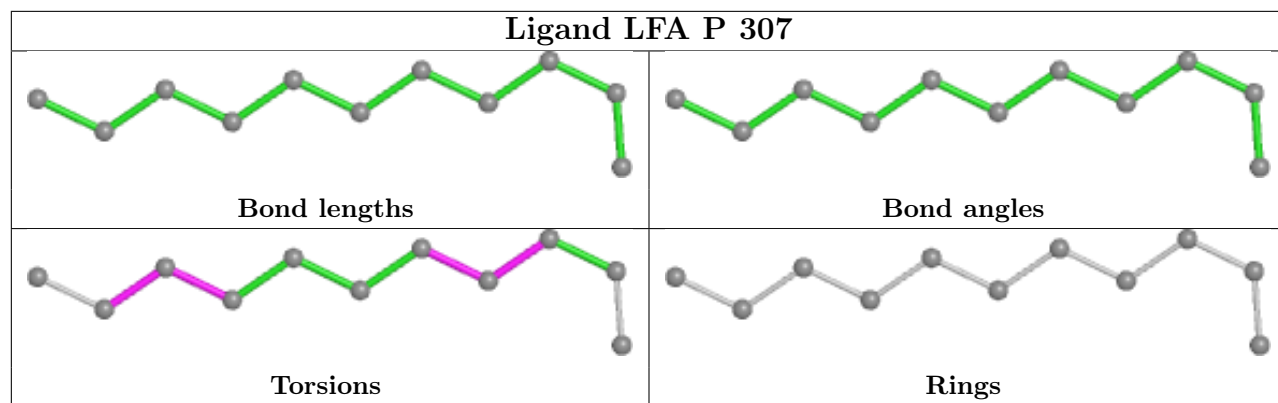


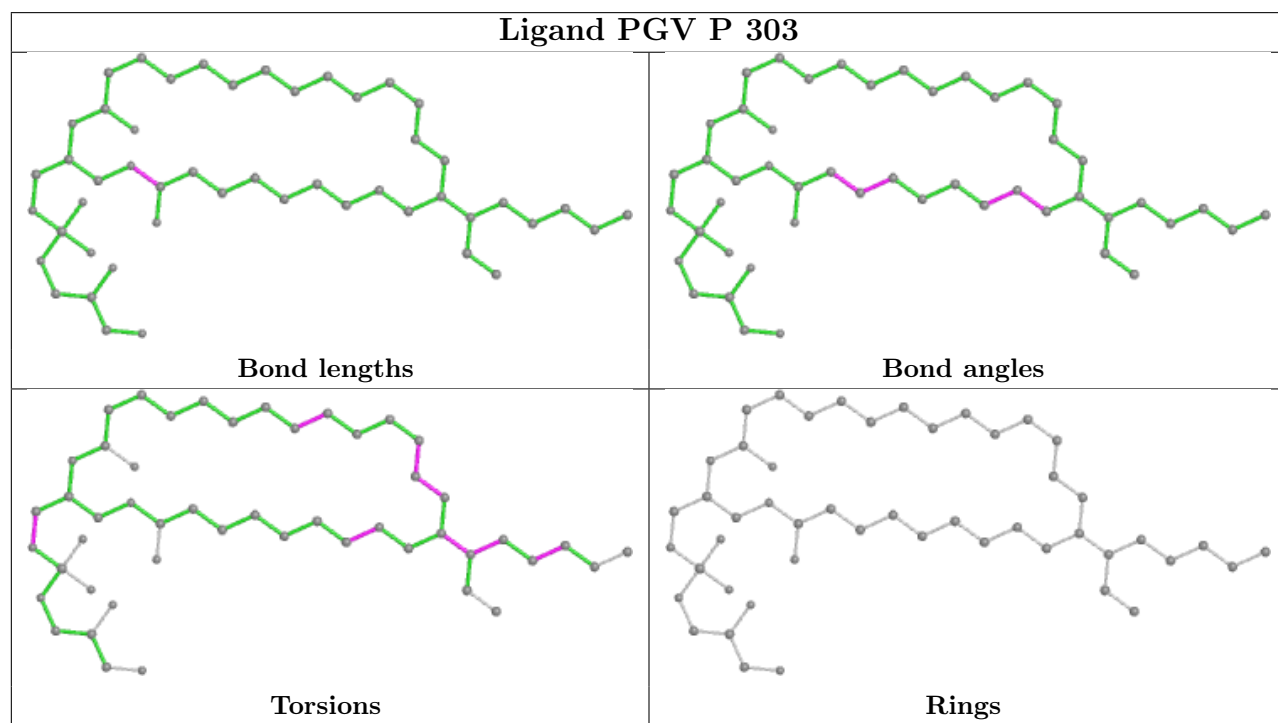
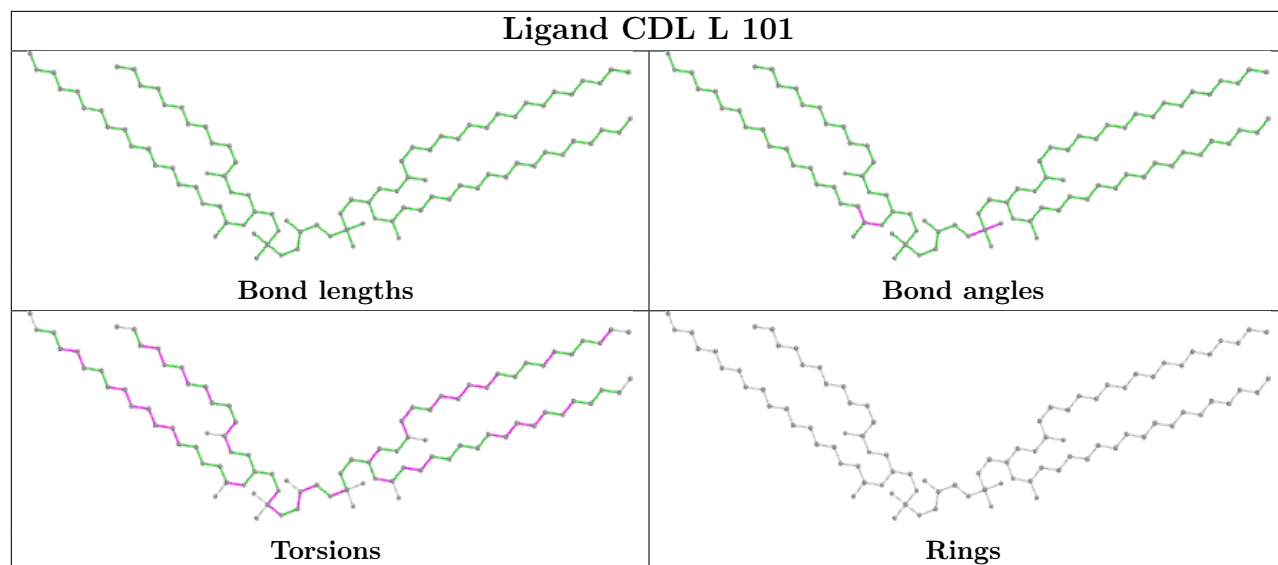


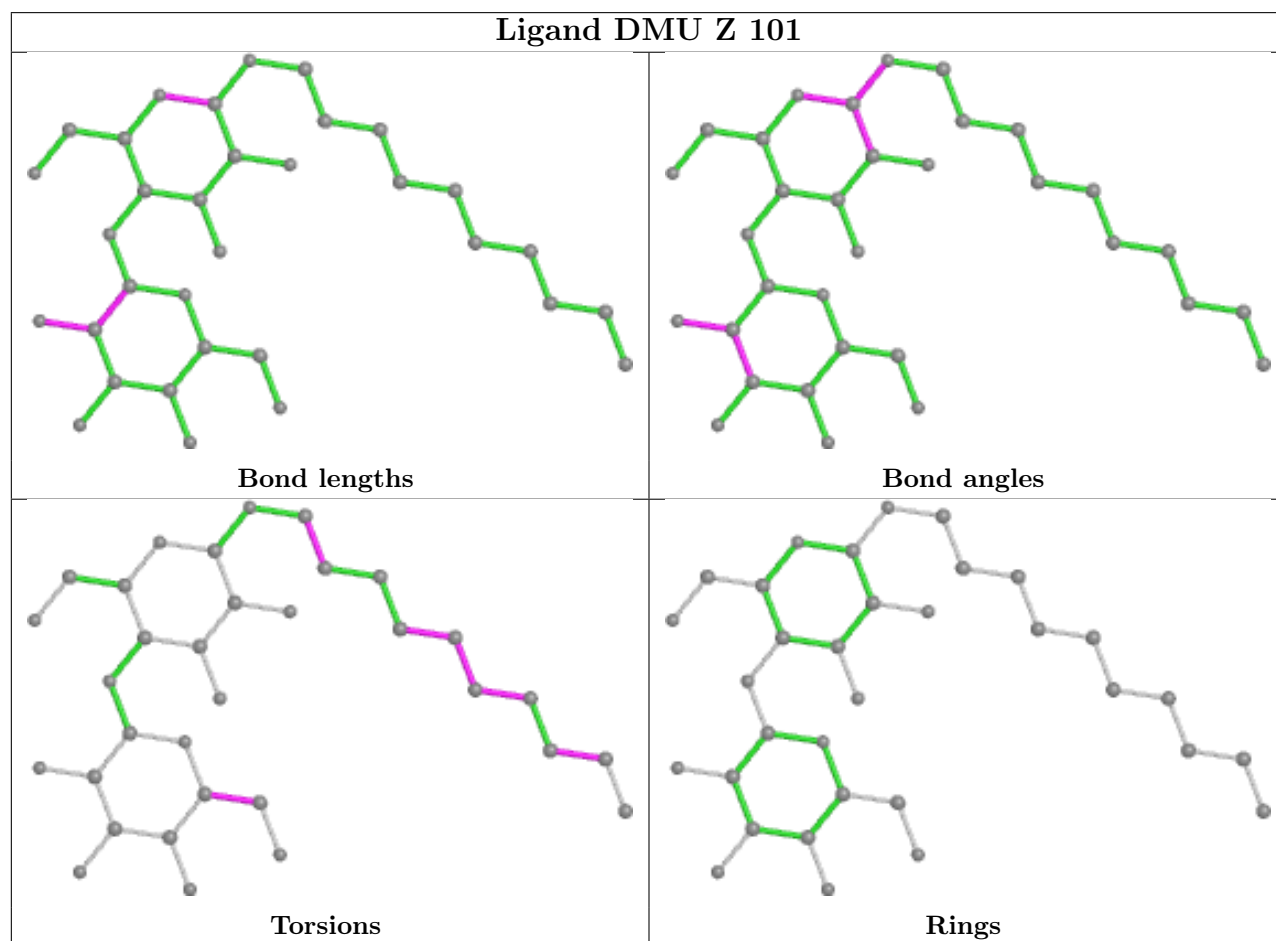
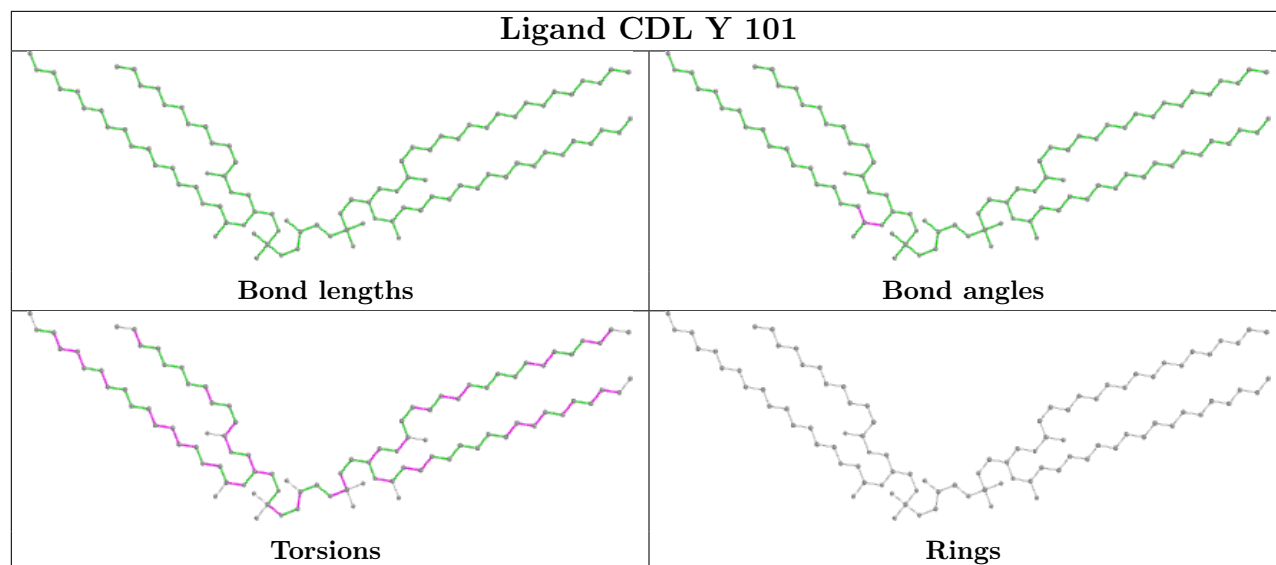


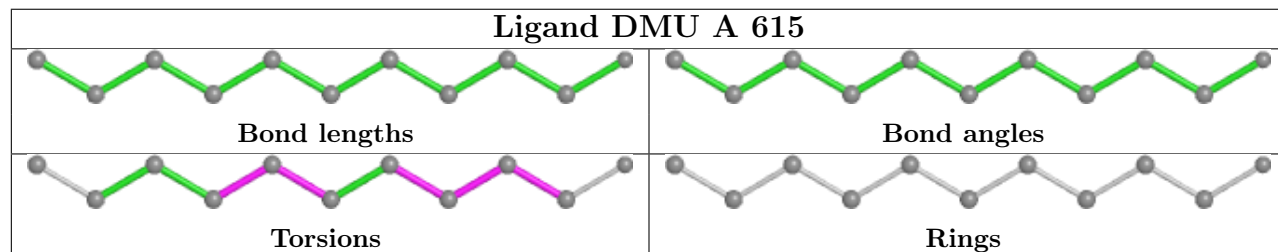
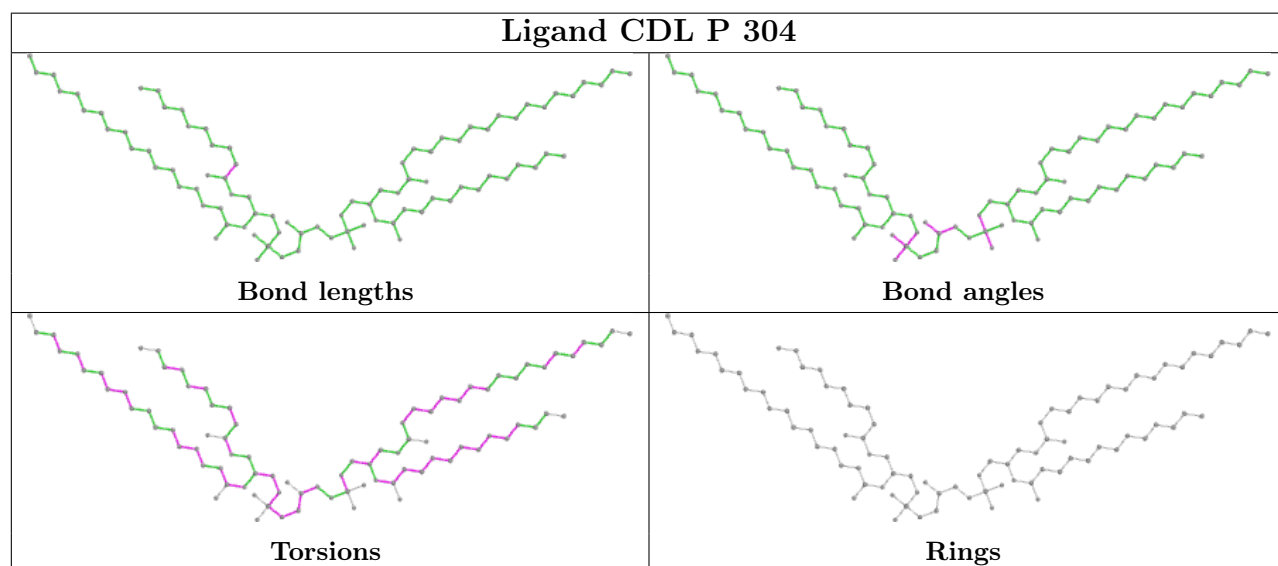
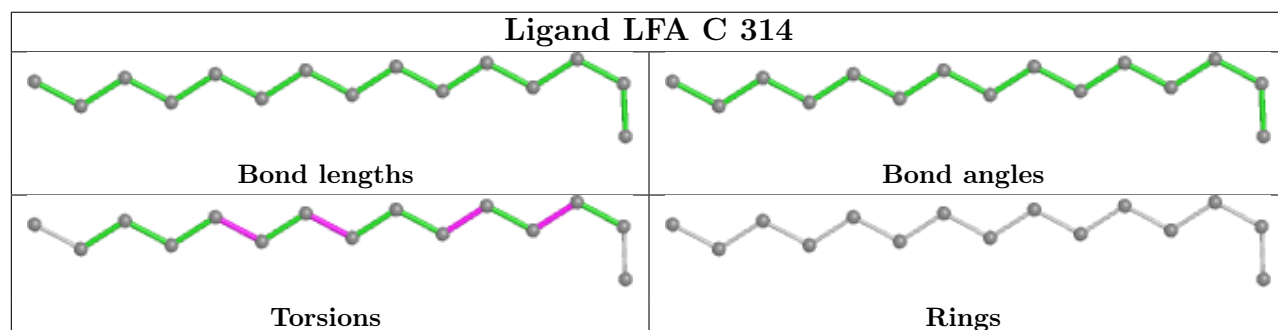
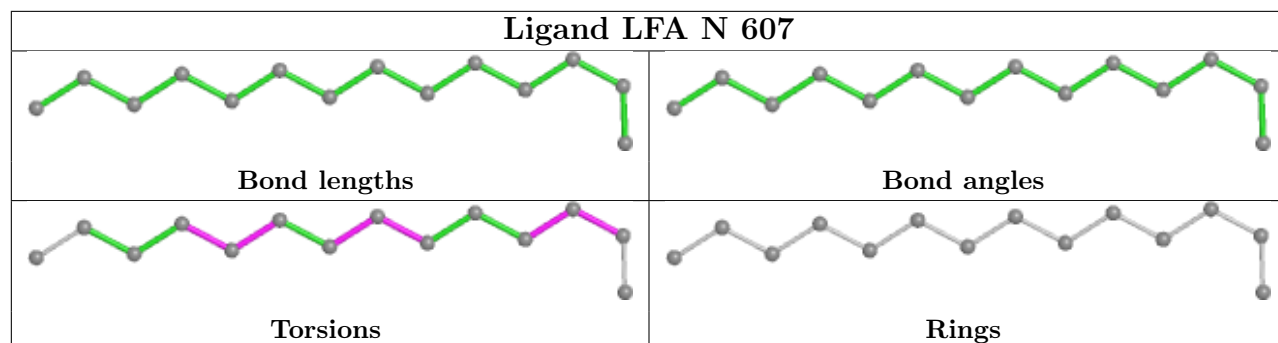


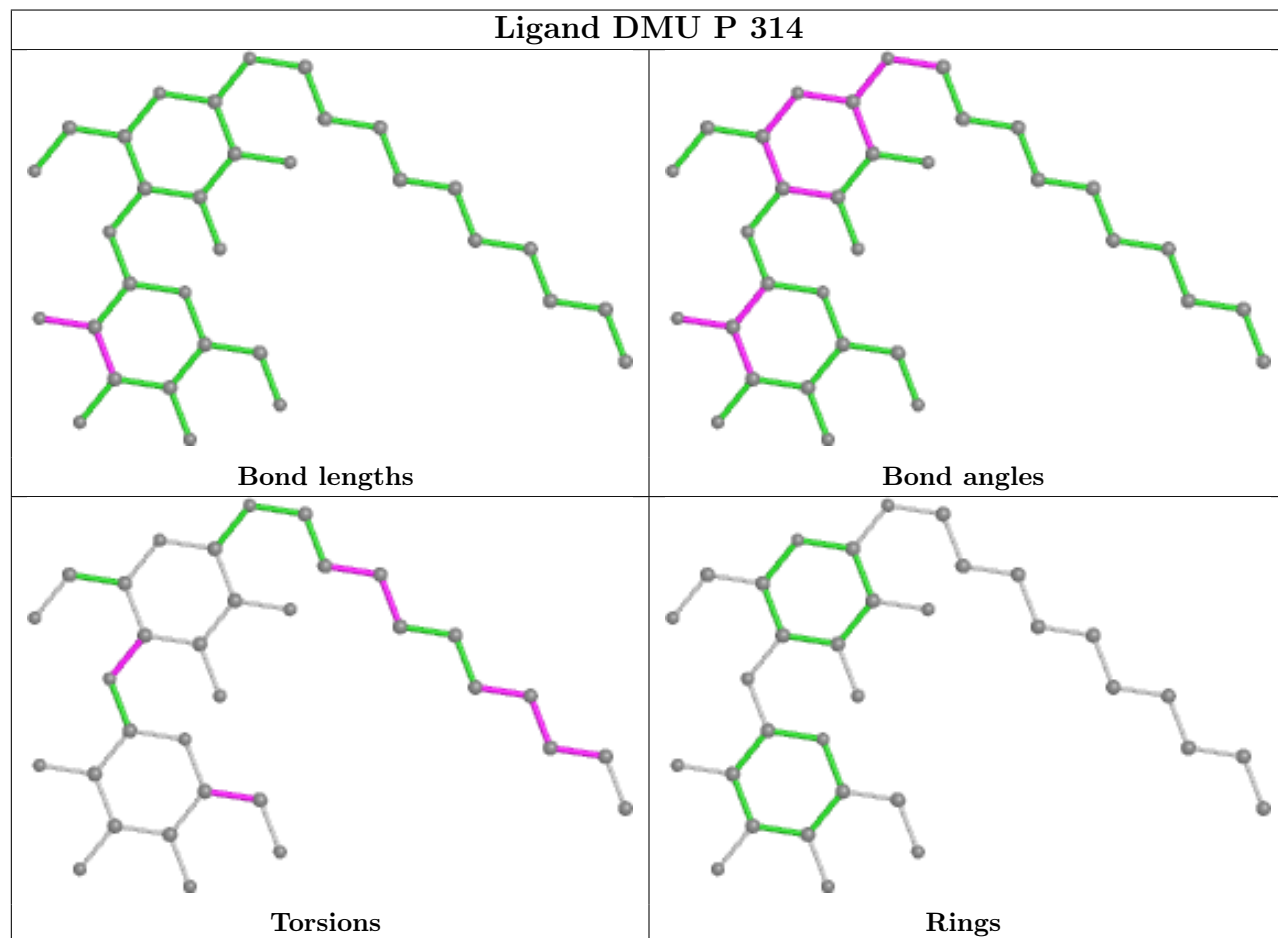
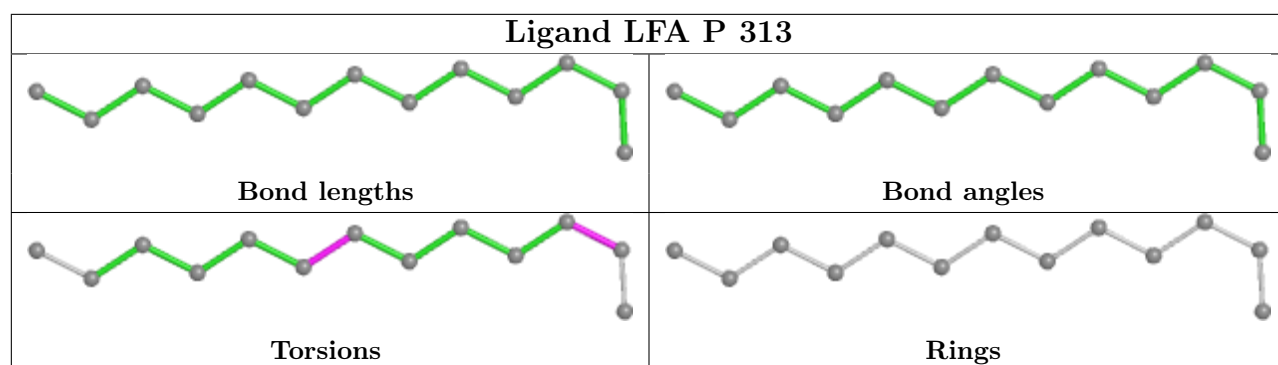


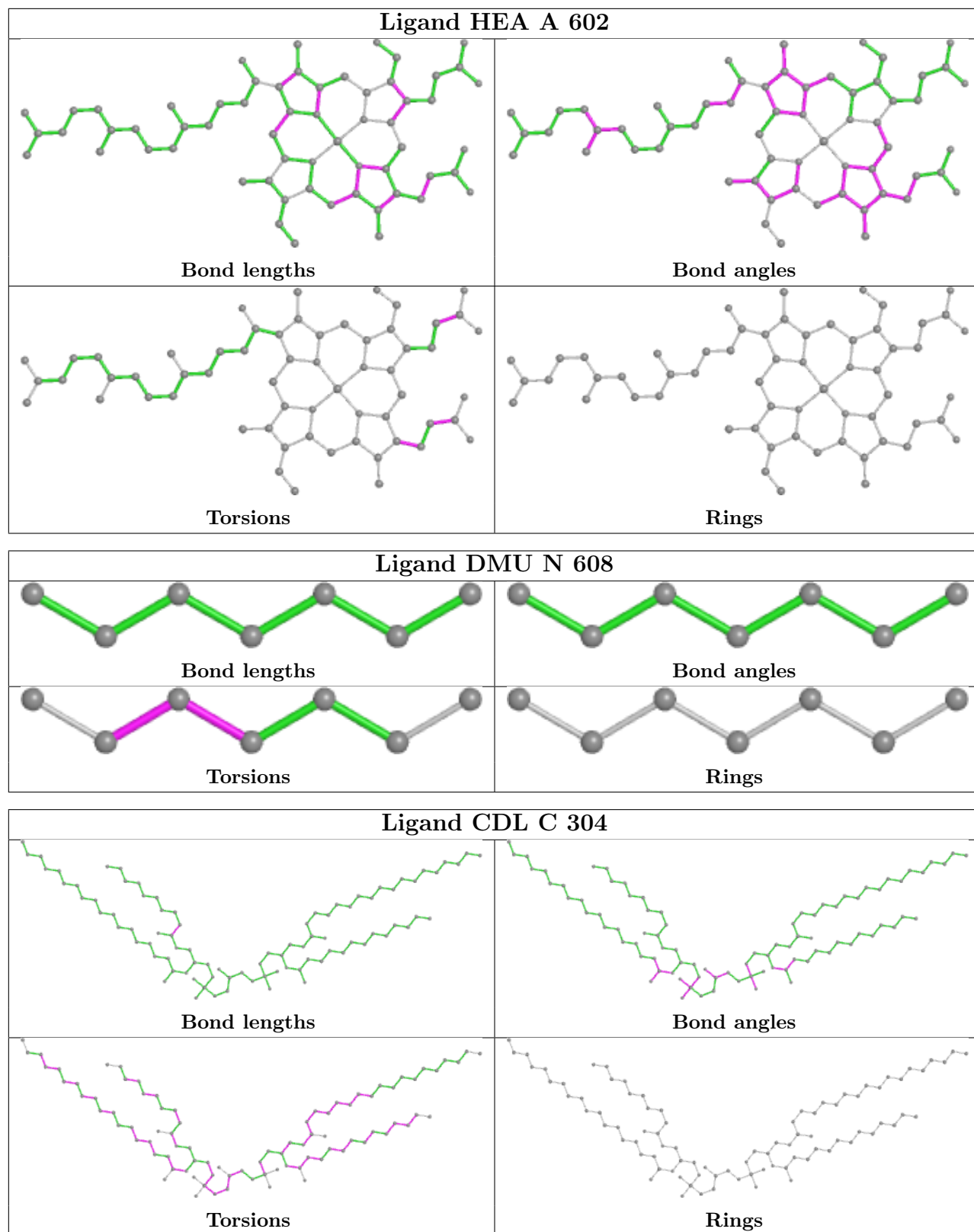


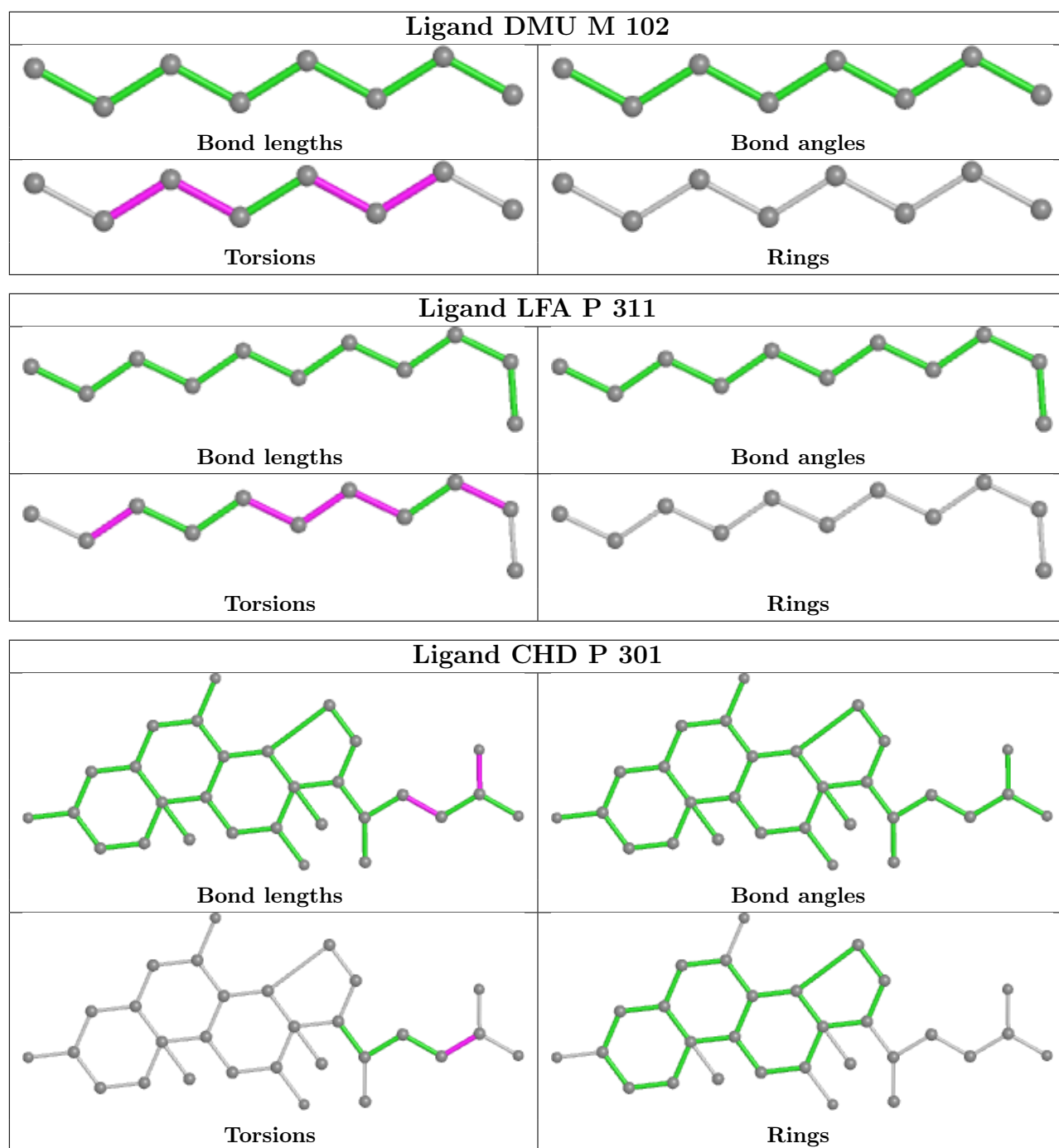












5.7 Other polymers [i](#)

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 i

6.1 Protein, DNA and RNA chains i

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, 95th 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	512/514 (99%)	0.01	0 100 100	28, 32, 41, 57	0
1	N	512/514 (99%)	-0.15	1 (0%) 95 95	30, 37, 46, 64	0
2	B	226/227 (99%)	-0.04	9 (3%) 38 42	30, 40, 63, 80	0
2	O	226/227 (99%)	-0.02	8 (3%) 44 49	36, 46, 72, 93	0
3	C	258/261 (98%)	-0.10	0 100 100	30, 36, 48, 67	0
3	P	258/261 (98%)	-0.11	2 (0%) 86 88	31, 37, 51, 74	0
4	D	143/147 (97%)	-0.22	2 (1%) 75 79	35, 42, 56, 74	0
4	Q	137/147 (93%)	0.24	6 (4%) 34 38	42, 56, 80, 107	0
5	E	102/109 (93%)	-0.24	0 100 100	35, 42, 56, 73	0
5	R	102/109 (93%)	-0.21	0 100 100	38, 49, 66, 85	0
6	F	91/98 (92%)	-0.06	0 100 100	32, 42, 67, 76	0
6	S	91/98 (92%)	-0.13	2 (2%) 62 66	34, 42, 65, 75	0
7	G	72/85 (84%)	0.40	10 (13%) 2 3	34, 43, 88, 110	0
7	T	72/85 (84%)	0.43	9 (12%) 3 4	34, 45, 93, 104	0
8	H	75/85 (88%)	0.24	6 (8%) 12 14	36, 46, 104, 113	0
8	U	75/85 (88%)	0.49	9 (12%) 4 5	42, 50, 95, 128	0
9	I	70/73 (95%)	0.16	3 (4%) 35 39	38, 50, 74, 92	0
9	V	70/73 (95%)	0.41	5 (7%) 16 18	38, 59, 76, 100	0
10	J	56/59 (94%)	0.07	3 (5%) 25 28	37, 46, 69, 79	0
10	W	56/59 (94%)	0.09	3 (5%) 25 28	40, 50, 74, 82	0
11	K	49/56 (87%)	-0.14	0 100 100	39, 47, 66, 80	0
11	X	49/56 (87%)	0.30	2 (4%) 37 41	49, 60, 76, 104	0
12	L	44/47 (93%)	-0.20	0 100 100	33, 38, 50, 59	0
12	Y	44/47 (93%)	-0.23	0 100 100	41, 48, 64, 71	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
13	M	40/46 (86%)	0.02	1 (2%) 57 61	36, 39, 62, 76	0
13	Z	40/46 (86%)	0.00	3 (7%) 14 16	46, 52, 83, 92	0
All	All	3470/3614 (96%)	-0.01	84 (2%) 59 63	28, 41, 68, 128	0

The worst 5 of 84 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
8	U	48	GLY	7.9
8	H	45	ALA	7.9
2	O	90	ILE	7.3
8	U	45	ALA	6.8
7	G	40	GLY	6.6

6.2 Non-standard residues in protein, DNA, RNA chains [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, 95th 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
1	FME	A	1	10/11	0.96	0.14	43,51,90,112	0
2	FME	B	1	10/11	0.98	0.11	35,38,48,89	0
1	FME	N	1	10/11	0.98	0.11	48,55,93,98	0
2	FME	O	1	10/11	0.98	0.10	42,47,56,72	0

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, 95th 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
20	DMU	P	316	22/33	0.48	0.40	43,68,80,89	22

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
20	DMU	N	608	7/33	0.56	0.35	65,70,75,79	7
19	LFA	P	307	11/20	0.57	0.43	39,53,63,70	11
20	DMU	O	304	22/33	0.61	0.26	50,68,93,101	22
20	DMU	P	318	33/33	0.63	0.27	52,79,92,119	33
20	DMU	P	314	33/33	0.64	0.30	45,56,69,70	33
20	DMU	B	304	22/33	0.67	0.26	49,62,69,77	22
20	DMU	C	318	22/33	0.68	0.31	42,69,83,94	22
20	DMU	P	317	33/33	0.68	0.30	51,61,77,95	33
19	LFA	T	101	14/20	0.68	0.30	44,52,64,64	14
20	DMU	Y	102	22/33	0.69	0.32	59,69,77,82	22
20	DMU	B	308	22/33	0.70	0.24	58,69,83,83	22
20	DMU	Q	201	33/33	0.70	0.19	42,61,74,101	33
20	DMU	C	316	33/33	0.70	0.32	45,55,70,77	33
20	DMU	C	320	33/33	0.71	0.22	41,75,84,87	33
19	LFA	N	607	14/20	0.71	0.28	44,54,75,75	14
20	DMU	A	608	7/33	0.71	0.38	56,60,67,70	7
18	CDL	V	101	64/100	0.72	0.22	60,96,128,162	0
20	DMU	P	322	33/33	0.72	0.24	49,60,94,102	33
20	DMU	C	324	33/33	0.74	0.24	43,57,83,92	33
20	DMU	P	315	7/33	0.74	0.39	54,62,69,70	7
20	DMU	C	319	33/33	0.74	0.31	45,58,74,94	33
20	DMU	A	615	11/33	0.74	0.37	52,61,72,72	11
18	CDL	P	304	87/100	0.75	0.25	46,94,131,157	0
20	DMU	G	102	11/33	0.75	0.36	51,58,65,65	11
19	LFA	P	308	6/20	0.76	0.57	43,51,54,58	6
20	DMU	A	609	33/33	0.76	0.22	35,46,61,84	33
18	CDL	C	304	87/100	0.76	0.24	47,86,125,131	0
18	CDL	Y	101	94/100	0.77	0.25	53,95,142,162	0
20	DMU	L	102	22/33	0.77	0.35	48,66,72,77	22
19	LFA	C	308	6/20	0.77	0.55	43,51,53,55	6
19	LFA	O	303	11/20	0.78	0.28	51,58,64,69	11
19	LFA	C	311	11/20	0.78	0.36	60,70,83,84	11
18	CDL	A	606	64/100	0.78	0.20	53,91,124,151	0
20	DMU	T	105	22/33	0.78	0.20	47,59,71,82	22
20	DMU	O	308	22/33	0.78	0.20	38,52,59,62	22
20	DMU	D	201	33/33	0.79	0.16	30,50,58,74	33
19	LFA	C	312	14/20	0.79	0.32	43,69,75,78	14
19	LFA	T	103	14/20	0.79	0.33	42,67,74,74	14
19	LFA	C	325	15/20	0.80	0.45	51,56,68,69	15
19	LFA	C	314	15/20	0.80	0.28	44,52,64,74	15
20	DMU	N	609	33/33	0.81	0.21	42,60,79,91	33
19	LFA	C	313	11/20	0.81	0.39	46,57,69,74	11

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
19	LFA	P	310	11/20	0.81	0.33	57,63,70,74	11
21	EDO	E	201	4/4	0.81	0.25	40,41,41,49	4
20	DMU	B	303	11/33	0.82	0.37	45,58,66,66	11
20	DMU	W	101	11/33	0.83	0.26	65,69,75,75	11
20	DMU	G	103	22/33	0.83	0.20	47,63,72,73	22
18	CDL	L	101	94/100	0.83	0.22	44,87,132,145	0
19	LFA	C	315	13/20	0.84	0.21	55,58,73,77	13
19	LFA	B	307	17/20	0.84	0.30	41,66,83,84	17
20	DMU	Z	101	33/33	0.84	0.16	55,64,80,90	0
19	LFA	C	309	18/20	0.84	0.21	34,42,64,70	18
19	LFA	C	307	11/20	0.85	0.42	53,59,67,69	11
19	LFA	P	311	11/20	0.85	0.39	48,57,67,69	11
19	LFA	T	104	11/20	0.85	0.23	58,63,71,75	11
20	DMU	M	102	8/33	0.85	0.23	45,53,59,60	8
21	EDO	N	614	4/4	0.85	0.33	26,41,41,49	4
19	LFA	P	309	18/20	0.86	0.21	38,50,62,64	18
19	LFA	C	310	15/20	0.87	0.40	51,57,70,73	15
19	LFA	O	302	17/20	0.87	0.25	43,58,72,73	17
24	CHD	P	305	29/29	0.87	0.25	59,72,91,113	0
20	DMU	H	101	33/33	0.88	0.24	32,48,57,68	33
20	DMU	J	101	11/33	0.88	0.27	59,65,71,82	11
20	DMU	O	307	11/33	0.88	0.41	49,57,64,69	11
21	EDO	A	610	4/4	0.88	0.17	27,28,30,34	4
20	DMU	C	306	11/33	0.88	0.27	53,57,70,71	11
19	LFA	P	313	13/20	0.88	0.26	46,60,74,76	13
24	CHD	C	305	29/29	0.88	0.21	61,73,97,119	0
19	LFA	P	312	15/20	0.88	0.26	43,54,67,67	15
20	DMU	N	616	33/33	0.89	0.23	33,49,66,73	33
20	DMU	P	306	11/33	0.89	0.40	52,55,62,68	11
20	DMU	B	302	11/33	0.90	0.35	48,57,65,70	11
21	EDO	P	321	4/4	0.90	0.23	33,34,39,44	4
20	DMU	C	317	7/33	0.91	0.32	52,54,66,68	7
24	CHD	C	301	29/29	0.91	0.09	33,36,40,45	0
21	EDO	A	611	4/4	0.92	0.19	36,41,48,49	4
21	EDO	C	323	4/4	0.92	0.23	36,37,37,42	4
20	DMU	Z	102	8/33	0.92	0.31	53,55,60,61	8
19	LFA	A	607	14/20	0.92	0.28	35,46,69,79	14
21	EDO	R	202	4/4	0.93	0.16	39,39,39,40	4
19	LFA	N	606	14/20	0.93	0.24	40,52,61,65	14
21	EDO	P	319	4/4	0.93	0.21	50,63,64,80	4
24	CHD	P	301	29/29	0.93	0.08	35,38,42,47	0
21	EDO	N	611	4/4	0.93	0.12	40,42,50,52	4

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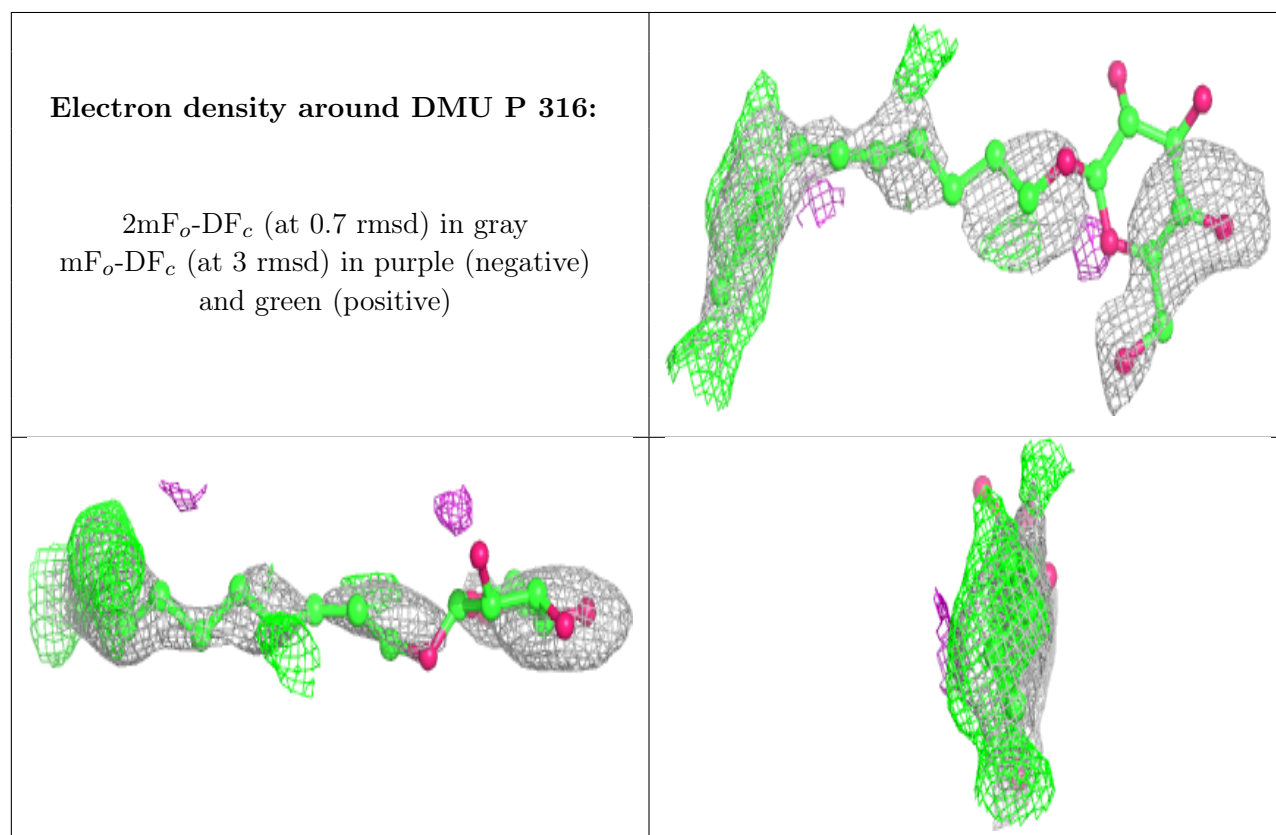
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
21	EDO	R	201	4/4	0.94	0.20	60,62,63,63	4
20	DMU	M	101	33/33	0.94	0.10	44,52,77,80	0
21	EDO	C	321	4/4	0.94	0.34	56,57,59,83	4
21	EDO	O	309	4/4	0.94	0.14	38,39,39,40	4
21	EDO	E	202	4/4	0.94	0.19	33,34,37,39	4
21	EDO	G	104	4/4	0.94	0.15	35,35,36,39	4
21	EDO	N	610	4/4	0.95	0.13	30,32,34,35	4
21	EDO	F	102	4/4	0.95	0.16	24,24,31,32	4
21	EDO	C	322	4/4	0.95	0.10	36,36,40,41	4
25	UNX	P	302	1/1	0.95	0.19	48,48,48,48	0
27	PEK	T	102	53/53	0.95	0.13	36,59,107,115	0
21	EDO	E	203	4/4	0.96	0.20	37,40,44,48	4
21	EDO	N	612	4/4	0.96	0.20	31,31,32,33	4
21	EDO	R	203	4/4	0.96	0.15	44,48,52,58	4
24	CHD	B	306	29/29	0.96	0.08	30,35,40,44	0
20	DMU	O	306	11/33	0.96	0.43	44,47,65,70	11
22	PGV	A	614	51/51	0.97	0.10	31,39,82,96	0
22	PGV	N	615	51/51	0.97	0.10	33,43,76,89	0
22	PGV	P	303	51/51	0.97	0.10	34,43,98,112	0
14	HEA	N	601	60/60	0.97	0.09	30,35,48,60	0
21	EDO	P	320	4/4	0.97	0.14	40,40,42,47	4
21	EDO	A	612	4/4	0.97	0.20	27,28,28,29	4
24	CHD	O	301	29/29	0.97	0.08	32,35,38,46	0
21	EDO	N	613	4/4	0.97	0.17	41,42,43,46	4
21	EDO	A	613	4/4	0.97	0.11	38,41,41,43	4
25	UNX	C	302	1/1	0.97	0.24	48,48,48,48	0
14	HEA	A	601	60/60	0.97	0.10	25,29,43,53	0
27	PEK	G	101	53/53	0.97	0.12	33,56,100,125	0
21	EDO	T	106	4/4	0.97	0.12	39,40,41,42	4
21	EDO	S	102	4/4	0.98	0.14	23,25,31,32	4
14	HEA	A	602	60/60	0.98	0.09	26,29,36,43	0
14	HEA	N	602	60/60	0.98	0.09	29,33,39,43	0
22	PGV	C	303	51/51	0.98	0.10	32,42,107,117	0
17	CA	A	605	1/1	0.99	0.08	41,41,41,41	0
17	CA	N	605	1/1	0.99	0.05	47,47,47,47	0
21	EDO	F	103	4/4	0.99	0.10	33,36,37,38	4
16	MG	A	604	1/1	0.99	0.09	30,30,30,30	0
16	MG	N	604	1/1	0.99	0.06	35,35,35,35	0
21	EDO	S	103	4/4	0.99	0.12	31,36,36,38	4
21	EDO	B	305	4/4	0.99	0.12	27,30,31,33	4
23	CUA	B	301	2/2	1.00	0.15	31,31,31,31	0
23	CUA	O	305	2/2	1.00	0.12	38,38,38,38	0

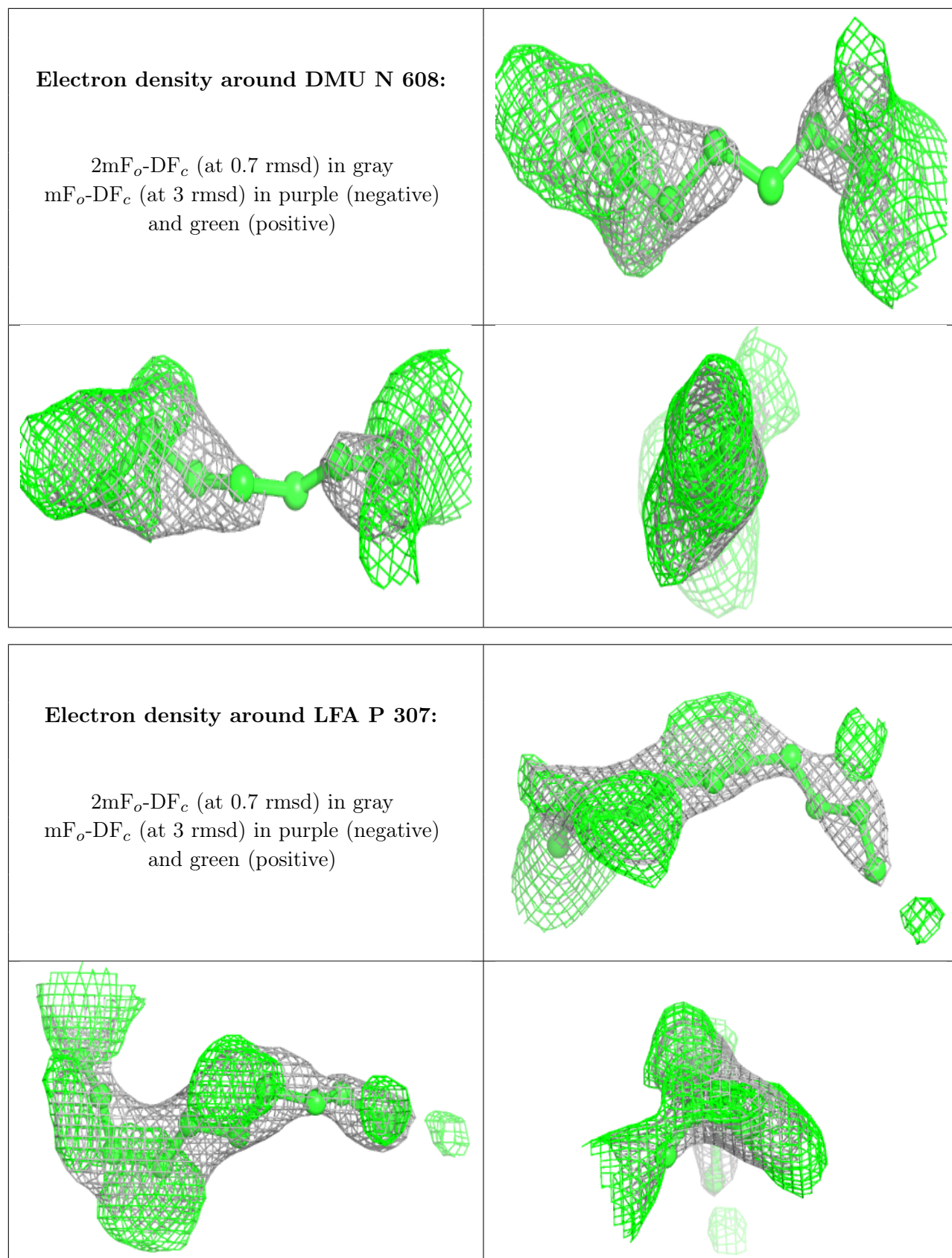
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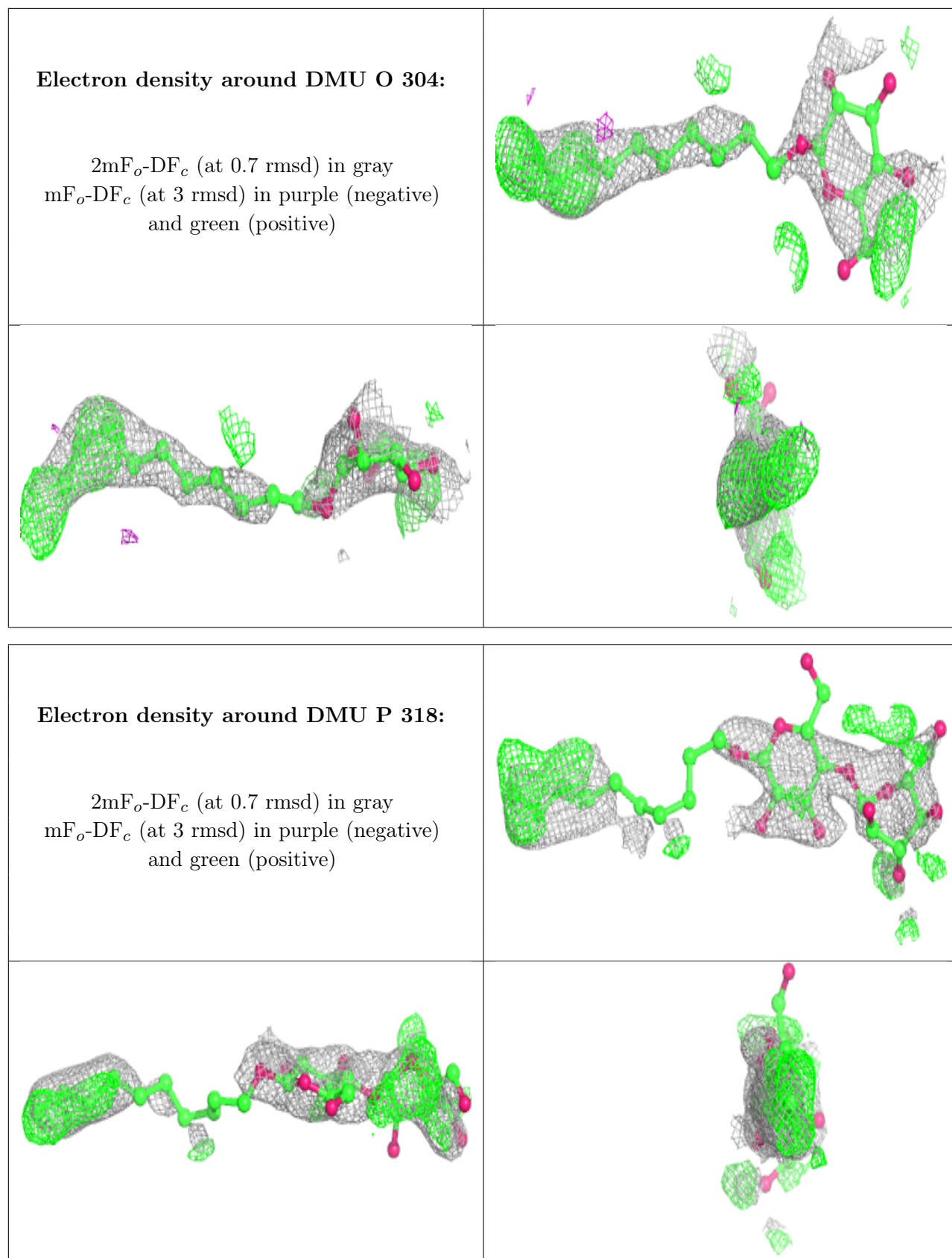
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
26	ZN	F	101	1/1	1.00	0.14	37,37,37,37	0
26	ZN	S	101	1/1	1.00	0.14	39,39,39,39	0
15	CU	N	603	1/1	1.00	0.18	32,32,32,32	0
15	CU	A	603	1/1	1.00	0.17	28,28,28,28	0

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.

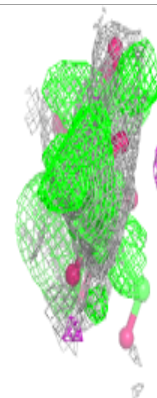
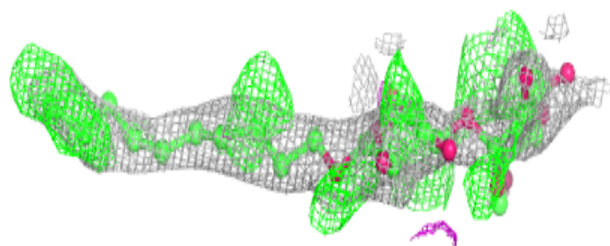
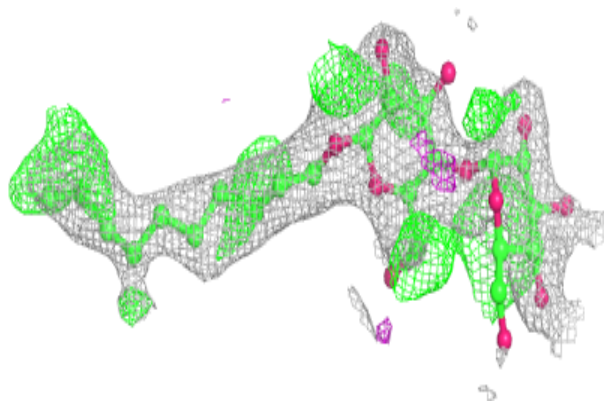




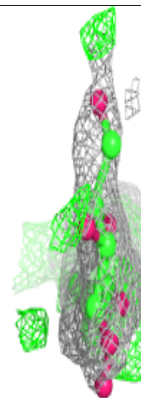
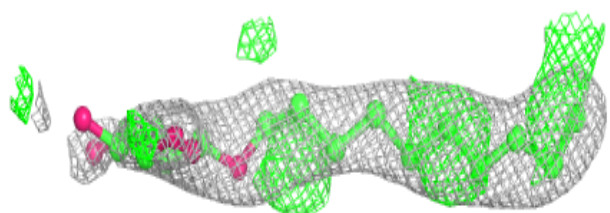
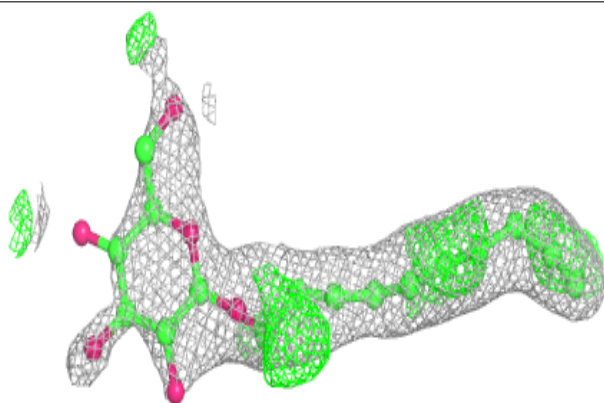


Electron density around DMU P 314:

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

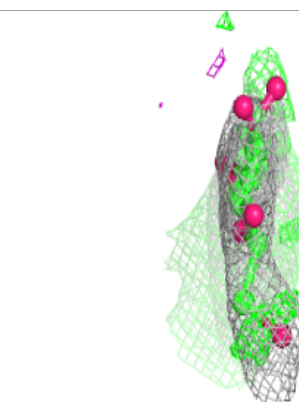
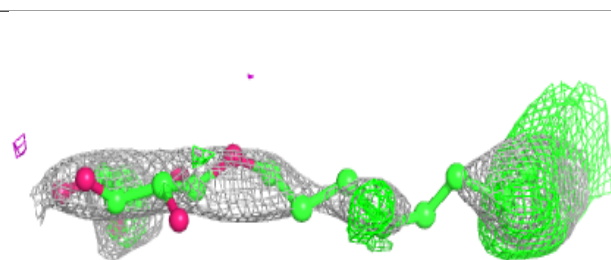
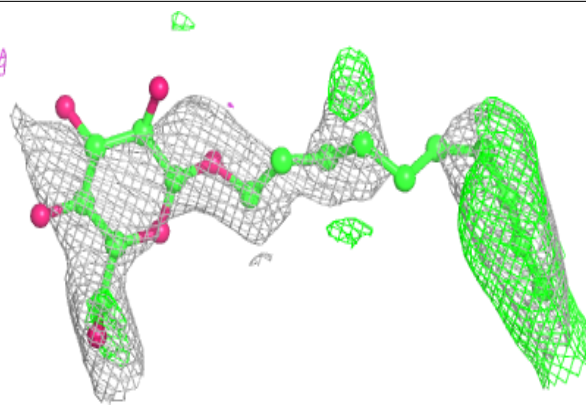
**Electron density around DMU B 304:**

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

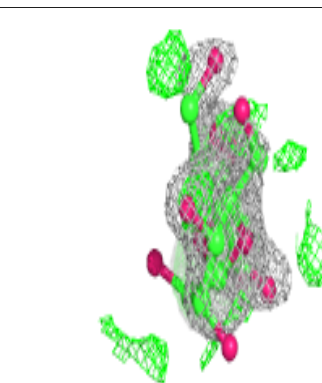
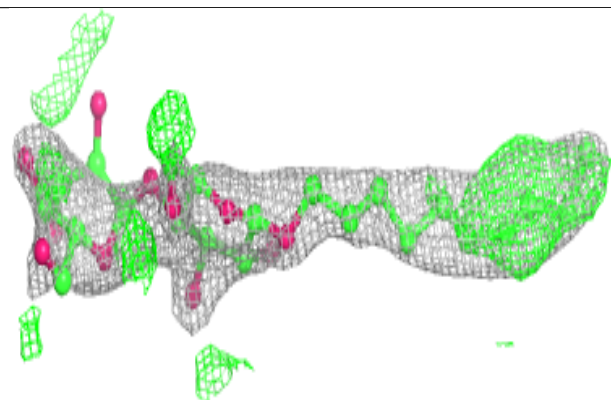
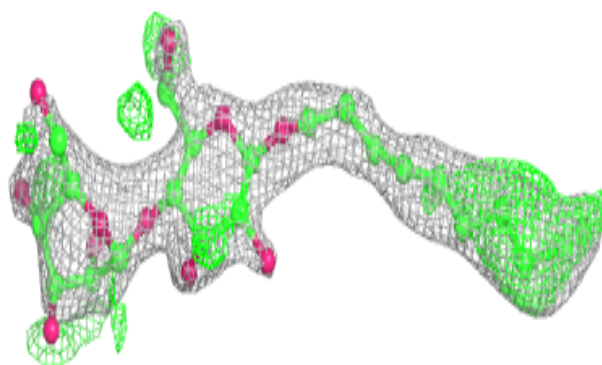


Electron density around DMU C 318:

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

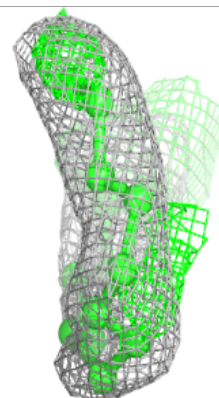
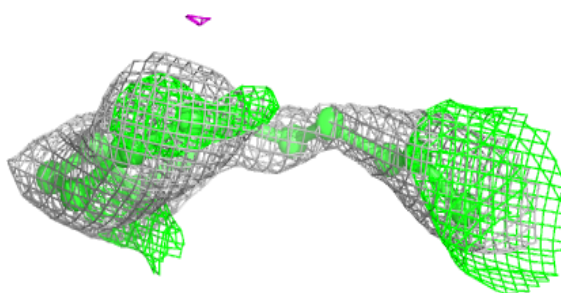
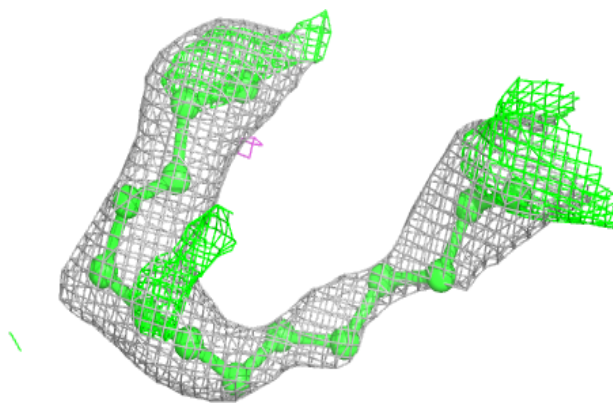
**Electron density around DMU P 317:**

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

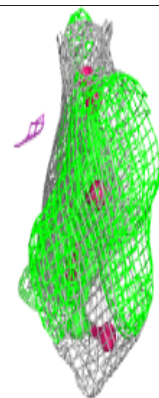
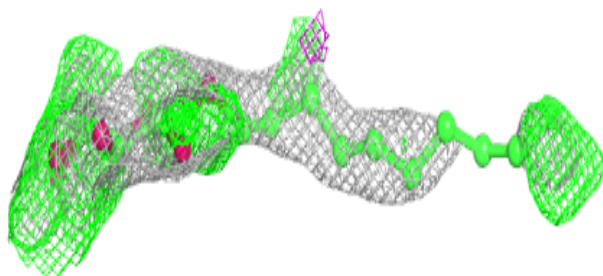
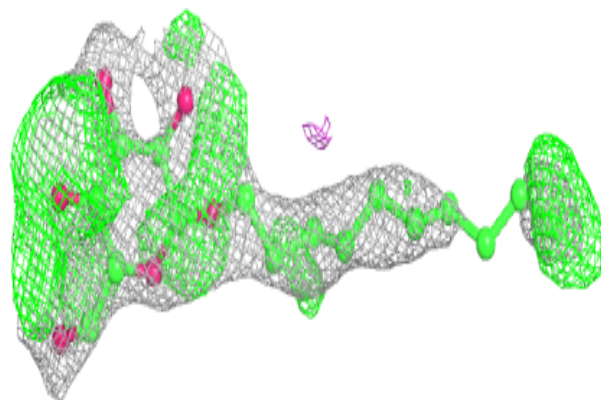


Electron density around LFA T 101:

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

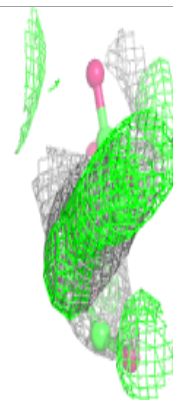
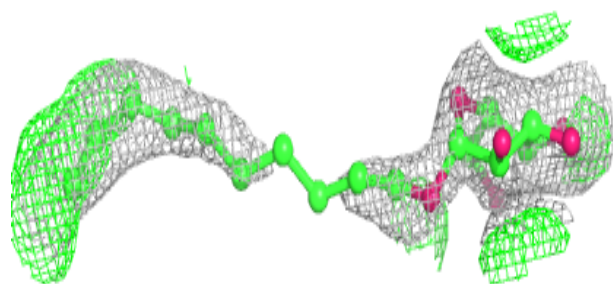
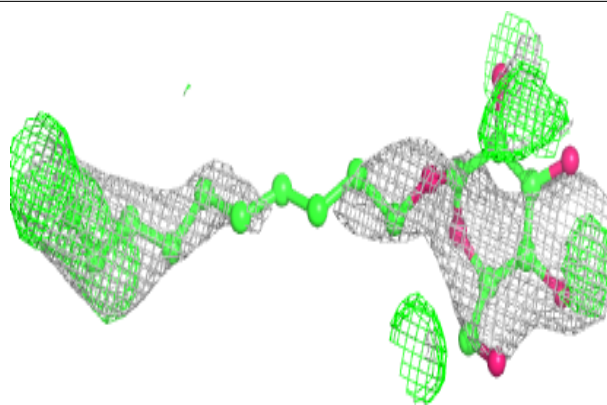
**Electron density around DMU Y 102:**

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

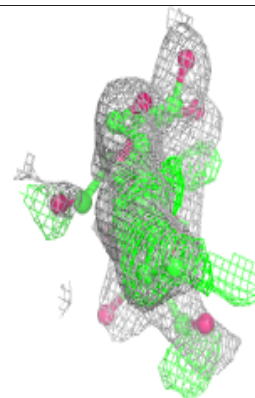
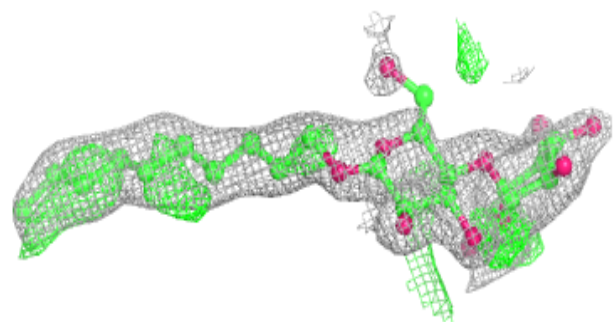
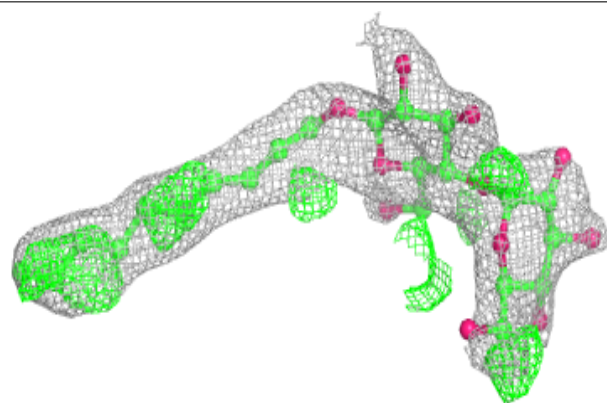


Electron density around DMU B 308:

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

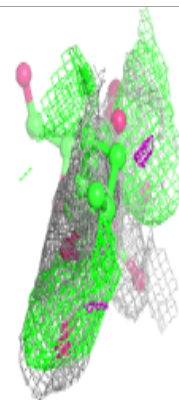
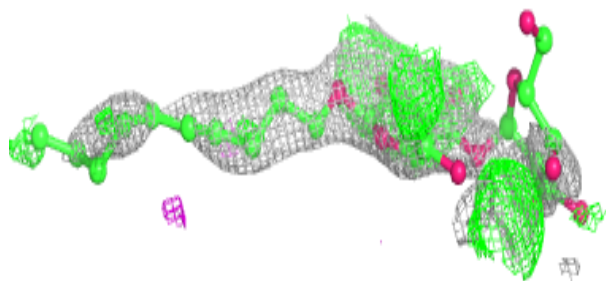
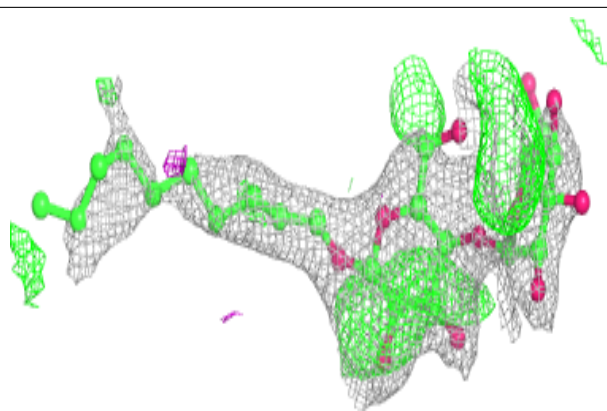
**Electron density around DMU Q 201:**

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

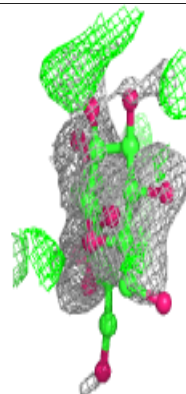
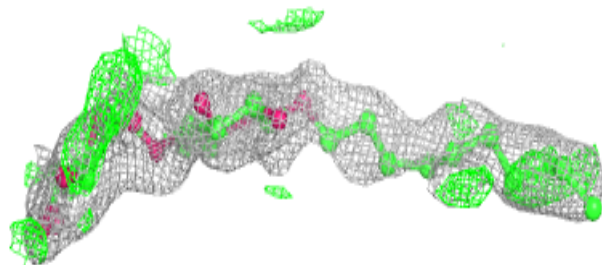
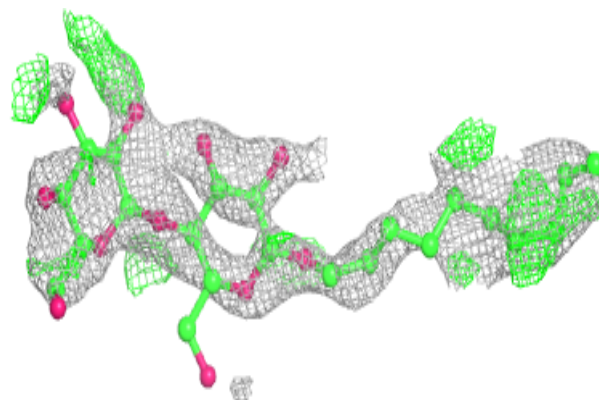


Electron density around DMU C 316:

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

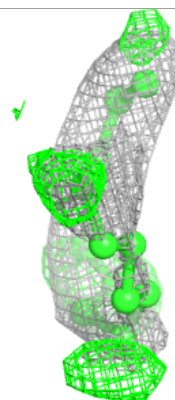
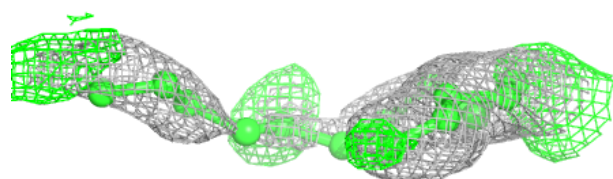
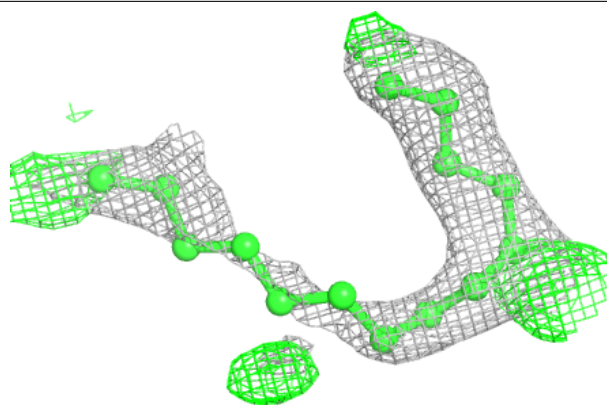
**Electron density around DMU C 320:**

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

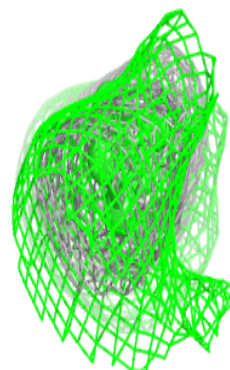
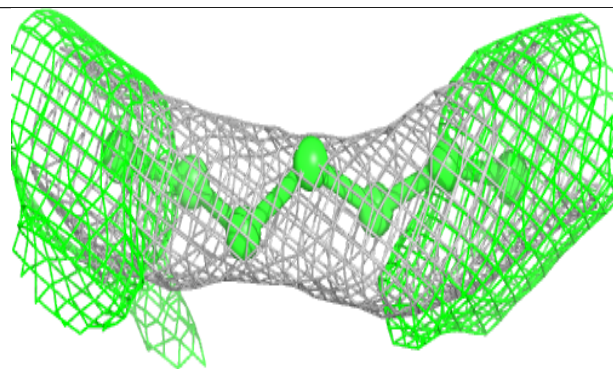
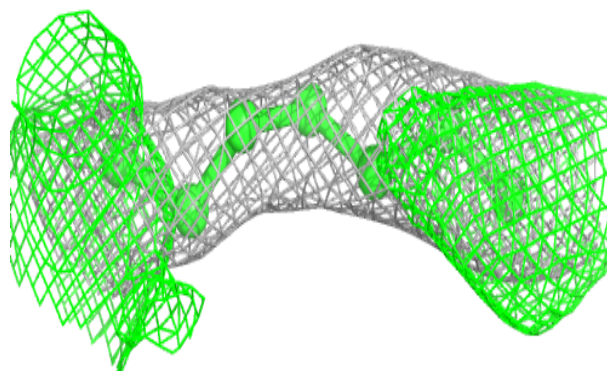


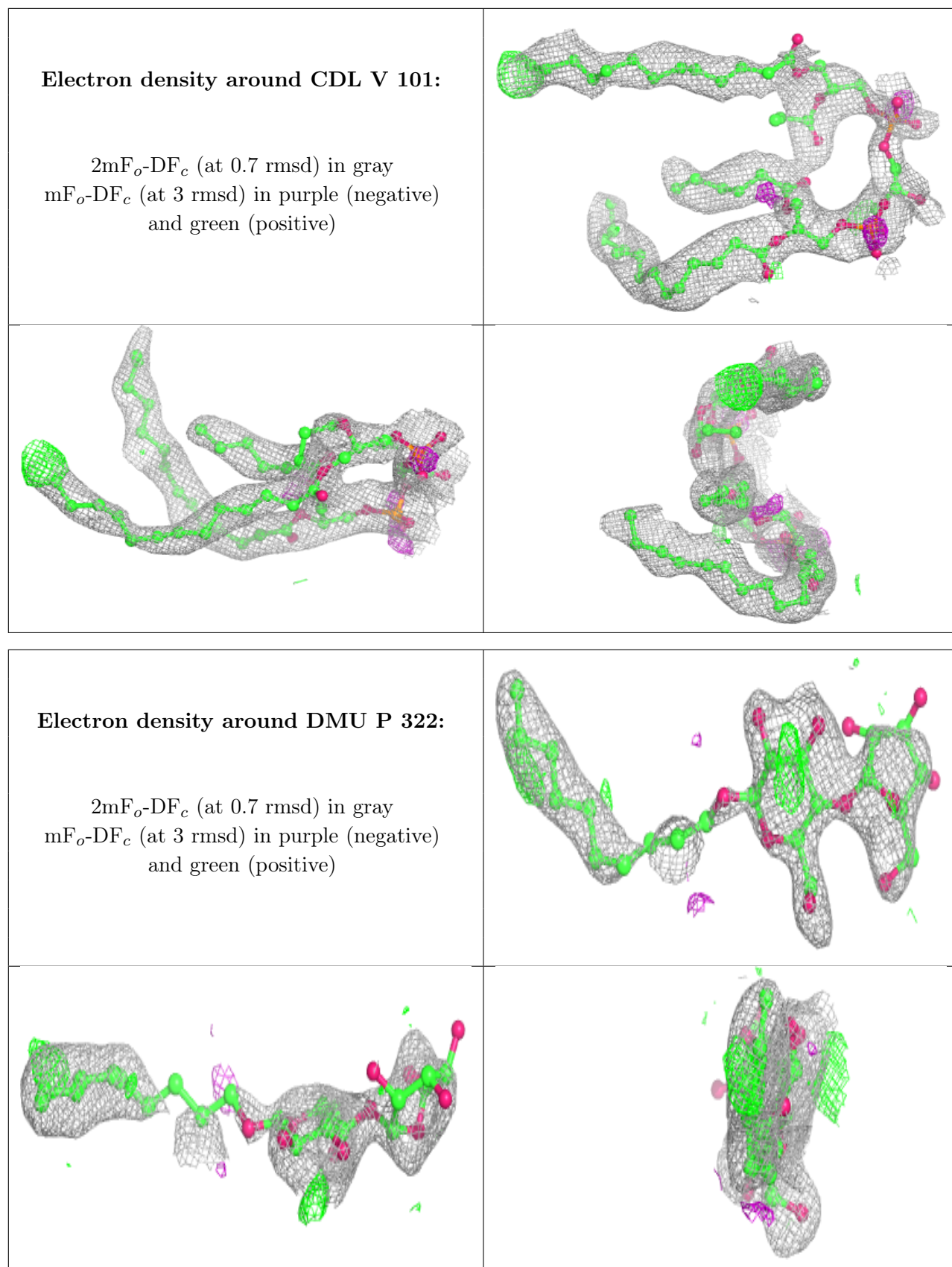
Electron density around LFA N 607:

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

**Electron density around DMU A 608:**

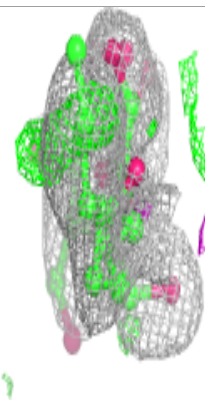
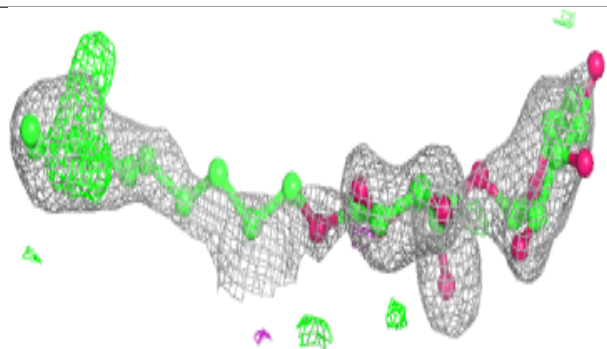
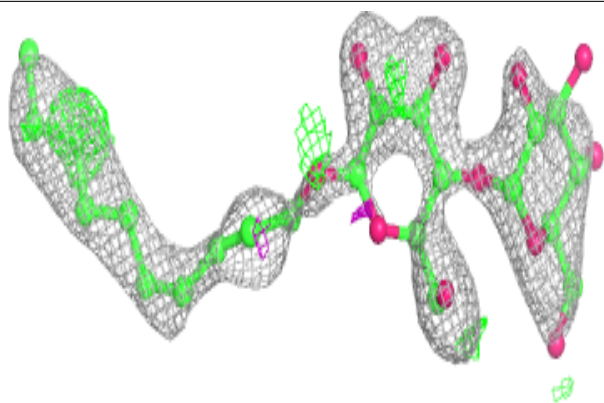
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



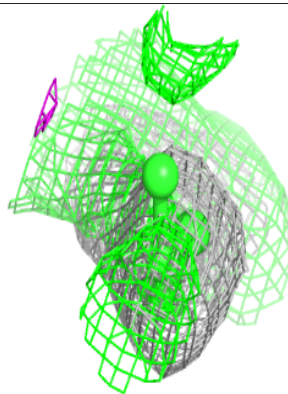
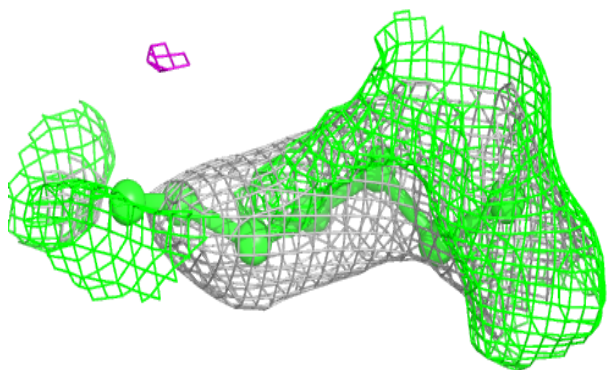
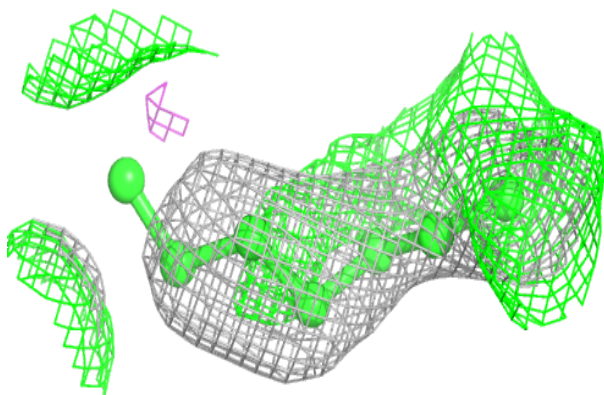


Electron density around DMU C 324:

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

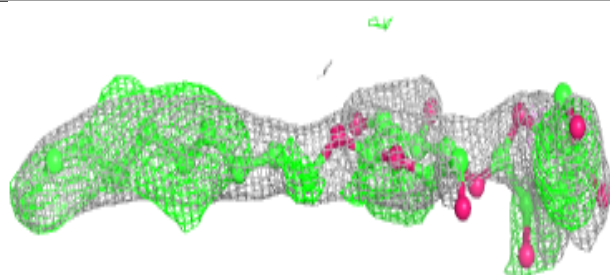
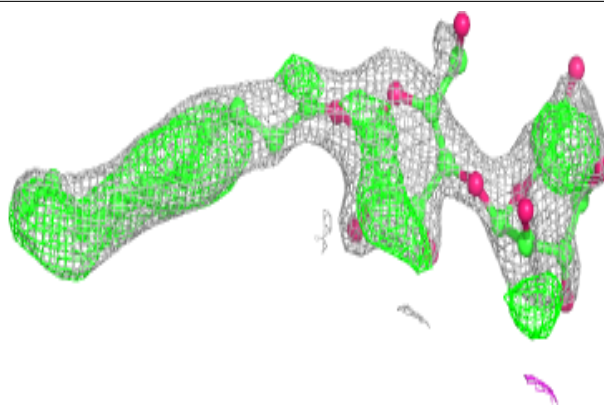
**Electron density around DMU P 315:**

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

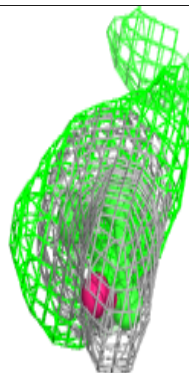
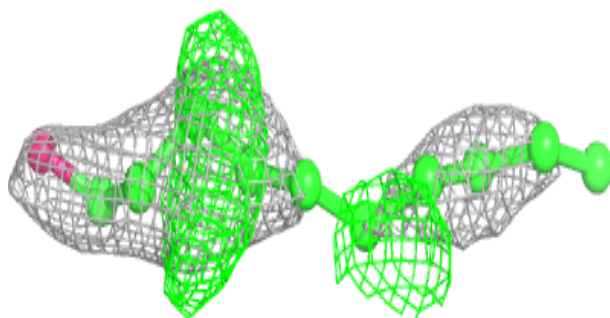
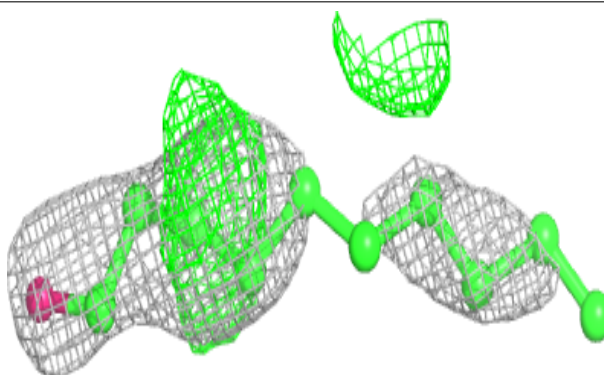


Electron density around DMU C 319:

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

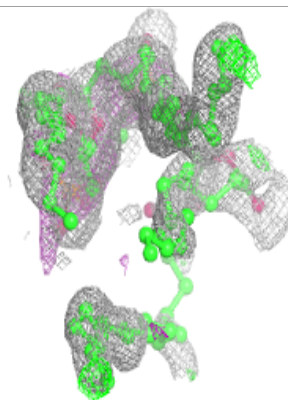
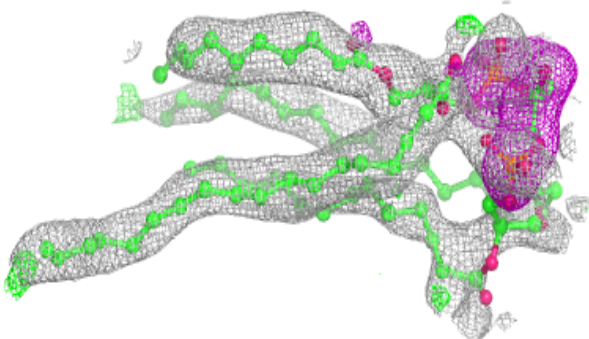
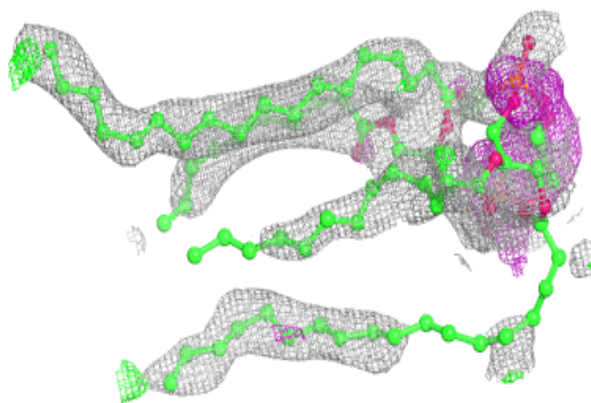
**Electron density around DMU A 615:**

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

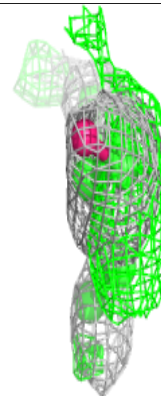
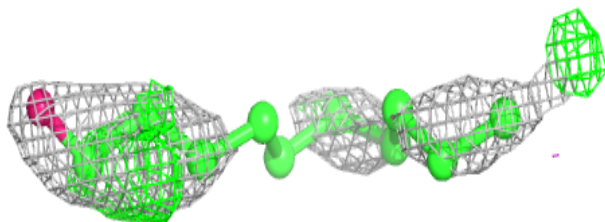
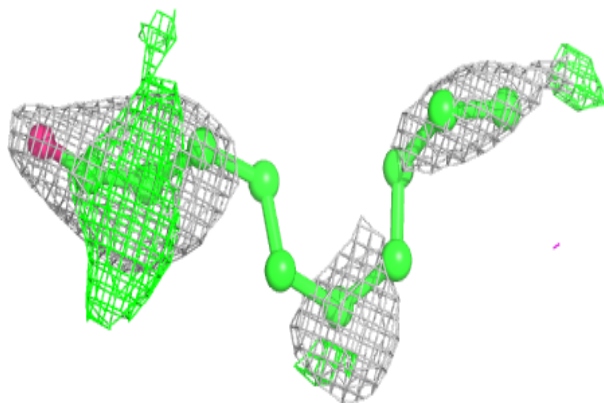


Electron density around CDL P 304:

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

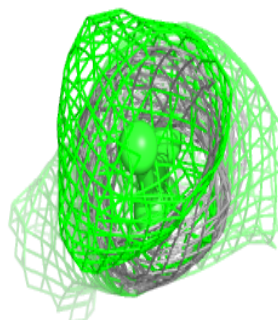
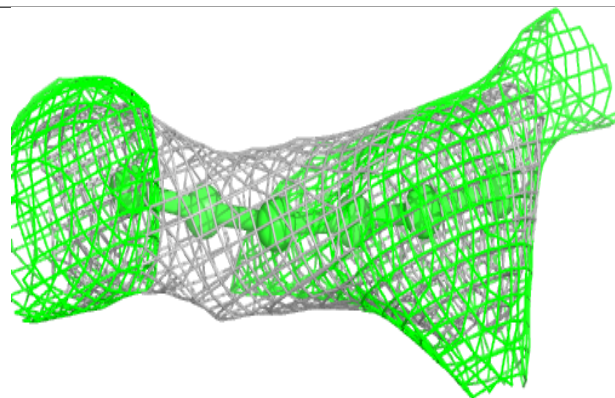
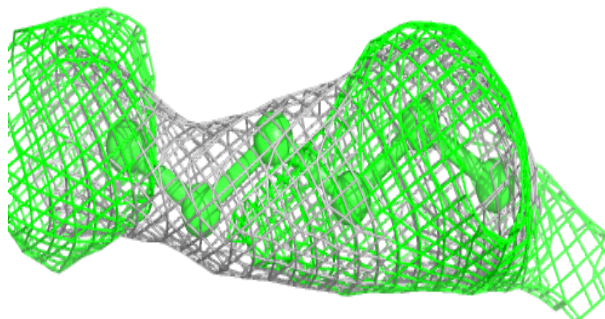
**Electron density around DMU G 102:**

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

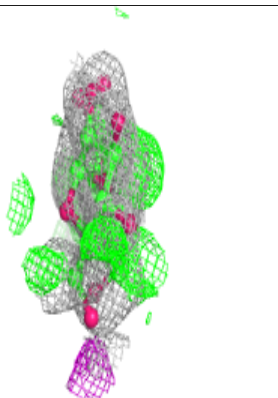
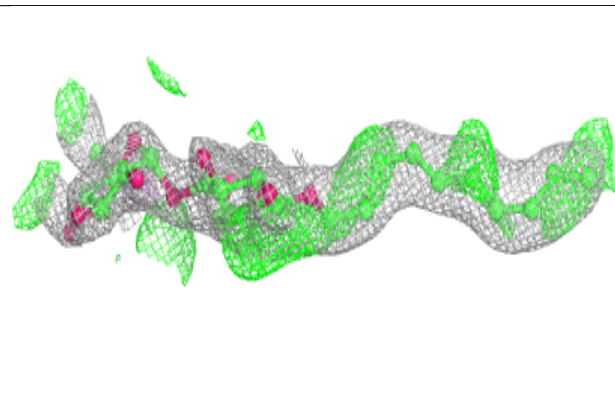
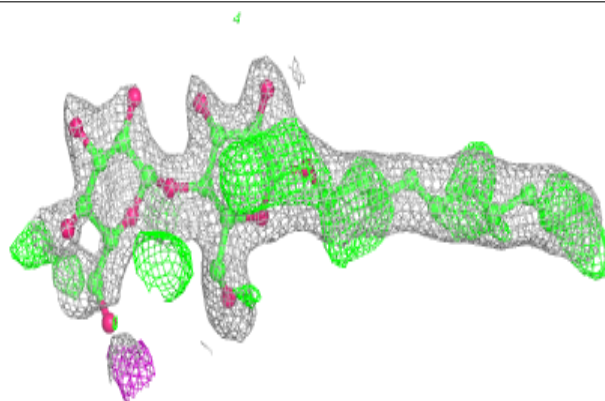


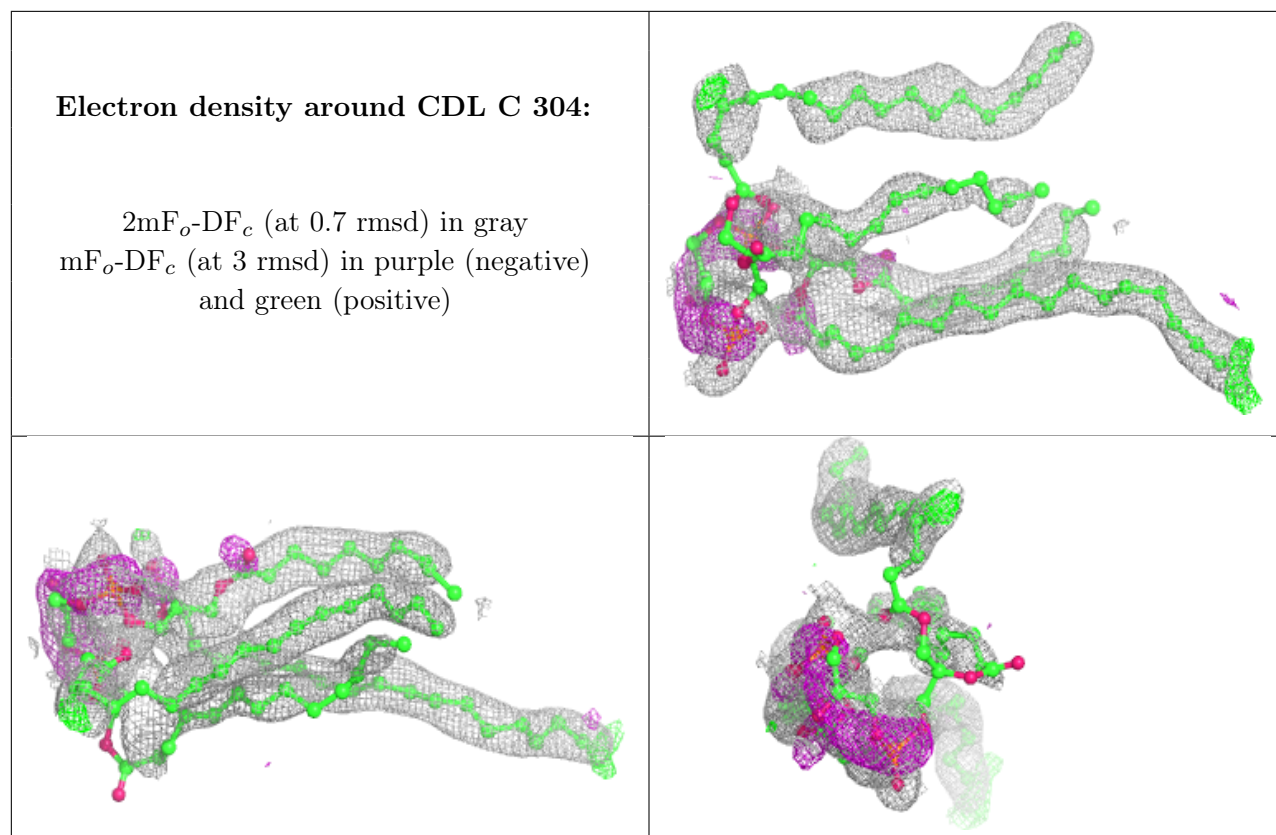
Electron density around LFA P 308:

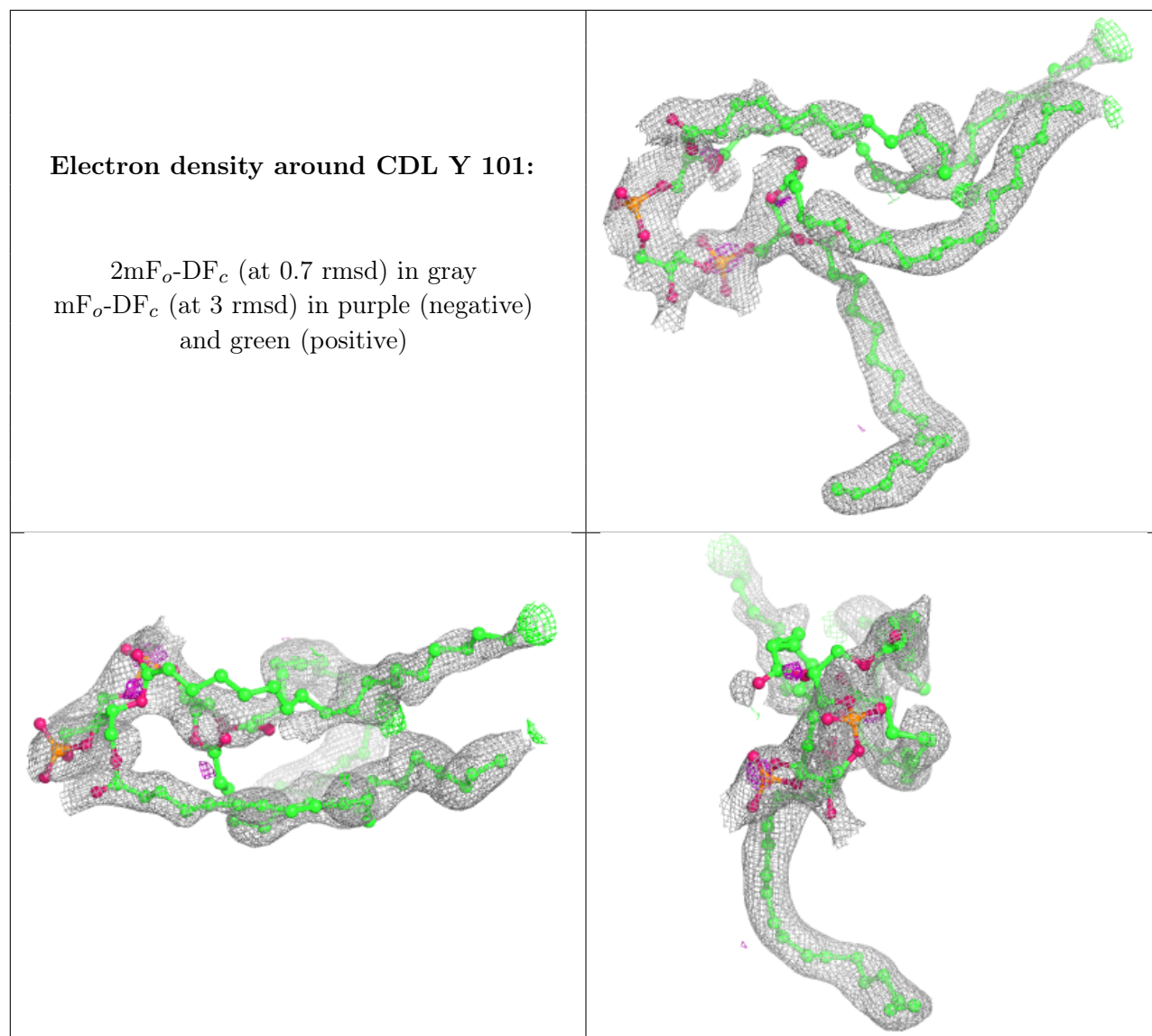
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

**Electron density around DMU A 609:**

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

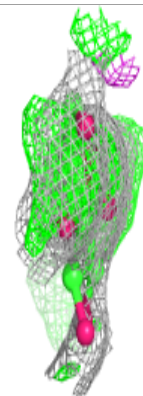
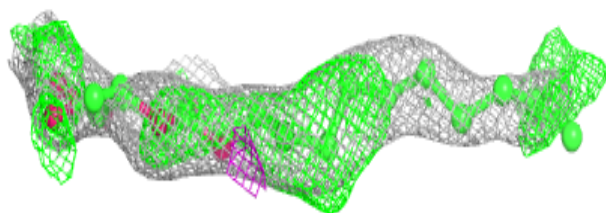
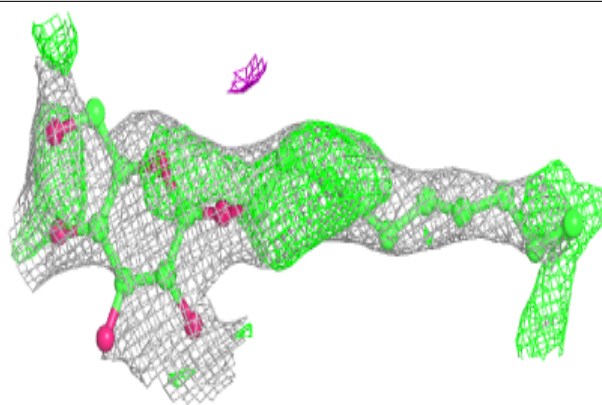




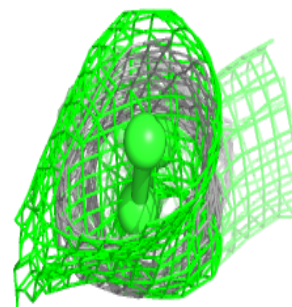
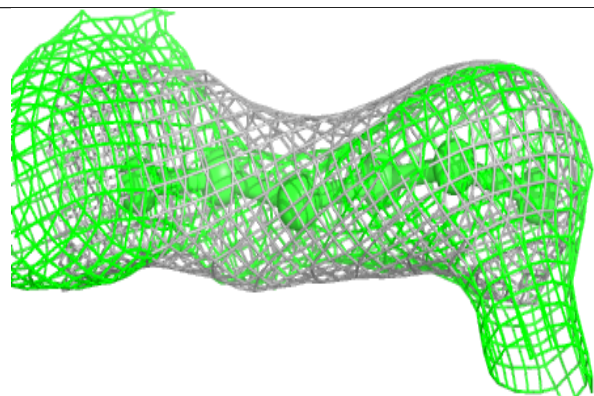
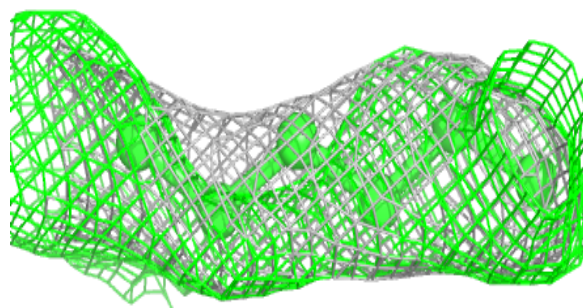


Electron density around DMU L 102:

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

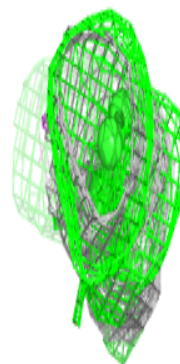
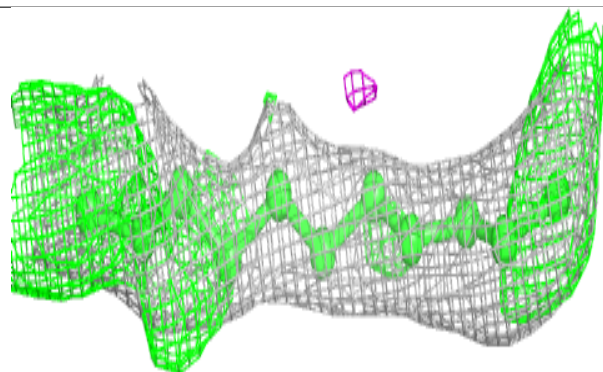
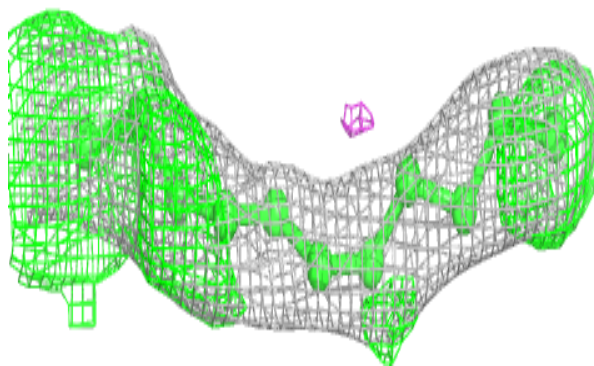
**Electron density around LFA C 308:**

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

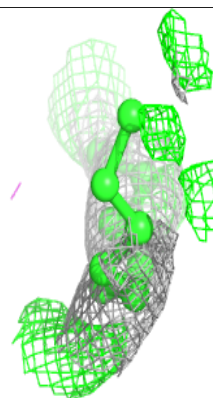
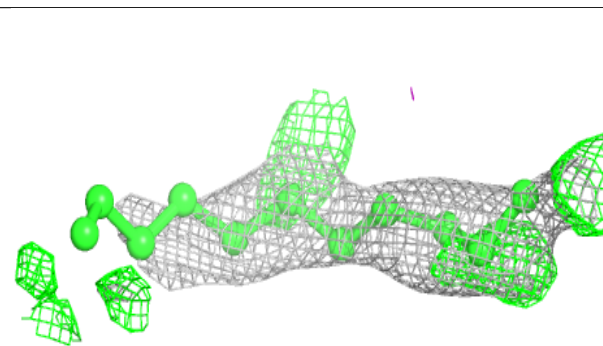
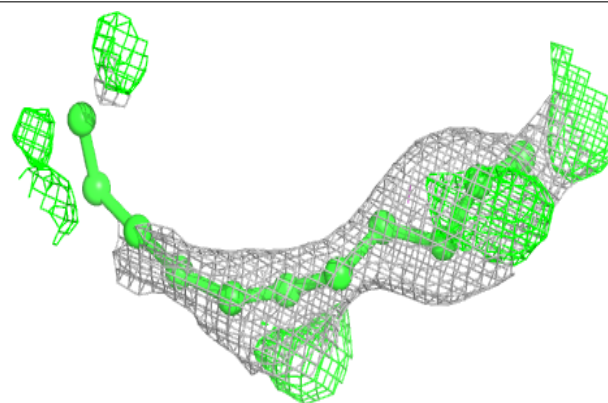


Electron density around LFA O 303:

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

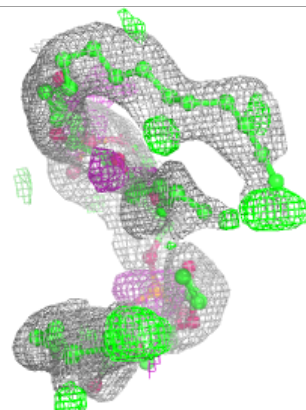
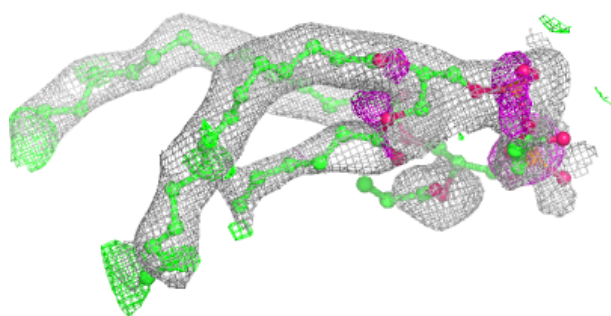
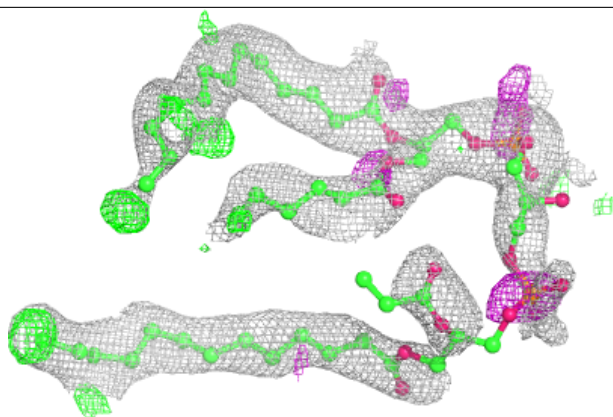
**Electron density around LFA C 311:**

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

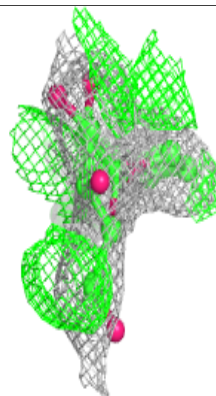
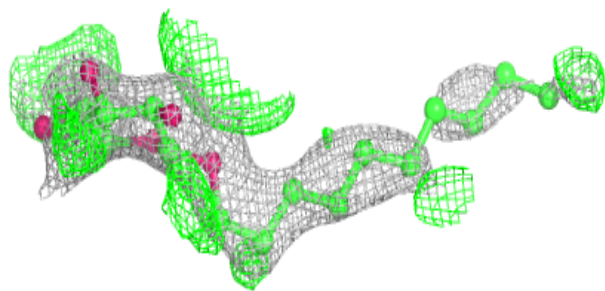
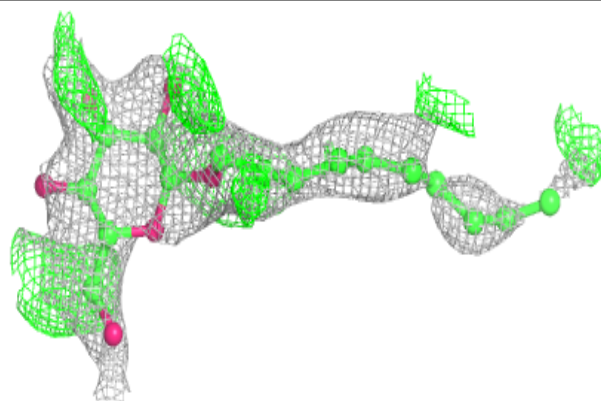


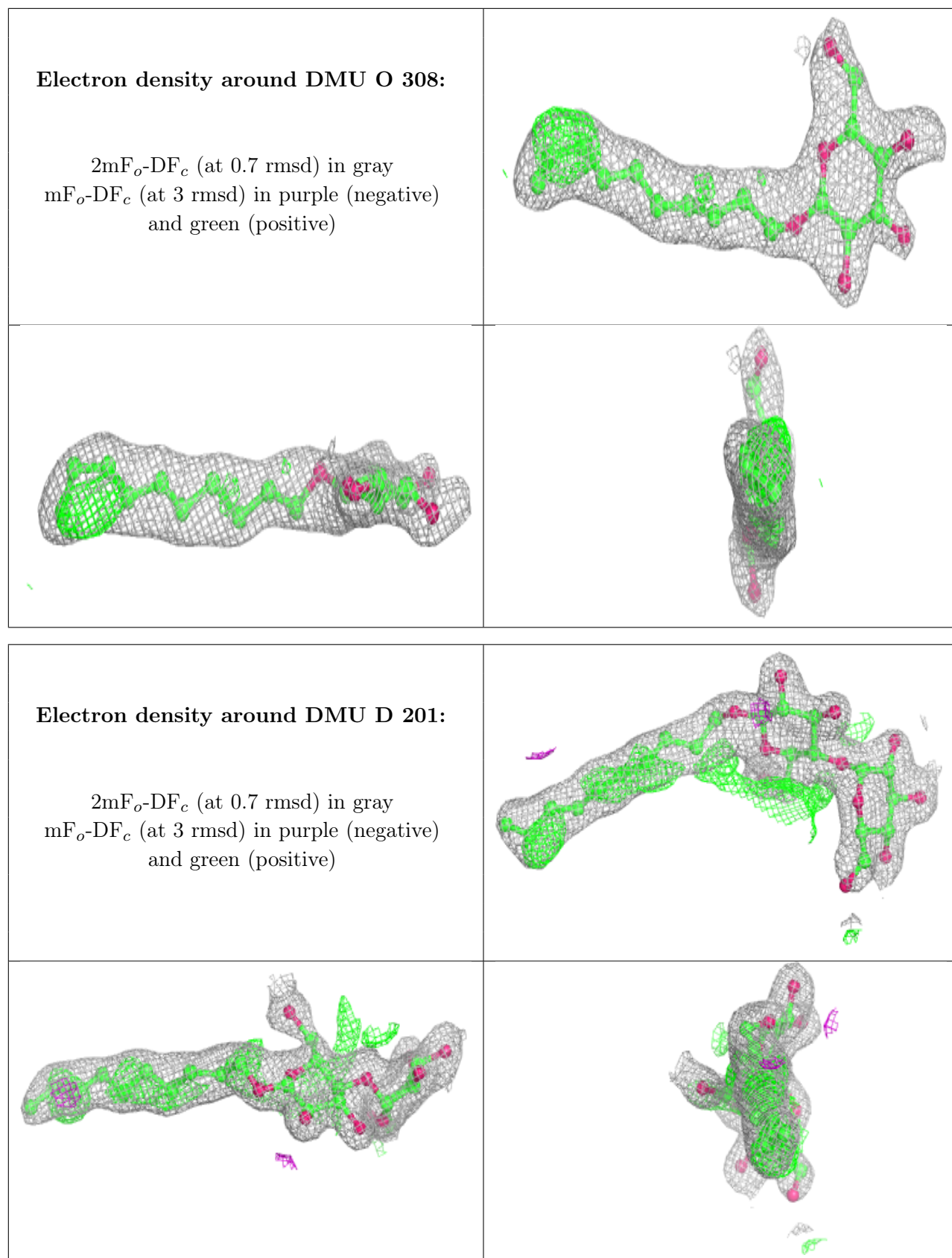
Electron density around CDL A 606:

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

**Electron density around DMU T 105:**

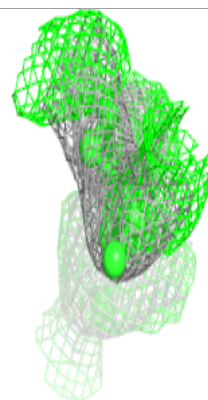
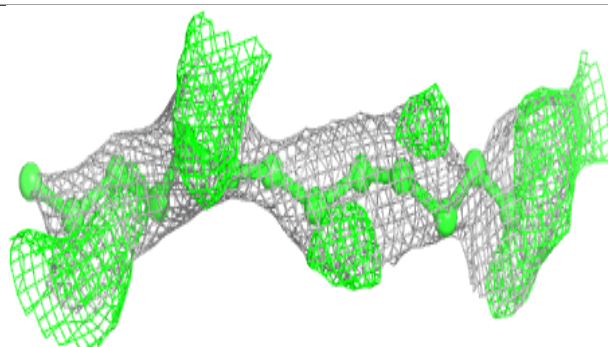
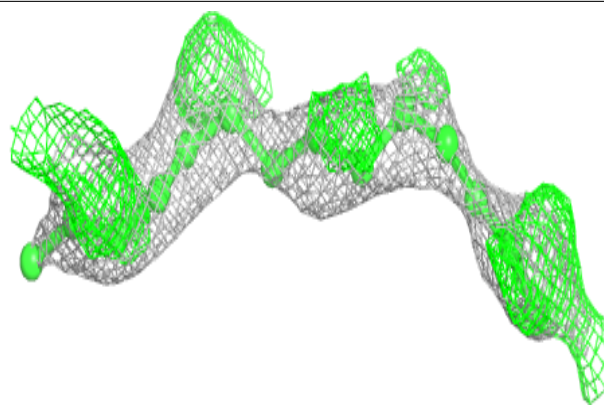
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



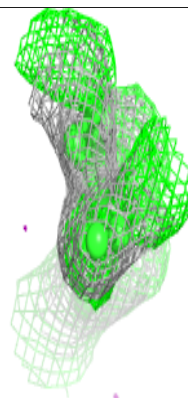
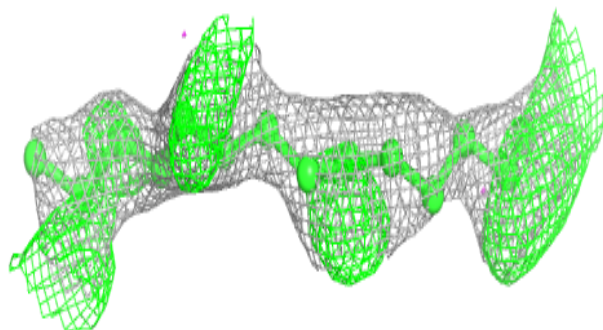
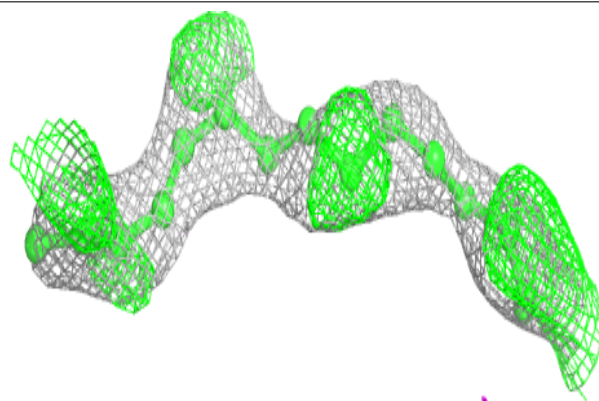


Electron density around LFA C 312:

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

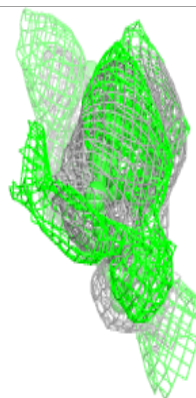
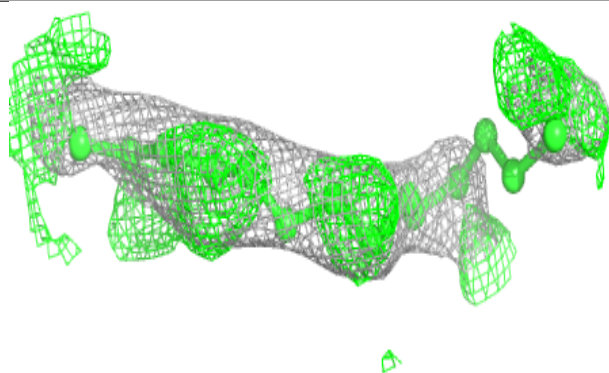
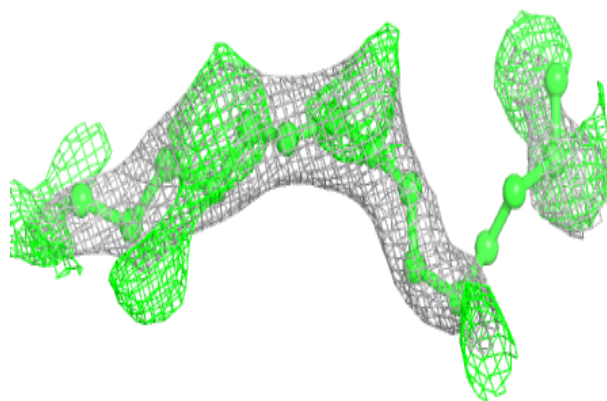
**Electron density around LFA T 103:**

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

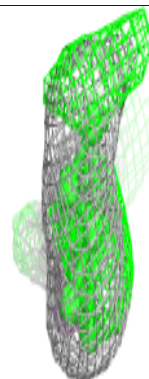
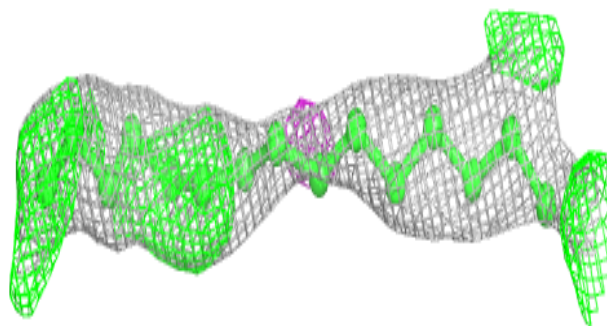
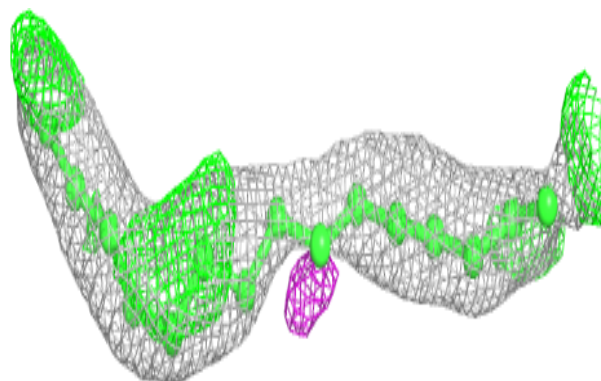


Electron density around LFA C 325:

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

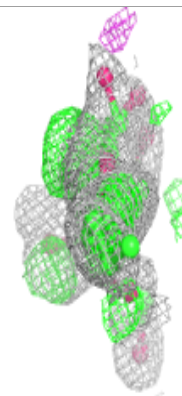
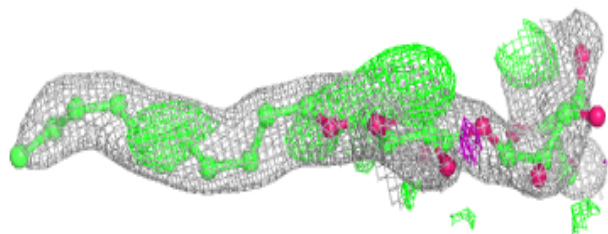
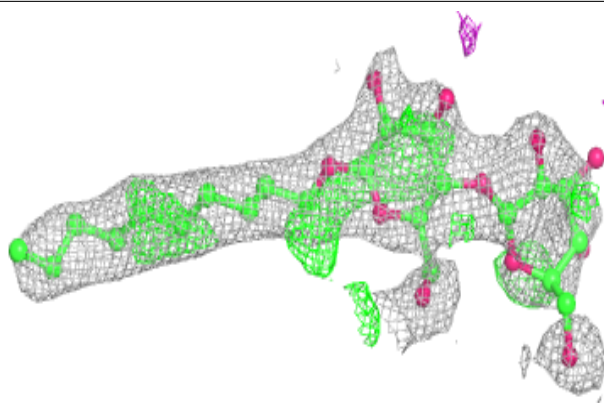
**Electron density around LFA C 314:**

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

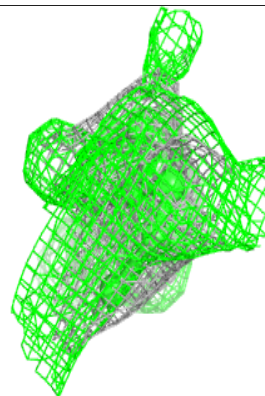
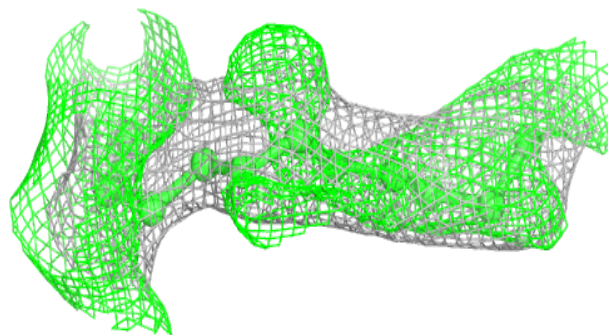
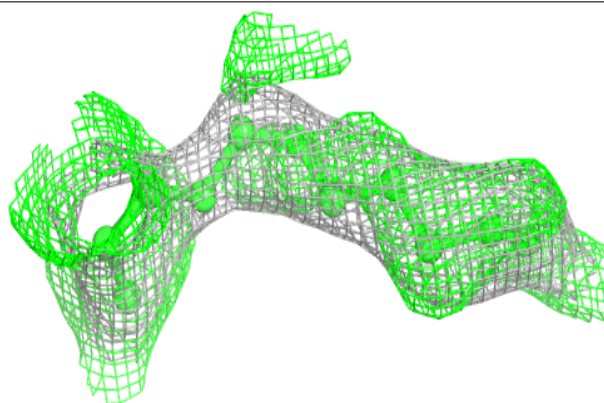


Electron density around DMU N 609:

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

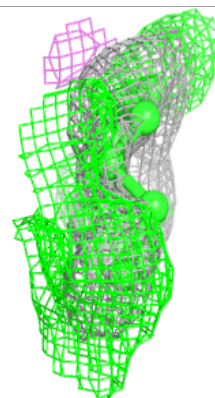
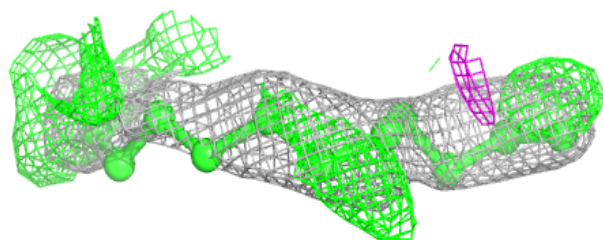
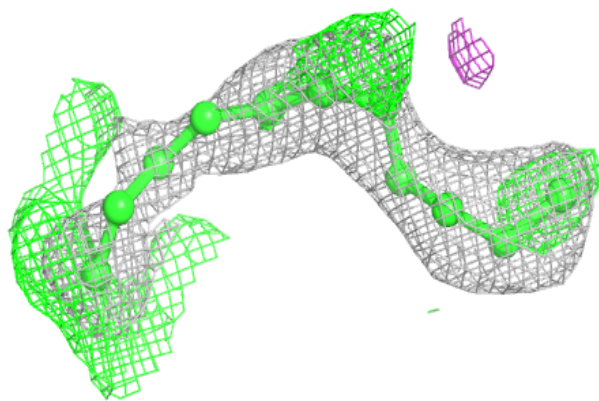
**Electron density around LFA C 313:**

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

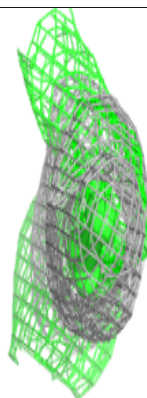
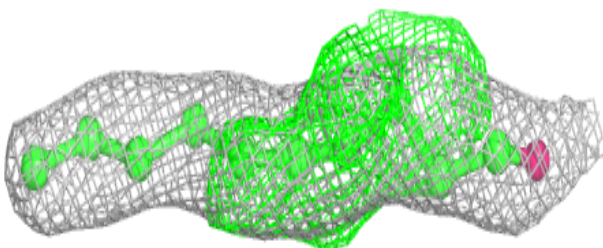
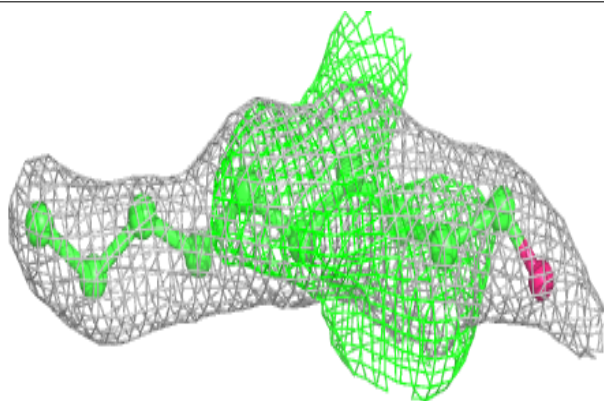


Electron density around LFA P 310:

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

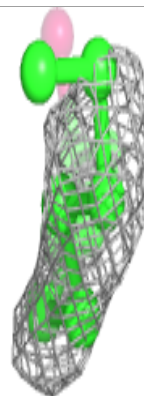
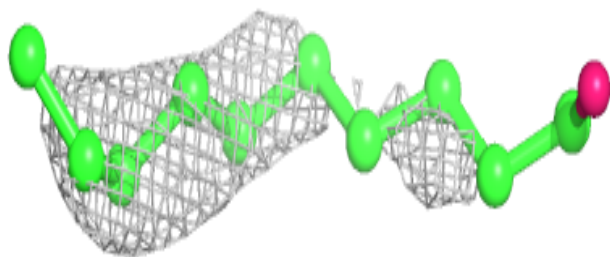
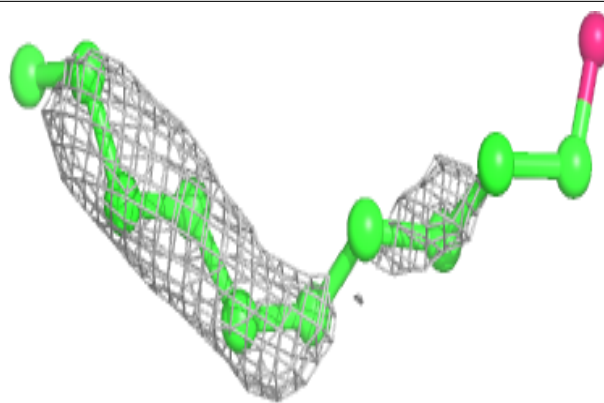
**Electron density around DMU B 303:**

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

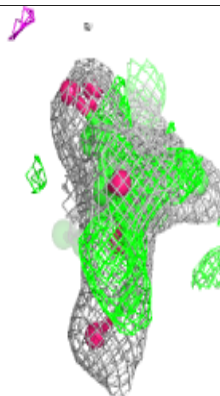
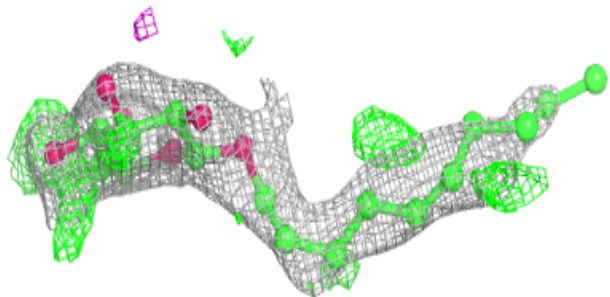
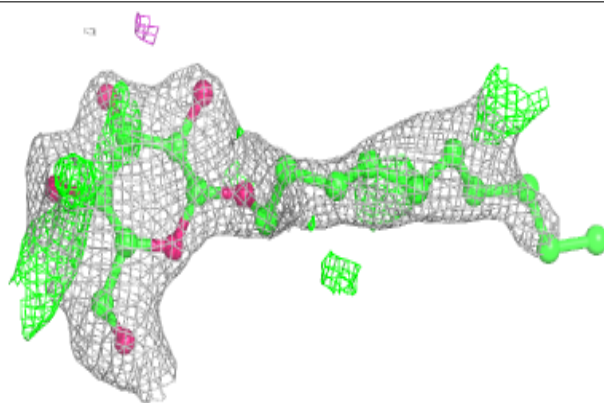


Electron density around DMU W 101:

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

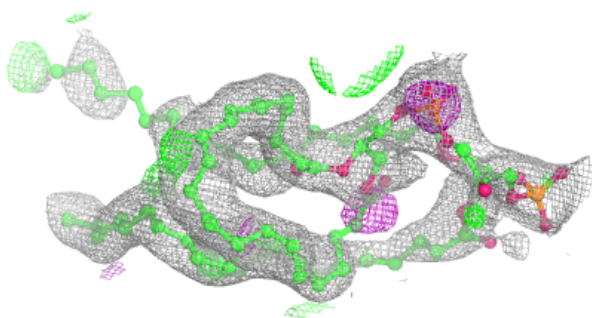
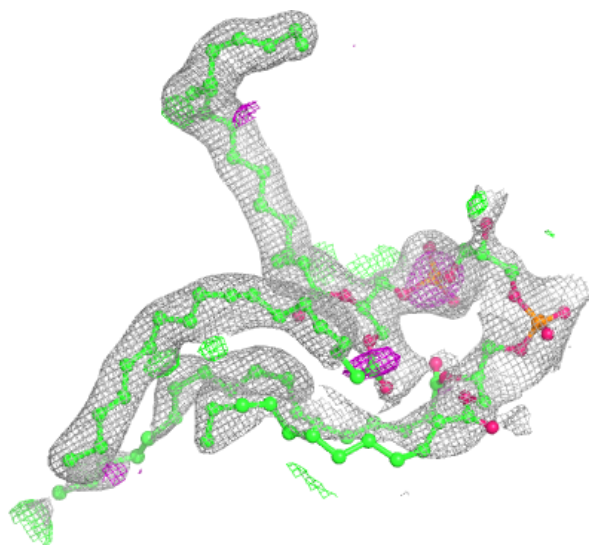
**Electron density around DMU G 103:**

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



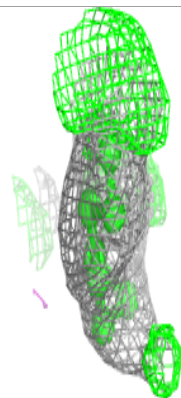
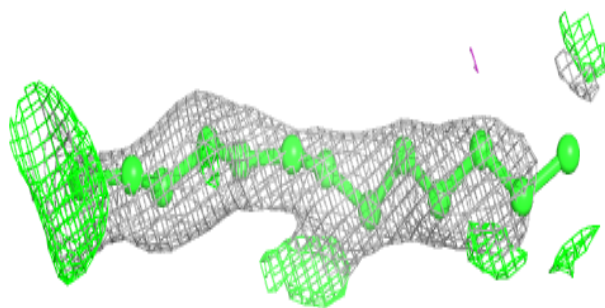
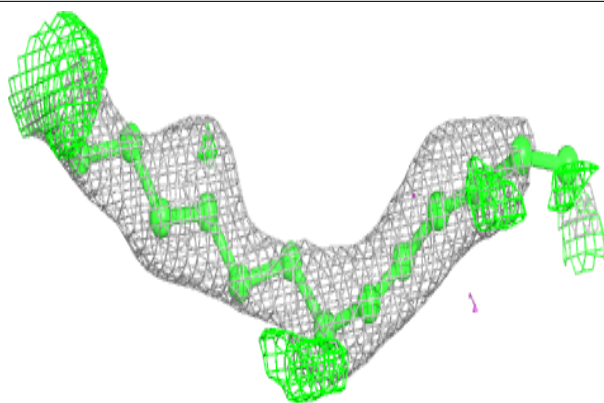
Electron density around CDL L 101:

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

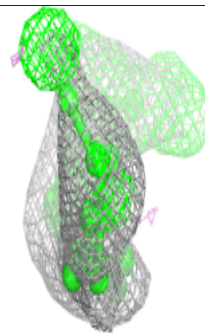
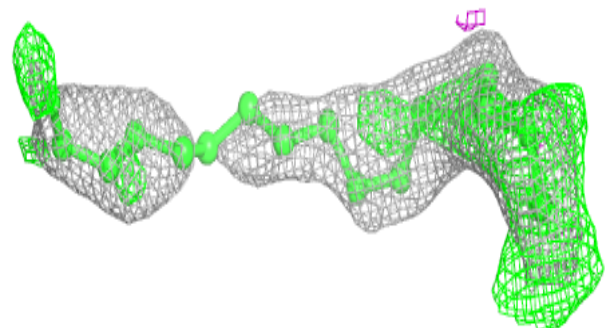
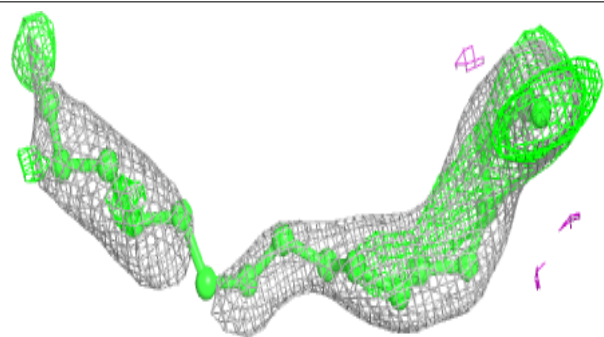


Electron density around LFA C 315:

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

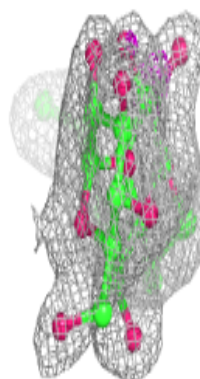
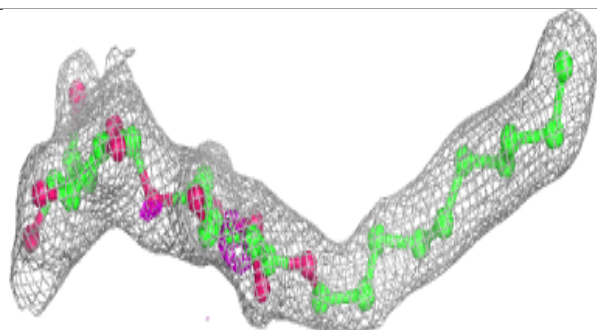
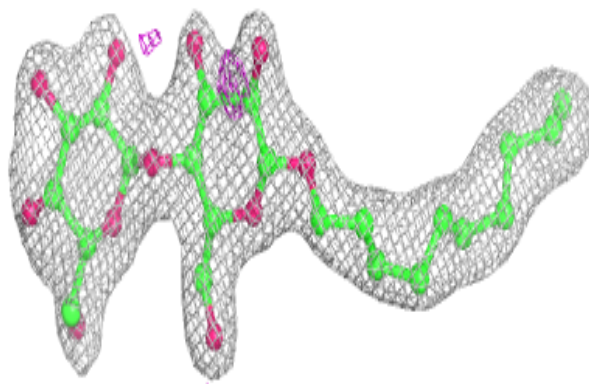
**Electron density around LFA B 307:**

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

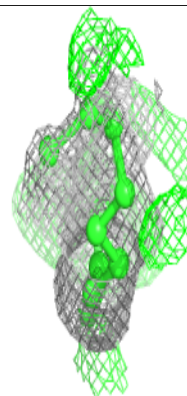
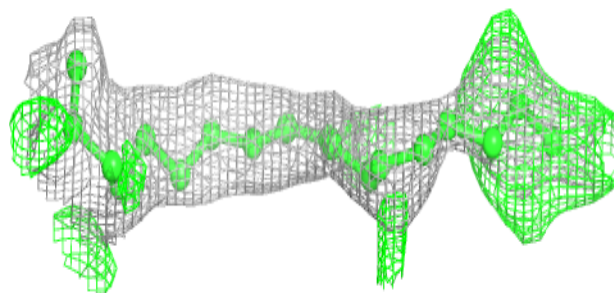
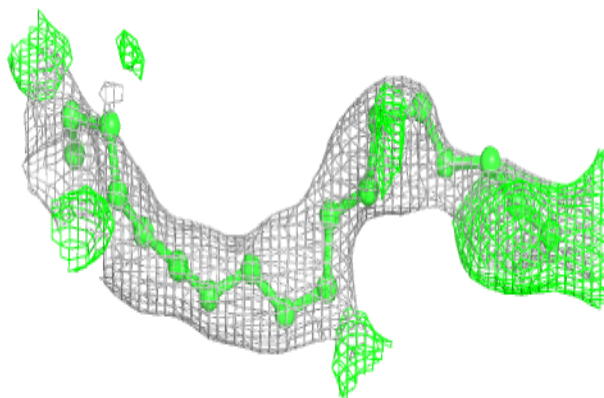


Electron density around DMU Z 101:

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

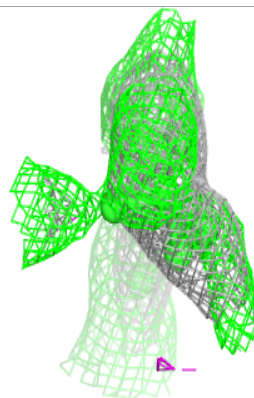
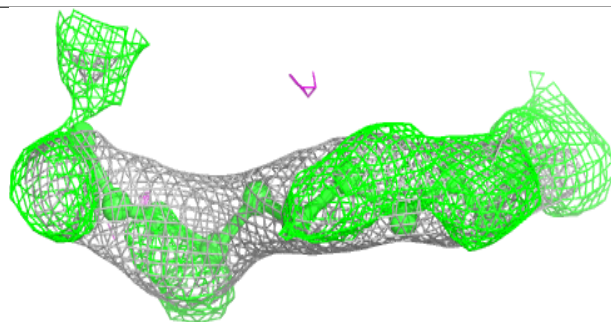
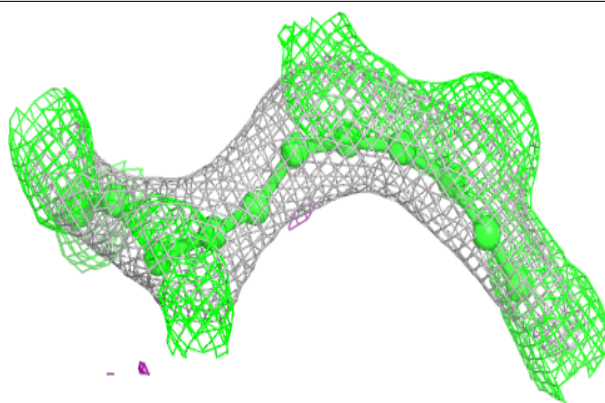
**Electron density around LFA C 309:**

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

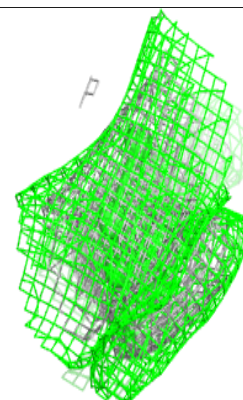
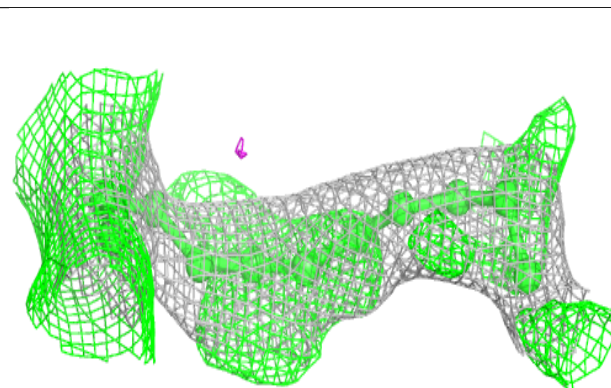
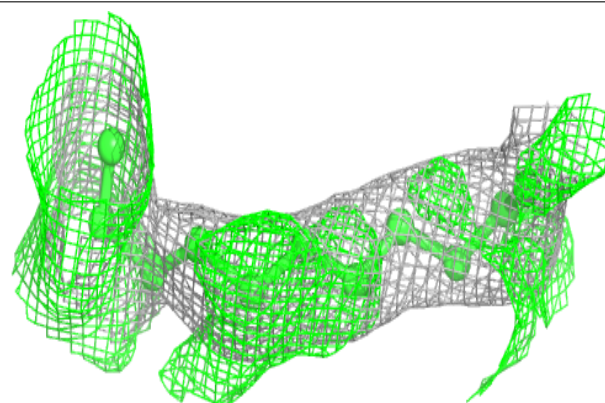


Electron density around LFA C 307:

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

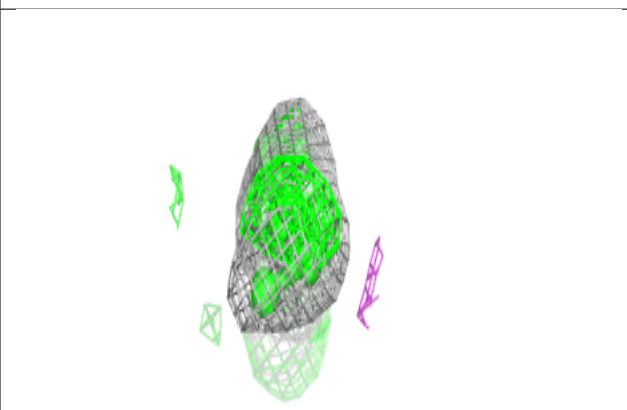
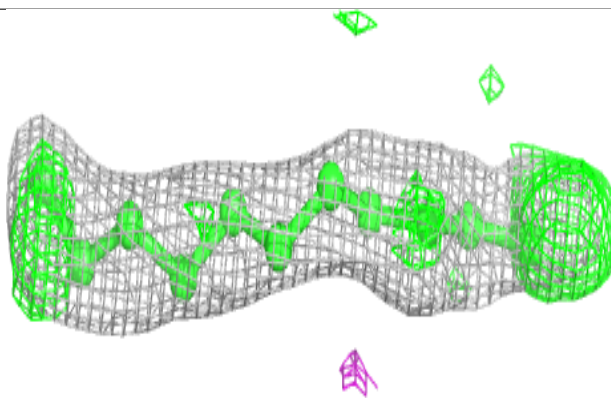
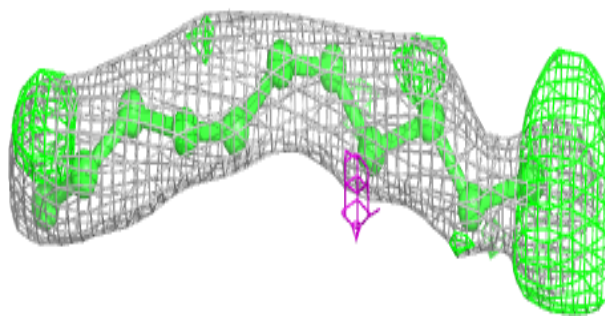
**Electron density around LFA P 311:**

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

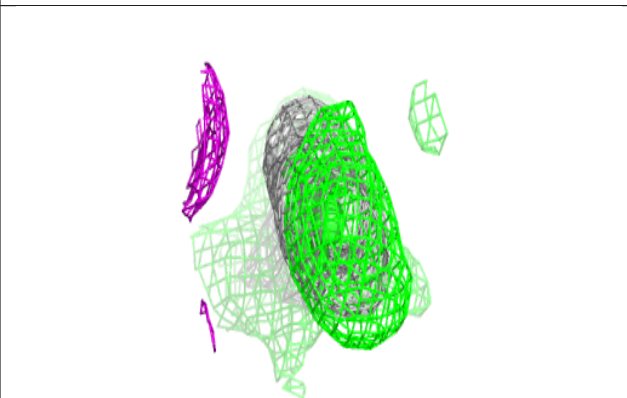
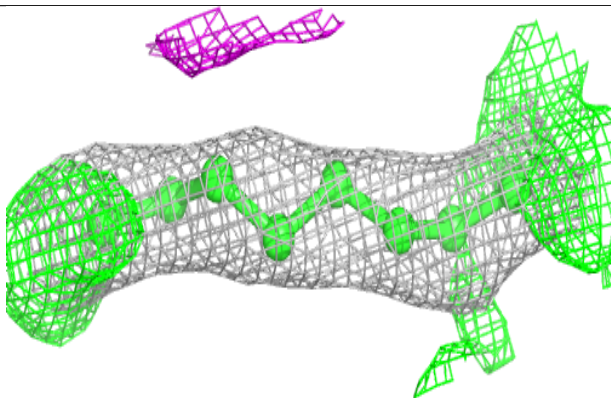
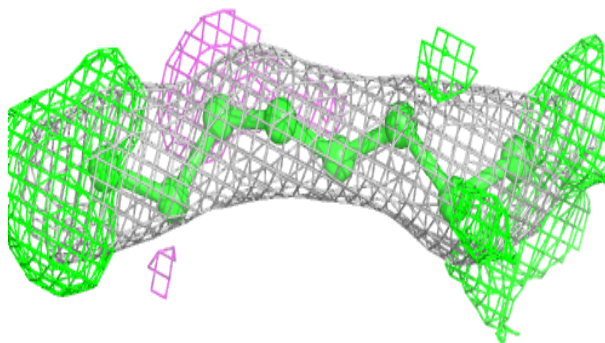


Electron density around LFA T 104:

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

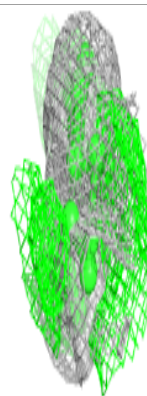
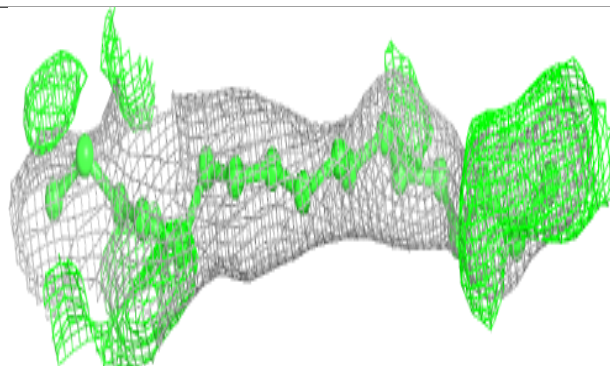
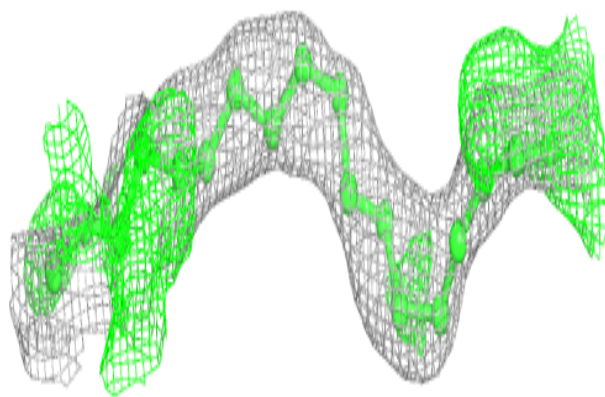
**Electron density around DMU M 102:**

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

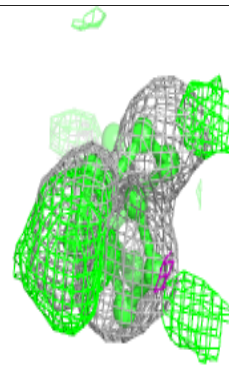
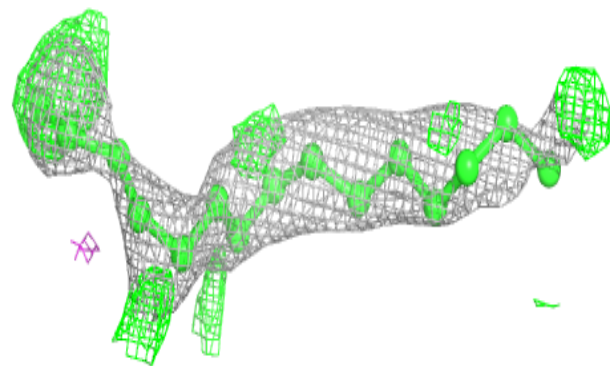
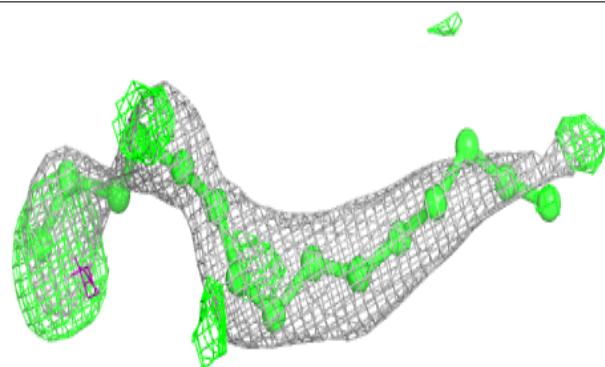


Electron density around LFA P 309:

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

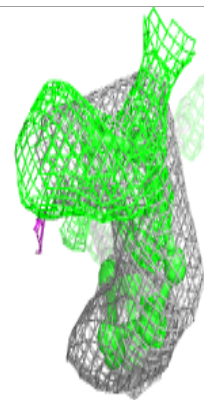
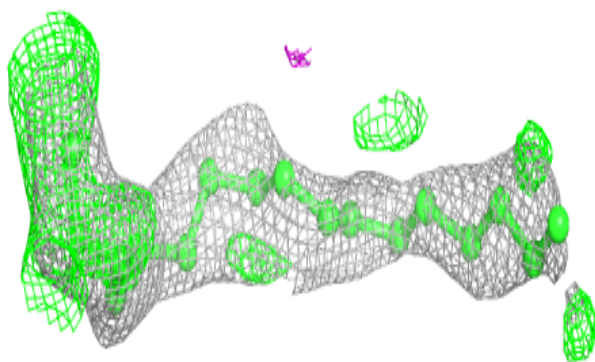
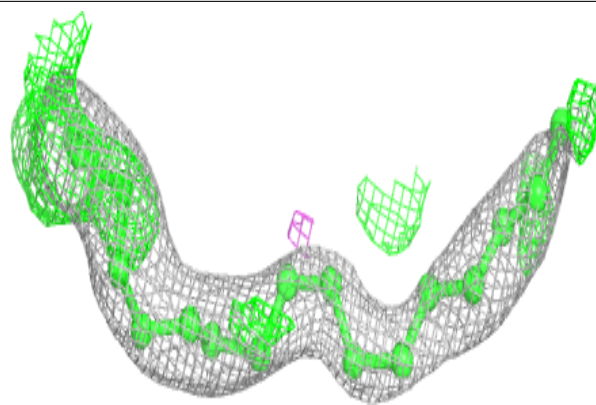
**Electron density around LFA C 310:**

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

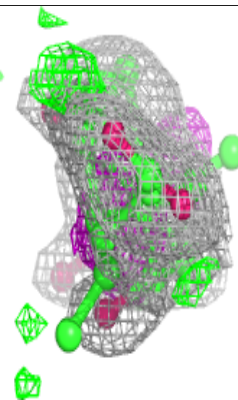
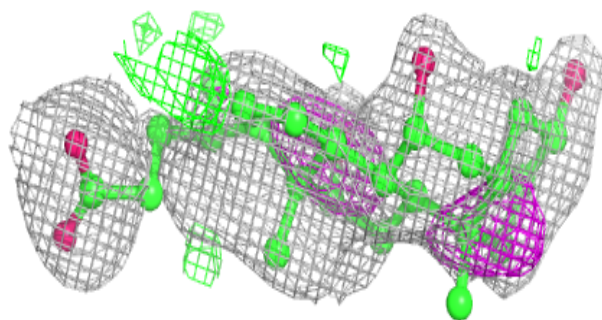
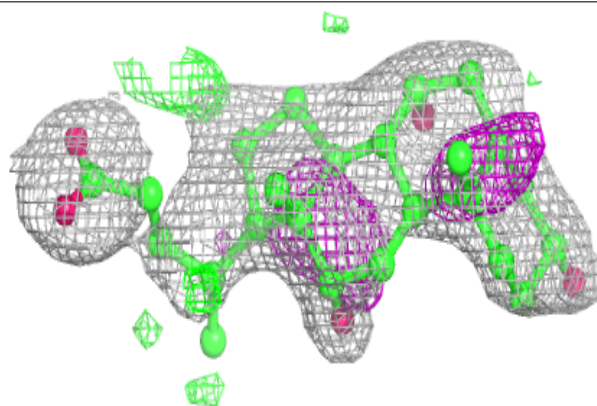


Electron density around LFA O 302:

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

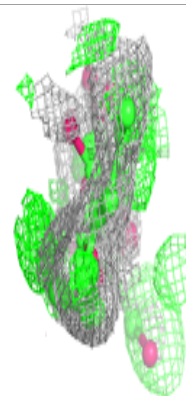
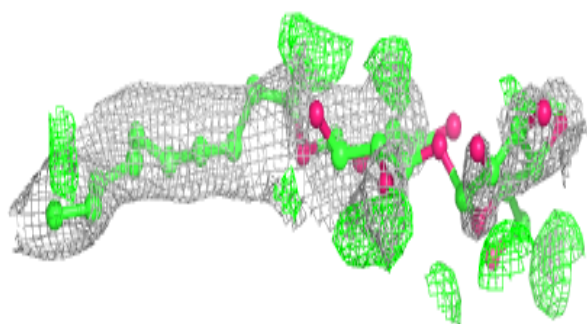
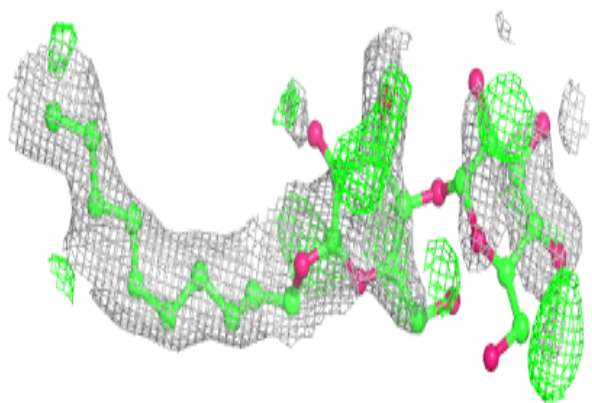
**Electron density around CHD P 305:**

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

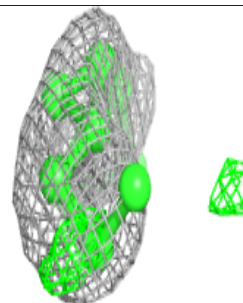
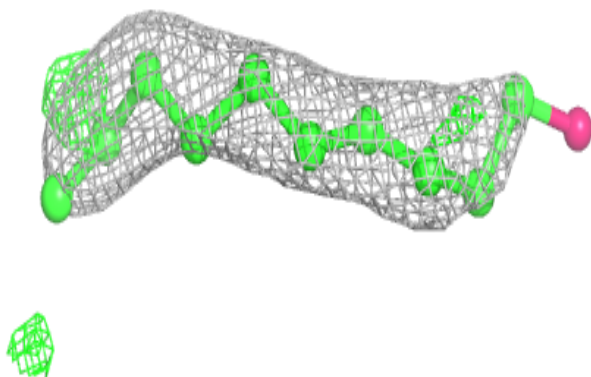
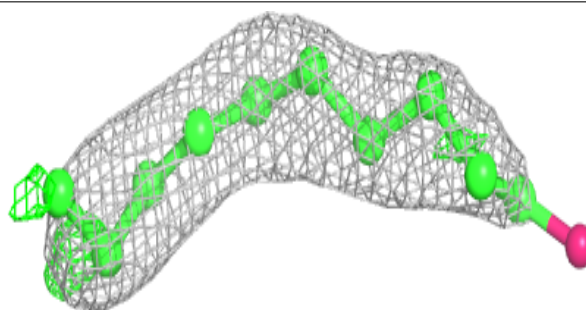


Electron density around DMU H 101:

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

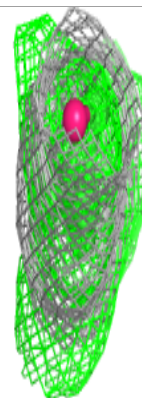
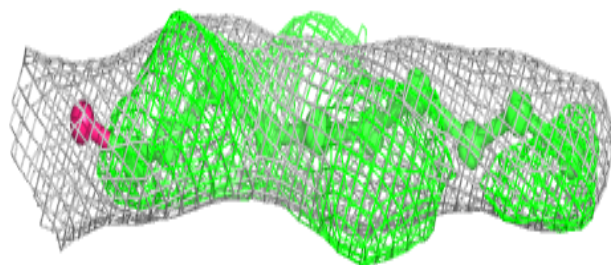
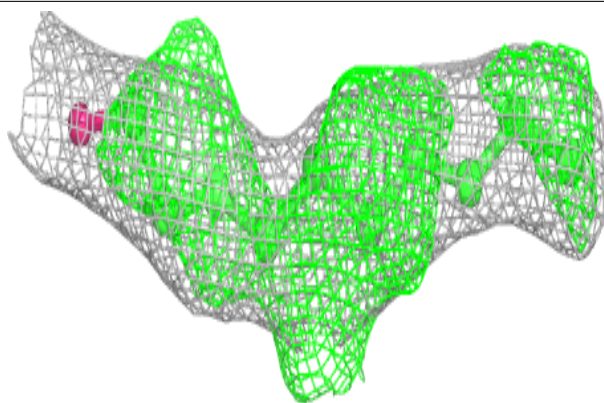
**Electron density around DMU J 101:**

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

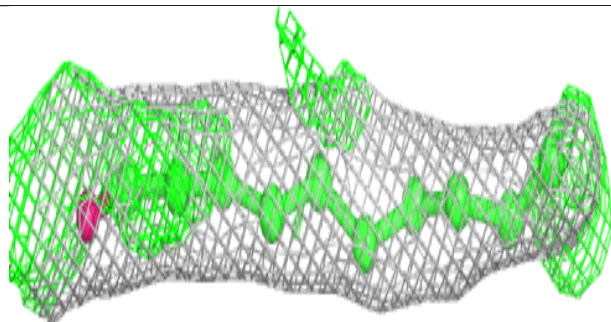
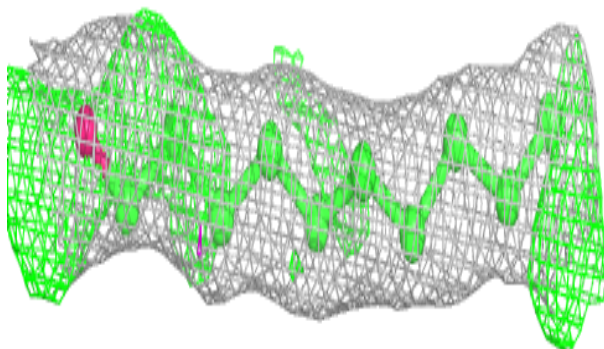


Electron density around DMU O 307:

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

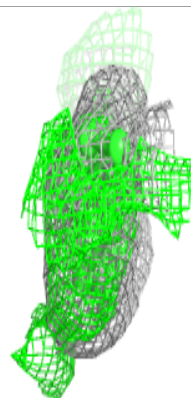
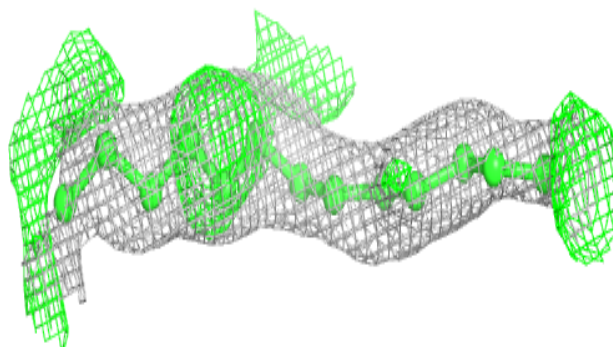
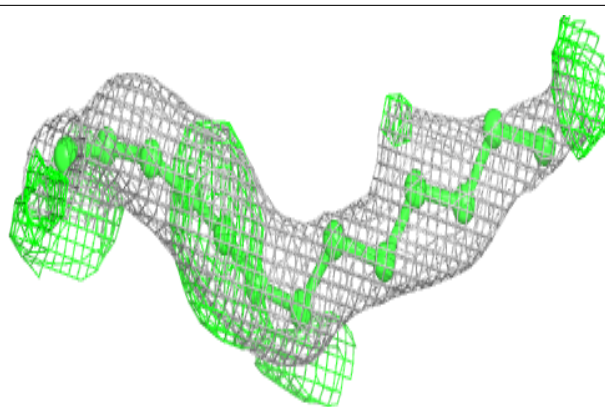
**Electron density around DMU C 306:**

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

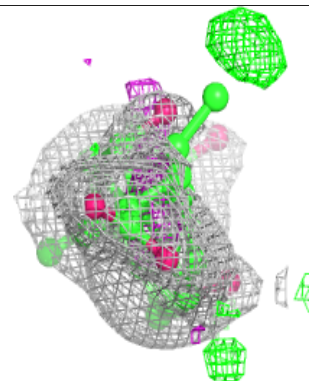
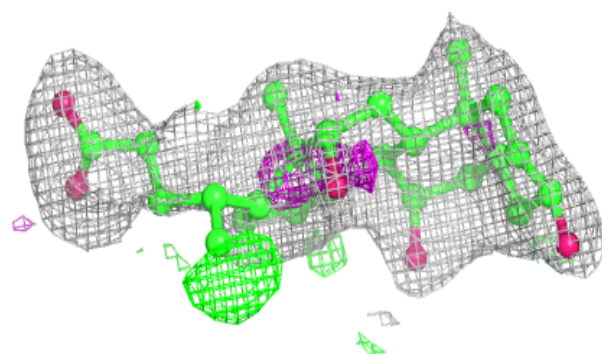
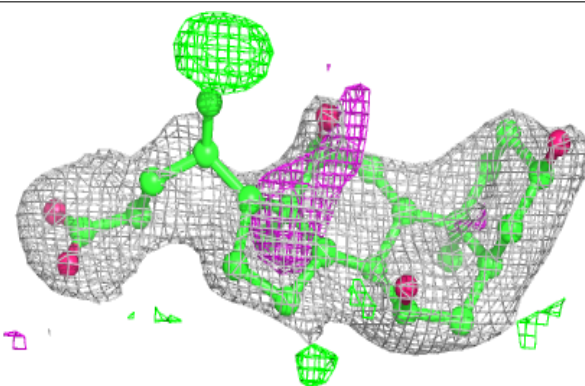


Electron density around LFA P 313:

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

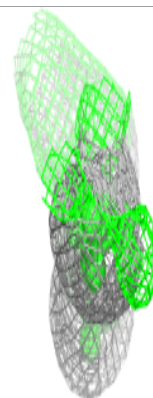
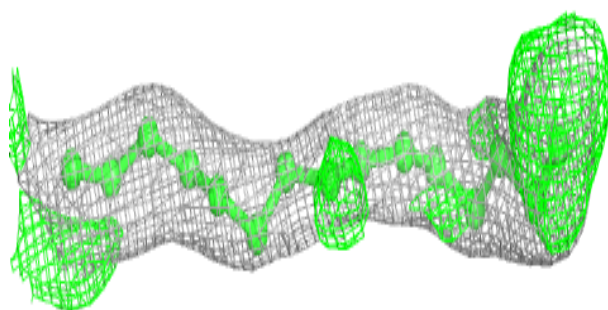
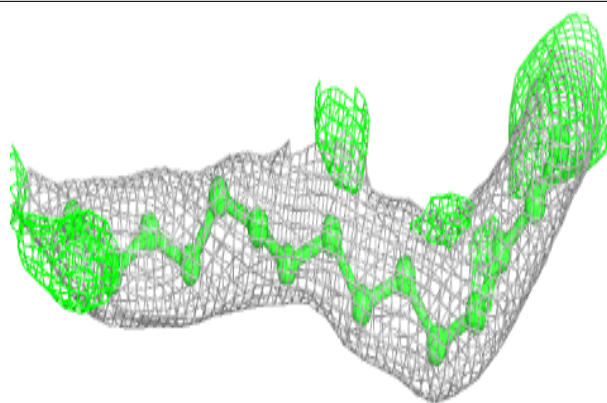
**Electron density around CHD C 305:**

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

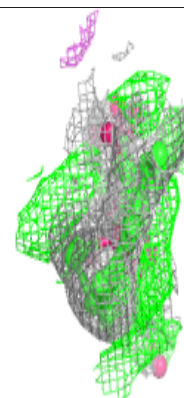
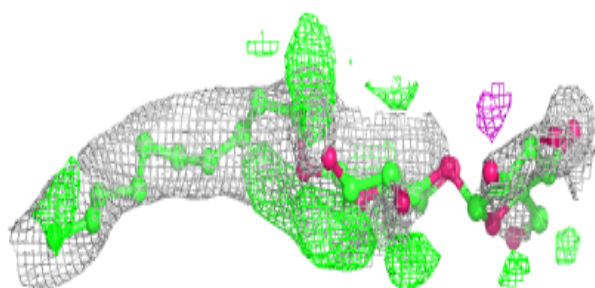
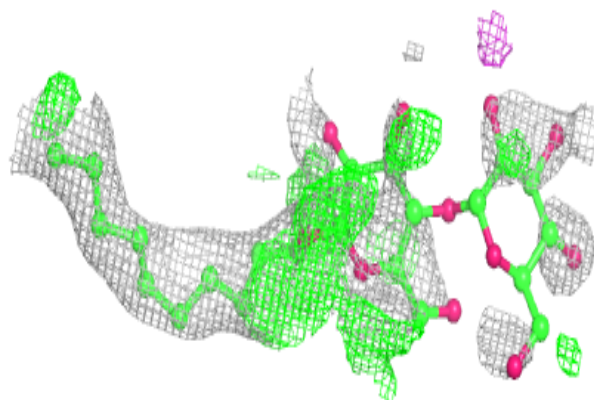


Electron density around LFA P 312:

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

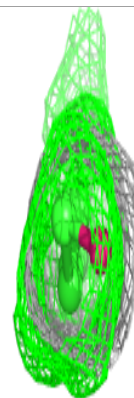
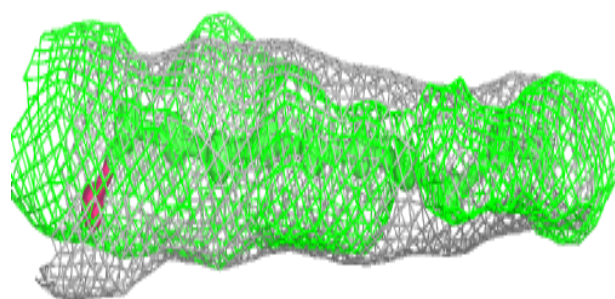
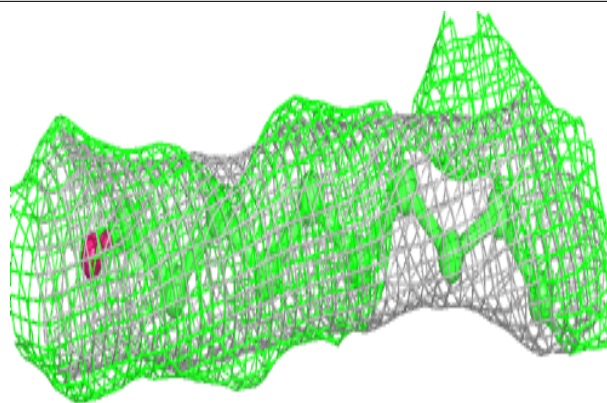
**Electron density around DMU N 616:**

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

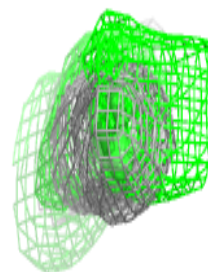
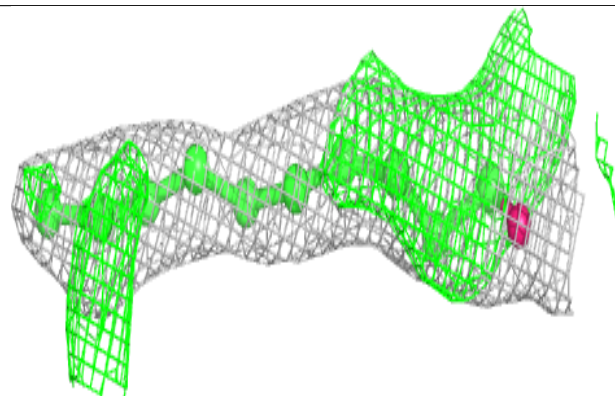
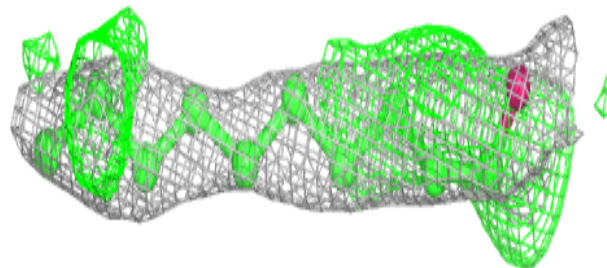


Electron density around DMU P 306:

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

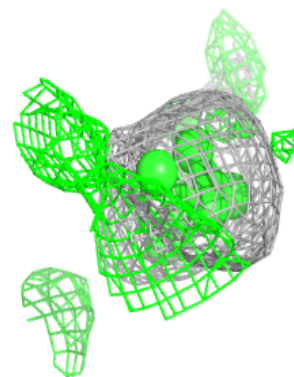
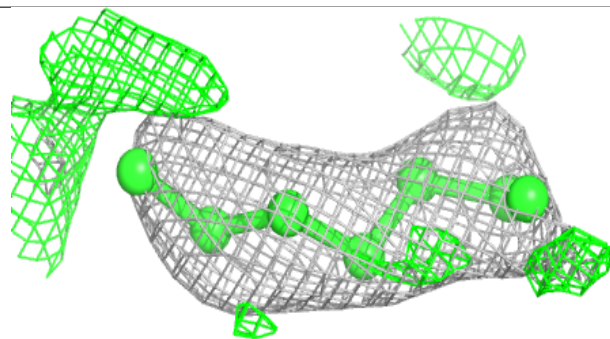
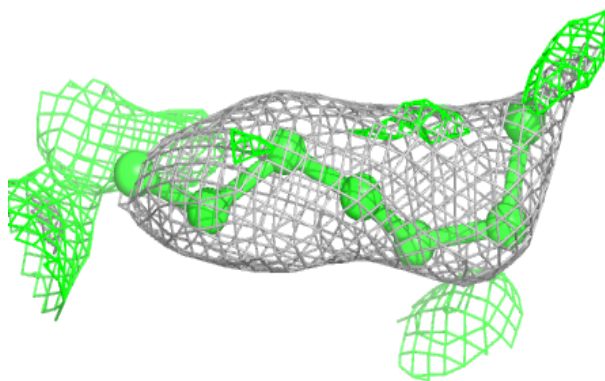
**Electron density around DMU B 302:**

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

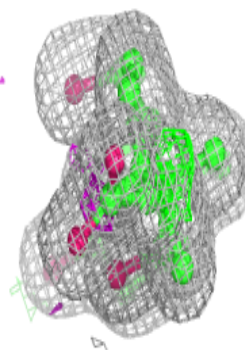
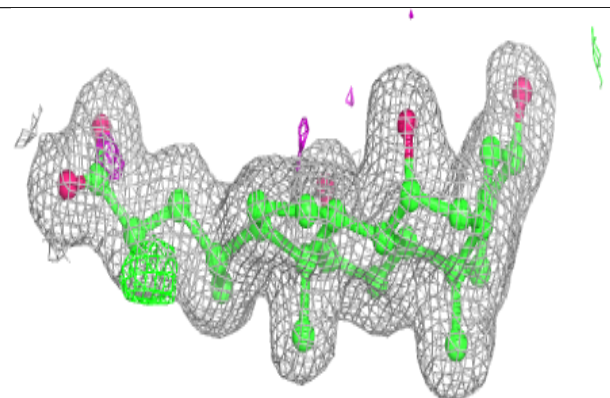
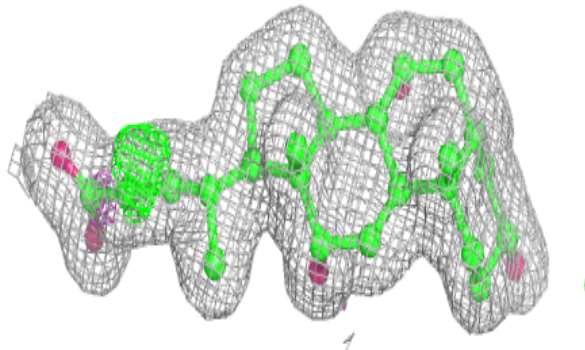


Electron density around DMU C 317:

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

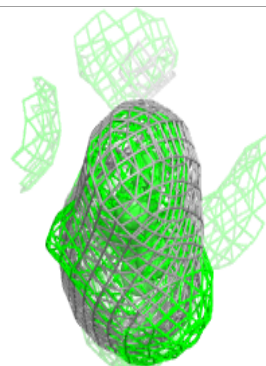
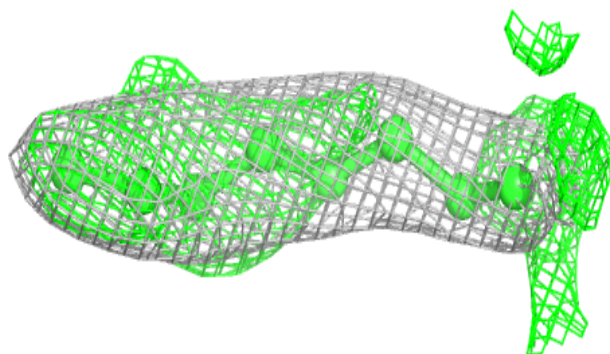
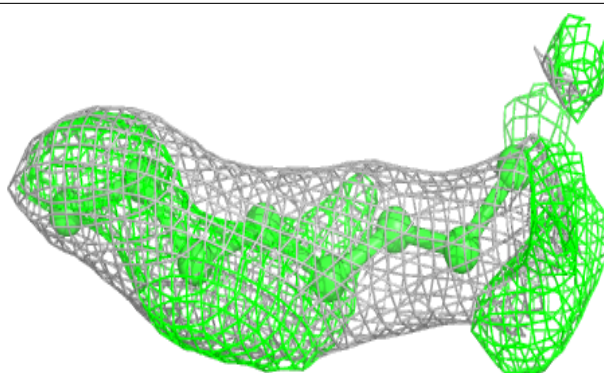
**Electron density around CHD C 301:**

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

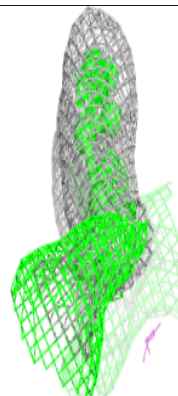
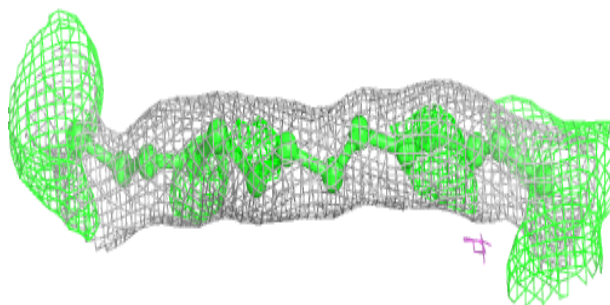
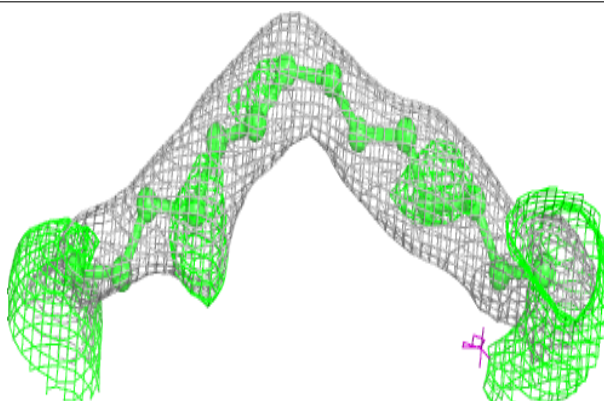


Electron density around DMU Z 102:

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

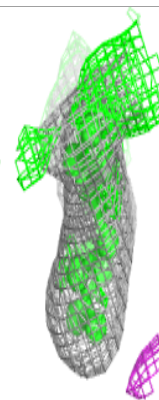
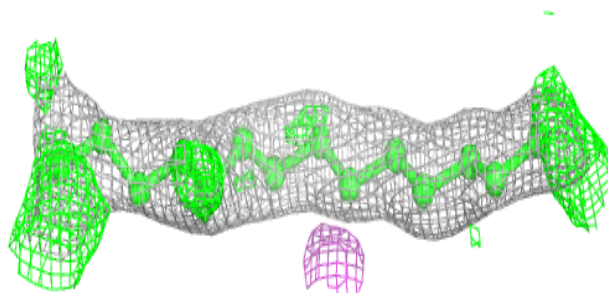
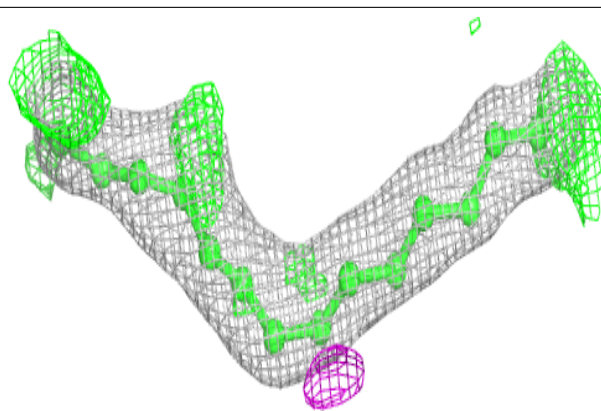
**Electron density around LFA A 607:**

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

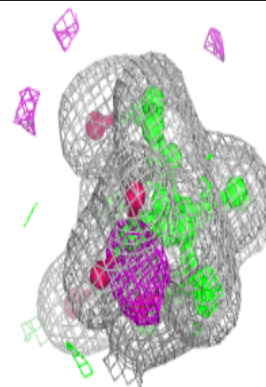
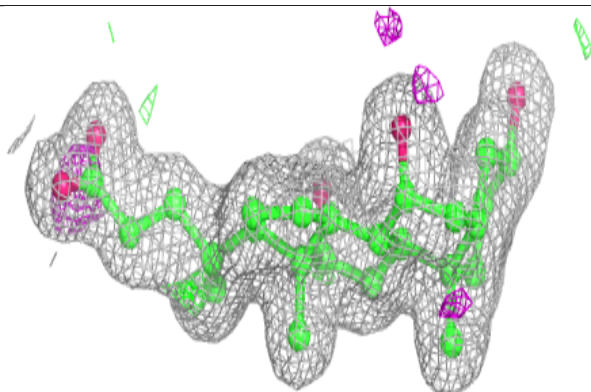
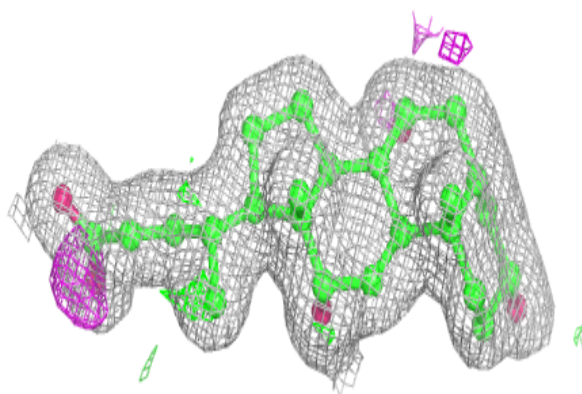


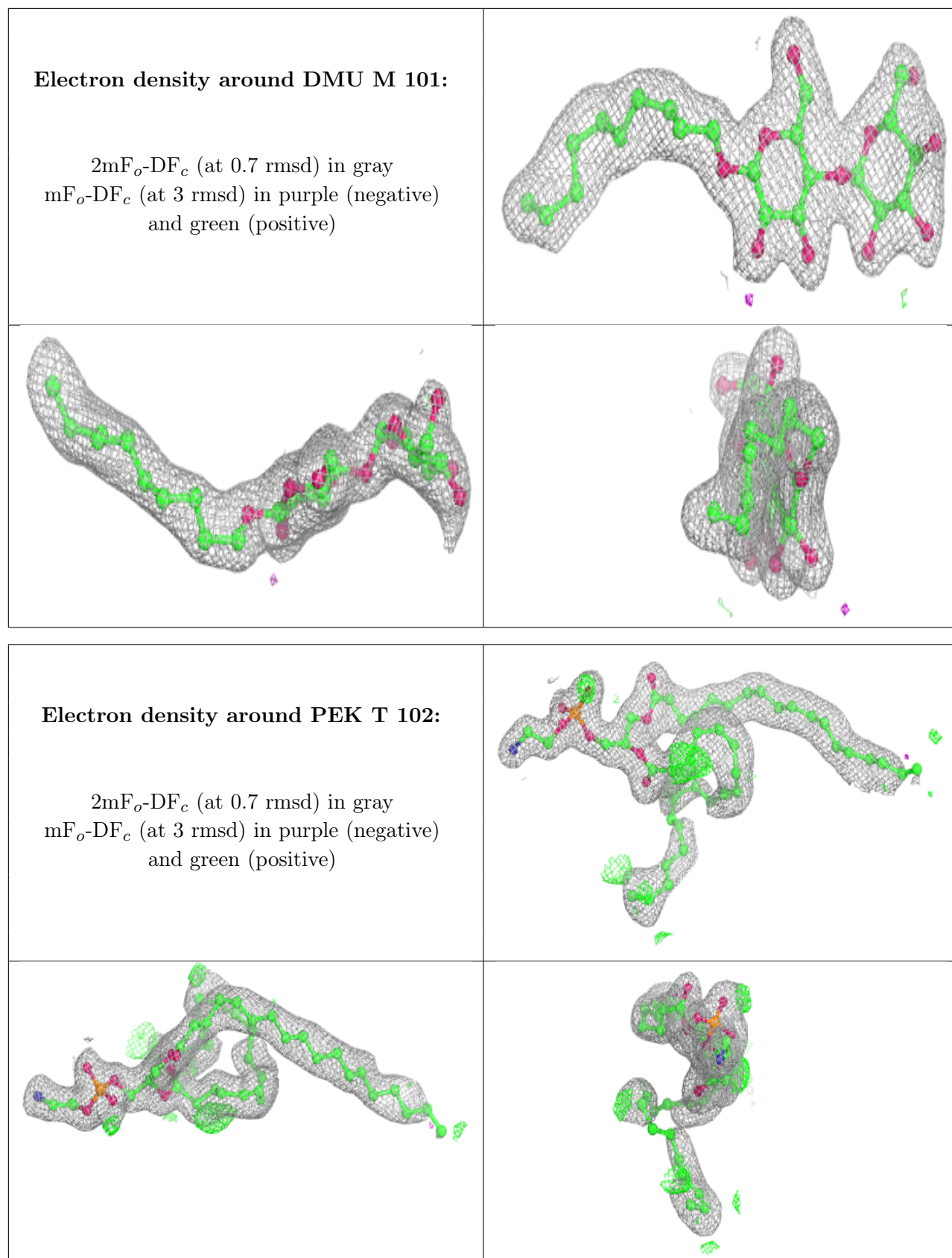
Electron density around LFA N 606:

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

**Electron density around CHD P 301:**

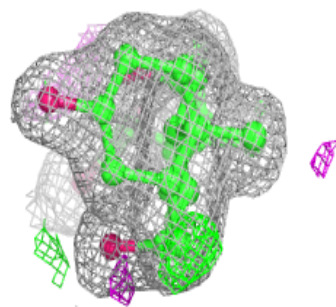
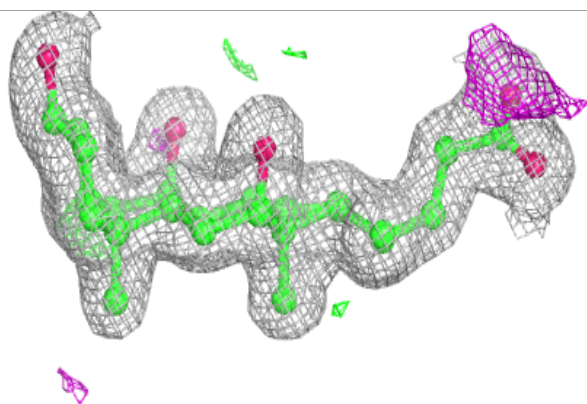
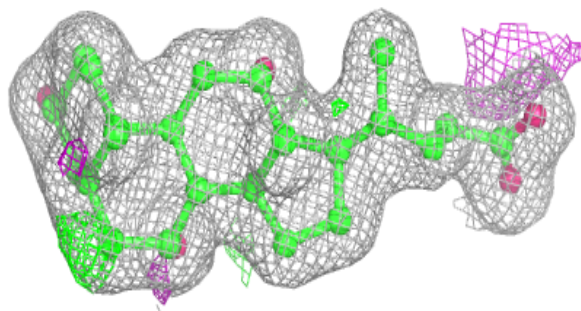
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



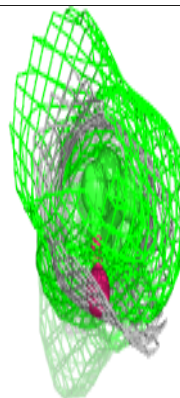
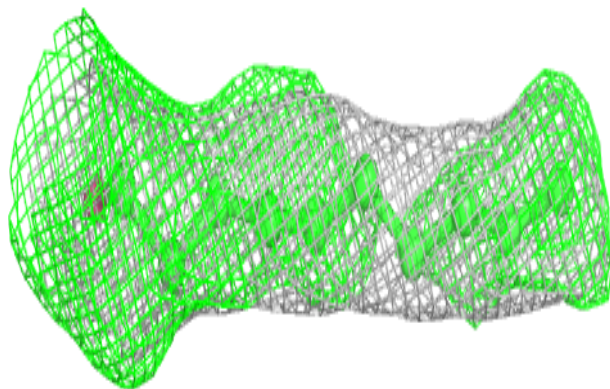
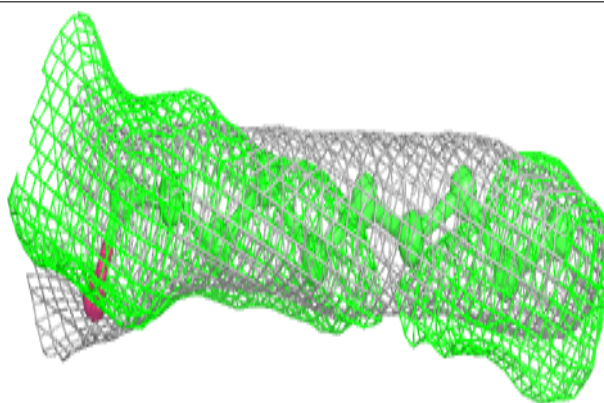


Electron density around CHD B 306:

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

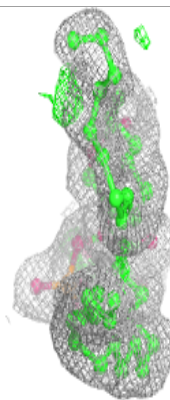
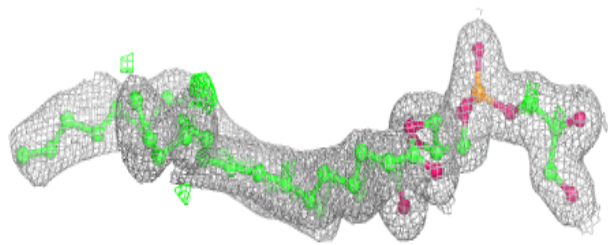
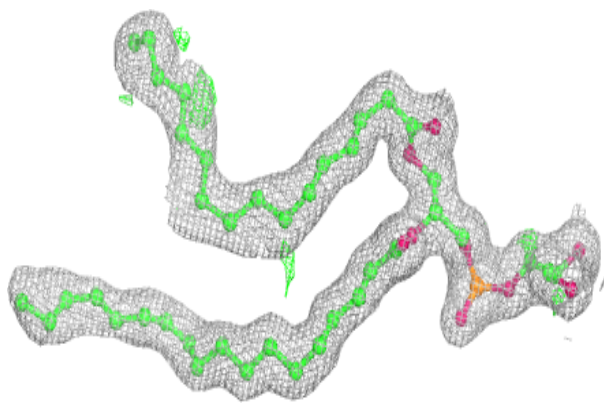
**Electron density around DMU O 306:**

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

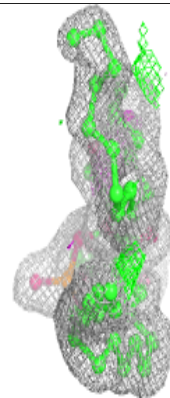
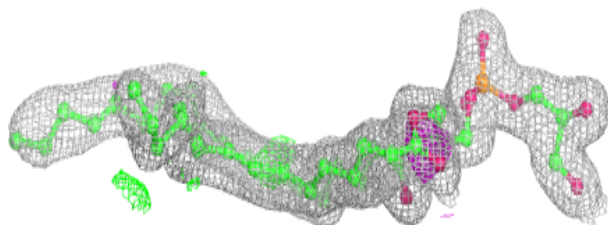
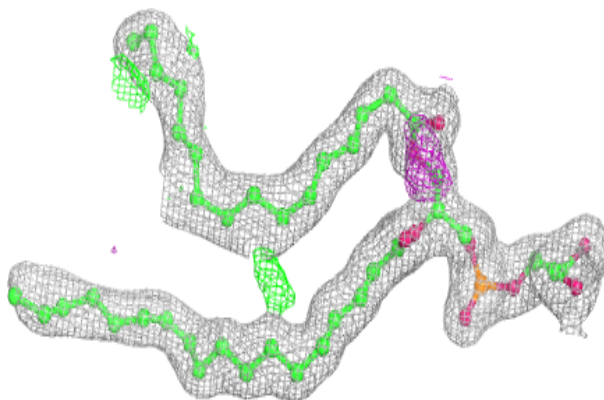


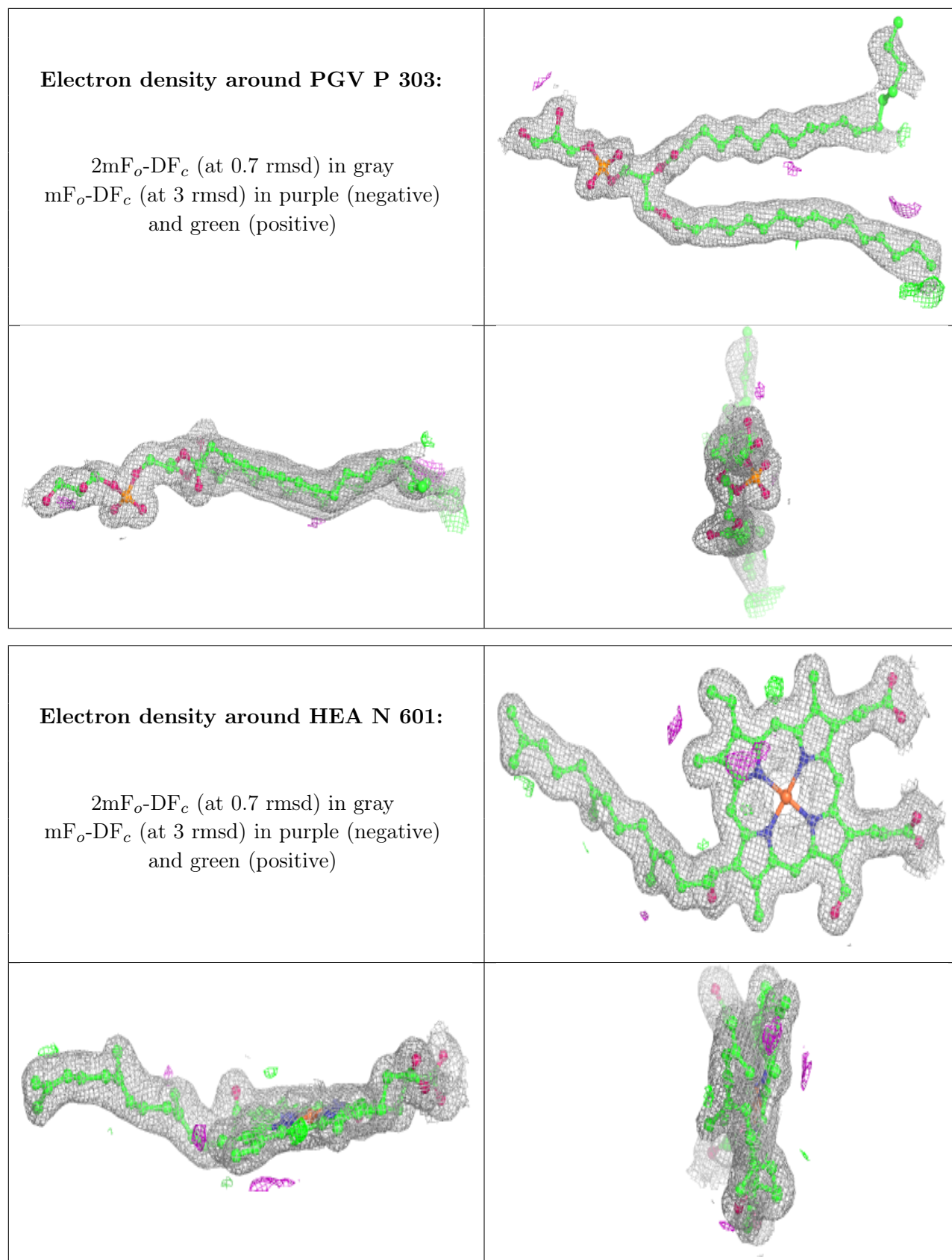
Electron density around PGV A 614:

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

**Electron density around PGV N 615:**

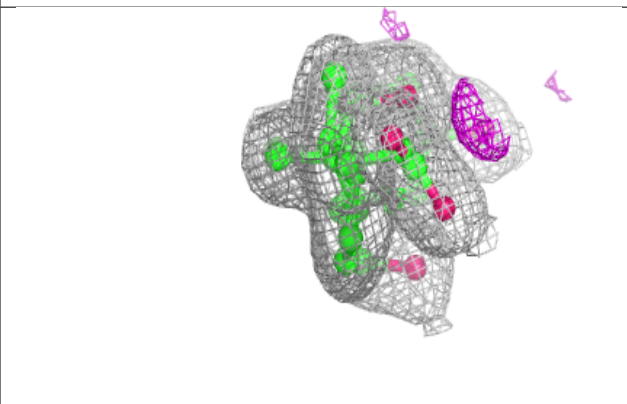
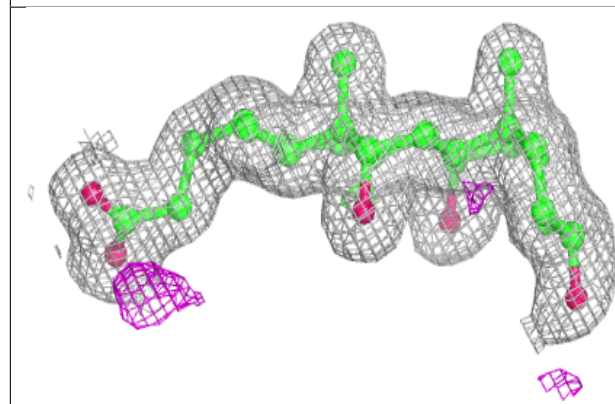
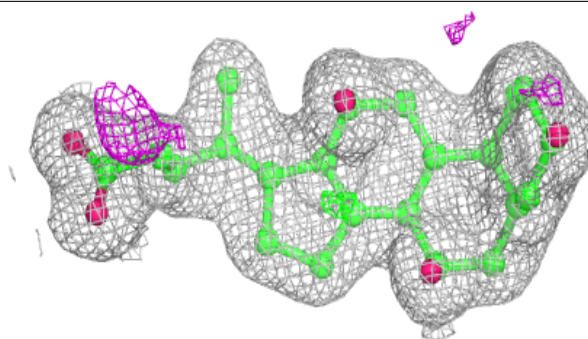
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



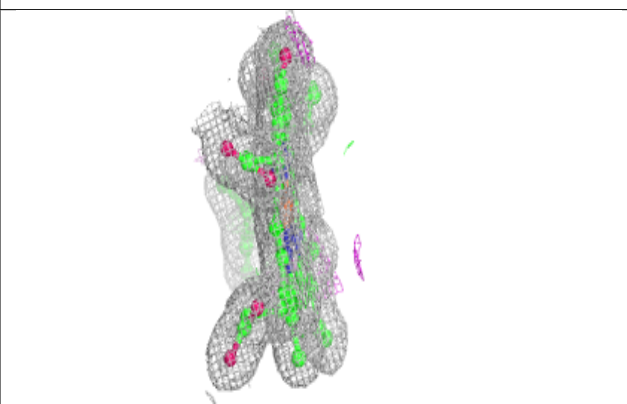
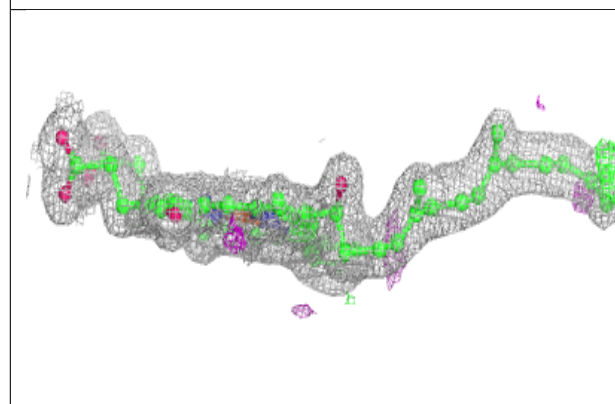
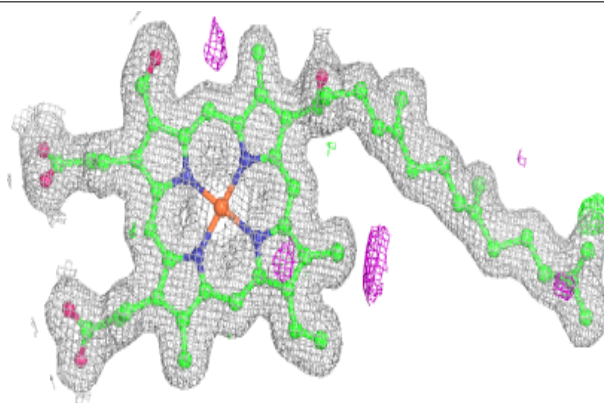


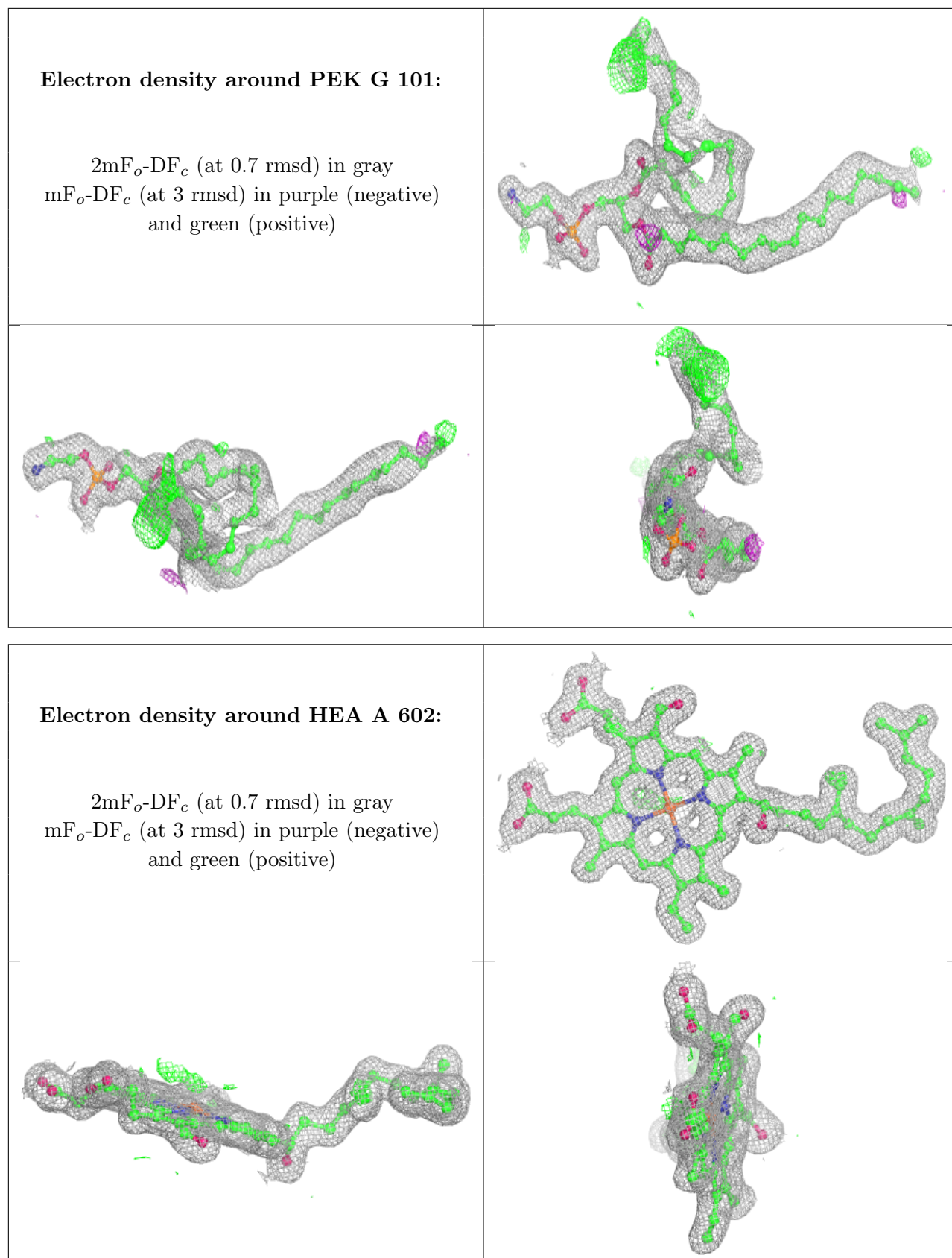
Electron density around CHD O 301:

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

**Electron density around HEA A 601:**

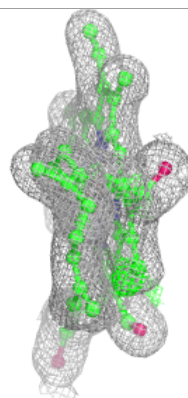
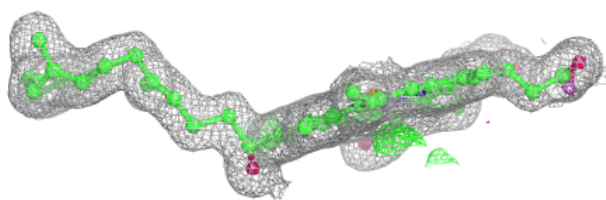
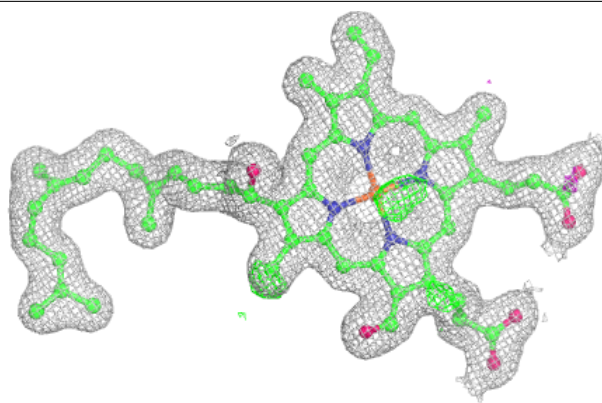
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



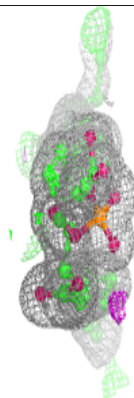
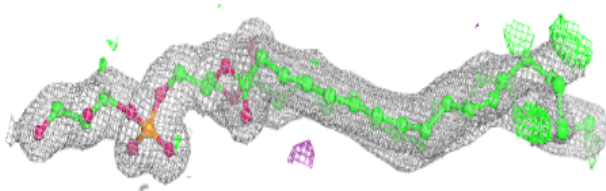
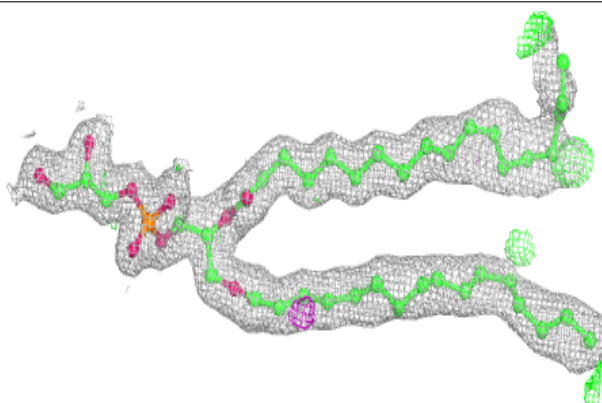


Electron density around HEA N 602:

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

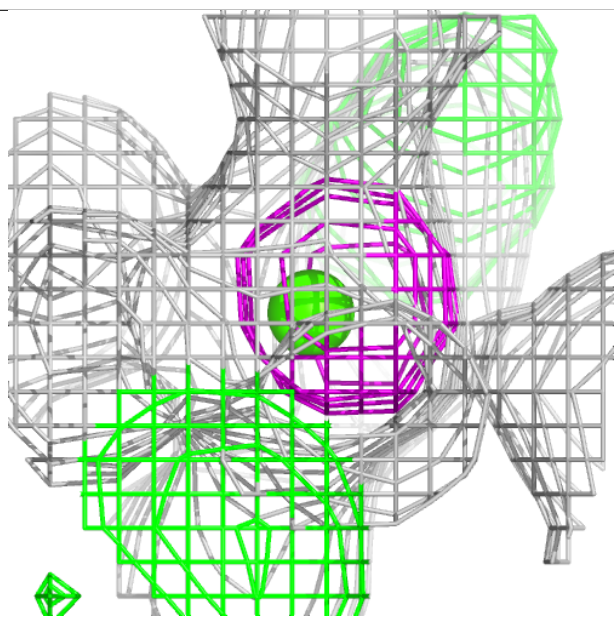
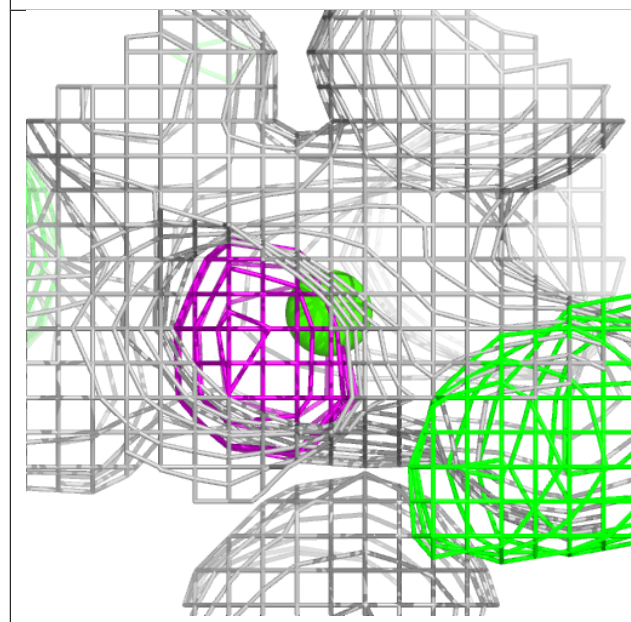
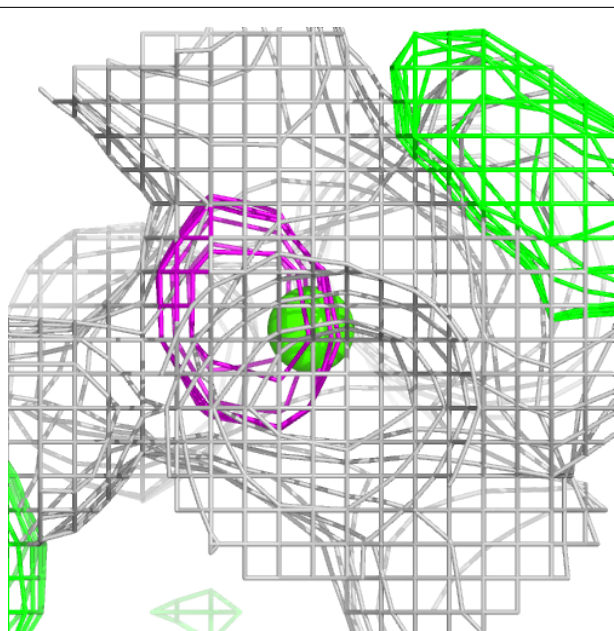
**Electron density around PGV C 303:**

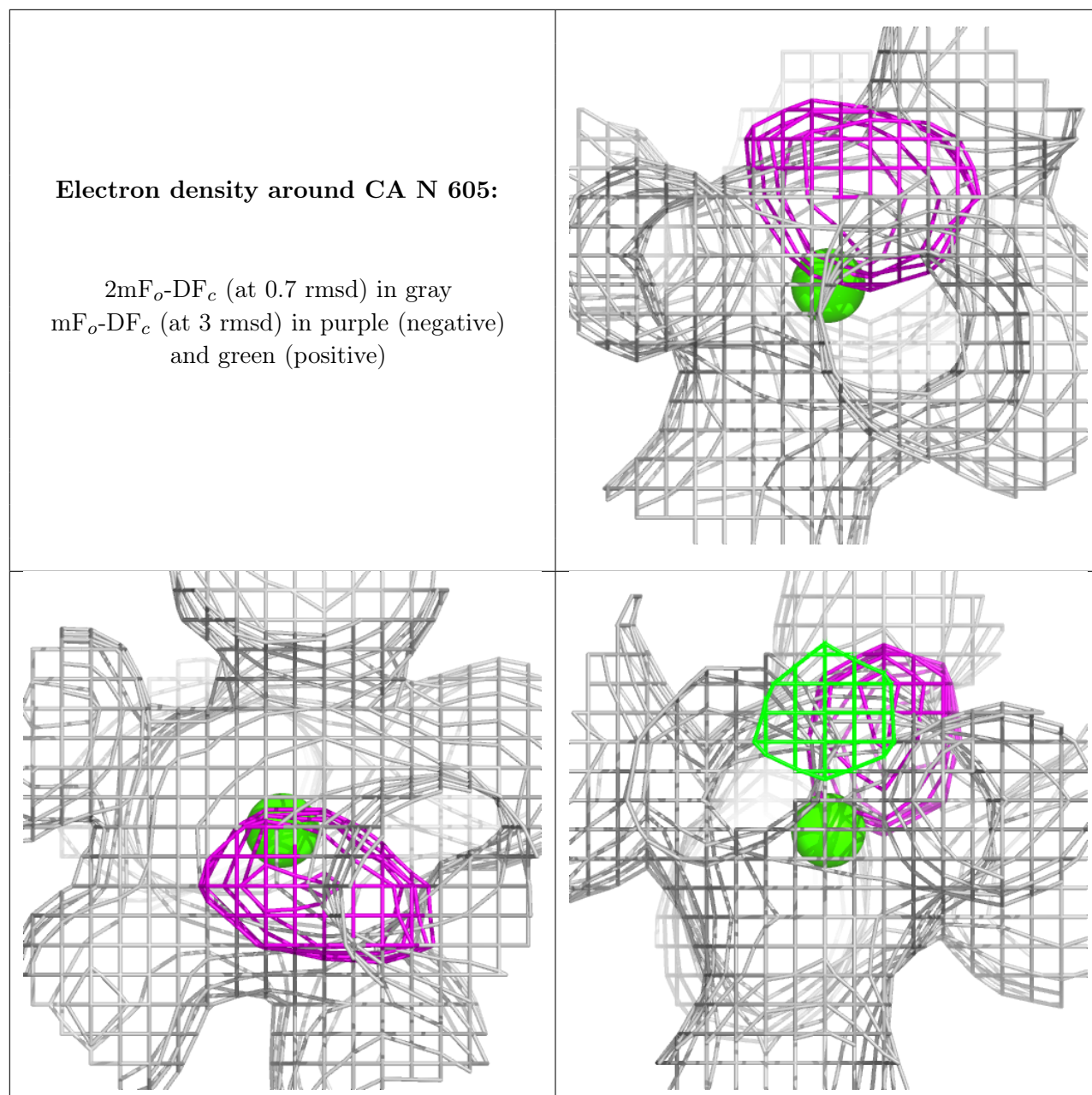
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around CA A 605:

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





6.5 Other polymers [i](#)

There are no such residues in this entry.