



wwPDB X-ray Structure Validation Summary Report

Oct 10, 2023 – 05:14 AM EDT

PDB ID : 7M76
Title : Room Temperature XFEL Crystallography reveals asymmetry in the vicinity of the two phylloquinones in Photosystem I
Authors : Keable, S.M.; Simon, P.S.; Kolsch, A.; Kern, J.; Yachandra, V.K.; Zouni, A.; Yano, J.
Deposited on : 2021-03-26
Resolution : 3.00 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the  symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.35.1
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) : 2.35.1

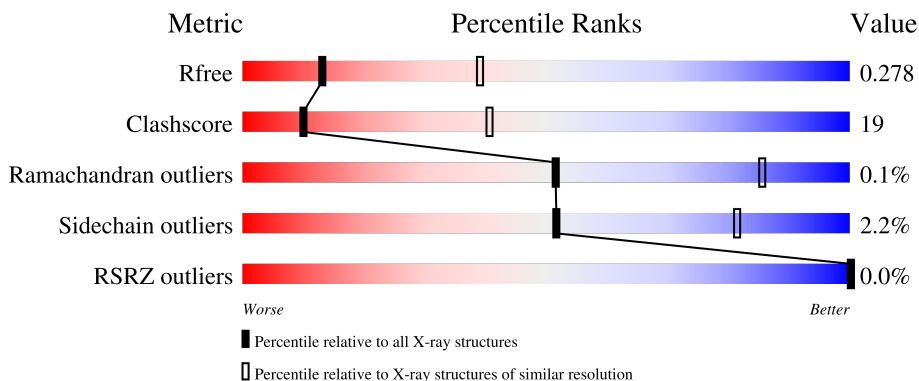
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION





The reported resolution of this entry is 3.00 Å.

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




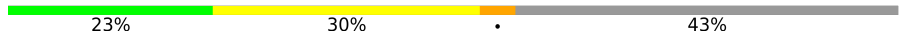

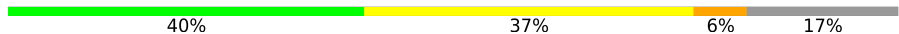
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	2092 (3.00-3.00)
Clashscore	141614	2416 (3.00-3.00)
Ramachandran outliers	138981	2333 (3.00-3.00)
Sidechain outliers	138945	2336 (3.00-3.00)
RSRZ outliers	127900	1990 (3.00-3.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	755	
2	B	740	
3	C	80	
4	D	138	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
5	E	75	
6	F	164	
7	I	38	
8	J	41	
9	K	83	
10	L	154	
11	M	31	
12	X	35	

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
13	CL0	A	801	X	-	-	-
14	CLA	A	802	X	-	-	-
14	CLA	A	803	X	-	-	-
14	CLA	A	804	X	-	-	-
14	CLA	A	805	X	-	-	-
14	CLA	A	806	X	-	-	-
14	CLA	A	807	X	-	-	-
14	CLA	A	808	X	-	-	-
14	CLA	A	809	X	-	-	-
14	CLA	A	810	X	-	-	-
14	CLA	A	811	X	-	-	-
14	CLA	A	812	X	-	-	-
14	CLA	A	813	X	-	-	-
14	CLA	A	814	X	-	-	-
14	CLA	A	815	X	-	-	-
14	CLA	A	816	X	-	-	-
14	CLA	A	817	X	-	-	-
14	CLA	A	818	X	-	-	-
14	CLA	A	819	X	-	-	-
14	CLA	A	820	X	-	-	-
14	CLA	A	821	X	-	-	-
14	CLA	A	822	X	-	-	-
14	CLA	A	823	X	-	-	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
14	CLA	A	824	X	-	-	-
14	CLA	A	825	X	-	-	-
14	CLA	A	826	X	-	-	-
14	CLA	A	827	X	-	-	-
14	CLA	A	828	X	-	-	-
14	CLA	A	829	X	-	-	-
14	CLA	A	830	X	-	-	-
14	CLA	A	831	X	-	-	-
14	CLA	A	832	X	-	-	-
14	CLA	A	833	X	-	-	-
14	CLA	A	834	X	-	-	-
14	CLA	A	835	X	-	-	-
14	CLA	A	836	X	-	-	-
14	CLA	A	837	X	-	-	-
14	CLA	A	838	X	-	-	-
14	CLA	A	839	X	-	-	-
14	CLA	A	840	X	-	-	-
14	CLA	A	841	X	-	-	-
14	CLA	A	842	X	-	-	-
14	CLA	A	843	X	-	-	-
14	CLA	A	844	X	-	-	-
14	CLA	A	845	X	-	-	-
14	CLA	A	856	X	-	-	-
14	CLA	B	3003	X	-	-	-
14	CLA	B	3004	X	-	-	-
14	CLA	B	3005	X	-	-	-
14	CLA	B	3006	X	-	-	-
14	CLA	B	3007	X	-	-	-
14	CLA	B	3008	X	-	-	-
14	CLA	B	3009	X	-	-	-
14	CLA	B	3010	X	-	-	-
14	CLA	B	3011	X	-	-	-
14	CLA	B	3012	X	-	-	-
14	CLA	B	3013	X	-	-	-
14	CLA	B	3014	X	-	-	-
14	CLA	B	3015	X	-	-	-
14	CLA	B	3016	X	-	-	-
14	CLA	B	3017	X	-	-	-
14	CLA	B	3018	X	-	-	-
14	CLA	B	3019	X	-	-	-
14	CLA	B	3020	X	-	-	-
14	CLA	B	3021	X	-	-	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
14	CLA	B	3022	X	-	-	-
14	CLA	B	3023	X	-	-	-
14	CLA	B	3024	X	-	-	-
14	CLA	B	3026	X	-	-	-
14	CLA	B	3027	X	-	-	-
14	CLA	B	3028	X	-	-	-
14	CLA	B	3029	X	-	-	-
14	CLA	B	3030	X	-	-	-
14	CLA	B	3031	X	-	-	-
14	CLA	B	3032	X	-	-	-
14	CLA	B	3033	X	-	-	-
14	CLA	B	3034	X	-	-	-
14	CLA	B	3035	X	-	-	-
14	CLA	B	3036	X	-	-	-
14	CLA	B	3037	X	-	-	-
14	CLA	B	3039	X	-	-	-
14	CLA	B	3041	X	-	-	-
14	CLA	B	3042	X	-	-	-
14	CLA	F	202	X	-	-	-
14	CLA	J	101	X	-	-	-
14	CLA	J	102	X	-	-	-
14	CLA	K	101	X	-	-	-
14	CLA	K	103	X	-	-	-
14	CLA	L	204	X	-	-	-
14	CLA	L	205	X	-	-	-
14	CLA	L	206	X	-	-	-
14	CLA	M	102	X	-	-	-
14	CLA	X	1701	X	-	-	-

2 Entry composition [i](#)

There are 23 unique types of molecules in this entry. The entry contains 48797 atoms, of which 24384 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 Photosystem I P700 chlorophyll a apoprotein A1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
			Total	C	H	N	O				S
1	A	740	11422	3794	5638	988	976	26	0	0	0

- Molecule 2 is a protein called Photosystem I P700 chlorophyll a apoprotein A2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
			Total	C	H	N	O				S
2	B	739	11507	3876	5618	987	1005	21	0	0	0

- Molecule 3 is a protein called Photosystem I iron-sulfur center.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
			Total	C	H	N	O				S
3	C	80	1174	367	576	103	117	11	0	0	0

- Molecule 4 is a protein called Photosystem I reaction center subunit II.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
			Total	C	H	N	O				S
4	D	138	2152	682	1077	186	204	3	0	0	0

- Molecule 5 is a protein called Photosystem I reaction center subunit IV.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
			Total	C	H	N	O				S
5	E	69	1067	342	528	93	104		0	0	0

- Molecule 6 is a protein called Photosystem I reaction center subunit III.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
			Total	C	H	N	O				S
6	F	141	2141	680	1076	184	197	4	0	0	0

- Molecule 7 is a protein called Photosystem I reaction center subunit VIII.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
			Total	C	H	N	O				S
7	I	38	607	208	306	40	48	5	0	0	0

- Molecule 8 is a protein called Photosystem I reaction center subunit IX.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
			Total	C	H	N	O				S
8	J	41	685	231	347	51	54	2	0	0	0

- Molecule 9 is a protein called Photosystem I reaction center subunit PsaK.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
			Total	C	H	N	O				S
9	K	47	687	217	354	58	57	1	0	0	0

- Molecule 10 is a protein called Photosystem I reaction center subunit XI.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
			Total	C	H	N	O				S
10	L	151	2244	735	1125	179	201	4	0	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
L	143	LEU	SER	conflict	UNP Q8DGB4

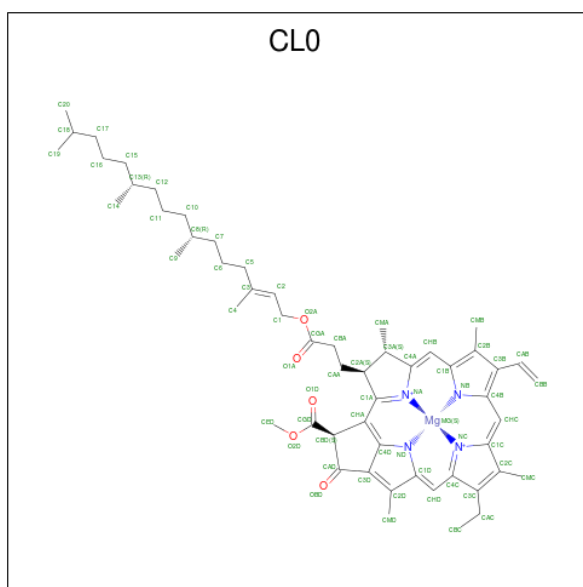
- Molecule 11 is a protein called Photosystem I reaction center subunit XII.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
			Total	C	H	N	O				S
11	M	31	505	161	264	36	43	1	0	0	0

- Molecule 12 is a protein called Photosystem I 4.8K protein.

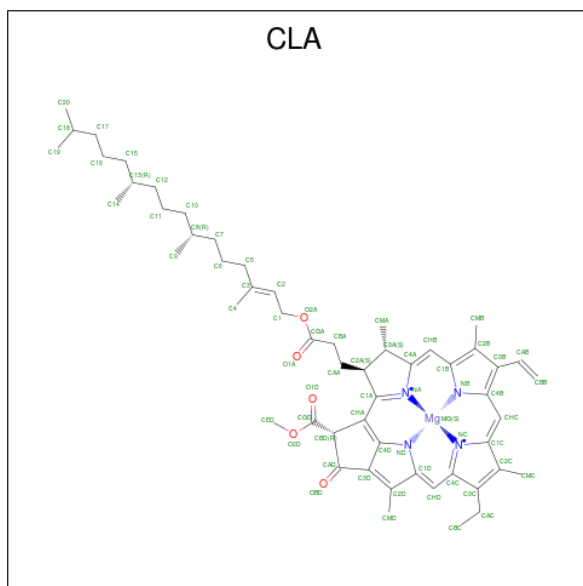
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace	
			Total	C	H	N				O
12	X	29	459	172	217	35	35	0	0	0

- Molecule 13 is CHLOROPHYLL A ISOMER (three-letter code: CL0) (formula: C₅₅H₇₂MgN₄O₅).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	
			Total	C	H	Mg	N			O
13	A	1	137	55	72	1	4	5	0	0

- Molecule 14 is CHLOROPHYLL A (three-letter code: CLA) (formula: $C_{55}H_{72}MgN_4O_5$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	
			Total	C	H	Mg	N			O
14	A	1	137	55	72	1	4	5	0	0
14	A	1	137	55	72	1	4	5	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	
			Total	C	H	Mg	N	O		
14	A	1	137	55	72	1	4	5	0	0
14	A	1	117	49	58	1	4	5	0	0
14	A	1	137	55	72	1	4	5	0	0
14	A	1	137	55	72	1	4	5	0	0
14	A	1	92	41	41	1	4	5	0	0
14	A	1	137	55	72	1	4	5	0	0
14	A	1	137	55	72	1	4	5	0	0
14	A	1	78	35	33	1	4	5	0	0
14	A	1	137	55	72	1	4	5	0	0
14	A	1	102	44	48	1	4	5	0	0
14	A	1	119	50	59	1	4	5	0	0
14	A	1	78	35	33	1	4	5	0	0
14	A	1	78	35	33	1	4	5	0	0
14	A	1	88	39	39	1	4	5	0	0
14	A	1	102	44	48	1	4	5	0	0
14	A	1	102	44	48	1	4	5	0	0
14	A	1	137	55	72	1	4	5	0	0
14	A	1	72	35	29	1	4	3	0	0
14	A	1	137	55	72	1	4	5	0	0
14	A	1	88	39	39	1	4	5	0	0
14	A	1	92	41	41	1	4	5	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	
			Total	C	H	Mg	N	O		
14	A	1	117	49	58	1	4	5	0	0
14	A	1	137	55	72	1	4	5	0	0
14	A	1	137	55	72	1	4	5	0	0
14	A	1	137	55	72	1	4	5	0	0
14	A	1	137	55	72	1	4	5	0	0
14	A	1	137	55	72	1	4	5	0	0
14	A	1	137	55	72	1	4	5	0	0
14	A	1	89	40	39	1	4	5	0	0
14	A	1	137	55	72	1	4	5	0	0
14	A	1	137	55	72	1	4	5	0	0
14	A	1	137	55	72	1	4	5	0	0
14	A	1	102	44	48	1	4	5	0	0
14	A	1	78	35	33	1	4	5	0	0
14	A	1	92	41	41	1	4	5	0	0
14	A	1	137	55	72	1	4	5	0	0
14	A	1	82	37	35	1	4	5	0	0
14	A	1	137	55	72	1	4	5	0	0
14	A	1	92	41	41	1	4	5	0	0
14	A	1	137	55	72	1	4	5	0	0
14	A	1	137	55	72	1	4	5	0	0
14	A	1	95	42	43	1	4	5	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	
			Total	C	H	Mg	N	O		
14	A	1	137	55	72	1	4	5	0	0
14	B	1	137	55	72	1	4	5	0	0
14	B	1	137	55	72	1	4	5	0	0
14	B	1	102	44	48	1	4	5	0	0
14	B	1	137	55	72	1	4	5	0	0
14	B	1	137	55	72	1	4	5	0	0
14	B	1	137	55	72	1	4	5	0	0
14	B	1	137	55	72	1	4	5	0	0
14	B	1	137	55	72	1	4	5	0	0
14	B	1	137	55	72	1	4	5	0	0
14	B	1	78	35	33	1	4	5	0	0
14	B	1	78	35	33	1	4	5	0	0
14	B	1	137	55	72	1	4	5	0	0
14	B	1	137	55	72	1	4	5	0	0
14	B	1	78	35	33	1	4	5	0	0
14	B	1	104	45	49	1	4	5	0	0
14	B	1	117	49	58	1	4	5	0	0
14	B	1	119	50	59	1	4	5	0	0
14	B	1	137	55	72	1	4	5	0	0
14	B	1	82	37	35	1	4	5	0	0
14	B	1	78	35	33	1	4	5	0	0

Continued on next page...

Continued from previous page...

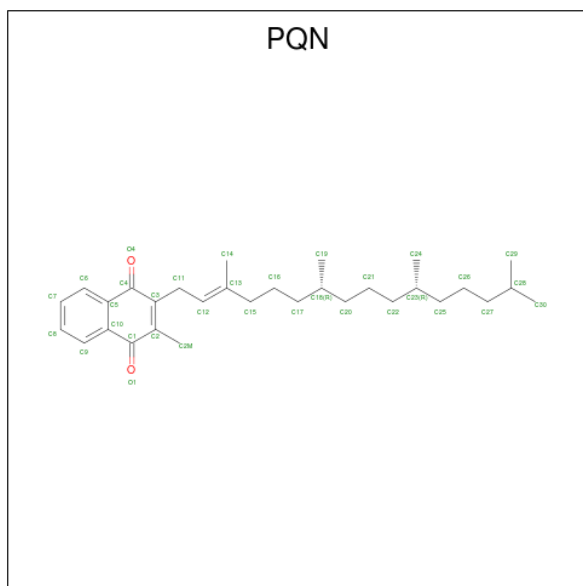
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	
			Total	C	H	Mg	N	O		
14	B	1	104	45	49	1	4	5	0	0
14	B	1	78	35	33	1	4	5	0	0
14	B	1	102	44	48	1	4	5	0	0
14	B	1	79	36	33	1	4	5	0	0
14	B	1	137	55	72	1	4	5	0	0
14	B	1	137	55	72	1	4	5	0	0
14	B	1	137	55	72	1	4	5	0	0
14	B	1	137	55	72	1	4	5	0	0
14	B	1	78	35	33	1	4	5	0	0
14	B	1	88	39	39	1	4	5	0	0
14	B	1	137	55	72	1	4	5	0	0
14	B	1	113	48	55	1	4	5	0	0
14	B	1	78	35	33	1	4	5	0	0
14	B	1	78	35	33	1	4	5	0	0
14	B	1	78	35	33	1	4	5	0	0
14	B	1	119	50	59	1	4	5	0	0
14	B	1	137	55	72	1	4	5	0	0
14	B	1	82	37	35	1	4	5	0	0
14	B	1	137	55	72	1	4	5	0	0
14	B	1	137	55	72	1	4	5	0	0
14	F	1	78	35	33	1	4	5	0	0

Continued on next page...

Continued from previous page...

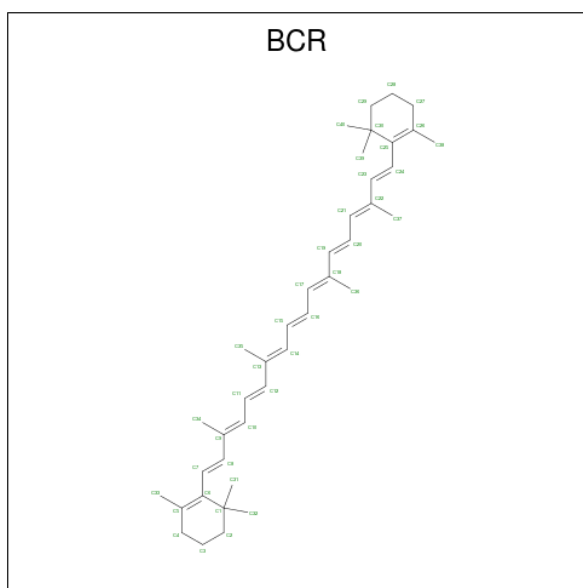
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	
14	J	1	Total	C	H	Mg	N	O	0	0
			78	35	33	1	4	5		
14	J	1	Total	C	H	Mg	N	O	0	0
			62	31	25	1	4	1		
14	K	1	Total	C	H	Mg	N	O	0	0
			70	33	29	1	4	3		
14	K	1	Total	C	H	Mg	N	O	0	0
			78	35	33	1	4	5		
14	L	1	Total	C	H	Mg	N	O	0	0
			137	55	72	1	4	5		
14	L	1	Total	C	H	Mg	N	O	0	0
			137	55	72	1	4	5		
14	L	1	Total	C	H	Mg	N	O	0	0
			137	55	72	1	4	5		
14	M	1	Total	C	H	Mg	N	O	0	0
			78	35	33	1	4	5		
14	X	1	Total	C	H	Mg	N	O	0	0
			78	35	33	1	4	5		

- Molecule 15 is PHYLLOQUINONE (three-letter code: PQN) (formula: C₃₁H₄₆O₂).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
15	A	1	Total	C	H	O	0	0
			79	31	46	2		
15	B	1	Total	C	H	O	0	0
			79	31	46	2		

- Molecule 16 is BETA-CAROTENE (three-letter code: BCR) (formula: C₄₀H₅₆).



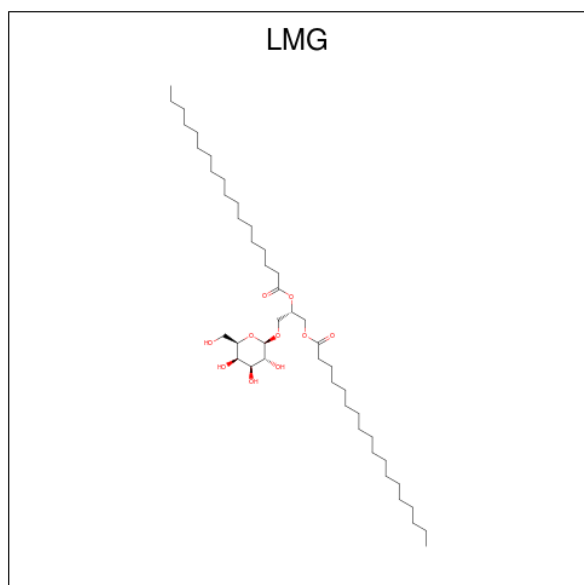
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
16	A	1	Total	C	H	0	0
			96	40	56		
16	A	1	Total	C	H	0	0
			96	40	56		
16	A	1	Total	C	H	0	0
			96	40	56		
16	A	1	Total	C	H	0	0
			96	40	56		
16	A	1	Total	C	H	0	0
			96	40	56		
16	B	1	Total	C	H	0	0
			96	40	56		
16	B	1	Total	C	H	0	0
			96	40	56		
16	B	1	Total	C	H	0	0
			96	40	56		
16	B	1	Total	C	H	0	0
			96	40	56		
16	B	1	Total	C	H	0	0
			96	40	56		
16	F	1	Total	C	H	0	0
			96	40	56		
16	F	1	Total	C	H	0	0
			96	40	56		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
			Total	C	H		
16	I	1	96	40	56	0	0
16	J	1	96	40	56	0	0
16	J	1	96	40	56	0	0
16	J	1	96	40	56	0	0
16	K	1	96	40	56	0	0
16	L	1	96	40	56	0	0
16	L	1	96	40	56	0	0
16	L	1	96	40	56	0	0
16	M	1	96	40	56	0	0

- Molecule 17 is 1,2-DISTEAROYL-MONOGALACTOSYL-DIGLYCERIDE (three-letter code: LMG) (formula: $C_{45}H_{86}O_{10}$).



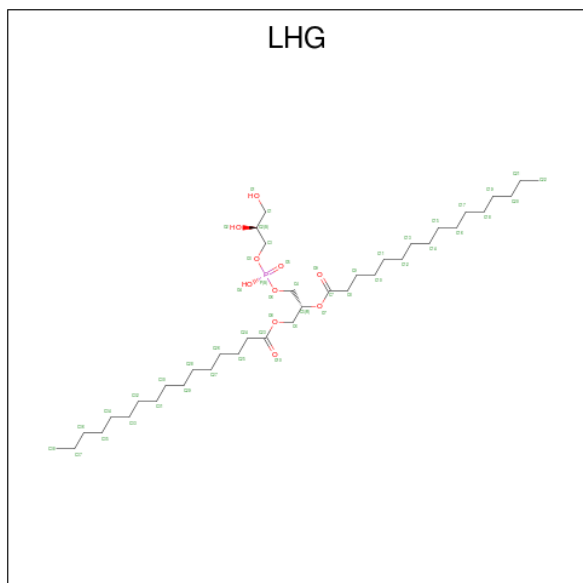
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	H	O		
17	A	1	118	38	70	10	0	0
17	A	1	67	22	37	8	0	0

Continued on next page...

Continued from previous page...

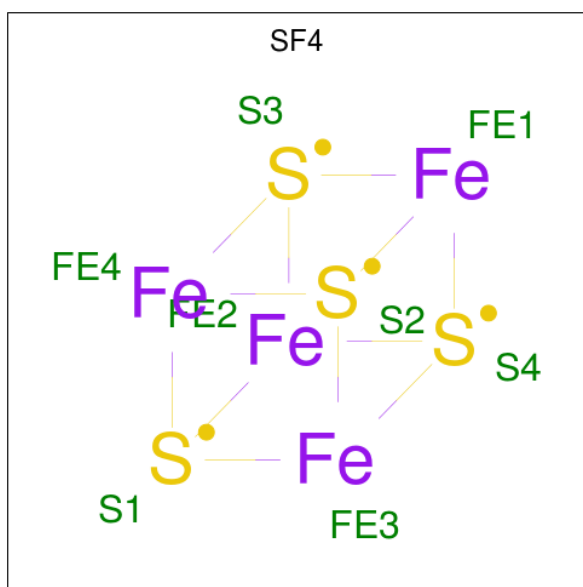
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
17	B	1	Total	C	H	O	0	0
			141	45	86	10		
17	I	1	Total	C	H	O	0	0
			91	30	51	10		

- Molecule 18 is 1,2-DIPALMITOYL-PHOSPHATIDYL-GLYCEROLE (three-letter code: LHG) (formula: $C_{38}H_{74}O_{10}P$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
18	A	1	Total	C	H	O	P	0	0
			123	38	74	10	1		
18	A	1	Total	C	H	O	P	0	0
			53	16	26	10	1		
18	B	1	Total	C	H	O	P	0	0
			43	12	20	10	1		
18	M	1	Total	C	H	O	P	0	0
			123	38	74	10	1		

- Molecule 19 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe_4S_4).

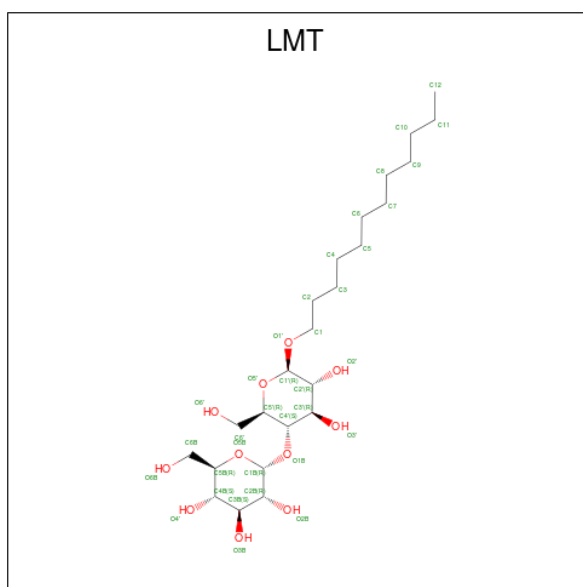


Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
19	B	1	Total Fe S 8 4 4	0	0
19	C	1	Total Fe S 8 4 4	0	0
19	C	1	Total Fe S 8 4 4	0	0

- Molecule 20 is CALCIUM ION (three-letter code: CA) (formula: Ca).

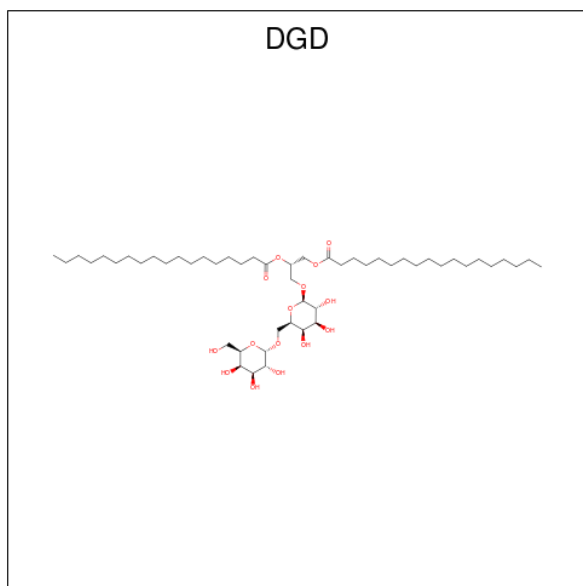
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
20	B	1	Total Ca 1 1	0	0
20	L	1	Total Ca 1 1	0	0

- Molecule 21 is DODECYL-BETA-D-MALTOSE (three-letter code: LMT) (formula: C₂₄H₄₆O₁₁).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	H	O		
21	L	1	81	24	46	11	0	0

- Molecule 22 is DIGALACTOSYL DIACYL GLYCEROL (DGDG) (three-letter code: DGD) (formula: $C_{51}H_{96}O_{15}$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	H	O		
22	L	1	162	51	96	15	0	0

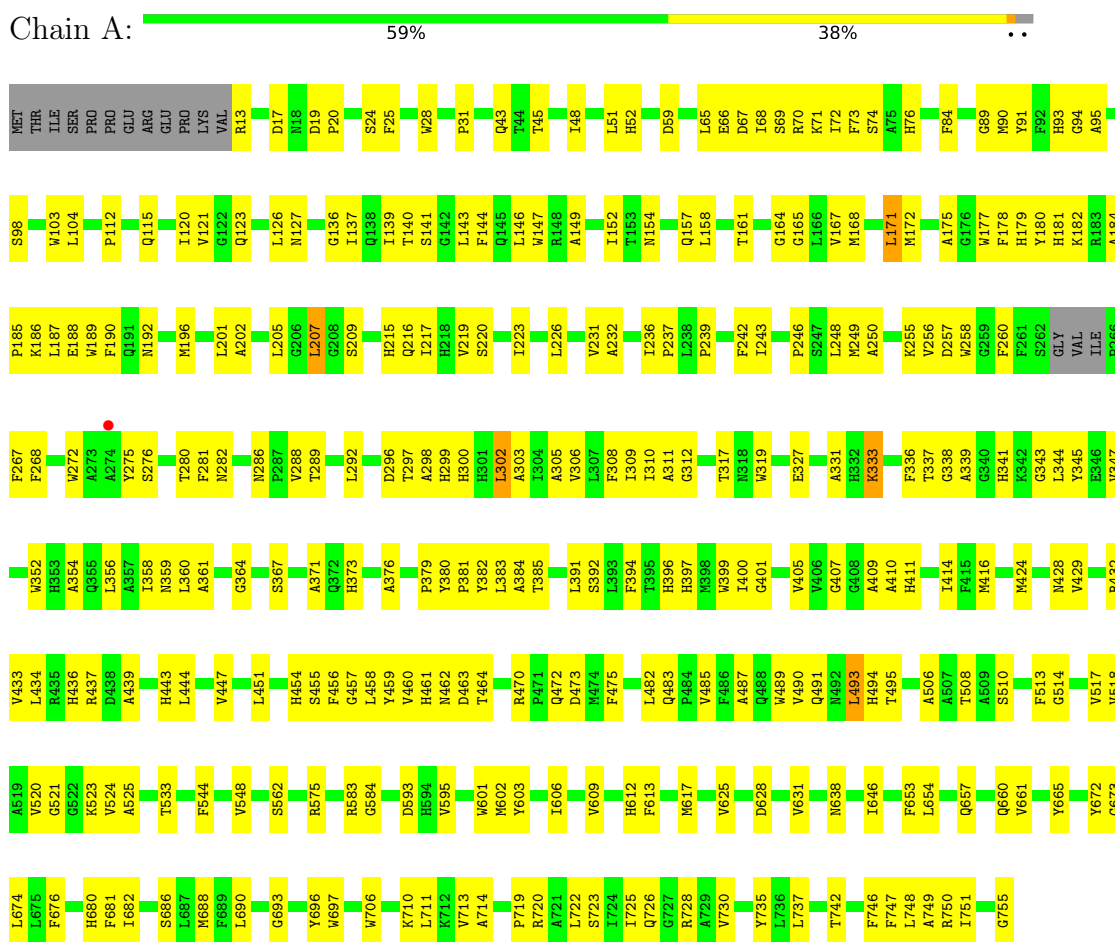
- Molecule 23 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
23	A	8	Total O 8 8	0	0
23	B	8	Total O 8 8	0	0
23	J	1	Total O 1 1	0	0
23	L	2	Total O 2 2	0	0
23	M	1	Total O 1 1	0	0

3 Residue-property plots

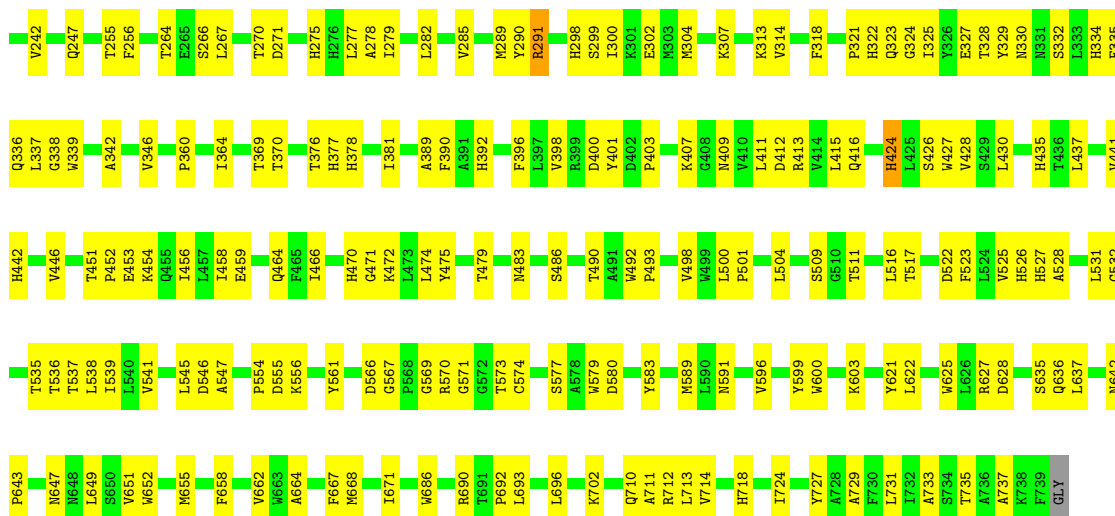
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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: Photosystem I P700 chlorophyll a apoprotein A1



- Molecule 2: Photosystem I P700 chlorophyll a apoprotein A2

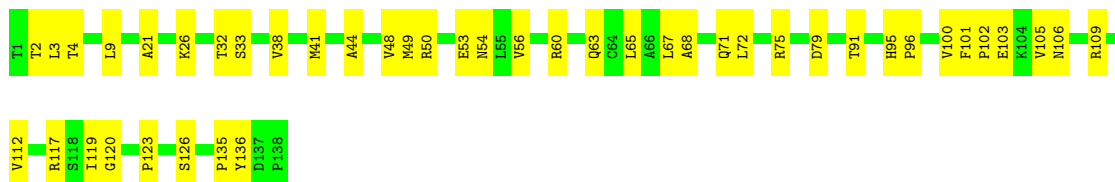




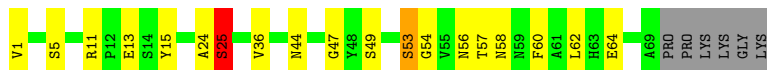
- Molecule 3: Photosystem I iron-sulfur center



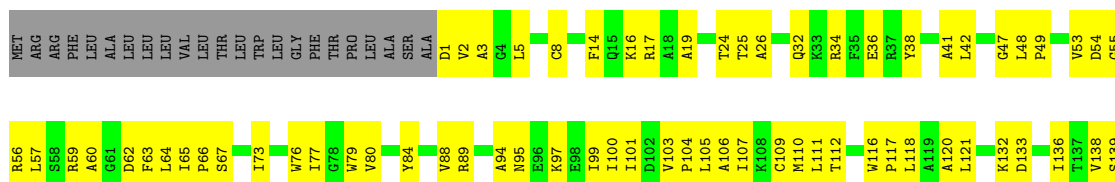
- Molecule 4: Photosystem I reaction center subunit II



- Molecule 5: Photosystem I reaction center subunit IV



- Molecule 6: Photosystem I reaction center subunit III



R140
R141

- Molecule 7: Photosystem I reaction center subunit VIII

Chain I: 58% 42%

M1 Y5 S8 P11 F14 V17 V18 N22 P23 V26 V27 G28 L29 L30 L31 F31 L32 Y33 Y34 I34 E37 A38

- Molecule 8: Photosystem I reaction center subunit IX

Chain J: 46% 54%

M1 K2 H3 F4 A11 P12 I17 W18 M19 T20 T21 T22 A23 G24 I25 L26 L27 E28 R31 F32 Y33 Y34 D35 L36 L37 F38 H39 P40 L41

- Molecule 9: Photosystem I reaction center subunit PsaK

Chain K: 23% 30% 43%

MET VAL LEU ALA THR LEU PRO ASP THR TRP THR PRO SER VAL GLY LEU VAL VAL I20 L21 C22 N23 L24 F25 A26 L27 A28 L29 G30 R31 I34 Q35 S36 K39 G40 P41 G42 L43 PRO ILE ALA LEU ALA ALA LEU PHE GLY PHE G56 L56 P57 E58 L59 L60 A61 T62

T63 S64 F65 L69 A70 V73 V74 L77 GLN TYR ALA GLY ALA LEU

- Molecule 10: Photosystem I reaction center subunit XI

Chain L: 68% 29% ..

ALA GLU GLU L4 W5 K6 P7 H16 L17 S18 T19 P20 L21 S22 D23 S24 V27 N33 L34 P35 A36 Y37 R38 L41 S42 P43 I44 L45 R46 G47 L48 E49 H54 F57 L58 P61 K64 L65 G66 R69 D72 L79 I83 A84 L85 V88

L93 S106 S107 P110 L111 L112 T113 F120 F124 S131 V134 L143 M154

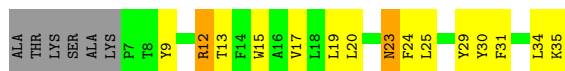
- Molecule 11: Photosystem I reaction center subunit XII

Chain M: 55% 45%

M1 A2 L3 L12 V13 I14 A15 L16 L17 P18 L21 A22 F23 R24 T27 Y30 K31

- Molecule 12: Photosystem I 4.8K protein

Chain X: 40% 37% 6% 17%



4 Data and refinement statistics i

Property	Value	Source
Space group	P 63	Depositor
Cell constants a, b, c, α , β , γ	284.27Å 284.27Å 165.75Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	25.23 – 3.00 25.23 – 3.00	Depositor EDS
% Data completeness (in resolution range)	97.1 (25.23-3.00) 83.1 (25.23-3.00)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	0.23 (at 2.99Å)	Xtrriage
Refinement program	PHENIX 1.19.1_4122	Depositor
R, R_{free}	0.268 , 0.278 0.268 , 0.278	Depositor DCC
R_{free} test set	1997 reflections (1.32%)	wwPDB-VP
Wilson B-factor (Å ²)	60.8	Xtrriage
Anisotropy	0.304	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.27 , -11.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.46$, $\langle L^2 \rangle = 0.29$	Xtrriage
Estimated twinning fraction	0.045 for h,-h-k,-l	Xtrriage
F_o, F_c correlation	0.89	EDS
Total number of atoms	48797	wwPDB-VP
Average B, all atoms (Å ²)	77.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.55% 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: CL0, LMG, CLA, LMT, SF4, PQN, CA, LHG, DGD, BCR

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	0.33	0/5983	0.60	3/8158 (0.0%)
2	B	0.33	0/6107	0.56	0/8345
3	C	0.37	0/608	0.60	0/824
4	D	0.33	0/1101	0.60	0/1492
5	E	0.33	0/551	0.59	0/750
6	F	0.35	0/1087	0.64	0/1476
7	I	0.32	0/312	0.61	0/425
8	J	0.34	0/350	0.59	0/477
9	K	0.32	0/337	0.75	0/454
10	L	0.34	0/1148	0.59	0/1558
11	M	0.39	0/244	0.59	0/332
12	X	0.37	0/251	0.59	0/342
All	All	0.33	0/18079	0.59	3/24633 (0.0%)

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
3	C	0	1
9	K	0	1
All	All	0	4

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	248	LEU	CA-CB-CG	5.48	127.90	115.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed($^{\circ}$)	Ideal($^{\circ}$)
1	A	493	LEU	CA-CB-CG	5.16	127.16	115.30
1	A	171	LEU	CA-CB-CG	5.13	127.10	115.30

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	521	GLY	Peptide
1	A	617	MET	Peptide
3	C	60	ASP	Peptide
9	K	58	GLU	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	5784	5638	5639	290	0
2	B	5889	5618	5649	222	0
3	C	598	576	580	27	0
4	D	1075	1077	1077	33	0
5	E	539	528	528	14	0
6	F	1065	1076	1077	70	0
7	I	301	306	306	18	0
8	J	338	347	347	27	0
9	K	333	354	354	38	0
10	L	1119	1125	1125	32	0
11	M	241	264	264	15	0
12	X	242	217	249	16	0
13	A	65	72	72	3	0
14	A	2628	2615	2615	157	0
14	B	2284	2232	2232	108	0
14	F	45	33	33	8	0
14	J	82	58	58	4	0
14	K	86	62	62	5	0
14	L	195	216	216	5	0
14	M	45	33	33	4	0
14	X	45	33	33	3	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
15	A	33	46	46	9	0
15	B	33	46	46	2	0
16	A	200	280	280	20	0
16	B	240	336	336	18	0
16	F	80	112	112	8	0
16	I	40	56	56	4	0
16	J	120	168	168	20	0
16	K	40	56	56	5	0
16	L	120	168	168	7	0
16	M	40	56	56	2	0
17	A	78	107	105	1	0
17	B	55	86	86	0	0
17	I	40	51	50	3	0
18	A	76	100	98	7	0
18	B	23	20	16	2	0
18	M	49	74	74	3	0
19	B	8	0	0	0	0
19	C	16	0	0	1	0
20	B	1	0	0	0	0
20	L	1	0	0	0	0
21	L	35	46	45	0	0
22	L	66	96	96	2	0
23	A	8	0	0	4	0
23	B	8	0	0	0	0
23	J	1	0	0	0	0
23	L	2	0	0	0	0
23	M	1	0	0	0	0
All	All	24413	24384	24443	928	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 19.

The worst 5 of 928 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)
9:K:60:LEU:O	9:K:63:THR:N	1.88	1.04
1:A:454:HIS:O	1:A:458:LEU:HD13	1.61	0.98
1:A:661:VAL:HG22	1:A:749:ALA:HB3	1.47	0.97
1:A:661:VAL:HG21	1:A:746:PHE:HA	1.46	0.97
4:D:3:LEU:HD21	4:D:91:THR:HG21	1.52	0.91

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	736/755 (98%)	671 (91%)	65 (9%)	0	100	100
2	B	737/740 (100%)	680 (92%)	56 (8%)	1 (0%)	51	85
3	C	78/80 (98%)	71 (91%)	7 (9%)	0	100	100
4	D	136/138 (99%)	122 (90%)	14 (10%)	0	100	100
5	E	67/75 (89%)	56 (84%)	10 (15%)	1 (2%)	10	42
6	F	139/164 (85%)	121 (87%)	18 (13%)	0	100	100
7	I	36/38 (95%)	30 (83%)	6 (17%)	0	100	100
8	J	39/41 (95%)	35 (90%)	4 (10%)	0	100	100
9	K	43/83 (52%)	35 (81%)	8 (19%)	0	100	100
10	L	149/154 (97%)	136 (91%)	13 (9%)	0	100	100
11	M	29/31 (94%)	28 (97%)	1 (3%)	0	100	100
12	X	27/35 (77%)	24 (89%)	3 (11%)	0	100	100
All	All	2216/2334 (95%)	2009 (91%)	205 (9%)	2 (0%)	51	85

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
5	E	25	SER
2	B	194	ILE

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	589/603 (98%)	577 (98%)	12 (2%)	55	83
2	B	597/597 (100%)	583 (98%)	14 (2%)	50	80
3	C	67/67 (100%)	64 (96%)	3 (4%)	27	64
4	D	115/115 (100%)	114 (99%)	1 (1%)	78	92
5	E	59/64 (92%)	57 (97%)	2 (3%)	37	72
6	F	109/128 (85%)	108 (99%)	1 (1%)	78	92
7	I	32/32 (100%)	32 (100%)	0	100	100
8	J	36/36 (100%)	36 (100%)	0	100	100
9	K	33/61 (54%)	30 (91%)	3 (9%)	9	34
10	L	117/119 (98%)	116 (99%)	1 (1%)	78	92
11	M	26/26 (100%)	26 (100%)	0	100	100
12	X	23/27 (85%)	20 (87%)	3 (13%)	4	19
All	All	1803/1875 (96%)	1763 (98%)	40 (2%)	52	81

5 of 40 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	C	18	ARG
9	K	60	LEU
4	D	33	SER
6	F	95	ASN
12	X	12	ARG

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

Mol	Chain	Res	Type
2	B	591	ASN
5	E	59	ASN
4	D	78	ASN
6	F	90	ASN
1	A	718	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 135 ligands modelled in this entry, 2 are monoatomic - leaving 133 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
14	CLA	B	3019	-	60,68,73	1.57	5 (8%)	70,107,113	1.43	9 (12%)
18	LHG	A	853	-	48,48,48	0.69	2 (4%)	51,54,54	1.23	6 (11%)
14	CLA	B	3006	-	65,73,73	1.53	5 (7%)	76,113,113	1.33	7 (9%)
14	CLA	B	3013	-	45,53,73	1.85	5 (11%)	52,89,113	1.51	7 (13%)
15	PQN	A	846	-	34,34,34	2.03	7 (20%)	42,45,45	1.29	6 (14%)
14	CLA	B	3042	-	65,73,73	1.54	6 (9%)	76,113,113	1.47	6 (7%)
14	CLA	A	828	-	65,73,73	1.58	5 (7%)	76,113,113	1.28	6 (7%)
14	CLA	F	202	23	45,53,73	1.86	5 (11%)	52,89,113	1.47	7 (13%)
14	CLA	A	820	-	65,73,73	1.47	6 (9%)	76,113,113	1.49	10 (13%)
14	CLA	M	102	23	45,53,73	1.87	10 (22%)	52,89,113	1.72	14 (26%)
14	CLA	A	844	23	65,73,73	1.52	6 (9%)	76,113,113	1.54	9 (11%)
16	BCR	A	848	-	41,41,41	1.14	3 (7%)	56,56,56	1.22	6 (10%)
14	CLA	A	836	-	54,62,73	1.69	5 (9%)	62,99,113	1.49	8 (12%)
16	BCR	A	850	-	41,41,41	1.07	3 (7%)	56,56,56	1.20	4 (7%)
14	CLA	A	834	-	65,73,73	1.57	7 (10%)	76,113,113	1.42	9 (11%)
14	CLA	A	812	14	65,73,73	1.54	6 (9%)	76,113,113	1.43	10 (13%)
17	LMG	A	855	-	30,30,55	1.40	4 (13%)	37,37,63	1.32	4 (10%)
14	CLA	A	818	-	54,62,73	1.70	6 (11%)	62,99,113	1.48	8 (12%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
14	CLA	B	3031	-	45,53,73	1.90	7 (15%)	52,89,113	1.54	6 (11%)
14	CLA	B	3037	23	45,53,73	1.90	6 (13%)	52,89,113	1.45	5 (9%)
19	SF4	C	102	3	0,12,12	-	-	-	-	-
14	CLA	A	841	-	65,73,73	1.48	5 (7%)	76,113,113	1.48	12 (15%)
16	BCR	F	203	-	41,41,41	1.12	3 (7%)	56,56,56	1.31	7 (12%)
14	CLA	A	837	1	45,53,73	1.83	6 (13%)	52,89,113	1.54	7 (13%)
14	CLA	A	811	-	45,53,73	1.76	6 (13%)	52,89,113	1.53	8 (15%)
16	BCR	B	3045	-	41,41,41	1.14	3 (7%)	56,56,56	1.26	6 (10%)
14	CLA	B	3004	-	65,73,73	1.51	8 (12%)	76,113,113	1.48	10 (13%)
14	CLA	B	3030	-	65,73,73	1.54	6 (9%)	76,113,113	1.48	12 (15%)
16	BCR	A	847	-	41,41,41	1.17	3 (7%)	56,56,56	1.25	6 (10%)
16	BCR	B	3046	-	41,41,41	1.13	3 (7%)	56,56,56	1.26	7 (12%)
14	CLA	A	832	-	50,58,73	1.70	6 (12%)	58,95,113	1.52	9 (15%)
14	CLA	A	830	-	65,73,73	1.50	6 (9%)	76,113,113	1.35	7 (9%)
14	CLA	A	804	-	65,73,73	1.52	6 (9%)	76,113,113	1.26	5 (6%)
16	BCR	J	103	-	41,41,41	1.10	3 (7%)	56,56,56	1.20	2 (3%)
14	CLA	B	3040	-	47,55,73	1.82	5 (10%)	54,91,113	1.52	7 (12%)
14	CLA	A	838	-	51,59,73	1.73	6 (11%)	59,96,113	1.52	8 (13%)
14	CLA	B	3005	-	54,62,73	1.66	6 (11%)	62,99,113	1.58	9 (14%)
14	CLA	B	3008	-	65,73,73	1.56	7 (10%)	76,113,113	1.38	6 (7%)
14	CLA	B	3023	23	55,63,73	1.62	6 (10%)	64,101,113	1.44	6 (9%)
14	CLA	A	829	-	65,73,73	1.50	6 (9%)	76,113,113	1.39	10 (13%)
14	CLA	B	3039	-	65,73,73	1.57	7 (10%)	76,113,113	1.31	7 (9%)
14	CLA	B	3003	-	65,73,73	1.54	7 (10%)	76,113,113	1.37	6 (7%)
14	CLA	A	803	-	65,73,73	1.53	6 (9%)	76,113,113	1.49	10 (13%)
14	CLA	A	806	-	65,73,73	1.51	6 (9%)	76,113,113	1.45	7 (9%)
14	CLA	A	809	1	65,73,73	1.54	5 (7%)	76,113,113	1.33	6 (7%)
17	LMG	A	852	-	48,48,55	0.86	2 (4%)	56,56,63	1.27	6 (10%)
14	CLA	L	206	23	65,73,73	1.49	6 (9%)	76,113,113	1.48	9 (11%)
16	BCR	L	208	-	41,41,41	1.12	3 (7%)	56,56,56	1.44	12 (21%)
16	BCR	L	209	-	41,41,41	1.17	3 (7%)	56,56,56	1.31	7 (12%)
14	CLA	A	839	-	65,73,73	1.48	6 (9%)	76,113,113	1.48	8 (10%)
14	CLA	B	3012	-	45,53,73	1.83	5 (11%)	52,89,113	1.76	11 (21%)
17	LMG	I	102	-	40,40,55	1.37	6 (15%)	48,48,63	1.23	4 (8%)
14	CLA	B	3009	-	65,73,73	1.52	6 (9%)	76,113,113	1.39	9 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
14	CLA	A	824	-	51,59,73	1.70	5 (9%)	59,96,113	1.54	8 (13%)
16	BCR	A	851	-	41,41,41	1.16	3 (7%)	56,56,56	1.40	8 (14%)
14	CLA	B	3038	-	60,68,73	1.58	5 (8%)	70,107,113	1.39	7 (10%)
16	BCR	M	103	-	41,41,41	1.16	3 (7%)	56,56,56	1.14	2 (3%)
14	CLA	A	835	-	65,73,73	1.51	7 (10%)	76,113,113	1.52	13 (17%)
14	CLA	B	3016	-	45,53,73	1.79	6 (13%)	52,89,113	1.62	10 (19%)
14	CLA	L	205	-	65,73,73	1.47	5 (7%)	76,113,113	1.38	8 (10%)
14	CLA	A	815	-	45,53,73	1.84	6 (13%)	52,89,113	1.46	7 (13%)
14	CLA	B	3041	23	65,73,73	1.65	8 (12%)	76,113,113	1.45	11 (14%)
19	SF4	B	3001	1,2	0,12,12	-	-	-	-	-
17	LMG	B	3049	-	55,55,55	0.81	1 (1%)	63,63,63	1.36	4 (6%)
14	CLA	B	3020	23	65,73,73	1.48	7 (10%)	76,113,113	1.46	9 (11%)
16	BCR	B	3044	-	41,41,41	1.10	3 (7%)	56,56,56	1.21	6 (10%)
14	CLA	B	3025	2	54,62,73	1.68	6 (11%)	62,99,113	1.49	10 (16%)
18	LHG	B	3050	-	22,22,48	1.57	5 (22%)	25,28,54	1.24	3 (12%)
15	PQN	B	3043	-	34,34,34	2.15	7 (20%)	42,45,45	1.22	5 (11%)
14	CLA	B	3035	-	45,53,73	1.85	5 (11%)	52,89,113	1.62	11 (21%)
14	CLA	B	3010	2	65,73,73	1.57	8 (12%)	76,113,113	1.58	12 (15%)
14	CLA	A	814	-	60,68,73	1.62	5 (8%)	70,107,113	1.32	7 (10%)
14	CLA	A	807	-	65,73,73	1.56	5 (7%)	76,113,113	1.27	8 (10%)
14	CLA	B	3029	-	65,73,73	1.54	5 (7%)	76,113,113	1.34	8 (10%)
16	BCR	F	201	-	41,41,41	1.14	3 (7%)	56,56,56	1.26	6 (10%)
14	CLA	A	856	23	65,73,73	1.51	7 (10%)	76,113,113	1.37	8 (10%)
14	CLA	A	802	23	65,73,73	1.55	5 (7%)	76,113,113	1.44	8 (10%)
14	CLA	A	819	-	54,62,73	1.67	8 (14%)	62,99,113	1.61	9 (14%)
16	BCR	I	101	-	41,41,41	1.03	2 (4%)	56,56,56	1.26	7 (12%)
14	CLA	B	3026	23	46,54,73	1.83	6 (13%)	53,90,113	1.59	6 (11%)
14	CLA	A	810	1	65,73,73	1.53	5 (7%)	76,113,113	1.33	10 (13%)
14	CLA	B	3036	23	45,53,73	1.88	5 (11%)	52,89,113	1.49	8 (15%)
14	CLA	A	816	-	45,53,73	1.78	6 (13%)	52,89,113	1.67	9 (17%)
16	BCR	A	849	-	41,41,41	1.14	3 (7%)	56,56,56	1.32	7 (12%)
14	CLA	A	843	-	65,73,73	1.54	6 (9%)	76,113,113	1.44	8 (10%)
14	CLA	A	831	-	65,73,73	1.49	6 (9%)	76,113,113	1.34	9 (11%)
14	CLA	A	823	-	49,57,73	1.75	5 (10%)	55,93,113	1.62	9 (16%)
14	CLA	A	822	23	65,73,73	1.48	5 (7%)	76,113,113	1.35	8 (10%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
18	LHG	A	854	14	26,26,48	0.97	1 (3%)	29,32,54	1.32	3 (10%)
14	CLA	B	3033	-	65,73,73	1.52	5 (7%)	76,113,113	1.39	9 (11%)
14	CLA	A	808	-	51,59,73	1.77	6 (11%)	59,96,113	1.51	10 (16%)
14	CLA	B	3007	-	65,73,73	1.50	6 (9%)	76,113,113	1.33	6 (7%)
14	CLA	B	3014	-	65,73,73	1.54	5 (7%)	76,113,113	1.30	9 (11%)
14	CLA	B	3024	-	45,53,73	1.86	5 (11%)	52,89,113	1.49	8 (15%)
16	BCR	L	201	-	41,41,41	1.13	3 (7%)	56,56,56	1.21	5 (8%)
14	CLA	B	3021	-	47,55,73	1.80	7 (14%)	54,91,113	1.56	8 (14%)
14	CLA	B	3027	-	65,73,73	1.55	6 (9%)	76,113,113	1.30	6 (7%)
14	CLA	A	842	23	51,59,73	1.69	5 (9%)	59,96,113	1.61	7 (11%)
14	CLA	B	3028	-	65,73,73	1.51	7 (10%)	76,113,113	1.41	6 (7%)
14	CLA	J	102	-	38,45,73	1.95	6 (15%)	43,78,113	1.50	7 (16%)
16	BCR	K	102	-	41,41,41	1.10	3 (7%)	56,56,56	1.36	8 (14%)
14	CLA	K	101	-	42,49,73	1.83	6 (14%)	48,83,113	1.55	7 (14%)
14	CLA	B	3017	-	55,63,73	1.67	5 (9%)	64,101,113	1.41	6 (9%)
14	CLA	B	3032	-	49,57,73	1.70	5 (10%)	55,93,113	1.68	12 (21%)
14	CLA	A	821	-	42,50,73	1.84	5 (11%)	47,84,113	1.74	9 (19%)
16	BCR	B	3047	-	41,41,41	1.15	3 (7%)	56,56,56	1.34	8 (14%)
14	CLA	B	3018	-	59,67,73	1.58	5 (8%)	68,105,113	1.49	8 (11%)
18	LHG	M	101	-	48,48,48	0.71	1 (2%)	51,54,54	1.20	3 (5%)
14	CLA	A	827	23	65,73,73	1.51	6 (9%)	76,113,113	1.36	8 (10%)
14	CLA	K	103	-	45,53,73	1.79	5 (11%)	52,89,113	1.59	9 (17%)
13	CL0	A	801	-	65,73,73	1.54	6 (9%)	76,113,113	1.34	10 (13%)
22	DGD	L	207	-	67,67,67	1.04	3 (4%)	81,81,81	1.18	8 (9%)
14	CLA	X	1701	12	45,53,73	1.86	5 (11%)	52,89,113	1.63	9 (17%)
14	CLA	A	825	-	59,67,73	1.58	5 (8%)	68,105,113	1.39	8 (11%)
16	BCR	J	105	-	41,41,41	1.12	3 (7%)	56,56,56	1.35	9 (16%)
19	SF4	C	101	3	0,12,12	-	-	-	-	-
21	LMT	L	202	-	36,36,36	1.15	5 (13%)	47,47,47	1.36	7 (14%)
16	BCR	B	3051	-	41,41,41	1.16	3 (7%)	56,56,56	1.18	3 (5%)
14	CLA	B	3022	-	45,53,73	1.83	6 (13%)	52,89,113	1.54	7 (13%)
14	CLA	A	817	23	49,57,73	1.78	5 (10%)	55,93,113	1.50	6 (10%)
14	CLA	J	101	8	45,53,73	1.85	5 (11%)	52,89,113	1.47	7 (13%)
16	BCR	J	104	-	41,41,41	1.18	3 (7%)	56,56,56	1.30	6 (10%)
14	CLA	A	805	14	59,67,73	1.63	5 (8%)	68,105,113	1.28	4 (5%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
14	CLA	A	840	-	47,55,73	1.85	6 (12%)	54,91,113	1.59	9 (16%)
14	CLA	A	845	18	52,60,73	1.65	6 (11%)	60,97,113	1.55	10 (16%)
14	CLA	A	826	-	65,73,73	1.51	5 (7%)	76,113,113	1.39	10 (13%)
14	CLA	L	204	10	65,73,73	1.51	6 (9%)	76,113,113	1.56	11 (14%)
14	CLA	A	813	-	54,62,73	1.66	6 (11%)	62,99,113	1.46	7 (11%)
14	CLA	B	3011	2	65,73,73	1.51	5 (7%)	76,113,113	1.42	13 (17%)
14	CLA	B	3034	-	58,66,73	1.56	5 (8%)	67,104,113	1.45	12 (17%)
14	CLA	B	3015	-	65,73,73	1.54	5 (7%)	76,113,113	1.22	7 (9%)
14	CLA	A	833	-	65,73,73	1.50	6 (9%)	76,113,113	1.37	8 (10%)
16	BCR	B	3048	-	41,41,41	1.10	3 (7%)	56,56,56	1.18	4 (7%)

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
14	CLA	B	3019	-	1/1/19/20	11/31/109/115	-
18	LHG	A	853	-	-	27/53/53/53	-
14	CLA	B	3006	-	1/1/20/20	16/37/115/115	-
14	CLA	B	3013	-	1/1/15/20	5/13/91/115	-
15	PQN	A	846	-	-	10/23/43/43	0/2/2/2
14	CLA	B	3042	-	1/1/20/20	7/37/115/115	-
14	CLA	A	828	-	1/1/20/20	8/37/115/115	-
14	CLA	F	202	23	1/1/15/20	4/13/91/115	-
14	CLA	A	820	-	1/1/20/20	20/37/115/115	-
14	CLA	M	102	23	1/1/15/20	8/13/91/115	-
14	CLA	A	844	23	1/1/20/20	12/37/115/115	-
16	BCR	A	848	-	-	7/29/63/63	0/2/2/2
14	CLA	A	836	-	1/1/17/20	11/24/102/115	-
16	BCR	A	850	-	-	11/29/63/63	0/2/2/2
14	CLA	A	834	-	1/1/20/20	8/37/115/115	-
14	CLA	A	812	14	1/1/20/20	11/37/115/115	-
17	LMG	A	855	-	-	15/23/43/70	0/1/1/1
14	CLA	A	818	-	1/1/17/20	5/24/102/115	-
14	CLA	B	3031	-	1/1/15/20	6/13/91/115	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
14	CLA	B	3037	23	1/1/15/20	4/13/91/115	-
19	SF4	C	102	3	-	-	0/6/5/5
14	CLA	A	841	-	1/1/20/20	6/37/115/115	-
16	BCR	F	203	-	-	11/29/63/63	0/2/2/2
14	CLA	A	837	1	1/1/15/20	8/13/91/115	-
14	CLA	A	811	-	1/1/15/20	9/13/91/115	-
16	BCR	B	3045	-	-	11/29/63/63	0/2/2/2
14	CLA	B	3004	-	1/1/20/20	7/37/115/115	-
14	CLA	B	3030	-	1/1/20/20	15/37/115/115	-
16	BCR	A	847	-	-	16/29/63/63	0/2/2/2
16	BCR	B	3046	-	-	11/29/63/63	0/2/2/2
14	CLA	A	832	-	1/1/17/20	6/19/97/115	-
14	CLA	A	830	-	1/1/20/20	15/37/115/115	-
14	CLA	A	804	-	1/1/20/20	8/37/115/115	-
16	BCR	J	103	-	-	14/29/63/63	0/2/2/2
14	CLA	B	3040	-	-	5/16/94/115	-
14	CLA	A	838	-	1/1/17/20	6/21/99/115	-
14	CLA	B	3005	-	1/1/17/20	8/24/102/115	-
14	CLA	B	3008	-	1/1/20/20	6/37/115/115	-
14	CLA	B	3023	23	1/1/18/20	9/25/103/115	-
14	CLA	A	829	-	1/1/20/20	13/37/115/115	-
14	CLA	B	3039	-	1/1/20/20	9/37/115/115	-
14	CLA	B	3003	-	1/1/20/20	13/37/115/115	-
14	CLA	A	803	-	1/1/20/20	8/37/115/115	-
14	CLA	A	806	-	1/1/20/20	21/37/115/115	-
14	CLA	A	809	1	1/1/20/20	19/37/115/115	-
17	LMG	A	852	-	-	27/43/63/70	0/1/1/1
14	CLA	L	206	23	1/1/20/20	7/37/115/115	-
16	BCR	L	208	-	-	15/29/63/63	0/2/2/2
16	BCR	L	209	-	-	10/29/63/63	0/2/2/2
14	CLA	A	839	-	1/1/20/20	9/37/115/115	-
14	CLA	B	3012	-	1/1/15/20	5/13/91/115	-
17	LMG	I	102	-	-	11/35/55/70	0/1/1/1
14	CLA	B	3009	-	1/1/20/20	11/37/115/115	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
14	CLA	A	824	-	1/1/17/20	6/21/99/115	-
16	BCR	A	851	-	-	17/29/63/63	0/2/2/2
14	CLA	B	3038	-	-	6/31/109/115	-
16	BCR	M	103	-	-	7/29/63/63	0/2/2/2
14	CLA	A	835	-	1/1/20/20	14/37/115/115	-
14	CLA	B	3016	-	1/1/15/20	7/13/91/115	-
14	CLA	L	205	-	1/1/20/20	3/37/115/115	-
14	CLA	A	815	-	1/1/15/20	2/13/91/115	-
14	CLA	B	3041	23	1/1/20/20	11/37/115/115	-
19	SF4	B	3001	1,2	-	-	0/6/5/5
17	LMG	B	3049	-	-	23/50/70/70	0/1/1/1
14	CLA	B	3020	23	1/1/20/20	14/37/115/115	-
16	BCR	B	3044	-	-	8/29/63/63	0/2/2/2
14	CLA	B	3025	2	-	8/24/102/115	-
18	LHG	B	3050	-	-	11/26/26/53	-
15	PQN	B	3043	-	-	8/23/43/43	0/2/2/2
14	CLA	B	3035	-	1/1/15/20	4/13/91/115	-
14	CLA	B	3010	2	1/1/20/20	12/37/115/115	-
14	CLA	A	814	-	1/1/19/20	6/31/109/115	-
14	CLA	A	807	-	1/1/20/20	15/37/115/115	-
14	CLA	B	3029	-	1/1/20/20	21/37/115/115	-
16	BCR	F	201	-	-	7/29/63/63	0/2/2/2
14	CLA	A	856	23	1/1/20/20	16/37/115/115	-
14	CLA	A	802	23	1/1/20/20	10/37/115/115	-
14	CLA	A	819	-	1/1/17/20	6/24/102/115	-
16	BCR	I	101	-	-	4/29/63/63	0/2/2/2
14	CLA	B	3026	23	1/1/15/20	2/15/93/115	-
14	CLA	A	810	1	1/1/20/20	11/37/115/115	-
14	CLA	B	3036	23	1/1/15/20	6/13/91/115	-
14	CLA	A	816	-	1/1/15/20	4/13/91/115	-
16	BCR	A	849	-	-	12/29/63/63	0/2/2/2
14	CLA	A	843	-	1/1/20/20	8/37/115/115	-
14	CLA	A	831	-	1/1/20/20	10/37/115/115	-
14	CLA	A	823	-	1/1/16/20	12/18/96/115	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
14	CLA	A	822	23	1/1/20/20	16/37/115/115	-
18	LHG	A	854	14	-	14/31/31/53	-
14	CLA	B	3033	-	1/1/20/20	18/37/115/115	-
14	CLA	A	808	-	1/1/17/20	10/21/99/115	-
14	CLA	B	3007	-	1/1/20/20	10/37/115/115	-
14	CLA	B	3014	-	1/1/20/20	13/37/115/115	-
14	CLA	B	3024	-	1/1/15/20	6/13/91/115	-
16	BCR	L	201	-	-	8/29/63/63	0/2/2/2
14	CLA	B	3021	-	1/1/15/20	13/16/94/115	-
14	CLA	B	3027	-	1/1/20/20	16/37/115/115	-
14	CLA	A	842	23	1/1/17/20	7/21/99/115	-
14	CLA	B	3028	-	1/1/20/20	13/37/115/115	-
14	CLA	J	102	-	1/1/12/20	0/2/76/115	-
16	BCR	K	102	-	-	12/29/63/63	0/2/2/2
14	CLA	K	101	-	1/1/13/20	1/7/81/115	-
14	CLA	B	3017	-	1/1/18/20	4/25/103/115	-
14	CLA	B	3032	-	1/1/16/20	8/18/96/115	-
14	CLA	A	821	-	1/1/14/20	4/8/86/115	-
16	BCR	B	3047	-	-	15/29/63/63	0/2/2/2
14	CLA	B	3018	-	1/1/18/20	12/30/108/115	-
18	LHG	M	101	-	-	26/53/53/53	-
14	CLA	A	827	23	1/1/20/20	10/37/115/115	-
14	CLA	K	103	-	1/1/15/20	8/13/91/115	-
13	CL0	A	801	-	3/3/25/25	11/37/135/135	-
22	DGD	L	207	-	-	22/55/95/95	0/2/2/2
14	CLA	X	1701	12	1/1/15/20	3/13/91/115	-
14	CLA	A	825	-	1/1/18/20	13/30/108/115	-
16	BCR	J	105	-	-	12/29/63/63	0/2/2/2
21	LMT	L	202	-	-	12/21/61/61	0/2/2/2
19	SF4	C	101	3	-	-	0/6/5/5
16	BCR	B	3051	-	-	12/29/63/63	0/2/2/2
14	CLA	B	3022	-	1/1/15/20	8/13/91/115	-
14	CLA	A	817	23	1/1/16/20	8/18/96/115	-
14	CLA	J	101	8	1/1/15/20	6/13/91/115	-
16	BCR	J	104	-	-	15/29/63/63	0/2/2/2

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
14	CLA	A	805	14	1/1/18/20	5/30/108/115	-
14	CLA	A	840	-	1/1/15/20	5/16/94/115	-
14	CLA	A	845	18	1/1/17/20	9/22/100/115	-
14	CLA	A	826	-	1/1/20/20	15/37/115/115	-
14	CLA	L	204	10	1/1/20/20	11/37/115/115	-
14	CLA	A	813	-	1/1/17/20	7/24/102/115	-
14	CLA	B	3011	2	1/1/20/20	17/37/115/115	-
14	CLA	B	3034	-	1/1/18/20	11/29/107/115	-
14	CLA	B	3015	-	1/1/20/20	13/37/115/115	-
14	CLA	A	833	-	1/1/20/20	9/37/115/115	-
16	BCR	B	3048	-	-	4/29/63/63	0/2/2/2

The worst 5 of 667 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
14	B	3041	CLA	C4B-NB	8.54	1.42	1.35
14	B	3037	CLA	C4B-NB	8.31	1.42	1.35
14	A	828	CLA	C4B-NB	8.31	1.42	1.35
14	A	843	CLA	C4B-NB	8.28	1.42	1.35
14	A	817	CLA	C4B-NB	8.25	1.42	1.35

The worst 5 of 999 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
14	A	842	CLA	C4A-NA-C1A	8.06	110.33	106.71
14	A	806	CLA	C4A-NA-C1A	7.97	110.29	106.71
14	B	3042	CLA	C4A-NA-C1A	7.78	110.20	106.71
14	B	3033	CLA	C4A-NA-C1A	7.66	110.15	106.71
14	A	803	CLA	C4A-NA-C1A	7.63	110.14	106.71

5 of 95 chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
13	A	801	CL0	NC
13	A	801	CL0	ND
13	A	801	CL0	NA
14	A	802	CLA	ND
14	A	803	CLA	ND

5 of 1338 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
13	A	801	CL0	C1A-C2A-CAA-CBA
13	A	801	CL0	C3A-C2A-CAA-CBA
14	A	806	CLA	C1A-C2A-CAA-CBA
14	A	806	CLA	CAD-CBD-CGD-O1D
14	A	806	CLA	CAD-CBD-CGD-O2D

There are no ring outliers.

124 monomers are involved in 376 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
14	B	3019	CLA	3	0
18	A	853	LHG	3	0
14	B	3006	CLA	2	0
14	B	3013	CLA	4	0
15	A	846	PQN	9	0
14	B	3042	CLA	1	0
14	A	828	CLA	5	0
14	F	202	CLA	8	0
14	A	820	CLA	6	0
14	M	102	CLA	4	0
14	A	844	CLA	4	0
14	A	836	CLA	3	0
16	A	850	BCR	4	0
14	A	834	CLA	2	0
14	A	812	CLA	5	0
17	A	855	LMG	1	0
14	A	818	CLA	5	0
14	B	3031	CLA	3	0
14	B	3037	CLA	2	0
14	A	841	CLA	6	0
16	F	203	BCR	4	0
14	A	811	CLA	7	0
16	B	3045	BCR	8	0
14	B	3004	CLA	4	0
14	B	3030	CLA	3	0
16	A	847	BCR	7	0
16	B	3046	BCR	3	0
14	A	832	CLA	8	0
14	A	830	CLA	5	0
14	A	804	CLA	10	0
16	J	103	BCR	3	0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
14	B	3040	CLA	3	0
14	A	838	CLA	2	0
14	B	3005	CLA	2	0
14	B	3008	CLA	3	0
14	B	3023	CLA	2	0
14	A	829	CLA	9	0
14	B	3039	CLA	3	0
14	B	3003	CLA	4	0
14	A	803	CLA	3	0
14	A	806	CLA	3	0
14	A	809	CLA	6	0
14	L	206	CLA	1	0
16	L	208	BCR	2	0
16	L	209	BCR	2	0
14	A	839	CLA	3	0
14	B	3012	CLA	2	0
17	I	102	LMG	3	0
14	B	3009	CLA	1	0
14	A	824	CLA	1	0
16	A	851	BCR	8	0
14	B	3038	CLA	4	0
16	M	103	BCR	2	0
14	A	835	CLA	4	0
14	B	3016	CLA	1	0
14	L	205	CLA	3	0
14	A	815	CLA	4	0
14	B	3041	CLA	3	0
14	B	3020	CLA	2	0
16	B	3044	BCR	1	0
14	B	3025	CLA	4	0
18	B	3050	LHG	2	0
15	B	3043	PQN	2	0
14	B	3035	CLA	3	0
14	B	3010	CLA	8	0
14	A	814	CLA	2	0
14	A	807	CLA	1	0
14	B	3029	CLA	1	0
16	F	201	BCR	4	0
14	A	856	CLA	7	0
14	A	802	CLA	3	0
14	A	819	CLA	7	0
16	I	101	BCR	4	0

Continued on next page...

Continued from previous page...

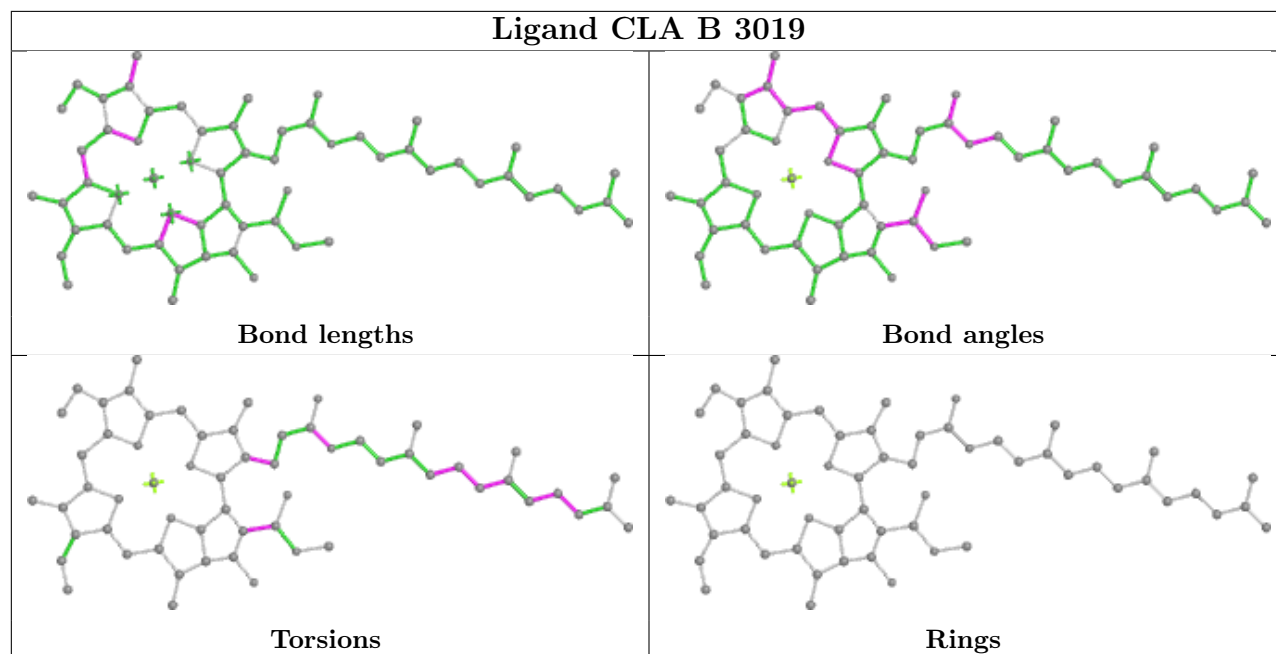
Mol	Chain	Res	Type	Clashes	Symm-Clashes
14	B	3026	CLA	5	0
14	A	810	CLA	3	0
14	B	3036	CLA	1	0
16	A	849	BCR	2	0
14	A	843	CLA	5	0
14	A	831	CLA	6	0
14	A	823	CLA	2	0
14	A	822	CLA	4	0
18	A	854	LHG	4	0
14	B	3033	CLA	4	0
14	A	808	CLA	4	0
14	B	3007	CLA	3	0
14	B	3014	CLA	7	0
14	B	3024	CLA	5	0
16	L	201	BCR	3	0
14	B	3021	CLA	2	0
14	B	3027	CLA	1	0
14	A	842	CLA	4	0
14	B	3028	CLA	4	0
14	J	102	CLA	1	0
16	K	102	BCR	5	0
14	K	101	CLA	4	0
14	B	3017	CLA	4	0
14	B	3032	CLA	2	0
14	A	821	CLA	3	0
16	B	3047	BCR	3	0
14	B	3018	CLA	7	0
18	M	101	LHG	3	0
14	A	827	CLA	2	0
14	K	103	CLA	1	0
13	A	801	CL0	3	0
22	L	207	DGD	2	0
14	X	1701	CLA	3	0
14	A	825	CLA	3	0
16	J	105	BCR	11	0
19	C	101	SF4	1	0
16	B	3051	BCR	4	0
14	B	3022	CLA	2	0
14	A	817	CLA	3	0
14	J	101	CLA	3	0
16	J	104	BCR	6	0
14	A	805	CLA	2	0

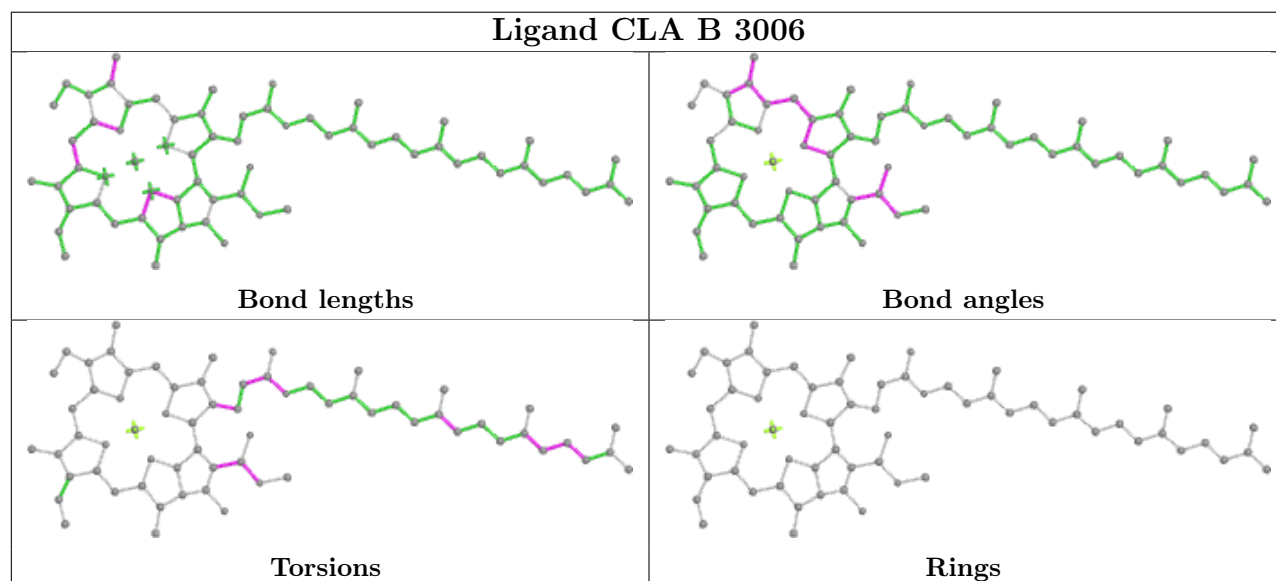
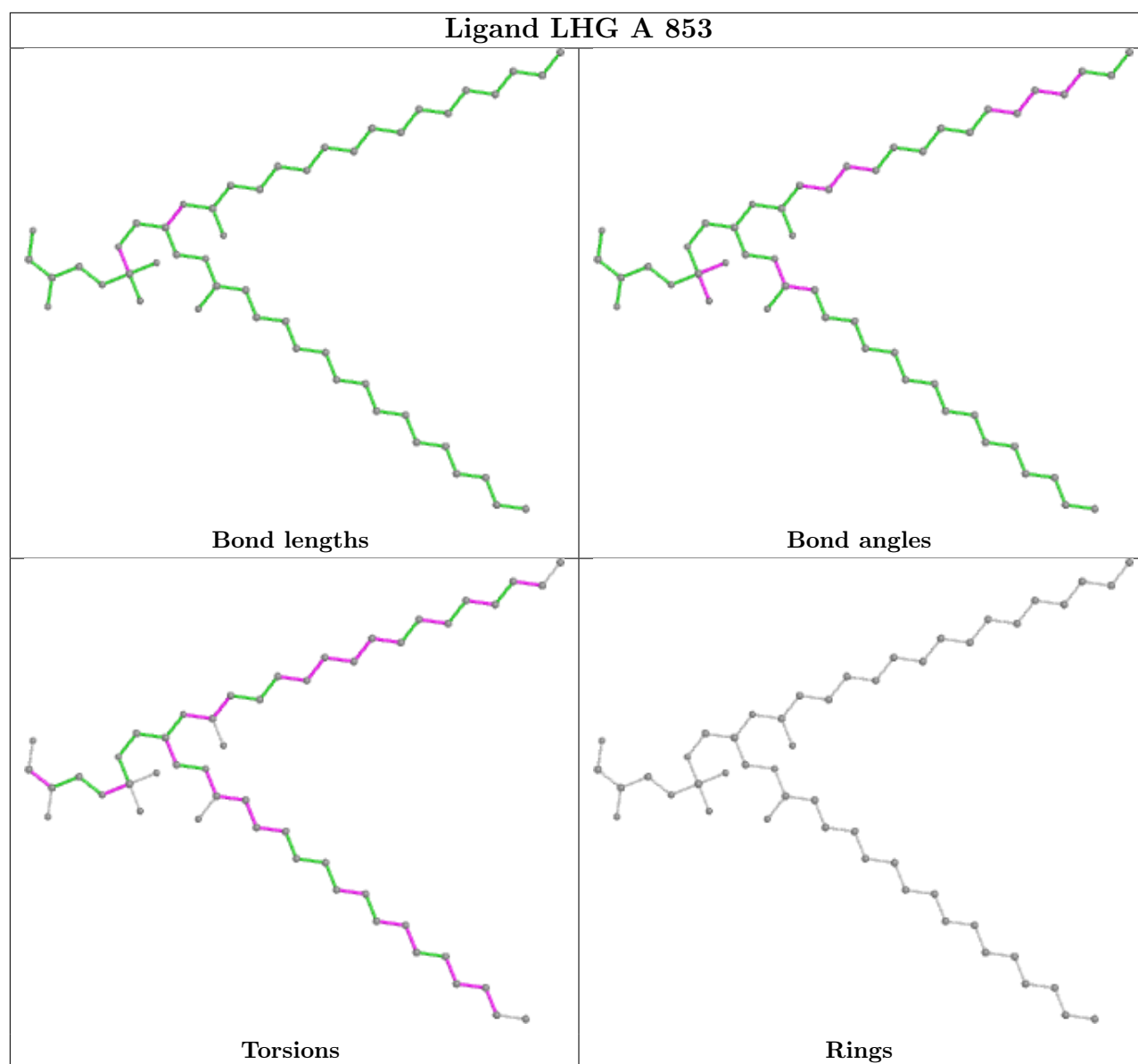
Continued on next page...

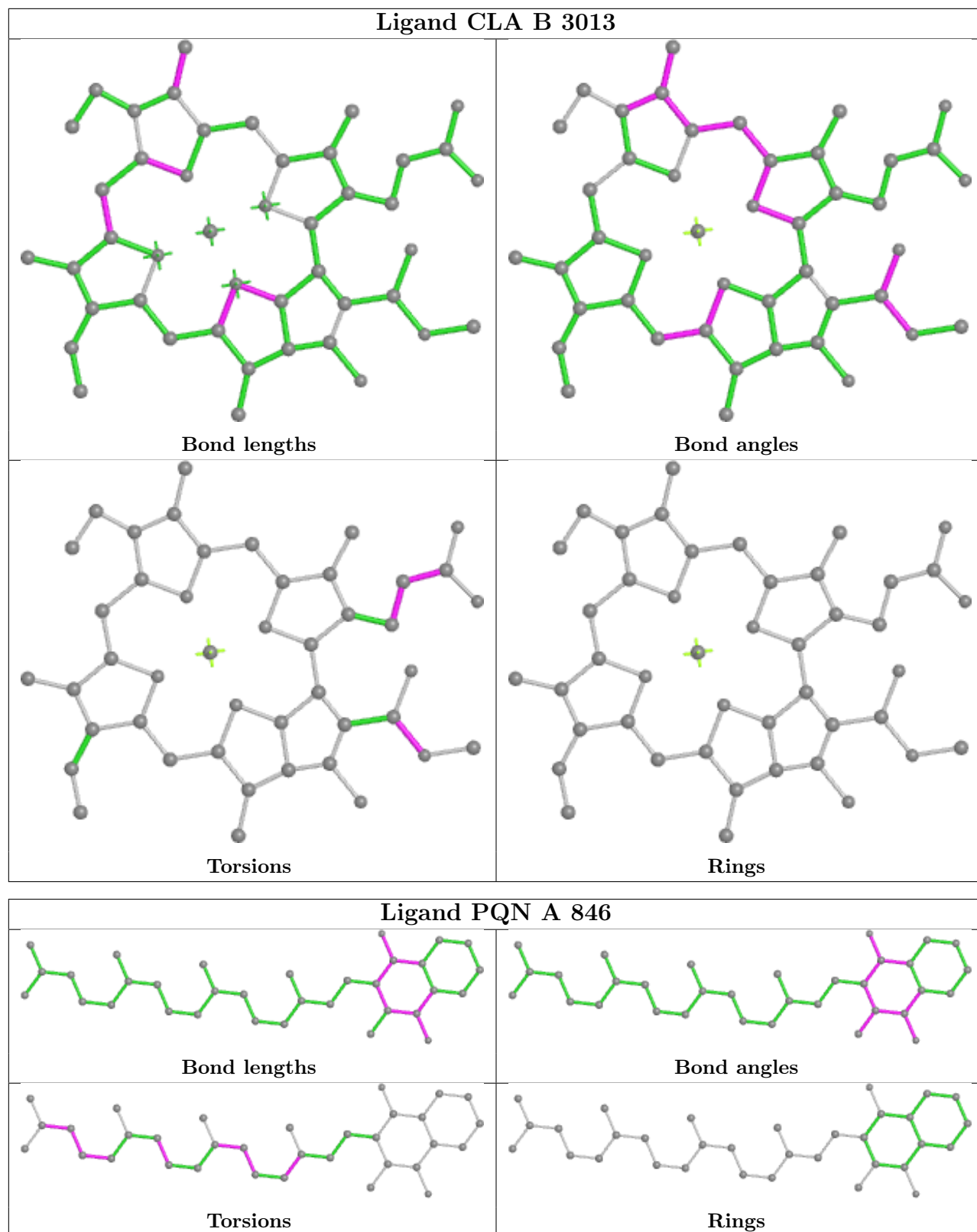
Continued from previous page...

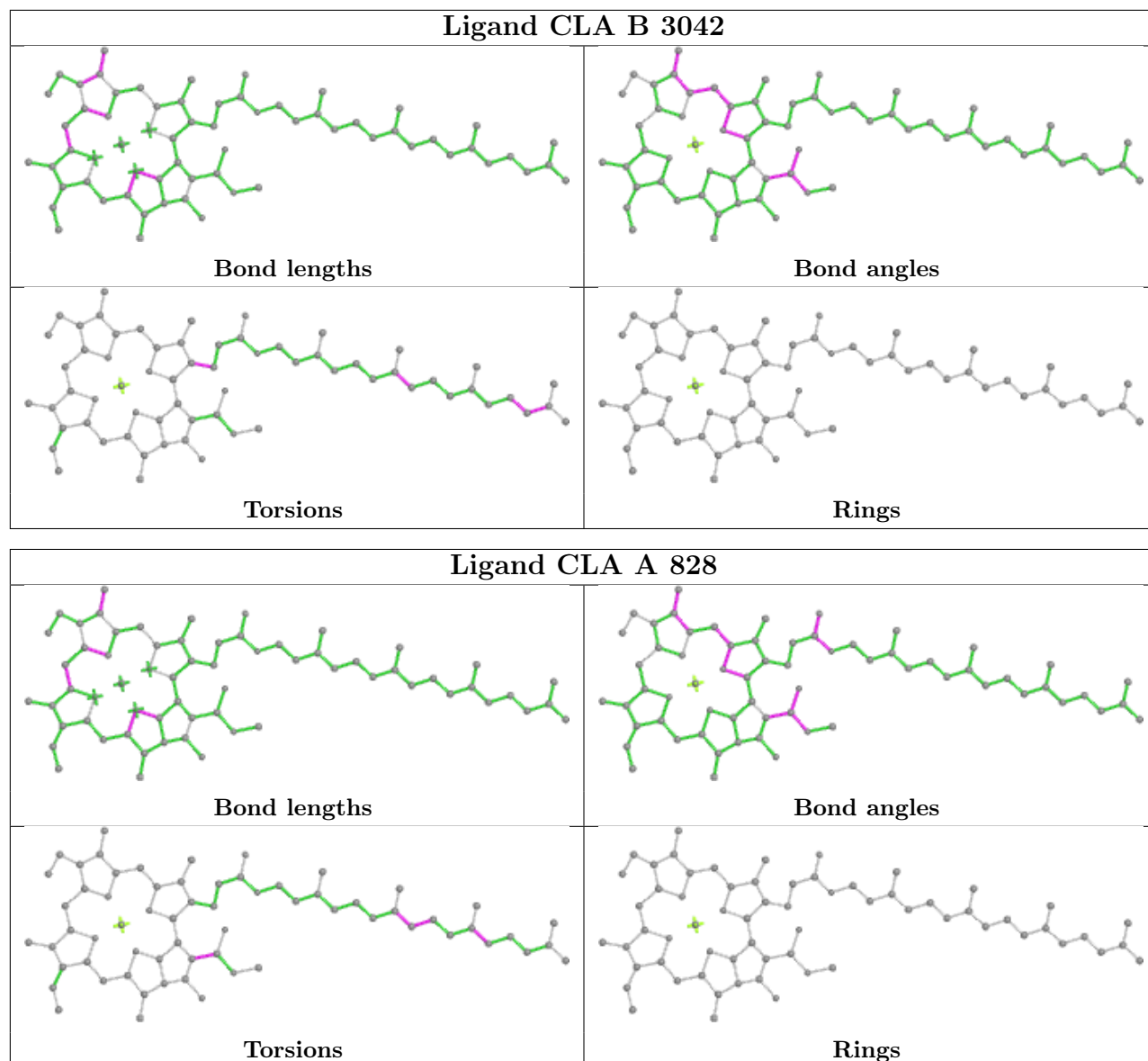
Mol	Chain	Res	Type	Clashes	Symm-Clashes
14	A	840	CLA	2	0
14	A	845	CLA	6	0
14	A	826	CLA	8	0
14	L	204	CLA	2	0
14	A	813	CLA	9	0
14	B	3011	CLA	2	0
14	B	3034	CLA	5	0
14	B	3015	CLA	1	0
14	A	833	CLA	4	0

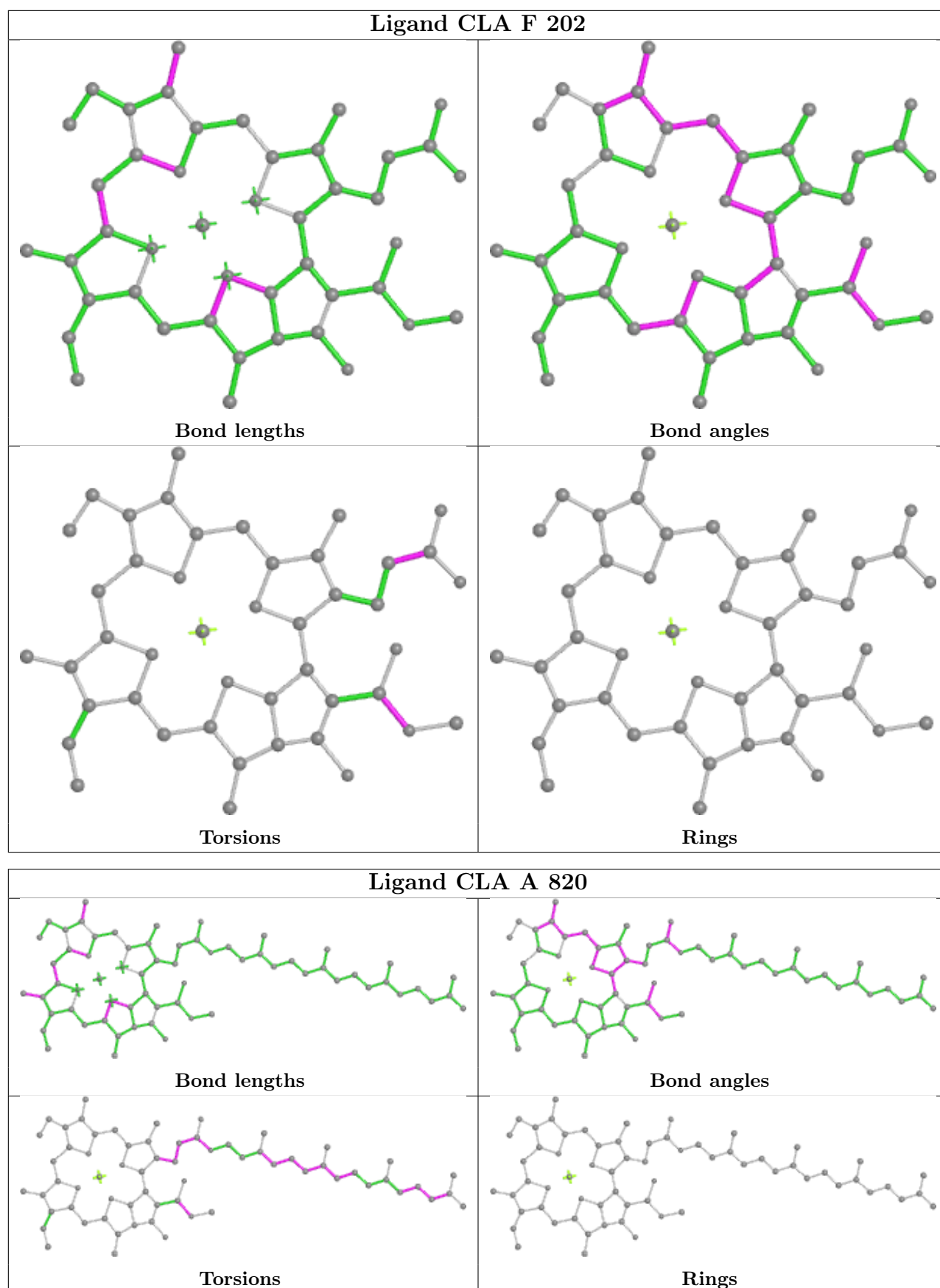
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

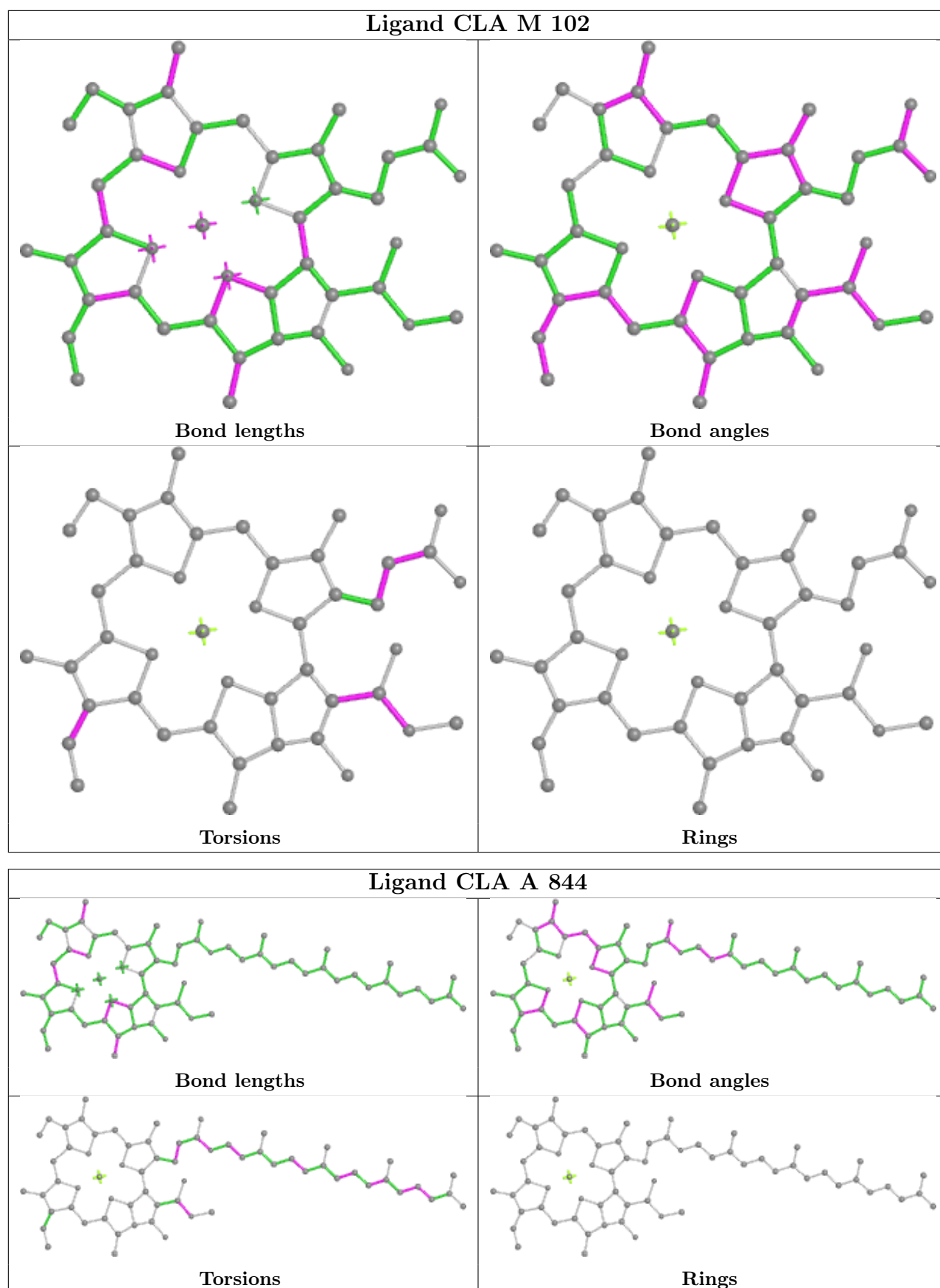


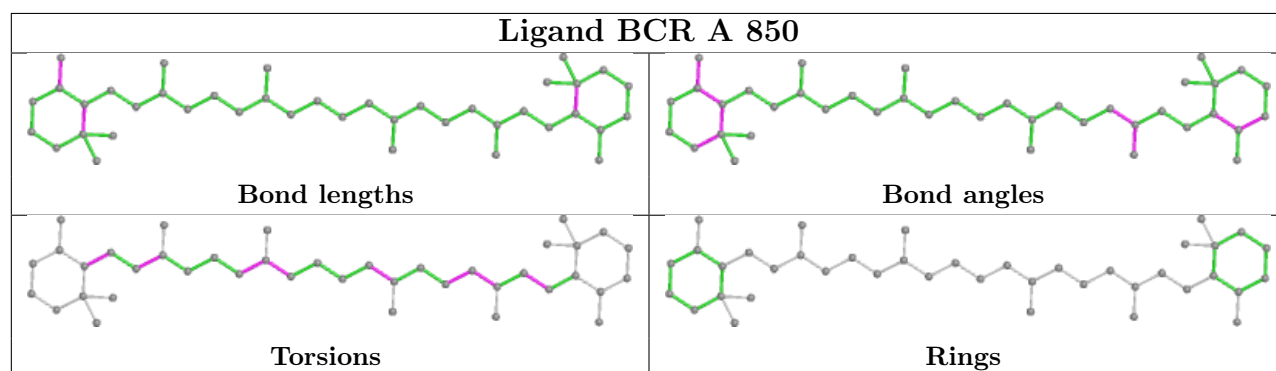
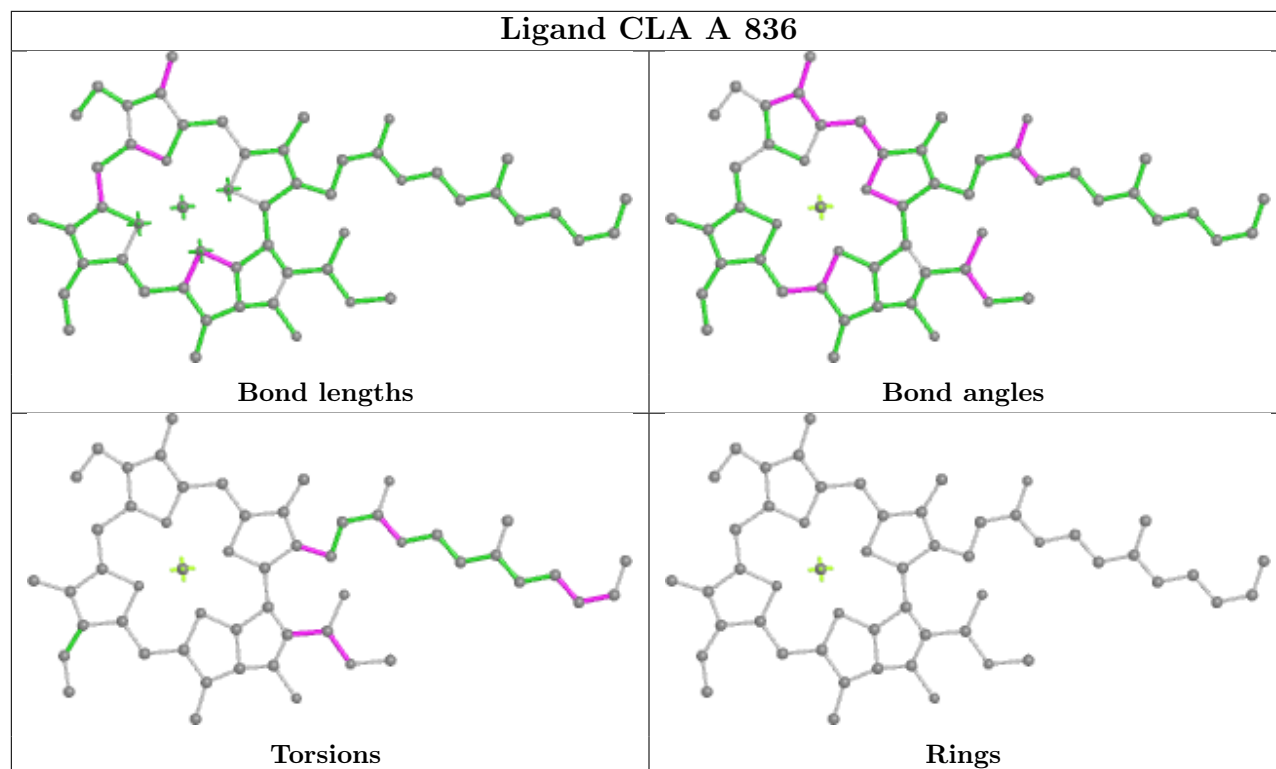
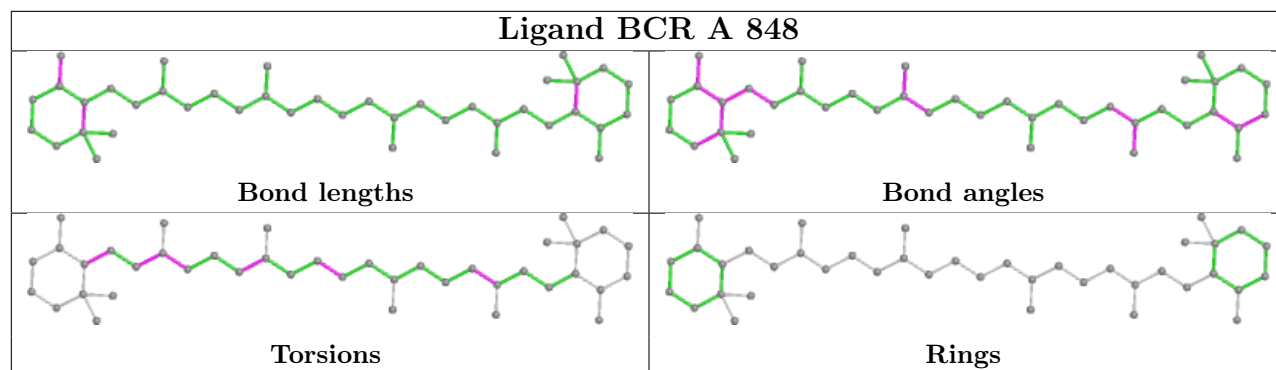


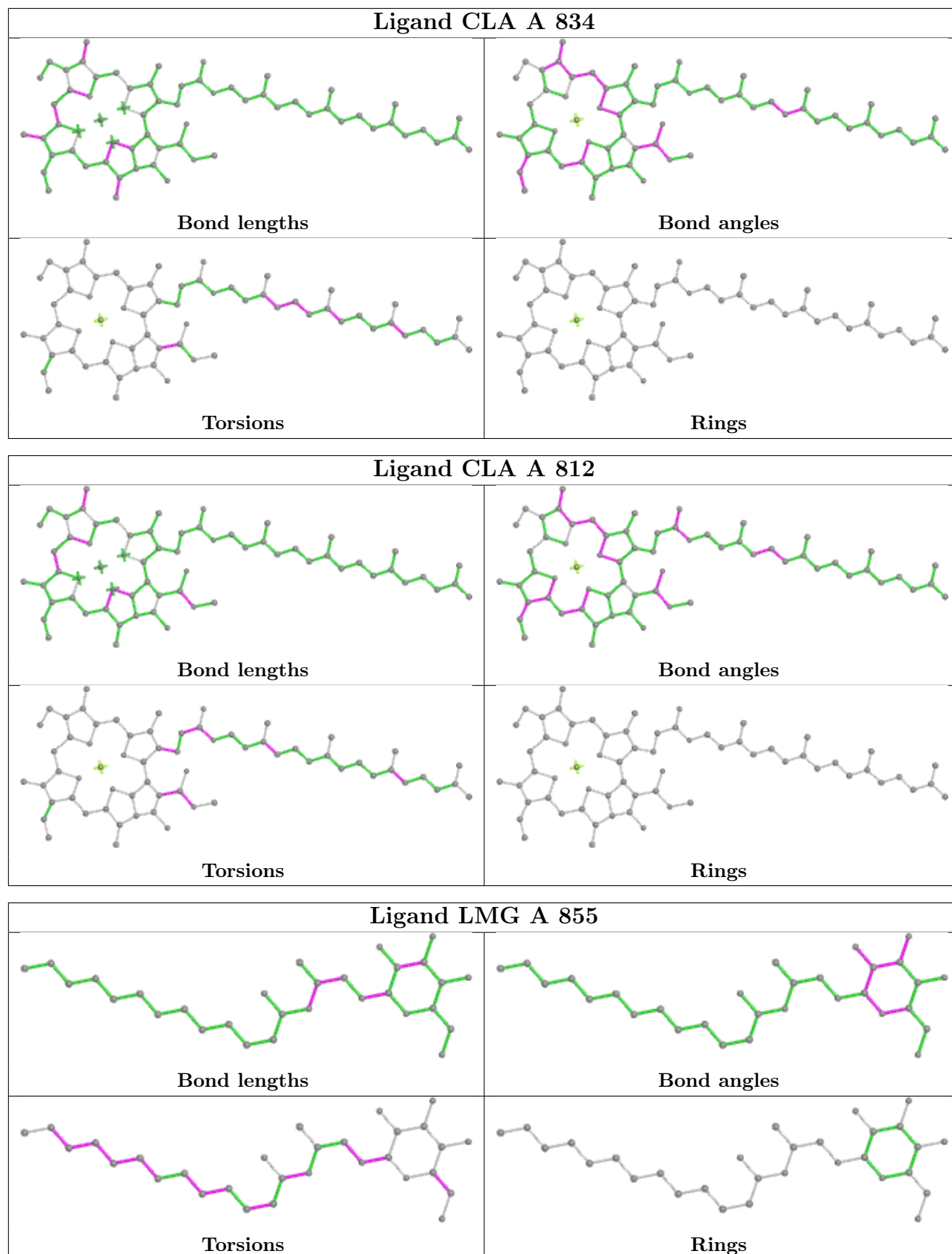


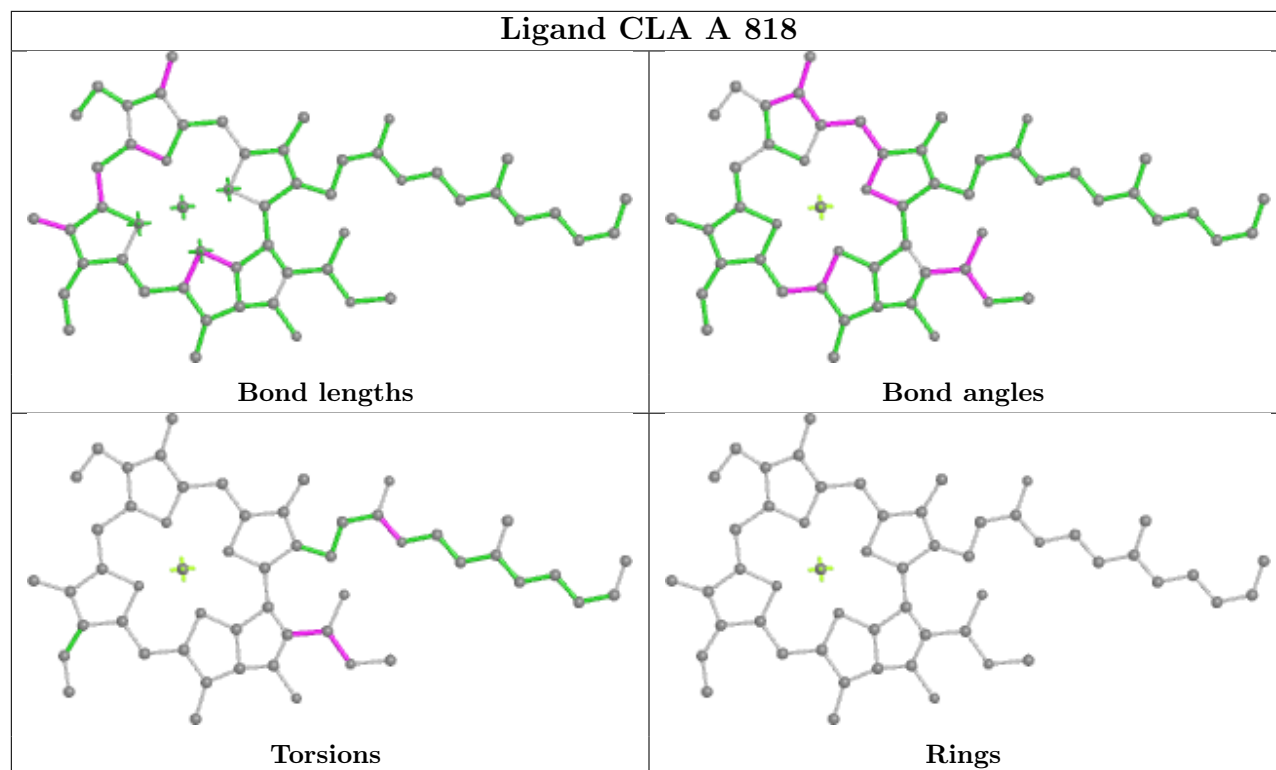


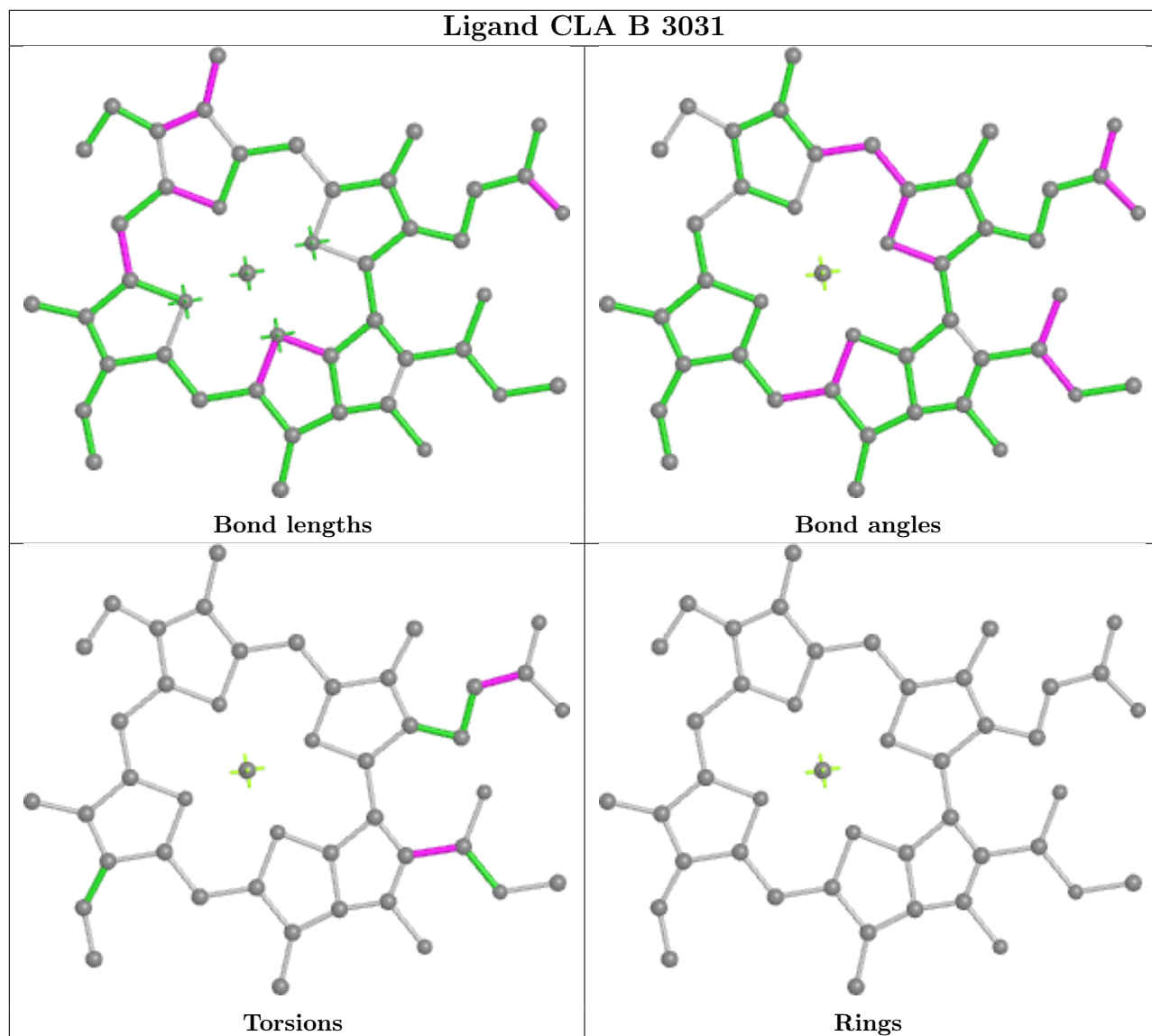


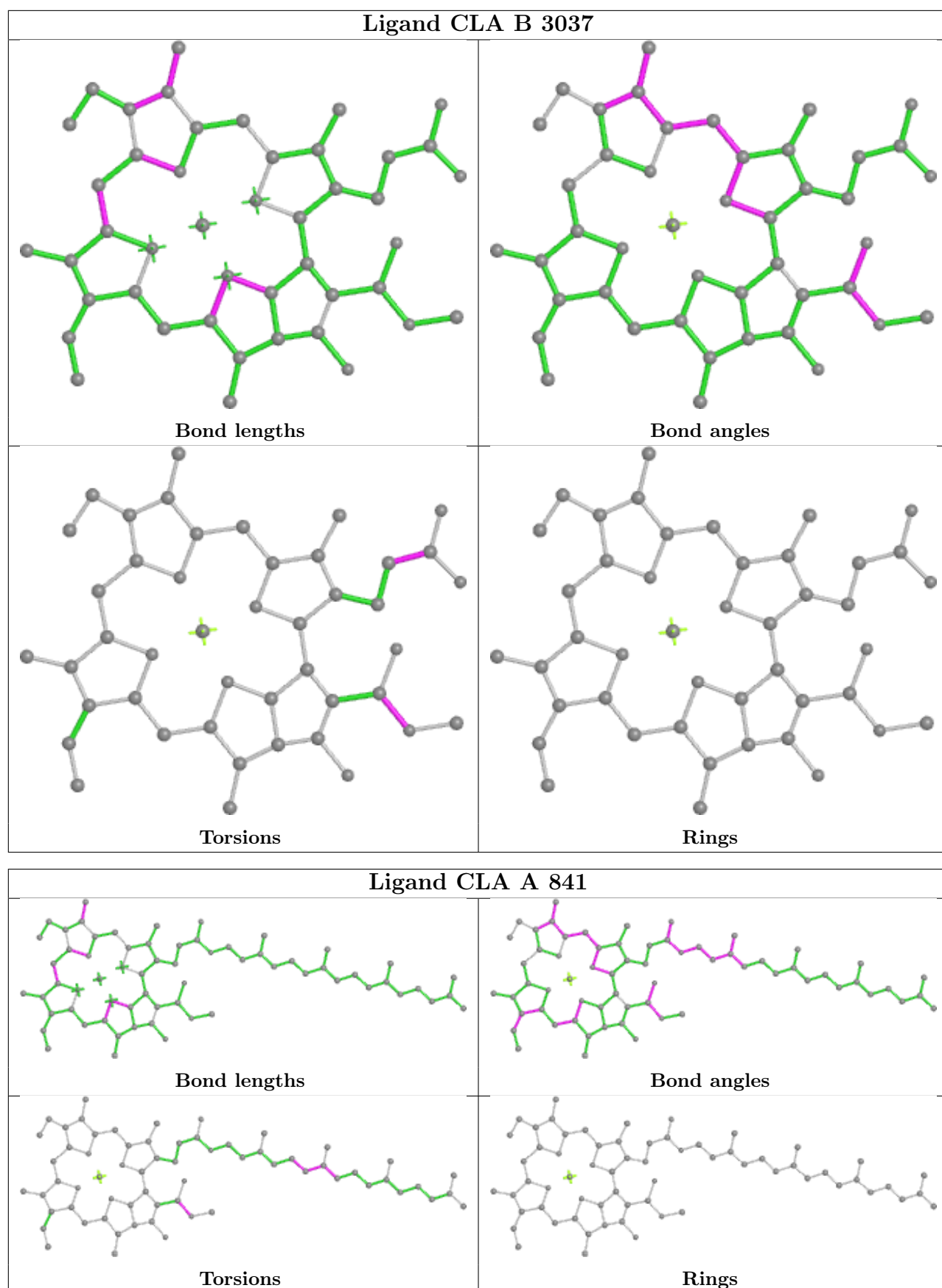


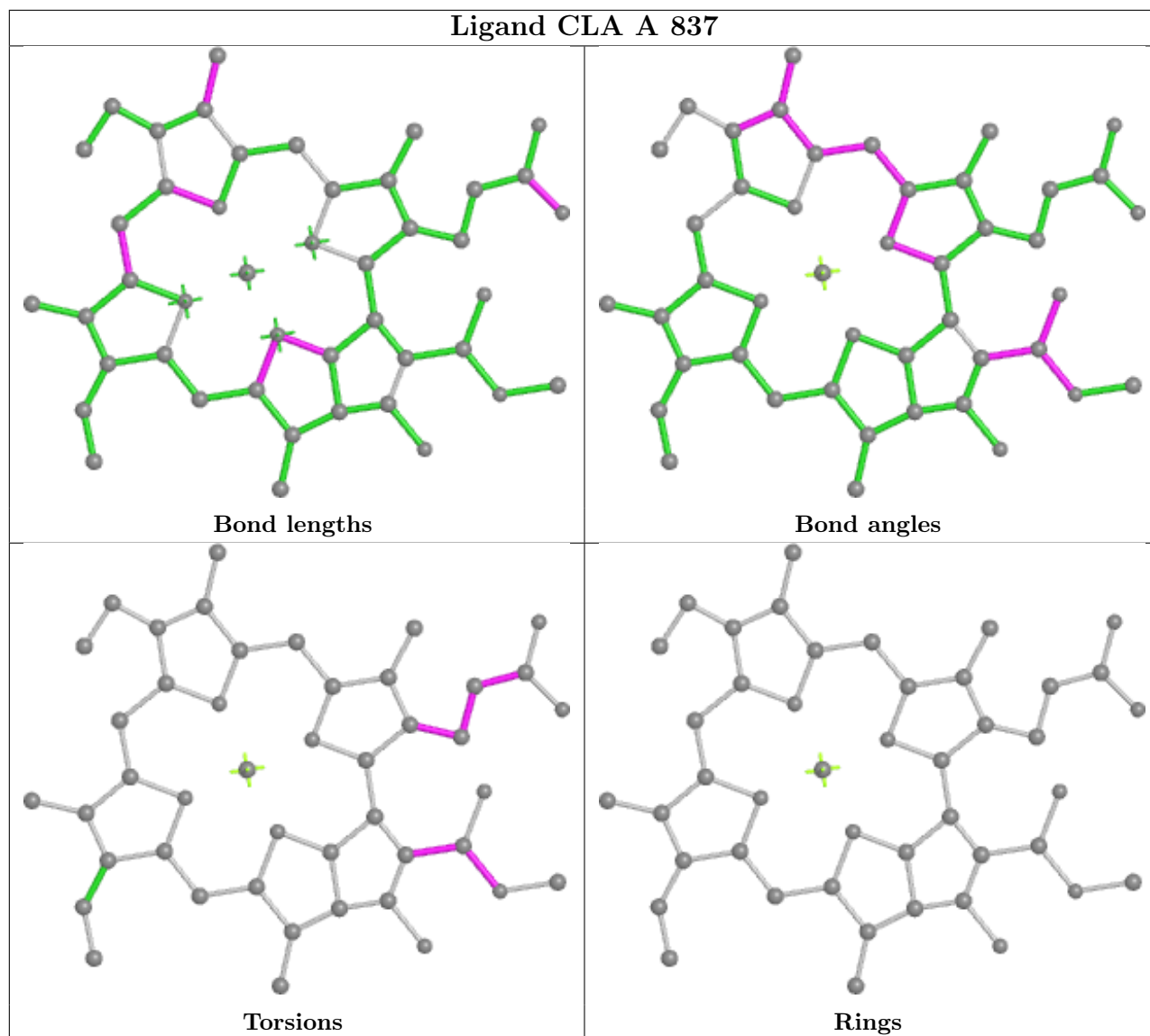
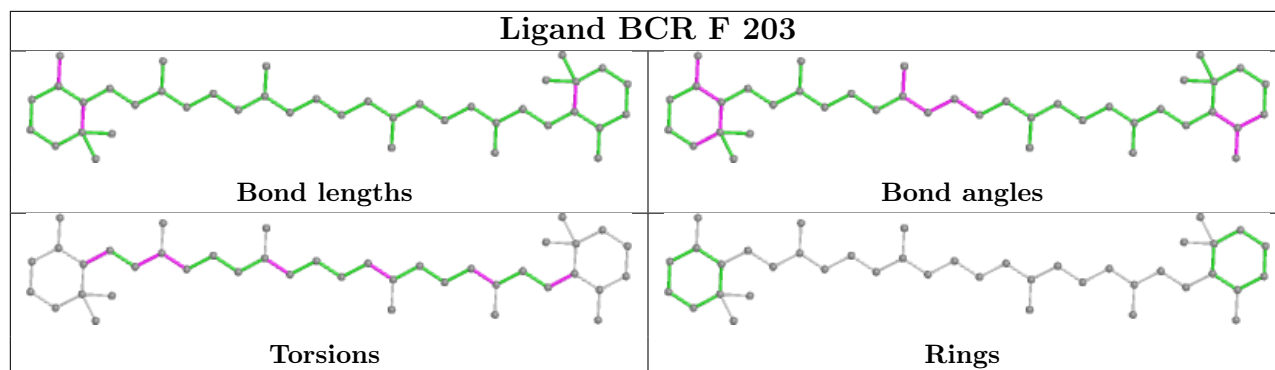


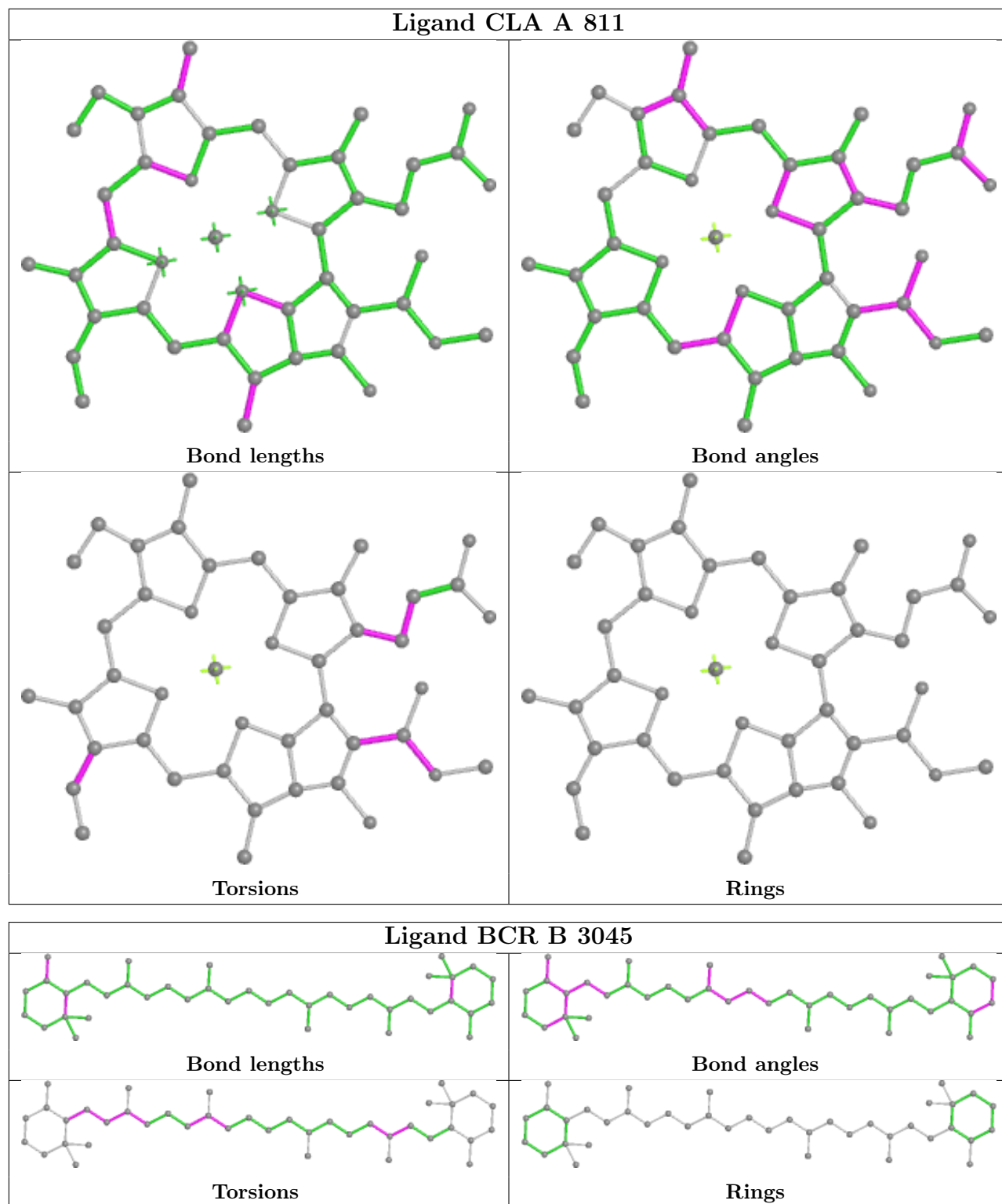


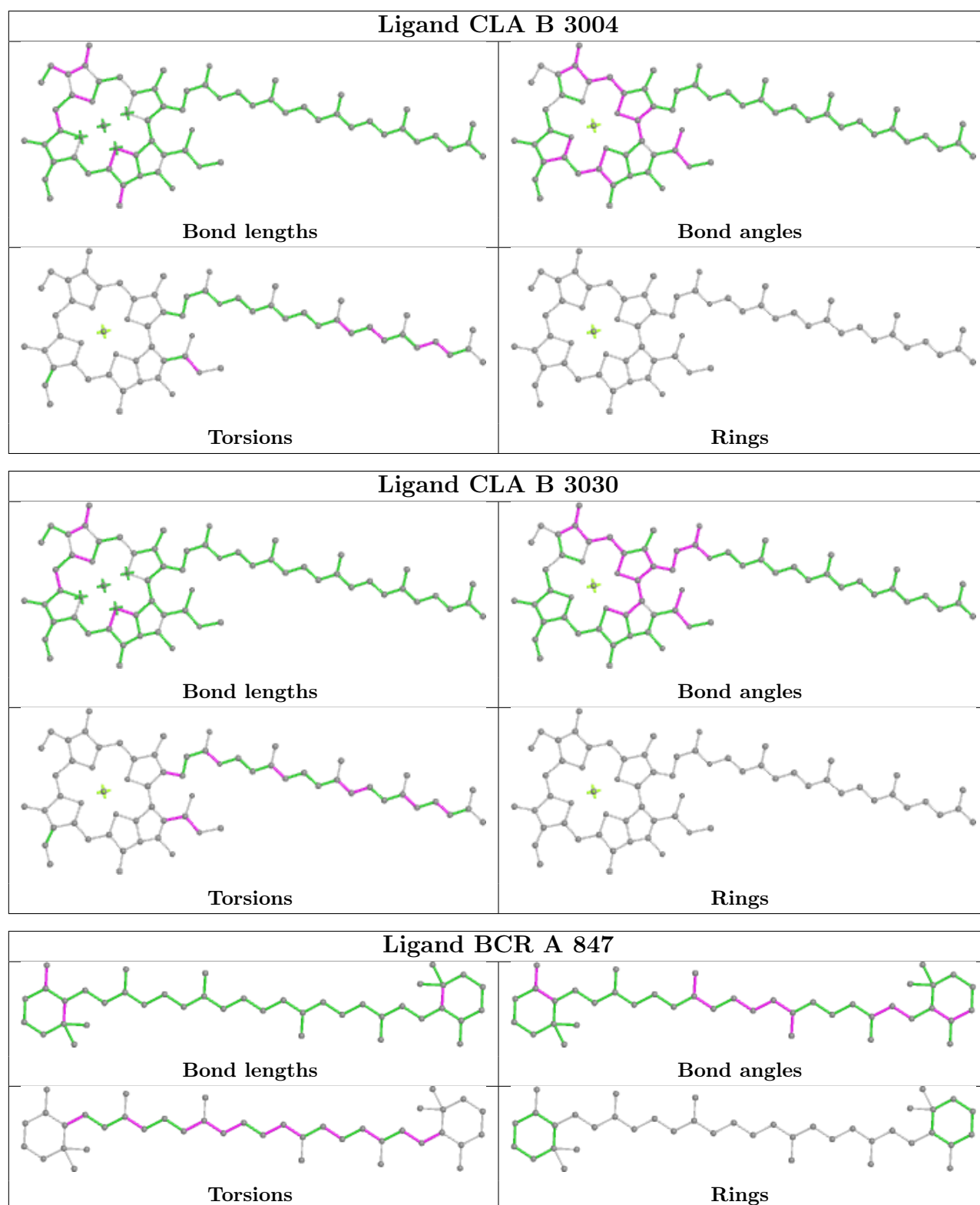


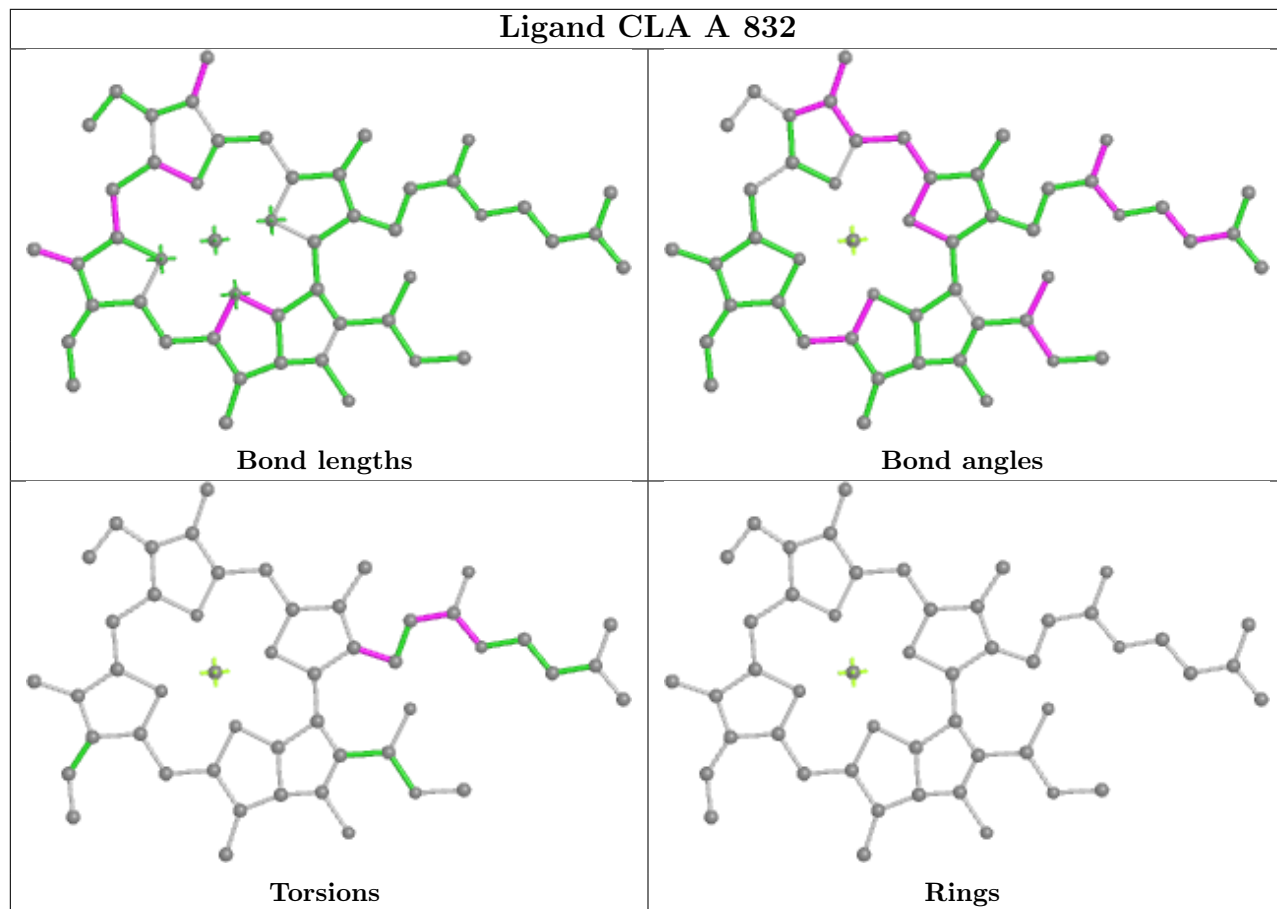
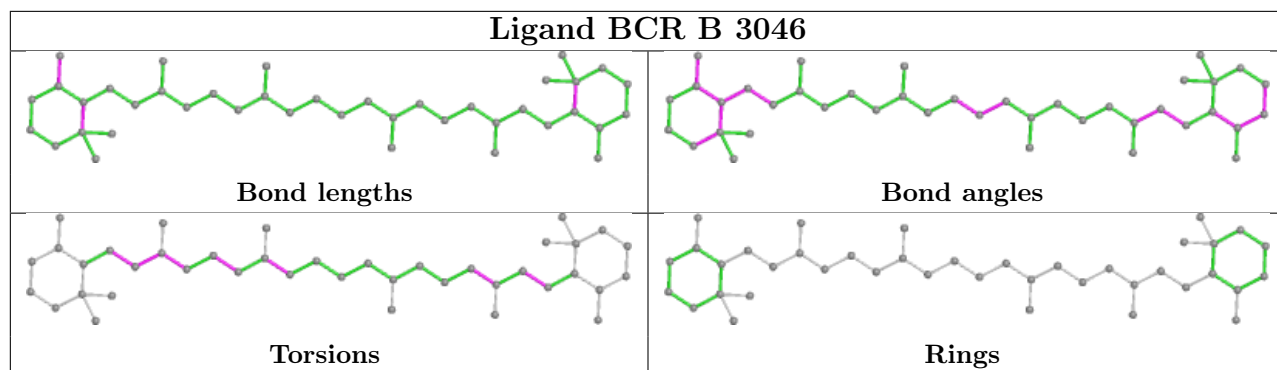


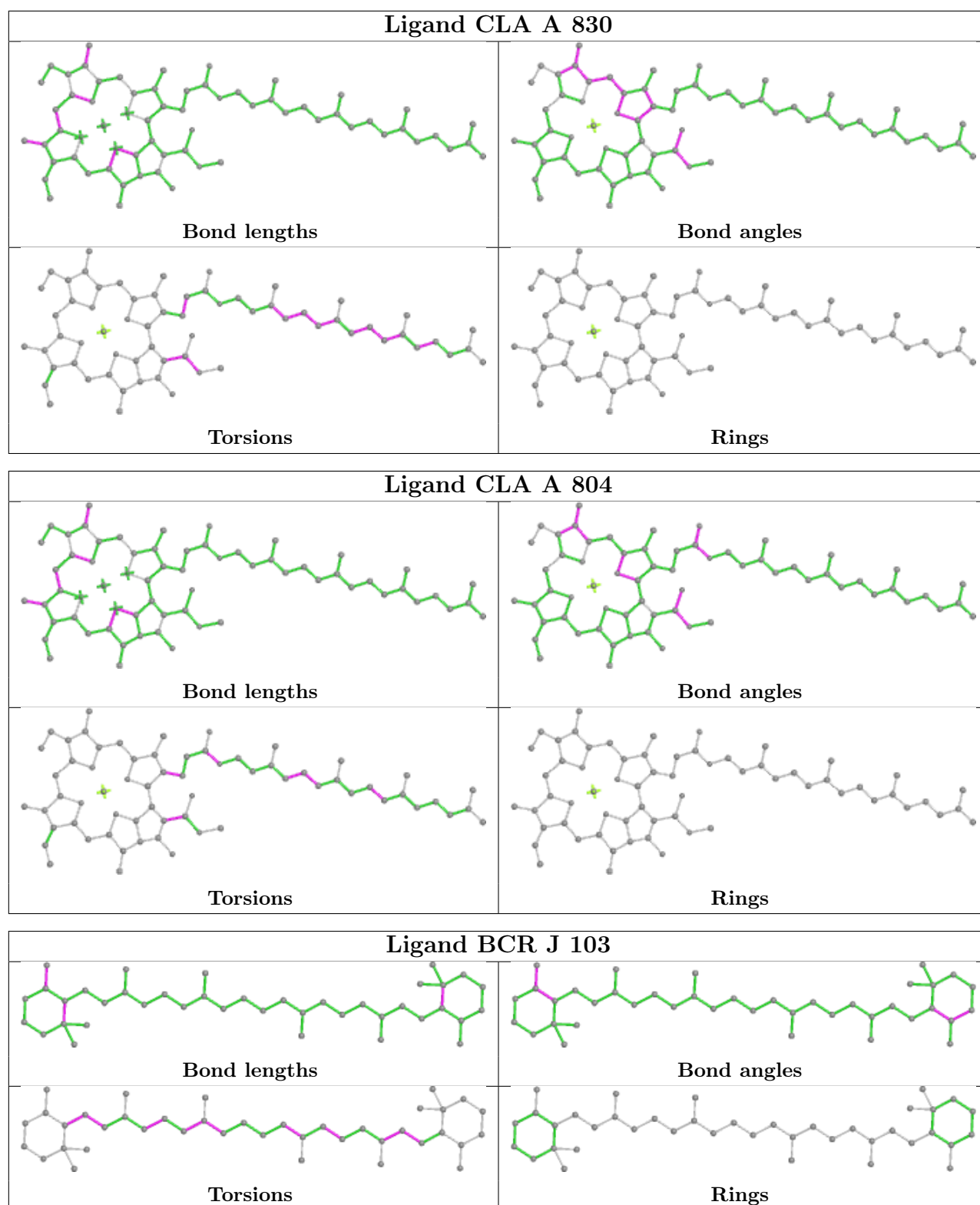


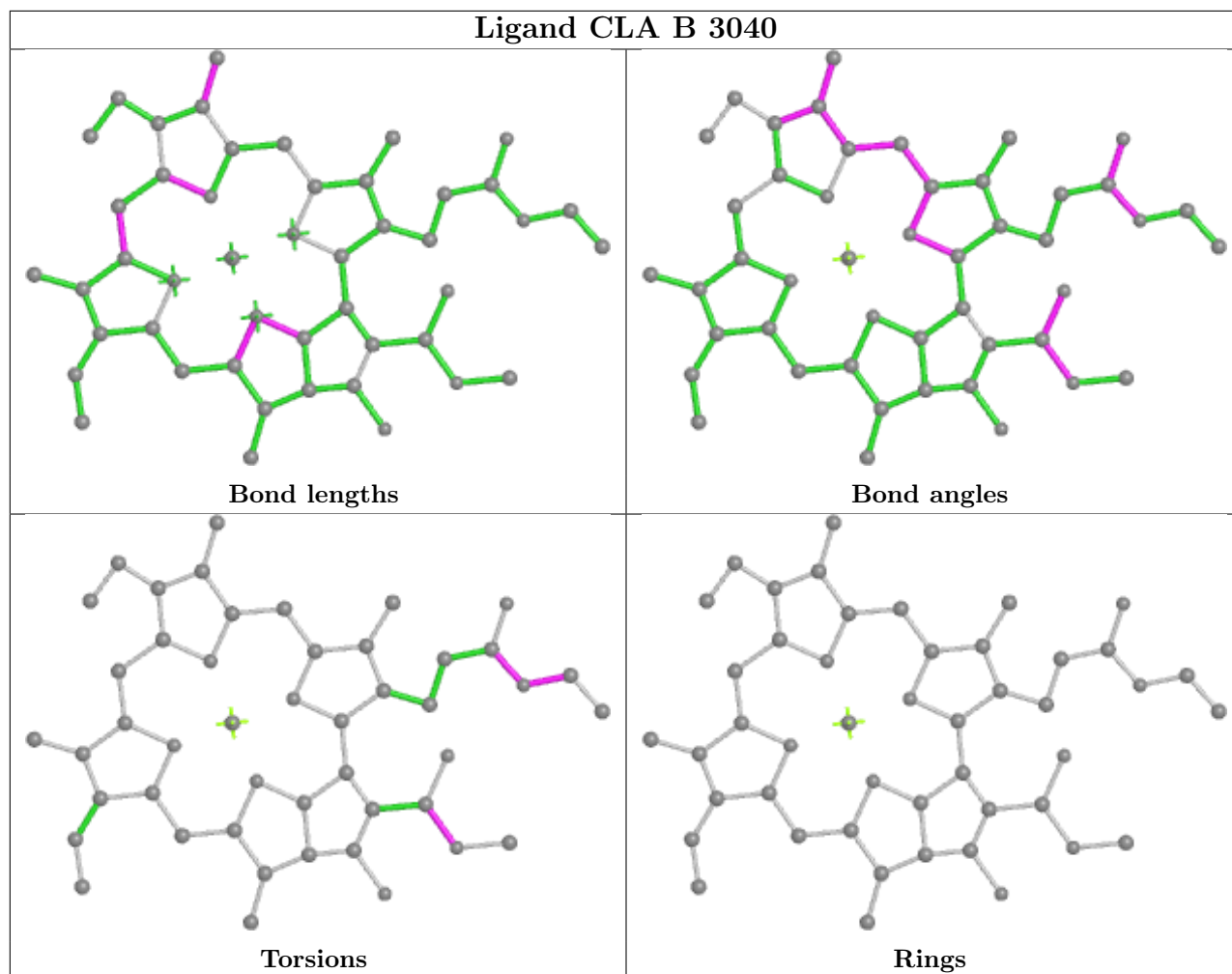


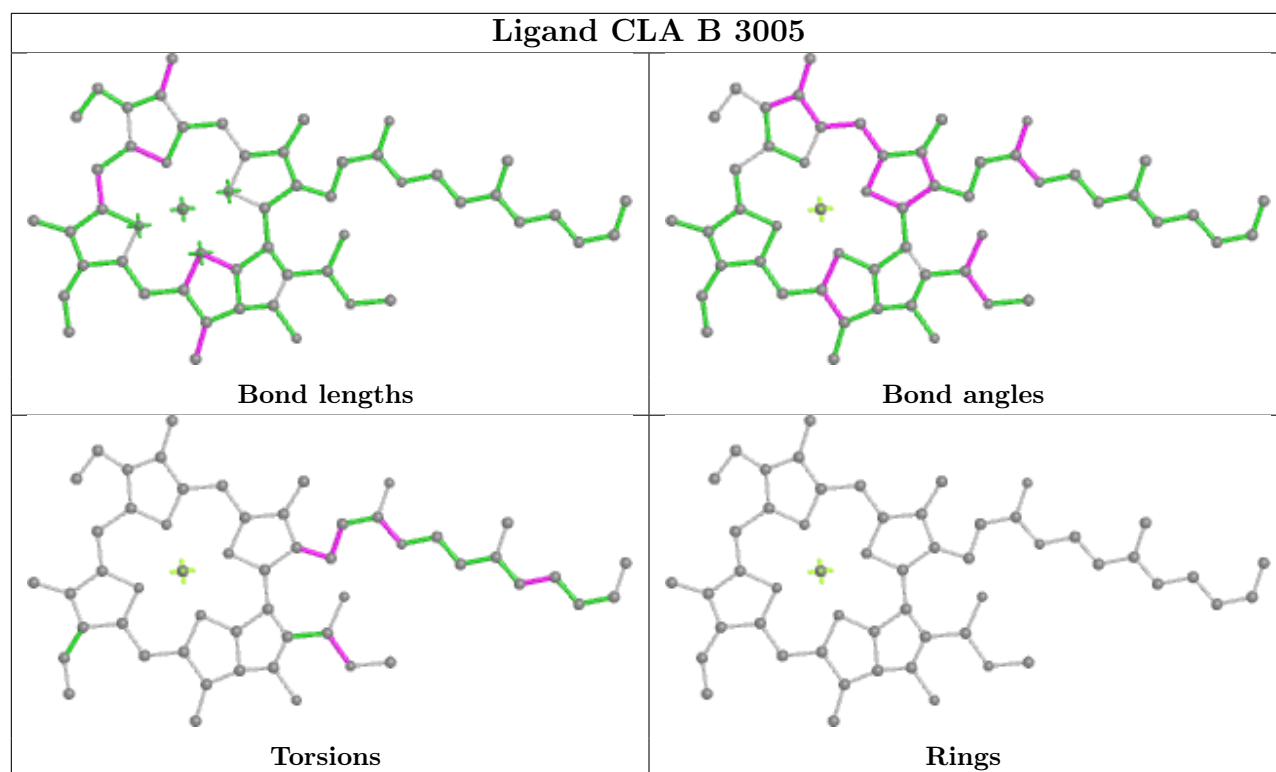
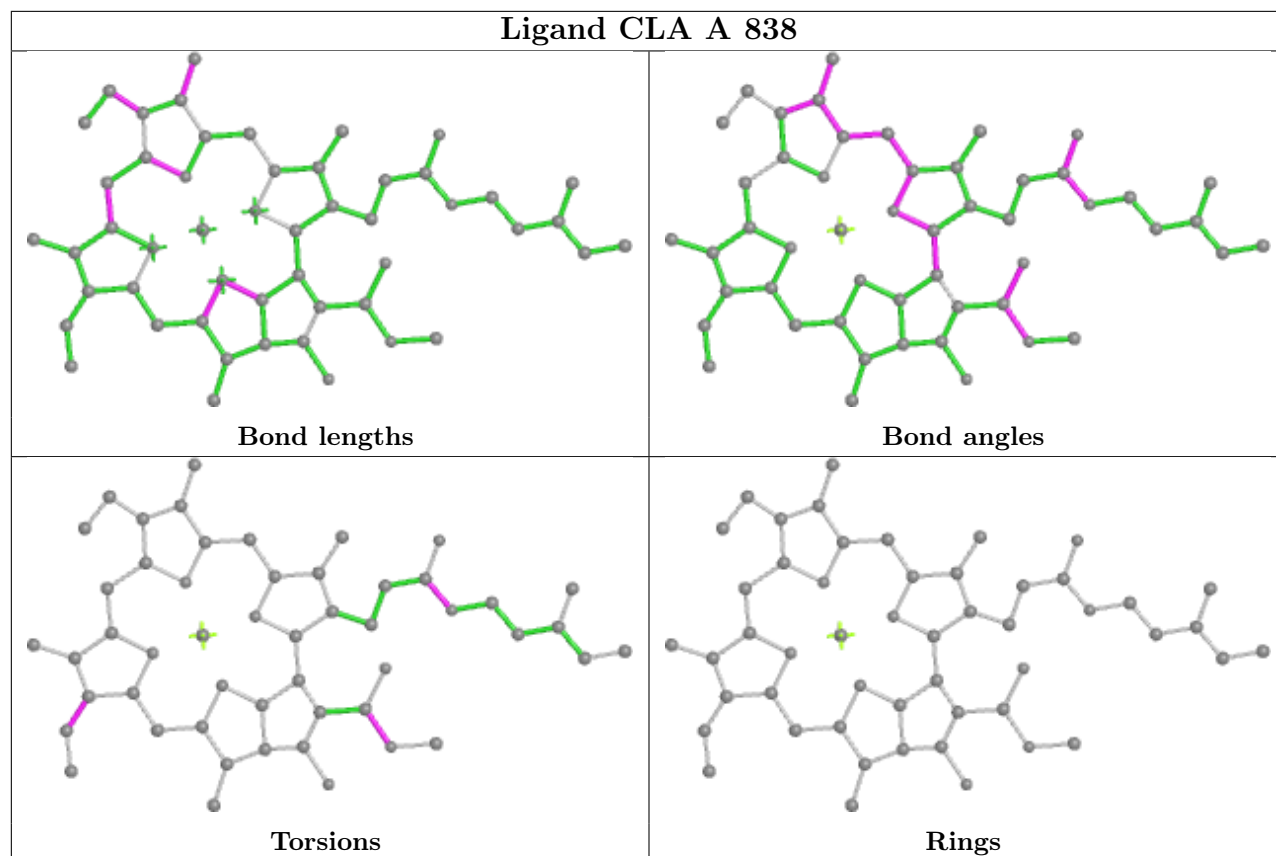


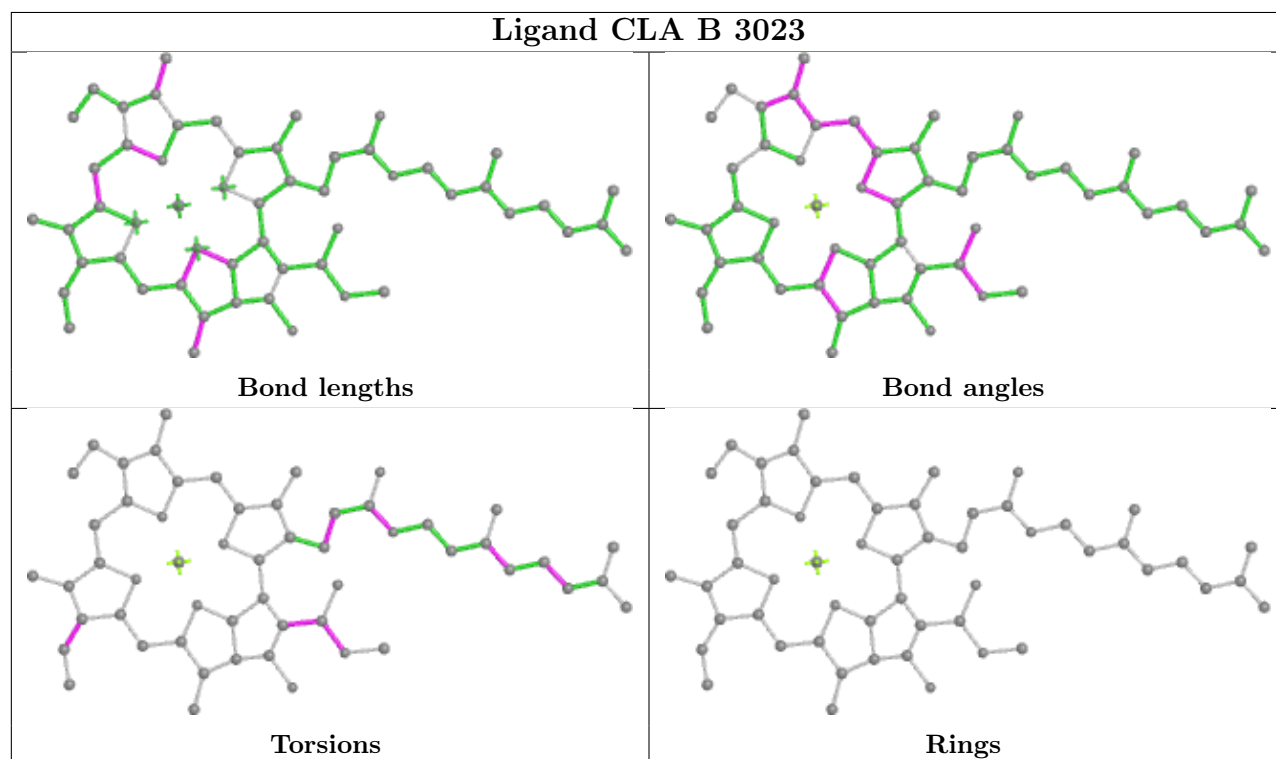
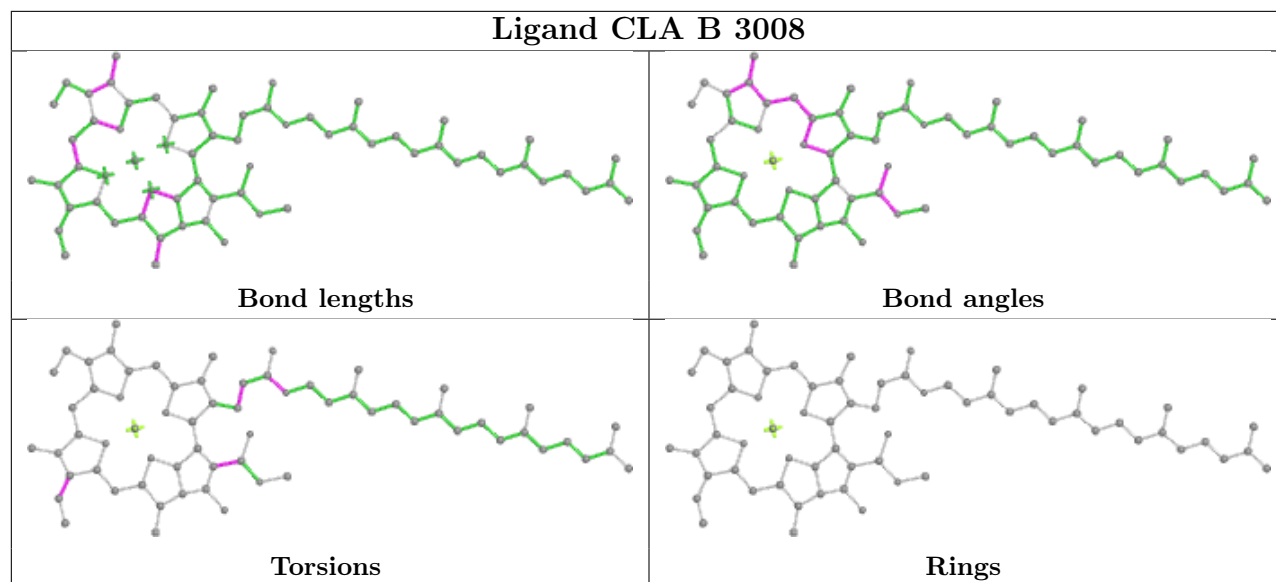


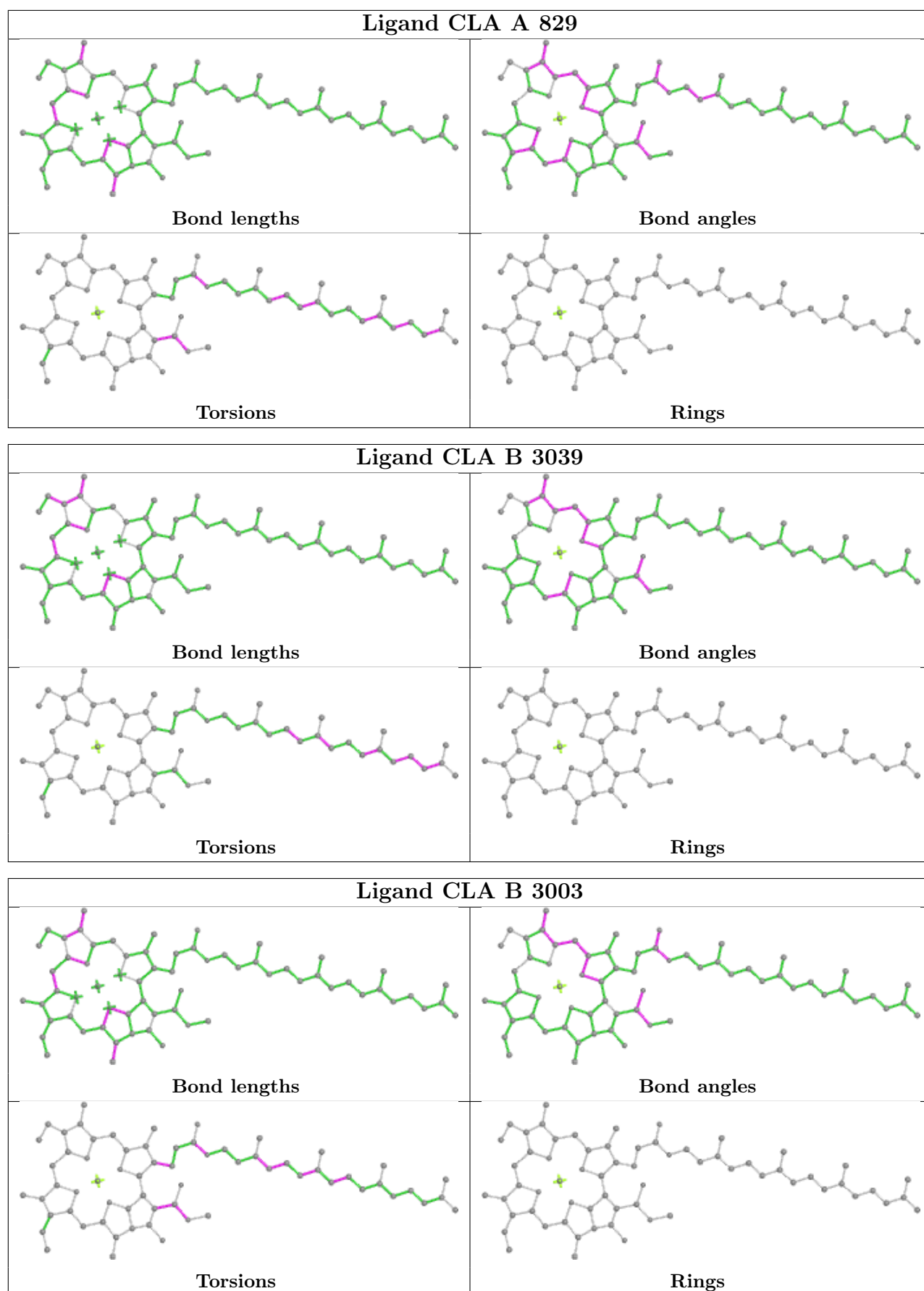


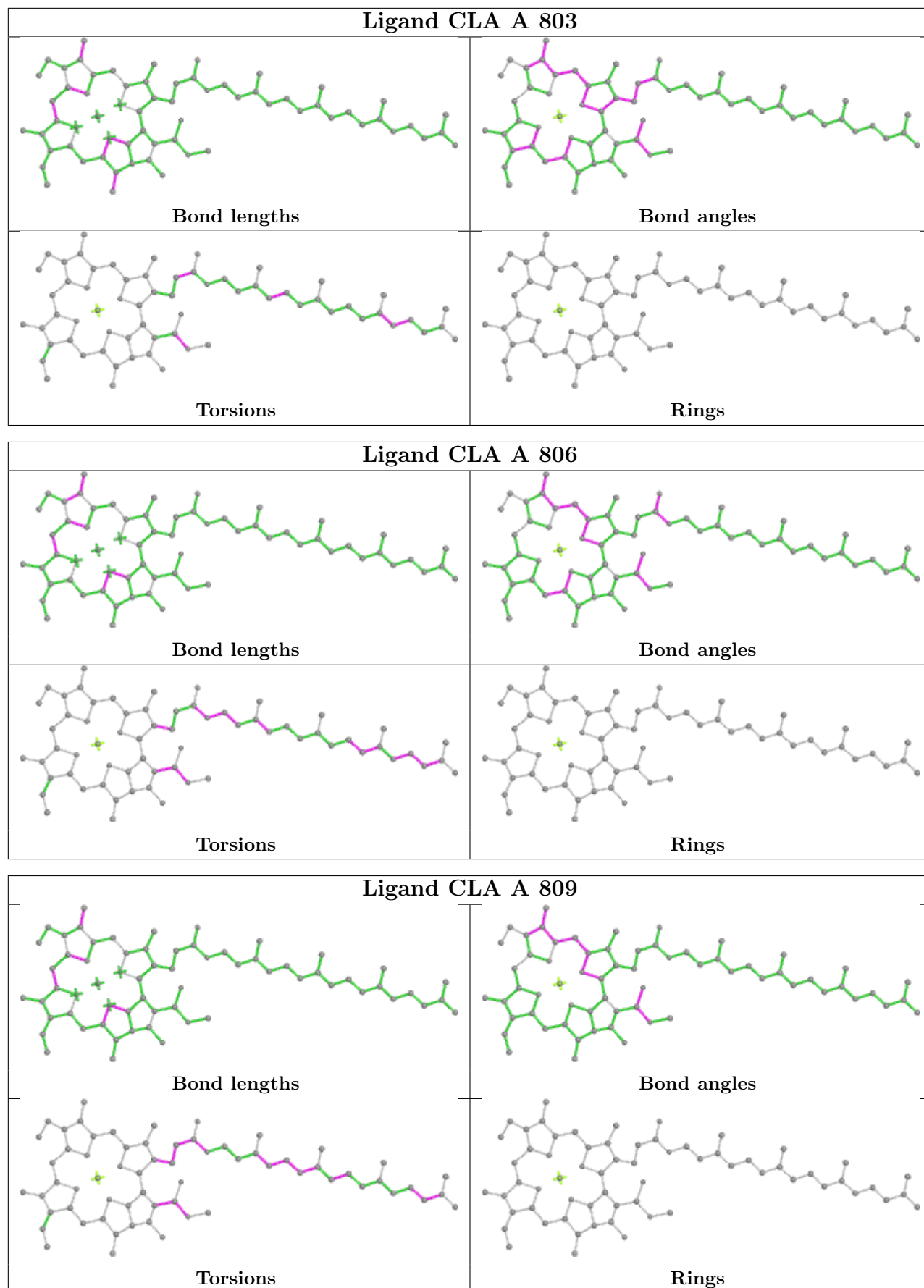


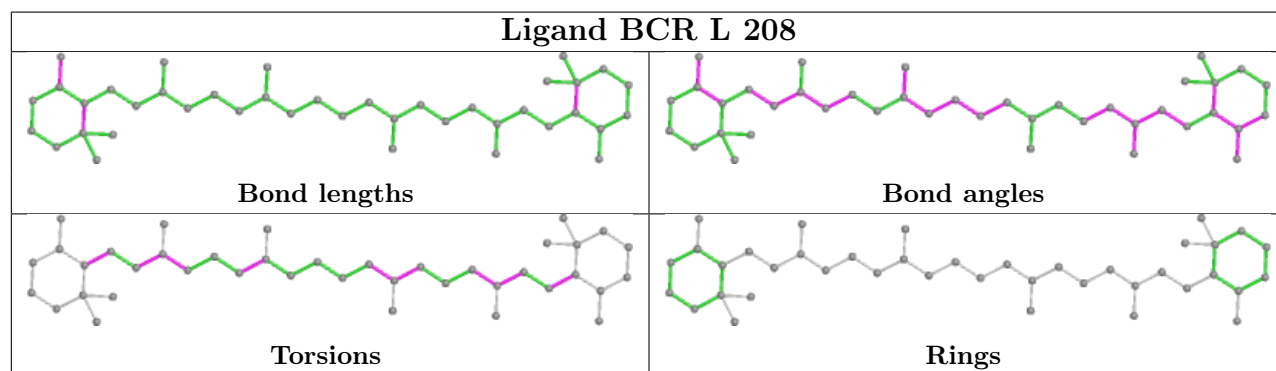
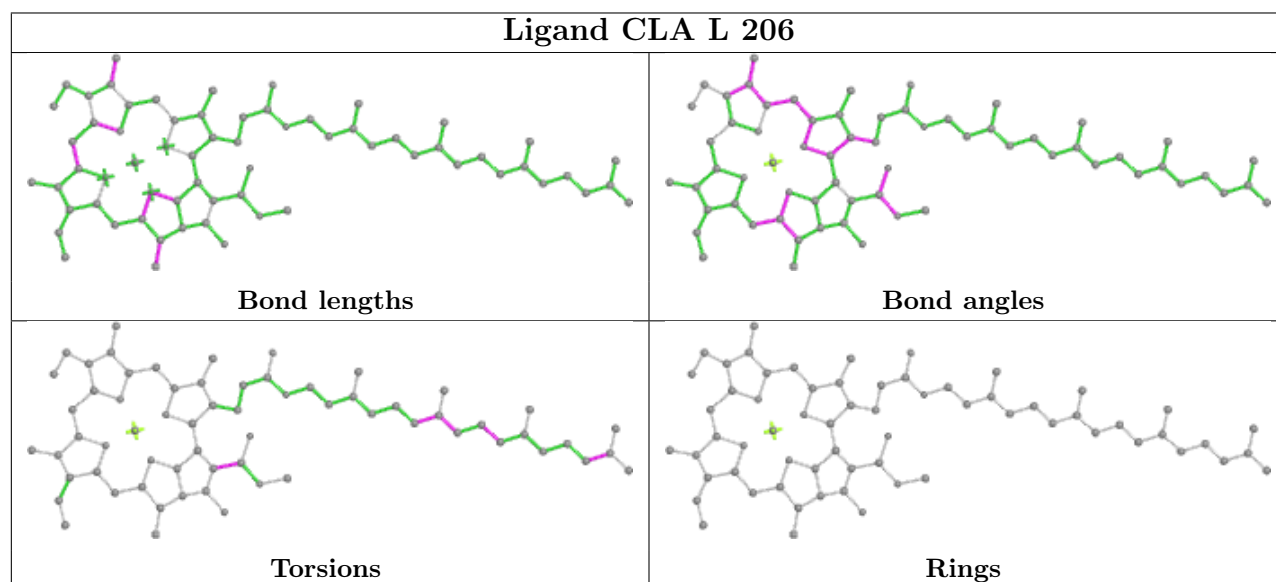
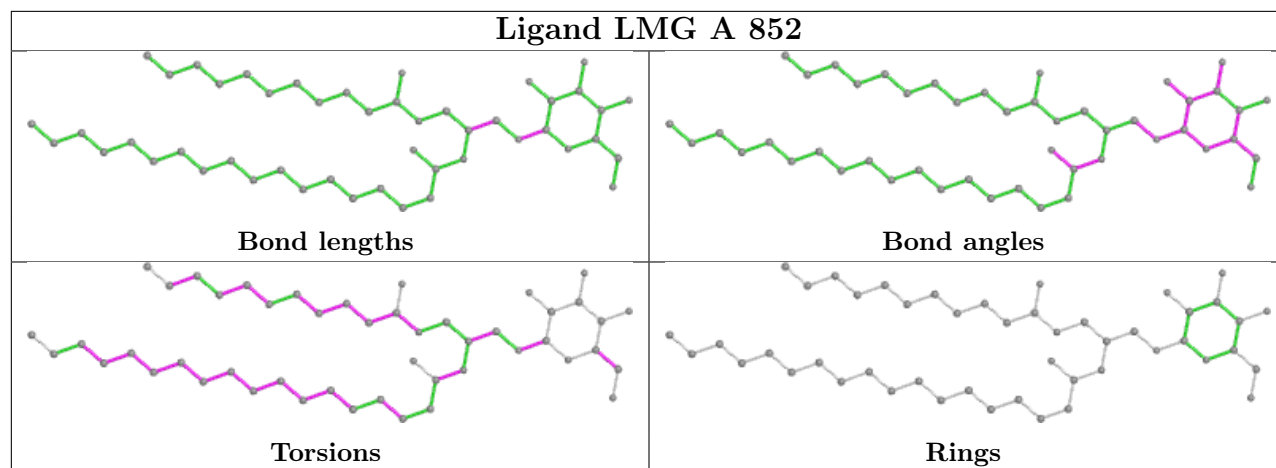


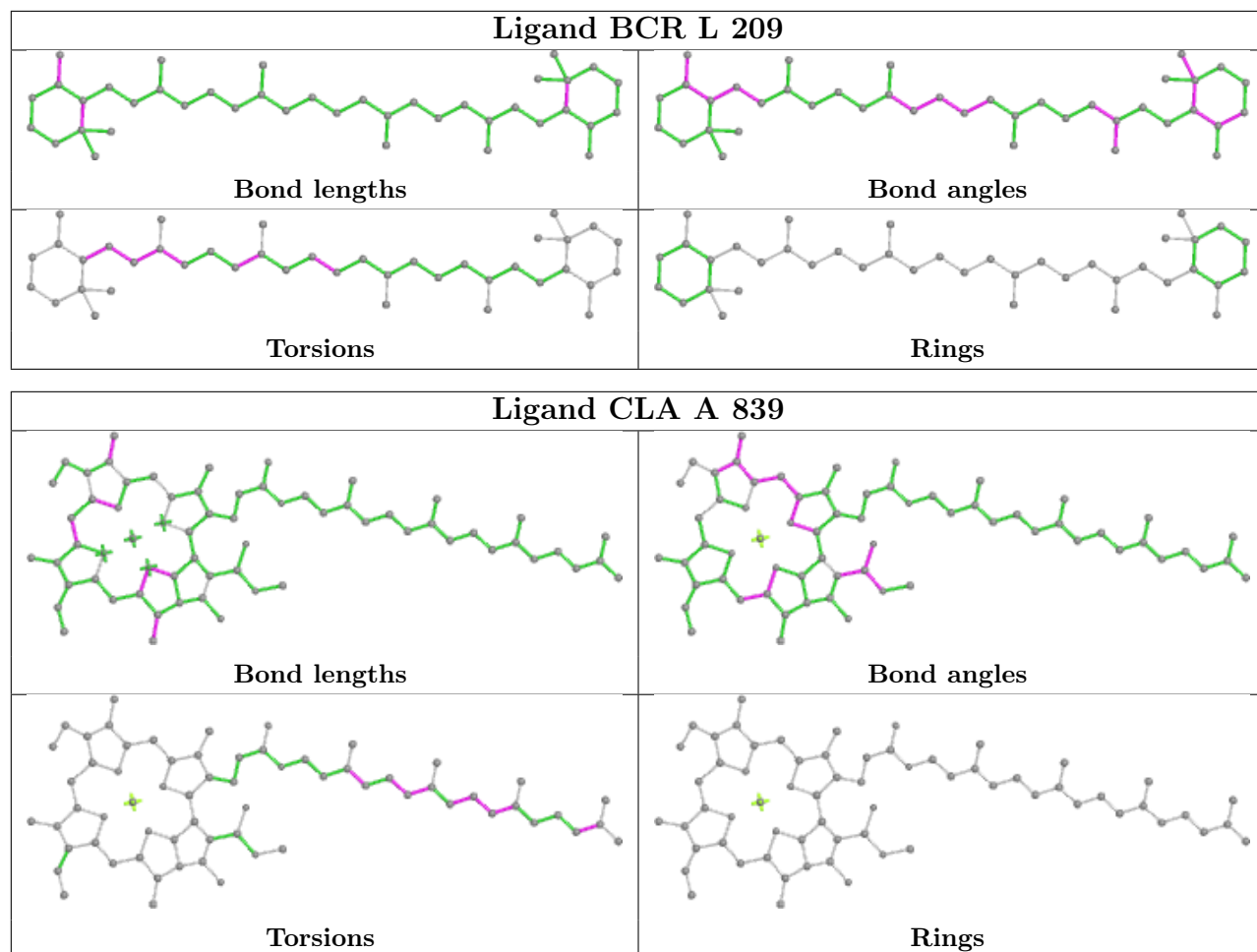


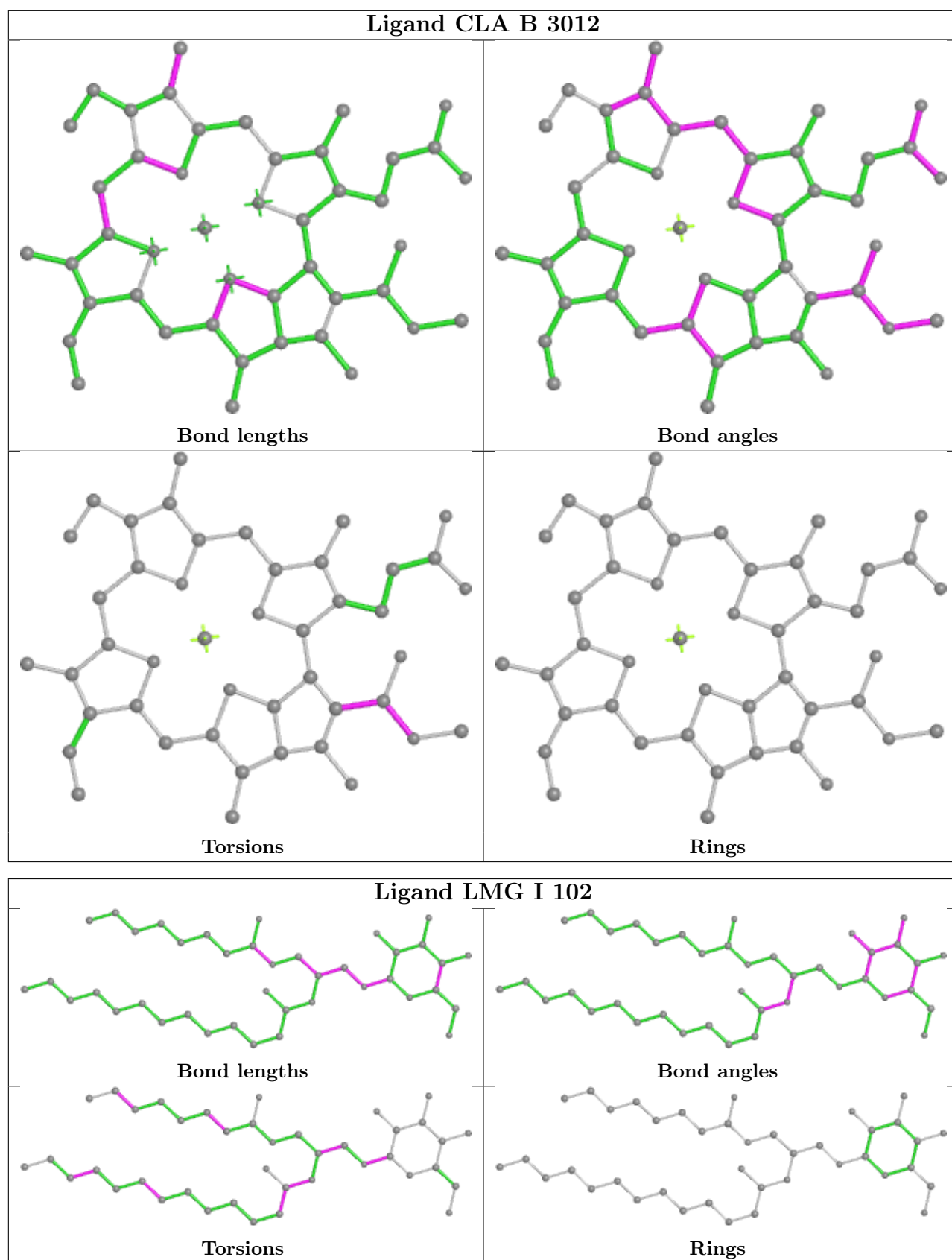


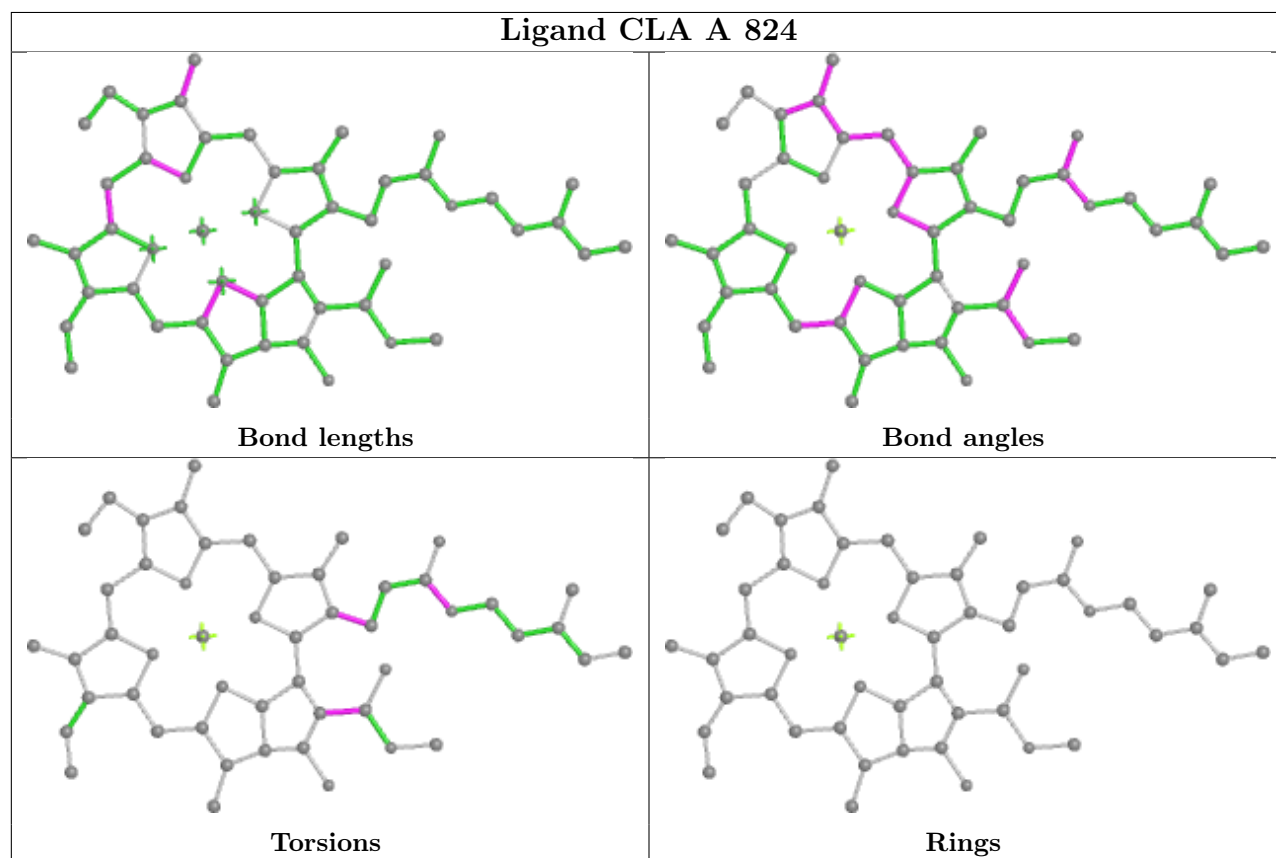
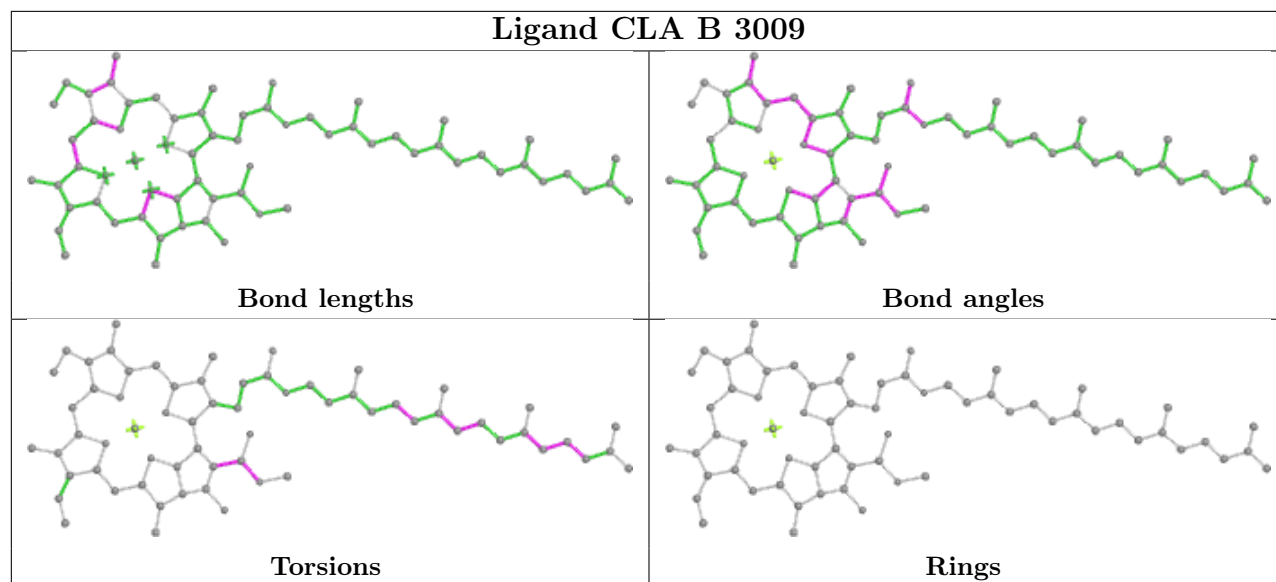


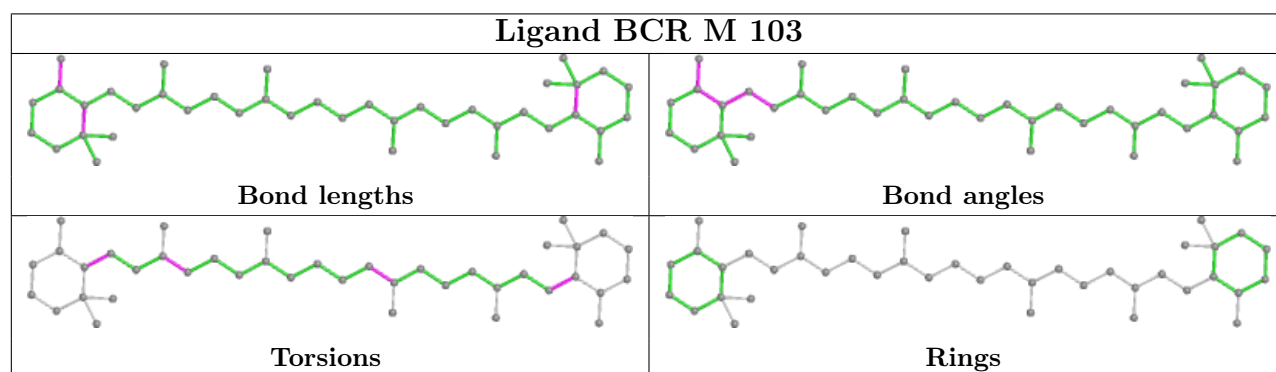
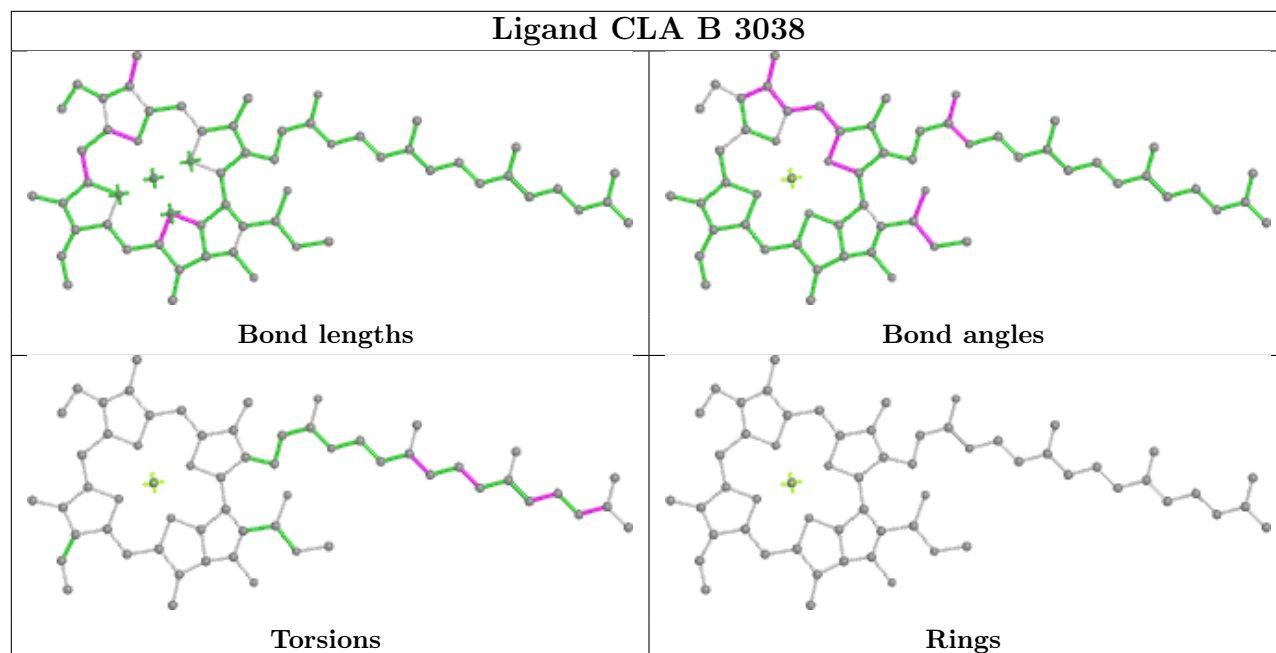
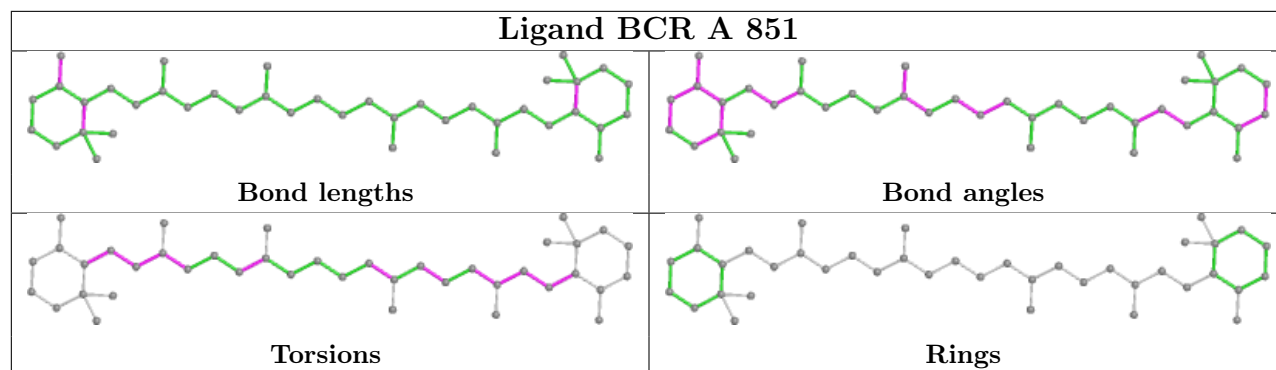


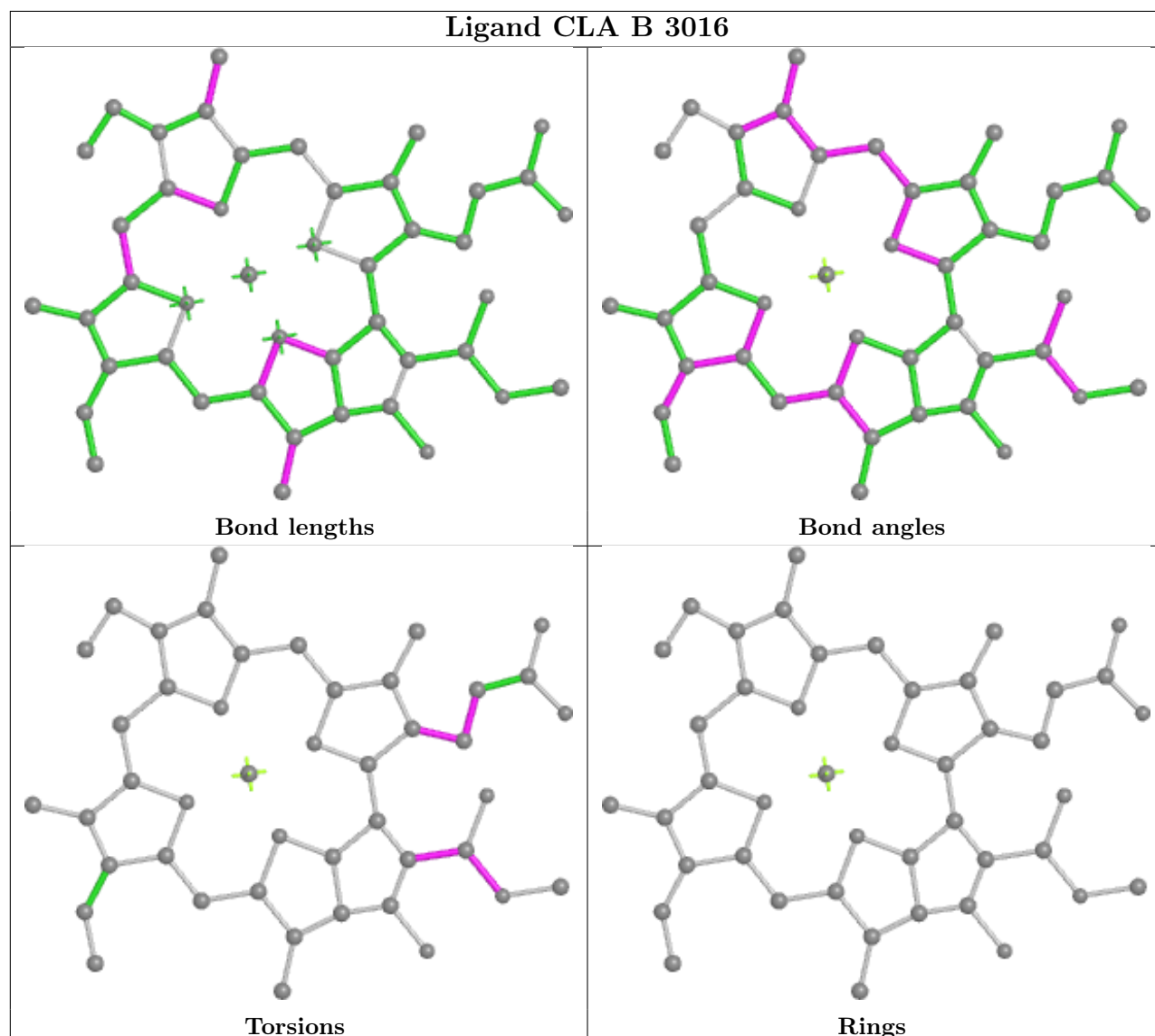
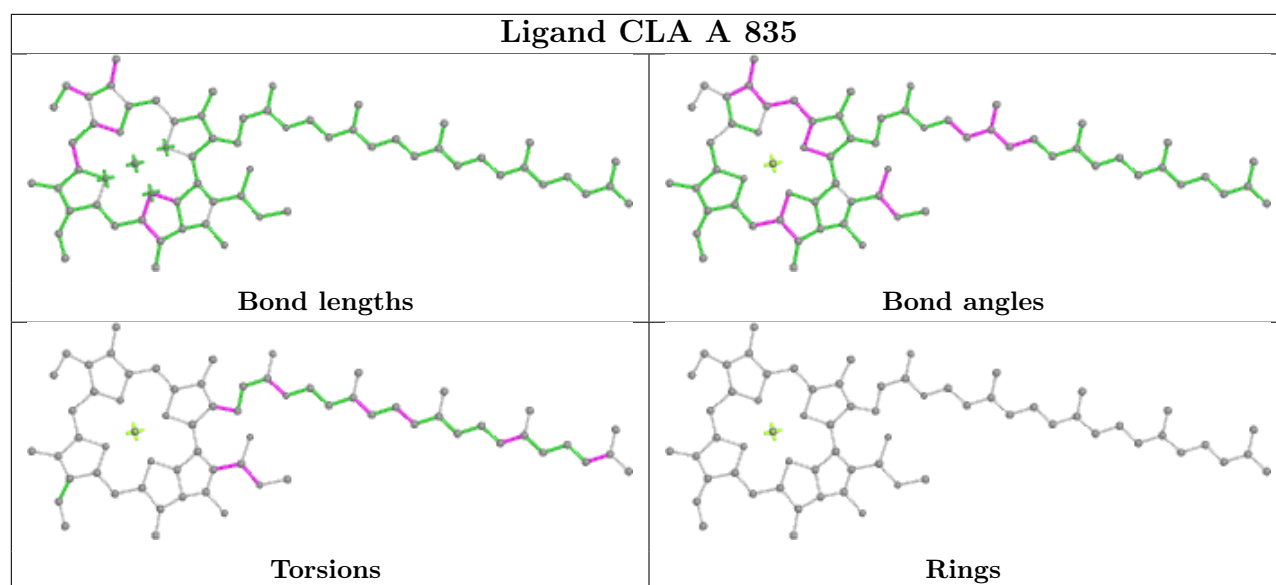


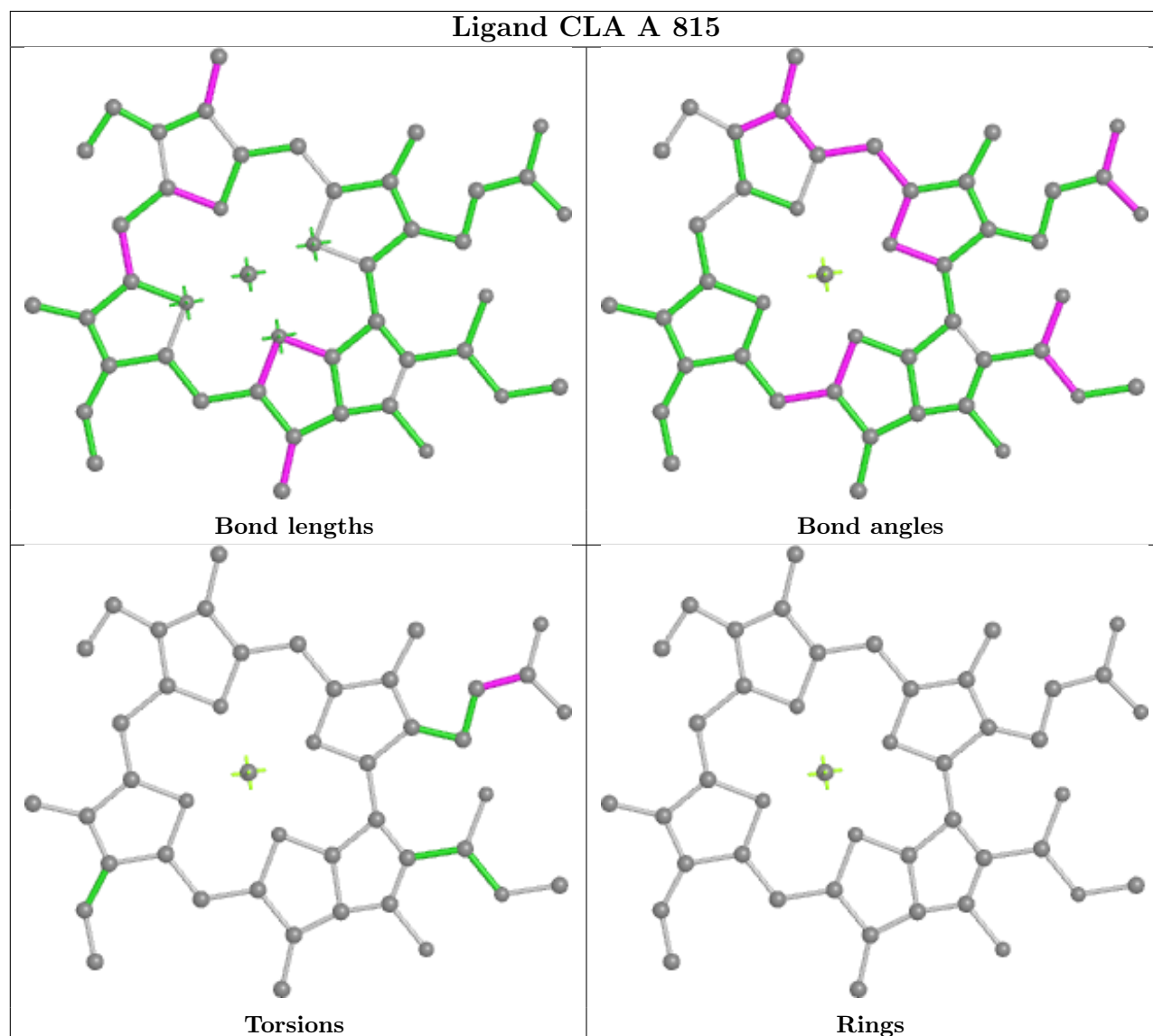
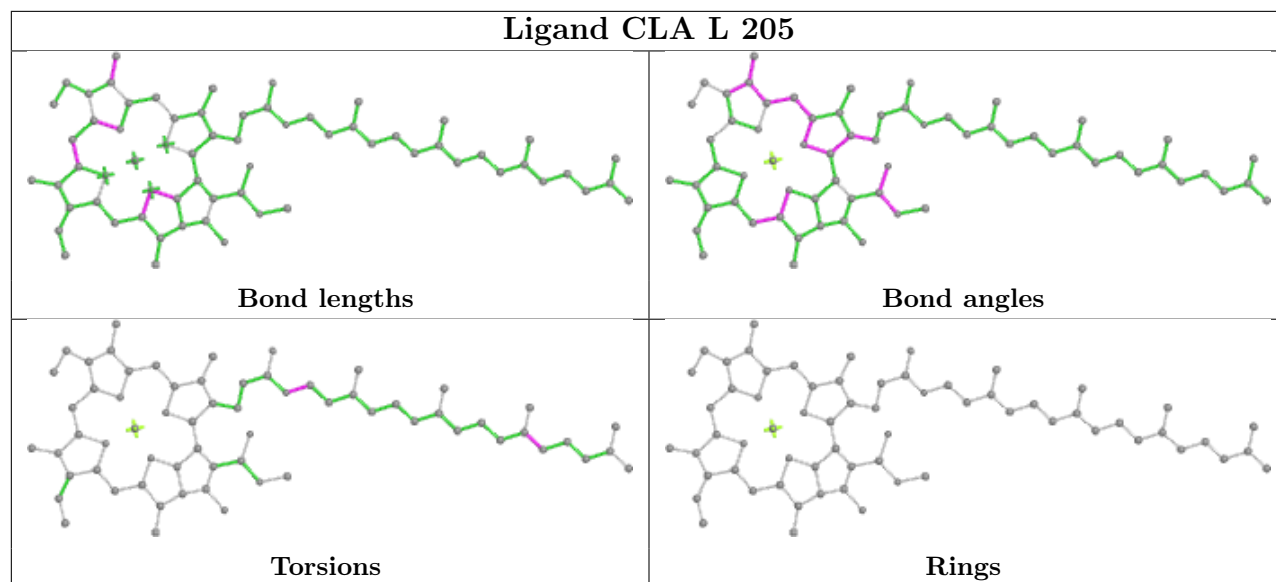


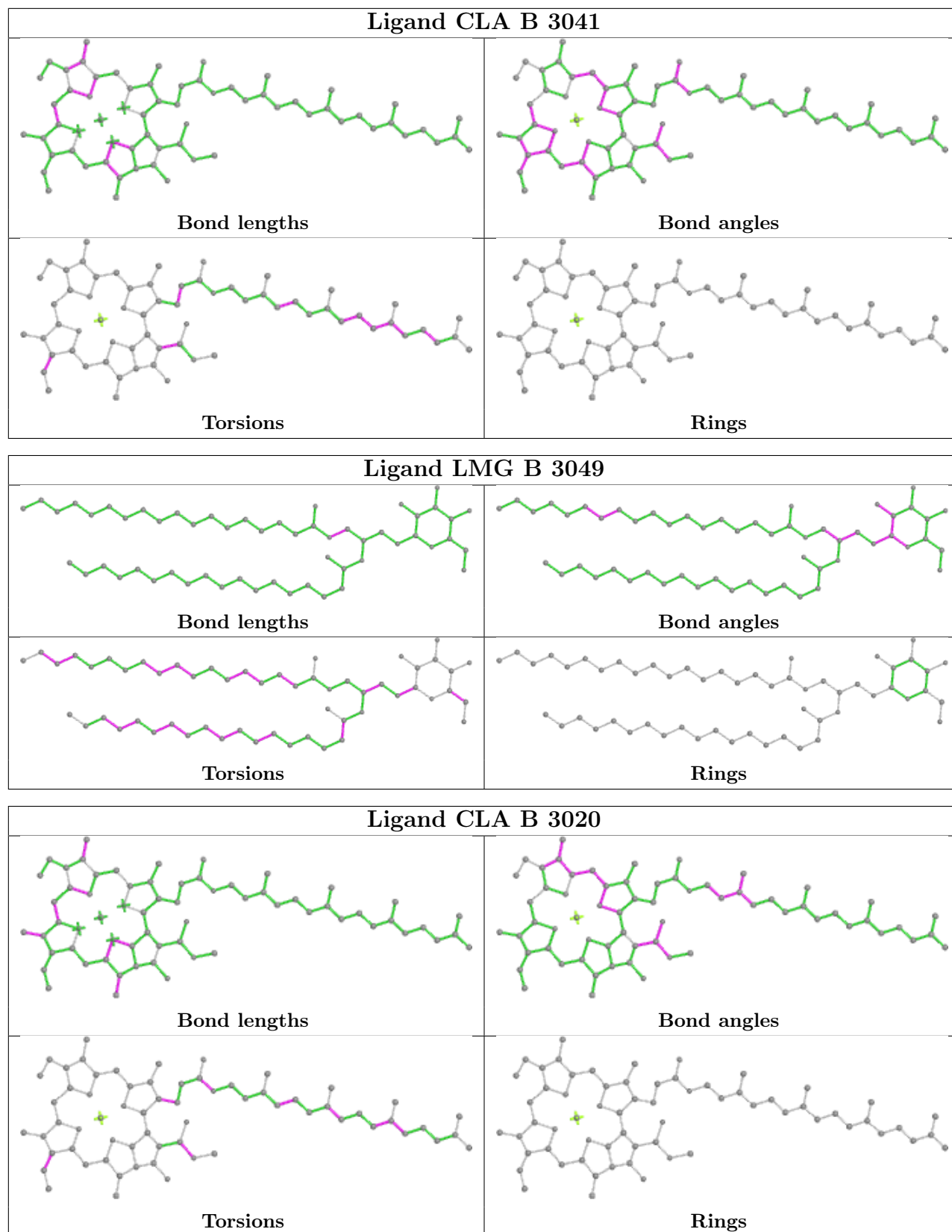


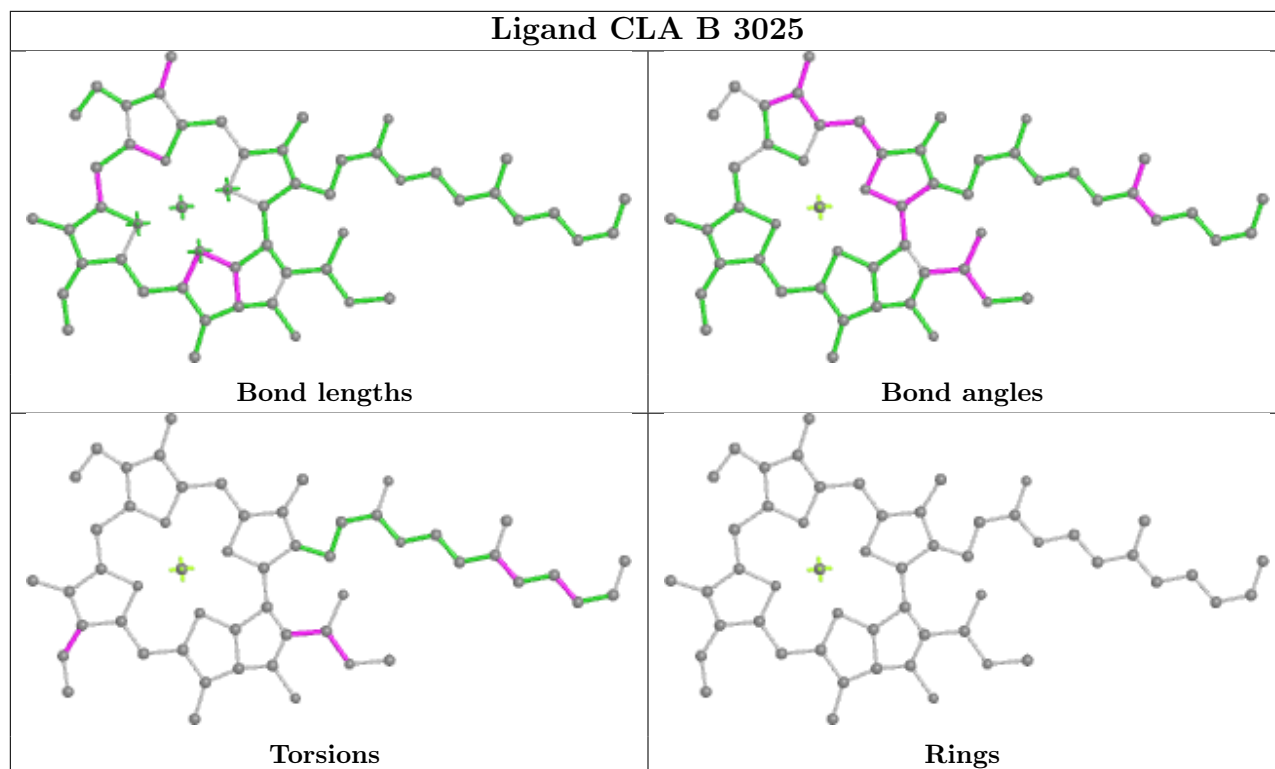
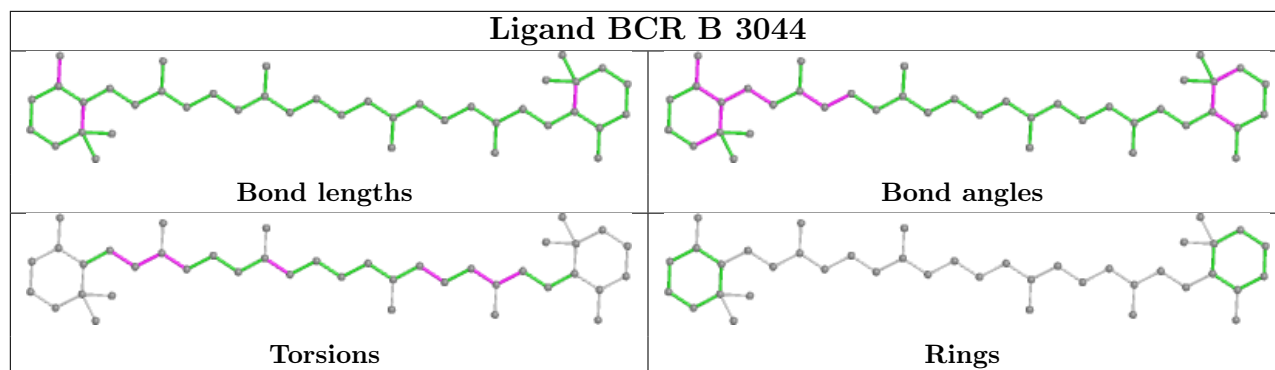


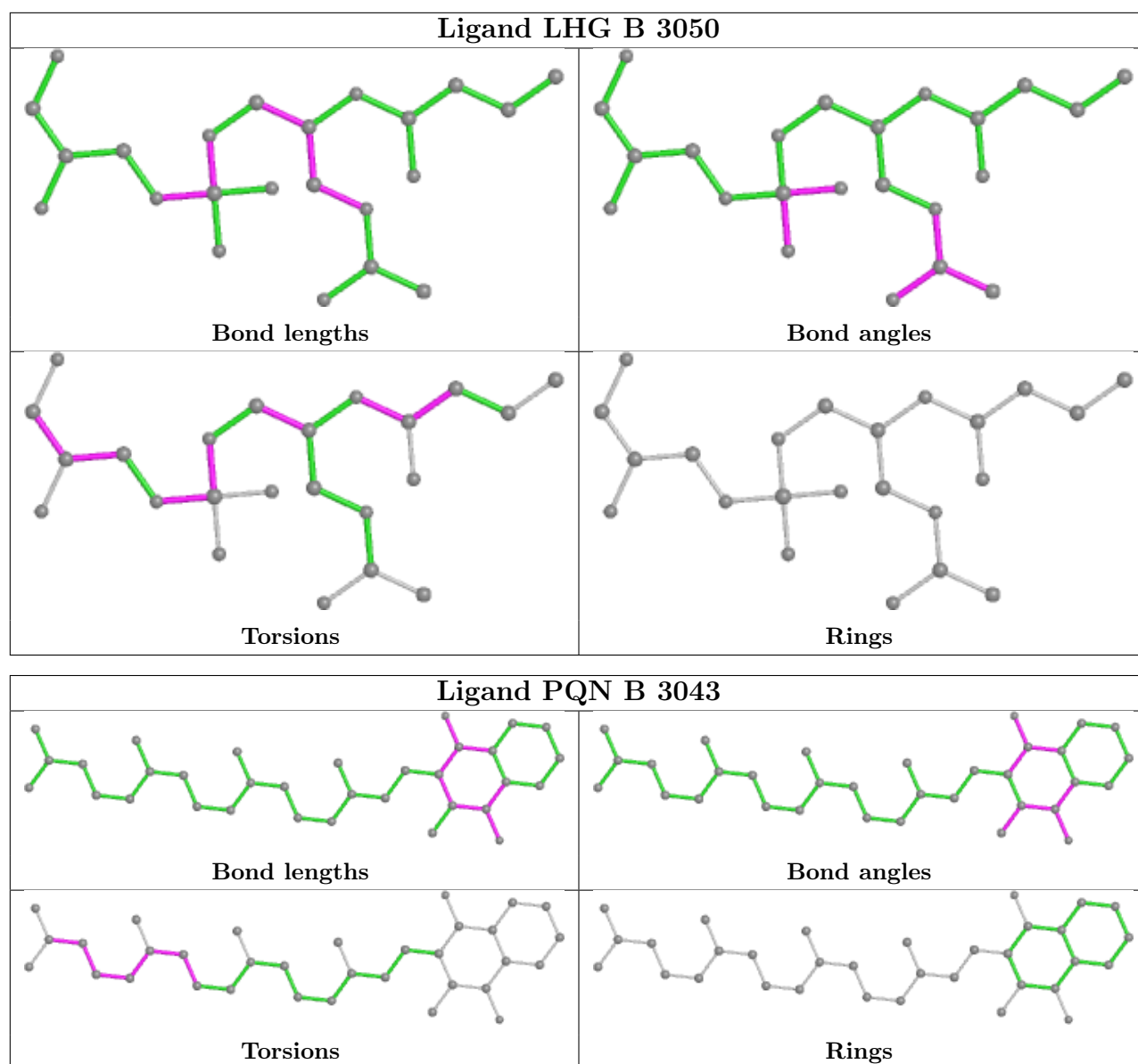


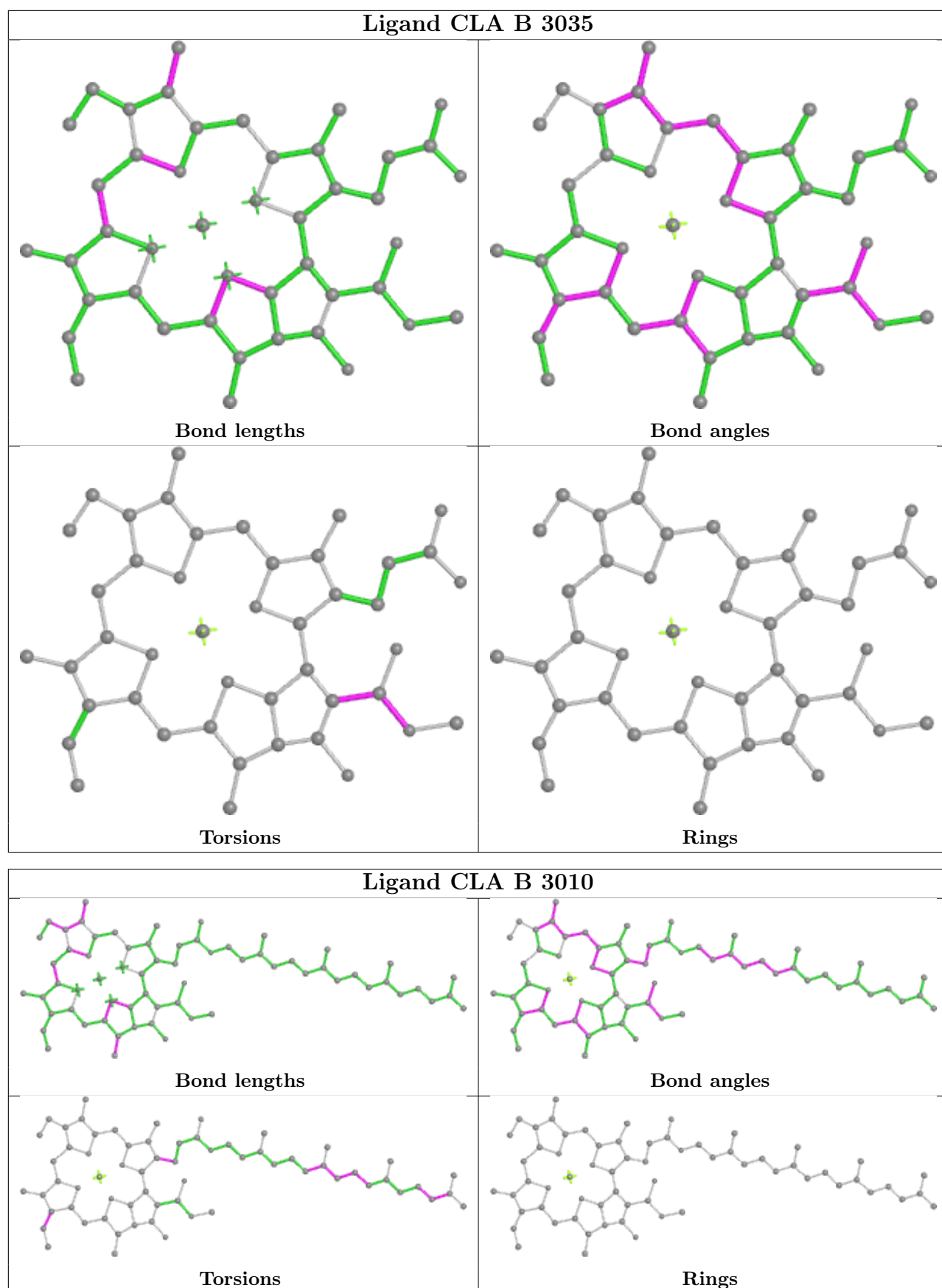


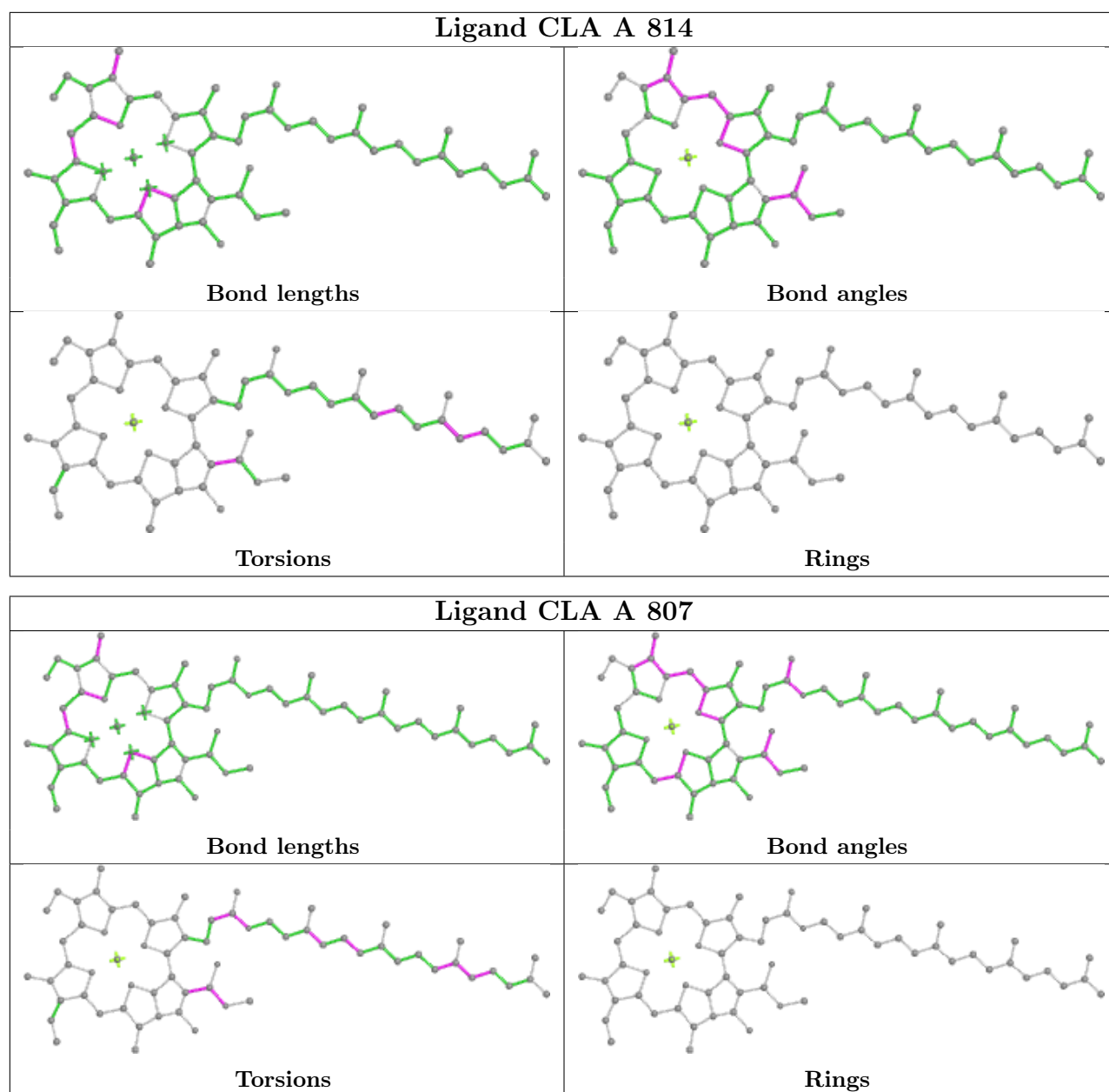


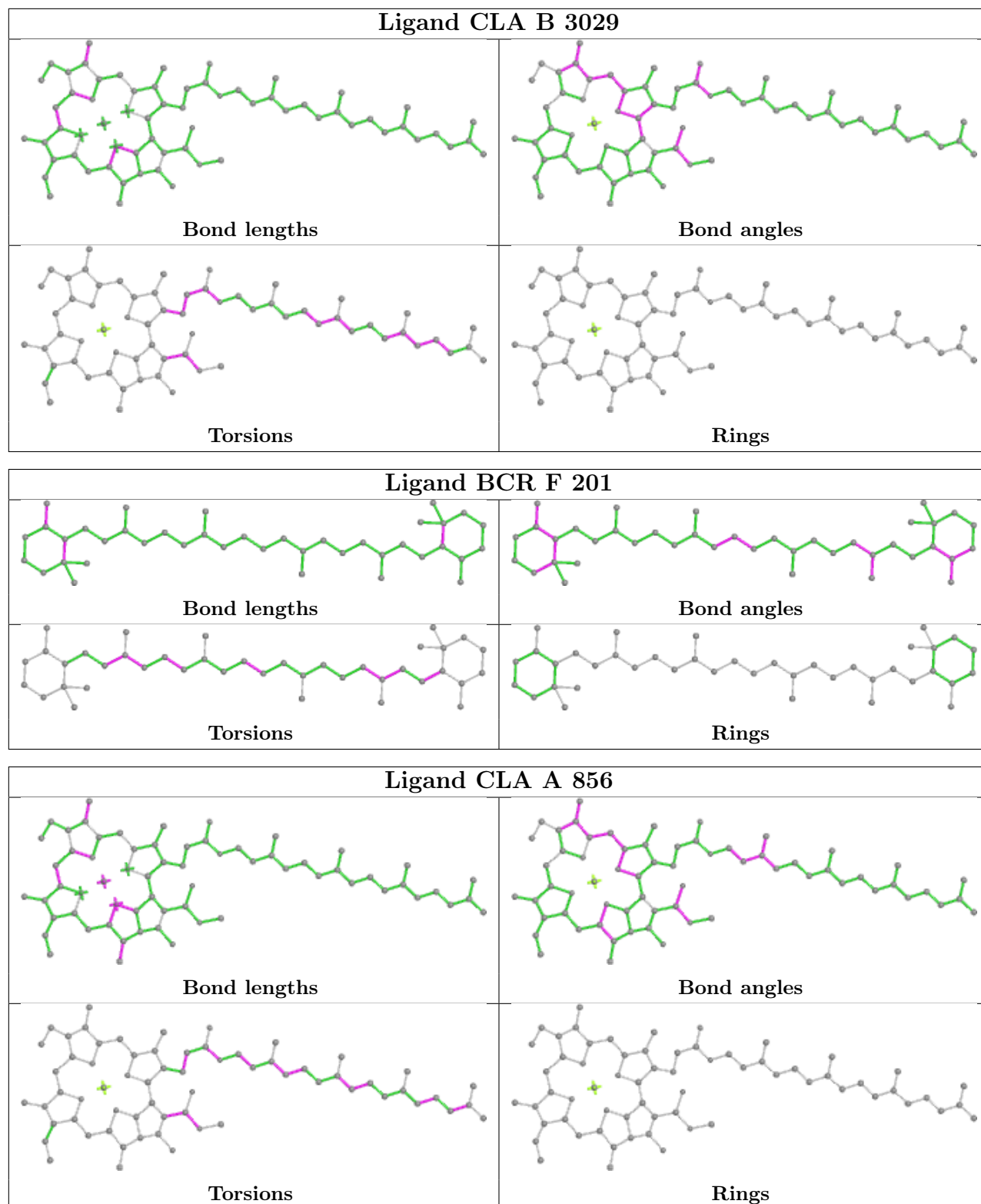


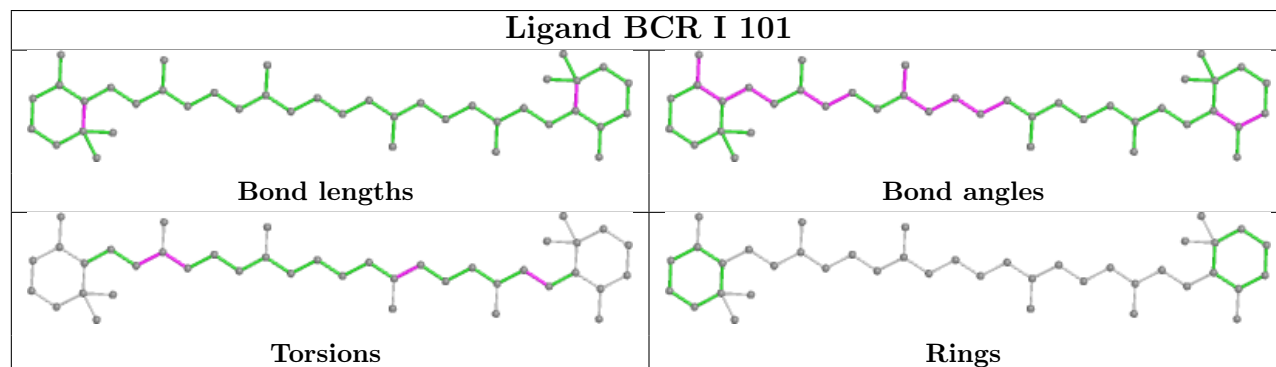
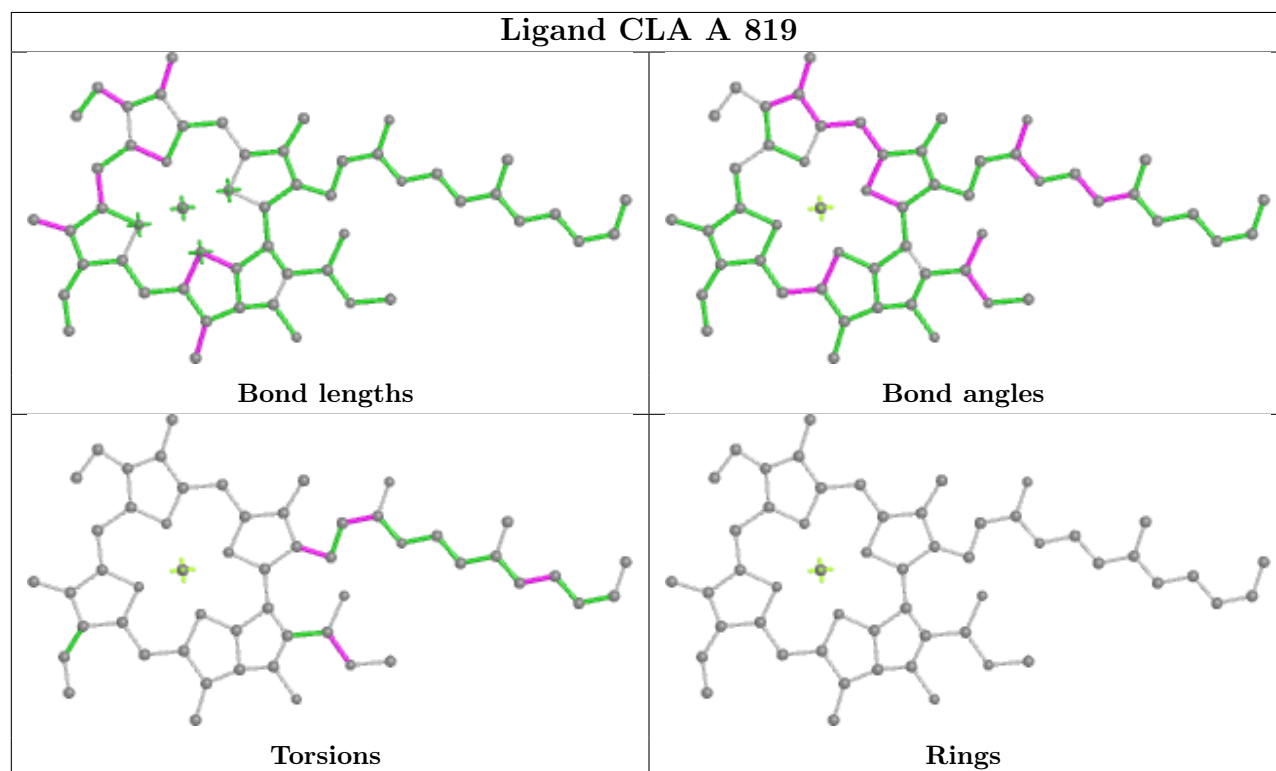
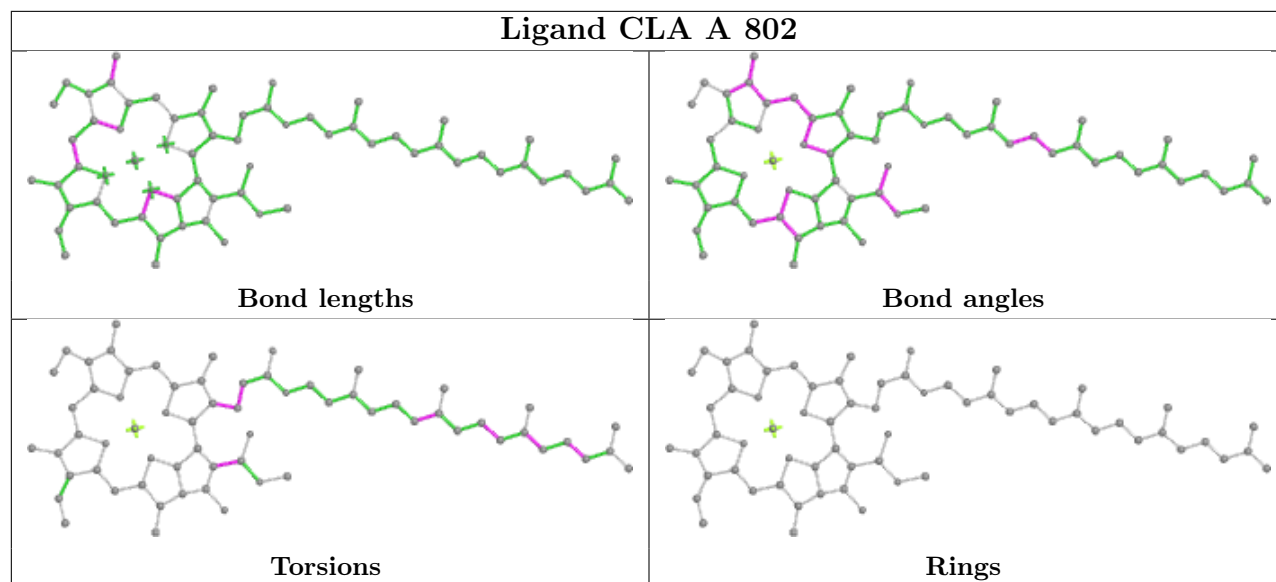


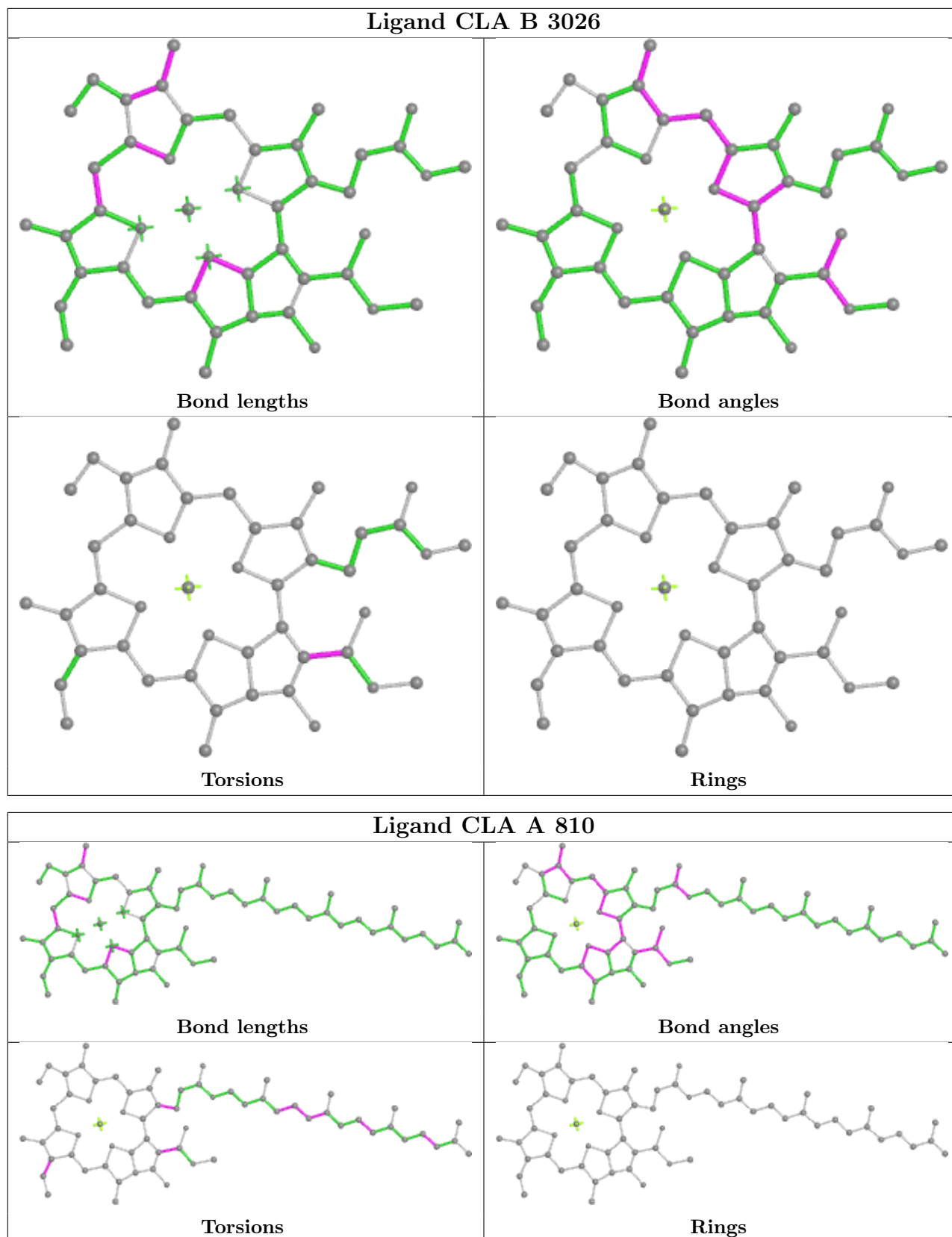


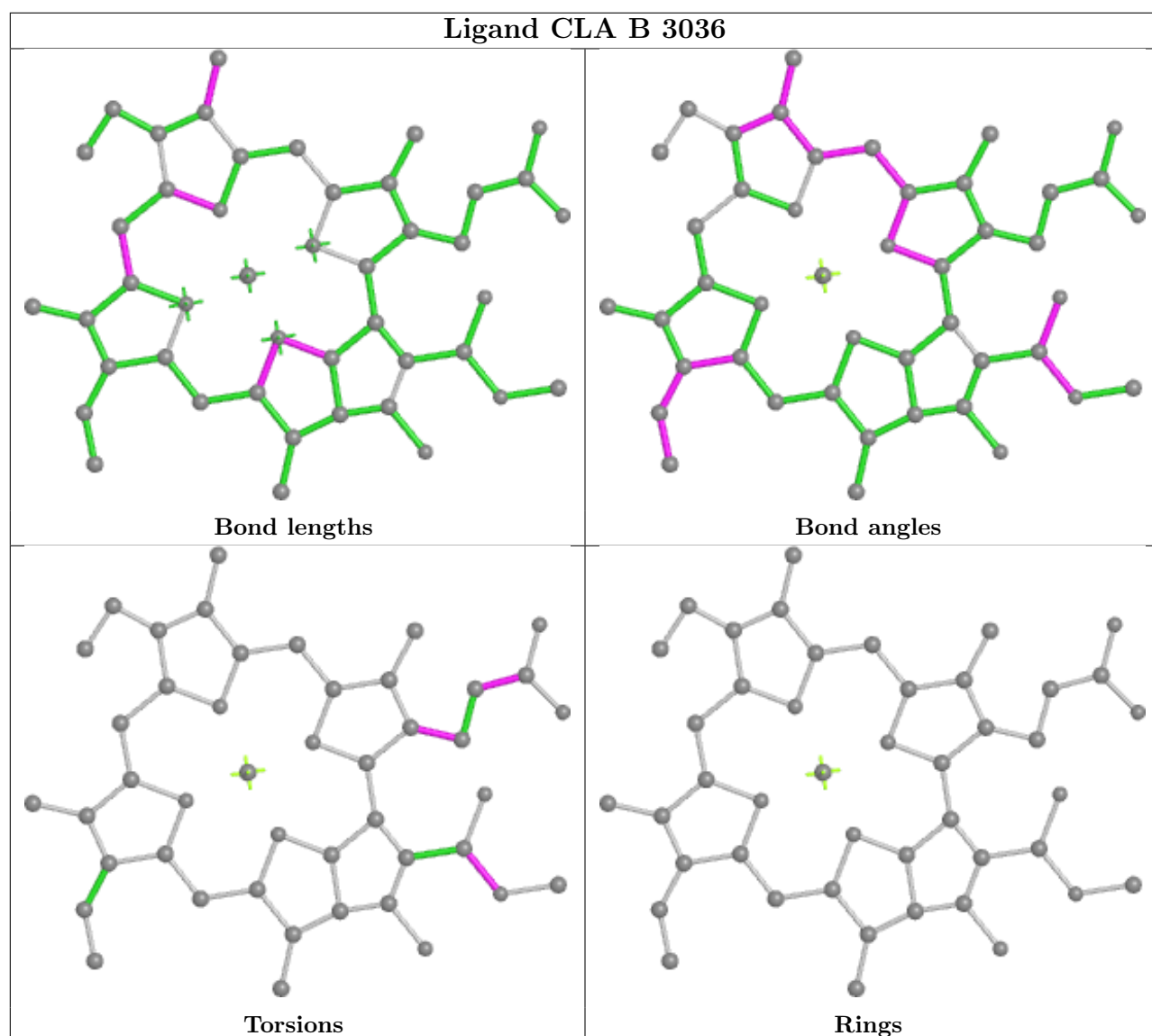


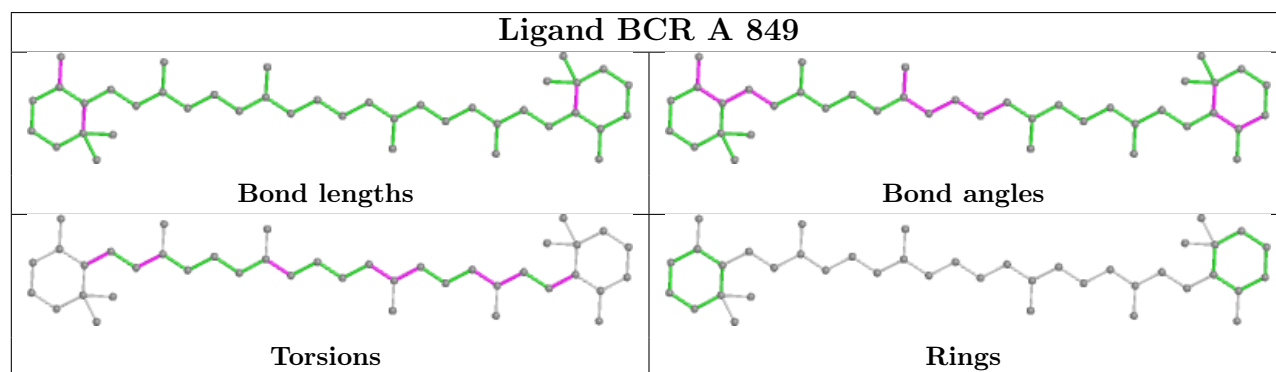
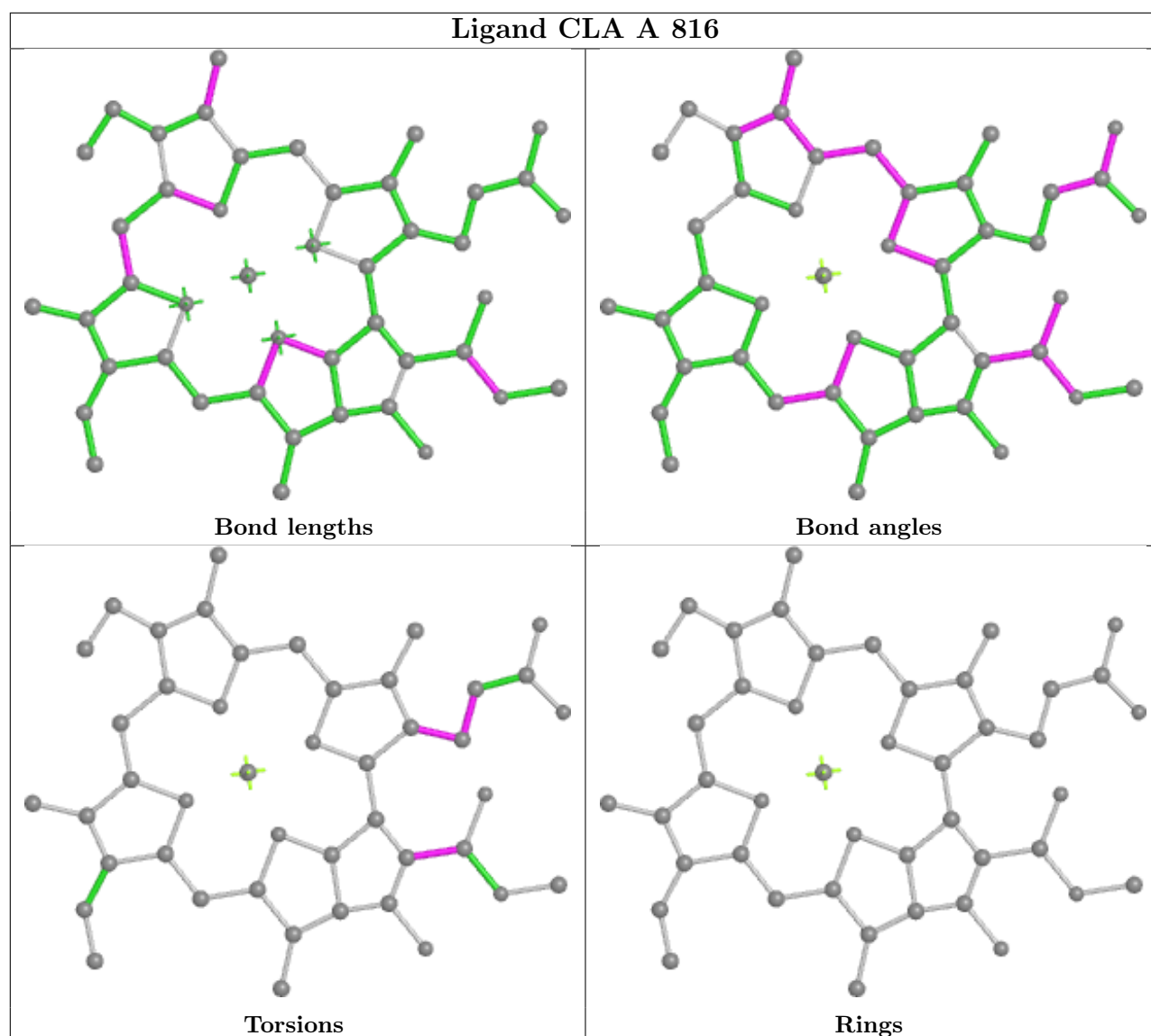


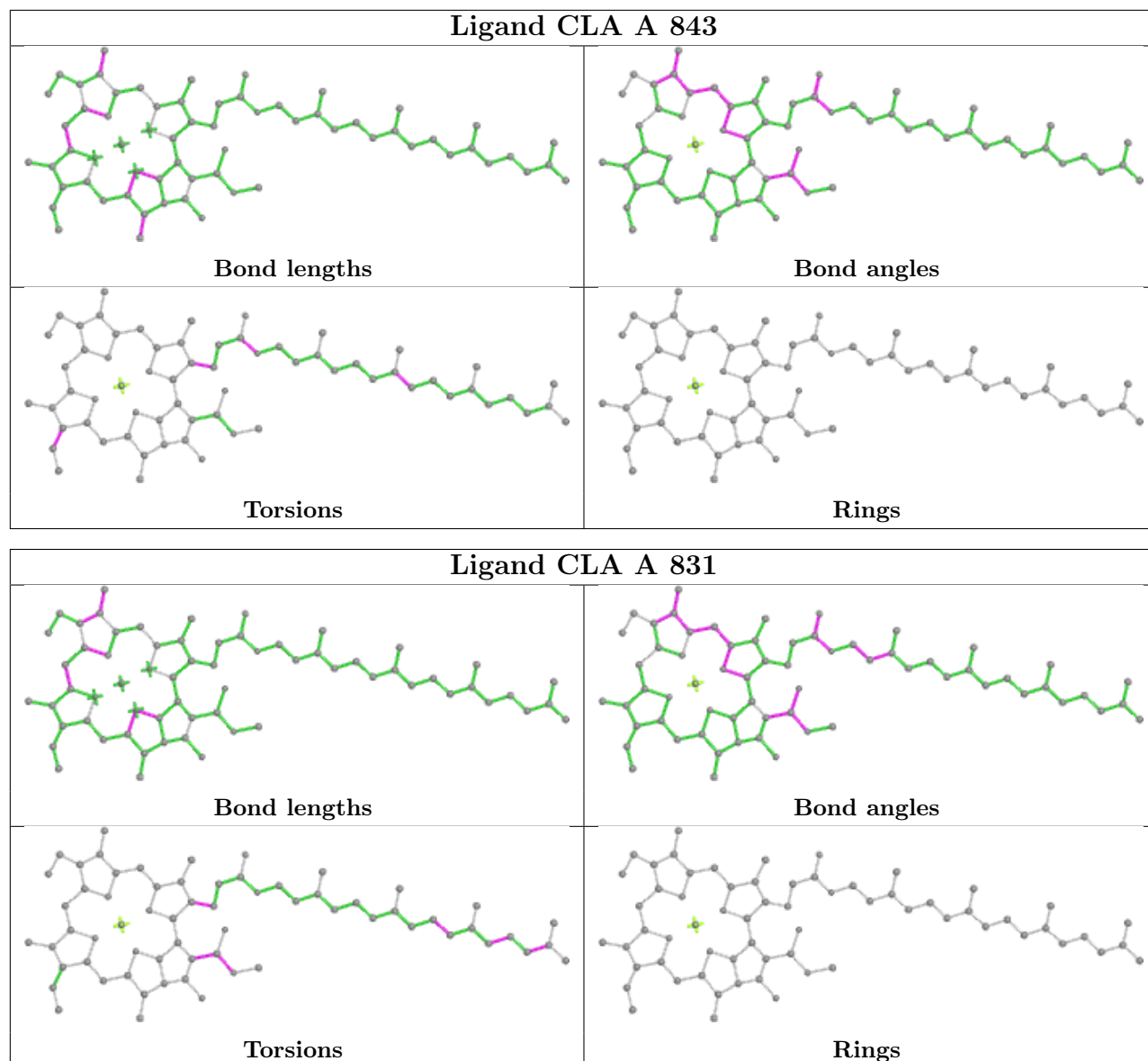


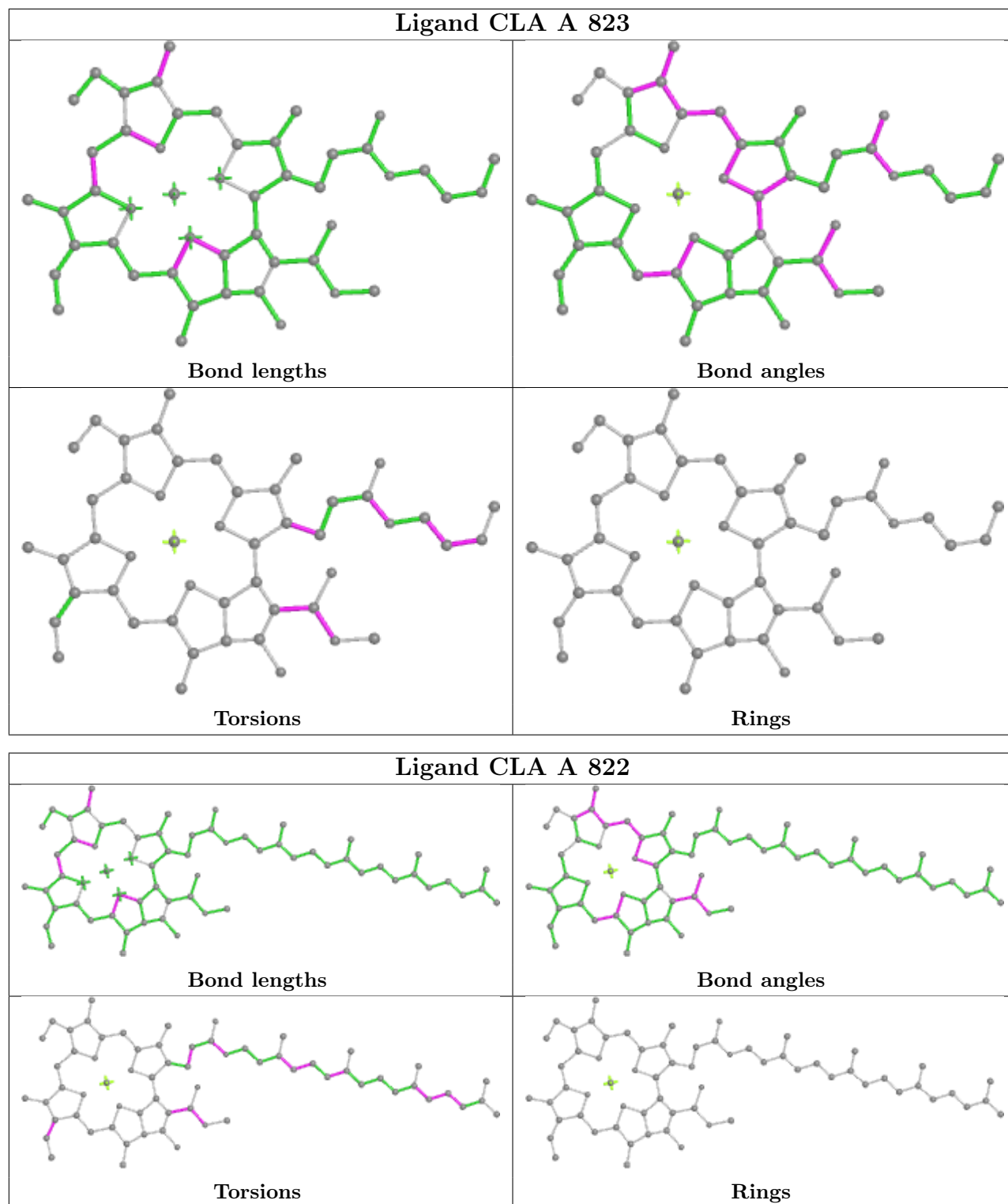


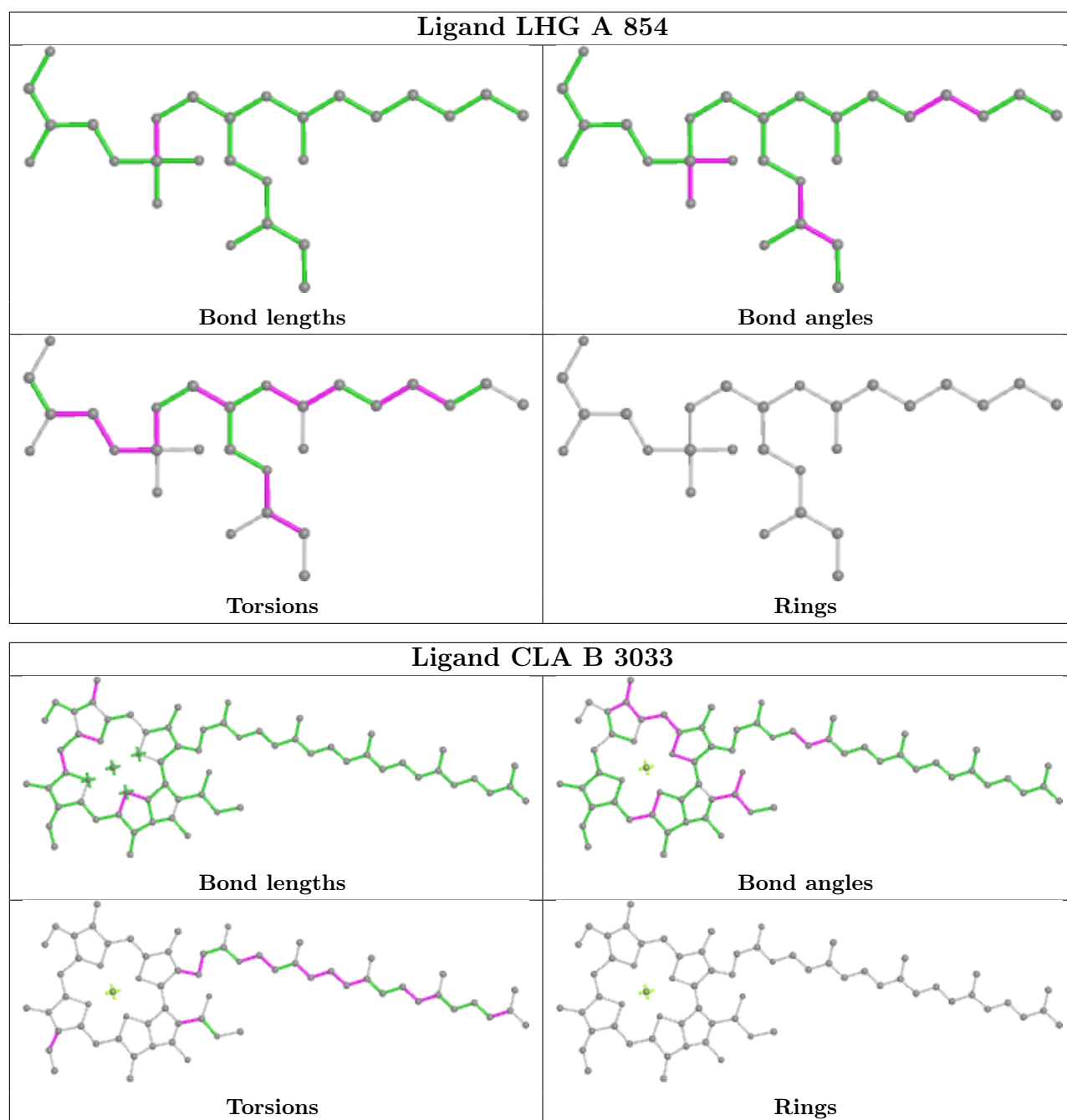


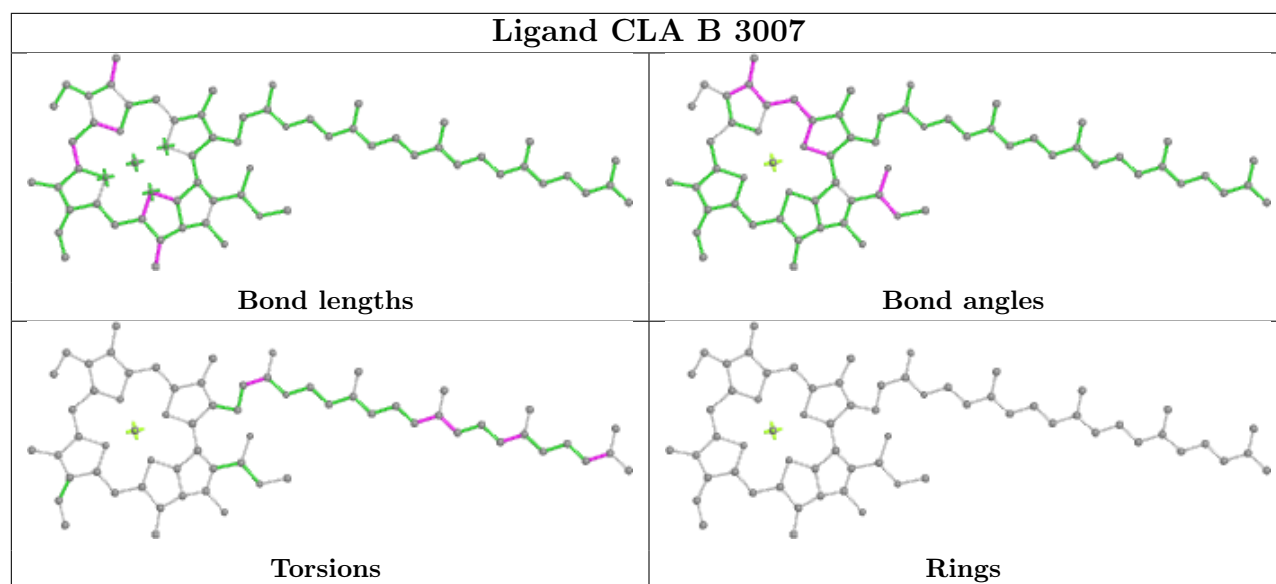
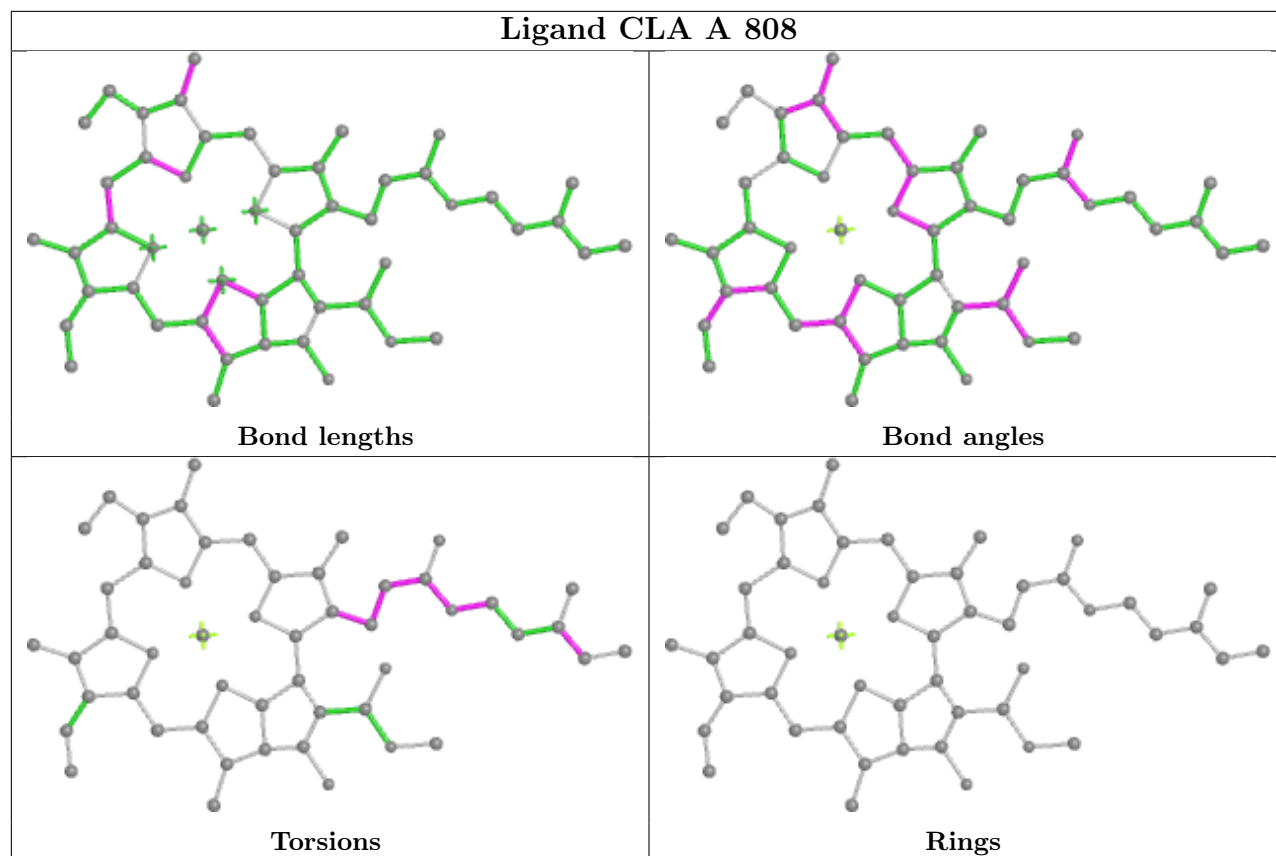


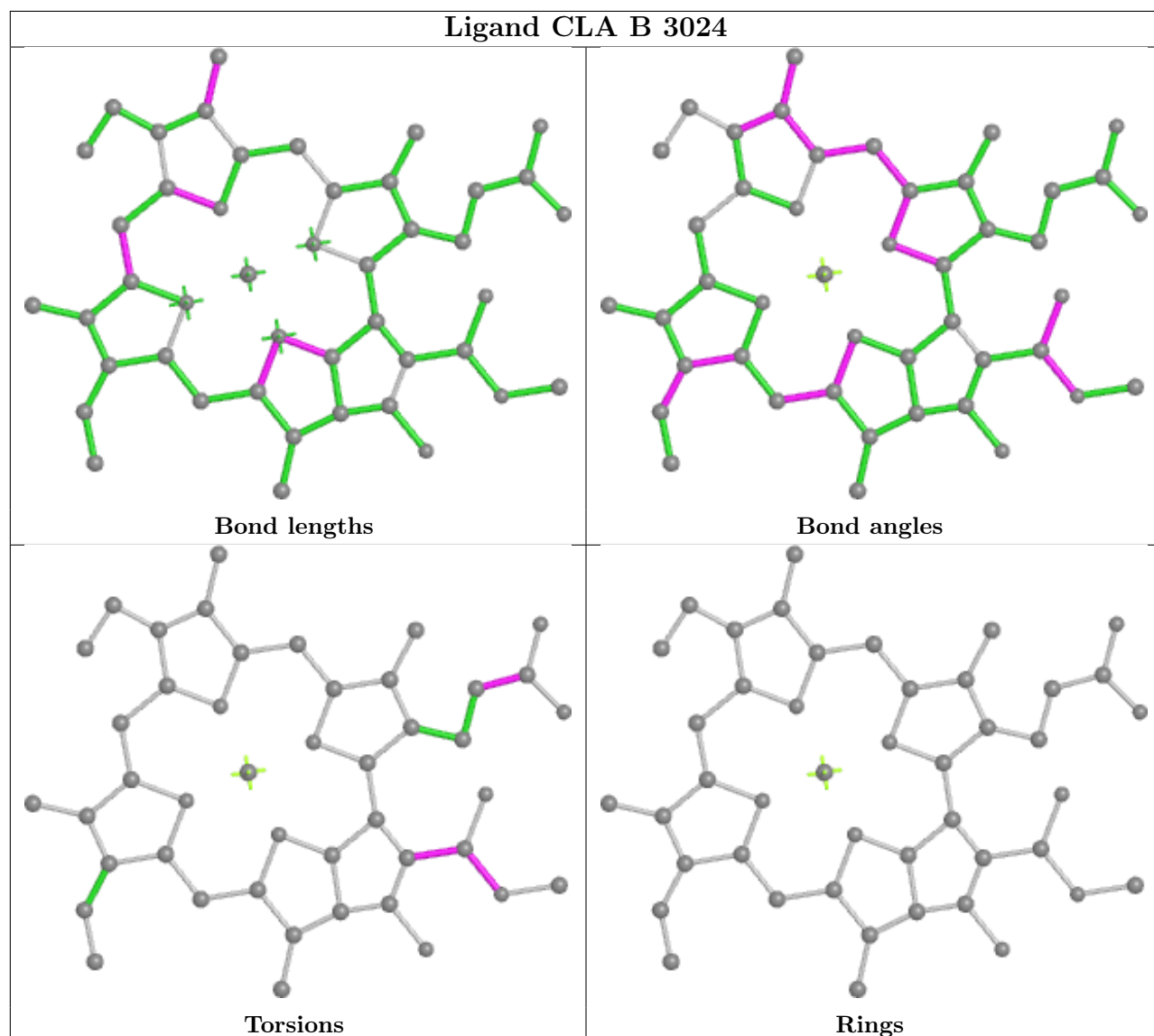
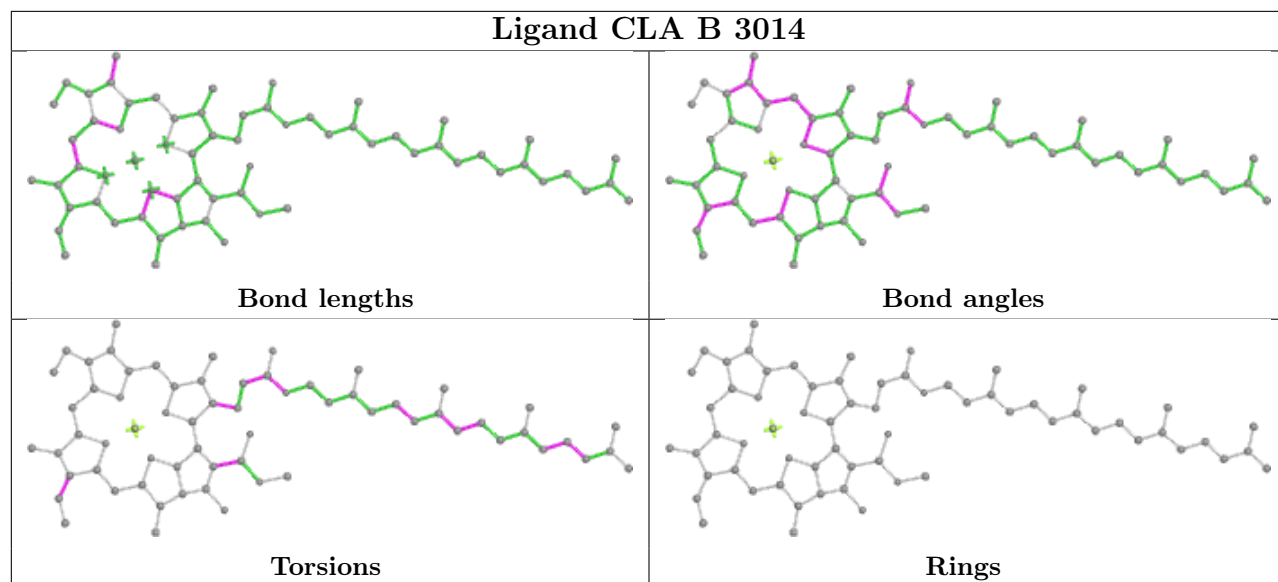


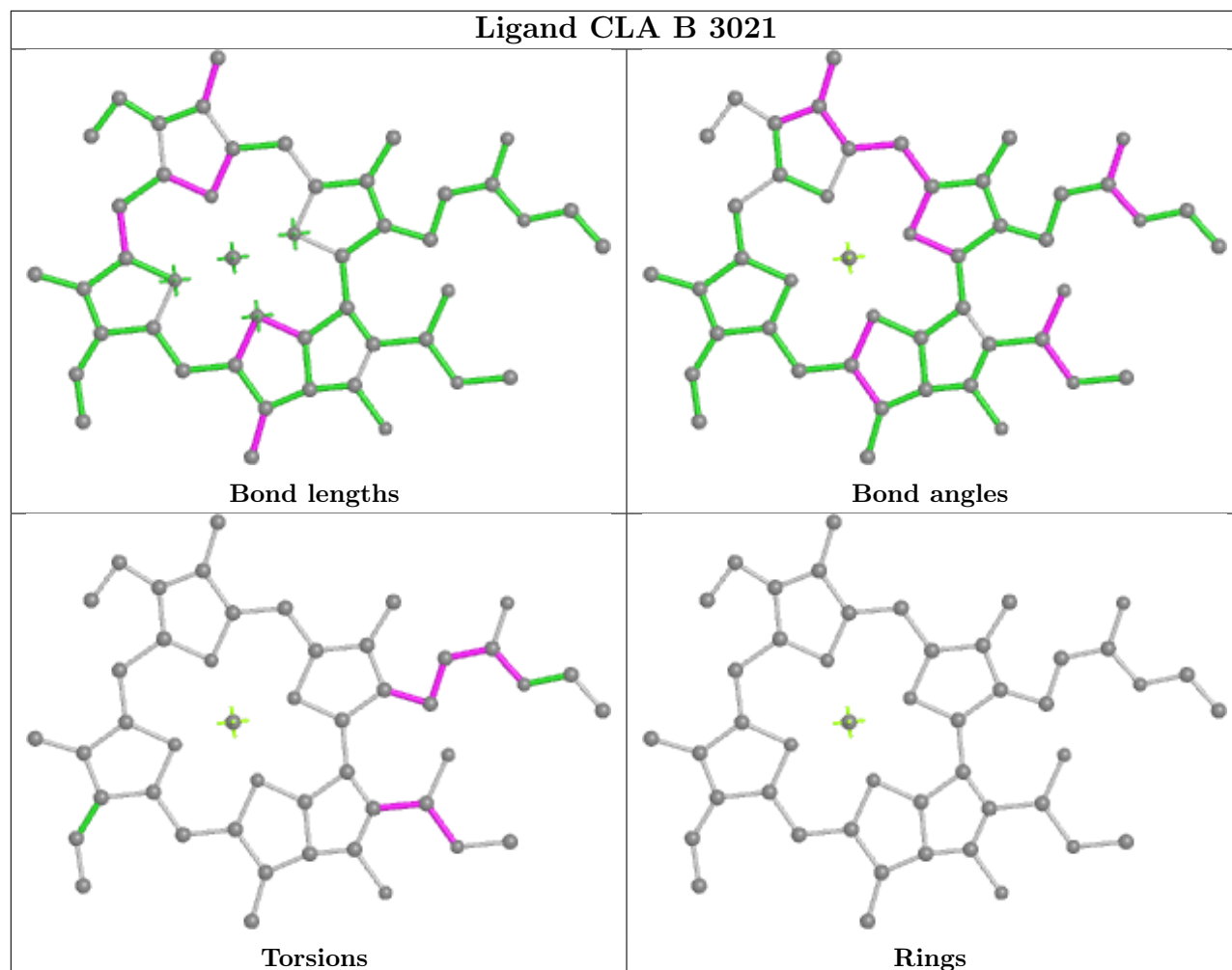
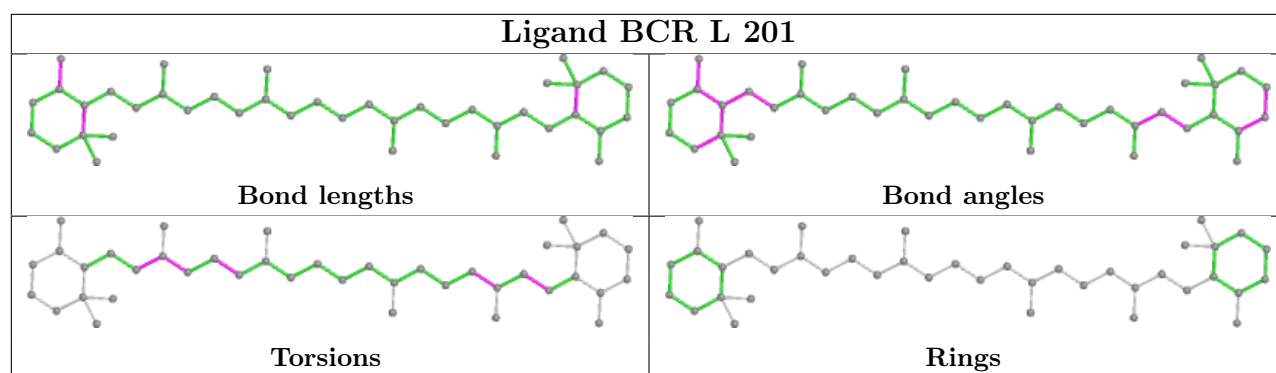


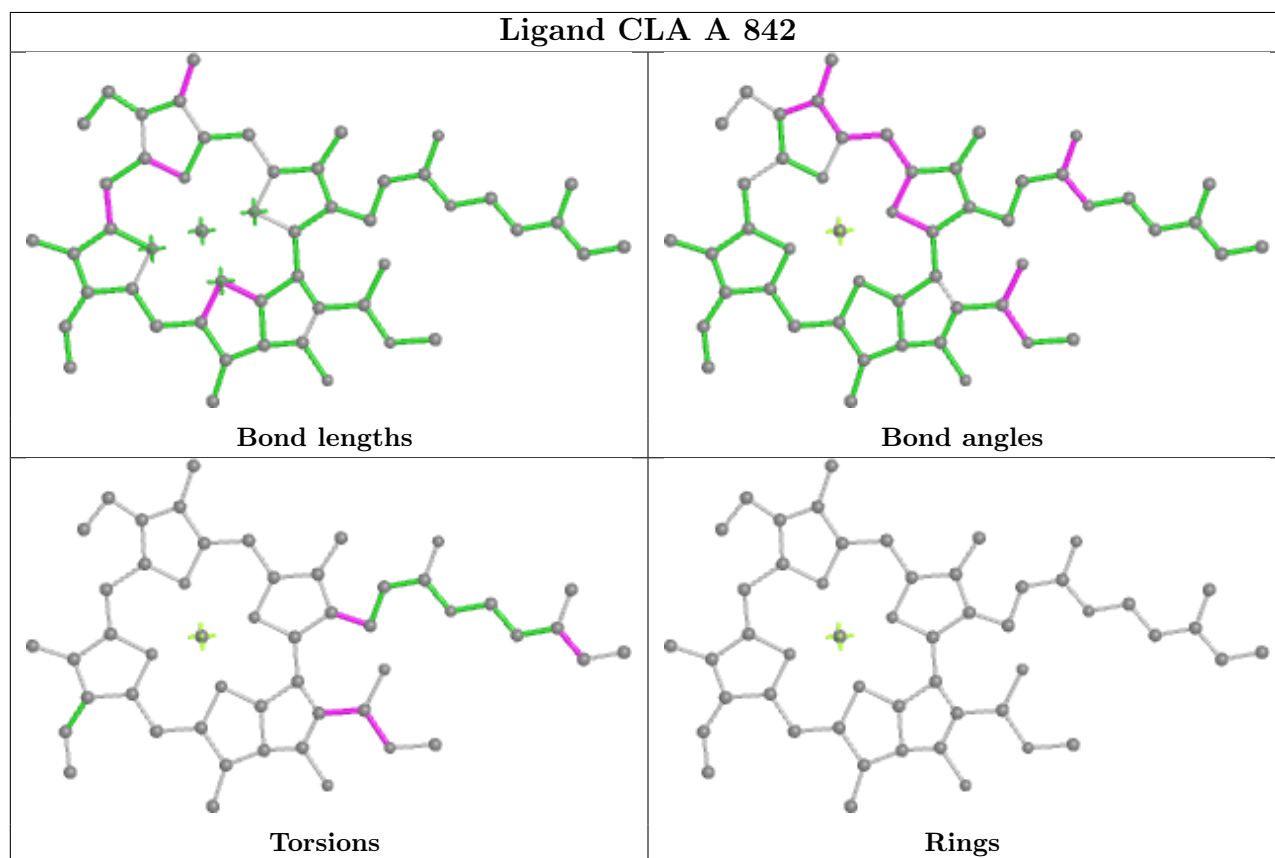
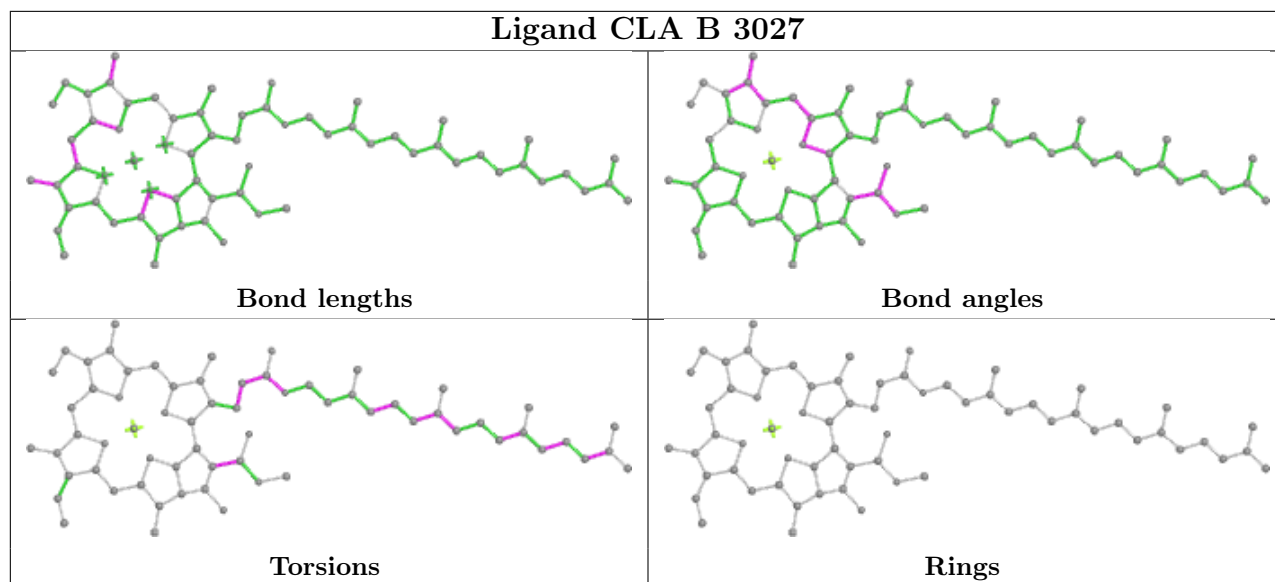


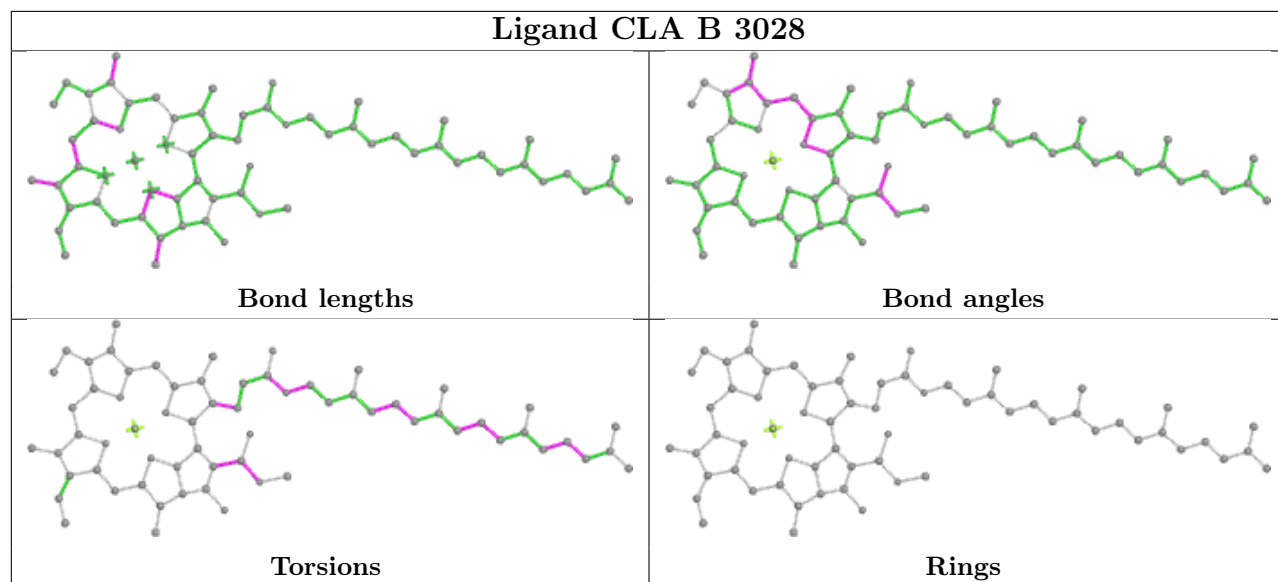


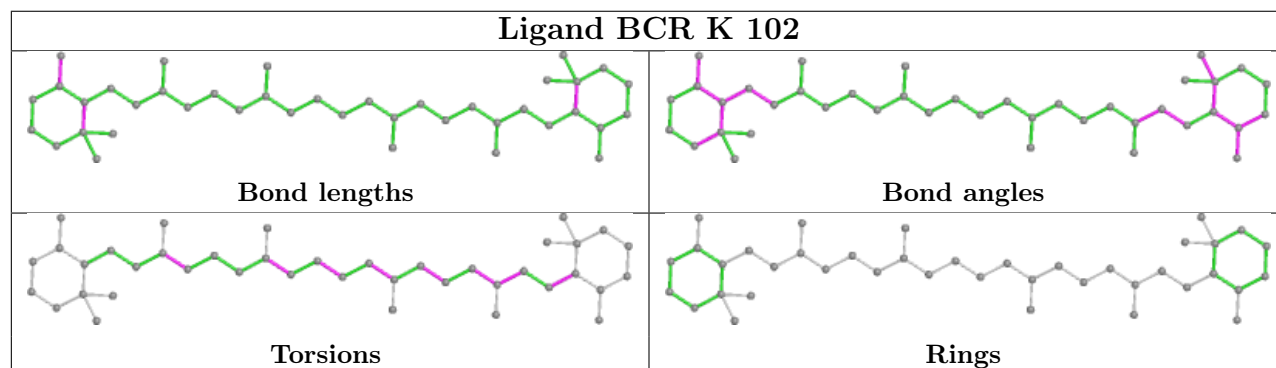
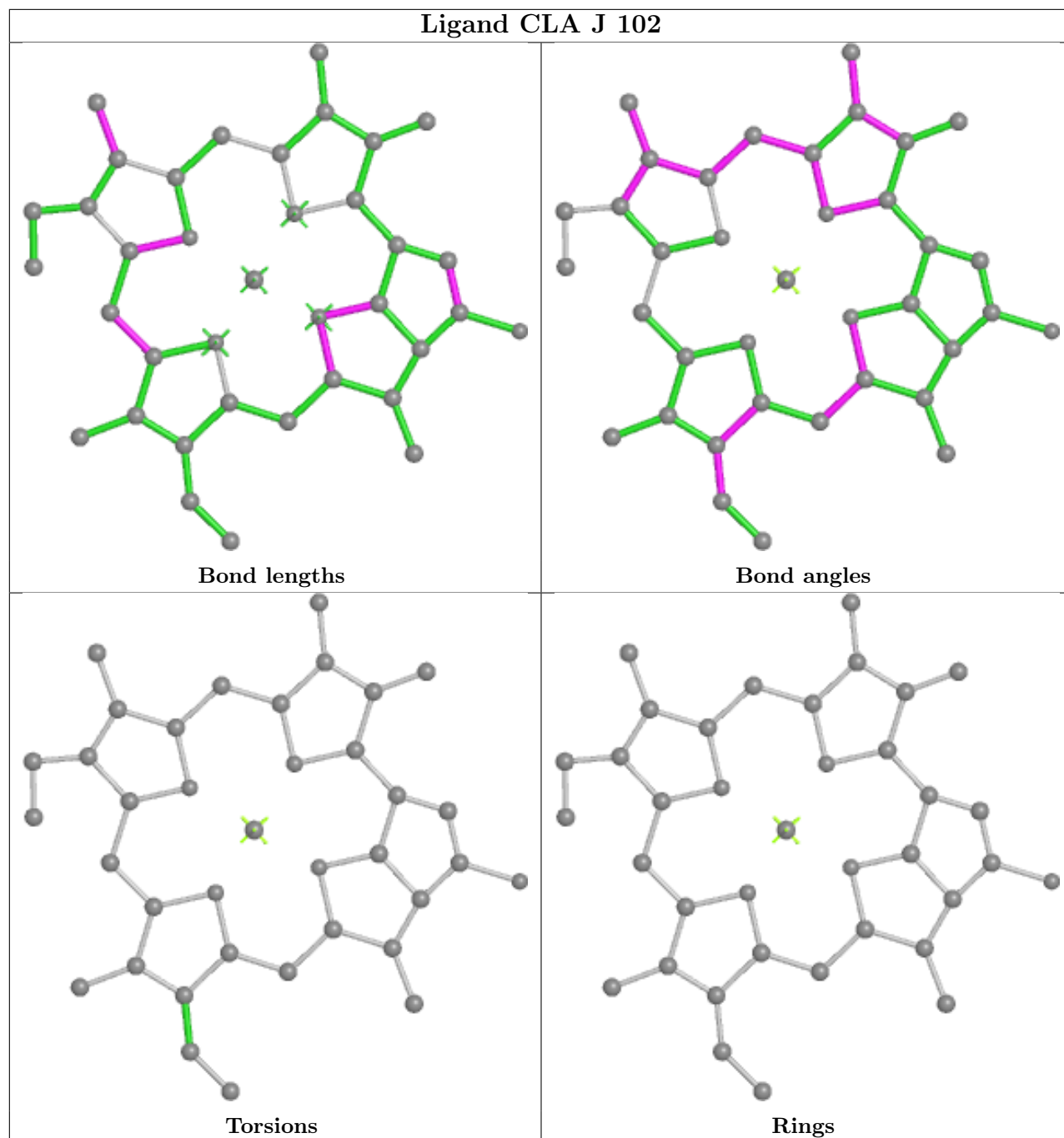


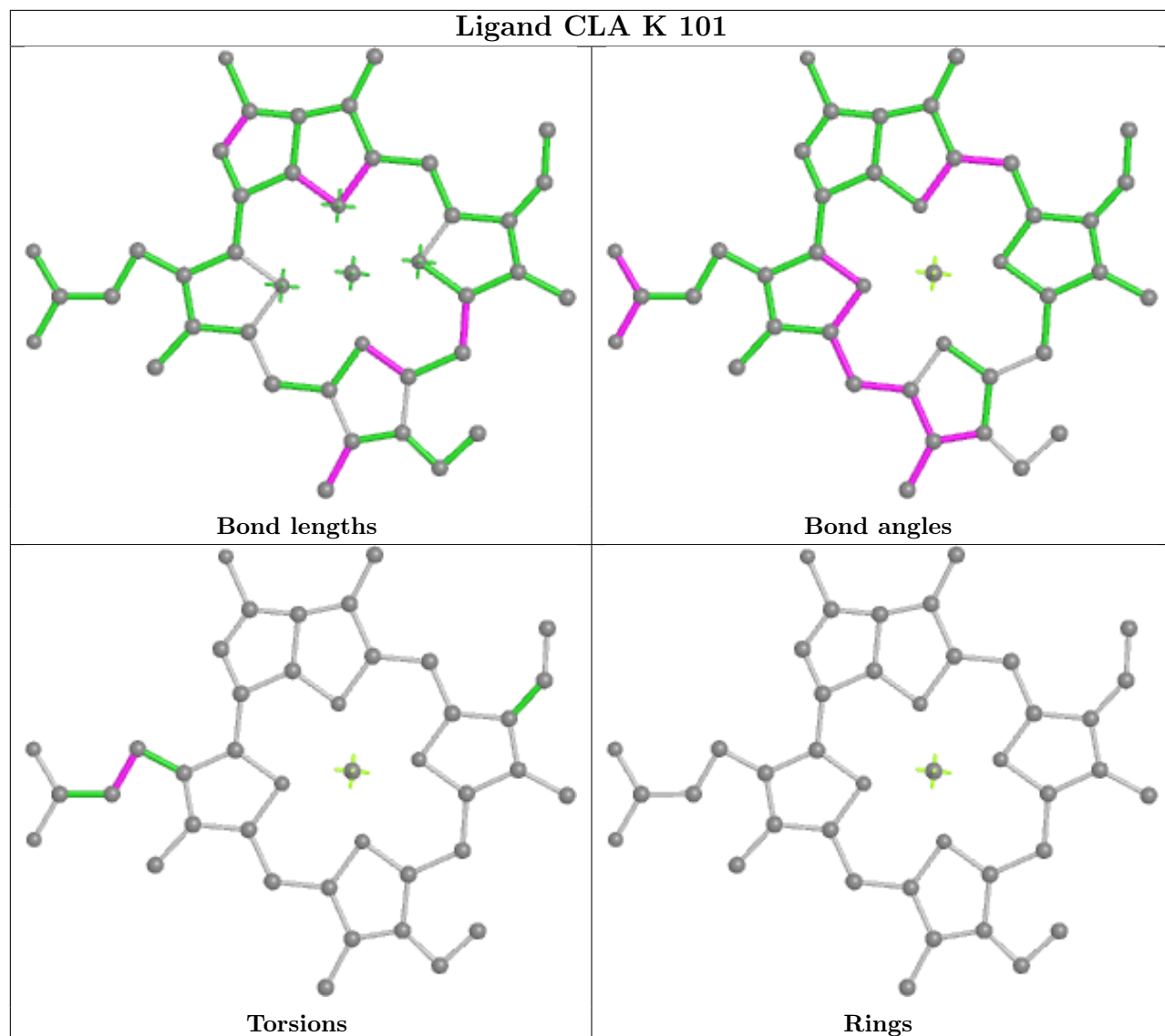


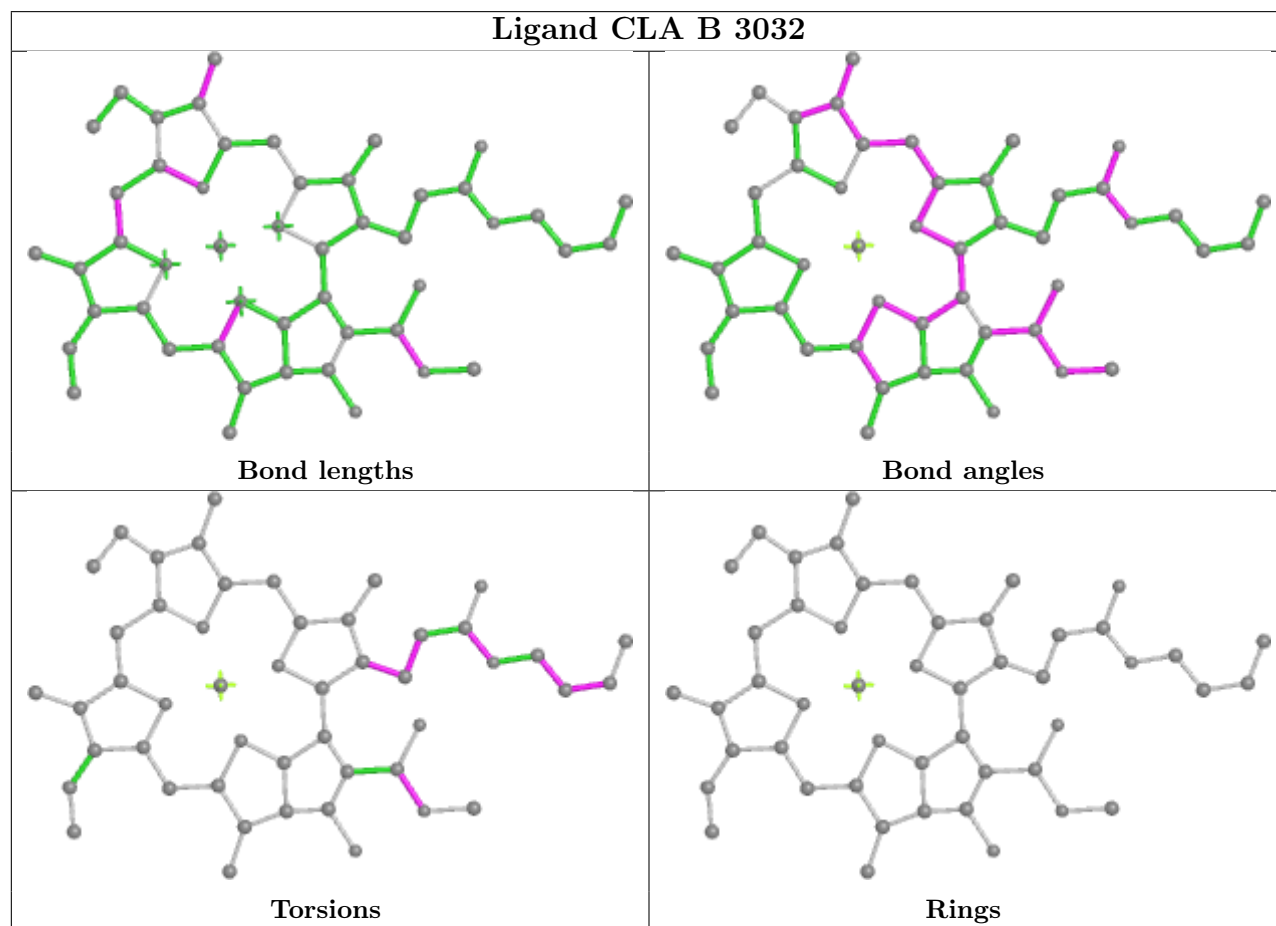
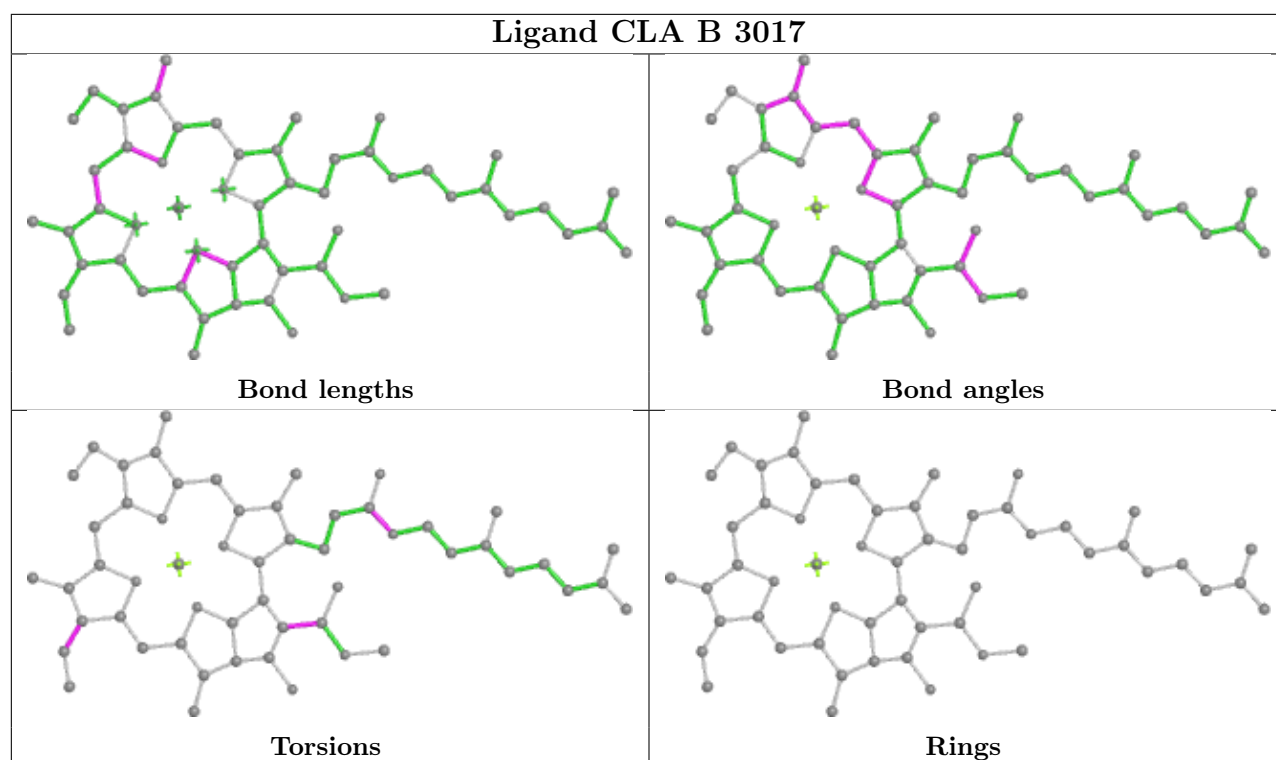


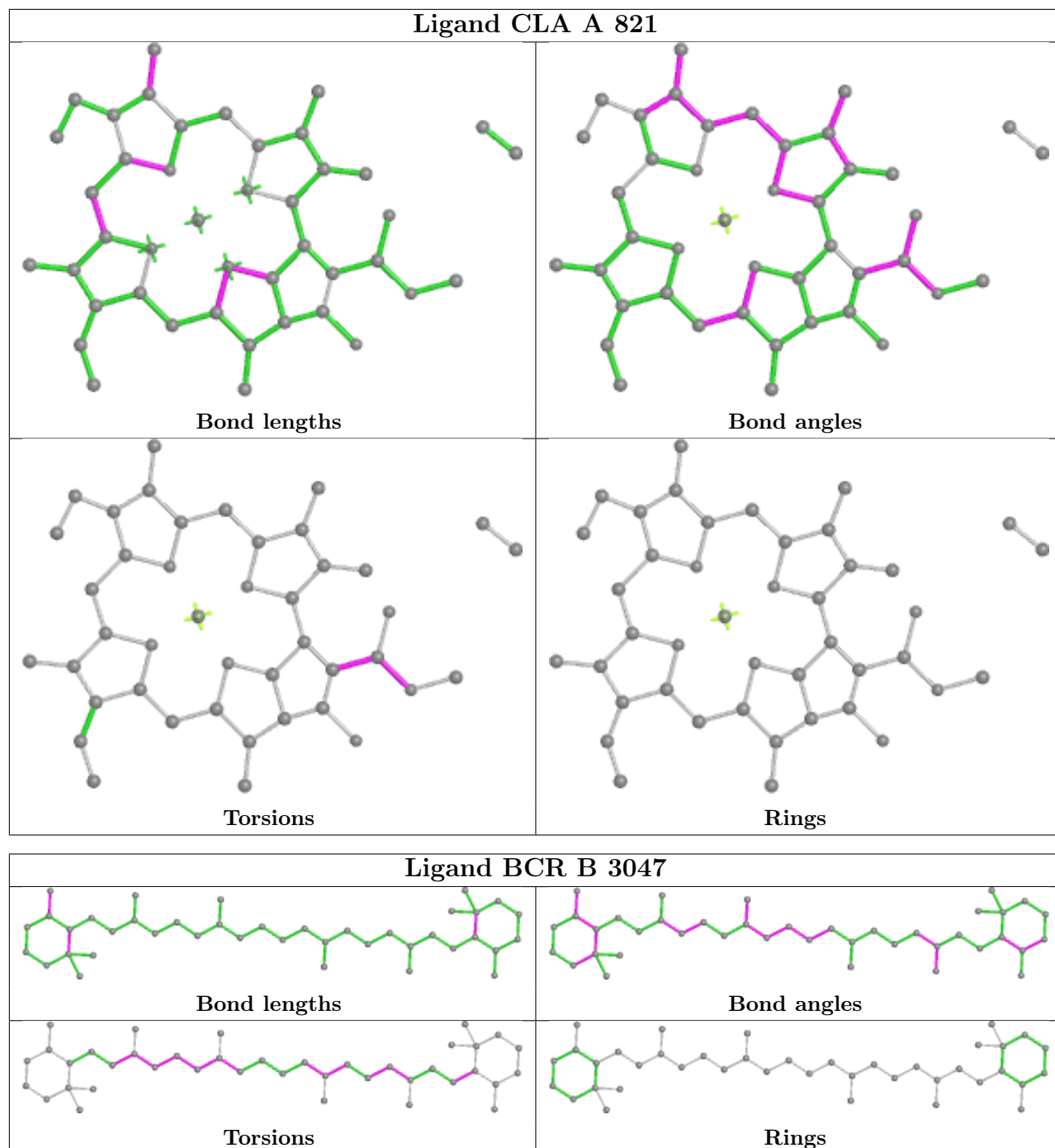


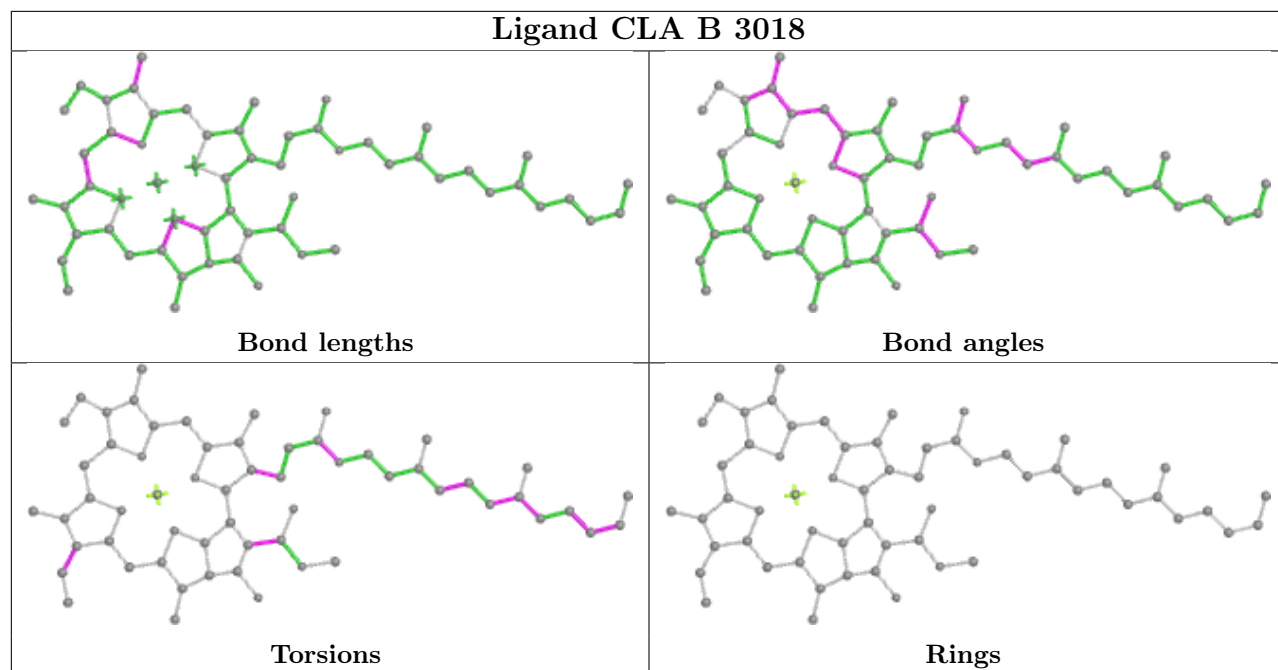


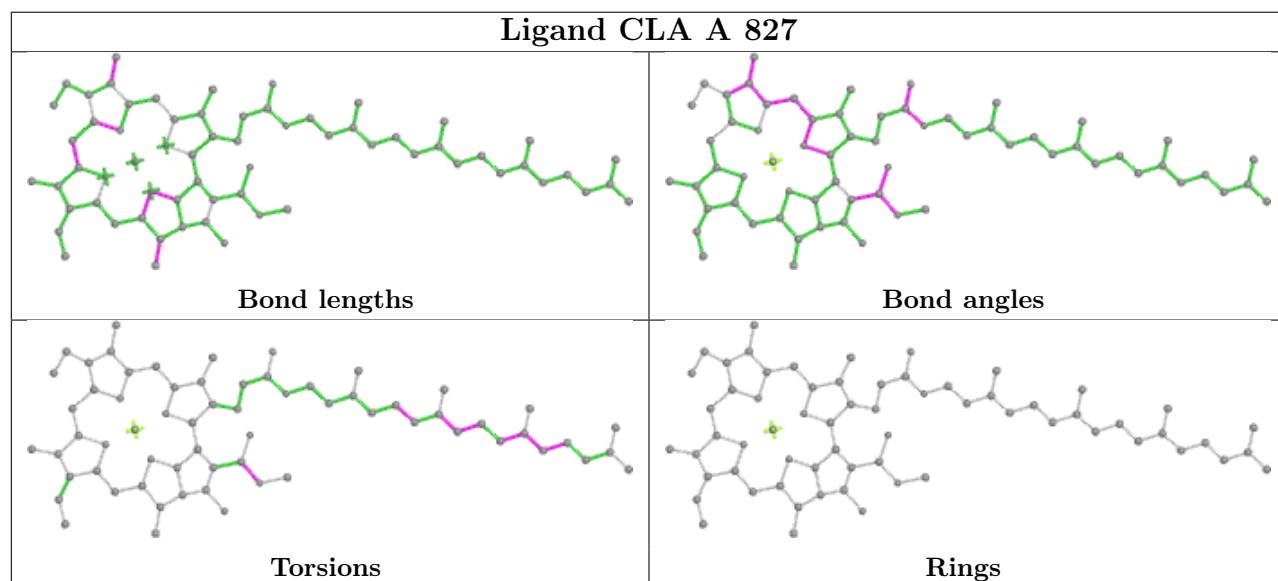
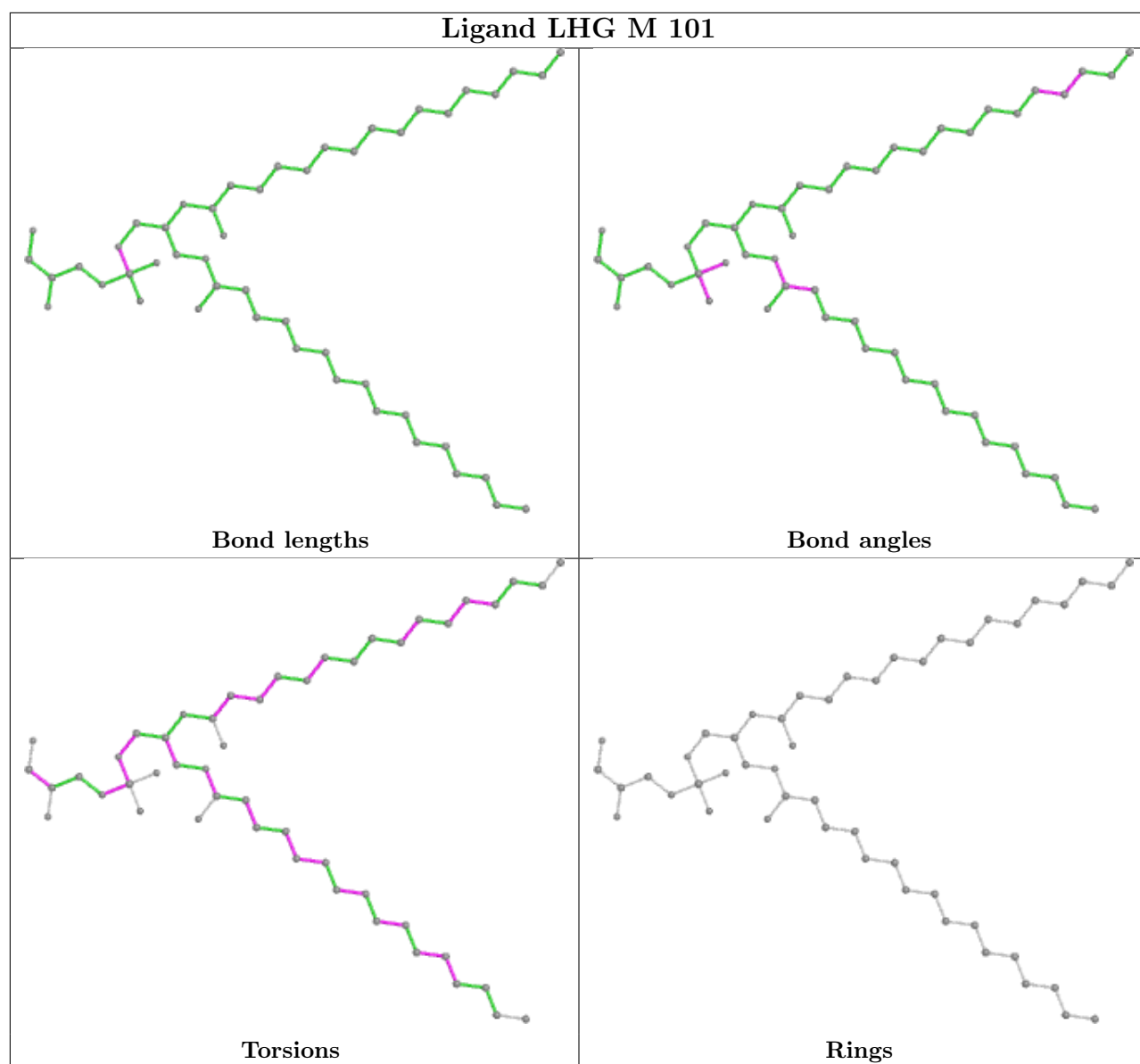


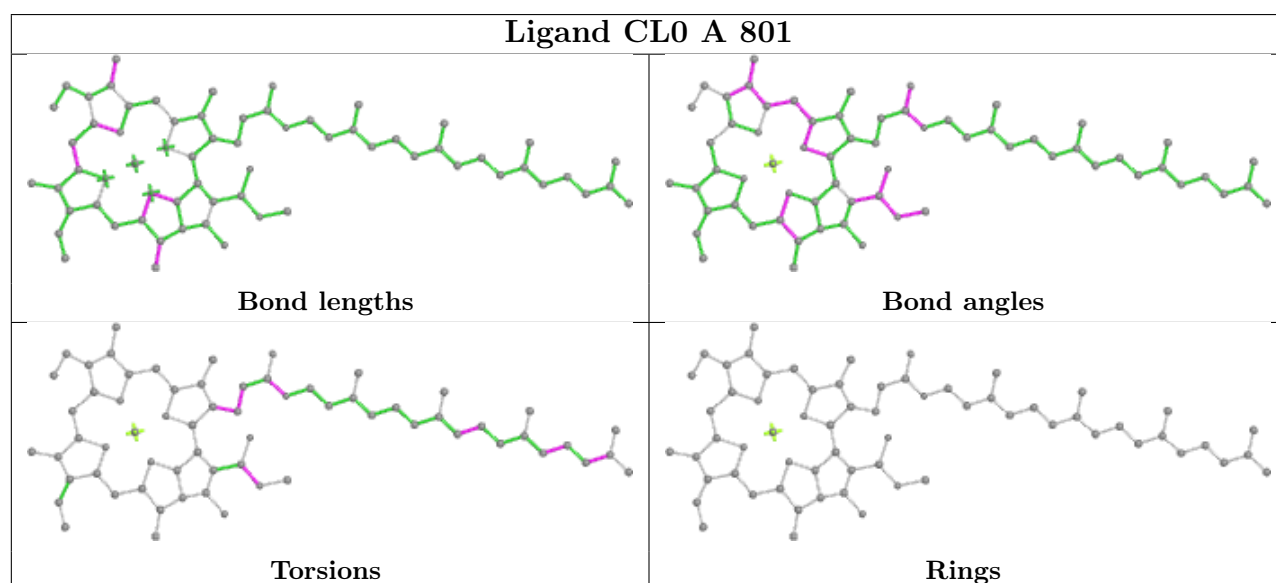
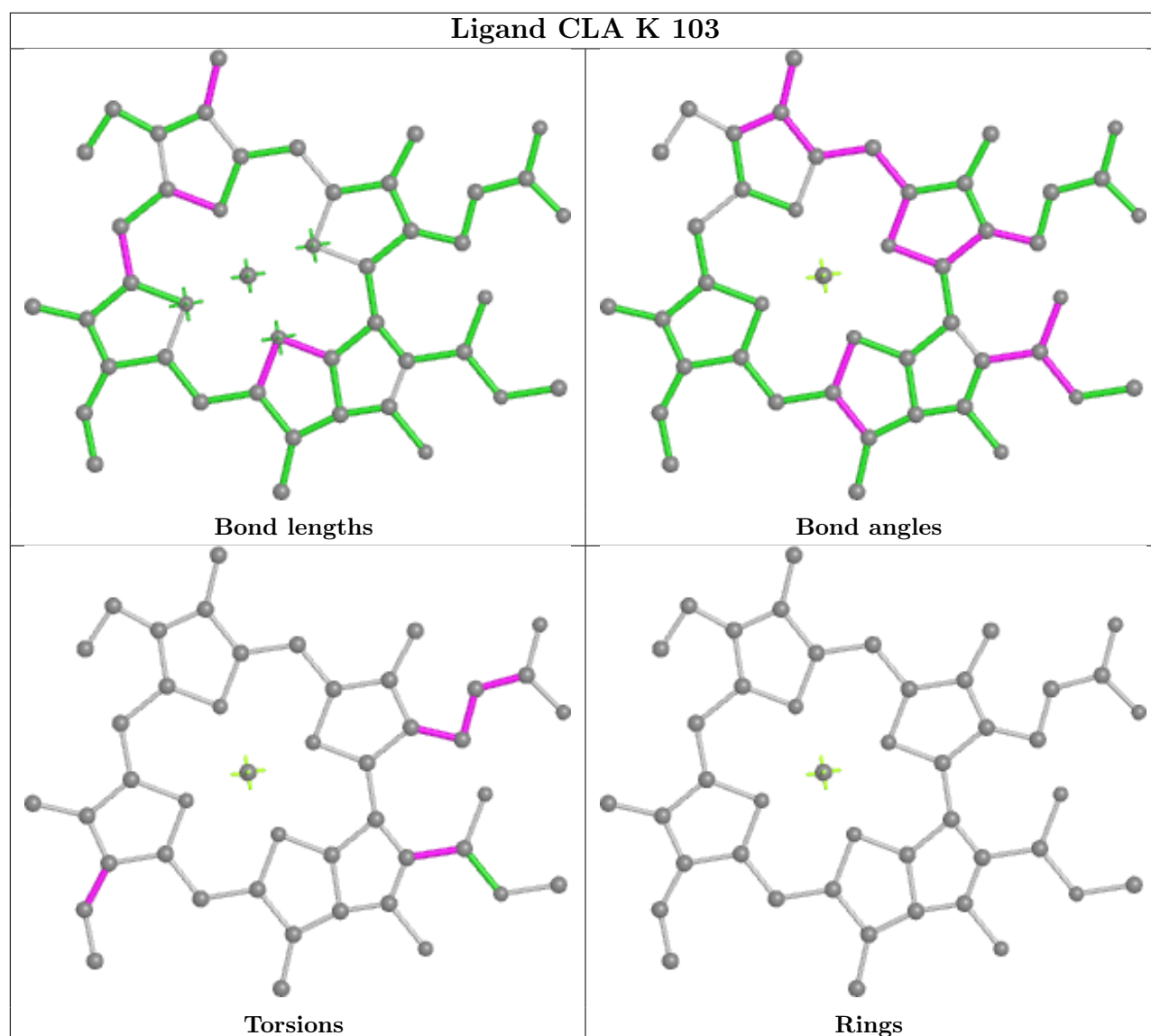


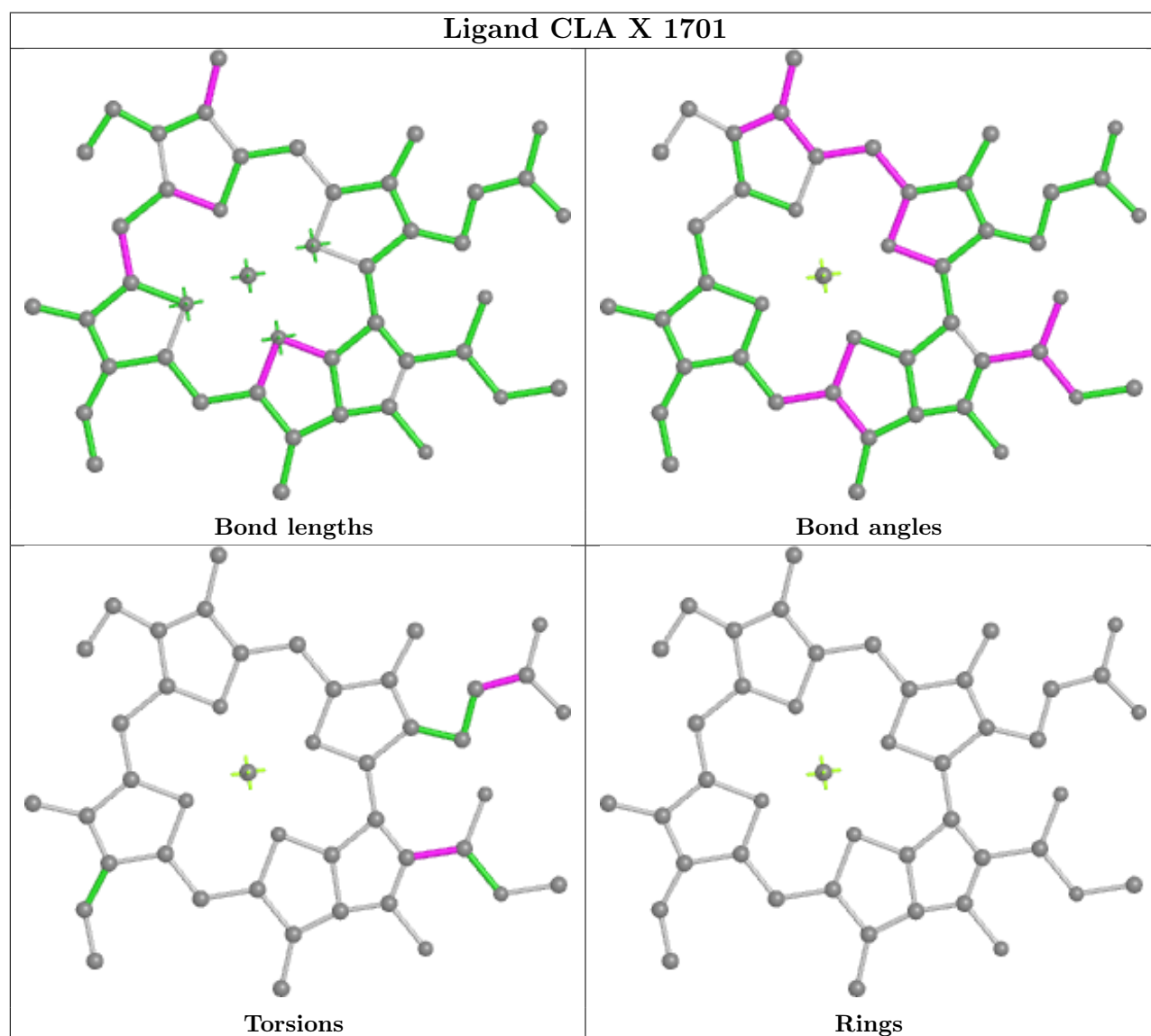
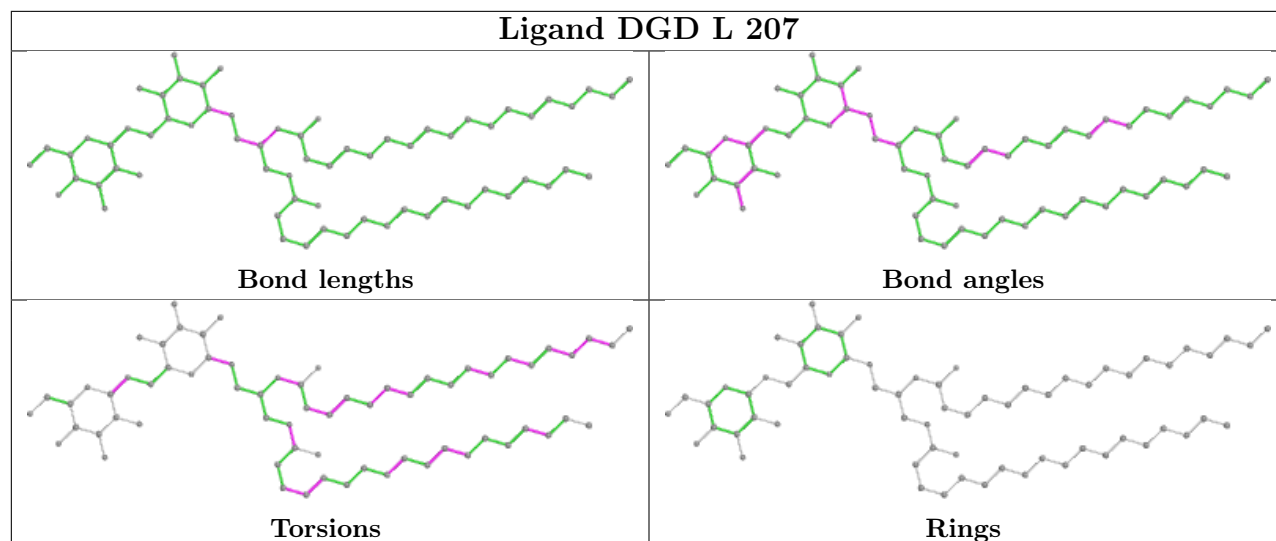


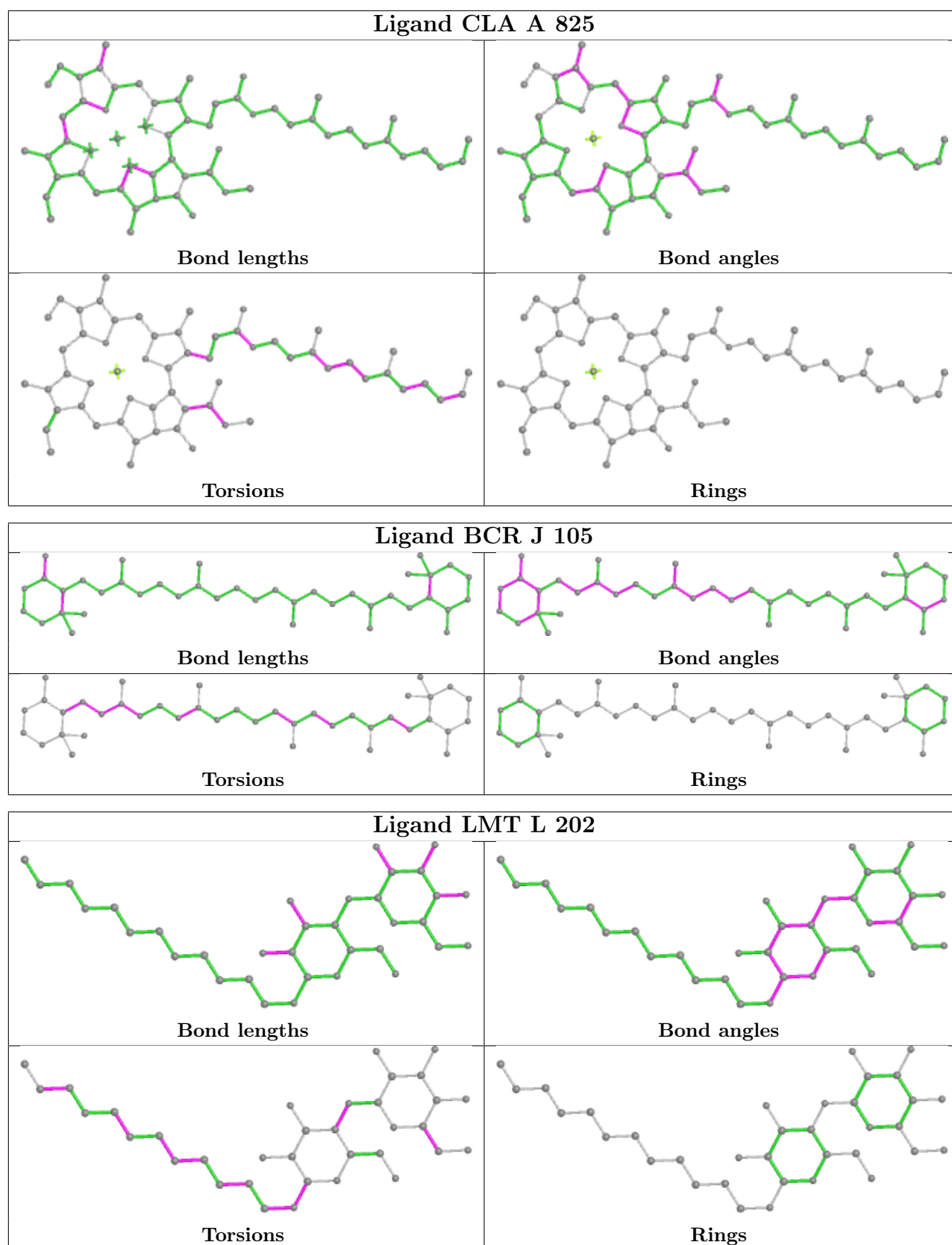


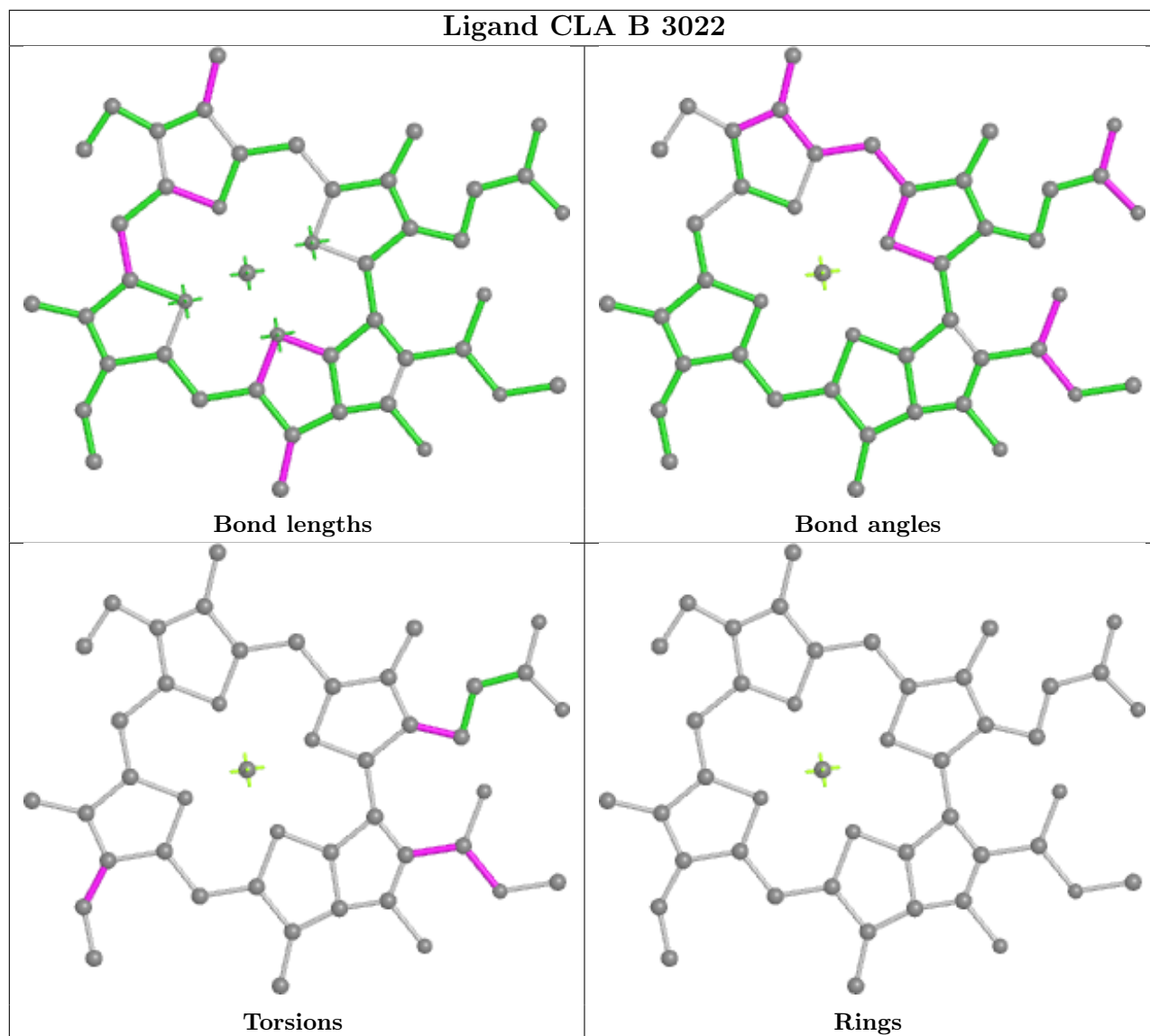
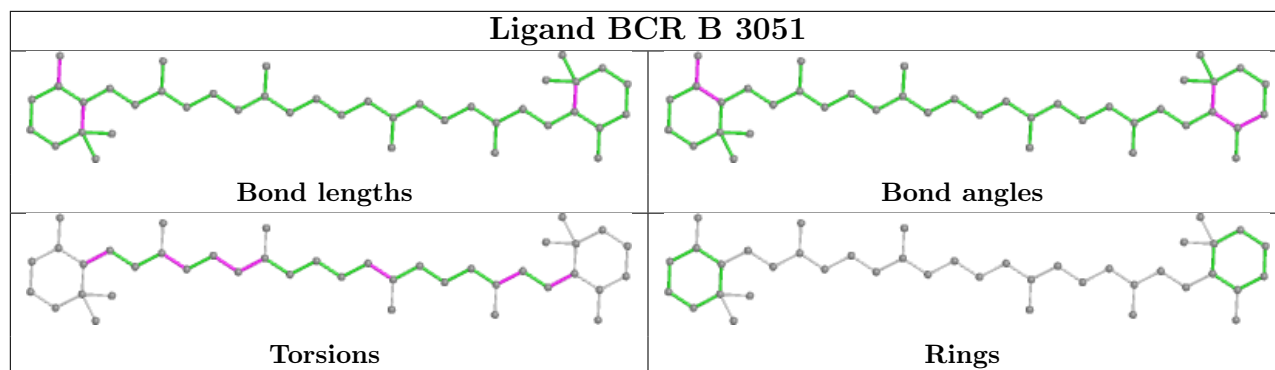


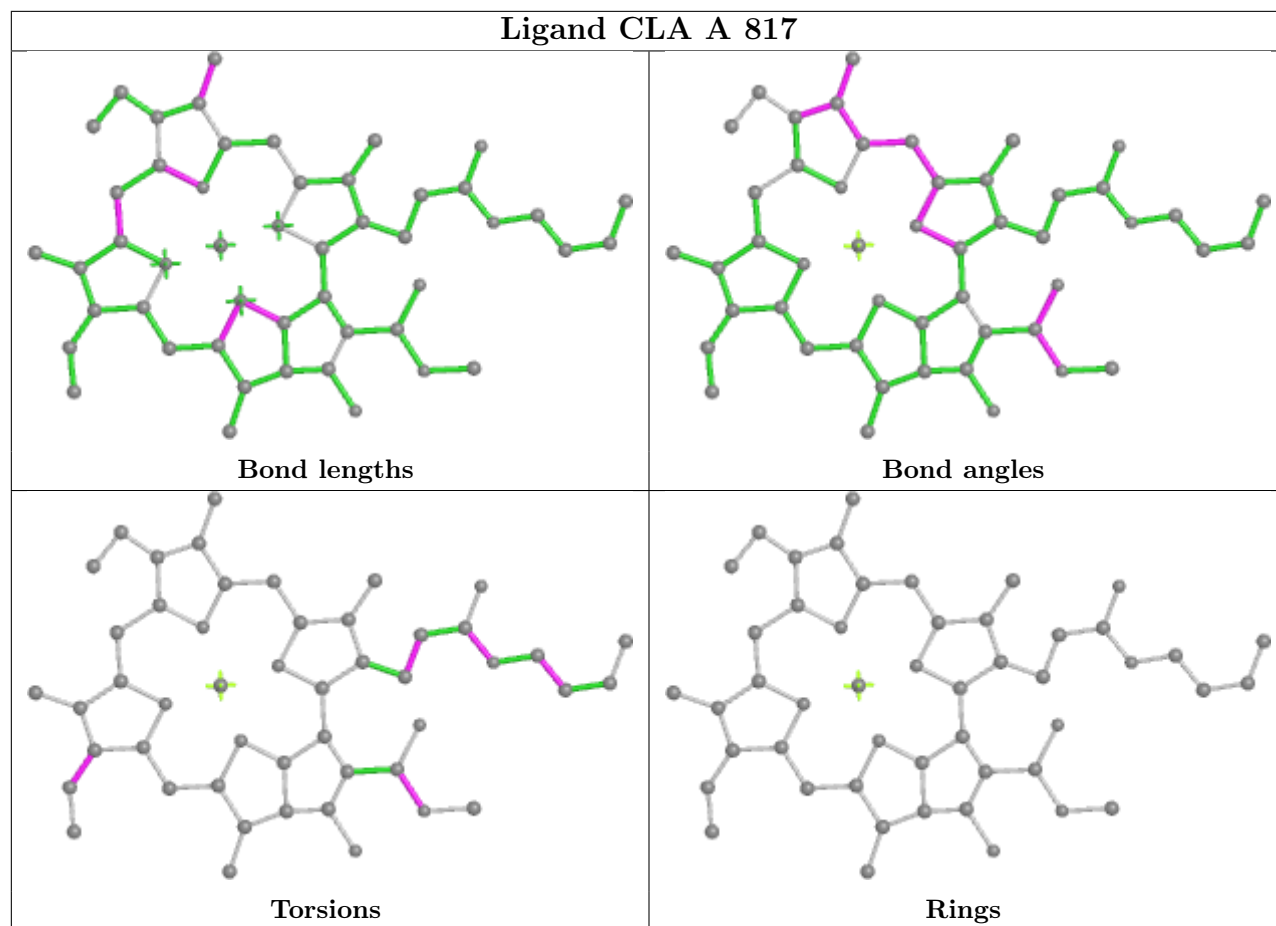


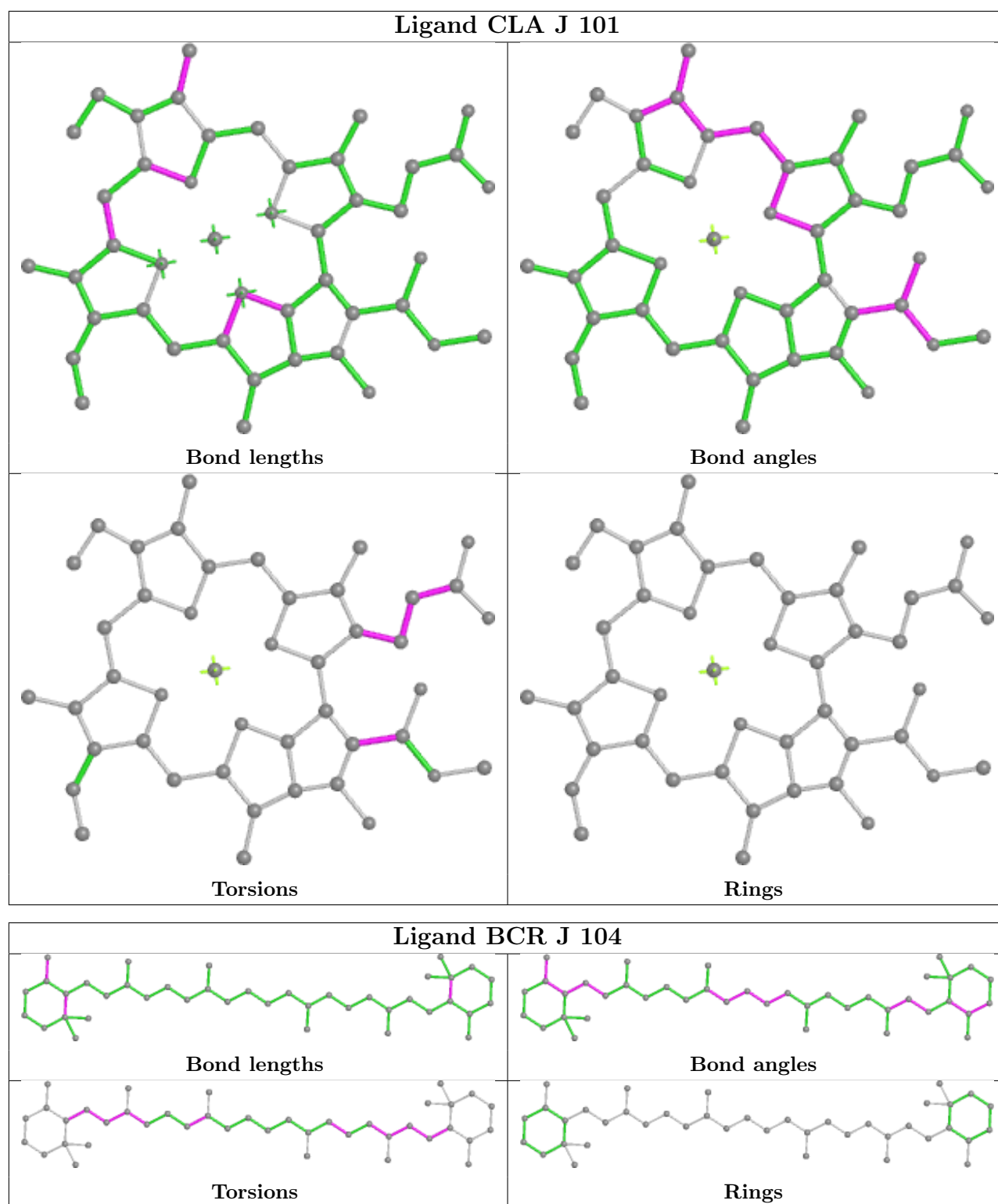


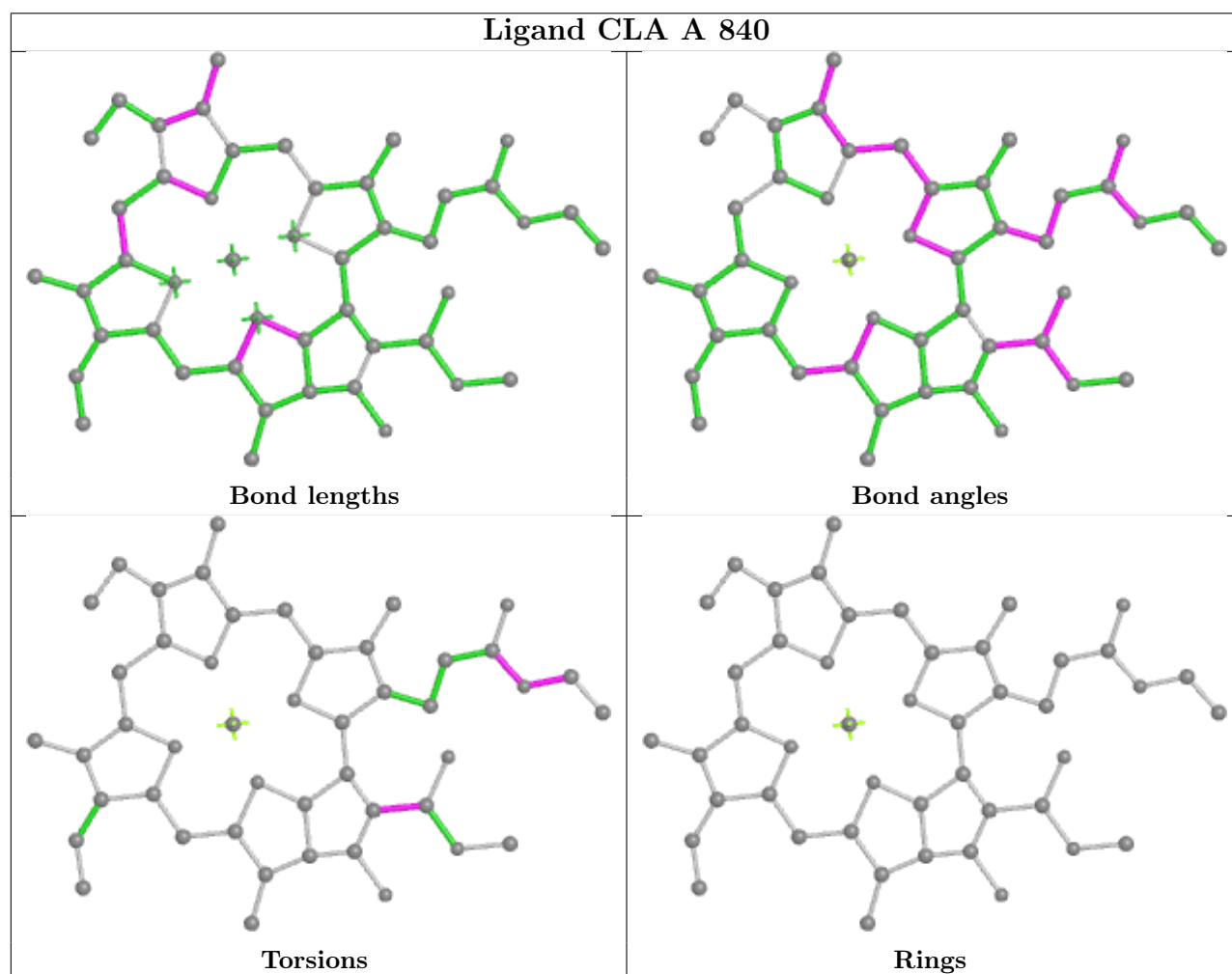
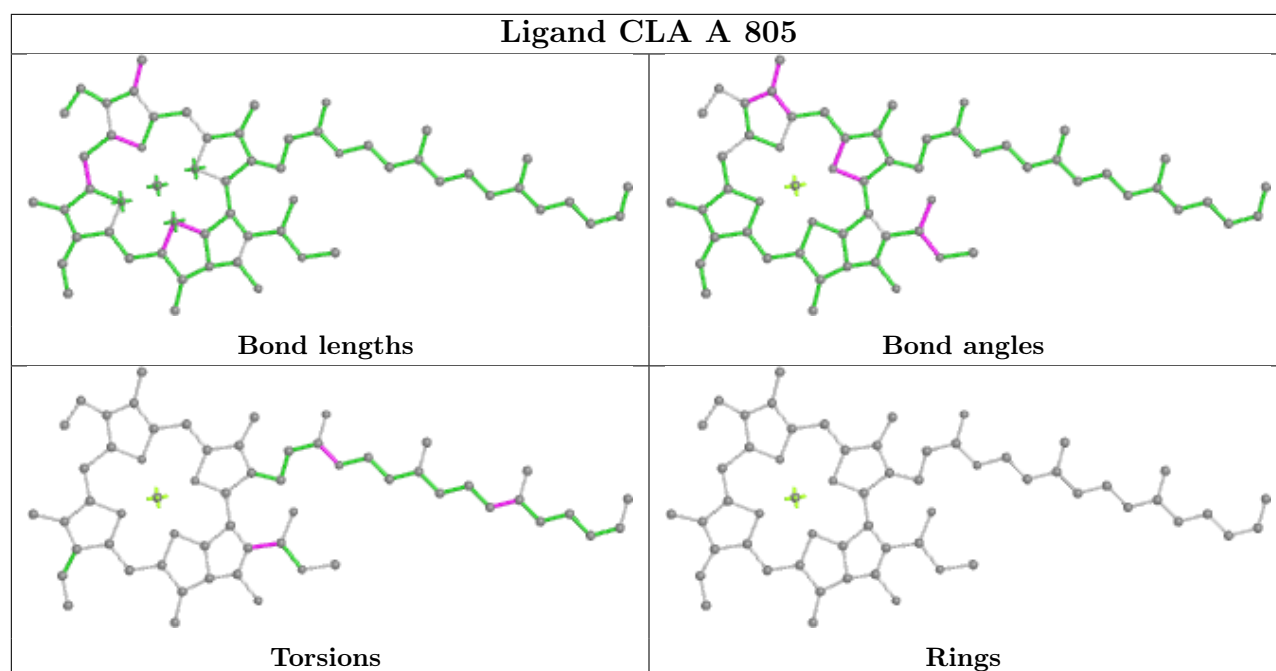


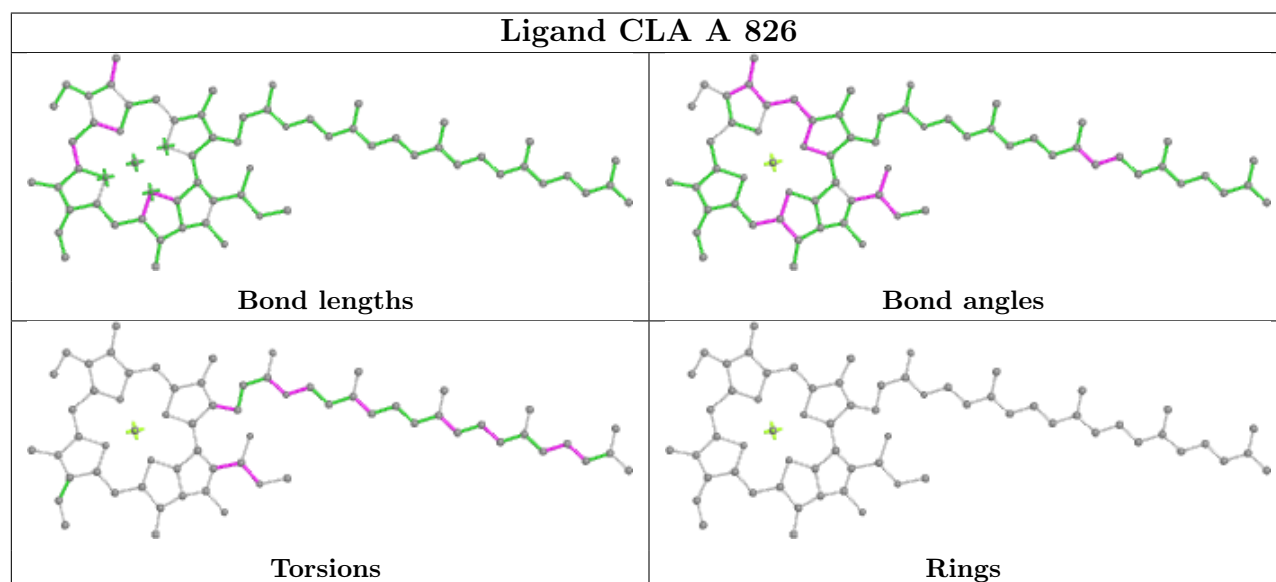
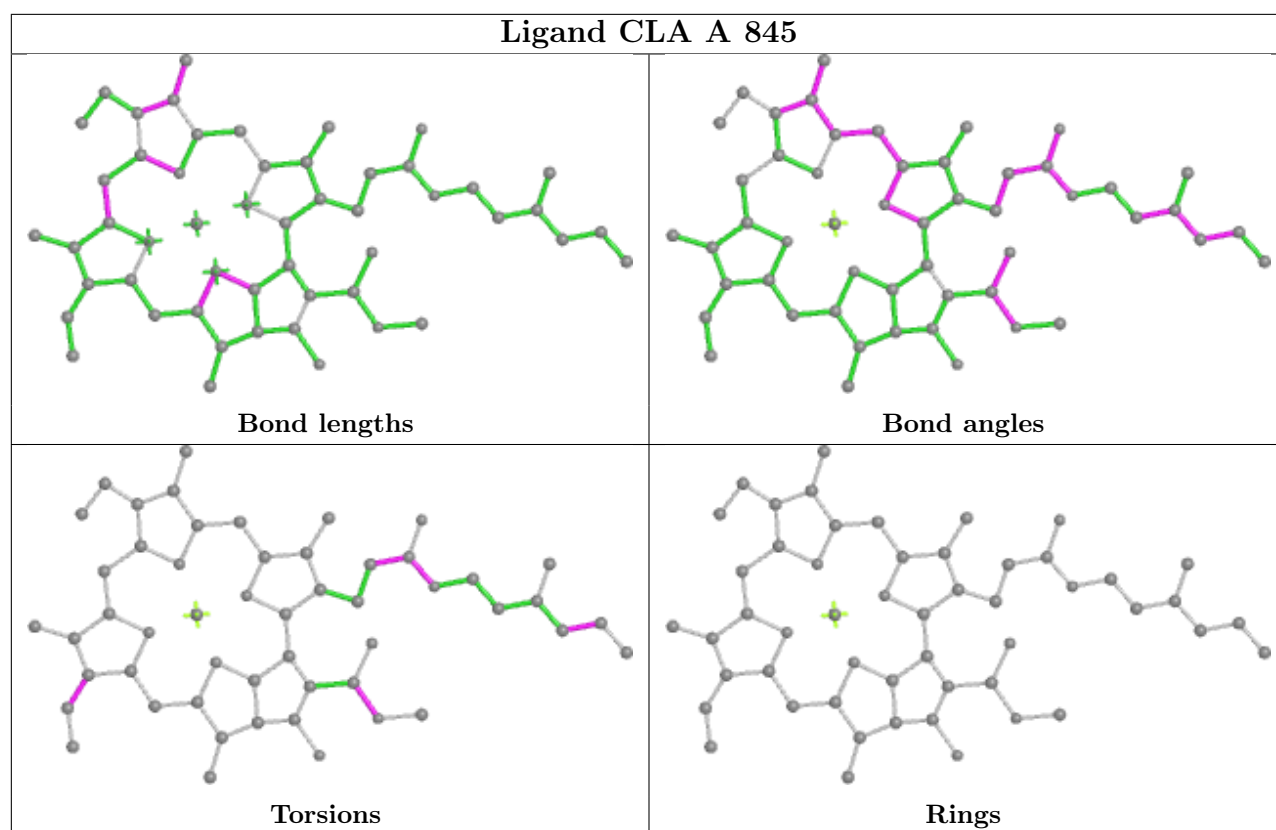


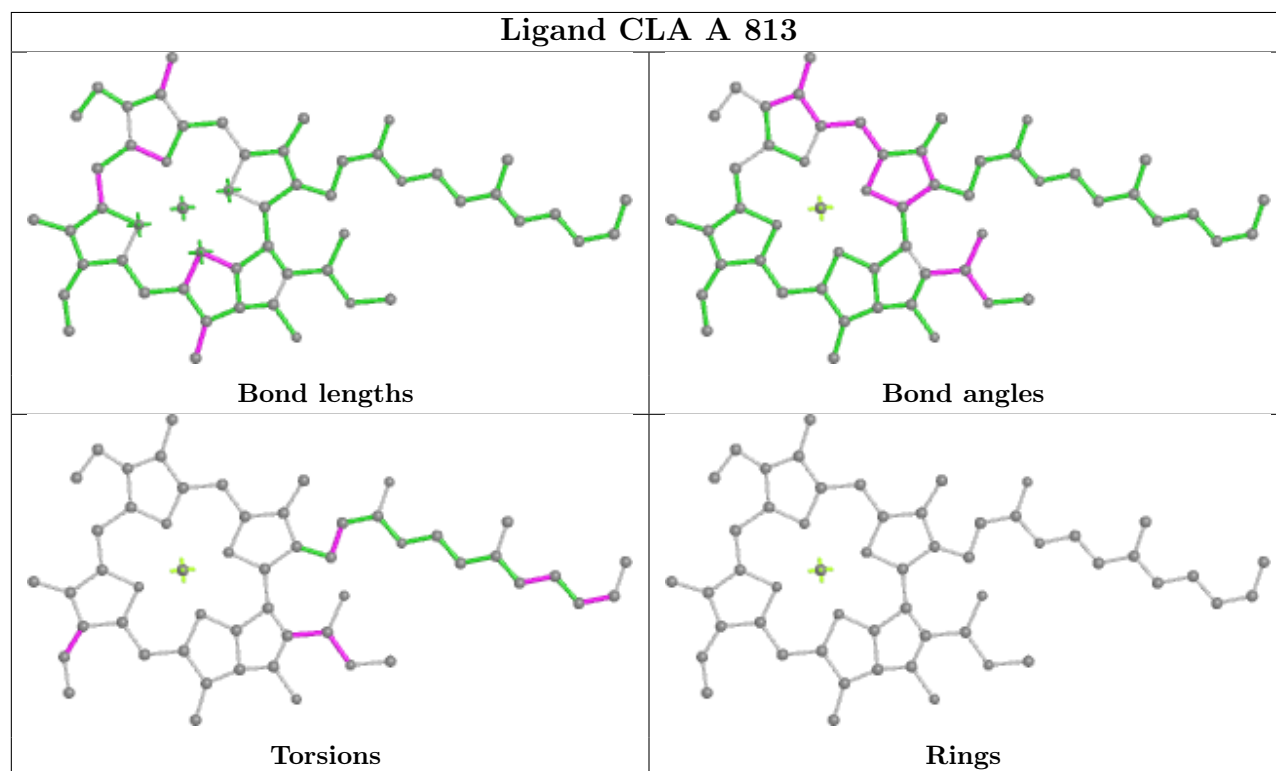
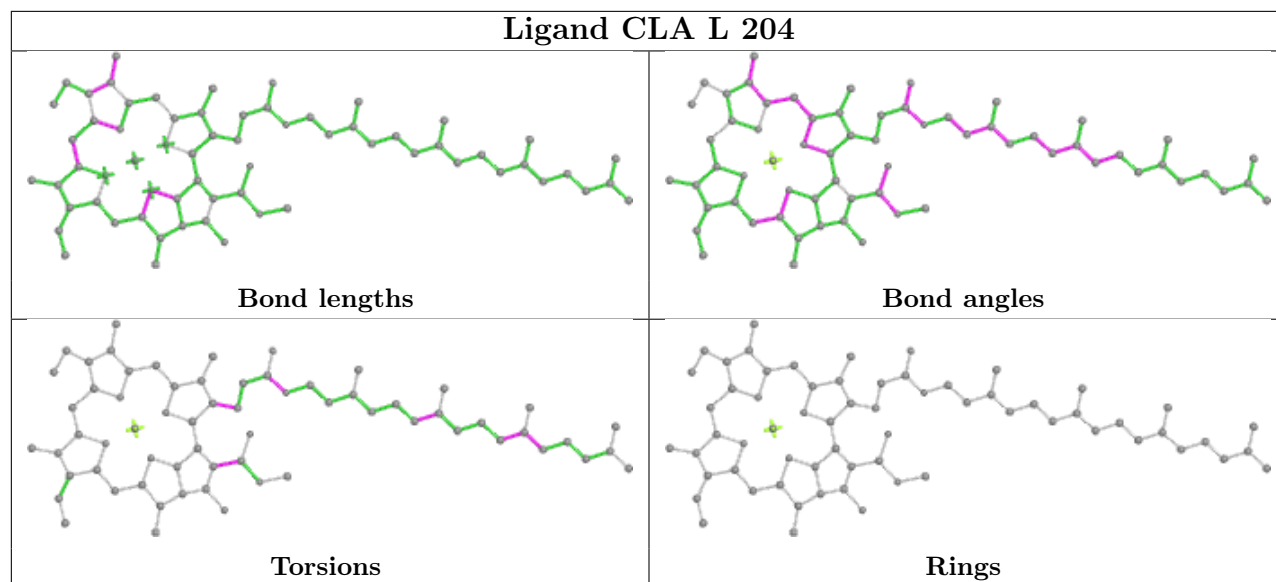


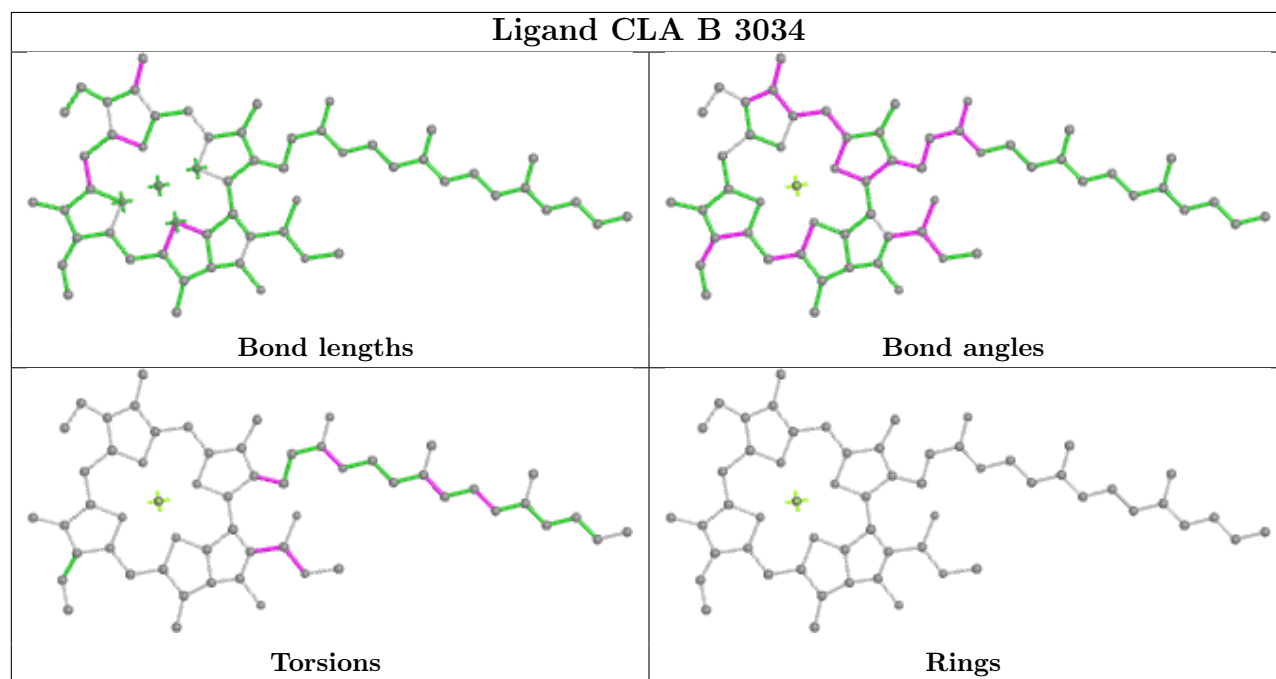
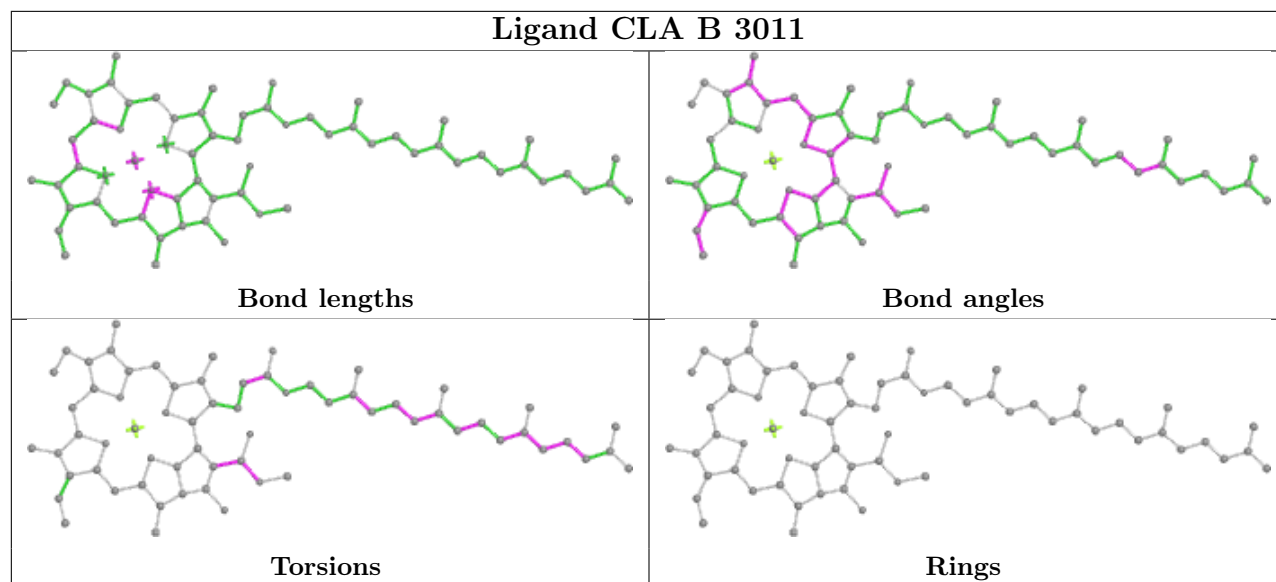


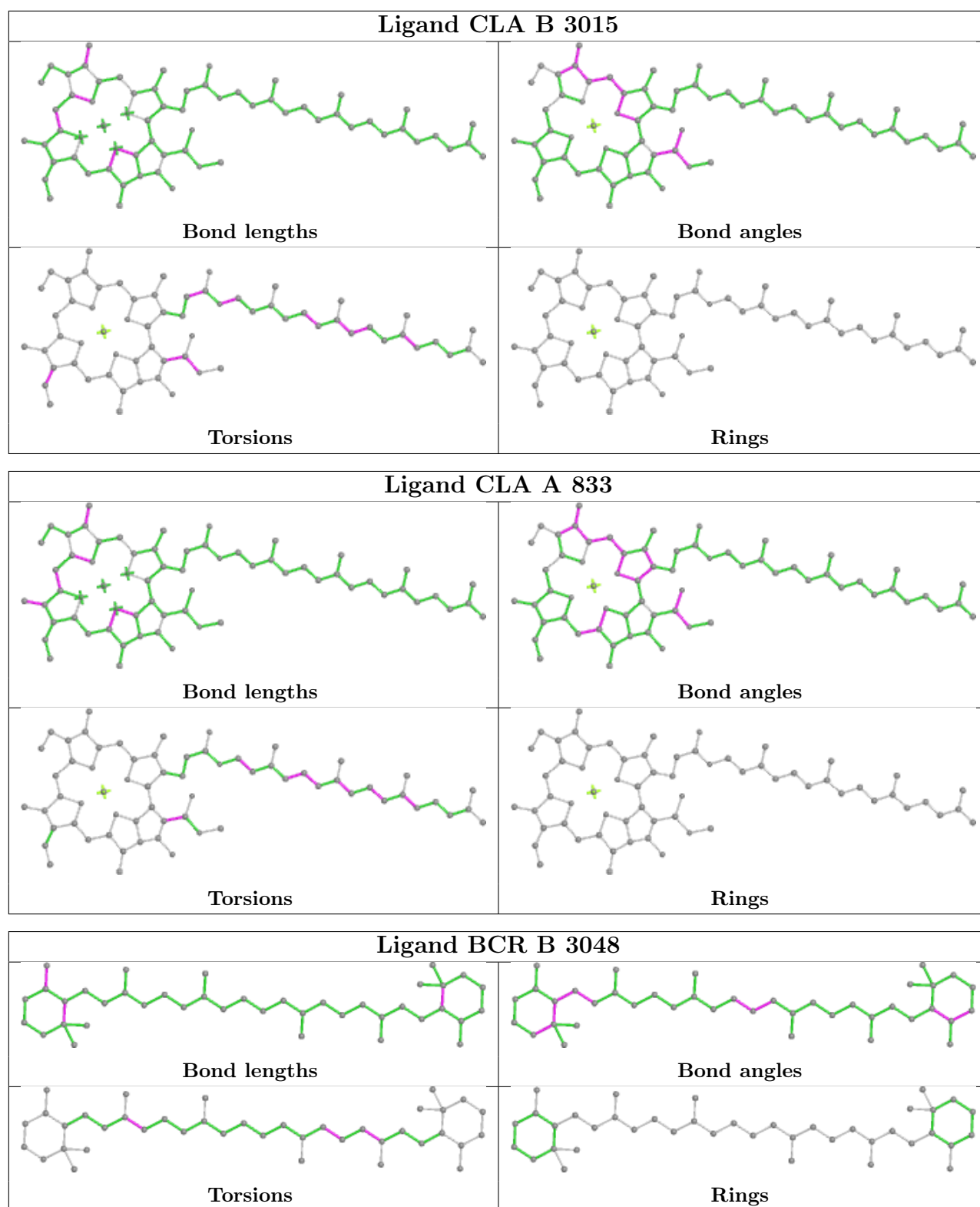












5.7 Other polymers [\(i\)](#)

There are no such residues in this entry.

5.8 Polymer linkage issues

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	740/755 (98%)	-0.68	1 (0%) 95 89	17, 77, 124, 161	0
2	B	739/740 (99%)	-0.62	0 100 100	11, 52, 94, 129	0
3	C	80/80 (100%)	-0.69	0 100 100	13, 46, 70, 76	0
4	D	138/138 (100%)	-0.74	0 100 100	24, 57, 81, 127	0
5	E	69/75 (92%)	-0.91	0 100 100	48, 71, 92, 105	0
6	F	141/164 (85%)	-0.75	0 100 100	46, 94, 111, 118	0
7	I	38/38 (100%)	-0.46	0 100 100	14, 27, 55, 79	0
8	J	41/41 (100%)	-0.76	0 100 100	88, 105, 117, 132	0
9	K	47/83 (56%)	-0.54	0 100 100	113, 149, 164, 180	0
10	L	151/154 (98%)	-0.44	0 100 100	8, 26, 60, 110	0
11	M	31/31 (100%)	-0.54	0 100 100	26, 42, 64, 92	0
12	X	29/35 (82%)	-0.64	0 100 100	57, 78, 104, 118	0
All	All	2244/2334 (96%)	-0.65	1 (0%) 100 100	8, 61, 118, 180	0

All (1) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	274	ALA	2.1

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

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

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands i

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 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
17	LMG	I	102	40/55	0.83	0.33	49,85,120,144	0
14	CLA	M	102	45/65	0.84	0.30	83,131,166,180	0
18	LHG	M	101	49/49	0.85	0.36	47,89,164,181	0
16	BCR	K	102	40/40	0.87	0.44	107,147,166,175	0
17	LMG	A	855	30/55	0.87	0.27	32,83,145,162	0
16	BCR	A	848	40/40	0.88	0.57	77,119,171,177	0
16	BCR	J	105	40/40	0.88	0.40	67,114,154,161	0
16	BCR	A	847	40/40	0.89	0.44	96,131,161,175	0
16	BCR	J	104	40/40	0.89	0.31	78,116,145,150	0
17	LMG	A	852	48/55	0.89	0.36	56,113,152,160	0
21	LMT	L	202	35/35	0.89	0.28	74,142,179,192	0
22	DGD	L	207	66/66	0.90	0.25	45,99,155,168	0
16	BCR	B	3044	40/40	0.91	0.47	75,110,143,161	0
14	CLA	J	101	45/65	0.91	0.25	118,137,171,176	0
14	CLA	A	816	45/65	0.92	0.21	105,143,169,179	0
18	LHG	B	3050	23/49	0.92	0.18	73,111,139,145	0
14	CLA	K	101	41/65	0.92	0.17	112,149,185,194	0
14	CLA	K	103	45/65	0.92	0.23	101,132,164,166	0
17	LMG	B	3049	55/55	0.92	0.24	20,58,84,87	0
14	CLA	F	202	45/65	0.93	0.19	86,115,145,151	0
16	BCR	A	849	40/40	0.93	0.41	61,91,155,157	0
14	CLA	A	811	45/65	0.94	0.18	92,125,152,159	0
14	CLA	A	817	49/65	0.94	0.20	63,127,159,160	0
14	CLA	J	102	37/65	0.94	0.26	102,125,149,163	0
14	CLA	A	821	43/65	0.94	0.27	72,130,170,176	0
16	BCR	B	3046	40/40	0.94	0.36	43,76,131,143	0
16	BCR	B	3051	40/40	0.94	0.38	46,84,127,134	0
16	BCR	F	203	40/40	0.94	0.30	43,94,126,147	0
14	CLA	A	823	49/65	0.94	0.20	78,116,146,158	0
14	CLA	A	845	52/65	0.94	0.19	44,84,111,120	0
14	CLA	B	3022	45/65	0.95	0.21	67,93,119,120	0
16	BCR	B	3045	40/40	0.95	0.28	48,74,114,123	0
14	CLA	A	818	54/65	0.95	0.26	95,124,151,161	0
14	CLA	A	837	45/65	0.95	0.17	80,104,127,137	0
16	BCR	F	201	40/40	0.95	0.39	45,91,124,132	0
18	LHG	A	853	49/49	0.95	0.30	38,84,108,118	0
14	CLA	A	812	65/65	0.95	0.24	81,114,144,146	0

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
16	BCR	J	103	40/40	0.95	0.41	60,102,125,129	0
20	CA	B	3002	1/1	0.95	0.15	69,69,69,69	0
14	CLA	B	3020	65/65	0.95	0.31	48,91,121,132	0
16	BCR	A	850	40/40	0.95	0.36	41,74,108,125	0
14	CLA	A	808	51/65	0.96	0.20	81,103,130,133	0
14	CLA	B	3031	45/65	0.96	0.20	46,73,95,113	0
14	CLA	B	3032	49/65	0.96	0.22	34,69,97,122	0
16	BCR	B	3047	40/40	0.96	0.44	54,79,99,106	0
14	CLA	B	3034	58/65	0.96	0.28	63,98,137,141	0
14	CLA	B	3036	45/65	0.96	0.19	44,79,107,111	0
14	CLA	B	3037	45/65	0.96	0.19	64,88,120,121	0
14	CLA	B	3038	60/65	0.96	0.21	41,81,112,122	0
14	CLA	B	3039	65/65	0.96	0.28	42,88,128,143	0
14	CLA	A	826	65/65	0.96	0.25	71,100,131,134	0
14	CLA	A	828	65/65	0.96	0.24	59,93,128,135	0
16	BCR	M	103	40/40	0.96	0.23	21,48,76,82	0
14	CLA	A	819	54/65	0.96	0.20	61,94,116,132	0
14	CLA	A	813	54/65	0.96	0.20	74,100,128,136	0
14	CLA	B	3012	45/65	0.96	0.19	45,67,88,111	0
14	CLA	B	3013	45/65	0.96	0.17	57,89,115,119	0
14	CLA	X	1701	45/65	0.96	0.17	75,104,134,140	0
15	PQN	A	846	33/33	0.96	0.27	61,89,118,121	0
14	CLA	B	3015	65/65	0.96	0.28	45,77,112,117	0
14	CLA	B	3017	55/65	0.96	0.28	61,96,133,166	0
14	CLA	A	822	65/65	0.96	0.28	51,87,121,127	0
14	CLA	B	3021	47/65	0.96	0.21	69,98,129,135	0
14	CLA	L	206	65/65	0.97	0.23	21,46,75,85	0
14	CLA	A	807	65/65	0.97	0.25	56,84,110,116	0
14	CLA	A	856	65/65	0.97	0.24	38,65,91,102	0
13	CL0	A	801	65/65	0.97	0.22	2,46,71,74	0
14	CLA	A	810	65/65	0.97	0.24	44,99,148,161	0
14	CLA	A	820	65/65	0.97	0.25	65,100,125,134	0
14	CLA	B	3016	45/65	0.97	0.21	61,82,115,118	0
14	CLA	A	803	65/65	0.97	0.24	42,67,87,108	0
16	BCR	A	851	40/40	0.97	0.28	20,63,90,93	0
14	CLA	B	3018	59/65	0.97	0.24	47,81,109,117	0
14	CLA	A	804	65/65	0.97	0.27	59,98,125,132	0
14	CLA	A	805	59/65	0.97	0.21	75,98,125,141	0
14	CLA	A	824	51/65	0.97	0.22	67,101,132,138	0
14	CLA	B	3023	55/65	0.97	0.21	69,94,122,122	0
14	CLA	B	3027	65/65	0.97	0.25	38,65,91,97	0
14	CLA	B	3028	65/65	0.97	0.25	15,48,100,102	0

Continued on next page...

Continued from previous page...

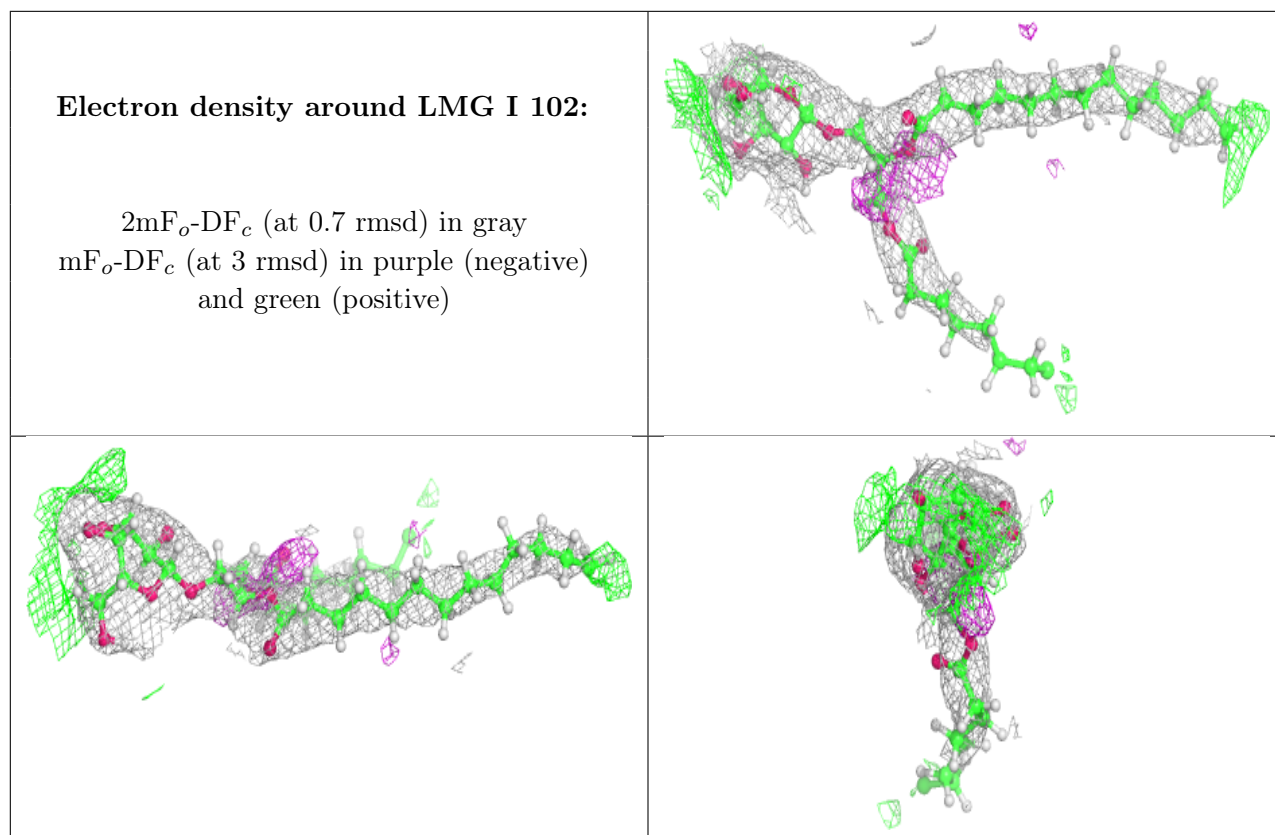
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
14	CLA	B	3029	65/65	0.97	0.23	27,61,79,97	0
14	CLA	A	825	59/65	0.97	0.30	49,83,123,135	0
14	CLA	A	814	60/65	0.97	0.28	73,115,140,141	0
14	CLA	A	827	65/65	0.97	0.30	29,68,145,167	0
14	CLA	B	3035	45/65	0.97	0.20	55,73,95,97	0
14	CLA	A	815	45/65	0.97	0.17	85,114,150,156	0
14	CLA	A	829	65/65	0.97	0.27	59,85,110,117	0
14	CLA	A	830	65/65	0.97	0.22	55,88,118,121	0
14	CLA	A	833	65/65	0.97	0.27	24,63,135,140	0
14	CLA	B	3040	47/65	0.97	0.21	49,74,93,105	0
18	LHG	A	854	27/49	0.97	0.21	46,79,116,117	0
14	CLA	A	836	54/65	0.97	0.26	47,87,128,136	0
14	CLA	A	806	65/65	0.97	0.24	67,101,136,142	0
14	CLA	A	839	65/65	0.97	0.26	21,59,97,120	0
14	CLA	A	840	47/65	0.97	0.22	22,55,75,93	0
14	CLA	A	844	65/65	0.97	0.24	2,17,50,59	0
14	CLA	B	3024	45/65	0.98	0.20	30,61,94,106	0
15	PQN	B	3043	33/33	0.98	0.24	27,47,66,70	0
14	CLA	B	3025	54/65	0.98	0.19	48,64,87,87	0
14	CLA	B	3026	46/65	0.98	0.21	36,64,89,90	0
14	CLA	B	3004	65/65	0.98	0.21	9,33,53,64	0
14	CLA	B	3005	54/65	0.98	0.20	23,48,67,74	0
14	CLA	B	3006	65/65	0.98	0.25	26,56,90,101	0
14	CLA	B	3030	65/65	0.98	0.23	20,47,80,98	0
14	CLA	B	3007	65/65	0.98	0.25	22,50,77,90	0
14	CLA	B	3008	65/65	0.98	0.24	10,35,66,89	0
14	CLA	B	3033	65/65	0.98	0.26	56,86,112,121	0
16	BCR	B	3048	40/40	0.98	0.24	14,34,61,61	0
14	CLA	B	3009	65/65	0.98	0.24	10,39,72,76	0
14	CLA	B	3010	65/65	0.98	0.22	5,38,66,90	0
14	CLA	B	3011	65/65	0.98	0.24	2,24,59,69	0
16	BCR	I	101	40/40	0.98	0.24	2,28,50,68	0
14	CLA	A	838	51/65	0.98	0.20	36,59,79,102	0
14	CLA	A	832	50/65	0.98	0.21	33,61,91,117	0
14	CLA	B	3014	65/65	0.98	0.21	42,72,99,102	0
14	CLA	A	809	65/65	0.98	0.28	38,84,123,129	0
16	BCR	L	201	40/40	0.98	0.24	2,34,59,61	0
16	BCR	L	208	40/40	0.98	0.27	3,28,48,65	0
16	BCR	L	209	40/40	0.98	0.24	2,38,86,98	0
14	CLA	B	3041	65/65	0.98	0.22	2,18,52,58	0
14	CLA	B	3042	65/65	0.98	0.25	4,29,52,55	0
14	CLA	A	841	65/65	0.98	0.24	32,69,123,132	0

Continued on next page...

Continued from previous page...

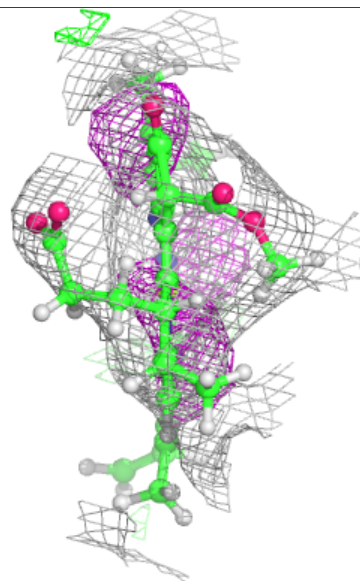
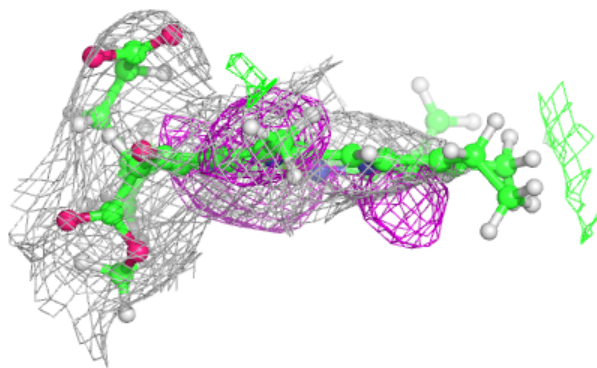
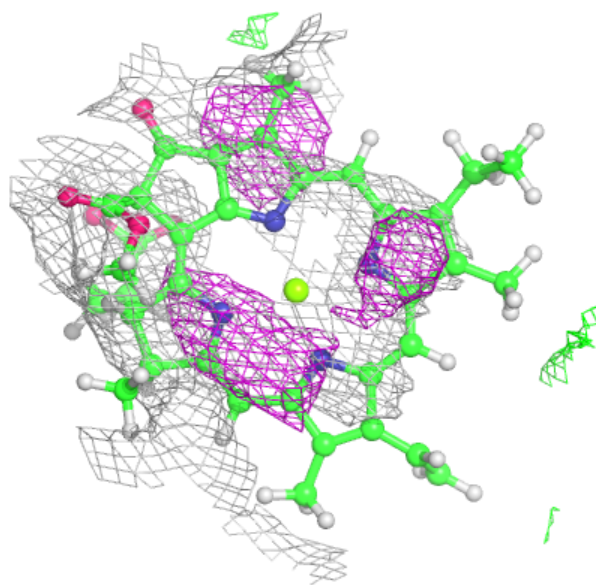
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
14	CLA	A	842	51/65	0.98	0.26	36,75,124,143	0
14	CLA	A	843	65/65	0.98	0.27	37,73,117,135	0
14	CLA	B	3019	60/65	0.98	0.25	49,70,100,107	0
14	CLA	A	834	65/65	0.98	0.24	10,37,65,71	0
14	CLA	L	204	65/65	0.98	0.23	11,41,72,93	0
14	CLA	L	205	65/65	0.98	0.25	8,45,117,130	0
14	CLA	A	802	65/65	0.98	0.21	20,38,54,75	0
14	CLA	A	831	65/65	0.98	0.25	55,87,110,118	0
14	CLA	B	3003	65/65	0.98	0.23	16,49,70,76	0
20	CA	L	203	1/1	0.99	0.19	27,27,27,27	0
19	SF4	B	3001	8/8	0.99	0.30	29,46,88,118	0
14	CLA	A	835	65/65	0.99	0.23	2,32,62,90	0
19	SF4	C	101	8/8	1.00	0.29	23,51,58,71	0
19	SF4	C	102	8/8	1.00	0.28	38,45,62,64	0

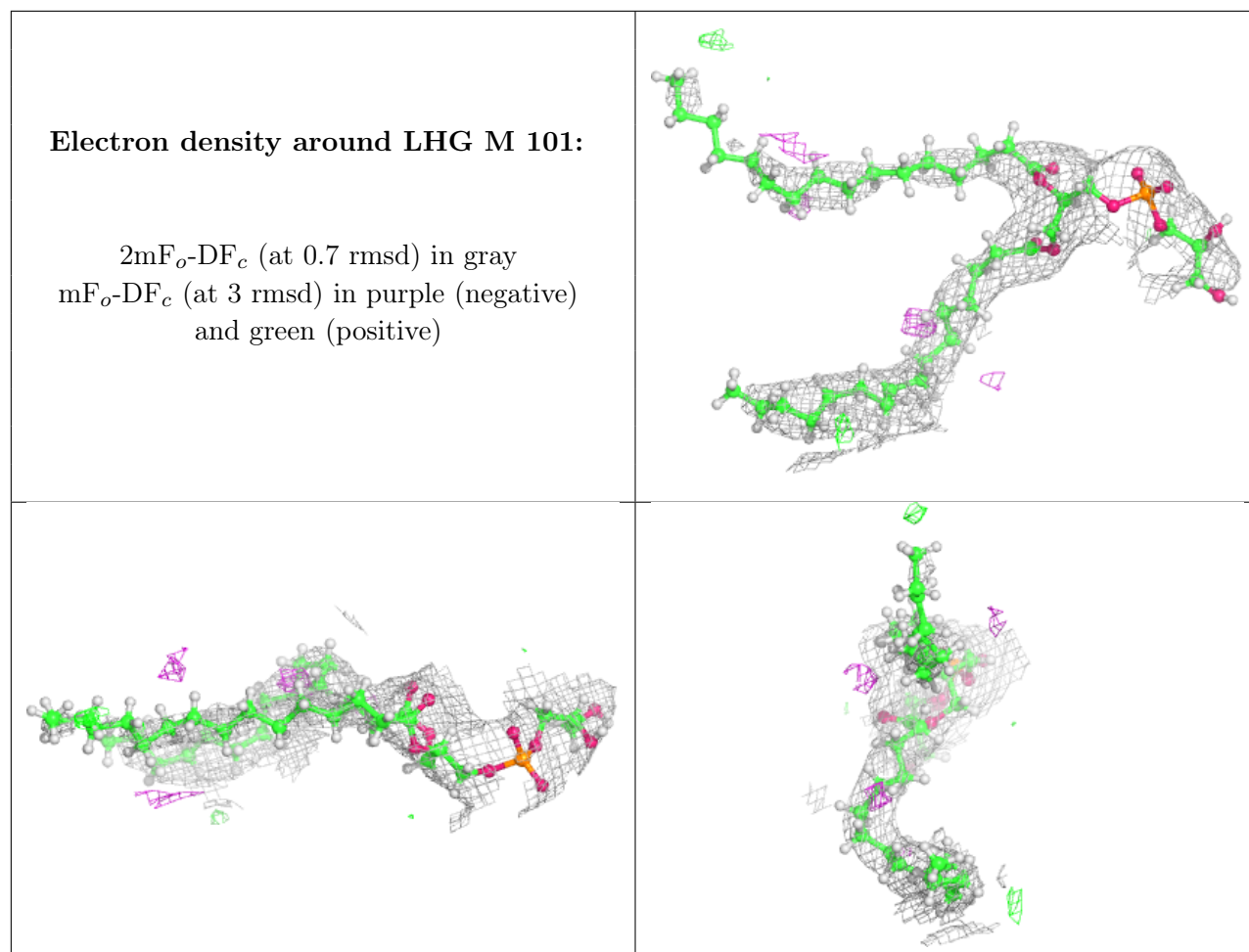
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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



Electron density around CLA M 102:

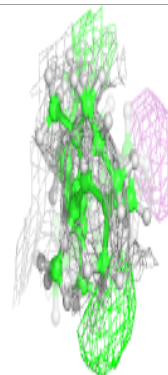
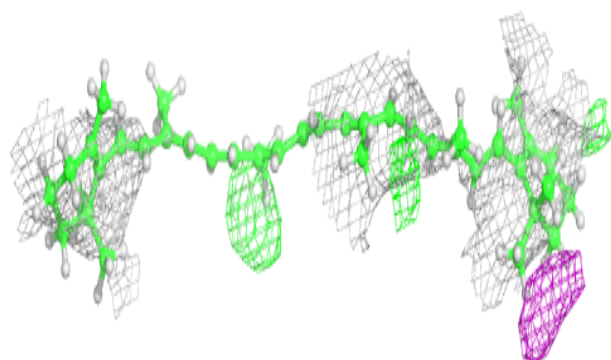
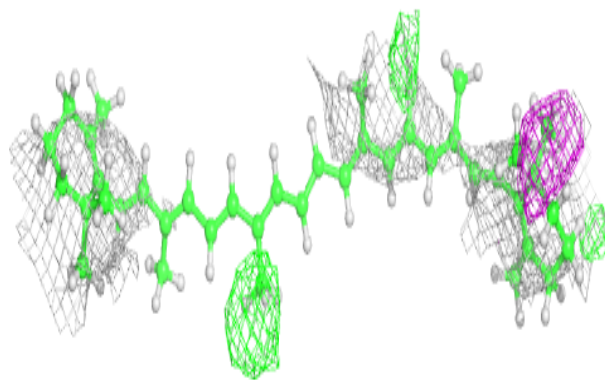
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



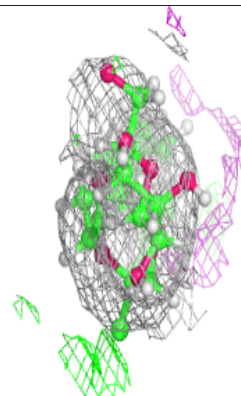
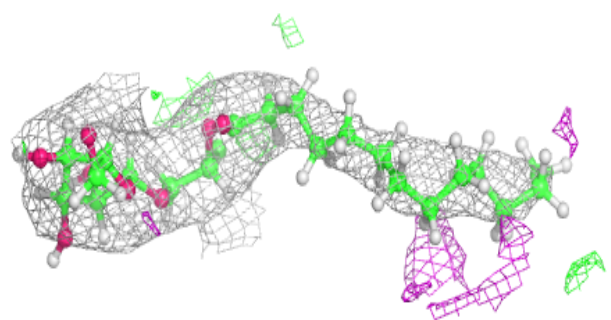
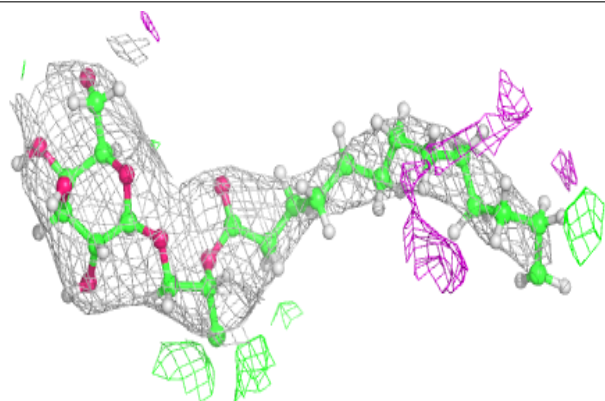


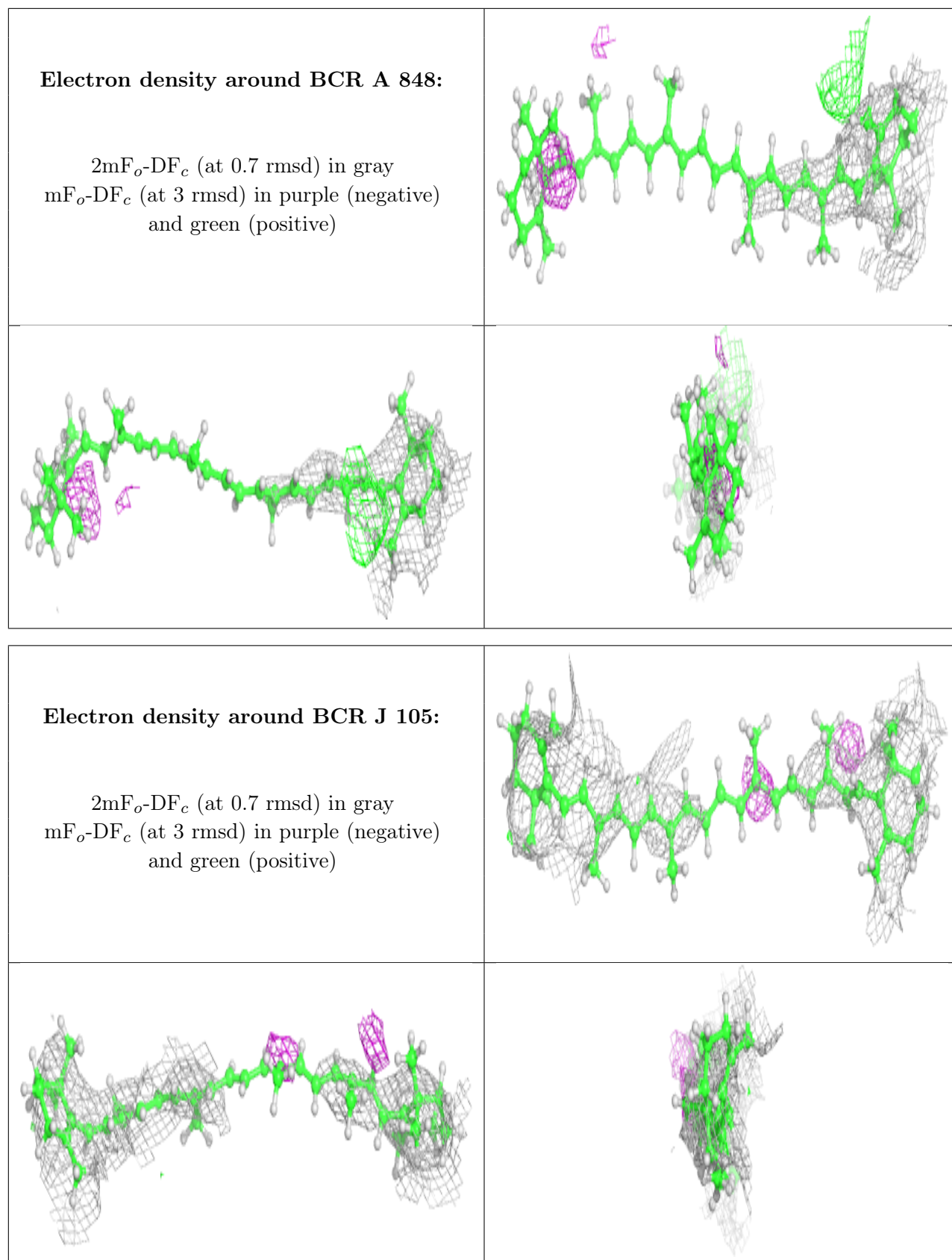
Electron density around BCR K 102:

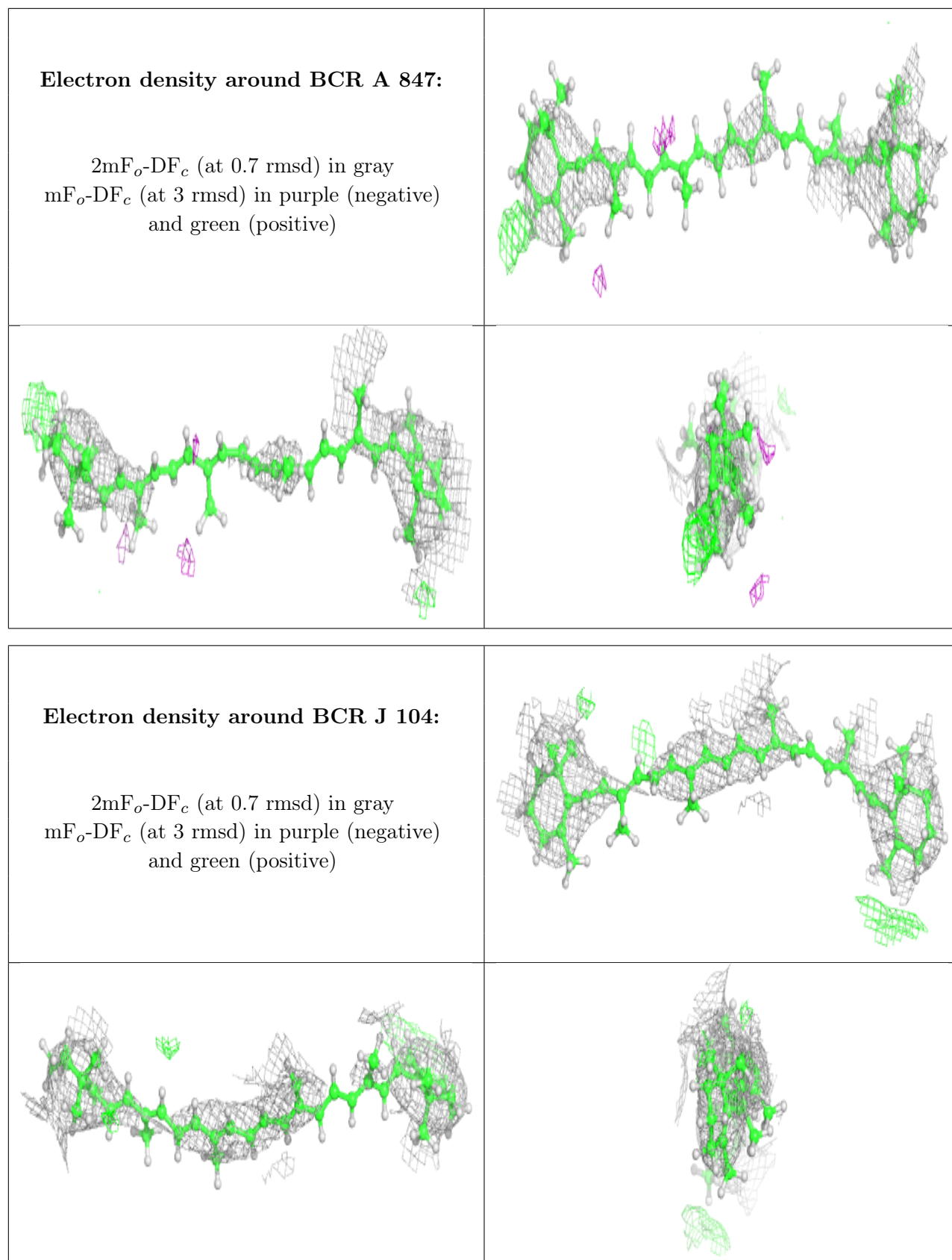
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

**Electron density around LMG A 855:**

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

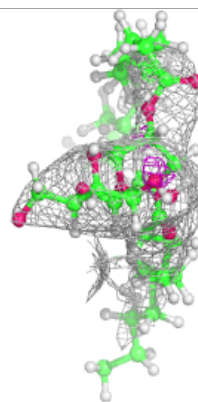
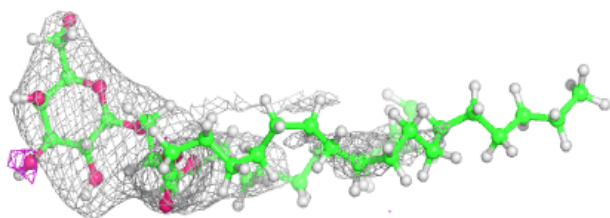
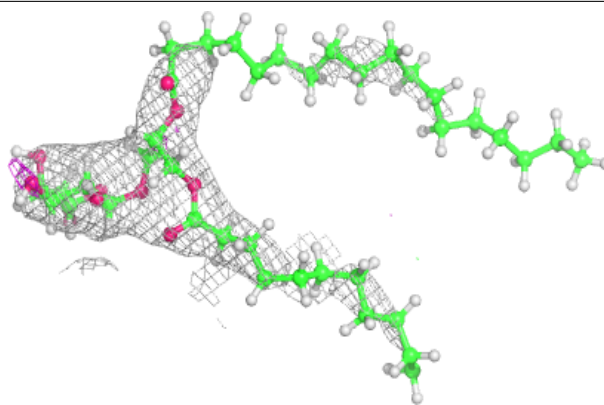




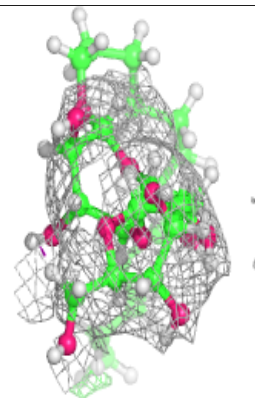
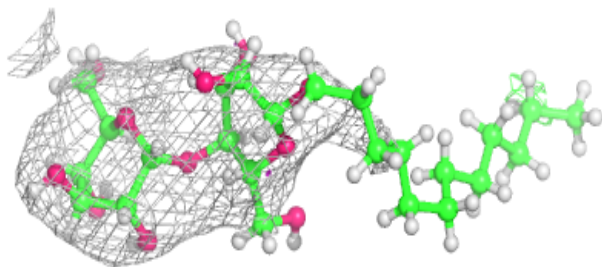
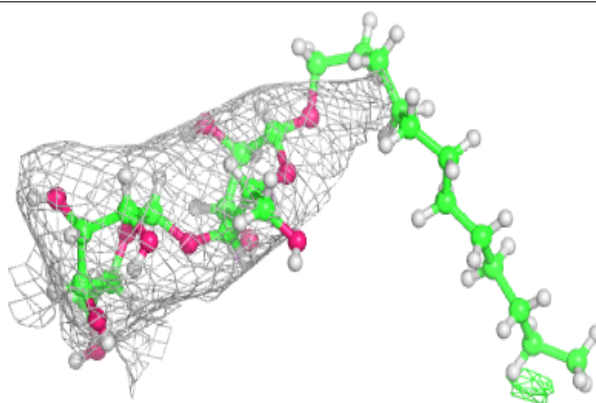


Electron density around LMG A 852:

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

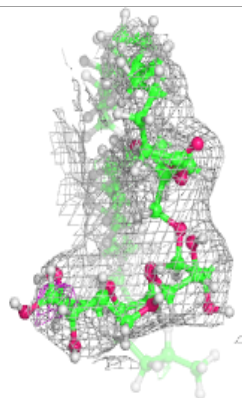
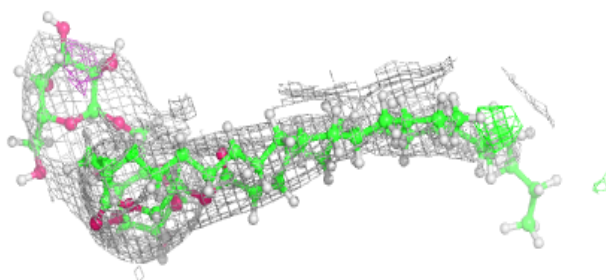
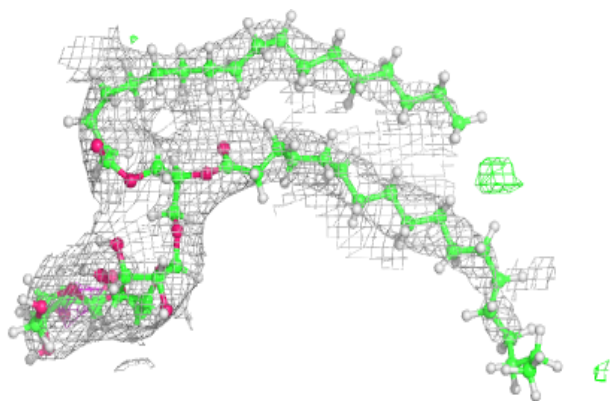
**Electron density around LMT L 202:**

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

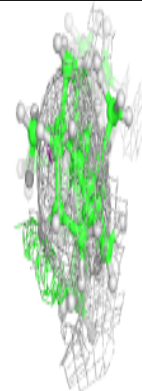
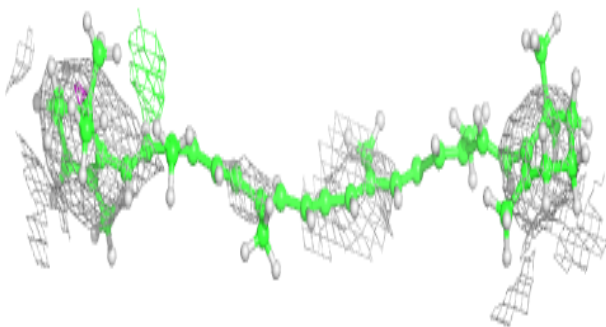
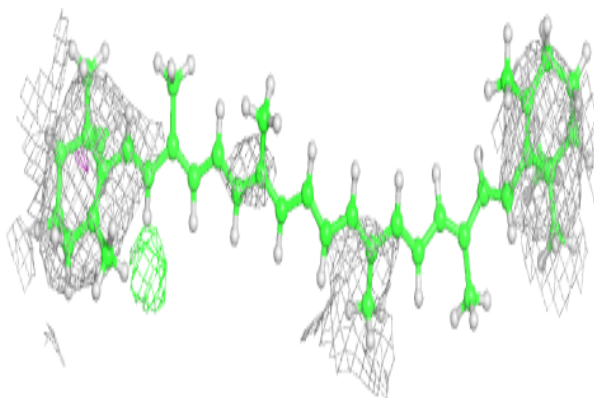


Electron density around DGD L 207:

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

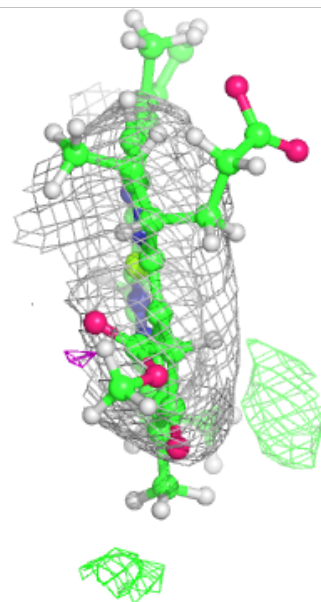
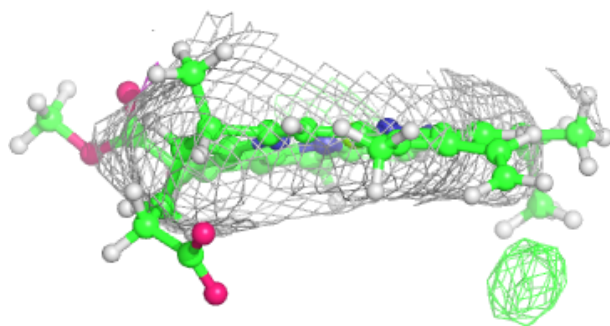
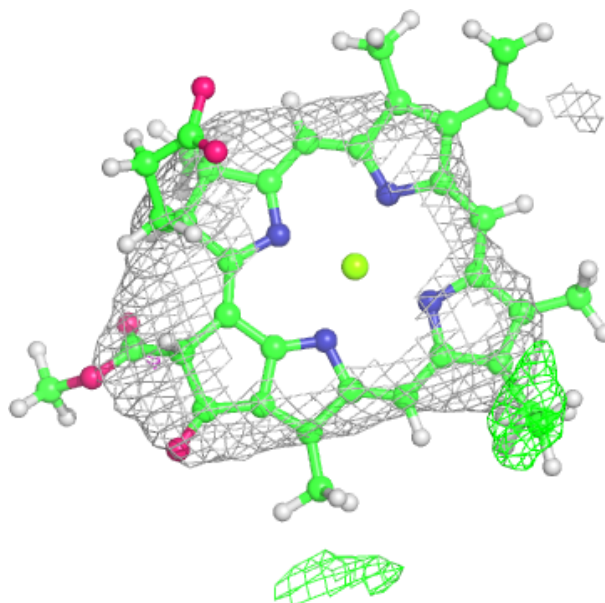
**Electron density around BCR B 3044:**

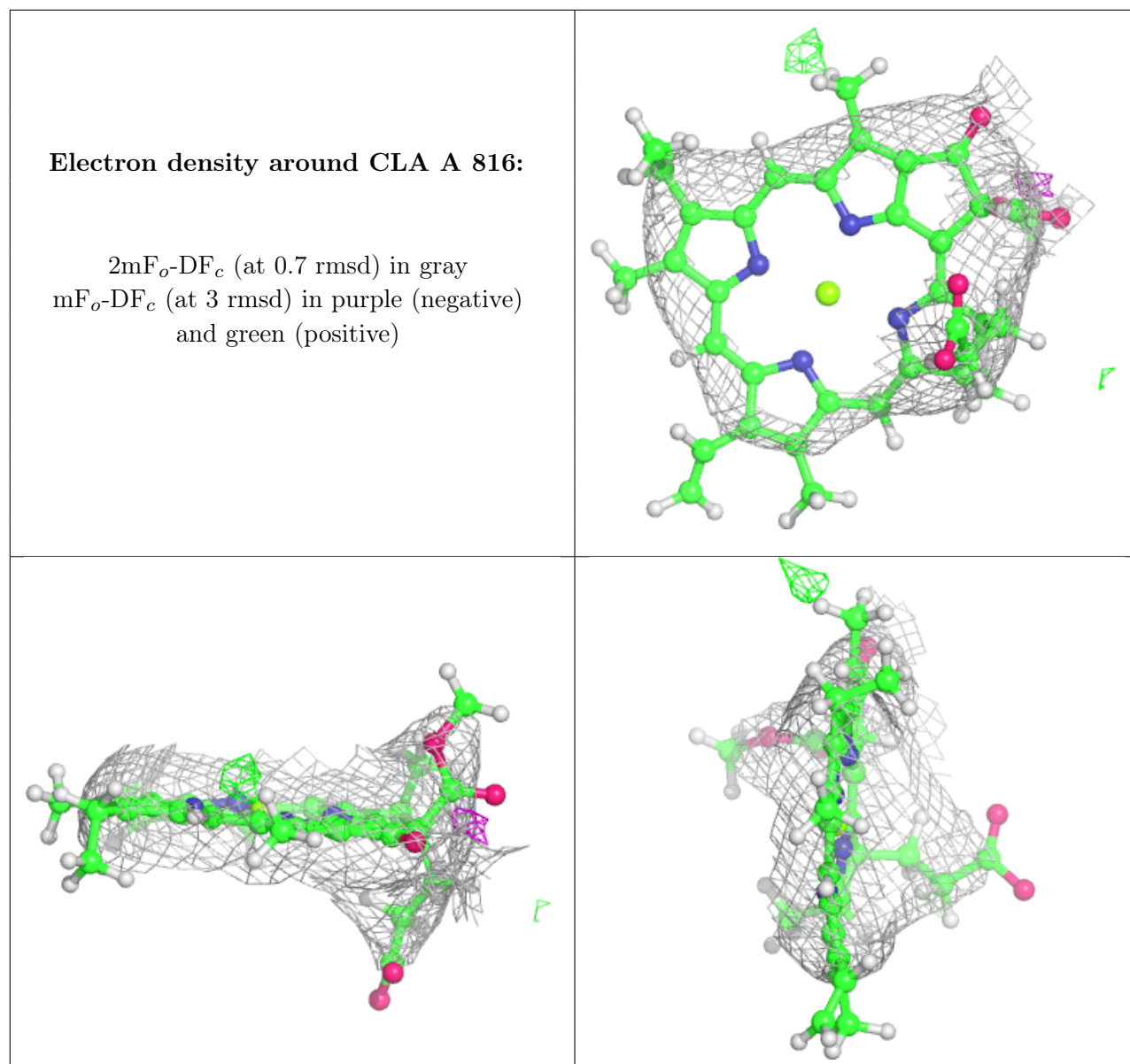
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around CLA J 101:

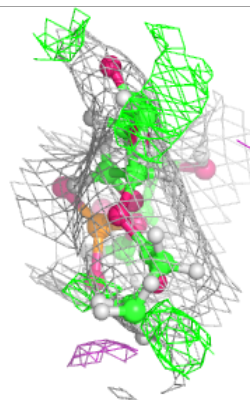
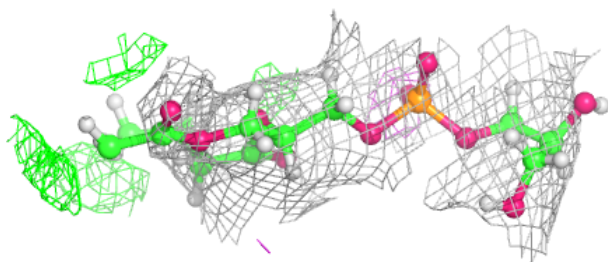
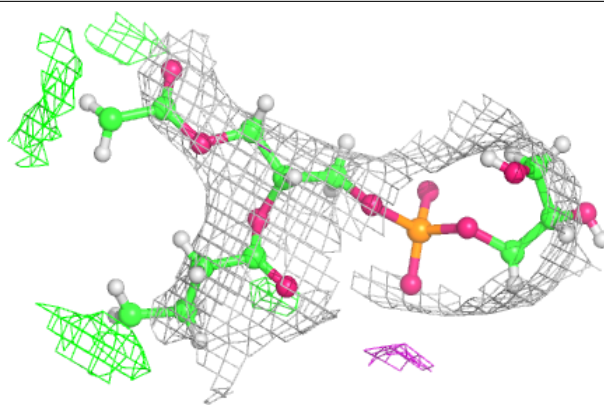
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

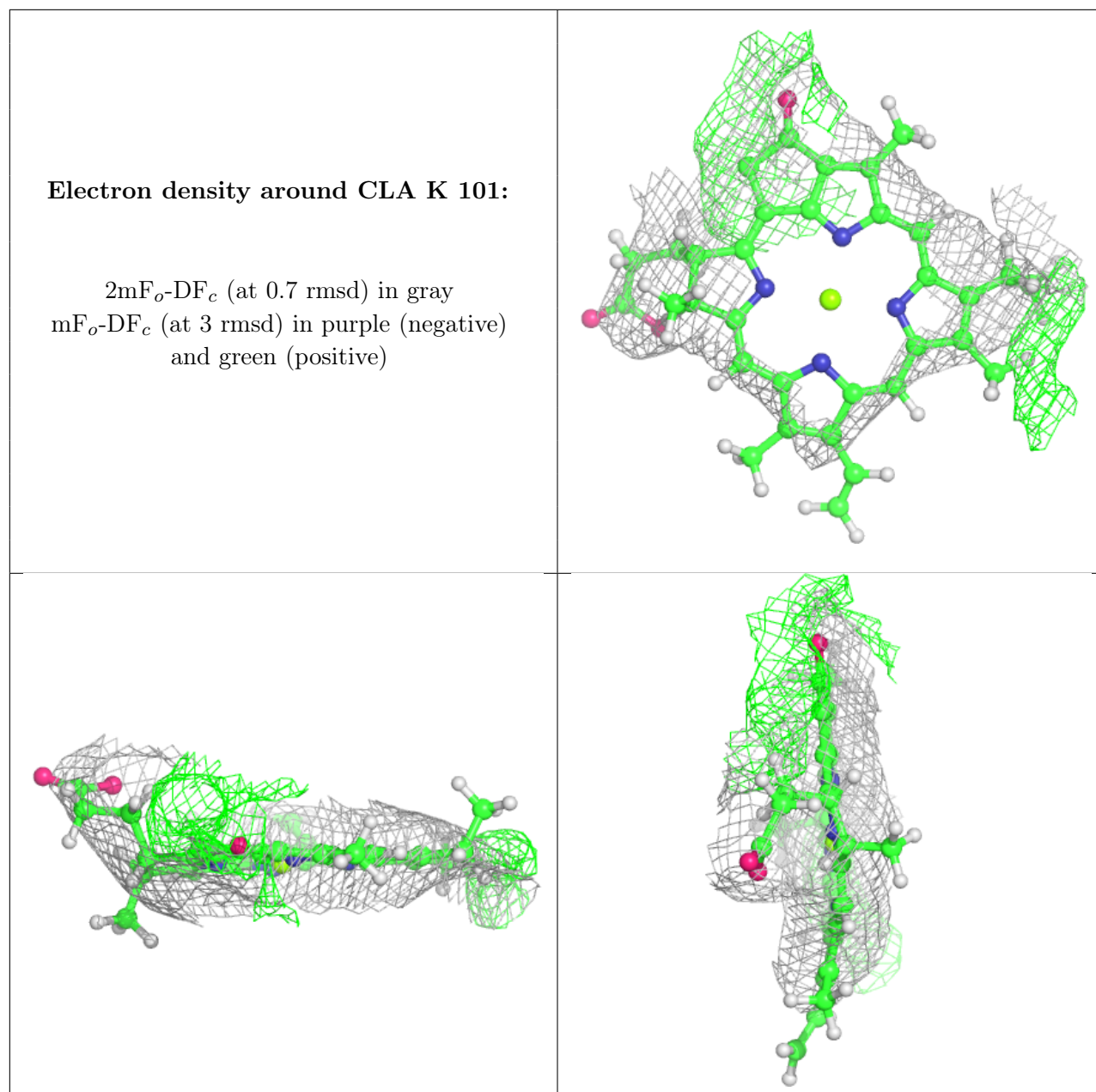


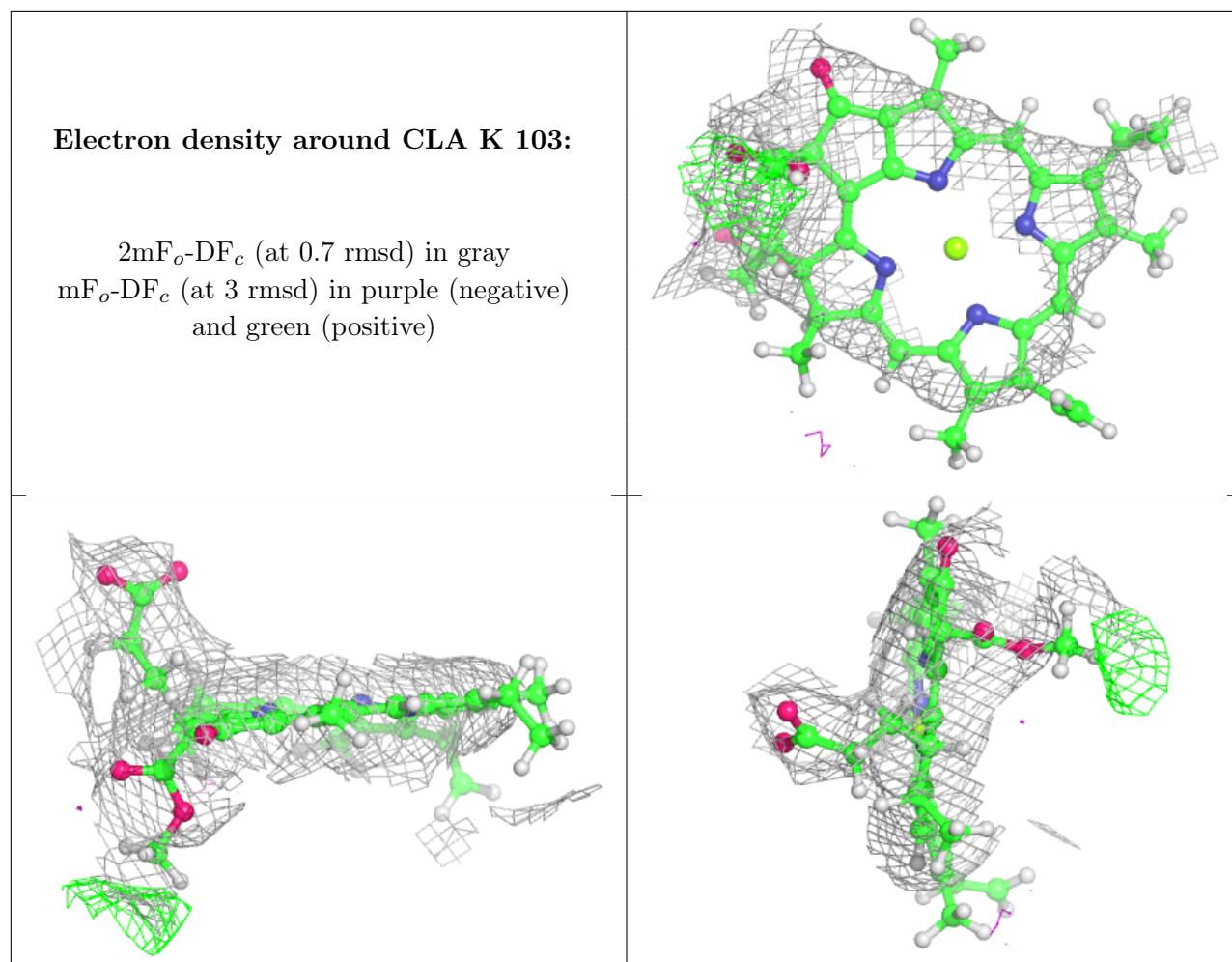


Electron density around LHG B 3050:

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

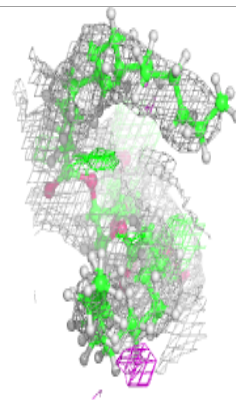
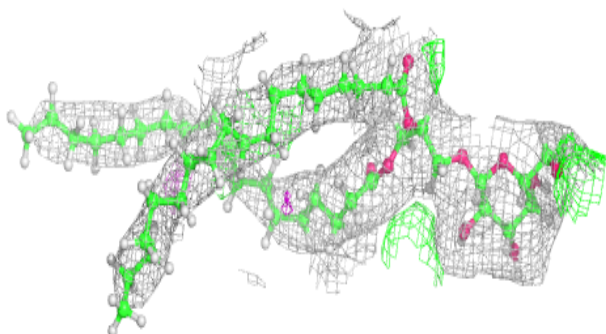
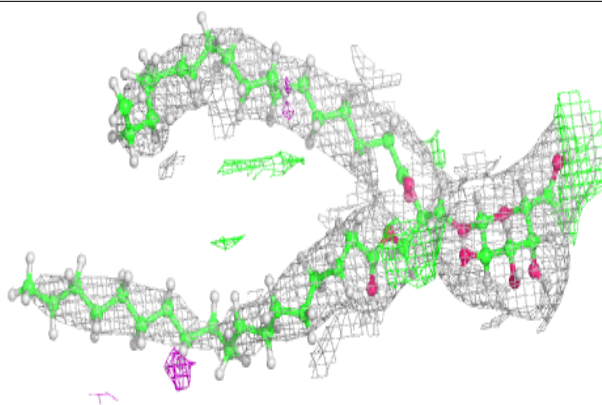






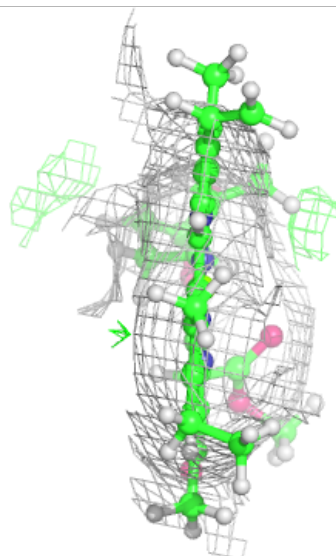
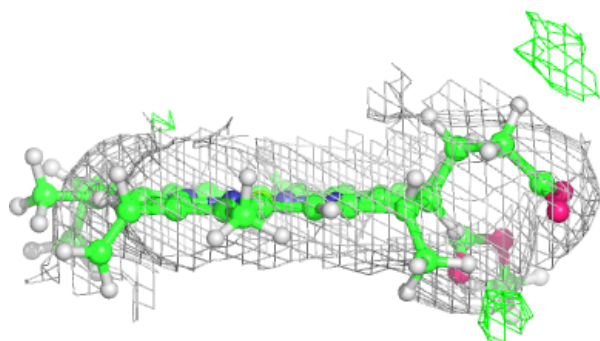
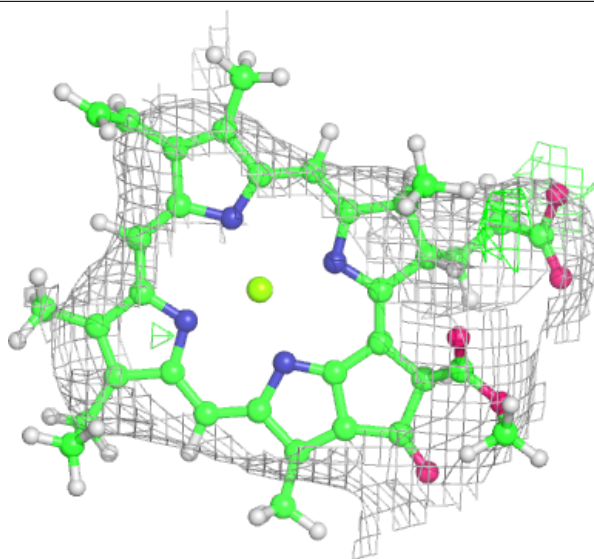
Electron density around LMG B 3049:

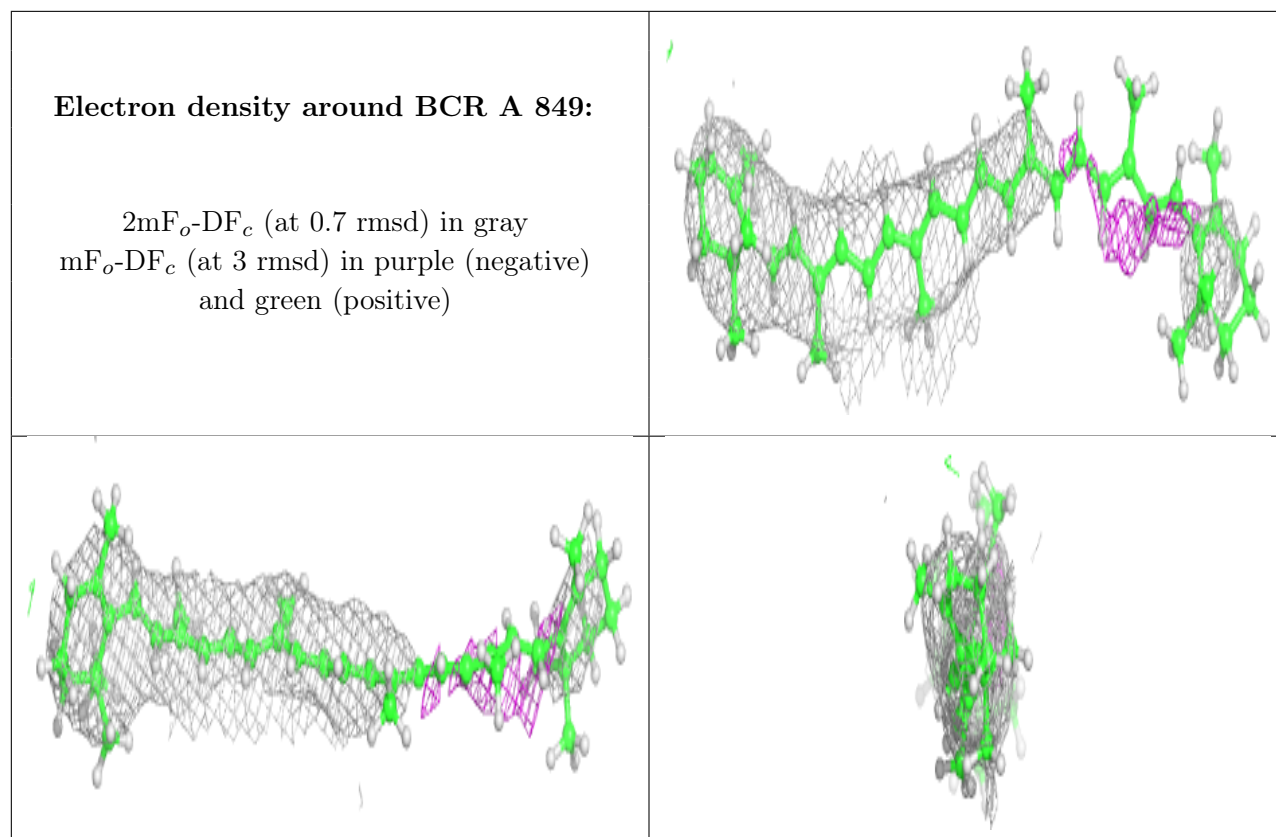
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around CLA F 202:

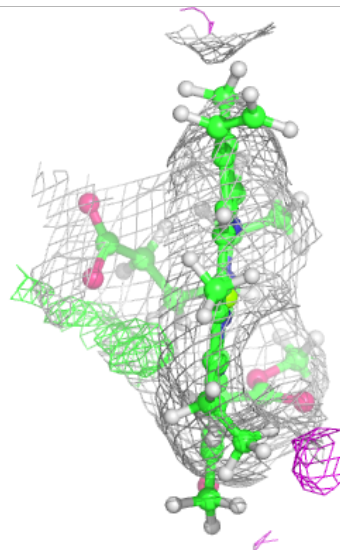
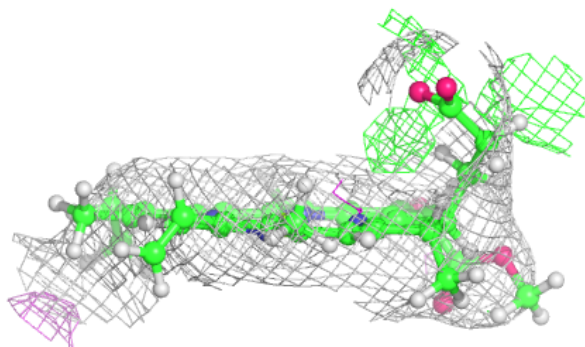
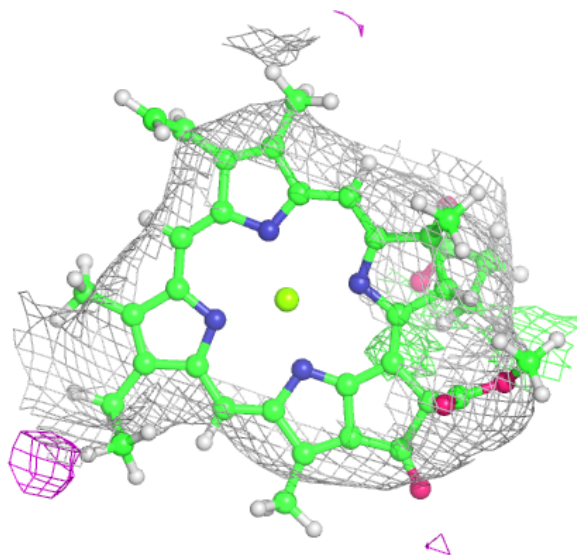
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

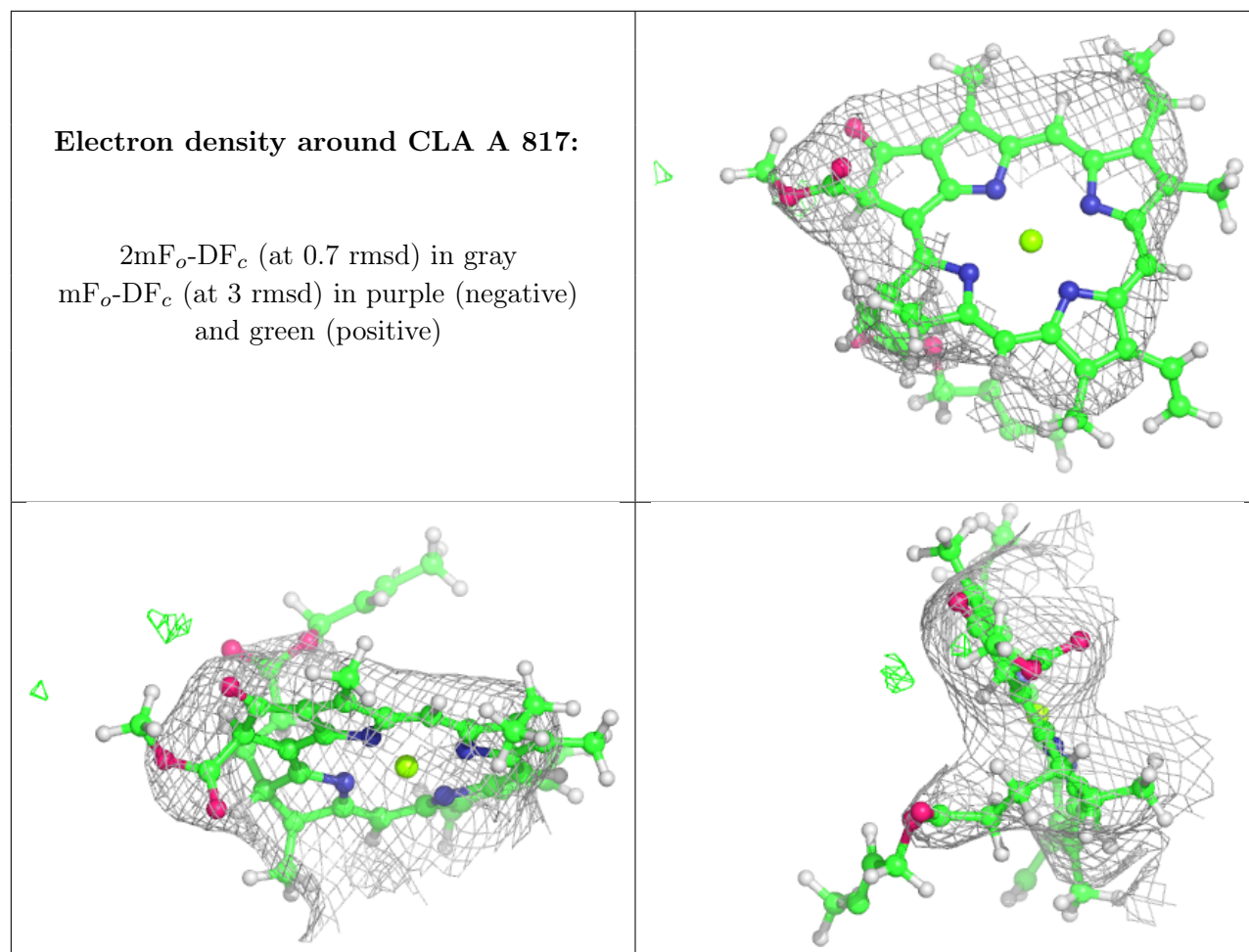




Electron density around CLA A 811:

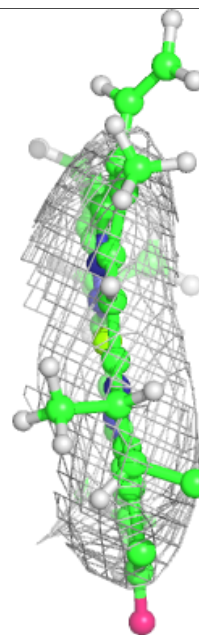
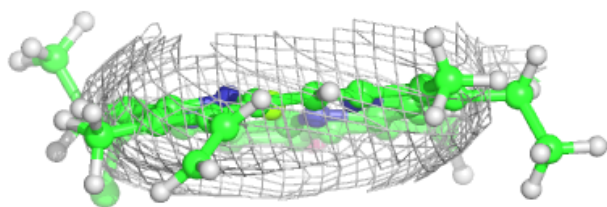
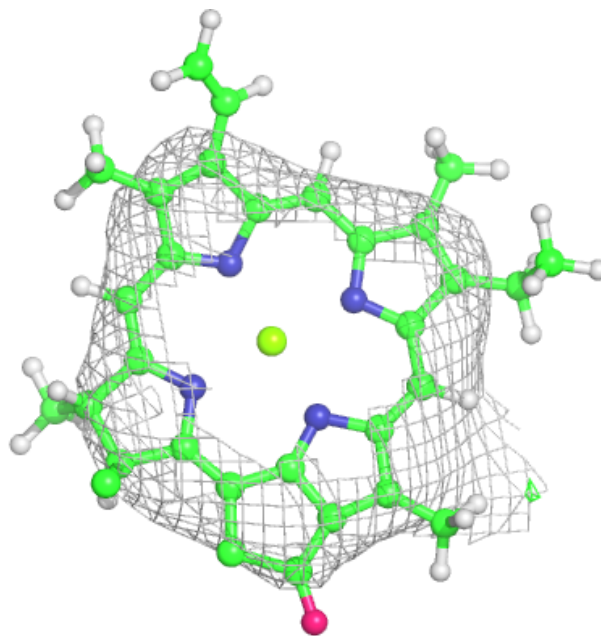
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)





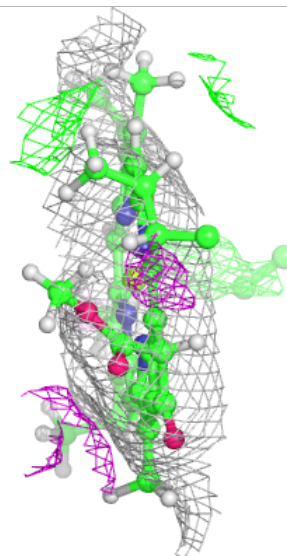
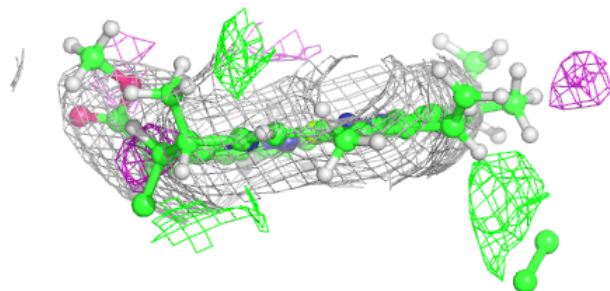
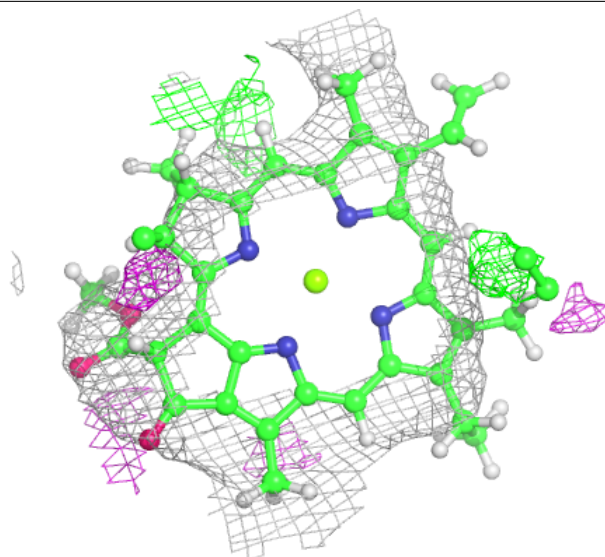
Electron density around CLA J 102:

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



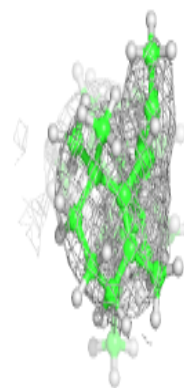
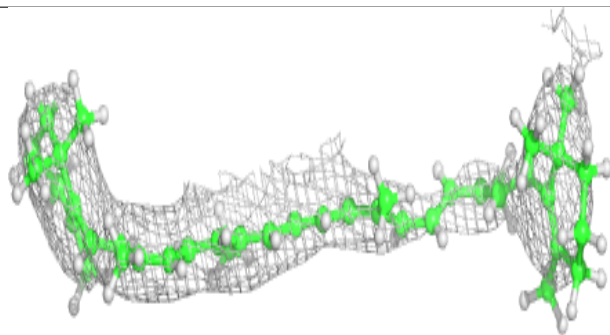
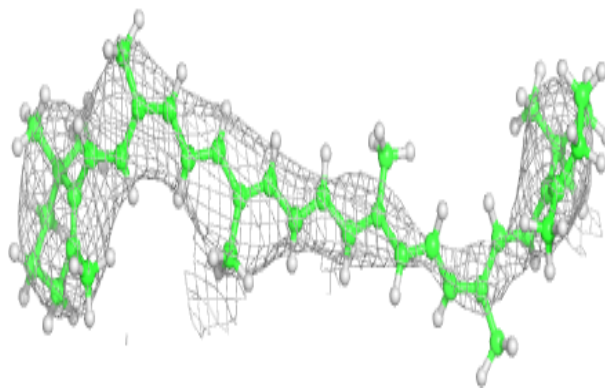
Electron density around CLA A 821:

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

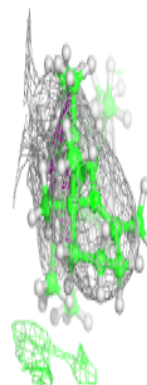
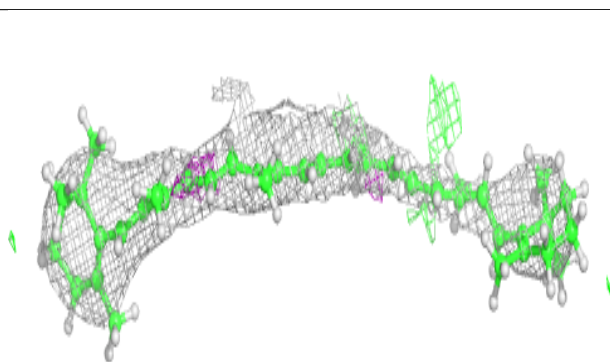
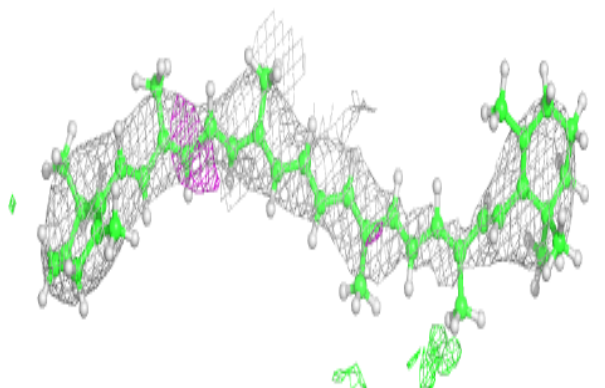


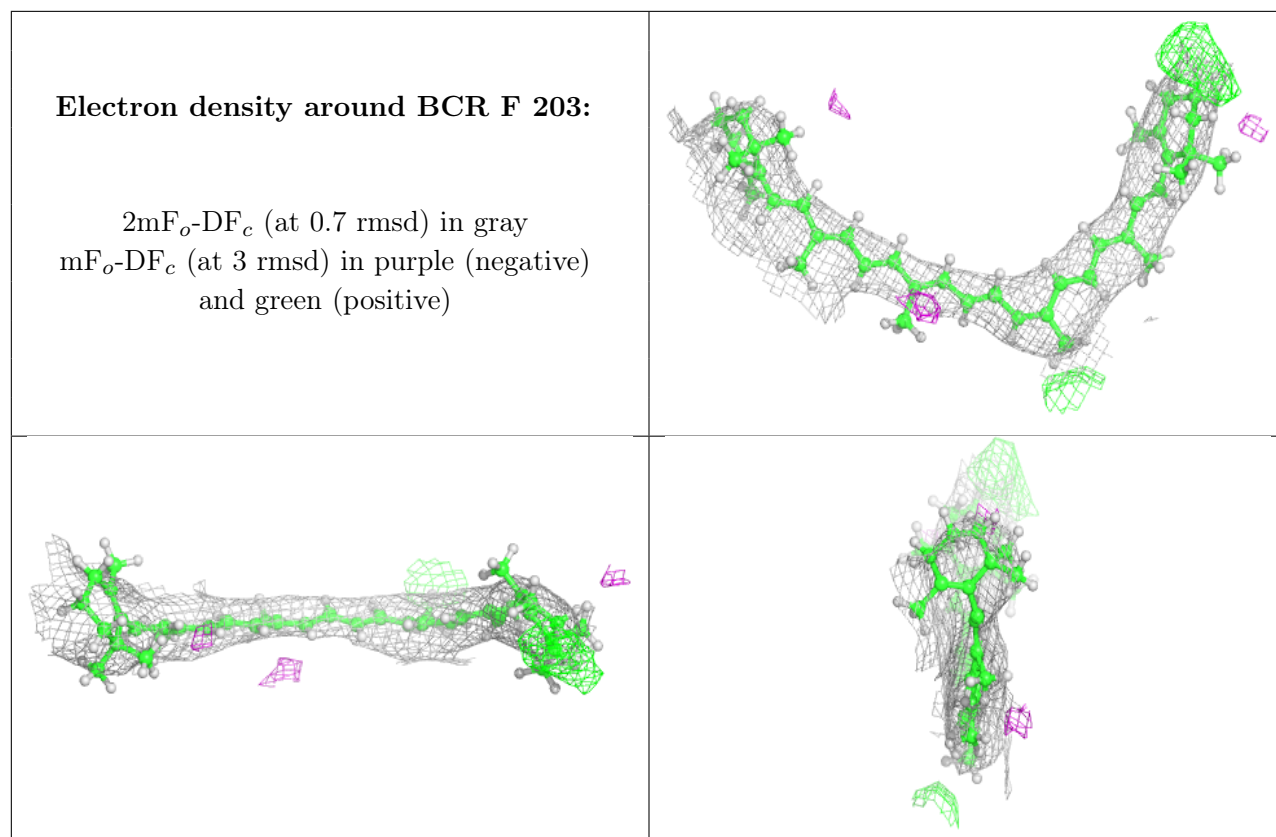
Electron density around BCR B 3046:

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

**Electron density around BCR B 3051:**

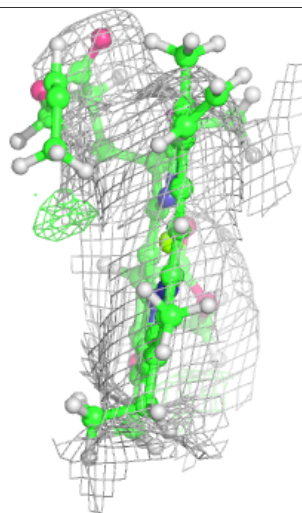
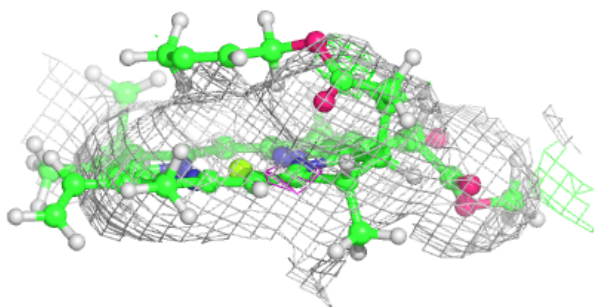
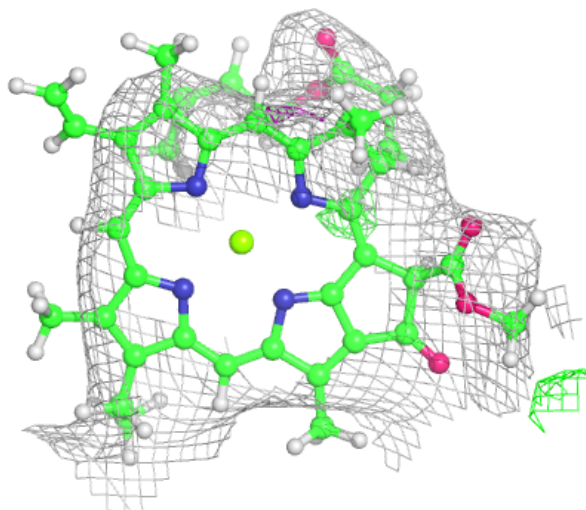
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

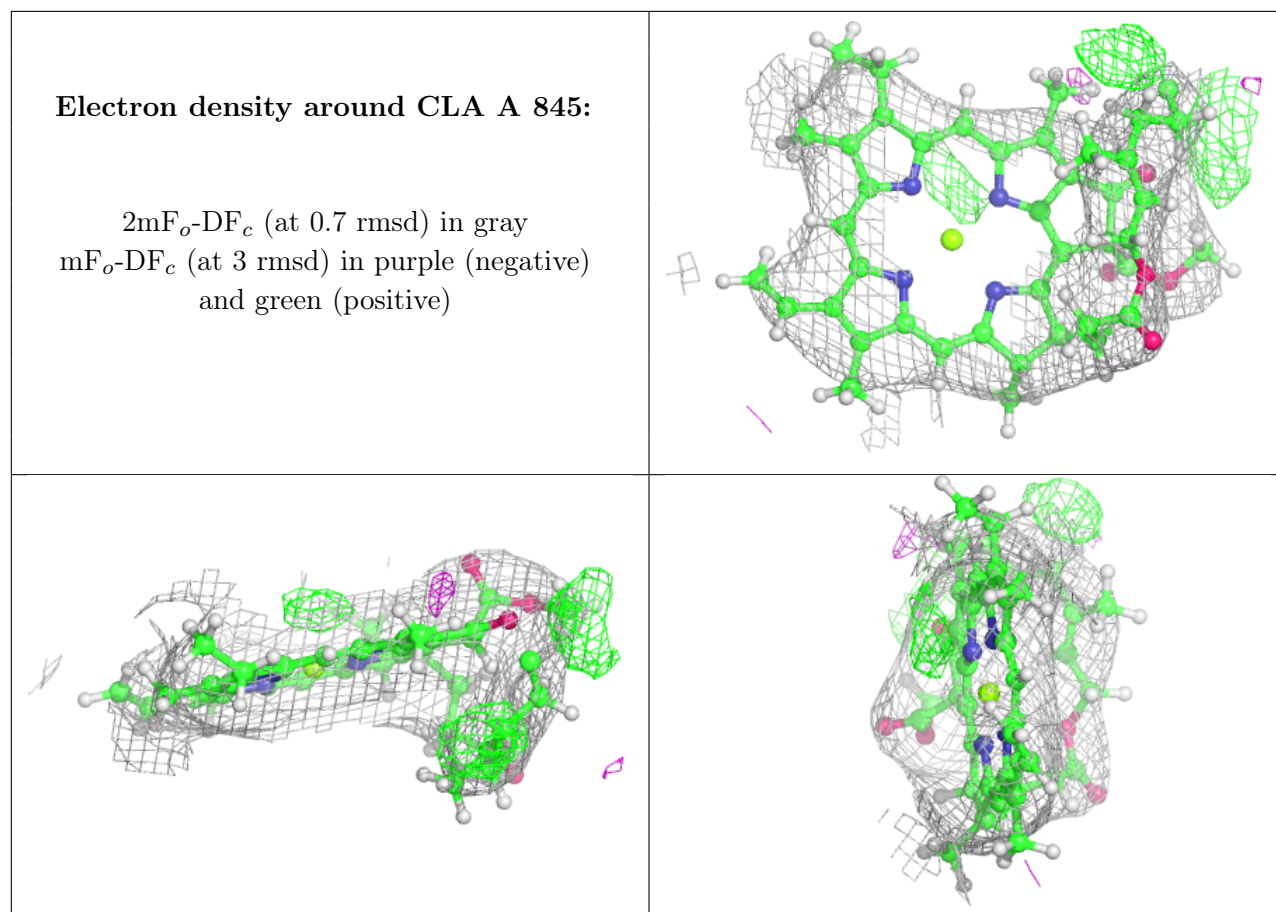




Electron density around CLA A 823:

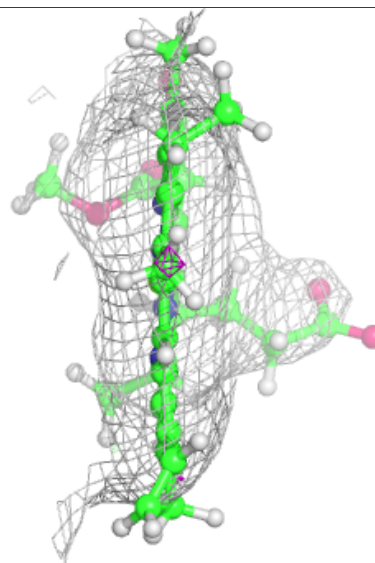
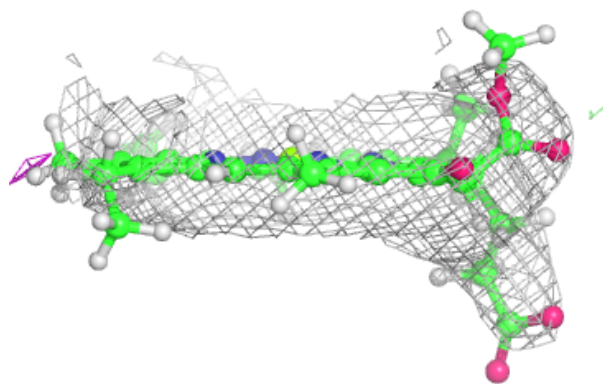
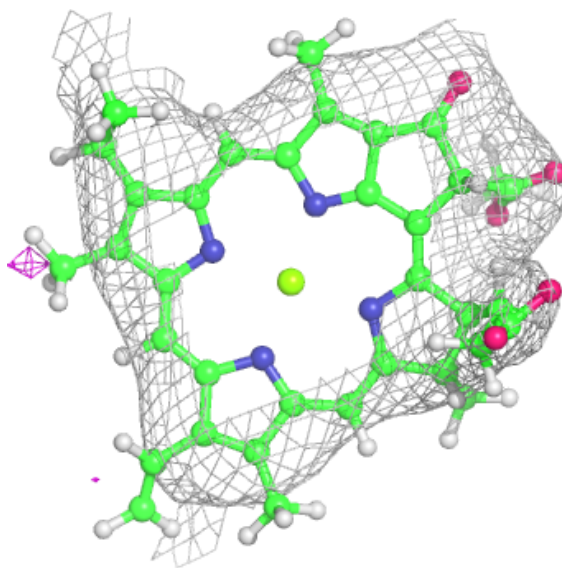
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

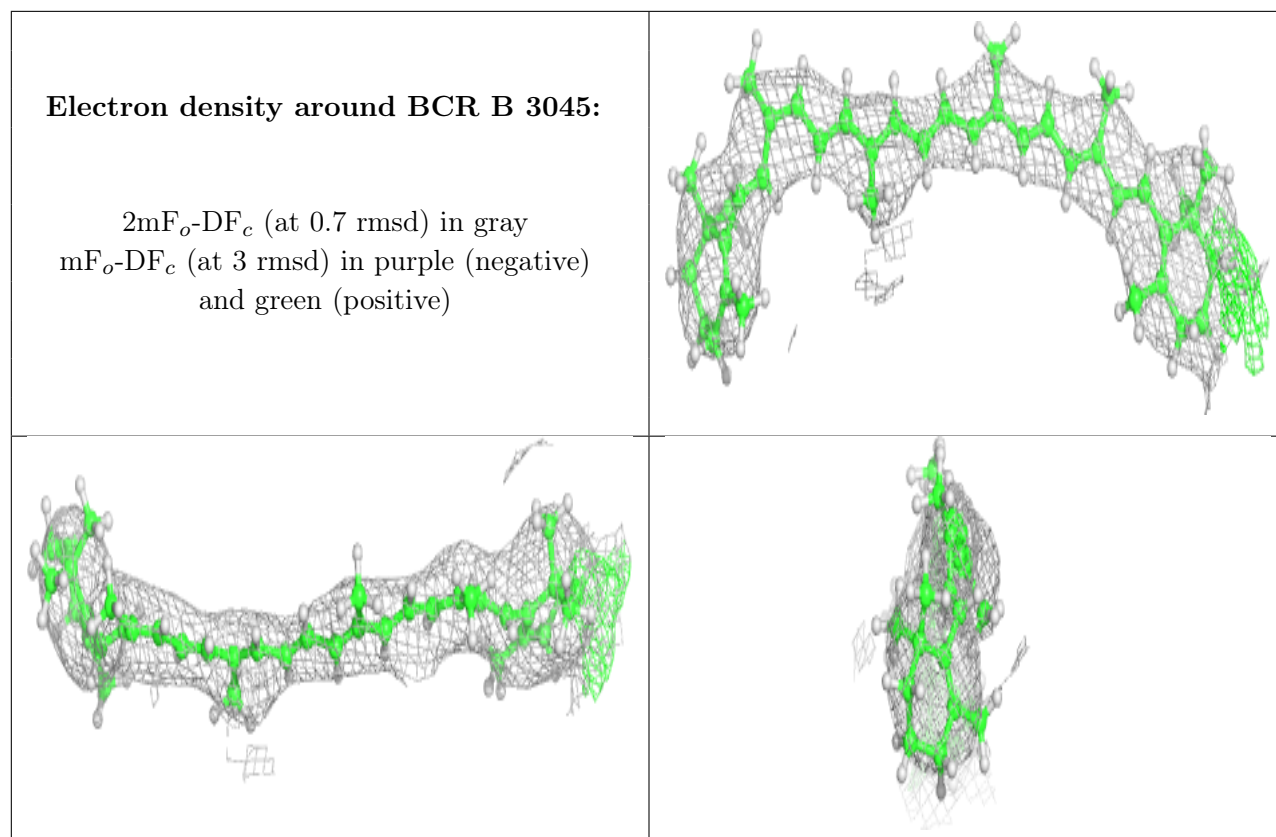




Electron density around CLA B 3022:

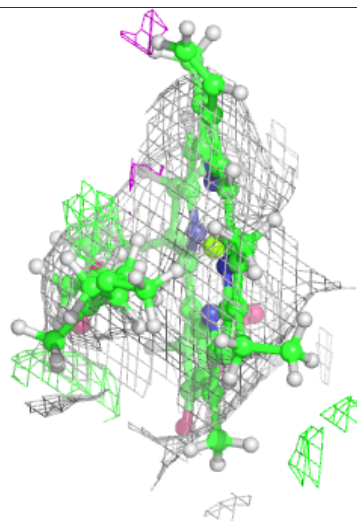
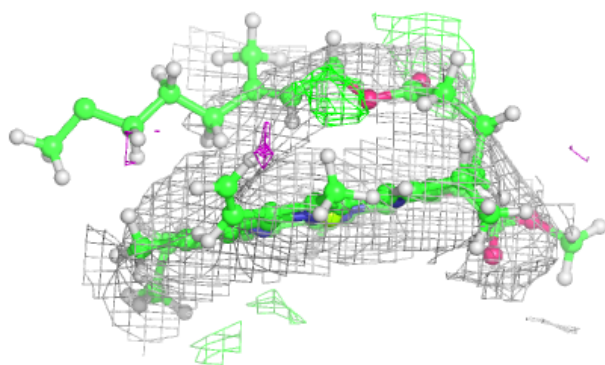
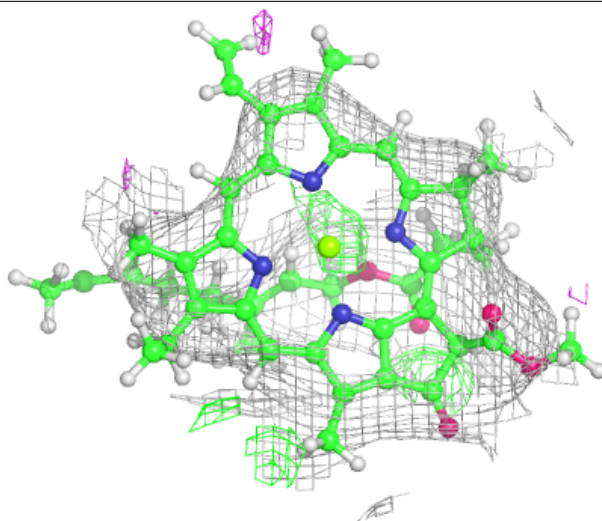
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)





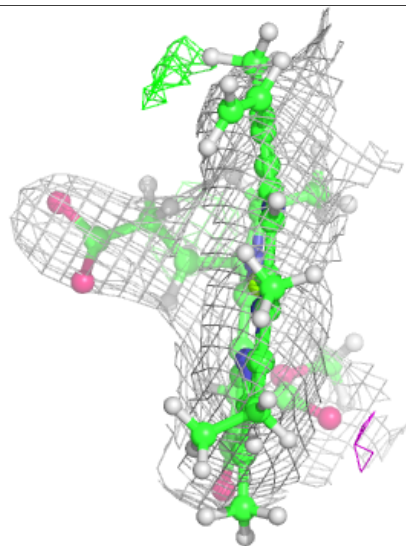
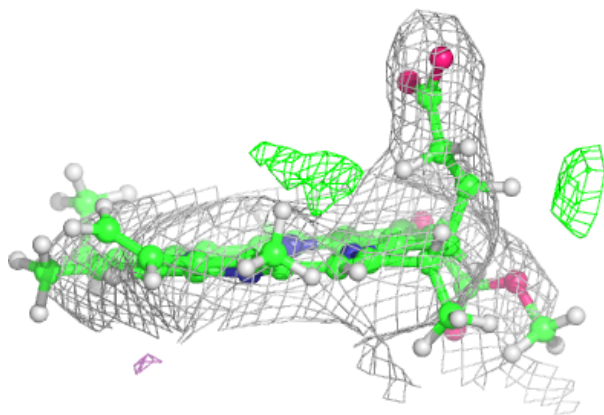
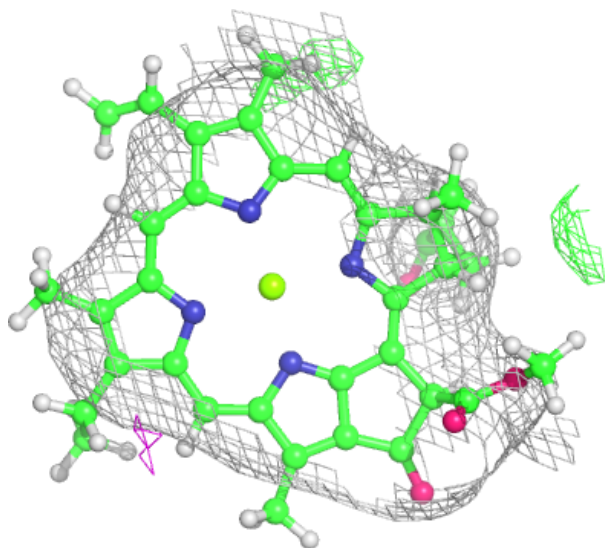
Electron density around CLA A 818:

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



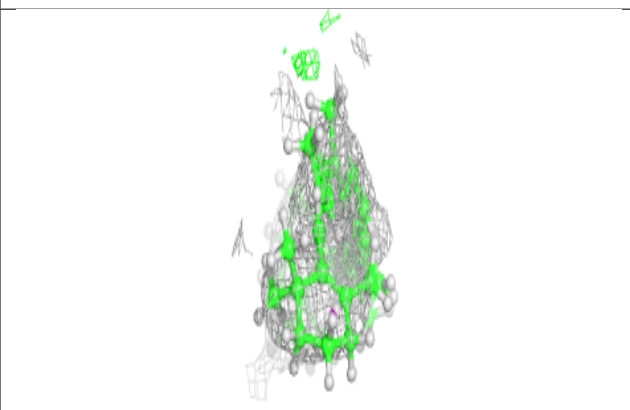
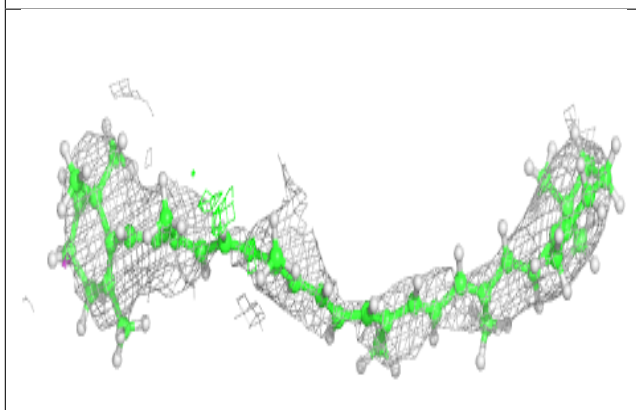
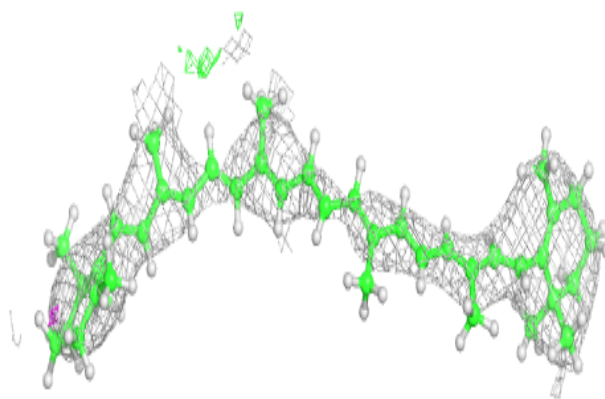
Electron density around CLA A 837:

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

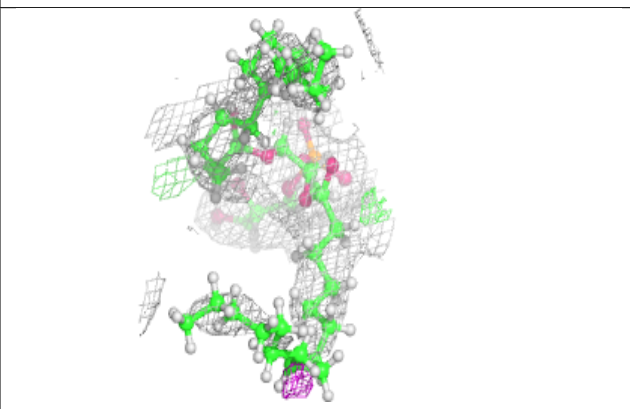
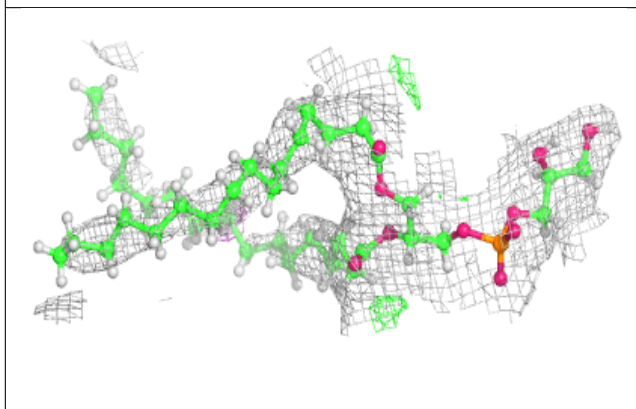
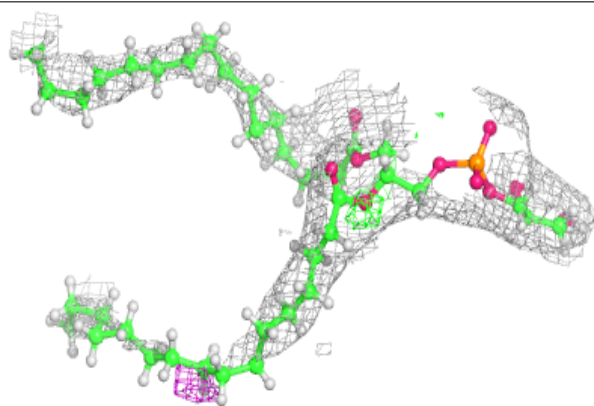


Electron density around BCR F 201:

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

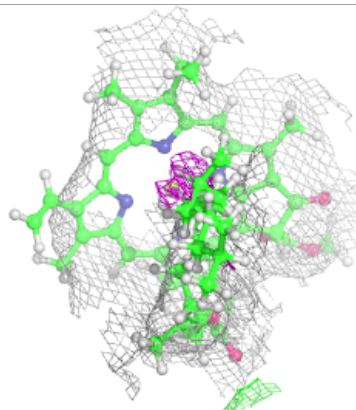
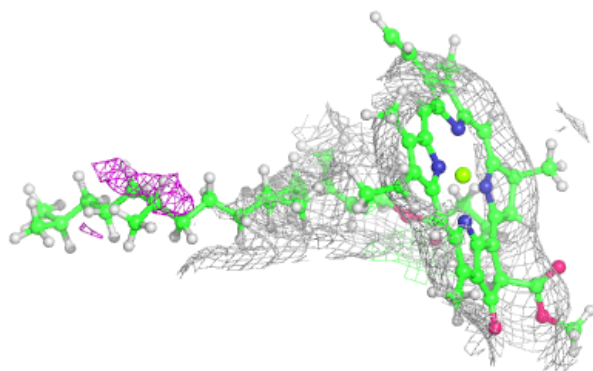
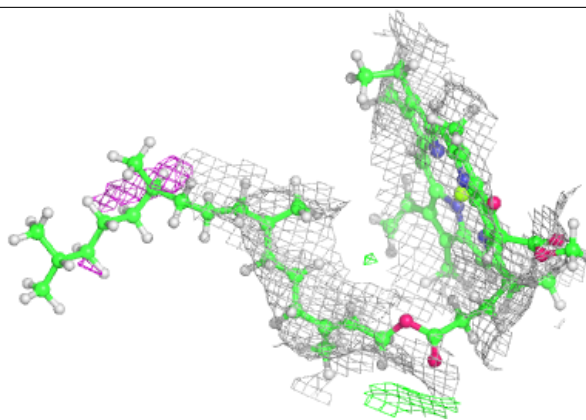
**Electron density around LHG A 853:**

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

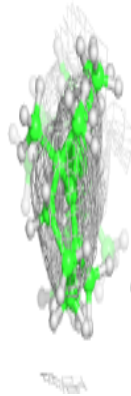
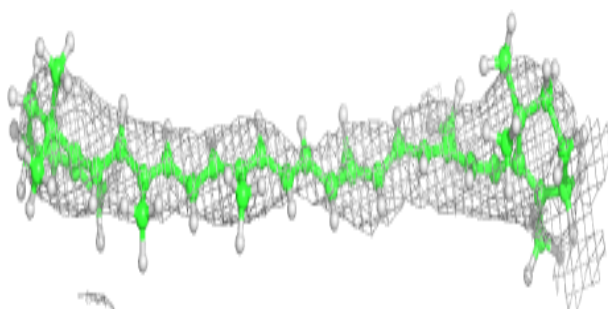
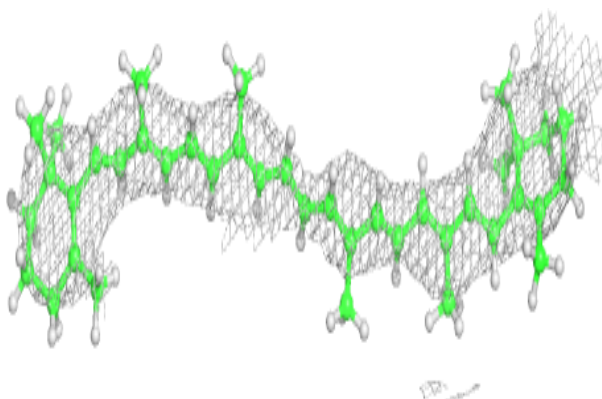


Electron density around CLA A 812:

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

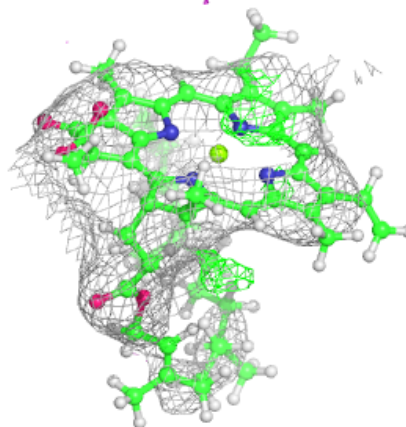
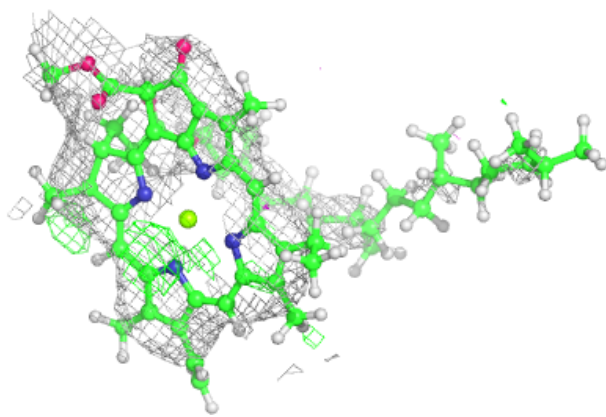
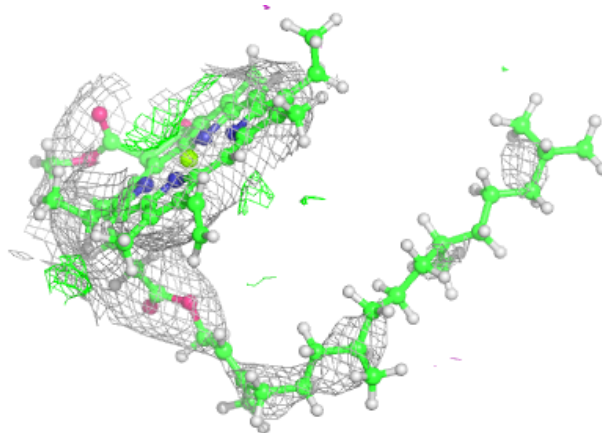
**Electron density around BCR J 103:**

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

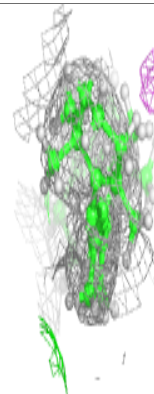
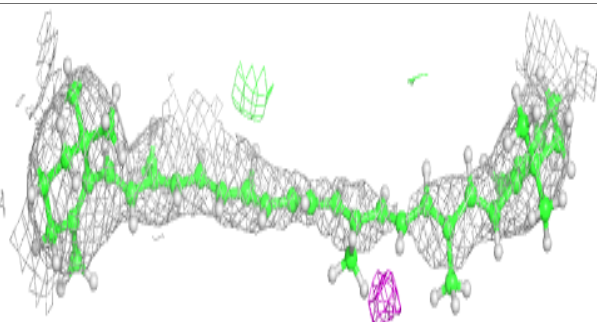
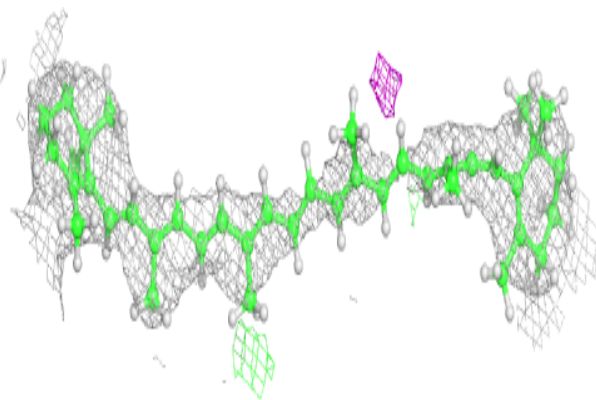


Electron density around CLA B 3020:

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

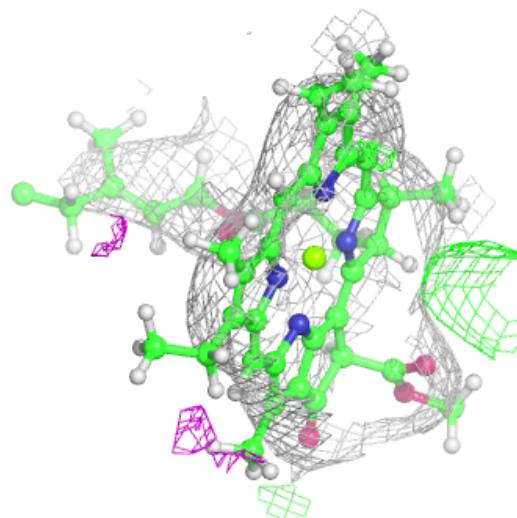
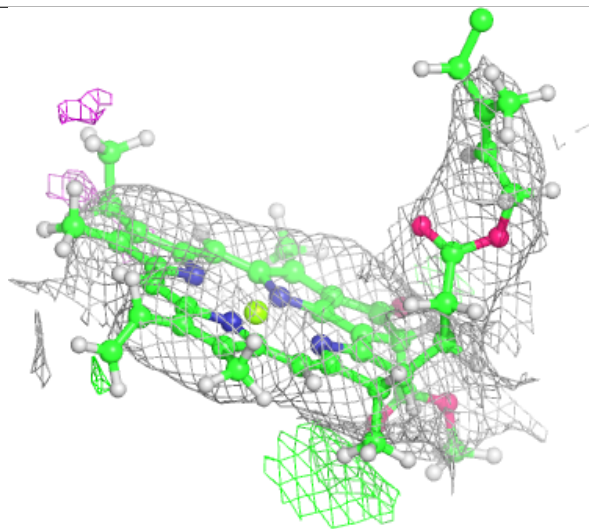
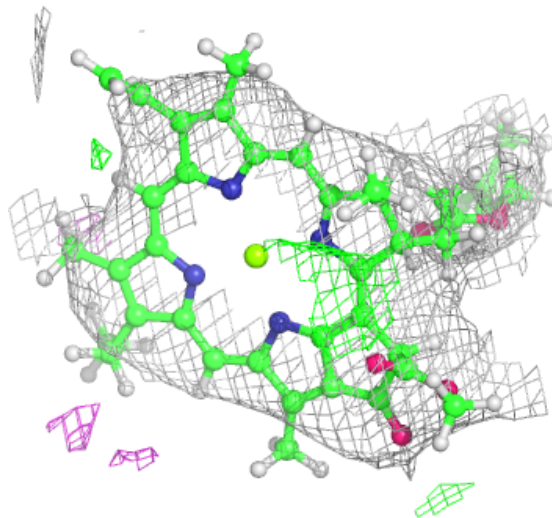
**Electron density around BCR A 850:**

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



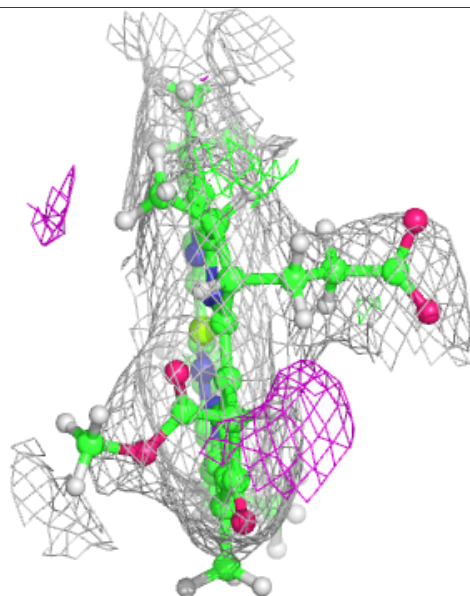
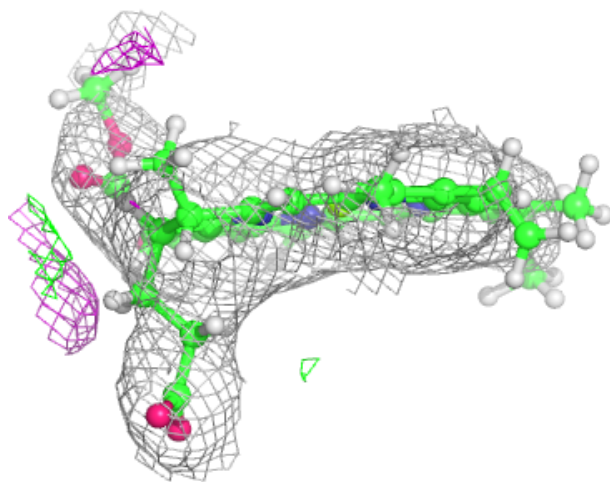
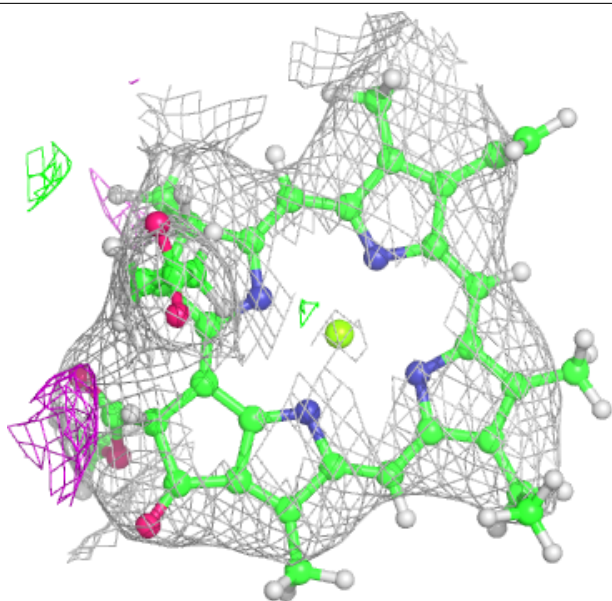
Electron density around CLA A 808:

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



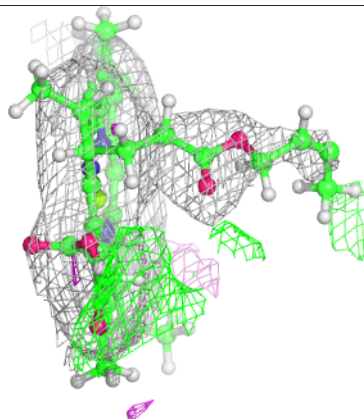
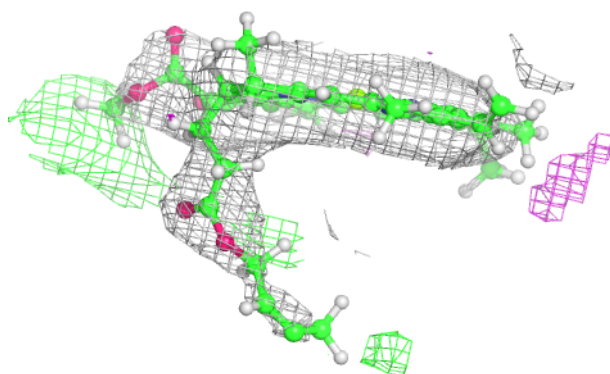
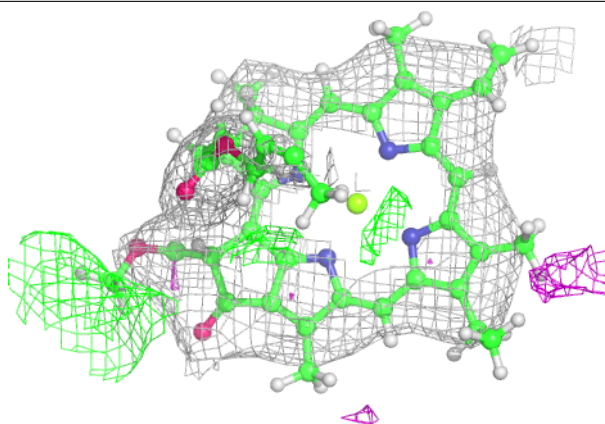
Electron density around CLA B 3031:

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

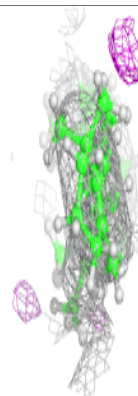
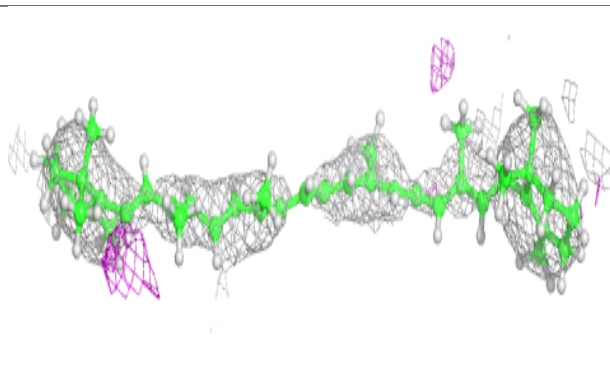
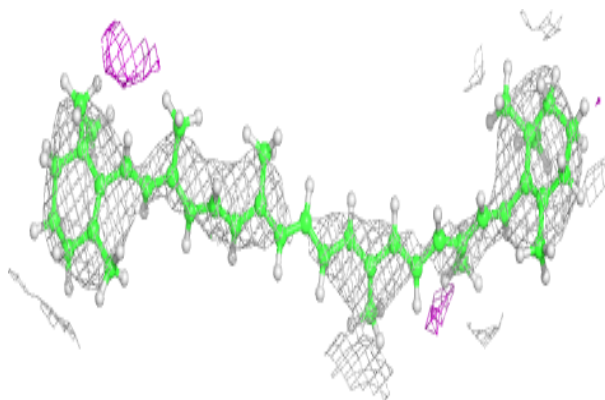


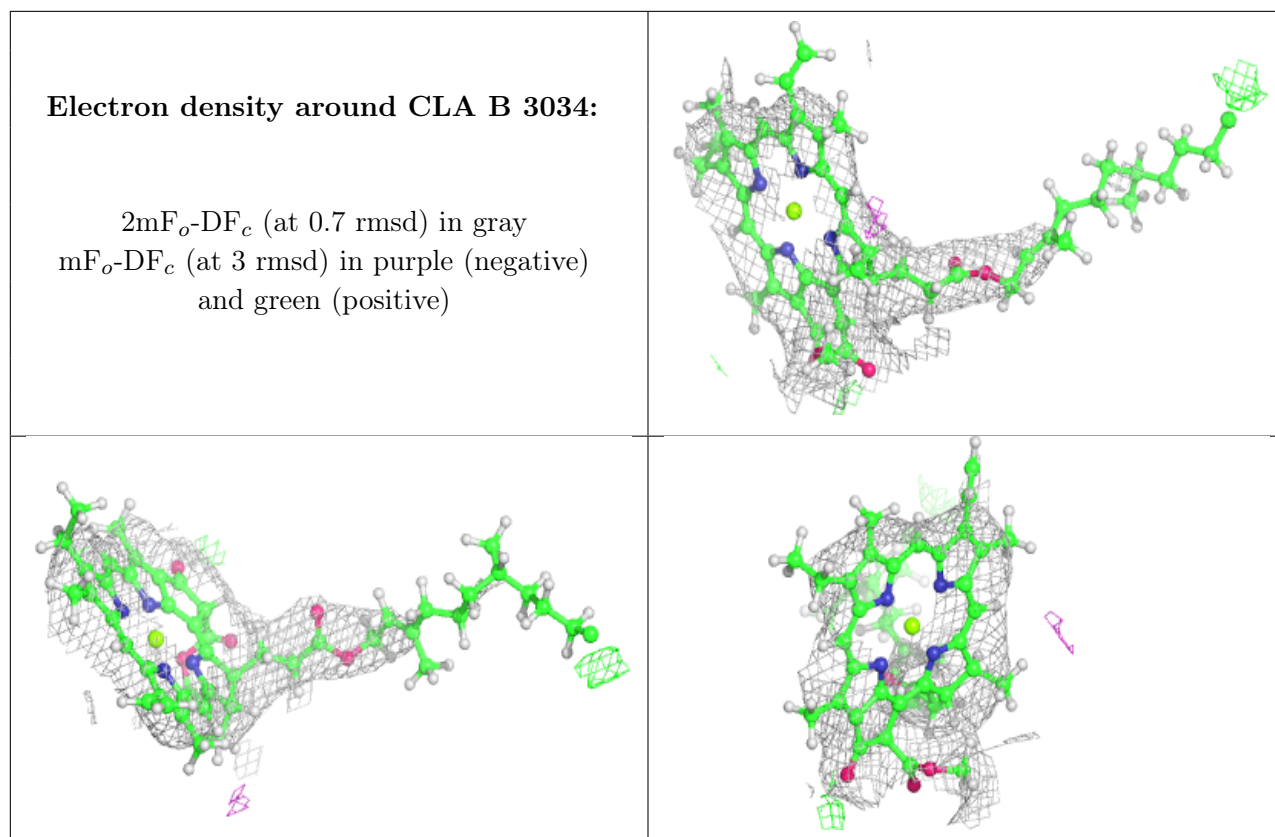
Electron density around CLA B 3032:

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

**Electron density around BCR B 3047:**

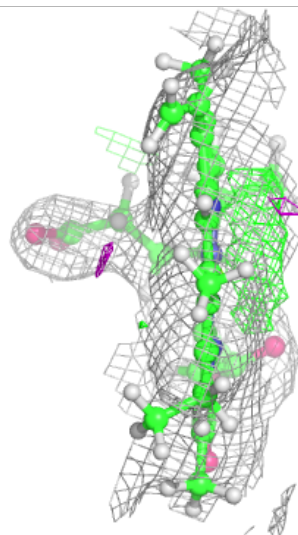
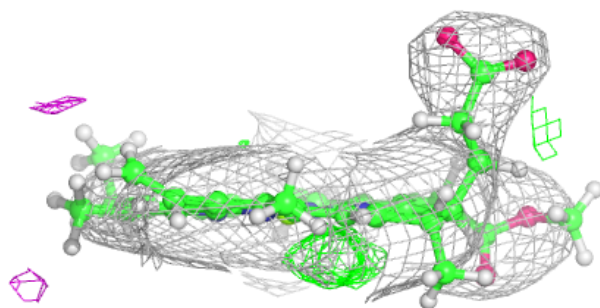
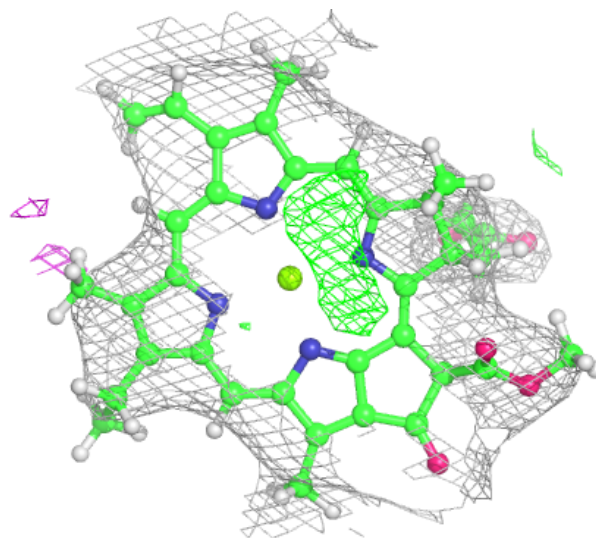
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)





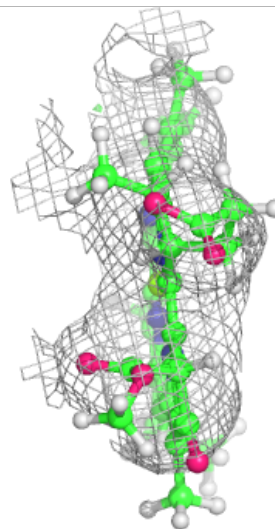
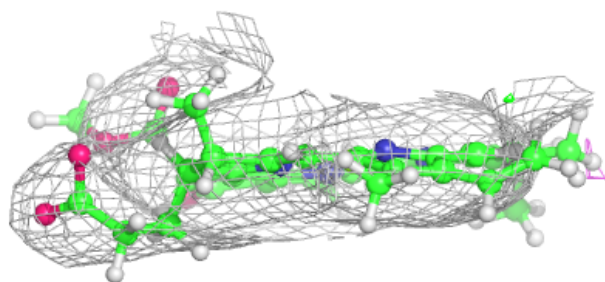
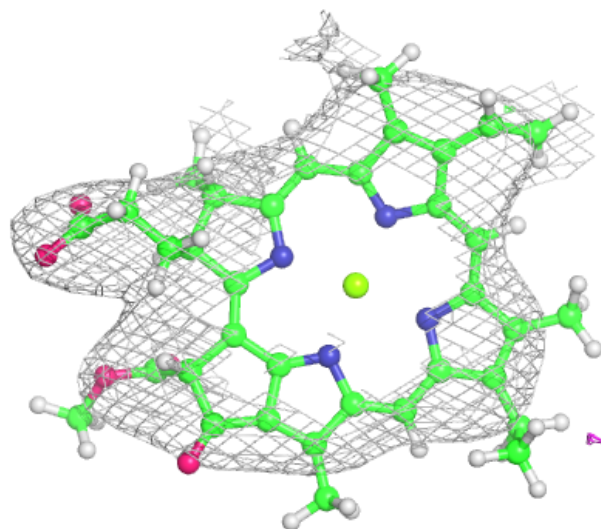
Electron density around CLA B 3036:

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



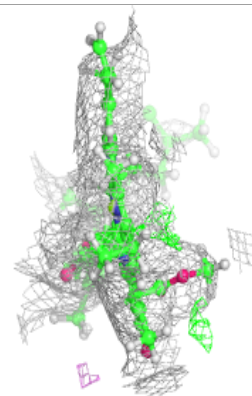
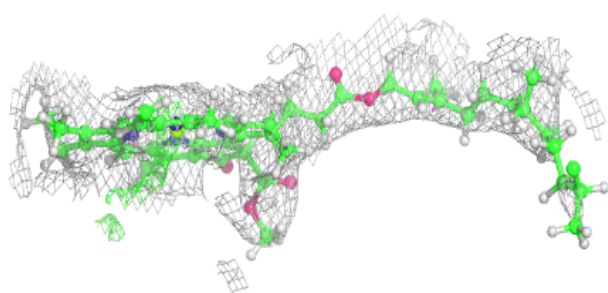
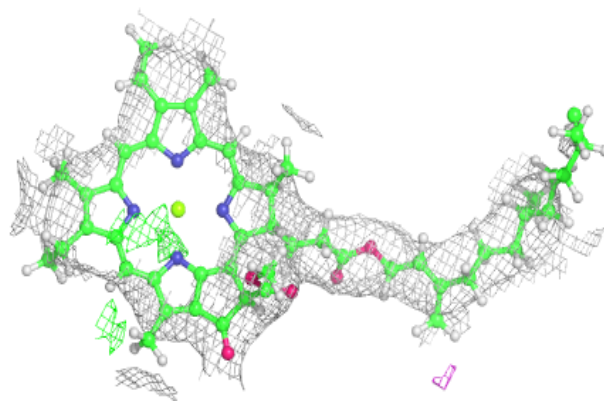
Electron density around CLA B 3037:

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

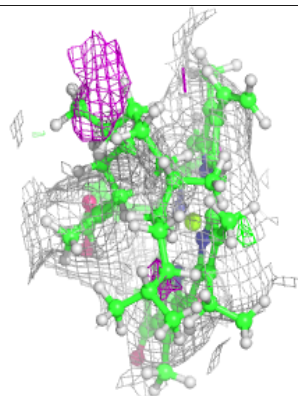
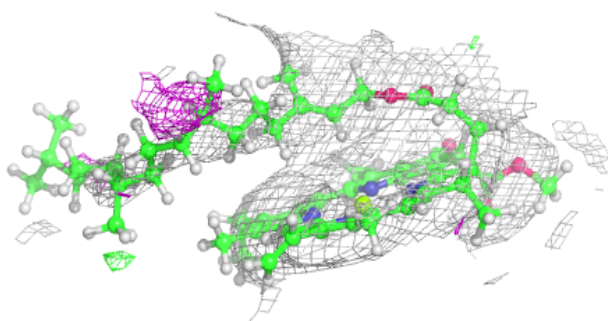
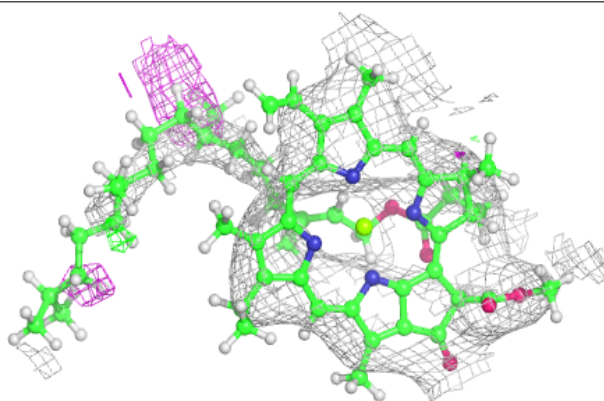


Electron density around CLA B 3038:

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

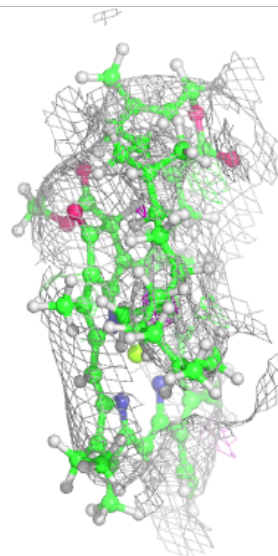
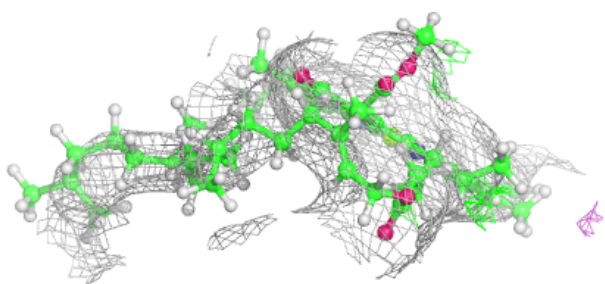
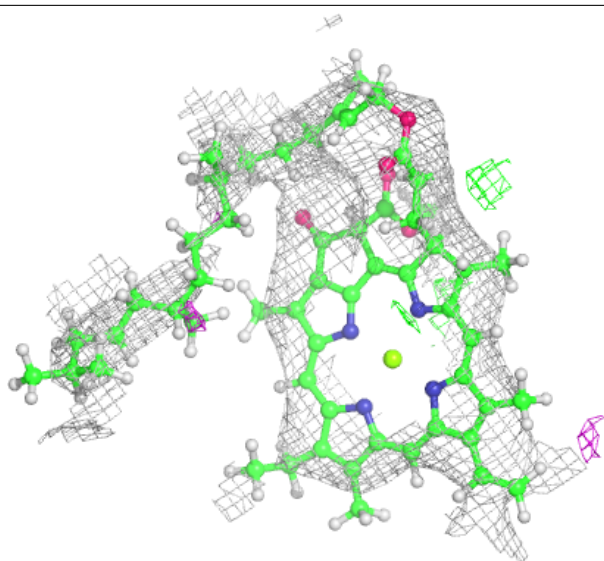
**Electron density around CLA B 3039:**

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



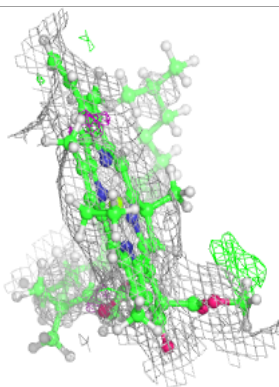
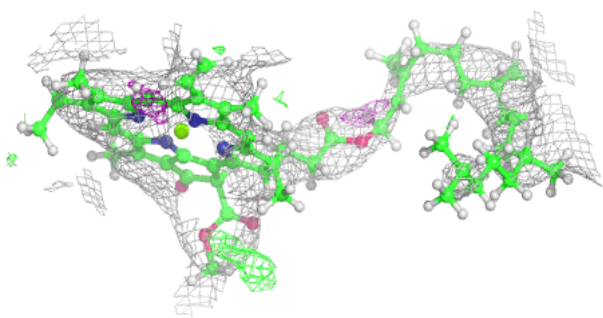
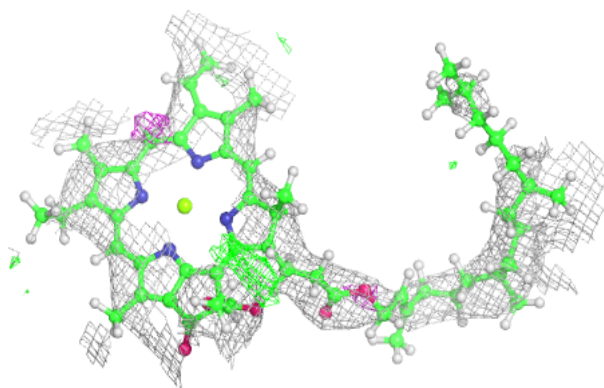
Electron density around CLA A 826:

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

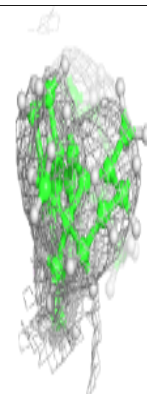
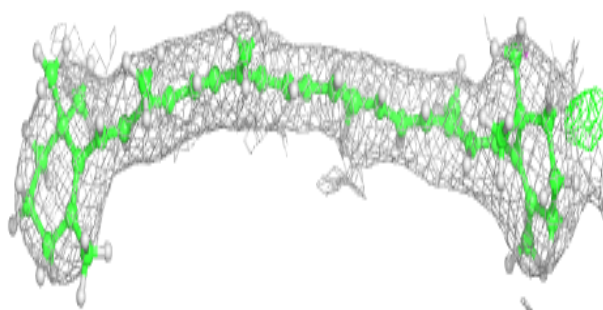
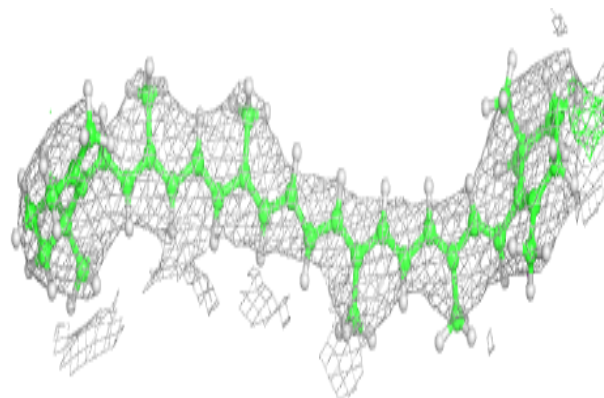


Electron density around CLA A 828:

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

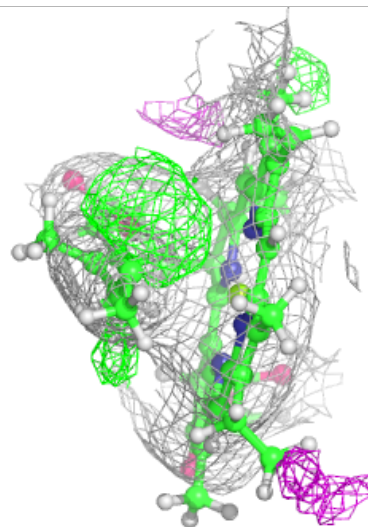
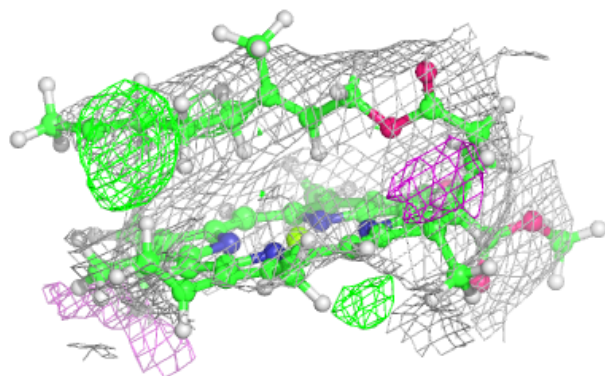
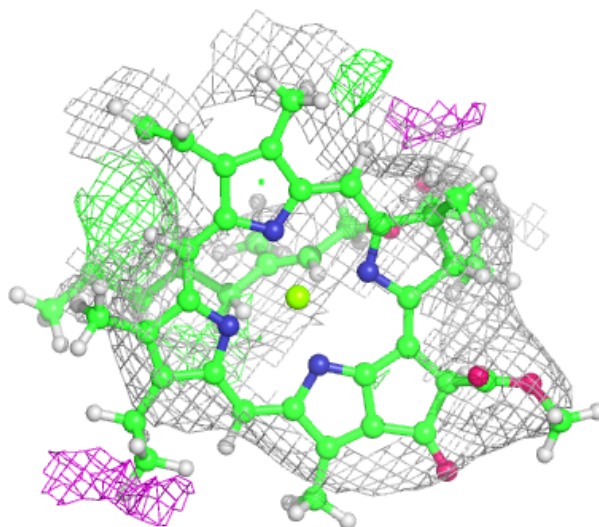
**Electron density around BCR M 103:**

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



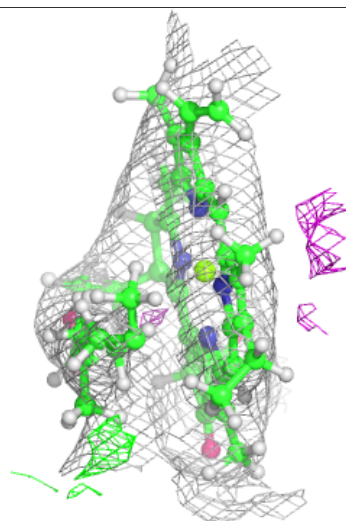
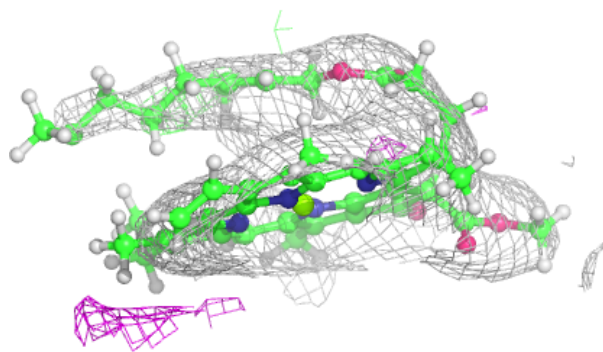
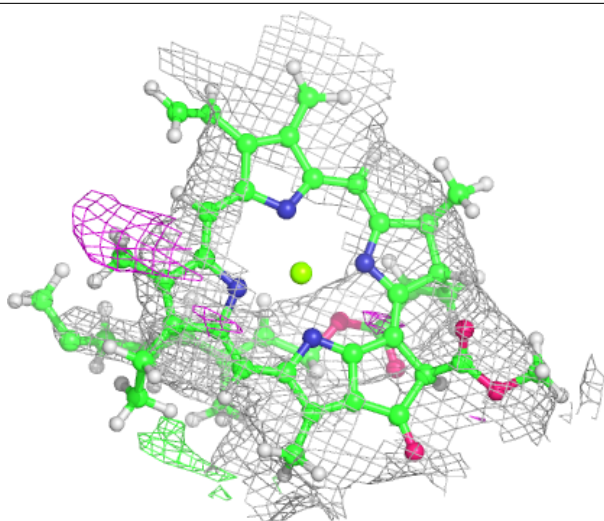
Electron density around CLA A 819:

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



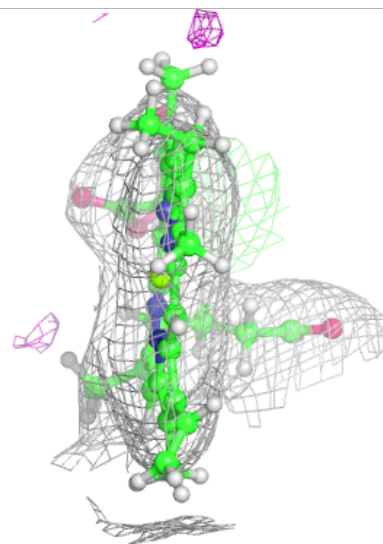
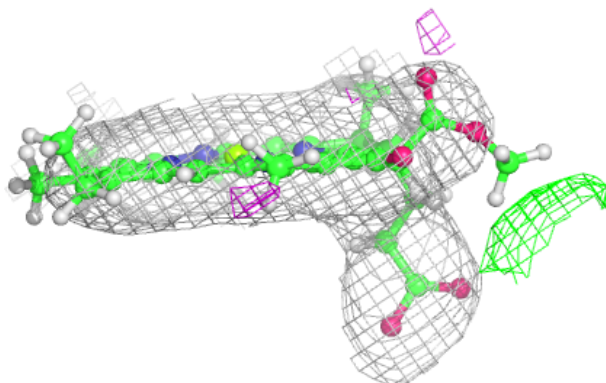
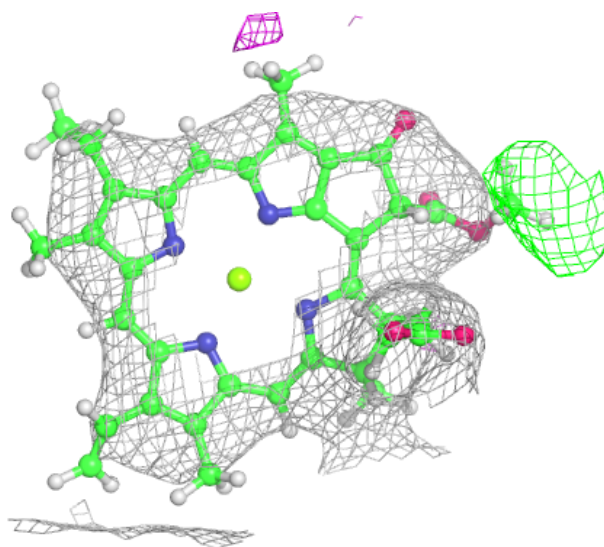
Electron density around CLA A 813:

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



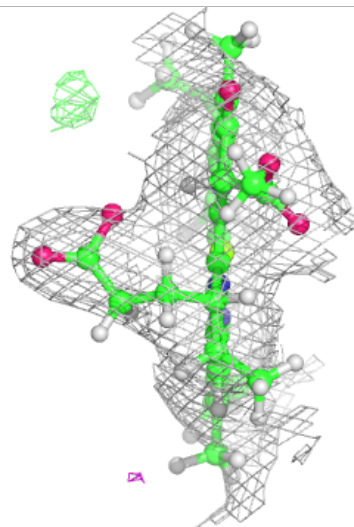
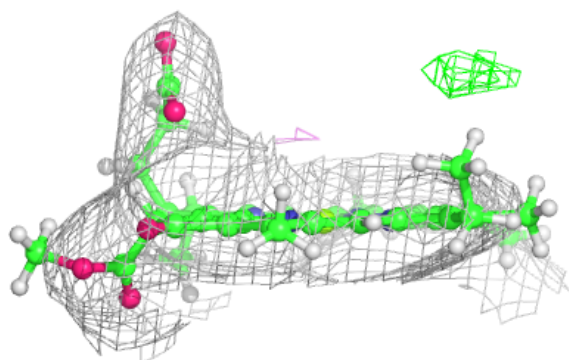
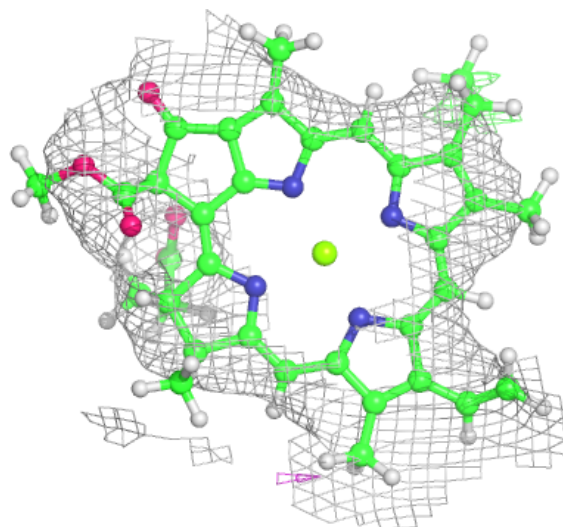
Electron density around CLA B 3012:

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



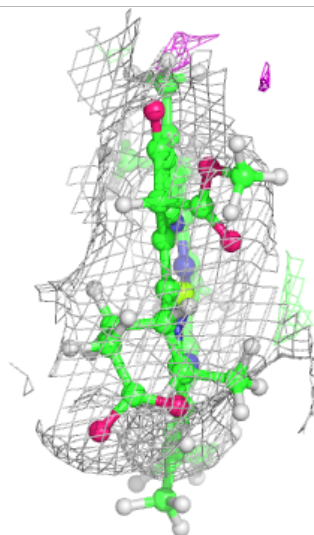
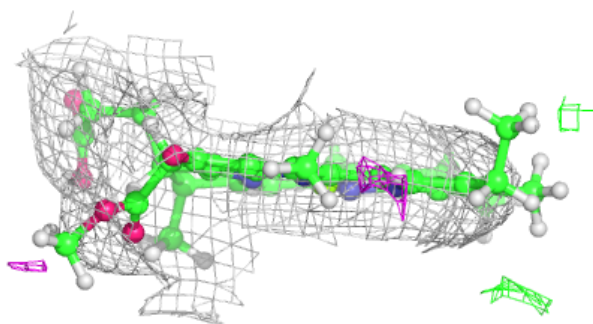
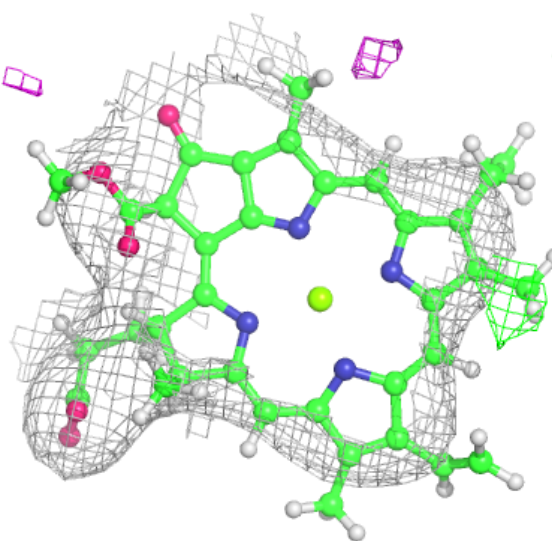
Electron density around CLA B 3013:

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



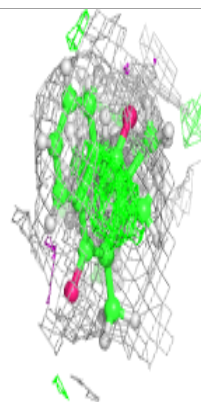
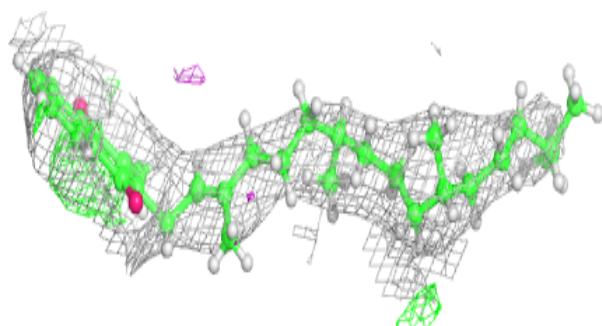
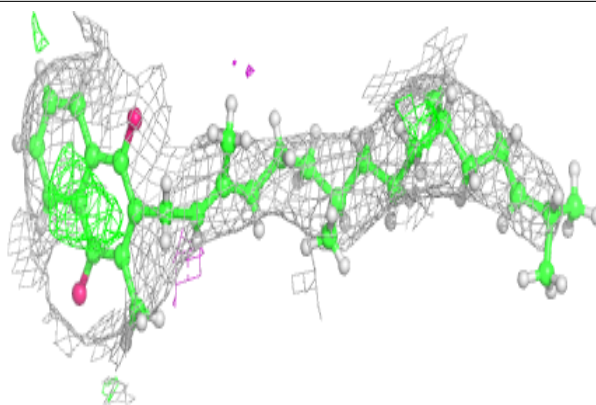
Electron density around CLA X 1701:

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

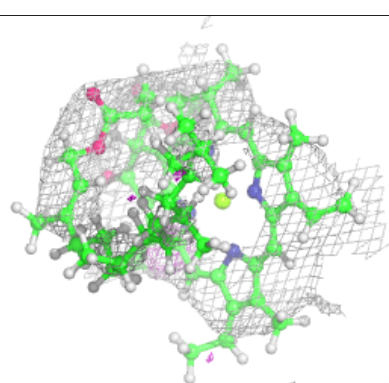
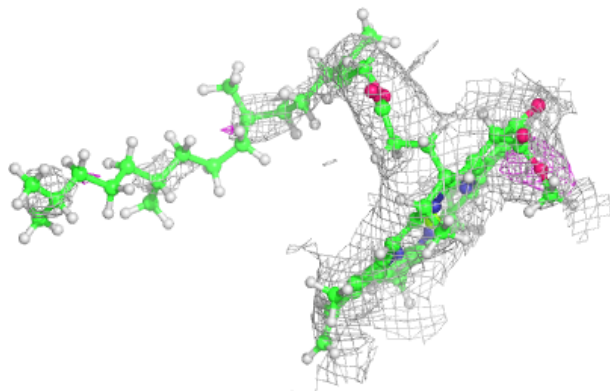
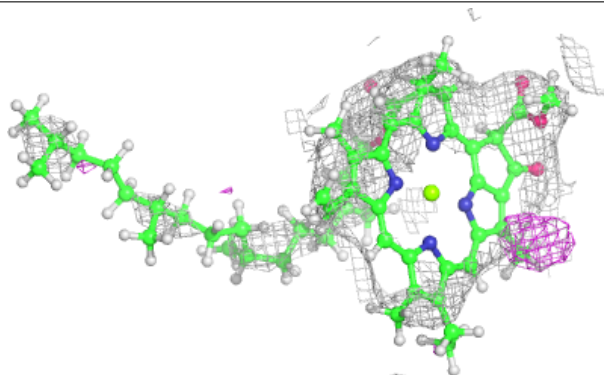


Electron density around PQN A 846:

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

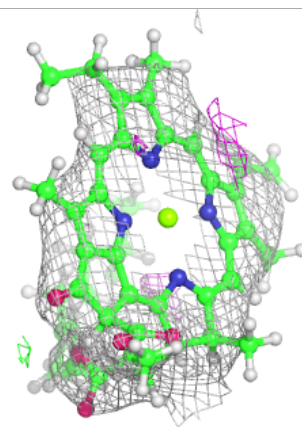
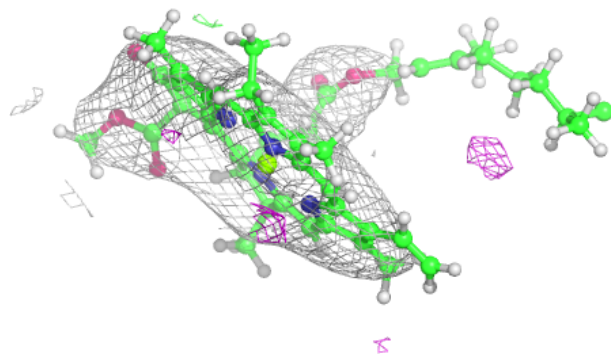
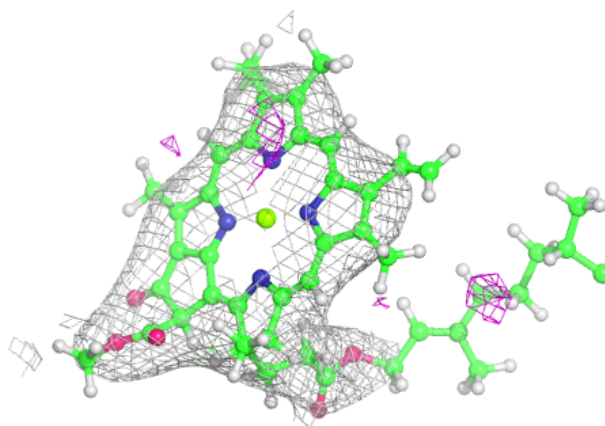
**Electron density around CLA B 3015:**

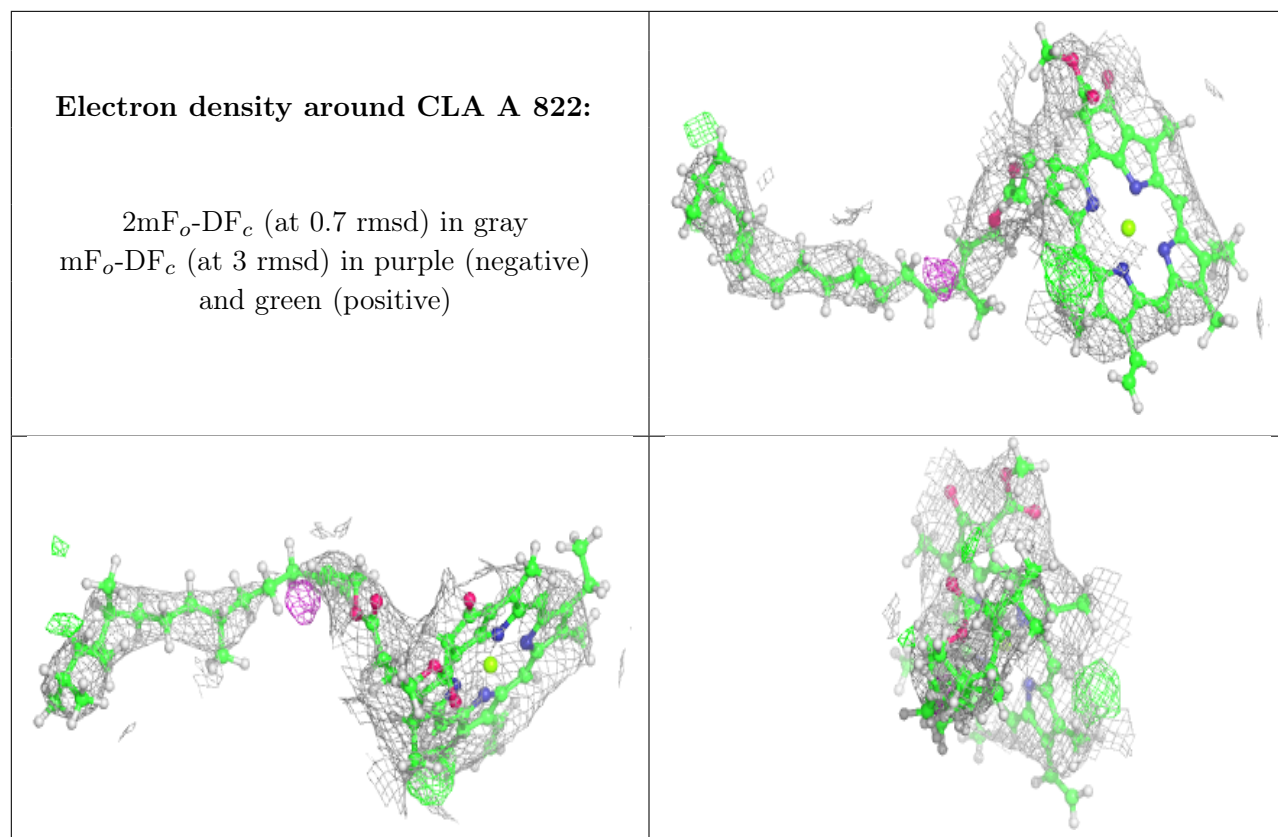
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around CLA B 3017:

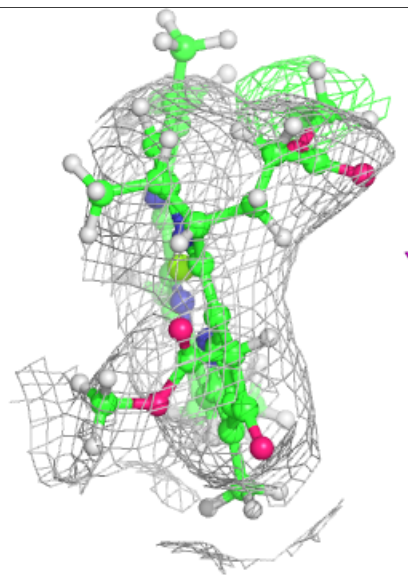
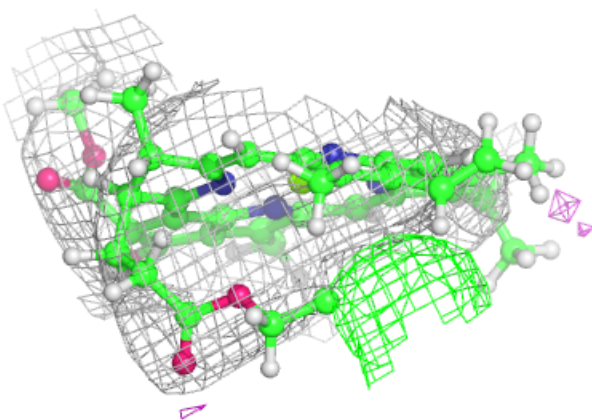
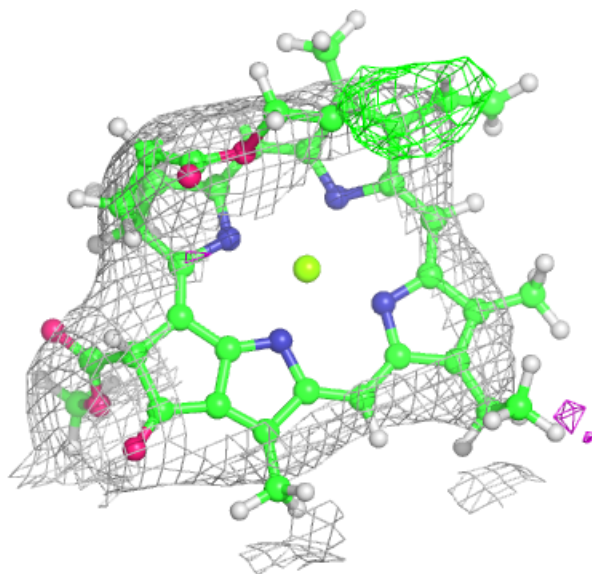
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)





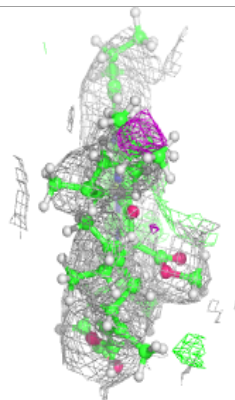
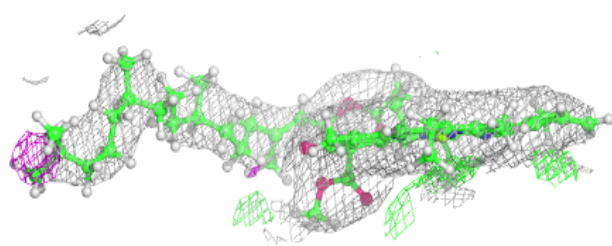
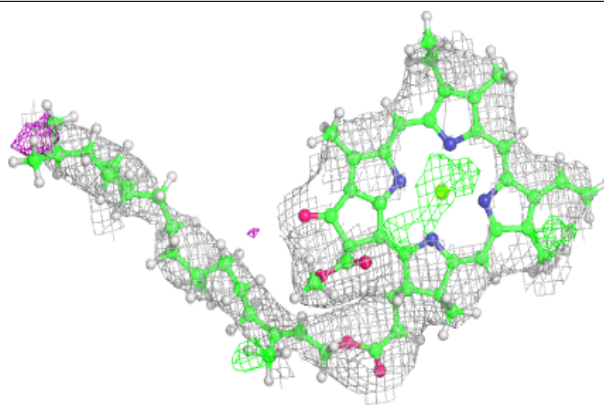
Electron density around CLA B 3021:

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

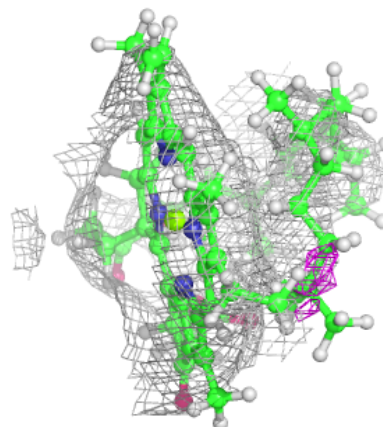
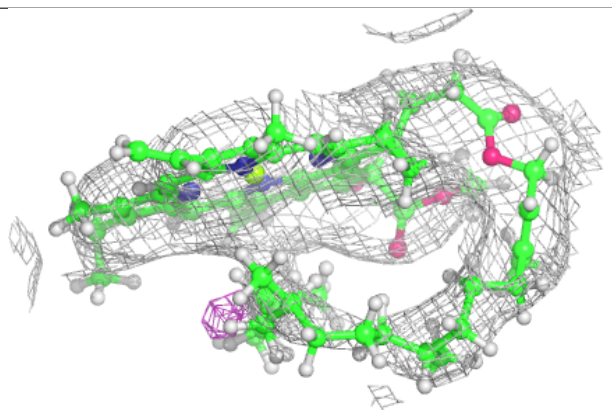
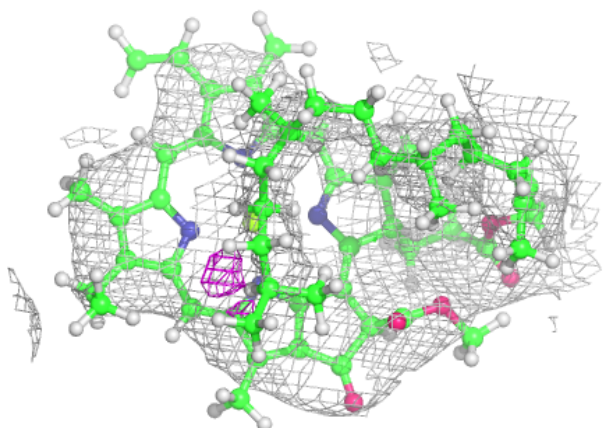


Electron density around CLA L 206:

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

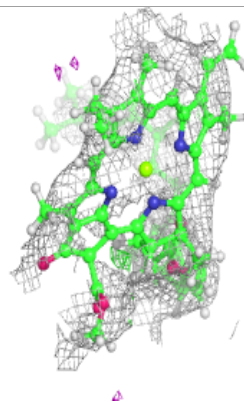
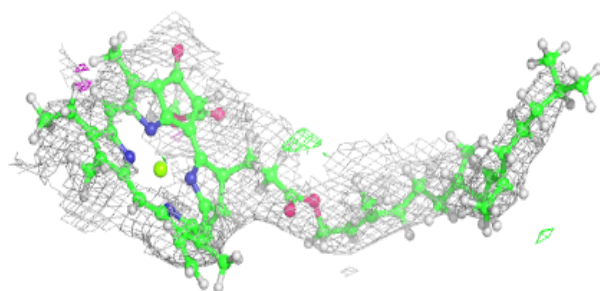
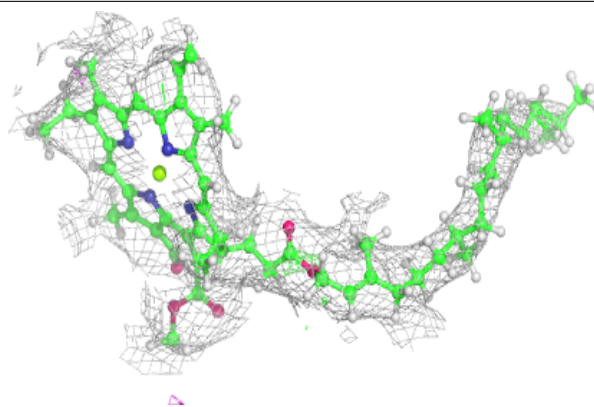
**Electron density around CLA A 807:**

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

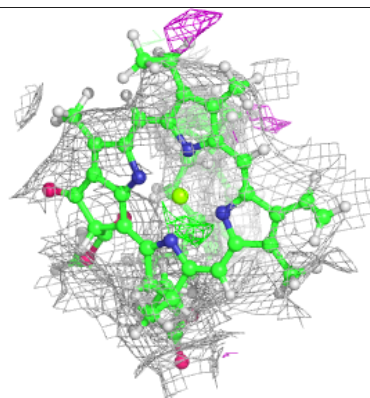
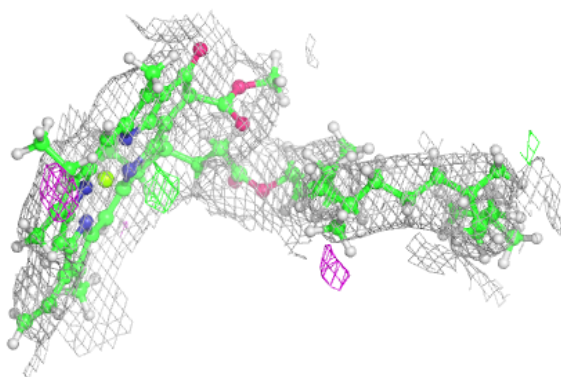
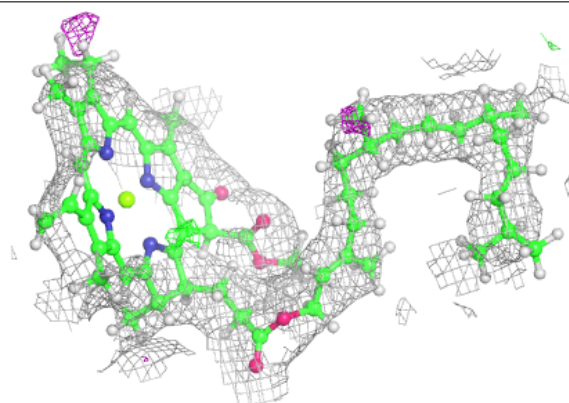


Electron density around CLA A 856:

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

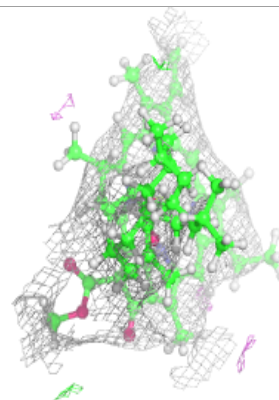
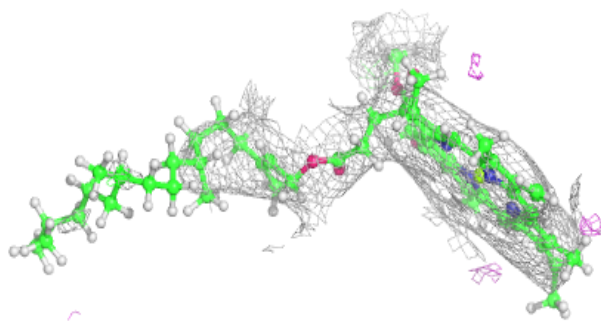
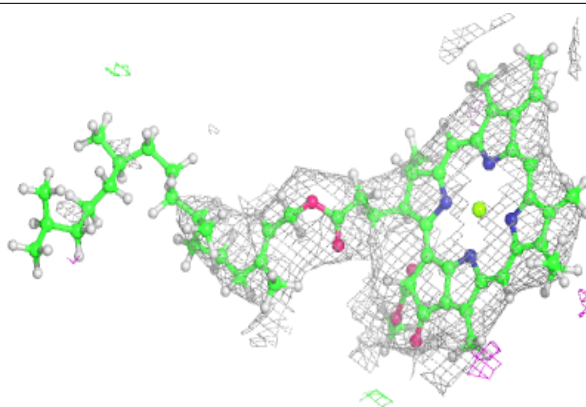
**Electron density around CL0 A 801:**

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

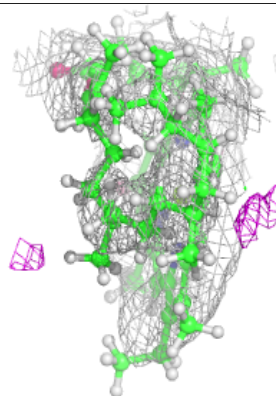
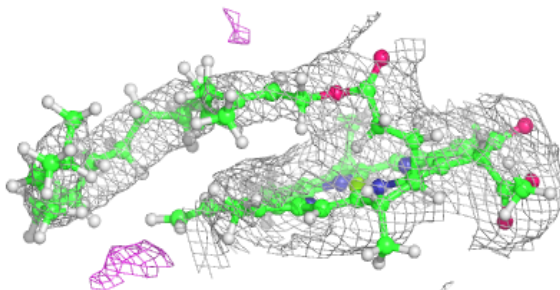
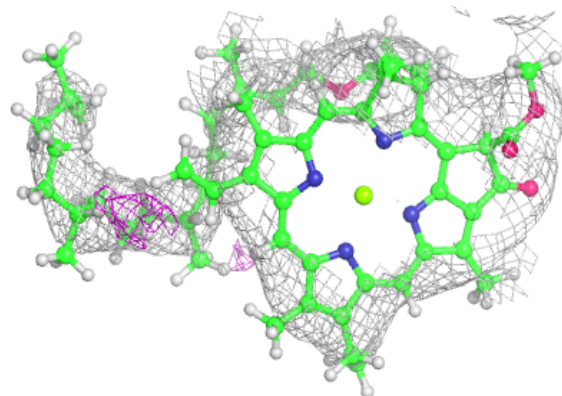


Electron density around CLA A 810:

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

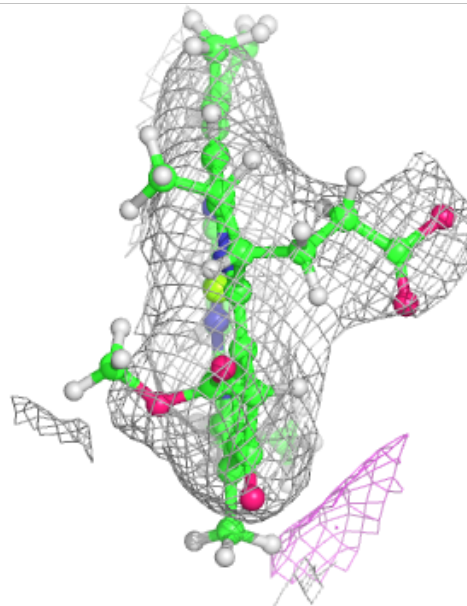
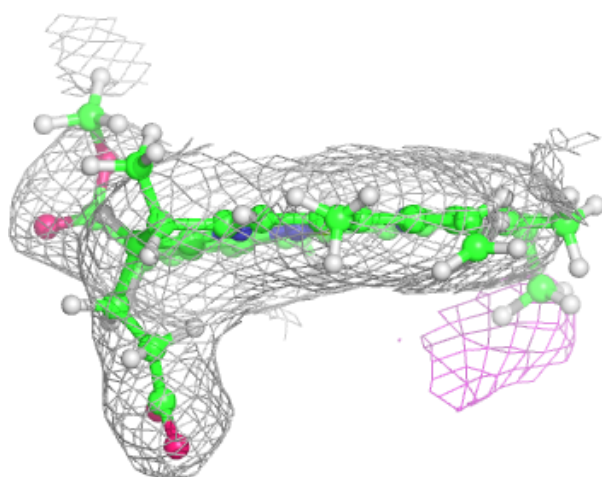
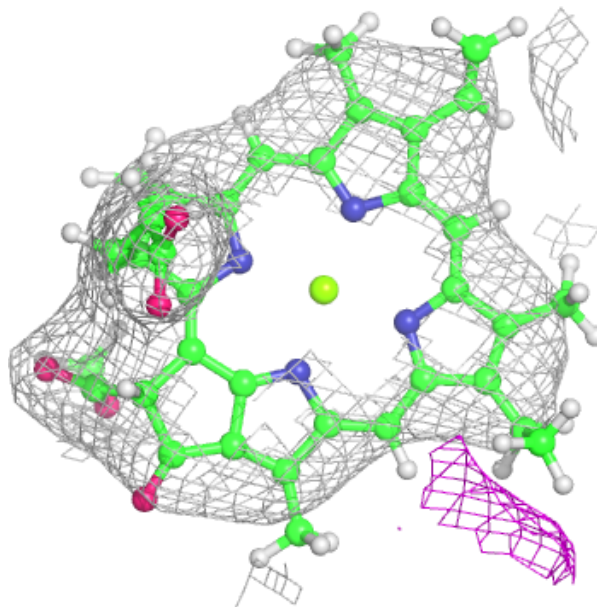
**Electron density around CLA A 820:**

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



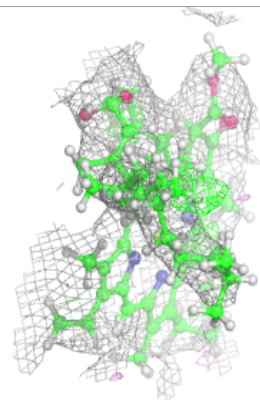
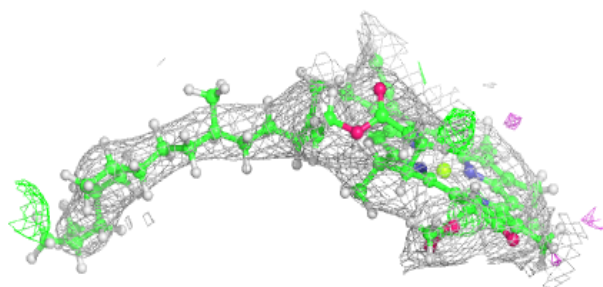
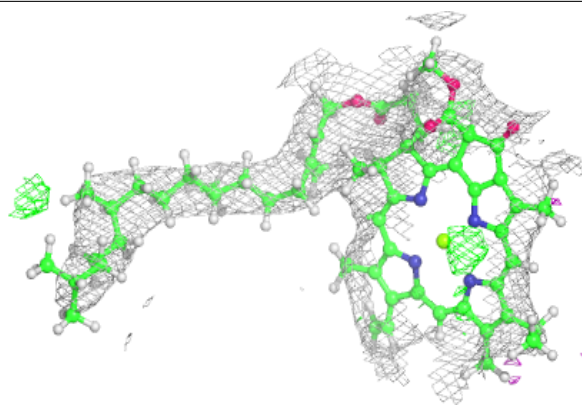
Electron density around CLA B 3016:

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

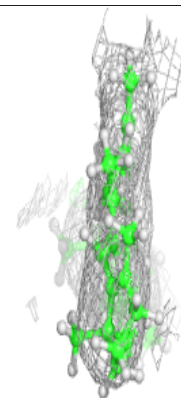
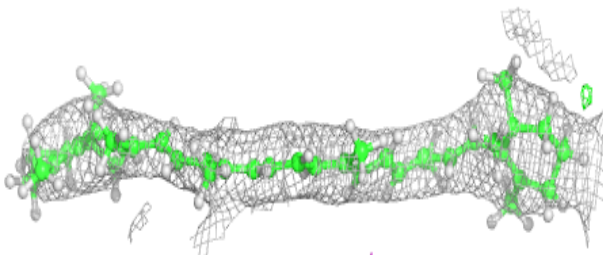
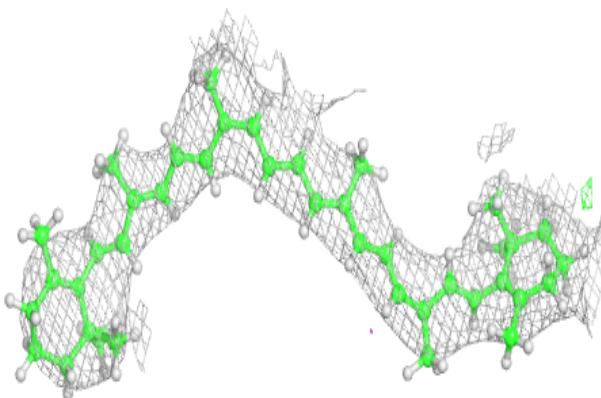


Electron density around CLA A 803:

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

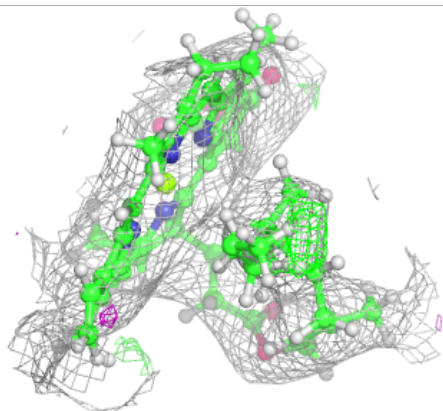
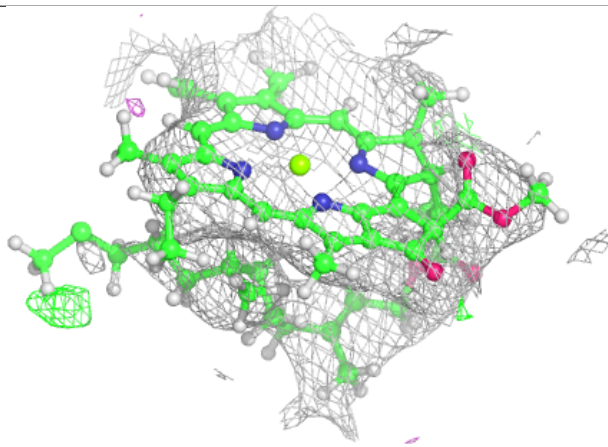
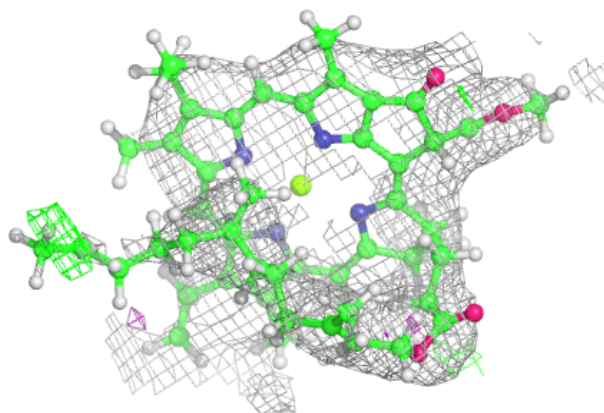
**Electron density around BCR A 851:**

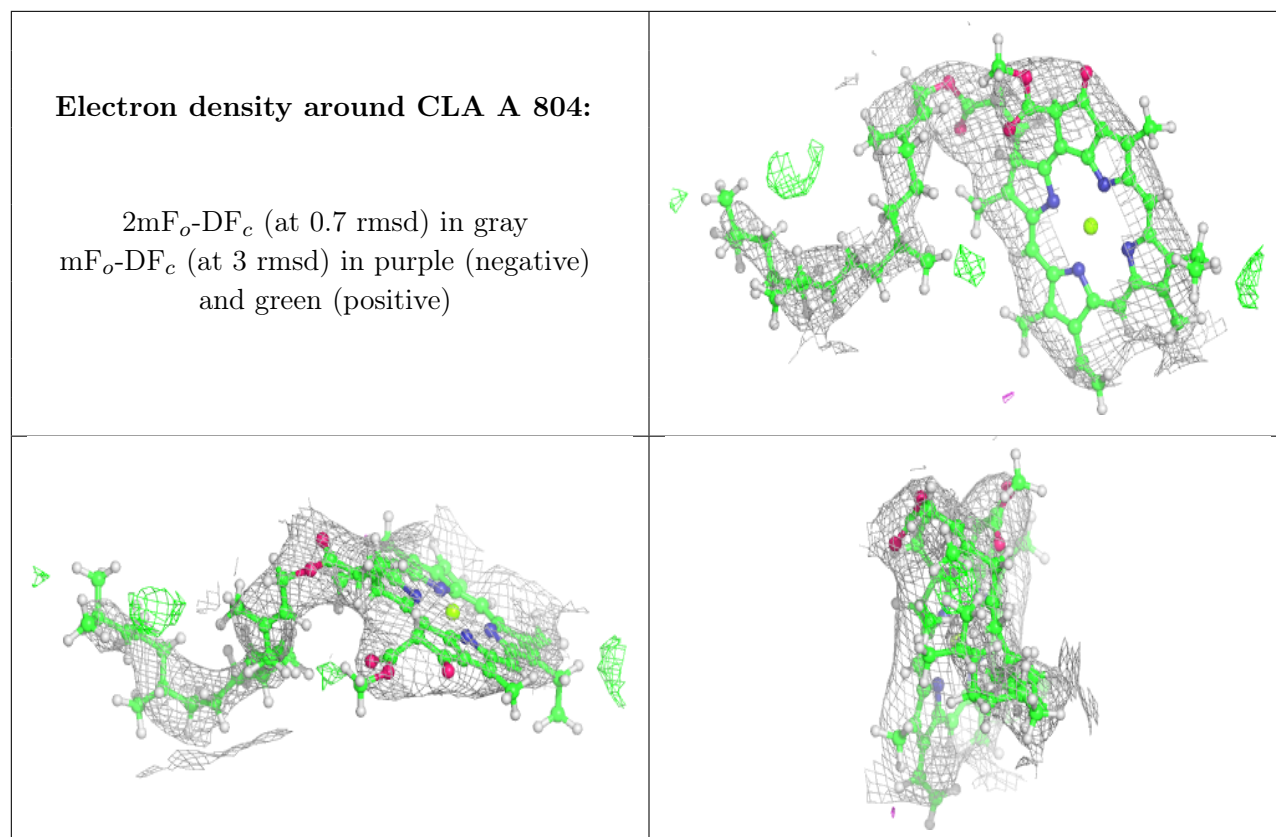
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around CLA B 3018:

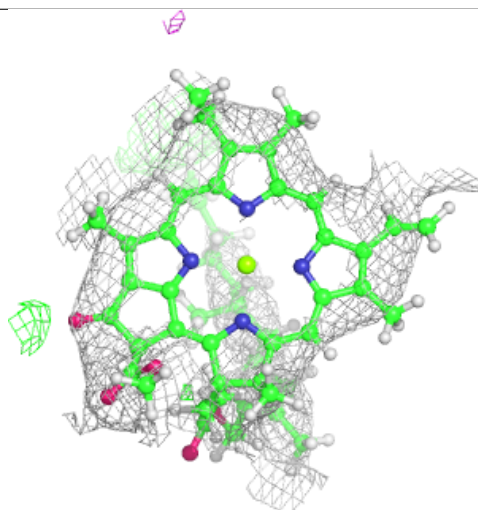
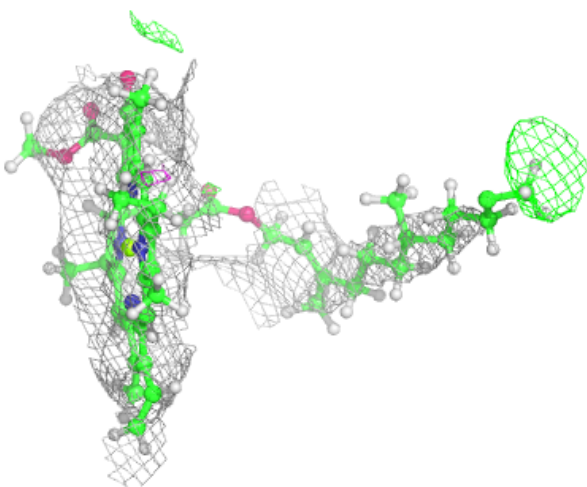
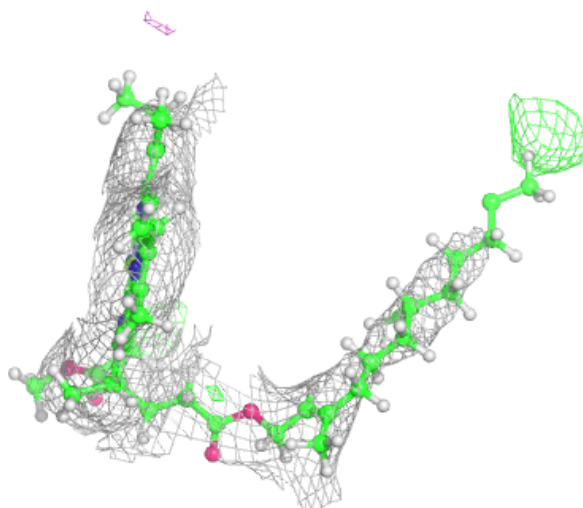
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)





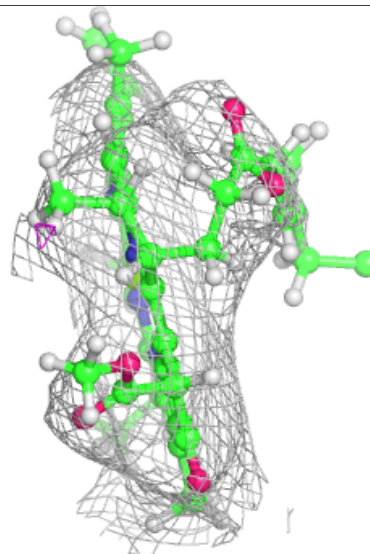
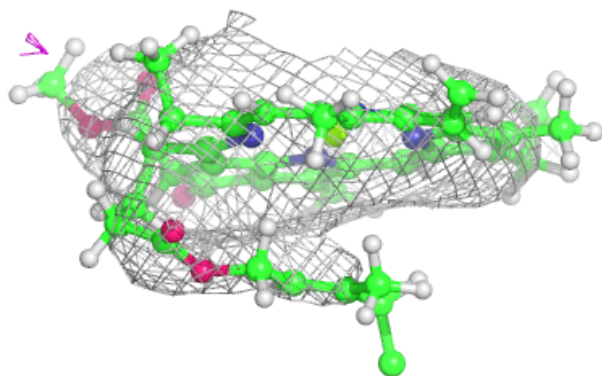
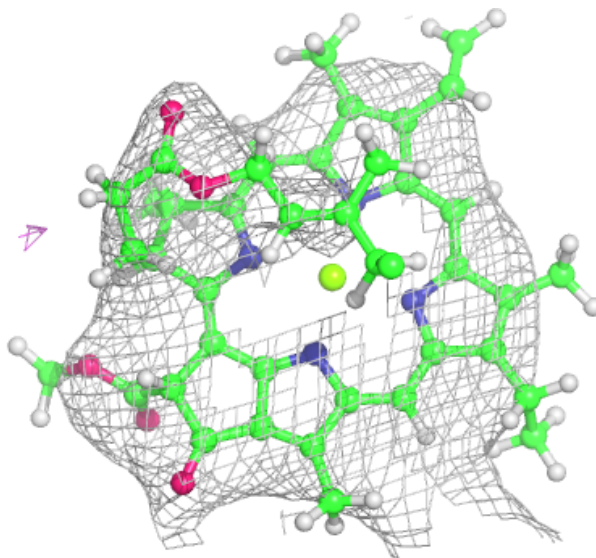
Electron density around CLA A 805:

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



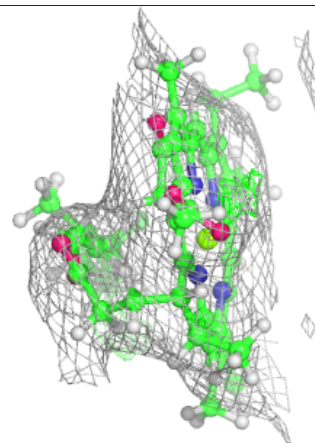
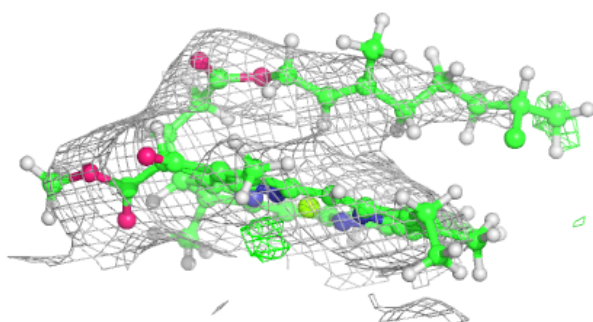
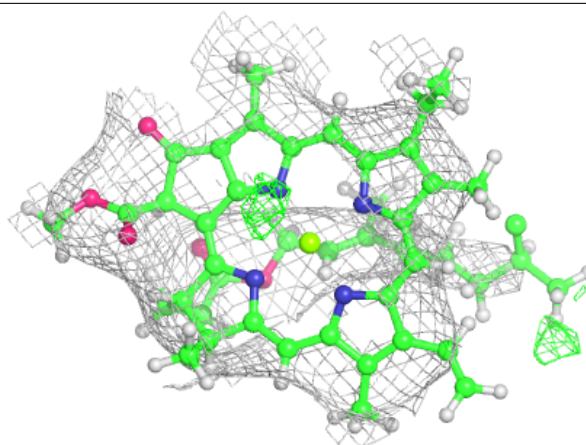
Electron density around CLA A 824:

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

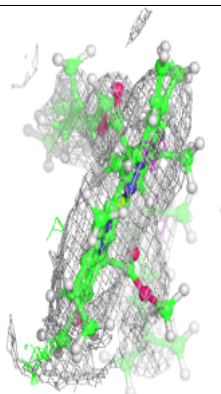
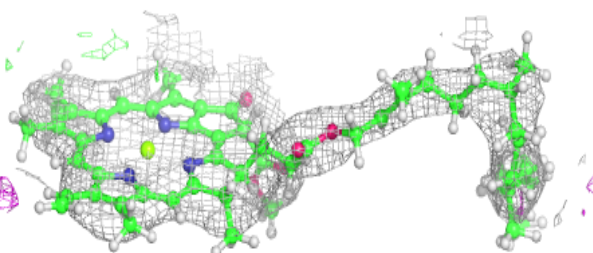
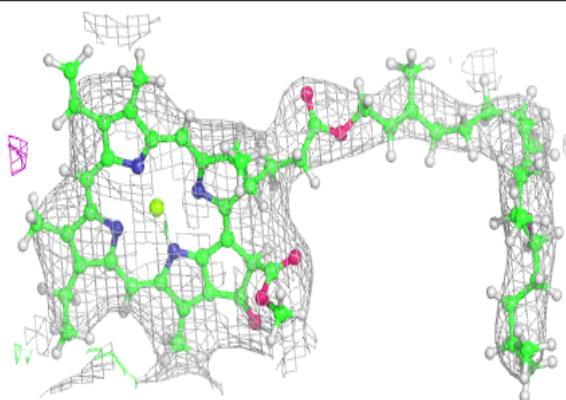


Electron density around CLA B 3023:

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

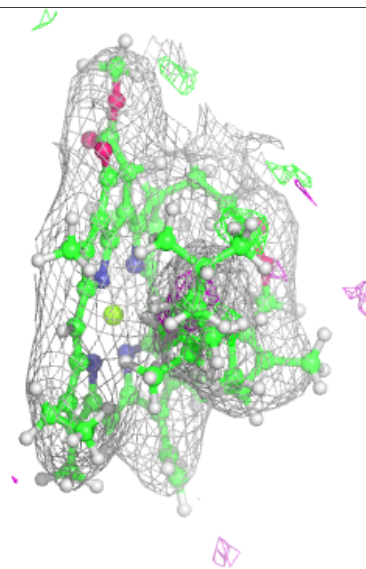
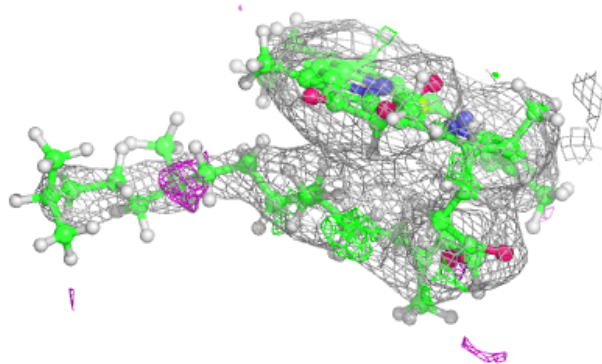
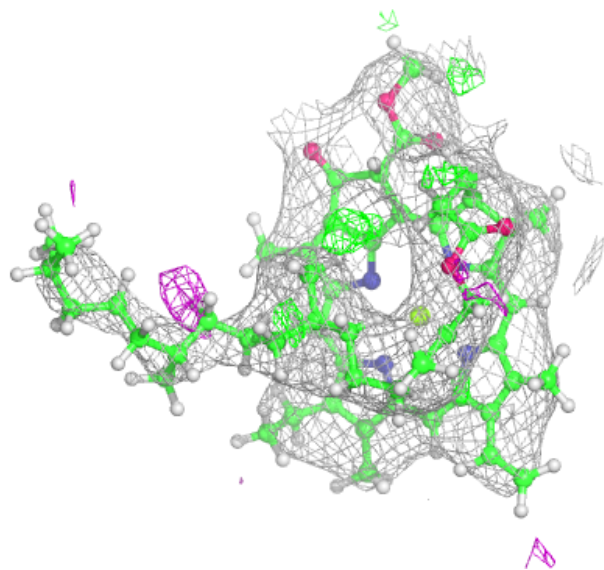
**Electron density around CLA B 3027:**

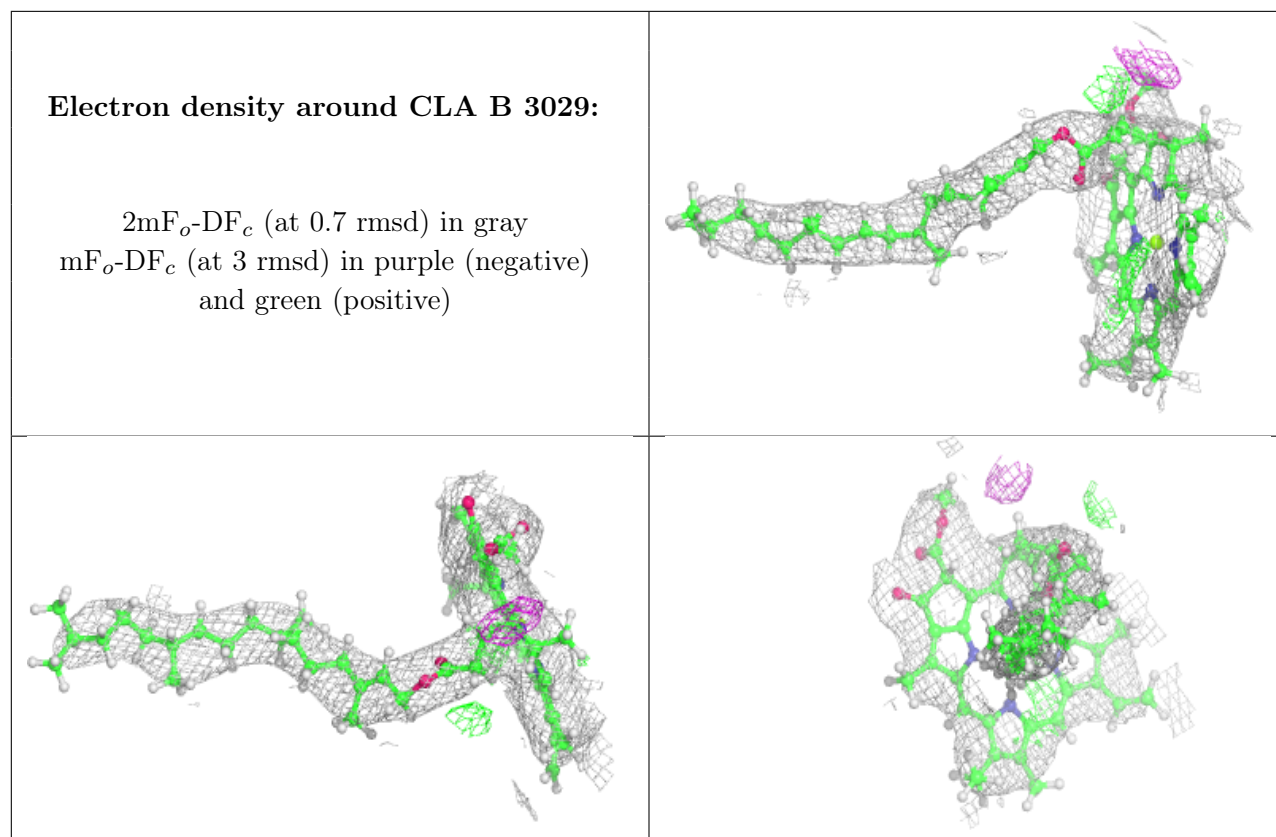
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around CLA B 3028:

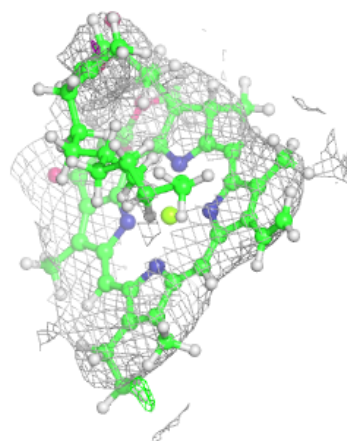
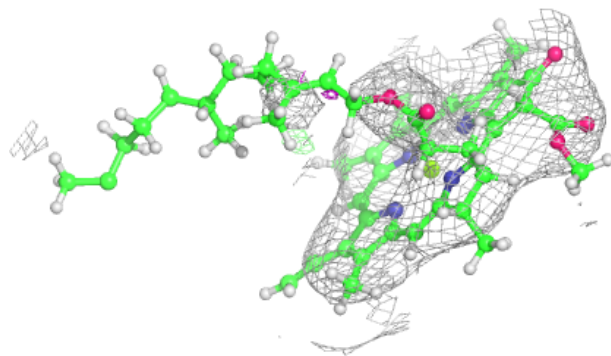
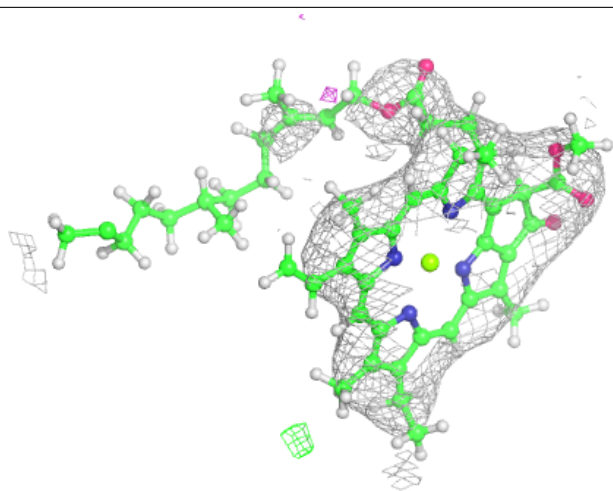
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)





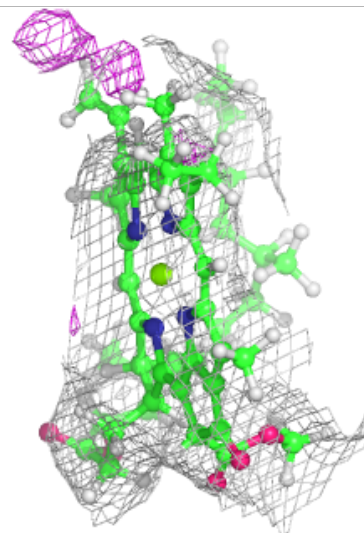
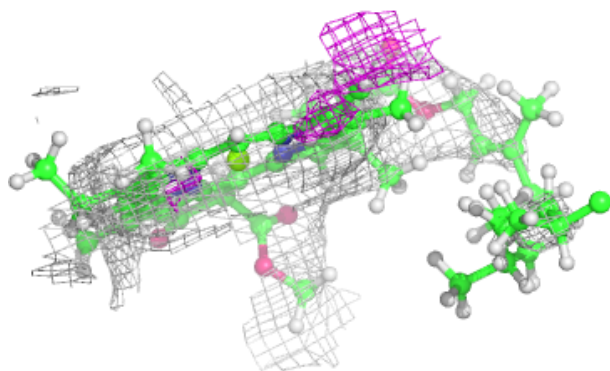
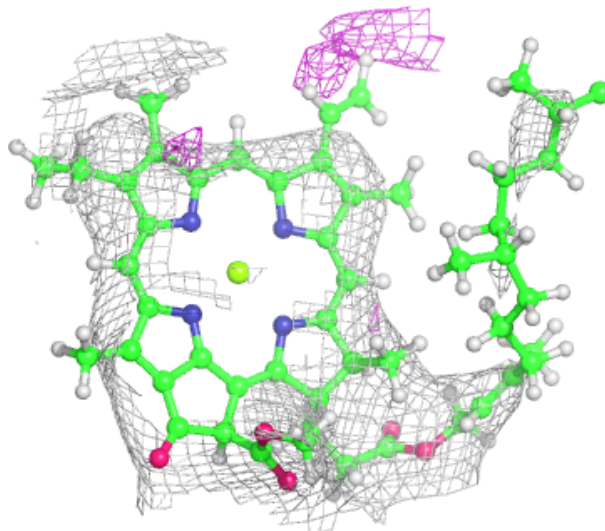
Electron density around CLA A 825:

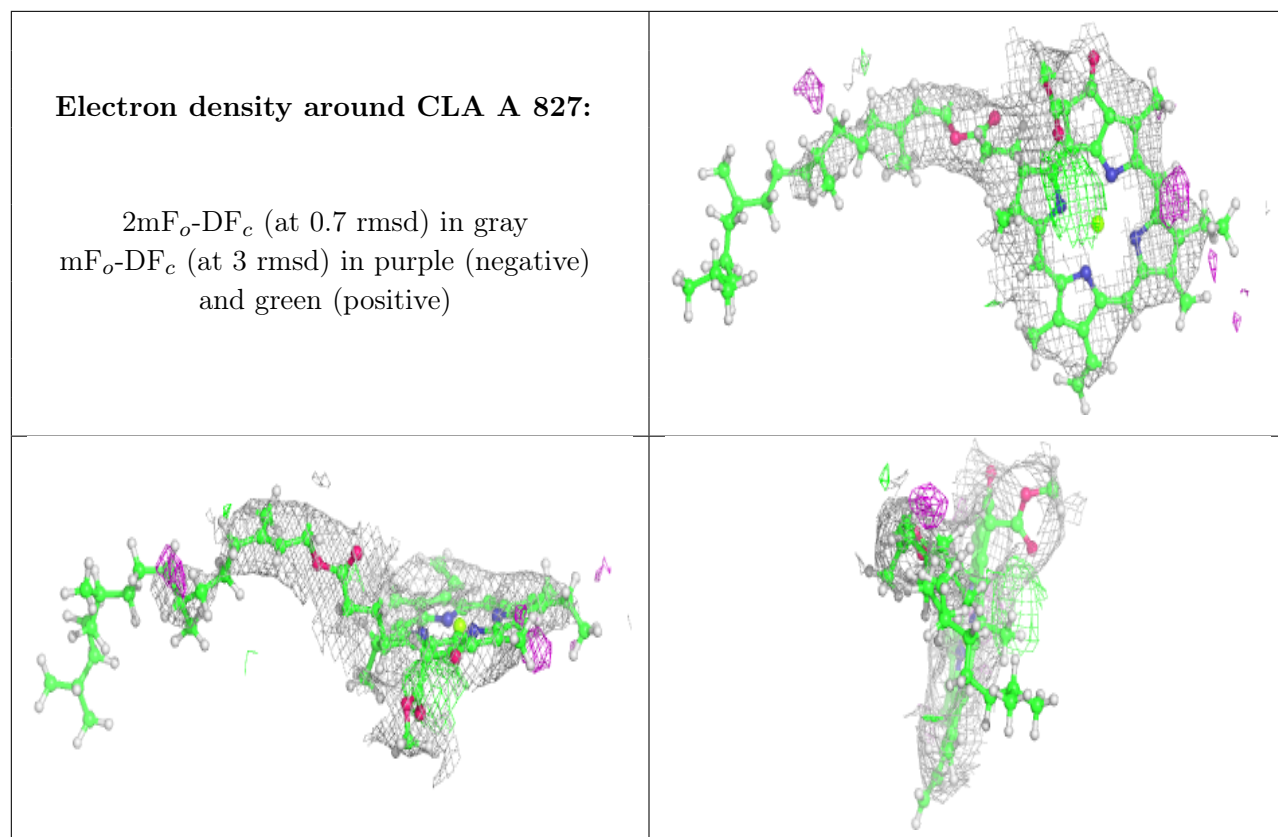
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around CLA A 814:

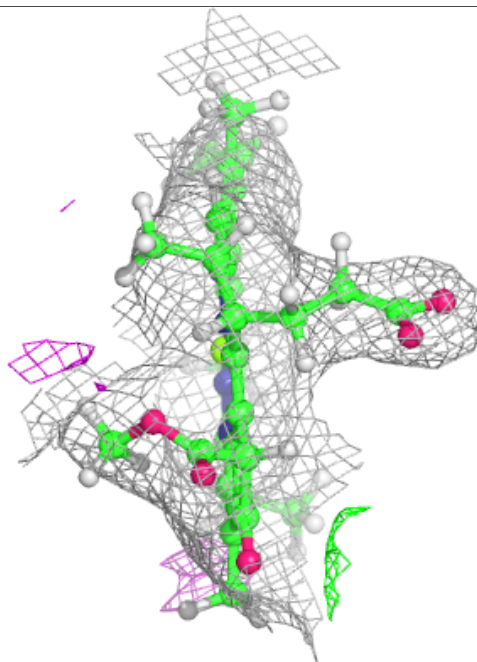
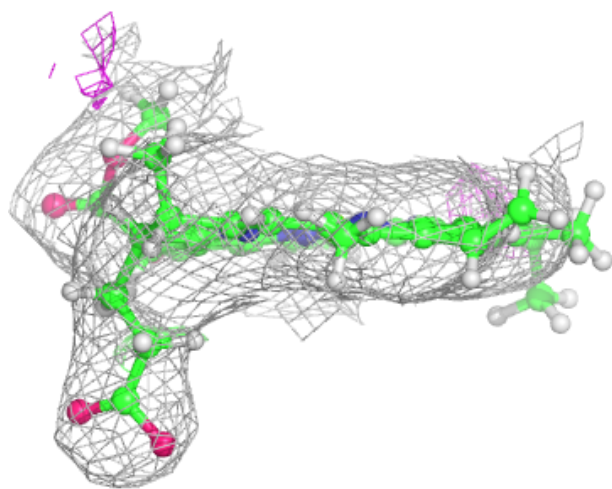
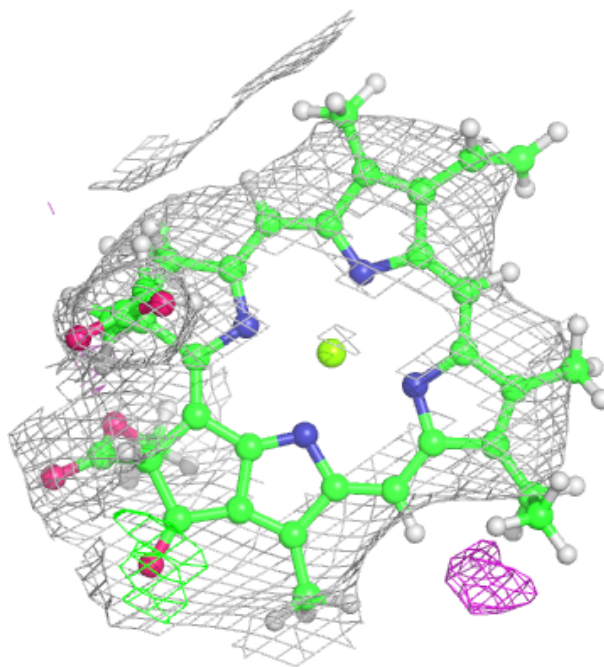
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)





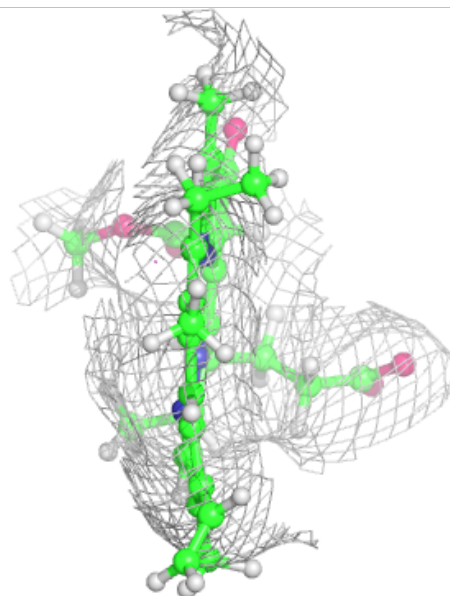
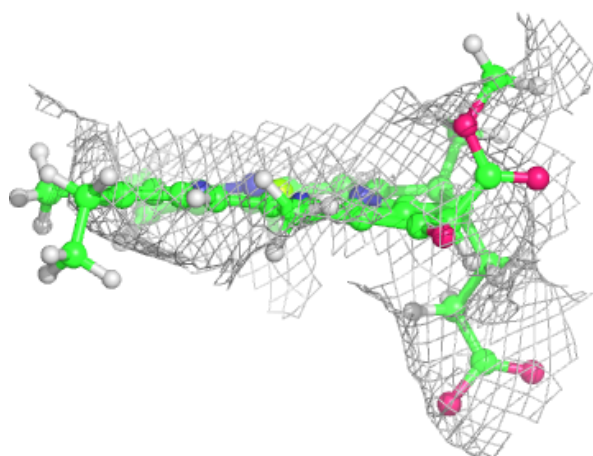
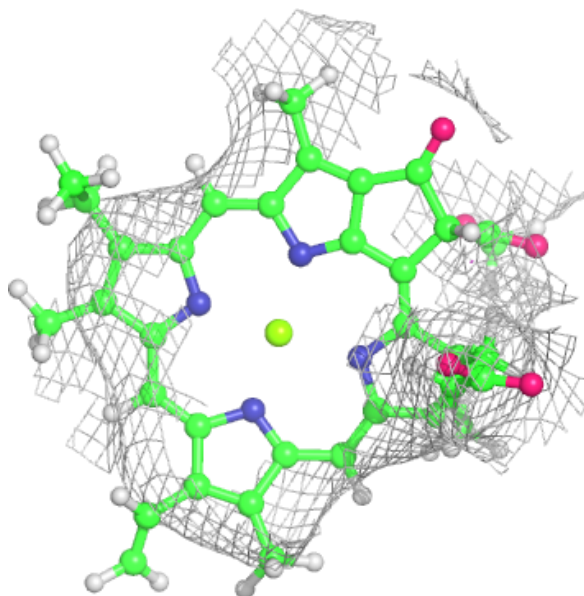
Electron density around CLA B 3035:

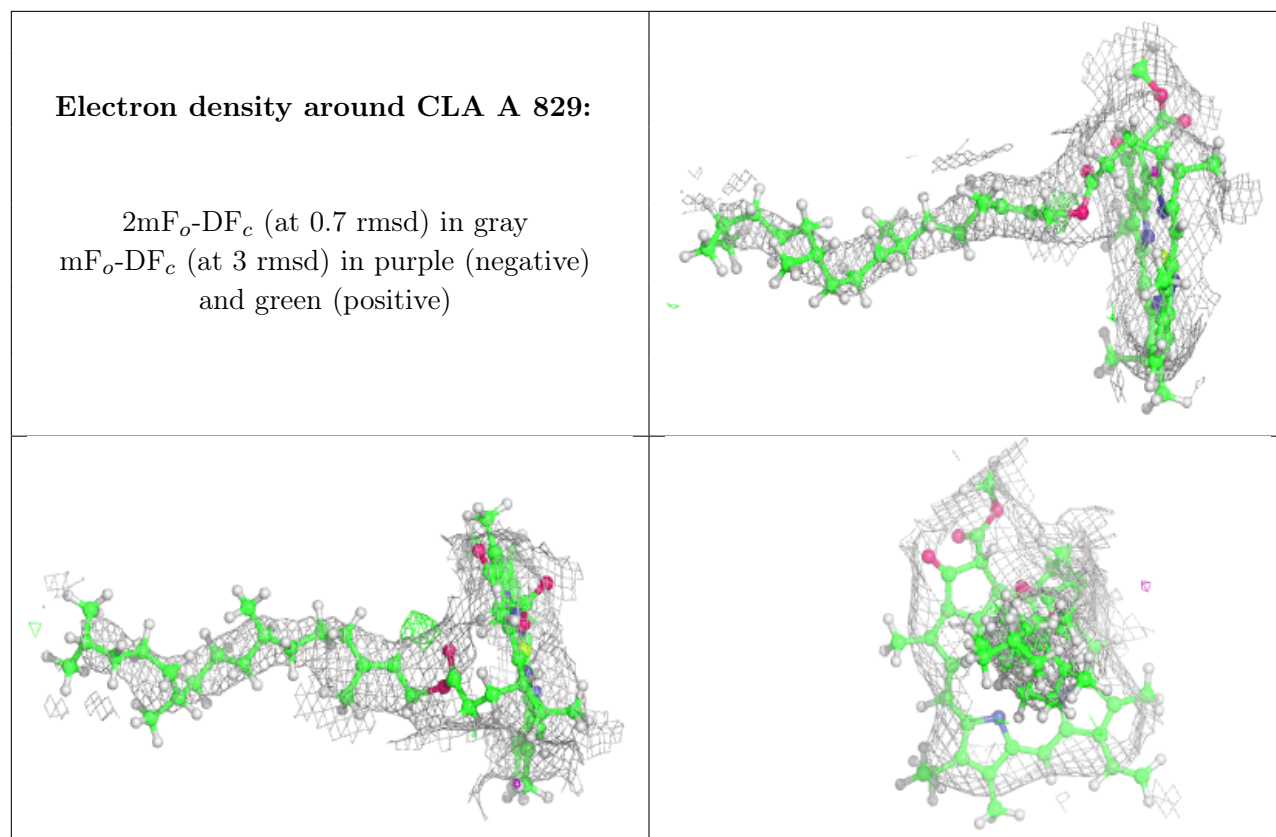
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around CLA A 815:

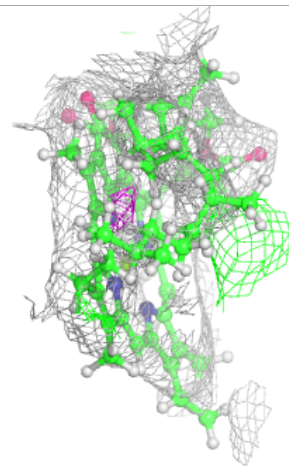
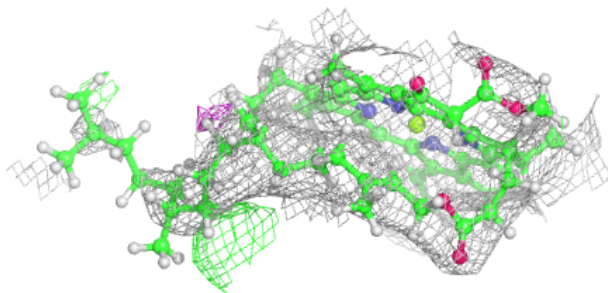
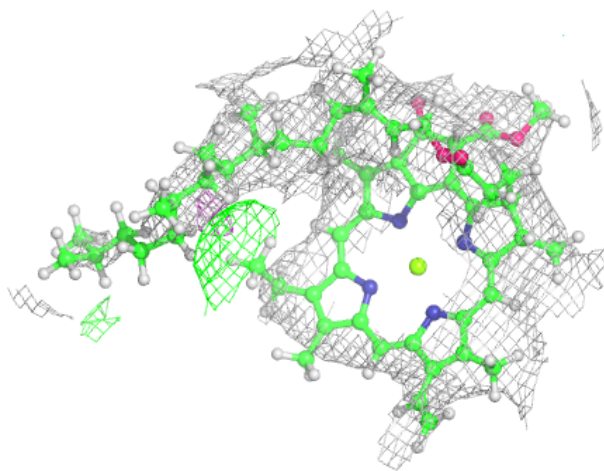
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

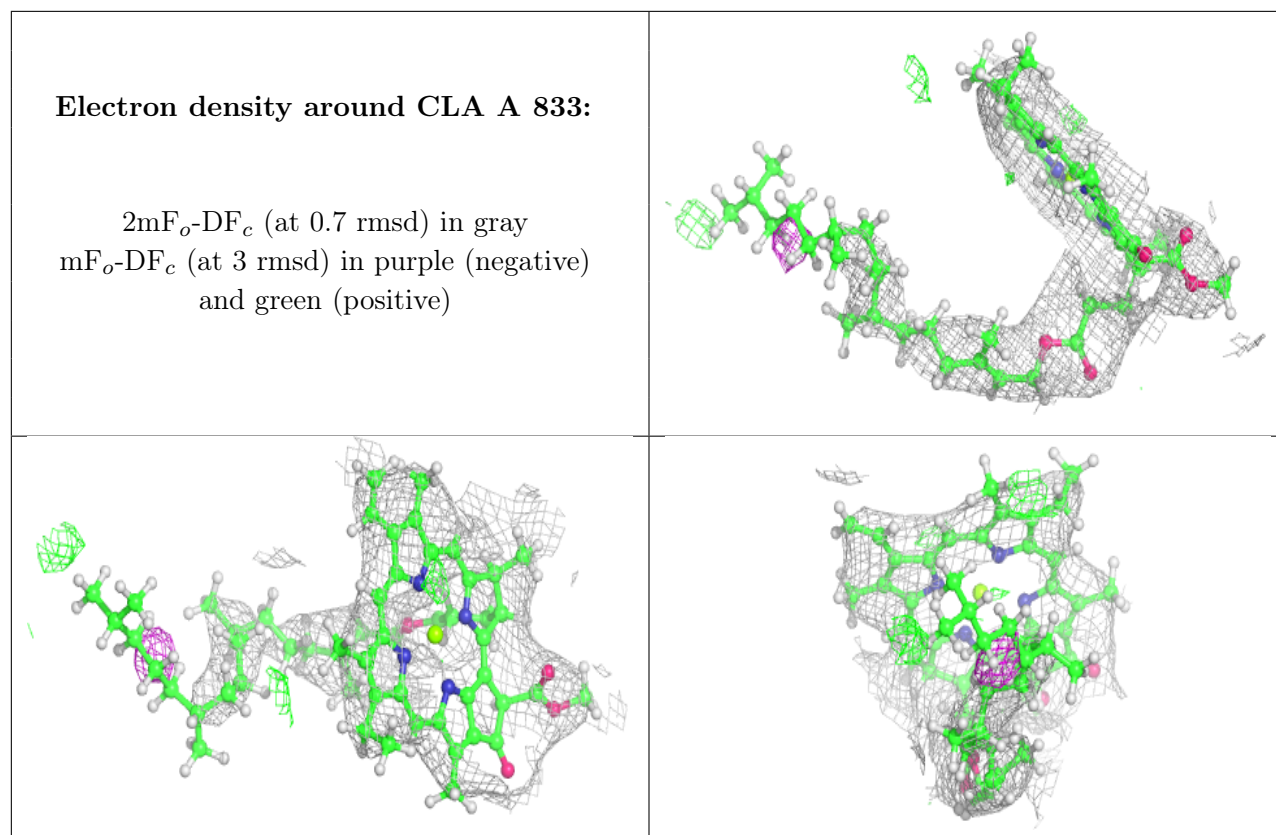




Electron density around CLA A 830:

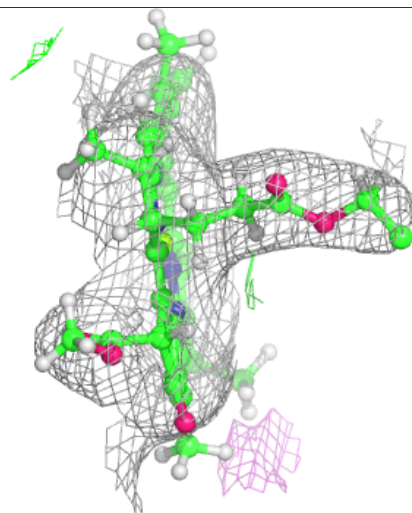
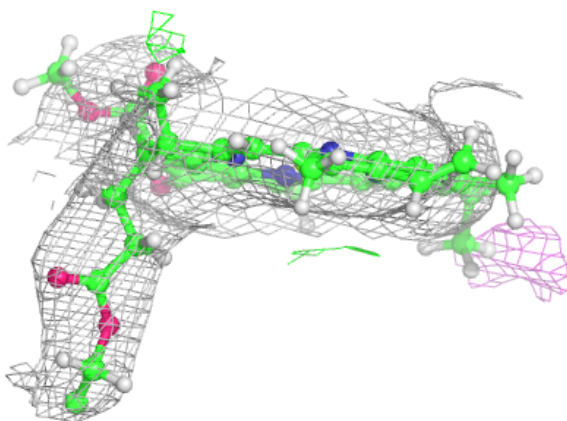
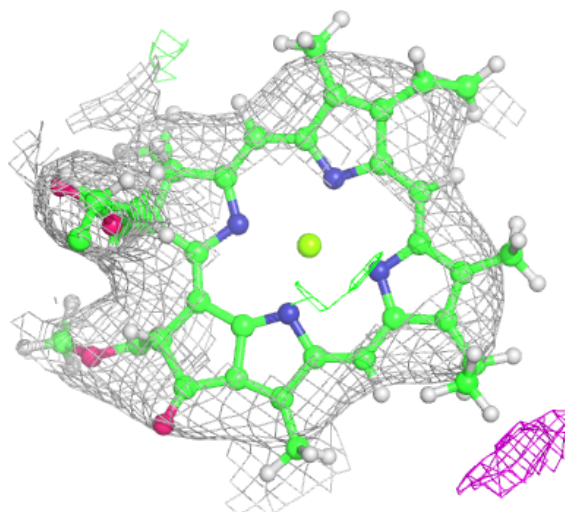
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

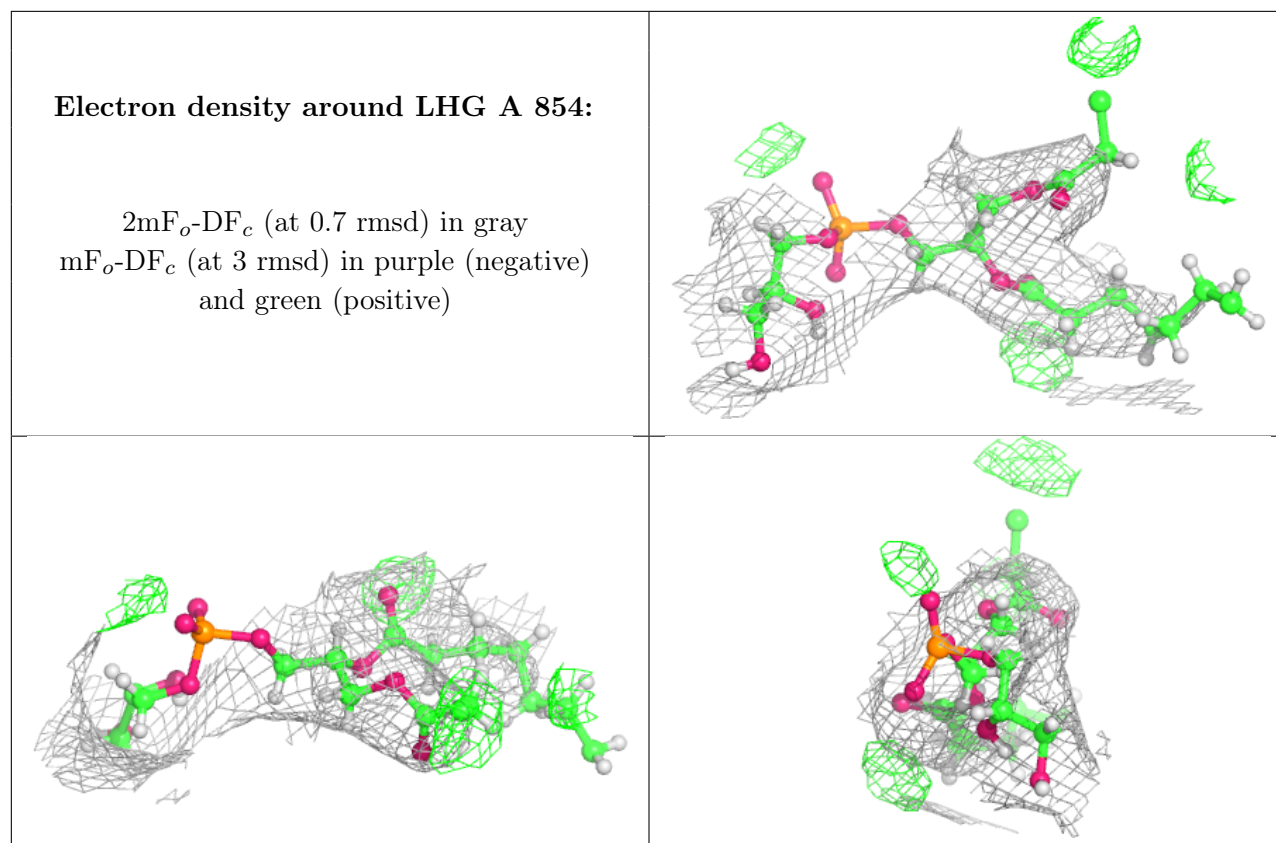


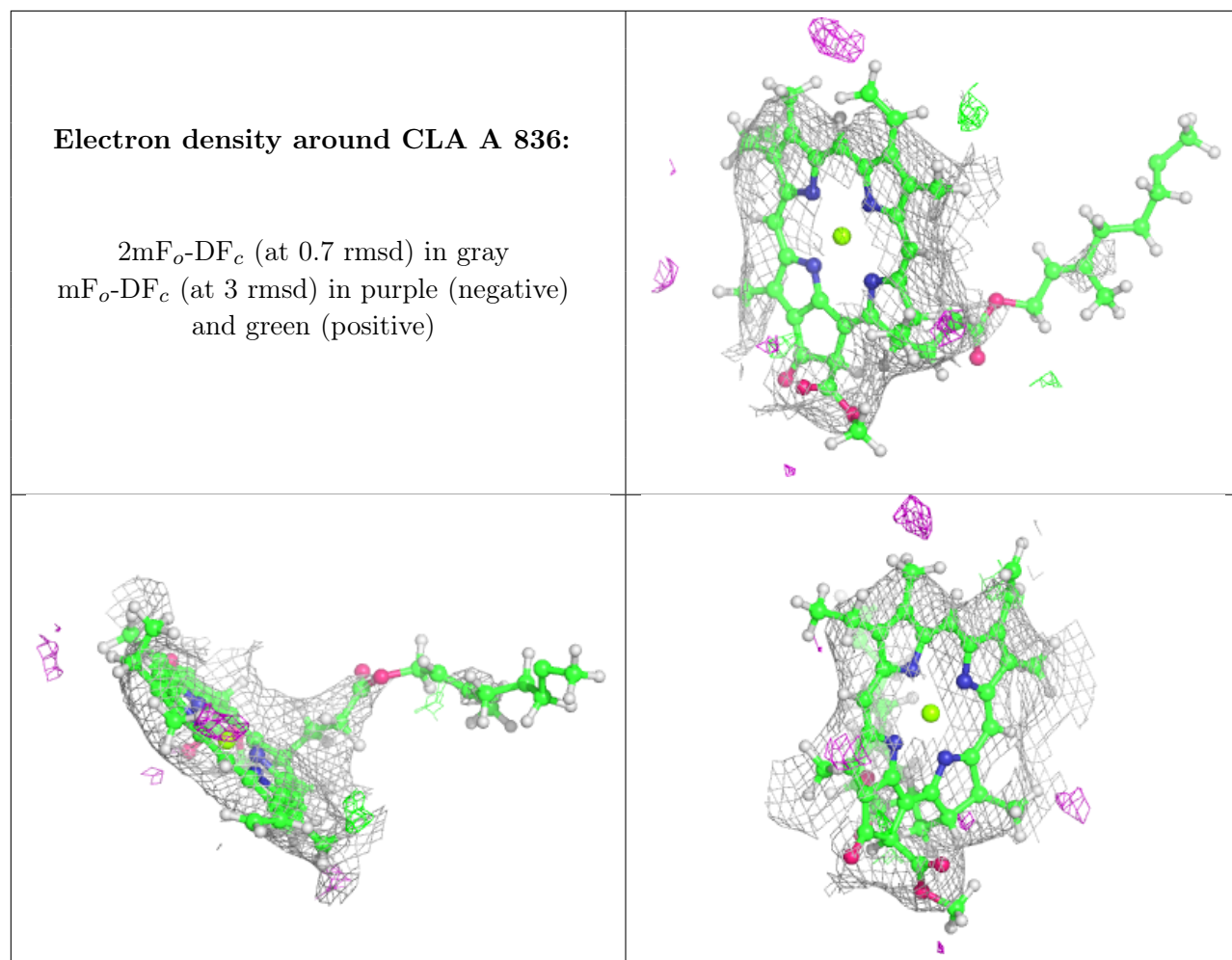


Electron density around CLA B 3040:

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

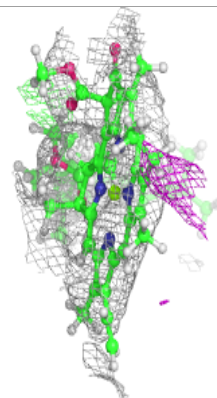
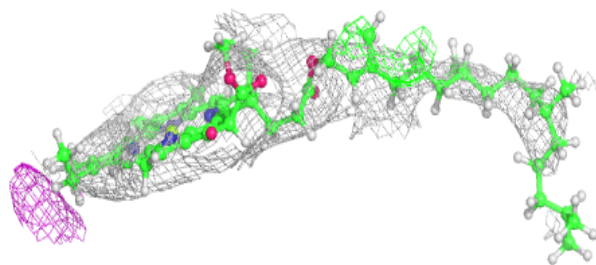
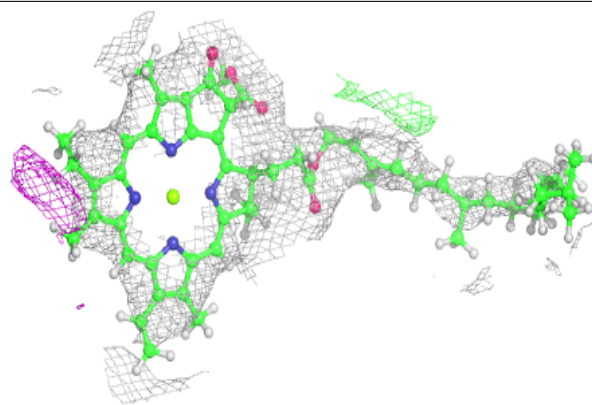




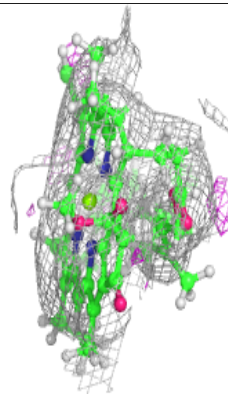
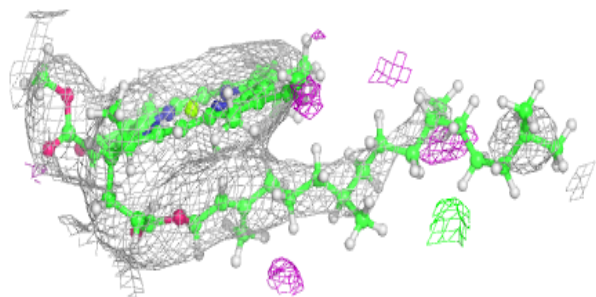
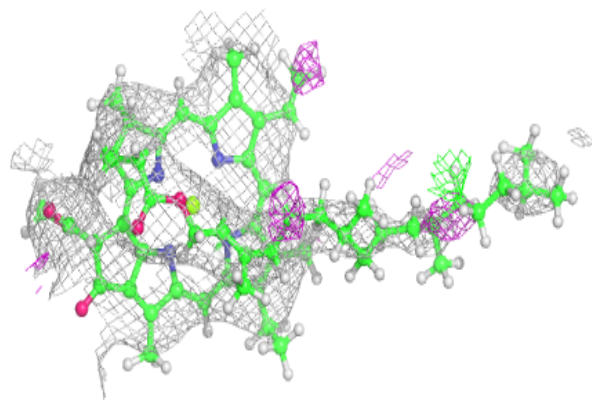


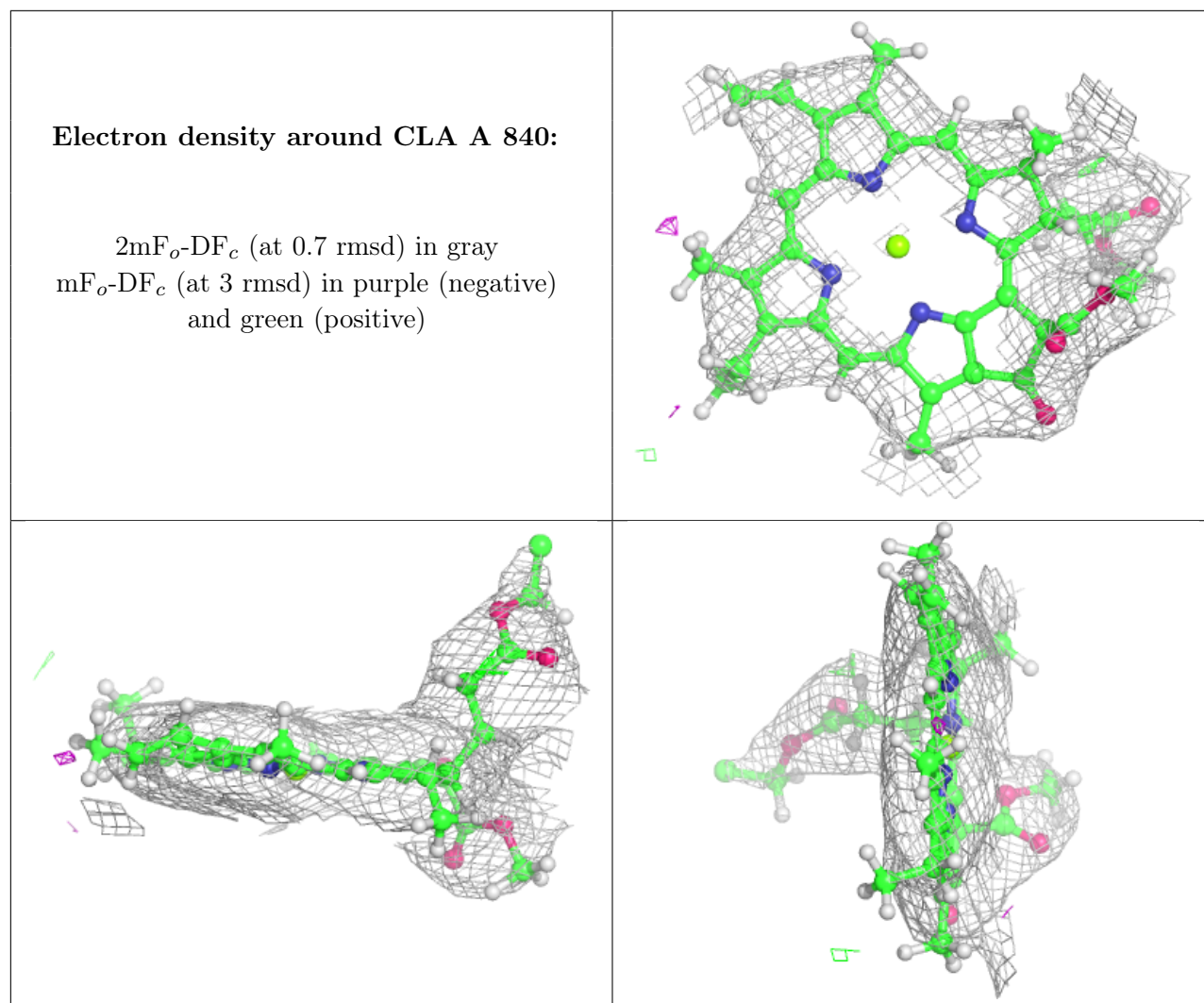
Electron density around CLA A 806:

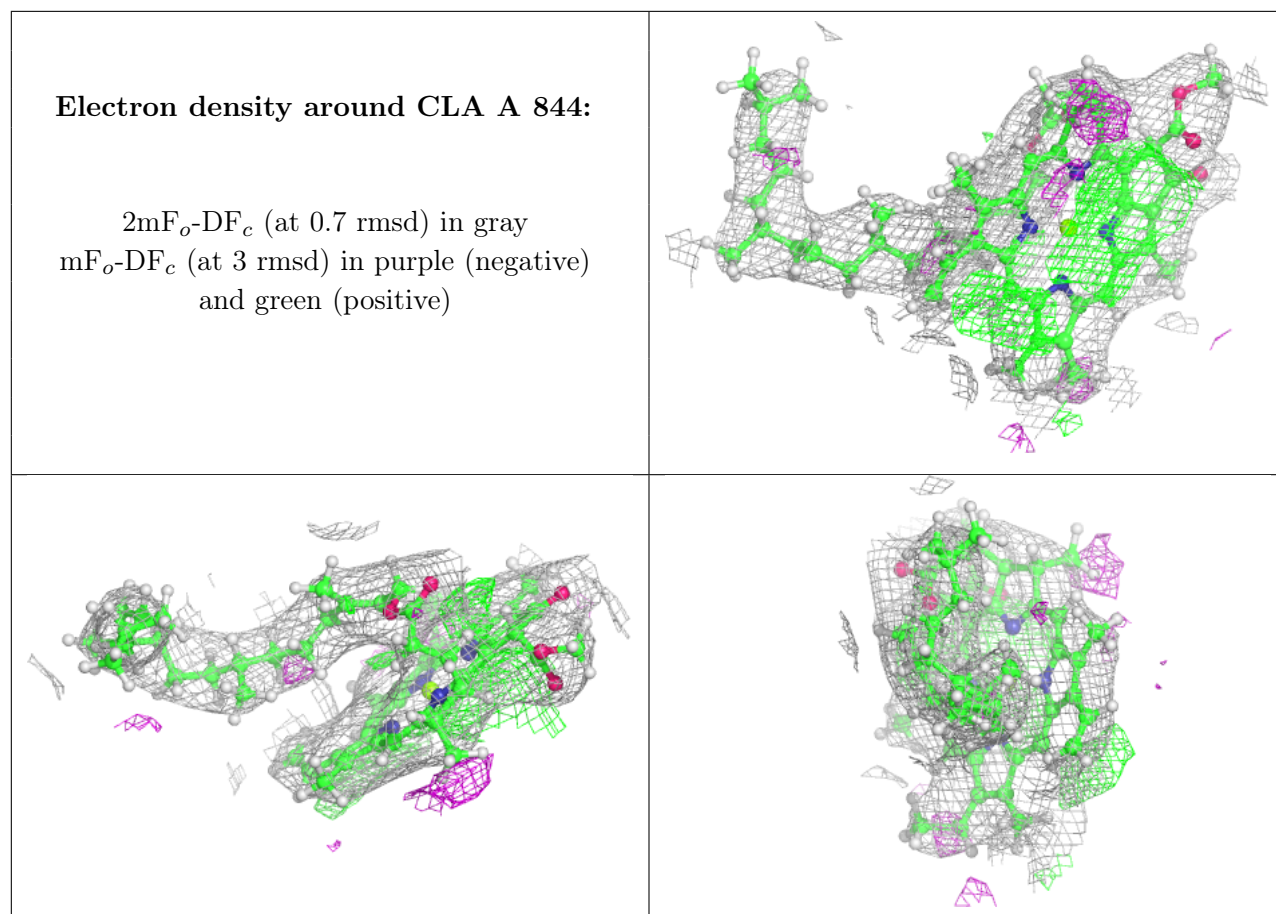
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

**Electron density around CLA A 839:**

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

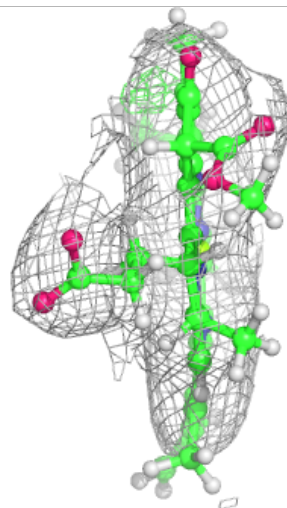
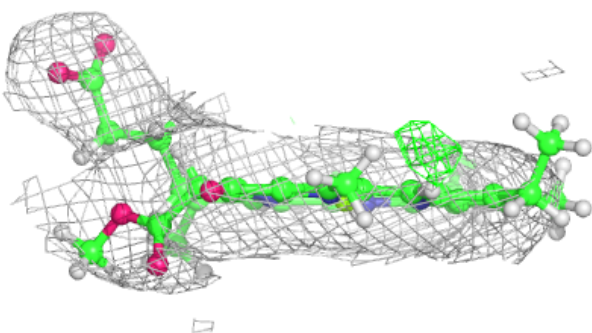
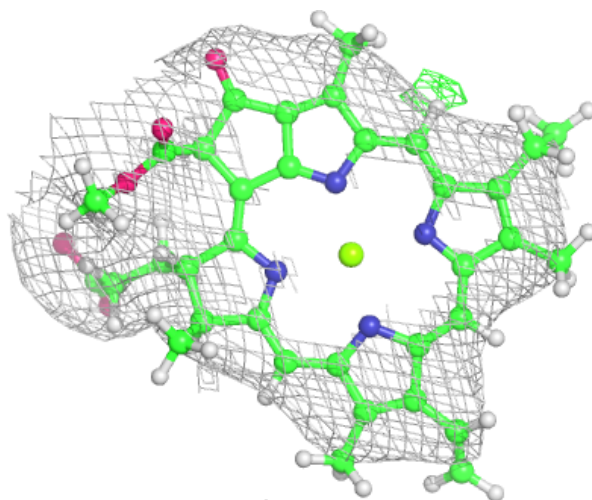






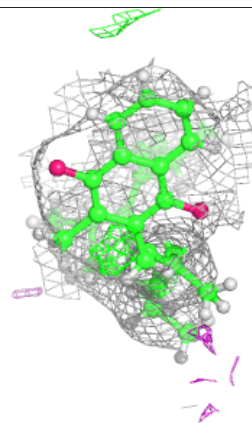
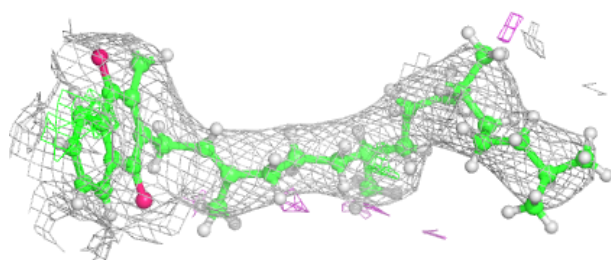
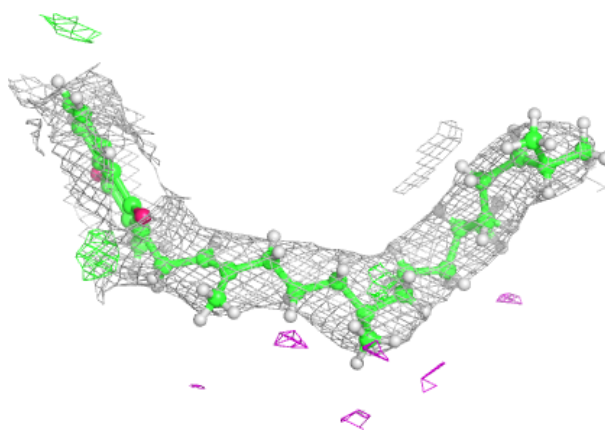
Electron density around CLA B 3024:

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



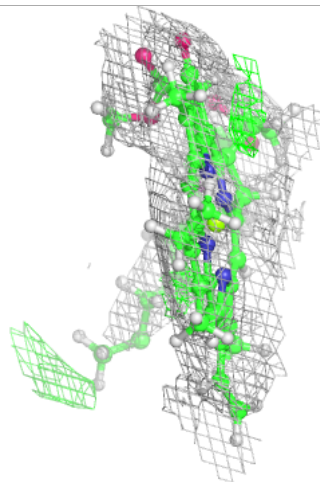
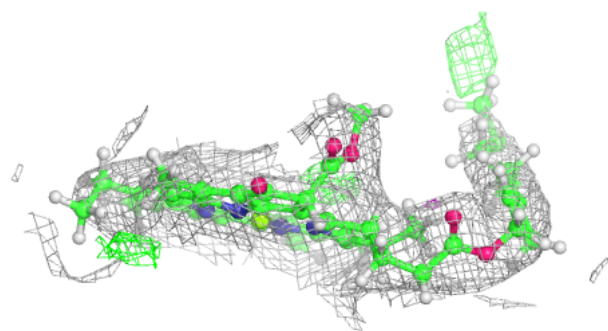
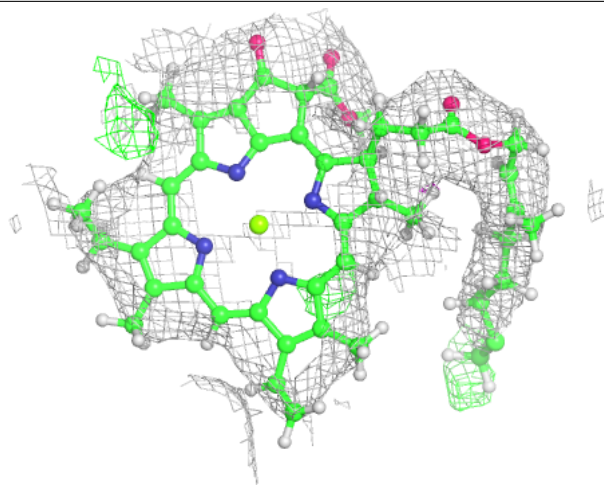
Electron density around PQN B 3043:

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



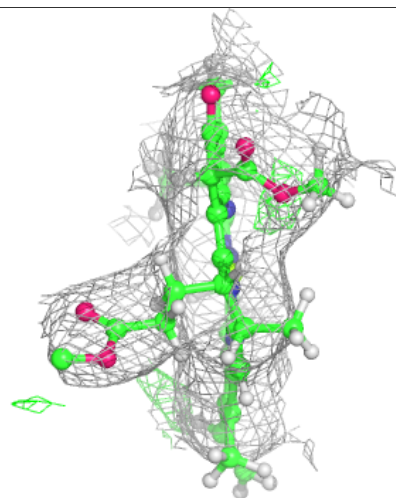
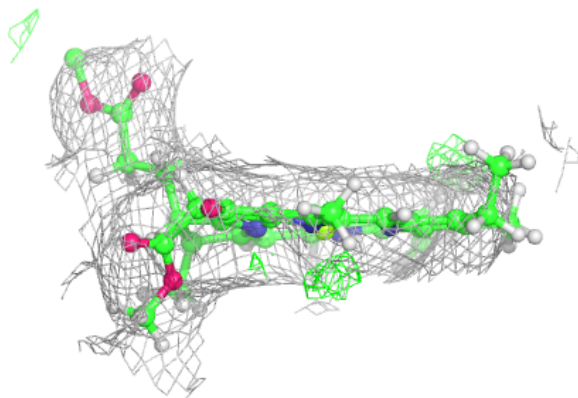
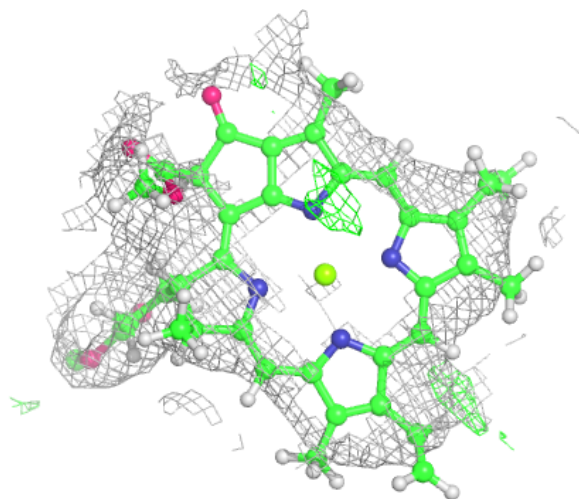
Electron density around CLA B 3025:

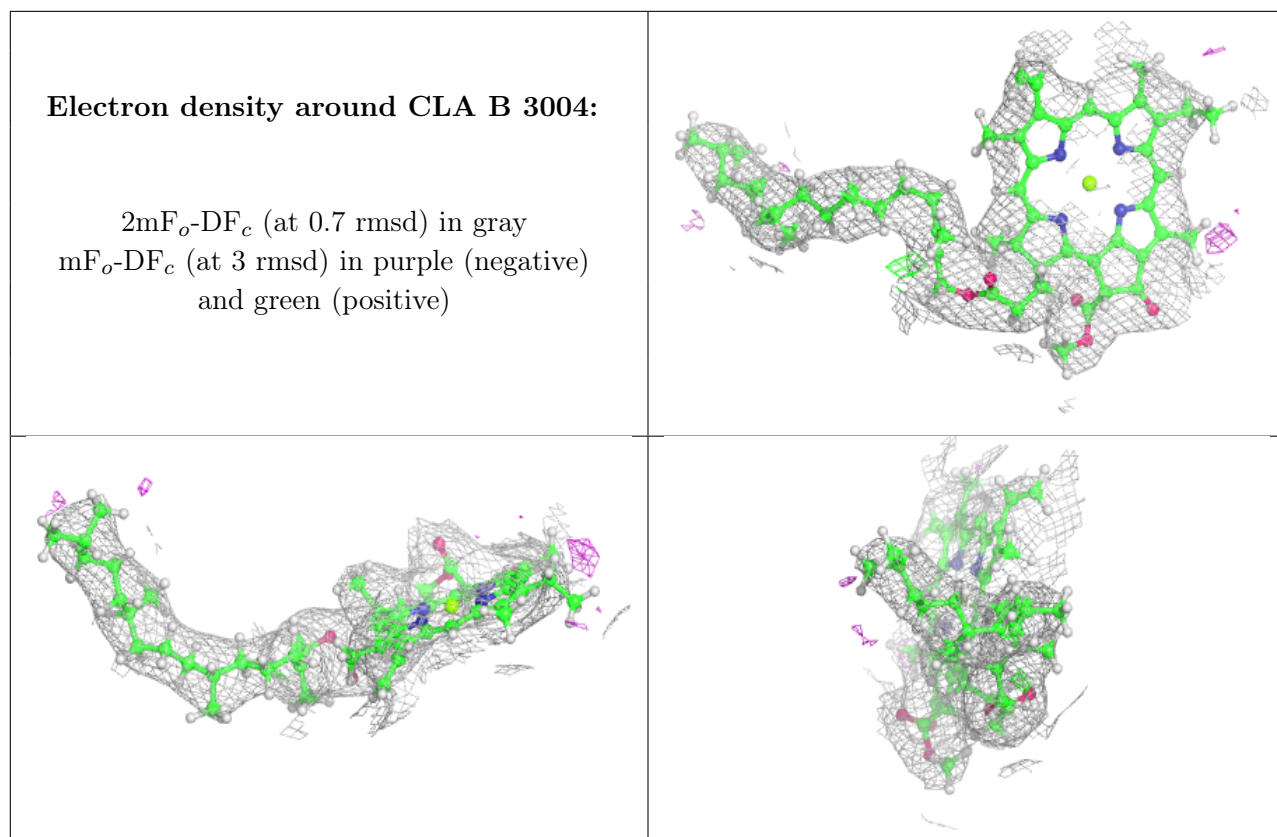
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around CLA B 3026:

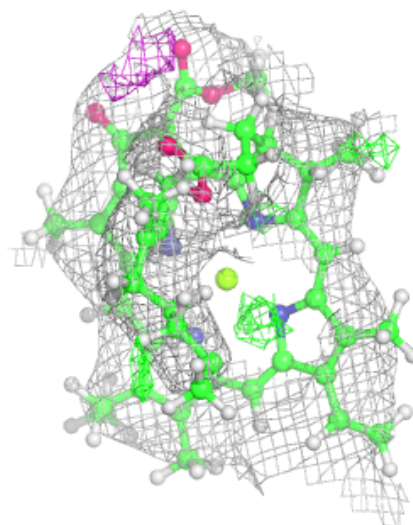
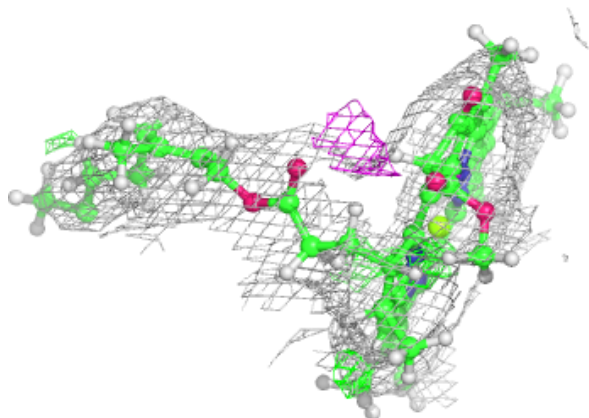
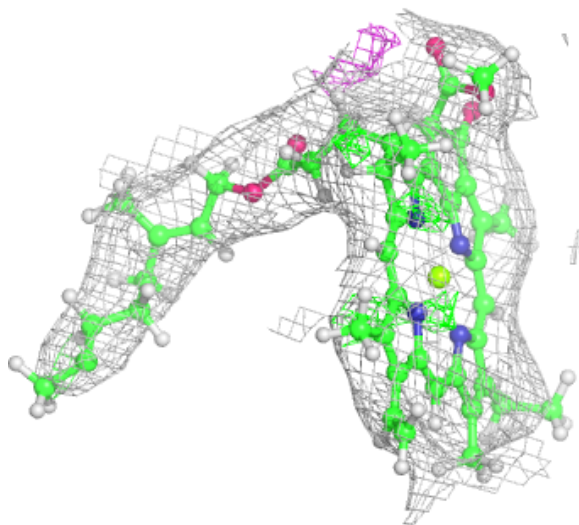
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)





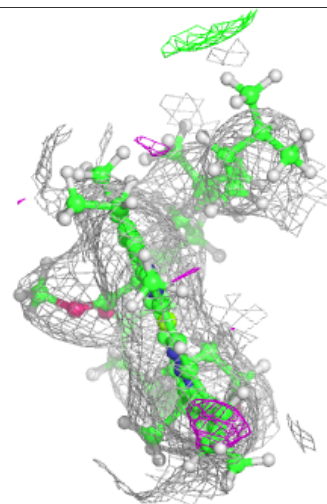
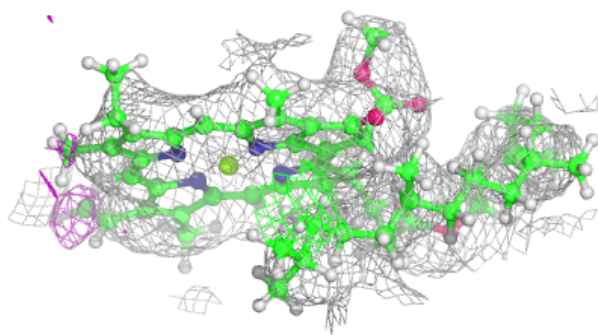
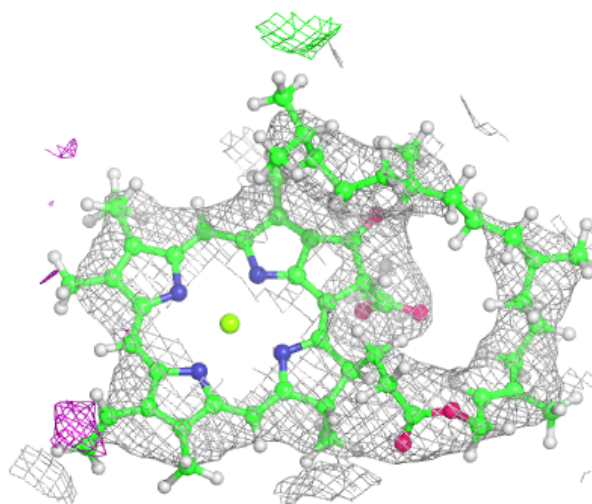
Electron density around CLA B 3005:

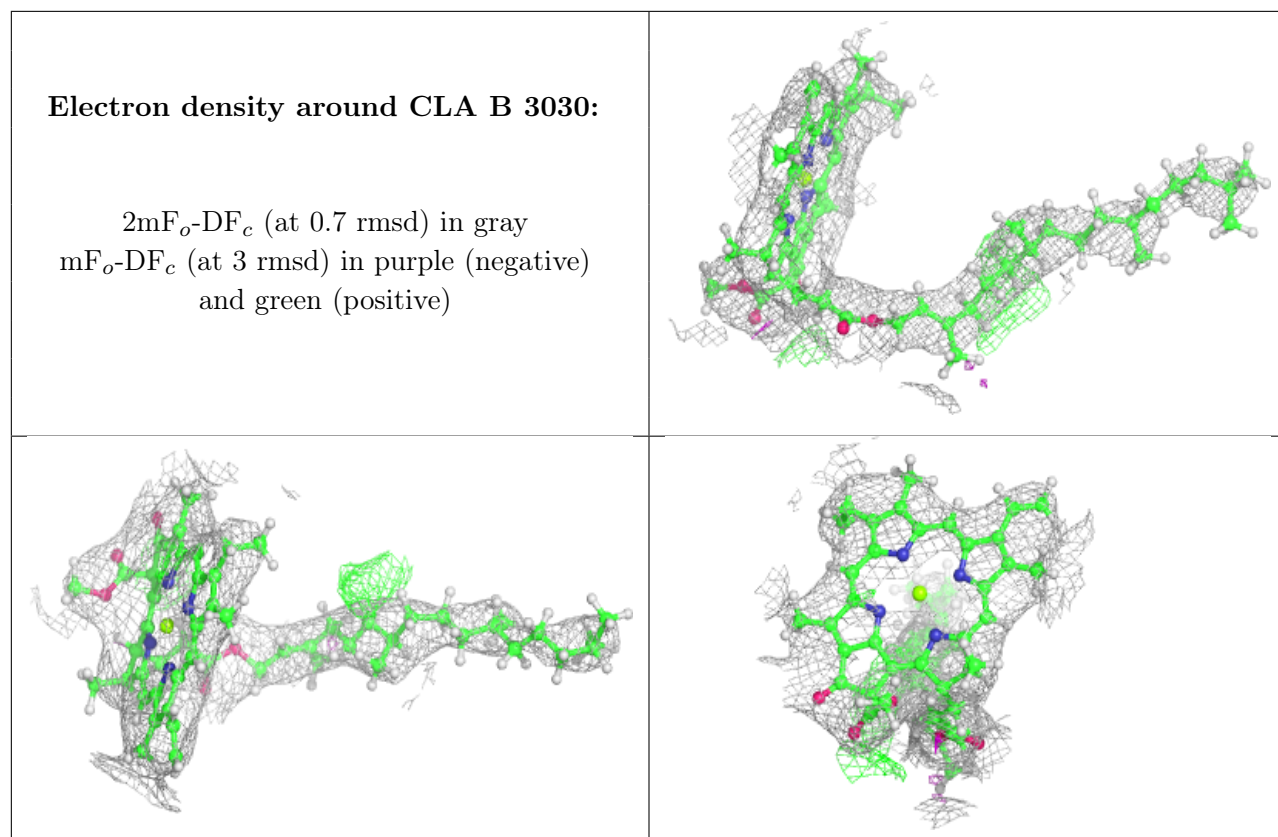
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around CLA B 3006:

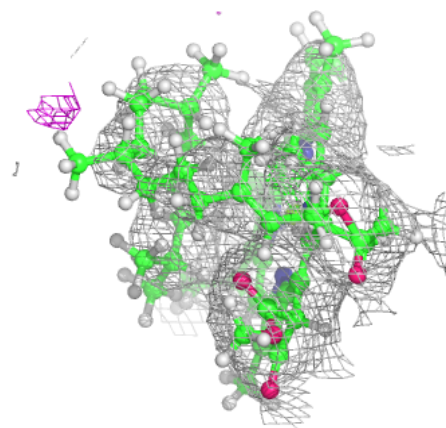
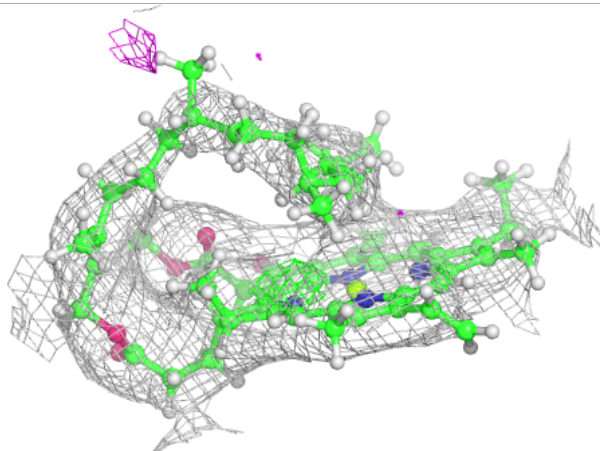
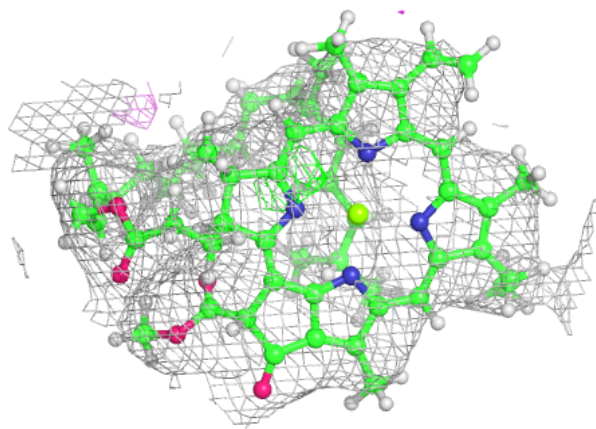
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)





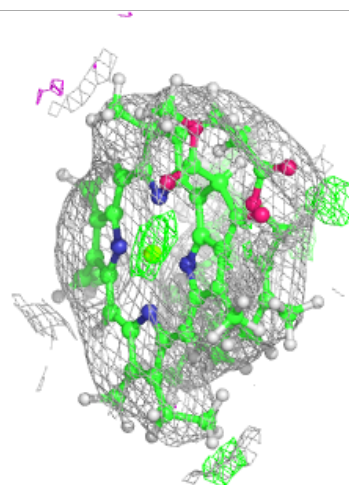
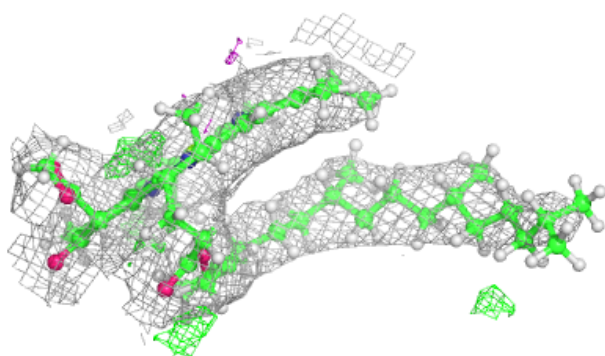
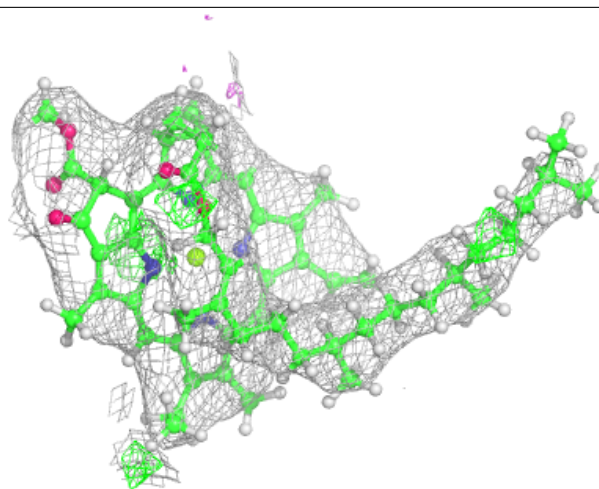
Electron density around CLA B 3007:

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



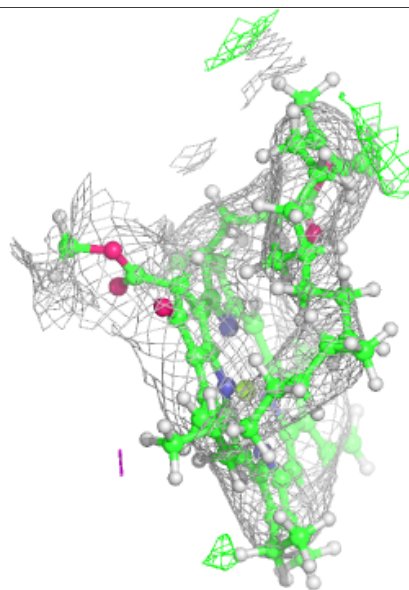
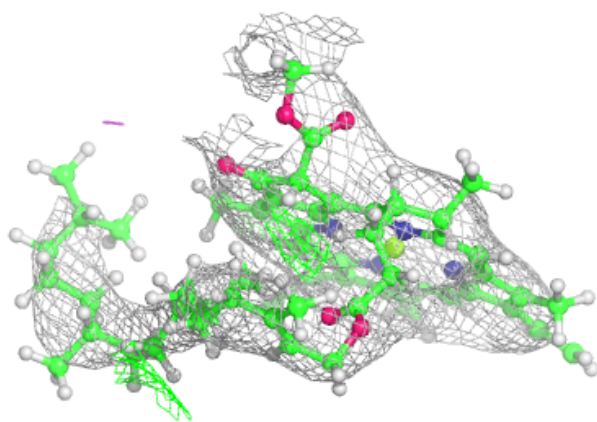
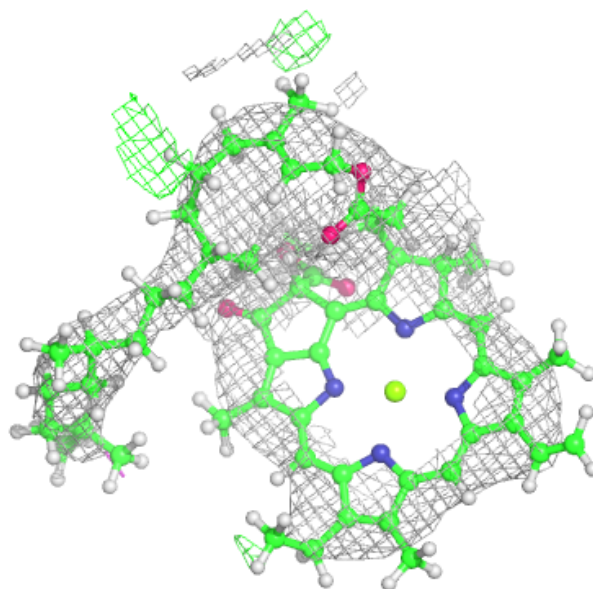
Electron density around CLA B 3008:

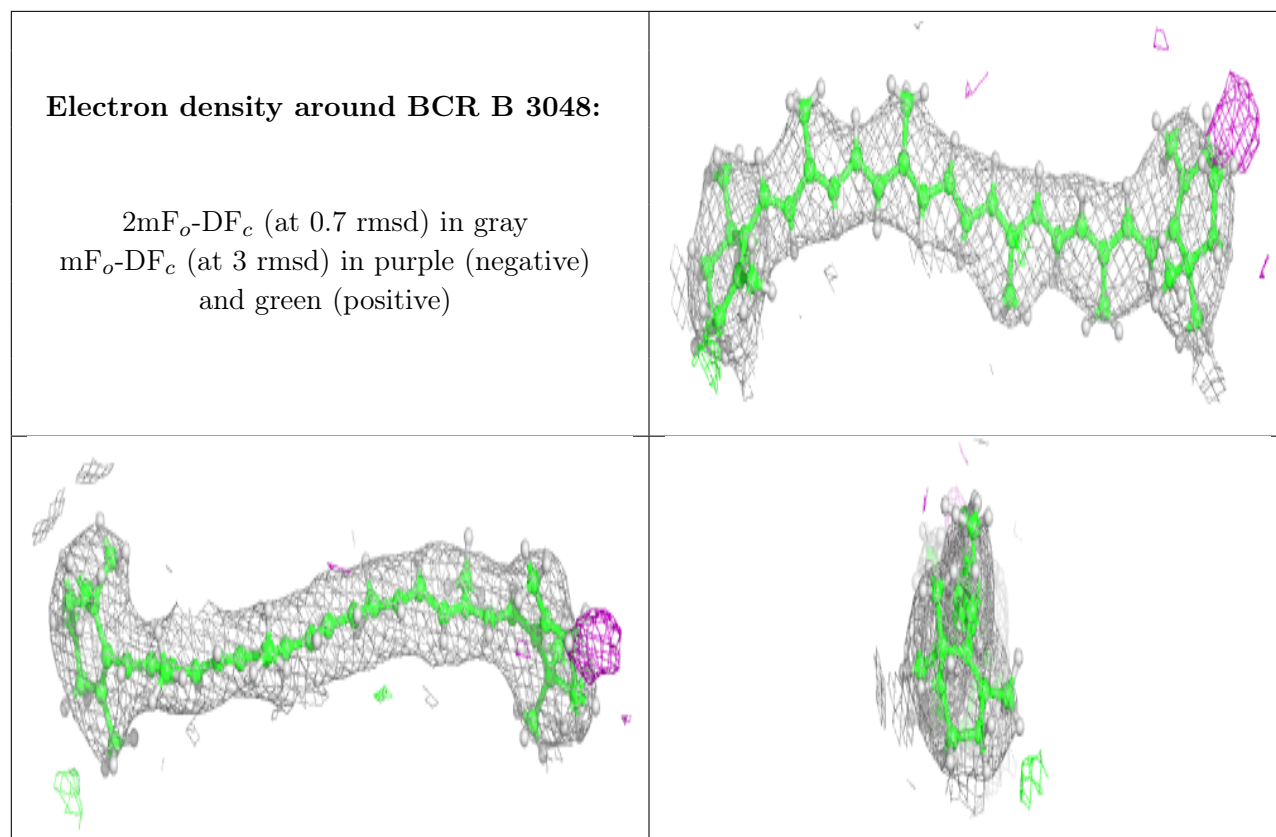
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around CLA B 3033:

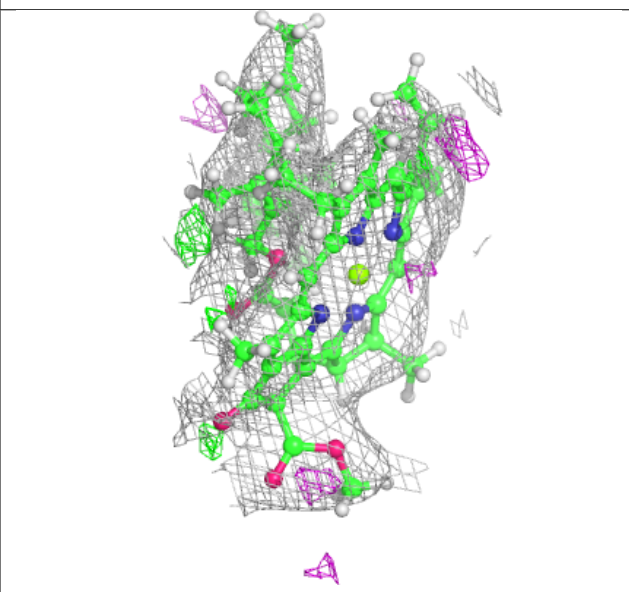
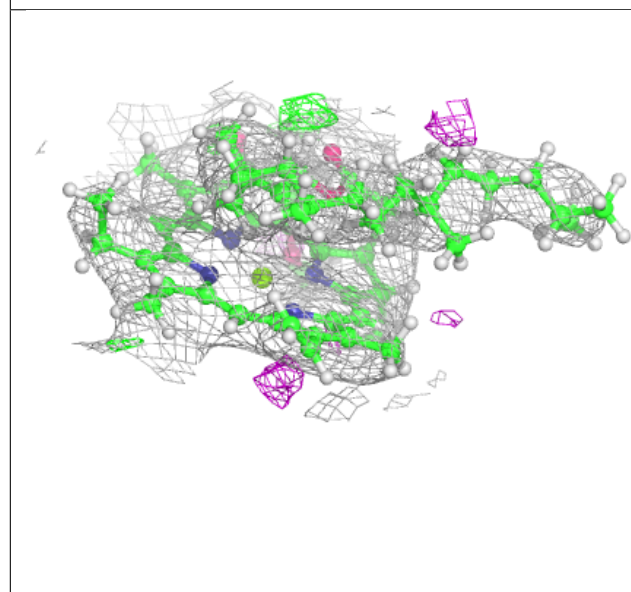
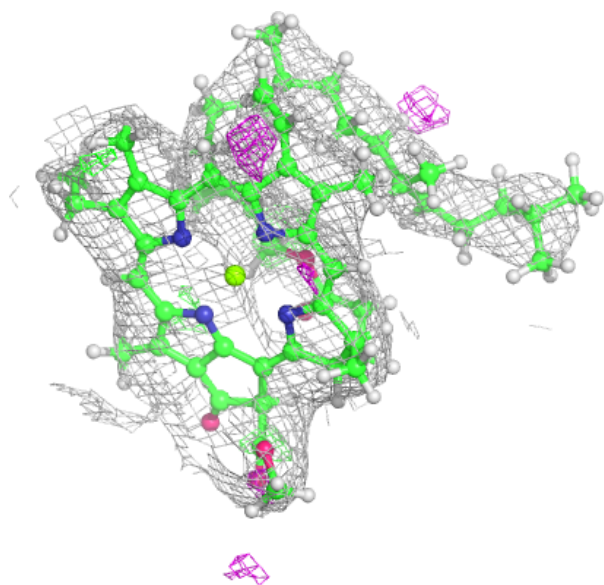
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)





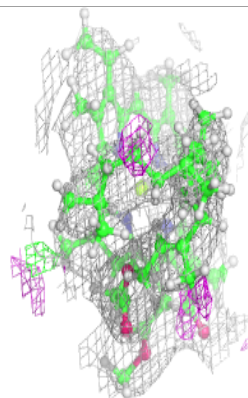
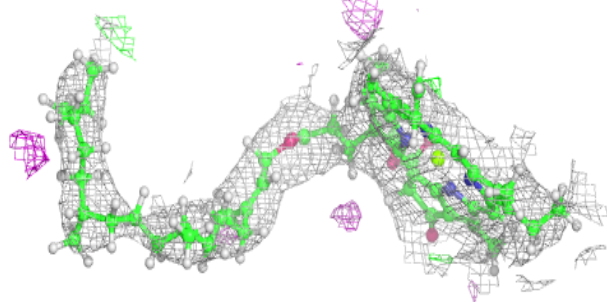
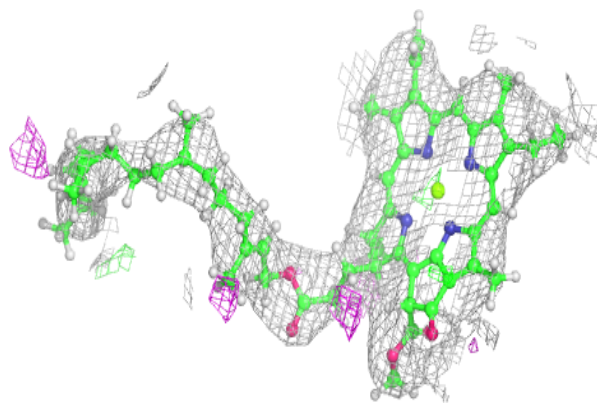
Electron density around CLA B 3009:

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

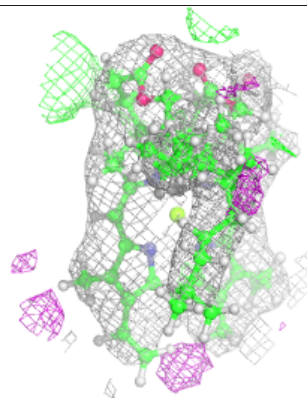
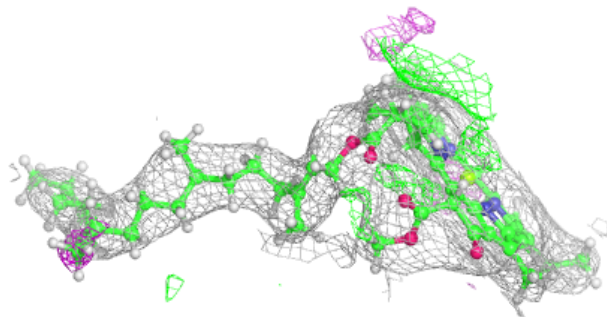
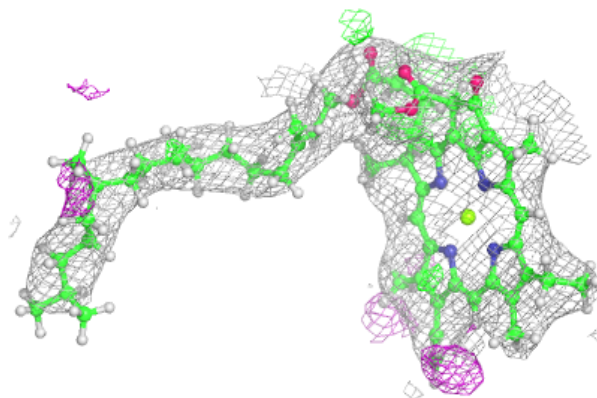


Electron density around CLA B 3010:

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

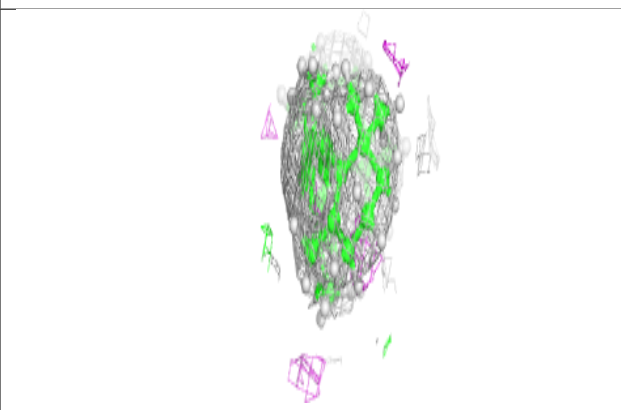
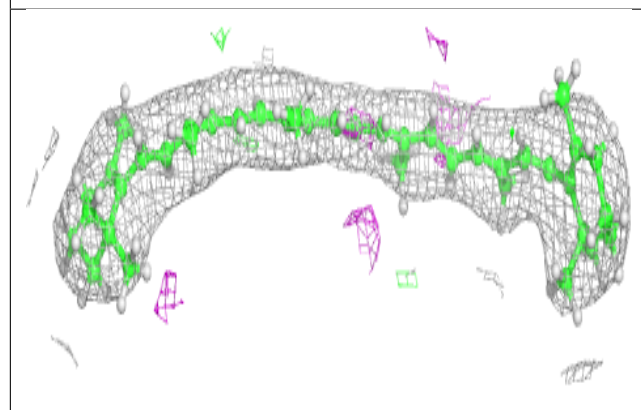
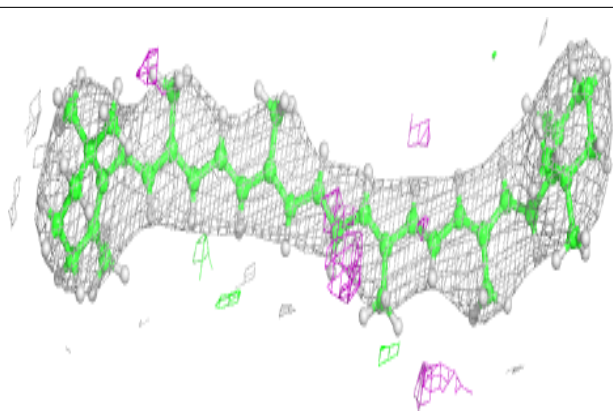
**Electron density around CLA B 3011:**

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

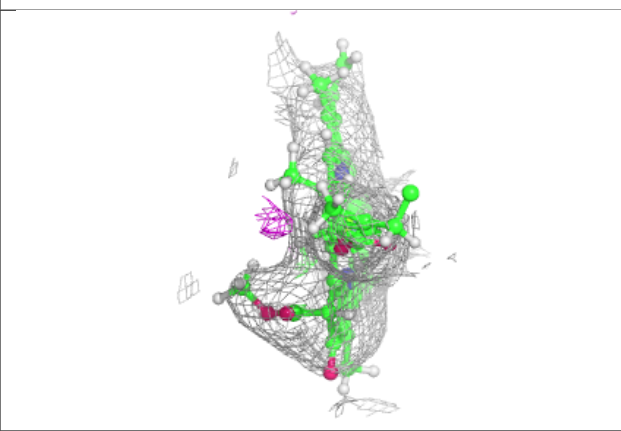
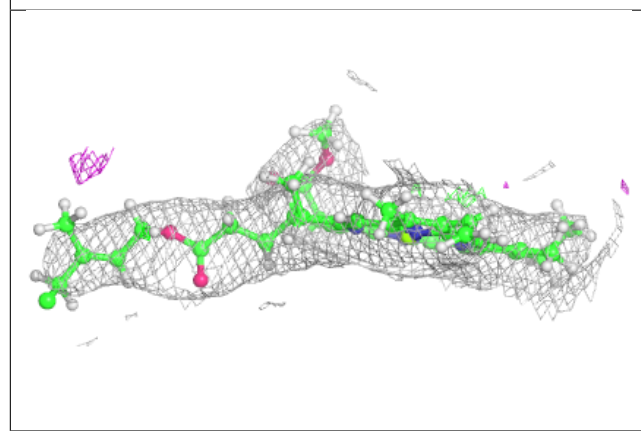
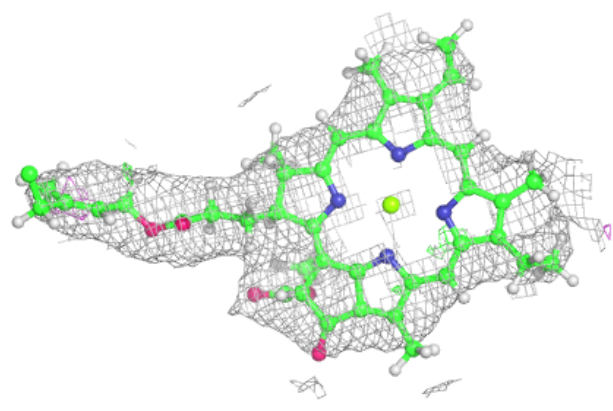


Electron density around BCR I 101:

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

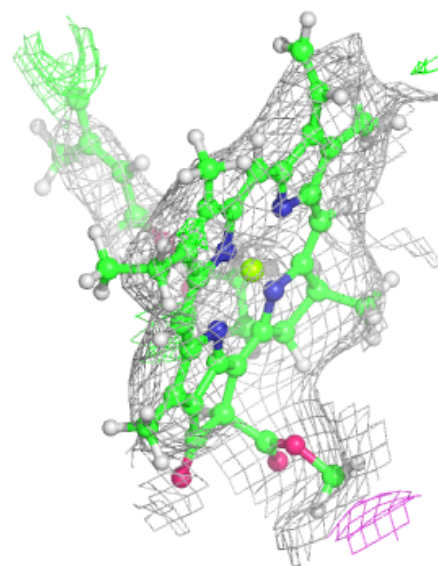
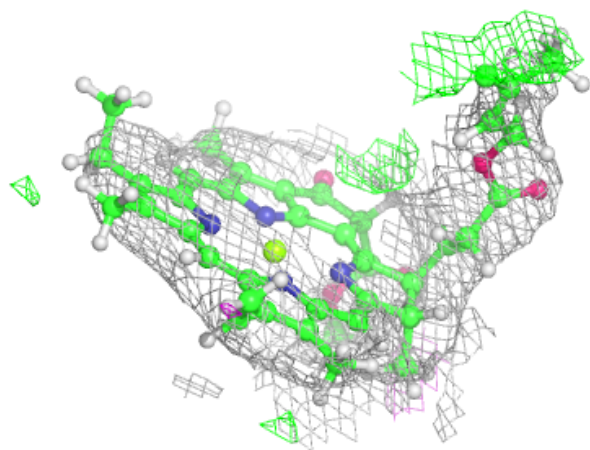
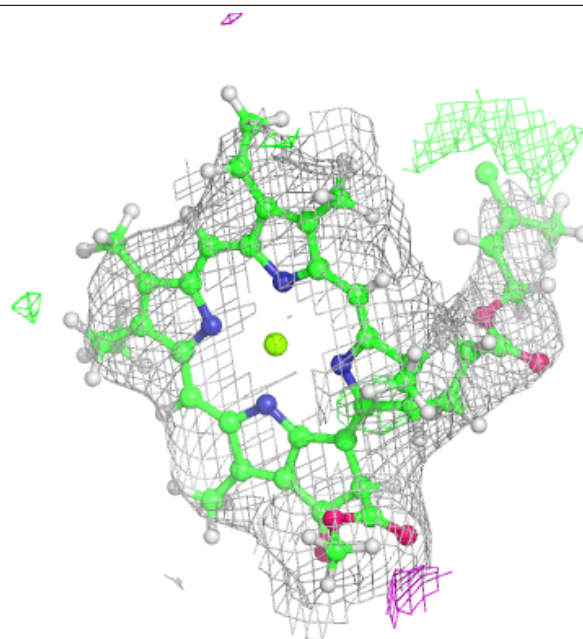
**Electron density around CLA A 838:**

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



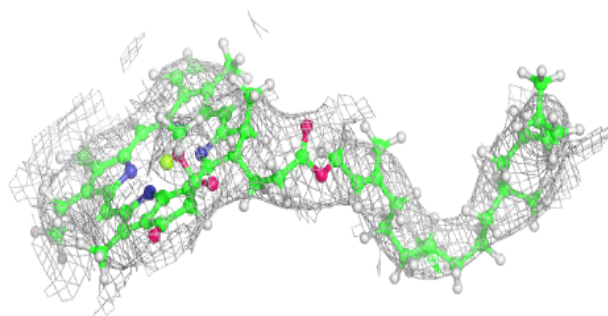
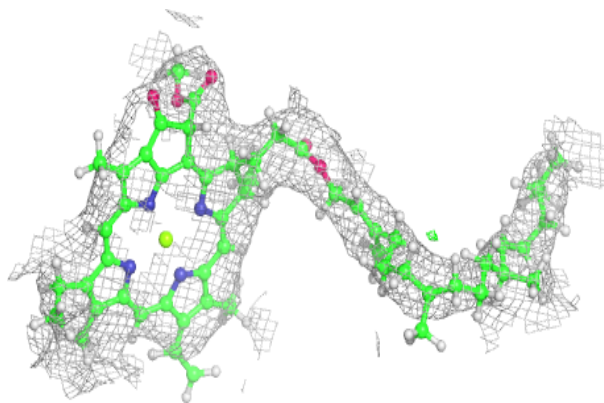
Electron density around CLA A 832:

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

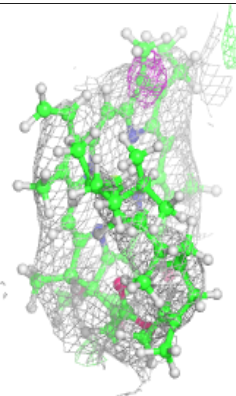
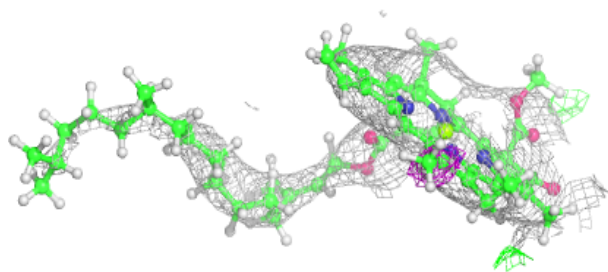
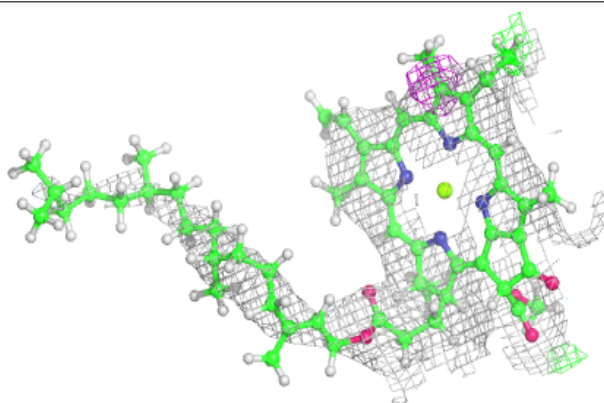


Electron density around CLA B 3014:

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

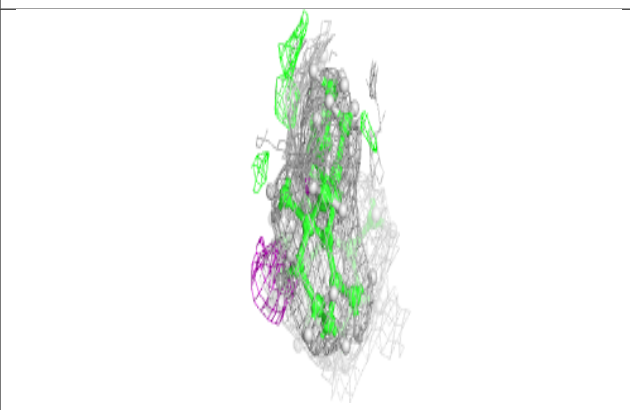
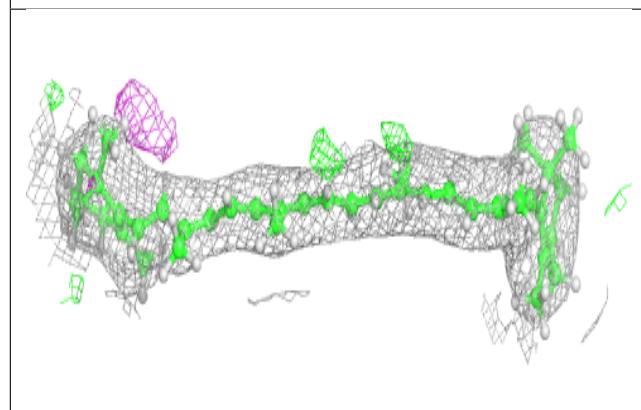
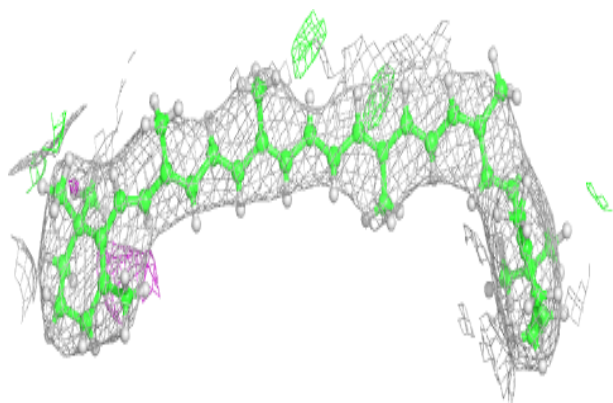
**Electron density around CLA A 809:**

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

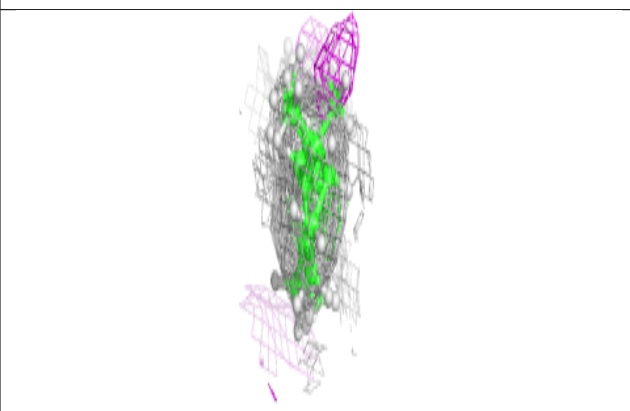
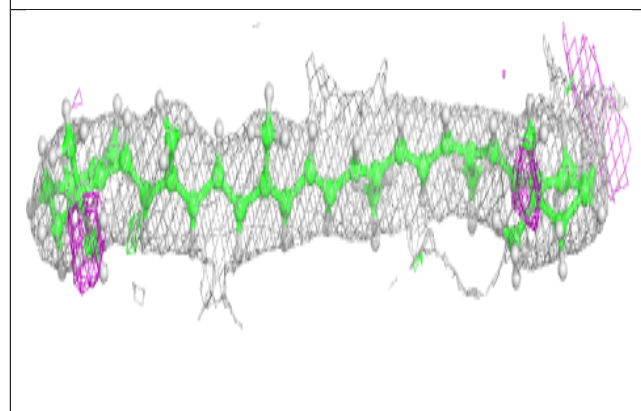
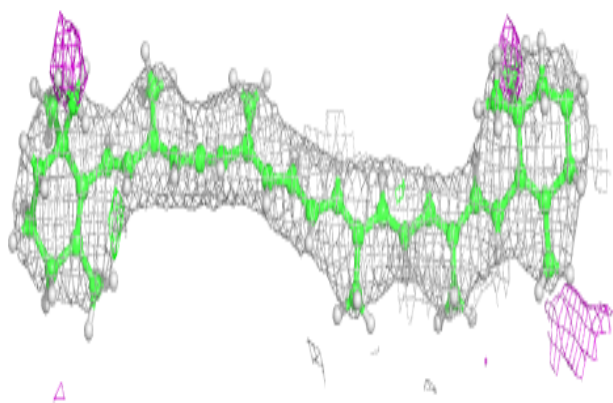


Electron density around BCR L 201:

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

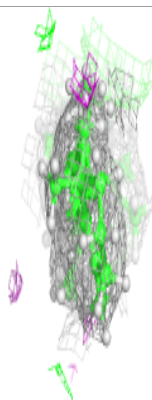
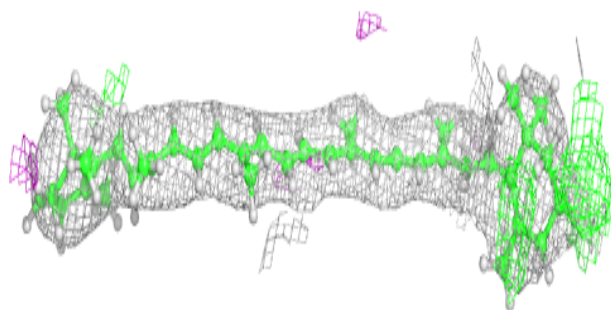
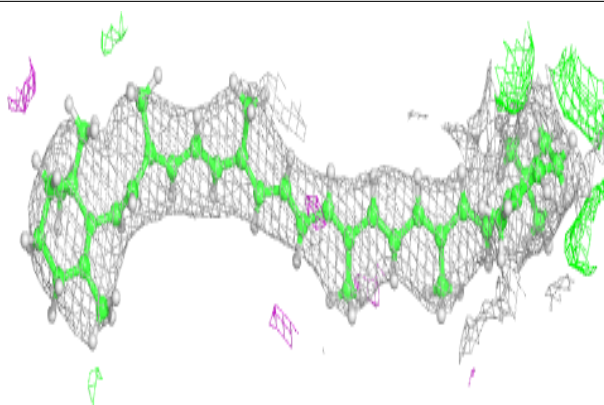
**Electron density around BCR L 208:**

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

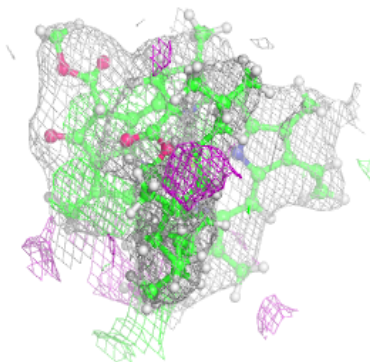
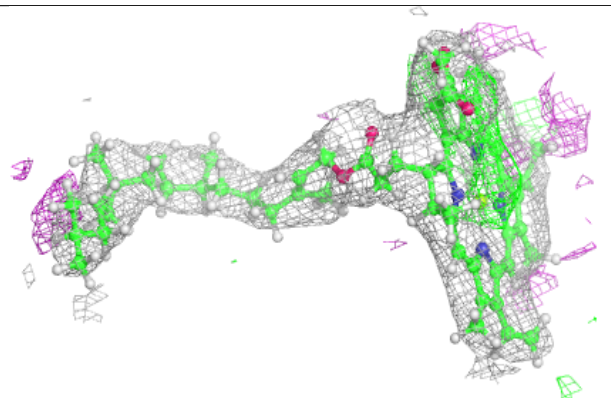
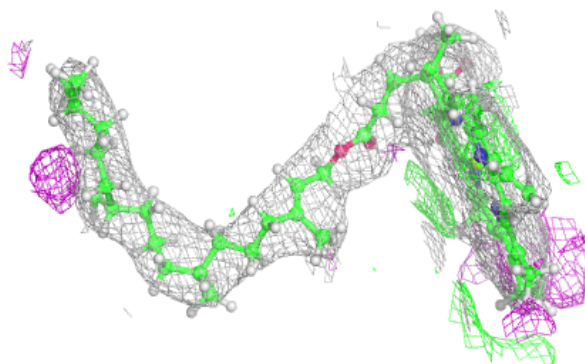


Electron density around BCR L 209:

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

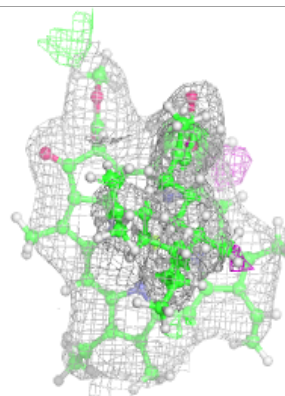
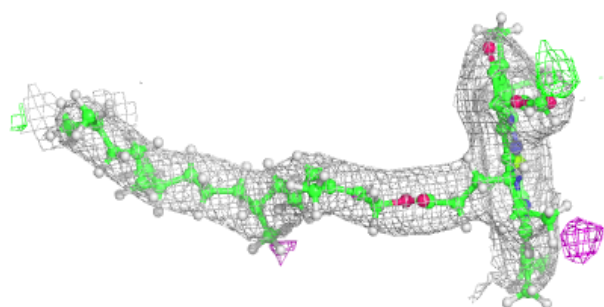
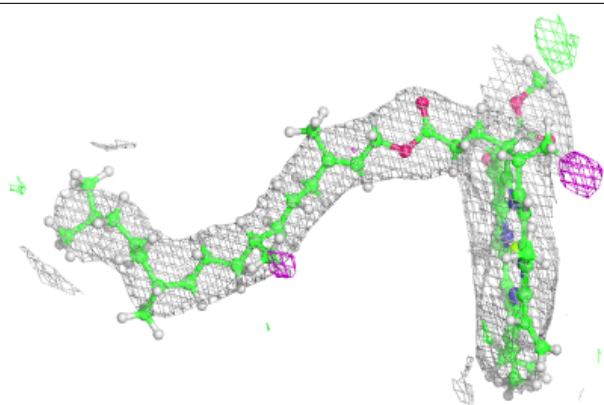
**Electron density around CLA B 3041:**

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

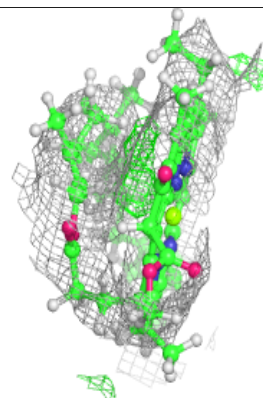
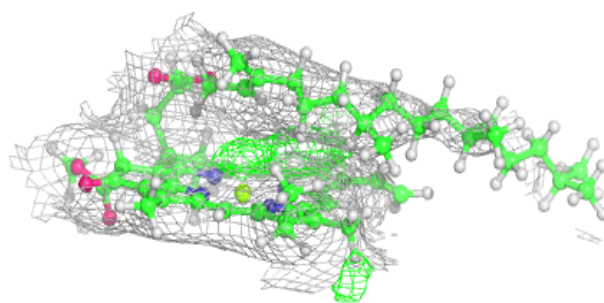
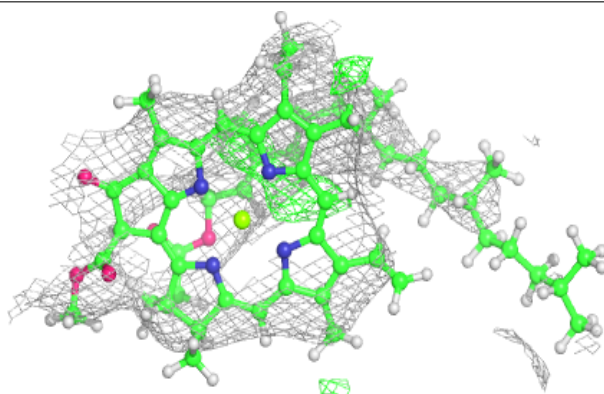


Electron density around CLA B 3042:

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

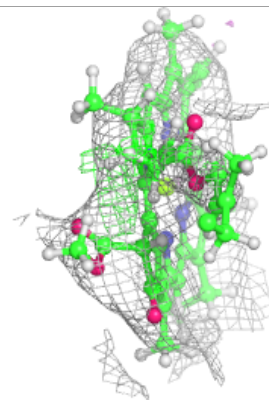
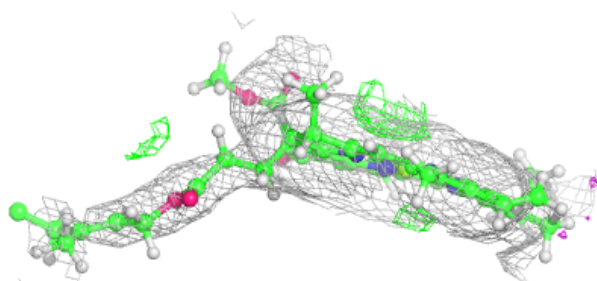
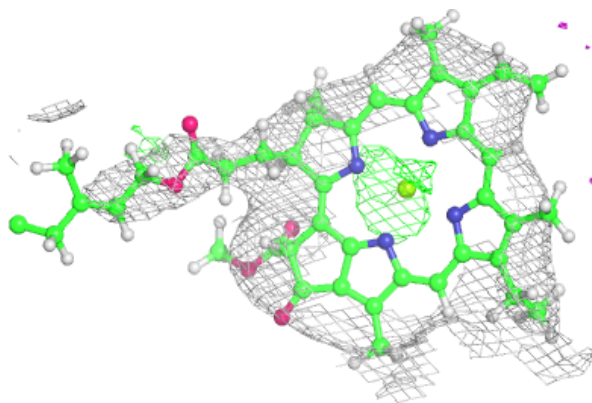
**Electron density around CLA A 841:**

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

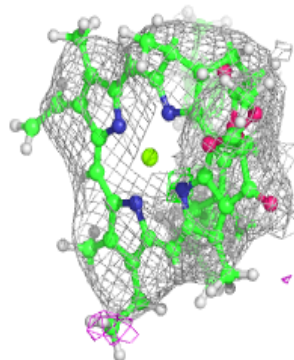
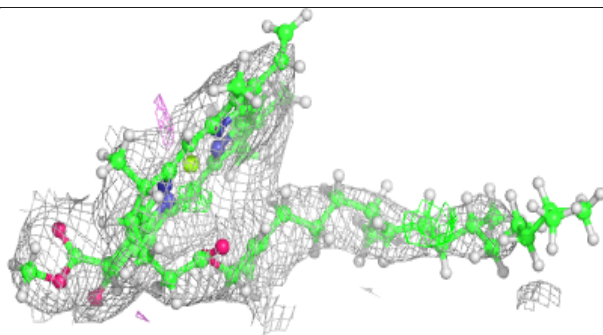
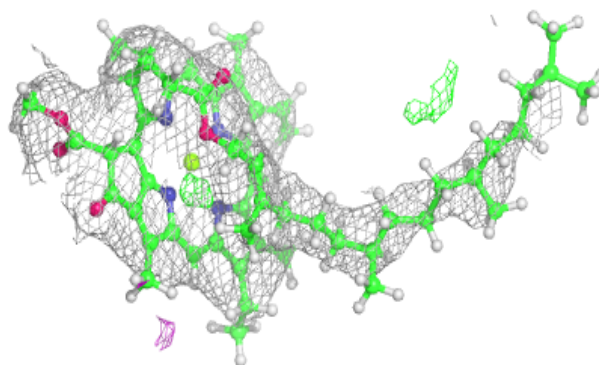


Electron density around CLA A 842:

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

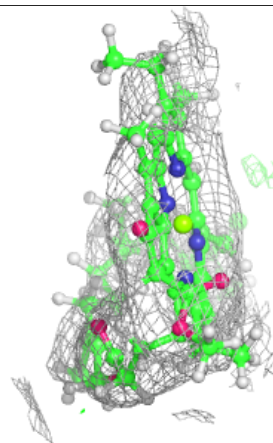
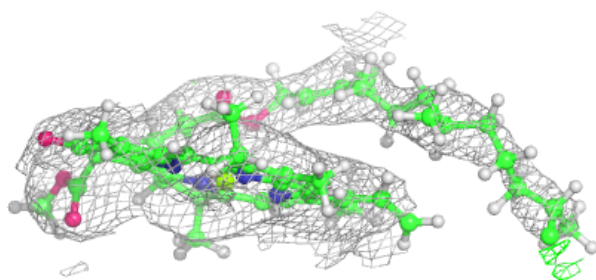
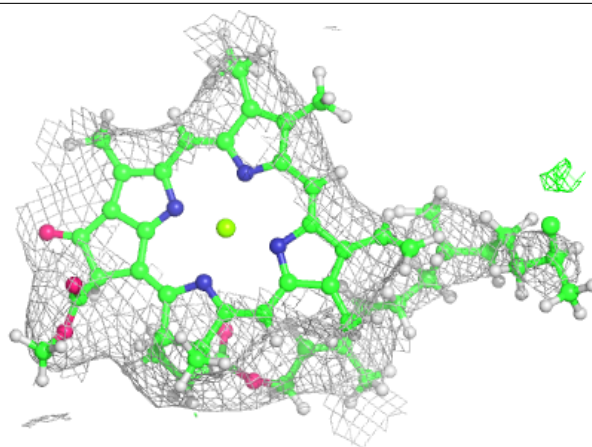
**Electron density around CLA A 843:**

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

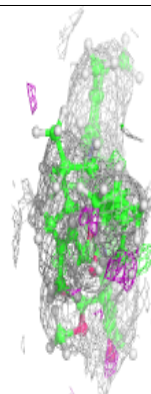
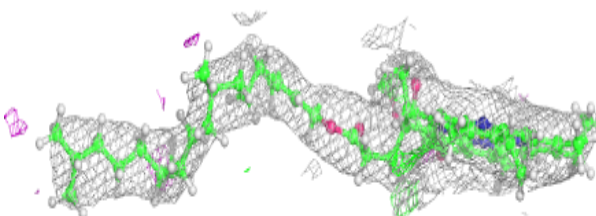
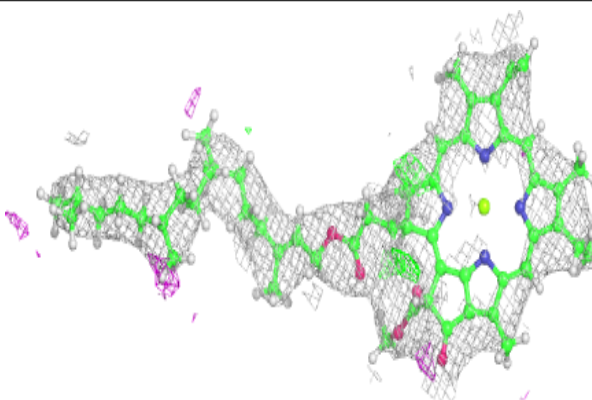


Electron density around CLA B 3019:

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

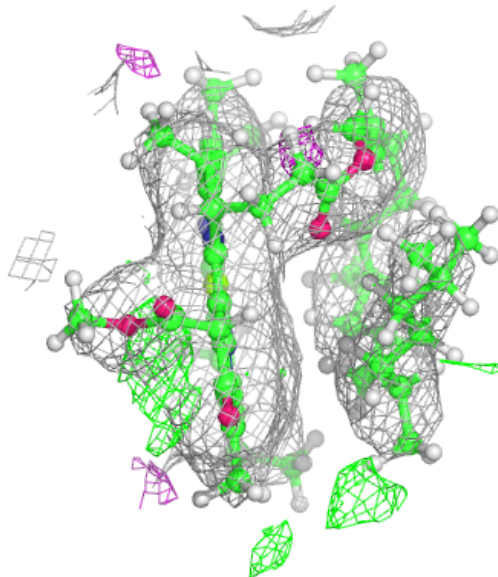
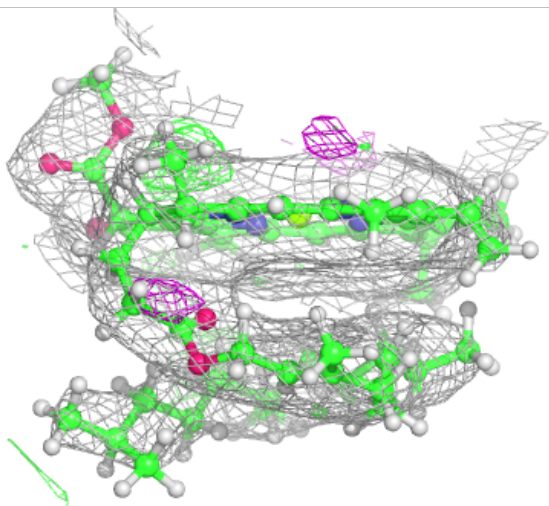
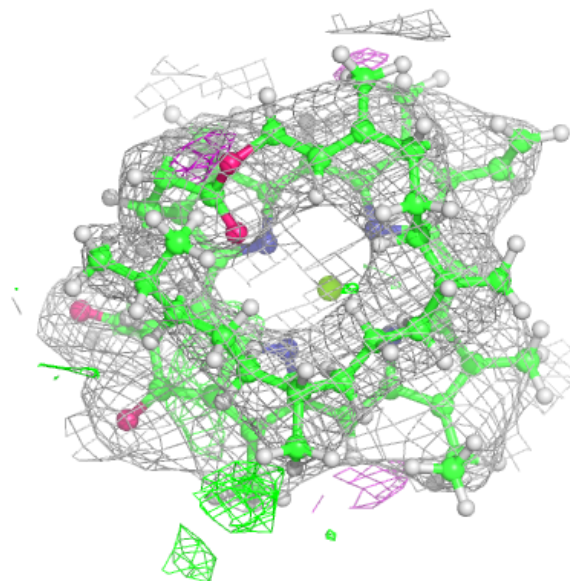
**Electron density around CLA A 834:**

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



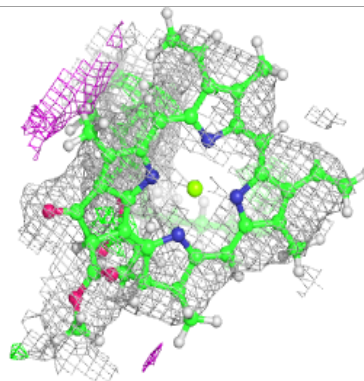
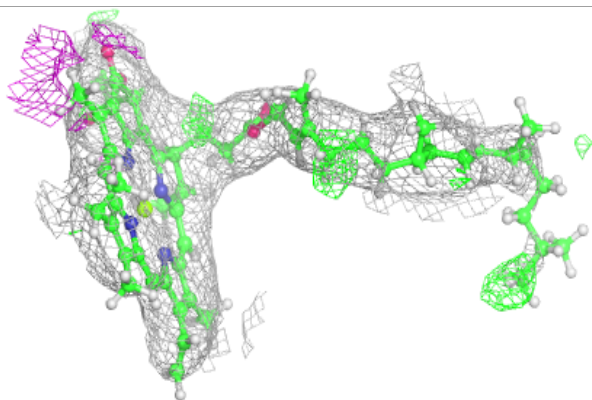
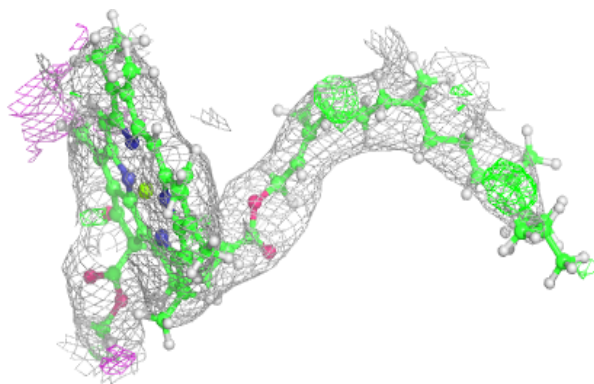
Electron density around CLA L 204:

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

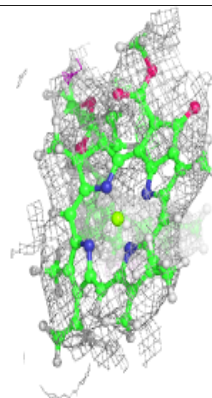
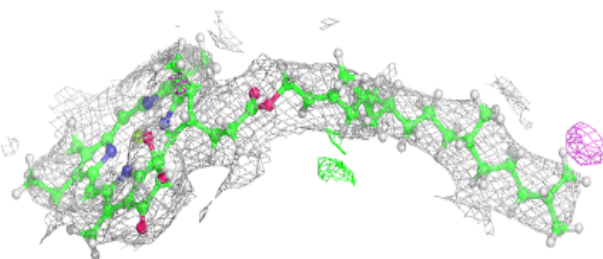
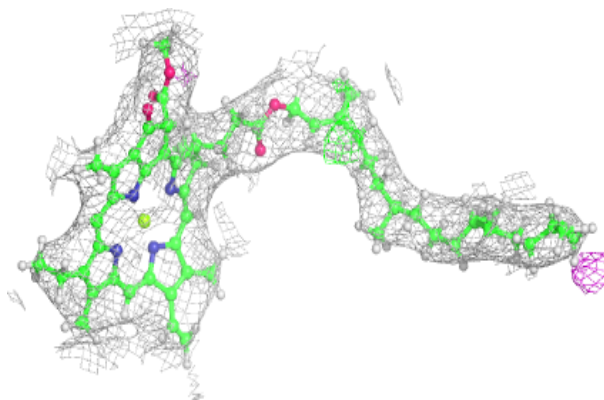


Electron density around CLA L 205:

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

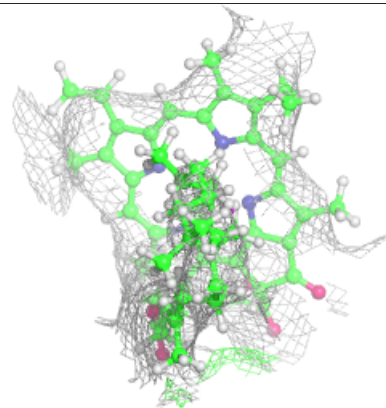
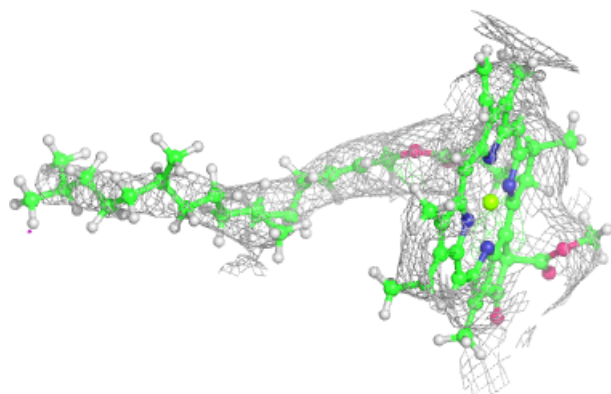
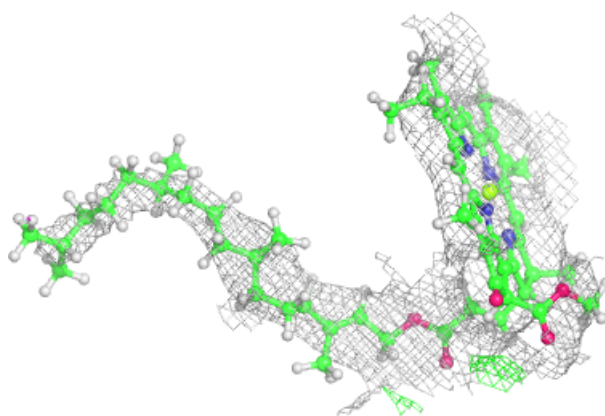
**Electron density around CLA A 802:**

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

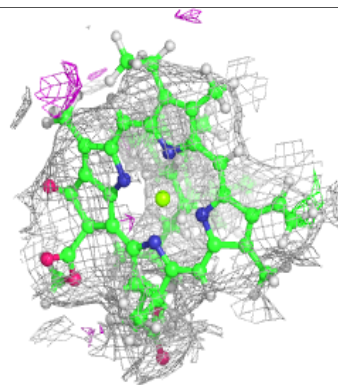
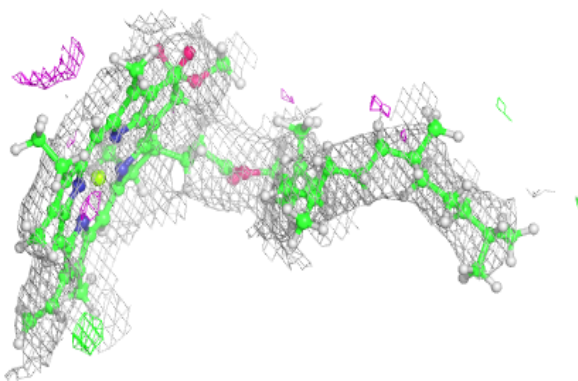
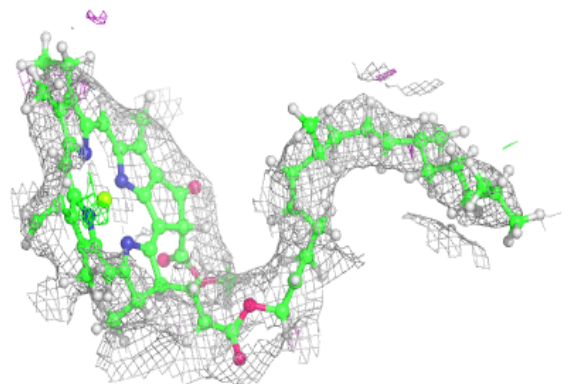


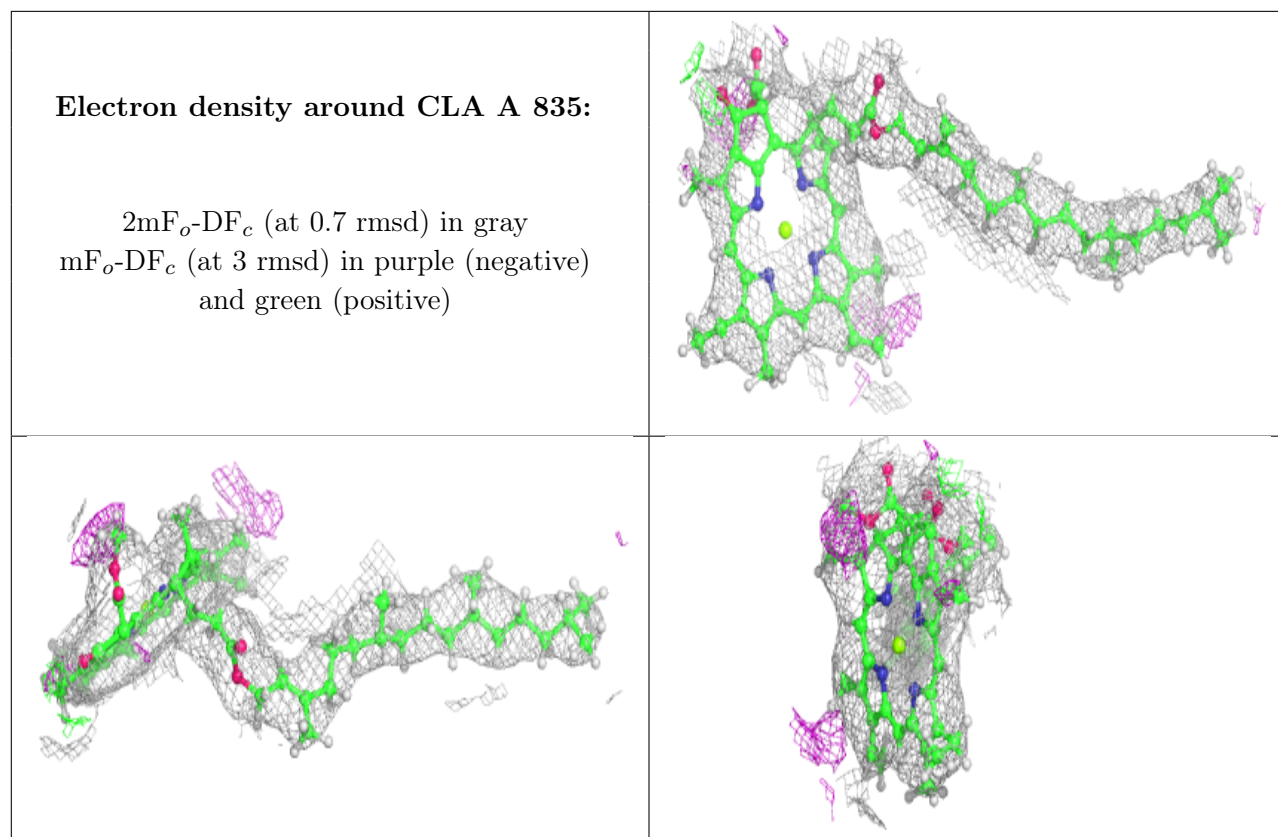
Electron density around CLA A 831:

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

**Electron density around CLA B 3003:**

$2mF_o-DF_c$ (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.