



wwPDB EM Validation Summary Report ⓘ

Jun 6, 2023 – 02:14 AM JST

PDB ID : 8GYM
EMDB ID : EMD-34373
Title : Cryo-EM structure of Tetrahymena thermophila respiratory mega-complex
MC IV2+(I+III2+II)2
Authors : Wu, M.C.; Hu, Y.Q.; Han, F.Z.; Zhou, L.
Deposited on : 2022-09-23
Resolution : 2.96 Å(reported)

This is a wwPDB EM 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/EMValidationReportHelp>

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:

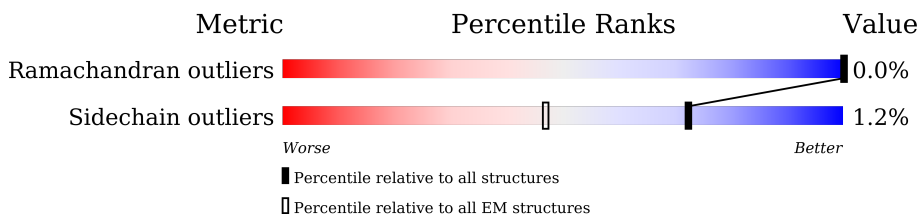
EMDB validation analysis : 0.0.1.dev50
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.33

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 2.96 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.



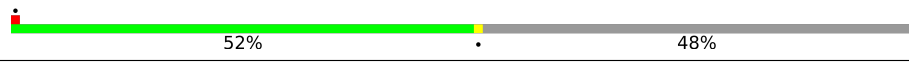
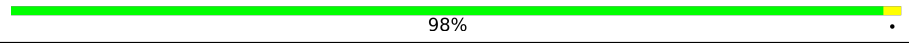
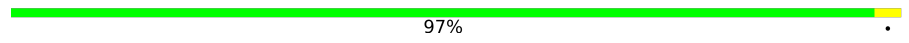
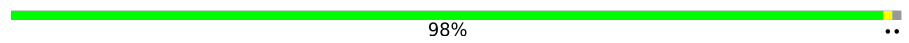
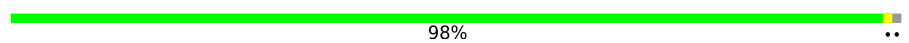
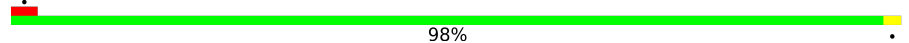
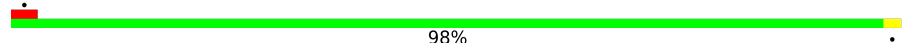


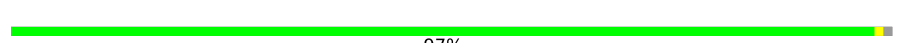

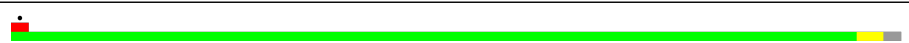




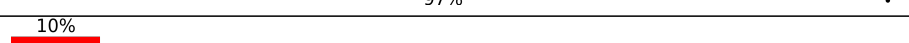
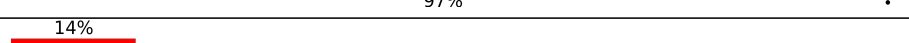



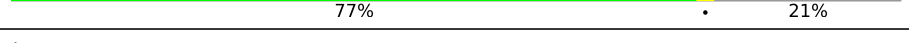



Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the 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 EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	1T	72	
1	1t	72	
2	2E	322	
2	2e	322	
3	2F	296	
3	2f	296	
4	2G	198	
4	2g	198	
5	2H	195	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
5	2h	195	
6	2I	114	
6	2i	114	
7	2J	103	
7	2j	103	
8	2K	93	
8	2k	93	
9	2L	89	
9	2l	89	
10	2M	76	
10	2m	76	
11	2N	62	
11	2n	62	
12	2O	46	
12	2o	46	
13	2T	72	
13	2t	72	
14	3T	93	
14	3t	93	
15	4A	127	
15	4a	127	
16	4T	68	
16	4t	68	
17	5T	81	
17	5t	81	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
18	6A	130	96%
18	6a	130	96%
19	6B	230	96%
19	6b	230	96%
20	6C	103	97%
20	6c	103	97%
21	6L	88	88% 13%
21	6l	88	88% 13%
22	6T	72	6% 97%
22	6t	72	7% 97%
23	7A	133	99%
23	7a	133	99%
24	7C	236	89% 11%
24	7c	236	89% 11%
25	7L	990	13% 87%
25	7l	990	13% 87%
26	A	490	92% 8%
26	a	490	92% 8%
27	B	473	27% 89% 10%
27	b	473	27% 90% 10%
28	BP	462	7% 82% 18%
28	bp	462	7% 82% 18%
29	C1	688	97%
29	c1	688	97%
30	C2	604	99%

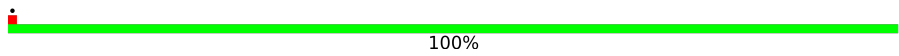
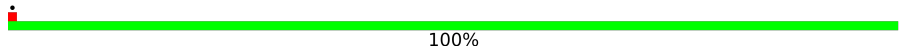
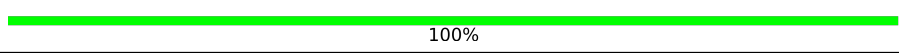
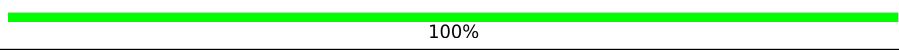
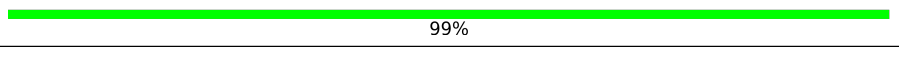
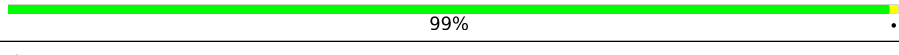
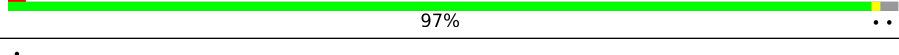
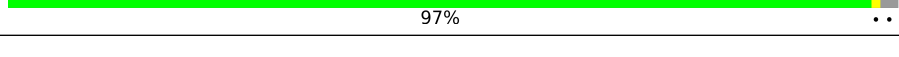
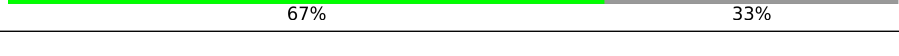
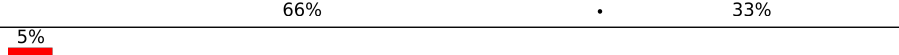
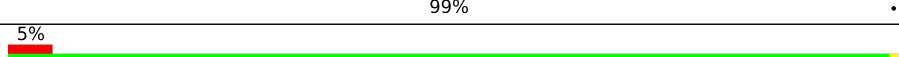
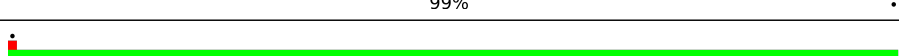
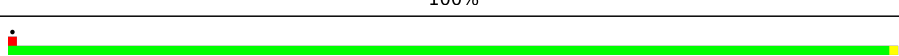
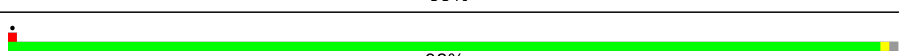
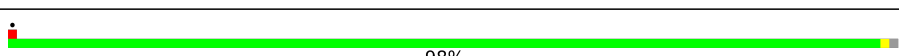
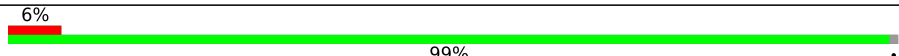
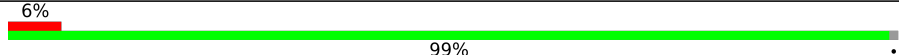
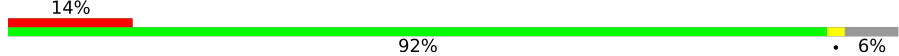
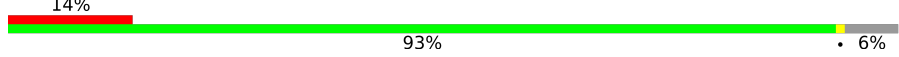


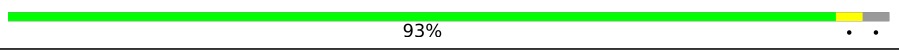
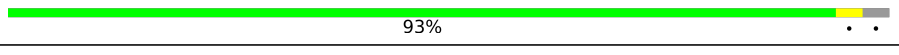
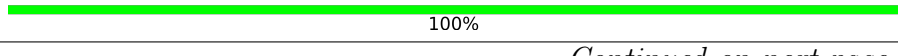

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
30	c2	604	98%
31	C3	594	97%
31	c3	594	97%
32	D	402	71% 28%
32	d	402	71% 28%
33	E	385	99%
33	e	385	99%
34	F	348	69% 30%
34	f	348	70% 30%
35	FS	188	100%
35	fs	188	100%
36	G	318	92% 8%
36	g	318	92% 8%
37	H	318	90% 6% 11%
37	h	318	91% 6% 11%
38	I	252	91% 8%
38	i	252	91% 8%
39	J	234	79% 20%
39	j	234	80% 20%
40	K	231	90% 10%
40	k	231	90% 10%
41	L	222	86% 13%
41	l	222	86% 13%
42	M	220	99%
42	m	220	99%


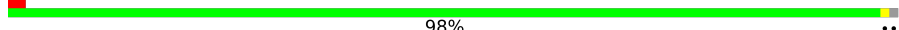
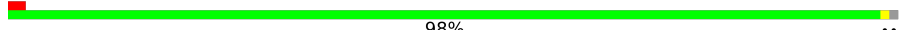
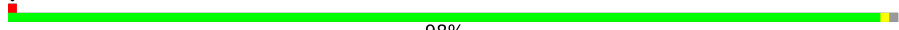
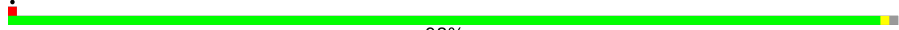





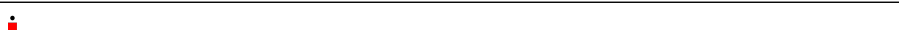

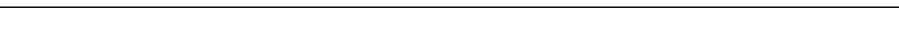
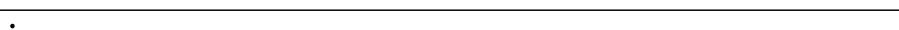
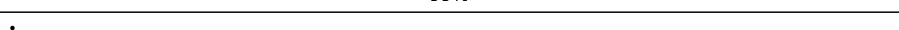
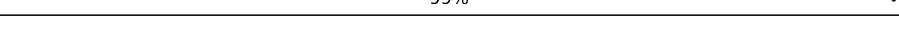
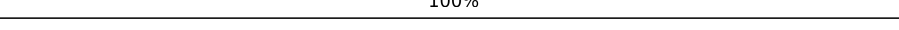
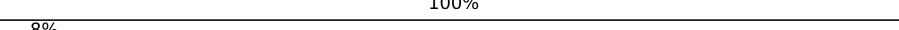
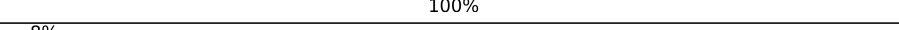
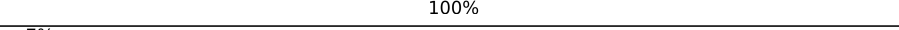


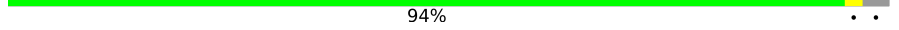
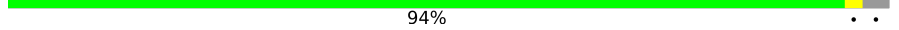
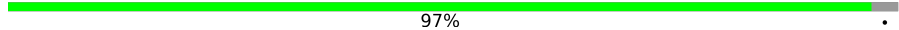
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
43	M1	346	 100%
43	m1	346	 100%
44	M2	318	 100%
44	m2	318	 100%
45	M3	330	 99%
45	m3	330	 99%
46	N	210	 97%
46	n	210	 97%
47	O	193	 67% 33%
47	o	193	 66% 33%
48	P	175	 99%
48	p	175	 99%
49	Q	173	 100%
49	q	173	 99%
50	R	173	 98%
50	r	173	 98%
51	S	170	 99%
51	s	170	 99%
52	SA	636	 92% 6%
52	sa	636	 93% 6%
53	SB	312	 86% 11%
53	sb	312	 87% 11%
54	SC	60	 93%
54	sc	60	 93%
55	SD	44	 100%

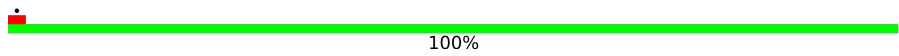
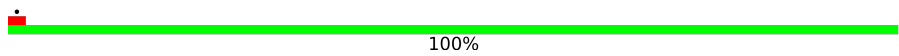
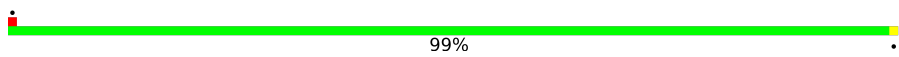
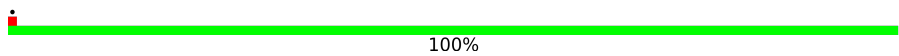
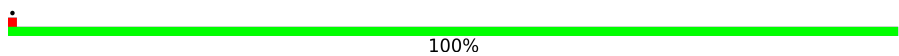
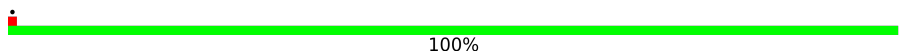


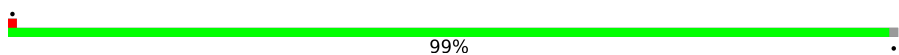
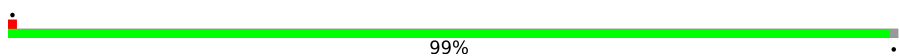
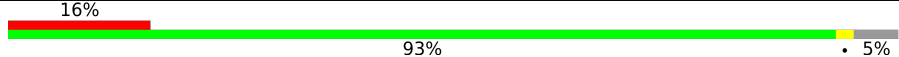
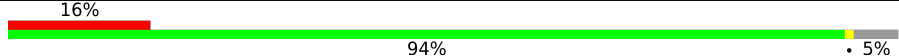
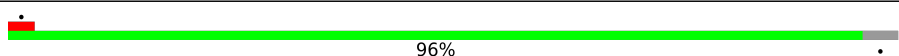
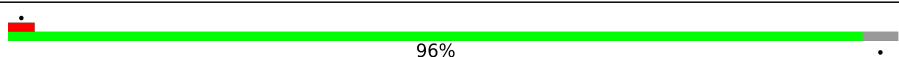
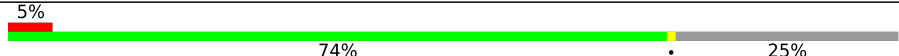

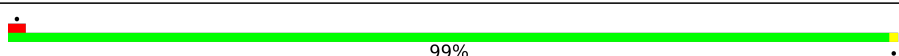
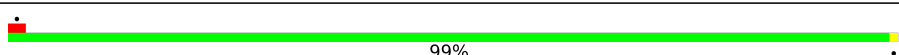
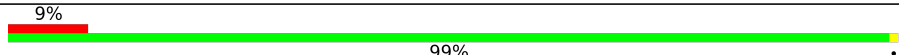
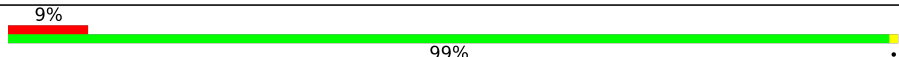
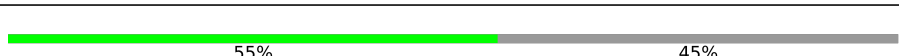

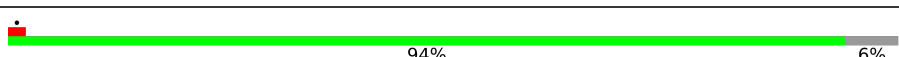
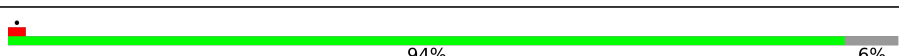
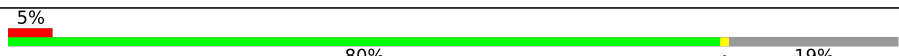
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
55	sd	44	 100%
56	T	158	 98%
56	t	158	 98%
57	U	154	 98%
57	u	154	 98%
58	V	149	 98%
58	v	149	 98%
59	VB	637	 86% 13%
59	vb	637	 86% 13%
60	W	124	 98%
60	w	124	 98%
61	X	122	 99%
61	x	122	 99%
62	Y	105	 99%
62	y	105	 99%
63	Y0	89	 100%
63	y0	89	 100%
64	Y5	190	 8% 100%
64	y5	190	 8% 100%
65	Y7	453	 7% 75% 24%
65	y7	453	 7% 75% 24%
66	Z	90	 6% 94%
66	z	90	 6% 94%
67	Z1	100	 97%
67	z1	100	 97%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
68	1B	59	 100%
68	1b	59	 100%
69	2B	178	 99%
69	2b	178	 100%
70	4L	116	 100%
70	4l	116	 100%
71	5B	100	 100%
71	5b	100	 100%
72	A1	94	 99%
72	a1	94	 99%
73	A2	103	 16% 93% 5%
73	a2	103	 16% 94% 5%
74	A3	135	 96%
74	a3	135	 96%
75	A5	206	 5% 74% 25%
75	a5	206	 5% 74% 25%
76	A6	172	 99%
76	a6	172	 99%
77	A7	282	 9% 99%
77	a7	282	 9% 99%
78	A8	238	 55% 45%
78	a8	238	 55% 45%
79	A9	362	 94% 6%
79	a9	362	 94% 6%
80	AB	138	 5% 80% 19%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
80	ab	138	5% 80% 19%
81	AC	133	73% 26%
81	ac	133	73% 26%
82	AL	194	9% 98% ..
82	al	194	9% 99% ..
83	AM	175	91% 9%
83	am	175	91% 9%
84	AN	231	99% .
84	an	231	100%
85	B2	126	10% 93% .. 5%
85	b2	126	13% 94% . 5%
86	B3	83	6% 82% . 17%
86	b3	83	6% 82% . 17%
87	B4	147	77% 22%
87	b4	147	77% 22%
88	B6	129	54% 46%
88	b6	129	54% 46%
89	B7	120	95% ..
89	b7	120	95% ..
90	B8	207	6% 84% . 15%
90	b8	207	6% 84% 15%
91	B9	189	98% ..
91	b9	189	98% ..
92	BL	188	93% 7%
92	bl	188	93% 7%

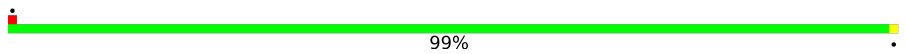


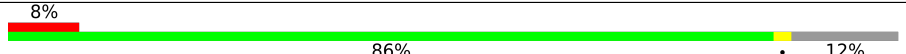
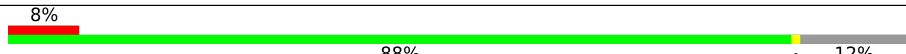
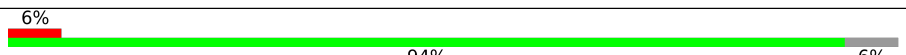
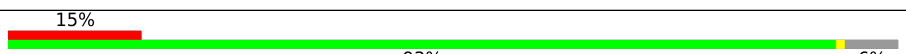
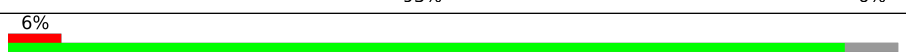
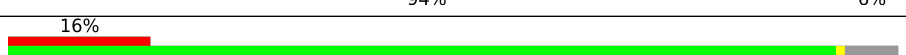
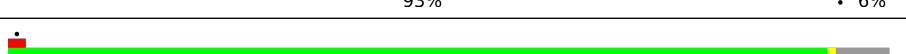
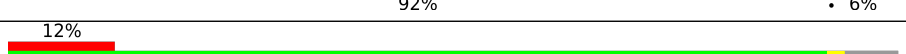
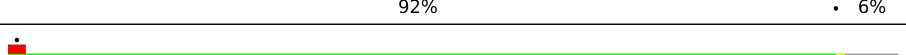
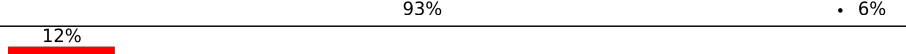
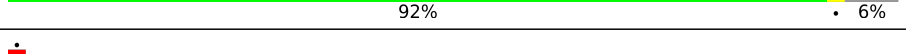
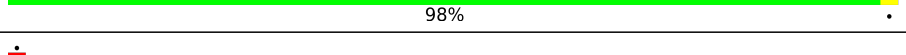
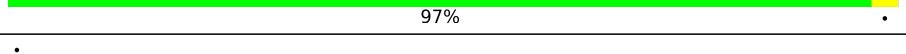
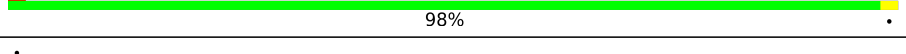
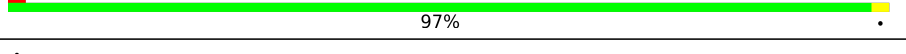
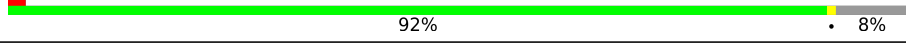
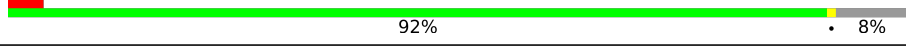
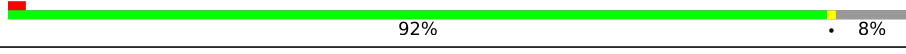
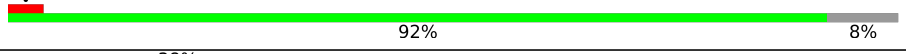



Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
93	BM	214	9% 75% 23%
93	bm	214	10% 75% 23%
94	C4	102	99%
94	c4	102	100%
95	FX	172	84% 15%
95	fx	172	84% 15%
96	G1	257	88% 11%
96	g1	257	89% 11%
97	G2	233	98%
97	g2	233	98%
98	G3	346	99%
98	g3	346	99%
99	J1	317	7% 82% 16%
99	j1	317	7% 82% 16%
100	N1	284	96%
100	n1	284	98%
101	N2	360	98%
101	n2	360	99%
102	N3	121	98%
102	n3	121	98%
103	N4	505	98%
103	n4	505	98%
104	N5	750	16% 93% 5%
104	n5	750	16% 93% 5%
105	N6	255	99%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
105	n6	255	 99%
106	P1	251	 91% 5% 8%
106	p1	251	 91% 5% 8%
107	P2	189	 86% 8% 12%
107	p2	189	 88% 8% 12%
108	QA	482	 94% 6% 6%
108	Qa	482	 93% 15% 6%
108	qA	482	 94% 6% 6%
108	qa	482	 93% 16% 6%
109	QB	513	 92% 1% 6%
109	Qb	513	 92% 12% 6%
109	qB	513	 93% 1% 6%
109	qb	513	 92% 12% 6%
110	QC	426	 98%
110	Qc	426	 97%
110	qC	426	 98%
110	qc	426	 97%
111	QD	319	 92% 1% 8%
111	Qd	319	 92% 1% 8%
111	qD	319	 92% 1% 8%
111	qd	319	 92% 38% 8%
112	QE	269	 84% 38% 14%
112	Qe	269	 81% 42% 19%
112	qE	269	 84% 38% 14%
112	qe	269	 81% 42% 19%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
113	QF	90	11% 98% ..
113	Qf	90	30% 89% 11%
113	qF	90	11% 98% ..
113	qf	90	31% 89% 11%
114	QG	328	21% 98% .
114	Qg	328	20% 98% ..
114	qG	328	21% 98% .
114	qg	328	20% 98% ..
115	QH	130	98% ..
115	Qh	130	. 99% .
115	qH	130	. 98% ..
115	qh	130	. 99% .
116	QI	119	. 95% ..
116	Qi	119	12% 95% ..
116	qI	119	. 94% ..
116	qi	119	12% 95% ..
117	QJ	62	5% 90% 10%
117	Qj	62	11% 92% . 6%
117	qJ	62	5% 90% 10%
117	qj	62	11% 92% . 6%
118	QL	41	15% 78% 22%
118	Ql	41	7% 78% 22%
118	qL	41	15% 78% 22%
118	ql	41	7% 78% 22%
119	QM	17	100%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
119	Qm	17	100%
119	U2	17	100%
119	qM	17	100%
119	qm	17	100%
119	u2	17	100%
120	S1	718	95% 9%
120	s1	718	95% 8%
121	S2	442	97%
121	s2	442	98%
122	S3	198	98%
122	s3	198	98%
123	S4	185	96% 11%
123	s4	185	96% 11%
124	S5	94	96% 6%
124	s5	94	97% 6%
125	S6	132	68% 12% 30%
125	s6	132	69% 11% 30%
126	S7	162	95%
126	s7	162	96%
127	S8	236	92% 8%
127	s8	236	92% 8%
128	T1	516	96% 21%
128	t1	516	96% 21%
129	T2	333	82% 57% 16%
129	t2	333	82% 57% 16%

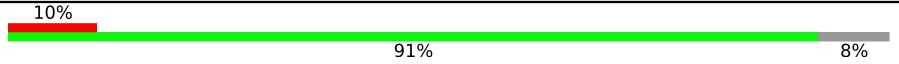
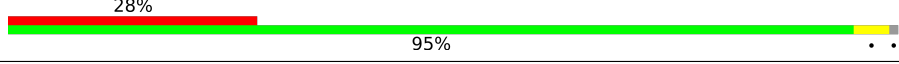
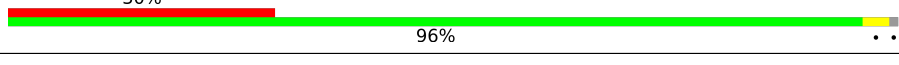
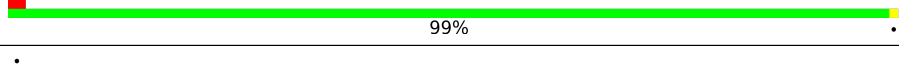
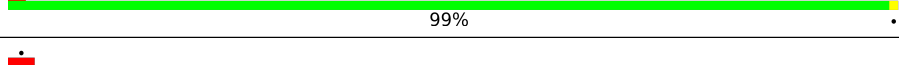
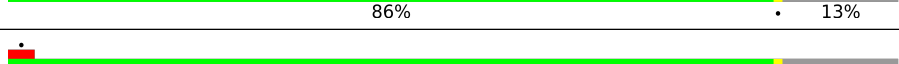
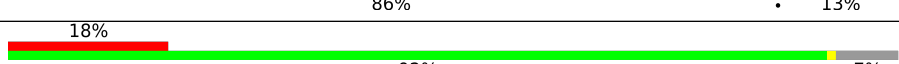
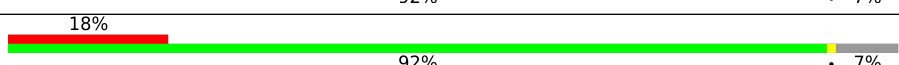
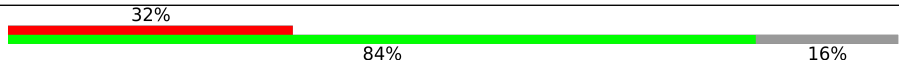
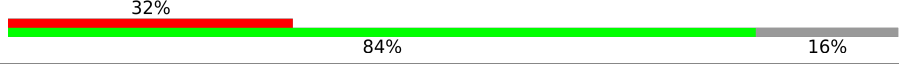
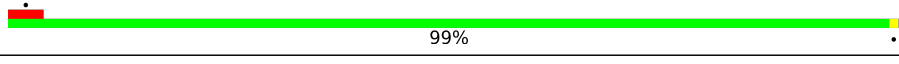
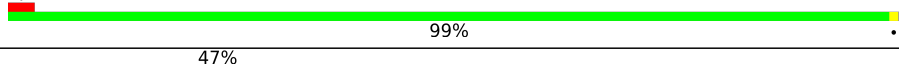
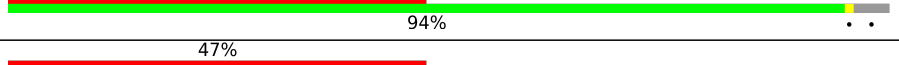
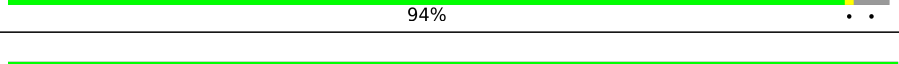
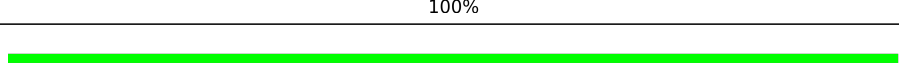
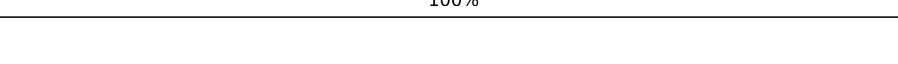
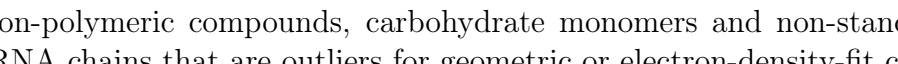
Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
130	T3	311	29% 98%
130	t3	311	28% 98%
131	T4	212	24% 93% 7%
131	t4	212	24% 93% 7%
132	T5	205	68% 31%
132	t5	205	68% 31%
133	T6	144	75% 24%
133	t6	144	75% 24%
134	T7	143	6% 98%
134	t7	143	6% 99%
135	T8	135	97%
135	t8	135	97%
136	T9	136	96%
136	t9	136	97%
137	TA	127	80% 20%
137	ta	127	80% 20%
138	TB	113	85% 15%
138	tb	113	85% 15%
139	TC	93	98%
139	tc	93	98%
140	TD	73	12% 99%
140	td	73	12% 99%
141	TE	71	70% 30%
141	te	71	70% 30%
142	TF	236	10% 91% 8%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
142	tf	236	
143	TG	135	
143	tg	135	
144	TH	124	
144	th	124	
145	TX	166	
145	tx	166	
146	V1	474	
146	v1	474	
147	V2	274	
147	v2	274	
148	X1	150	
148	x1	150	
149	C	212	
149	c	212	
150	U1	92	
150	u1	92	

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
154	HEA	C1	702	X	-	-	-
154	HEA	C1	703	X	-	-	-
154	HEA	c1	702	X	-	-	-
154	HEA	c1	708	X	-	-	-

2 Entry composition [i](#)

There are 171 unique types of molecules in this entry. The entry contains 568568 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 Tim10/DDP family zinc finger protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	1t	70	Total 540	C 329	N 98	O 109	S 4	0	0
1	1T	70	Total 540	C 329	N 98	O 109	S 4	0	0

- Molecule 2 is a protein called NmrA domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	2e	321	Total 2560	C 1623	N 449	O 487	S 1	0	0
2	2E	321	Total 2560	C 1623	N 449	O 487	S 1	0	0

- Molecule 3 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	2f	217	Total 1803	C 1166	N 305	O 328	S 4	0	0
3	2F	217	Total 1803	C 1166	N 305	O 328	S 4	0	0

- Molecule 4 is a protein called SDHTT3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	2g	198	Total 1671	C 1083	N 276	O 307	S 5	0	0
4	2G	198	Total 1671	C 1083	N 276	O 307	S 5	0	0

- Molecule 5 is a protein called Diphthamide synthesis protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	2h	102	Total	C	N	O	S	0	0
			801	497	139	157	8		
5	2H	102	Total	C	N	O	S	0	0
			801	497	139	157	8		

- Molecule 6 is a protein called DUF4885 domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	2i	114	Total	C	N	O	S	0	0
			915	580	153	180	2		
6	2I	114	Total	C	N	O	S	0	0
			915	580	153	180	2		

- Molecule 7 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	2j	102	Total	C	N	O	S	0	0
			839	549	139	149	2		
7	2J	102	Total	C	N	O	S	0	0
			839	549	139	149	2		

- Molecule 8 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	2k	93	Total	C	N	O	S	0	0
			795	530	129	134	2		
8	2K	93	Total	C	N	O	S	0	0
			795	530	129	134	2		

- Molecule 9 is a protein called Transposase.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	2l	83	Total	C	N	O	S	0	0
			722	467	120	134	1		
9	2L	83	Total	C	N	O	S	0	0
			722	467	120	134	1		

- Molecule 10 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	2m	75	Total	C	N	O	S	0	0
			640	412	116	110	2		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
10	2M	75	Total	C	N	O	S	0	0
			640	412	116	110	2		

- Molecule 11 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	2n	61	Total	C	N	O	S	0	0
			505	341	78	84	2		
11	2N	61	Total	C	N	O	S	0	0
			505	341	78	84	2		

- Molecule 12 is a protein called SDHTT11.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	2o	42	Total	C	N	O	S	0	0
			356	239	59	56	2		
12	2O	42	Total	C	N	O	S	0	0
			356	239	59	56	2		

- Molecule 13 is a protein called Zf-Tim10_DDP domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	2t	70	Total	C	N	O	S	0	0
			567	353	100	110	4		
13	2T	70	Total	C	N	O	S	0	0
			567	353	100	110	4		

- Molecule 14 is a protein called Zf-Tim10_DDP domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	3t	83	Total	C	N	O	S	0	0
			655	412	109	128	6		
14	3T	83	Total	C	N	O	S	0	0
			655	412	109	128	6		

- Molecule 15 is a protein called Phage protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	4a	100	Total	C	N	O	S	0	0
			816	519	144	151	2		
15	4A	100	Total	C	N	O	S	0	0
			816	519	144	151	2		

- Molecule 16 is a protein called Transposase.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	4t	57	Total	C	N	O	S	0	0
			481	308	80	90	3		
16	4T	57	Total	C	N	O	S	0	0
			481	308	80	90	3		

- Molecule 17 is a protein called Cullin domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	5t	62	Total	C	N	O	S	0	0
			506	322	89	93	2		
17	5T	62	Total	C	N	O	S	0	0
			506	322	89	93	2		

- Molecule 18 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	6a	126	Total	C	N	O	S	0	0
			1083	698	184	199	2		
18	6A	126	Total	C	N	O	S	0	0
			1083	698	184	199	2		

- Molecule 19 is a protein called Structural protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	6b	222	Total	C	N	O	S	0	0
			1912	1238	312	349	13		
19	6B	222	Total	C	N	O	S	0	0
			1912	1238	312	349	13		

- Molecule 20 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	6c	101	Total	C	N	O	S	0	0
			891	580	158	150	3		
20	6C	101	Total	C	N	O	S	0	0
			891	580	158	150	3		

- Molecule 21 is a protein called Decapping nuclease.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	6l	77	Total	C	N	O	S	0	0
			636	407	108	115	6		
21	6L	77	Total	C	N	O	S	0	0
			636	407	108	115	6		

- Molecule 22 is a protein called Annexin.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	6t	70	Total	C	N	O	S	0	0
			561	362	90	105	4		
22	6T	70	Total	C	N	O	S	0	0
			561	362	90	105	4		

- Molecule 23 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	7a	133	Total	C	N	O	S	0	0
			1166	769	197	199	1		
23	7A	133	Total	C	N	O	S	0	0
			1166	769	197	199	1		

- Molecule 24 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 8, mitochondrial.

Mol	Chain	Residues	Atoms						AltConf	Trace
24	7c	211	Total	C	N	O	P	S	0	0
			1825	1163	299	354	1	8		
24	7C	211	Total	C	N	O	P	S	0	0
			1825	1163	299	354	1	8		

- Molecule 25 is a protein called CTF/NF-I domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	7l	131	Total	C	N	O	S	0	0
			1078	698	175	196	9		
25	7L	131	Total	C	N	O	S	0	0
			1078	698	175	196	9		

- Molecule 26 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	a	449	Total	C	N	O	S	0	0
			3756	2408	638	701	9		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
26	A	449	Total	C	N	O	S	0	0
			3756	2408	638	701	9		

- Molecule 27 is a protein called Protein phosphatase 2C, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	b	428	Total	C	N	O	S	0	0
			3398	2164	593	638	3		
27	B	428	Total	C	N	O	S	0	0
			3398	2164	593	638	3		

- Molecule 28 is a protein called Chromosome condensation regulator RCC1 repeat protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	bp	381	Total	C	N	O	S	0	0
			2920	1858	493	567	2		
28	BP	381	Total	C	N	O	S	0	0
			2920	1858	493	567	2		

- Molecule 29 is a protein called Cytochrome c oxidase subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	c1	674	Total	C	N	O	S	0	0
			5576	3730	910	900	36		
29	C1	674	Total	C	N	O	S	0	0
			5576	3730	910	900	36		

- Molecule 30 is a protein called Cytochrome c oxidase subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	c2	599	Total	C	N	O	S	0	0
			5094	3322	881	880	11		
30	C2	599	Total	C	N	O	S	0	0
			5094	3322	881	880	11		

- Molecule 31 is a protein called Ymf68.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	c3	582	Total	C	N	O	S	0	0
			5084	3451	787	838	8		
31	C3	582	Total	C	N	O	S	0	0
			5084	3451	787	838	8		

- Molecule 32 is a protein called SURF1-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
32	d	289	Total	C	N	O	S	0	0
			2366	1523	400	438	5		
32	D	289	Total	C	N	O	S	0	0
			2366	1523	400	438	5		

- Molecule 33 is a protein called TraB family protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
33	e	384	Total	C	N	O	S	0	0
			3176	2045	549	575	7		
33	E	384	Total	C	N	O	S	0	0
			3176	2045	549	575	7		

- Molecule 34 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
34	f	243	Total	C	N	O	S	0	0
			2024	1304	335	380	5		
34	F	243	Total	C	N	O	S	0	0
			2024	1304	335	380	5		

- Molecule 35 is a protein called Iron-binding zinc finger CDGSH type protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
35	fs	188	Total	C	N	O	S	0	0
			1509	978	260	257	14		
35	FS	188	Total	C	N	O	S	0	0
			1509	978	260	257	14		

- Molecule 36 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 8, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
36	g	293	Total	C	N	O	S	0	0
			2442	1555	410	465	12		
36	G	293	Total	C	N	O	S	0	0
			2442	1555	410	465	12		

- Molecule 37 is a protein called SURF1-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	h	298	Total	C	N	O	S	0	0
			2369	1500	409	450	10		
37	H	298	Total	C	N	O	S	0	0
			2369	1500	409	450	10		

- Molecule 38 is a protein called COXTT9.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	i	231	Total	C	N	O	S	0	0
			1943	1253	340	346	4		
38	I	231	Total	C	N	O	S	0	0
			1943	1253	340	346	4		

- Molecule 39 is a protein called COXTT10.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	j	187	Total	C	N	O	S	0	0
			1575	1024	276	274	1		
39	J	187	Total	C	N	O	S	0	0
			1575	1024	276	274	1		

- Molecule 40 is a protein called 39S ribosomal protein L9, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	k	208	Total	C	N	O	S	0	0
			1714	1090	302	319	3		
40	K	208	Total	C	N	O	S	0	0
			1714	1090	302	319	3		

- Molecule 41 is a protein called Ubiquinol-cytochrome c reductase complex ubiquinone-binding protein QP-C.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	l	194	Total	C	N	O	S	0	0
			1668	1089	284	293	2		
41	L	194	Total	C	N	O	S	0	0
			1668	1089	284	293	2		

- Molecule 42 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	m	219	Total	C	N	O	S	0	0
			1872	1218	315	328	11		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
42	M	219	Total	C	N	O	S	0	0
			1872	1218	315	328	11		

- Molecule 43 is a protein called Oxoglutarate/malate translocator protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	m1	346	Total	C	N	O	S	0	0
			2863	1890	469	491	13		
43	M1	346	Total	C	N	O	S	0	0
			2863	1890	469	491	13		

- Molecule 44 is a protein called 2-oxoglutarate/malate carrier protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	m2	318	Total	C	N	O	S	0	0
			2558	1665	440	449	4		
44	M2	318	Total	C	N	O	S	0	0
			2558	1665	440	449	4		

- Molecule 45 is a protein called Carrier protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	m3	329	Total	C	N	O	S	0	0
			2620	1700	446	470	4		
45	M3	329	Total	C	N	O	S	0	0
			2620	1700	446	470	4		

- Molecule 46 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	n	206	Total	C	N	O	S	0	0
			1716	1117	286	306	7		
46	N	206	Total	C	N	O	S	0	0
			1716	1117	286	306	7		

- Molecule 47 is a protein called Mobilization protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	o	129	Total	C	N	O	S	0	0
			1081	675	191	209	6		
47	O	129	Total	C	N	O	S	0	0
			1081	675	191	209	6		

- Molecule 48 is a protein called YftT domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
48	p	175	Total 1410	C 889	N 247	O 273	S 1	0	0
48	P	175	Total 1410	C 889	N 247	O 273	S 1	0	0

- Molecule 49 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
49	q	173	Total 1434	C 927	N 243	O 255	S 9	0	0
49	Q	173	Total 1434	C 927	N 243	O 255	S 9	0	0

- Molecule 50 is a protein called Transmembrane protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
50	r	172	Total 1407	C 921	N 231	O 252	S 3	0	0
50	R	172	Total 1407	C 921	N 231	O 252	S 3	0	0

- Molecule 51 is a protein called Complex III subunit VII.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
51	s	169	Total 1388	C 878	N 243	O 263	S 4	0	0
51	S	169	Total 1388	C 878	N 243	O 263	S 4	0	0

- Molecule 52 is a protein called Succinate dehydrogenase [ubiquinone] flavoprotein subunit, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
52	sa	599	Total 4624	C 2907	N 825	O 866	S 26	0	0
52	SA	599	Total 4624	C 2907	N 825	O 866	S 26	0	0

- Molecule 53 is a protein called Succinate dehydrogenase (quinone).

Mol	Chain	Residues	Atoms					AltConf	Trace
53	sb	279	Total	C	N	O	S	0	0
			2260	1437	385	417	21		
53	SB	279	Total	C	N	O	S	0	0
			2260	1437	385	417	21		

- Molecule 54 is a protein called Cytochrome b-c1 complex subunit 8.

Mol	Chain	Residues	Atoms				AltConf	Trace
54	sc	58	Total	C	N	O	0	0
			481	314	85	82		
54	SC	58	Total	C	N	O	0	0
			481	314	85	82		

- Molecule 55 is a protein called SDHD.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	sd	44	Total	C	N	O	S	0	0
			393	271	60	60	2		
55	SD	44	Total	C	N	O	S	0	0
			393	271	60	60	2		

- Molecule 56 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	t	156	Total	C	N	O	S	0	0
			1315	858	230	223	4		
56	T	156	Total	C	N	O	S	0	0
			1315	858	230	223	4		

- Molecule 57 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	u	153	Total	C	N	O	S	0	0
			1304	848	221	230	5		
57	U	153	Total	C	N	O	S	0	0
			1304	848	221	230	5		

- Molecule 58 is a protein called COXTT22.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	v	146	Total	C	N	O	S	0	0
			1234	802	217	213	2		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
58	V	146	Total	C	N	O	S	0	0
			1234	802	217	213	2		

- Molecule 59 is a protein called Cytochrome C oxidase subunit Vb protein.

Mol	Chain	Residues	Atoms						AltConf	Trace
59	vb	555	Total	C	N	O	P	S	0	0
			4630	2918	779	914	2	17		
59	VB	555	Total	C	N	O	P	S	0	0
			4630	2918	779	914	2	17		

- Molecule 60 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	w	123	Total	C	N	O	S	0	0
			1096	716	183	193	4		
60	W	123	Total	C	N	O	S	0	0
			1096	716	183	193	4		

- Molecule 61 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	x	122	Total	C	N	O	S	0	0
			1012	665	171	172	4		
61	X	122	Total	C	N	O	S	0	0
			1012	665	171	172	4		

- Molecule 62 is a protein called Lysozyme.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	y	105	Total	C	N	O	S	0	0
			859	540	157	153	9		
62	Y	105	Total	C	N	O	S	0	0
			859	540	157	153	9		

- Molecule 63 is a protein called Ymf70.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	y0	89	Total	C	N	O	S	0	0
			775	535	115	123	2		
63	Y0	89	Total	C	N	O	S	0	0
			775	535	115	123	2		

- Molecule 64 is a protein called Ymf75.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
64	y5	190	Total 1659	C 1141	N 249	O 265	S 4	0	0
64	Y5	190	Total 1659	C 1141	N 249	O 265	S 4	0	0

- Molecule 65 is a protein called Ymf67.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
65	y7	343	Total 2938	C 1964	N 468	O 500	S 6	0	0
65	Y7	343	Total 2938	C 1964	N 468	O 500	S 6	0	0

- Molecule 66 is a protein called ABC transporter.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
66	z	87	Total 717	C 459	N 130	O 128	0	0
66	Z	87	Total 717	C 459	N 130	O 128	0	0

- Molecule 67 is a protein called COXTT28.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
67	z1	97	Total 766	C 489	N 135	O 140	S 2	0	0
67	Z1	97	Total 766	C 489	N 135	O 140	S 2	0	0

- Molecule 68 is a protein called NADH dehydrogenase subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
68	1b	59	Total 516	C 362	N 78	O 73	S 3	0	0
68	1B	59	Total 516	C 362	N 78	O 73	S 3	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
1b	49	VAL	LEU	conflict	UNP Q09FB0

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
1b	56	THR	SER	conflict	UNP Q09FB0
1B	49	VAL	LEU	conflict	UNP Q09FB0
1B	56	THR	SER	conflict	UNP Q09FB0

- Molecule 69 is a protein called NADH dehydrogenase subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	2b	178	Total	C	N	O	S	0	0
			1483	1015	215	248	5		
69	2B	178	Total	C	N	O	S	0	0
			1483	1015	215	248	5		

- Molecule 70 is a protein called Ymf58.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	4l	116	Total	C	N	O	S	0	0
			957	648	142	163	4		
70	4L	116	Total	C	N	O	S	0	0
			957	648	142	163	4		

- Molecule 71 is a protein called Ymf57.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	5b	100	Total	C	N	O	S	0	0
			888	620	128	137	3		
71	5B	100	Total	C	N	O	S	0	0
			888	620	128	137	3		

- Molecule 72 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	a1	93	Total	C	N	O		0	0
			806	531	139	136			
72	A1	93	Total	C	N	O		0	0
			806	531	139	136			

- Molecule 73 is a protein called Ribosomal protein L51/S25/CI-B8 domain protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	a2	98	Total	C	N	O	S	0	0
			811	512	146	151	2		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
73	A2	98	811	512	146	151	2	0	0

- Molecule 74 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
74	a3	129	1077	697	195	182	3	0	0
74	A3	129	1077	697	195	182	3	0	0

- Molecule 75 is a protein called ETC complex I subunit motif protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
75	a5	155	1307	838	219	244	6	0	0
75	A5	155	1307	838	219	244	6	0	0

- Molecule 76 is a protein called NADH dehydrogenase, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
76	a6	172	1421	903	253	257	8	0	0
76	A6	172	1421	903	253	257	8	0	0

- Molecule 77 is a protein called 37S ribosomal protein S25, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
77	a7	282	2347	1478	413	453	3	0	0
77	A7	282	2347	1478	413	453	3	0	0

- Molecule 78 is a protein called CX9C domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
78	a8	132	1075	676	180	208	11	0	0
78	A8	132	1075	676	180	208	11	0	0

- Molecule 79 is a protein called NAD-dependent epimerase/dehydratase family protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	a9	340	Total	C	N	O	S	0	0
			2736	1747	479	498	12		
79	A9	340	Total	C	N	O	S	0	0
			2736	1747	479	498	12		

- Molecule 80 is a protein called Acyl carrier protein.

Mol	Chain	Residues	Atoms				AltConf	Trace
80	ab	112	Total	C	N	O	0	0
			926	586	158	182		
80	AB	112	Total	C	N	O	0	0
			926	586	158	182		

- Molecule 81 is a protein called Acyl carrier protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	ac	98	Total	C	N	O	S	0	0
			806	513	134	158	1		
81	AC	98	Total	C	N	O	S	0	0
			806	513	134	158	1		

- Molecule 82 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	al	193	Total	C	N	O	S	0	0
			1612	1019	303	285	5		
82	AL	193	Total	C	N	O	S	0	0
			1612	1019	303	285	5		

- Molecule 83 is a protein called NDUA13.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	am	160	Total	C	N	O	S	0	0
			1349	858	256	227	8		
83	AM	160	Total	C	N	O	S	0	0
			1349	858	256	227	8		

- Molecule 84 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
84	an	231	Total	C	N	O	S	0	0
			1879	1219	317	336	7		
84	AN	231	Total	C	N	O	S	0	0
			1879	1219	317	336	7		

- Molecule 85 is a protein called NDUB2.

Mol	Chain	Residues	Atoms					AltConf	Trace
85	b2	120	Total	C	N	O	S	0	0
			966	621	167	175	3		
85	B2	120	Total	C	N	O	S	0	0
			966	621	167	175	3		

- Molecule 86 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
86	b3	69	Total	C	N	O	S	0	0
			602	396	105	100	1		
86	B3	69	Total	C	N	O	S	0	0
			602	396	105	100	1		

- Molecule 87 is a protein called NDUB4.

Mol	Chain	Residues	Atoms					AltConf	Trace
87	b4	115	Total	C	N	O	S	0	0
			976	641	156	175	4		
87	B4	115	Total	C	N	O	S	0	0
			976	641	156	175	4		

- Molecule 88 is a protein called NDUB6.

Mol	Chain	Residues	Atoms					AltConf	Trace
88	b6	70	Total	C	N	O	S	0	0
			596	400	98	94	4		
88	B6	70	Total	C	N	O	S	0	0
			596	400	98	94	4		

- Molecule 89 is a protein called CHCH domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
89	b7	116	Total	C	N	O	S	0	0
			941	595	163	177	6		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
89	B7	116	941	595	163	177	6	0	0

- Molecule 90 is a protein called NDUB8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
90	b8	175	1456	936	248	266	6	0	0
90	B8	175	1456	936	248	266	6	0	0

- Molecule 91 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 10, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
91	b9	188	1596	1032	255	304	5	0	0
91	B9	188	1596	1032	255	304	5	0	0

- Molecule 92 is a protein called NDUB10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
92	bl	175	1461	925	264	268	4	0	0
92	BL	175	1461	925	264	268	4	0	0

- Molecule 93 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
93	bm	164	1321	834	223	259	5	0	0
93	BM	164	1321	834	223	259	5	0	0

- Molecule 94 is a protein called Complex I-MNLL.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
94	c4	102	850	553	139	150	8	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
94	C4	102	Total	C	N	O	S	0	0
			850	553	139	150	8		

- Molecule 95 is a protein called 2 iron, 2 sulfur cluster-binding protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
95	fx	146	Total	C	N	O	S	0	0
			1162	722	207	223	10		
95	FX	146	Total	C	N	O	S	0	0
			1162	722	207	223	10		

- Molecule 96 is a protein called Gamma-carbonic anhydrase.

Mol	Chain	Residues	Atoms					AltConf	Trace
96	g1	229	Total	C	N	O	S	0	0
			1773	1113	305	350	5		
96	G1	229	Total	C	N	O	S	0	0
			1773	1113	305	350	5		

- Molecule 97 is a protein called Gamma-carbonic anhydrase.

Mol	Chain	Residues	Atoms					AltConf	Trace
97	g2	230	Total	C	N	O	S	0	0
			1762	1106	315	334	7		
97	G2	230	Total	C	N	O	S	0	0
			1762	1106	315	334	7		

- Molecule 98 is a protein called Transcription factor apfi protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
98	g3	346	Total	C	N	O	S	0	0
			2804	1766	481	549	8		
98	G3	346	Total	C	N	O	S	0	0
			2804	1766	481	549	8		

- Molecule 99 is a protein called DnaJ domain protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
99	j1	265	Total	C	N	O	S	0	0
			2170	1375	402	390	3		
99	J1	265	Total	C	N	O	S	0	0
			2170	1375	402	390	3		

- Molecule 100 is a protein called NADH-ubiquinone oxidoreductase chain 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
100	n1	283	Total	C	N	O	S	0	0
			2305	1581	334	378	12		
100	N1	283	Total	C	N	O	S	0	0
			2305	1581	334	378	12		

- Molecule 101 is a protein called Ymf65.

Mol	Chain	Residues	Atoms					AltConf	Trace
101	n2	360	Total	C	N	O	S	0	0
			3073	2134	436	495	8		
101	N2	360	Total	C	N	O	S	0	0
			3073	2134	436	495	8		

- Molecule 102 is a protein called NADH-ubiquinone oxidoreductase chain 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
102	n3	120	Total	C	N	O	S	0	0
			1017	705	142	166	4		
102	N3	120	Total	C	N	O	S	0	0
			1017	705	142	166	4		

- Molecule 103 is a protein called NADH-ubiquinone oxidoreductase chain 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
103	n4	505	Total	C	N	O	S	0	0
			4170	2859	601	692	18		
103	N4	505	Total	C	N	O	S	0	0
			4170	2859	601	692	18		

- Molecule 104 is a protein called NADH dehydrogenase subunit 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
104	n5	709	Total	C	N	O	S	0	0
			5908	4044	850	998	16		
104	N5	709	Total	C	N	O	S	0	0
			5908	4044	850	998	16		

- Molecule 105 is a protein called Ymf62.

Mol	Chain	Residues	Atoms					AltConf	Trace
105	n6	255	Total	C	N	O	S	0	0
			2168	1483	306	374	5		
105	N6	255	Total	C	N	O	S	0	0
			2168	1483	306	374	5		

- Molecule 106 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
106	p1	230	Total	C	N	O	S	0	0
			1908	1241	322	340	5		
106	P1	230	Total	C	N	O	S	0	0
			1908	1241	322	340	5		

- Molecule 107 is a protein called NDUPH2.

Mol	Chain	Residues	Atoms					AltConf	Trace
107	p2	167	Total	C	N	O	S	0	0
			1414	926	225	258	5		
107	P2	167	Total	C	N	O	S	0	0
			1414	926	225	258	5		

- Molecule 108 is a protein called M16 family peptidase, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
108	qA	454	Total	C	N	O	S	0	0
			3517	2213	599	699	6		
108	qa	454	Total	C	N	O	S	0	0
			3517	2213	599	699	6		
108	QA	454	Total	C	N	O	S	0	0
			3517	2213	599	699	6		
108	Qa	454	Total	C	N	O	S	0	0
			3517	2213	599	699	6		

- Molecule 109 is a protein called Peptidase M16 inactive domain protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
109	qB	480	Total	C	N	O	S	0	0
			3835	2431	668	731	5		
109	qb	480	Total	C	N	O	S	0	0
			3835	2431	668	731	5		
109	QB	480	Total	C	N	O	S	0	0
			3835	2431	668	731	5		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
109	Qb	480	Total	C	N	O	S	0	0
			3835	2431	668	731	5		

- Molecule 110 is a protein called Apocytochrome b.

Mol	Chain	Residues	Atoms					AltConf	Trace
110	qC	426	Total	C	N	O	S	0	0
			3589	2417	541	609	22		
110	qc	425	Total	C	N	O	S	0	0
			3580	2411	539	608	22		
110	QC	426	Total	C	N	O	S	0	0
			3589	2417	541	609	22		
110	Qc	425	Total	C	N	O	S	0	0
			3580	2411	539	608	22		

- Molecule 111 is a protein called Cytochrome protein c1.

Mol	Chain	Residues	Atoms					AltConf	Trace
111	qD	295	Total	C	N	O	S	0	0
			2489	1627	418	431	13		
111	qd	295	Total	C	N	O	S	0	0
			2489	1627	418	431	13		
111	QD	295	Total	C	N	O	S	0	0
			2489	1627	418	431	13		
111	Qd	295	Total	C	N	O	S	0	0
			2489	1627	418	431	13		

- Molecule 112 is a protein called Rieske iron-sulfur protein, ubiquinol-cytochrome C reductase iron-sulfur subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
112	qE	230	Total	C	N	O	S	0	0
			1559	971	294	292	2		
112	qe	219	Total	C	N	O	S	0	0
			1471	917	278	274	2		
112	QE	230	Total	C	N	O	S	0	0
			1559	971	294	292	2		
112	Qe	219	Total	C	N	O	S	0	0
			1471	917	278	274	2		

- Molecule 113 is a protein called Ubiquinol-cytochrome C reductase hinge protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
113	qF	89	Total	C	N	O	S	0	0
			702	439	125	129	9		
113	qf	80	Total	C	N	O	S	0	0
			630	393	112	116	9		
113	QF	89	Total	C	N	O	S	0	0
			702	439	125	129	9		
113	Qf	80	Total	C	N	O	S	0	0
			630	393	112	116	9		

- Molecule 114 is a protein called Sulphotransf domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
114	qG	327	Total	C	N	O	S	0	0
			2767	1789	482	490	6		
114	qg	326	Total	C	N	O	S	0	0
			2760	1784	481	489	6		
114	QG	327	Total	C	N	O	S	0	0
			2767	1789	482	490	6		
114	Qg	326	Total	C	N	O	S	0	0
			2760	1784	481	489	6		

- Molecule 115 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
115	qH	129	Total	C	N	O	S	0	0
			1098	708	195	187	8		
115	qh	129	Total	C	N	O	S	0	0
			1098	708	195	187	8		
115	QH	129	Total	C	N	O	S	0	0
			1098	708	195	187	8		
115	Qh	129	Total	C	N	O	S	0	0
			1098	708	195	187	8		

- Molecule 116 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
116	qI	114	Total	C	N	O	S	0	0
			971	651	161	158	1		
116	qi	114	Total	C	N	O	S	0	0
			971	651	161	158	1		
116	QI	114	Total	C	N	O	S	0	0
			971	651	161	158	1		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
116	Qi	114	971	651	161	158	1	0	0

- Molecule 117 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
117	qJ	56	481	329	73	77	2	0	0
117	qj	58	501	341	79	79	2	0	0
117	QJ	56	481	329	73	77	2	0	0
117	Qj	58	501	341	79	79	2	0	0

- Molecule 118 is a protein called UQCRTT2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
118	qL	32	266	181	41	42	2	0	0
118	ql	32	266	181	41	42	2	0	0
118	QL	32	266	181	41	42	2	0	0
118	Ql	32	266	181	41	42	2	0	0

- Molecule 119 is a protein called Unknown peptide.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
119	qM	17	85	51	17	17	0	0
119	qm	17	85	51	17	17	0	0
119	Qm	17	85	51	17	17	0	0
119	u2	17	85	51	17	17	0	0
119	U2	17	85	51	17	17	0	0
119	QM	17	85	51	17	17	0	0

- Molecule 120 is a protein called NADH-ubiquinone oxidoreductase 75 kDa subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
120	s1	689	5410	3414	937	1031	28	0	0
120	S1	689	5410	3414	937	1031	28	0	0

- Molecule 121 is a protein called NADH dehydrogenase subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
121	s2	442	3598	2291	624	659	24	0	0
121	S2	442	3598	2291	624	659	24	0	0

- Molecule 122 is a protein called NADH dehydrogenase subunit 9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
122	s3	198	1681	1096	267	312	6	0	0
122	S3	198	1681	1096	267	312	6	0	0

- Molecule 123 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 4, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
123	s4	182	1500	952	268	272	8	0	0
123	S4	182	1500	952	268	272	8	0	0

- Molecule 124 is a protein called GRAM domain protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
124	s5	93	756	480	129	141	6	0	0
124	S5	93	756	480	129	141	6	0	0

- Molecule 125 is a protein called Zinc-finger protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
125	s6	92	Total	C	N	O	S	0	0
			738	464	131	139	4		
125	S6	92	Total	C	N	O	S	0	0
			738	464	131	139	4		

- Molecule 126 is a protein called NADH dehydrogenase subunit 10.

Mol	Chain	Residues	Atoms					AltConf	Trace
126	s7	161	Total	C	N	O	S	0	0
			1278	822	220	226	10		
126	S7	161	Total	C	N	O	S	0	0
			1278	822	220	226	10		

- Molecule 127 is a protein called NADH-ubiquinone oxidoreductase 1, chain, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
127	s8	218	Total	C	N	O	S	0	0
			1812	1155	299	347	11		
127	S8	218	Total	C	N	O	S	0	0
			1812	1155	299	347	11		

- Molecule 128 is a protein called Lipid-A-disaccharide synthase.

Mol	Chain	Residues	Atoms					AltConf	Trace
128	t1	502	Total	C	N	O	S	0	0
			4059	2600	698	748	13		
128	T1	502	Total	C	N	O	S	0	0
			4059	2600	698	748	13		

- Molecule 129 is a protein called Acyl-CoA synthetase (AMP-forming)/AMP-acid ligase II.

Mol	Chain	Residues	Atoms					AltConf	Trace
129	t2	279	Total	C	N	O	S	0	0
			2180	1386	375	418	1		
129	T2	279	Total	C	N	O	S	0	0
			2180	1386	375	418	1		

- Molecule 130 is a protein called RNase III domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
130	t3	310	Total	C	N	O	S	0	0
			2479	1576	432	464	7		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
130	T3	310	Total	C	N	O	S	0	0
			2479	1576	432	464	7		

- Molecule 131 is a protein called Transmembrane protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
131	t4	198	Total	C	N	O	S	0	0
			1644	1068	284	289	3		
131	T4	198	Total	C	N	O	S	0	0
			1644	1068	284	289	3		

- Molecule 132 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
132	t5	141	Total	C	N	O	S	0	0
			1138	730	202	204	2		
132	T5	141	Total	C	N	O	S	0	0
			1138	730	202	204	2		

- Molecule 133 is a protein called COX assembly mitochondrial protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
133	t6	109	Total	C	N	O	S	0	0
			903	562	161	174	6		
133	T6	109	Total	C	N	O	S	0	0
			903	562	161	174	6		

- Molecule 134 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
134	t7	142	Total	C	N	O	S	0	0
			1187	770	202	209	6		
134	T7	142	Total	C	N	O	S	0	0
			1187	770	202	209	6		

- Molecule 135 is a protein called PH domain-containing protein.

Mol	Chain	Residues	Atoms				AltConf	Trace
135	t8	131	Total	C	N	O	0	0
			1084	705	191	188		
135	T8	131	Total	C	N	O	0	0
			1084	705	191	188		

- Molecule 136 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
136	t9	132	Total 1066	C 670	N 185	O 201	S 10	0	0
136	T9	132	Total 1066	C 670	N 185	O 201	S 10	0	0

- Molecule 137 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
137	ta	102	Total 854	C 553	N 141	O 155	S 5	0	0
137	TA	102	Total 854	C 553	N 141	O 155	S 5	0	0

- Molecule 138 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
138	tb	96	Total 801	C 515	N 139	O 147	0	0
138	TB	96	Total 801	C 515	N 139	O 147	0	0

- Molecule 139 is a protein called ATP synthase subunit e, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
139	tc	92	Total 789	C 497	N 146	O 145	S 1	0	0
139	TC	92	Total 789	C 497	N 146	O 145	S 1	0	0

- Molecule 140 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
140	td	72	Total 616	C 403	N 110	O 103	0	0
140	TD	72	Total 616	C 403	N 110	O 103	0	0

- Molecule 141 is a protein called Transmembrane protein, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
141	te	50	Total	C	N	O	S	0	0
			420	282	64	72	2		
141	TE	50	Total	C	N	O	S	0	0
			420	282	64	72	2		

- Molecule 142 is a protein called NDUTT15.

Mol	Chain	Residues	Atoms					AltConf	Trace
142	tf	216	Total	C	N	O	S	0	0
			1789	1150	304	327	8		
142	TF	216	Total	C	N	O	S	0	0
			1789	1150	304	327	8		

- Molecule 143 is a protein called NDUTT16.

Mol	Chain	Residues	Atoms					AltConf	Trace
143	tg	134	Total	C	N	O	S	0	0
			1081	683	194	203	1		
143	TG	134	Total	C	N	O	S	0	0
			1081	683	194	203	1		

- Molecule 144 is a protein called NDUTT17.

Mol	Chain	Residues	Atoms					AltConf	Trace
144	th	124	Total	C	N	O	S	0	0
			996	639	178	177	2		
144	TH	124	Total	C	N	O	S	0	0
			996	639	178	177	2		

- Molecule 145 is a protein called Thioredoxin.

Mol	Chain	Residues	Atoms					AltConf	Trace
145	tx	144	Total	C	N	O	S	0	0
			1206	767	205	227	7		
145	TX	144	Total	C	N	O	S	0	0
			1206	767	205	227	7		

- Molecule 146 is a protein called NADH dehydrogenase [ubiquinone] flavoprotein 1, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
146	v1	442	Total	C	N	O	S	0	0
			3410	2146	600	640	24		

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
146	V1	442	3410	2146	600	640	24	0	0

- Molecule 147 is a protein called NADH-ubiquinone oxidoreductase 24 kDa subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
147	v2	231	1858	1173	318	357	10	0	0
147	V2	231	1858	1173	318	357	10	0	0

- Molecule 148 is a protein called NADH-ubiquinone oxidoreductase complex I, 21 kDa subunit.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
148	x1	149	1227	800	213	214	0	0
148	X1	149	1227	800	213	214	0	0

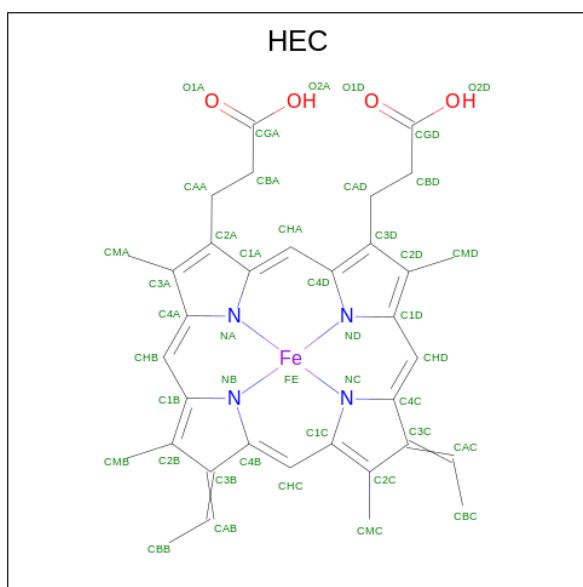
- Molecule 149 is a protein called COXTT3.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
149	C	203	1368	851	246	271	0	0
149	c	203	1368	851	246	271	0	0

- Molecule 150 is a protein called Unknown peptide.

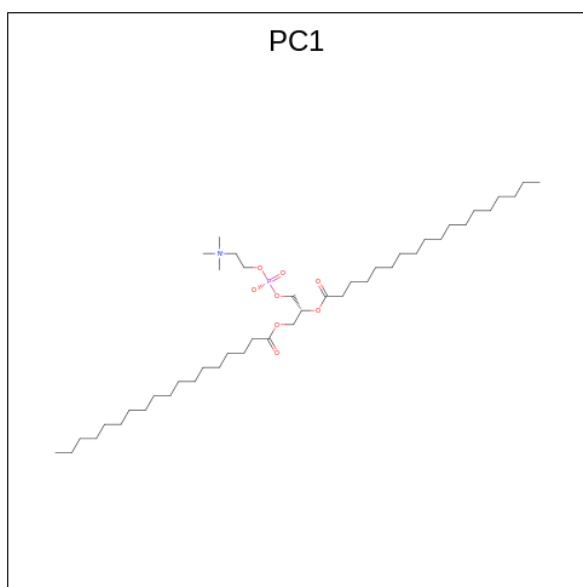
Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
150	u1	92	460	276	92	92	0	0
150	U1	92	460	276	92	92	0	0

- Molecule 151 is HEME C (three-letter code: HEC) (formula: C₃₄H₃₄FeN₄O₄) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf	
			Total	C	Fe	N		O
151	2e	1	43	34	1	4	4	0
151	qD	1	43	34	1	4	4	0
151	qd	1	43	34	1	4	4	0
151	2E	1	43	34	1	4	4	0
151	QD	1	43	34	1	4	4	0
151	Qd	1	43	34	1	4	4	0

- Molecule 152 is 1,2-DIACYL-SN-GLYCERO-3-PHOSPHOCHOLINE (three-letter code: PC1) (formula: $C_{44}H_{88}NO_8P$).



Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
152	2f	1	Total 47	37	1	8	1	0
152	2f	1	Total 42	32	1	8	1	0
152	2f	1	Total 32	22	1	8	1	0
152	2g	1	Total 50	40	1	8	1	0
152	2j	1	Total 42	32	1	8	1	0
152	6a	1	Total 35	25	1	8	1	0
152	6c	1	Total 33	23	1	8	1	0
152	7a	1	Total 45	35	1	8	1	0
152	7c	1	Total 43	33	1	8	1	0
152	a	1	Total 41	31	1	8	1	0
152	a	1	Total 41	31	1	8	1	0
152	c1	1	Total 49	39	1	8	1	0
152	c1	1	Total 45	35	1	8	1	0
152	c1	1	Total 38	28	1	8	1	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
152	c1	1	Total 39	C 29	N 1	O 8	P 1	0
152	c2	1	Total 36	C 26	N 1	O 8	P 1	0
152	c3	1	Total 52	C 42	N 1	O 8	P 1	0
152	c3	1	Total 39	C 29	N 1	O 8	P 1	0
152	c3	1	Total 31	C 21	N 1	O 8	P 1	0
152	c3	1	Total 39	C 29	N 1	O 8	P 1	0
152	c3	1	Total 49	C 39	N 1	O 8	P 1	0
152	d	1	Total 35	C 25	N 1	O 8	P 1	0
152	f	1	Total 38	C 28	N 1	O 8	P 1	0
152	fs	1	Total 40	C 30	N 1	O 8	P 1	0
152	i	1	Total 39	C 29	N 1	O 8	P 1	0
152	j	1	Total 37	C 27	N 1	O 8	P 1	0
152	m	1	Total 45	C 35	N 1	O 8	P 1	0
152	m	1	Total 35	C 25	N 1	O 8	P 1	0
152	m	1	Total 36	C 26	N 1	O 8	P 1	0
152	m1	1	Total 54	C 44	N 1	O 8	P 1	0
152	m1	1	Total 42	C 32	N 1	O 8	P 1	0
152	m2	1	Total 32	C 22	N 1	O 8	P 1	0
152	m2	1	Total 54	C 44	N 1	O 8	P 1	0
152	m2	1	Total 46	C 36	N 1	O 8	P 1	0
152	n	1	Total 41	C 31	N 1	O 8	P 1	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
152	n	1	Total 32	C 22	N 1	O 8	P 1	0
152	n	1	Total 36	C 26	N 1	O 8	P 1	0
152	v	1	Total 35	C 25	N 1	O 8	P 1	0
152	v	1	Total 49	C 39	N 1	O 8	P 1	0
152	w	1	Total 49	C 39	N 1	O 8	P 1	0
152	w	1	Total 34	C 24	N 1	O 8	P 1	0
152	w	1	Total 43	C 33	N 1	O 8	P 1	0
152	5b	1	Total 47	C 37	N 1	O 8	P 1	0
152	al	1	Total 26	C 16	N 1	O 8	P 1	0
152	am	1	Total 39	C 29	N 1	O 8	P 1	0
152	an	1	Total 36	C 26	N 1	O 8	P 1	0
152	b9	1	Total 34	C 24	N 1	O 8	P 1	0
152	c4	1	Total 41	C 31	N 1	O 8	P 1	0
152	j1	1	Total 40	C 30	N 1	O 8	P 1	0
152	n1	1	Total 36	C 26	N 1	O 8	P 1	0
152	n3	1	Total 31	C 21	N 1	O 8	P 1	0
152	n5	1	Total 52	C 42	N 1	O 8	P 1	0
152	n5	1	Total 53	C 43	N 1	O 8	P 1	0
152	n5	1	Total 39	C 29	N 1	O 8	P 1	0
152	n5	1	Total 54	C 44	N 1	O 8	P 1	0
152	n6	1	Total 54	C 44	N 1	O 8	P 1	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
152	p1	1	Total 40	C 30	N 1	O 8	P 1	0
152	qB	1	Total 44	C 34	N 1	O 8	P 1	0
152	qC	1	Total 38	C 28	N 1	O 8	P 1	0
152	qC	1	Total 50	C 40	N 1	O 8	P 1	0
152	qC	1	Total 36	C 26	N 1	O 8	P 1	0
152	qE	1	Total 24	C 14	N 1	O 8	P 1	0
152	qE	1	Total 39	C 29	N 1	O 8	P 1	0
152	qE	1	Total 28	C 18	N 1	O 8	P 1	0
152	qG	1	Total 32	C 22	N 1	O 8	P 1	0
152	qI	1	Total 30	C 20	N 1	O 8	P 1	0
152	qI	1	Total 43	C 33	N 1	O 8	P 1	0
152	qJ	1	Total 38	C 28	N 1	O 8	P 1	0
152	qb	1	Total 43	C 33	N 1	O 8	P 1	0
152	qc	1	Total 38	C 28	N 1	O 8	P 1	0
152	qc	1	Total 47	C 37	N 1	O 8	P 1	0
152	qe	1	Total 33	C 23	N 1	O 8	P 1	0
152	qe	1	Total 43	C 33	N 1	O 8	P 1	0
152	qg	1	Total 32	C 22	N 1	O 8	P 1	0
152	qi	1	Total 30	C 20	N 1	O 8	P 1	0
152	qi	1	Total 42	C 32	N 1	O 8	P 1	0
152	qj	1	Total 36	C 26	N 1	O 8	P 1	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
152	s8	1	Total 30	C 20	N 1	O 8	P 1	0
152	t1	1	Total 33	C 23	N 1	O 8	P 1	0
152	t4	1	Total 48	C 38	N 1	O 8	P 1	0
152	t4	1	Total 54	C 44	N 1	O 8	P 1	0
152	tc	1	Total 42	C 32	N 1	O 8	P 1	0
152	tc	1	Total 47	C 37	N 1	O 8	P 1	0
152	te	1	Total 32	C 22	N 1	O 8	P 1	0
152	2F	1	Total 47	C 37	N 1	O 8	P 1	0
152	2F	1	Total 42	C 32	N 1	O 8	P 1	0
152	2F	1	Total 32	C 22	N 1	O 8	P 1	0
152	2G	1	Total 50	C 40	N 1	O 8	P 1	0
152	2J	1	Total 42	C 32	N 1	O 8	P 1	0
152	6A	1	Total 35	C 25	N 1	O 8	P 1	0
152	6C	1	Total 33	C 23	N 1	O 8	P 1	0
152	7A	1	Total 45	C 35	N 1	O 8	P 1	0
152	7C	1	Total 43	C 33	N 1	O 8	P 1	0
152	A	1	Total 41	C 31	N 1	O 8	P 1	0
152	A	1	Total 41	C 31	N 1	O 8	P 1	0
152	C1	1	Total 49	C 39	N 1	O 8	P 1	0
152	C1	1	Total 45	C 35	N 1	O 8	P 1	0
152	C1	1	Total 38	C 28	N 1	O 8	P 1	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
152	C1	1	Total 39	C 29	N 1	O 8	P 1	0
152	C2	1	Total 36	C 26	N 1	O 8	P 1	0
152	C3	1	Total 52	C 42	N 1	O 8	P 1	0
152	C3	1	Total 39	C 29	N 1	O 8	P 1	0
152	C3	1	Total 31	C 21	N 1	O 8	P 1	0
152	C3	1	Total 39	C 29	N 1	O 8	P 1	0
152	C3	1	Total 49	C 39	N 1	O 8	P 1	0
152	D	1	Total 35	C 25	N 1	O 8	P 1	0
152	F	1	Total 38	C 28	N 1	O 8	P 1	0
152	FS	1	Total 40	C 30	N 1	O 8	P 1	0
152	I	1	Total 39	C 29	N 1	O 8	P 1	0
152	J	1	Total 37	C 27	N 1	O 8	P 1	0
152	M	1	Total 36	C 26	N 1	O 8	P 1	0
152	M	1	Total 45	C 35	N 1	O 8	P 1	0
152	M	1	Total 35	C 25	N 1	O 8	P 1	0
152	M1	1	Total 54	C 44	N 1	O 8	P 1	0
152	M1	1	Total 42	C 32	N 1	O 8	P 1	0
152	M2	1	Total 32	C 22	N 1	O 8	P 1	0
152	M2	1	Total 54	C 44	N 1	O 8	P 1	0
152	M2	1	Total 46	C 36	N 1	O 8	P 1	0
152	N	1	Total 41	C 31	N 1	O 8	P 1	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
152	N	1	Total 32	C 22	N 1	O 8	P 1	0
152	N	1	Total 36	C 26	N 1	O 8	P 1	0
152	V	1	Total 35	C 25	N 1	O 8	P 1	0
152	V	1	Total 49	C 39	N 1	O 8	P 1	0
152	W	1	Total 49	C 39	N 1	O 8	P 1	0
152	W	1	Total 34	C 24	N 1	O 8	P 1	0
152	W	1	Total 43	C 33	N 1	O 8	P 1	0
152	5B	1	Total 47	C 37	N 1	O 8	P 1	0
152	AL	1	Total 26	C 16	N 1	O 8	P 1	0
152	AM	1	Total 39	C 29	N 1	O 8	P 1	0
152	AN	1	Total 36	C 26	N 1	O 8	P 1	0
152	B9	1	Total 34	C 24	N 1	O 8	P 1	0
152	C4	1	Total 41	C 31	N 1	O 8	P 1	0
152	J1	1	Total 40	C 30	N 1	O 8	P 1	0
152	N1	1	Total 36	C 26	N 1	O 8	P 1	0
152	N3	1	Total 31	C 21	N 1	O 8	P 1	0
152	N5	1	Total 52	C 42	N 1	O 8	P 1	0
152	N5	1	Total 53	C 43	N 1	O 8	P 1	0
152	N5	1	Total 39	C 29	N 1	O 8	P 1	0
152	N5	1	Total 54	C 44	N 1	O 8	P 1	0
152	N6	1	Total 54	C 44	N 1	O 8	P 1	0

Continued on next page...

Continued from previous page...

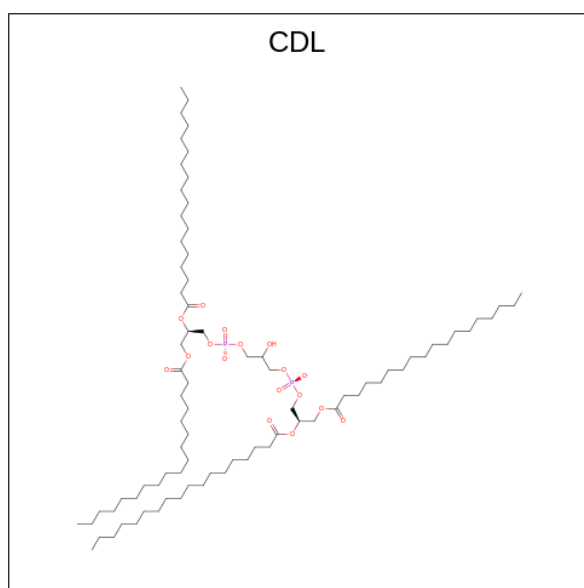
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
152	P1	1	Total 40	C 30	N 1	O 8	P 1	0
152	QB	1	Total 44	C 34	N 1	O 8	P 1	0
152	QC	1	Total 38	C 28	N 1	O 8	P 1	0
152	QC	1	Total 50	C 40	N 1	O 8	P 1	0
152	QC	1	Total 36	C 26	N 1	O 8	P 1	0
152	QE	1	Total 24	C 14	N 1	O 8	P 1	0
152	QE	1	Total 39	C 29	N 1	O 8	P 1	0
152	QG	1	Total 32	C 22	N 1	O 8	P 1	0
152	QI	1	Total 30	C 20	N 1	O 8	P 1	0
152	QI	1	Total 43	C 33	N 1	O 8	P 1	0
152	QJ	1	Total 28	C 18	N 1	O 8	P 1	0
152	QJ	1	Total 38	C 28	N 1	O 8	P 1	0
152	Qb	1	Total 43	C 33	N 1	O 8	P 1	0
152	Qc	1	Total 38	C 28	N 1	O 8	P 1	0
152	Qc	1	Total 47	C 37	N 1	O 8	P 1	0
152	Qe	1	Total 33	C 23	N 1	O 8	P 1	0
152	Qe	1	Total 43	C 33	N 1	O 8	P 1	0
152	Qg	1	Total 32	C 22	N 1	O 8	P 1	0
152	Qi	1	Total 30	C 20	N 1	O 8	P 1	0
152	Qi	1	Total 42	C 32	N 1	O 8	P 1	0
152	Qj	1	Total 36	C 26	N 1	O 8	P 1	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
152	S8	1	Total 30	C 20	N 1	O 8	P 1	0
152	T1	1	Total 33	C 23	N 1	O 8	P 1	0
152	T4	1	Total 48	C 38	N 1	O 8	P 1	0
152	T4	1	Total 54	C 44	N 1	O 8	P 1	0
152	TC	1	Total 42	C 32	N 1	O 8	P 1	0
152	TC	1	Total 47	C 37	N 1	O 8	P 1	0
152	TE	1	Total 32	C 22	N 1	O 8	P 1	0

- Molecule 153 is CARDIOLIPIN (three-letter code: CDL) (formula: $C_{81}H_{156}O_{17}P_2$).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
153	2g	1	Total 89	C 70	O 17	P 2	0
153	2g	1	Total 55	C 36	O 17	P 2	0
153	2g	1	Total 63	C 44	O 17	P 2	0
153	2k	1	Total 98	C 79	O 17	P 2	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
153	2m	1	96	77	17	2	0
153	2o	1	50	31	17	2	0
153	6a	1	74	55	17	2	0
153	6c	1	75	56	17	2	0
153	6c	1	82	63	17	2	0
153	7a	1	100	81	17	2	0
153	7a	1	62	43	17	2	0
153	7c	1	85	66	17	2	0
153	7c	1	51	32	17	2	0
153	a	1	51	32	17	2	0
153	a	1	94	75	17	2	0
153	a	1	82	63	17	2	0
153	b	1	62	43	17	2	0
153	c1	1	79	60	17	2	0
153	c1	1	65	46	17	2	0
153	c1	1	63	44	17	2	0
153	c1	1	95	76	17	2	0
153	c3	1	68	49	17	2	0
153	e	1	60	41	17	2	0
153	e	1	72	53	17	2	0
153	e	1	63	44	17	2	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
153	f	1	Total 100	C 81	O 17	P 2	0
153	fs	1	Total 47	C 28	O 17	P 2	0
153	i	1	Total 77	C 58	O 17	P 2	0
153	i	1	Total 75	C 56	O 17	P 2	0
153	j	1	Total 70	C 51	O 17	P 2	0
153	l	1	Total 74	C 55	O 17	P 2	0
153	m	1	Total 64	C 45	O 17	P 2	0
153	m	1	Total 83	C 64	O 17	P 2	0
153	m	1	Total 64	C 45	O 17	P 2	0
153	m	1	Total 66	C 47	O 17	P 2	0
153	m1	1	Total 66	C 47	O 17	P 2	0
153	m1	1	Total 91	C 72	O 17	P 2	0
153	m1	1	Total 57	C 38	O 17	P 2	0
153	m2	1	Total 54	C 35	O 17	P 2	0
153	m2	1	Total 66	C 47	O 17	P 2	0
153	m2	1	Total 74	C 55	O 17	P 2	0
153	m3	1	Total 63	C 44	O 17	P 2	0
153	m3	1	Total 55	C 36	O 17	P 2	0
153	n	1	Total 84	C 65	O 17	P 2	0
153	q	1	Total 63	C 44	O 17	P 2	0
153	q	1	Total 72	C 53	O 17	P 2	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
153	q	1	86	67	17	2	0
153	r	1	65	46	17	2	0
153	sd	1	76	57	17	2	0
153	t	1	59	40	17	2	0
153	t	1	75	56	17	2	0
153	t	1	71	52	17	2	0
153	t	1	90	71	17	2	0
153	u	1	60	41	17	2	0
153	vb	1	62	43	17	2	0
153	vb	1	67	48	17	2	0
153	w	1	84	65	17	2	0
153	y5	1	70	51	17	2	0
153	y7	1	65	46	17	2	0
153	z	1	67	48	17	2	0
153	2b	1	87	68	17	2	0
153	5b	1	81	62	17	2	0
153	a1	1	67	48	17	2	0
153	a9	1	76	57	17	2	0
153	a9	1	87	68	17	2	0
153	al	1	53	34	17	2	0
153	am	1	56	37	17	2	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
153	an	1	87	68	17	2	0
153	b3	1	58	39	17	2	0
153	b3	1	82	63	17	2	0
153	b4	1	37	18	17	2	0
153	b8	1	69	50	17	2	0
153	bm	1	86	67	17	2	0
153	c4	1	98	79	17	2	0
153	n5	1	90	71	17	2	0
153	n6	1	90	71	17	2	0
153	p1	1	63	44	17	2	0
153	p1	1	58	39	17	2	0
153	qB	1	68	49	17	2	0
153	qC	1	64	45	17	2	0
153	qC	1	56	37	17	2	0
153	qD	1	61	42	17	2	0
153	qG	1	86	67	17	2	0
153	qH	1	94	75	17	2	0
153	qI	1	71	52	17	2	0
153	qb	1	68	49	17	2	0
153	qc	1	64	45	17	2	0
153	qc	1	56	37	17	2	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
153	qc	1	47	28	17	2	0
153	qg	1	100	81	17	2	0
153	qi	1	71	52	17	2	0
153	t1	1	55	36	17	2	0
153	t5	1	96	77	17	2	0
153	t7	1	73	54	17	2	0
153	td	1	66	47	17	2	0
153	te	1	53	34	17	2	0
153	th	1	84	65	17	2	0
153	2G	1	89	70	17	2	0
153	2G	1	55	36	17	2	0
153	2G	1	63	44	17	2	0
153	2K	1	98	79	17	2	0
153	2M	1	96	77	17	2	0
153	2O	1	50	31	17	2	0
153	6A	1	74	55	17	2	0
153	6C	1	75	56	17	2	0
153	6C	1	82	63	17	2	0
153	7A	1	100	81	17	2	0
153	7A	1	62	43	17	2	0
153	7C	1	85	66	17	2	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
153	7C	1	51	32	17	2	0
153	A	1	51	32	17	2	0
153	A	1	94	75	17	2	0
153	B	1	62	43	17	2	0
153	C1	1	79	60	17	2	0
153	C1	1	65	46	17	2	0
153	C1	1	63	44	17	2	0
153	C1	1	95	76	17	2	0
153	C3	1	68	49	17	2	0
153	E	1	60	41	17	2	0
153	E	1	72	53	17	2	0
153	E	1	63	44	17	2	0
153	F	1	100	81	17	2	0
153	FS	1	47	28	17	2	0
153	I	1	77	58	17	2	0
153	I	1	75	56	17	2	0
153	J	1	70	51	17	2	0
153	L	1	74	55	17	2	0
153	M	1	66	47	17	2	0
153	M	1	64	45	17	2	0
153	M	1	83	64	17	2	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
153	M	1	64	45	17	2	0
153	M1	1	66	47	17	2	0
153	M1	1	91	72	17	2	0
153	M1	1	57	38	17	2	0
153	M2	1	54	35	17	2	0
153	M2	1	66	47	17	2	0
153	M2	1	74	55	17	2	0
153	M3	1	63	44	17	2	0
153	M3	1	55	36	17	2	0
153	N	1	84	65	17	2	0
153	Q	1	63	44	17	2	0
153	Q	1	72	53	17	2	0
153	R	1	65	46	17	2	0
153	SD	1	76	57	17	2	0
153	T	1	59	40	17	2	0
153	T	1	75	56	17	2	0
153	T	1	71	52	17	2	0
153	T	1	90	71	17	2	0
153	U	1	60	41	17	2	0
153	VB	1	62	43	17	2	0
153	VB	1	86	67	17	2	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
153	VB	1	82	63	17	2	0
153	VB	1	67	48	17	2	0
153	W	1	84	65	17	2	0
153	Y5	1	70	51	17	2	0
153	Y7	1	65	46	17	2	0
153	Z	1	67	48	17	2	0
153	2B	1	87	68	17	2	0
153	5B	1	81	62	17	2	0
153	A1	1	66	47	17	2	0
153	A1	1	67	48	17	2	0
153	A9	1	76	57	17	2	0
153	A9	1	87	68	17	2	0
153	AL	1	53	34	17	2	0
153	AM	1	56	37	17	2	0
153	AN	1	87	68	17	2	0
153	B3	1	58	39	17	2	0
153	B3	1	82	63	17	2	0
153	B4	1	37	18	17	2	0
153	B8	1	69	50	17	2	0
153	BM	1	86	67	17	2	0
153	C4	1	98	79	17	2	0

Continued on next page...

Continued from previous page...

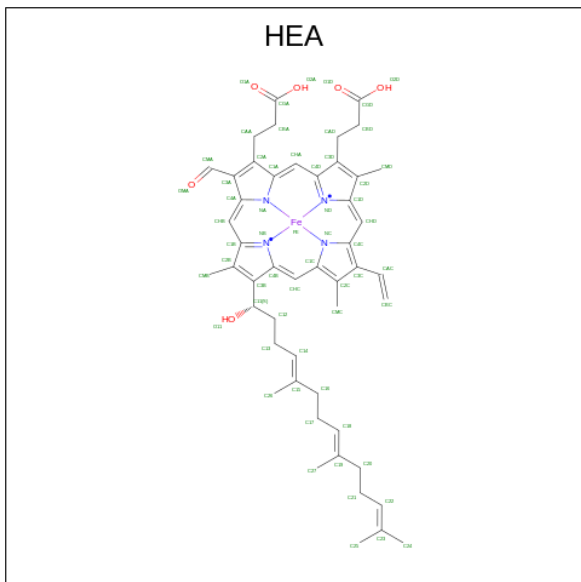
Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
153	N5	1	90	71	17	2	0
153	N6	1	90	71	17	2	0
153	P1	1	63	44	17	2	0
153	P1	1	58	39	17	2	0
153	QB	1	68	49	17	2	0
153	QC	1	64	45	17	2	0
153	QC	1	56	37	17	2	0
153	QD	1	61	42	17	2	0
153	QG	1	86	67	17	2	0
153	QH	1	94	75	17	2	0
153	QI	1	71	52	17	2	0
153	Qb	1	68	49	17	2	0
153	Qc	1	64	45	17	2	0
153	Qc	1	56	37	17	2	0
153	Qc	1	47	28	17	2	0
153	Qg	1	100	81	17	2	0
153	Qi	1	71	52	17	2	0
153	T1	1	55	36	17	2	0
153	T5	1	96	77	17	2	0
153	T7	1	73	54	17	2	0
153	TE	1	53	34	17	2	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms				AltConf
153	TH	1	Total	C	O	P	0
			84	65	17	2	
153	C	1	Total	C	O	P	0
			64	45	17	2	
153	c	1	Total	C	O	P	0
			64	45	17	2	
153	u1	1	Total	C	O	P	0
			57	38	17	2	
153	U1	1	Total	C	O	P	0
			57	38	17	2	

- Molecule 154 is HEME-A (three-letter code: HEA) (formula: $C_{49}H_{56}FeN_4O_6$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf	
154	c1	1	Total	C	Fe	N	O	0
			60	49	1	4	6	
154	c1	1	Total	C	Fe	N	O	0
			60	49	1	4	6	
154	C1	1	Total	C	Fe	N	O	0
			60	49	1	4	6	
154	C1	1	Total	C	Fe	N	O	0
			60	49	1	4	6	

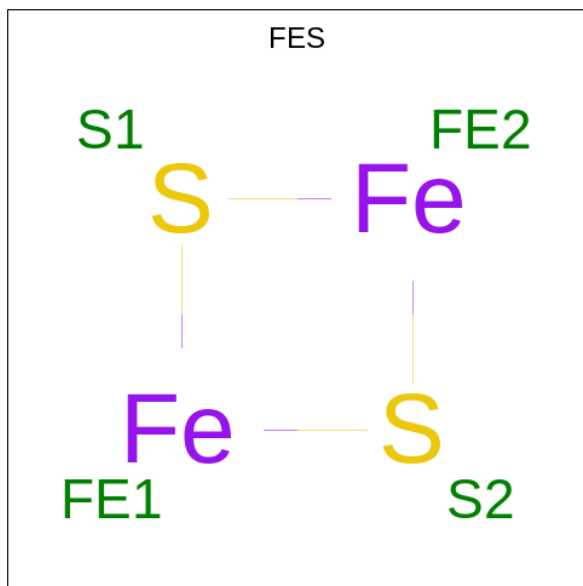
- Molecule 155 is COPPER (II) ION (three-letter code: CU) (formula: Cu) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	AltConf
155	c1	1	Total Cu 1 1	0
155	c2	2	Total Cu 2 2	0
155	C1	1	Total Cu 1 1	0
155	C2	2	Total Cu 2 2	0

- Molecule 156 is MAGNESIUM ION (three-letter code: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	AltConf
156	c1	1	Total Mg 1 1	0
156	C1	1	Total Mg 1 1	0

- Molecule 157 is FE2/S2 (INORGANIC) CLUSTER (three-letter code: FES) (formula: Fe₂S₂) (labeled as "Ligand of Interest" by depositor).



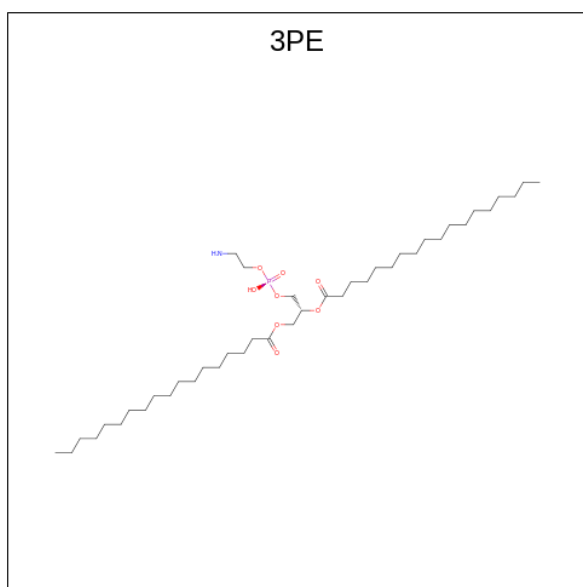
Mol	Chain	Residues	Atoms	AltConf
157	fs	1	Total Fe S 4 2 2	0
157	fs	1	Total Fe S 4 2 2	0
157	sb	1	Total Fe S 4 2 2	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms			AltConf
			Total	Fe	S	
157	fx	1	4	2	2	0
157	qE	1	4	2	2	0
157	qe	1	4	2	2	0
157	s1	1	4	2	2	0
157	v2	1	4	2	2	0
157	FS	1	4	2	2	0
157	FS	1	4	2	2	0
157	SB	1	4	2	2	0
157	FX	1	4	2	2	0
157	QE	1	4	2	2	0
157	Qe	1	4	2	2	0
157	S1	1	4	2	2	0
157	V2	1	4	2	2	0

- Molecule 158 is 1,2-Distearoyl-sn-glycerophosphoethanolamine (three-letter code: 3PE) (formula: C₄₁H₈₂NO₈P).



Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
158	i	1	Total 32	22	1	8	1	0
158	m2	1	Total 31	21	1	8	1	0
158	m3	1	Total 38	28	1	8	1	0
158	sc	1	Total 40	30	1	8	1	0
158	vb	1	Total 28	18	1	8	1	0
158	w	1	Total 34	24	1	8	1	0
158	y5	1	Total 28	18	1	8	1	0
158	a3	1	Total 45	35	1	8	1	0
158	a3	1	Total 44	34	1	8	1	0
158	an	1	Total 45	35	1	8	1	0
158	an	1	Total 45	35	1	8	1	0
158	an	1	Total 33	23	1	8	1	0
158	an	1	Total 29	19	1	8	1	0
158	b4	1	Total 48	38	1	8	1	0

Continued on next page...

Continued from previous page...

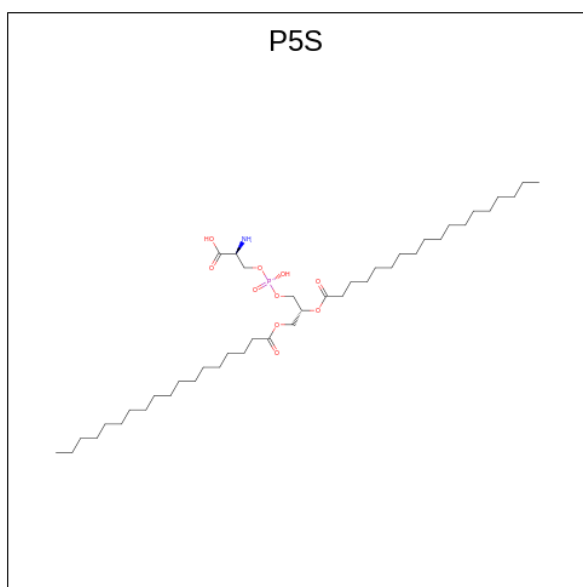
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
158	bm	1	Total 30	C 20	N 1	O 8	P 1	0
158	c4	1	Total 51	C 41	N 1	O 8	P 1	0
158	g2	1	Total 51	C 41	N 1	O 8	P 1	0
158	n4	1	Total 36	C 26	N 1	O 8	P 1	0
158	n5	1	Total 36	C 26	N 1	O 8	P 1	0
158	s8	1	Total 41	C 31	N 1	O 8	P 1	0
158	t4	1	Total 25	C 15	N 1	O 8	P 1	0
158	t8	1	Total 47	C 37	N 1	O 8	P 1	0
158	t8	1	Total 39	C 29	N 1	O 8	P 1	0
158	ta	1	Total 26	C 16	N 1	O 8	P 1	0
158	I	1	Total 32	C 22	N 1	O 8	P 1	0
158	M2	1	Total 31	C 21	N 1	O 8	P 1	0
158	M3	1	Total 38	C 28	N 1	O 8	P 1	0
158	SC	1	Total 40	C 30	N 1	O 8	P 1	0
158	VB	1	Total 28	C 18	N 1	O 8	P 1	0
158	W	1	Total 34	C 24	N 1	O 8	P 1	0
158	Y5	1	Total 28	C 18	N 1	O 8	P 1	0
158	A3	1	Total 45	C 35	N 1	O 8	P 1	0
158	A3	1	Total 44	C 34	N 1	O 8	P 1	0
158	AN	1	Total 45	C 35	N 1	O 8	P 1	0
158	AN	1	Total 45	C 35	N 1	O 8	P 1	0

Continued on next page...

Continued from previous page...

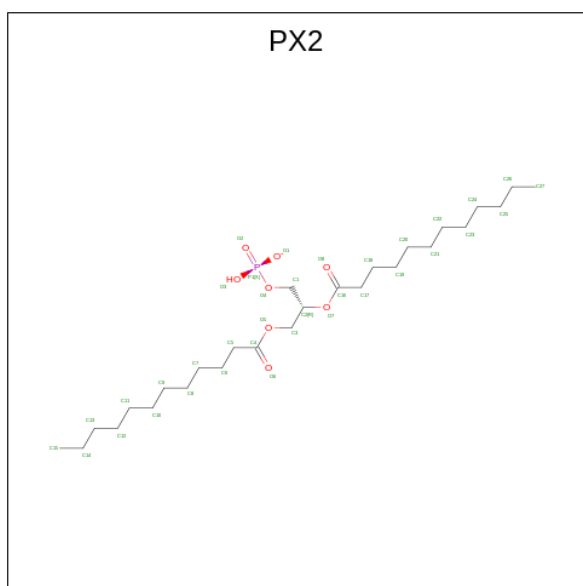
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
158	AN	1	Total 33	C 23	N 1	O 8	P 1	0
158	AN	1	Total 29	C 19	N 1	O 8	P 1	0
158	B4	1	Total 48	C 38	N 1	O 8	P 1	0
158	BM	1	Total 30	C 20	N 1	O 8	P 1	0
158	C4	1	Total 51	C 41	N 1	O 8	P 1	0
158	G2	1	Total 51	C 41	N 1	O 8	P 1	0
158	N4	1	Total 36	C 26	N 1	O 8	P 1	0
158	N5	1	Total 36	C 26	N 1	O 8	P 1	0
158	S8	1	Total 41	C 31	N 1	O 8	P 1	0
158	T4	1	Total 25	C 15	N 1	O 8	P 1	0
158	T8	1	Total 47	C 37	N 1	O 8	P 1	0
158	T8	1	Total 39	C 29	N 1	O 8	P 1	0
158	TA	1	Total 26	C 16	N 1	O 8	P 1	0

- Molecule 159 is O-[(R)-{[(2R)-2,3-bis(octadecanoyloxy)propyl]oxy}(hydroxy)phosphoryl]-L-serine (three-letter code: P5S) (formula: C₄₂H₈₂NO₁₀P).



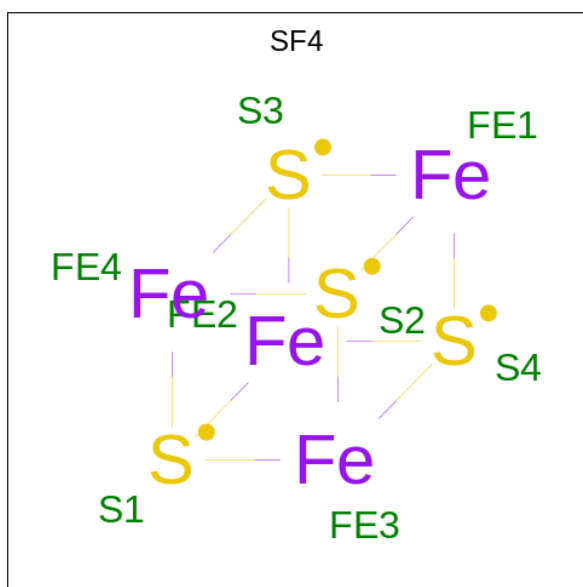
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
159	m2	1	36	24	1	10	1	0
159	M2	1	36	24	1	10	1	0

- Molecule 160 is 1,2-DILAUROYL-SN-GLYCERO-3-PHOSPHATE (three-letter code: PX2) (formula: C₂₇H₅₂O₈P).



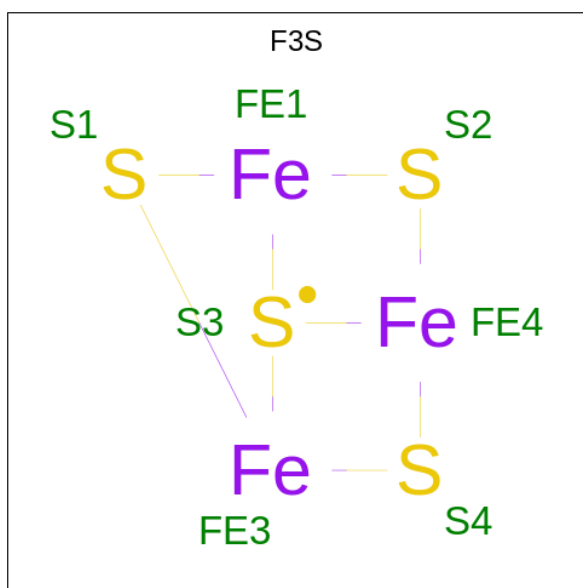
Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
160	r	1	33	24	8	1	0

Continued on next page...



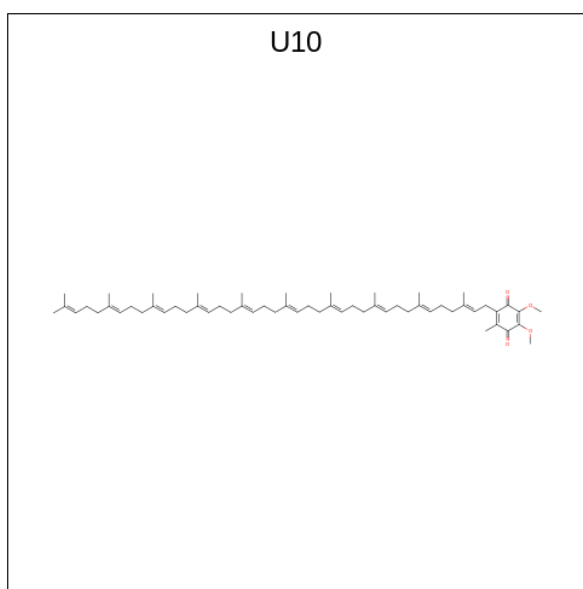
Mol	Chain	Residues	Atoms			AltConf
			Total	Fe	S	
162	sb	1	8	4	4	0
162	s1	1	8	4	4	0
162	s1	1	8	4	4	0
162	s7	1	8	4	4	0
162	s8	1	8	4	4	0
162	s8	1	8	4	4	0
162	v1	1	8	4	4	0
162	SB	1	8	4	4	0
162	S1	1	8	4	4	0
162	S1	1	8	4	4	0
162	S7	1	8	4	4	0
162	S8	1	8	4	4	0
162	S8	1	8	4	4	0
162	V1	1	8	4	4	0

- Molecule 163 is FE3-S4 CLUSTER (three-letter code: F3S) (formula: Fe₃S₄).



Mol	Chain	Residues	Atoms			AltConf
			Total	Fe	S	
163	sb	1	7	3	4	0
163	SB	1	7	3	4	0

- Molecule 164 is UBIQUINONE-10 (three-letter code: U10) (formula: C₅₉H₉₀O₄) (labeled as "Ligand of Interest" by depositor).

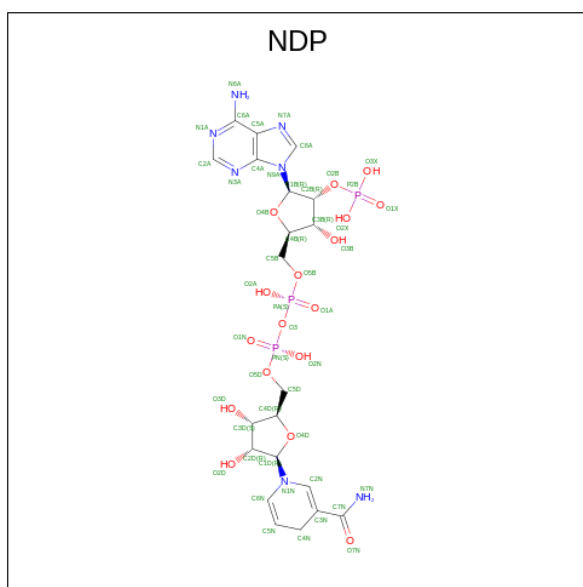


Mol	Chain	Residues	Atoms	AltConf
164	sc	1	Total C O 63 59 4	0
164	b8	1	Total C O 63 59 4	0
164	qC	1	Total C O 29 25 4	0
164	qc	1	Total C 26 26	0
164	qc	1	Total C O 29 25 4	0
164	SC	1	Total C O 63 59 4	0
164	B8	1	Total C O 63 59 4	0
164	QC	1	Total C O 29 25 4	0
164	Qc	1	Total C 26 26	0
164	Qc	1	Total C O 29 25 4	0

- Molecule 165 is ZINC ION (three-letter code: ZN) (formula: Zn).

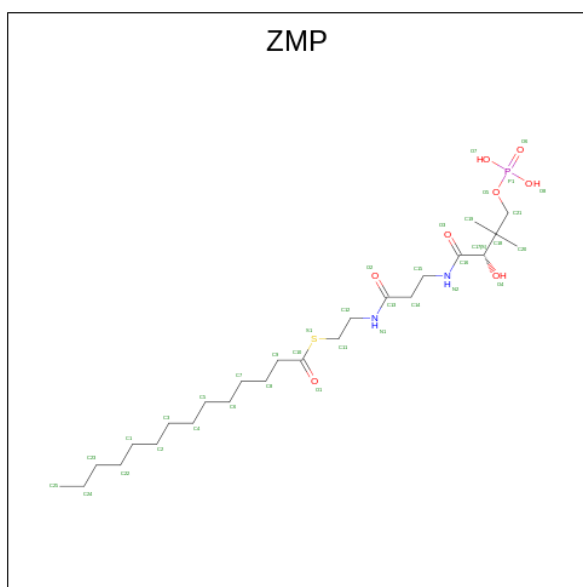
Mol	Chain	Residues	Atoms	AltConf
165	vb	2	Total Zn 2 2	0
165	s6	1	Total Zn 1 1	0
165	VB	2	Total Zn 2 2	0
165	S6	1	Total Zn 1 1	0

- Molecule 166 is PROTOPORPHYRIN IX CONTAINING FE (three-letter code: HEM) (formula: C₃₄H₃₂FeN₄O₄) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
167	a9	1	48	21	7	17	3	0
167	A9	1	48	21	7	17	3	0

- Molecule 168 is S-[2-({N-[(2S)-2-hydroxy-3,3-dimethyl-4-(phosphonoxy)butanoyl]-beta-alanyl}amino)ethyl] tetradecanethioate (three-letter code: ZMP) (formula: C₂₅H₄₉N₂O₈PS) (labeled as "Ligand of Interest" by depositor).



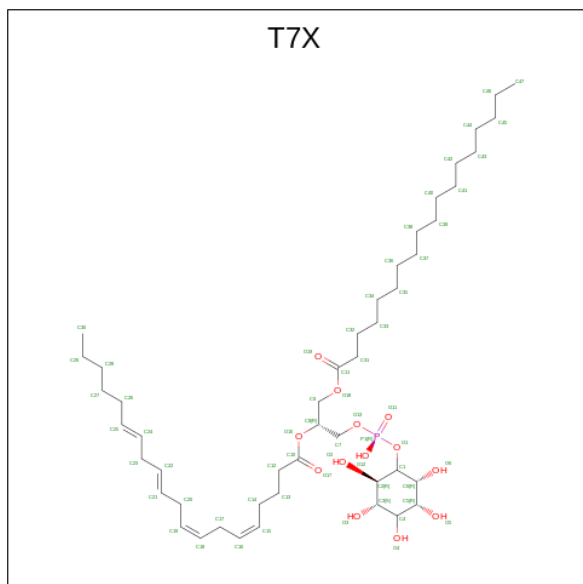
Mol	Chain	Residues	Atoms						AltConf
			Total	C	N	O	P	S	
168	ab	1	37	25	2	8	1	1	0

Continued on next page...

Continued from previous page...

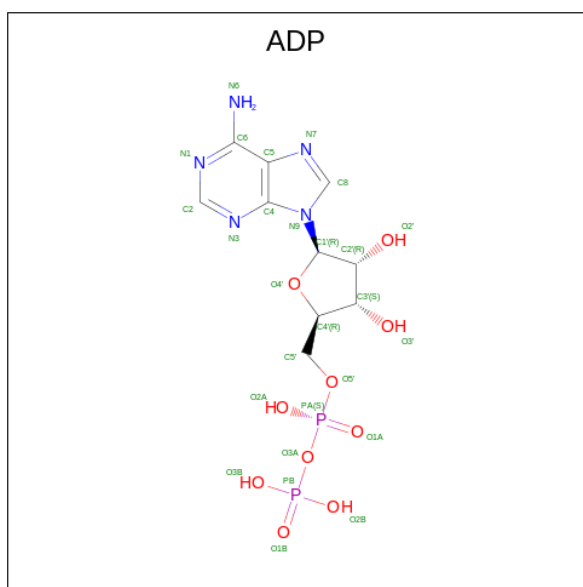
Mol	Chain	Residues	Atoms					AltConf	
			Total	C	N	O	P		S
168	AB	1	37	25	2	8	1	1	0

- Molecule 169 is Phosphatidylinositol (three-letter code: T7X) (formula: $C_{47}H_{83}O_{13}P$).



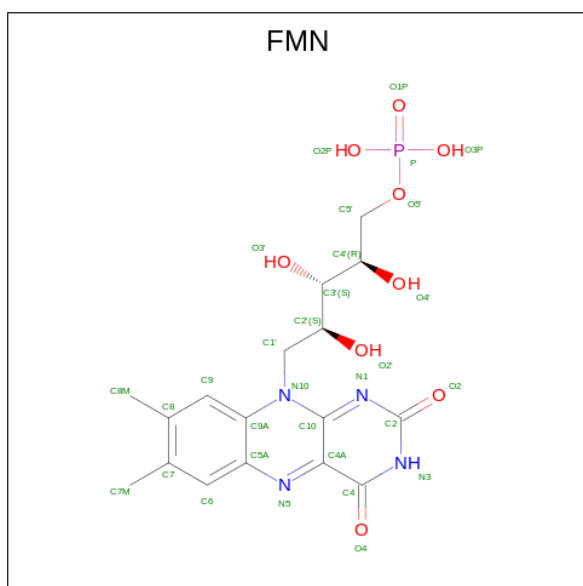
Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
169	b6	1	55	41	13	1	0
169	B6	1	55	41	13	1	0

- Molecule 170 is ADENOSINE-5'-DIPHOSPHATE (three-letter code: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$).



Mol	Chain	Residues	Atoms				AltConf	
170	b9	1	Total	C	N	O	P	0
			27	10	5	10	2	
170	B9	1	Total	C	N	O	P	0
			27	10	5	10	2	

- Molecule 171 is FLAVIN MONONUCLEOTIDE (three-letter code: FMN) (formula: $C_{17}H_{21}N_4O_9P$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf	
171	v1	1	Total	C	N	O	P	0
			31	17	4	9	1	

Continued on next page...

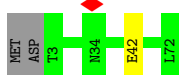
Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
171	V1	1	31	17	4	9	1	0

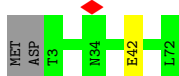
3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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.

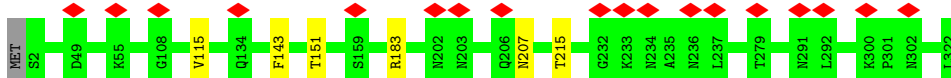
- Molecule 1: Tim10/DDP family zinc finger protein



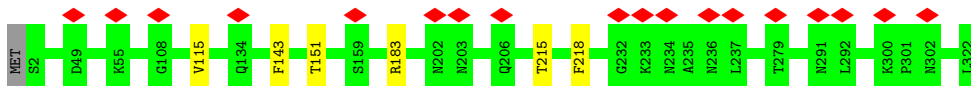
- Molecule 1: Tim10/DDP family zinc finger protein



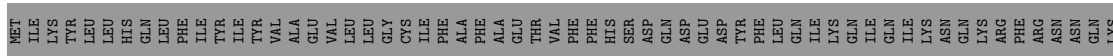
- Molecule 2: NmrA domain-containing protein



- Molecule 2: NmrA domain-containing protein



- Molecule 3: Transmembrane protein, putative



Chain 2i:  97%



- Molecule 6: DUF4885 domain-containing protein

Chain 2I:  98%



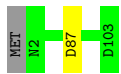
- Molecule 7: Transmembrane protein, putative

Chain 2j:  98%



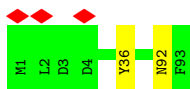
- Molecule 7: Transmembrane protein, putative

Chain 2J:  98%



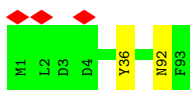
- Molecule 8: Transmembrane protein, putative

Chain 2k:  98%



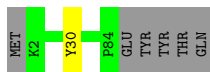
- Molecule 8: Transmembrane protein, putative

Chain 2K:  98%



- Molecule 9: Transposase

Chain 2l:  92% 7%



- Molecule 9: Transposase

Chain 2L:  91% 7%



- Molecule 10: Transmembrane protein, putative

Chain 2m:  97% ..



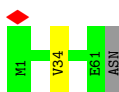
- Molecule 10: Transmembrane protein, putative

Chain 2M:  97% ..



- Molecule 11: Transmembrane protein, putative

Chain 2n:  97% ..



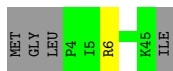
- Molecule 11: Transmembrane protein, putative

Chain 2N:  95% ..



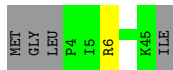
- Molecule 12: SDHTT11

Chain 2o:  89% 9%

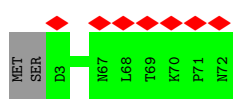


- Molecule 12: SDHTT11

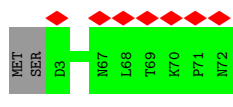
Chain 2O:  89% 9%



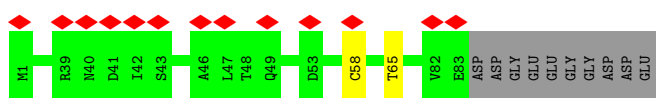
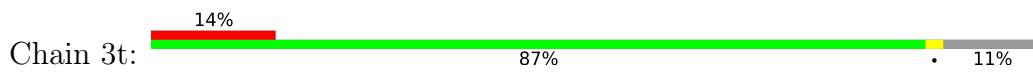
- Molecule 13: Zf-Tim10_DDP domain-containing protein



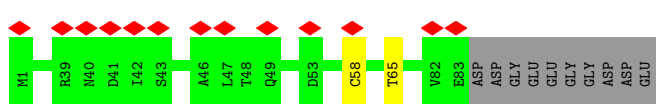
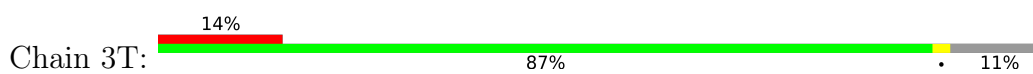
• Molecule 13: Zf-Tim10_DDP domain-containing protein



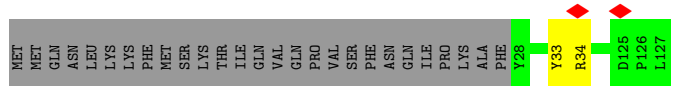
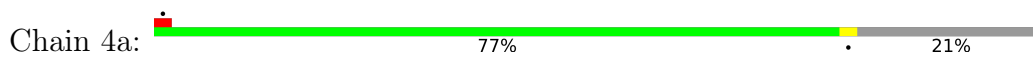
• Molecule 14: Zf-Tim10_DDP domain-containing protein



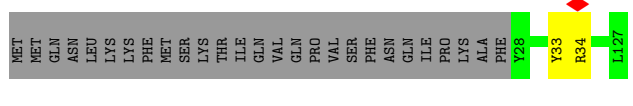
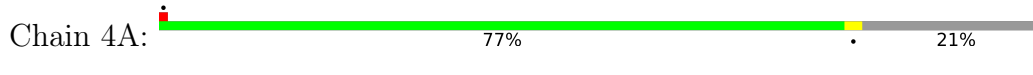
• Molecule 14: Zf-Tim10_DDP domain-containing protein



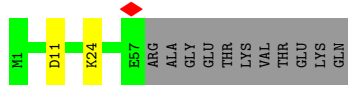
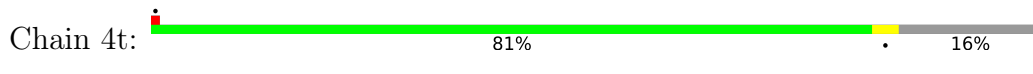
• Molecule 15: Phage protein



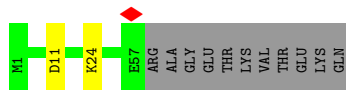
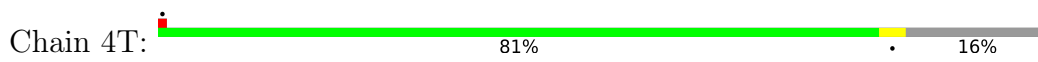
• Molecule 15: Phage protein



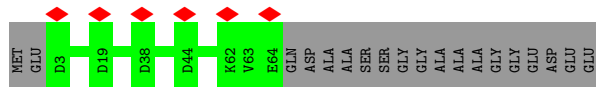
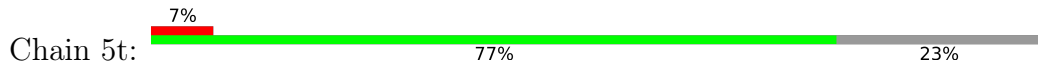
• Molecule 16: Transposase



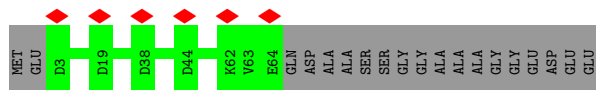
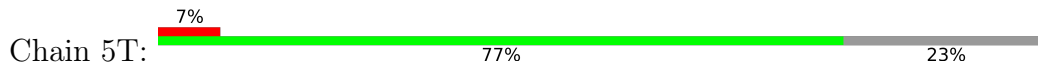
• Molecule 16: Transposase



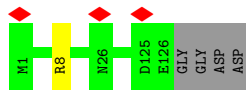
• Molecule 17: Cullin domain-containing protein



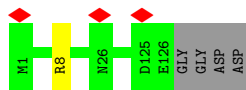
• Molecule 17: Cullin domain-containing protein



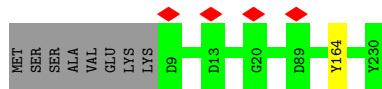
• Molecule 18: Transmembrane protein, putative



• Molecule 18: Transmembrane protein, putative

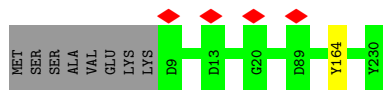


• Molecule 19: Structural protein

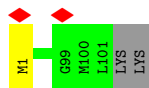


• Molecule 19: Structural protein

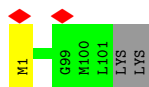




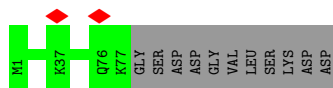
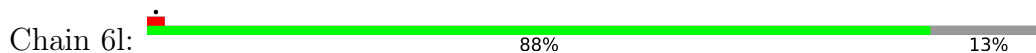
- Molecule 20: Transmembrane protein, putative



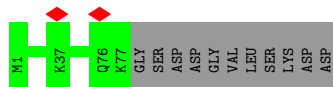
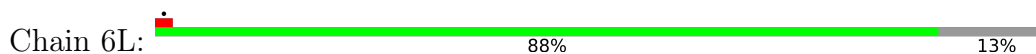
- Molecule 20: Transmembrane protein, putative



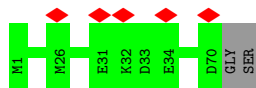
- Molecule 21: Decapping nuclease



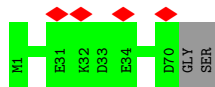
- Molecule 21: Decapping nuclease



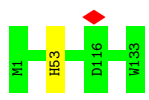
- Molecule 22: Annexin



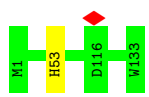
- Molecule 22: Annexin



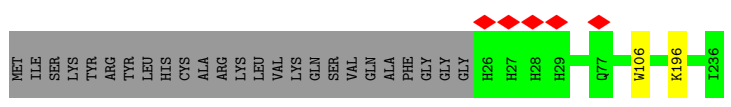
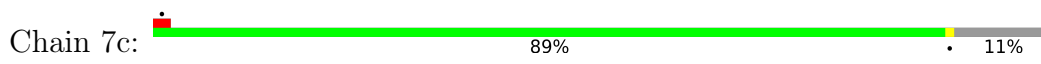
- Molecule 23: Transmembrane protein, putative



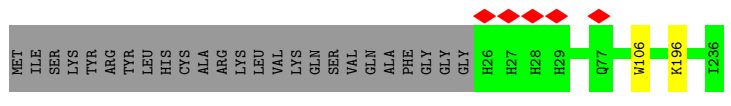
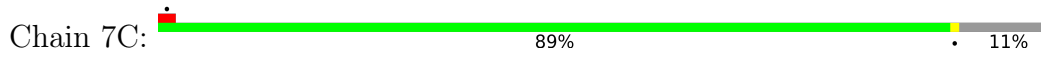
- Molecule 23: Transmembrane protein, putative



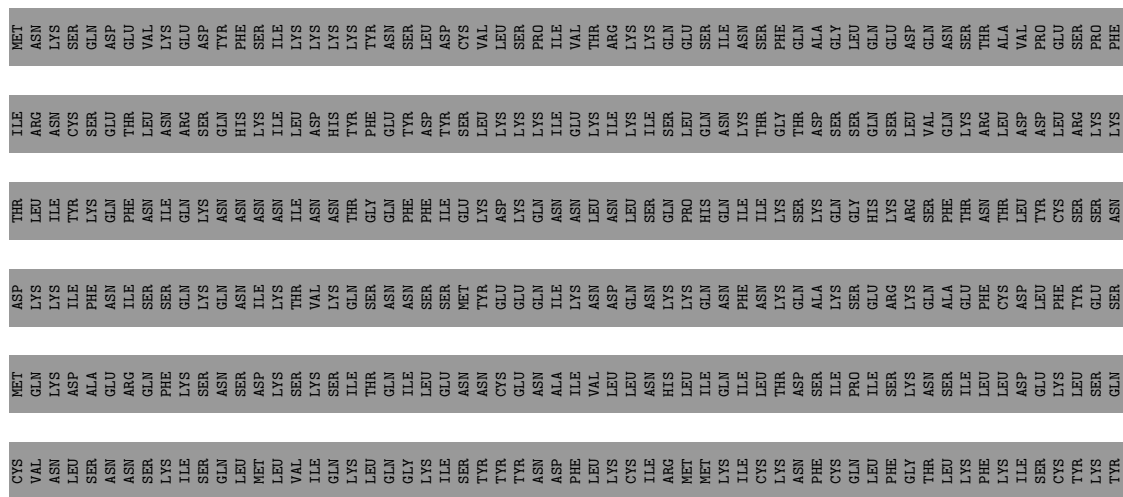
- Molecule 24: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 8, mitochondrial

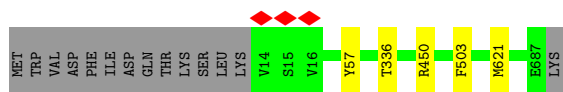


- Molecule 24: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 8, mitochondrial

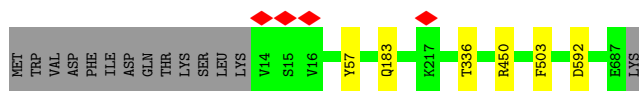


- Molecule 25: CTF/NF-I domain-containing protein

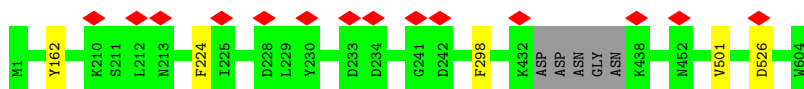




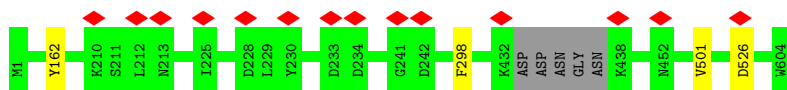
- Molecule 29: Cytochrome c oxidase subunit 1



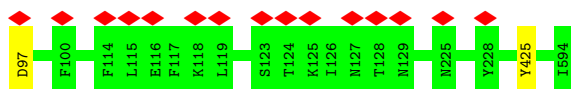
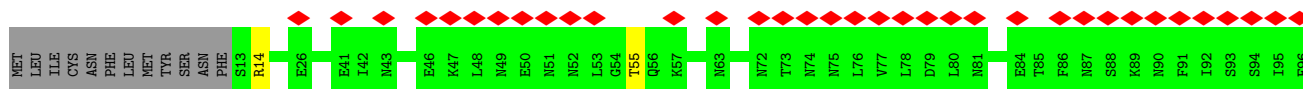
- Molecule 30: Cytochrome c oxidase subunit 2



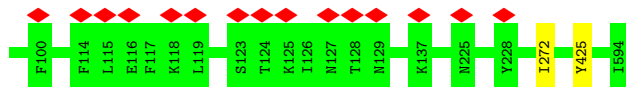
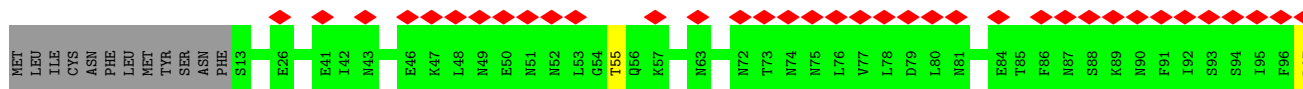
- Molecule 30: Cytochrome c oxidase subunit 2



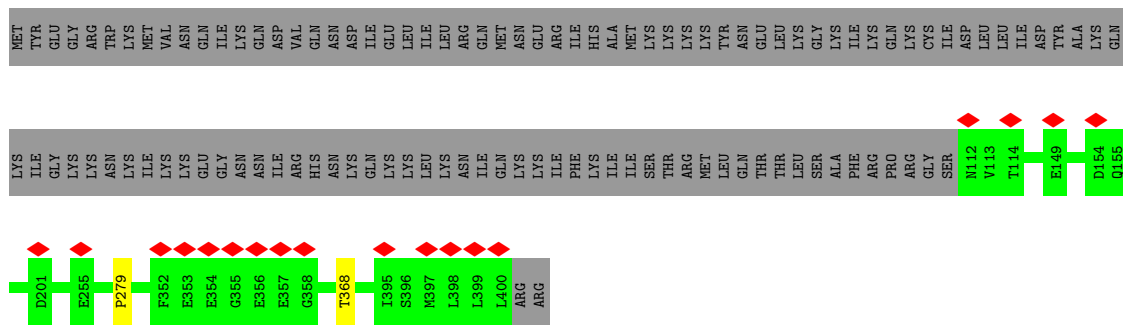
- Molecule 31: Ymf68



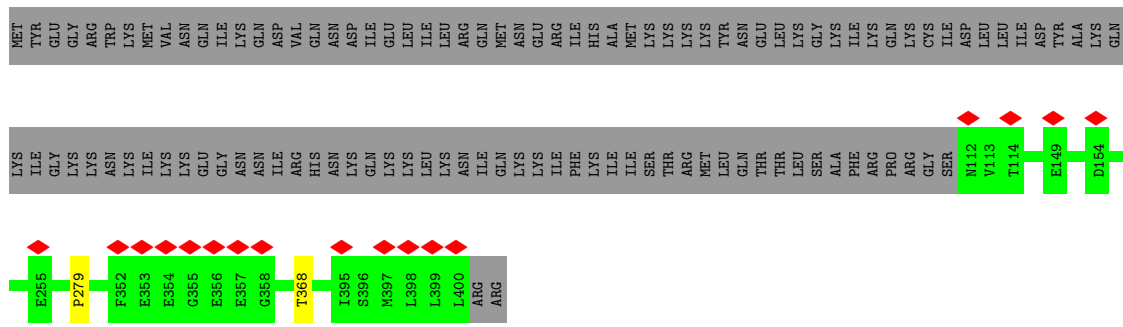
- Molecule 31: Ymf68



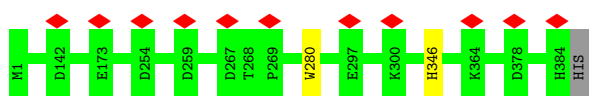
- Molecule 32: SURF1-like protein



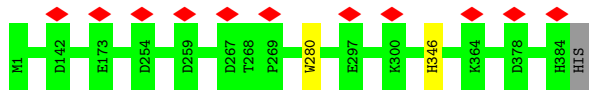
• Molecule 32: SURF1-like protein



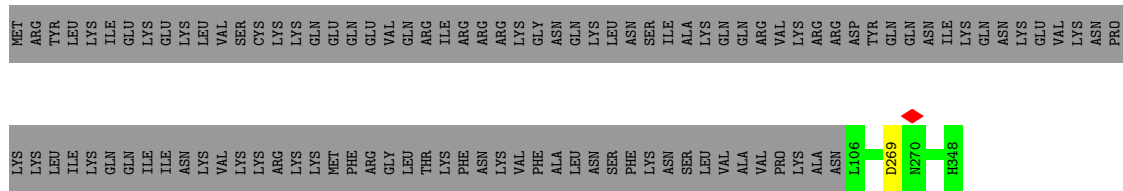
• Molecule 33: TraB family protein



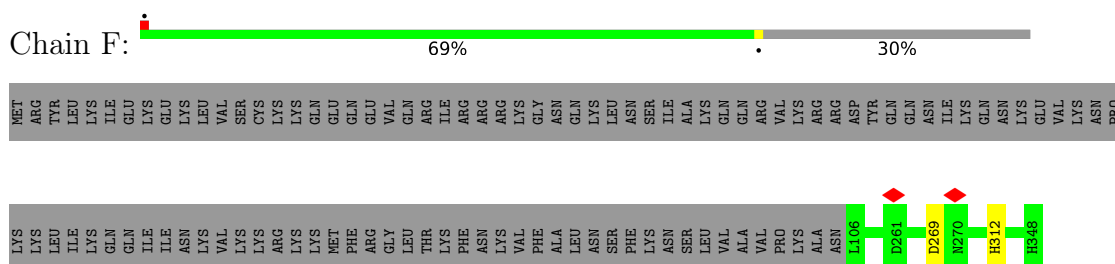
• Molecule 33: TraB family protein



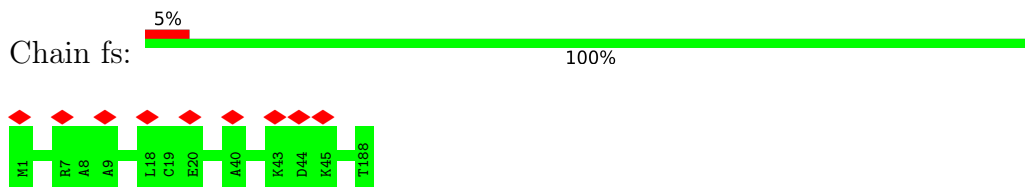
• Molecule 34: Transmembrane protein, putative



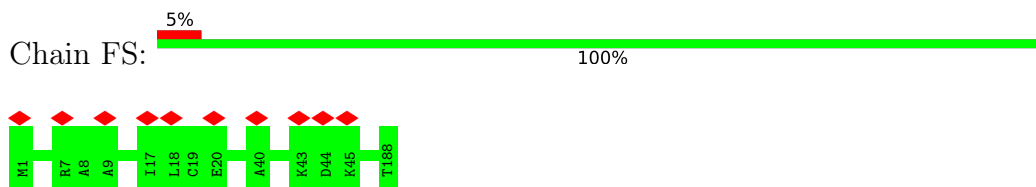
- Molecule 34: Transmembrane protein, putative



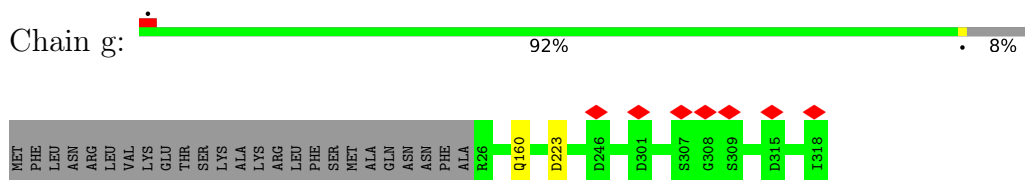
- Molecule 35: Iron-binding zinc finger CDGSH type protein



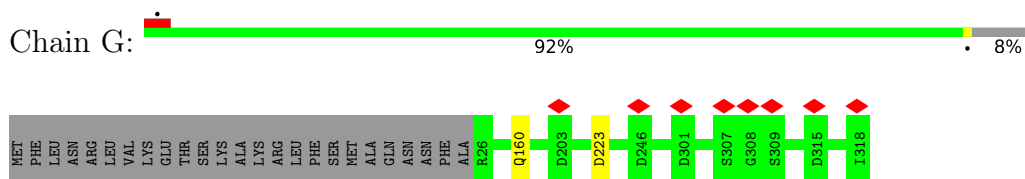
- Molecule 35: Iron-binding zinc finger CDGSH type protein



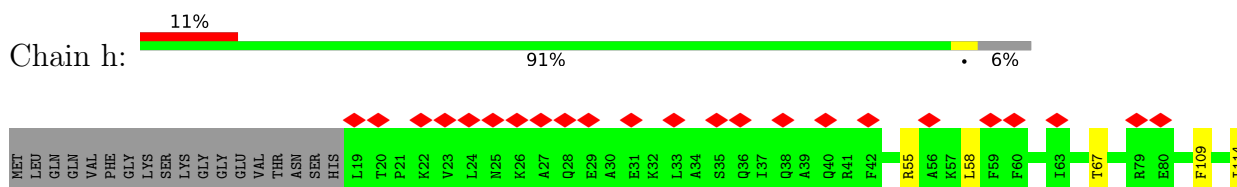
- Molecule 36: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 8, mitochondrial

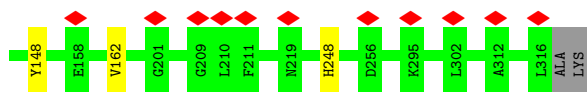


- Molecule 36: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 8, mitochondrial

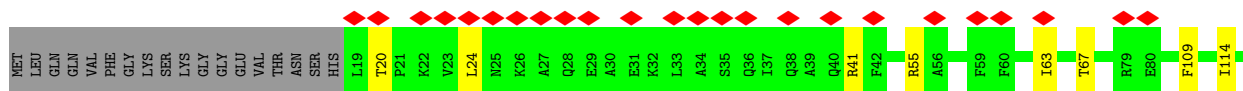
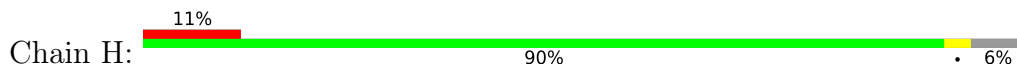


- Molecule 37: SURF1-like protein

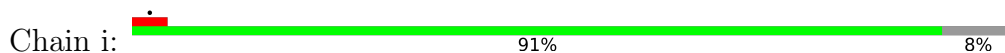




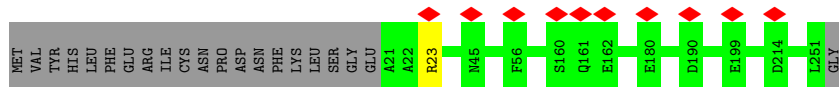
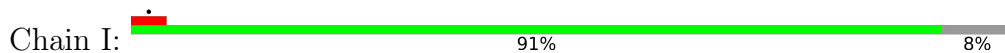
• Molecule 37: SURF1-like protein



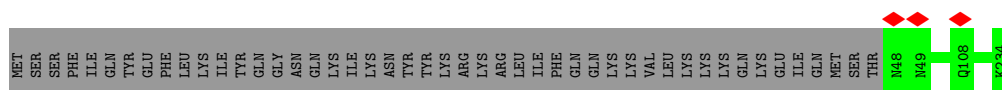
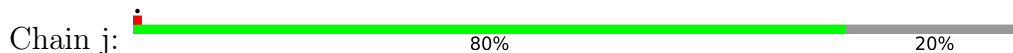
• Molecule 38: COXTT9



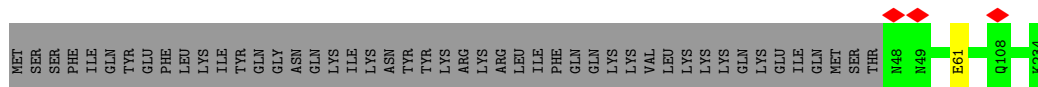
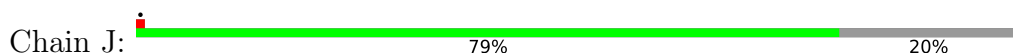
• Molecule 38: COXTT9



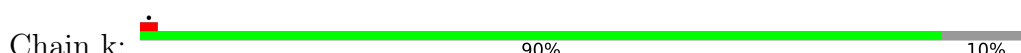
• Molecule 39: COXTT10

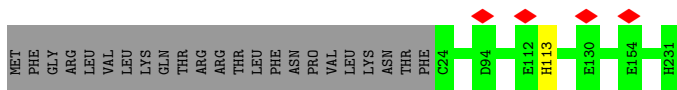


• Molecule 39: COXTT10

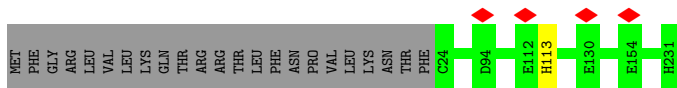
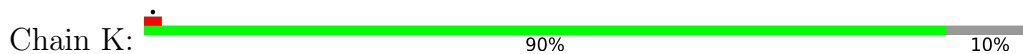


• Molecule 40: 39S ribosomal protein L9, mitochondrial

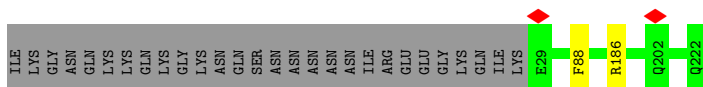
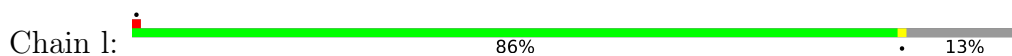




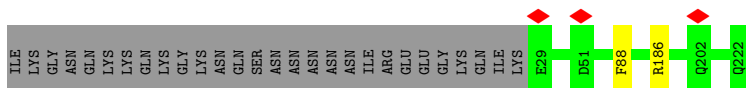
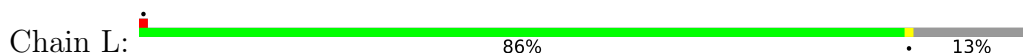
- Molecule 40: 39S ribosomal protein L9, mitochondrial



- Molecule 41: Ubiquinol-cytochrome c reductase complex ubiquinone-binding protein QP-C



- Molecule 41: Ubiquinol-cytochrome c reductase complex ubiquinone-binding protein QP-C



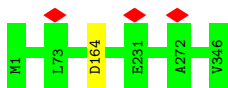
- Molecule 42: Transmembrane protein, putative



- Molecule 42: Transmembrane protein, putative



- Molecule 43: Oxoglutarate/malate translocator protein, putative



- Molecule 43: Oxoglutarate/malate translocator protein, putative

Chain M1:  100%



- Molecule 44: 2-oxoglutarate/malate carrier protein

Chain m2:  100%



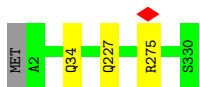
- Molecule 44: 2-oxoglutarate/malate carrier protein

Chain M2:  100%



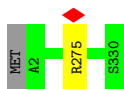
- Molecule 45: Carrier protein

Chain m3:  99%



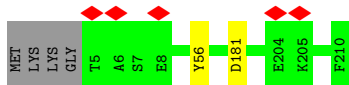
- Molecule 45: Carrier protein

Chain M3:  99%



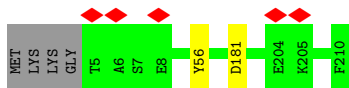
- Molecule 46: Transmembrane protein, putative

Chain n:  97%



- Molecule 46: Transmembrane protein, putative

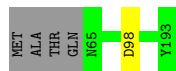
Chain N:  97%



• Molecule 47: Mobilization protein



MET	LYS	GLU	LYS	ILE	PHE	ASN	GLU	LEU	THR	ARG	LYS	MET	LYS	ARG	LYS	ILE	SER	ALA	LYS	GLN	ILE	ARG	GLU	GLU	ASN	LYS	GLN	ILE	ILE	ILE	ARG	GLN	ARG	ASN	ASN	LYS	LYS	TYR	ILE	GLN	SER	ILE	GLN	GLY	ILE	ILE	GLN	GLN	GLU	ARG	LYS	LYS	LYS	LYS	LEU	TYR	LEU	VAL	GLU
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----



• Molecule 47: Mobilization protein



MET	LYS	GLU	LYS	ILE	PHE	ASN	GLU	LEU	THR	ARG	LYS	MET	LYS	ARG	LYS	ILE	SER	ALA	LYS	GLN	ILE	ARG	GLU	GLU	ASN	LYS	GLN	ILE	ILE	ILE	ARG	GLN	ARG	ASN	ASN	LYS	LYS	TYR	ILE	GLN	SER	ILE	GLN	GLY	ILE	ILE	GLN	GLN	GLU	ARG	LYS	LYS	LYS	LYS	LEU	TYR	LEU	VAL	GLU
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----



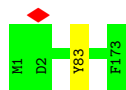
• Molecule 48: YffT domain-containing protein



• Molecule 48: YffT domain-containing protein



• Molecule 49: Transmembrane protein, putative



• Molecule 49: Transmembrane protein, putative



• Molecule 50: Transmembrane protein



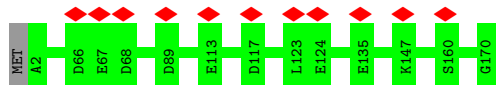
- Molecule 50: Transmembrane protein



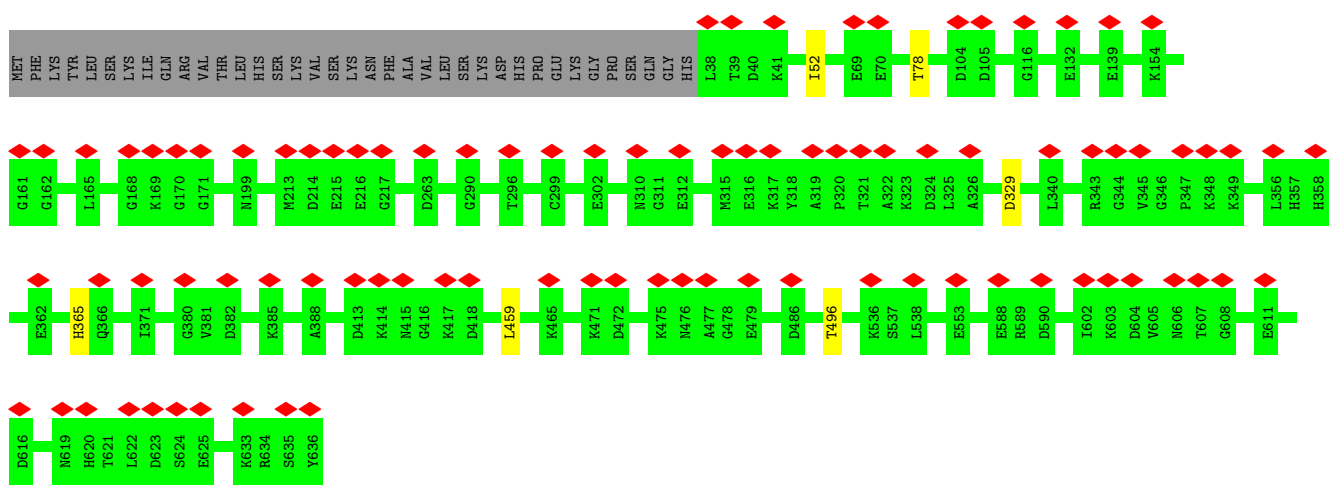
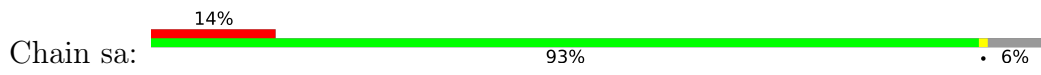
- Molecule 51: Complex III subunit VII



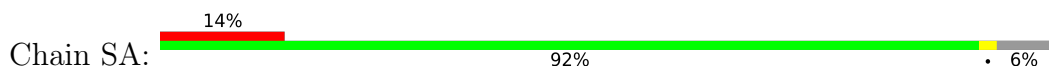
- Molecule 51: Complex III subunit VII

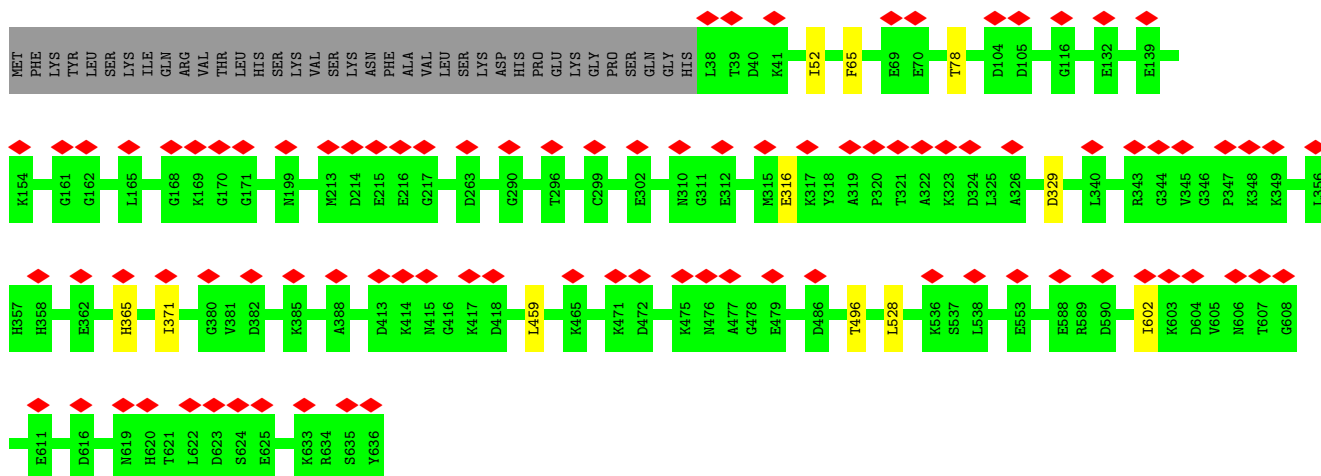


- Molecule 52: Succinate dehydrogenase [ubiquinone] flavoprotein subunit, mitochondrial

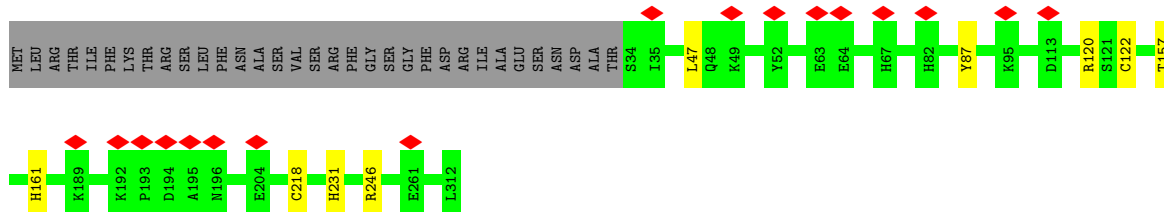
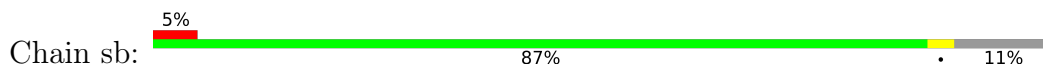


- Molecule 52: Succinate dehydrogenase [ubiquinone] flavoprotein subunit, mitochondrial

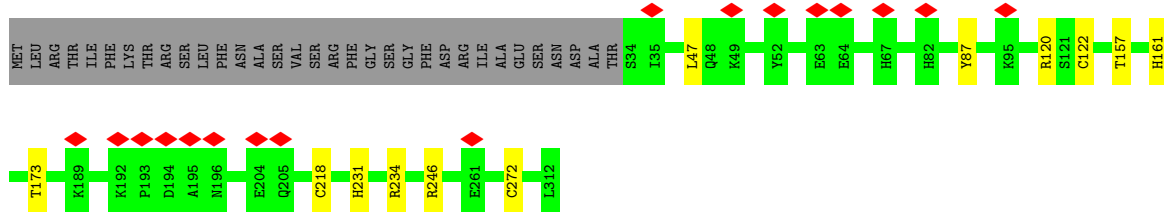
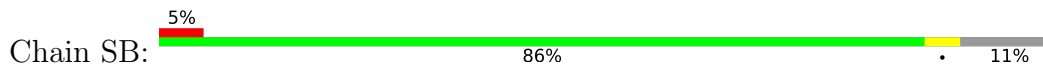




• Molecule 53: Succinate dehydrogenase (quinone)



• Molecule 53: Succinate dehydrogenase (quinone)



• Molecule 54: Cytochrome b-c1 complex subunit 8



• Molecule 54: Cytochrome b-c1 complex subunit 8



- Molecule 55: SDHD

Chain sd:  100%

There are no outlier residues recorded for this chain.

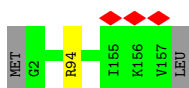
- Molecule 55: SDHD

Chain SD:  100%

There are no outlier residues recorded for this chain.

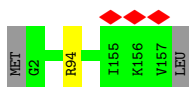
- Molecule 56: Transmembrane protein, putative

Chain t:  98%



- Molecule 56: Transmembrane protein, putative

Chain T:  98%



- Molecule 57: Transmembrane protein, putative

Chain u:  98%



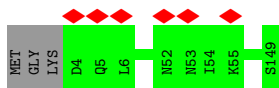
- Molecule 57: Transmembrane protein, putative

Chain U:  98%

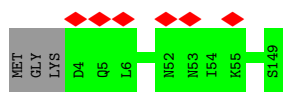


- Molecule 58: COXTT22

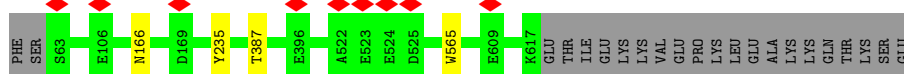
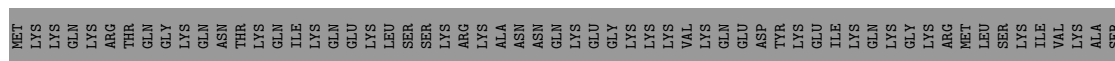
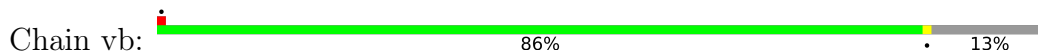
Chain v:  98%



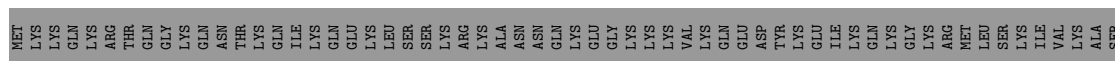
- Molecule 58: COXTT22



- Molecule 59: Cytochrome C oxidase subunit Vb protein



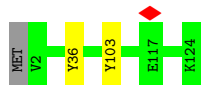
- Molecule 59: Cytochrome C oxidase subunit Vb protein



- Molecule 60: Transmembrane protein, putative



- Molecule 60: Transmembrane protein, putative



- Molecule 61: Transmembrane protein, putative



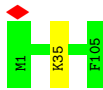
- Molecule 61: Transmembrane protein, putative

Chain X:  99%



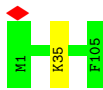
- Molecule 62: Lysozyme

Chain y:  99%



- Molecule 62: Lysozyme

Chain Y:  99%



- Molecule 63: Ymf70

Chain y0:  100%

There are no outlier residues recorded for this chain.

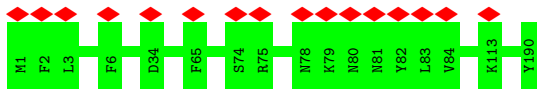
- Molecule 63: Ymf70

Chain Y0:  100%

There are no outlier residues recorded for this chain.

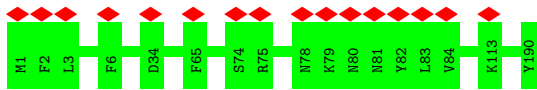
- Molecule 64: Ymf75

Chain y5:  8% 100%




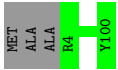
- Molecule 64: Ymf75

Chain Y5:  8% 100%



- Molecule 65: Ymf67

Chain y7:  7% 75% 24%



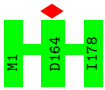
- Molecule 68: NADH dehydrogenase subunit 1



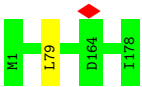
- Molecule 68: NADH dehydrogenase subunit 1



- Molecule 69: NADH dehydrogenase subunit 2



- Molecule 69: NADH dehydrogenase subunit 2



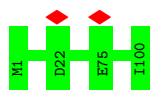
- Molecule 70: Ymf58



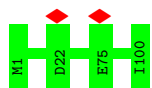
- Molecule 70: Ymf58



- Molecule 71: Ymf57



- Molecule 71: Ymf57



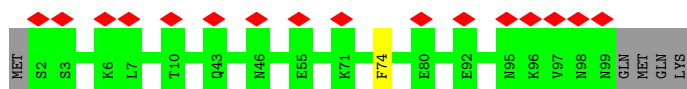
- Molecule 72: Transmembrane protein, putative



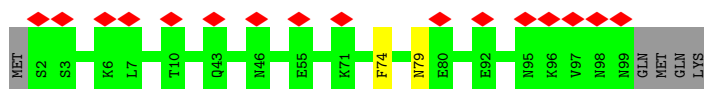
- Molecule 72: Transmembrane protein, putative



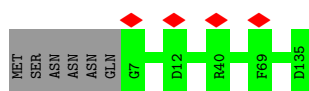
- Molecule 73: Ribosomal protein L51/S25/CI-B8 domain protein



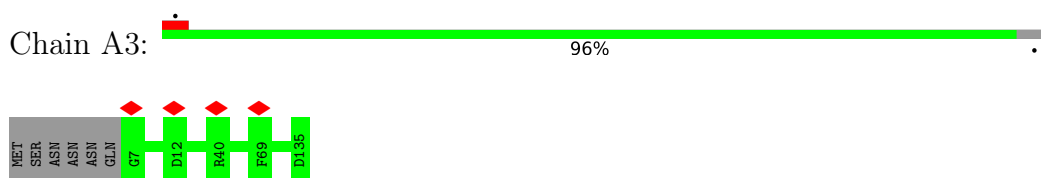
- Molecule 73: Ribosomal protein L51/S25/CI-B8 domain protein



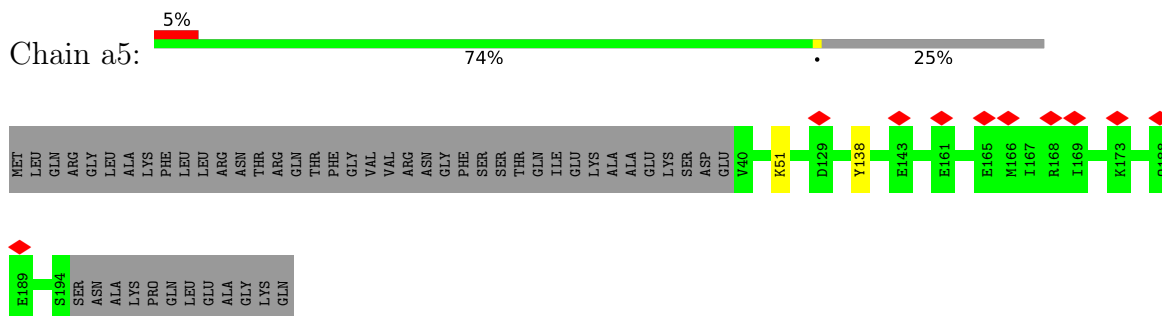
- Molecule 74: Transmembrane protein, putative



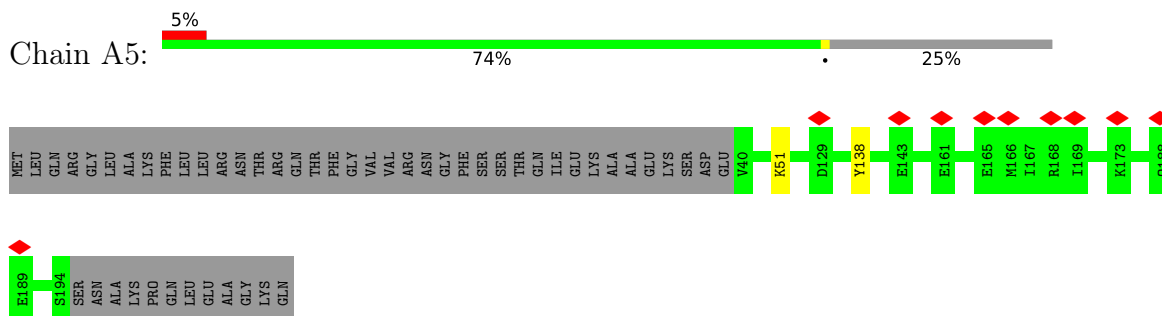
- Molecule 74: Transmembrane protein, putative



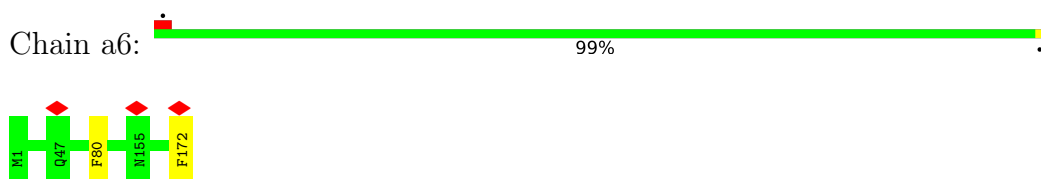
- Molecule 75: ETC complex I subunit motif protein



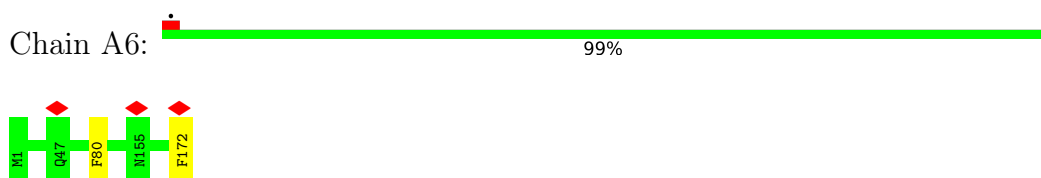
- Molecule 75: ETC complex I subunit motif protein



- Molecule 76: NADH dehydrogenase, putative

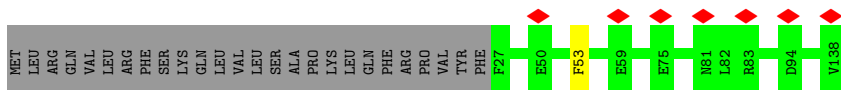


- Molecule 76: NADH dehydrogenase, putative

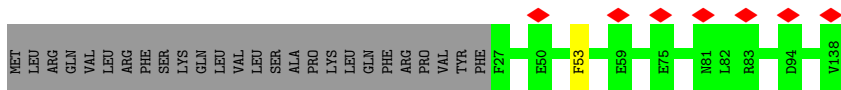
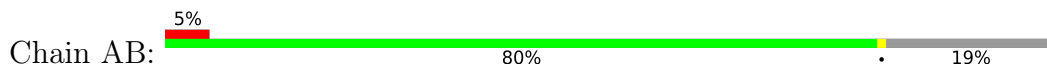


- Molecule 77: 37S ribosomal protein S25, mitochondrial

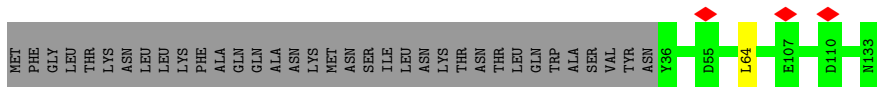




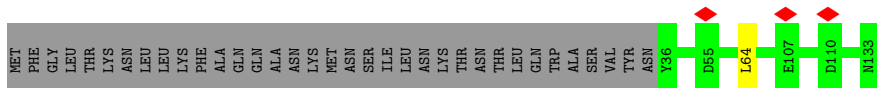
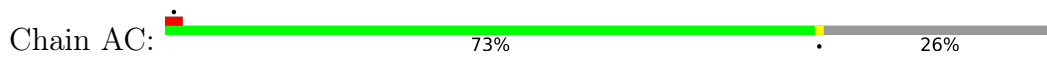
• Molecule 80: Acyl carrier protein



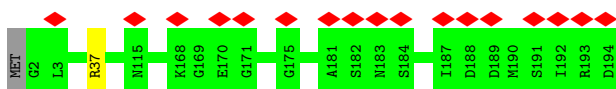
• Molecule 81: Acyl carrier protein



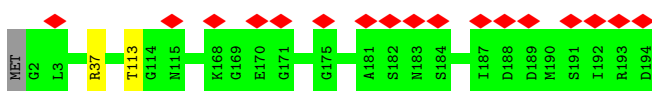
• Molecule 81: Acyl carrier protein



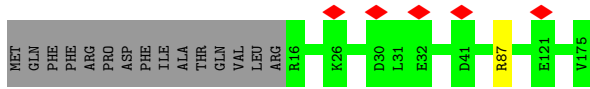
• Molecule 82: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12



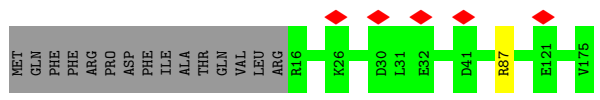
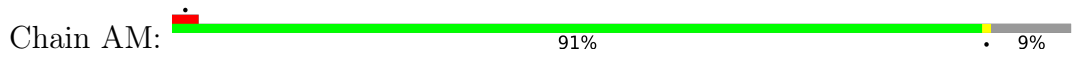
• Molecule 82: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12



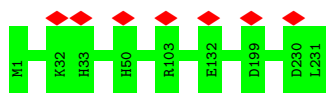
• Molecule 83: NDUA13



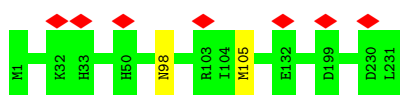
• Molecule 83: NDUA13



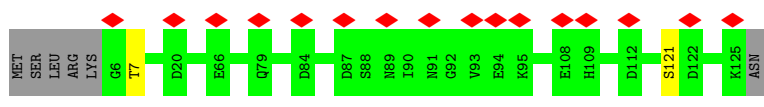
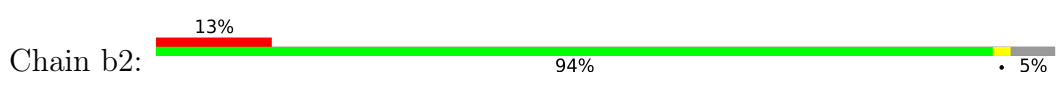
• Molecule 84: Transmembrane protein, putative



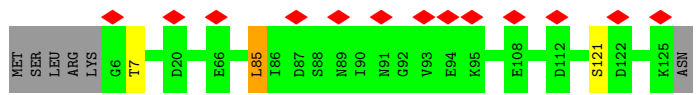
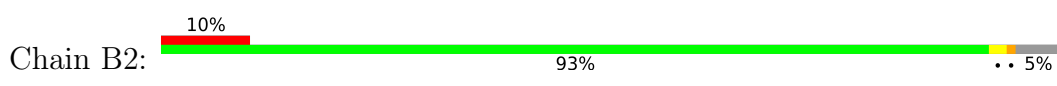
• Molecule 84: Transmembrane protein, putative



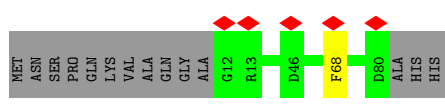
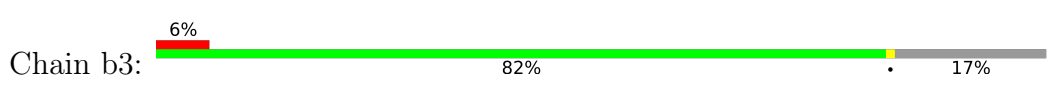
• Molecule 85: NDUB2



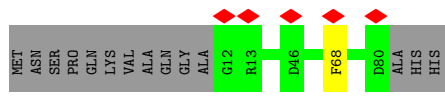
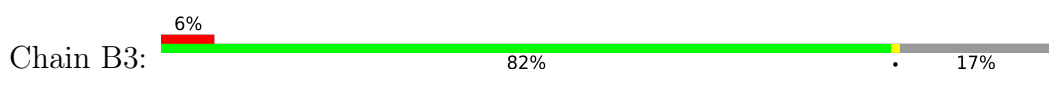
• Molecule 85: NDUB2



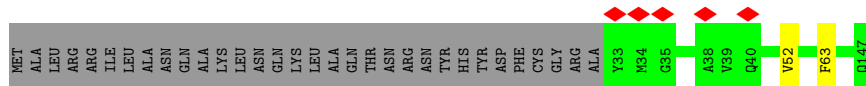
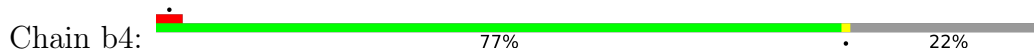
• Molecule 86: Transmembrane protein, putative



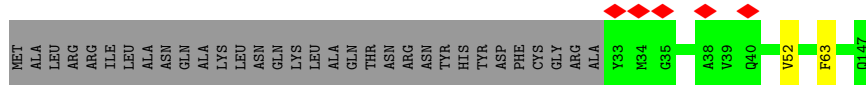
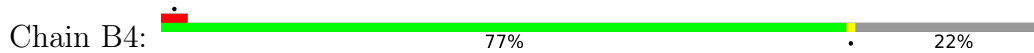
• Molecule 86: Transmembrane protein, putative



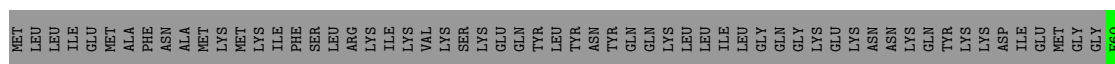
• Molecule 87: NDUB4



• Molecule 87: NDUB4



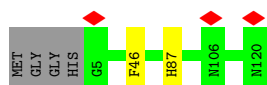
• Molecule 88: NDUB6



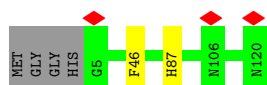
• Molecule 88: NDUB6



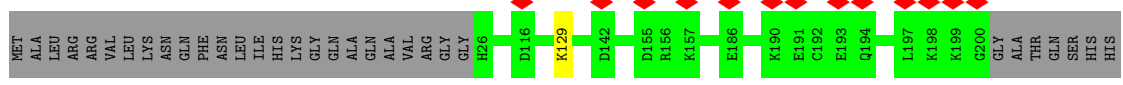
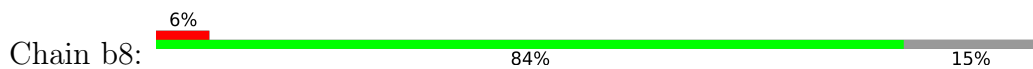
• Molecule 89: CHCH domain-containing protein



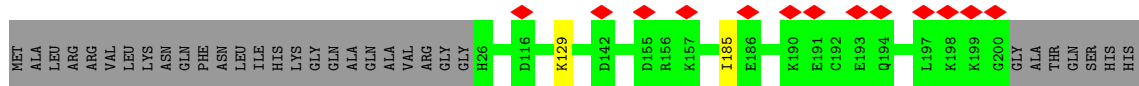
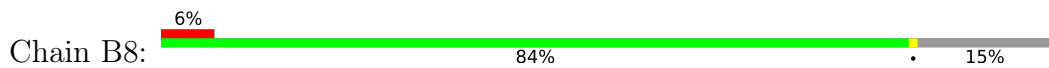
• Molecule 89: CHCH domain-containing protein



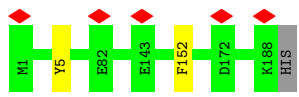
• Molecule 90: NDUB8



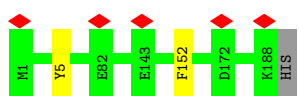
• Molecule 90: NDUB8



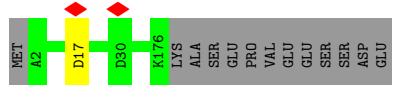
• Molecule 91: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 10, mitochondrial



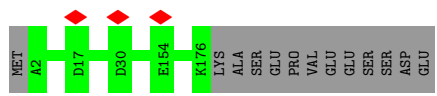
• Molecule 91: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 10, mitochondrial



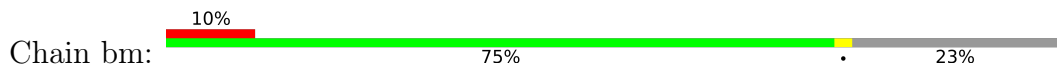
• Molecule 92: NDUB10

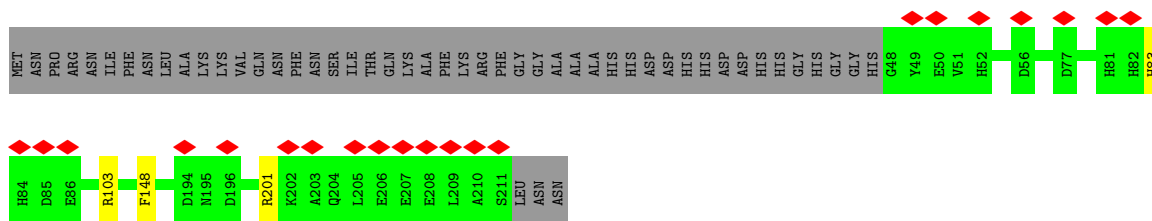


• Molecule 92: NDUB10

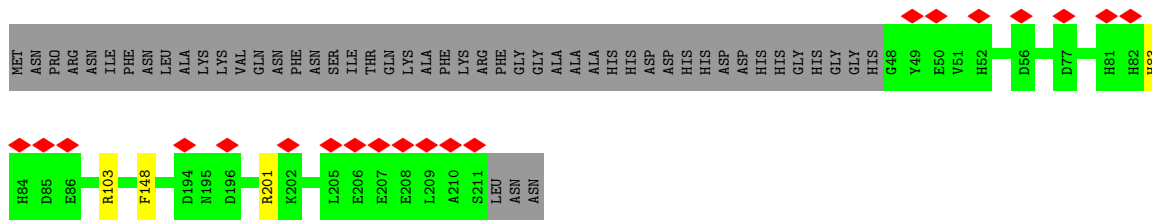
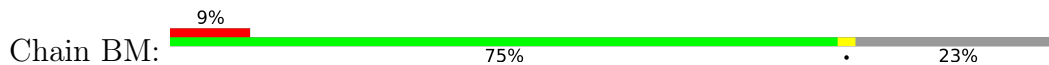


• Molecule 93: Transmembrane protein, putative





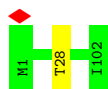
• Molecule 93: Transmembrane protein, putative



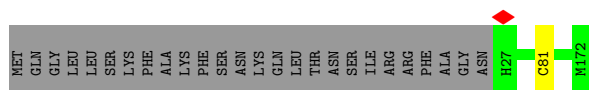
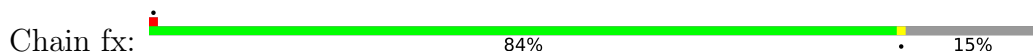
• Molecule 94: Complex I-MNLL



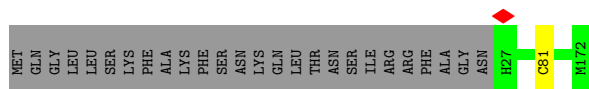
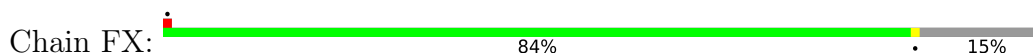
• Molecule 94: Complex I-MNLL




• Molecule 95: 2 iron, 2 sulfur cluster-binding protein

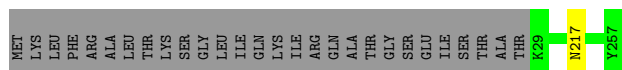


• Molecule 95: 2 iron, 2 sulfur cluster-binding protein



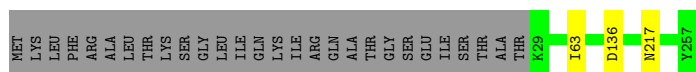
• Molecule 96: Gamma-carbonic anhydrase

Chain g1:  89% 11%



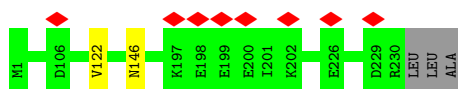
● Molecule 96: Gamma-carbonic anhydrase

Chain G1:  88% 11%



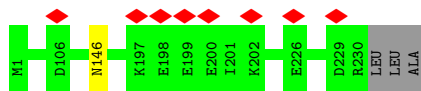
● Molecule 97: Gamma-carbonic anhydrase

Chain g2:  98% ..



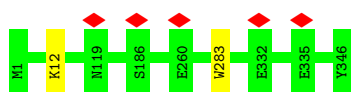
● Molecule 97: Gamma-carbonic anhydrase

Chain G2:  98% .



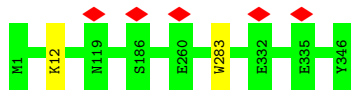
● Molecule 98: Transcription factor apfi protein, putative

Chain g3:  99% .




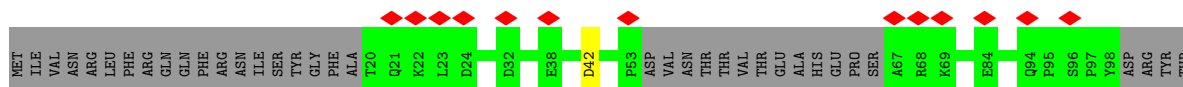
● Molecule 98: Transcription factor apfi protein, putative

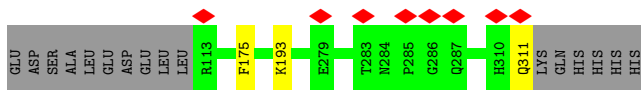
Chain G3:  99% .



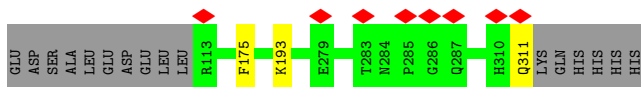
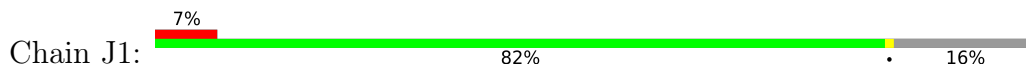
● Molecule 99: DnaJ domain protein

Chain j1:  7% 82% 16%

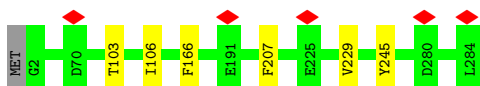




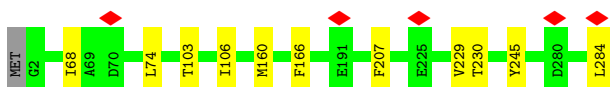
• Molecule 99: DnaJ domain protein



• Molecule 100: NADH-ubiquinone oxidoreductase chain 1



• Molecule 100: NADH-ubiquinone oxidoreductase chain 1



• Molecule 101: Ymf65

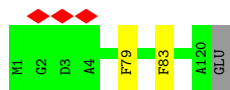


• Molecule 101: Ymf65

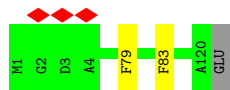


• Molecule 102: NADH-ubiquinone oxidoreductase chain 3

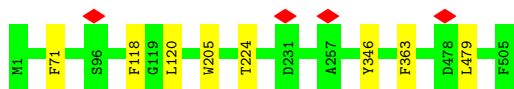




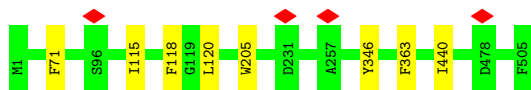
- Molecule 102: NADH-ubiquinone oxidoreductase chain 3



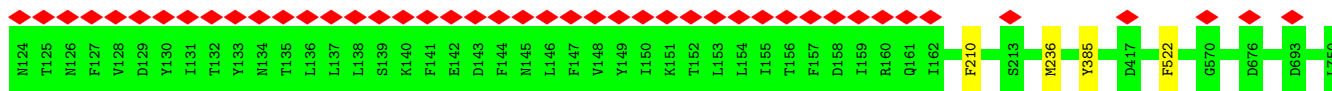
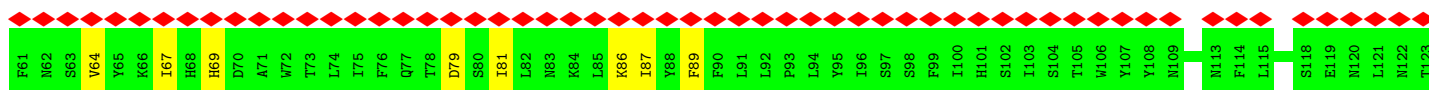
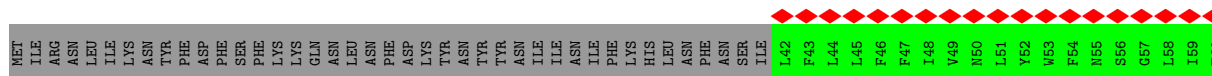
- Molecule 103: NADH-ubiquinone oxidoreductase chain 4



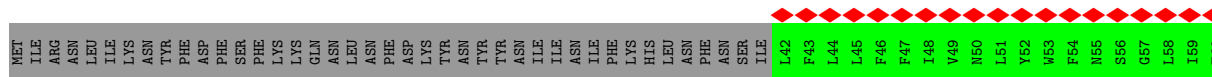
- Molecule 103: NADH-ubiquinone oxidoreductase chain 4

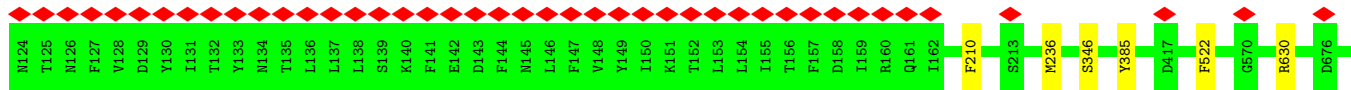
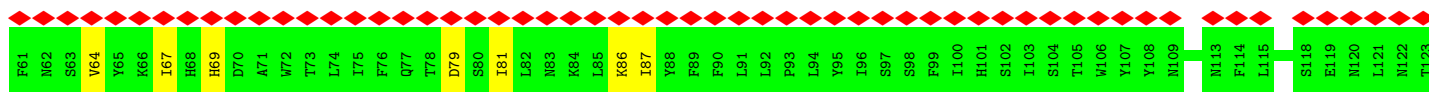


- Molecule 104: NADH dehydrogenase subunit 5

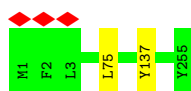


- Molecule 104: NADH dehydrogenase subunit 5

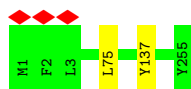




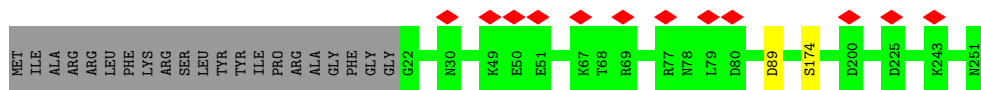
• Molecule 105: Ymf62



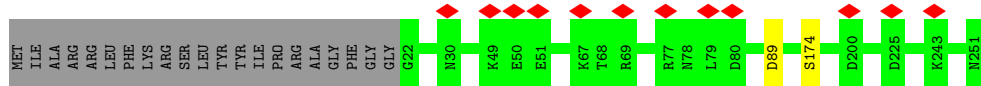
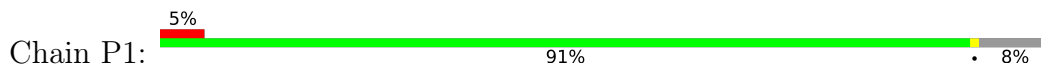
• Molecule 105: Ymf62



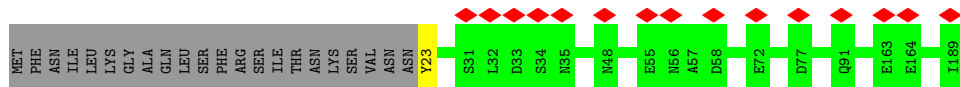
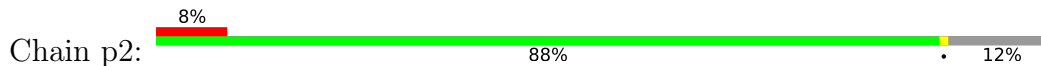
• Molecule 106: Transmembrane protein, putative



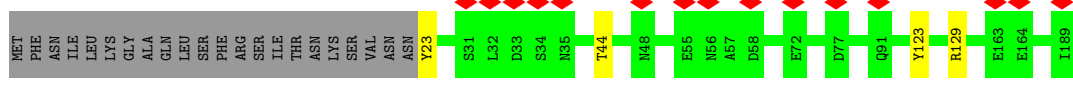
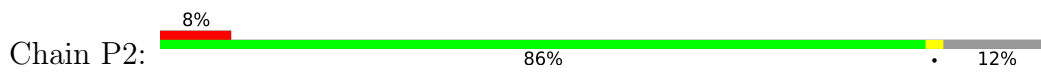
• Molecule 106: Transmembrane protein, putative



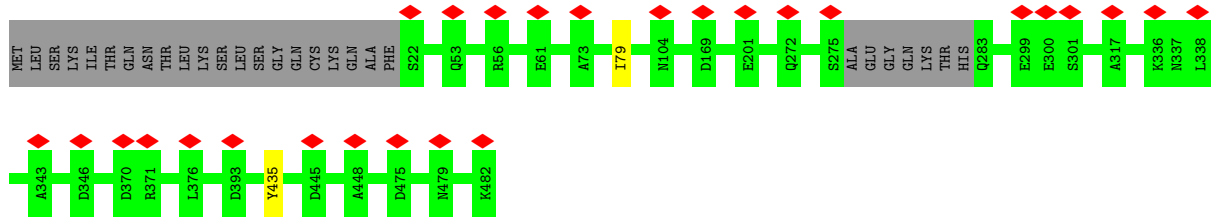
• Molecule 107: NDUPH2



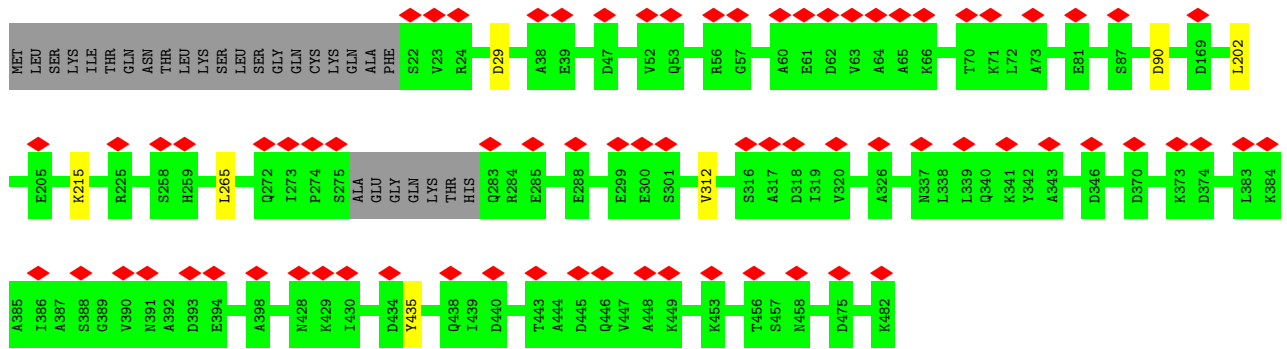
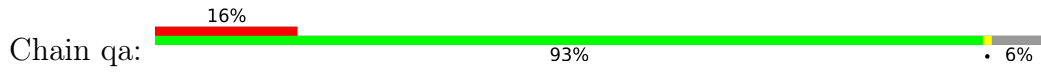
• Molecule 107: NDUPH2



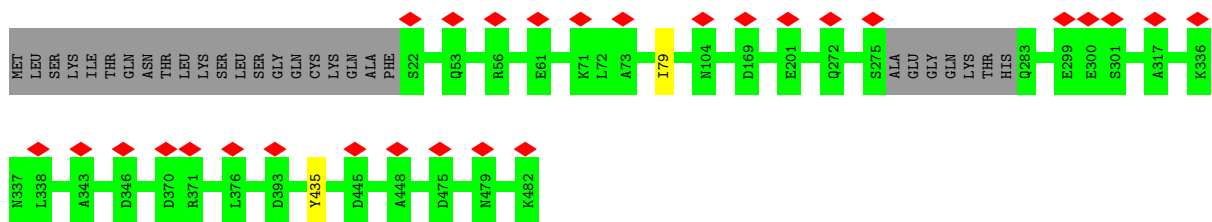
• Molecule 108: M16 family peptidase, putative



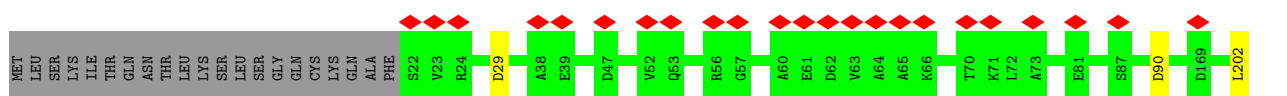
• Molecule 108: M16 family peptidase, putative

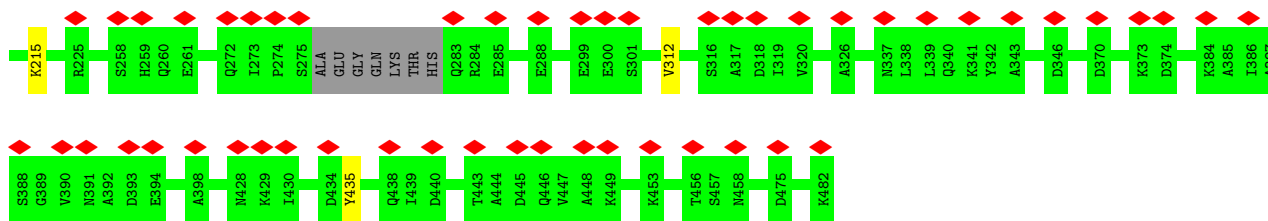


• Molecule 108: M16 family peptidase, putative



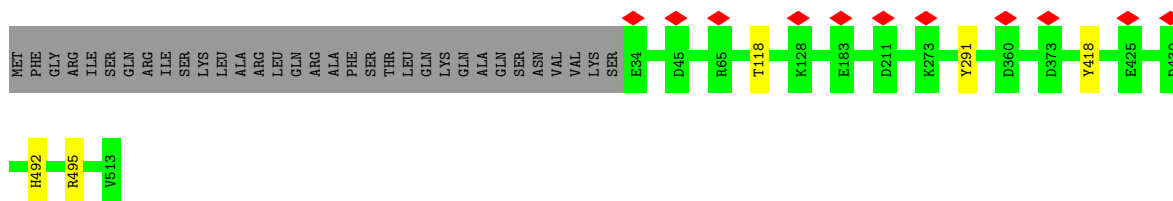
• Molecule 108: M16 family peptidase, putative





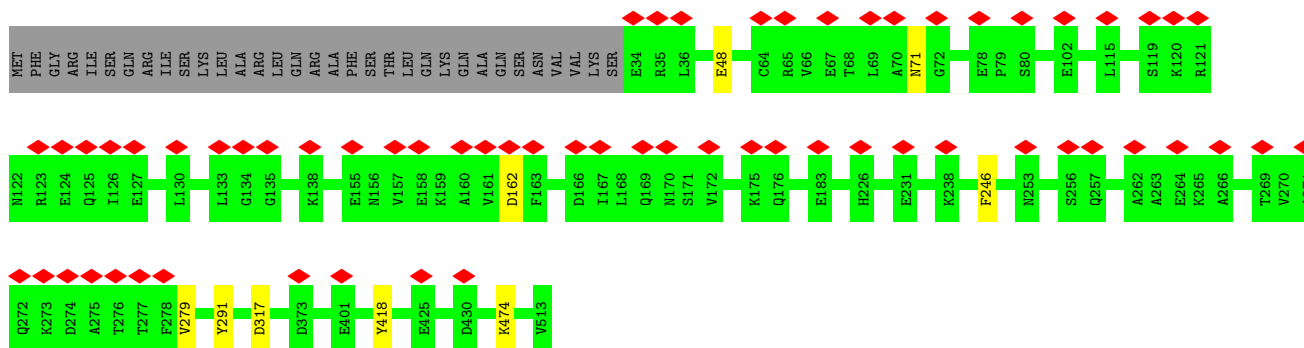
- Molecule 109: Peptidase M16 inactive domain protein

Chain qB: 93% • 6%



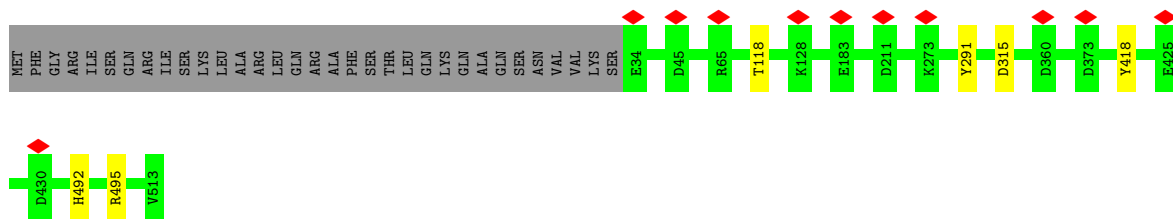
- Molecule 109: Peptidase M16 inactive domain protein

Chain qb: 12% 92% • 6%



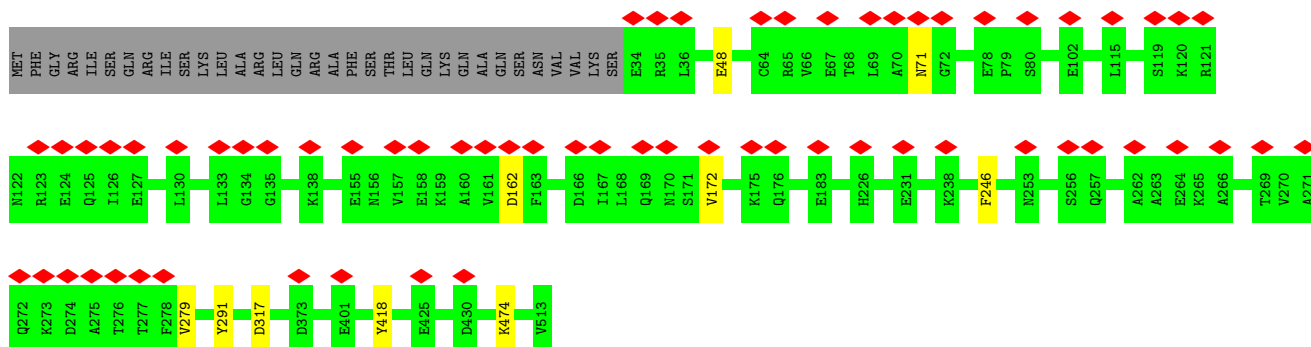
- Molecule 109: Peptidase M16 inactive domain protein

Chain QB: 12% 92% • 6%

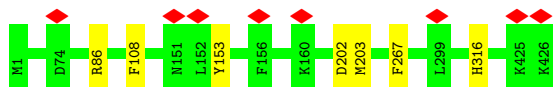


- Molecule 109: Peptidase M16 inactive domain protein

Chain Qb: 12% 92% • 6%



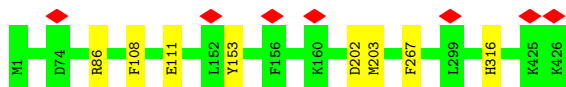
• Molecule 110: Apocytochrome b



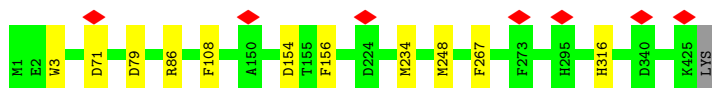
• Molecule 110: Apocytochrome b



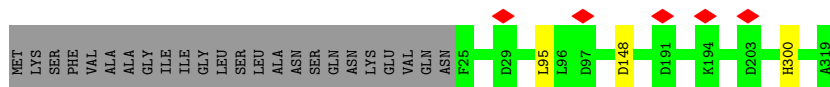
• Molecule 110: Apocytochrome b



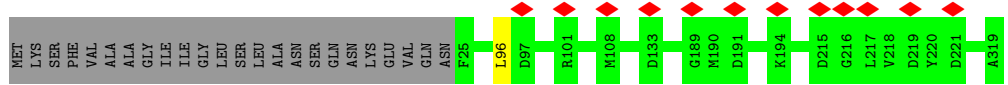
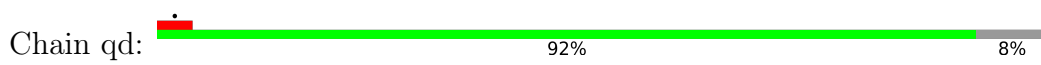
• Molecule 110: Apocytochrome b



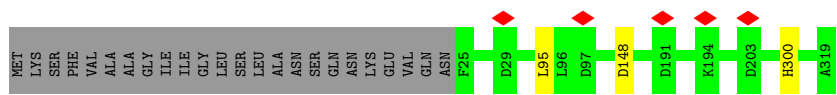
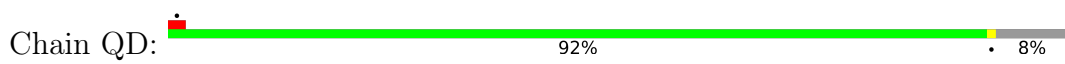
• Molecule 111: Cytochrome protein c1



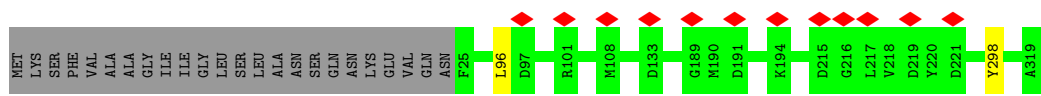
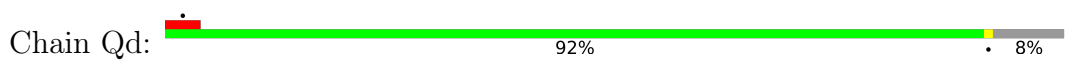
• Molecule 111: Cytochrome protein c1



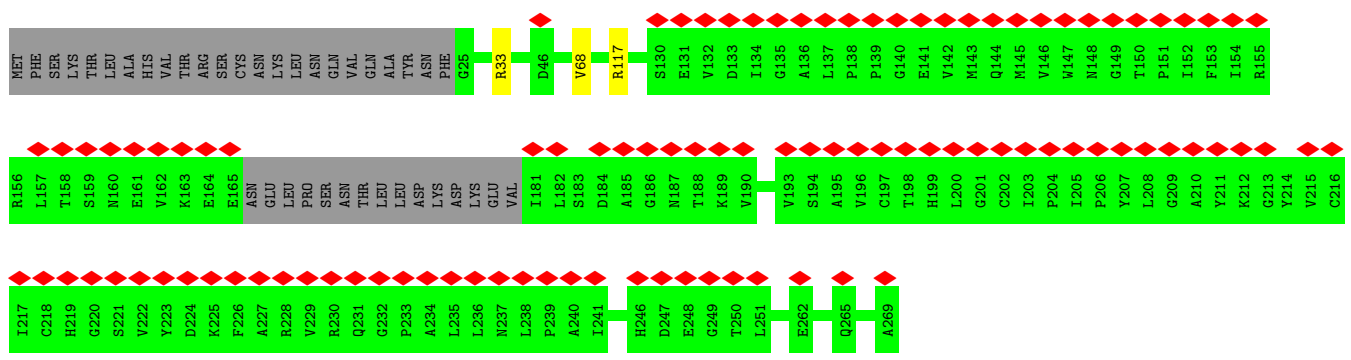
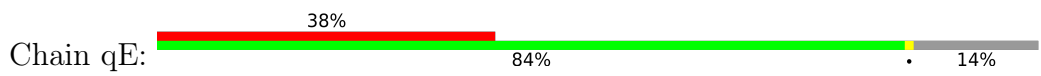
• Molecule 111: Cytochrome protein c1



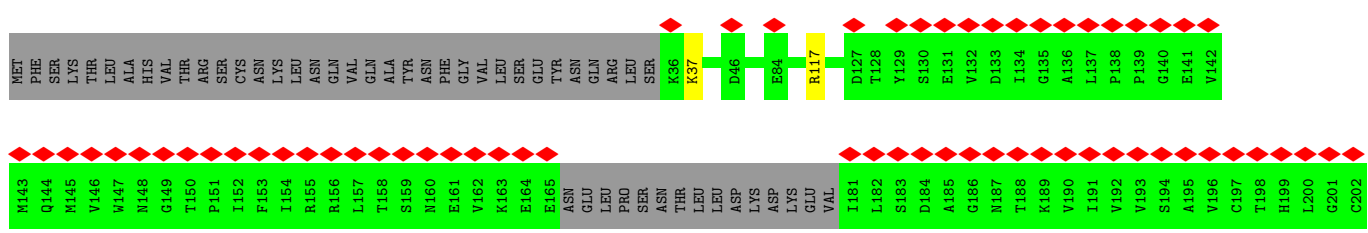
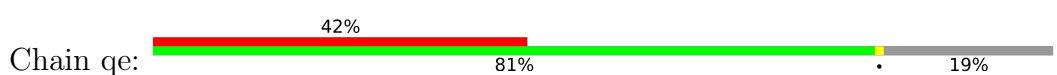
• Molecule 111: Cytochrome protein c1

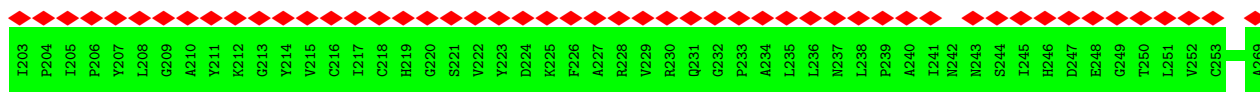


• Molecule 112: Rieske iron-sulfur protein, ubiquinol-cytochrome C reductase iron-sulfur sub-unit

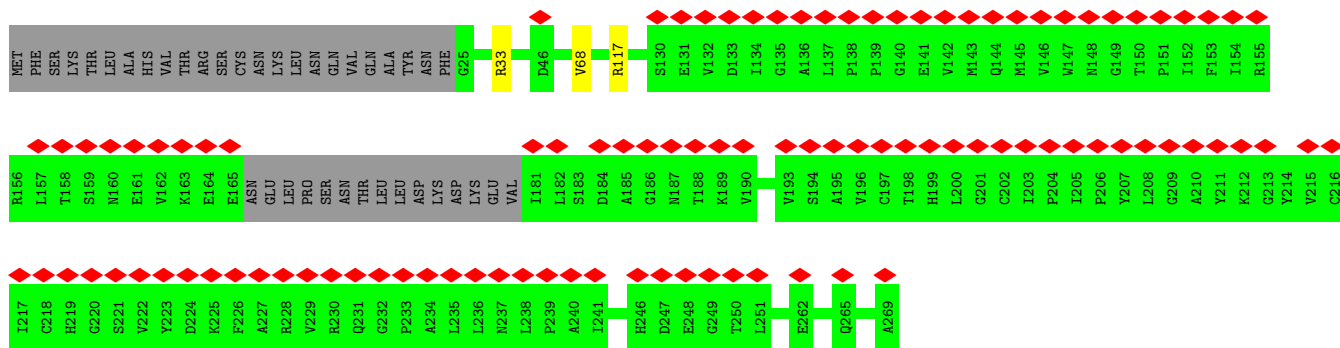
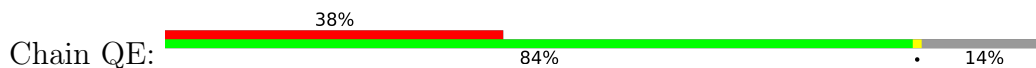


• Molecule 112: Rieske iron-sulfur protein, ubiquinol-cytochrome C reductase iron-sulfur sub-unit

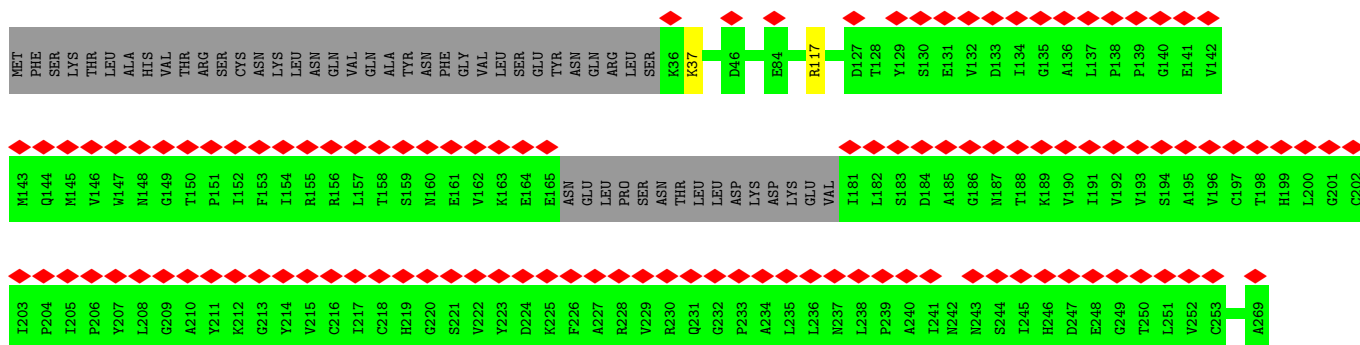
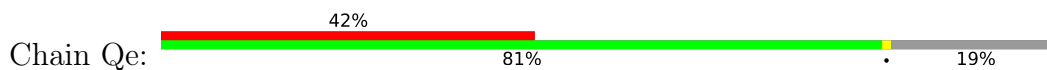




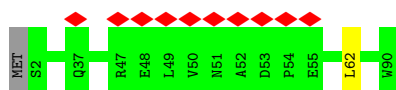
- Molecule 112: Rieske iron-sulfur protein, ubiquinol-cytochrome C reductase iron-sulfur sub-unit



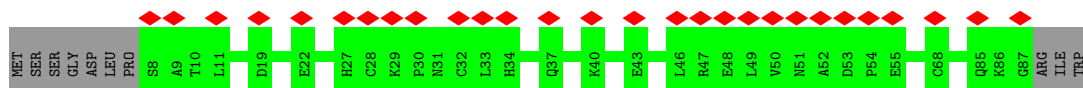
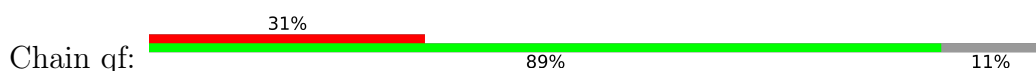
- Molecule 112: Rieske iron-sulfur protein, ubiquinol-cytochrome C reductase iron-sulfur sub-unit



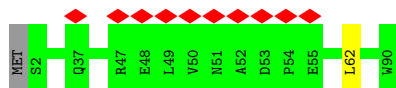
- Molecule 113: Ubiquinol-cytochrome C reductase hinge protein



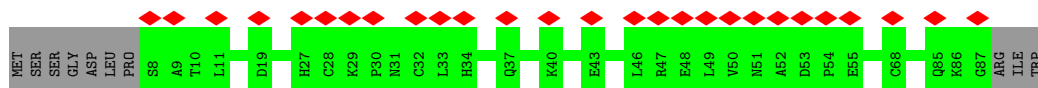
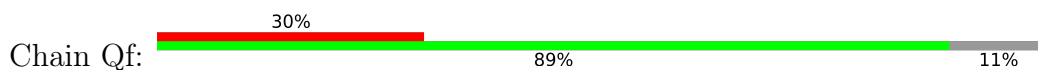
- Molecule 113: Ubiquinol-cytochrome C reductase hinge protein



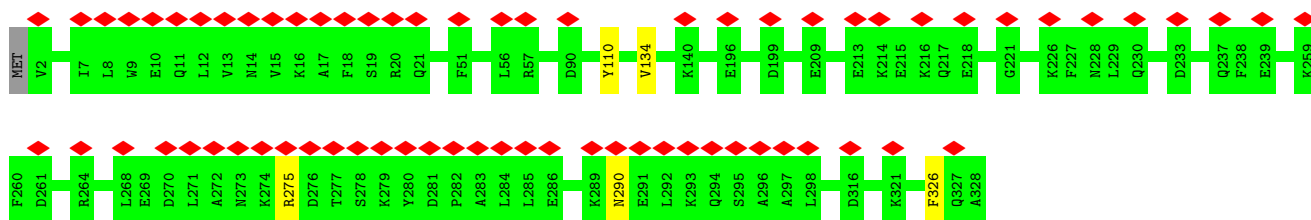
- Molecule 113: Ubiquinol-cytochrome C reductase hinge protein



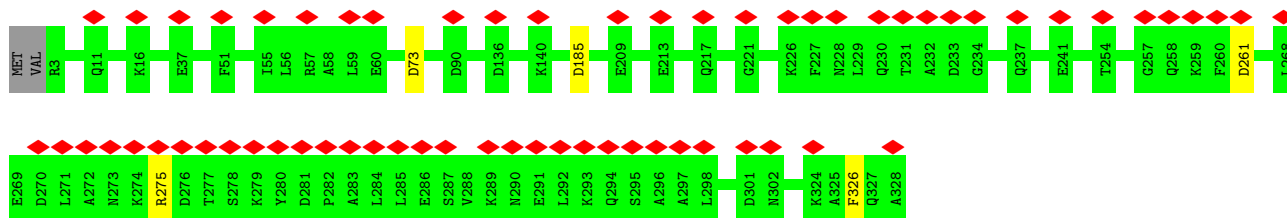
- Molecule 113: Ubiquinol-cytochrome C reductase hinge protein



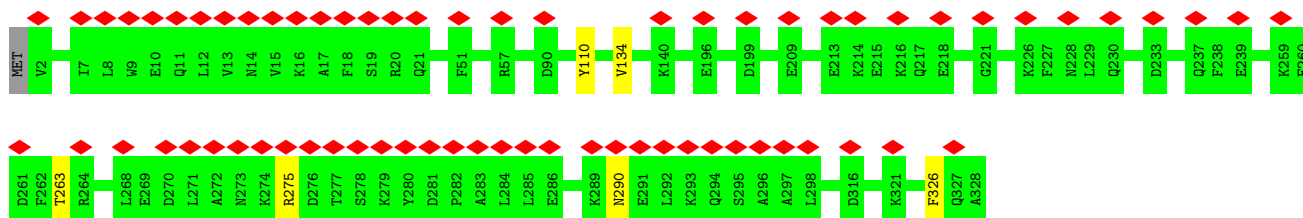
- Molecule 114: Sulphotransf domain-containing protein



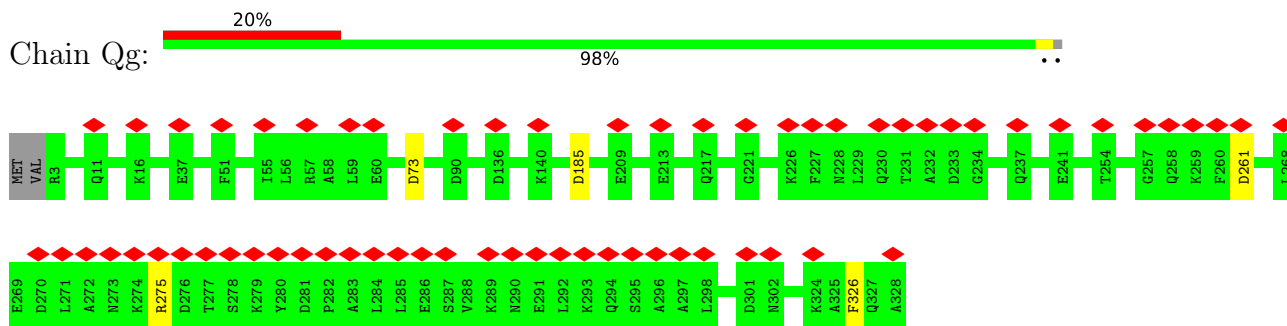
- Molecule 114: Sulphotransf domain-containing protein



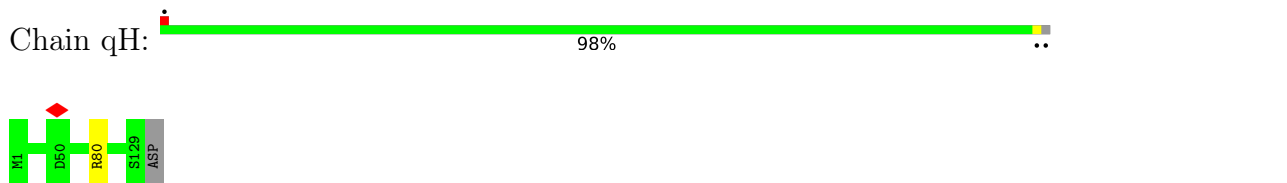
- Molecule 114: Sulphotransf domain-containing protein



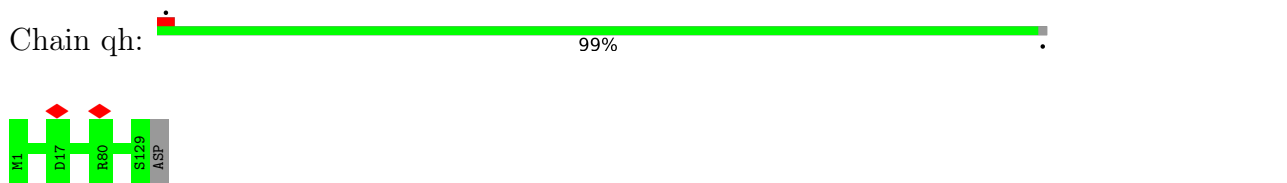
- Molecule 114: Sulphotransf domain-containing protein



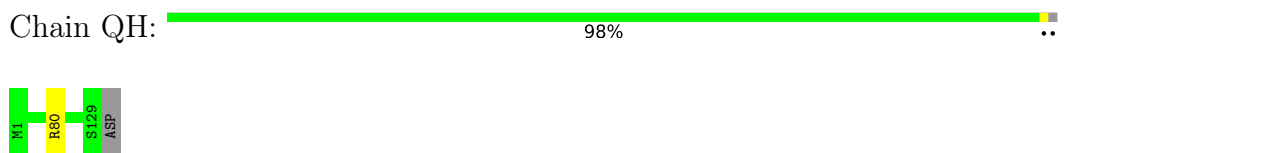
• Molecule 115: Transmembrane protein, putative



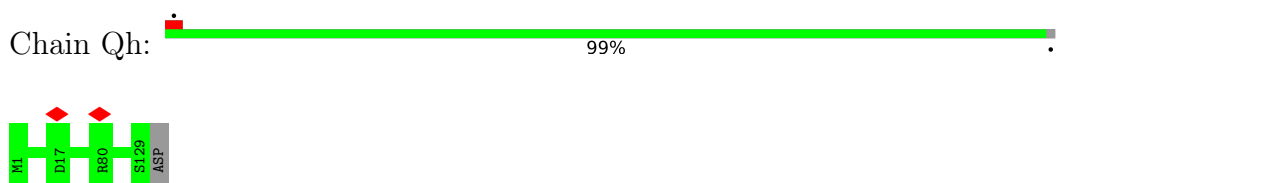
• Molecule 115: Transmembrane protein, putative



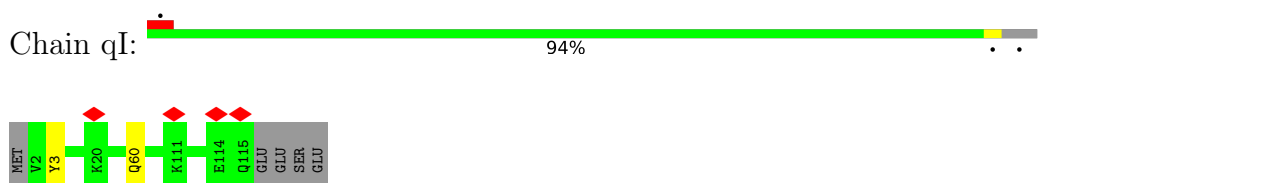
• Molecule 115: Transmembrane protein, putative



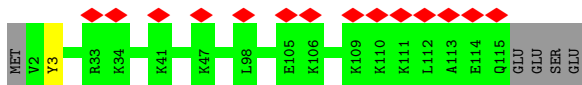
• Molecule 115: Transmembrane protein, putative



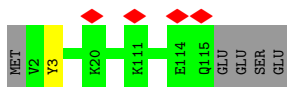
• Molecule 116: Transmembrane protein, putative



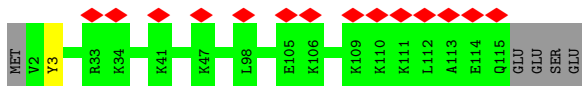
• Molecule 116: Transmembrane protein, putative



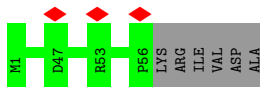
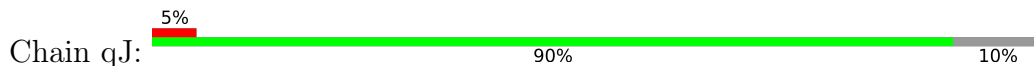
- Molecule 116: Transmembrane protein, putative



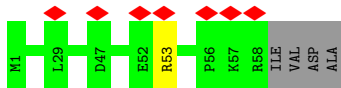
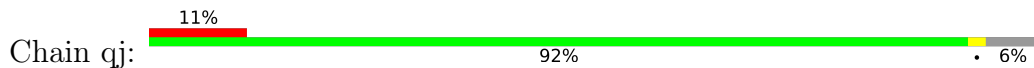
- Molecule 116: Transmembrane protein, putative



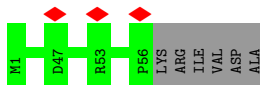
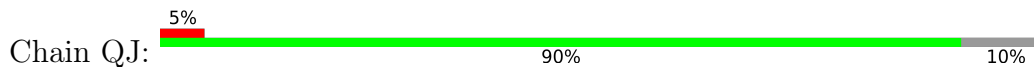
- Molecule 117: Transmembrane protein, putative



- Molecule 117: Transmembrane protein, putative



- Molecule 117: Transmembrane protein, putative

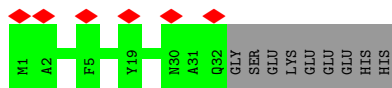
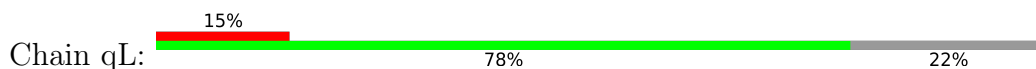


- Molecule 117: Transmembrane protein, putative

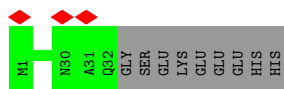
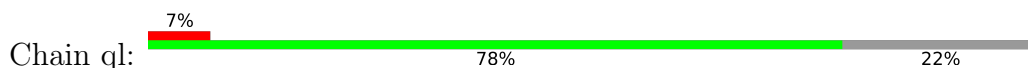




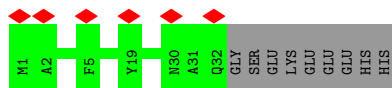
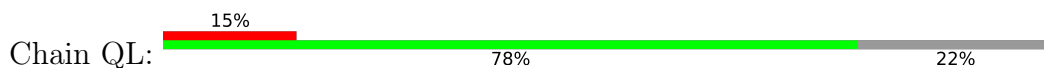
- Molecule 118: UQCRTT2



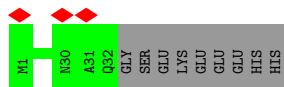
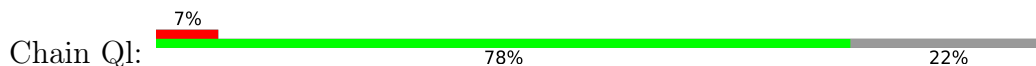
- Molecule 118: UQCRTT2



- Molecule 118: UQCRTT2



- Molecule 118: UQCRTT2



- Molecule 119: Unknown peptide



There are no outlier residues recorded for this chain.

- Molecule 119: Unknown peptide



There are no outlier residues recorded for this chain.

- Molecule 119: Unknown peptide



There are no outlier residues recorded for this chain.

- Molecule 119: Unknown peptide

Chain u2:  100%

There are no outlier residues recorded for this chain.

- Molecule 119: Unknown peptide

Chain U2:  100%

There are no outlier residues recorded for this chain.

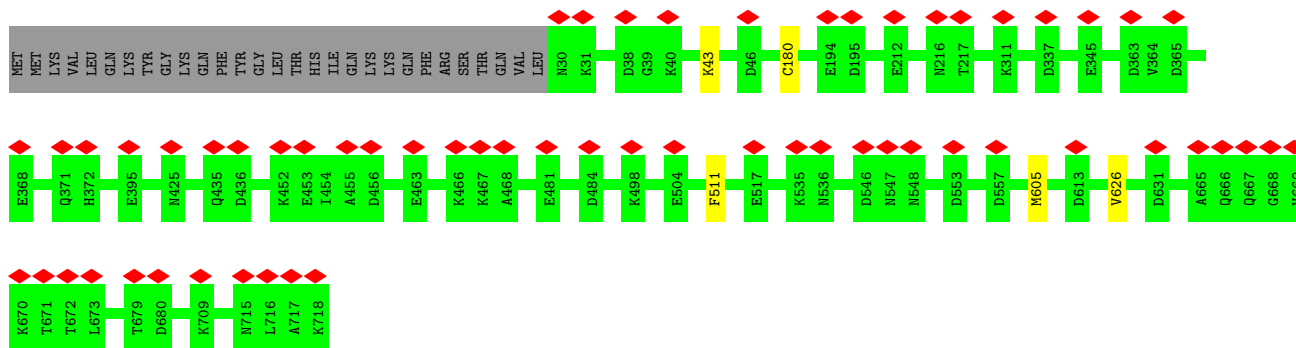
- Molecule 119: Unknown peptide

Chain QM:  100%

There are no outlier residues recorded for this chain.

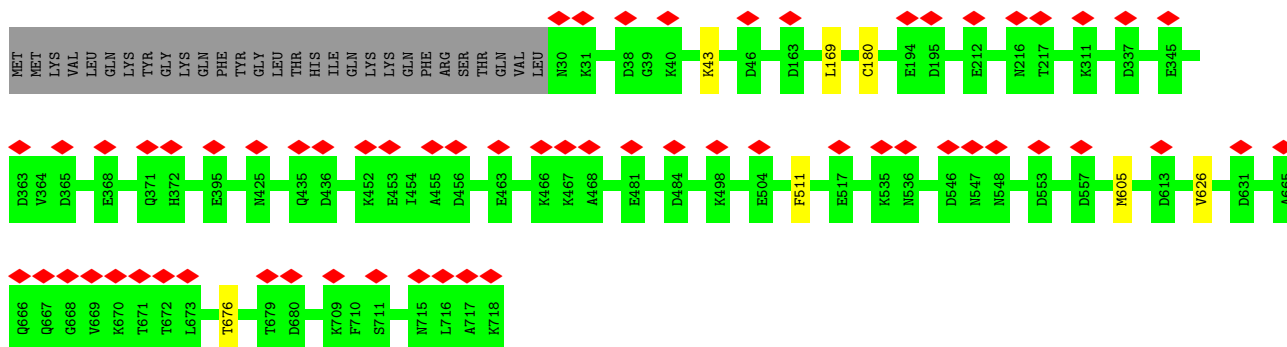
- Molecule 120: NADH-ubiquinone oxidoreductase 75 kDa subunit

Chain s1:  95% 8%



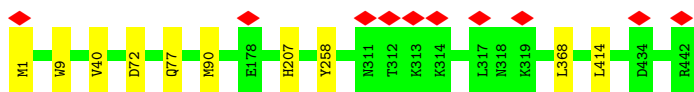
- Molecule 120: NADH-ubiquinone oxidoreductase 75 kDa subunit

Chain S1:  95% 9%

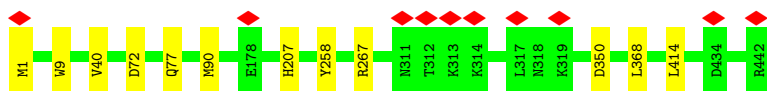


- Molecule 121: NADH dehydrogenase subunit 7

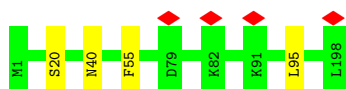
Chain s2:  98%



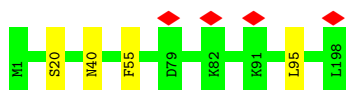
- Molecule 121: NADH dehydrogenase subunit 7



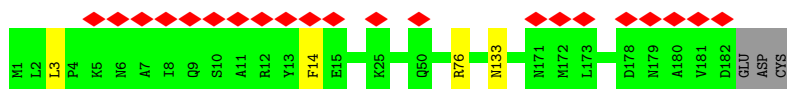
- Molecule 122: NADH dehydrogenase subunit 9



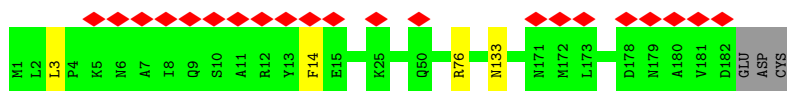
- Molecule 122: NADH dehydrogenase subunit 9



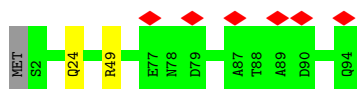
- Molecule 123: NADH dehydrogenase [ubiquinone] iron-sulfur protein 4, mitochondrial



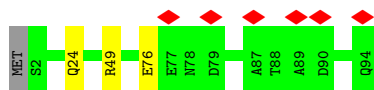
- Molecule 123: NADH dehydrogenase [ubiquinone] iron-sulfur protein 4, mitochondrial



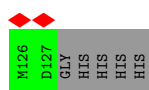
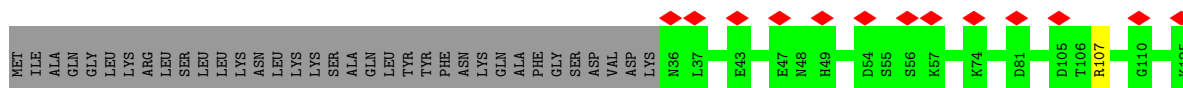
- Molecule 124: GRAM domain protein



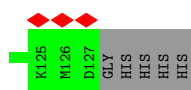
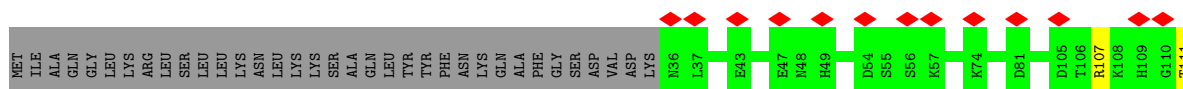
- Molecule 124: GRAM domain protein



• Molecule 125: Zinc-finger protein



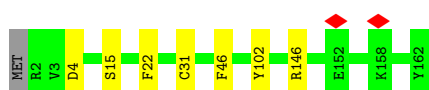
• Molecule 125: Zinc-finger protein



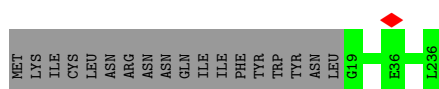
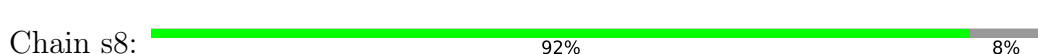
• Molecule 126: NADH dehydrogenase subunit 10



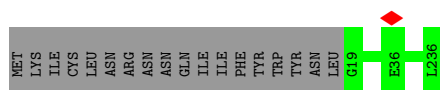
• Molecule 126: NADH dehydrogenase subunit 10



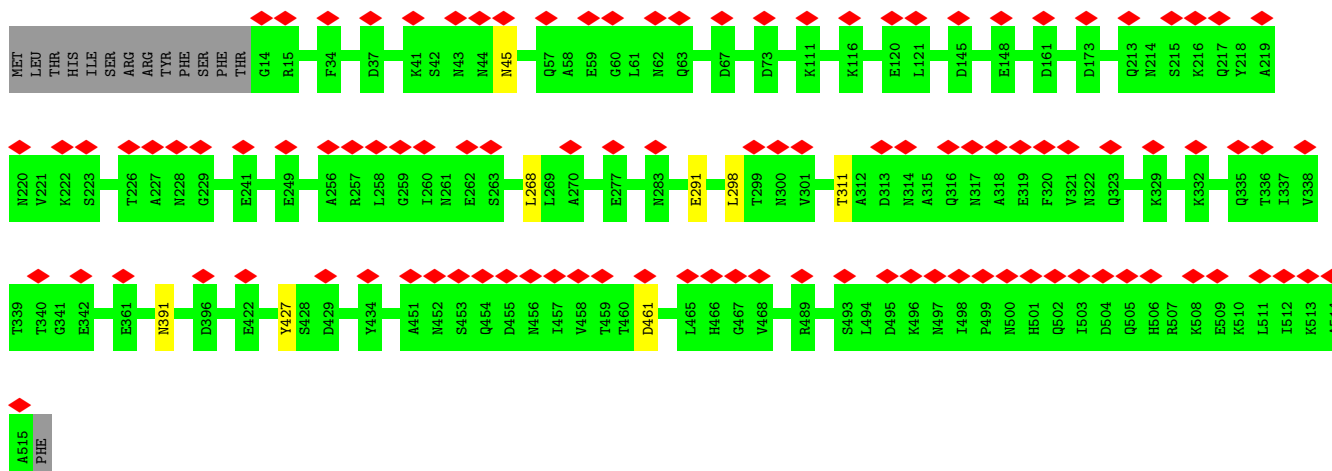
• Molecule 127: NADH-ubiquinone oxidoreductase 1, chain, putative



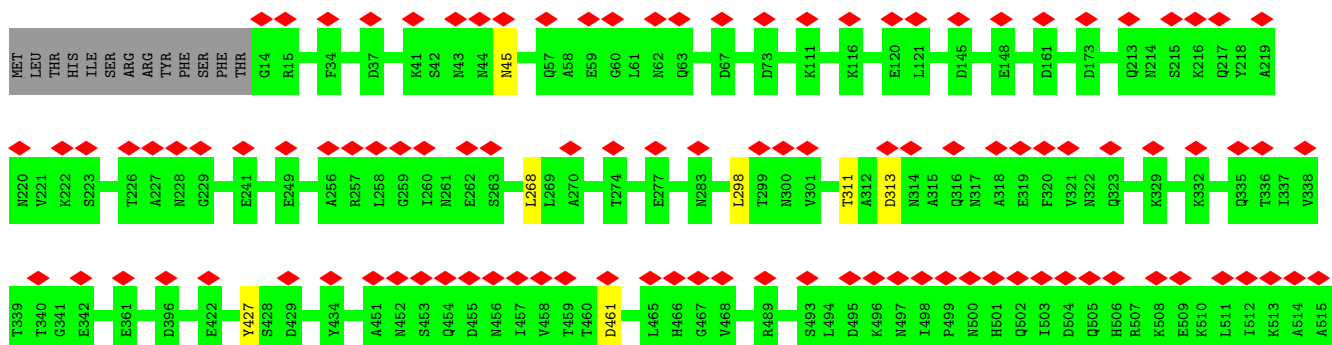
- Molecule 127: NADH-ubiquinone oxidoreductase 1, chain, putative



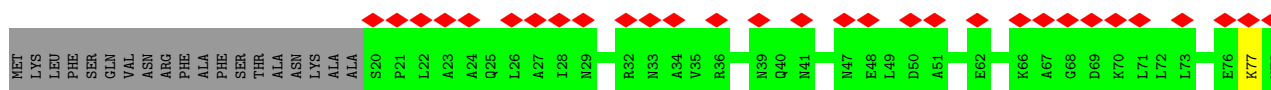
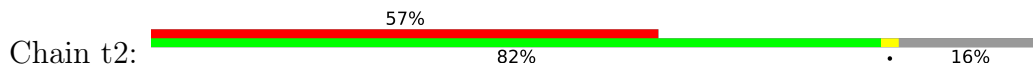
- Molecule 128: Lipid-A-disaccharide synthase

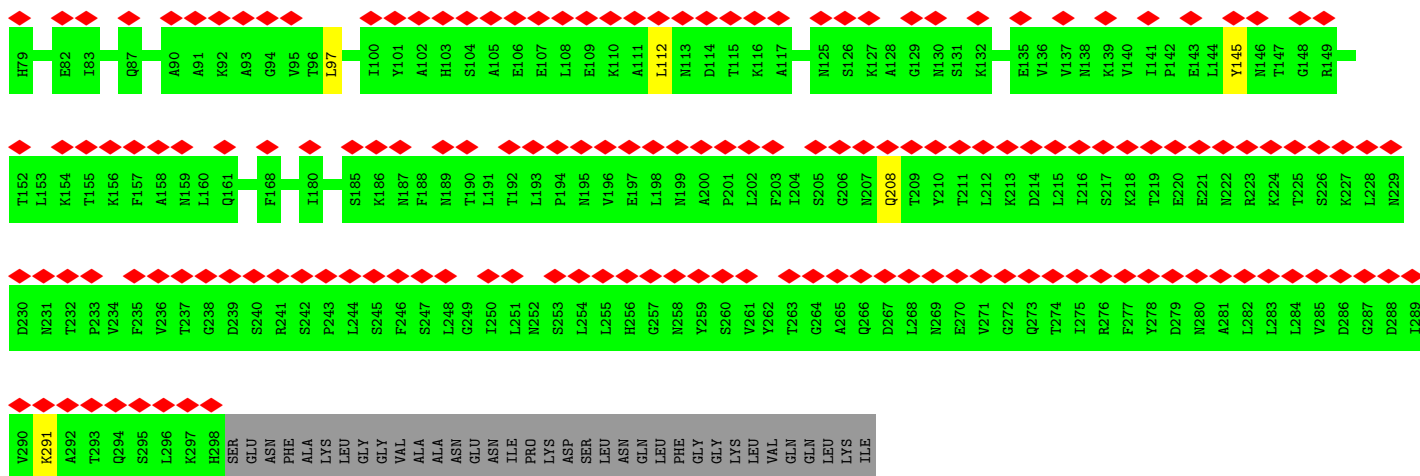


- Molecule 128: Lipid-A-disaccharide synthase

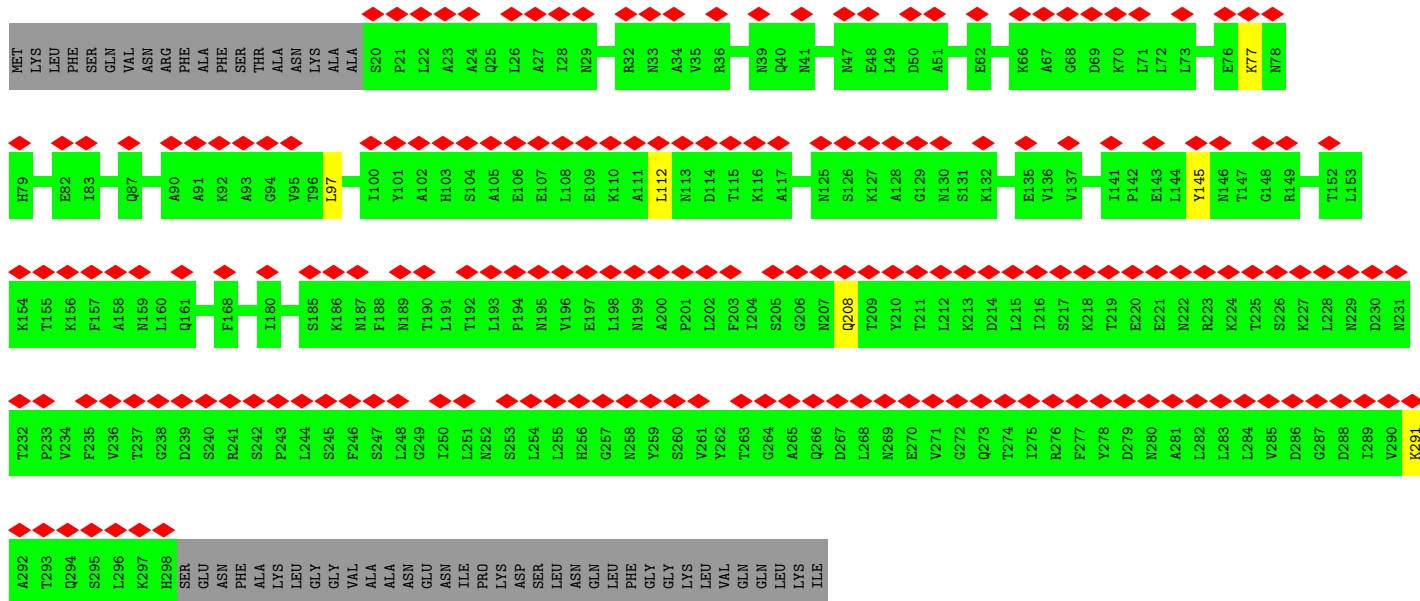
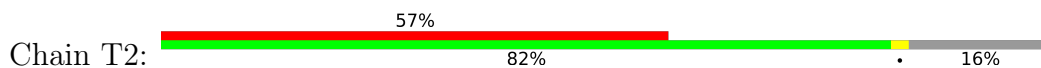


- Molecule 129: Acyl-CoA synthetase (AMP-forming)/AMP-acid ligase II

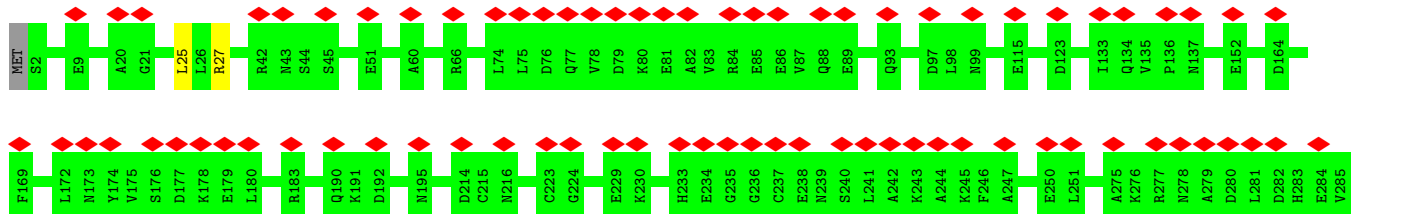


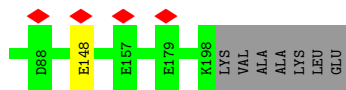


• Molecule 129: Acyl-CoA synthetase (AMP-forming)/AMP-acid ligase II

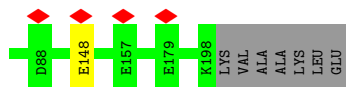
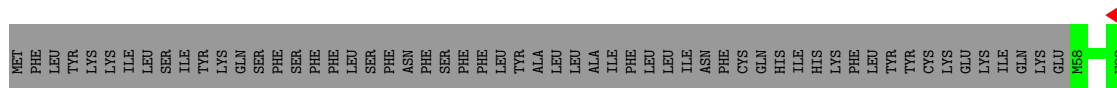


• Molecule 130: RNase III domain-containing protein

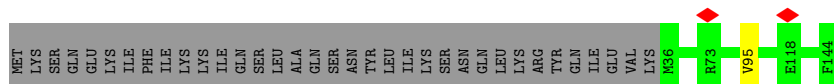
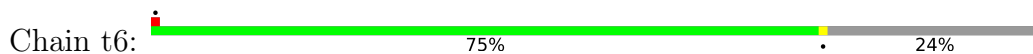




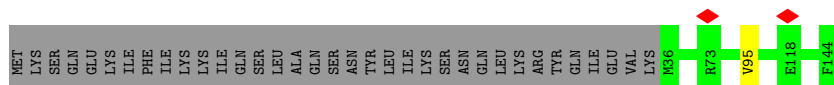
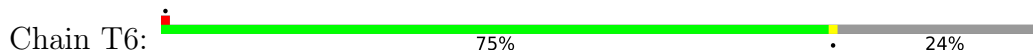
• Molecule 132: Transmembrane protein, putative



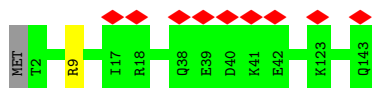
• Molecule 133: COX assembly mitochondrial protein



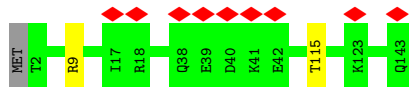
• Molecule 133: COX assembly mitochondrial protein



• Molecule 134: Transmembrane protein, putative

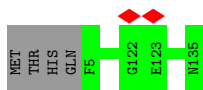


• Molecule 134: Transmembrane protein, putative

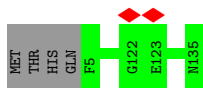


• Molecule 135: PH domain-containing protein

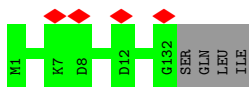




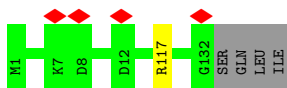
- Molecule 135: PH domain-containing protein



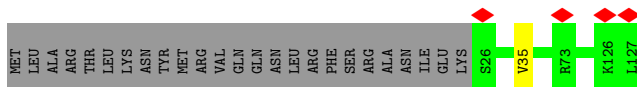
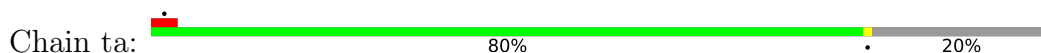
- Molecule 136: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 8



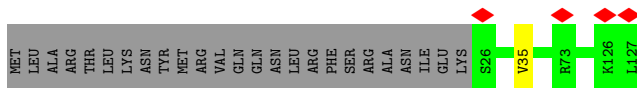
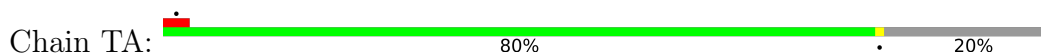
- Molecule 136: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 8



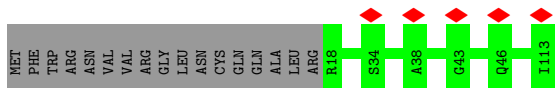
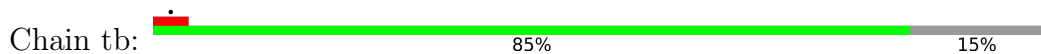
- Molecule 137: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 4



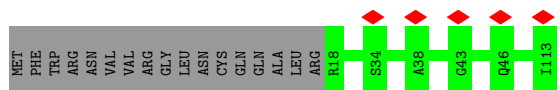
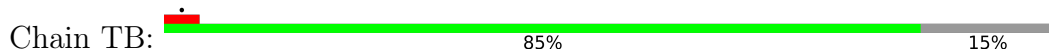
- Molecule 137: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 4



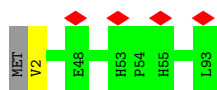
- Molecule 138: Transmembrane protein, putative



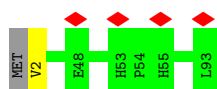
- Molecule 138: Transmembrane protein, putative



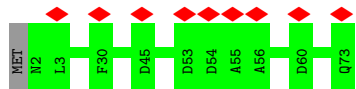
- Molecule 139: ATP synthase subunit e, mitochondrial



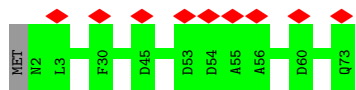
- Molecule 139: ATP synthase subunit e, mitochondrial



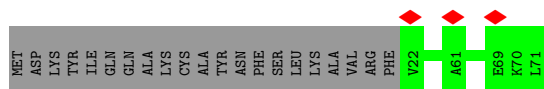
- Molecule 140: Transmembrane protein, putative



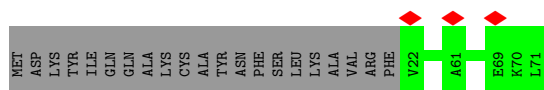
- Molecule 140: Transmembrane protein, putative



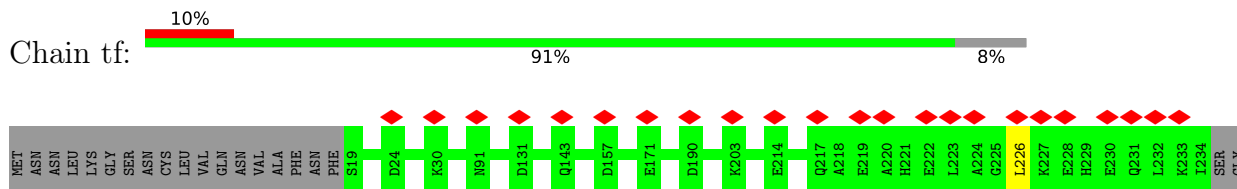
- Molecule 141: Transmembrane protein, putative



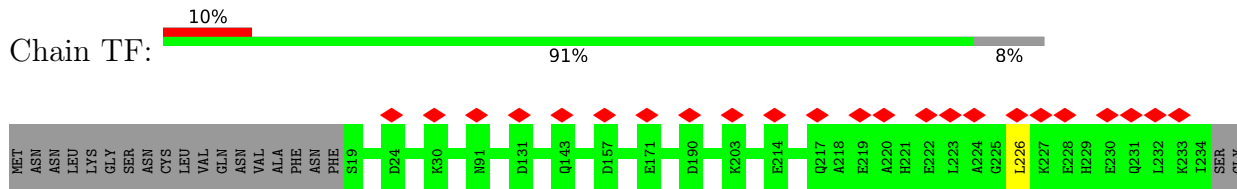
- Molecule 141: Transmembrane protein, putative



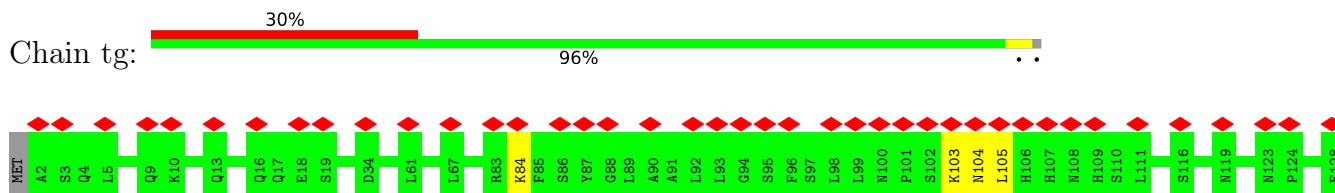
• Molecule 142: NDUTT15



• Molecule 142: NDUTT15

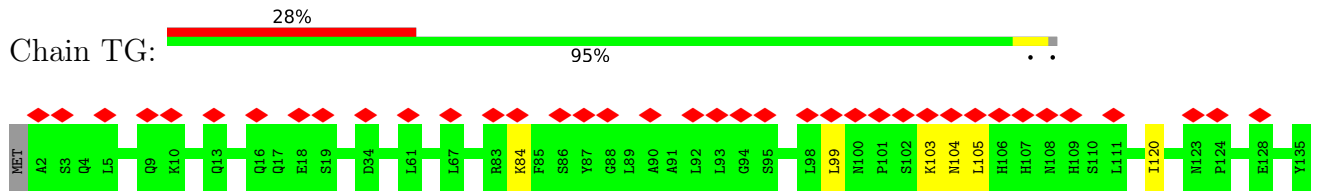


• Molecule 143: NDUTT16

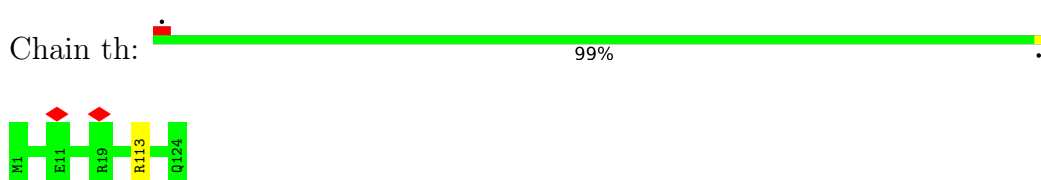


Y135

• Molecule 143: NDUTT16



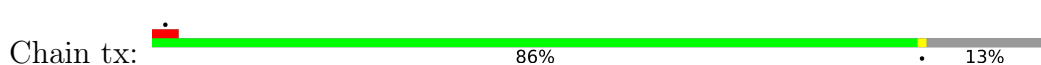
• Molecule 144: NDUTT17

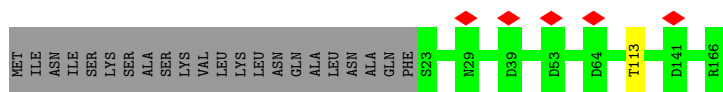


• Molecule 144: NDUTT17

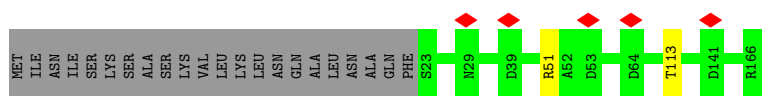
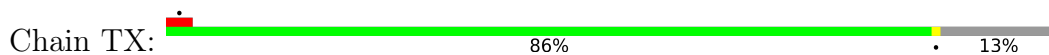


• Molecule 145: Thioredoxin

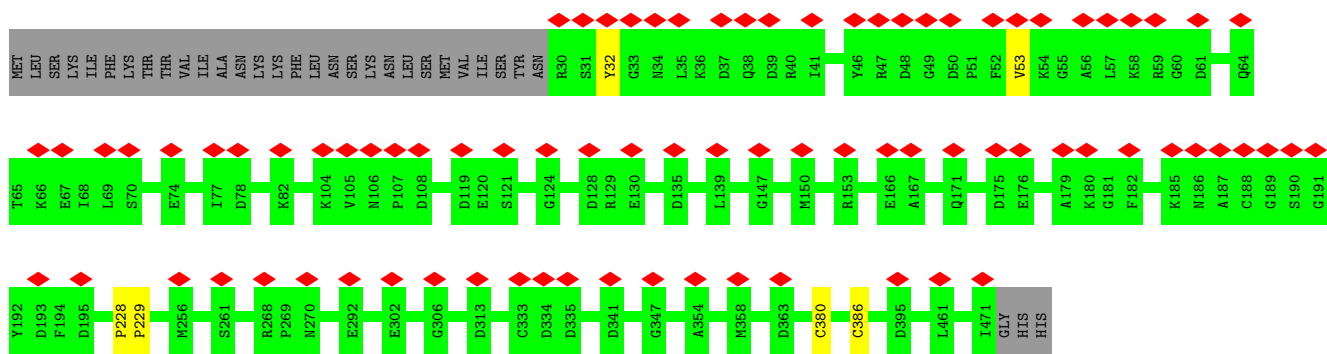
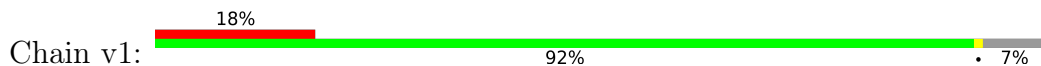




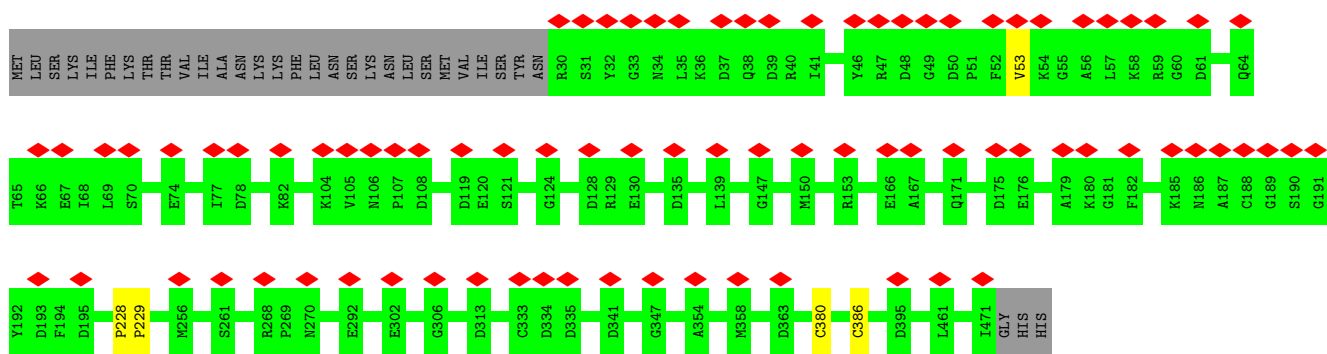
• Molecule 145: Thioredoxin



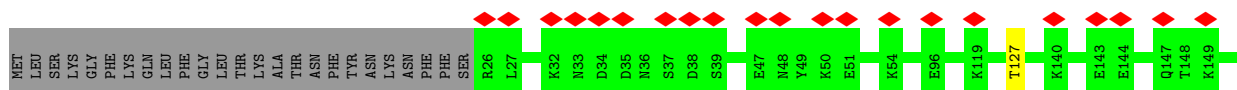
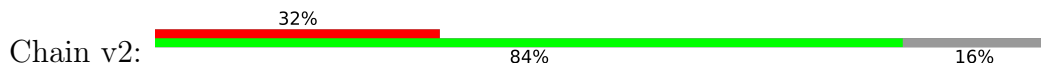
• Molecule 146: NADH dehydrogenase [ubiquinone] flavoprotein 1, mitochondrial

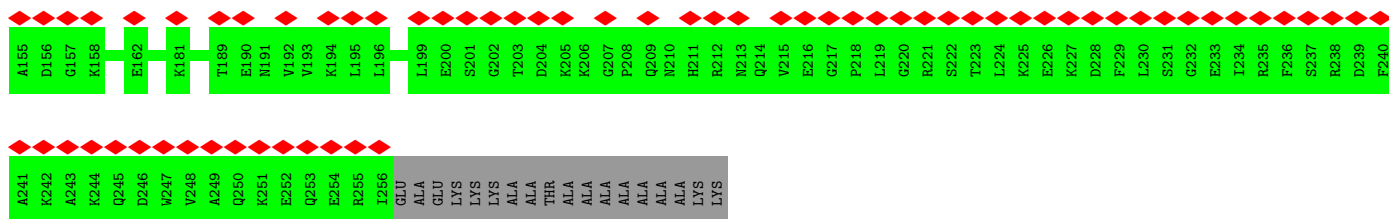


• Molecule 146: NADH dehydrogenase [ubiquinone] flavoprotein 1, mitochondrial

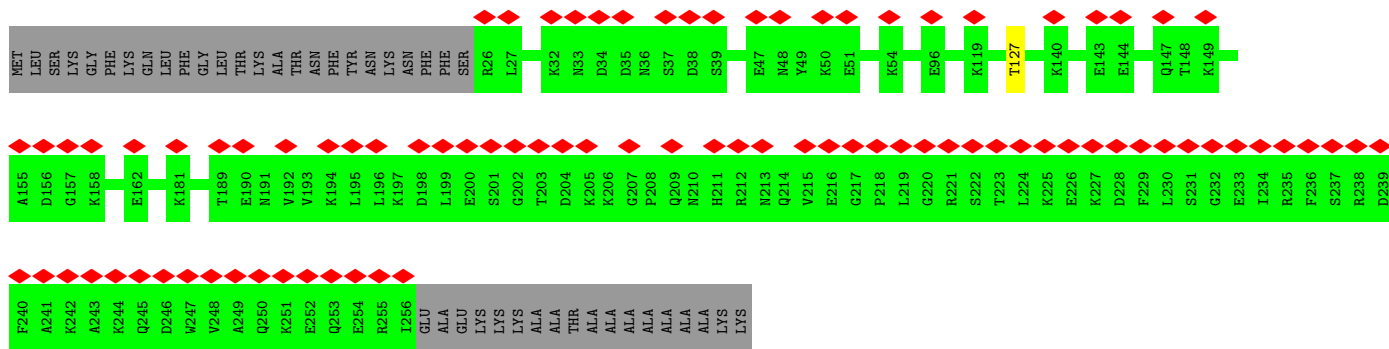
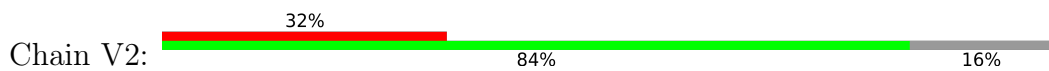


• Molecule 147: NADH-ubiquinone oxidoreductase 24 kDa subunit

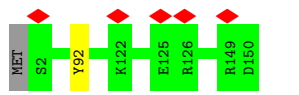




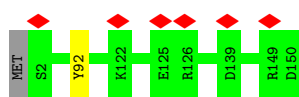
• Molecule 147: NADH-ubiquinone oxidoreductase 24 kDa subunit



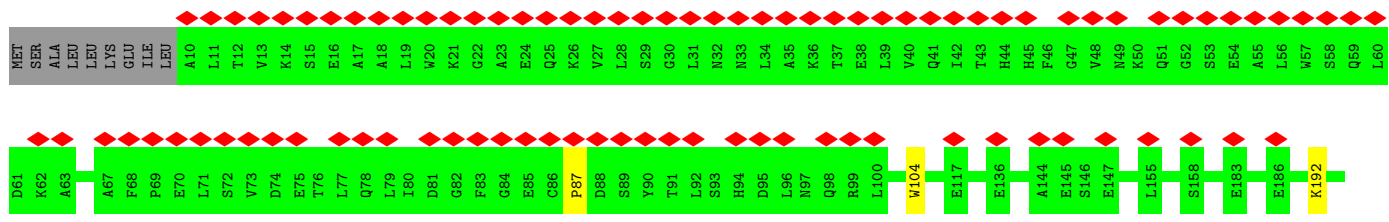
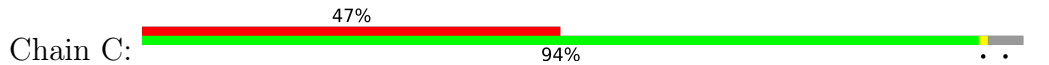
• Molecule 148: NADH-ubiquinone oxidoreductase complex I, 21 kDa subunit

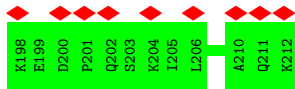


• Molecule 148: NADH-ubiquinone oxidoreductase complex I, 21 kDa subunit

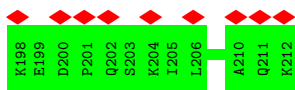
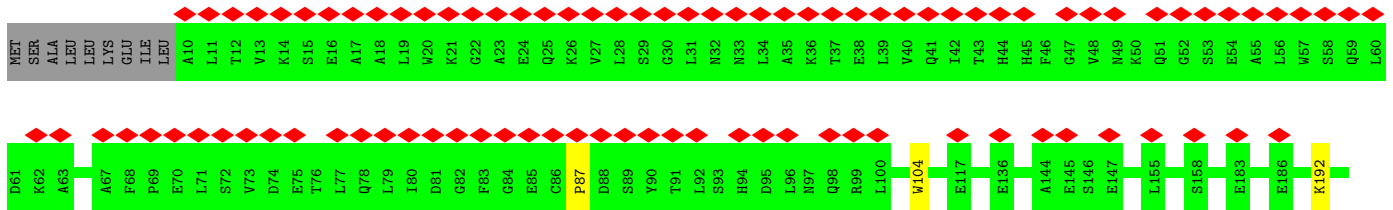


• Molecule 149: COXTT3





- Molecule 149: COXTT3



- Molecule 150: Unknown peptide



There are no outlier residues recorded for this chain.

- Molecule 150: Unknown peptide



There are no outlier residues recorded for this chain.

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C2	Depositor
Number of particles used	97688	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	61.5	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	140000	Depositor
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	60.050	Depositor
Minimum map value	-23.470	Depositor
Average map value	0.005	Depositor
Map value standard deviation	1.045	Depositor
Recommended contour level	5.5	Depositor
Map size (Å)	781.2, 781.2, 781.2	wwPDB
Map dimensions	840, 840, 840	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.93, 0.93, 0.93	Depositor

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: HEA, FAD, ADP, T7X, SF4, 3PE, FMN, MG, CU, SEP, P5S, HEC, CDL, FES, PC1, NDP, PX2, ZMP, F3S, HEM, TPO, ZN, U10

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	1T	0.25	0/546	0.39	0/735
1	1t	0.25	0/546	0.38	0/735
2	2E	0.25	0/2614	0.45	0/3553
2	2e	0.25	0/2614	0.45	0/3553
3	2F	0.27	0/1848	0.45	0/2500
3	2f	0.27	0/1848	0.45	0/2500
4	2G	0.26	0/1716	0.40	0/2317
4	2g	0.26	0/1716	0.40	0/2317
5	2H	0.25	0/812	0.42	0/1090
5	2h	0.25	0/812	0.42	0/1090
6	2I	0.28	0/930	0.42	0/1244
6	2i	0.27	0/930	0.42	0/1244
7	2J	0.27	0/866	0.39	0/1176
7	2j	0.27	0/866	0.39	0/1176
8	2K	0.30	0/821	0.46	0/1112
8	2k	0.30	0/821	0.46	0/1112
9	2L	0.27	0/738	0.43	0/990
9	2l	0.27	0/738	0.43	0/990
10	2M	0.25	0/660	0.48	0/895
10	2m	0.26	0/660	0.47	0/895
11	2N	0.28	0/521	0.49	0/708
11	2n	0.28	0/521	0.49	0/708
12	2O	0.28	0/367	0.45	0/496
12	2o	0.28	0/367	0.45	0/496
13	2T	0.24	0/574	0.43	0/772
13	2t	0.24	0/574	0.43	0/772
14	3T	0.25	0/662	0.42	0/888
14	3t	0.25	0/662	0.42	0/888
15	4A	0.25	0/836	0.47	0/1133
15	4a	0.24	0/836	0.47	0/1133
16	4T	0.26	0/491	0.41	0/662

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
16	4t	0.26	0/491	0.41	0/662
17	5T	0.26	0/514	0.41	0/693
17	5t	0.26	0/514	0.41	0/693
18	6A	0.26	0/1116	0.43	0/1512
18	6a	0.26	0/1116	0.43	0/1512
19	6B	0.26	0/1976	0.45	0/2673
19	6b	0.26	0/1976	0.45	0/2673
20	6C	0.28	0/926	0.48	0/1256
20	6c	0.28	0/926	0.47	0/1256
21	6L	0.26	0/649	0.42	0/871
21	6l	0.25	0/649	0.42	0/871
22	6T	0.25	0/573	0.38	0/770
22	6t	0.25	0/573	0.39	0/770
23	7A	0.26	0/1206	0.46	0/1631
23	7a	0.26	0/1206	0.46	0/1631
24	7C	0.25	0/1881	0.43	0/2558
24	7c	0.25	0/1881	0.43	0/2558
25	7L	0.25	0/1107	0.43	0/1505
25	7l	0.25	0/1107	0.43	0/1505
26	A	0.26	0/3874	0.45	0/5273
26	a	0.26	0/3874	0.45	0/5273
27	B	0.24	0/3453	0.43	0/4671
27	b	0.24	0/3453	0.43	0/4671
28	BP	0.26	0/2988	0.47	0/4052
28	bp	0.26	0/2988	0.47	0/4052
29	C1	0.27	0/5765	0.45	0/7819
29	c1	0.27	0/5765	0.45	0/7819
30	C2	0.25	0/5244	0.46	0/7107
30	c2	0.25	0/5244	0.47	0/7107
31	C3	0.27	0/5256	0.43	0/7142
31	c3	0.27	0/5256	0.43	0/7142
32	D	0.26	0/2430	0.47	0/3303
32	d	0.26	0/2430	0.47	0/3303
33	E	0.25	0/3266	0.45	0/4435
33	e	0.25	0/3266	0.45	0/4435
34	F	0.25	0/2077	0.44	0/2824
34	f	0.25	0/2077	0.44	0/2824
35	FS	0.27	0/1562	0.46	0/2123
35	fs	0.27	0/1562	0.46	0/2123
36	G	0.26	0/2517	0.46	0/3433
36	g	0.26	0/2517	0.46	0/3433
37	H	0.26	0/2423	0.46	0/3279
37	h	0.26	0/2423	0.46	0/3279

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
38	I	0.25	0/2001	0.44	0/2702
38	i	0.25	0/2001	0.44	0/2702
39	J	0.24	0/1621	0.45	0/2201
39	j	0.24	0/1621	0.45	0/2201
40	K	0.24	0/1755	0.42	0/2376
40	k	0.24	0/1755	0.43	0/2376
41	L	0.26	0/1718	0.44	0/2333
41	l	0.26	0/1718	0.45	0/2333
42	M	0.26	0/1941	0.44	0/2637
42	m	0.26	0/1941	0.44	0/2637
43	M1	0.26	0/2958	0.46	0/4013
43	m1	0.26	0/2958	0.46	0/4013
44	M2	0.25	0/2629	0.46	0/3564
44	m2	0.25	0/2629	0.46	0/3564
45	M3	0.26	0/2689	0.44	0/3657
45	m3	0.26	0/2689	0.44	0/3657
46	N	0.26	0/1770	0.42	0/2391
46	n	0.26	0/1770	0.42	0/2391
47	O	0.25	0/1098	0.44	0/1477
47	o	0.25	0/1098	0.44	0/1477
48	P	0.25	0/1436	0.44	0/1941
48	p	0.25	0/1436	0.44	0/1941
49	Q	0.26	0/1478	0.46	0/2005
49	q	0.26	0/1478	0.46	0/2005
50	R	0.25	0/1441	0.43	0/1952
50	r	0.25	0/1441	0.43	0/1952
51	S	0.25	0/1409	0.44	0/1900
51	s	0.25	0/1409	0.43	0/1900
52	SA	0.25	0/4722	0.49	0/6385
52	sa	0.25	0/4722	0.49	0/6385
53	SB	0.25	0/2315	0.46	0/3136
53	sb	0.26	0/2315	0.46	0/3136
54	SC	0.27	0/493	0.47	0/664
54	sc	0.27	0/493	0.47	0/664
55	SD	0.28	0/404	0.40	0/542
55	sd	0.28	0/404	0.40	0/542
56	T	0.25	0/1359	0.44	0/1842
56	t	0.26	0/1359	0.45	0/1842
57	U	0.26	0/1335	0.45	0/1794
57	u	0.26	0/1335	0.45	0/1794
58	V	0.25	0/1277	0.46	0/1735
58	v	0.25	0/1277	0.46	0/1735
59	VB	0.26	0/4712	0.45	0/6357

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
59	vb	0.26	0/4712	0.45	0/6357
60	W	0.25	0/1136	0.45	0/1545
60	w	0.25	0/1136	0.45	0/1545
61	X	0.25	0/1043	0.43	0/1413
61	x	0.25	0/1043	0.43	0/1413
62	Y	0.27	0/882	0.45	0/1192
62	y	0.27	0/882	0.45	0/1192
63	Y0	0.27	0/801	0.43	0/1087
63	y0	0.27	0/801	0.43	0/1087
64	Y5	0.27	0/1708	0.39	0/2306
64	y5	0.27	0/1708	0.39	0/2306
65	Y7	0.26	0/3012	0.40	0/4072
65	y7	0.26	0/3012	0.40	0/4072
66	Z	0.25	0/737	0.45	0/995
66	z	0.25	0/737	0.44	0/995
67	Z1	0.26	0/781	0.44	0/1053
67	z1	0.26	0/781	0.44	0/1053
68	1B	0.27	0/536	0.42	0/727
68	1b	0.27	0/536	0.42	0/727
69	2B	0.27	0/1520	0.40	0/2058
69	2b	0.27	0/1520	0.39	0/2058
70	4L	0.25	0/982	0.41	0/1335
70	4l	0.25	0/982	0.41	0/1335
71	5B	0.27	0/915	0.40	0/1224
71	5b	0.27	0/915	0.40	0/1224
72	A1	0.26	0/834	0.50	0/1132
72	a1	0.26	0/834	0.50	0/1132
73	A2	0.25	0/826	0.46	0/1116
73	a2	0.25	0/826	0.46	0/1116
74	A3	0.25	0/1115	0.45	0/1507
74	a3	0.25	0/1115	0.45	0/1507
75	A5	0.24	0/1336	0.44	0/1797
75	a5	0.24	0/1336	0.44	0/1797
76	A6	0.26	0/1459	0.47	0/1965
76	a6	0.26	0/1459	0.47	0/1965
77	A7	0.24	0/2408	0.46	0/3269
77	a7	0.24	0/2408	0.46	0/3269
78	A8	0.25	0/1099	0.40	0/1477
78	a8	0.25	0/1099	0.41	0/1477
79	A9	0.26	0/2807	0.45	0/3801
79	a9	0.26	0/2807	0.45	0/3801
80	AB	0.24	0/942	0.42	0/1272
80	ab	0.24	0/942	0.42	0/1272

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
81	AC	0.25	0/822	0.45	0/1114
81	ac	0.25	0/822	0.45	0/1114
82	AL	0.24	0/1667	0.47	0/2256
82	al	0.24	0/1667	0.47	0/2256
83	AM	0.24	0/1379	0.48	0/1841
83	am	0.24	0/1379	0.48	0/1841
84	AN	0.25	0/1935	0.42	0/2616
84	an	0.25	0/1935	0.42	0/2616
85	B2	0.25	0/991	0.45	1/1333 (0.1%)
85	b2	0.25	0/991	0.42	0/1333
86	B3	0.24	0/621	0.47	0/840
86	b3	0.25	0/621	0.47	0/840
87	B4	0.26	0/1015	0.40	0/1381
87	b4	0.27	0/1015	0.40	0/1381
88	B6	0.26	0/623	0.40	0/850
88	b6	0.26	0/623	0.40	0/850
89	B7	0.25	0/968	0.41	0/1307
89	b7	0.25	0/968	0.41	0/1307
90	B8	0.25	0/1494	0.45	0/2016
90	b8	0.25	0/1494	0.45	0/2016
91	B9	0.26	0/1644	0.43	0/2224
91	b9	0.26	0/1644	0.43	0/2224
92	BL	0.25	0/1489	0.47	0/2000
92	bl	0.25	0/1489	0.47	0/2000
93	BM	0.24	0/1351	0.42	0/1829
93	bm	0.24	0/1351	0.42	0/1829
94	C4	0.27	0/873	0.45	0/1175
94	c4	0.27	0/873	0.45	0/1175
95	FX	0.25	0/1186	0.49	0/1607
95	fx	0.25	0/1186	0.48	0/1607
96	G1	0.25	0/1810	0.46	0/2465
96	g1	0.26	0/1810	0.46	0/2465
97	G2	0.25	0/1793	0.49	0/2438
97	g2	0.25	0/1793	0.49	0/2438
98	G3	0.26	0/2865	0.46	0/3877
98	g3	0.26	0/2865	0.46	0/3877
99	J1	0.25	0/2219	0.46	0/2988
99	j1	0.25	0/2219	0.45	0/2988
100	N1	0.26	0/2376	0.41	0/3234
100	n1	0.26	0/2376	0.41	0/3234
101	N2	0.27	0/3173	0.39	0/4312
101	n2	0.27	0/3173	0.39	0/4312
102	N3	0.27	0/1051	0.37	0/1429

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
102	n3	0.27	0/1051	0.37	0/1429
103	N4	0.27	0/4303	0.40	0/5844
103	n4	0.27	0/4303	0.40	0/5844
104	N5	0.27	0/6098	0.40	0/8297
104	n5	0.27	0/6098	0.40	0/8297
105	N6	0.27	0/2232	0.39	0/3035
105	n6	0.27	0/2232	0.39	0/3035
106	P1	0.26	0/1963	0.46	0/2658
106	p1	0.26	0/1963	0.47	0/2658
107	P2	0.26	0/1454	0.45	0/1970
107	p2	0.26	0/1454	0.45	0/1970
108	QA	0.25	0/3569	0.45	0/4835
108	Qa	0.25	0/3569	0.45	0/4835
108	qA	0.25	0/3569	0.45	0/4835
108	qa	0.25	0/3569	0.45	0/4835
109	QB	0.26	0/3921	0.48	0/5325
109	Qb	0.25	0/3921	0.48	0/5325
109	qB	0.26	0/3921	0.48	0/5325
109	qb	0.26	0/3921	0.48	0/5325
110	QC	0.27	0/3715	0.42	0/5046
110	Qc	0.27	0/3706	0.41	0/5035
110	qC	0.27	0/3715	0.42	0/5046
110	qc	0.27	0/3706	0.41	0/5035
111	QD	0.27	0/2580	0.47	0/3491
111	Qd	0.27	0/2580	0.46	0/3491
111	qD	0.28	0/2580	0.47	0/3491
111	qd	0.27	0/2580	0.46	0/3491
112	QE	0.25	0/1588	0.48	0/2162
112	Qe	0.25	0/1499	0.47	0/2042
112	qE	0.25	0/1588	0.48	0/2162
112	qe	0.25	0/1499	0.47	0/2042
113	QF	0.24	0/716	0.45	0/969
113	Qf	0.24	0/641	0.44	0/866
113	qF	0.24	0/716	0.46	0/969
113	qf	0.24	0/641	0.44	0/866
114	QG	0.26	0/2845	0.47	0/3839
114	Qg	0.26	0/2838	0.46	0/3829
114	qG	0.26	0/2845	0.47	0/3839
114	qg	0.25	0/2838	0.46	0/3829
115	QH	0.26	0/1133	0.49	0/1524
115	Qh	0.26	0/1133	0.49	0/1524
115	qH	0.26	0/1133	0.49	0/1524
115	qh	0.26	0/1133	0.48	0/1524

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
116	QI	0.25	0/1005	0.40	0/1365
116	Qi	0.26	0/1005	0.40	0/1365
116	qI	0.25	0/1005	0.40	0/1365
116	qi	0.25	0/1005	0.40	0/1365
117	QJ	0.26	0/502	0.41	0/687
117	Qj	0.26	0/522	0.44	0/712
117	qJ	0.26	0/502	0.41	0/687
117	qj	0.26	0/522	0.44	0/712
118	QL	0.25	0/273	0.38	0/371
118	Ql	0.26	0/273	0.37	0/371
118	qL	0.25	0/273	0.39	0/371
118	ql	0.26	0/273	0.37	0/371
120	S1	0.25	0/5518	0.47	0/7476
120	s1	0.25	0/5518	0.47	0/7476
121	S2	0.26	0/3680	0.47	0/4969
121	s2	0.26	0/3680	0.47	0/4969
122	S3	0.26	0/1718	0.44	0/2319
122	s3	0.26	0/1718	0.44	0/2319
123	S4	0.25	0/1543	0.48	0/2088
123	s4	0.25	0/1543	0.48	0/2088
124	S5	0.25	0/775	0.43	0/1048
124	s5	0.26	0/775	0.43	0/1048
125	S6	0.25	0/755	0.45	0/1022
125	s6	0.25	0/755	0.44	0/1022
126	S7	0.26	0/1311	0.50	0/1779
126	s7	0.26	0/1311	0.50	0/1779
127	S8	0.26	0/1867	0.47	0/2538
127	s8	0.26	0/1867	0.47	0/2538
128	T1	0.26	0/4153	0.44	0/5618
128	t1	0.26	0/4153	0.44	0/5618
129	T2	0.24	0/2224	0.44	0/3022
129	t2	0.24	0/2224	0.44	0/3022
130	T3	0.24	0/2527	0.43	0/3423
130	t3	0.24	0/2527	0.43	0/3423
131	T4	0.25	0/1689	0.41	0/2284
131	t4	0.25	0/1689	0.41	0/2284
132	T5	0.24	0/1163	0.46	0/1574
132	t5	0.25	0/1163	0.46	0/1574
133	T6	0.25	0/923	0.43	0/1239
133	t6	0.25	0/923	0.43	0/1239
134	T7	0.26	0/1223	0.45	0/1648
134	t7	0.26	0/1223	0.45	0/1648
135	T8	0.24	0/1112	0.44	0/1507

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
135	t8	0.24	0/1112	0.44	0/1507
136	T9	0.25	0/1088	0.46	0/1458
136	t9	0.26	0/1088	0.46	0/1458
137	TA	0.26	0/877	0.42	0/1181
137	ta	0.26	0/877	0.42	0/1181
138	TB	0.27	0/825	0.44	0/1115
138	tb	0.27	0/825	0.44	0/1115
139	TC	0.26	0/811	0.44	0/1093
139	tc	0.26	0/811	0.44	0/1093
140	TD	0.24	0/634	0.45	0/855
140	td	0.24	0/634	0.45	0/855
141	TE	0.27	0/432	0.41	0/583
141	te	0.27	0/432	0.42	0/583
142	TF	0.24	0/1828	0.43	0/2472
142	tf	0.24	0/1828	0.43	0/2472
143	TG	0.24	0/1101	0.45	0/1486
143	tg	0.24	0/1101	0.44	0/1486
144	TH	0.25	0/1015	0.47	0/1366
144	th	0.25	0/1015	0.46	0/1366
145	TX	0.25	0/1235	0.45	0/1662
145	tx	0.25	0/1235	0.45	0/1662
146	V1	0.25	0/3485	0.49	1/4713 (0.0%)
146	v1	0.25	0/3485	0.49	1/4713 (0.0%)
147	V2	0.24	0/1895	0.44	0/2559
147	v2	0.24	0/1895	0.44	0/2559
148	X1	0.26	0/1261	0.47	0/1698
148	x1	0.26	0/1261	0.47	0/1698
149	C	0.24	0/1383	0.40	0/1880
149	c	0.24	0/1383	0.40	0/1880
All	All	0.26	0/556450	0.45	3/753536 (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
146	V1	0	1
146	v1	0	1
All	All	0	2

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
85	B2	85	LEU	CA-CB-CG	6.86	131.08	115.30
146	v1	229	PRO	C-N-CA	-5.59	107.72	121.70
146	V1	229	PRO	C-N-CA	-5.52	107.91	121.70

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
146	V1	228	PRO	Peptide
146	v1	228	PRO	Peptide

5.2 Too-close contacts [i](#)

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

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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	1T	68/72 (94%)	68 (100%)	0	0	100	100
1	1t	68/72 (94%)	68 (100%)	0	0	100	100
2	2E	319/322 (99%)	300 (94%)	19 (6%)	0	100	100
2	2e	319/322 (99%)	300 (94%)	19 (6%)	0	100	100
3	2F	215/296 (73%)	206 (96%)	9 (4%)	0	100	100
3	2f	215/296 (73%)	206 (96%)	9 (4%)	0	100	100
4	2G	196/198 (99%)	189 (96%)	7 (4%)	0	100	100
4	2g	196/198 (99%)	189 (96%)	7 (4%)	0	100	100
5	2H	98/195 (50%)	92 (94%)	6 (6%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
5	2h	98/195 (50%)	92 (94%)	6 (6%)	0	100	100
6	2I	112/114 (98%)	109 (97%)	3 (3%)	0	100	100
6	2i	112/114 (98%)	109 (97%)	3 (3%)	0	100	100
7	2J	100/103 (97%)	96 (96%)	4 (4%)	0	100	100
7	2j	100/103 (97%)	96 (96%)	4 (4%)	0	100	100
8	2K	91/93 (98%)	87 (96%)	4 (4%)	0	100	100
8	2k	91/93 (98%)	87 (96%)	4 (4%)	0	100	100
9	2L	81/89 (91%)	80 (99%)	1 (1%)	0	100	100
9	2l	81/89 (91%)	80 (99%)	1 (1%)	0	100	100
10	2M	73/76 (96%)	68 (93%)	5 (7%)	0	100	100
10	2m	73/76 (96%)	68 (93%)	5 (7%)	0	100	100
11	2N	59/62 (95%)	52 (88%)	7 (12%)	0	100	100
11	2n	59/62 (95%)	52 (88%)	7 (12%)	0	100	100
12	2O	40/46 (87%)	38 (95%)	2 (5%)	0	100	100
12	2o	40/46 (87%)	38 (95%)	2 (5%)	0	100	100
13	2T	68/72 (94%)	67 (98%)	1 (2%)	0	100	100
13	2t	68/72 (94%)	67 (98%)	1 (2%)	0	100	100
14	3T	81/93 (87%)	79 (98%)	2 (2%)	0	100	100
14	3t	81/93 (87%)	79 (98%)	2 (2%)	0	100	100
15	4A	98/127 (77%)	97 (99%)	1 (1%)	0	100	100
15	4a	98/127 (77%)	97 (99%)	1 (1%)	0	100	100
16	4T	55/68 (81%)	54 (98%)	1 (2%)	0	100	100
16	4t	55/68 (81%)	54 (98%)	1 (2%)	0	100	100
17	5T	60/81 (74%)	59 (98%)	1 (2%)	0	100	100
17	5t	60/81 (74%)	59 (98%)	1 (2%)	0	100	100
18	6A	124/130 (95%)	119 (96%)	5 (4%)	0	100	100
18	6a	124/130 (95%)	119 (96%)	5 (4%)	0	100	100
19	6B	220/230 (96%)	215 (98%)	5 (2%)	0	100	100
19	6b	220/230 (96%)	216 (98%)	4 (2%)	0	100	100
20	6C	99/103 (96%)	94 (95%)	5 (5%)	0	100	100
20	6c	99/103 (96%)	94 (95%)	5 (5%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
21	6L	75/88 (85%)	74 (99%)	1 (1%)	0	100	100
21	6l	75/88 (85%)	74 (99%)	1 (1%)	0	100	100
22	6T	68/72 (94%)	67 (98%)	1 (2%)	0	100	100
22	6t	68/72 (94%)	67 (98%)	1 (2%)	0	100	100
23	7A	131/133 (98%)	128 (98%)	3 (2%)	0	100	100
23	7a	131/133 (98%)	128 (98%)	3 (2%)	0	100	100
24	7C	208/236 (88%)	199 (96%)	9 (4%)	0	100	100
24	7c	208/236 (88%)	199 (96%)	9 (4%)	0	100	100
25	7L	129/990 (13%)	116 (90%)	13 (10%)	0	100	100
25	7l	129/990 (13%)	116 (90%)	13 (10%)	0	100	100
26	A	447/490 (91%)	429 (96%)	18 (4%)	0	100	100
26	a	447/490 (91%)	431 (96%)	16 (4%)	0	100	100
27	B	422/473 (89%)	411 (97%)	10 (2%)	1 (0%)	47	79
27	b	422/473 (89%)	408 (97%)	14 (3%)	0	100	100
28	BP	379/462 (82%)	348 (92%)	31 (8%)	0	100	100
28	bp	379/462 (82%)	349 (92%)	30 (8%)	0	100	100
29	C1	672/688 (98%)	648 (96%)	24 (4%)	0	100	100
29	c1	672/688 (98%)	648 (96%)	24 (4%)	0	100	100
30	C2	595/604 (98%)	572 (96%)	23 (4%)	0	100	100
30	c2	595/604 (98%)	573 (96%)	22 (4%)	0	100	100
31	C3	580/594 (98%)	557 (96%)	23 (4%)	0	100	100
31	c3	580/594 (98%)	558 (96%)	22 (4%)	0	100	100
32	D	287/402 (71%)	278 (97%)	9 (3%)	0	100	100
32	d	287/402 (71%)	279 (97%)	8 (3%)	0	100	100
33	E	382/385 (99%)	362 (95%)	20 (5%)	0	100	100
33	e	382/385 (99%)	365 (96%)	17 (4%)	0	100	100
34	F	241/348 (69%)	239 (99%)	2 (1%)	0	100	100
34	f	241/348 (69%)	239 (99%)	2 (1%)	0	100	100
35	FS	186/188 (99%)	177 (95%)	9 (5%)	0	100	100
35	fs	186/188 (99%)	177 (95%)	9 (5%)	0	100	100
36	G	291/318 (92%)	282 (97%)	9 (3%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
36	g	291/318 (92%)	282 (97%)	9 (3%)	0	100	100
37	H	296/318 (93%)	286 (97%)	10 (3%)	0	100	100
37	h	296/318 (93%)	289 (98%)	7 (2%)	0	100	100
38	I	229/252 (91%)	220 (96%)	9 (4%)	0	100	100
38	i	229/252 (91%)	222 (97%)	6 (3%)	1 (0%)	34	69
39	J	185/234 (79%)	183 (99%)	2 (1%)	0	100	100
39	j	185/234 (79%)	183 (99%)	2 (1%)	0	100	100
40	K	206/231 (89%)	198 (96%)	8 (4%)	0	100	100
40	k	206/231 (89%)	198 (96%)	8 (4%)	0	100	100
41	L	192/222 (86%)	186 (97%)	6 (3%)	0	100	100
41	l	192/222 (86%)	186 (97%)	6 (3%)	0	100	100
42	M	217/220 (99%)	209 (96%)	8 (4%)	0	100	100
42	m	217/220 (99%)	207 (95%)	10 (5%)	0	100	100
43	M1	344/346 (99%)	329 (96%)	15 (4%)	0	100	100
43	m1	344/346 (99%)	331 (96%)	13 (4%)	0	100	100
44	M2	316/318 (99%)	310 (98%)	6 (2%)	0	100	100
44	m2	316/318 (99%)	310 (98%)	6 (2%)	0	100	100
45	M3	327/330 (99%)	317 (97%)	10 (3%)	0	100	100
45	m3	327/330 (99%)	317 (97%)	10 (3%)	0	100	100
46	N	204/210 (97%)	199 (98%)	5 (2%)	0	100	100
46	n	204/210 (97%)	200 (98%)	4 (2%)	0	100	100
47	O	127/193 (66%)	126 (99%)	1 (1%)	0	100	100
47	o	127/193 (66%)	126 (99%)	1 (1%)	0	100	100
48	P	173/175 (99%)	167 (96%)	6 (4%)	0	100	100
48	p	173/175 (99%)	168 (97%)	5 (3%)	0	100	100
49	Q	171/173 (99%)	169 (99%)	2 (1%)	0	100	100
49	q	171/173 (99%)	169 (99%)	2 (1%)	0	100	100
50	R	170/173 (98%)	167 (98%)	3 (2%)	0	100	100
50	r	170/173 (98%)	167 (98%)	3 (2%)	0	100	100
51	S	167/170 (98%)	163 (98%)	4 (2%)	0	100	100
51	s	167/170 (98%)	163 (98%)	4 (2%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
52	SA	597/636 (94%)	563 (94%)	34 (6%)	0	100	100
52	sa	597/636 (94%)	565 (95%)	32 (5%)	0	100	100
53	SB	277/312 (89%)	256 (92%)	21 (8%)	0	100	100
53	sb	277/312 (89%)	256 (92%)	21 (8%)	0	100	100
54	SC	56/60 (93%)	55 (98%)	1 (2%)	0	100	100
54	sc	56/60 (93%)	55 (98%)	1 (2%)	0	100	100
55	SD	42/44 (96%)	42 (100%)	0	0	100	100
55	sd	42/44 (96%)	42 (100%)	0	0	100	100
56	T	154/158 (98%)	150 (97%)	4 (3%)	0	100	100
56	t	154/158 (98%)	150 (97%)	4 (3%)	0	100	100
57	U	151/154 (98%)	148 (98%)	3 (2%)	0	100	100
57	u	151/154 (98%)	148 (98%)	3 (2%)	0	100	100
58	V	144/149 (97%)	138 (96%)	6 (4%)	0	100	100
58	v	144/149 (97%)	138 (96%)	6 (4%)	0	100	100
59	VB	551/637 (86%)	542 (98%)	9 (2%)	0	100	100
59	vb	551/637 (86%)	542 (98%)	9 (2%)	0	100	100
60	W	121/124 (98%)	116 (96%)	5 (4%)	0	100	100
60	w	121/124 (98%)	116 (96%)	5 (4%)	0	100	100
61	X	120/122 (98%)	120 (100%)	0	0	100	100
61	x	120/122 (98%)	120 (100%)	0	0	100	100
62	Y	103/105 (98%)	103 (100%)	0	0	100	100
62	y	103/105 (98%)	103 (100%)	0	0	100	100
63	Y0	87/89 (98%)	86 (99%)	1 (1%)	0	100	100
63	y0	87/89 (98%)	86 (99%)	1 (1%)	0	100	100
64	Y5	188/190 (99%)	181 (96%)	7 (4%)	0	100	100
64	y5	188/190 (99%)	181 (96%)	7 (4%)	0	100	100
65	Y7	339/453 (75%)	326 (96%)	13 (4%)	0	100	100
65	y7	339/453 (75%)	325 (96%)	14 (4%)	0	100	100
66	Z	85/90 (94%)	84 (99%)	1 (1%)	0	100	100
66	z	85/90 (94%)	84 (99%)	1 (1%)	0	100	100
67	Z1	95/100 (95%)	95 (100%)	0	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
67	z1	95/100 (95%)	95 (100%)	0	0	100	100
68	1B	57/59 (97%)	54 (95%)	3 (5%)	0	100	100
68	1b	57/59 (97%)	54 (95%)	3 (5%)	0	100	100
69	2B	176/178 (99%)	172 (98%)	4 (2%)	0	100	100
69	2b	176/178 (99%)	172 (98%)	4 (2%)	0	100	100
70	4L	114/116 (98%)	112 (98%)	2 (2%)	0	100	100
70	4l	114/116 (98%)	112 (98%)	2 (2%)	0	100	100
71	5B	98/100 (98%)	94 (96%)	4 (4%)	0	100	100
71	5b	98/100 (98%)	94 (96%)	4 (4%)	0	100	100
72	A1	91/94 (97%)	87 (96%)	4 (4%)	0	100	100
72	a1	91/94 (97%)	86 (94%)	5 (6%)	0	100	100
73	A2	96/103 (93%)	94 (98%)	2 (2%)	0	100	100
73	a2	96/103 (93%)	94 (98%)	2 (2%)	0	100	100
74	A3	127/135 (94%)	124 (98%)	3 (2%)	0	100	100
74	a3	127/135 (94%)	123 (97%)	4 (3%)	0	100	100
75	A5	153/206 (74%)	150 (98%)	3 (2%)	0	100	100
75	a5	153/206 (74%)	150 (98%)	3 (2%)	0	100	100
76	A6	170/172 (99%)	168 (99%)	2 (1%)	0	100	100
76	a6	170/172 (99%)	168 (99%)	2 (1%)	0	100	100
77	A7	280/282 (99%)	274 (98%)	6 (2%)	0	100	100
77	a7	280/282 (99%)	274 (98%)	6 (2%)	0	100	100
78	A8	130/238 (55%)	130 (100%)	0	0	100	100
78	a8	130/238 (55%)	130 (100%)	0	0	100	100
79	A9	338/362 (93%)	321 (95%)	17 (5%)	0	100	100
79	a9	338/362 (93%)	321 (95%)	17 (5%)	0	100	100
80	AB	110/138 (80%)	109 (99%)	1 (1%)	0	100	100
80	ab	110/138 (80%)	109 (99%)	1 (1%)	0	100	100
81	AC	96/133 (72%)	93 (97%)	3 (3%)	0	100	100
81	ac	96/133 (72%)	93 (97%)	3 (3%)	0	100	100
82	AL	191/194 (98%)	181 (95%)	10 (5%)	0	100	100
82	al	191/194 (98%)	182 (95%)	9 (5%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
83	AM	158/175 (90%)	155 (98%)	3 (2%)	0	100	100
83	am	158/175 (90%)	155 (98%)	3 (2%)	0	100	100
84	AN	229/231 (99%)	223 (97%)	6 (3%)	0	100	100
84	an	229/231 (99%)	223 (97%)	6 (3%)	0	100	100
85	B2	118/126 (94%)	117 (99%)	1 (1%)	0	100	100
85	b2	118/126 (94%)	117 (99%)	1 (1%)	0	100	100
86	B3	67/83 (81%)	66 (98%)	1 (2%)	0	100	100
86	b3	67/83 (81%)	66 (98%)	1 (2%)	0	100	100
87	B4	113/147 (77%)	112 (99%)	1 (1%)	0	100	100
87	b4	113/147 (77%)	112 (99%)	1 (1%)	0	100	100
88	B6	68/129 (53%)	68 (100%)	0	0	100	100
88	b6	68/129 (53%)	68 (100%)	0	0	100	100
89	B7	114/120 (95%)	114 (100%)	0	0	100	100
89	b7	114/120 (95%)	114 (100%)	0	0	100	100
90	B8	173/207 (84%)	171 (99%)	2 (1%)	0	100	100
90	b8	173/207 (84%)	171 (99%)	2 (1%)	0	100	100
91	B9	186/189 (98%)	180 (97%)	6 (3%)	0	100	100
91	b9	186/189 (98%)	180 (97%)	6 (3%)	0	100	100
92	BL	173/188 (92%)	167 (96%)	6 (4%)	0	100	100
92	bl	173/188 (92%)	167 (96%)	6 (4%)	0	100	100
93	BM	162/214 (76%)	156 (96%)	6 (4%)	0	100	100
93	bm	162/214 (76%)	156 (96%)	6 (4%)	0	100	100
94	C4	100/102 (98%)	98 (98%)	2 (2%)	0	100	100
94	c4	100/102 (98%)	99 (99%)	1 (1%)	0	100	100
95	FX	144/172 (84%)	139 (96%)	5 (4%)	0	100	100
95	fx	144/172 (84%)	139 (96%)	5 (4%)	0	100	100
96	G1	227/257 (88%)	222 (98%)	5 (2%)	0	100	100
96	g1	227/257 (88%)	222 (98%)	5 (2%)	0	100	100
97	G2	228/233 (98%)	223 (98%)	5 (2%)	0	100	100
97	g2	228/233 (98%)	223 (98%)	5 (2%)	0	100	100
98	G3	344/346 (99%)	335 (97%)	9 (3%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
98	g3	344/346 (99%)	335 (97%)	9 (3%)	0	100	100
99	J1	259/317 (82%)	255 (98%)	4 (2%)	0	100	100
99	j1	259/317 (82%)	255 (98%)	4 (2%)	0	100	100
100	N1	281/284 (99%)	269 (96%)	11 (4%)	1 (0%)	34	69
100	n1	281/284 (99%)	268 (95%)	12 (4%)	1 (0%)	34	69
101	N2	358/360 (99%)	348 (97%)	10 (3%)	0	100	100
101	n2	358/360 (99%)	350 (98%)	8 (2%)	0	100	100
102	N3	118/121 (98%)	114 (97%)	4 (3%)	0	100	100
102	n3	118/121 (98%)	113 (96%)	5 (4%)	0	100	100
103	N4	503/505 (100%)	495 (98%)	8 (2%)	0	100	100
103	n4	503/505 (100%)	496 (99%)	7 (1%)	0	100	100
104	N5	707/750 (94%)	677 (96%)	30 (4%)	0	100	100
104	n5	707/750 (94%)	678 (96%)	29 (4%)	0	100	100
105	N6	253/255 (99%)	245 (97%)	8 (3%)	0	100	100
105	n6	253/255 (99%)	245 (97%)	8 (3%)	0	100	100
106	P1	228/251 (91%)	218 (96%)	10 (4%)	0	100	100
106	p1	228/251 (91%)	219 (96%)	9 (4%)	0	100	100
107	P2	165/189 (87%)	160 (97%)	5 (3%)	0	100	100
107	p2	165/189 (87%)	160 (97%)	5 (3%)	0	100	100
108	QA	450/482 (93%)	437 (97%)	13 (3%)	0	100	100
108	Qa	450/482 (93%)	434 (96%)	16 (4%)	0	100	100
108	qA	450/482 (93%)	438 (97%)	12 (3%)	0	100	100
108	qa	450/482 (93%)	433 (96%)	17 (4%)	0	100	100
109	QB	478/513 (93%)	463 (97%)	15 (3%)	0	100	100
109	Qb	478/513 (93%)	454 (95%)	24 (5%)	0	100	100
109	qB	478/513 (93%)	463 (97%)	15 (3%)	0	100	100
109	qb	478/513 (93%)	453 (95%)	25 (5%)	0	100	100
110	QC	424/426 (100%)	404 (95%)	20 (5%)	0	100	100
110	Qc	423/426 (99%)	405 (96%)	18 (4%)	0	100	100
110	qC	424/426 (100%)	405 (96%)	19 (4%)	0	100	100
110	qc	423/426 (99%)	405 (96%)	18 (4%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
111	QD	293/319 (92%)	279 (95%)	14 (5%)	0	100	100
111	Qd	293/319 (92%)	276 (94%)	17 (6%)	0	100	100
111	qD	293/319 (92%)	282 (96%)	11 (4%)	0	100	100
111	qd	293/319 (92%)	275 (94%)	18 (6%)	0	100	100
112	QE	226/269 (84%)	216 (96%)	10 (4%)	0	100	100
112	Qe	215/269 (80%)	204 (95%)	11 (5%)	0	100	100
112	qE	226/269 (84%)	216 (96%)	10 (4%)	0	100	100
112	qe	215/269 (80%)	205 (95%)	10 (5%)	0	100	100
113	QF	87/90 (97%)	87 (100%)	0	0	100	100
113	Qf	78/90 (87%)	76 (97%)	2 (3%)	0	100	100
113	qF	87/90 (97%)	87 (100%)	0	0	100	100
113	qf	78/90 (87%)	76 (97%)	2 (3%)	0	100	100
114	QG	325/328 (99%)	313 (96%)	12 (4%)	0	100	100
114	Qg	324/328 (99%)	316 (98%)	8 (2%)	0	100	100
114	qG	325/328 (99%)	312 (96%)	13 (4%)	0	100	100
114	qg	324/328 (99%)	316 (98%)	8 (2%)	0	100	100
115	QH	127/130 (98%)	124 (98%)	3 (2%)	0	100	100
115	Qh	127/130 (98%)	120 (94%)	7 (6%)	0	100	100
115	qH	127/130 (98%)	123 (97%)	4 (3%)	0	100	100
115	qh	127/130 (98%)	120 (94%)	7 (6%)	0	100	100
116	QI	112/119 (94%)	108 (96%)	4 (4%)	0	100	100
116	Qi	112/119 (94%)	111 (99%)	1 (1%)	0	100	100
116	qI	112/119 (94%)	108 (96%)	4 (4%)	0	100	100
116	qi	112/119 (94%)	110 (98%)	2 (2%)	0	100	100
117	QJ	54/62 (87%)	54 (100%)	0	0	100	100
117	Qj	56/62 (90%)	53 (95%)	3 (5%)	0	100	100
117	qJ	54/62 (87%)	54 (100%)	0	0	100	100
117	qj	56/62 (90%)	54 (96%)	2 (4%)	0	100	100
118	QL	30/41 (73%)	30 (100%)	0	0	100	100
118	Ql	30/41 (73%)	30 (100%)	0	0	100	100
118	qL	30/41 (73%)	30 (100%)	0	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
118	ql	30/41 (73%)	30 (100%)	0	0	100	100
120	S1	687/718 (96%)	661 (96%)	26 (4%)	0	100	100
120	s1	687/718 (96%)	662 (96%)	25 (4%)	0	100	100
121	S2	440/442 (100%)	424 (96%)	16 (4%)	0	100	100
121	s2	440/442 (100%)	423 (96%)	17 (4%)	0	100	100
122	S3	196/198 (99%)	193 (98%)	3 (2%)	0	100	100
122	s3	196/198 (99%)	193 (98%)	3 (2%)	0	100	100
123	S4	180/185 (97%)	172 (96%)	8 (4%)	0	100	100
123	s4	180/185 (97%)	172 (96%)	8 (4%)	0	100	100
124	S5	91/94 (97%)	87 (96%)	4 (4%)	0	100	100
124	s5	91/94 (97%)	86 (94%)	5 (6%)	0	100	100
125	S6	90/132 (68%)	84 (93%)	6 (7%)	0	100	100
125	s6	90/132 (68%)	85 (94%)	5 (6%)	0	100	100
126	S7	159/162 (98%)	152 (96%)	7 (4%)	0	100	100
126	s7	159/162 (98%)	151 (95%)	8 (5%)	0	100	100
127	S8	216/236 (92%)	214 (99%)	2 (1%)	0	100	100
127	s8	216/236 (92%)	214 (99%)	2 (1%)	0	100	100
128	T1	500/516 (97%)	482 (96%)	18 (4%)	0	100	100
128	t1	500/516 (97%)	481 (96%)	19 (4%)	0	100	100
129	T2	277/333 (83%)	268 (97%)	8 (3%)	1 (0%)	34	69
129	t2	277/333 (83%)	267 (96%)	9 (3%)	1 (0%)	34	69
130	T3	308/311 (99%)	304 (99%)	4 (1%)	0	100	100
130	t3	308/311 (99%)	304 (99%)	4 (1%)	0	100	100
131	T4	196/212 (92%)	194 (99%)	2 (1%)	0	100	100
131	t4	196/212 (92%)	194 (99%)	2 (1%)	0	100	100
132	T5	139/205 (68%)	136 (98%)	3 (2%)	0	100	100
132	t5	139/205 (68%)	136 (98%)	3 (2%)	0	100	100
133	T6	107/144 (74%)	103 (96%)	4 (4%)	0	100	100
133	t6	107/144 (74%)	103 (96%)	4 (4%)	0	100	100
134	T7	140/143 (98%)	138 (99%)	2 (1%)	0	100	100
134	t7	140/143 (98%)	138 (99%)	2 (1%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
135	T8	129/135 (96%)	128 (99%)	1 (1%)	0	100	100
135	t8	129/135 (96%)	128 (99%)	1 (1%)	0	100	100
136	T9	130/136 (96%)	128 (98%)	2 (2%)	0	100	100
136	t9	130/136 (96%)	128 (98%)	2 (2%)	0	100	100
137	TA	100/127 (79%)	96 (96%)	4 (4%)	0	100	100
137	ta	100/127 (79%)	95 (95%)	5 (5%)	0	100	100
138	TB	94/113 (83%)	94 (100%)	0	0	100	100
138	tb	94/113 (83%)	94 (100%)	0	0	100	100
139	TC	90/93 (97%)	89 (99%)	1 (1%)	0	100	100
139	tc	90/93 (97%)	89 (99%)	1 (1%)	0	100	100
140	TD	70/73 (96%)	70 (100%)	0	0	100	100
140	td	70/73 (96%)	70 (100%)	0	0	100	100
141	TE	48/71 (68%)	43 (90%)	5 (10%)	0	100	100
141	te	48/71 (68%)	43 (90%)	5 (10%)	0	100	100
142	TF	214/236 (91%)	212 (99%)	2 (1%)	0	100	100
142	tf	214/236 (91%)	212 (99%)	2 (1%)	0	100	100
143	TG	132/135 (98%)	130 (98%)	2 (2%)	0	100	100
143	tg	132/135 (98%)	132 (100%)	0	0	100	100
144	TH	122/124 (98%)	120 (98%)	2 (2%)	0	100	100
144	th	122/124 (98%)	120 (98%)	2 (2%)	0	100	100
145	TX	142/166 (86%)	141 (99%)	1 (1%)	0	100	100
145	tx	142/166 (86%)	141 (99%)	1 (1%)	0	100	100
146	V1	440/474 (93%)	424 (96%)	16 (4%)	0	100	100
146	v1	440/474 (93%)	424 (96%)	16 (4%)	0	100	100
147	V2	229/274 (84%)	219 (96%)	10 (4%)	0	100	100
147	v2	229/274 (84%)	220 (96%)	9 (4%)	0	100	100
148	X1	147/150 (98%)	145 (99%)	2 (1%)	0	100	100
148	x1	147/150 (98%)	145 (99%)	2 (1%)	0	100	100
149	C	201/212 (95%)	192 (96%)	8 (4%)	1 (0%)	29	64
149	c	201/212 (95%)	192 (96%)	8 (4%)	1 (0%)	29	64
All	All	65386/73196 (89%)	63252 (97%)	2126 (3%)	8 (0%)	100	100

5 of 8 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
129	t2	77	LYS
129	T2	77	LYS
149	C	87	PRO
149	c	87	PRO
100	n1	229	VAL

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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	1T	61/63 (97%)	60 (98%)	1 (2%)	62	84
1	1t	61/63 (97%)	60 (98%)	1 (2%)	62	84
2	2E	286/287 (100%)	280 (98%)	6 (2%)	53	80
2	2e	286/287 (100%)	280 (98%)	6 (2%)	53	80
3	2F	193/268 (72%)	189 (98%)	4 (2%)	53	80
3	2f	193/268 (72%)	189 (98%)	4 (2%)	53	80
4	2G	181/181 (100%)	179 (99%)	2 (1%)	73	89
4	2g	181/181 (100%)	179 (99%)	2 (1%)	73	89
5	2H	93/184 (50%)	92 (99%)	1 (1%)	73	89
5	2h	93/184 (50%)	92 (99%)	1 (1%)	73	89
6	2I	97/97 (100%)	95 (98%)	2 (2%)	53	80
6	2i	97/97 (100%)	94 (97%)	3 (3%)	40	71
7	2J	85/86 (99%)	84 (99%)	1 (1%)	71	88
7	2j	85/86 (99%)	84 (99%)	1 (1%)	71	88
8	2K	85/85 (100%)	83 (98%)	2 (2%)	49	77
8	2k	85/85 (100%)	83 (98%)	2 (2%)	49	77
9	2L	77/83 (93%)	75 (97%)	2 (3%)	46	75
9	2l	77/83 (93%)	76 (99%)	1 (1%)	69	87
10	2M	66/67 (98%)	65 (98%)	1 (2%)	65	85

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
10	2m	66/67 (98%)	65 (98%)	1 (2%)	65	85
11	2N	55/56 (98%)	53 (96%)	2 (4%)	35	67
11	2n	55/56 (98%)	54 (98%)	1 (2%)	59	82
12	2O	37/40 (92%)	36 (97%)	1 (3%)	44	74
12	2o	37/40 (92%)	36 (97%)	1 (3%)	44	74
13	2T	65/67 (97%)	65 (100%)	0	100	100
13	2t	65/67 (97%)	65 (100%)	0	100	100
14	3T	76/83 (92%)	74 (97%)	2 (3%)	46	75
14	3t	76/83 (92%)	74 (97%)	2 (3%)	46	75
15	4A	87/113 (77%)	85 (98%)	2 (2%)	50	78
15	4a	87/113 (77%)	85 (98%)	2 (2%)	50	78
16	4T	54/63 (86%)	52 (96%)	2 (4%)	34	66
16	4t	54/63 (86%)	52 (96%)	2 (4%)	34	66
17	5T	56/66 (85%)	56 (100%)	0	100	100
17	5t	56/66 (85%)	56 (100%)	0	100	100
18	6A	114/116 (98%)	113 (99%)	1 (1%)	78	91
18	6a	114/116 (98%)	113 (99%)	1 (1%)	78	91
19	6B	200/207 (97%)	199 (100%)	1 (0%)	88	95
19	6b	200/207 (97%)	199 (100%)	1 (0%)	88	95
20	6C	86/88 (98%)	85 (99%)	1 (1%)	71	88
20	6c	86/88 (98%)	85 (99%)	1 (1%)	71	88
21	6L	72/81 (89%)	72 (100%)	0	100	100
21	6l	72/81 (89%)	72 (100%)	0	100	100
22	6T	62/63 (98%)	62 (100%)	0	100	100
22	6t	62/63 (98%)	62 (100%)	0	100	100
23	7A	120/120 (100%)	119 (99%)	1 (1%)	81	92
23	7a	120/120 (100%)	119 (99%)	1 (1%)	81	92
24	7C	198/218 (91%)	196 (99%)	2 (1%)	76	90
24	7c	198/218 (91%)	196 (99%)	2 (1%)	76	90
25	7L	122/943 (13%)	121 (99%)	1 (1%)	81	92
25	7l	122/943 (13%)	121 (99%)	1 (1%)	81	92

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
26	A	410/447 (92%)	410 (100%)	0	100	100
26	a	410/447 (92%)	410 (100%)	0	100	100
27	B	374/413 (91%)	370 (99%)	4 (1%)	73	89
27	b	374/413 (91%)	371 (99%)	3 (1%)	81	92
28	BP	308/386 (80%)	308 (100%)	0	100	100
28	bp	308/386 (80%)	308 (100%)	0	100	100
29	C1	599/613 (98%)	593 (99%)	6 (1%)	76	90
29	c1	599/613 (98%)	594 (99%)	5 (1%)	81	92
30	C2	565/569 (99%)	561 (99%)	4 (1%)	84	93
30	c2	565/569 (99%)	560 (99%)	5 (1%)	78	91
31	C3	553/565 (98%)	549 (99%)	4 (1%)	84	93
31	c3	553/565 (98%)	549 (99%)	4 (1%)	84	93
32	D	253/358 (71%)	251 (99%)	2 (1%)	81	92
32	d	253/358 (71%)	250 (99%)	3 (1%)	71	88
33	E	342/343 (100%)	340 (99%)	2 (1%)	86	94
33	e	342/343 (100%)	340 (99%)	2 (1%)	86	94
34	F	219/318 (69%)	217 (99%)	2 (1%)	78	91
34	f	219/318 (69%)	218 (100%)	1 (0%)	88	95
35	FS	164/164 (100%)	164 (100%)	0	100	100
35	fs	164/164 (100%)	164 (100%)	0	100	100
36	G	267/289 (92%)	265 (99%)	2 (1%)	84	93
36	g	267/289 (92%)	265 (99%)	2 (1%)	84	93
37	H	256/272 (94%)	245 (96%)	11 (4%)	29	62
37	h	256/272 (94%)	248 (97%)	8 (3%)	40	71
38	I	200/219 (91%)	199 (100%)	1 (0%)	88	95
38	i	200/219 (91%)	199 (100%)	1 (0%)	88	95
39	J	170/216 (79%)	169 (99%)	1 (1%)	86	94
39	j	170/216 (79%)	170 (100%)	0	100	100
40	K	191/213 (90%)	190 (100%)	1 (0%)	88	95
40	k	191/213 (90%)	190 (100%)	1 (0%)	88	95
41	L	181/206 (88%)	179 (99%)	2 (1%)	73	89

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
41	l	181/206 (88%)	179 (99%)	2 (1%)	73	89
42	M	198/199 (100%)	197 (100%)	1 (0%)	88	95
42	m	198/199 (100%)	197 (100%)	1 (0%)	88	95
43	M1	294/294 (100%)	293 (100%)	1 (0%)	92	97
43	m1	294/294 (100%)	293 (100%)	1 (0%)	92	97
44	M2	260/260 (100%)	259 (100%)	1 (0%)	91	96
44	m2	260/260 (100%)	259 (100%)	1 (0%)	91	96
45	M3	275/276 (100%)	274 (100%)	1 (0%)	91	96
45	m3	275/276 (100%)	272 (99%)	3 (1%)	73	89
46	N	178/181 (98%)	176 (99%)	2 (1%)	73	89
46	n	178/181 (98%)	176 (99%)	2 (1%)	73	89
47	O	120/180 (67%)	120 (100%)	0	100	100
47	o	120/180 (67%)	119 (99%)	1 (1%)	81	92
48	P	157/157 (100%)	155 (99%)	2 (1%)	69	87
48	p	157/157 (100%)	155 (99%)	2 (1%)	69	87
49	Q	157/157 (100%)	157 (100%)	0	100	100
49	q	157/157 (100%)	156 (99%)	1 (1%)	86	94
50	R	156/157 (99%)	154 (99%)	2 (1%)	69	87
50	r	156/157 (99%)	154 (99%)	2 (1%)	69	87
51	S	153/154 (99%)	153 (100%)	0	100	100
51	s	153/154 (99%)	153 (100%)	0	100	100
52	SA	481/515 (93%)	470 (98%)	11 (2%)	50	78
52	sa	481/515 (93%)	475 (99%)	6 (1%)	71	88
53	SB	255/283 (90%)	243 (95%)	12 (5%)	26	59
53	sb	255/283 (90%)	246 (96%)	9 (4%)	36	68
54	SC	49/51 (96%)	47 (96%)	2 (4%)	30	64
54	sc	49/51 (96%)	47 (96%)	2 (4%)	30	64
55	SD	43/43 (100%)	43 (100%)	0	100	100
55	sd	43/43 (100%)	43 (100%)	0	100	100
56	T	137/139 (99%)	136 (99%)	1 (1%)	84	93
56	t	137/139 (99%)	136 (99%)	1 (1%)	84	93

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
57	U	137/138 (99%)	135 (98%)	2 (2%)	65	85
57	u	137/138 (99%)	135 (98%)	2 (2%)	65	85
58	V	133/135 (98%)	133 (100%)	0	100	100
58	v	133/135 (98%)	133 (100%)	0	100	100
59	VB	503/579 (87%)	500 (99%)	3 (1%)	86	94
59	vb	503/579 (87%)	500 (99%)	3 (1%)	86	94
60	W	112/113 (99%)	110 (98%)	2 (2%)	59	82
60	w	112/113 (99%)	110 (98%)	2 (2%)	59	82
61	X	105/105 (100%)	104 (99%)	1 (1%)	76	90
61	x	105/105 (100%)	104 (99%)	1 (1%)	76	90
62	Y	88/88 (100%)	87 (99%)	1 (1%)	73	89
62	y	88/88 (100%)	87 (99%)	1 (1%)	73	89
63	Y0	84/84 (100%)	84 (100%)	0	100	100
63	y0	84/84 (100%)	84 (100%)	0	100	100
64	Y5	185/185 (100%)	185 (100%)	0	100	100
64	y5	185/185 (100%)	185 (100%)	0	100	100
65	Y7	333/442 (75%)	332 (100%)	1 (0%)	92	97
65	y7	333/442 (75%)	332 (100%)	1 (0%)	92	97
66	Z	77/80 (96%)	75 (97%)	2 (3%)	46	75
66	z	77/80 (96%)	75 (97%)	2 (3%)	46	75
67	Z1	77/78 (99%)	77 (100%)	0	100	100
67	z1	77/78 (99%)	77 (100%)	0	100	100
68	1B	55/55 (100%)	55 (100%)	0	100	100
68	1b	55/55 (100%)	55 (100%)	0	100	100
69	2B	170/170 (100%)	169 (99%)	1 (1%)	86	94
69	2b	170/170 (100%)	170 (100%)	0	100	100
70	4L	108/108 (100%)	108 (100%)	0	100	100
70	4l	108/108 (100%)	108 (100%)	0	100	100
71	5B	98/98 (100%)	98 (100%)	0	100	100
71	5b	98/98 (100%)	98 (100%)	0	100	100
72	A1	88/89 (99%)	88 (100%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
72	a1	88/89 (99%)	88 (100%)	0	100	100
73	A2	88/93 (95%)	86 (98%)	2 (2%)	50	78
73	a2	88/93 (95%)	87 (99%)	1 (1%)	73	89
74	A3	108/114 (95%)	108 (100%)	0	100	100
74	a3	108/114 (95%)	108 (100%)	0	100	100
75	A5	144/186 (77%)	142 (99%)	2 (1%)	67	86
75	a5	144/186 (77%)	142 (99%)	2 (1%)	67	86
76	A6	154/154 (100%)	152 (99%)	2 (1%)	69	87
76	a6	154/154 (100%)	152 (99%)	2 (1%)	69	87
77	A7	257/257 (100%)	255 (99%)	2 (1%)	81	92
77	a7	257/257 (100%)	255 (99%)	2 (1%)	81	92
78	A8	121/224 (54%)	121 (100%)	0	100	100
78	a8	121/224 (54%)	121 (100%)	0	100	100
79	A9	290/311 (93%)	290 (100%)	0	100	100
79	a9	290/311 (93%)	290 (100%)	0	100	100
80	AB	104/129 (81%)	103 (99%)	1 (1%)	76	90
80	ab	104/129 (81%)	103 (99%)	1 (1%)	76	90
81	AC	88/119 (74%)	87 (99%)	1 (1%)	73	89
81	ac	88/119 (74%)	87 (99%)	1 (1%)	73	89
82	AL	169/170 (99%)	167 (99%)	2 (1%)	71	88
82	al	169/170 (99%)	168 (99%)	1 (1%)	86	94
83	AM	142/156 (91%)	141 (99%)	1 (1%)	84	93
83	am	142/156 (91%)	141 (99%)	1 (1%)	84	93
84	AN	199/199 (100%)	197 (99%)	2 (1%)	76	90
84	an	199/199 (100%)	199 (100%)	0	100	100
85	B2	103/109 (94%)	100 (97%)	3 (3%)	42	73
85	b2	103/109 (94%)	101 (98%)	2 (2%)	57	81
86	B3	64/74 (86%)	63 (98%)	1 (2%)	62	84
86	b3	64/74 (86%)	63 (98%)	1 (2%)	62	84
87	B4	102/128 (80%)	100 (98%)	2 (2%)	55	80
87	b4	102/128 (80%)	100 (98%)	2 (2%)	55	80

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
88	B6	64/117 (55%)	64 (100%)	0	100	100
88	b6	64/117 (55%)	64 (100%)	0	100	100
89	B7	97/99 (98%)	95 (98%)	2 (2%)	53	80
89	b7	97/99 (98%)	95 (98%)	2 (2%)	53	80
90	B8	156/180 (87%)	154 (99%)	2 (1%)	69	87
90	b8	156/180 (87%)	155 (99%)	1 (1%)	86	94
91	B9	171/172 (99%)	169 (99%)	2 (1%)	71	88
91	b9	171/172 (99%)	169 (99%)	2 (1%)	71	88
92	BL	160/172 (93%)	160 (100%)	0	100	100
92	bl	160/172 (93%)	159 (99%)	1 (1%)	86	94
93	BM	142/182 (78%)	138 (97%)	4 (3%)	43	74
93	bm	142/182 (78%)	138 (97%)	4 (3%)	43	74
94	C4	89/89 (100%)	88 (99%)	1 (1%)	73	89
94	c4	89/89 (100%)	89 (100%)	0	100	100
95	FX	130/152 (86%)	129 (99%)	1 (1%)	81	92
95	fx	130/152 (86%)	129 (99%)	1 (1%)	81	92
96	G1	195/218 (89%)	192 (98%)	3 (2%)	65	85
96	g1	195/218 (89%)	194 (100%)	1 (0%)	88	95
97	G2	195/197 (99%)	194 (100%)	1 (0%)	88	95
97	g2	195/197 (99%)	193 (99%)	2 (1%)	76	90
98	G3	309/309 (100%)	307 (99%)	2 (1%)	86	94
98	g3	309/309 (100%)	307 (99%)	2 (1%)	86	94
99	J1	222/270 (82%)	218 (98%)	4 (2%)	59	82
99	j1	222/270 (82%)	218 (98%)	4 (2%)	59	82
100	N1	249/250 (100%)	239 (96%)	10 (4%)	31	64
100	n1	249/250 (100%)	244 (98%)	5 (2%)	55	80
101	N2	346/346 (100%)	338 (98%)	8 (2%)	50	78
101	n2	346/346 (100%)	341 (99%)	5 (1%)	67	86
102	N3	111/112 (99%)	109 (98%)	2 (2%)	59	82
102	n3	111/112 (99%)	109 (98%)	2 (2%)	59	82
103	N4	463/463 (100%)	455 (98%)	8 (2%)	60	83

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
103	n4	463/463 (100%)	455 (98%)	8 (2%)	60	83
104	N5	653/694 (94%)	640 (98%)	13 (2%)	55	80
104	n5	653/694 (94%)	641 (98%)	12 (2%)	59	82
105	N6	244/244 (100%)	242 (99%)	2 (1%)	81	92
105	n6	244/244 (100%)	242 (99%)	2 (1%)	81	92
106	P1	207/223 (93%)	205 (99%)	2 (1%)	76	90
106	p1	207/223 (93%)	205 (99%)	2 (1%)	76	90
107	P2	158/178 (89%)	154 (98%)	4 (2%)	47	76
107	p2	158/178 (89%)	157 (99%)	1 (1%)	86	94
108	QA	385/409 (94%)	383 (100%)	2 (0%)	88	95
108	Qa	385/409 (94%)	379 (98%)	6 (2%)	62	84
108	qA	385/409 (94%)	383 (100%)	2 (0%)	88	95
108	qa	385/409 (94%)	378 (98%)	7 (2%)	59	82
109	QB	411/440 (93%)	405 (98%)	6 (2%)	65	85
109	Qb	411/440 (93%)	401 (98%)	10 (2%)	49	77
109	qB	411/440 (93%)	406 (99%)	5 (1%)	71	88
109	qb	411/440 (93%)	402 (98%)	9 (2%)	52	79
110	QC	386/386 (100%)	378 (98%)	8 (2%)	53	80
110	Qc	385/386 (100%)	374 (97%)	11 (3%)	42	73
110	qC	386/386 (100%)	379 (98%)	7 (2%)	59	82
110	qc	385/386 (100%)	375 (97%)	10 (3%)	46	75
111	QD	255/274 (93%)	252 (99%)	3 (1%)	71	88
111	Qd	255/274 (93%)	253 (99%)	2 (1%)	81	92
111	qD	255/274 (93%)	252 (99%)	3 (1%)	71	88
111	qd	255/274 (93%)	254 (100%)	1 (0%)	91	96
112	QE	109/237 (46%)	106 (97%)	3 (3%)	43	74
112	Qe	99/237 (42%)	97 (98%)	2 (2%)	55	80
112	qE	109/237 (46%)	106 (97%)	3 (3%)	43	74
112	qe	99/237 (42%)	97 (98%)	2 (2%)	55	80
113	QF	80/81 (99%)	79 (99%)	1 (1%)	69	87
113	Qf	72/81 (89%)	72 (100%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
113	qF	80/81 (99%)	79 (99%)	1 (1%)	69	87
113	qf	72/81 (89%)	72 (100%)	0	100	100
114	QG	288/289 (100%)	282 (98%)	6 (2%)	53	80
114	Qg	287/289 (99%)	282 (98%)	5 (2%)	60	83
114	qG	288/289 (100%)	283 (98%)	5 (2%)	60	83
114	qg	287/289 (99%)	282 (98%)	5 (2%)	60	83
115	QH	117/118 (99%)	116 (99%)	1 (1%)	78	91
115	Qh	117/118 (99%)	117 (100%)	0	100	100
115	qH	117/118 (99%)	116 (99%)	1 (1%)	78	91
115	qh	117/118 (99%)	117 (100%)	0	100	100
116	QI	104/109 (95%)	103 (99%)	1 (1%)	76	90
116	Qi	104/109 (95%)	103 (99%)	1 (1%)	76	90
116	qI	104/109 (95%)	102 (98%)	2 (2%)	57	81
116	qi	104/109 (95%)	103 (99%)	1 (1%)	76	90
117	QJ	51/56 (91%)	51 (100%)	0	100	100
117	Qj	53/56 (95%)	52 (98%)	1 (2%)	57	81
117	qJ	51/56 (91%)	51 (100%)	0	100	100
117	qj	53/56 (95%)	52 (98%)	1 (2%)	57	81
118	QL	28/36 (78%)	28 (100%)	0	100	100
118	Ql	28/36 (78%)	28 (100%)	0	100	100
118	qL	28/36 (78%)	28 (100%)	0	100	100
118	ql	28/36 (78%)	28 (100%)	0	100	100
120	S1	590/617 (96%)	583 (99%)	7 (1%)	71	88
120	s1	590/617 (96%)	585 (99%)	5 (1%)	81	92
121	S2	399/399 (100%)	387 (97%)	12 (3%)	41	72
121	s2	399/399 (100%)	389 (98%)	10 (2%)	47	76
122	S3	191/191 (100%)	187 (98%)	4 (2%)	53	80
122	s3	191/191 (100%)	187 (98%)	4 (2%)	53	80
123	S4	160/163 (98%)	156 (98%)	4 (2%)	47	76
123	s4	160/163 (98%)	156 (98%)	4 (2%)	47	76
124	S5	82/83 (99%)	79 (96%)	3 (4%)	34	66

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
124	s5	82/83 (99%)	80 (98%)	2 (2%)	49	77
125	S6	82/116 (71%)	80 (98%)	2 (2%)	49	77
125	s6	82/116 (71%)	81 (99%)	1 (1%)	71	88
126	S7	136/137 (99%)	129 (95%)	7 (5%)	24	56
126	s7	136/137 (99%)	130 (96%)	6 (4%)	28	62
127	S8	197/215 (92%)	197 (100%)	0	100	100
127	s8	197/215 (92%)	197 (100%)	0	100	100
128	T1	440/454 (97%)	433 (98%)	7 (2%)	62	84
128	t1	440/454 (97%)	432 (98%)	8 (2%)	59	82
129	T2	237/280 (85%)	232 (98%)	5 (2%)	53	80
129	t2	237/280 (85%)	232 (98%)	5 (2%)	53	80
130	T3	272/275 (99%)	268 (98%)	4 (2%)	65	85
130	t3	272/275 (99%)	268 (98%)	4 (2%)	65	85
131	T4	178/190 (94%)	177 (99%)	1 (1%)	86	94
131	t4	178/190 (94%)	177 (99%)	1 (1%)	86	94
132	T5	119/179 (66%)	118 (99%)	1 (1%)	81	92
132	t5	119/179 (66%)	118 (99%)	1 (1%)	81	92
133	T6	97/131 (74%)	96 (99%)	1 (1%)	76	90
133	t6	97/131 (74%)	96 (99%)	1 (1%)	76	90
134	T7	124/125 (99%)	122 (98%)	2 (2%)	62	84
134	t7	124/125 (99%)	123 (99%)	1 (1%)	81	92
135	T8	118/122 (97%)	118 (100%)	0	100	100
135	t8	118/122 (97%)	118 (100%)	0	100	100
136	T9	118/122 (97%)	117 (99%)	1 (1%)	81	92
136	t9	118/122 (97%)	118 (100%)	0	100	100
137	TA	94/117 (80%)	93 (99%)	1 (1%)	73	89
137	ta	94/117 (80%)	93 (99%)	1 (1%)	73	89
138	TB	82/97 (84%)	82 (100%)	0	100	100
138	tb	82/97 (84%)	82 (100%)	0	100	100
139	TC	83/84 (99%)	82 (99%)	1 (1%)	71	88
139	tc	83/84 (99%)	82 (99%)	1 (1%)	71	88

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
140	TD	64/65 (98%)	64 (100%)	0	100	100
140	td	64/65 (98%)	64 (100%)	0	100	100
141	TE	45/63 (71%)	45 (100%)	0	100	100
141	te	45/63 (71%)	45 (100%)	0	100	100
142	TF	195/212 (92%)	194 (100%)	1 (0%)	88	95
142	tf	195/212 (92%)	194 (100%)	1 (0%)	88	95
143	TG	121/122 (99%)	115 (95%)	6 (5%)	24	57
143	tg	121/122 (99%)	117 (97%)	4 (3%)	38	70
144	TH	108/108 (100%)	107 (99%)	1 (1%)	78	91
144	th	108/108 (100%)	107 (99%)	1 (1%)	78	91
145	TX	128/147 (87%)	126 (98%)	2 (2%)	62	84
145	tx	128/147 (87%)	127 (99%)	1 (1%)	81	92
146	V1	362/392 (92%)	359 (99%)	3 (1%)	81	92
146	v1	362/392 (92%)	358 (99%)	4 (1%)	73	89
147	V2	205/236 (87%)	204 (100%)	1 (0%)	88	95
147	v2	205/236 (87%)	204 (100%)	1 (0%)	88	95
148	X1	132/133 (99%)	131 (99%)	1 (1%)	81	92
148	x1	132/133 (99%)	131 (99%)	1 (1%)	81	92
149	C	106/178 (60%)	104 (98%)	2 (2%)	57	81
149	c	106/178 (60%)	104 (98%)	2 (2%)	57	81
All	All	58230/65244 (89%)	57534 (99%)	696 (1%)	72	88

5 of 696 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
82	AL	37	ARG
114	QG	326	PHE
90	B8	129	LYS
81	AC	64	LEU
103	N4	205	TRP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 977 such sidechains are listed below:

Mol	Chain	Res	Type
140	td	73	GLN
122	S3	3	ASN
34	F	267	ASN
120	S1	598	GLN
140	TD	73	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](#)

6 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
59	SEP	vb	520	59	8,9,10	0.88	0	8,12,14	0.76	0
24	SEP	7C	120	24	8,9,10	0.87	0	8,12,14	0.67	0
59	TPO	VB	387	59	8,10,11	1.21	1 (12%)	10,14,16	1.05	0
59	SEP	VB	520	59	8,9,10	0.88	0	8,12,14	0.75	0
24	SEP	7c	120	24	8,9,10	0.87	0	8,12,14	0.67	0
59	TPO	vb	387	59	8,10,11	1.21	1 (12%)	10,14,16	1.05	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
59	SEP	vb	520	59	-	3/5/8/10	-
24	SEP	7C	120	24	-	3/5/8/10	-
59	TPO	VB	387	59	-	1/9/11/13	-
59	SEP	VB	520	59	-	3/5/8/10	-
24	SEP	7c	120	24	-	3/5/8/10	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
59	TPO	vb	387	59	-	1/9/11/13	-

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
59	VB	387	TPO	P-OG1	3.02	1.65	1.59
59	vb	387	TPO	P-OG1	3.01	1.65	1.59

There are no bond angle outliers.

There are no chirality outliers.

5 of 14 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
24	7c	120	SEP	CB-OG-P-O1P
24	7c	120	SEP	CB-OG-P-O2P
24	7c	120	SEP	CB-OG-P-O3P
59	vb	387	TPO	O-C-CA-CB
59	vb	520	SEP	CB-OG-P-O1P

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 510 ligands modelled in this entry, 14 are monoatomic - leaving 496 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
153	CDL	7c	301	-	84,84,99	0.32	0	90,96,111	0.33	0
152	PC1	n5	804	-	38,38,53	0.33	0	44,46,61	0.32	0
153	CDL	2K	101	-	97,97,99	0.31	0	103,109,111	0.35	0
157	FES	qE	302	-	0,4,4	-	-	-	-	-
153	CDL	2g	203	-	54,54,99	0.39	0	60,66,111	0.36	0
153	CDL	2G	201	-	88,88,99	0.32	0	94,100,111	0.28	0
153	CDL	w	202	-	83,83,99	0.33	0	89,95,111	0.33	0
153	CDL	AL	301	-	52,52,99	0.40	0	58,64,111	0.33	0
153	CDL	M2	404	-	73,73,99	0.34	0	79,85,111	0.34	0
152	PC1	qI	202	-	42,42,53	0.32	0	48,50,61	0.31	0
166	HEM	Qc	503	110	41,50,50	1.25	3 (7%)	45,82,82	1.70	10 (22%)
152	PC1	QG	401	-	31,31,53	0.37	0	37,39,61	0.40	0
166	HEM	QC	501	110	41,50,50	1.22	4 (9%)	45,82,82	1.68	8 (17%)
152	PC1	qE	301	-	23,23,53	0.40	0	29,31,61	0.36	0
153	CDL	QG	402	-	85,85,99	0.32	0	91,97,111	0.28	0
152	PC1	fs	204	-	39,39,53	0.34	0	45,47,61	0.27	0
152	PC1	C3	603	-	30,30,53	0.37	0	36,38,61	0.34	0
162	SF4	s8	303	127	0,12,12	-	-	-	-	-
153	CDL	2B	201	-	86,86,99	0.32	0	92,98,111	0.36	0
171	FMN	v1	501	-	33,33,33	0.20	0	48,50,50	0.42	0
158	3PE	an	303	-	44,44,50	0.32	0	47,49,55	0.29	0
152	PC1	C1	710	-	37,37,53	0.34	0	43,45,61	0.31	0
158	3PE	M2	408	-	30,30,50	0.38	0	33,35,55	0.36	0
152	PC1	qC	508	-	35,35,53	0.35	0	41,43,61	0.34	0
152	PC1	Qc	506	-	37,37,53	0.34	0	43,45,61	0.31	0
153	CDL	C1	708	-	62,62,99	0.37	0	68,74,111	0.39	0
158	3PE	G2	301	-	50,50,50	0.30	0	53,55,55	0.29	0
152	PC1	an	304	-	35,35,53	0.36	0	41,43,61	0.33	0
152	PC1	QE	303	-	38,38,53	0.34	0	44,46,61	0.32	0
166	HEM	qC	501	110	41,50,50	1.22	4 (9%)	45,82,82	1.68	9 (20%)
161	FAD	SA	701	-	53,58,58	0.48	0	68,89,89	0.52	2 (2%)
158	3PE	M3	402	-	37,37,50	0.35	0	40,42,55	0.31	0
153	CDL	QB	601	-	67,67,99	0.35	0	73,79,111	0.30	0
152	PC1	c3	602	-	38,38,53	0.33	0	44,46,61	0.30	0
153	CDL	m	306	-	65,65,99	0.36	0	71,77,111	0.31	0
168	ZMP	ab	201	80	33,36,36	0.67	1 (3%)	42,45,45	0.75	0
153	CDL	t	201	-	58,58,99	0.38	0	64,70,111	0.32	0
152	PC1	2F	301	-	46,46,53	0.32	0	52,54,61	0.50	0
153	CDL	2m	101	-	95,95,99	0.31	0	101,107,111	0.30	0
153	CDL	qi	202	-	70,70,99	0.35	0	76,82,111	0.35	0
170	ADP	b9	202	-	24,29,29	0.94	1 (4%)	29,45,45	1.46	4 (13%)
152	PC1	n	301	-	40,40,53	0.33	0	46,48,61	0.29	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
153	CDL	t	202	-	74,74,99	0.34	0	80,86,111	0.34	0
153	CDL	c3	604	-	67,67,99	0.36	0	73,79,111	0.31	0
158	3PE	bm	302	-	29,29,50	0.39	0	32,34,55	0.46	0
159	P5S	M2	406	-	34,35,53	1.34	4 (11%)	38,42,60	1.04	2 (5%)
153	CDL	2o	101	-	49,49,99	0.41	0	55,61,111	0.35	0
166	HEM	qC	502	110	41,50,50	1.25	3 (7%)	45,82,82	1.67	10 (22%)
152	PC1	m1	403	-	41,41,53	0.33	0	47,49,61	0.38	0
153	CDL	te	101	-	52,52,99	0.40	0	58,64,111	0.33	0
158	3PE	C4	402	-	50,50,50	0.30	0	53,55,55	0.31	0
152	PC1	n3	201	-	30,30,53	0.37	0	36,38,61	0.36	0
152	PC1	AN	304	-	35,35,53	0.36	0	41,43,61	0.33	0
153	CDL	B8	302	-	68,68,99	0.35	0	74,80,111	0.31	0
153	CDL	Qg	402	-	99,99,99	0.30	0	105,111,111	0.30	0
152	PC1	m2	407	-	45,45,53	0.32	0	51,53,61	0.37	0
152	PC1	7c	303	-	42,42,53	0.32	0	48,50,61	0.32	0
152	PC1	6c	203	-	32,32,53	0.36	0	38,40,61	0.35	0
153	CDL	AM	201	-	55,55,99	0.39	0	61,67,111	0.33	0
152	PC1	2F	303	-	31,31,53	0.37	0	37,39,61	0.31	0
153	CDL	m3	401	-	62,62,99	0.37	0	68,74,111	0.32	0
153	CDL	b8	302	-	68,68,99	0.35	0	74,80,111	0.31	0
164	U10	QC	506	-	29,29,63	2.68	10 (34%)	35,38,79	1.55	7 (20%)
166	HEM	QC	502	110	41,50,50	1.25	3 (7%)	45,82,82	1.67	10 (22%)
152	PC1	V	201	-	34,34,53	0.35	0	40,42,61	0.32	0
152	PC1	2G	202	-	49,49,53	0.31	0	55,57,61	0.40	0
166	HEM	qc	502	110	41,50,50	1.23	4 (9%)	45,82,82	1.67	8 (17%)
152	PC1	Qe	303	-	42,42,53	0.33	0	48,50,61	0.44	0
152	PC1	qI	201	-	29,29,53	0.38	0	35,37,61	0.32	0
152	PC1	7A	202	-	44,44,53	0.31	0	50,52,61	0.31	0
162	SF4	SB	402	53	0,12,12	-	-	-	-	-
152	PC1	TE	102	-	31,31,53	0.37	0	37,39,61	0.40	0
152	PC1	C2	701	-	35,35,53	0.35	0	41,43,61	0.31	0
153	CDL	T	204	-	89,89,99	0.33	0	95,101,111	0.32	0
152	PC1	a	503	-	40,40,53	0.34	0	46,48,61	0.35	0
153	CDL	t1	601	-	54,54,99	0.39	0	60,66,111	0.36	0
152	PC1	2f	303	-	31,31,53	0.37	0	37,39,61	0.31	0
158	3PE	t4	302	-	24,24,50	0.42	0	27,29,55	0.36	0
152	PC1	M2	405	-	53,53,53	0.30	0	59,61,61	0.26	0
153	CDL	qG	402	-	85,85,99	0.32	0	91,97,111	0.28	0
153	CDL	vb	704	-	66,66,99	0.36	0	72,78,111	0.30	0
162	SF4	s1	802	120	0,12,12	-	-	-	-	-
153	CDL	6a	201	-	73,73,99	0.35	0	79,85,111	0.41	0
152	PC1	qc	509	-	46,46,53	0.31	0	52,54,61	0.34	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
152	PC1	M	307	-	34,34,53	0.35	0	40,42,61	0.34	0
153	CDL	qI	203	-	70,70,99	0.35	0	76,82,111	0.31	0
152	PC1	tc	102	-	46,46,53	0.31	0	52,54,61	0.30	0
152	PC1	c4	403	-	40,40,53	0.33	0	46,48,61	0.30	0
168	ZMP	AB	201	80	33,36,36	0.67	1 (3%)	42,45,45	0.75	0
152	PC1	Qe	301	-	32,32,53	0.36	0	38,40,61	0.34	0
153	CDL	A	504	-	93,93,99	0.31	0	99,105,111	0.27	0
152	PC1	A	501	-	40,40,53	0.34	0	46,48,61	0.35	0
153	CDL	VB	703	-	85,85,99	0.33	0	91,97,111	0.31	0
152	PC1	6a	202	-	34,34,53	0.36	0	40,42,61	0.34	0
152	PC1	TC	101	-	41,41,53	0.32	0	47,49,61	0.28	0
153	CDL	Y7	501	-	64,64,99	0.36	0	70,76,111	0.37	0
157	FES	FS	202	35	0,4,4	-	-	-	-	-
153	CDL	A9	402	-	75,75,99	0.34	0	81,87,111	0.35	0
152	PC1	2g	202	-	49,49,53	0.31	0	55,57,61	0.40	0
152	PC1	f	402	-	37,37,53	0.34	0	43,45,61	0.28	0
153	CDL	A1	102	-	66,66,99	0.36	0	72,78,111	0.37	0
153	CDL	Qb	601	-	67,67,99	0.36	0	73,79,111	0.30	0
153	CDL	T	201	-	58,58,99	0.38	0	64,70,111	0.32	0
153	CDL	T	202	-	74,74,99	0.34	0	80,86,111	0.34	0
153	CDL	e	401	-	59,59,99	0.37	0	65,71,111	0.34	0
153	CDL	q	203	-	85,85,99	0.33	0	91,97,111	0.31	0
153	CDL	vb	701	-	61,61,99	0.37	0	67,73,111	0.32	0
153	CDL	2b	201	-	86,86,99	0.32	0	92,98,111	0.36	0
153	CDL	qc	505	-	55,55,99	0.38	0	61,67,111	0.36	0
152	PC1	t4	303	-	53,53,53	0.30	0	59,61,61	0.35	0
153	CDL	Q	202	-	71,71,99	0.35	0	77,83,111	0.30	0
153	CDL	C4	401	-	97,97,99	0.30	0	103,109,111	0.30	0
152	PC1	Qj	101	-	35,35,53	0.35	0	41,43,61	0.32	0
157	FES	QE	302	-	0,4,4	-	-	-	-	-
158	3PE	i	303	-	31,31,50	0.37	0	34,36,55	0.32	0
152	PC1	n6	301	-	53,53,53	0.29	0	59,61,61	0.29	0
152	PC1	n5	803	-	52,52,53	0.29	0	58,60,61	0.29	0
162	SF4	s8	302	127	0,12,12	-	-	-	-	-
153	CDL	M2	403	-	65,65,99	0.36	0	71,77,111	0.30	0
152	PC1	j	302	-	36,36,53	0.34	0	42,44,61	0.31	0
153	CDL	e	402	-	71,71,99	0.35	0	77,83,111	0.35	0
153	CDL	a1	101	-	66,66,99	0.36	0	72,78,111	0.37	0
153	CDL	c1	701	-	78,78,99	0.33	0	84,90,111	0.32	0
153	CDL	C1	707	-	64,64,99	0.36	0	70,76,111	0.31	0
157	FES	V2	300	147	0,4,4	-	-	-	-	-
154	HEA	C1	702	29	57,67,67	2.03	16 (28%)	61,103,103	2.64	27 (44%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
153	CDL	fs	203	-	46,46,99	0.42	0	52,58,111	0.35	0
153	CDL	b3	102	-	81,81,99	0.33	0	87,93,111	0.30	0
153	CDL	m1	404	-	90,90,99	0.32	0	96,102,111	0.28	0
152	PC1	Qc	509	-	46,46,53	0.31	0	52,54,61	0.34	0
153	CDL	c1	712	-	94,94,99	0.31	0	100,106,111	0.32	0
152	PC1	QE	301	-	23,23,53	0.40	0	29,31,61	0.36	0
164	U10	B8	301	-	63,63,63	2.15	21 (33%)	76,79,79	1.68	21 (27%)
152	PC1	QC	508	-	35,35,53	0.35	0	41,43,61	0.34	0
154	HEA	C1	703	29	57,67,67	2.08	17 (29%)	61,103,103	2.72	22 (36%)
151	HEC	2E	401	2	32,50,50	2.10	6 (18%)	24,82,82	2.34	14 (58%)
152	PC1	te	102	-	31,31,53	0.37	0	37,39,61	0.40	0
153	CDL	y7	501	-	64,64,99	0.36	0	70,76,111	0.37	0
153	CDL	a	502	-	50,50,99	0.41	0	56,62,111	0.47	0
153	CDL	P1	403	-	57,57,99	0.39	0	63,69,111	0.40	0
169	T7X	b6	201	-	55,55,61	1.51	5 (9%)	64,67,73	1.08	4 (6%)
152	PC1	C1	706	-	48,48,53	0.31	0	54,56,61	0.27	0
152	PC1	N5	803	-	52,52,53	0.29	0	58,60,61	0.29	0
162	SF4	V1	500	146	0,12,12	-	-	-	-	-
153	CDL	QC	503	-	63,63,99	0.37	0	69,75,111	0.31	0
152	PC1	n5	801	-	51,51,53	0.30	0	57,59,61	0.29	0
154	HEA	c1	702	29	57,67,67	2.04	17 (29%)	61,103,103	2.75	29 (47%)
153	CDL	F	402	-	99,99,99	0.30	0	105,111,111	0.29	0
162	SF4	v1	500	146	0,12,12	-	-	-	-	-
157	FES	Qe	302	-	0,4,4	-	-	-	-	-
152	PC1	w	205	-	42,42,53	0.32	0	48,50,61	0.30	0
167	NDP	a9	401	-	45,52,52	0.52	0	53,80,80	0.54	1 (1%)
153	CDL	qC	503	-	63,63,99	0.37	0	69,75,111	0.31	0
153	CDL	T	203	-	70,70,99	0.35	0	76,82,111	0.32	0
158	3PE	m3	402	-	37,37,50	0.35	0	40,42,55	0.31	0
152	PC1	v	202	-	48,48,53	0.31	0	54,56,61	0.32	0
153	CDL	6C	203	-	81,81,99	0.32	0	87,93,111	0.30	0
160	PX2	R	202	-	32,32,35	1.01	4 (12%)	36,37,40	0.91	2 (5%)
158	3PE	N5	802	-	35,35,50	0.36	0	38,40,55	0.31	0
153	CDL	VB	705	-	81,81,99	0.33	0	87,93,111	0.29	0
164	U10	Qc	501	-	25,25,63	2.22	5 (20%)	27,29,79	1.84	8 (29%)
153	CDL	L	301	-	73,73,99	0.34	0	79,85,111	0.29	0
157	FES	fs	202	35	0,4,4	-	-	-	-	-
152	PC1	FS	201	-	39,39,53	0.34	0	45,47,61	0.27	0
152	PC1	C1	711	-	38,38,53	0.34	0	44,46,61	0.32	0
153	CDL	m2	403	-	65,65,99	0.36	0	71,77,111	0.30	0
153	CDL	n5	806	-	89,89,99	0.31	0	95,101,111	0.28	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
158	3PE	B4	202	-	47,47,50	0.32	0	50,52,55	0.28	0
153	CDL	r	201	-	64,64,99	0.36	0	70,76,111	0.31	0
164	U10	qc	501	-	25,25,63	2.22	5 (20%)	27,29,79	1.83	8 (29%)
158	3PE	AN	306	-	28,28,50	0.40	0	31,33,55	0.42	0
153	CDL	m1	405	-	56,56,99	0.38	0	62,68,111	0.37	0
158	3PE	T4	302	-	24,24,50	0.42	0	27,29,55	0.36	0
153	CDL	T5	301	-	95,95,99	0.31	0	101,107,111	0.31	0
158	3PE	b4	202	-	47,47,50	0.32	0	50,52,55	0.28	0
152	PC1	Qg	401	-	31,31,53	0.36	0	37,39,61	0.33	0
153	CDL	an	302	-	86,86,99	0.32	0	92,98,111	0.29	0
153	CDL	qB	601	-	67,67,99	0.35	0	73,79,111	0.30	0
152	PC1	C3	601	-	51,51,53	0.30	0	57,59,61	0.34	0
171	FMN	V1	501	-	33,33,33	0.20	0	48,50,50	0.42	0
159	P5S	m2	406	-	34,35,53	1.34	4 (11%)	38,42,60	1.04	2 (5%)
153	CDL	7a	203	-	61,61,99	0.37	0	67,73,111	0.34	0
158	3PE	a3	202	-	43,43,50	0.32	0	46,48,55	0.29	0
153	CDL	a9	403	-	86,86,99	0.32	0	92,98,111	0.27	0
158	3PE	A3	201	-	44,44,50	0.33	0	47,49,55	0.55	1 (2%)
158	3PE	ta	201	-	25,25,50	0.41	0	28,30,55	0.40	0
152	PC1	QI	201	-	29,29,53	0.38	0	35,37,61	0.32	0
152	PC1	M	303	-	44,44,53	0.32	0	50,52,61	0.37	0
153	CDL	I	302	-	76,76,99	0.33	0	82,88,111	0.31	0
157	FES	fx	201	95	0,4,4	-	-	-	-	-
153	CDL	p1	402	-	62,62,99	0.37	0	68,74,111	0.31	0
152	PC1	6A	202	-	34,34,53	0.36	0	40,42,61	0.34	0
153	CDL	M1	402	-	65,65,99	0.36	0	71,77,111	0.31	0
152	PC1	c1	706	-	44,44,53	0.32	0	50,52,61	0.42	0
152	PC1	tc	101	-	41,41,53	0.32	0	47,49,61	0.28	0
164	U10	SC	102	-	63,63,63	2.17	21 (33%)	76,79,79	1.65	20 (26%)
152	PC1	C1	709	-	44,44,53	0.32	0	50,52,61	0.42	0
157	FES	fs	201	35	0,4,4	-	-	-	-	-
152	PC1	QI	202	-	42,42,53	0.32	0	48,50,61	0.31	0
158	3PE	VB	707	-	27,27,50	0.39	0	30,32,55	0.34	0
152	PC1	c3	605	-	38,38,53	0.33	0	44,46,61	0.32	0
164	U10	qC	506	-	29,29,63	2.68	10 (34%)	35,38,79	1.55	7 (20%)
152	PC1	c1	707	-	37,37,53	0.34	0	43,45,61	0.31	0
153	CDL	2k	101	-	97,97,99	0.31	0	103,109,111	0.35	0
153	CDL	N6	302	-	89,89,99	0.32	0	95,101,111	0.36	0
152	PC1	5b	202	-	46,46,53	0.32	0	52,54,61	0.28	0
153	CDL	q	202	-	71,71,99	0.35	0	77,83,111	0.30	0
152	PC1	QC	507	-	49,49,53	0.30	0	55,57,61	0.29	0
153	CDL	t	204	-	89,89,99	0.33	0	95,101,111	0.32	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
153	CDL	a9	402	-	75,75,99	0.34	0	81,87,111	0.35	0
153	CDL	E	402	-	71,71,99	0.35	0	77,83,111	0.34	0
152	PC1	c1	711	-	38,38,53	0.34	0	44,46,61	0.32	0
152	PC1	TC	102	-	46,46,53	0.31	0	52,54,61	0.30	0
152	PC1	T4	303	-	53,53,53	0.30	0	59,61,61	0.35	0
158	3PE	TA	201	-	25,25,50	0.41	0	28,30,55	0.40	0
152	PC1	a	501	-	40,40,53	0.34	0	46,48,61	0.35	0
158	3PE	BM	302	-	29,29,50	0.39	0	32,34,55	0.46	0
152	PC1	6C	201	-	32,32,53	0.36	0	38,40,61	0.35	0
153	CDL	M1	404	-	90,90,99	0.32	0	96,102,111	0.28	0
153	CDL	E	403	-	62,62,99	0.37	0	68,74,111	0.30	0
152	PC1	J	302	-	36,36,53	0.34	0	42,44,61	0.31	0
153	CDL	2M	101	-	95,95,99	0.31	0	101,107,111	0.30	0
153	CDL	M	305	-	82,82,99	0.33	0	88,94,111	0.31	0
152	PC1	qB	602	-	43,43,53	0.32	0	49,51,61	0.29	0
158	3PE	m2	408	-	30,30,50	0.38	0	33,35,55	0.36	0
164	U10	qc	507	-	29,29,63	2.68	11 (37%)	35,38,79	1.53	7 (20%)
157	FES	qe	302	-	0,4,4	-	-	-	-	-
152	PC1	B9	201	-	33,33,53	0.38	0	39,41,61	0.52	0
158	3PE	an	301	-	44,44,50	0.32	0	47,49,55	0.27	0
153	CDL	N5	806	-	89,89,99	0.31	0	95,101,111	0.28	0
153	CDL	TE	101	-	52,52,99	0.40	0	58,64,111	0.33	0
158	3PE	g2	301	-	50,50,50	0.30	0	53,55,55	0.29	0
162	SF4	S8	303	127	0,12,12	-	-	-	-	-
153	CDL	c4	401	-	97,97,99	0.30	0	103,109,111	0.31	0
152	PC1	5B	202	-	46,46,53	0.32	0	52,54,61	0.28	0
153	CDL	2O	101	-	49,49,99	0.41	0	55,61,111	0.35	0
152	PC1	j1	400	-	39,39,53	0.33	0	45,47,61	0.33	0
153	CDL	W	202	-	83,83,99	0.33	0	89,95,111	0.33	0
153	CDL	sd	101	-	75,75,99	0.34	0	81,87,111	0.31	0
162	SF4	s7	201	126	0,12,12	-	-	-	-	-
153	CDL	A1	101	-	65,65,99	0.36	0	71,77,111	0.33	0
153	CDL	Qi	202	-	70,70,99	0.35	0	76,82,111	0.35	0
152	PC1	QB	602	-	43,43,53	0.32	0	49,51,61	0.29	0
157	FES	S1	803	120	0,4,4	-	-	-	-	-
152	PC1	Qi	201	-	29,29,53	0.39	0	35,37,61	0.41	0
152	PC1	n	303	-	35,35,53	0.35	0	41,43,61	0.32	0
152	PC1	N	302	-	31,31,53	0.36	0	37,39,61	0.32	0
152	PC1	w	201	-	48,48,53	0.30	0	54,56,61	0.29	0
151	HEC	2e	401	2	32,50,50	2.04	4 (12%)	24,82,82	2.40	13 (54%)
157	FES	FX	201	95	0,4,4	-	-	-	-	-
153	CDL	BM	301	-	85,85,99	0.32	0	91,97,111	0.30	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
153	CDL	M	306	-	63,63,99	0.36	0	69,75,111	0.32	0
153	CDL	U1	101	-	56,56,99	0.38	0	62,68,111	0.31	0
152	PC1	W	204	-	33,33,53	0.36	0	39,41,61	0.34	0
153	CDL	2G	203	-	54,54,99	0.39	0	60,66,111	0.36	0
152	PC1	Qb	602	-	42,42,53	0.32	0	48,50,61	0.30	0
153	CDL	c1	709	-	62,62,99	0.37	0	68,74,111	0.39	0
164	U10	Qc	507	-	29,29,63	2.68	11 (37%)	35,38,79	1.53	7 (20%)
162	SF4	s1	801	120	0,12,12	-	-	-	-	-
152	PC1	m1	401	-	53,53,53	0.29	0	59,61,61	0.28	0
153	CDL	u	201	-	59,59,99	0.38	0	65,71,111	0.32	0
158	3PE	AN	305	-	32,32,50	0.37	0	35,37,55	0.34	0
153	CDL	b3	101	-	57,57,99	0.38	0	63,69,111	0.32	0
152	PC1	qE	304	-	27,27,53	0.39	0	33,35,61	0.43	0
153	CDL	A9	403	-	86,86,99	0.32	0	92,98,111	0.27	0
151	HEC	Qd	401	111	32,50,50	2.03	4 (12%)	24,82,82	2.27	14 (58%)
153	CDL	t	203	-	70,70,99	0.35	0	76,82,111	0.32	0
153	CDL	m	303	-	82,82,99	0.33	0	88,94,111	0.30	0
152	PC1	N6	301	-	53,53,53	0.29	0	59,61,61	0.29	0
158	3PE	t8	601	-	46,46,50	0.33	0	49,51,55	0.40	0
153	CDL	P1	402	-	62,62,99	0.37	0	68,74,111	0.31	0
152	PC1	F	401	-	37,37,53	0.34	0	43,45,61	0.28	0
153	CDL	M	301	-	65,65,99	0.36	0	71,77,111	0.31	0
153	CDL	6c	201	-	74,74,99	0.34	0	80,86,111	0.32	0
153	CDL	C	301	-	63,63,99	0.37	0	69,75,111	0.43	0
153	CDL	B	501	-	61,61,99	0.37	0	67,73,111	0.32	0
151	HEC	qd	401	111	32,50,50	2.03	4 (12%)	24,82,82	2.28	14 (58%)
153	CDL	TH	200	-	83,83,99	0.32	0	89,95,111	0.28	0
152	PC1	qE	303	-	38,38,53	0.34	0	44,46,61	0.32	0
152	PC1	2F	302	-	41,41,53	0.33	0	47,49,61	0.40	0
153	CDL	i	302	-	74,74,99	0.34	0	80,86,111	0.29	0
158	3PE	sc	101	-	39,39,50	0.34	0	42,44,55	0.31	0
157	FES	s1	803	120	0,4,4	-	-	-	-	-
158	3PE	an	306	-	28,28,50	0.40	0	31,33,55	0.42	0
152	PC1	2f	301	-	46,46,53	0.32	0	52,54,61	0.50	0
153	CDL	SD	101	-	75,75,99	0.34	0	81,87,111	0.31	0
153	CDL	VB	706	-	66,66,99	0.36	0	72,78,111	0.30	0
152	PC1	qG	401	-	31,31,53	0.37	0	37,39,61	0.40	0
153	CDL	6C	202	-	74,74,99	0.34	0	80,86,111	0.32	0
153	CDL	M2	401	-	53,53,99	0.39	0	59,65,111	0.40	0
153	CDL	m3	403	-	54,54,99	0.39	0	60,66,111	0.38	0
152	PC1	N	301	-	40,40,53	0.33	0	46,48,61	0.29	0
152	PC1	N5	801	-	51,51,53	0.30	0	57,59,61	0.29	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
153	CDL	7A	201	-	99,99,99	0.30	0	105,111,111	0.28	0
152	PC1	2f	302	-	41,41,53	0.33	0	47,49,61	0.40	0
158	3PE	SC	101	-	39,39,50	0.34	0	42,44,55	0.30	0
153	CDL	n6	302	-	89,89,99	0.32	0	95,101,111	0.36	0
153	CDL	VB	701	-	61,61,99	0.37	0	67,73,111	0.32	0
153	CDL	6c	202	-	81,81,99	0.32	0	87,93,111	0.30	0
152	PC1	A	503	-	40,40,53	0.34	0	46,48,61	0.35	0
152	PC1	T1	602	-	32,32,53	0.36	0	38,40,61	0.34	0
152	PC1	T4	301	-	47,47,53	0.31	0	53,55,61	0.36	0
158	3PE	c4	402	-	50,50,50	0.30	0	53,55,55	0.31	0
162	SF4	S1	802	120	0,12,12	-	-	-	-	-
152	PC1	c3	603	-	30,30,53	0.37	0	36,38,61	0.34	0
153	CDL	E	401	-	59,59,99	0.37	0	65,71,111	0.34	0
153	CDL	c	301	-	63,63,99	0.37	0	69,75,111	0.43	0
152	PC1	p1	401	-	39,39,53	0.33	0	45,47,61	0.30	0
153	CDL	FS	204	-	46,46,99	0.42	0	52,58,111	0.35	0
153	CDL	Q	201	-	62,62,99	0.37	0	68,74,111	0.38	0
152	PC1	V	202	-	48,48,53	0.31	0	54,56,61	0.32	0
158	3PE	n5	802	-	35,35,50	0.36	0	38,40,55	0.31	0
158	3PE	n4	601	-	35,35,50	0.35	0	38,40,55	0.36	0
152	PC1	M1	401	-	53,53,53	0.29	0	59,61,61	0.28	0
160	PX2	Qh	201	-	35,35,35	0.98	4 (11%)	39,40,40	1.02	2 (5%)
152	PC1	C3	605	-	38,38,53	0.33	0	44,46,61	0.32	0
152	PC1	al	302	-	25,25,53	0.40	0	31,33,61	0.37	0
152	PC1	M2	407	-	45,45,53	0.32	0	51,53,61	0.37	0
158	3PE	AN	303	-	44,44,50	0.32	0	47,49,55	0.29	0
152	PC1	C3	602	-	38,38,53	0.34	0	44,46,61	0.30	0
153	CDL	al	301	-	52,52,99	0.40	0	58,64,111	0.33	0
153	CDL	td	101	-	65,65,99	0.36	0	71,77,111	0.33	0
163	F3S	SB	403	53	0,9,9	-	-	-	-	-
153	CDL	7C	302	-	50,50,99	0.40	0	56,62,111	0.35	0
153	CDL	m2	404	-	73,73,99	0.35	0	79,85,111	0.34	0
152	PC1	C4	403	-	40,40,53	0.33	0	46,48,61	0.30	0
152	PC1	n1	301	-	35,35,53	0.35	0	41,43,61	0.33	0
152	PC1	t1	602	-	32,32,53	0.36	0	38,40,61	0.34	0
163	F3S	sb	403	53	0,9,9	-	-	-	-	-
152	PC1	am	202	-	38,38,53	0.33	0	44,46,61	0.32	0
151	HEC	QD	401	111	32,50,50	2.02	4 (12%)	24,82,82	2.30	14 (58%)
153	CDL	bm	301	-	85,85,99	0.32	0	91,97,111	0.30	0
153	CDL	am	201	-	55,55,99	0.39	0	61,67,111	0.33	0
152	PC1	qC	505	-	37,37,53	0.34	0	43,45,61	0.29	0
153	CDL	C1	712	-	94,94,99	0.31	0	100,106,111	0.32	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
153	CDL	5B	201	-	80,80,99	0.34	0	86,92,111	0.33	0
162	SF4	sb	402	53	0,12,12	-	-	-		
153	CDL	u1	101	-	56,56,99	0.38	0	62,68,111	0.31	0
152	PC1	M	302	-	35,35,53	0.35	0	41,43,61	0.33	0
152	PC1	c3	601	-	51,51,53	0.30	0	57,59,61	0.34	0
152	PC1	m	307	-	35,35,53	0.35	0	41,43,61	0.33	0
153	CDL	N	304	-	83,83,99	0.33	0	89,95,111	0.32	0
158	3PE	T8	602	-	38,38,50	0.34	0	41,43,55	0.36	0
154	HEA	c1	708	29	57,67,67	2.02	18 (31%)	61,103,103	2.76	26 (42%)
160	PX2	qh	201	-	35,35,35	0.98	4 (11%)	39,40,40	0.99	2 (5%)
152	PC1	m2	402	-	31,31,53	0.36	0	37,39,61	0.38	0
152	PC1	C3	606	-	48,48,53	0.31	0	54,56,61	0.35	0
153	CDL	t5	301	-	95,95,99	0.31	0	101,107,111	0.31	0
151	HEC	qD	401	111	32,50,50	2.03	4 (12%)	24,82,82	2.31	14 (58%)
152	PC1	c1	704	-	48,48,53	0.31	0	54,56,61	0.27	0
153	CDL	qg	402	-	99,99,99	0.30	0	105,111,111	0.30	0
153	CDL	J	301	-	69,69,99	0.35	0	75,81,111	0.29	0
158	3PE	I	304	-	31,31,50	0.37	0	34,36,55	0.32	0
153	CDL	2G	204	-	62,62,99	0.37	0	68,74,111	0.32	0
152	PC1	N3	201	-	30,30,53	0.37	0	36,38,61	0.36	0
166	HEM	y5	203	-	41,50,50	1.21	4 (9%)	45,82,82	1.70	7 (15%)
152	PC1	J1	400	-	39,39,53	0.33	0	45,47,61	0.33	0
152	PC1	i	304	-	38,38,53	0.34	0	44,46,61	0.32	0
153	CDL	M3	403	-	54,54,99	0.39	0	60,66,111	0.38	0
158	3PE	A3	202	-	43,43,50	0.32	0	46,48,55	0.29	0
158	3PE	Y5	202	-	27,27,50	0.40	0	30,32,55	0.34	0
153	CDL	QD	402	-	60,60,99	0.37	0	66,72,111	0.31	0
158	3PE	N4	601	-	35,35,50	0.35	0	38,40,55	0.36	0
158	3PE	T8	601	-	46,46,50	0.33	0	49,51,55	0.40	0
152	PC1	N	303	-	35,35,53	0.34	0	41,43,61	0.33	0
153	CDL	p1	403	-	57,57,99	0.39	0	63,69,111	0.40	0
153	CDL	th	200	-	83,83,99	0.32	0	89,95,111	0.28	0
152	PC1	AM	202	-	38,38,53	0.34	0	44,46,61	0.31	0
158	3PE	a3	201	-	44,44,50	0.33	0	47,49,55	0.55	1 (2%)
152	PC1	d	501	-	34,34,53	0.36	0	40,42,61	0.38	0
153	CDL	q	201	-	62,62,99	0.37	0	68,74,111	0.38	0
152	PC1	P1	401	-	39,39,53	0.33	0	45,47,61	0.30	0
153	CDL	b4	201	-	36,36,99	0.43	0	42,48,111	0.40	0
152	PC1	qg	401	-	31,31,53	0.36	0	37,39,61	0.33	0
160	PX2	y5	204	-	20,20,35	1.28	4 (20%)	24,25,40	1.26	2 (8%)
152	PC1	M1	403	-	41,41,53	0.33	0	47,49,61	0.38	0
152	PC1	n	302	-	31,31,53	0.36	0	37,39,61	0.32	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
153	CDL	5b	201	-	80,80,99	0.34	0	86,92,111	0.33	0
158	3PE	t8	602	-	38,38,50	0.34	0	41,43,55	0.36	0
153	CDL	M	304	-	63,63,99	0.37	0	69,75,111	0.31	0
152	PC1	qe	301	-	32,32,53	0.36	0	38,40,61	0.34	0
152	PC1	2j	201	-	41,41,53	0.33	0	47,49,61	0.36	0
158	3PE	W	203	-	33,33,50	0.36	0	36,38,55	0.31	0
153	CDL	qD	402	-	60,60,99	0.37	0	66,72,111	0.31	0
152	PC1	qC	507	-	49,49,53	0.30	0	55,57,61	0.30	0
164	U10	b8	301	-	63,63,63	2.15	21 (33%)	76,79,79	1.68	21 (27%)
153	CDL	a	505	-	81,81,99	0.33	0	87,93,111	0.29	0
153	CDL	b	501	-	61,61,99	0.37	0	67,73,111	0.32	0
162	SF4	S1	801	120	0,12,12	-	-	-	-	-
152	PC1	qc	506	-	37,37,53	0.34	0	43,45,61	0.31	0
153	CDL	Qc	508	-	46,46,99	0.42	0	52,58,111	0.42	0
152	PC1	qi	201	-	29,29,53	0.39	0	35,37,61	0.41	0
153	CDL	qH	201	-	93,93,99	0.31	0	99,105,111	0.26	0
153	CDL	qc	508	-	46,46,99	0.42	0	52,58,111	0.42	0
152	PC1	t4	301	-	47,47,53	0.31	0	53,55,61	0.36	0
153	CDL	t7	201	-	72,72,99	0.35	0	78,84,111	0.29	0
153	CDL	AN	302	-	86,86,99	0.32	0	92,98,111	0.29	0
152	PC1	c3	606	-	48,48,53	0.31	0	54,56,61	0.35	0
152	PC1	c2	703	-	35,35,53	0.35	0	41,43,61	0.31	0
152	PC1	7C	303	-	42,42,53	0.32	0	48,50,61	0.32	0
158	3PE	AN	301	-	44,44,50	0.32	0	47,49,55	0.28	0
153	CDL	R	201	-	64,64,99	0.36	0	70,76,111	0.31	0
153	CDL	m	304	-	63,63,99	0.36	0	69,75,111	0.32	0
152	PC1	W	201	-	48,48,53	0.30	0	54,56,61	0.29	0
153	CDL	f	401	-	99,99,99	0.30	0	105,111,111	0.29	0
152	PC1	qj	101	-	35,35,53	0.35	0	41,43,61	0.32	0
167	NDP	A9	401	-	45,52,52	0.52	0	53,80,80	0.54	1 (1%)
166	HEM	Y5	203	-	41,50,50	1.21	4 (9%)	45,82,82	1.70	7 (15%)
158	3PE	w	203	-	33,33,50	0.36	0	36,38,55	0.31	0
152	PC1	2J	201	-	41,41,53	0.33	0	47,49,61	0.36	0
152	PC1	qJ	101	-	37,37,53	0.34	0	43,45,61	0.36	0
152	PC1	qb	602	-	42,42,53	0.32	0	48,50,61	0.30	0
153	CDL	a	504	-	93,93,99	0.31	0	99,105,111	0.27	0
152	PC1	N1	301	-	35,35,53	0.35	0	41,43,61	0.33	0
153	CDL	6A	201	-	73,73,99	0.35	0	79,85,111	0.41	0
153	CDL	C3	604	-	67,67,99	0.36	0	73,79,111	0.31	0
152	PC1	m	305	-	34,34,53	0.35	0	40,42,61	0.33	0
152	PC1	w	204	-	33,33,53	0.36	0	39,41,61	0.34	0
166	HEM	Qc	502	110	41,50,50	1.22	4 (9%)	45,82,82	1.67	8 (17%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
153	CDL	7a	201	-	99,99,99	0.30	0	105,111,111	0.28	0
153	CDL	m2	401	-	53,53,99	0.39	0	59,65,111	0.40	0
152	PC1	AL	302	-	25,25,53	0.40	0	31,33,61	0.37	0
153	CDL	e	403	-	62,62,99	0.37	0	68,74,111	0.30	0
153	CDL	i	301	-	76,76,99	0.33	0	82,88,111	0.31	0
153	CDL	Y5	201	-	69,69,99	0.35	0	75,81,111	0.30	0
152	PC1	b9	201	-	33,33,53	0.38	0	39,41,61	0.52	0
152	PC1	qi	203	-	41,41,53	0.33	0	47,49,61	0.35	0
153	CDL	Qc	504	-	63,63,99	0.37	0	69,75,111	0.34	0
164	U10	sc	102	-	63,63,63	2.18	21 (33%)	76,79,79	1.64	20 (26%)
152	PC1	QJ	101	-	27,27,53	0.39	0	33,35,61	0.43	0
153	CDL	qc	504	-	63,63,99	0.37	0	69,75,111	0.34	0
153	CDL	Z	101	-	66,66,99	0.36	0	72,78,111	0.30	0
153	CDL	m1	402	-	65,65,99	0.36	0	71,77,111	0.31	0
158	3PE	vb	705	-	27,27,50	0.39	0	30,32,55	0.34	0
162	SF4	S7	201	126	0,12,12	-	-	-	-	-
152	PC1	W	205	-	42,42,53	0.32	0	48,50,61	0.29	0
152	PC1	N5	804	-	38,38,53	0.33	0	44,46,61	0.32	0
153	CDL	B4	201	-	36,36,99	0.43	0	42,48,111	0.40	0
153	CDL	j	301	-	69,69,99	0.35	0	75,81,111	0.29	0
153	CDL	QI	203	-	70,70,99	0.35	0	76,82,111	0.30	0
153	CDL	T7	201	-	72,72,99	0.34	0	78,84,111	0.29	0
152	PC1	s8	301	-	29,29,53	0.38	0	35,37,61	0.33	0
153	CDL	2g	201	-	88,88,99	0.32	0	94,100,111	0.28	0
153	CDL	I	303	-	74,74,99	0.34	0	80,86,111	0.29	0
153	CDL	U	201	-	59,59,99	0.38	0	65,71,111	0.32	0
157	FES	FS	203	35	0,4,4	-	-	-	-	-
153	CDL	B3	101	-	57,57,99	0.38	0	63,69,111	0.32	0
158	3PE	y5	202	-	27,27,50	0.40	0	30,32,55	0.34	0
160	PX2	r	202	-	32,32,35	1.02	4 (12%)	36,37,40	0.98	2 (5%)
158	3PE	S8	304	-	40,40,50	0.33	0	43,45,55	0.31	0
152	PC1	QC	505	-	37,37,53	0.34	0	43,45,61	0.29	0
169	T7X	B6	201	-	55,55,61	1.51	5 (9%)	64,67,73	1.08	4 (6%)
152	PC1	S8	301	-	29,29,53	0.38	0	35,37,61	0.33	0
152	PC1	N5	805	-	53,53,53	0.29	0	59,61,61	0.32	0
153	CDL	l	301	-	73,73,99	0.34	0	79,85,111	0.29	0
153	CDL	7c	302	-	50,50,99	0.40	0	56,62,111	0.35	0
153	CDL	7C	301	-	84,84,99	0.32	0	90,96,111	0.33	0
153	CDL	A	502	-	50,50,99	0.41	0	56,62,111	0.47	0
158	3PE	an	305	-	32,32,50	0.37	0	35,37,55	0.34	0
153	CDL	z	101	-	66,66,99	0.36	0	72,78,111	0.30	0
152	PC1	m	301	-	44,44,53	0.32	0	50,52,61	0.37	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
152	PC1	M2	402	-	31,31,53	0.36	0	37,39,61	0.38	0
152	PC1	Qi	203	-	41,41,53	0.33	0	47,49,61	0.35	0
157	FES	SB	401	53	0,4,4	-	-	-	-	-
153	CDL	M1	405	-	56,56,99	0.38	0	62,68,111	0.37	0
153	CDL	B3	102	-	81,81,99	0.33	0	87,93,111	0.29	0
153	CDL	Qc	505	-	55,55,99	0.38	0	61,67,111	0.36	0
158	3PE	s8	304	-	40,40,50	0.33	0	43,45,55	0.31	0
152	PC1	n5	805	-	53,53,53	0.29	0	59,61,61	0.32	0
153	CDL	n	304	-	83,83,99	0.33	0	89,95,111	0.32	0
153	CDL	qC	504	-	55,55,99	0.38	0	61,67,111	0.40	0
152	PC1	v	201	-	34,34,53	0.35	0	40,42,61	0.31	0
157	FES	sb	401	53	0,4,4	-	-	-	-	-
152	PC1	7a	202	-	44,44,53	0.31	0	50,52,61	0.31	0
153	CDL	m	302	-	63,63,99	0.37	0	69,75,111	0.31	0
162	SF4	S8	302	127	0,12,12	-	-	-	-	-
166	HEM	qc	503	110	41,50,50	1.25	3 (7%)	45,82,82	1.70	10 (22%)
161	FAD	sa	701	-	53,58,58	0.48	0	68,89,89	0.52	2 (2%)
152	PC1	m2	405	-	53,53,53	0.30	0	59,61,61	0.26	0
153	CDL	C1	701	-	78,78,99	0.33	0	84,90,111	0.32	0
153	CDL	QH	201	-	93,93,99	0.31	0	99,105,111	0.26	0
153	CDL	c1	703	-	64,64,99	0.36	0	70,76,111	0.31	0
153	CDL	7A	203	-	61,61,99	0.37	0	67,73,111	0.34	0
153	CDL	qb	601	-	67,67,99	0.36	0	73,79,111	0.30	0
152	PC1	I	301	-	38,38,53	0.34	0	44,46,61	0.32	0
153	CDL	T1	601	-	54,54,99	0.39	0	60,66,111	0.36	0
170	ADP	B9	202	-	24,29,29	0.94	1 (4%)	29,45,45	1.46	4 (13%)
152	PC1	QJ	102	-	37,37,53	0.34	0	43,45,61	0.36	0
153	CDL	QC	504	-	55,55,99	0.38	0	61,67,111	0.40	0
160	PX2	Y5	204	-	20,20,35	1.28	4 (20%)	24,25,40	1.25	2 (8%)
152	PC1	D	501	-	34,34,53	0.36	0	40,42,61	0.38	0
153	CDL	2g	204	-	62,62,99	0.37	0	68,74,111	0.32	0
152	PC1	qe	303	-	42,42,53	0.33	0	48,50,61	0.44	0
157	FES	v2	300	147	0,4,4	-	-	-	-	-
153	CDL	M3	401	-	62,62,99	0.37	0	68,74,111	0.32	0
153	CDL	y5	201	-	69,69,99	0.35	0	75,81,111	0.30	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
153	CDL	7c	301	-	-	22/95/95/110	-
152	PC1	n5	804	-	-	12/42/42/57	-
153	CDL	2K	101	-	-	32/108/108/110	-
157	FES	qE	302	-	-	-	0/1/1/1
153	CDL	2g	203	-	-	11/65/65/110	-
153	CDL	2G	201	-	-	19/99/99/110	-
153	CDL	w	202	-	-	16/94/94/110	-
153	CDL	AL	301	-	-	16/63/63/110	-
153	CDL	M2	404	-	-	11/84/84/110	-
152	PC1	qI	202	-	-	5/46/46/57	-
166	HEM	Qc	503	110	-	7/12/54/54	-
152	PC1	QG	401	-	-	6/35/35/57	-
166	HEM	QC	501	110	-	5/12/54/54	-
152	PC1	qE	301	-	-	8/26/26/57	-
153	CDL	QG	402	-	-	17/96/96/110	-
152	PC1	fs	204	-	-	6/43/43/57	-
152	PC1	C3	603	-	-	8/34/34/57	-
162	SF4	s8	303	127	-	-	0/6/5/5
153	CDL	2B	201	-	-	17/97/97/110	-
171	FMN	v1	501	-	-	2/18/18/18	0/3/3/3
158	3PE	an	303	-	-	8/48/48/54	-
152	PC1	C1	710	-	-	7/41/41/57	-
158	3PE	M2	408	-	-	9/34/34/54	-
152	PC1	qC	508	-	-	10/39/39/57	-
152	PC1	Qc	506	-	-	15/41/41/57	-
153	CDL	C1	708	-	-	25/73/73/110	-
158	3PE	G2	301	-	-	15/54/54/54	-
152	PC1	an	304	-	-	9/39/39/57	-
152	PC1	QE	303	-	-	2/42/42/57	-
166	HEM	qC	501	110	-	5/12/54/54	-
161	FAD	SA	701	-	-	10/30/50/50	0/6/6/6
158	3PE	M3	402	-	-	8/41/41/54	-
153	CDL	QB	601	-	-	12/78/78/110	-
152	PC1	c3	602	-	-	13/42/42/57	-
153	CDL	m	306	-	-	15/76/76/110	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
168	ZMP	ab	201	80	-	21/43/43/43	-
153	CDL	t	201	-	-	13/69/69/110	-
152	PC1	2F	301	-	-	21/50/50/57	-
153	CDL	2m	101	-	-	17/106/106/110	-
153	CDL	qi	202	-	-	14/81/81/110	-
170	ADP	b9	202	-	-	4/12/32/32	0/3/3/3
152	PC1	n	301	-	-	5/44/44/57	-
153	CDL	t	202	-	-	14/85/85/110	-
153	CDL	c3	604	-	-	7/78/78/110	-
158	3PE	bm	302	-	-	8/33/33/54	-
159	P5S	M2	406	-	-	29/41/41/59	-
153	CDL	2o	101	-	-	19/60/60/110	-
166	HEM	qC	502	110	-	6/12/54/54	-
152	PC1	m1	403	-	-	7/45/45/57	-
153	CDL	te	101	-	-	20/63/63/110	-
158	3PE	C4	402	-	-	8/54/54/54	-
152	PC1	n3	201	-	-	4/34/34/57	-
152	PC1	AN	304	-	-	9/39/39/57	-
153	CDL	B8	302	-	-	11/79/79/110	-
153	CDL	Qg	402	-	-	23/110/110/110	-
152	PC1	m2	407	-	-	10/49/49/57	-
152	PC1	7c	303	-	-	7/46/46/57	-
152	PC1	6c	203	-	-	8/36/36/57	-
153	CDL	AM	201	-	-	12/66/66/110	-
152	PC1	2F	303	-	-	10/35/35/57	-
153	CDL	m3	401	-	-	8/73/73/110	-
153	CDL	b8	302	-	-	11/79/79/110	-
164	U10	QC	506	-	-	5/23/47/87	0/1/1/1
166	HEM	QC	502	110	-	6/12/54/54	-
152	PC1	V	201	-	-	4/38/38/57	-
152	PC1	2G	202	-	-	12/53/53/57	-
166	HEM	qc	502	110	-	2/12/54/54	-
152	PC1	Qe	303	-	-	12/46/46/57	-
152	PC1	qI	201	-	-	6/33/33/57	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
152	PC1	7A	202	-	-	13/48/48/57	-
162	SF4	SB	402	53	-	-	0/6/5/5
152	PC1	TE	102	-	-	10/35/35/57	-
152	PC1	C2	701	-	-	11/39/39/57	-
153	CDL	T	204	-	-	30/100/100/110	-
152	PC1	a	503	-	-	7/44/44/57	-
153	CDL	t1	601	-	-	12/65/65/110	-
152	PC1	2f	303	-	-	10/35/35/57	-
158	3PE	t4	302	-	-	4/28/28/54	-
152	PC1	M2	405	-	-	9/57/57/57	-
153	CDL	qG	402	-	-	18/96/96/110	-
153	CDL	vb	704	-	-	17/77/77/110	-
162	SF4	s1	802	120	-	-	0/6/5/5
153	CDL	6a	201	-	-	21/84/84/110	-
152	PC1	qc	509	-	-	11/50/50/57	-
152	PC1	M	307	-	-	10/38/38/57	-
153	CDL	qI	203	-	-	17/81/81/110	-
152	PC1	tc	102	-	-	15/50/50/57	-
152	PC1	c4	403	-	-	5/44/44/57	-
168	ZMP	AB	201	80	-	21/43/43/43	-
152	PC1	Qe	301	-	-	6/36/36/57	-
153	CDL	A	504	-	-	15/104/104/110	-
152	PC1	A	501	-	-	10/44/44/57	-
153	CDL	VB	703	-	-	17/96/96/110	-
152	PC1	6a	202	-	-	12/38/38/57	-
152	PC1	TC	101	-	-	7/45/45/57	-
153	CDL	Y7	501	-	-	14/75/75/110	-
157	FES	FS	202	35	-	-	0/1/1/1
153	CDL	A9	402	-	-	17/86/86/110	-
152	PC1	2g	202	-	-	12/53/53/57	-
152	PC1	f	402	-	-	9/41/41/57	-
153	CDL	A1	102	-	-	15/77/77/110	-
153	CDL	Qb	601	-	-	9/78/78/110	-
153	CDL	T	201	-	-	12/69/69/110	-
153	CDL	T	202	-	-	14/85/85/110	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
153	CDL	e	401	-	-	15/70/70/110	-
153	CDL	q	203	-	-	16/96/96/110	-
153	CDL	vb	701	-	-	15/72/72/110	-
153	CDL	2b	201	-	-	17/97/97/110	-
153	CDL	qc	505	-	-	17/66/66/110	-
152	PC1	t4	303	-	-	12/57/57/57	-
153	CDL	Q	202	-	-	20/82/82/110	-
153	CDL	C4	401	-	-	23/108/108/110	-
152	PC1	Qj	101	-	-	11/39/39/57	-
157	FES	QE	302	-	-	-	0/1/1/1
158	3PE	i	303	-	-	9/35/35/54	-
152	PC1	n6	301	-	-	13/57/57/57	-
152	PC1	n5	803	-	-	9/56/56/57	-
162	SF4	s8	302	127	-	-	0/6/5/5
153	CDL	M2	403	-	-	19/76/76/110	-
152	PC1	j	302	-	-	7/40/40/57	-
153	CDL	e	402	-	-	20/82/82/110	-
153	CDL	a1	101	-	-	14/77/77/110	-
153	CDL	c1	701	-	-	22/89/89/110	-
153	CDL	C1	707	-	-	8/75/75/110	-
157	FES	V2	300	147	-	-	0/1/1/1
154	HEA	C1	702	29	3/3/7/16	11/32/76/76	-
153	CDL	fs	203	-	-	11/57/57/110	-
153	CDL	b3	102	-	-	21/92/92/110	-
153	CDL	m1	404	-	-	17/101/101/110	-
152	PC1	Qc	509	-	-	11/50/50/57	-
153	CDL	c1	712	-	-	17/105/105/110	-
152	PC1	QE	301	-	-	8/26/26/57	-
164	U10	B8	301	-	-	12/63/87/87	0/1/1/1
152	PC1	QC	508	-	-	10/39/39/57	-
154	HEA	C1	703	29	3/3/7/16	13/32/76/76	-
151	HEC	2E	401	2	-	7/10/54/54	-
152	PC1	te	102	-	-	10/35/35/57	-
153	CDL	y7	501	-	-	13/75/75/110	-
153	CDL	a	502	-	-	17/61/61/110	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
153	CDL	P1	403	-	-	15/68/68/110	-
169	T7X	b6	201	-	-	25/50/74/80	0/1/1/1
152	PC1	C1	706	-	-	14/52/52/57	-
152	PC1	N5	803	-	-	9/56/56/57	-
162	SF4	V1	500	146	-	-	0/6/5/5
153	CDL	QC	503	-	-	9/74/74/110	-
152	PC1	n5	801	-	-	11/55/55/57	-
154	HEA	c1	702	29	3/3/7/16	10/32/76/76	-
153	CDL	F	402	-	-	19/110/110/110	-
162	SF4	v1	500	146	-	-	0/6/5/5
157	FES	Qe	302	-	-	-	0/1/1/1
152	PC1	w	205	-	-	6/46/46/57	-
167	NDP	a9	401	-	-	8/30/77/77	0/5/5/5
153	CDL	qC	503	-	-	9/74/74/110	-
153	CDL	T	203	-	-	23/81/81/110	-
158	3PE	m3	402	-	-	8/41/41/54	-
152	PC1	v	202	-	-	13/52/52/57	-
153	CDL	6C	203	-	-	16/92/92/110	-
160	PX2	R	202	-	-	19/34/34/37	-
158	3PE	N5	802	-	-	7/39/39/54	-
153	CDL	VB	705	-	-	20/92/92/110	-
164	U10	Qc	501	-	-	9/28/28/87	-
153	CDL	L	301	-	-	24/84/84/110	-
157	FES	fs	202	35	-	-	0/1/1/1
152	PC1	FS	201	-	-	6/43/43/57	-
152	PC1	C1	711	-	-	12/42/42/57	-
153	CDL	m2	403	-	-	19/76/76/110	-
153	CDL	n5	806	-	-	21/100/100/110	-
158	3PE	B4	202	-	-	11/51/51/54	-
153	CDL	r	201	-	-	25/75/75/110	-
164	U10	qc	501	-	-	9/28/28/87	-
158	3PE	AN	306	-	-	6/32/32/54	-
153	CDL	m1	405	-	-	15/67/67/110	-
158	3PE	T4	302	-	-	4/28/28/54	-
153	CDL	T5	301	-	-	27/106/106/110	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
158	3PE	b4	202	-	-	11/51/51/54	-
152	PC1	Qg	401	-	-	7/35/35/57	-
153	CDL	an	302	-	-	18/97/97/110	-
153	CDL	qB	601	-	-	12/78/78/110	-
152	PC1	C3	601	-	-	10/55/55/57	-
171	FMN	V1	501	-	-	2/18/18/18	0/3/3/3
159	P5S	m2	406	-	-	29/41/41/59	-
153	CDL	7a	203	-	-	12/72/72/110	-
158	3PE	a3	202	-	-	12/47/47/54	-
153	CDL	a9	403	-	-	20/97/97/110	-
158	3PE	A3	201	-	-	12/48/48/54	-
158	3PE	ta	201	-	-	10/29/29/54	-
152	PC1	QI	201	-	-	6/33/33/57	-
152	PC1	M	303	-	-	15/48/48/57	-
153	CDL	I	302	-	-	17/87/87/110	-
157	FES	fx	201	95	-	-	0/1/1/1
153	CDL	p1	402	-	-	19/73/73/110	-
152	PC1	6A	202	-	-	12/38/38/57	-
153	CDL	M1	402	-	-	15/76/76/110	-
152	PC1	c1	706	-	-	8/48/48/57	-
152	PC1	tc	101	-	-	7/45/45/57	-
164	U10	SC	102	-	-	12/63/87/87	0/1/1/1
152	PC1	C1	709	-	-	8/48/48/57	-
157	FES	fs	201	35	-	-	0/1/1/1
152	PC1	QI	202	-	-	7/46/46/57	-
158	3PE	VB	707	-	-	10/31/31/54	-
152	PC1	c3	605	-	-	3/42/42/57	-
164	U10	qC	506	-	-	6/23/47/87	0/1/1/1
152	PC1	c1	707	-	-	7/41/41/57	-
153	CDL	2k	101	-	-	32/108/108/110	-
153	CDL	N6	302	-	-	18/100/100/110	-
152	PC1	5b	202	-	-	12/50/50/57	-
153	CDL	q	202	-	-	20/82/82/110	-
152	PC1	QC	507	-	-	12/53/53/57	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
153	CDL	t	204	-	-	30/100/100/110	-
153	CDL	a9	402	-	-	17/86/86/110	-
153	CDL	E	402	-	-	20/82/82/110	-
152	PC1	c1	711	-	-	12/42/42/57	-
152	PC1	TC	102	-	-	15/50/50/57	-
152	PC1	T4	303	-	-	12/57/57/57	-
158	3PE	TA	201	-	-	10/29/29/54	-
152	PC1	a	501	-	-	10/44/44/57	-
158	3PE	BM	302	-	-	8/33/33/54	-
152	PC1	6C	201	-	-	8/36/36/57	-
153	CDL	M1	404	-	-	17/101/101/110	-
153	CDL	E	403	-	-	13/73/73/110	-
152	PC1	J	302	-	-	7/40/40/57	-
153	CDL	2M	101	-	-	17/106/106/110	-
153	CDL	M	305	-	-	11/93/93/110	-
152	PC1	qB	602	-	-	6/47/47/57	-
158	3PE	m2	408	-	-	9/34/34/54	-
164	U10	qc	507	-	-	9/23/47/87	0/1/1/1
157	FES	qe	302	-	-	-	0/1/1/1
152	PC1	B9	201	-	-	13/37/37/57	-
158	3PE	an	301	-	-	6/48/48/54	-
153	CDL	N5	806	-	-	21/100/100/110	-
153	CDL	TE	101	-	-	18/63/63/110	-
158	3PE	g2	301	-	-	15/54/54/54	-
162	SF4	S8	303	127	-	-	0/6/5/5
153	CDL	c4	401	-	-	23/108/108/110	-
152	PC1	5B	202	-	-	12/50/50/57	-
153	CDL	2O	101	-	-	19/60/60/110	-
152	PC1	j1	400	-	-	10/43/43/57	-
153	CDL	W	202	-	-	17/94/94/110	-
153	CDL	sd	101	-	-	18/86/86/110	-
162	SF4	s7	201	126	-	-	0/6/5/5
153	CDL	A1	101	-	-	17/76/76/110	-
153	CDL	Qi	202	-	-	14/81/81/110	-
152	PC1	QB	602	-	-	6/47/47/57	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
157	FES	S1	803	120	-	-	0/1/1/1
152	PC1	Qi	201	-	-	8/33/33/57	-
152	PC1	n	303	-	-	7/39/39/57	-
152	PC1	N	302	-	-	10/35/35/57	-
152	PC1	w	201	-	-	16/52/52/57	-
151	HEC	2e	401	2	-	7/10/54/54	-
157	FES	FX	201	95	-	-	0/1/1/1
153	CDL	BM	301	-	-	24/96/96/110	-
153	CDL	M	306	-	-	12/74/74/110	-
153	CDL	U1	101	-	-	14/67/67/110	-
152	PC1	W	204	-	-	7/37/37/57	-
153	CDL	2G	203	-	-	11/65/65/110	-
152	PC1	Qb	602	-	-	8/46/46/57	-
153	CDL	c1	709	-	-	25/73/73/110	-
164	U10	Qc	507	-	-	9/23/47/87	0/1/1/1
162	SF4	s1	801	120	-	-	0/6/5/5
152	PC1	m1	401	-	-	14/57/57/57	-
153	CDL	u	201	-	-	12/70/70/110	-
158	3PE	AN	305	-	-	6/36/36/54	-
153	CDL	b3	101	-	-	14/68/68/110	-
152	PC1	qE	304	-	-	10/31/31/57	-
153	CDL	A9	403	-	-	20/97/97/110	-
151	HEC	Qd	401	111	-	4/10/54/54	-
153	CDL	t	203	-	-	23/81/81/110	-
153	CDL	m	303	-	-	11/93/93/110	-
152	PC1	N6	301	-	-	13/57/57/57	-
158	3PE	t8	601	-	-	12/50/50/54	-
153	CDL	P1	402	-	-	19/73/73/110	-
152	PC1	F	401	-	-	9/41/41/57	-
153	CDL	M	301	-	-	15/76/76/110	-
153	CDL	6c	201	-	-	29/85/85/110	-
153	CDL	C	301	-	-	14/74/74/110	-
153	CDL	B	501	-	-	16/72/72/110	-
151	HEC	qd	401	111	-	4/10/54/54	-
153	CDL	TH	200	-	-	17/94/94/110	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
152	PC1	qE	303	-	-	2/42/42/57	-
152	PC1	2F	302	-	-	8/45/45/57	-
153	CDL	i	302	-	-	14/85/85/110	-
158	3PE	sc	101	-	-	10/43/43/54	-
157	FES	s1	803	120	-	-	0/1/1/1
158	3PE	an	306	-	-	6/32/32/54	-
152	PC1	2f	301	-	-	21/50/50/57	-
153	CDL	SD	101	-	-	18/86/86/110	-
153	CDL	VB	706	-	-	16/77/77/110	-
152	PC1	qG	401	-	-	6/35/35/57	-
153	CDL	6C	202	-	-	29/85/85/110	-
153	CDL	M2	401	-	-	15/64/64/110	-
153	CDL	m3	403	-	-	14/65/65/110	-
152	PC1	N	301	-	-	5/44/44/57	-
152	PC1	N5	801	-	-	11/55/55/57	-
153	CDL	7A	201	-	-	16/110/110/110	-
152	PC1	2f	302	-	-	8/45/45/57	-
158	3PE	SC	101	-	-	10/43/43/54	-
153	CDL	n6	302	-	-	19/100/100/110	-
153	CDL	VB	701	-	-	15/72/72/110	-
153	CDL	6c	202	-	-	16/92/92/110	-
152	PC1	A	503	-	-	7/44/44/57	-
152	PC1	T1	602	-	-	13/36/36/57	-
152	PC1	T4	301	-	-	18/51/51/57	-
158	3PE	c4	402	-	-	8/54/54/54	-
162	SF4	S1	802	120	-	-	0/6/5/5
152	PC1	c3	603	-	-	8/34/34/57	-
153	CDL	E	401	-	-	15/70/70/110	-
153	CDL	c	301	-	-	13/74/74/110	-
152	PC1	p1	401	-	-	10/43/43/57	-
153	CDL	FS	204	-	-	10/57/57/110	-
153	CDL	Q	201	-	-	13/73/73/110	-
152	PC1	V	202	-	-	13/52/52/57	-
158	3PE	n5	802	-	-	9/39/39/54	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
158	3PE	n4	601	-	-	10/39/39/54	-
152	PC1	M1	401	-	-	14/57/57/57	-
160	PX2	Qh	201	-	-	21/37/37/37	-
152	PC1	C3	605	-	-	3/42/42/57	-
152	PC1	al	302	-	-	2/29/29/57	-
152	PC1	M2	407	-	-	10/49/49/57	-
158	3PE	AN	303	-	-	8/48/48/54	-
152	PC1	C3	602	-	-	13/42/42/57	-
153	CDL	al	301	-	-	16/63/63/110	-
153	CDL	td	101	-	-	18/76/76/110	-
163	F3S	SB	403	53	-	-	0/3/3/3
153	CDL	7C	302	-	-	11/61/61/110	-
153	CDL	m2	404	-	-	11/84/84/110	-
152	PC1	C4	403	-	-	5/44/44/57	-
152	PC1	n1	301	-	-	8/39/39/57	-
152	PC1	t1	602	-	-	13/36/36/57	-
163	F3S	sb	403	53	-	-	0/3/3/3
152	PC1	am	202	-	-	8/42/42/57	-
151	HEC	QD	401	111	-	4/10/54/54	-
153	CDL	bm	301	-	-	23/96/96/110	-
153	CDL	am	201	-	-	11/66/66/110	-
152	PC1	qC	505	-	-	12/41/41/57	-
153	CDL	C1	712	-	-	16/105/105/110	-
153	CDL	5B	201	-	-	18/91/91/110	-
162	SF4	sb	402	53	-	-	0/6/5/5
153	CDL	u1	101	-	-	14/67/67/110	-
152	PC1	M	302	-	-	12/39/39/57	-
152	PC1	c3	601	-	-	10/55/55/57	-
152	PC1	m	307	-	-	12/39/39/57	-
153	CDL	N	304	-	-	33/94/94/110	-
158	3PE	T8	602	-	-	11/42/42/54	-
154	HEA	c1	708	29	3/3/7/16	15/32/76/76	-
160	PX2	qh	201	-	-	17/37/37/37	-
152	PC1	m2	402	-	-	12/35/35/57	-
152	PC1	C3	606	-	-	7/52/52/57	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
153	CDL	t5	301	-	-	27/106/106/110	-
151	HEC	qD	401	111	-	4/10/54/54	-
152	PC1	c1	704	-	-	14/52/52/57	-
153	CDL	qg	402	-	-	23/110/110/110	-
153	CDL	J	301	-	-	16/80/80/110	-
158	3PE	I	304	-	-	9/35/35/54	-
153	CDL	2G	204	-	-	15/73/73/110	-
152	PC1	N3	201	-	-	4/34/34/57	-
166	HEM	y5	203	-	-	6/12/54/54	-
152	PC1	J1	400	-	-	10/43/43/57	-
152	PC1	i	304	-	-	10/42/42/57	-
153	CDL	M3	403	-	-	14/65/65/110	-
158	3PE	A3	202	-	-	11/47/47/54	-
158	3PE	Y5	202	-	-	8/31/31/54	-
153	CDL	QD	402	-	-	17/71/71/110	-
158	3PE	N4	601	-	-	9/39/39/54	-
158	3PE	T8	601	-	-	12/50/50/54	-
152	PC1	N	303	-	-	6/39/39/57	-
153	CDL	p1	403	-	-	15/68/68/110	-
153	CDL	th	200	-	-	17/94/94/110	-
152	PC1	AM	202	-	-	8/42/42/57	-
158	3PE	a3	201	-	-	13/48/48/54	-
152	PC1	d	501	-	-	15/38/38/57	-
153	CDL	q	201	-	-	13/73/73/110	-
152	PC1	P1	401	-	-	10/43/43/57	-
153	CDL	b4	201	-	-	9/44/44/110	-
152	PC1	qg	401	-	-	6/35/35/57	-
160	PX2	y5	204	-	-	12/22/22/37	-
152	PC1	M1	403	-	-	7/45/45/57	-
152	PC1	n	302	-	-	10/35/35/57	-
153	CDL	5b	201	-	-	18/91/91/110	-
158	3PE	t8	602	-	-	11/42/42/54	-
153	CDL	M	304	-	-	11/74/74/110	-
152	PC1	qe	301	-	-	6/36/36/57	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
152	PC1	2j	201	-	-	13/45/45/57	-
158	3PE	W	203	-	-	15/37/37/54	-
153	CDL	qD	402	-	-	17/71/71/110	-
152	PC1	qC	507	-	-	12/53/53/57	-
164	U10	b8	301	-	-	13/63/87/87	0/1/1/1
153	CDL	a	505	-	-	20/92/92/110	-
153	CDL	b	501	-	-	16/72/72/110	-
162	SF4	S1	801	120	-	-	0/6/5/5
152	PC1	qc	506	-	-	15/41/41/57	-
153	CDL	Qc	508	-	-	12/57/57/110	-
152	PC1	qi	201	-	-	8/33/33/57	-
153	CDL	qH	201	-	-	13/104/104/110	-
153	CDL	qc	508	-	-	12/57/57/110	-
152	PC1	t4	301	-	-	18/51/51/57	-
153	CDL	t7	201	-	-	16/83/83/110	-
153	CDL	AN	302	-	-	18/97/97/110	-
152	PC1	c3	606	-	-	7/52/52/57	-
152	PC1	c2	703	-	-	11/39/39/57	-
152	PC1	7C	303	-	-	7/46/46/57	-
158	3PE	AN	301	-	-	7/48/48/54	-
153	CDL	R	201	-	-	25/75/75/110	-
153	CDL	m	304	-	-	12/74/74/110	-
152	PC1	W	201	-	-	16/52/52/57	-
153	CDL	f	401	-	-	17/110/110/110	-
152	PC1	qj	101	-	-	11/39/39/57	-
167	NDP	A9	401	-	-	8/30/77/77	0/5/5/5
166	HEM	Y5	203	-	-	6/12/54/54	-
158	3PE	w	203	-	-	15/37/37/54	-
152	PC1	2J	201	-	-	13/45/45/57	-
152	PC1	qJ	101	-	-	13/41/41/57	-
152	PC1	qb	602	-	-	8/46/46/57	-
153	CDL	a	504	-	-	15/104/104/110	-
152	PC1	N1	301	-	-	8/39/39/57	-
153	CDL	6A	201	-	-	21/84/84/110	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
153	CDL	C3	604	-	-	6/78/78/110	-
152	PC1	m	305	-	-	10/38/38/57	-
152	PC1	w	204	-	-	7/37/37/57	-
166	HEM	Qc	502	110	-	2/12/54/54	-
153	CDL	7a	201	-	-	16/110/110/110	-
153	CDL	m2	401	-	-	15/64/64/110	-
152	PC1	AL	302	-	-	2/29/29/57	-
153	CDL	e	403	-	-	13/73/73/110	-
153	CDL	i	301	-	-	17/87/87/110	-
153	CDL	Y5	201	-	-	15/80/80/110	-
152	PC1	b9	201	-	-	13/37/37/57	-
152	PC1	qi	203	-	-	14/45/45/57	-
153	CDL	Qc	504	-	-	21/74/74/110	-
164	U10	sc	102	-	-	12/63/87/87	0/1/1/1
152	PC1	QJ	101	-	-	10/31/31/57	-
153	CDL	qc	504	-	-	21/74/74/110	-
153	CDL	Z	101	-	-	13/77/77/110	-
153	CDL	m1	402	-	-	15/76/76/110	-
158	3PE	vb	705	-	-	10/31/31/54	-
162	SF4	S7	201	126	-	-	0/6/5/5
152	PC1	W	205	-	-	6/46/46/57	-
152	PC1	N5	804	-	-	12/42/42/57	-
153	CDL	B4	201	-	-	9/44/44/110	-
153	CDL	j	301	-	-	16/80/80/110	-
153	CDL	QI	203	-	-	17/81/81/110	-
153	CDL	T7	201	-	-	17/83/83/110	-
152	PC1	s8	301	-	-	9/33/33/57	-
153	CDL	2g	201	-	-	19/99/99/110	-
153	CDL	I	303	-	-	14/85/85/110	-
153	CDL	U	201	-	-	12/70/70/110	-
157	FES	FS	203	35	-	-	0/1/1/1
153	CDL	B3	101	-	-	14/68/68/110	-
158	3PE	y5	202	-	-	8/31/31/54	-
160	PX2	r	202	-	-	23/34/34/37	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
158	3PE	S8	304	-	-	8/44/44/54	-
152	PC1	QC	505	-	-	12/41/41/57	-
169	T7X	B6	201	-	-	25/50/74/80	0/1/1/1
152	PC1	S8	301	-	-	9/33/33/57	-
152	PC1	N5	805	-	-	16/57/57/57	-
153	CDL	l	301	-	-	23/84/84/110	-
153	CDL	7c	302	-	-	11/61/61/110	-
153	CDL	7C	301	-	-	23/95/95/110	-
153	CDL	A	502	-	-	16/61/61/110	-
158	3PE	an	305	-	-	5/36/36/54	-
153	CDL	z	101	-	-	13/77/77/110	-
152	PC1	m	301	-	-	15/48/48/57	-
152	PC1	M2	402	-	-	12/35/35/57	-
152	PC1	Qi	203	-	-	14/45/45/57	-
157	FES	SB	401	53	-	-	0/1/1/1
153	CDL	M1	405	-	-	15/67/67/110	-
153	CDL	B3	102	-	-	19/92/92/110	-
153	CDL	Qc	505	-	-	17/66/66/110	-
158	3PE	s8	304	-	-	8/44/44/54	-
152	PC1	n5	805	-	-	16/57/57/57	-
153	CDL	n	304	-	-	33/94/94/110	-
153	CDL	qC	504	-	-	11/66/66/110	-
152	PC1	v	201	-	-	4/38/38/57	-
157	FES	sb	401	53	-	-	0/1/1/1
152	PC1	7a	202	-	-	13/48/48/57	-
153	CDL	m	302	-	-	11/74/74/110	-
162	SF4	S8	302	127	-	-	0/6/5/5
166	HEM	qc	503	110	-	7/12/54/54	-
161	FAD	sa	701	-	-	10/30/50/50	0/6/6/6
152	PC1	m2	405	-	-	9/57/57/57	-
153	CDL	C1	701	-	-	22/89/89/110	-
153	CDL	QH	201	-	-	13/104/104/110	-
153	CDL	c1	703	-	-	8/75/75/110	-
153	CDL	7A	203	-	-	12/72/72/110	-
153	CDL	qb	601	-	-	9/78/78/110	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
152	PC1	I	301	-	-	10/42/42/57	-
153	CDL	T1	601	-	-	12/65/65/110	-
170	ADP	B9	202	-	-	4/12/32/32	0/3/3/3
152	PC1	QJ	102	-	-	13/41/41/57	-
153	CDL	QC	504	-	-	11/66/66/110	-
160	PX2	Y5	204	-	-	13/22/22/37	-
152	PC1	D	501	-	-	15/38/38/57	-
153	CDL	2g	204	-	-	16/73/73/110	-
152	PC1	qe	303	-	-	13/46/46/57	-
157	FES	v2	300	147	-	-	0/1/1/1
153	CDL	M3	401	-	-	8/73/73/110	-
153	CDL	y5	201	-	-	15/80/80/110	-

The worst 5 of 312 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
164	sc	102	U10	C6-C1	10.31	1.54	1.35
164	SC	102	U10	C6-C1	10.29	1.54	1.35
164	qc	507	U10	C6-C1	10.17	1.53	1.35
164	Qc	507	U10	C6-C1	10.17	1.53	1.35
164	qC	506	U10	C6-C1	10.11	1.53	1.35

The worst 5 of 440 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
154	c1	702	HEA	CAD-CBD-CGD	-8.19	95.98	113.60
154	c1	708	HEA	CAD-CBD-CGD	-7.89	96.63	113.60
154	C1	702	HEA	CAD-CBD-CGD	-7.46	97.54	113.60
154	C1	703	HEA	CAD-CBD-CGD	-7.18	98.14	113.60
154	C1	703	HEA	C13-C12-C11	-6.58	104.46	114.35

5 of 12 chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
154	c1	702	HEA	ND
154	c1	702	HEA	NA
154	c1	702	HEA	NB
154	c1	708	HEA	ND
154	c1	708	HEA	NA

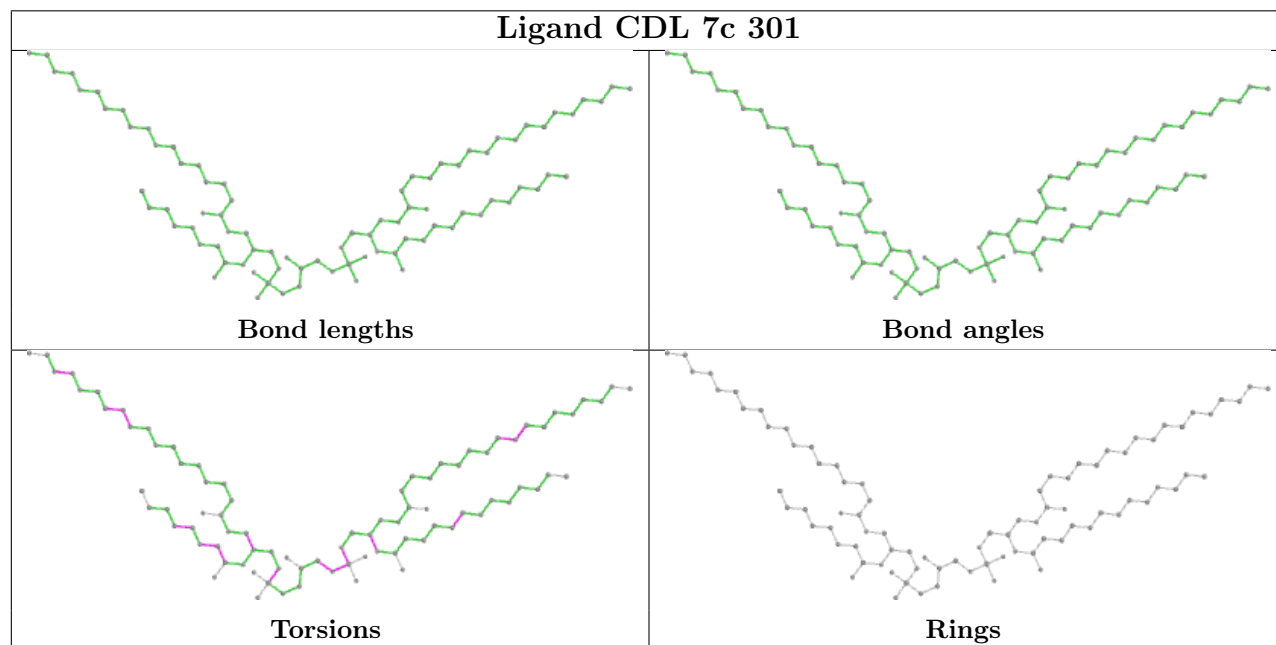
5 of 5906 torsion outliers are listed below:

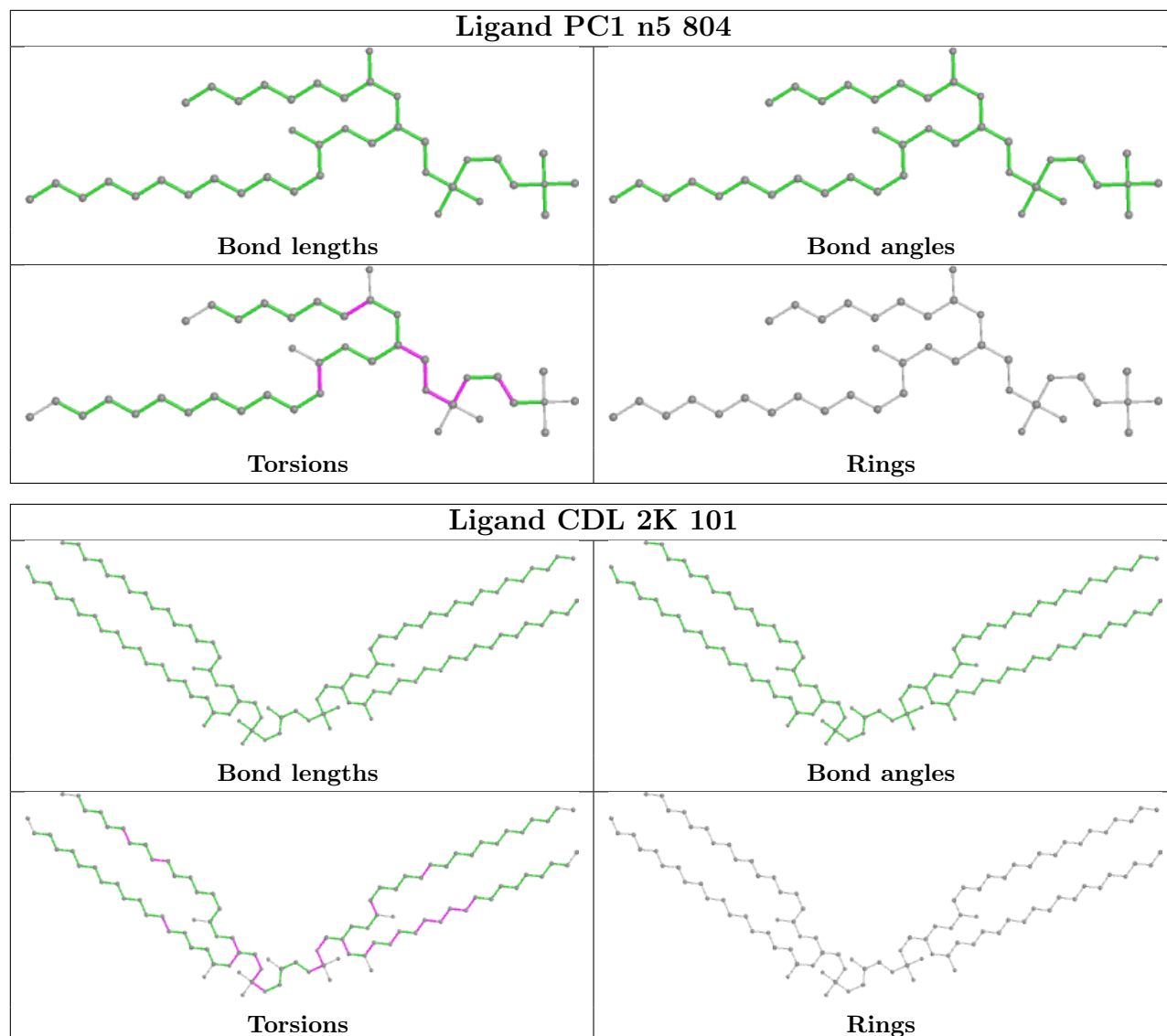
Mol	Chain	Res	Type	Atoms
151	2e	401	HEC	C2D-C3D-CAD-CBD
151	2e	401	HEC	C4D-C3D-CAD-CBD
151	2E	401	HEC	C2D-C3D-CAD-CBD
151	2E	401	HEC	C4D-C3D-CAD-CBD
152	2f	301	PC1	C11-O13-P-O14

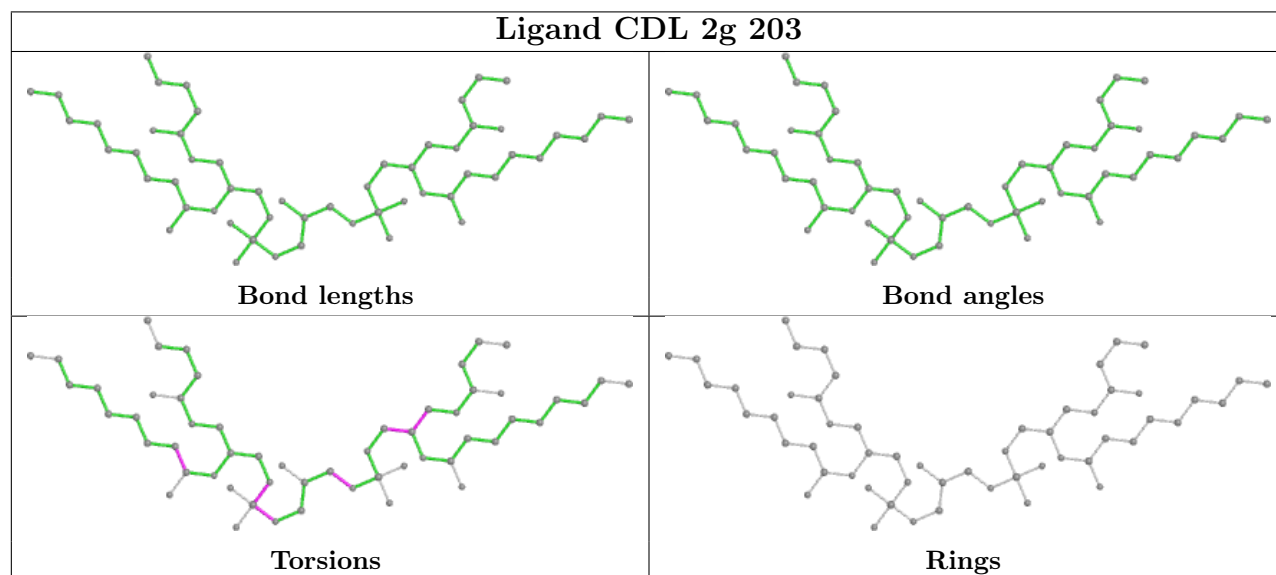
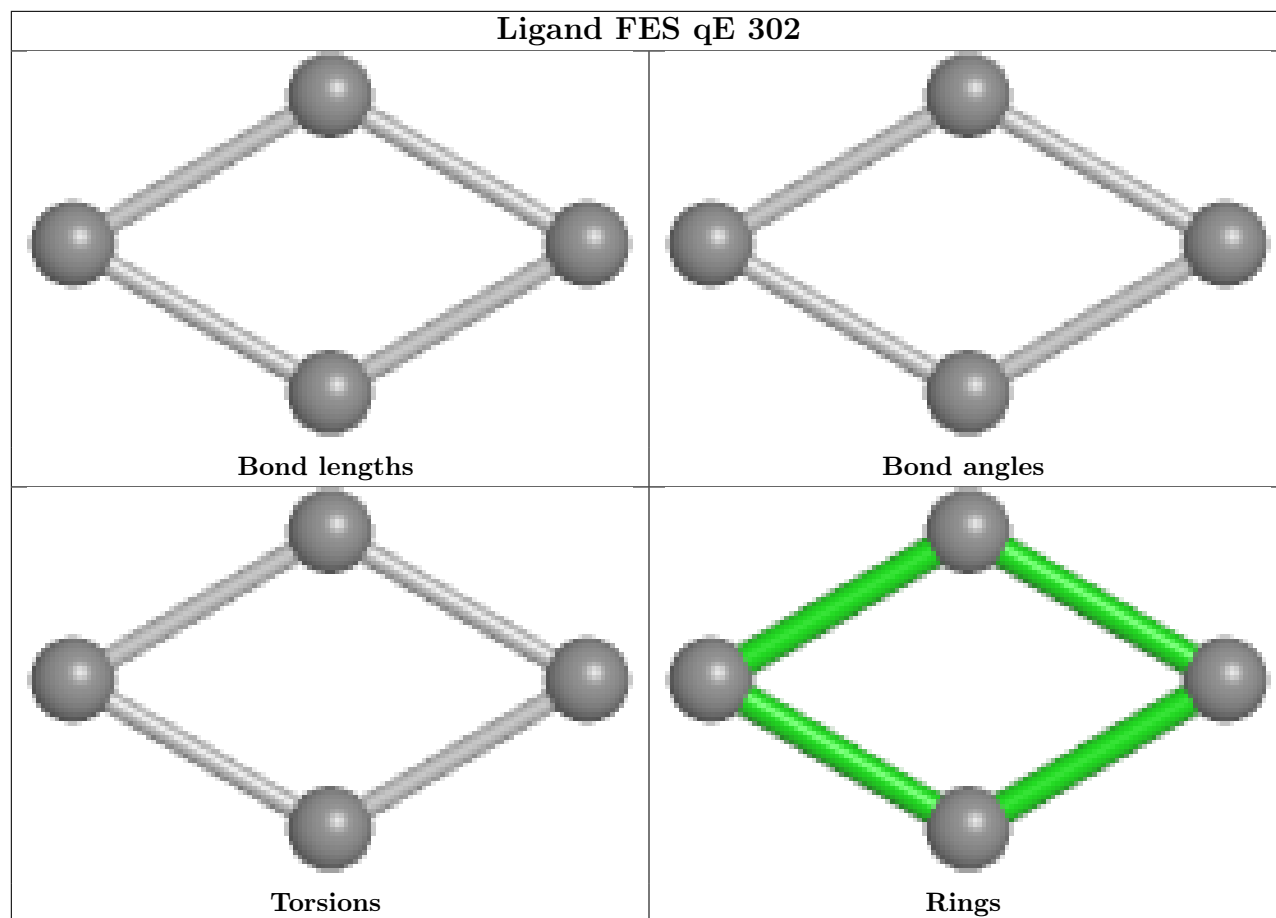
There are no ring outliers.

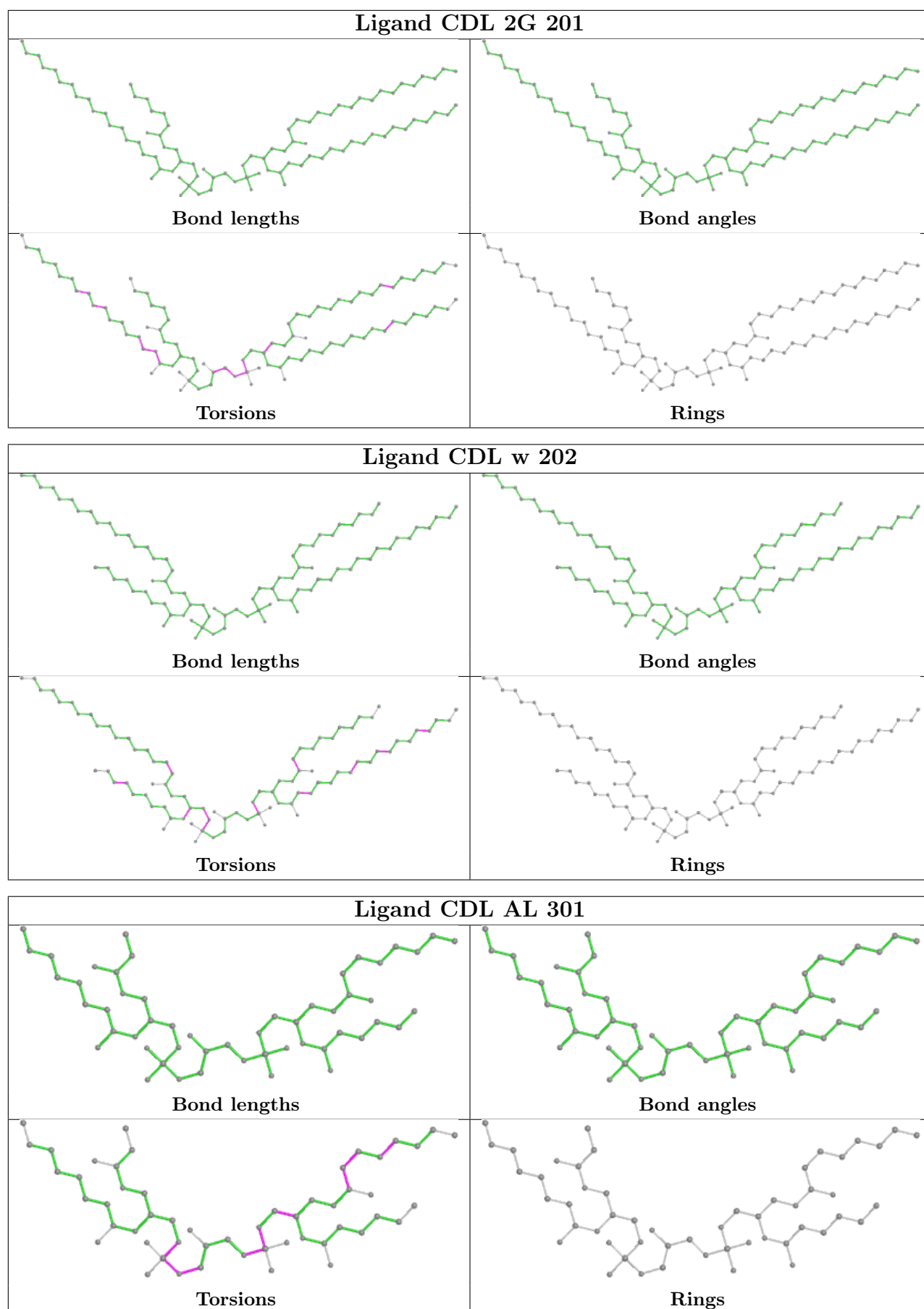
No monomer is involved in short contacts.

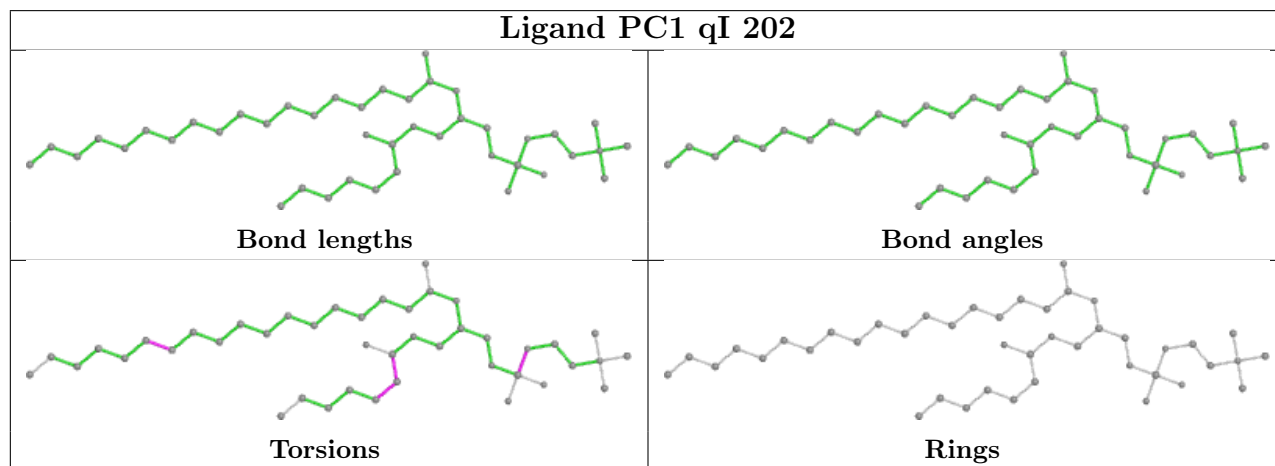
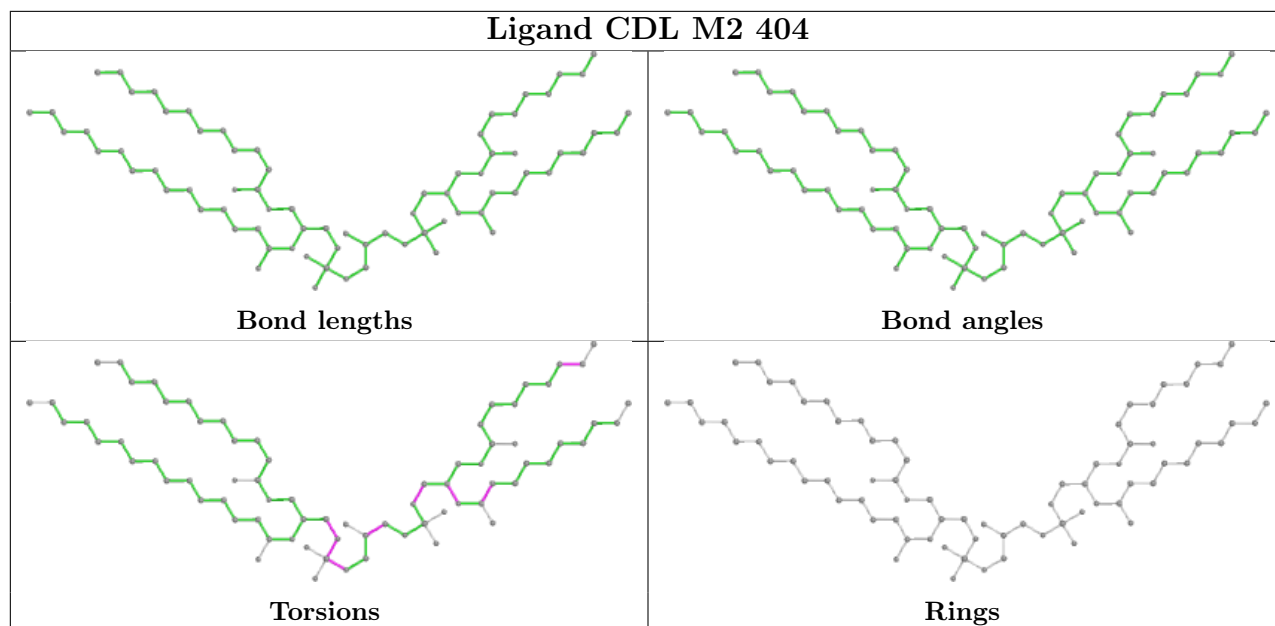
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

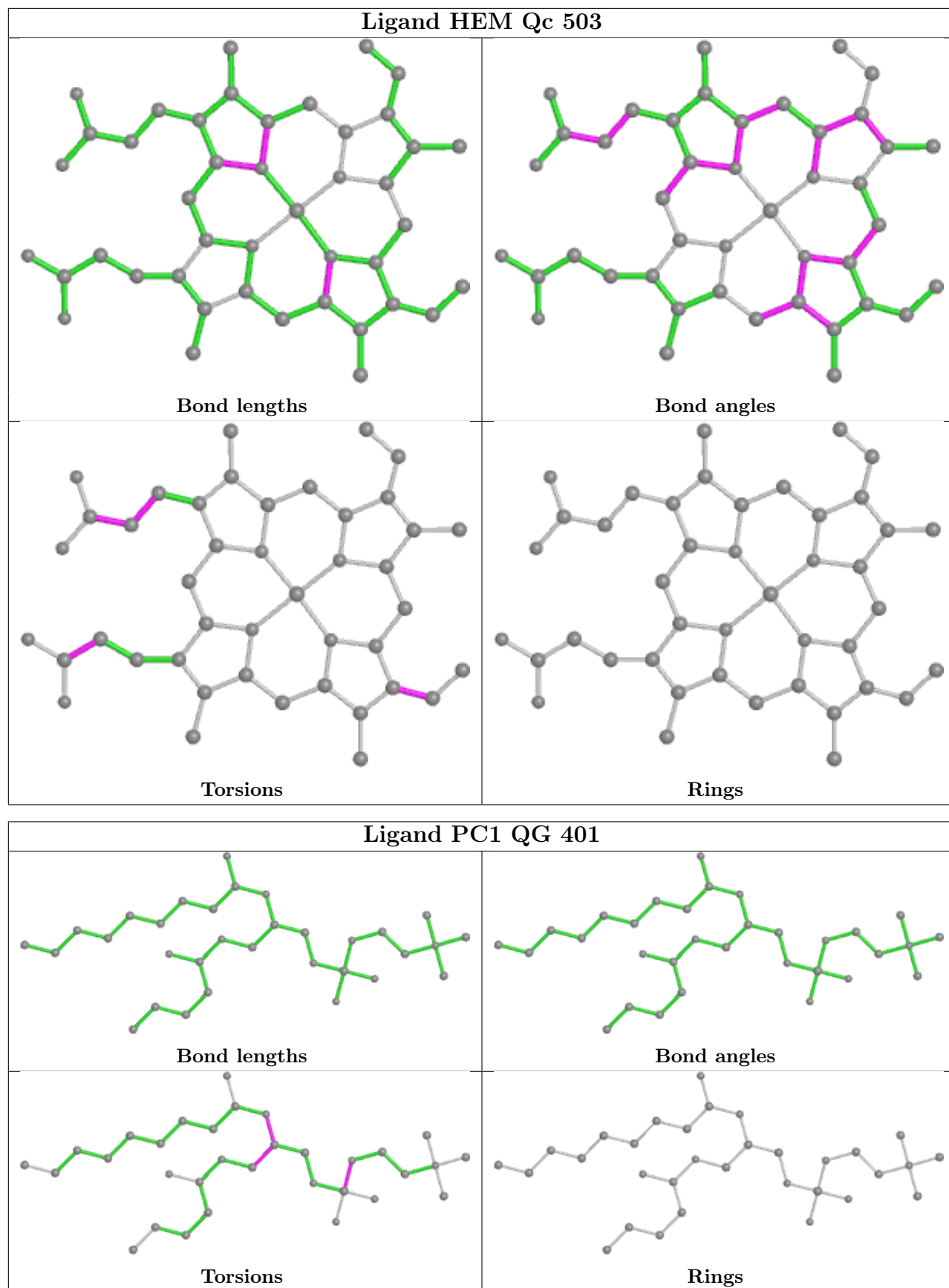


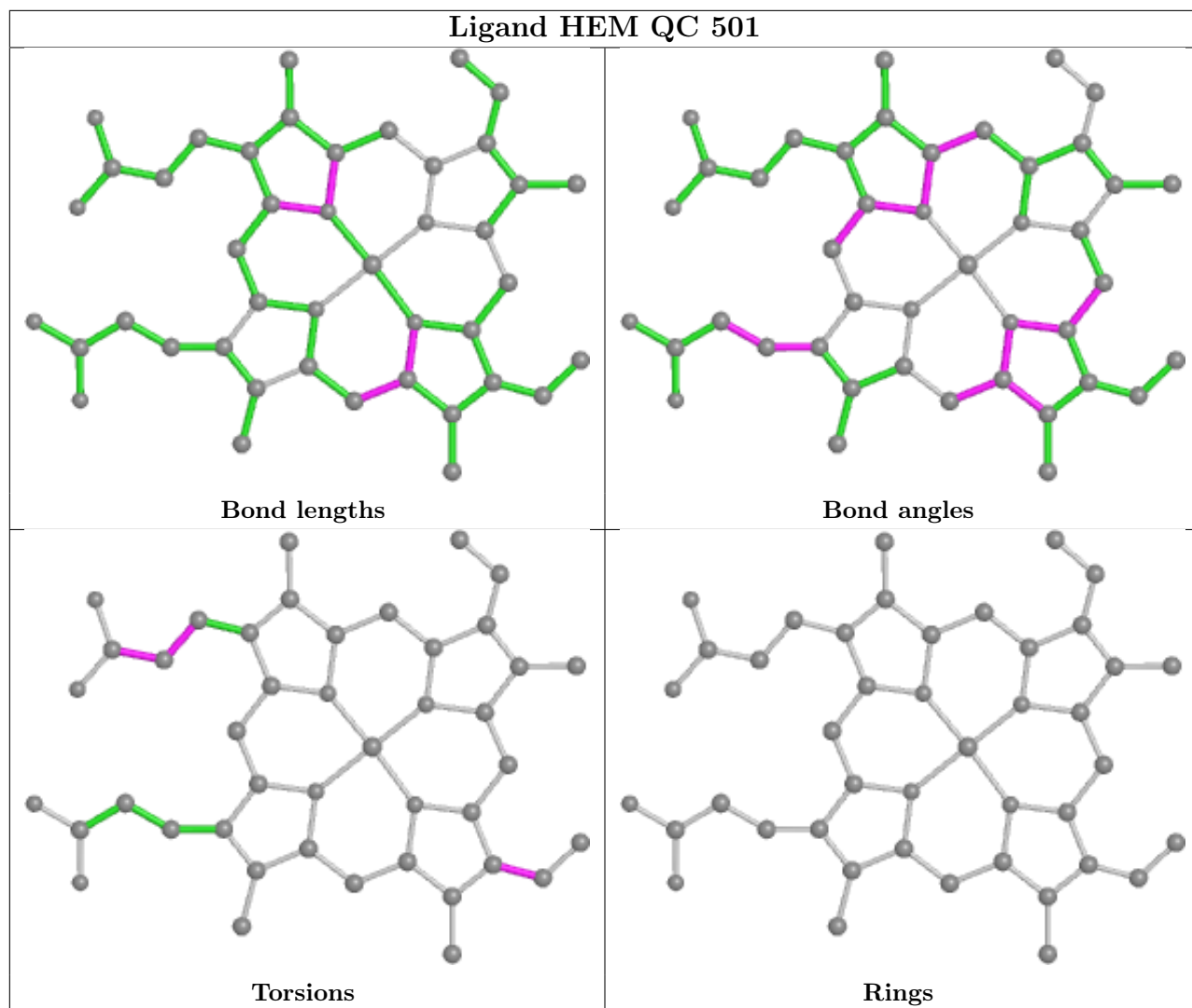


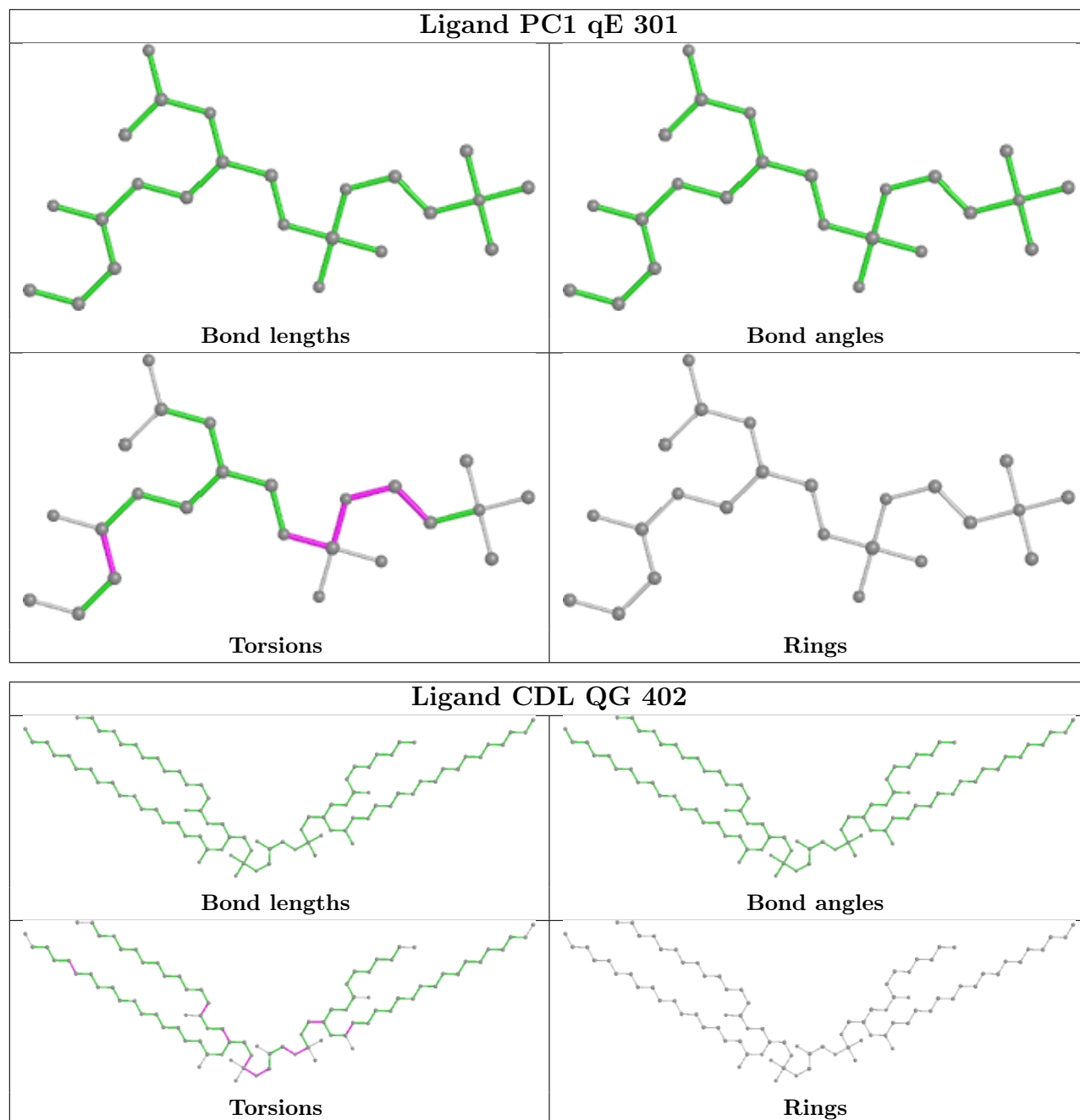


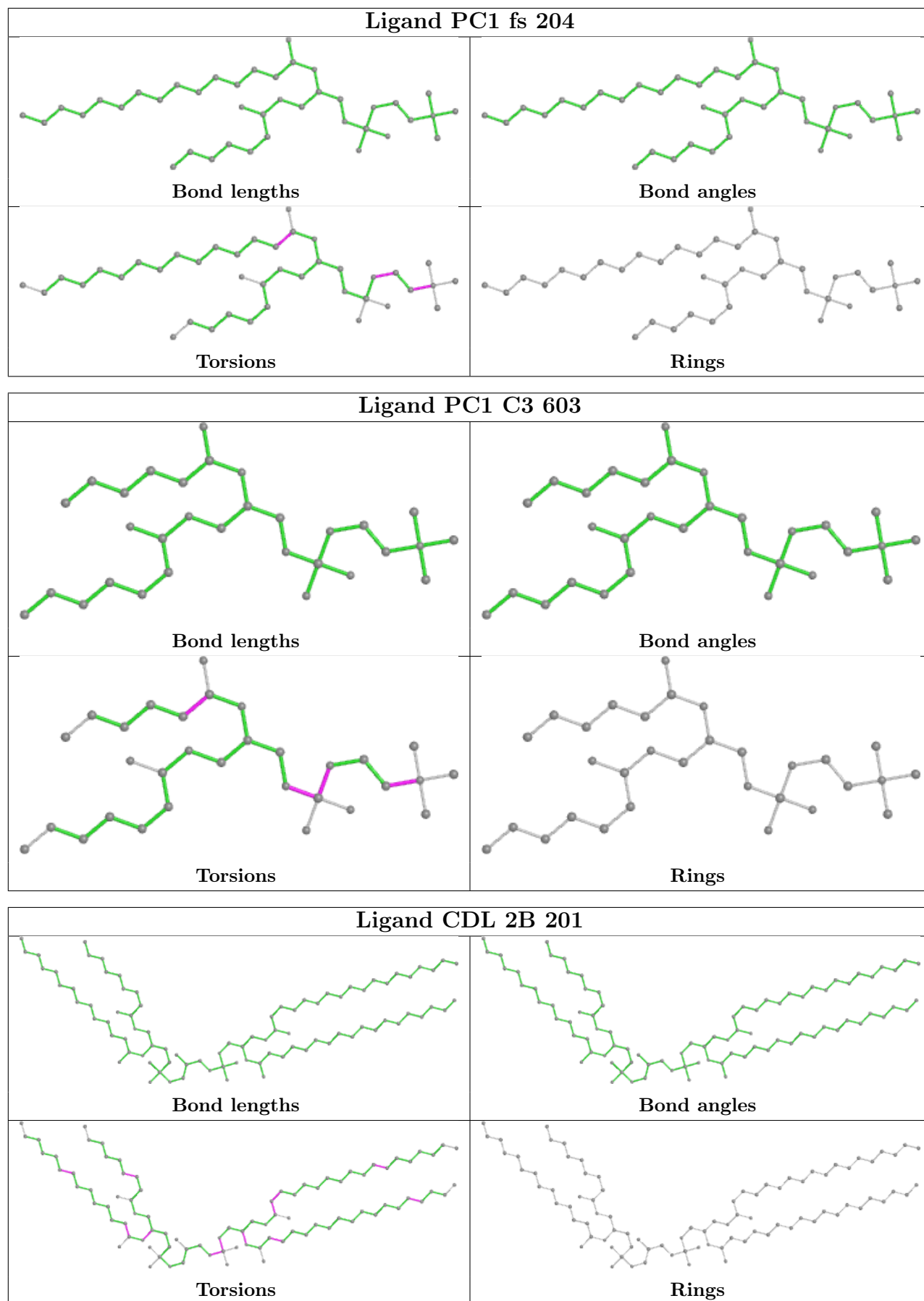


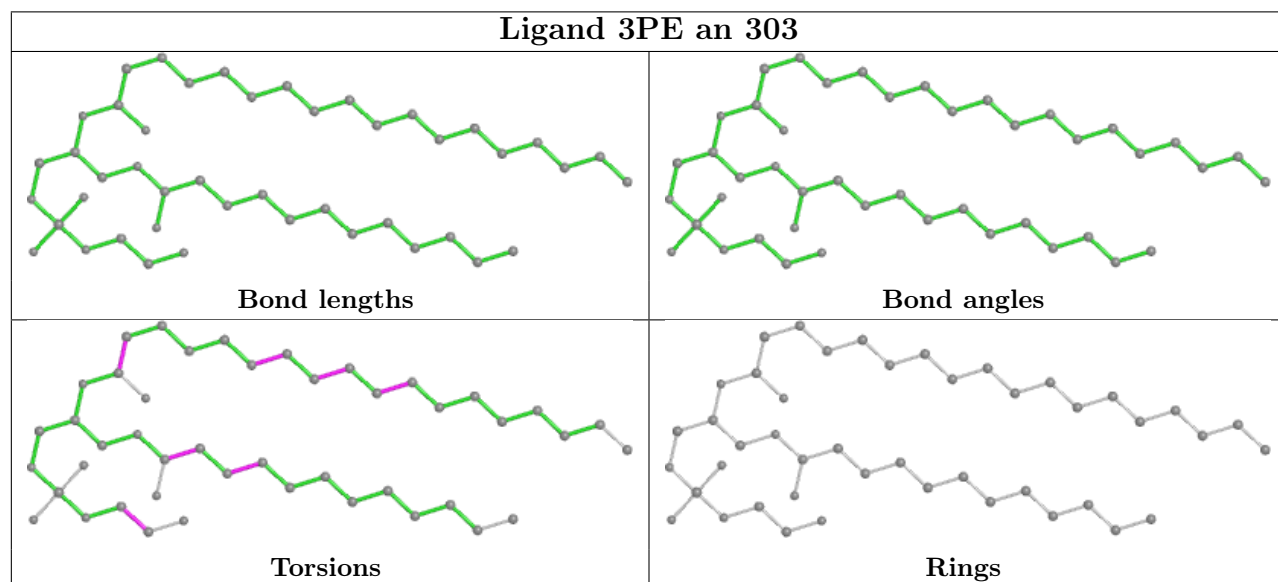
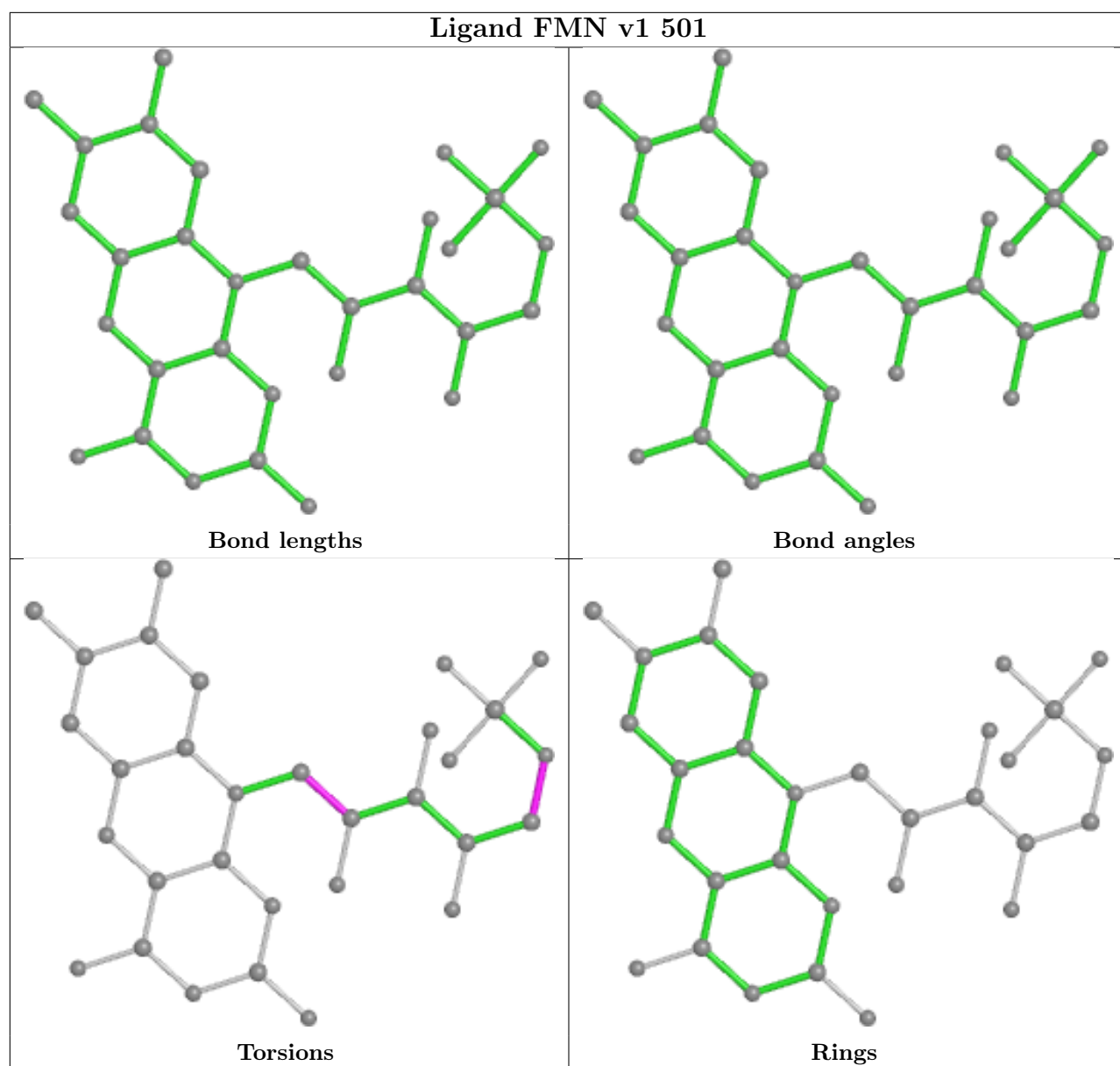


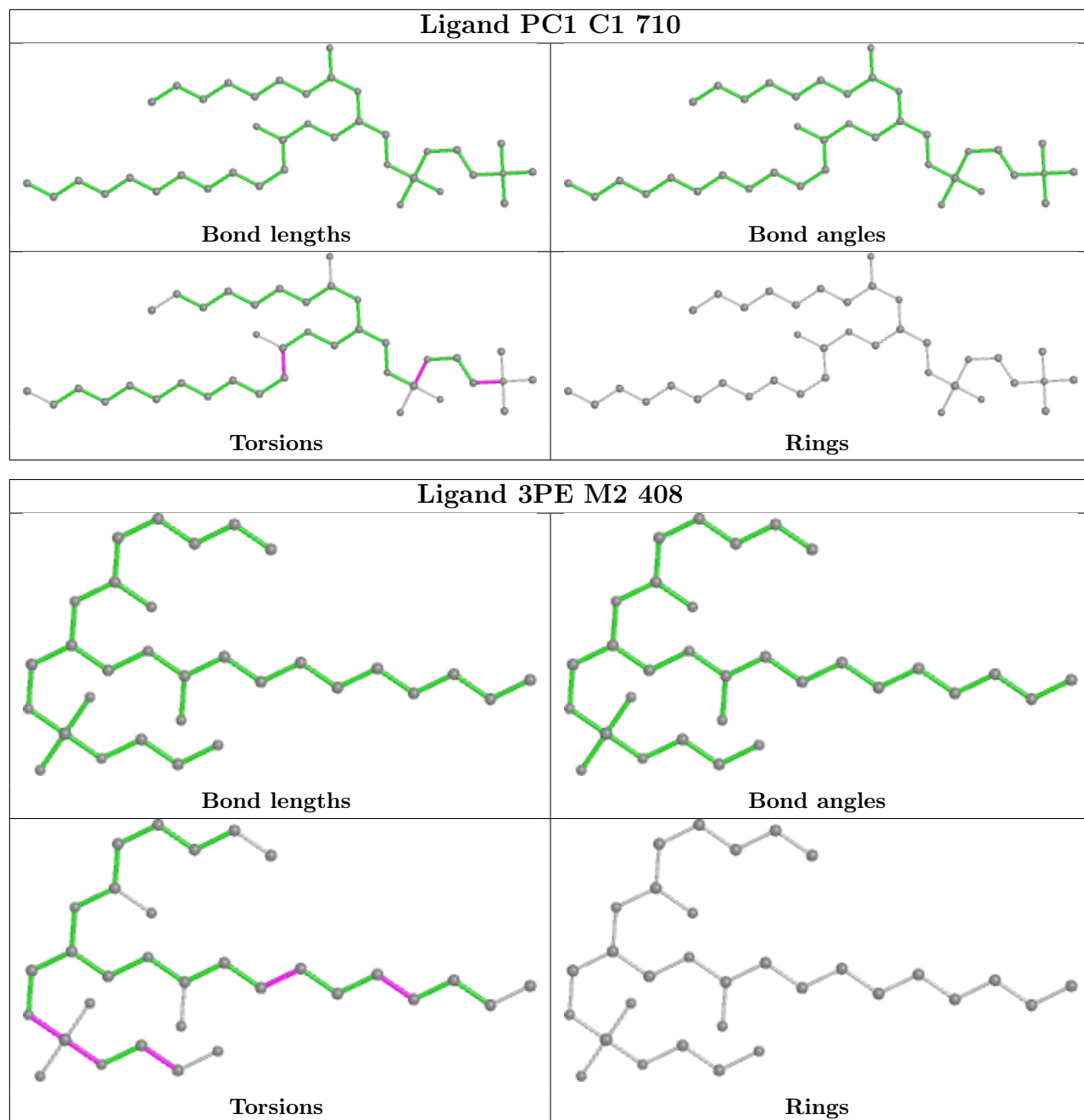


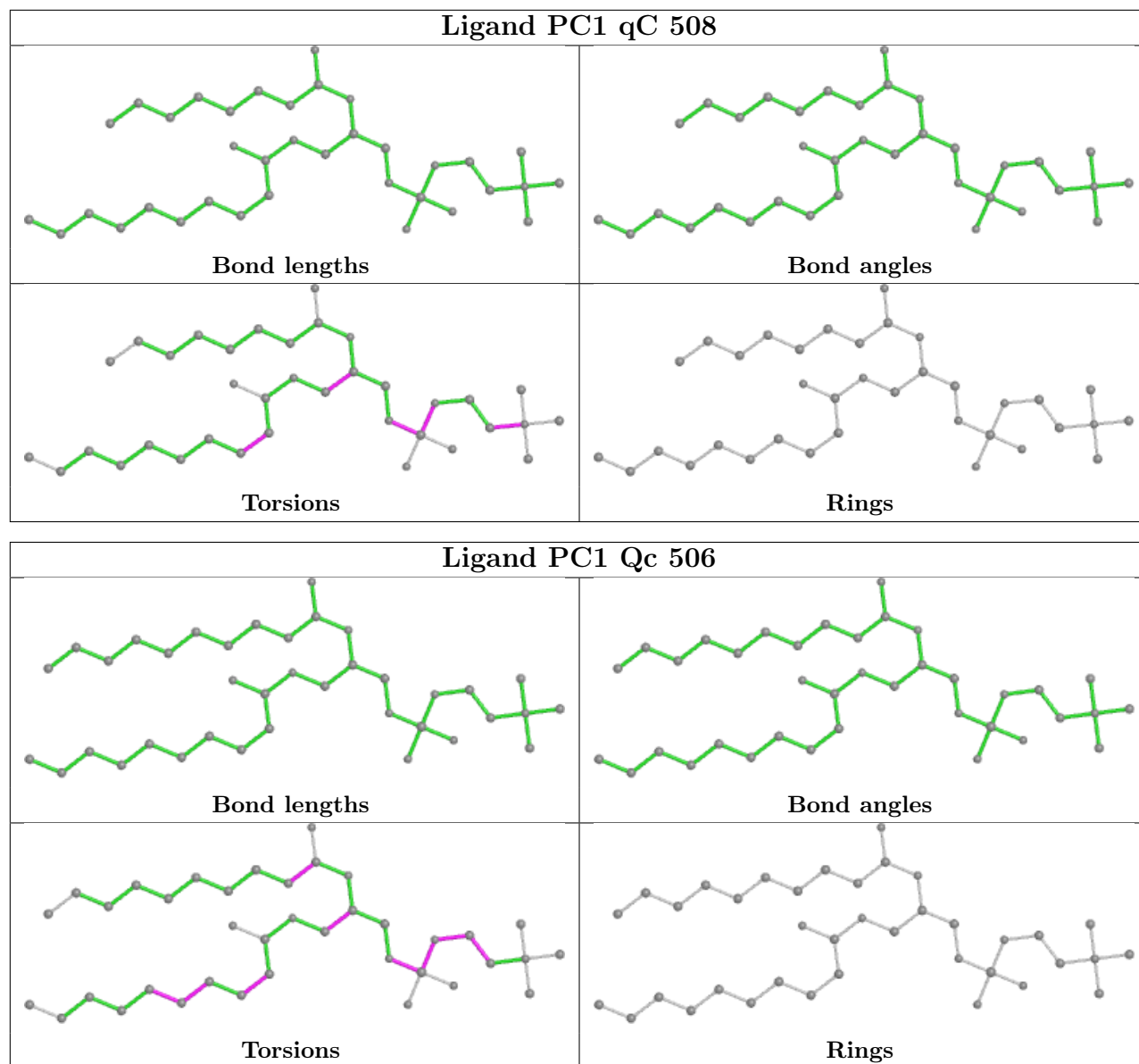


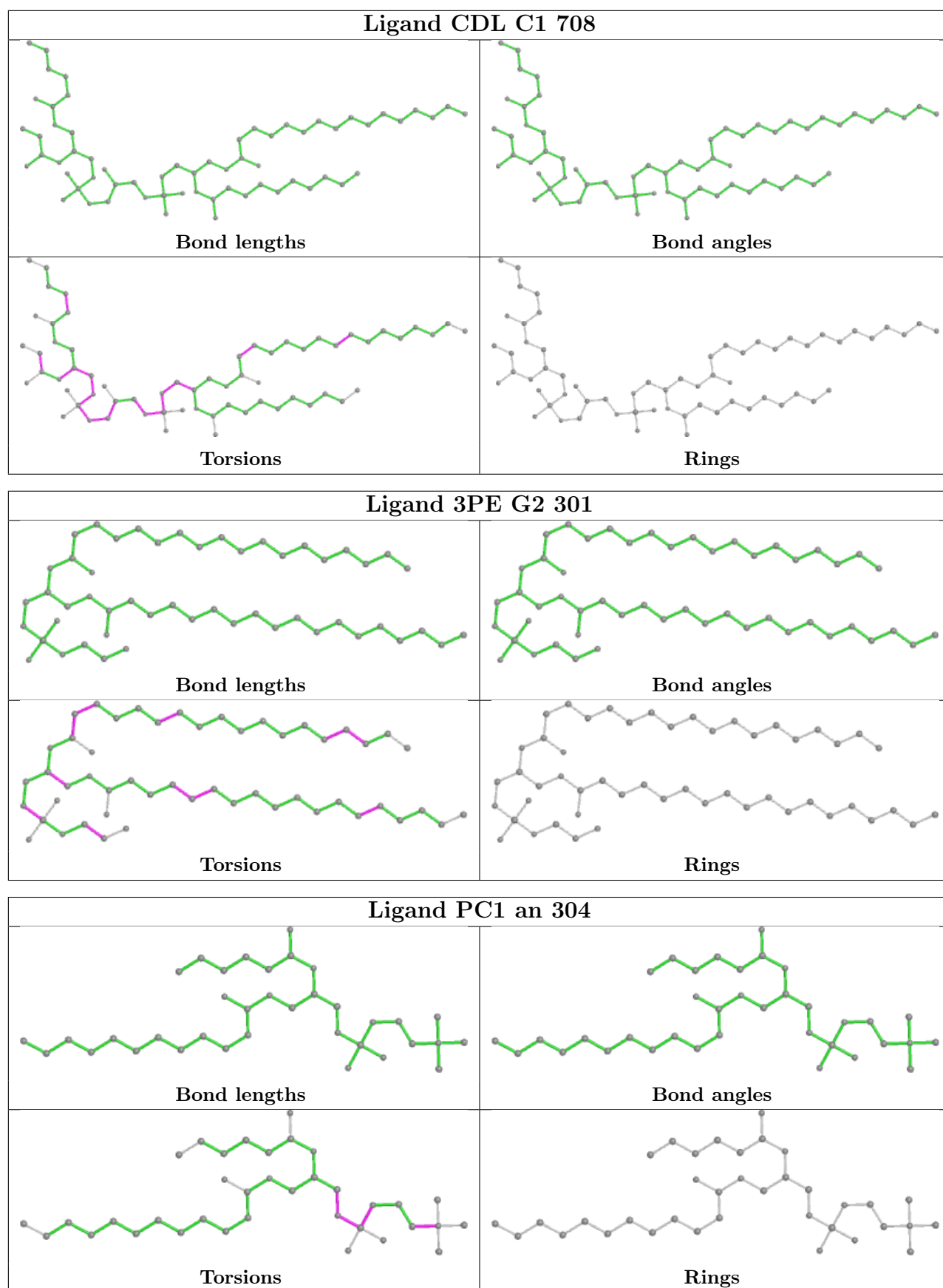


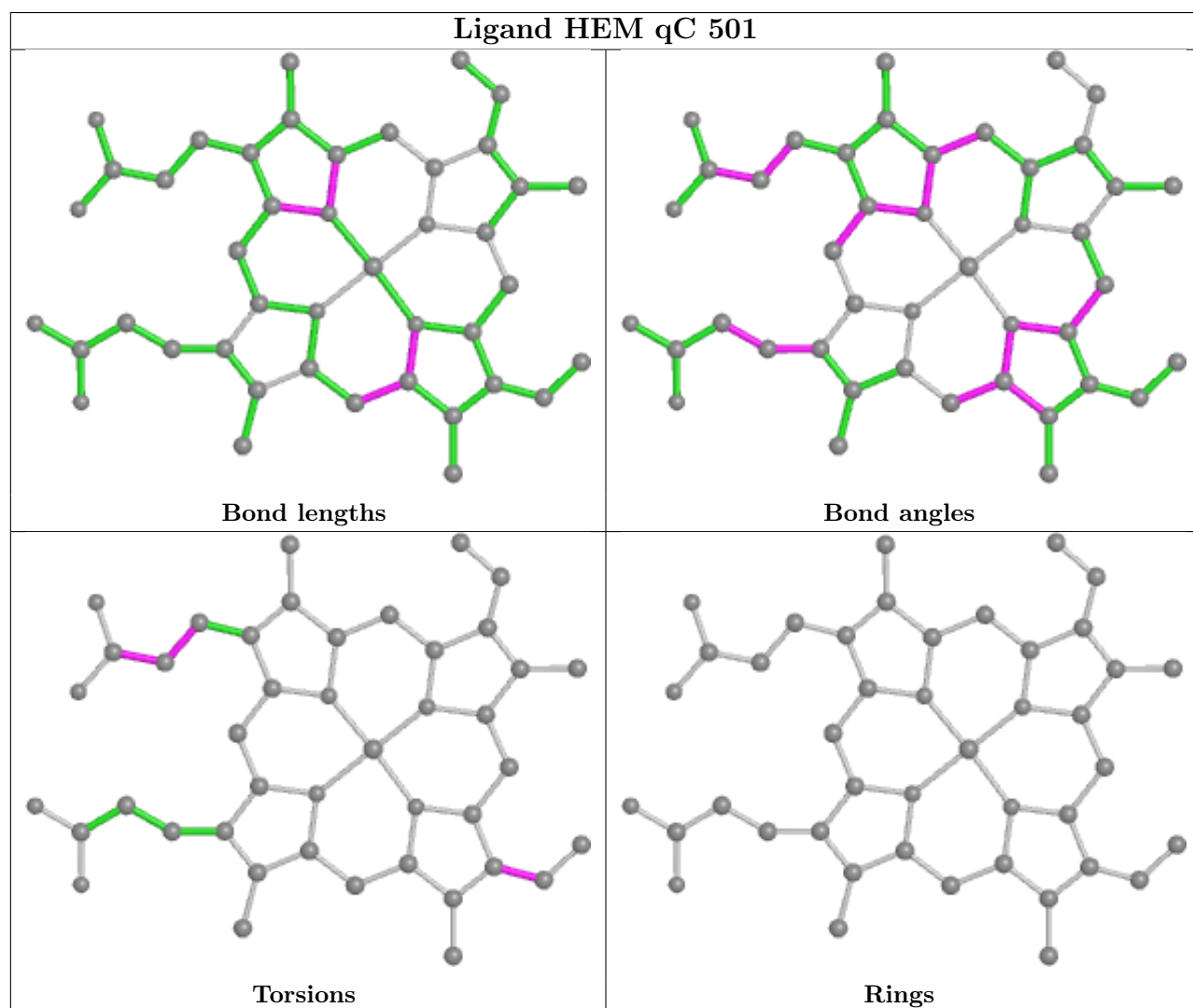
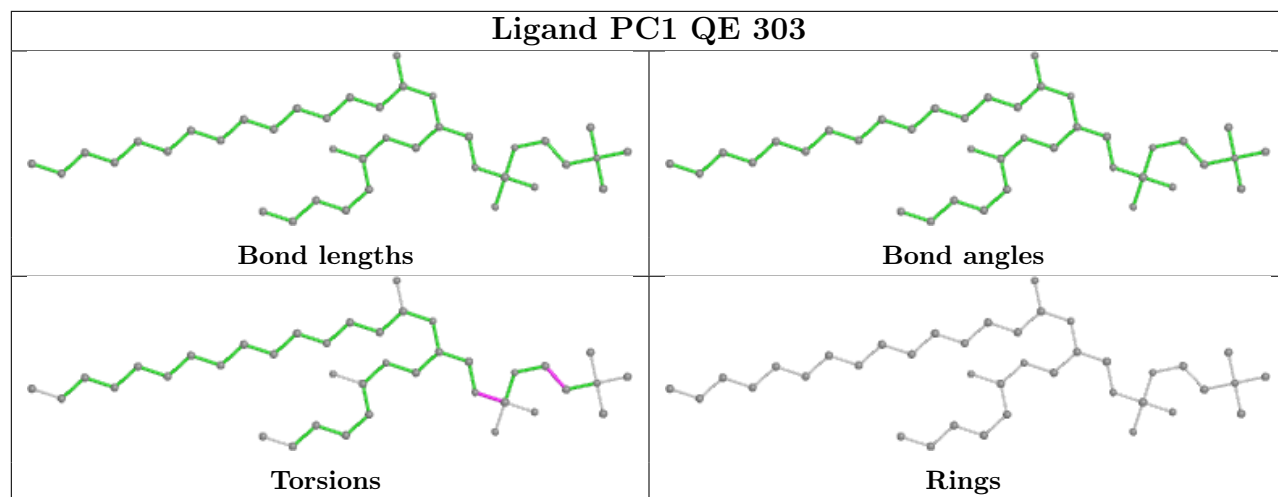


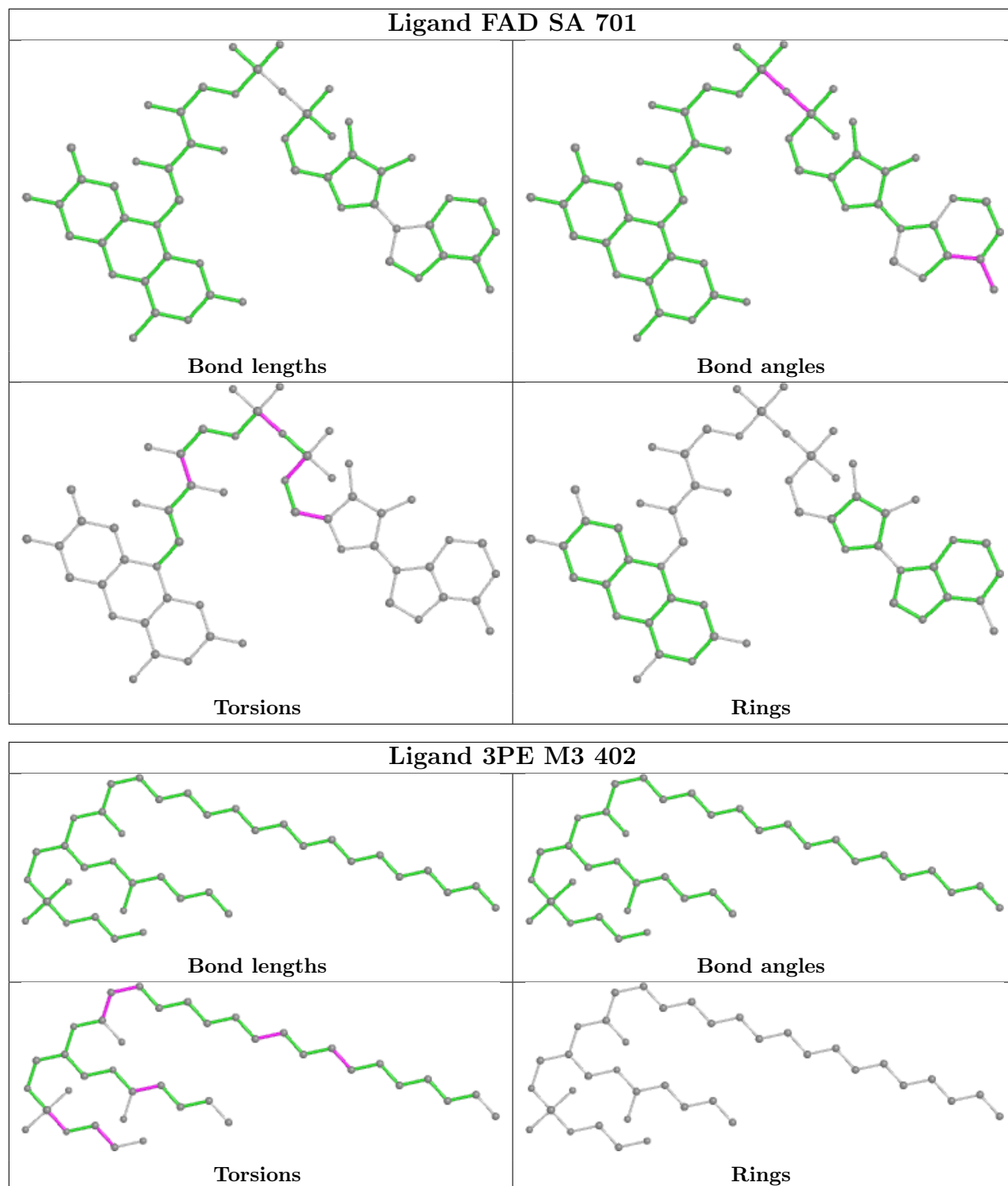


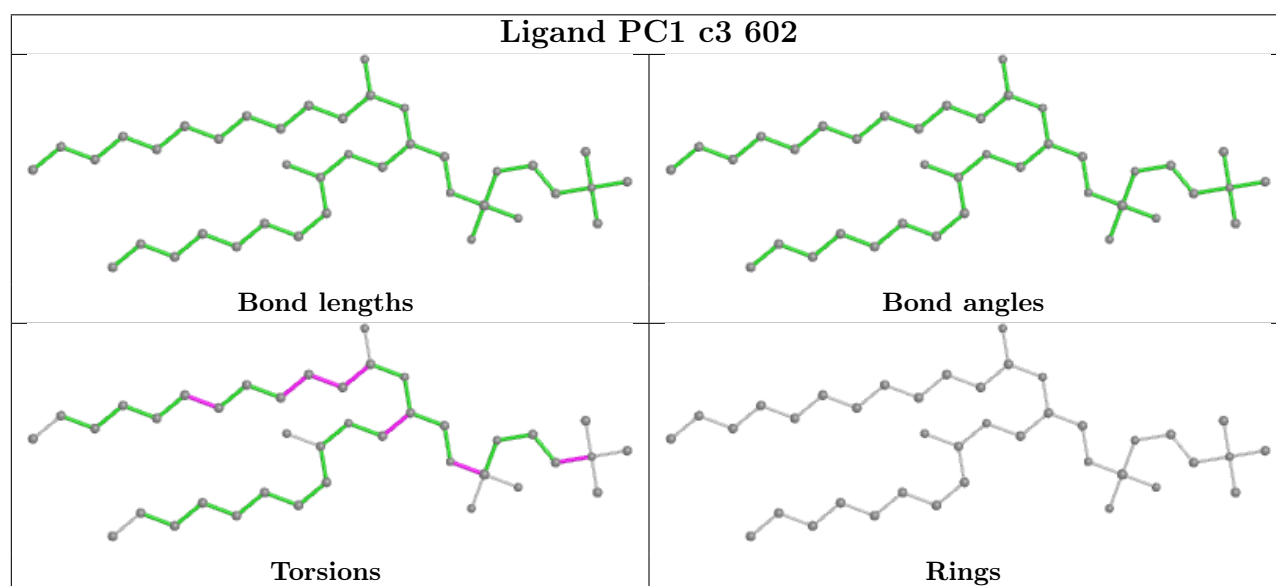
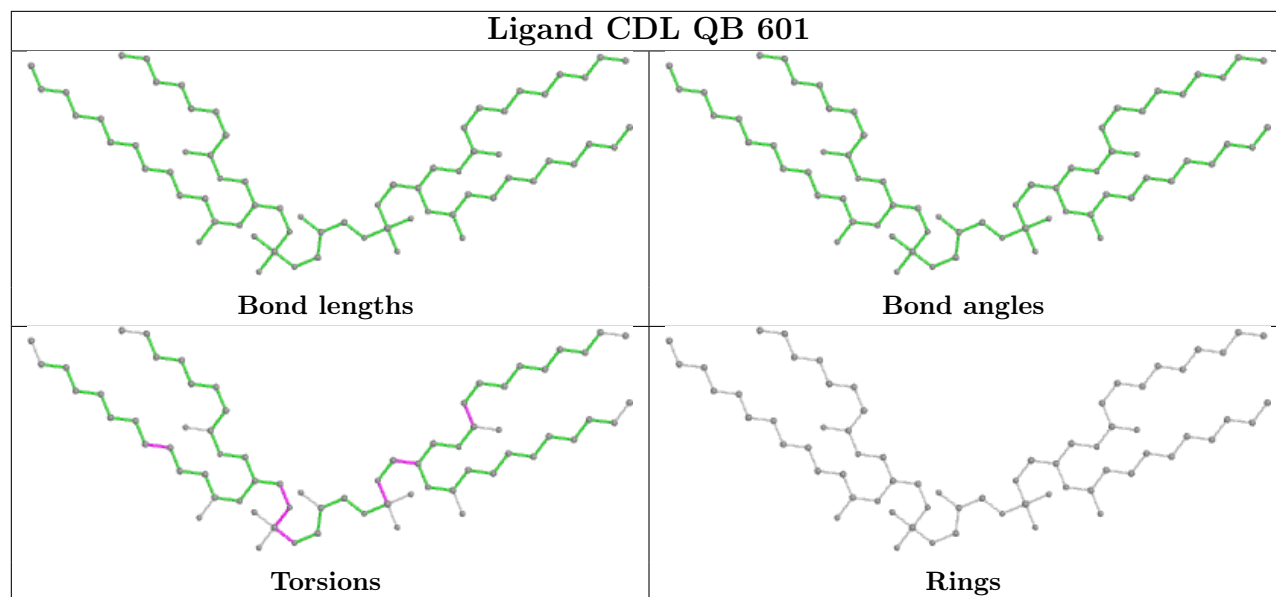


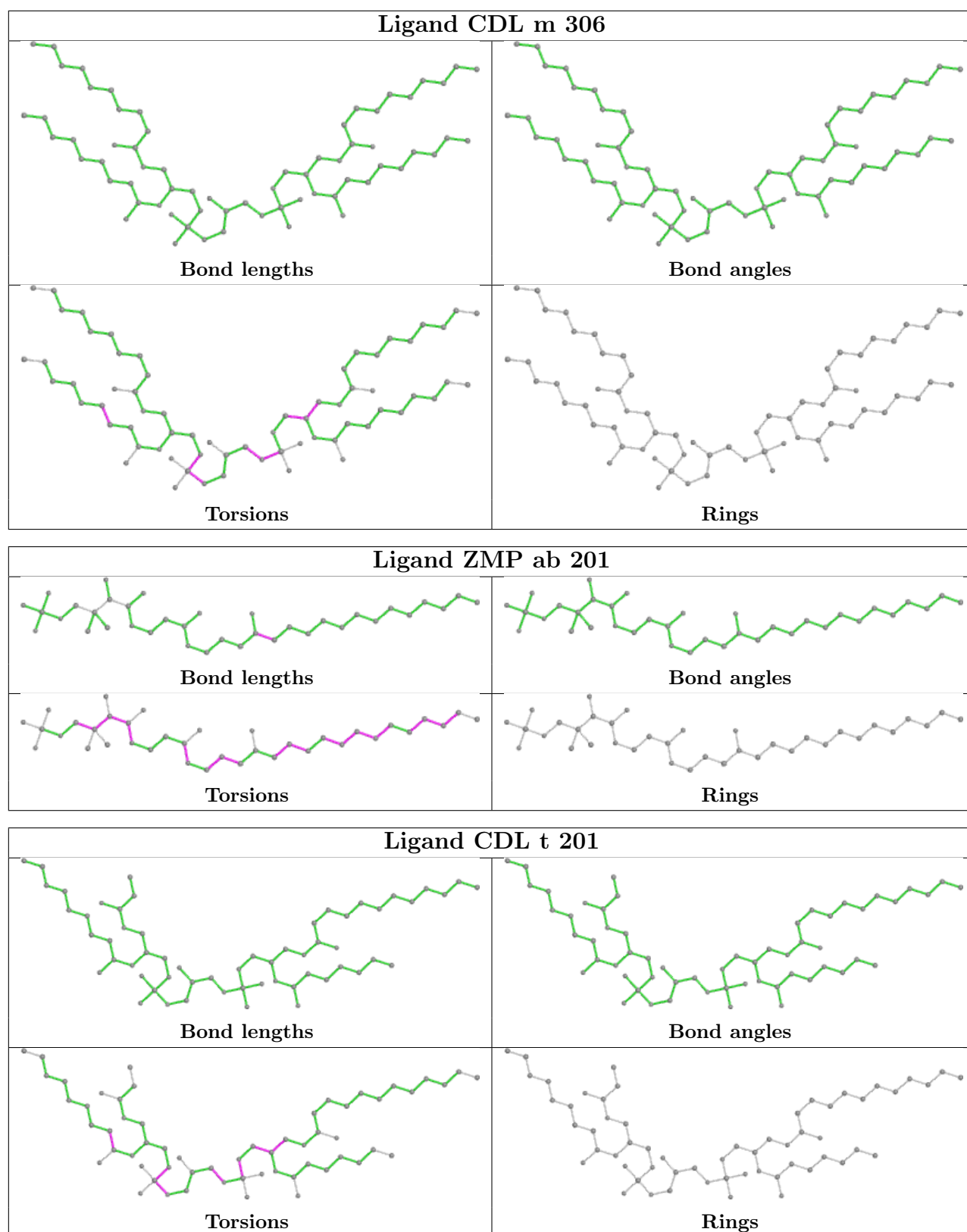


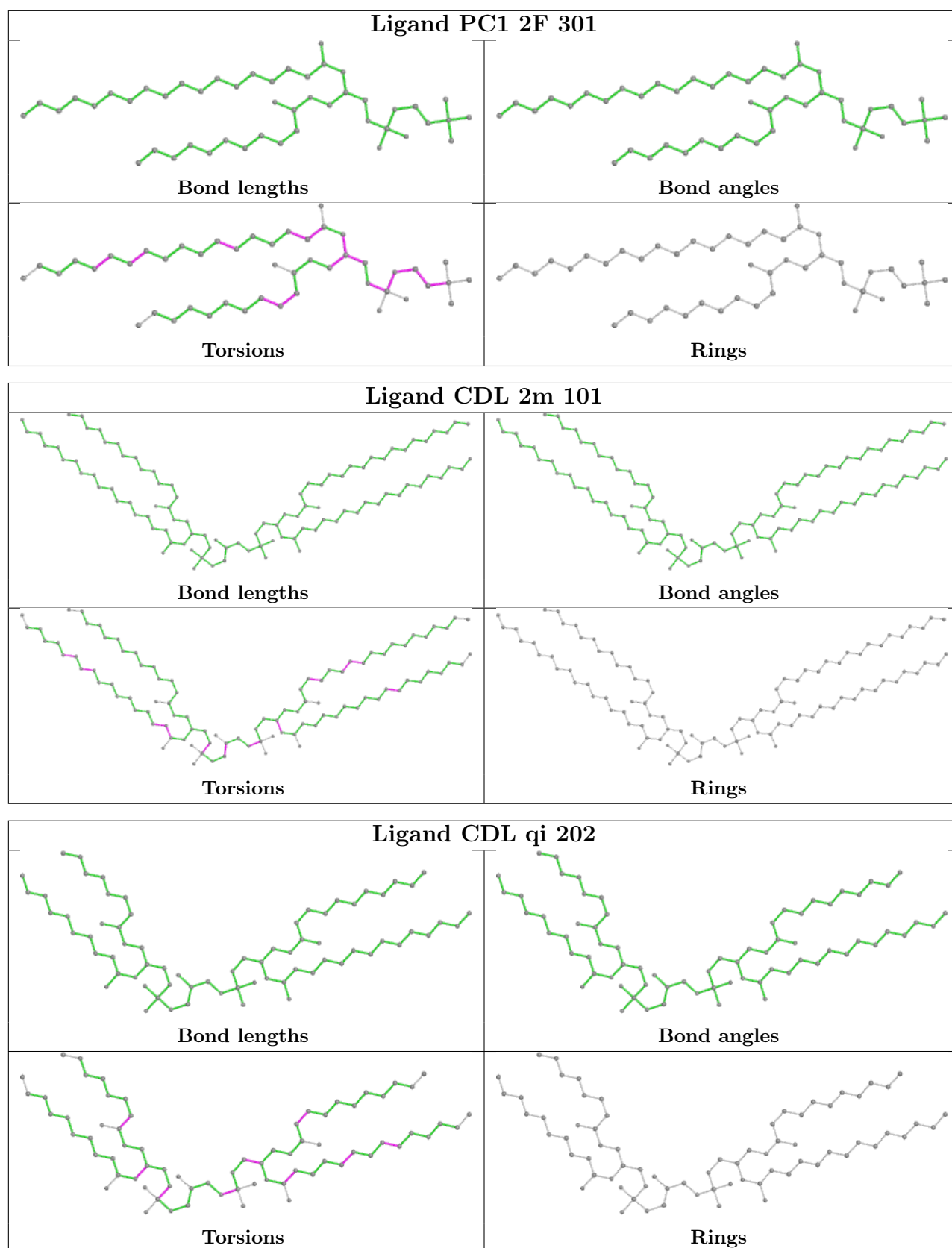


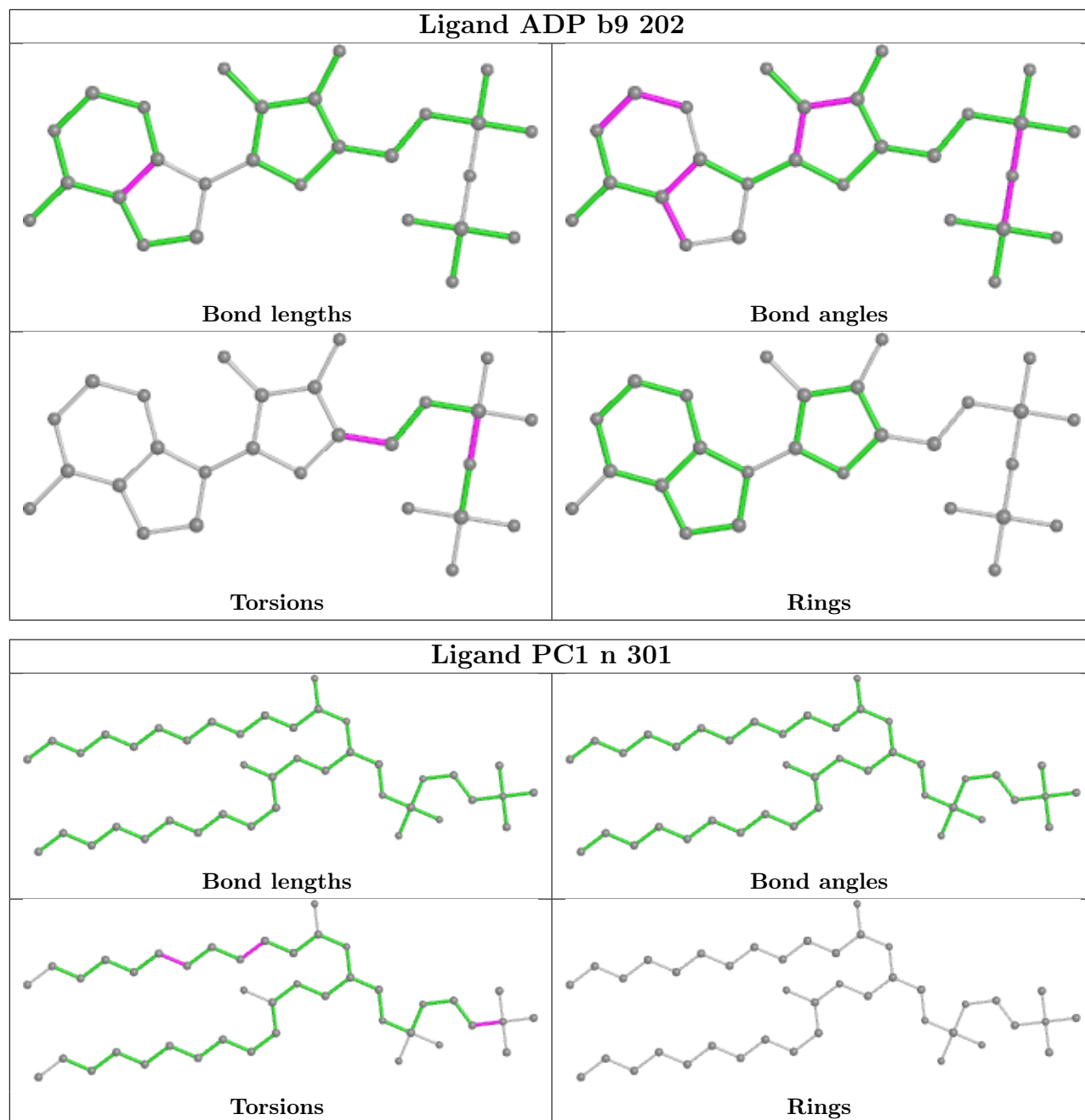


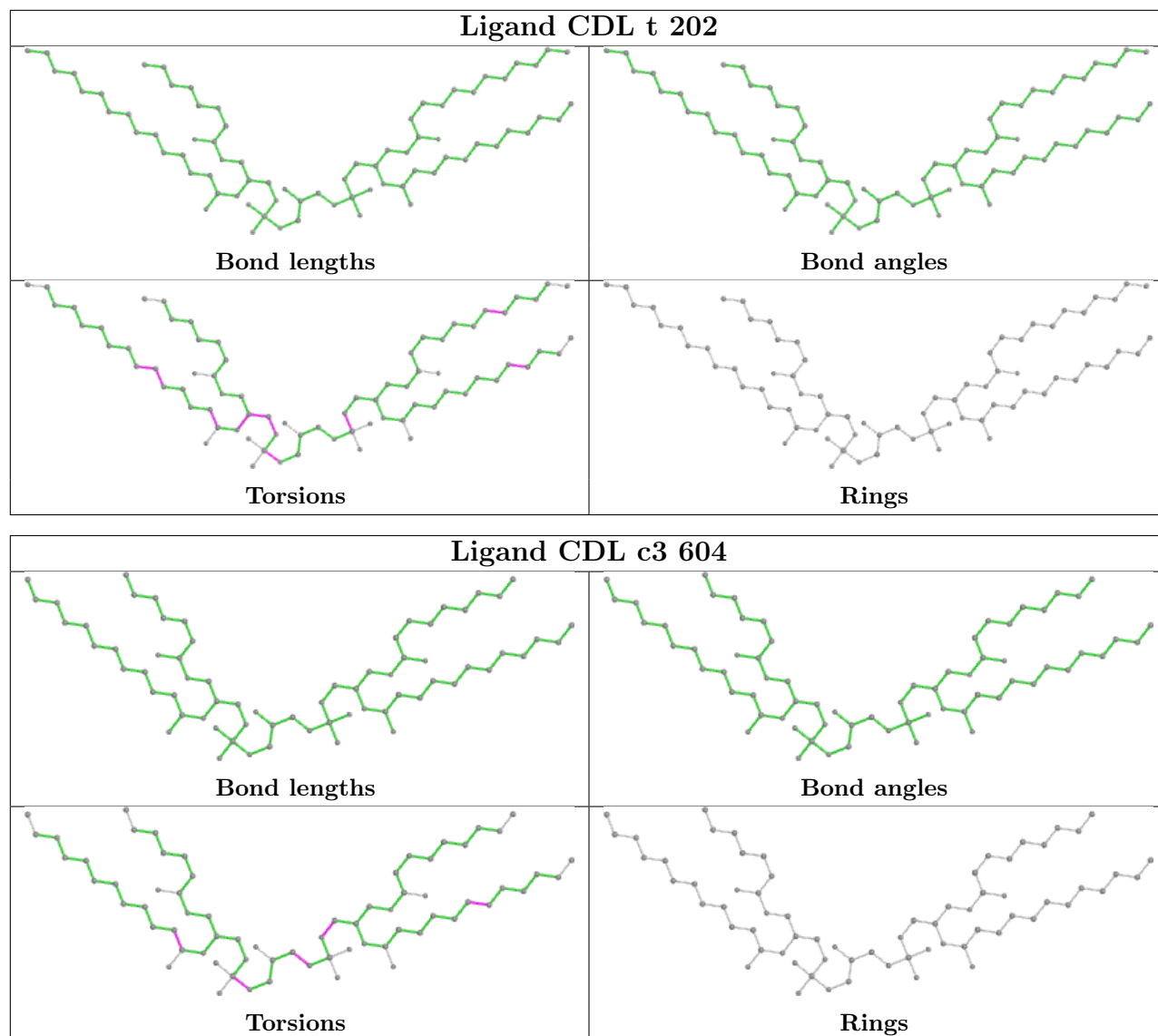


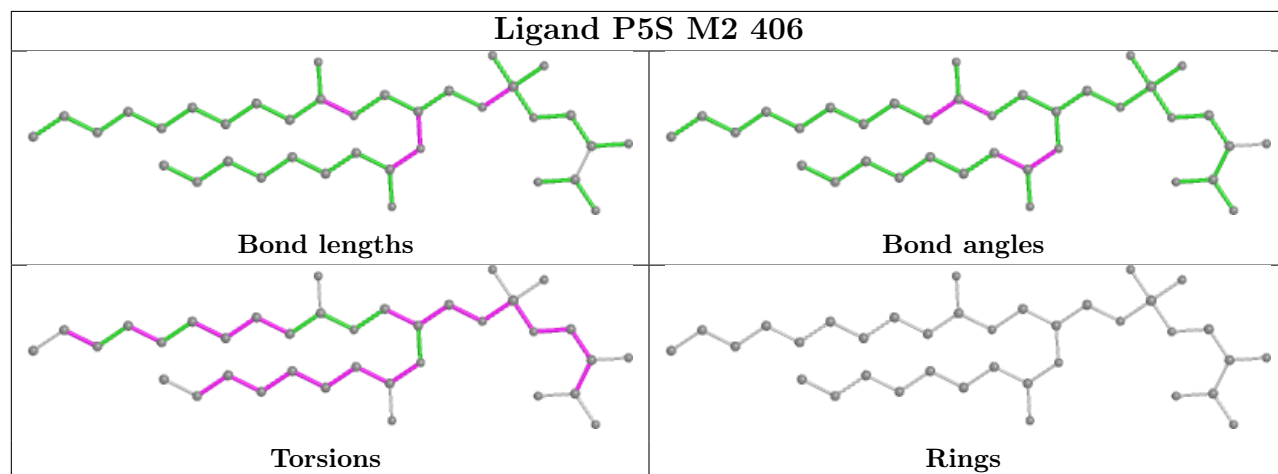
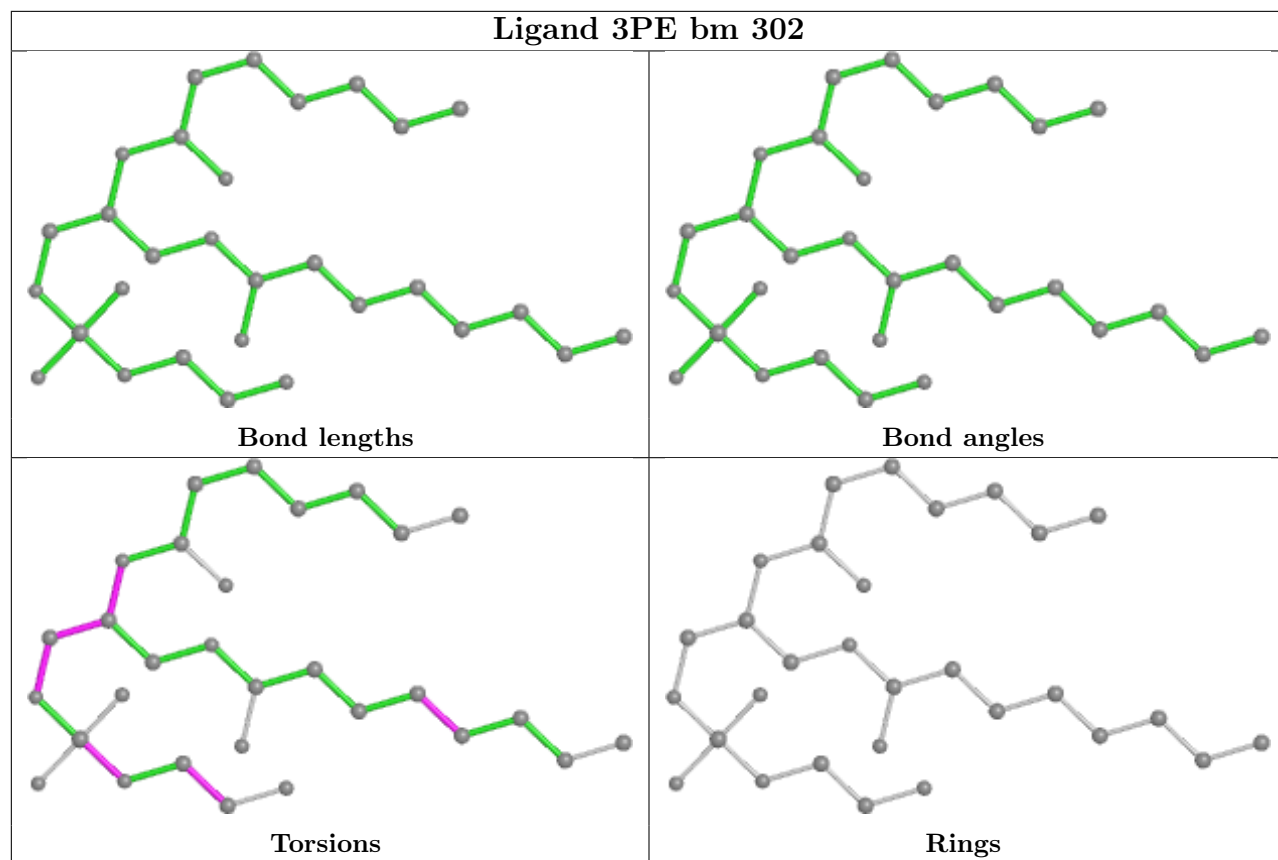


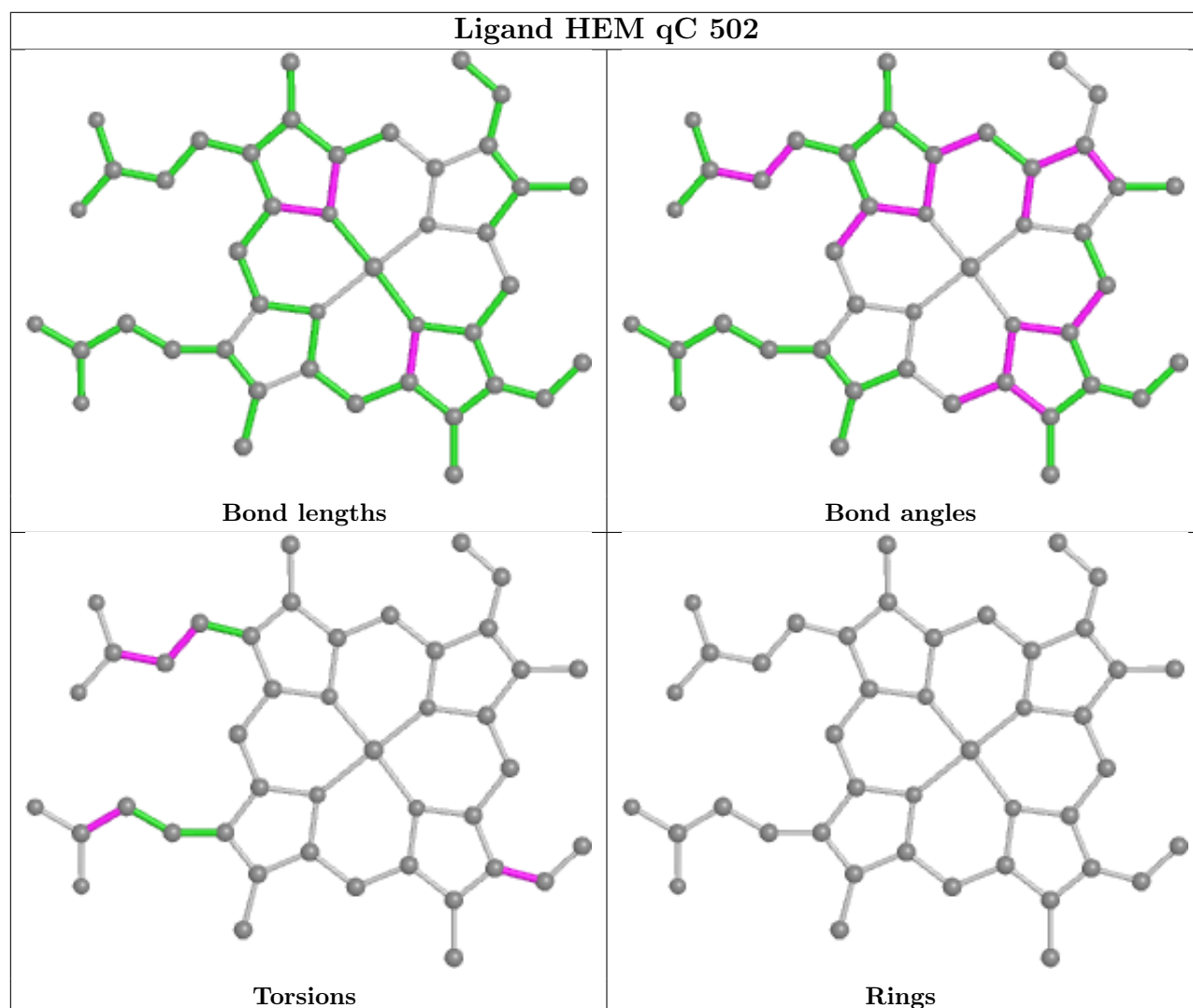
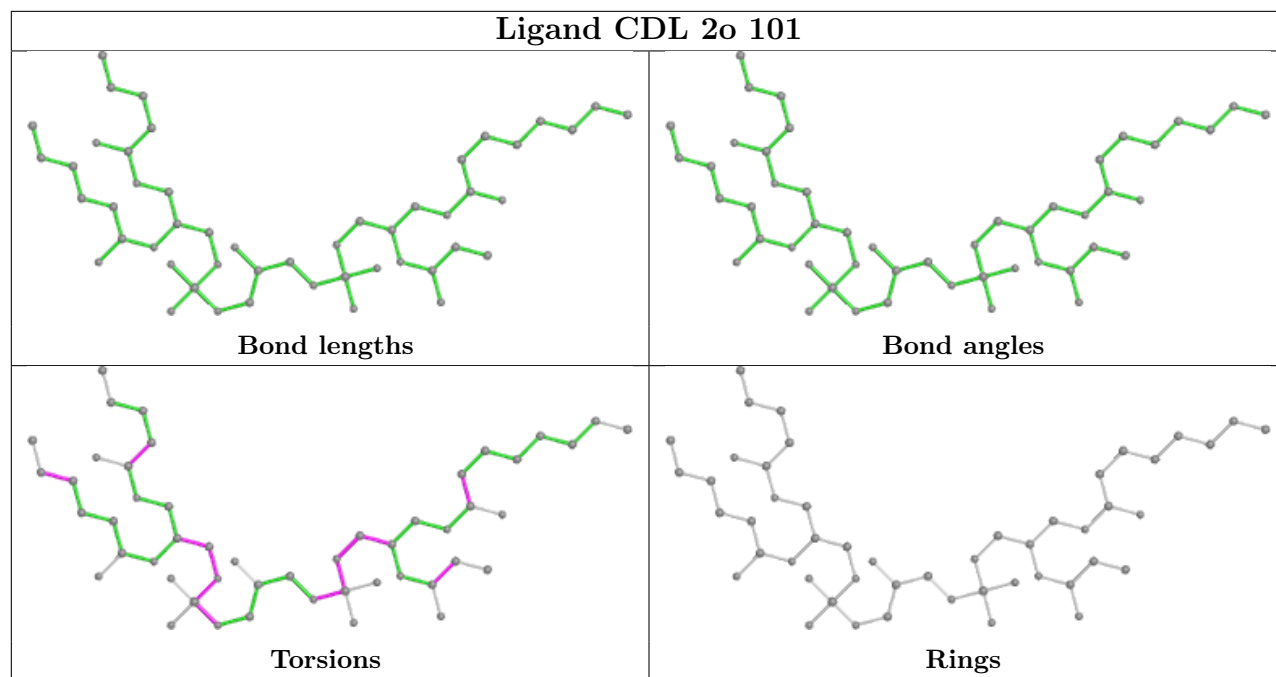


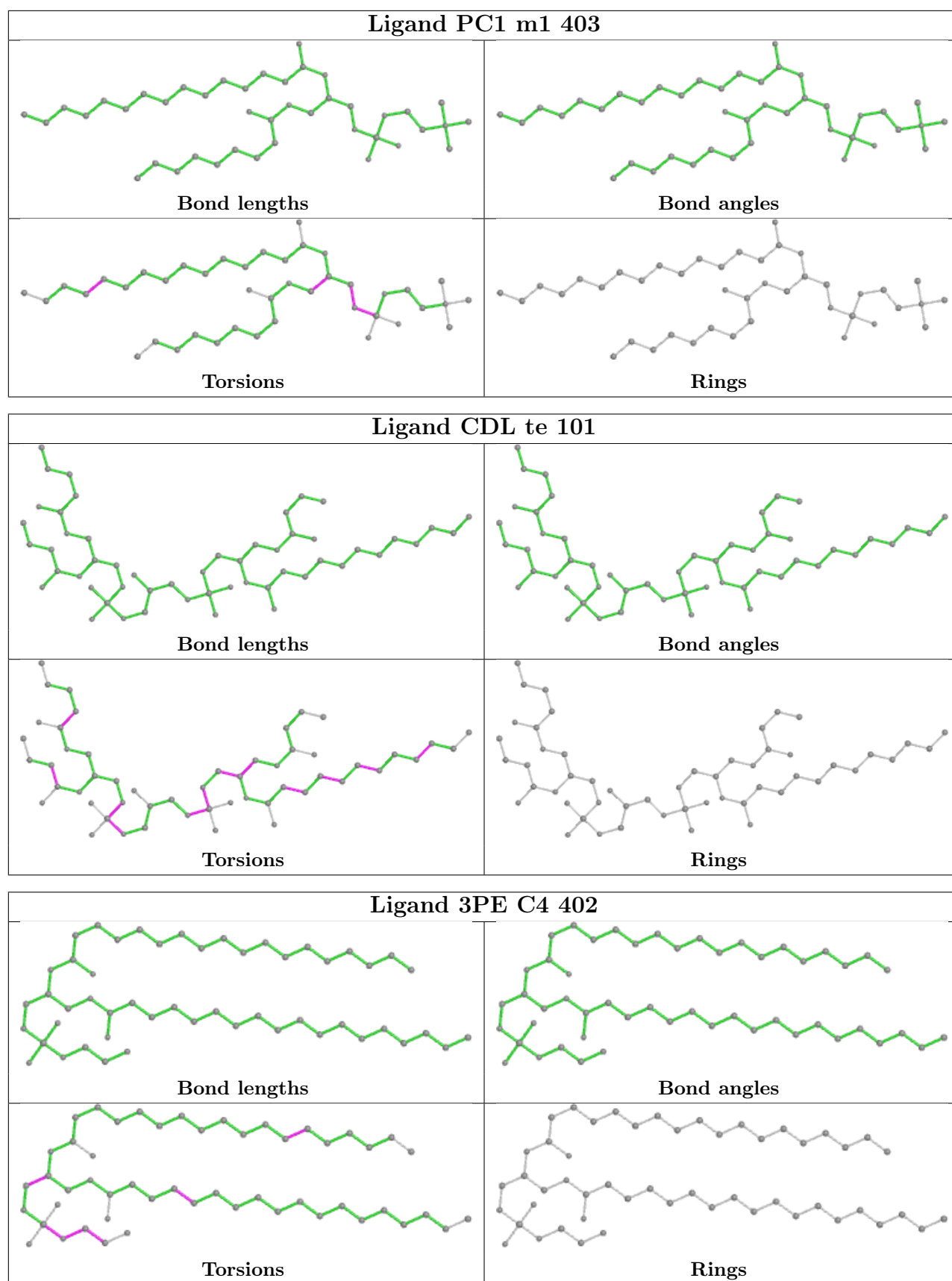


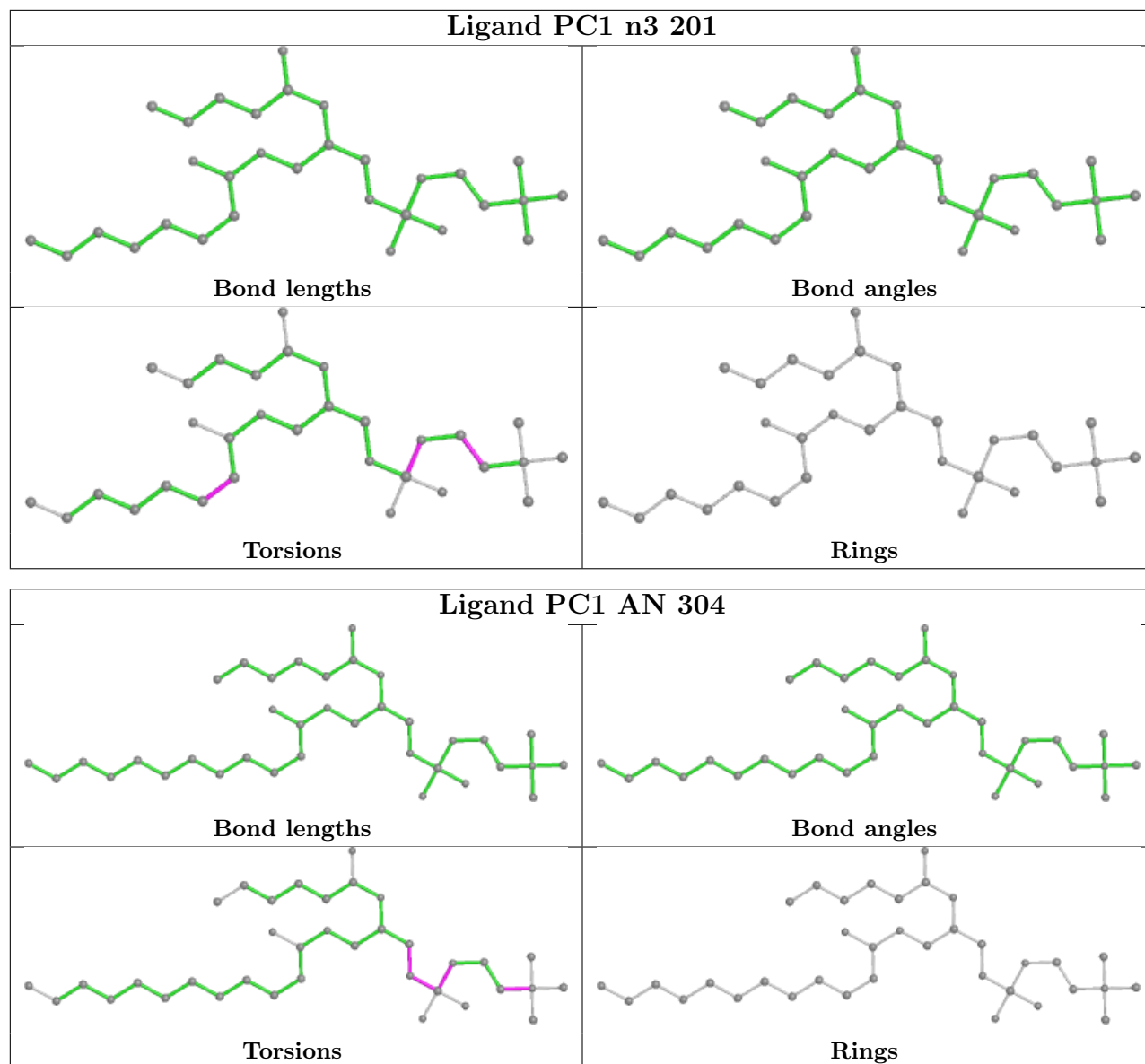


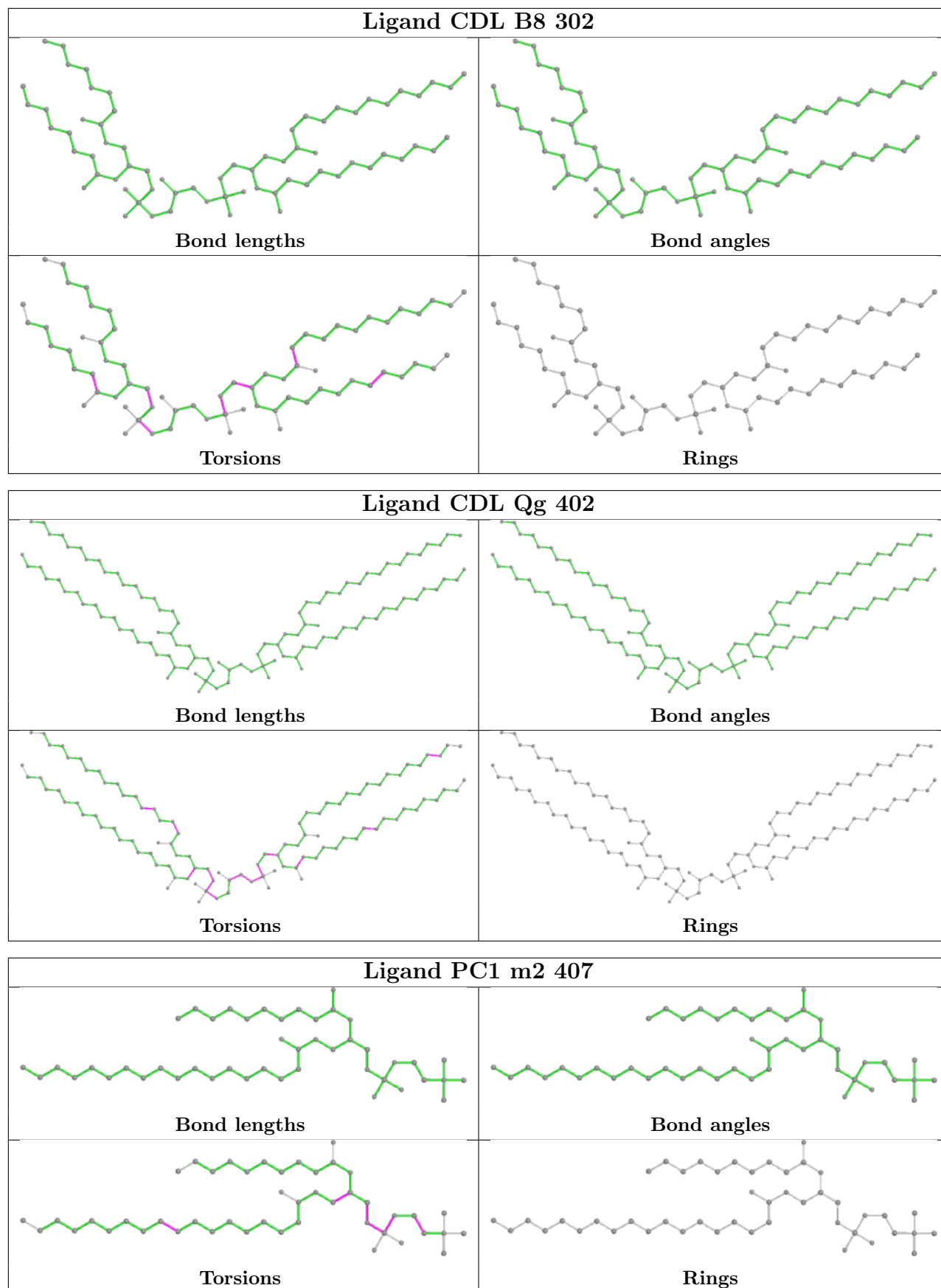


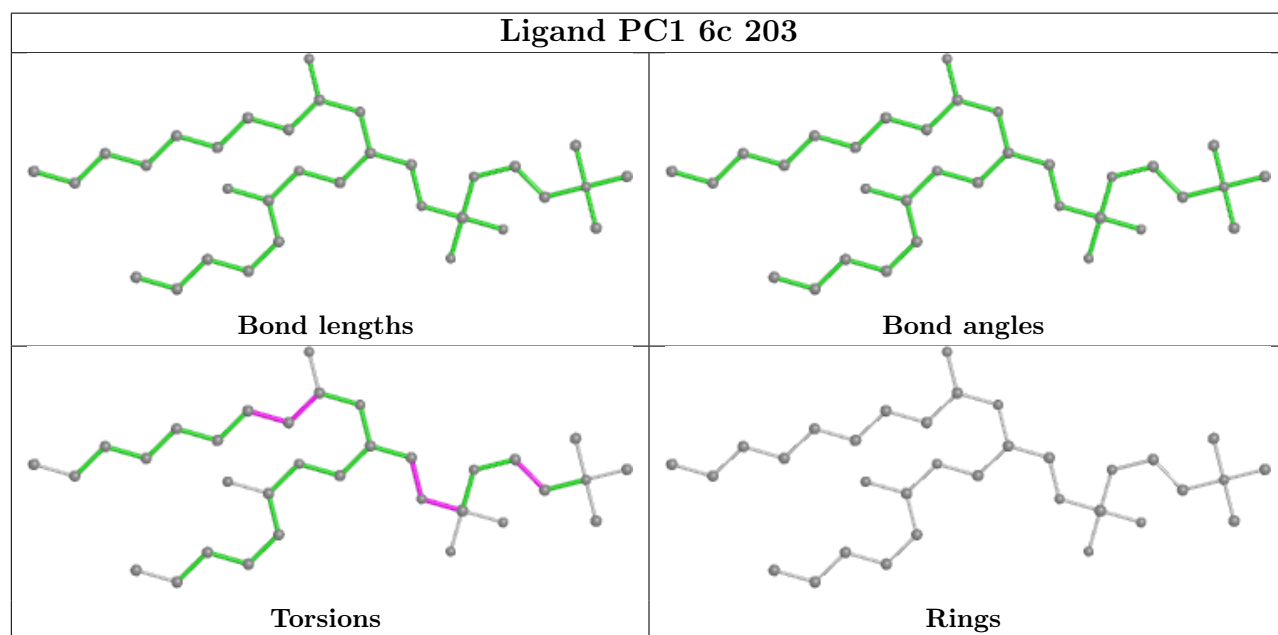
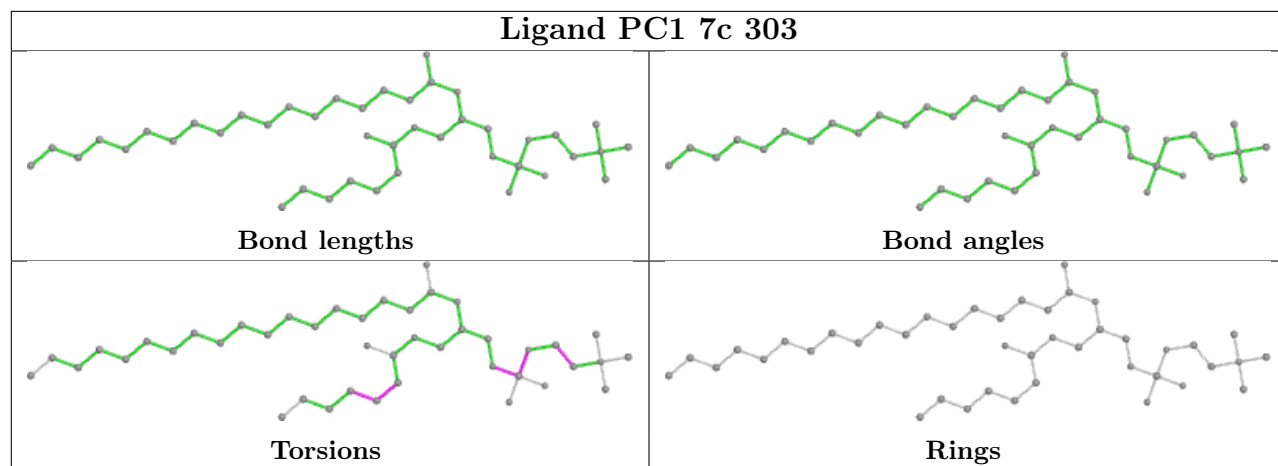


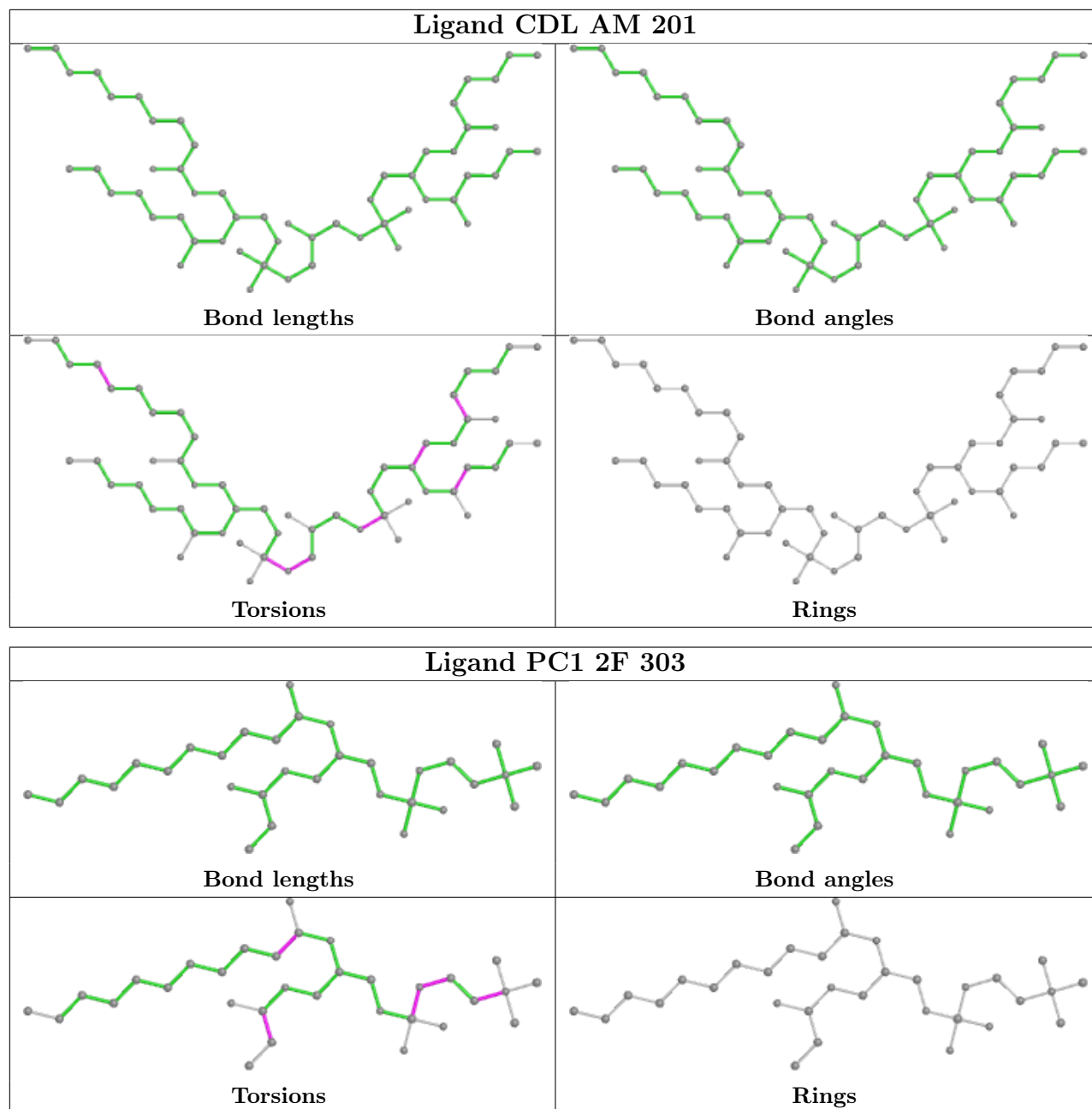


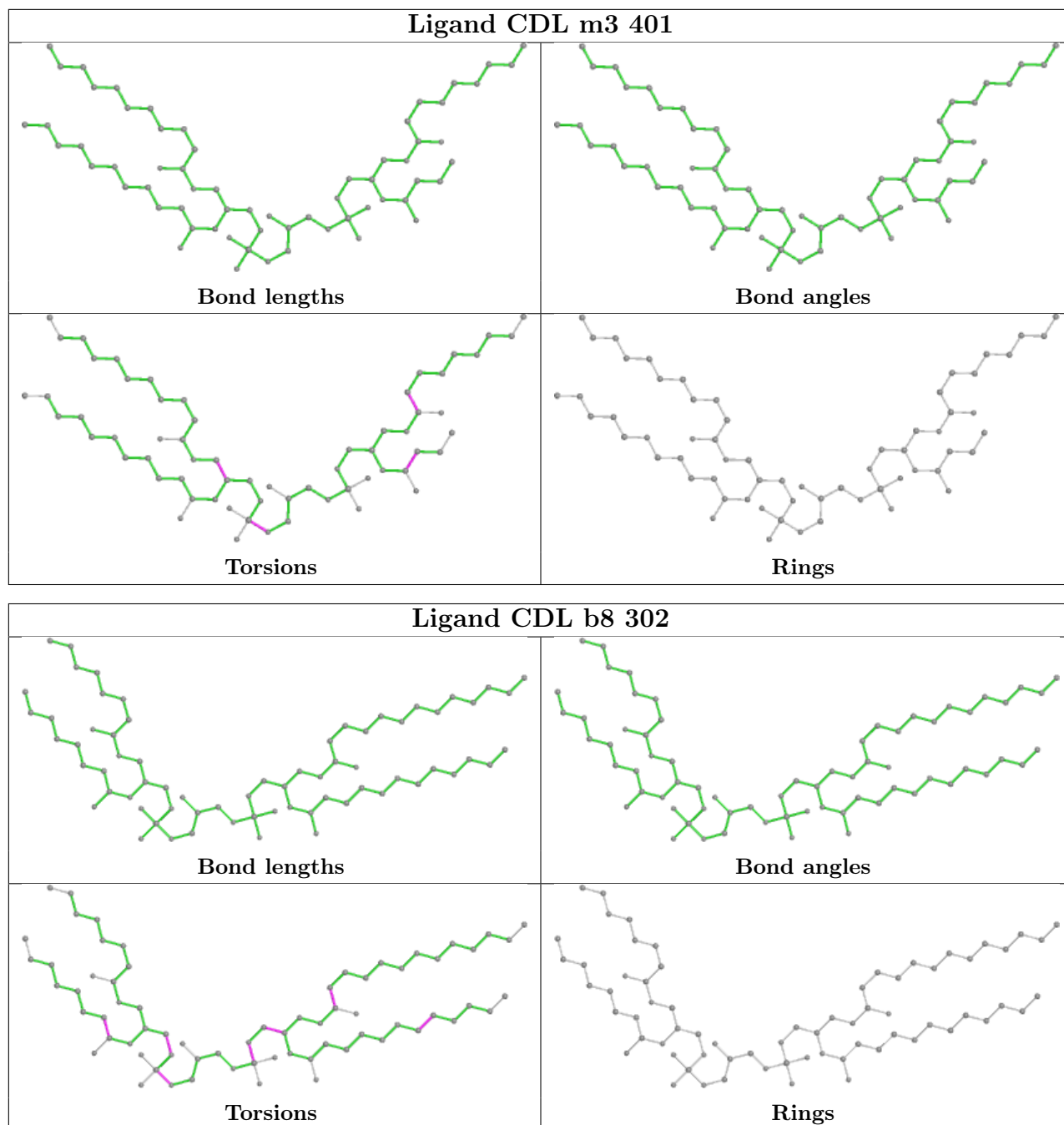


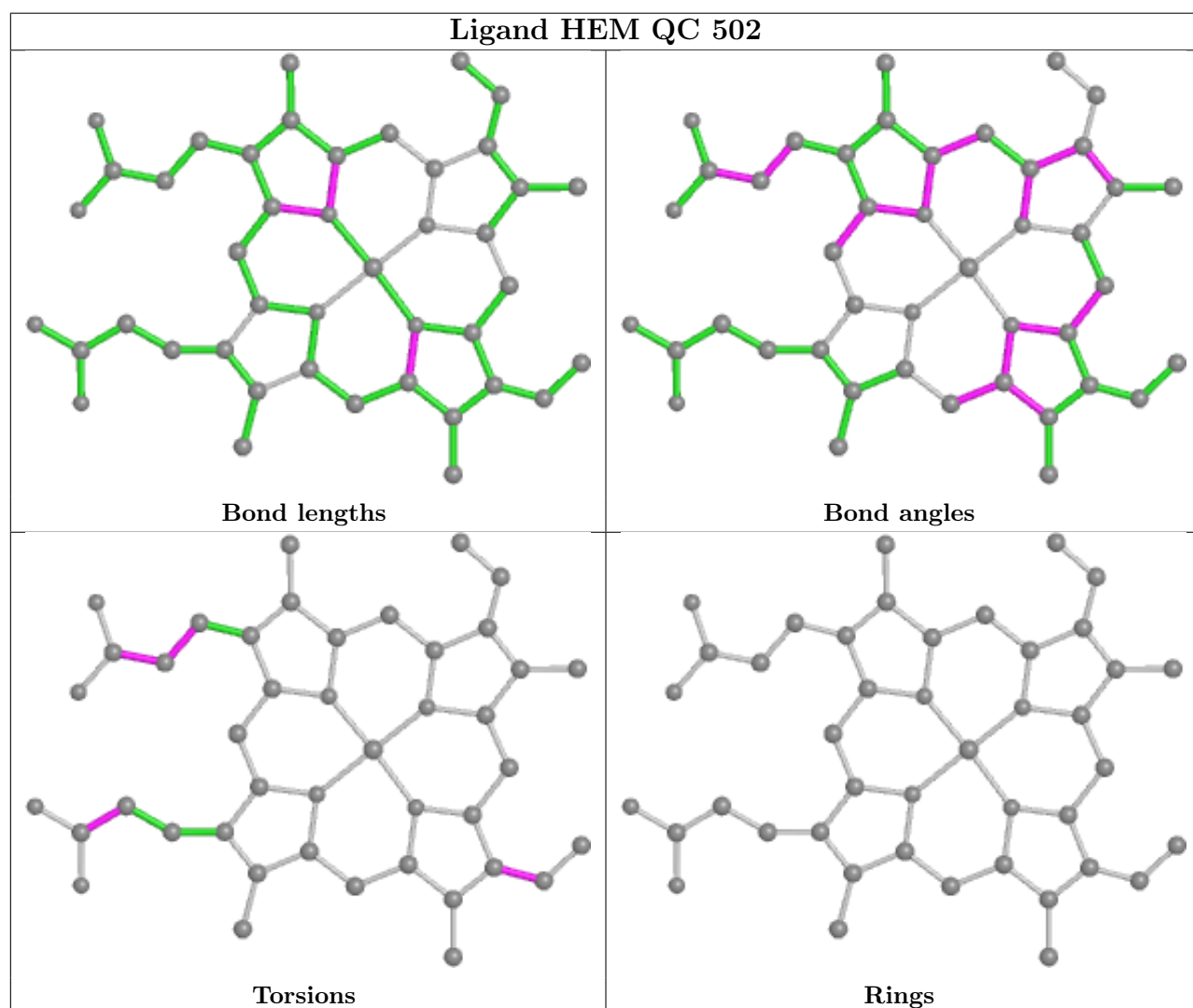
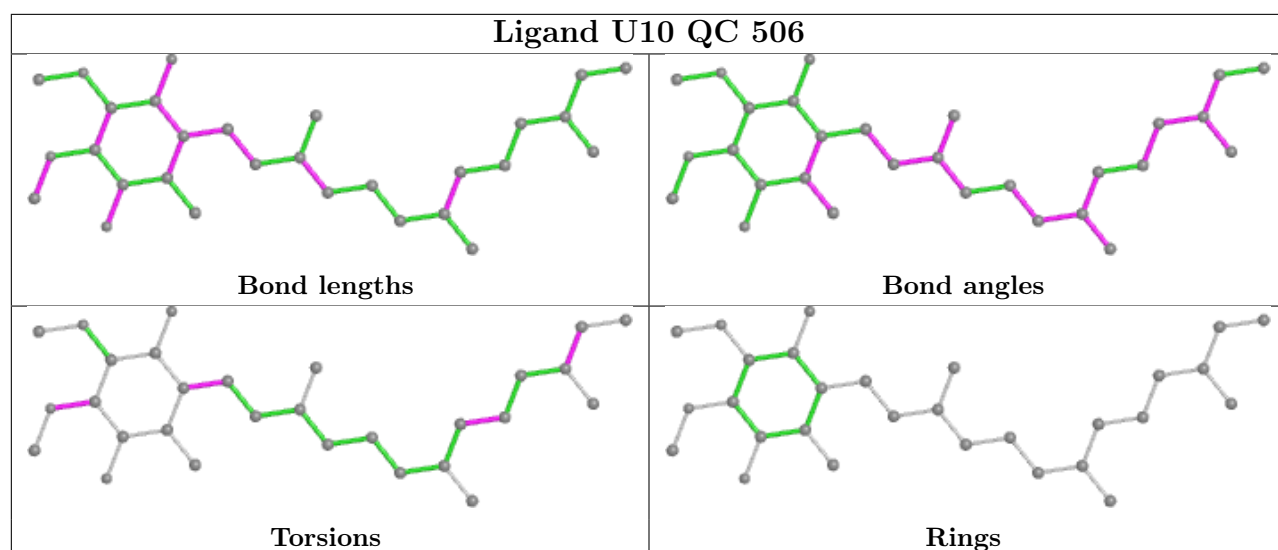


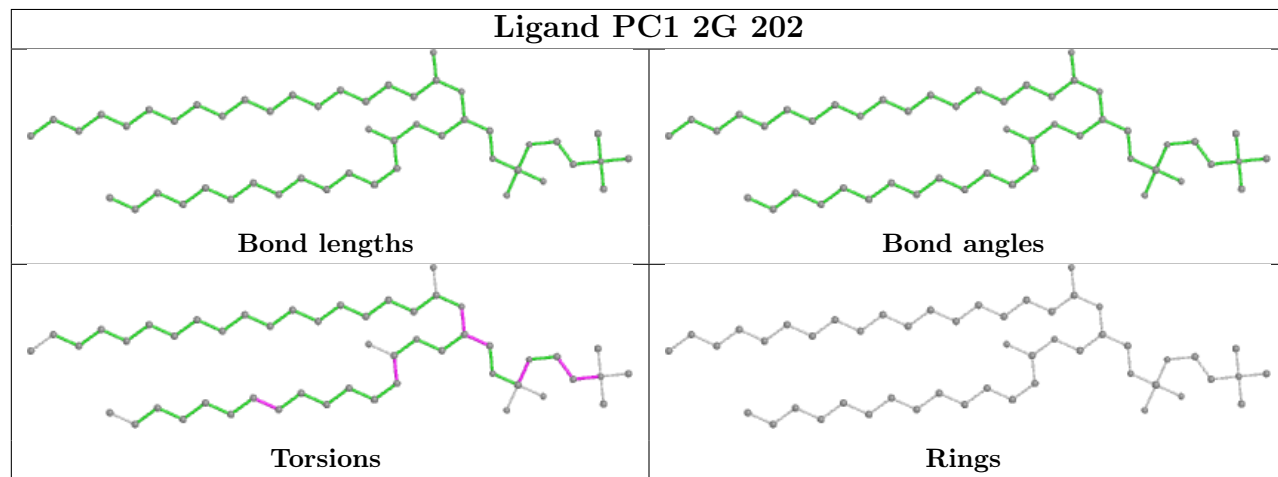
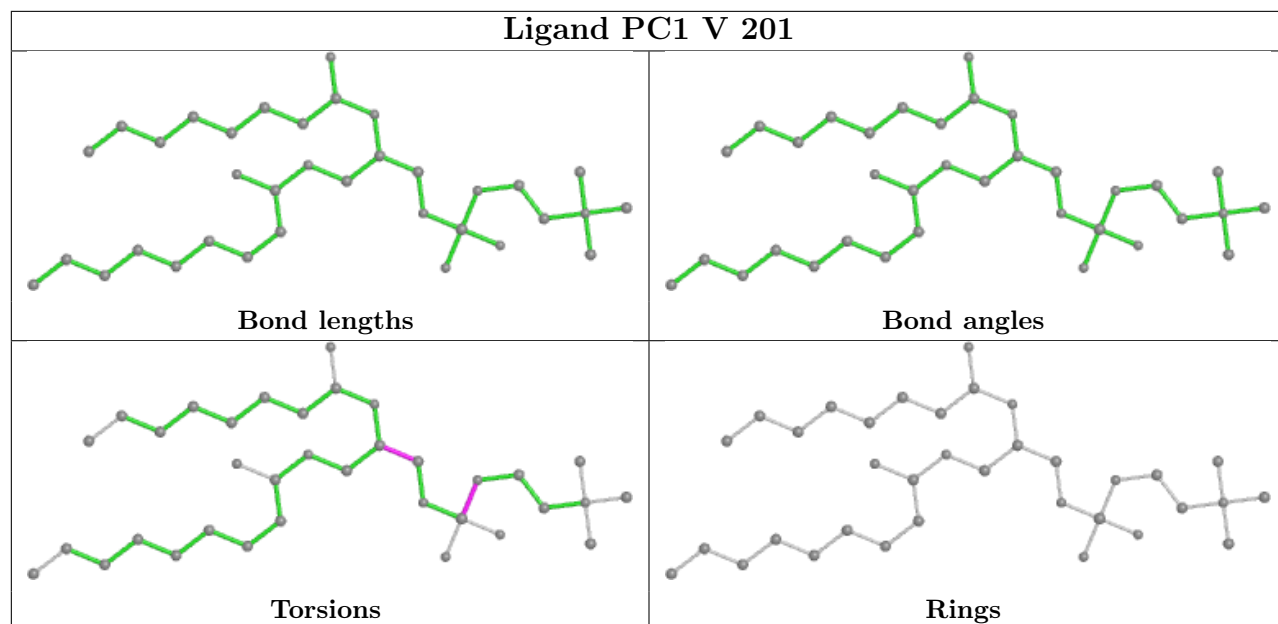


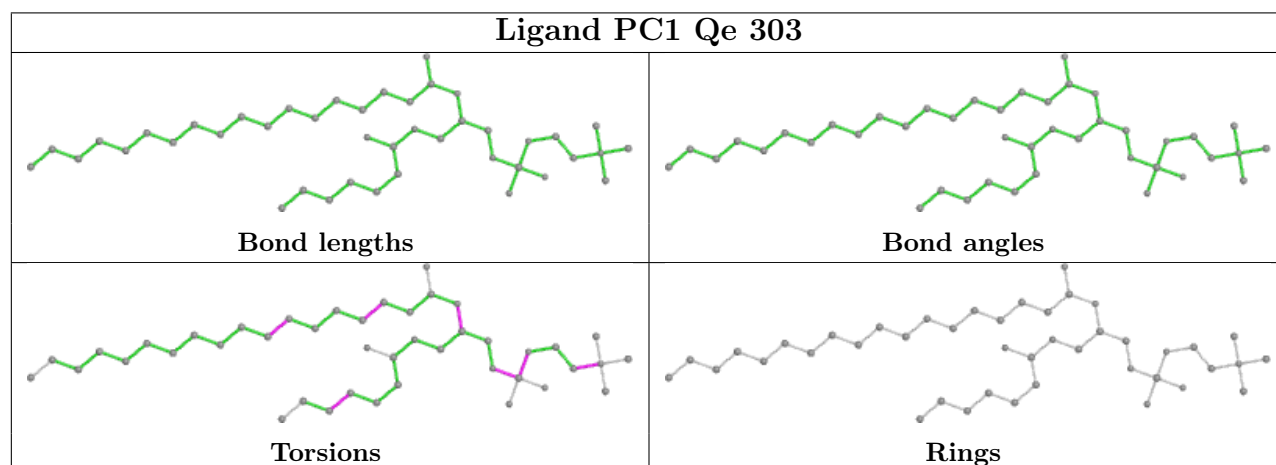
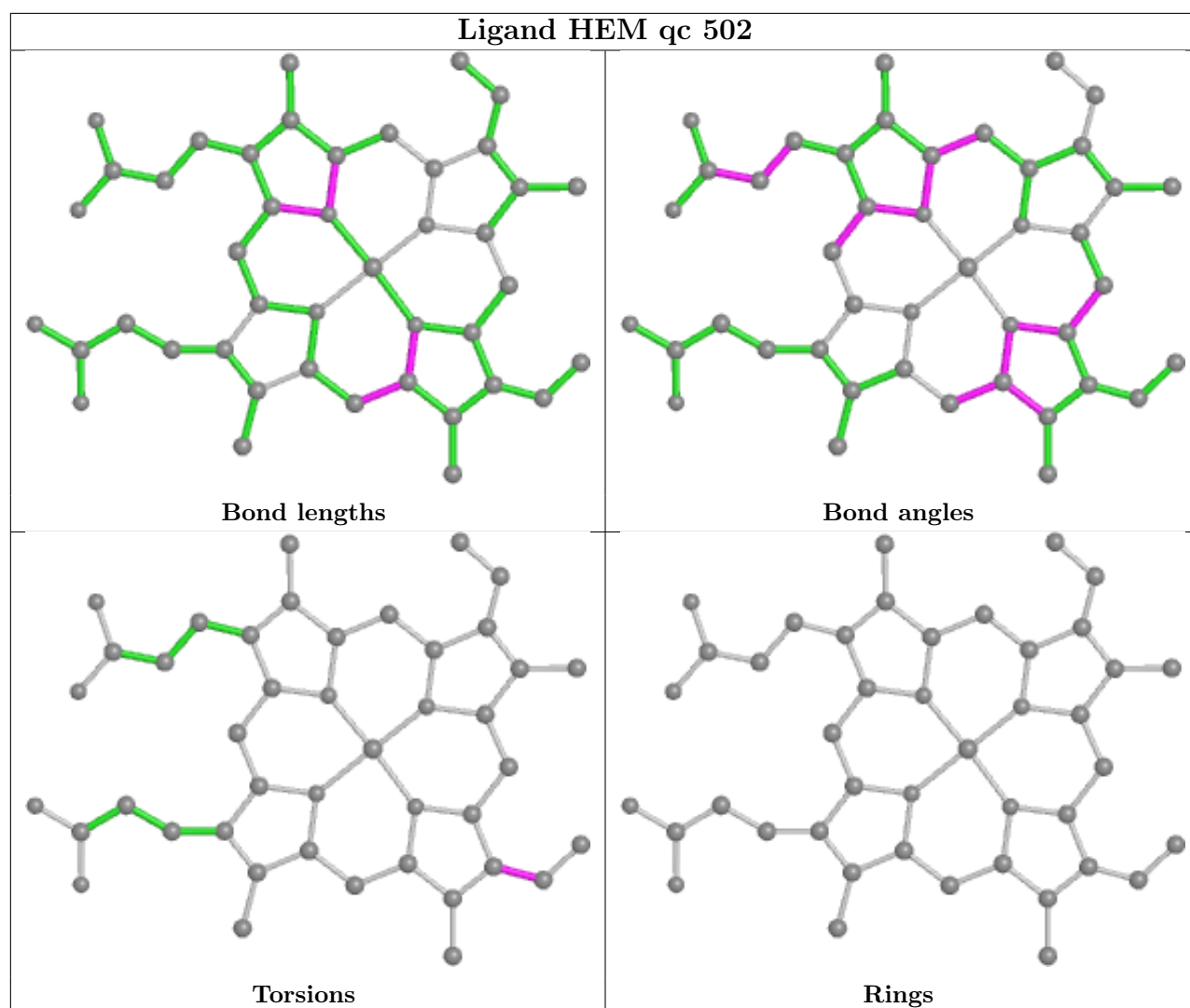


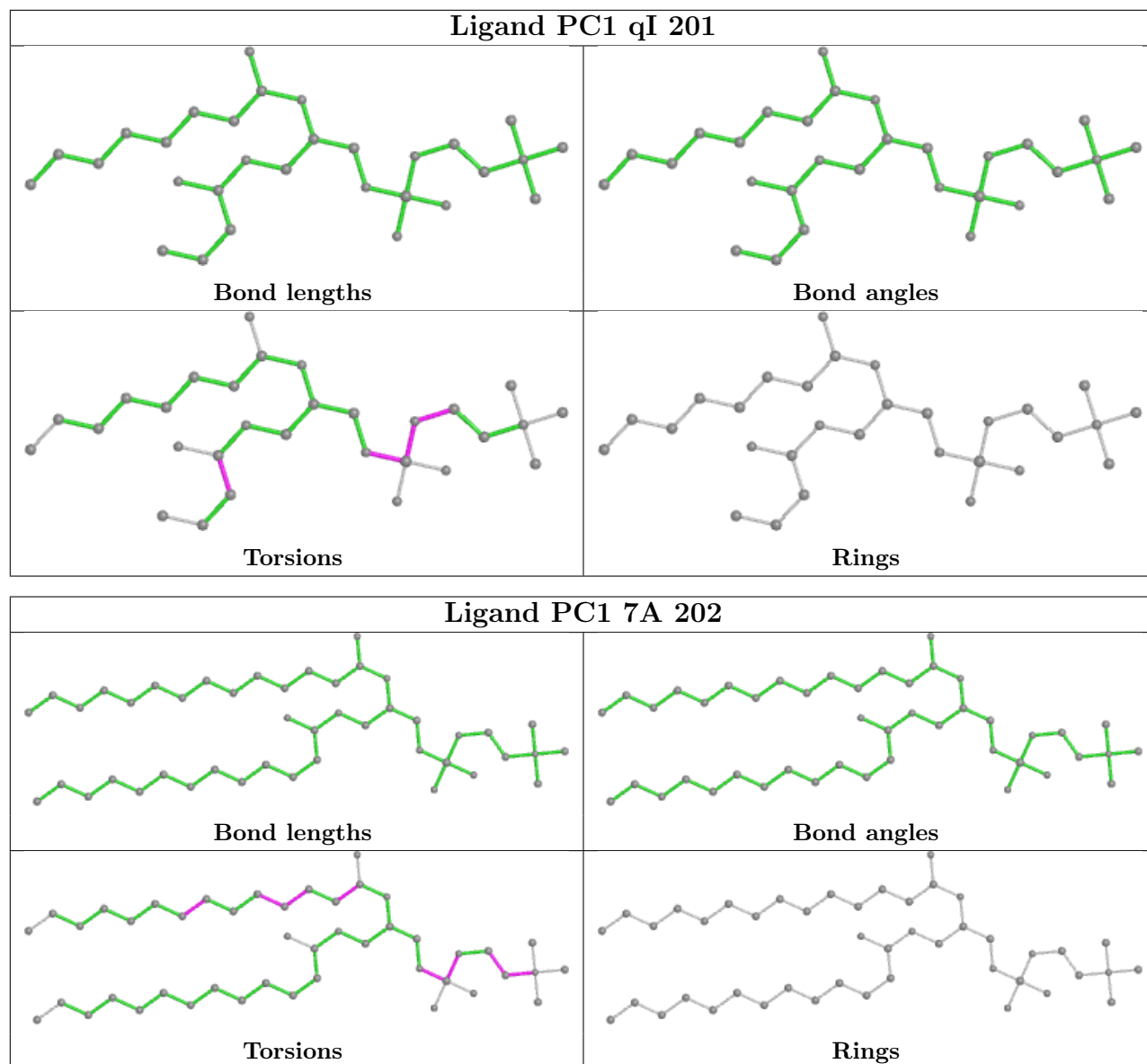


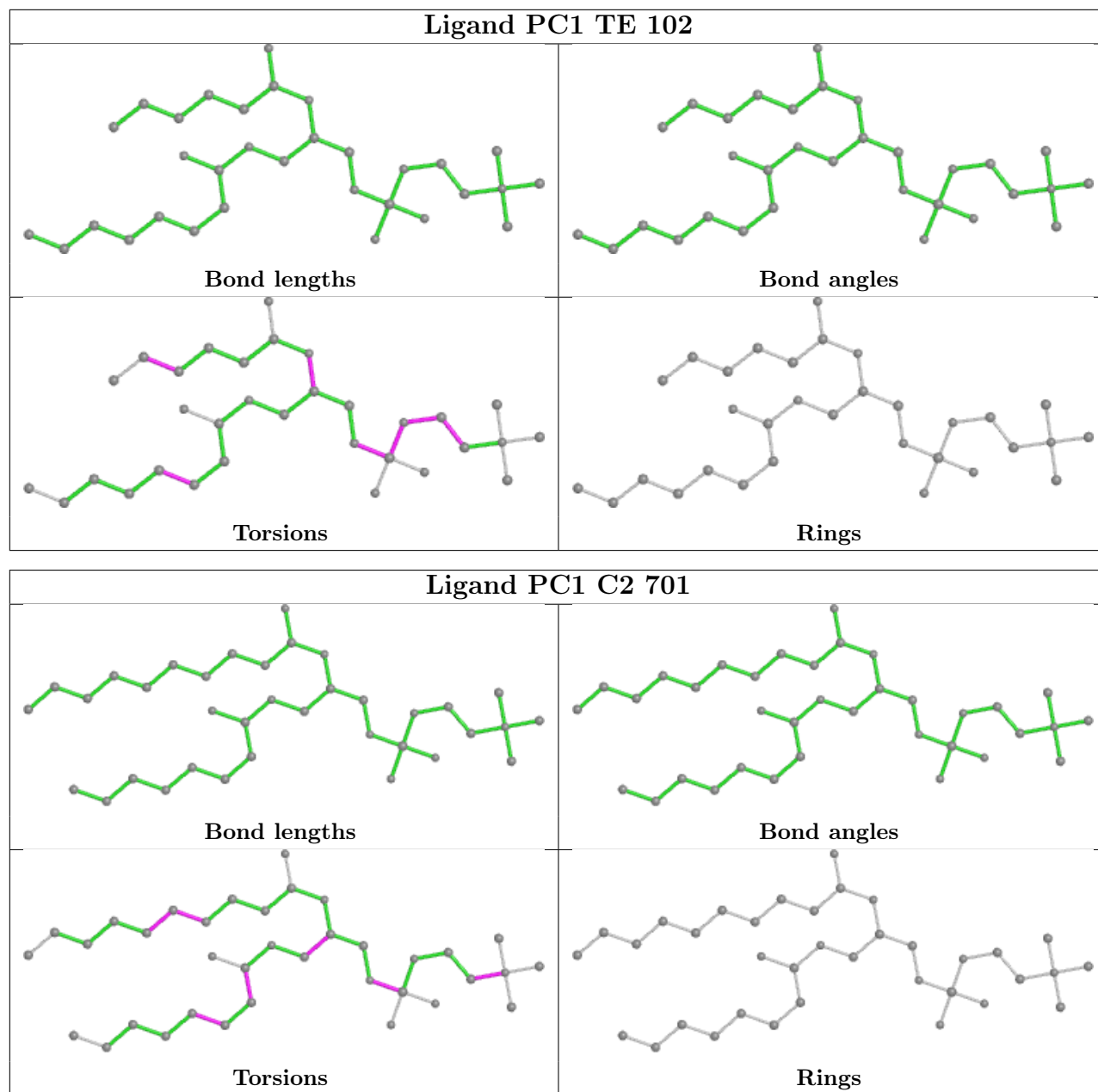


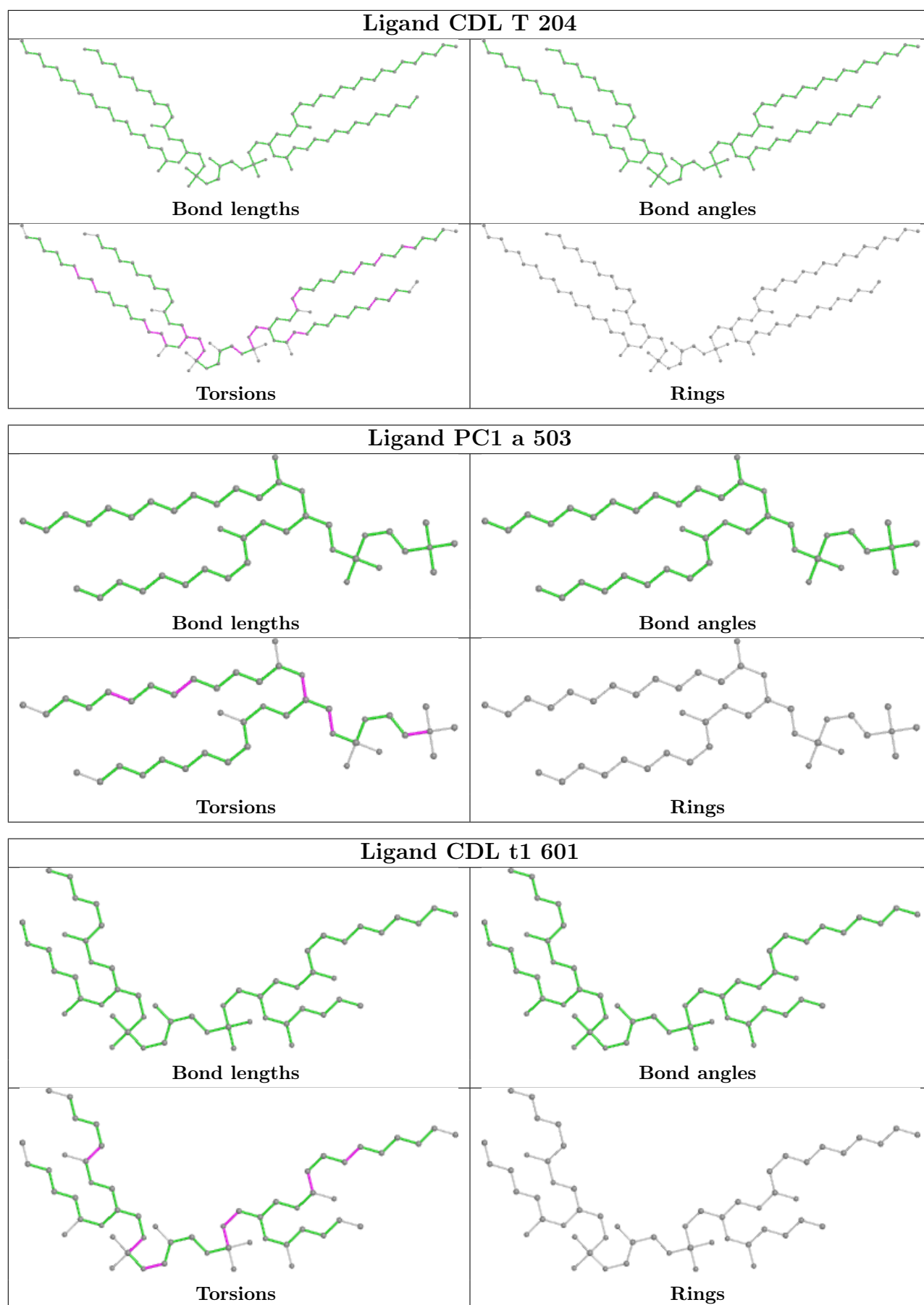


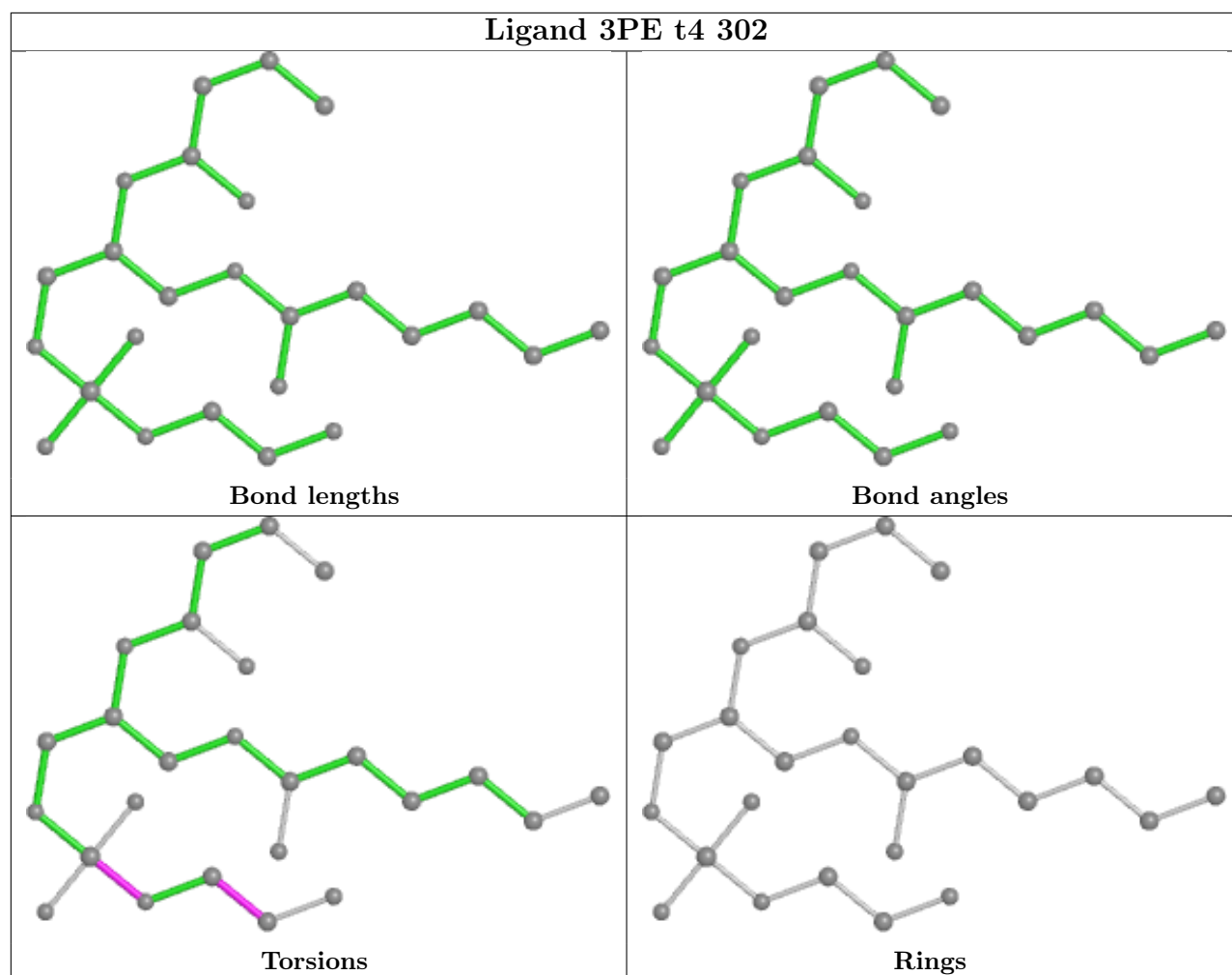
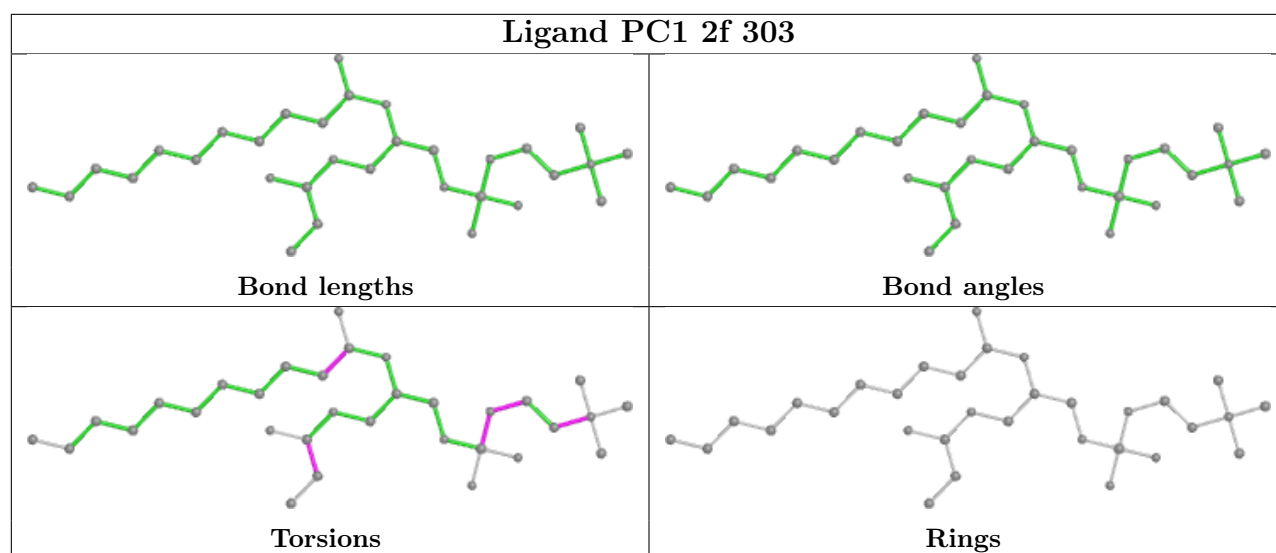


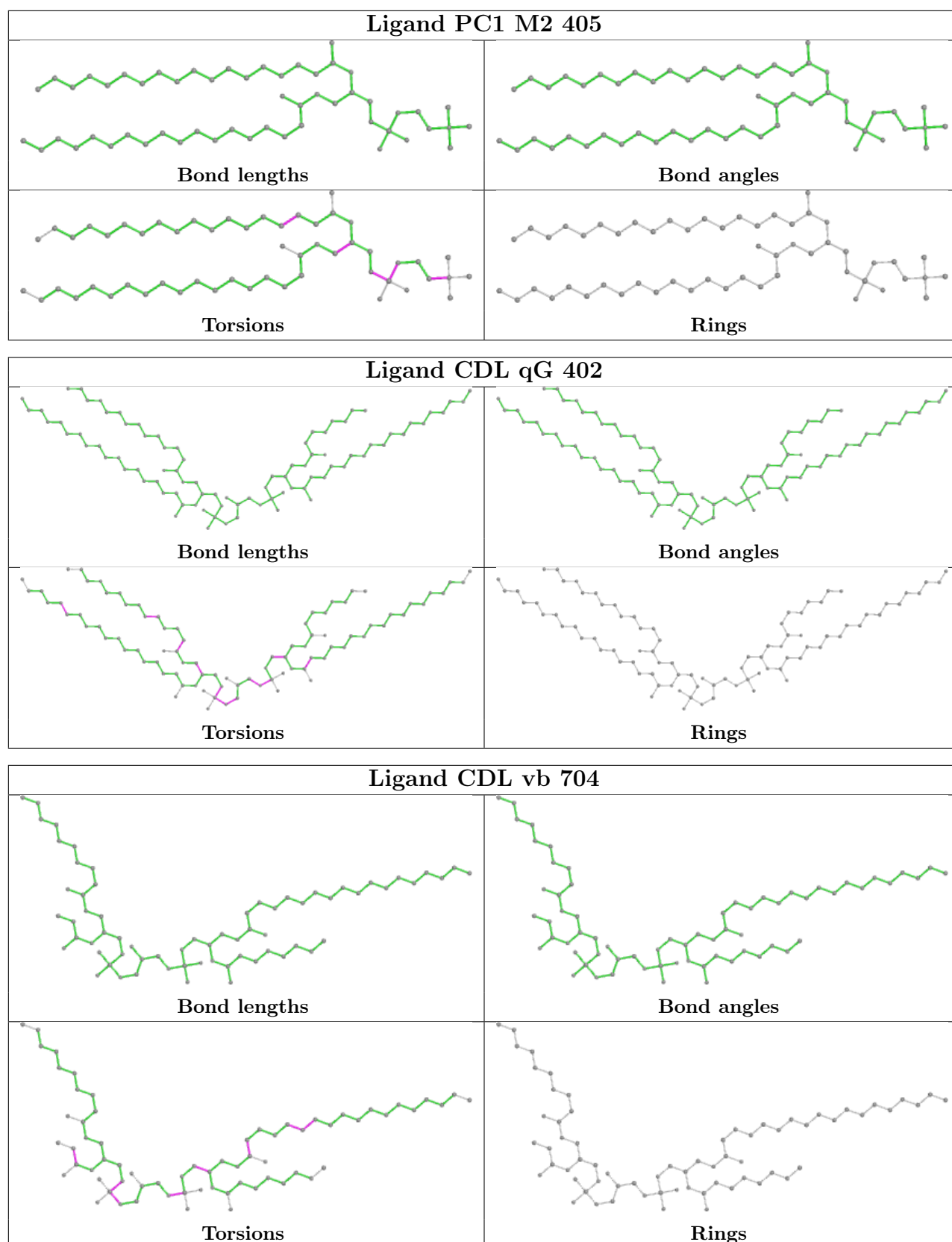


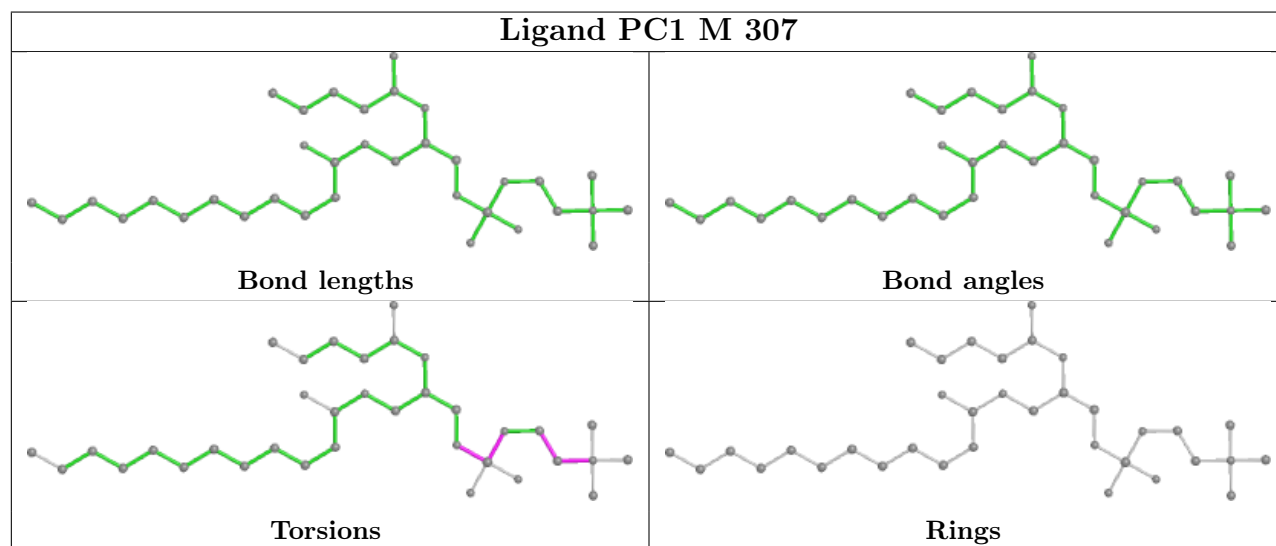
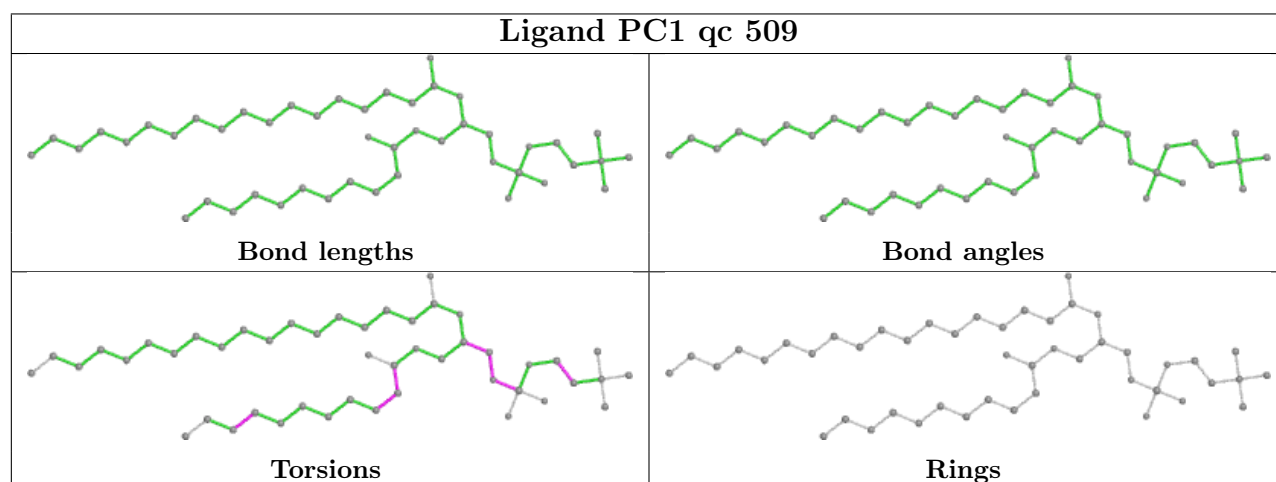
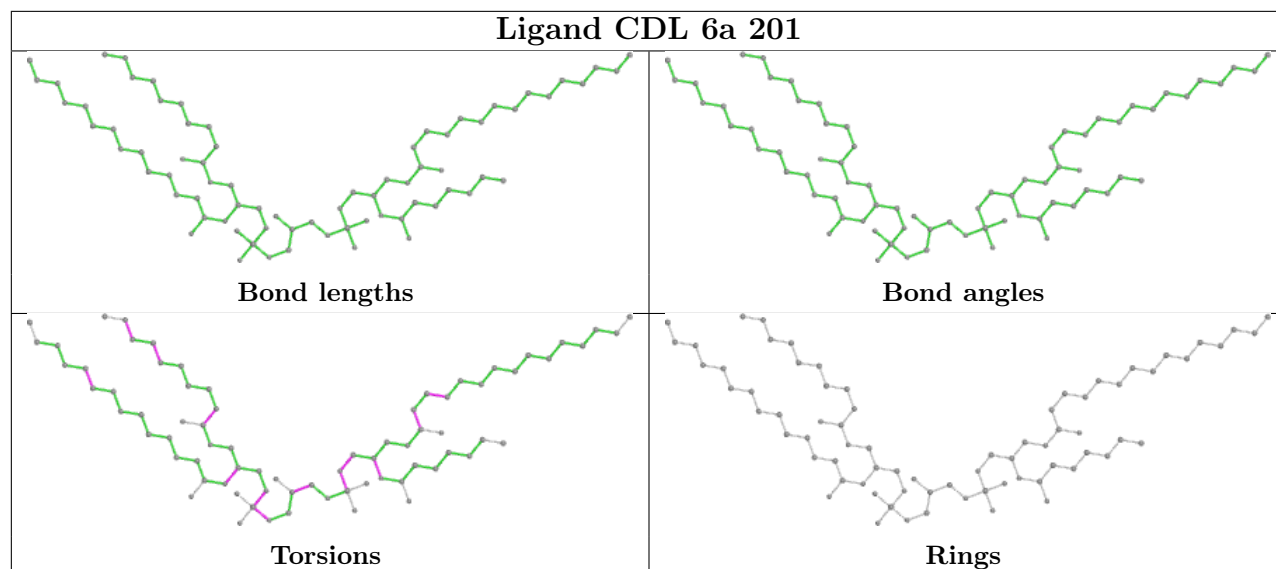


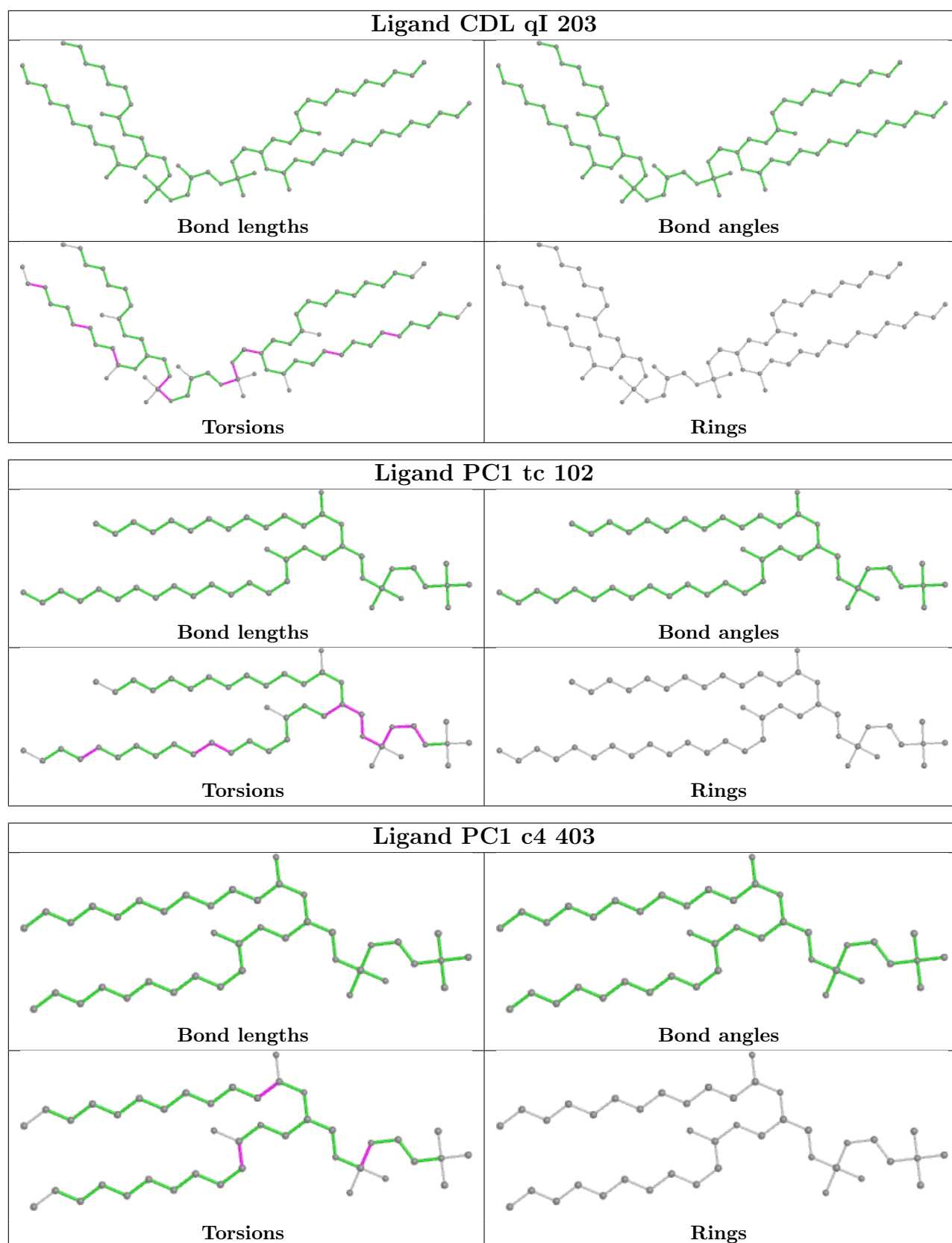


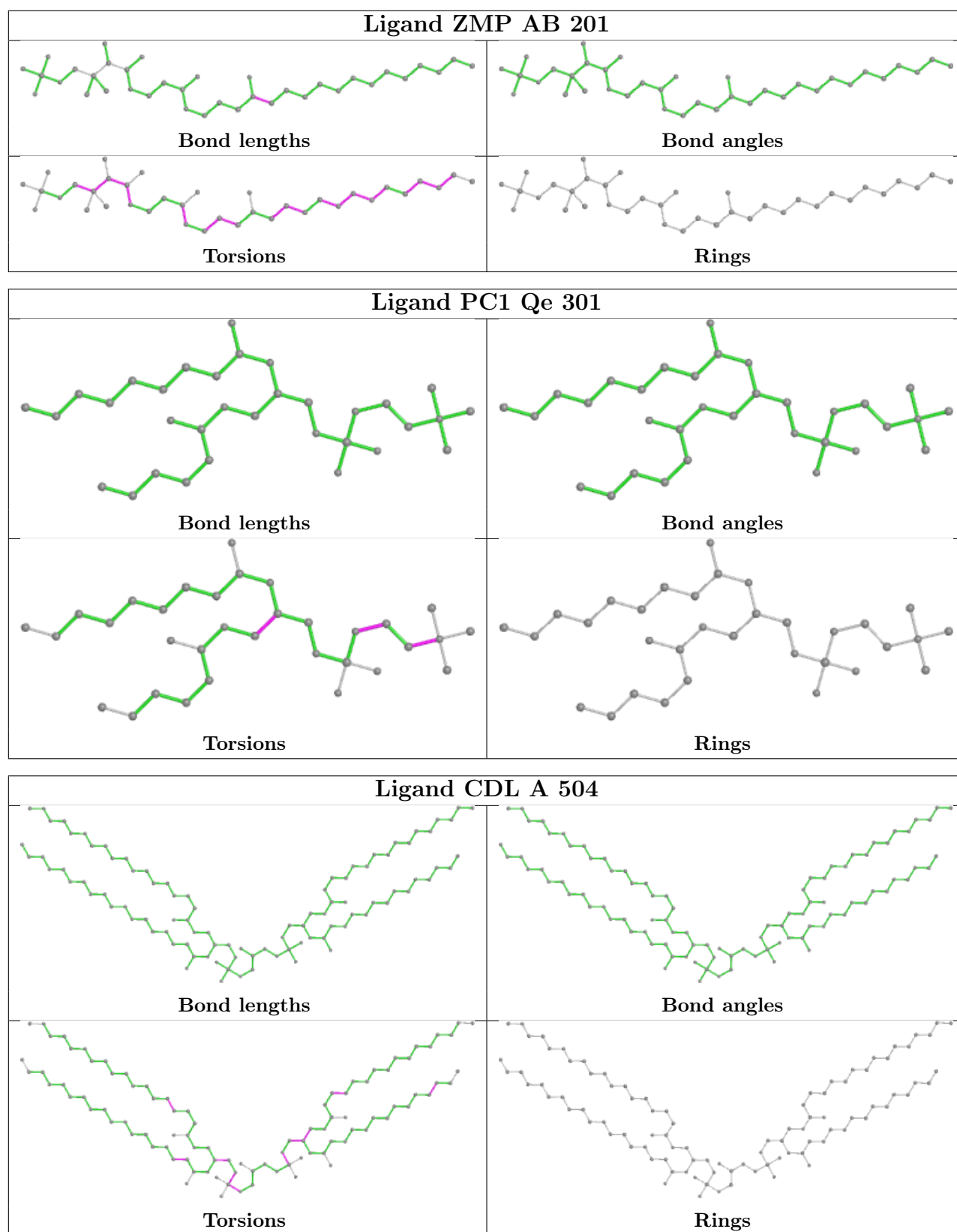


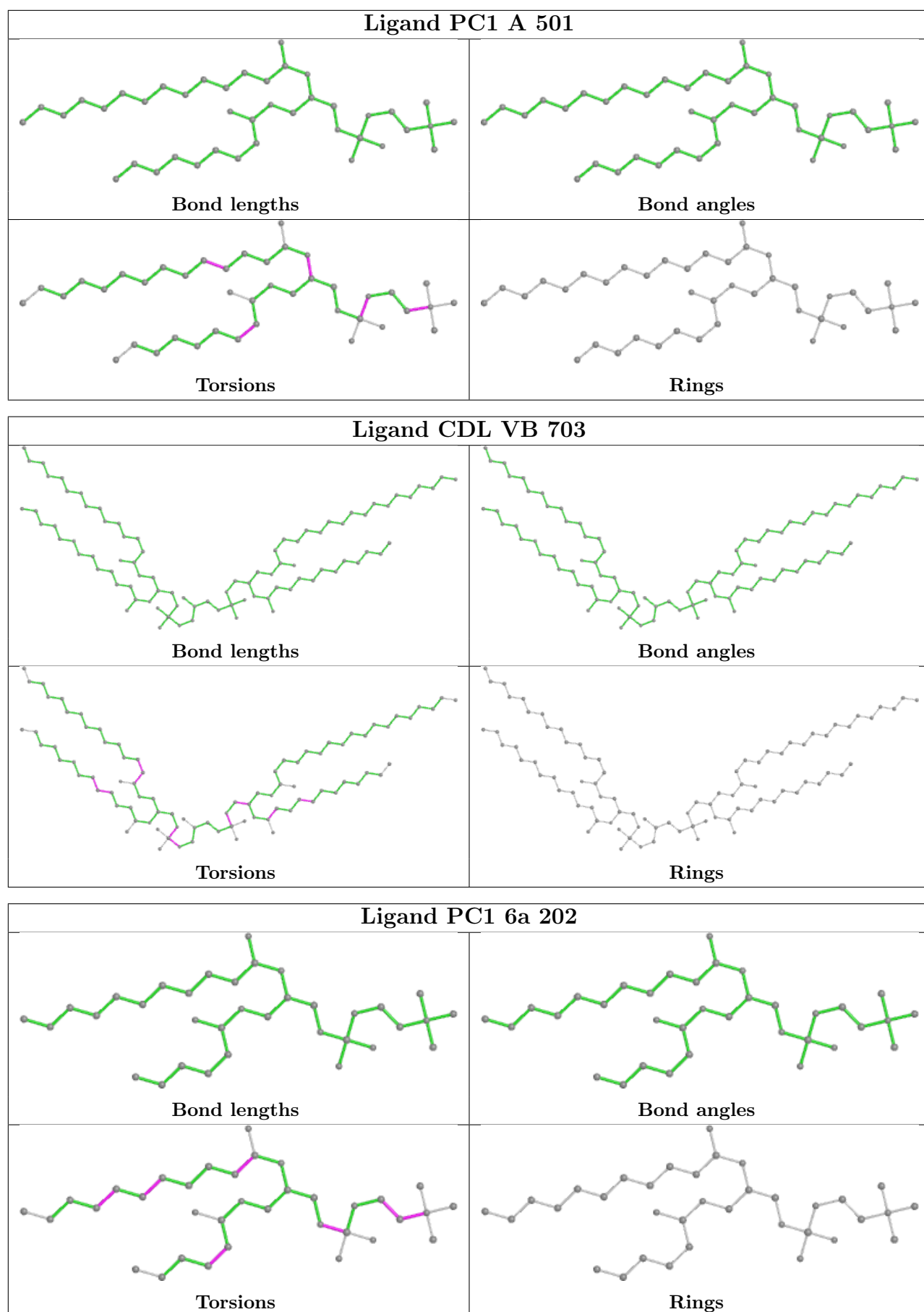


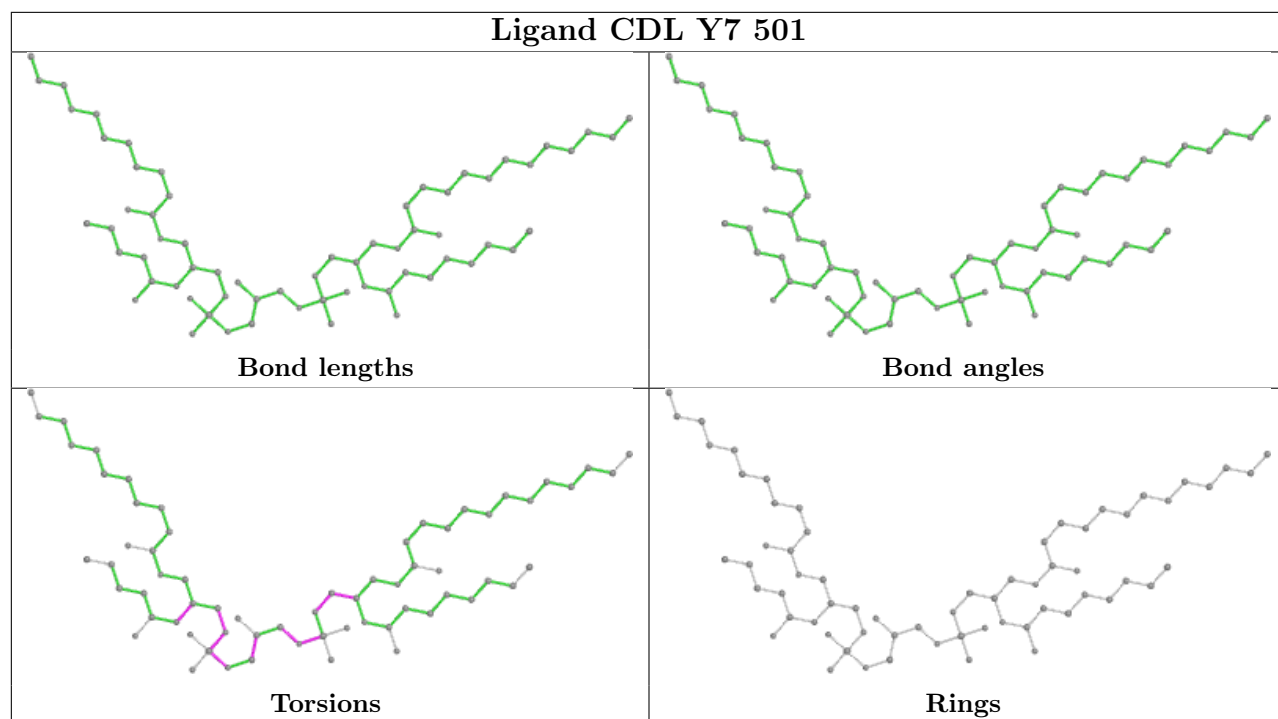
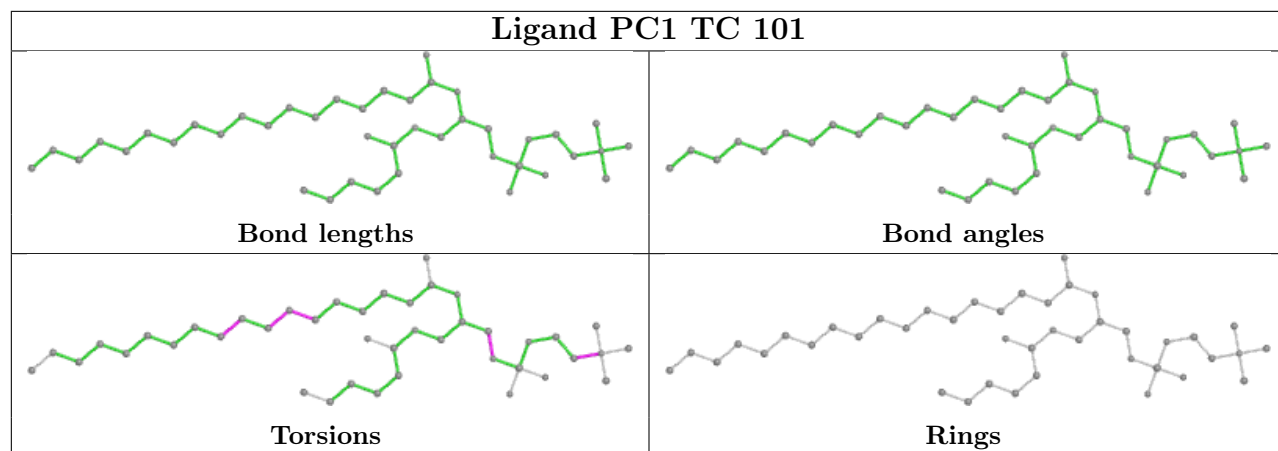


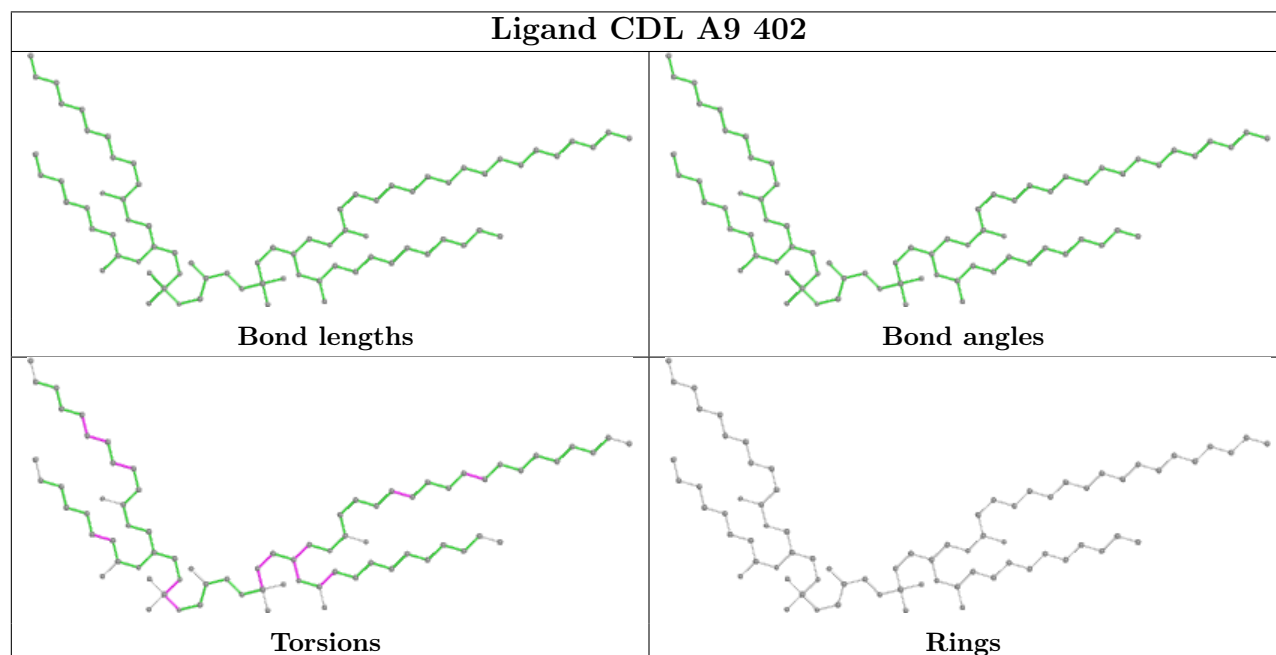
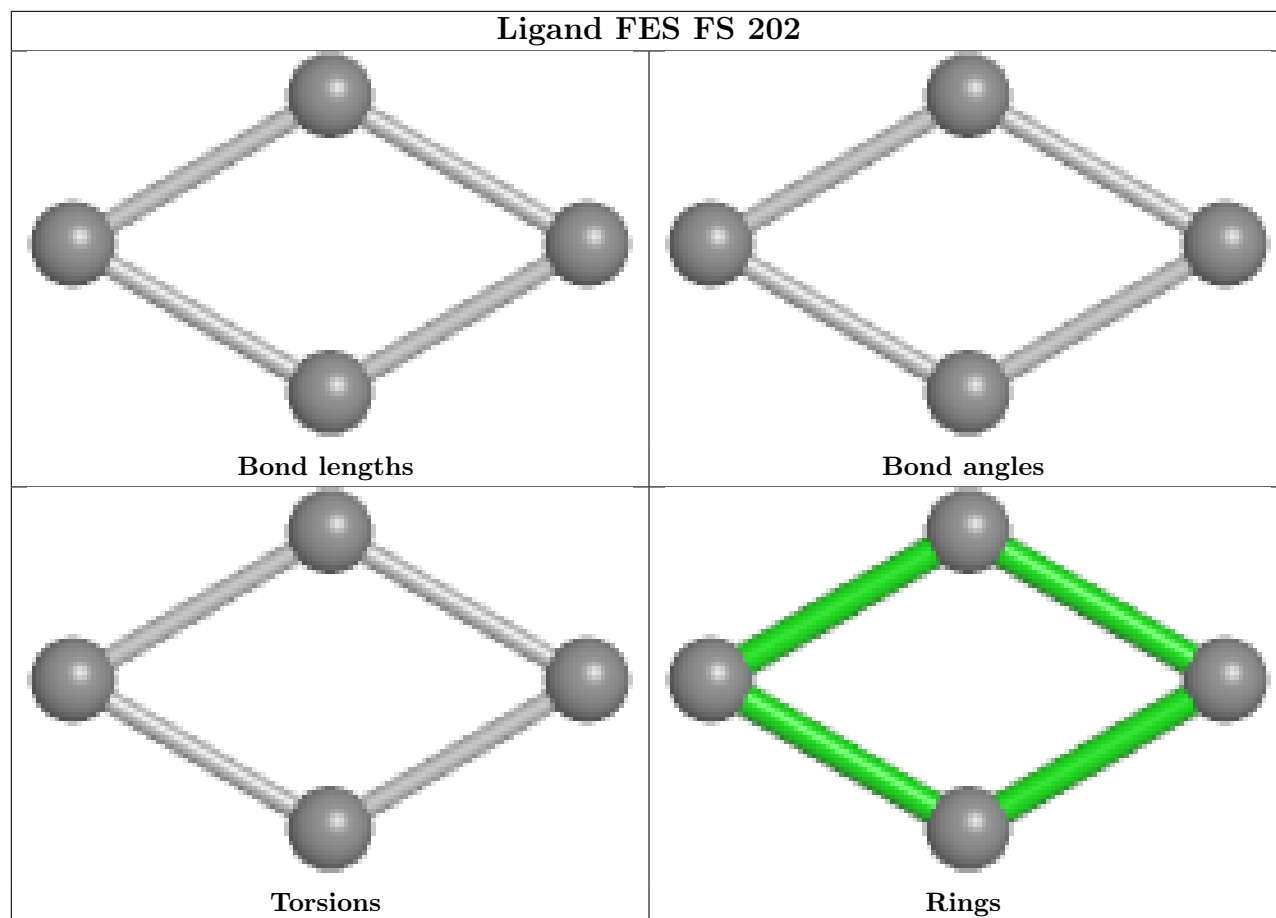


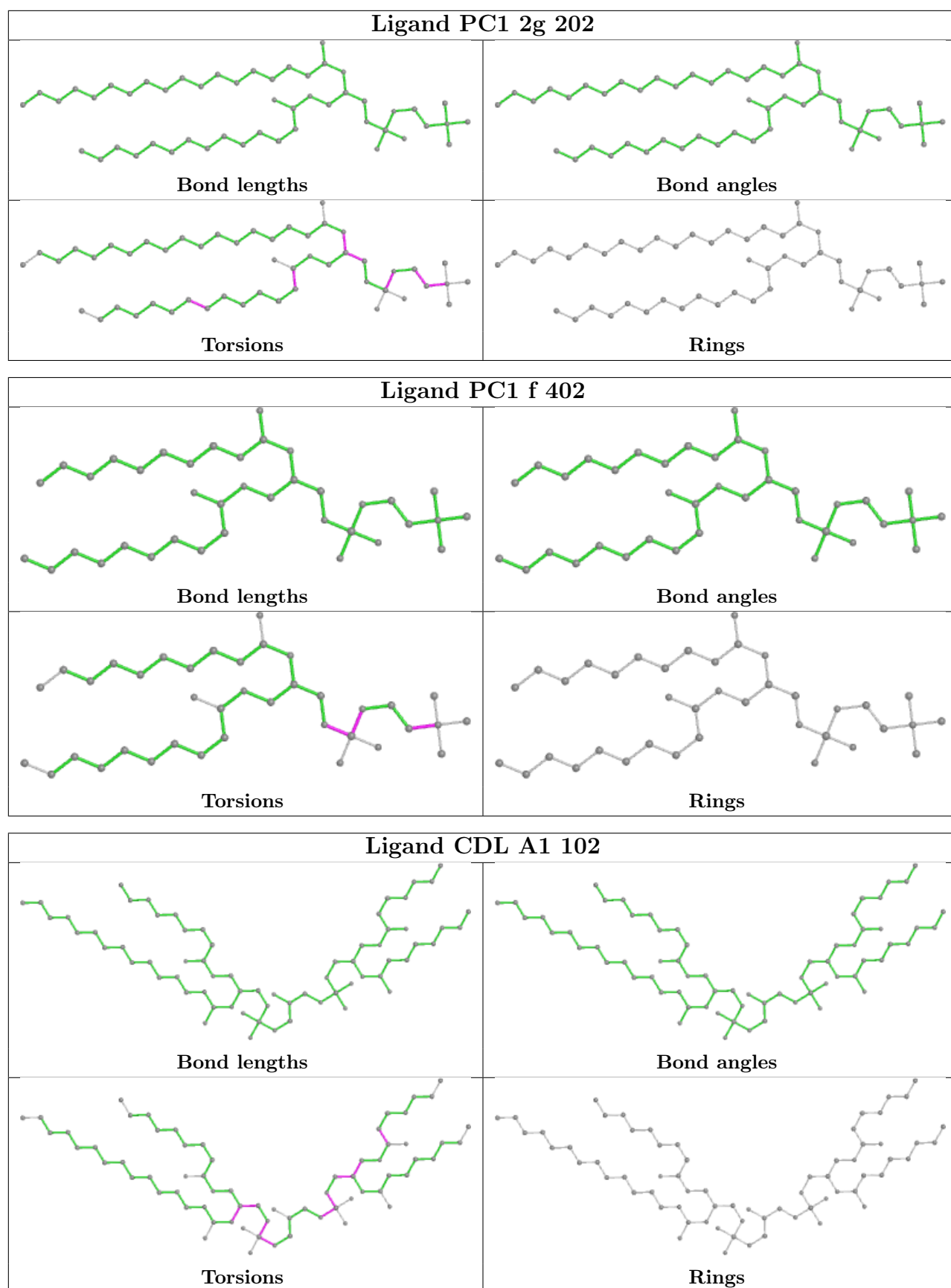


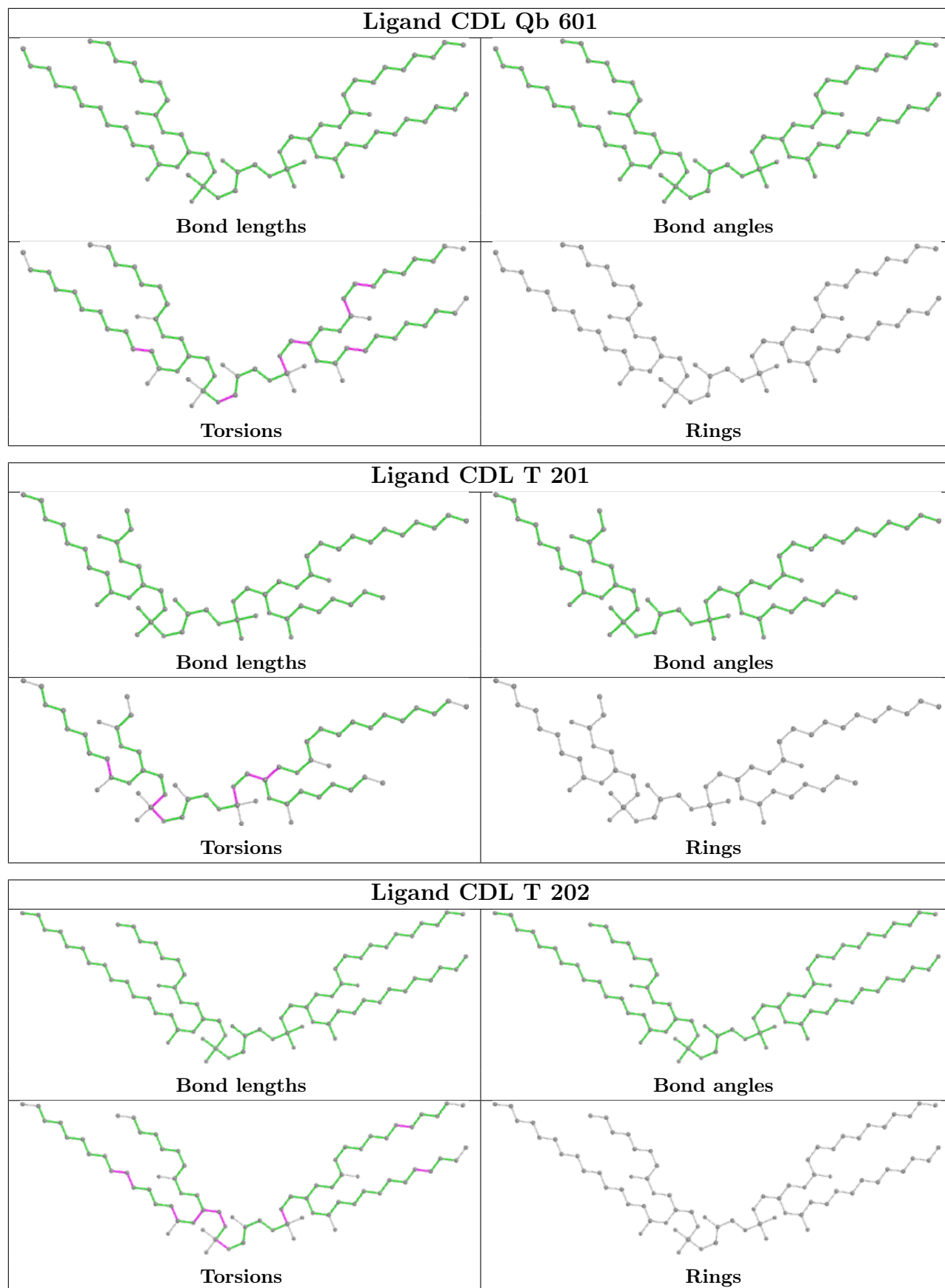


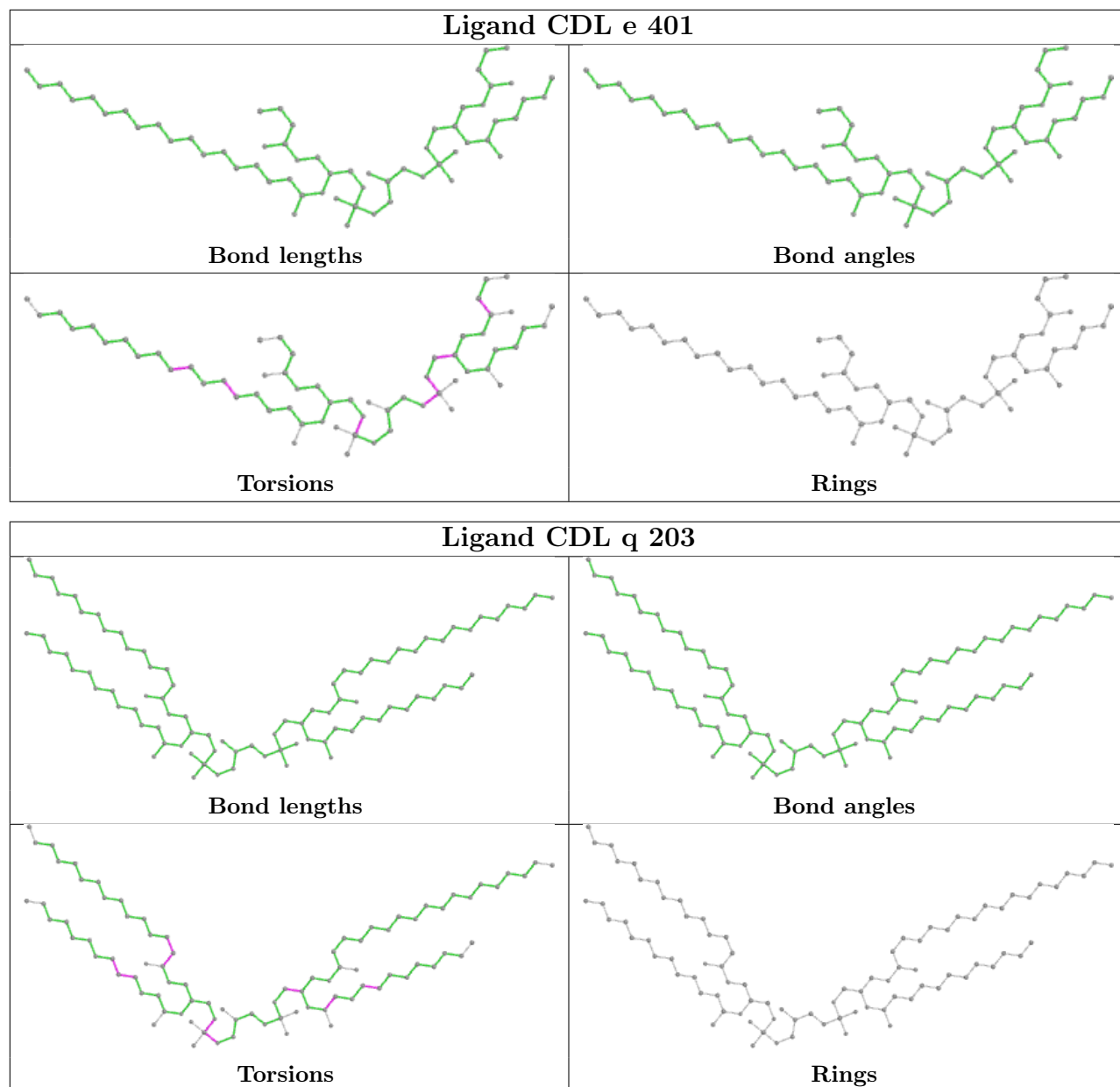


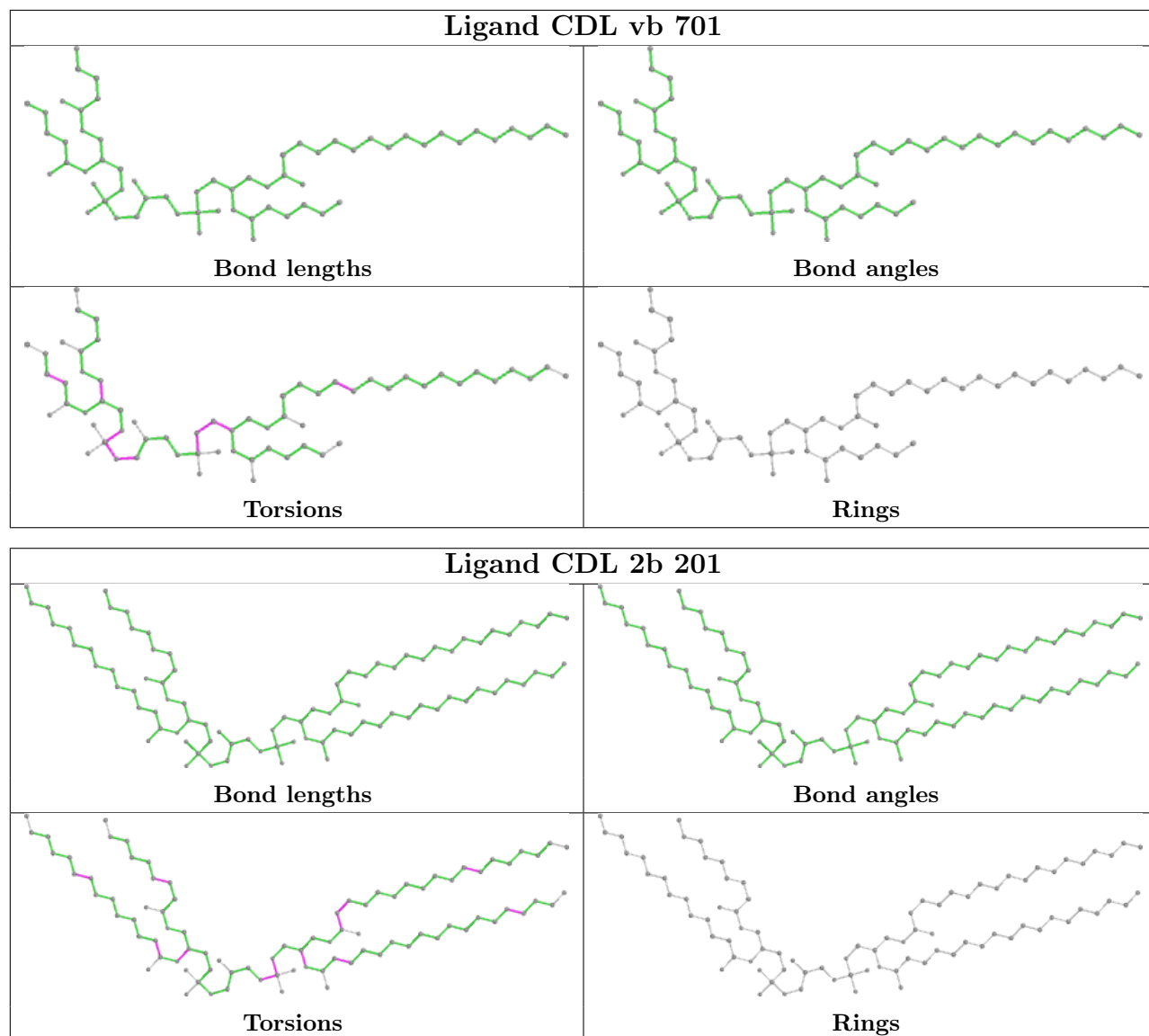


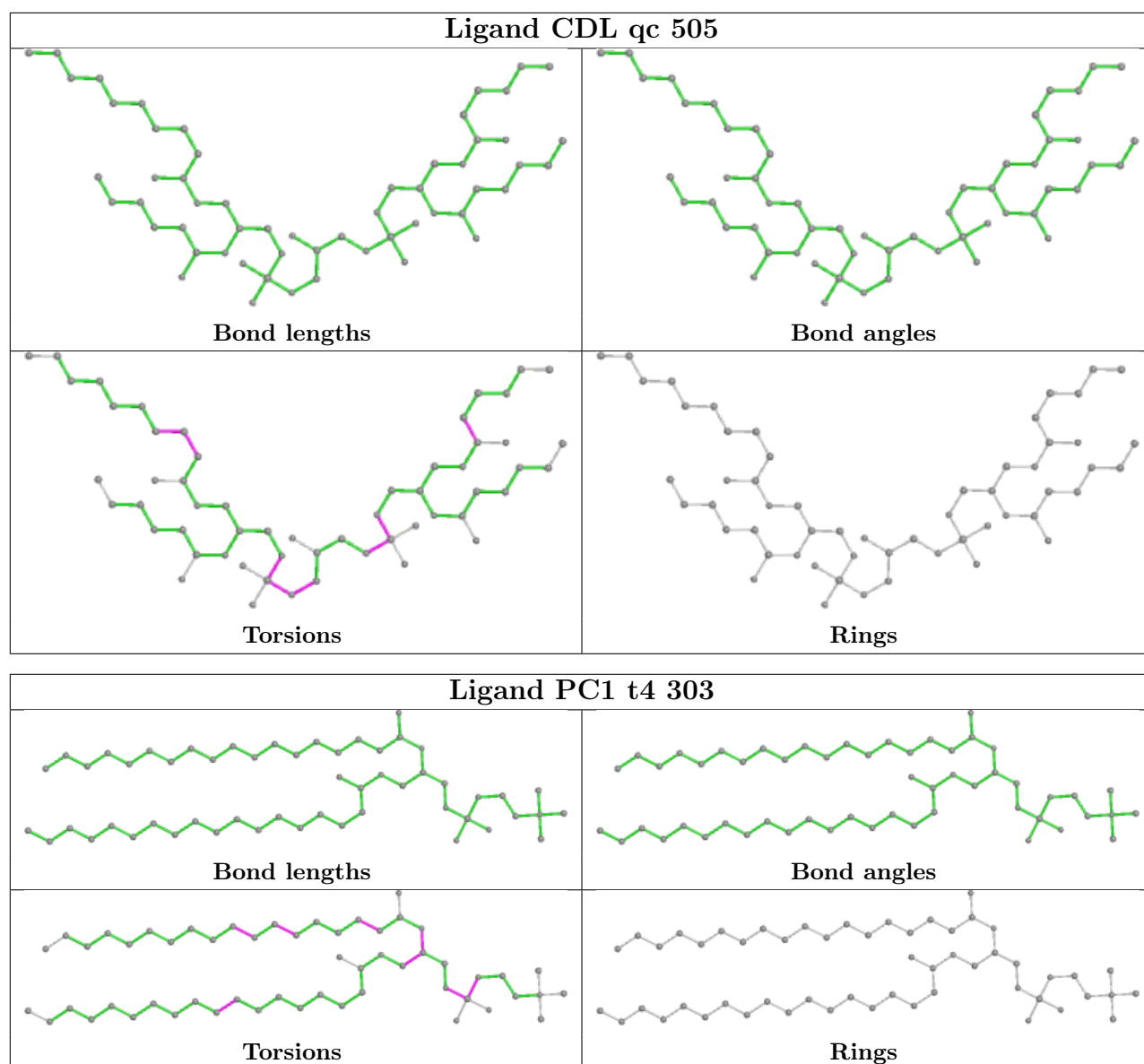


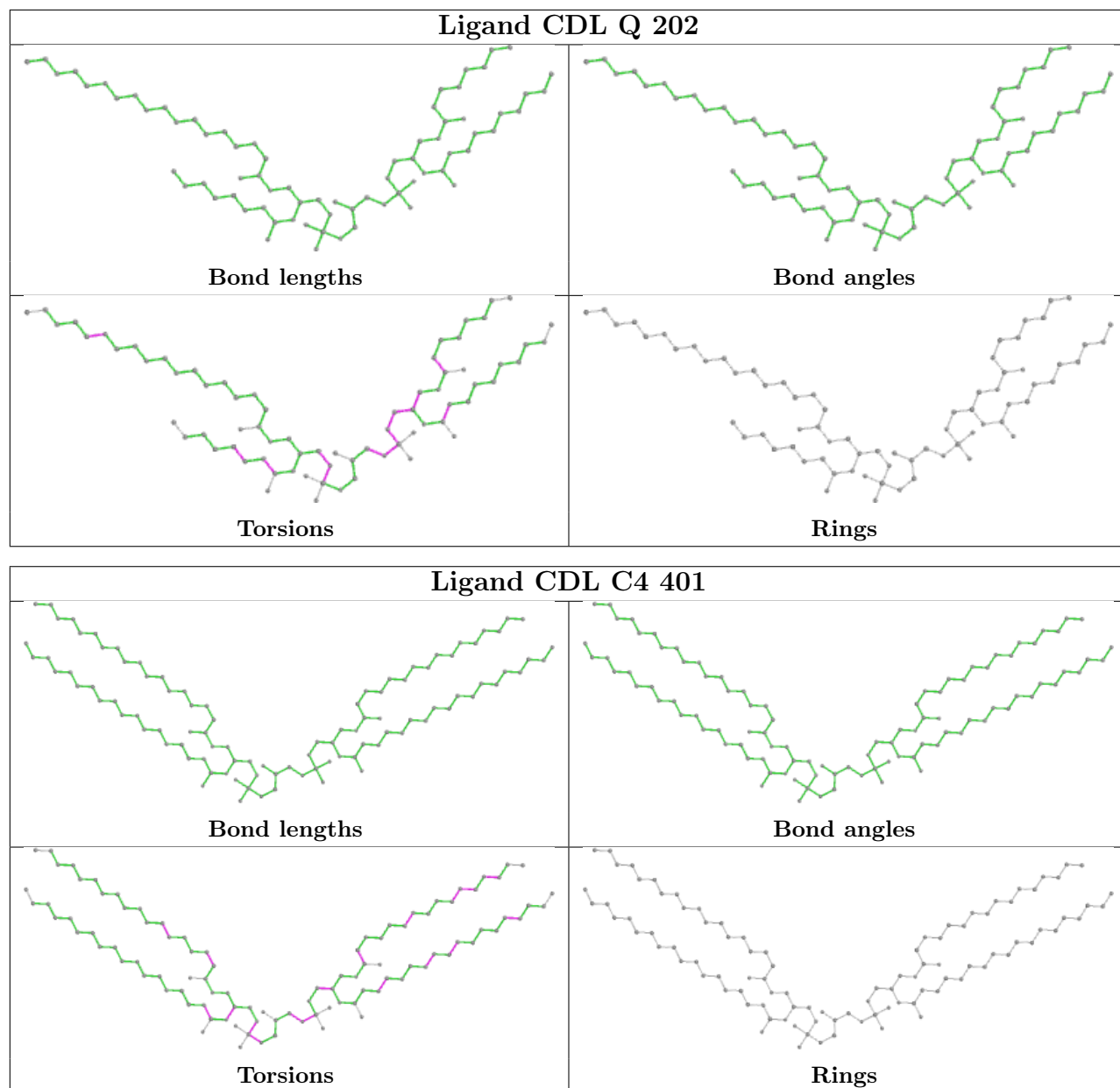


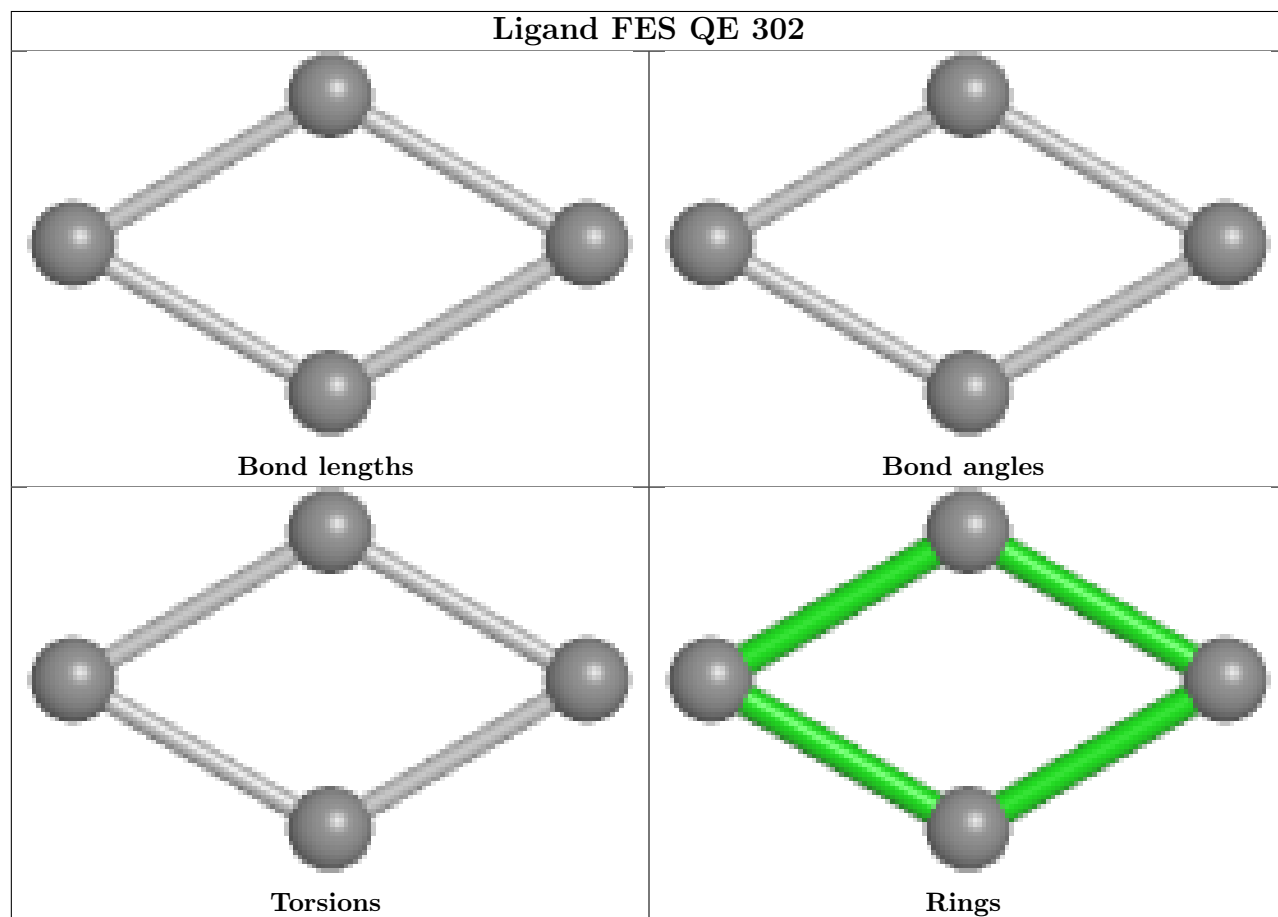
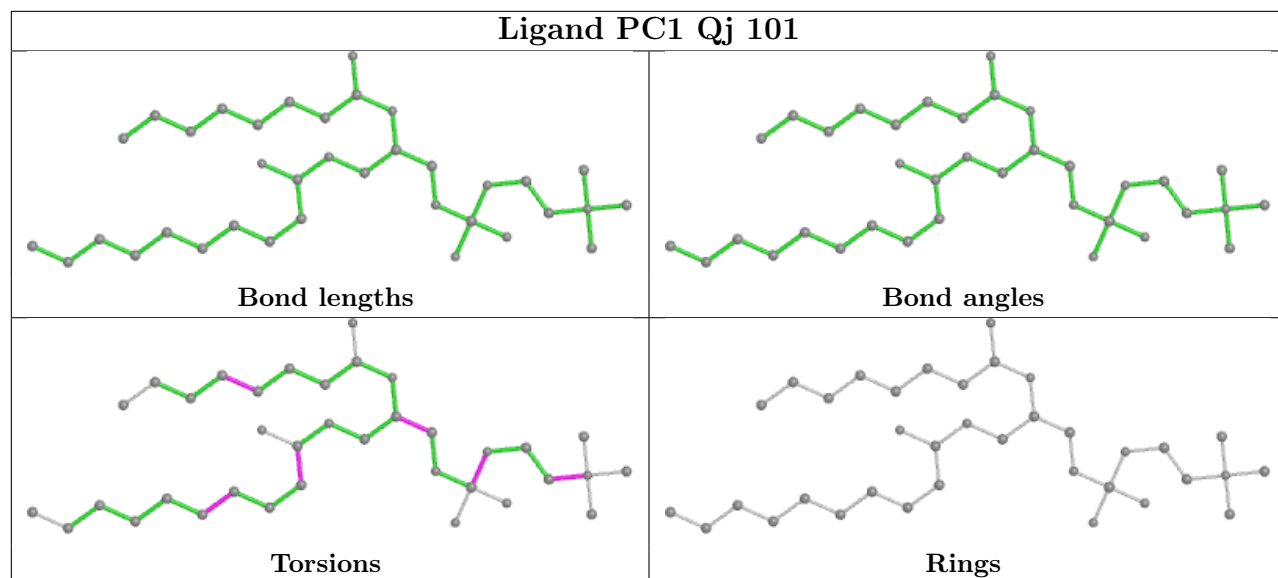


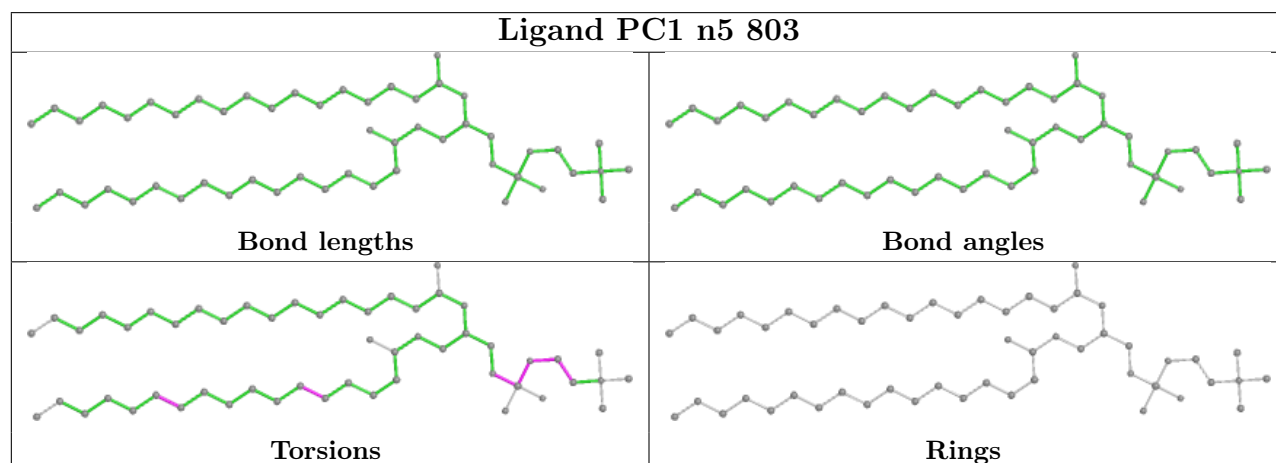
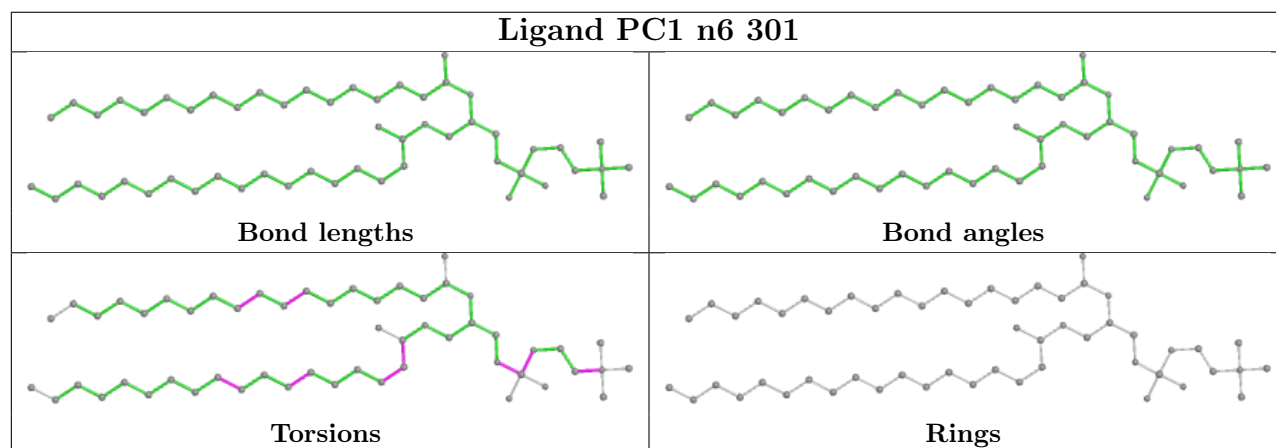
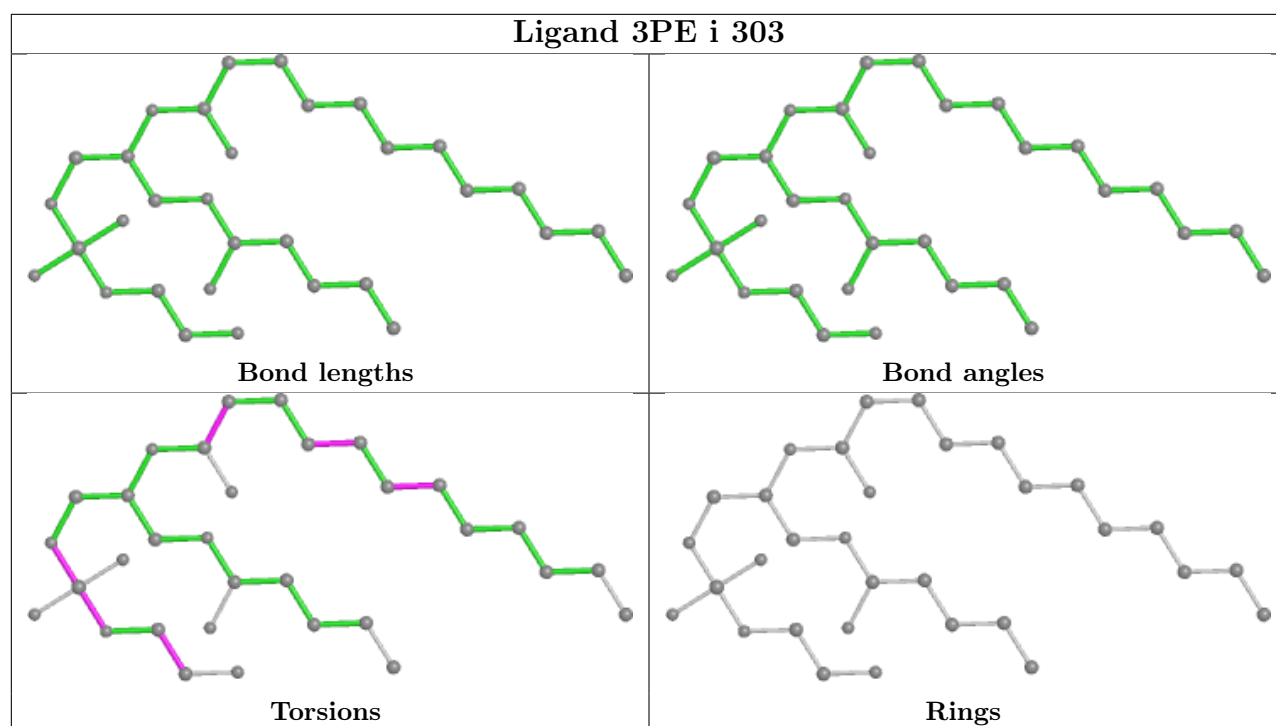


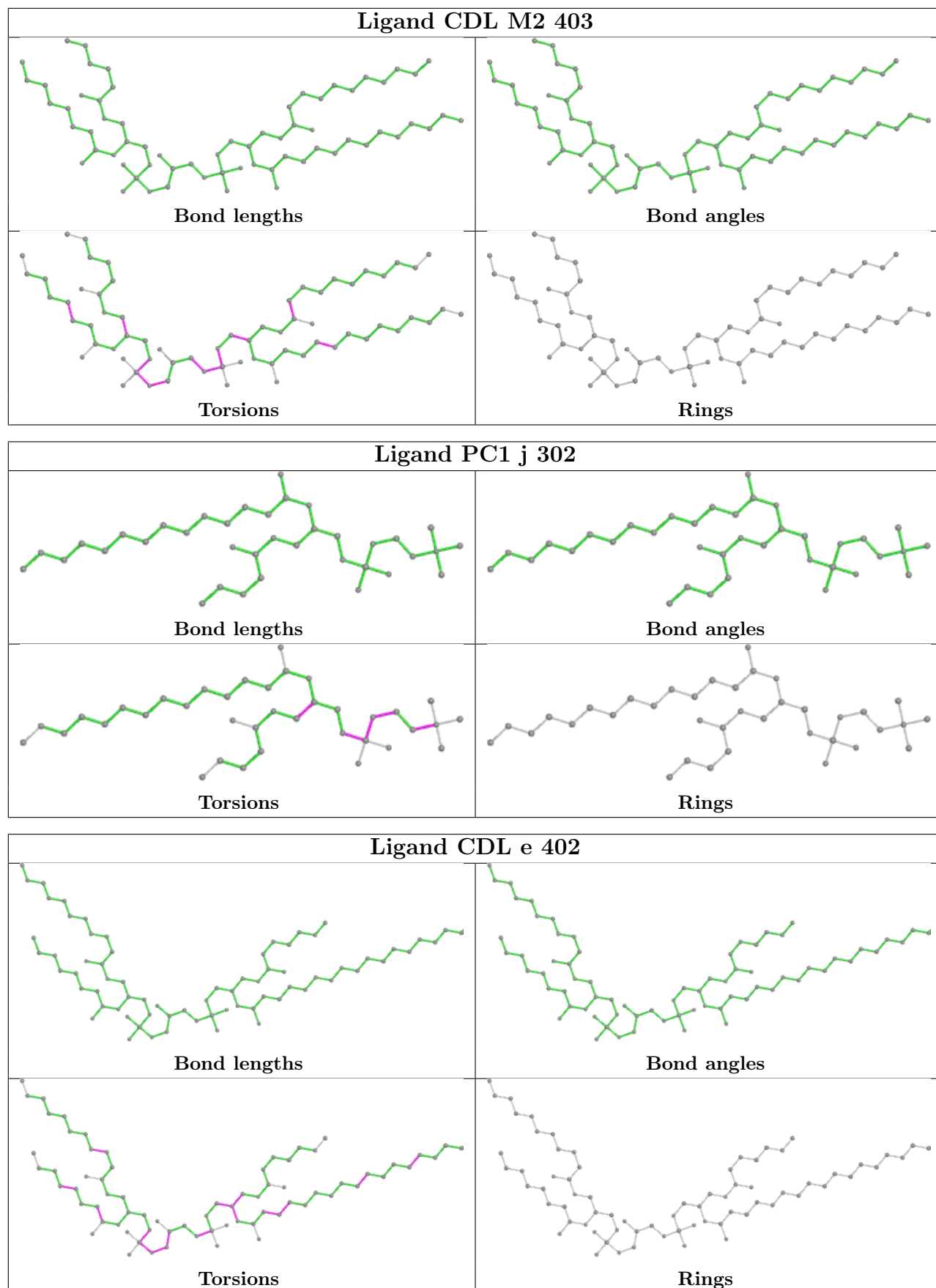


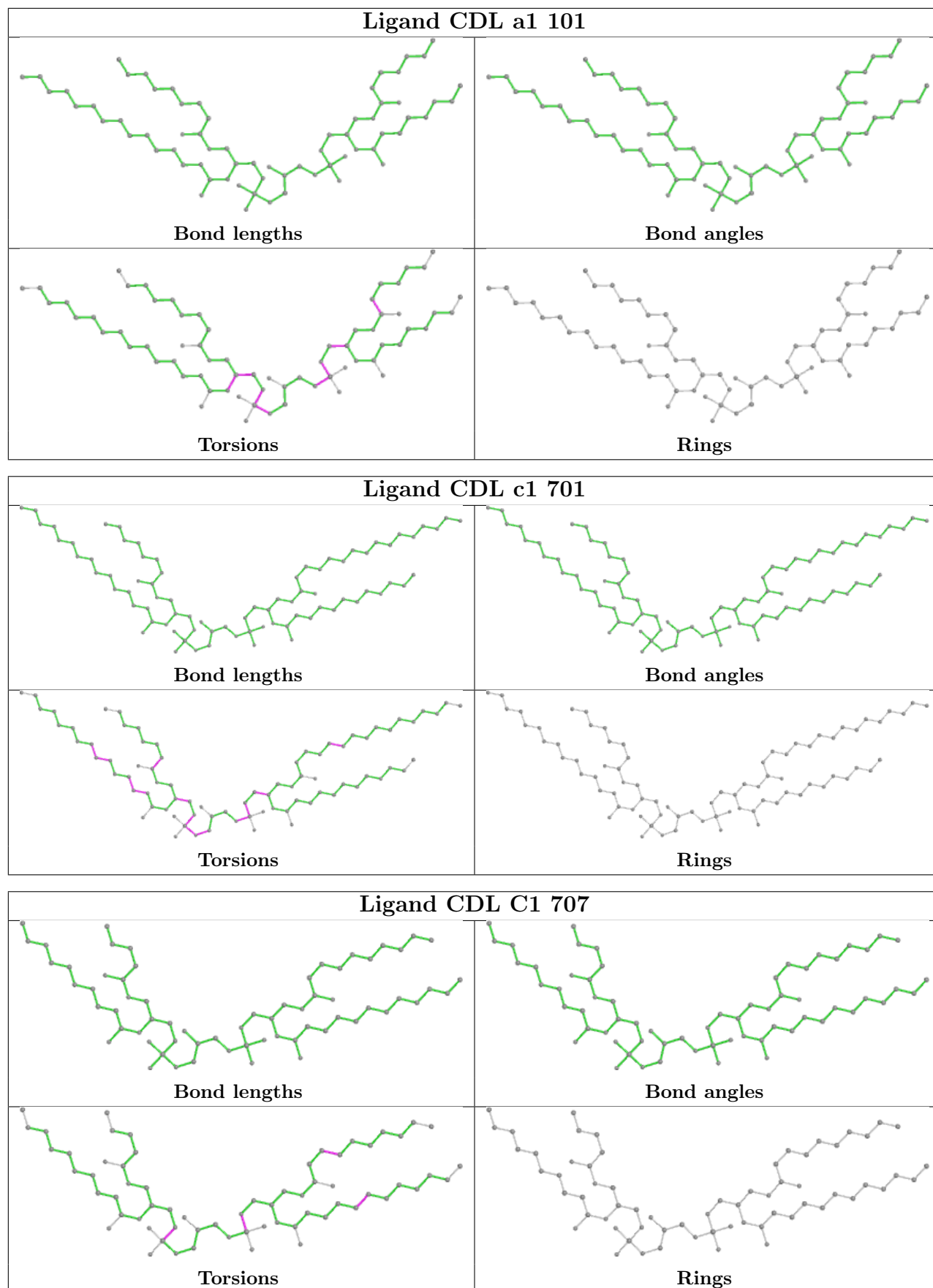


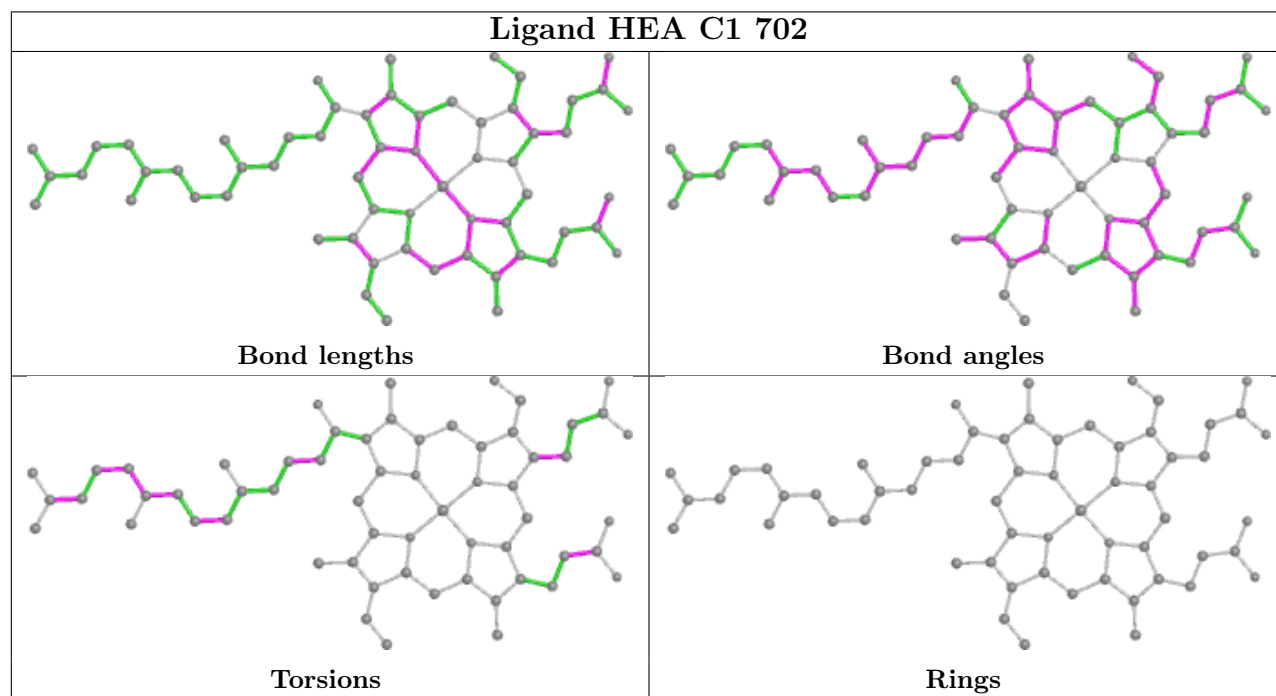
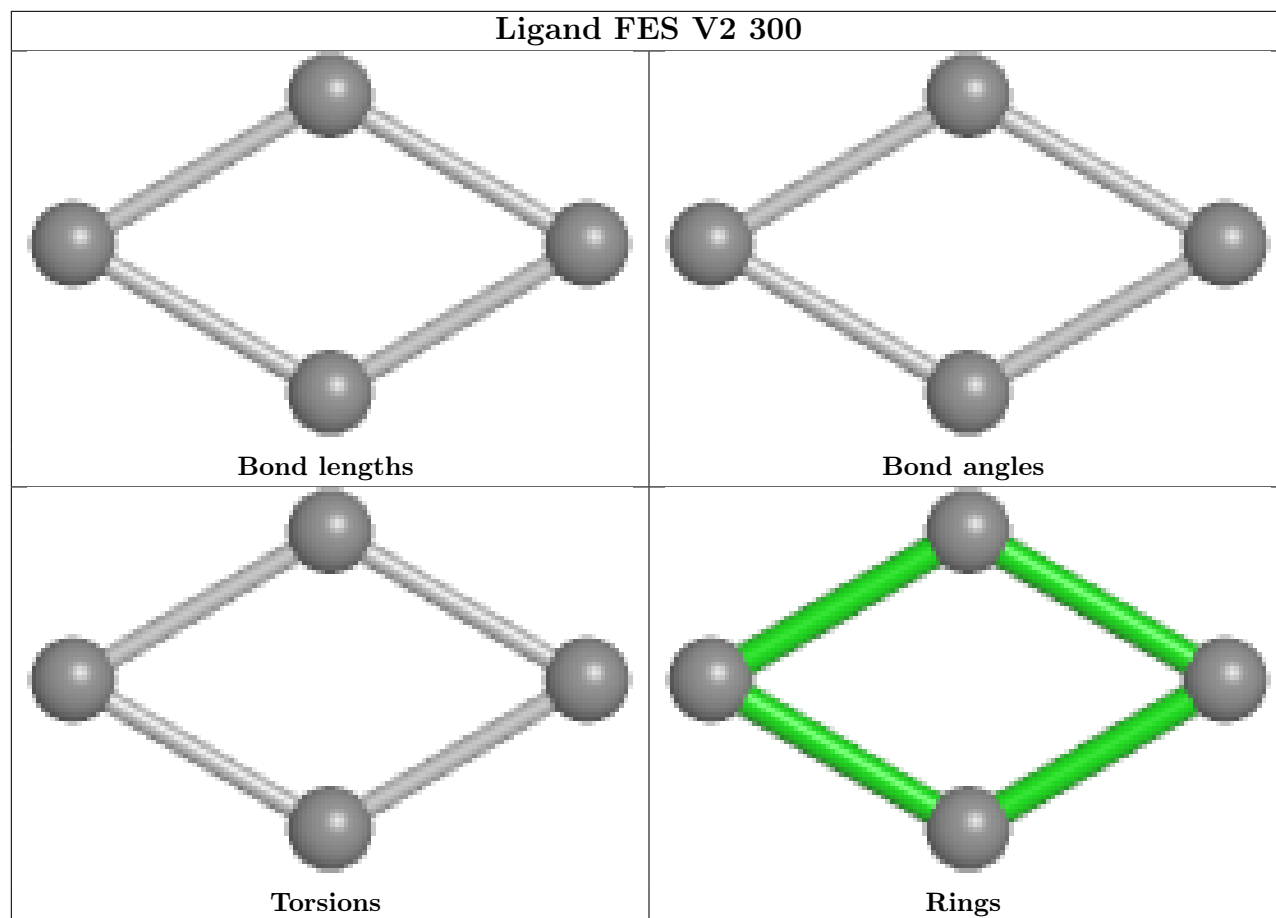


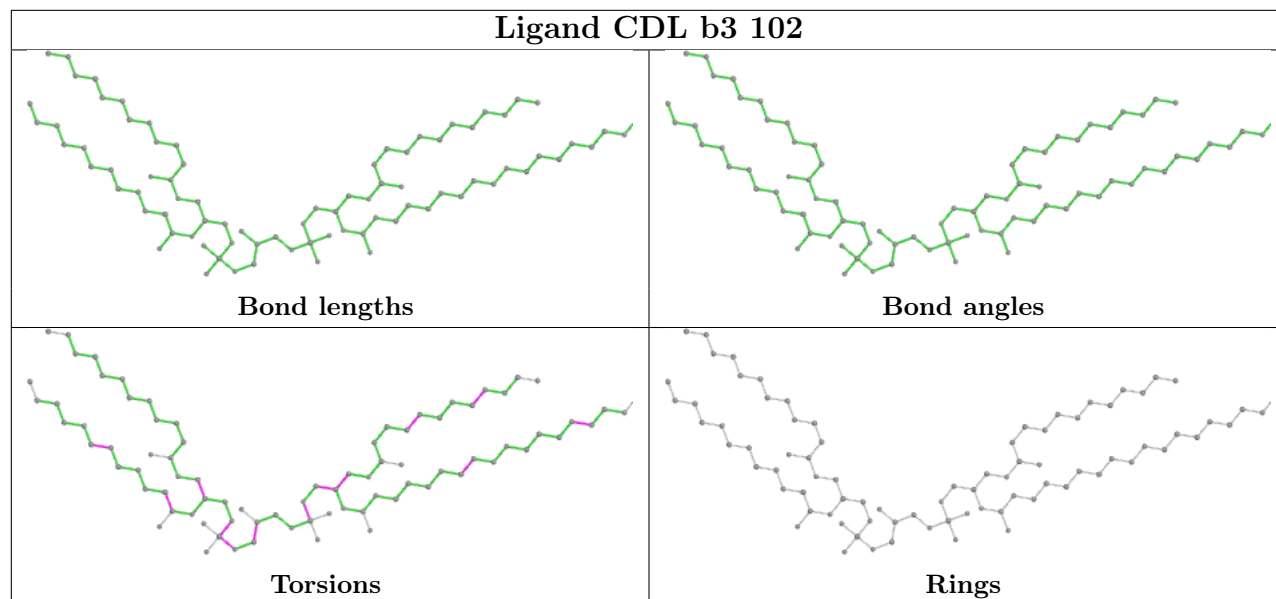
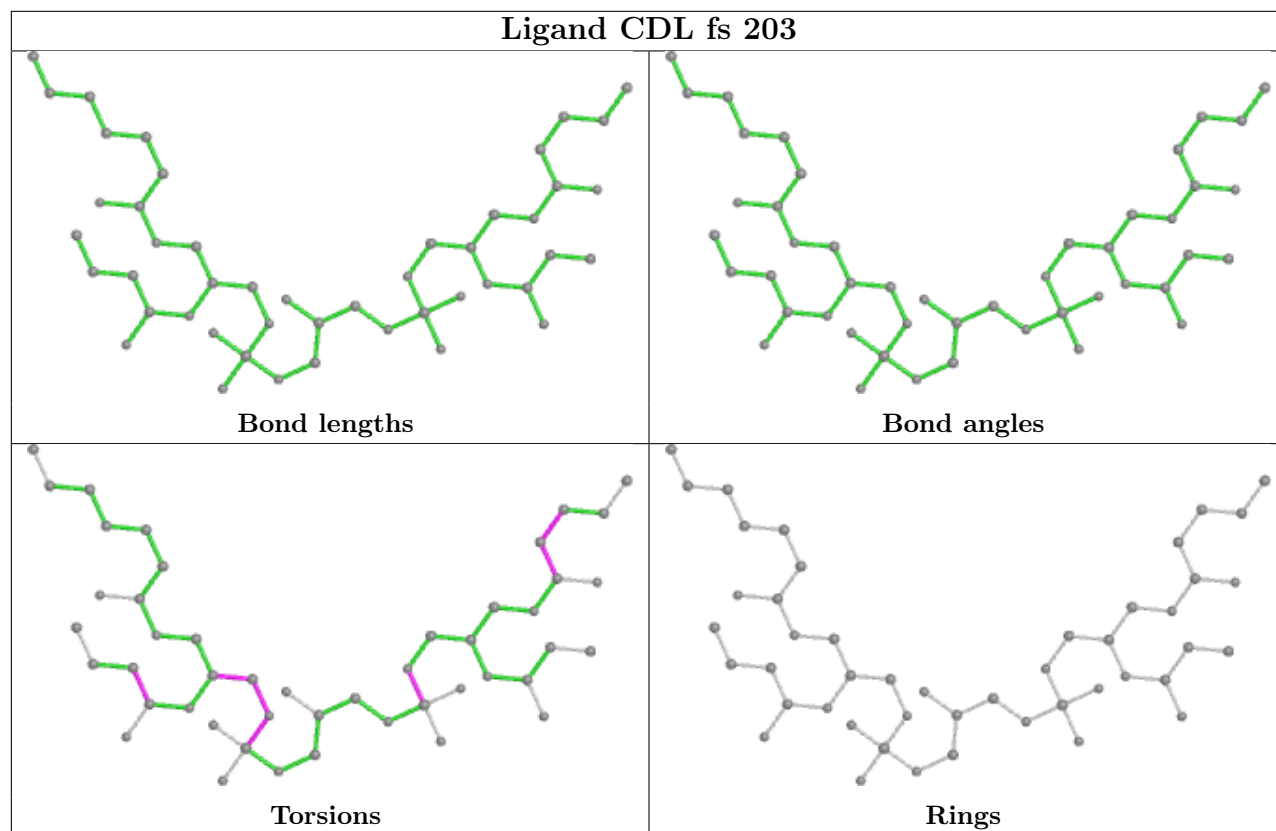


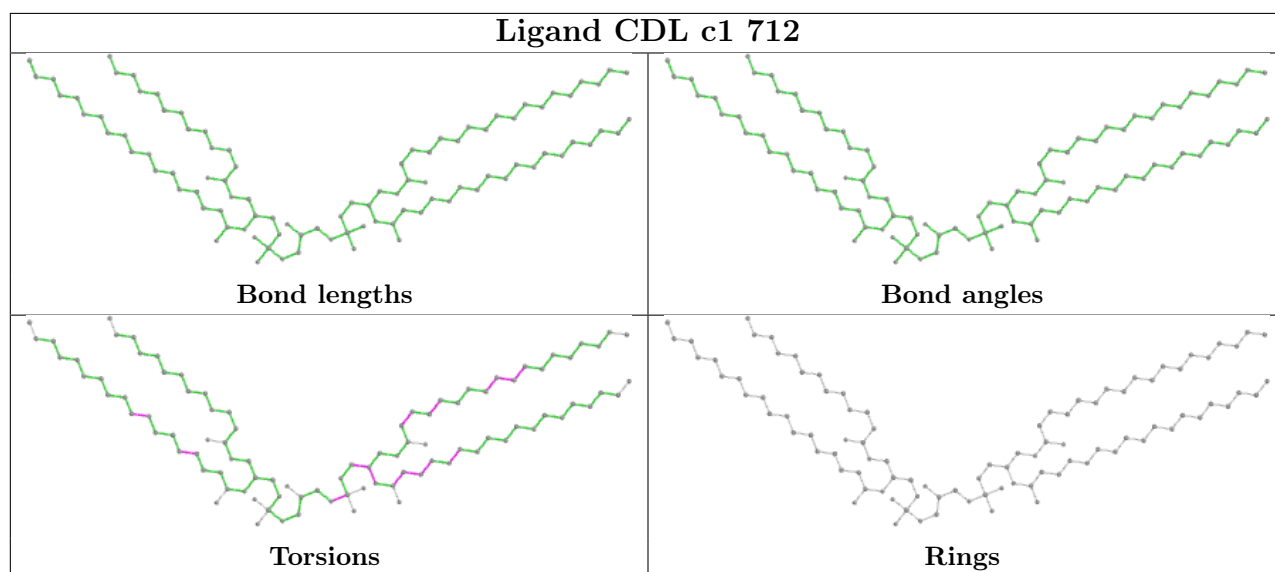
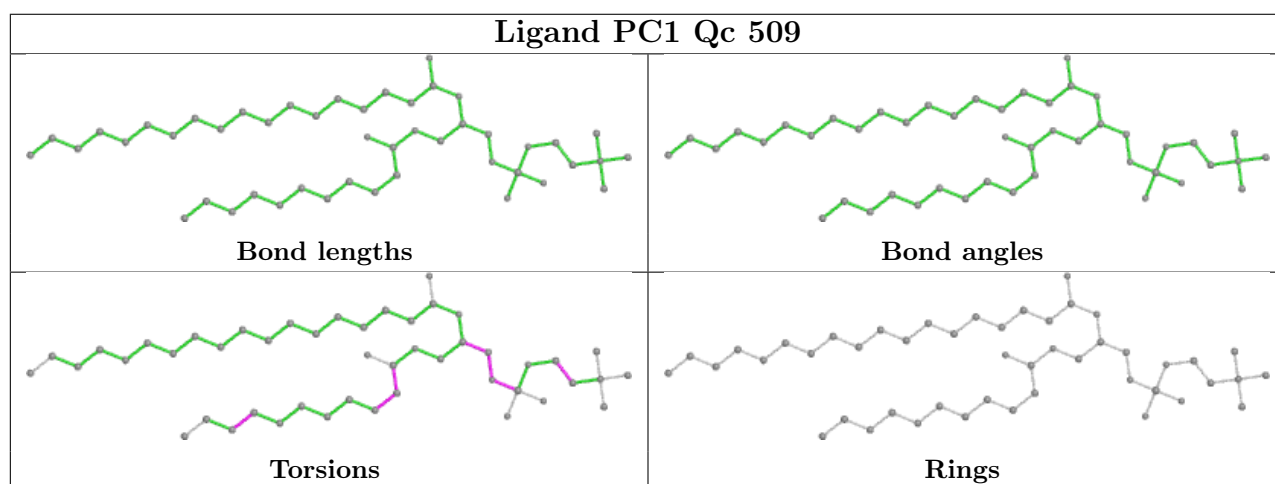
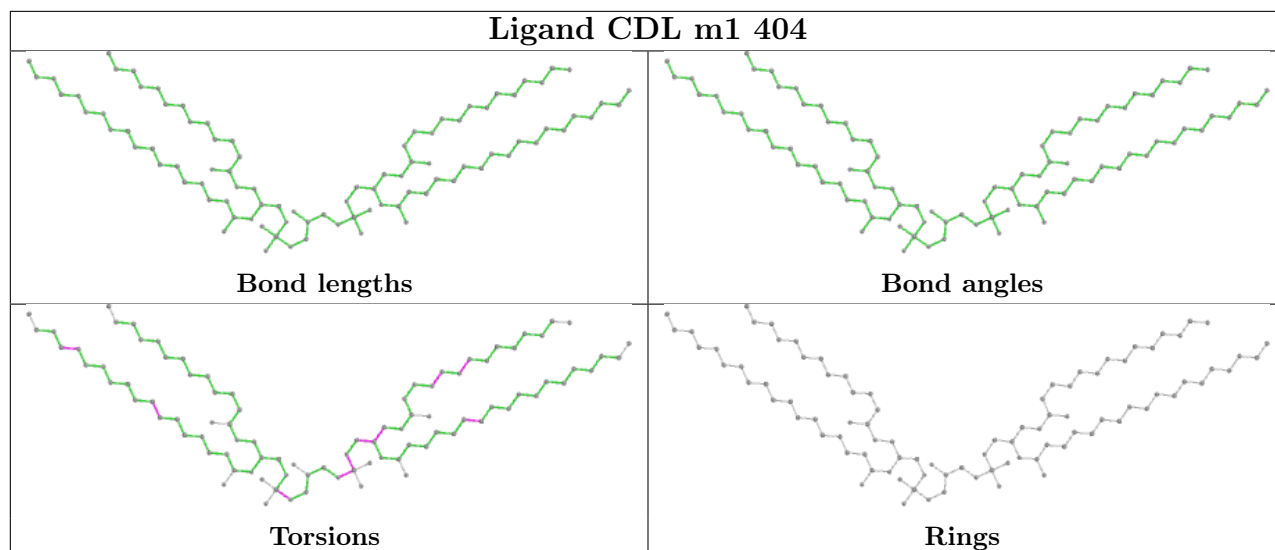


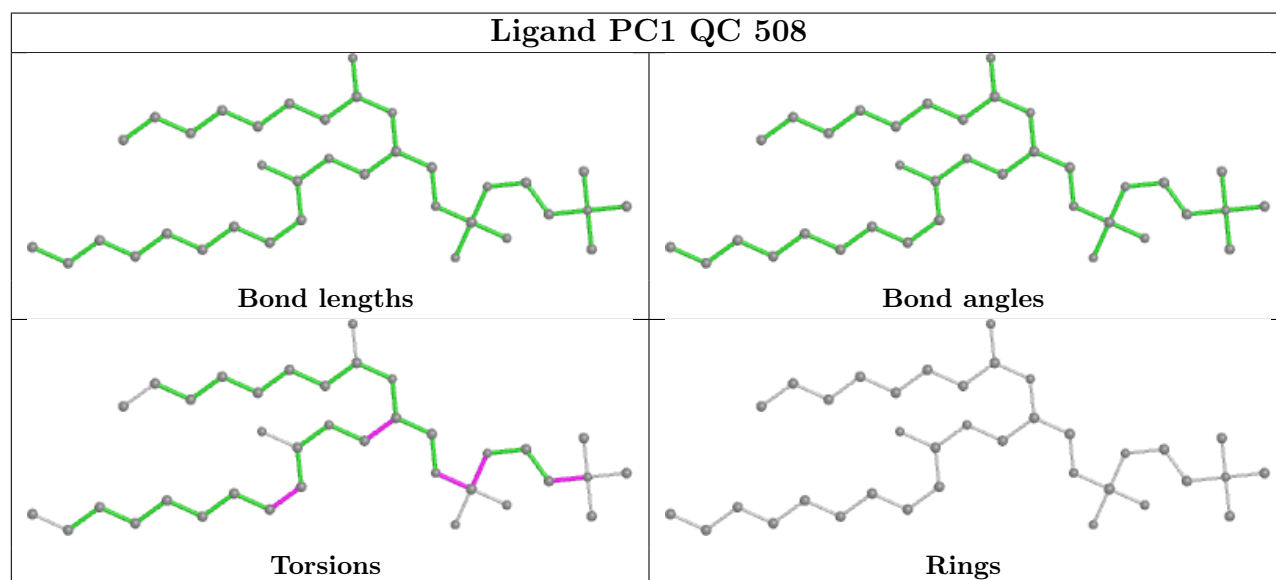
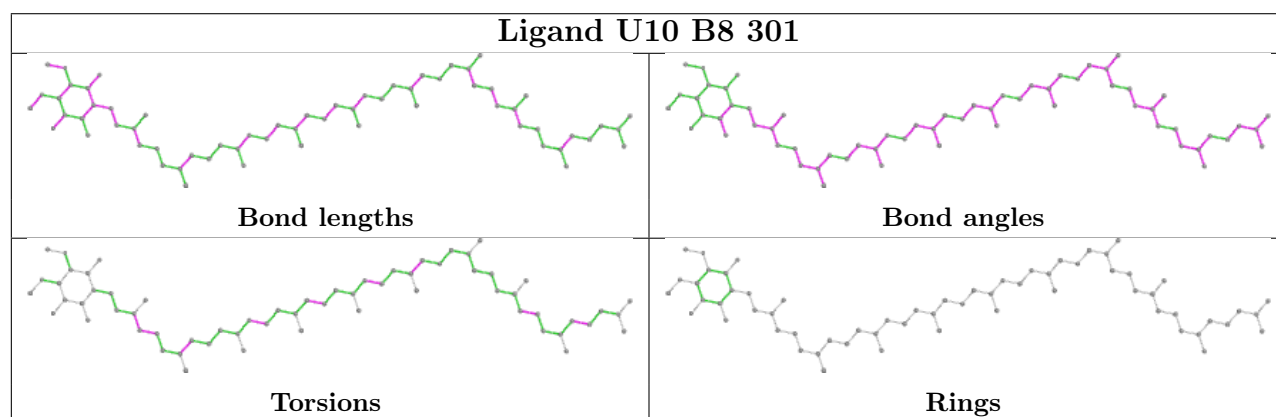
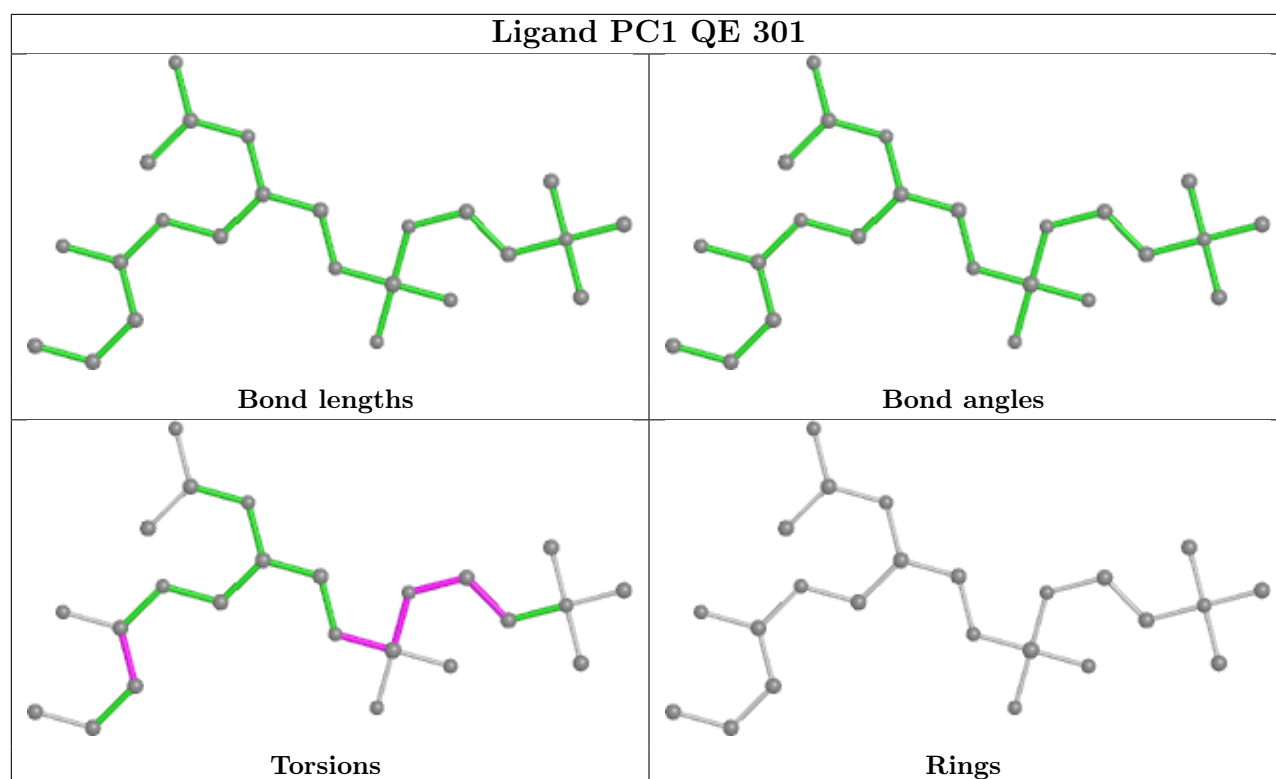


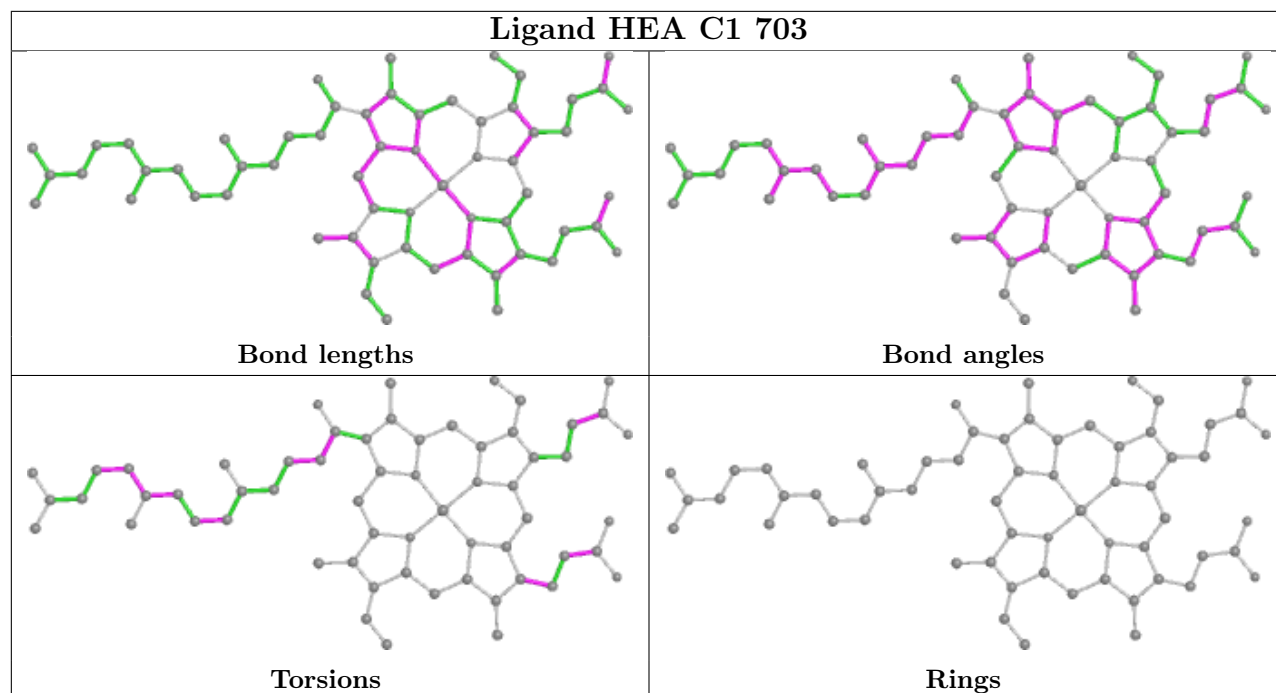


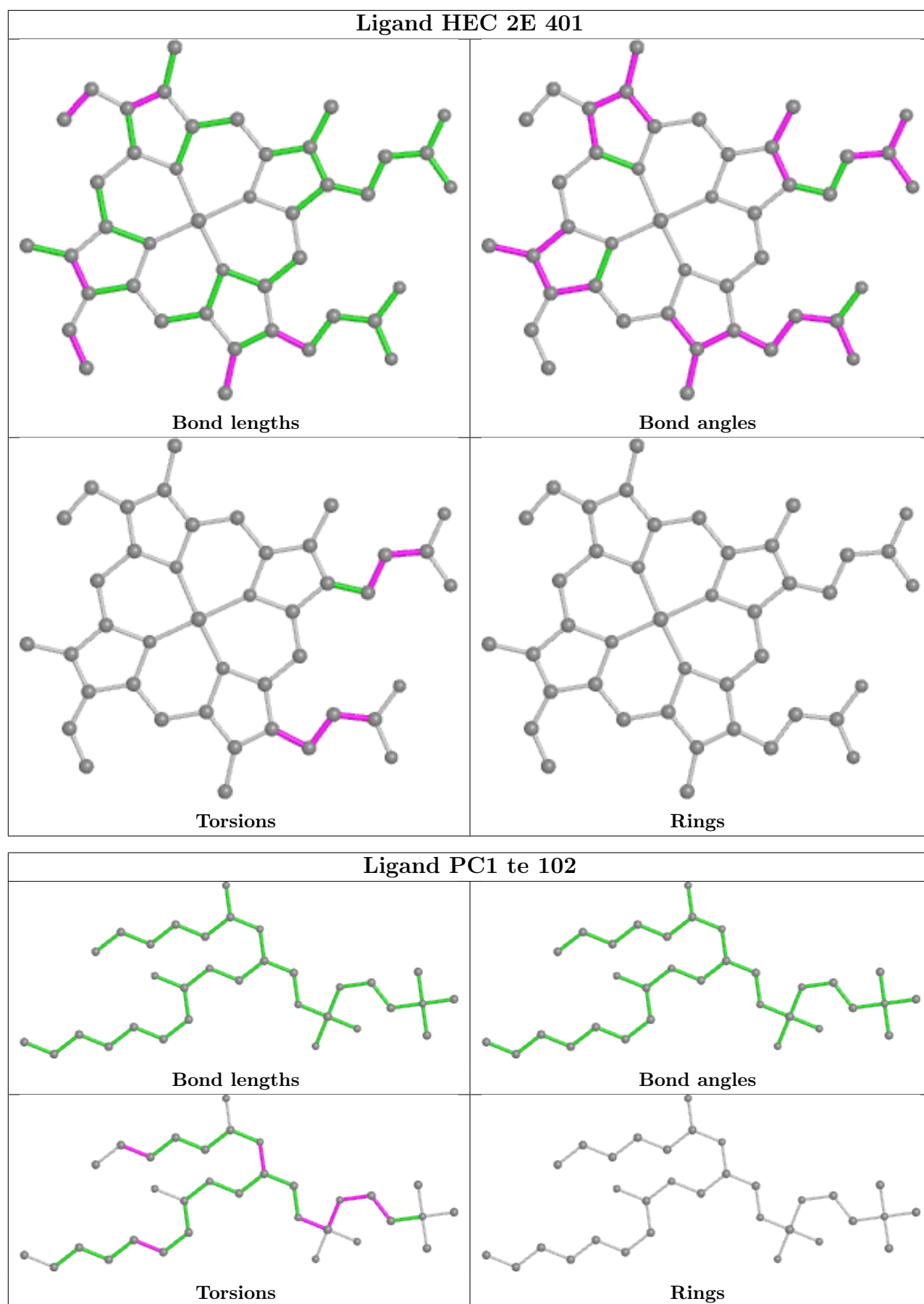


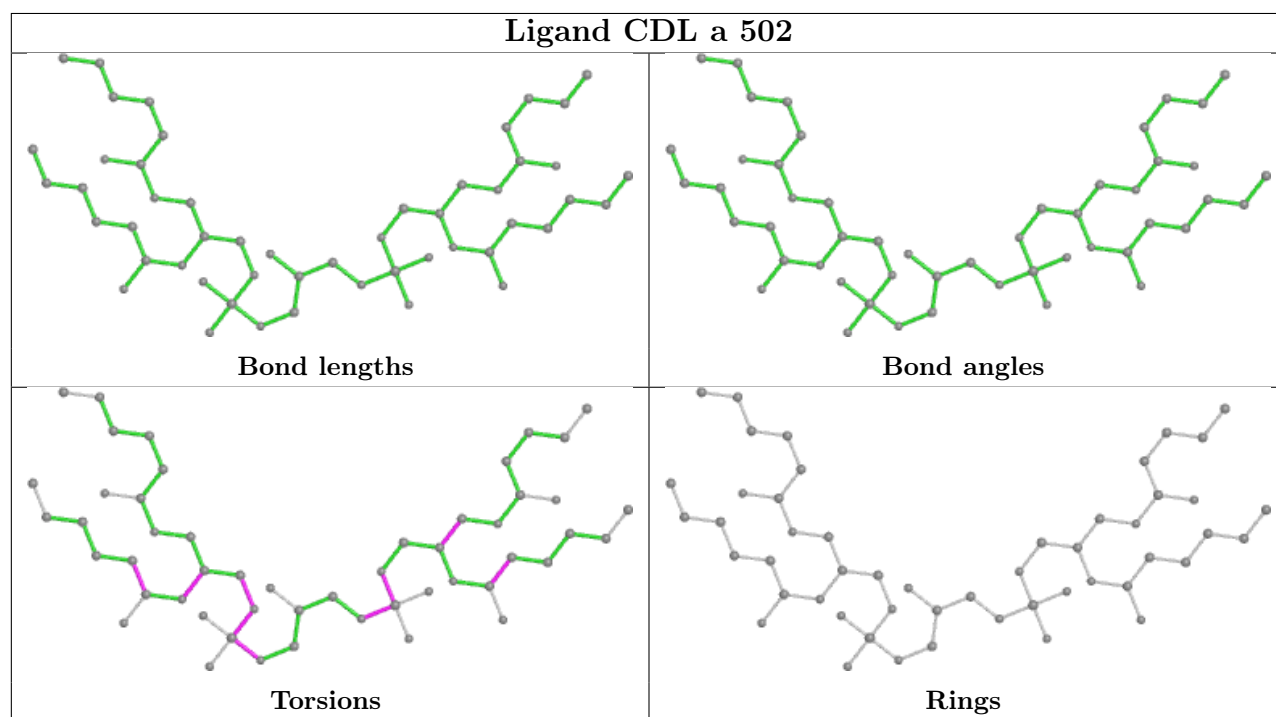
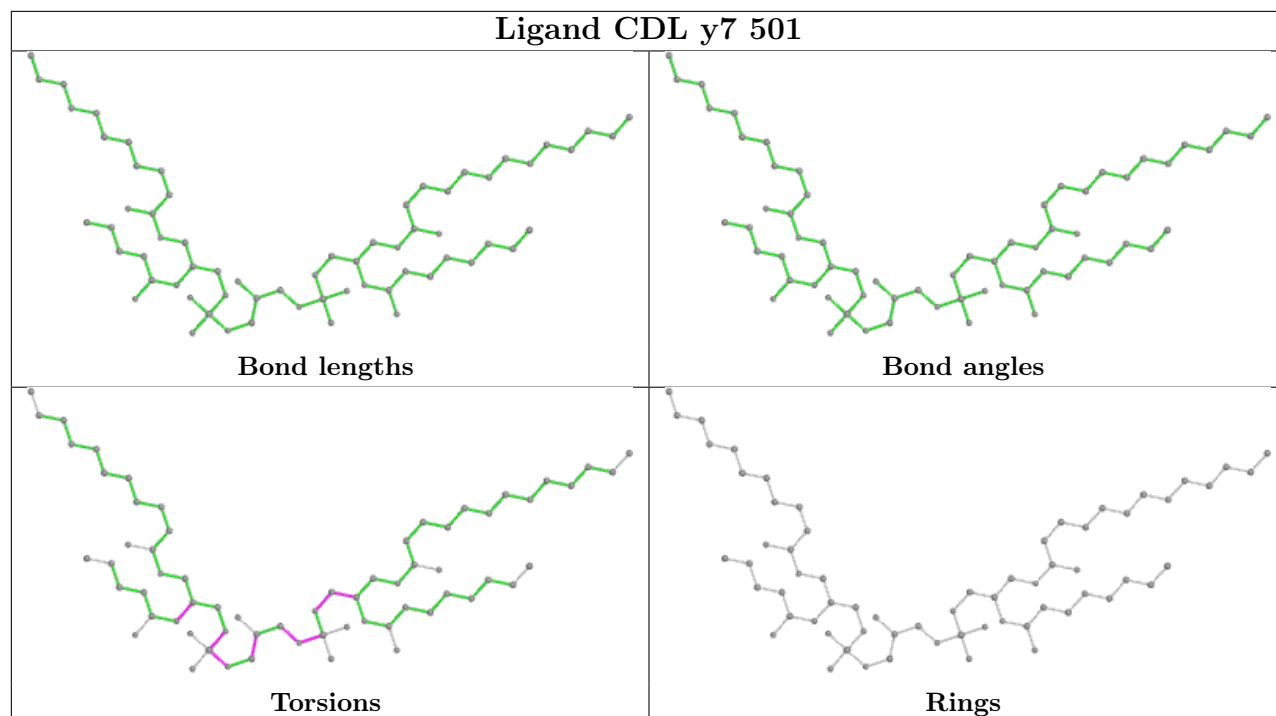


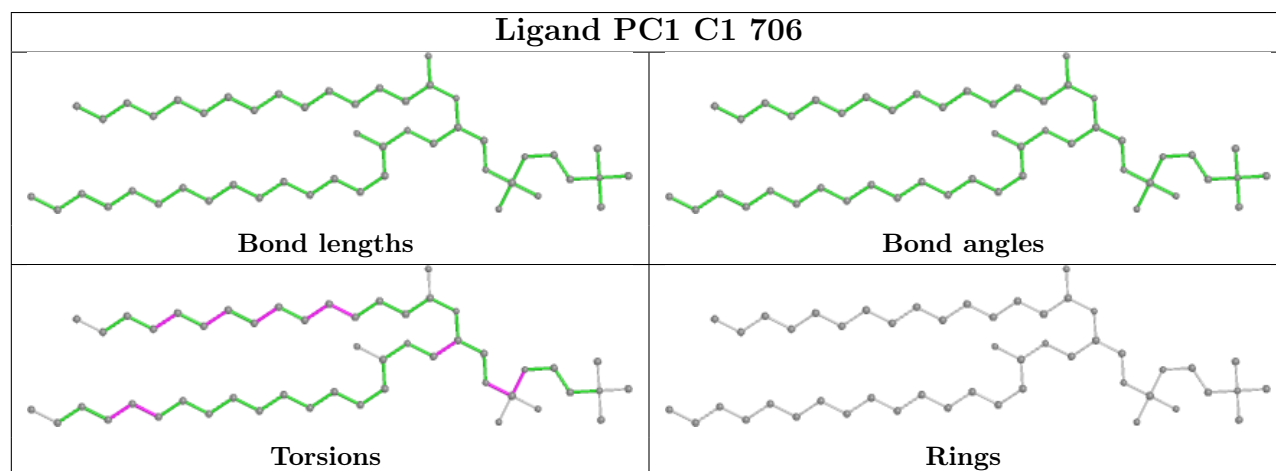
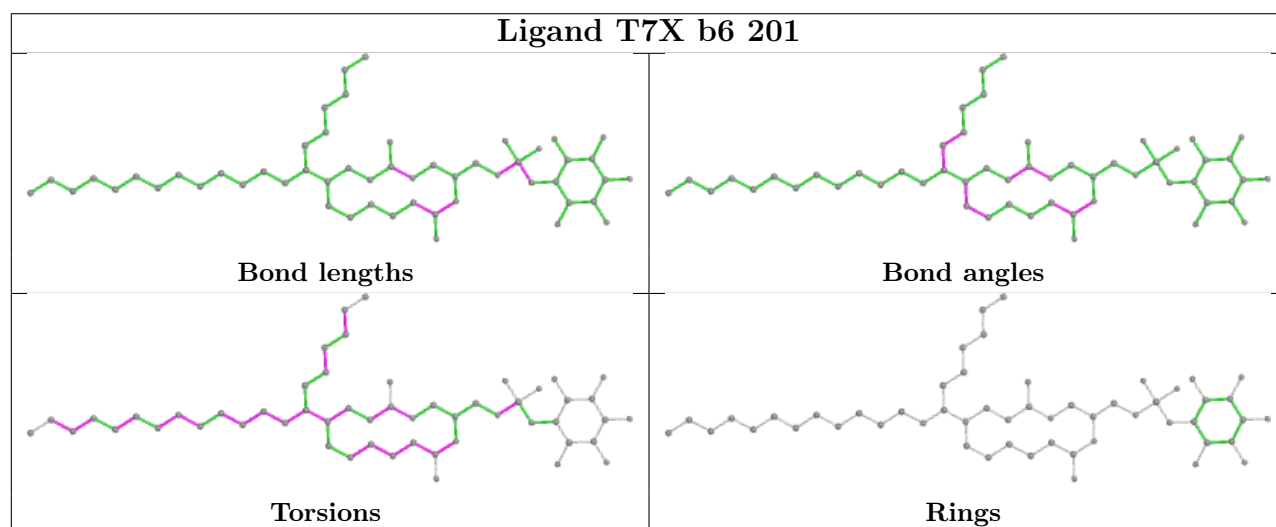
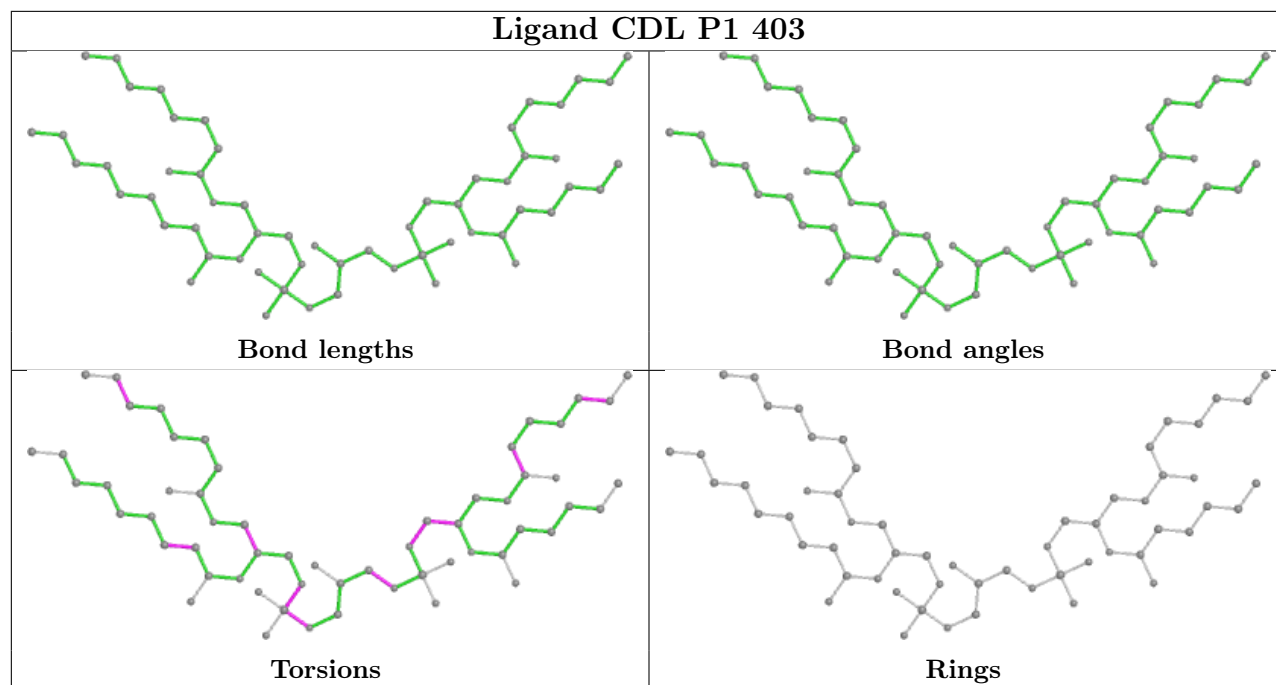


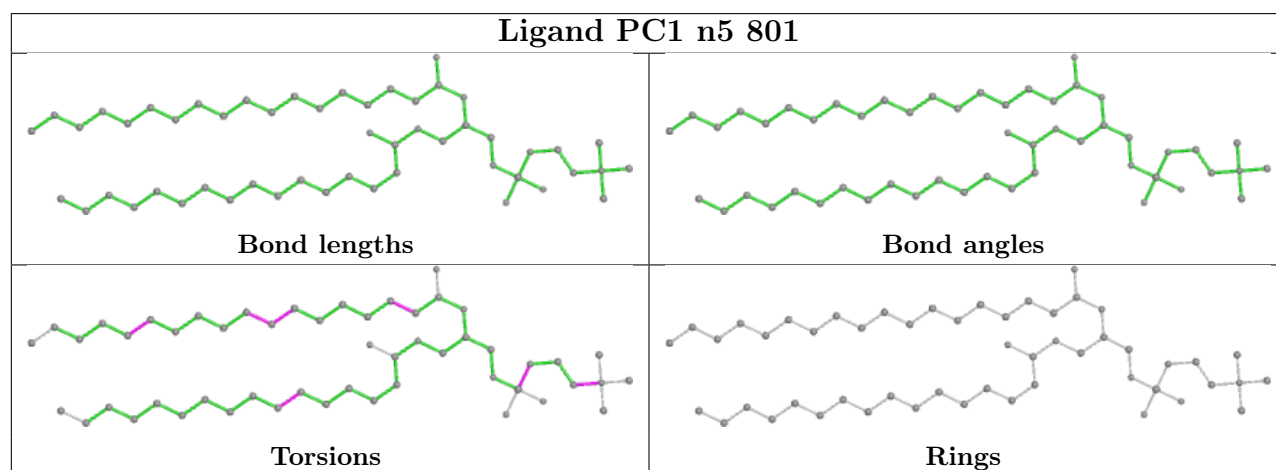
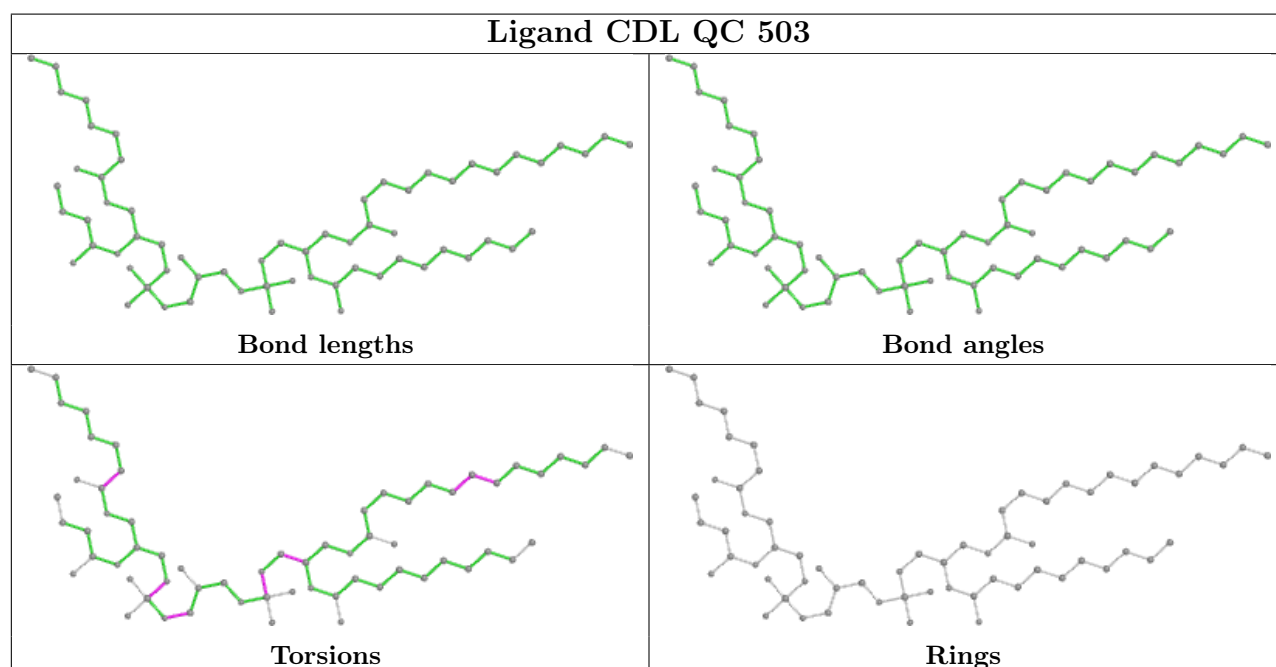
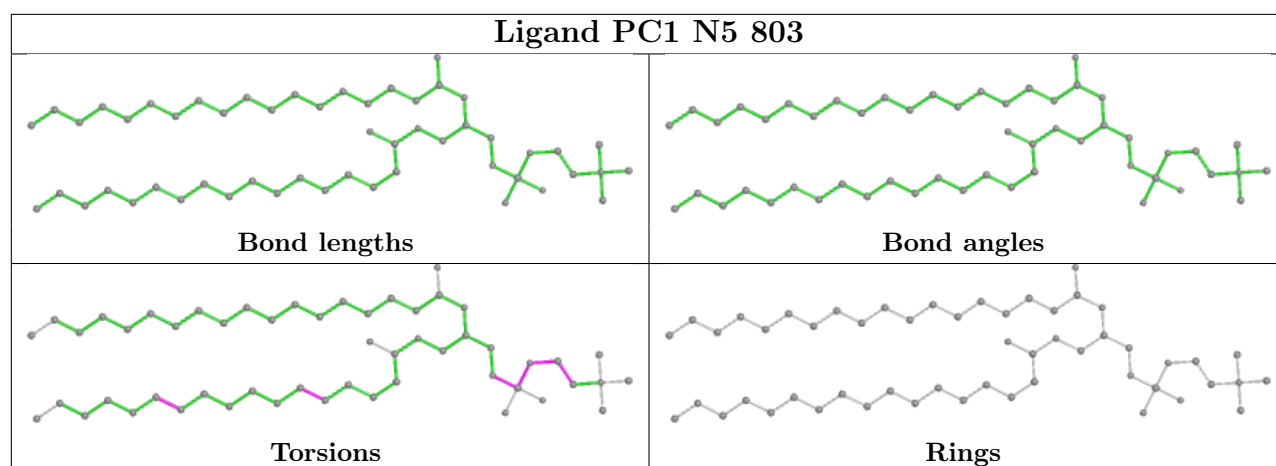


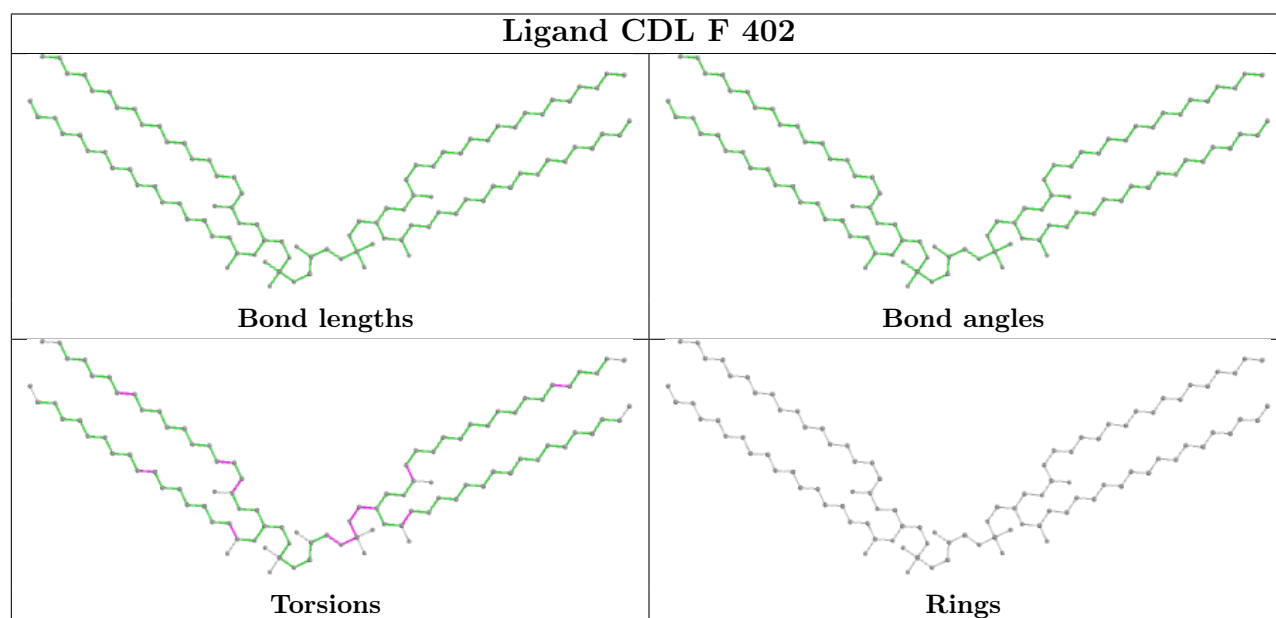
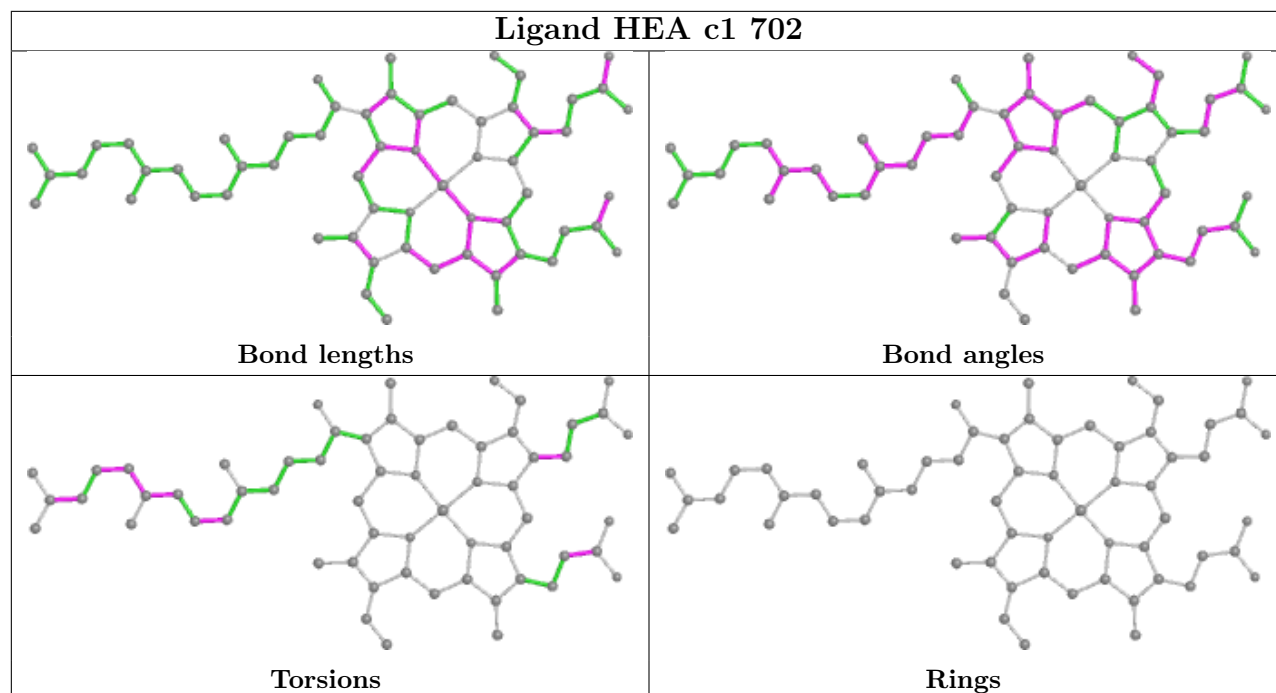


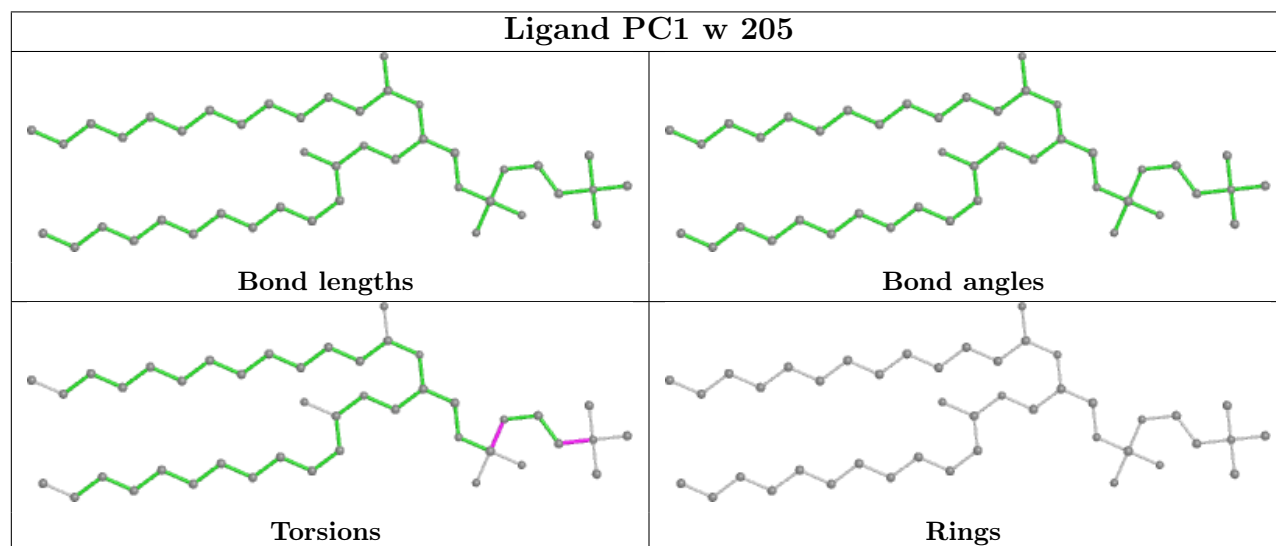
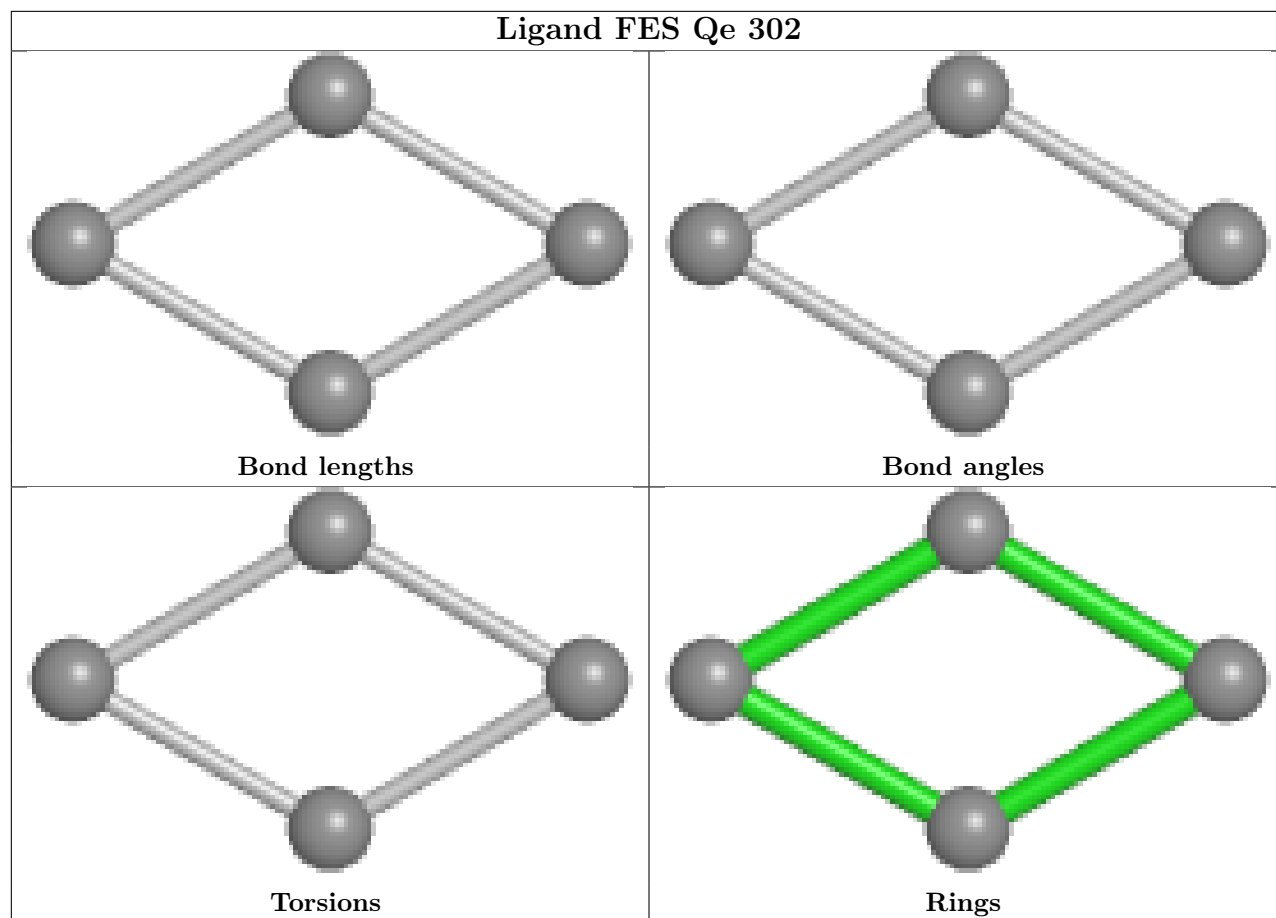


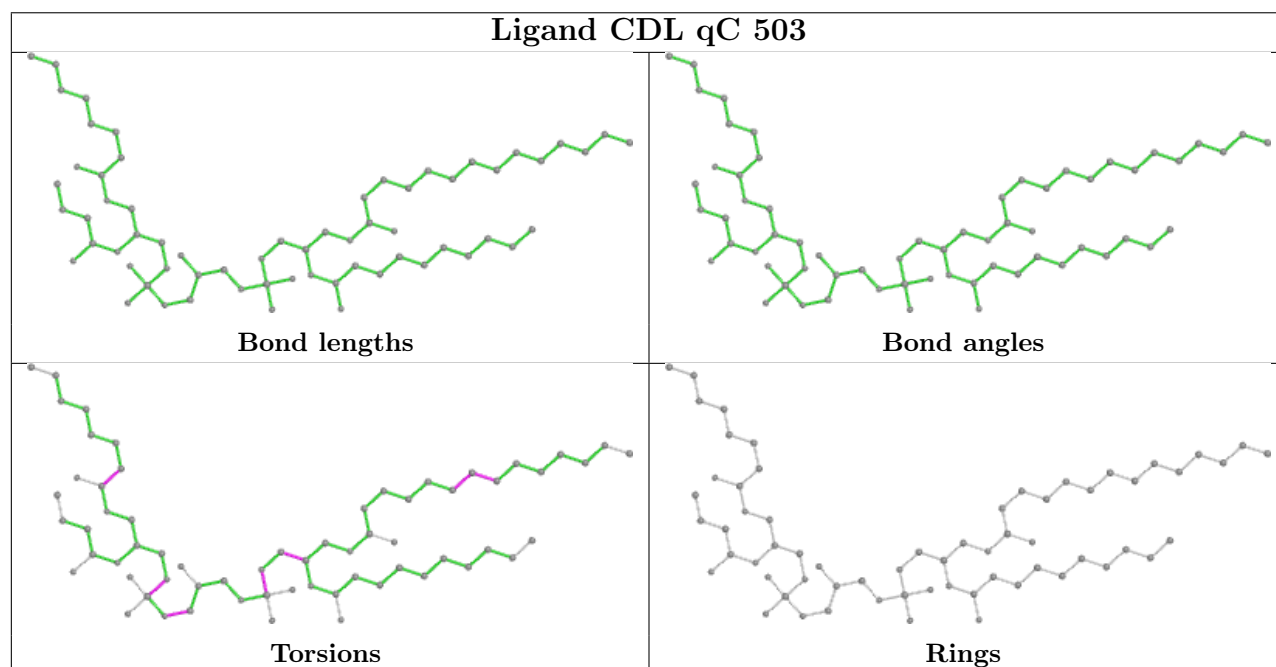
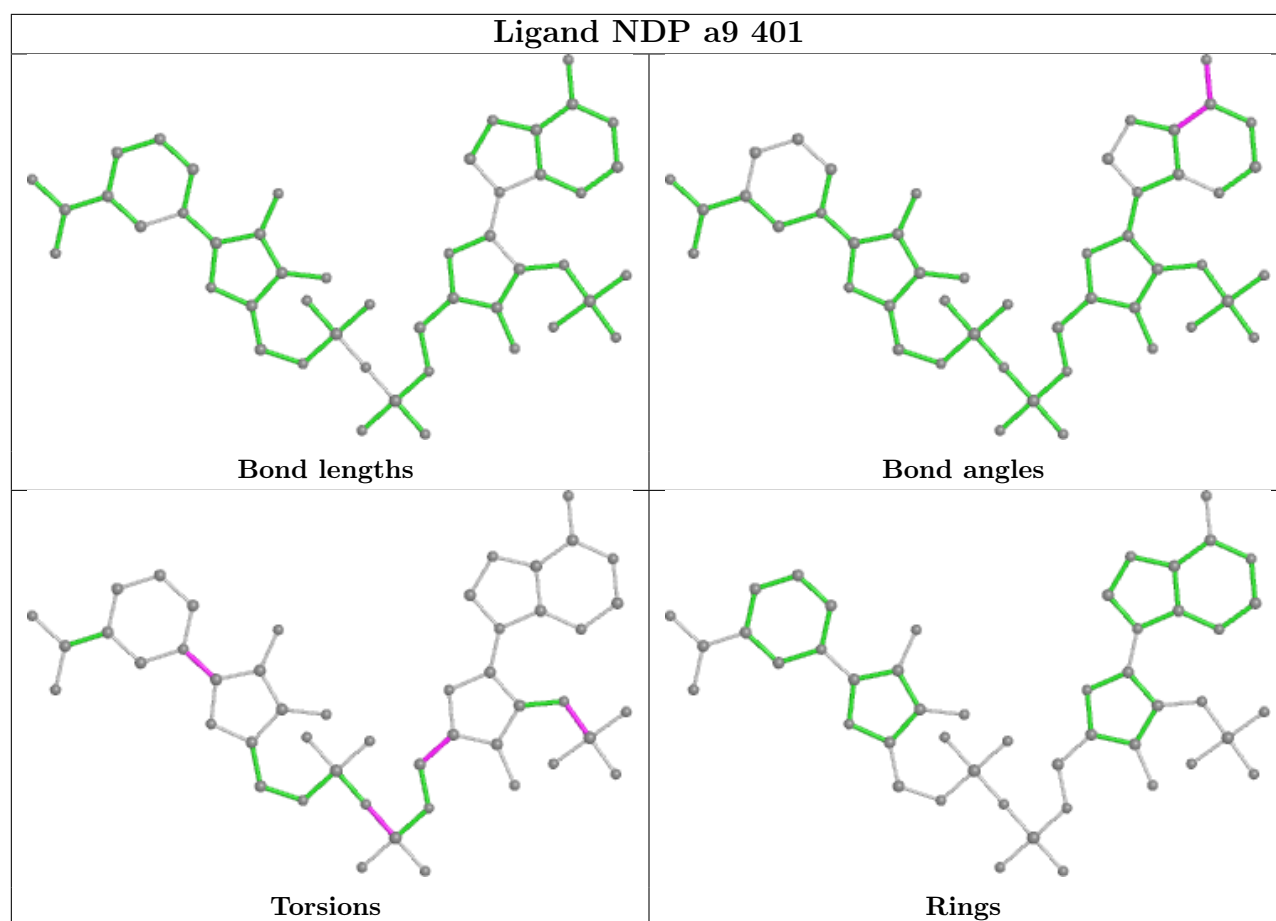


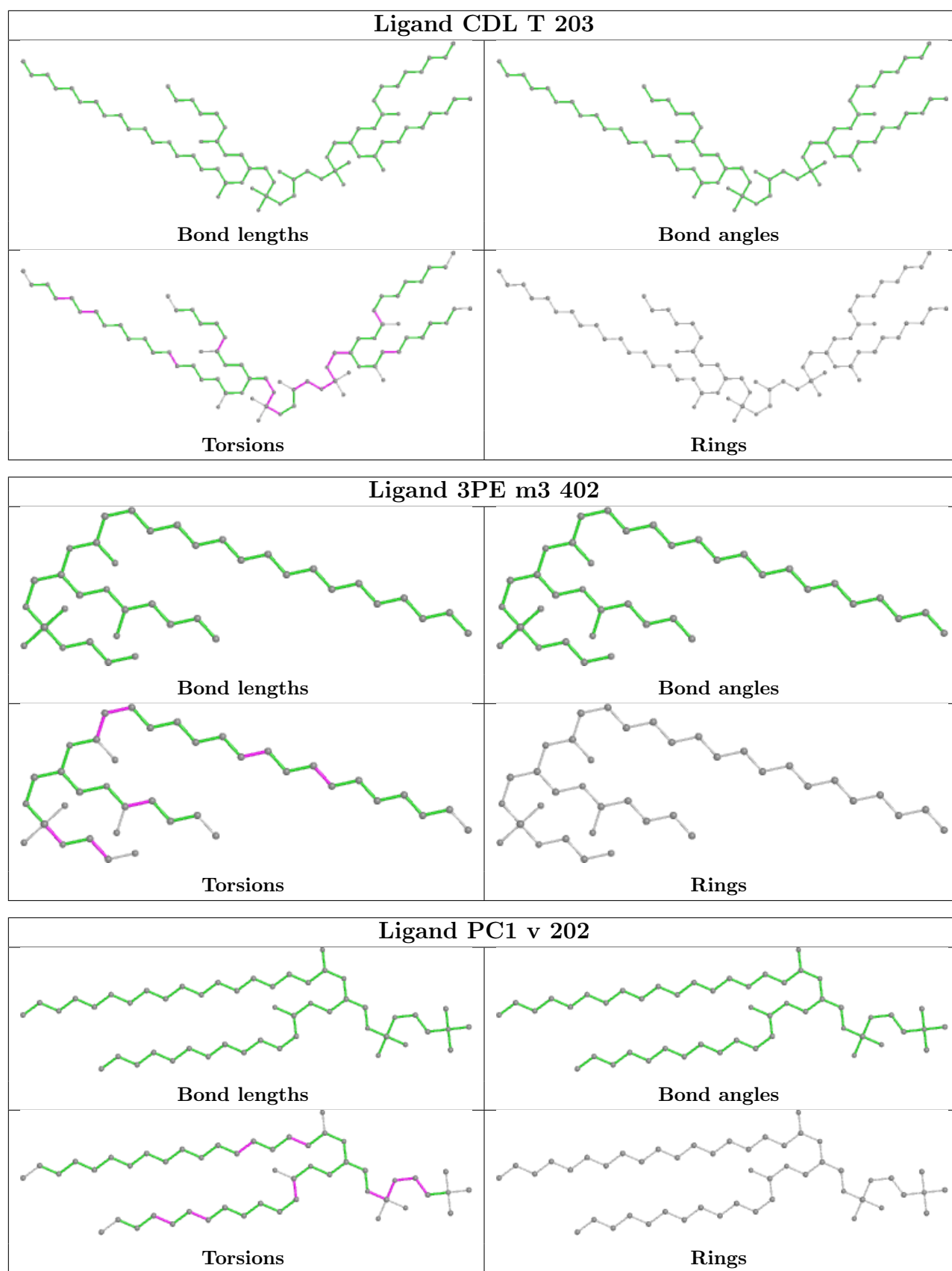


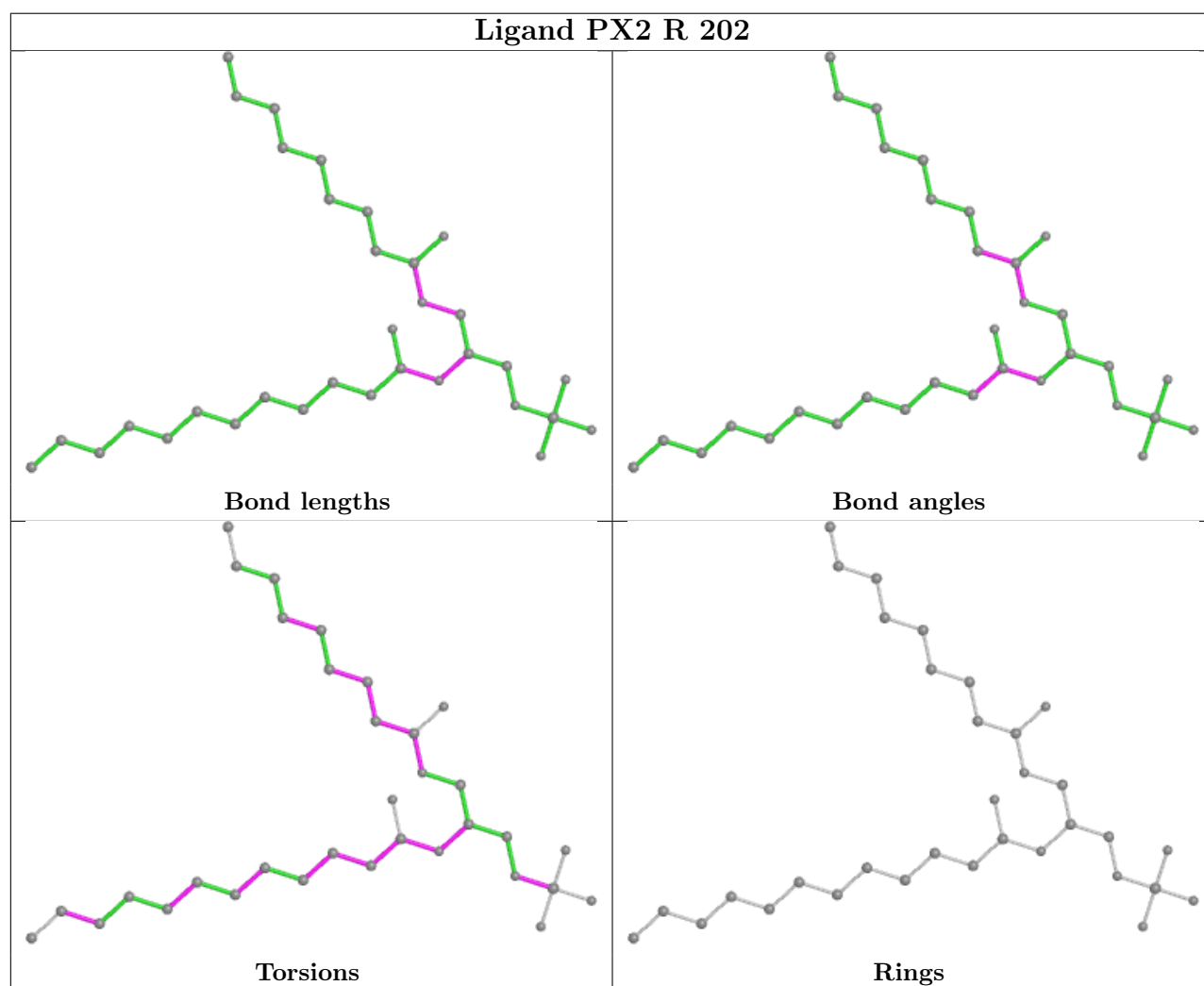
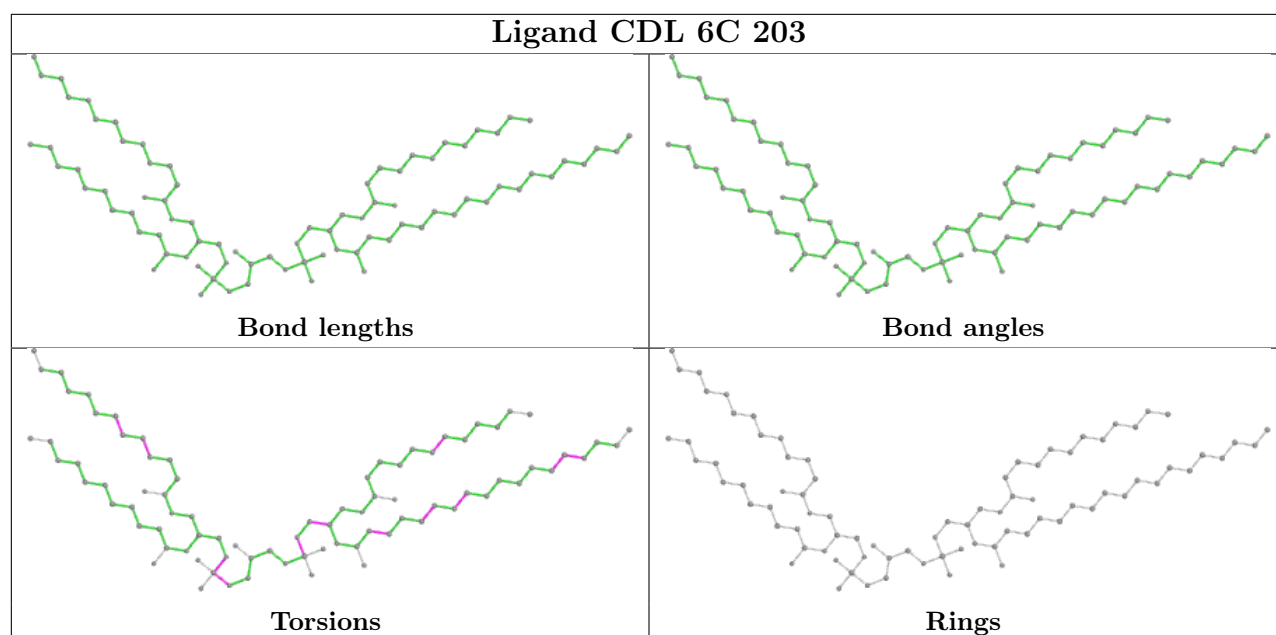


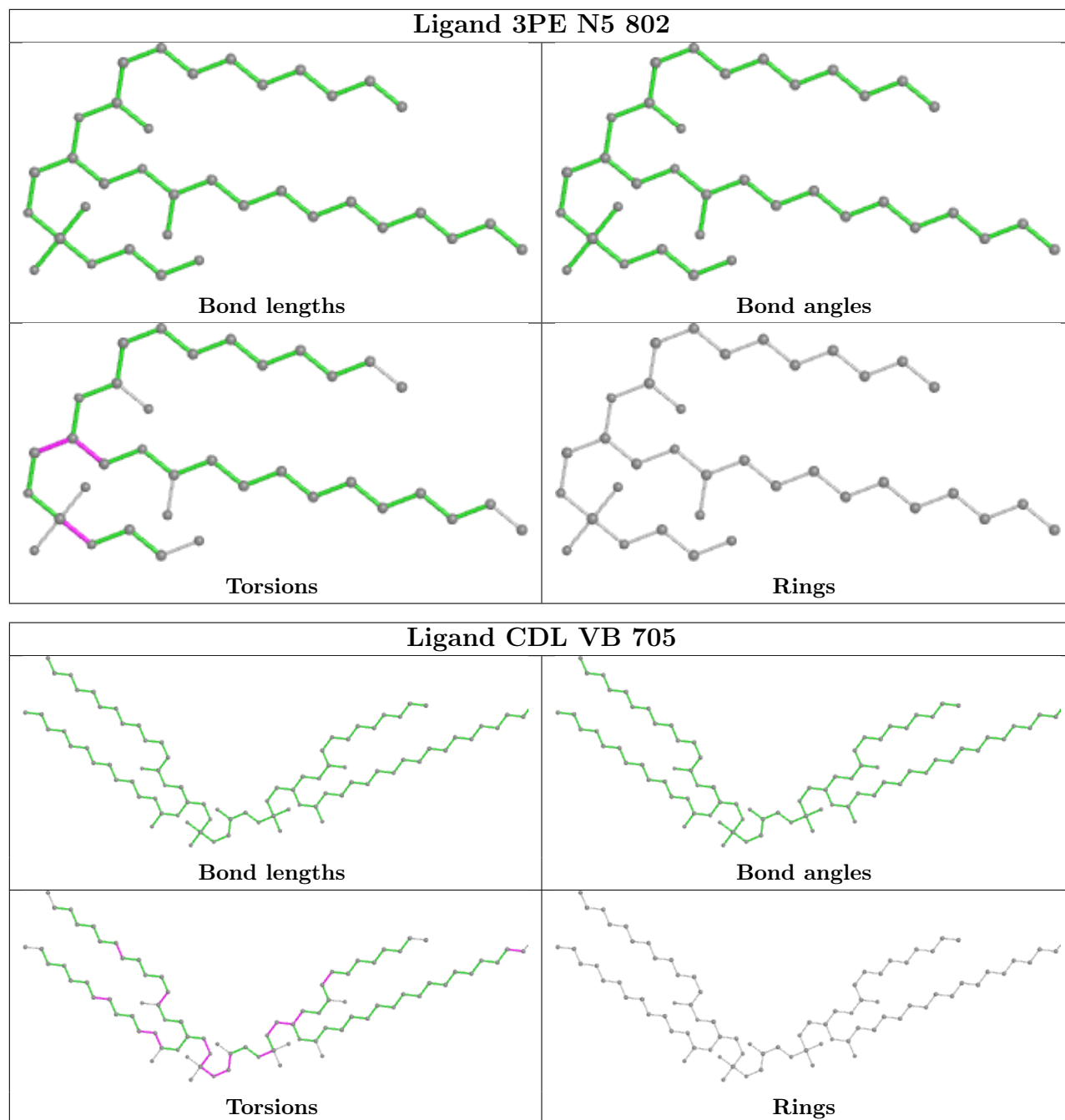


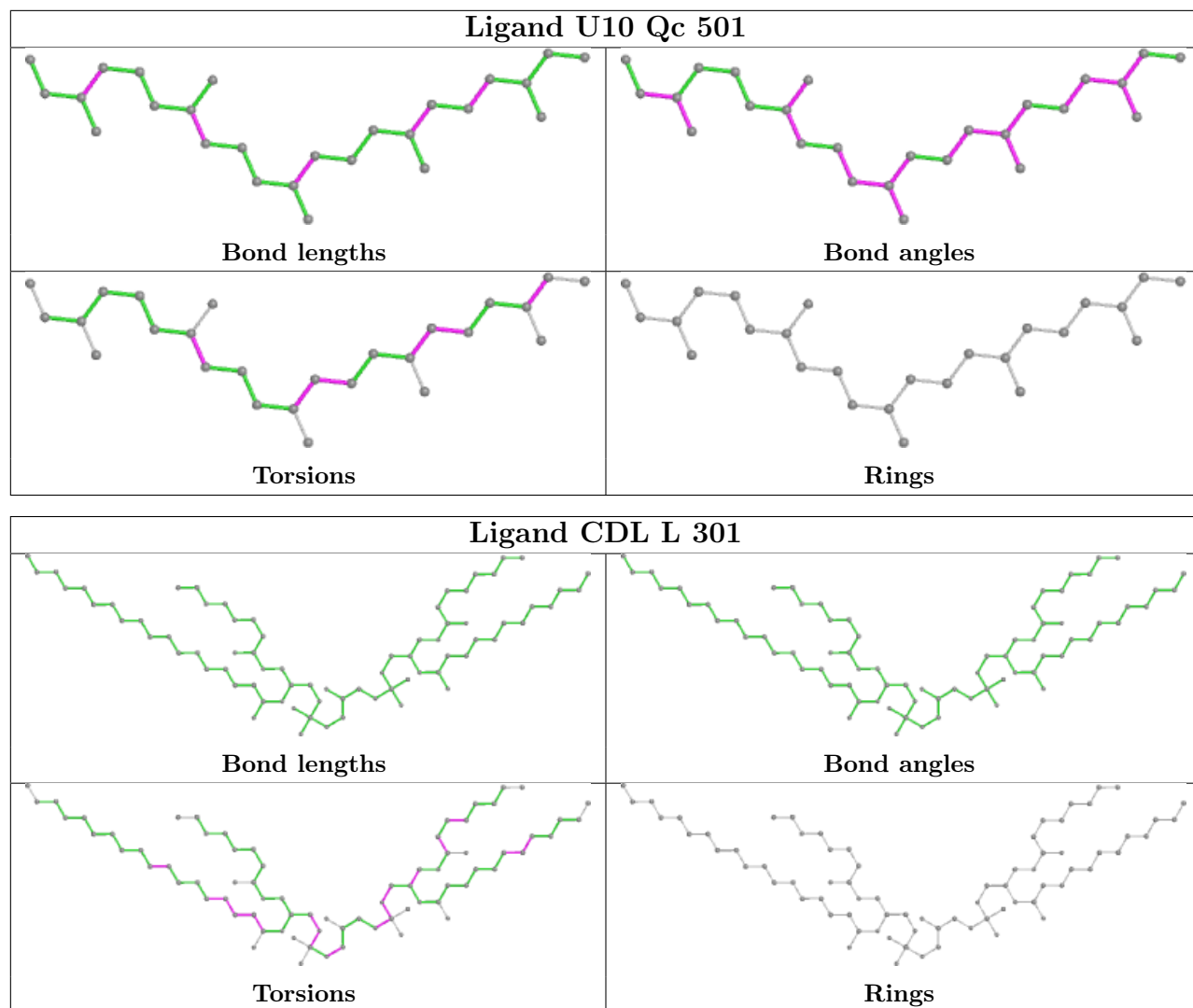


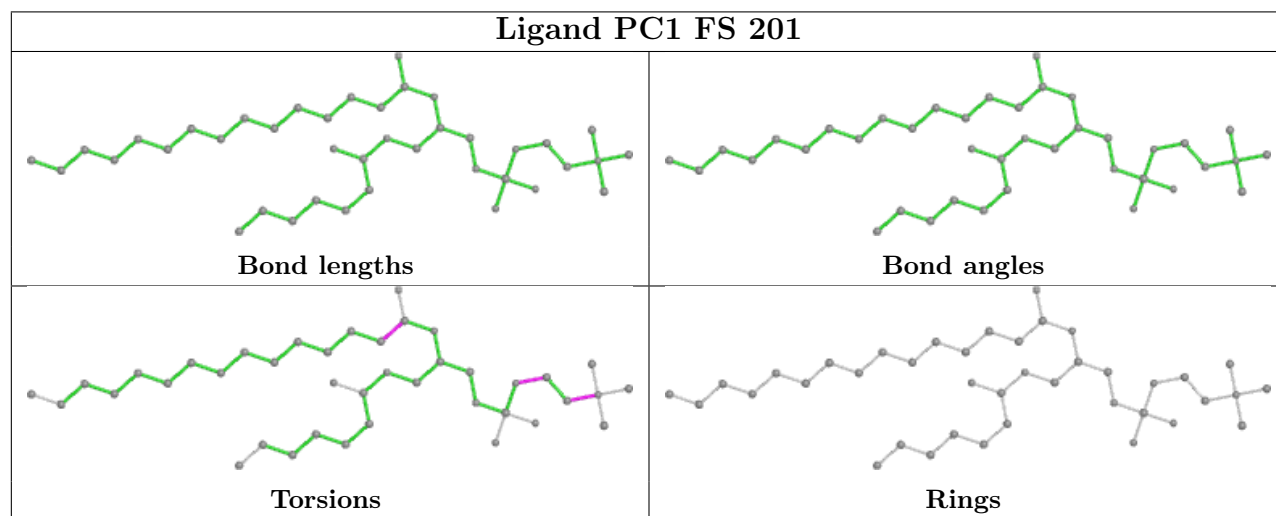
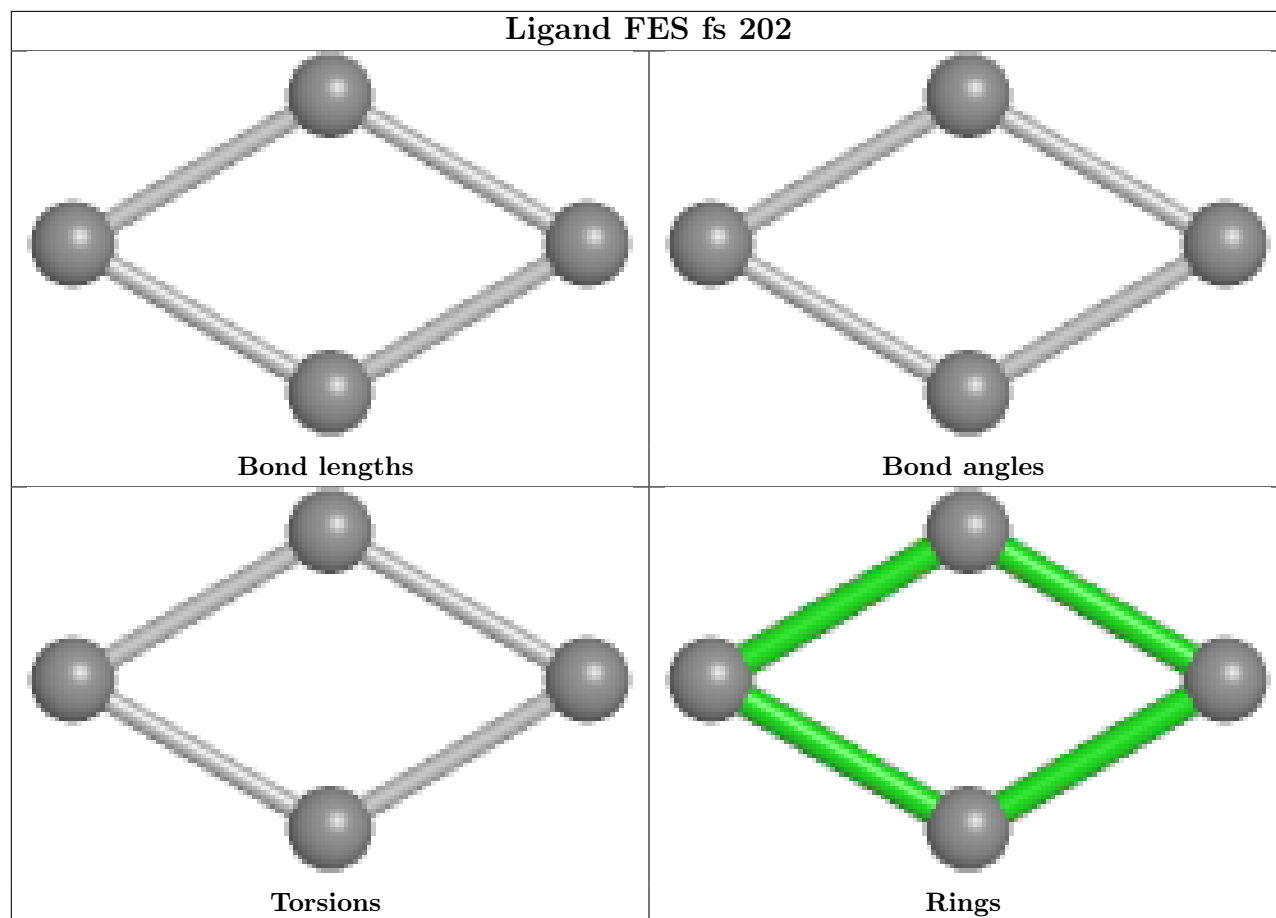


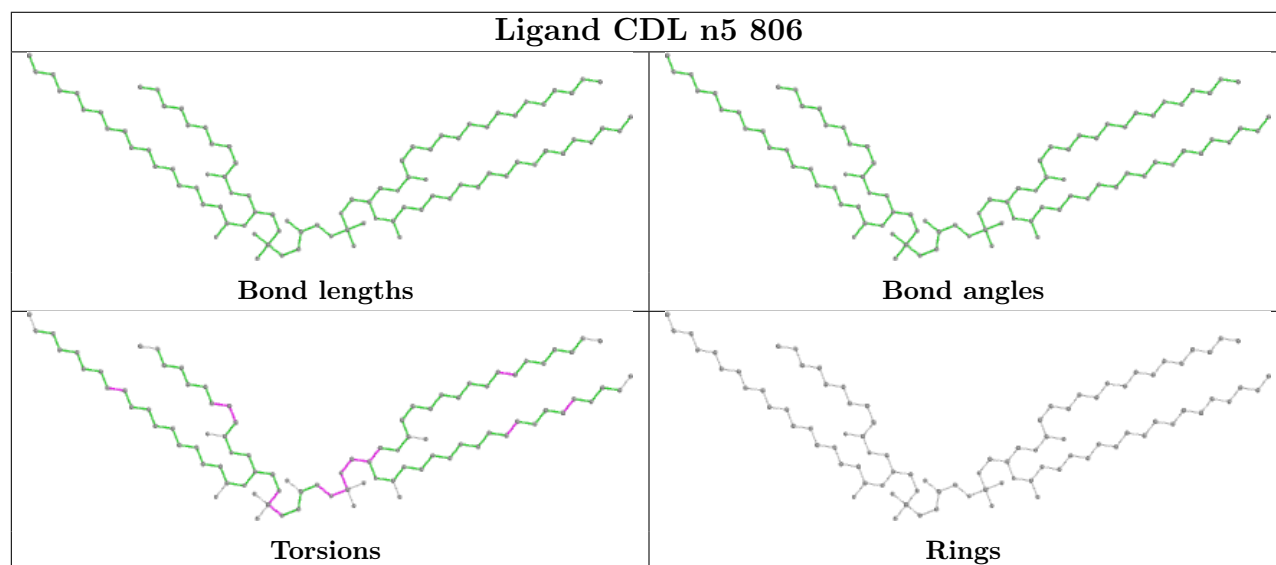
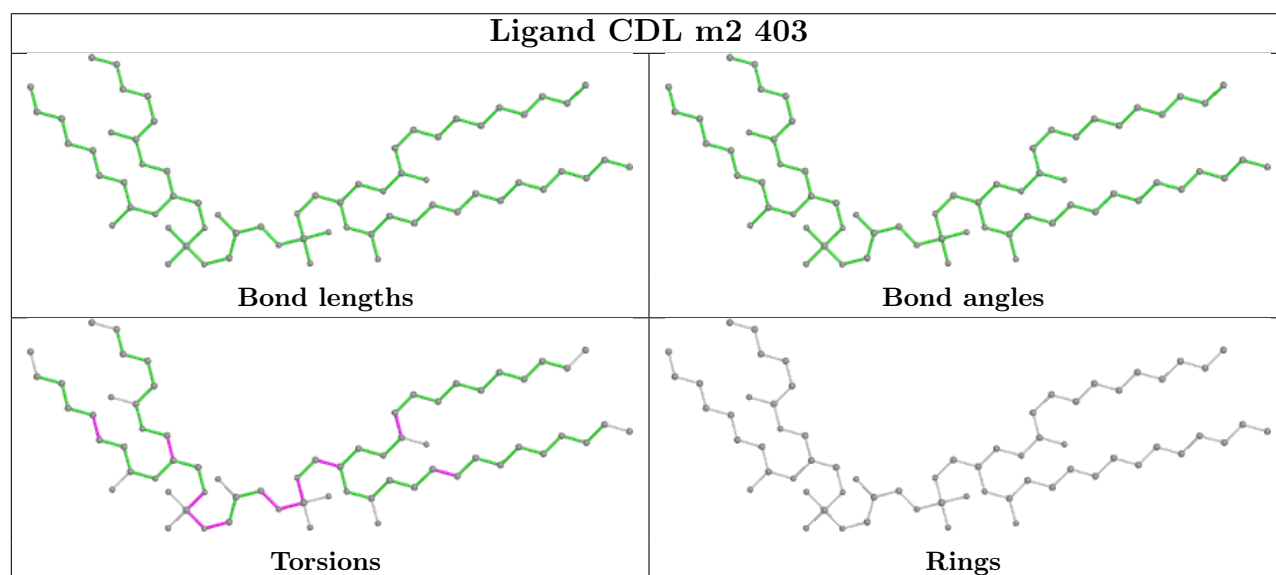
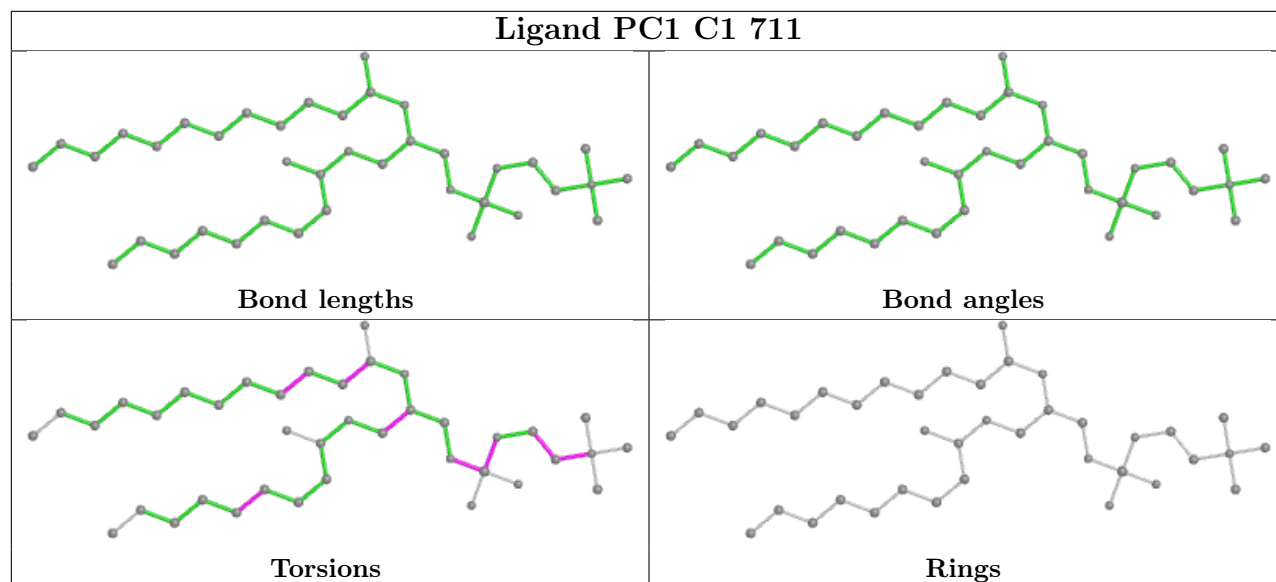


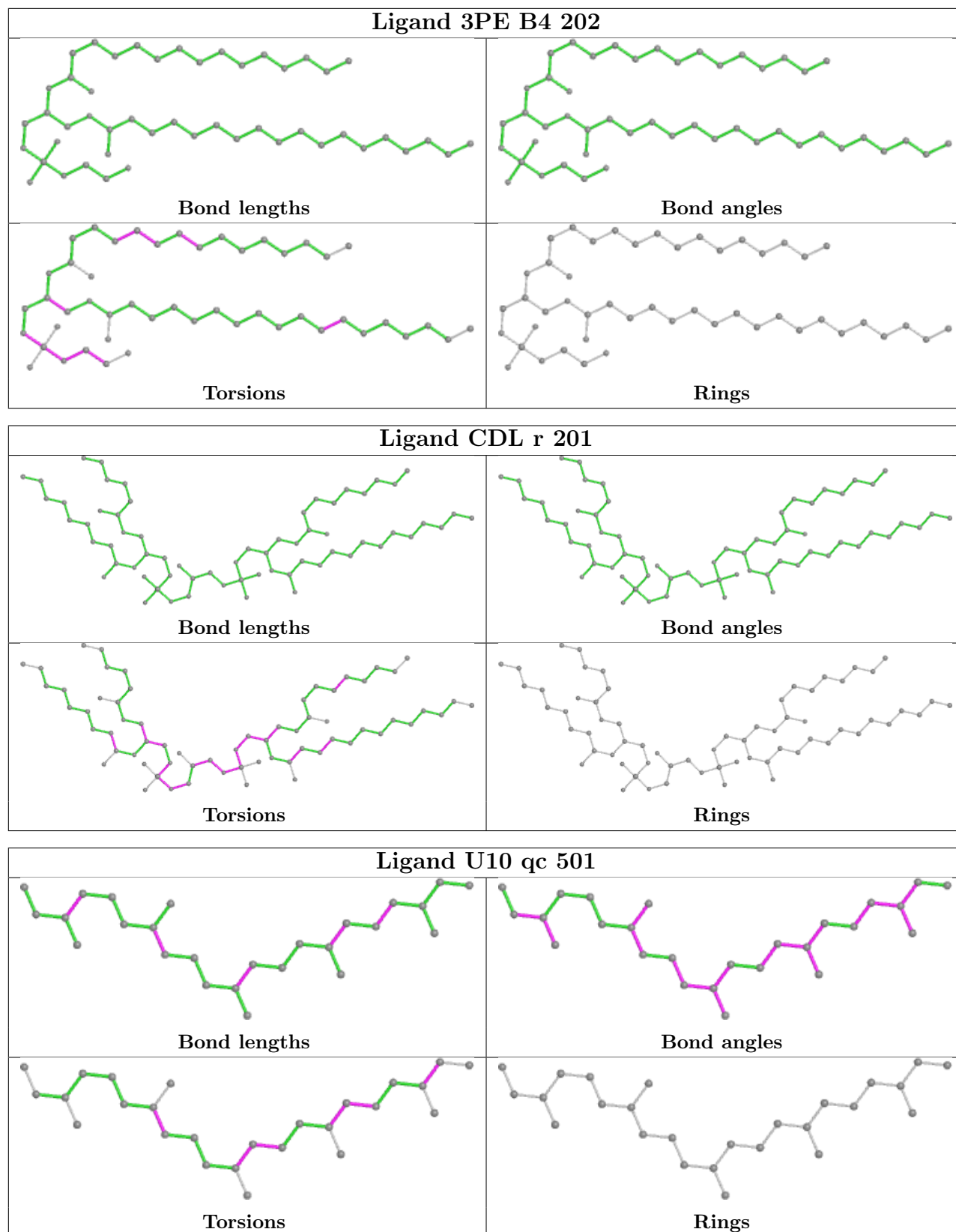


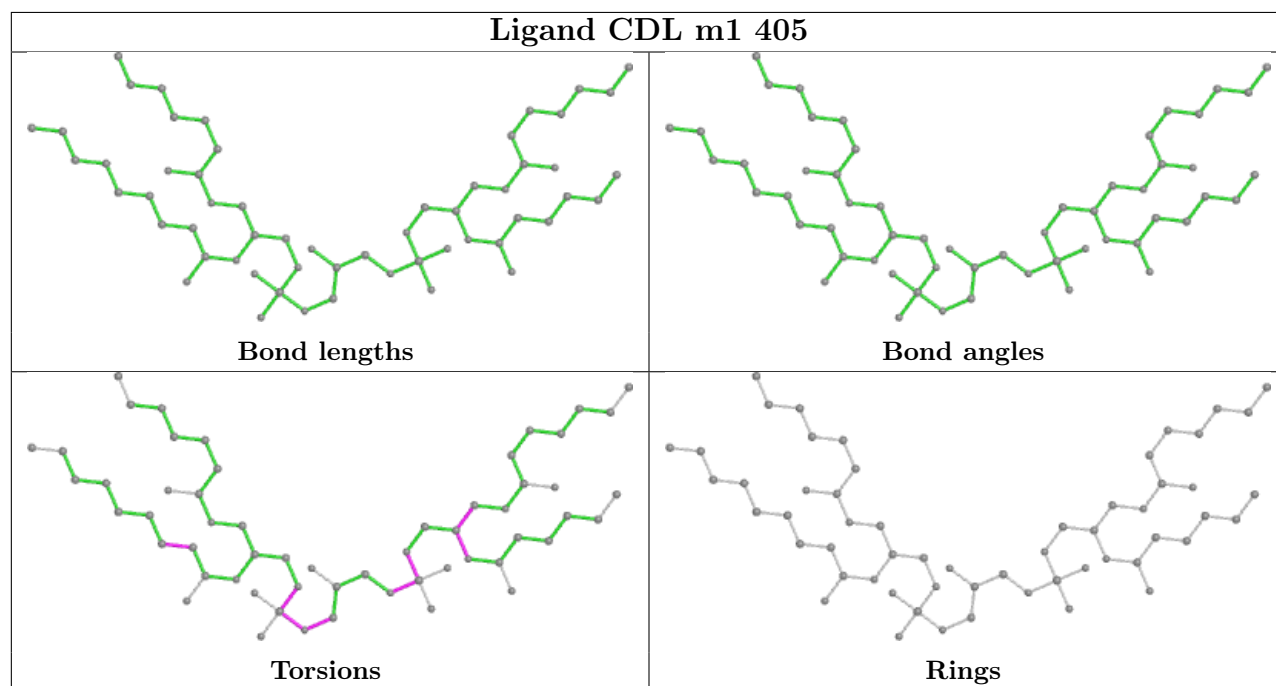
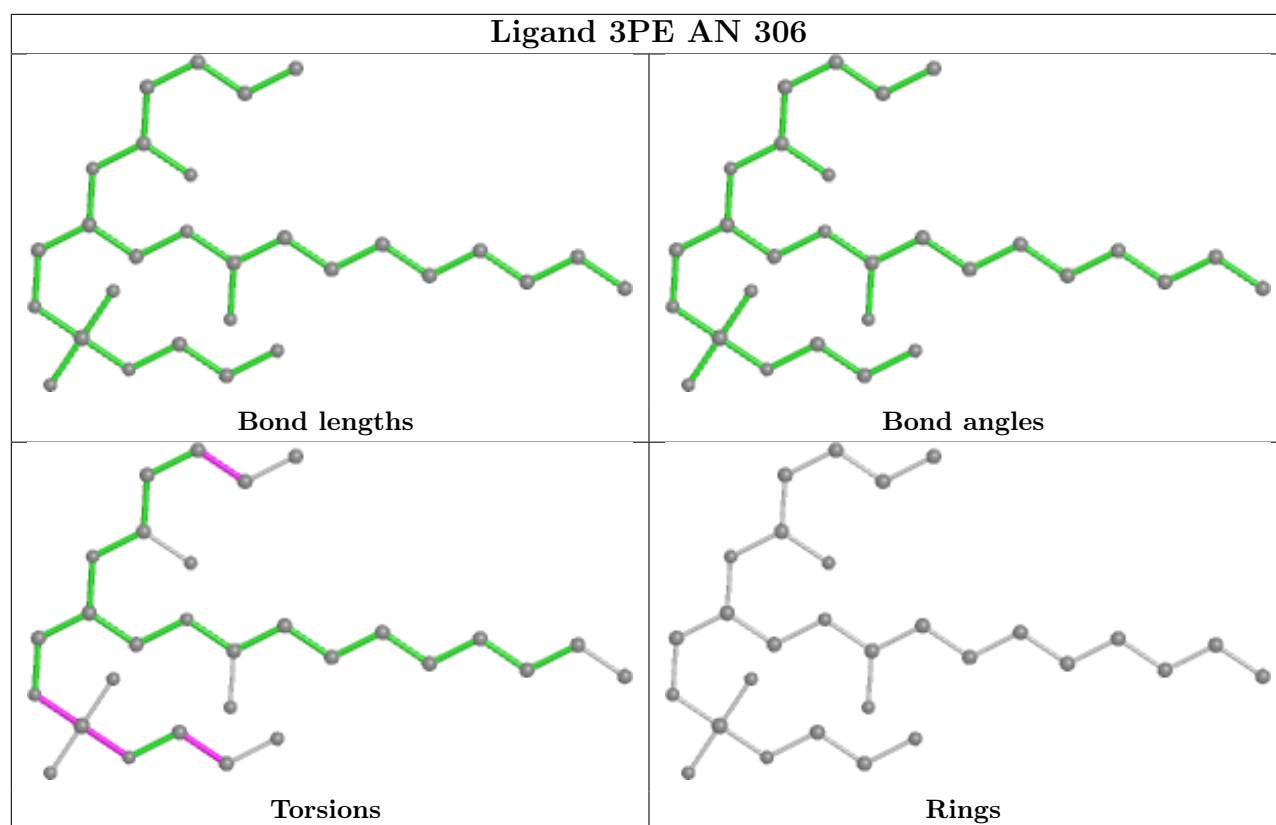


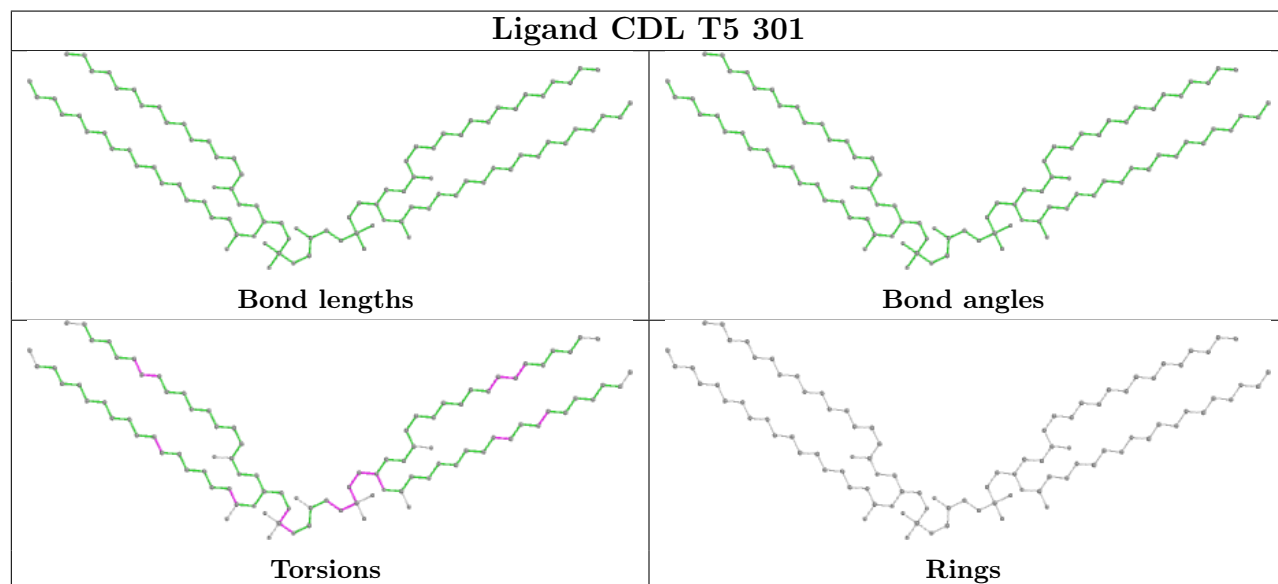
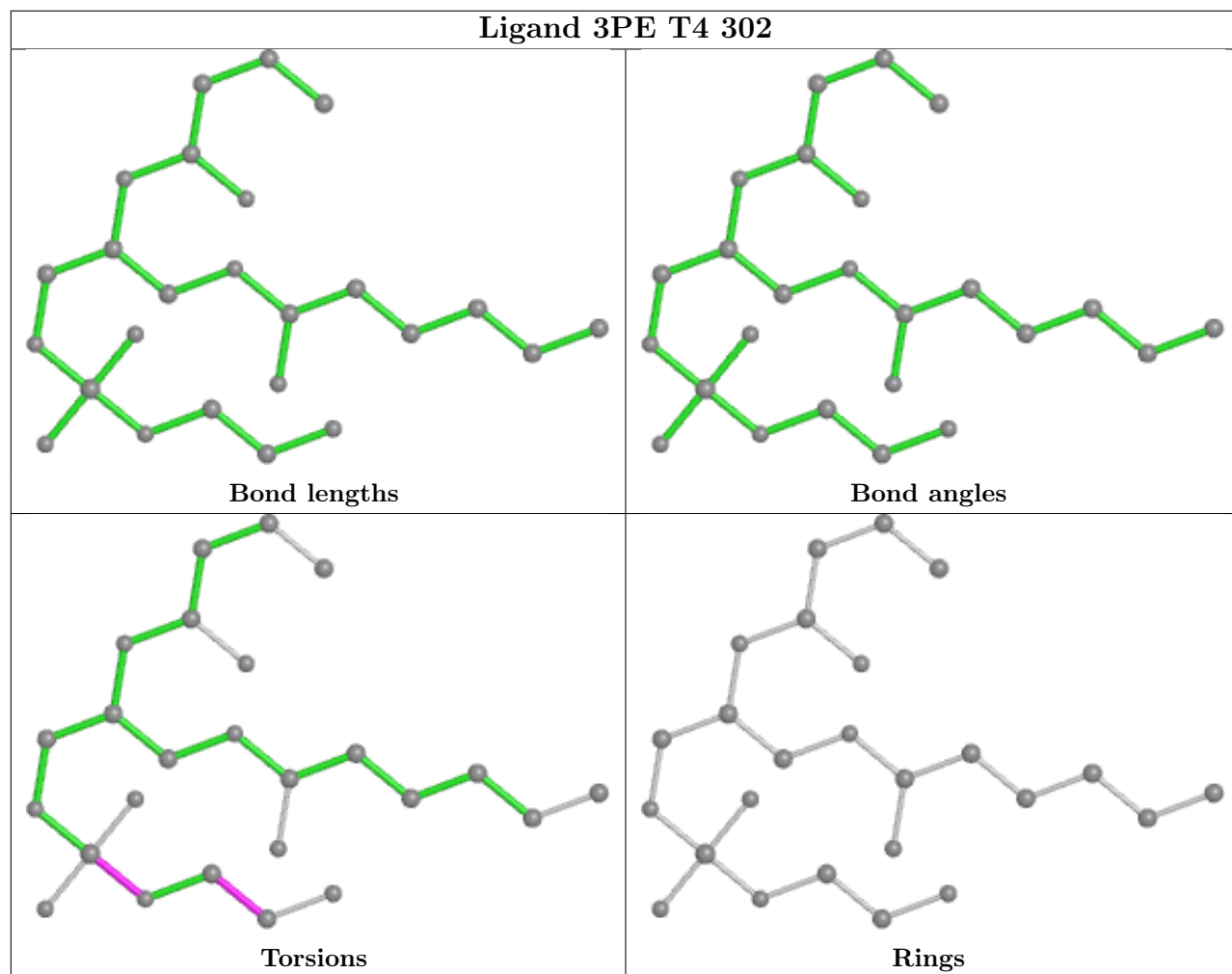


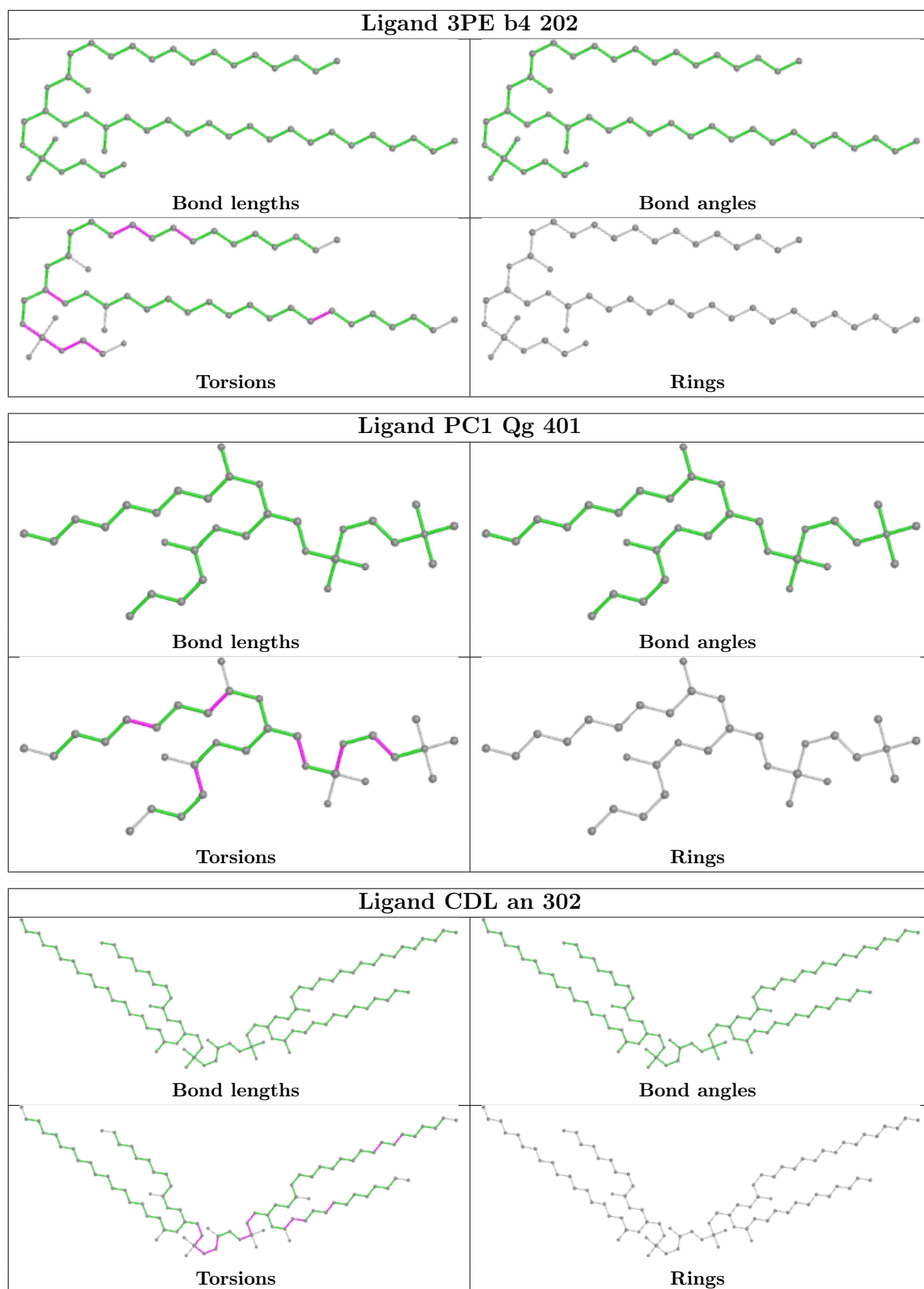


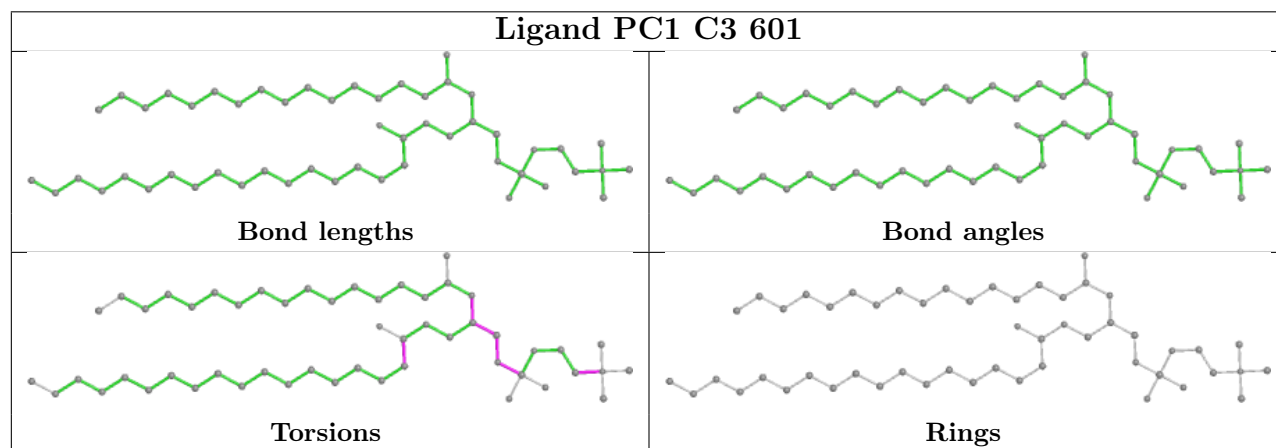
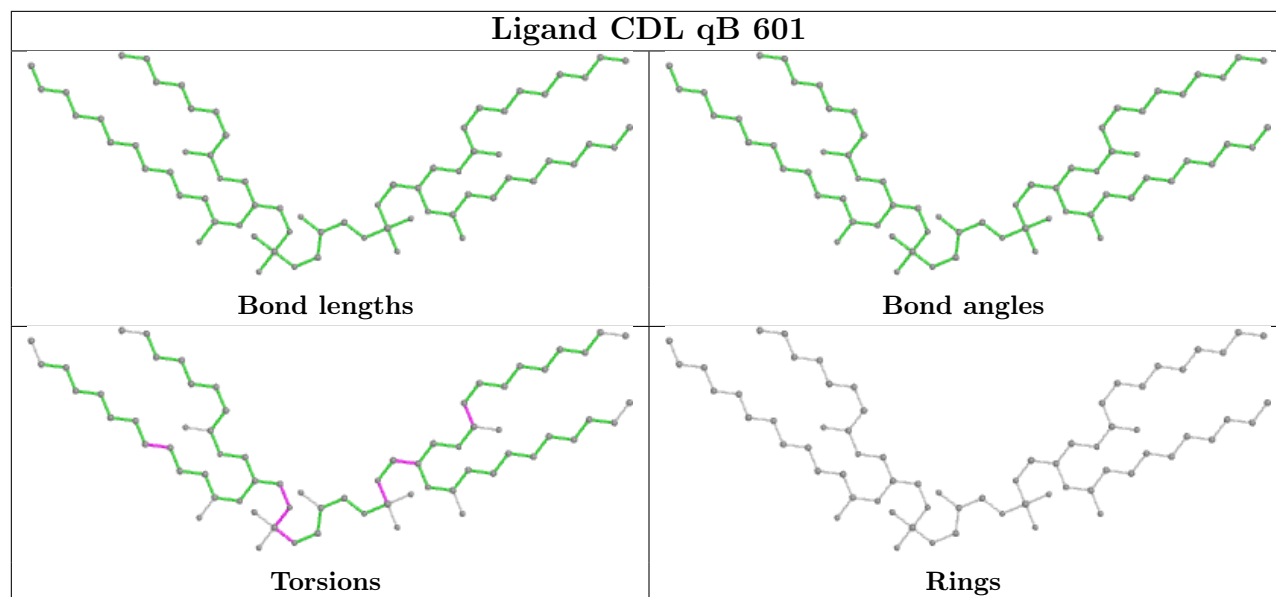


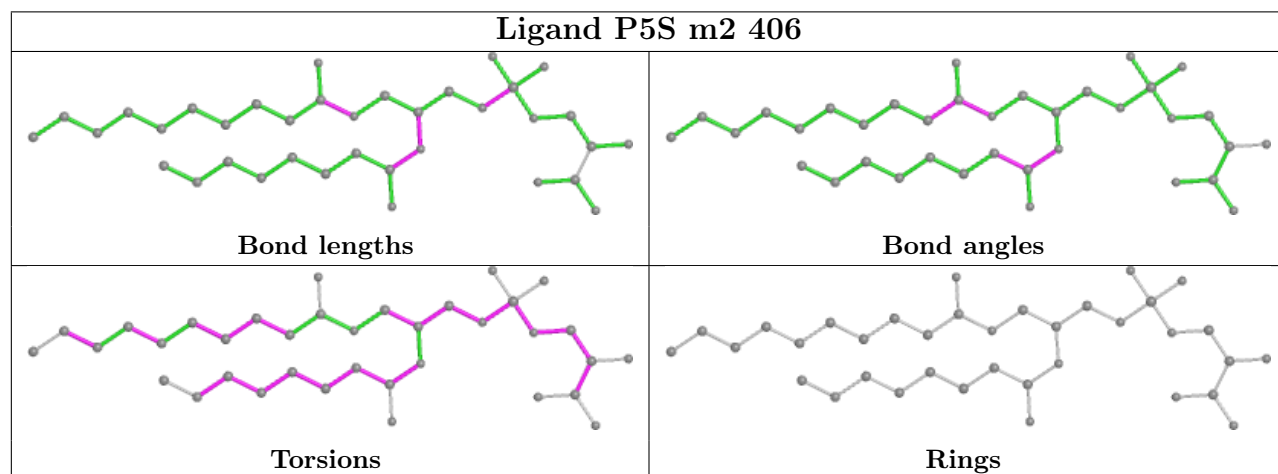
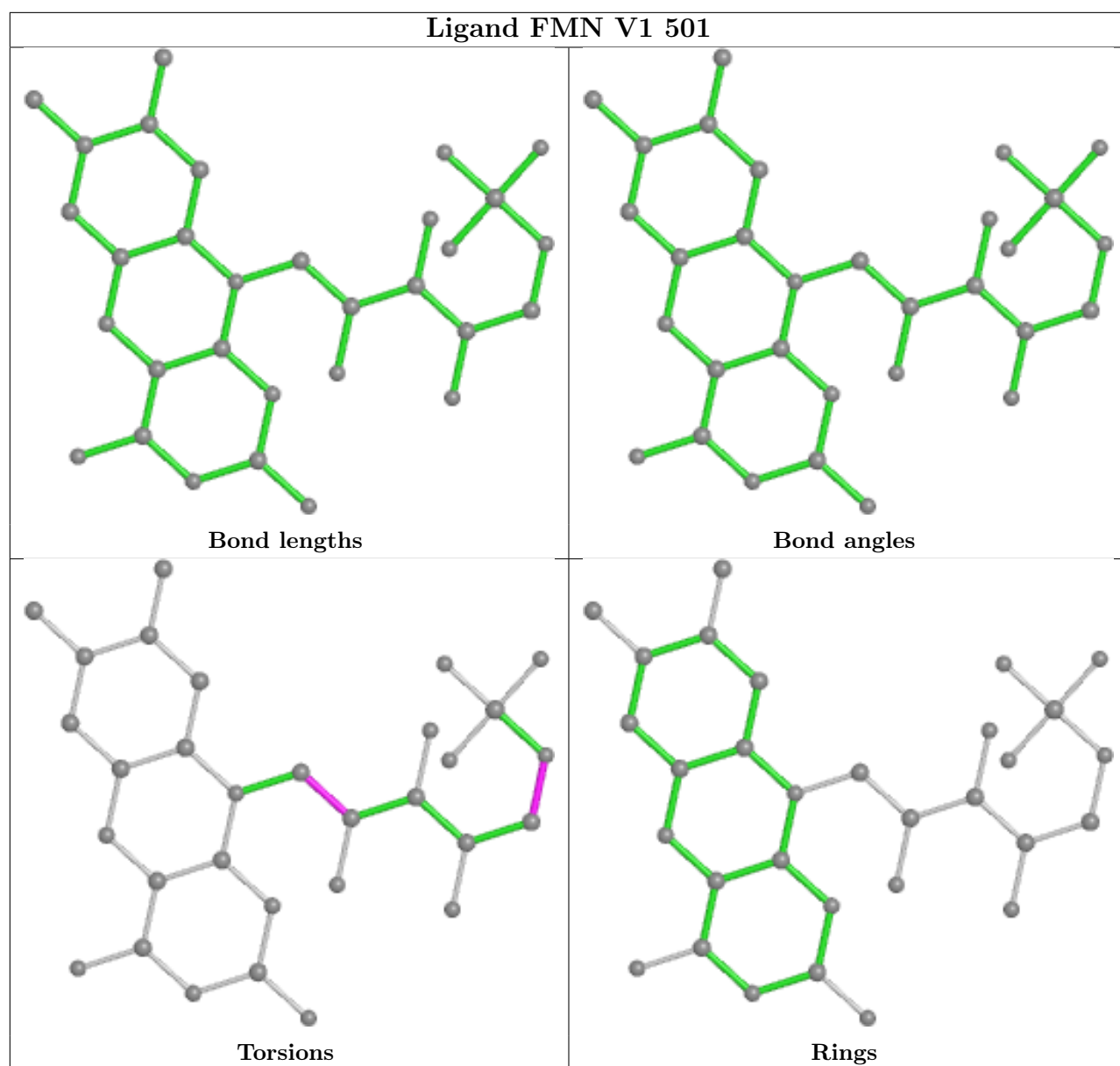


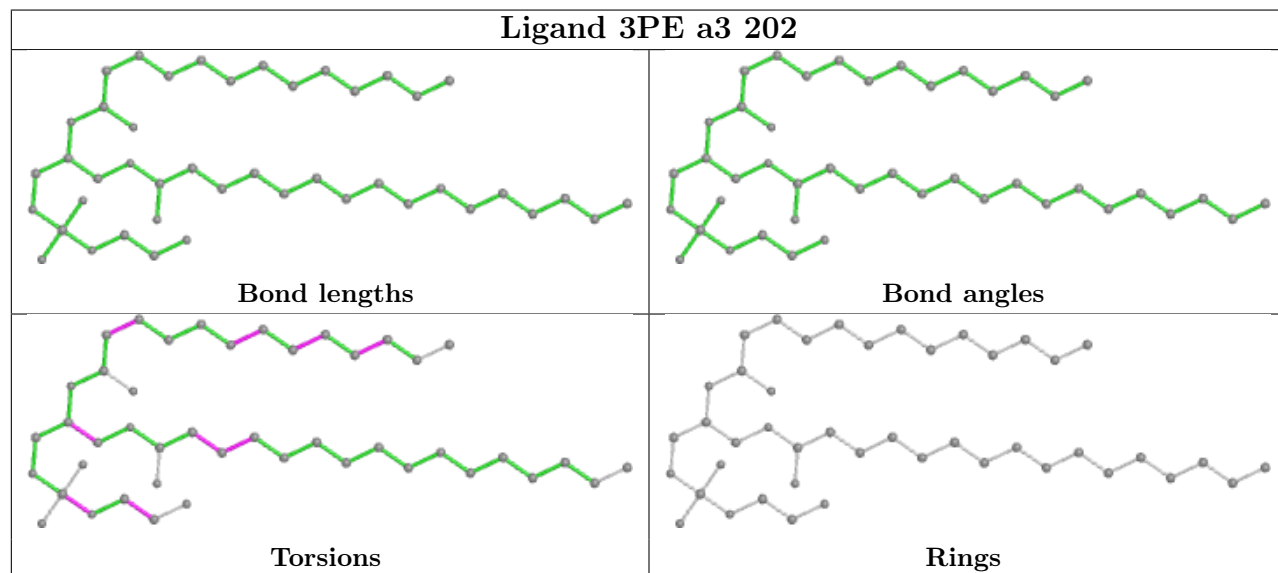
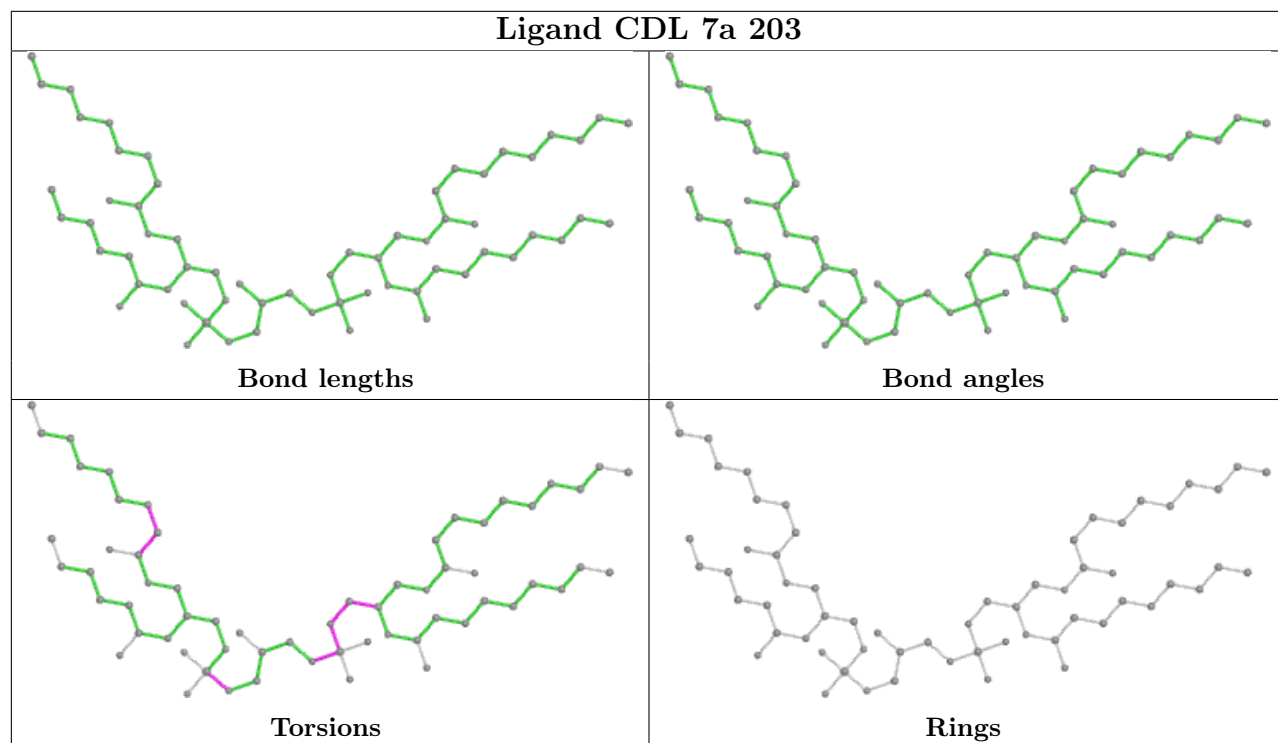


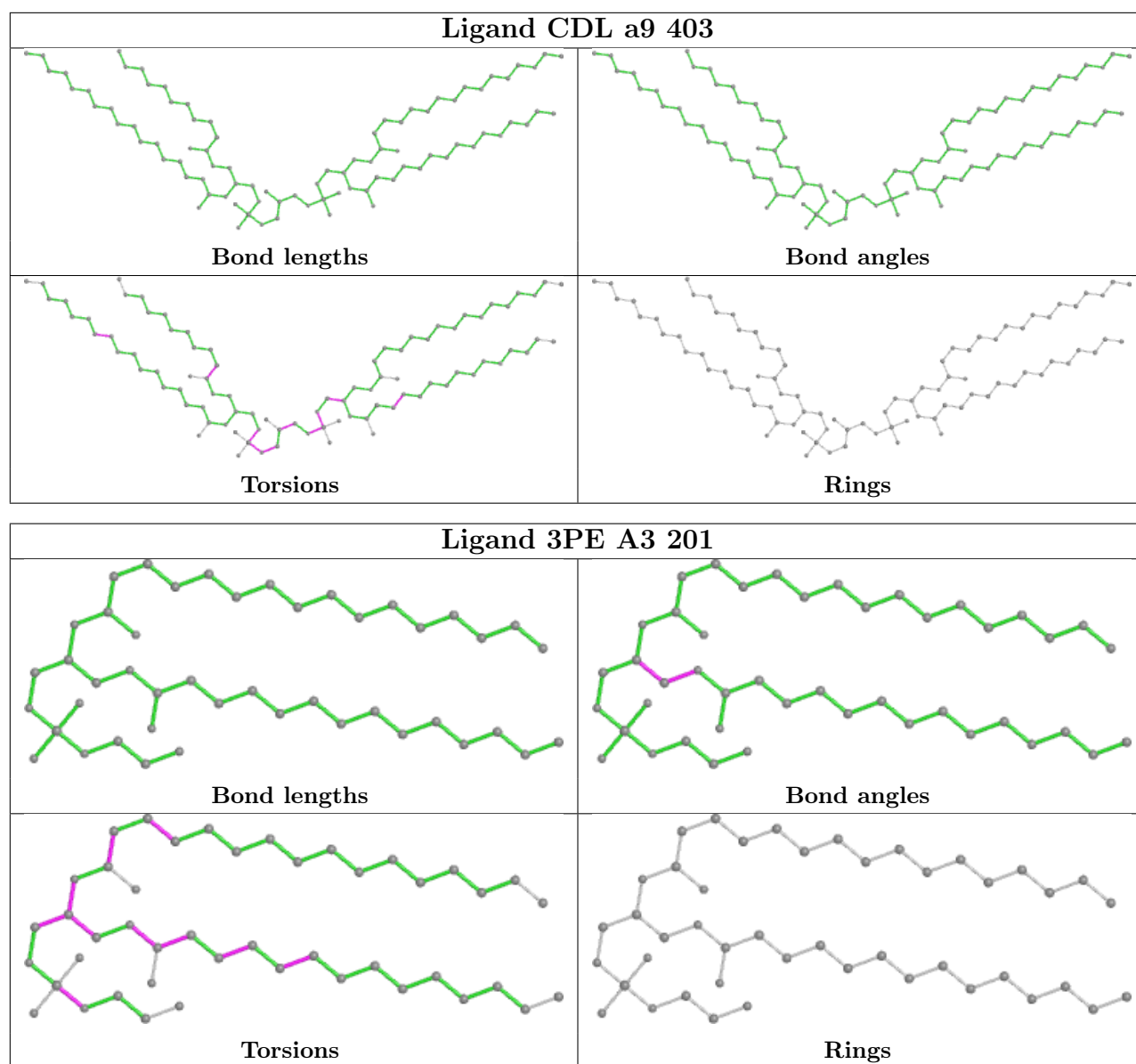


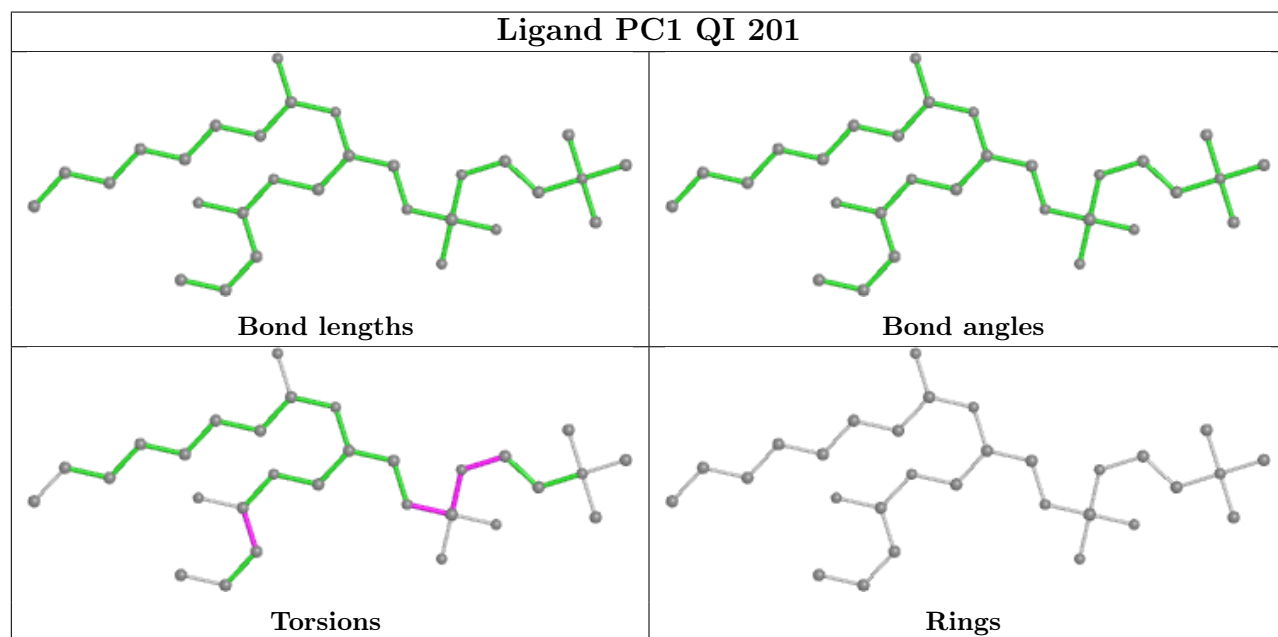
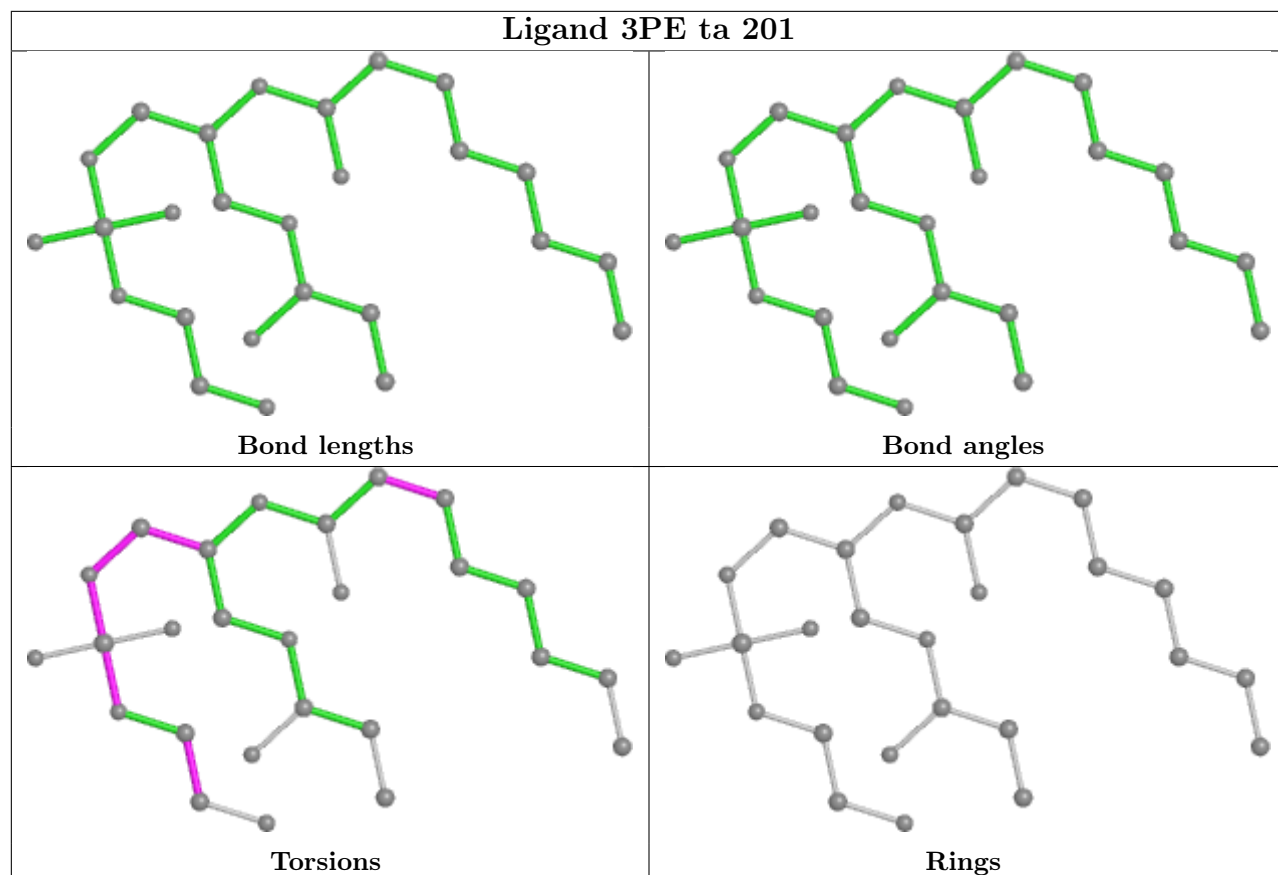


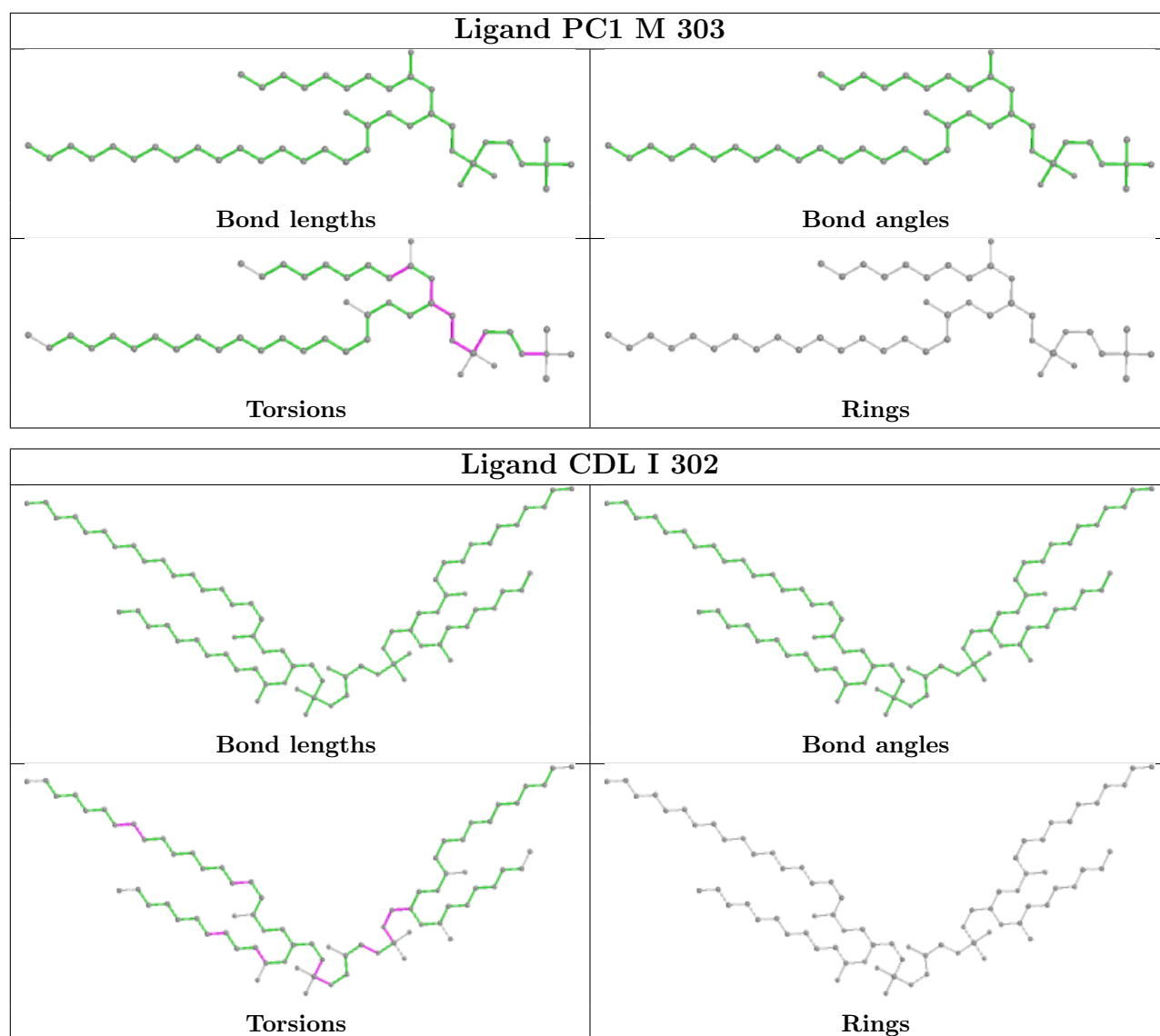


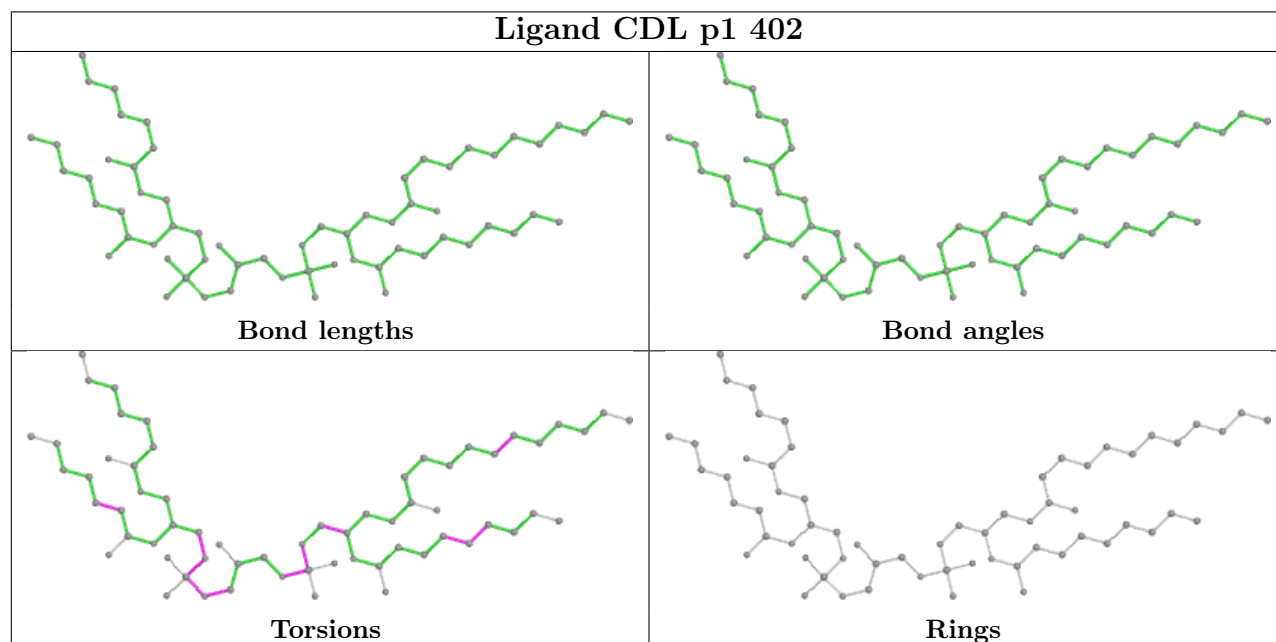
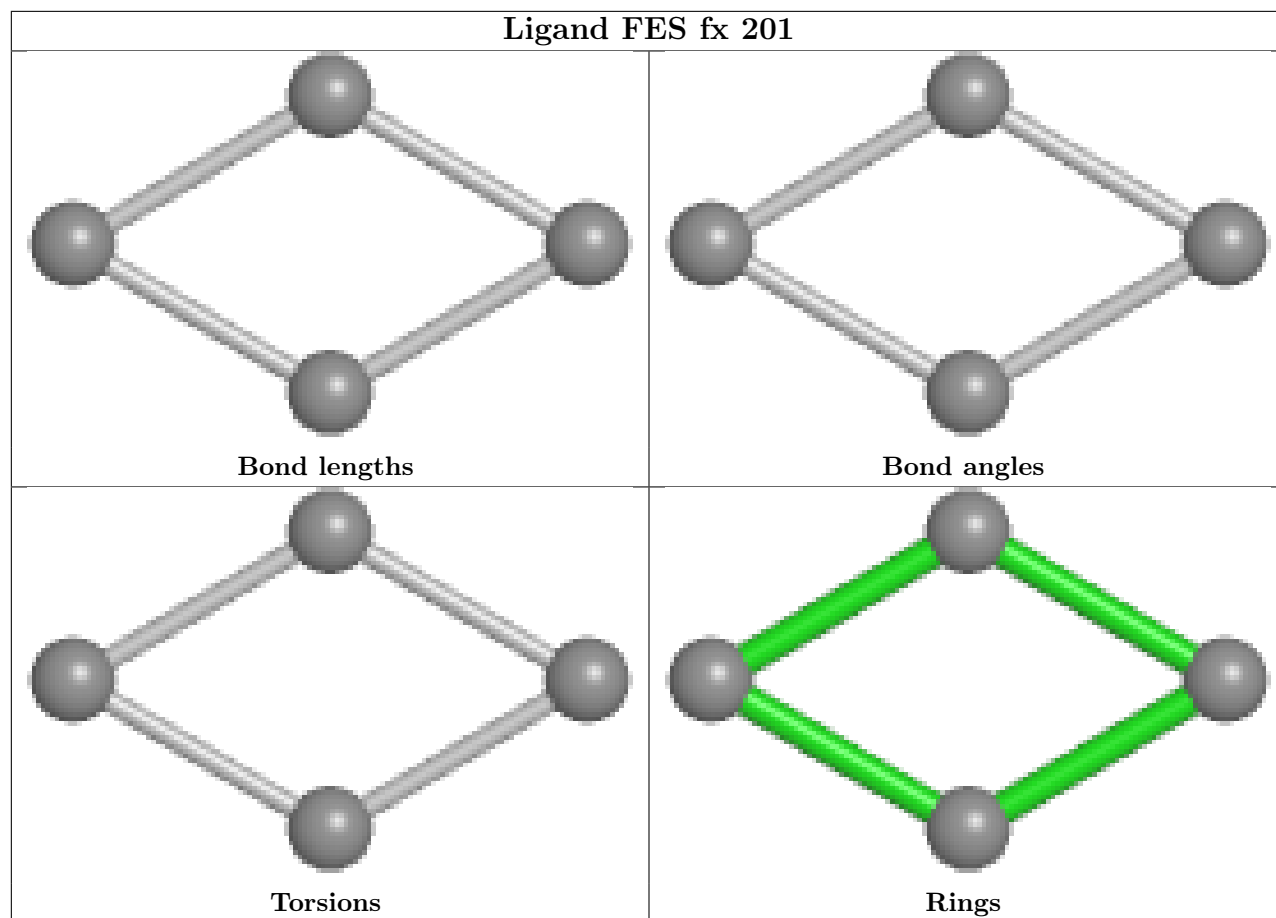


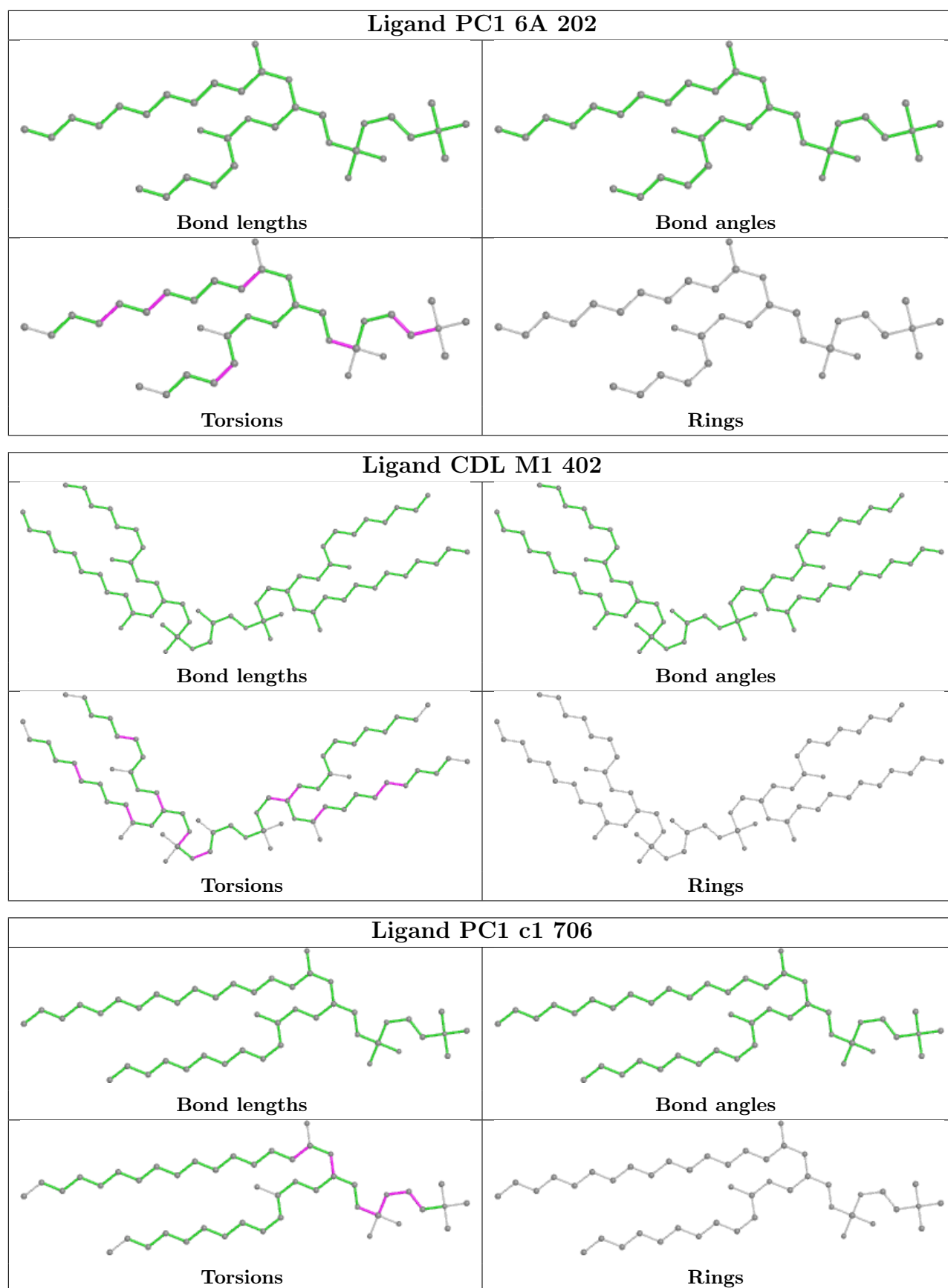


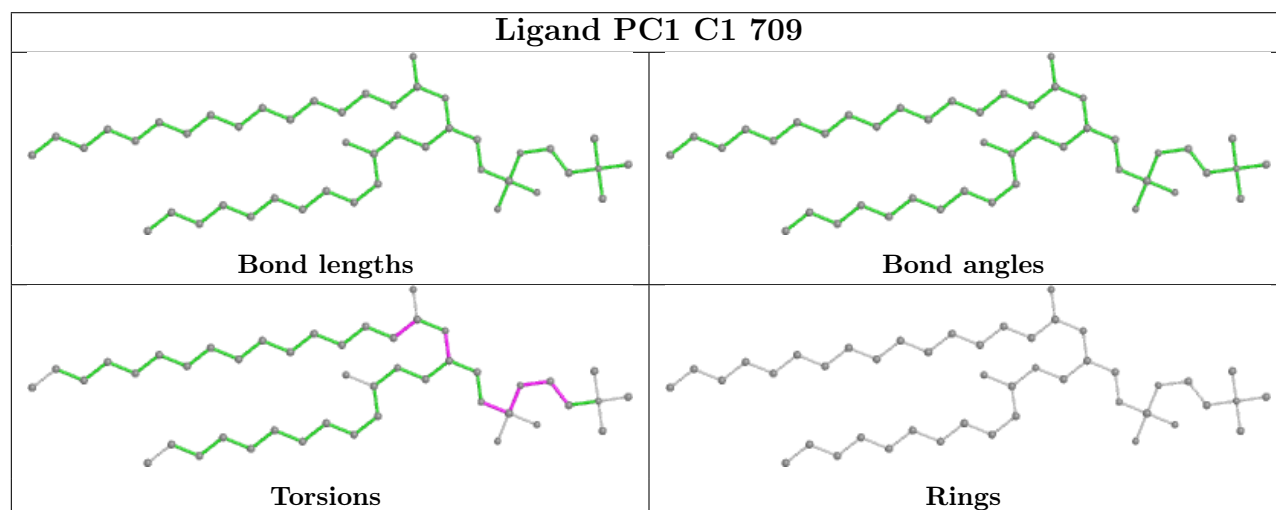
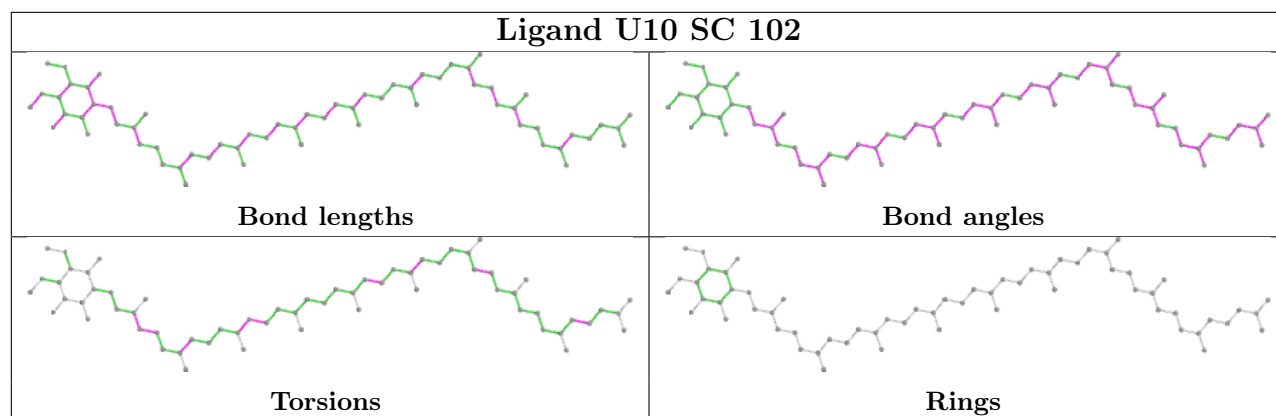
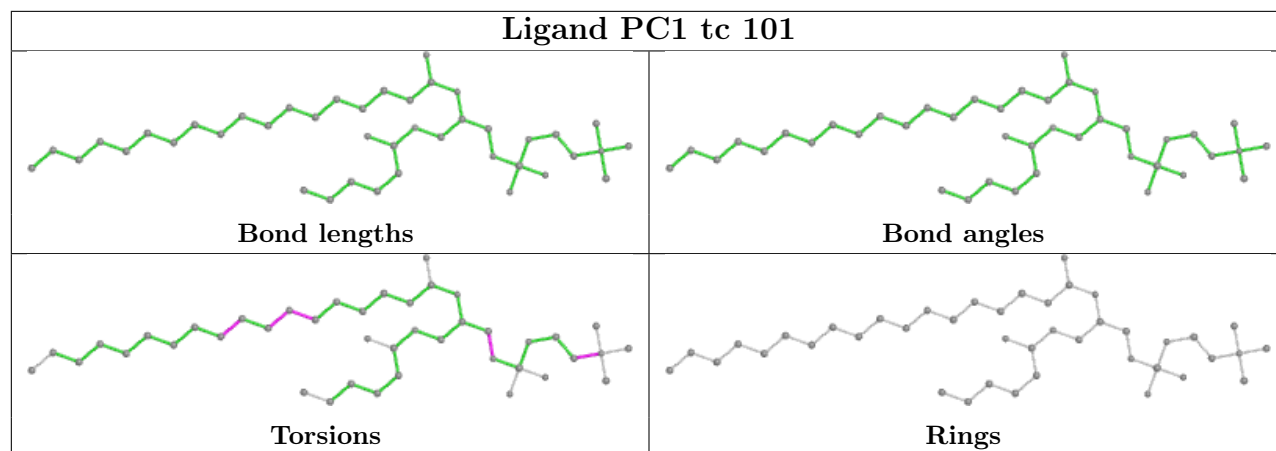


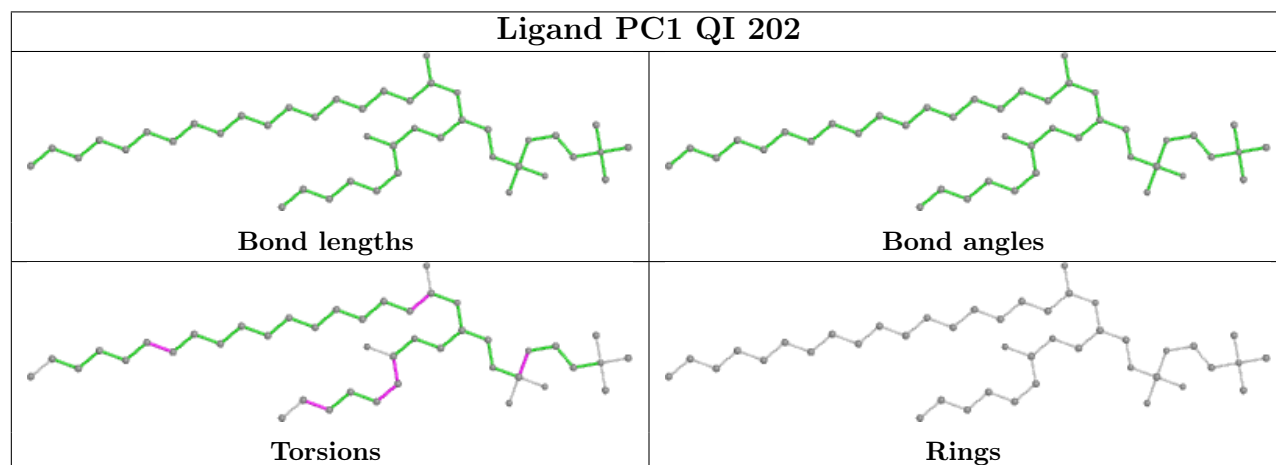
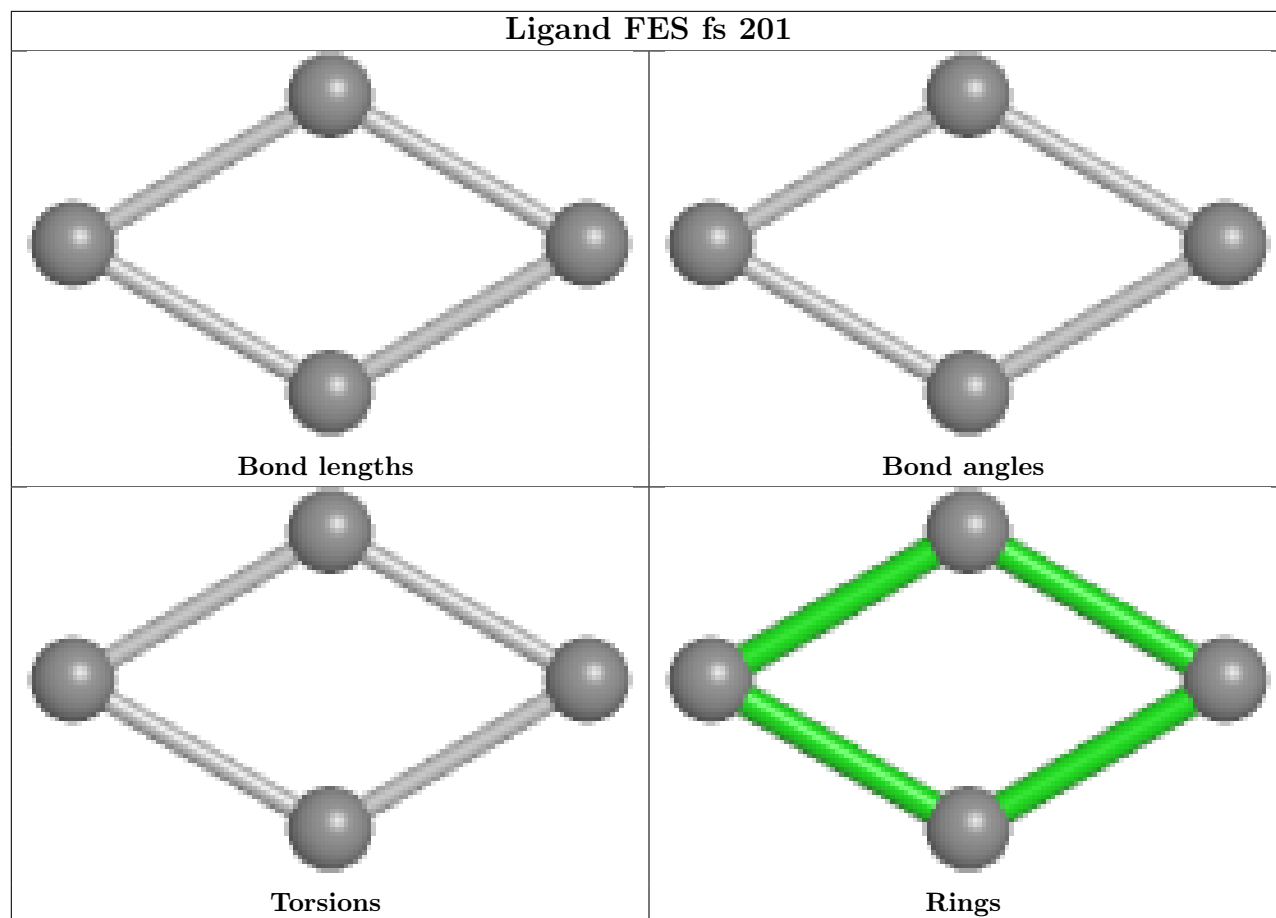


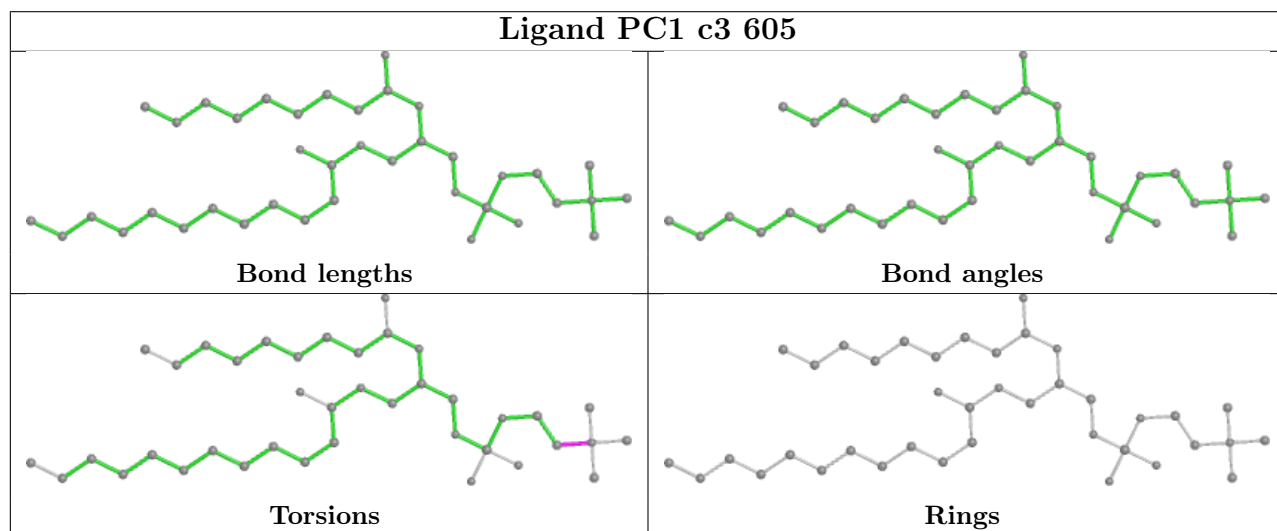
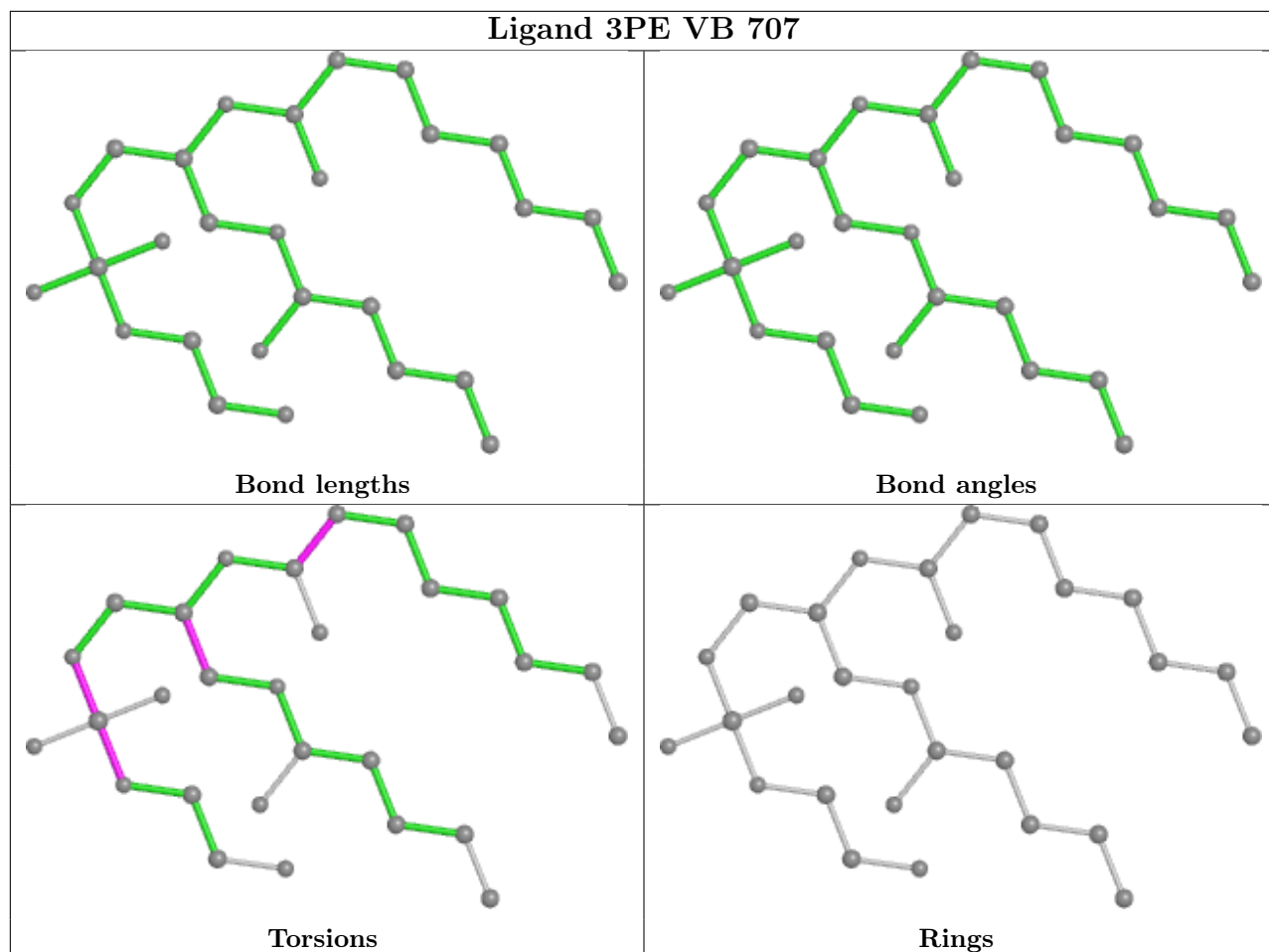


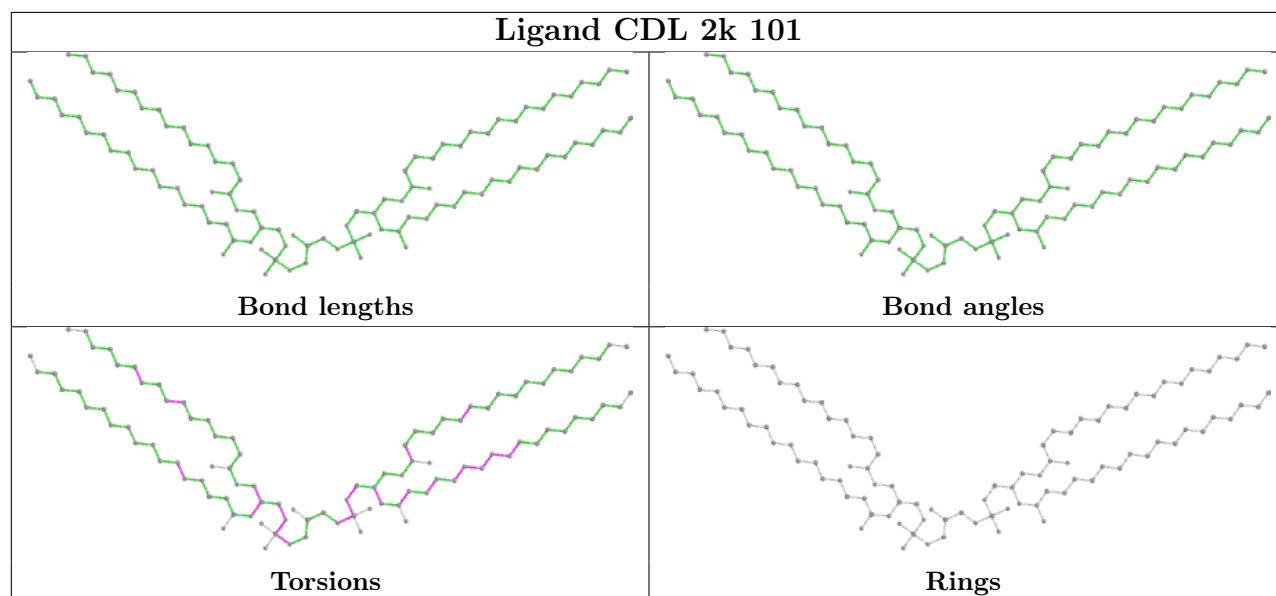
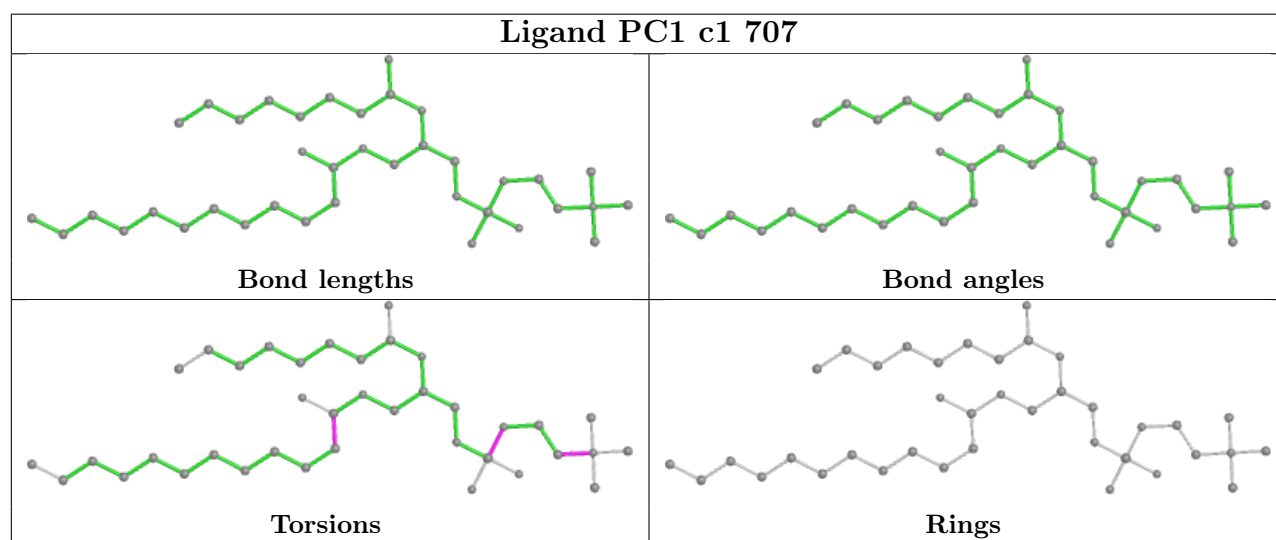
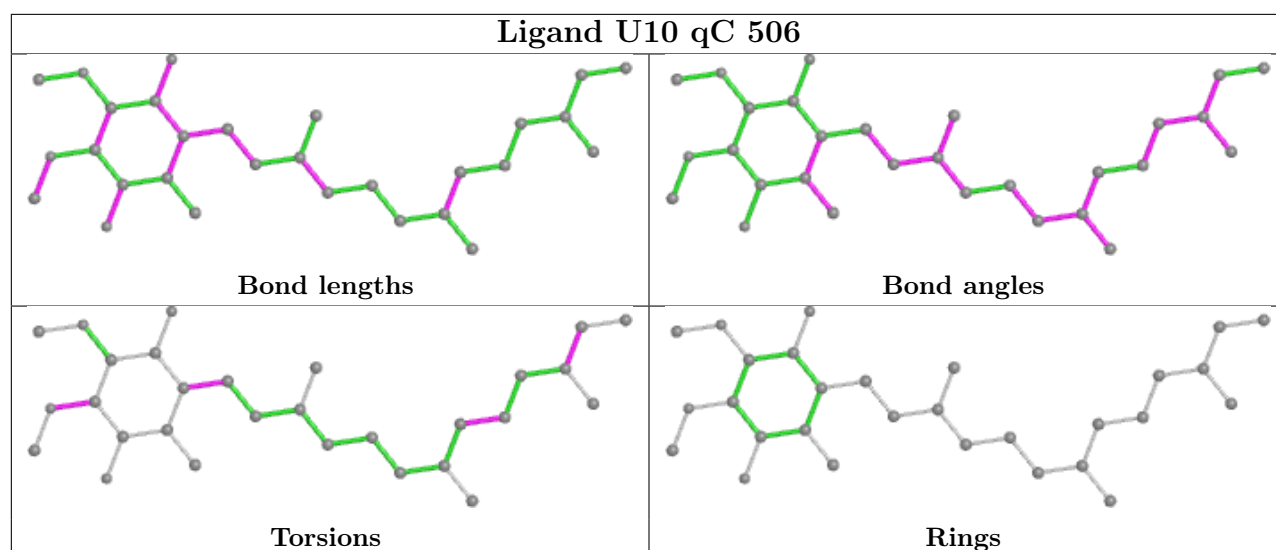


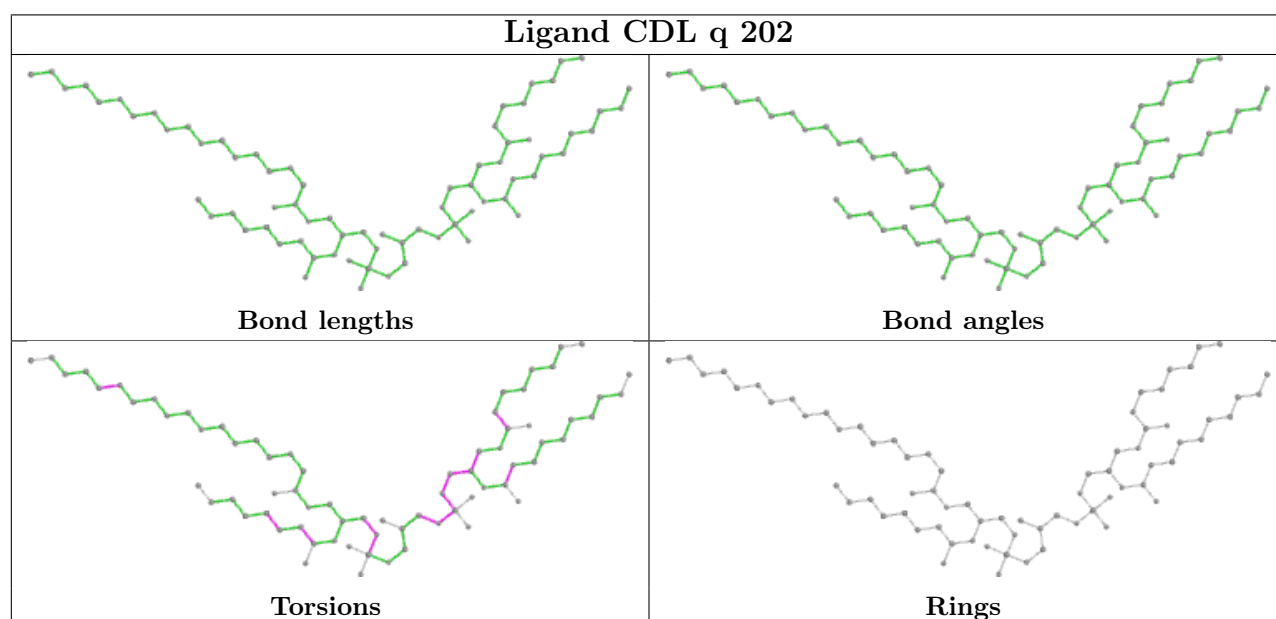
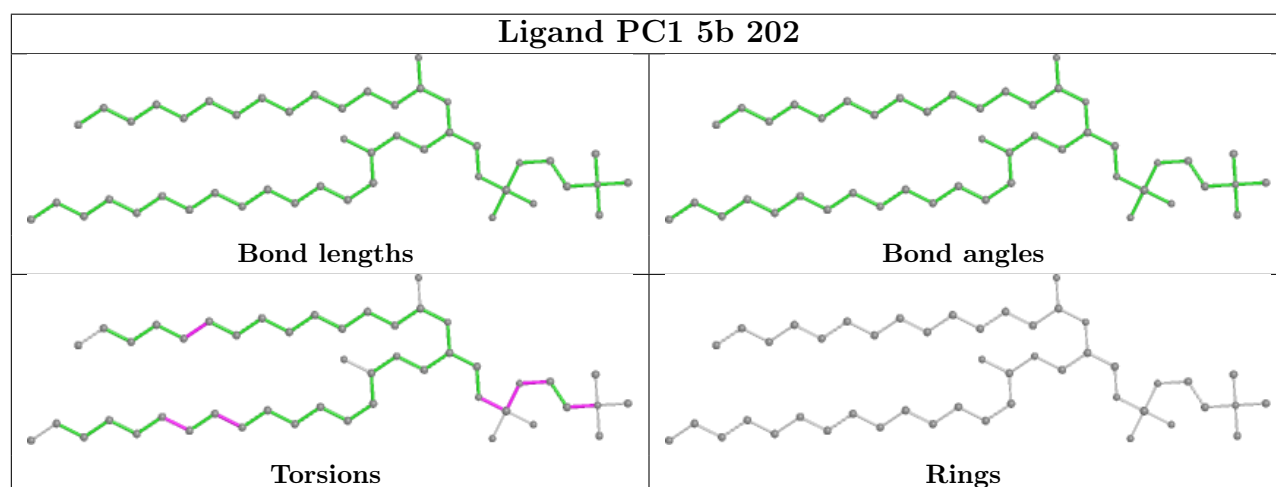
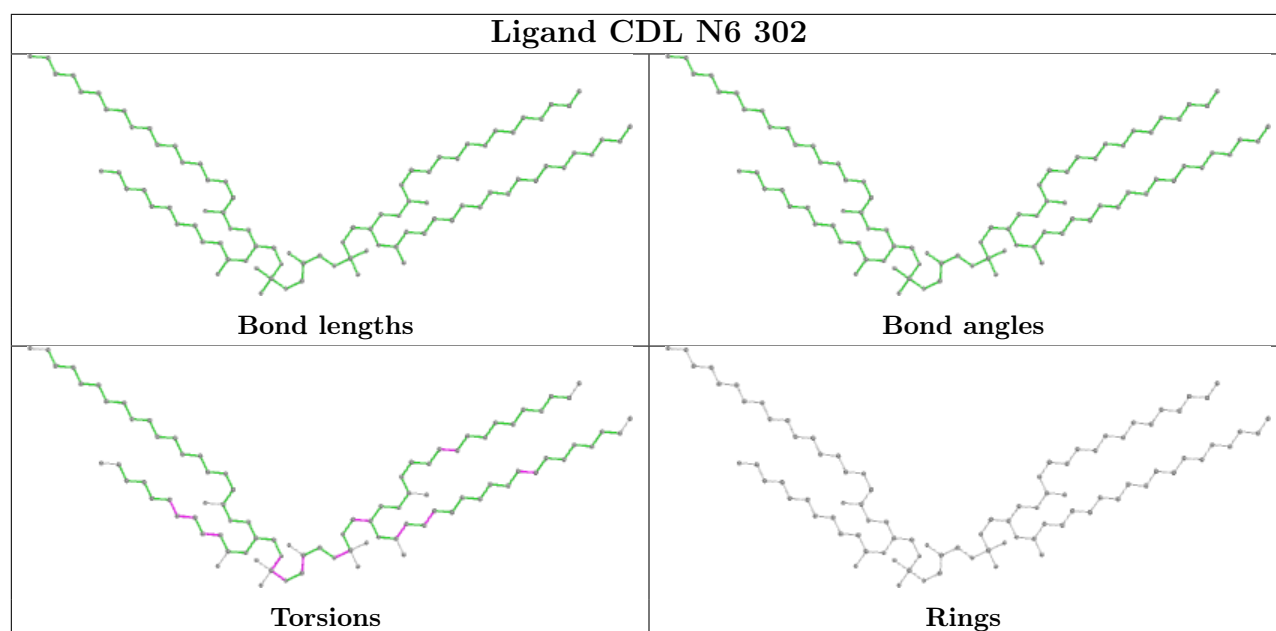


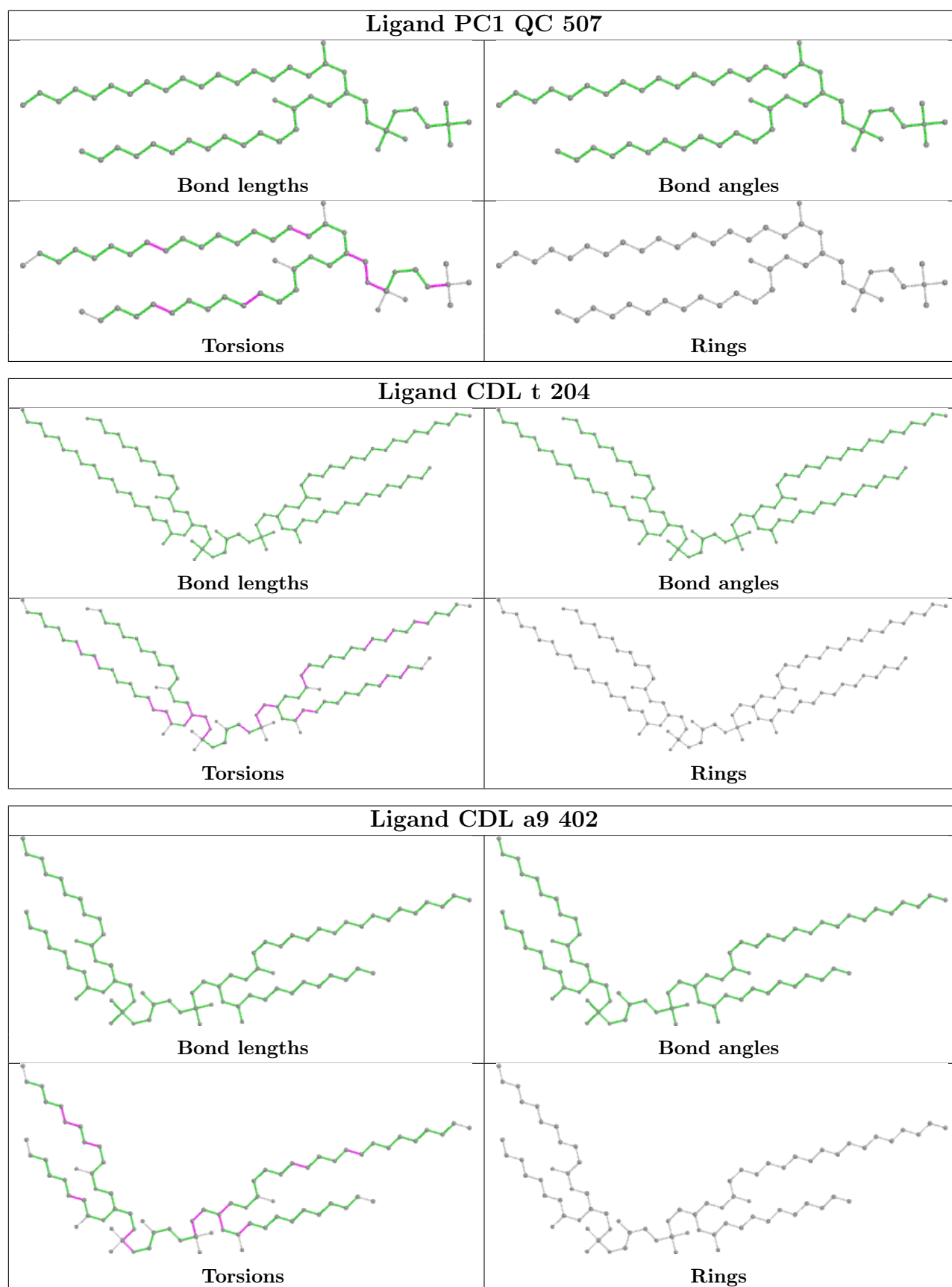


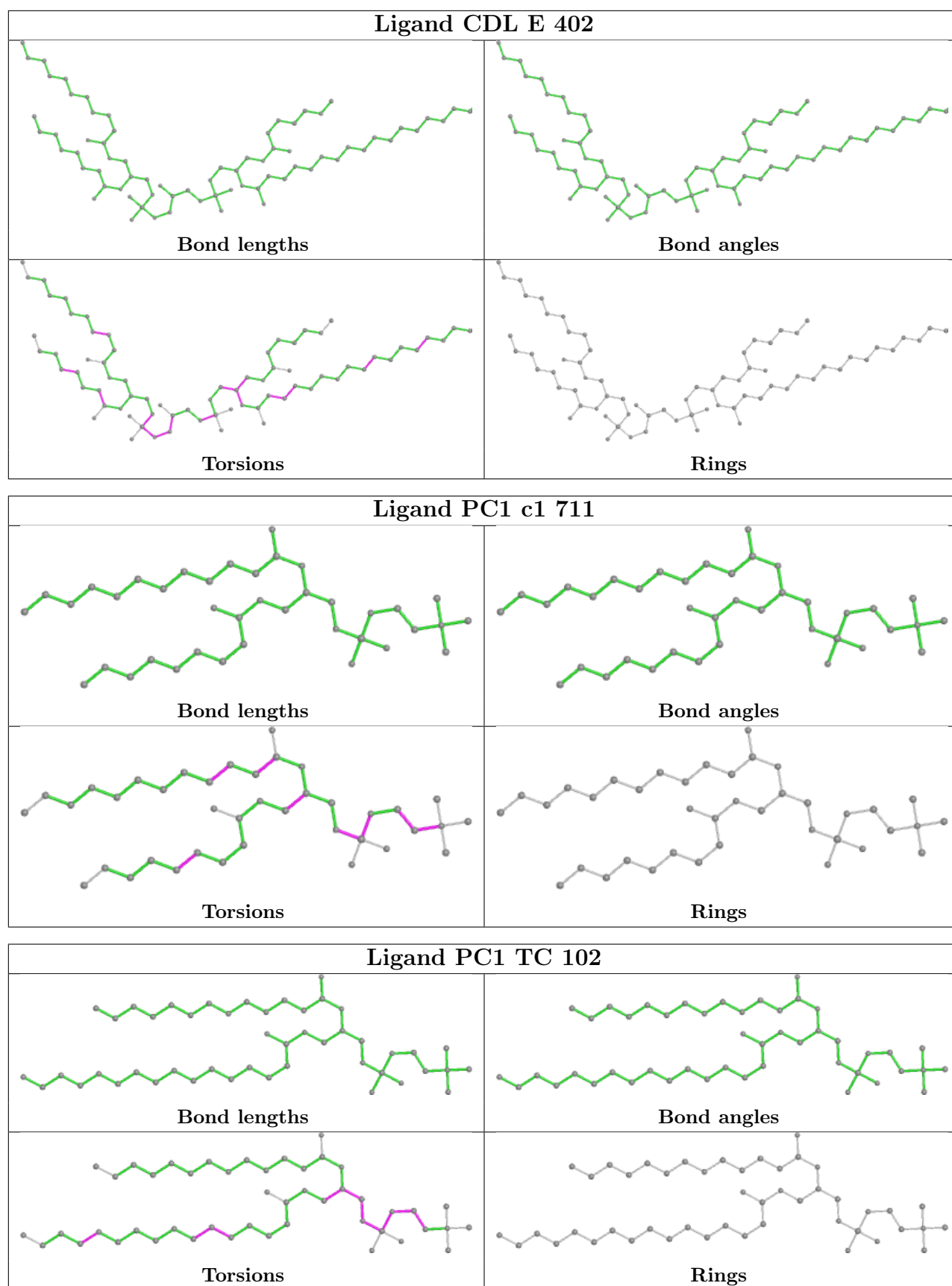


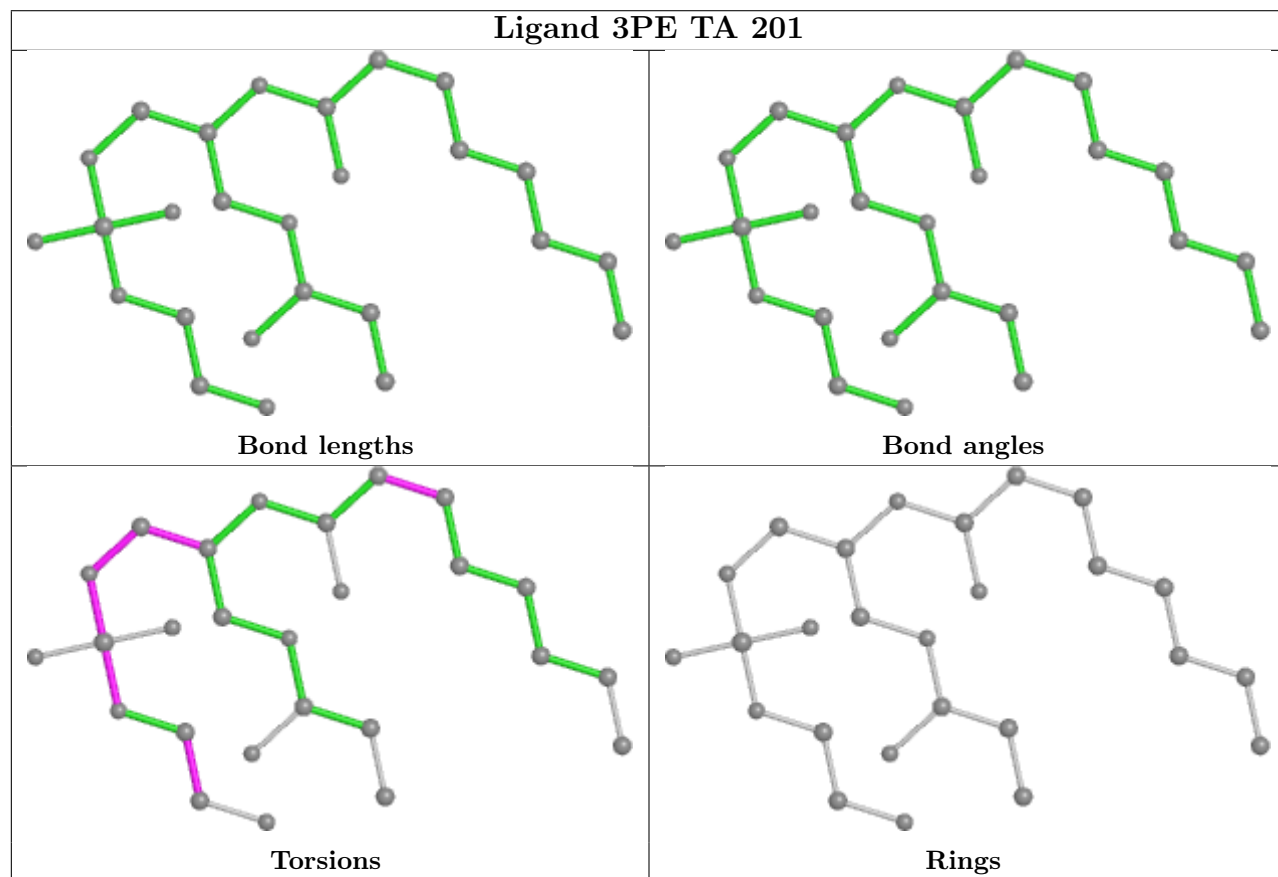
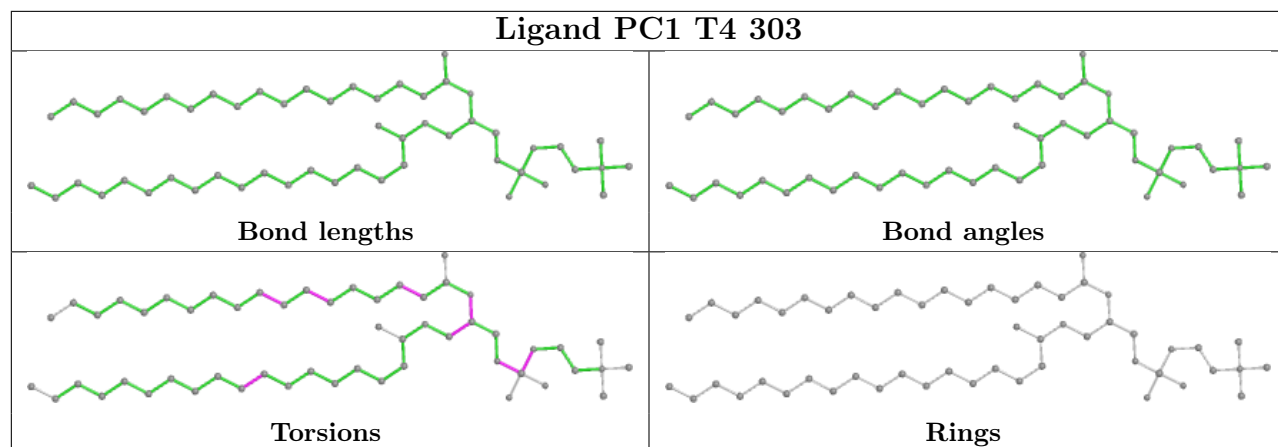


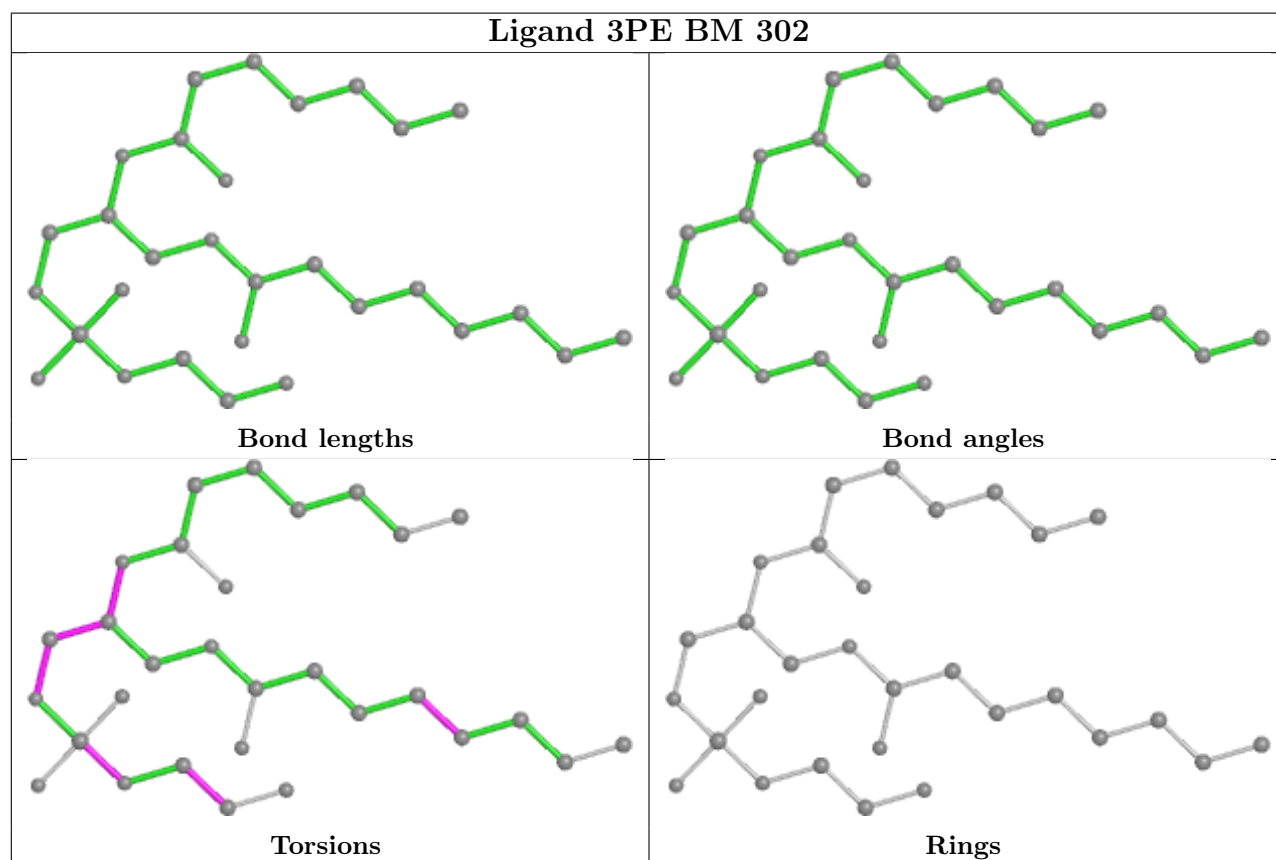
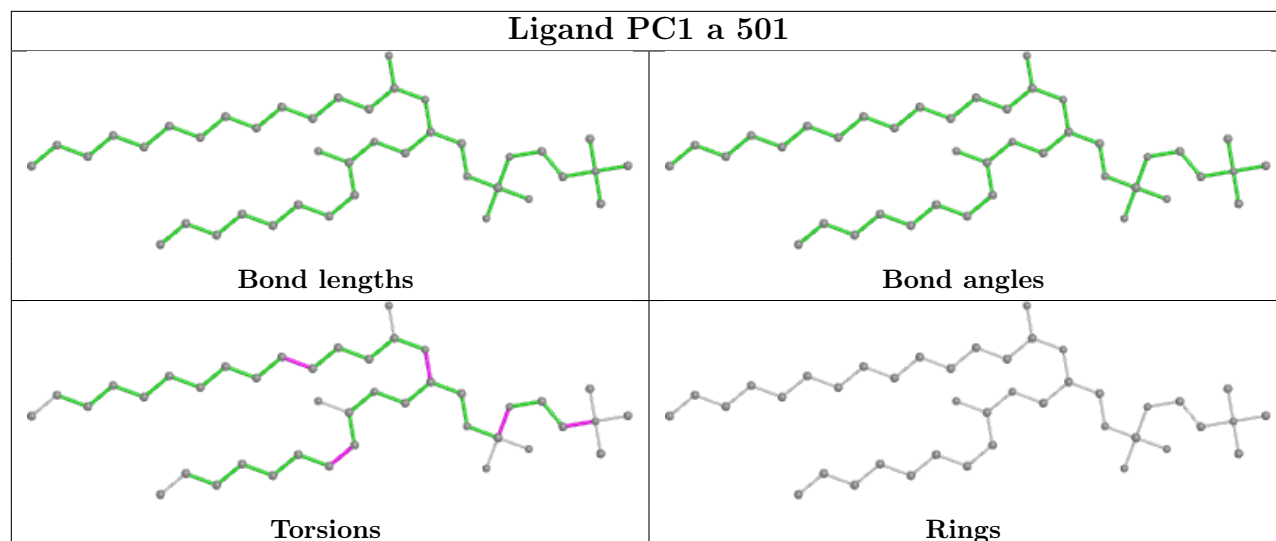


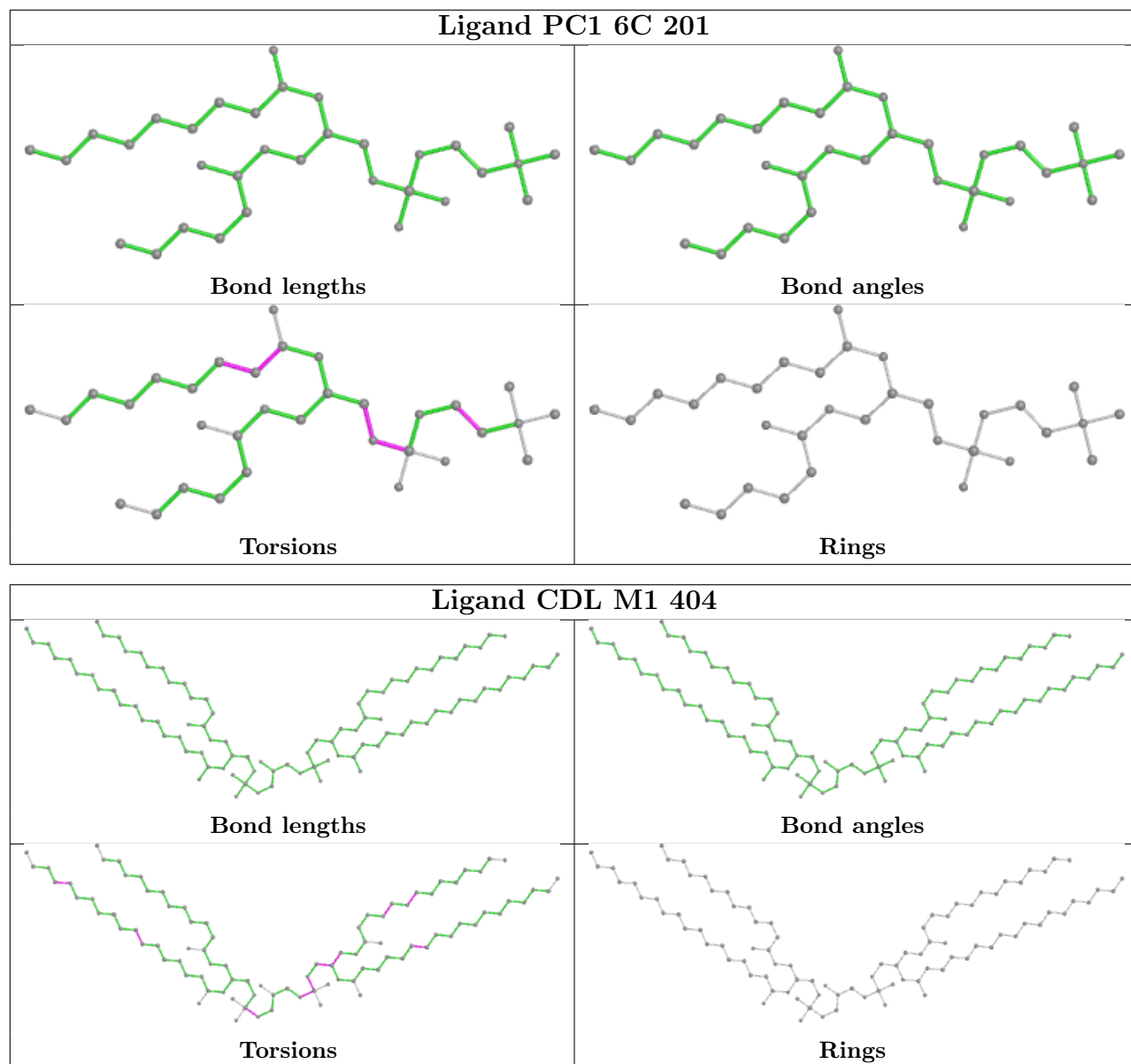


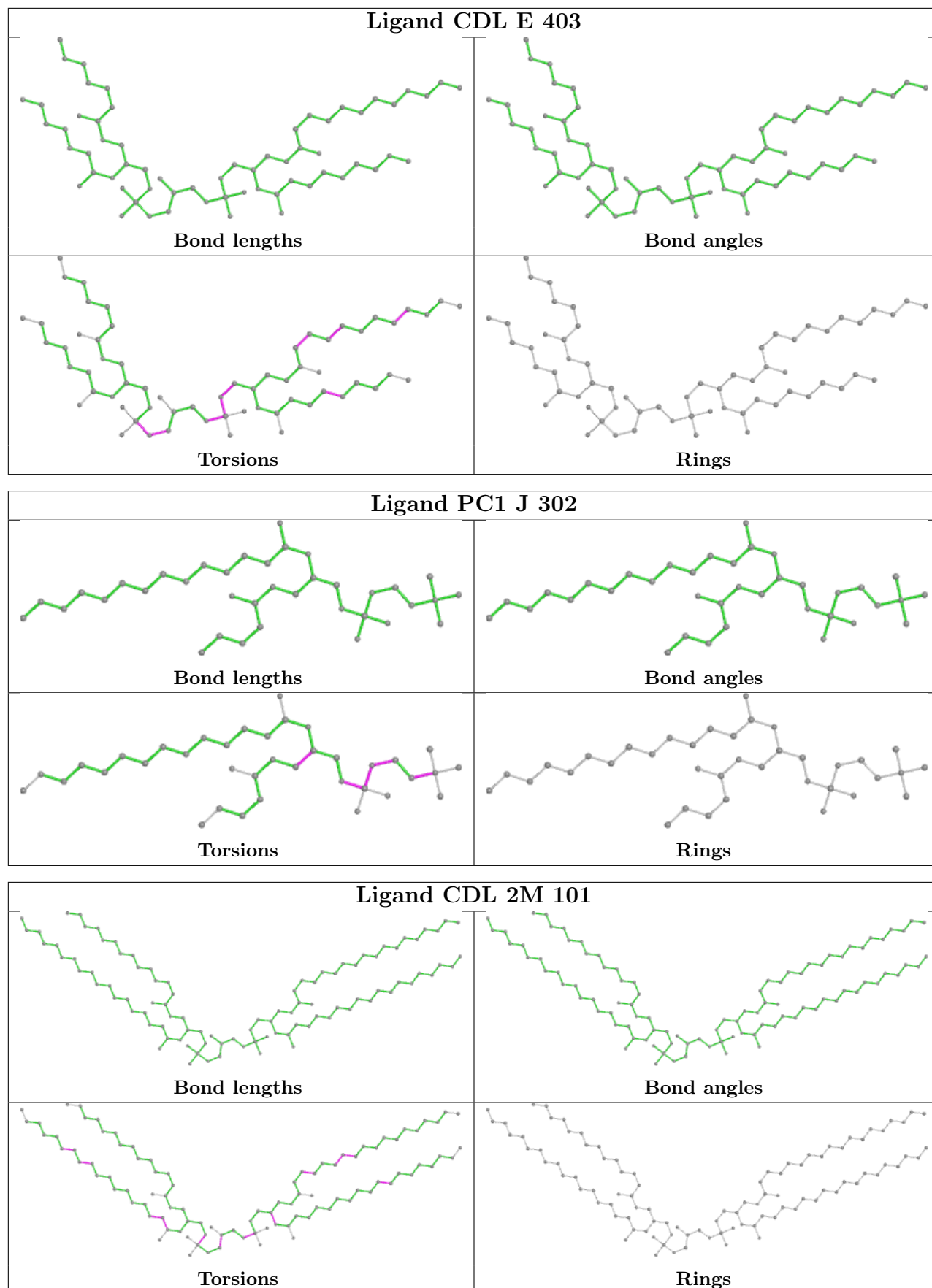


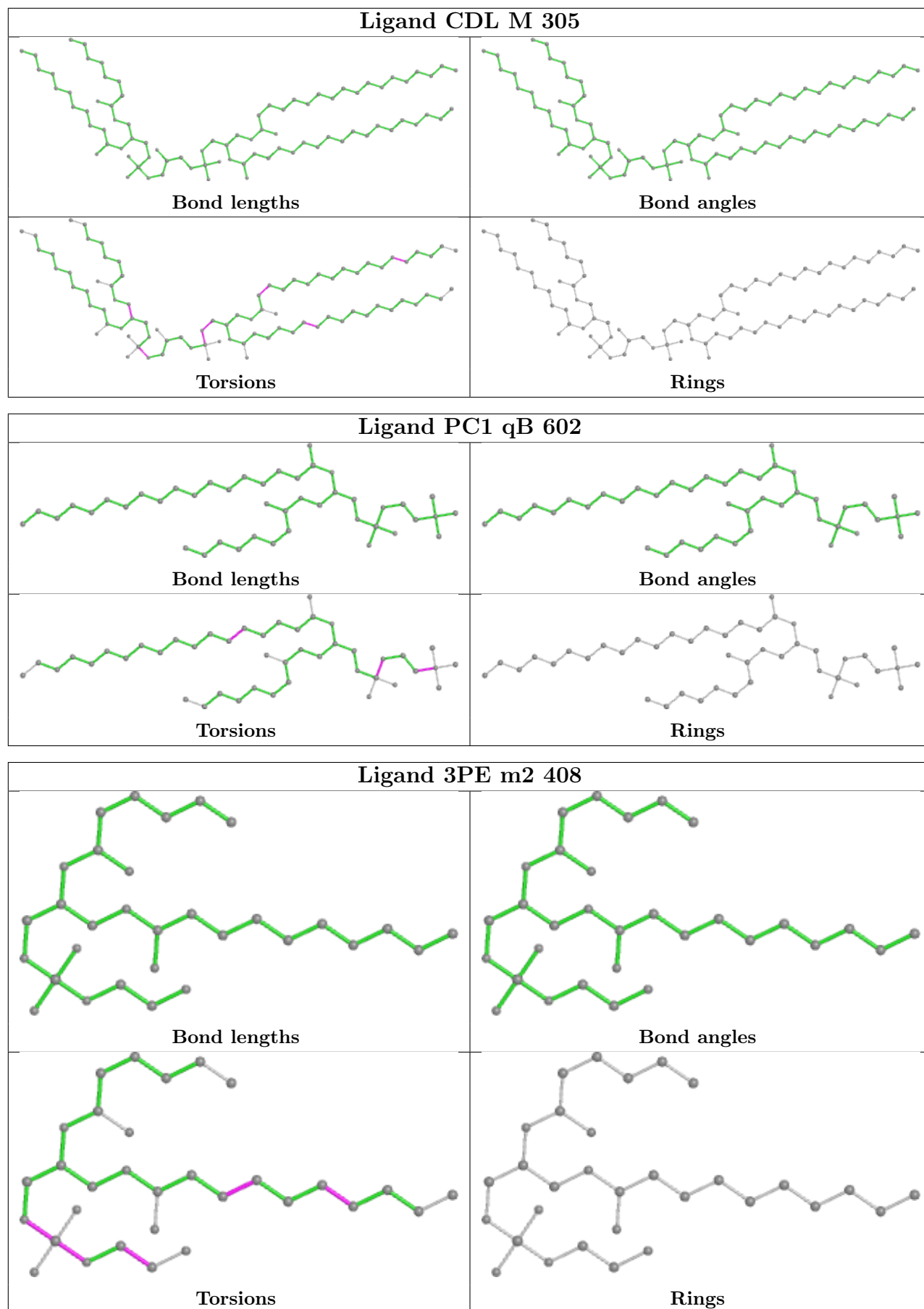


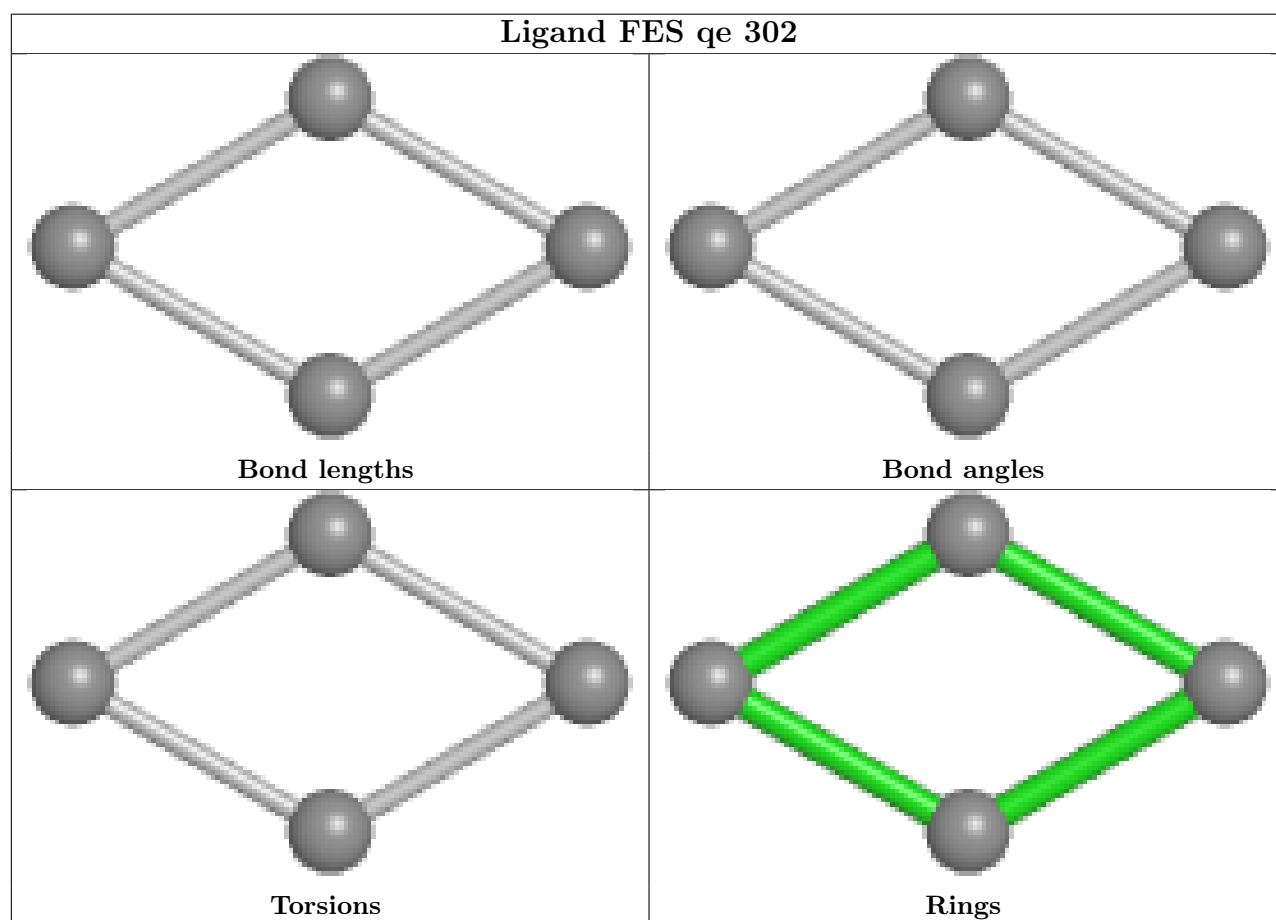
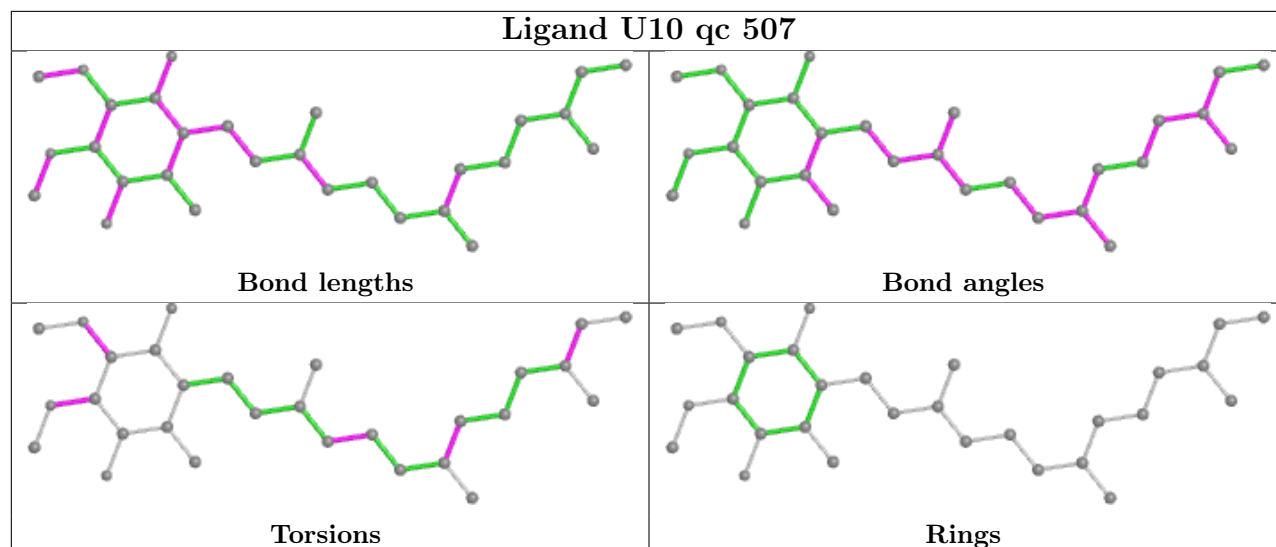


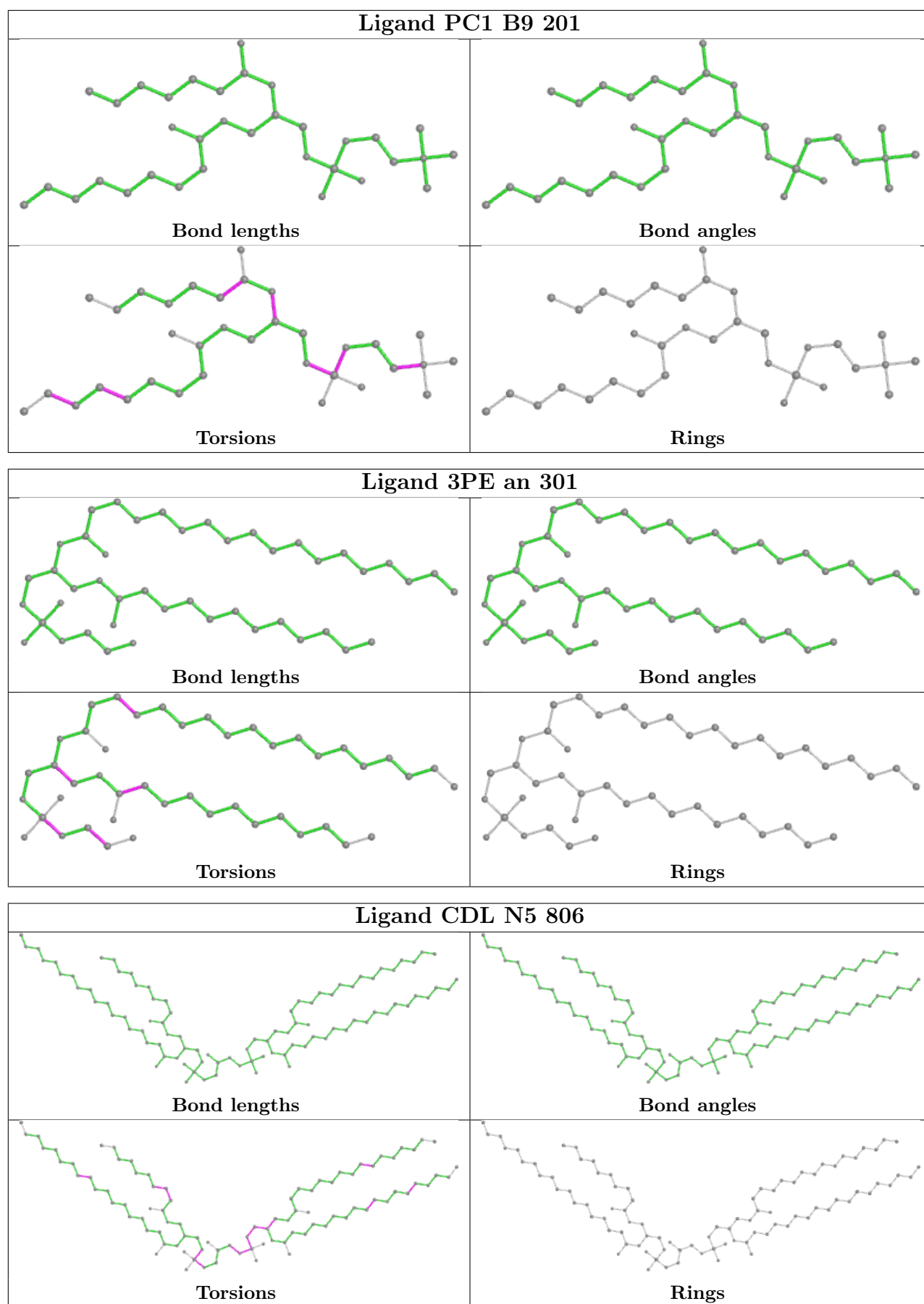


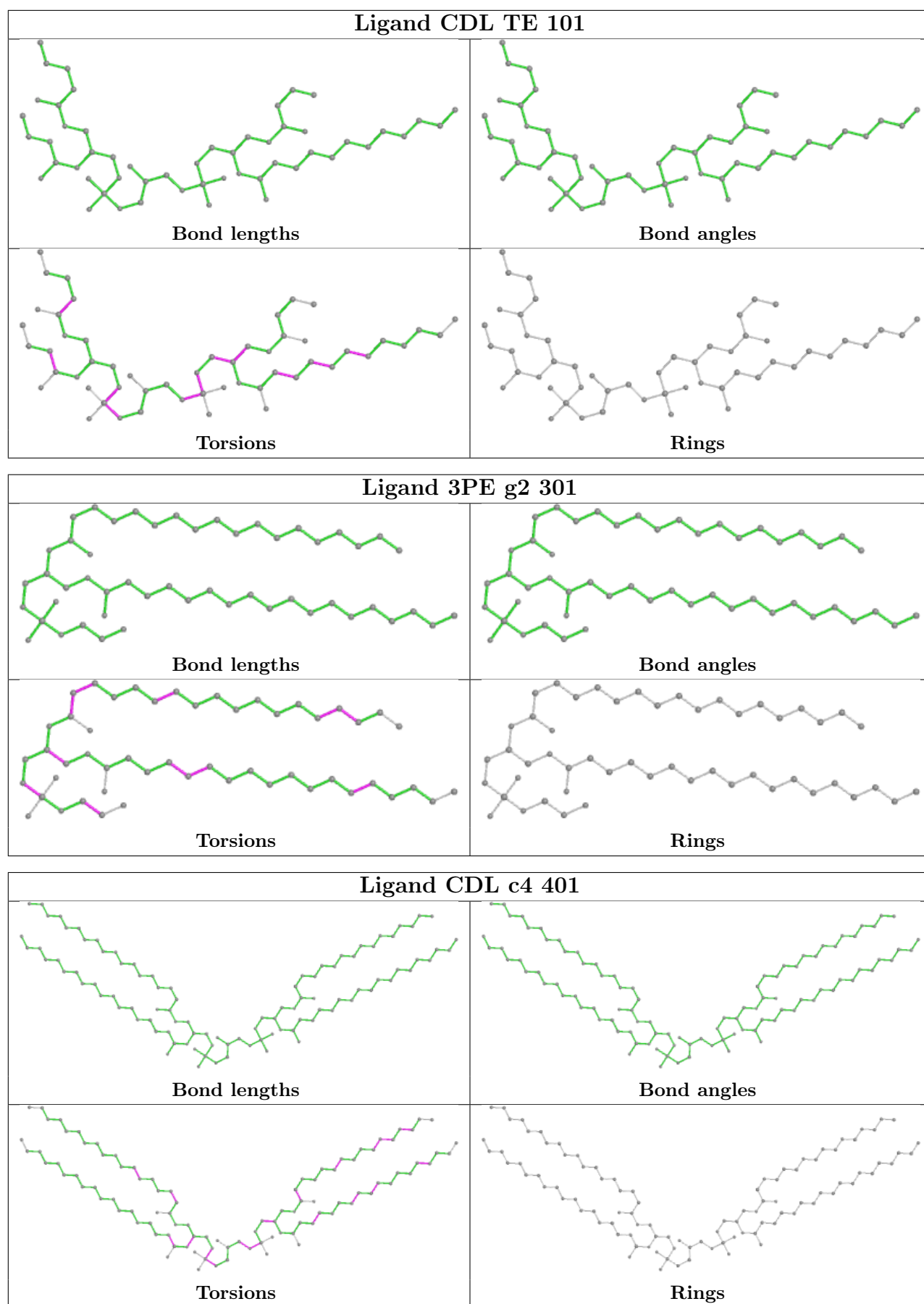


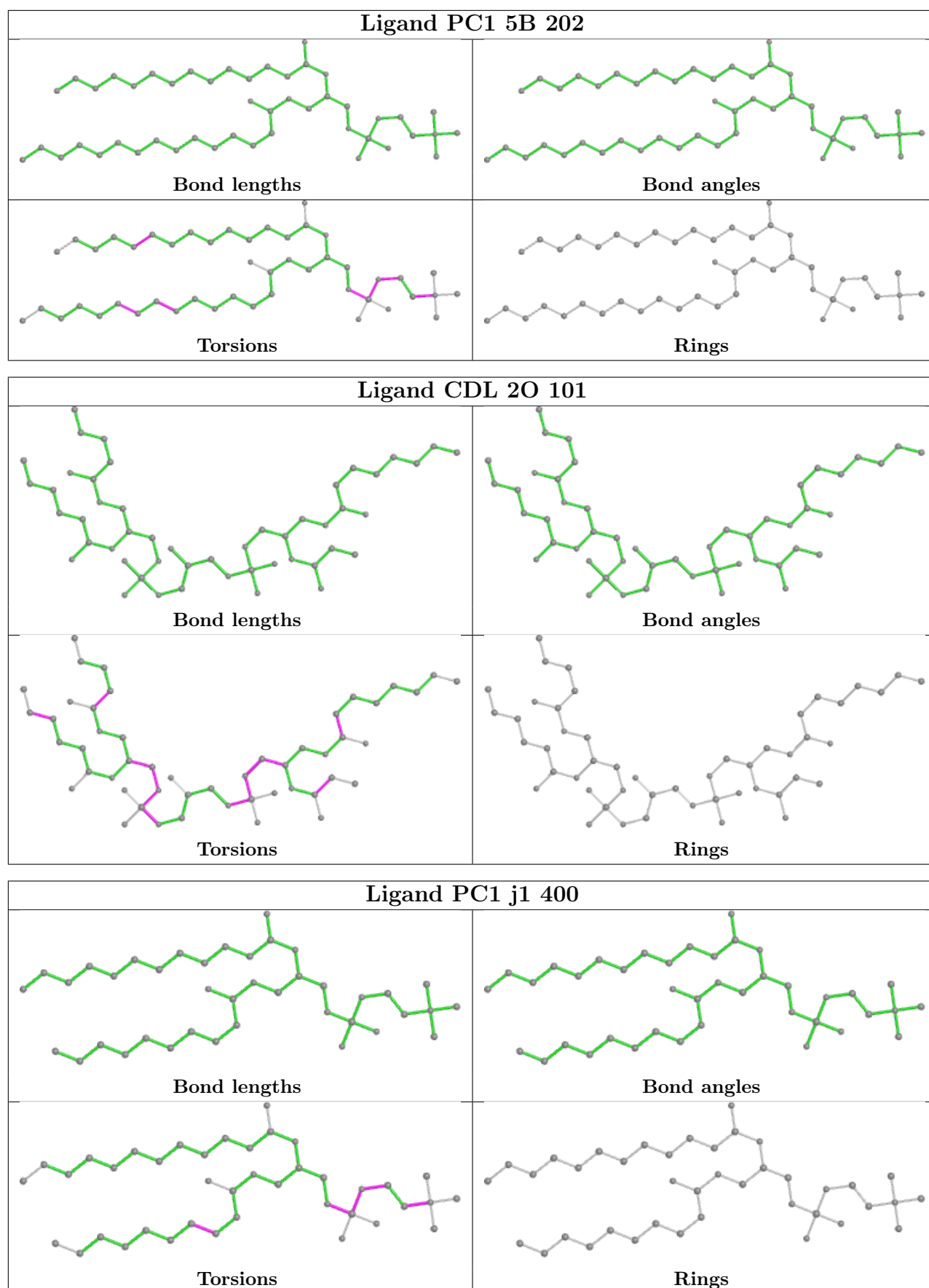


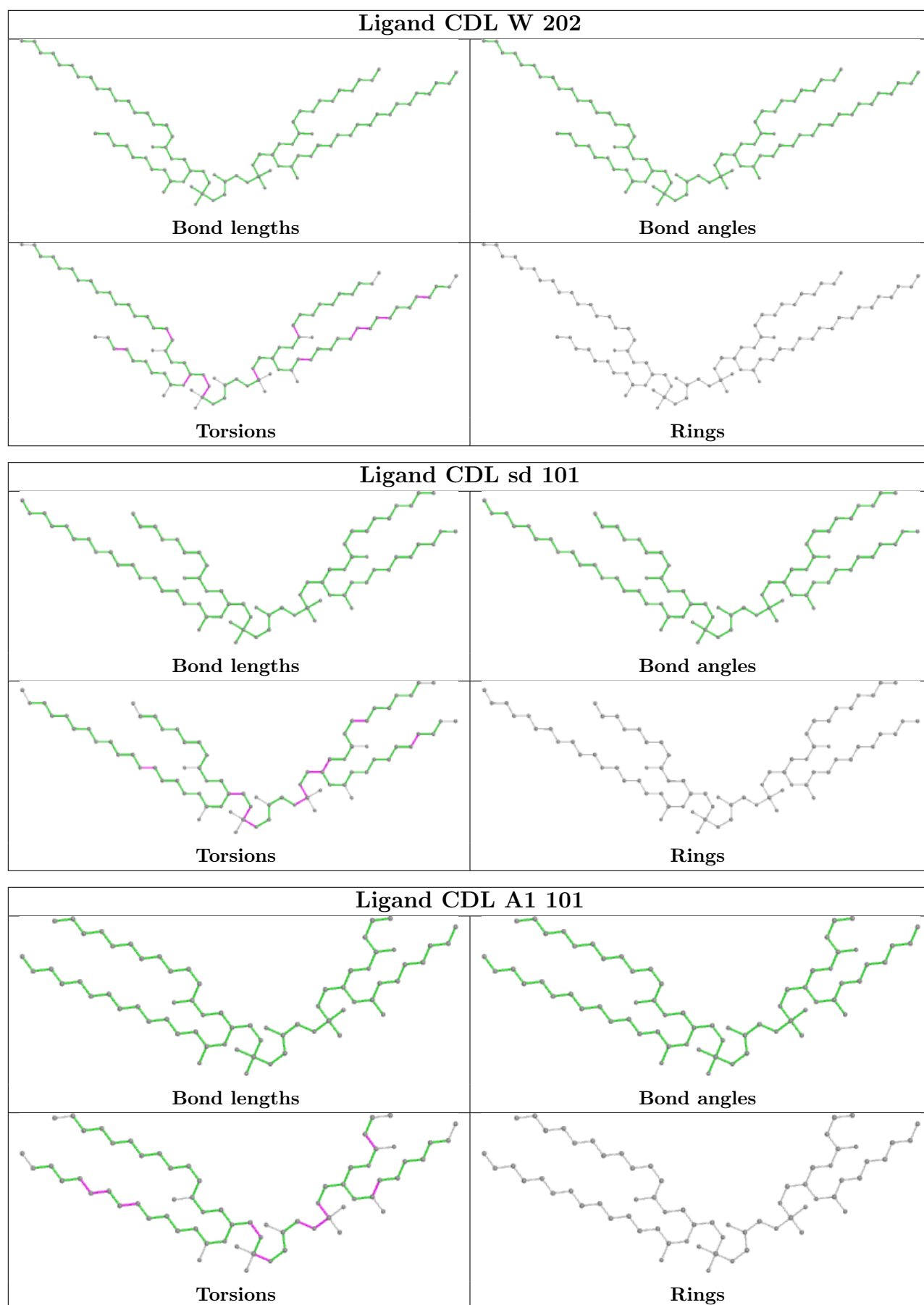


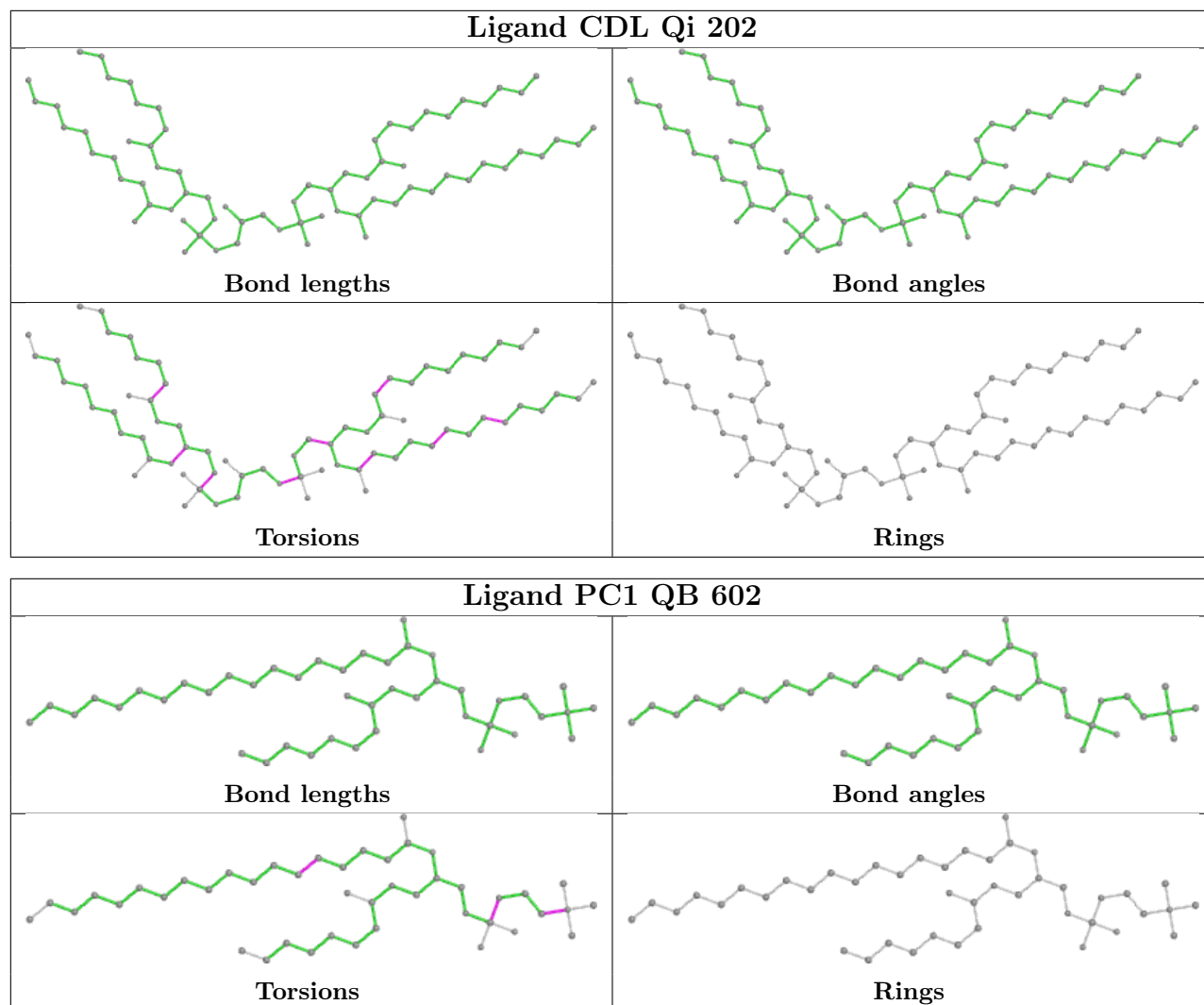


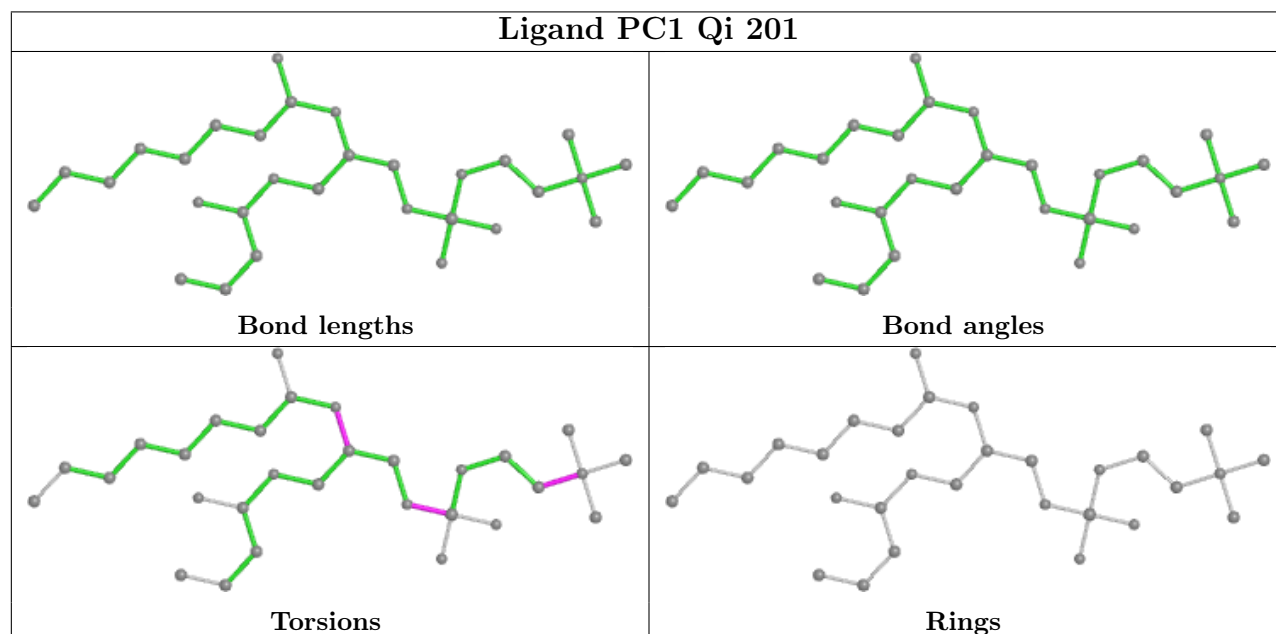
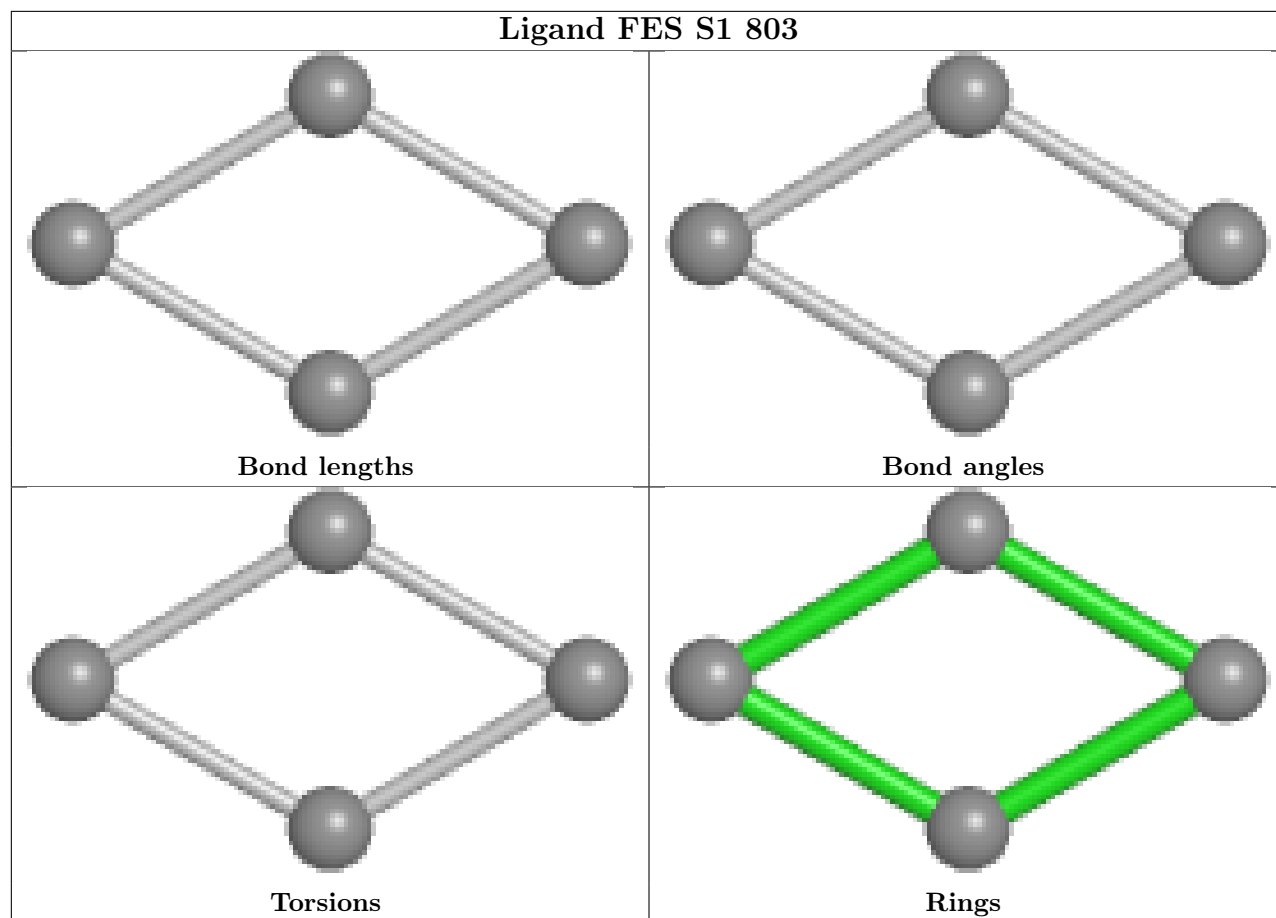


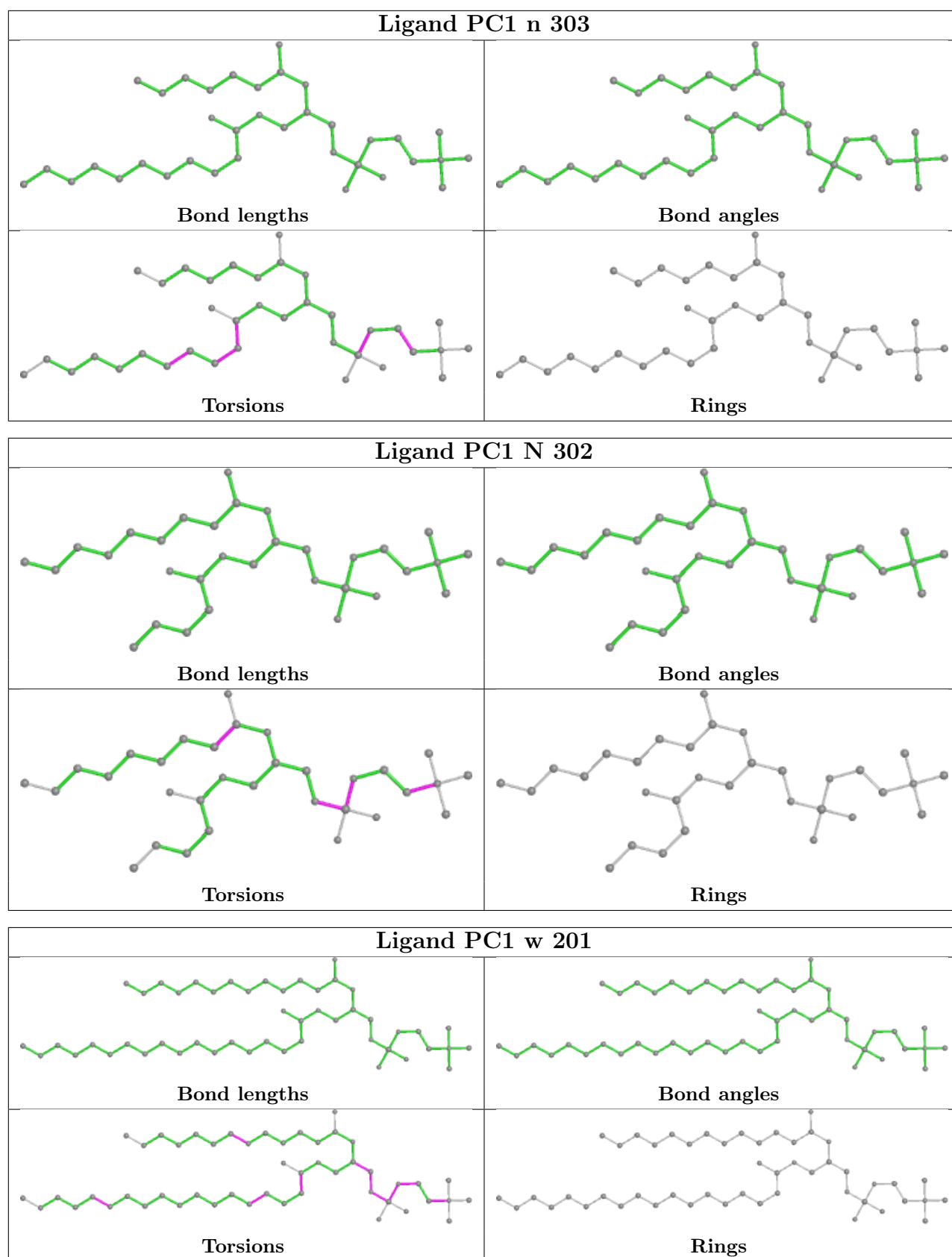


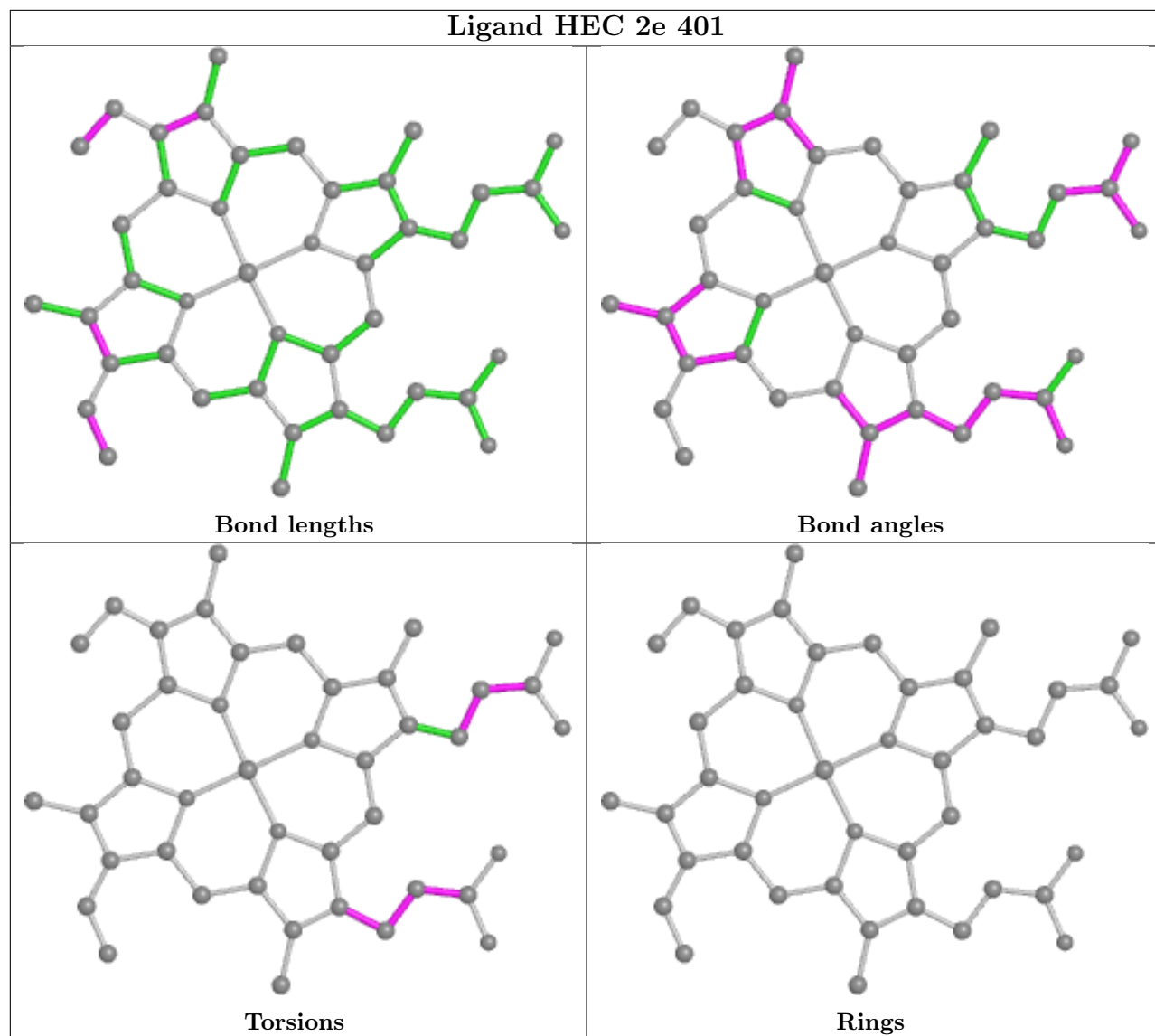


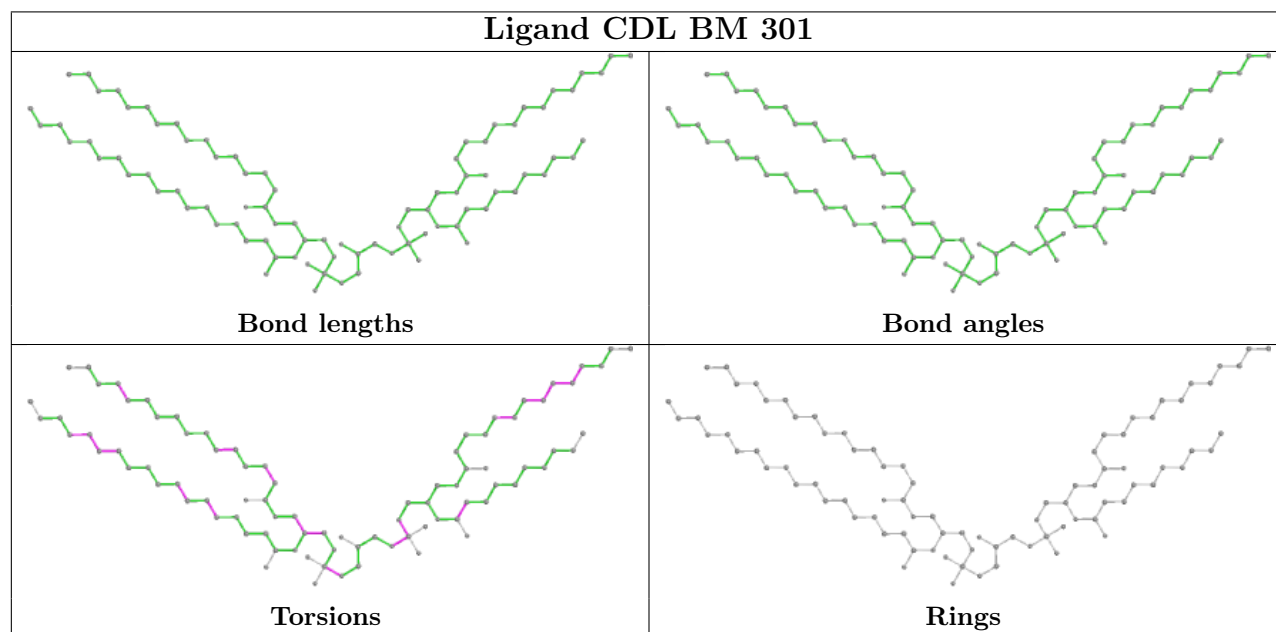
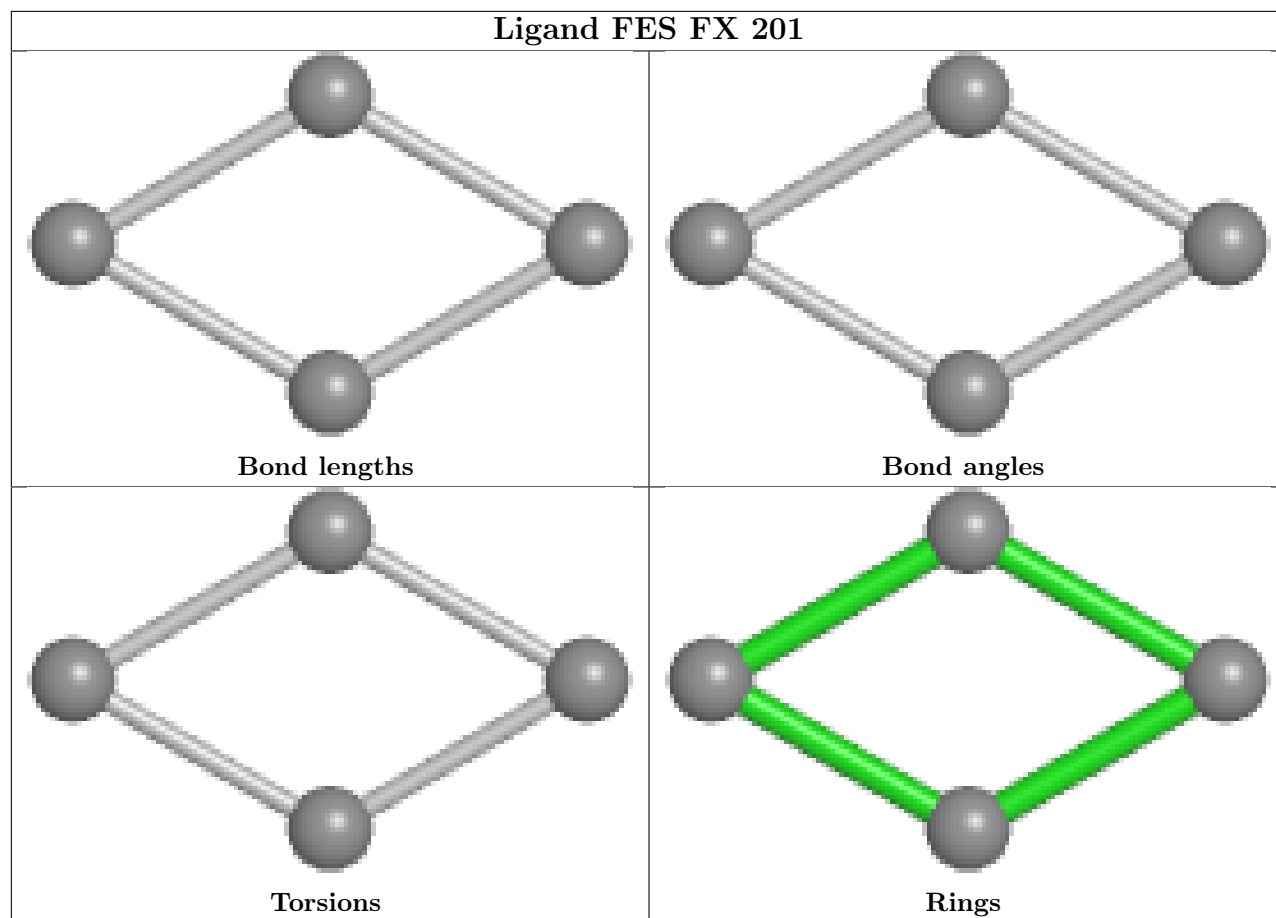


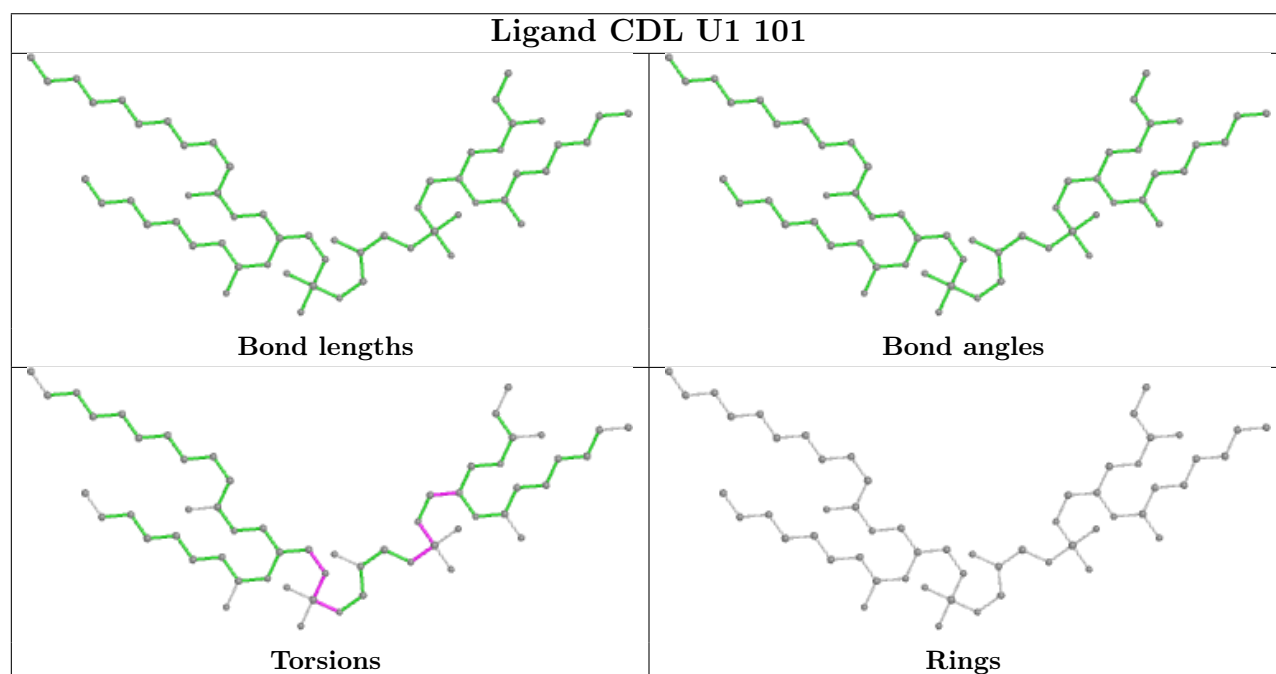
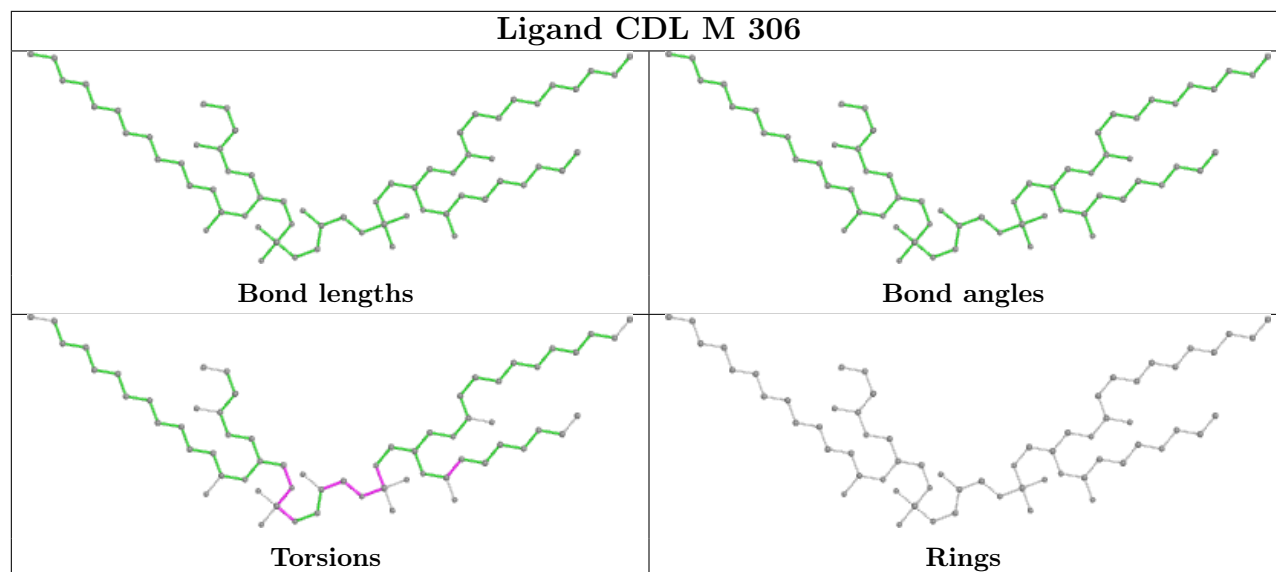


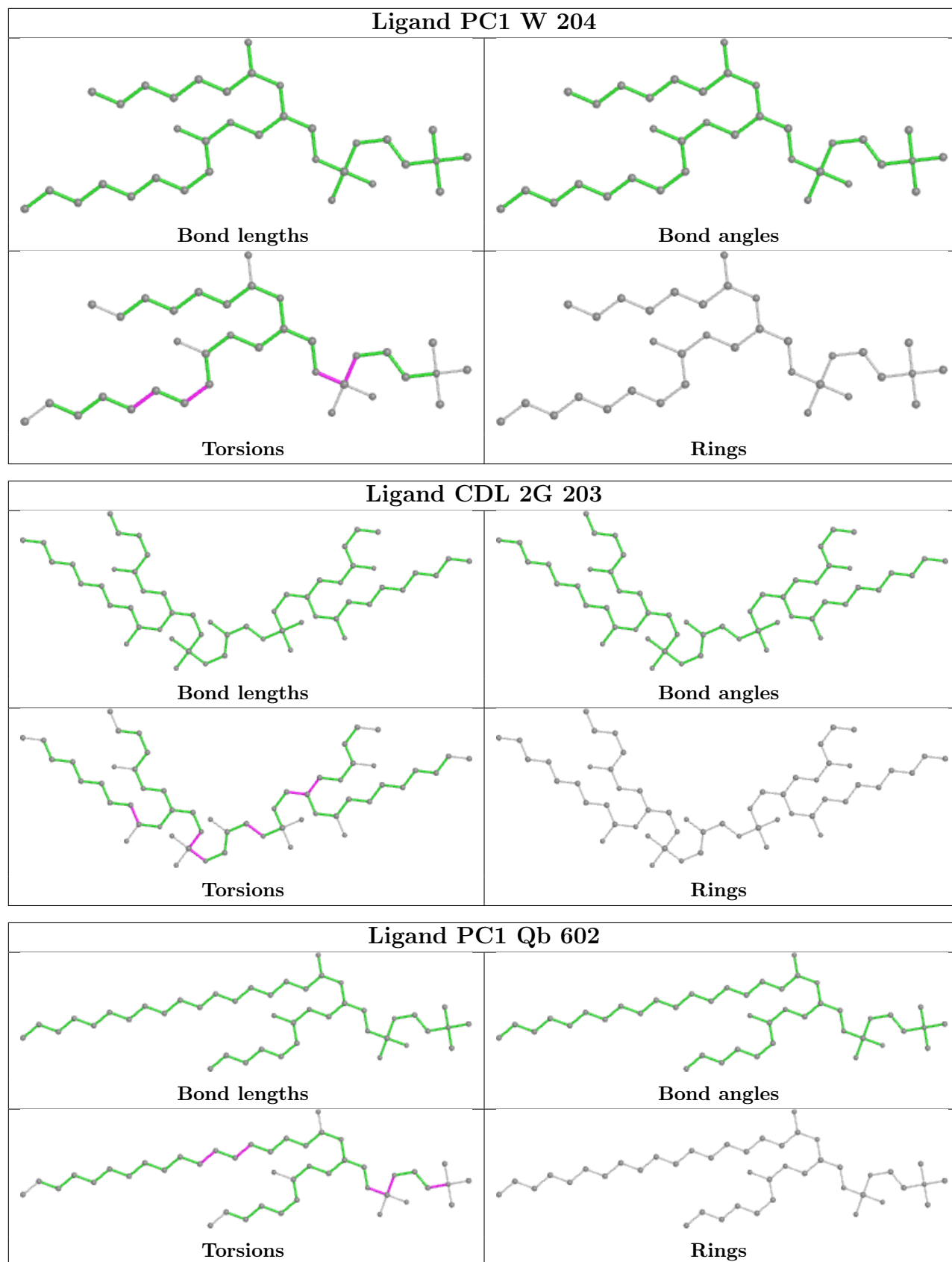


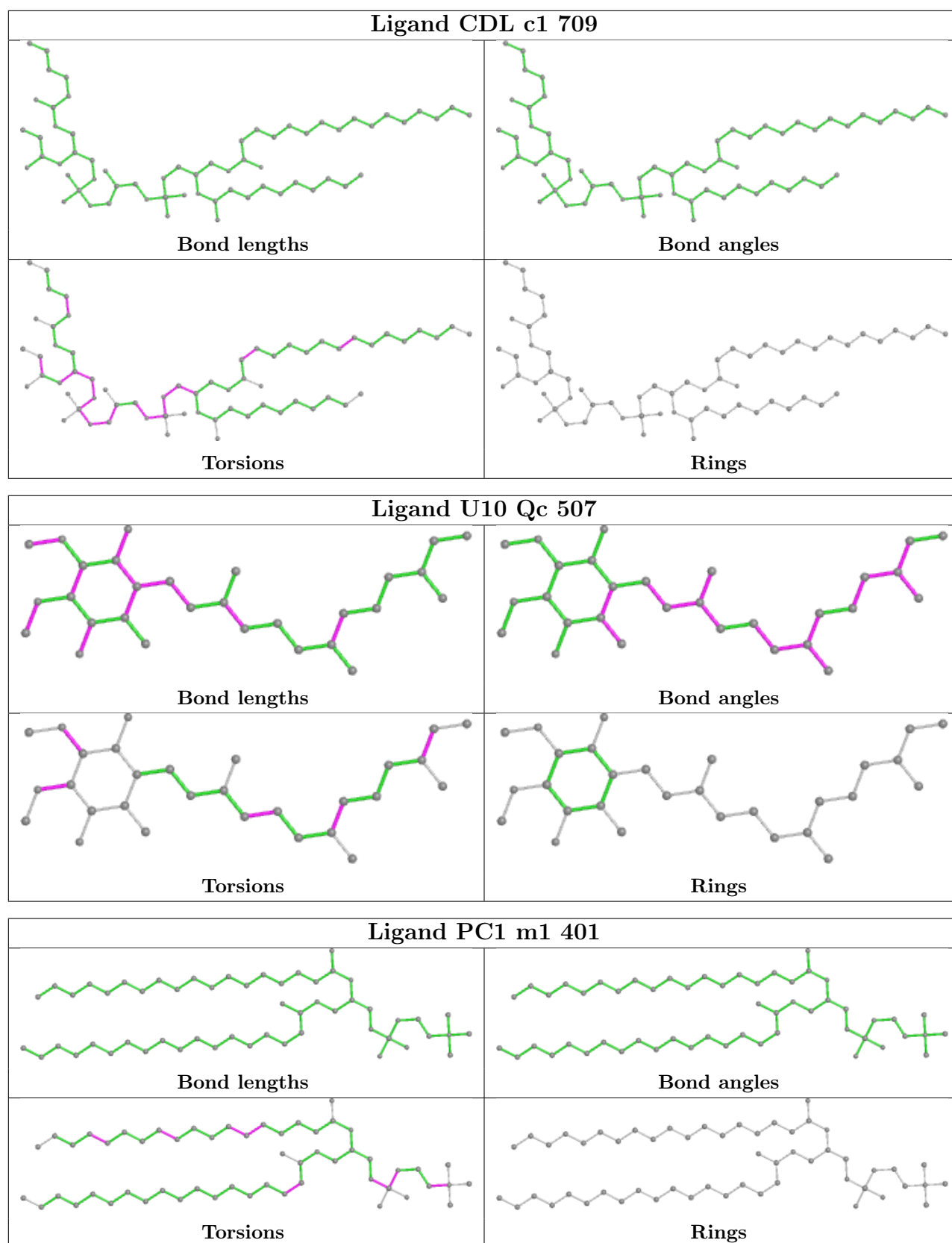


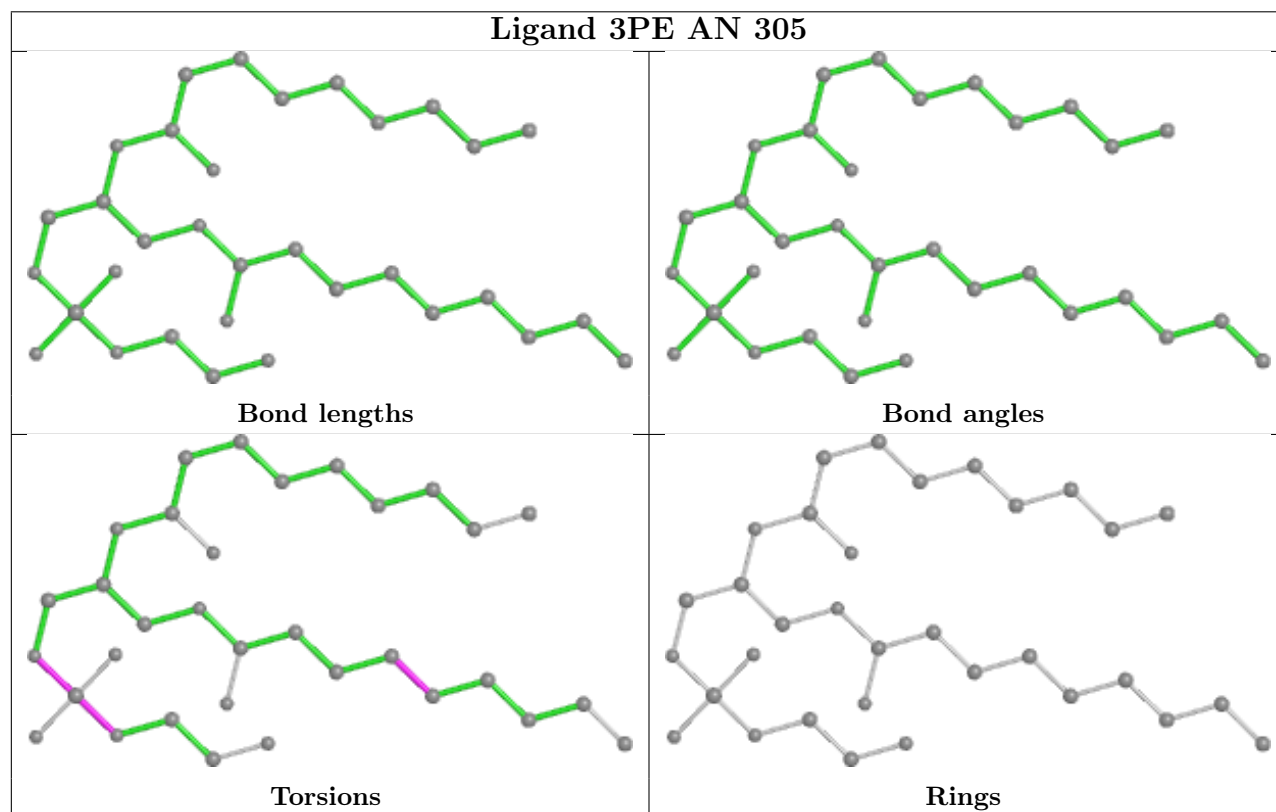
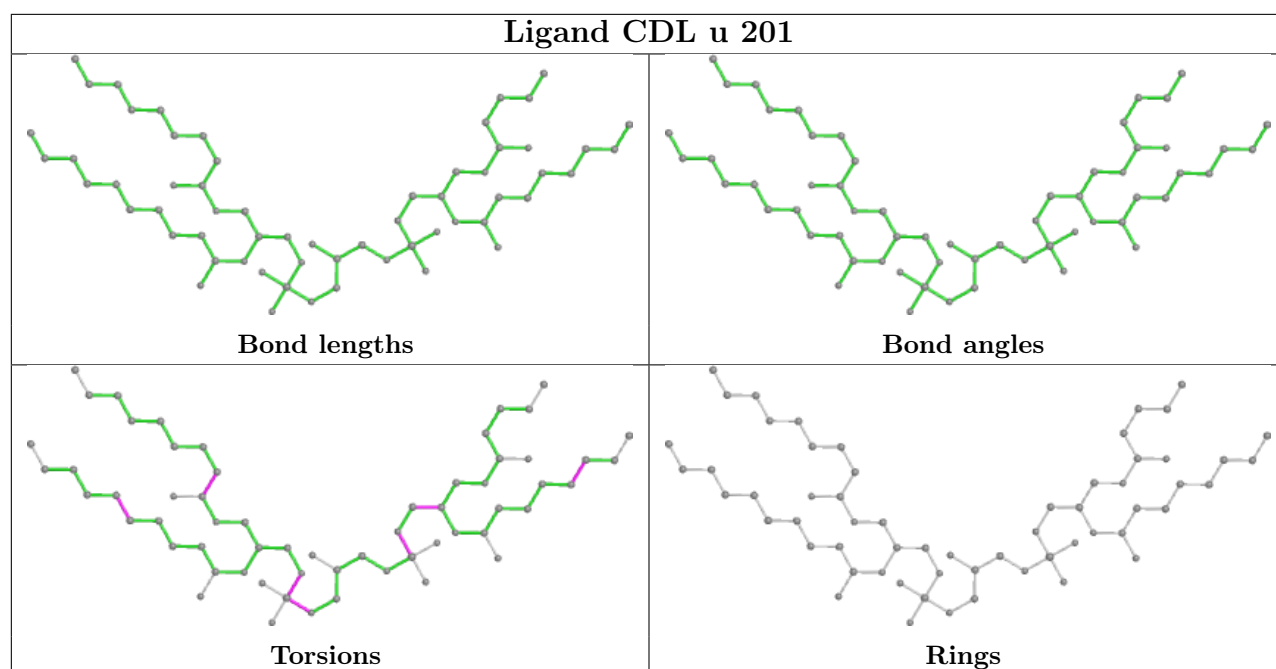


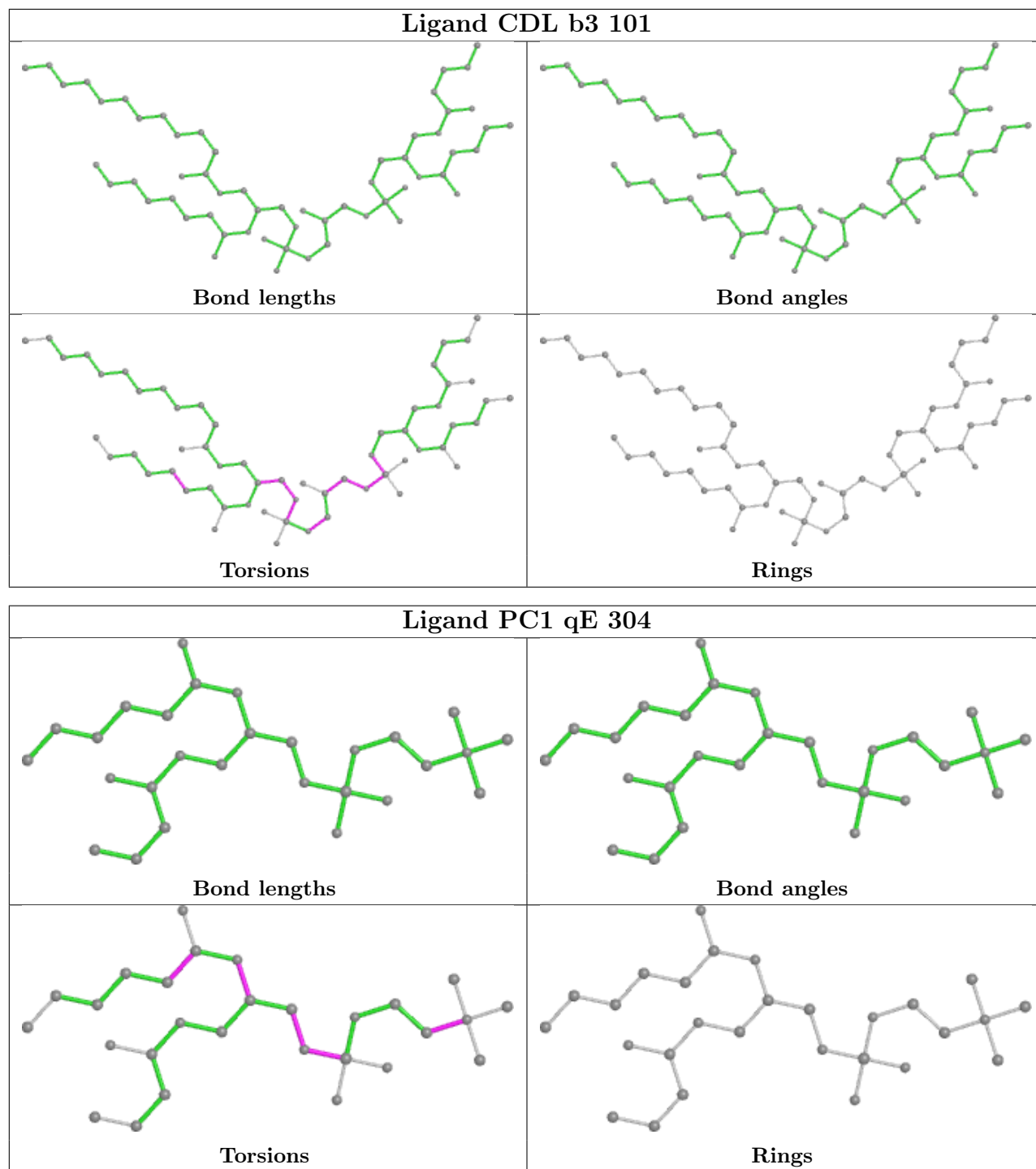


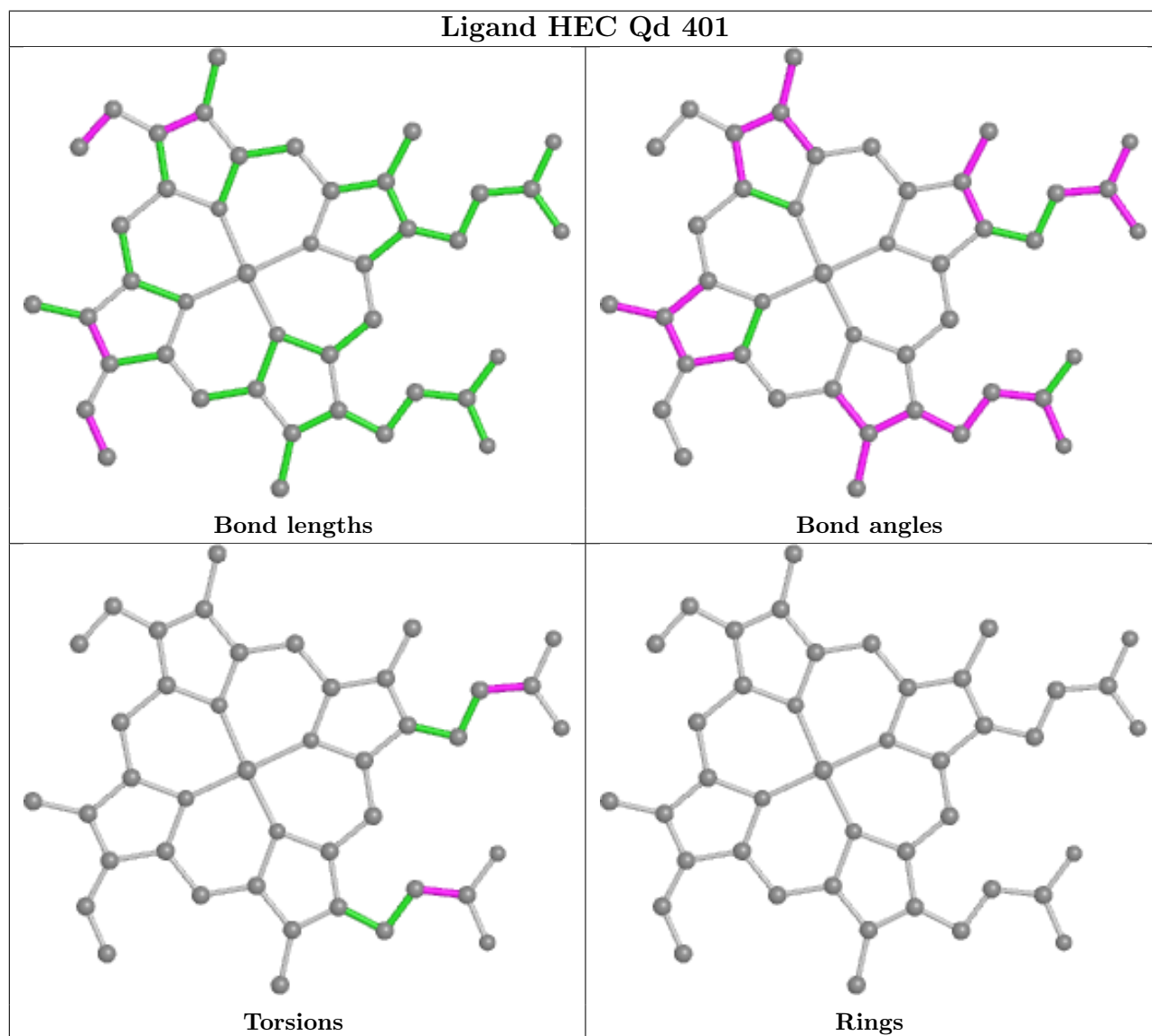
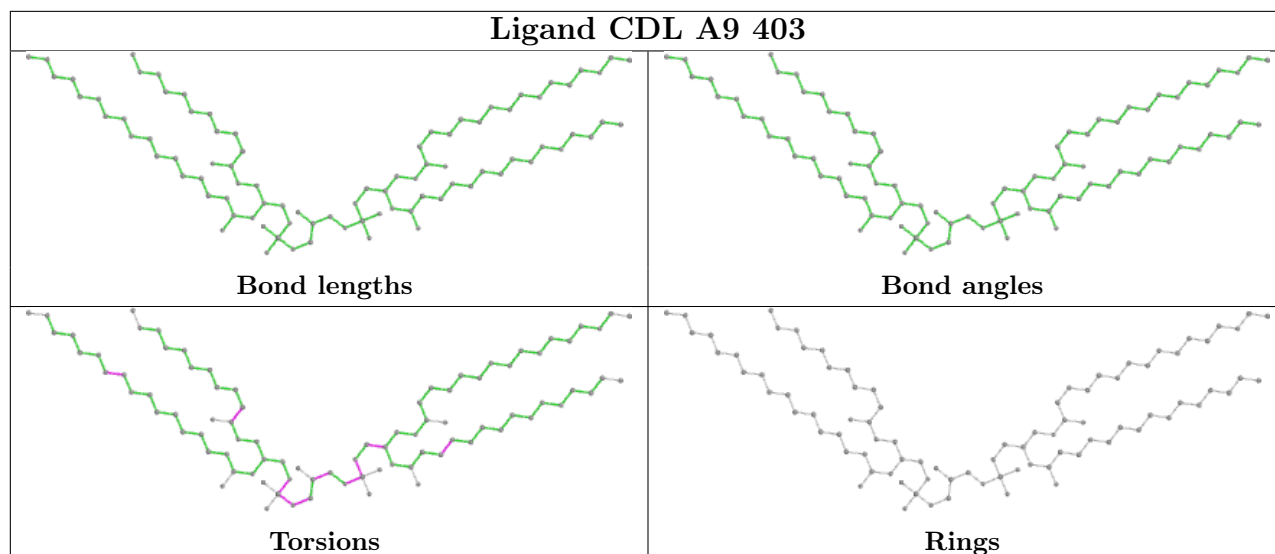


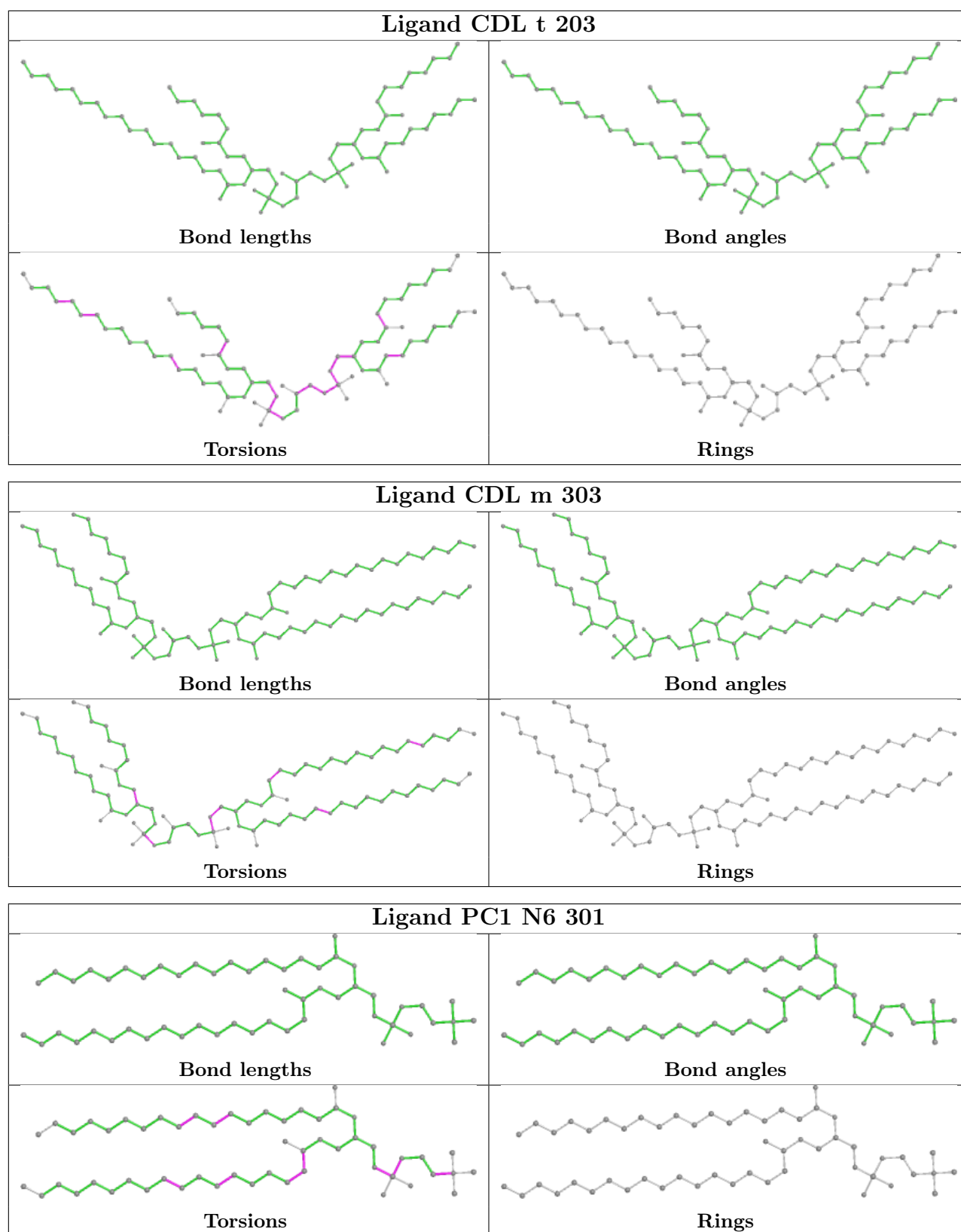


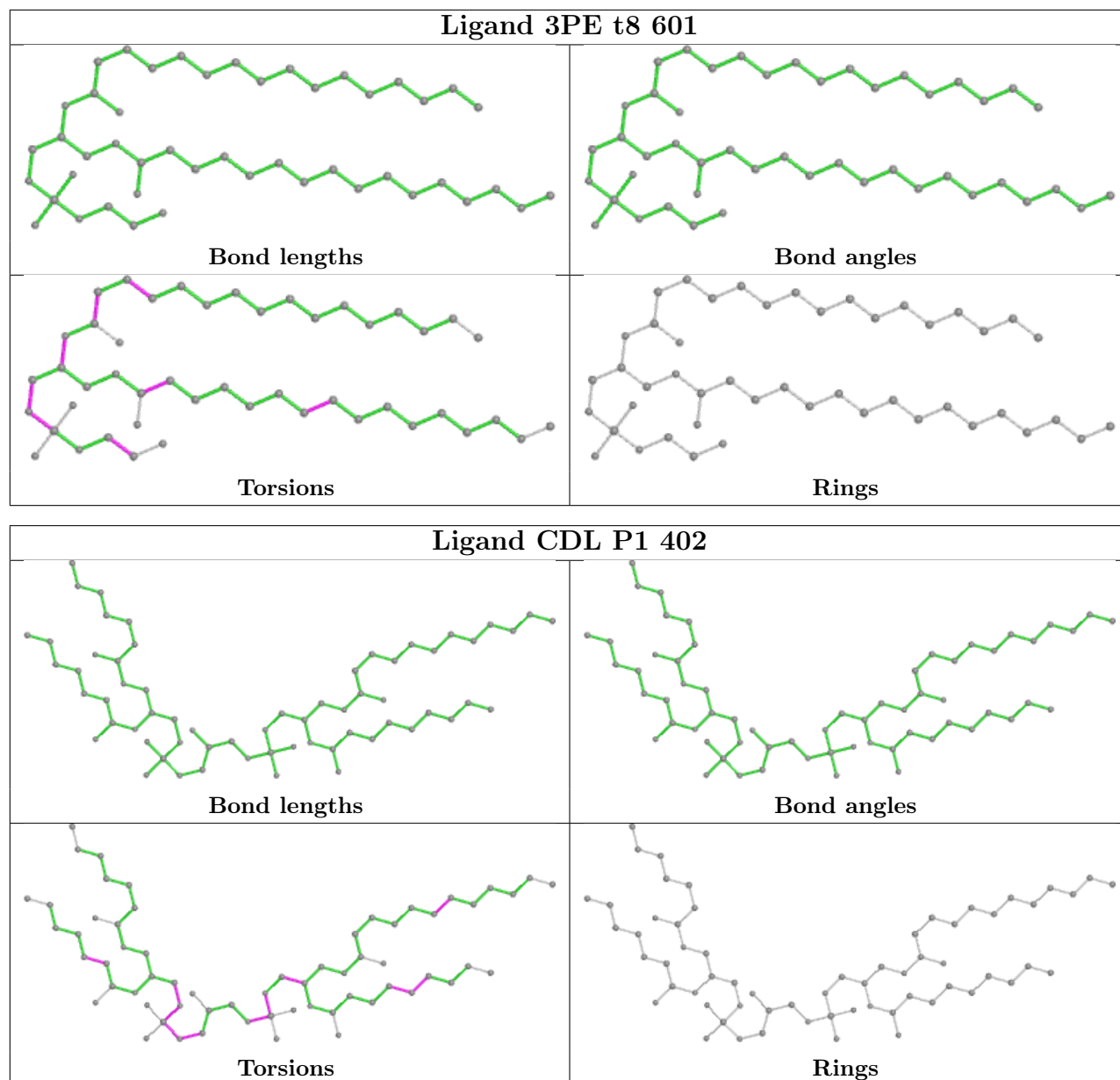


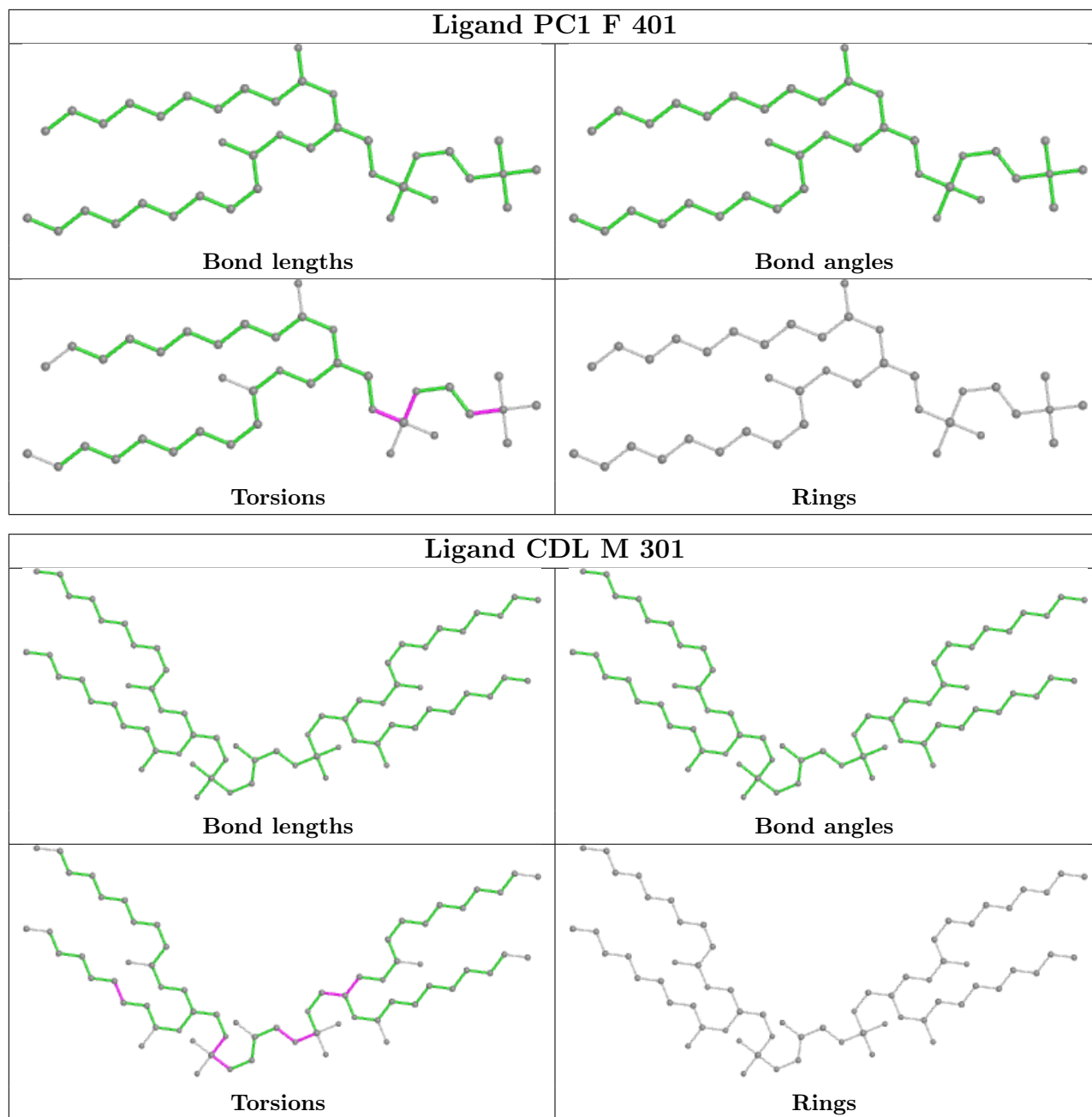


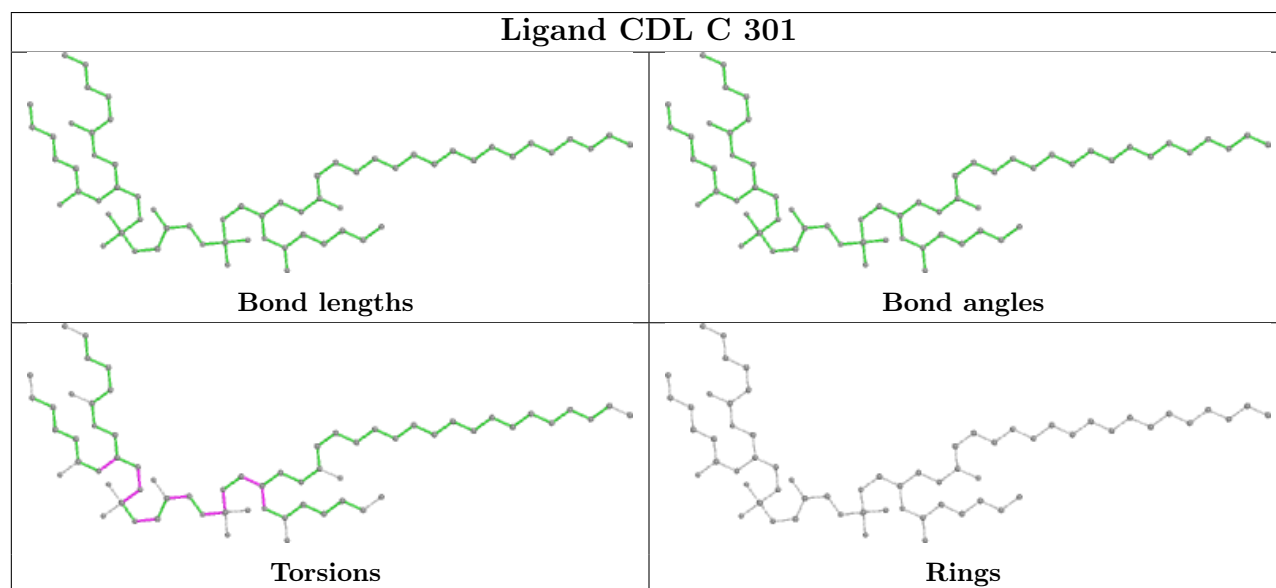
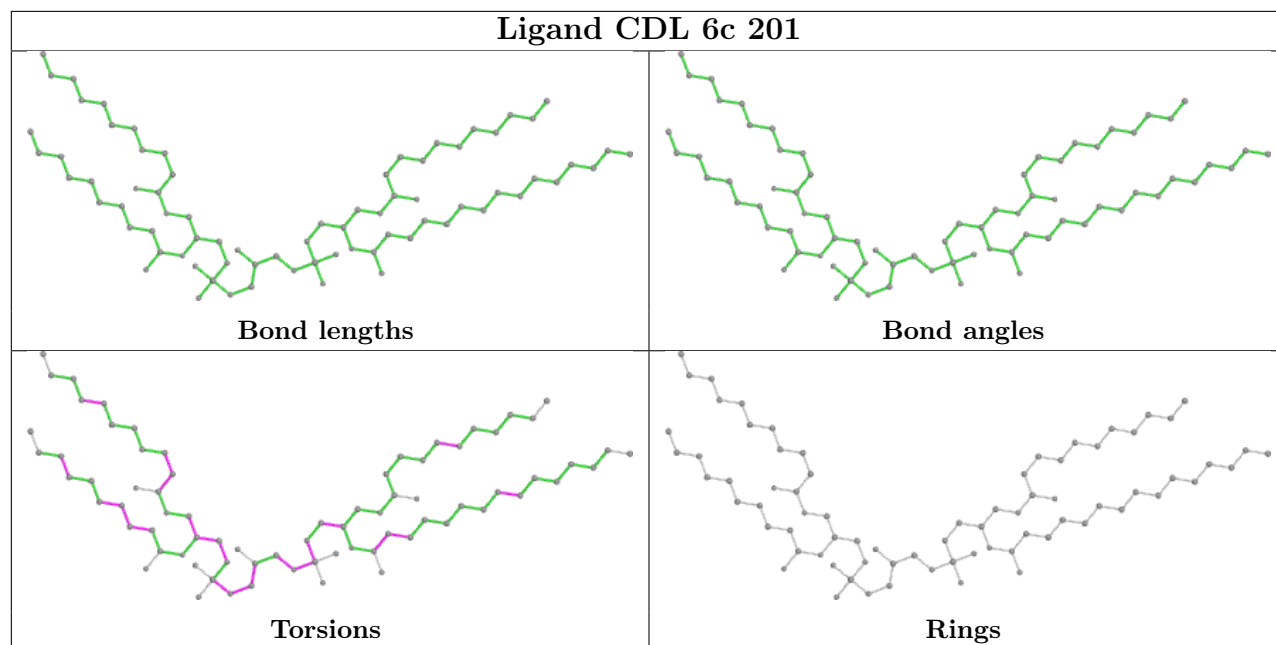


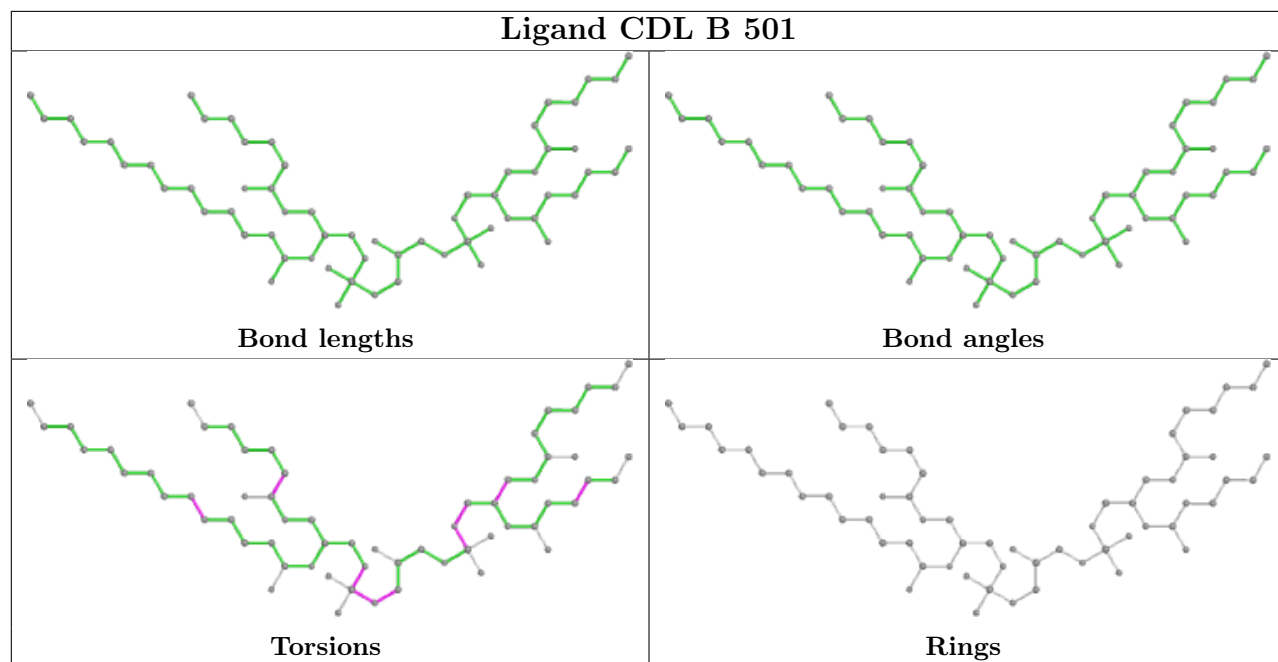


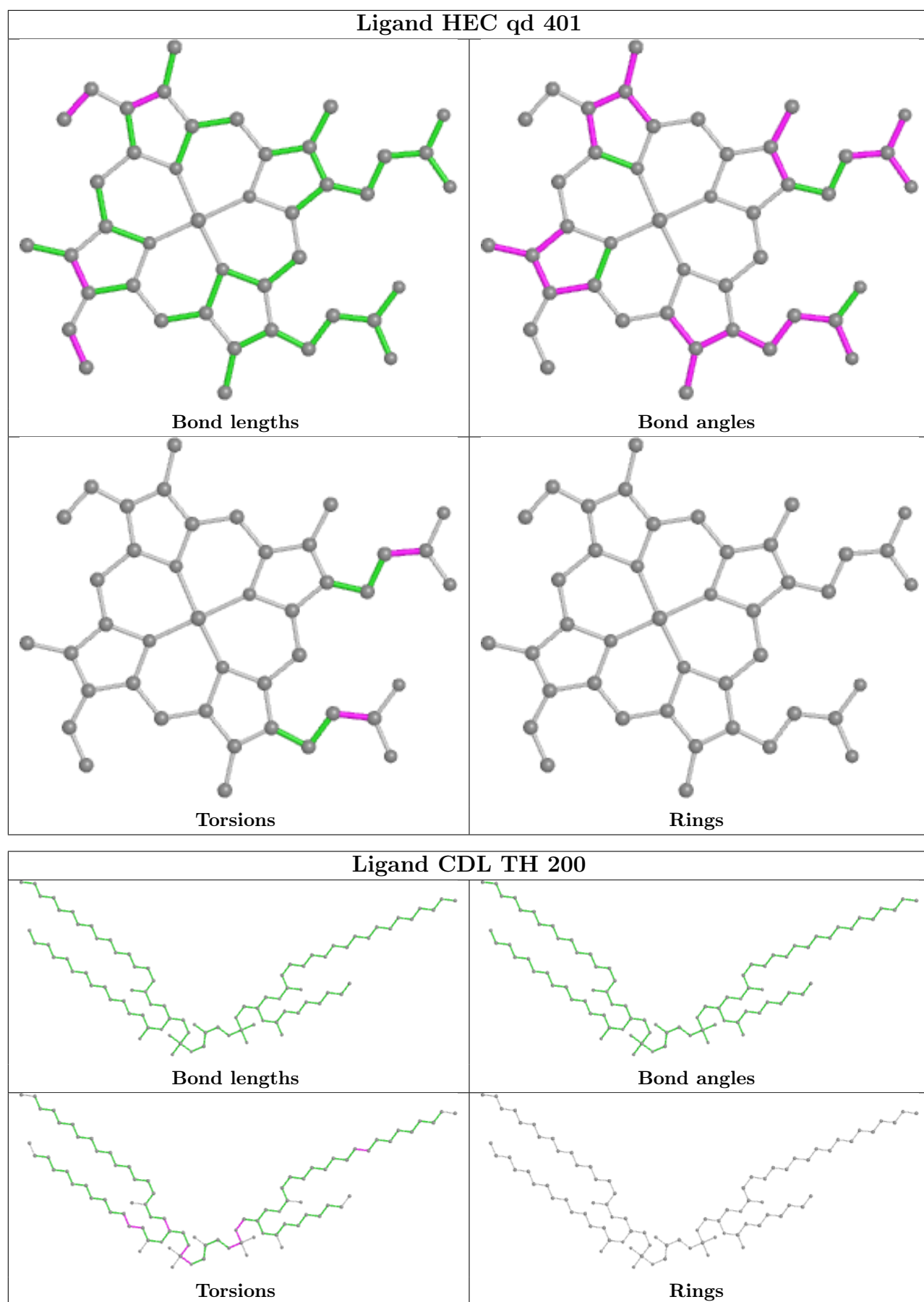


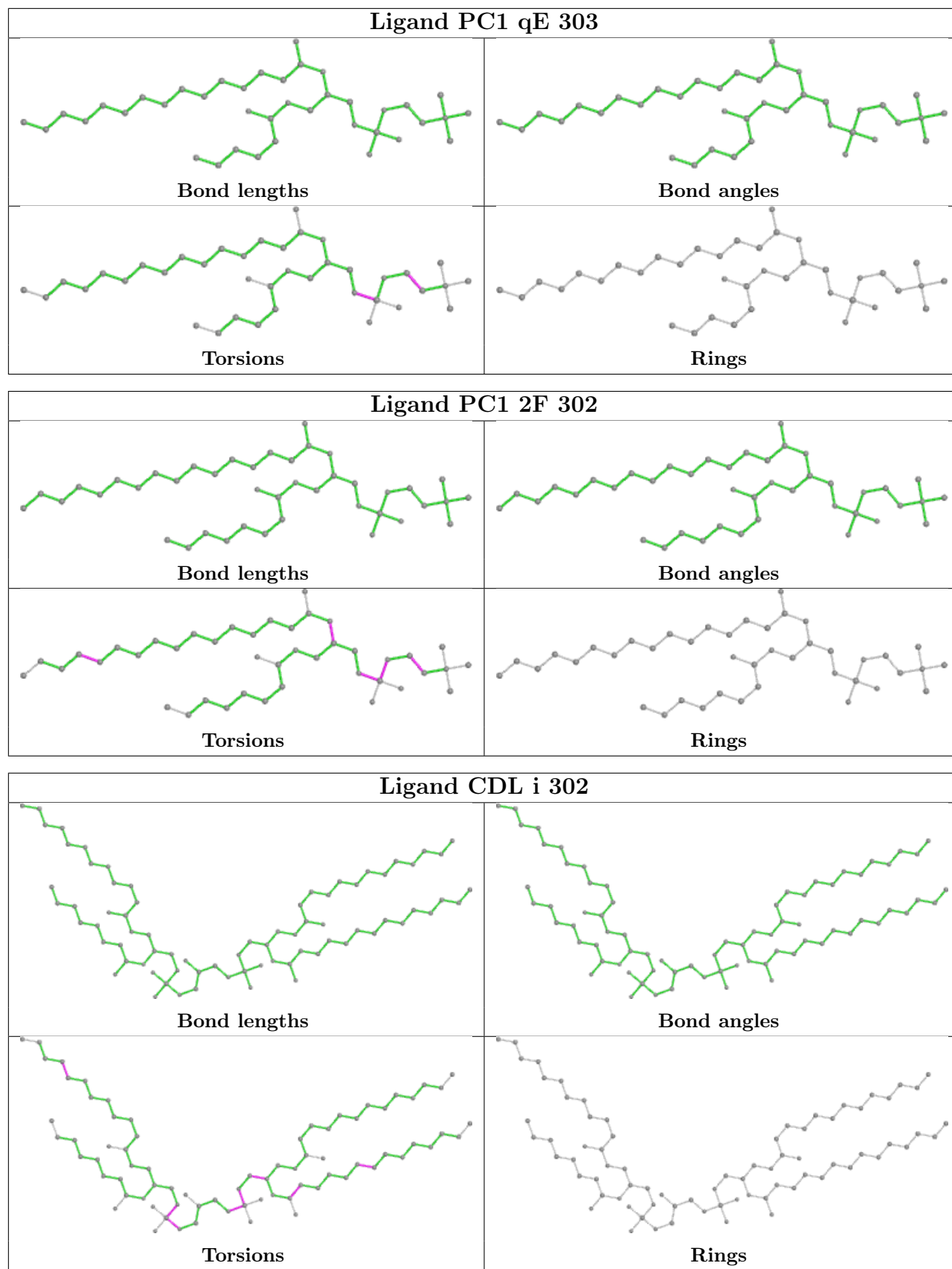


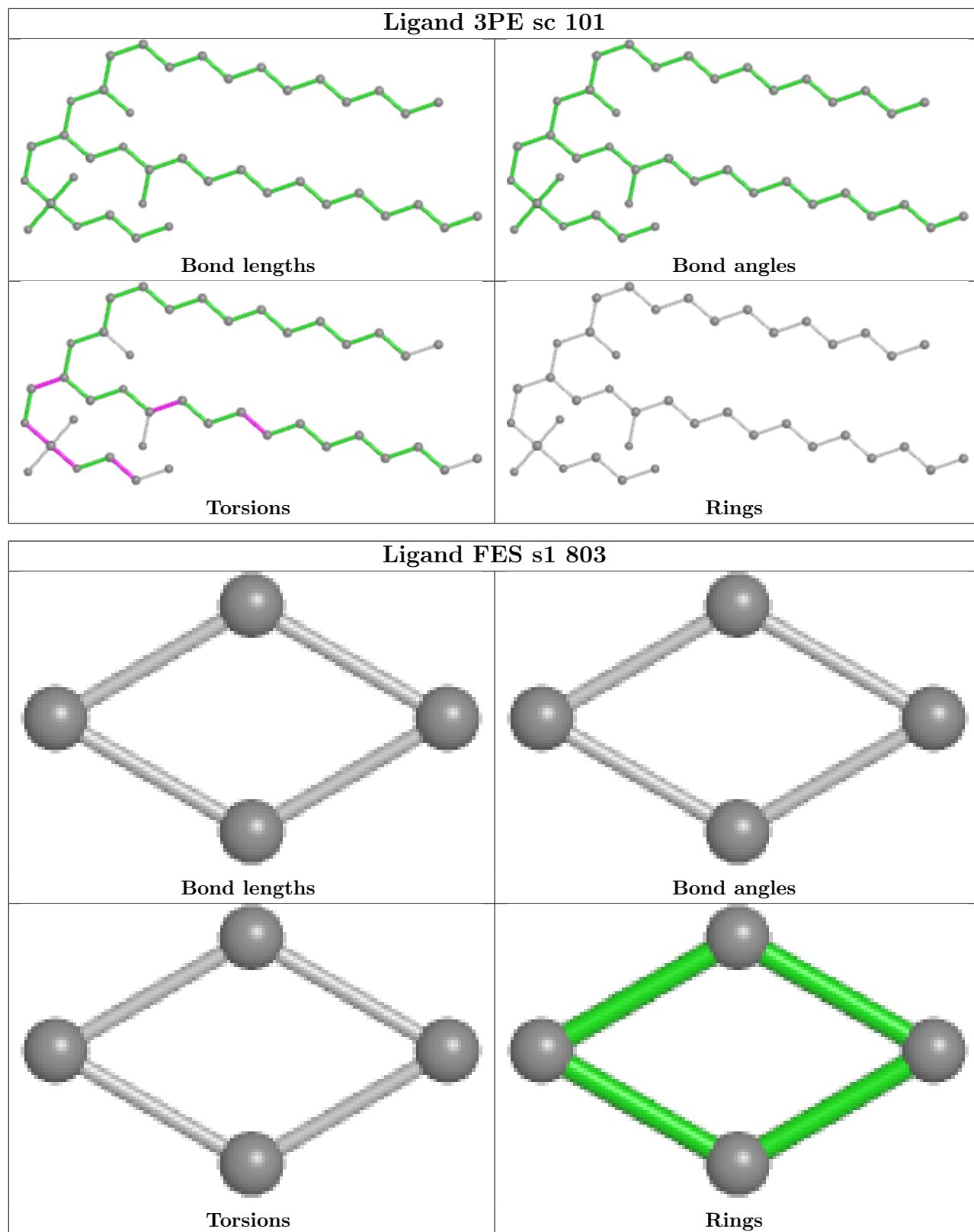


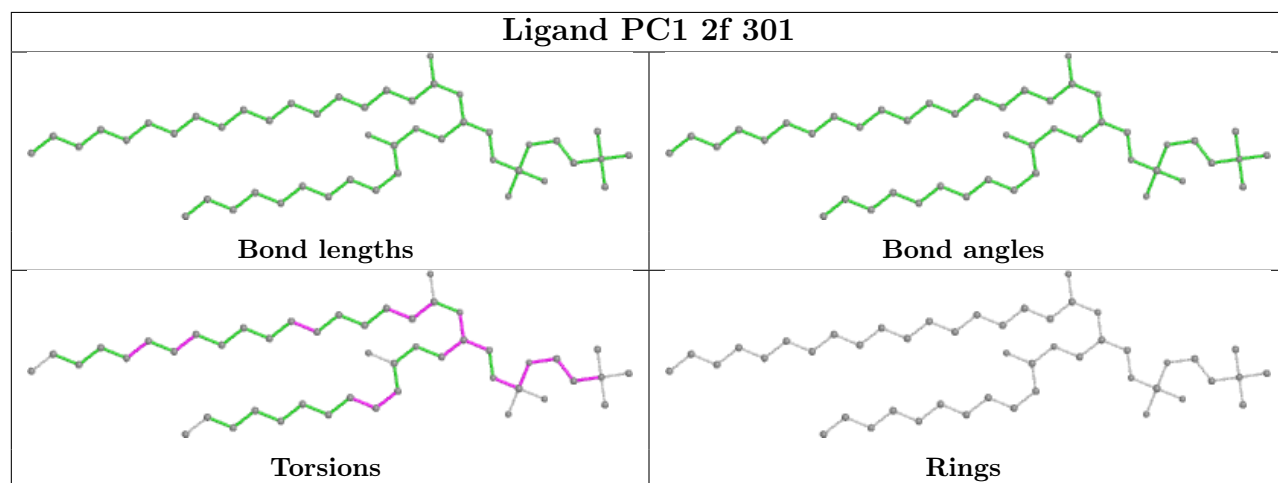
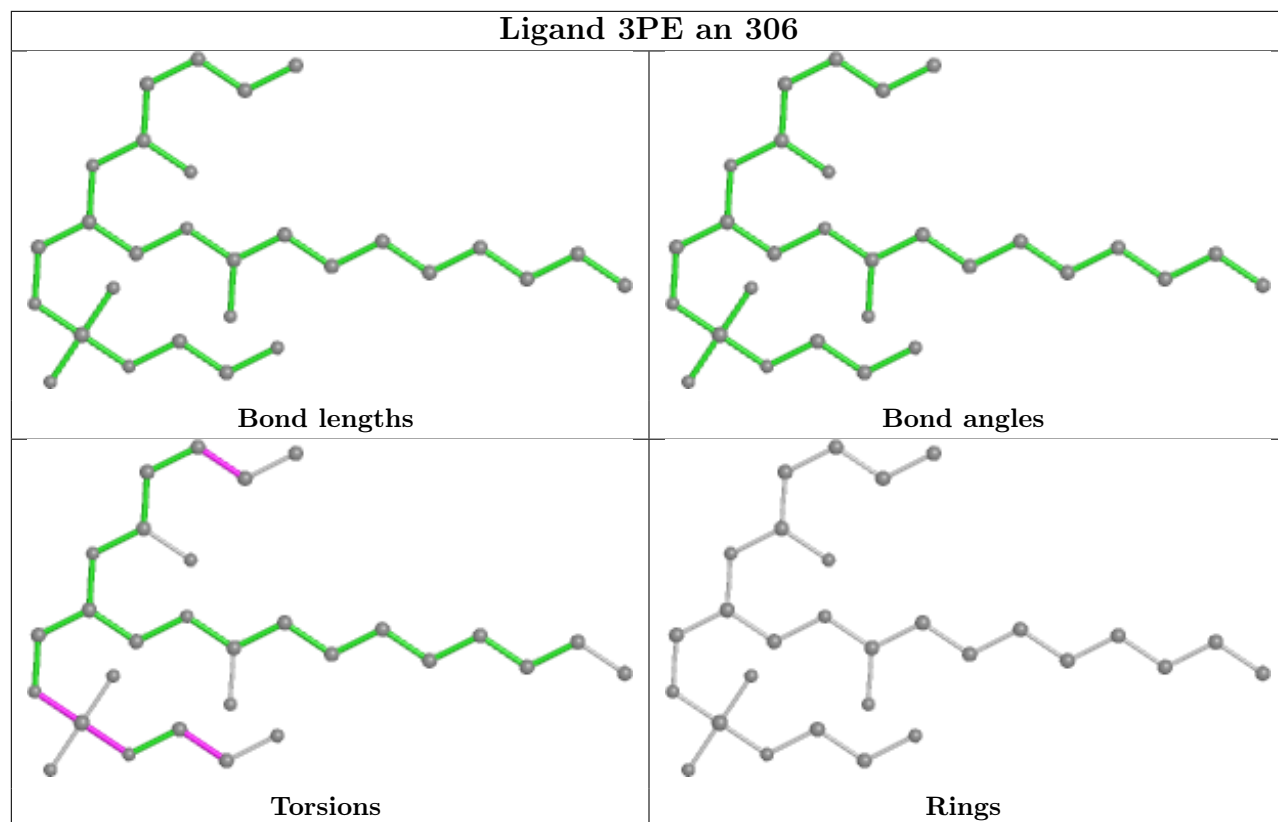


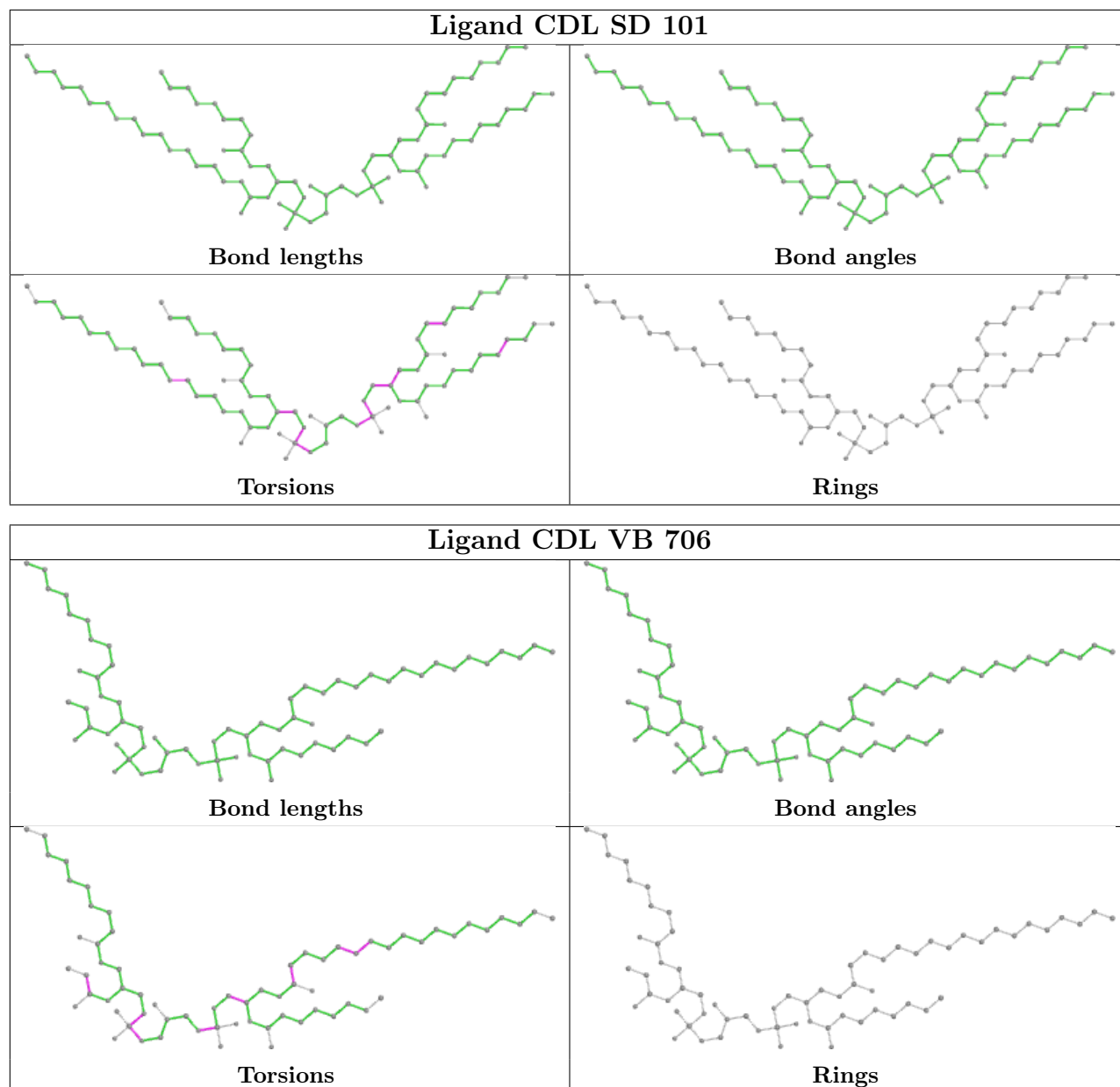


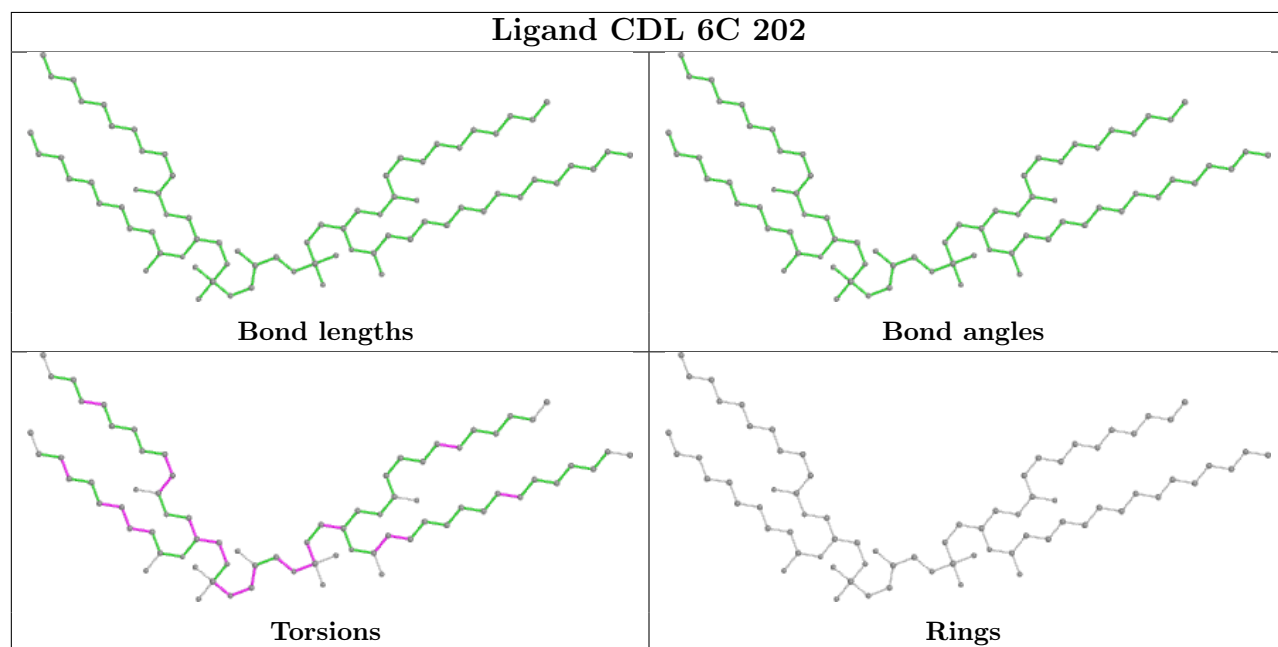
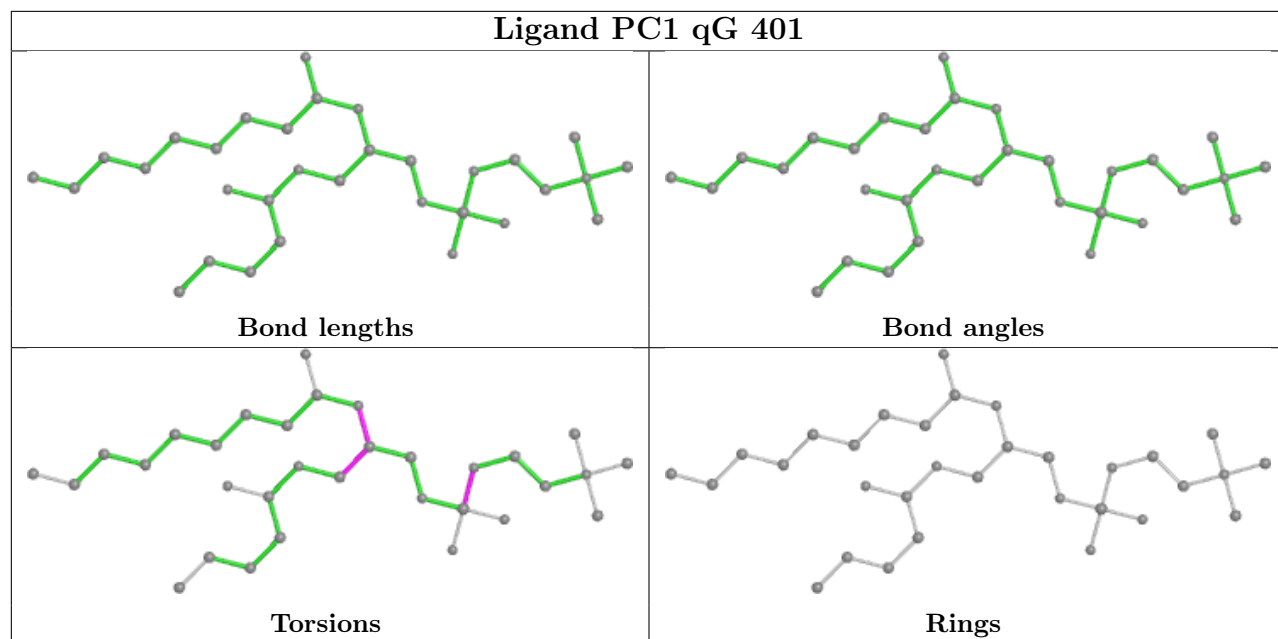


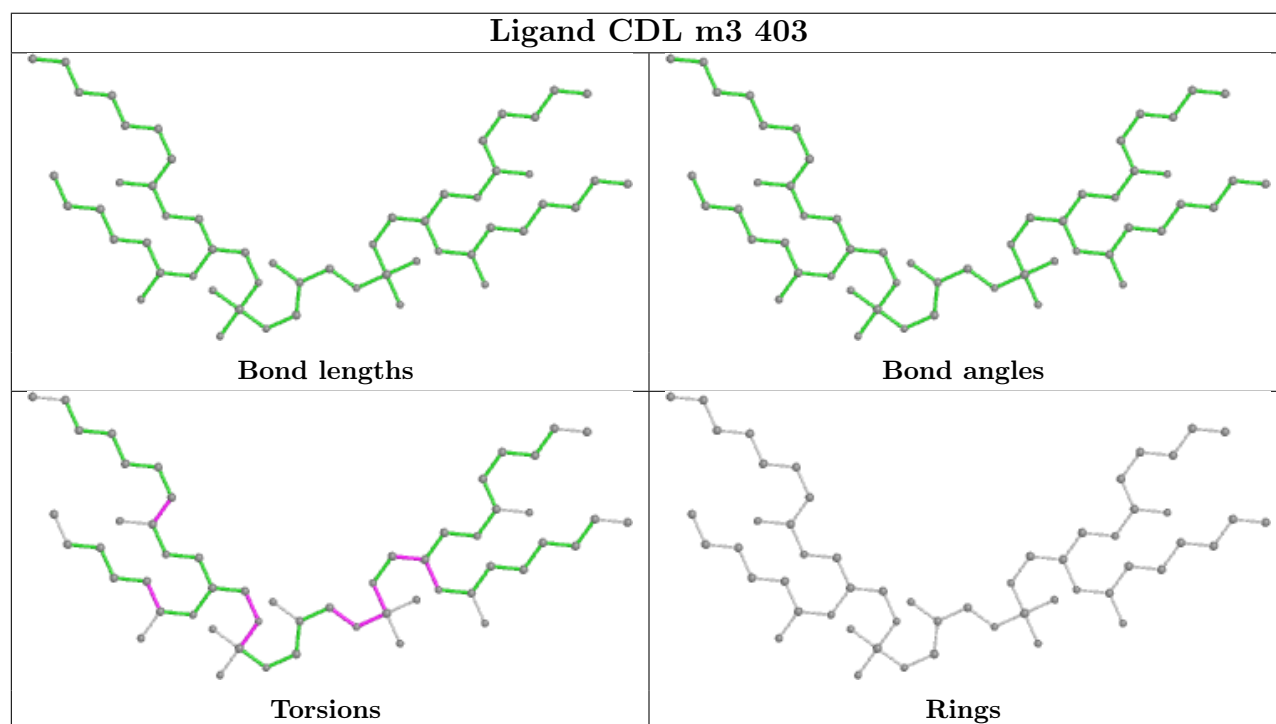
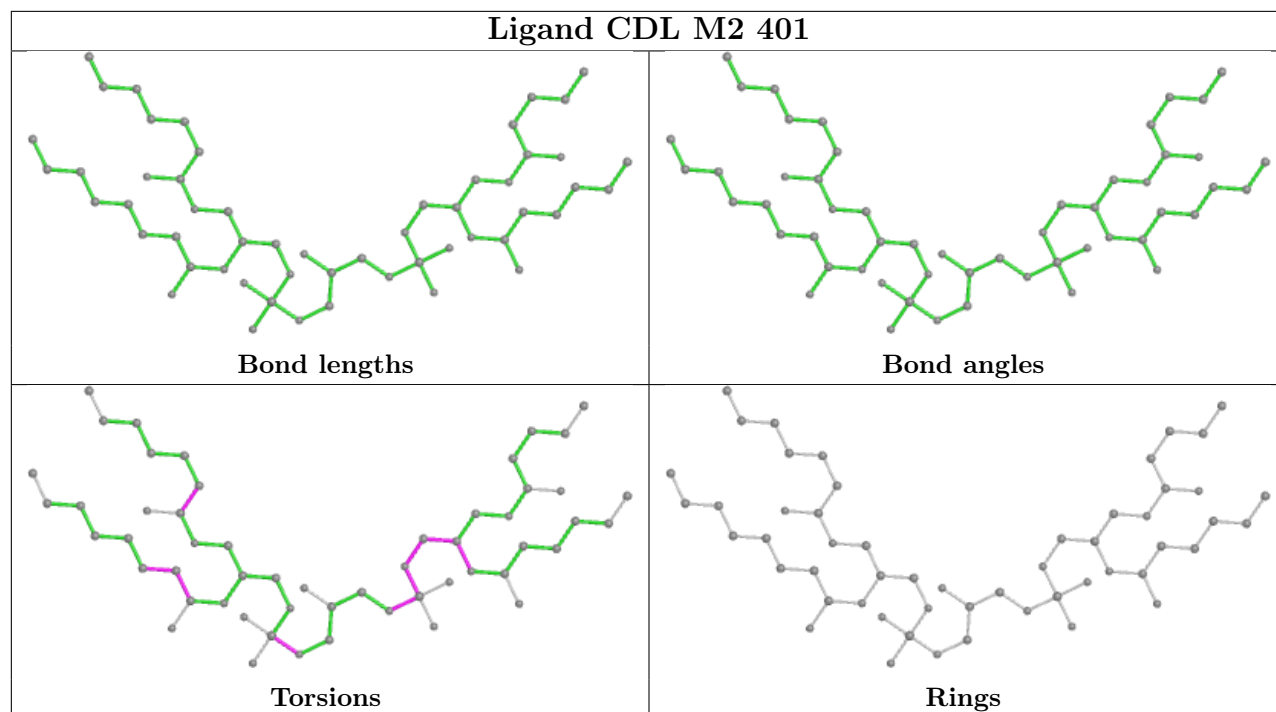


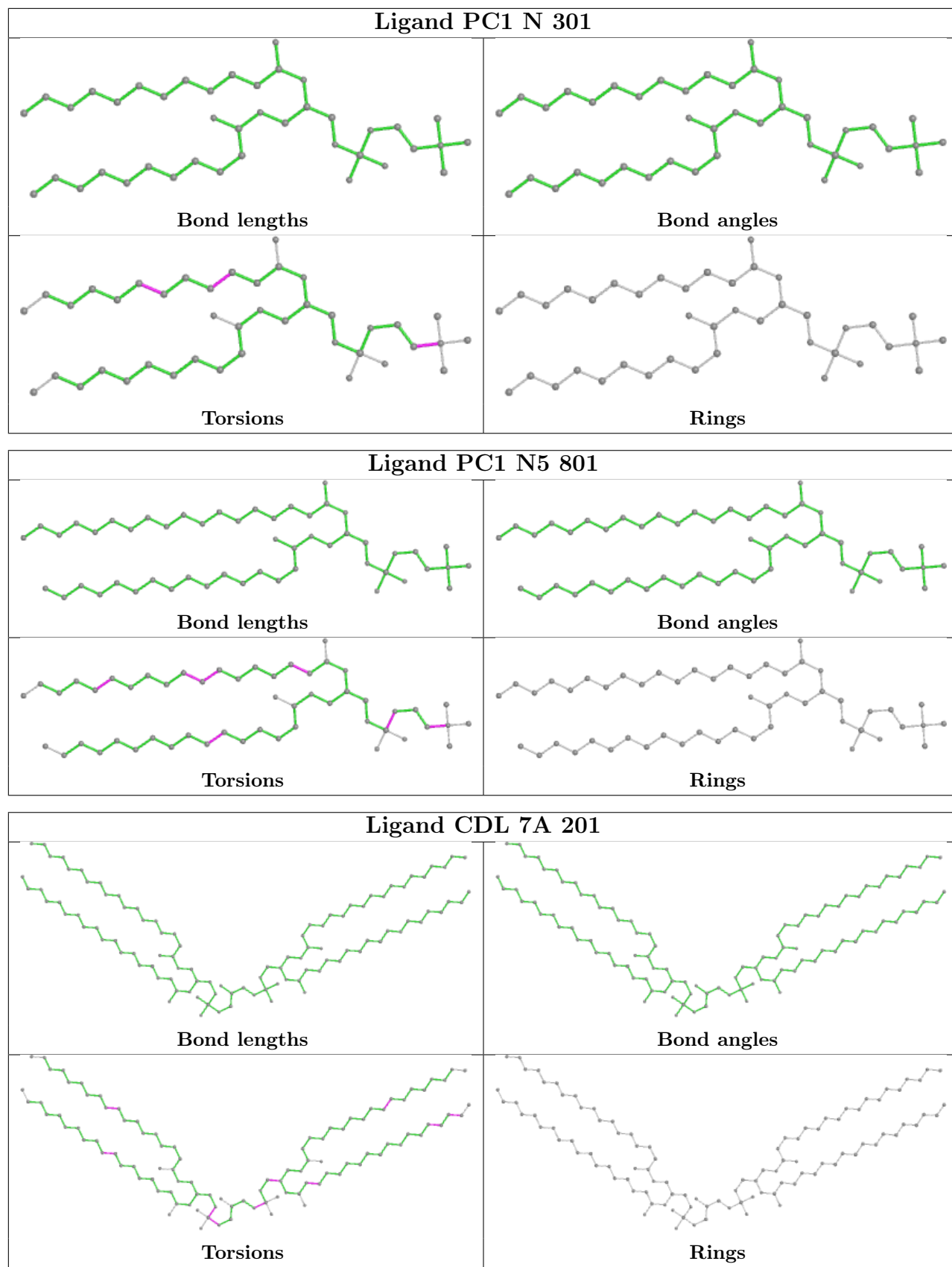


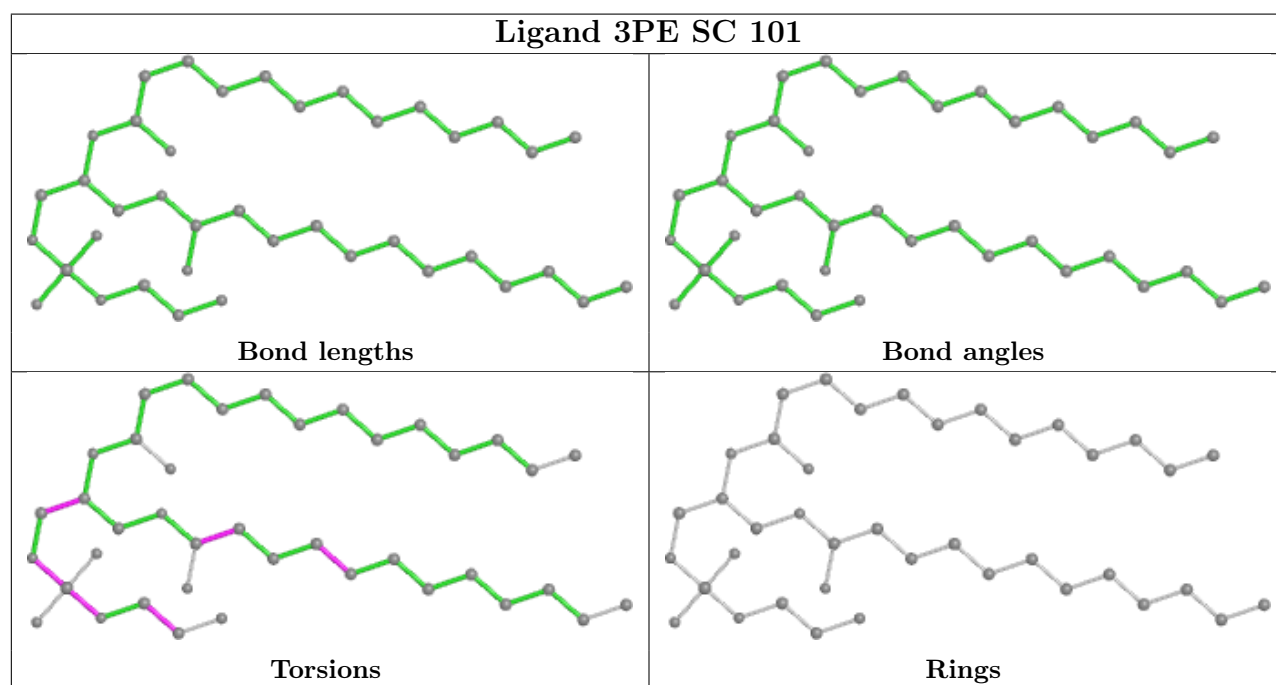
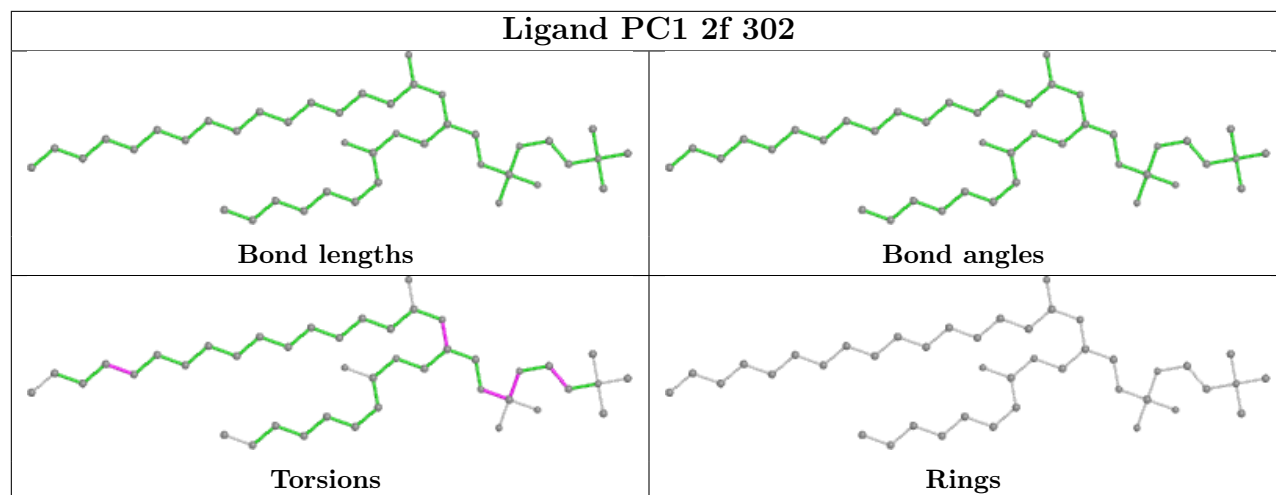


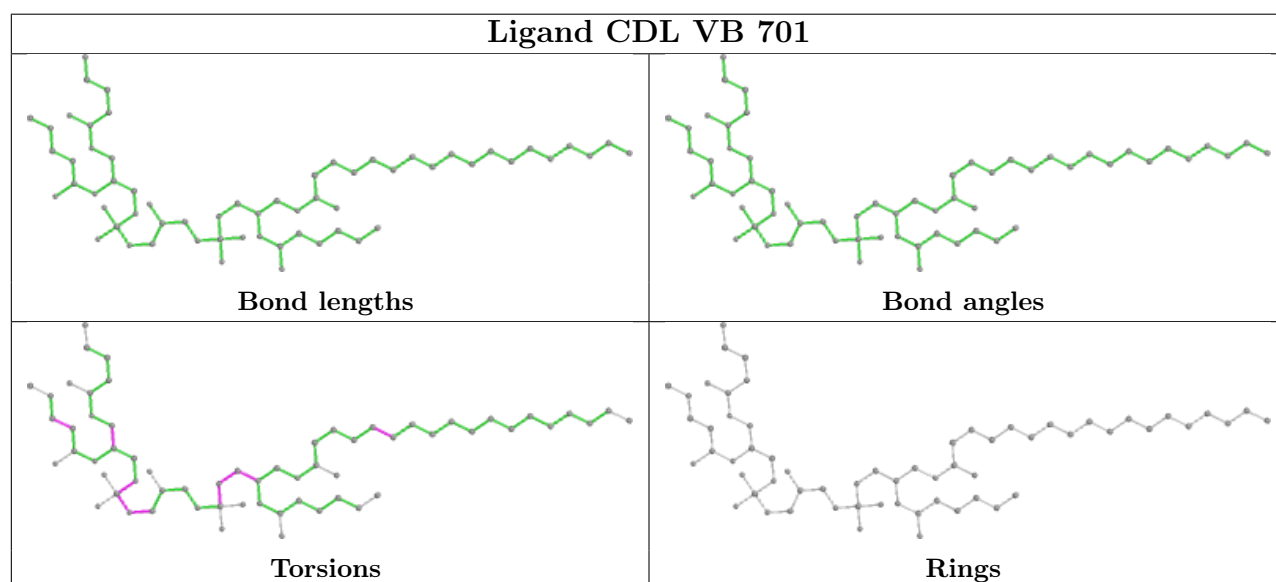
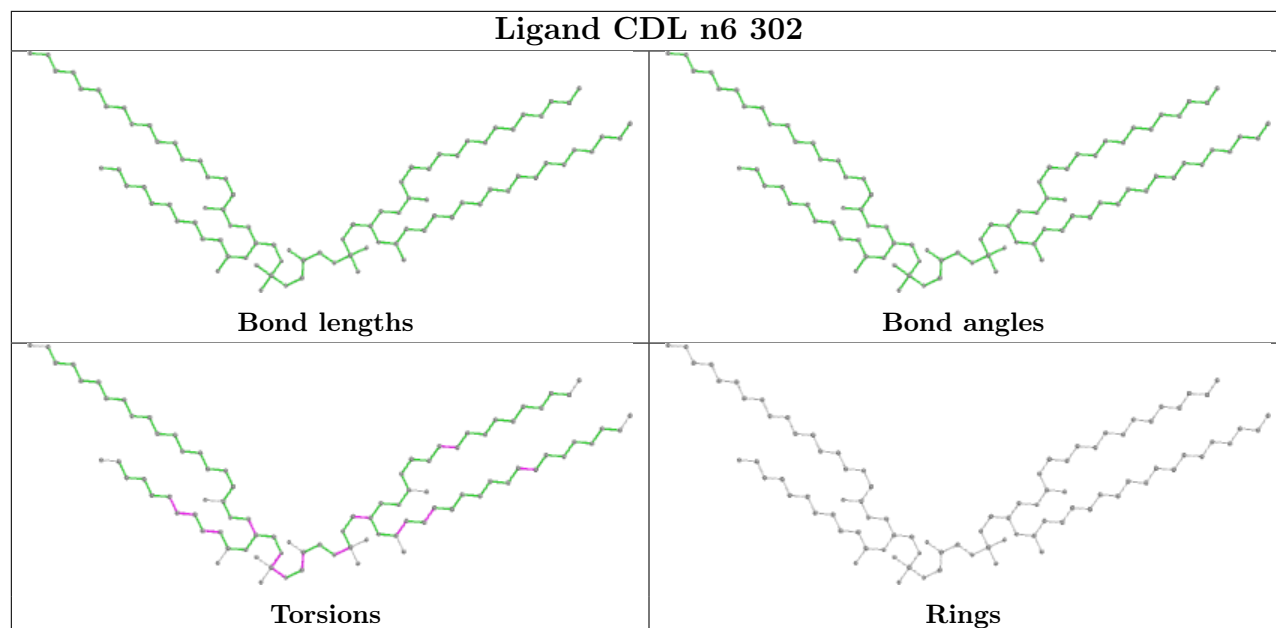


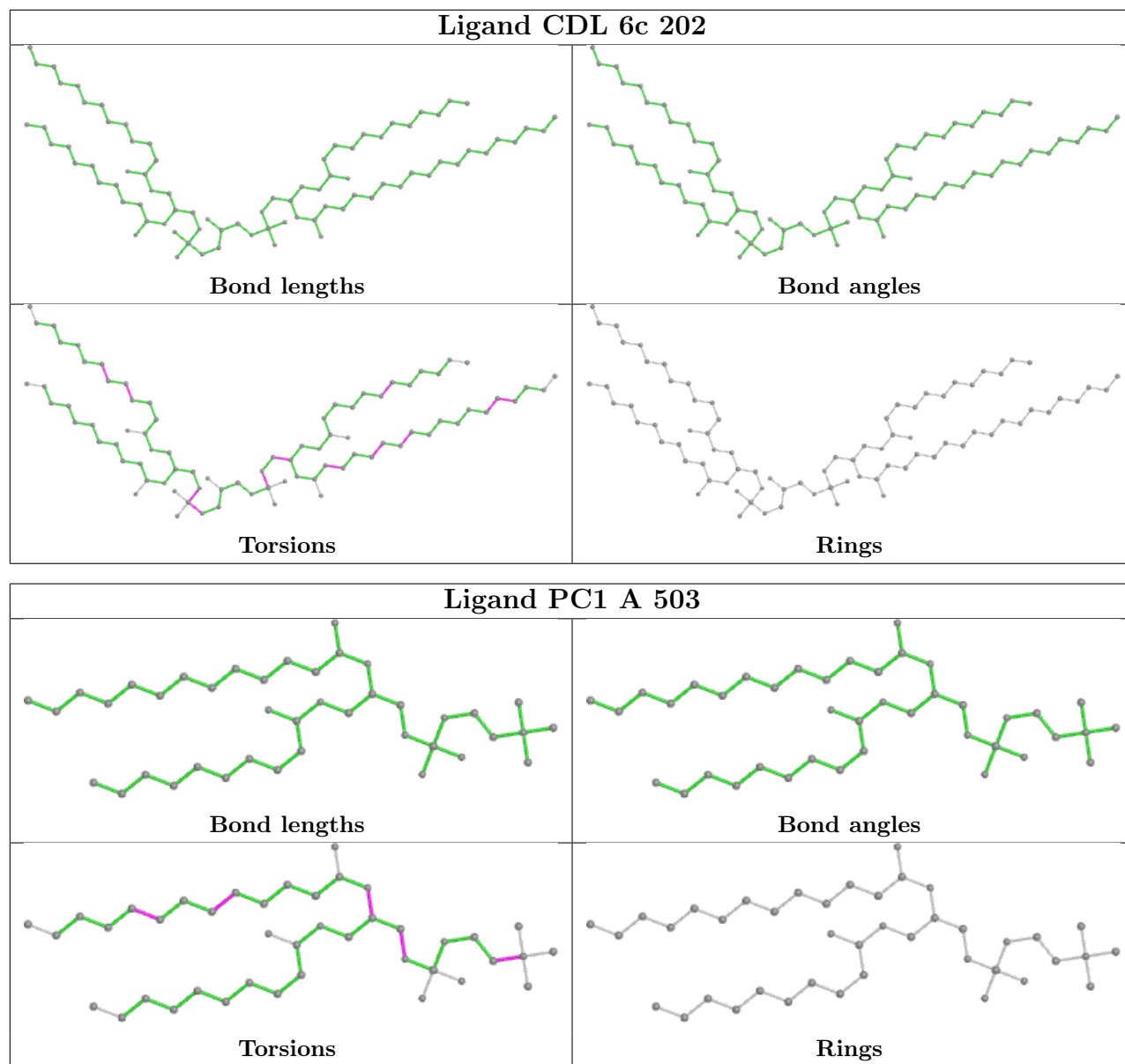


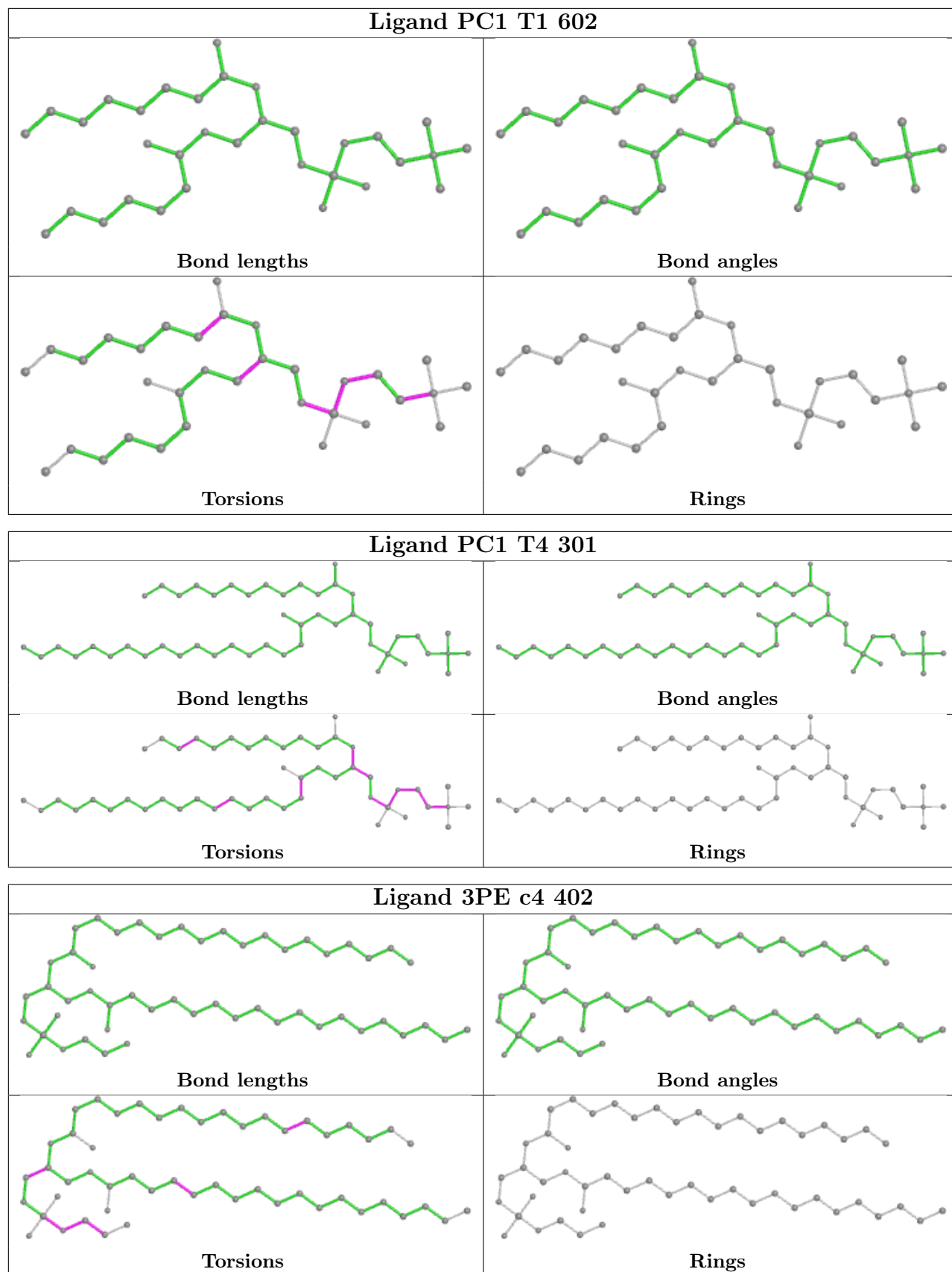


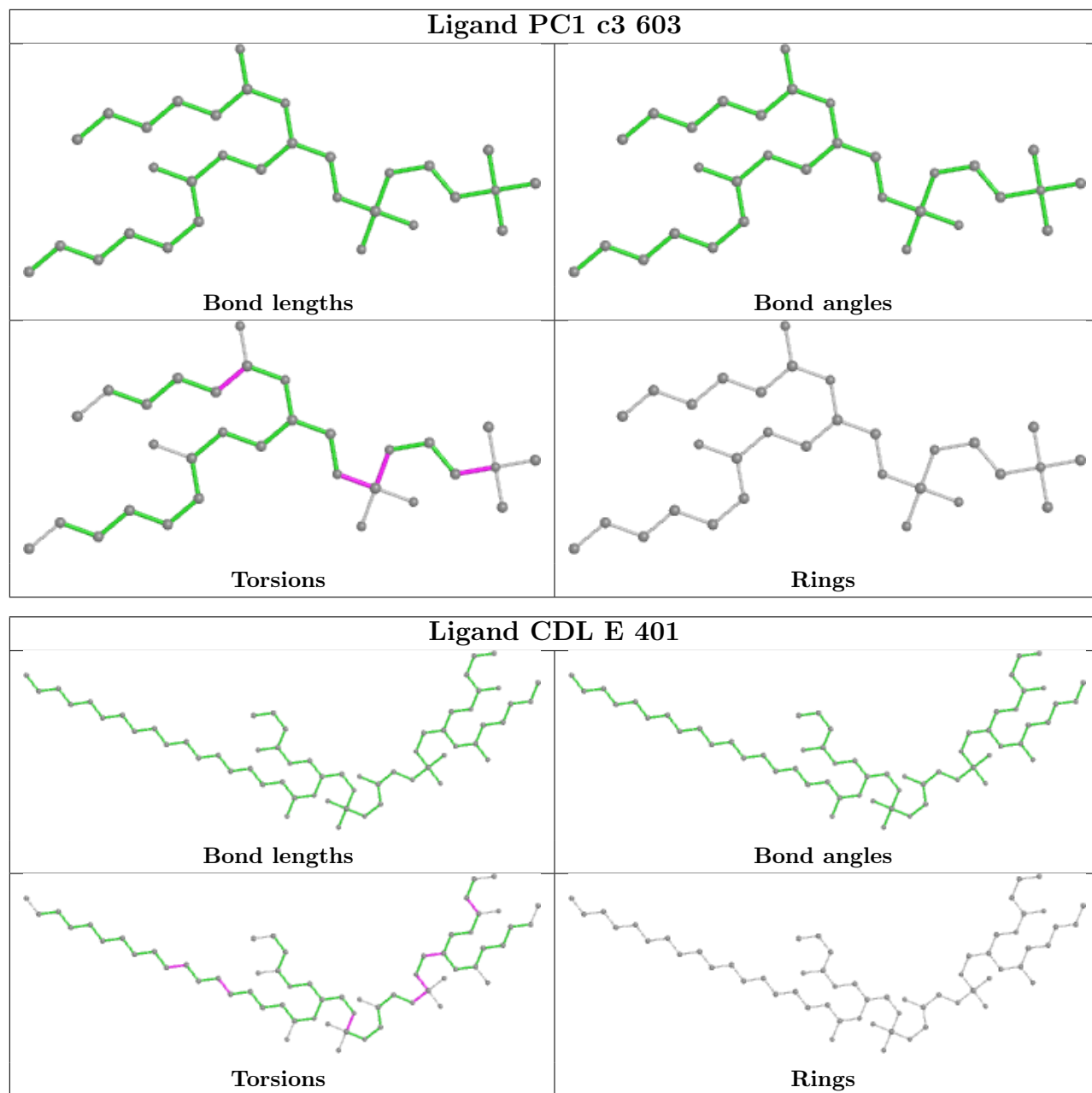


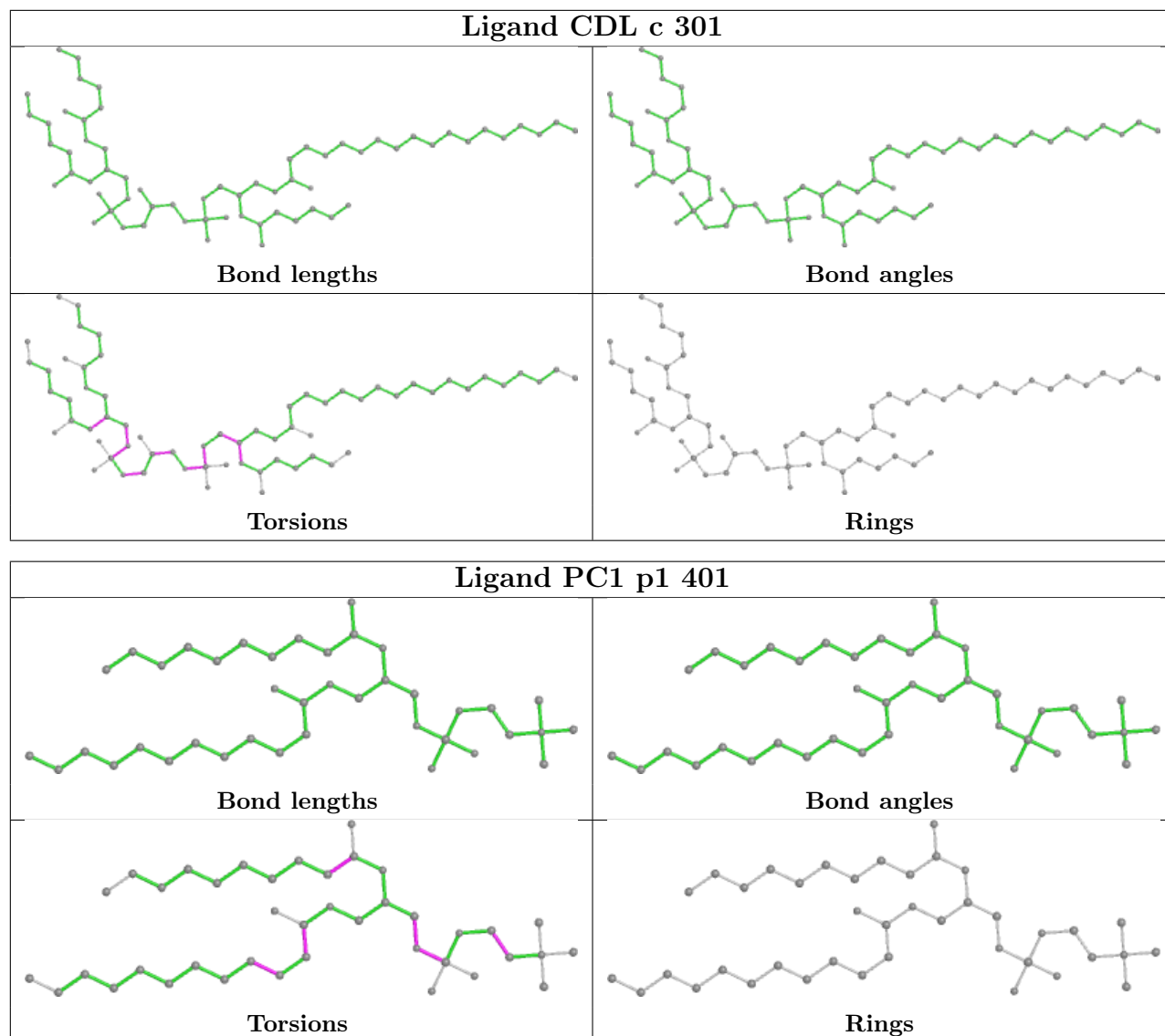


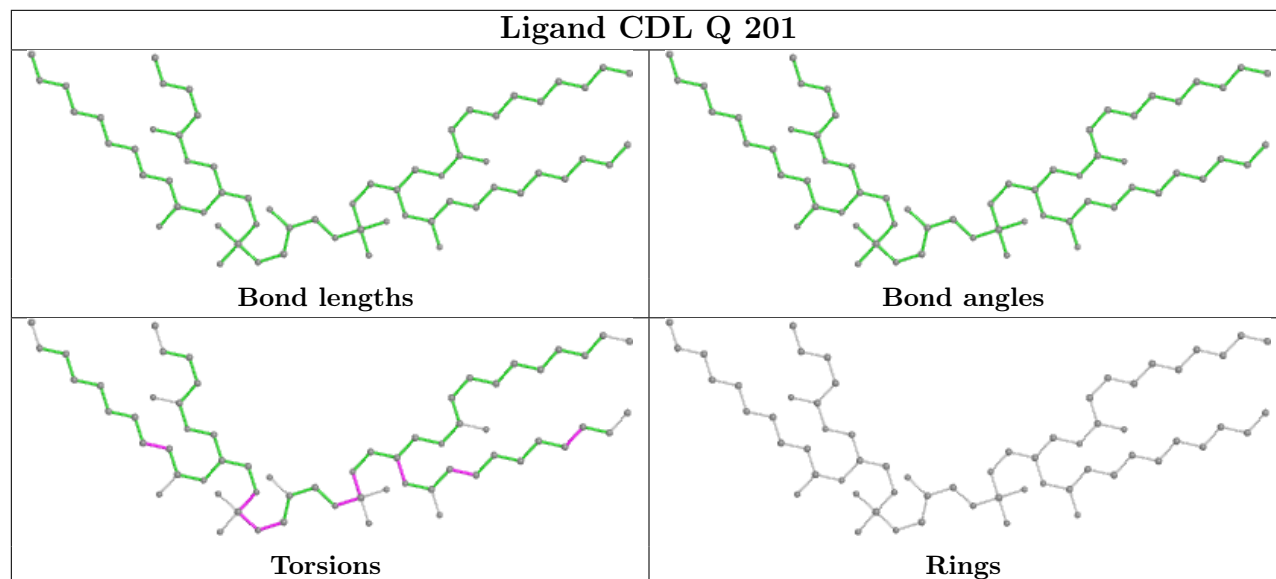
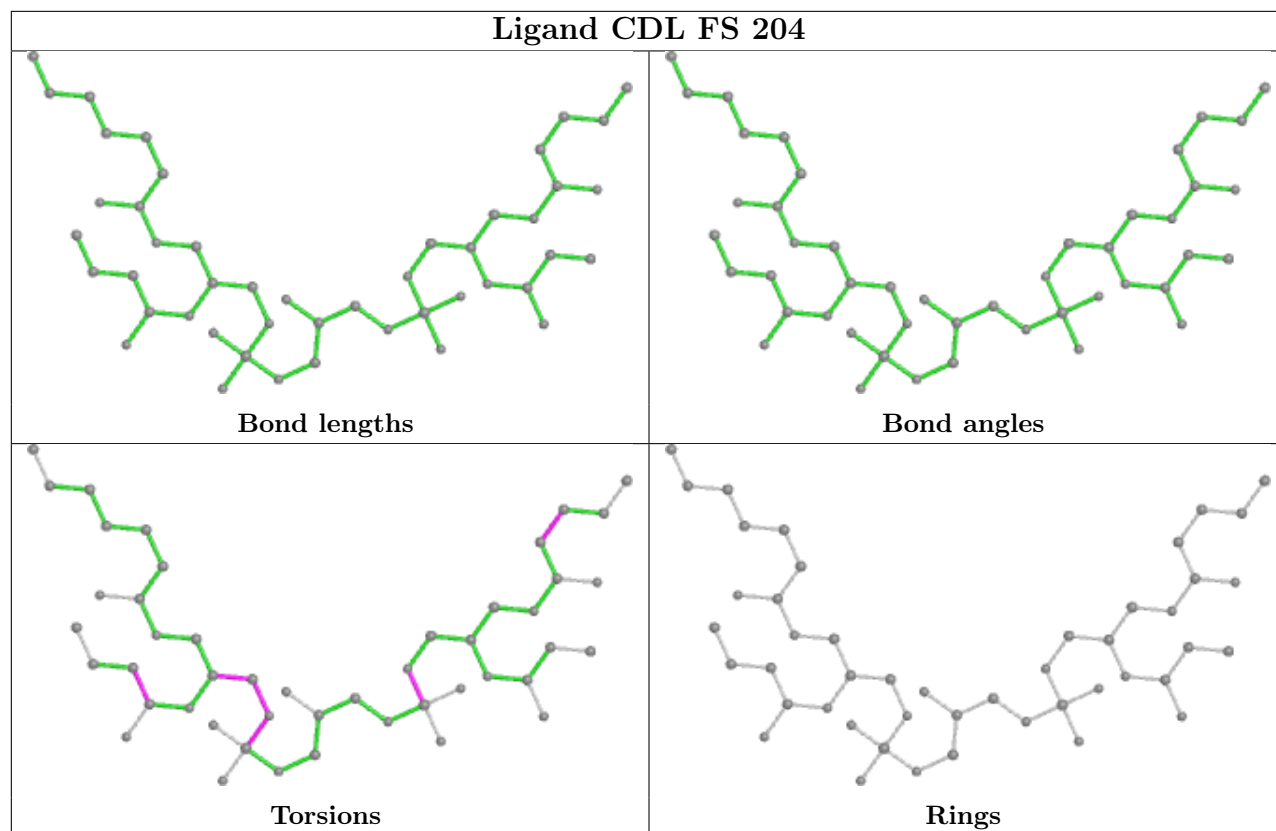


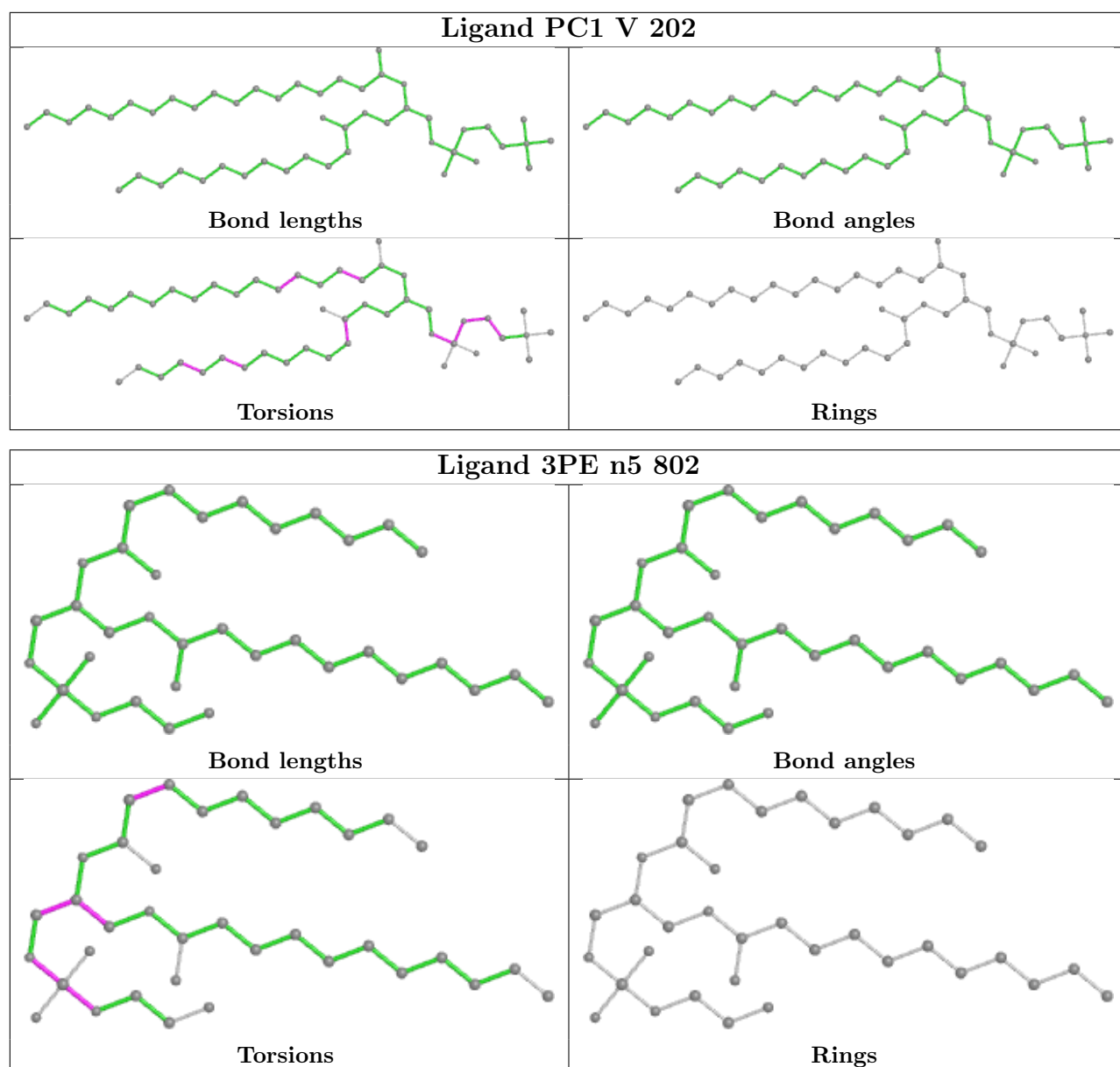


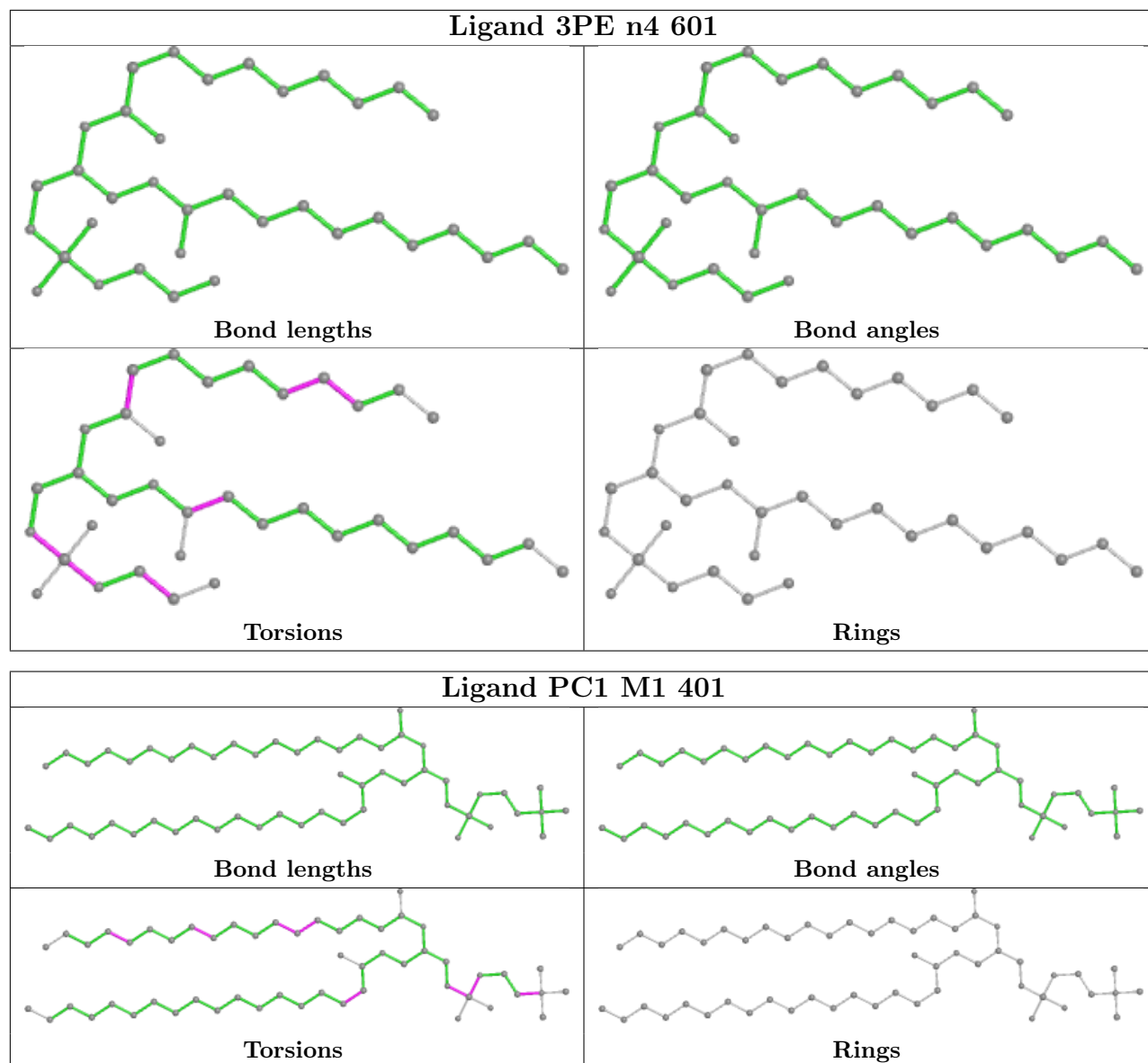


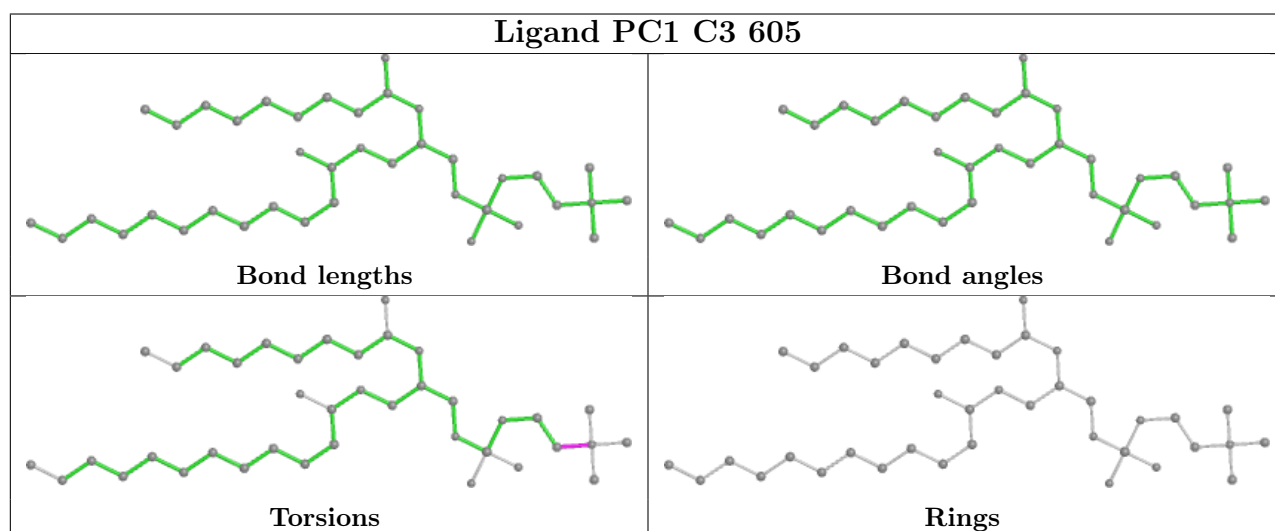
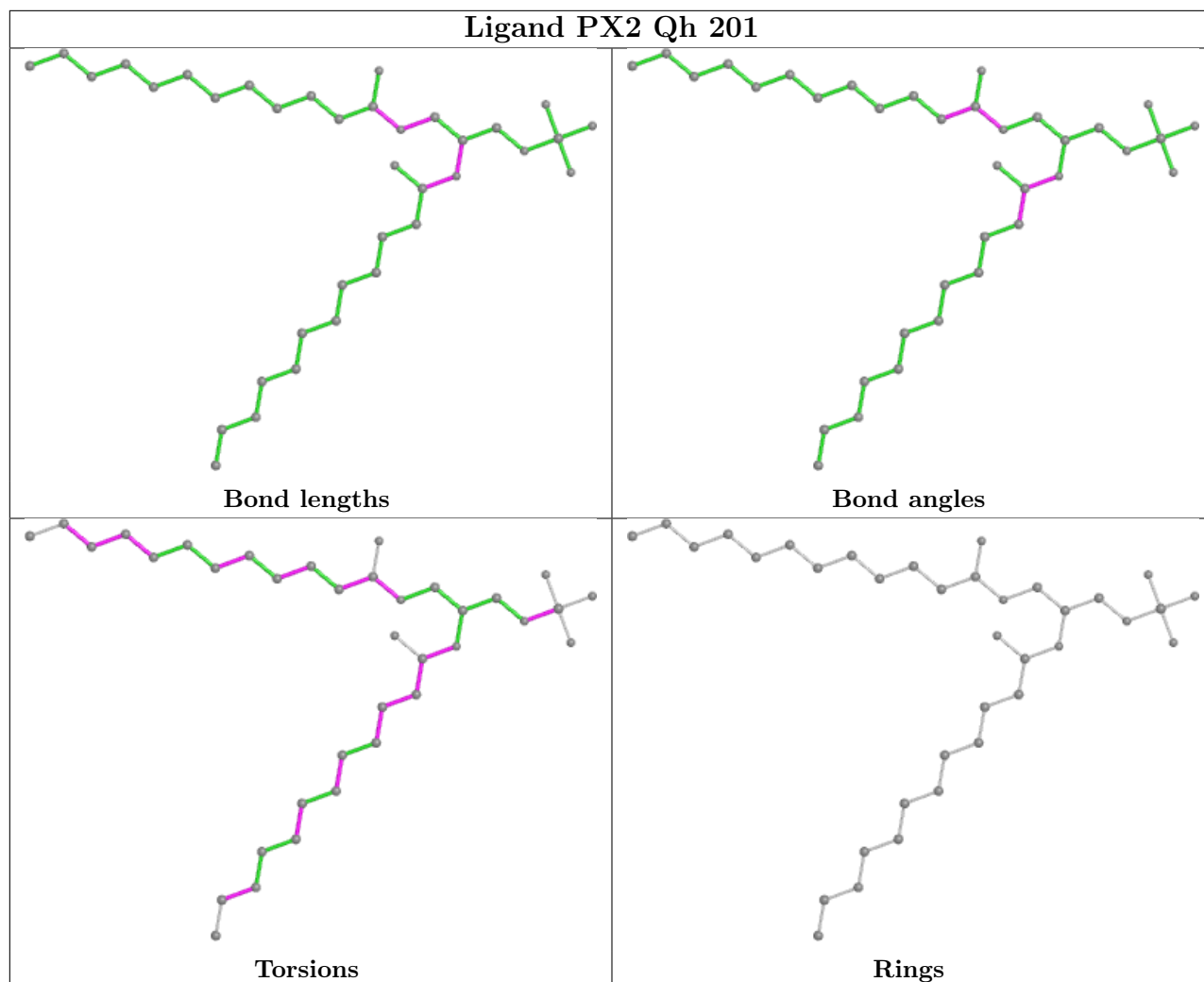


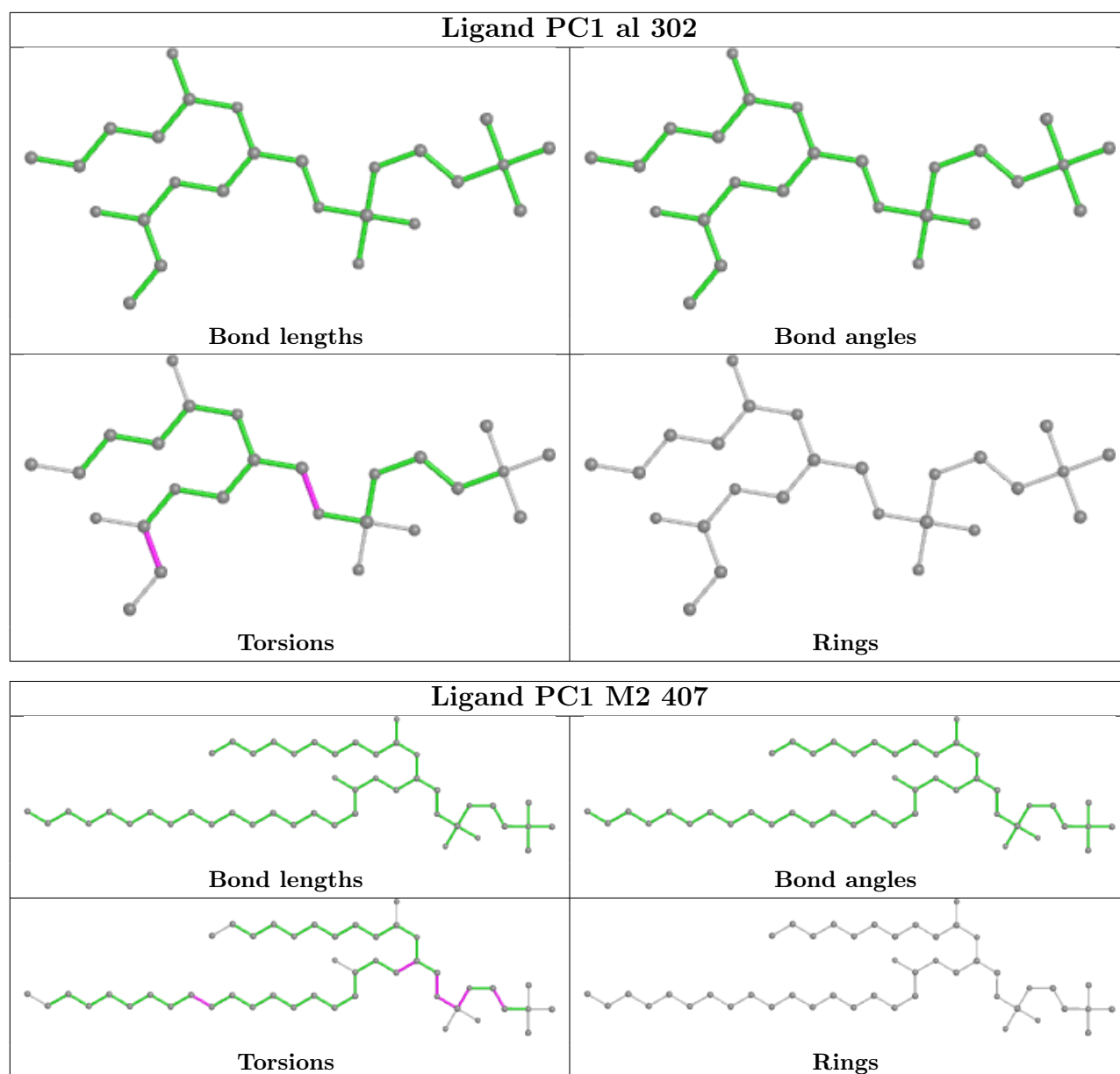


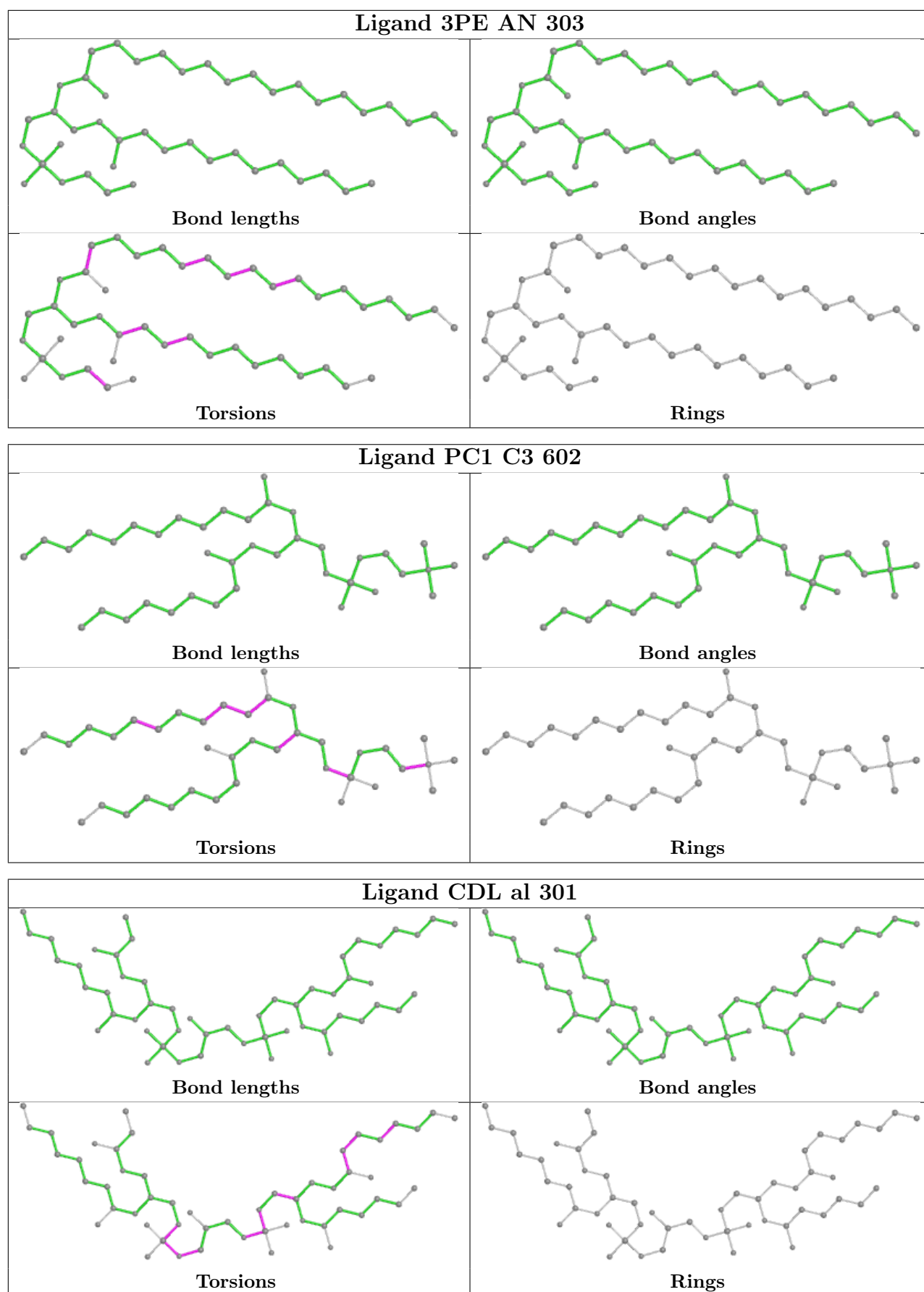


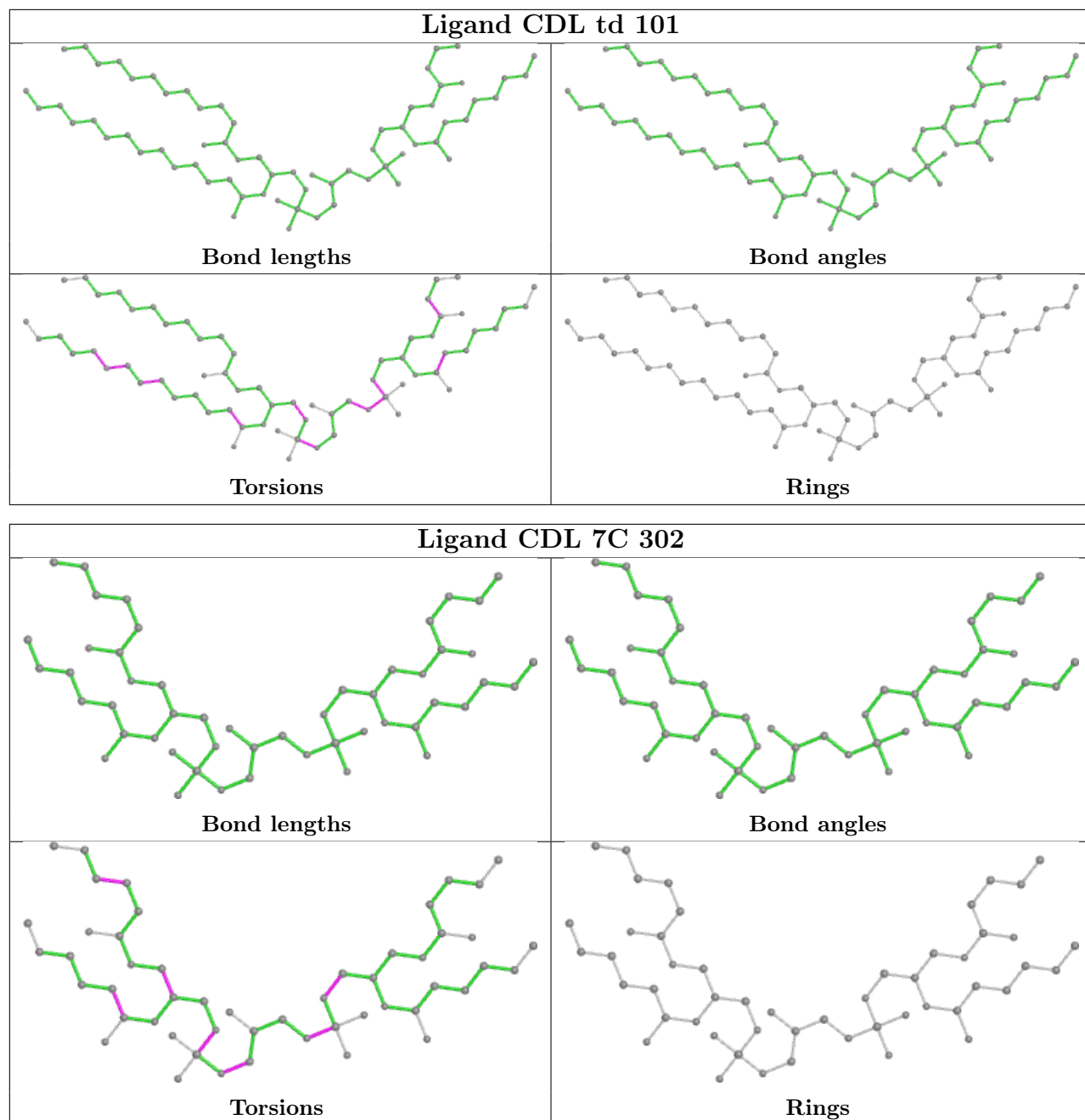


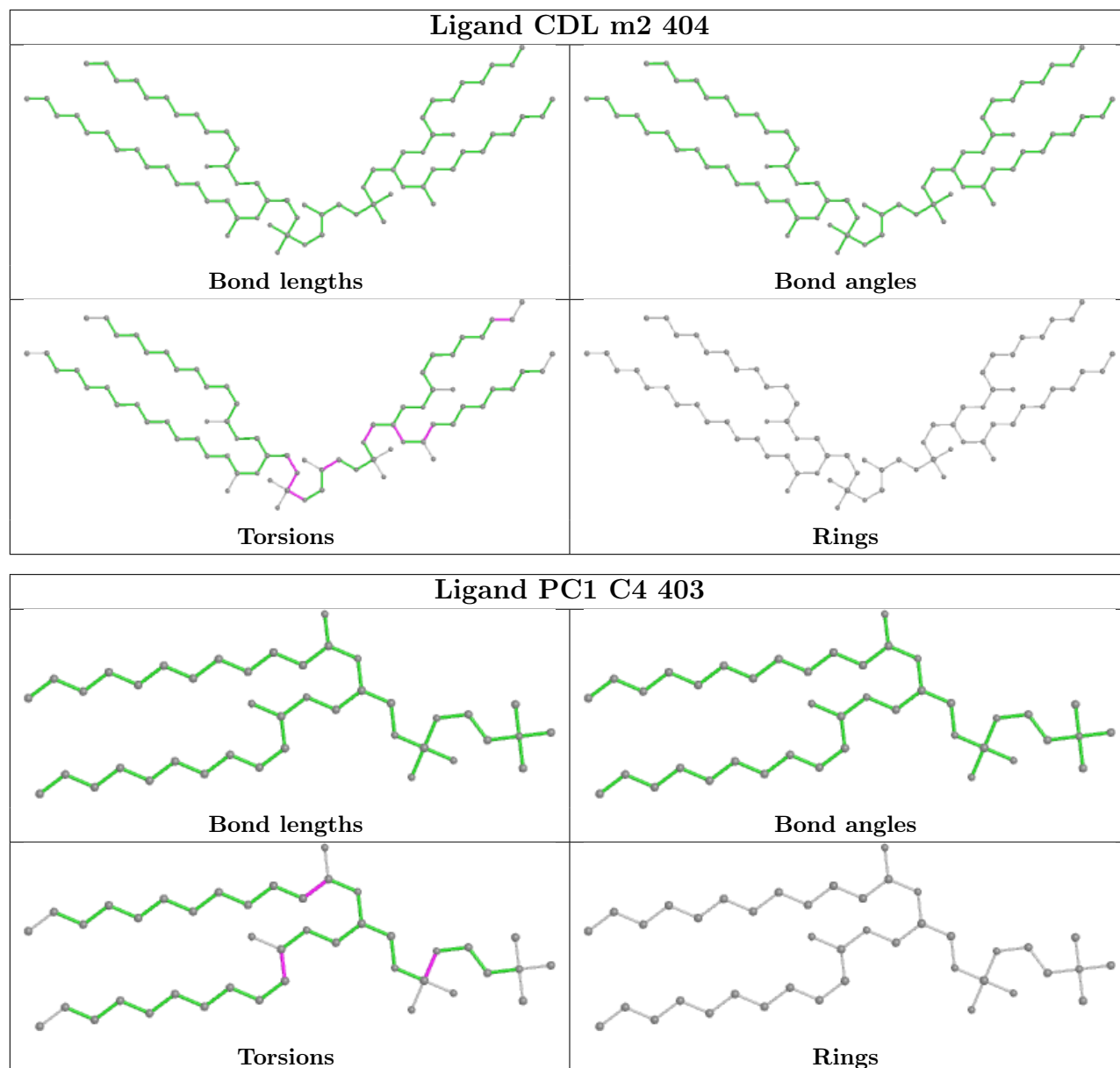


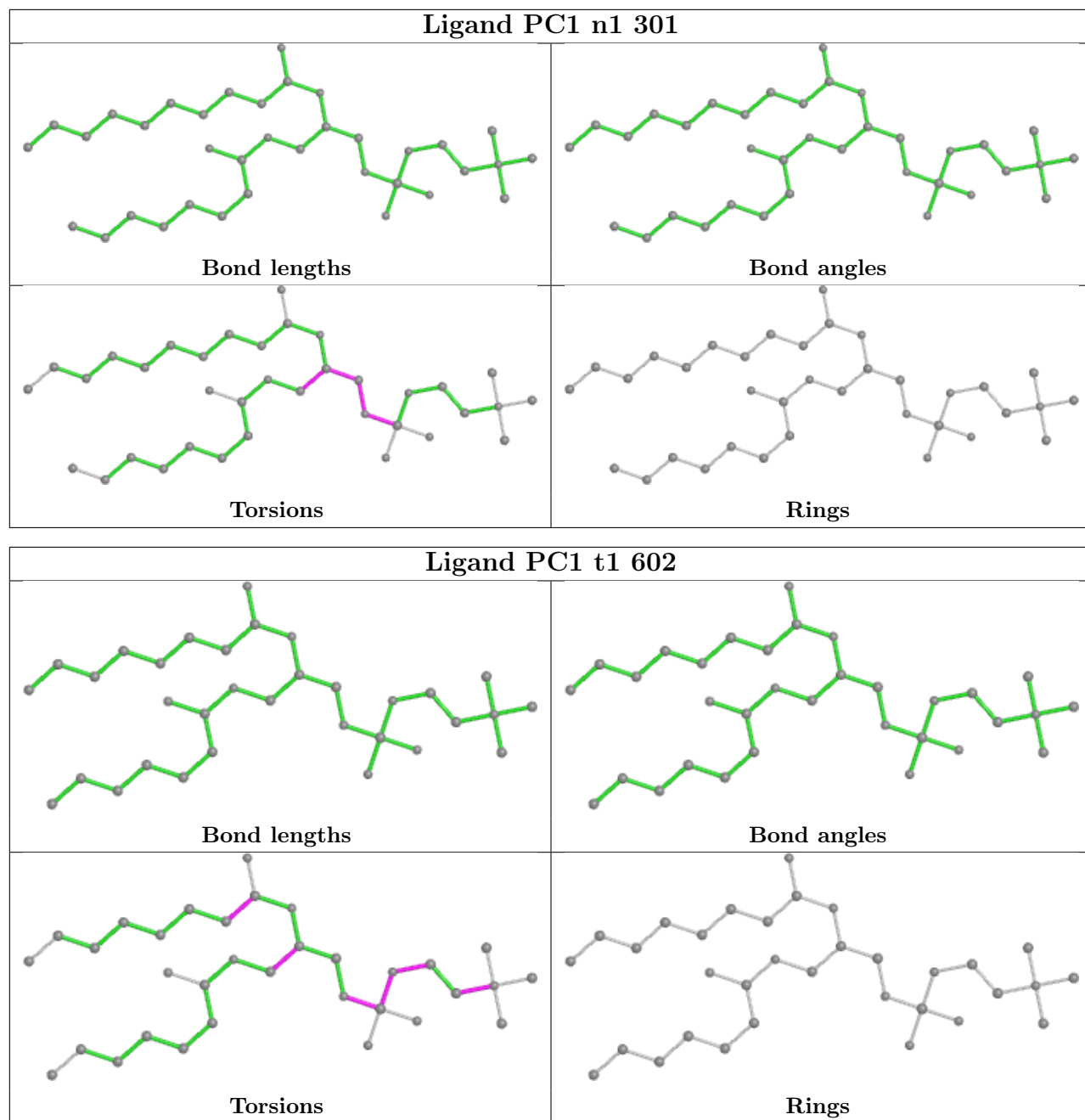


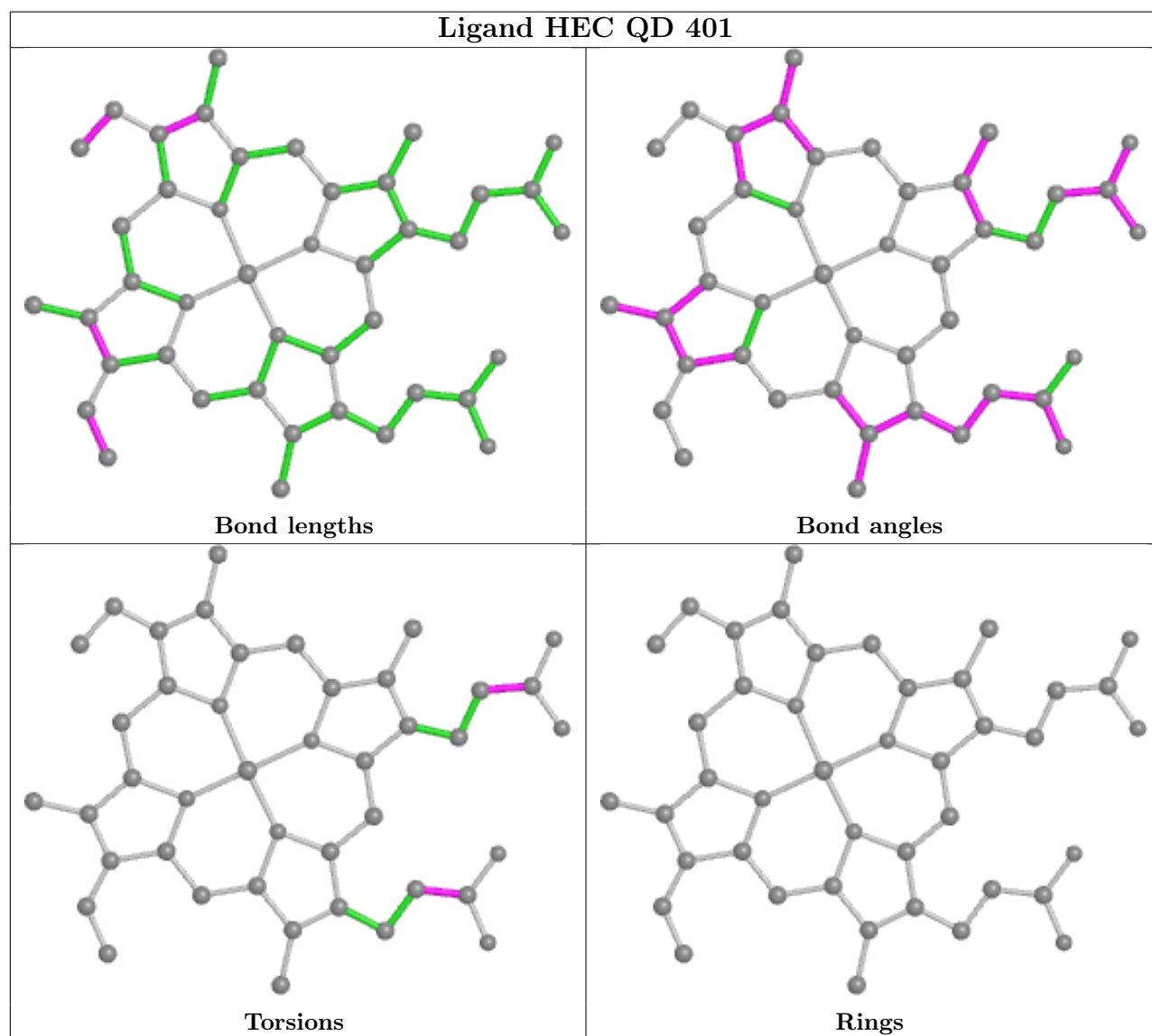
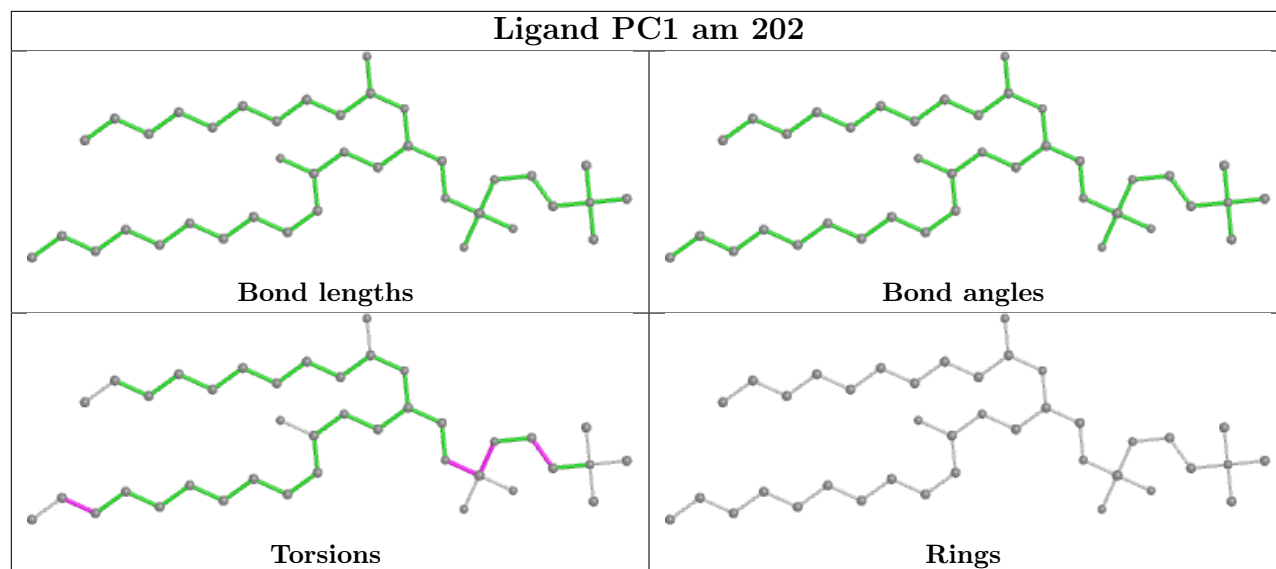


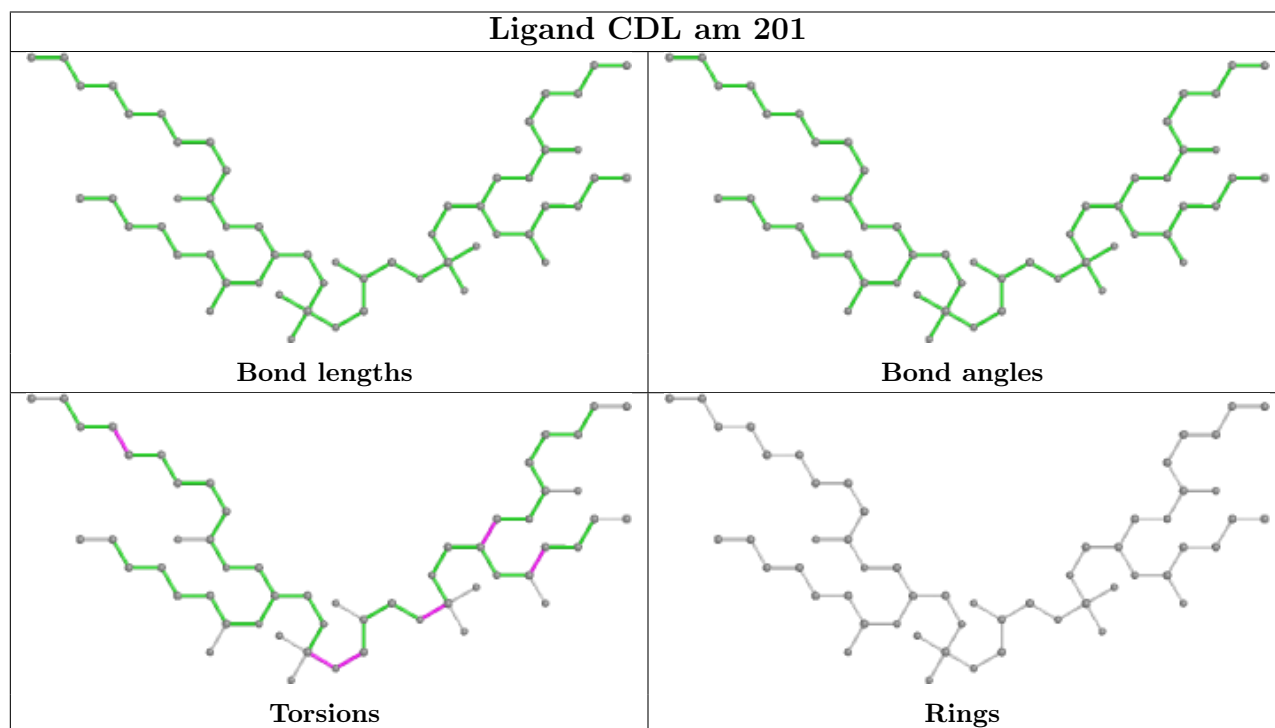
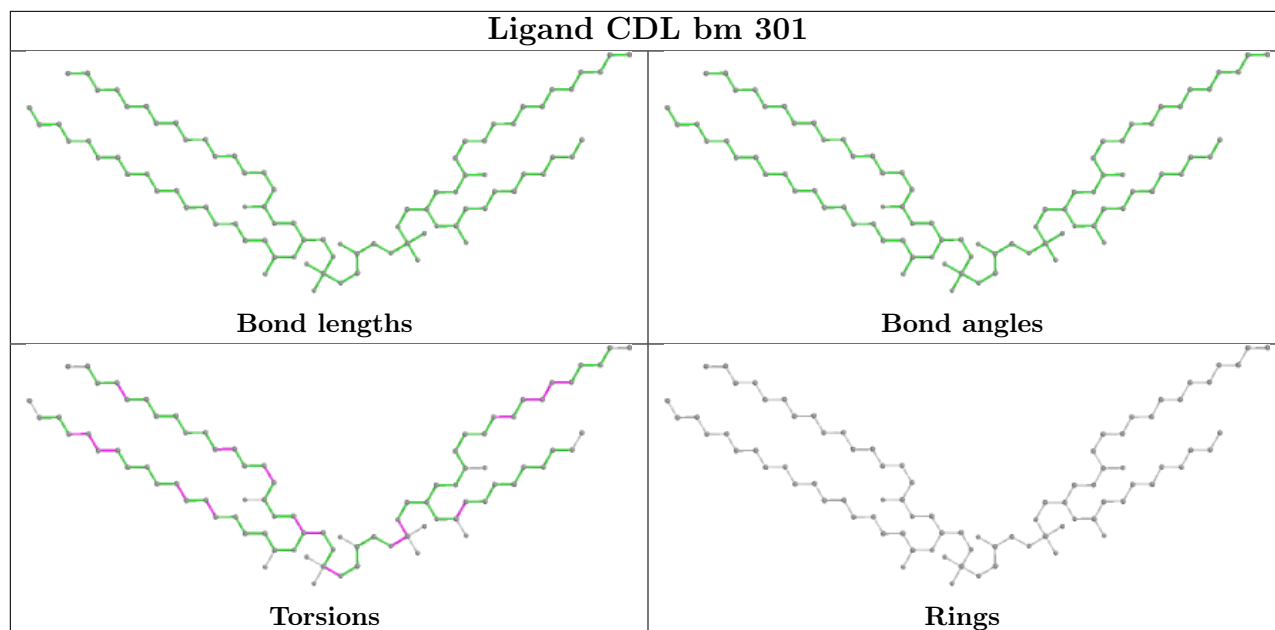


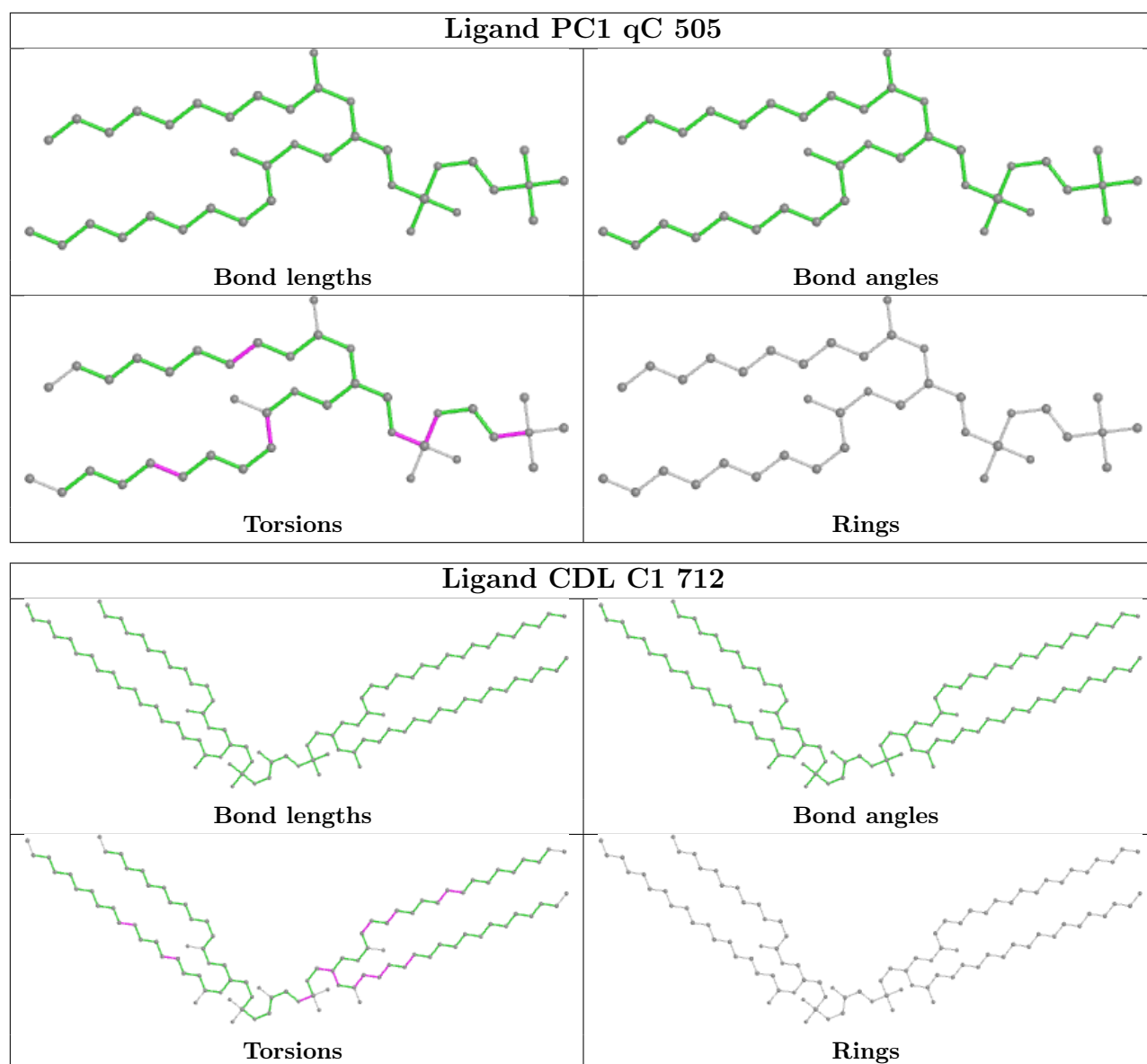


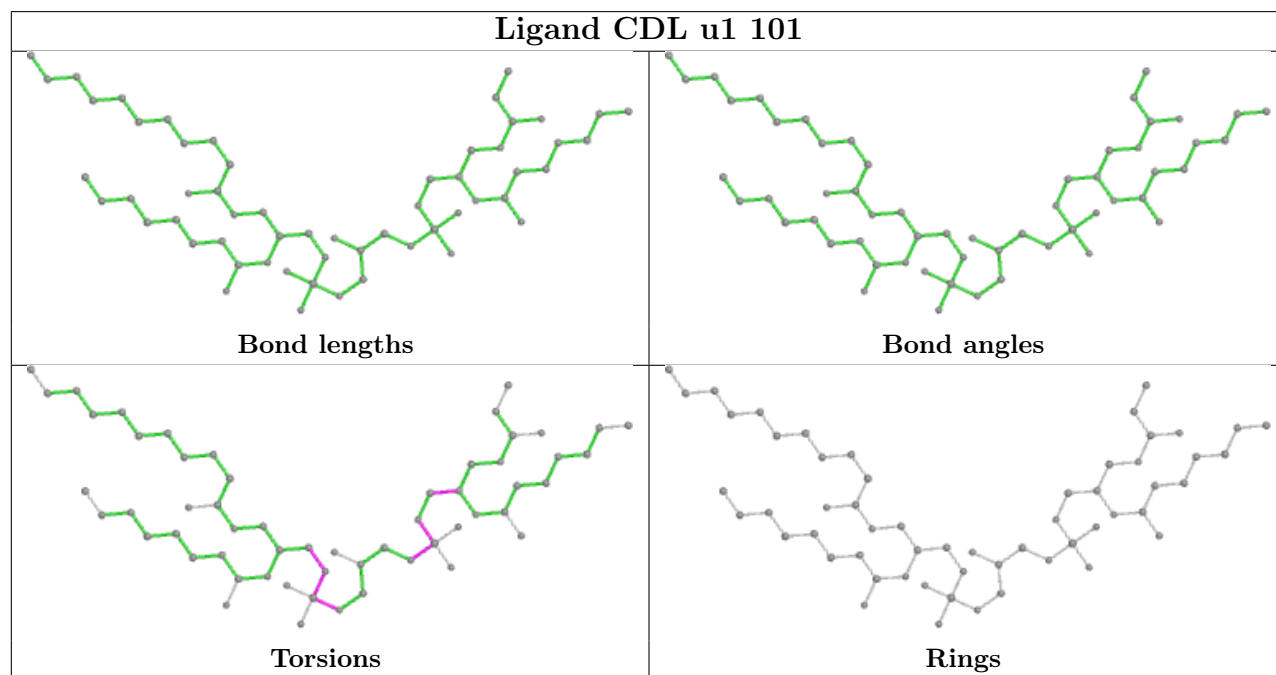
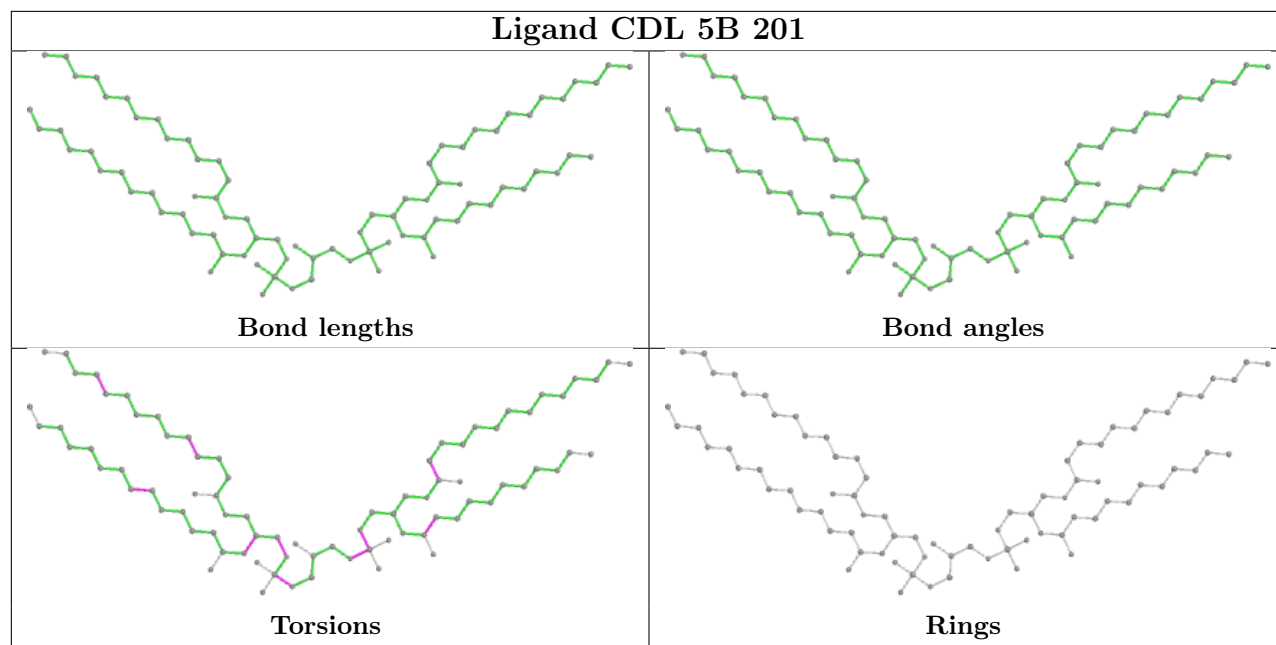


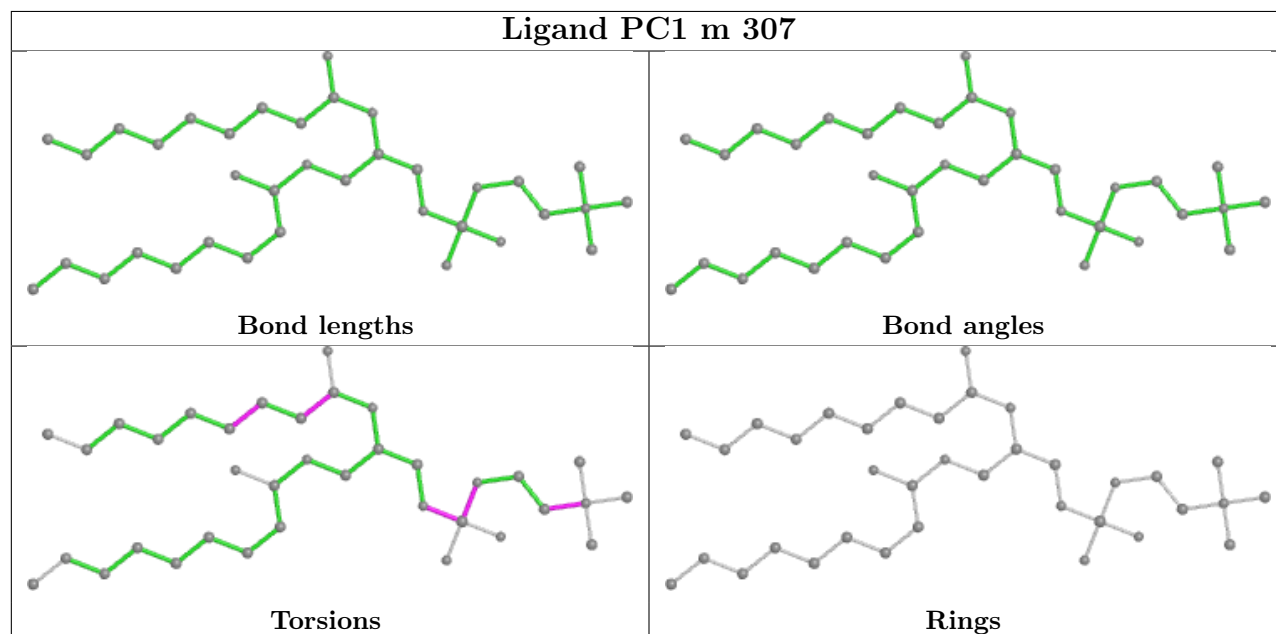
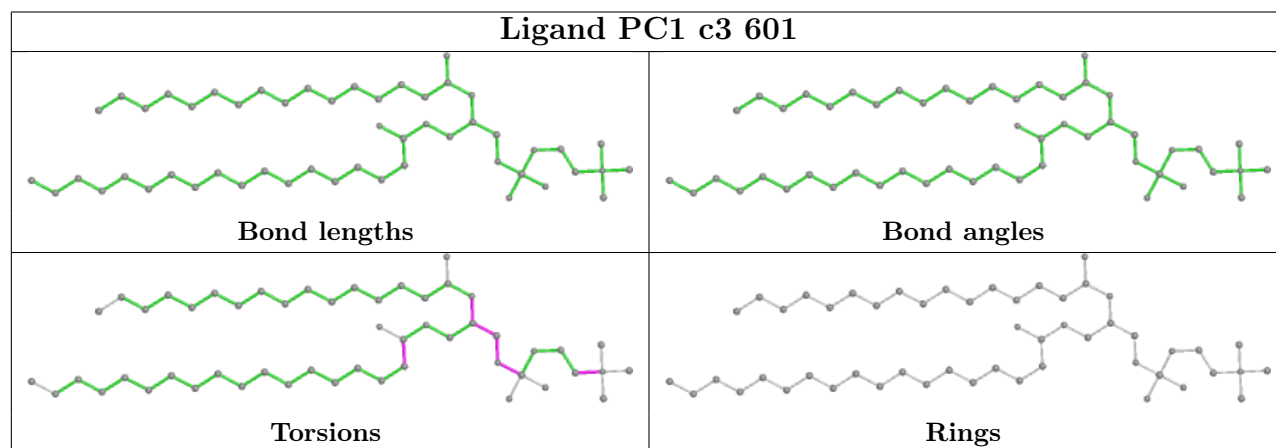
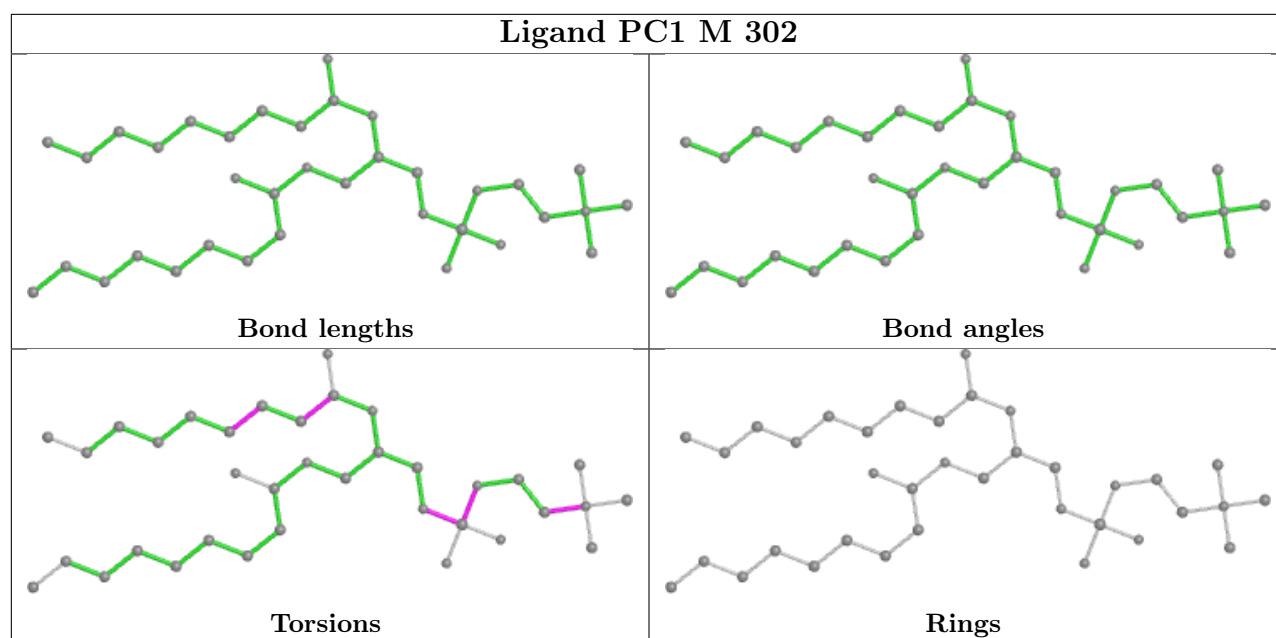


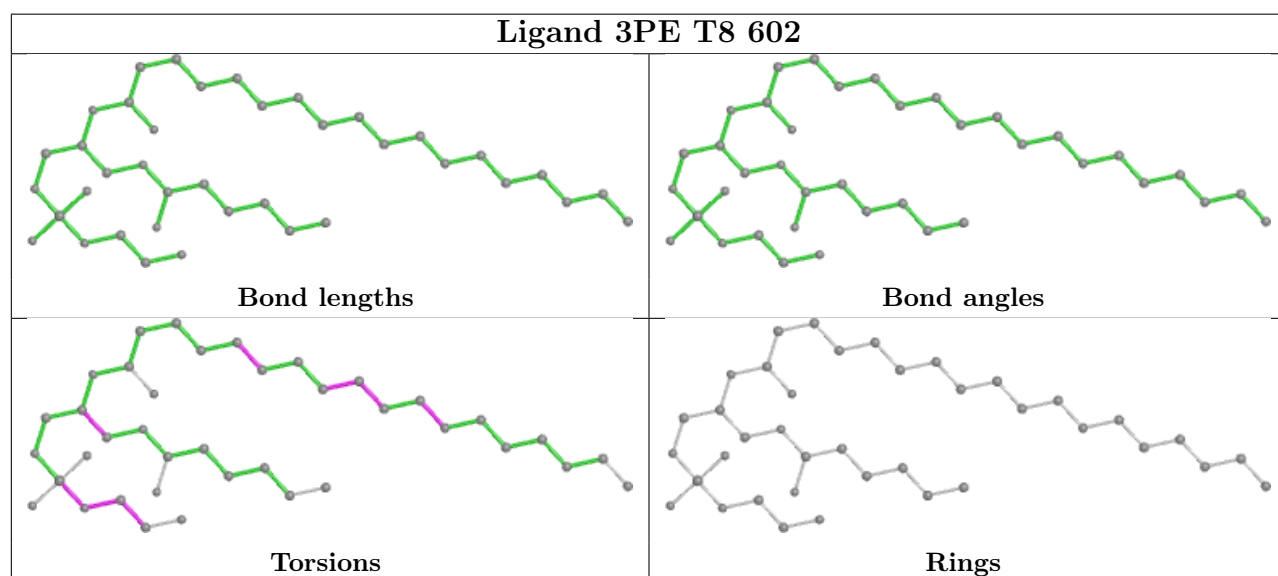
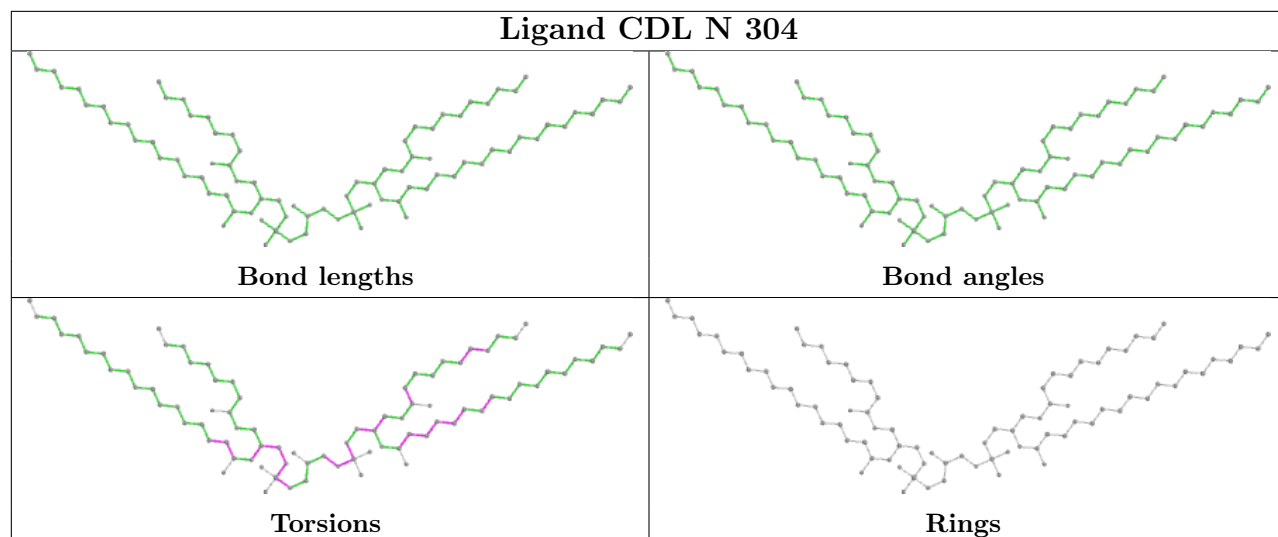


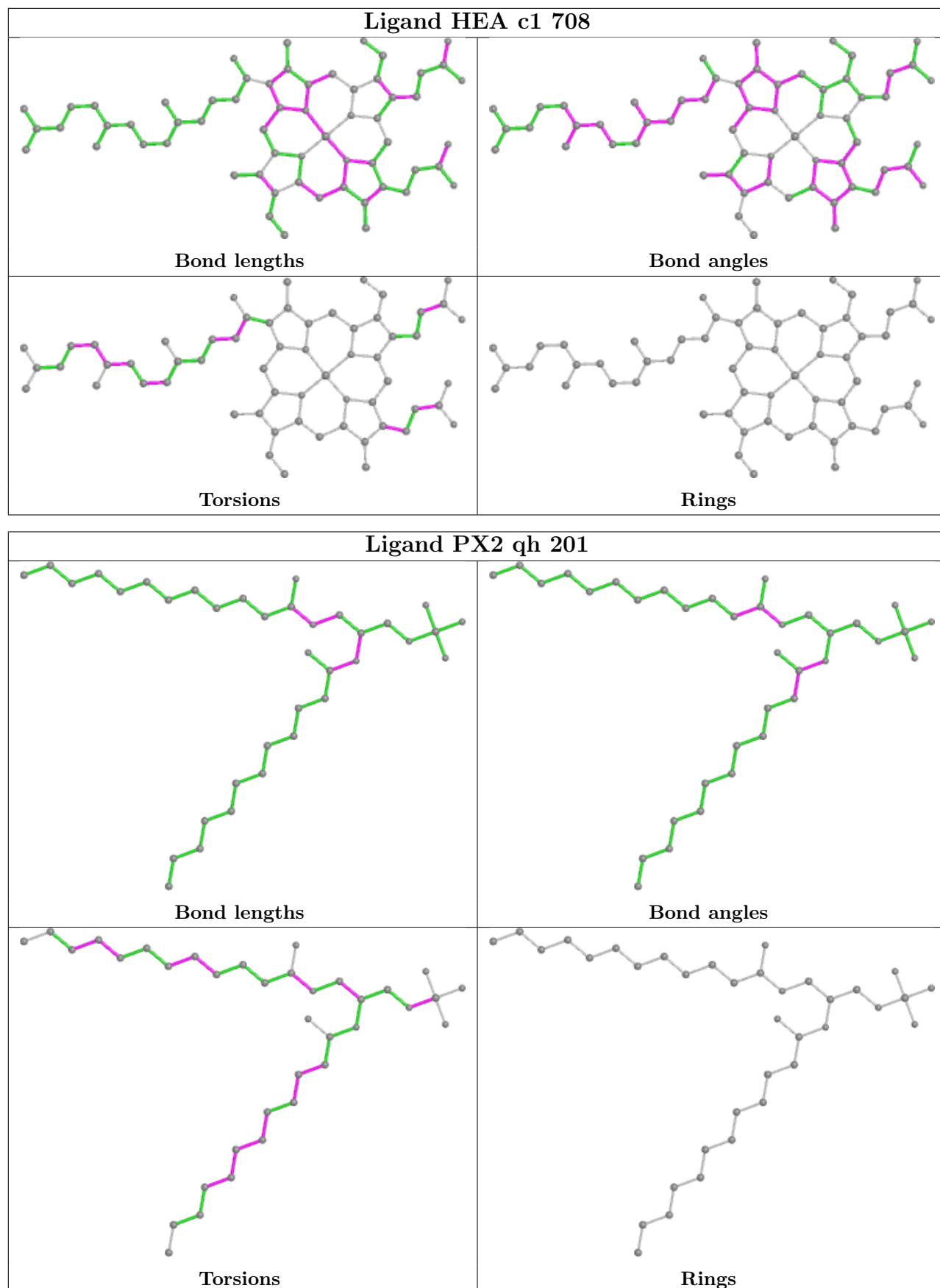


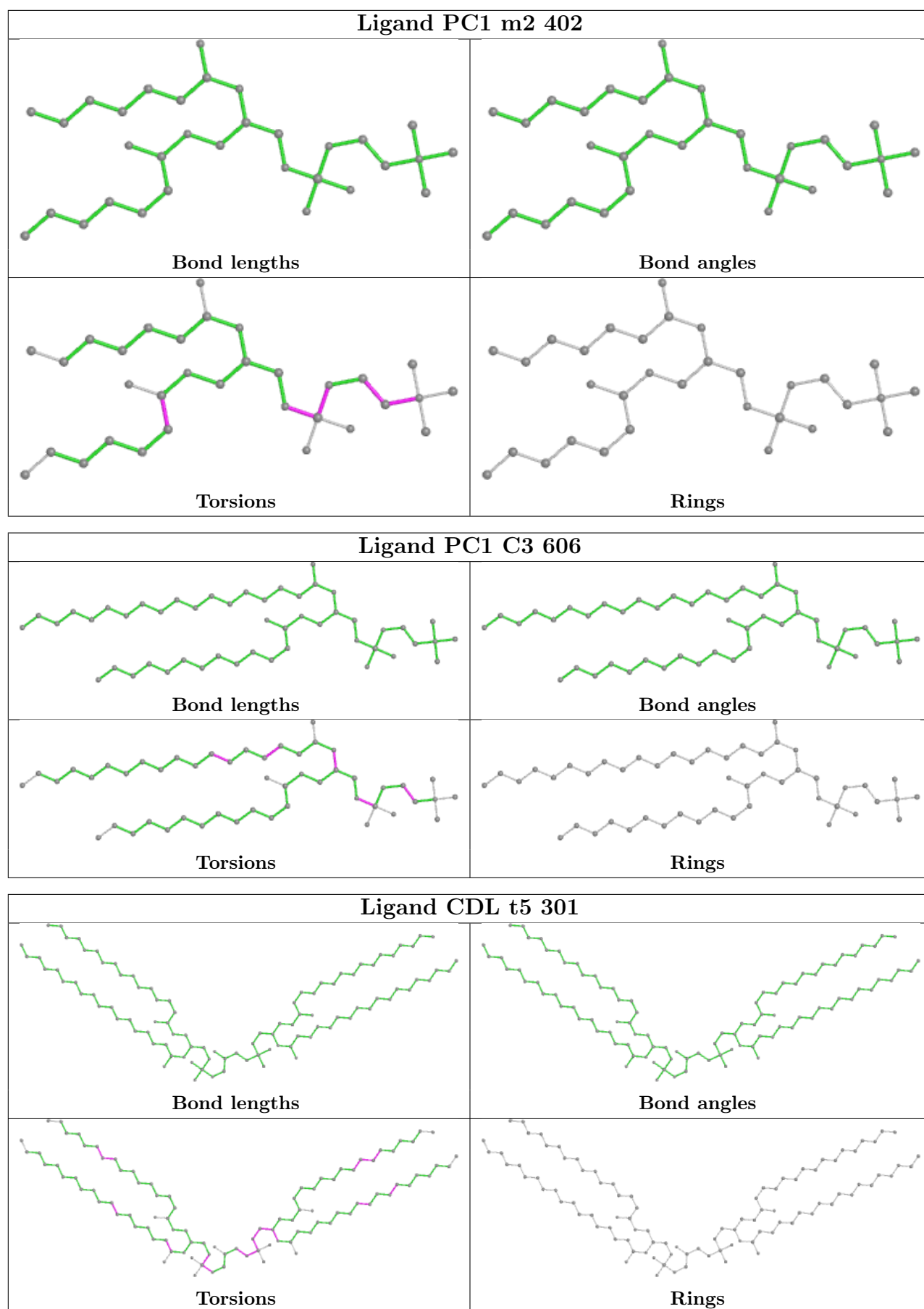


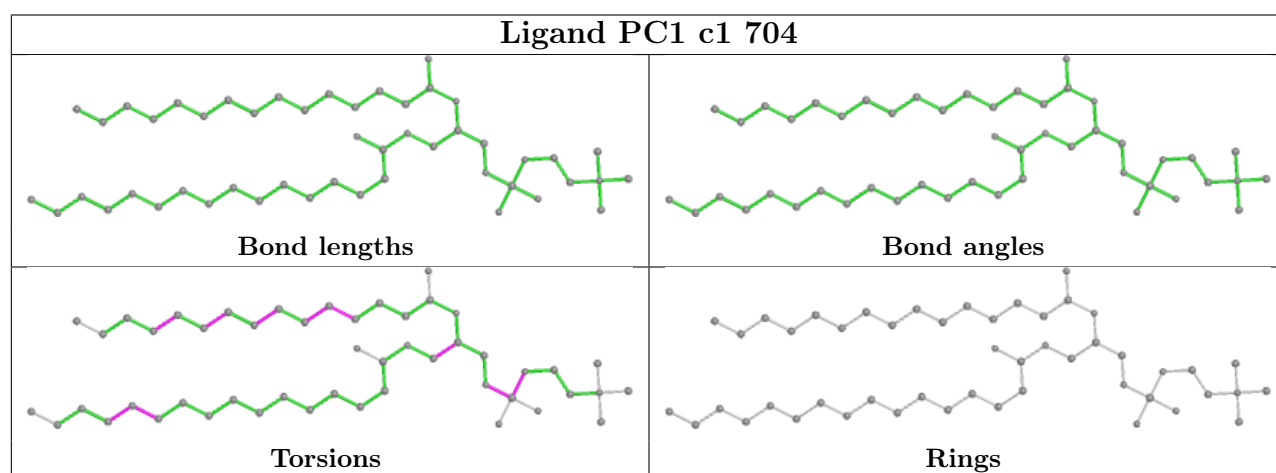
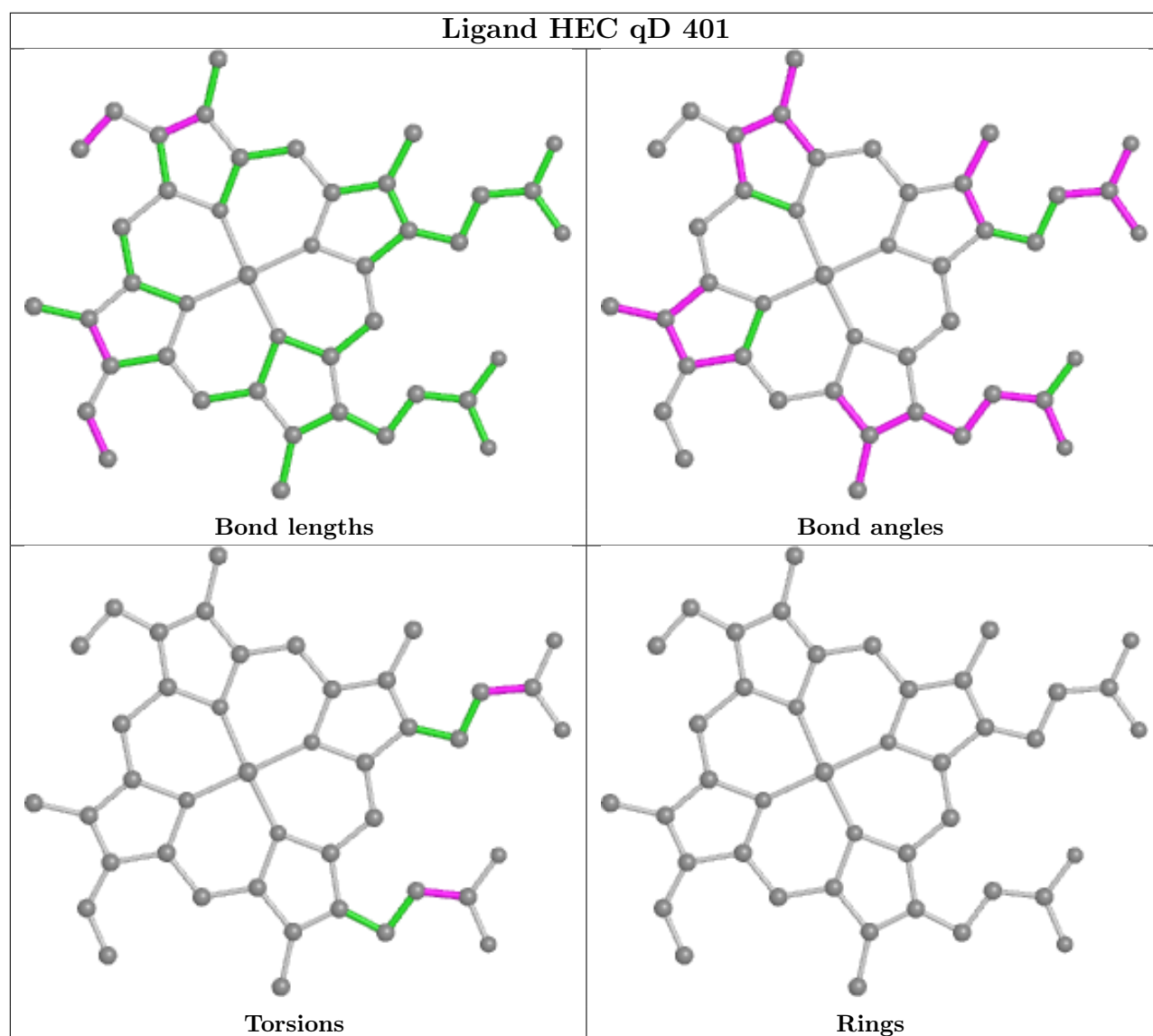


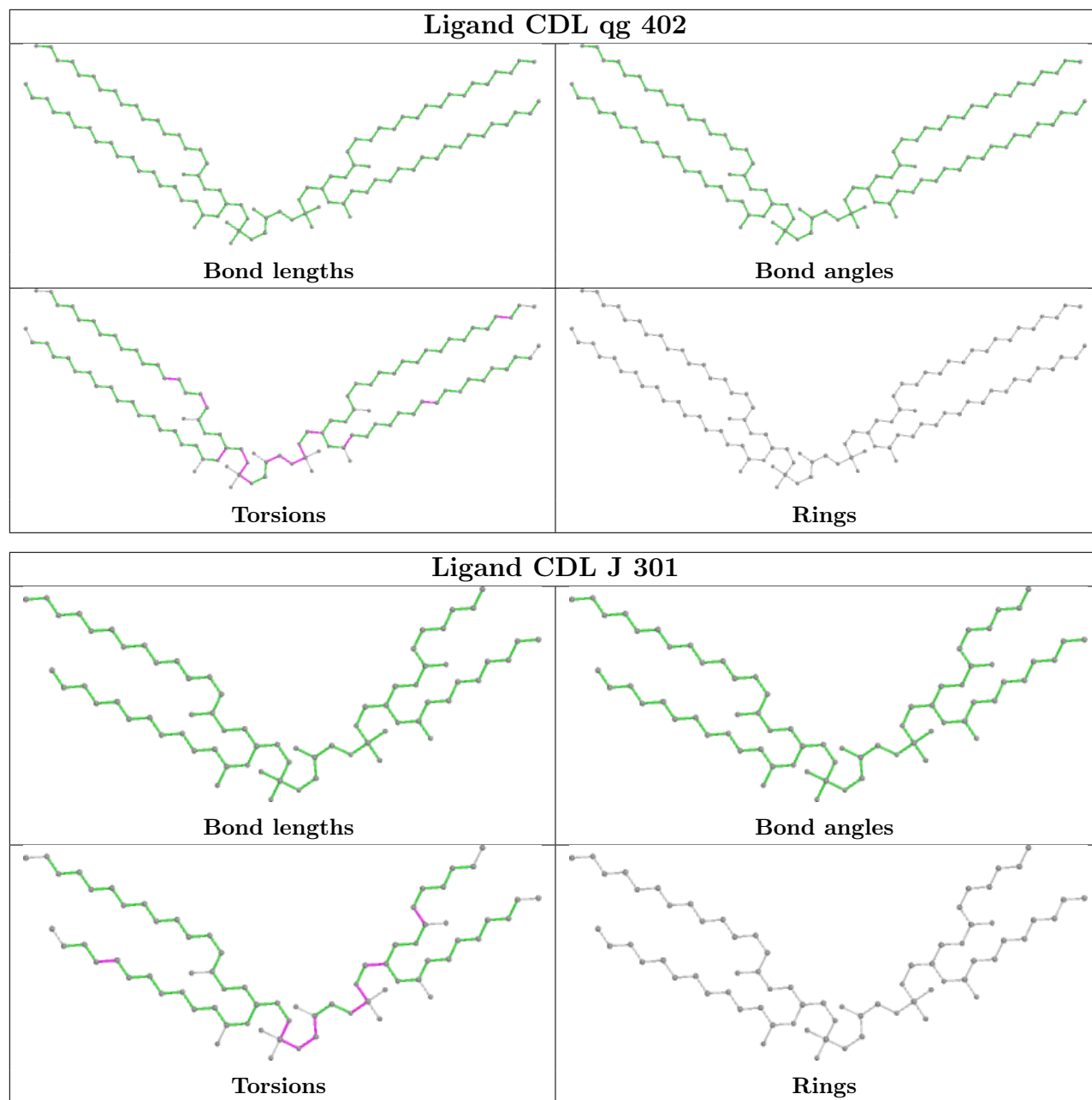


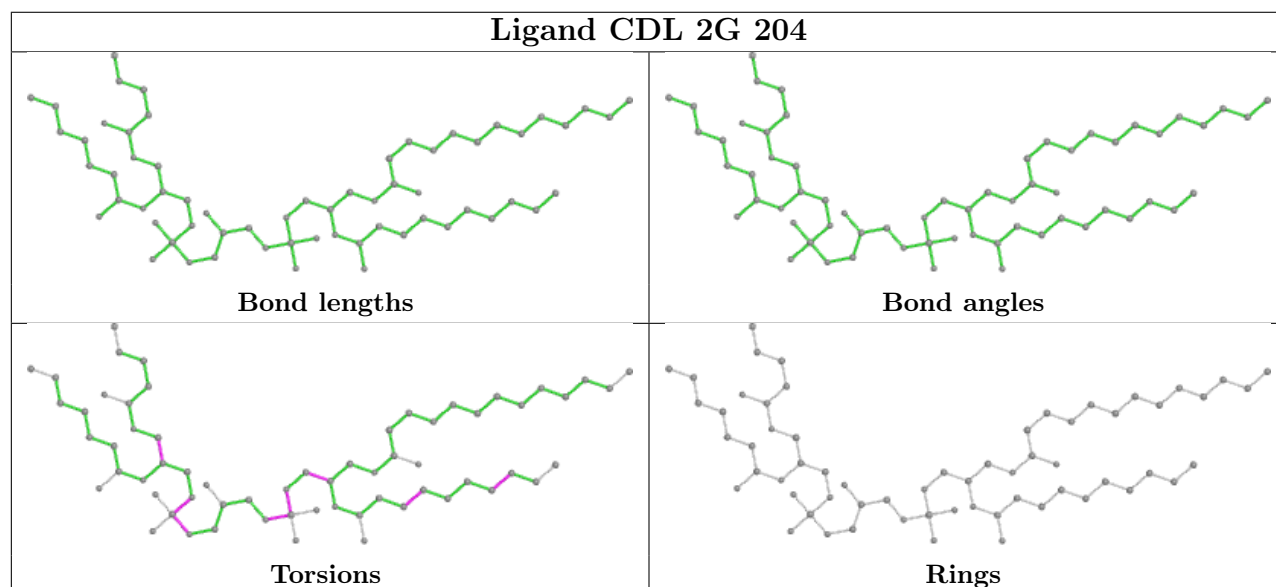
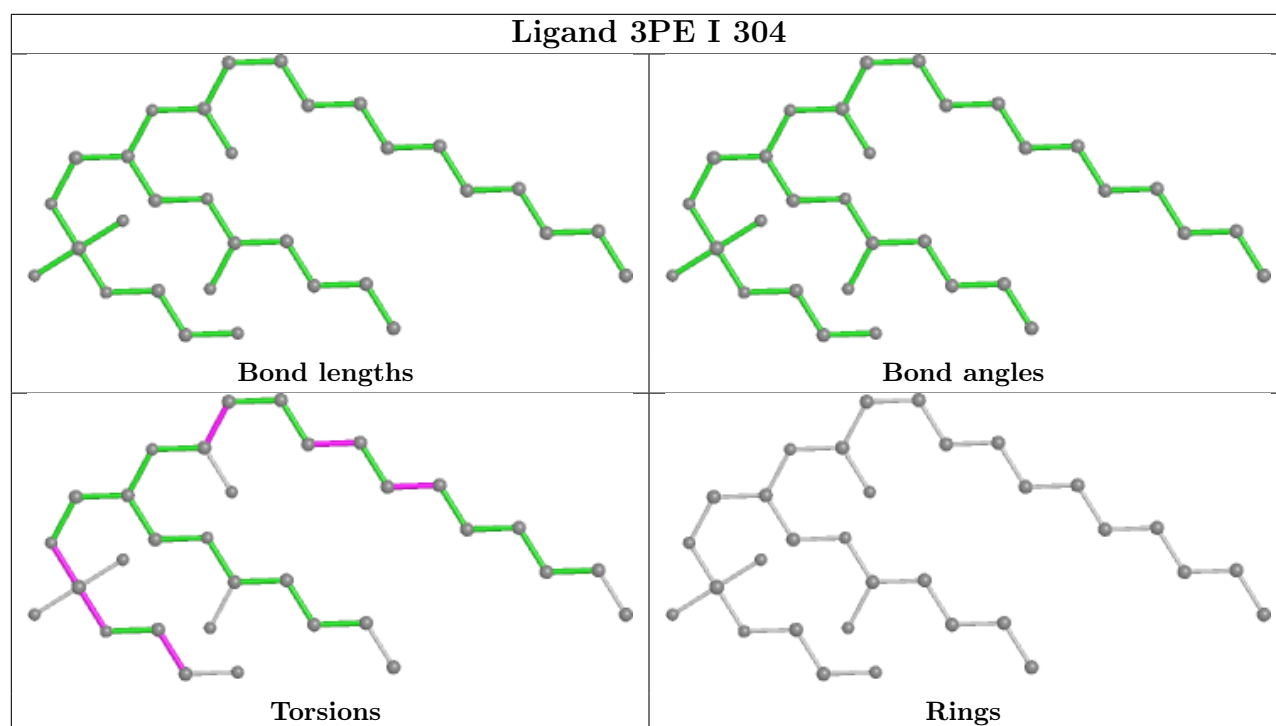


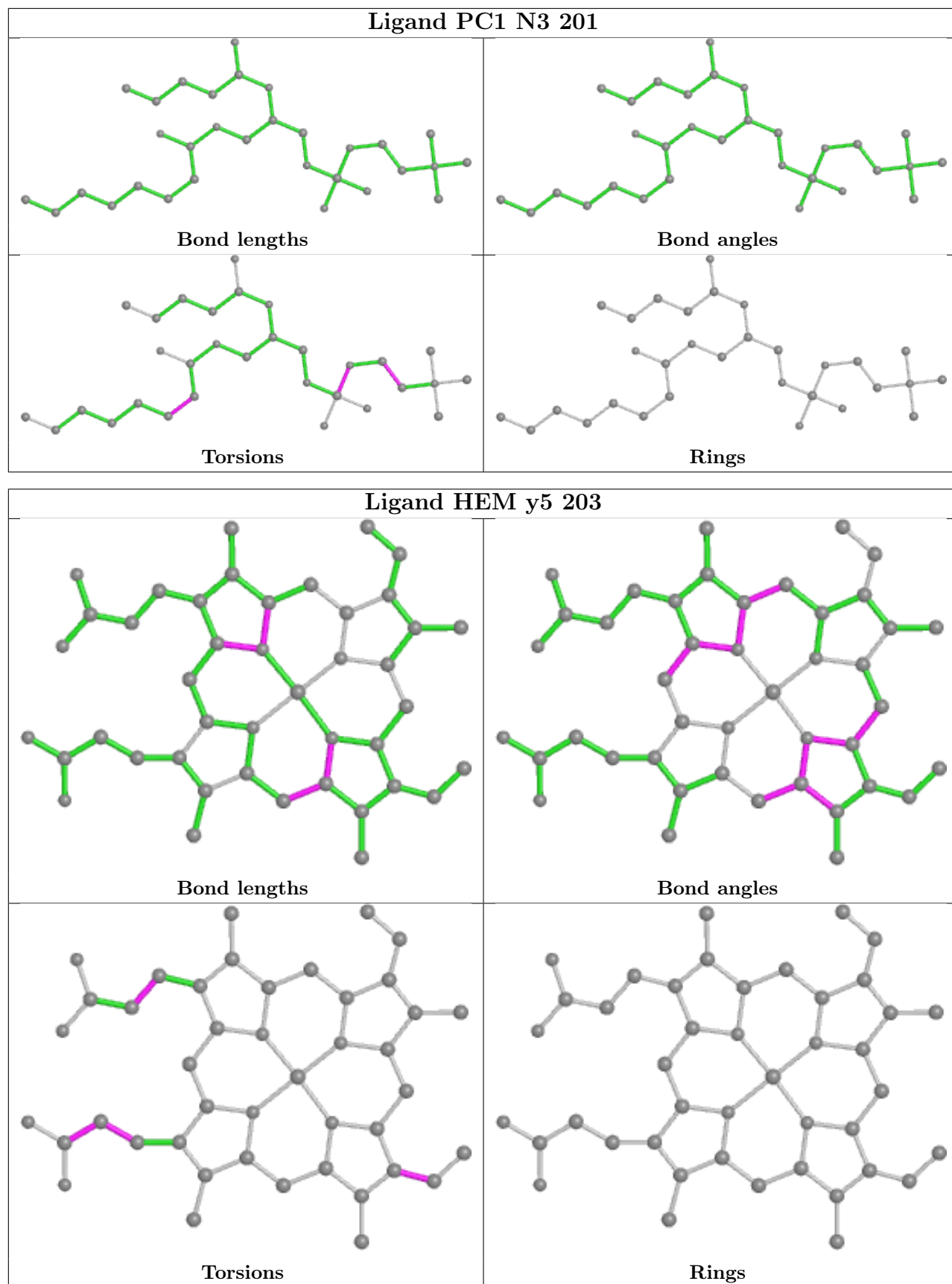


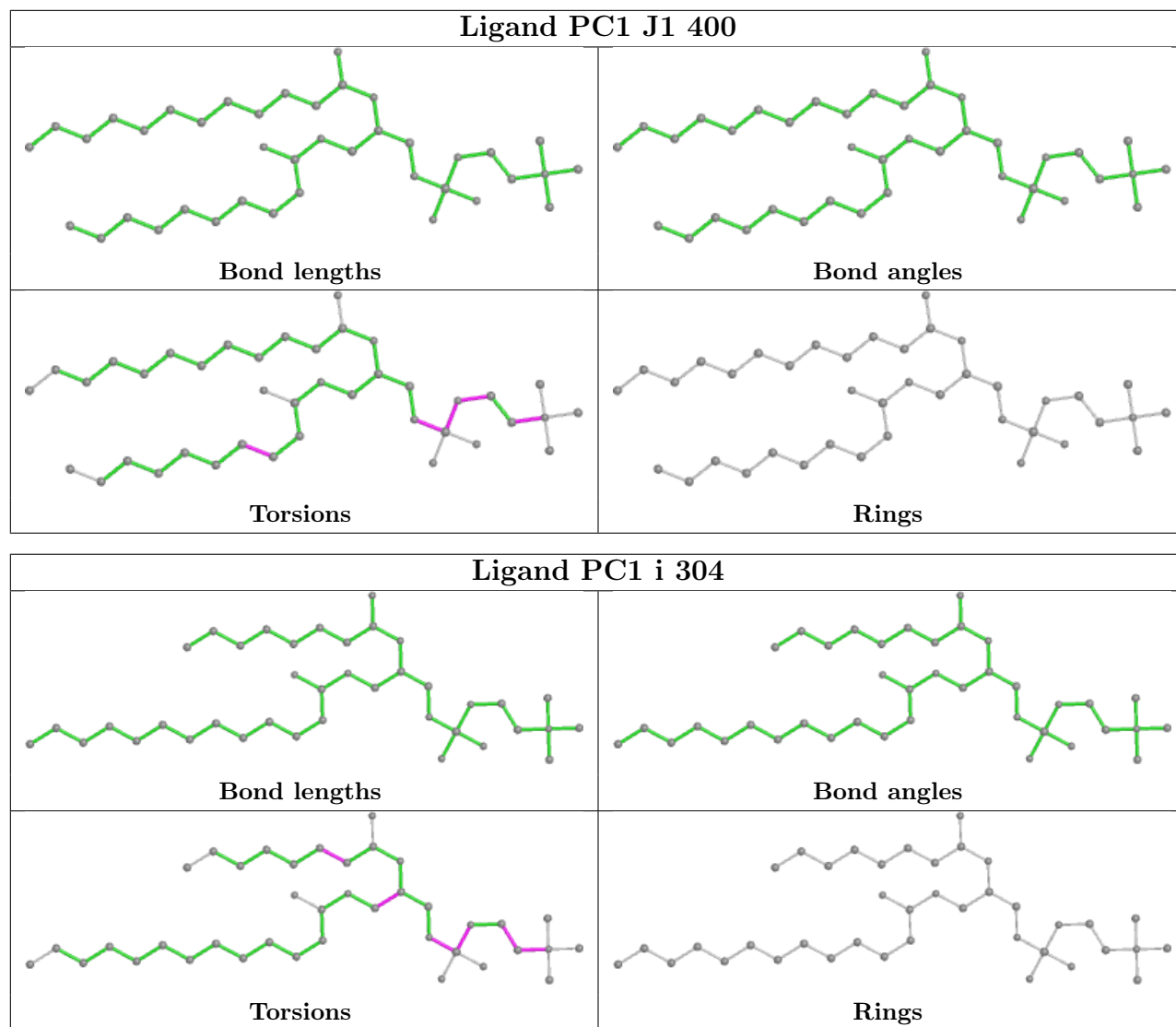


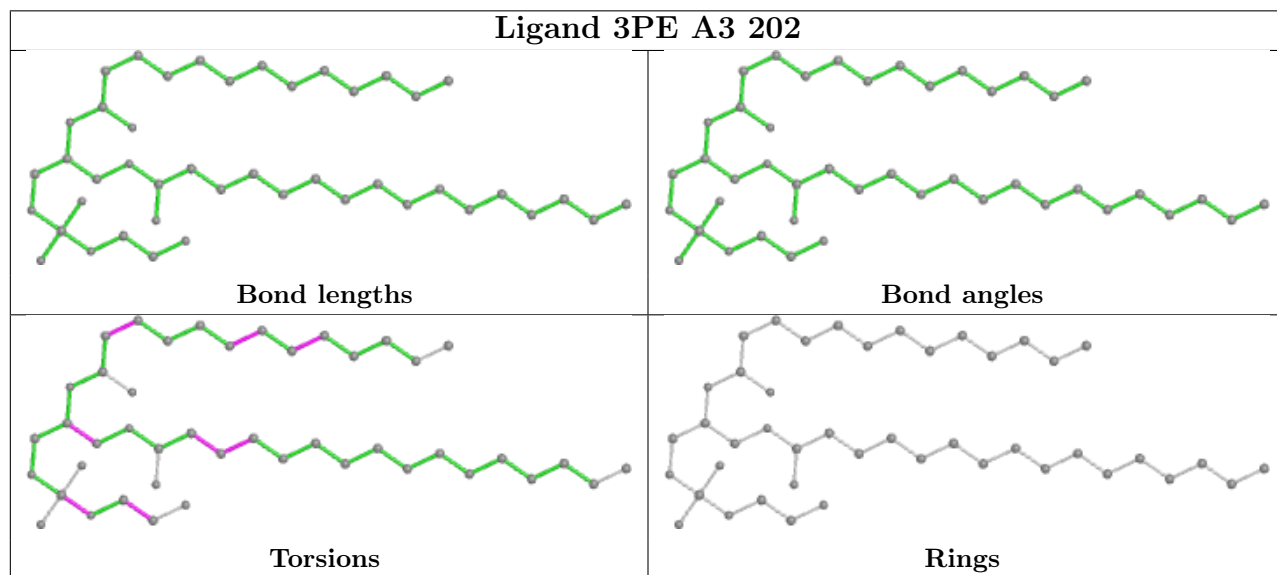
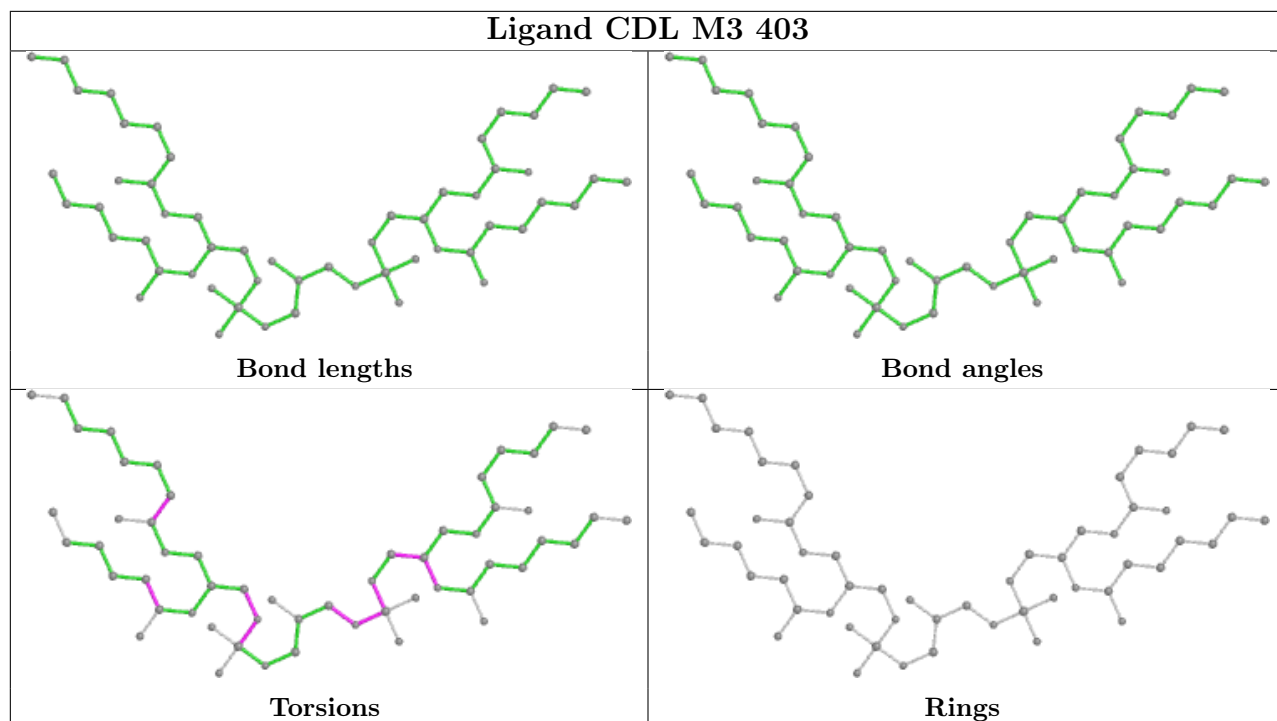


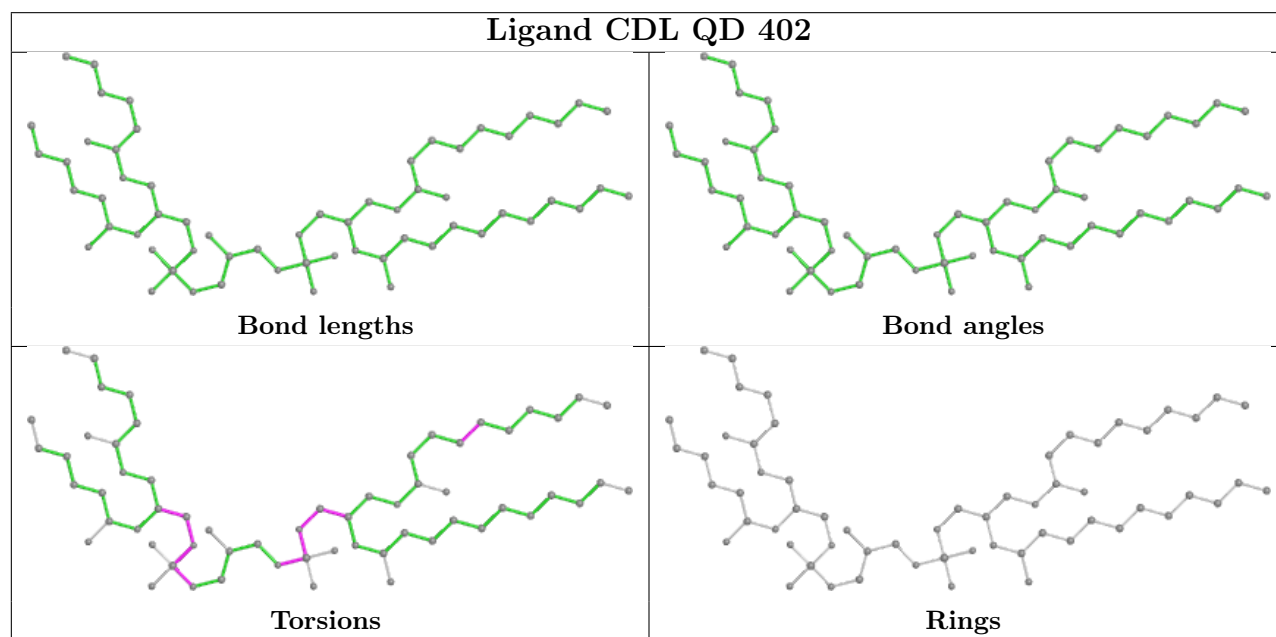
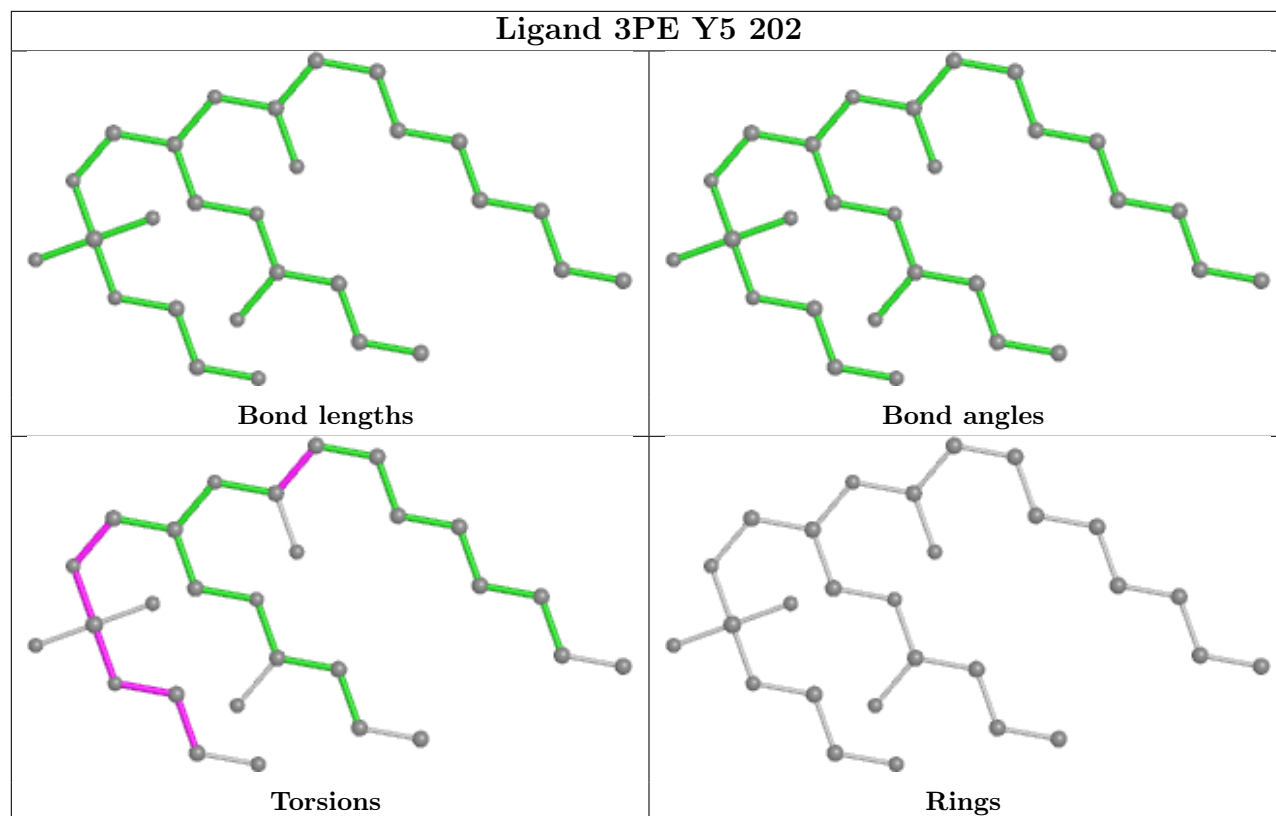


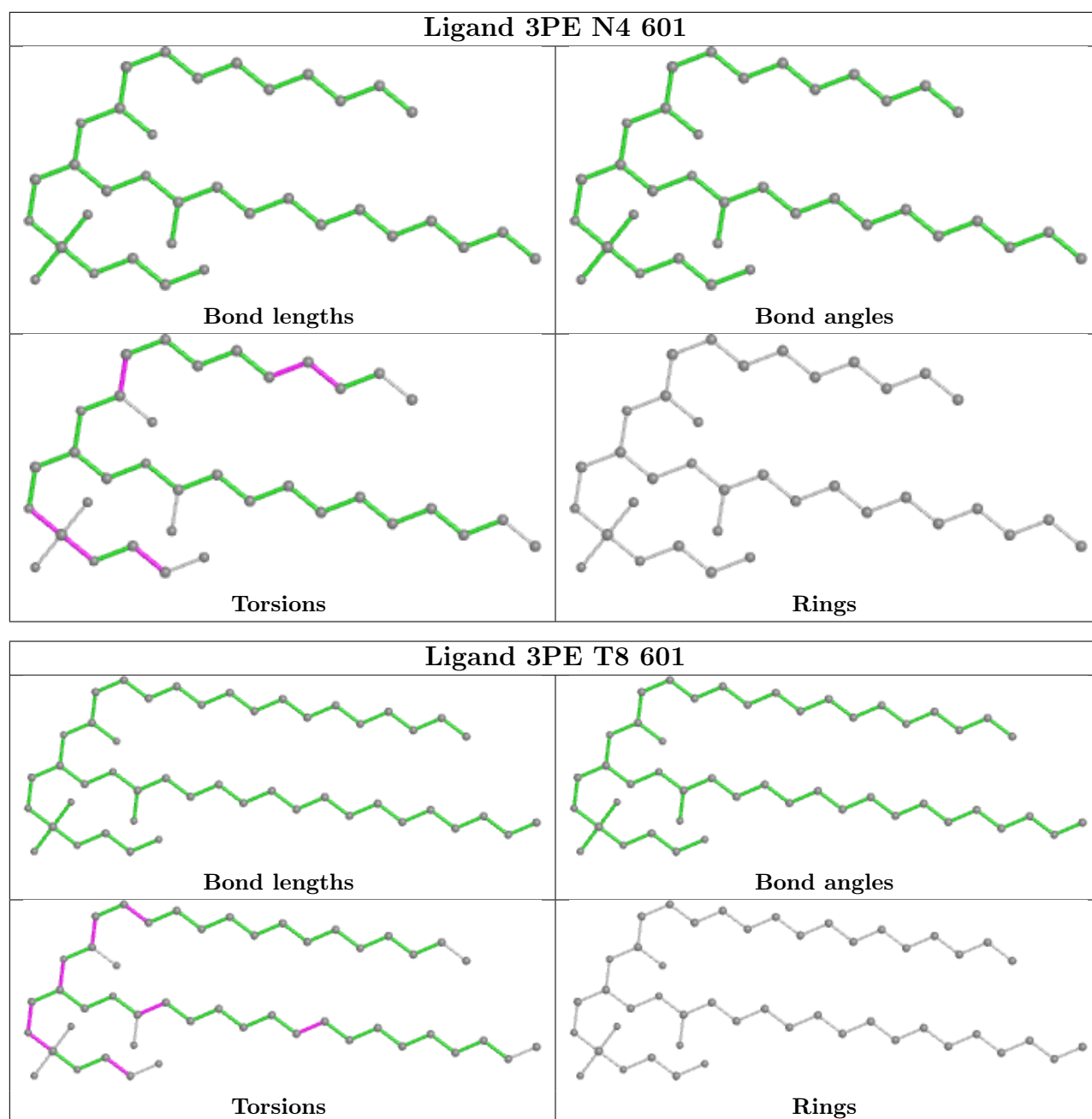


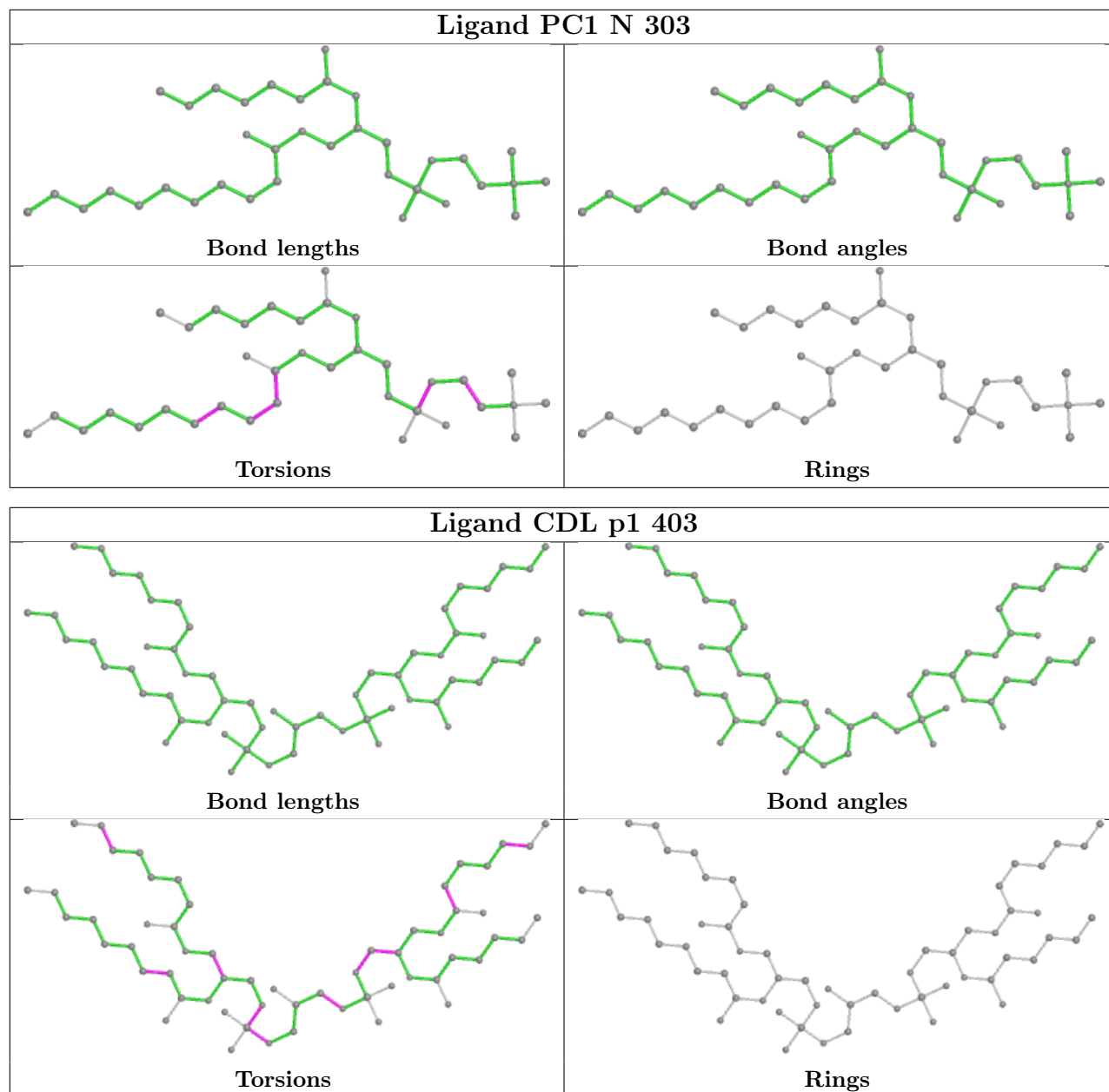


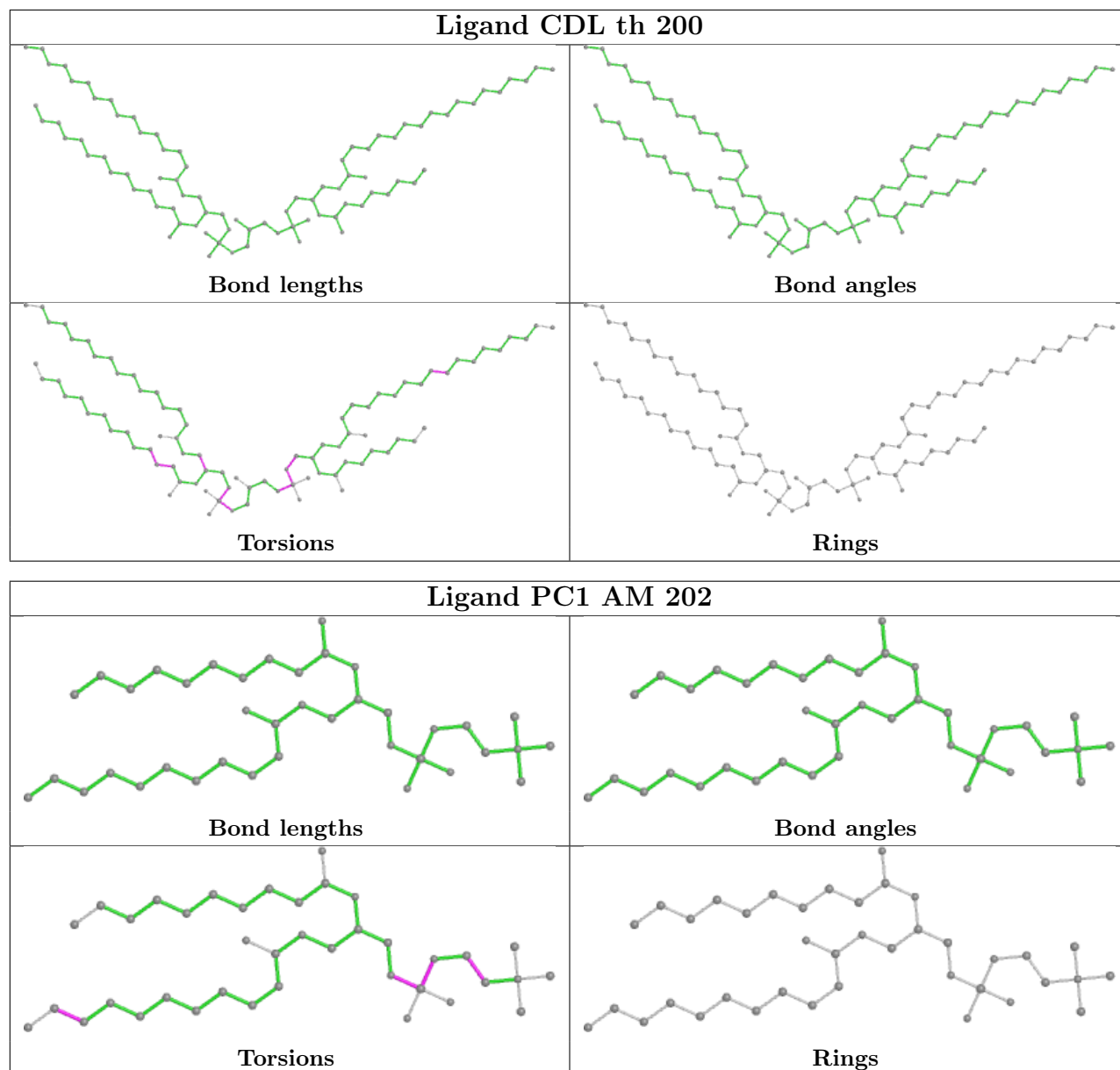


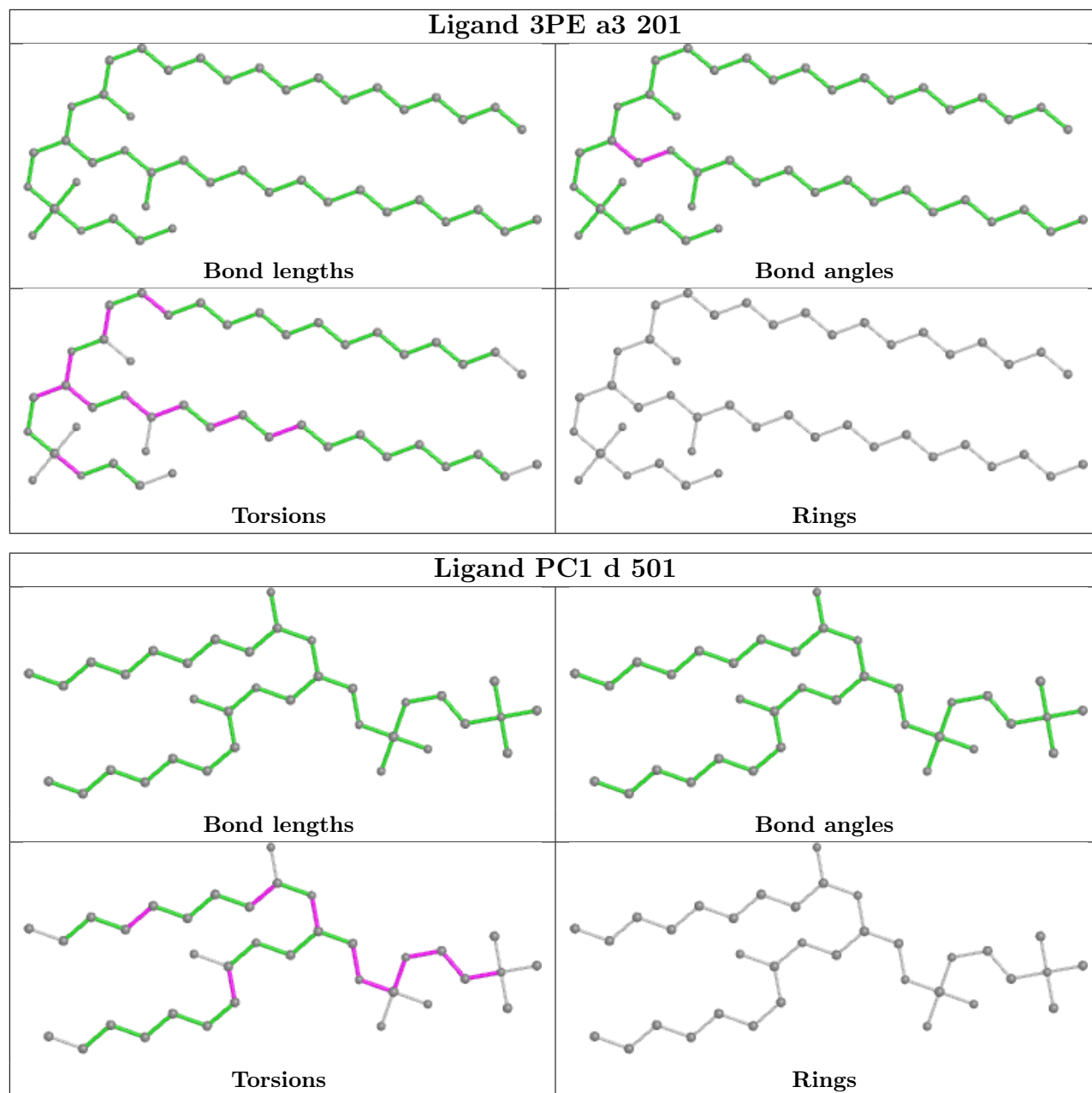


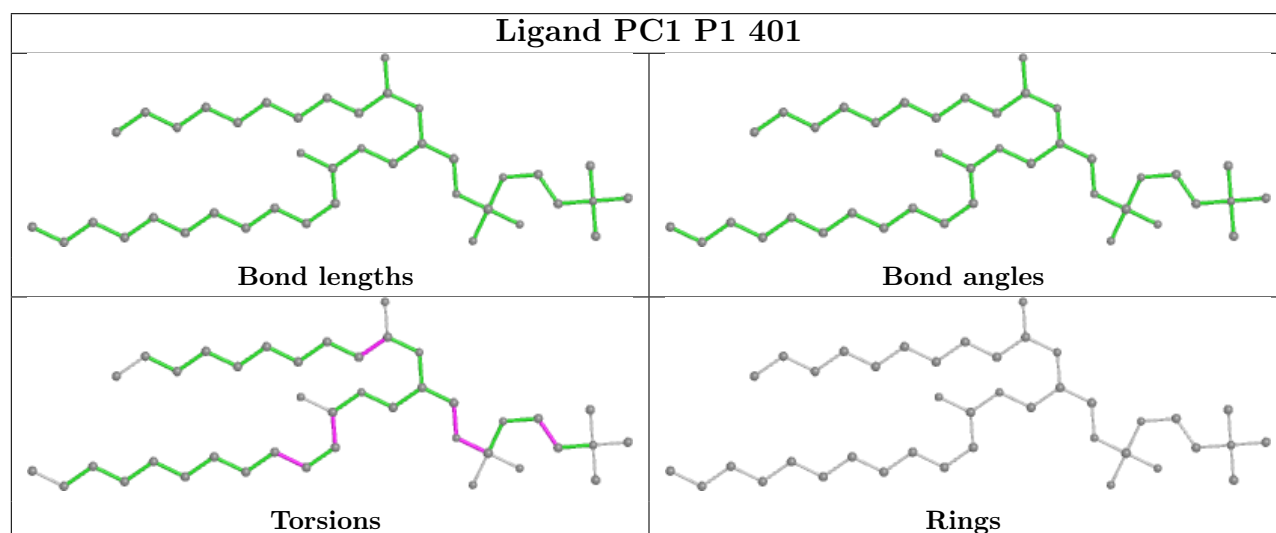
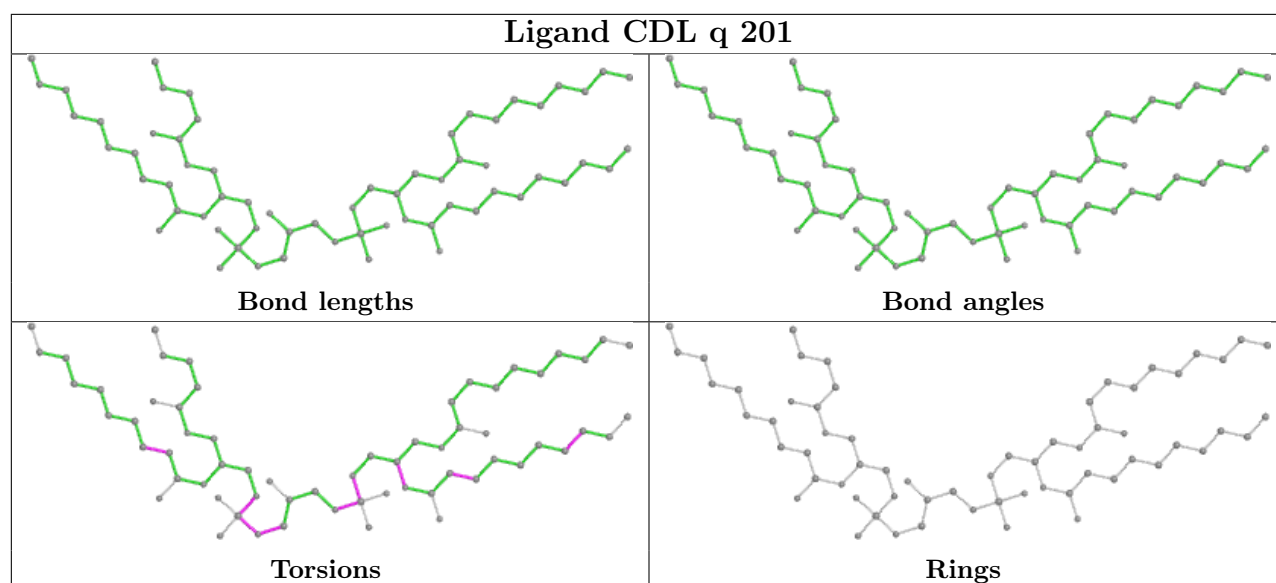


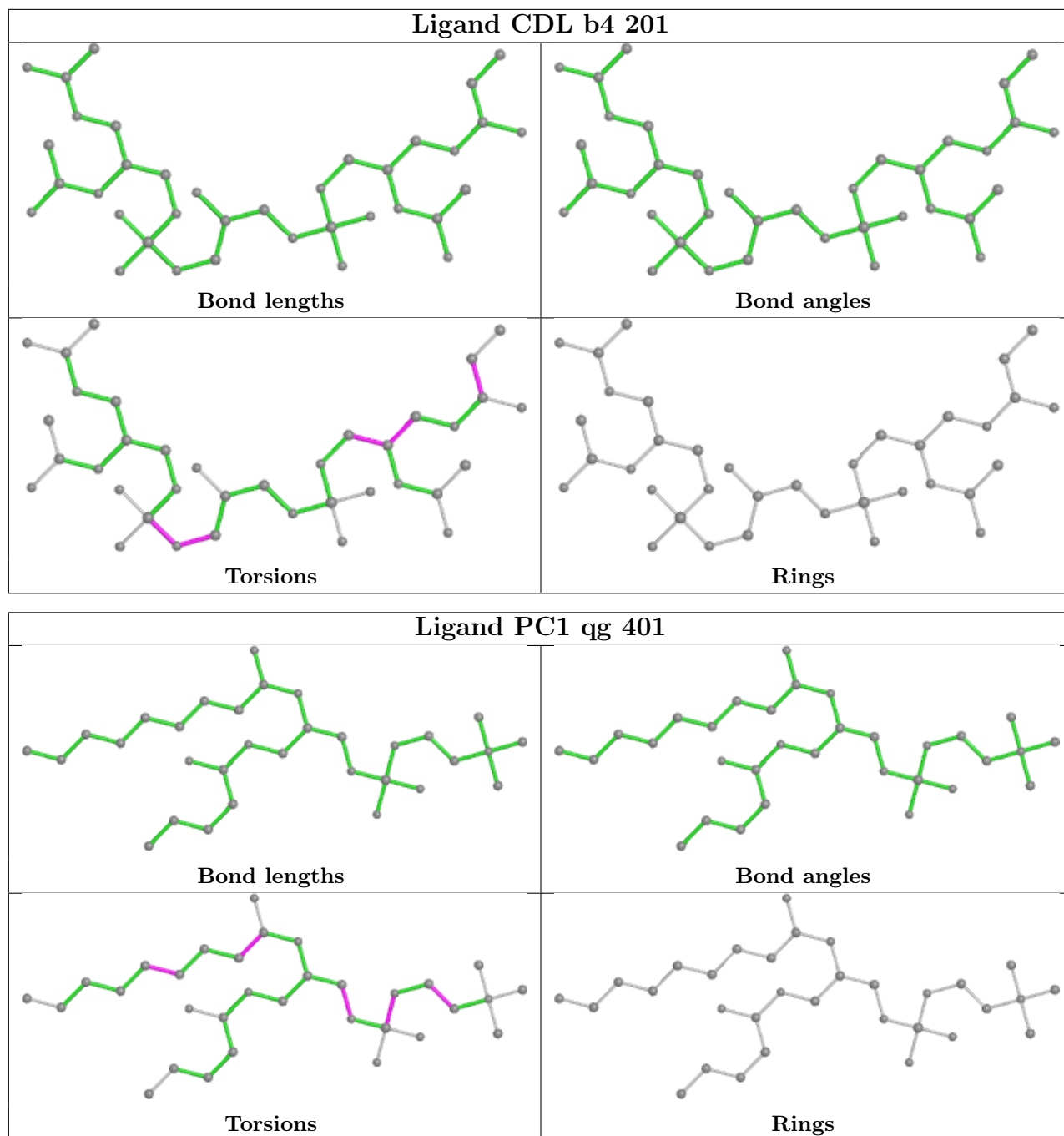


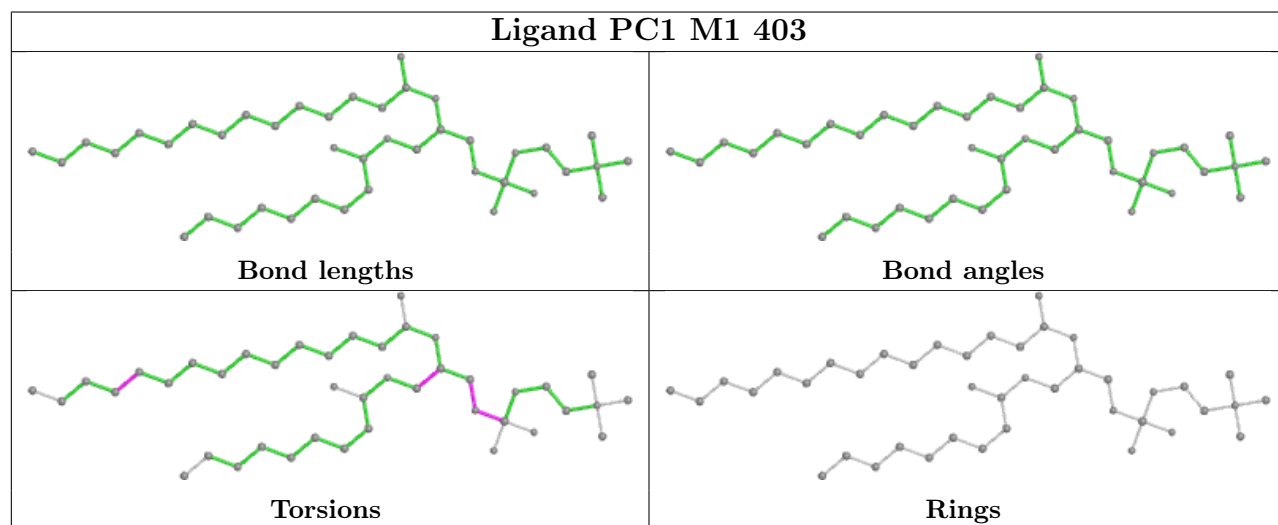
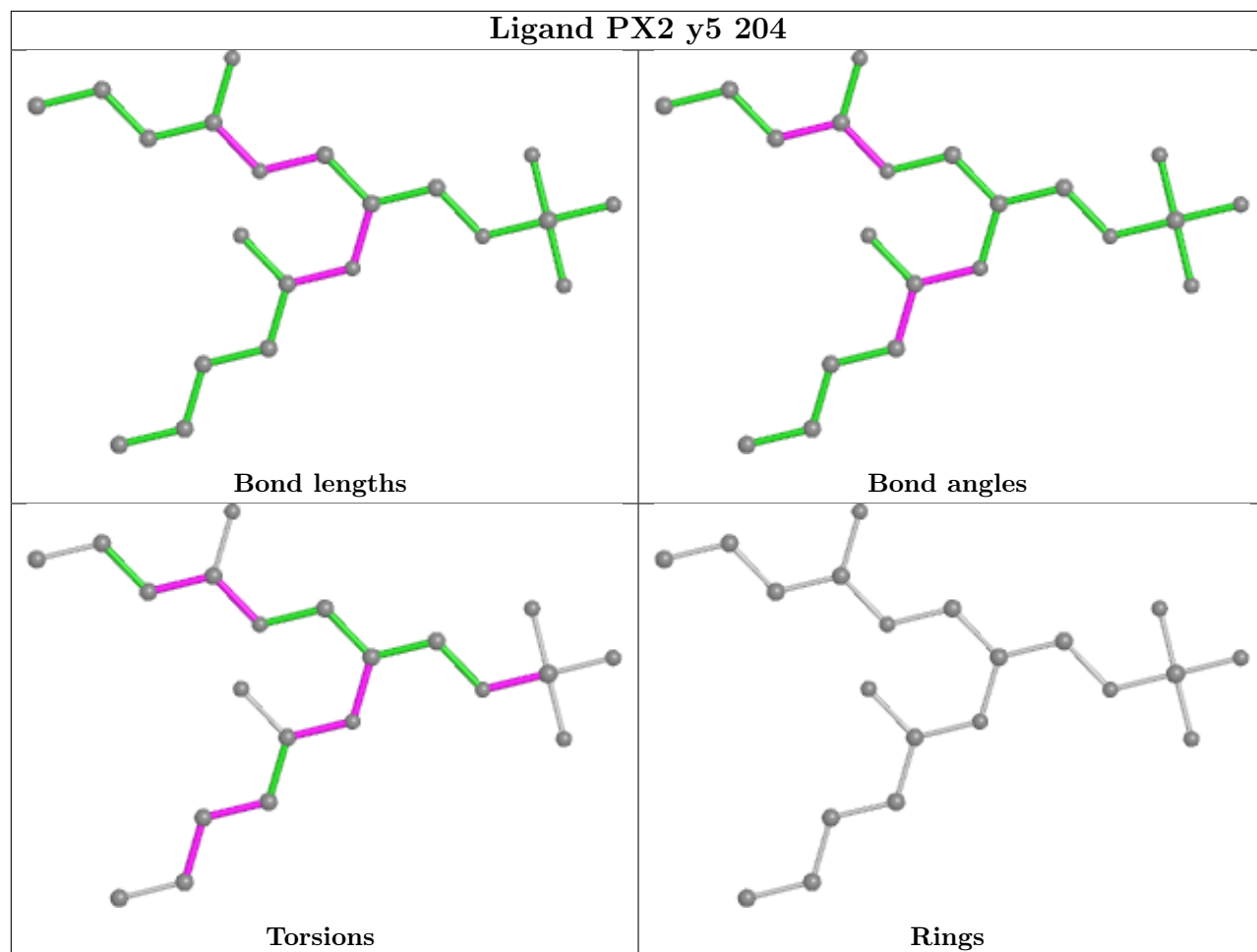


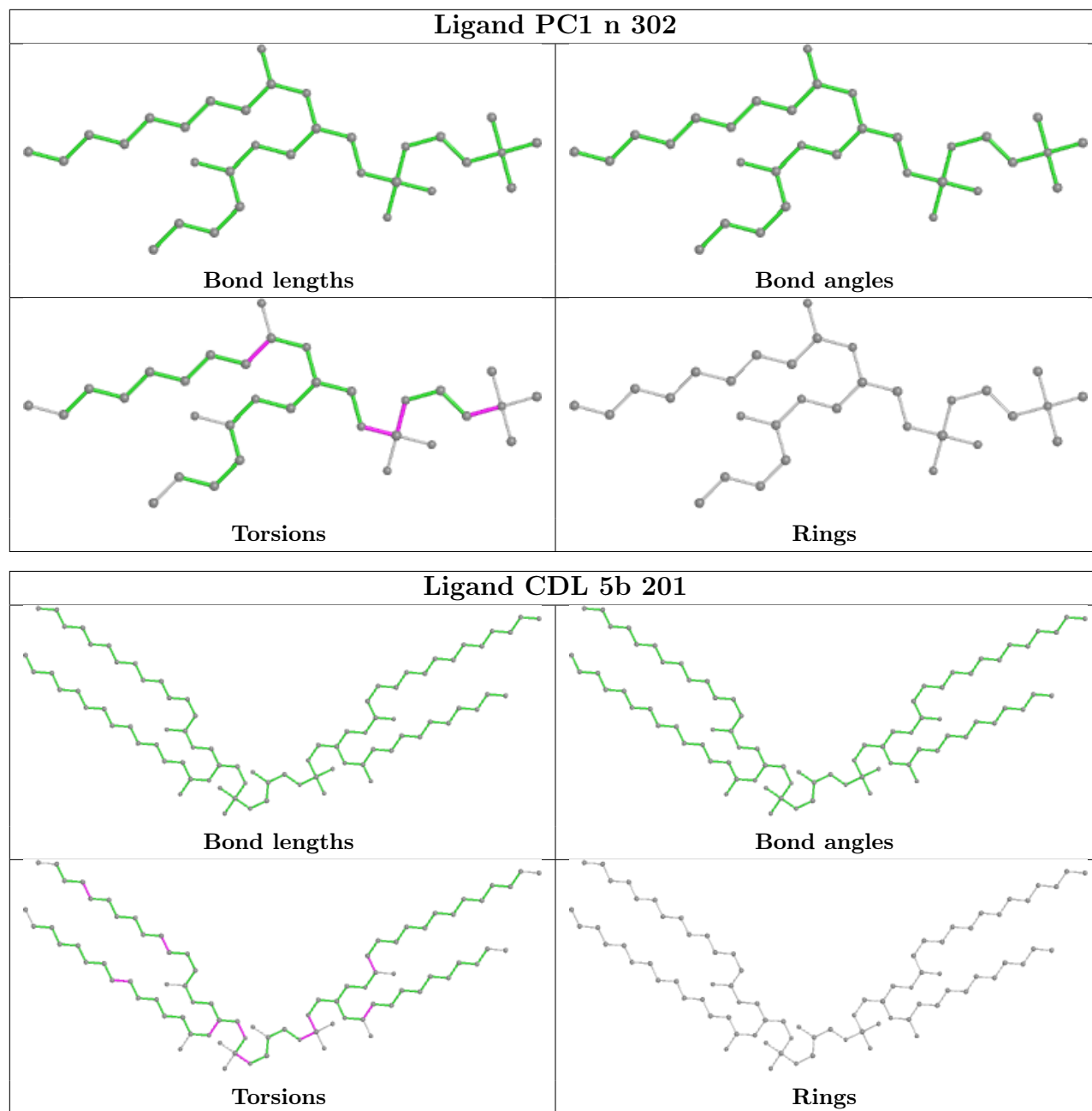


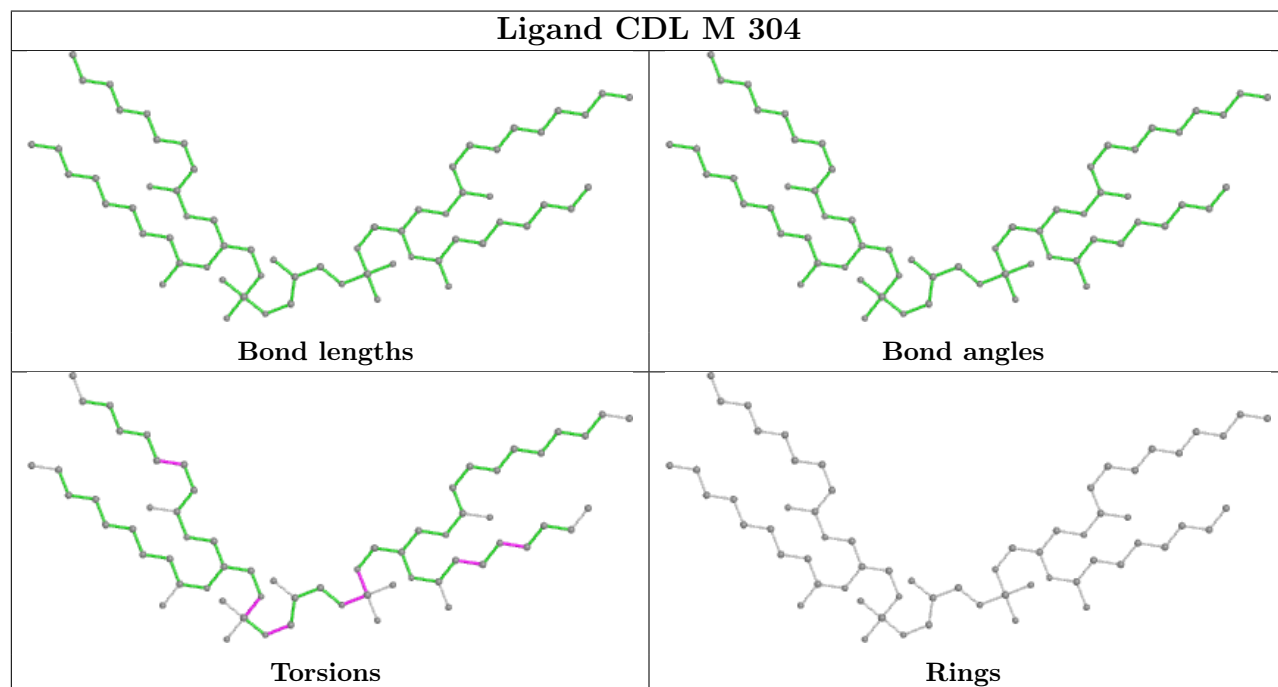
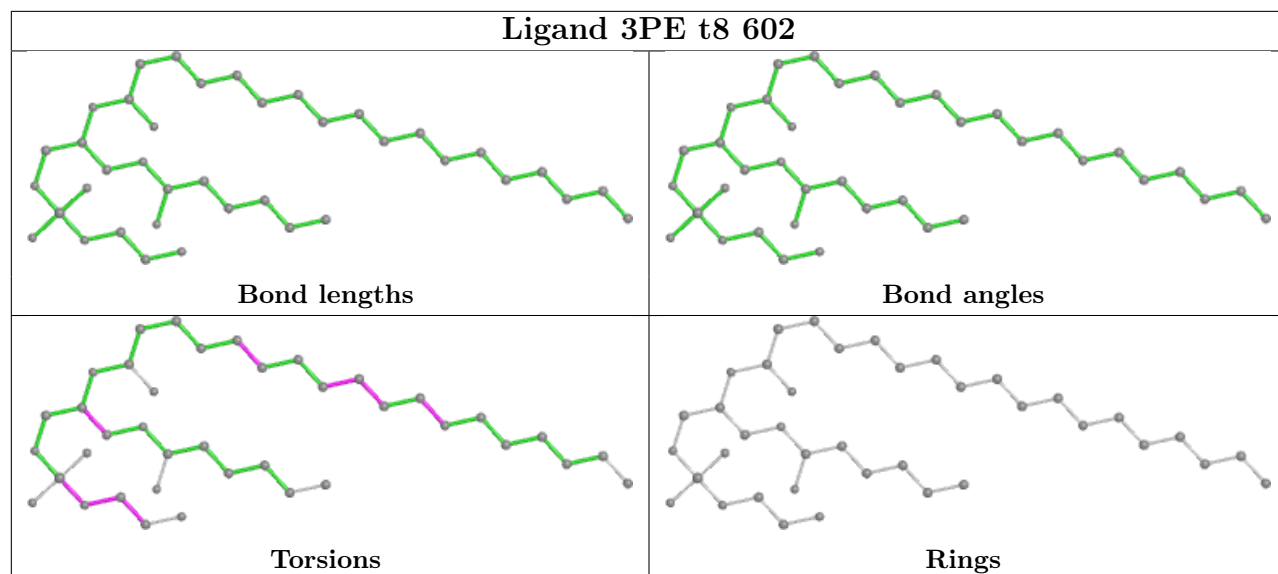


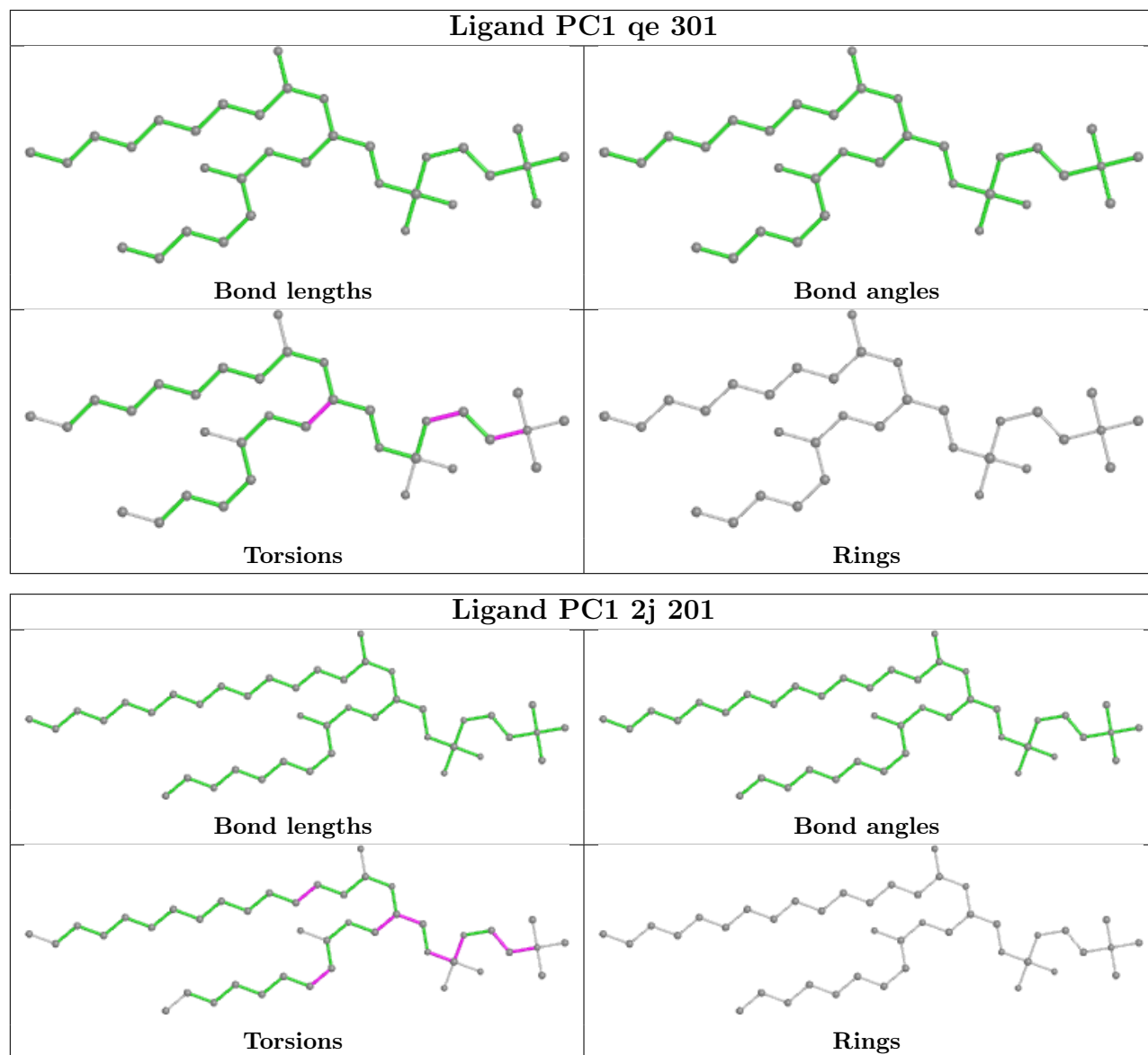


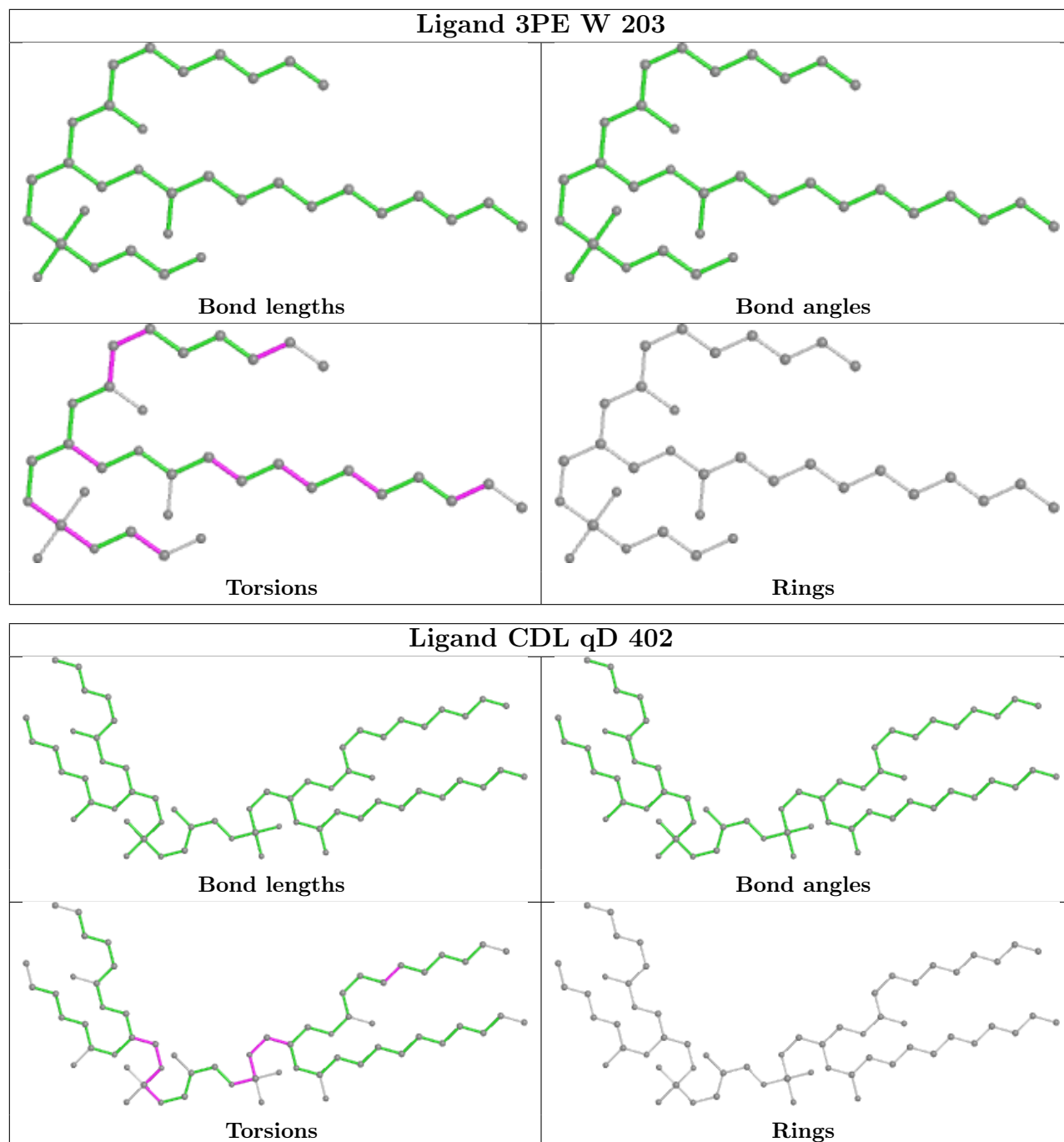


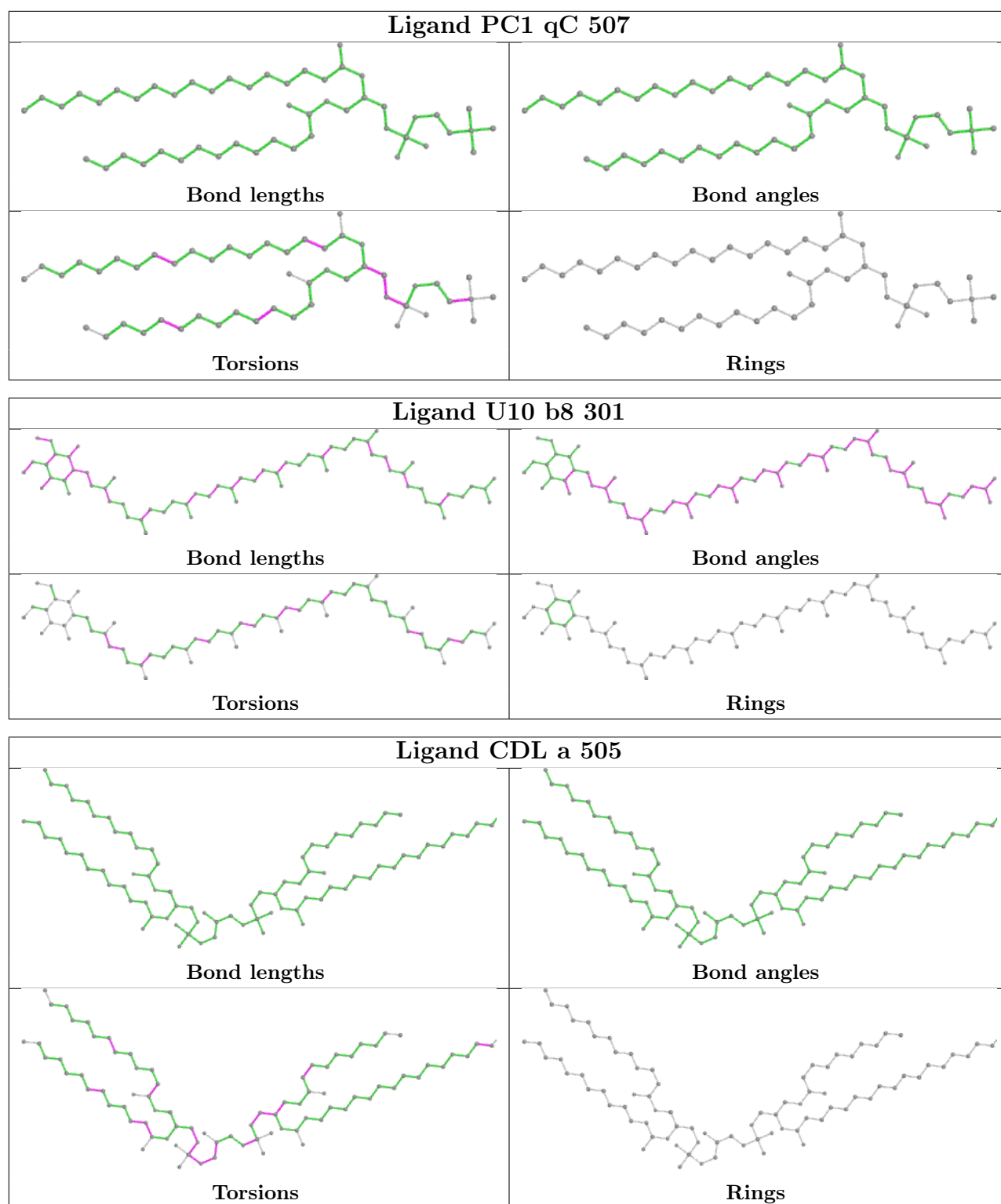


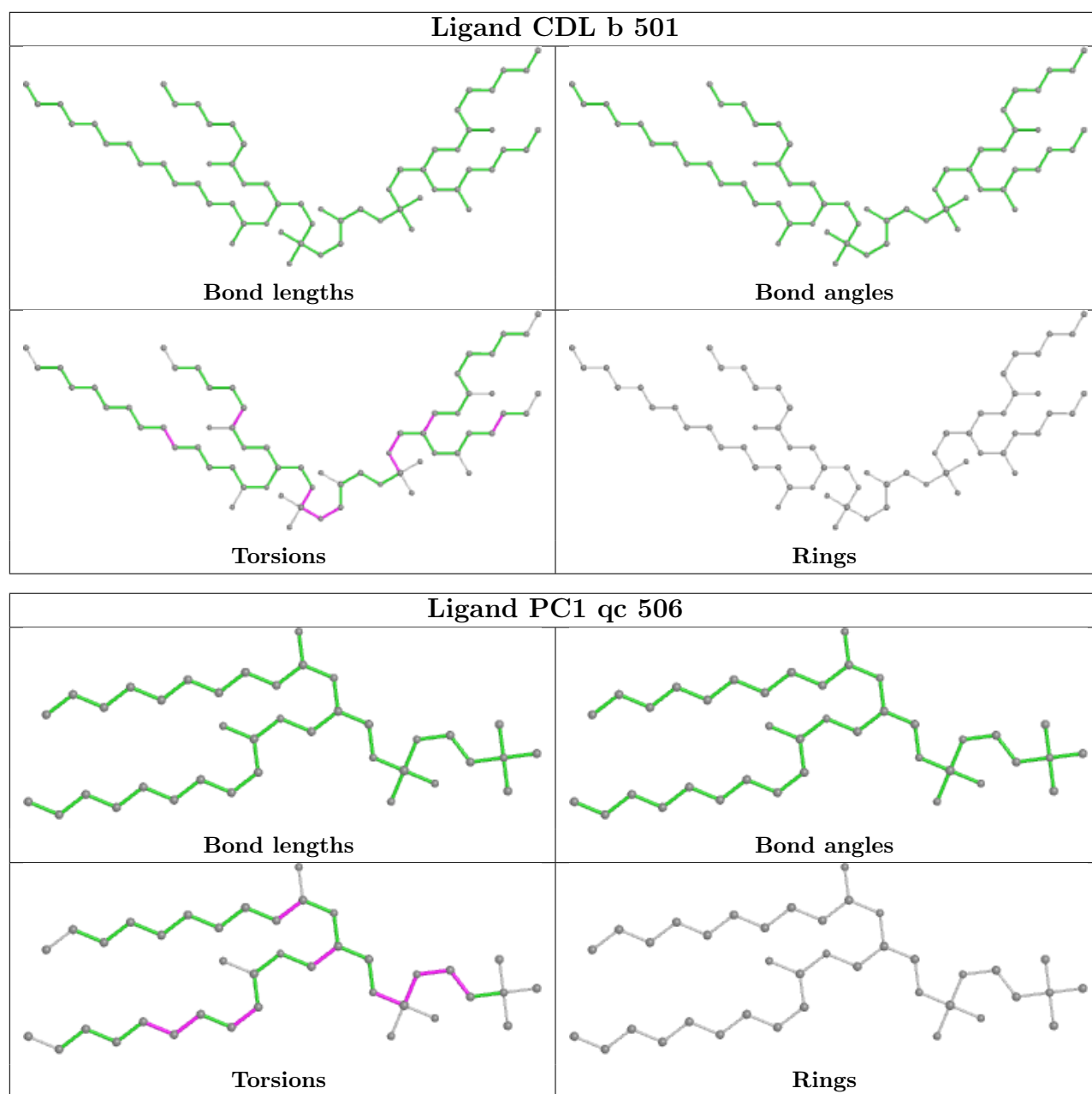


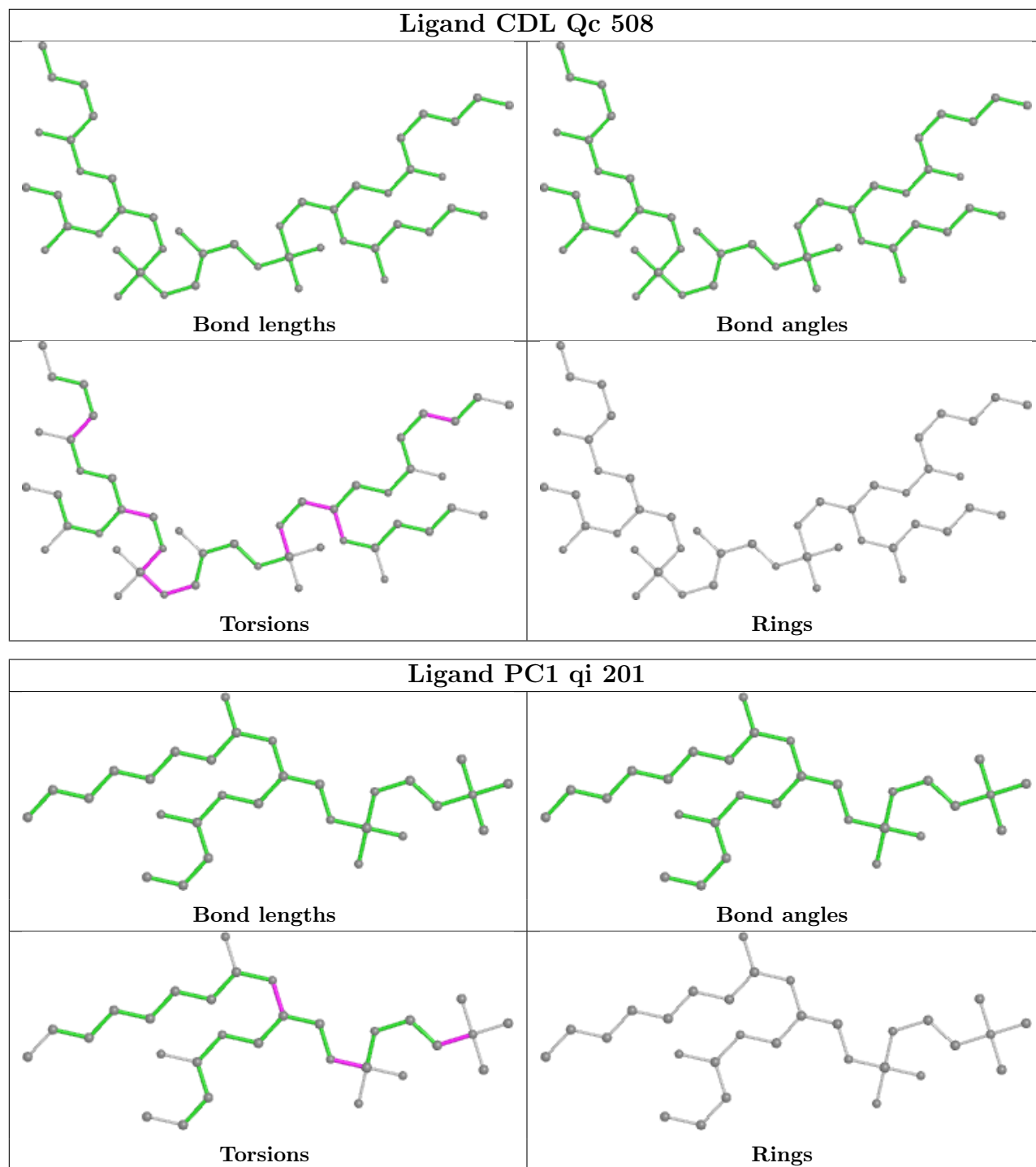


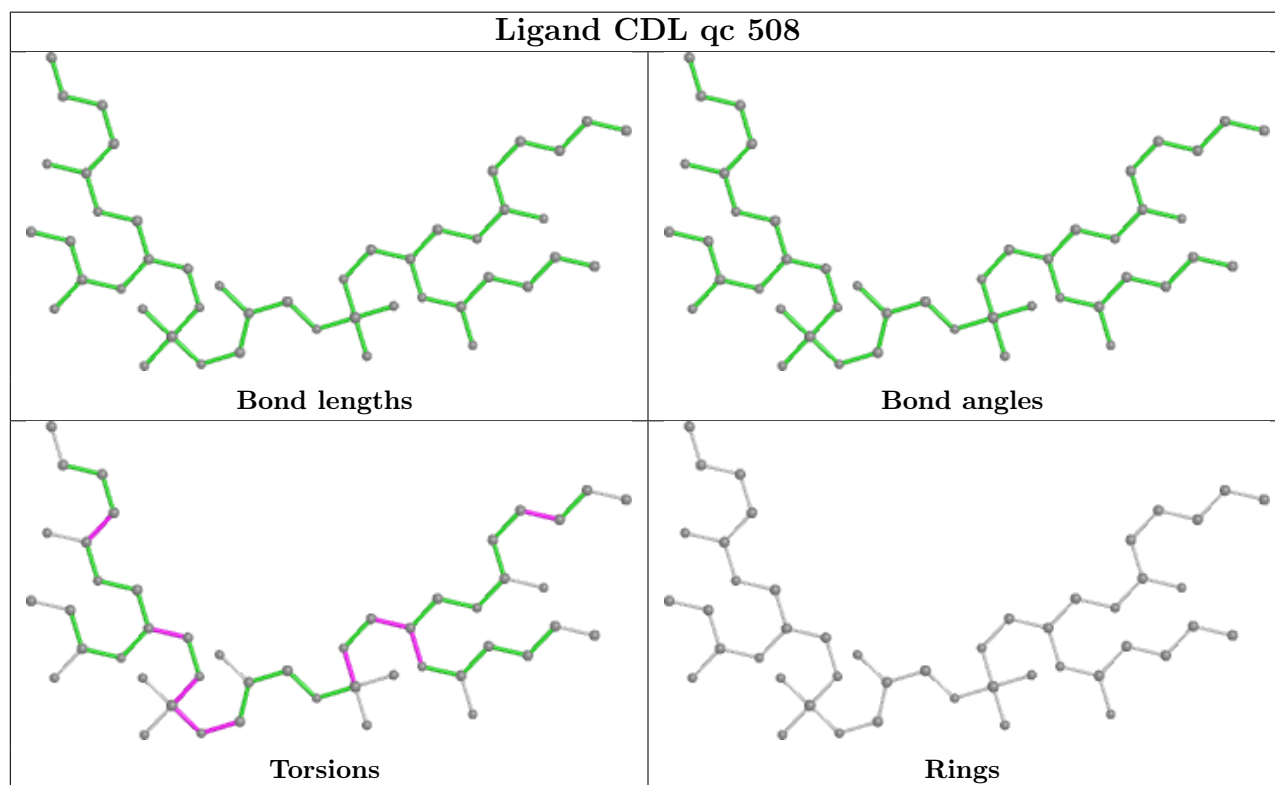
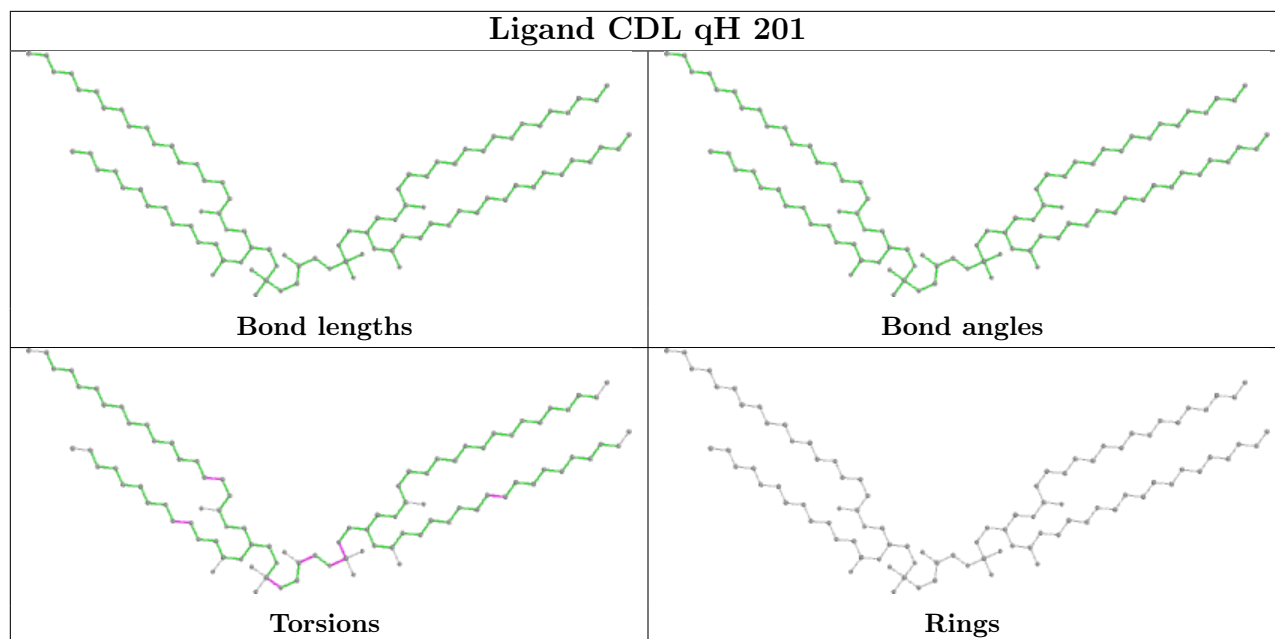


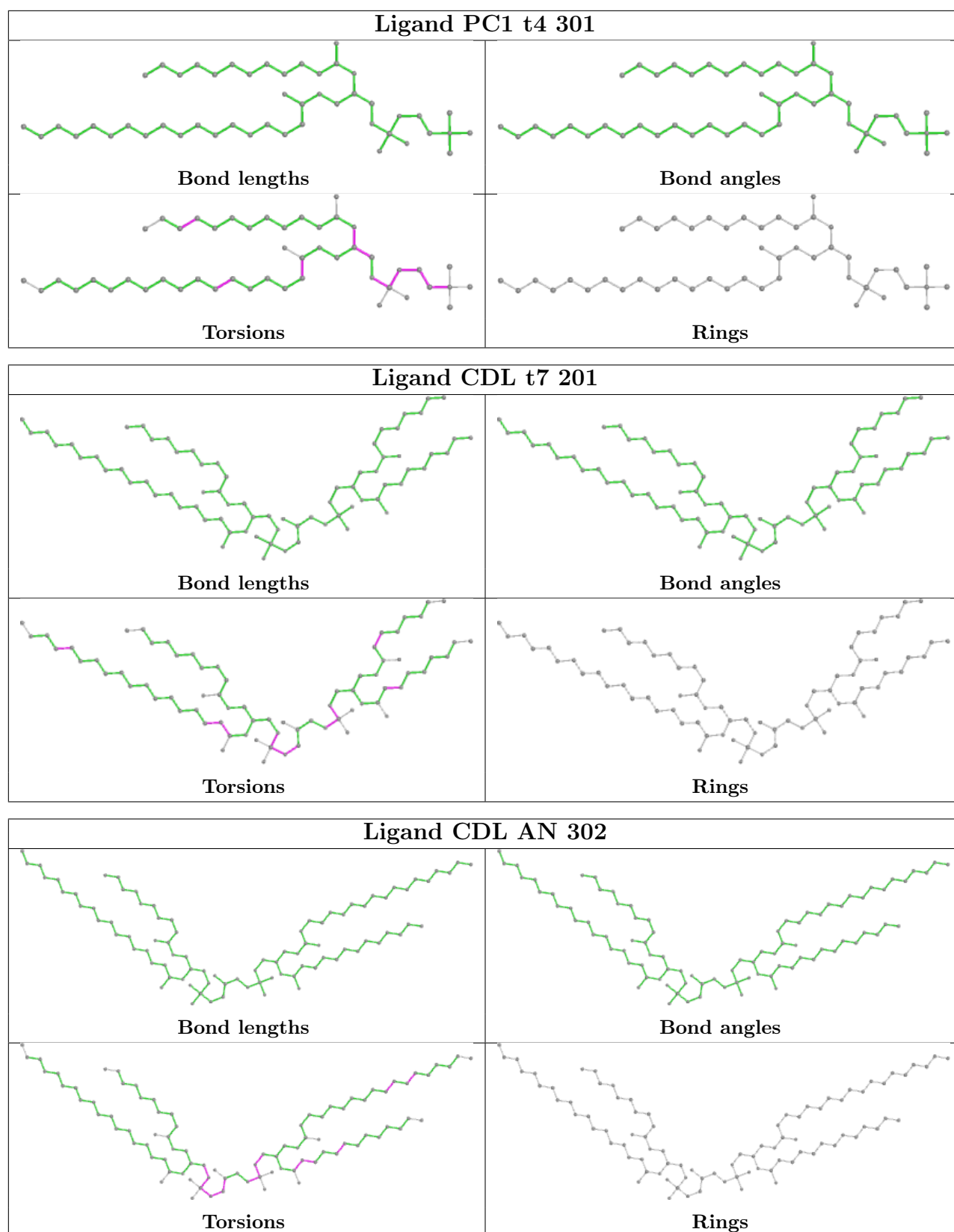


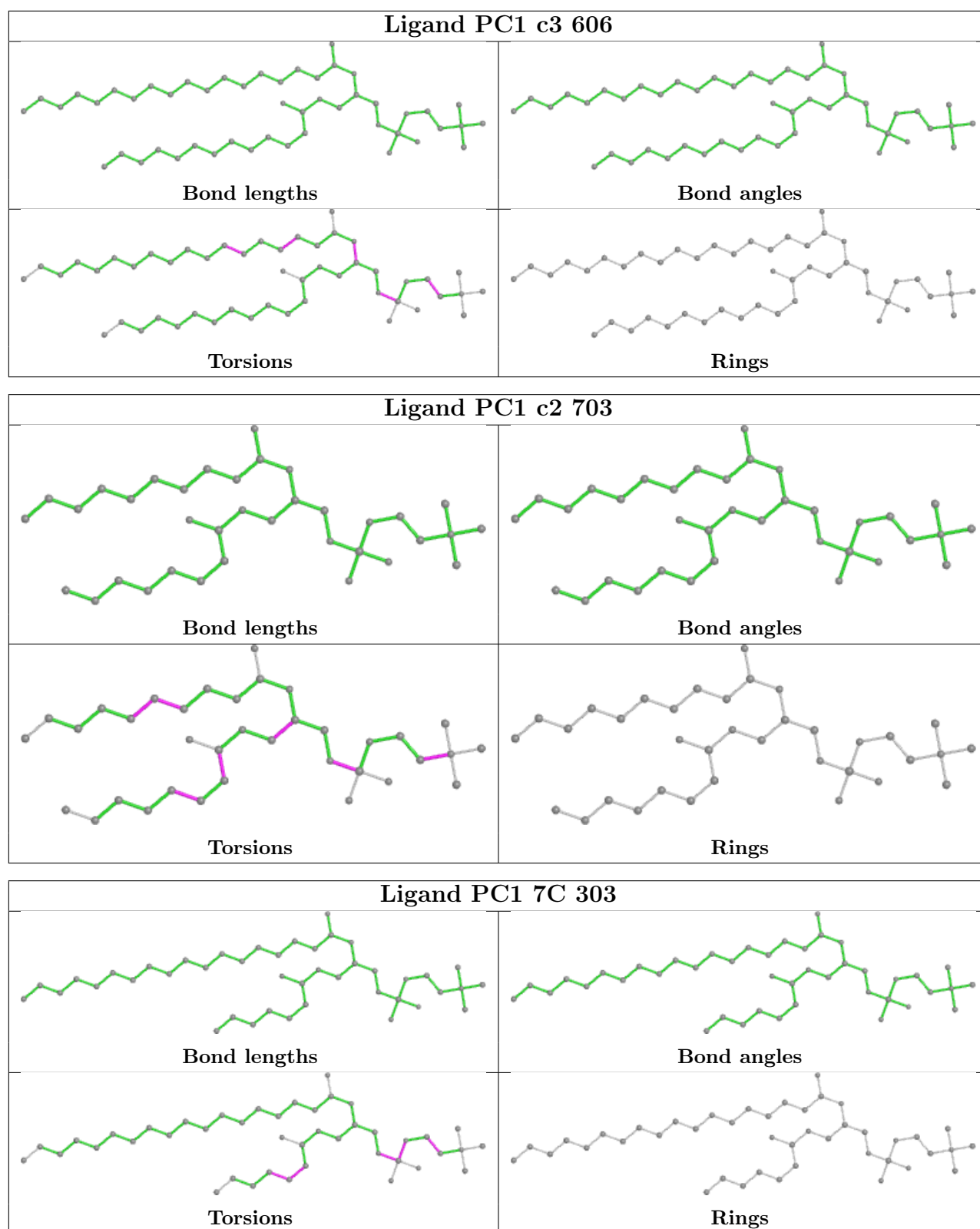


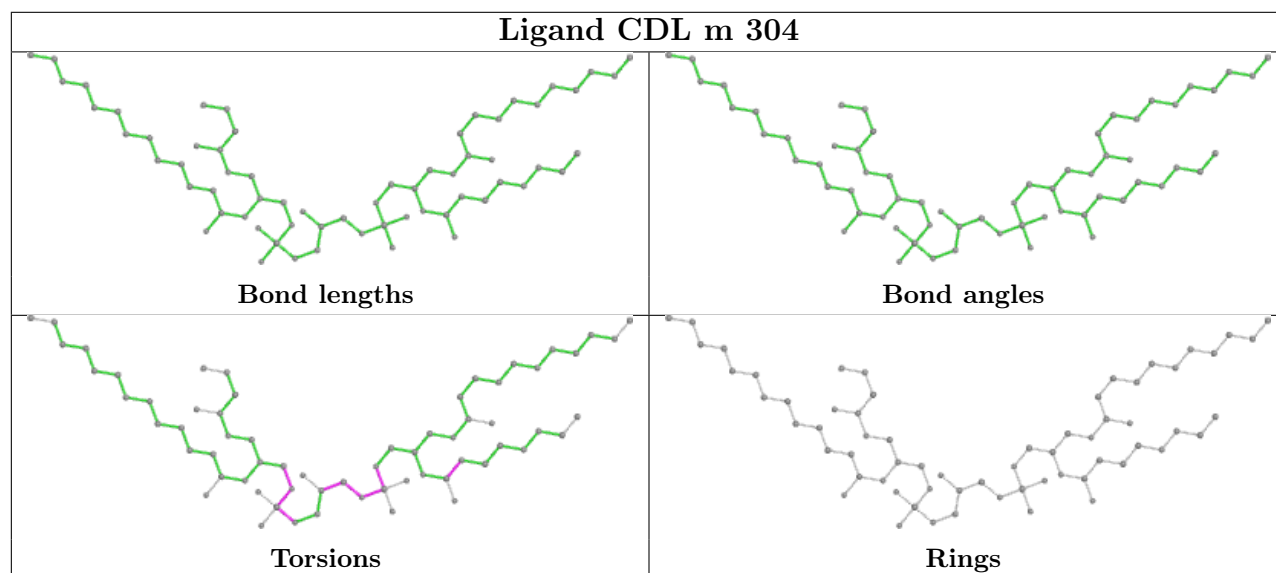
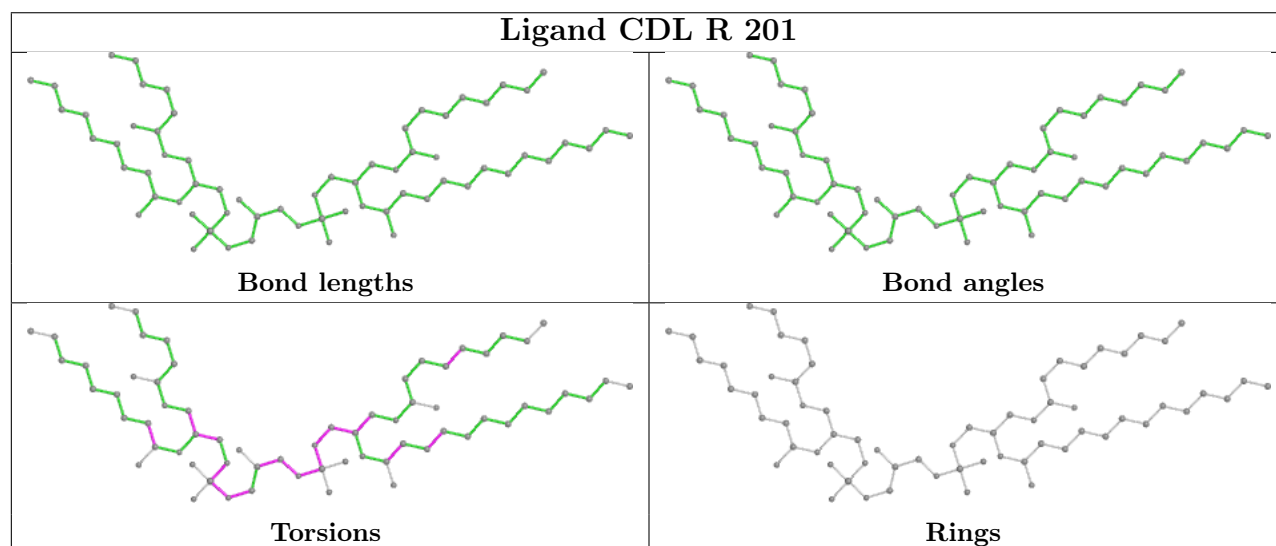
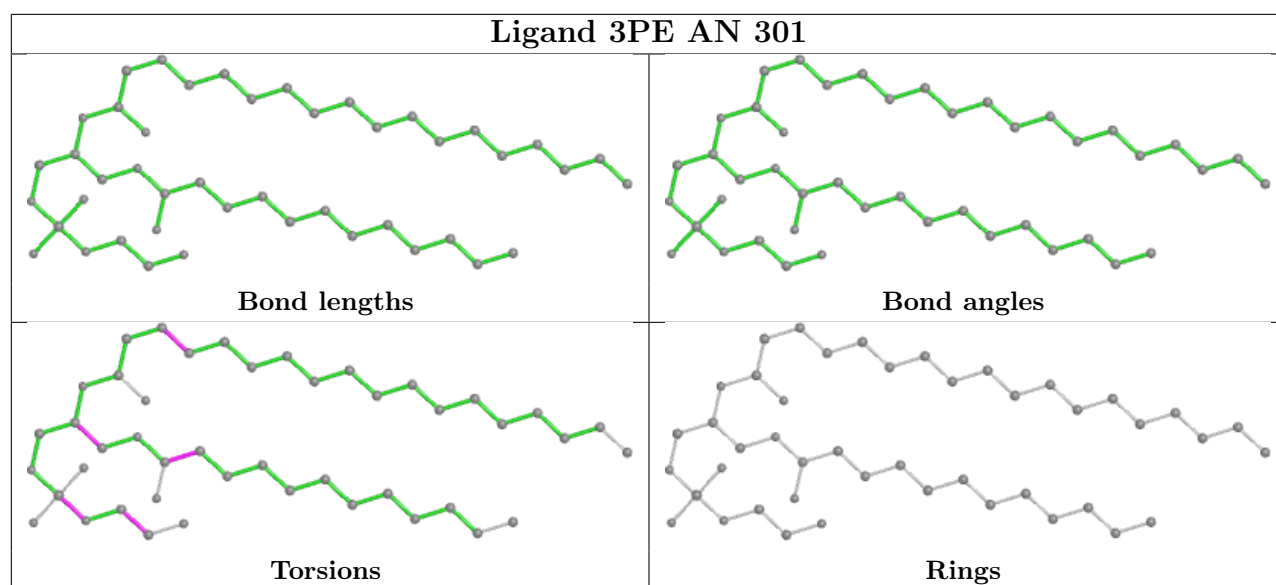


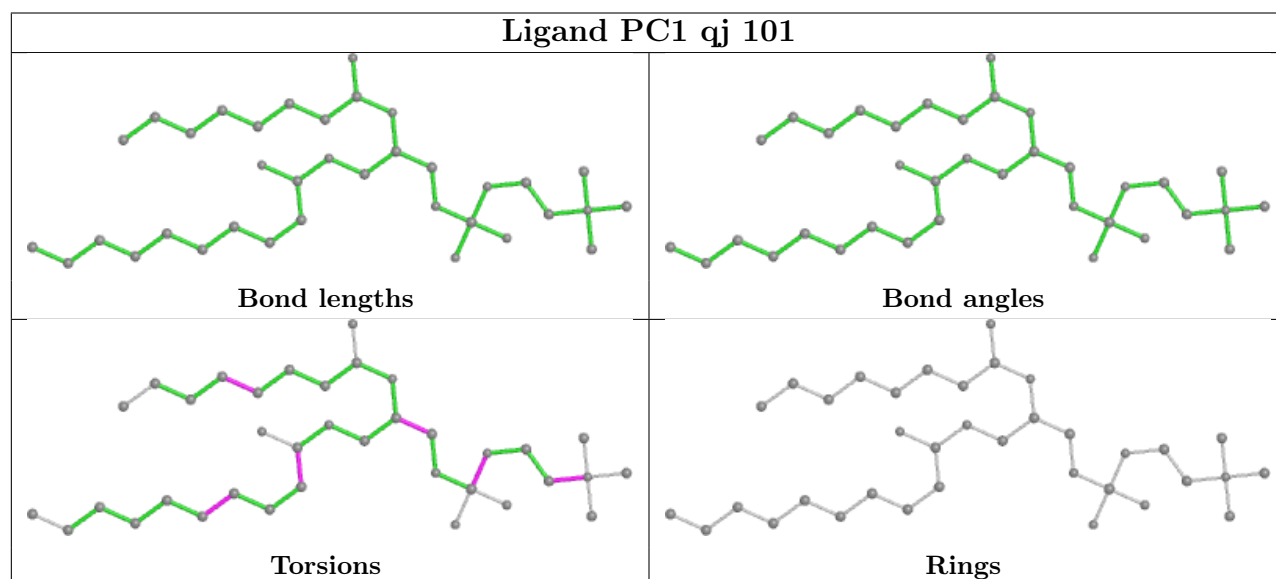
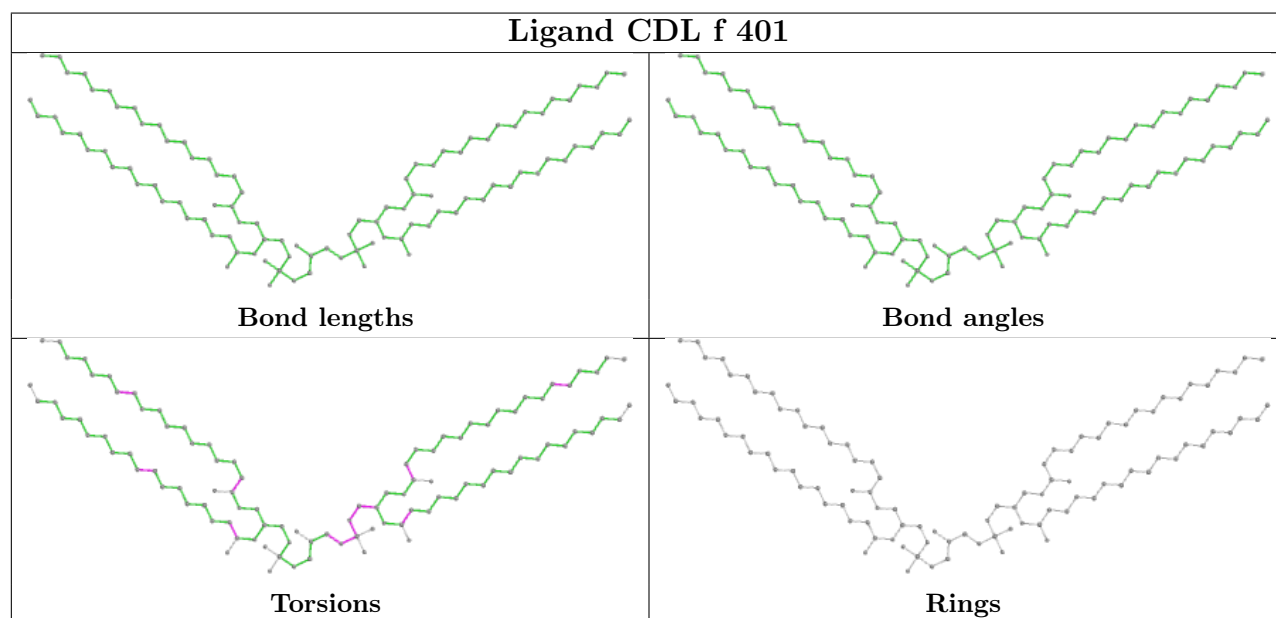
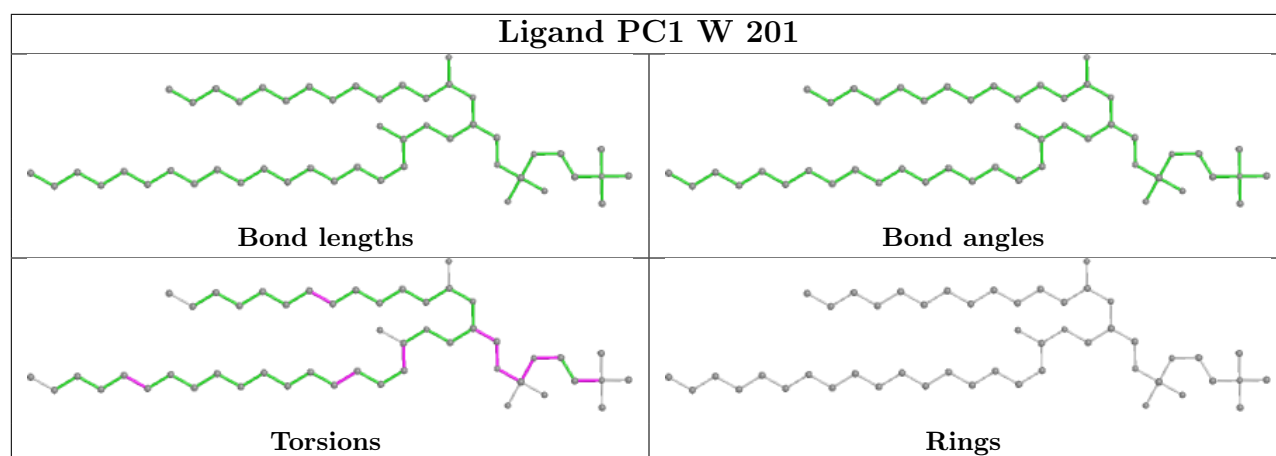


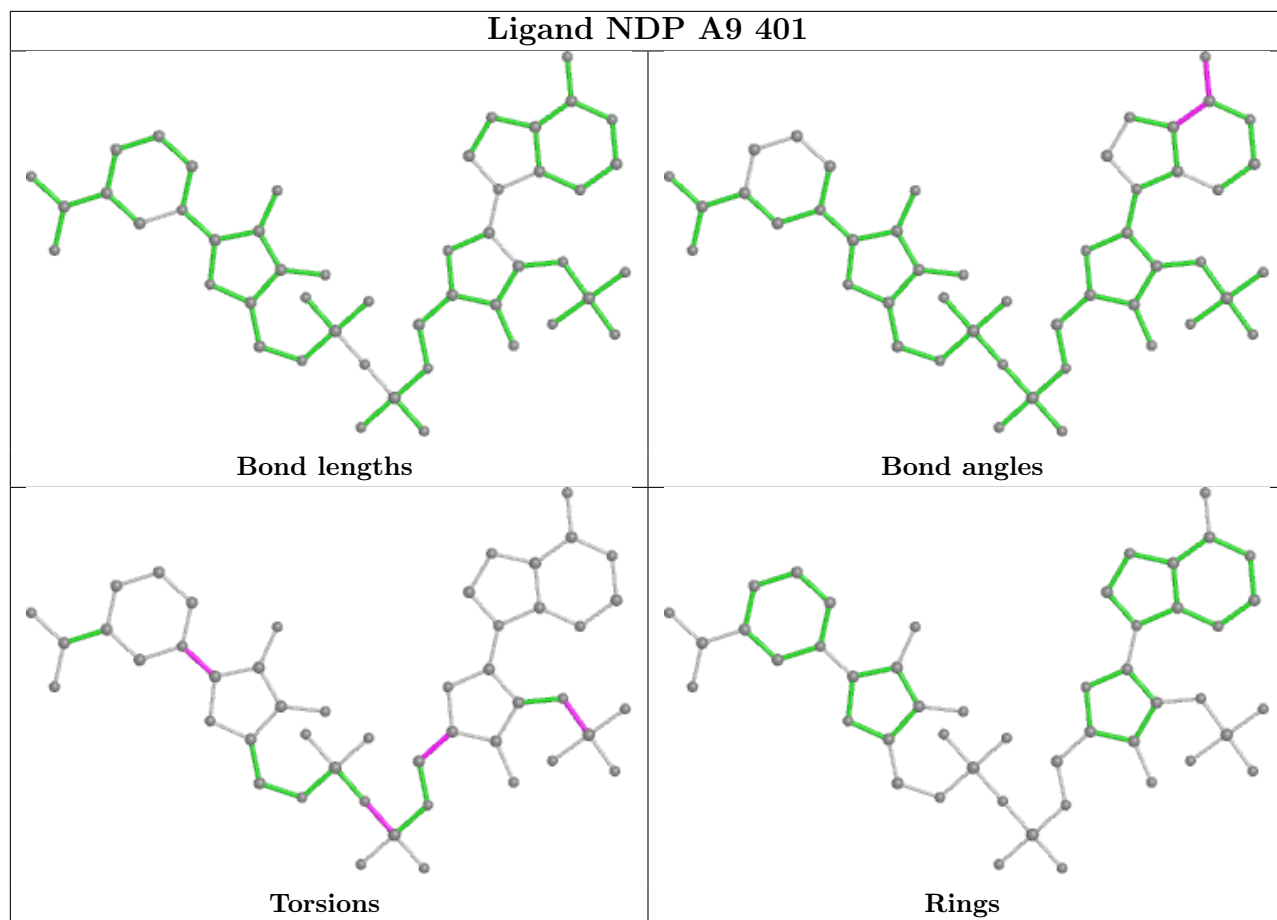


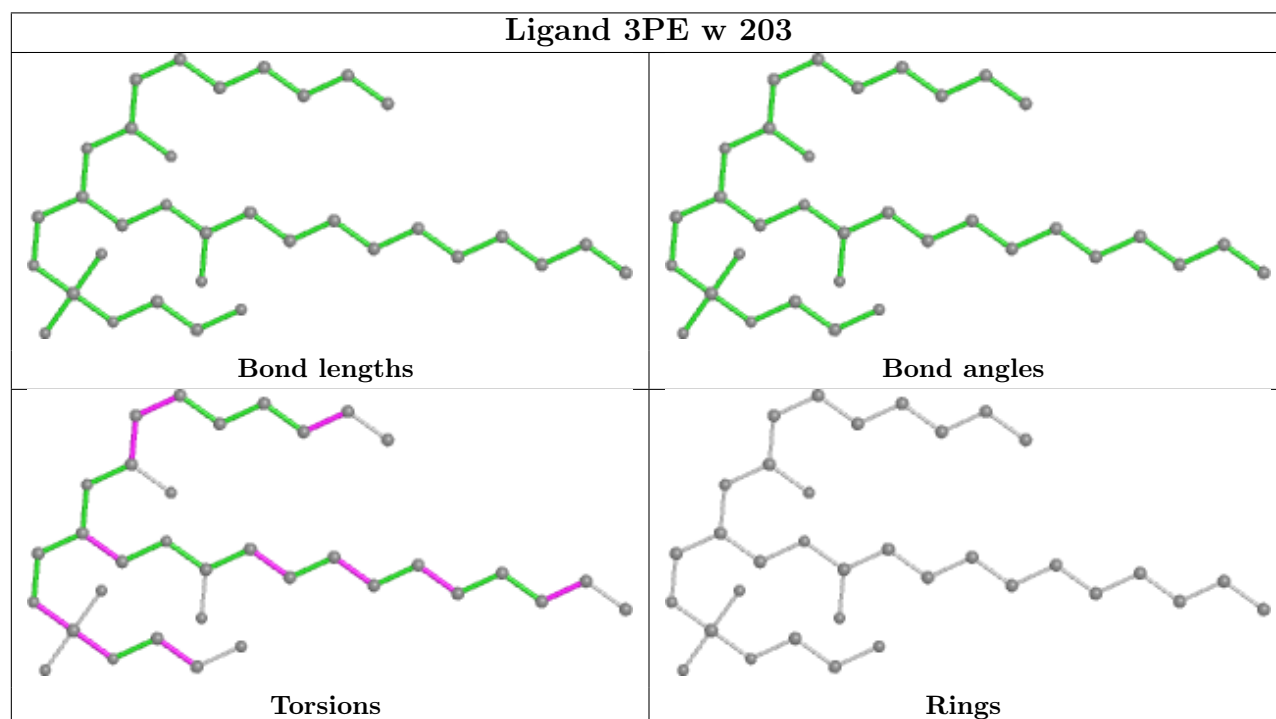
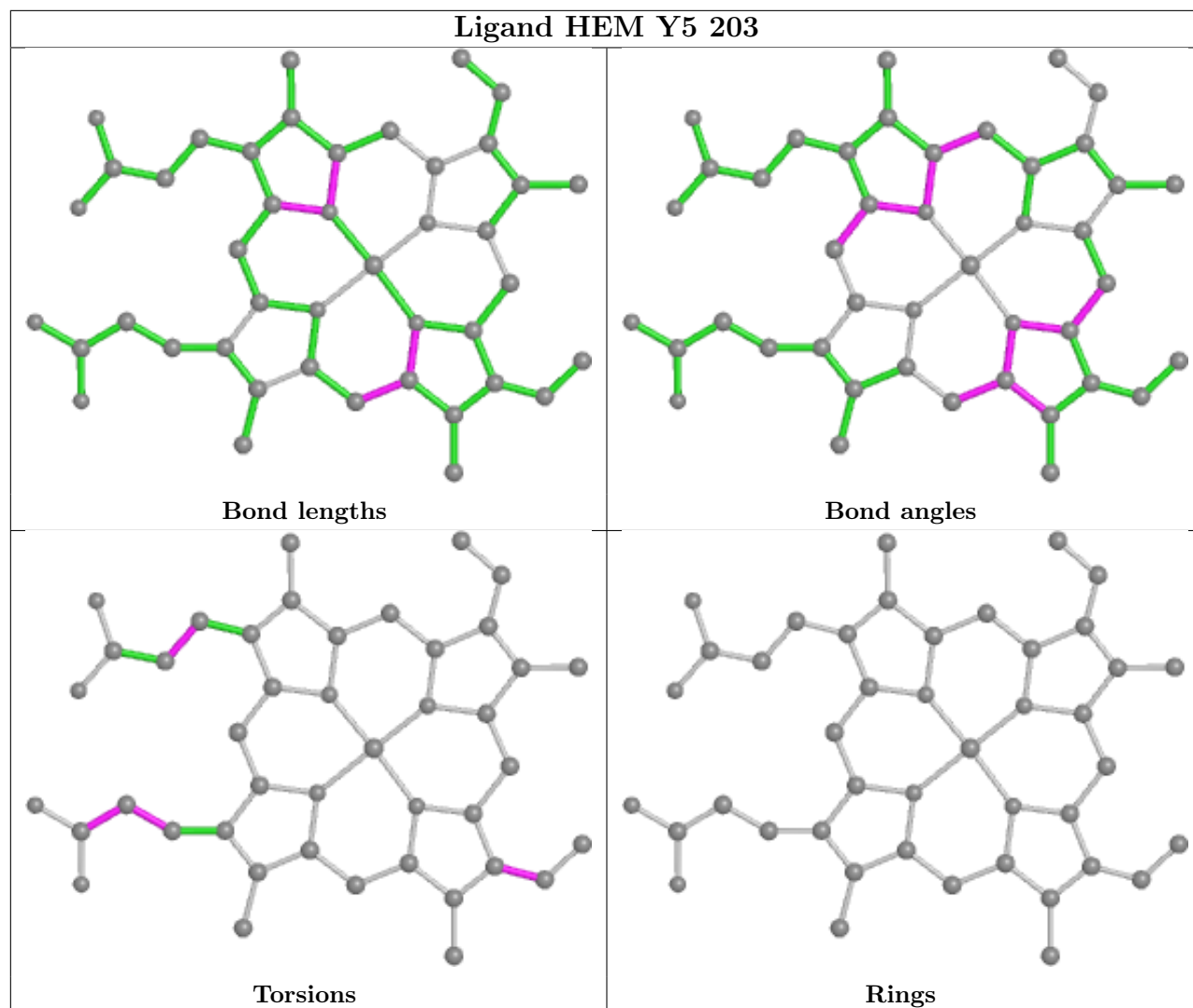


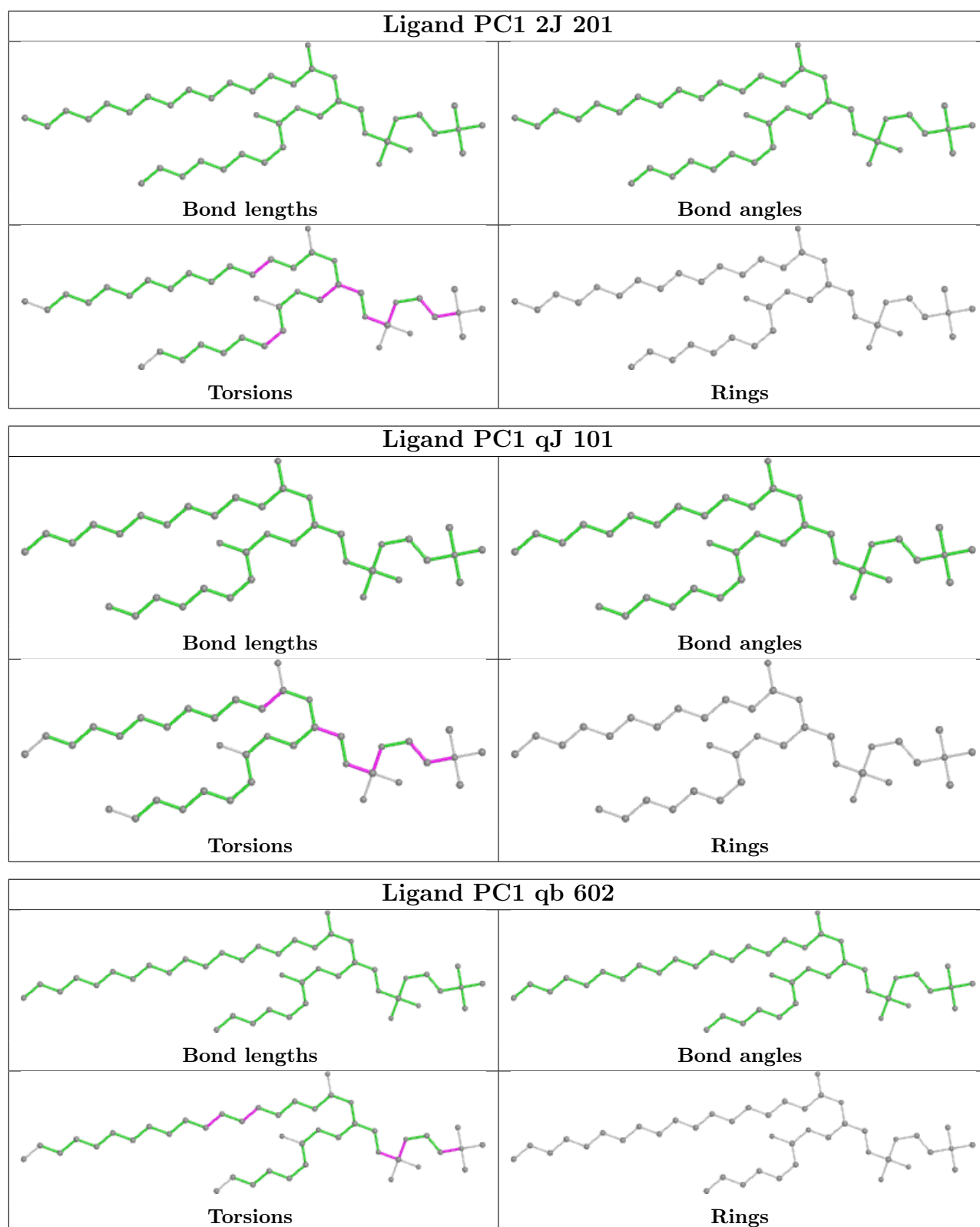


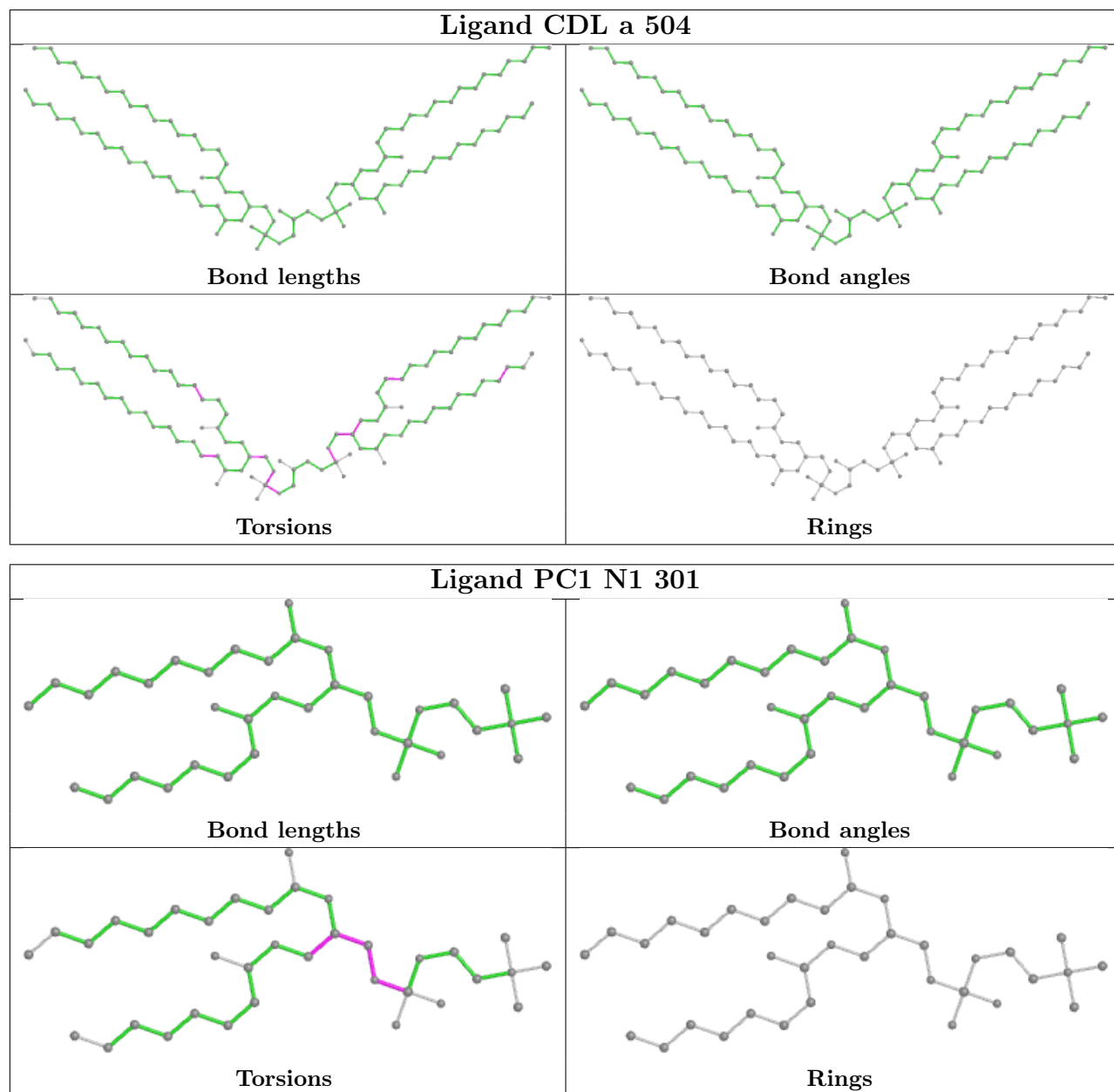


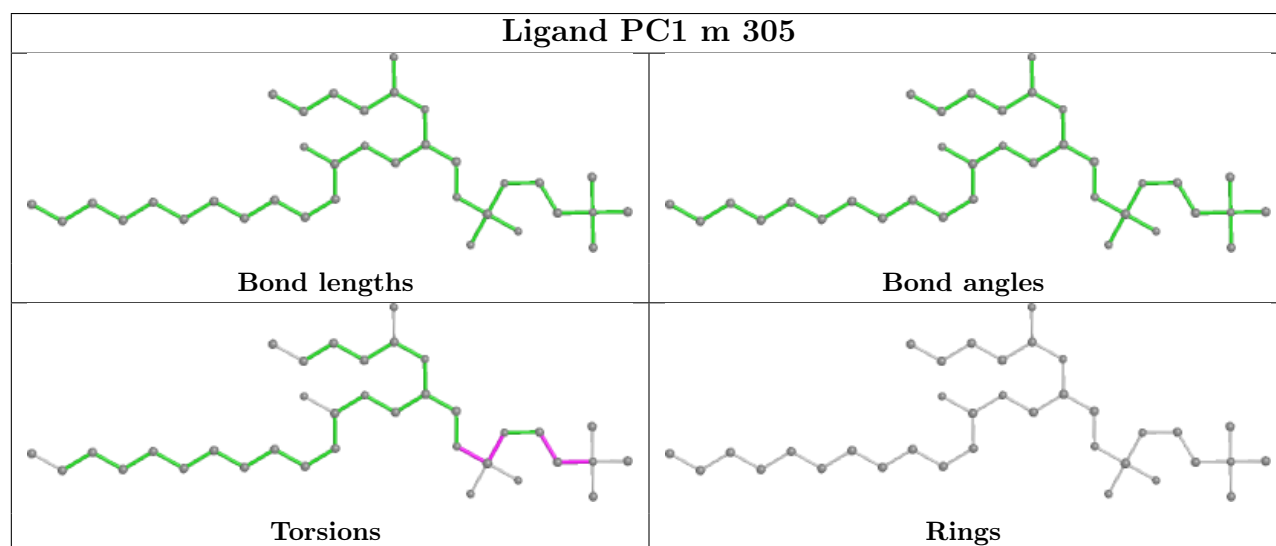
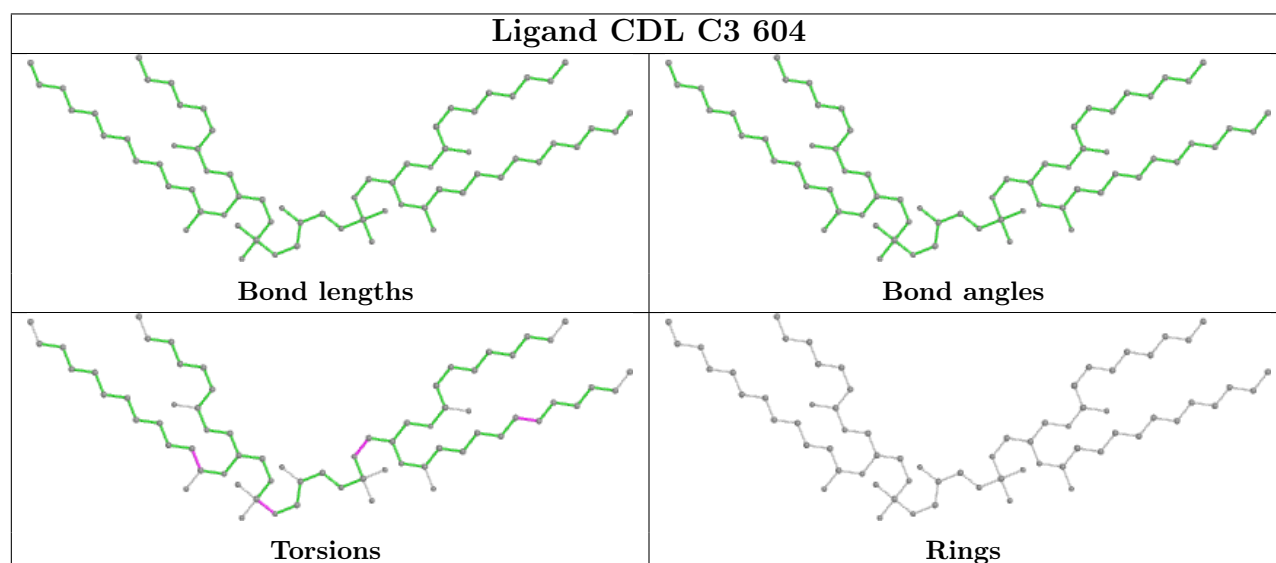
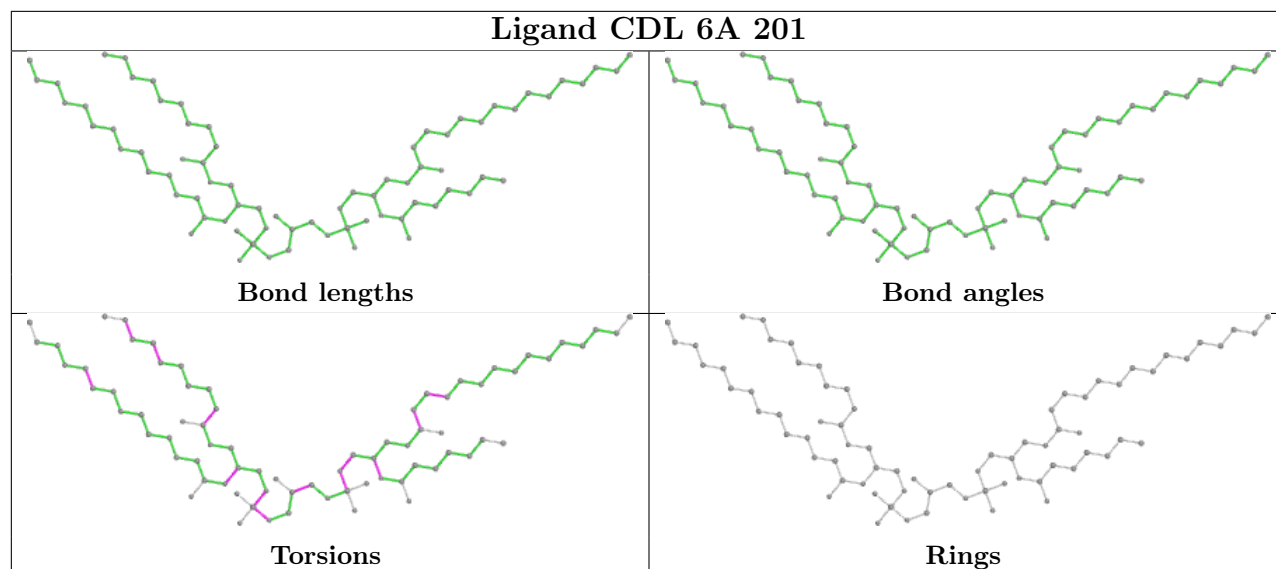


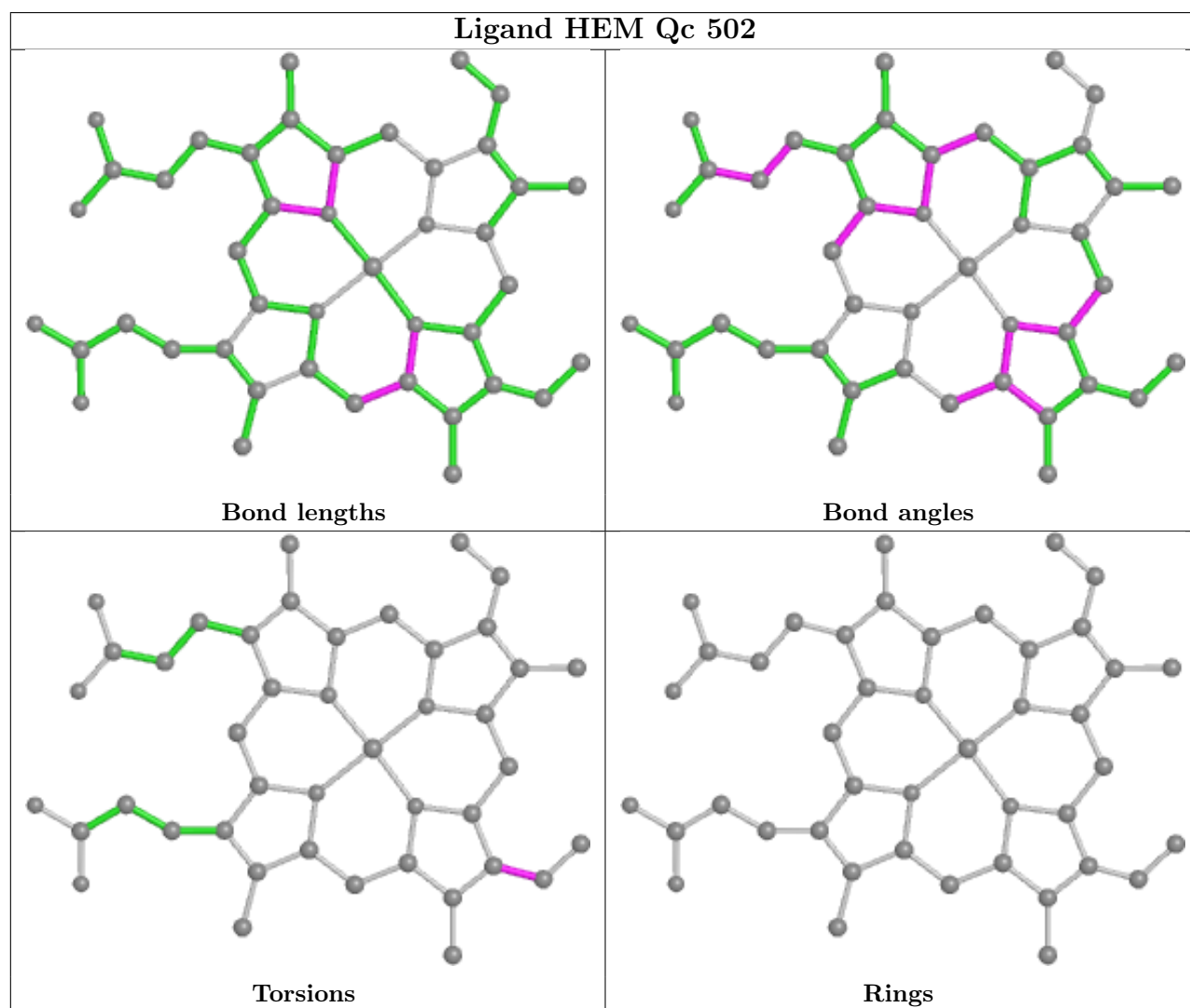
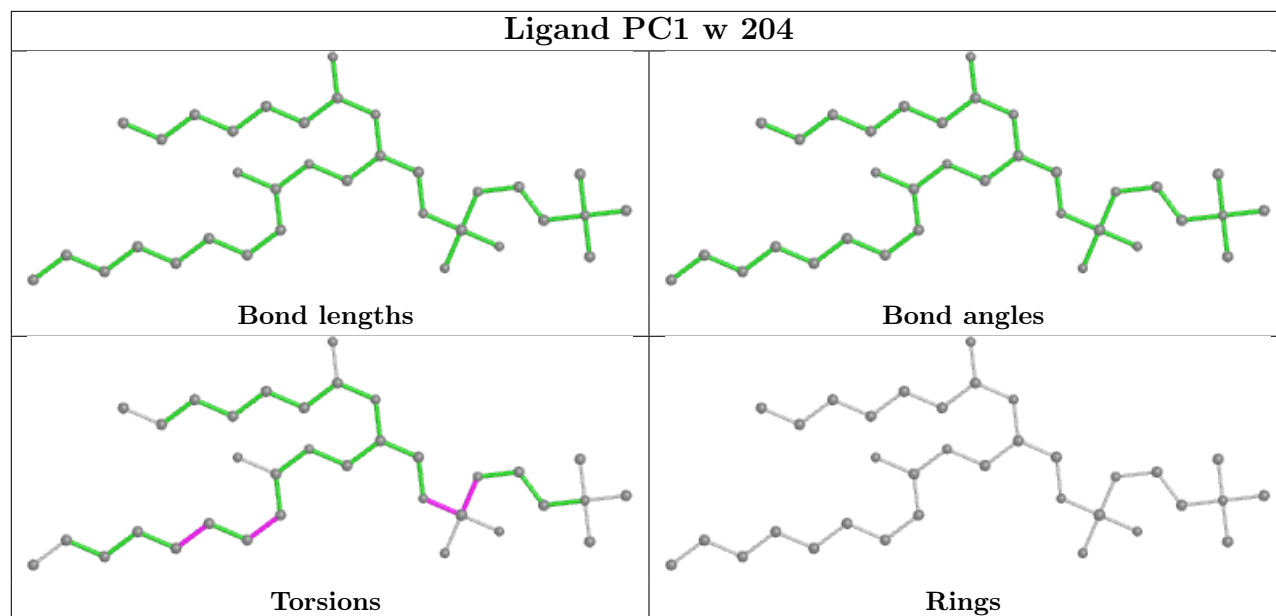


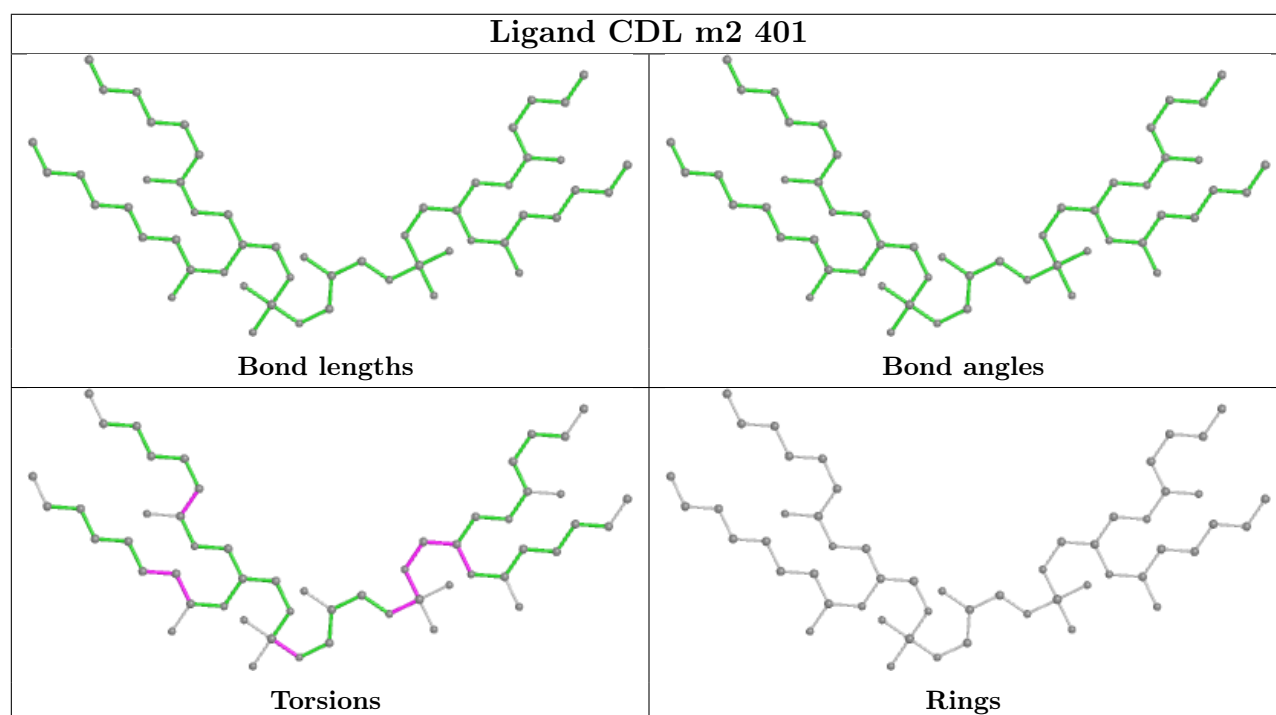
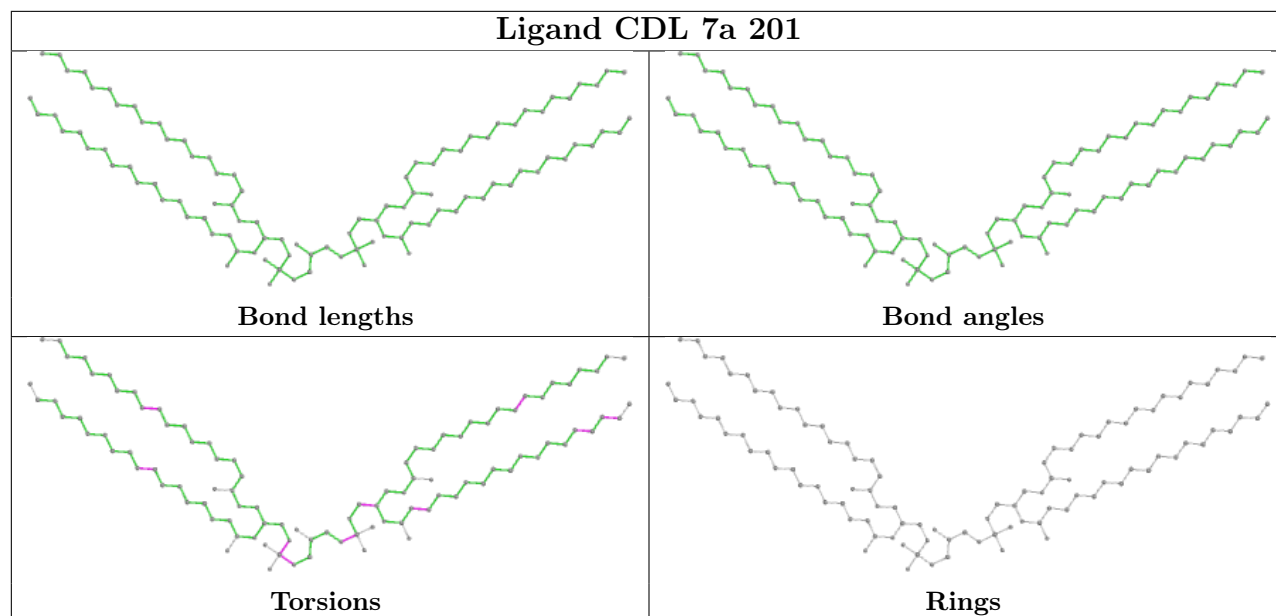


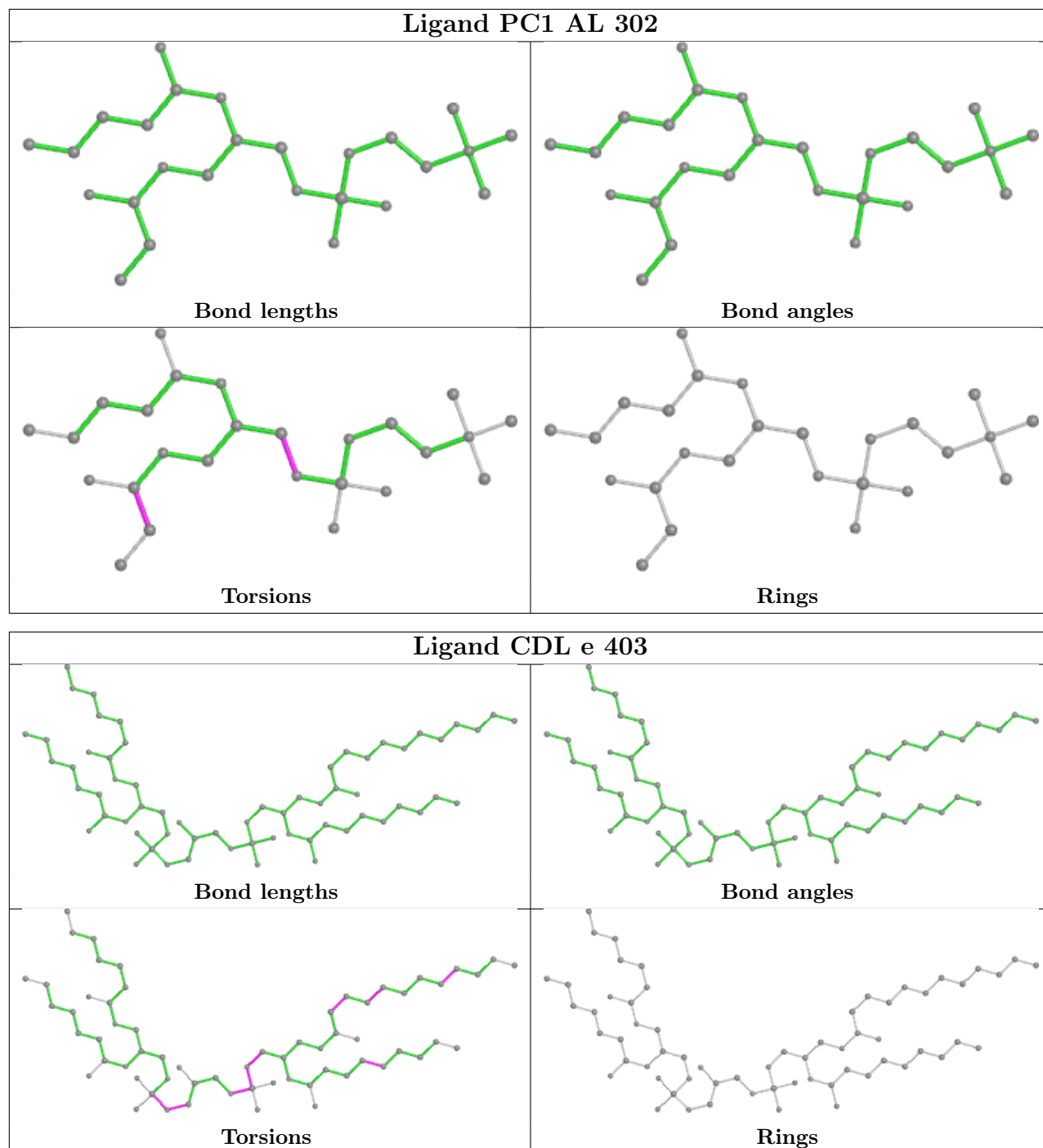


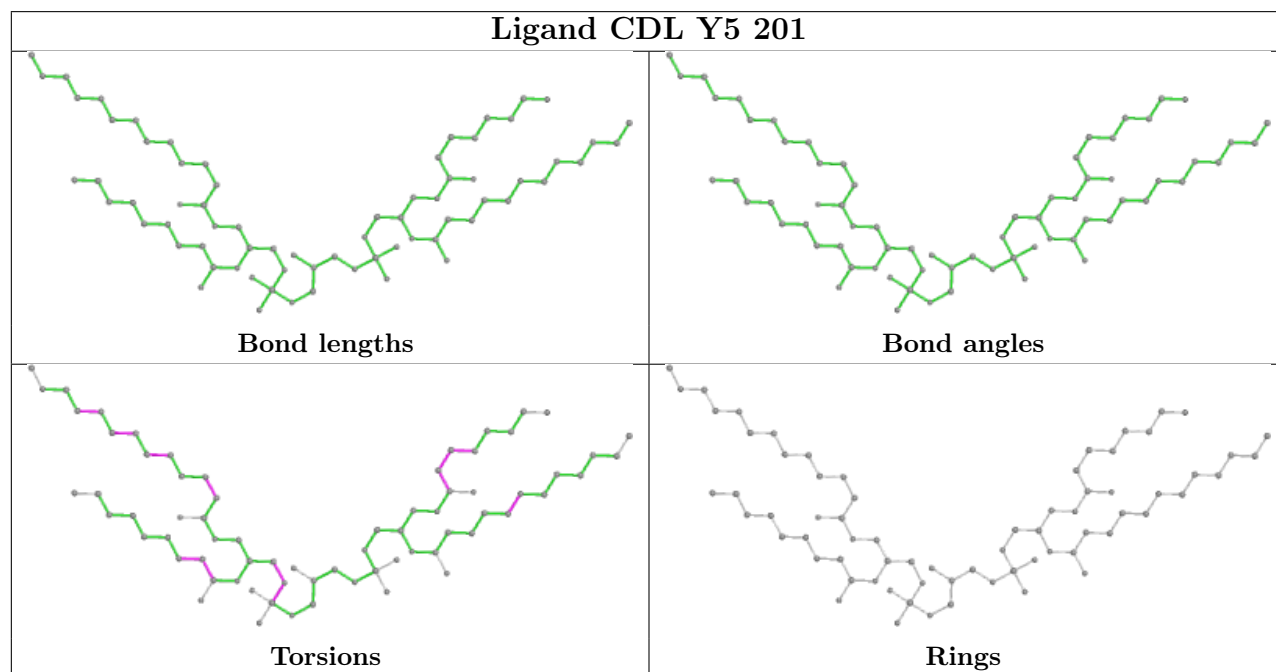
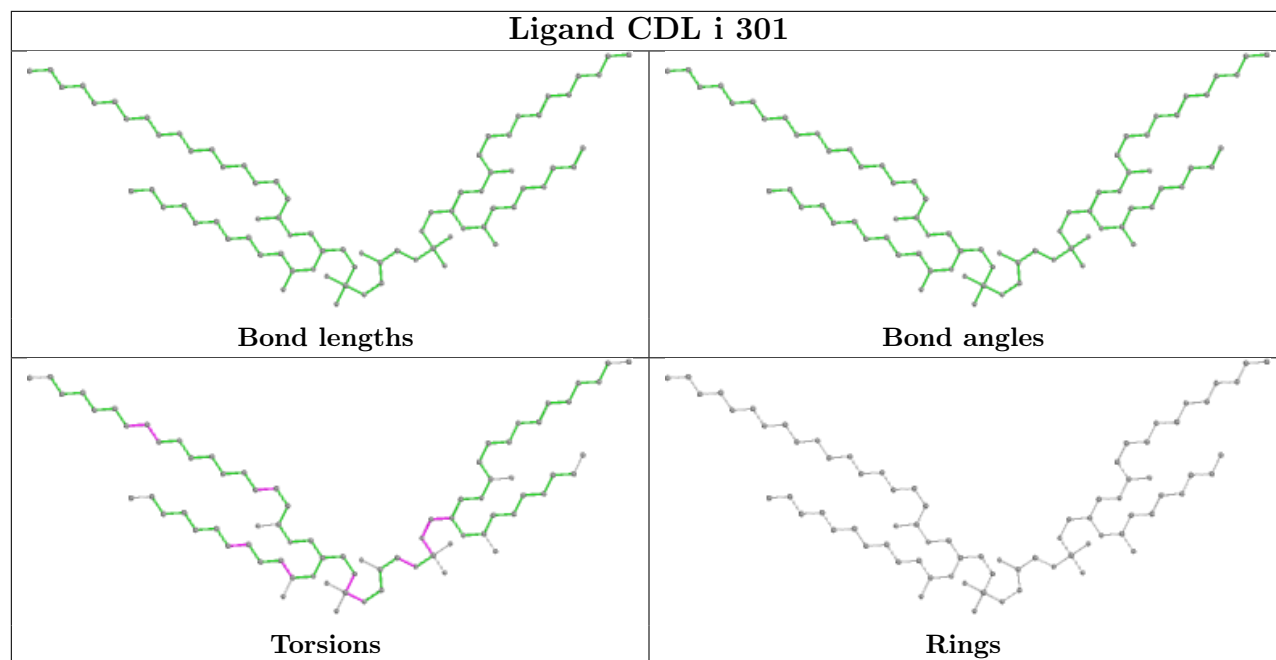


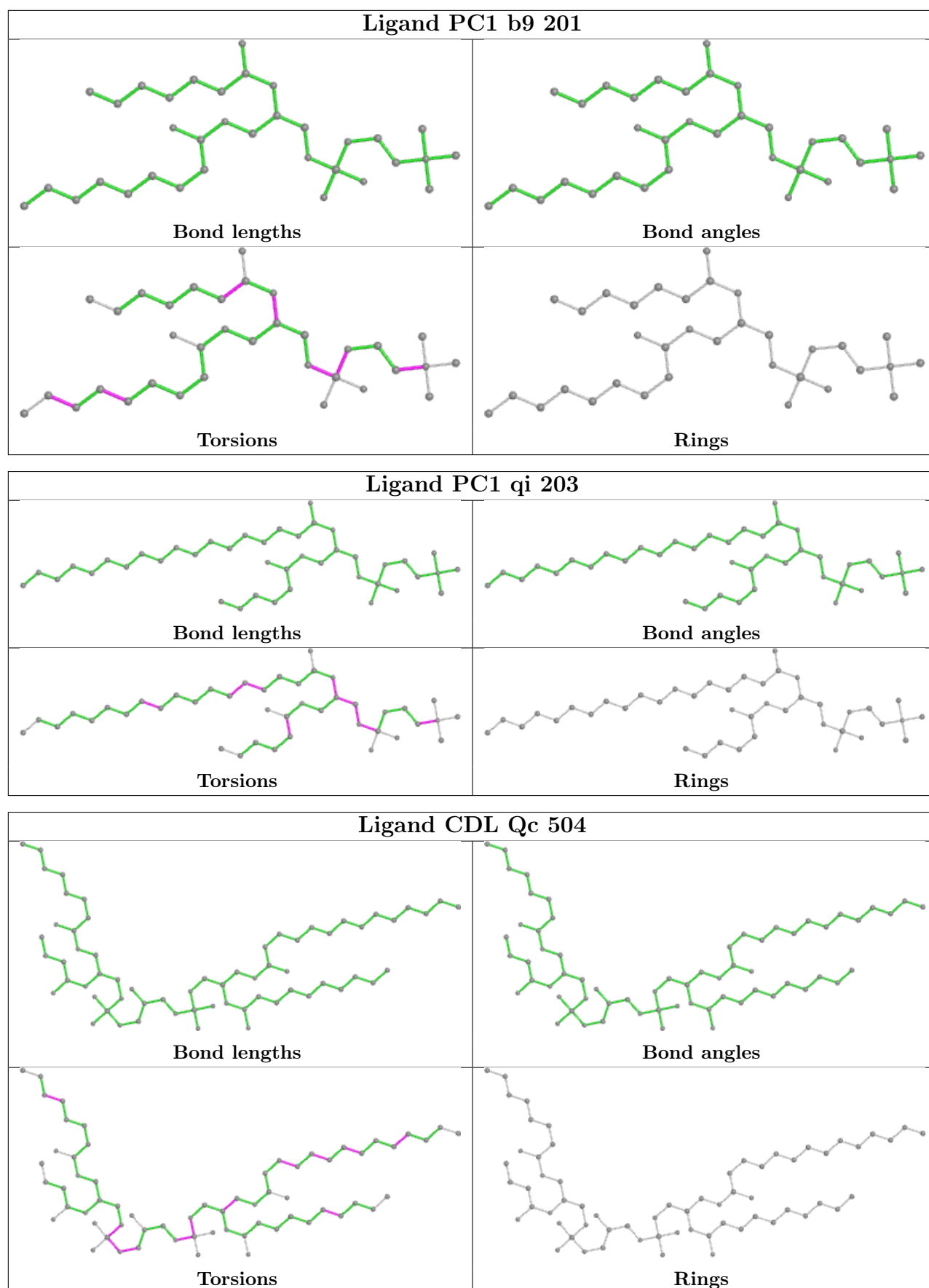


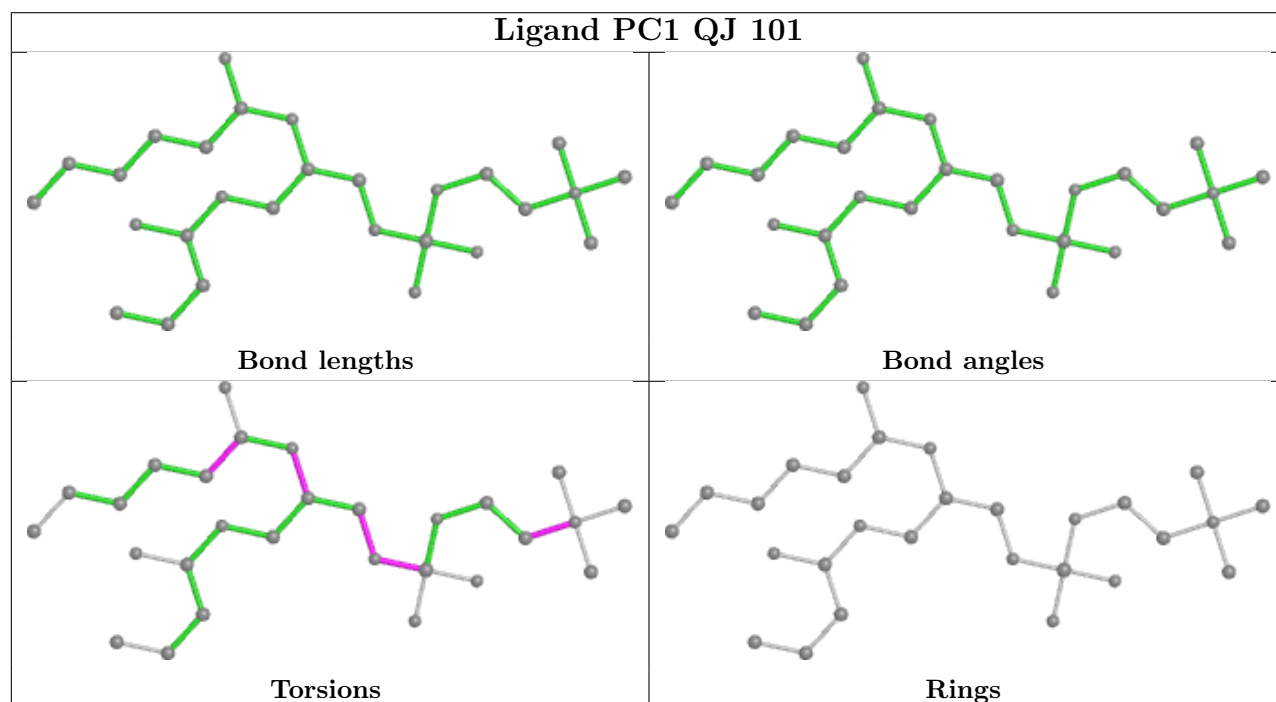
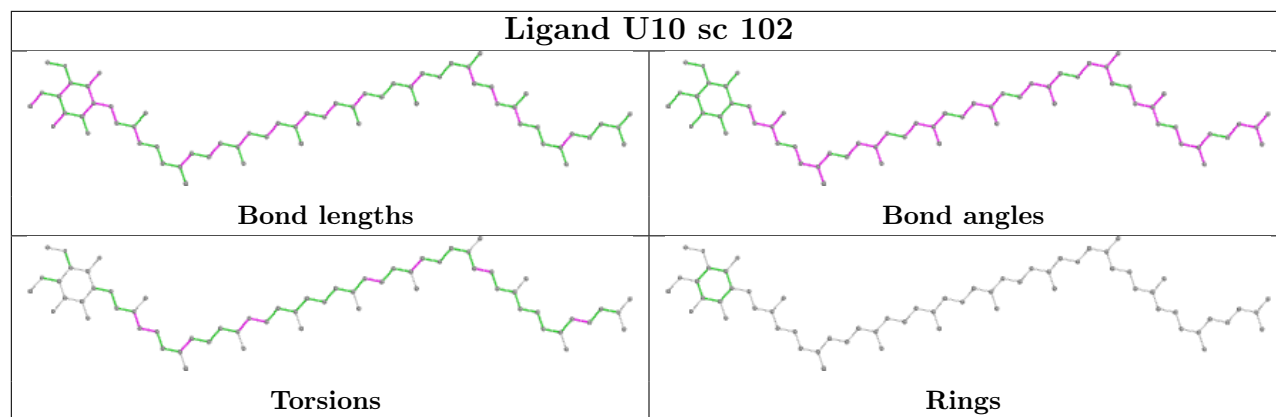


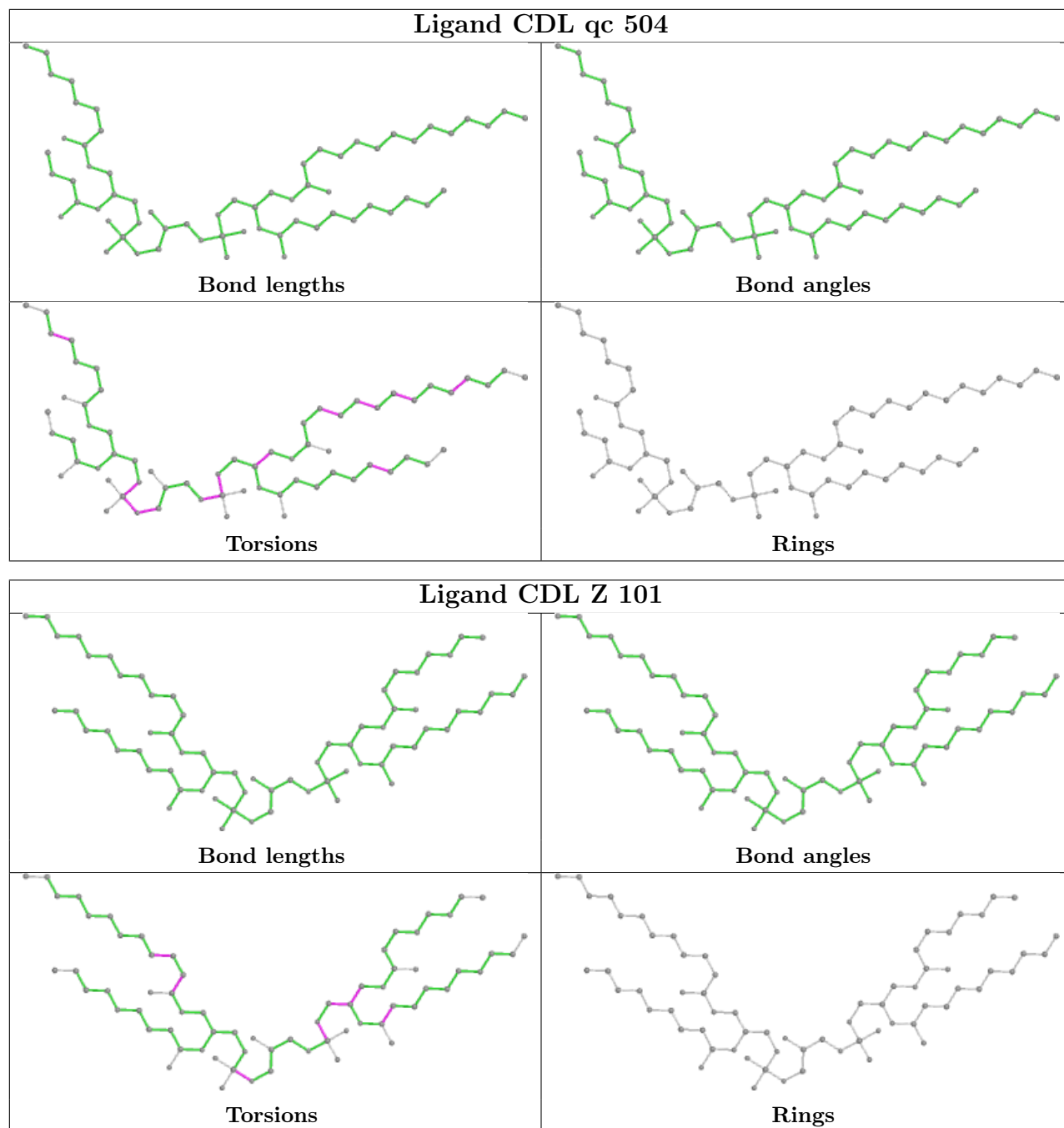


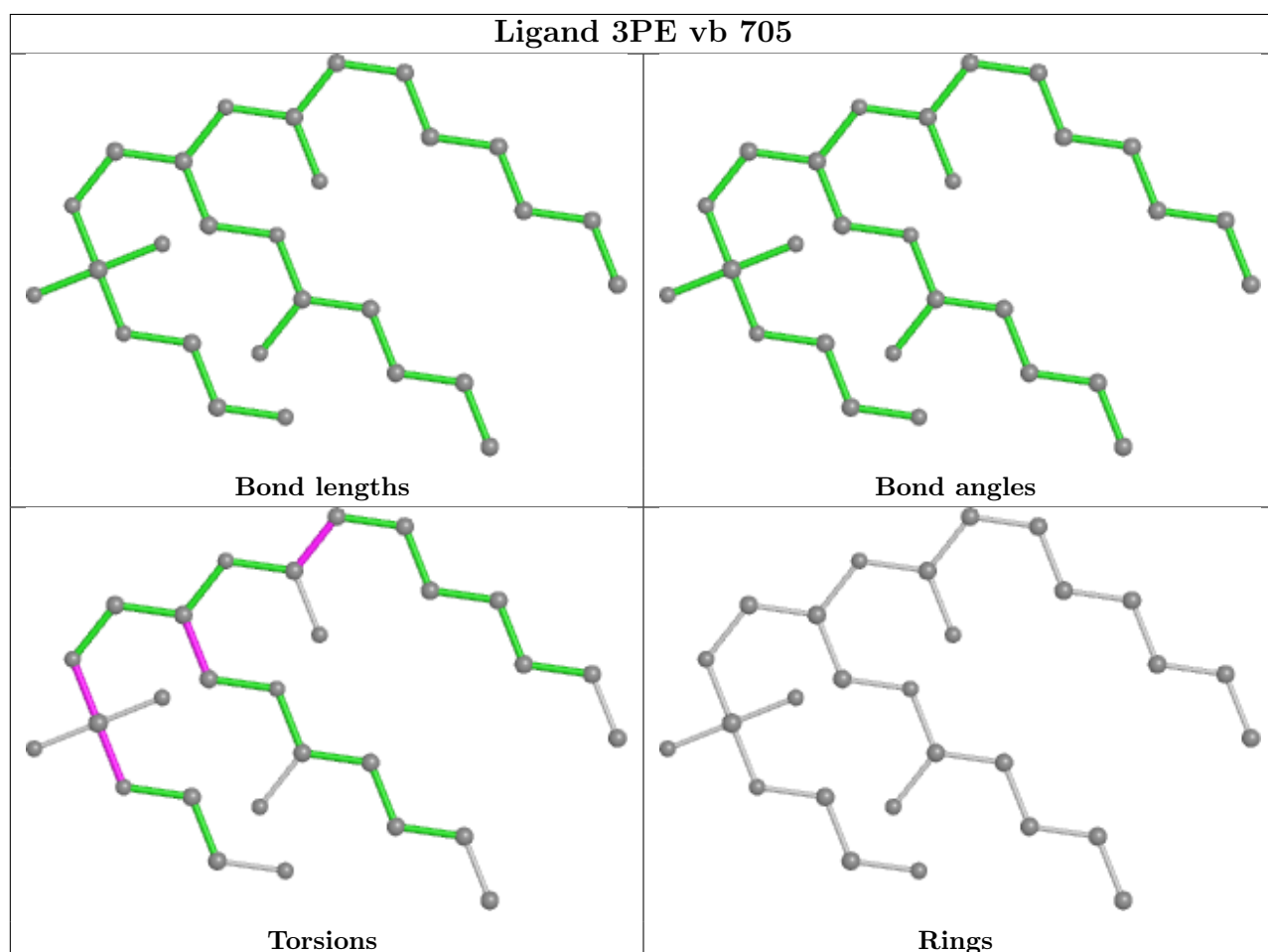
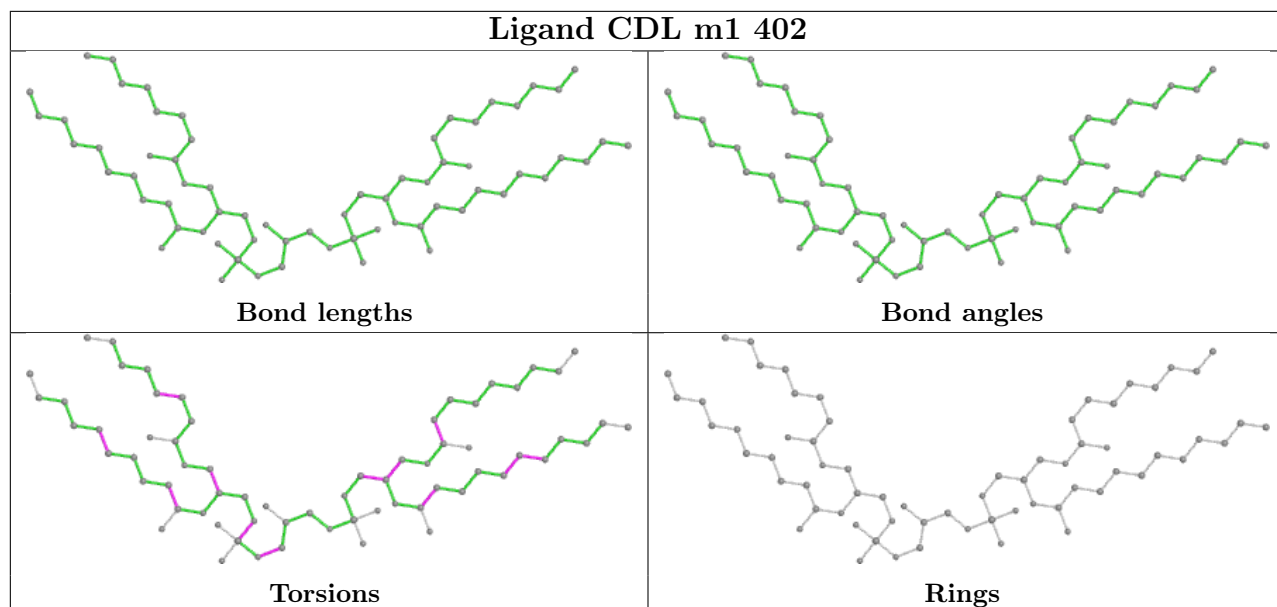


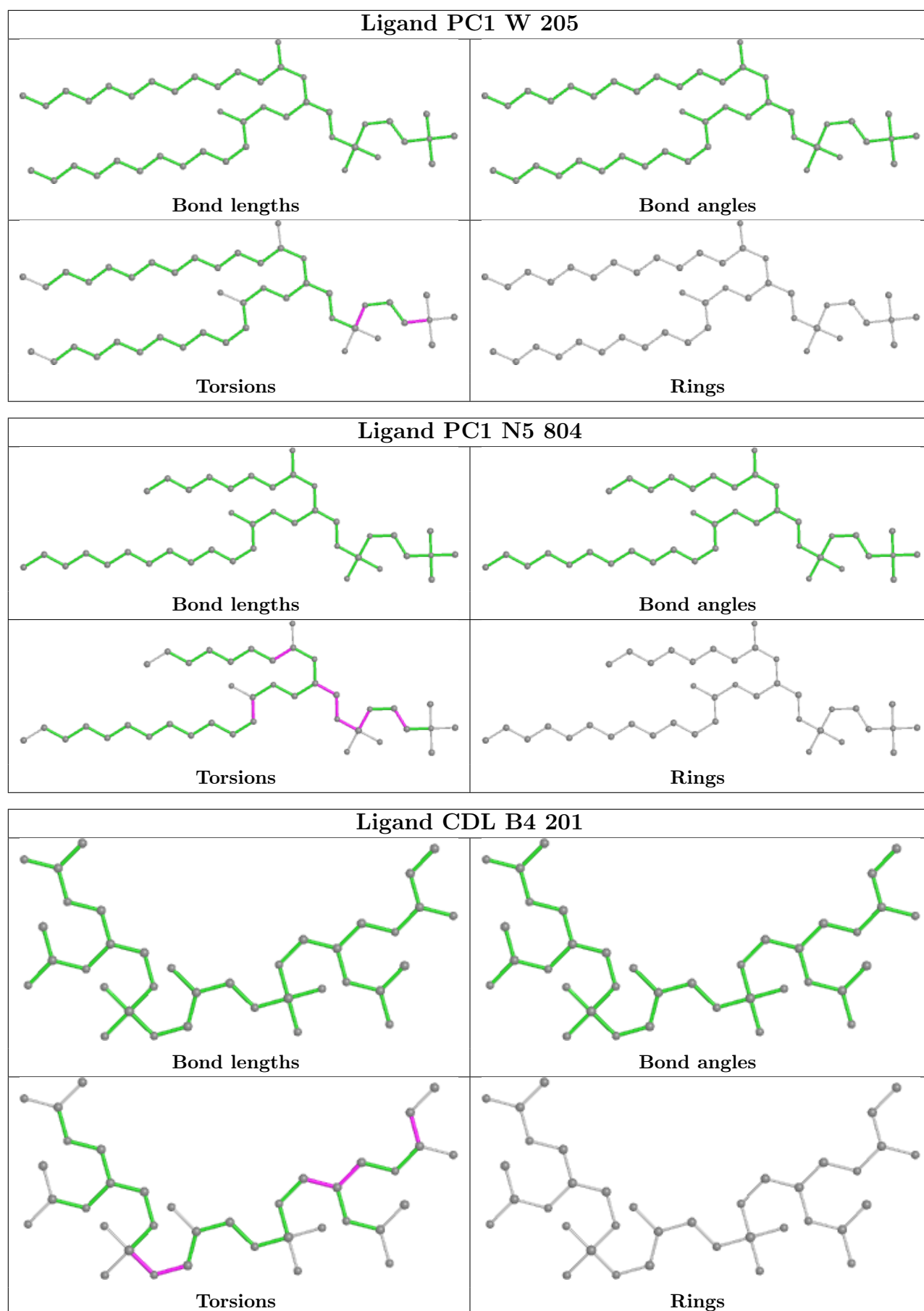


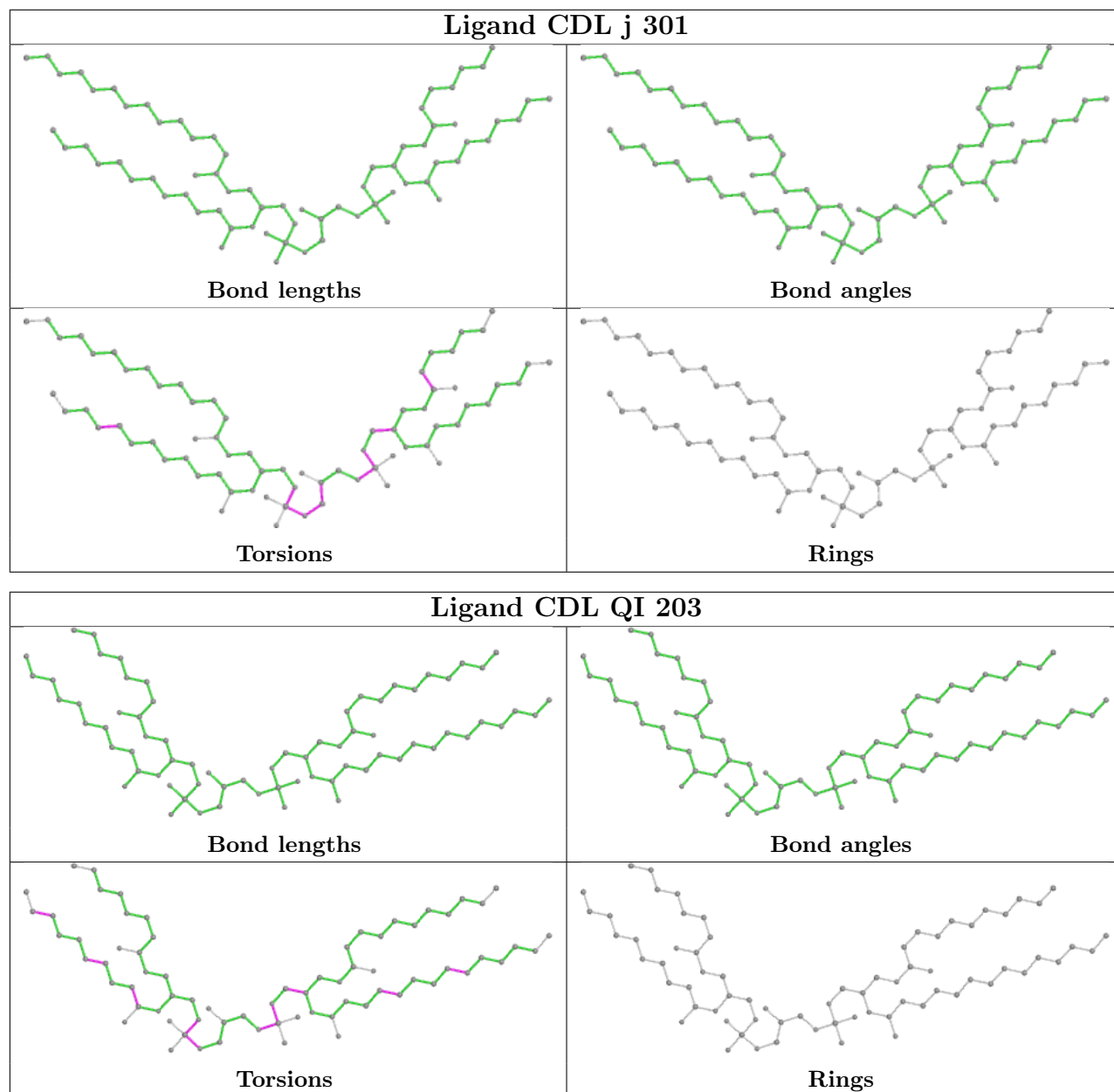


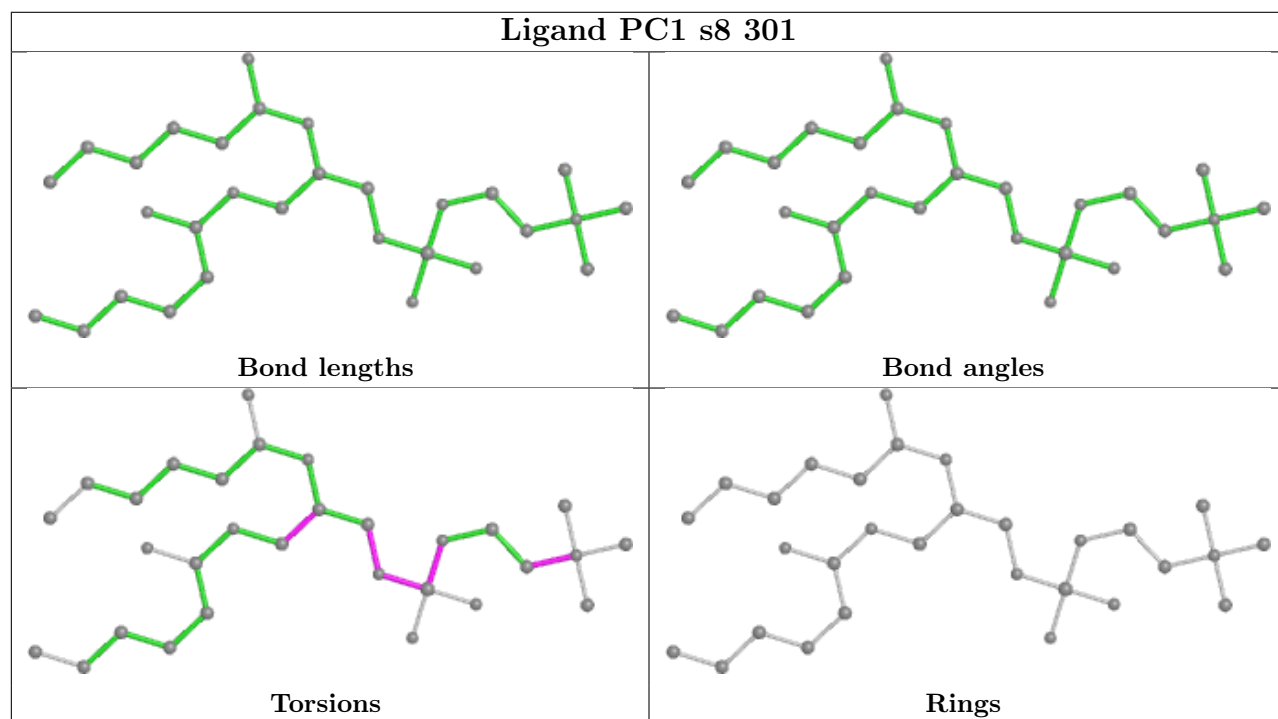
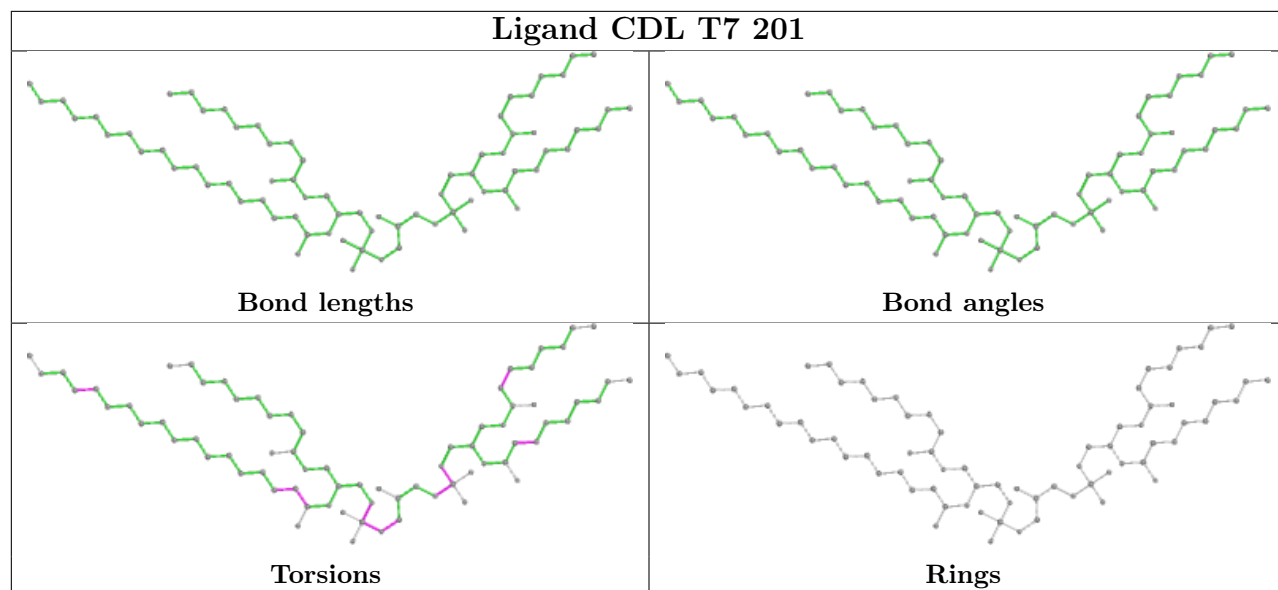


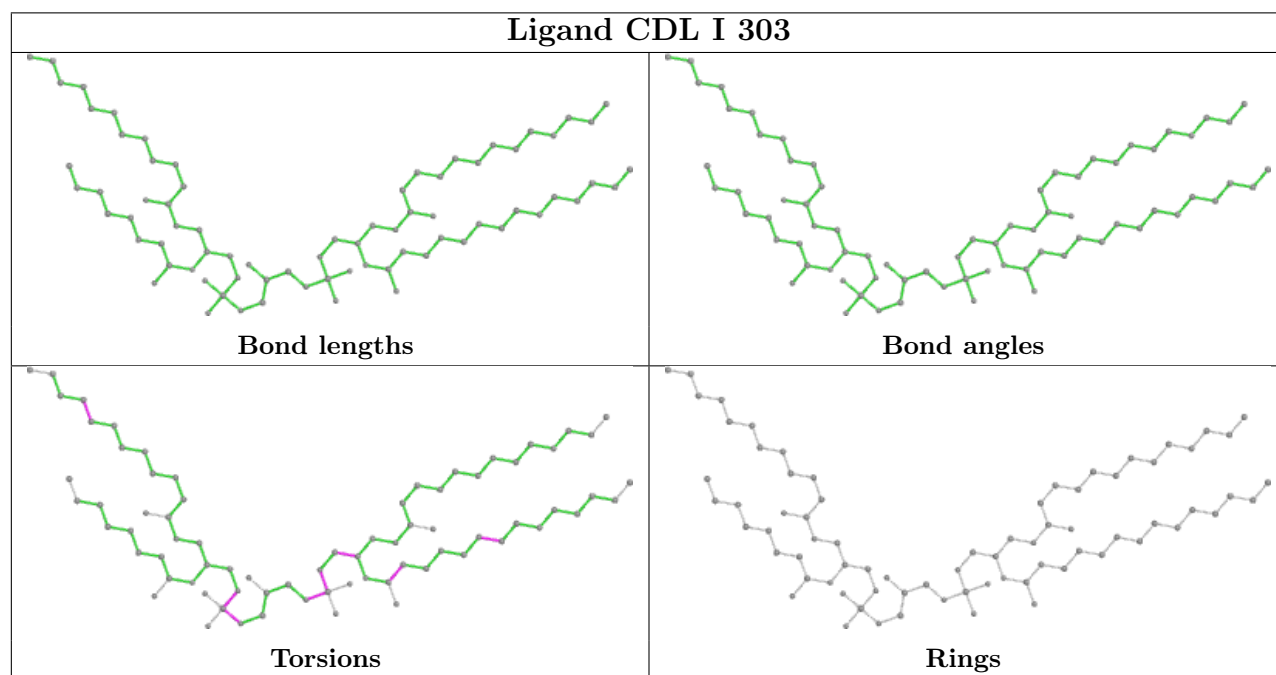
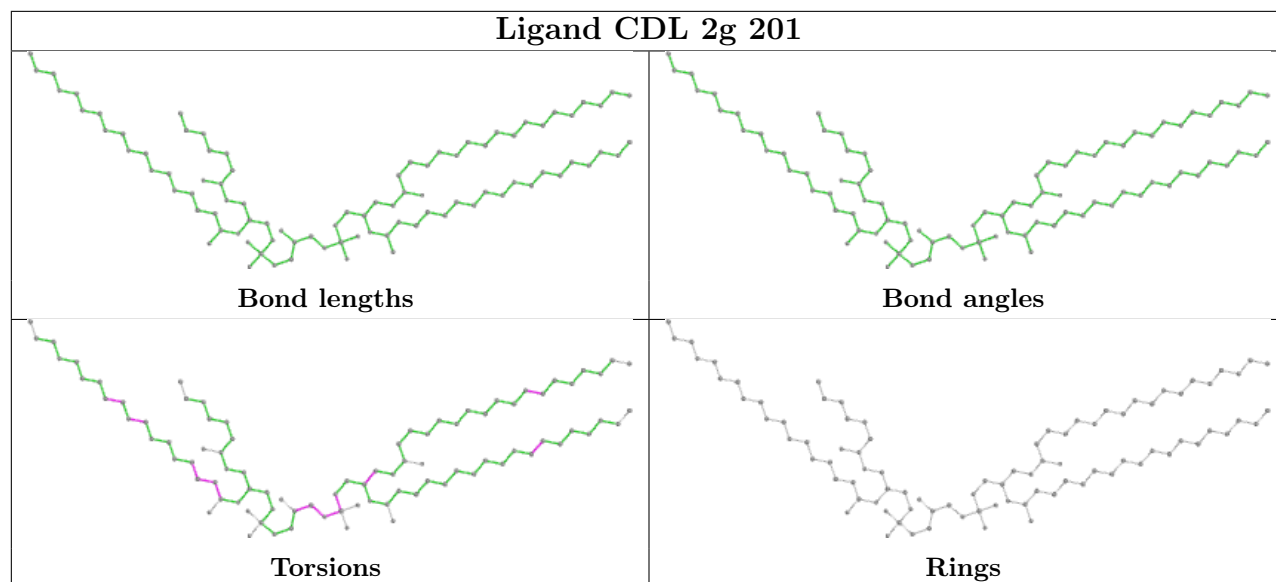


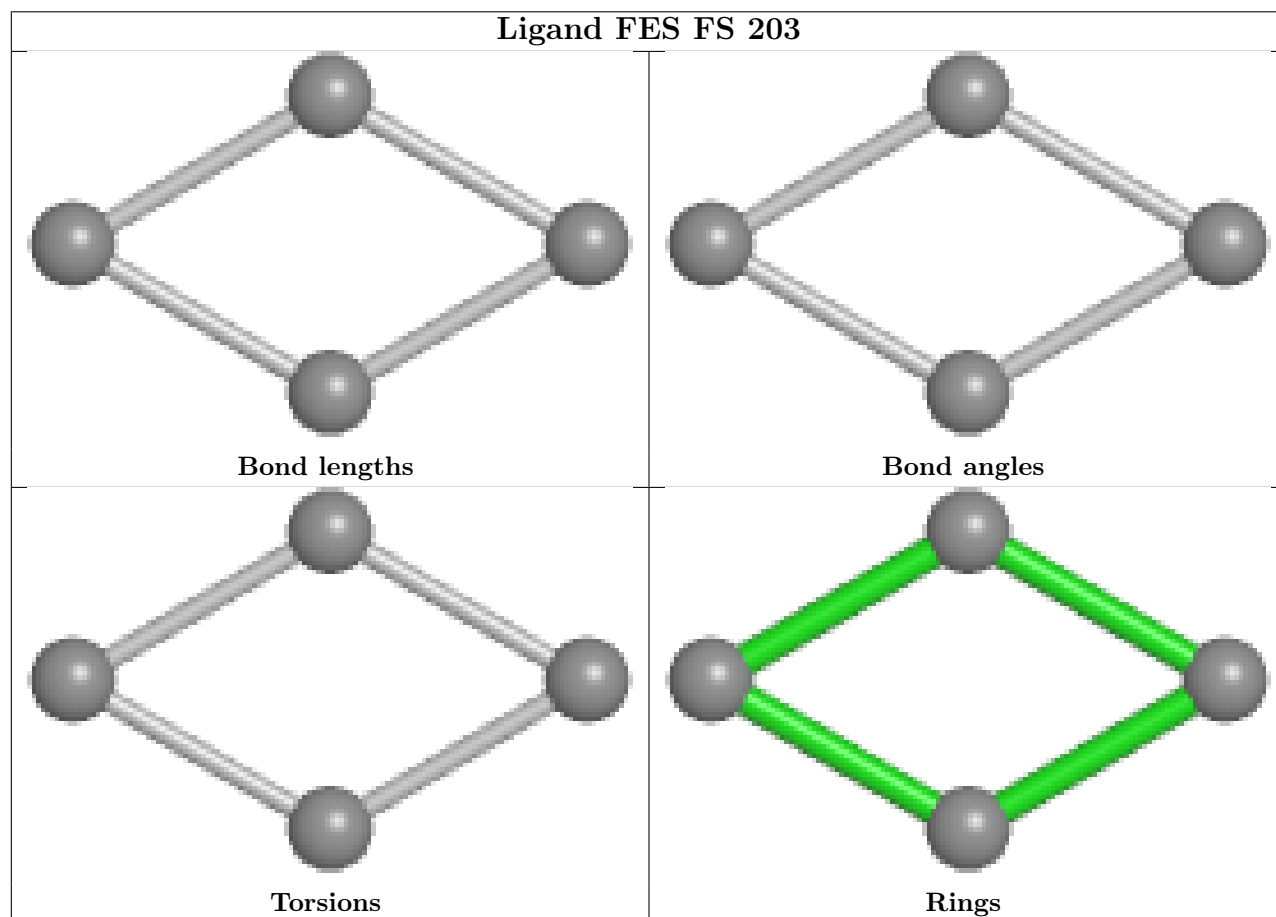
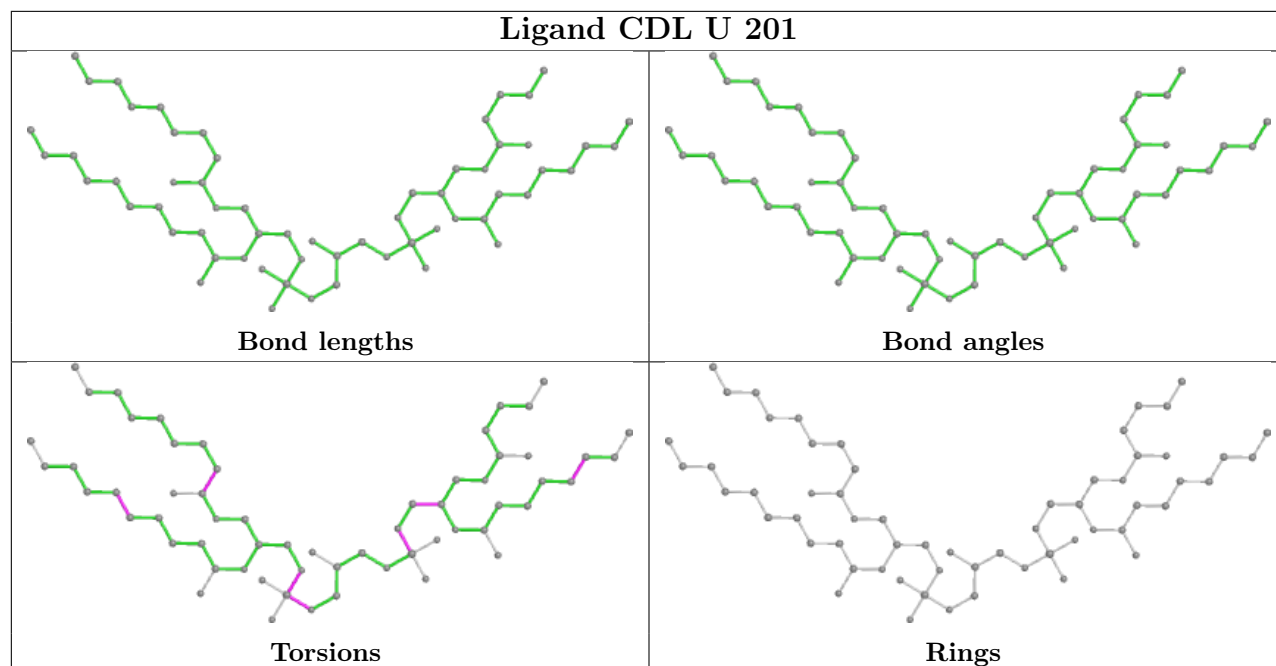


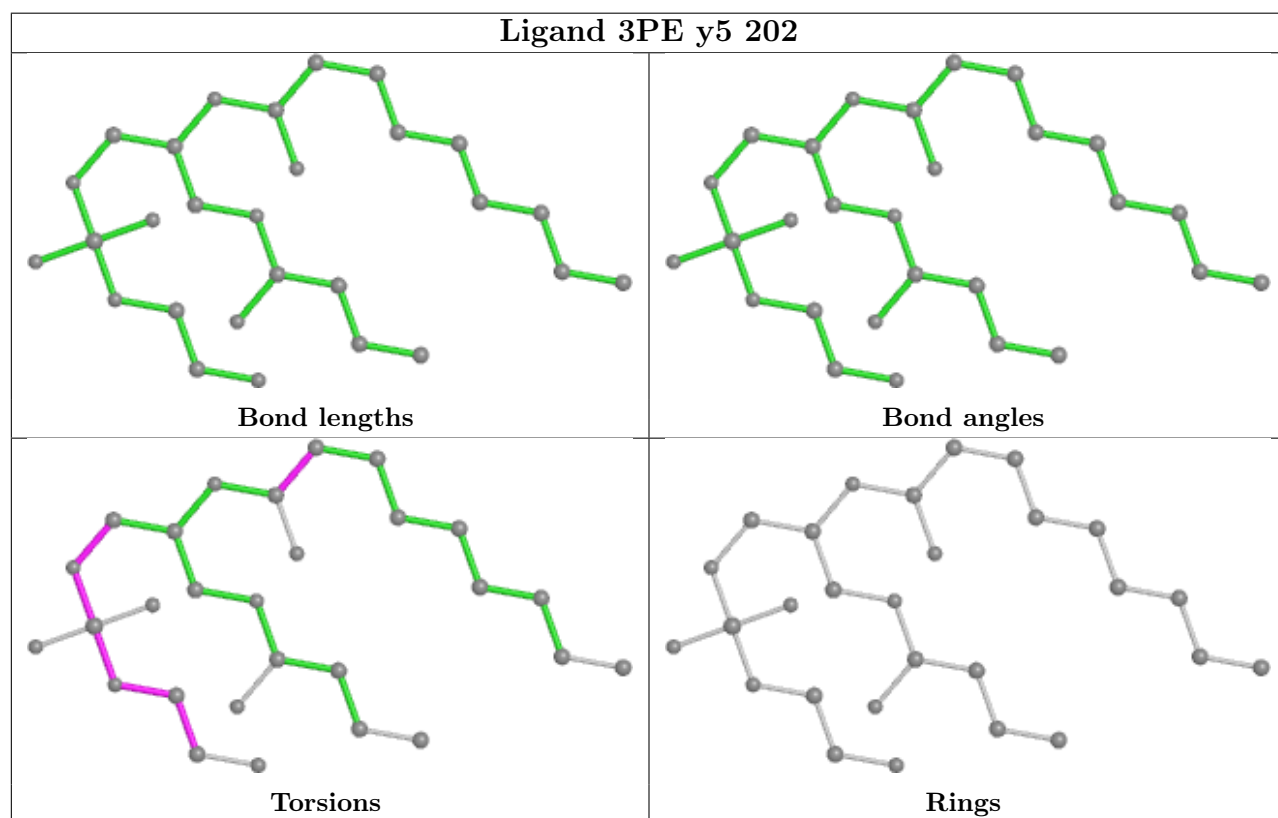
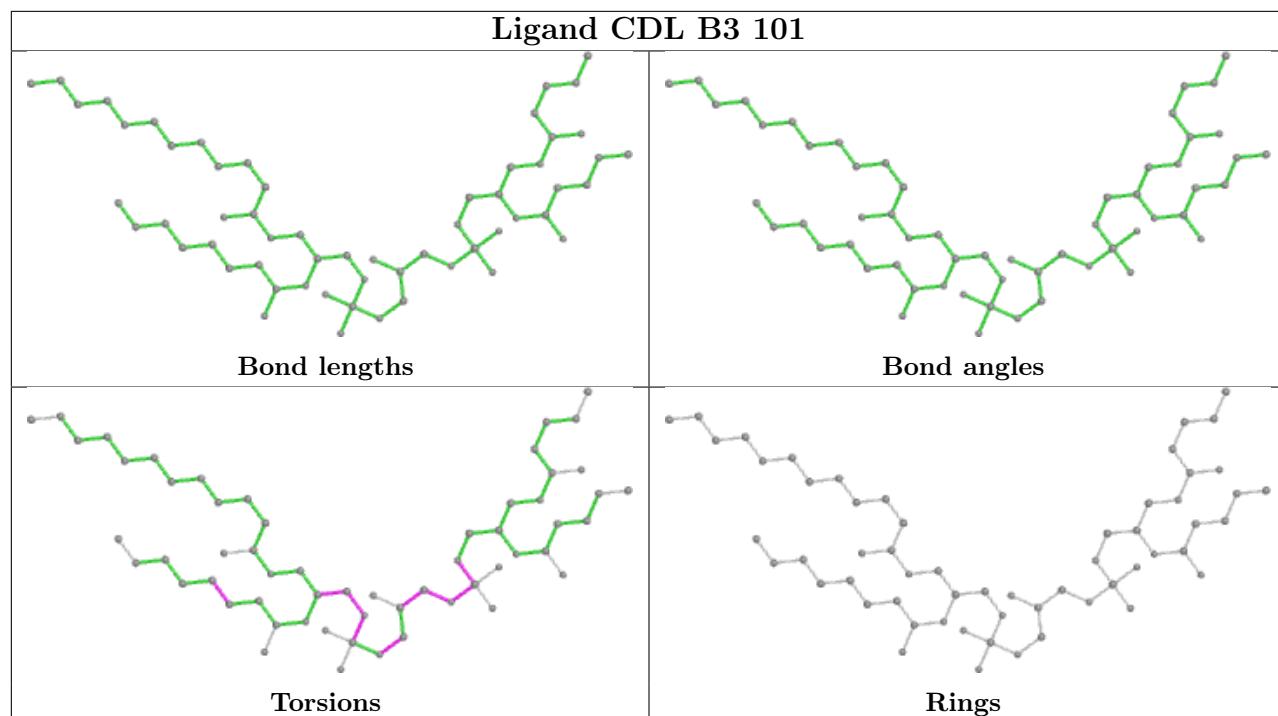


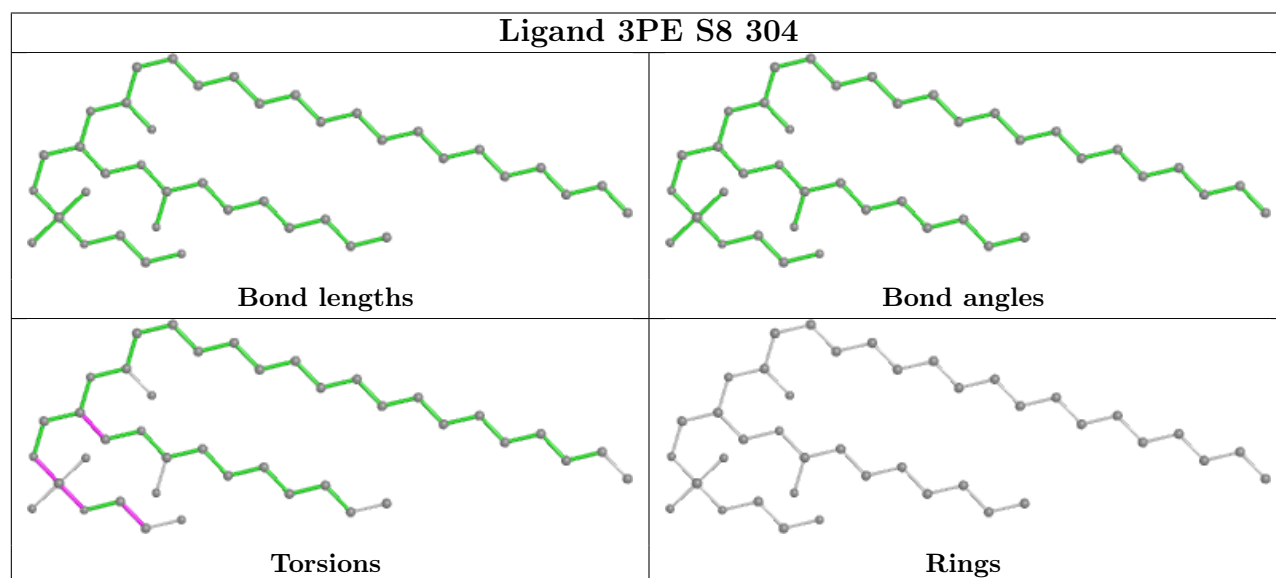
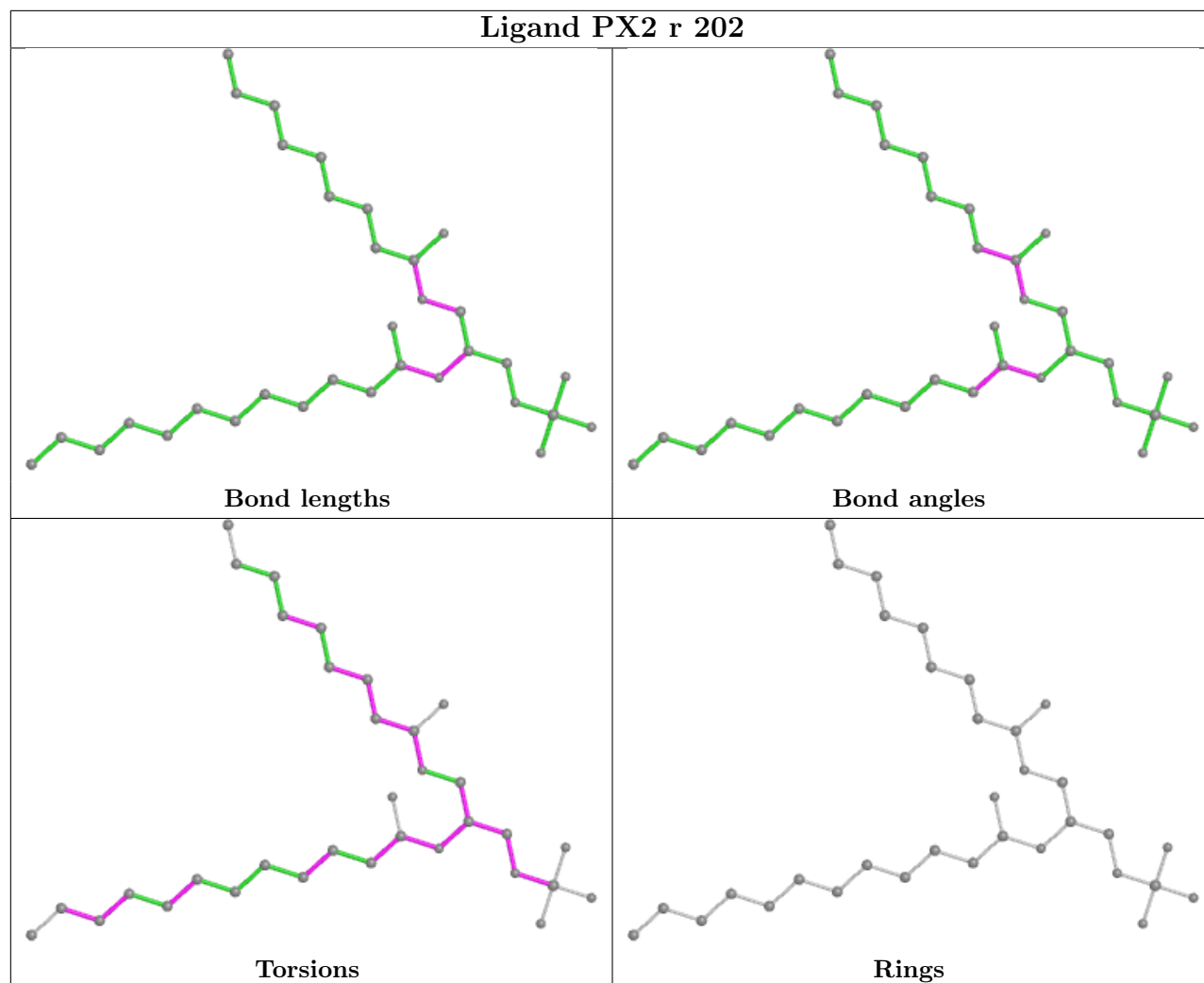


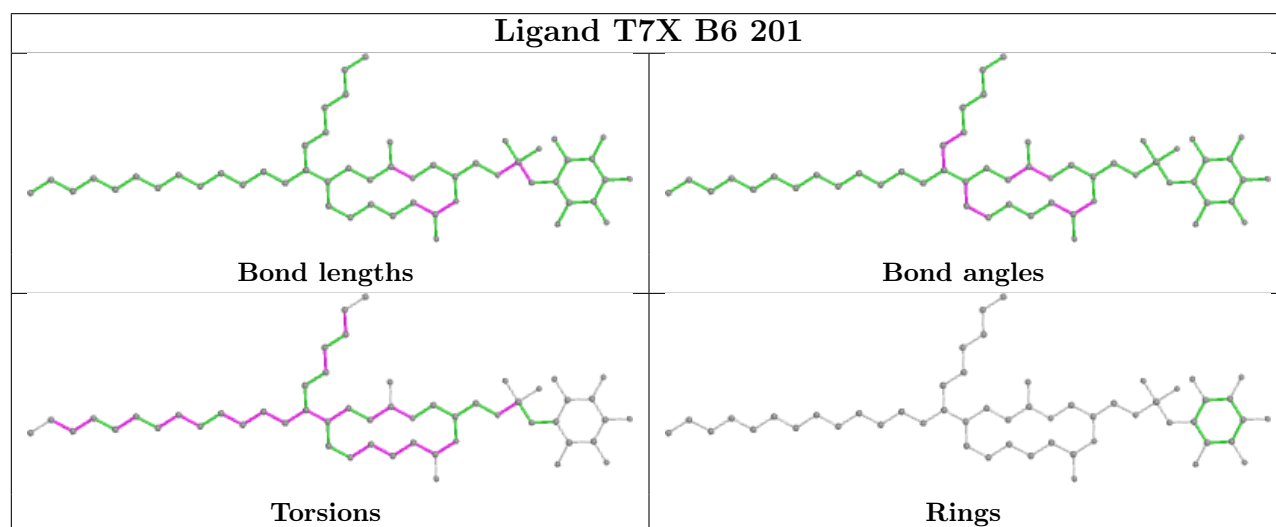
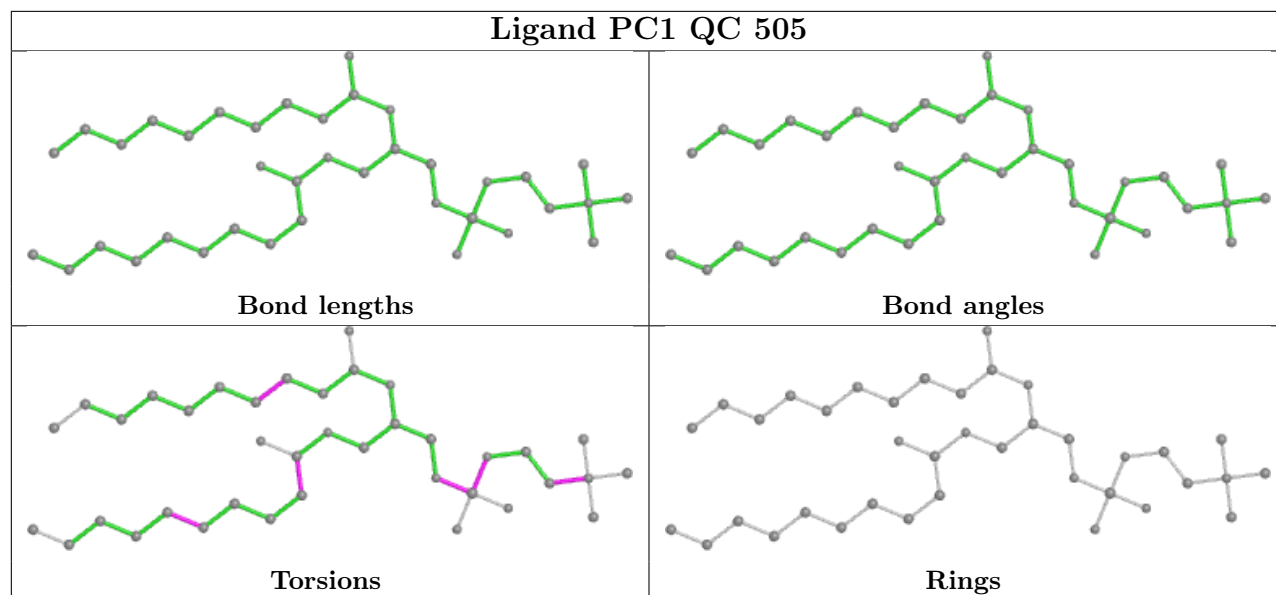


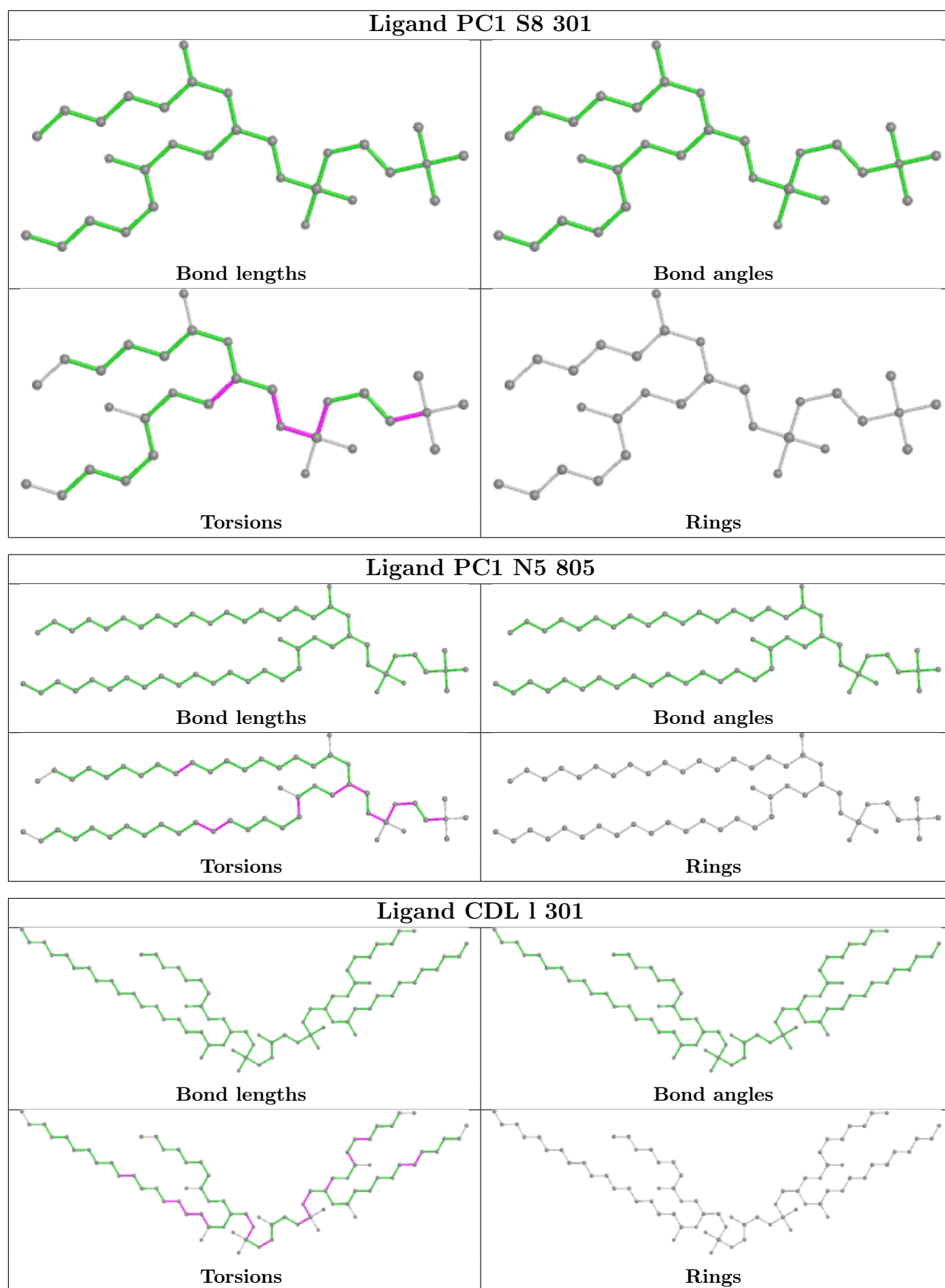


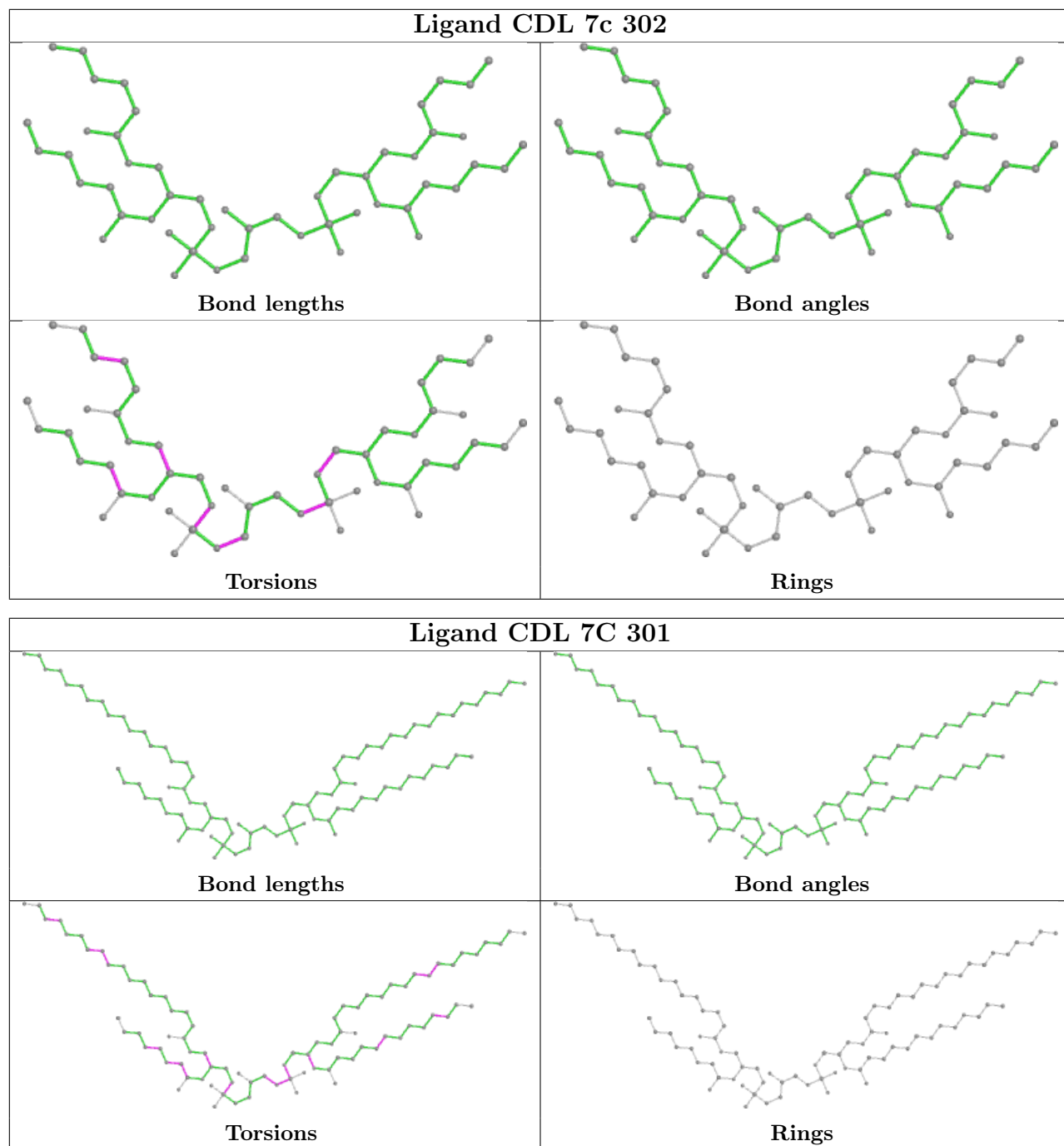


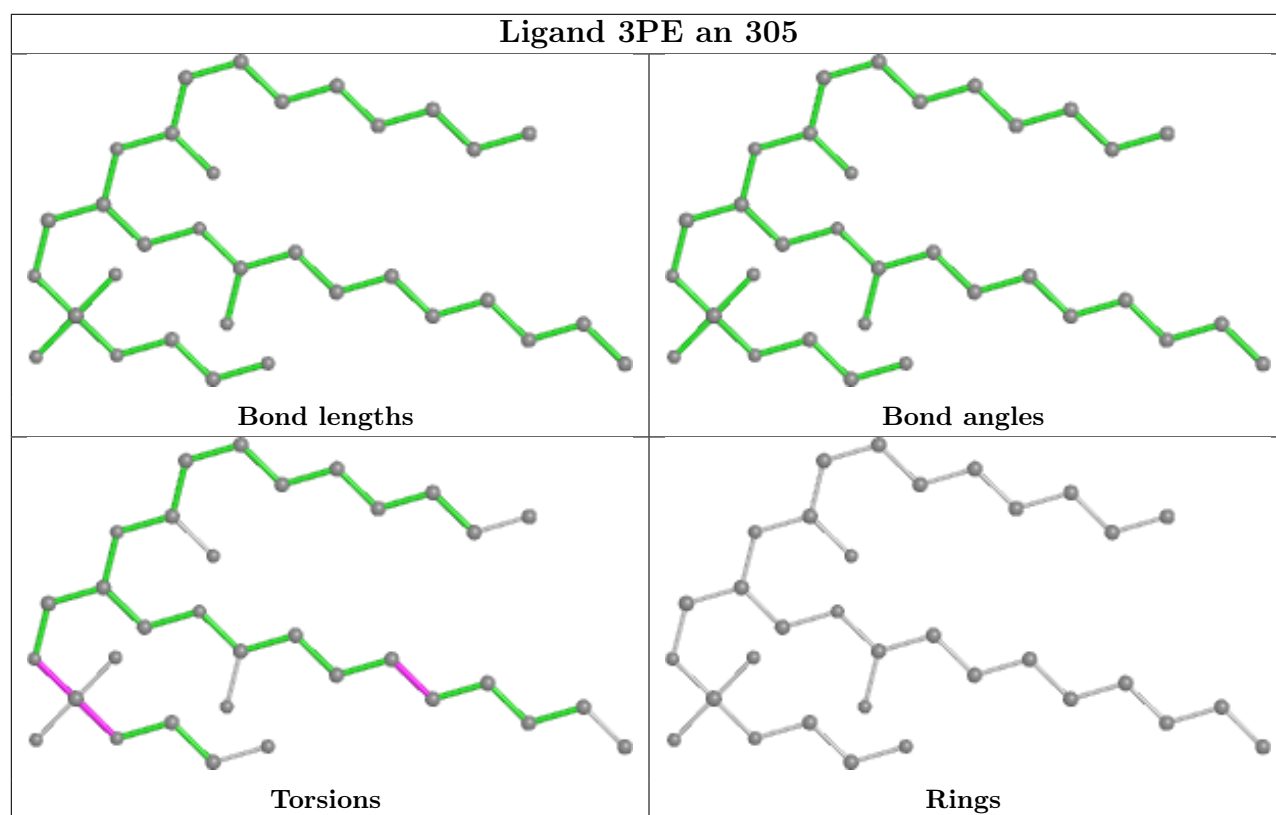
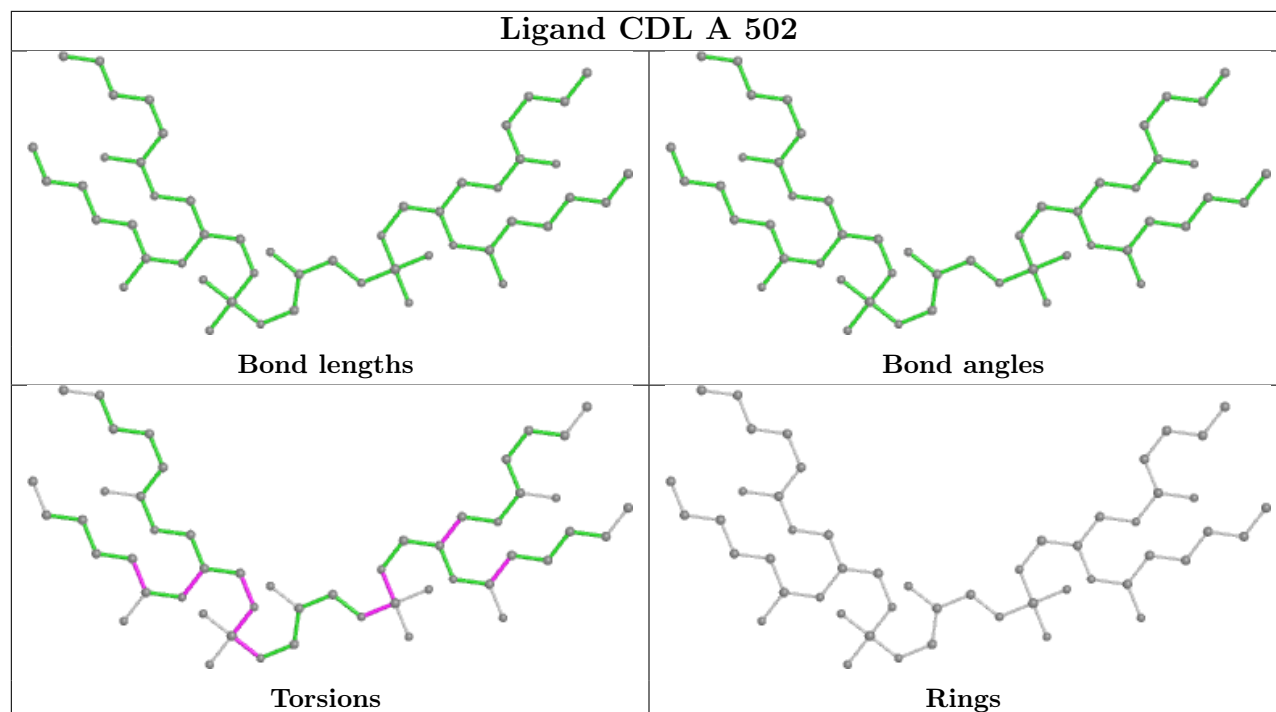


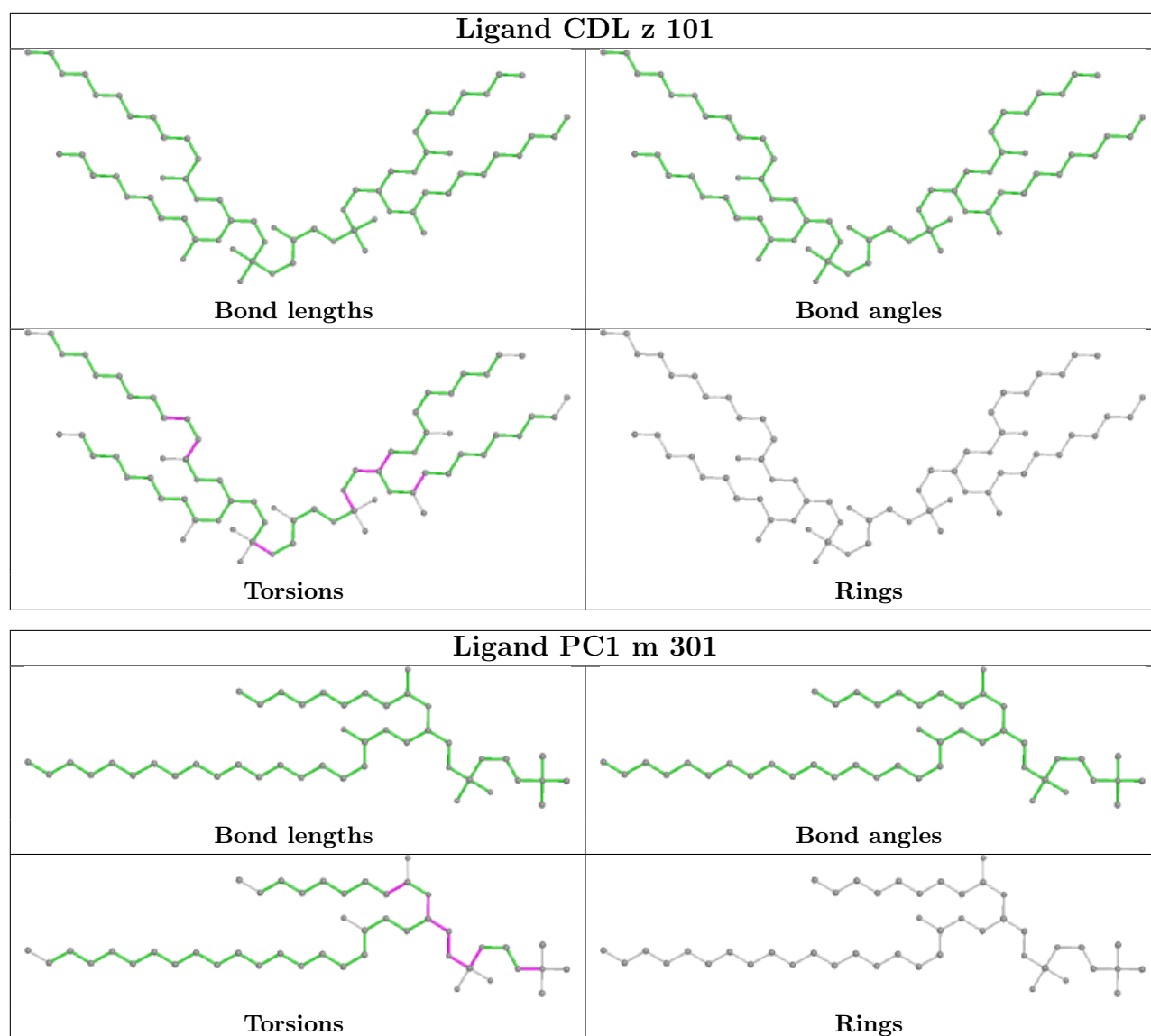


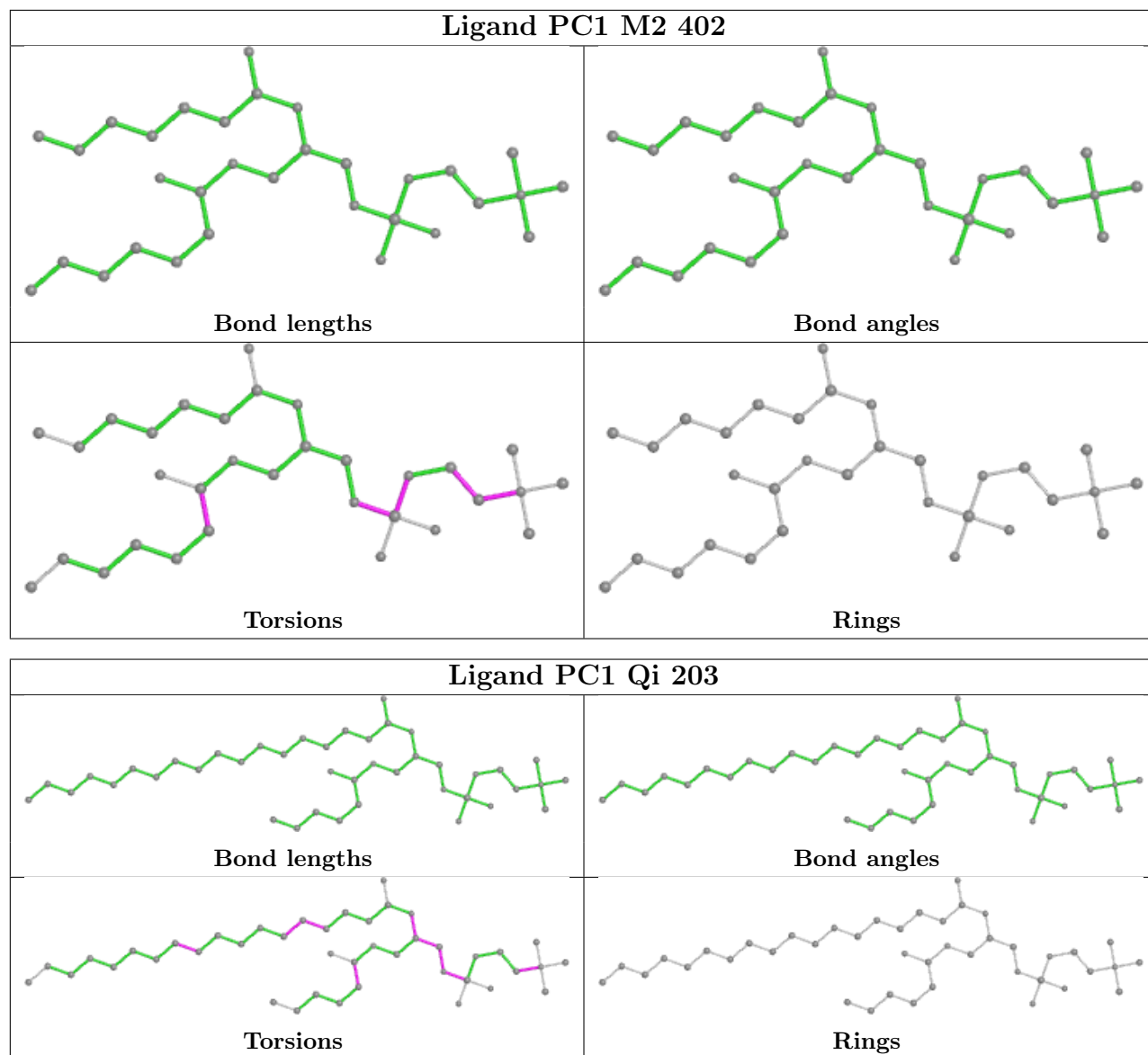


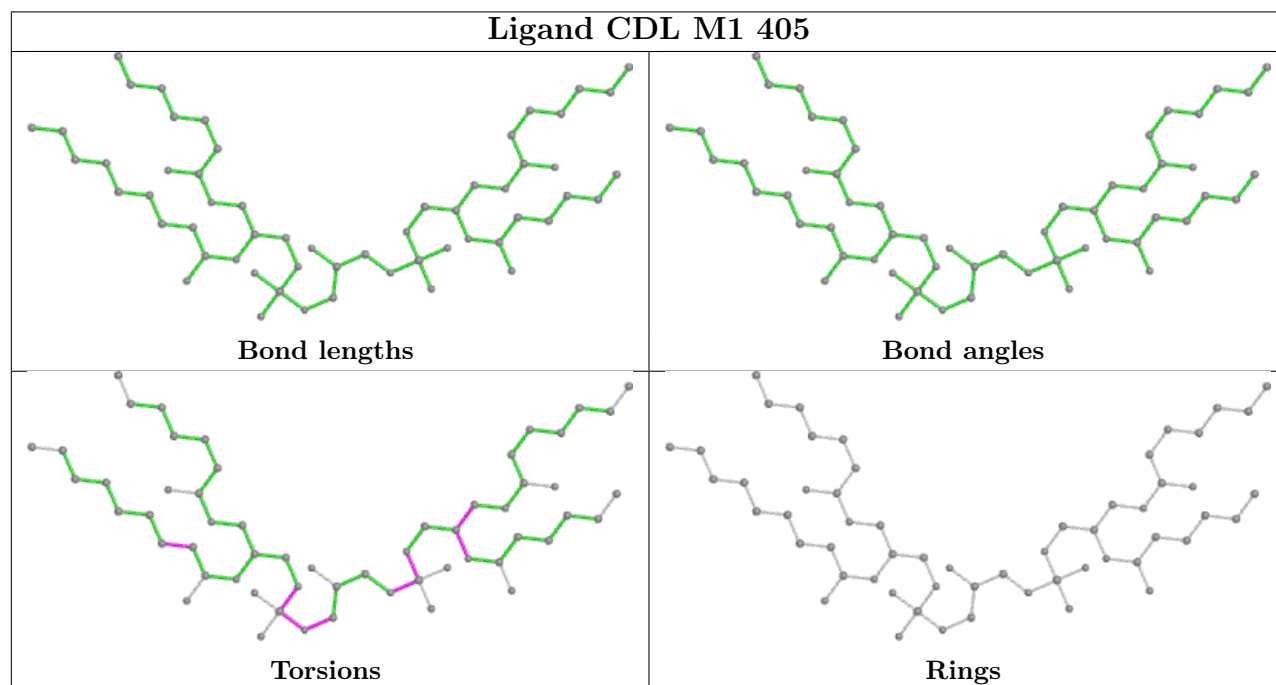
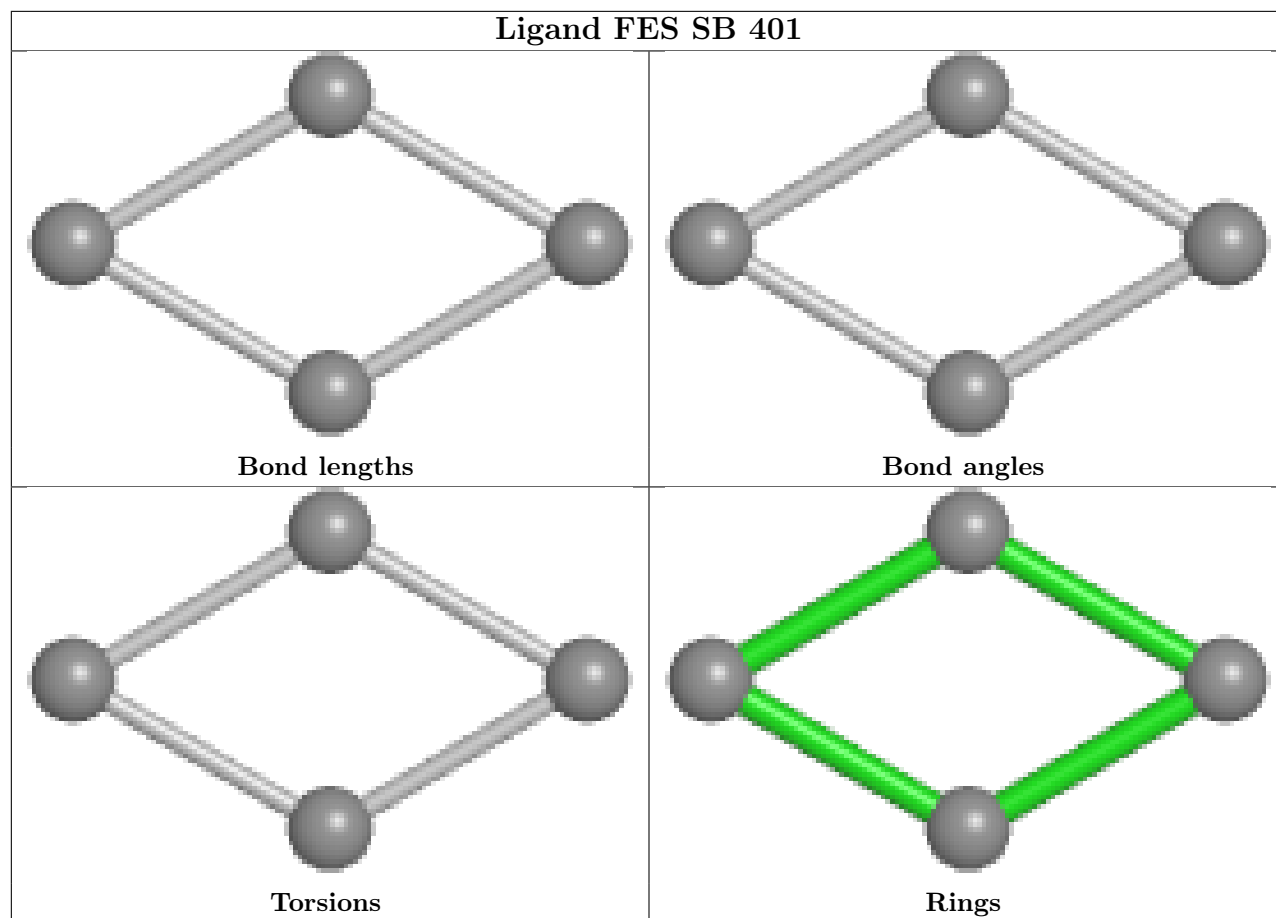


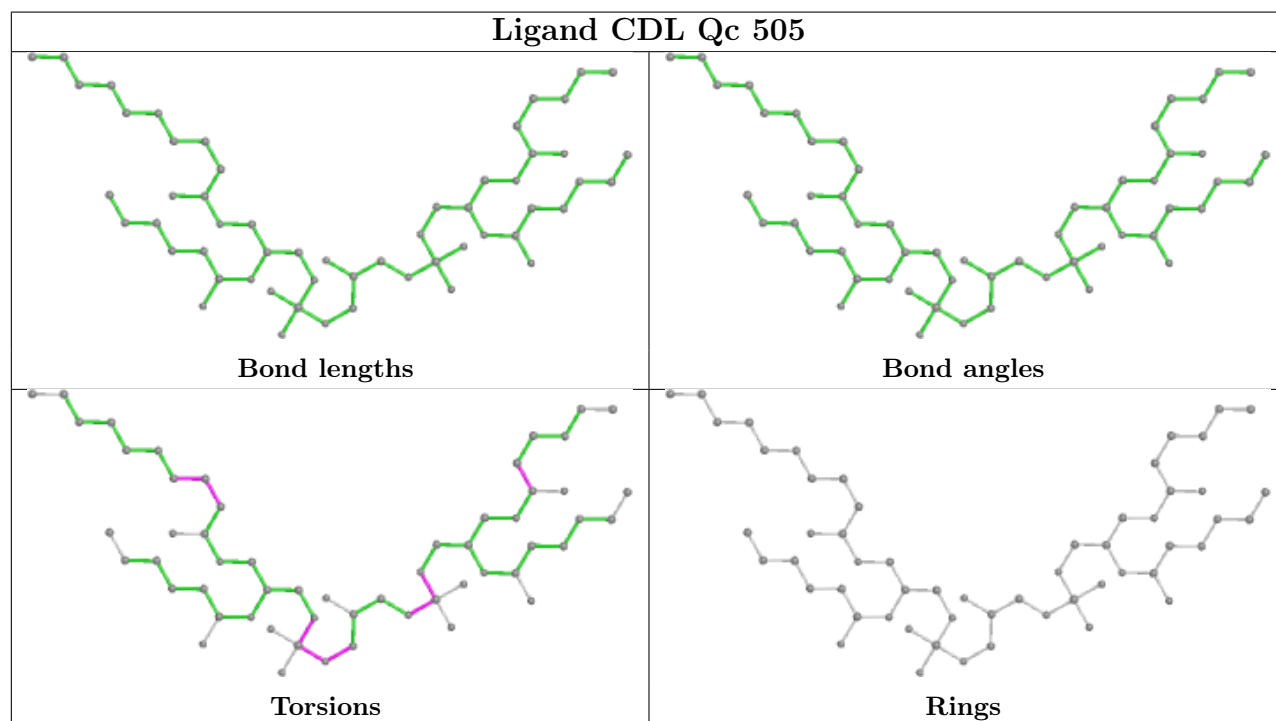
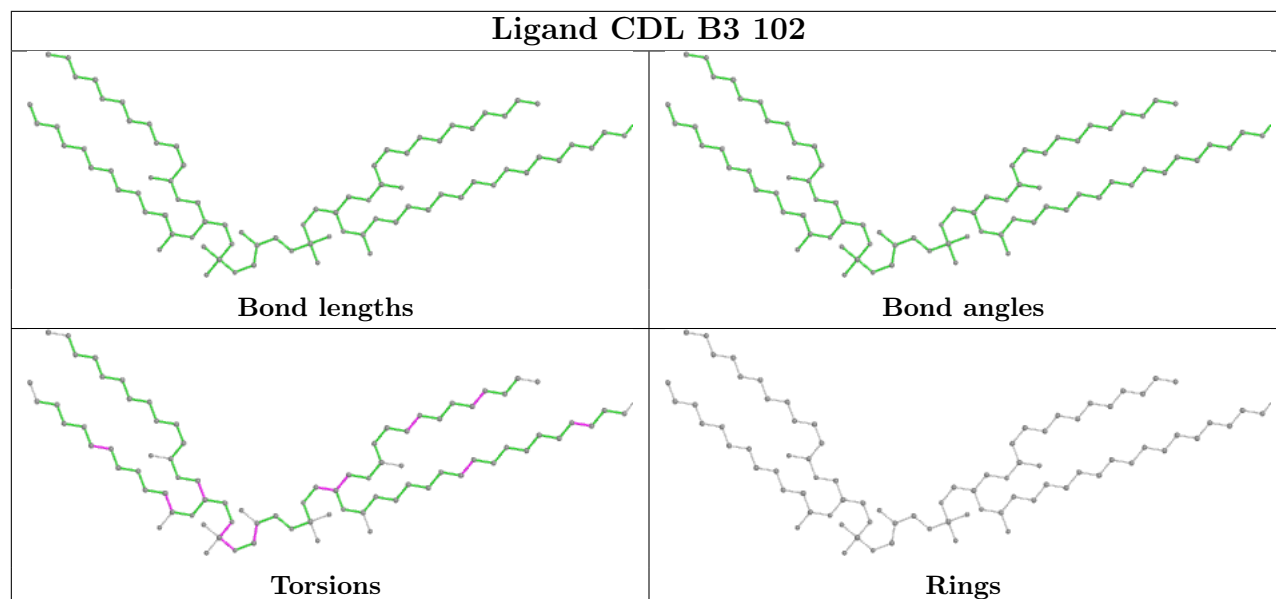


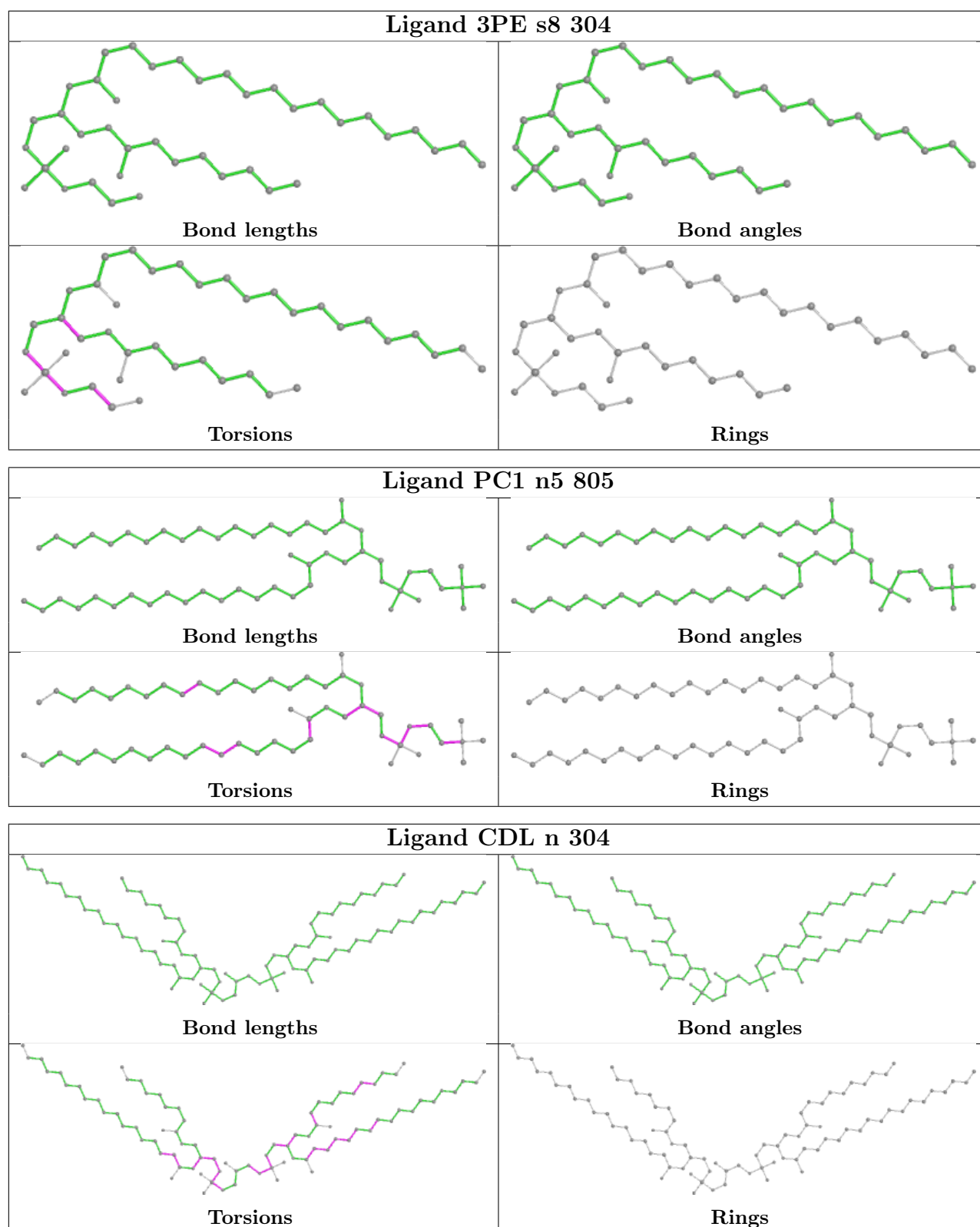


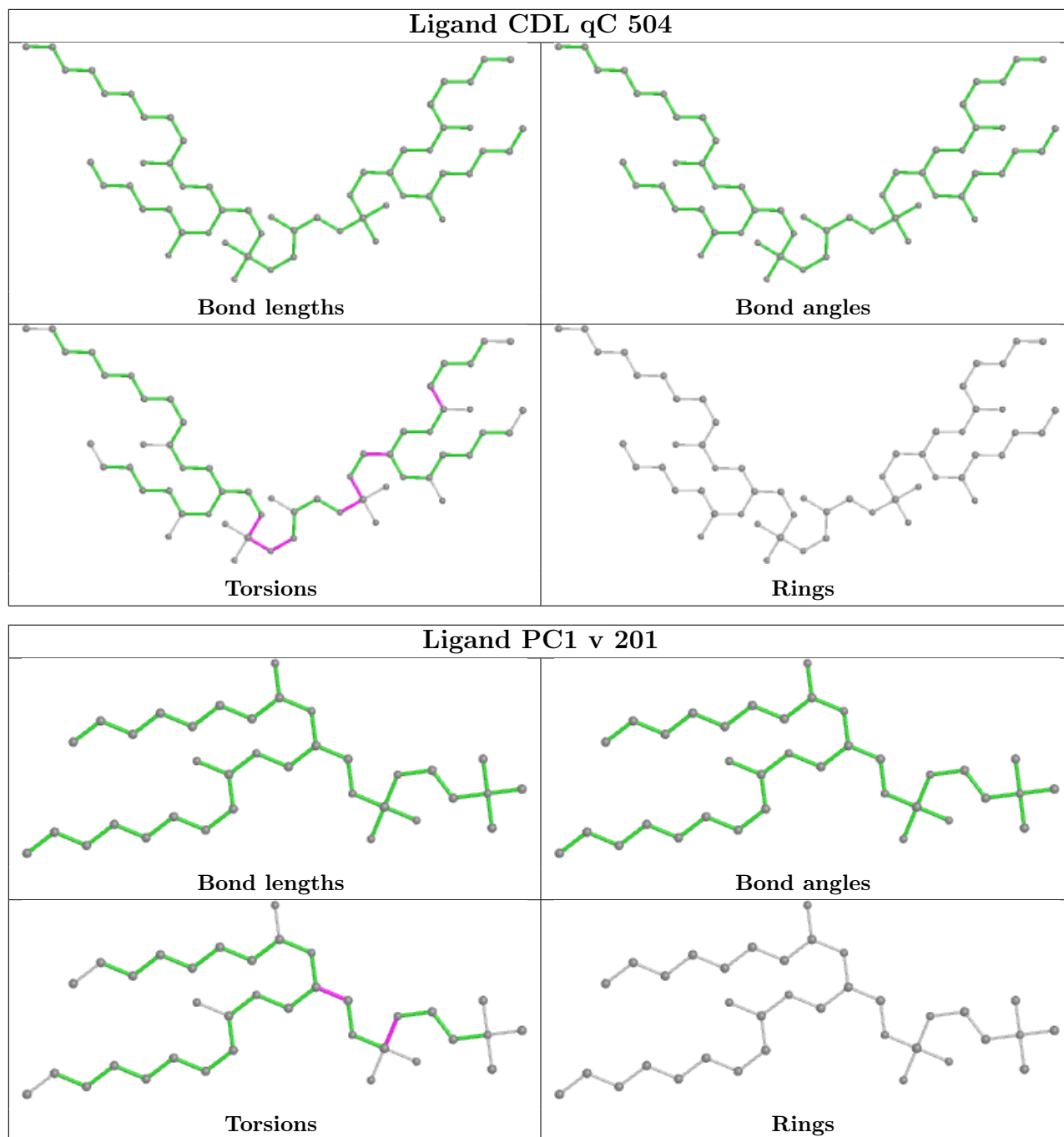


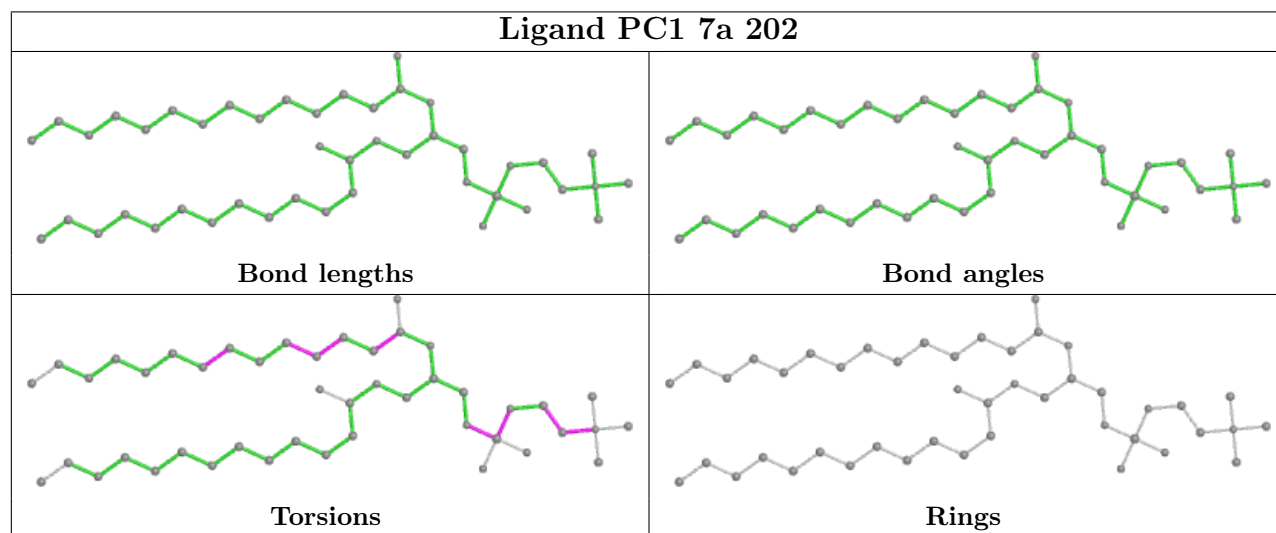
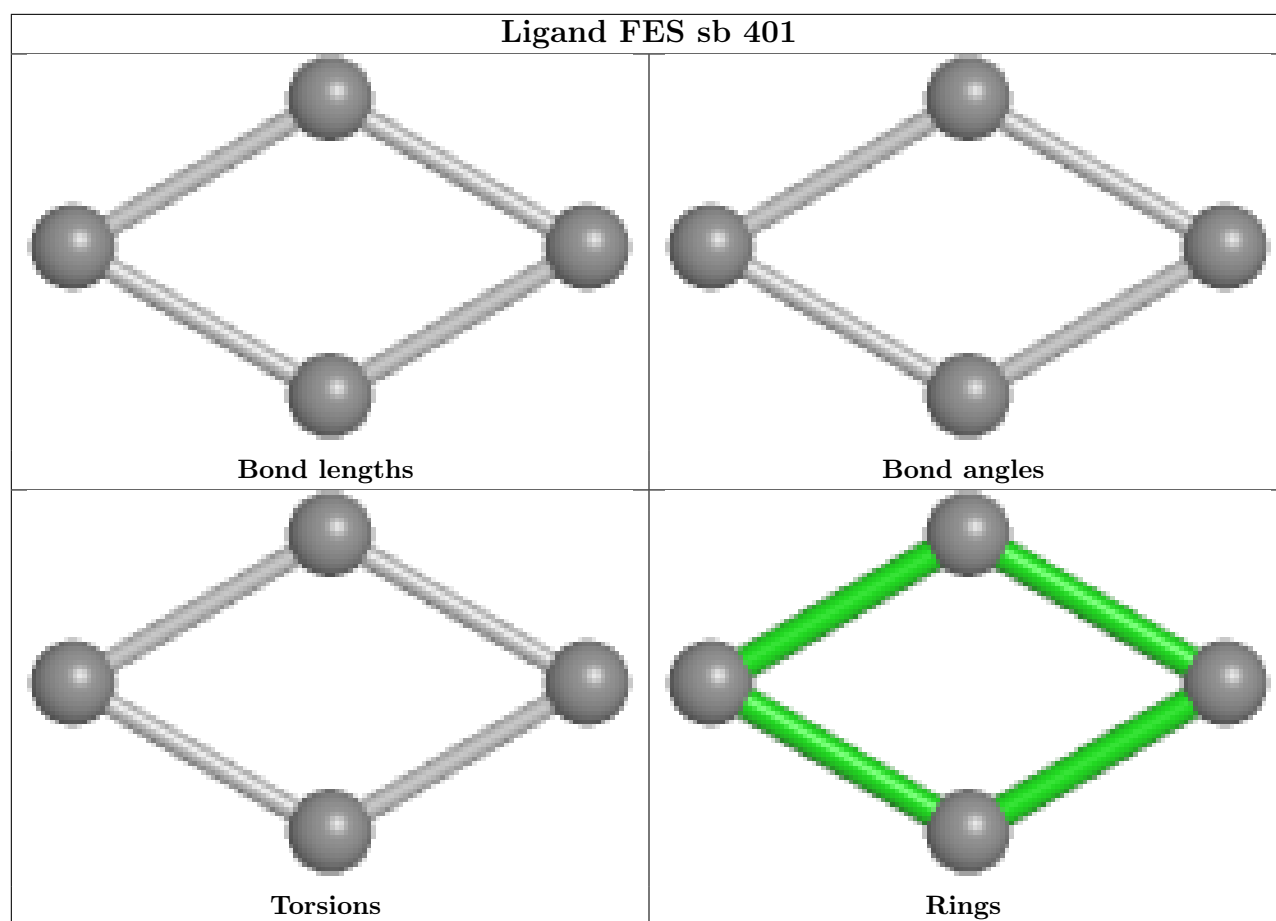


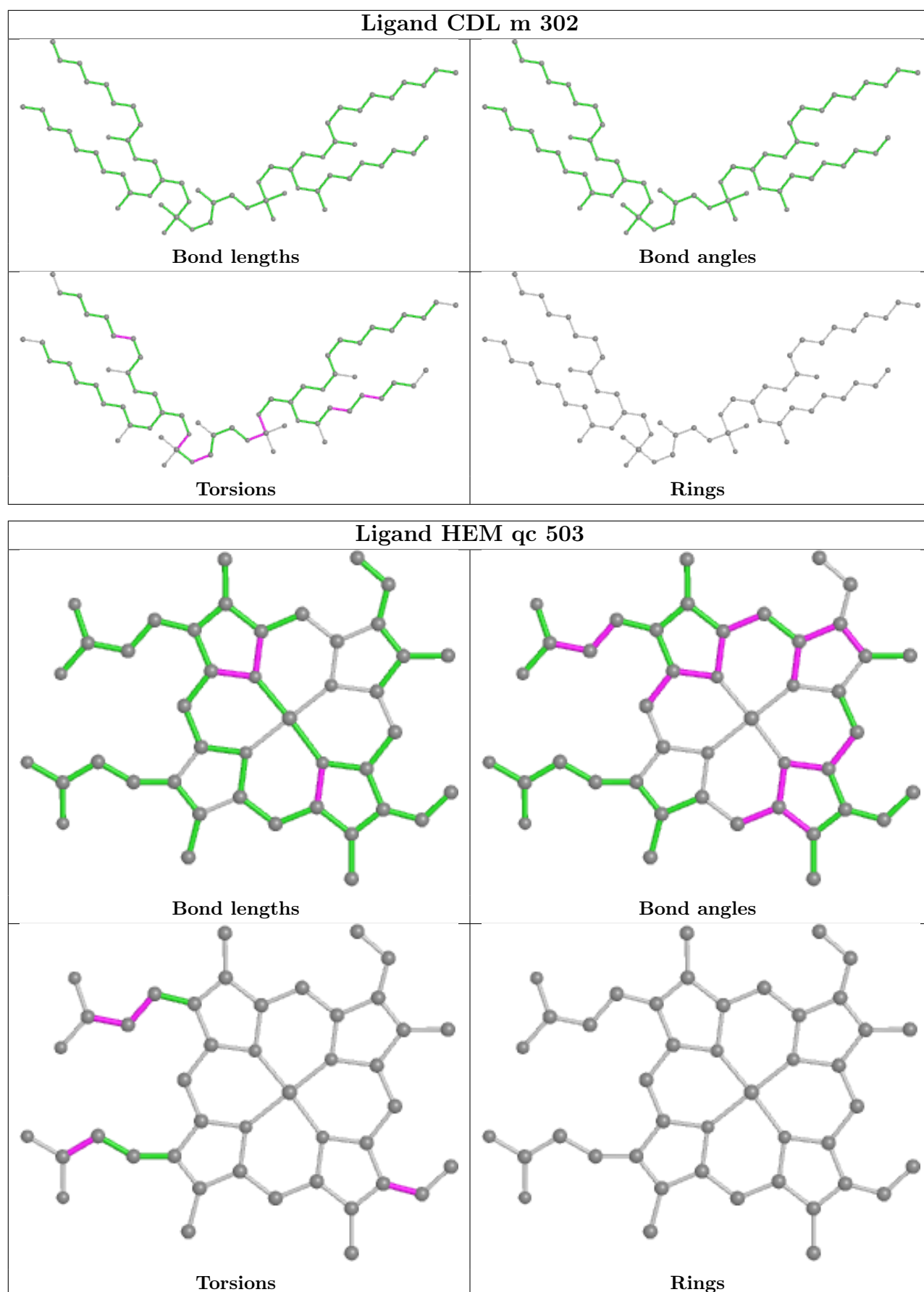


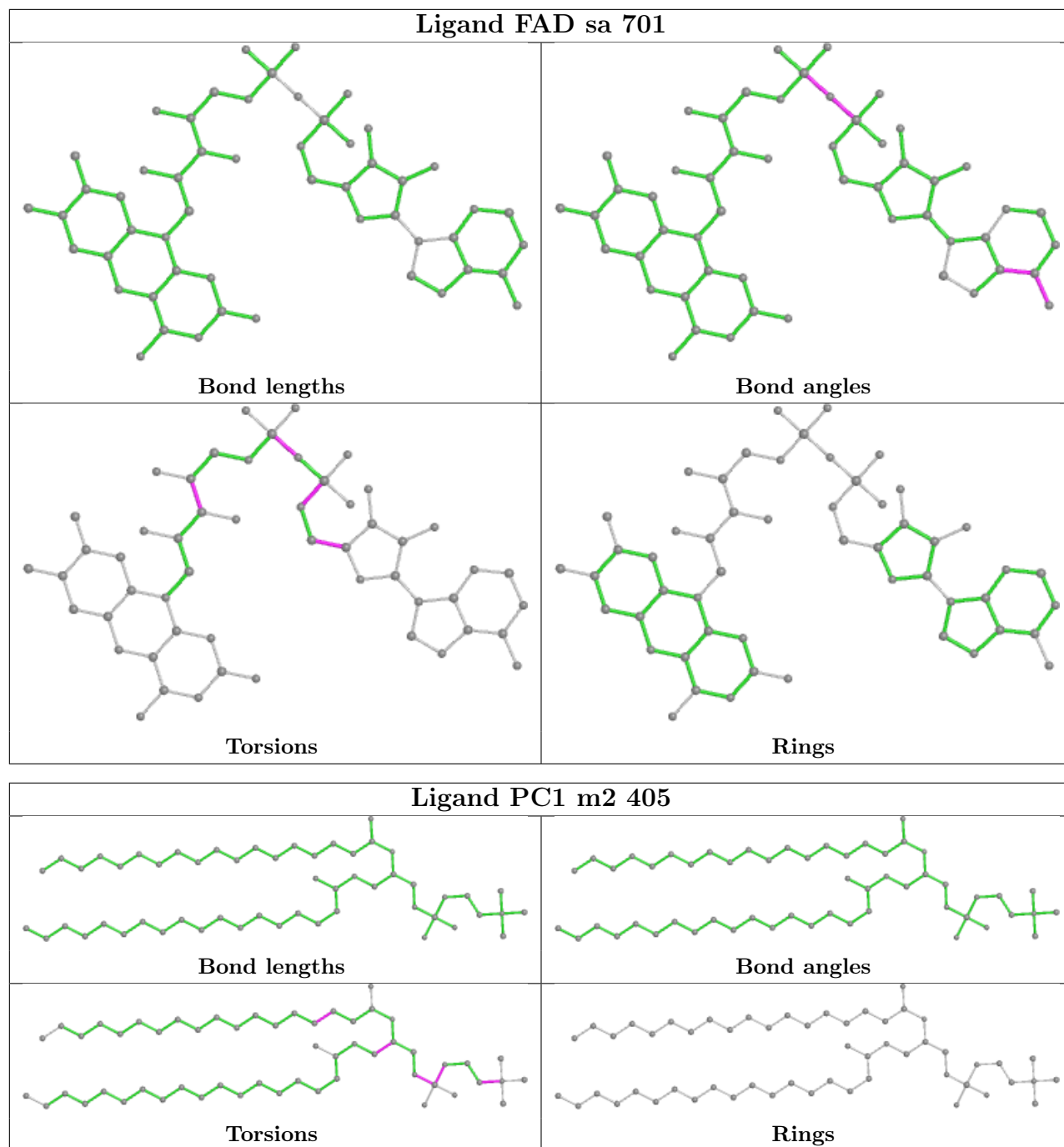


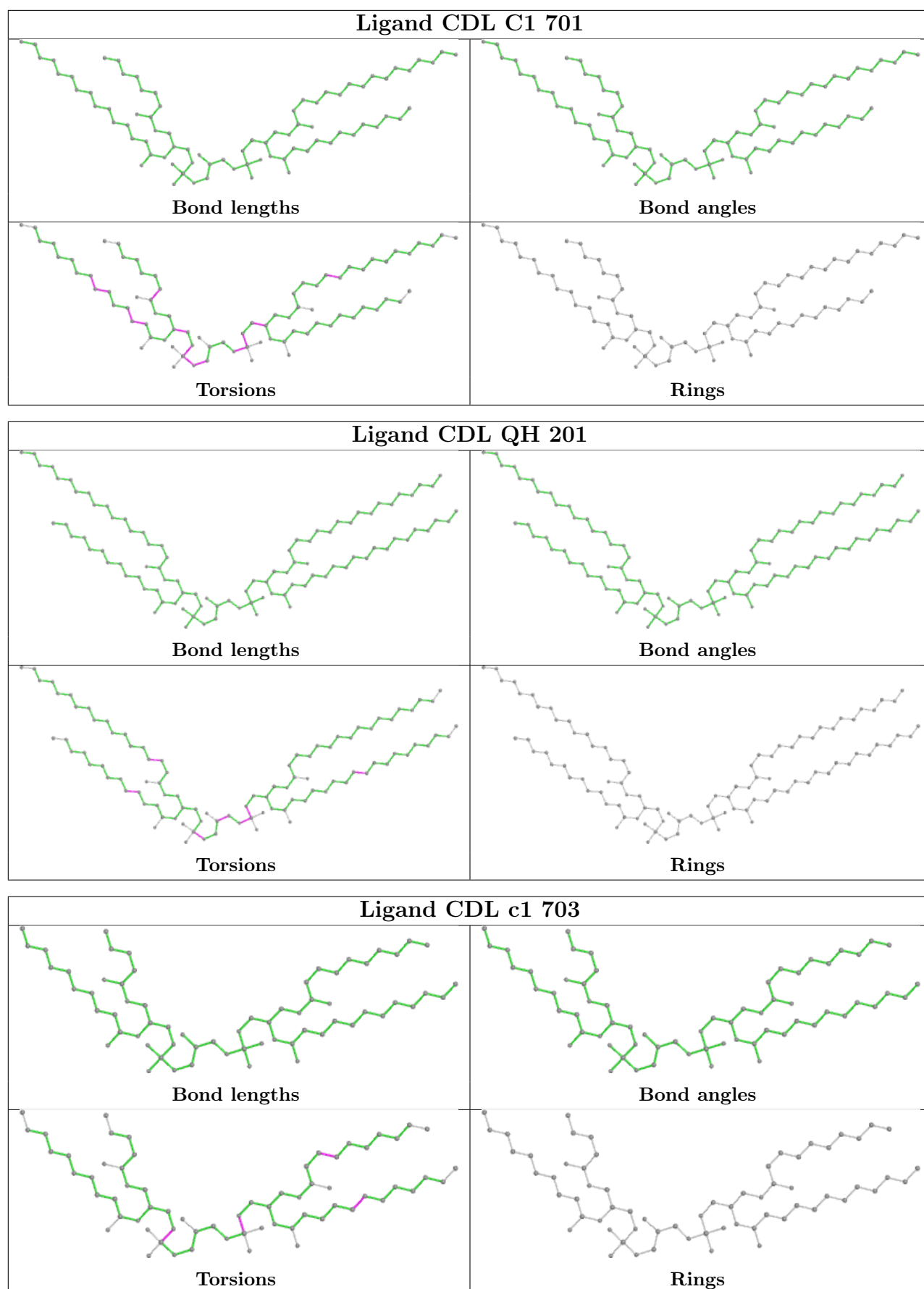


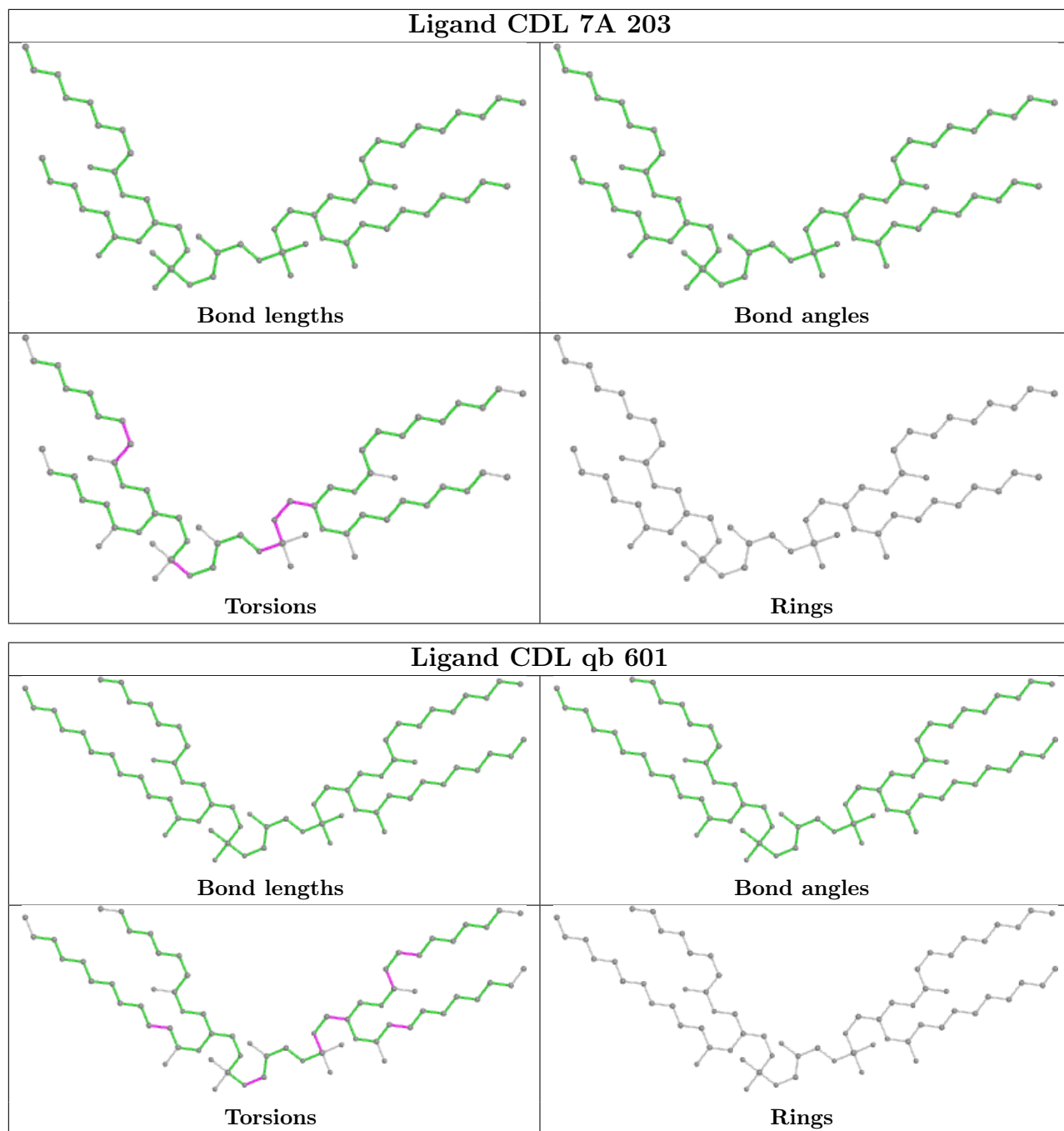


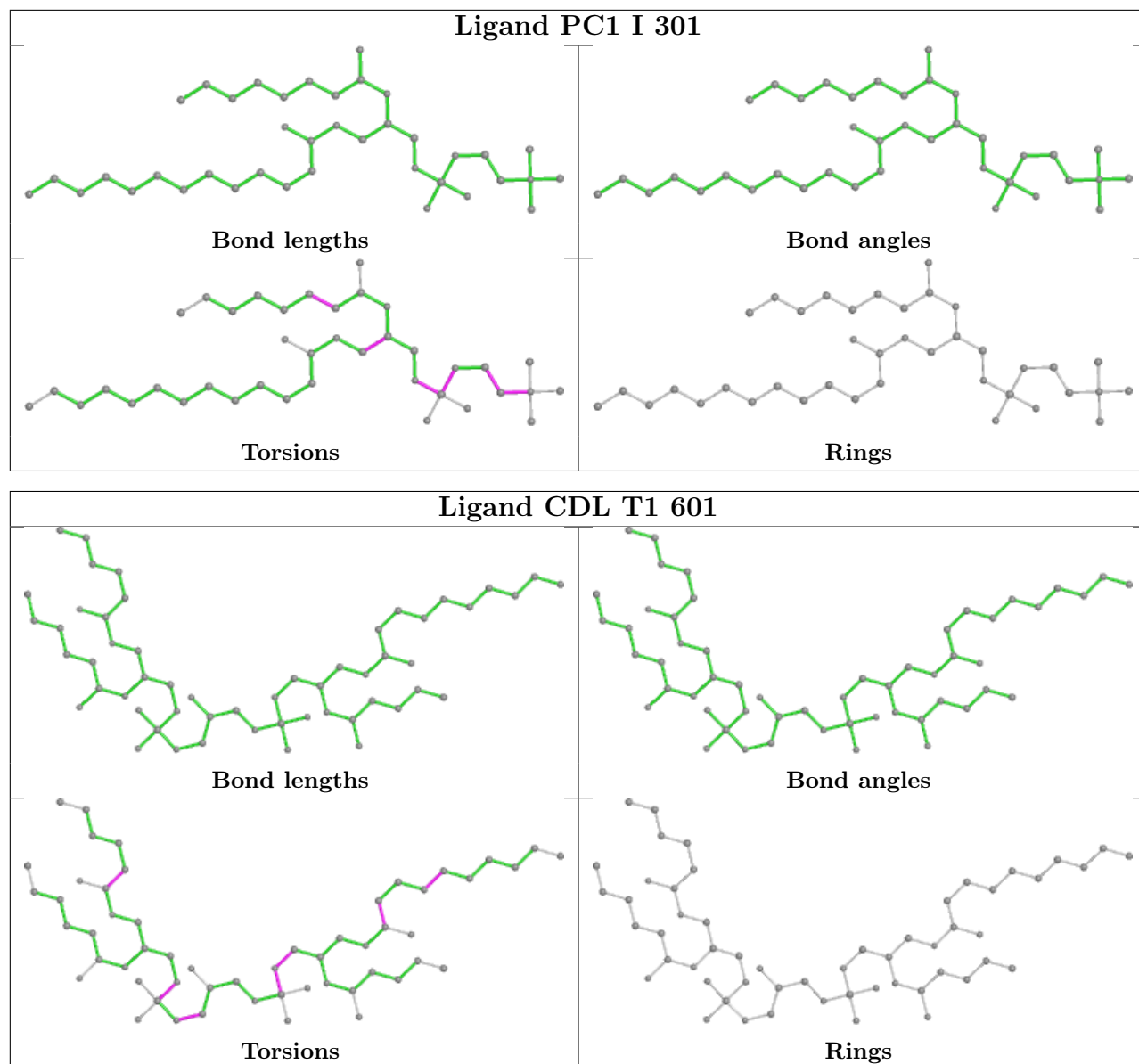


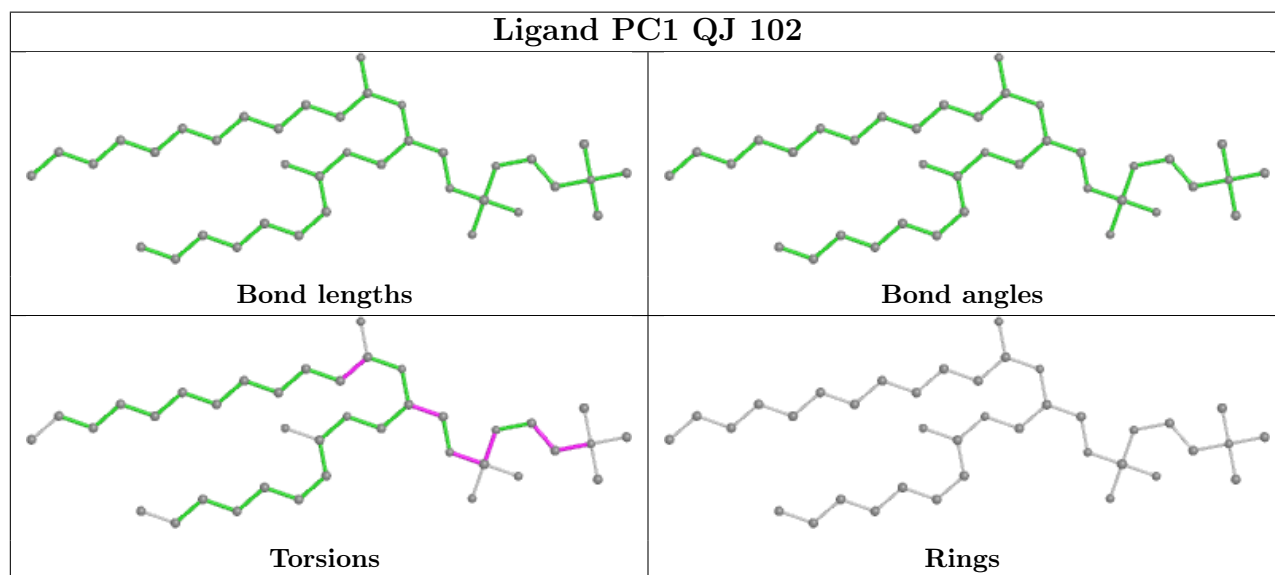
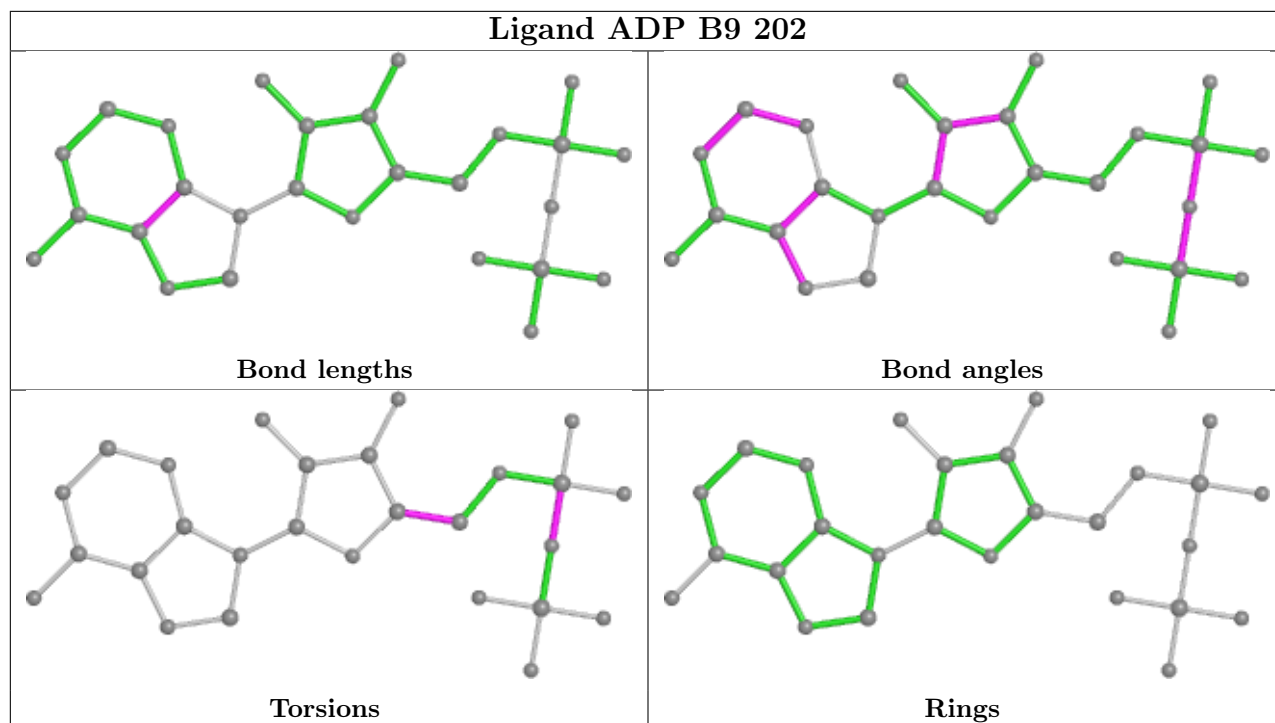


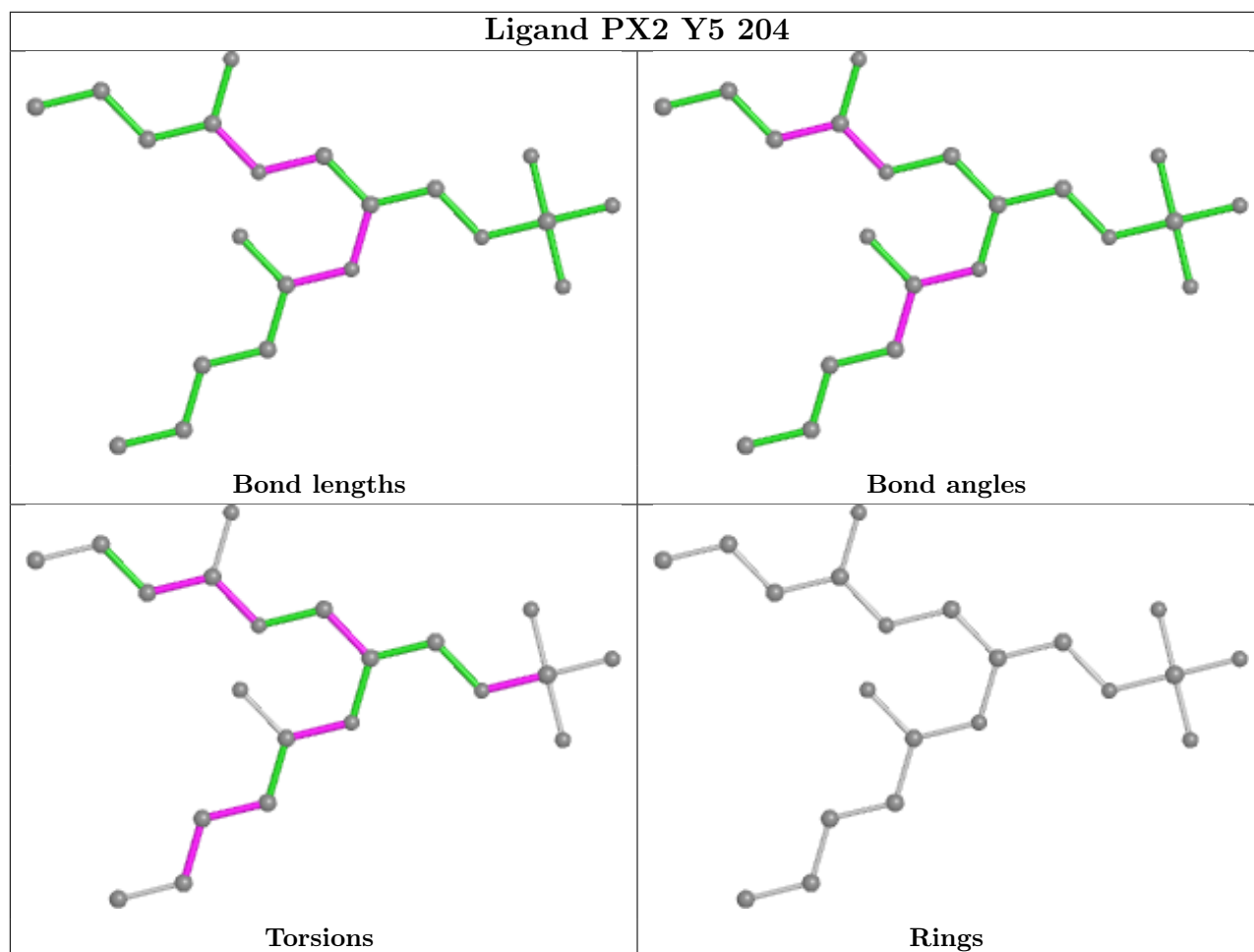
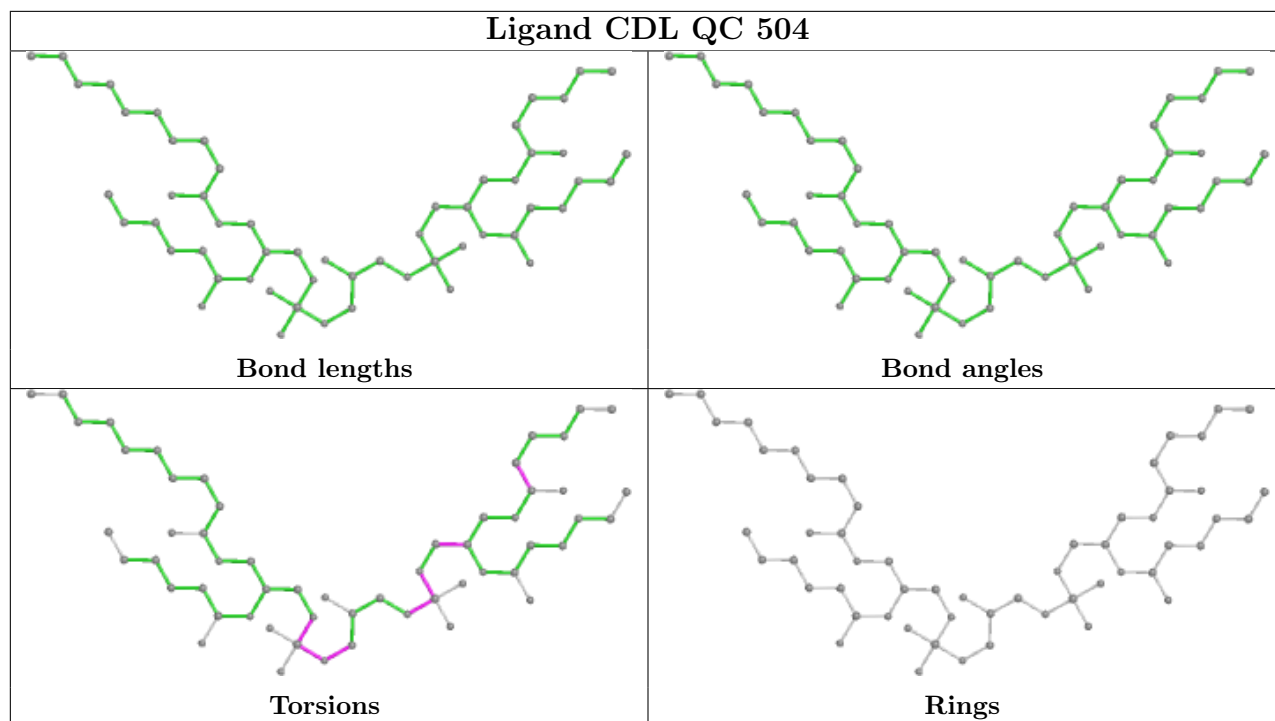


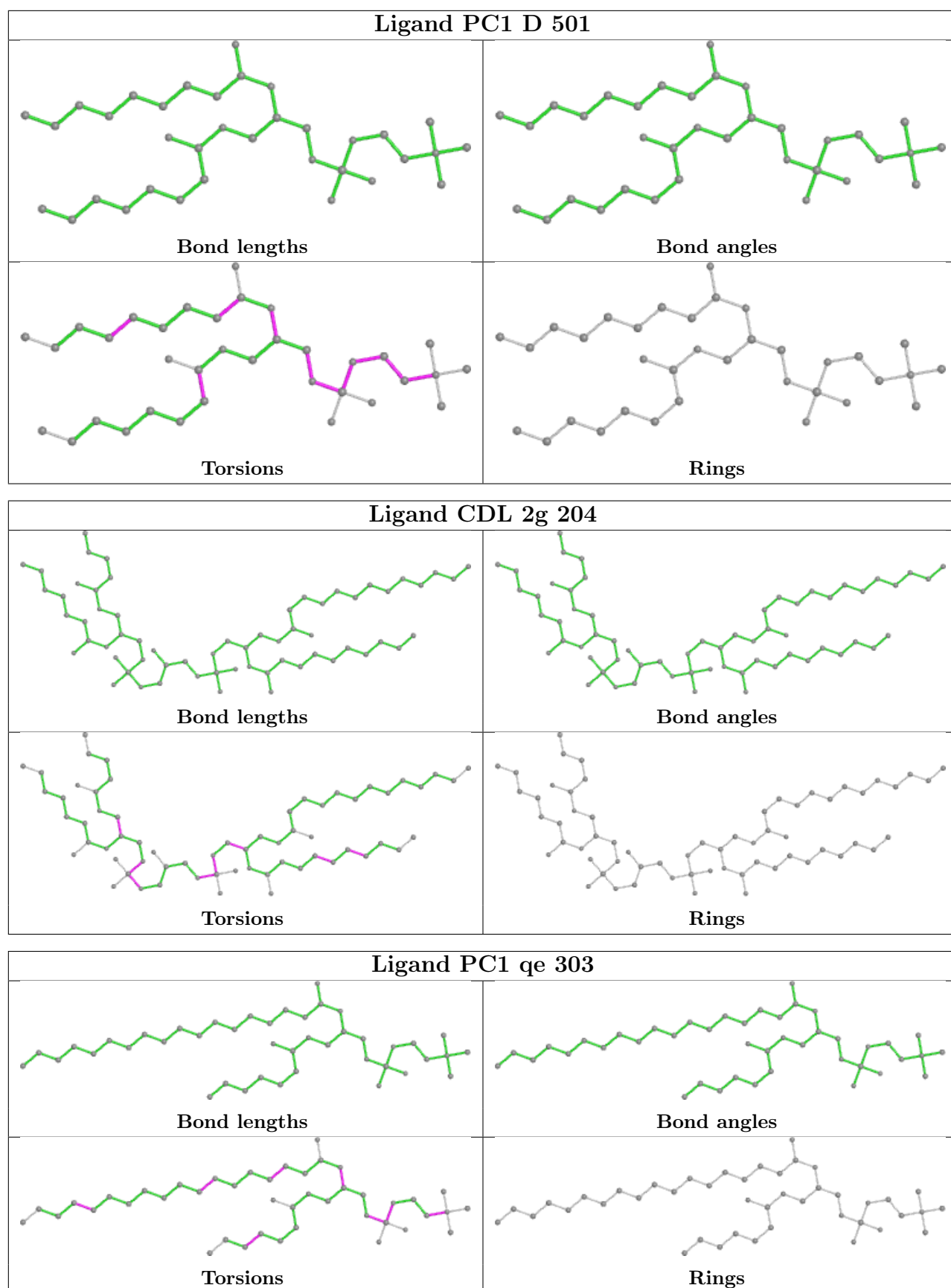


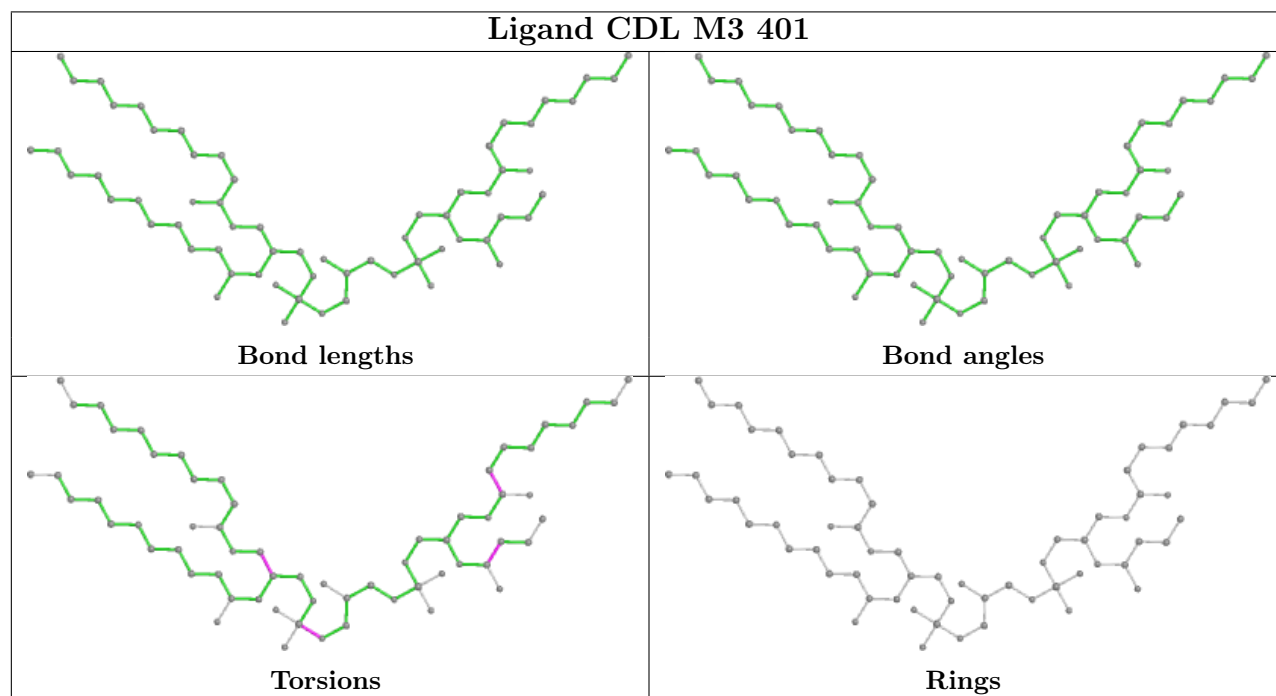
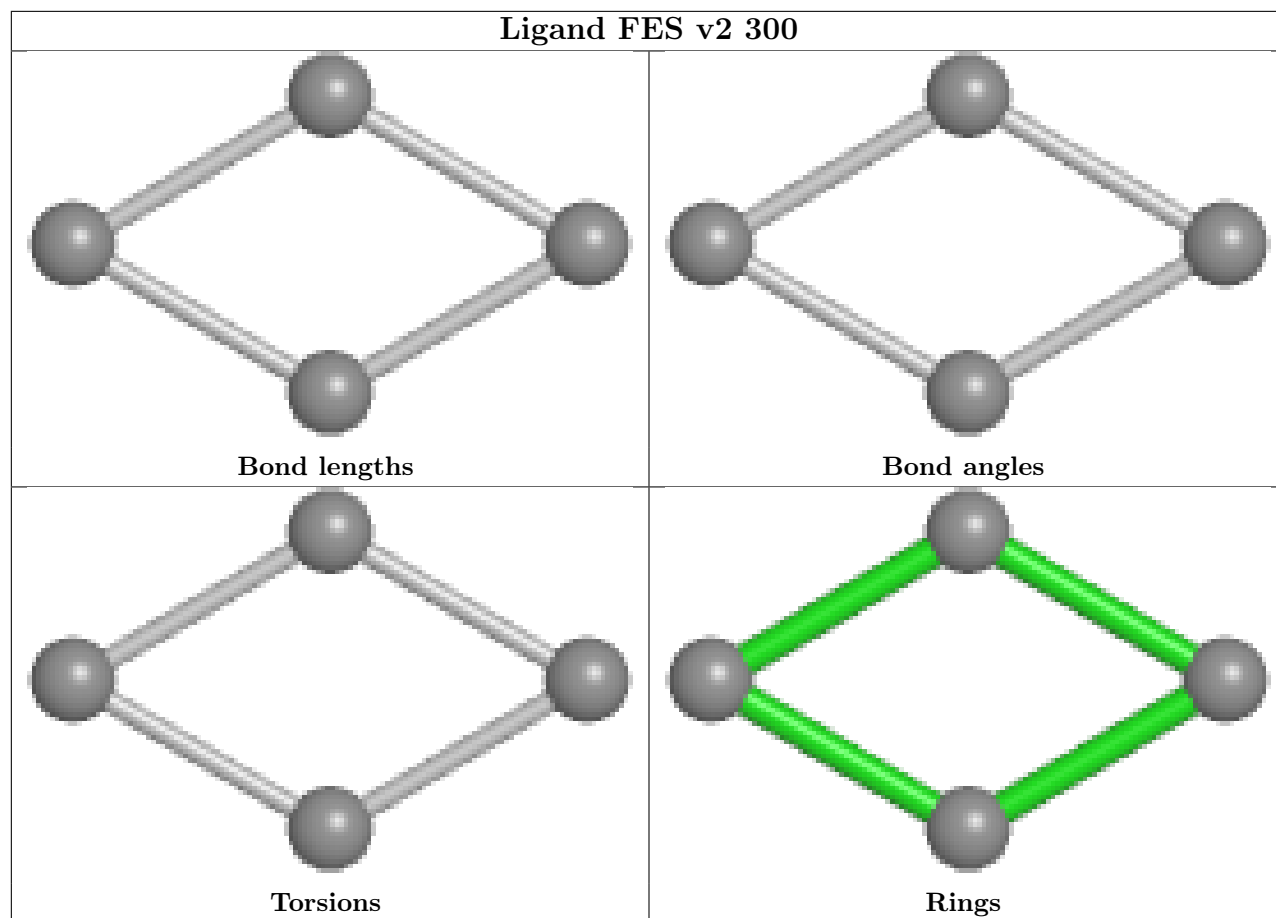


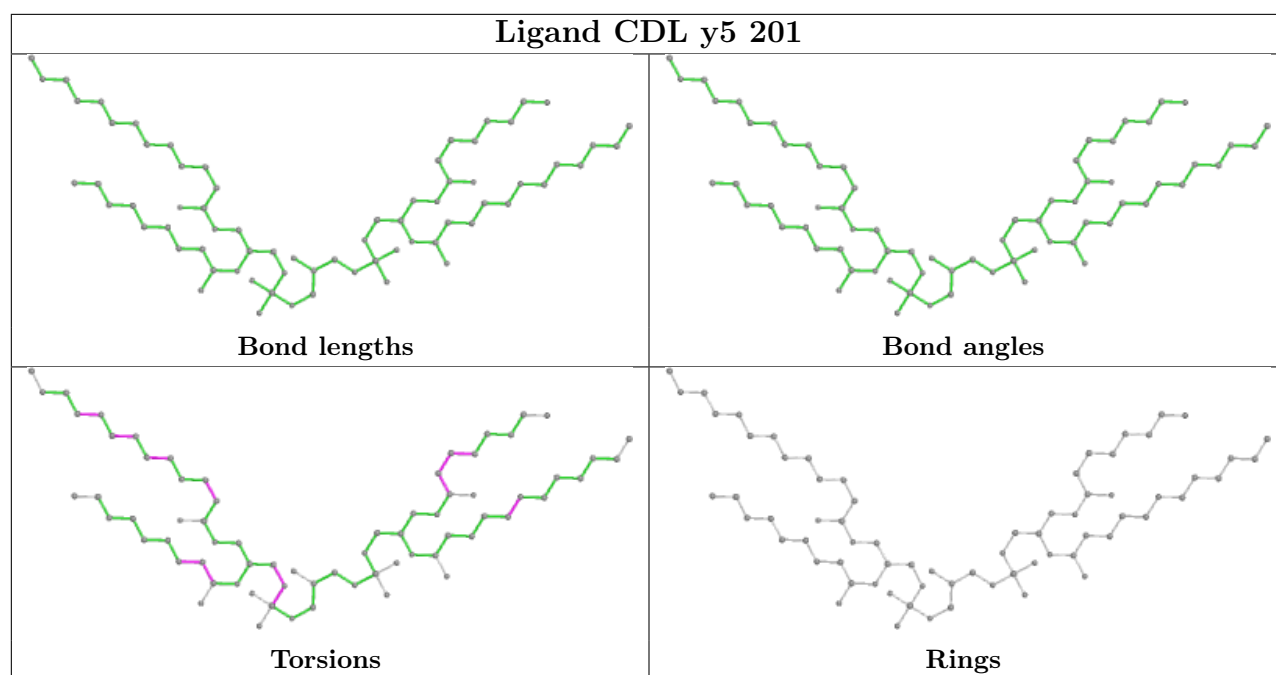












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

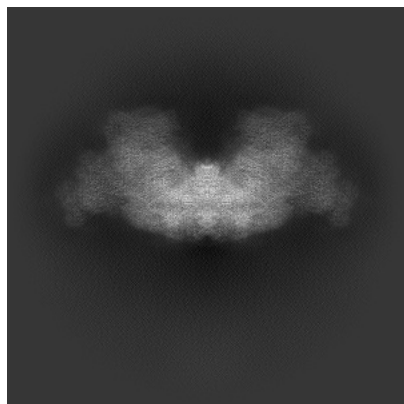
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-34373. These allow visual inspection of the internal detail of the map and identification of artifacts.

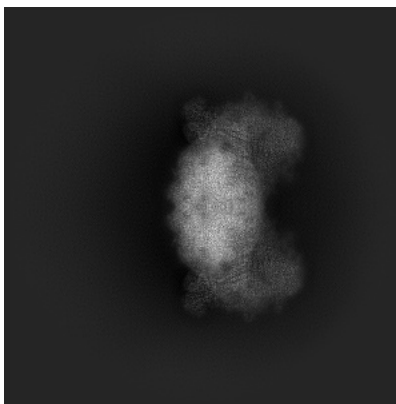
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

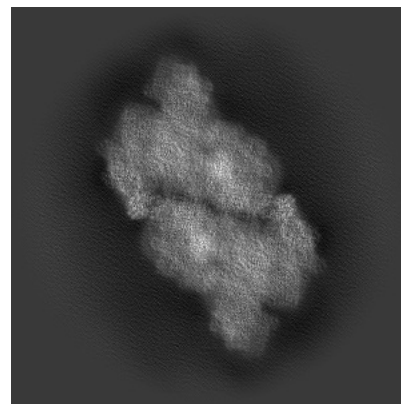
6.1.1 Primary map



X

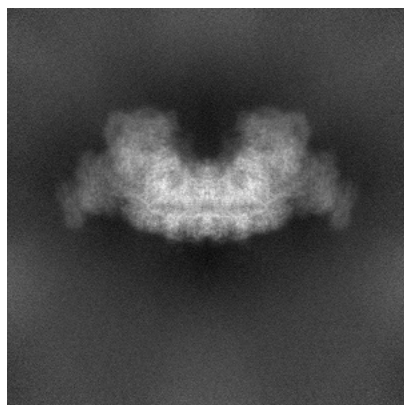


Y

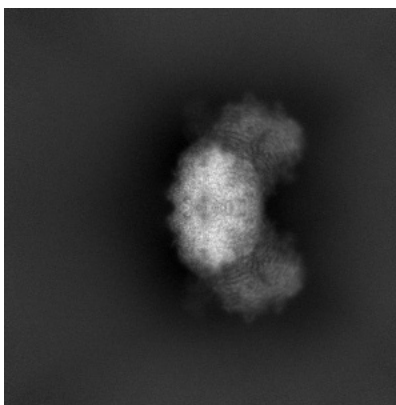


Z

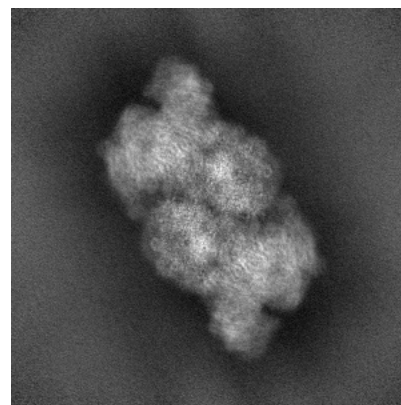
6.1.2 Raw map



X



Y

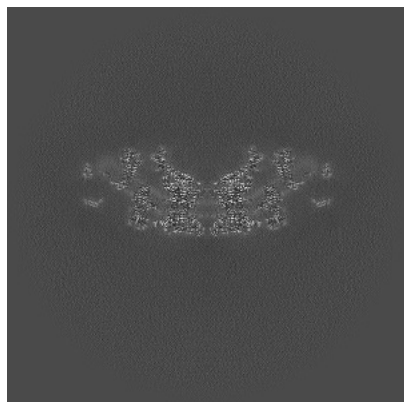


Z

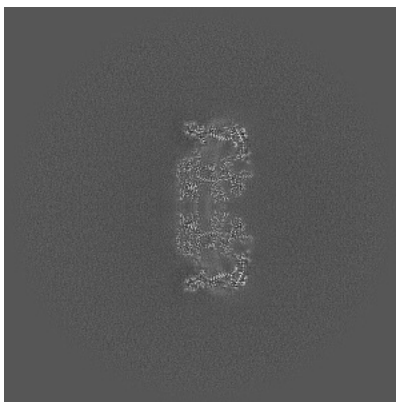
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

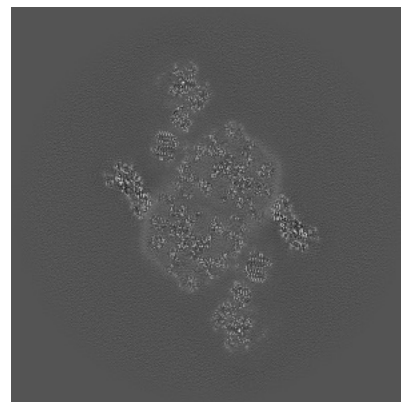
6.2.1 Primary map



X Index: 420

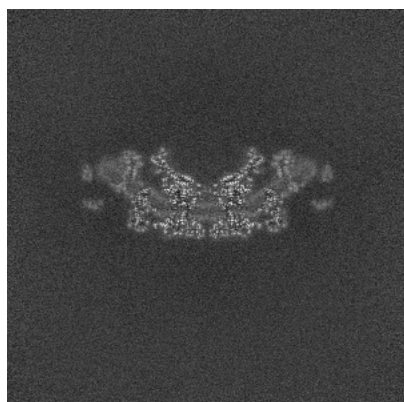


Y Index: 420

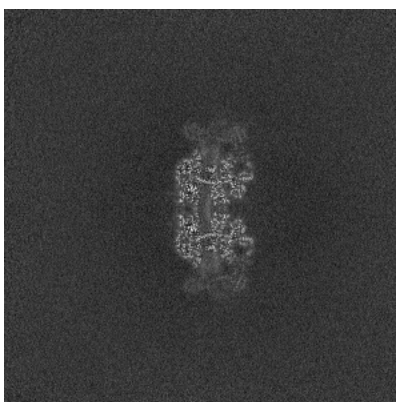


Z Index: 420

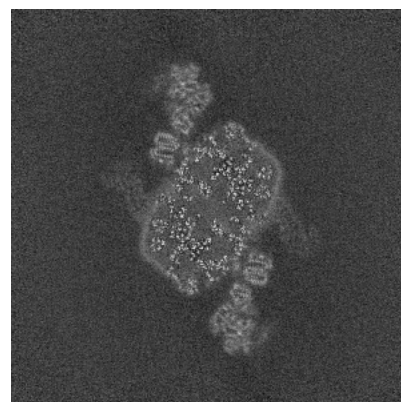
6.2.2 Raw map



X Index: 420



Y Index: 420

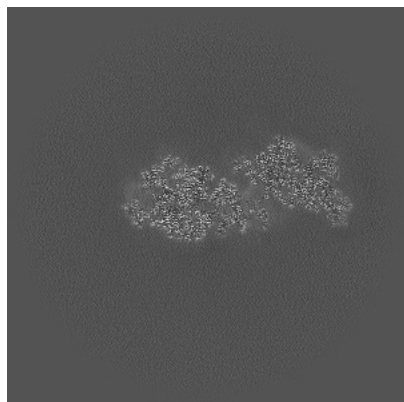


Z Index: 420

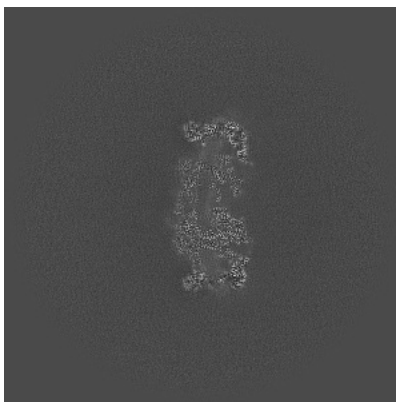
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

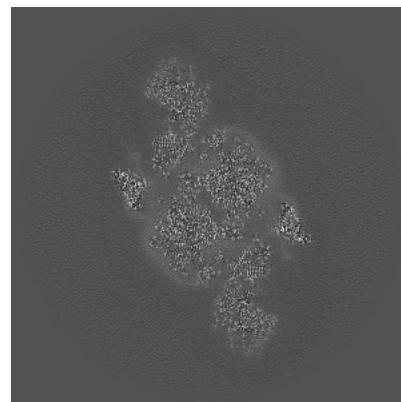
6.3.1 Primary map



X Index: 378

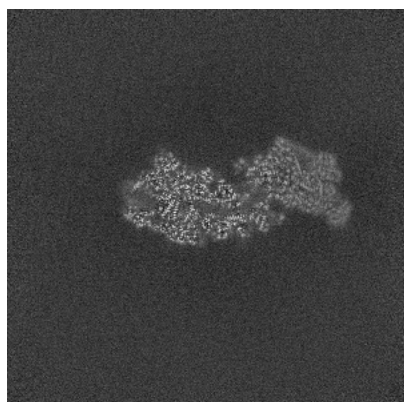


Y Index: 412

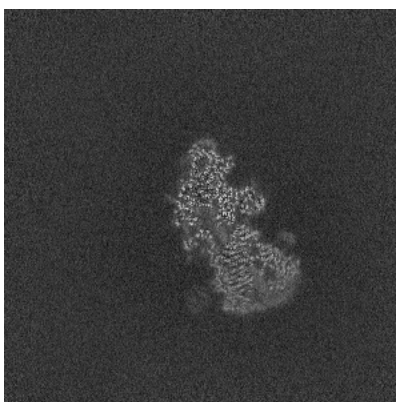


Z Index: 439

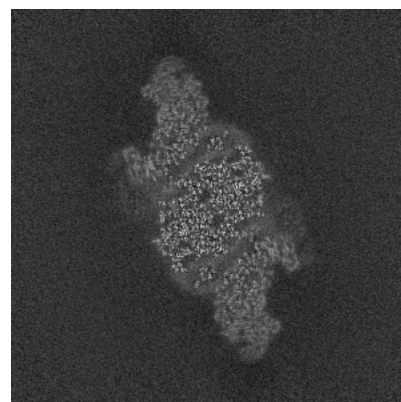
6.3.2 Raw map



X Index: 384



Y Index: 508

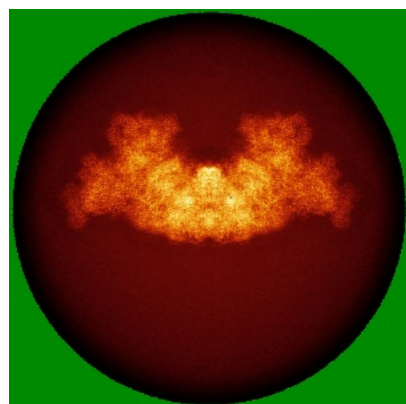


Z Index: 453

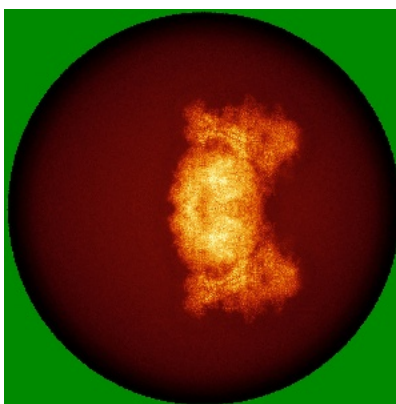
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

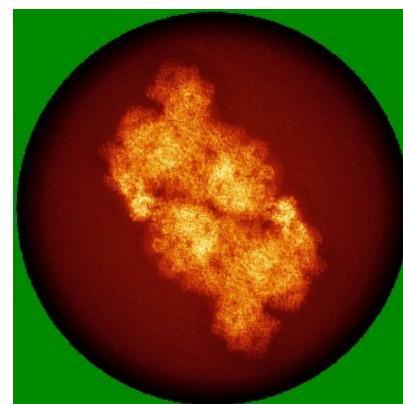
6.4.1 Primary map



X

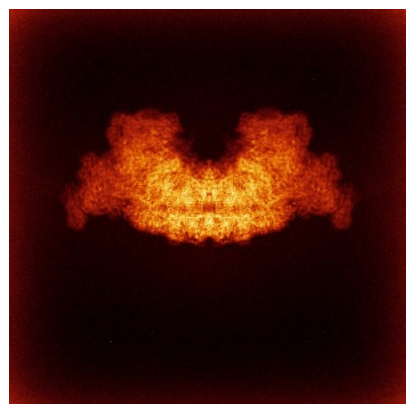


Y

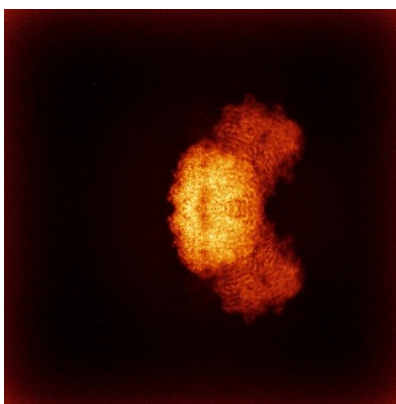


Z

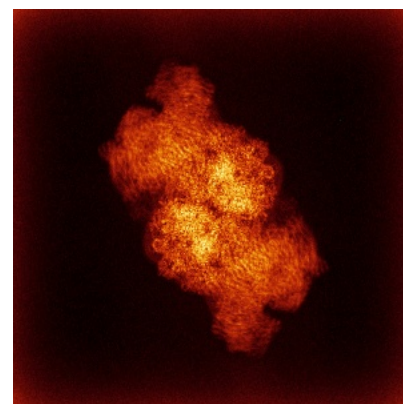
6.4.2 Raw map



X



Y

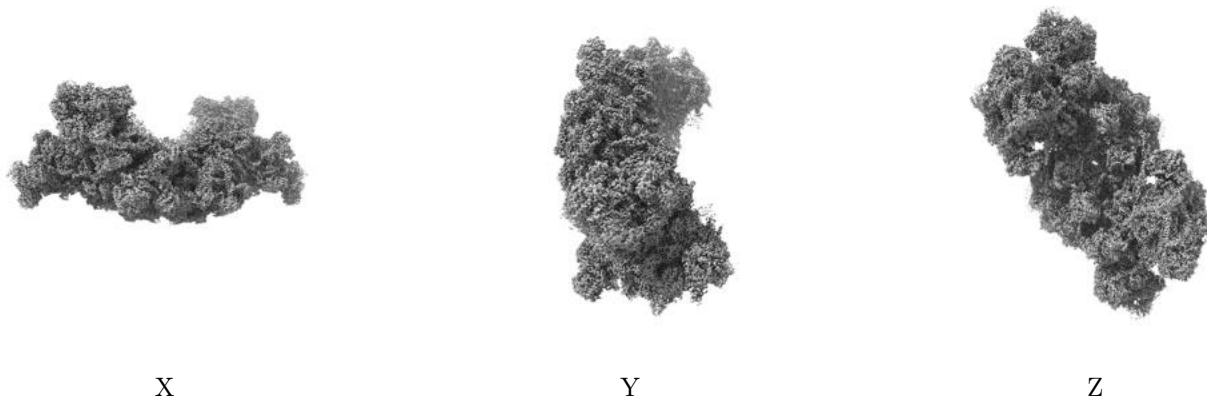


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

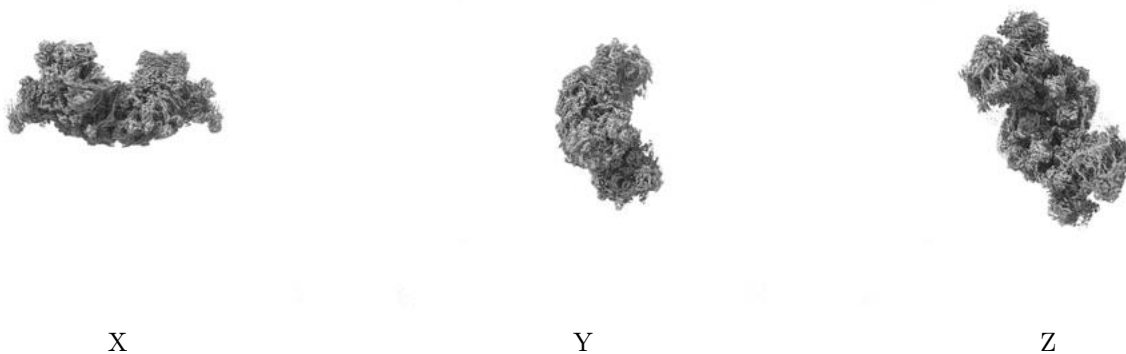
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 5.5. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

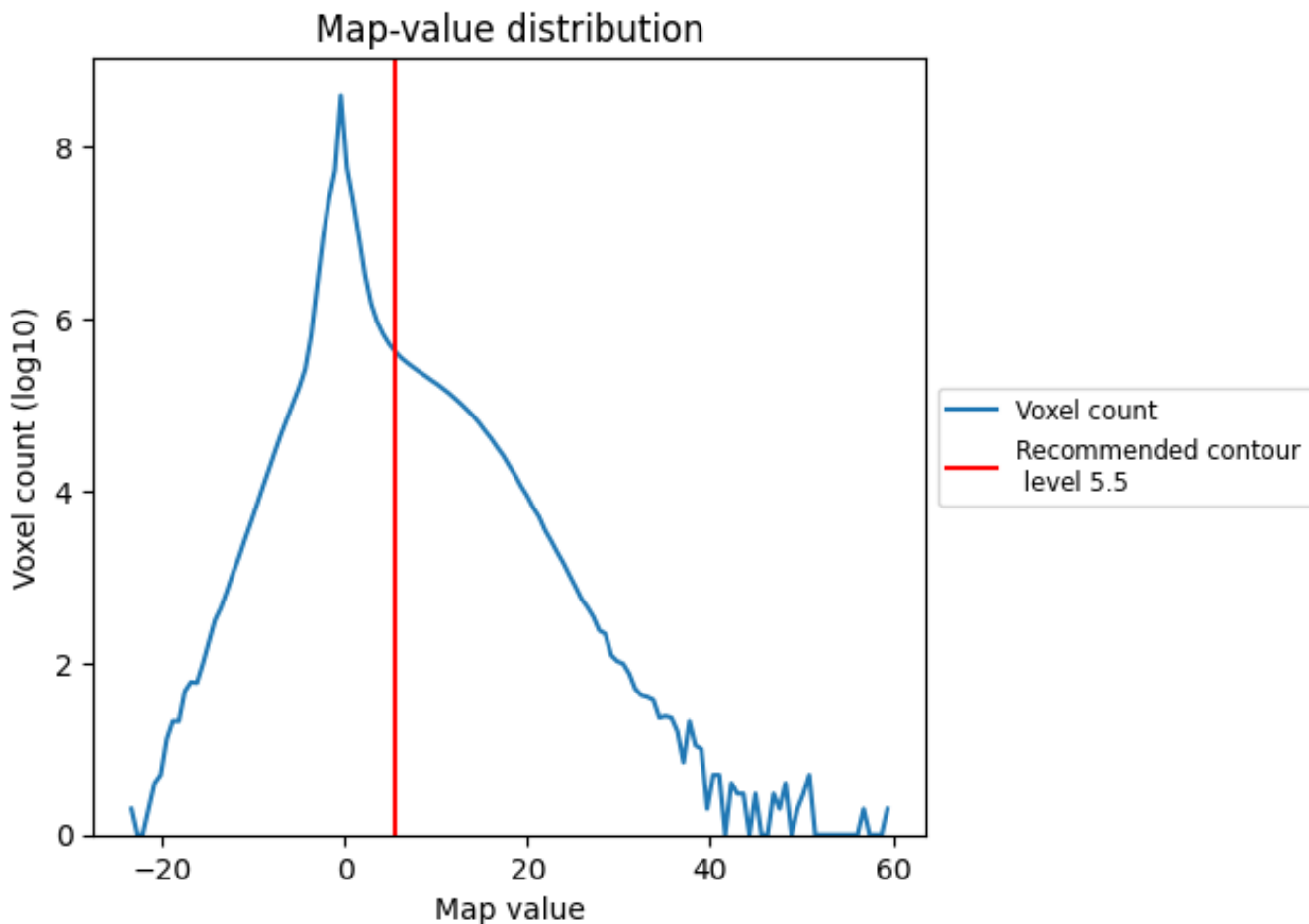
6.6 Mask visualisation [i](#)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis [i](#)

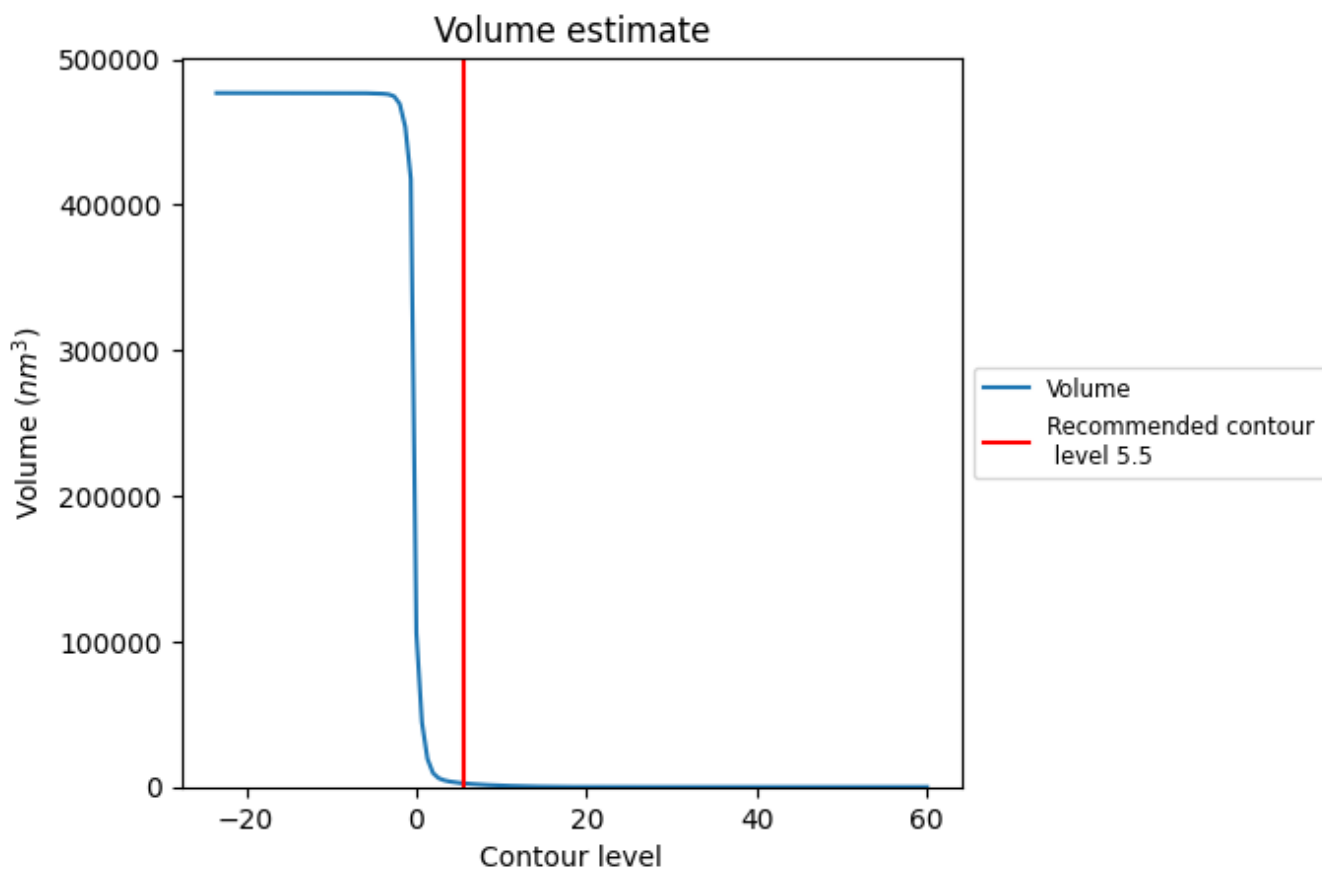
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

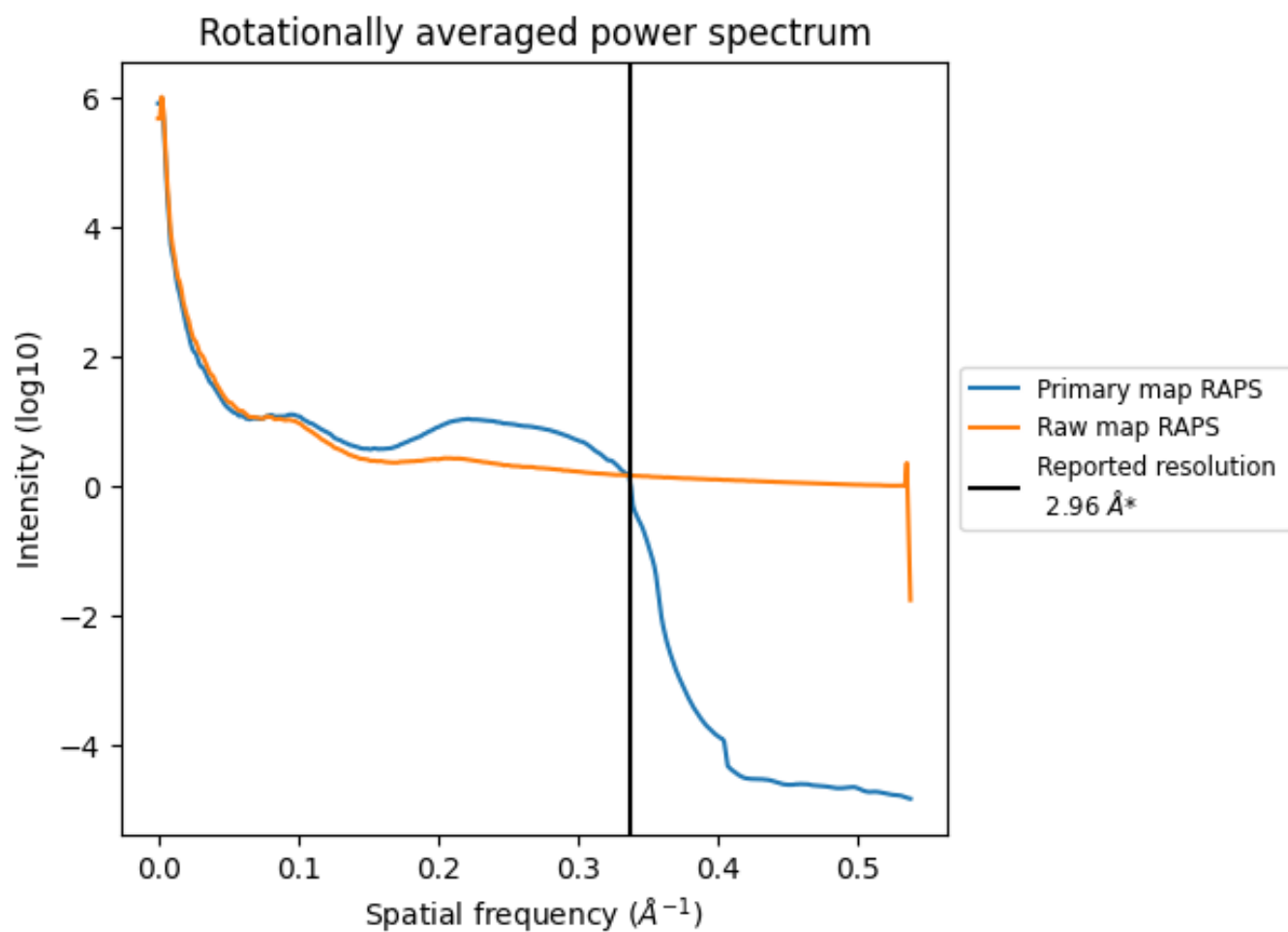
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 2536 nm^3 ; this corresponds to an approximate mass of 2290 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum i

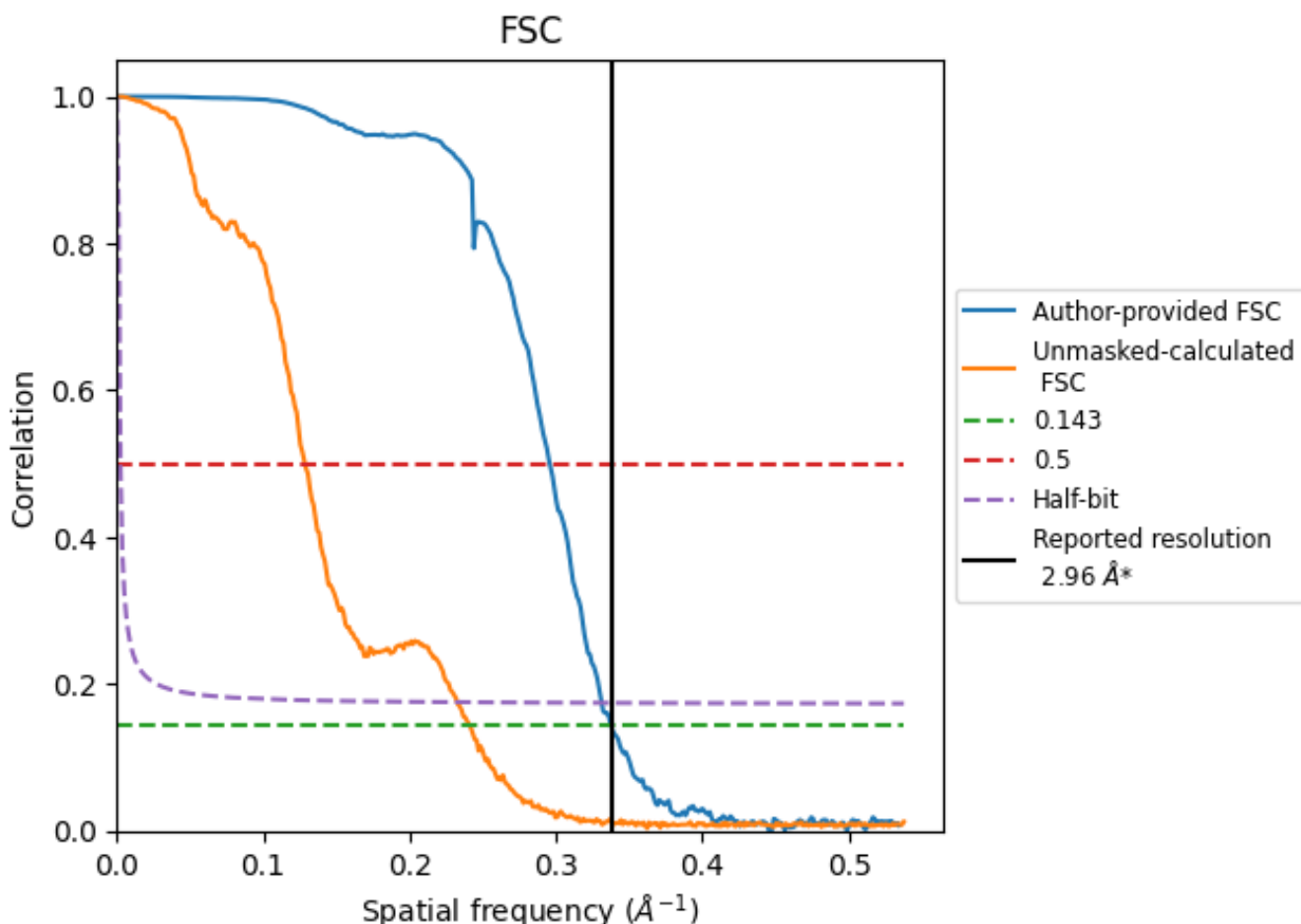


*Reported resolution corresponds to spatial frequency of 0.338 Å⁻¹

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.338 Å⁻¹

8.2 Resolution estimates [i](#)

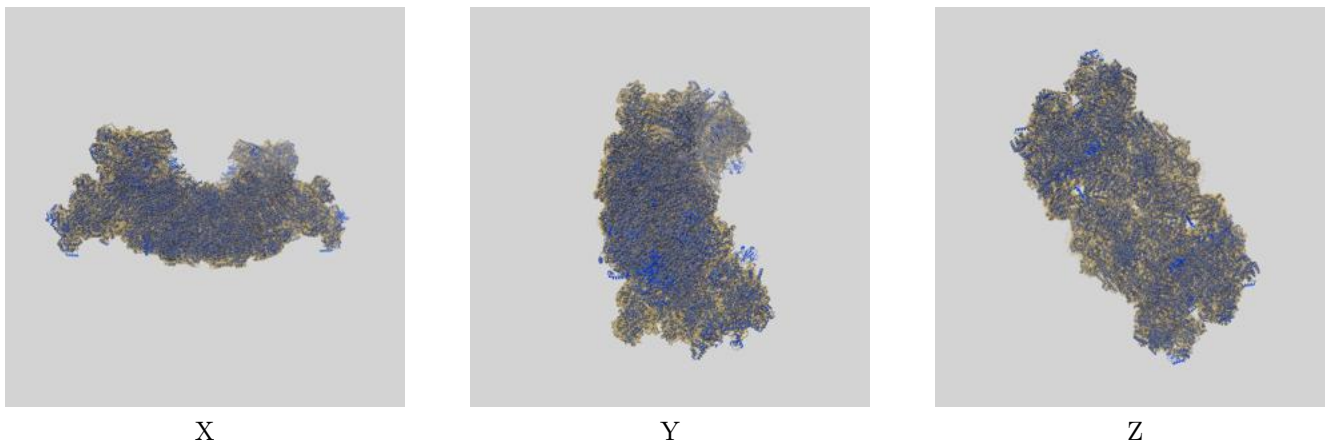
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.96	-	-
Author-provided FSC curve	2.96	3.38	3.02
Unmasked-calculated*	4.15	7.78	4.30

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.15 differs from the reported value 2.96 by more than 10 %

9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-34373 and PDB model 8GYM. Per-residue inclusion information can be found in section [3](#) on page [81](#).

9.1 Map-model overlay [i](#)

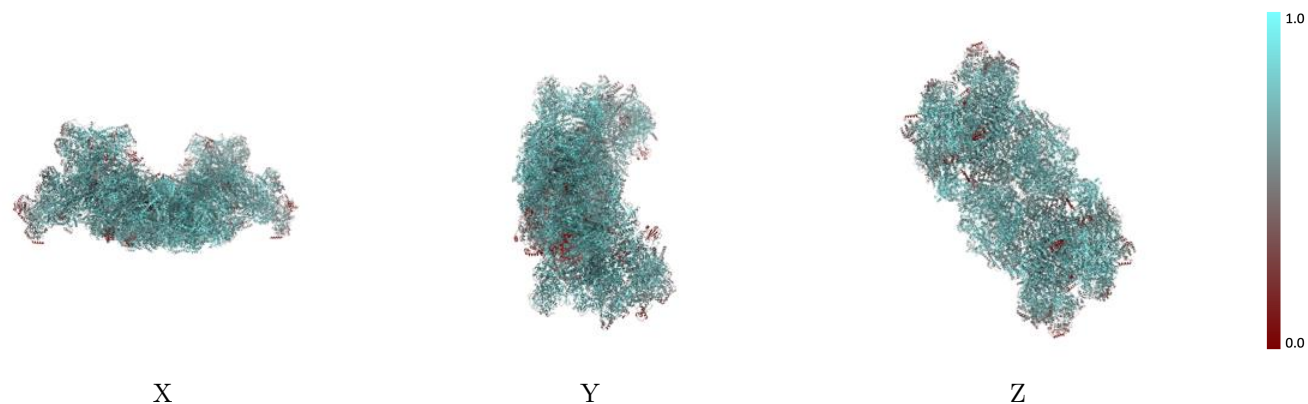


The images above show the 3D surface view of the map at the recommended contour level 5.5 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)

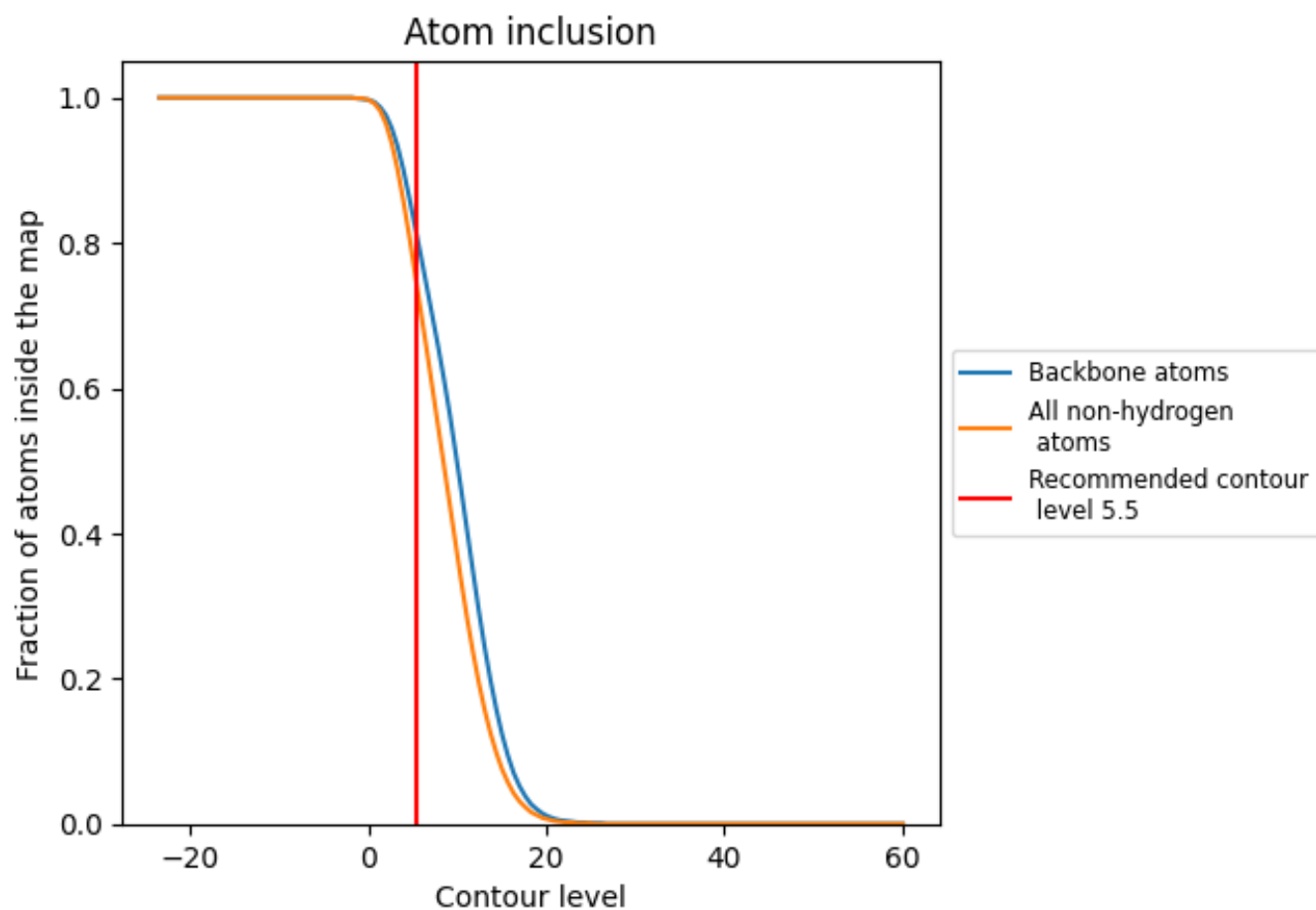
This section was not generated.

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (5.5).

9.4 Atom inclusion [i](#)



At the recommended contour level, 81% of all backbone atoms, 74% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary [i](#)











































The table lists the average atom inclusion at the recommended contour level (5.5) and Q-score for the entire model and for each chain.

Chain	Atom inclusion
All	0.7380
1B	0.8100
1T	0.7970
1b	0.8100
1t	0.7970
2B	0.8340
2E	0.7130
2F	0.8130
2G	0.7650
2H	0.8350
2I	0.7720
2J	0.7800
2K	0.8000
2L	0.8300
2M	0.8460
2N	0.8180
2O	0.8480
2T	0.6780
2b	0.8340
2e	0.7130
2f	0.8130
2g	0.7650
2h	0.8350
2i	0.7730
2j	0.7870
2k	0.8000
2l	0.8300
2m	0.8470
2n	0.8120
2o	0.8480
2t	0.6780
3T	0.6390
3t	0.6410
4A	0.8030
4L	0.8160













































Continued on next page...

Continued from previous page...

Chain	Atom inclusion
4T	 0.8030
4a	 0.8020
4l	 0.8170
4t	 0.8030
5B	 0.7820
5T	 0.6840
5b	 0.7810
5t	 0.6800
6A	 0.8000
6B	 0.8530
6C	 0.7880
6L	 0.7550
6T	 0.7230
6a	 0.8000
6b	 0.8530
6c	 0.7880
6l	 0.7550
6t	 0.7200
7A	 0.8230
7C	 0.8020
7L	 0.8110
7a	 0.8240
7c	 0.8040
7l	 0.8110
A	 0.8140
A1	 0.7460
A2	 0.6140
A3	 0.8070
A5	 0.7480
A6	 0.8350
A7	 0.6910
A8	 0.7900
A9	 0.7510
AB	 0.7580
AC	 0.7490
AL	 0.7400
AM	 0.7610
AN	 0.7360
B	 0.5360
B2	 0.6960
B3	 0.6410
B4	 0.7660

Continued on next page...

Continued from previous page...

Chain	Atom inclusion
B6	 0.7870
B7	 0.7590
B8	 0.7060
B9	 0.7830
BL	 0.8200
BM	 0.6820
BP	 0.7100
C	 0.4500
C1	 0.8230
C2	 0.8340
C3	 0.7730
C4	 0.7500
D	 0.7370
E	 0.7730
F	 0.7790
FS	 0.7890
FX	 0.8450
G	 0.8250
G1	 0.8580
G2	 0.8070
G3	 0.7790
H	 0.6900
I	 0.7220
J	 0.7560
J1	 0.7330
K	 0.7890
L	 0.7830
M	 0.7720
M1	 0.7860
M2	 0.7850
M3	 0.7710
N	 0.7960
N1	 0.7590
N2	 0.8230
N3	 0.7750
N4	 0.8290
N5	 0.6770
N6	 0.7900
O	 0.8560
P	 0.7370
P1	 0.7020
P2	 0.7180

Continued on next page...

Continued from previous page...

Chain	Atom inclusion
Q	0.8470
QA	0.6990
QB	0.7790
QC	0.7760
QD	0.8320
QE	0.5560
QF	0.7010
QG	0.6230
QH	0.7790
QI	0.7670
QJ	0.7840
QL	0.5640
QM	0.8240
Qa	0.6180
Qb	0.6790
Qc	0.7540
Qd	0.7980
Qe	0.4930
Qf	0.5330
Qg	0.6420
Qh	0.7650
Qi	0.6550
Qj	0.7230
Ql	0.6760
Qm	0.8470
R	0.7850
S	0.7080
S1	0.6940
S2	0.7990
S3	0.7890
S4	0.7180
S5	0.7760
S6	0.6510
S7	0.8210
S8	0.8030
SA	0.6350
SB	0.7420
SC	0.7570
SD	0.8830
T	0.7860
T1	0.6060
T2	0.2910











































Continued on next page...

Continued from previous page...

Chain	Atom inclusion
T3	0.5540
T4	0.5530
T5	0.7240
T6	0.7870
T7	0.7060
T8	0.7610
T9	0.7880
TA	0.7180
TB	0.7710
TC	0.7300
TD	0.6320
TE	0.6940
TF	0.6720
TG	0.5440
TH	0.7770
TX	0.7640
U	0.7460
U1	0.8220
U2	0.8820
V	0.7800
V1	0.5920
V2	0.4610
VB	0.8000
W	0.7380
X	0.8620
X1	0.7930
Y	0.9100
Y0	0.8650
Y5	0.7220
Y7	0.7200
Z	0.7160
Z1	0.8050
a	0.8120
a1	0.7720
a2	0.6120
a3	0.8090
a5	0.7490
a6	0.8370
a7	0.6910
a8	0.7900
a9	0.7500
ab	0.7580

Continued on next page...

Continued from previous page...

Chain	Atom inclusion
ac	 0.7490
al	 0.7400
am	 0.7620
an	 0.7370
b	 0.5360
b2	 0.6950
b3	 0.6420
b4	 0.7660
b6	 0.7880
b7	 0.7600
b8	 0.7040
b9	 0.7820
bl	 0.8200
bm	 0.6820
bp	 0.7080
c	 0.4490
c1	 0.8230
c2	 0.8330
c3	 0.7740
c4	 0.7540
d	 0.7360
e	 0.7750
f	 0.7810
fs	 0.7870
fx	 0.8440
g	 0.8250
g1	 0.8570
g2	 0.8090
g3	 0.7790
h	 0.6890
i	 0.7200
j	 0.7560
j1	 0.7320
k	 0.7900
l	 0.7840
m	 0.7700
m1	 0.7870
m2	 0.7850
m3	 0.7710
n	 0.7940
n1	 0.7590
n2	 0.8240









































Continued on next page...

Continued from previous page...

Chain	Atom inclusion
n3	0.7750
n4	0.8280
n5	0.6780
n6	0.7890
o	0.8550
p	0.7360
p1	0.7020
p2	0.7160
q	0.8240
qA	0.6980
qB	0.7800
qC	0.7770
qD	0.8340
qE	0.5560
qF	0.6960
qG	0.6220
qH	0.7790
qI	0.7670
qJ	0.7900
qL	0.5640
qM	0.8240
qa	0.6180
qb	0.6800
qc	0.7530
qd	0.7980
qe	0.4950
qf	0.5280
qg	0.6410
qh	0.7670
qi	0.6550
qj	0.7230
ql	0.6680
qm	0.8470
r	0.7840
s	0.7080
s1	0.6950
s2	0.7980
s3	0.7890
s4	0.7160
s5	0.7770
s6	0.6500
s7	0.8220

Continued on next page...

Continued from previous page...

Chain	Atom inclusion
s8	 0.8020
sa	 0.6340
sb	 0.7440
sc	 0.7550
sd	 0.8830
t	 0.7870
t1	 0.6050
t2	 0.2900
t3	 0.5550
t4	 0.5520
t5	 0.7220
t6	 0.7830
t7	 0.7010
t8	 0.7590
t9	 0.7880
ta	 0.7210
tb	 0.7710
tc	 0.7330
td	 0.6110
te	 0.6960
tf	 0.6720
tg	 0.5390
th	 0.7760
tx	 0.7640
u	 0.7460
u1	 0.8220
u2	 0.8820
v	 0.7790
v1	 0.5920
v2	 0.4630
vb	 0.8100
w	 0.7390
x	 0.8590
x1	 0.7950
y	 0.9100
y0	 0.8660
y5	 0.7220
y7	 0.7210
z	 0.7180
z1	 0.8030