



Full wwPDB EM Validation Report ⓘ

Jun 20, 2024 – 06:19 PM JST

PDB ID : 8KDE
EMDB ID : EMD-37133
Title : Cryo-EM structure of an intermediate-state complex during the process of photosystem II repair
Authors : Li, A.; Wang, Y.; Liu, Z.
Deposited on : 2023-08-09
Resolution : 2.60 Å(reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

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

A user guide is available at

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

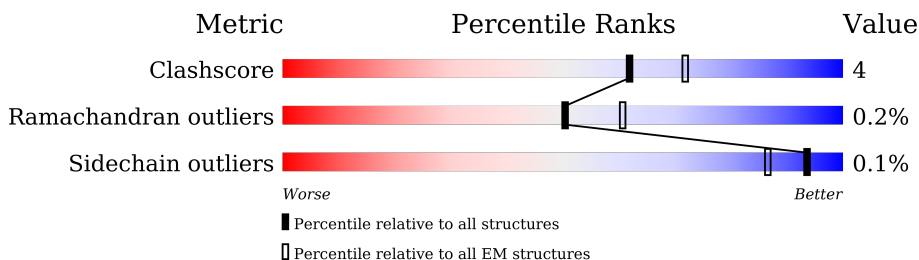
EMDB validation analysis : 0.0.1.dev92
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.37.1

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 2.60 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)
Clashscore	158937	4297
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	B	508	
2	D	352	
3	E	82	
4	F	44	
5	H	88	
6	I	37	
7	K	46	
8	L	38	

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Mol	Chain	Length	Quality of chain
9	M	34	
10	T	31	
11	V	33	
12	X	101	
13	Z	62	
14	G	196	
15	3	131	
16	C	461	
17	A	352	
18	1	117	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
19	CLA	A	403	X	-	-	-
19	CLA	A	404	X	-	-	-
19	CLA	A	405	X	-	-	-
19	CLA	B	601	X	-	-	-
19	CLA	B	602	X	-	-	-
19	CLA	B	603	X	-	-	-
19	CLA	B	604	X	-	-	-
19	CLA	B	605	X	-	-	-
19	CLA	B	606	X	-	-	-
19	CLA	B	607	X	-	-	-
19	CLA	B	608	X	-	-	-
19	CLA	B	609	X	-	-	-
19	CLA	B	610	X	-	-	-
19	CLA	B	611	X	-	-	-
19	CLA	B	612	X	-	-	-
19	CLA	B	613	X	-	-	-
19	CLA	B	614	X	-	-	-
19	CLA	B	615	X	-	-	-
19	CLA	B	616	X	-	-	-
19	CLA	C	602	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
19	CLA	C	603	X	-	-	-
19	CLA	C	604	X	-	-	-
19	CLA	C	605	X	-	-	-
19	CLA	C	606	X	-	-	-
19	CLA	C	607	X	-	-	-
19	CLA	C	608	X	-	-	-
19	CLA	C	609	X	-	-	-
19	CLA	C	610	X	-	-	-
19	CLA	C	611	X	-	-	-
19	CLA	C	612	X	-	-	-
19	CLA	C	613	X	-	-	-
19	CLA	C	614	X	-	-	-
19	CLA	D	401	X	-	-	-
19	CLA	D	402	X	-	-	-
19	CLA	D	409	X	-	-	-

2 Entry composition

There are 30 unique types of molecules in this entry. The entry contains 22087 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 Photosystem II CP47 reaction center protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	B	482	3766	2469	629	656	12	0	0

- Molecule 2 is a protein called Photosystem II D2 protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	D	351	2791	1841	459	479	12	0	0

- Molecule 3 is a protein called Cytochrome b559 subunit alpha.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
3	E	78	633	414	104	115	0	0

- Molecule 4 is a protein called Cytochrome b559 subunit beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	F	34	277	190	45	41	1	0	0

- Molecule 5 is a protein called Photosystem II reaction center protein H.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	H	73	561	372	84	103	2	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	I	35	283	193	43	45	2	0	0

- Molecule 7 is a protein called Photosystem II reaction center protein K.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
7	K	37	297	209	43	45	0	0

- Molecule 8 is a protein called Photosystem II reaction center protein L.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	L	38	314	210	51	52	1	0	0

- Molecule 9 is a protein called Photosystem II reaction center protein M.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
9	M	31	239	163	33	43	0	0

- Molecule 10 is a protein called Photosystem II reaction center protein T.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	T	31	256	177	38	39	2	0	0

- Molecule 11 is a protein called Photosystem II reaction center protein Ycf12.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
11	V	32	224	147	37	40	0	0

- Molecule 12 is a protein called Uncharacterized protein.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
12	X	35	242	159	39	44	0	0

- Molecule 13 is a protein called Photosystem II reaction center protein Z.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	Z	61	458	314	68	75	1	0	0

- Molecule 14 is a protein called Thylakoid enriched factor 14 (TEF14).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
14	G	145	1070	656	191	222	1	0	0

- Molecule 15 is a protein called Photosystem II repair factor 1 (PRF1).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
15	3	97	694	429	121	144		0	0

- Molecule 16 is a protein called Photosystem II CP43 reaction center protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
16	C	430	3368	2209	561	581	17	0	0

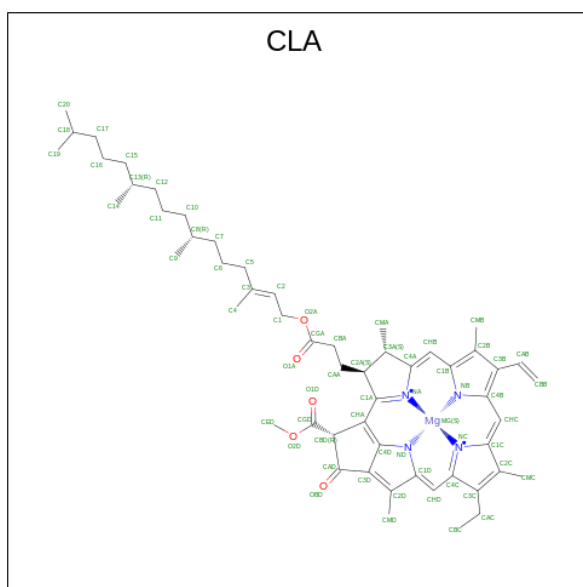
- Molecule 17 is a protein called Photosystem II protein D1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
17	A	309	2418	1587	401	415	15	0	0

- Molecule 18 is a protein called Photosystem II repair factor 2 (PRF2).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
18	1	45	320	201	59	58	2	0	0

- Molecule 19 is CHLOROPHYLL A (three-letter code: CLA) (formula: $C_{55}H_{72}MgN_4O_5$) (labeled as "Ligand of Interest" by depositor).



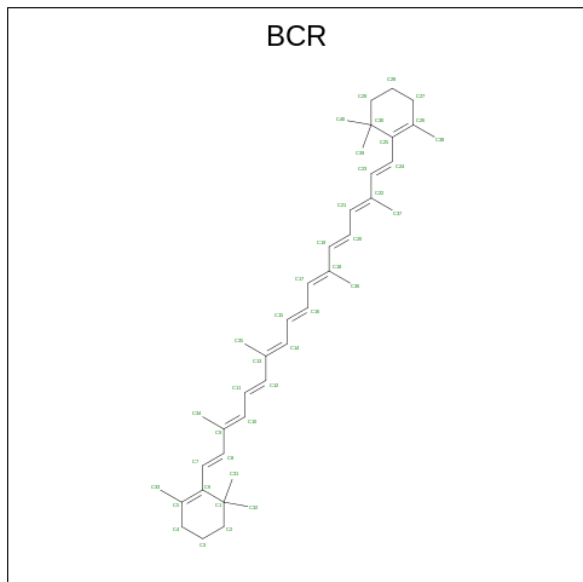
Mol	Chain	Residues	Atoms				AltConf	
			Total	C	Mg	N		O
19	B	1	65	55	1	4	5	0
19	B	1	65	55	1	4	5	0
19	B	1	65	55	1	4	5	0
19	B	1	65	55	1	4	5	0
19	B	1	65	55	1	4	5	0
19	B	1	65	55	1	4	5	0
19	B	1	65	55	1	4	5	0
19	B	1	65	55	1	4	5	0
19	B	1	65	55	1	4	5	0
19	B	1	65	55	1	4	5	0
19	B	1	65	55	1	4	5	0
19	B	1	65	55	1	4	5	0
19	B	1	45	35	1	4	5	0

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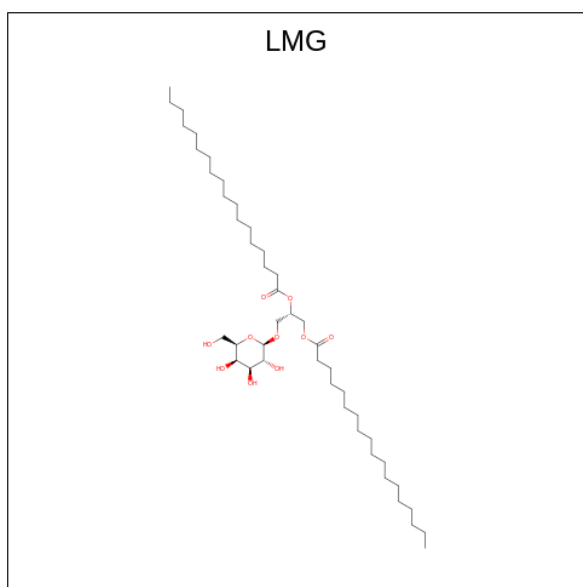
Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
19	B	1	65	55	1	4	5	0
19	B	1	65	55	1	4	5	0
19	D	1	65	55	1	4	5	0
19	D	1	65	55	1	4	5	0
19	D	1	65	55	1	4	5	0
19	C	1	65	55	1	4	5	0
19	C	1	65	55	1	4	5	0
19	C	1	65	55	1	4	5	0
19	C	1	65	55	1	4	5	0
19	C	1	65	55	1	4	5	0
19	C	1	65	55	1	4	5	0
19	C	1	65	55	1	4	5	0
19	C	1	65	55	1	4	5	0
19	C	1	65	55	1	4	5	0
19	C	1	65	55	1	4	5	0
19	C	1	65	55	1	4	5	0
19	C	1	65	55	1	4	5	0
19	C	1	65	55	1	4	5	0
19	A	1	65	55	1	4	5	0
19	A	1	49	39	1	4	5	0
19	A	1	60	50	1	4	5	0

- Molecule 20 is BETA-CAROTENE (three-letter code: BCR) (formula: $C_{40}H_{56}$) (labeled as "Ligand of Interest" by depositor).



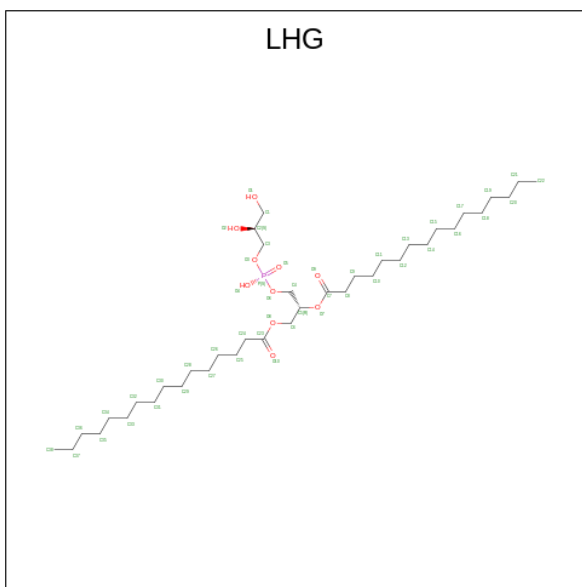
Mol	Chain	Residues	Atoms	AltConf
20	B	1	Total C 40 40	0
20	B	1	Total C 40 40	0
20	B	1	Total C 40 40	0
20	D	1	Total C 40 40	0
20	H	1	Total C 40 40	0
20	K	1	Total C 40 40	0
20	Z	1	Total C 40 40	0
20	C	1	Total C 40 40	0
20	C	1	Total C 40 40	0
20	A	1	Total C 40 40	0

- Molecule 21 is 1,2-DISTEAROYL-MONOGALACTOSYL-DIGLYCERIDE (three-letter code: LMG) (formula: $C_{45}H_{86}O_{10}$) (labeled as "Ligand of Interest" by depositor).



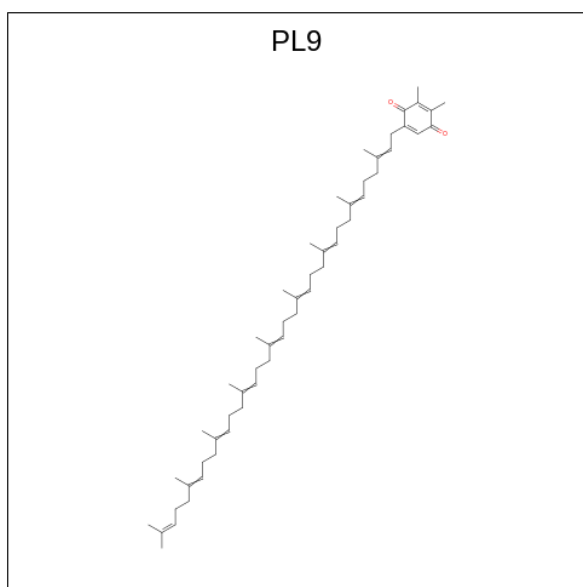
Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
21	B	1	46	36	10	0
21	B	1	48	38	10	0
21	D	1	46	36	10	0
21	K	1	51	41	10	0
21	C	1	49	39	10	0
21	A	1	48	38	10	0

- Molecule 22 is 1,2-DIPALMITOYL-PHOSPHATIDYL-GLYCEROLE (three-letter code: LHG) (formula: $C_{38}H_{75}O_{10}P$) (labeled as "Ligand of Interest" by depositor).



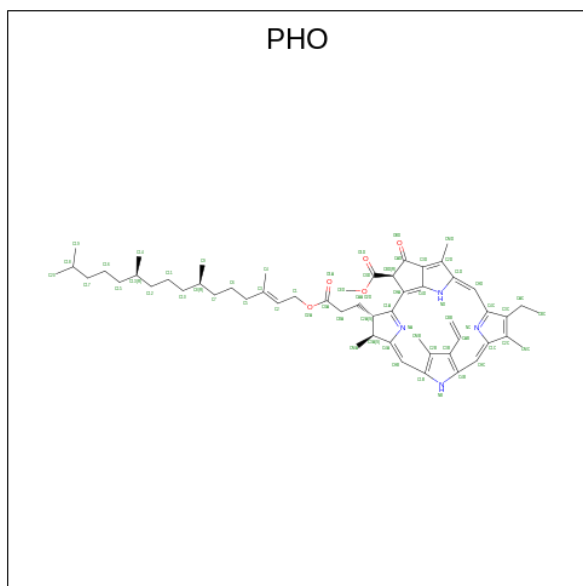
Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
22	B	1	47	36	10	1	0
22	B	1	49	38	10	1	0
22	B	1	49	38	10	1	0
22	D	1	44	33	10	1	0
22	D	1	49	38	10	1	0
22	D	1	43	32	10	1	0
22	K	1	41	30	10	1	0
22	L	1	49	38	10	1	0
22	X	1	49	38	10	1	0
22	A	1	49	38	10	1	0

- Molecule 23 is 2,3-DIMETHYL-5-(3,7,11,15,19,23,27,31,35-NONAMETHYL-2,6,10,14,18,22,26,30,34-HEXATRIACONTANONAENYL-2,5-CYCLOHEXADIENE-1,4-DIONE-2,3-DIMETHYL-5-SOLANESYL-1,4-BENZOQUINONE (three-letter code: PL9) (formula: $C_{53}H_{80}O_2$) (labeled as "Ligand of Interest" by depositor).



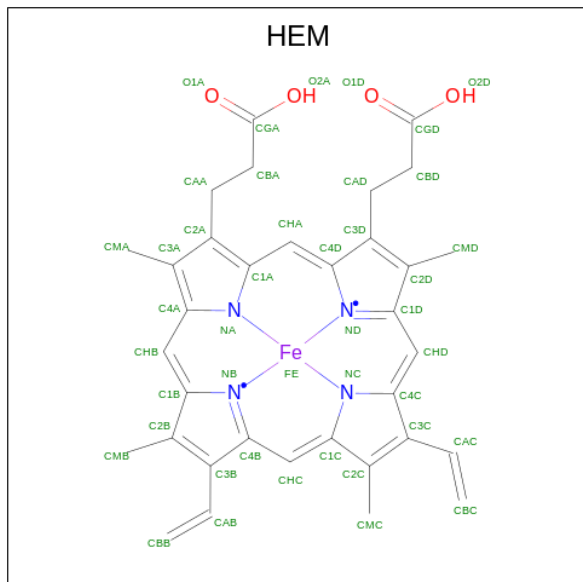
Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
23	D	1	55	53	2	0

- Molecule 24 is PHEOPHYTIN A (three-letter code: PHO) (formula: $C_{55}H_{74}N_4O_5$) (labeled as "Ligand of Interest" by depositor).



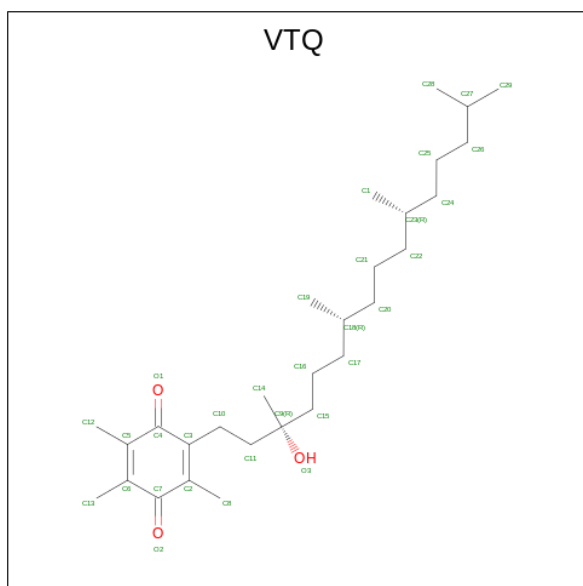
Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
24	D	1	64	55	4	5	0
24	D	1	64	55	4	5	0

- Molecule 25 is PROTOPORPHYRIN IX CONTAINING FE (three-letter code: HEM) (formula: $C_{34}H_{32}FeN_4O_4$) (labeled as "Ligand of Interest" by depositor).



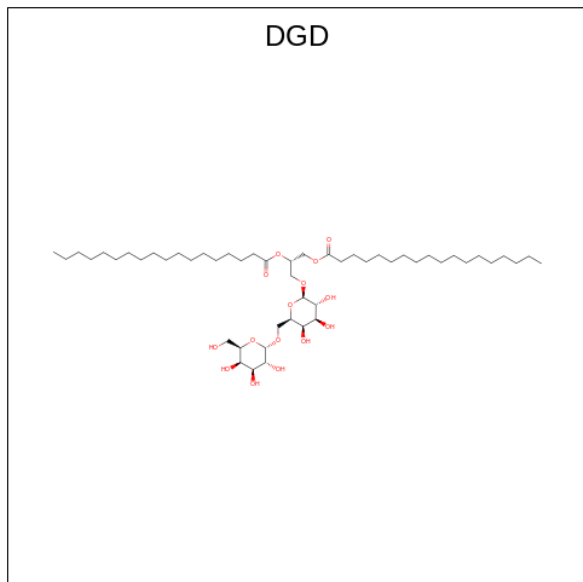
Mol	Chain	Residues	Atoms				AltConf	
			Total	C	Fe	N		O
25	E	1	43	34	1	4	4	0

- Molecule 26 is RRR-ALPHA-TOCOPHERYLQUINONE (three-letter code: VTQ) (formula: $C_{29}H_{50}O_3$) (labeled as "Ligand of Interest" by depositor).



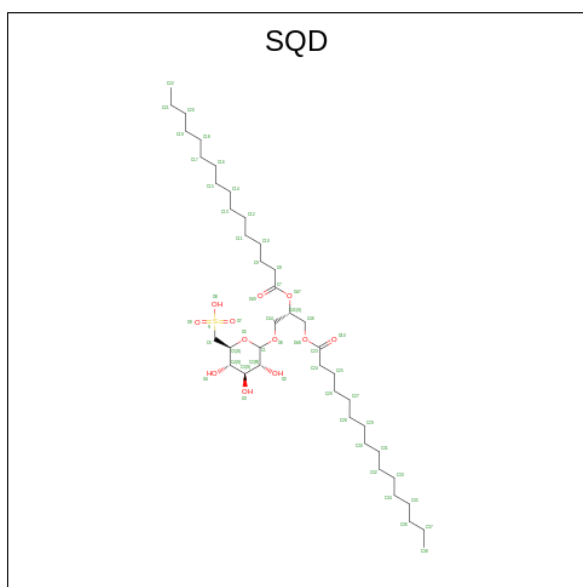
Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
26	X	1	32	29	3	0

- Molecule 27 is DIGALACTOSYL DIACYL GLYCEROL (DGDG) (three-letter code: DGD) (formula: $C_{51}H_{96}O_{15}$) (labeled as "Ligand of Interest" by depositor).



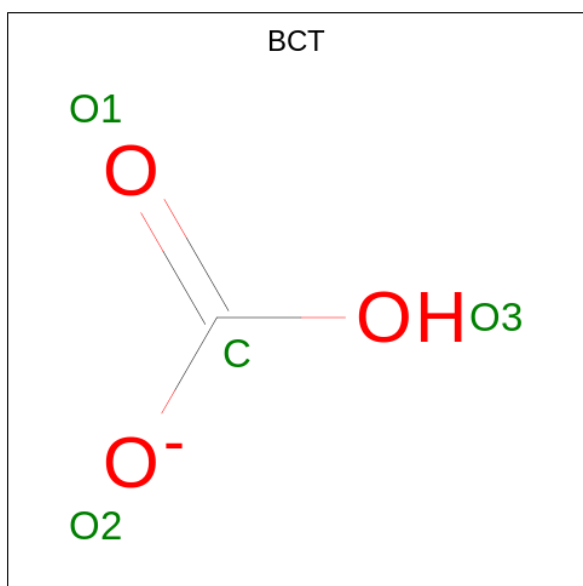
Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
27	C	1	55	40	15	0
27	C	1	57	42	15	0
27	C	1	59	44	15	0

- Molecule 28 is 1,2-DI-O-ACYL-3-O-[6-DEOXY-6-SULFO-ALPHA-D-GLUCOPYRANOSYL]-SN-GLYCEROL (three-letter code: SQD) (formula: $C_{41}H_{78}O_{12}S$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf	
			Total	C	O		S
28	C	1	51	38	12	1	0

- Molecule 29 is BICARBONATE ION (three-letter code: BCT) (formula: CHO_3) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
29	A	1	4	1	3	0

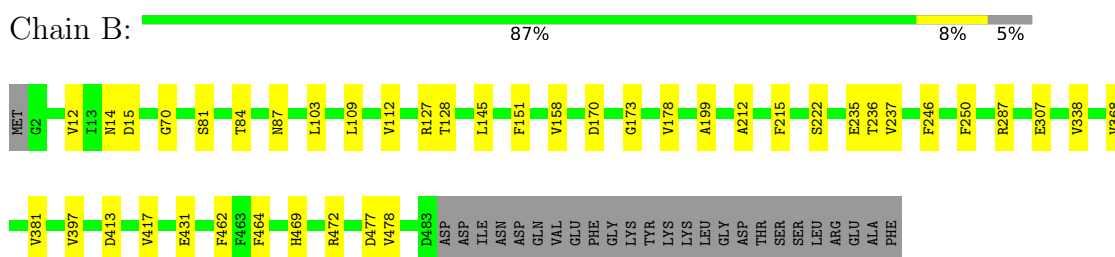
- Molecule 30 is FE (II) ION (three-letter code: FE2) (formula: Fe) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
30	A	1	Total 1	Fe 1	0

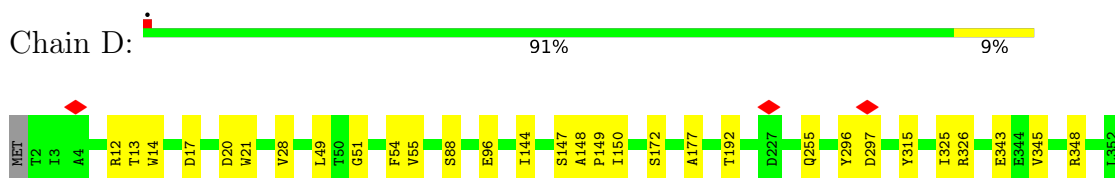
3 Residue-property plots [i](#)

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.

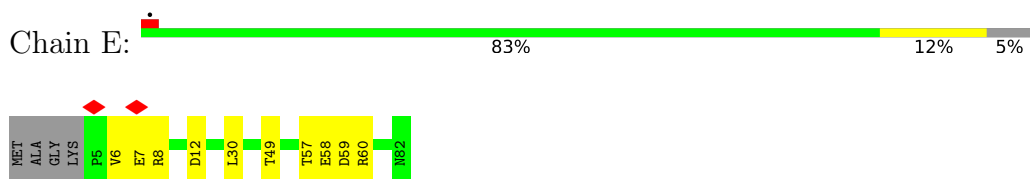
- Molecule 1: Photosystem II CP47 reaction center protein



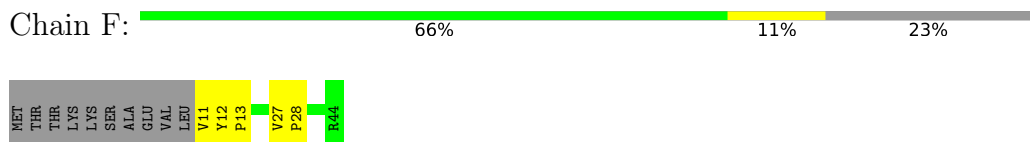
- Molecule 2: Photosystem II D2 protein



- Molecule 3: Cytochrome b559 subunit alpha

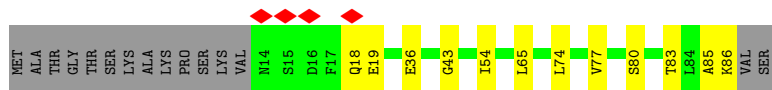


- Molecule 4: Cytochrome b559 subunit beta

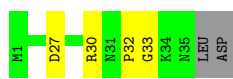
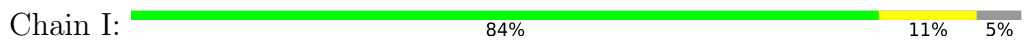


- Molecule 5: Photosystem II reaction center protein H

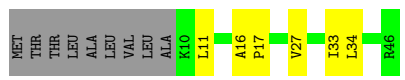




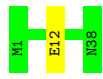
• Molecule 6: Photosystem II reaction center protein I



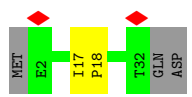
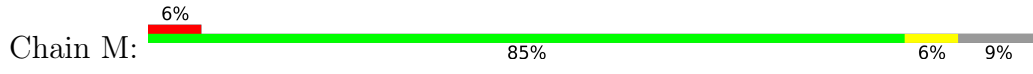
• Molecule 7: Photosystem II reaction center protein K



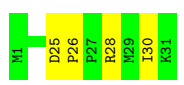
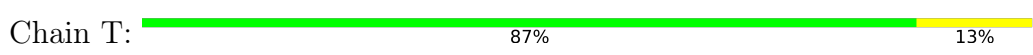
• Molecule 8: Photosystem II reaction center protein L



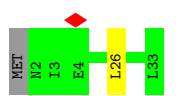
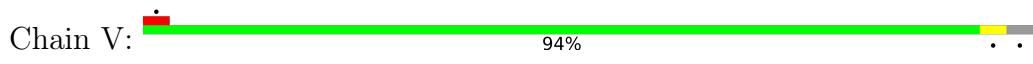
• Molecule 9: Photosystem II reaction center protein M



• Molecule 10: Photosystem II reaction center protein T

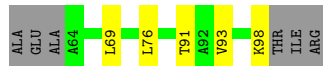


• Molecule 11: Photosystem II reaction center protein Ycf12

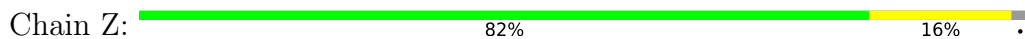


• Molecule 12: Uncharacterized protein

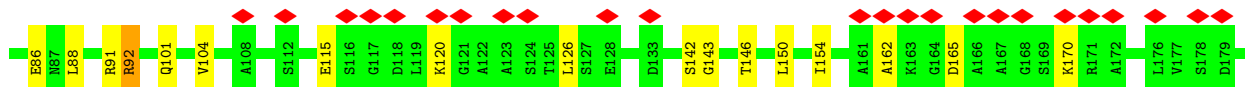
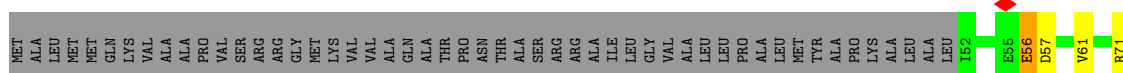




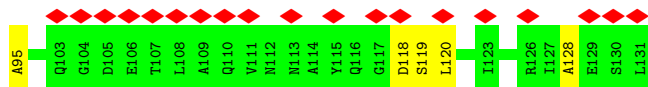
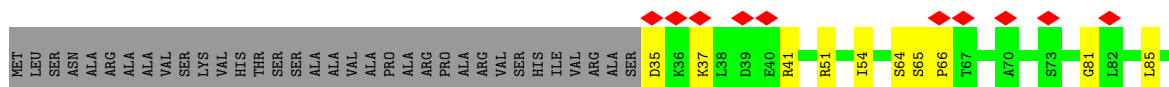
- Molecule 13: Photosystem II reaction center protein Z



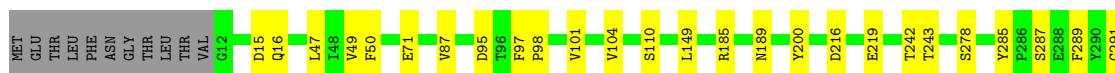
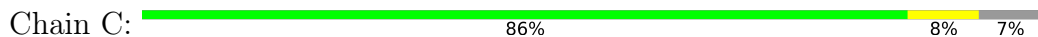
- Molecule 14: Thylakoid enriched factor 14 (TEF14)




- Molecule 15: Photosystem II repair factor 1 (PRF1)

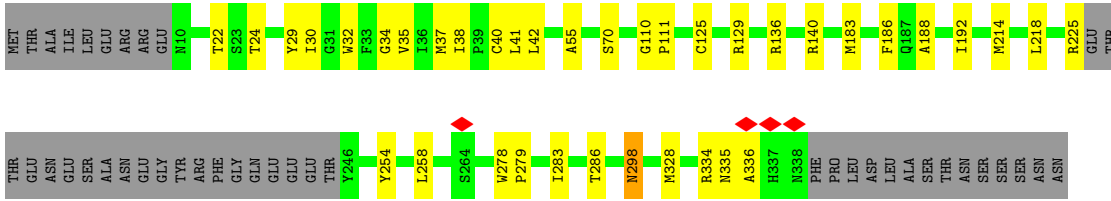


- Molecule 16: Photosystem II CP43 reaction center protein



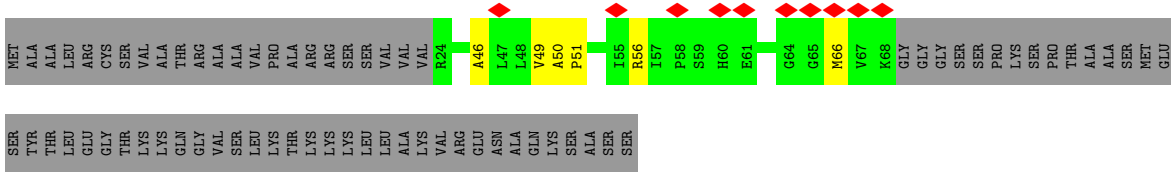
- Molecule 17: Photosystem II protein D1

Chain A: 



- Molecule 18: Photosystem II repair factor 2 (PRF2)

Chain 1: 



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	510932	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 ($e^-/\text{\AA}^2$)	60	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	1500	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	61.421	Depositor
Minimum map value	-0.960	Depositor
Average map value	0.003	Depositor
Map value standard deviation	0.995	Depositor
Recommended contour level	3.9	Depositor
Map size (\AA)	332.8, 332.8, 332.8	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.04, 1.04, 1.04	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: SQD, PHO, FE2, LHG, BCR, BCT, LMG, VTQ, DGD, PL9, CLA, HEM

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	B	0.28	0/3894	0.47	0/5302
2	D	0.28	0/2886	0.47	0/3937
3	E	0.26	0/652	0.45	0/890
4	F	0.26	0/286	0.46	0/389
5	H	0.26	0/573	0.44	0/783
6	I	0.30	0/291	0.52	0/394
7	K	0.27	0/309	0.41	0/425
8	L	0.28	0/322	0.44	0/437
9	M	0.24	0/243	0.38	0/333
10	T	0.29	0/263	0.45	0/354
11	V	0.23	0/224	0.41	0/307
12	X	0.25	0/244	0.38	0/330
13	Z	0.26	0/469	0.38	0/644
14	G	0.24	0/1079	0.48	0/1454
15	3	0.25	0/700	0.48	0/947
16	C	0.26	0/3486	0.45	0/4743
17	A	0.27	0/2495	0.48	0/3402
18	1	0.26	0/323	0.52	0/435
All	All	0.27	0/18739	0.46	0/25506

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen

atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	3766	0	3649	33	0
2	D	2791	0	2678	22	0
3	E	633	0	622	8	0
4	F	277	0	288	3	0
5	H	561	0	581	8	0
6	I	283	0	293	3	0
7	K	297	0	308	3	0
8	L	314	0	327	1	0
9	M	239	0	258	1	0
10	T	256	0	273	4	0
11	V	224	0	256	1	0
12	X	242	0	266	7	0
13	Z	458	0	490	8	0
14	G	1070	0	1077	17	0
15	3	694	0	698	13	0
16	C	3368	0	3240	27	0
17	A	2418	0	2349	31	0
18	1	320	0	340	4	0
19	A	174	0	170	1	0
19	B	1020	0	1113	14	0
19	C	845	0	936	11	0
19	D	195	0	216	4	0
20	A	40	0	56	3	0
20	B	120	0	168	2	0
20	C	80	0	112	6	0
20	D	40	0	56	1	0
20	H	40	0	56	7	0
20	K	40	0	56	1	0
20	Z	40	0	56	7	0
21	A	48	0	66	0	0
21	B	94	0	128	1	0
21	C	49	0	68	0	0
21	D	46	0	62	0	0
21	K	51	0	72	0	0
22	A	49	0	74	0	0
22	B	145	0	215	0	0
22	D	136	0	191	1	0
22	K	41	0	52	0	0
22	L	49	0	74	0	0
22	X	49	0	74	0	0
23	D	55	0	80	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
24	D	128	0	148	1	0
25	E	43	0	30	4	0
26	X	32	0	50	0	0
27	C	171	0	216	2	0
28	C	51	0	69	0	0
29	A	4	0	0	0	0
30	A	1	0	0	0	0
All	All	22087	0	22657	200	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 4.

All (200) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:C:185:ARG:NH2	16:C:219:GLU:OE2	2.13	0.81
8:L:12:GLU:OE2	15:3:51:ARG:NH2	2.14	0.80
19:D:409:CLA:HMD3	17:A:183:MET:HE1	1.66	0.76
1:B:235:GLU:OE2	1:B:469:HIS:ND1	2.20	0.73
20:C:616:BCR:H383	20:C:616:BCR:H23C	1.71	0.72
25:E:101:HEM:HHC	25:E:101:HEM:HBB2	1.74	0.70
1:B:368:VAL:HG22	1:B:381:VAL:HG22	1.72	0.70
1:B:222:SER:OG	5:H:43:GLY:O	2.10	0.70
3:E:7:GLU:OE1	18:1:56:ARG:NH2	2.25	0.69
2:D:343:GLU:OE1	2:D:348:ARG:NH2	2.25	0.68
15:3:64:SER:O	15:3:65:SER:OG	2.10	0.65
2:D:297:ASP:O	2:D:315:TYR:OH	2.07	0.65
15:3:35:ASP:O	17:A:225:ARG:NH2	2.30	0.65
1:B:14:ASN:ND2	15:3:41:ARG:O	2.31	0.63
2:D:192:THR:HG23	19:D:401:CLA:HBC2	1.80	0.63
20:Z:101:BCR:H333	16:C:104:VAL:HG11	1.80	0.62
16:C:71:GLU:OE2	16:C:386:HIS:NE2	2.32	0.62
1:B:307:GLU:OE2	14:G:71:ARG:NH1	2.32	0.62
25:E:101:HEM:HBC2	25:E:101:HEM:HMC2	1.81	0.61
19:B:613:CLA:HMB1	19:B:613:CLA:HBB1	1.82	0.61
14:G:165:ASP:O	14:G:170:LYS:NZ	2.34	0.60
16:C:285:TYR:OH	19:C:603:CLA:HED3	2.00	0.60
14:G:120:LYS:NZ	14:G:162:ALA:O	2.34	0.60
17:A:334:ARG:O	17:A:336:ALA:N	2.36	0.59
3:E:8:ARG:NH2	3:E:12:ASP:OD2	2.36	0.59
16:C:15:ASP:OD1	16:C:16:GLN:N	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:464:PHE:HE1	2:D:144:ILE:HG23	1.66	0.59
5:H:54:ILE:HG13	20:H:101:BCR:H333	1.85	0.58
1:B:81:SER:OG	14:G:92:ARG:NH2	2.36	0.58
27:C:619:DGD:O5D	27:C:619:DGD:O4D	2.17	0.58
14:G:142:SER:OG	14:G:146:THR:OG1	2.21	0.58
16:C:285:TYR:O	16:C:411:ARG:NH2	2.37	0.57
19:D:402:CLA:H43	12:X:76:LEU:HD23	1.86	0.57
6:I:27:ASP:OD1	17:A:136:ARG:NH2	2.38	0.57
10:T:30:ILE:HG23	10:T:30:ILE:O	2.05	0.57
16:C:391:SER:HA	17:A:298:ASN:HB2	1.86	0.57
1:B:12:VAL:HG12	1:B:12:VAL:O	2.04	0.57
15:3:118:ASP:OD1	15:3:119:SER:N	2.37	0.56
5:H:74:LEU:HB2	5:H:77:VAL:HG22	1.86	0.56
17:A:188:ALA:HB2	17:A:328:MET:HB3	1.88	0.56
15:3:37:LYS:HD2	15:3:37:LYS:O	2.05	0.56
16:C:47:LEU:HD21	19:C:611:CLA:HMD2	1.88	0.56
20:C:615:BCR:H311	20:C:615:BCR:HC8	1.89	0.55
17:A:32:TRP:O	17:A:35:VAL:HG22	2.07	0.55
20:H:101:BCR:H393	12:X:69:LEU:HD21	1.89	0.54
20:B:617:BCR:H382	20:B:617:BCR:H23C	1.88	0.54
6:I:32:PRO:HD2	6:I:33:GLY:H	1.73	0.53
20:Z:101:BCR:C38	20:Z:101:BCR:H23C	2.39	0.53
17:A:22:THR:HG22	17:A:22:THR:O	2.09	0.52
1:B:70:GLY:HA2	1:B:178:VAL:HG11	1.90	0.52
20:Z:101:BCR:H23C	20:Z:101:BCR:H382	1.91	0.52
1:B:237:VAL:HG13	19:B:612:CLA:CMD	2.39	0.52
17:A:42:LEU:HB3	20:A:406:BCR:H353	1.92	0.52
19:B:612:CLA:HMB1	19:B:612:CLA:HBB1	1.92	0.52
16:C:50:PHE:HB2	16:C:110:SER:OG	2.09	0.52
2:D:51:GLY:HA2	2:D:55:VAL:HG22	1.92	0.51
2:D:14:TRP:NE1	12:X:91:THR:OG1	2.39	0.51
20:H:101:BCR:HC8	20:H:101:BCR:H331	1.93	0.51
19:D:402:CLA:H43	12:X:76:LEU:HA	1.93	0.51
3:E:57:THR:HG22	3:E:58:GLU:N	2.26	0.51
20:H:101:BCR:H23C	20:H:101:BCR:H383	1.93	0.51
17:A:283:ILE:HA	17:A:286:THR:HG22	1.92	0.51
1:B:472:ARG:NH2	15:3:54:ILE:O	2.42	0.51
2:D:172:SER:HB2	2:D:177:ALA:HB1	1.92	0.51
13:Z:50:LEU:HA	13:Z:53:VAL:HG12	1.93	0.50
16:C:364:ASP:OD2	16:C:367:LYS:NZ	2.43	0.50
19:C:610:CLA:HMB1	19:C:610:CLA:HBB1	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:13:THR:HG22	2:D:14:TRP:N	2.27	0.50
19:C:606:CLA:HMB1	19:C:606:CLA:HBB1	1.93	0.50
25:E:101:HEM:HBC2	25:E:101:HEM:CMC	2.41	0.49
14:G:146:THR:O	14:G:150:LEU:HD23	2.11	0.49
19:C:609:CLA:HBB1	19:C:609:CLA:HMB1	1.92	0.49
17:A:37:MET:HE2	17:A:41:LEU:HD12	1.93	0.49
21:B:623:LMG:O5	21:B:623:LMG:O4	2.25	0.49
19:B:604:CLA:HMB1	19:B:604:CLA:HBB1	1.95	0.49
20:B:618:BCR:H383	20:B:618:BCR:H23C	1.94	0.49
17:A:186:PHE:HE2	17:A:192:ILE:HD12	1.78	0.49
17:A:29:TYR:O	17:A:129:ARG:NH2	2.36	0.48
1:B:109:LEU:O	1:B:112:VAL:HG12	2.13	0.48
17:A:186:PHE:CD2	19:A:403:CLA:HMD3	2.48	0.48
2:D:255:GLN:NE2	17:A:24:THR:O	2.42	0.48
20:A:406:BCR:H382	20:A:406:BCR:H23C	1.94	0.48
17:A:110:GLY:N	17:A:111:PRO:HD2	2.28	0.48
17:A:214:MET:O	17:A:218:LEU:HD13	2.14	0.47
3:E:8:ARG:CB	4:F:11:VAL:HG23	2.44	0.47
15:3:81:GLY:O	15:3:85:LEU:HD12	2.14	0.47
1:B:413:ASP:OD1	1:B:413:ASP:N	2.48	0.47
17:A:37:MET:HG3	17:A:38:ILE:N	2.29	0.47
20:Z:101:BCR:H333	16:C:104:VAL:CG1	2.45	0.47
19:B:602:CLA:H43	5:H:65:LEU:HA	1.97	0.47
18:1:66:MET:O	18:1:66:MET:HG3	2.15	0.47
2:D:297:ASP:OD1	2:D:297:ASP:N	2.47	0.47
5:H:18:GLN:O	5:H:19:GLU:HG2	2.15	0.47
19:C:605:CLA:HMB1	19:C:605:CLA:HBB1	1.97	0.47
6:I:30:ARG:HD3	17:A:22:THR:HG21	1.97	0.47
13:Z:55:GLY:CA	20:Z:101:BCR:H323	2.45	0.47
1:B:215:PHE:CZ	19:B:609:CLA:HMD3	2.50	0.46
2:D:345:VAL:HG22	2:D:345:VAL:O	2.15	0.46
20:C:615:BCR:H311	20:C:615:BCR:C8	2.45	0.46
17:A:278:TRP:HB3	17:A:279:PRO:HD3	1.96	0.46
18:1:50:ALA:HB3	18:1:51:PRO:HD3	1.97	0.46
16:C:278:SER:O	16:C:411:ARG:NH1	2.46	0.46
14:G:126:LEU:HD21	14:G:154:ILE:HG13	1.97	0.46
20:K:101:BCR:H343	13:Z:20:VAL:HG11	1.98	0.46
14:G:101:GLN:O	14:G:104:VAL:HG12	2.16	0.46
20:C:615:BCR:H382	20:C:615:BCR:H23C	1.98	0.46
5:H:80:SER:O	5:H:83:THR:HG22	2.16	0.46
3:E:59:ASP:OD1	3:E:60:ARG:N	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:A:34:GLY:HA2	17:A:37:MET:HG2	1.98	0.45
17:A:37:MET:SD	17:A:129:ARG:HD2	2.57	0.45
1:B:87:ASN:O	1:B:87:ASN:OD1	2.35	0.45
1:B:287:ARG:NH1	14:G:86:GLU:OE1	2.50	0.45
5:H:85:ALA:HB1	14:G:88:LEU:HD22	1.98	0.45
20:C:616:BCR:H383	20:C:616:BCR:C23	2.45	0.45
16:C:149:LEU:HD11	19:C:607:CLA:HMB3	1.98	0.45
19:C:611:CLA:HMB1	19:C:611:CLA:HBB1	1.98	0.45
17:A:30:ILE:O	17:A:34:GLY:HA3	2.16	0.45
15:3:65:SER:HB2	15:3:66:PRO:HD2	1.97	0.45
7:K:27:VAL:O	7:K:27:VAL:HG12	2.17	0.45
19:C:602:CLA:H171	19:C:608:CLA:HMB3	1.99	0.45
1:B:212:ALA:HB2	19:B:609:CLA:HMC3	1.99	0.45
16:C:216:ASP:OD1	16:C:216:ASP:N	2.49	0.45
1:B:246:PHE:CE1	1:B:250:PHE:HE2	2.36	0.44
1:B:431:GLU:OE2	14:G:61:VAL:HA	2.17	0.44
2:D:20:ASP:OD2	12:X:98:LYS:NZ	2.49	0.44
1:B:127:ARG:O	1:B:128:THR:OG1	2.28	0.44
16:C:393:ASN:ND2	27:C:619:DGD:O1B	2.47	0.44
14:G:56:GLU:HG2	14:G:57:ASP:N	2.32	0.44
1:B:145:LEU:HD11	19:B:615:CLA:HMB2	1.99	0.44
16:C:242:THR:HG22	16:C:243:THR:N	2.33	0.44
14:G:194:LYS:HD2	15:3:120:LEU:HD11	2.00	0.44
19:B:604:CLA:HAA2	19:B:612:CLA:H141	1.99	0.44
16:C:98:PRO:HA	16:C:101:VAL:HG12	1.99	0.44
1:B:462:PHE:CE2	19:B:613:CLA:HMB3	2.53	0.43
9:M:17:ILE:HB	9:M:18:PRO:HD3	2.00	0.43
16:C:189:ASN:O	16:C:189:ASN:OD1	2.36	0.43
17:A:186:PHE:CE2	17:A:192:ILE:HD12	2.53	0.43
5:H:36:GLU:HG3	5:H:36:GLU:O	2.16	0.43
13:Z:19:LEU:HD21	13:Z:44:LEU:HD23	2.00	0.43
17:A:37:MET:O	17:A:40:CYS:N	2.52	0.43
16:C:287:SER:O	16:C:291:GLY:N	2.50	0.43
22:D:407:LHG:O5	17:A:140:ARG:NH2	2.36	0.43
16:C:49:VAL:HG23	16:C:110:SER:HB2	1.99	0.43
17:A:254:TYR:CE1	17:A:258:LEU:HD22	2.54	0.43
2:D:12:ARG:NH2	2:D:17:ASP:OD1	2.51	0.43
20:H:101:BCR:H393	12:X:69:LEU:CD2	2.49	0.43
14:G:115:GLU:OE1	15:3:128:ALA:HB2	2.18	0.43
17:A:188:ALA:HB2	17:A:328:MET:CB	2.48	0.43
2:D:296:TYR:OH	2:D:326:ARG:NH1	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:C:603:CLA:HED2	19:C:604:CLA:H43	1.99	0.43
17:A:37:MET:HB3	17:A:125:CYS:HB2	2.00	0.43
2:D:54:PHE:O	3:E:49:THR:OG1	2.32	0.42
4:F:12:TYR:N	4:F:13:PRO:HD2	2.34	0.42
16:C:95:ASP:OD1	16:C:95:ASP:N	2.50	0.42
1:B:84:THR:HG21	14:G:143:GLY:HA3	2.01	0.42
1:B:477:ASP:OD1	1:B:478:VAL:N	2.52	0.42
2:D:21:TRP:NE1	12:X:93:VAL:HG12	2.34	0.42
1:B:397:VAL:HG23	1:B:417:VAL:HG11	2.01	0.42
16:C:361:ASN:OD1	16:C:361:ASN:N	2.53	0.42
17:A:55:ALA:O	17:A:70:SER:OG	2.34	0.42
2:D:148:ALA:HB3	2:D:149:PRO:CD	2.48	0.42
24:D:411:PHO:HBB1	24:D:411:PHO:HMB1	2.02	0.42
3:E:6:VAL:HG22	3:E:6:VAL:O	2.19	0.42
7:K:33:ILE:HG23	7:K:34:LEU:N	2.34	0.42
1:B:338:VAL:HG21	14:G:61:VAL:HG23	2.01	0.42
13:Z:1:MET:O	13:Z:1:MET:HG3	2.19	0.42
20:Z:101:BCR:C33	16:C:104:VAL:HG11	2.47	0.42
13:Z:11:ALA:O	13:Z:15:VAL:HG23	2.20	0.42
16:C:395:VAL:HG23	16:C:396:GLY:N	2.34	0.41
10:T:25:ASP:O	10:T:25:ASP:OD1	2.38	0.41
16:C:97:PHE:N	16:C:98:PRO:CD	2.84	0.41
2:D:28:VAL:HG23	2:D:28:VAL:O	2.20	0.41
2:D:325:ILE:HD11	17:A:328:MET:HE2	2.02	0.41
4:F:27:VAL:HB	4:F:28:PRO:HD3	2.03	0.41
2:D:147:SER:HA	2:D:150:ILE:HG22	2.03	0.41
16:C:87:VAL:HG21	16:C:289:PHE:HZ	1.85	0.41
1:B:151:PHE:CZ	15:3:95:ALA:HB3	2.55	0.41
19:B:612:CLA:HMB3	19:B:613:CLA:HAA1	2.02	0.41
2:D:88:SER:OG	2:D:96:GLU:OE2	2.32	0.41
1:B:15:ASP:N	1:B:15:ASP:OD1	2.53	0.41
1:B:103:LEU:HD21	19:B:605:CLA:HMC3	2.03	0.41
19:B:601:CLA:HMC2	20:H:101:BCR:H19C	2.01	0.41
10:T:26:PRO:HB2	10:T:28:ARG:CD	2.51	0.41
11:V:26:LEU:HD21	13:Z:25:VAL:HA	2.03	0.41
13:Z:55:GLY:HA2	20:Z:101:BCR:H323	2.02	0.41
16:C:200:TYR:CD2	20:C:615:BCR:H391	2.56	0.41
20:A:406:BCR:C33	20:A:406:BCR:HC8	2.51	0.41
1:B:236:THR:HG23	1:B:237:VAL:N	2.35	0.41
19:C:602:CLA:H141	19:C:602:CLA:H162	1.88	0.41
18:1:46:ALA:HA	18:1:49:VAL:HG22	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:H:101:BCR:H331	20:H:101:BCR:C8	2.51	0.40
10:T:30:ILE:O	10:T:30:ILE:CG2	2.69	0.40
19:B:614:CLA:H2A	19:B:614:CLA:O1D	2.21	0.40
2:D:49:LEU:HD13	20:D:403:BCR:C15	2.51	0.40
14:G:91:ARG:HG2	14:G:91:ARG:O	2.21	0.40
1:B:158:VAL:HG21	1:B:199:ALA:HA	2.04	0.40
3:E:30:LEU:HD11	25:E:101:HEM:CBB	2.51	0.40
1:B:170:ASP:OD1	1:B:173:GLY:N	2.54	0.40
1:B:151:PHE:CE2	15:3:95:ALA:HB3	2.57	0.40
7:K:16:ALA:N	7:K:17:PRO:HD2	2.37	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	B	480/508 (94%)	465 (97%)	15 (3%)	0	100	100
2	D	349/352 (99%)	331 (95%)	18 (5%)	0	100	100
3	E	76/82 (93%)	71 (93%)	5 (7%)	0	100	100
4	F	32/44 (73%)	29 (91%)	3 (9%)	0	100	100
5	H	71/88 (81%)	68 (96%)	3 (4%)	0	100	100
6	I	33/37 (89%)	33 (100%)	0	0	100	100
7	K	35/46 (76%)	34 (97%)	0	1 (3%)	4	7
8	L	36/38 (95%)	35 (97%)	1 (3%)	0	100	100
9	M	29/34 (85%)	28 (97%)	1 (3%)	0	100	100
10	T	29/31 (94%)	28 (97%)	1 (3%)	0	100	100
11	V	30/33 (91%)	29 (97%)	1 (3%)	0	100	100
12	X	33/101 (33%)	33 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
13	Z	59/62 (95%)	59 (100%)	0	0	100	100
14	G	143/196 (73%)	134 (94%)	8 (6%)	1 (1%)	22	43
15	3	95/131 (72%)	84 (88%)	11 (12%)	0	100	100
16	C	424/461 (92%)	415 (98%)	9 (2%)	0	100	100
17	A	305/352 (87%)	294 (96%)	9 (3%)	2 (1%)	22	43
18	1	43/117 (37%)	40 (93%)	3 (7%)	0	100	100
All	All	2302/2713 (85%)	2210 (96%)	88 (4%)	4 (0%)	50	71

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
17	A	335	ASN
17	A	298	ASN
14	G	56	GLU
7	K	11	LEU

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	B	384/407 (94%)	384 (100%)	0	100	100
2	D	280/281 (100%)	280 (100%)	0	100	100
3	E	69/71 (97%)	69 (100%)	0	100	100
4	F	28/37 (76%)	28 (100%)	0	100	100
5	H	63/75 (84%)	62 (98%)	1 (2%)	62	82
6	I	32/34 (94%)	32 (100%)	0	100	100
7	K	31/38 (82%)	31 (100%)	0	100	100
8	L	35/35 (100%)	35 (100%)	0	100	100
9	M	27/30 (90%)	27 (100%)	0	100	100
10	T	28/28 (100%)	28 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
11	V	26/27 (96%)	26 (100%)	0	100	100
12	X	25/67 (37%)	25 (100%)	0	100	100
13	Z	51/52 (98%)	51 (100%)	0	100	100
14	G	112/149 (75%)	111 (99%)	1 (1%)	78	91
15	3	73/98 (74%)	73 (100%)	0	100	100
16	C	338/362 (93%)	338 (100%)	0	100	100
17	A	251/289 (87%)	251 (100%)	0	100	100
18	1	31/87 (36%)	31 (100%)	0	100	100
All	All	1884/2167 (87%)	1882 (100%)	2 (0%)	93	98

All (2) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	H	86	LYS
14	G	92	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
14	G	95	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry

Of 72 ligands modelled in this entry, 1 is monoatomic - leaving 71 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
19	CLA	B	603	-	65,73,73	1.52	7 (10%)	76,113,113	1.24	8 (10%)
19	CLA	C	613	-	65,73,73	1.52	6 (9%)	76,113,113	1.24	8 (10%)
22	LHG	B	622	-	48,48,48	0.92	2 (4%)	51,54,54	0.93	2 (3%)
19	CLA	B	605	-	65,73,73	1.52	7 (10%)	76,113,113	1.19	7 (9%)
19	CLA	B	608	-	65,73,73	1.49	6 (9%)	76,113,113	1.22	7 (9%)
20	BCR	C	615	-	41,41,41	0.77	0	56,56,56	2.28	22 (39%)
27	DGD	C	618	-	58,58,67	0.91	2 (3%)	72,72,81	1.00	4 (5%)
21	LMG	C	601	-	49,49,55	0.97	2 (4%)	57,57,63	0.95	2 (3%)
19	CLA	C	610	-	65,73,73	1.50	7 (10%)	76,113,113	1.29	7 (9%)
20	BCR	C	616	-	41,41,41	0.78	1 (2%)	56,56,56	1.98	18 (32%)
19	CLA	B	601	-	65,73,73	1.54	7 (10%)	76,113,113	1.23	8 (10%)
19	CLA	B	610	-	65,73,73	1.48	7 (10%)	76,113,113	1.31	8 (10%)
19	CLA	A	405	-	60,68,73	1.59	7 (11%)	70,107,113	1.28	9 (12%)
22	LHG	K	103	-	40,40,48	1.03	2 (5%)	43,46,54	1.00	2 (4%)
19	CLA	C	604	-	65,73,73	1.55	6 (9%)	76,113,113	1.26	9 (11%)
22	LHG	B	621	-	46,46,48	0.96	2 (4%)	49,52,54	0.95	2 (4%)
22	LHG	D	407	-	42,42,48	0.99	2 (4%)	45,48,54	1.06	2 (4%)
22	LHG	X	201	-	48,48,48	0.94	2 (4%)	51,54,54	1.03	3 (5%)
29	BCT	A	401	30	2,3,3	1.26	0	2,3,3	4.15	1 (50%)
19	CLA	B	611	-	65,73,73	1.50	6 (9%)	76,113,113	1.25	9 (11%)
20	BCR	B	619	-	41,41,41	0.76	0	56,56,56	2.05	19 (33%)
19	CLA	A	404	-	49,57,73	1.76	7 (14%)	55,93,113	1.41	8 (14%)
20	BCR	D	403	-	41,41,41	0.76	0	56,56,56	2.16	22 (39%)
27	DGD	C	619	-	60,60,67	0.90	2 (3%)	74,74,81	0.88	2 (2%)
19	CLA	D	402	-	65,73,73	1.54	6 (9%)	76,113,113	1.24	8 (10%)
20	BCR	K	101	-	41,41,41	0.73	0	56,56,56	2.20	22 (39%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
19	CLA	C	605	-	65,73,73	1.54	7 (10%)	76,113,113	1.23	8 (10%)
19	CLA	B	614	-	45,53,73	1.79	6 (13%)	52,89,113	1.46	9 (17%)
21	LMG	K	102	-	51,51,55	0.96	3 (5%)	59,59,63	0.93	3 (5%)
19	CLA	C	607	-	65,73,73	1.54	6 (9%)	76,113,113	1.26	8 (10%)
24	PHO	D	411	-	51,69,69	1.02	4 (7%)	47,99,99	1.12	4 (8%)
28	SQD	C	620	-	50,51,54	1.22	4 (8%)	59,62,65	1.15	7 (11%)
19	CLA	B	606	-	65,73,73	1.53	7 (10%)	76,113,113	1.18	8 (10%)
19	CLA	B	609	-	65,73,73	1.53	6 (9%)	76,113,113	1.27	10 (13%)
19	CLA	B	615	-	65,73,73	1.51	8 (12%)	76,113,113	1.25	8 (10%)
19	CLA	B	607	-	65,73,73	1.53	7 (10%)	76,113,113	1.18	7 (9%)
19	CLA	D	401	-	65,73,73	1.50	6 (9%)	76,113,113	1.33	9 (11%)
19	CLA	B	616	-	65,73,73	1.51	7 (10%)	76,113,113	1.23	8 (10%)
22	LHG	L	101	-	48,48,48	0.94	2 (4%)	51,54,54	0.92	2 (3%)
19	CLA	B	602	-	65,73,73	1.52	6 (9%)	76,113,113	1.25	9 (11%)
20	BCR	B	618	-	41,41,41	0.74	0	56,56,56	2.01	21 (37%)
21	LMG	B	620	-	46,46,55	1.00	2 (4%)	54,54,63	0.92	2 (3%)
21	LMG	B	623	-	48,48,55	0.98	2 (4%)	56,56,63	0.97	2 (3%)
19	CLA	C	609	-	65,73,73	1.54	6 (9%)	76,113,113	1.22	8 (10%)
21	LMG	D	408	-	46,46,55	1.00	2 (4%)	54,54,63	0.90	2 (3%)
26	VTQ	X	202	-	30,32,32	1.48	5 (16%)	39,44,44	0.93	1 (2%)
20	BCR	Z	101	-	41,41,41	0.81	1 (2%)	56,56,56	1.93	20 (35%)
25	HEM	E	101	4,3	41,50,50	1.48	4 (9%)	45,82,82	1.43	6 (13%)
27	DGD	C	617	-	56,56,67	0.93	2 (3%)	70,70,81	0.97	3 (4%)
19	CLA	A	403	-	65,73,73	1.52	7 (10%)	76,113,113	1.24	8 (10%)
19	CLA	C	603	-	65,73,73	1.51	8 (12%)	76,113,113	1.30	9 (11%)
22	LHG	A	408	-	48,48,48	0.94	2 (4%)	51,54,54	0.94	2 (3%)
19	CLA	B	613	-	65,73,73	1.51	7 (10%)	76,113,113	1.26	9 (11%)
19	CLA	C	611	-	65,73,73	1.55	7 (10%)	76,113,113	1.22	7 (9%)
22	LHG	D	405	-	43,43,48	0.99	2 (4%)	46,49,54	0.99	2 (4%)
19	CLA	C	612	16	65,73,73	1.56	7 (10%)	76,113,113	1.19	7 (9%)
23	PL9	D	404	-	55,55,55	1.21	4 (7%)	68,69,69	1.53	12 (17%)
24	PHO	D	410	-	51,69,69	1.03	5 (9%)	47,99,99	1.20	6 (12%)
19	CLA	B	604	-	65,73,73	1.52	7 (10%)	76,113,113	1.29	9 (11%)
19	CLA	D	409	-	65,73,73	1.54	7 (10%)	76,113,113	1.21	9 (11%)
19	CLA	C	606	-	65,73,73	1.52	6 (9%)	76,113,113	1.15	7 (9%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
20	BCR	H	101	-	41,41,41	0.68	0	56,56,56	2.24	21 (37%)
22	LHG	B	624	-	48,48,48	0.93	2 (4%)	51,54,54	0.98	3 (5%)
22	LHG	D	406	-	48,48,48	0.91	2 (4%)	51,54,54	0.96	2 (3%)
19	CLA	C	614	-	65,73,73	1.52	6 (9%)	76,113,113	1.29	8 (10%)
19	CLA	C	602	-	65,73,73	1.52	8 (12%)	76,113,113	1.21	7 (9%)
19	CLA	C	608	-	65,73,73	1.51	6 (9%)	76,113,113	1.31	7 (9%)
19	CLA	B	612	-	65,73,73	1.51	7 (10%)	76,113,113	1.28	8 (10%)
20	BCR	B	617	-	41,41,41	0.78	0	56,56,56	1.97	19 (33%)
20	BCR	A	406	-	41,41,41	0.78	1 (2%)	56,56,56	1.92	18 (32%)
21	LMG	A	407	-	48,48,55	0.99	3 (6%)	56,56,63	1.11	4 (7%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	CLA	B	603	-	1/1/15/20	12/37/115/115	-
19	CLA	C	613	-	1/1/15/20	16/37/115/115	-
22	LHG	B	622	-	-	12/53/53/53	-
19	CLA	B	605	-	1/1/15/20	16/37/115/115	-
19	CLA	B	608	-	1/1/15/20	16/37/115/115	-
20	BCR	C	615	-	-	3/29/63/63	0/2/2/2
27	DGD	C	618	-	-	8/46/86/95	0/2/2/2
21	LMG	C	601	-	-	3/44/64/70	0/1/1/1
19	CLA	C	610	-	1/1/15/20	15/37/115/115	-
20	BCR	C	616	-	-	4/29/63/63	0/2/2/2
19	CLA	B	601	-	1/1/15/20	11/37/115/115	-
19	CLA	B	610	-	1/1/15/20	14/37/115/115	-
19	CLA	A	405	-	1/1/14/20	6/31/109/115	-
22	LHG	K	103	-	-	9/45/45/53	-
19	CLA	C	604	-	1/1/15/20	17/37/115/115	-
22	LHG	B	621	-	-	9/51/51/53	-
22	LHG	D	407	-	-	17/47/47/53	-
22	LHG	X	201	-	-	13/53/53/53	-
19	CLA	B	611	-	1/1/15/20	16/37/115/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
20	BCR	B	619	-	-	4/29/63/63	0/2/2/2
19	CLA	A	404	-	1/1/11/20	6/18/96/115	-
20	BCR	D	403	-	-	4/29/63/63	0/2/2/2
27	DGD	C	619	-	-	6/48/88/95	0/2/2/2
19	CLA	D	402	-	1/1/15/20	18/37/115/115	-
20	BCR	K	101	-	-	4/29/63/63	0/2/2/2
19	CLA	C	605	-	1/1/15/20	9/37/115/115	-
19	CLA	B	614	-	1/1/11/20	3/13/91/115	-
21	LMG	K	102	-	-	7/46/66/70	0/1/1/1
19	CLA	C	607	-	1/1/15/20	20/37/115/115	-
24	PHO	D	411	-	-	11/37/103/103	0/5/6/6
28	SQD	C	620	-	-	13/46/66/69	0/1/1/1
19	CLA	B	606	-	1/1/15/20	15/37/115/115	-
19	CLA	B	609	-	1/1/15/20	17/37/115/115	-
19	CLA	B	615	-	1/1/15/20	3/37/115/115	-
19	CLA	B	607	-	1/1/15/20	13/37/115/115	-
19	CLA	D	401	-	1/1/15/20	18/37/115/115	-
19	CLA	B	616	-	1/1/15/20	10/37/115/115	-
22	LHG	L	101	-	-	10/53/53/53	-
19	CLA	B	602	-	1/1/15/20	9/37/115/115	-
20	BCR	B	618	-	-	4/29/63/63	0/2/2/2
21	LMG	B	620	-	-	5/41/61/70	0/1/1/1
21	LMG	B	623	-	-	9/43/63/70	0/1/1/1
19	CLA	C	609	-	1/1/15/20	18/37/115/115	-
21	LMG	D	408	-	-	6/41/61/70	0/1/1/1
26	VTQ	X	202	-	-	8/25/49/49	0/1/1/1
20	BCR	Z	101	-	-	4/29/63/63	0/2/2/2
25	HEM	E	101	4,3	-	3/12/54/54	-
27	DGD	C	617	-	-	9/44/84/95	0/2/2/2
19	CLA	A	403	-	1/1/15/20	12/37/115/115	-
19	CLA	C	603	-	1/1/15/20	16/37/115/115	-
22	LHG	A	408	-	-	10/53/53/53	-
19	CLA	B	613	-	1/1/15/20	11/37/115/115	-
19	CLA	C	611	-	1/1/15/20	14/37/115/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
22	LHG	D	405	-	-	11/48/48/53	-
19	CLA	C	612	16	1/1/15/20	17/37/115/115	-
23	PL9	D	404	-	-	9/53/73/73	0/1/1/1
24	PHO	D	410	-	-	10/37/103/103	0/5/6/6
19	CLA	B	604	-	1/1/15/20	19/37/115/115	-
19	CLA	D	409	-	1/1/15/20	8/37/115/115	-
19	CLA	C	606	-	1/1/15/20	18/37/115/115	-
20	BCR	H	101	-	-	5/29/63/63	0/2/2/2
22	LHG	B	624	-	-	13/53/53/53	-
22	LHG	D	406	-	-	11/53/53/53	-
19	CLA	C	614	-	1/1/15/20	16/37/115/115	-
19	CLA	C	602	-	1/1/15/20	13/37/115/115	-
19	CLA	C	608	-	1/1/15/20	7/37/115/115	-
19	CLA	B	612	-	1/1/15/20	11/37/115/115	-
20	BCR	B	617	-	-	4/29/63/63	0/2/2/2
20	BCR	A	406	-	-	4/29/63/63	0/2/2/2
21	LMG	A	407	-	-	10/43/63/70	0/1/1/1

All (303) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	C	609	CLA	C4B-NB	7.99	1.42	1.35
19	C	604	CLA	C4B-NB	7.98	1.42	1.35
19	C	607	CLA	C4B-NB	7.91	1.42	1.35
19	C	612	CLA	C4B-NB	7.91	1.42	1.35
19	C	611	CLA	C4B-NB	7.90	1.42	1.35
19	D	409	CLA	C4B-NB	7.90	1.42	1.35
19	C	605	CLA	C4B-NB	7.88	1.42	1.35
19	A	404	CLA	C4B-NB	7.86	1.42	1.35
19	B	603	CLA	C4B-NB	7.80	1.42	1.35
19	C	614	CLA	C4B-NB	7.79	1.42	1.35
19	B	601	CLA	C4B-NB	7.77	1.42	1.35
19	B	607	CLA	C4B-NB	7.76	1.42	1.35
19	C	606	CLA	C4B-NB	7.73	1.42	1.35
19	B	609	CLA	C4B-NB	7.71	1.42	1.35
19	A	405	CLA	C4B-NB	7.71	1.42	1.35
19	D	402	CLA	C4B-NB	7.69	1.42	1.35
19	B	606	CLA	C4B-NB	7.67	1.42	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	C	613	CLA	C4B-NB	7.64	1.42	1.35
19	B	605	CLA	C4B-NB	7.63	1.42	1.35
19	B	611	CLA	C4B-NB	7.63	1.42	1.35
19	A	403	CLA	C4B-NB	7.63	1.42	1.35
19	B	604	CLA	C4B-NB	7.60	1.42	1.35
19	B	613	CLA	C4B-NB	7.59	1.42	1.35
19	C	610	CLA	C4B-NB	7.58	1.42	1.35
19	B	612	CLA	C4B-NB	7.56	1.42	1.35
19	C	602	CLA	C4B-NB	7.54	1.41	1.35
19	B	616	CLA	C4B-NB	7.52	1.41	1.35
19	B	602	CLA	C4B-NB	7.50	1.41	1.35
19	C	608	CLA	C4B-NB	7.49	1.41	1.35
19	D	401	CLA	C4B-NB	7.49	1.41	1.35
19	B	615	CLA	C4B-NB	7.47	1.41	1.35
19	C	603	CLA	C4B-NB	7.46	1.41	1.35
19	B	614	CLA	C4B-NB	7.45	1.41	1.35
19	B	608	CLA	C4B-NB	7.38	1.41	1.35
19	B	610	CLA	C4B-NB	7.26	1.41	1.35
28	C	620	SQD	O8-S	4.69	1.64	1.47
21	C	601	LMG	O8-C28	4.36	1.46	1.33
21	D	408	LMG	O8-C28	4.35	1.46	1.33
21	A	407	LMG	O8-C28	4.30	1.45	1.33
27	C	619	DGD	O1G-C1A	4.30	1.45	1.33
21	B	623	LMG	O8-C28	4.29	1.45	1.33
22	L	101	LHG	O8-C23	4.28	1.45	1.33
27	C	617	DGD	O1G-C1A	4.28	1.45	1.33
21	K	102	LMG	O7-C10	4.28	1.46	1.34
28	C	620	SQD	O48-C23	4.27	1.45	1.33
21	K	102	LMG	O8-C28	4.26	1.45	1.33
22	B	621	LHG	O8-C23	4.25	1.45	1.33
21	B	620	LMG	O7-C10	4.24	1.46	1.34
22	A	408	LHG	O8-C23	4.24	1.45	1.33
21	D	408	LMG	O7-C10	4.23	1.46	1.34
22	B	621	LHG	O7-C7	4.22	1.46	1.34
21	B	620	LMG	O8-C28	4.22	1.45	1.33
22	X	201	LHG	O8-C23	4.22	1.45	1.33
22	B	624	LHG	O8-C23	4.22	1.45	1.33
27	C	618	DGD	O2G-C1B	4.22	1.46	1.34
22	K	103	LHG	O8-C23	4.21	1.45	1.33
25	E	101	HEM	C3C-C2C	-4.20	1.34	1.40
27	C	618	DGD	O1G-C1A	4.20	1.45	1.33
22	D	405	LHG	O8-C23	4.20	1.45	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
22	D	407	LHG	O8-C23	4.19	1.45	1.33
21	B	623	LMG	O7-C10	4.19	1.46	1.34
22	K	103	LHG	O7-C7	4.19	1.46	1.34
22	A	408	LHG	O7-C7	4.16	1.46	1.34
22	D	405	LHG	O7-C7	4.16	1.46	1.34
21	A	407	LMG	O7-C10	4.16	1.46	1.34
22	B	622	LHG	O8-C23	4.14	1.45	1.33
22	X	201	LHG	O7-C7	4.12	1.45	1.34
27	C	617	DGD	O2G-C1B	4.12	1.45	1.34
27	C	619	DGD	O2G-C1B	4.11	1.45	1.34
22	L	101	LHG	O7-C7	4.10	1.45	1.34
22	B	624	LHG	O7-C7	4.09	1.45	1.34
28	C	620	SQD	O47-C7	4.08	1.45	1.34
23	D	404	PL9	C7-C3	-4.08	1.47	1.51
22	D	406	LHG	O7-C7	4.07	1.45	1.34
22	D	407	LHG	O7-C7	4.07	1.45	1.34
22	D	406	LHG	O8-C23	4.06	1.45	1.33
21	C	601	LMG	O7-C10	4.05	1.45	1.34
22	B	622	LHG	O7-C7	4.04	1.45	1.34
19	C	614	CLA	C1D-ND	3.94	1.42	1.37
19	A	405	CLA	C1D-ND	3.93	1.42	1.37
19	C	605	CLA	C1D-ND	3.93	1.42	1.37
19	B	601	CLA	C1D-ND	3.91	1.42	1.37
19	C	611	CLA	C1D-ND	3.91	1.42	1.37
19	D	402	CLA	C1D-ND	3.90	1.42	1.37
19	C	608	CLA	C1D-ND	3.88	1.42	1.37
19	C	612	CLA	C1D-ND	3.88	1.42	1.37
19	B	614	CLA	C1D-ND	3.87	1.42	1.37
19	B	615	CLA	C1D-ND	3.87	1.42	1.37
19	B	607	CLA	C1D-ND	3.86	1.42	1.37
19	B	604	CLA	C1D-ND	3.84	1.42	1.37
19	B	606	CLA	C1D-ND	3.84	1.42	1.37
19	C	609	CLA	C1D-ND	3.81	1.42	1.37
19	C	607	CLA	C1D-ND	3.81	1.42	1.37
19	A	404	CLA	C1D-ND	3.79	1.42	1.37
19	C	610	CLA	C1D-ND	3.79	1.42	1.37
19	C	604	CLA	C1D-ND	3.78	1.42	1.37
19	D	409	CLA	C1D-ND	3.78	1.42	1.37
19	B	609	CLA	C1D-ND	3.78	1.42	1.37
19	C	606	CLA	C1D-ND	3.78	1.42	1.37
19	B	616	CLA	C1D-ND	3.77	1.42	1.37
19	C	613	CLA	C1D-ND	3.77	1.42	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	C	602	CLA	C1D-ND	3.74	1.42	1.37
19	B	610	CLA	C1D-ND	3.74	1.42	1.37
19	A	403	CLA	C1D-ND	3.73	1.42	1.37
19	B	613	CLA	C1D-ND	3.73	1.42	1.37
19	B	611	CLA	C1D-ND	3.73	1.42	1.37
19	B	608	CLA	C1D-ND	3.71	1.42	1.37
19	B	612	CLA	C1D-ND	3.69	1.42	1.37
19	B	603	CLA	C1D-ND	3.68	1.42	1.37
19	B	602	CLA	C1D-ND	3.67	1.42	1.37
19	D	401	CLA	C1D-ND	3.66	1.42	1.37
19	C	603	CLA	C1D-ND	3.65	1.42	1.37
19	B	605	CLA	C1D-ND	3.64	1.42	1.37
25	E	101	HEM	C3C-CAC	3.61	1.55	1.47
23	D	404	PL9	C3-C4	-3.41	1.43	1.49
19	A	404	CLA	C4D-ND	-3.20	1.33	1.37
19	B	602	CLA	C4D-ND	-3.20	1.33	1.37
19	D	401	CLA	CHC-C1C	3.19	1.43	1.35
19	D	409	CLA	C4D-ND	-3.19	1.33	1.37
19	D	402	CLA	C4D-ND	-3.18	1.33	1.37
19	C	612	CLA	C4D-ND	-3.18	1.33	1.37
26	X	202	VTQ	O3-C9	-3.15	1.39	1.44
19	C	603	CLA	C4D-ND	-3.15	1.33	1.37
19	B	613	CLA	CHC-C1C	3.14	1.43	1.35
19	B	609	CLA	C4D-ND	-3.14	1.33	1.37
19	B	604	CLA	C4D-ND	-3.08	1.33	1.37
19	C	611	CLA	CHC-C1C	3.07	1.42	1.35
19	B	610	CLA	C4D-ND	-3.07	1.33	1.37
19	B	616	CLA	C4D-ND	-3.07	1.33	1.37
19	C	605	CLA	C4D-ND	-3.07	1.33	1.37
19	B	602	CLA	CHC-C1C	3.06	1.42	1.35
19	A	403	CLA	C4D-ND	-3.06	1.33	1.37
19	C	609	CLA	C4D-ND	-3.05	1.33	1.37
19	B	608	CLA	C4D-ND	-3.05	1.33	1.37
19	C	614	CLA	C4D-ND	-3.05	1.33	1.37
19	B	615	CLA	C4D-ND	-3.04	1.33	1.37
19	B	607	CLA	C4D-ND	-3.04	1.33	1.37
19	B	605	CLA	C4D-ND	-3.03	1.33	1.37
19	C	604	CLA	C4D-ND	-3.03	1.33	1.37
19	A	405	CLA	C4D-ND	-3.03	1.33	1.37
19	C	608	CLA	CHC-C1C	3.02	1.42	1.35
19	B	606	CLA	C4D-ND	-3.02	1.33	1.37
19	C	613	CLA	C4D-ND	-3.02	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	C	611	CLA	C4D-ND	-3.02	1.33	1.37
19	D	409	CLA	CHC-C1C	3.01	1.42	1.35
19	B	607	CLA	CHC-C1C	3.01	1.42	1.35
19	C	607	CLA	CHC-C1C	3.01	1.42	1.35
19	B	614	CLA	CHC-C1C	3.00	1.42	1.35
19	B	603	CLA	CHC-C1C	3.00	1.42	1.35
19	C	608	CLA	C4D-ND	-3.00	1.33	1.37
19	B	601	CLA	CHC-C1C	2.99	1.42	1.35
19	C	603	CLA	CHC-C1C	2.99	1.42	1.35
19	C	610	CLA	C4D-ND	-2.99	1.33	1.37
19	B	616	CLA	CHC-C1C	2.99	1.42	1.35
19	C	609	CLA	CHC-C1C	2.99	1.42	1.35
19	A	403	CLA	CHC-C1C	2.99	1.42	1.35
19	B	612	CLA	C4D-ND	-2.98	1.33	1.37
19	C	614	CLA	CHC-C1C	2.98	1.42	1.35
19	C	613	CLA	CHC-C1C	2.98	1.42	1.35
19	B	601	CLA	C4D-ND	-2.97	1.33	1.37
19	C	606	CLA	CHC-C1C	2.97	1.42	1.35
19	C	604	CLA	CHC-C1C	2.97	1.42	1.35
19	B	612	CLA	CHC-C1C	2.97	1.42	1.35
19	C	602	CLA	CHC-C1C	2.95	1.42	1.35
19	B	613	CLA	C4D-ND	-2.95	1.33	1.37
19	B	614	CLA	C4D-ND	-2.94	1.33	1.37
19	C	605	CLA	CHC-C1C	2.93	1.42	1.35
19	B	606	CLA	CHC-C1C	2.93	1.42	1.35
19	B	603	CLA	C4D-ND	-2.93	1.33	1.37
19	C	607	CLA	C4D-ND	-2.92	1.33	1.37
19	C	610	CLA	CHC-C1C	2.91	1.42	1.35
19	D	402	CLA	CHC-C1C	2.91	1.42	1.35
19	B	611	CLA	C4D-ND	-2.90	1.33	1.37
19	C	612	CLA	CHC-C1C	2.90	1.42	1.35
19	C	602	CLA	C4D-ND	-2.90	1.33	1.37
19	B	609	CLA	CHC-C1C	2.90	1.42	1.35
19	A	404	CLA	CHC-C1C	2.90	1.42	1.35
25	E	101	HEM	CAB-C3B	2.89	1.55	1.47
19	B	610	CLA	CHC-C1C	2.89	1.42	1.35
19	B	604	CLA	CHC-C1C	2.89	1.42	1.35
19	A	405	CLA	CHC-C1C	2.88	1.42	1.35
19	B	611	CLA	CHC-C1C	2.85	1.42	1.35
19	C	606	CLA	C4D-ND	-2.85	1.33	1.37
19	B	615	CLA	CHC-C1C	2.84	1.42	1.35
19	D	401	CLA	C4D-ND	-2.84	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	B	608	CLA	CHC-C1C	2.81	1.42	1.35
19	B	605	CLA	CHC-C1C	2.81	1.42	1.35
24	D	410	PHO	CAC-C3C	-2.80	1.47	1.52
19	C	607	CLA	CMB-C2B	-2.75	1.45	1.51
28	C	620	SQD	C6-S	-2.74	1.67	1.77
23	D	404	PL9	C6-C1	-2.70	1.43	1.48
24	D	411	PHO	CAC-C3C	-2.66	1.47	1.52
19	B	603	CLA	CMB-C2B	-2.60	1.46	1.51
19	D	409	CLA	CMB-C2B	-2.59	1.46	1.51
19	B	612	CLA	CMB-C2B	-2.58	1.46	1.51
19	B	605	CLA	CMB-C2B	-2.58	1.46	1.51
19	C	612	CLA	CMB-C2B	-2.57	1.46	1.51
19	A	404	CLA	CMB-C2B	-2.55	1.46	1.51
19	C	602	CLA	CMB-C2B	-2.54	1.46	1.51
26	X	202	VTQ	C10-C3	2.54	1.57	1.51
19	B	606	CLA	CMB-C2B	-2.53	1.46	1.51
19	B	615	CLA	CMB-C2B	-2.51	1.46	1.51
19	B	611	CLA	CMB-C2B	-2.50	1.46	1.51
19	B	610	CLA	CMB-C2B	-2.50	1.46	1.51
19	C	609	CLA	CMB-C2B	-2.49	1.46	1.51
19	B	616	CLA	CMB-C2B	-2.49	1.46	1.51
19	A	405	CLA	CMB-C2B	-2.49	1.46	1.51
19	D	402	CLA	CMB-C2B	-2.48	1.46	1.51
19	C	603	CLA	CMB-C2B	-2.47	1.46	1.51
19	B	608	CLA	CMB-C2B	-2.47	1.46	1.51
19	C	605	CLA	CMB-C2B	-2.45	1.46	1.51
19	B	609	CLA	CMB-C2B	-2.45	1.46	1.51
19	D	401	CLA	CMB-C2B	-2.45	1.46	1.51
19	B	604	CLA	CMB-C2B	-2.44	1.46	1.51
19	C	611	CLA	CMB-C2B	-2.43	1.46	1.51
26	X	202	VTQ	C3-C4	2.43	1.53	1.46
19	B	613	CLA	CMB-C2B	-2.43	1.46	1.51
19	B	614	CLA	CMB-C2B	-2.43	1.46	1.51
19	B	602	CLA	CMB-C2B	-2.43	1.46	1.51
19	A	403	CLA	CMB-C2B	-2.43	1.46	1.51
19	B	601	CLA	CMB-C2B	-2.42	1.46	1.51
19	C	608	CLA	CMB-C2B	-2.41	1.46	1.51
19	C	610	CLA	CMB-C2B	-2.41	1.46	1.51
19	C	606	CLA	CMB-C2B	-2.40	1.46	1.51
19	C	604	CLA	CMB-C2B	-2.39	1.46	1.51
19	C	613	CLA	CMB-C2B	-2.37	1.46	1.51
19	B	607	CLA	CMB-C2B	-2.37	1.46	1.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	C	614	CLA	CMB-C2B	-2.34	1.46	1.51
24	D	411	PHO	CMD-C2D	-2.33	1.46	1.51
19	B	612	CLA	CMD-C2D	-2.30	1.45	1.50
20	C	616	BCR	C1-C6	-2.29	1.50	1.53
19	D	409	CLA	CMD-C2D	-2.27	1.46	1.50
19	C	612	CLA	C3B-C2B	-2.24	1.37	1.40
19	C	602	CLA	C3B-C2B	-2.22	1.37	1.40
19	C	602	CLA	CMD-C2D	-2.19	1.46	1.50
21	A	407	LMG	O1-C1	2.19	1.43	1.40
23	D	404	PL9	C53-C6	-2.19	1.46	1.50
19	B	605	CLA	C3B-C2B	-2.19	1.37	1.40
19	B	602	CLA	CMD-C2D	-2.18	1.46	1.50
19	A	403	CLA	CMD-C2D	-2.18	1.46	1.50
19	D	409	CLA	C3B-C2B	-2.17	1.37	1.40
19	B	608	CLA	CMD-C2D	-2.17	1.46	1.50
19	C	603	CLA	CMD-C2D	-2.17	1.46	1.50
24	D	410	PHO	CMD-C2D	-2.16	1.46	1.51
24	D	410	PHO	CMB-C2B	-2.16	1.46	1.51
19	B	606	CLA	C3B-C2B	-2.15	1.37	1.40
19	B	601	CLA	CMD-C2D	-2.15	1.46	1.50
19	B	603	CLA	CMD-C2D	-2.15	1.46	1.50
19	B	603	CLA	C3B-C2B	-2.14	1.37	1.40
19	D	401	CLA	CMD-C2D	-2.14	1.46	1.50
26	X	202	VTQ	O1-C4	-2.13	1.18	1.23
19	B	606	CLA	CMD-C2D	-2.13	1.46	1.50
19	B	605	CLA	CMD-C2D	-2.13	1.46	1.50
19	B	612	CLA	C3B-C2B	-2.12	1.37	1.40
19	B	615	CLA	C3B-C2B	-2.12	1.37	1.40
19	B	613	CLA	CMD-C2D	-2.12	1.46	1.50
19	A	404	CLA	CMD-C2D	-2.12	1.46	1.50
19	B	613	CLA	C3B-C2B	-2.11	1.37	1.40
24	D	410	PHO	CMC-C2C	-2.11	1.46	1.51
19	C	606	CLA	CMD-C2D	-2.11	1.46	1.50
19	B	611	CLA	CMD-C2D	-2.11	1.46	1.50
19	B	610	CLA	CMD-C2D	-2.10	1.46	1.50
19	B	614	CLA	CMD-C2D	-2.10	1.46	1.50
20	A	406	BCR	C30-C25	-2.10	1.50	1.53
25	E	101	HEM	FE-NB	2.10	2.07	1.96
19	C	611	CLA	CMD-C2D	-2.10	1.46	1.50
24	D	411	PHO	CMC-C2C	-2.09	1.46	1.51
19	C	613	CLA	CMD-C2D	-2.08	1.46	1.50
19	B	616	CLA	C3B-C2B	-2.08	1.37	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	A	403	CLA	CMC-C2C	-2.08	1.46	1.50
19	B	604	CLA	CMC-C2C	-2.08	1.46	1.50
19	C	611	CLA	C3B-C2B	-2.08	1.37	1.40
19	C	612	CLA	CMC-C2C	-2.08	1.46	1.50
19	D	402	CLA	CMD-C2D	-2.07	1.46	1.50
19	C	603	CLA	C3B-C2B	-2.07	1.37	1.40
26	X	202	VTQ	C5-C4	2.06	1.54	1.47
19	C	610	CLA	CMD-C2D	-2.06	1.46	1.50
19	B	616	CLA	CMD-C2D	-2.06	1.46	1.50
19	B	607	CLA	CMD-C2D	-2.06	1.46	1.50
20	Z	101	BCR	C1-C6	-2.06	1.50	1.53
19	B	601	CLA	C3B-C2B	-2.06	1.37	1.40
19	B	610	CLA	CMC-C2C	-2.05	1.46	1.50
19	B	615	CLA	CMD-C2D	-2.05	1.46	1.50
19	A	405	CLA	CMD-C2D	-2.04	1.46	1.50
24	D	410	PHO	C3B-C2B	-2.04	1.37	1.40
21	K	102	LMG	O1-C1	2.04	1.43	1.40
19	C	609	CLA	CMD-C2D	-2.03	1.46	1.50
19	C	614	CLA	CMD-C2D	-2.03	1.46	1.50
19	C	610	CLA	CMC-C2C	-2.03	1.46	1.50
19	A	405	CLA	C3B-C2B	-2.03	1.37	1.40
19	C	607	CLA	CMD-C2D	-2.02	1.46	1.50
24	D	411	PHO	CMB-C2B	-2.02	1.46	1.51
19	B	604	CLA	CMD-C2D	-2.02	1.46	1.50
19	C	608	CLA	CMD-C2D	-2.01	1.46	1.50
19	B	607	CLA	C3B-C2B	-2.01	1.37	1.40
19	B	615	CLA	CMC-C2C	-2.01	1.46	1.50
19	A	404	CLA	CMC-C2C	-2.01	1.46	1.50
19	B	609	CLA	CMD-C2D	-2.01	1.46	1.50
19	C	605	CLA	CMC-C2C	-2.01	1.46	1.50
19	C	602	CLA	C3B-CAB	-2.01	1.43	1.47
19	C	603	CLA	CMC-C2C	-2.01	1.46	1.50
19	C	605	CLA	CMD-C2D	-2.00	1.46	1.50
19	C	604	CLA	C3B-C2B	-2.00	1.37	1.40

All (568) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	C	615	BCR	C30-C25-C26	-5.92	114.27	122.61
19	B	612	CLA	C4A-NA-C1A	5.89	109.35	106.71
20	C	615	BCR	C3-C4-C5	-5.87	103.60	114.08
19	C	608	CLA	C4A-NA-C1A	5.65	109.25	106.71

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	A	401	BCT	O2-C-O1	5.55	133.94	119.55
20	K	101	BCR	C3-C4-C5	-5.37	104.49	114.08
20	H	101	BCR	C28-C27-C26	-5.35	104.53	114.08
20	K	101	BCR	C28-C27-C26	-5.29	104.63	114.08
20	H	101	BCR	C3-C4-C5	-5.27	104.67	114.08
19	C	603	CLA	C4A-NA-C1A	5.27	109.07	106.71
19	B	610	CLA	C4A-NA-C1A	5.24	109.06	106.71
20	B	618	BCR	C28-C27-C26	-5.21	104.77	114.08
23	D	404	PL9	C7-C3-C4	5.20	121.10	116.88
19	C	610	CLA	C4A-NA-C1A	5.17	109.03	106.71
20	H	101	BCR	C7-C8-C9	-5.15	118.45	126.23
19	D	401	CLA	C4A-NA-C1A	5.04	108.97	106.71
19	C	602	CLA	C4A-NA-C1A	5.00	108.95	106.71
19	B	605	CLA	C4A-NA-C1A	4.92	108.92	106.71
19	C	614	CLA	C4A-NA-C1A	4.88	108.90	106.71
20	D	403	BCR	C30-C25-C26	-4.85	115.78	122.61
19	B	613	CLA	C4A-NA-C1A	4.84	108.88	106.71
19	B	616	CLA	C4A-NA-C1A	4.82	108.87	106.71
20	D	403	BCR	C1-C6-C5	-4.75	115.92	122.61
20	B	619	BCR	C28-C27-C26	-4.67	105.74	114.08
19	B	615	CLA	C4A-NA-C1A	4.64	108.79	106.71
19	C	605	CLA	C4A-NA-C1A	4.57	108.76	106.71
19	C	611	CLA	C4A-NA-C1A	4.54	108.75	106.71
21	A	407	LMG	O7-C10-C11	4.53	121.26	111.50
19	B	614	CLA	C4A-NA-C1A	4.45	108.70	106.71
19	B	607	CLA	C4A-NA-C1A	4.40	108.69	106.71
20	Z	101	BCR	C1-C6-C5	-4.40	116.41	122.61
19	A	405	CLA	C4A-NA-C1A	4.38	108.68	106.71
19	C	607	CLA	CMB-C2B-C1B	-4.31	121.84	128.46
20	Z	101	BCR	C33-C5-C6	-4.29	119.72	124.53
19	C	613	CLA	C4A-NA-C1A	4.28	108.63	106.71
20	B	619	BCR	C30-C25-C26	-4.27	116.60	122.61
19	B	611	CLA	C4A-NA-C1A	4.26	108.62	106.71
20	C	616	BCR	C28-C27-C26	-4.25	106.50	114.08
19	A	403	CLA	C4A-NA-C1A	4.16	108.58	106.71
20	D	403	BCR	C3-C4-C5	-4.14	106.69	114.08
22	X	201	LHG	O7-C7-C8	4.13	120.41	111.50
19	B	601	CLA	C4A-NA-C1A	4.12	108.56	106.71
19	B	608	CLA	C4A-NA-C1A	4.12	108.56	106.71
20	K	101	BCR	C30-C25-C26	-4.11	116.82	122.61
19	B	604	CLA	C4A-NA-C1A	4.11	108.56	106.71
19	C	614	CLA	CMB-C2B-C1B	-4.09	122.18	128.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	C	615	BCR	C33-C5-C6	-4.09	119.94	124.53
20	B	617	BCR	C1-C6-C5	-4.09	116.86	122.61
19	C	609	CLA	CMB-C2B-C1B	-4.07	122.22	128.46
19	C	609	CLA	C4A-NA-C1A	4.06	108.53	106.71
19	C	612	CLA	C4A-NA-C1A	4.04	108.52	106.71
19	B	602	CLA	C4A-NA-C1A	4.00	108.50	106.71
20	C	615	BCR	C1-C6-C5	-3.99	117.00	122.61
21	B	623	LMG	O7-C10-C11	3.96	120.03	111.50
22	D	407	LHG	O7-C7-C8	3.94	119.99	111.50
20	H	101	BCR	C20-C21-C22	-3.94	121.69	127.31
20	C	616	BCR	C33-C5-C6	-3.91	120.14	124.53
22	B	624	LHG	O7-C7-C8	3.91	119.92	111.50
20	B	617	BCR	C36-C18-C19	3.89	124.21	118.08
19	C	607	CLA	C4A-NA-C1A	3.89	108.45	106.71
19	B	603	CLA	C4A-NA-C1A	3.85	108.44	106.71
20	K	101	BCR	C37-C22-C23	3.84	124.13	118.08
22	K	103	LHG	O7-C7-C8	3.84	119.77	111.50
19	B	606	CLA	C4A-NA-C1A	3.83	108.43	106.71
19	D	402	CLA	C4A-NA-C1A	3.82	108.42	106.71
20	K	101	BCR	C16-C17-C18	-3.82	121.86	127.31
22	D	405	LHG	O7-C7-C8	3.81	119.72	111.50
20	A	406	BCR	C20-C21-C22	-3.81	121.87	127.31
19	A	404	CLA	CMB-C2B-C1B	-3.79	122.64	128.46
19	B	614	CLA	CMB-C2B-C1B	-3.79	122.64	128.46
19	A	404	CLA	C4A-NA-C1A	3.79	108.41	106.71
19	B	611	CLA	CMB-C2B-C1B	-3.78	122.66	128.46
27	C	617	DGD	O2G-C1B-C2B	3.78	119.64	111.50
20	C	615	BCR	C33-C5-C4	3.76	120.85	113.62
20	C	616	BCR	C20-C21-C22	-3.76	121.94	127.31
28	C	620	SQD	O47-C7-C8	3.75	119.58	111.50
20	A	406	BCR	C3-C4-C5	-3.73	107.41	114.08
22	B	621	LHG	O7-C7-C8	3.73	119.54	111.50
22	A	408	LHG	O7-C7-C8	3.73	119.54	111.50
20	B	619	BCR	C20-C21-C22	-3.72	122.00	127.31
20	A	406	BCR	C38-C26-C25	-3.72	120.35	124.53
21	K	102	LMG	O7-C10-C11	3.71	119.50	111.50
19	D	401	CLA	O2D-CGD-O1D	-3.71	116.59	123.84
27	C	618	DGD	O2G-C1B-C2B	3.71	119.49	111.50
20	B	618	BCR	C33-C5-C6	-3.70	120.37	124.53
19	A	403	CLA	CMB-C2B-C1B	-3.69	122.80	128.46
19	B	610	CLA	CMB-C2B-C1B	-3.68	122.81	128.46
20	D	403	BCR	C20-C21-C22	-3.66	122.08	127.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	D	403	BCR	C16-C17-C18	-3.66	122.09	127.31
20	B	618	BCR	C36-C18-C19	3.66	123.84	118.08
19	B	602	CLA	CMB-C2B-C1B	-3.66	122.84	128.46
20	Z	101	BCR	C33-C5-C4	3.66	120.64	113.62
19	B	609	CLA	CMB-C2B-C1B	-3.65	122.85	128.46
20	H	101	BCR	C16-C17-C18	-3.64	122.11	127.31
20	H	101	BCR	C27-C26-C25	-3.64	117.45	122.73
19	C	604	CLA	C4A-NA-C1A	3.63	108.34	106.71
20	H	101	BCR	C4-C5-C6	-3.59	117.52	122.73
20	Z	101	BCR	C37-C22-C23	3.58	123.72	118.08
20	B	619	BCR	C16-C17-C18	-3.58	122.20	127.31
21	C	601	LMG	O7-C10-C11	3.57	119.19	111.50
21	D	408	LMG	O7-C10-C11	3.57	119.19	111.50
22	D	406	LHG	O7-C7-C8	3.56	119.18	111.50
20	B	617	BCR	C37-C22-C23	3.56	123.68	118.08
20	A	406	BCR	C16-C17-C18	-3.55	122.24	127.31
19	D	409	CLA	CMB-C2B-C1B	-3.53	123.03	128.46
19	C	613	CLA	CMB-C2B-C1B	-3.53	123.03	128.46
19	D	409	CLA	C4A-NA-C1A	3.50	108.28	106.71
20	H	101	BCR	C11-C10-C9	-3.49	122.33	127.31
20	D	403	BCR	C4-C5-C6	-3.49	117.66	122.73
20	A	406	BCR	C30-C25-C26	-3.48	117.71	122.61
21	B	620	LMG	O7-C10-C11	3.48	119.00	111.50
19	A	405	CLA	O2D-CGD-O1D	-3.48	117.04	123.84
20	B	618	BCR	C20-C21-C22	-3.48	122.35	127.31
20	B	619	BCR	C7-C8-C9	-3.47	120.98	126.23
19	D	401	CLA	CMB-C2B-C1B	-3.47	123.12	128.46
23	D	404	PL9	C7-C3-C2	-3.47	118.73	123.30
20	H	101	BCR	C36-C18-C19	3.46	123.53	118.08
20	A	406	BCR	C7-C8-C9	-3.46	121.00	126.23
20	B	619	BCR	C36-C18-C19	3.46	123.53	118.08
20	H	101	BCR	C37-C22-C23	3.46	123.53	118.08
19	B	603	CLA	CMB-C2B-C1B	-3.46	123.15	128.46
20	B	619	BCR	C33-C5-C6	-3.45	120.65	124.53
20	C	615	BCR	C38-C26-C25	-3.45	120.66	124.53
20	B	618	BCR	C37-C22-C23	3.45	123.51	118.08
20	C	615	BCR	C28-C27-C26	-3.45	107.92	114.08
20	C	616	BCR	C24-C23-C22	-3.44	121.04	126.23
20	B	617	BCR	C38-C26-C25	-3.43	120.67	124.53
20	D	403	BCR	C38-C26-C27	3.43	120.20	113.62
20	B	617	BCR	C20-C21-C22	-3.42	122.42	127.31
20	K	101	BCR	C7-C8-C9	-3.42	121.07	126.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	C	610	CLA	CMB-C2B-C1B	-3.42	123.21	128.46
20	C	615	BCR	C1-C6-C7	3.41	125.42	115.78
19	B	614	CLA	O2D-CGD-O1D	-3.41	117.17	123.84
19	C	614	CLA	CMB-C2B-C3B	3.40	131.03	124.68
27	C	619	DGD	O2G-C1B-C2B	3.37	118.77	111.50
19	C	603	CLA	CMB-C2B-C1B	-3.36	123.30	128.46
19	B	608	CLA	O2D-CGD-O1D	-3.36	117.28	123.84
20	B	619	BCR	C37-C22-C23	3.35	123.36	118.08
19	A	404	CLA	O2D-CGD-O1D	-3.35	117.28	123.84
19	B	608	CLA	CMB-C2B-C1B	-3.34	123.34	128.46
19	C	607	CLA	CMB-C2B-C3B	3.33	130.91	124.68
20	A	406	BCR	C24-C23-C22	-3.33	121.20	126.23
20	K	101	BCR	C36-C18-C19	3.33	123.32	118.08
19	B	611	CLA	O2D-CGD-O1D	-3.33	117.33	123.84
19	C	605	CLA	CMB-C2B-C1B	-3.33	123.35	128.46
19	C	613	CLA	O2D-CGD-O1D	-3.33	117.34	123.84
22	L	101	LHG	O7-C7-C8	3.32	118.66	111.50
20	D	403	BCR	C33-C5-C4	3.32	119.99	113.62
19	B	602	CLA	O2D-CGD-O1D	-3.32	117.35	123.84
20	D	403	BCR	C28-C27-C26	-3.31	108.17	114.08
20	C	616	BCR	C1-C6-C5	-3.31	117.95	122.61
20	A	406	BCR	C11-C10-C9	-3.31	122.59	127.31
22	B	622	LHG	O7-C7-C8	3.30	118.62	111.50
20	D	403	BCR	C37-C22-C23	3.29	123.27	118.08
20	B	619	BCR	C1-C6-C5	-3.29	117.98	122.61
19	C	609	CLA	CMB-C2B-C3B	3.29	130.83	124.68
19	B	604	CLA	CMB-C2B-C1B	-3.29	123.41	128.46
19	C	608	CLA	CMB-C2B-C1B	-3.28	123.42	128.46
19	C	610	CLA	O2D-CGD-O1D	-3.28	117.42	123.84
20	B	617	BCR	C3-C4-C5	-3.28	108.22	114.08
20	C	616	BCR	C16-C17-C18	-3.28	122.63	127.31
19	B	609	CLA	C4A-NA-C1A	3.27	108.18	106.71
20	D	403	BCR	C36-C18-C19	3.27	123.23	118.08
20	B	619	BCR	C38-C26-C27	3.27	119.90	113.62
20	B	617	BCR	C15-C16-C17	-3.26	116.79	123.47
20	C	616	BCR	C29-C30-C25	3.26	115.50	110.48
20	A	406	BCR	C36-C18-C19	3.25	123.19	118.08
19	B	606	CLA	O2D-CGD-O1D	-3.24	117.50	123.84
19	B	610	CLA	CMB-C2B-C3B	3.24	130.75	124.68
19	B	612	CLA	O2D-CGD-O1D	-3.24	117.50	123.84
19	D	402	CLA	CMB-C2B-C1B	-3.24	123.48	128.46
19	B	615	CLA	O2D-CGD-O1D	-3.23	117.52	123.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	B	603	CLA	O2D-CGD-O1D	-3.23	117.53	123.84
20	B	618	BCR	C30-C25-C26	-3.23	118.07	122.61
19	B	616	CLA	CMB-C2B-C1B	-3.22	123.51	128.46
19	B	614	CLA	CMB-C2B-C3B	3.22	130.71	124.68
20	B	618	BCR	C7-C8-C9	-3.22	121.37	126.23
20	Z	101	BCR	C36-C18-C19	3.22	123.14	118.08
19	A	404	CLA	CMB-C2B-C3B	3.21	130.69	124.68
19	B	611	CLA	CMB-C2B-C3B	3.21	130.68	124.68
20	H	101	BCR	C2-C1-C6	3.21	115.42	110.48
28	C	620	SQD	O8-S-C6	3.20	110.84	105.74
19	C	612	CLA	O2D-CGD-O1D	-3.20	117.59	123.84
20	C	616	BCR	C36-C18-C19	3.19	123.11	118.08
20	C	615	BCR	C38-C26-C27	3.19	119.74	113.62
20	K	101	BCR	C38-C26-C27	3.19	119.74	113.62
20	C	616	BCR	C7-C8-C9	-3.18	121.43	126.23
20	B	617	BCR	C33-C5-C4	3.18	119.73	113.62
19	D	402	CLA	O2D-CGD-O1D	-3.17	117.63	123.84
19	A	403	CLA	CMB-C2B-C3B	3.17	130.61	124.68
19	B	610	CLA	O2D-CGD-O1D	-3.16	117.66	123.84
19	B	601	CLA	CMB-C2B-C1B	-3.16	123.61	128.46
19	B	606	CLA	CMB-C2B-C1B	-3.16	123.61	128.46
19	C	608	CLA	O2D-CGD-O1D	-3.15	117.68	123.84
20	C	615	BCR	C37-C22-C23	3.14	123.03	118.08
19	C	603	CLA	O2D-CGD-O1D	-3.14	117.70	123.84
19	B	609	CLA	C1B-CHB-C4A	-3.12	123.93	130.12
19	B	609	CLA	CMB-C2B-C3B	3.12	130.52	124.68
19	B	604	CLA	O2D-CGD-O1D	-3.12	117.74	123.84
19	C	606	CLA	O2D-CGD-O1D	-3.11	117.75	123.84
19	B	602	CLA	CMB-C2B-C3B	3.11	130.49	124.68
20	C	616	BCR	C33-C5-C4	3.10	119.57	113.62
19	C	613	CLA	CMB-C2B-C3B	3.09	130.46	124.68
19	C	604	CLA	CMB-C2B-C1B	-3.09	123.72	128.46
20	B	617	BCR	C37-C22-C21	-3.09	118.60	122.92
20	C	615	BCR	C36-C18-C19	3.08	122.93	118.08
19	C	605	CLA	O2D-CGD-O1D	-3.06	117.85	123.84
19	D	401	CLA	CMB-C2B-C3B	3.06	130.40	124.68
20	K	101	BCR	C27-C26-C25	-3.06	118.29	122.73
19	B	605	CLA	CMB-C2B-C1B	-3.06	123.77	128.46
19	A	405	CLA	CMB-C2B-C1B	-3.05	123.77	128.46
19	C	610	CLA	CMB-C2B-C3B	3.05	130.38	124.68
19	B	607	CLA	O2D-CGD-O1D	-3.04	117.89	123.84
20	K	101	BCR	C20-C21-C22	-3.04	122.98	127.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
26	X	202	VTQ	C10-C11-C9	-3.03	110.53	118.08
19	C	609	CLA	O2D-CGD-O1D	-3.03	117.91	123.84
20	D	403	BCR	C27-C26-C25	-3.03	118.34	122.73
20	B	619	BCR	C38-C26-C25	-3.02	121.13	124.53
25	E	101	HEM	C1B-NB-C4B	3.02	108.19	105.07
20	Z	101	BCR	C3-C4-C5	-3.02	108.69	114.08
20	B	618	BCR	C37-C22-C21	-3.01	118.71	122.92
20	Z	101	BCR	C20-C21-C22	-2.99	123.04	127.31
20	K	101	BCR	C1-C6-C5	-2.99	118.40	122.61
19	C	606	CLA	CMB-C2B-C1B	-2.99	123.87	128.46
19	C	611	CLA	CMB-C2B-C1B	-2.99	123.87	128.46
19	C	602	CLA	CMB-C2B-C1B	-2.98	123.88	128.46
28	C	620	SQD	O48-C23-C24	2.98	121.27	111.91
20	B	618	BCR	C1-C6-C5	-2.98	118.41	122.61
19	C	612	CLA	CMB-C2B-C1B	-2.98	123.88	128.46
19	B	608	CLA	CMB-C2B-C3B	2.98	130.25	124.68
19	C	604	CLA	C1B-CHB-C4A	-2.98	124.22	130.12
19	C	611	CLA	O2D-CGD-O1D	-2.98	118.02	123.84
19	A	403	CLA	C1B-CHB-C4A	-2.97	124.23	130.12
19	B	601	CLA	CHD-C1D-ND	-2.97	121.73	124.45
19	C	606	CLA	C1B-CHB-C4A	-2.96	124.26	130.12
19	B	616	CLA	O2D-CGD-O1D	-2.95	118.07	123.84
24	D	410	PHO	O1D-CGD-CBD	2.95	129.64	124.74
20	B	618	BCR	C16-C17-C18	-2.94	123.11	127.31
19	C	602	CLA	O2D-CGD-O1D	-2.93	118.11	123.84
20	B	618	BCR	C33-C5-C4	2.93	119.24	113.62
20	B	617	BCR	C30-C25-C26	-2.93	118.49	122.61
20	Z	101	BCR	C16-C17-C18	-2.93	123.14	127.31
24	D	411	PHO	O1D-CGD-CBD	2.93	129.61	124.74
19	C	606	CLA	C4A-NA-C1A	2.92	108.02	106.71
21	A	407	LMG	O8-C28-C29	2.92	121.06	111.91
20	B	619	BCR	C33-C5-C4	2.91	119.21	113.62
19	B	604	CLA	C1B-CHB-C4A	-2.90	124.36	130.12
19	D	409	CLA	O2D-CGD-O1D	-2.90	118.16	123.84
19	B	613	CLA	CMB-C2B-C1B	-2.90	124.01	128.46
19	C	605	CLA	CMB-C2B-C3B	2.90	130.10	124.68
20	H	101	BCR	C38-C26-C27	2.89	119.18	113.62
19	C	604	CLA	O2D-CGD-O1D	-2.89	118.19	123.84
19	B	604	CLA	CMB-C2B-C3B	2.89	130.08	124.68
20	D	403	BCR	C38-C26-C25	-2.89	121.29	124.53
19	A	404	CLA	C1B-CHB-C4A	-2.88	124.40	130.12
20	C	615	BCR	C7-C8-C9	-2.88	121.88	126.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	B	617	BCR	C4-C5-C6	-2.88	118.55	122.73
19	B	606	CLA	C1B-CHB-C4A	-2.88	124.42	130.12
19	C	608	CLA	CMB-C2B-C3B	2.87	130.05	124.68
19	B	601	CLA	O2D-CGD-O1D	-2.87	118.23	123.84
20	C	616	BCR	C37-C22-C23	2.87	122.59	118.08
20	K	101	BCR	C16-C15-C14	-2.86	117.61	123.47
19	C	603	CLA	CMB-C2B-C3B	2.86	130.03	124.68
19	B	616	CLA	CMB-C2B-C3B	2.84	129.99	124.68
20	A	406	BCR	C1-C6-C5	-2.83	118.63	122.61
20	B	618	BCR	C15-C16-C17	-2.83	117.68	123.47
19	B	613	CLA	O2D-CGD-O1D	-2.83	118.31	123.84
25	E	101	HEM	C3B-C2B-C1B	2.83	108.58	106.49
24	D	410	PHO	O2D-CGD-O1D	-2.83	118.31	123.84
19	B	603	CLA	CMB-C2B-C3B	2.83	129.96	124.68
20	K	101	BCR	C33-C5-C4	2.82	119.04	113.62
19	B	615	CLA	C1B-CHB-C4A	-2.82	124.54	130.12
19	B	602	CLA	C1B-CHB-C4A	-2.82	124.54	130.12
19	B	613	CLA	CHB-C4A-NA	2.81	128.40	124.51
19	D	409	CLA	C1B-CHB-C4A	-2.81	124.55	130.12
19	D	402	CLA	C1B-CHB-C4A	-2.81	124.56	130.12
19	C	614	CLA	O2D-CGD-O1D	-2.81	118.35	123.84
19	B	608	CLA	C1B-CHB-C4A	-2.81	124.56	130.12
19	C	607	CLA	O2D-CGD-O1D	-2.81	118.35	123.84
20	B	617	BCR	C7-C8-C9	-2.81	122.00	126.23
24	D	411	PHO	O2D-CGD-O1D	-2.80	118.36	123.84
21	C	601	LMG	O8-C28-C29	2.80	120.71	111.91
20	C	615	BCR	C15-C16-C17	-2.79	117.75	123.47
19	C	613	CLA	C1B-CHB-C4A	-2.79	124.58	130.12
19	D	402	CLA	CMB-C2B-C3B	2.79	129.89	124.68
20	K	101	BCR	C33-C5-C6	-2.78	121.40	124.53
23	D	404	PL9	C7-C8-C9	-2.78	122.17	126.79
23	D	404	PL9	C22-C23-C24	-2.78	120.98	127.66
19	B	605	CLA	O2D-CGD-O1D	-2.77	118.41	123.84
19	D	409	CLA	CMB-C2B-C3B	2.77	129.87	124.68
20	D	403	BCR	C16-C15-C14	-2.77	117.80	123.47
19	A	403	CLA	O2D-CGD-O1D	-2.77	118.43	123.84
19	B	605	CLA	C1B-CHB-C4A	-2.77	124.64	130.12
19	C	607	CLA	C1B-CHB-C4A	-2.76	124.64	130.12
19	B	614	CLA	C1B-CHB-C4A	-2.76	124.65	130.12
20	A	406	BCR	C38-C26-C27	2.75	118.91	113.62
24	D	410	PHO	C1-C2-C3	-2.75	121.28	126.04
20	B	619	BCR	C27-C26-C25	-2.75	118.73	122.73

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	A	406	BCR	C37-C22-C23	2.75	122.41	118.08
20	Z	101	BCR	C29-C30-C25	2.74	114.70	110.48
19	B	612	CLA	CMB-C2B-C1B	-2.74	124.25	128.46
19	B	615	CLA	CMB-C2B-C1B	-2.74	124.25	128.46
21	A	407	LMG	C8-O7-C10	-2.74	111.05	117.79
19	A	405	CLA	C1B-CHB-C4A	-2.73	124.70	130.12
20	B	619	BCR	C36-C18-C17	-2.73	119.10	122.92
19	B	603	CLA	C1B-CHB-C4A	-2.72	124.73	130.12
20	C	615	BCR	C20-C21-C22	-2.72	123.43	127.31
19	B	606	CLA	CMB-C2B-C3B	2.72	129.76	124.68
24	D	410	PHO	CMB-C2B-C3B	2.71	129.76	124.68
19	C	605	CLA	C1B-CHB-C4A	-2.71	124.74	130.12
19	C	614	CLA	C1B-CHB-C4A	-2.70	124.77	130.12
19	B	616	CLA	C1B-CHB-C4A	-2.70	124.78	130.12
19	C	609	CLA	C1B-CHB-C4A	-2.69	124.78	130.12
19	C	604	CLA	CMB-C2B-C3B	2.69	129.72	124.68
22	B	621	LHG	O8-C23-C24	2.69	120.34	111.91
20	A	406	BCR	C36-C18-C17	-2.69	119.16	122.92
19	B	601	CLA	C1B-CHB-C4A	-2.69	124.80	130.12
22	X	201	LHG	C5-O7-C7	-2.68	111.18	117.79
20	B	617	BCR	C15-C14-C13	-2.68	123.48	127.31
19	D	401	CLA	C1B-CHB-C4A	-2.68	124.81	130.12
19	B	607	CLA	C1B-CHB-C4A	-2.68	124.81	130.12
19	B	610	CLA	C1B-CHB-C4A	-2.68	124.81	130.12
20	H	101	BCR	C30-C25-C26	-2.68	118.84	122.61
19	B	601	CLA	CMB-C2B-C3B	2.67	129.68	124.68
20	H	101	BCR	C24-C23-C22	-2.66	122.21	126.23
20	B	618	BCR	C27-C26-C25	-2.66	118.87	122.73
19	B	611	CLA	C1B-CHB-C4A	-2.66	124.85	130.12
19	C	611	CLA	C1B-CHB-C4A	-2.66	124.85	130.12
19	B	615	CLA	CHB-C4A-NA	2.66	128.19	124.51
23	D	404	PL9	C40-C39-C41	2.66	119.74	115.27
24	D	411	PHO	CMC-C2C-C3C	2.65	129.95	124.94
19	B	607	CLA	CMB-C2B-C1B	-2.65	124.39	128.46
22	D	405	LHG	O8-C23-C24	2.65	120.21	111.91
22	D	407	LHG	O8-C23-C24	2.64	120.20	111.91
19	C	610	CLA	C1B-CHB-C4A	-2.64	124.88	130.12
25	E	101	HEM	C4B-CHC-C1C	2.64	126.04	122.56
19	C	603	CLA	C1B-CHB-C4A	-2.64	124.89	130.12
19	A	405	CLA	CMB-C2B-C3B	2.64	129.61	124.68
19	C	612	CLA	C1B-CHB-C4A	-2.63	124.91	130.12
27	C	617	DGD	O1G-C1A-C2A	2.63	120.15	111.91

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	C	611	CLA	CMB-C2B-C3B	2.62	129.58	124.68
25	E	101	HEM	C4D-ND-C1D	2.62	107.78	105.07
19	C	602	CLA	C1B-CHB-C4A	-2.62	124.94	130.12
20	A	406	BCR	C33-C5-C6	-2.61	121.59	124.53
19	B	609	CLA	O2D-CGD-O1D	-2.61	118.73	123.84
19	B	613	CLA	C1B-CHB-C4A	-2.61	124.95	130.12
21	B	620	LMG	O8-C28-C29	2.61	120.08	111.91
22	L	101	LHG	O8-C23-C24	2.60	120.06	111.91
20	A	406	BCR	C37-C22-C21	-2.59	119.29	122.92
20	B	619	BCR	C37-C22-C21	-2.59	119.30	122.92
20	B	618	BCR	C38-C26-C27	2.58	118.57	113.62
20	D	403	BCR	C36-C18-C17	-2.58	119.31	122.92
20	Z	101	BCR	C7-C8-C9	-2.57	122.35	126.23
20	B	617	BCR	C16-C17-C18	-2.56	123.65	127.31
20	H	101	BCR	C37-C22-C21	-2.56	119.34	122.92
19	C	606	CLA	CMB-C2B-C3B	2.56	129.46	124.68
19	D	401	CLA	O2D-CGD-CBD	2.55	115.81	111.27
20	C	616	BCR	C11-C10-C9	-2.55	123.67	127.31
24	D	410	PHO	CMC-C2C-C3C	2.55	129.75	124.94
19	B	616	CLA	CHB-C4A-NA	2.54	128.03	124.51
20	H	101	BCR	C1-C6-C5	-2.54	119.04	122.61
19	B	607	CLA	CHD-C1D-ND	-2.54	122.12	124.45
19	B	604	CLA	CAA-CBA-CGA	-2.53	105.85	113.25
22	B	622	LHG	O8-C23-C24	2.53	119.86	111.91
27	C	618	DGD	O1G-C1A-C2A	2.53	119.85	111.91
20	B	617	BCR	C33-C5-C6	-2.53	121.69	124.53
19	B	602	CLA	CHD-C1D-ND	-2.52	122.14	124.45
20	C	615	BCR	C4-C5-C6	-2.52	119.07	122.73
27	C	618	DGD	C4E-C3E-C2E	-2.52	106.43	110.82
19	B	609	CLA	CHD-C1D-ND	-2.51	122.14	124.45
20	D	403	BCR	C37-C22-C21	-2.51	119.40	122.92
19	B	613	CLA	CMB-C2B-C3B	2.51	129.37	124.68
28	C	620	SQD	O9-S-C6	2.50	109.91	106.94
24	D	411	PHO	CMB-C2B-C3B	2.50	129.35	124.68
27	C	617	DGD	O6D-C5D-C6D	2.49	111.70	106.67
20	C	615	BCR	C30-C25-C24	2.49	122.83	115.78
19	B	615	CLA	CMB-C2B-C3B	2.49	129.34	124.68
20	B	618	BCR	C15-C14-C13	-2.49	123.75	127.31
20	K	101	BCR	C38-C26-C25	-2.49	121.73	124.53
20	K	101	BCR	C2-C1-C6	2.49	114.31	110.48
20	B	618	BCR	C3-C4-C5	-2.48	109.64	114.08
19	C	606	CLA	O2A-CGA-O1A	-2.48	117.32	123.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	H	101	BCR	C36-C18-C17	-2.47	119.46	122.92
19	C	612	CLA	CMB-C2B-C3B	2.47	129.30	124.68
20	B	619	BCR	C11-C10-C9	-2.46	123.80	127.31
19	B	609	CLA	CAA-CBA-CGA	-2.46	106.07	113.25
19	C	602	CLA	CMB-C2B-C3B	2.46	129.27	124.68
19	C	610	CLA	CHB-C4A-NA	2.45	127.90	124.51
21	B	623	LMG	O8-C28-C29	2.45	119.59	111.91
20	C	615	BCR	C16-C17-C18	-2.45	123.82	127.31
19	C	608	CLA	C1B-CHB-C4A	-2.44	125.28	130.12
20	B	619	BCR	C3-C4-C5	-2.44	109.72	114.08
20	Z	101	BCR	C8-C7-C6	-2.43	120.37	127.20
19	C	604	CLA	CHB-C4A-NA	2.43	127.87	124.51
19	B	612	CLA	C1B-CHB-C4A	-2.43	125.31	130.12
19	B	611	CLA	CHD-C1D-ND	-2.43	122.22	124.45
20	C	615	BCR	C23-C24-C25	-2.43	120.39	127.20
20	C	616	BCR	C37-C22-C21	-2.42	119.53	122.92
20	C	615	BCR	C27-C26-C25	-2.42	119.22	122.73
21	D	408	LMG	O8-C28-C29	2.42	119.50	111.91
19	B	608	CLA	O2A-CGA-O1A	-2.41	117.51	123.59
20	C	615	BCR	C15-C14-C13	-2.41	123.87	127.31
19	C	613	CLA	CHB-C4A-NA	2.40	127.83	124.51
20	B	617	BCR	C28-C27-C26	-2.40	109.80	114.08
19	C	608	CLA	CHD-C1D-ND	-2.40	122.25	124.45
20	Z	101	BCR	C15-C16-C17	-2.40	118.56	123.47
20	B	617	BCR	C19-C18-C17	-2.39	115.27	118.94
19	B	612	CLA	CHB-C4A-NA	2.39	127.81	124.51
22	B	624	LHG	O8-C23-C24	2.39	119.40	111.91
19	C	614	CLA	CHD-C1D-ND	-2.38	122.26	124.45
19	C	605	CLA	CHD-C1D-ND	-2.38	122.27	124.45
20	B	617	BCR	C24-C23-C22	-2.37	122.65	126.23
19	B	610	CLA	CHD-C1D-ND	-2.37	122.28	124.45
19	B	605	CLA	CMB-C2B-C3B	2.37	129.11	124.68
20	Z	101	BCR	C37-C22-C21	-2.37	119.61	122.92
20	Z	101	BCR	C39-C30-C25	-2.37	106.46	110.30
20	K	101	BCR	C4-C5-C6	-2.37	119.30	122.73
19	D	402	CLA	C4-C3-C5	2.36	119.25	115.27
22	D	406	LHG	O8-C23-C24	2.36	119.32	111.91
20	B	618	BCR	C36-C18-C17	-2.36	119.61	122.92
19	C	611	CLA	CHB-C4A-NA	2.36	127.78	124.51
20	C	615	BCR	C11-C10-C9	-2.36	123.94	127.31
20	B	618	BCR	C29-C30-C25	2.35	114.10	110.48
19	C	613	CLA	CHD-C1D-ND	-2.35	122.30	124.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	B	614	CLA	CHB-C4A-NA	2.35	127.76	124.51
20	A	406	BCR	C33-C5-C4	2.34	118.11	113.62
19	B	610	CLA	CHB-C4A-NA	2.34	127.75	124.51
19	D	409	CLA	CHD-C1D-ND	-2.33	122.31	124.45
19	B	615	CLA	O2A-CGA-O1A	-2.33	117.71	123.59
19	C	607	CLA	CHD-C1D-ND	-2.33	122.31	124.45
19	A	404	CLA	CHD-C1D-ND	-2.33	122.31	124.45
19	C	611	CLA	CHD-C1D-ND	-2.32	122.32	124.45
19	C	605	CLA	O2A-CGA-O1A	-2.32	117.74	123.59
19	B	604	CLA	CHD-C1D-ND	-2.32	122.32	124.45
27	C	619	DGD	O1G-C1A-C2A	2.32	119.18	111.91
19	B	605	CLA	CHD-C1D-ND	-2.32	122.33	124.45
19	C	612	CLA	CHD-C1D-ND	-2.32	122.33	124.45
20	B	618	BCR	C11-C10-C9	-2.31	124.01	127.31
20	Z	101	BCR	C15-C14-C13	-2.31	124.01	127.31
19	B	603	CLA	O2A-CGA-O1A	-2.31	117.77	123.59
19	B	604	CLA	CHB-C4A-NA	2.31	127.70	124.51
19	C	614	CLA	CHB-C4A-NA	2.30	127.70	124.51
19	B	607	CLA	CMB-C2B-C3B	2.30	128.99	124.68
20	D	403	BCR	C7-C8-C9	-2.30	122.76	126.23
19	B	615	CLA	CHD-C1D-ND	-2.30	122.34	124.45
25	E	101	HEM	C4C-CHD-C1D	2.29	125.58	122.56
20	C	616	BCR	C15-C16-C17	-2.29	118.79	123.47
21	K	102	LMG	O8-C28-C29	2.29	119.08	111.91
19	C	604	CLA	O2A-CGA-O1A	-2.29	117.82	123.59
20	H	101	BCR	C29-C30-C25	2.28	114.00	110.48
20	Z	101	BCR	C36-C18-C17	-2.28	119.72	122.92
19	A	403	CLA	CHB-C4A-NA	2.28	127.67	124.51
27	C	618	DGD	O5D-C1E-C2E	2.28	111.86	108.30
22	X	201	LHG	O8-C23-C24	2.28	119.06	111.91
19	C	606	CLA	CHD-C1D-ND	-2.28	122.36	124.45
23	D	404	PL9	C27-C28-C29	-2.27	122.20	127.66
19	C	603	CLA	C1-C2-C3	-2.27	122.12	126.04
20	D	403	BCR	C8-C9-C10	-2.26	115.47	118.94
20	H	101	BCR	C16-C15-C14	-2.26	118.85	123.47
19	C	602	CLA	CHB-C4A-NA	2.26	127.64	124.51
19	C	609	CLA	O2A-CGA-O1A	-2.26	117.89	123.59
19	C	609	CLA	CHD-C1D-ND	-2.25	122.38	124.45
19	A	405	CLA	CHD-C1D-ND	-2.25	122.38	124.45
25	E	101	HEM	CHC-C4B-C3B	2.25	128.02	124.57
19	B	603	CLA	CHB-C4A-NA	2.25	127.63	124.51
19	A	405	CLA	CHB-C4A-NA	2.25	127.62	124.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	A	408	LHG	O8-C23-C24	2.25	118.97	111.91
19	B	603	CLA	CHD-C1D-ND	-2.25	122.39	124.45
19	C	608	CLA	CHB-C4A-NA	2.25	127.62	124.51
19	C	603	CLA	CHB-C4A-NA	2.24	127.61	124.51
20	B	619	BCR	C16-C15-C14	-2.24	118.89	123.47
20	B	618	BCR	C24-C23-C22	-2.23	122.87	126.23
23	D	404	PL9	O1-C4-C3	-2.23	118.27	120.72
19	B	601	CLA	CHB-C4A-NA	2.22	127.58	124.51
19	D	409	CLA	O2A-CGA-O1A	-2.21	118.00	123.59
19	B	606	CLA	CHB-C4A-NA	2.21	127.57	124.51
19	B	613	CLA	CHD-C1D-ND	-2.21	122.42	124.45
19	A	405	CLA	C1-C2-C3	-2.21	122.22	126.04
20	Z	101	BCR	C4-C5-C6	-2.21	119.53	122.73
23	D	404	PL9	O2-C1-C6	2.21	124.41	120.59
20	C	616	BCR	C8-C7-C6	-2.21	121.01	127.20
28	C	620	SQD	C45-O47-C7	-2.20	112.36	117.79
19	B	609	CLA	O2A-CGA-O1A	-2.20	118.03	123.59
19	C	604	CLA	CAA-CBA-CGA	-2.20	106.81	113.25
19	C	603	CLA	CHD-C1D-ND	-2.20	122.43	124.45
19	B	607	CLA	CHB-C4A-NA	2.20	127.56	124.51
19	B	605	CLA	CHB-C4A-NA	2.20	127.55	124.51
19	B	602	CLA	O2A-CGA-O1A	-2.20	118.04	123.59
19	B	612	CLA	CMB-C2B-C3B	2.20	128.78	124.68
20	D	403	BCR	C1-C6-C7	2.20	121.99	115.78
19	A	404	CLA	O2D-CGD-CBD	2.19	115.16	111.27
20	K	101	BCR	C36-C18-C17	-2.19	119.85	122.92
22	K	103	LHG	O8-C23-C24	2.19	118.77	111.91
24	D	410	PHO	O2A-CGA-O1A	-2.19	118.08	123.59
19	A	403	CLA	CHD-C1D-ND	-2.18	122.45	124.45
19	D	401	CLA	CHD-C1D-ND	-2.18	122.45	124.45
19	A	405	CLA	O2D-CGD-CBD	2.18	115.14	111.27
20	D	403	BCR	C10-C11-C12	-2.18	116.41	123.22
19	B	609	CLA	CAA-C2A-C1A	-2.18	104.83	111.97
19	B	611	CLA	CHB-C4A-NA	2.18	127.53	124.51
20	K	101	BCR	C37-C22-C21	-2.18	119.87	122.92
19	C	603	CLA	O2A-CGA-O1A	-2.18	118.10	123.59
19	D	402	CLA	CHD-C1D-ND	-2.18	122.45	124.45
19	C	614	CLA	O2A-CGA-O1A	-2.17	118.11	123.59
19	B	601	CLA	O2A-CGA-O1A	-2.17	118.12	123.59
20	H	101	BCR	C15-C14-C13	-2.17	124.21	127.31
19	B	611	CLA	O2A-CGA-O1A	-2.17	118.12	123.59
20	C	616	BCR	C15-C14-C13	-2.17	124.22	127.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
23	D	404	PL9	C20-C19-C21	2.16	118.91	115.27
19	A	403	CLA	O2A-CGA-O1A	-2.16	118.14	123.59
21	K	102	LMG	C4-C3-C2	-2.16	107.06	110.82
19	B	608	CLA	CHB-C4A-NA	2.15	127.49	124.51
20	A	406	BCR	C15-C14-C13	-2.15	124.25	127.31
19	B	611	CLA	O1D-CGD-CBD	2.14	128.87	124.48
19	B	613	CLA	C1-C2-C3	-2.14	122.34	126.04
19	D	402	CLA	C1-C2-C3	-2.14	122.34	126.04
19	B	610	CLA	O2A-CGA-O1A	-2.14	118.19	123.59
23	D	404	PL9	O2-C1-C2	-2.14	116.89	121.78
19	B	612	CLA	O2A-CGA-O1A	-2.14	118.20	123.59
28	C	620	SQD	O48-C23-O10	-2.14	118.20	123.59
20	B	617	BCR	C11-C10-C9	-2.13	124.26	127.31
19	C	610	CLA	CHD-C1D-ND	-2.13	122.49	124.45
19	D	409	CLA	CHB-C4A-NA	2.13	127.46	124.51
19	B	609	CLA	CHB-C4A-NA	2.13	127.46	124.51
20	K	101	BCR	C31-C1-C6	-2.13	106.84	110.30
19	B	616	CLA	O2A-CGA-O1A	-2.12	118.24	123.59
19	B	616	CLA	CHD-C1D-ND	-2.12	122.51	124.45
20	A	406	BCR	C16-C15-C14	-2.12	119.14	123.47
20	Z	101	BCR	C1-C6-C7	2.12	121.77	115.78
20	K	101	BCR	C12-C13-C14	-2.11	115.70	118.94
19	C	604	CLA	CAA-C2A-C3A	-2.11	107.00	112.78
19	C	613	CLA	O2D-CGD-CBD	2.11	115.01	111.27
19	D	409	CLA	O2D-CGD-CBD	2.10	115.01	111.27
28	C	620	SQD	O7-S-C6	2.10	109.43	106.94
19	C	602	CLA	CHD-C1D-ND	-2.10	122.53	124.45
19	B	606	CLA	O2A-CGA-O1A	-2.09	118.31	123.59
23	D	404	PL9	C32-C33-C34	-2.09	122.62	127.66
20	C	616	BCR	C36-C18-C17	-2.09	119.99	122.92
19	B	614	CLA	CHD-C1D-ND	-2.09	122.53	124.45
19	B	602	CLA	O2D-CGD-CBD	2.09	114.98	111.27
19	D	401	CLA	CHB-C4A-NA	2.09	127.40	124.51
19	C	607	CLA	C1-C2-C3	-2.08	122.45	126.04
19	C	612	CLA	O2A-CGA-O1A	-2.08	118.35	123.59
23	D	404	PL9	C12-C13-C14	-2.08	122.66	127.66
19	C	605	CLA	CHB-C4A-NA	2.07	127.38	124.51
21	A	407	LMG	O7-C10-O9	-2.07	118.70	123.70
19	B	606	CLA	CHD-C1D-ND	-2.06	122.56	124.45
19	A	404	CLA	O2A-CGA-O1A	-2.06	118.40	123.59
20	D	403	BCR	C12-C13-C14	-2.06	115.78	118.94
19	D	401	CLA	O2A-CGA-O1A	-2.04	118.43	123.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	H	101	BCR	C15-C16-C17	-2.04	119.30	123.47
20	C	616	BCR	C16-C15-C14	-2.04	119.30	123.47
20	B	618	BCR	C38-C26-C25	-2.03	122.24	124.53
19	B	614	CLA	O1D-CGD-CBD	2.03	128.64	124.48
20	D	403	BCR	C33-C5-C6	-2.03	122.25	124.53
19	B	614	CLA	O2A-CGA-O1A	-2.02	118.25	123.30
19	C	609	CLA	CHB-C4A-NA	2.02	127.30	124.51
20	K	101	BCR	C10-C11-C12	-2.02	116.92	123.22
20	Z	101	BCR	C30-C25-C26	-2.02	119.77	122.61
19	B	604	CLA	O2A-CGA-O1A	-2.01	118.52	123.59
19	C	607	CLA	O2A-CGA-O1A	-2.01	118.52	123.59
19	B	602	CLA	CHB-C4A-NA	2.01	127.29	124.51
22	B	624	LHG	C5-O7-C7	-2.01	112.85	117.79
20	C	615	BCR	C24-C23-C22	-2.00	123.21	126.23
20	B	619	BCR	C24-C23-C22	-2.00	123.21	126.23
20	Z	101	BCR	C29-C28-C27	-2.00	106.91	111.38
19	B	613	CLA	O2A-CGA-O1A	-2.00	118.54	123.59
19	B	612	CLA	CHD-C1D-ND	-2.00	122.62	124.45

All (35) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
19	B	601	CLA	ND
19	B	602	CLA	ND
19	B	603	CLA	ND
19	B	604	CLA	ND
19	B	605	CLA	ND
19	B	606	CLA	ND
19	B	607	CLA	ND
19	B	608	CLA	ND
19	B	609	CLA	ND
19	B	610	CLA	ND
19	B	611	CLA	ND
19	B	612	CLA	ND
19	B	613	CLA	ND
19	B	614	CLA	ND
19	B	615	CLA	ND
19	B	616	CLA	ND
19	D	401	CLA	ND
19	D	402	CLA	ND
19	D	409	CLA	ND
19	C	602	CLA	ND

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Mol	Chain	Res	Type	Atom
19	C	603	CLA	ND
19	C	604	CLA	ND
19	C	605	CLA	ND
19	C	606	CLA	ND
19	C	607	CLA	ND
19	C	608	CLA	ND
19	C	609	CLA	ND
19	C	610	CLA	ND
19	C	611	CLA	ND
19	C	612	CLA	ND
19	C	613	CLA	ND
19	C	614	CLA	ND
19	A	403	CLA	ND
19	A	404	CLA	ND
19	A	405	CLA	ND

All (732) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
19	B	601	CLA	CHA-CBD-CGD-O1D
19	B	603	CLA	C1A-C2A-CAA-CBA
19	B	603	CLA	C3A-C2A-CAA-CBA
19	B	603	CLA	CAD-CBD-CGD-O1D
19	B	603	CLA	CAD-CBD-CGD-O2D
19	B	606	CLA	C1A-C2A-CAA-CBA
19	B	606	CLA	CHA-CBD-CGD-O1D
19	B	606	CLA	CHA-CBD-CGD-O2D
19	B	606	CLA	CAD-CBD-CGD-O1D
19	B	606	CLA	CAD-CBD-CGD-O2D
19	B	606	CLA	CBD-CGD-O2D-CED
19	B	607	CLA	C1A-C2A-CAA-CBA
19	B	607	CLA	C3A-C2A-CAA-CBA
19	B	608	CLA	C1A-C2A-CAA-CBA
19	B	608	CLA	C3A-C2A-CAA-CBA
19	B	608	CLA	CHA-CBD-CGD-O1D
19	B	608	CLA	CHA-CBD-CGD-O2D
19	B	608	CLA	CAD-CBD-CGD-O1D
19	B	609	CLA	CHA-CBD-CGD-O1D
19	B	609	CLA	CHA-CBD-CGD-O2D
19	B	609	CLA	CAD-CBD-CGD-O1D
19	B	609	CLA	CBD-CGD-O2D-CED
19	B	611	CLA	CAD-CBD-CGD-O1D

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Mol	Chain	Res	Type	Atoms
19	B	611	CLA	CAD-CBD-CGD-O2D
19	B	611	CLA	CBD-CGD-O2D-CED
19	B	614	CLA	CAD-CBD-CGD-O1D
19	B	614	CLA	CAD-CBD-CGD-O2D
19	B	615	CLA	O2A-C1-C2-C3
19	D	401	CLA	CHA-CBD-CGD-O1D
19	D	401	CLA	CAD-CBD-CGD-O1D
19	D	401	CLA	CAD-CBD-CGD-O2D
19	D	402	CLA	C1A-C2A-CAA-CBA
19	D	402	CLA	C3A-C2A-CAA-CBA
19	D	402	CLA	CHA-CBD-CGD-O1D
19	D	402	CLA	CHA-CBD-CGD-O2D
19	D	402	CLA	CAD-CBD-CGD-O1D
19	D	402	CLA	C2-C3-C5-C6
19	D	402	CLA	C4-C3-C5-C6
19	C	602	CLA	CHA-CBD-CGD-O1D
19	C	602	CLA	CHA-CBD-CGD-O2D
19	C	602	CLA	CAD-CBD-CGD-O1D
19	C	603	CLA	CBD-CGD-O2D-CED
19	C	603	CLA	O1D-CGD-O2D-CED
19	C	604	CLA	C1A-C2A-CAA-CBA
19	C	604	CLA	CHA-CBD-CGD-O1D
19	C	604	CLA	CHA-CBD-CGD-O2D
19	C	604	CLA	C2-C3-C5-C6
19	C	604	CLA	C4-C3-C5-C6
19	C	607	CLA	CHA-CBD-CGD-O1D
19	C	607	CLA	CHA-CBD-CGD-O2D
19	C	608	CLA	C1A-C2A-CAA-CBA
19	C	608	CLA	C3A-C2A-CAA-CBA
19	C	612	CLA	CHA-CBD-CGD-O1D
19	C	612	CLA	CHA-CBD-CGD-O2D
19	C	612	CLA	CAD-CBD-CGD-O1D
19	C	613	CLA	C2-C1-O2A-CGA
19	A	403	CLA	CBD-CGD-O2D-CED
19	A	405	CLA	CHA-CBD-CGD-O1D
19	A	405	CLA	CHA-CBD-CGD-O2D
20	B	617	BCR	C1-C6-C7-C8
20	B	617	BCR	C5-C6-C7-C8
20	B	617	BCR	C23-C24-C25-C26
20	B	618	BCR	C5-C6-C7-C8
20	B	618	BCR	C23-C24-C25-C26
20	B	619	BCR	C1-C6-C7-C8

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Mol	Chain	Res	Type	Atoms
20	B	619	BCR	C5-C6-C7-C8
20	B	619	BCR	C23-C24-C25-C26
20	D	403	BCR	C1-C6-C7-C8
20	D	403	BCR	C5-C6-C7-C8
20	D	403	BCR	C23-C24-C25-C26
20	D	403	BCR	C23-C24-C25-C30
20	H	101	BCR	C1-C6-C7-C8
20	H	101	BCR	C5-C6-C7-C8
20	H	101	BCR	C23-C24-C25-C26
20	K	101	BCR	C23-C24-C25-C26
20	Z	101	BCR	C5-C6-C7-C8
20	Z	101	BCR	C23-C24-C25-C26
20	A	406	BCR	C5-C6-C7-C8
20	A	406	BCR	C23-C24-C25-C26
21	B	623	LMG	O7-C8-C9-O8
21	A	407	LMG	O6-C1-O1-C7
22	B	621	LHG	C4-O6-P-O4
22	B	622	LHG	C4-O6-P-O3
22	B	624	LHG	C4-O6-P-O3
22	D	405	LHG	C3-O3-P-O6
22	D	405	LHG	C4-O6-P-O4
22	D	406	LHG	C3-O3-P-O6
22	D	407	LHG	C3-O3-P-O6
22	D	407	LHG	C4-O6-P-O3
22	K	103	LHG	C3-O3-P-O5
22	K	103	LHG	C4-O6-P-O3
22	L	101	LHG	C3-O3-P-O5
22	L	101	LHG	C4-O6-P-O5
22	A	408	LHG	C4-O6-P-O3
22	A	408	LHG	C4-O6-P-O4
22	A	408	LHG	C4-O6-P-O5
23	D	404	PL9	C42-C43-C44-C46
23	D	404	PL9	C47-C48-C49-C51
26	X	202	VTQ	C16-C15-C9-C14
26	X	202	VTQ	C16-C15-C9-C11
19	C	604	CLA	O1D-CGD-O2D-CED
19	C	607	CLA	O1D-CGD-O2D-CED
19	B	607	CLA	CBD-CGD-O2D-CED
19	C	604	CLA	CBD-CGD-O2D-CED
19	C	607	CLA	CBD-CGD-O2D-CED
19	C	614	CLA	CBD-CGD-O2D-CED
19	B	607	CLA	O1A-CGA-O2A-C1

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Mol	Chain	Res	Type	Atoms
19	B	606	CLA	O1D-CGD-O2D-CED
27	C	618	DGD	C4D-C5D-C6D-O5D
19	B	609	CLA	O1D-CGD-O2D-CED
19	C	614	CLA	O1D-CGD-O2D-CED
19	A	403	CLA	O1D-CGD-O2D-CED
19	B	607	CLA	CBA-CGA-O2A-C1
19	B	603	CLA	CBD-CGD-O2D-CED
19	B	605	CLA	O1A-CGA-O2A-C1
19	B	616	CLA	O1A-CGA-O2A-C1
19	D	409	CLA	O1A-CGA-O2A-C1
19	C	607	CLA	O1A-CGA-O2A-C1
24	D	410	PHO	O1A-CGA-O2A-C1
19	B	611	CLA	O1D-CGD-O2D-CED
19	D	401	CLA	C3-C5-C6-C7
19	C	605	CLA	C3-C5-C6-C7
19	A	405	CLA	C3-C5-C6-C7
19	B	605	CLA	CBA-CGA-O2A-C1
19	B	616	CLA	CBA-CGA-O2A-C1
19	C	607	CLA	CBA-CGA-O2A-C1
24	D	410	PHO	CBA-CGA-O2A-C1
19	C	611	CLA	CBD-CGD-O2D-CED
19	B	605	CLA	CBD-CGD-O2D-CED
19	B	615	CLA	CBD-CGD-O2D-CED
19	C	605	CLA	CBD-CGD-O2D-CED
19	B	611	CLA	C2A-CAA-CBA-CGA
19	B	616	CLA	C2A-CAA-CBA-CGA
19	D	409	CLA	C2A-CAA-CBA-CGA
19	C	603	CLA	C2A-CAA-CBA-CGA
19	C	609	CLA	C2A-CAA-CBA-CGA
19	C	612	CLA	C2A-CAA-CBA-CGA
19	B	606	CLA	CBA-CGA-O2A-C1
19	D	409	CLA	CBA-CGA-O2A-C1
19	C	606	CLA	CBA-CGA-O2A-C1
19	C	609	CLA	CBA-CGA-O2A-C1
19	B	606	CLA	O1A-CGA-O2A-C1
19	B	611	CLA	O1A-CGA-O2A-C1
19	C	609	CLA	O1A-CGA-O2A-C1
19	C	612	CLA	O1A-CGA-O2A-C1
19	C	612	CLA	CBD-CGD-O2D-CED
19	B	603	CLA	C3-C5-C6-C7
24	D	411	PHO	C3-C5-C6-C7
19	B	602	CLA	CBA-CGA-O2A-C1

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Mol	Chain	Res	Type	Atoms
19	C	613	CLA	CBA-CGA-O2A-C1
19	C	603	CLA	C3-C5-C6-C7
19	B	611	CLA	CBA-CGA-O2A-C1
19	C	612	CLA	CBA-CGA-O2A-C1
19	C	606	CLA	O1A-CGA-O2A-C1
19	C	613	CLA	O1A-CGA-O2A-C1
19	B	604	CLA	CBD-CGD-O2D-CED
19	B	602	CLA	O1A-CGA-O2A-C1
19	B	603	CLA	O1D-CGD-O2D-CED
19	B	607	CLA	O1D-CGD-O2D-CED
22	X	201	LHG	C8-C7-O7-C5
19	B	608	CLA	CBD-CGD-O2D-CED
19	B	601	CLA	CBA-CGA-O2A-C1
19	C	614	CLA	CBA-CGA-O2A-C1
24	D	411	PHO	CBA-CGA-O2A-C1
19	B	612	CLA	C13-C15-C16-C17
22	D	407	LHG	O6-C4-C5-O7
27	C	618	DGD	O6D-C5D-C6D-O5D
28	C	620	SQD	O6-C44-C45-O47
19	C	602	CLA	C14-C13-C15-C16
19	C	608	CLA	C14-C13-C15-C16
23	D	404	PL9	C47-C48-C49-C50
19	C	602	CLA	C13-C15-C16-C17
19	B	608	CLA	C3-C5-C6-C7
19	C	609	CLA	C8-C10-C11-C12
19	C	612	CLA	C15-C16-C17-C18
19	D	402	CLA	C10-C11-C12-C13
19	C	606	CLA	C8-C10-C11-C12
19	C	611	CLA	C10-C11-C12-C13
19	B	611	CLA	C5-C6-C7-C8
19	C	611	CLA	C15-C16-C17-C18
19	B	602	CLA	C10-C11-C12-C13
19	B	610	CLA	C11-C10-C8-C7
19	C	604	CLA	C6-C7-C8-C10
19	B	601	CLA	O1A-CGA-O2A-C1
19	C	610	CLA	CBA-CGA-O2A-C1
19	C	607	CLA	C2A-CAA-CBA-CGA
19	D	401	CLA	C13-C15-C16-C17
26	X	202	VTQ	C15-C16-C17-C18
19	C	614	CLA	O1A-CGA-O2A-C1
24	D	411	PHO	O1A-CGA-O2A-C1
23	D	404	PL9	C34-C36-C37-C38

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Mol	Chain	Res	Type	Atoms
22	X	201	LHG	O9-C7-O7-C5
19	B	602	CLA	C3-C5-C6-C7
19	B	601	CLA	C10-C11-C12-C13
19	B	604	CLA	C15-C16-C17-C18
19	C	602	CLA	CBA-CGA-O2A-C1
19	C	605	CLA	CBA-CGA-O2A-C1
19	C	611	CLA	O1D-CGD-O2D-CED
19	B	601	CLA	C5-C6-C7-C8
19	B	616	CLA	C10-C11-C12-C13
19	C	602	CLA	C10-C11-C12-C13
19	D	401	CLA	CBD-CGD-O2D-CED
19	B	605	CLA	C13-C15-C16-C17
19	D	402	CLA	C15-C16-C17-C18
22	B	621	LHG	C4-O6-P-O3
22	D	405	LHG	C4-O6-P-O3
22	D	406	LHG	C4-O6-P-O3
22	X	201	LHG	C4-O6-P-O3
19	C	614	CLA	C10-C11-C12-C13
19	B	615	CLA	O1D-CGD-O2D-CED
22	D	405	LHG	C30-C31-C32-C33
19	B	605	CLA	O1D-CGD-O2D-CED
21	B	623	LMG	C15-C16-C17-C18
27	C	619	DGD	C6B-C7B-C8B-C9B
19	C	605	CLA	O1D-CGD-O2D-CED
22	B	624	LHG	C11-C12-C13-C14
28	C	620	SQD	C27-C28-C29-C30
21	A	407	LMG	C2-C1-O1-C7
19	C	605	CLA	O1A-CGA-O2A-C1
22	A	408	LHG	C13-C14-C15-C16
23	D	404	PL9	C43-C44-C46-C47
19	B	607	CLA	C6-C7-C8-C9
19	C	606	CLA	C6-C7-C8-C9
19	C	613	CLA	C6-C7-C8-C9
19	C	613	CLA	C14-C13-C15-C16
22	B	624	LHG	C27-C28-C29-C30
19	D	401	CLA	C10-C11-C12-C13
19	B	604	CLA	C2A-CAA-CBA-CGA
19	C	610	CLA	O1A-CGA-O2A-C1
22	D	406	LHG	C11-C10-C9-C8
27	C	619	DGD	C3B-C4B-C5B-C6B
19	C	609	CLA	C16-C17-C18-C19
19	C	609	CLA	C16-C17-C18-C20

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Mol	Chain	Res	Type	Atoms
19	B	607	CLA	C5-C6-C7-C8
27	C	618	DGD	C6B-C7B-C8B-C9B
22	B	624	LHG	C23-C24-C25-C26
19	B	613	CLA	CBA-CGA-O2A-C1
19	C	612	CLA	O1D-CGD-O2D-CED
19	B	604	CLA	C3A-C2A-CAA-CBA
19	B	606	CLA	C3A-C2A-CAA-CBA
19	B	609	CLA	C3A-C2A-CAA-CBA
19	B	602	CLA	C5-C6-C7-C8
19	C	602	CLA	O1A-CGA-O2A-C1
21	K	102	LMG	C15-C16-C17-C18
19	C	607	CLA	O2A-C1-C2-C3
21	C	601	LMG	C11-C12-C13-C14
19	C	611	CLA	C4-C3-C5-C6
19	C	611	CLA	C2-C3-C5-C6
21	A	407	LMG	C11-C10-O7-C8
28	C	620	SQD	C8-C7-O47-C45
22	B	622	LHG	C11-C12-C13-C14
19	C	614	CLA	C2A-CAA-CBA-CGA
21	D	408	LMG	C33-C34-C35-C36
19	A	403	CLA	CBA-CGA-O2A-C1
21	A	407	LMG	O9-C10-O7-C8
19	C	606	CLA	C2-C1-O2A-CGA
19	C	609	CLA	C2-C1-O2A-CGA
19	C	612	CLA	C2-C1-O2A-CGA
27	C	617	DGD	C1B-C2B-C3B-C4B
20	B	617	BCR	C23-C24-C25-C30
20	B	618	BCR	C1-C6-C7-C8
20	B	618	BCR	C23-C24-C25-C30
20	B	619	BCR	C23-C24-C25-C30
20	H	101	BCR	C23-C24-C25-C30
20	K	101	BCR	C1-C6-C7-C8
20	K	101	BCR	C5-C6-C7-C8
20	K	101	BCR	C23-C24-C25-C30
20	Z	101	BCR	C1-C6-C7-C8
20	Z	101	BCR	C23-C24-C25-C30
20	C	615	BCR	C23-C24-C25-C26
20	C	615	BCR	C23-C24-C25-C30
20	C	616	BCR	C1-C6-C7-C8
20	C	616	BCR	C5-C6-C7-C8
20	C	616	BCR	C23-C24-C25-C26
20	C	616	BCR	C23-C24-C25-C30

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Mol	Chain	Res	Type	Atoms
20	A	406	BCR	C1-C6-C7-C8
20	A	406	BCR	C23-C24-C25-C30
27	C	617	DGD	O6E-C5E-C6E-O5E
22	D	405	LHG	C11-C12-C13-C14
19	B	604	CLA	C8-C10-C11-C12
19	C	607	CLA	C4-C3-C5-C6
23	D	404	PL9	C45-C44-C46-C47
24	D	410	PHO	C4-C3-C5-C6
19	B	603	CLA	C11-C12-C13-C15
19	B	607	CLA	C6-C7-C8-C10
19	C	606	CLA	C6-C7-C8-C10
19	C	607	CLA	C2-C3-C5-C6
19	C	610	CLA	C12-C13-C15-C16
19	C	611	CLA	C6-C7-C8-C10
19	C	613	CLA	C12-C13-C15-C16
24	D	410	PHO	C2-C3-C5-C6
19	B	613	CLA	O1A-CGA-O2A-C1
19	A	403	CLA	O1A-CGA-O2A-C1
28	C	620	SQD	O49-C7-O47-C45
22	A	408	LHG	C17-C18-C19-C20
21	B	623	LMG	C38-C39-C40-C41
27	C	618	DGD	C2A-C1A-O1G-C1G
22	L	101	LHG	C8-C7-O7-C5
25	E	101	HEM	C4B-C3B-CAB-CBB
24	D	410	PHO	C8-C10-C11-C12
27	C	617	DGD	C4B-C5B-C6B-C7B
22	L	101	LHG	O9-C7-O7-C5
19	B	610	CLA	C4-C3-C5-C6
21	D	408	LMG	C10-C11-C12-C13
19	B	603	CLA	C11-C12-C13-C14
19	B	608	CLA	C11-C12-C13-C14
19	B	610	CLA	C11-C10-C8-C9
19	B	612	CLA	C11-C10-C8-C9
19	C	604	CLA	C6-C7-C8-C9
19	C	610	CLA	C14-C13-C15-C16
19	C	611	CLA	C6-C7-C8-C9
26	X	202	VTQ	C21-C22-C23-C1
19	D	402	CLA	C3-C5-C6-C7
19	B	602	CLA	C2A-CAA-CBA-CGA
21	D	408	LMG	O6-C5-C6-O5
19	B	604	CLA	C1A-C2A-CAA-CBA
19	B	609	CLA	C1A-C2A-CAA-CBA

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Mol	Chain	Res	Type	Atoms
19	B	612	CLA	C1A-C2A-CAA-CBA
19	B	614	CLA	C1A-C2A-CAA-CBA
19	C	602	CLA	C1A-C2A-CAA-CBA
19	C	606	CLA	C1A-C2A-CAA-CBA
19	B	609	CLA	C16-C17-C18-C20
22	D	405	LHG	C11-C10-C9-C8
19	C	604	CLA	C8-C10-C11-C12
19	C	610	CLA	C5-C6-C7-C8
22	X	201	LHG	C3-O3-P-O6
21	K	102	LMG	C28-C29-C30-C31
22	X	201	LHG	C23-C24-C25-C26
19	B	604	CLA	O1D-CGD-O2D-CED
22	D	407	LHG	O6-C4-C5-C6
22	B	622	LHG	C25-C26-C27-C28
22	X	201	LHG	C26-C27-C28-C29
28	C	620	SQD	C9-C10-C11-C12
22	B	622	LHG	C8-C7-O7-C5
21	B	620	LMG	O6-C5-C6-O5
28	C	620	SQD	O6-C44-C45-C46
21	K	102	LMG	O6-C5-C6-O5
22	D	405	LHG	C23-C24-C25-C26
19	A	404	CLA	CBA-CGA-O2A-C1
19	B	608	CLA	O1D-CGD-O2D-CED
19	C	608	CLA	C8-C10-C11-C12
21	D	408	LMG	C29-C30-C31-C32
22	B	624	LHG	C13-C14-C15-C16
22	K	103	LHG	C24-C23-O8-C6
27	C	618	DGD	O1A-C1A-O1G-C1G
19	C	611	CLA	C8-C10-C11-C12
24	D	411	PHO	CHA-CBD-CGD-O2D
23	D	404	PL9	C7-C8-C9-C10
19	B	608	CLA	C11-C12-C13-C15
19	B	611	CLA	C6-C7-C8-C10
19	B	612	CLA	C6-C7-C8-C10
19	B	612	CLA	C11-C10-C8-C7
19	B	613	CLA	C6-C7-C8-C10
19	D	401	CLA	C11-C12-C13-C15
19	C	606	CLA	C12-C13-C15-C16
19	C	609	CLA	C6-C7-C8-C10
19	C	614	CLA	C6-C7-C8-C10
19	C	614	CLA	C12-C13-C15-C16
19	B	601	CLA	C11-C10-C8-C9

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Mol	Chain	Res	Type	Atoms
19	B	605	CLA	C11-C12-C13-C14
19	B	616	CLA	C11-C10-C8-C9
19	C	603	CLA	C14-C13-C15-C16
19	C	614	CLA	C6-C7-C8-C9
19	C	614	CLA	C11-C10-C8-C9
19	C	614	CLA	C14-C13-C15-C16
19	A	403	CLA	C5-C6-C7-C8
19	C	612	CLA	C3-C5-C6-C7
19	B	609	CLA	C8-C10-C11-C12
22	B	624	LHG	C8-C7-O7-C5
19	C	603	CLA	CBA-CGA-O2A-C1
19	B	616	CLA	C13-C15-C16-C17
21	B	620	LMG	C11-C12-C13-C14
19	C	606	CLA	C4-C3-C5-C6
19	B	610	CLA	C2-C3-C5-C6
21	A	407	LMG	C34-C35-C36-C37
21	B	623	LMG	C11-C10-O7-C8
19	B	604	CLA	CBA-CGA-O2A-C1
19	D	402	CLA	CBA-CGA-O2A-C1
19	C	604	CLA	CBA-CGA-O2A-C1
19	B	612	CLA	C3A-C2A-CAA-CBA
19	C	606	CLA	C3A-C2A-CAA-CBA
19	C	613	CLA	C3A-C2A-CAA-CBA
21	B	623	LMG	C7-C8-C9-O8
21	D	408	LMG	C14-C15-C16-C17
19	B	612	CLA	O2A-C1-C2-C3
27	C	617	DGD	O6D-C5D-C6D-O5D
22	K	103	LHG	C3-O3-P-O6
19	A	404	CLA	O1A-CGA-O2A-C1
21	A	407	LMG	C15-C16-C17-C18
22	B	622	LHG	O9-C7-O7-C5
19	B	609	CLA	C16-C17-C18-C19
21	A	407	LMG	O1-C7-C8-O7
22	L	101	LHG	C11-C12-C13-C14
22	A	408	LHG	C18-C19-C20-C21
22	B	624	LHG	O9-C7-O7-C5
19	B	613	CLA	C2-C1-O2A-CGA
19	C	606	CLA	C2-C3-C5-C6
22	L	101	LHG	C14-C15-C16-C17
19	B	604	CLA	C11-C12-C13-C14
19	C	609	CLA	C14-C13-C15-C16
19	A	405	CLA	C11-C10-C8-C9

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Mol	Chain	Res	Type	Atoms
24	D	411	PHO	C14-C13-C15-C16
19	C	604	CLA	C15-C16-C17-C18
19	C	614	CLA	C5-C6-C7-C8
22	K	103	LHG	O10-C23-O8-C6
22	X	201	LHG	C11-C12-C13-C14
19	C	614	CLA	C16-C17-C18-C20
19	B	610	CLA	C15-C16-C17-C18
27	C	617	DGD	C4D-C5D-C6D-O5D
19	B	604	CLA	C10-C11-C12-C13
21	B	623	LMG	C33-C34-C35-C36
19	B	606	CLA	C5-C6-C7-C8
22	D	407	LHG	C33-C34-C35-C36
28	C	620	SQD	C25-C26-C27-C28
19	B	601	CLA	C11-C10-C8-C7
19	B	605	CLA	C11-C12-C13-C15
19	B	616	CLA	C11-C10-C8-C7
19	C	603	CLA	C12-C13-C15-C16
19	C	605	CLA	C11-C10-C8-C7
19	C	609	CLA	C12-C13-C15-C16
19	C	614	CLA	C11-C10-C8-C7
19	A	405	CLA	C11-C10-C8-C7
24	D	410	PHO	C11-C12-C13-C15
24	D	411	PHO	C11-C10-C8-C7
26	X	202	VTQ	C16-C17-C18-C20
22	D	406	LHG	C9-C10-C11-C12
19	B	603	CLA	C8-C10-C11-C12
22	B	624	LHG	C11-C10-C9-C8
19	C	603	CLA	C5-C6-C7-C8
22	B	621	LHG	C30-C31-C32-C33
19	B	602	CLA	CAD-CBD-CGD-O2D
19	B	609	CLA	CAD-CBD-CGD-O2D
19	D	409	CLA	CAD-CBD-CGD-O2D
19	C	612	CLA	CAD-CBD-CGD-O2D
24	D	410	PHO	CAD-CBD-CGD-O2D
22	A	408	LHG	C28-C29-C30-C31
19	C	603	CLA	O1A-CGA-O2A-C1
21	B	620	LMG	O6-C1-O1-C7
22	B	622	LHG	O6-C4-C5-O7
27	C	619	DGD	O6D-C5D-C6D-O5D
19	B	613	CLA	C10-C11-C12-C13
21	B	623	LMG	O9-C10-O7-C8
19	B	601	CLA	CHA-CBD-CGD-O2D

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Mol	Chain	Res	Type	Atoms
19	B	603	CLA	CHA-CBD-CGD-O1D
19	B	604	CLA	CHA-CBD-CGD-O1D
19	B	604	CLA	CHA-CBD-CGD-O2D
19	B	605	CLA	CHA-CBD-CGD-O1D
19	B	605	CLA	CHA-CBD-CGD-O2D
19	C	606	CLA	CHA-CBD-CGD-O1D
19	C	606	CLA	CHA-CBD-CGD-O2D
19	B	604	CLA	O1A-CGA-O2A-C1
19	D	402	CLA	O1A-CGA-O2A-C1
19	C	604	CLA	O1A-CGA-O2A-C1
19	D	401	CLA	O1D-CGD-O2D-CED
19	B	613	CLA	C3-C5-C6-C7
23	D	404	PL9	C30-C29-C31-C32
19	D	402	CLA	C11-C10-C8-C9
24	D	411	PHO	C11-C10-C8-C9
26	X	202	VTQ	C16-C17-C18-C19
22	B	622	LHG	C31-C32-C33-C34
19	C	614	CLA	C16-C17-C18-C19
20	H	101	BCR	C7-C8-C9-C10
19	C	613	CLA	C1A-C2A-CAA-CBA
19	C	610	CLA	C16-C17-C18-C20
19	B	609	CLA	CBA-CGA-O2A-C1
22	B	624	LHG	C3-O3-P-O6
22	L	101	LHG	C3-O3-P-O6
22	L	101	LHG	C4-O6-P-O3
28	C	620	SQD	C33-C34-C35-C36
19	B	609	CLA	O1A-CGA-O2A-C1
22	B	622	LHG	C4-O6-P-O4
22	B	624	LHG	C4-O6-P-O4
22	D	405	LHG	C3-O3-P-O4
22	D	406	LHG	C3-O3-P-O4
22	D	406	LHG	C4-O6-P-O4
22	D	407	LHG	C3-O3-P-O4
22	D	407	LHG	C4-O6-P-O4
22	K	103	LHG	C4-O6-P-O4
22	X	201	LHG	C4-O6-P-O5
22	B	622	LHG	O6-C4-C5-C6
21	B	623	LMG	C11-C12-C13-C14
22	X	201	LHG	C10-C11-C12-C13
19	B	605	CLA	C16-C17-C18-C19
19	B	601	CLA	CAD-CBD-CGD-O1D
19	B	604	CLA	CAD-CBD-CGD-O1D

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Mol	Chain	Res	Type	Atoms
19	B	605	CLA	CAD-CBD-CGD-O1D
19	C	604	CLA	CAD-CBD-CGD-O1D
19	C	606	CLA	CAD-CBD-CGD-O1D
19	C	607	CLA	CAD-CBD-CGD-O1D
19	B	610	CLA	CBA-CGA-O2A-C1
19	B	606	CLA	C12-C13-C15-C16
19	B	610	CLA	C12-C13-C15-C16
19	C	602	CLA	C6-C7-C8-C10
19	C	604	CLA	C11-C10-C8-C7
19	C	608	CLA	C12-C13-C15-C16
19	C	610	CLA	C6-C7-C8-C10
21	B	623	LMG	C35-C36-C37-C38
21	B	620	LMG	C10-C11-C12-C13
27	C	618	DGD	O1G-C1G-C2G-C3G
27	C	618	DGD	O1G-C1G-C2G-O2G
21	K	102	LMG	C14-C15-C16-C17
22	D	406	LHG	C23-C24-C25-C26
19	B	608	CLA	C14-C13-C15-C16
19	B	611	CLA	C6-C7-C8-C9
19	B	612	CLA	C6-C7-C8-C9
19	D	401	CLA	C11-C12-C13-C14
19	C	605	CLA	C11-C10-C8-C9
19	C	606	CLA	C14-C13-C15-C16
19	C	610	CLA	C6-C7-C8-C9
19	C	611	CLA	C14-C13-C15-C16
24	D	410	PHO	C11-C12-C13-C14
19	A	403	CLA	C4C-C3C-CAC-CBC
25	E	101	HEM	C3D-CAD-CBD-CGD
19	B	610	CLA	O1A-CGA-O2A-C1
28	C	620	SQD	C32-C33-C34-C35
19	D	402	CLA	CBD-CGD-O2D-CED
19	B	601	CLA	CAA-CBA-CGA-O2A
22	D	406	LHG	C28-C29-C30-C31
19	B	605	CLA	C16-C17-C18-C20
22	B	621	LHG	C9-C10-C11-C12
19	C	611	CLA	C2-C1-O2A-CGA
19	A	405	CLA	C11-C12-C13-C15
19	B	609	CLA	C4-C3-C5-C6
19	C	607	CLA	C16-C17-C18-C20
27	C	617	DGD	C2B-C1B-O2G-C2G
22	B	621	LHG	C3-O3-P-O6
22	B	622	LHG	C3-O3-P-O6

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Mol	Chain	Res	Type	Atoms
22	A	408	LHG	C3-O3-P-O6
22	B	624	LHG	C14-C15-C16-C17
24	D	411	PHO	CHA-CBD-CGD-O1D
21	A	407	LMG	O1-C7-C8-C9
19	B	604	CLA	C11-C12-C13-C15
19	D	409	CLA	C11-C12-C13-C15
19	C	604	CLA	C11-C10-C8-C9
19	C	609	CLA	C6-C7-C8-C9
22	D	406	LHG	C32-C33-C34-C35
19	B	611	CLA	C16-C17-C18-C19
19	C	607	CLA	C13-C15-C16-C17
22	D	406	LHG	C25-C26-C27-C28
22	B	624	LHG	O6-C4-C5-O7
22	B	622	LHG	C11-C10-C9-C8
19	B	613	CLA	C16-C17-C18-C20
19	C	603	CLA	C4-C3-C5-C6
19	C	613	CLA	C4-C3-C5-C6
22	B	624	LHG	C16-C17-C18-C19
22	D	405	LHG	C32-C33-C34-C35
19	C	607	CLA	C15-C16-C17-C18
22	D	405	LHG	C35-C36-C37-C38
28	C	620	SQD	O47-C45-C46-O48
19	B	610	CLA	C3A-C2A-CAA-CBA
19	C	604	CLA	C3A-C2A-CAA-CBA
19	C	610	CLA	C3A-C2A-CAA-CBA
27	C	617	DGD	O1B-C1B-O2G-C2G
22	D	407	LHG	C24-C25-C26-C27
22	L	101	LHG	C12-C13-C14-C15
27	C	619	DGD	C4B-C5B-C6B-C7B
19	C	603	CLA	C11-C10-C8-C9
22	K	103	LHG	C10-C11-C12-C13
19	B	611	CLA	C16-C17-C18-C20
19	C	607	CLA	C16-C17-C18-C19
19	A	403	CLA	O2A-C1-C2-C3
19	C	609	CLA	C5-C6-C7-C8
22	D	406	LHG	C30-C31-C32-C33
19	B	610	CLA	C1A-C2A-CAA-CBA
19	C	612	CLA	C1A-C2A-CAA-CBA
21	K	102	LMG	C17-C18-C19-C20
28	C	620	SQD	C10-C11-C12-C13
19	D	401	CLA	C11-C10-C8-C7
19	D	402	CLA	C12-C13-C15-C16

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Mol	Chain	Res	Type	Atoms
19	C	602	CLA	C11-C12-C13-C15
26	X	202	VTQ	C21-C22-C23-C24
19	C	606	CLA	C16-C17-C18-C20
22	B	621	LHG	C31-C32-C33-C34
19	C	613	CLA	C16-C17-C18-C19
22	D	407	LHG	C23-C24-C25-C26
19	D	409	CLA	C13-C15-C16-C17
19	B	607	CLA	C3-C5-C6-C7
22	D	407	LHG	O9-C7-O7-C5
21	C	601	LMG	O7-C8-C9-O8
19	D	401	CLA	C16-C17-C18-C19
22	D	407	LHG	C32-C33-C34-C35
22	X	201	LHG	C30-C31-C32-C33
19	C	613	CLA	C2-C3-C5-C6
19	B	604	CLA	C16-C17-C18-C20
19	A	404	CLA	O2A-C1-C2-C3
21	B	620	LMG	C32-C33-C34-C35
19	C	612	CLA	C8-C10-C11-C12
19	C	607	CLA	C5-C6-C7-C8
19	D	409	CLA	C16-C17-C18-C19
19	D	402	CLA	O1D-CGD-O2D-CED
19	C	609	CLA	O1D-CGD-O2D-CED
19	B	610	CLA	C13-C15-C16-C17
19	D	401	CLA	C2C-C3C-CAC-CBC
19	B	616	CLA	C11-C12-C13-C15
19	C	603	CLA	C2-C3-C5-C6
19	C	603	CLA	C11-C12-C13-C15
23	D	404	PL9	C28-C29-C31-C32
19	B	611	CLA	CAA-CBA-CGA-O2A
19	B	613	CLA	C16-C17-C18-C19
22	L	101	LHG	O7-C5-C6-O8
19	C	613	CLA	CAA-CBA-CGA-O2A
22	D	407	LHG	O8-C23-C24-C25
19	B	605	CLA	C4-C3-C5-C6
19	B	609	CLA	C2-C3-C5-C6
19	B	604	CLA	C16-C17-C18-C19
19	B	606	CLA	C14-C13-C15-C16
19	D	401	CLA	C11-C10-C8-C9
19	C	610	CLA	C11-C12-C13-C14
19	C	607	CLA	C3A-C2A-CAA-CBA
19	C	612	CLA	C3A-C2A-CAA-CBA
19	B	616	CLA	CAD-CBD-CGD-O2D

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Mol	Chain	Res	Type	Atoms
19	D	402	CLA	CAD-CBD-CGD-O2D
19	C	602	CLA	CAD-CBD-CGD-O2D
19	C	605	CLA	CAD-CBD-CGD-O2D
19	C	608	CLA	CAD-CBD-CGD-O2D
19	C	609	CLA	CAD-CBD-CGD-O2D
19	A	404	CLA	CAD-CBD-CGD-O2D
19	D	401	CLA	C16-C17-C18-C20
19	C	606	CLA	C16-C17-C18-C19
22	X	201	LHG	C15-C16-C17-C18
21	K	102	LMG	O9-C10-O7-C8
19	B	604	CLA	CAA-CBA-CGA-O2A
19	C	609	CLA	CBD-CGD-O2D-CED
19	B	610	CLA	CAA-CBA-CGA-O2A
19	C	610	CLA	CAA-CBA-CGA-O2A
19	C	611	CLA	C2A-CAA-CBA-CGA
19	C	609	CLA	CAA-CBA-CGA-O2A
21	C	601	LMG	C12-C13-C14-C15
19	B	603	CLA	CHA-CBD-CGD-O2D
19	B	611	CLA	CHA-CBD-CGD-O1D
19	B	611	CLA	CHA-CBD-CGD-O2D
19	B	613	CLA	CHA-CBD-CGD-O1D
19	B	613	CLA	CHA-CBD-CGD-O2D
19	D	401	CLA	CHA-CBD-CGD-O2D
19	C	610	CLA	CHA-CBD-CGD-O2D
19	C	613	CLA	CHA-CBD-CGD-O1D
19	C	613	CLA	CHA-CBD-CGD-O2D
27	C	619	DGD	C8B-C9B-CAB-CBB
19	C	613	CLA	C16-C17-C18-C20
19	B	605	CLA	CAA-CBA-CGA-O2A
19	B	607	CLA	CAA-CBA-CGA-O2A
19	C	611	CLA	CAA-CBA-CGA-O2A
22	K	103	LHG	O7-C7-C8-C9
19	C	610	CLA	C13-C15-C16-C17
19	B	609	CLA	CAA-CBA-CGA-O2A
19	B	613	CLA	C2C-C3C-CAC-CBC
22	D	407	LHG	C25-C26-C27-C28
19	C	612	CLA	C12-C13-C15-C16
19	B	610	CLA	C14-C13-C15-C16
19	D	409	CLA	C11-C12-C13-C14
19	C	602	CLA	C6-C7-C8-C9
19	B	612	CLA	CAA-CBA-CGA-O2A
22	D	407	LHG	C8-C7-O7-C5

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Mol	Chain	Res	Type	Atoms
19	B	605	CLA	C2A-CAA-CBA-CGA
21	K	102	LMG	C12-C13-C14-C15
22	D	407	LHG	C29-C30-C31-C32
27	C	618	DGD	C2A-C3A-C4A-C5A
19	C	613	CLA	CAA-CBA-CGA-O1A
22	D	407	LHG	O10-C23-C24-C25
19	A	403	CLA	C2C-C3C-CAC-CBC
19	B	608	CLA	C4-C3-C5-C6
27	C	619	DGD	C2B-C3B-C4B-C5B
19	B	610	CLA	CAA-CBA-CGA-O1A
19	C	609	CLA	CAA-CBA-CGA-O1A
19	B	602	CLA	C1A-C2A-CAA-CBA
19	D	401	CLA	C1A-C2A-CAA-CBA
19	C	607	CLA	C1A-C2A-CAA-CBA
19	C	610	CLA	C1A-C2A-CAA-CBA
19	C	610	CLA	CAA-CBA-CGA-O1A
19	C	614	CLA	C2-C1-O2A-CGA
24	D	410	PHO	C10-C11-C12-C13
19	B	604	CLA	CAA-CBA-CGA-O1A
21	A	407	LMG	C33-C34-C35-C36
19	B	611	CLA	CAA-CBA-CGA-O1A
19	B	612	CLA	CAA-CBA-CGA-O1A
19	C	607	CLA	CAA-CBA-CGA-O2A
19	C	611	CLA	CAA-CBA-CGA-O1A
19	C	605	CLA	C15-C16-C17-C18
22	X	201	LHG	C3-O3-P-O4
19	B	605	CLA	CAA-CBA-CGA-O1A
20	C	615	BCR	C5-C6-C7-C8
19	B	609	CLA	CAA-CBA-CGA-O1A
21	D	408	LMG	C19-C20-C21-C22
19	B	607	CLA	CAA-CBA-CGA-O1A
19	B	607	CLA	CAD-CBD-CGD-O1D
28	C	620	SQD	O47-C7-C8-C9
19	B	616	CLA	C11-C12-C13-C14
19	D	402	CLA	C14-C13-C15-C16
19	C	603	CLA	C11-C12-C13-C14
19	C	606	CLA	C11-C12-C13-C14
19	C	612	CLA	C14-C13-C15-C16
19	A	403	CLA	C14-C13-C15-C16
27	C	617	DGD	C3A-C4A-C5A-C6A
26	X	202	VTQ	C18-C20-C21-C22
19	B	608	CLA	C16-C17-C18-C20

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Mol	Chain	Res	Type	Atoms
19	A	403	CLA	CAA-CBA-CGA-O2A
24	D	410	PHO	C15-C16-C17-C18
22	A	408	LHG	C25-C26-C27-C28
19	C	609	CLA	C10-C11-C12-C13
19	B	602	CLA	CAA-CBA-CGA-O2A
19	C	603	CLA	CAA-CBA-CGA-O2A
24	D	411	PHO	CAA-CBA-CGA-O2A
22	D	407	LHG	C1-C2-C3-O3
21	A	407	LMG	C16-C17-C18-C19
22	K	103	LHG	O9-C7-C8-C9
22	A	408	LHG	O9-C7-O7-C5
19	B	608	CLA	C15-C16-C17-C18
19	A	403	CLA	C15-C16-C17-C18
19	B	608	CLA	C12-C13-C15-C16
19	D	401	CLA	C3A-C2A-CAA-CBA
19	C	608	CLA	C11-C12-C13-C15
24	D	411	PHO	C11-C12-C13-C15
25	E	101	HEM	CAA-CBA-CGA-O2A
19	B	606	CLA	CAA-CBA-CGA-O2A
22	B	622	LHG	O8-C23-C24-C25
19	C	607	CLA	CAA-CBA-CGA-O1A
19	B	601	CLA	C2C-C3C-CAC-CBC
19	B	608	CLA	C16-C17-C18-C19
19	A	404	CLA	CAA-CBA-CGA-O2A
22	B	621	LHG	C34-C35-C36-C37
19	C	603	CLA	CAA-CBA-CGA-O1A
19	A	403	CLA	CAA-CBA-CGA-O1A
24	D	411	PHO	CAA-CBA-CGA-O1A
28	C	620	SQD	O49-C7-C8-C9
22	X	201	LHG	C12-C13-C14-C15
22	B	621	LHG	C12-C13-C14-C15
22	B	621	LHG	O8-C23-C24-C25
22	D	405	LHG	O7-C7-C8-C9
19	B	606	CLA	CAA-CBA-CGA-O1A
19	A	404	CLA	CAA-CBA-CGA-O1A
27	C	617	DGD	C4A-C5A-C6A-C7A
19	B	612	CLA	C8-C10-C11-C12

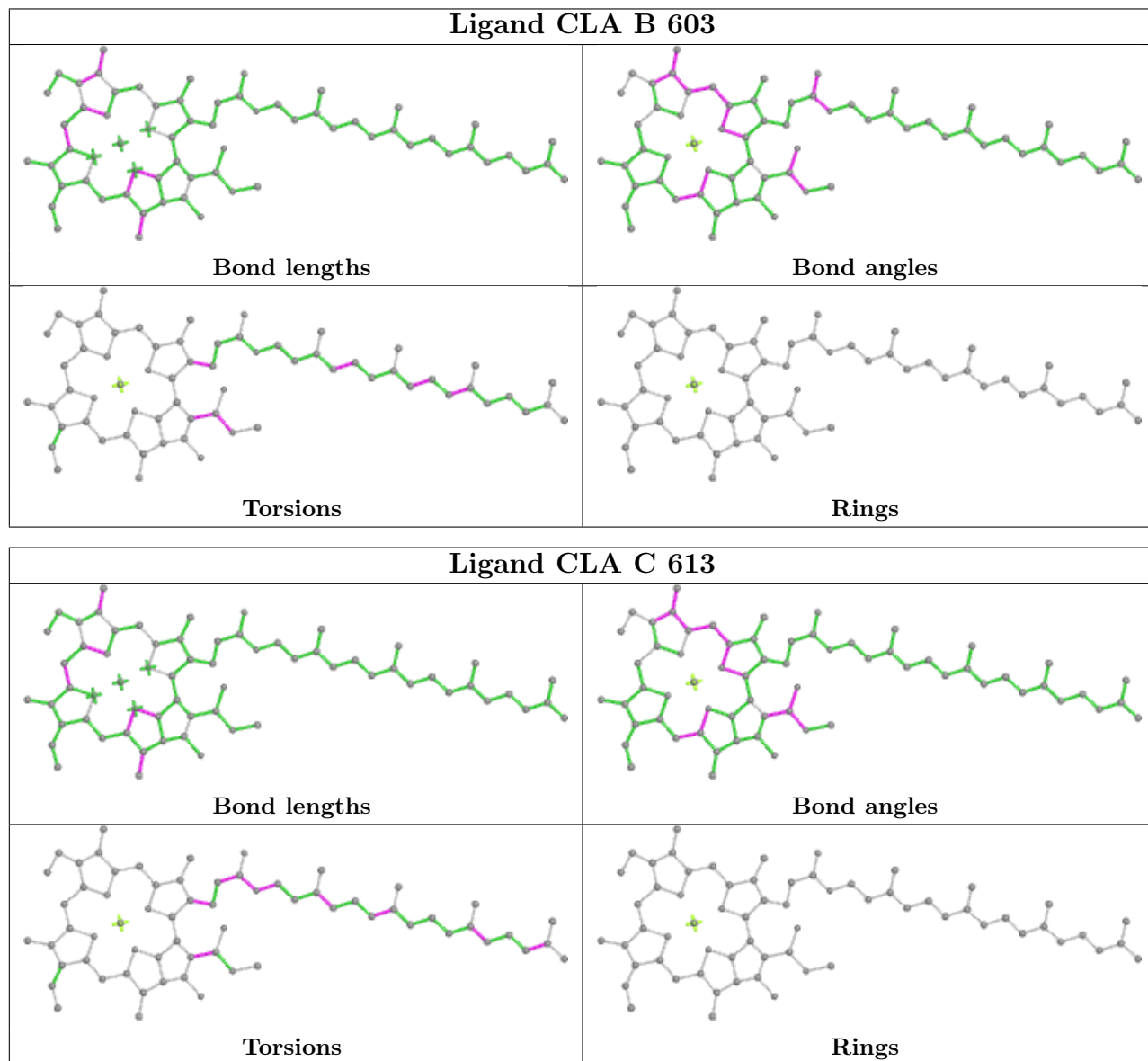
There are no ring outliers.

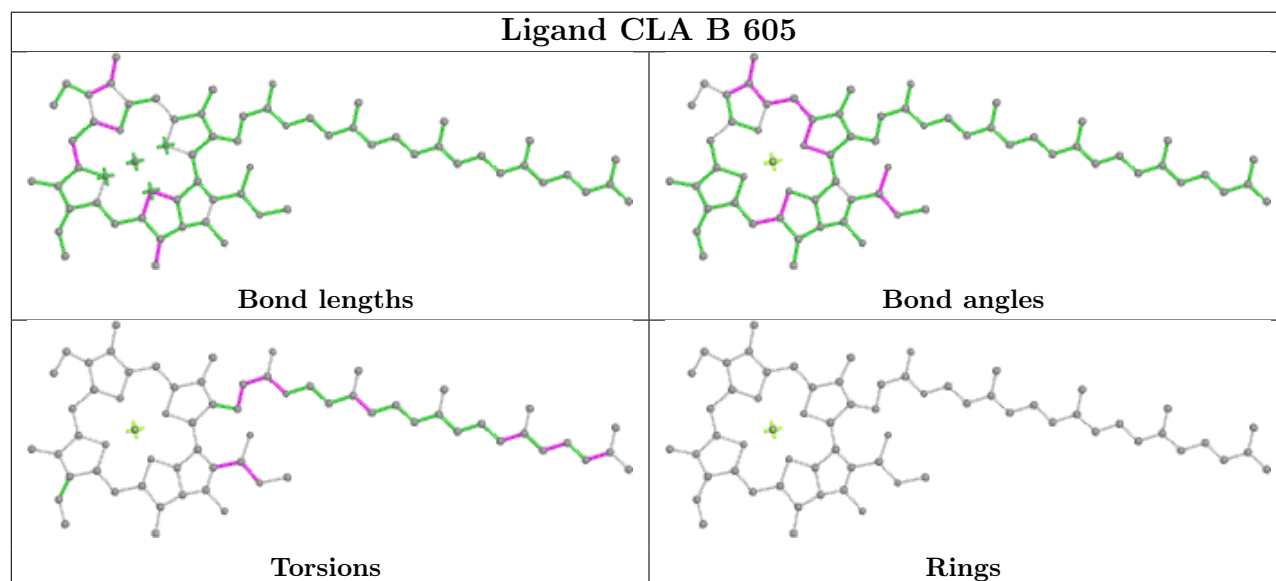
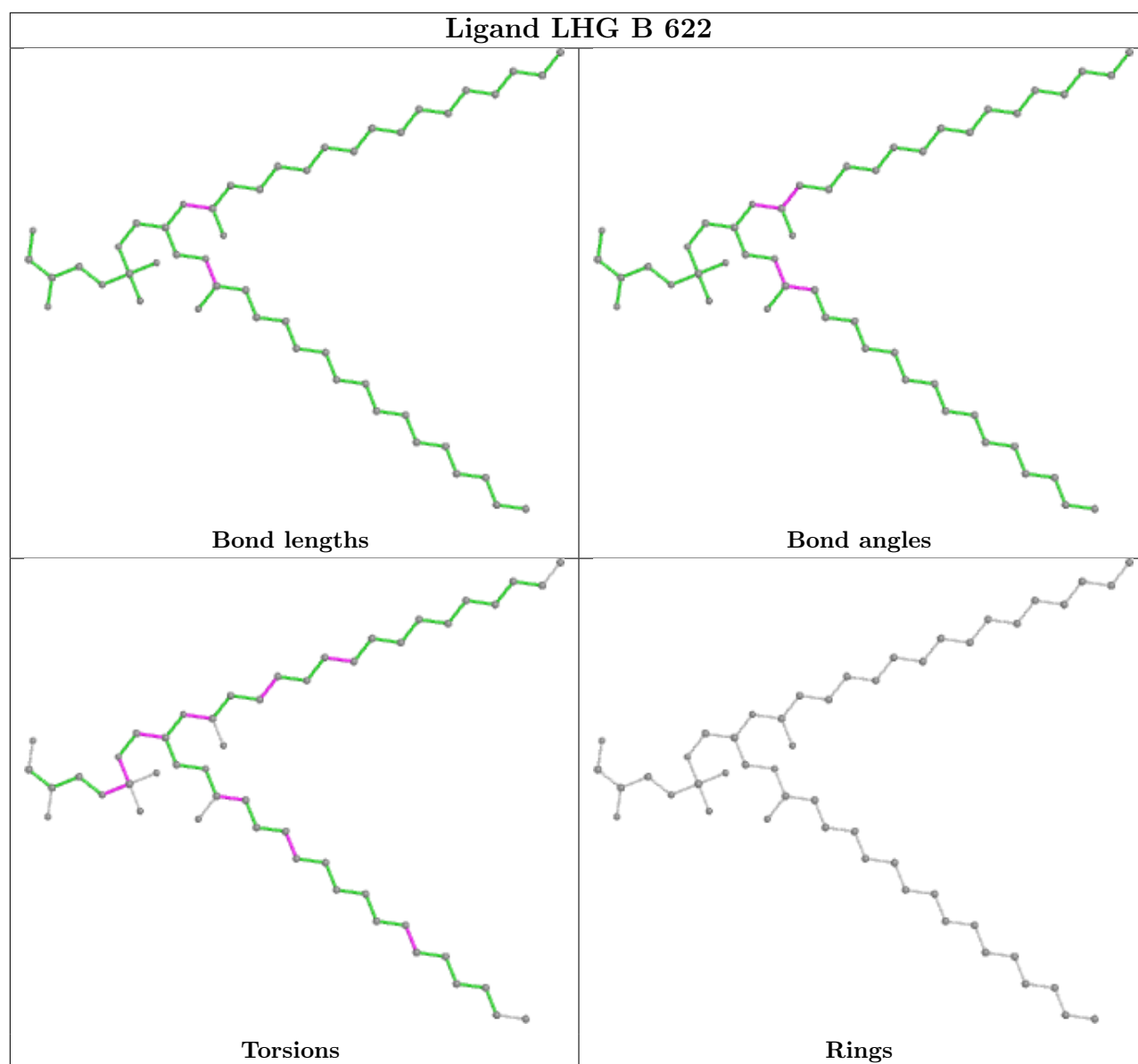
37 monomers are involved in 65 short contacts:

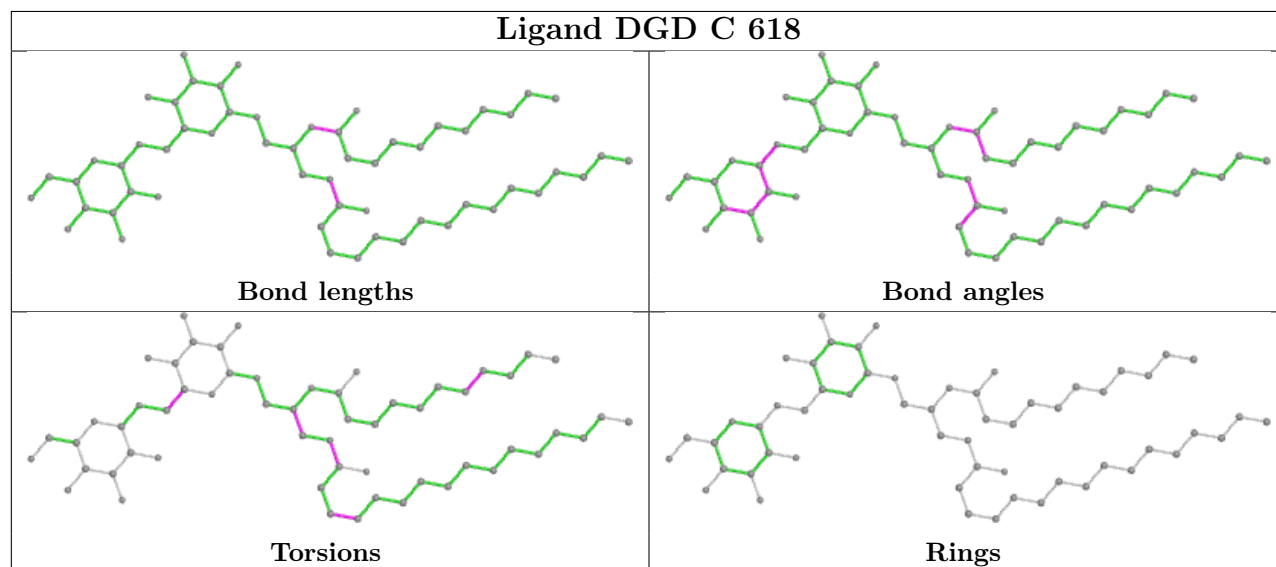
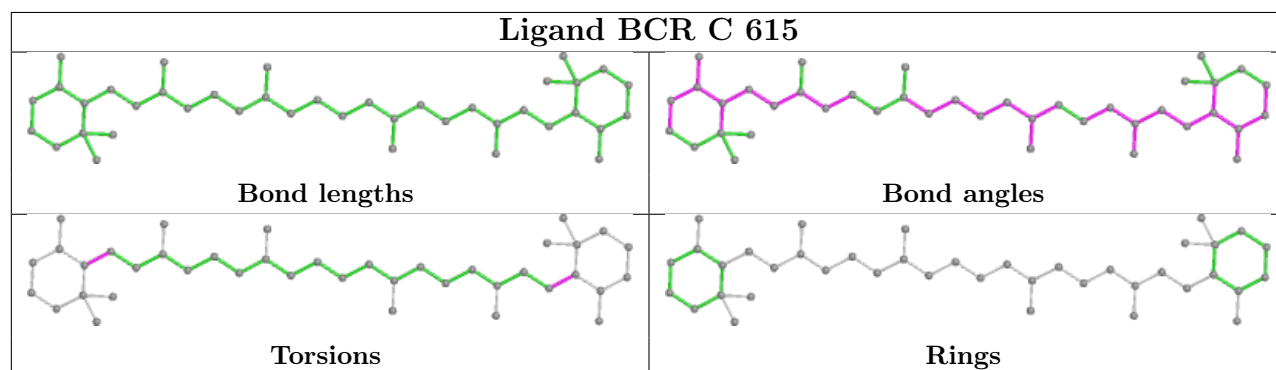
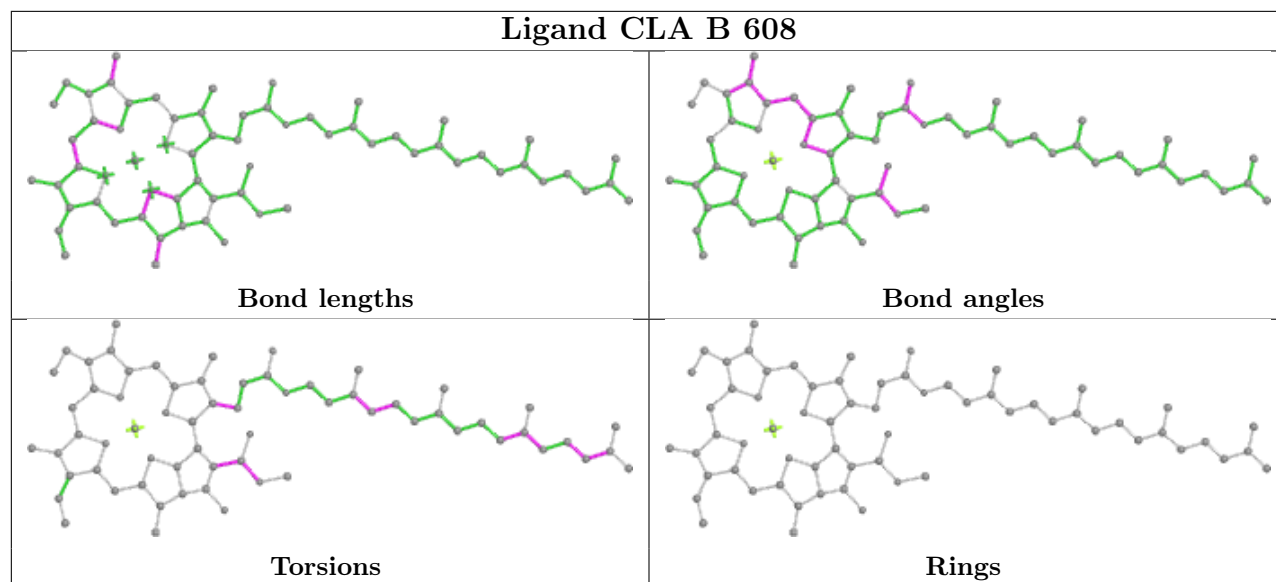
Mol	Chain	Res	Type	Clashes	Symm-Clashes
19	B	605	CLA	1	0
20	C	615	BCR	4	0
19	C	610	CLA	1	0
20	C	616	BCR	2	0
19	B	601	CLA	1	0
19	C	604	CLA	1	0
22	D	407	LHG	1	0
20	D	403	BCR	1	0
27	C	619	DGD	2	0
19	D	402	CLA	2	0
20	K	101	BCR	1	0
19	C	605	CLA	1	0
19	B	614	CLA	1	0
19	C	607	CLA	1	0
24	D	411	PHO	1	0
19	B	609	CLA	2	0
19	B	615	CLA	1	0
19	D	401	CLA	1	0
19	B	602	CLA	1	0
20	B	618	BCR	1	0
21	B	623	LMG	1	0
19	C	609	CLA	1	0
20	Z	101	BCR	7	0
25	E	101	HEM	4	0
19	A	403	CLA	1	0
19	C	603	CLA	2	0
19	B	613	CLA	3	0
19	C	611	CLA	2	0
19	B	604	CLA	2	0
19	D	409	CLA	1	0
19	C	606	CLA	1	0
20	H	101	BCR	7	0
19	C	602	CLA	2	0
19	C	608	CLA	1	0
19	B	612	CLA	4	0
20	B	617	BCR	1	0
20	A	406	BCR	3	0

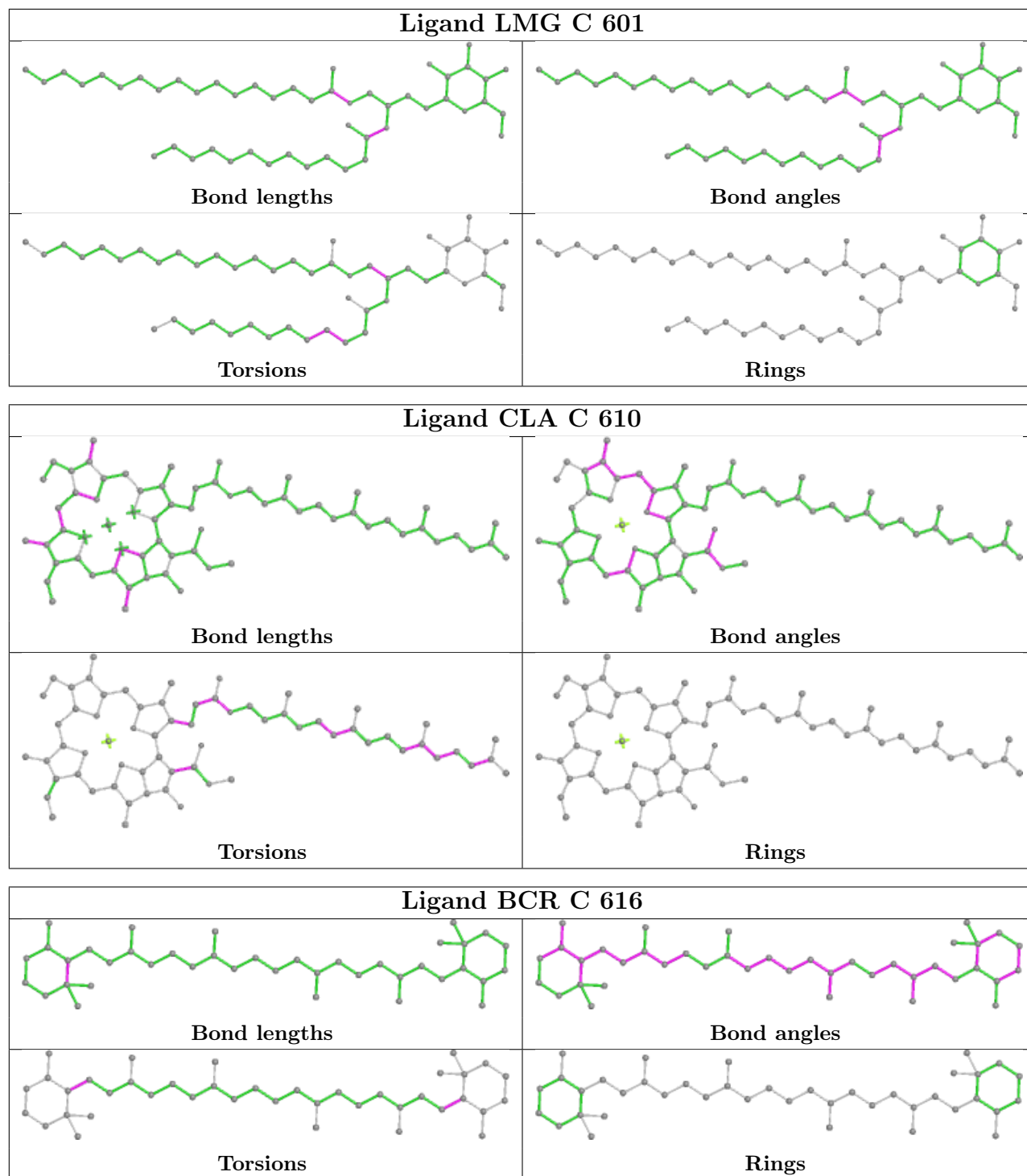
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be

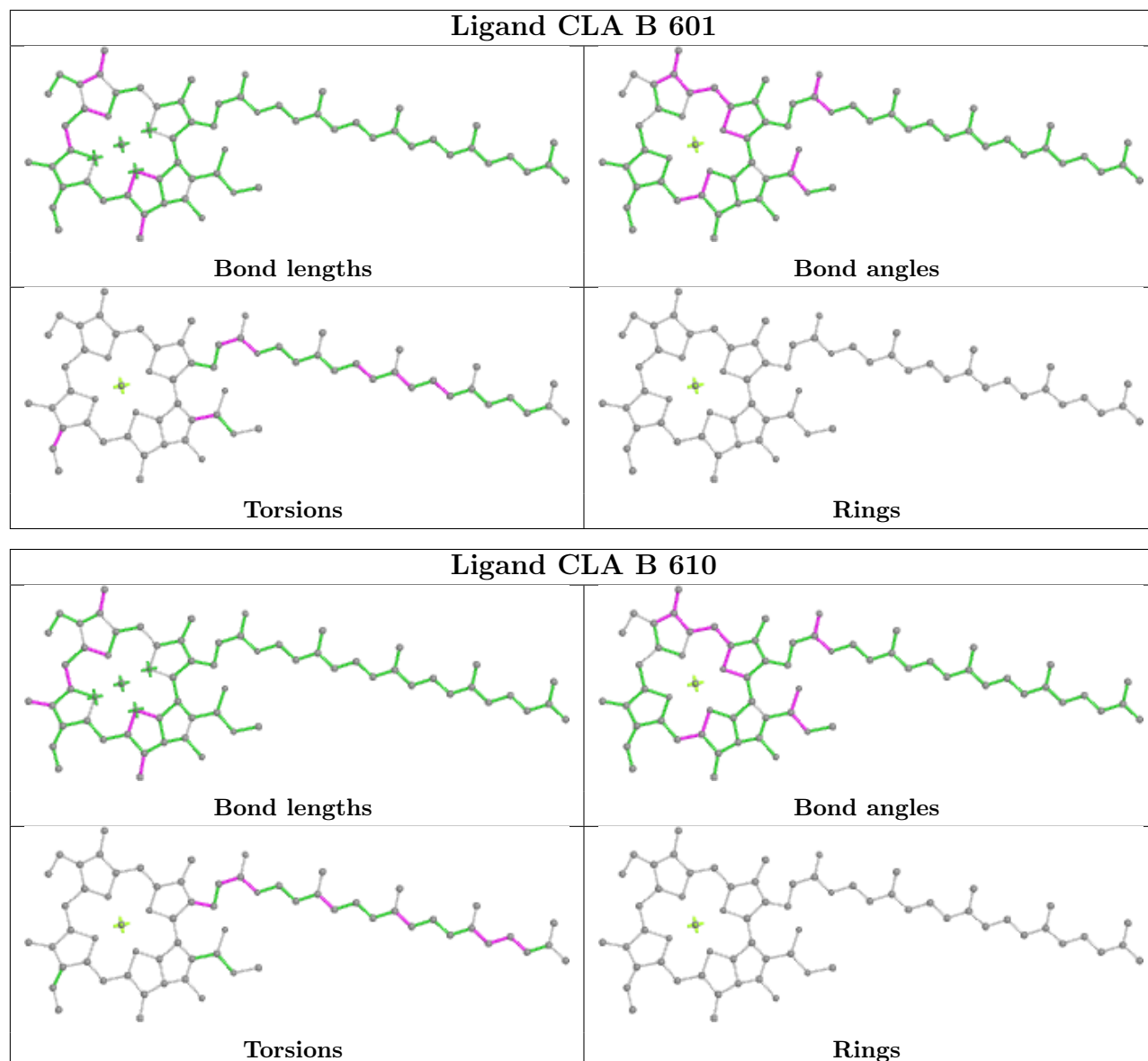
highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

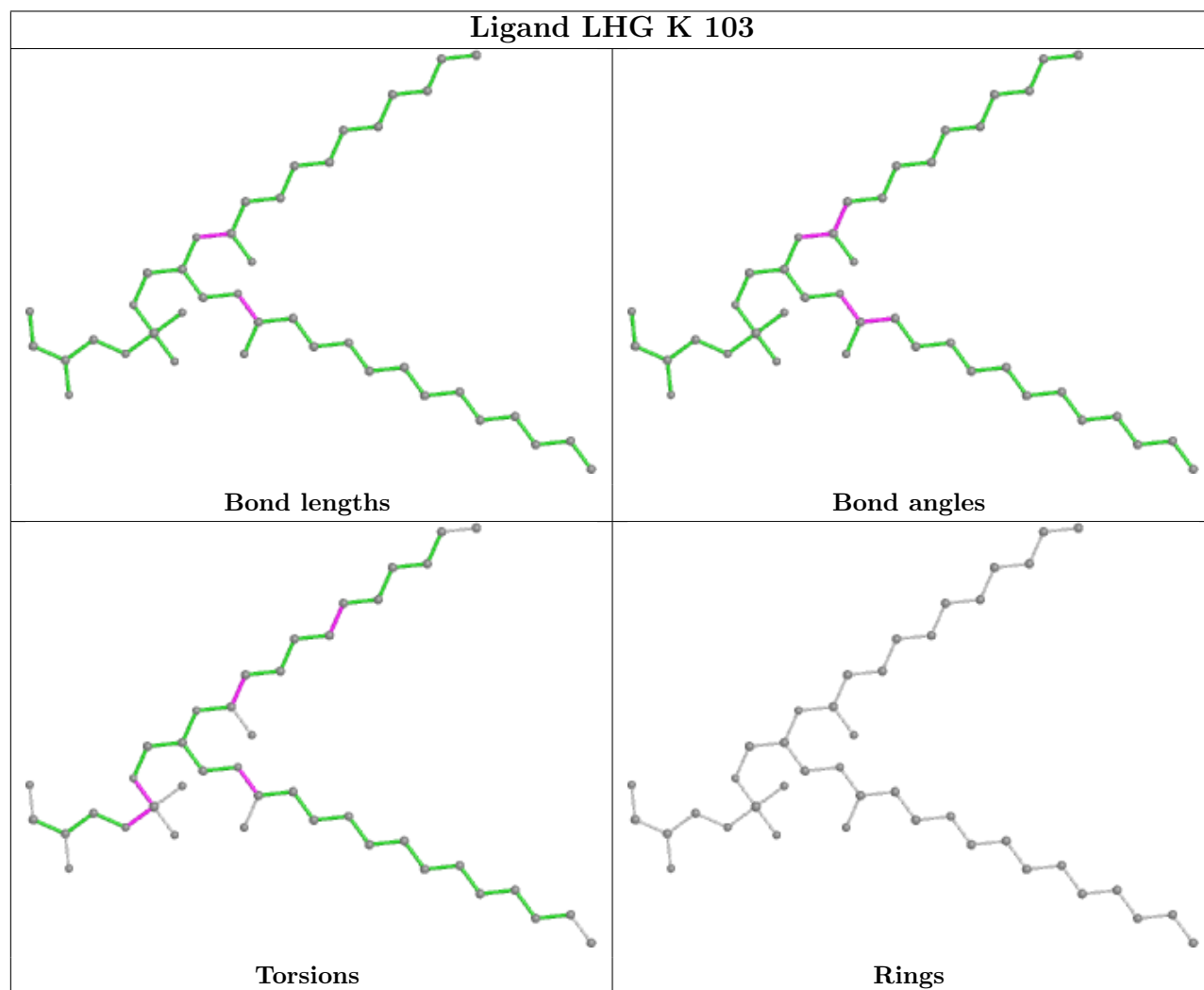
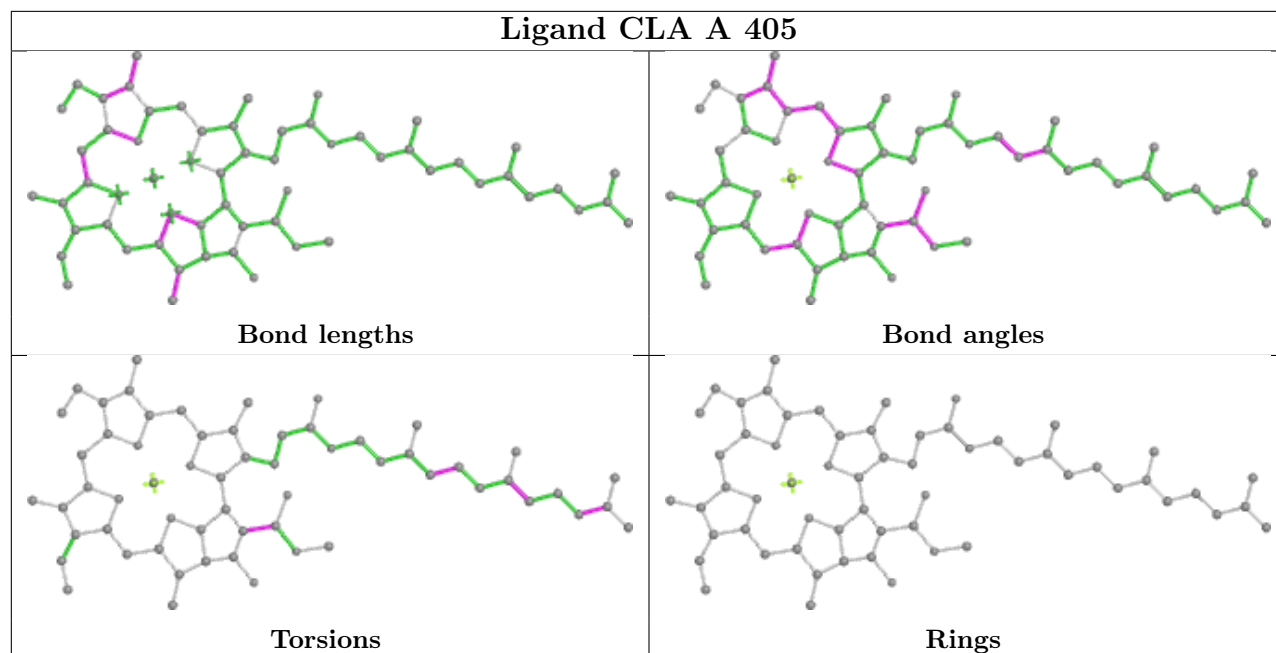


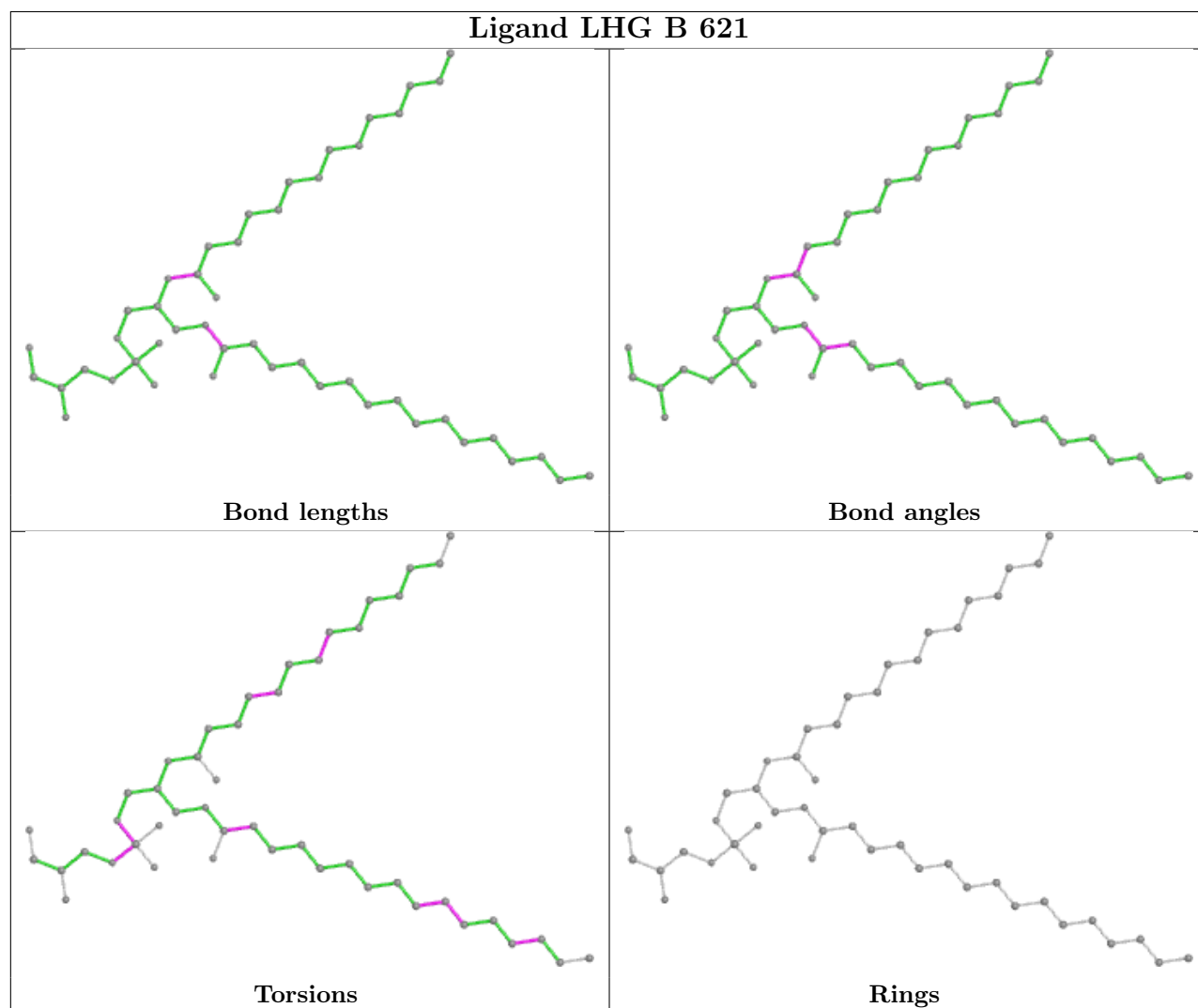
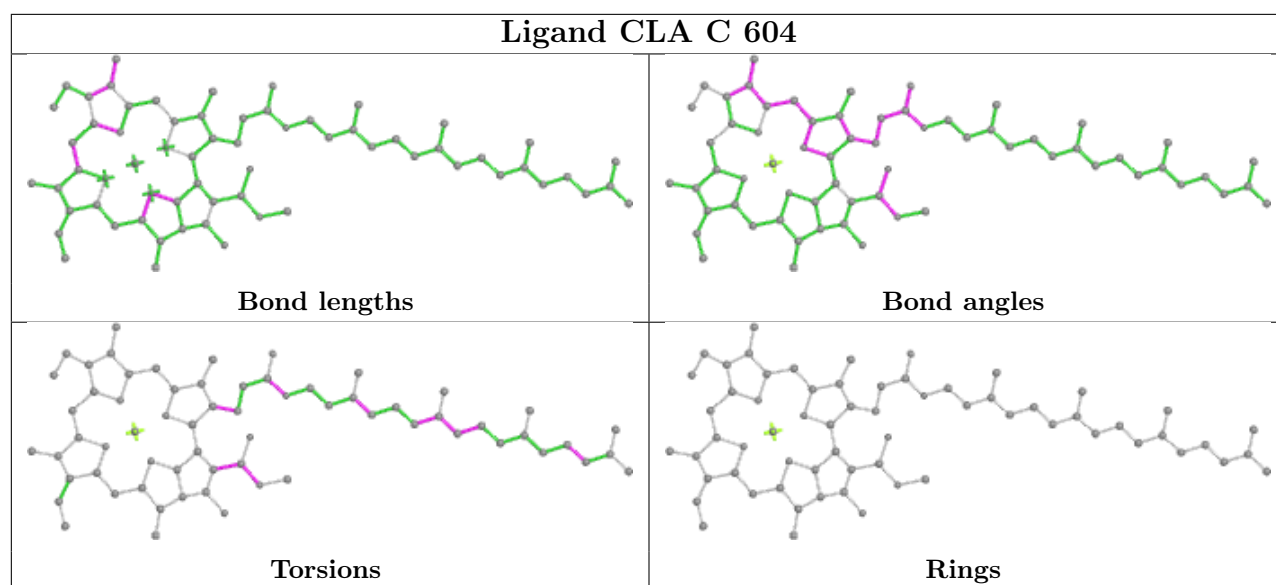


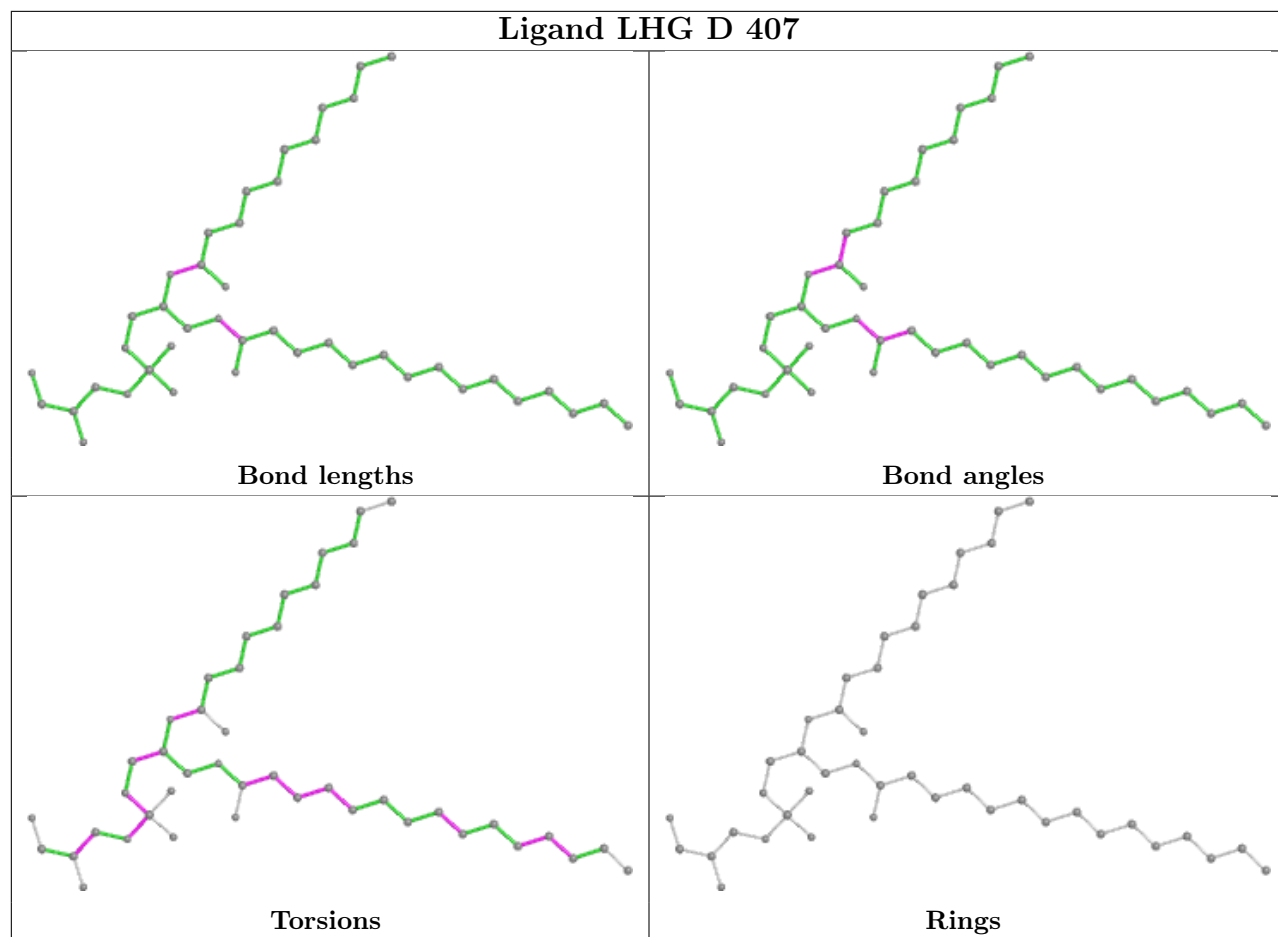


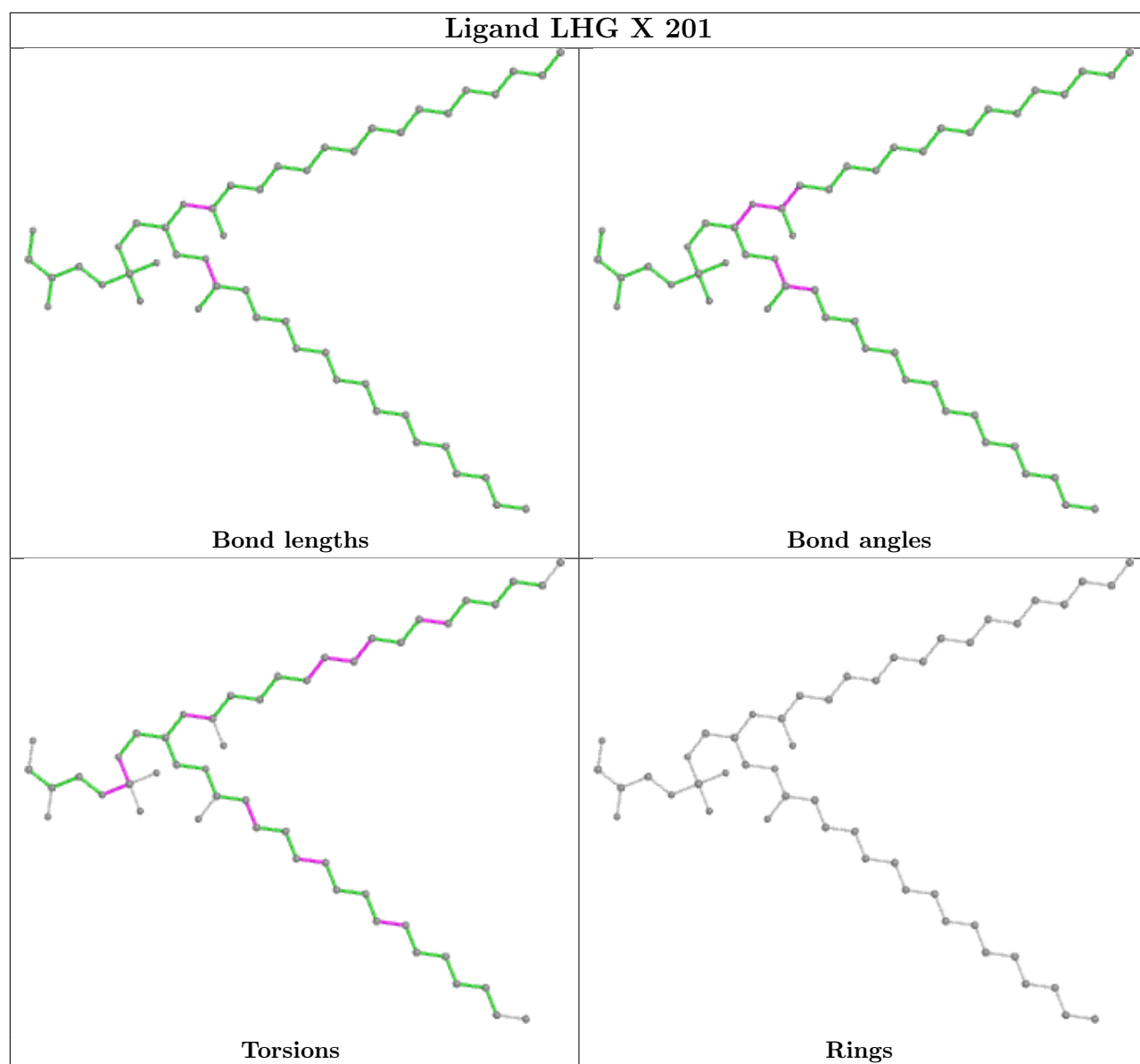


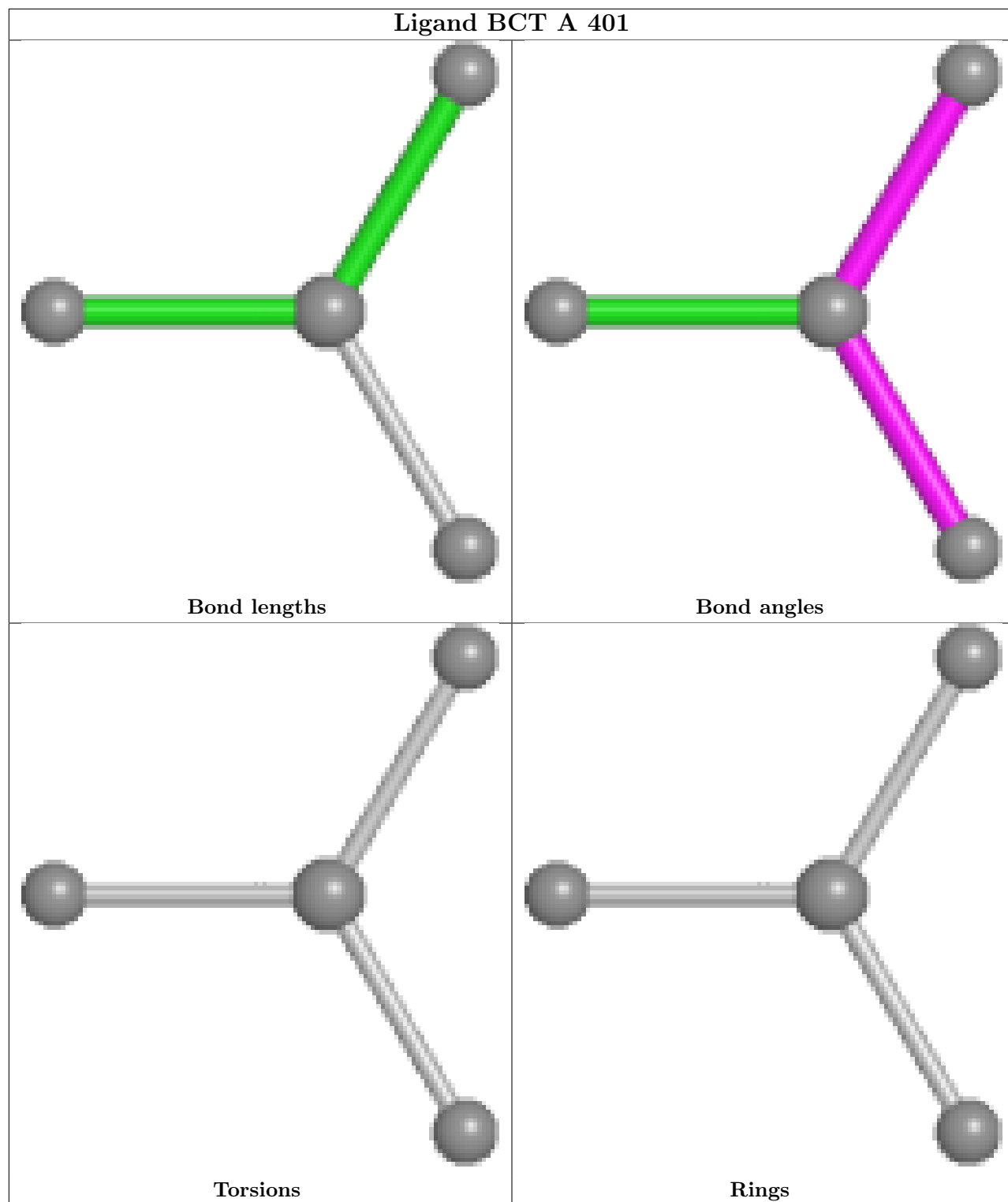


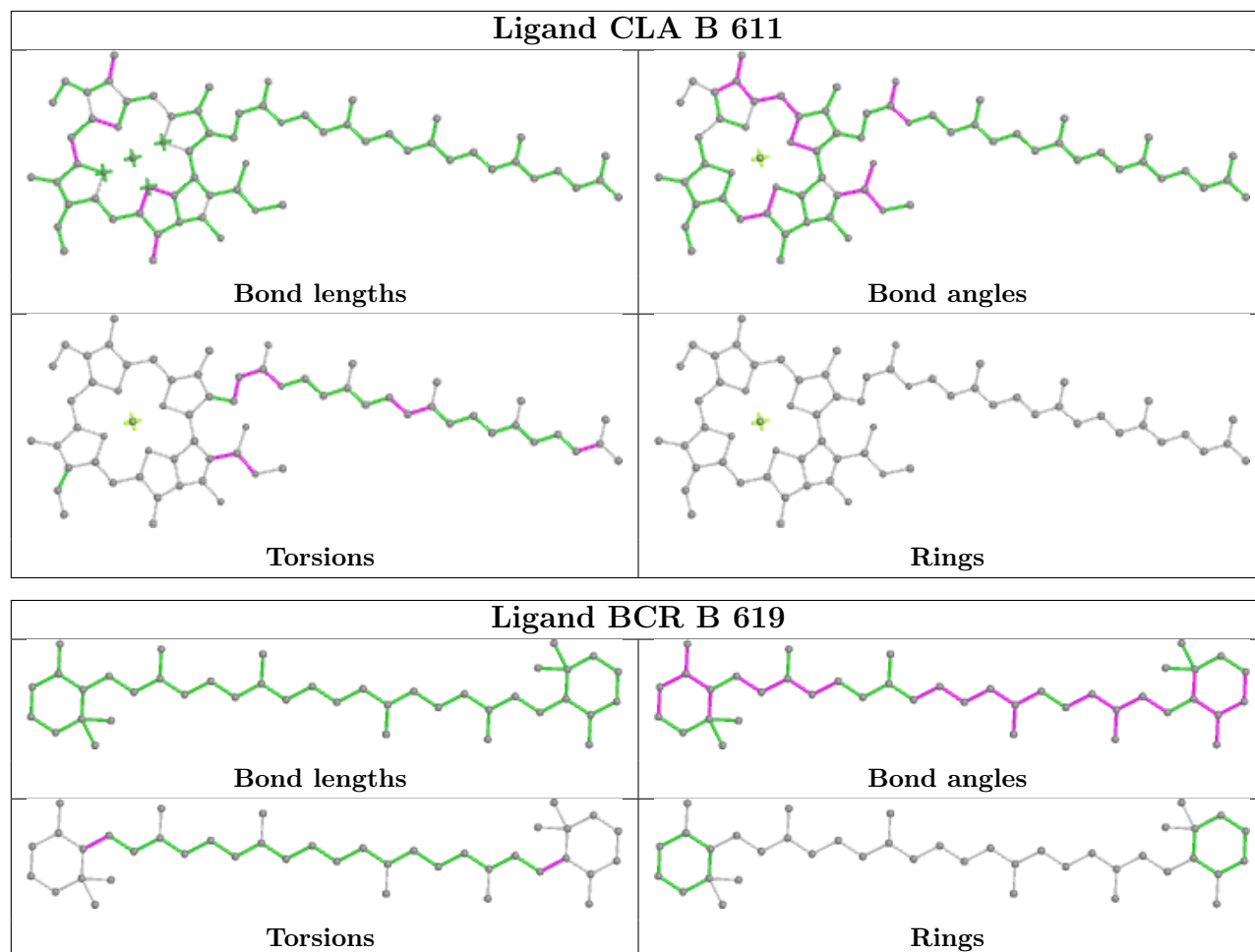


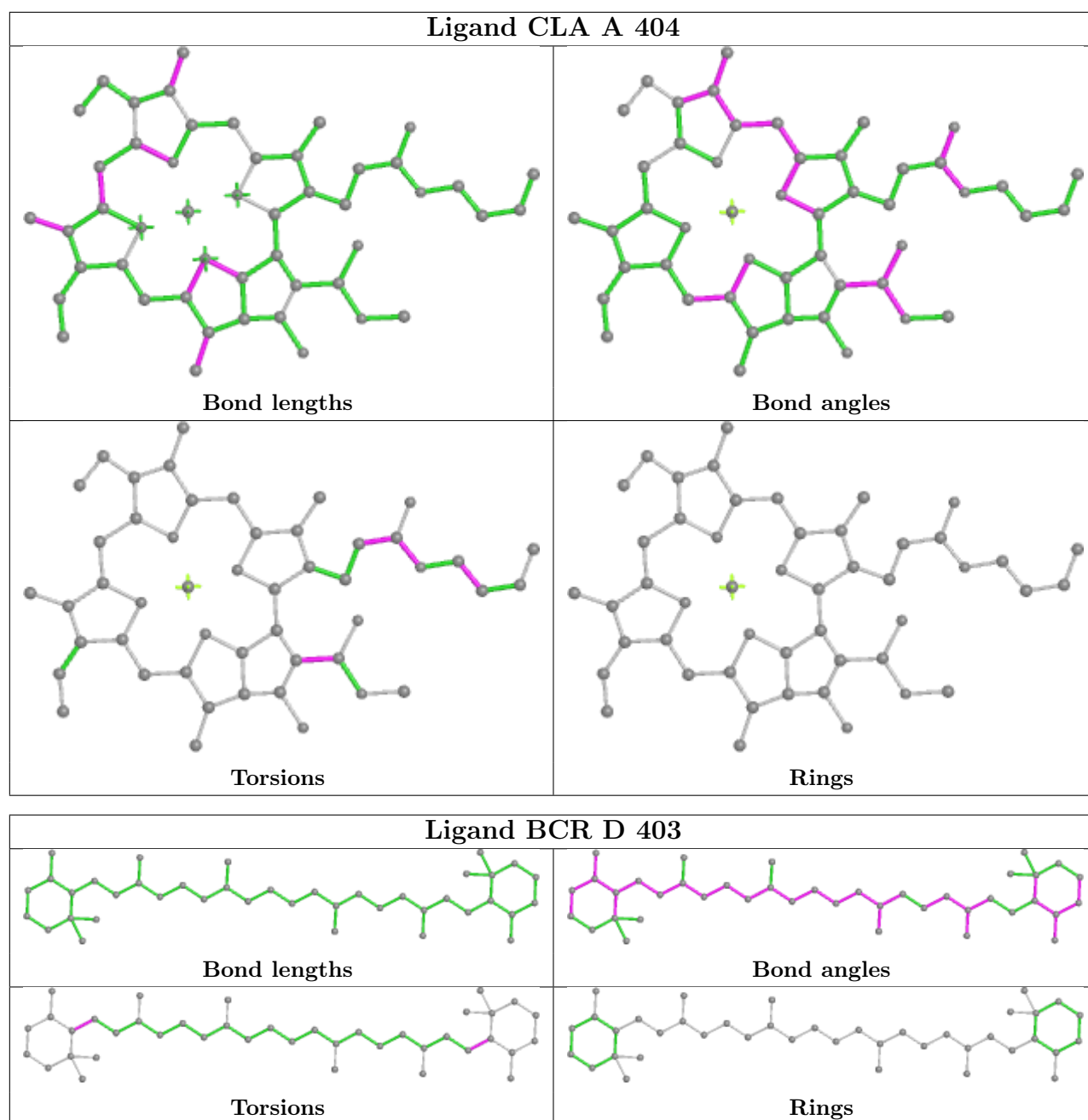


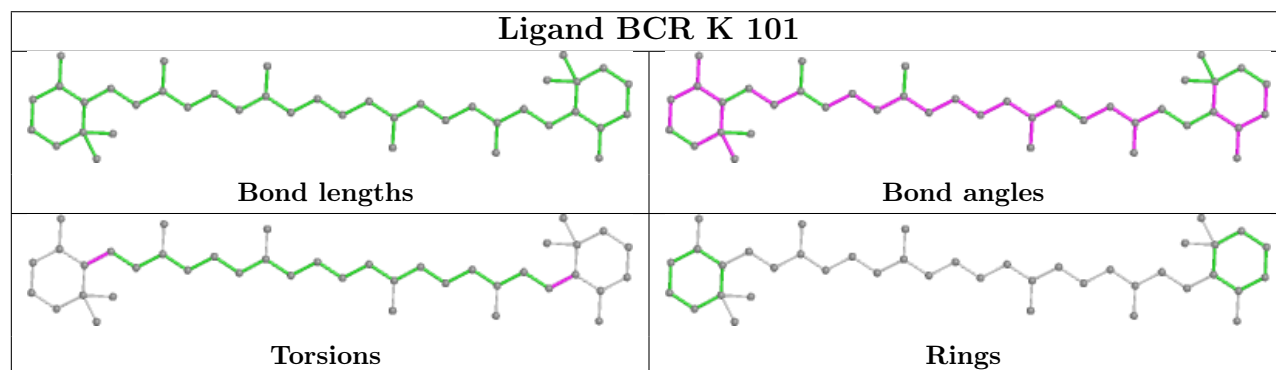
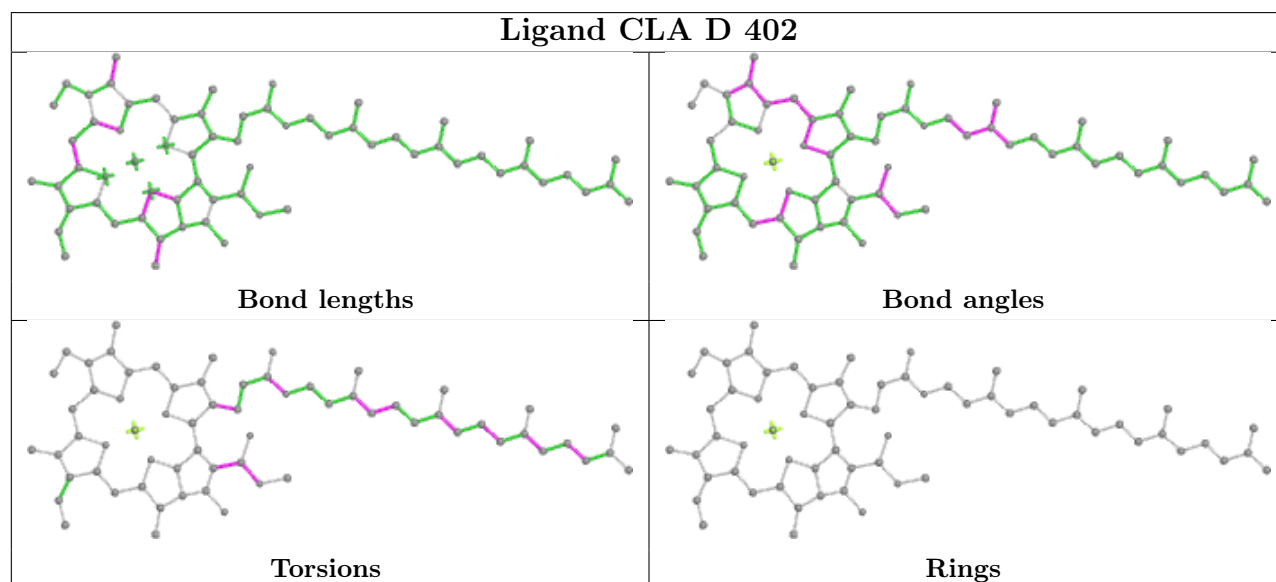
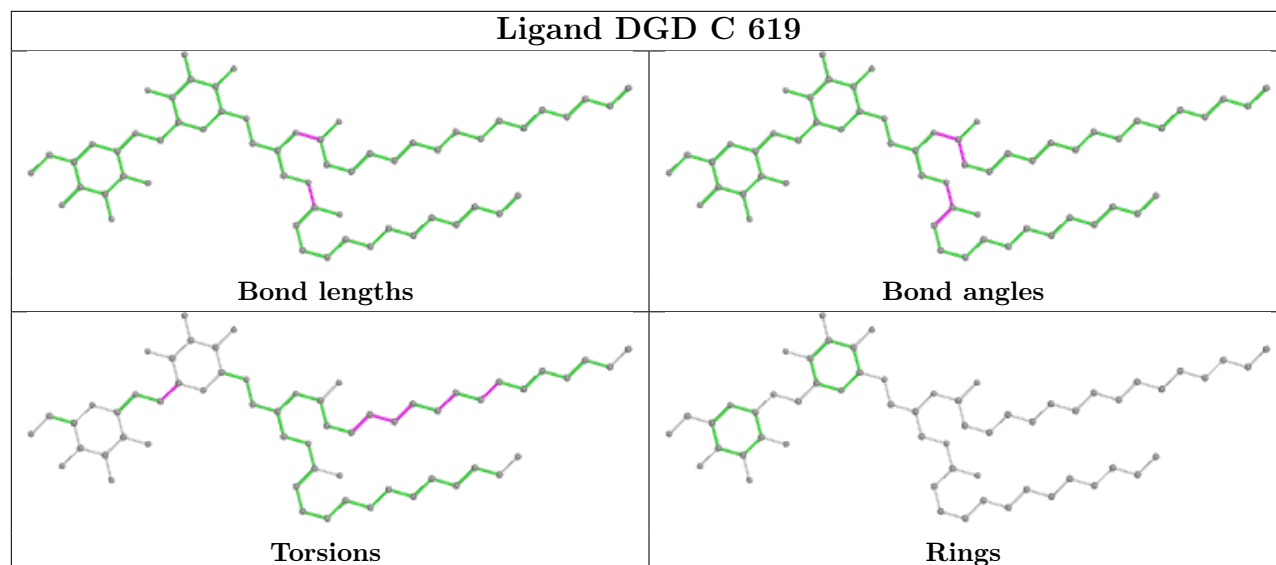


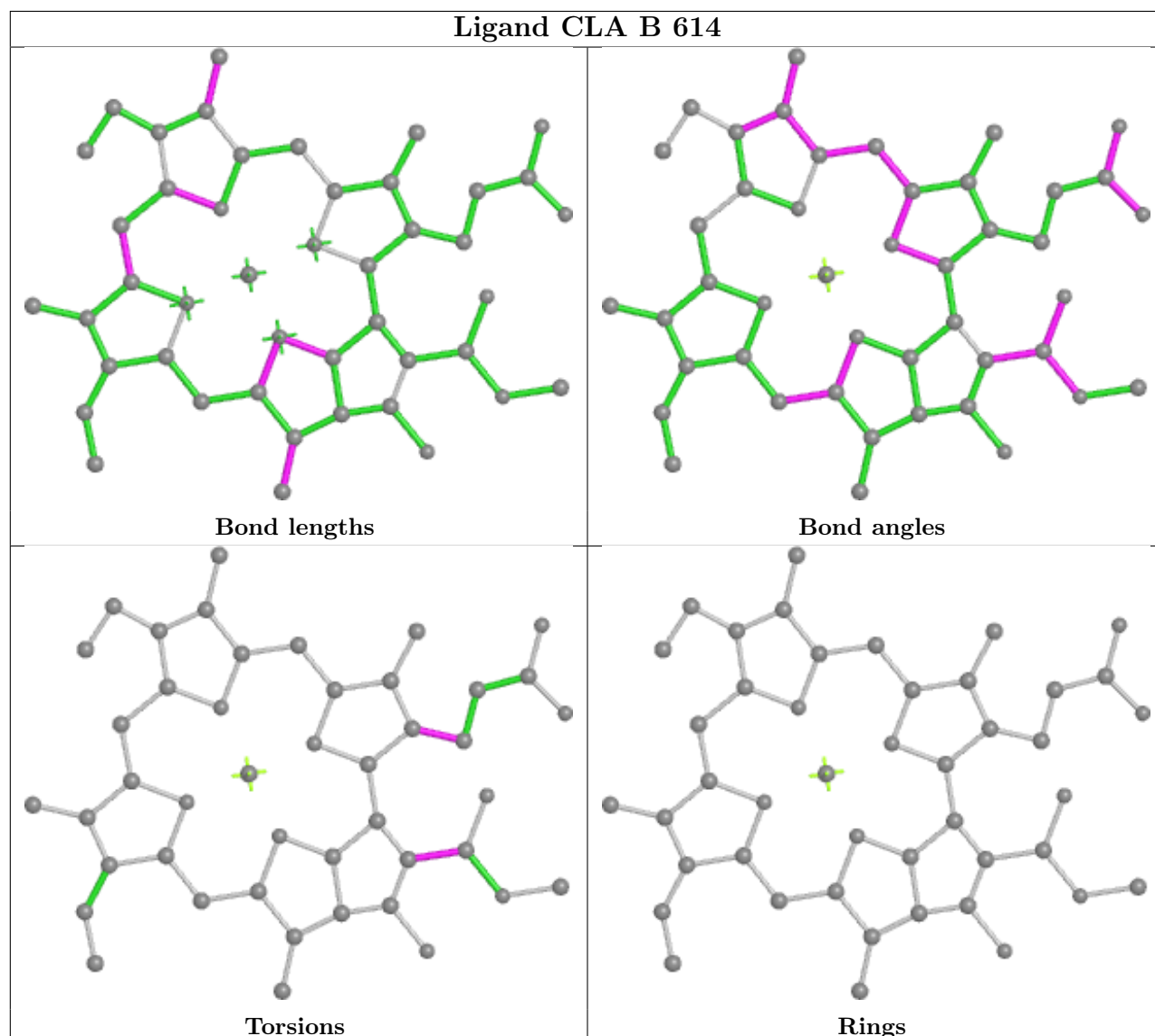
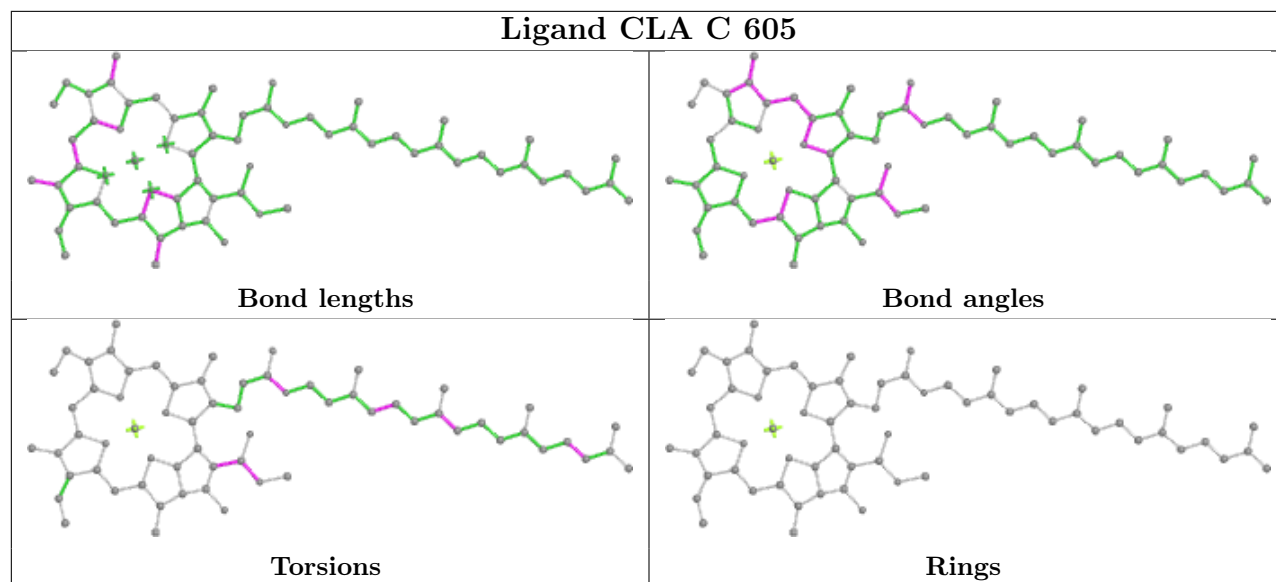


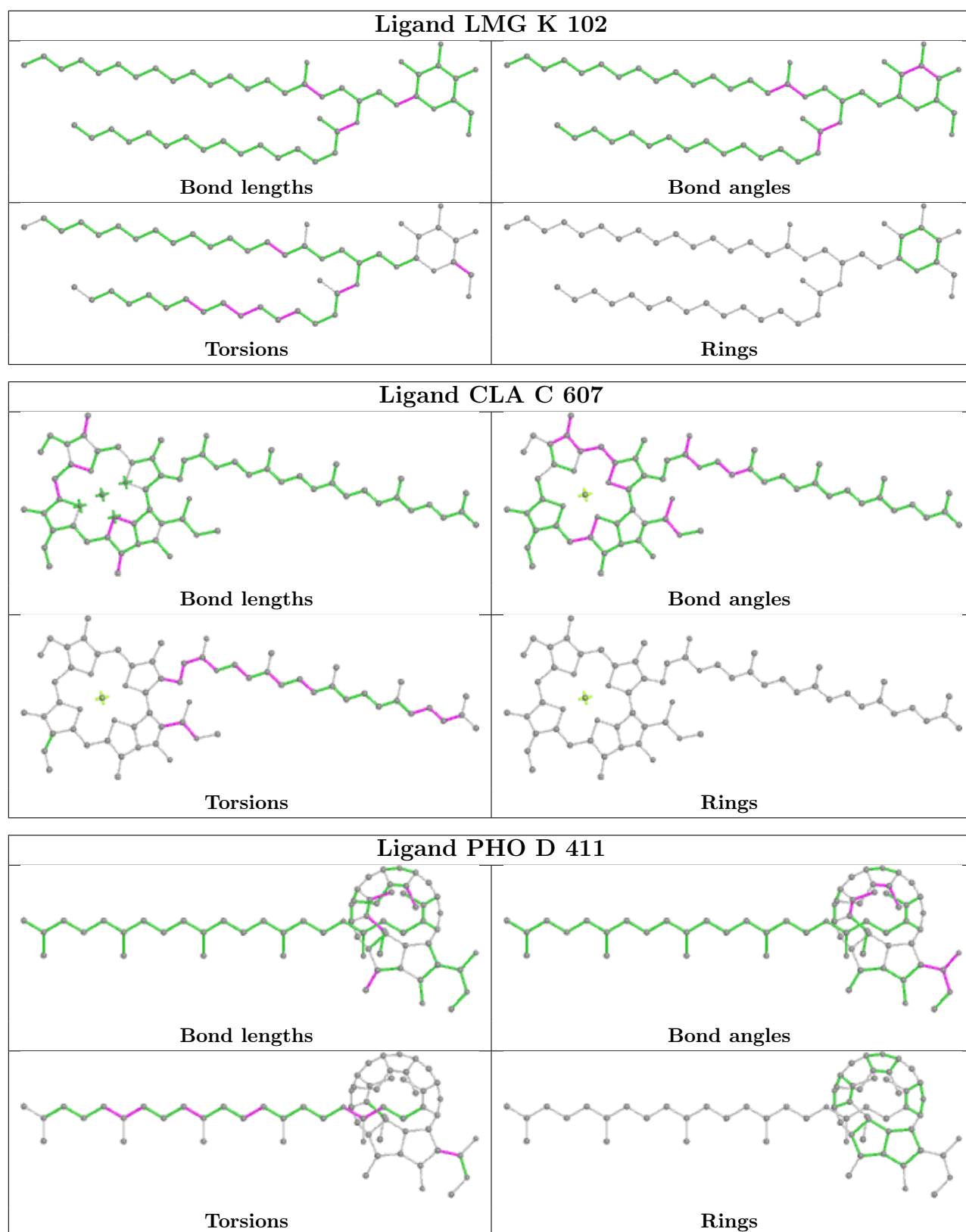


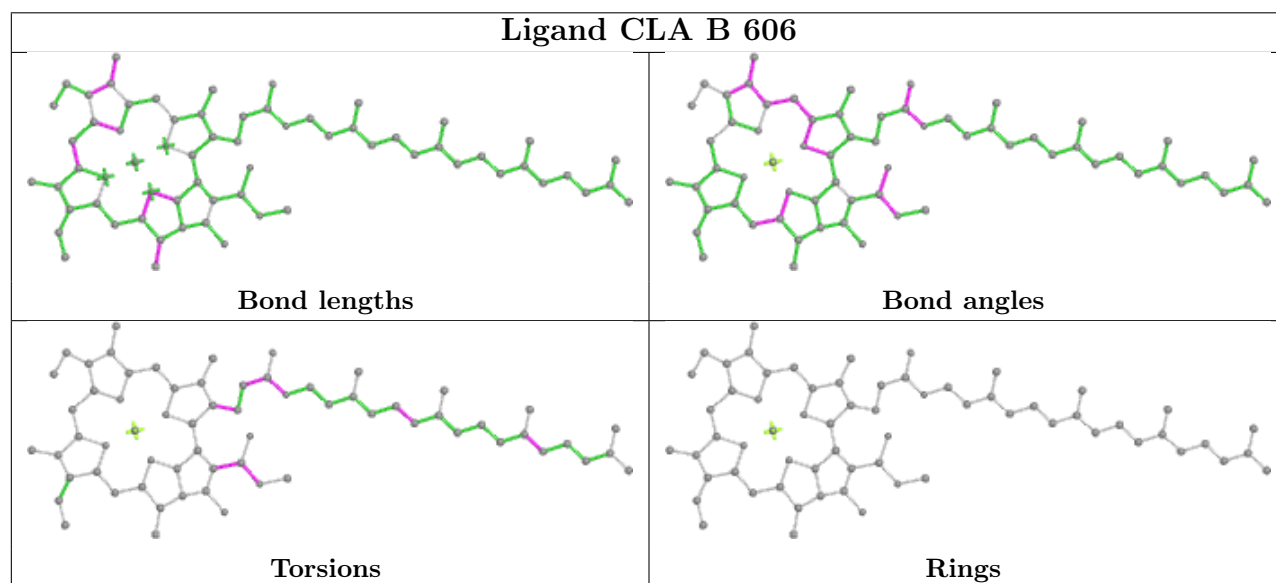
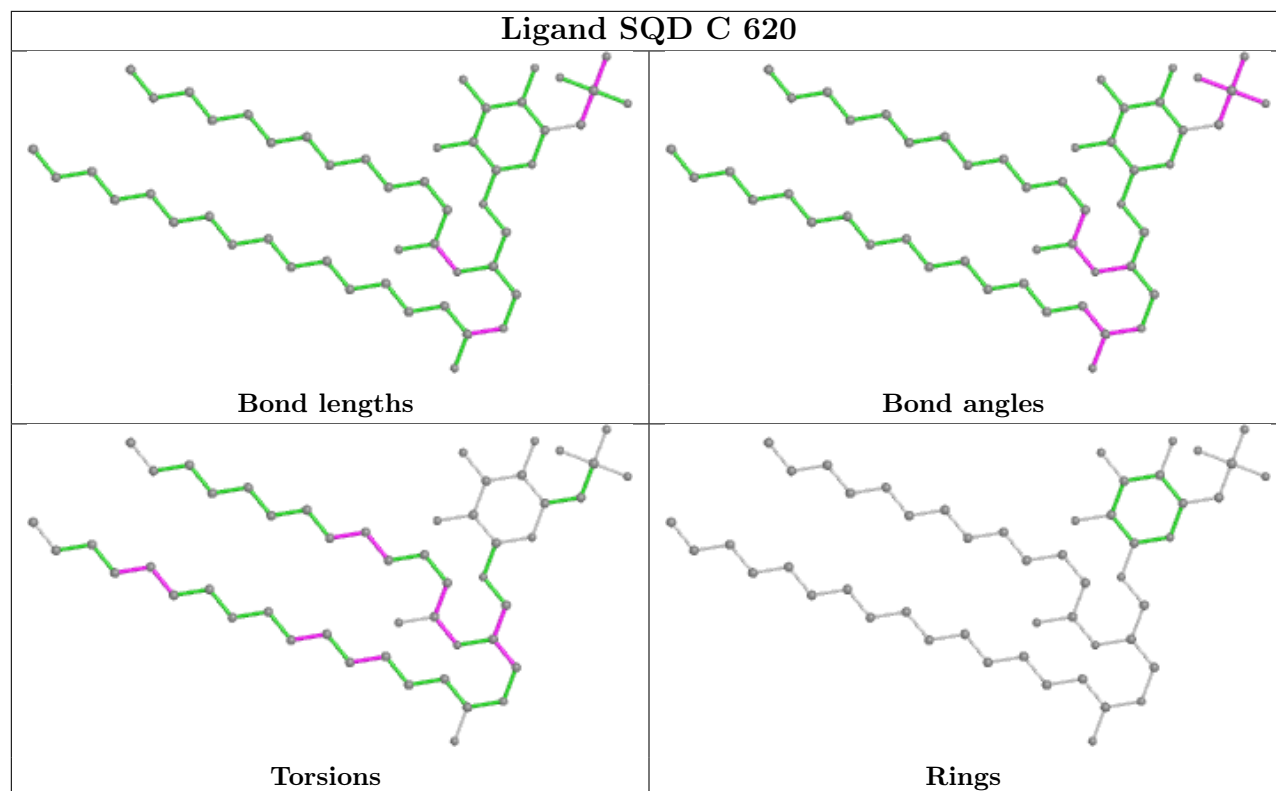


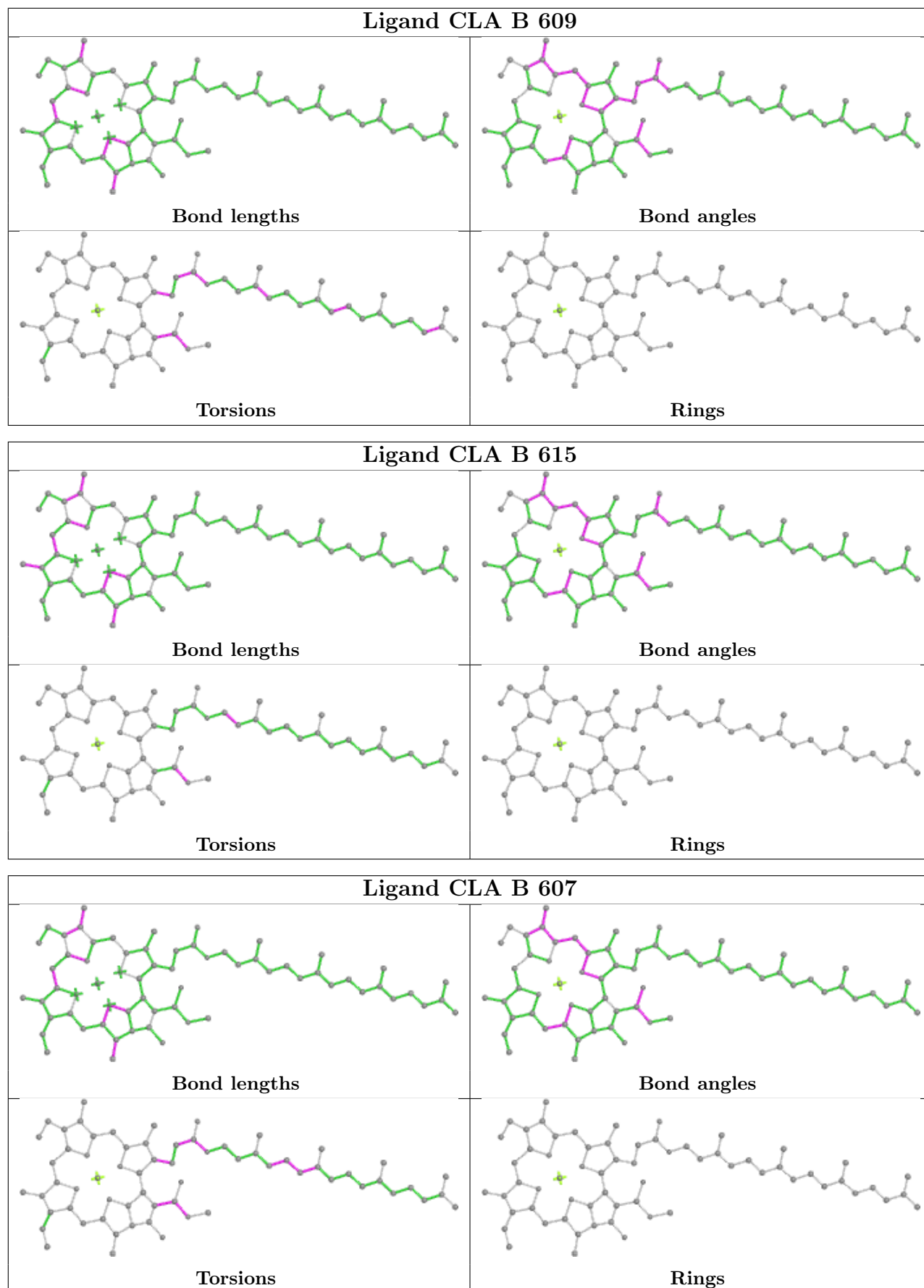


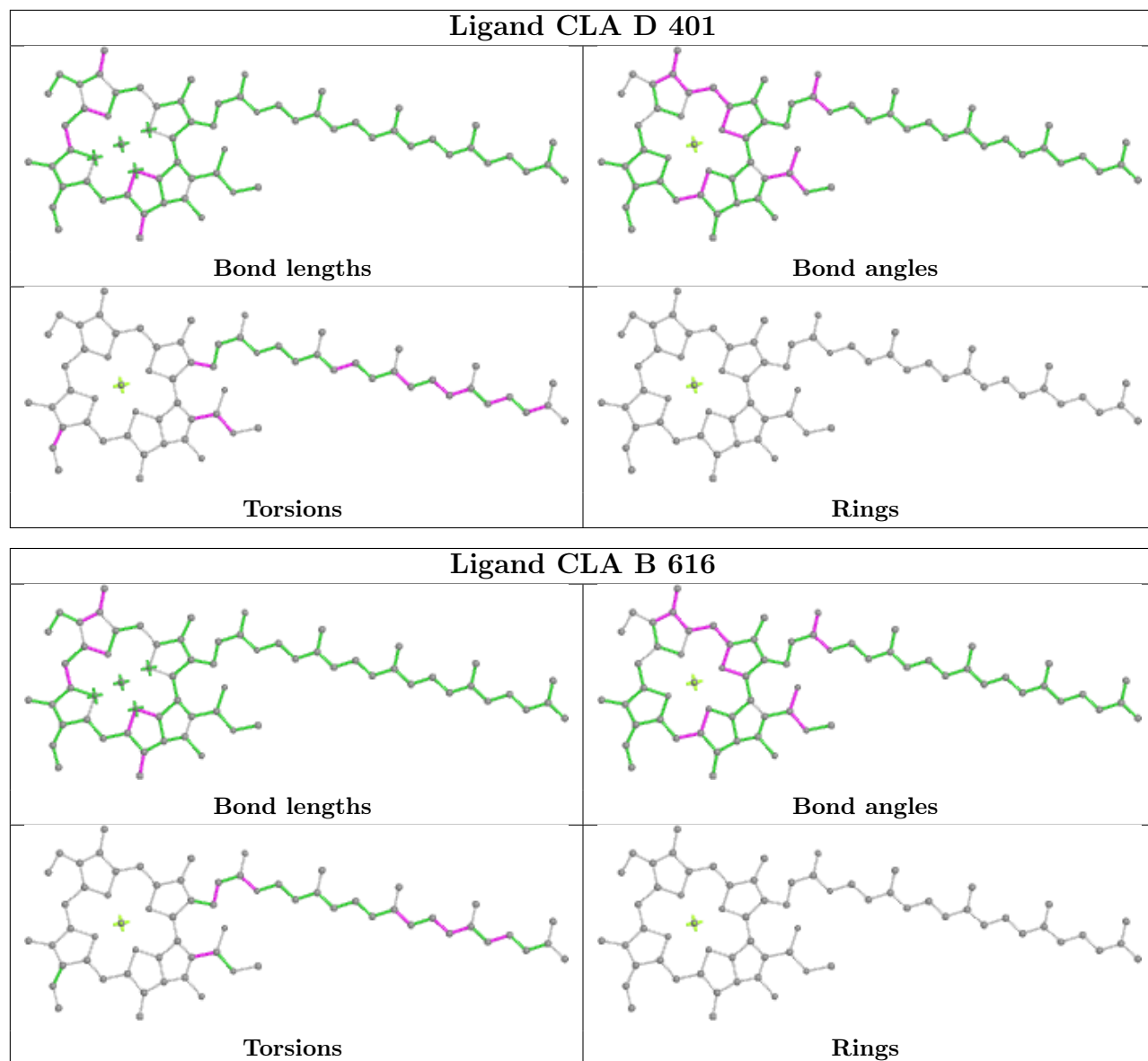


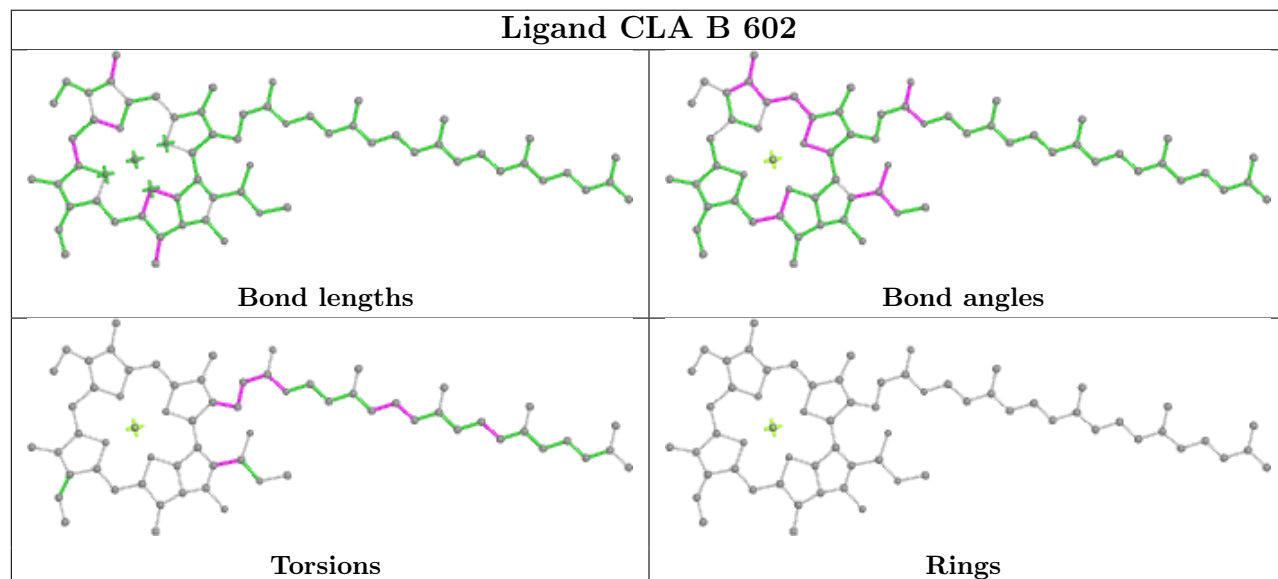
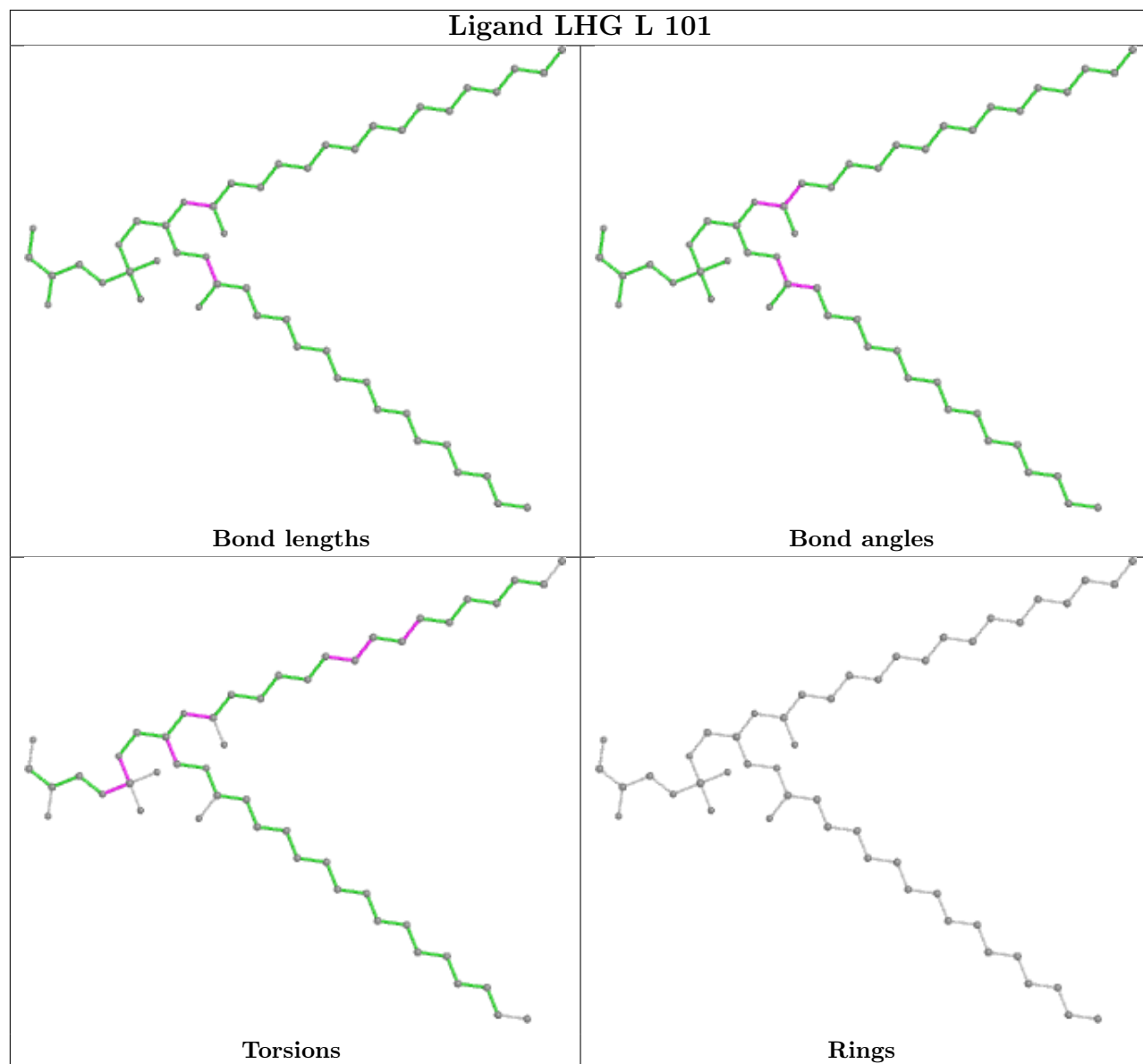


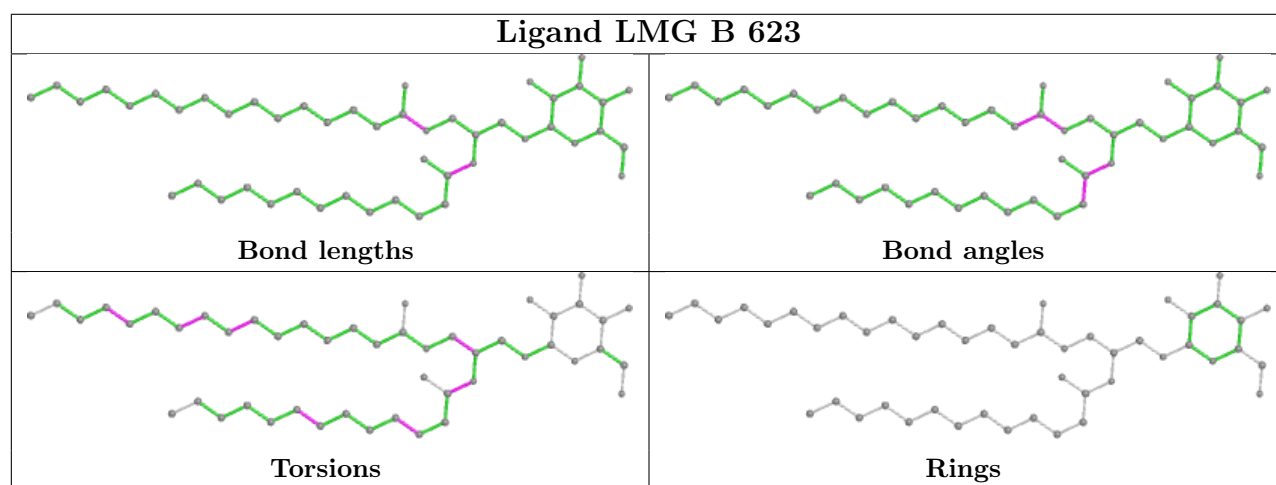
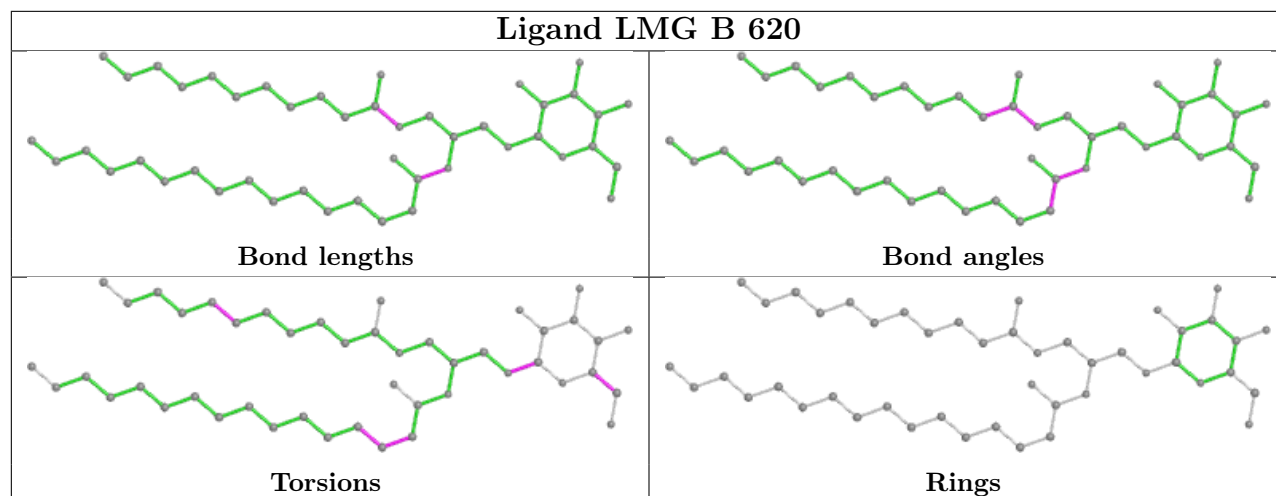
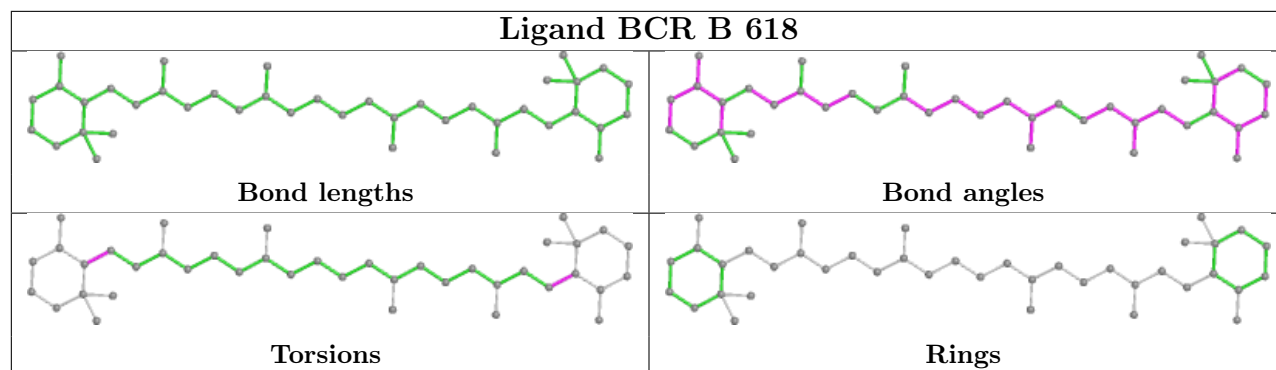


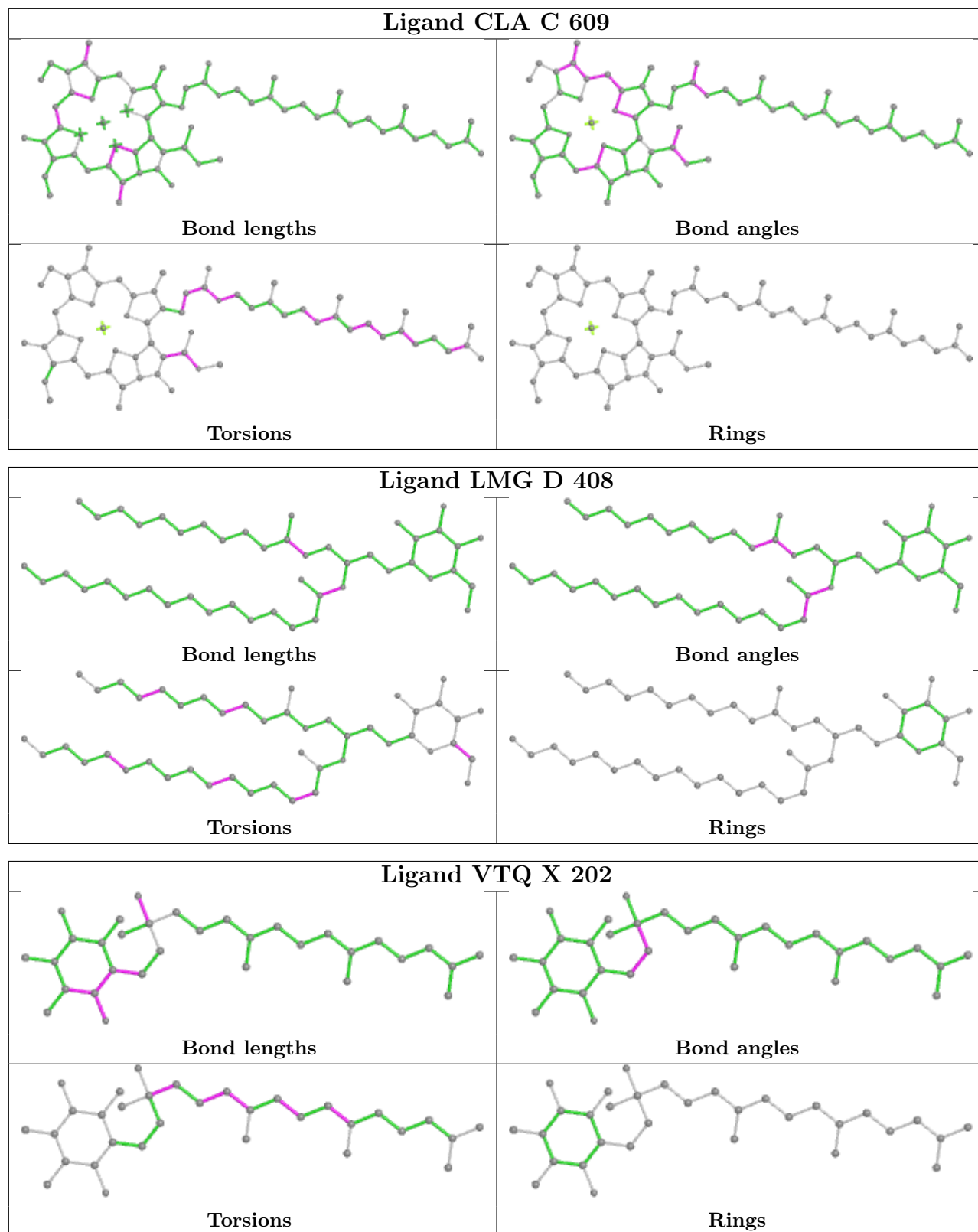


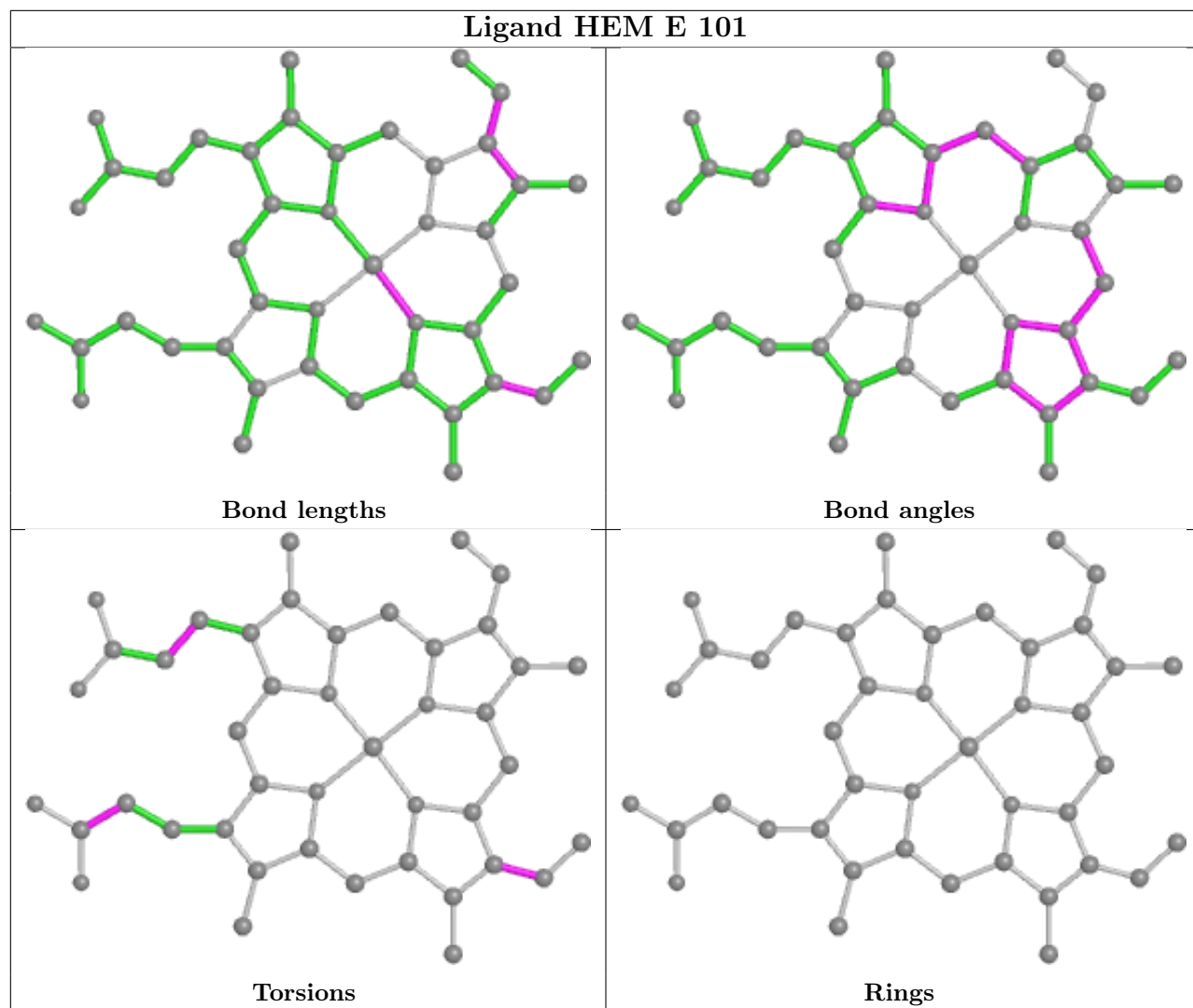
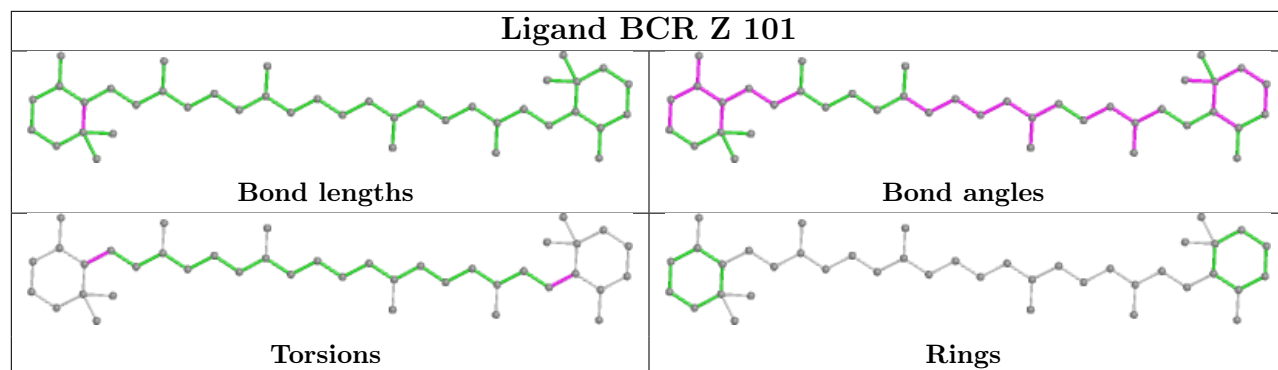


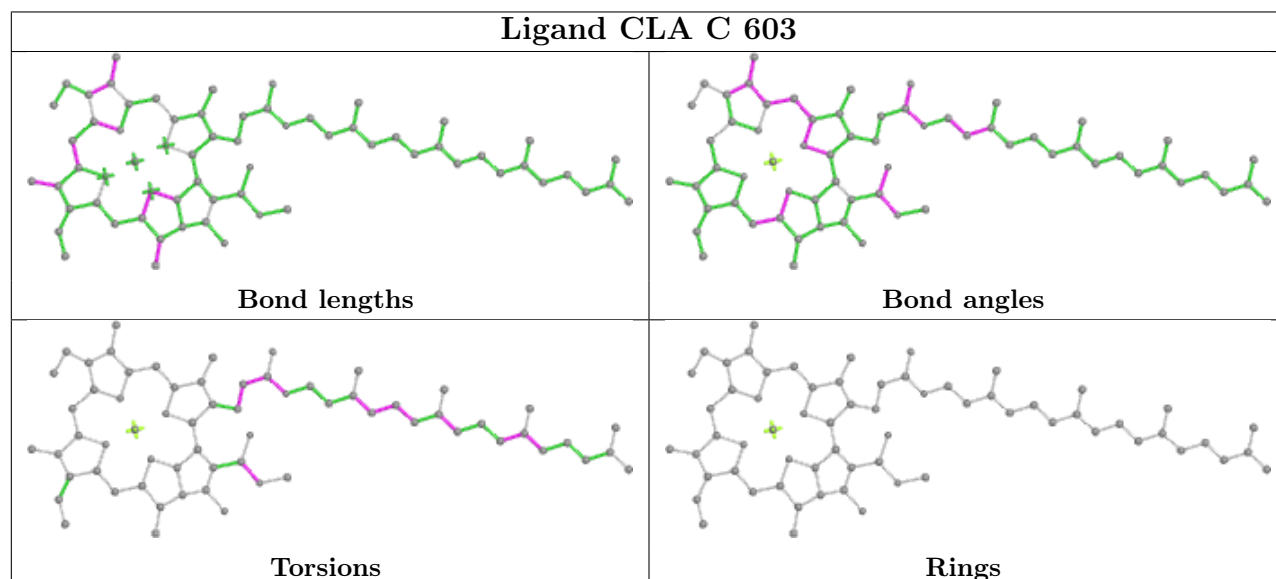
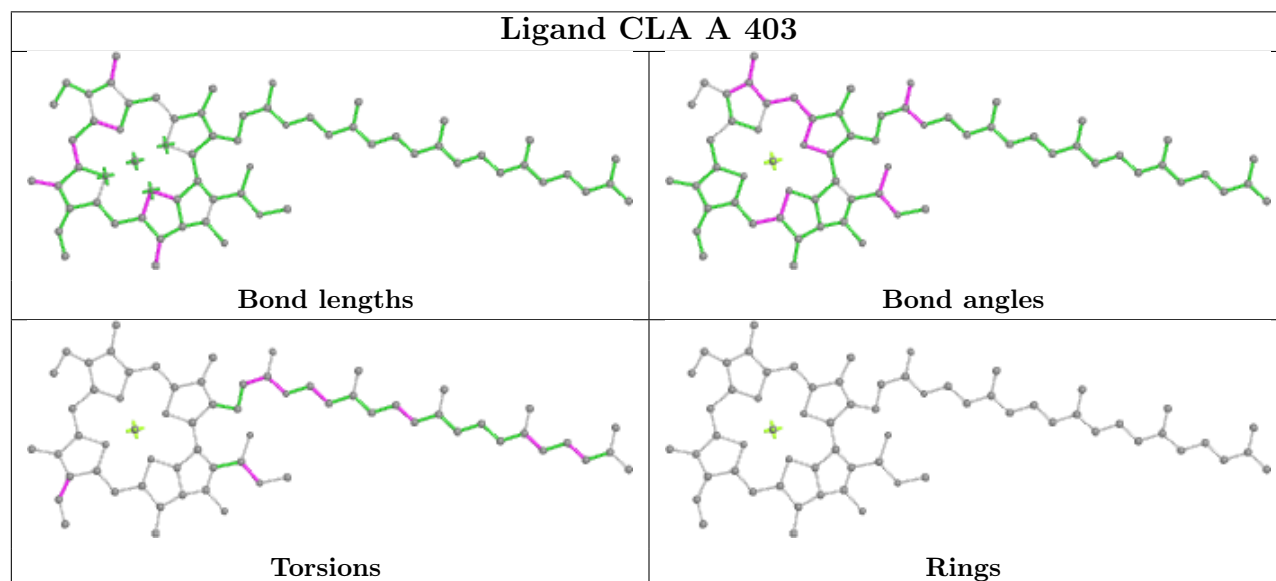
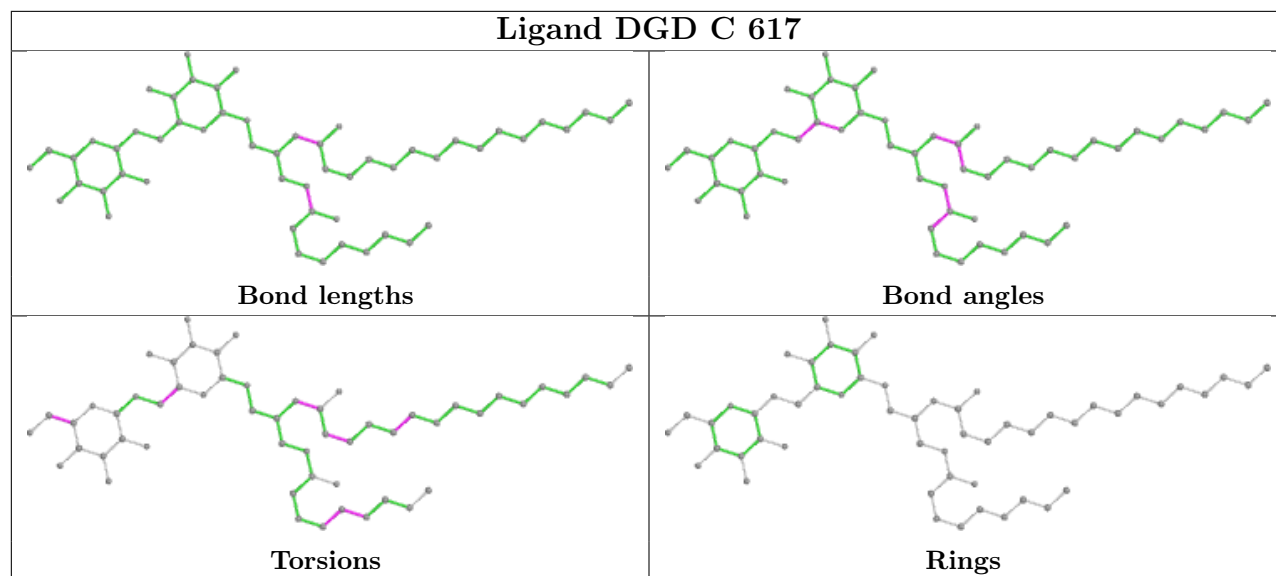


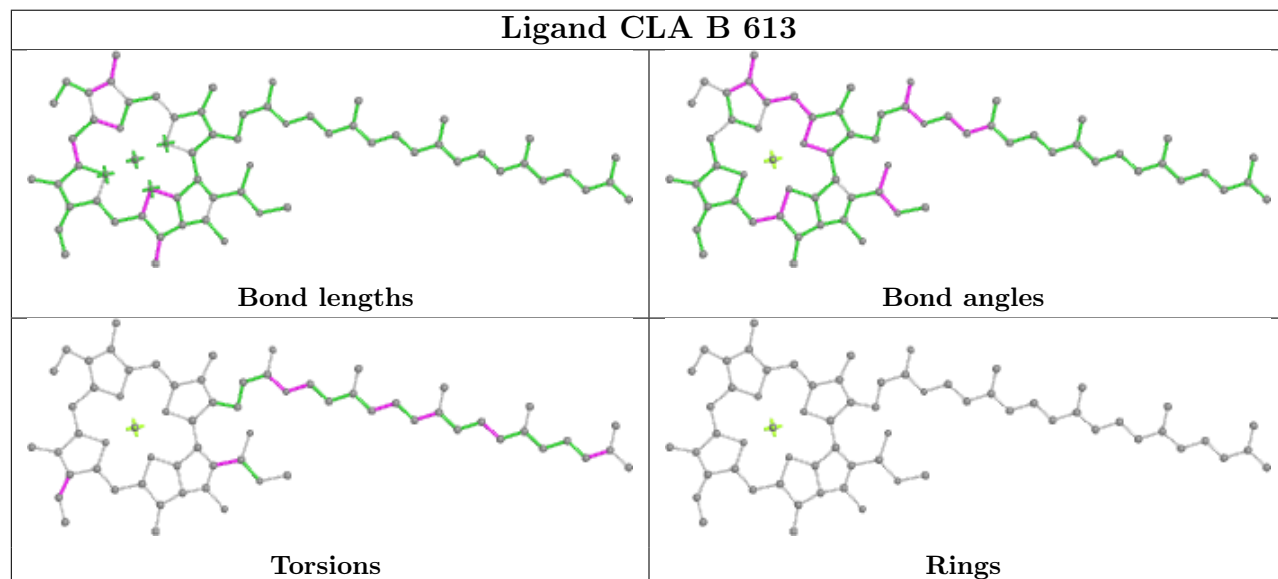
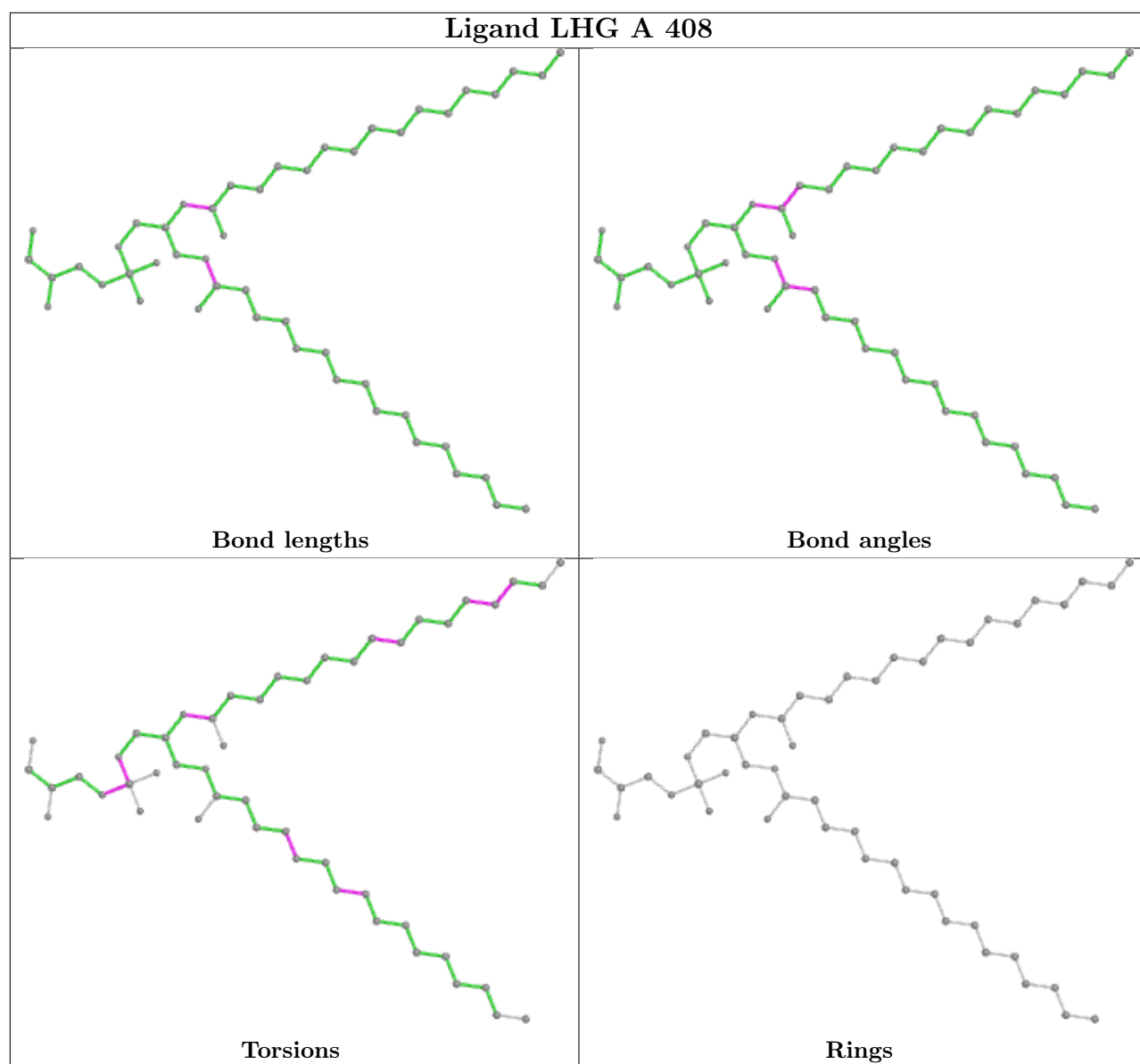


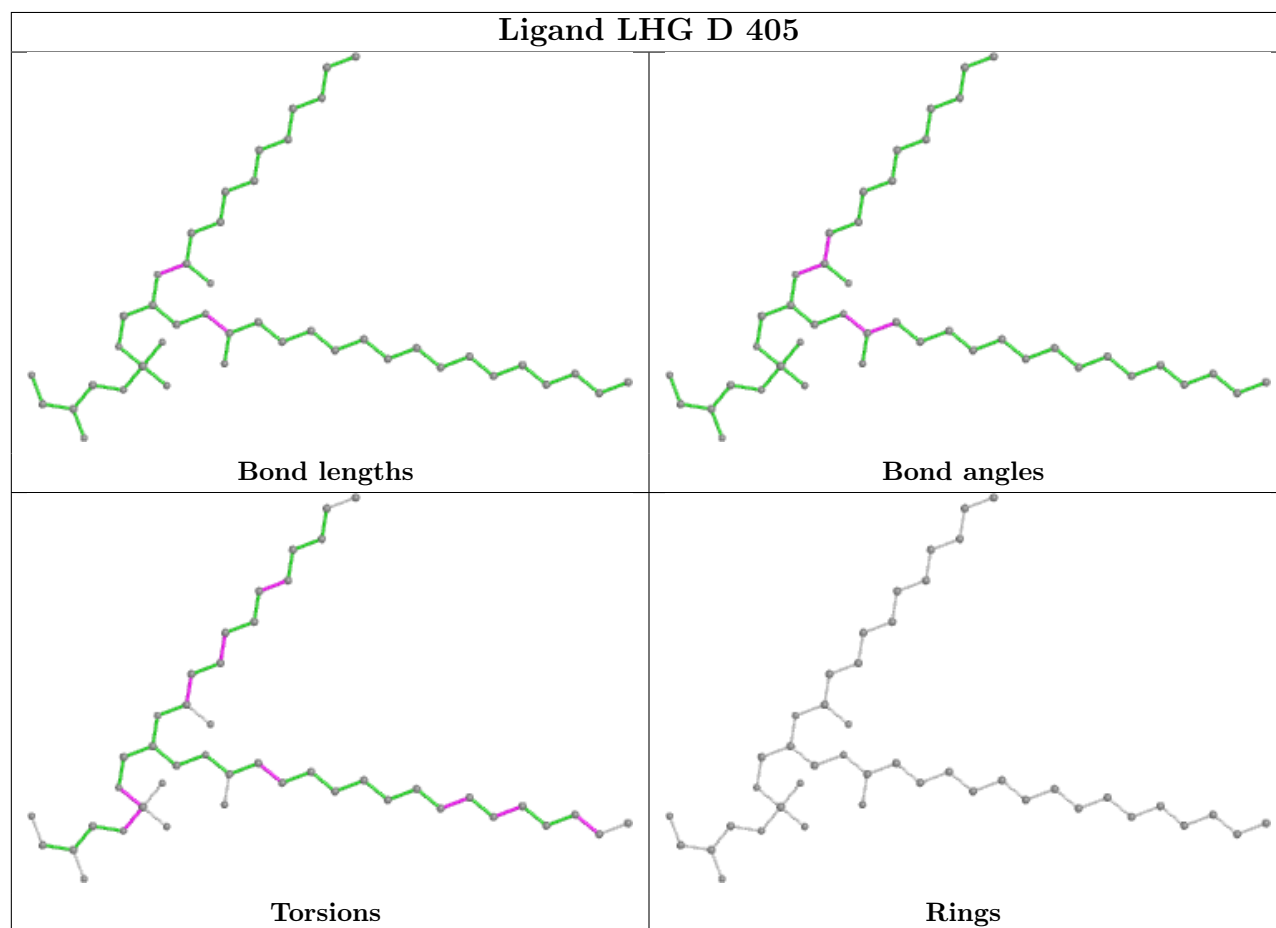
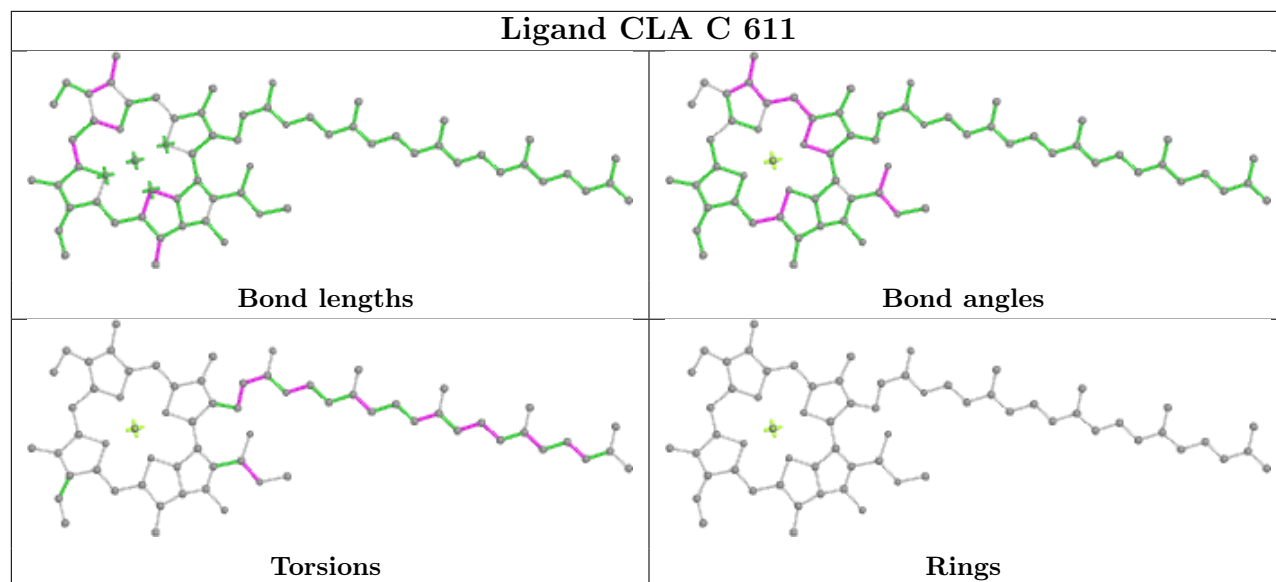


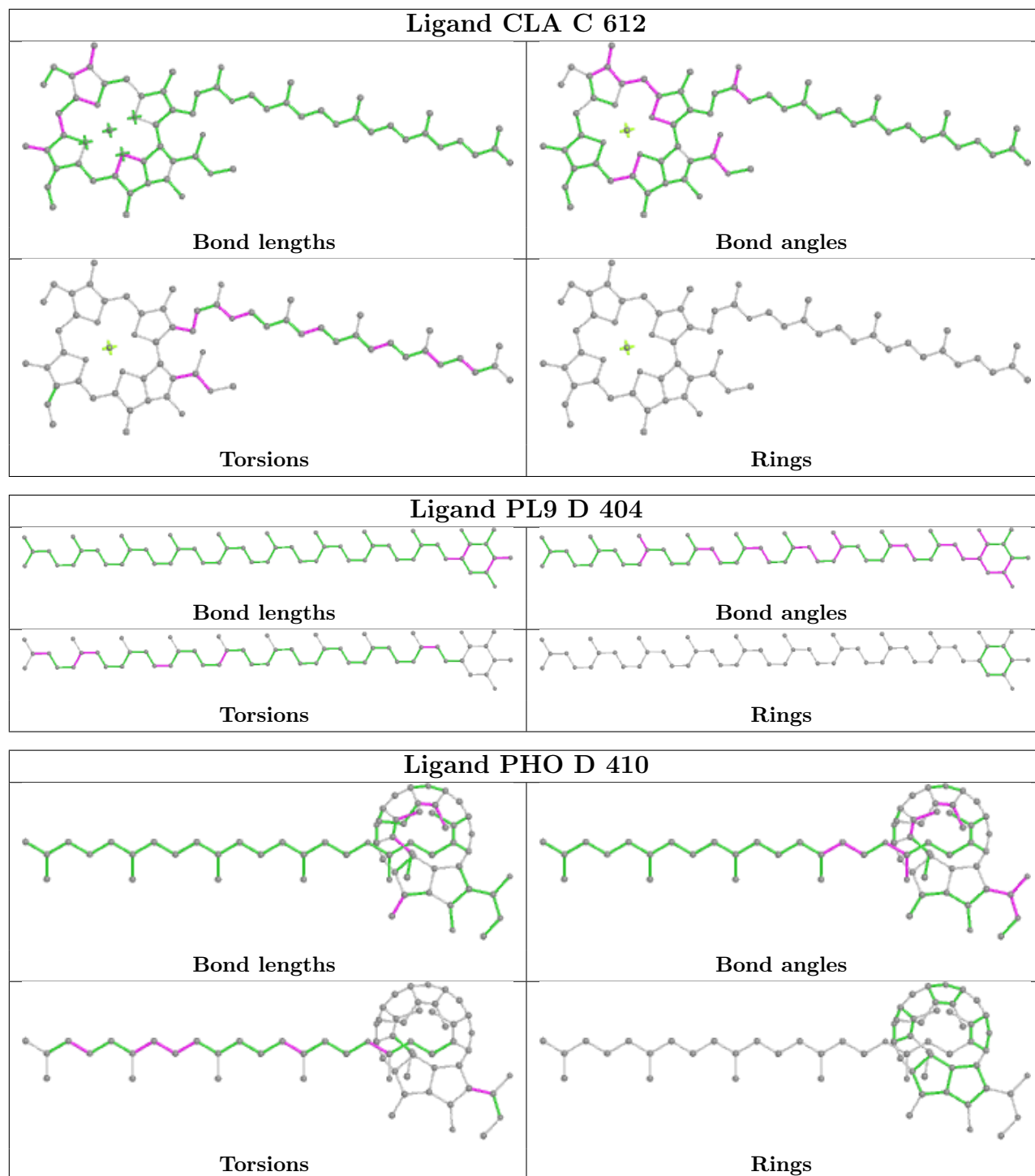


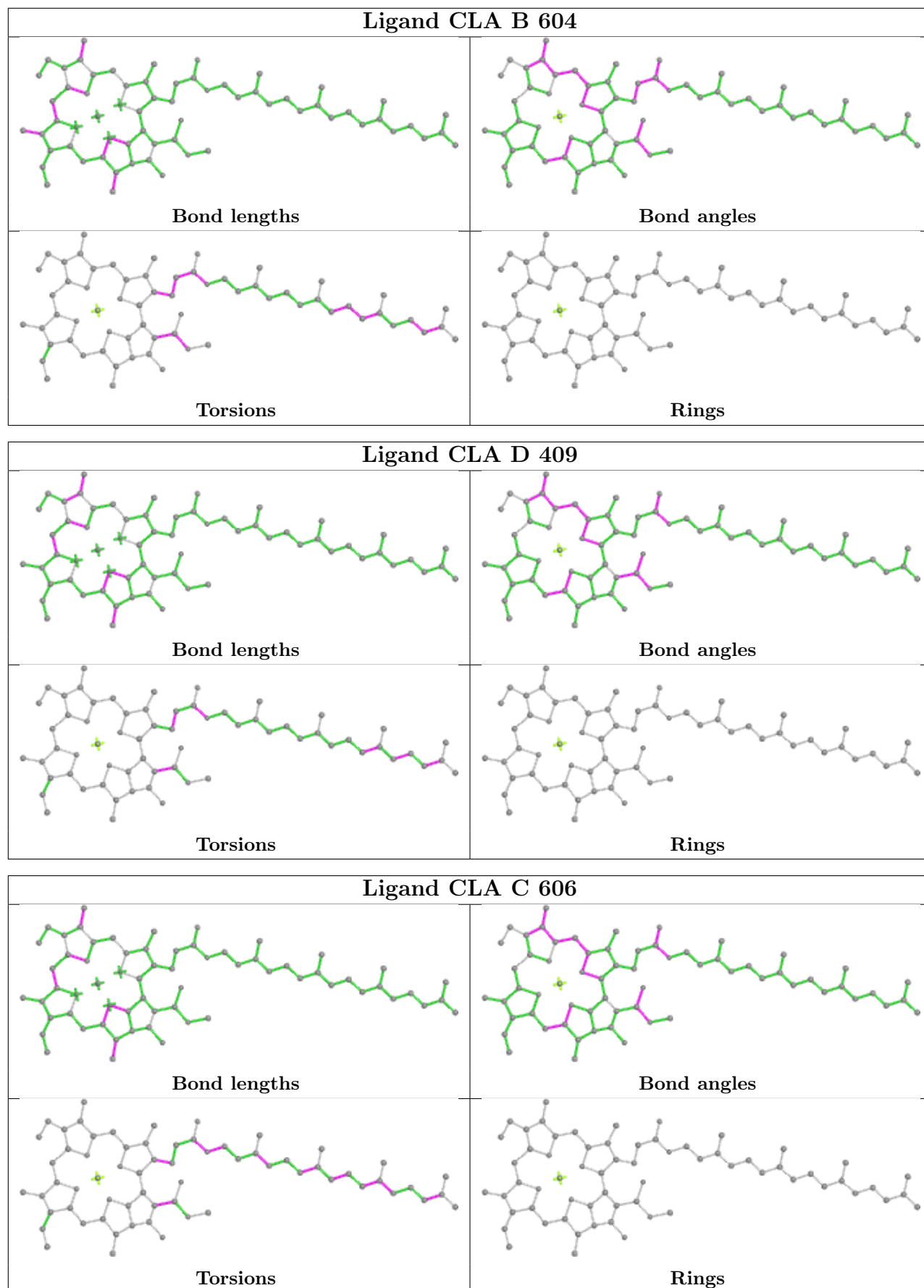


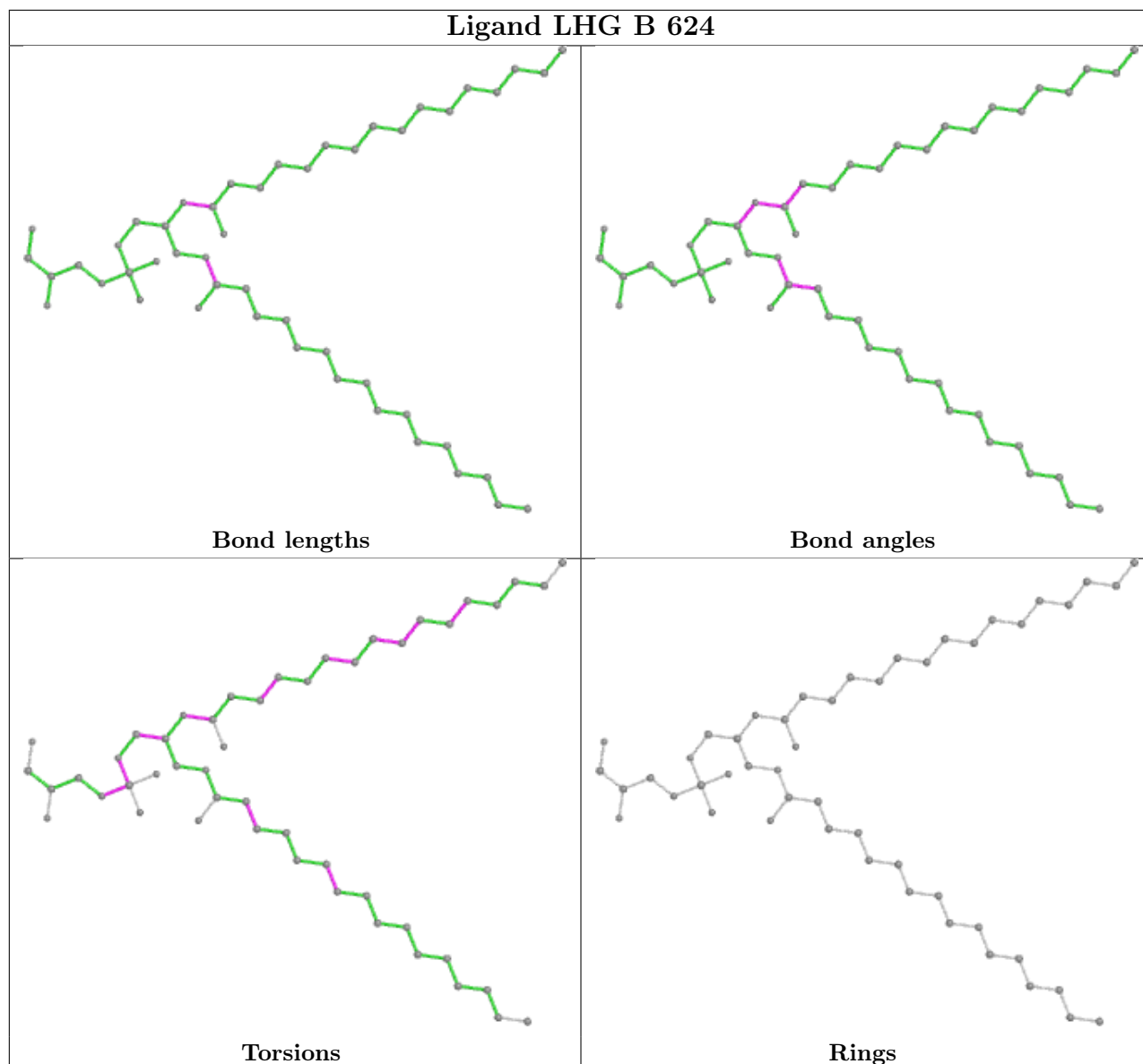
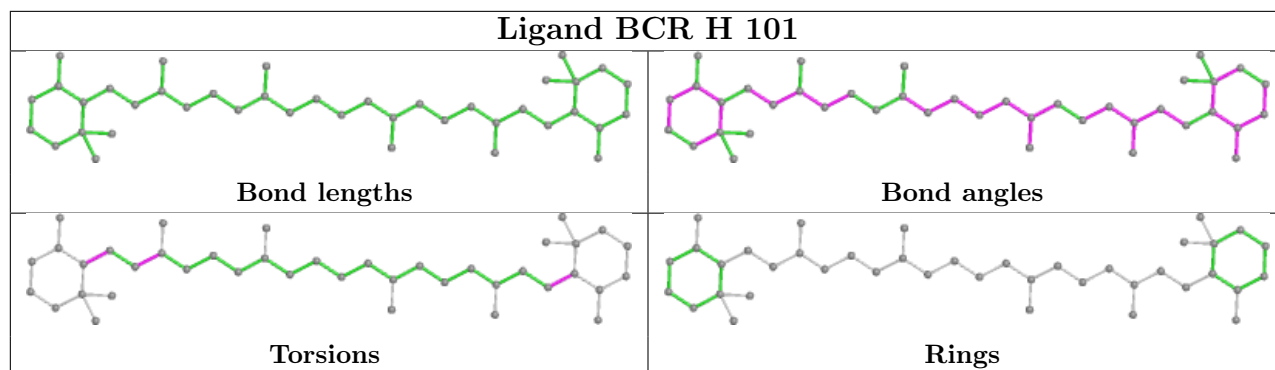


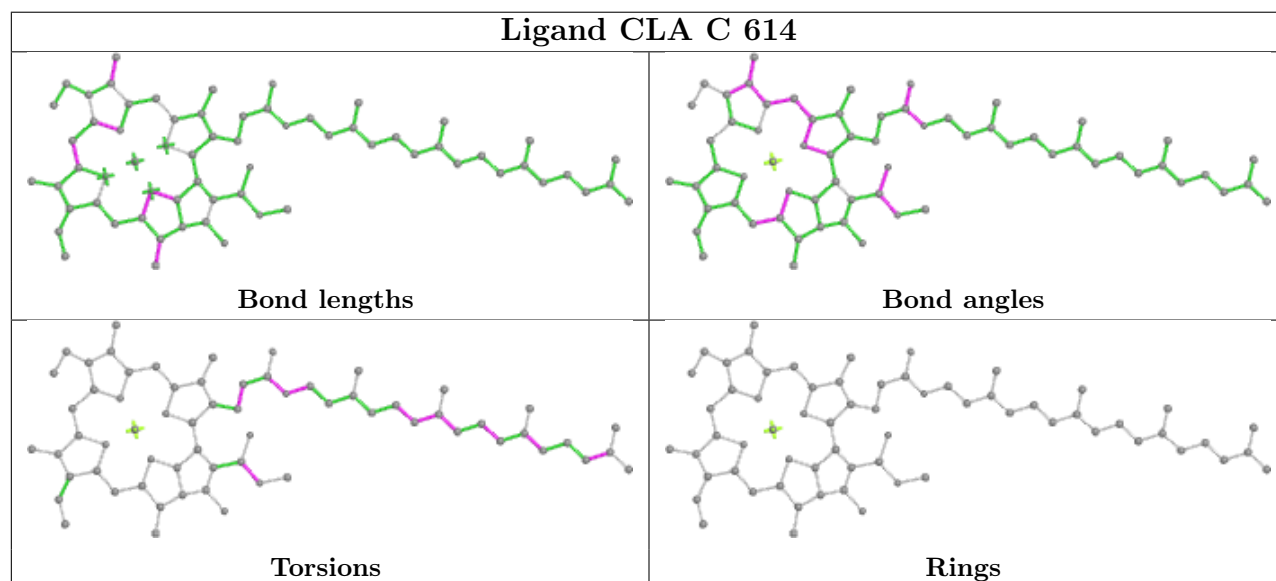
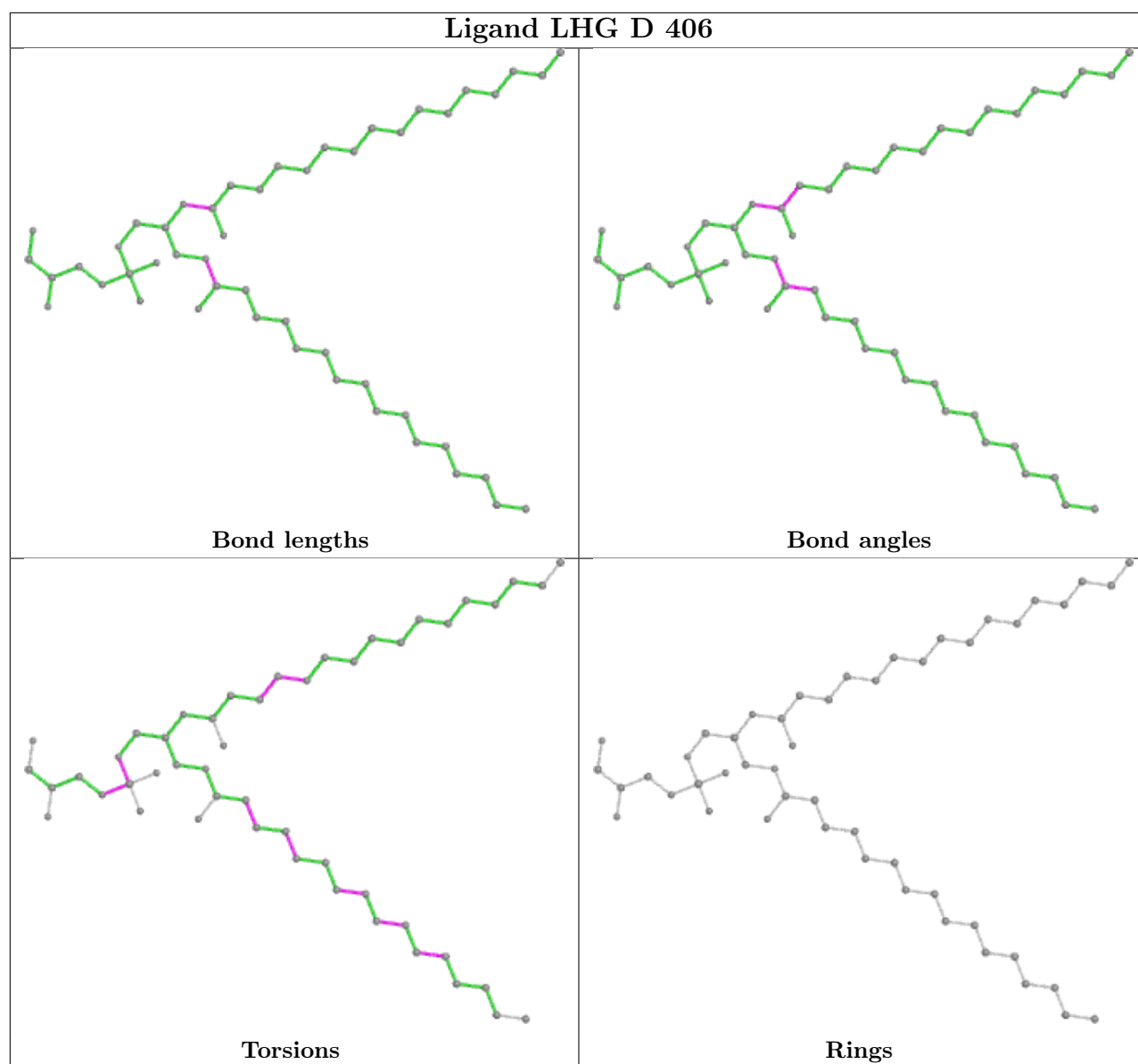


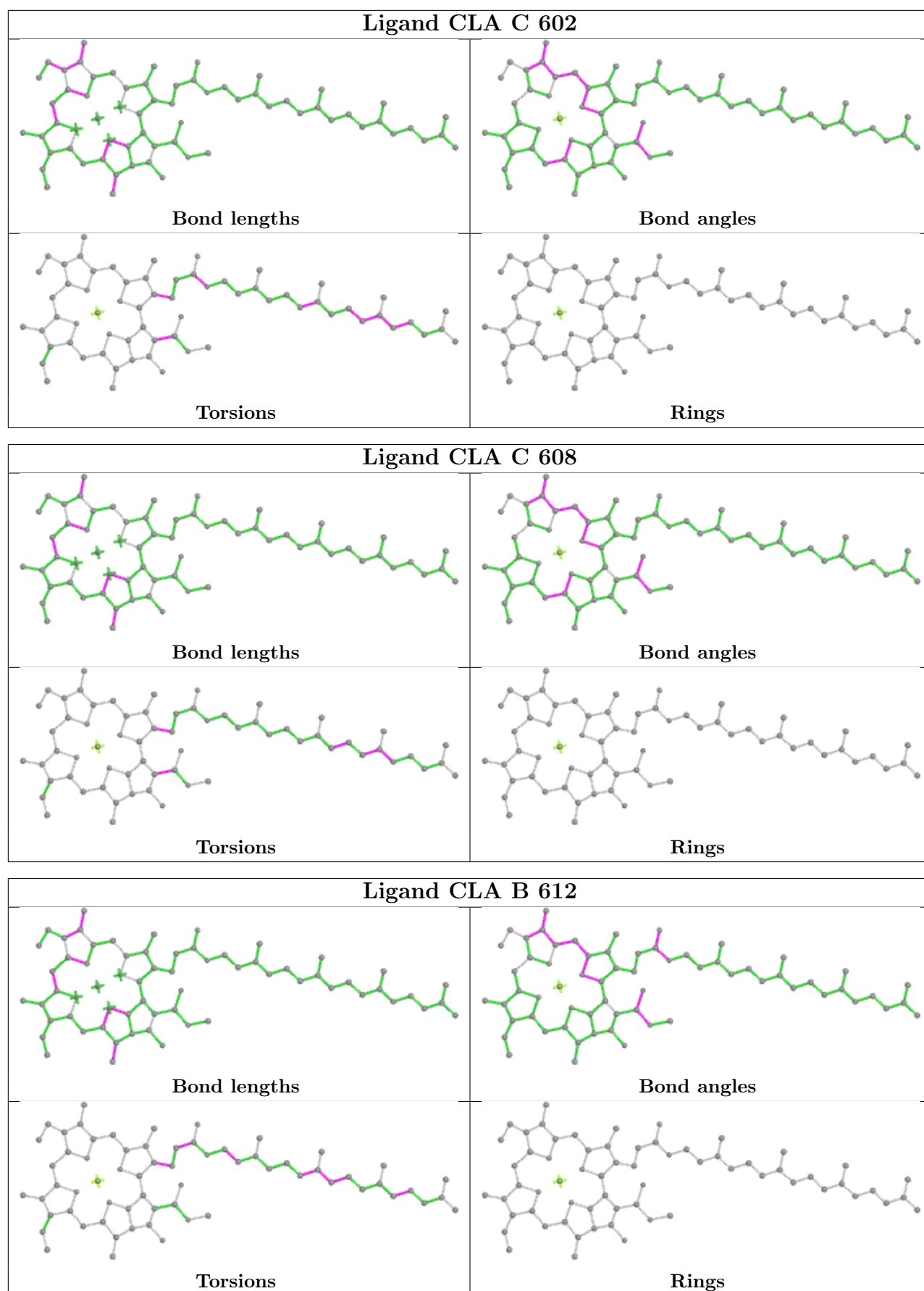


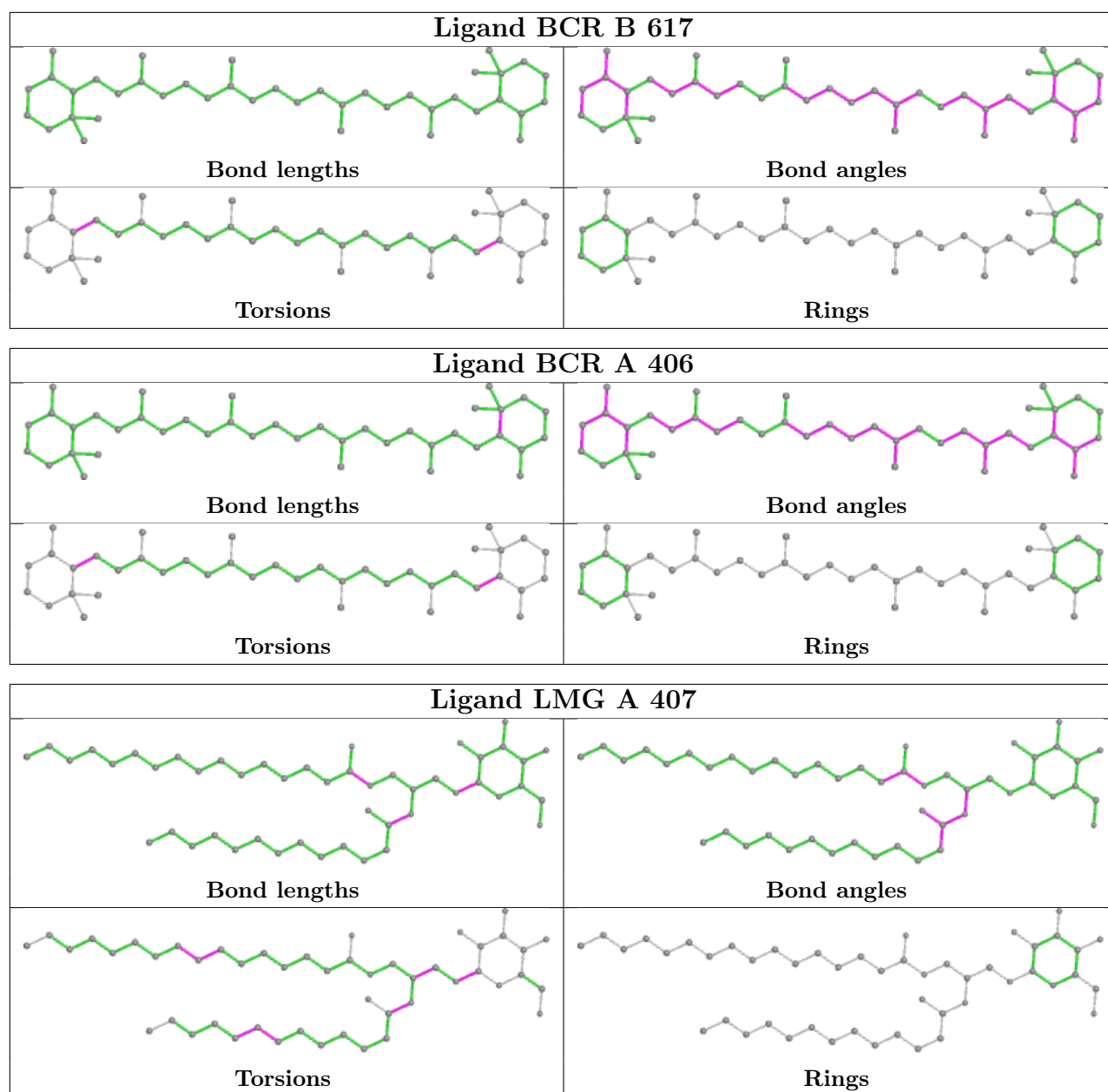












5.7 Other polymers [\(i\)](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [\(i\)](#)

There are no chain breaks in this entry.

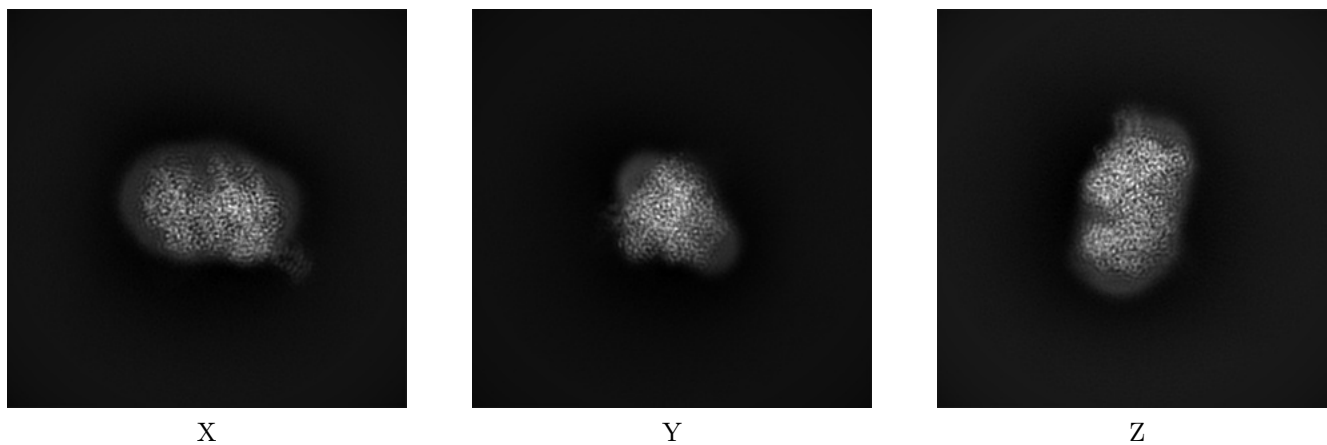
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-37133. These allow visual inspection of the internal detail of the map and identification of artifacts.

No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

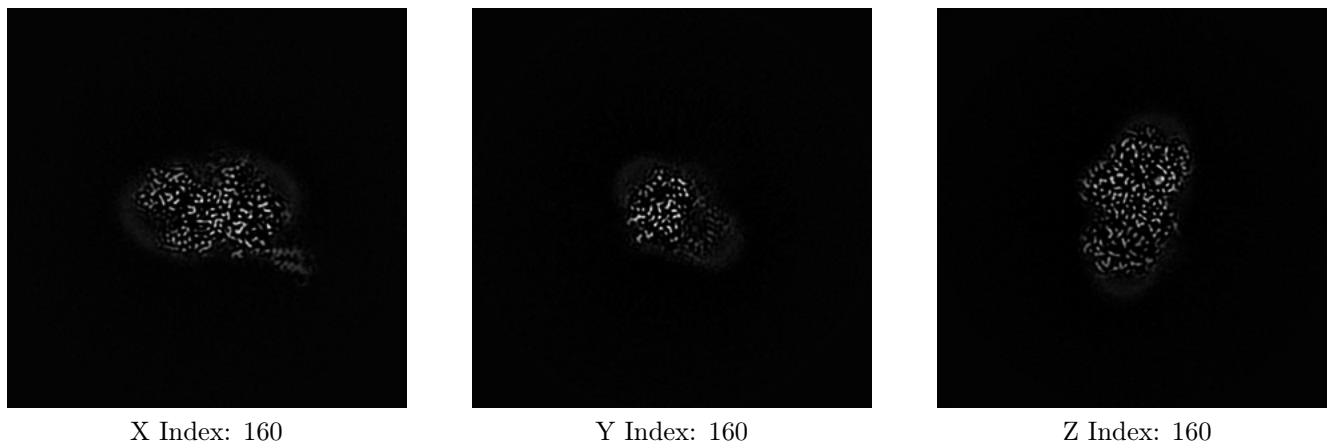
6.1.1 Primary map



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

6.2 Central slices [i](#)

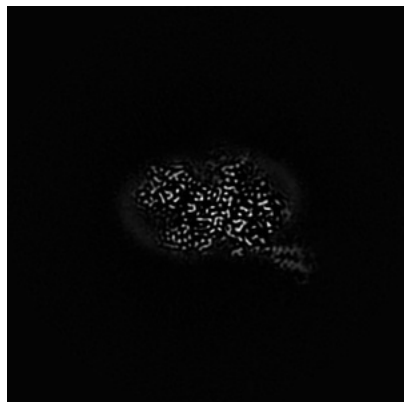
6.2.1 Primary map



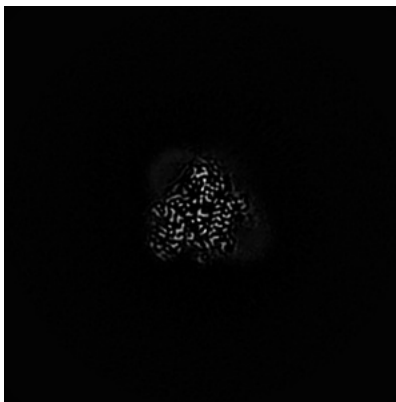
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

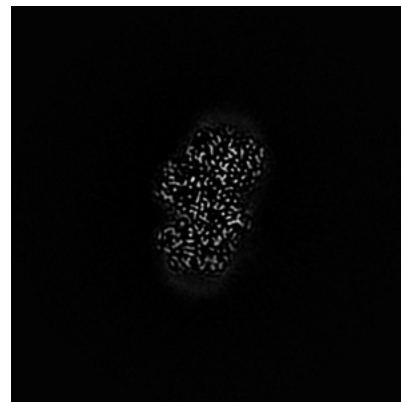
6.3.1 Primary map



X Index: 160



Y Index: 183

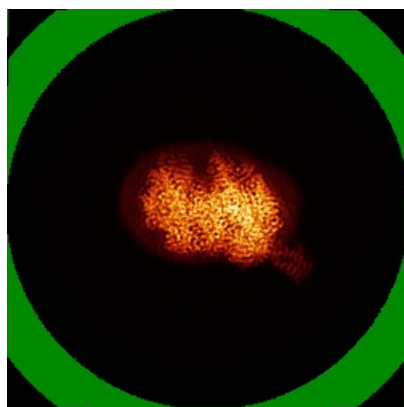


Z Index: 162

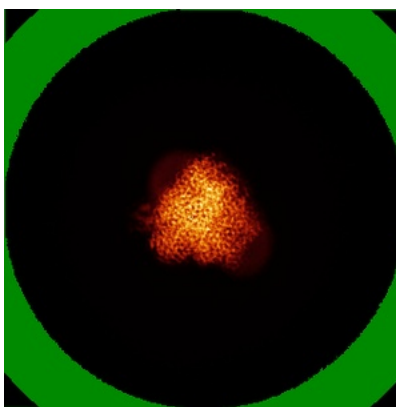
The images above show the largest variance slices of the map in three orthogonal directions.

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

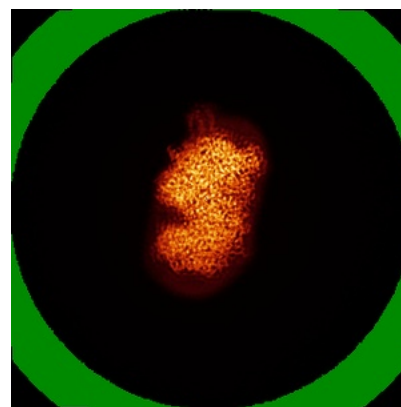
6.4.1 Primary map



X



Y



Z

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 3.9. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

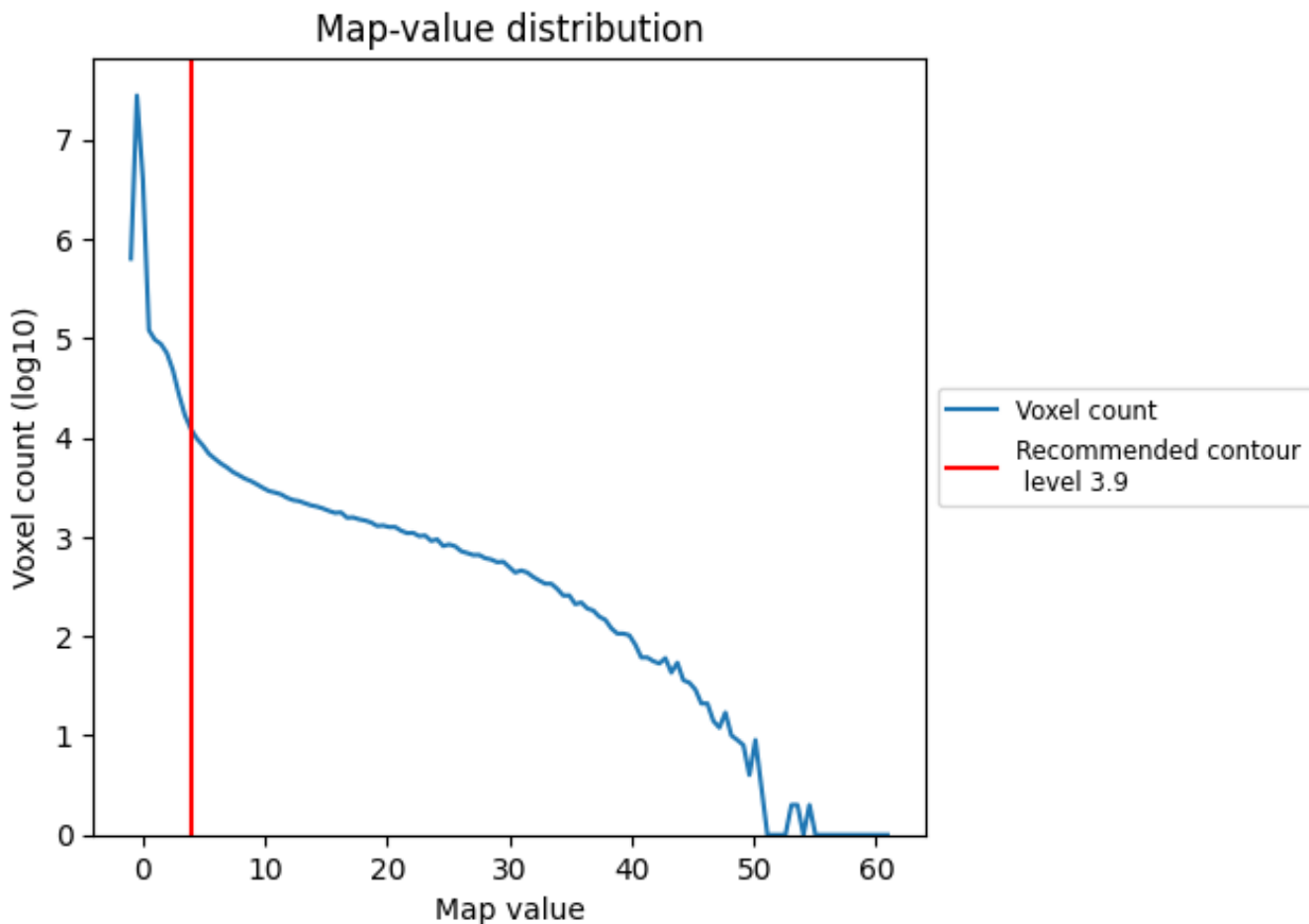
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

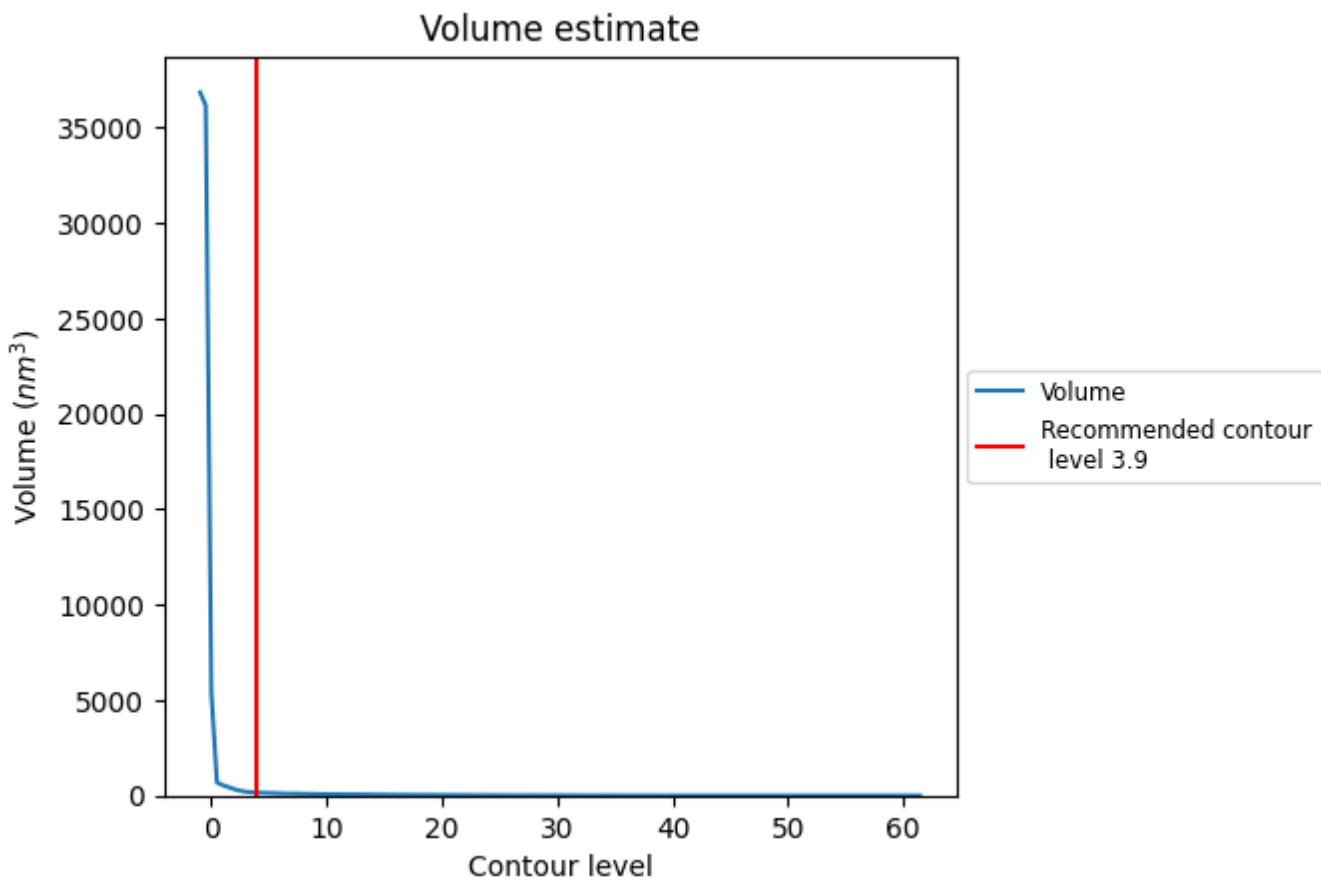
This section contains the results of statistical analysis of the map.

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.

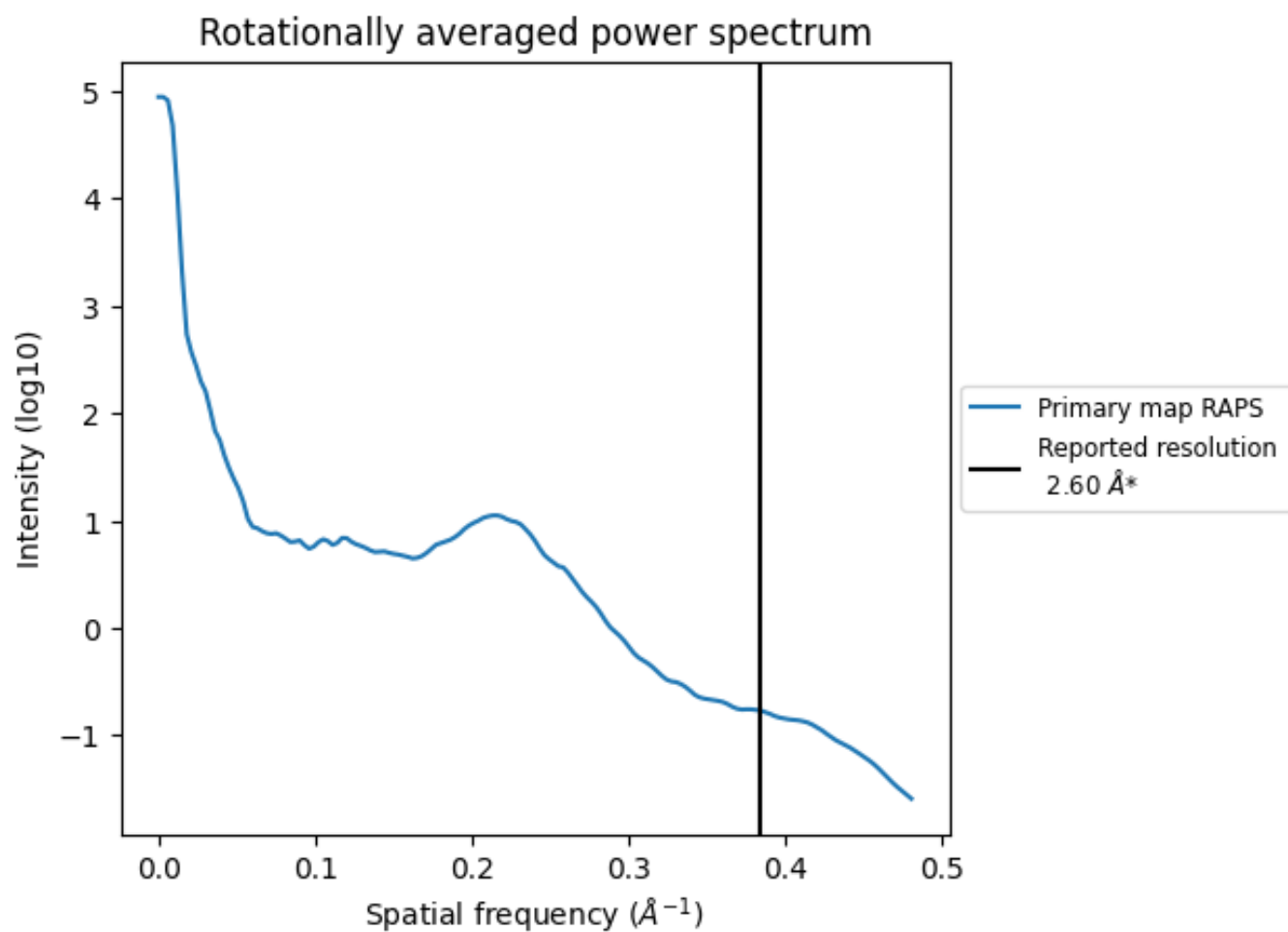
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 158 nm^3 ; this corresponds to an approximate mass of 142 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](#)

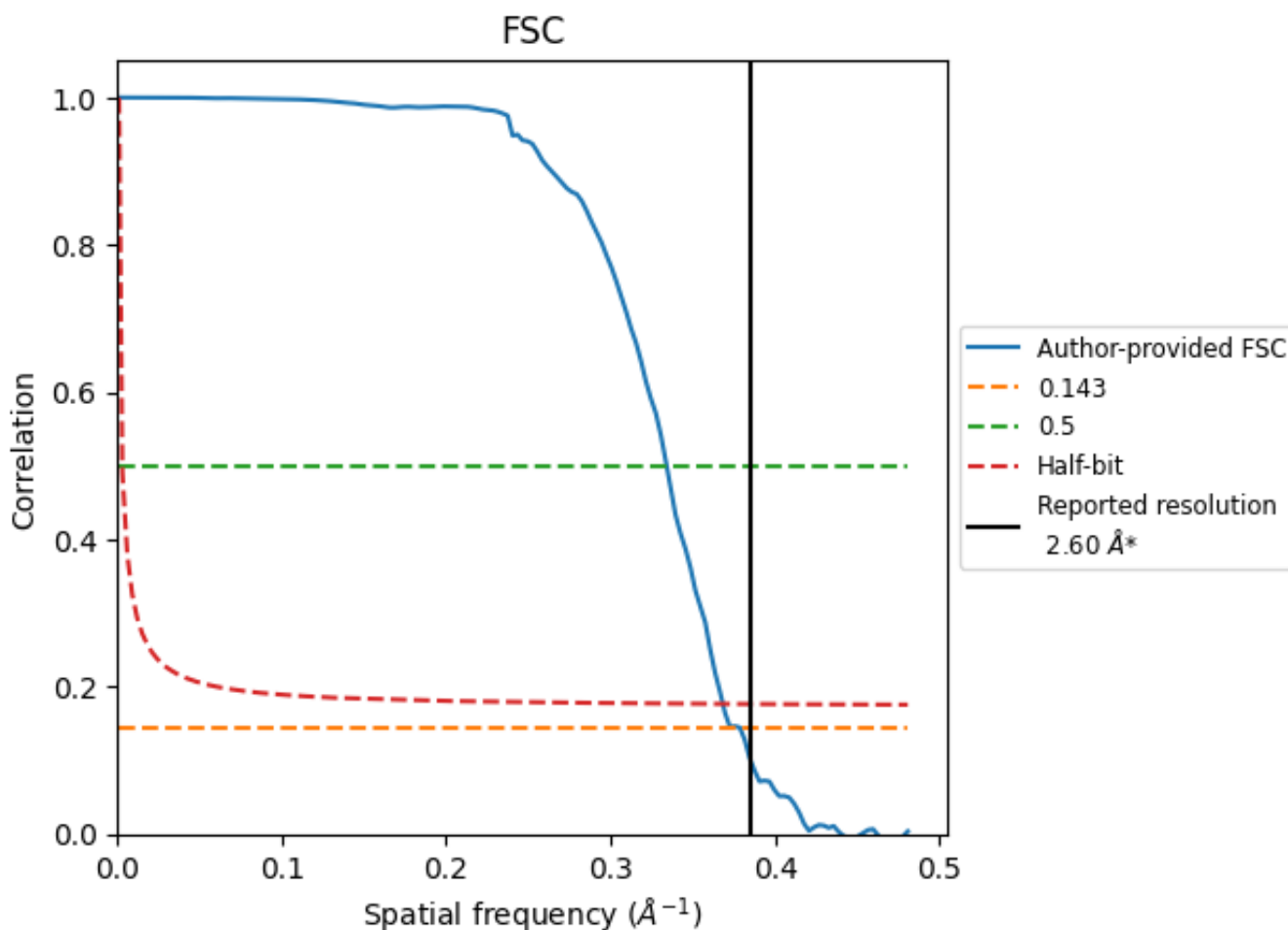


*Reported resolution corresponds to spatial frequency of 0.385 Å⁻¹

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 0.385 Å⁻¹

8.2 Resolution estimates [i](#)

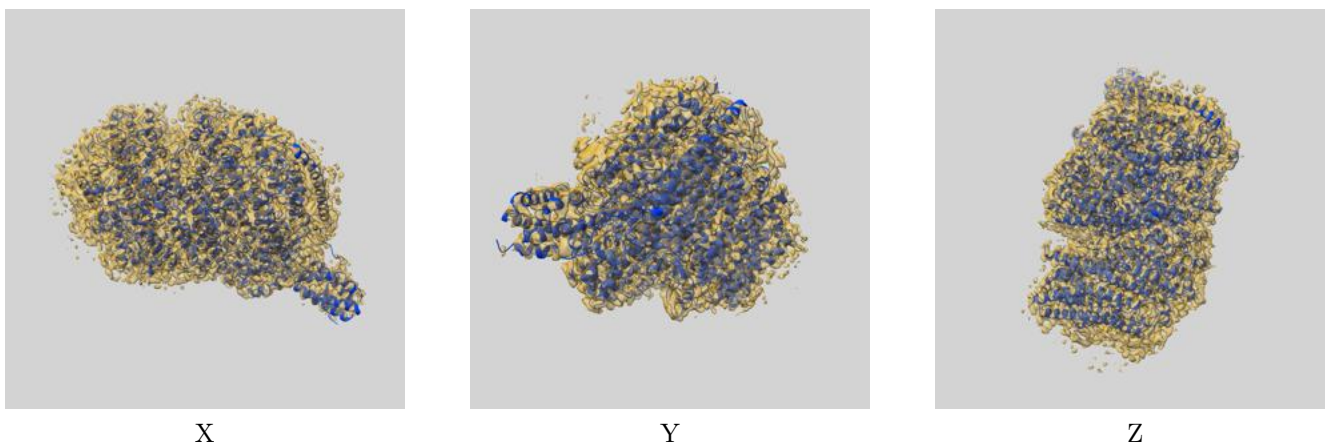
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.60	-	-
Author-provided FSC curve	2.64	2.99	2.72
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

9 Map-model fit [i](#)

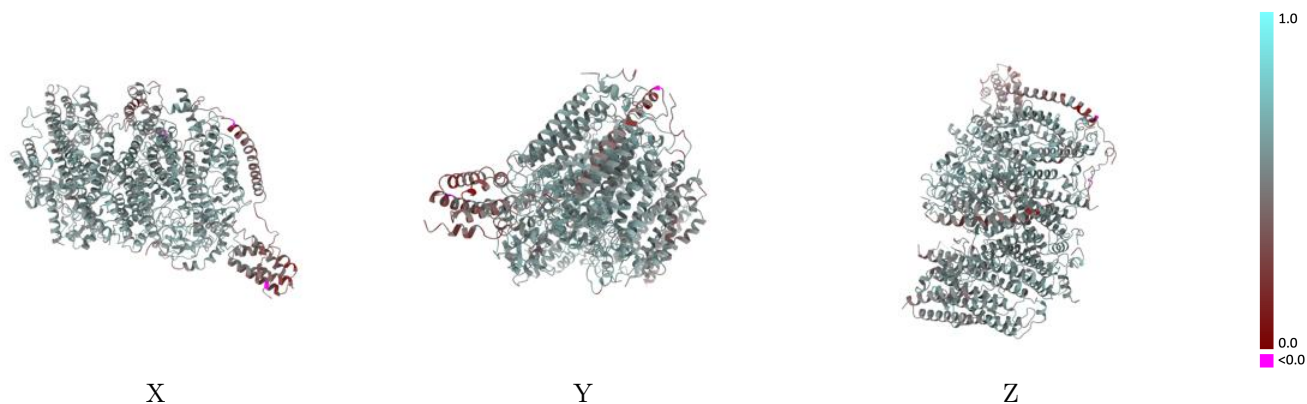
This section contains information regarding the fit between EMDB map EMD-37133 and PDB model 8KDE. Per-residue inclusion information can be found in section 3 on page 18.

9.1 Map-model overlay [i](#)



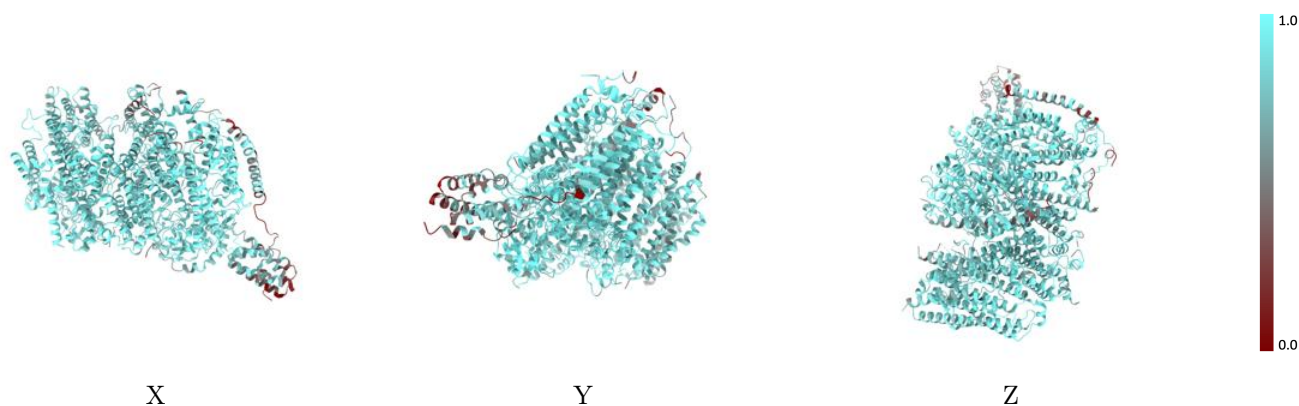
The images above show the 3D surface view of the map at the recommended contour level 3.9 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



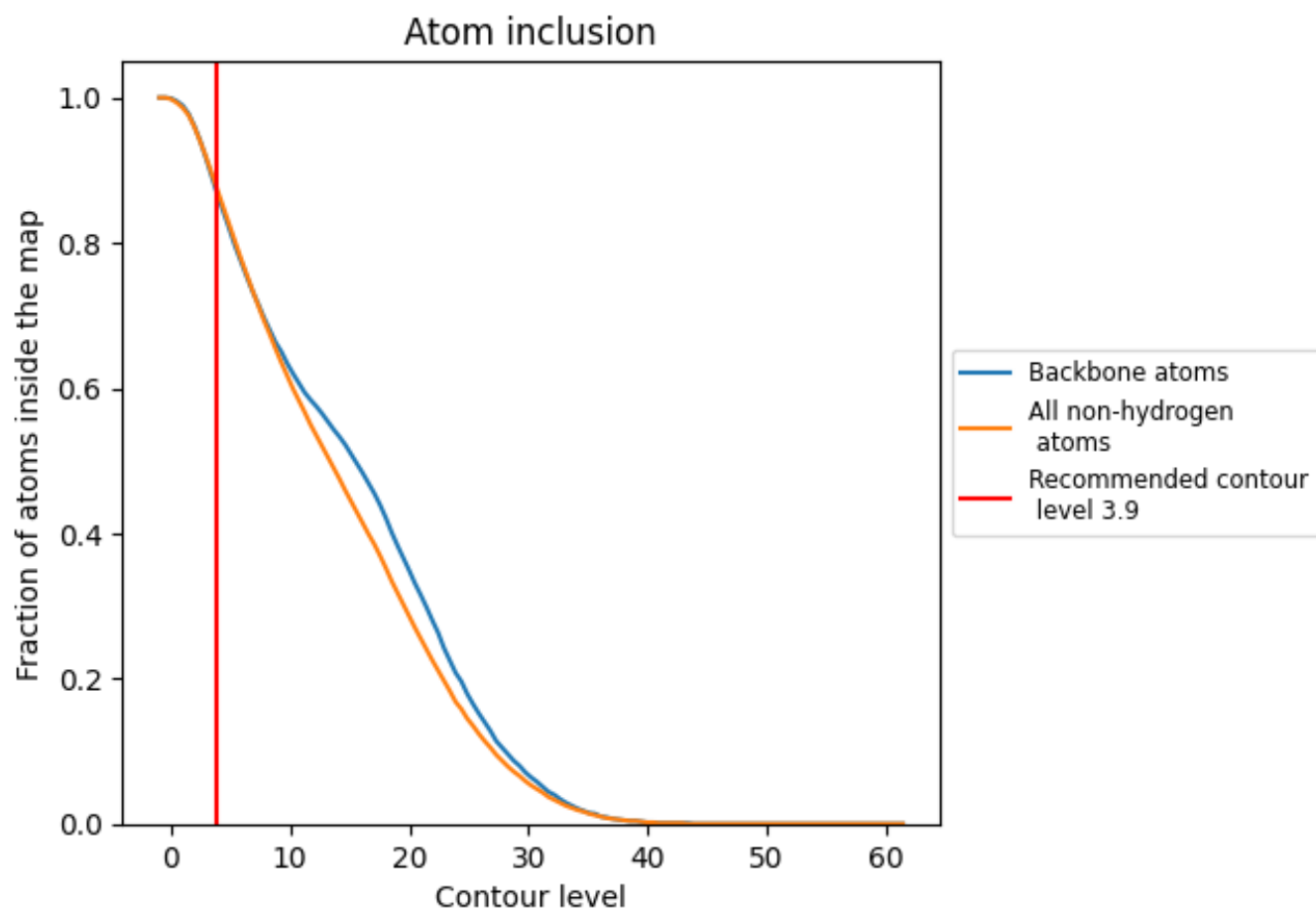
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

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 (3.9).







































9.4 Atom inclusion [i](#)



At the recommended contour level, 87% of all backbone atoms, 87% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (3.9) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8730	 0.5480
1	 0.6020	 0.3960
3	 0.5530	 0.3920
A	 0.9080	 0.5660
B	 0.9380	 0.5830
C	 0.8950	 0.5590
D	 0.9260	 0.5830
E	 0.8750	 0.5390
F	 0.8670	 0.5110
G	 0.6420	 0.4010
H	 0.8730	 0.5470
I	 0.8820	 0.5470
K	 0.7930	 0.5090
L	 0.8960	 0.5600
M	 0.7760	 0.5220
T	 0.8370	 0.5440
V	 0.7160	 0.4850
X	 0.8510	 0.5440
Z	 0.7860	 0.4900

