



Full wwPDB EM Validation Report ⓘ

Nov 27, 2024 – 06:20 PM JST

PDB ID : 9K3Q
EMDB ID : EMD-62025
Title : Cryo-EM structure of the Rhodospirillum rubrum RC-LH1 complex
Authors : Liu, Z.K.; Wang, P.; Liu, L.N.
Deposited on : 2024-10-19
Resolution : 3.02 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:

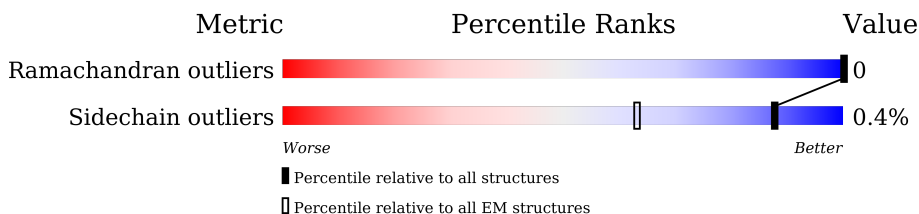
EMDB validation analysis : 0.0.1.dev113
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.40

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 3.02 Å.

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

















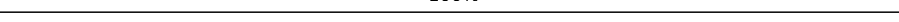
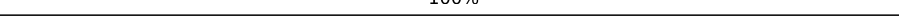
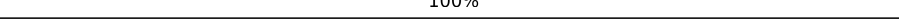
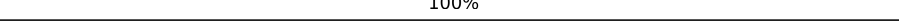
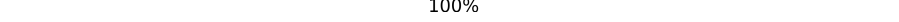
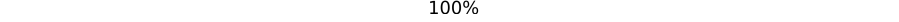
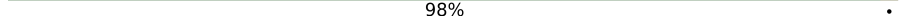
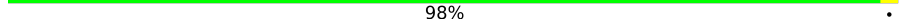


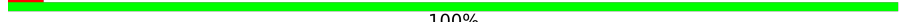
Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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	1	44	100%
1	3	44	98% .
1	5	44	100%
1	7	44	100%
1	9	44	100%
1	I	44	100%
1	K	44	100%
1	O	44	100%
1	Q	44	100%

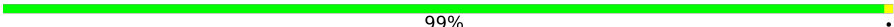
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Mol	Chain	Length	Quality of chain
1	S	44	 100%
1	U	44	 100%
1	W	44	 100%
1	Y	44	 98%
1	d	44	 100%
1	m	44	 98%
1	n	44	 100%
2	2	45	 100%
2	4	45	 100%
2	6	45	 100%
2	8	45	 100%
2	A	45	 100%
2	D	45	 100%
2	E	45	 100%
2	F	45	 100%
2	G	45	 100%
2	J	45	 100%
2	N	45	 100%
2	R	45	 100%
2	T	45	 98%
2	V	45	 98%
2	X	45	 100%
2	Z	45	 100%
3	H	255	 100%
4	L	274	 99%

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Mol	Chain	Length	Quality of chain
5	M	259	 99%

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
6	07D	1	1001	X	-	-	-
6	07D	2	1001	X	-	-	-
6	07D	3	102	X	-	-	-
6	07D	4	1001	X	-	-	-
6	07D	5	102	X	-	-	-
6	07D	6	1001	X	-	-	-
6	07D	7	102	X	-	-	-
6	07D	8	1001	X	-	-	-
6	07D	9	102	X	-	-	-
6	07D	A	101	X	-	-	-
6	07D	D	1001	X	-	-	-
6	07D	E	1001	X	-	-	-
6	07D	F	1001	X	-	-	-
6	07D	G	1001	X	-	-	-
6	07D	H	301	X	-	-	-
6	07D	I	102	X	-	-	-
6	07D	J	1001	X	-	-	-
6	07D	K	102	X	-	-	-
6	07D	L	1003	X	-	-	-
6	07D	L	1004	X	-	-	-
6	07D	M	403	X	-	-	-
6	07D	M	404	X	-	-	-
6	07D	N	101	X	-	-	-
6	07D	O	102	X	-	-	-
6	07D	Q	102	X	-	-	-
6	07D	R	101	X	-	-	-
6	07D	S	102	X	-	-	-
6	07D	T	101	X	-	-	-
6	07D	U	102	X	-	-	-
6	07D	V	1001	X	-	-	-
6	07D	W	1002	X	-	-	-
6	07D	X	1001	X	-	-	-
6	07D	Y	102	X	-	-	-
6	07D	Z	1001	X	-	-	-
6	07D	d	1002	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
6	07D	m	102	X	-	-	-
6	07D	n	102	X	-	-	-

2 Entry composition [i](#)

There are 10 unique types of molecules in this entry. The entry contains 21510 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 Light-harvesting protein B-870 beta chain.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
1	1	44	360	247	57	56	0	0
1	3	44	360	247	57	56	0	0
1	5	44	360	247	57	56	0	0
1	7	44	360	247	57	56	0	0
1	9	44	360	247	57	56	0	0
1	I	44	360	247	57	56	0	0
1	K	44	360	247	57	56	0	0
1	O	44	360	247	57	56	0	0
1	Q	44	360	247	57	56	0	0
1	S	44	360	247	57	56	0	0
1	U	44	360	247	57	56	0	0
1	W	44	360	247	57	56	0	0
1	Y	44	360	247	57	56	0	0
1	d	44	360	247	57	56	0	0
1	m	44	360	247	57	56	0	0
1	n	44	360	247	57	56	0	0

- Molecule 2 is a protein called Light-harvesting protein B-870 alpha chain.

Mol	Chain	Residues	Atoms				AltConf	Trace
2	2	45	Total	C	N	O	0	0
			378	257	62	59		
2	4	45	Total	C	N	O	0	0
			378	257	62	59		
2	6	45	Total	C	N	O	0	0
			378	257	62	59		
2	8	45	Total	C	N	O	0	0
			378	257	62	59		
2	A	45	Total	C	N	O	0	0
			378	257	62	59		
2	D	45	Total	C	N	O	0	0
			378	257	62	59		
2	E	45	Total	C	N	O	0	0
			378	257	62	59		
2	F	45	Total	C	N	O	0	0
			378	257	62	59		
2	G	45	Total	C	N	O	0	0
			378	257	62	59		
2	J	45	Total	C	N	O	0	0
			378	257	62	59		
2	N	45	Total	C	N	O	0	0
			378	257	62	59		
2	R	45	Total	C	N	O	0	0
			378	257	62	59		
2	T	45	Total	C	N	O	0	0
			378	257	62	59		
2	V	45	Total	C	N	O	0	0
			378	257	62	59		
2	X	45	Total	C	N	O	0	0
			378	257	62	59		
2	Z	45	Total	C	N	O	0	0
			378	257	62	59		

- Molecule 3 is a protein called Photoreaction center protein H.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	H	255	Total	C	N	O	S	0	0
			1957	1253	341	360	3		

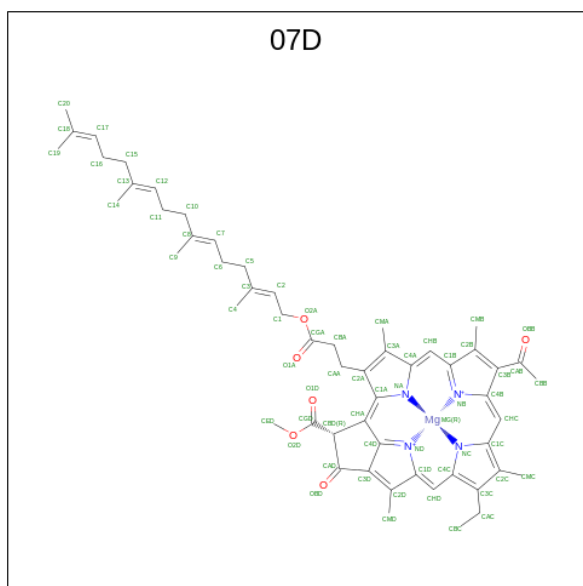
- Molecule 4 is a protein called Reaction center protein L chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	L	274	Total	C	N	O	S	0	0
			2164	1456	344	354	10		

- Molecule 5 is a protein called Reaction center protein M chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	M	259	2071	1389	336	337	9	0	0

- Molecule 6 is Trans-Geranyl BACTERIOCHLOROPHYLL A (three-letter code: 07D) (formula: $C_{55}H_{64}MgN_4O_6$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf	
			Total	C	Mg	N	O		
6	1	1	Total	66	55	1	4	6	0
6	2	1	Total	66	55	1	4	6	0
6	3	1	Total	66	55	1	4	6	0
6	4	1	Total	66	55	1	4	6	0
6	5	1	Total	66	55	1	4	6	0
6	6	1	Total	66	55	1	4	6	0
6	7	1	Total	66	55	1	4	6	0
6	8	1	Total	66	55	1	4	6	0
6	9	1	Total	66	55	1	4	6	0

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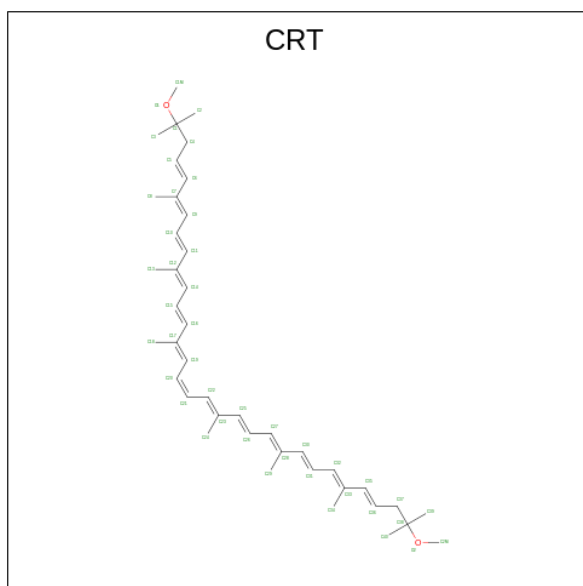
Mol	Chain	Residues	Atoms				AltConf	
			Total	C	Mg	N		O
6	A	1	66	55	1	4	6	0
6	D	1	66	55	1	4	6	0
6	E	1	66	55	1	4	6	0
6	F	1	66	55	1	4	6	0
6	G	1	66	55	1	4	6	0
6	H	1	66	55	1	4	6	0
6	I	1	66	55	1	4	6	0
6	J	1	66	55	1	4	6	0
6	K	1	66	55	1	4	6	0
6	L	1	66	55	1	4	6	0
6	L	1	66	55	1	4	6	0
6	M	1	66	55	1	4	6	0
6	M	1	66	55	1	4	6	0
6	N	1	66	55	1	4	6	0
6	O	1	66	55	1	4	6	0
6	Q	1	66	55	1	4	6	0
6	R	1	66	55	1	4	6	0
6	S	1	66	55	1	4	6	0
6	T	1	66	55	1	4	6	0
6	U	1	66	55	1	4	6	0
6	V	1	66	55	1	4	6	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	Mg	N	O	
6	W	1	Total 66	C 55	Mg 1	N 4	O 6	0
6	X	1	Total 66	C 55	Mg 1	N 4	O 6	0
6	Y	1	Total 66	C 55	Mg 1	N 4	O 6	0
6	Z	1	Total 66	C 55	Mg 1	N 4	O 6	0
6	d	1	Total 66	C 55	Mg 1	N 4	O 6	0
6	m	1	Total 66	C 55	Mg 1	N 4	O 6	0
6	n	1	Total 66	C 55	Mg 1	N 4	O 6	0

- Molecule 7 is SPIRILLOXANTHIN (three-letter code: CRT) (formula: $C_{42}H_{60}O_2$).



Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
7	1	1	Total 44	C 42	O 2	0
7	3	1	Total 44	C 42	O 2	0
7	5	1	Total 44	C 42	O 2	0
7	7	1	Total 44	C 42	O 2	0

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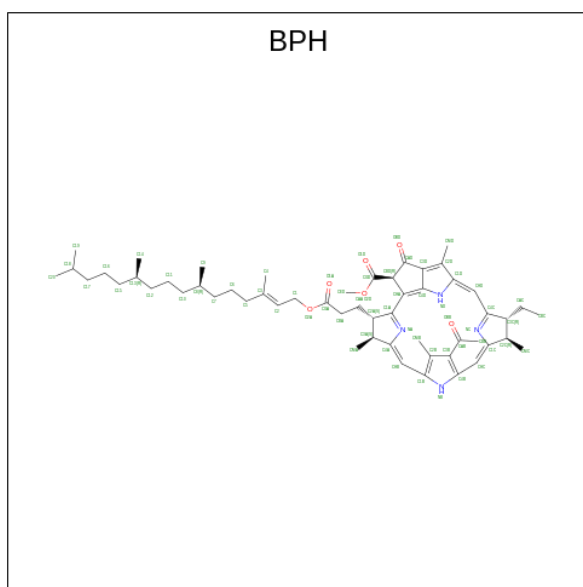
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Mol	Chain	Residues	Atoms			AltConf
7	9	1	Total	C	O	0
			44	42	2	
7	I	1	Total	C	O	0
			44	42	2	
7	K	1	Total	C	O	0
			44	42	2	
7	M	1	Total	C	O	0
			44	42	2	
7	O	1	Total	C	O	0
			44	42	2	
7	Q	1	Total	C	O	0
			44	42	2	
7	S	1	Total	C	O	0
			44	42	2	
7	U	1	Total	C	O	0
			44	42	2	
7	W	1	Total	C	O	0
			44	42	2	
7	Y	1	Total	C	O	0
			44	42	2	
7	d	1	Total	C	O	0
			44	42	2	
7	m	1	Total	C	O	0
			44	42	2	
7	n	1	Total	C	O	0
			44	42	2	

- Molecule 8 is FE (III) ION (three-letter code: FE) (formula: Fe).

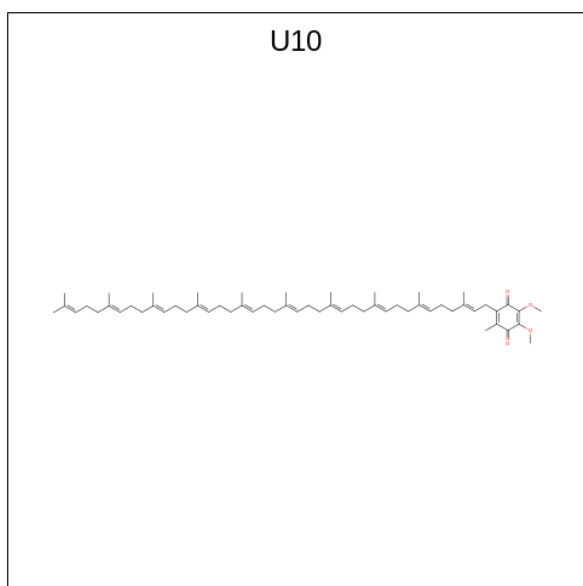
Mol	Chain	Residues	Atoms		AltConf
8	H	1	Total	Fe	0
			1	1	

- Molecule 9 is BACTERIOPHEOPHYTIN A (three-letter code: BPH) (formula: C₅₅H₇₆N₄O₆) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
9	L	1	65	55	4	6	0
9	M	1	65	55	4	6	0

- Molecule 10 is UBIQUINONE-10 (three-letter code: U10) (formula: $C_{59}H_{90}O_4$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
10	L	1	63	59	4	0

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Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
10	L	1	63	59	4	0
10	M	1	63	59	4	0

3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and 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: Light-harvesting protein B-870 beta chain

Chain 1:  100%

There are no outlier residues recorded for this chain.

- Molecule 1: Light-harvesting protein B-870 beta chain

Chain 3:  98%



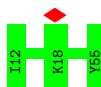
- Molecule 1: Light-harvesting protein B-870 beta chain

Chain 5:  100%

There are no outlier residues recorded for this chain.

- Molecule 1: Light-harvesting protein B-870 beta chain

Chain 7:  100%



- Molecule 1: Light-harvesting protein B-870 beta chain

Chain 9:  100%

There are no outlier residues recorded for this chain.

- Molecule 1: Light-harvesting protein B-870 beta chain

Chain I:  100%

There are no outlier residues recorded for this chain.

- Molecule 1: Light-harvesting protein B-870 beta chain

Chain K:  100%

There are no outlier residues recorded for this chain.

- Molecule 1: Light-harvesting protein B-870 beta chain

Chain O:  100%

There are no outlier residues recorded for this chain.

- Molecule 1: Light-harvesting protein B-870 beta chain

Chain Q:  100%

There are no outlier residues recorded for this chain.

- Molecule 1: Light-harvesting protein B-870 beta chain

Chain S:  100%

There are no outlier residues recorded for this chain.

- Molecule 1: Light-harvesting protein B-870 beta chain

Chain U:  100%

There are no outlier residues recorded for this chain.

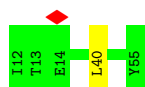
- Molecule 1: Light-harvesting protein B-870 beta chain

Chain W:  100%

There are no outlier residues recorded for this chain.

- Molecule 1: Light-harvesting protein B-870 beta chain

Chain Y:  98%



- Molecule 1: Light-harvesting protein B-870 beta chain

Chain d:  100%

There are no outlier residues recorded for this chain.

- Molecule 1: Light-harvesting protein B-870 beta chain

Chain m:  98%



- Molecule 1: Light-harvesting protein B-870 beta chain

Chain n: 100%

There are no outlier residues recorded for this chain.

- Molecule 2: Light-harvesting protein B-870 alpha chain

Chain 2: 100%

There are no outlier residues recorded for this chain.

- Molecule 2: Light-harvesting protein B-870 alpha chain

Chain 4: 100%

There are no outlier residues recorded for this chain.

- Molecule 2: Light-harvesting protein B-870 alpha chain

Chain 6: 100%

There are no outlier residues recorded for this chain.

- Molecule 2: Light-harvesting protein B-870 alpha chain

Chain 8: 100%

There are no outlier residues recorded for this chain.

- Molecule 2: Light-harvesting protein B-870 alpha chain

Chain A: 100%

There are no outlier residues recorded for this chain.

- Molecule 2: Light-harvesting protein B-870 alpha chain

Chain D: 100%

There are no outlier residues recorded for this chain.

- Molecule 2: Light-harvesting protein B-870 alpha chain

Chain E: 100%

There are no outlier residues recorded for this chain.

- Molecule 2: Light-harvesting protein B-870 alpha chain

Chain F:  100%

There are no outlier residues recorded for this chain.

- Molecule 2: Light-harvesting protein B-870 alpha chain

Chain G:  100%

There are no outlier residues recorded for this chain.

- Molecule 2: Light-harvesting protein B-870 alpha chain

Chain J:  100%

There are no outlier residues recorded for this chain.

- Molecule 2: Light-harvesting protein B-870 alpha chain

Chain N:  100%

There are no outlier residues recorded for this chain.

- Molecule 2: Light-harvesting protein B-870 alpha chain

Chain R:  100%

There are no outlier residues recorded for this chain.

- Molecule 2: Light-harvesting protein B-870 alpha chain

Chain T:  98%



- Molecule 2: Light-harvesting protein B-870 alpha chain

Chain V:  98%



- Molecule 2: Light-harvesting protein B-870 alpha chain

Chain X:  100%

There are no outlier residues recorded for this chain.

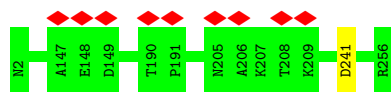
- Molecule 2: Light-harvesting protein B-870 alpha chain

Chain Z:  100%

There are no outlier residues recorded for this chain.

- Molecule 3: Photoreaction center protein H

Chain H:  100%



- Molecule 4: Reaction center protein L chain

Chain L:  99%



- Molecule 5: Reaction center protein M chain

Chain M:  99%



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	97584	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	1800	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.267	Depositor
Minimum map value	-0.667	Depositor
Average map value	0.009	Depositor
Map value standard deviation	0.045	Depositor
Recommended contour level	0.15	Depositor
Map size (\AA)	265.0, 265.0, 265.0	wwPDB
Map dimensions	250, 250, 250	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.06, 1.06, 1.06	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: BPH, 07D, FE, U10, CRT

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	1	0.30	0/376	0.45	0/514
1	3	0.30	0/376	0.43	0/514
1	5	0.27	0/376	0.40	0/514
1	7	0.25	0/376	0.37	0/514
1	9	0.28	0/376	0.37	0/514
1	I	0.30	0/376	0.44	0/514
1	K	0.27	0/376	0.40	0/514
1	O	0.25	0/376	0.36	0/514
1	Q	0.25	0/376	0.37	0/514
1	S	0.24	0/376	0.36	0/514
1	U	0.26	0/376	0.37	0/514
1	W	0.26	0/376	0.37	0/514
1	Y	0.27	0/376	0.48	1/514 (0.2%)
1	d	0.26	0/376	0.43	0/514
1	m	0.28	0/376	0.43	0/514
1	n	0.26	0/376	0.43	0/514
2	2	0.31	0/390	0.49	0/532
2	4	0.29	0/390	0.45	0/532
2	6	0.27	0/390	0.43	0/532
2	8	0.24	0/390	0.41	0/532
2	A	0.28	0/390	0.48	0/532
2	D	0.28	0/390	0.43	0/532
2	E	0.26	0/390	0.43	0/532
2	F	0.25	0/390	0.45	0/532
2	G	0.25	0/390	0.41	0/532
2	J	0.25	0/390	0.43	0/532
2	N	0.24	0/390	0.42	0/532
2	R	0.26	0/390	0.48	0/532
2	T	0.26	0/390	0.46	0/532
2	V	0.27	0/390	0.50	0/532
2	X	0.25	0/390	0.46	0/532
2	Z	0.28	0/390	0.45	0/532

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
3	H	0.27	0/1999	0.51	0/2719
4	L	0.40	1/2248 (0.0%)	0.45	0/3077
5	M	0.28	0/2151	0.44	0/2934
All	All	0.29	1/18654 (0.0%)	0.44	1/25466 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	L	261	PRO	N-CD	13.61	1.67	1.47

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	Y	40	LEU	CA-CB-CG	5.07	126.96	115.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	1	42/44 (96%)	41 (98%)	1 (2%)	0	100	100
1	3	42/44 (96%)	41 (98%)	1 (2%)	0	100	100
1	5	42/44 (96%)	41 (98%)	1 (2%)	0	100	100
1	7	42/44 (96%)	42 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	9	42/44 (96%)	41 (98%)	1 (2%)	0	100	100
1	I	42/44 (96%)	41 (98%)	1 (2%)	0	100	100
1	K	42/44 (96%)	42 (100%)	0	0	100	100
1	O	42/44 (96%)	41 (98%)	1 (2%)	0	100	100
1	Q	42/44 (96%)	41 (98%)	1 (2%)	0	100	100
1	S	42/44 (96%)	41 (98%)	1 (2%)	0	100	100
1	U	42/44 (96%)	41 (98%)	1 (2%)	0	100	100
1	W	42/44 (96%)	42 (100%)	0	0	100	100
1	Y	42/44 (96%)	39 (93%)	3 (7%)	0	100	100
1	d	42/44 (96%)	40 (95%)	2 (5%)	0	100	100
1	m	42/44 (96%)	41 (98%)	1 (2%)	0	100	100
1	n	42/44 (96%)	40 (95%)	2 (5%)	0	100	100
2	2	43/45 (96%)	42 (98%)	1 (2%)	0	100	100
2	4	43/45 (96%)	42 (98%)	1 (2%)	0	100	100
2	6	43/45 (96%)	43 (100%)	0	0	100	100
2	8	43/45 (96%)	43 (100%)	0	0	100	100
2	A	43/45 (96%)	42 (98%)	1 (2%)	0	100	100
2	D	43/45 (96%)	43 (100%)	0	0	100	100
2	E	43/45 (96%)	43 (100%)	0	0	100	100
2	F	43/45 (96%)	43 (100%)	0	0	100	100
2	G	43/45 (96%)	43 (100%)	0	0	100	100
2	J	43/45 (96%)	43 (100%)	0	0	100	100
2	N	43/45 (96%)	43 (100%)	0	0	100	100
2	R	43/45 (96%)	42 (98%)	1 (2%)	0	100	100
2	T	43/45 (96%)	43 (100%)	0	0	100	100
2	V	43/45 (96%)	42 (98%)	1 (2%)	0	100	100
2	X	43/45 (96%)	42 (98%)	1 (2%)	0	100	100
2	Z	43/45 (96%)	43 (100%)	0	0	100	100
3	H	253/255 (99%)	242 (96%)	11 (4%)	0	100	100
4	L	272/274 (99%)	265 (97%)	7 (3%)	0	100	100
5	M	257/259 (99%)	254 (99%)	3 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
All	All	2142/2212 (97%)	2098 (98%)	44 (2%)	0	100	100

There are no Ramachandran outliers to report.

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	1	36/36 (100%)	36 (100%)	0	100	100
1	3	36/36 (100%)	35 (97%)	1 (3%)	38	69
1	5	36/36 (100%)	36 (100%)	0	100	100
1	7	36/36 (100%)	36 (100%)	0	100	100
1	9	36/36 (100%)	36 (100%)	0	100	100
1	I	36/36 (100%)	36 (100%)	0	100	100
1	K	36/36 (100%)	36 (100%)	0	100	100
1	O	36/36 (100%)	36 (100%)	0	100	100
1	Q	36/36 (100%)	36 (100%)	0	100	100
1	S	36/36 (100%)	36 (100%)	0	100	100
1	U	36/36 (100%)	36 (100%)	0	100	100
1	W	36/36 (100%)	36 (100%)	0	100	100
1	Y	36/36 (100%)	36 (100%)	0	100	100
1	d	36/36 (100%)	36 (100%)	0	100	100
1	m	36/36 (100%)	35 (97%)	1 (3%)	38	69
1	n	36/36 (100%)	36 (100%)	0	100	100
2	2	39/39 (100%)	39 (100%)	0	100	100
2	4	39/39 (100%)	39 (100%)	0	100	100
2	6	39/39 (100%)	39 (100%)	0	100	100
2	8	39/39 (100%)	39 (100%)	0	100	100
2	A	39/39 (100%)	39 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	D	39/39 (100%)	39 (100%)	0	100	100
2	E	39/39 (100%)	39 (100%)	0	100	100
2	F	39/39 (100%)	39 (100%)	0	100	100
2	G	39/39 (100%)	39 (100%)	0	100	100
2	J	39/39 (100%)	39 (100%)	0	100	100
2	N	39/39 (100%)	39 (100%)	0	100	100
2	R	39/39 (100%)	39 (100%)	0	100	100
2	T	39/39 (100%)	38 (97%)	1 (3%)	41	71
2	V	39/39 (100%)	38 (97%)	1 (3%)	41	71
2	X	39/39 (100%)	39 (100%)	0	100	100
2	Z	39/39 (100%)	39 (100%)	0	100	100
3	H	202/202 (100%)	201 (100%)	1 (0%)	86	94
4	L	219/219 (100%)	218 (100%)	1 (0%)	86	94
5	M	203/203 (100%)	201 (99%)	2 (1%)	73	88
All	All	1824/1824 (100%)	1816 (100%)	8 (0%)	88	95

All (8) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	3	22	LYS
3	H	241	ASP
4	L	168	PHE
5	M	195	PHE
5	M	215	PHE
2	T	7	LEU
2	V	3	ARG
1	m	20	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (4) such sidechains are listed below:

Mol	Chain	Res	Type
2	4	6	GLN
2	A	12	GLN
2	G	12	GLN
1	W	39	HIS

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 oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 60 ligands modelled in this entry, 1 is monoatomic - leaving 59 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$
6	07D	D	1001	-	69,74,74	1.34	7 (10%)	74,115,115	1.56	7 (9%)
6	07D	S	102	-	69,74,74	1.40	6 (8%)	74,115,115	1.51	8 (10%)
6	07D	Z	1001	-	69,74,74	1.31	7 (10%)	74,115,115	1.41	8 (10%)
6	07D	4	1001	-	69,74,74	1.38	5 (7%)	74,115,115	1.07	4 (5%)
7	CRT	9	101	-	41,43,43	0.42	0	50,54,54	0.70	1 (2%)
7	CRT	O	101	-	41,43,43	0.40	0	50,54,54	0.76	0
6	07D	8	1001	-	69,74,74	1.43	7 (10%)	74,115,115	1.41	6 (8%)
6	07D	L	1003	-	69,74,74	1.37	7 (10%)	74,115,115	1.41	8 (10%)
6	07D	U	102	-	69,74,74	1.39	7 (10%)	74,115,115	1.41	5 (6%)
6	07D	K	102	-	69,74,74	1.45	6 (8%)	74,115,115	1.45	6 (8%)
6	07D	n	102	-	69,74,74	1.40	6 (8%)	74,115,115	1.40	6 (8%)
9	BPH	M	401	-	51,70,70	0.65	2 (3%)	52,101,101	0.68	1 (1%)
6	07D	G	1001	-	69,74,74	1.47	5 (7%)	74,115,115	1.19	4 (5%)
6	07D	Q	102	-	69,74,74	1.46	7 (10%)	74,115,115	1.41	6 (8%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
6	07D	X	1001	-	69,74,74	1.31	6 (8%)	74,115,115	1.23	7 (9%)
7	CRT	3	101	-	41,43,43	0.41	0	50,54,54	0.68	0
6	07D	d	1002	-	69,74,74	1.44	4 (5%)	74,115,115	1.42	7 (9%)
6	07D	7	102	-	69,74,74	1.54	6 (8%)	74,115,115	1.46	7 (9%)
6	07D	J	1001	-	69,74,74	1.39	7 (10%)	74,115,115	1.58	7 (9%)
7	CRT	M	405	-	41,43,43	0.41	0	50,54,54	1.01	3 (6%)
6	07D	Y	102	-	69,74,74	1.41	5 (7%)	74,115,115	1.43	7 (9%)
6	07D	6	1001	-	69,74,74	1.43	6 (8%)	74,115,115	1.16	4 (5%)
6	07D	E	1001	-	69,74,74	1.44	5 (7%)	74,115,115	1.17	4 (5%)
6	07D	M	404	-	69,74,74	1.41	8 (11%)	74,115,115	1.51	7 (9%)
6	07D	N	101	-	69,74,74	1.40	5 (7%)	74,115,115	1.05	6 (8%)
7	CRT	U	101	-	41,43,43	0.41	0	50,54,54	0.71	0
7	CRT	K	101	-	41,43,43	0.41	0	50,54,54	0.73	0
7	CRT	W	1001	-	41,43,43	0.40	0	50,54,54	0.70	0
6	07D	A	101	-	69,74,74	1.25	6 (8%)	74,115,115	1.08	5 (6%)
7	CRT	Q	101	-	41,43,43	0.41	0	50,54,54	0.71	0
7	CRT	m	101	-	41,43,43	0.42	0	50,54,54	0.81	1 (2%)
10	U10	L	1005	-	63,63,63	2.68	17 (26%)	76,79,79	1.78	20 (26%)
6	07D	M	403	-	69,74,74	1.53	7 (10%)	74,115,115	1.56	8 (10%)
9	BPH	L	1001	-	51,70,70	0.65	2 (3%)	52,101,101	0.80	2 (3%)
6	07D	V	1001	-	69,74,74	1.39	6 (8%)	74,115,115	1.45	5 (6%)
6	07D	1	1001	-	69,74,74	1.44	5 (7%)	74,115,115	1.26	5 (6%)
7	CRT	S	101	-	41,43,43	0.40	0	50,54,54	0.77	0
6	07D	H	301	-	69,74,74	1.29	6 (8%)	74,115,115	1.21	6 (8%)
7	CRT	I	101	-	41,43,43	0.41	0	50,54,54	0.70	0
6	07D	m	102	-	69,74,74	1.50	5 (7%)	74,115,115	1.25	5 (6%)
6	07D	3	102	-	69,74,74	1.45	6 (8%)	74,115,115	1.40	6 (8%)
7	CRT	d	1001	-	41,43,43	0.47	0	50,54,54	0.85	3 (6%)
10	U10	L	1002	-	63,63,63	2.68	17 (26%)	76,79,79	1.75	20 (26%)
6	07D	2	1001	-	69,74,74	1.46	6 (8%)	74,115,115	1.13	4 (5%)
6	07D	L	1004	-	69,74,74	1.36	7 (10%)	74,115,115	1.53	10 (13%)
6	07D	O	102	-	69,74,74	1.47	6 (8%)	74,115,115	1.44	6 (8%)
7	CRT	1	1002	-	41,43,43	0.45	0	50,54,54	0.69	0
10	U10	M	402	-	63,63,63	2.68	17 (26%)	76,79,79	1.72	20 (26%)
6	07D	T	101	-	69,74,74	1.35	7 (10%)	74,115,115	1.44	7 (9%)
7	CRT	7	101	-	41,43,43	0.41	0	50,54,54	0.73	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
6	07D	5	102	-	69,74,74	1.41	7 (10%)	74,115,115	1.42	7 (9%)
6	07D	W	1002	-	69,74,74	1.46	7 (10%)	74,115,115	1.54	8 (10%)
7	CRT	5	101	-	41,43,43	0.42	0	50,54,54	0.70	0
6	07D	9	102	-	69,74,74	1.46	6 (8%)	74,115,115	1.45	7 (9%)
7	CRT	n	101	-	41,43,43	0.40	0	50,54,54	1.01	2 (4%)
6	07D	F	1001	-	69,74,74	1.30	6 (8%)	74,115,115	1.23	6 (8%)
6	07D	R	101	-	69,74,74	1.31	7 (10%)	74,115,115	1.31	5 (6%)
7	CRT	Y	101	-	41,43,43	0.41	0	50,54,54	1.05	3 (6%)
6	07D	I	102	-	69,74,74	1.50	4 (5%)	74,115,115	1.45	7 (9%)

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. '2' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	07D	D	1001	-	1/1/21/28	16/41/137/137	-
6	07D	S	102	-	1/1/21/28	14/41/137/137	-
6	07D	Z	1001	-	1/1/21/28	14/41/137/137	-
6	07D	4	1001	-	1/1/21/28	10/41/137/137	-
7	CRT	9	101	-	-	9/51/51/51	-
7	CRT	O	101	-	-	8/51/51/51	-
6	07D	8	1001	-	1/1/21/28	15/41/137/137	-
6	07D	L	1003	-	1/1/21/28	16/41/137/137	-
6	07D	U	102	-	1/1/21/28	18/41/137/137	-
6	07D	K	102	-	1/1/21/28	12/41/137/137	-
6	07D	n	102	-	1/1/21/28	20/41/137/137	-
9	BPH	M	401	-	-	9/37/105/105	0/5/6/6
6	07D	G	1001	-	1/1/21/28	7/41/137/137	-
6	07D	Q	102	-	1/1/21/28	15/41/137/137	-
6	07D	X	1001	-	1/1/21/28	8/41/137/137	-
7	CRT	3	101	-	-	7/51/51/51	-
6	07D	d	1002	-	1/1/21/28	15/41/137/137	-
6	07D	7	102	-	1/1/21/28	11/41/137/137	-
6	07D	J	1001	-	1/1/21/28	11/41/137/137	-
7	CRT	M	405	-	-	8/51/51/51	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	07D	Y	102	-	1/1/21/28	17/41/137/137	-
6	07D	6	1001	-	1/1/21/28	14/41/137/137	-
6	07D	E	1001	-	1/1/21/28	13/41/137/137	-
6	07D	M	404	-	1/1/21/28	7/41/137/137	-
6	07D	N	101	-	1/1/21/28	13/41/137/137	-
7	CRT	U	101	-	-	9/51/51/51	-
7	CRT	K	101	-	-	4/51/51/51	-
7	CRT	W	1001	-	-	8/51/51/51	-
6	07D	A	101	-	1/1/21/28	7/41/137/137	-
7	CRT	Q	101	-	-	10/51/51/51	-
7	CRT	m	101	-	-	9/51/51/51	-
10	U10	L	1005	-	-	24/63/87/87	0/1/1/1
6	07D	M	403	-	1/1/21/28	12/41/137/137	-
9	BPH	L	1001	-	-	11/37/105/105	0/5/6/6
6	07D	V	1001	-	1/1/21/28	15/41/137/137	-
6	07D	1	1001	-	1/1/21/28	21/41/137/137	-
7	CRT	S	101	-	-	7/51/51/51	-
6	07D	H	301	-	1/1/21/28	16/41/137/137	-
7	CRT	I	101	-	-	6/51/51/51	-
6	07D	m	102	-	1/1/21/28	15/41/137/137	-
6	07D	3	102	-	1/1/21/28	19/41/137/137	-
7	CRT	d	1001	-	-	14/51/51/51	-
10	U10	L	1002	-	-	19/63/87/87	0/1/1/1
6	07D	2	1001	-	1/1/21/28	11/41/137/137	-
6	07D	L	1004	-	1/1/21/28	12/41/137/137	-
6	07D	O	102	-	1/1/21/28	14/41/137/137	-
7	CRT	1	1002	-	-	6/51/51/51	-
10	U10	M	402	-	-	17/63/87/87	0/1/1/1
6	07D	T	101	-	1/1/21/28	13/41/137/137	-
7	CRT	7	101	-	-	12/51/51/51	-
6	07D	5	102	-	1/1/21/28	18/41/137/137	-
6	07D	W	1002	-	1/1/21/28	20/41/137/137	-
7	CRT	5	101	-	-	8/51/51/51	-
6	07D	9	102	-	1/1/21/28	17/41/137/137	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
7	CRT	n	101	-	-	13/51/51/51	-
6	07D	F	1001	-	1/1/21/28	14/41/137/137	-
6	07D	R	101	-	1/1/21/28	14/41/137/137	-
7	CRT	Y	101	-	-	9/51/51/51	-
6	07D	I	102	-	1/1/21/28	15/41/137/137	-

All (281) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	7	102	07D	C1C-NC	8.47	1.42	1.35
6	m	102	07D	C1C-NC	8.35	1.42	1.35
6	I	102	07D	C1C-NC	8.09	1.42	1.35
6	E	1001	07D	C1C-NC	7.96	1.42	1.35
6	Q	102	07D	C1C-NC	7.96	1.42	1.35
6	d	1002	07D	C1C-NC	7.94	1.42	1.35
6	1	1001	07D	C1C-NC	7.93	1.42	1.35
6	O	102	07D	C1C-NC	7.91	1.42	1.35
6	3	102	07D	C1C-NC	7.91	1.42	1.35
6	G	1001	07D	C1C-NC	7.86	1.42	1.35
6	9	102	07D	C1C-NC	7.83	1.42	1.35
6	6	1001	07D	C1C-NC	7.80	1.42	1.35
6	2	1001	07D	C1C-NC	7.71	1.42	1.35
6	K	102	07D	C1C-NC	7.68	1.42	1.35
6	8	1001	07D	C1C-NC	7.67	1.42	1.35
6	Y	102	07D	C1C-NC	7.65	1.42	1.35
6	n	102	07D	C1C-NC	7.60	1.42	1.35
6	M	404	07D	C4C-NC	7.59	1.42	1.35
6	N	101	07D	C1C-NC	7.52	1.41	1.35
6	W	1002	07D	C1C-NC	7.46	1.41	1.35
6	4	1001	07D	C1C-NC	7.42	1.41	1.35
6	5	102	07D	C1C-NC	7.29	1.41	1.35
6	S	102	07D	C1C-NC	7.23	1.41	1.35
6	U	102	07D	C1C-NC	7.18	1.41	1.35
6	T	101	07D	C4C-NC	7.11	1.41	1.35
6	V	1001	07D	C1C-NC	7.08	1.41	1.35
6	M	403	07D	C4C-NC	6.94	1.41	1.35
6	X	1001	07D	C1C-NC	6.81	1.41	1.35
6	F	1001	07D	C1C-NC	6.75	1.41	1.35
6	Z	1001	07D	C1C-NC	6.67	1.41	1.35
6	L	1003	07D	C4C-NC	6.55	1.41	1.35
6	L	1004	07D	C4C-NC	6.54	1.41	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	D	1001	07D	C1C-NC	6.51	1.41	1.35
6	J	1001	07D	C1C-NC	6.42	1.40	1.35
6	2	1001	07D	C4C-NC	6.27	1.40	1.35
6	H	301	07D	C4C-NC	6.25	1.40	1.35
6	G	1001	07D	C4C-NC	6.25	1.40	1.35
6	I	102	07D	C4C-NC	6.24	1.40	1.35
6	m	102	07D	C4C-NC	6.19	1.40	1.35
6	7	102	07D	C4C-NC	6.16	1.40	1.35
6	M	403	07D	C1C-NC	6.16	1.40	1.35
6	W	1002	07D	C4C-NC	6.11	1.40	1.35
10	L	1002	U10	C43-C44	6.09	1.47	1.33
10	L	1002	U10	C38-C39	6.08	1.47	1.33
10	L	1005	U10	C43-C44	6.06	1.47	1.33
10	L	1002	U10	C28-C29	6.06	1.47	1.33
10	L	1002	U10	C33-C34	6.03	1.47	1.33
10	M	402	U10	C28-C29	6.02	1.47	1.33
10	L	1002	U10	C48-C49	6.02	1.47	1.33
10	M	402	U10	C33-C34	6.01	1.47	1.33
10	L	1005	U10	C18-C19	6.01	1.47	1.33
10	L	1005	U10	C28-C29	6.01	1.47	1.33
10	M	402	U10	C38-C39	6.01	1.47	1.33
10	L	1005	U10	C13-C14	6.00	1.47	1.33
10	L	1005	U10	C48-C49	6.00	1.47	1.33
10	M	402	U10	C43-C44	5.99	1.47	1.33
10	L	1002	U10	C23-C24	5.99	1.47	1.33
10	L	1002	U10	C18-C19	5.99	1.47	1.33
10	L	1005	U10	C8-C9	5.98	1.47	1.33
10	M	402	U10	C13-C14	5.98	1.47	1.33
10	M	402	U10	C18-C19	5.98	1.47	1.33
10	L	1005	U10	C33-C34	5.98	1.47	1.33
10	M	402	U10	C8-C9	5.97	1.47	1.33
10	M	402	U10	C48-C49	5.97	1.47	1.33
10	L	1002	U10	C13-C14	5.96	1.47	1.33
10	L	1005	U10	C38-C39	5.94	1.47	1.33
10	M	402	U10	C23-C24	5.94	1.47	1.33
10	L	1005	U10	C23-C24	5.91	1.47	1.33
10	L	1002	U10	C8-C9	5.86	1.47	1.33
6	A	101	07D	C4C-NC	5.83	1.40	1.35
6	9	102	07D	C4C-NC	5.83	1.40	1.35
6	K	102	07D	C4C-NC	5.75	1.40	1.35
6	Q	102	07D	C4C-NC	5.75	1.40	1.35
6	R	101	07D	C4C-NC	5.74	1.40	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	1	1001	07D	C4C-NC	5.69	1.40	1.35
6	V	1001	07D	C4C-NC	5.63	1.40	1.35
6	d	1002	07D	C4C-NC	5.62	1.40	1.35
6	3	102	07D	C4C-NC	5.62	1.40	1.35
6	J	1001	07D	C4C-NC	5.61	1.40	1.35
6	E	1001	07D	C4C-NC	5.56	1.40	1.35
6	O	102	07D	C4C-NC	5.55	1.40	1.35
6	R	101	07D	C1C-NC	5.53	1.40	1.35
6	6	1001	07D	C4C-NC	5.49	1.40	1.35
6	8	1001	07D	C4C-NC	5.47	1.40	1.35
6	Y	102	07D	C4C-NC	5.42	1.40	1.35
10	L	1005	U10	O3-C3	-5.40	1.23	1.36
10	L	1002	U10	O4-C4	-5.38	1.23	1.36
10	L	1005	U10	O4-C4	-5.37	1.23	1.36
10	M	402	U10	O3-C3	-5.37	1.23	1.36
6	4	1001	07D	C4C-NC	5.37	1.40	1.35
6	N	101	07D	C4C-NC	5.35	1.40	1.35
6	n	102	07D	C4C-NC	5.32	1.40	1.35
10	M	402	U10	O4-C4	-5.31	1.23	1.36
6	S	102	07D	C4C-NC	5.28	1.39	1.35
10	L	1002	U10	C53-C54	5.27	1.47	1.32
10	L	1005	U10	C53-C54	5.26	1.47	1.32
6	U	102	07D	C4C-NC	5.26	1.39	1.35
10	L	1002	U10	O3-C3	-5.25	1.24	1.36
10	M	402	U10	C53-C54	5.21	1.47	1.32
6	D	1001	07D	C4C-NC	5.20	1.39	1.35
6	A	101	07D	C1C-NC	5.04	1.39	1.35
6	X	1001	07D	C4C-NC	4.89	1.39	1.35
6	5	102	07D	C4C-NC	4.88	1.39	1.35
6	F	1001	07D	C4C-NC	4.83	1.39	1.35
6	Z	1001	07D	C4C-NC	4.83	1.39	1.35
6	L	1003	07D	C1C-NC	4.72	1.39	1.35
6	L	1004	07D	C1C-NC	4.70	1.39	1.35
6	T	101	07D	C1C-NC	4.62	1.39	1.35
6	H	301	07D	C1C-NC	4.60	1.39	1.35
6	L	1003	07D	C4A-C3A	-4.36	1.36	1.45
6	N	101	07D	C1D-ND	4.29	1.44	1.37
6	5	102	07D	C1D-ND	4.26	1.44	1.37
6	E	1001	07D	C1D-ND	4.20	1.44	1.37
6	M	403	07D	C4A-C3A	-4.17	1.37	1.45
6	7	102	07D	C1D-ND	4.16	1.44	1.37
6	M	404	07D	C1C-NC	4.14	1.38	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	8	1001	07D	C1D-ND	4.11	1.43	1.37
6	I	102	07D	C1D-ND	4.10	1.43	1.37
6	9	102	07D	C1D-ND	4.09	1.43	1.37
6	1	1001	07D	C1D-ND	4.08	1.43	1.37
6	G	1001	07D	C1D-ND	4.08	1.43	1.37
6	6	1001	07D	C1D-ND	4.07	1.43	1.37
6	m	102	07D	C1D-ND	4.07	1.43	1.37
6	d	1002	07D	C1D-ND	4.06	1.43	1.37
6	Q	102	07D	C1D-ND	4.04	1.43	1.37
6	U	102	07D	C1D-ND	4.04	1.43	1.37
6	Z	1001	07D	C1D-ND	4.02	1.43	1.37
6	K	102	07D	C1D-ND	4.01	1.43	1.37
6	T	101	07D	C4A-C3A	-3.98	1.37	1.45
6	X	1001	07D	C1D-ND	3.98	1.43	1.37
6	2	1001	07D	C1D-ND	3.97	1.43	1.37
6	n	102	07D	C1D-ND	3.96	1.43	1.37
6	O	102	07D	C1D-ND	3.96	1.43	1.37
6	F	1001	07D	C1D-ND	3.94	1.43	1.37
6	4	1001	07D	C1D-ND	3.91	1.43	1.37
6	H	301	07D	C4A-C3A	-3.90	1.37	1.45
6	S	102	07D	C1D-ND	3.89	1.43	1.37
6	Y	102	07D	C1D-ND	3.88	1.43	1.37
6	3	102	07D	C1D-ND	3.87	1.43	1.37
6	A	101	07D	C1D-ND	3.82	1.43	1.37
6	M	403	07D	C1D-ND	3.81	1.43	1.37
6	M	403	07D	C4D-ND	-3.72	1.30	1.37
6	W	1002	07D	C1D-ND	3.65	1.43	1.37
6	V	1001	07D	C1D-ND	3.61	1.43	1.37
6	R	101	07D	C1D-ND	3.60	1.43	1.37
6	L	1004	07D	C4D-ND	-3.54	1.31	1.37
6	D	1001	07D	C1D-ND	3.44	1.42	1.37
6	L	1004	07D	C4A-C3A	-3.42	1.38	1.45
6	M	404	07D	C4A-C3A	-3.41	1.38	1.45
6	R	101	07D	C1A-NA	-3.40	1.33	1.37
6	N	101	07D	C4A-C3A	-3.39	1.38	1.45
6	J	1001	07D	C1A-NA	-3.39	1.33	1.37
6	H	301	07D	C1D-ND	3.35	1.42	1.37
6	V	1001	07D	C1A-NA	-3.34	1.33	1.37
6	L	1003	07D	C4A-NA	-3.33	1.33	1.37
6	J	1001	07D	C1D-ND	3.32	1.42	1.37
6	M	404	07D	C4D-ND	-3.31	1.31	1.37
6	d	1002	07D	C4A-C3A	-3.28	1.38	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
10	L	1005	U10	C4-C5	-3.27	1.39	1.48
10	M	402	U10	C4-C5	-3.25	1.39	1.48
10	L	1002	U10	C4-C5	-3.22	1.39	1.48
6	4	1001	07D	C4A-C3A	-3.17	1.39	1.45
10	M	402	U10	C3-C2	-3.16	1.39	1.48
6	m	102	07D	C4A-C3A	-3.15	1.39	1.45
10	L	1005	U10	C3-C2	-3.14	1.39	1.48
6	Y	102	07D	C4A-C3A	-3.13	1.39	1.45
6	9	102	07D	C4A-C3A	-3.12	1.39	1.45
6	G	1001	07D	C4A-C3A	-3.09	1.39	1.45
6	S	102	07D	C4A-C3A	-3.09	1.39	1.45
6	O	102	07D	C1A-NA	-3.08	1.33	1.37
6	n	102	07D	C4A-C3A	-3.08	1.39	1.45
9	L	1001	BPH	C3B-C2B	3.06	1.44	1.39
6	L	1003	07D	C1D-ND	3.05	1.42	1.37
6	H	301	07D	C4D-ND	-3.05	1.32	1.37
6	1	1001	07D	C4A-C3A	-3.04	1.39	1.45
6	I	102	07D	C4A-C3A	-3.04	1.39	1.45
6	5	102	07D	C4A-C3A	-3.02	1.39	1.45
10	L	1002	U10	C3-C2	-3.02	1.40	1.48
6	E	1001	07D	C4A-C3A	-3.02	1.39	1.45
6	3	102	07D	C4A-C3A	-3.01	1.39	1.45
6	T	101	07D	C4D-ND	-3.00	1.32	1.37
9	M	401	BPH	C3B-C2B	3.00	1.44	1.39
6	J	1001	07D	C4D-ND	-2.98	1.32	1.37
6	X	1001	07D	C4A-C3A	-2.98	1.39	1.45
6	F	1001	07D	C4A-C3A	-2.97	1.39	1.45
6	D	1001	07D	C4D-ND	-2.97	1.32	1.37
6	U	102	07D	C1A-NA	-2.95	1.33	1.37
6	W	1002	07D	C4D-ND	-2.92	1.32	1.37
6	2	1001	07D	C4A-C3A	-2.92	1.39	1.45
6	M	403	07D	C4A-NA	-2.91	1.34	1.37
6	S	102	07D	C4D-ND	-2.90	1.32	1.37
6	6	1001	07D	C4A-C3A	-2.90	1.39	1.45
6	L	1004	07D	C1D-ND	2.88	1.42	1.37
6	8	1001	07D	C4A-C3A	-2.87	1.39	1.45
6	K	102	07D	C4A-C3A	-2.84	1.39	1.45
6	Q	102	07D	C4A-C3A	-2.83	1.39	1.45
6	7	102	07D	C4A-C3A	-2.82	1.39	1.45
6	O	102	07D	C4A-C3A	-2.80	1.39	1.45
6	K	102	07D	C1A-NA	-2.76	1.33	1.37
10	L	1002	U10	C6-C5	-2.73	1.39	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	A	101	07D	C4A-C3A	-2.70	1.40	1.45
6	Z	1001	07D	C4A-C3A	-2.69	1.40	1.45
6	W	1002	07D	C1A-NA	-2.69	1.34	1.37
6	D	1001	07D	C1A-NA	-2.68	1.34	1.37
6	U	102	07D	C4A-C3A	-2.66	1.40	1.45
6	D	1001	07D	C4A-C3A	-2.65	1.40	1.45
6	W	1002	07D	C4A-C3A	-2.64	1.40	1.45
10	M	402	U10	C6-C5	-2.64	1.39	1.46
6	7	102	07D	C1A-NA	-2.61	1.34	1.37
10	L	1005	U10	C6-C5	-2.58	1.39	1.46
6	L	1004	07D	C1A-NA	-2.55	1.34	1.37
6	T	101	07D	C1D-ND	2.54	1.41	1.37
6	M	404	07D	MG-NB	2.54	2.12	2.06
6	Q	102	07D	C1A-NA	-2.52	1.34	1.37
6	M	404	07D	C4A-NA	-2.47	1.34	1.37
6	J	1001	07D	C4A-C3A	-2.47	1.40	1.45
6	M	404	07D	C4B-NB	2.46	1.41	1.37
6	3	102	07D	C1A-NA	-2.45	1.34	1.37
6	Z	1001	07D	C1A-NA	-2.43	1.34	1.37
6	5	102	07D	C1A-NA	-2.41	1.34	1.37
6	L	1003	07D	C4B-NB	2.40	1.41	1.37
6	R	101	07D	C4A-C3A	-2.39	1.40	1.45
6	A	101	07D	C1A-NA	-2.37	1.34	1.37
6	Z	1001	07D	C4D-ND	-2.35	1.33	1.37
9	L	1001	BPH	C2C-C3C	2.34	1.56	1.54
6	M	404	07D	C1D-ND	2.33	1.41	1.37
10	M	402	U10	C1-C2	-2.32	1.38	1.47
6	V	1001	07D	C1A-C2A	-2.32	1.40	1.45
6	4	1001	07D	C4D-ND	-2.31	1.33	1.37
6	V	1001	07D	C4A-C3A	-2.30	1.40	1.45
6	6	1001	07D	C1A-NA	-2.29	1.34	1.37
9	M	401	BPH	C2C-C3C	2.26	1.56	1.54
6	K	102	07D	C1A-C2A	-2.25	1.41	1.45
6	U	102	07D	C1A-C2A	-2.24	1.41	1.45
6	7	102	07D	C1A-C2A	-2.23	1.41	1.45
6	N	101	07D	C4D-ND	-2.23	1.33	1.37
10	L	1005	U10	C1-C2	-2.21	1.39	1.47
6	J	1001	07D	C1A-C2A	-2.21	1.41	1.45
6	8	1001	07D	C4D-ND	-2.21	1.33	1.37
6	5	102	07D	C4B-NB	2.20	1.41	1.37
6	O	102	07D	C1A-C2A	-2.20	1.41	1.45
6	2	1001	07D	C4D-ND	-2.19	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
10	M	402	U10	C6-C1	2.19	1.39	1.35
10	L	1002	U10	C1-C2	-2.19	1.39	1.47
10	L	1005	U10	C6-C1	2.19	1.39	1.35
6	G	1001	07D	C4D-ND	-2.18	1.33	1.37
6	Q	102	07D	C1A-C2A	-2.18	1.41	1.45
6	R	101	07D	C1A-C2A	-2.17	1.41	1.45
6	F	1001	07D	C1A-NA	-2.17	1.34	1.37
6	M	403	07D	C4B-NB	2.16	1.41	1.37
6	X	1001	07D	C1A-NA	-2.16	1.34	1.37
6	6	1001	07D	C4D-ND	-2.15	1.33	1.37
6	m	102	07D	C4D-ND	-2.15	1.33	1.37
6	T	101	07D	C4A-NA	-2.15	1.35	1.37
6	X	1001	07D	C4D-ND	-2.14	1.33	1.37
6	5	102	07D	C4D-ND	-2.14	1.33	1.37
6	F	1001	07D	C4D-ND	-2.14	1.33	1.37
10	L	1002	U10	C6-C1	2.13	1.39	1.35
6	8	1001	07D	C1A-NA	-2.12	1.34	1.37
6	L	1003	07D	C4D-ND	-2.11	1.33	1.37
6	Y	102	07D	C4D-ND	-2.11	1.33	1.37
6	S	102	07D	C1A-NA	-2.09	1.34	1.37
6	L	1004	07D	C4A-NA	-2.08	1.35	1.37
6	1	1001	07D	C4D-ND	-2.06	1.33	1.37
6	n	102	07D	C4D-ND	-2.05	1.33	1.37
6	T	101	07D	C4B-NB	2.05	1.40	1.37
6	H	301	07D	C4A-NA	-2.05	1.35	1.37
6	W	1002	07D	C1A-C2A	-2.05	1.41	1.45
6	U	102	07D	C4D-ND	-2.04	1.33	1.37
6	n	102	07D	C1A-NA	-2.04	1.34	1.37
6	D	1001	07D	C1A-C2A	-2.04	1.41	1.45
6	Z	1001	07D	C1A-C2A	-2.03	1.41	1.45
6	2	1001	07D	C1A-NA	-2.03	1.34	1.37
6	A	101	07D	C4D-ND	-2.02	1.33	1.37
6	8	1001	07D	C1A-C2A	-2.02	1.41	1.45
6	9	102	07D	C4D-ND	-2.02	1.33	1.37
6	9	102	07D	C1A-NA	-2.02	1.34	1.37
6	3	102	07D	C4D-ND	-2.02	1.33	1.37
6	E	1001	07D	C4D-ND	-2.01	1.33	1.37
6	Q	102	07D	C4D-ND	-2.01	1.33	1.37
6	R	101	07D	C4A-NA	-2.01	1.35	1.37

All (307) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	S	102	07D	C1A-C2A-C3A	-9.30	97.17	106.97
6	W	1002	07D	C1A-C2A-C3A	-9.11	97.38	106.97
6	D	1001	07D	C1A-C2A-C3A	-9.09	97.40	106.97
6	9	102	07D	C1A-C2A-C3A	-8.98	97.51	106.97
6	J	1001	07D	C1A-C2A-C3A	-8.97	97.52	106.97
6	7	102	07D	C1A-C2A-C3A	-8.97	97.53	106.97
6	I	102	07D	C1A-C2A-C3A	-8.96	97.53	106.97
6	Y	102	07D	C1A-C2A-C3A	-8.87	97.63	106.97
6	O	102	07D	C1A-C2A-C3A	-8.73	97.78	106.97
6	d	1002	07D	C1A-C2A-C3A	-8.72	97.78	106.97
6	K	102	07D	C1A-C2A-C3A	-8.70	97.81	106.97
6	8	1001	07D	C1A-C2A-C3A	-8.62	97.89	106.97
6	n	102	07D	C1A-C2A-C3A	-8.58	97.93	106.97
6	Q	102	07D	C1A-C2A-C3A	-8.57	97.94	106.97
6	3	102	07D	C1A-C2A-C3A	-8.57	97.95	106.97
6	5	102	07D	C1A-C2A-C3A	-8.56	97.95	106.97
6	U	102	07D	C1A-C2A-C3A	-8.50	98.02	106.97
6	Z	1001	07D	C1A-C2A-C3A	-8.34	98.19	106.97
6	V	1001	07D	C1A-C2A-C3A	-8.25	98.28	106.97
6	T	101	07D	C1D-ND-C4D	-8.18	103.03	106.71
6	M	404	07D	C1D-ND-C4D	-7.70	103.24	106.71
6	M	403	07D	C1A-C2A-C3A	-7.66	98.90	106.97
6	R	101	07D	C1A-C2A-C3A	-7.62	98.94	106.97
6	1	1001	07D	C1A-C2A-C3A	-7.44	99.14	106.97
6	L	1003	07D	C1D-ND-C4D	-7.37	103.39	106.71
6	m	102	07D	C1A-C2A-C3A	-7.24	99.35	106.97
6	L	1004	07D	C1A-C2A-C3A	-6.79	99.82	106.97
6	G	1001	07D	C1A-C2A-C3A	-6.65	99.97	106.97
6	L	1004	07D	C1D-ND-C4D	-6.64	103.72	106.71
6	F	1001	07D	C1A-C2A-C3A	-6.61	100.00	106.97
6	X	1001	07D	C1A-C2A-C3A	-6.39	100.24	106.97
6	M	404	07D	C1A-C2A-C3A	-6.33	100.30	106.97
6	E	1001	07D	C1A-C2A-C3A	-6.14	100.50	106.97
6	6	1001	07D	C1A-C2A-C3A	-5.94	100.71	106.97
6	2	1001	07D	C1A-C2A-C3A	-5.84	100.82	106.97
6	4	1001	07D	C1A-C2A-C3A	-5.81	100.85	106.97
6	H	301	07D	C1D-ND-C4D	-5.75	104.12	106.71
6	A	101	07D	C1A-C2A-C3A	-5.63	101.04	106.97
6	V	1001	07D	C4A-NA-C1A	-5.34	102.54	106.33
6	W	1002	07D	C4A-NA-C1A	-5.30	102.57	106.33
6	J	1001	07D	C4A-NA-C1A	-5.23	102.62	106.33
6	D	1001	07D	C4A-NA-C1A	-5.02	102.77	106.33
6	K	102	07D	C4A-NA-C1A	-5.00	102.79	106.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	L	1003	07D	C1A-C2A-C3A	-4.99	101.71	106.97
6	R	101	07D	C4A-NA-C1A	-4.98	102.80	106.33
6	N	101	07D	C1A-C2A-C3A	-4.97	101.74	106.97
6	T	101	07D	C1A-C2A-C3A	-4.87	101.84	106.97
6	7	102	07D	C4A-NA-C1A	-4.81	102.92	106.33
6	O	102	07D	C4A-NA-C1A	-4.75	102.96	106.33
6	U	102	07D	C4A-NA-C1A	-4.59	103.07	106.33
6	8	1001	07D	C4A-NA-C1A	-4.58	103.08	106.33
6	S	102	07D	C4A-NA-C1A	-4.52	103.13	106.33
6	M	403	07D	C1D-ND-C4D	-4.47	104.69	106.71
6	Q	102	07D	C4A-NA-C1A	-4.41	103.20	106.33
6	9	102	07D	C4A-NA-C1A	-4.33	103.26	106.33
6	I	102	07D	C4A-NA-C1A	-4.28	103.30	106.33
6	n	102	07D	C4A-NA-C1A	-4.18	103.36	106.33
6	5	102	07D	C4A-NA-C1A	-4.17	103.37	106.33
6	3	102	07D	C4A-NA-C1A	-4.17	103.37	106.33
6	Y	102	07D	C4A-NA-C1A	-4.16	103.38	106.33
6	Z	1001	07D	C4A-NA-C1A	-4.15	103.39	106.33
6	d	1002	07D	C4A-NA-C1A	-4.15	103.39	106.33
6	M	403	07D	CHA-C1A-NA	-4.09	116.76	124.60
10	L	1005	U10	C7-C8-C9	-4.05	120.05	126.79
6	E	1001	07D	C4A-NA-C1A	-3.99	103.50	106.33
6	F	1001	07D	C4A-NA-C1A	-3.97	103.52	106.33
6	G	1001	07D	C4A-NA-C1A	-3.93	103.54	106.33
6	2	1001	07D	C4A-NA-C1A	-3.84	103.60	106.33
6	X	1001	07D	C4A-NA-C1A	-3.82	103.62	106.33
6	m	102	07D	C4A-NA-C1A	-3.76	103.66	106.33
6	H	301	07D	C1A-C2A-C3A	-3.75	103.02	106.97
6	6	1001	07D	C4A-NA-C1A	-3.74	103.68	106.33
6	A	101	07D	C4A-NA-C1A	-3.72	103.69	106.33
6	L	1003	07D	C3A-C4A-NA	-3.71	107.37	110.10
6	J	1001	07D	C1D-ND-C4D	-3.61	105.08	106.71
6	1	1001	07D	C4A-NA-C1A	-3.58	103.79	106.33
10	L	1005	U10	C17-C18-C19	-3.52	119.18	127.66
10	L	1005	U10	C32-C33-C34	-3.49	119.25	127.66
10	L	1005	U10	C47-C48-C49	-3.49	119.26	127.66
6	V	1001	07D	C4A-CHB-C1B	-3.41	118.70	126.06
6	D	1001	07D	C1D-ND-C4D	-3.40	105.18	106.71
6	M	403	07D	C3A-C4A-NA	-3.37	107.62	110.10
10	L	1002	U10	C7-C8-C9	-3.27	121.35	126.79
6	G	1001	07D	CHB-C4A-NA	3.26	127.45	124.45
6	H	301	07D	C4A-CHB-C1B	-3.25	119.05	126.06

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	L	1005	U10	C30-C29-C31	3.22	120.68	115.27
6	M	403	07D	CHB-C4A-NA	3.21	127.41	124.45
6	E	1001	07D	C4A-CHB-C1B	-3.21	119.13	126.06
10	L	1002	U10	C25-C24-C26	3.20	120.66	115.27
6	6	1001	07D	C4A-CHB-C1B	-3.19	119.17	126.06
6	L	1004	07D	C4A-CHB-C1B	-3.15	119.25	126.06
10	M	402	U10	C17-C18-C19	-3.12	120.14	127.66
10	M	402	U10	C37-C38-C39	-3.11	120.17	127.66
10	L	1005	U10	C12-C13-C14	-3.11	120.17	127.66
6	L	1004	07D	CHA-C1A-NA	-3.11	118.64	124.60
10	L	1002	U10	C15-C14-C16	3.09	120.47	115.27
10	L	1005	U10	C37-C38-C39	-3.08	120.24	127.66
10	L	1002	U10	C22-C23-C24	-3.07	120.27	127.66
6	2	1001	07D	C4A-CHB-C1B	-3.07	119.44	126.06
10	L	1002	U10	C50-C49-C51	3.06	120.42	115.27
10	L	1005	U10	C45-C44-C46	3.06	120.42	115.27
10	L	1005	U10	C10-C9-C11	3.05	120.41	115.27
10	L	1002	U10	C30-C29-C31	3.04	120.39	115.27
10	M	402	U10	C50-C49-C51	3.04	120.38	115.27
6	N	101	07D	C4A-NA-C1A	-3.03	104.18	106.33
10	M	402	U10	C25-C24-C26	3.02	120.36	115.27
10	L	1002	U10	C35-C34-C36	3.01	120.34	115.27
10	M	402	U10	C7-C8-C9	-3.00	121.79	126.79
10	L	1002	U10	C40-C39-C41	2.99	120.30	115.27
10	M	402	U10	C12-C13-C14	-2.98	120.48	127.66
10	L	1002	U10	C12-C13-C14	-2.98	120.49	127.66
10	L	1002	U10	C10-C9-C11	2.98	120.28	115.27
10	L	1002	U10	C17-C18-C19	-2.97	120.50	127.66
10	L	1002	U10	C47-C48-C49	-2.97	120.50	127.66
6	J	1001	07D	C4A-CHB-C1B	-2.97	119.65	126.06
10	M	402	U10	C45-C44-C46	2.97	120.27	115.27
10	L	1002	U10	C20-C19-C21	2.96	120.24	115.27
10	M	402	U10	C32-C33-C34	-2.94	120.58	127.66
7	Y	101	CRT	C15-C14-C12	2.94	131.50	127.31
6	M	404	07D	CHA-C1A-NA	-2.94	118.97	124.60
10	M	402	U10	C27-C28-C29	-2.93	120.61	127.66
10	M	402	U10	C35-C34-C36	2.91	120.16	115.27
7	M	405	CRT	C20-C21-C22	2.88	129.37	123.47
10	L	1002	U10	C27-C28-C29	-2.87	120.74	127.66
10	L	1005	U10	C22-C23-C24	-2.87	120.74	127.66
6	L	1003	07D	CHB-C4A-NA	2.87	127.09	124.45
10	L	1002	U10	C42-C43-C44	-2.87	120.75	127.66

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	M	402	U10	C42-C43-C44	-2.85	120.79	127.66
10	L	1005	U10	C25-C24-C26	2.85	120.07	115.27
10	L	1005	U10	C15-C14-C16	2.85	120.06	115.27
10	L	1005	U10	C50-C49-C51	2.84	120.04	115.27
6	7	102	07D	CHB-C4A-NA	2.84	127.06	124.45
6	8	1001	07D	CHB-C4A-NA	2.84	127.06	124.45
10	M	402	U10	C20-C19-C21	2.82	120.01	115.27
10	M	402	U10	C10-C9-C11	2.81	120.00	115.27
6	N	101	07D	C4A-CHB-C1B	-2.81	120.00	126.06
6	T	101	07D	CHB-C4A-NA	2.79	127.02	124.45
10	M	402	U10	C47-C48-C49	-2.79	120.95	127.66
10	L	1005	U10	C20-C19-C21	2.79	119.96	115.27
10	M	402	U10	C22-C23-C24	-2.78	120.96	127.66
6	F	1001	07D	C4A-CHB-C1B	-2.76	120.10	126.06
10	L	1005	U10	C40-C39-C41	2.76	119.92	115.27
10	M	402	U10	C15-C14-C16	2.76	119.92	115.27
6	Y	102	07D	C3A-C4A-NA	-2.74	108.09	110.10
6	X	1001	07D	CHB-C1B-NB	-2.73	119.90	124.20
6	H	301	07D	CHA-C1A-NA	-2.73	119.37	124.60
10	L	1002	U10	C1M-C1-C6	-2.73	119.95	124.40
10	L	1002	U10	C45-C44-C46	2.72	119.85	115.27
6	5	102	07D	C4A-CHB-C1B	-2.71	120.20	126.06
6	L	1004	07D	C3A-C4A-NA	-2.71	108.11	110.10
6	I	102	07D	C3A-C4A-NA	-2.69	108.12	110.10
6	n	102	07D	CHB-C4A-NA	2.68	126.92	124.45
10	M	402	U10	C30-C29-C31	2.68	119.78	115.27
10	L	1005	U10	C1M-C1-C6	-2.68	120.03	124.40
10	L	1002	U10	C37-C38-C39	-2.67	121.22	127.66
6	4	1001	07D	C4A-NA-C1A	-2.67	104.44	106.33
10	M	402	U10	C40-C39-C41	2.66	119.75	115.27
6	M	404	07D	CGD-CBD-CAD	2.64	119.29	110.73
6	X	1001	07D	C4A-CHB-C1B	-2.64	120.37	126.06
6	L	1003	07D	C4A-NA-C1A	-2.64	104.46	106.33
10	L	1005	U10	C35-C34-C36	2.63	119.70	115.27
6	M	404	07D	CHB-C1B-C2B	-2.63	120.87	124.98
6	5	102	07D	C3A-C4A-NA	-2.63	108.17	110.10
6	7	102	07D	C3A-C4A-NA	-2.62	108.17	110.10
6	Q	102	07D	C3A-C4A-NA	-2.62	108.17	110.10
6	D	1001	07D	C3A-C4A-NA	-2.61	108.18	110.10
6	N	101	07D	CHB-C4A-NA	2.58	126.82	124.45
6	S	102	07D	C3A-C4A-NA	-2.57	108.21	110.10
7	M	405	CRT	C21-C22-C23	-2.56	123.65	127.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	M	403	07D	CHB-C1B-C2B	-2.56	120.99	124.98
6	T	101	07D	CHB-C1B-C2B	-2.56	120.99	124.98
6	K	102	07D	C3A-C4A-NA	-2.56	108.22	110.10
6	L	1004	07D	C4A-C3A-C2A	-2.55	103.21	106.94
6	Q	102	07D	CHB-C4A-NA	2.55	126.79	124.45
6	9	102	07D	C3A-C4A-NA	-2.54	108.23	110.10
6	W	1002	07D	C3A-C4A-NA	-2.54	108.23	110.10
6	Z	1001	07D	C3A-C4A-NA	-2.53	108.24	110.10
7	n	101	CRT	C10-C9-C7	2.53	130.92	127.31
6	d	1002	07D	C3A-C4A-NA	-2.52	108.25	110.10
6	U	102	07D	C3A-C4A-NA	-2.52	108.25	110.10
7	Y	101	CRT	C11-C12-C14	-2.52	115.08	118.94
6	3	102	07D	C3A-C4A-NA	-2.51	108.25	110.10
10	L	1002	U10	C32-C33-C34	-2.51	121.62	127.66
10	M	402	U10	C56-C54-C55	2.48	120.09	114.60
6	J	1001	07D	C3A-C4A-NA	-2.48	108.28	110.10
6	O	102	07D	C3A-C4A-NA	-2.47	108.28	110.10
6	3	102	07D	CHB-C4A-NA	2.46	126.72	124.45
6	4	1001	07D	CHB-C4A-NA	2.45	126.71	124.45
6	I	102	07D	CHB-C4A-NA	2.45	126.71	124.45
10	L	1005	U10	C42-C43-C44	-2.45	121.75	127.66
6	L	1004	07D	CGD-CBD-CAD	2.45	118.67	110.73
6	U	102	07D	C4A-CHB-C1B	-2.45	120.77	126.06
6	9	102	07D	CHB-C4A-NA	2.44	126.70	124.45
6	D	1001	07D	C4A-CHB-C1B	-2.44	120.79	126.06
6	m	102	07D	CHB-C4A-NA	2.44	126.69	124.45
6	W	1002	07D	CHD-C1D-ND	-2.44	120.51	124.20
6	n	102	07D	C3A-C4A-NA	-2.42	108.32	110.10
6	S	102	07D	C4A-C3A-C2A	-2.42	103.40	106.94
6	J	1001	07D	CHD-C1D-ND	-2.42	120.54	124.20
6	K	102	07D	C4A-CHB-C1B	-2.41	120.85	126.06
6	D	1001	07D	CHD-C1D-ND	-2.41	120.55	124.20
10	L	1002	U10	C56-C54-C55	2.40	119.90	114.60
6	V	1001	07D	CHD-C1D-ND	-2.39	120.58	124.20
6	d	1002	07D	CHB-C4A-NA	2.39	126.65	124.45
6	H	301	07D	CHB-C1B-NB	-2.37	120.47	124.20
6	Y	102	07D	CHD-C1D-ND	-2.37	120.61	124.20
6	A	101	07D	CHD-C1D-ND	-2.36	120.63	124.20
6	M	404	07D	CHD-C1D-ND	-2.36	120.63	124.20
6	1	1001	07D	C3A-C4A-NA	-2.36	108.37	110.10
6	T	101	07D	CHA-C1A-NA	-2.35	120.09	124.60
6	V	1001	07D	C3A-C4A-NA	-2.35	108.37	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	S	102	07D	CHD-C1D-ND	-2.35	120.64	124.20
6	W	1002	07D	C1D-ND-C4D	-2.34	105.65	106.71
6	Y	102	07D	CHB-C4A-NA	2.34	126.60	124.45
10	L	1005	U10	C56-C54-C55	2.33	119.76	114.60
6	L	1004	07D	C4A-NA-C1A	-2.33	104.68	106.33
6	2	1001	07D	CHD-C1D-ND	-2.33	120.67	124.20
6	I	102	07D	CAA-C2A-C3A	2.33	132.22	127.88
6	X	1001	07D	CHD-C1D-ND	-2.33	120.67	124.20
6	Y	102	07D	C4A-C3A-C2A	-2.32	103.55	106.94
6	n	102	07D	CHD-C1D-ND	-2.32	120.68	124.20
6	O	102	07D	C4A-CHB-C1B	-2.31	121.07	126.06
6	O	102	07D	CHD-C1D-ND	-2.31	120.70	124.20
6	H	301	07D	CHD-C1D-ND	-2.31	120.70	124.20
6	R	101	07D	CHD-C1D-ND	-2.31	120.70	124.20
6	K	102	07D	CHD-C1D-ND	-2.31	120.70	124.20
6	9	102	07D	C4A-C3A-C2A	-2.31	103.57	106.94
6	9	102	07D	CHD-C1D-ND	-2.30	120.71	124.20
6	G	1001	07D	CHD-C1D-ND	-2.30	120.71	124.20
6	T	101	07D	CHD-C1D-ND	-2.30	120.72	124.20
6	m	102	07D	CHD-C1D-ND	-2.30	120.72	124.20
6	M	404	07D	C3A-C4A-NA	-2.30	108.41	110.10
6	4	1001	07D	CHD-C1D-ND	-2.29	120.72	124.20
6	Q	102	07D	CHD-C1D-ND	-2.29	120.72	124.20
6	8	1001	07D	C3A-C4A-NA	-2.29	108.42	110.10
6	1	1001	07D	CHB-C4A-NA	2.29	126.56	124.45
6	3	102	07D	CHD-C1D-ND	-2.29	120.73	124.20
6	U	102	07D	CHD-C1D-ND	-2.28	120.74	124.20
6	F	1001	07D	CHB-C4A-NA	2.28	126.55	124.45
6	X	1001	07D	CHB-C4A-NA	2.28	126.55	124.45
6	Y	102	07D	CAA-C2A-C3A	2.27	132.11	127.88
6	W	1002	07D	CHB-C4A-NA	2.27	126.54	124.45
6	I	102	07D	C4A-C3A-C2A	-2.26	103.64	106.94
6	F	1001	07D	CHD-C1D-ND	-2.26	120.77	124.20
6	L	1004	07D	CHD-C1D-ND	-2.26	120.78	124.20
6	K	102	07D	CHB-C4A-NA	2.26	126.53	124.45
6	1	1001	07D	CHD-C1D-ND	-2.26	120.78	124.20
6	T	101	07D	C3A-C4A-NA	-2.26	108.44	110.10
6	M	403	07D	CHD-C1D-ND	-2.26	120.78	124.20
6	d	1002	07D	C4A-C3A-C2A	-2.25	103.65	106.94
6	5	102	07D	CHD-C1D-ND	-2.25	120.79	124.20
9	L	1001	BPH	CMD-C2D-C3D	2.25	128.88	124.68
6	Z	1001	07D	CHB-C1B-NB	-2.25	120.67	124.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	M	405	CRT	C21-C20-C19	2.25	128.07	123.47
6	6	1001	07D	CHD-C1D-ND	-2.24	120.80	124.20
6	d	1002	07D	CHD-C1D-ND	-2.24	120.80	124.20
6	I	102	07D	CHD-C1D-ND	-2.24	120.81	124.20
6	Z	1001	07D	CHD-C1D-ND	-2.24	120.81	124.20
9	M	401	BPH	CMD-C2D-C3D	2.23	128.85	124.68
6	3	102	07D	C4A-C3A-C2A	-2.23	103.68	106.94
6	9	102	07D	CAA-C2A-C3A	2.23	132.03	127.88
6	Z	1001	07D	CHB-C4A-NA	2.23	126.50	124.45
6	D	1001	07D	CAA-C2A-C3A	2.23	132.03	127.88
6	Z	1001	07D	CAA-C2A-C3A	2.23	132.03	127.88
7	d	1001	CRT	C15-C14-C12	2.22	130.47	127.31
6	W	1002	07D	C4A-CHB-C1B	-2.21	121.28	126.06
6	Z	1001	07D	C4A-CHB-C1B	-2.21	121.29	126.06
6	8	1001	07D	CHD-C1D-ND	-2.20	120.86	124.20
6	N	101	07D	CHD-C1D-ND	-2.20	120.86	124.20
6	7	102	07D	CHD-C1D-ND	-2.20	120.87	124.20
6	L	1003	07D	CHD-C1D-ND	-2.19	120.87	124.20
6	E	1001	07D	CHD-C1D-ND	-2.19	120.88	124.20
6	F	1001	07D	CHB-C1B-NB	-2.19	120.76	124.20
6	L	1004	07D	CMA-C3A-C4A	2.19	128.57	124.71
7	d	1001	CRT	C20-C21-C22	2.18	127.94	123.47
6	5	102	07D	CHB-C4A-NA	2.17	126.45	124.45
6	d	1002	07D	CAA-C2A-C3A	2.17	131.93	127.88
6	M	403	07D	C4A-C3A-C2A	-2.15	103.80	106.94
6	7	102	07D	C4A-C3A-C2A	-2.15	103.81	106.94
6	8	1001	07D	CAA-C2A-C3A	2.14	131.87	127.88
6	J	1001	07D	CAA-C2A-C3A	2.14	131.86	127.88
6	Q	102	07D	C4A-C3A-C2A	-2.13	103.84	106.94
6	5	102	07D	CAA-C2A-C3A	2.12	131.83	127.88
6	R	101	07D	C3A-C4A-NA	-2.11	108.55	110.10
6	L	1003	07D	CHA-C1A-NA	-2.10	120.58	124.60
6	n	102	07D	CAA-C2A-C3A	2.10	131.78	127.88
6	N	101	07D	CHB-C1B-NB	-2.09	120.91	124.20
6	m	102	07D	C3A-C4A-NA	-2.08	108.57	110.10
6	S	102	07D	C1D-ND-C4D	-2.07	105.78	106.71
6	O	102	07D	CHB-C4A-NA	2.07	126.36	124.45
7	9	101	CRT	C20-C21-C22	2.07	127.71	123.47
6	R	101	07D	CHA-C1A-NA	-2.07	120.64	124.60
6	X	1001	07D	CAB-C3B-C2B	2.07	134.38	127.18
7	Y	101	CRT	C24-C23-C25	2.06	121.33	118.08
6	W	1002	07D	CAA-C2A-C3A	2.06	131.71	127.88

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	m	101	CRT	C21-C22-C23	-2.06	124.37	127.31
10	L	1005	U10	C52-C53-C54	-2.06	120.72	127.75
10	M	402	U10	C1M-C1-C6	-2.05	121.06	124.40
7	d	1001	CRT	C11-C12-C14	-2.05	115.80	118.94
6	S	102	07D	CHB-C4A-NA	2.05	126.33	124.45
6	S	102	07D	CAA-C2A-C3A	2.05	131.69	127.88
7	n	101	CRT	C24-C23-C25	2.04	121.30	118.08
6	A	101	07D	C4A-CHB-C1B	-2.03	121.67	126.06
6	7	102	07D	CAA-C2A-C3A	2.02	131.64	127.88
6	A	101	07D	CHB-C4A-NA	2.02	126.31	124.45
9	L	1001	BPH	C1A-C2A-C3A	-2.01	100.92	102.84
6	L	1003	07D	CGD-CBD-CAD	-2.00	104.25	110.73

All (37) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
6	1	1001	07D	CBD
6	2	1001	07D	CBD
6	3	102	07D	CBD
6	4	1001	07D	CBD
6	5	102	07D	CBD
6	6	1001	07D	CBD
6	7	102	07D	CBD
6	8	1001	07D	CBD
6	9	102	07D	CBD
6	A	101	07D	CBD
6	D	1001	07D	CBD
6	E	1001	07D	CBD
6	F	1001	07D	CBD
6	G	1001	07D	CBD
6	H	301	07D	CBD
6	I	102	07D	CBD
6	J	1001	07D	CBD
6	K	102	07D	CBD
6	L	1003	07D	CBD
6	L	1004	07D	CBD
6	M	403	07D	CBD
6	M	404	07D	CBD
6	N	101	07D	CBD
6	O	102	07D	CBD
6	Q	102	07D	CBD
6	R	101	07D	CBD

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Mol	Chain	Res	Type	Atom
6	S	102	07D	CBD
6	T	101	07D	CBD
6	U	102	07D	CBD
6	V	1001	07D	CBD
6	W	1002	07D	CBD
6	X	1001	07D	CBD
6	Y	102	07D	CBD
6	Z	1001	07D	CBD
6	d	1002	07D	CBD
6	m	102	07D	CBD
6	n	102	07D	CBD

All (746) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	1	1001	07D	C4-C3-C5-C6
6	1	1001	07D	C2-C3-C5-C6
6	1	1001	07D	C12-C13-C15-C16
6	1	1001	07D	C14-C13-C15-C16
6	1	1001	07D	C1-C2-C3-C4
6	1	1001	07D	C1-C2-C3-C5
6	1	1001	07D	C1A-C2A-CAA-CBA
6	1	1001	07D	C3A-C2A-CAA-CBA
6	1	1001	07D	C4B-C3B-CAB-CBB
6	1	1001	07D	C4B-C3B-CAB-OBB
6	1	1001	07D	CBA-CGA-O2A-C1
6	1	1001	07D	O1A-CGA-O2A-C1
6	2	1001	07D	C8-C10-C11-C12
6	3	102	07D	C4-C3-C5-C6
6	3	102	07D	C2-C3-C5-C6
6	3	102	07D	C1-C2-C3-C4
6	3	102	07D	C4B-C3B-CAB-CBB
6	3	102	07D	C4B-C3B-CAB-OBB
6	4	1001	07D	C8-C10-C11-C12
6	5	102	07D	C3-C5-C6-C7
6	5	102	07D	C14-C13-C15-C16
6	5	102	07D	C1-C2-C3-C4
6	5	102	07D	C3A-C2A-CAA-CBA
6	5	102	07D	C2B-C3B-CAB-CBB
6	5	102	07D	C4B-C3B-CAB-CBB
6	5	102	07D	C4B-C3B-CAB-OBB
6	6	1001	07D	C3-C5-C6-C7

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Mol	Chain	Res	Type	Atoms
6	6	1001	07D	C1-C2-C3-C4
6	6	1001	07D	C1-C2-C3-C5
6	7	102	07D	C1A-C2A-CAA-CBA
6	7	102	07D	C4B-C3B-CAB-CBB
6	7	102	07D	C4B-C3B-CAB-OBB
6	8	1001	07D	C8-C10-C11-C12
6	8	1001	07D	C1A-C2A-CAA-CBA
6	8	1001	07D	C4B-C3B-CAB-CBB
6	9	102	07D	C13-C15-C16-C17
6	9	102	07D	C1-C2-C3-C4
6	9	102	07D	C3A-C2A-CAA-CBA
6	9	102	07D	C2B-C3B-CAB-CBB
6	9	102	07D	C2B-C3B-CAB-OBB
6	9	102	07D	C4B-C3B-CAB-CBB
6	9	102	07D	C4B-C3B-CAB-OBB
6	A	101	07D	C1-C2-C3-C4
6	D	1001	07D	C1-C2-C3-C4
6	D	1001	07D	C1A-C2A-CAA-CBA
6	D	1001	07D	CHA-CBD-CGD-O1D
6	E	1001	07D	C1-C2-C3-C4
6	E	1001	07D	C4B-C3B-CAB-CBB
6	G	1001	07D	C8-C10-C11-C12
6	H	301	07D	O2A-C1-C2-C3
6	H	301	07D	C1-C2-C3-C4
6	H	301	07D	C2B-C3B-CAB-CBB
6	H	301	07D	C2B-C3B-CAB-OBB
6	H	301	07D	C4B-C3B-CAB-CBB
6	H	301	07D	C4B-C3B-CAB-OBB
6	I	102	07D	C4-C3-C5-C6
6	I	102	07D	C1-C2-C3-C4
6	I	102	07D	C3A-C2A-CAA-CBA
6	I	102	07D	C2B-C3B-CAB-CBB
6	I	102	07D	C2B-C3B-CAB-OBB
6	I	102	07D	C4B-C3B-CAB-CBB
6	I	102	07D	C4B-C3B-CAB-OBB
6	J	1001	07D	C13-C15-C16-C17
6	J	1001	07D	C1-C2-C3-C4
6	J	1001	07D	C3A-C2A-CAA-CBA
6	J	1001	07D	CHA-CBD-CGD-O1D
6	J	1001	07D	CHA-CBD-CGD-O2D
6	K	102	07D	C13-C15-C16-C17
6	K	102	07D	C2B-C3B-CAB-CBB

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Mol	Chain	Res	Type	Atoms
6	K	102	07D	C2B-C3B-CAB-OBB
6	K	102	07D	C4B-C3B-CAB-CBB
6	K	102	07D	C4B-C3B-CAB-OBB
6	L	1003	07D	C4-C3-C5-C6
6	L	1003	07D	C2-C3-C5-C6
6	L	1003	07D	C1-C2-C3-C4
6	L	1003	07D	C1-C2-C3-C5
6	L	1003	07D	C1A-C2A-CAA-CBA
6	L	1003	07D	C3A-C2A-CAA-CBA
6	L	1003	07D	C4B-C3B-CAB-CBB
6	L	1004	07D	C3-C5-C6-C7
6	L	1004	07D	C8-C10-C11-C12
6	L	1004	07D	C13-C15-C16-C17
6	L	1004	07D	C1-C2-C3-C4
6	L	1004	07D	C2B-C3B-CAB-CBB
6	L	1004	07D	C2B-C3B-CAB-OBB
6	L	1004	07D	C4B-C3B-CAB-CBB
6	L	1004	07D	C4B-C3B-CAB-OBB
6	M	403	07D	C3-C5-C6-C7
6	M	403	07D	C1A-C2A-CAA-CBA
6	M	403	07D	C3A-C2A-CAA-CBA
6	M	403	07D	CHA-CBD-CGD-O2D
6	M	404	07D	C1A-C2A-CAA-CBA
6	M	404	07D	C3A-C2A-CAA-CBA
6	M	404	07D	C2B-C3B-CAB-CBB
6	M	404	07D	C2B-C3B-CAB-OBB
6	M	404	07D	C4B-C3B-CAB-CBB
6	M	404	07D	C4B-C3B-CAB-OBB
6	N	101	07D	C3-C5-C6-C7
6	N	101	07D	C4B-C3B-CAB-CBB
6	O	102	07D	C2B-C3B-CAB-CBB
6	O	102	07D	C2B-C3B-CAB-OBB
6	O	102	07D	C4B-C3B-CAB-CBB
6	O	102	07D	C4B-C3B-CAB-OBB
6	Q	102	07D	C13-C15-C16-C17
6	Q	102	07D	C1-C2-C3-C4
6	Q	102	07D	C1-C2-C3-C5
6	Q	102	07D	C4B-C3B-CAB-CBB
6	Q	102	07D	C4B-C3B-CAB-OBB
6	R	101	07D	C13-C15-C16-C17
6	R	101	07D	C4B-C3B-CAB-CBB
6	S	102	07D	C13-C15-C16-C17

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Mol	Chain	Res	Type	Atoms
6	S	102	07D	C3A-C2A-CAA-CBA
6	S	102	07D	C2B-C3B-CAB-CBB
6	S	102	07D	C2B-C3B-CAB-OBB
6	S	102	07D	C4B-C3B-CAB-CBB
6	S	102	07D	C4B-C3B-CAB-OBB
6	T	101	07D	C11-C10-C8-C7
6	T	101	07D	C11-C10-C8-C9
6	T	101	07D	C2B-C3B-CAB-CBB
6	T	101	07D	C2B-C3B-CAB-OBB
6	T	101	07D	C4B-C3B-CAB-CBB
6	T	101	07D	C4B-C3B-CAB-OBB
6	T	101	07D	CHA-CBD-CGD-O1D
6	T	101	07D	CHA-CBD-CGD-O2D
6	U	102	07D	C2B-C3B-CAB-CBB
6	U	102	07D	C2B-C3B-CAB-OBB
6	U	102	07D	C4B-C3B-CAB-CBB
6	U	102	07D	C4B-C3B-CAB-OBB
6	V	1001	07D	C8-C10-C11-C12
6	V	1001	07D	C12-C13-C15-C16
6	V	1001	07D	C14-C13-C15-C16
6	V	1001	07D	C1A-C2A-CAA-CBA
6	V	1001	07D	C4B-C3B-CAB-CBB
6	W	1002	07D	C12-C13-C15-C16
6	W	1002	07D	C14-C13-C15-C16
6	W	1002	07D	C1-C2-C3-C4
6	W	1002	07D	C1A-C2A-CAA-CBA
6	W	1002	07D	C3A-C2A-CAA-CBA
6	W	1002	07D	C4B-C3B-CAB-CBB
6	W	1002	07D	C4B-C3B-CAB-OBB
6	Y	102	07D	C3-C5-C6-C7
6	Y	102	07D	C4-C3-C5-C6
6	Y	102	07D	C11-C10-C8-C7
6	Y	102	07D	C11-C10-C8-C9
6	Y	102	07D	C1-C2-C3-C4
6	Y	102	07D	C3A-C2A-CAA-CBA
6	Y	102	07D	C2B-C3B-CAB-CBB
6	Y	102	07D	C2B-C3B-CAB-OBB
6	Y	102	07D	C4B-C3B-CAB-CBB
6	Y	102	07D	C4B-C3B-CAB-OBB
6	Z	1001	07D	C8-C10-C11-C12
6	Z	1001	07D	C1A-C2A-CAA-CBA
6	d	1002	07D	C13-C15-C16-C17

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Mol	Chain	Res	Type	Atoms
6	d	1002	07D	C1-C2-C3-C4
6	d	1002	07D	C1-C2-C3-C5
6	d	1002	07D	C3A-C2A-CAA-CBA
6	d	1002	07D	C2B-C3B-CAB-CBB
6	d	1002	07D	C2B-C3B-CAB-OBB
6	d	1002	07D	C4B-C3B-CAB-CBB
6	d	1002	07D	C4B-C3B-CAB-OBB
6	m	102	07D	O2A-C1-C2-C3
6	m	102	07D	C1-C2-C3-C4
6	m	102	07D	C1-C2-C3-C5
6	m	102	07D	C2B-C3B-CAB-CBB
6	m	102	07D	C2B-C3B-CAB-OBB
6	m	102	07D	C4B-C3B-CAB-CBB
6	m	102	07D	C4B-C3B-CAB-OBB
6	n	102	07D	C12-C13-C15-C16
6	n	102	07D	C14-C13-C15-C16
6	n	102	07D	C1-C2-C3-C4
6	n	102	07D	C3A-C2A-CAA-CBA
6	n	102	07D	C2B-C3B-CAB-CBB
6	n	102	07D	C2B-C3B-CAB-OBB
6	n	102	07D	C4B-C3B-CAB-CBB
6	n	102	07D	C4B-C3B-CAB-OBB
7	1	1002	CRT	C32-C33-C35-C36
7	1	1002	CRT	C34-C33-C35-C36
7	3	101	CRT	C10-C11-C12-C13
7	3	101	CRT	C10-C11-C12-C14
7	3	101	CRT	C15-C16-C17-C18
7	3	101	CRT	C15-C16-C17-C19
7	3	101	CRT	C32-C33-C35-C36
7	3	101	CRT	C34-C33-C35-C36
7	5	101	CRT	C1-C4-C5-C6
7	5	101	CRT	C32-C33-C35-C36
7	7	101	CRT	C2-C1-C4-C5
7	7	101	CRT	C3-C1-C4-C5
7	7	101	CRT	C5-C6-C7-C8
7	7	101	CRT	C5-C6-C7-C9
7	7	101	CRT	C15-C16-C17-C18
7	7	101	CRT	C15-C16-C17-C19
7	7	101	CRT	C32-C33-C35-C36
7	7	101	CRT	C34-C33-C35-C36
7	9	101	CRT	C10-C11-C12-C13
7	9	101	CRT	C10-C11-C12-C14

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Mol	Chain	Res	Type	Atoms
7	9	101	CRT	C32-C33-C35-C36
7	9	101	CRT	C34-C33-C35-C36
7	9	101	CRT	C40-C38-O2-C2M
7	I	101	CRT	C5-C6-C7-C8
7	I	101	CRT	C5-C6-C7-C9
7	I	101	CRT	C32-C33-C35-C36
7	I	101	CRT	C34-C33-C35-C36
7	K	101	CRT	C15-C16-C17-C18
7	K	101	CRT	C32-C33-C35-C36
7	K	101	CRT	C34-C33-C35-C36
7	M	405	CRT	C22-C23-C25-C26
7	M	405	CRT	C24-C23-C25-C26
7	M	405	CRT	C34-C33-C35-C36
7	O	101	CRT	C10-C11-C12-C13
7	O	101	CRT	C10-C11-C12-C14
7	O	101	CRT	C15-C16-C17-C18
7	O	101	CRT	C15-C16-C17-C19
7	O	101	CRT	C35-C36-C37-C38
7	Q	101	CRT	C34-C33-C35-C36
7	S	101	CRT	C32-C33-C35-C36
7	S	101	CRT	C34-C33-C35-C36
7	U	101	CRT	C27-C28-C30-C31
7	U	101	CRT	C29-C28-C30-C31
7	U	101	CRT	C32-C33-C35-C36
7	U	101	CRT	C34-C33-C35-C36
7	W	1001	CRT	C32-C33-C35-C36
7	W	1001	CRT	C34-C33-C35-C36
7	Y	101	CRT	C3-C1-C4-C5
7	Y	101	CRT	C35-C36-C37-C38
7	d	1001	CRT	C2-C1-C4-C5
7	d	1001	CRT	C5-C6-C7-C8
7	d	1001	CRT	C5-C6-C7-C9
7	d	1001	CRT	C15-C16-C17-C18
7	m	101	CRT	C3-C1-C4-C5
7	m	101	CRT	C15-C16-C17-C18
7	m	101	CRT	C15-C16-C17-C19
7	n	101	CRT	C10-C11-C12-C13
7	n	101	CRT	C10-C11-C12-C14
7	n	101	CRT	C32-C33-C35-C36
7	n	101	CRT	C34-C33-C35-C36
9	L	1001	BPH	C3A-C2A-CAA-CBA
10	L	1002	U10	C42-C43-C44-C45

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Mol	Chain	Res	Type	Atoms
10	L	1002	U10	C42-C43-C44-C46
10	L	1005	U10	C29-C31-C32-C33
10	L	1005	U10	C34-C36-C37-C38
10	M	402	U10	C52-C53-C54-C55
10	M	402	U10	C52-C53-C54-C56
6	8	1001	07D	C3A-C2A-CAA-CBA
6	D	1001	07D	C3A-C2A-CAA-CBA
6	Z	1001	07D	C3A-C2A-CAA-CBA
6	5	102	07D	C12-C13-C15-C16
6	Y	102	07D	C2-C3-C5-C6
6	5	102	07D	C1A-C2A-CAA-CBA
6	9	102	07D	C1A-C2A-CAA-CBA
6	I	102	07D	C1A-C2A-CAA-CBA
6	J	1001	07D	C1A-C2A-CAA-CBA
6	O	102	07D	C1A-C2A-CAA-CBA
6	S	102	07D	C1A-C2A-CAA-CBA
6	Y	102	07D	C1A-C2A-CAA-CBA
6	d	1002	07D	C1A-C2A-CAA-CBA
6	n	102	07D	C1A-C2A-CAA-CBA
6	5	102	07D	C1-C2-C3-C5
6	A	101	07D	C1-C2-C3-C5
6	E	1001	07D	C1-C2-C3-C5
6	H	301	07D	C1-C2-C3-C5
6	I	102	07D	C1-C2-C3-C5
6	J	1001	07D	C1-C2-C3-C5
6	L	1004	07D	C1-C2-C3-C5
6	W	1002	07D	C1-C2-C3-C5
6	Y	102	07D	C1-C2-C3-C5
6	n	102	07D	C1-C2-C3-C5
10	L	1005	U10	C12-C13-C14-C15
10	L	1005	U10	C37-C38-C39-C40
10	L	1005	U10	C37-C38-C39-C41
7	M	405	CRT	C11-C10-C9-C7
7	Y	101	CRT	C11-C10-C9-C7
6	2	1001	07D	C11-C10-C8-C9
6	3	102	07D	C14-C13-C15-C16
6	5	102	07D	C11-C10-C8-C9
6	8	1001	07D	C4-C3-C5-C6
6	9	102	07D	C4-C3-C5-C6
6	O	102	07D	C4-C3-C5-C6
6	S	102	07D	C11-C10-C8-C9
6	W	1002	07D	C11-C10-C8-C9

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Mol	Chain	Res	Type	Atoms
6	Y	102	07D	C14-C13-C15-C16
6	d	1002	07D	C4-C3-C5-C6
6	n	102	07D	C4-C3-C5-C6
10	L	1002	U10	C25-C24-C26-C27
6	2	1001	07D	C11-C10-C8-C7
6	3	102	07D	C12-C13-C15-C16
6	5	102	07D	C11-C10-C8-C7
6	8	1001	07D	C2-C3-C5-C6
6	9	102	07D	C2-C3-C5-C6
6	I	102	07D	C2-C3-C5-C6
6	O	102	07D	C2-C3-C5-C6
6	S	102	07D	C11-C10-C8-C7
6	W	1002	07D	C11-C10-C8-C7
6	Y	102	07D	C12-C13-C15-C16
6	d	1002	07D	C2-C3-C5-C6
6	n	102	07D	C2-C3-C5-C6
10	L	1002	U10	C23-C24-C26-C27
6	2	1001	07D	C3-C5-C6-C7
6	3	102	07D	C13-C15-C16-C17
6	4	1001	07D	C13-C15-C16-C17
6	7	102	07D	C8-C10-C11-C12
6	8	1001	07D	C3-C5-C6-C7
6	9	102	07D	C3-C5-C6-C7
6	A	101	07D	C3-C5-C6-C7
6	F	1001	07D	C3-C5-C6-C7
6	I	102	07D	C8-C10-C11-C12
6	I	102	07D	C13-C15-C16-C17
6	J	1001	07D	C3-C5-C6-C7
6	M	403	07D	C8-C10-C11-C12
6	O	102	07D	C13-C15-C16-C17
6	S	102	07D	C3-C5-C6-C7
6	S	102	07D	C8-C10-C11-C12
6	T	101	07D	C3-C5-C6-C7
6	V	1001	07D	C3-C5-C6-C7
6	W	1002	07D	C8-C10-C11-C12
6	d	1002	07D	C3-C5-C6-C7
6	m	102	07D	C13-C15-C16-C17
6	n	102	07D	C3-C5-C6-C7
6	n	102	07D	C8-C10-C11-C12
6	n	102	07D	C13-C15-C16-C17
10	L	1005	U10	C14-C16-C17-C18
10	L	1005	U10	C24-C26-C27-C28

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Mol	Chain	Res	Type	Atoms
10	L	1005	U10	C39-C41-C42-C43
10	M	402	U10	C49-C51-C52-C53
6	U	102	07D	C1A-C2A-CAA-CBA
10	L	1002	U10	C17-C18-C19-C20
6	R	101	07D	C14-C13-C15-C16
9	M	401	BPH	C11-C12-C13-C14
7	5	101	CRT	C10-C11-C12-C13
7	5	101	CRT	C15-C16-C17-C18
7	5	101	CRT	C34-C33-C35-C36
7	7	101	CRT	C10-C11-C12-C13
7	I	101	CRT	C29-C28-C30-C31
7	Q	101	CRT	C5-C6-C7-C8
7	Y	101	CRT	C34-C33-C35-C36
7	d	1001	CRT	C34-C33-C35-C36
7	m	101	CRT	C34-C33-C35-C36
7	n	101	CRT	C5-C6-C7-C8
7	n	101	CRT	C24-C23-C25-C26
7	Y	101	CRT	C10-C11-C12-C14
7	Y	101	CRT	C32-C33-C35-C36
7	d	1001	CRT	C32-C33-C35-C36
7	m	101	CRT	C32-C33-C35-C36
6	3	102	07D	C8-C10-C11-C12
6	4	1001	07D	C3-C5-C6-C7
6	5	102	07D	C8-C10-C11-C12
6	7	102	07D	C13-C15-C16-C17
6	D	1001	07D	C3-C5-C6-C7
6	D	1001	07D	C13-C15-C16-C17
6	E	1001	07D	C3-C5-C6-C7
6	F	1001	07D	C8-C10-C11-C12
6	F	1001	07D	C13-C15-C16-C17
6	G	1001	07D	C3-C5-C6-C7
6	H	301	07D	C8-C10-C11-C12
6	J	1001	07D	C8-C10-C11-C12
6	L	1003	07D	C3-C5-C6-C7
6	U	102	07D	C3-C5-C6-C7
6	V	1001	07D	C13-C15-C16-C17
6	W	1002	07D	C3-C5-C6-C7
6	Y	102	07D	C8-C10-C11-C12
6	m	102	07D	C8-C10-C11-C12
10	L	1002	U10	C24-C26-C27-C28
6	3	102	07D	C1A-C2A-CAA-CBA
6	m	102	07D	C3A-C2A-CAA-CBA

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Mol	Chain	Res	Type	Atoms
6	1	1001	07D	C11-C10-C8-C9
6	5	102	07D	C4-C3-C5-C6
6	U	102	07D	C14-C13-C15-C16
6	X	1001	07D	C11-C10-C8-C9
10	L	1002	U10	C35-C34-C36-C37
6	1	1001	07D	C2B-C3B-CAB-OBB
6	3	102	07D	C2B-C3B-CAB-OBB
6	5	102	07D	C2B-C3B-CAB-OBB
6	7	102	07D	C2B-C3B-CAB-OBB
6	Q	102	07D	C2B-C3B-CAB-OBB
6	d	1002	07D	C11-C10-C8-C9
9	L	1001	BPH	C4-C3-C5-C6
6	5	102	07D	C2-C3-C5-C6
6	X	1001	07D	C11-C10-C8-C7
10	L	1002	U10	C33-C34-C36-C37
7	O	101	CRT	C34-C33-C35-C36
7	W	1001	CRT	C15-C16-C17-C18
7	Y	101	CRT	C10-C11-C12-C13
7	K	101	CRT	C15-C16-C17-C19
7	M	405	CRT	C32-C33-C35-C36
7	O	101	CRT	C32-C33-C35-C36
7	Q	101	CRT	C32-C33-C35-C36
6	3	102	07D	C3-C5-C6-C7
10	L	1002	U10	C44-C46-C47-C48
6	M	404	07D	O2A-C1-C2-C3
6	R	101	07D	C1A-C2A-CAA-CBA
6	6	1001	07D	C4-C3-C5-C6
10	L	1005	U10	C25-C24-C26-C27
10	L	1005	U10	C23-C24-C26-C27
10	M	402	U10	C33-C34-C36-C37
10	L	1002	U10	C17-C18-C19-C21
10	L	1005	U10	C12-C13-C14-C16
10	L	1005	U10	C52-C53-C54-C55
6	E	1001	07D	C11-C10-C8-C9
10	M	402	U10	C35-C34-C36-C37
6	6	1001	07D	C2-C3-C5-C6
6	E	1001	07D	C11-C10-C8-C7
6	R	101	07D	C12-C13-C15-C16
6	Z	1001	07D	C2-C3-C5-C6
6	d	1002	07D	C11-C10-C8-C7
9	L	1001	BPH	C2-C3-C5-C6
10	L	1005	U10	C43-C44-C46-C47

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Mol	Chain	Res	Type	Atoms
10	L	1005	U10	C45-C44-C46-C47
6	1	1001	07D	C11-C10-C8-C7
6	U	102	07D	C12-C13-C15-C16
7	5	101	CRT	C15-C16-C17-C19
7	d	1001	CRT	C15-C16-C17-C19
9	M	401	BPH	C13-C15-C16-C17
6	1	1001	07D	C2A-CAA-CBA-CGA
7	m	101	CRT	C35-C36-C37-C38
7	n	101	CRT	C35-C36-C37-C38
6	F	1001	07D	C11-C10-C8-C9
6	Z	1001	07D	C4-C3-C5-C6
6	7	102	07D	C3A-C2A-CAA-CBA
6	K	102	07D	C1A-C2A-CAA-CBA
6	K	102	07D	CAA-CBA-CGA-O2A
6	9	102	07D	C1-C2-C3-C5
6	T	101	07D	C13-C15-C16-C17
6	U	102	07D	C13-C15-C16-C17
6	1	1001	07D	C2B-C3B-CAB-CBB
6	3	102	07D	C2B-C3B-CAB-CBB
6	7	102	07D	C2B-C3B-CAB-CBB
6	8	1001	07D	C2B-C3B-CAB-CBB
6	L	1003	07D	C2B-C3B-CAB-CBB
6	Q	102	07D	C2B-C3B-CAB-CBB
6	R	101	07D	C2B-C3B-CAB-CBB
6	W	1002	07D	C2B-C3B-CAB-CBB
6	W	1002	07D	C2B-C3B-CAB-OBB
6	I	102	07D	C14-C13-C15-C16
6	I	102	07D	C12-C13-C15-C16
6	m	102	07D	C1A-C2A-CAA-CBA
6	3	102	07D	C2A-CAA-CBA-CGA
7	S	101	CRT	C40-C38-O2-C2M
6	A	101	07D	CAA-CBA-CGA-O2A
6	Q	102	07D	CAA-CBA-CGA-O2A
10	L	1005	U10	C52-C53-C54-C56
7	Y	101	CRT	C2-C1-C4-C5
7	d	1001	CRT	C3-C1-C4-C5
7	m	101	CRT	C2-C1-C4-C5
7	n	101	CRT	C2-C1-C4-C5
7	n	101	CRT	C3-C1-C4-C5
6	R	101	07D	C4-C3-C5-C6
10	L	1005	U10	C30-C29-C31-C32
10	L	1005	U10	C50-C49-C51-C52

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Mol	Chain	Res	Type	Atoms
10	M	402	U10	C30-C29-C31-C32
9	M	401	BPH	C11-C12-C13-C15
6	O	102	07D	C3A-C2A-CAA-CBA
6	7	102	07D	CAA-CBA-CGA-O2A
7	d	1001	CRT	O1-C1-C4-C5
7	I	101	CRT	C27-C28-C30-C31
7	n	101	CRT	C22-C23-C25-C26
6	Q	102	07D	C1A-C2A-CAA-CBA
6	6	1001	07D	C8-C10-C11-C12
6	X	1001	07D	C8-C10-C11-C12
6	X	1001	07D	C3A-C2A-CAA-CBA
6	D	1001	07D	C1-C2-C3-C5
6	Q	102	07D	C4-C3-C5-C6
6	R	101	07D	C2-C3-C5-C6
10	L	1005	U10	C28-C29-C31-C32
10	L	1005	U10	C48-C49-C51-C52
10	M	402	U10	C28-C29-C31-C32
6	K	102	07D	C2A-CAA-CBA-CGA
6	O	102	07D	C2A-CAA-CBA-CGA
6	Q	102	07D	C2A-CAA-CBA-CGA
9	L	1001	BPH	O2A-C1-C2-C3
6	2	1001	07D	C1A-C2A-CAA-CBA
6	2	1001	07D	C3A-C2A-CAA-CBA
6	V	1001	07D	C3A-C2A-CAA-CBA
6	2	1001	07D	C4-C3-C5-C6
6	U	102	07D	C11-C10-C8-C9
6	F	1001	07D	C11-C10-C8-C7
6	U	102	07D	CAA-CBA-CGA-O2A
6	G	1001	07D	C3A-C2A-CAA-CBA
6	1	1001	07D	C13-C15-C16-C17
6	9	102	07D	C8-C10-C11-C12
6	R	101	07D	C3-C5-C6-C7
10	M	402	U10	C24-C26-C27-C28
10	M	402	U10	C29-C31-C32-C33
6	W	1002	07D	C4-C3-C5-C6
6	3	102	07D	C2-C1-O2A-CGA
6	U	102	07D	C2-C1-O2A-CGA
9	L	1001	BPH	C1A-C2A-CAA-CBA
6	O	102	07D	CAA-CBA-CGA-O2A
10	L	1002	U10	C52-C53-C54-C55
7	5	101	CRT	C10-C11-C12-C14
7	7	101	CRT	C10-C11-C12-C14

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Mol	Chain	Res	Type	Atoms
7	Q	101	CRT	C5-C6-C7-C9
7	n	101	CRT	C5-C6-C7-C9
6	U	102	07D	C2A-CAA-CBA-CGA
9	M	401	BPH	C8-C10-C11-C12
9	L	1001	BPH	C16-C17-C18-C20
6	2	1001	07D	C2-C3-C5-C6
6	W	1002	07D	C2-C3-C5-C6
6	8	1001	07D	C4B-C3B-CAB-OBB
6	L	1003	07D	C4B-C3B-CAB-OBB
6	R	101	07D	C4B-C3B-CAB-OBB
6	N	101	07D	C2B-C3B-CAB-CBB
6	V	1001	07D	C2B-C3B-CAB-CBB
6	8	1001	07D	C2B-C3B-CAB-OBB
6	L	1003	07D	C2B-C3B-CAB-OBB
6	R	101	07D	C2B-C3B-CAB-OBB
6	F	1001	07D	C3A-C2A-CAA-CBA
9	M	401	BPH	CAD-CBD-CGD-O2D
6	K	102	07D	C11-C10-C8-C9
6	M	403	07D	C4-C3-C5-C6
6	2	1001	07D	CHA-CBD-CGD-O1D
6	4	1001	07D	CHA-CBD-CGD-O1D
6	4	1001	07D	CHA-CBD-CGD-O2D
6	D	1001	07D	CHA-CBD-CGD-O2D
6	H	301	07D	CHA-CBD-CGD-O1D
6	H	301	07D	CHA-CBD-CGD-O2D
6	M	403	07D	CHA-CBD-CGD-O1D
6	E	1001	07D	C14-C13-C15-C16
6	F	1001	07D	C14-C13-C15-C16
6	Y	102	07D	CAA-CBA-CGA-O2A
7	9	101	CRT	C15-C16-C17-C18
7	M	405	CRT	C10-C11-C12-C13
7	Q	101	CRT	C15-C16-C17-C18
7	U	101	CRT	C24-C23-C25-C26
6	U	102	07D	C3A-C2A-CAA-CBA
7	M	405	CRT	C10-C11-C12-C14
7	Q	101	CRT	C15-C16-C17-C19
7	U	101	CRT	C22-C23-C25-C26
7	W	1001	CRT	C15-C16-C17-C19
7	n	101	CRT	C11-C10-C9-C7
6	V	1001	07D	C11-C10-C8-C9
6	7	102	07D	C2A-CAA-CBA-CGA
6	3	102	07D	C3A-C2A-CAA-CBA

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Mol	Chain	Res	Type	Atoms
6	4	1001	07D	CAD-CBD-CGD-O1D
6	H	301	07D	CAD-CBD-CGD-O1D
7	1	1002	CRT	C1-C4-C5-C6
7	3	101	CRT	C1-C4-C5-C6
7	5	101	CRT	C35-C36-C37-C38
7	9	101	CRT	C35-C36-C37-C38
7	U	101	CRT	C35-C36-C37-C38
7	W	1001	CRT	C35-C36-C37-C38
7	d	1001	CRT	C35-C36-C37-C38
9	M	401	BPH	C6-C7-C8-C10
7	M	405	CRT	C20-C21-C22-C23
6	3	102	07D	CAA-CBA-CGA-O2A
6	5	102	07D	CAA-CBA-CGA-O2A
9	L	1001	BPH	C11-C10-C8-C9
6	N	101	07D	C3A-C2A-CAA-CBA
6	6	1001	07D	C13-C15-C16-C17
6	n	102	07D	C2A-CAA-CBA-CGA
6	W	1002	07D	CAA-CBA-CGA-O2A
7	m	101	CRT	C12-C14-C15-C16
10	L	1002	U10	C52-C53-C54-C56
10	L	1005	U10	C5-C4-O4-C4M
6	6	1001	07D	CAA-CBA-CGA-O2A
6	9	102	07D	CAA-CBA-CGA-O2A
6	n	102	07D	CAA-CBA-CGA-O2A
6	M	403	07D	C2-C3-C5-C6
6	Q	102	07D	C2-C1-O2A-CGA
6	X	1001	07D	C14-C13-C15-C16
6	F	1001	07D	C12-C13-C15-C16
6	Q	102	07D	C2-C3-C5-C6
6	V	1001	07D	C11-C10-C8-C7
6	H	301	07D	C3-C5-C6-C7
7	9	101	CRT	C39-C38-O2-C2M
7	S	101	CRT	C39-C38-O2-C2M
7	O	101	CRT	C2-C1-C4-C5
7	Q	101	CRT	C36-C37-C38-C39
7	Q	101	CRT	C36-C37-C38-C40
6	4	1001	07D	C4-C3-C5-C6
6	E	1001	07D	C12-C13-C15-C16
6	R	101	07D	C3A-C2A-CAA-CBA
6	N	101	07D	C1A-C2A-CAA-CBA
6	X	1001	07D	C1A-C2A-CAA-CBA
9	L	1001	BPH	C16-C17-C18-C19

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Mol	Chain	Res	Type	Atoms
10	L	1002	U10	C5-C4-O4-C4M
7	W	1001	CRT	C10-C11-C12-C13
7	9	101	CRT	C15-C16-C17-C19
6	U	102	07D	C11-C10-C8-C7
7	W	1001	CRT	C25-C26-C27-C28
6	N	101	07D	C1-C2-C3-C5
6	A	101	07D	C11-C10-C8-C9
6	D	1001	07D	C4-C3-C5-C6
6	L	1004	07D	C14-C13-C15-C16
6	A	101	07D	C11-C10-C8-C7
6	O	102	07D	C2-C1-O2A-CGA
6	Z	1001	07D	C2-C1-O2A-CGA
6	K	102	07D	CAA-CBA-CGA-O1A
6	T	101	07D	C4-C3-C5-C6
6	I	102	07D	CAA-CBA-CGA-O2A
6	L	1004	07D	C2A-CAA-CBA-CGA
6	E	1001	07D	C2B-C3B-CAB-CBB
6	G	1001	07D	C1A-C2A-CAA-CBA
7	1	1002	CRT	C10-C11-C12-C13
7	d	1001	CRT	C10-C11-C12-C13
6	8	1001	07D	C11-C10-C8-C9
6	H	301	07D	C11-C10-C8-C9
6	n	102	07D	C11-C10-C8-C9
9	M	401	BPH	C4-C3-C5-C6
9	L	1001	BPH	C6-C7-C8-C10
6	6	1001	07D	C3A-C2A-CAA-CBA
10	L	1002	U10	C47-C48-C49-C50
10	L	1002	U10	C40-C39-C41-C42
10	L	1005	U10	C40-C39-C41-C42
10	M	402	U10	C40-C39-C41-C42
10	M	402	U10	C45-C44-C46-C47
6	8	1001	07D	C11-C10-C8-C7
6	D	1001	07D	C11-C10-C8-C7
6	H	301	07D	C11-C10-C8-C7
6	T	101	07D	C2A-CAA-CBA-CGA
6	W	1002	07D	C2A-CAA-CBA-CGA
6	d	1002	07D	CAA-CBA-CGA-O2A
6	4	1001	07D	C3A-C2A-CAA-CBA
7	7	101	CRT	C35-C36-C37-C38
7	S	101	CRT	C35-C36-C37-C38
6	E	1001	07D	C8-C10-C11-C12
6	G	1001	07D	C13-C15-C16-C17

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Mol	Chain	Res	Type	Atoms
6	H	301	07D	C13-C15-C16-C17
6	N	101	07D	C8-C10-C11-C12
6	J	1001	07D	C14-C13-C15-C16
6	L	1003	07D	C11-C10-C8-C9
6	Q	102	07D	C11-C10-C8-C9
6	D	1001	07D	C2-C3-C5-C6
6	T	101	07D	C2-C3-C5-C6
6	A	101	07D	CAA-CBA-CGA-O1A
6	Q	102	07D	CAA-CBA-CGA-O1A
6	X	1001	07D	CAA-CBA-CGA-O2A
7	d	1001	CRT	C12-C14-C15-C16
7	d	1001	CRT	C10-C11-C12-C14
6	4	1001	07D	C2-C3-C5-C6
6	X	1001	07D	C12-C13-C15-C16
6	F	1001	07D	CAA-CBA-CGA-O2A
6	7	102	07D	CAA-CBA-CGA-O1A
10	M	402	U10	C5-C4-O4-C4M
6	9	102	07D	C11-C10-C8-C9
6	D	1001	07D	C11-C10-C8-C9
6	F	1001	07D	C4-C3-C5-C6
6	V	1001	07D	C4-C3-C5-C6
6	Z	1001	07D	C14-C13-C15-C16
7	S	101	CRT	C37-C38-O2-C2M
10	L	1002	U10	C39-C41-C42-C43
10	M	402	U10	C14-C16-C17-C18
6	K	102	07D	C11-C10-C8-C7
6	n	102	07D	C11-C10-C8-C7
10	L	1005	U10	C38-C39-C41-C42
6	2	1001	07D	C1-C2-C3-C4
6	4	1001	07D	C1-C2-C3-C4
6	E	1001	07D	C4B-C3B-CAB-OBB
6	F	1001	07D	C1-C2-C3-C4
6	G	1001	07D	C1-C2-C3-C4
6	M	403	07D	C1-C2-C3-C4
6	N	101	07D	C4B-C3B-CAB-OBB
6	O	102	07D	C1-C2-C3-C4
6	R	101	07D	C1-C2-C3-C4
6	U	102	07D	C1-C2-C3-C4
6	V	1001	07D	C1-C2-C3-C4
6	V	1001	07D	C4B-C3B-CAB-OBB
6	M	403	07D	CAA-CBA-CGA-O2A
6	M	403	07D	C4C-C3C-CAC-CBC

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Mol	Chain	Res	Type	Atoms
6	N	101	07D	C2B-C3B-CAB-OBB
6	V	1001	07D	C2B-C3B-CAB-OBB
6	m	102	07D	C4-C3-C5-C6
10	M	402	U10	C50-C49-C51-C52
6	R	101	07D	C2A-CAA-CBA-CGA
6	m	102	07D	C2A-CAA-CBA-CGA
6	J	1001	07D	C12-C13-C15-C16
9	M	401	BPH	C6-C7-C8-C9
6	3	102	07D	C11-C10-C8-C9
10	L	1002	U10	C50-C49-C51-C52
6	6	1001	07D	C12-C13-C15-C16
6	9	102	07D	C11-C10-C8-C7
10	L	1002	U10	C38-C39-C41-C42
10	M	402	U10	C38-C39-C41-C42
10	M	402	U10	C43-C44-C46-C47
6	S	102	07D	CAA-CBA-CGA-O2A
7	1	1002	CRT	C10-C11-C12-C14
7	Q	101	CRT	C27-C28-C30-C31
7	W	1001	CRT	C10-C11-C12-C14
6	M	403	07D	C2C-C3C-CAC-CBC
6	U	102	07D	CAA-CBA-CGA-O1A
6	1	1001	07D	CHA-CBD-CGD-O1D
6	1	1001	07D	CHA-CBD-CGD-O2D
6	2	1001	07D	CHA-CBD-CGD-O2D
6	6	1001	07D	CHA-CBD-CGD-O1D
6	6	1001	07D	CHA-CBD-CGD-O2D
6	8	1001	07D	CHA-CBD-CGD-O1D
6	8	1001	07D	CHA-CBD-CGD-O2D
6	F	1001	07D	CHA-CBD-CGD-O1D
6	F	1001	07D	CHA-CBD-CGD-O2D
6	L	1003	07D	CHA-CBD-CGD-O1D
6	L	1003	07D	CHA-CBD-CGD-O2D
6	N	101	07D	CHA-CBD-CGD-O1D
6	N	101	07D	CHA-CBD-CGD-O2D
6	S	102	07D	CHA-CBD-CGD-O1D
6	S	102	07D	CHA-CBD-CGD-O2D
6	W	1002	07D	CHA-CBD-CGD-O1D
6	W	1002	07D	CHA-CBD-CGD-O2D
6	Z	1001	07D	CHA-CBD-CGD-O1D
6	Z	1001	07D	CHA-CBD-CGD-O2D
6	m	102	07D	CHA-CBD-CGD-O1D
6	m	102	07D	CHA-CBD-CGD-O2D

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Mol	Chain	Res	Type	Atoms
6	n	102	07D	CHA-CBD-CGD-O2D
6	Z	1001	07D	CAA-CBA-CGA-O2A
6	K	102	07D	C3A-C2A-CAA-CBA
7	U	101	CRT	C39-C38-O2-C2M
7	U	101	CRT	C40-C38-O2-C2M
6	D	1001	07D	CAA-CBA-CGA-O2A
6	3	102	07D	C11-C10-C8-C7
9	L	1001	BPH	C11-C10-C8-C7
6	N	101	07D	C13-C15-C16-C17
6	Z	1001	07D	C3-C5-C6-C7
10	L	1002	U10	C3-C4-O4-C4M
7	7	101	CRT	O1-C1-C4-C5
6	Z	1001	07D	C12-C13-C15-C16
9	M	401	BPH	C2-C3-C5-C6
7	n	101	CRT	C15-C16-C17-C19
6	5	102	07D	C15-C16-C17-C18
6	E	1001	07D	C5-C6-C7-C8
6	N	101	07D	C5-C6-C7-C8
6	U	102	07D	C10-C11-C12-C13
6	O	102	07D	CAA-CBA-CGA-O1A
6	L	1003	07D	CAA-CBA-CGA-O2A
6	F	1001	07D	C1A-C2A-CAA-CBA
6	D	1001	07D	C2B-C3B-CAB-CBB
6	D	1001	07D	C2B-C3B-CAB-OBB
6	E	1001	07D	C2B-C3B-CAB-OBB
6	L	1004	07D	C12-C13-C15-C16
6	1	1001	07D	CAD-CBD-CGD-O1D
6	6	1001	07D	CAD-CBD-CGD-O1D
6	8	1001	07D	CAD-CBD-CGD-O1D
6	9	102	07D	CAD-CBD-CGD-O1D
6	D	1001	07D	CAA-CBA-CGA-O1A
10	L	1005	U10	C47-C48-C49-C50
7	1	1002	CRT	C35-C36-C37-C38
7	m	101	CRT	C1-C4-C5-C6
6	Z	1001	07D	CAA-CBA-CGA-O1A
6	6	1001	07D	C14-C13-C15-C16
10	L	1005	U10	C15-C14-C16-C17
7	Q	101	CRT	C29-C28-C30-C31
6	Z	1001	07D	C11-C10-C8-C7
6	H	301	07D	CAA-CBA-CGA-O2A
7	S	101	CRT	C10-C11-C12-C14
7	Y	101	CRT	C27-C28-C30-C31

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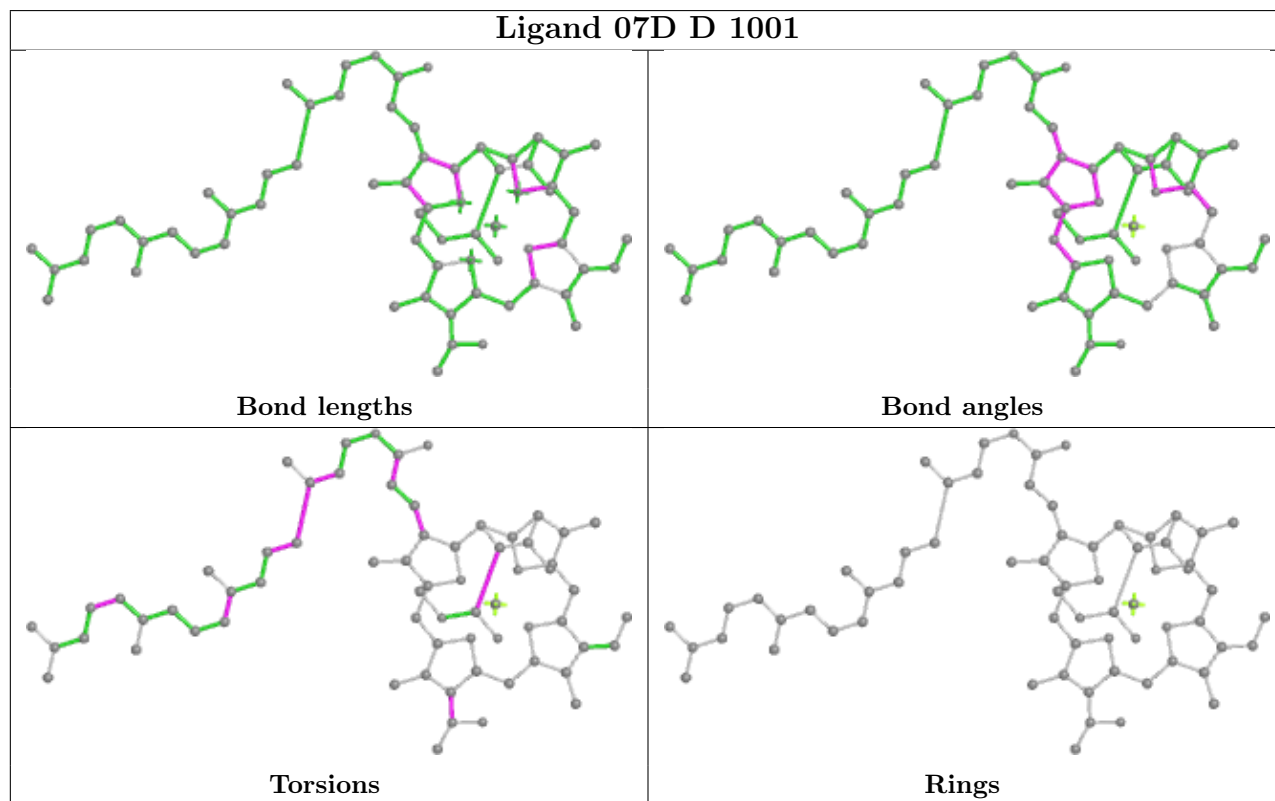
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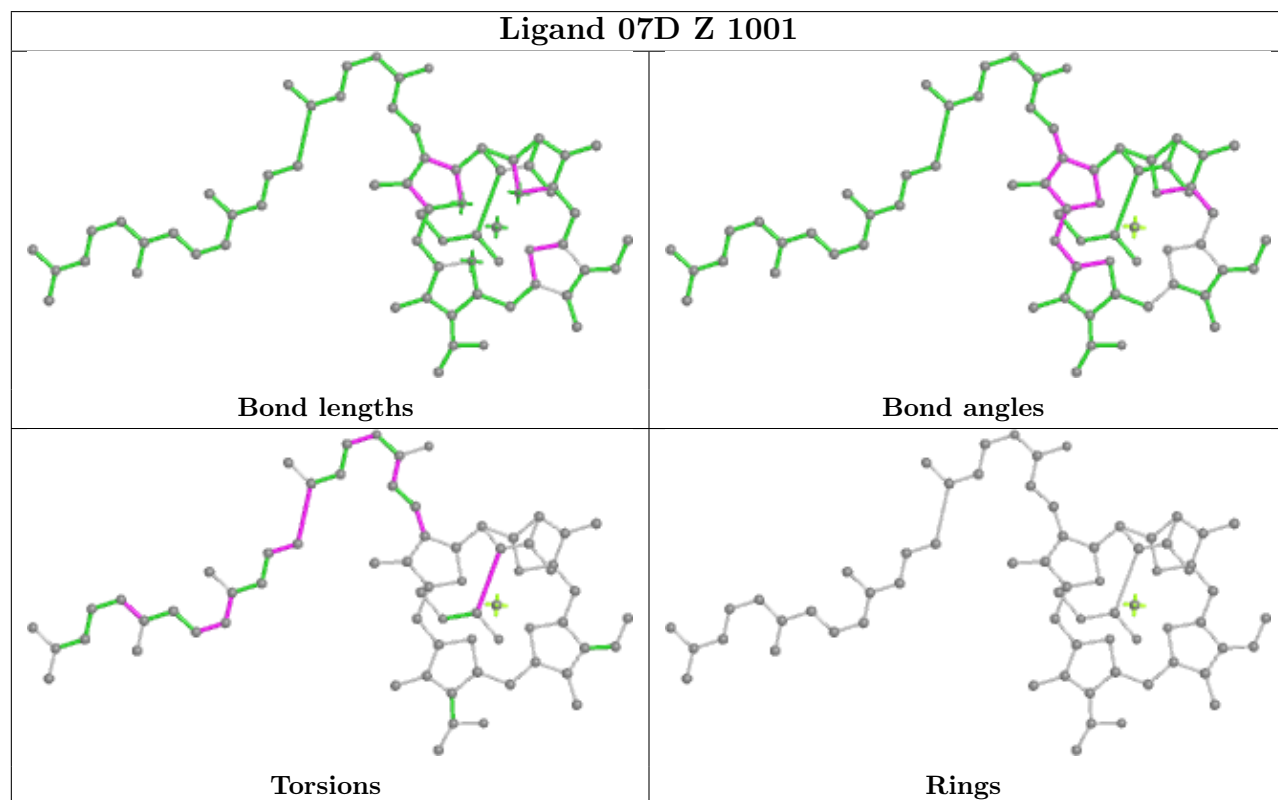
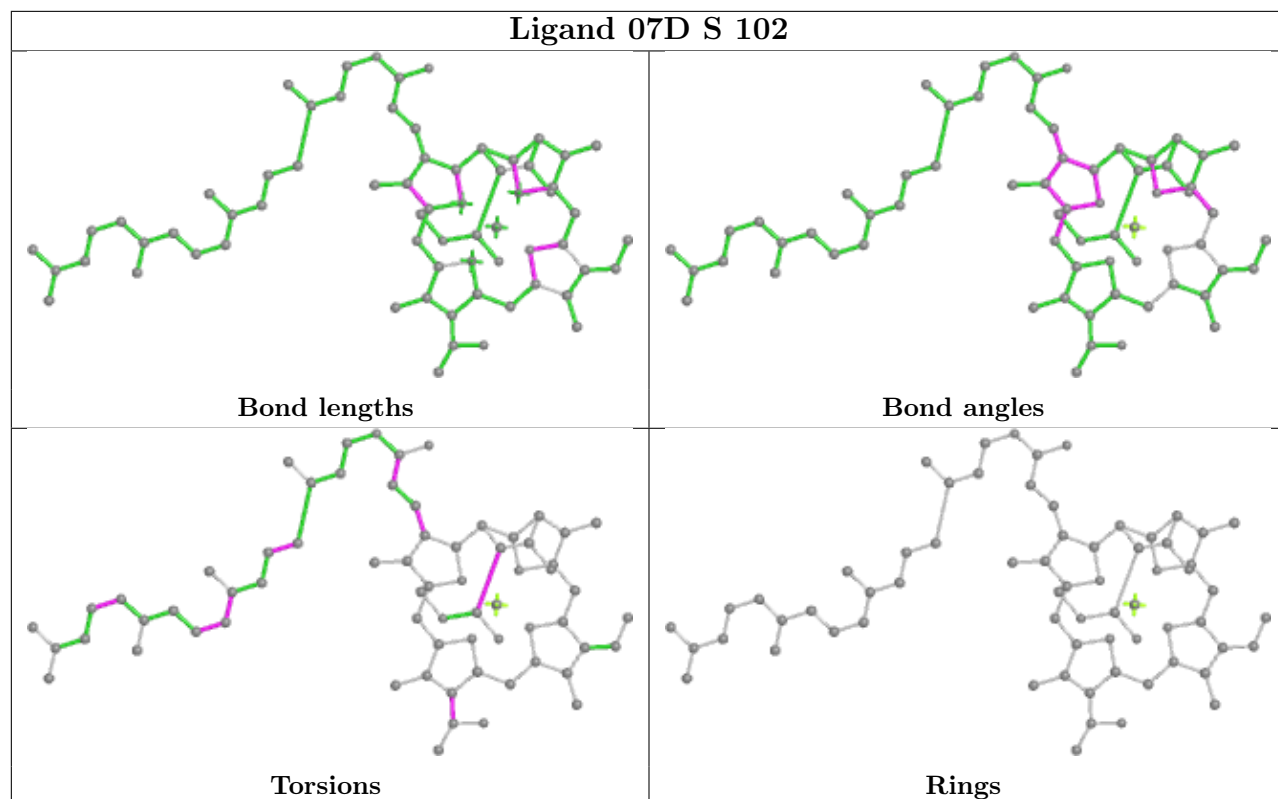
Mol	Chain	Res	Type	Atoms
7	d	1001	CRT	C22-C23-C25-C26
10	M	402	U10	C3-C4-O4-C4M
6	L	1003	07D	CAA-CBA-CGA-O1A
9	L	1001	BPH	C15-C16-C17-C18
6	G	1001	07D	CAA-CBA-CGA-O2A

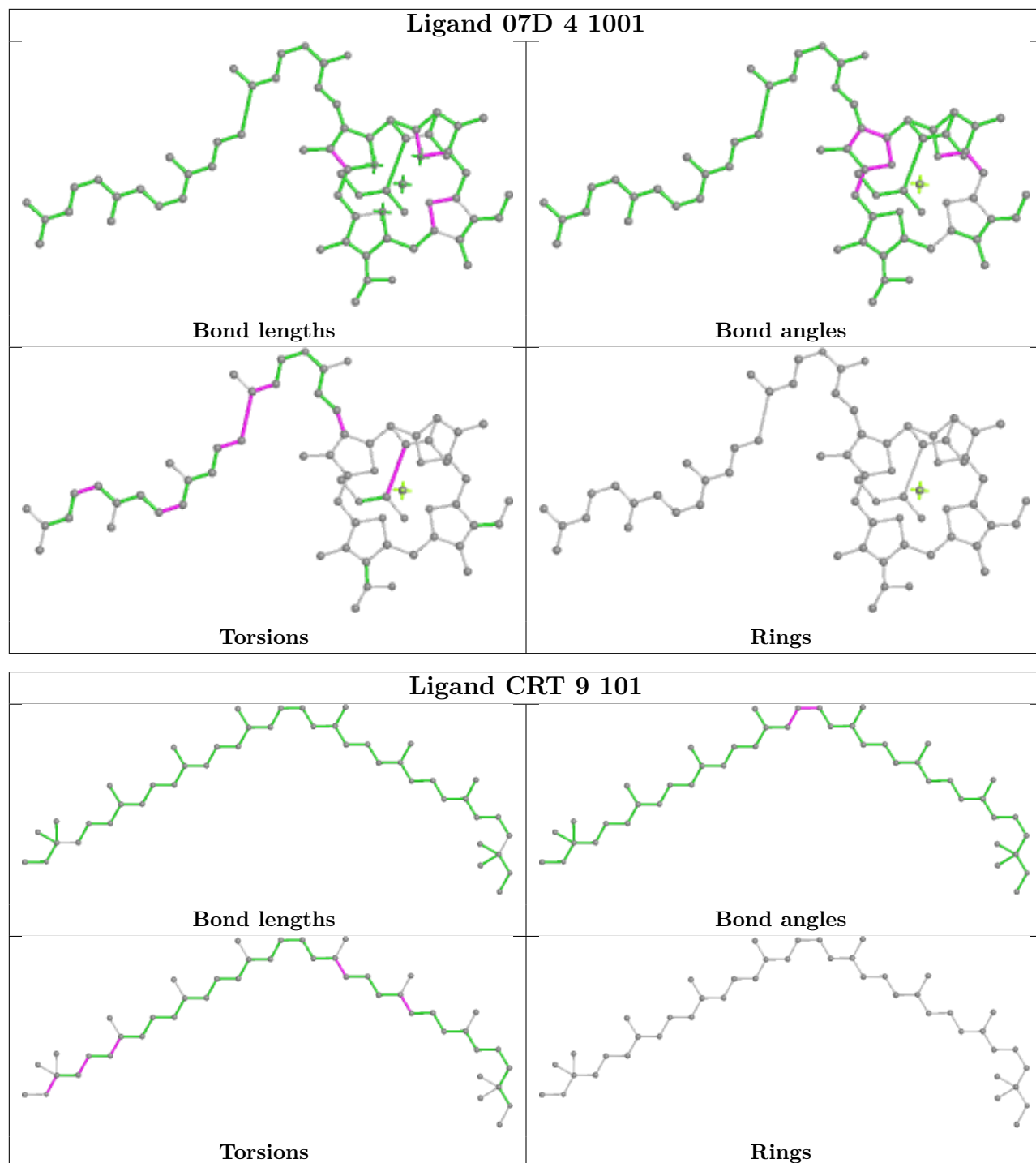
There are no ring outliers.

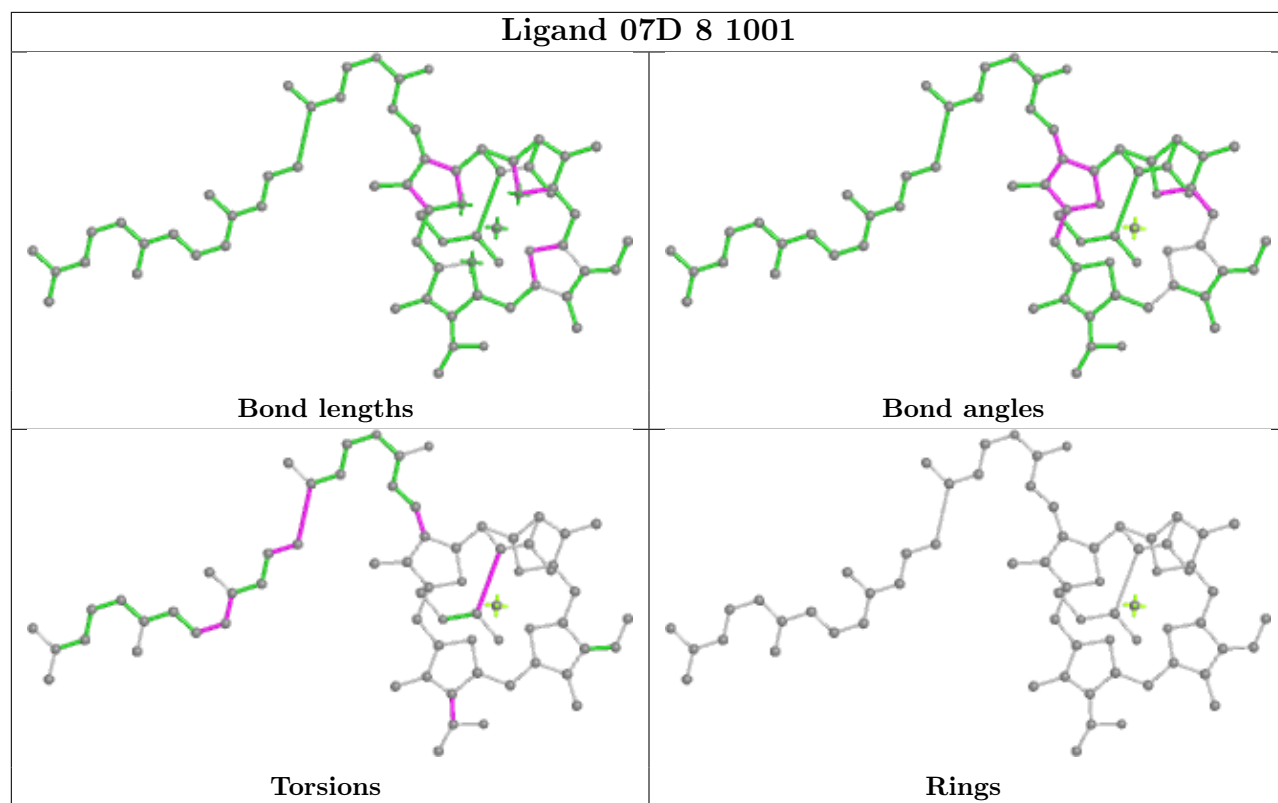
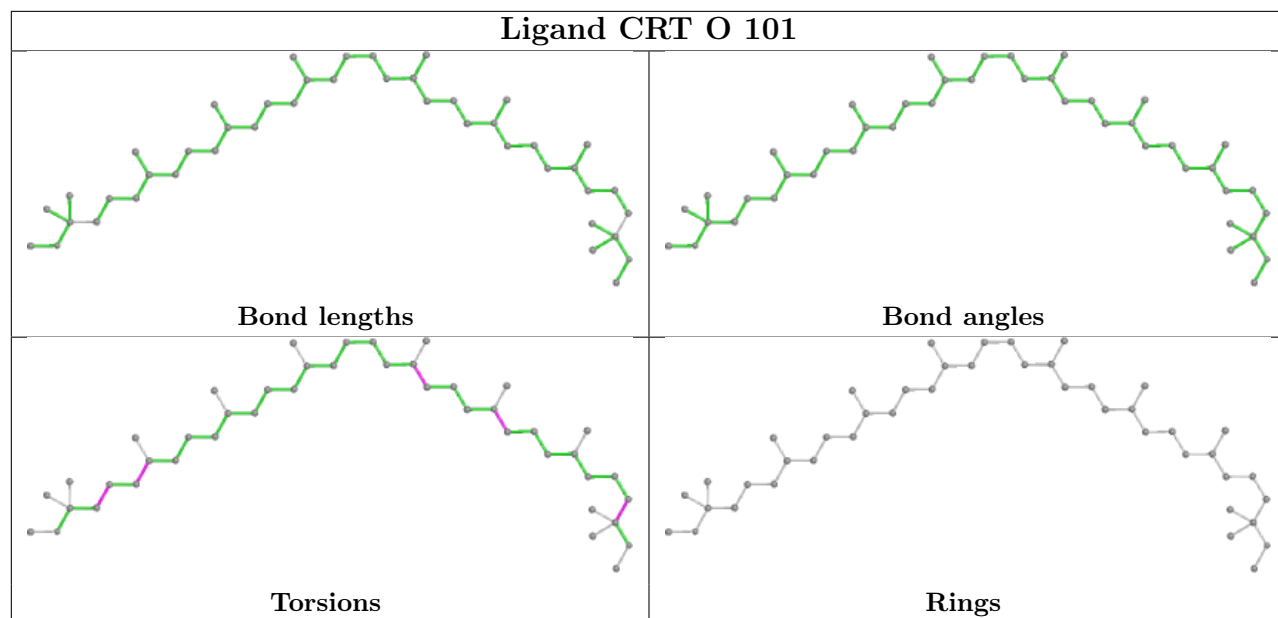
No monomer is involved in short contacts.

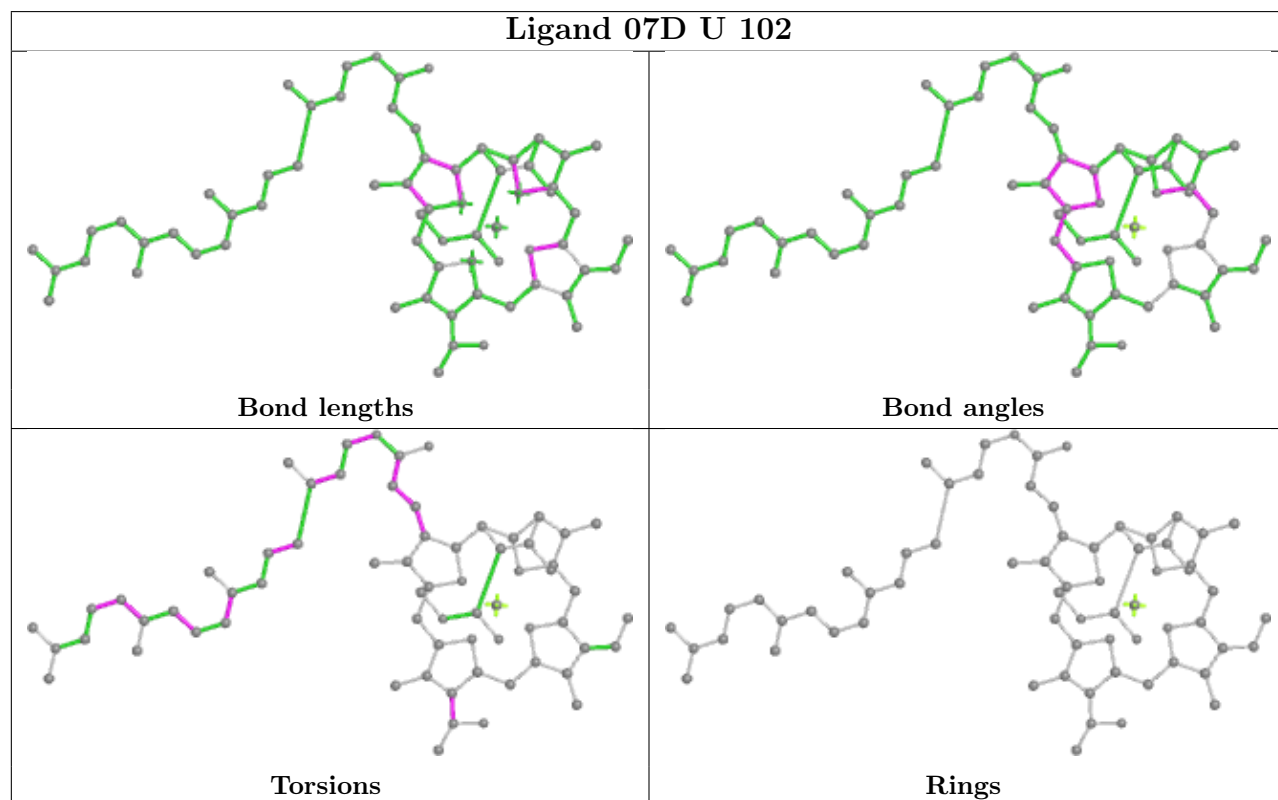
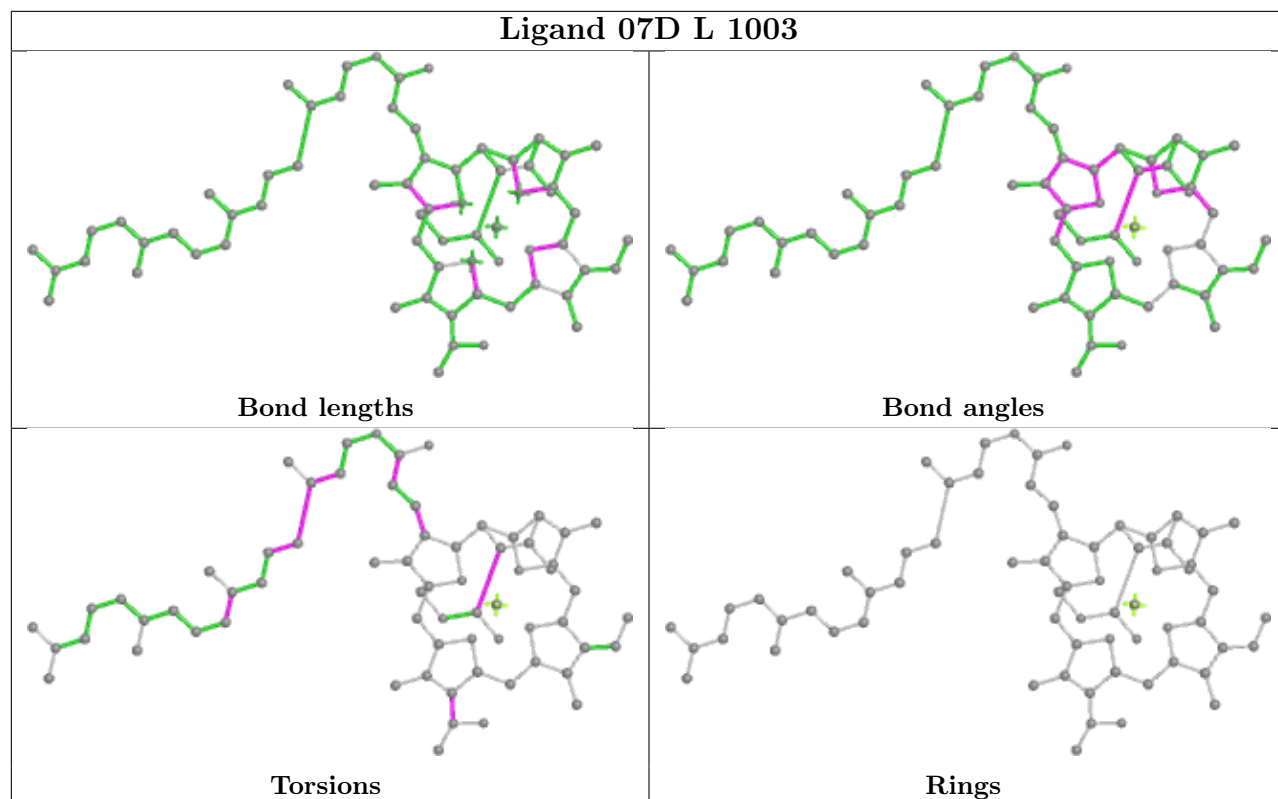
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

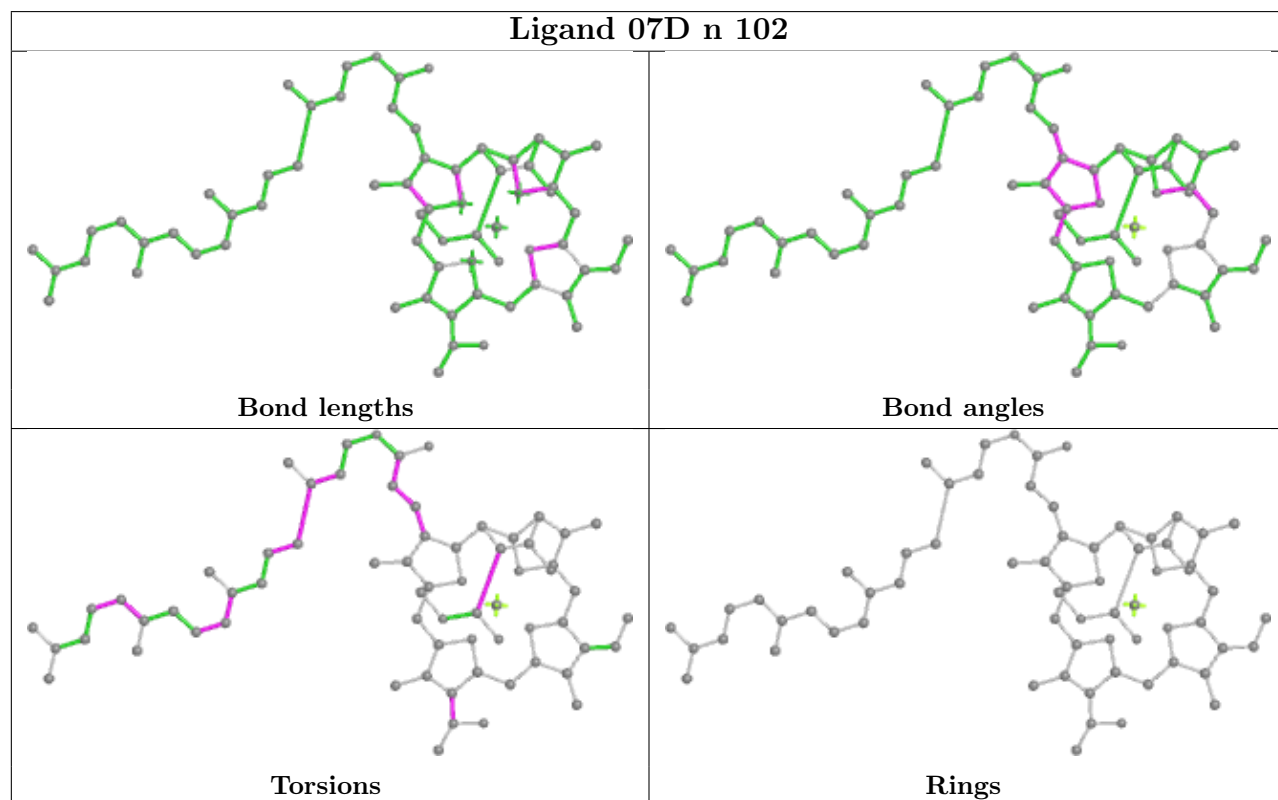
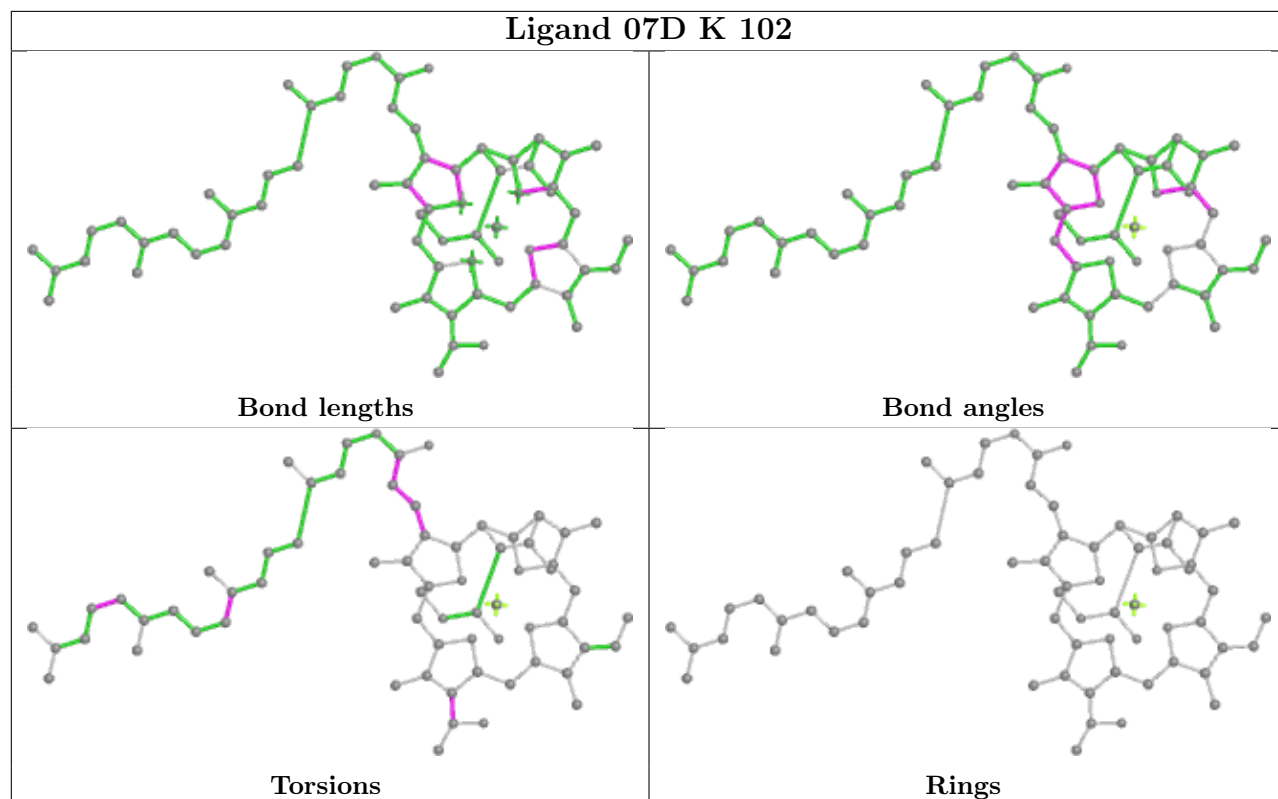


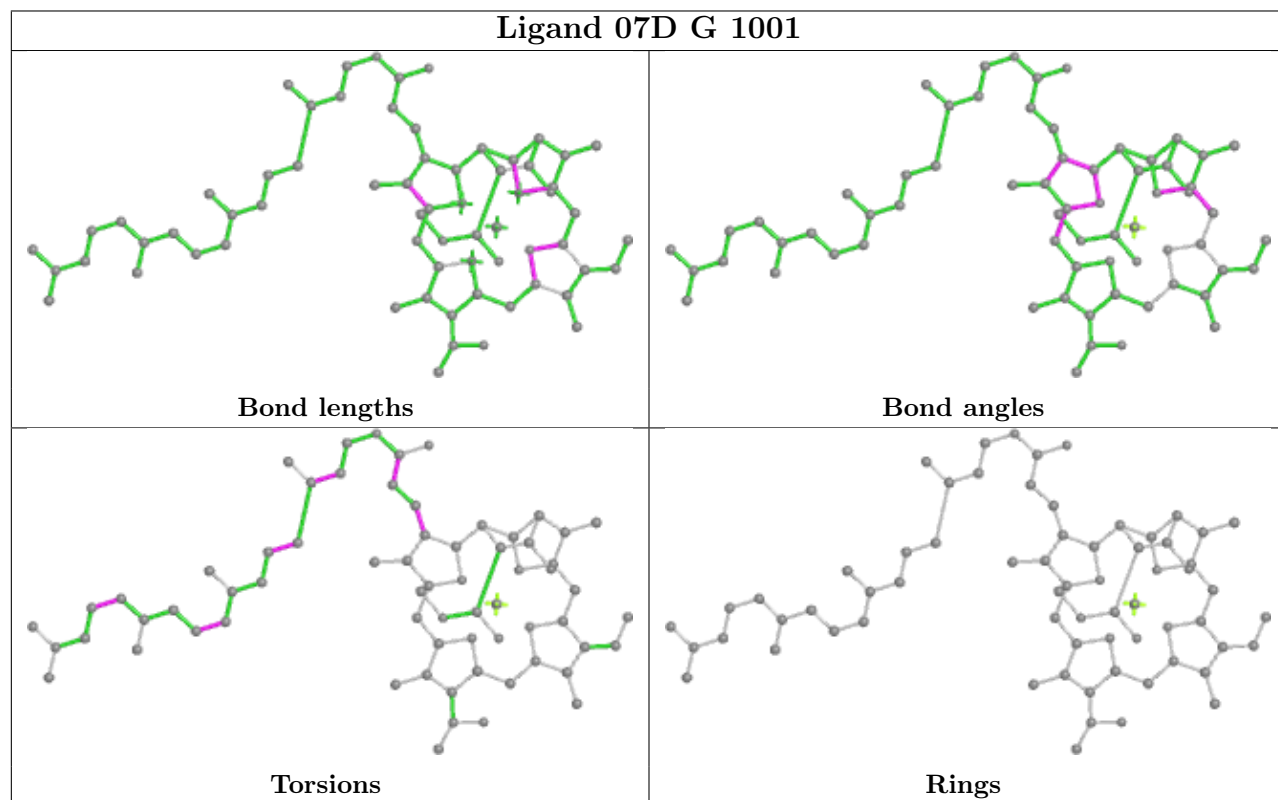
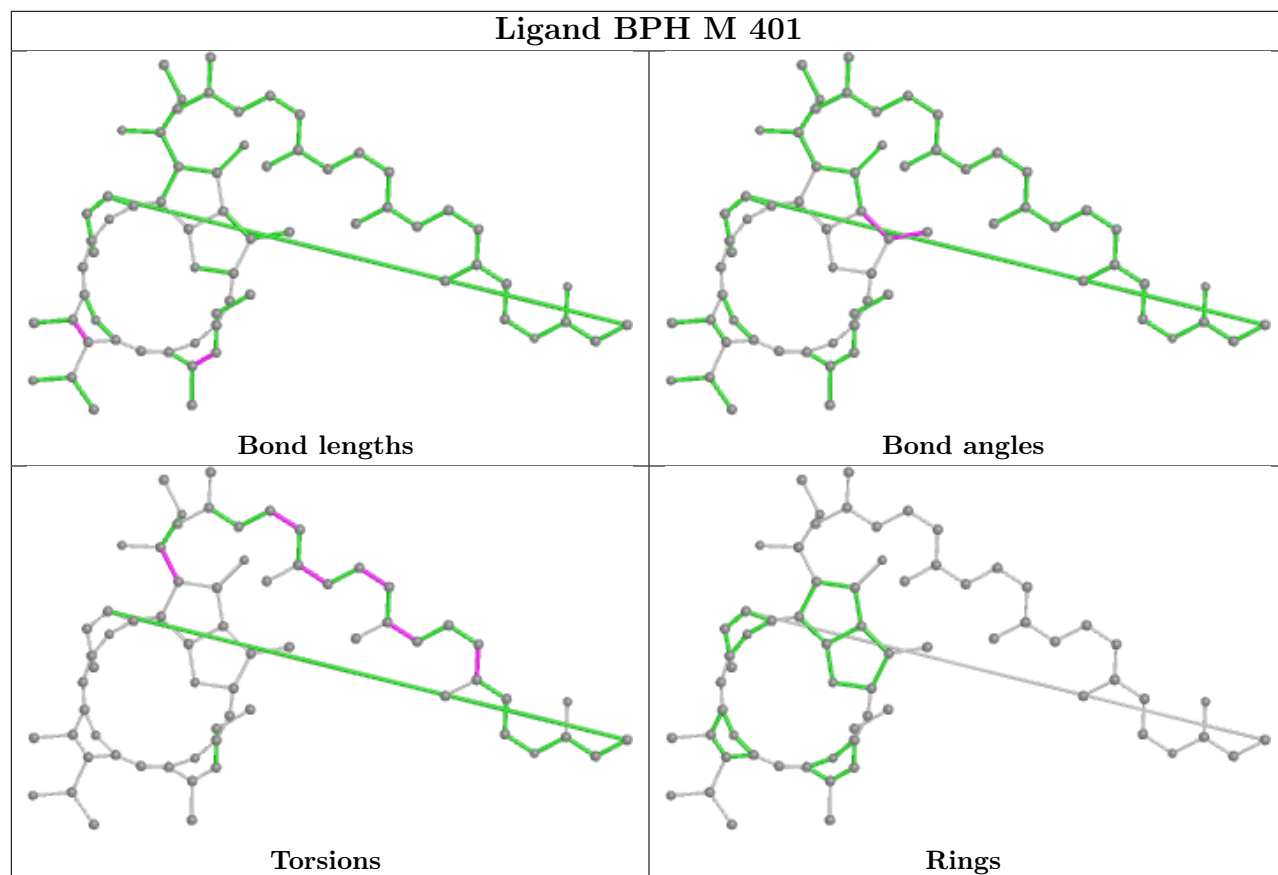


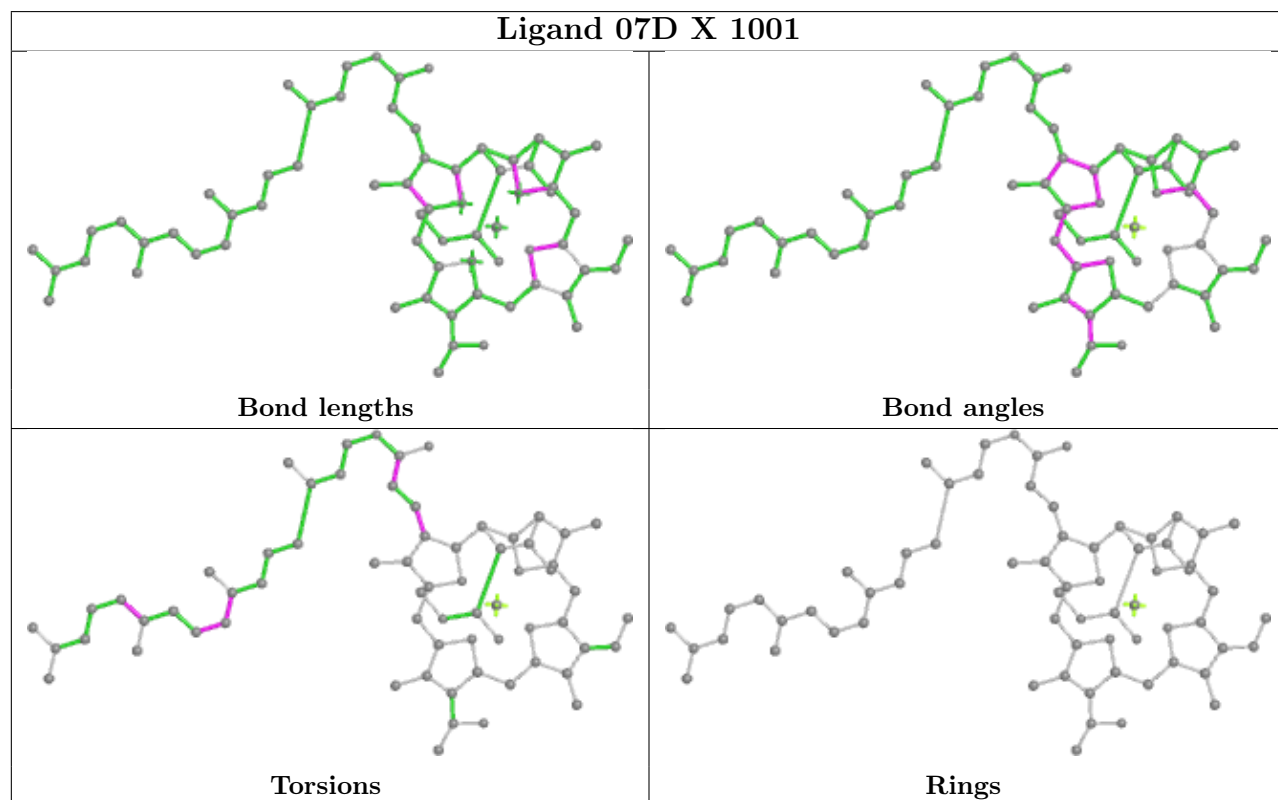
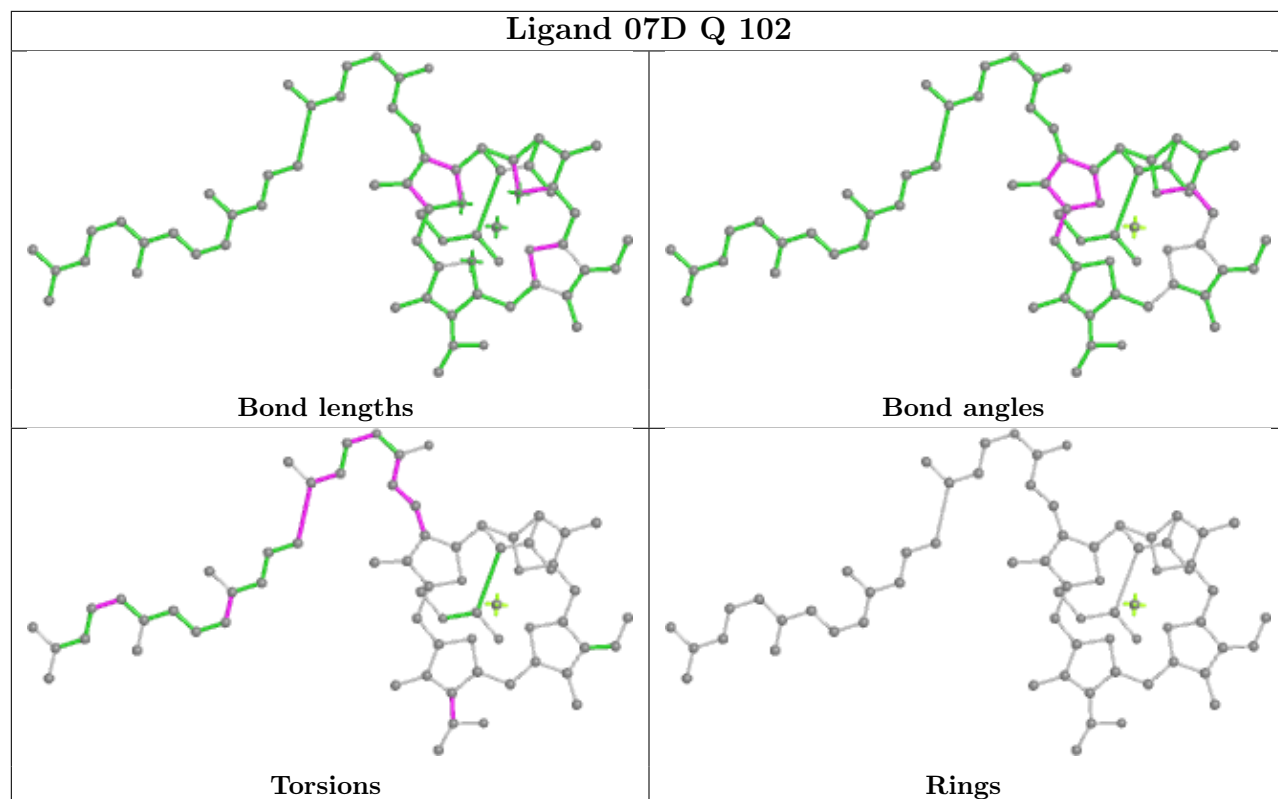


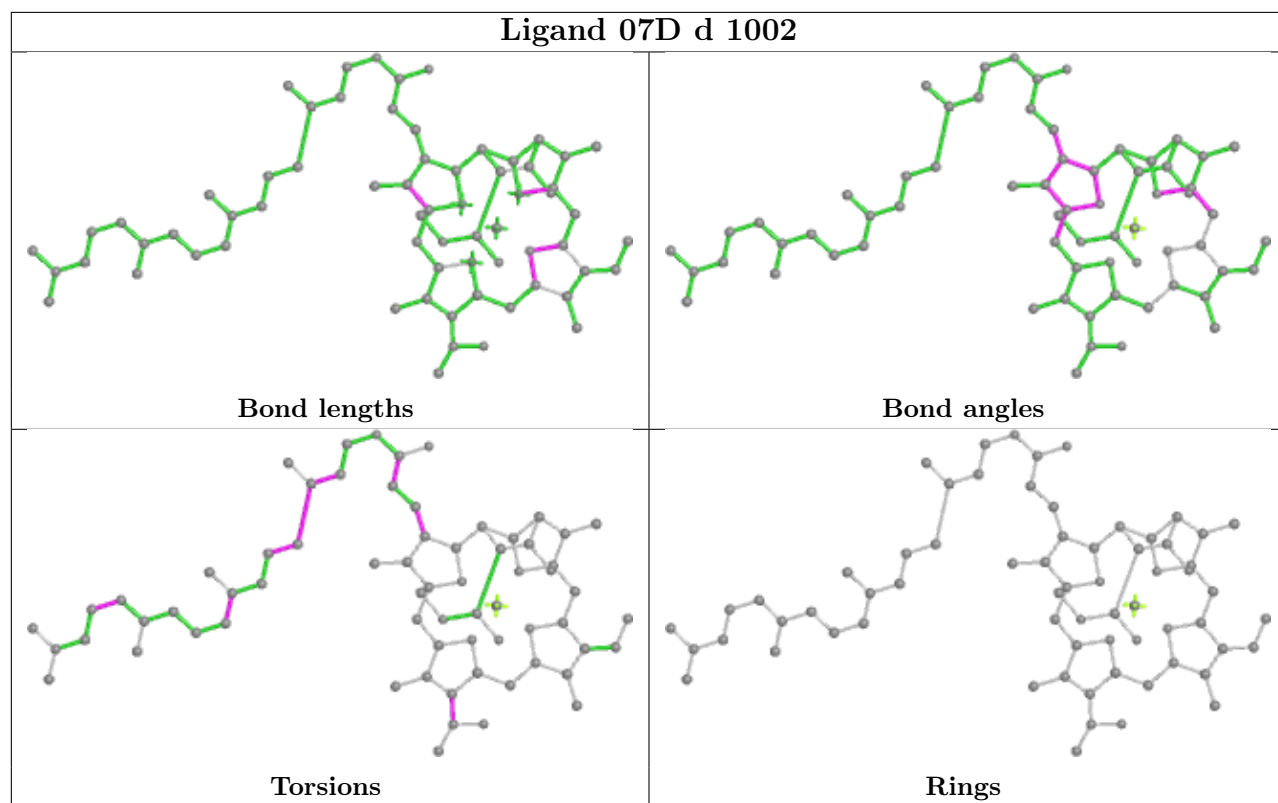
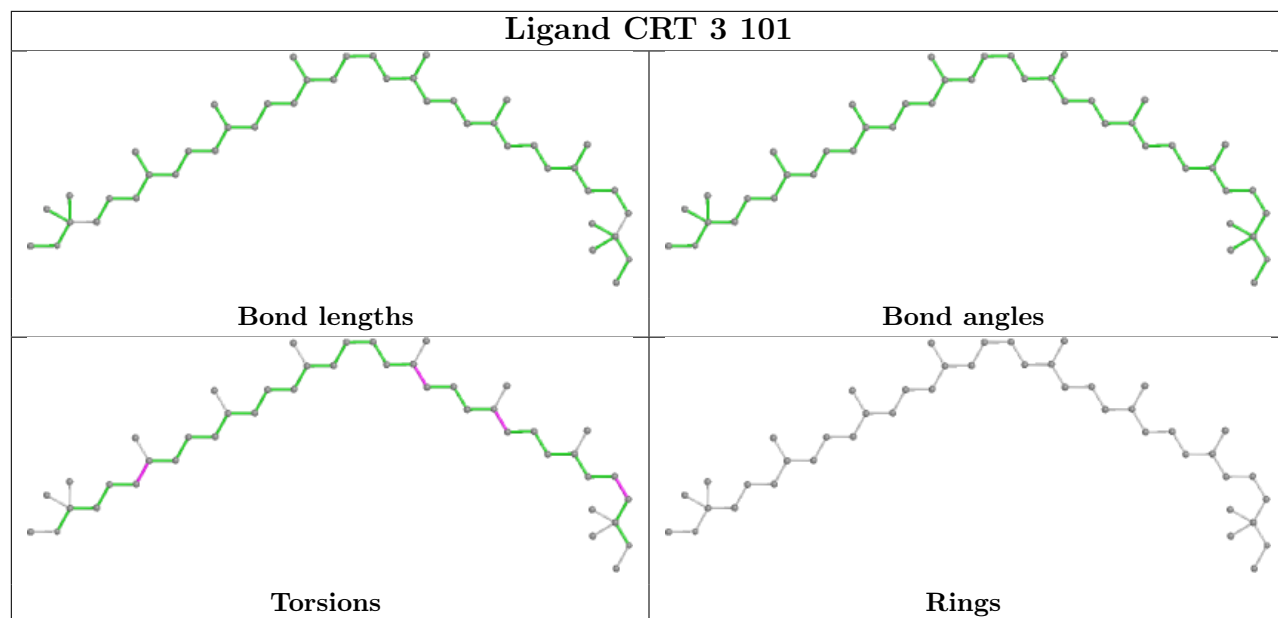


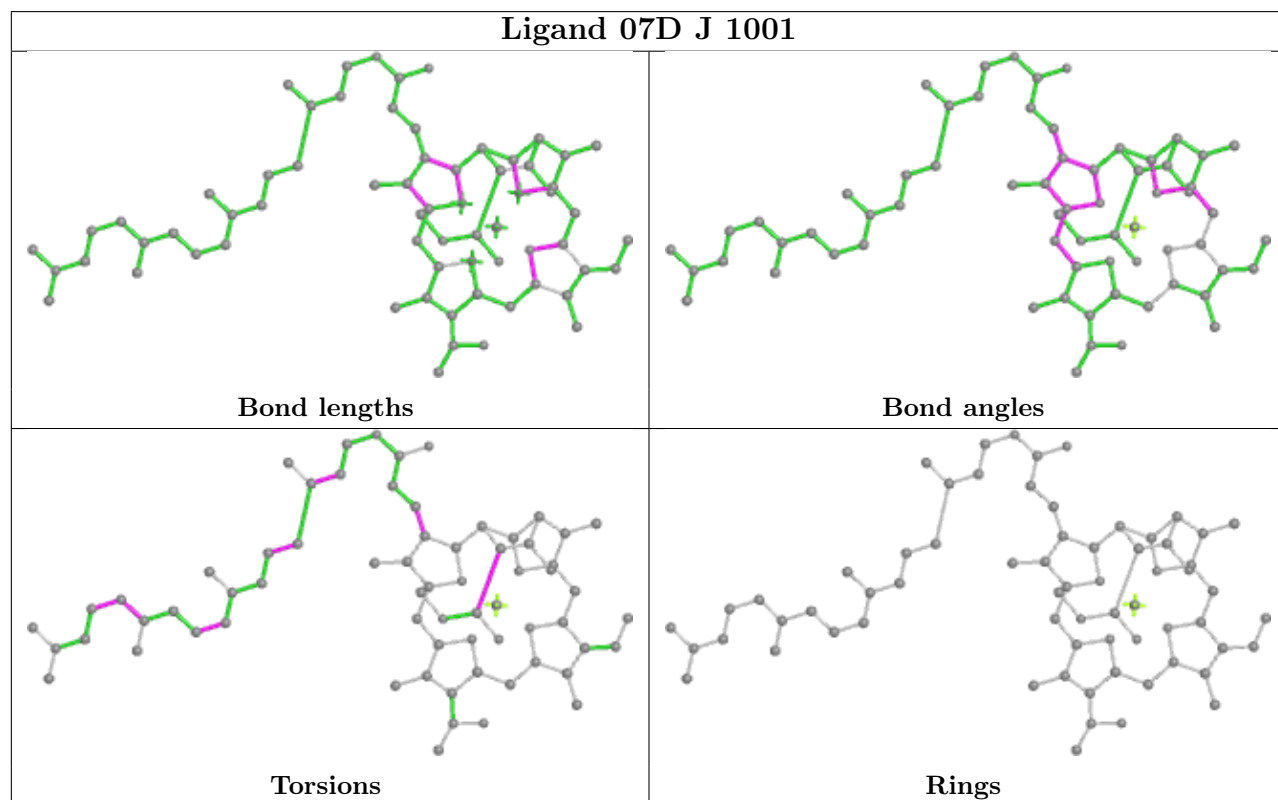
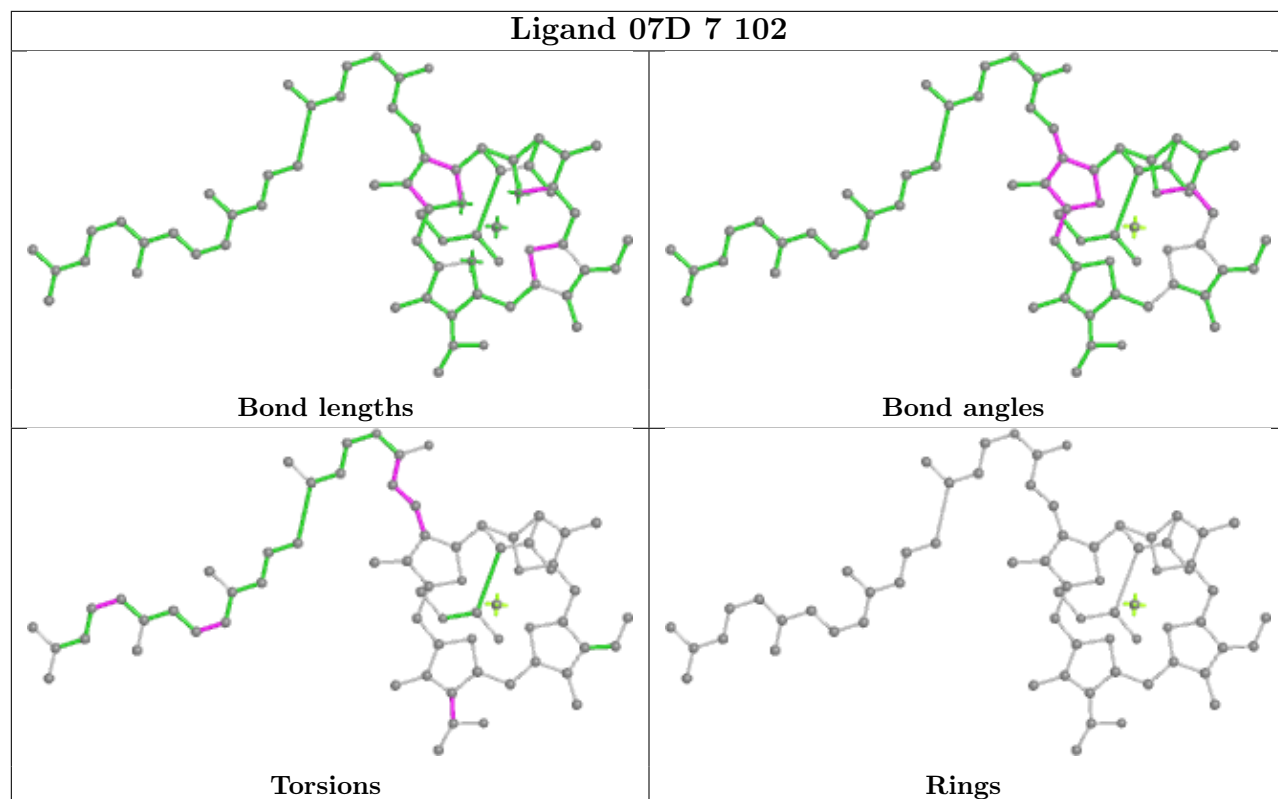


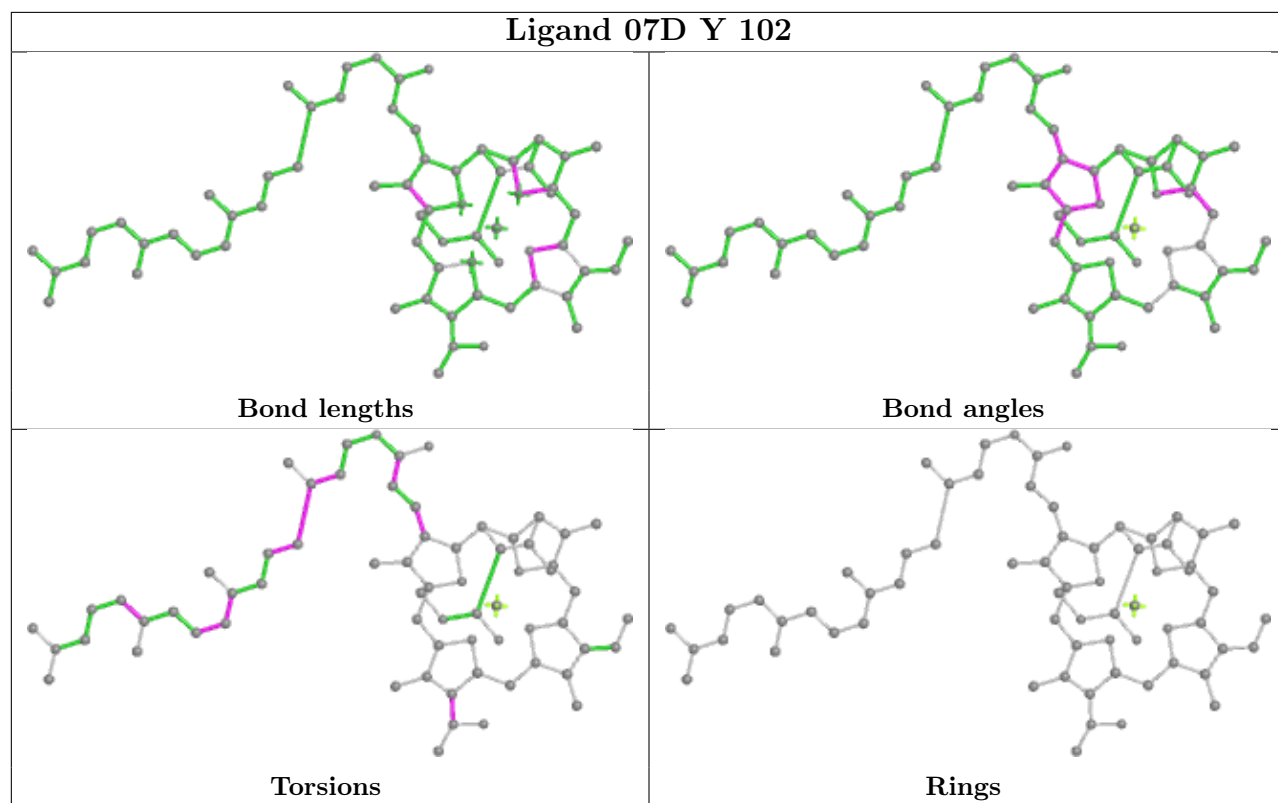
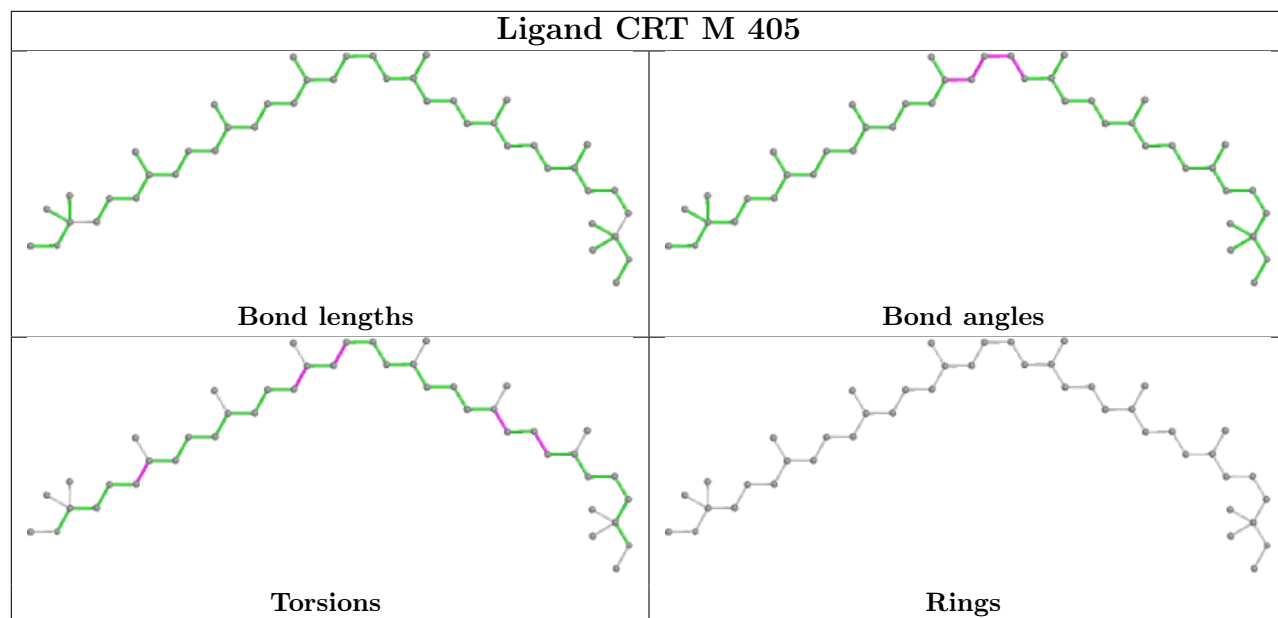


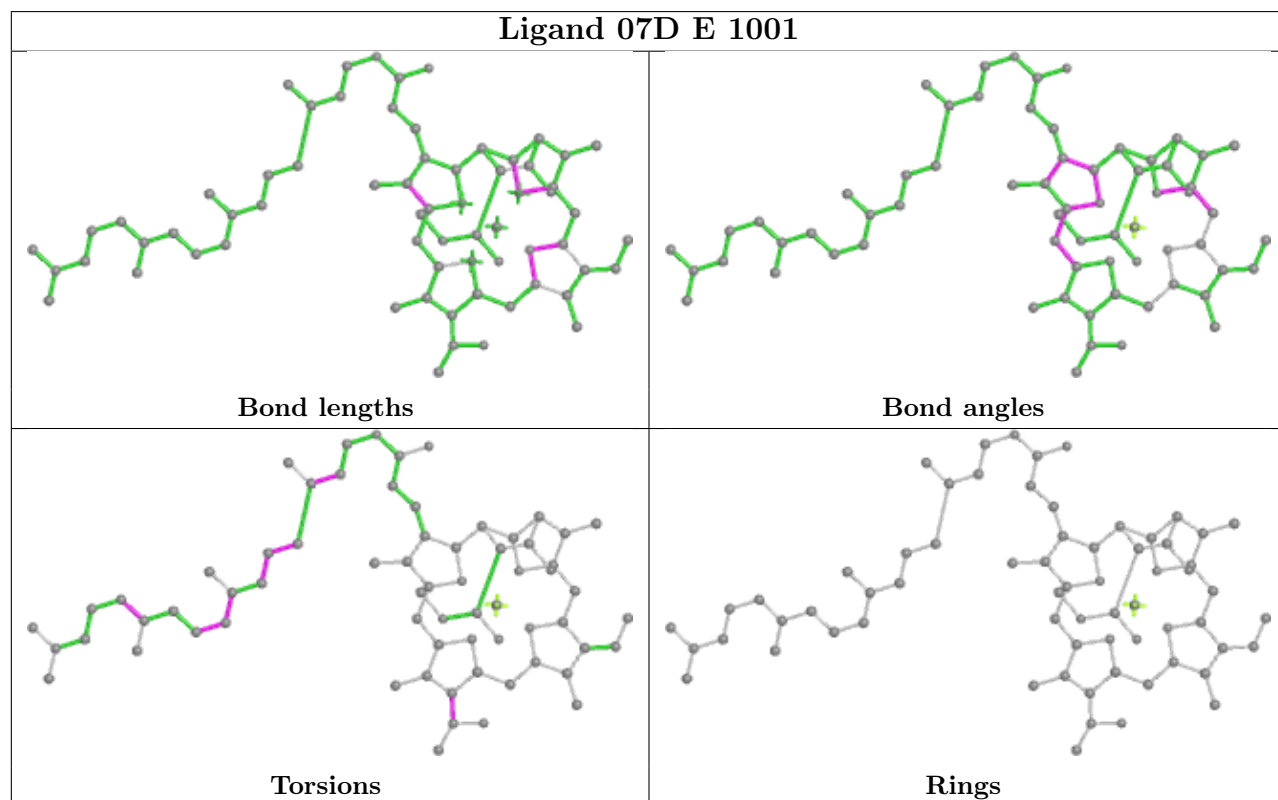
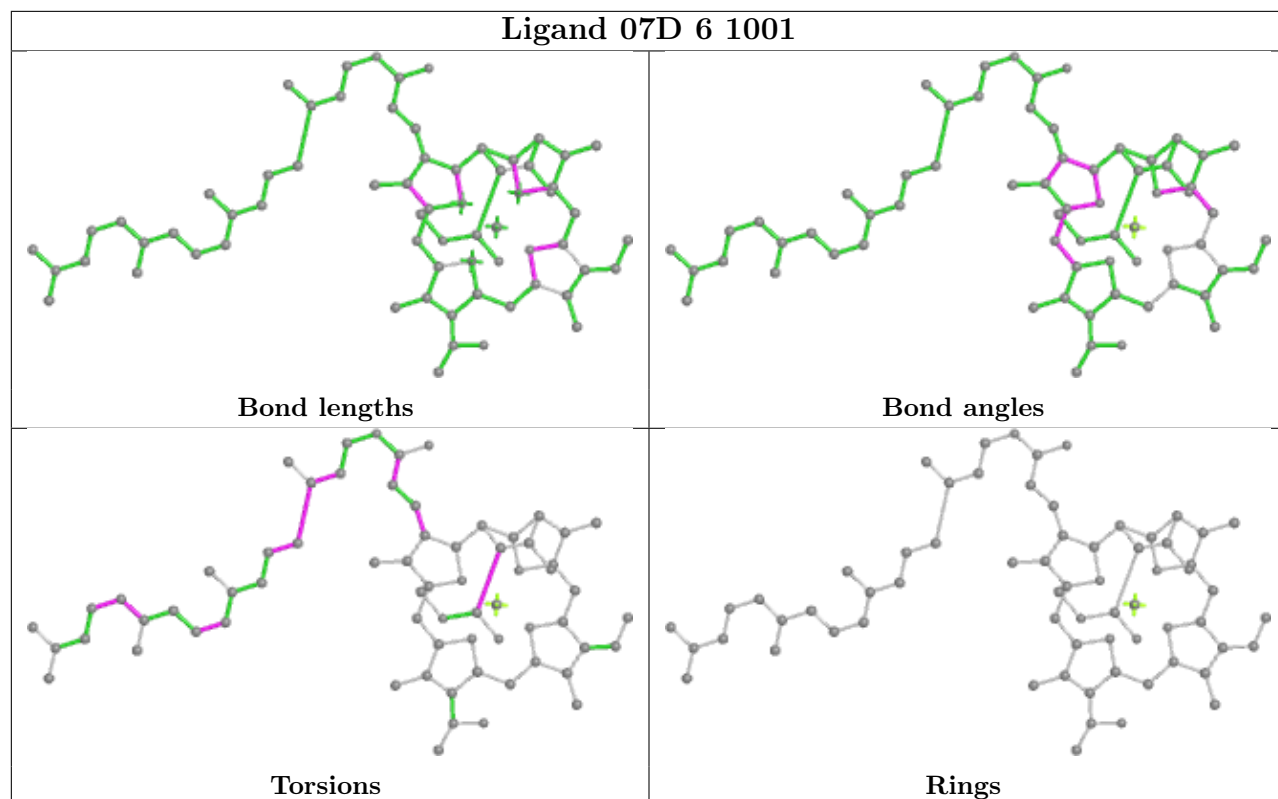


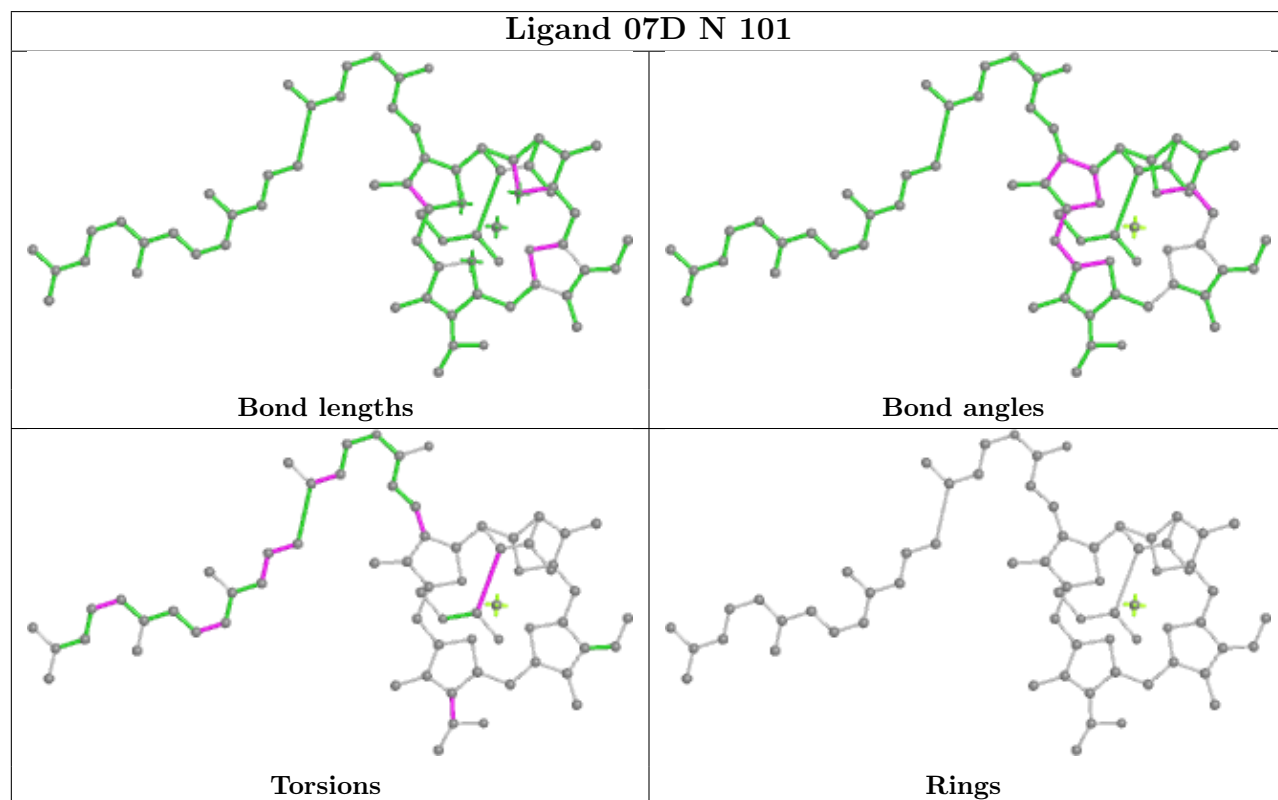
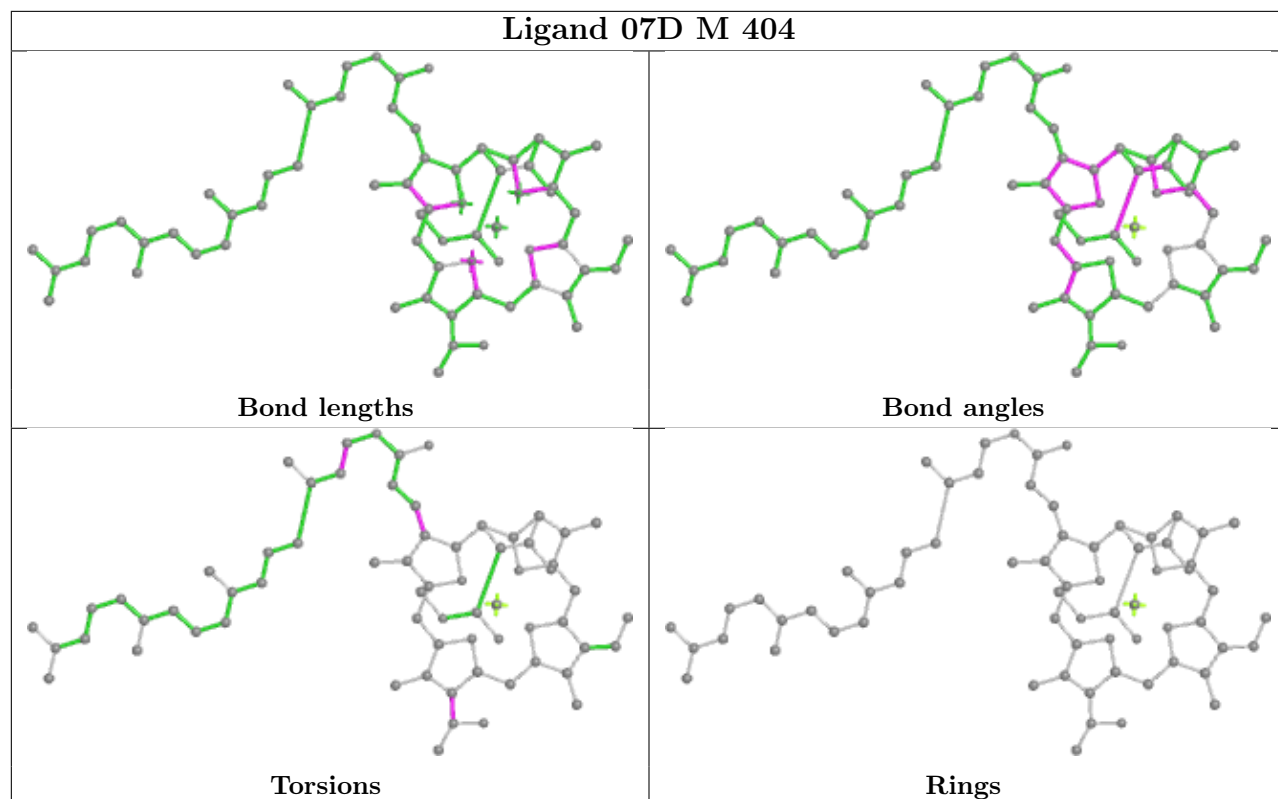


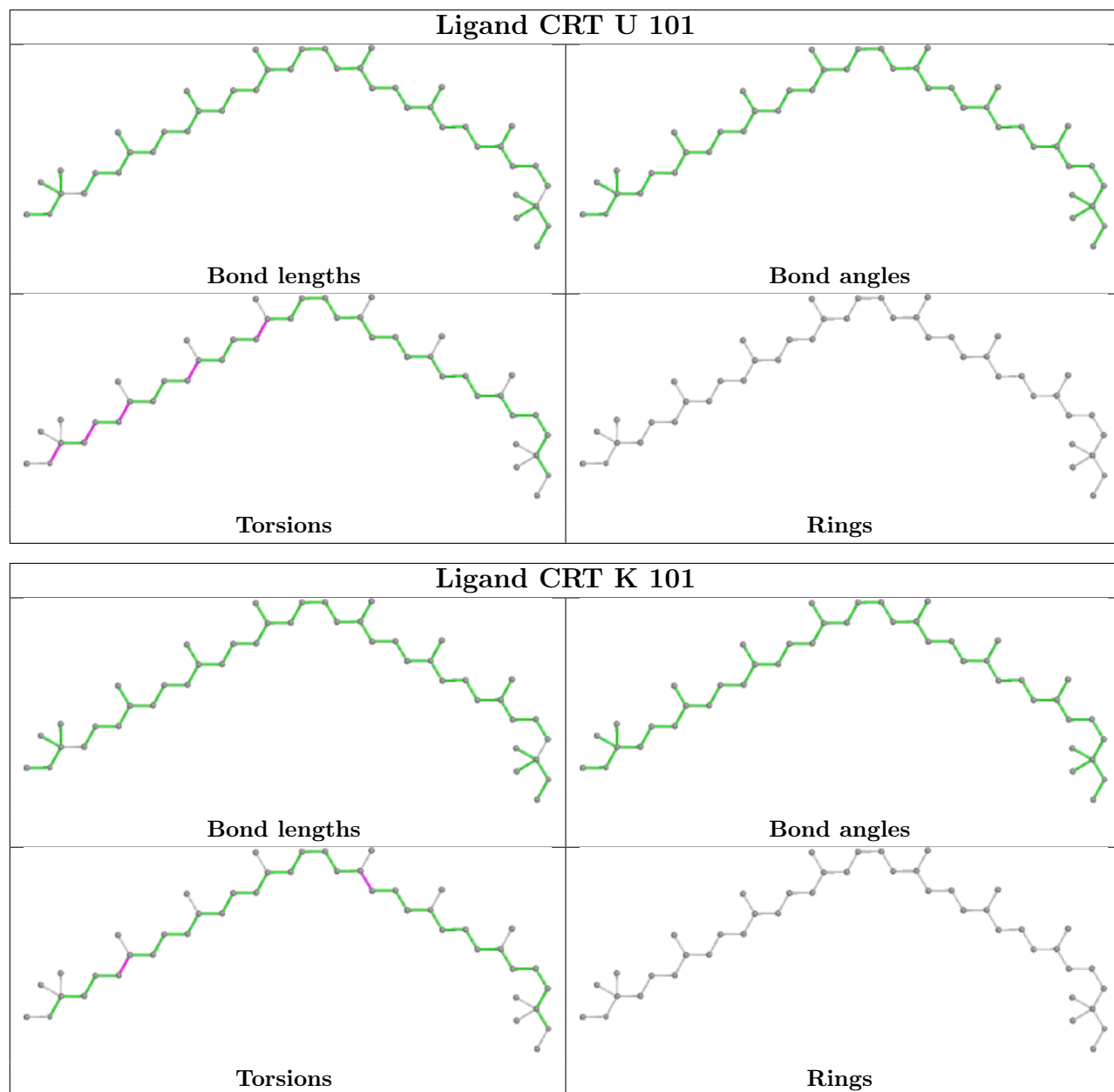


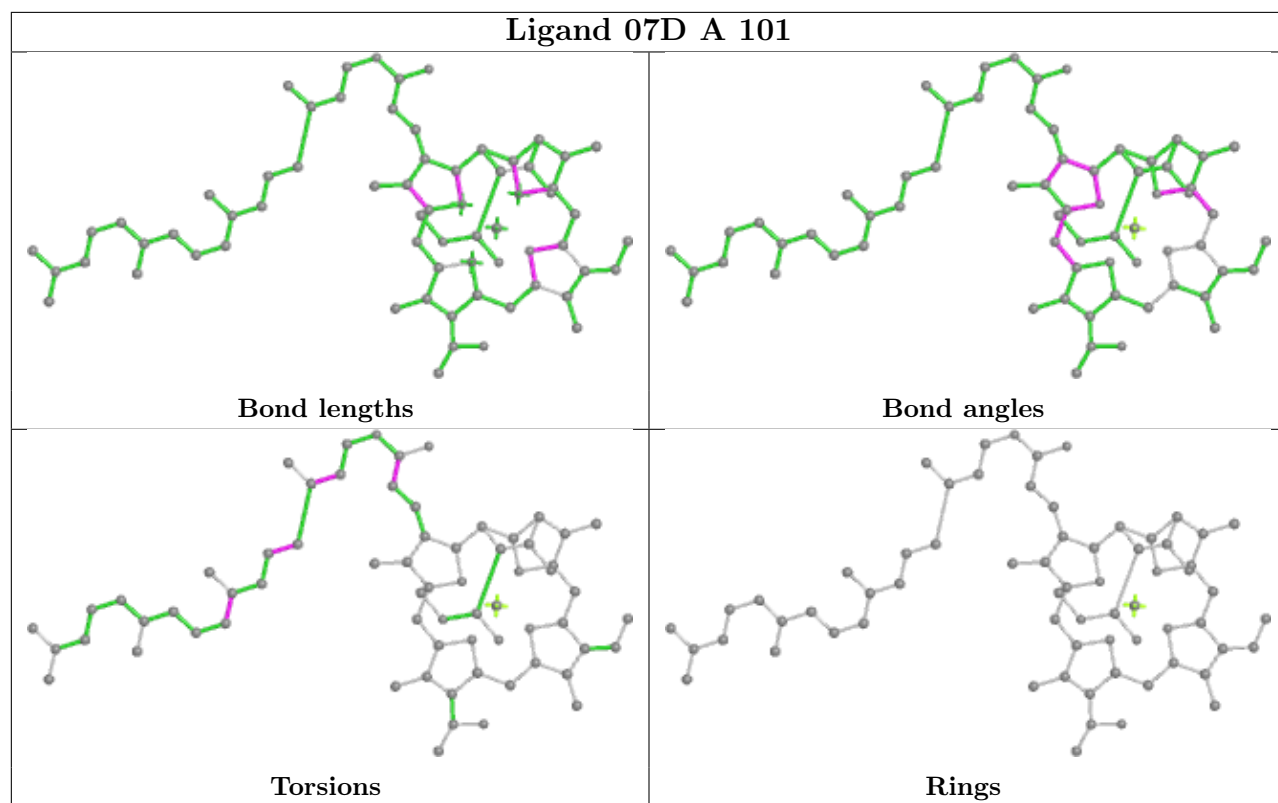
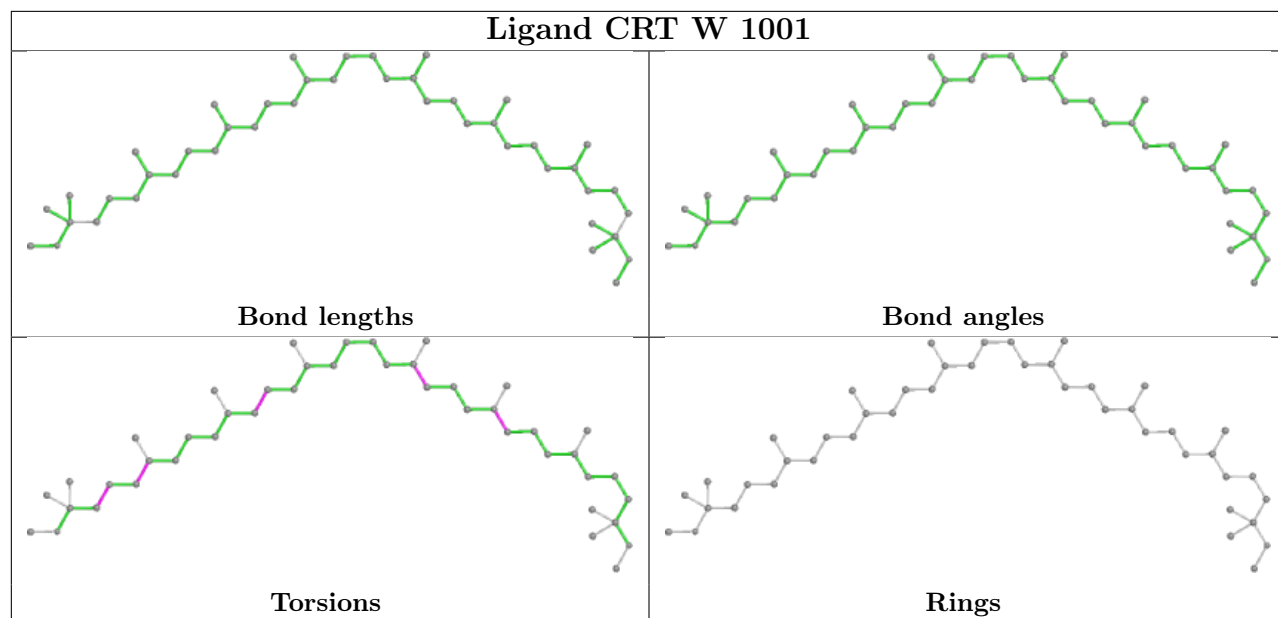


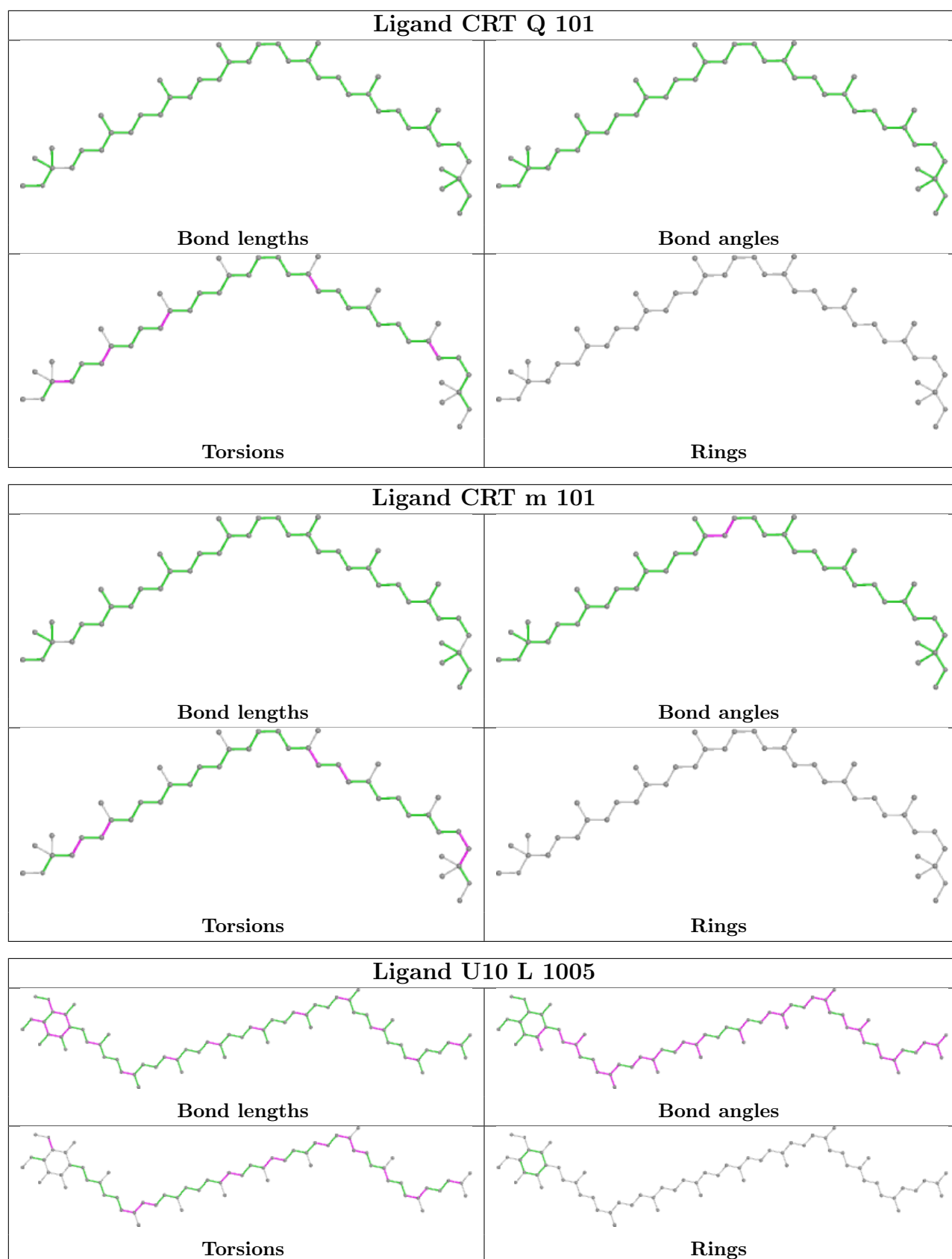


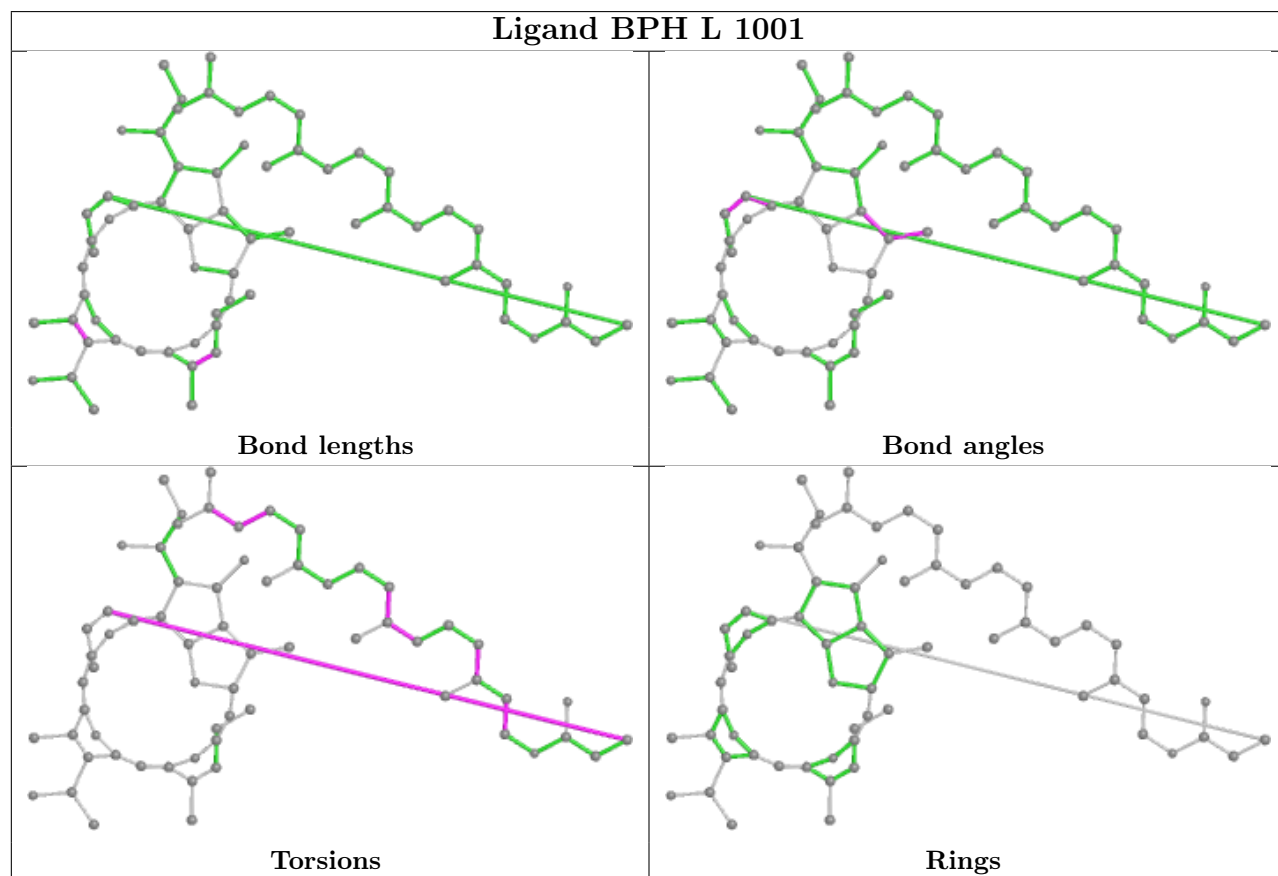
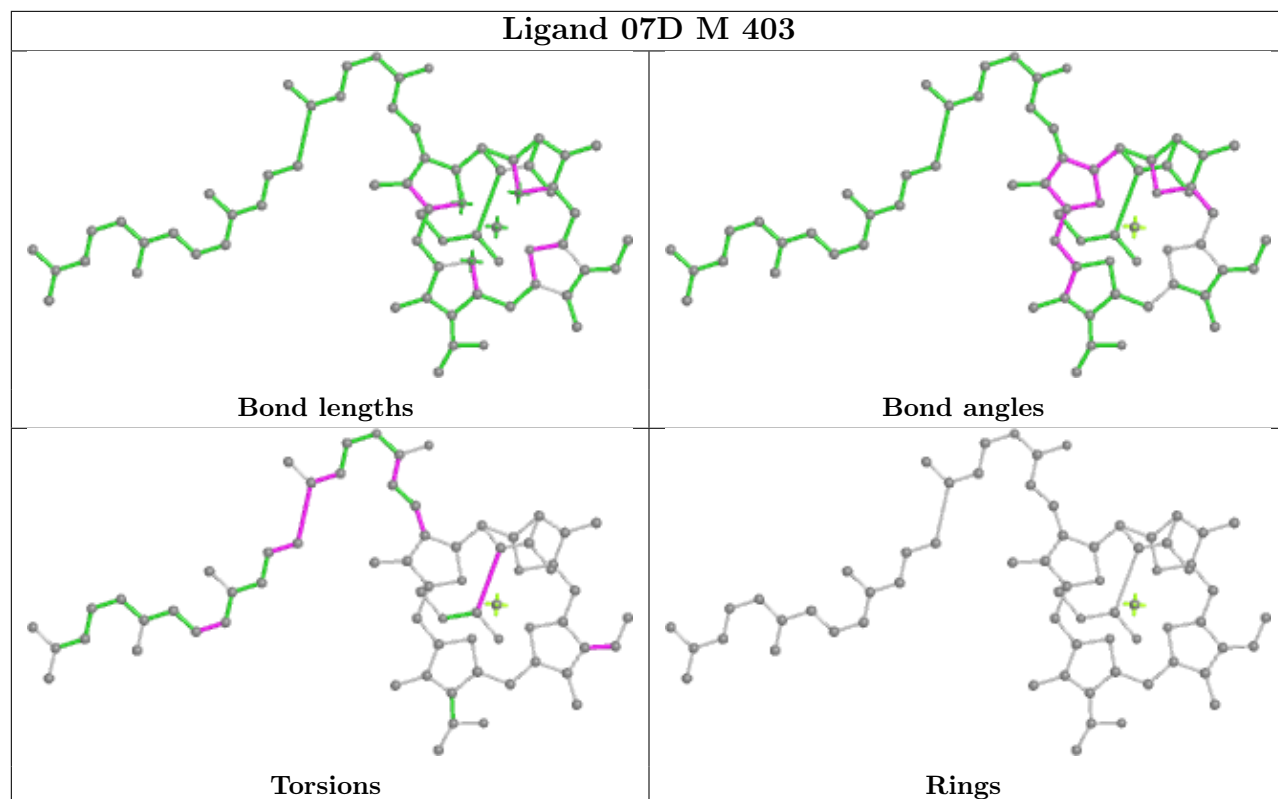


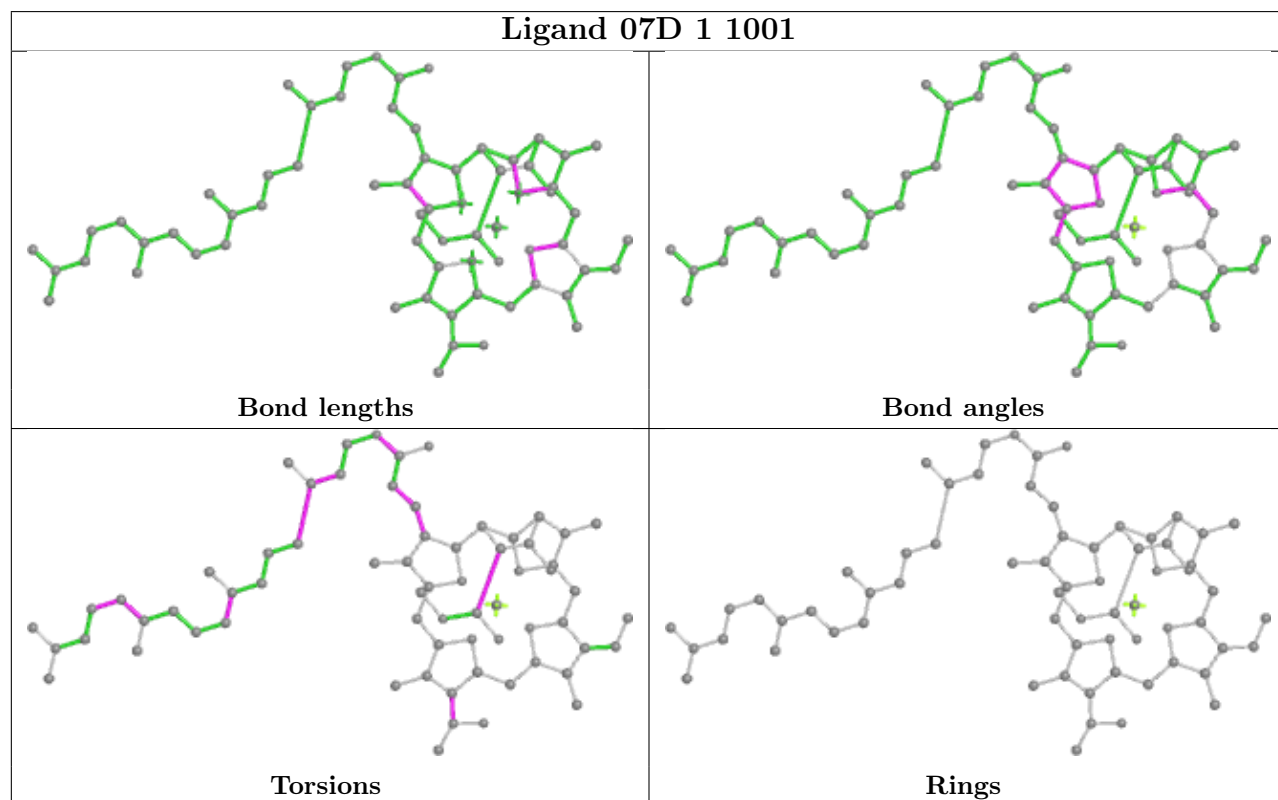
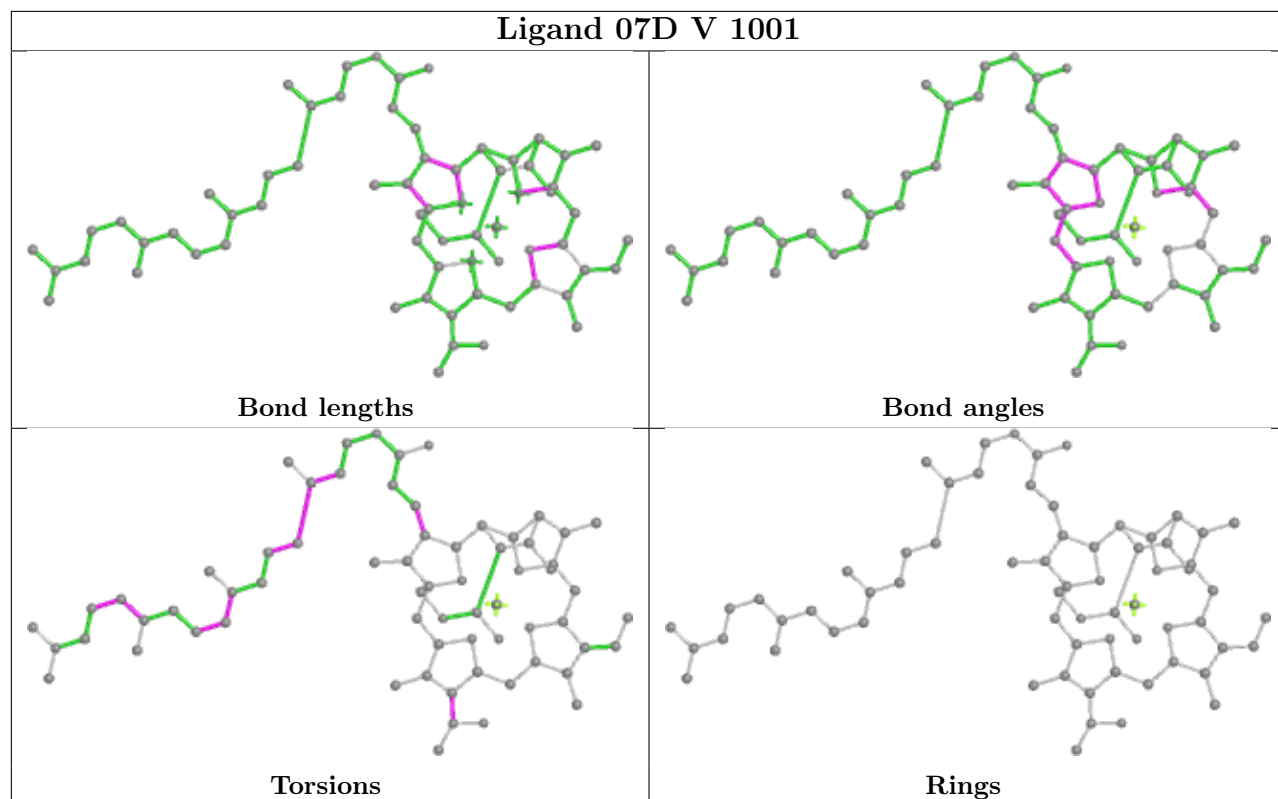


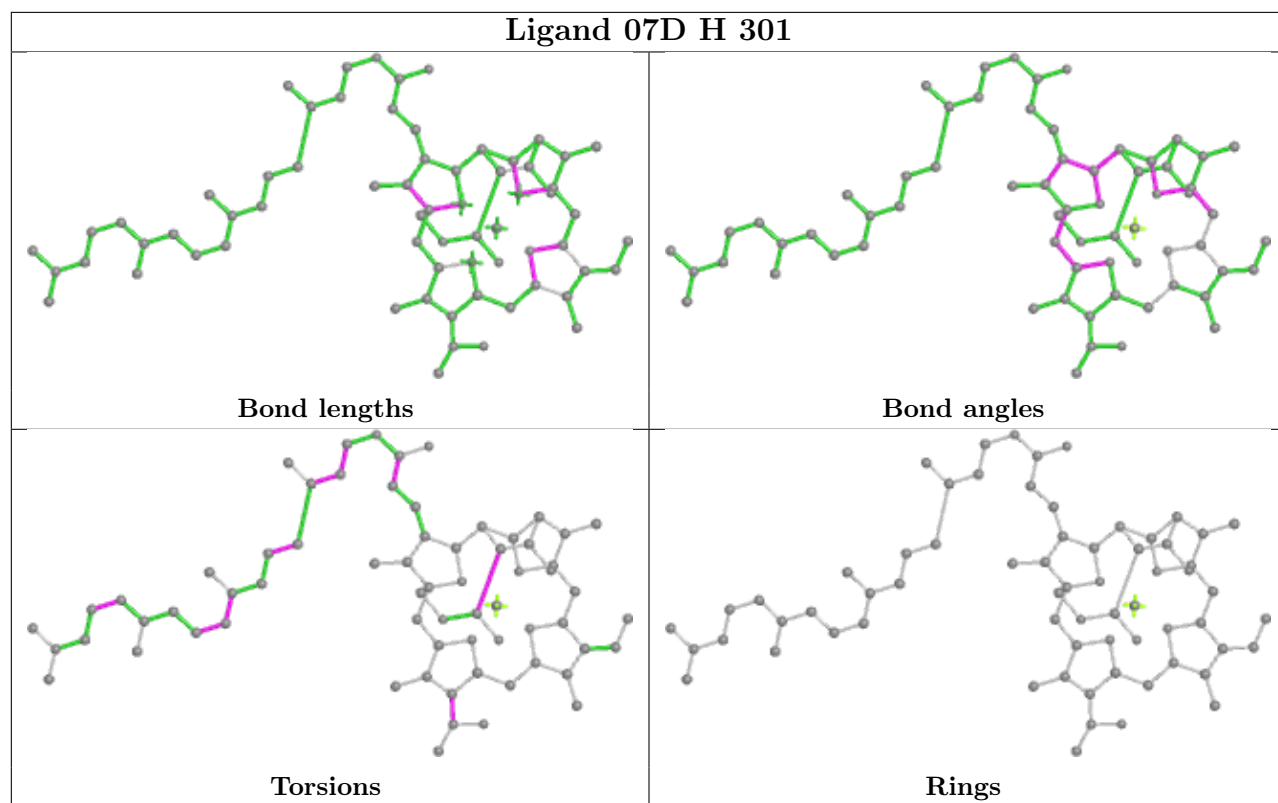
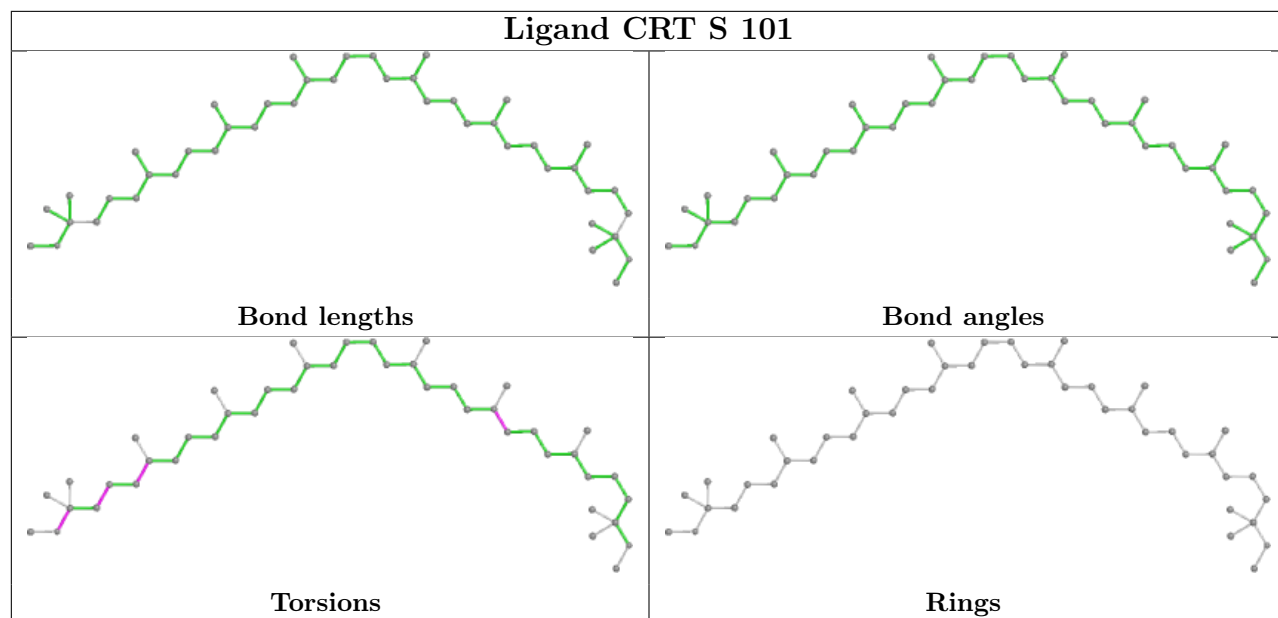


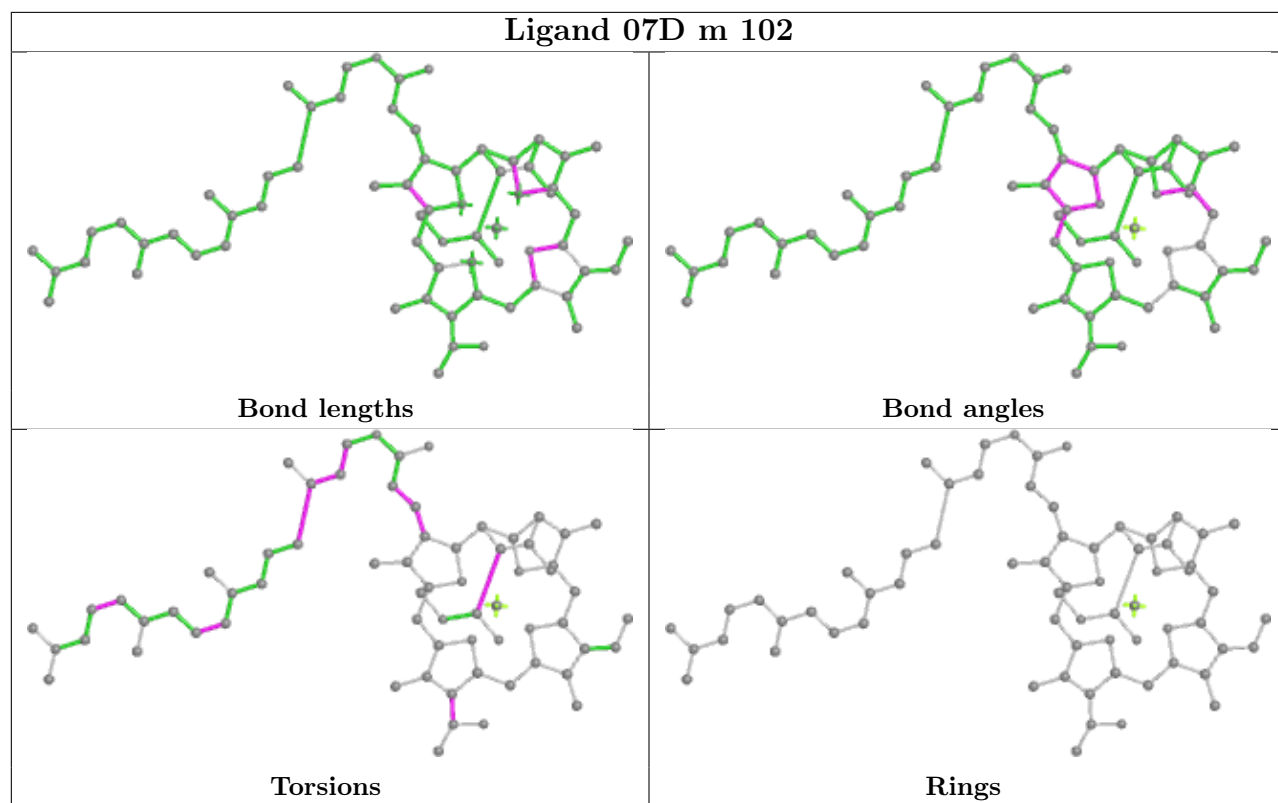
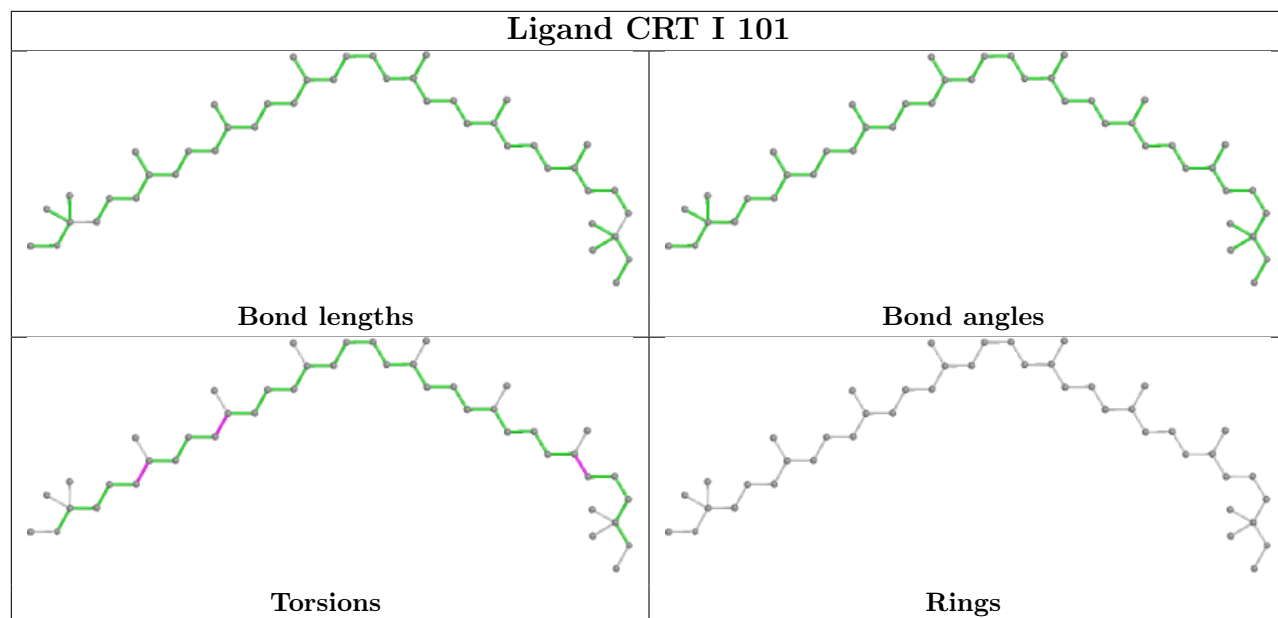


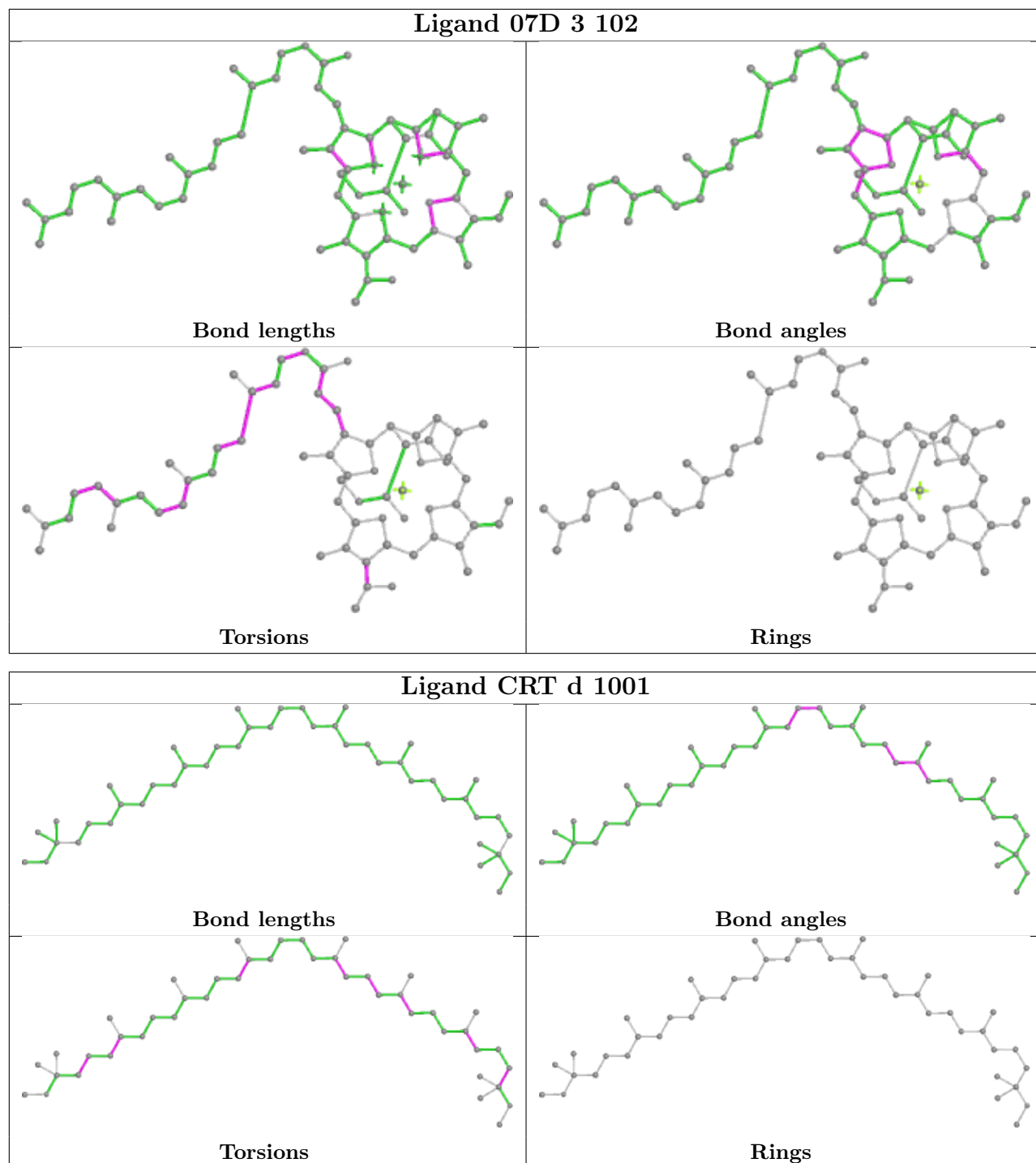


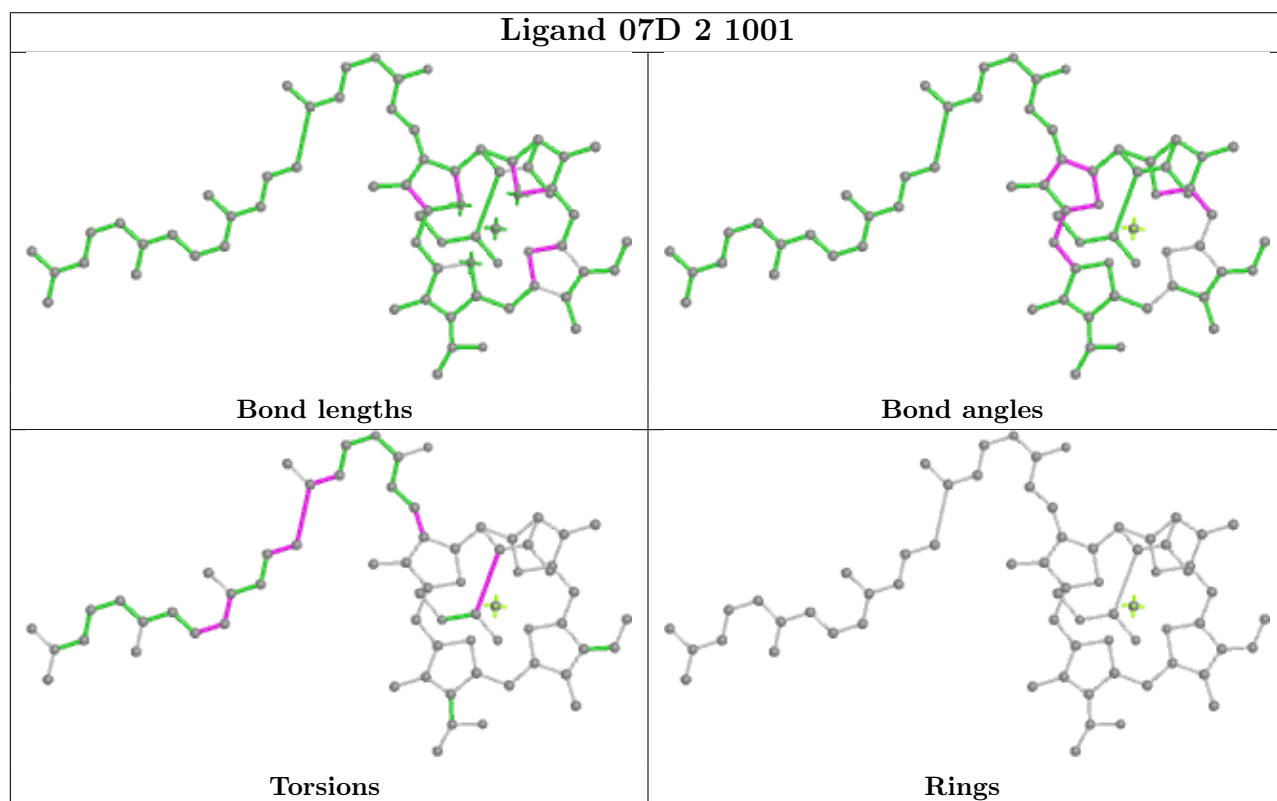
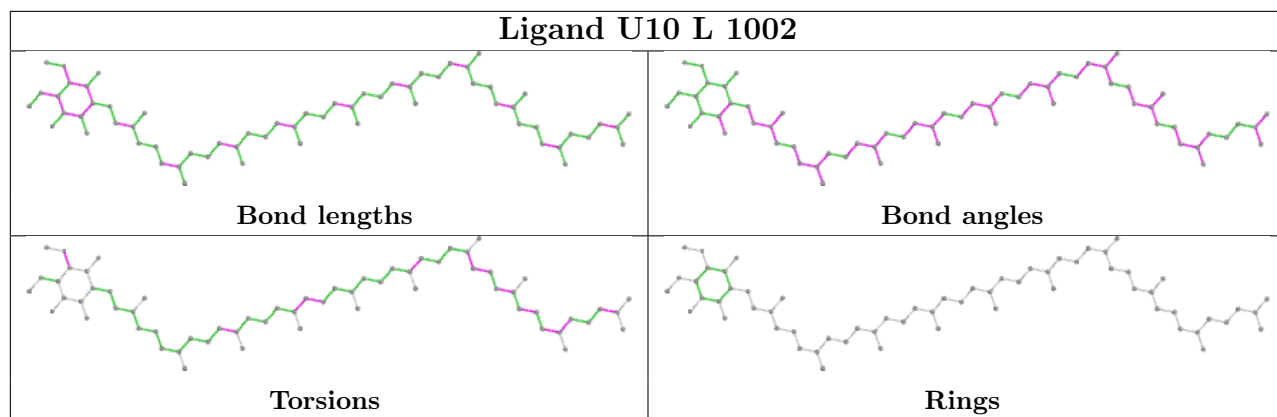


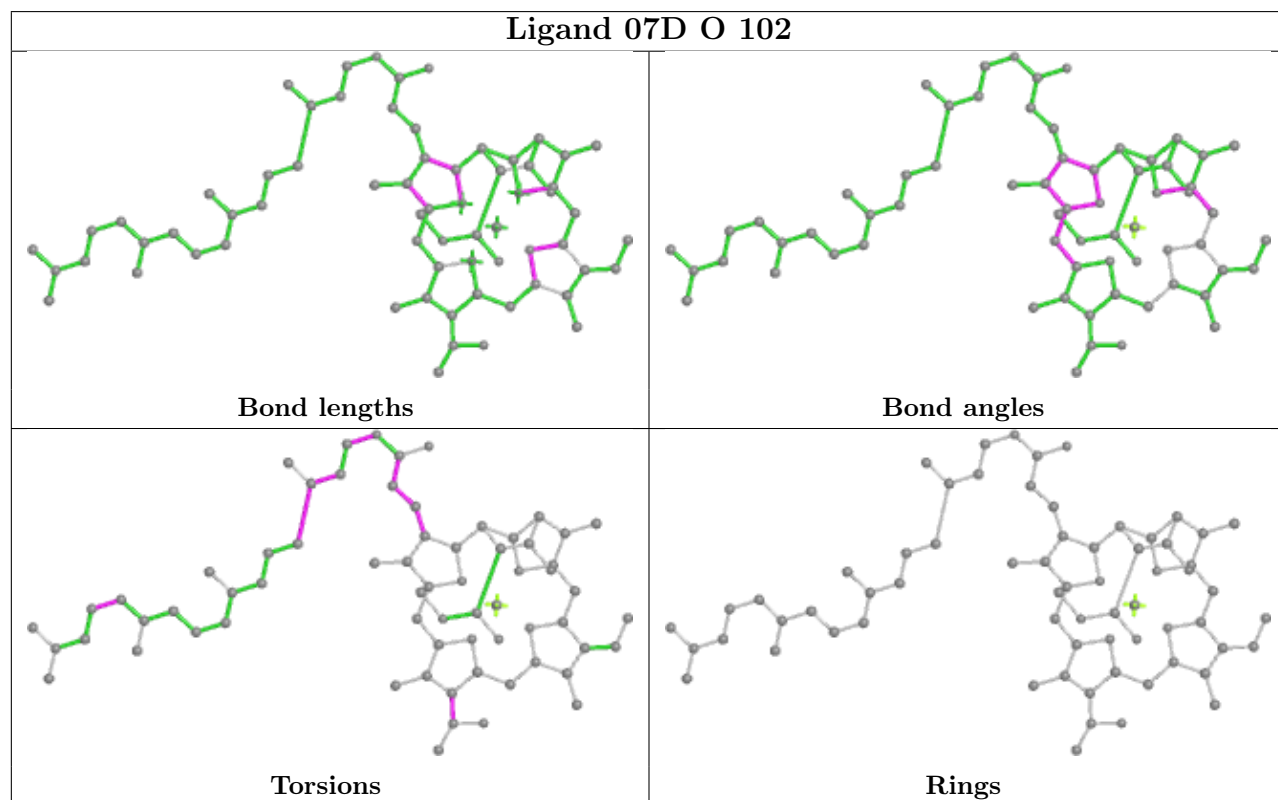
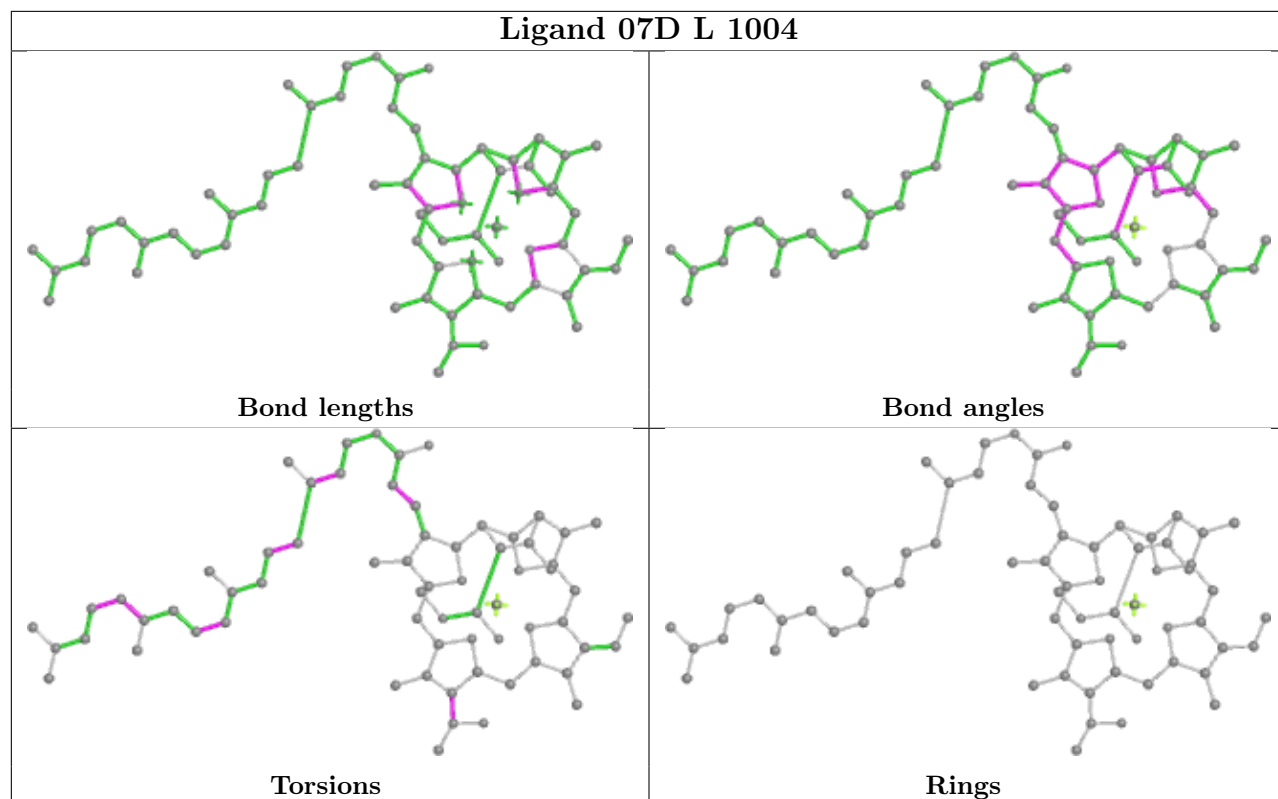


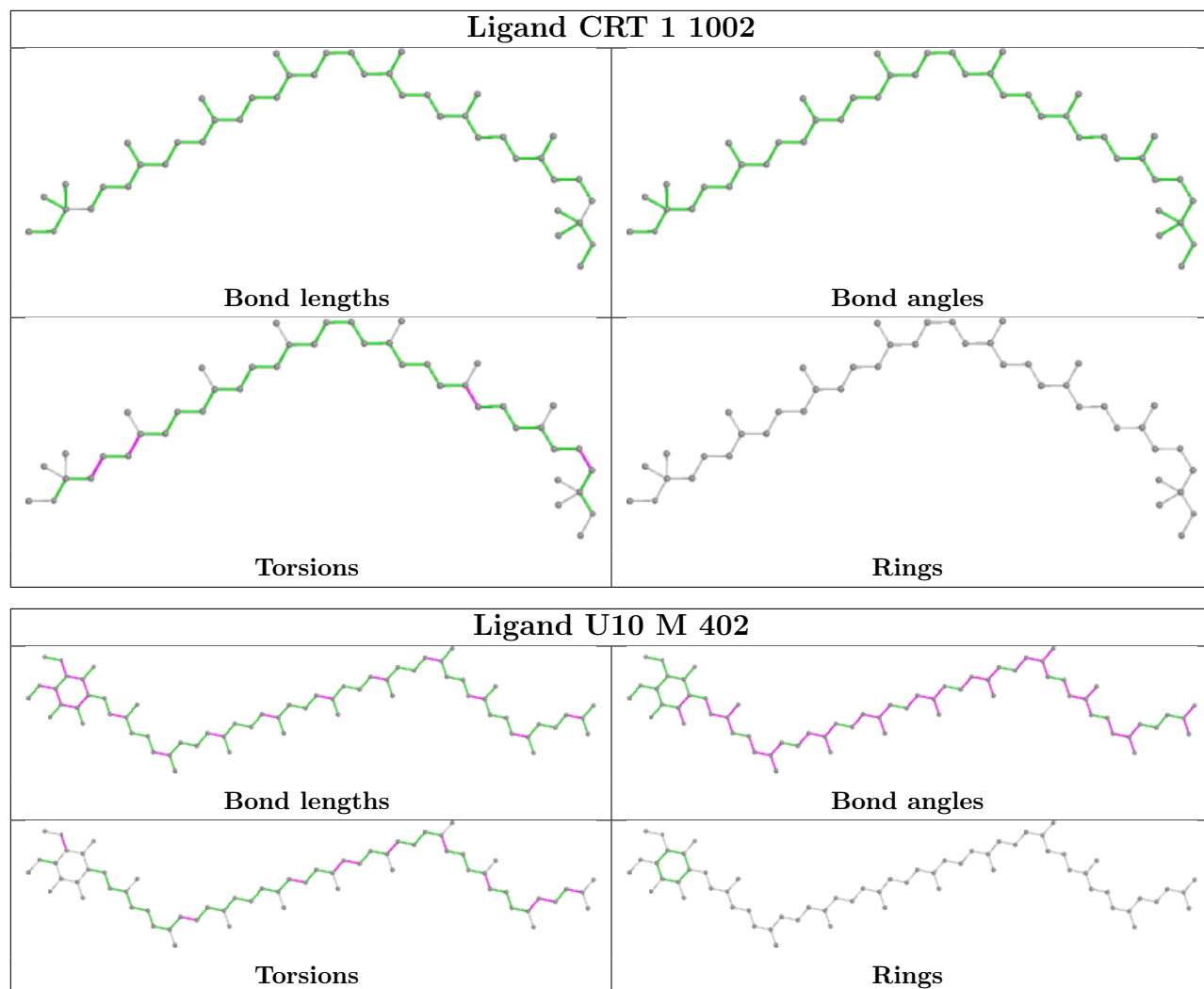


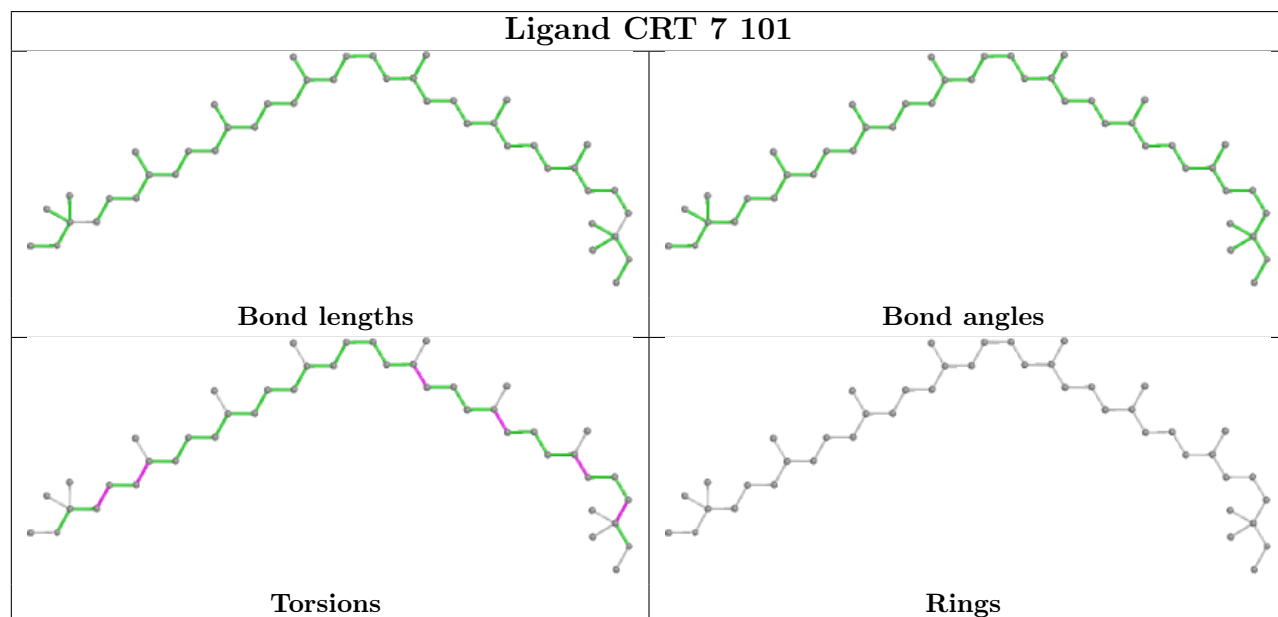
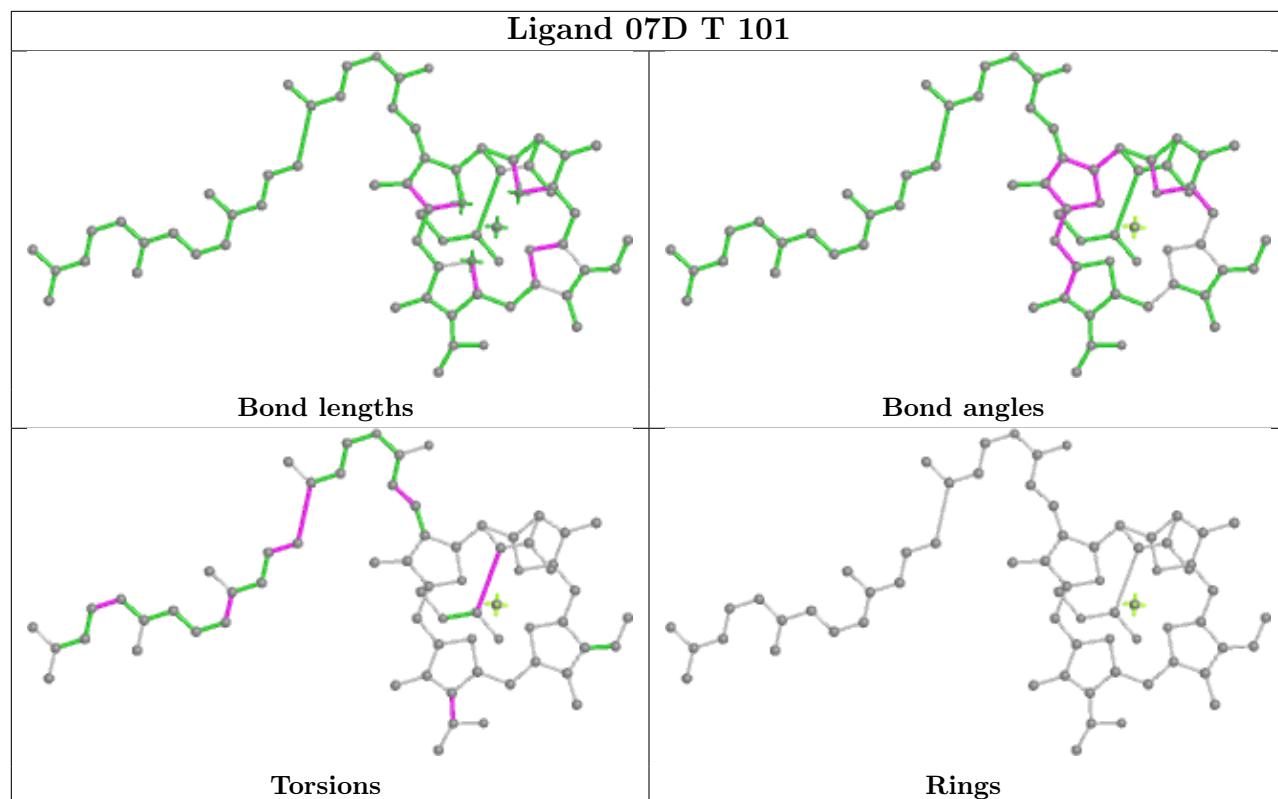


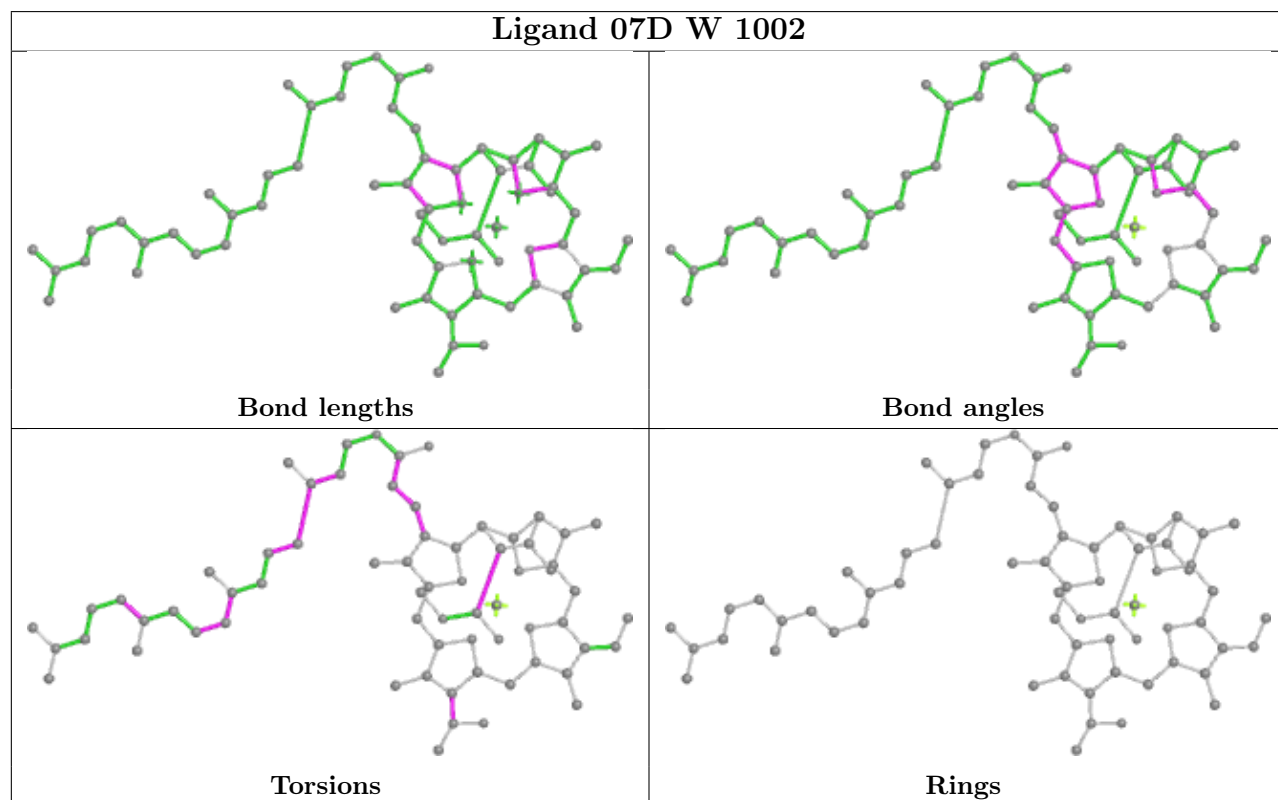
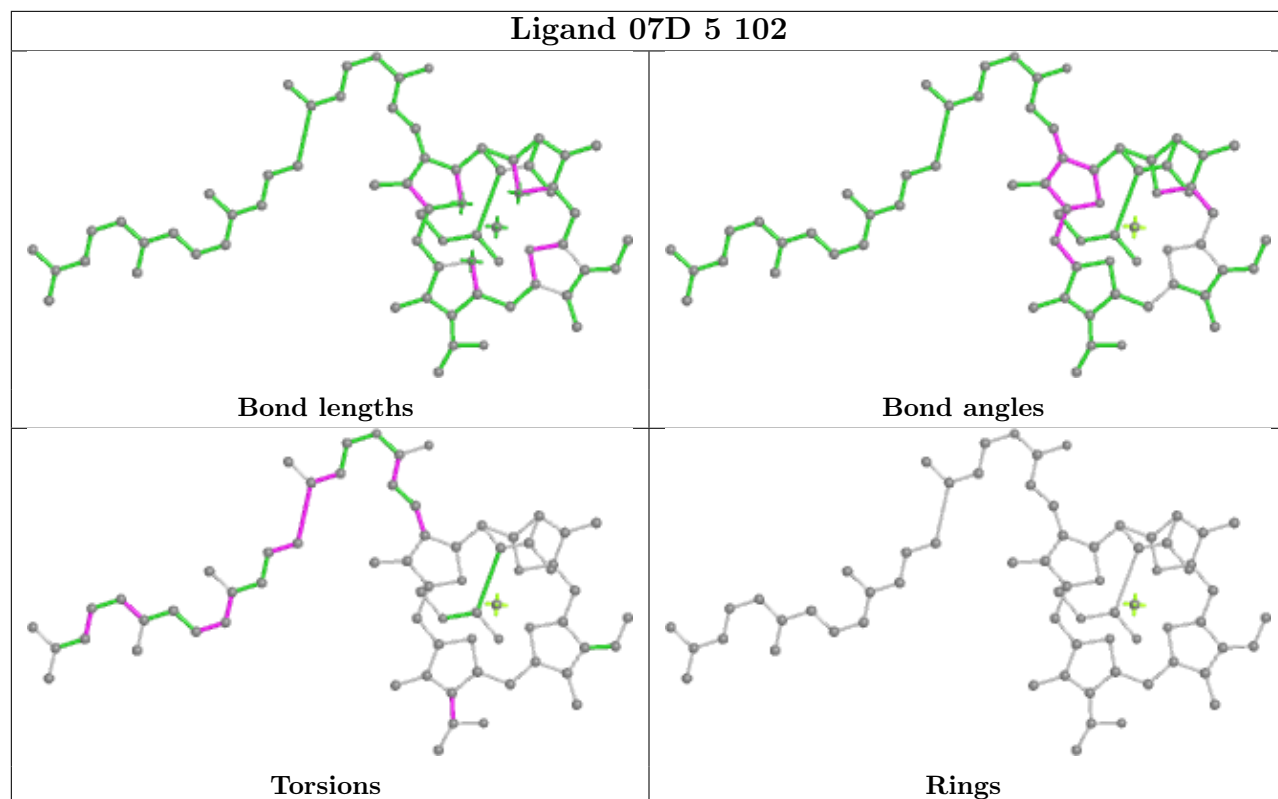


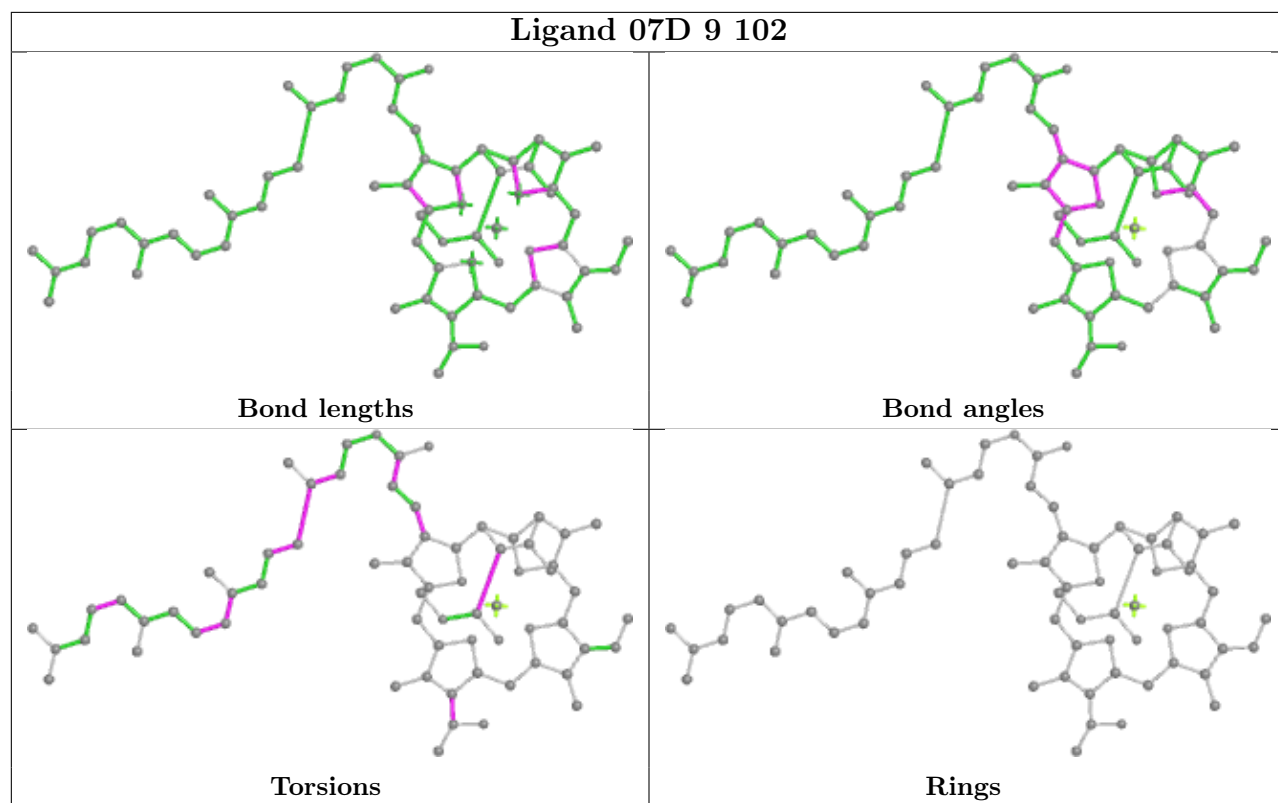
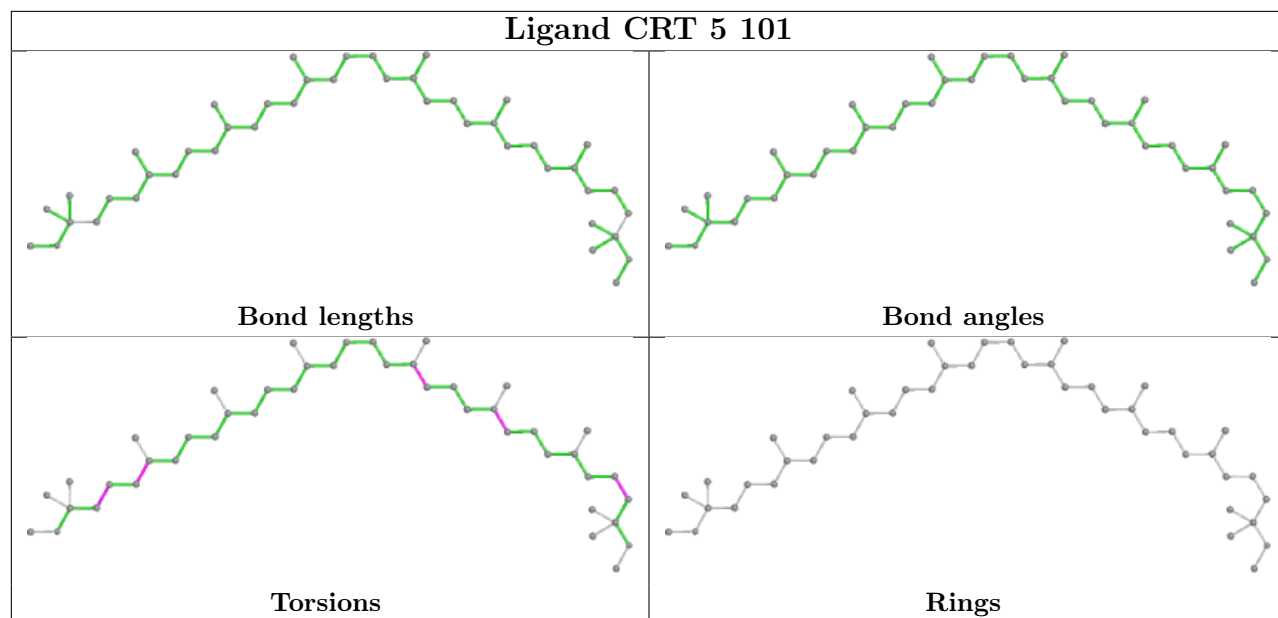


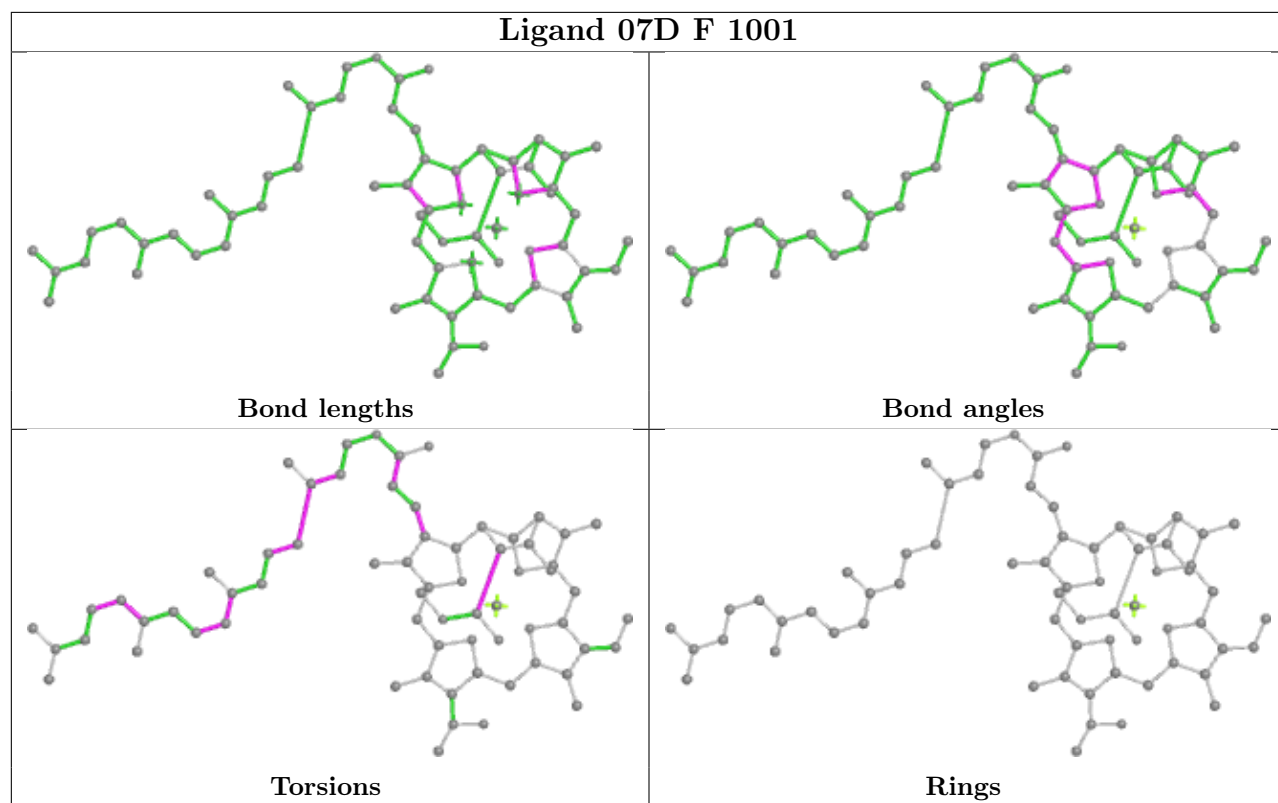
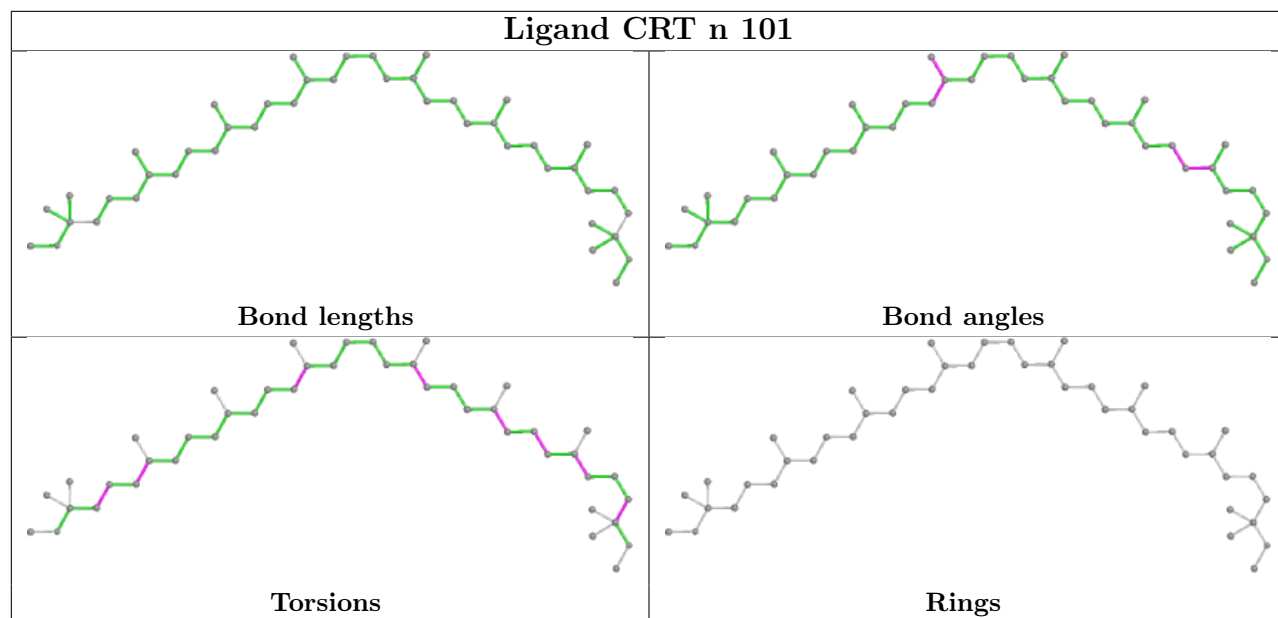


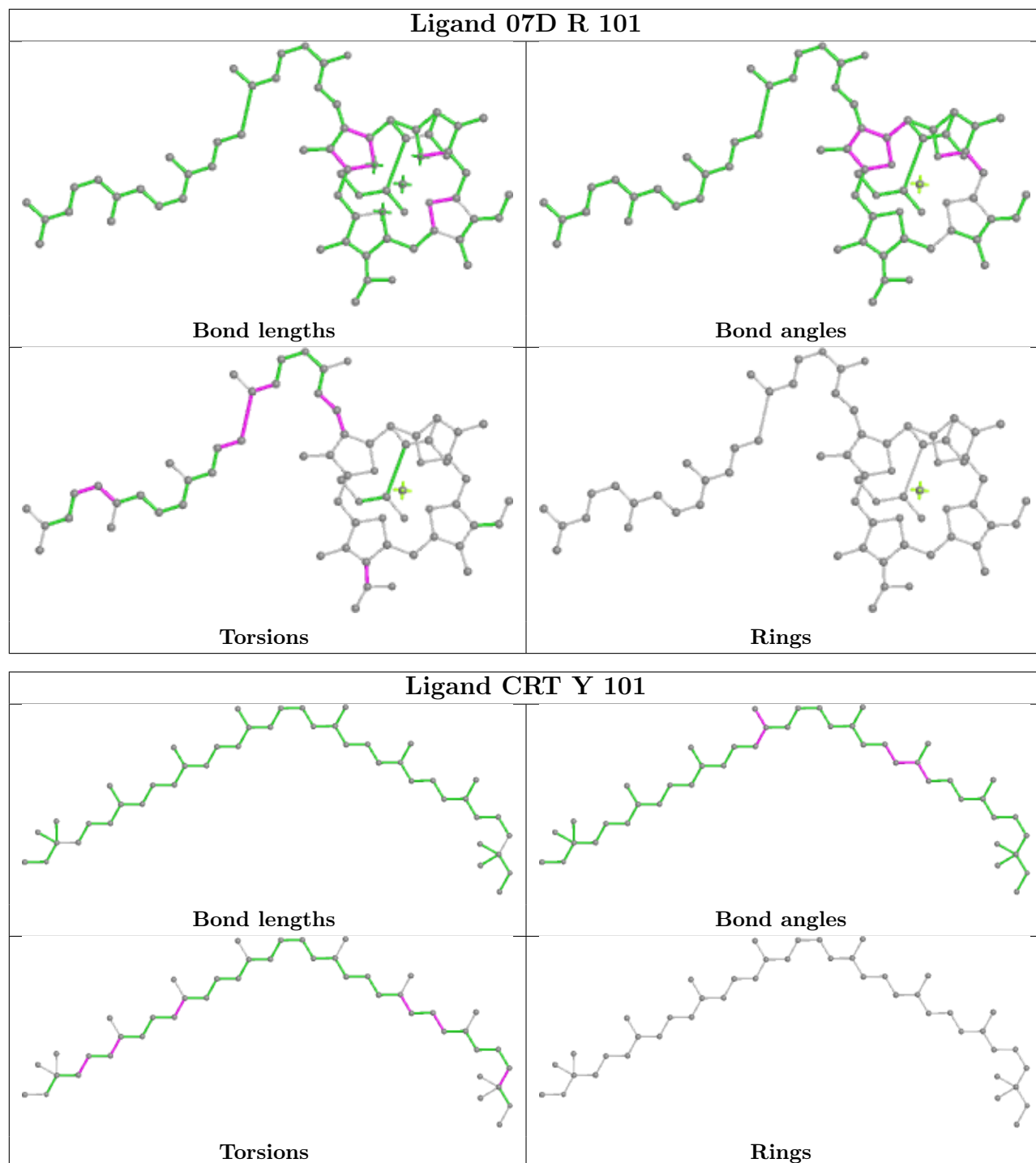


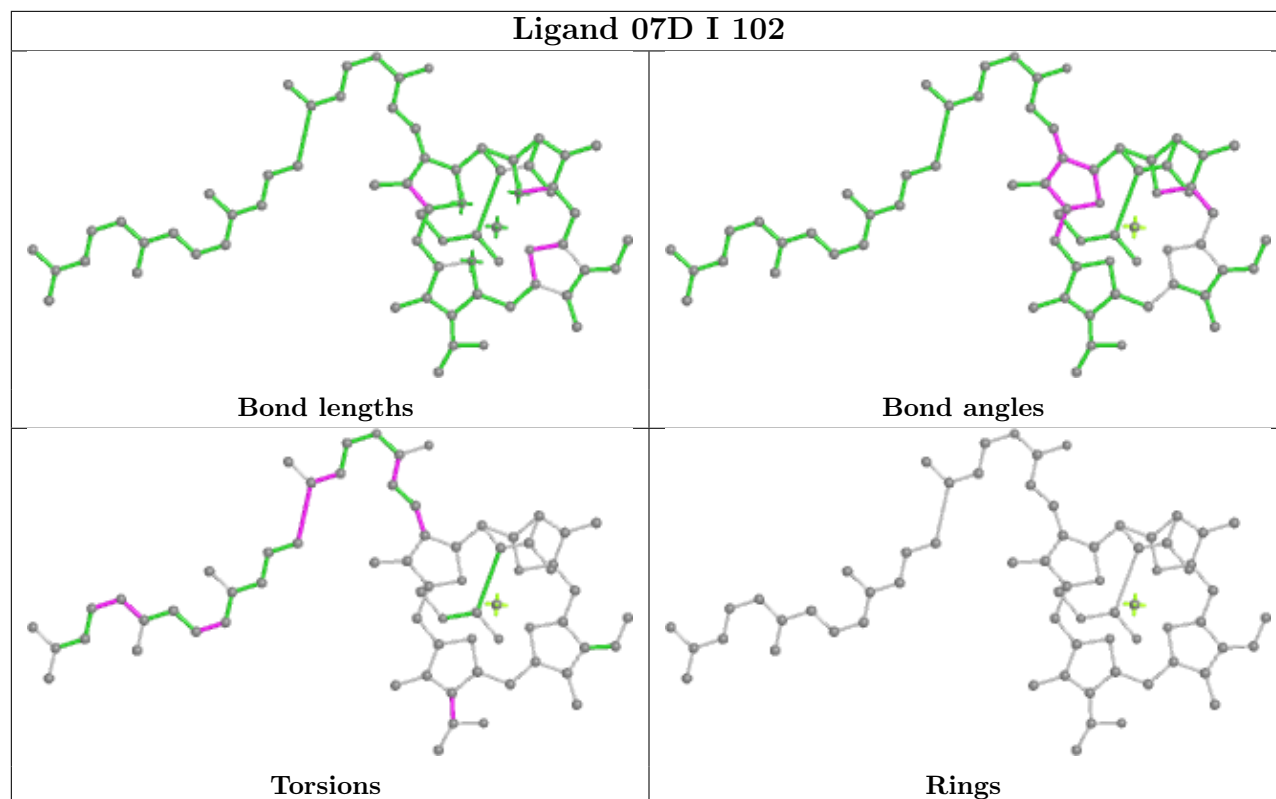












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

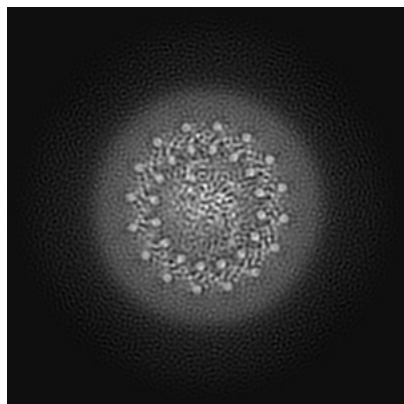
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-62025. These allow visual inspection of the internal detail of the map and identification of artifacts.

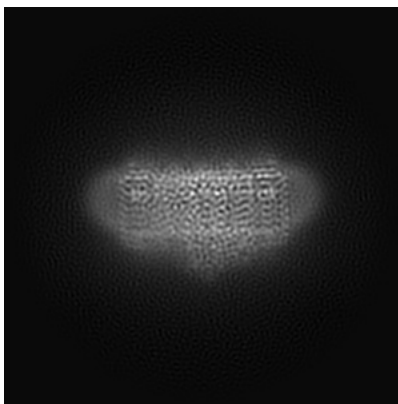
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

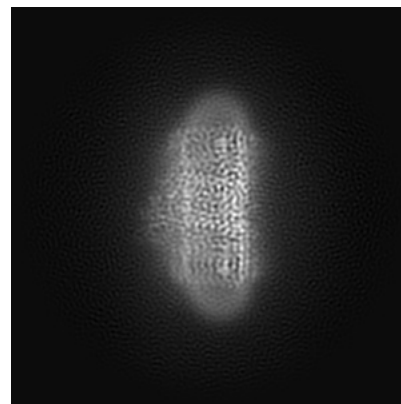
6.1.1 Primary map



X

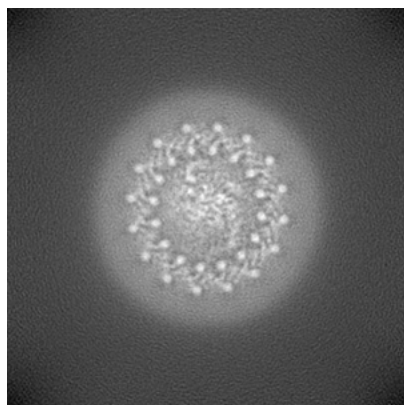


Y

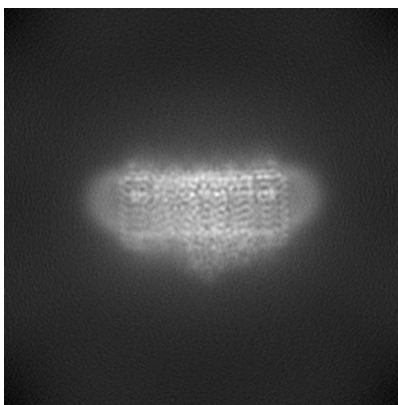


Z

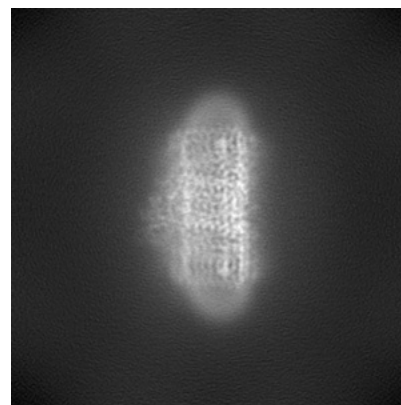
6.1.2 Raw map



X



Y

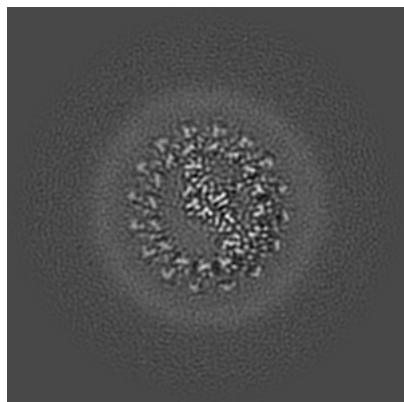


Z

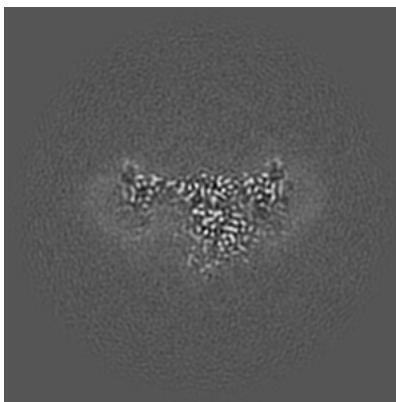
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

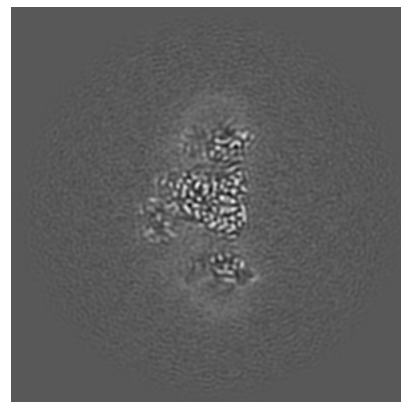
6.2.1 Primary map



X Index: 125

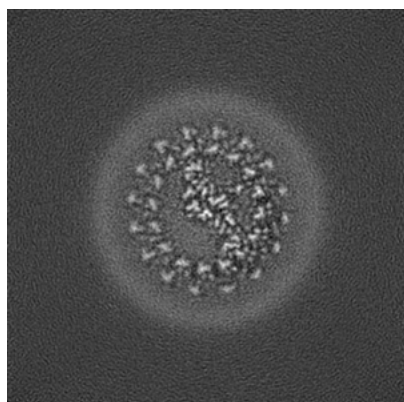


Y Index: 125

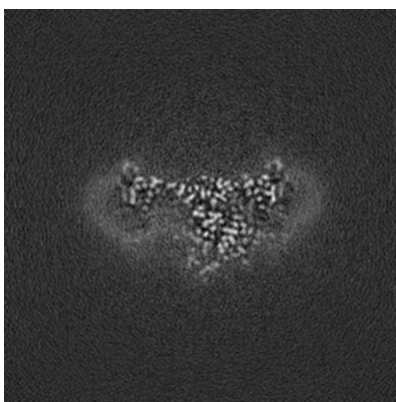


Z Index: 125

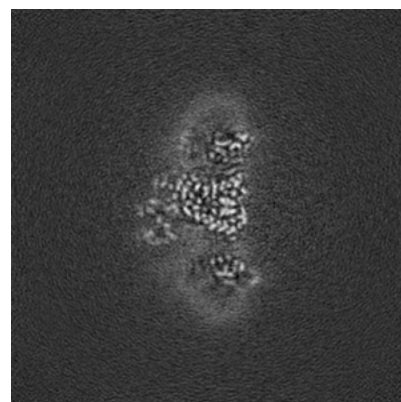
6.2.2 Raw map



X Index: 125



Y Index: 125

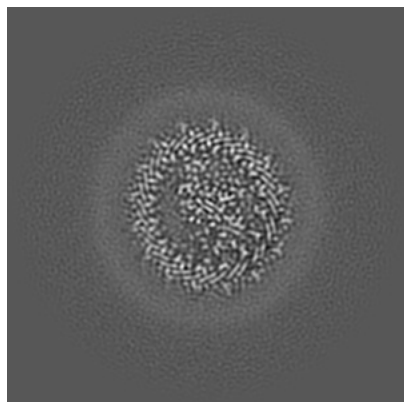


Z Index: 125

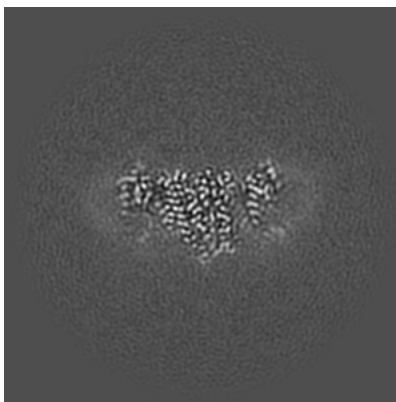
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

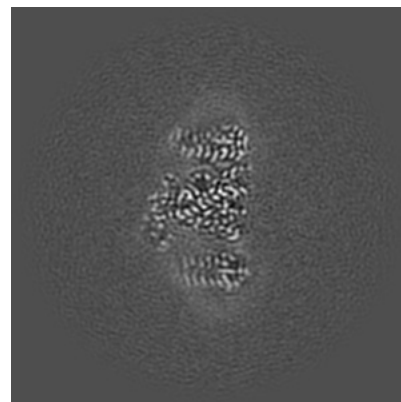
6.3.1 Primary map



X Index: 134

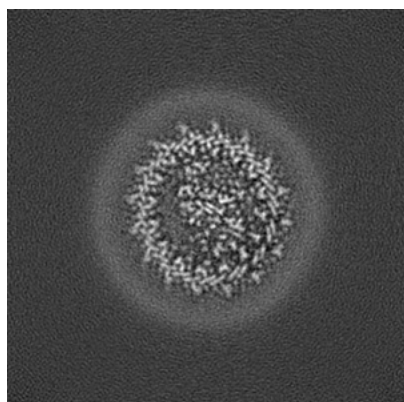


Y Index: 140

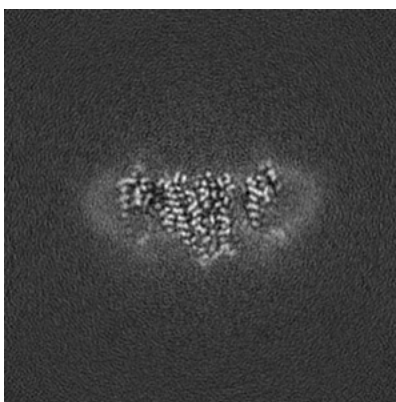


Z Index: 132

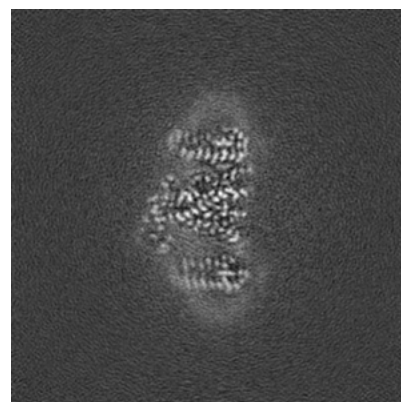
6.3.2 Raw map



X Index: 134



Y Index: 140

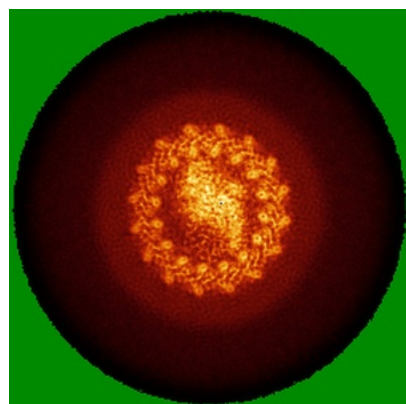


Z Index: 132

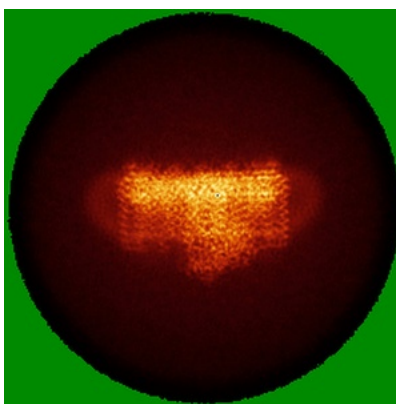
The images above show the largest variance slices of the map in three orthogonal directions.

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

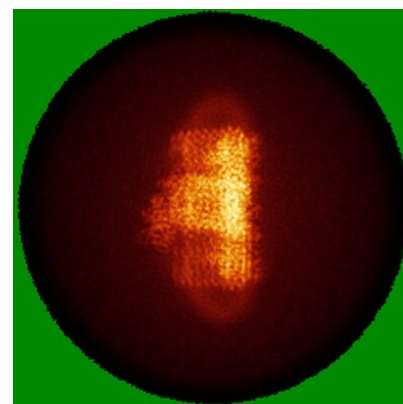
6.4.1 Primary map



X

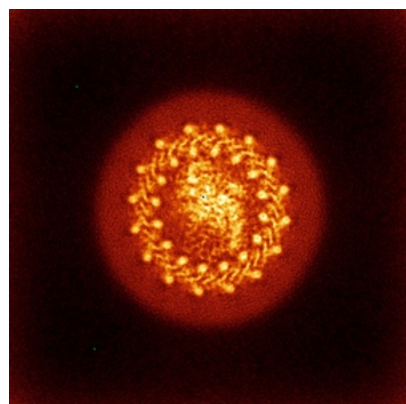


Y

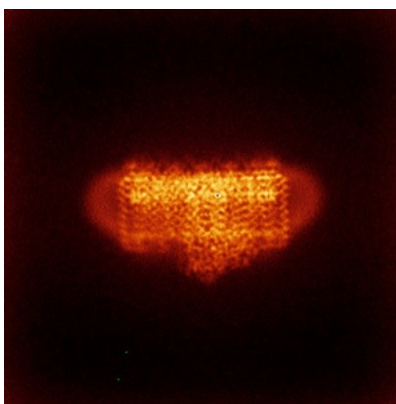


Z

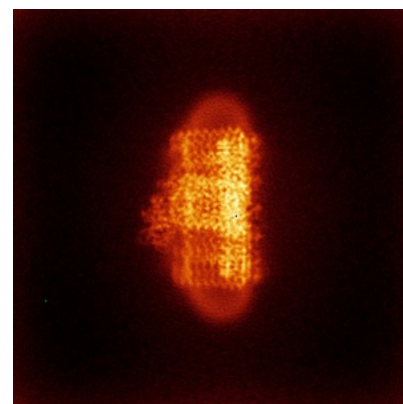
6.4.2 Raw map



X



Y

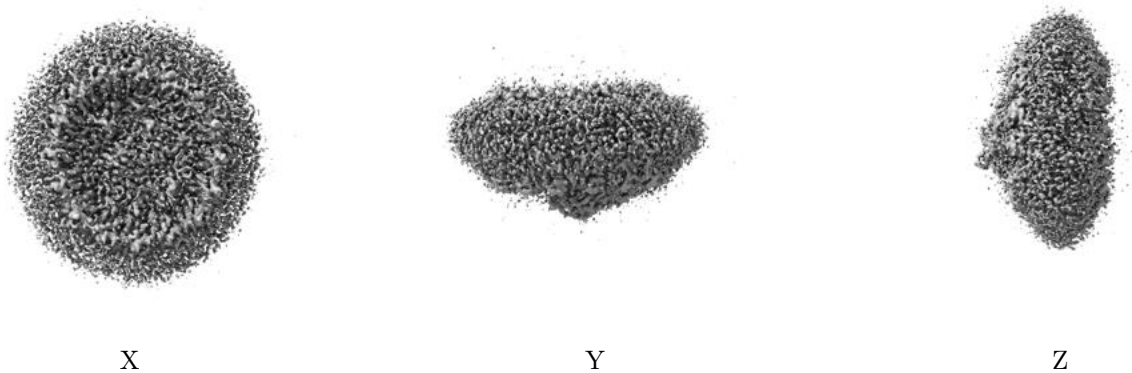


Z

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

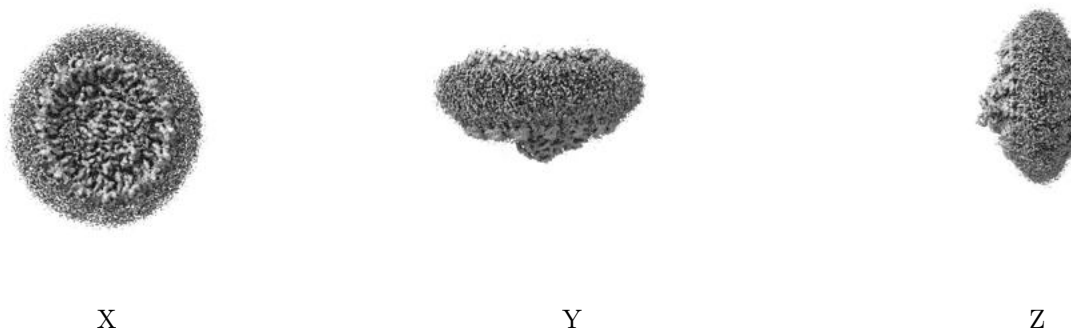
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.15. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

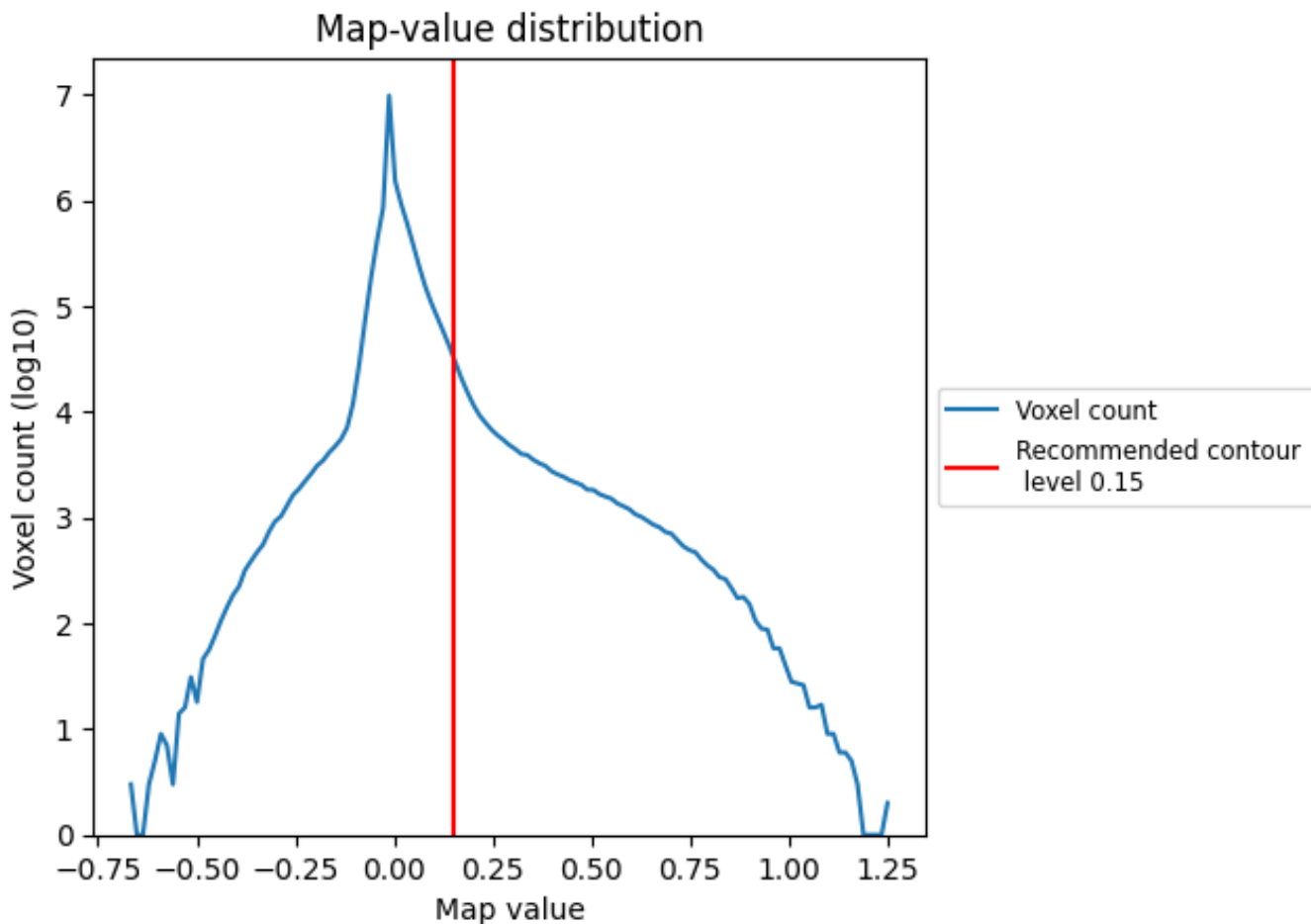
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

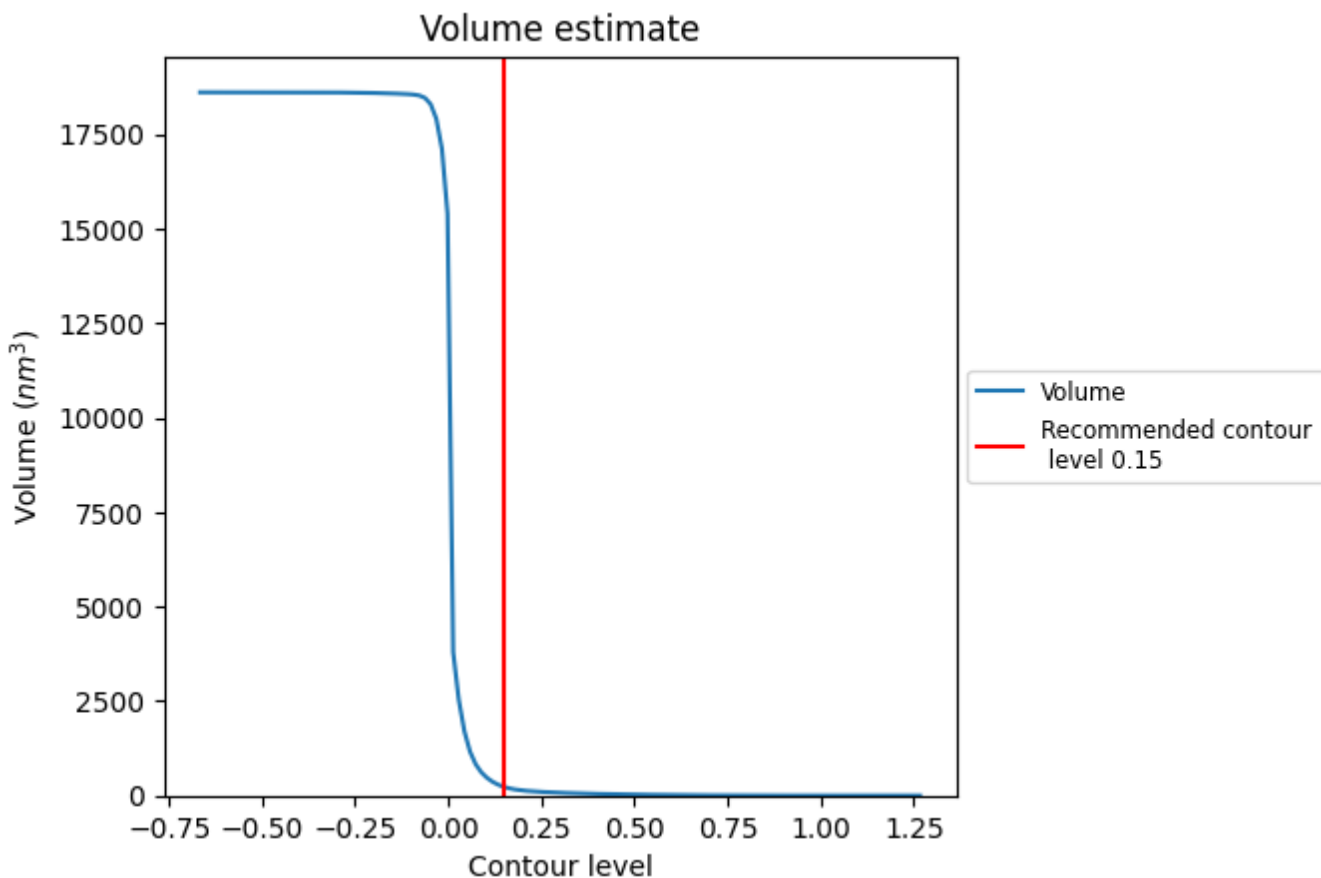
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

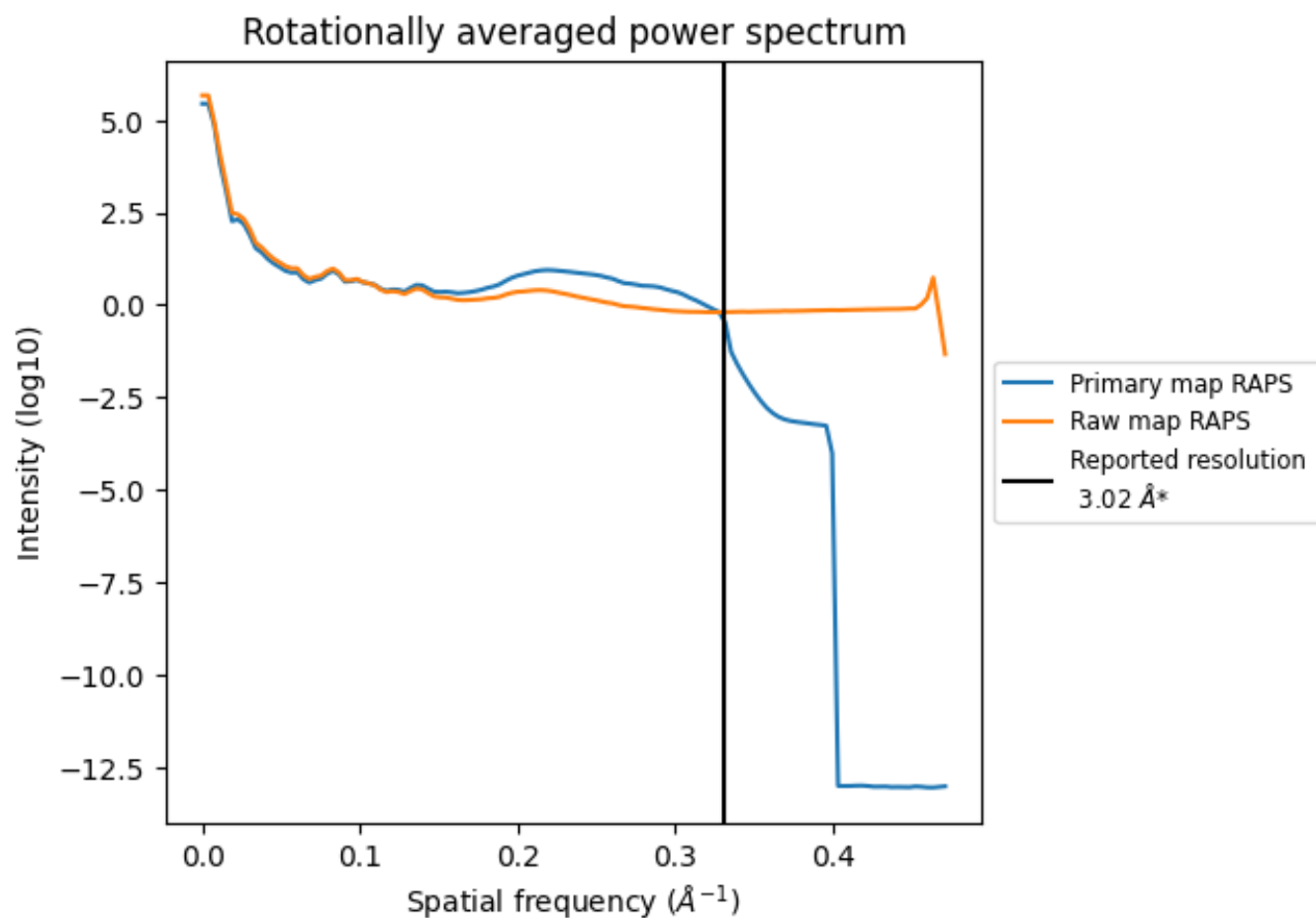
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 229 nm³; this corresponds to an approximate mass of 206 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

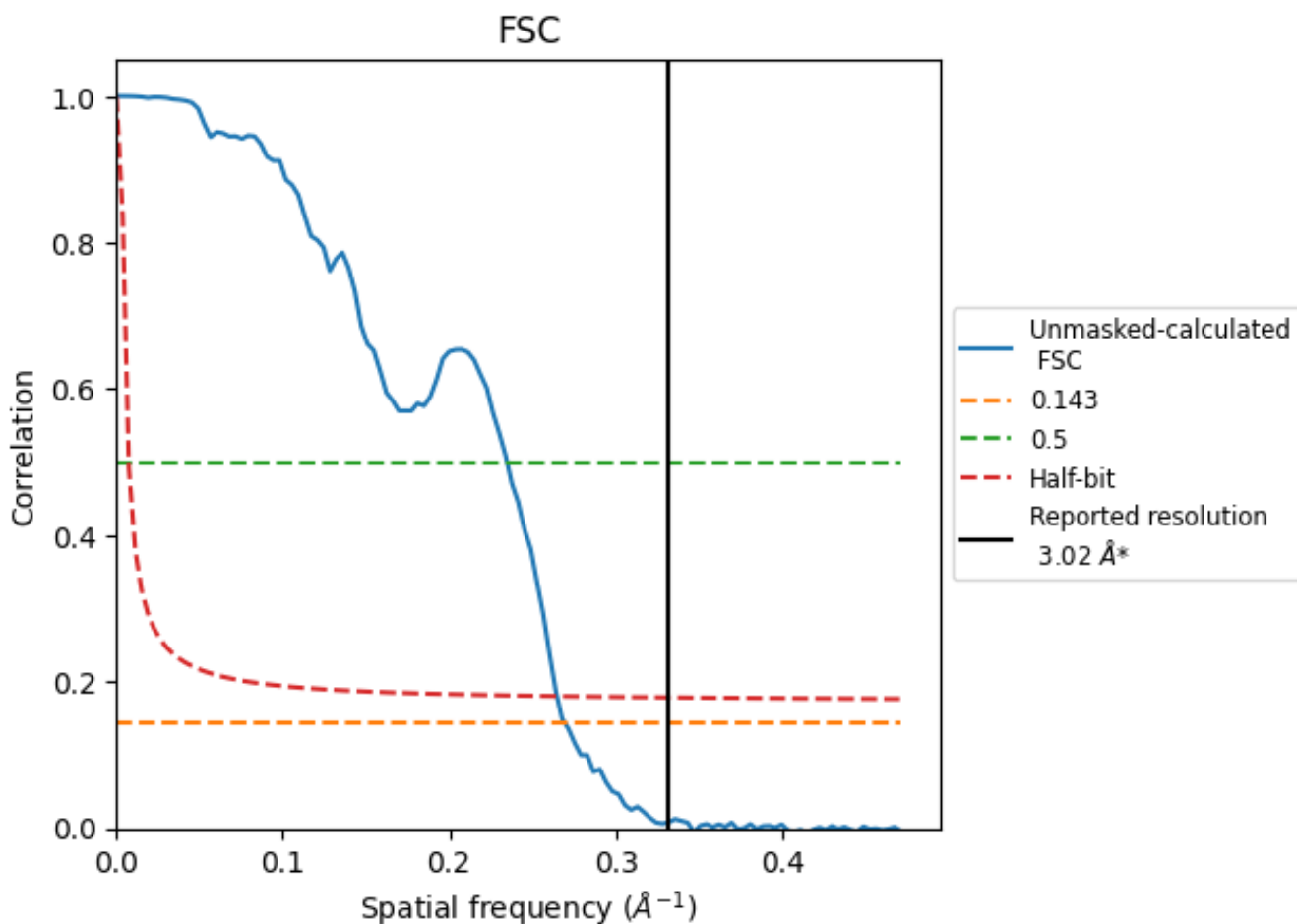


*Reported resolution corresponds to spatial frequency of 0.331 Å⁻¹

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 0.331 \AA^{-1}

8.2 Resolution estimates [i](#)

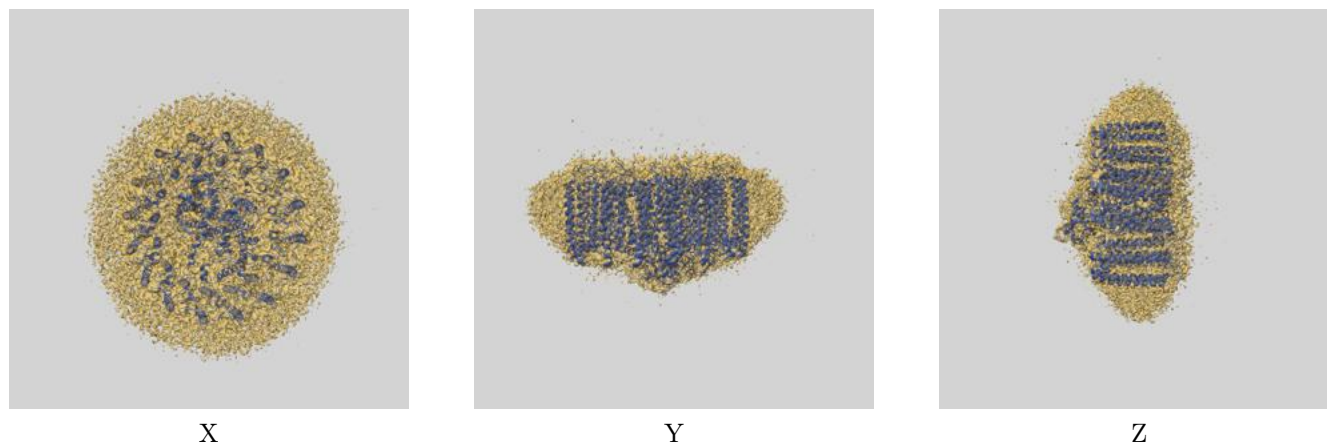
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.02	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.71	4.26	3.78

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.71 differs from the reported value 3.02 by more than 10 %

9 Map-model fit [i](#)

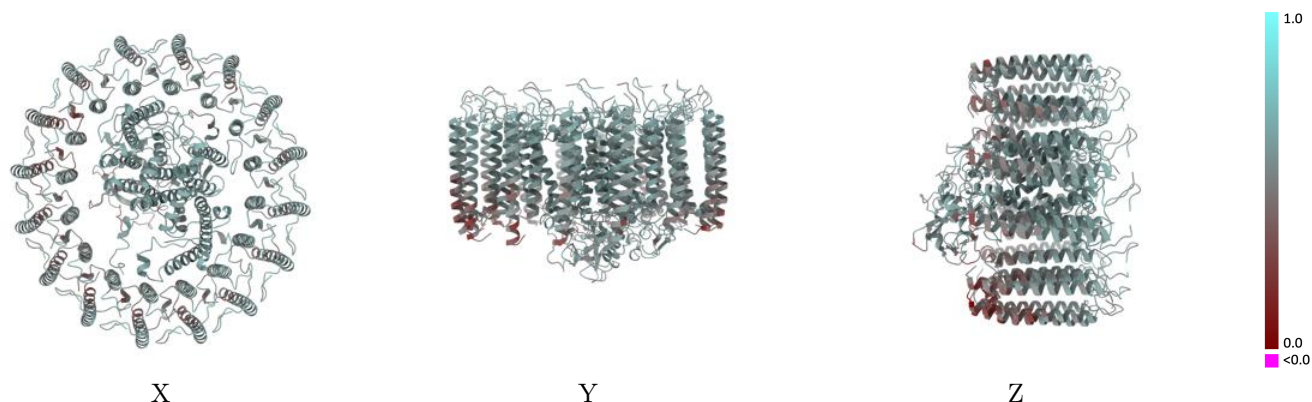
This section contains information regarding the fit between EMDB map EMD-62025 and PDB model 9K3Q. Per-residue inclusion information can be found in section 3 on page 14.

9.1 Map-model overlay [i](#)



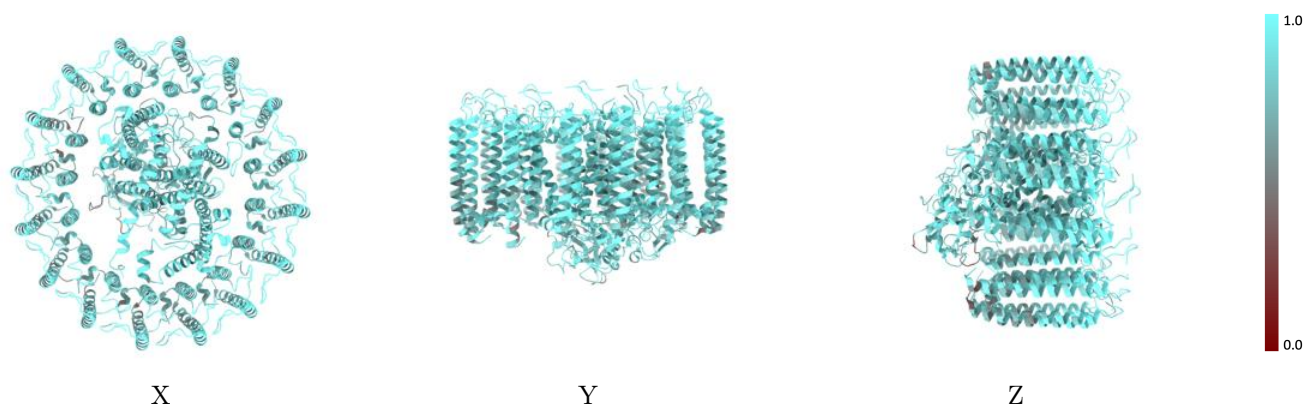
The images above show the 3D surface view of the map at the recommended contour level 0.15 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



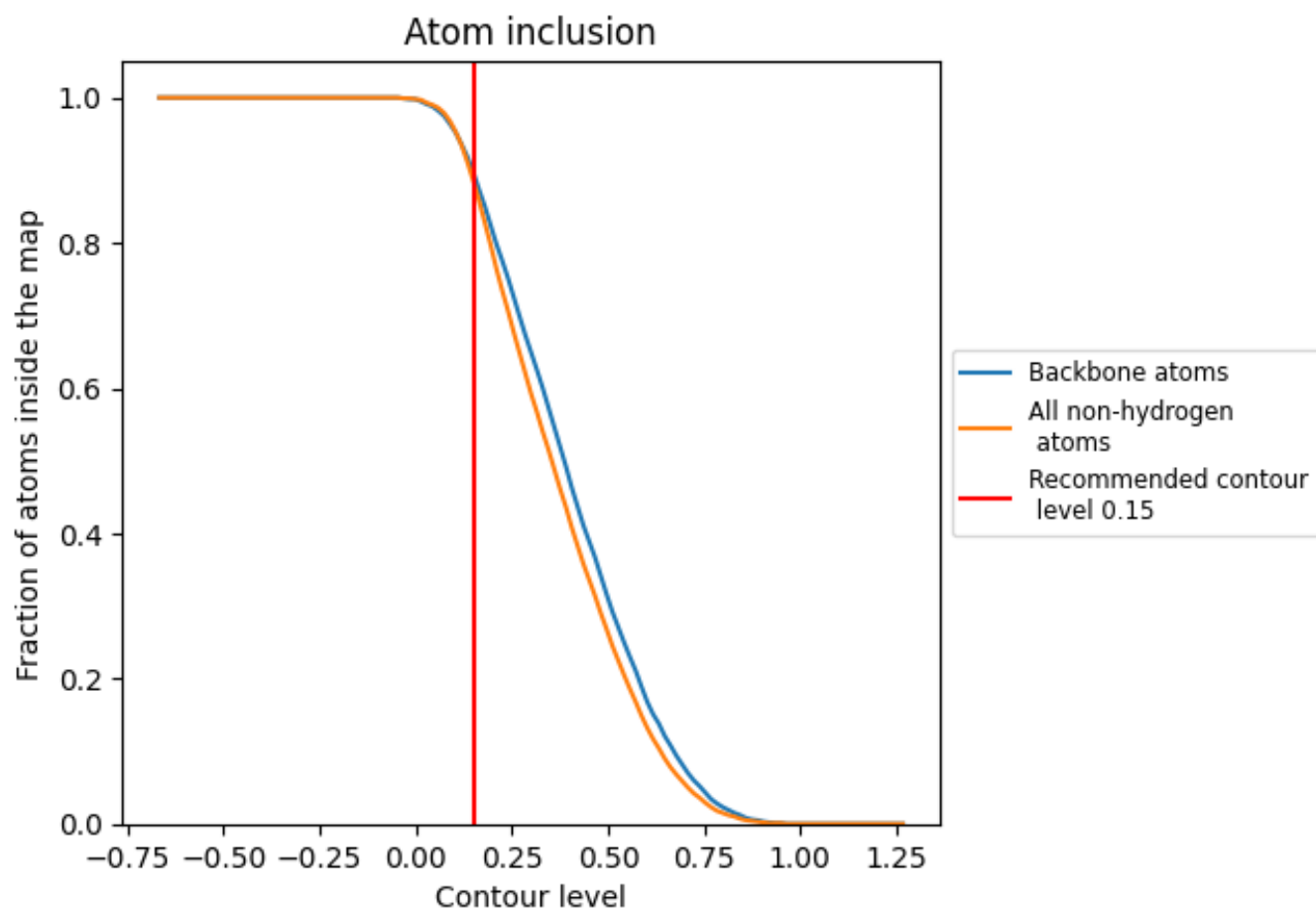
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.15).









































































9.4 Atom inclusion [i](#)



At the recommended contour level, 90% of all backbone atoms, 88% 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 (0.15) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8850	 0.5340
1	 0.8390	 0.4920
2	 0.8590	 0.5110
3	 0.8220	 0.4840
4	 0.8790	 0.5320
5	 0.8300	 0.4930
6	 0.8910	 0.5390
7	 0.8980	 0.5240
8	 0.8960	 0.5440
9	 0.8610	 0.5130
A	 0.8770	 0.5260
D	 0.9230	 0.5650
E	 0.8890	 0.5520
F	 0.9210	 0.5750
G	 0.9120	 0.5420
H	 0.8530	 0.5210
I	 0.9110	 0.5510
J	 0.8980	 0.5510
K	 0.8910	 0.5480
L	 0.9370	 0.5790
M	 0.9430	 0.5900
N	 0.9070	 0.5530
O	 0.8830	 0.5540
Q	 0.8800	 0.5280
R	 0.8070	 0.4660
S	 0.8800	 0.5270
T	 0.8400	 0.4910
U	 0.8870	 0.5370
V	 0.8860	 0.5180
W	 0.8720	 0.5160
X	 0.8790	 0.5200
Y	 0.7780	 0.4260
Z	 0.8750	 0.5160
d	 0.8390	 0.4640
m	 0.8520	 0.4770
n	 0.8300	 0.4840

