



wwPDB EM Validation Summary Report ⓘ

Sep 16, 2026 – 05:51 AM EDT

PDB ID : 11DC / pdb_000011dc
EMDB ID : EMD-75630
Title : Human Slo1-PenitremA complex under divalent chelated condition - gating-ring masked out
Authors : Chowdhury, S.; Pal, K.; Kallure, G.S.
Deposited on : 2026-02-18
Resolution : 2.58 Å(reported)

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev133
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.50

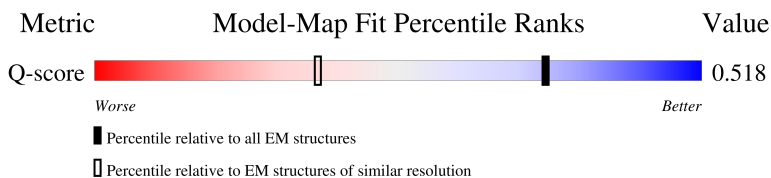
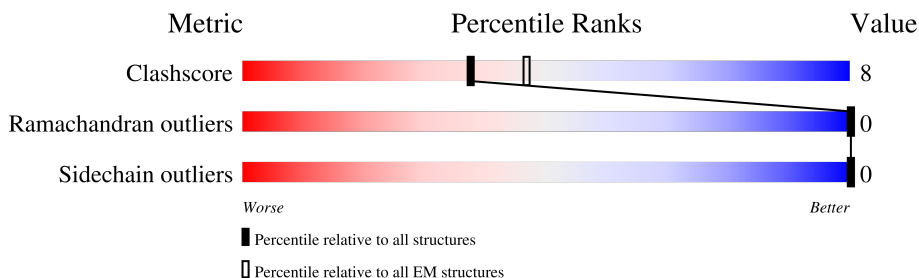
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 2.58 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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
Q-score	-	25397	7675 (2.08 - 3.08)

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	A	1065	 22% 74%
1	B	1065	 22% 74%
1	C	1065	 22% 74%
1	D	1065	 22% 74%

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
3	LBN	A	1106	X	-	-	-
3	LBN	A	1107	X	-	-	-
3	LBN	A	1108	X	-	-	-
3	LBN	A	1109	X	-	-	-
3	LBN	A	1110	X	-	-	-
3	LBN	A	1119	X	-	-	-
3	LBN	A	1120	X	-	-	-
3	LBN	A	1121	X	-	-	-
3	LBN	A	1122	X	-	-	-
3	LBN	B	1101	X	-	-	-
3	LBN	B	1102	X	-	-	-
3	LBN	B	1103	X	-	-	-
3	LBN	B	1112	X	-	-	-
3	LBN	B	1113	X	-	-	-
3	LBN	B	1114	X	-	-	-
3	LBN	B	1115	X	-	-	-
3	LBN	C	1101	X	-	-	-
3	LBN	C	1102	X	-	-	-
3	LBN	C	1103	X	-	-	-
3	LBN	C	1104	X	-	-	-
3	LBN	C	1113	X	-	-	-
3	LBN	C	1114	X	-	-	-
3	LBN	C	1115	X	-	-	-
3	LBN	C	1116	X	-	-	-
3	LBN	D	1101	X	-	-	-
3	LBN	D	1102	X	-	-	-
3	LBN	D	1103	X	-	-	-
3	LBN	D	1104	X	-	-	-
3	LBN	D	1113	X	-	-	-
3	LBN	D	1114	X	-	-	-
3	LBN	D	1115	X	-	-	-
3	LBN	D	1116	X	-	-	-
5	CLR	A	1112	X	-	-	-
5	CLR	A	1113	X	-	-	-
5	CLR	A	1114	X	-	-	-
5	CLR	A	1115	X	-	-	-
5	CLR	A	1116	X	-	-	-
5	CLR	A	1117	X	-	-	-
5	CLR	A	1118	X	-	-	-
5	CLR	B	1105	X	-	-	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
5	CLR	B	1106	X	-	-	-
5	CLR	B	1107	X	-	-	-
5	CLR	B	1108	X	-	-	-
5	CLR	B	1109	X	-	-	-
5	CLR	B	1110	X	-	-	-
5	CLR	B	1111	X	-	-	-
5	CLR	C	1106	X	-	-	-
5	CLR	C	1107	X	-	-	-
5	CLR	C	1108	X	-	-	-
5	CLR	C	1109	X	-	-	-
5	CLR	C	1110	X	-	-	-
5	CLR	C	1111	X	-	-	-
5	CLR	C	1112	X	-	-	-
5	CLR	D	1106	X	-	-	-
5	CLR	D	1107	X	-	-	-
5	CLR	D	1108	X	-	-	-
5	CLR	D	1109	X	-	-	-
5	CLR	D	1110	X	-	-	-
5	CLR	D	1111	X	-	-	-
5	CLR	D	1112	X	-	-	-
6	A1C9J	A	1130	X	-	-	-
6	A1C9J	B	1123	X	-	-	-
6	A1C9J	C	1124	X	-	-	-
6	A1C9J	D	1124	X	-	-	-

2 Entry composition

There are 7 unique types of molecules in this entry. The entry contains 12327 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 Isoform 5 of Calcium-activated potassium channel subunit alpha-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	274	Total	C	N	O	S	0	0
			2251	1515	352	373	11		
1	B	274	Total	C	N	O	S	0	0
			2251	1515	352	373	11		
1	C	274	Total	C	N	O	S	0	0
			2251	1515	352	373	11		
1	D	274	Total	C	N	O	S	0	0
			2251	1515	352	373	11		

There are 40 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	513	ILE	MET	engineered mutation	UNP Q12791
A	1057	SER	-	expression tag	UNP Q12791
A	1058	ASN	-	expression tag	UNP Q12791
A	1059	SER	-	expression tag	UNP Q12791
A	1060	LEU	-	expression tag	UNP Q12791
A	1061	GLU	-	expression tag	UNP Q12791
A	1062	VAL	-	expression tag	UNP Q12791
A	1063	LEU	-	expression tag	UNP Q12791
A	1064	PHE	-	expression tag	UNP Q12791
A	1065	GLN	-	expression tag	UNP Q12791
B	513	ILE	MET	engineered mutation	UNP Q12791
B	1057	SER	-	expression tag	UNP Q12791
B	1058	ASN	-	expression tag	UNP Q12791
B	1059	SER	-	expression tag	UNP Q12791
B	1060	LEU	-	expression tag	UNP Q12791
B	1061	GLU	-	expression tag	UNP Q12791
B	1062	VAL	-	expression tag	UNP Q12791
B	1063	LEU	-	expression tag	UNP Q12791
B	1064	PHE	-	expression tag	UNP Q12791
B	1065	GLN	-	expression tag	UNP Q12791
C	513	ILE	MET	engineered mutation	UNP Q12791

Continued on next page...

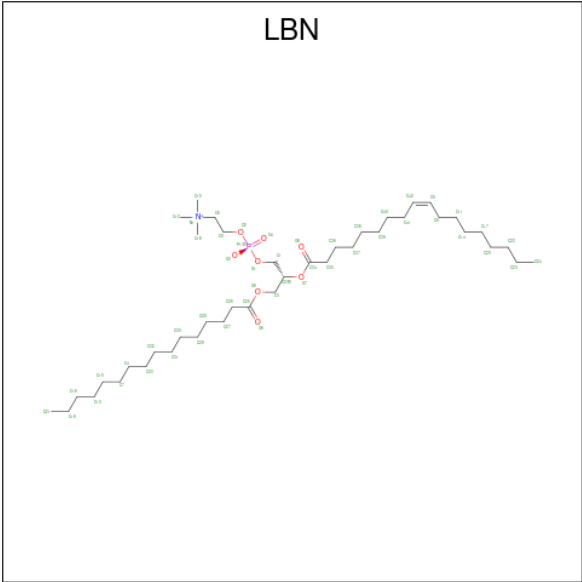
Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
C	1057	SER	-	expression tag	UNP Q12791
C	1058	ASN	-	expression tag	UNP Q12791
C	1059	SER	-	expression tag	UNP Q12791
C	1060	LEU	-	expression tag	UNP Q12791
C	1061	GLU	-	expression tag	UNP Q12791
C	1062	VAL	-	expression tag	UNP Q12791
C	1063	LEU	-	expression tag	UNP Q12791
C	1064	PHE	-	expression tag	UNP Q12791
C	1065	GLN	-	expression tag	UNP Q12791
D	513	ILE	MET	engineered mutation	UNP Q12791
D	1057	SER	-	expression tag	UNP Q12791
D	1058	ASN	-	expression tag	UNP Q12791
D	1059	SER	-	expression tag	UNP Q12791
D	1060	LEU	-	expression tag	UNP Q12791
D	1061	GLU	-	expression tag	UNP Q12791
D	1062	VAL	-	expression tag	UNP Q12791
D	1063	LEU	-	expression tag	UNP Q12791
D	1064	PHE	-	expression tag	UNP Q12791
D	1065	GLN	-	expression tag	UNP Q12791

- Molecule 2 is POTASSIUM ION (CCD ID: K) (formula: K).

Mol	Chain	Residues	Atoms	AltConf
2	A	5	Total K 5 5	0

- Molecule 3 is 1-palmitoyl-2-oleoyl-sn-glycero-3-phosphocholine (CCD ID: LBN) (formula: C₄₂H₈₂NO₈P) (labeled as "Ligand of Interest" by depositor).



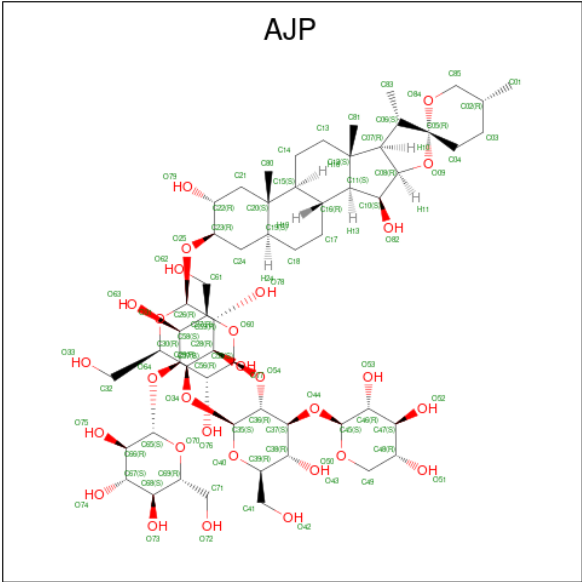
Mol	Chain	Residues	Atoms				AltConf
3	A	1	Total	C	O	P	0
			22	14	7	1	
3	A	1	Total	C	O	P	0
			22	14	7	1	
3	A	1	Total	C	O	P	0
			22	14	7	1	
3	A	1	Total	C	O	P	0
			24	15	8	1	
3	A	1	Total	C	O	P	0
			36	27	8	1	
3	A	1	Total	C	O	P	0
			31	22	8	1	
3	A	1	Total	C	O	P	0
			20	12	7	1	
3	A	1	Total	C	O	P	0
			29	20	8	1	
3	A	1	Total	C	O	P	0
			27	18	8	1	
3	B	1	Total	C	O	P	0
			22	14	7	1	
3	B	1	Total	C	O	P	0
			24	15	8	1	
3	B	1	Total	C	O	P	0
			35	26	8	1	
3	B	1	Total	C	O	P	0
			29	20	8	1	
3	B	1	Total	C	O	P	0
			31	22	8	1	

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms				AltConf
3	B	1	Total	C	O	P	0
			20	12	7	1	
3	B	1	Total	C	O	P	0
			27	18	8	1	
3	C	1	Total	C	O	P	0
			22	14	7	1	
3	C	1	Total	C	O	P	0
			22	14	7	1	
3	C	1	Total	C	O	P	0
			24	15	8	1	
3	C	1	Total	C	O	P	0
			35	26	8	1	
3	C	1	Total	C	O	P	0
			29	20	8	1	
3	C	1	Total	C	O	P	0
			31	22	8	1	
3	C	1	Total	C	O	P	0
			20	12	7	1	
3	C	1	Total	C	O	P	0
			27	18	8	1	
3	D	1	Total	C	O	P	0
			22	14	7	1	
3	D	1	Total	C	O	P	0
			22	14	7	1	
3	D	1	Total	C	O	P	0
			24	15	8	1	
3	D	1	Total	C	O	P	0
			36	27	8	1	
3	D	1	Total	C	O	P	0
			29	20	8	1	
3	D	1	Total	C	O	P	0
			31	22	8	1	
3	D	1	Total	C	O	P	0
			20	12	7	1	
3	D	1	Total	C	O	P	0
			27	18	8	1	

- Molecule 4 is Digitonin (CCD ID: AJP) (formula: C₅₆H₉₂O₂₉).



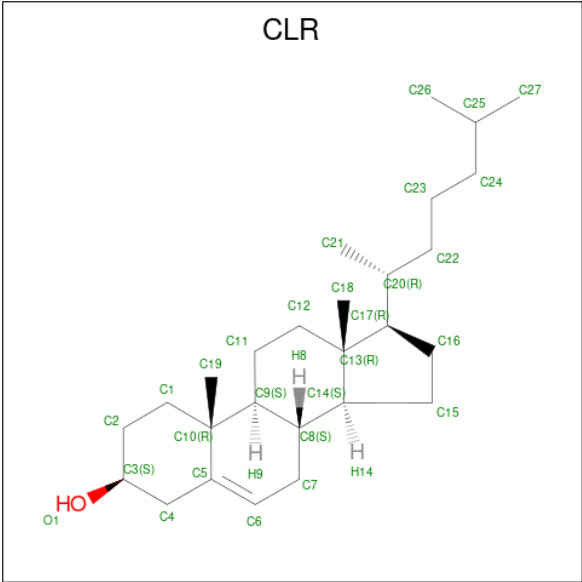
Mol	Chain	Residues	Atoms			AltConf
4	A	1	Total	C	O	0
			54	39	15	
4	A	1	Total	C	O	0
			43	33	10	
4	A	1	Total	C	O	0
			43	33	10	
4	A	1	Total	C	O	0
			43	33	10	
4	A	1	Total	C	O	0
			43	33	10	
4	A	1	Total	C	O	0
			65	45	20	
4	A	1	Total	C	O	0
			43	33	10	
4	A	1	Total	C	O	0
			43	33	10	
4	B	1	Total	C	O	0
			54	39	15	
4	B	1	Total	C	O	0
			43	33	10	
4	B	1	Total	C	O	0
			43	33	10	
4	B	1	Total	C	O	0
			43	33	10	
4	B	1	Total	C	O	0
			43	33	10	
4	B	1	Total	C	O	0
			65	45	20	

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms			AltConf
4	B	1	Total	C	O	0
			43	33	10	
4	B	1	Total	C	O	0
			43	33	10	
4	C	1	Total	C	O	0
			54	39	15	
4	C	1	Total	C	O	0
			43	33	10	
4	C	1	Total	C	O	0
			43	33	10	
4	C	1	Total	C	O	0
			43	33	10	
4	C	1	Total	C	O	0
			43	33	10	
4	C	1	Total	C	O	0
			65	45	20	
4	C	1	Total	C	O	0
			43	33	10	
4	C	1	Total	C	O	0
			43	33	10	
4	D	1	Total	C	O	0
			54	39	15	
4	D	1	Total	C	O	0
			43	33	10	
4	D	1	Total	C	O	0
			43	33	10	
4	D	1	Total	C	O	0
			43	33	10	
4	D	1	Total	C	O	0
			65	45	20	
4	D	1	Total	C	O	0
			43	33	10	
4	D	1	Total	C	O	0
			43	33	10	

- Molecule 5 is CHOLESTEROL (CCD ID: CLR) (formula: C₂₇H₄₆O) (labeled as "Ligand of Interest" by depositor).



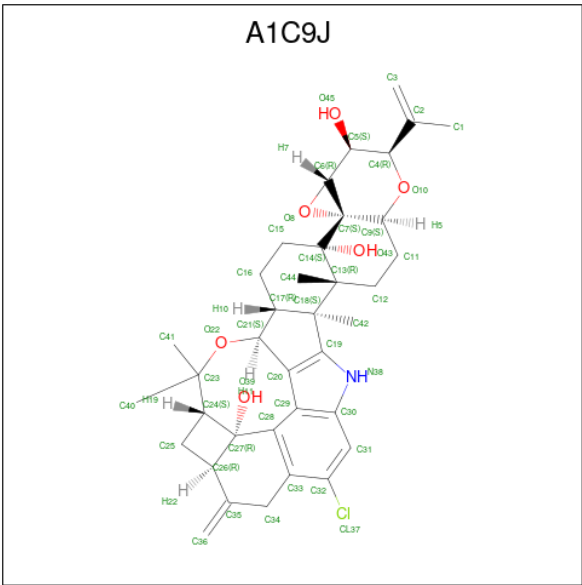
Mol	Chain	Residues	Atoms			AltConf
5	A	1	Total	C	O	0
			28	27	1	
5	A	1	Total	C	O	0
			28	27	1	
5	A	1	Total	C	O	0
			28	27	1	
5	A	1	Total	C	O	0
			28	27	1	
5	A	1	Total	C	O	0
			28	27	1	
5	A	1	Total	C	O	0
			28	27	1	
5	B	1	Total	C	O	0
			28	27	1	
5	B	1	Total	C	O	0
			28	27	1	
5	B	1	Total	C	O	0
			28	27	1	
5	B	1	Total	C	O	0
			28	27	1	
5	B	1	Total	C	O	0
			28	27	1	
5	B	1	Total	C	O	0
			28	27	1	

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms			AltConf
5	C	1	Total	C	O	0
			28	27	1	
5	C	1	Total	C	O	0
			28	27	1	
5	C	1	Total	C	O	0
			28	27	1	
5	C	1	Total	C	O	0
			28	27	1	
5	C	1	Total	C	O	0
			28	27	1	
5	C	1	Total	C	O	0
			28	27	1	
5	D	1	Total	C	O	0
			28	27	1	
5	D	1	Total	C	O	0
			28	27	1	
5	D	1	Total	C	O	0
			28	27	1	
5	D	1	Total	C	O	0
			28	27	1	
5	D	1	Total	C	O	0
			28	27	1	
5	D	1	Total	C	O	0
			28	27	1	

- Molecule 6 is Penitrem A (CCD ID: A1C9J) (formula: $C_{37}H_{44}ClNO_6$) (labeled as "Ligand of Interest" by depositor).



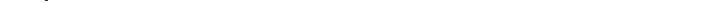
Mol	Chain	Residues	Atoms					AltConf
6	A	1	Total	C	Cl	N	O	0
			45	37	1	1	6	
6	B	1	Total	C	Cl	N	O	0
			45	37	1	1	6	
6	C	1	Total	C	Cl	N	O	0
			45	37	1	1	6	
6	D	1	Total	C	Cl	N	O	0
			45	37	1	1	6	

- Molecule 7 is water.

Mol	Chain	Residues	Atoms		AltConf
7	A	1	Total	O	0
			1	1	
7	B	1	Total	O	0
			1	1	
7	C	1	Total	O	0
			1	1	
7	D	1	Total	O	0
			1	1	

ARG	TYR	VAL	ILE	THR	ASN	PRO	PRO	TYR	GLU	PHE	GLU	LEU	VAL	PRO	THR	ASP	LEU	ILE	PHE	CYS	LEU	MET	GLN	PHE	ASP	SER	ASN	SER	LEU	GLU	VAL	LEU	PHE	GLN
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

- Molecule 1: Isoform 5 of Calcium-activated potassium channel subunit alpha-1

Chain B:  22% 74%

THR	LEU	LYS	PRO	VAL	ASP	GLU	GLU	GLU	GLU	ALA	VAL	ALA	ALA	GLU	VAL	GLY	W93	W94	W100	T109	L110	T111	G125	I129	F148	M154	F168	A171	N172	D173	K174	T189	V190	P191	P192	V193	V197	R210	S218	E219	L227	V236	N237	L238
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------

T245	T248	D261	M268	M282	D292	V293	I308	L309	V319	P320	E321	I322	N328	R329	K330	K331	V332	GLY	GLY	SER	TYR	SER	SER	ALA	VAL	SER	GLY	ARG	LYS	HIS	HIS	ILE	VAL	VAL	CYS	GLY	HIS	ILE	THR	LEU	LEU	GLU	SER	VAL	SER	SER	ASN	PHE	PHE	LEU	LEU	LYS	ASP	PHE	LEU	HIS	LYS
------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

ASP ARG ASP ASP ASP VAL ASN VAL GLU VAL PHE HIS ASN SER PRO LEU GLU LEU GLU ALA LEU PHE LYS ARG HIS PHE THR GLN VAL GLU PHE TYR GLN GLY SER VAL LEU ASN PRO HIS ASP ASP LEU ALA ARG VAL LYS ILE GLU SER ALA LYS ILE LEU CYS LEU ILE LEU

ASN
LYS
TYR
CYS
ALA
ASP
PRO
ASP
GLU
ALA
ASP
ALA
SER
ASN
ILE
MET
ARG
VAL
ILE
SER
ILE
LYS
ASN
TYR
HIS
PRO
LYS
ILE
ILE
ILE
GLN
MET
GLN
LEU
GLN
TYR
HIS
ASN
LYS
ALA
HIS
LEU
LEU
ILE
ILE
PRO
SER
TRP
TRP
LYS
GLY
ASP
ASP
ILE
ALA
CYS
LEU

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

GLY LEU SER PHE PRO THR VAL CYS LEU LEU CYS PHE VAL LYS LEU LYS LEU LEU MET ILE ILE ILE ILE TYR LYS SER ASN ARG ARG GLU GLU SER ARG ILE LEU ILE ILE ASN GLN GLU GLY THR LEU LYS ILE GLN GLU GLY THR LEU LYS ILE GLN GLU GLY THR LEU LYS ASP ALA LYS VAL PHE

ARG ALA ALA PHE PHE TYR CYS LYS ALA CYS HIS ASP ASP ILE THR CYS ASP ASP PRO PRO LYS LYS ARG ILE LYS LYS CYS CYS GLY CYS LYS ARG LEU LEU GLU GLU GLN PRO PRO SER SER THR THR LYS LEU SER PRO PRO LYS LYS LYS LYS LYS LYS ARG ASN ASN SER SER ASN ASN THR THR PRO PRO LYS LEU MET MET ARG HIS SER

PRO LEU LEU LEU ILE ILE PRO GLY ASN ASP ASP GLN ILE ILE ASP ASP MET MET ASP SER SER ASN ASN LYS LYS TYR ASP SER SER THR THR GLY MET PHE HIS HIS TRP TRP CYS CYS ALA ALA PRO PRO LYS LYS GLU GLU ILE ILE GLU GLU LYS VAL VAL ILE ILE LEU LEU THR THR ARG ARG SER SER GLU GLU ALA ALA ALA ALA MET MET MET THR THR VAL VAL VAL VAL CYS CYS ILE ILE PHE PHE GLY GLY SER SER

VAL	SER	SER	SER	ALA	LEU	ILE	GLY	LEU	ARG	ASN	LEU	VAL	MET	PRO	LEU	ARG	ALA	SER	ASN	PHE	HIS	TYR	HIS	HIS	GLU	LEU	LYS	HIS	ILE	VAL	PHE	VAL	GLY	ILE	SER	GLU	TYR	LEU	LYS	ARG	GLU	TRP	GLY	GLU	THR	LEU	HIS	ASN	PHE	PRO	LYS	VAL	SER	LEU	ILE	LEU	PRO	GLY	THR	PRO	LEU	LEU	SER	ARG
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

ALA	ASP	LEU	ARG	ALA	VAL	ASN	ILE	ASN	LEU	ASP	MET	CYS	VAL	LEU	LEU	SER	ALA	ASN	GLN	ASN	ASN	ASN	ILE	ASP	THR	ASP	LEU	LEU	GLN	LYS	SER	MET	GLN	PHE	ASP	ASP	SER	ILE	GLY	VAL	LEU	GLN	ALA	ASN	SER	GLN	GLY	PHE
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

THR	PRO	PRO	GLY	MET	ASP	ARG	ASN	SER	PRO	VAL	HIS	ILE	LEU	GLN	ARG	ASN	THR	THR	GLY	VAL	ASN	PRO	ILE	ILE	ILE	THR	THR	ASP	ASP	GLN	LEU	ASP	ASP	PHE	GLN	VAL	ASN	THR	THR	ASP	GLU	LEU	ILE	THR	THR	TYR	LEU	THR
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

GLN	PRO	PRO	PHE	ALA	CYS	GLY	THR	ALA	ALA	ALA	VAL	SER	SER	VAL	VAL	ASP	LEU	LEU	SER	LEU	MET	SER	SER	ALA	THR	TYR	PHE	PHE	ASN	ASP	ASN	ILE	LEU	LEU	THR	THR	THR	VAL	VAL	GLY	GLY	ALA	GLY	THR	THR	PRO	PRO	GLU	LEU	GLU	GLU	ALA	LEU	LEU	ILE	ALA	ALA	ARG	GLY	GLY	TYR	SER	SER	THR	THR	PRO
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

[illegible]

Chain D: 22% 74%



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	235323	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	72	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2100	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.494	Depositor
Minimum map value	-0.202	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.013	Depositor
Recommended contour level	0.08	Depositor
Map size (Å)	291.19998, 291.19998, 291.19998	wwPDB
Map dimensions	280, 280, 280	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.04, 1.04, 1.04	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: CLR, AJP, A1C9J, K, LBN

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	0.14	0/2317	0.31	0/3151
1	B	0.14	0/2317	0.31	0/3151
1	C	0.14	0/2317	0.31	0/3151
1	D	0.14	0/2317	0.31	0/3151
All	All	0.14	0/9268	0.31	0/12604

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2251	0	2274	28	0
1	B	2251	0	2274	31	0
1	C	2251	0	2274	31	0
1	D	2251	0	2274	28	0
2	A	5	0	0	0	0
3	A	233	0	0	1	0
3	B	188	0	0	1	0
3	C	210	0	0	0	0
3	D	211	0	0	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	A	377	0	0	1	0
4	B	377	0	0	1	0
4	C	377	0	0	1	0
4	D	377	0	0	1	0
5	A	196	0	320	16	0
5	B	196	0	320	18	0
5	C	196	0	320	18	0
5	D	196	0	318	16	0
6	A	45	0	0	0	0
6	B	45	0	0	0	0
6	C	45	0	0	0	0
6	D	45	0	0	0	0
7	A	1	0	0	0	0
7	B	1	0	0	0	0
7	C	1	0	0	0	0
7	D	1	0	0	0	0
All	All	12327	0	10374	171	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 8.

The worst 5 of 171 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:168:PHE:O	1:B:174:LYS:NZ	2.20	0.74
1:D:168:PHE:O	1:D:174:LYS:NZ	2.20	0.74
1:C:168:PHE:O	1:C:174:LYS:NZ	2.20	0.73
1:A:168:PHE:O	1:A:174:LYS:NZ	2.20	0.73
1:A:44:ARG:NH2	1:A:173:ASP:OD2	2.23	0.71

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	270/1065 (25%)	264 (98%)	6 (2%)	0	100	100
1	B	270/1065 (25%)	265 (98%)	5 (2%)	0	100	100
1	C	270/1065 (25%)	264 (98%)	6 (2%)	0	100	100
1	D	270/1065 (25%)	264 (98%)	6 (2%)	0	100	100
All	All	1080/4260 (25%)	1057 (98%)	23 (2%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains ⓘ

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	A	242/937 (26%)	242 (100%)	0	100	100
1	B	242/937 (26%)	242 (100%)	0	100	100
1	C	242/937 (26%)	242 (100%)	0	100	100
1	D	242/937 (26%)	242 (100%)	0	100	100
All	All	968/3748 (26%)	968 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (5) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	267	GLN
1	B	267	GLN
1	C	267	GLN
1	D	157	ASN
1	D	267	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 101 ligands modelled in this entry, 5 are monoatomic - leaving 96 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	$\# Z > 2$
3	LBN	D	1101	-	21,21,51	0.52	0	23,25,59	0.66	1 (4%)
4	AJP	A	1125	-	49,49,95	0.13	0	75,80,149	0.33	0
4	AJP	A	1111	-	61,61,95	0.15	0	93,98,149	0.42	0
4	AJP	B	1117	-	49,49,95	0.17	0	75,80,149	0.49	0
5	CLR	A	1113	-	31,31,31	4.50	12 (38%)	48,48,48	4.90	19 (39%)
6	A1C9J	D	1124	-	46,54,54	2.14	14 (30%)	57,98,98	4.90	31 (54%)
4	AJP	B	1119	-	49,49,95	0.17	0	75,80,149	0.42	0
4	AJP	A	1124	-	49,49,95	0.16	0	75,80,149	0.43	0
4	AJP	D	1117	-	49,49,95	0.15	0	75,80,149	0.35	0
6	A1C9J	A	1130	-	46,54,54	2.14	14 (30%)	57,98,98	4.89	31 (54%)
3	LBN	C	1102	-	21,21,51	0.52	0	23,25,59	0.65	1 (4%)
3	LBN	C	1113	-	28,28,51	0.46	0	31,33,59	0.59	1 (3%)
3	LBN	B	1113	-	30,30,51	0.45	0	33,35,59	0.61	1 (3%)
3	LBN	B	1101	-	21,21,51	0.52	0	23,25,59	0.68	1 (4%)
4	AJP	D	1118	-	49,49,95	0.15	0	75,80,149	0.39	0
5	CLR	B	1110	-	31,31,31	4.51	12 (38%)	48,48,48	4.91	19 (39%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
4	AJP	D	1105	-	61,61,95	0.17	0	93,98,149	0.43	0
6	A1C9J	B	1123	-	46,54,54	2.15	14 (30%)	57,98,98	4.91	31 (54%)
3	LBN	B	1112	-	28,28,51	0.46	0	31,33,59	0.58	1 (3%)
3	LBN	D	1103	-	23,23,51	0.50	0	26,28,59	0.66	1 (3%)
4	AJP	C	1123	-	49,49,95	0.14	0	75,80,149	0.34	0
4	AJP	B	1121	-	49,49,95	0.14	0	75,80,149	0.33	0
4	AJP	C	1122	-	49,49,95	0.15	0	75,80,149	0.34	0
4	AJP	A	1129	-	49,49,95	0.15	0	75,80,149	0.36	0
4	AJP	C	1120	-	49,49,95	0.15	0	75,80,149	0.36	0
3	LBN	A	1106	-	21,21,51	0.52	0	23,25,59	0.66	1 (4%)
4	AJP	C	1117	-	49,49,95	0.14	0	75,80,149	0.46	0
4	AJP	B	1104	-	61,61,95	0.17	0	93,98,149	0.46	0
5	CLR	C	1110	-	31,31,31	4.51	12 (38%)	48,48,48	5.01	18 (37%)
5	CLR	C	1109	-	31,31,31	4.52	12 (38%)	48,48,48	4.90	17 (35%)
4	AJP	C	1118	-	49,49,95	0.16	0	75,80,149	0.40	0
4	AJP	B	1118	-	49,49,95	0.13	0	75,80,149	0.33	0
5	CLR	A	1115	-	31,31,31	4.52	12 (38%)	48,48,48	4.91	15 (31%)
5	CLR	B	1107	-	31,31,31	4.51	12 (38%)	48,48,48	4.91	15 (31%)
5	CLR	D	1109	-	31,31,31	4.52	12 (38%)	48,48,48	4.90	17 (35%)
5	CLR	B	1108	-	31,31,31	4.51	12 (38%)	48,48,48	4.89	17 (35%)
3	LBN	A	1121	-	28,28,51	0.47	0	31,33,59	0.64	1 (3%)
5	CLR	A	1117	-	31,31,31	4.51	12 (38%)	48,48,48	5.01	18 (37%)
5	CLR	D	1107	-	31,31,31	4.52	12 (38%)	48,48,48	4.91	16 (33%)
3	LBN	C	1115	-	19,19,51	0.90	1 (5%)	21,23,59	0.85	1 (4%)
3	LBN	C	1101	-	21,21,51	0.52	0	23,25,59	0.66	1 (4%)
5	CLR	A	1118	-	31,31,31	4.55	12 (38%)	48,48,48	4.87	17 (35%)
5	CLR	C	1112	-	31,31,31	4.54	12 (38%)	48,48,48	4.88	18 (37%)
4	AJP	A	1128	-	49,49,95	0.15	0	75,80,149	0.34	0
4	AJP	D	1122	-	49,49,95	0.16	0	75,80,149	0.40	0
5	CLR	B	1109	-	31,31,31	4.51	12 (38%)	48,48,48	5.01	18 (37%)
5	CLR	A	1112	-	31,31,31	4.51	12 (38%)	48,48,48	5.00	21 (43%)
4	AJP	C	1119	-	49,49,95	0.13	0	75,80,149	0.33	0
4	AJP	C	1105	-	61,61,95	0.15	0	93,98,149	0.48	0
5	CLR	D	1111	-	31,31,31	4.51	12 (38%)	48,48,48	4.91	18 (37%)
4	AJP	B	1116	-	49,49,95	0.14	0	75,80,149	0.35	0
5	CLR	C	1108	-	31,31,31	4.52	12 (38%)	48,48,48	4.91	14 (29%)
4	AJP	A	1127	-	73,73,95	0.14	0	111,116,149	0.40	0
3	LBN	C	1116	-	26,26,51	0.47	0	29,31,59	0.65	1 (3%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
4	AJP	B	1120	-	73,73,95	0.14	0	111,116,149	0.40	0
3	LBN	A	1109	-	23,23,51	0.51	0	26,28,59	0.65	1 (3%)
3	LBN	D	1113	-	28,28,51	0.46	0	31,33,59	0.65	1 (3%)
4	AJP	D	1120	-	49,49,95	0.16	0	75,80,149	0.47	0
4	AJP	D	1121	-	73,73,95	0.14	0	111,116,149	0.40	0
3	LBN	A	1119	-	30,30,51	0.45	0	33,35,59	0.61	1 (3%)
5	CLR	A	1116	-	31,31,31	4.52	12 (38%)	48,48,48	4.89	17 (35%)
3	LBN	B	1115	-	26,26,51	0.48	0	29,31,59	0.62	1 (3%)
4	AJP	D	1119	-	49,49,95	0.13	0	75,80,149	0.34	0
3	LBN	C	1114	-	30,30,51	0.44	0	33,35,59	0.61	1 (3%)
3	LBN	A	1122	-	26,26,51	0.47	0	29,31,59	0.62	1 (3%)
3	LBN	A	1120	-	19,19,51	0.90	1 (5%)	21,23,59	0.85	1 (4%)
3	LBN	A	1108	-	21,21,51	0.52	0	23,25,59	0.68	1 (4%)
5	CLR	B	1111	-	31,31,31	4.56	12 (38%)	48,48,48	4.90	18 (37%)
3	LBN	B	1114	-	19,19,51	0.54	0	21,23,59	0.68	1 (4%)
4	AJP	A	1123	-	49,49,95	0.14	0	75,80,149	0.37	0
5	CLR	D	1110	-	31,31,31	4.51	12 (38%)	48,48,48	5.01	18 (37%)
3	LBN	D	1104	-	35,35,51	0.42	0	38,40,59	0.60	1 (2%)
4	AJP	D	1123	-	49,49,95	0.15	0	75,80,149	0.41	0
3	LBN	B	1103	-	34,34,51	0.43	0	37,39,59	0.62	1 (2%)
3	LBN	C	1103	-	23,23,51	0.50	0	26,28,59	0.73	1 (3%)
3	LBN	B	1102	-	23,23,51	0.50	0	26,28,59	0.66	1 (3%)
4	AJP	A	1126	-	49,49,95	0.15	0	75,80,149	0.36	0
5	CLR	D	1108	-	31,31,31	4.51	12 (38%)	48,48,48	4.91	14 (29%)
3	LBN	D	1102	-	21,21,51	0.52	0	23,25,59	0.65	1 (4%)
3	LBN	D	1116	-	26,26,51	0.48	0	29,31,59	0.62	1 (3%)
4	AJP	C	1121	-	73,73,95	0.14	0	111,116,149	0.40	0
3	LBN	A	1110	-	35,35,51	0.43	0	38,40,59	0.61	1 (2%)
6	A1C9J	C	1124	-	46,54,54	2.14	14 (30%)	57,98,98	4.91	31 (54%)
5	CLR	C	1106	-	31,31,31	4.51	12 (38%)	48,48,48	5.00	18 (37%)
3	LBN	A	1107	-	21,21,51	0.52	0	23,25,59	0.67	1 (4%)
5	CLR	D	1112	-	31,31,31	4.53	12 (38%)	48,48,48	4.85	17 (35%)
5	CLR	B	1106	-	31,31,31	4.53	12 (38%)	48,48,48	4.91	16 (33%)
4	AJP	B	1122	-	49,49,95	0.14	0	75,80,149	0.34	0
3	LBN	D	1115	-	19,19,51	0.90	1 (5%)	21,23,59	0.85	1 (4%)
5	CLR	B	1105	-	31,31,31	4.51	12 (38%)	48,48,48	4.97	21 (43%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	CLR	C	1107	-	31,31,31	4.52	12 (38%)	48,48,48	4.91	17 (35%)
3	LBN	D	1114	-	30,30,51	0.45	0	33,35,59	0.60	1 (3%)
5	CLR	D	1106	-	31,31,31	4.48	12 (38%)	48,48,48	5.32	23 (47%)
5	CLR	A	1114	-	31,31,31	4.53	12 (38%)	48,48,48	4.90	15 (31%)
3	LBN	C	1104	-	34,34,51	0.43	0	37,39,59	0.61	1 (2%)
5	CLR	C	1111	-	31,31,31	4.50	12 (38%)	48,48,48	4.89	19 (39%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	LBN	D	1101	-	1/1/3/7	0/21/21/55	-
4	AJP	A	1125	-	-	1/6/121/220	0/7/7/11
4	AJP	A	1111	-	-	4/12/147/220	1/8/8/11
4	AJP	B	1117	-	-	1/6/121/220	0/7/7/11
5	CLR	A	1113	-	2/2/10/11	8/10/68/68	0/4/4/4
6	A1C9J	D	1124	-	1/1/16/16	0/4/130/130	-
4	AJP	B	1119	-	-	1/6/121/220	0/7/7/11
4	AJP	A	1124	-	-	1/6/121/220	0/7/7/11
4	AJP	D	1117	-	-	0/6/121/220	0/7/7/11
6	A1C9J	A	1130	-	1/1/16/16	0/4/130/130	-
3	LBN	C	1102	-	1/1/3/7	0/21/21/55	-
3	LBN	C	1113	-	1/1/4/7	3/30/30/55	-
3	LBN	B	1113	-	1/1/4/7	2/32/32/55	-
3	LBN	B	1101	-	1/1/3/7	0/21/21/55	-
4	AJP	D	1118	-	-	2/6/121/220	0/7/7/11
5	CLR	B	1110	-	2/2/10/11	8/10/68/68	0/4/4/4
4	AJP	D	1105	-	-	6/12/147/220	0/8/8/11
6	A1C9J	B	1123	-	1/1/16/16	0/4/130/130	-
3	LBN	B	1112	-	1/1/4/7	3/30/30/55	-
3	LBN	D	1103	-	1/1/4/7	1/25/25/55	-
4	AJP	C	1123	-	-	3/6/121/220	0/7/7/11
4	AJP	B	1121	-	-	2/6/121/220	0/7/7/11
4	AJP	C	1122	-	-	3/6/121/220	0/7/7/11
4	AJP	A	1129	-	-	0/6/121/220	0/7/7/11
4	AJP	C	1120	-	-	1/6/121/220	0/7/7/11
3	LBN	A	1106	-	1/1/3/7	0/21/21/55	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	AJP	C	1117	-	-	0/6/121/220	0/7/7/11
4	AJP	B	1104	-	-	3/12/147/220	0/8/8/11
5	CLR	C	1110	-	2/2/10/11	7/10/68/68	0/4/4/4
5	CLR	C	1109	-	2/2/10/11	2/10/68/68	0/4/4/4
4	AJP	C	1118	-	-	1/6/121/220	0/7/7/11
4	AJP	B	1118	-	-	0/6/121/220	0/7/7/11
5	CLR	A	1115	-	2/2/10/11	6/10/68/68	0/4/4/4
5	CLR	B	1107	-	2/2/10/11	6/10/68/68	0/4/4/4
5	CLR	D	1109	-	2/2/10/11	2/10/68/68	0/4/4/4
5	CLR	B	1108	-	2/2/10/11	2/10/68/68	0/4/4/4
3	LBN	A	1121	-	1/1/4/7	5/30/30/55	-
5	CLR	A	1117	-	2/2/10/11	7/10/68/68	0/4/4/4
5	CLR	D	1107	-	2/2/10/11	3/10/68/68	0/4/4/4
3	LBN	C	1115	-	1/1/3/7	0/19/19/55	-
3	LBN	C	1101	-	1/1/3/7	0/21/21/55	-
5	CLR	A	1118	-	2/2/10/11	8/10/68/68	0/4/4/4
5	CLR	C	1112	-	2/2/10/11	8/10/68/68	0/4/4/4
5	CLR	B	1109	-	2/2/10/11	7/10/68/68	0/4/4/4
4	AJP	A	1128	-	-	1/6/121/220	0/7/7/11
4	AJP	D	1122	-	-	0/6/121/220	0/7/7/11
5	CLR	A	1112	-	2/2/10/11	9/10/68/68	0/4/4/4
4	AJP	C	1119	-	-	1/6/121/220	0/7/7/11
4	AJP	C	1105	-	-	6/12/147/220	1/8/8/11
5	CLR	D	1111	-	2/2/10/11	8/10/68/68	0/4/4/4
4	AJP	B	1116	-	-	0/6/121/220	0/7/7/11
5	CLR	C	1108	-	2/2/10/11	6/10/68/68	0/4/4/4
4	AJP	A	1127	-	-	5/18/173/220	0/9/9/11
3	LBN	C	1116	-	1/1/4/7	3/28/28/55	-
4	AJP	B	1120	-	-	5/18/173/220	0/9/9/11
3	LBN	A	1109	-	1/1/4/7	0/25/25/55	-
3	LBN	D	1113	-	1/1/4/7	4/30/30/55	-
4	AJP	D	1120	-	-	1/6/121/220	0/7/7/11
4	AJP	D	1121	-	-	5/18/173/220	0/9/9/11
3	LBN	A	1119	-	1/1/4/7	2/32/32/55	-
5	CLR	A	1116	-	2/2/10/11	2/10/68/68	0/4/4/4
3	LBN	B	1115	-	1/1/4/7	3/28/28/55	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	AJP	D	1119	-	-	1/6/121/220	0/7/7/11
3	LBN	C	1114	-	1/1/4/7	2/32/32/55	-
3	LBN	A	1122	-	1/1/4/7	3/28/28/55	-
3	LBN	A	1120	-	1/1/3/7	0/19/19/55	-
3	LBN	A	1108	-	1/1/3/7	0/21/21/55	-
5	CLR	B	1111	-	2/2/10/11	7/10/68/68	0/4/4/4
3	LBN	B	1114	-	1/1/3/7	0/19/19/55	-
4	AJP	A	1123	-	-	0/6/121/220	0/7/7/11
5	CLR	D	1110	-	2/2/10/11	7/10/68/68	0/4/4/4
3	LBN	D	1104	-	1/1/4/7	5/37/37/55	-
4	AJP	D	1123	-	-	4/6/121/220	1/7/7/11
3	LBN	B	1103	-	1/1/4/7	4/36/36/55	-
3	LBN	C	1103	-	1/1/4/7	2/25/25/55	-
3	LBN	B	1102	-	1/1/4/7	1/25/25/55	-
4	AJP	A	1126	-	-	1/6/121/220	0/7/7/11
5	CLR	D	1108	-	2/2/10/11	6/10/68/68	0/4/4/4
3	LBN	D	1102	-	1/1/3/7	0/21/21/55	-
3	LBN	D	1116	-	1/1/4/7	3/28/28/55	-
4	AJP	C	1121	-	-	4/18/173/220	0/9/9/11
3	LBN	A	1110	-	1/1/4/7	5/37/37/55	-
6	A1C9J	C	1124	-	1/1/16/16	0/4/130/130	-
5	CLR	C	1106	-	2/2/10/11	8/10/68/68	0/4/4/4
3	LBN	A	1107	-	1/1/3/7	0/21/21/55	-
5	CLR	D	1112	-	2/2/10/11	8/10/68/68	0/4/4/4
5	CLR	B	1106	-	2/2/10/11	3/10/68/68	0/4/4/4
4	AJP	B	1122	-	-	3/6/121/220	0/7/7/11
3	LBN	D	1115	-	1/1/3/7	0/19/19/55	-
5	CLR	B	1105	-	2/2/10/11	6/10/68/68	0/4/4/4
5	CLR	C	1107	-	2/2/10/11	3/10/68/68	0/4/4/4
3	LBN	D	1114	-	1/1/4/7	2/32/32/55	-
5	CLR	D	1106	-	2/2/10/11	5/10/68/68	0/4/4/4
5	CLR	A	1114	-	2/2/10/11	4/10/68/68	0/4/4/4
3	LBN	C	1104	-	1/1/4/7	5/36/36/55	-
5	CLR	C	1111	-	2/2/10/11	8/10/68/68	0/4/4/4

The worst 5 of 395 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	A	1114	CLR	C6-C5	12.79	1.59	1.33
5	C	1108	CLR	C6-C5	12.77	1.59	1.33
5	C	1110	CLR	C6-C5	12.75	1.59	1.33
5	B	1107	CLR	C6-C5	12.74	1.59	1.33
5	A	1117	CLR	C6-C5	12.73	1.59	1.33

The worst 5 of 646 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	D	1106	CLR	C18-C13-C12	-24.10	75.08	110.61
5	C	1110	CLR	C18-C13-C12	-24.02	75.19	110.61
5	B	1109	CLR	C18-C13-C12	-23.99	75.23	110.61
5	A	1117	CLR	C18-C13-C12	-23.99	75.25	110.61
5	D	1110	CLR	C18-C13-C12	-23.98	75.26	110.61

5 of 92 chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
3	A	1106	LBN	C2
3	A	1107	LBN	C2
3	A	1108	LBN	C2
3	A	1109	LBN	C2
3	A	1110	LBN	C2

5 of 288 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	1124	AJP	C22-C23-O25-C26
4	B	1117	AJP	C22-C23-O25-C26
4	B	1122	AJP	C24-C23-O25-C26
4	C	1118	AJP	C22-C23-O25-C26
4	C	1123	AJP	C24-C23-O25-C26

All (3) ring outliers are listed below:

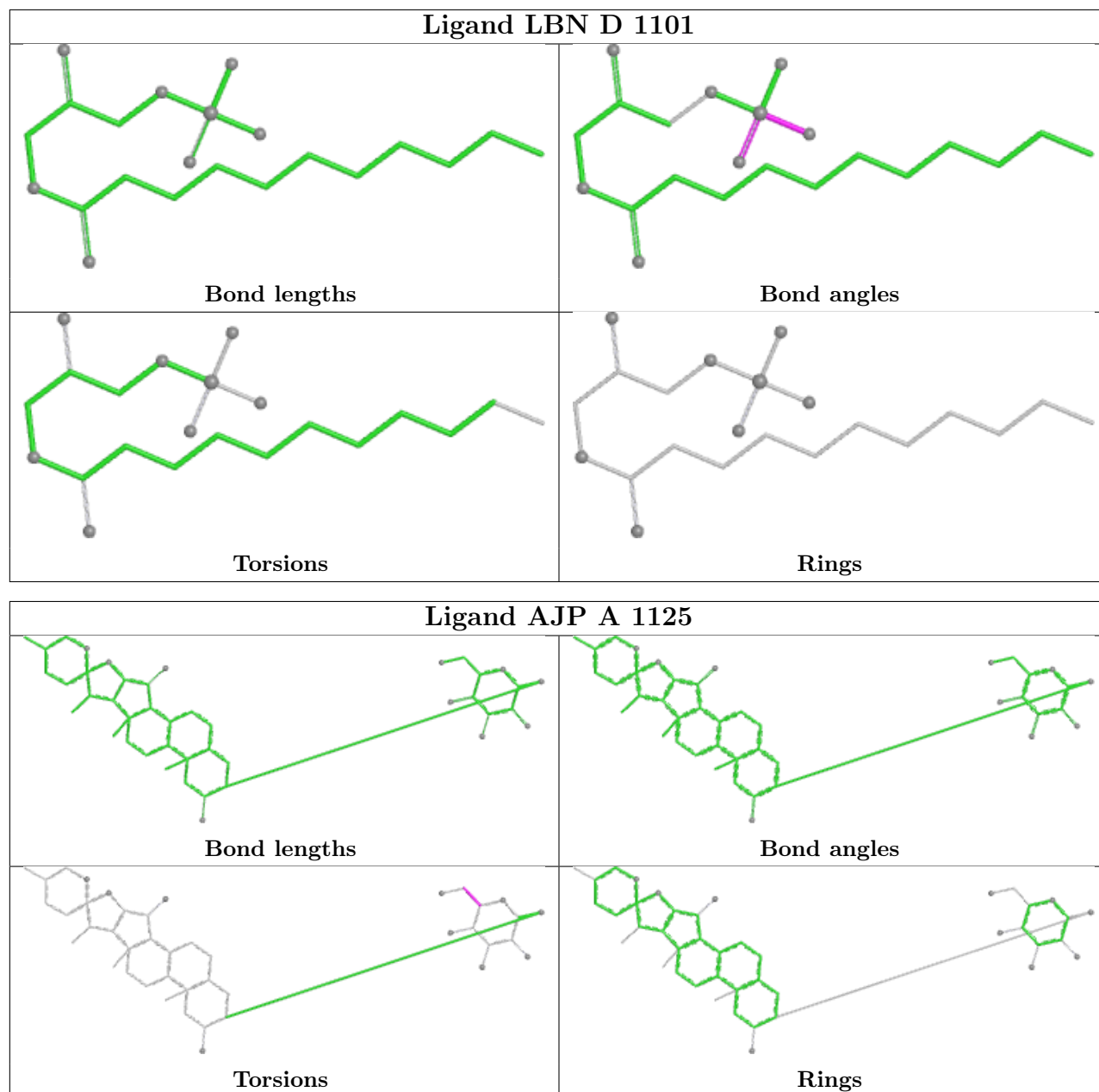
Mol	Chain	Res	Type	Atoms
4	C	1105	AJP	C19-C20-C21-C22-C23-C24
4	A	1111	AJP	C19-C20-C21-C22-C23-C24
4	D	1123	AJP	C19-C20-C21-C22-C23-C24

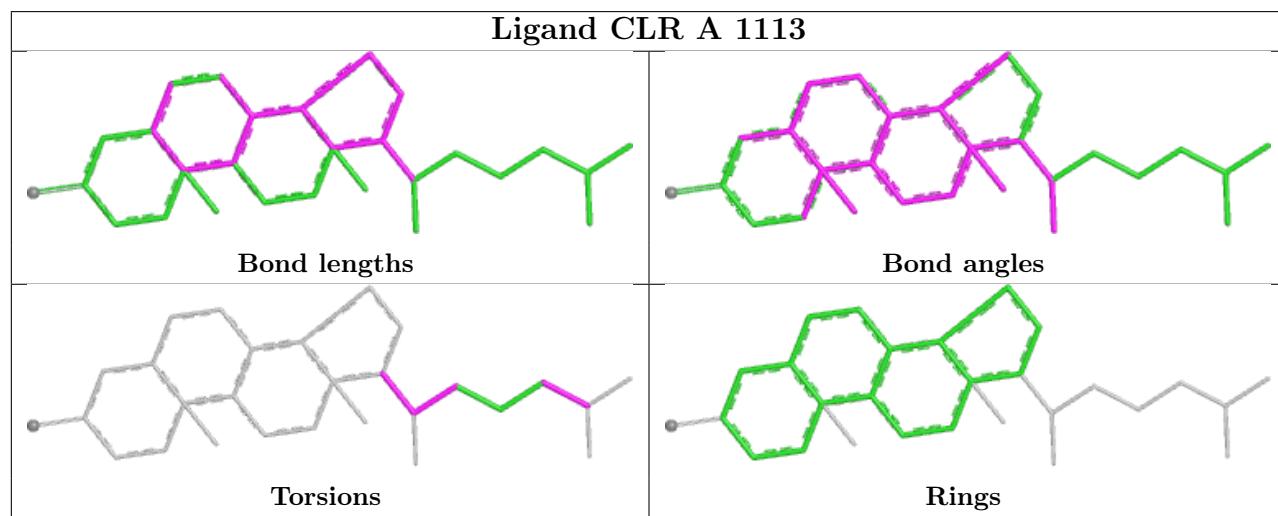
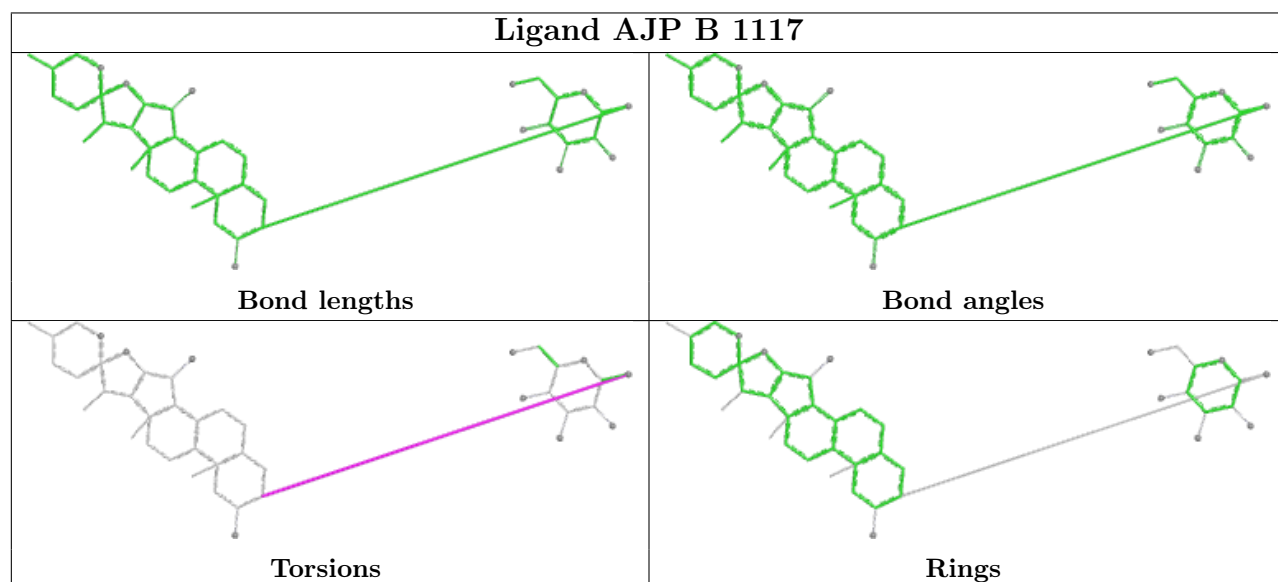
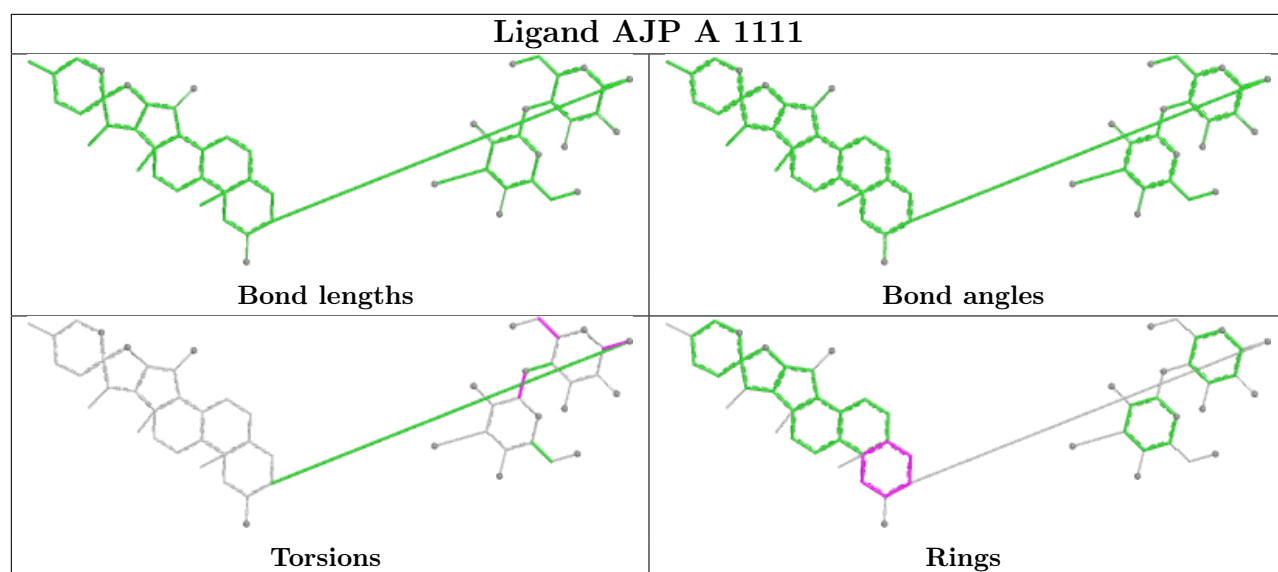
34 monomers are involved in 72 short contacts:

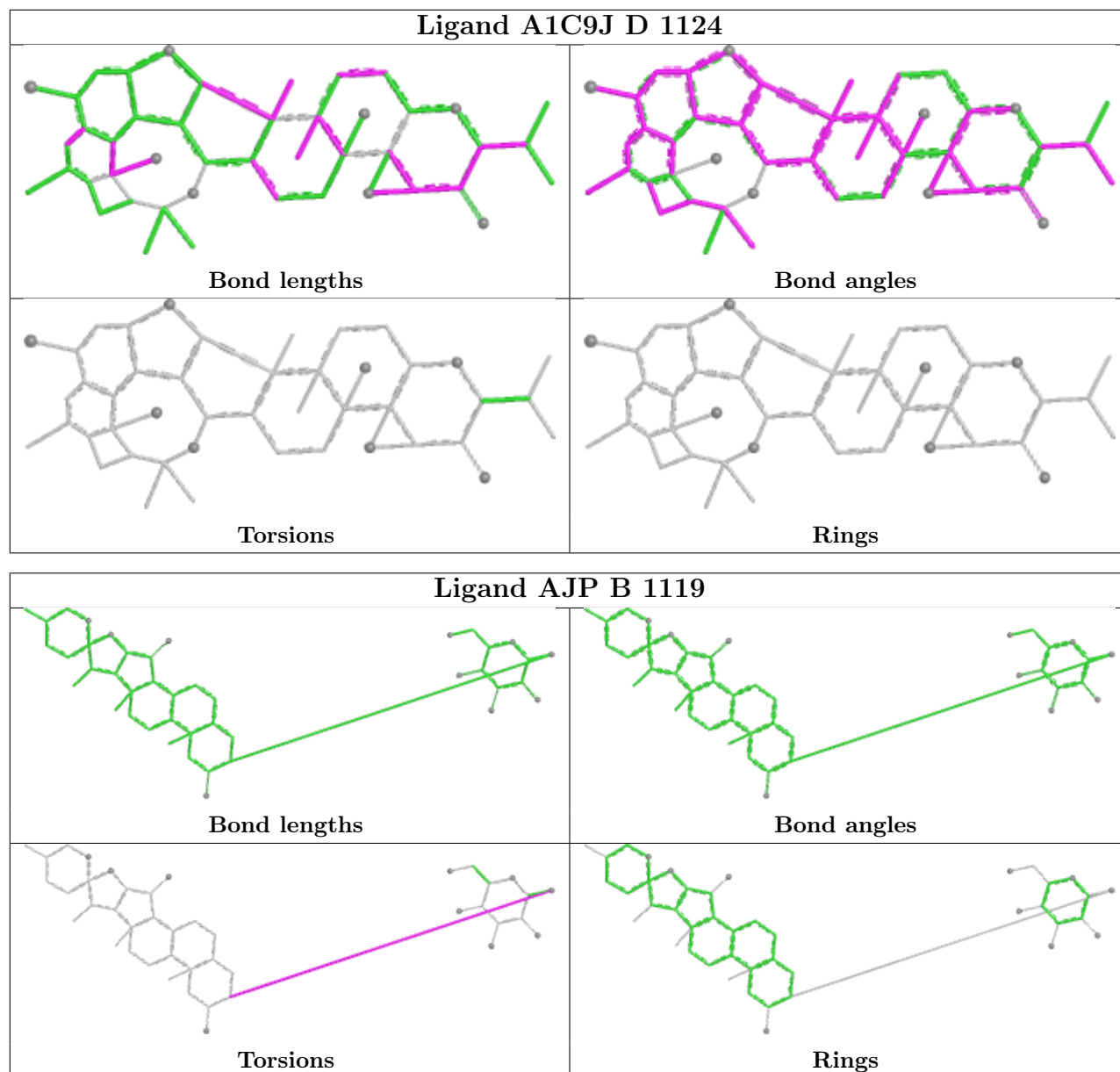
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	1111	AJP	1	0
5	A	1113	CLR	3	0
5	B	1110	CLR	2	0
4	B	1104	AJP	1	0
5	C	1110	CLR	1	0
5	C	1109	CLR	2	0
5	A	1115	CLR	5	0
5	B	1107	CLR	3	0
5	D	1109	CLR	1	0
5	B	1108	CLR	1	0
5	A	1117	CLR	1	0
5	D	1107	CLR	2	0
5	A	1118	CLR	3	0
5	C	1112	CLR	5	0
5	B	1109	CLR	3	0
5	A	1112	CLR	1	0
4	C	1105	AJP	1	0
5	D	1111	CLR	1	0
5	C	1108	CLR	5	0
3	A	1109	LBN	1	0
4	D	1120	AJP	1	0
5	A	1116	CLR	1	0
5	B	1111	CLR	4	0
5	D	1110	CLR	2	0
3	B	1102	LBN	1	0
5	D	1108	CLR	3	0
5	C	1106	CLR	3	0
5	D	1112	CLR	5	0
5	B	1106	CLR	3	0
5	B	1105	CLR	2	0
5	C	1107	CLR	1	0
5	D	1106	CLR	2	0
5	A	1114	CLR	2	0
5	C	1111	CLR	1	0

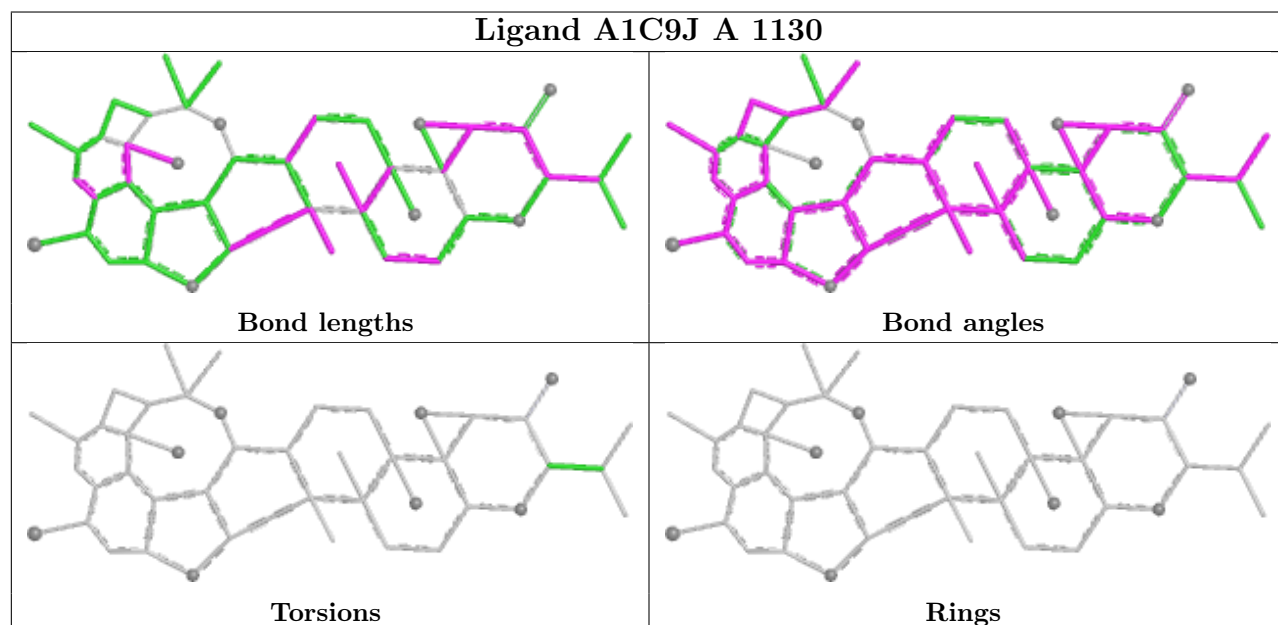
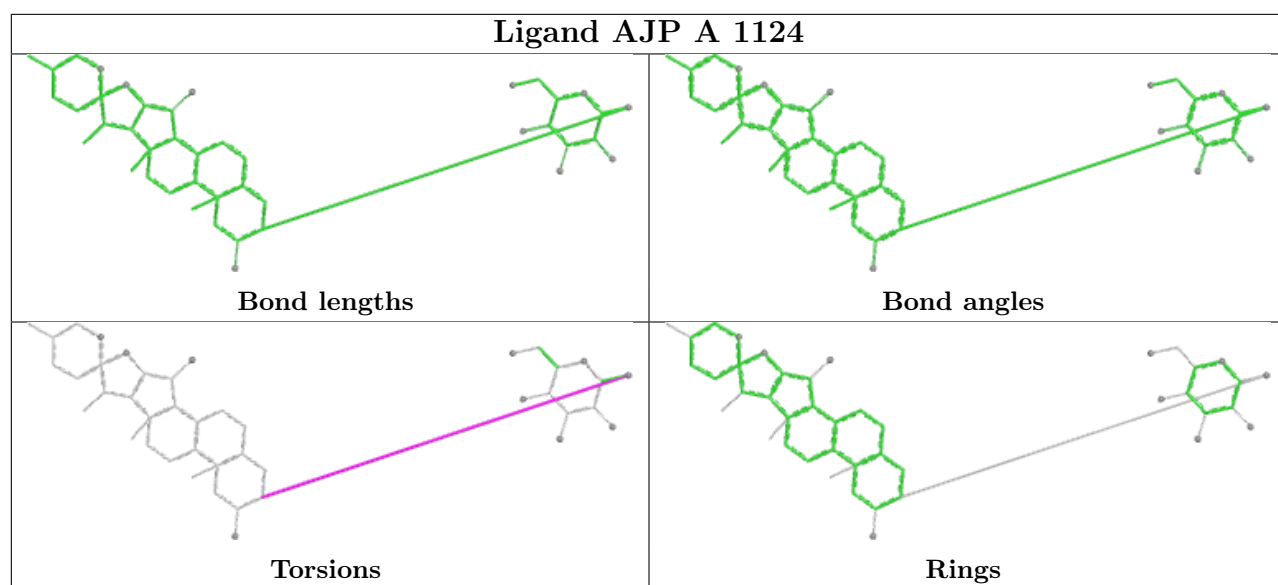
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and

any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

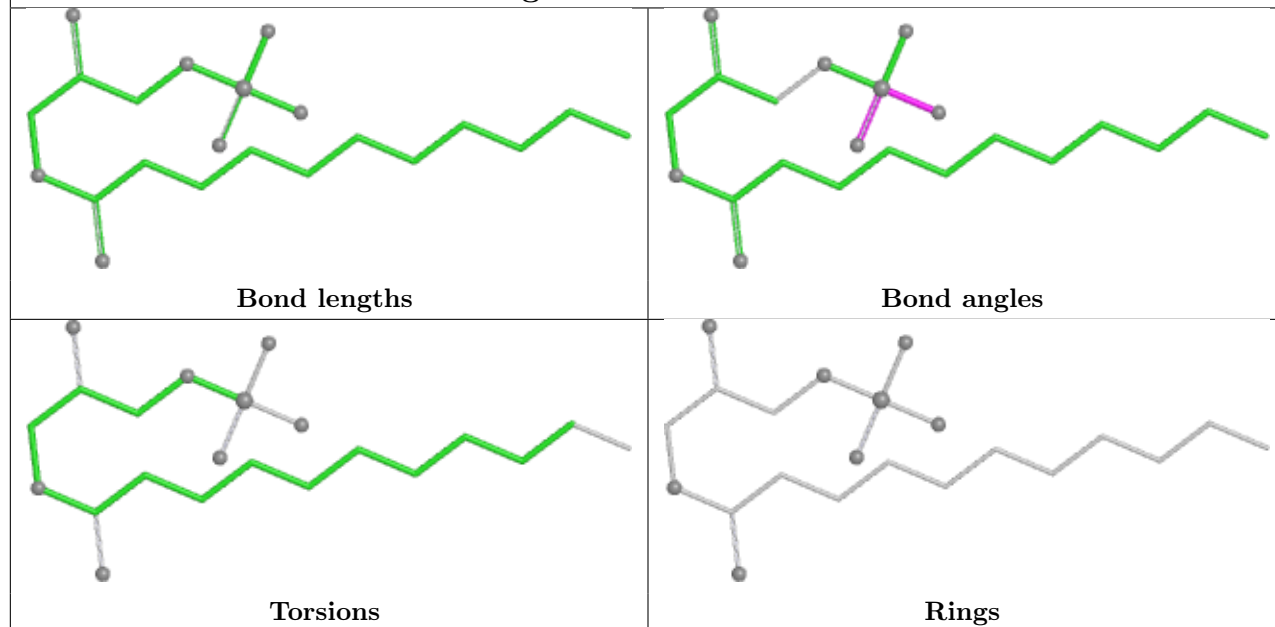




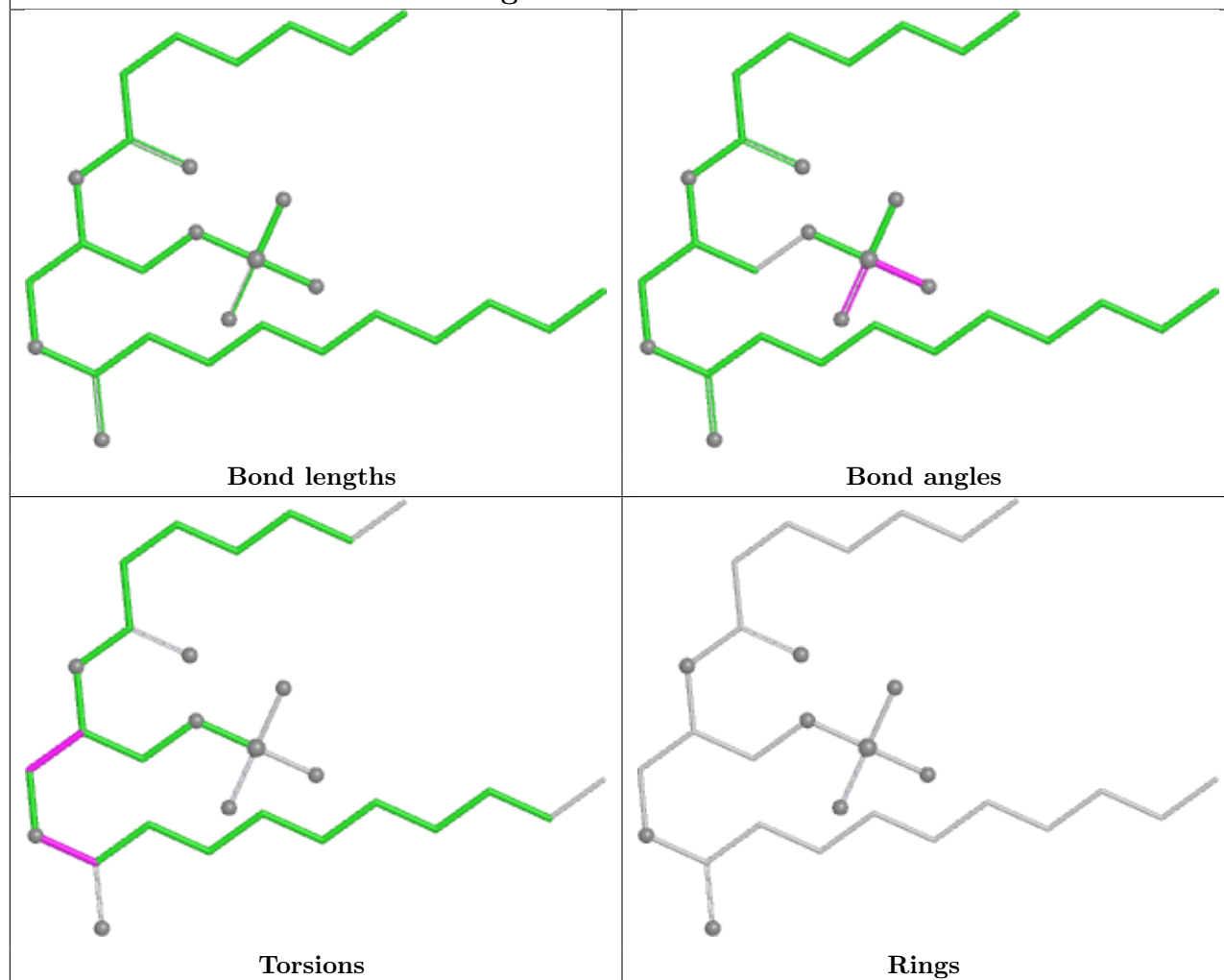


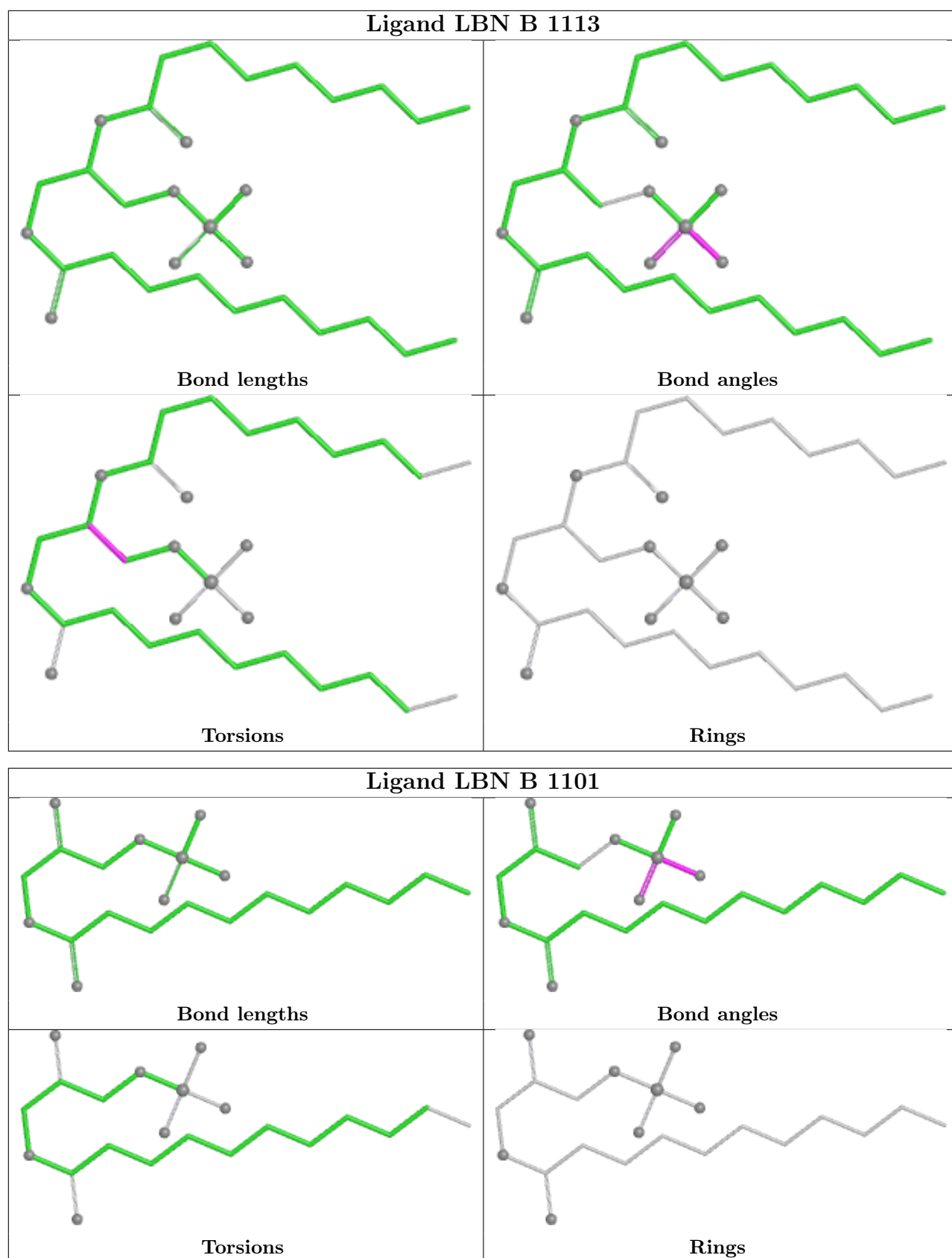


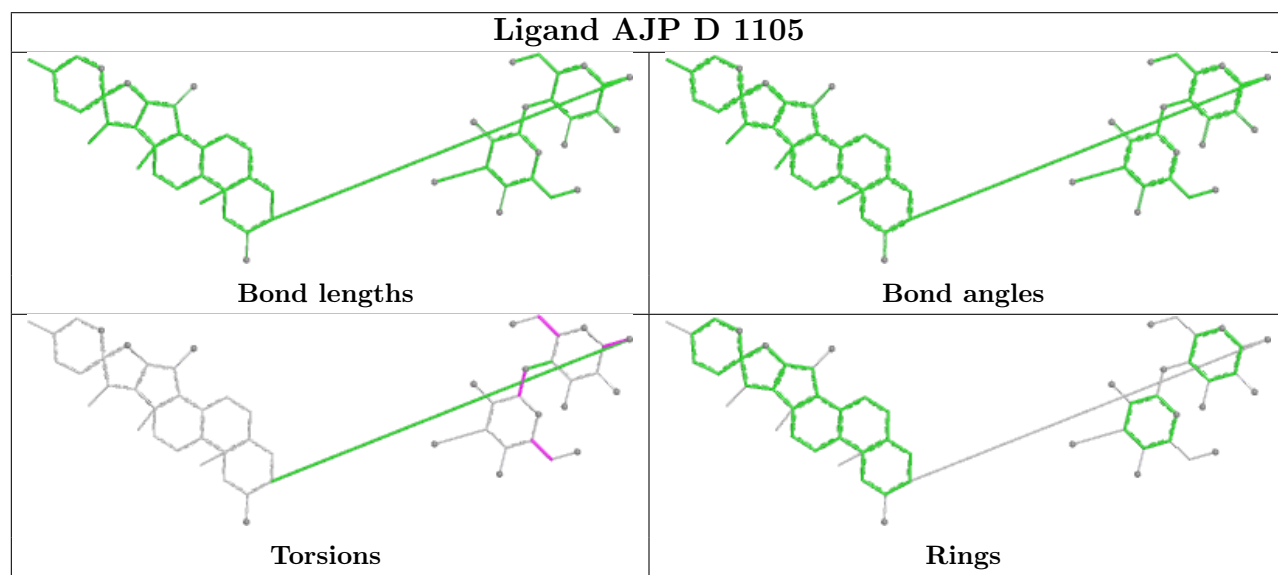
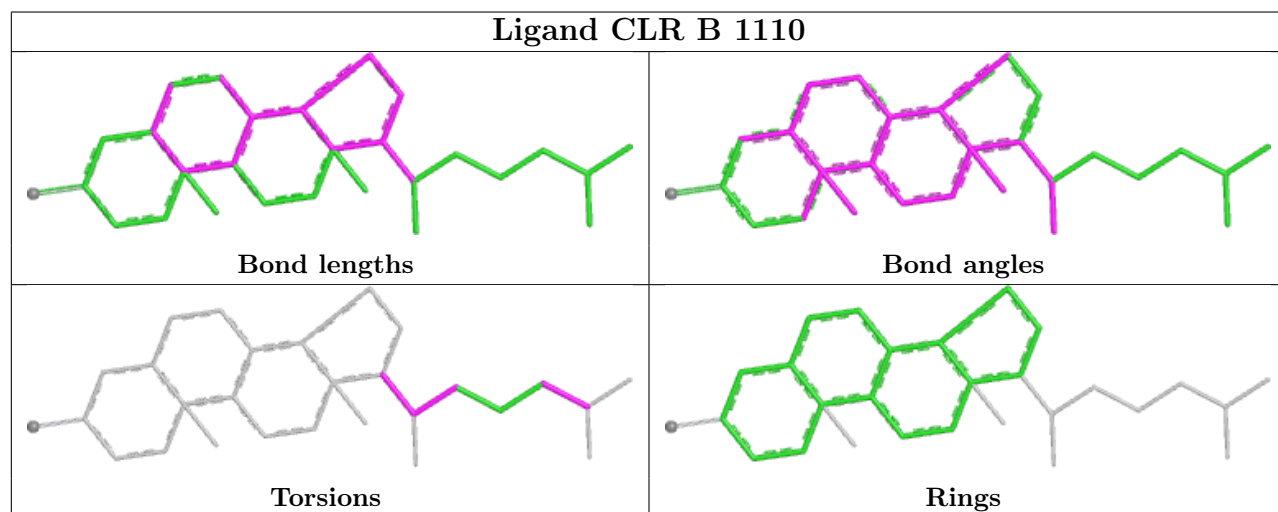
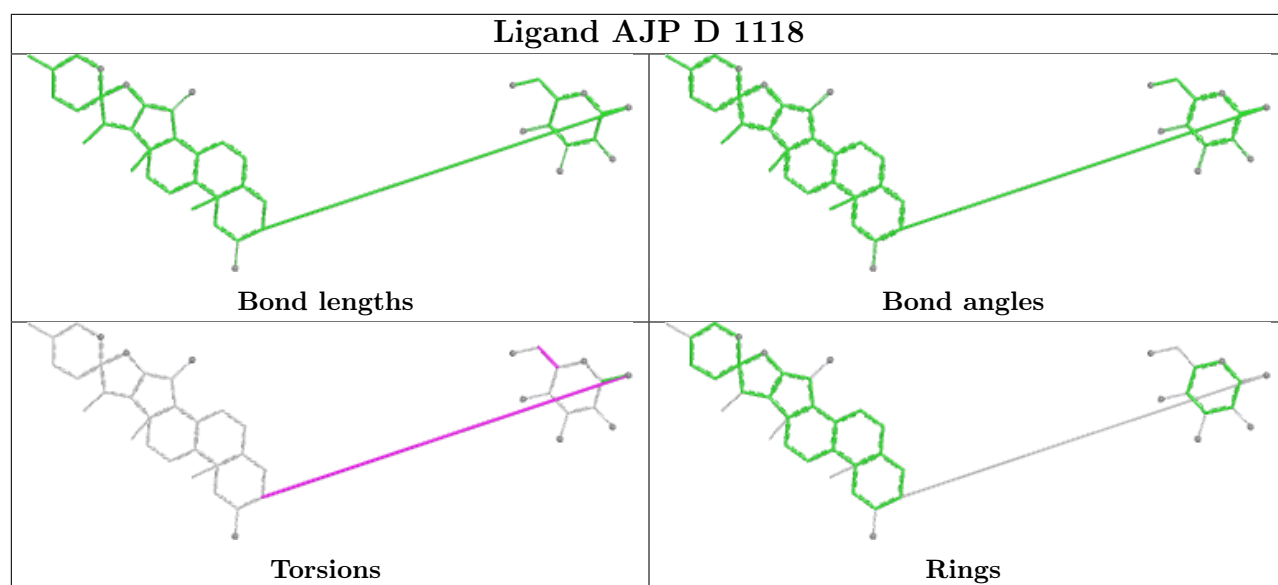
Ligand LBN C 1102



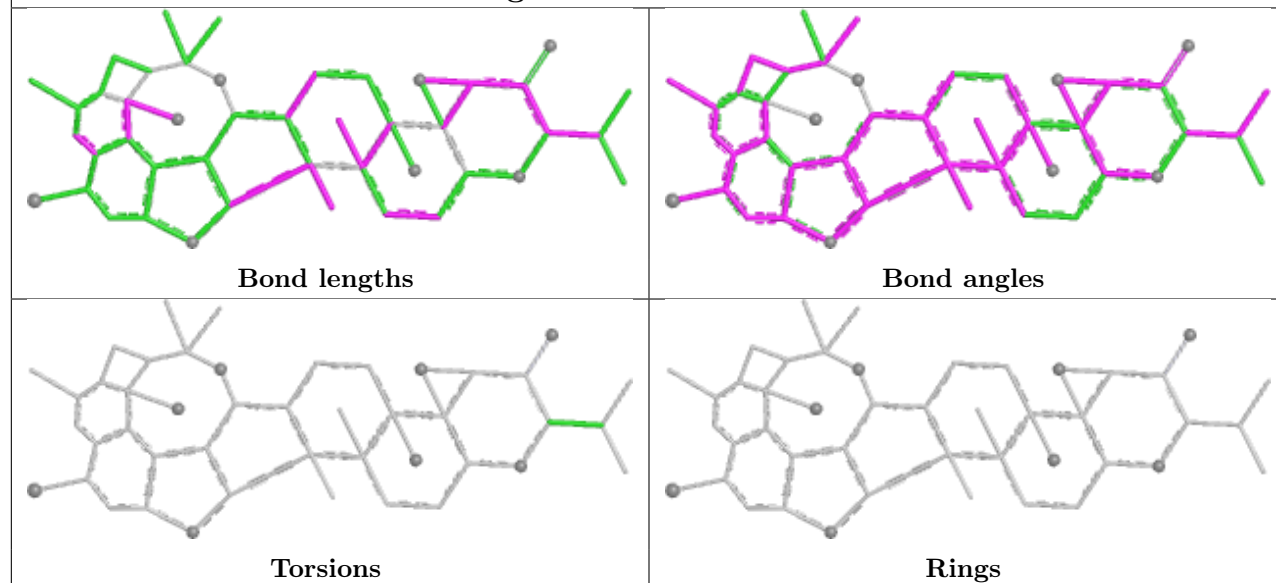
Ligand LBN C 1113



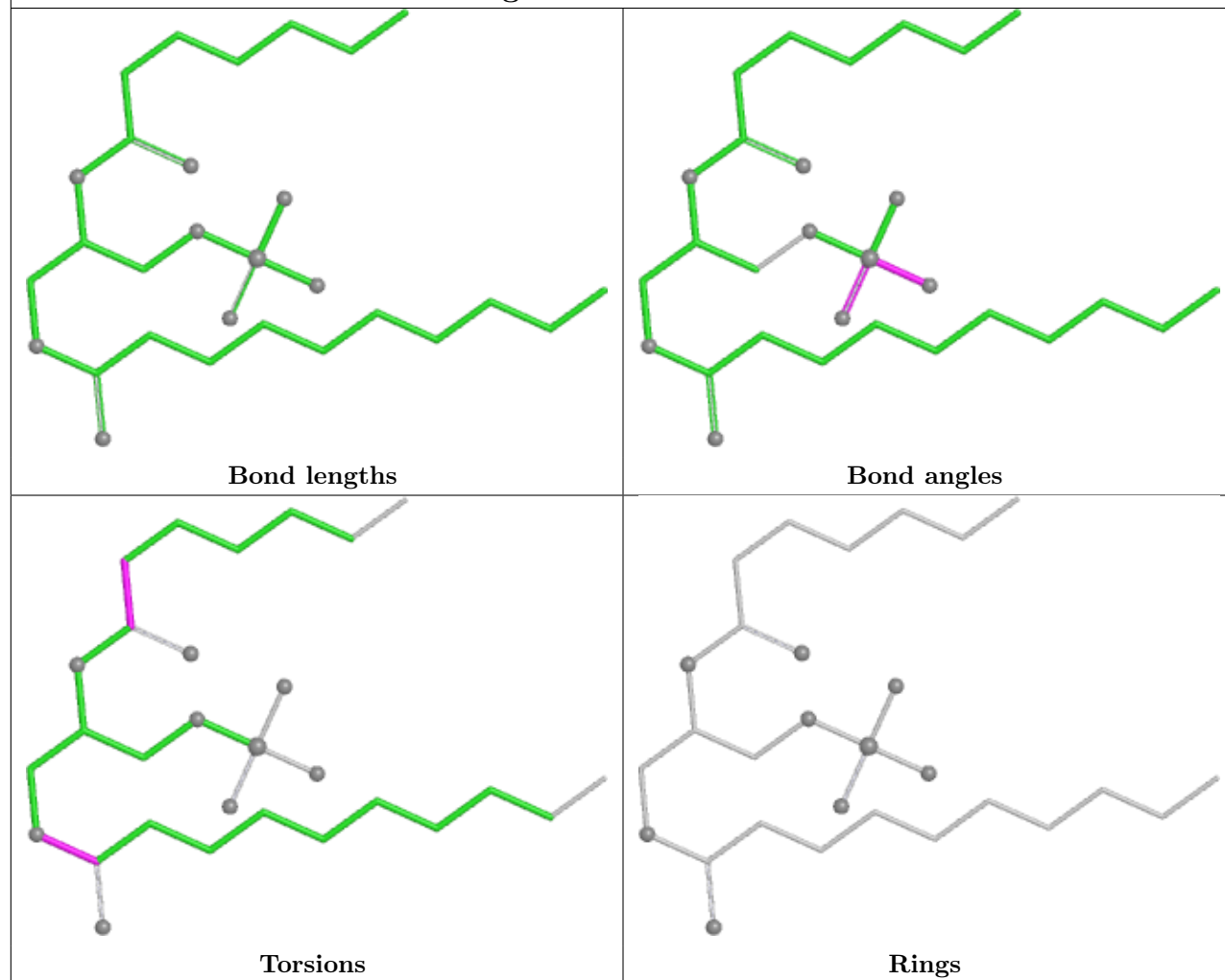


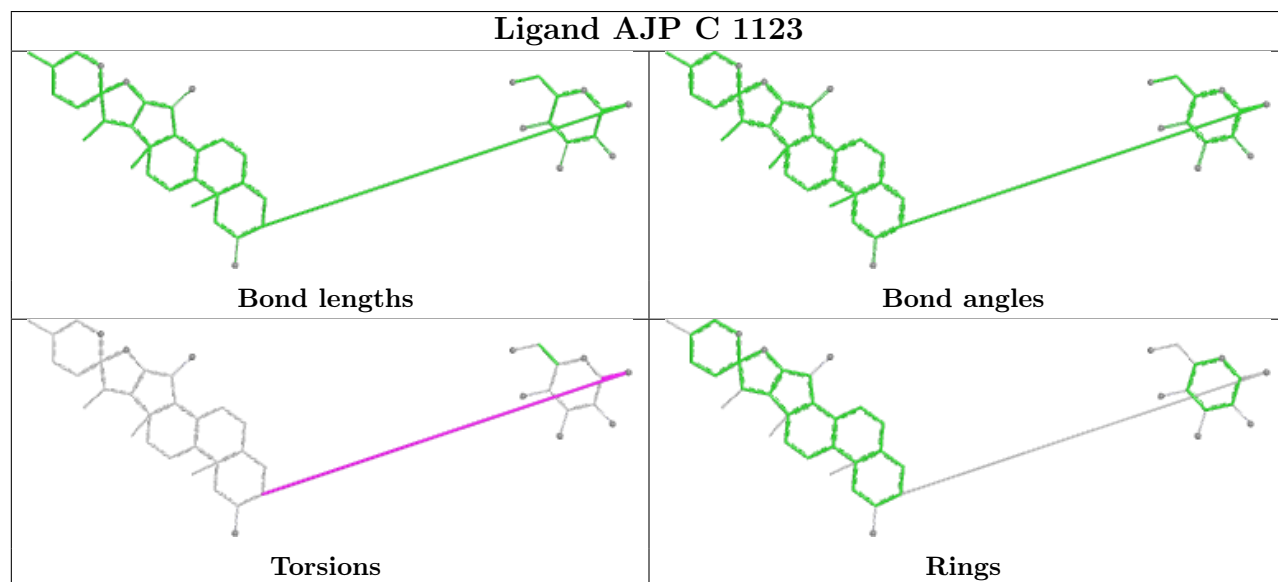
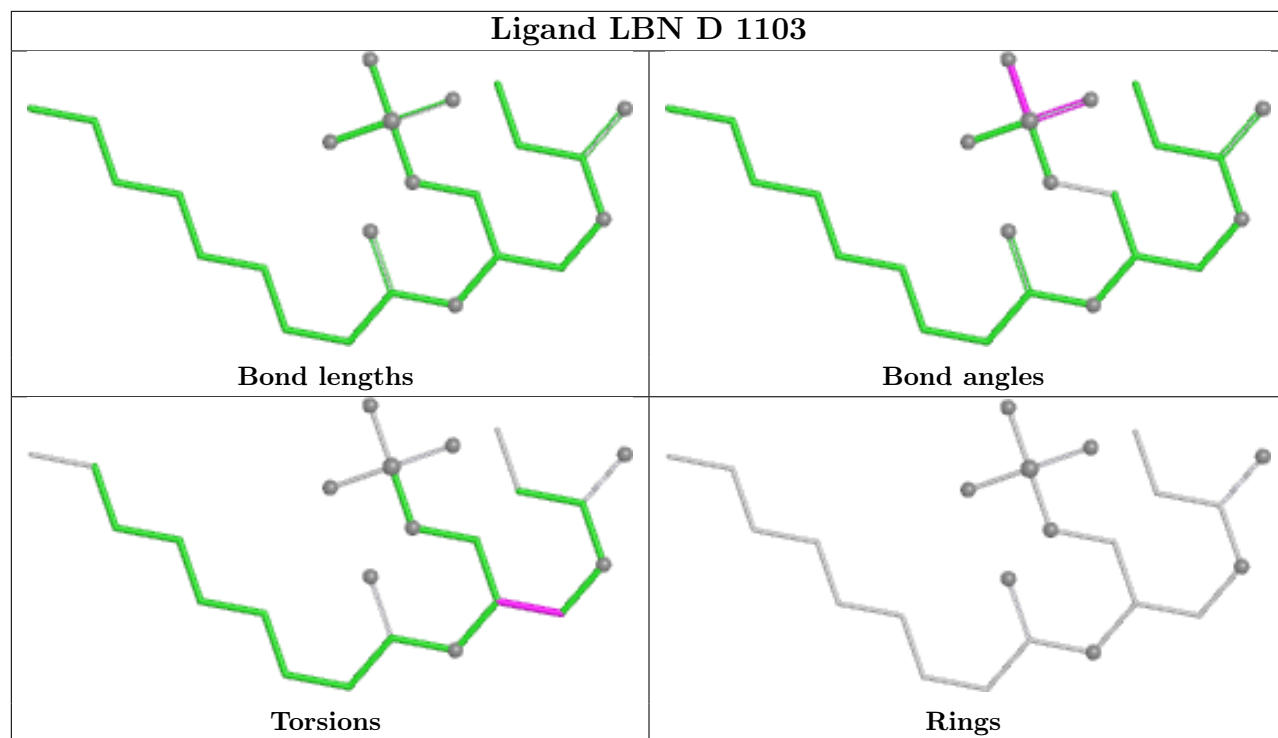


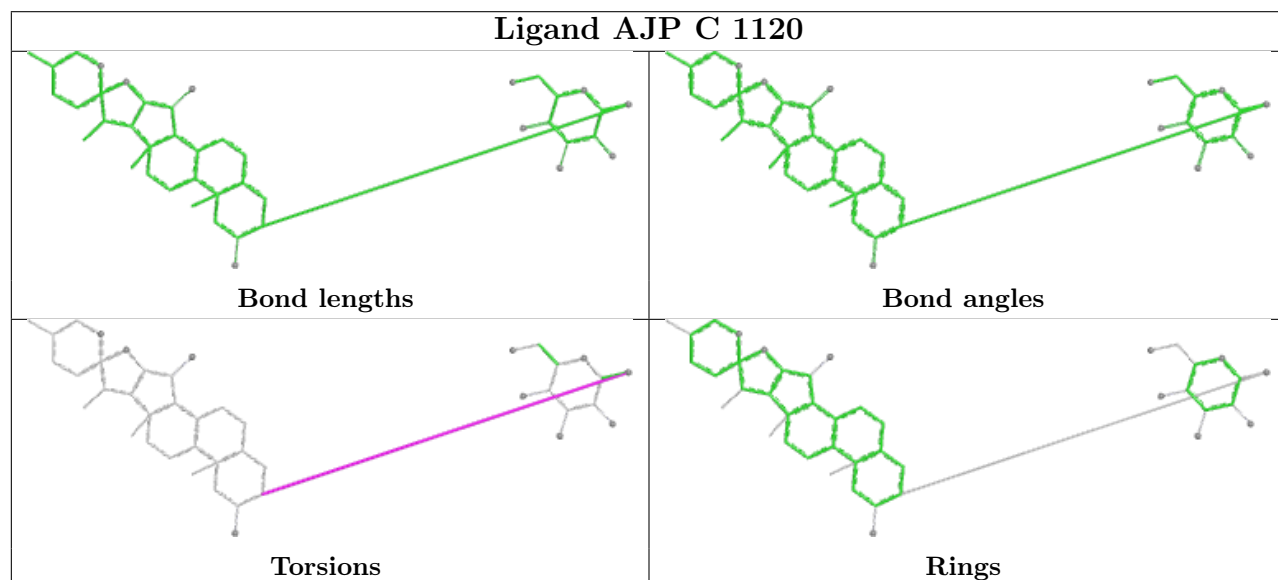
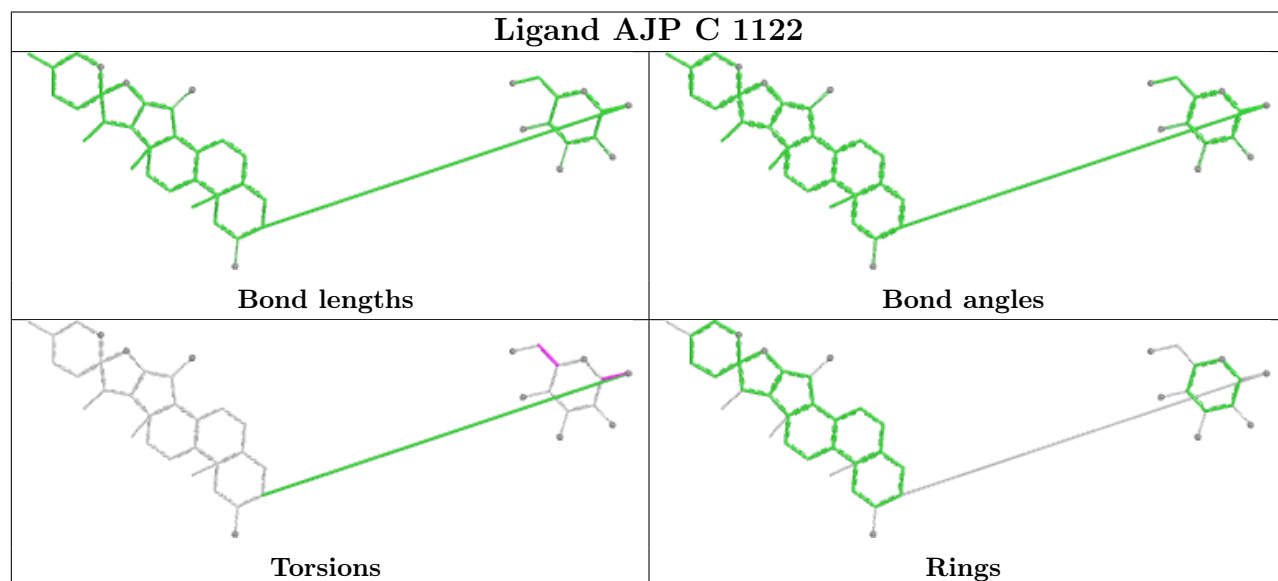
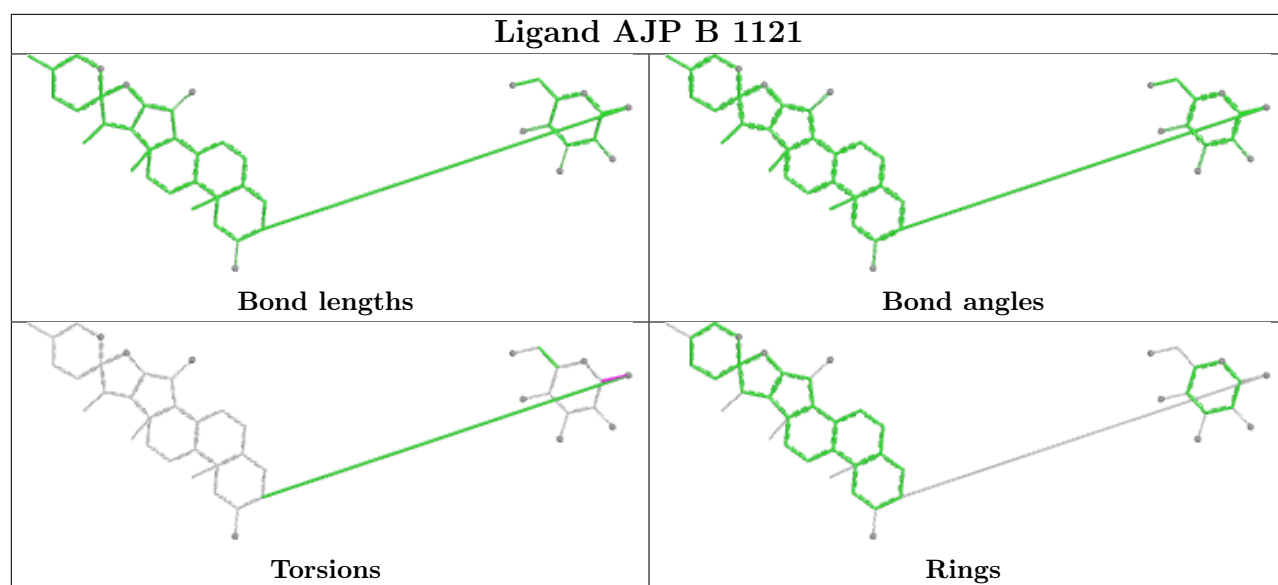
Ligand A1C9J B 1123

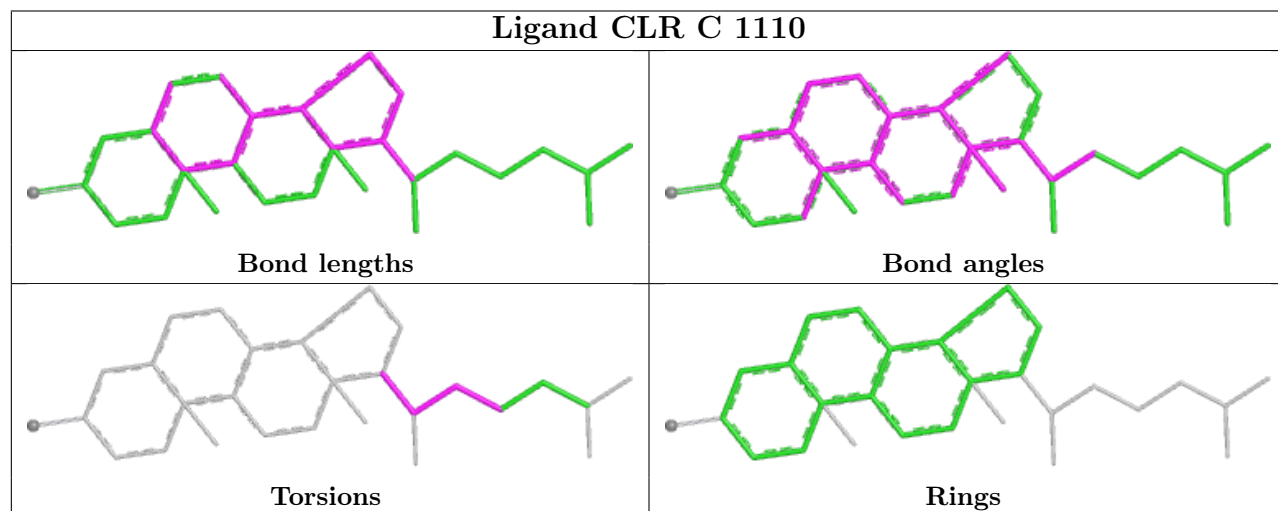
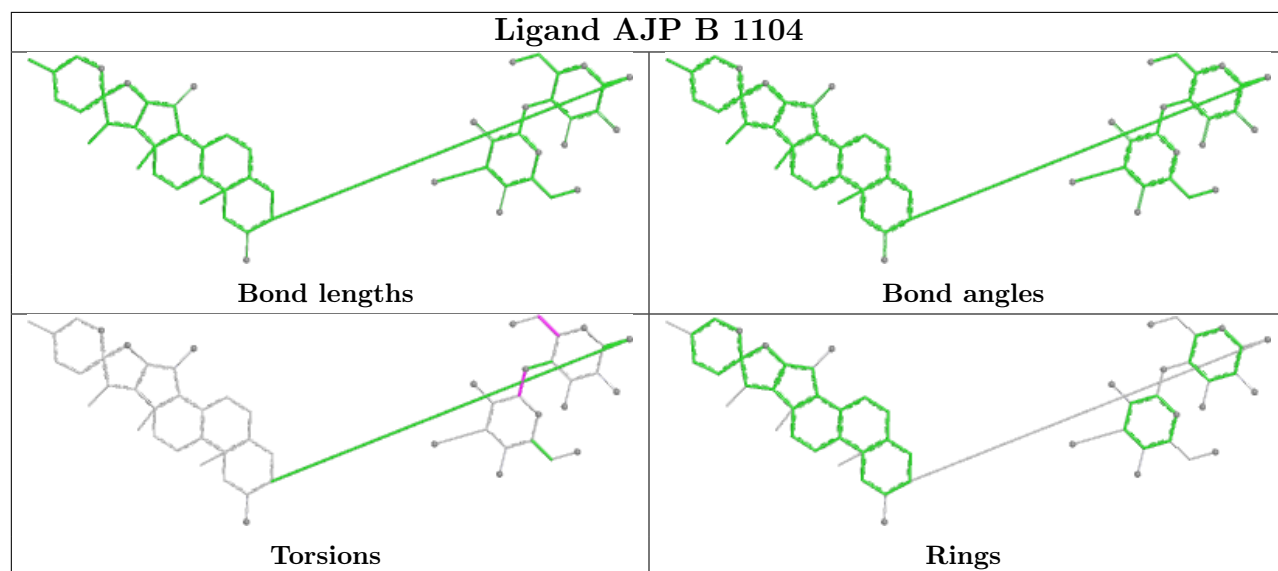
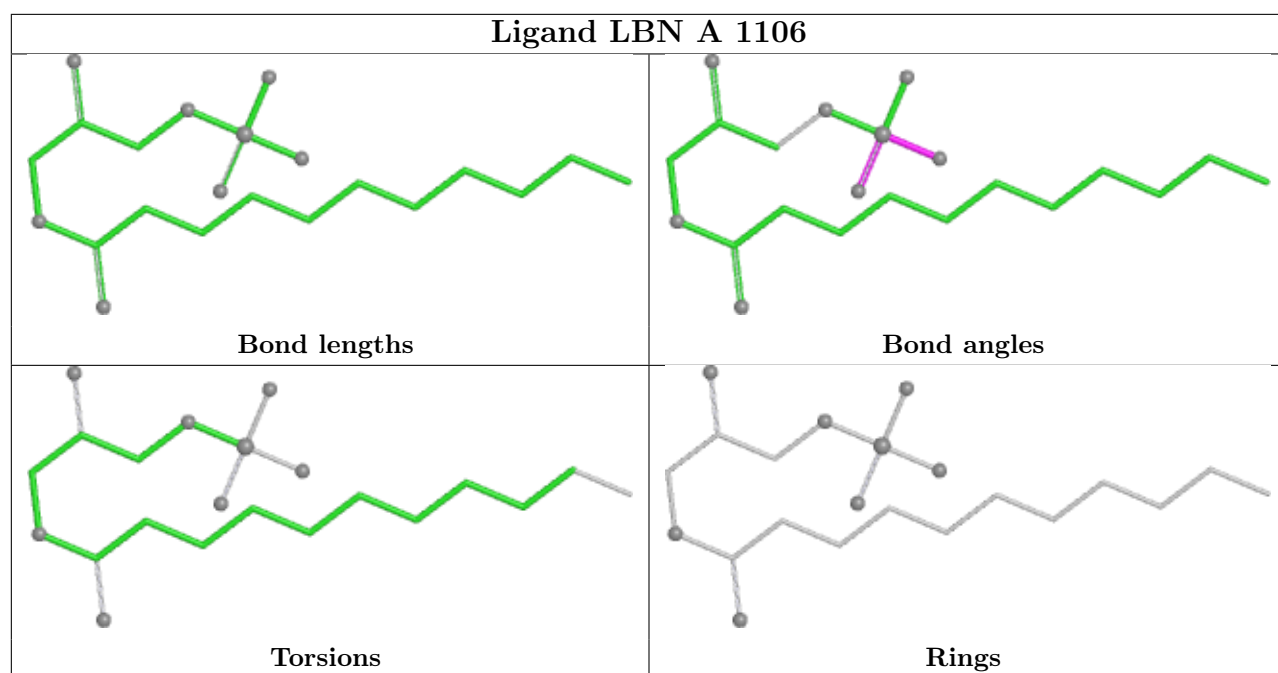


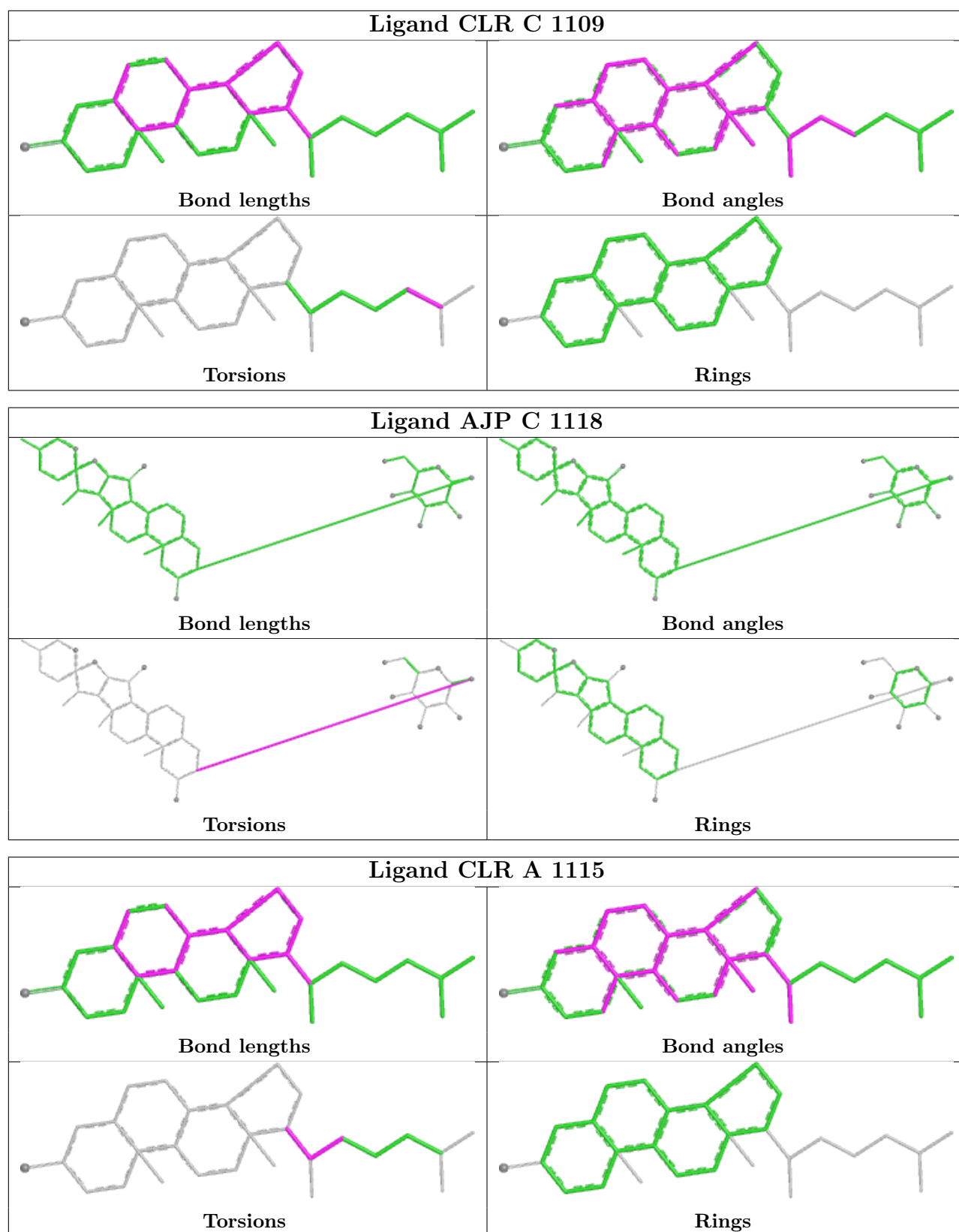
Ligand LBN B 1112

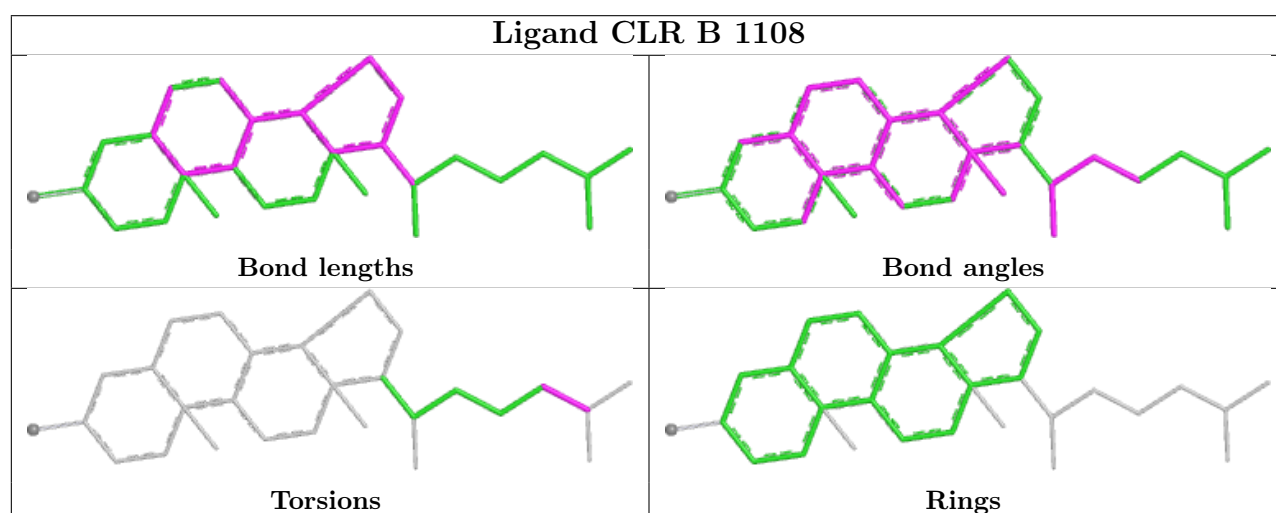
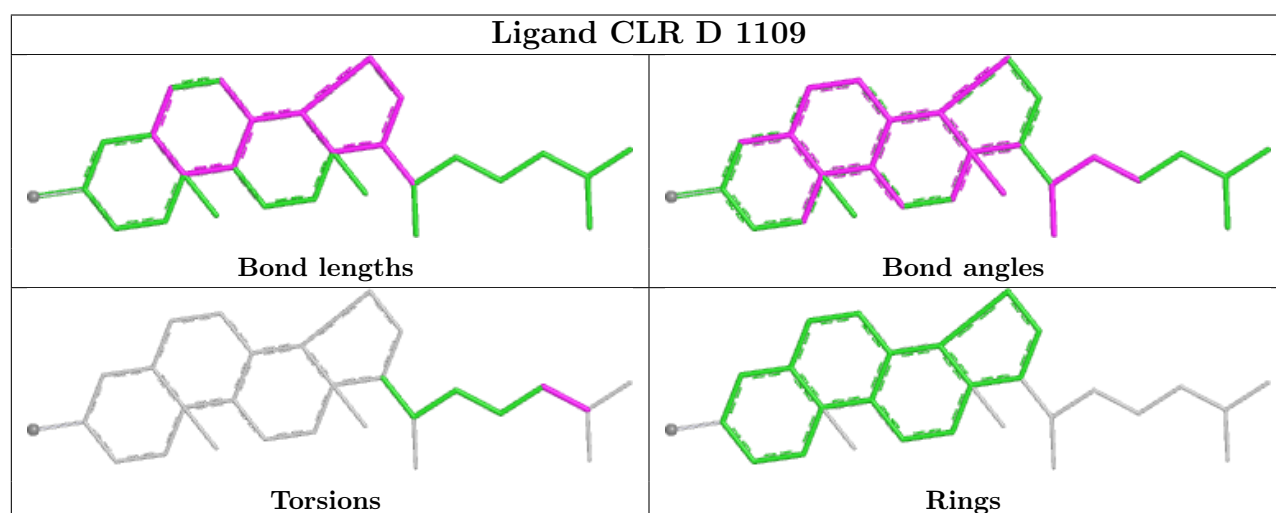
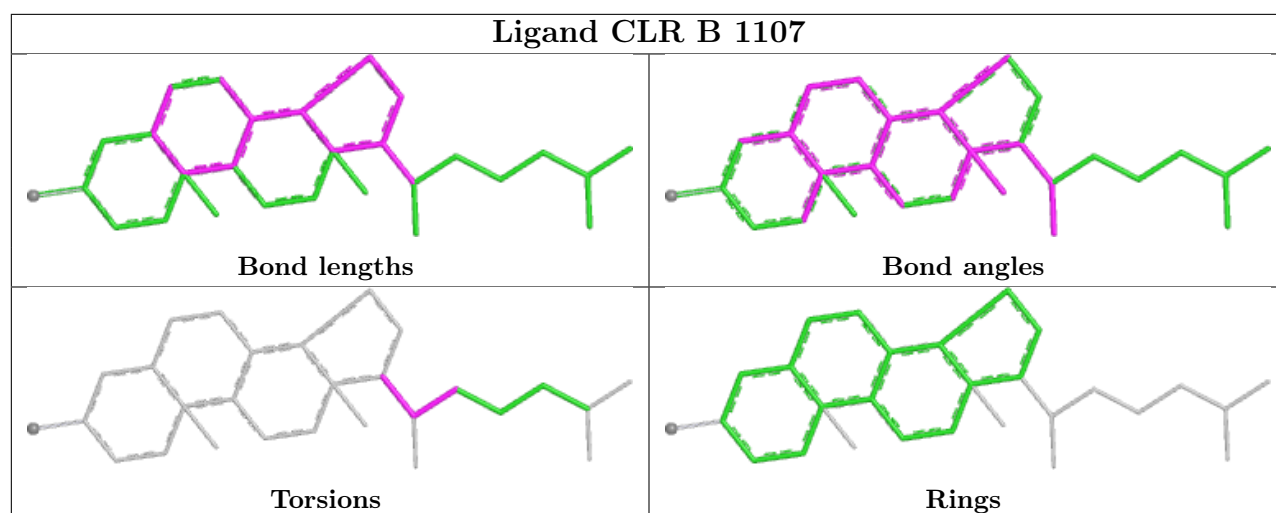


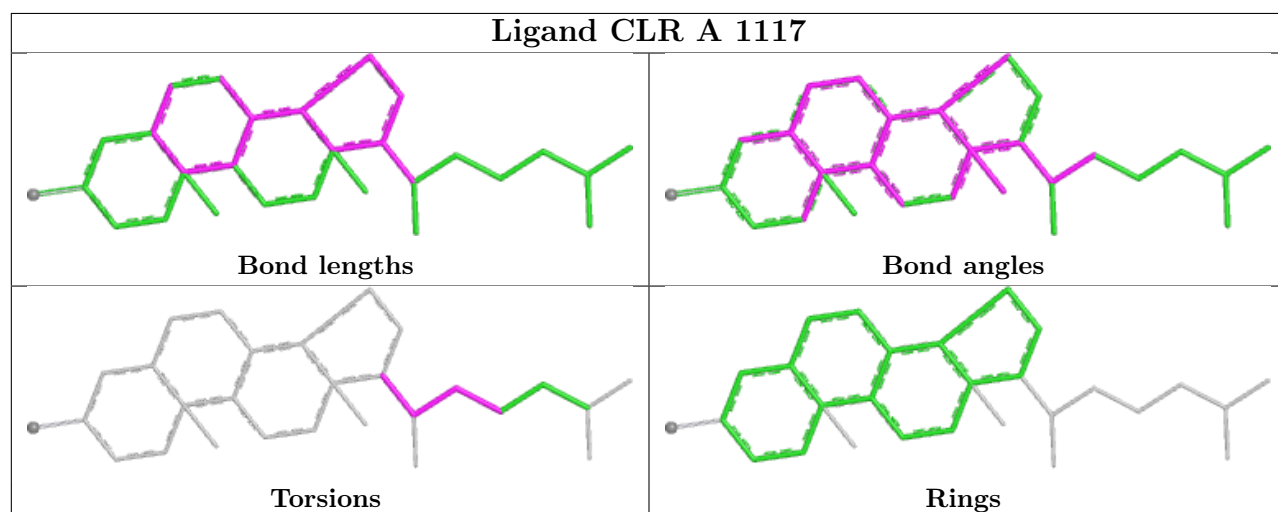
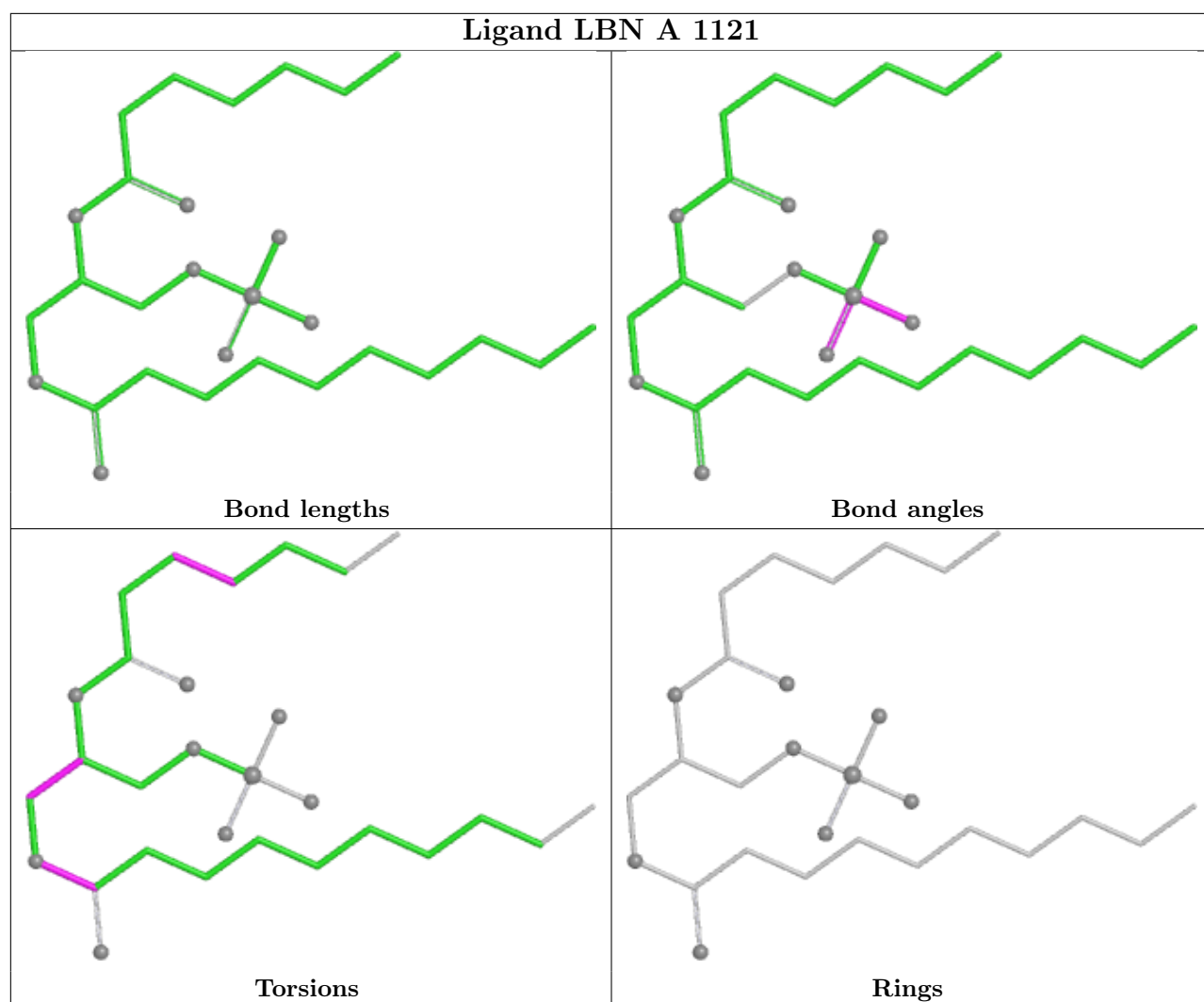


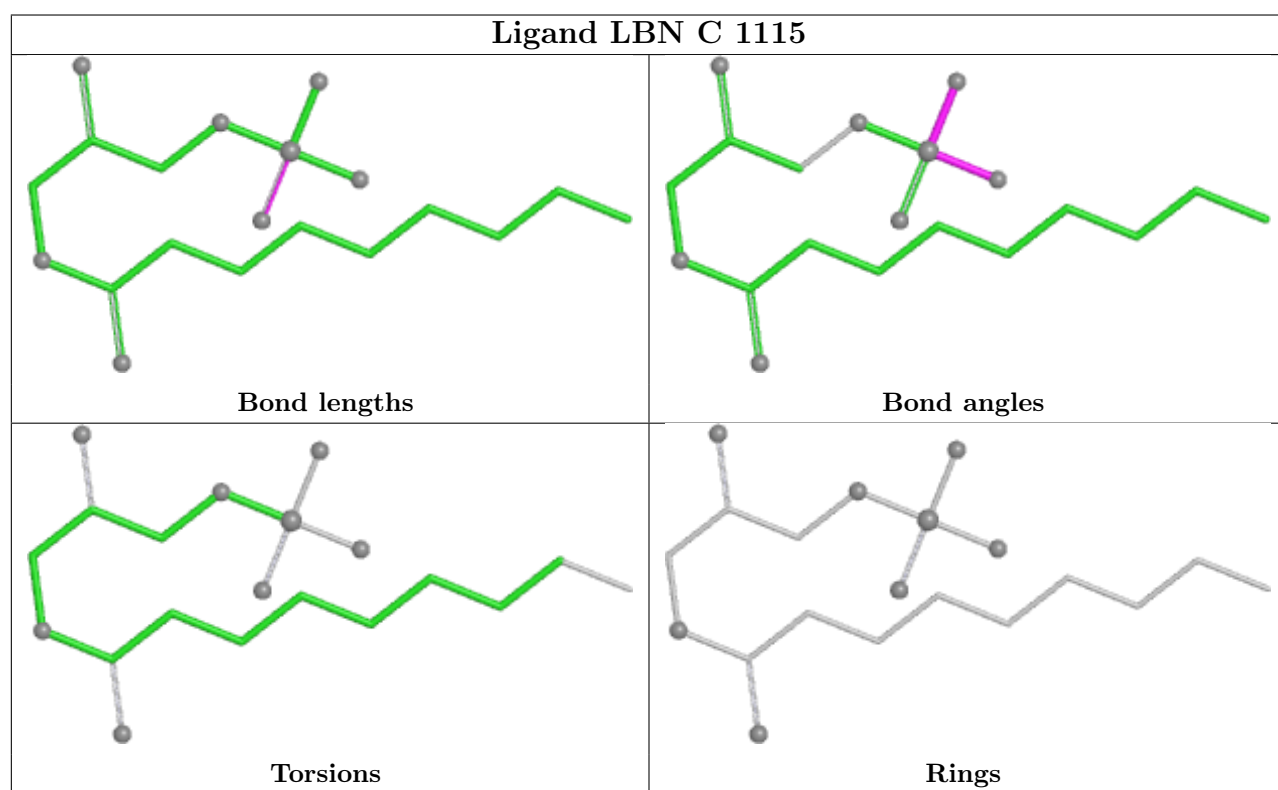
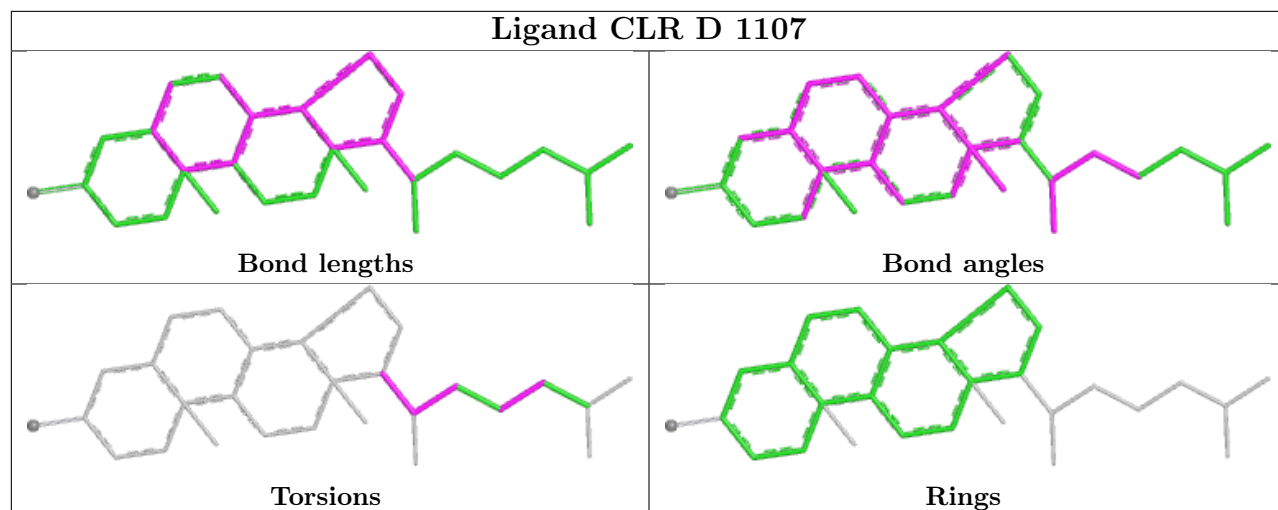


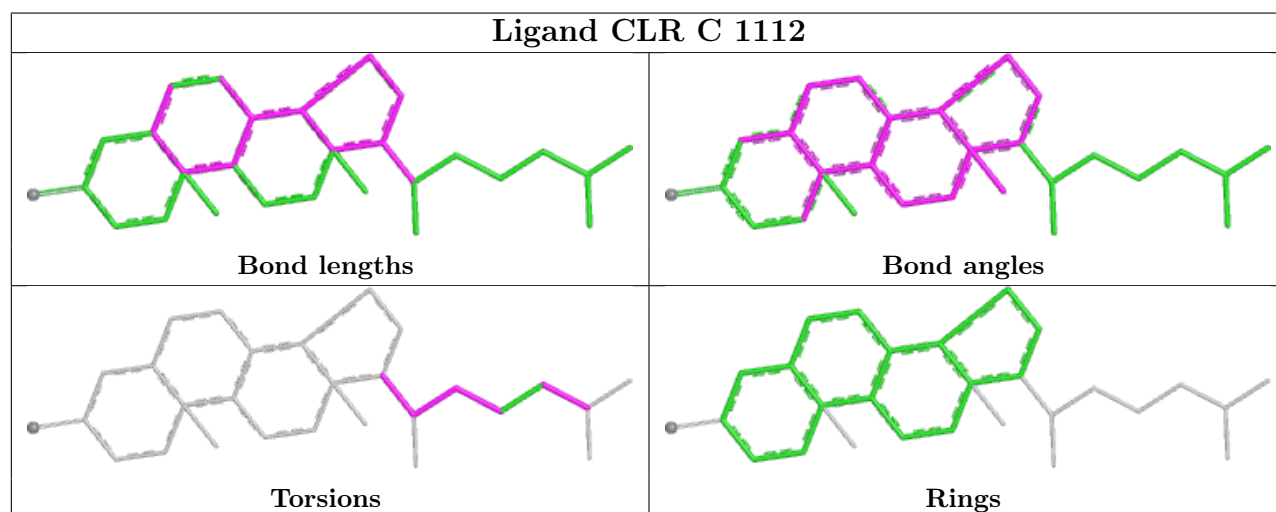
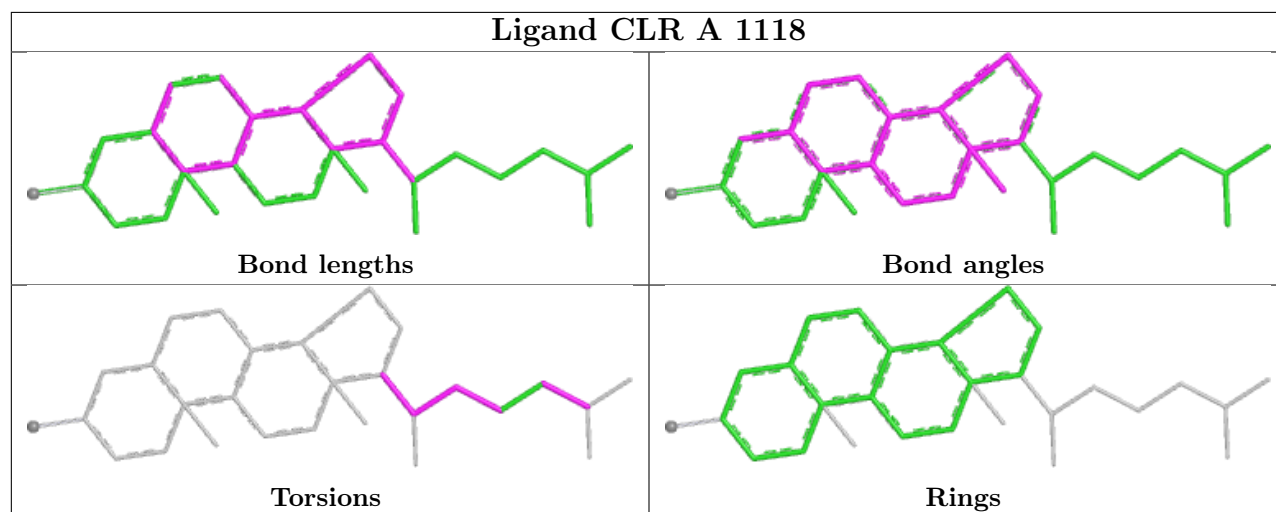
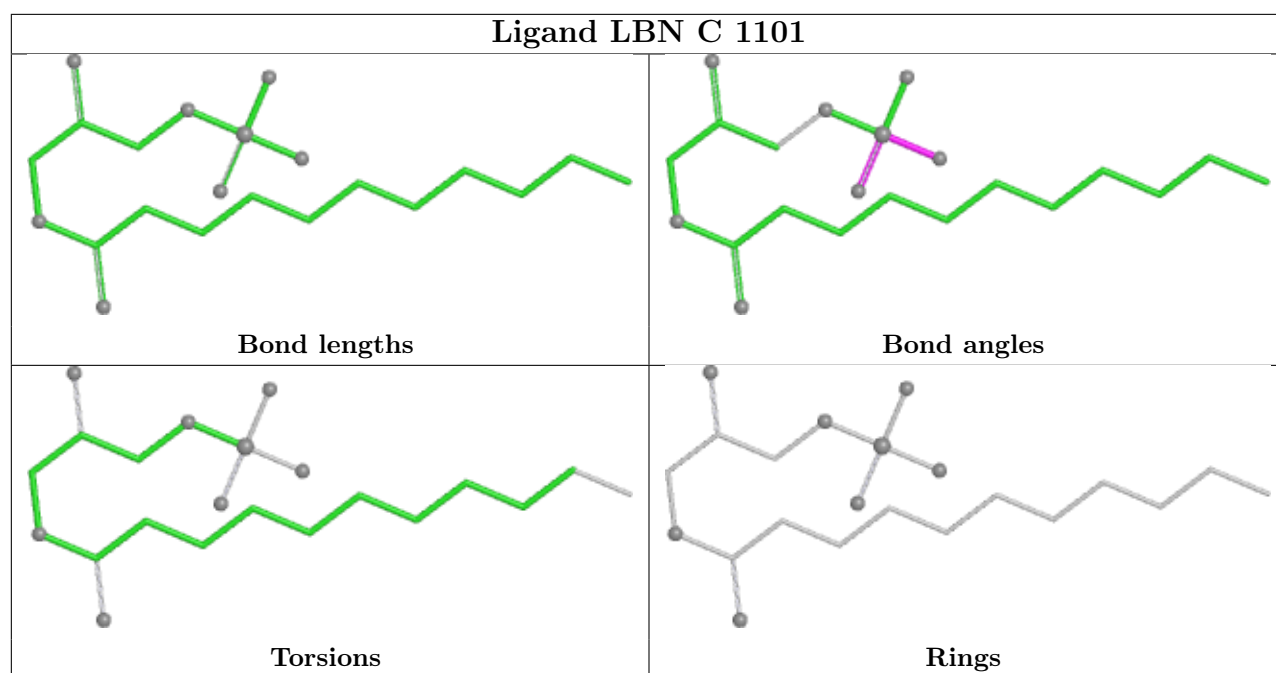


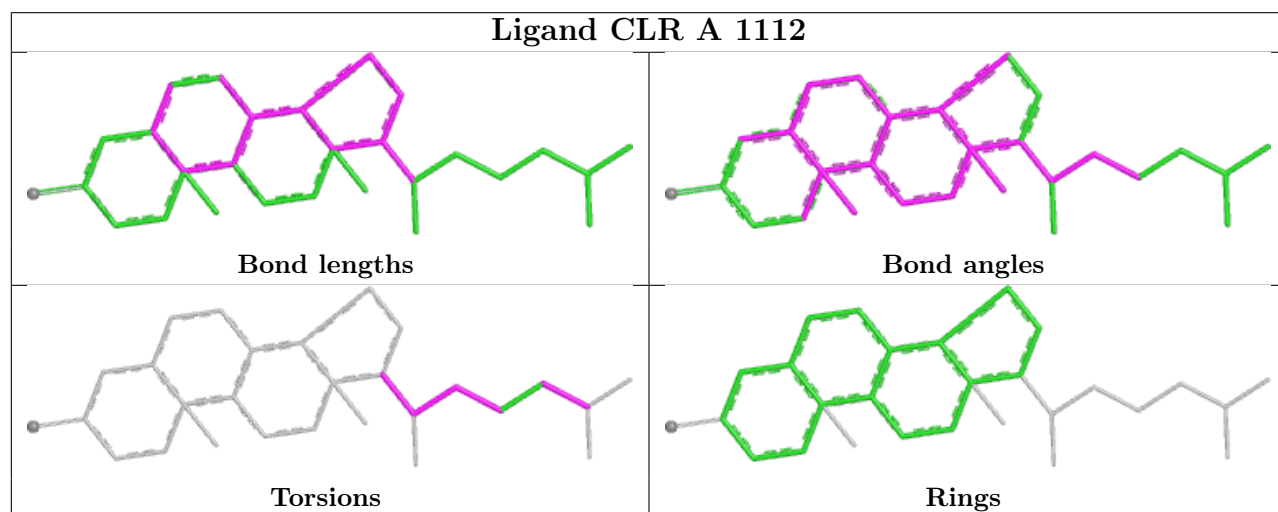
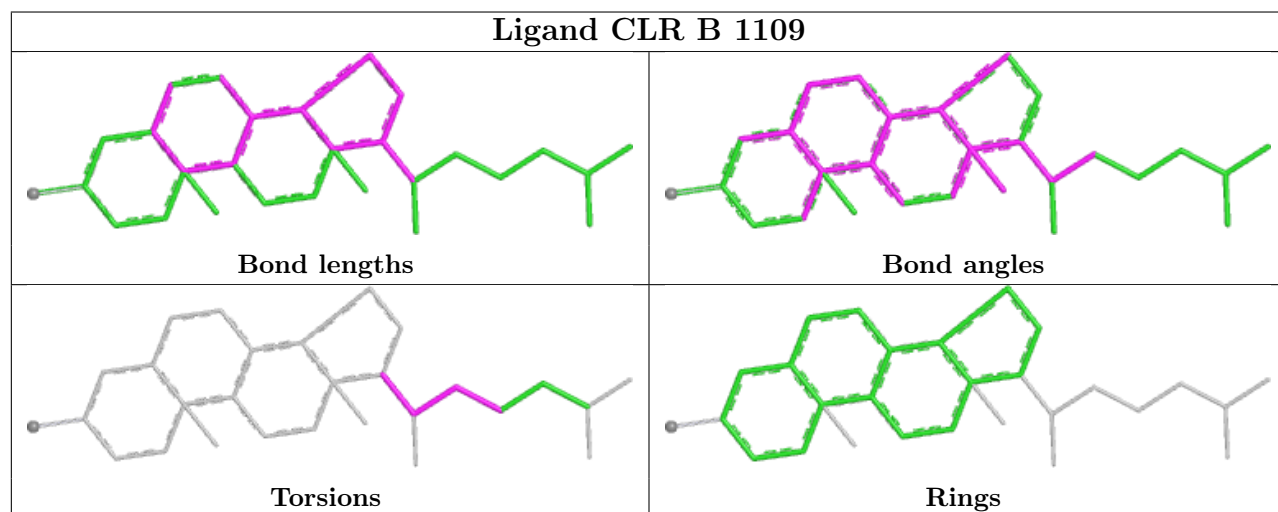
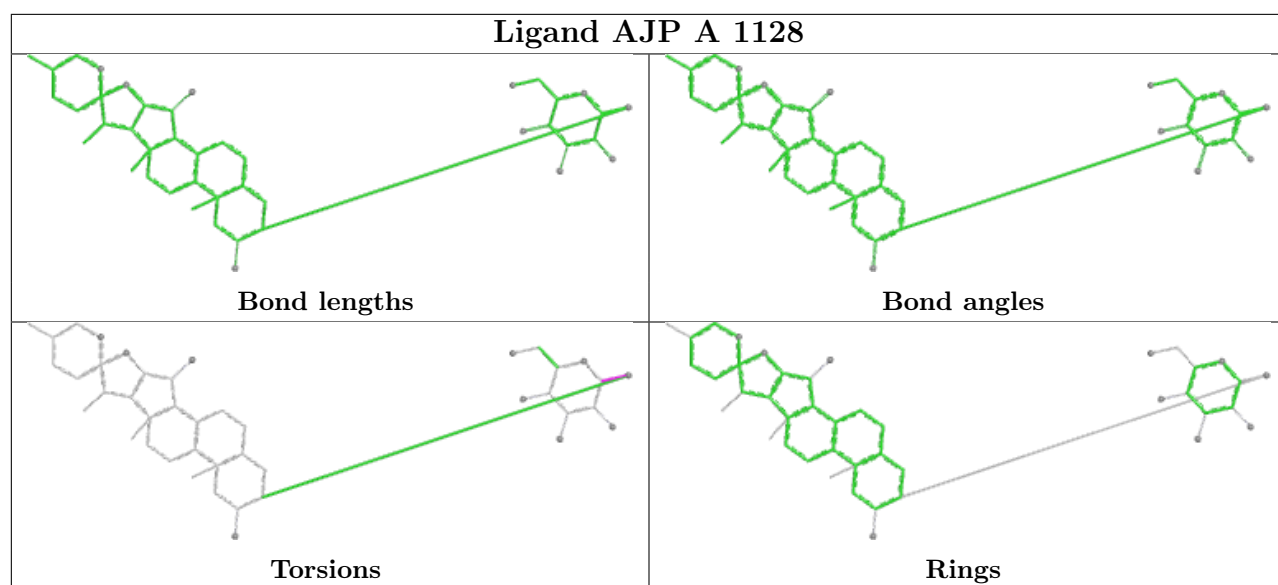


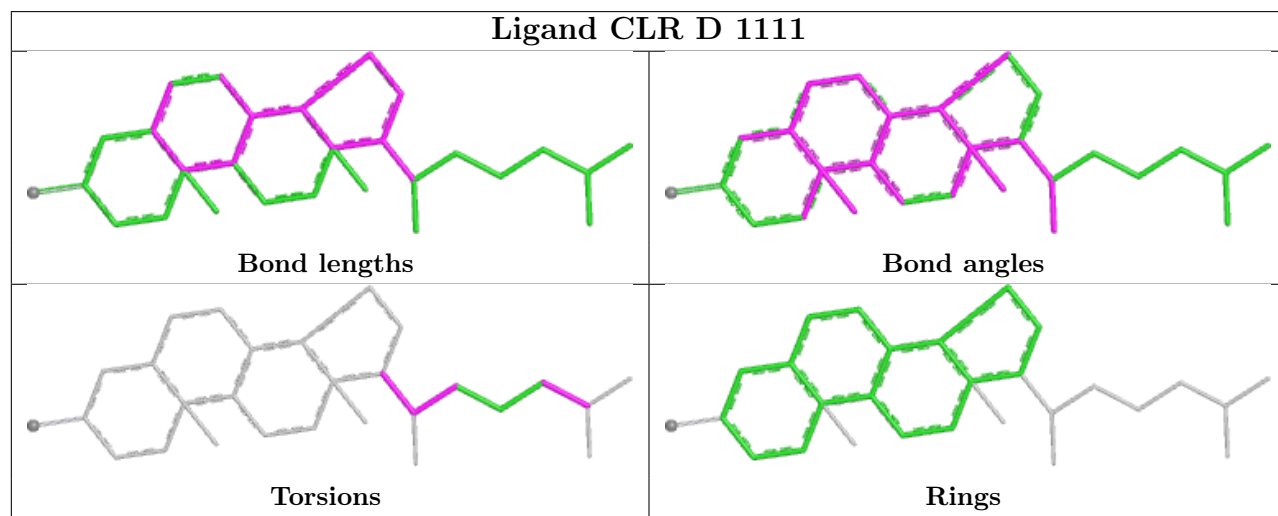
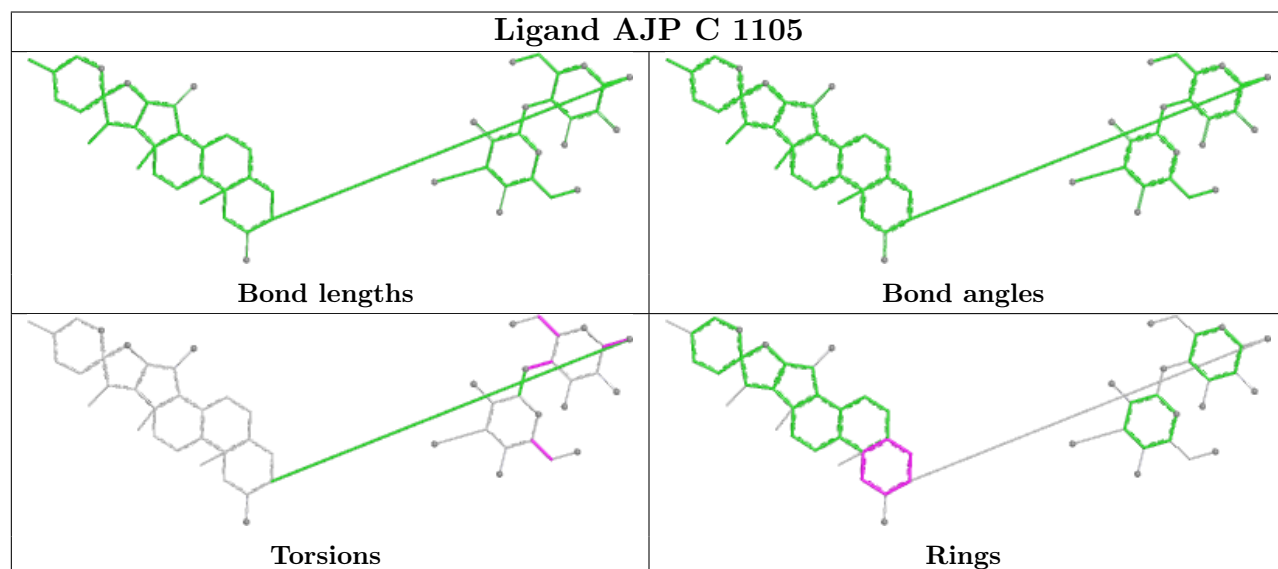
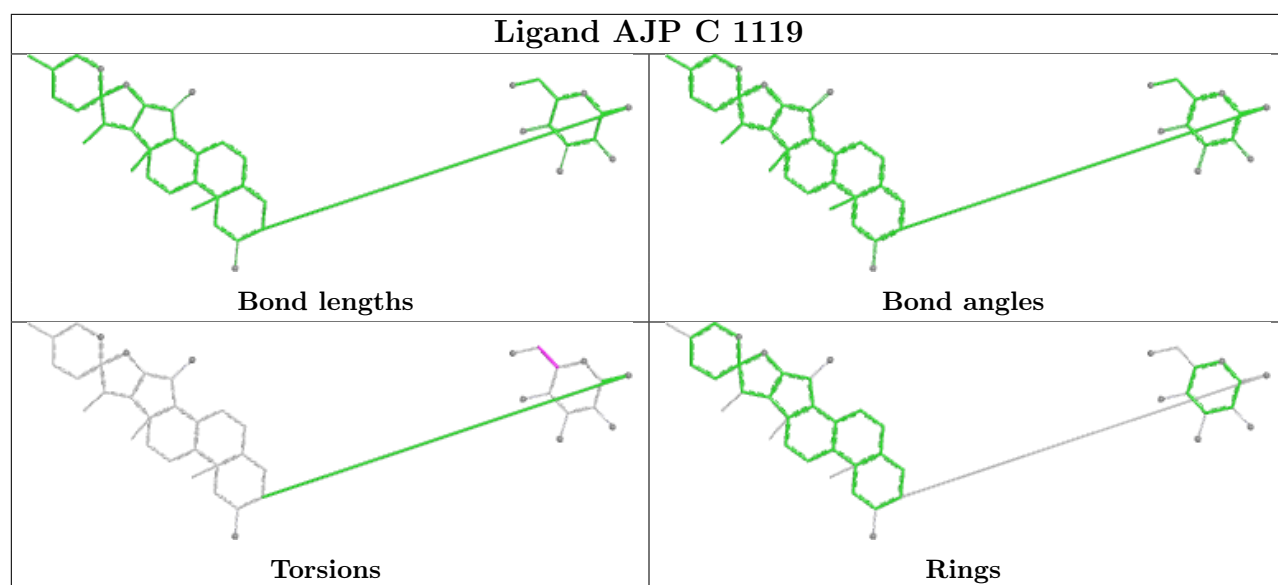


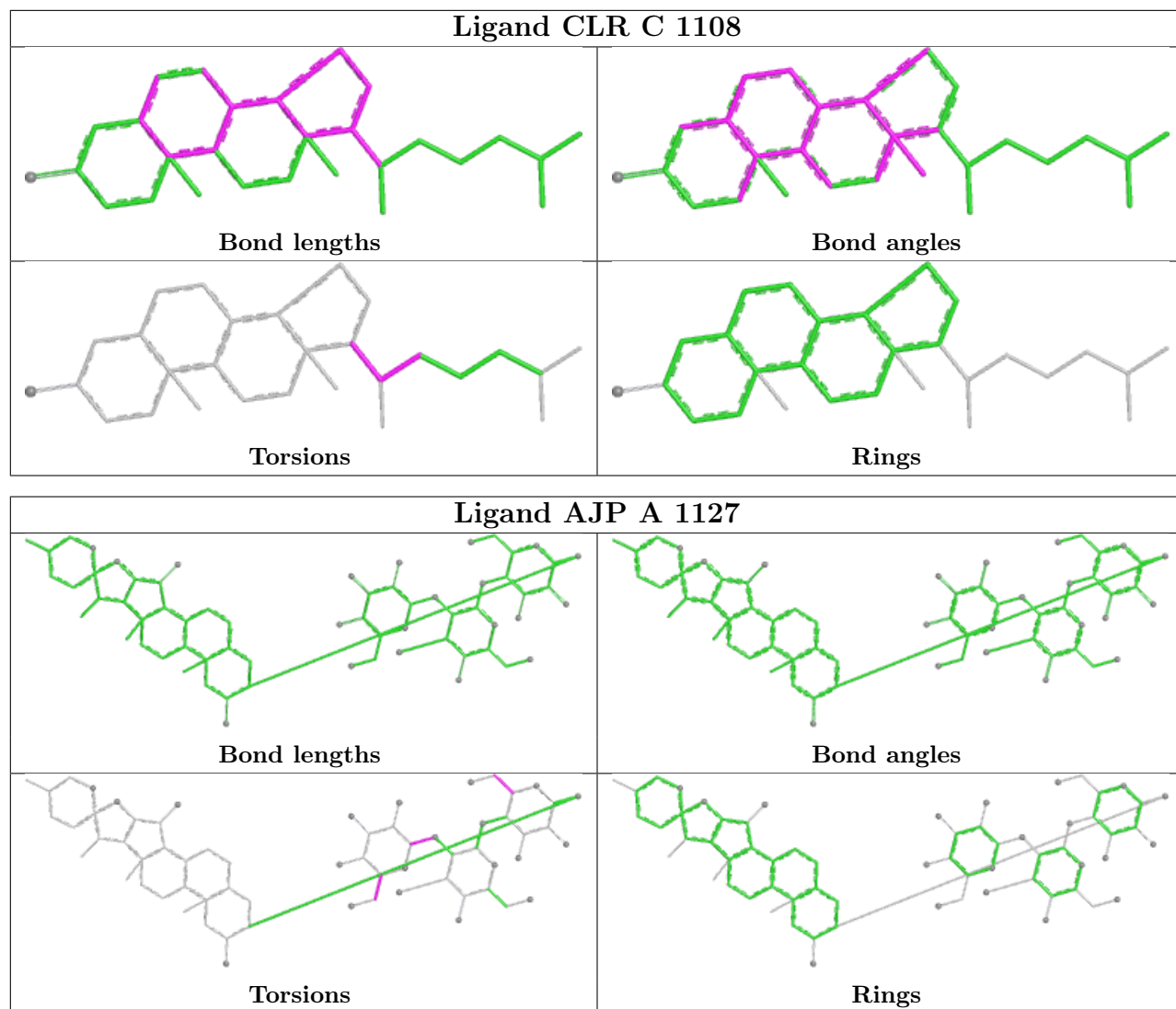




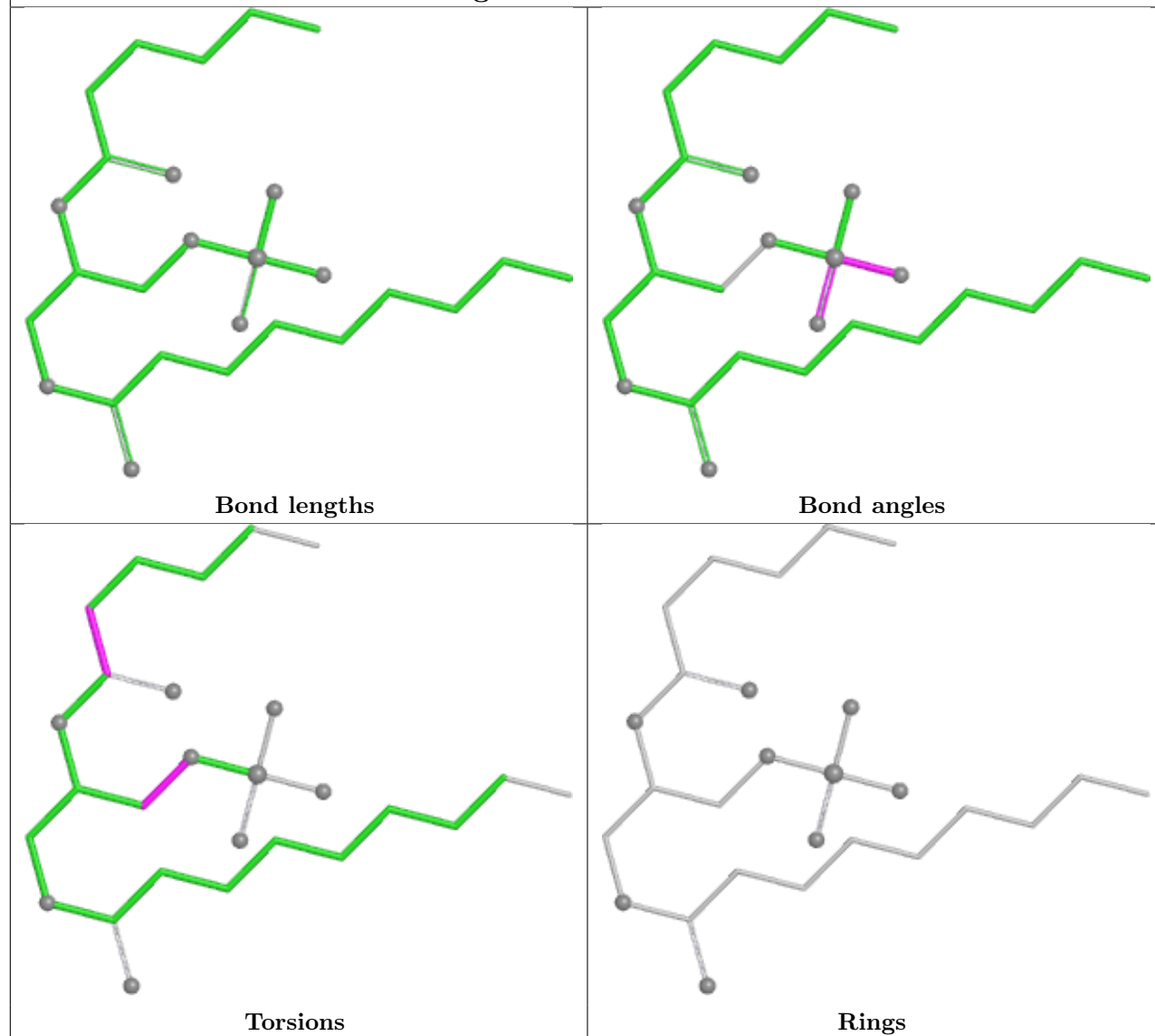




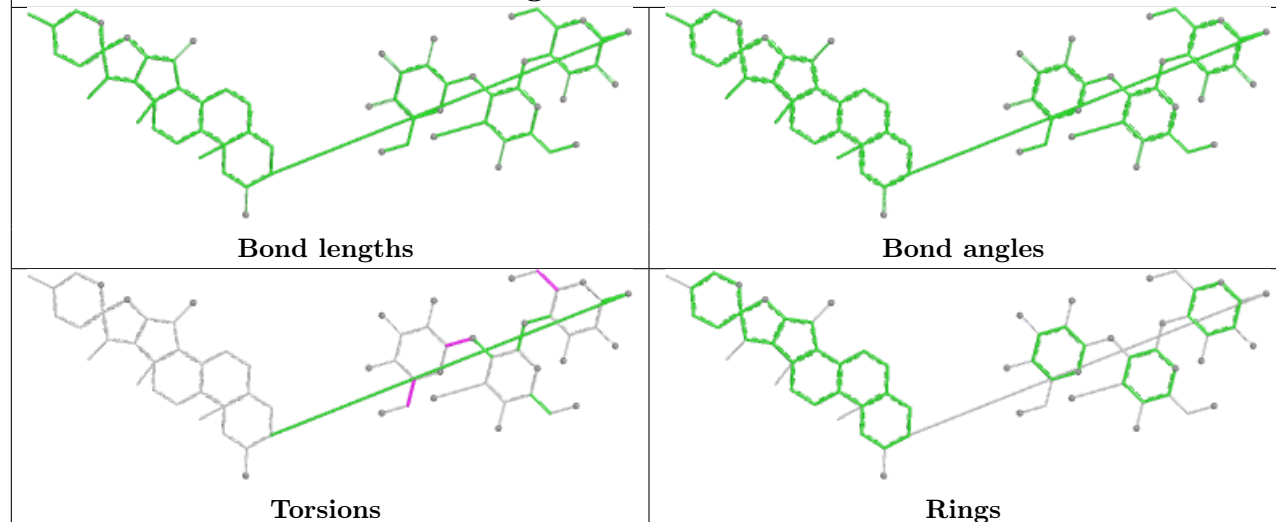


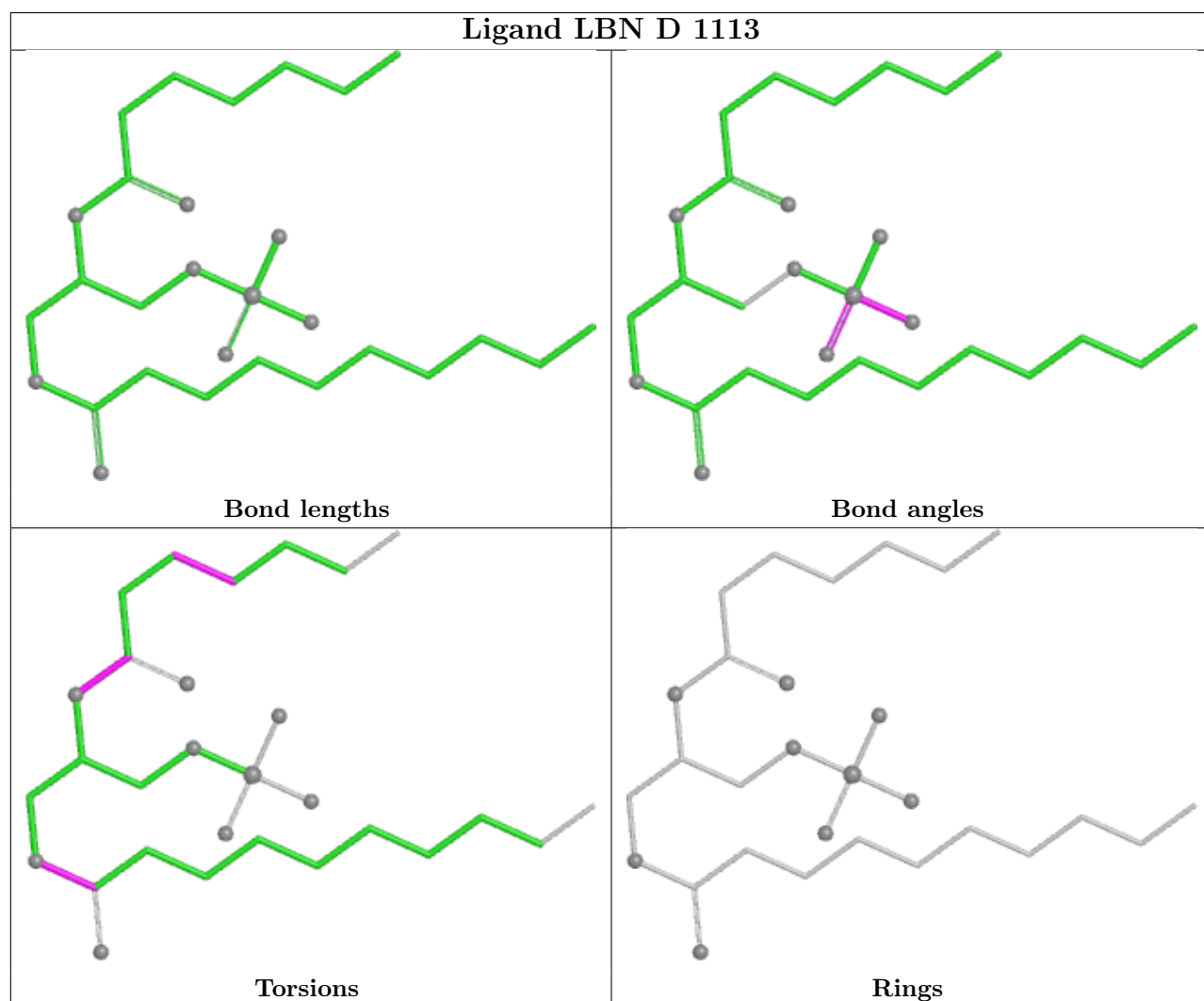
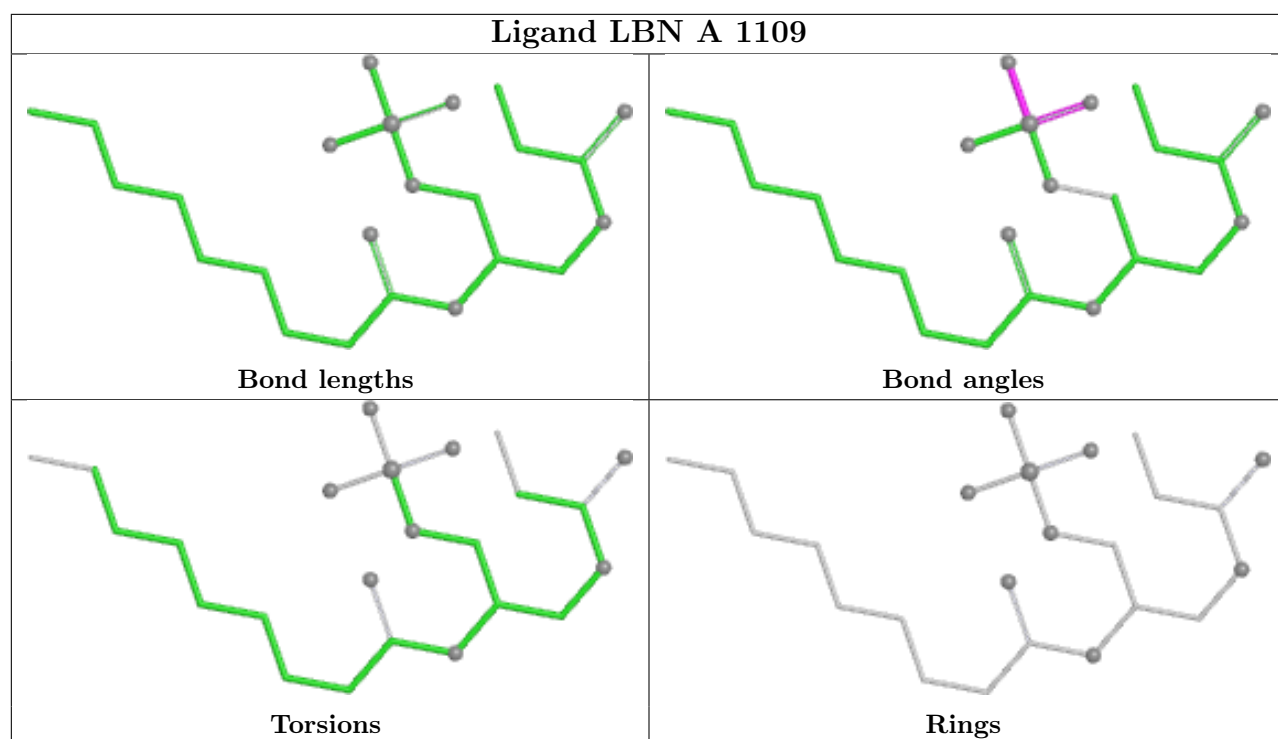


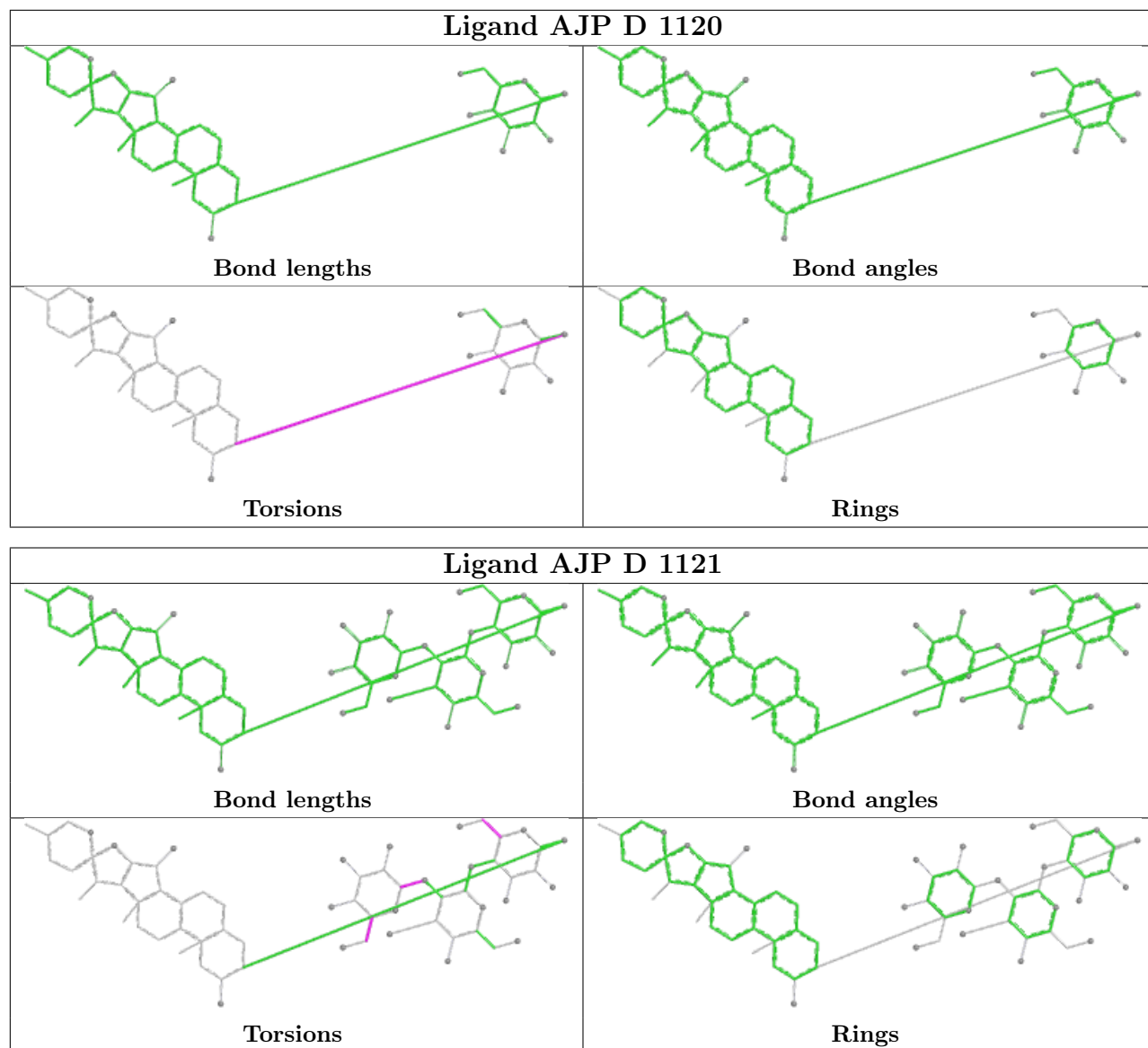
Ligand LBN C 1116

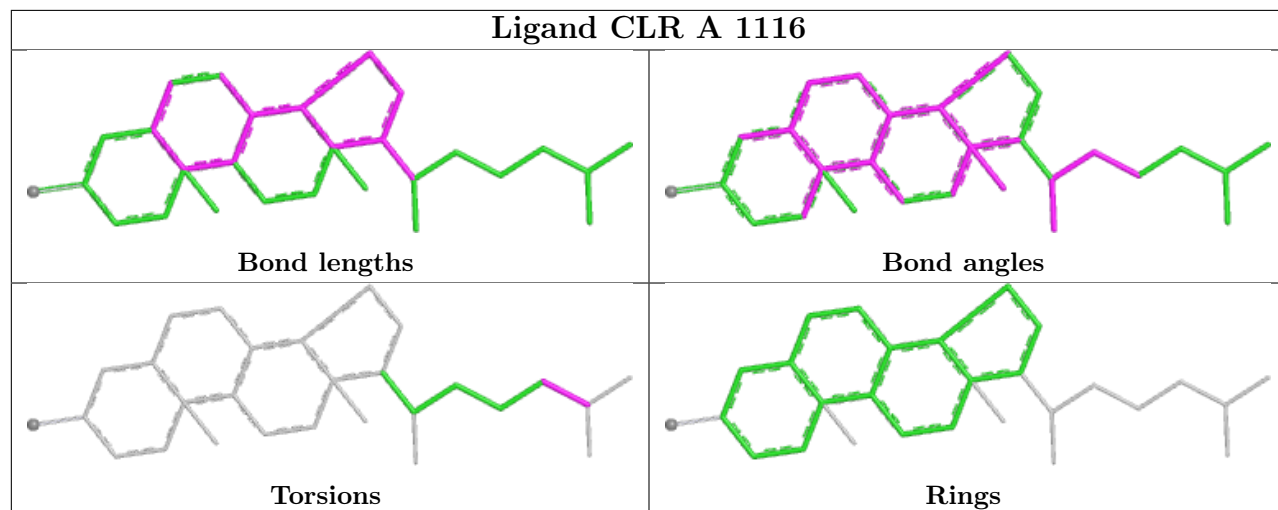
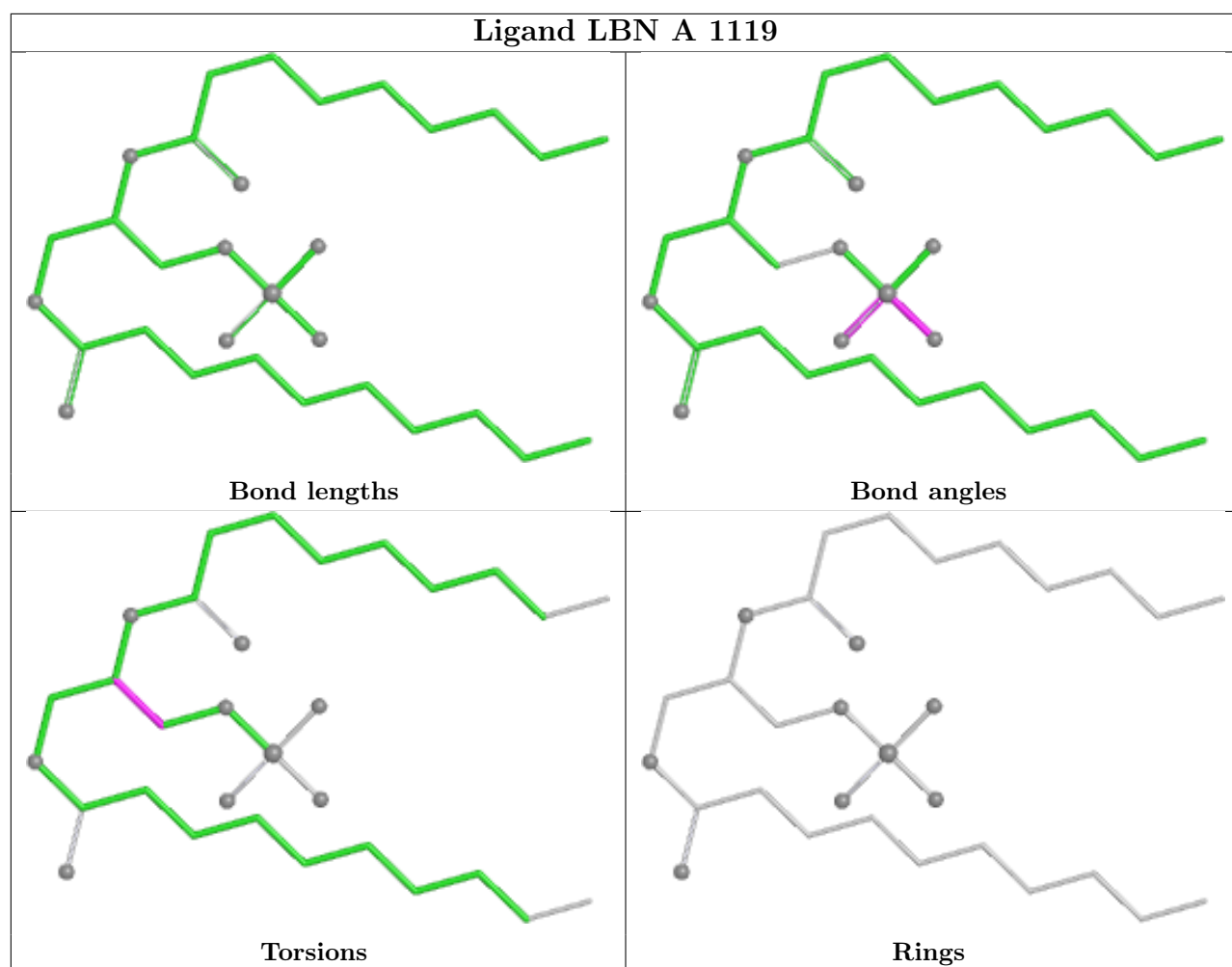


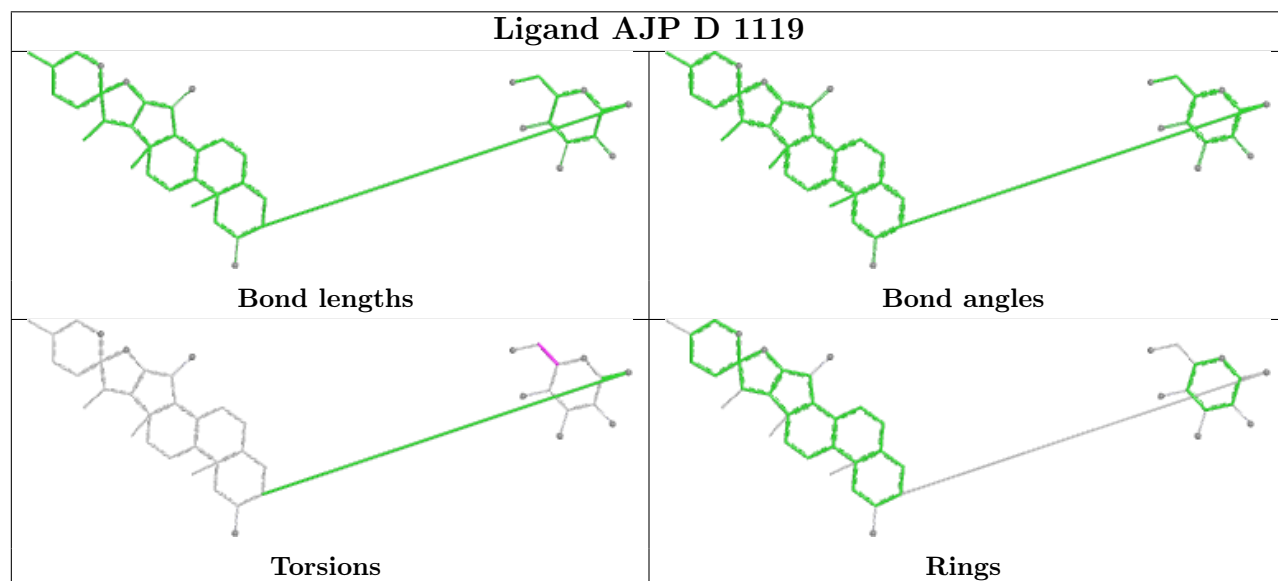
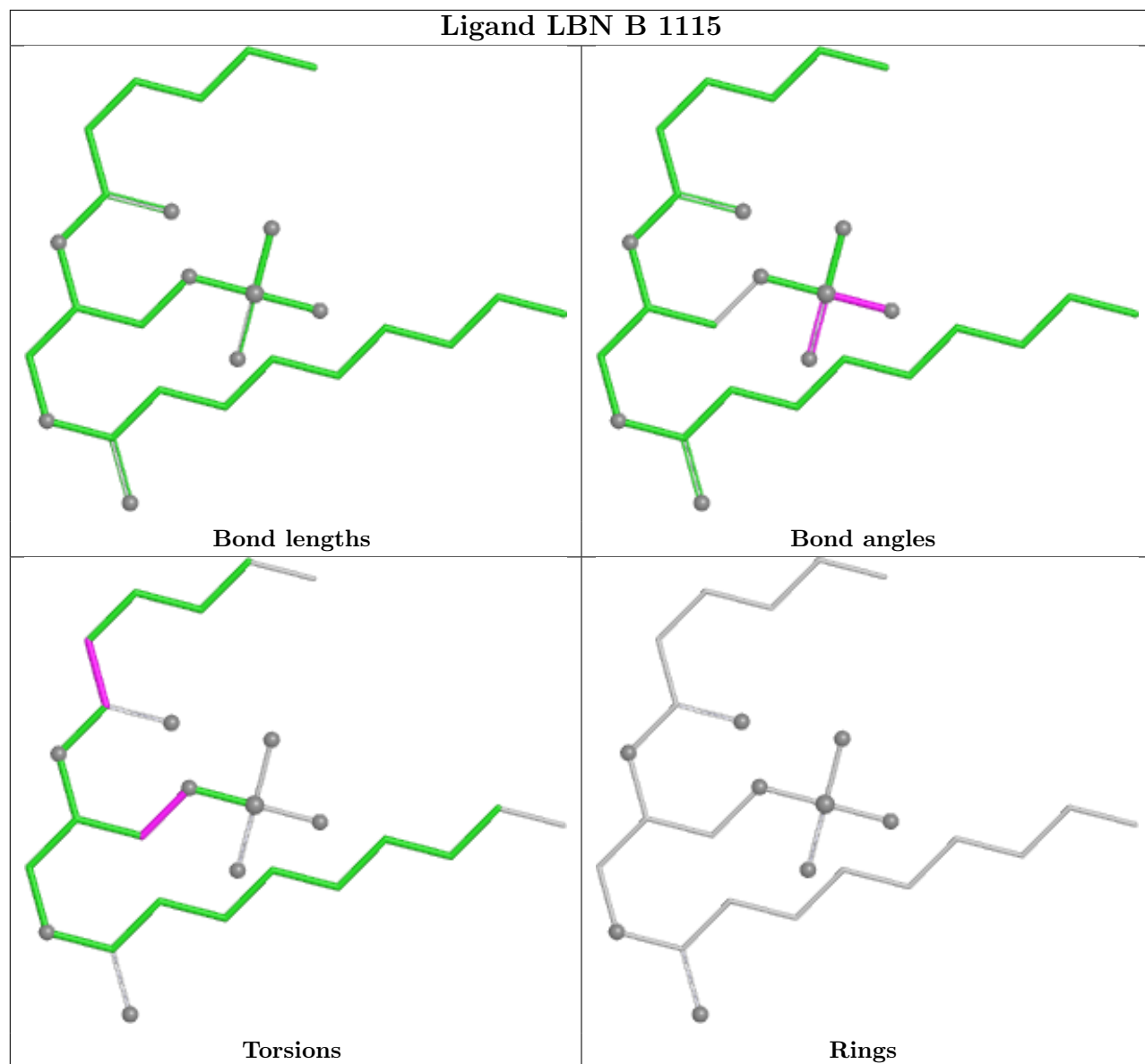
Ligand AJP B 1120

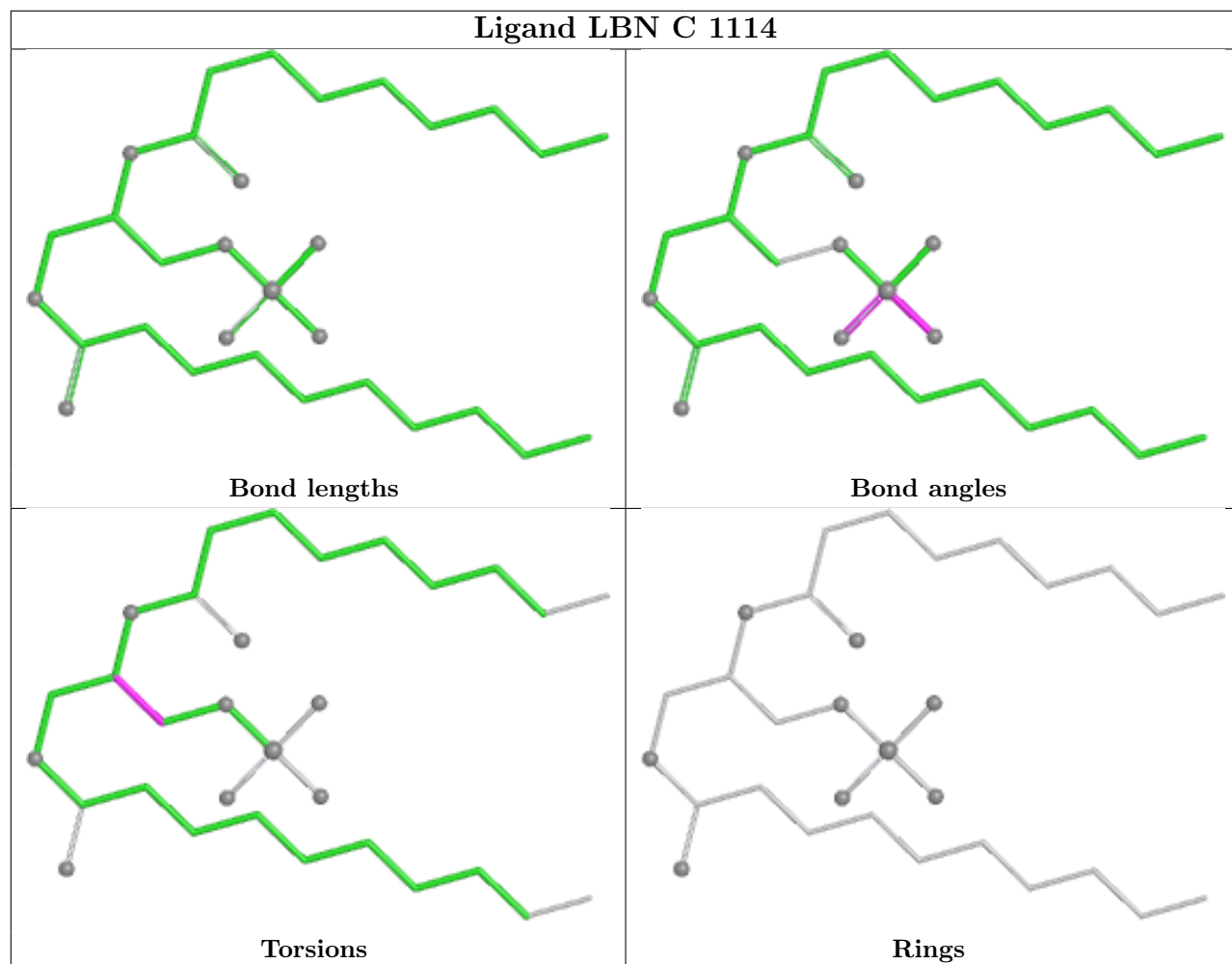


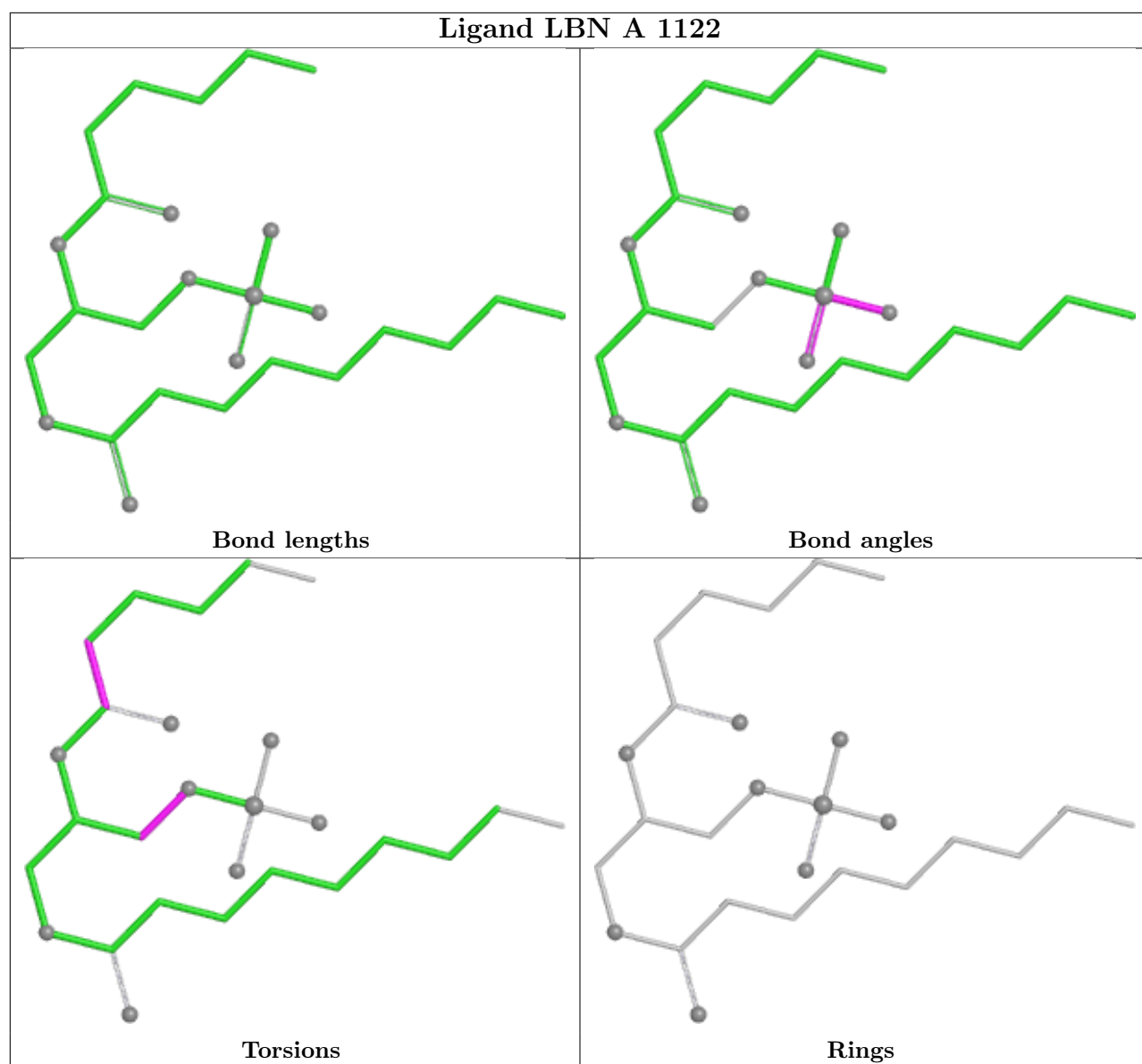


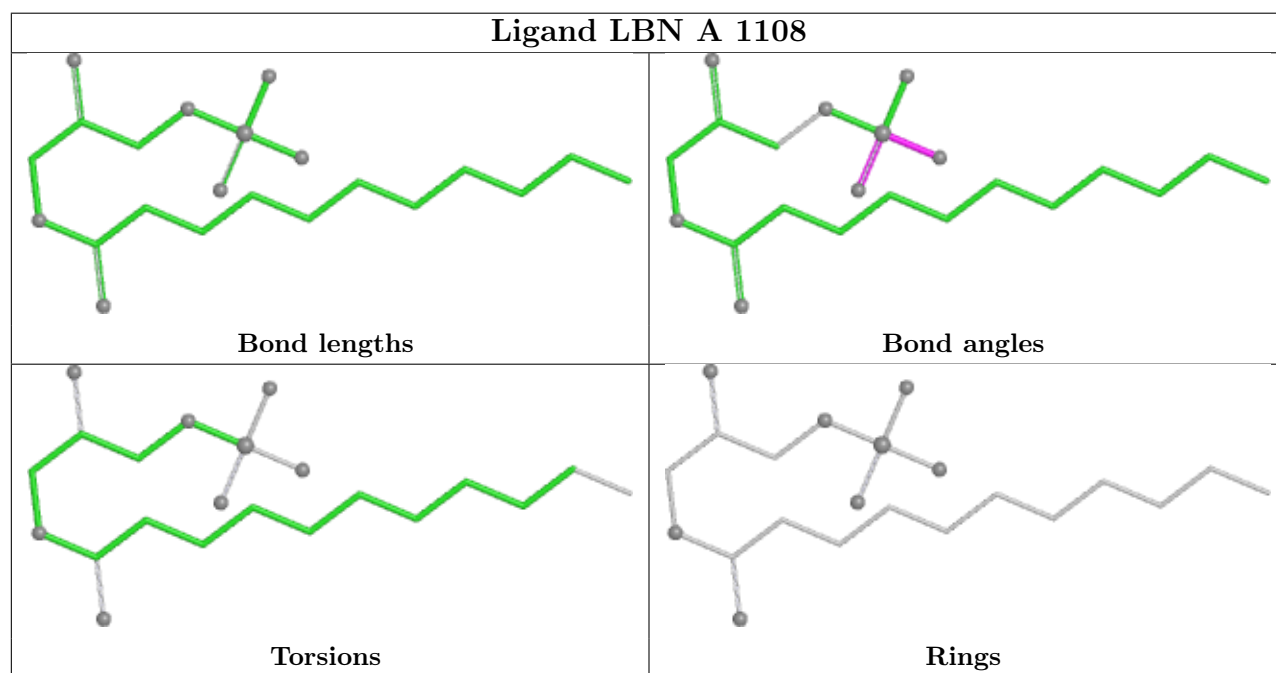
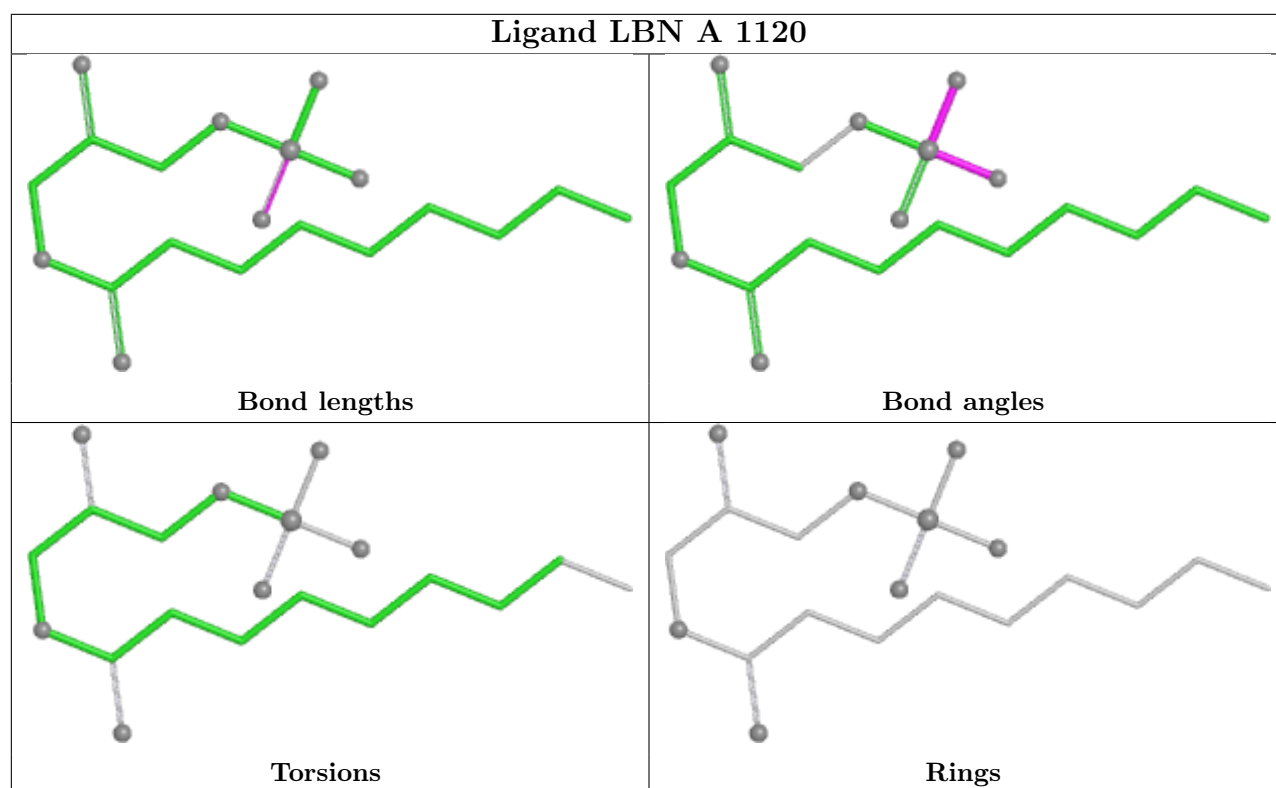


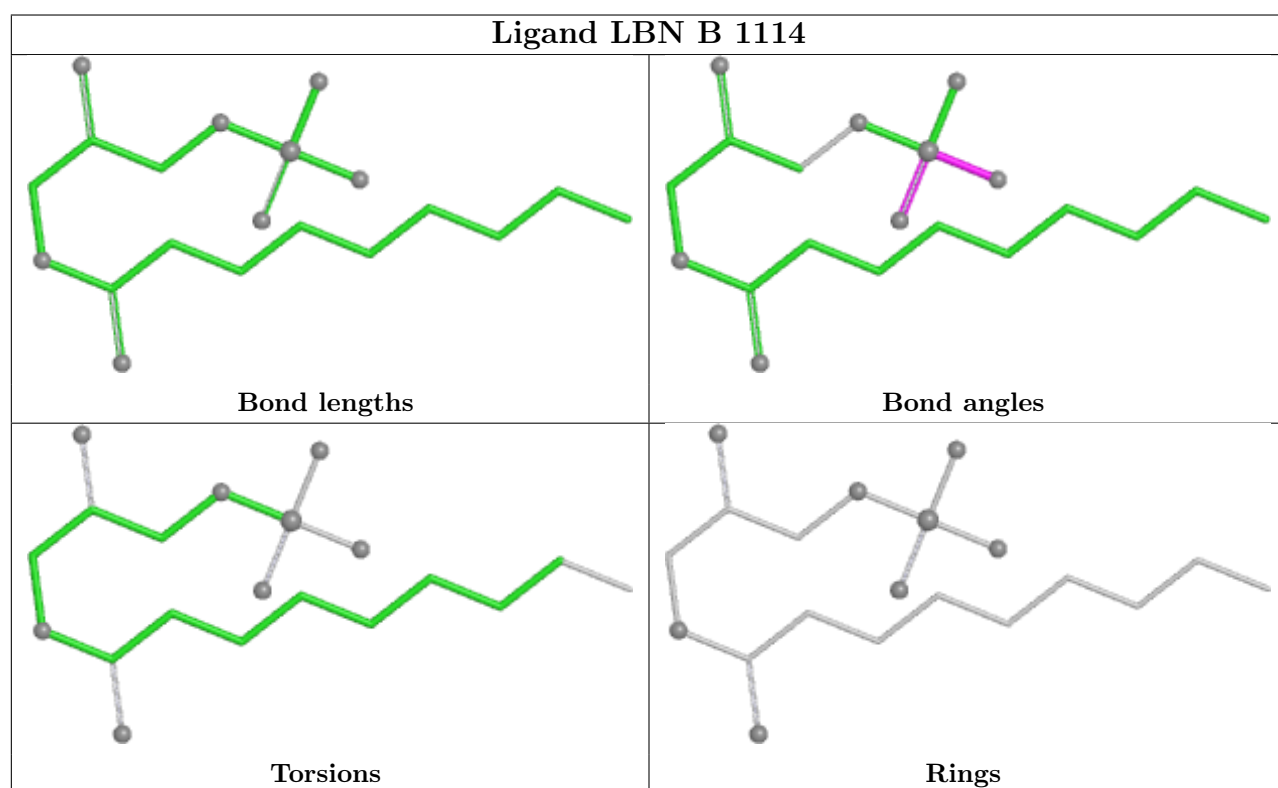
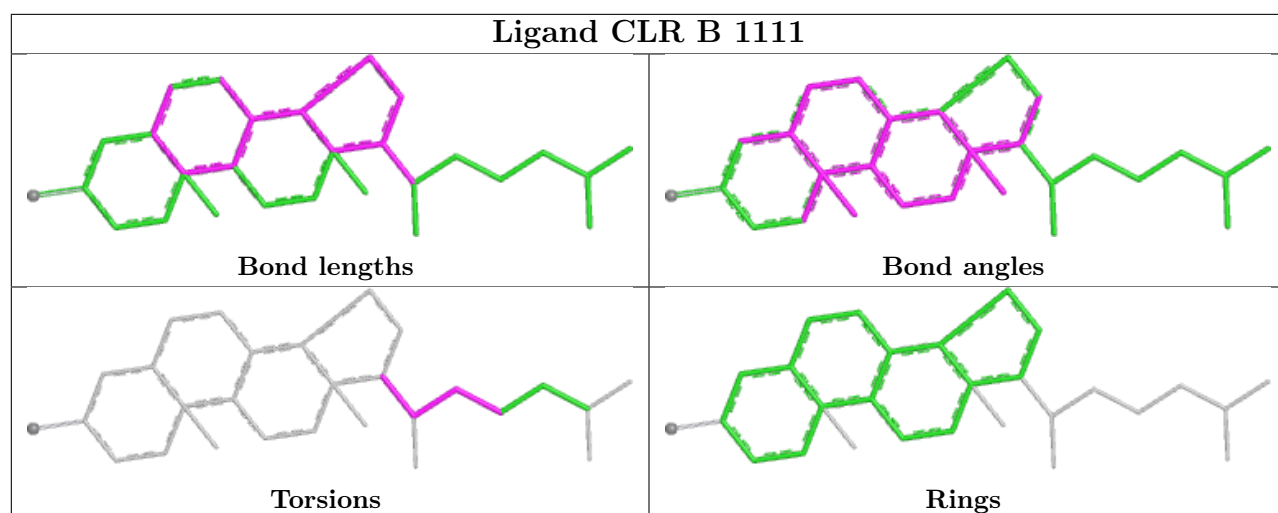


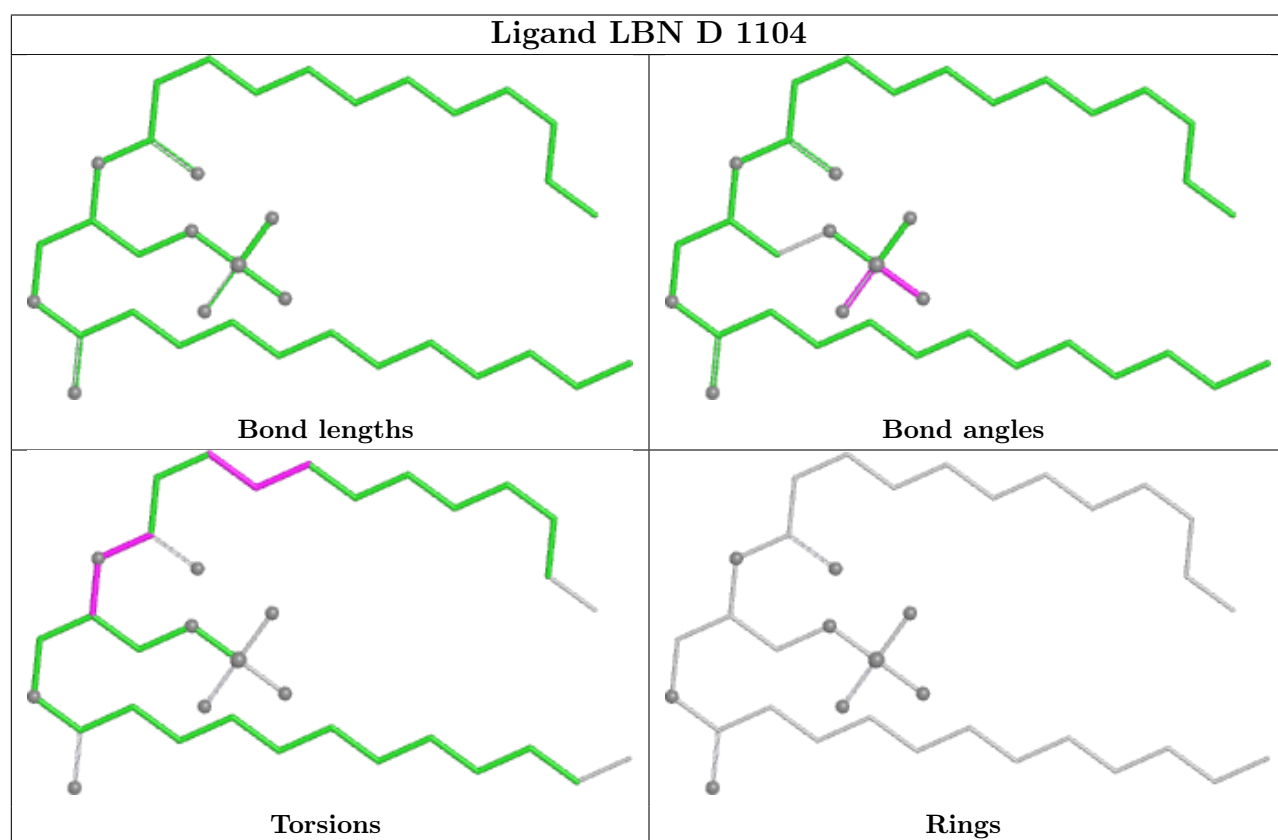
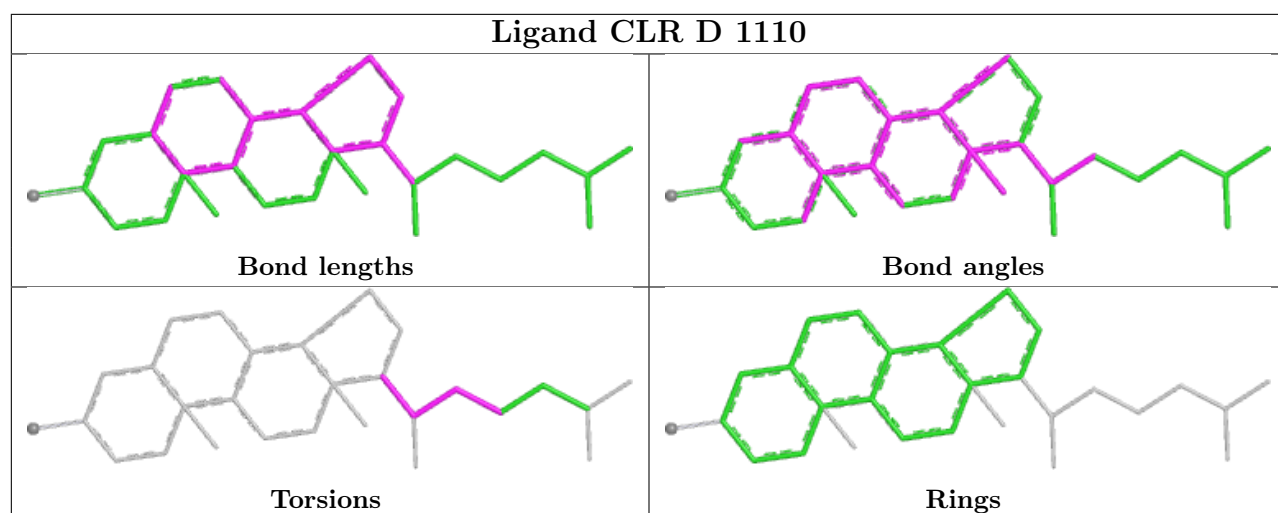


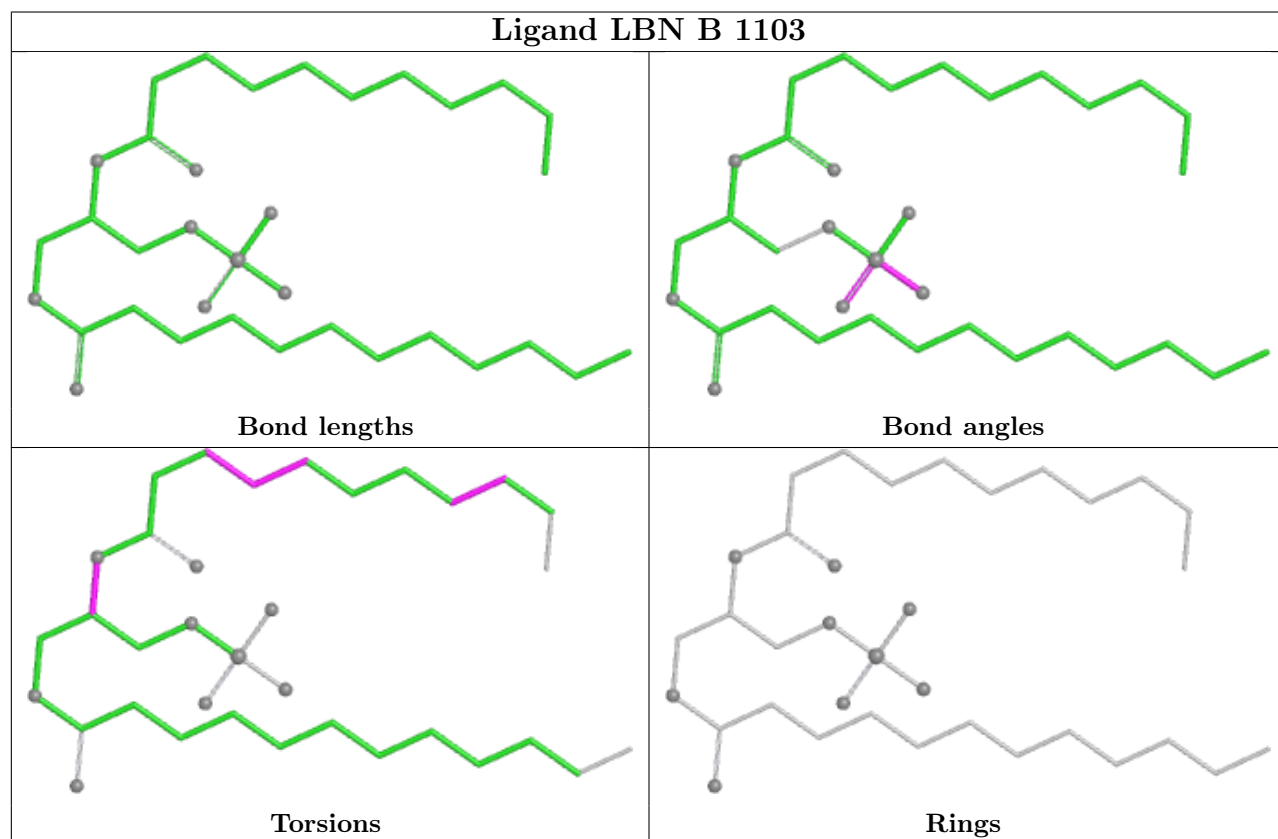
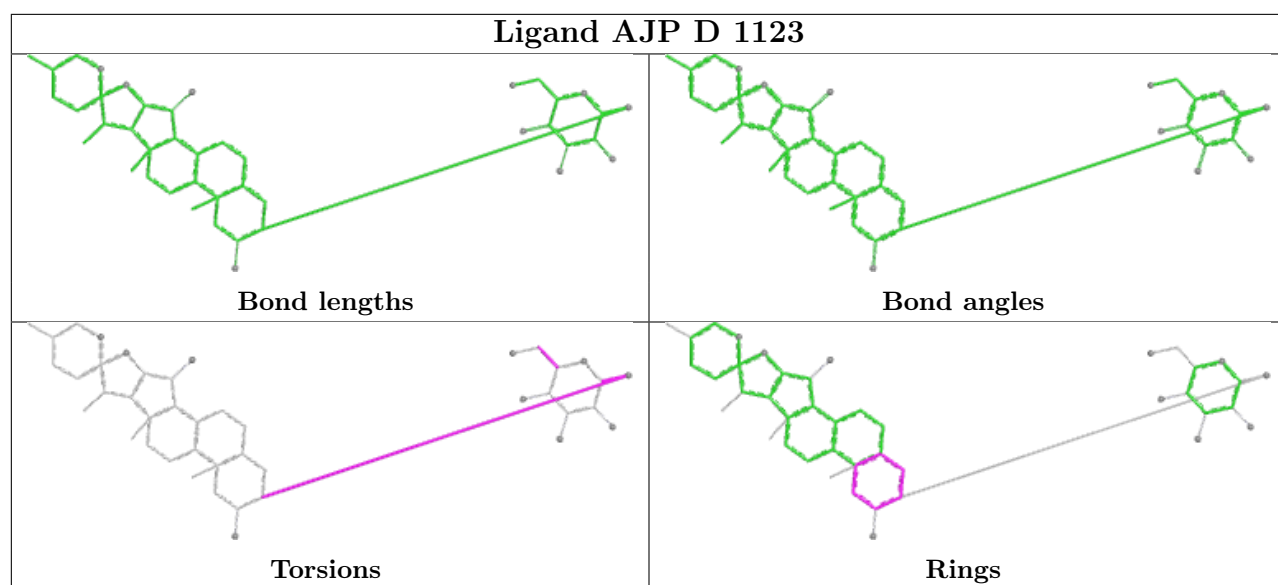


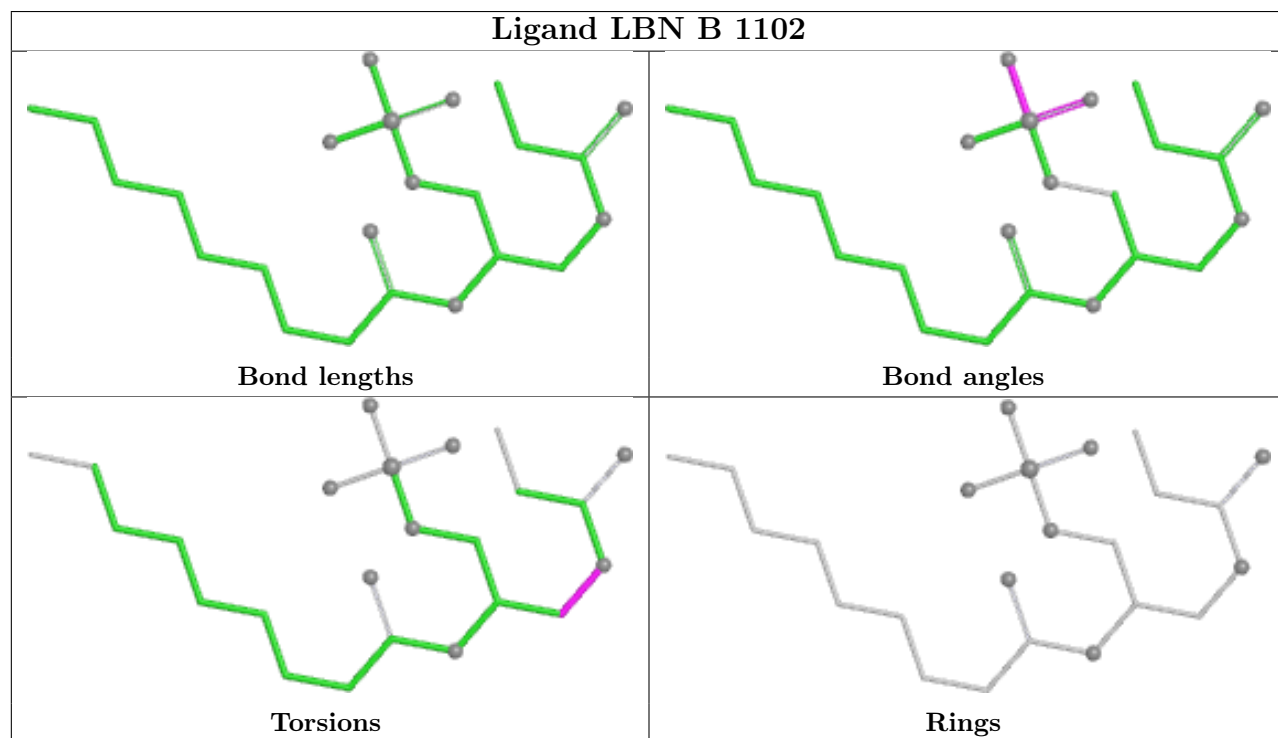
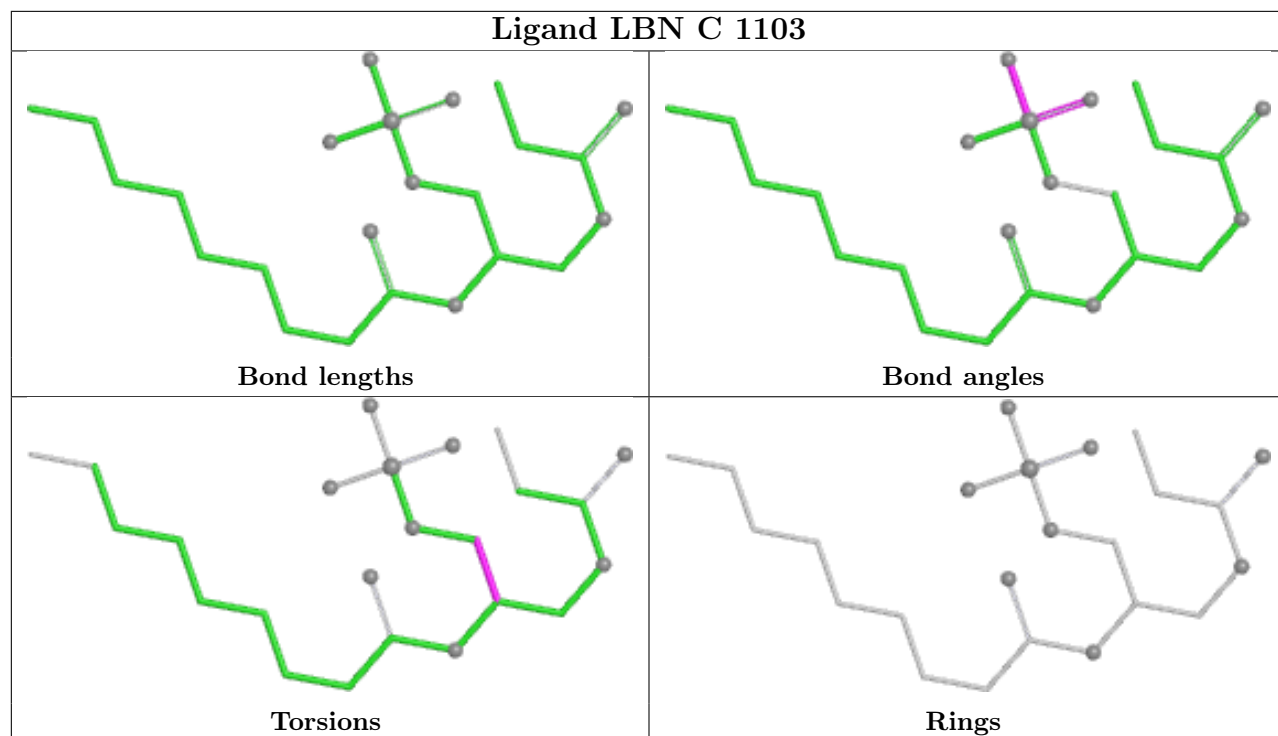


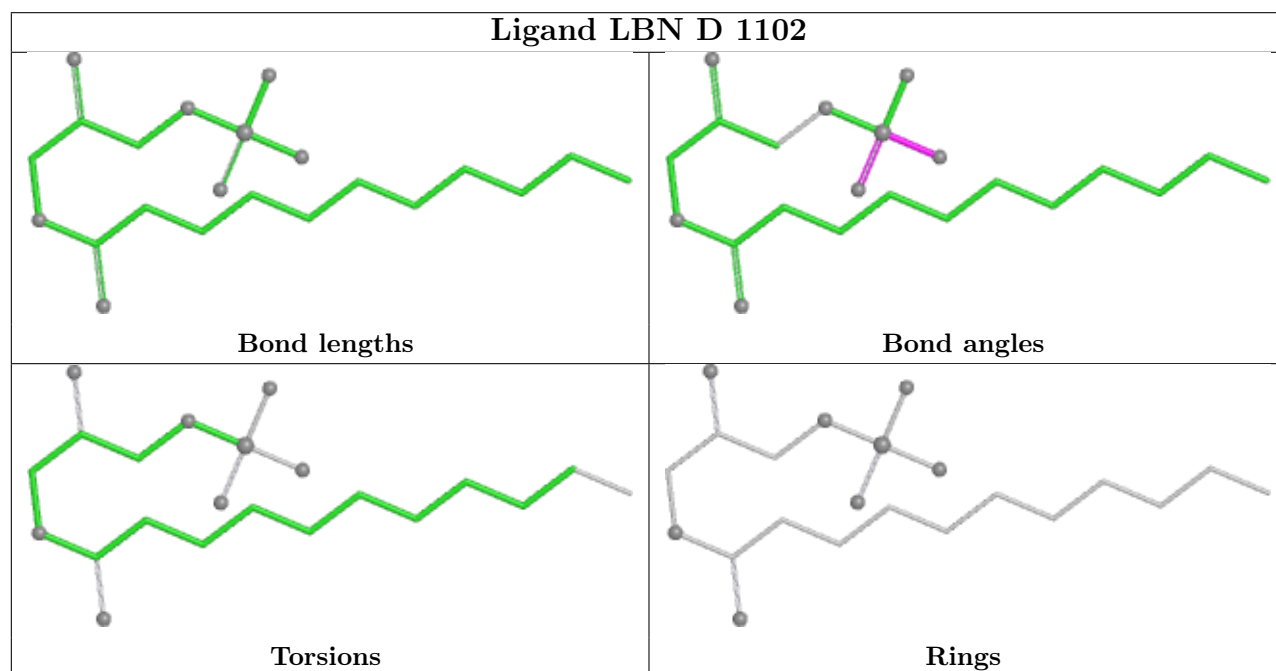
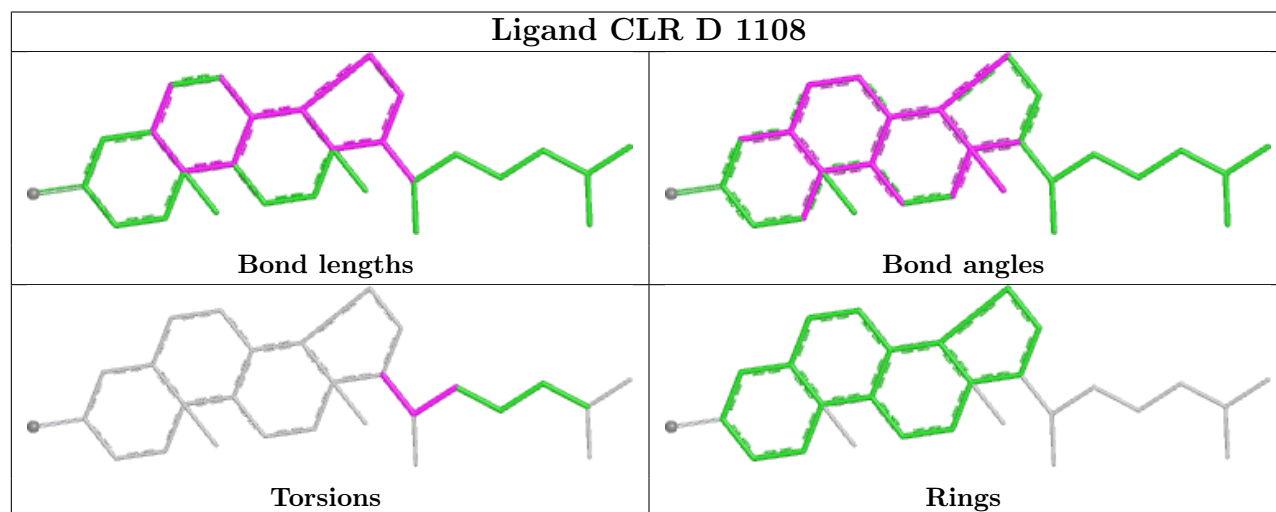
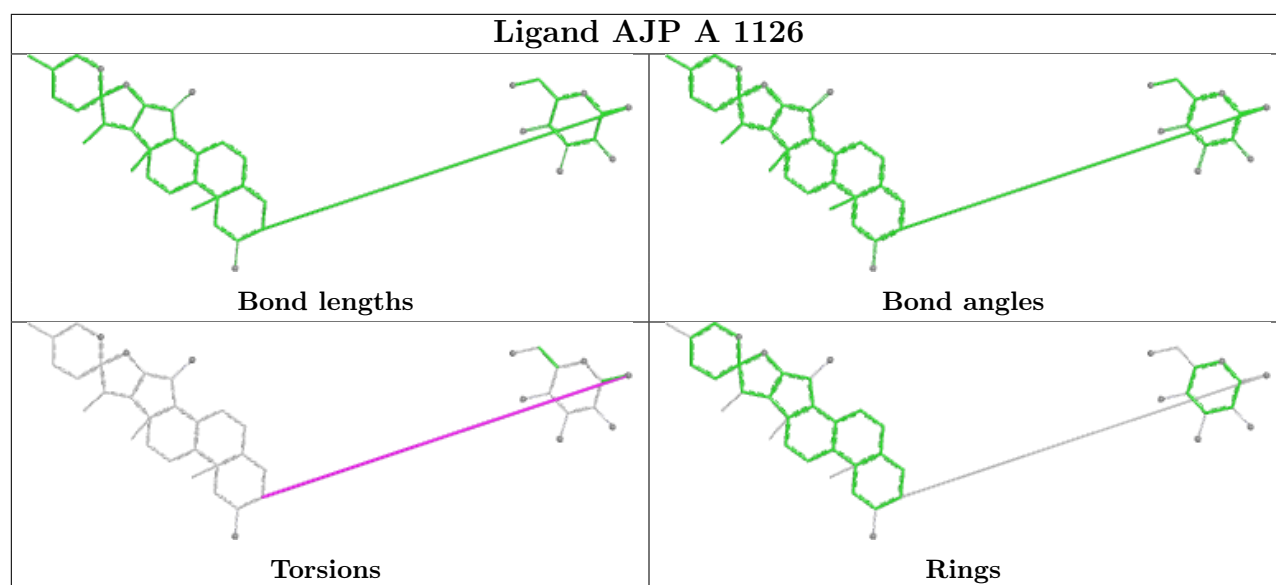




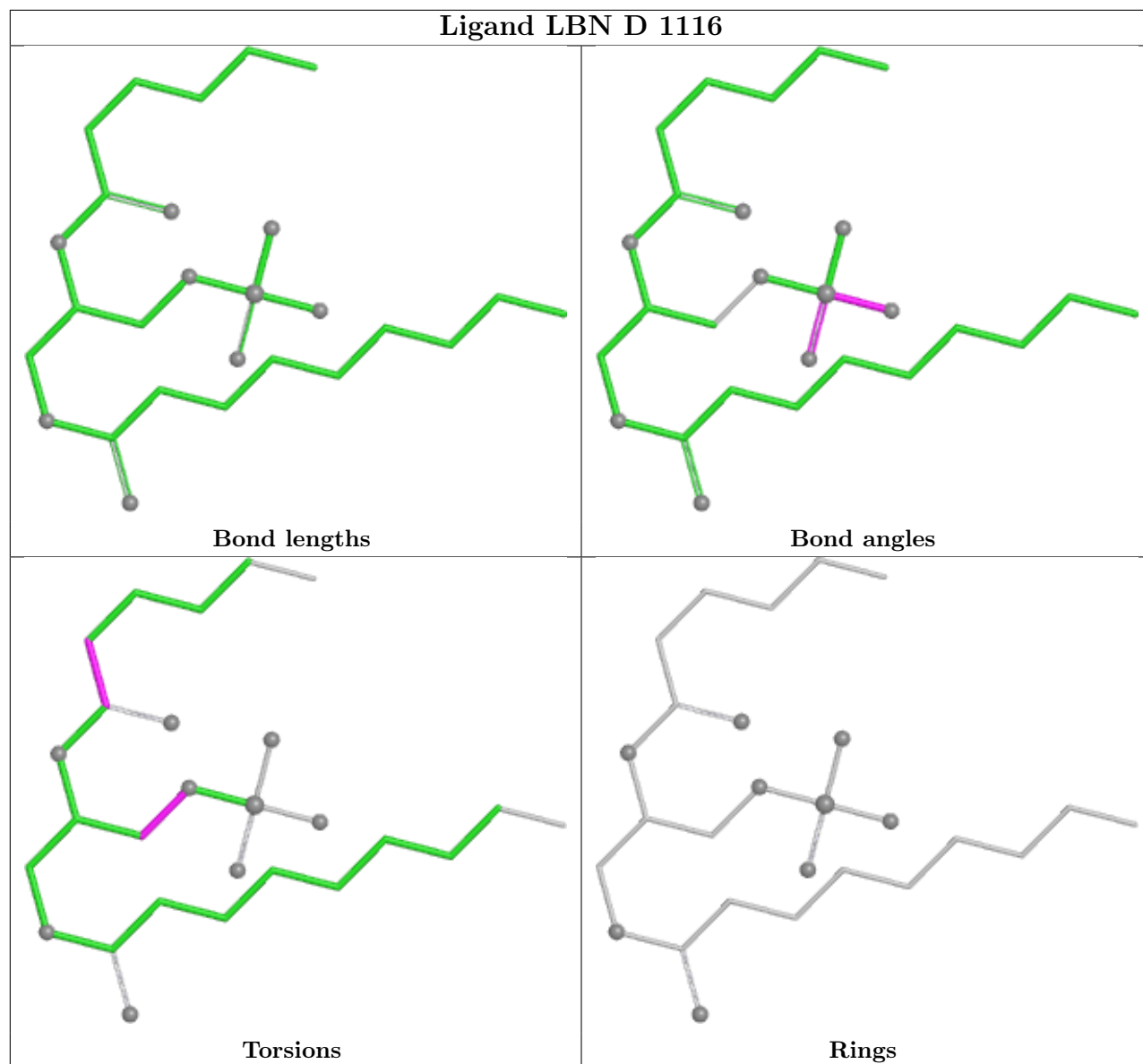




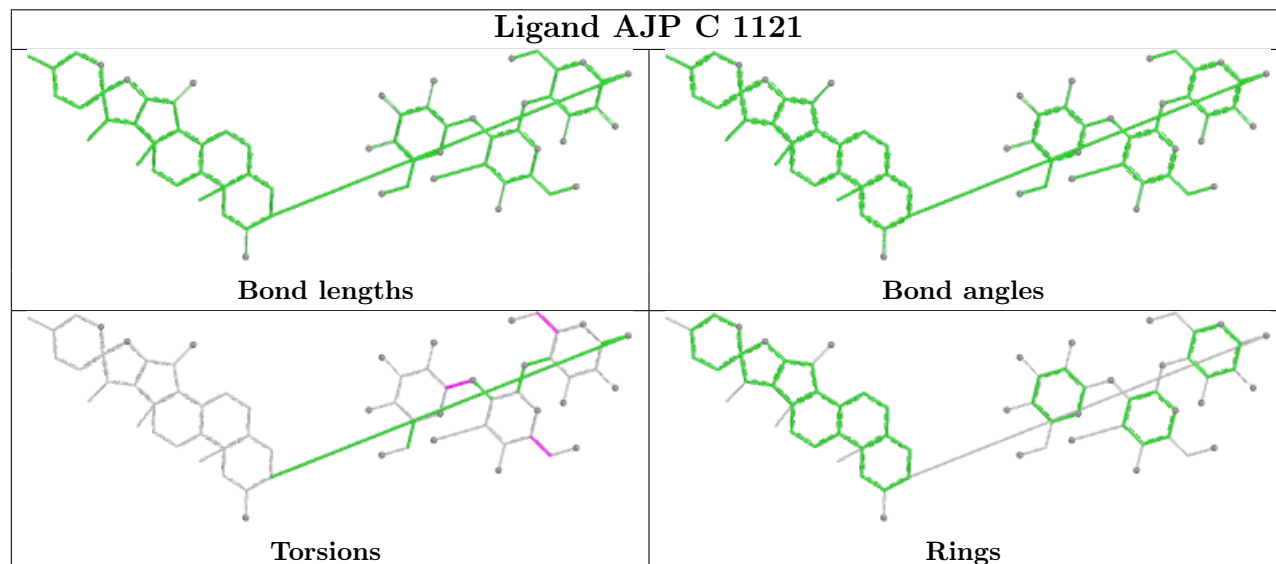


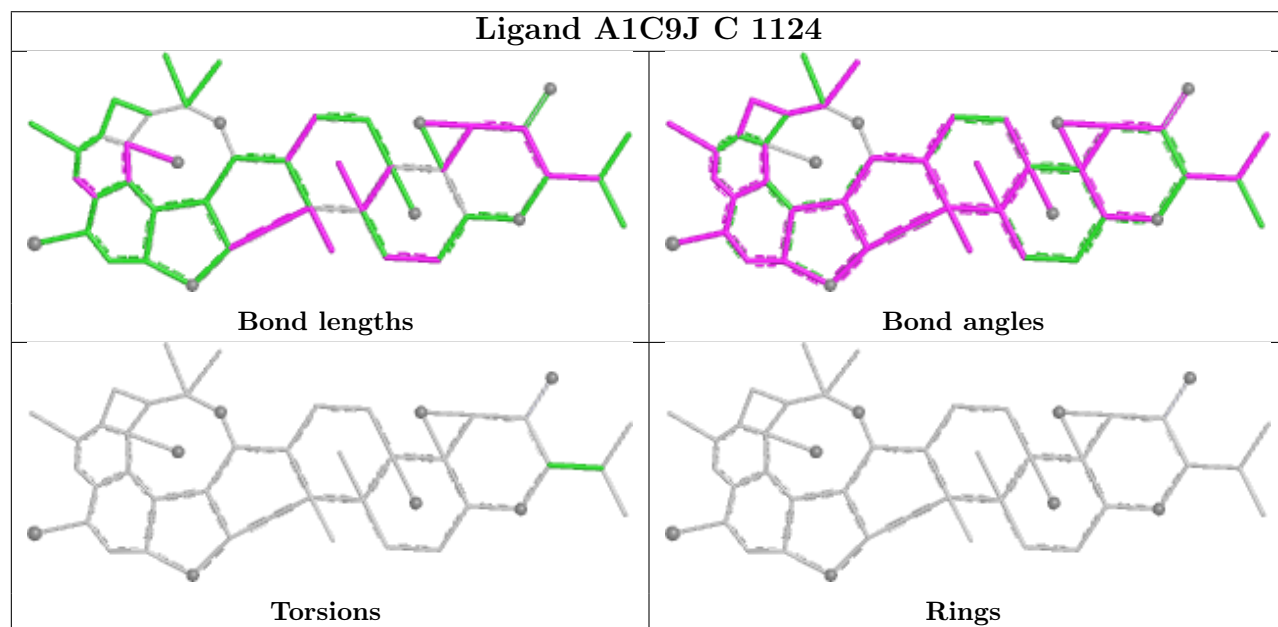
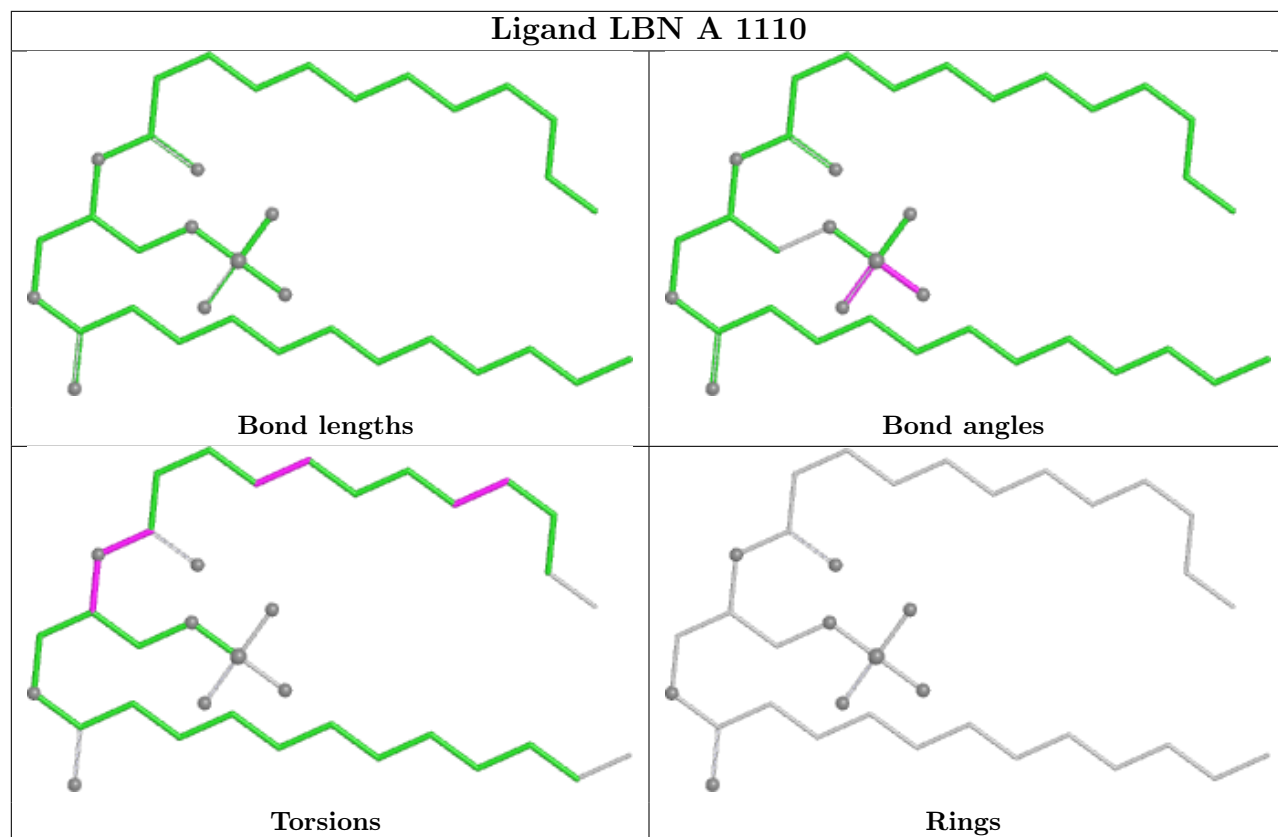


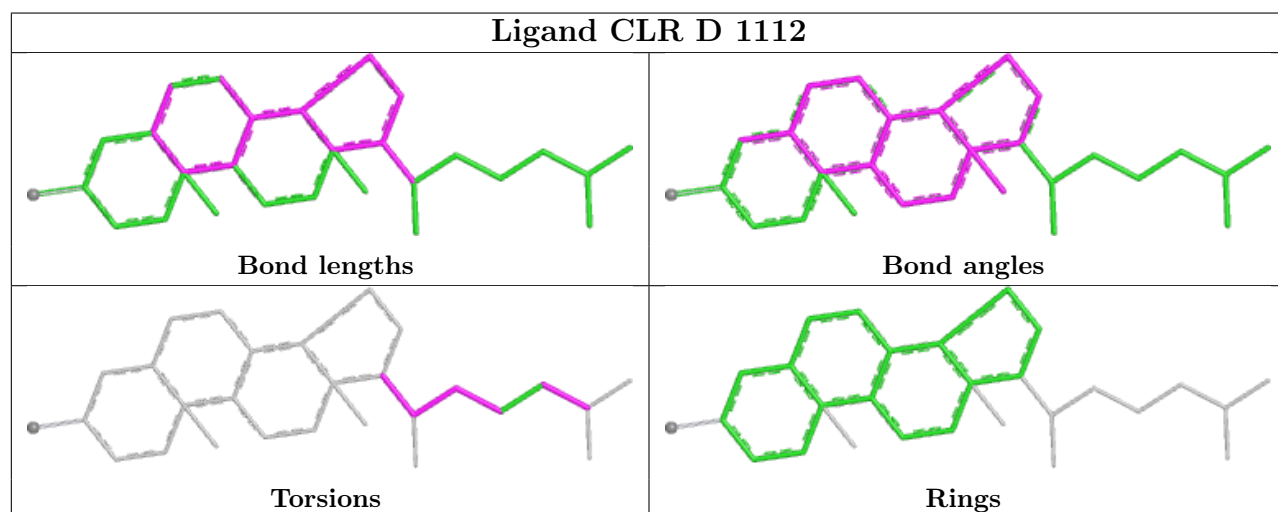
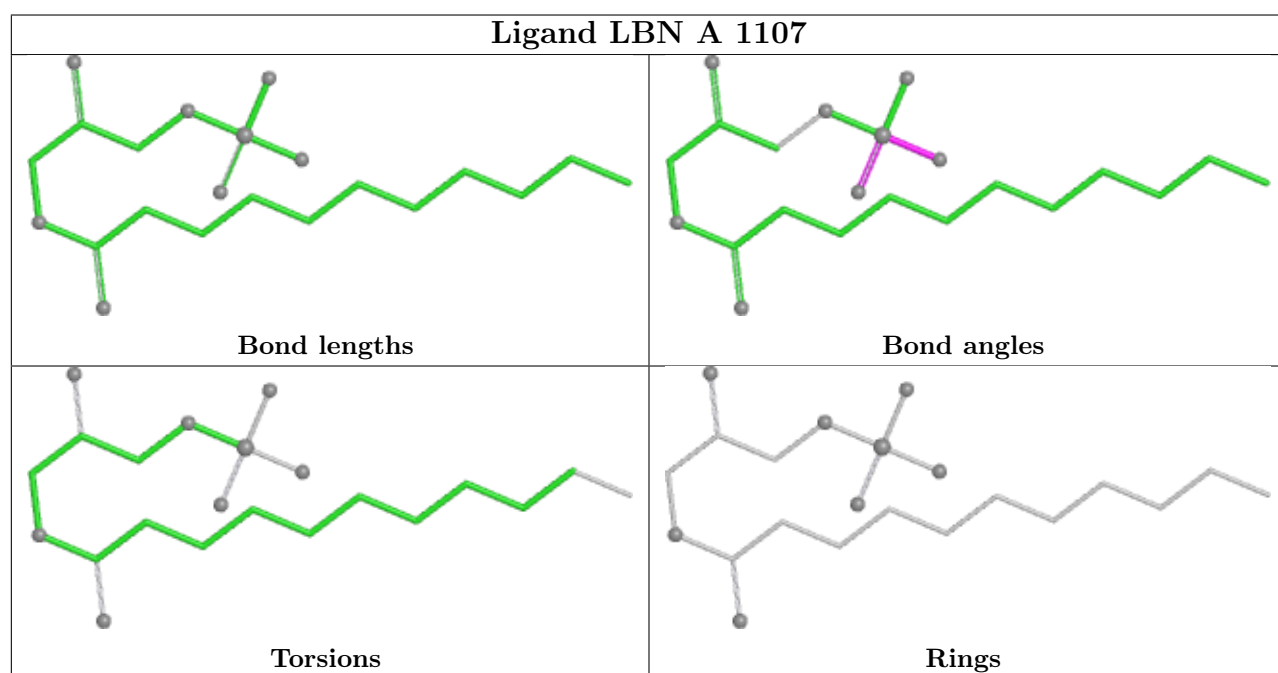
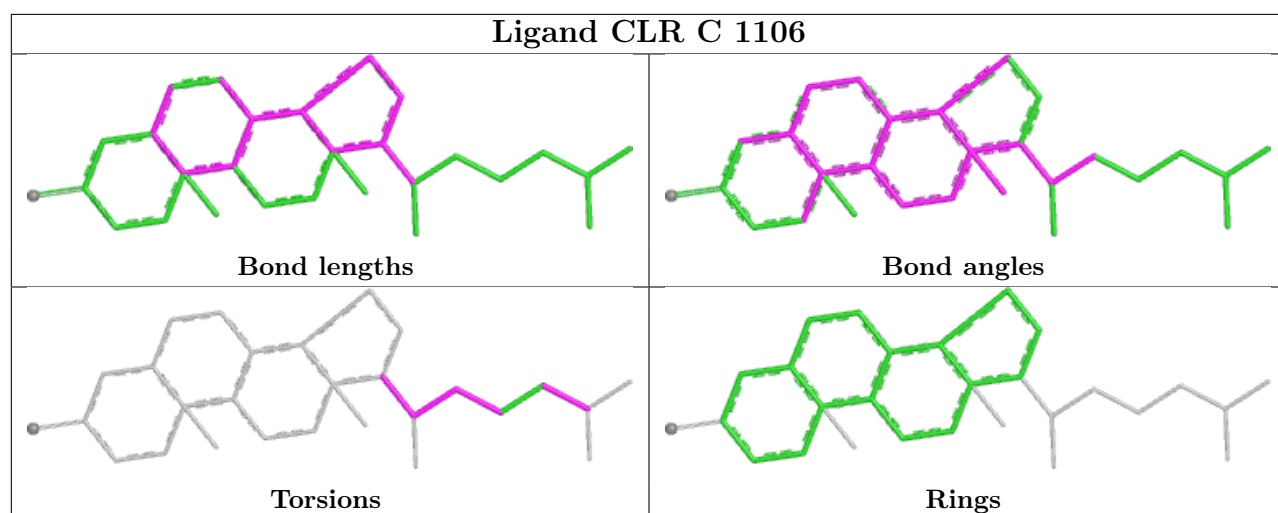
Ligand LBN D 1116

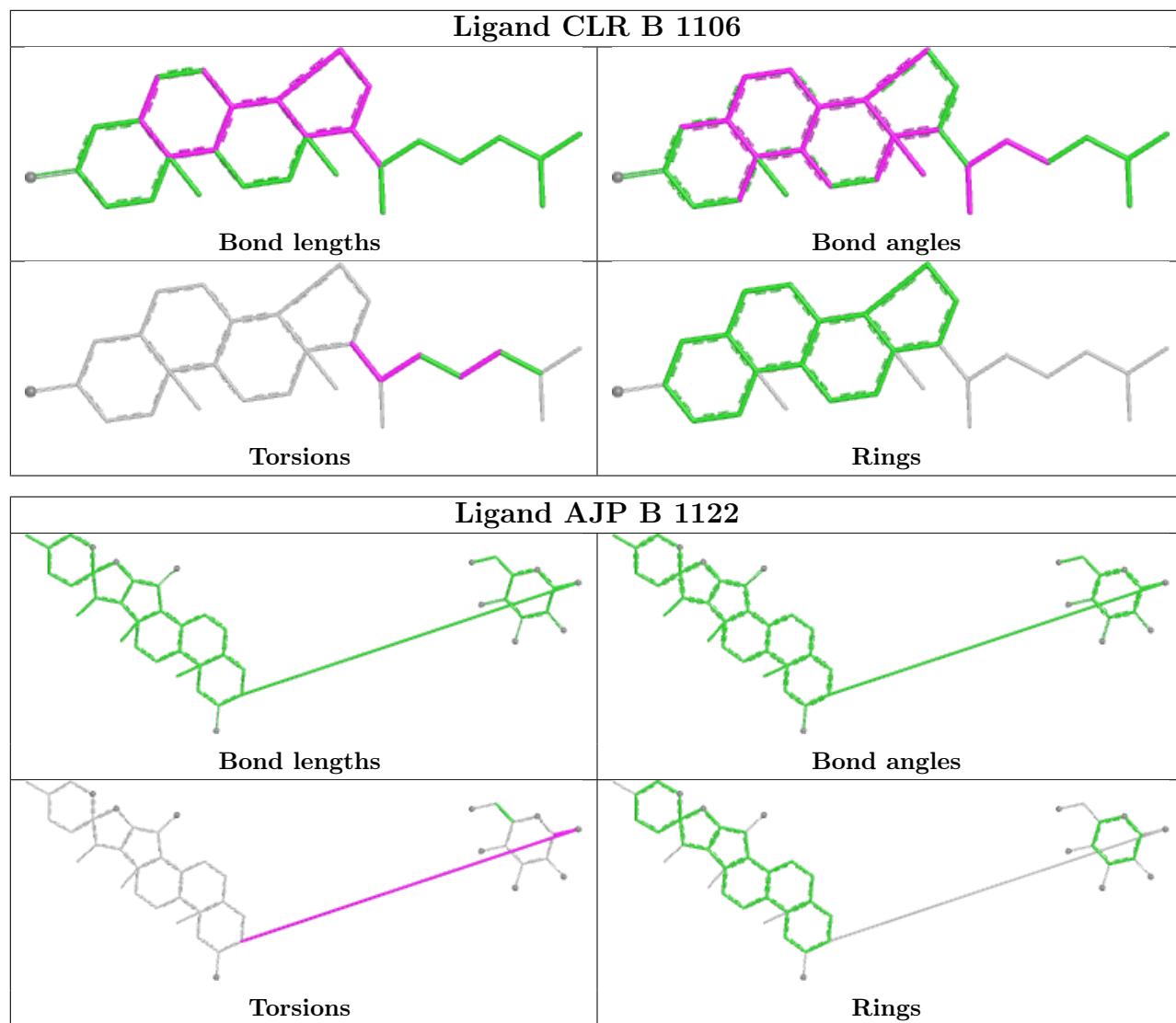


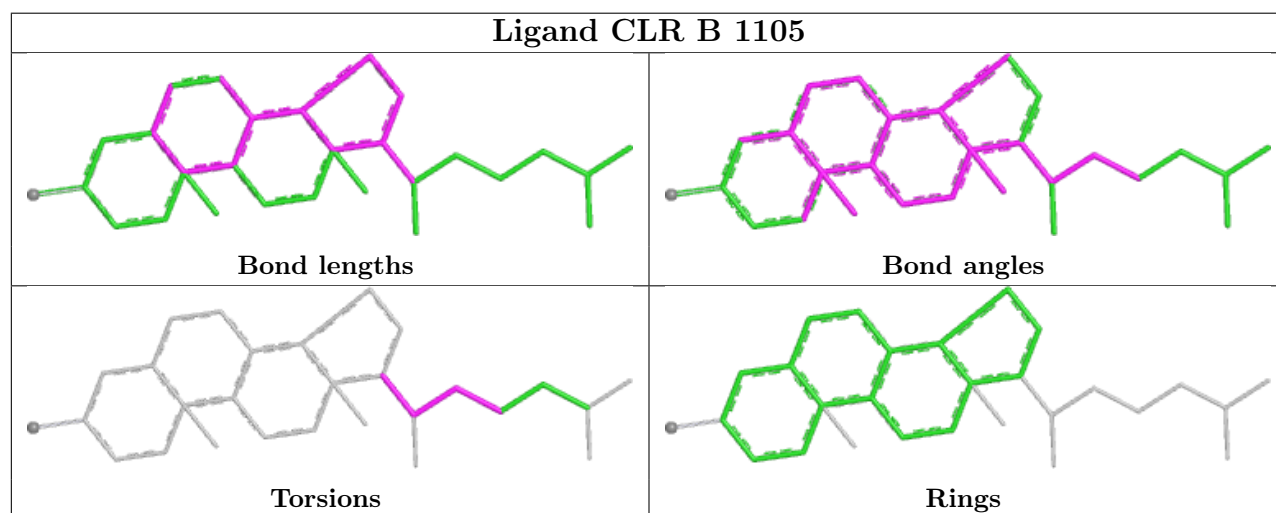
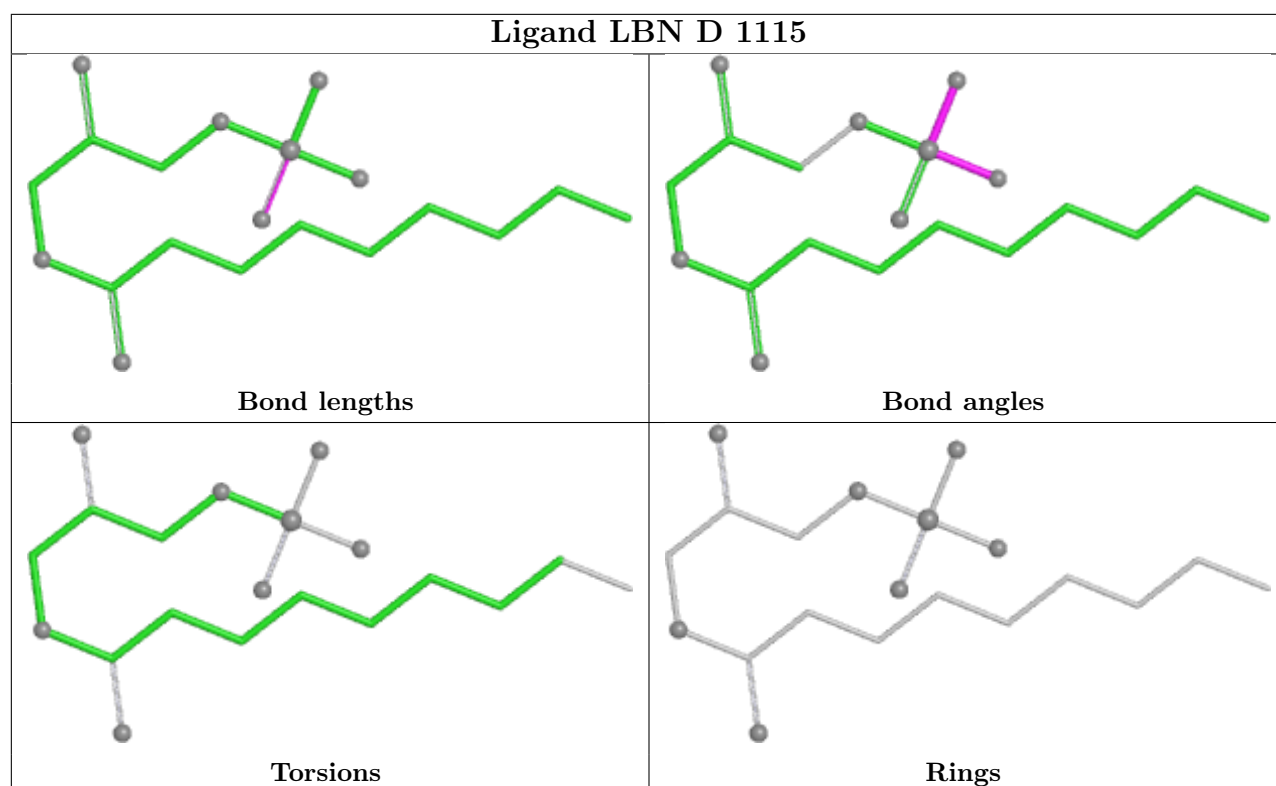
Ligand AJP C 1121

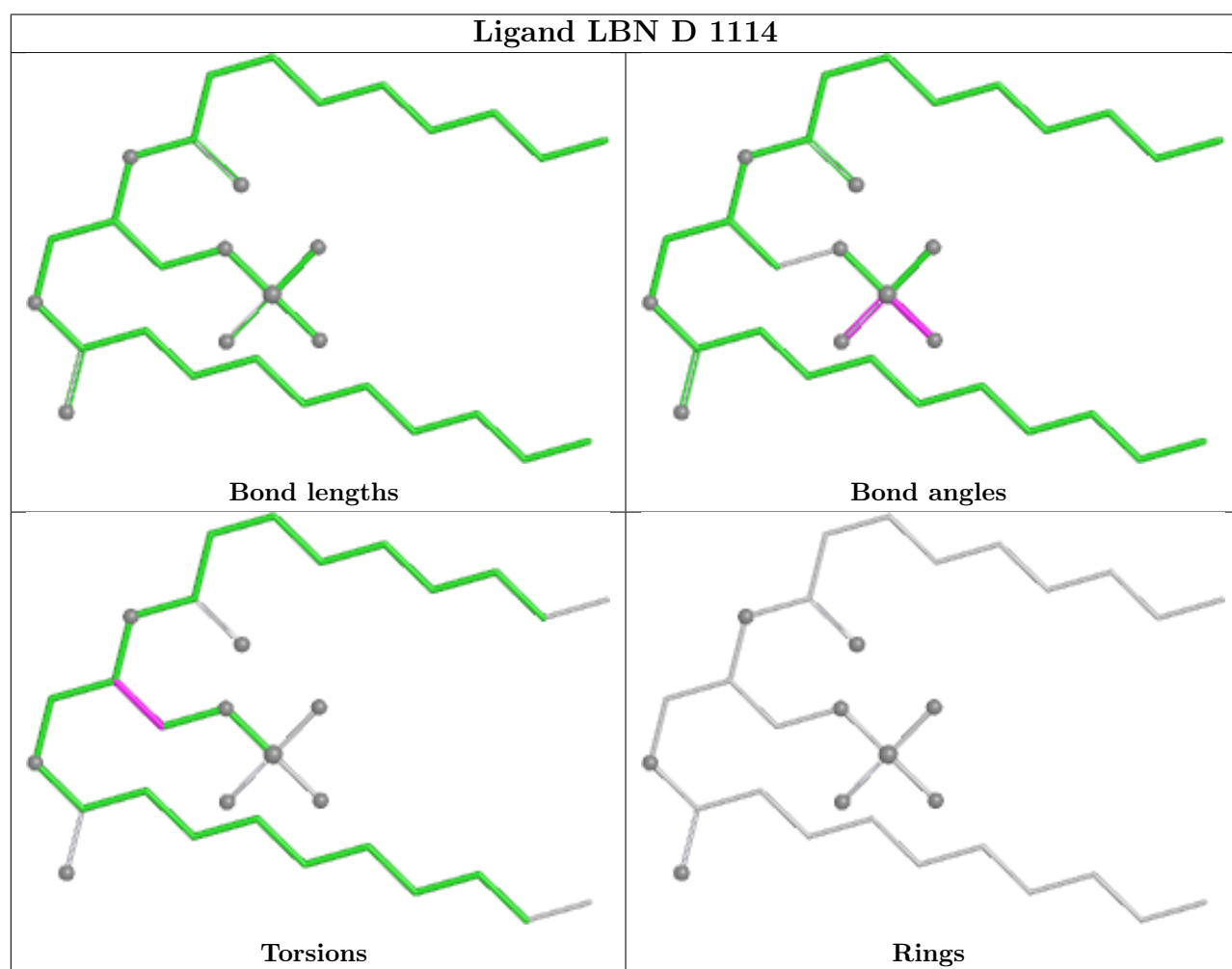
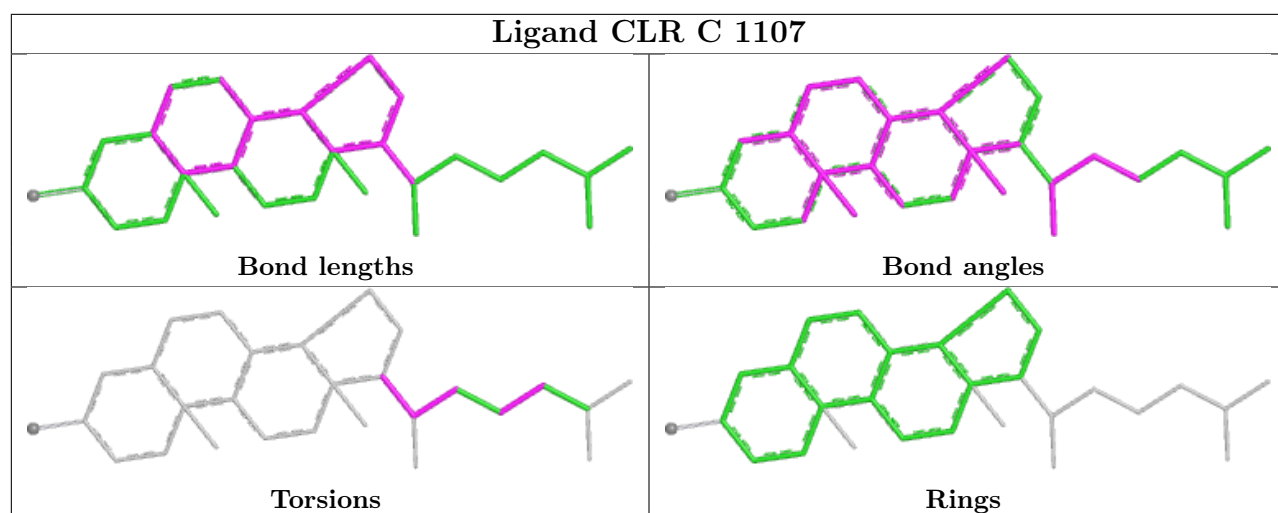


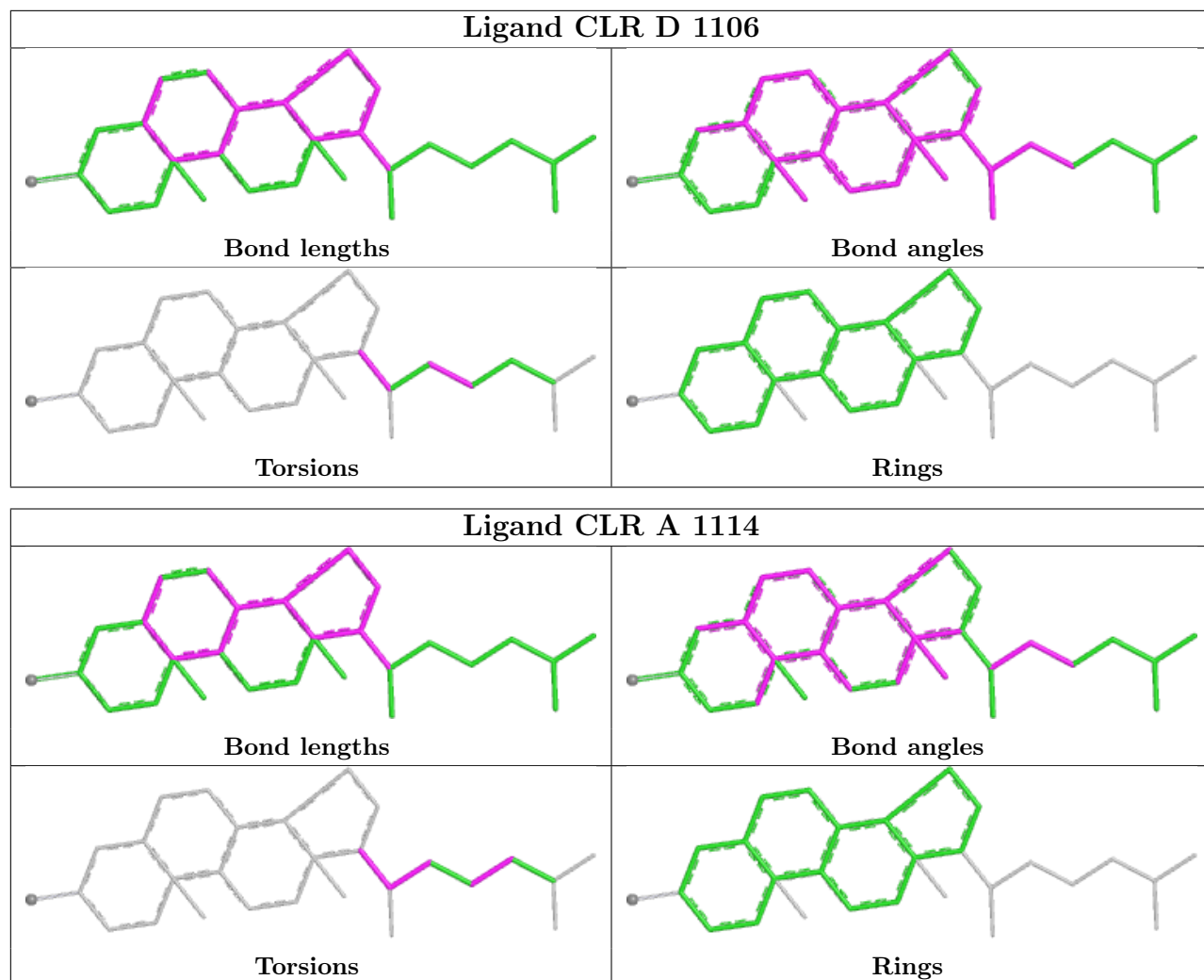


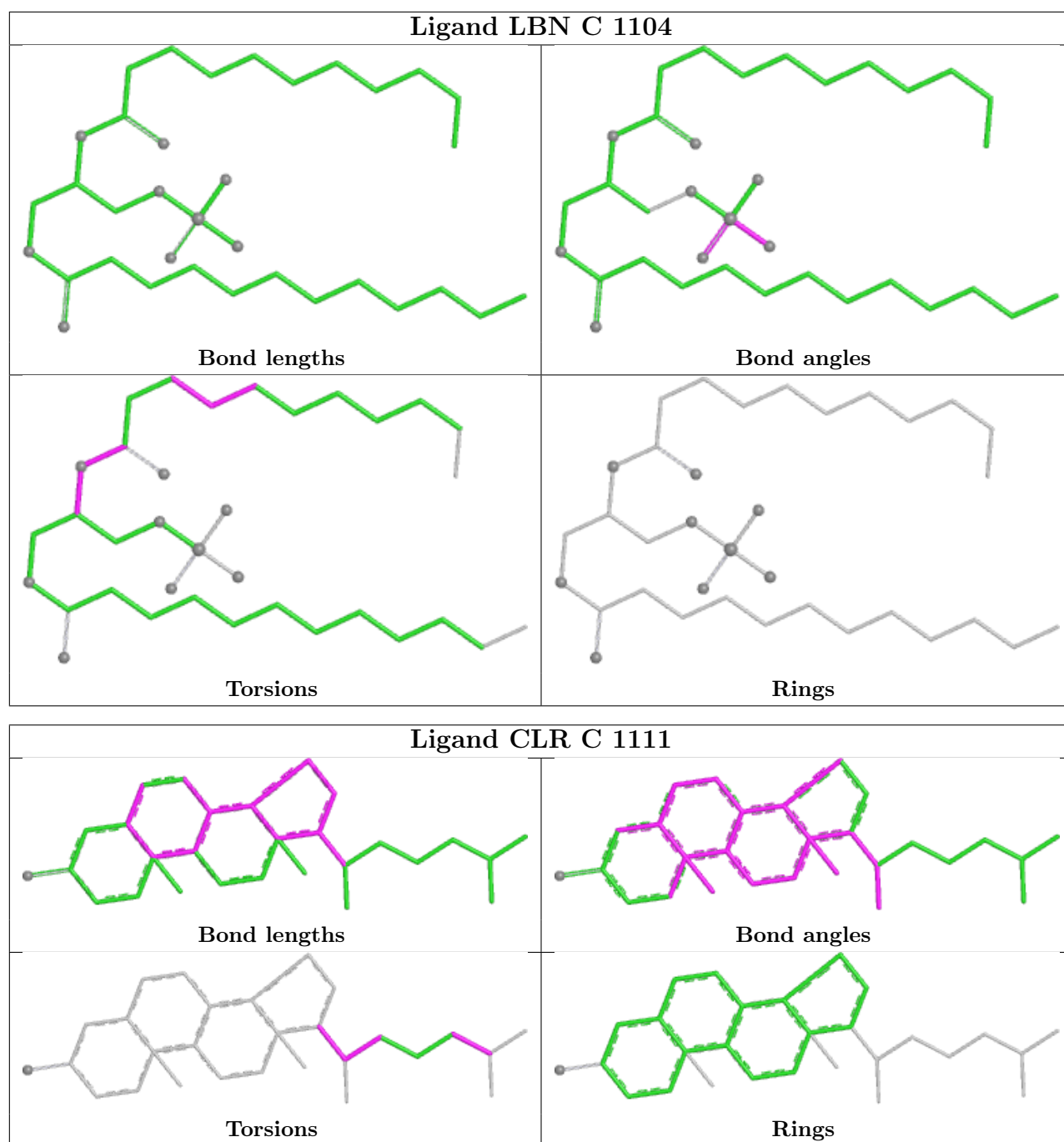












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

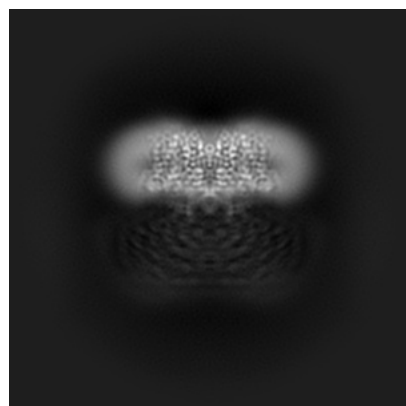
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-75630. These allow visual inspection of the internal detail of the map and identification of artifacts.

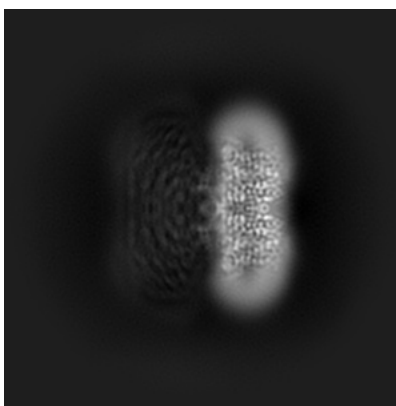
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

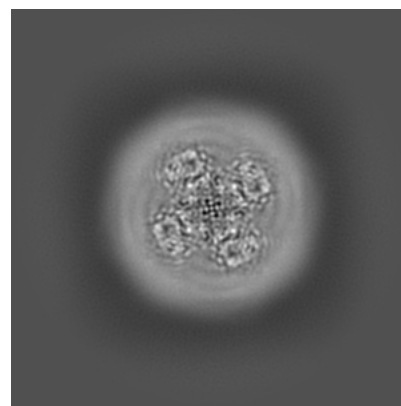
6.1.1 Primary map



X

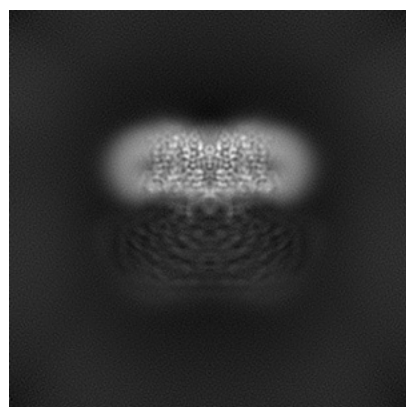


Y

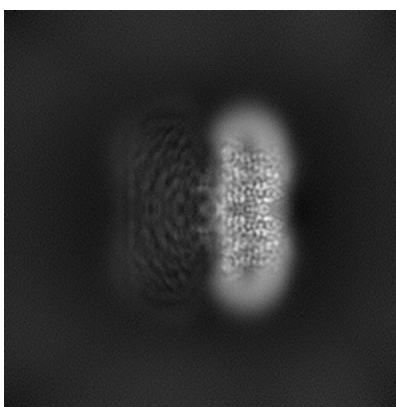


Z

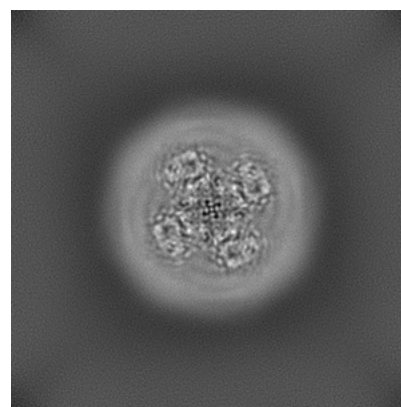
6.1.2 Raw map



X



Y

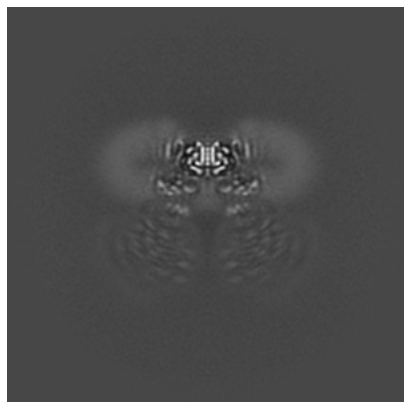


Z

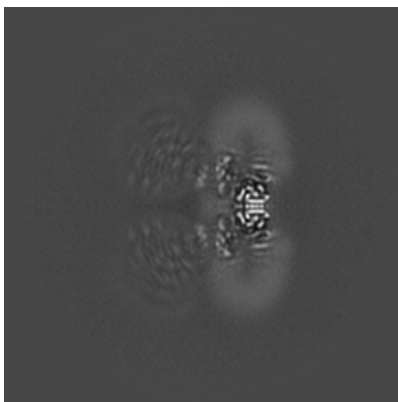
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

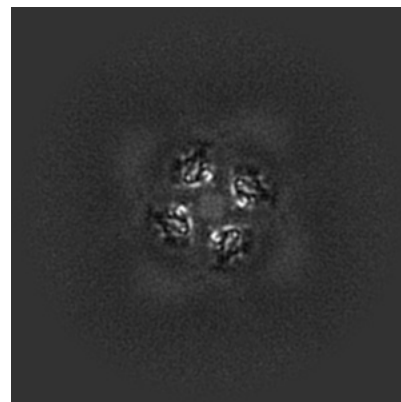
6.2.1 Primary map



X Index: 140

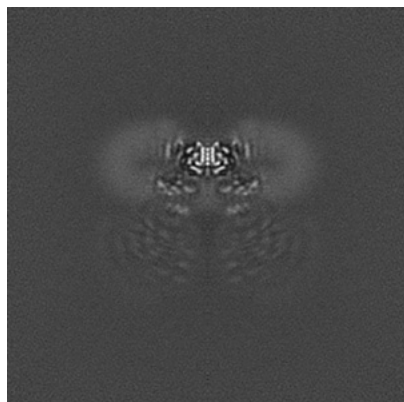


Y Index: 140

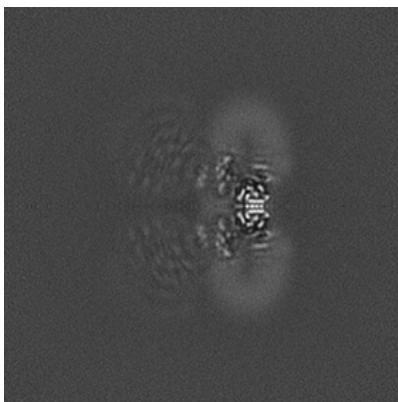


Z Index: 140

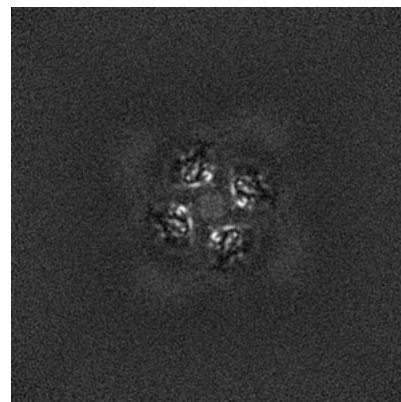
6.2.2 Raw map



X Index: 140



Y Index: 140

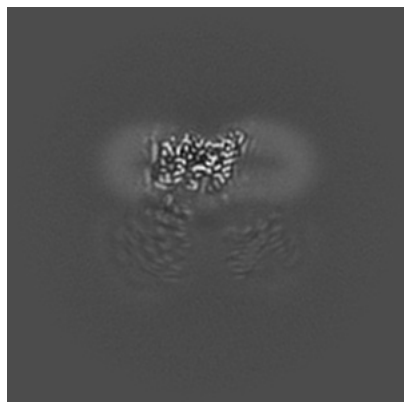


Z Index: 140

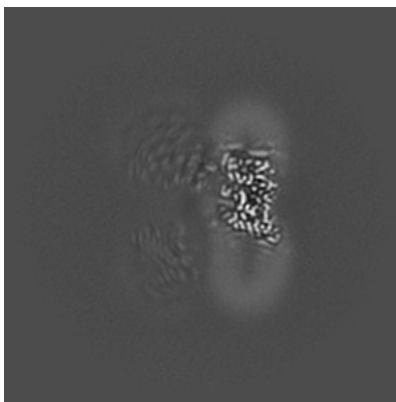
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

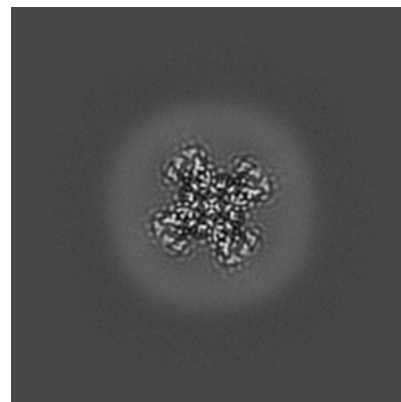
6.3.1 Primary map



X Index: 147

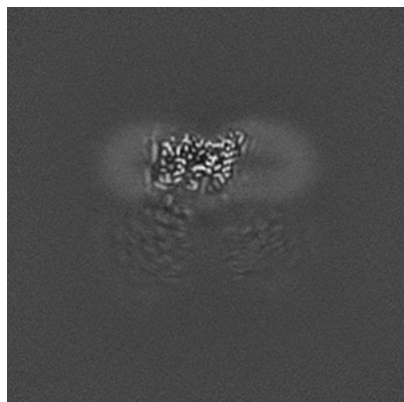


Y Index: 147

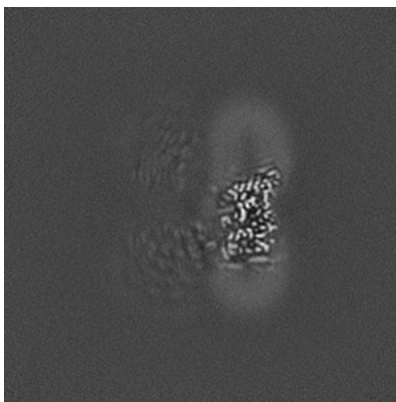


Z Index: 180

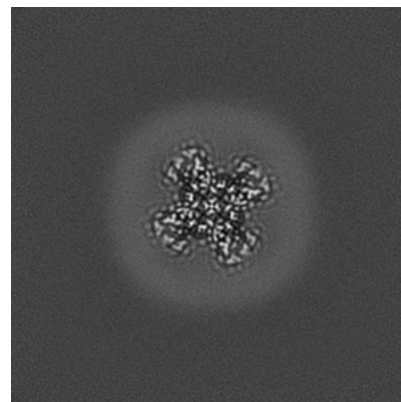
6.3.2 Raw map



X Index: 147



Y Index: 133

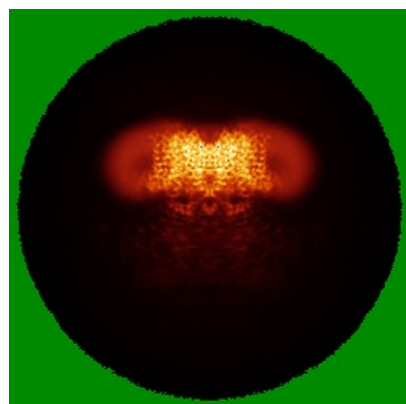


Z Index: 180

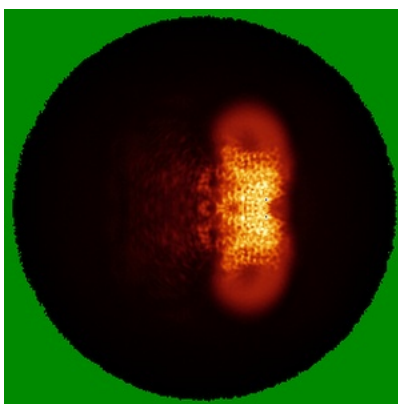
The images above show the largest variance slices of the map in three orthogonal directions.

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

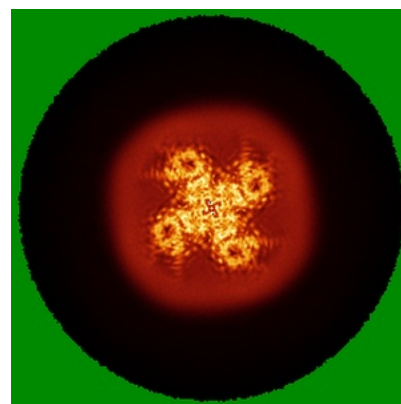
6.4.1 Primary map



X

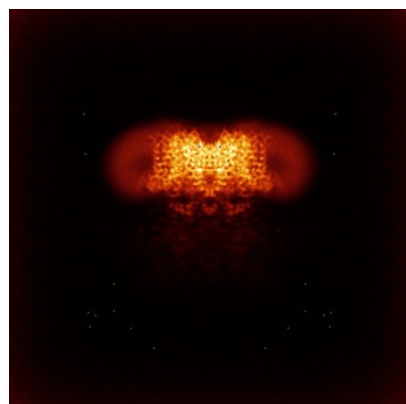


Y

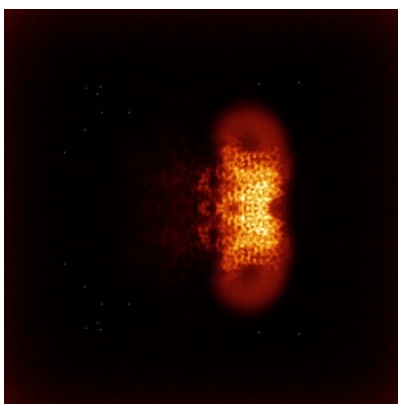


Z

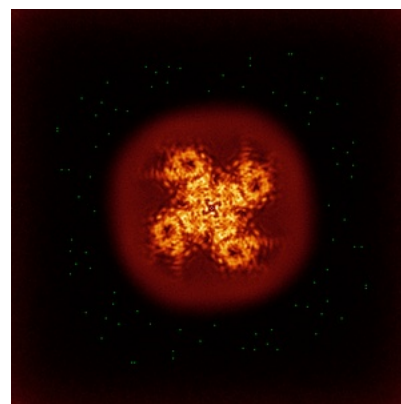
6.4.2 Raw map



X



Y

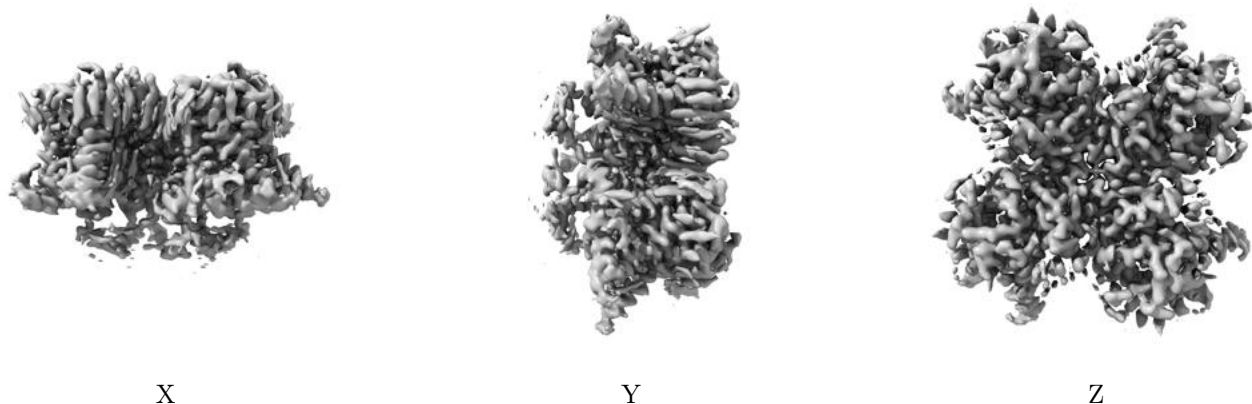


Z

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 0.08. 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.

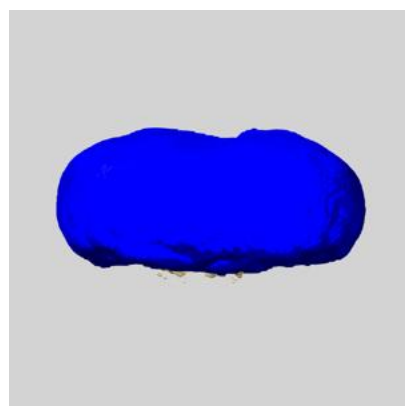
6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

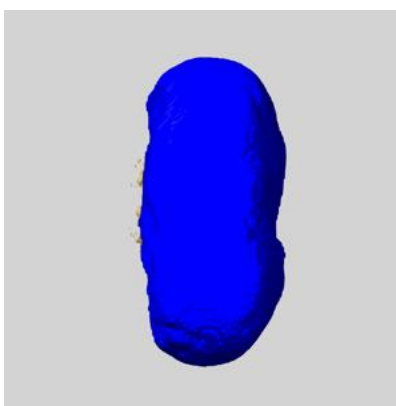
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

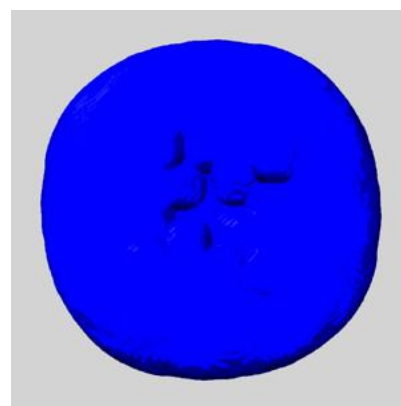
6.6.1 emd_75630_msk_1.map [i](#)



X



Y

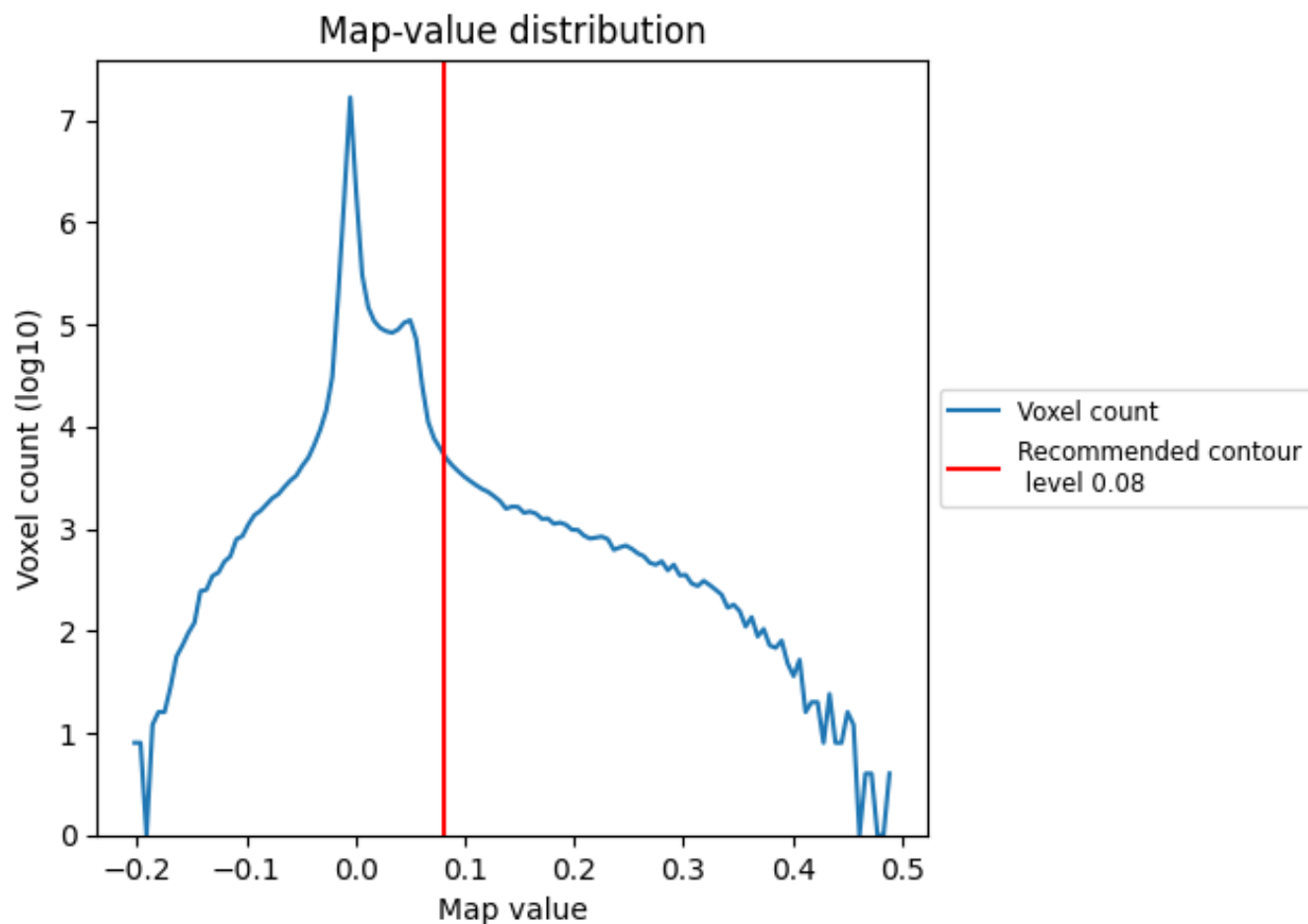


Z

7 Map analysis [i](#)

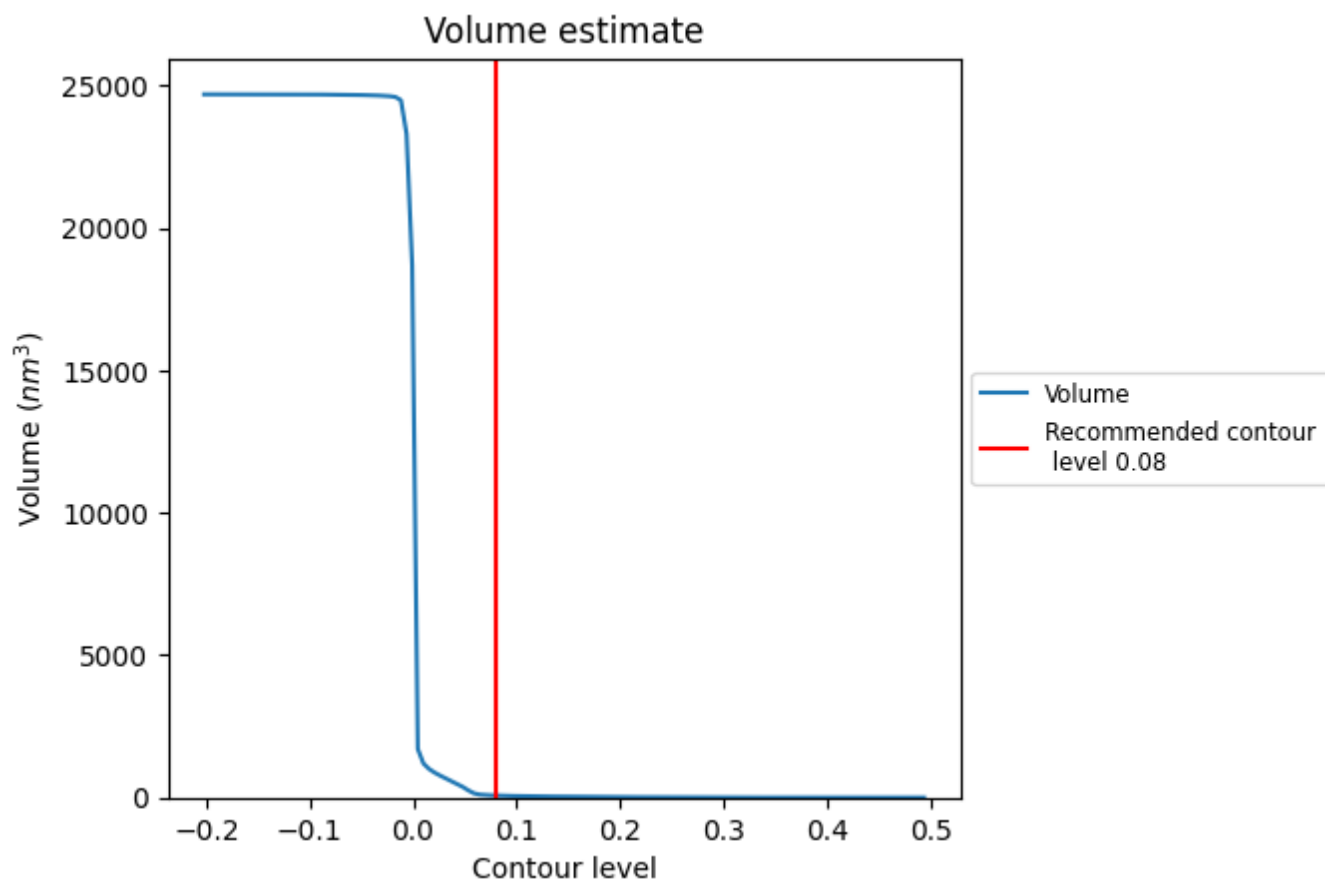
This section contains the results of statistical analysis of the map.

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.

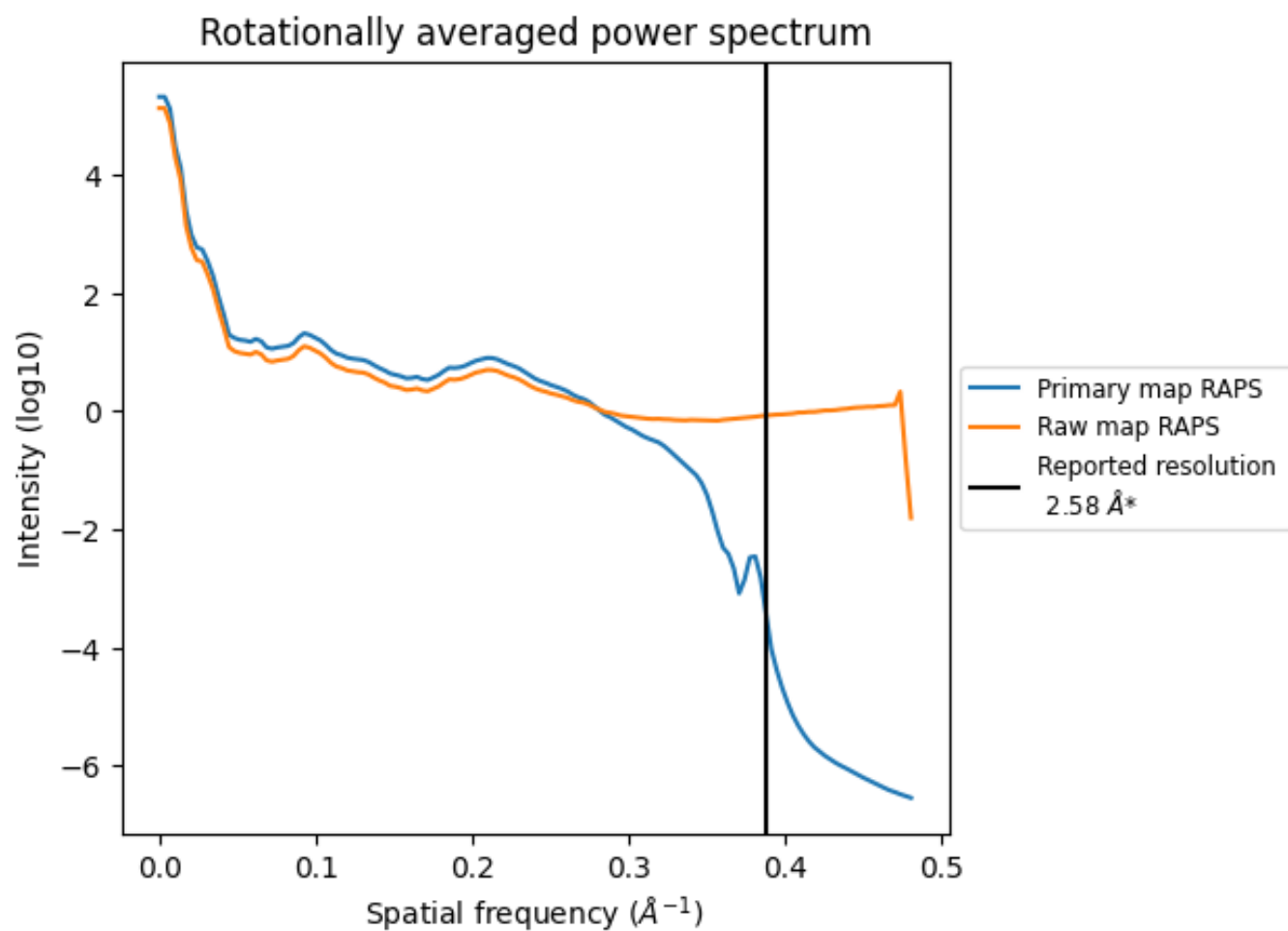
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 72 nm^3 ; this corresponds to an approximate mass of 65 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 ⓘ

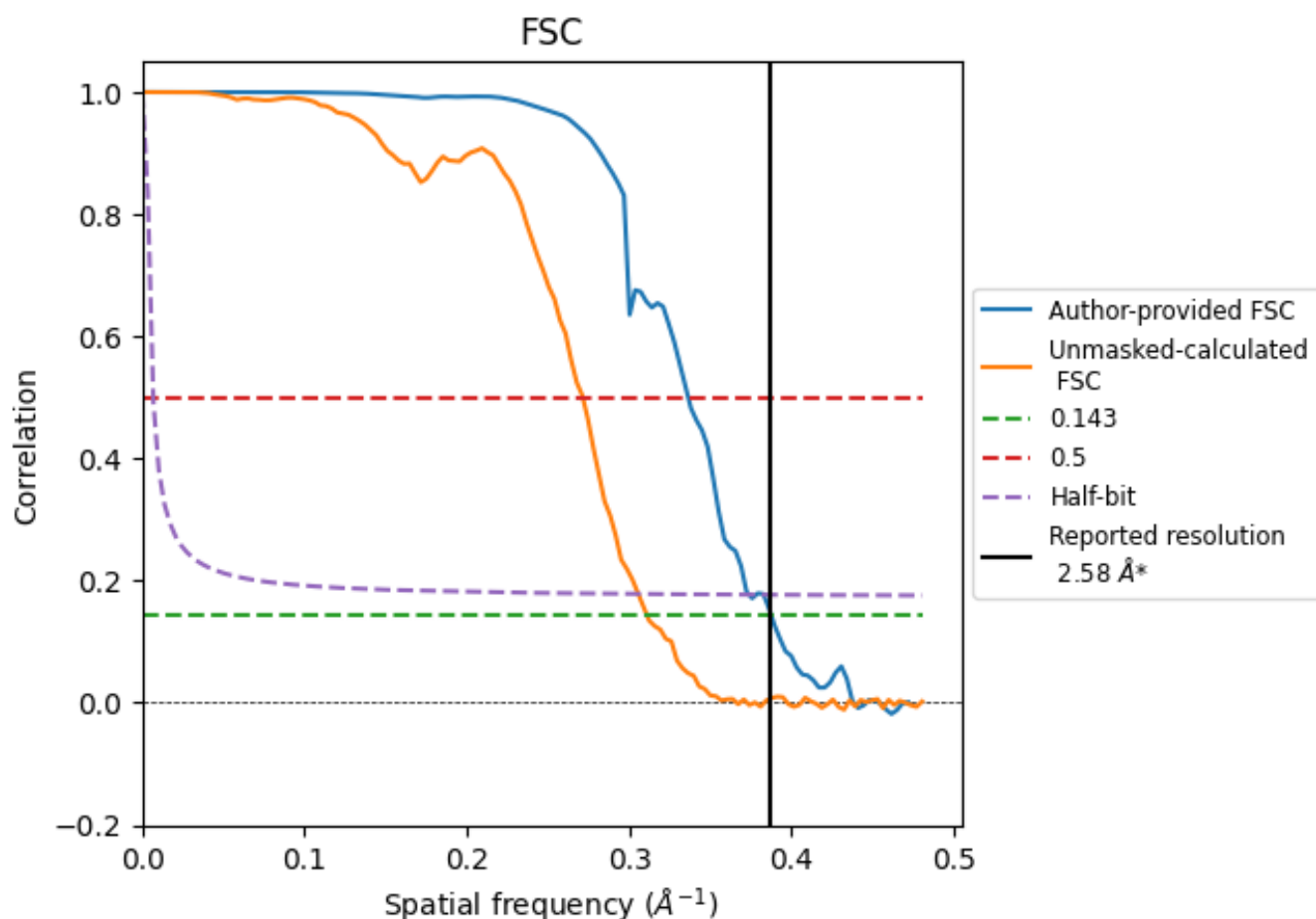


*Reported resolution corresponds to spatial frequency of 0.388 Å⁻¹

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 0.388 Å⁻¹

8.2 Resolution estimates [i](#)

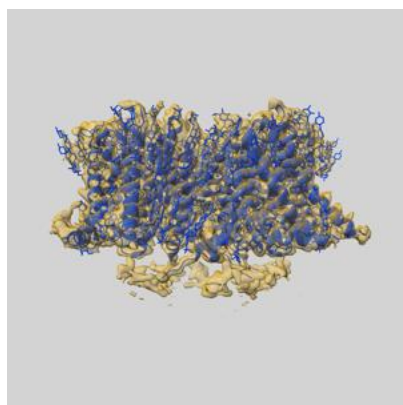
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.58	-	-
Author-provided FSC curve	2.58	2.97	2.67
Unmasked-calculated*	3.21	3.68	3.27

*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 3.21 differs from the reported value 2.58 by more than 10 %

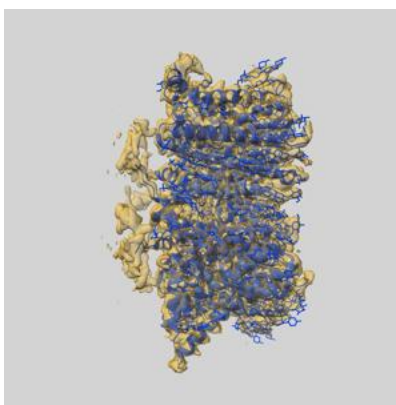
9 Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-75630 and PDB model 11DC. Per-residue inclusion information can be found in section 3 on page 14.

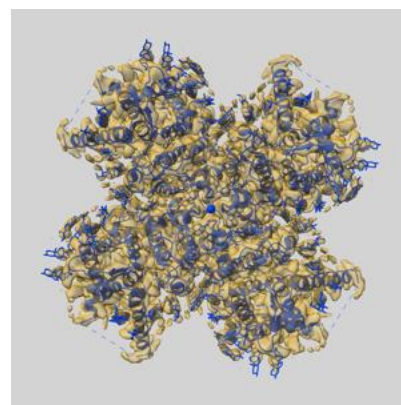
9.1 Map-model overlay ⓘ



X



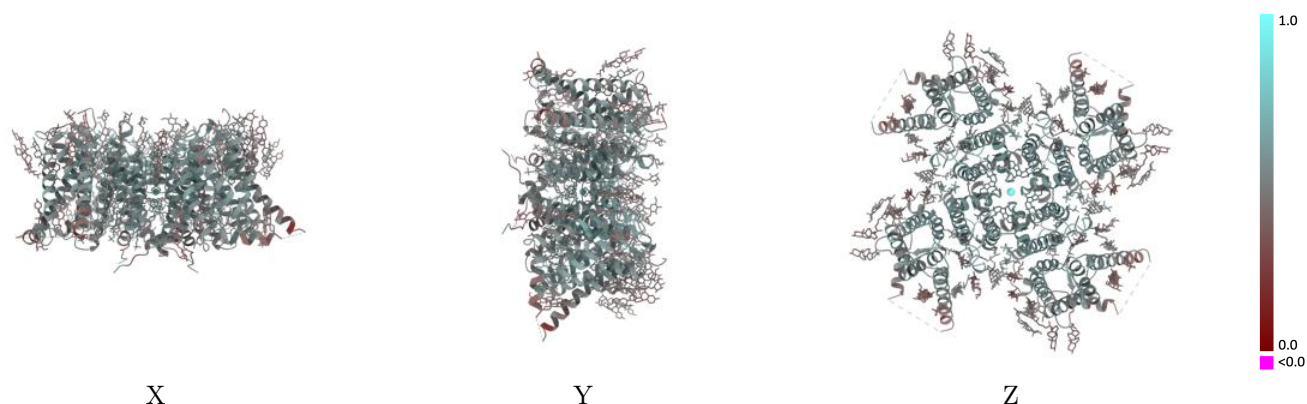
Y



Z

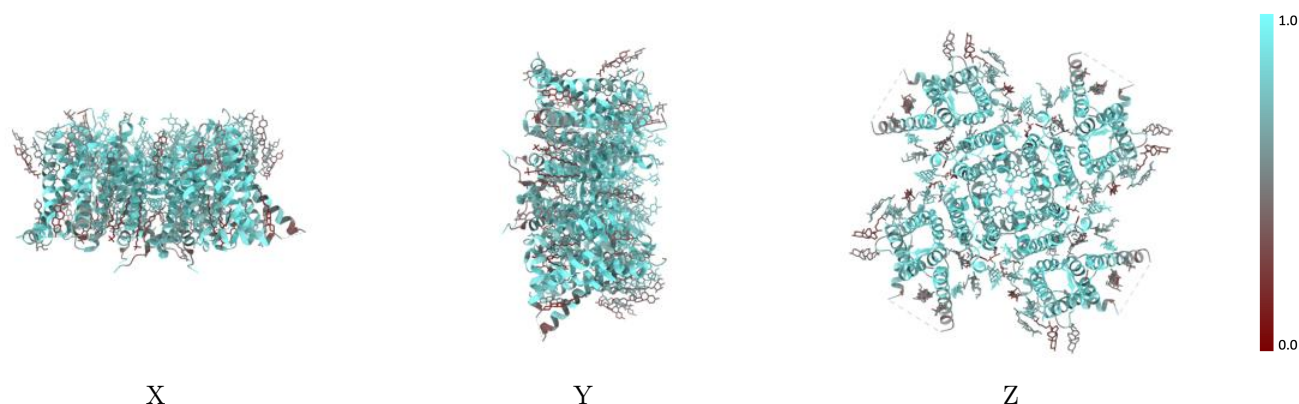
The images above show the 3D surface view of the map at the recommended contour level 0.08 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



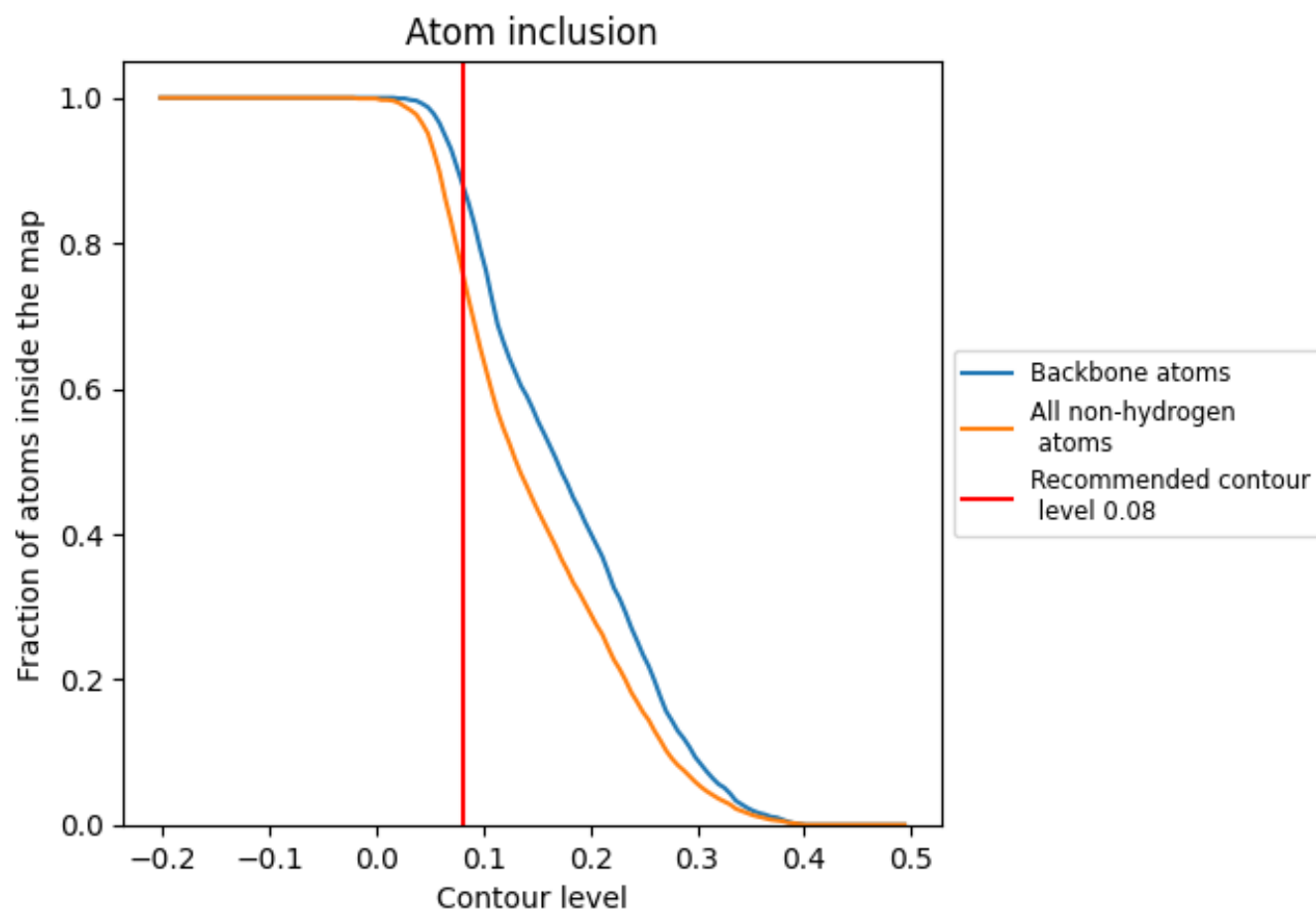
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.08).

9.4 Atom inclusion [i](#)



At the recommended contour level, 88% of all backbone atoms, 76% 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 (0.08) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7620	0.5180
A	0.7620	0.5200
B	0.7660	0.5190
C	0.7660	0.5190
D	0.7660	0.5170

