Full wwPDB X-ray Structure Validation Report (i)

Jul 7, 2025 – 01:20 pm BST

PDB ID	:	9I6I / pdb_00009i6i
Title	:	Room-temperature structure of KR2 rhodopsin in pentameric form at 85% relative humidity
Authors	:	Zabelskii, D.; Round, E.; Han, H.; von Stetten, D.; Melo, D.; de Wijn, R.; Bean, R.; Round, A.
Deposited on	:	2025-01-30
Resolution	:	3.00 Å(reported)

This is a Full wwPDB X-ray Structure 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/XrayValidationReportHelp
with specific help available everywhere you see the (i) 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 (i)) were used in the production of this report:

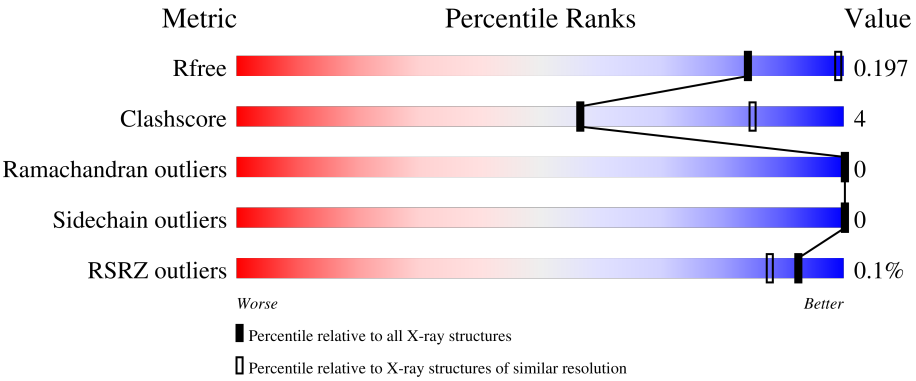
MolProbity	:	4-5-2 with Phenix2.0rc1
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	2.0rc1
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.003 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.44

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 3.00 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	2511 (3.00-3.00)
Clashscore	180529	2866 (3.00-3.00)
Ramachandran outliers	177936	2778 (3.00-3.00)
Sidechain outliers	177891	2781 (3.00-3.00)
RSRZ outliers	164620	2523 (3.00-3.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	273	89% 10%
1	B	273	90% 8%
1	C	273	89% 9%
1	D	273	90% 8%

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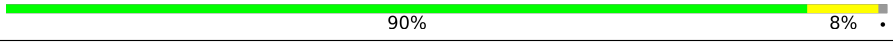
Mol	Chain	Length	Quality of chain
1	E	273	

2 Entry composition

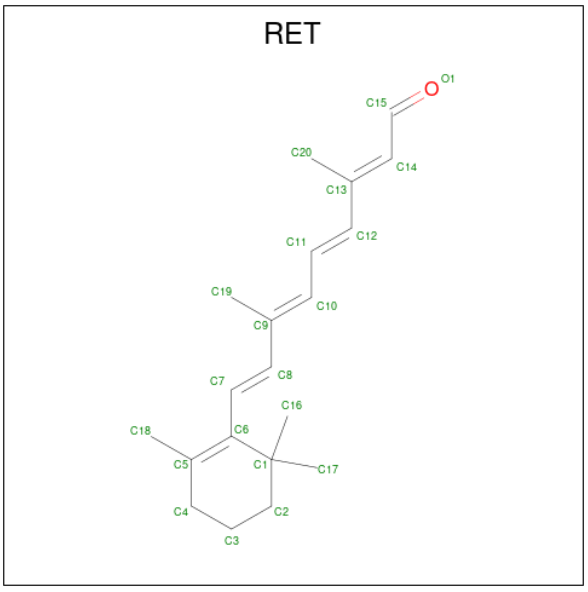
There are 6 unique types of molecules in this entry. The entry contains 11932 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Sodium pumping rhodopsin.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	269	Total	C	N	O	S	0	0	0
			2132	1423	322	378	9			
1	B	269	Total	C	N	O	S	0	0	0
			2130	1421	323	377	9			
1	C	268	Total	C	N	O	S	0	0	0
			2127	1420	321	377	9			
1	D	268	Total	C	N	O	S	0	0	0
			2120	1415	321	375	9			
1	E	269	Total	C	N	O	S	0	0	0
			2131	1422	323	377	9			

- Molecule 2 is RETINAL (CCD ID: RET) (formula: $C_{20}H_{28}O$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	1	Total	C	0	0
			20	20		

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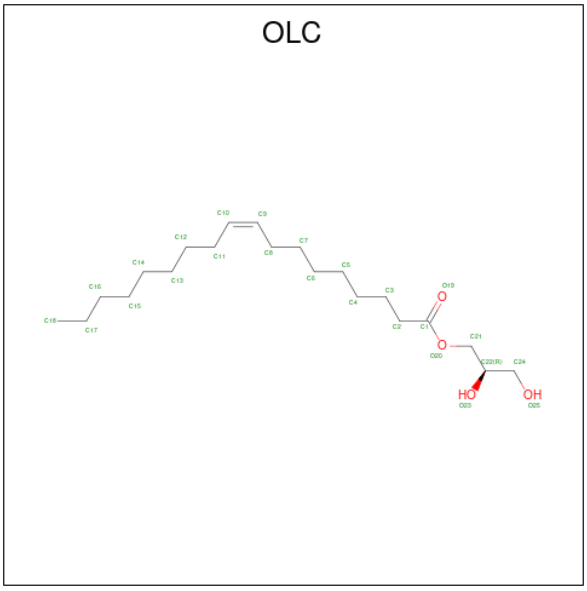
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	B	1	Total C 20 20	0	0
2	C	1	Total C 20 20	0	0
2	D	1	Total C 20 20	0	0
2	E	1	Total C 20 20	0	0

- Molecule 3 is SODIUM ION (CCD ID: NA) (formula: Na).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total Na 1 1	0	0
3	B	1	Total Na 1 1	0	0
3	C	1	Total Na 1 1	0	0
3	D	1	Total Na 1 1	0	0
3	E	1	Total Na 1 1	0	0

- Molecule 4 is (2R)-2,3-dihydroxypropyl (9Z)-octadec-9-enoate (CCD ID: OLC) (formula: $C_{21}H_{40}O_4$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C O 23 21 2	0	0
4	A	1	Total C 9 9	0	0
4	A	1	Total C O 19 18 1	0	0
4	A	1	Total C O 23 21 2	0	0
4	A	1	Total C O 12 9 3	0	0
4	A	1	Total C O 22 20 2	0	0
4	A	1	Total C O 14 11 3	0	0
4	A	1	Total C 7 7	0	0
4	A	1	Total C O 15 12 3	0	0
4	A	1	Total C O 23 21 2	0	0
4	B	1	Total C O 16 14 2	0	0
4	B	1	Total C O 20 17 3	0	0
4	B	1	Total C 13 13	0	0
4	B	1	Total C 14 14	0	0
4	B	1	Total C O 13 11 2	0	0
4	B	1	Total C O 20 17 3	0	0
4	B	1	Total C O 17 15 2	0	0
4	C	1	Total C O 22 20 2	0	0
4	C	1	Total C O 19 16 3	0	0
4	C	1	Total C O 21 18 3	0	0
4	C	1	Total C O 17 14 3	0	0
4	C	1	Total C 7 7	0	0

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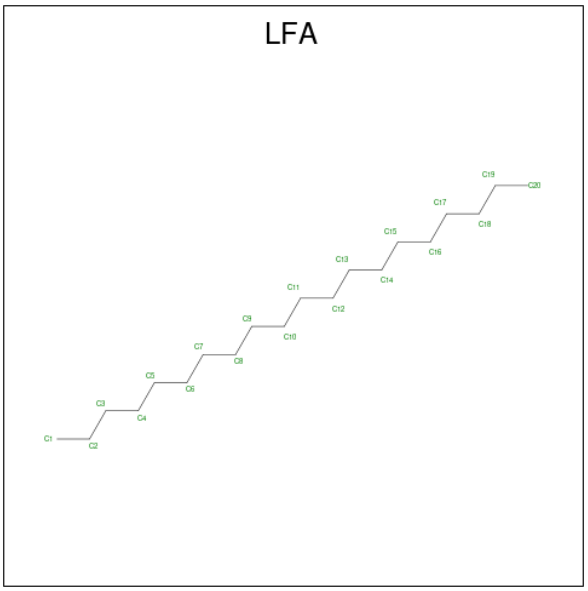
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	C	1	Total C O 17 14 3	0	0
4	C	1	Total C O 15 12 3	0	0
4	C	1	Total C O 23 21 2	0	0
4	D	1	Total C 18 18	0	0
4	D	1	Total C O 22 19 3	0	0
4	D	1	Total C O 17 14 3	0	0
4	D	1	Total C 18 18	0	0
4	D	1	Total C O 16 14 2	0	0
4	D	1	Total C O 13 10 3	0	0
4	D	1	Total C 7 7	0	0
4	D	1	Total C O 24 21 3	0	0
4	E	1	Total C 8 8	0	0
4	E	1	Total C 16 16	0	0
4	E	1	Total C O 19 16 3	0	0
4	E	1	Total C O 14 11 3	0	0
4	E	1	Total C 6 6	0	0
4	E	1	Total C O 19 17 2	0	0
4	E	1	Total C O 23 21 2	0	0
4	E	1	Total C O 18 17 1	0	0
4	E	1	Total C O 19 18 1	0	0

- Molecule 5 is EICOSANE (CCD ID: LFA) (formula: $C_{20}H_{42}$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C 7 7	0	0
5	A	1	Total C 8 8	0	0
5	A	1	Total C 8 8	0	0
5	A	1	Total C 4 4	0	0
5	A	1	Total C 6 6	0	0
5	A	1	Total C 16 16	0	0
5	A	1	Total C 9 9	0	0
5	B	1	Total C 9 9	0	0
5	B	1	Total C 8 8	0	0
5	B	1	Total C 10 10	0	0
5	B	1	Total C 7 7	0	0
5	B	1	Total C 11 11	0	0
5	B	1	Total C 11 11	0	0
5	C	1	Total C 8 8	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	C	1	Total C 20 20	0	0
5	C	1	Total C 5 5	0	0
5	C	1	Total C 4 4	0	0
5	C	1	Total C 6 6	0	0
5	C	1	Total C 5 5	0	0
5	D	1	Total C 20 20	0	0
5	D	1	Total C 20 20	0	0
5	D	1	Total C 17 17	0	0
5	D	1	Total C 7 7	0	0
5	D	1	Total C 6 6	0	0
5	D	1	Total C 7 7	0	0
5	E	1	Total C 14 14	0	0
5	E	1	Total C 8 8	0	0
5	E	1	Total C 14 14	0	0
5	E	1	Total C 4 4	0	0
5	E	1	Total C 5 5	0	0
5	E	1	Total C 7 7	0	0
5	E	1	Total C 6 6	0	0
5	E	1	Total C 10 10	0	0

- Molecule 6 is water.

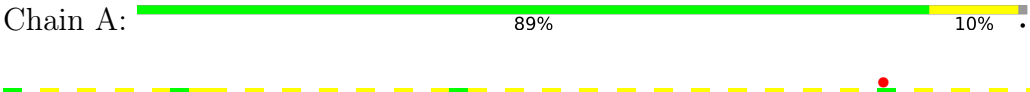
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	32	Total O 32 32	0	0
6	B	38	Total O 38 38	0	0
6	C	31	Total O 31 31	0	0
6	D	47	Total O 47 47	0	0
6	E	34	Total O 34 34	0	0

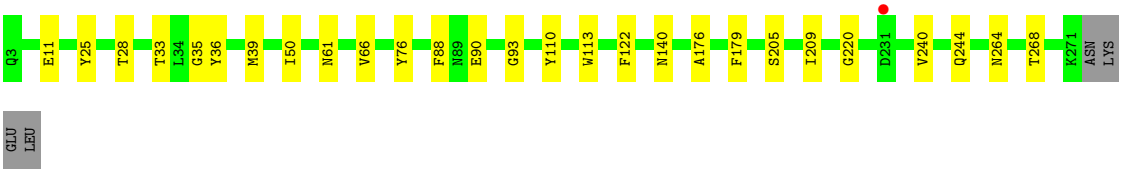
3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

• Molecule 1: Sodium pumping rhodopsin

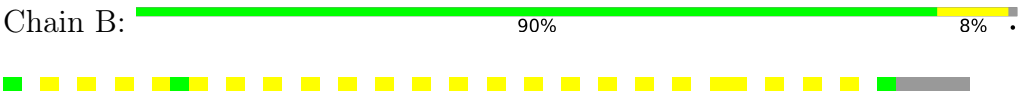
Chain A:





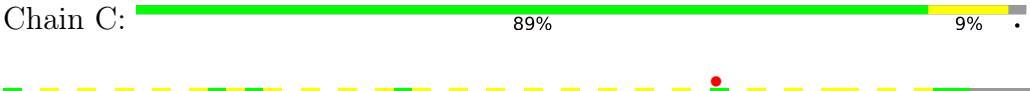
• Molecule 1: Sodium pumping rhodopsin

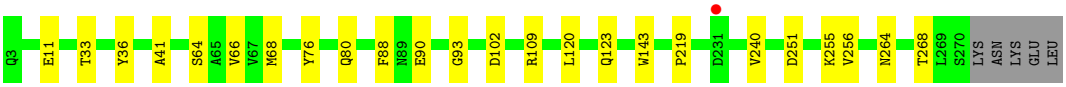
Chain B:



• Molecule 1: Sodium pumping rhodopsin

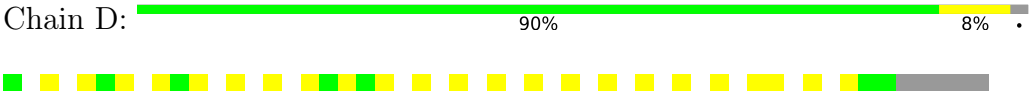
Chain C:

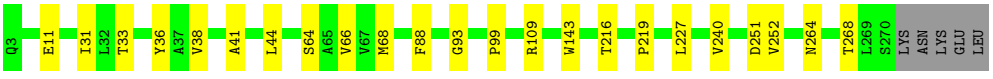




• Molecule 1: Sodium pumping rhodopsin

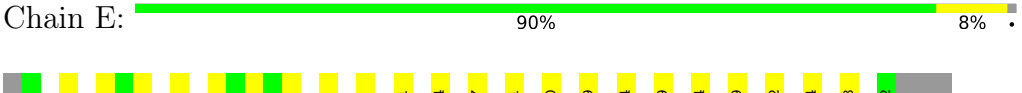
Chain D:





• Molecule 1: Sodium pumping rhodopsin

Chain E:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α, β, γ	136.10Å 240.90Å 138.50Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	69.25 – 3.00 69.25 – 3.00	Depositor EDS
% Data completeness (in resolution range)	100.0 (69.25-3.00) 100.0 (69.25-3.00)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.61 (at 2.51Å)	Xtriage
Refinement program	PHENIX 1.20.1_4487	Depositor
R, R_{free}	0.174 , 0.197 0.174 , 0.197	Depositor DCC
R_{free} test set	2301 reflections (4.98%)	wwPDB-VP
Wilson B-factor (Å^2)	55.4	Xtriage
Anisotropy	0.119	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.32 , 77.3	EDS
L-test for twinning[2]	$< \|L\| > = 0.46$, $< L^2 > = 0.28$	Xtriage
Estimated twinning fraction	0.003 for 1/2*h-1/2*k,-3/2*h-1/2*k,-l 0.003 for 1/2*h+1/2*k,3/2*h-1/2*k,-l	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	11932	wwPDB-VP
Average B, all atoms (Å^2)	55.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.80% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: RET, LFA, OLC, NA

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	0.16	0/2190	0.35	0/2980
1	B	0.16	0/2188	0.37	0/2977
1	C	0.15	0/2185	0.34	0/2973
1	D	0.15	0/2178	0.34	0/2965
1	E	0.16	0/2189	0.35	0/2978
All	All	0.16	0/10930	0.35	0/14873

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

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	2132	0	2102	20	0
1	B	2130	0	2105	17	0
1	C	2127	0	2099	18	0
1	D	2120	0	2090	18	0
1	E	2131	0	2107	14	0
2	A	20	0	27	1	0
2	B	20	0	27	2	0
2	C	20	0	27	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	D	20	0	27	2	0
2	E	20	0	27	1	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
3	E	1	0	0	0	0
4	A	167	0	252	6	0
4	B	113	0	160	3	0
4	C	141	0	206	15	0
4	D	135	0	210	4	0
4	E	142	0	218	12	0
5	A	58	0	109	3	0
5	B	56	0	103	1	0
5	C	48	0	87	2	0
5	D	77	0	151	1	0
5	E	68	0	128	6	0
6	A	32	0	0	0	0
6	B	38	0	0	0	0
6	C	31	0	0	1	0
6	D	47	0	0	0	0
6	E	34	0	0	3	0
All	All	11932	0	12262	108	0

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

All (108) 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:E:111:LEU:O	1:E:114:LEU:HB2	1.95	0.67
1:B:109:ARG:NH1	1:B:251:ASP:OD2	2.30	0.62
4:C:306:OLC:H4	4:C:312:OLC:H4	1.81	0.62
1:E:224:MET:HE1	5:E:311:LFA:H191	1.82	0.62
4:C:303:OLC:H14A	4:E:317:OLC:H10	1.82	0.61
1:A:76:TYR:HD1	6:E:433:HOH:O	1.85	0.60
4:A:319:OLC:H13	5:E:303:LFA:H12	1.84	0.58
1:D:109:ARG:NH1	1:D:251:ASP:OD2	2.37	0.57
4:E:317:OLC:H18	6:E:433:HOH:O	2.03	0.56
1:A:220:GLY:HA3	5:A:314:LFA:H171	1.87	0.56
1:B:88:PHE:CZ	1:B:93:GLY:HA2	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:163:ASN:ND2	4:B:307:OLC:O23	2.38	0.55
1:C:109:ARG:NH1	1:C:251:ASP:OD2	2.33	0.55
1:E:141:GLN:HG2	4:E:305:OLC:H5	1.89	0.55
4:C:307:OLC:H5	4:C:315:OLC:H24A	1.88	0.55
1:C:88:PHE:CZ	1:C:93:GLY:HA2	2.43	0.53
1:B:41:ALA:HB1	1:C:66:VAL:HG13	1.89	0.53
1:D:88:PHE:CZ	1:D:93:GLY:HA2	2.44	0.53
1:A:88:PHE:CZ	1:A:93:GLY:HA2	2.45	0.52
1:A:28:THR:HG23	1:A:244:GLN:HG3	1.92	0.52
1:C:256:VAL:HG11	4:D:304:OLC:H9	1.92	0.52
1:E:88:PHE:CZ	1:E:93:GLY:HA2	2.45	0.52
1:C:68:MET:HE1	1:C:255:LYS:HB3	1.92	0.52
5:E:303:LFA:H111	4:E:317:OLC:H24A	1.92	0.51
1:D:11:GLU:HG3	1:D:240:VAL:HG22	1.93	0.51
1:B:219:PRO:HD3	2:B:301:RET:H7	1.93	0.50
4:C:304:OLC:H12A	5:C:309:LFA:H111	1.94	0.50
1:C:264:ASN:O	1:C:268:THR:HG23	2.12	0.49
1:A:66:VAL:HG13	1:E:41:ALA:HB1	1.94	0.49
1:B:219:PRO:HB3	2:B:301:RET:H42	1.95	0.49
1:B:264:ASN:O	1:B:268:THR:HG23	2.12	0.49
1:D:41:ALA:HB1	1:E:66:VAL:HG13	1.95	0.48
4:C:305:OLC:H9	4:C:305:OLC:H12	1.49	0.48
4:A:306:OLC:H10	4:A:306:OLC:H13	1.57	0.48
1:E:229:GLY:HA3	5:E:315:LFA:H181	1.96	0.48
4:E:317:OLC:H18B	4:E:317:OLC:H15A	1.68	0.48
1:E:264:ASN:O	1:E:268:THR:HG23	2.14	0.48
1:B:11:GLU:HG3	1:B:240:VAL:HG22	1.96	0.47
1:D:264:ASN:O	1:D:268:THR:HG23	2.13	0.47
4:C:303:OLC:H2A	5:E:303:LFA:H82	1.97	0.47
1:D:33:THR:HA	1:D:36:TYR:CE2	2.49	0.47
1:A:264:ASN:O	1:A:268:THR:HG23	2.15	0.47
4:E:319:OLC:H8A	4:E:319:OLC:H5A	1.53	0.47
1:A:122:PHE:HE2	4:E:318:OLC:H3	1.79	0.47
1:A:76:TYR:CD1	6:E:433:HOH:O	2.56	0.46
4:E:318:OLC:H2A	4:E:319:OLC:H3A	1.97	0.46
4:E:317:OLC:H3	4:E:317:OLC:H6	1.73	0.46
1:C:143:TRP:CD2	4:C:304:OLC:H7	2.50	0.46
4:C:306:OLC:H6	4:C:306:OLC:H9	1.66	0.46
1:E:38:VAL:HG11	1:E:252:VAL:HG22	1.97	0.46
1:A:90:GLU:OE2	1:B:99:PRO:HG3	2.14	0.46
1:D:219:PRO:HB3	2:D:301:RET:H42	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:315:OLC:H2	4:B:315:OLC:H5A	1.34	0.46
4:C:303:OLC:H5A	4:C:303:OLC:H2	1.46	0.46
1:D:38:VAL:HG11	1:D:252:VAL:HG22	1.97	0.45
1:A:205:SER:O	1:A:209:ILE:HD12	2.16	0.45
1:D:216:THR:HG21	5:D:314:LFA:H182	1.97	0.45
4:D:304:OLC:H2A	4:D:304:OLC:H5A	1.42	0.45
1:C:219:PRO:HB2	5:C:310:LFA:H72	1.99	0.45
1:E:33:THR:HA	1:E:36:TYR:CE2	2.52	0.45
1:E:64:SER:O	1:E:68:MET:HG2	2.17	0.45
1:B:44:LEU:HD13	4:C:316:OLC:H4A	1.99	0.44
1:C:11:GLU:HG3	1:C:240:VAL:HG22	1.99	0.44
1:B:25:TYR:OH	1:C:102:ASP:OD2	2.36	0.44
1:B:234:LEU:O	1:B:239:GLY:HA3	2.18	0.44
5:E:316:LFA:H151	5:E:316:LFA:H122	1.75	0.44
1:E:117:VAL:HB	1:E:150:ILE:HD11	2.00	0.44
1:A:110:TYR:HA	1:A:113:TRP:CE3	2.53	0.44
1:B:183:TRP:CE3	5:B:308:LFA:H162	2.52	0.43
4:C:312:OLC:H2	4:C:312:OLC:H21	1.52	0.43
1:A:25:TYR:OH	1:B:102:ASP:OD2	2.25	0.43
1:D:44:LEU:HD13	4:E:317:OLC:H4	2.00	0.43
1:B:28:THR:O	1:B:31:ILE:HG22	2.19	0.43
1:C:88:PHE:CD2	1:D:99:PRO:HB3	2.53	0.43
1:A:33:THR:HA	1:A:36:TYR:CE2	2.54	0.43
4:A:307:OLC:H2	4:A:307:OLC:H21A	1.75	0.43
1:C:41:ALA:HB1	1:D:66:VAL:HG13	2.01	0.43
1:A:110:TYR:O	1:A:113:TRP:HB2	2.19	0.42
1:B:33:THR:HA	1:B:36:TYR:CE2	2.54	0.42
4:C:312:OLC:H3	4:C:312:OLC:H6A	1.71	0.42
4:D:303:OLC:H12	4:D:303:OLC:H15A	1.70	0.42
1:A:11:GLU:HG3	1:A:240:VAL:HG22	2.00	0.42
1:C:240:VAL:O	6:C:401:HOH:O	2.21	0.42
1:C:33:THR:HA	1:C:36:TYR:CE2	2.55	0.42
4:A:319:OLC:H8	4:A:319:OLC:H5	1.63	0.42
4:B:315:OLC:H4A	4:C:312:OLC:H7	2.01	0.42
1:D:143:TRP:CZ3	4:D:305:OLC:H5A	2.55	0.42
4:E:318:OLC:H14A	4:E:318:OLC:H11	1.70	0.42
1:C:90:GLU:CD	1:D:99:PRO:HG2	2.45	0.42
1:A:176:ALA:HA	5:A:317:LFA:H102	2.02	0.41
1:A:179:PHE:CE2	5:A:317:LFA:H111	2.55	0.41
1:A:50:ILE:HG12	1:A:61:ASN:HB3	2.03	0.41
1:C:120:LEU:O	1:C:123:GLN:HG2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:316:OLC:H15	4:C:316:OLC:H18A	1.87	0.41
1:D:64:SER:O	1:D:68:MET:HG2	2.21	0.41
1:A:140:ASN:HD22	4:A:306:OLC:H24	1.85	0.41
4:C:303:OLC:H14A	4:E:317:OLC:C10	2.50	0.41
1:D:31:ILE:HD12	1:D:31:ILE:HA	1.97	0.41
1:D:219:PRO:HD3	2:D:301:RET:H7	2.02	0.41
1:E:219:PRO:HD3	2:E:301:RET:H7	2.02	0.41
1:A:35:GLY:O	1:A:39:MET:HG2	2.20	0.41
1:C:76:TYR:O	1:C:80:GLN:HG2	2.21	0.41
2:A:301:RET:H8	2:A:301:RET:H161	2.03	0.40
1:B:75:LEU:HD23	1:B:75:LEU:HA	1.92	0.40
1:C:64:SER:O	1:C:68:MET:HG2	2.20	0.40
1:E:234:LEU:O	1:E:239:GLY:HA3	2.22	0.40
4:A:303:OLC:H8	4:A:303:OLC:H5A	1.47	0.40
1:D:227:LEU:HD23	1:D:227:LEU:HA	1.93	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	267/273 (98%)	262 (98%)	5 (2%)	0	100	100
1	B	267/273 (98%)	262 (98%)	5 (2%)	0	100	100
1	C	266/273 (97%)	261 (98%)	5 (2%)	0	100	100
1	D	266/273 (97%)	261 (98%)	5 (2%)	0	100	100
1	E	267/273 (98%)	262 (98%)	5 (2%)	0	100	100
All	All	1333/1365 (98%)	1308 (98%)	25 (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 X-ray entries followed by that with respect to entries of similar resolution.

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	224/234 (96%)	224 (100%)	0	100	100
1	B	225/234 (96%)	225 (100%)	0	100	100
1	C	224/234 (96%)	224 (100%)	0	100	100
1	D	223/234 (95%)	223 (100%)	0	100	100
1	E	225/234 (96%)	225 (100%)	0	100	100
All	All	1121/1170 (96%)	1121 (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 (8) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	123	GLN
1	A	141	GLN
1	B	89	ASN
1	B	123	GLN
1	B	244	GLN
1	C	123	GLN
1	D	141	GLN
1	E	141	GLN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 85 ligands modelled in this entry, 5 are monoatomic - leaving 80 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	$\#\|Z\| > 2$
5	LFA	C	309	-	19,19,19	0.29	0	18,18,18	0.88	0
4	OLC	D	306	-	17,17,24	0.84	0	16,16,25	1.29	1 (6%)
4	OLC	E	304	-	7,7,24	0.84	0	6,6,25	0.71	0
5	LFA	C	310	-	4,4,19	0.31	0	3,3,18	0.61	0
5	LFA	D	313	-	16,16,19	0.30	0	15,15,18	0.86	0
4	OLC	A	310	-	6,6,24	0.83	0	5,5,25	0.66	0
2	RET	D	301	1	20,20,21	0.70	0	27,27,28	1.39	5 (18%)
4	OLC	A	305	-	18,18,24	0.82	0	17,17,25	1.26	1 (5%)
4	OLC	E	306	-	18,18,24	0.83	0	18,18,25	1.19	1 (5%)
5	LFA	B	310	-	9,9,19	0.30	0	8,8,18	0.79	0
5	LFA	A	313	-	7,7,19	0.30	0	6,6,18	0.77	0
5	LFA	A	316	-	5,5,19	0.31	0	4,4,18	0.57	0
4	OLC	D	303	-	17,17,24	0.85	0	16,16,25	1.24	1 (6%)
4	OLC	B	306	-	13,13,24	0.89	0	12,12,25	1.34	1 (8%)
2	RET	B	301	1	20,20,21	0.64	0	27,27,28	1.33	5 (18%)
5	LFA	A	315	-	3,3,19	0.40	0	2,2,18	0.75	0
5	LFA	E	316	-	9,9,19	0.30	0	8,8,18	0.78	0
2	RET	C	301	1	20,20,21	0.65	0	27,27,28	1.34	5 (18%)
4	OLC	E	319	-	18,18,24	0.84	0	17,17,25	1.24	1 (5%)
5	LFA	E	315	-	5,5,19	0.31	0	4,4,18	0.58	0
5	LFA	A	317	-	15,15,19	0.28	0	14,14,18	0.90	0
4	OLC	B	315	-	16,16,24	0.87	0	14,15,25	1.33	2 (14%)
4	OLC	C	307	-	6,6,24	0.84	0	5,5,25	0.63	0
4	OLC	E	305	-	15,15,24	0.86	0	14,14,25	1.30	1 (7%)
5	LFA	D	311	-	19,19,19	0.29	0	18,18,18	0.90	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
4	OLC	A	319	-	22,22,24	0.79	0	21,21,25	1.25	1 (4%)
4	OLC	D	309	-	6,6,24	0.81	0	5,5,25	0.65	0
2	RET	A	301	1	20,20,21	0.67	0	27,27,28	1.40	5 (18%)
5	LFA	E	314	-	6,6,19	0.31	0	5,5,18	0.66	0
4	OLC	D	304	-	21,21,24	0.77	0	21,21,25	1.23	1 (4%)
4	OLC	D	305	-	16,16,24	0.89	0	16,16,25	1.12	1 (6%)
5	LFA	B	309	-	7,7,19	0.30	0	6,6,18	0.72	0
5	LFA	B	311	-	6,6,19	0.29	0	5,5,18	0.73	0
5	LFA	A	312	-	6,6,19	0.30	0	5,5,18	0.68	0
2	RET	E	301	1	20,20,21	0.63	0	27,27,28	1.39	5 (18%)
5	LFA	E	312	-	3,3,19	0.41	0	2,2,18	0.72	0
4	OLC	B	312	-	19,19,24	0.84	0	19,19,25	1.18	1 (5%)
4	OLC	D	308	-	12,12,24	0.74	0	12,12,25	0.78	0
4	OLC	B	307	-	12,12,24	0.77	0	11,11,25	0.92	0
4	OLC	B	304	-	19,19,24	0.85	0	19,19,25	1.21	1 (5%)
5	LFA	D	314	-	6,6,19	0.30	0	5,5,18	0.69	0
5	LFA	E	310	-	7,7,19	0.30	0	6,6,18	0.73	0
5	LFA	B	313	-	10,10,19	0.30	0	9,9,18	0.79	0
5	LFA	D	315	-	5,5,19	0.32	0	4,4,18	0.57	0
4	OLC	C	312	-	16,16,24	0.89	0	16,16,25	1.13	1 (6%)
4	OLC	C	315	-	14,14,24	0.79	0	14,14,25	0.80	0
4	OLC	C	304	-	18,18,24	0.82	0	18,18,25	1.22	1 (5%)
5	LFA	B	308	-	8,8,19	0.31	0	7,7,18	0.73	0
4	OLC	B	303	-	15,15,24	0.87	0	14,14,25	1.34	2 (14%)
4	OLC	E	309	-	18,18,24	0.82	0	17,17,25	1.32	1 (5%)
5	LFA	D	312	-	19,19,19	0.29	0	18,18,18	0.90	0
4	OLC	A	304	-	8,8,24	0.96	0	6,7,25	0.90	0
4	OLC	D	307	-	15,15,24	0.87	0	14,14,25	1.27	1 (7%)
5	LFA	C	311	-	3,3,19	0.40	0	2,2,18	0.75	0
4	OLC	C	303	-	21,21,24	0.81	0	20,20,25	1.26	2 (10%)
4	OLC	C	316	-	22,22,24	0.79	0	21,21,25	1.28	1 (4%)
4	OLC	A	311	-	14,14,24	0.80	0	14,14,25	0.77	0
4	OLC	A	307	-	11,11,24	0.73	0	11,11,25	0.75	0
4	OLC	E	307	-	13,13,24	0.77	0	13,13,25	0.77	0
4	OLC	A	303	-	22,22,24	0.80	0	21,21,25	1.26	2 (9%)
5	LFA	B	314	-	10,10,19	0.30	0	9,9,18	0.79	0
5	LFA	E	313	-	4,4,19	0.31	0	3,3,18	0.57	0
4	OLC	C	306	-	16,16,24	0.90	0	16,16,25	1.10	1 (6%)
4	OLC	A	309	-	13,13,24	0.77	0	13,13,25	0.77	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
5	LFA	C	313	-	5,5,19	0.30	0	4,4,18	0.61	0
5	LFA	C	314	-	4,4,19	0.32	0	3,3,18	0.56	0
5	LFA	D	316	-	6,6,19	0.31	0	5,5,18	0.65	0
4	OLC	A	306	-	22,22,24	0.79	0	21,21,25	1.25	1 (4%)
4	OLC	D	310	-	23,23,24	0.82	0	23,23,25	1.14	1 (4%)
5	LFA	A	318	-	8,8,19	0.30	0	7,7,18	0.78	0
5	LFA	E	311	-	13,13,19	0.31	0	12,12,18	0.82	0
4	OLC	E	318	-	17,17,24	0.84	0	16,16,25	1.29	1 (6%)
4	OLC	E	317	-	22,22,24	0.78	0	21,21,25	1.26	2 (9%)
5	LFA	C	308	-	7,7,19	0.30	0	6,6,18	0.73	0
4	OLC	B	305	-	12,12,24	0.89	0	11,11,25	1.37	1 (9%)
5	LFA	A	314	-	7,7,19	0.30	0	6,6,18	0.73	0
4	OLC	A	308	-	21,21,24	0.82	0	20,20,25	1.20	1 (5%)
4	OLC	C	305	-	20,20,24	0.84	0	20,20,25	1.16	1 (5%)
4	OLC	E	308	-	5,5,24	0.80	0	4,4,25	0.56	0
5	LFA	E	303	-	13,13,19	0.30	0	12,12,18	0.84	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	LFA	C	309	-	-	6/17/17/17	-
4	OLC	D	306	-	-	6/15/15/24	-
4	OLC	E	304	-	-	4/5/5/24	-
5	LFA	C	310	-	-	2/2/2/17	-
5	LFA	D	313	-	-	6/14/14/17	-
4	OLC	A	310	-	-	3/4/4/24	-
2	RET	D	301	1	-	3/13/30/31	0/1/1/1
4	OLC	A	305	-	-	8/16/16/24	-
4	OLC	E	306	-	-	7/17/17/24	-
5	LFA	B	310	-	-	3/7/7/17	-
5	LFA	A	313	-	-	1/5/5/17	-
5	LFA	A	316	-	-	2/3/3/17	-
4	OLC	D	303	-	-	11/15/15/24	-
4	OLC	B	306	-	-	4/11/11/24	-
2	RET	B	301	1	-	4/13/30/31	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	LFA	A	315	-	-	0/1/1/17	-
5	LFA	E	316	-	-	3/7/7/17	-
2	RET	C	301	1	-	4/13/30/31	0/1/1/1
4	OLC	E	319	-	-	10/16/16/24	-
5	LFA	E	315	-	-	0/3/3/17	-
5	LFA	A	317	-	-	5/13/13/17	-
4	OLC	B	315	-	-	8/14/14/24	-
4	OLC	C	307	-	-	4/4/4/24	-
4	OLC	E	305	-	-	7/13/13/24	-
5	LFA	D	311	-	-	8/17/17/17	-
4	OLC	A	319	-	-	12/20/20/24	-
4	OLC	D	309	-	-	3/4/4/24	-
2	RET	A	301	1	-	1/13/30/31	0/1/1/1
5	LFA	E	314	-	-	0/4/4/17	-
4	OLC	D	304	-	-	11/20/20/24	-
4	OLC	D	305	-	-	6/15/15/24	-
5	LFA	B	309	-	-	1/5/5/17	-
5	LFA	B	311	-	-	1/4/4/17	-
5	LFA	A	312	-	-	2/4/4/17	-
2	RET	E	301	1	-	2/13/30/31	0/1/1/1
5	LFA	E	312	-	-	1/1/1/17	-
4	OLC	B	312	-	-	8/18/18/24	-
4	OLC	D	308	-	-	7/11/11/24	-
4	OLC	B	307	-	-	6/10/10/24	-
4	OLC	B	304	-	-	8/18/18/24	-
5	LFA	D	314	-	-	1/4/4/17	-
5	LFA	E	310	-	-	2/5/5/17	-
5	LFA	B	313	-	-	4/8/8/17	-
5	LFA	D	315	-	-	2/3/3/17	-
4	OLC	C	312	-	-	9/15/15/24	-
4	OLC	C	315	-	-	9/13/13/24	-
4	OLC	C	304	-	-	10/17/17/24	-
5	LFA	B	308	-	-	2/6/6/17	-
4	OLC	B	303	-	-	7/13/13/24	-
4	OLC	E	309	-	-	7/16/16/24	-
5	LFA	D	312	-	-	5/17/17/17	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	OLC	A	304	-	-	3/6/6/24	-
4	OLC	D	307	-	-	7/13/13/24	-
5	LFA	C	311	-	-	0/1/1/17	-
4	OLC	C	303	-	-	13/19/19/24	-
4	OLC	C	316	-	-	10/20/20/24	-
4	OLC	A	311	-	-	9/13/13/24	-
4	OLC	A	307	-	-	7/10/10/24	-
4	OLC	E	307	-	-	8/12/12/24	-
4	OLC	A	303	-	-	10/20/20/24	-
5	LFA	B	314	-	-	3/8/8/17	-
5	LFA	E	313	-	-	0/2/2/17	-
4	OLC	C	306	-	-	4/15/15/24	-
4	OLC	A	309	-	-	4/12/12/24	-
5	LFA	C	313	-	-	1/3/3/17	-
5	LFA	C	314	-	-	0/2/2/17	-
5	LFA	D	316	-	-	3/4/4/17	-
4	OLC	A	306	-	-	13/20/20/24	-
4	OLC	D	310	-	-	8/22/22/24	-
5	LFA	A	318	-	-	2/6/6/17	-
5	LFA	E	311	-	-	2/11/11/17	-
4	OLC	E	318	-	-	8/15/15/24	-
4	OLC	E	317	-	-	10/20/20/24	-
5	LFA	C	308	-	-	4/5/5/17	-
4	OLC	B	305	-	-	4/10/10/24	-
5	LFA	A	314	-	-	0/5/5/17	-
4	OLC	A	308	-	-	12/19/19/24	-
4	OLC	C	305	-	-	14/19/19/24	-
4	OLC	E	308	-	-	2/3/3/24	-
5	LFA	E	303	-	-	0/11/11/17	-

There are no bond length outliers.

All (59) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	B	304	OLC	C8-C9-C10	3.87	154.41	124.73
4	D	304	OLC	C8-C9-C10	3.71	153.23	124.73

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	E	309	OLC	C8-C9-C10	3.70	153.08	124.73
4	E	319	OLC	C8-C9-C10	3.68	153.00	124.73
4	C	316	OLC	C8-C9-C10	3.67	152.92	124.73
4	E	305	OLC	C8-C9-C10	3.66	152.82	124.73
4	D	306	OLC	C8-C9-C10	3.66	152.80	124.73
4	E	306	OLC	C8-C9-C10	3.65	152.73	124.73
4	D	310	OLC	C8-C9-C10	3.65	152.72	124.73
4	B	315	OLC	C8-C9-C10	3.64	152.69	124.73
4	A	303	OLC	C8-C9-C10	3.64	152.68	124.73
4	C	304	OLC	C8-C9-C10	3.64	152.62	124.73
4	A	305	OLC	C8-C9-C10	3.64	152.62	124.73
4	C	305	OLC	C8-C9-C10	3.63	152.60	124.73
4	C	303	OLC	C8-C9-C10	3.63	152.56	124.73
4	A	306	OLC	C8-C9-C10	3.62	152.51	124.73
4	B	305	OLC	C8-C9-C10	3.62	152.50	124.73
4	A	308	OLC	C8-C9-C10	3.62	152.49	124.73
4	E	318	OLC	C8-C9-C10	3.62	152.48	124.73
4	B	312	OLC	C8-C9-C10	3.61	152.47	124.73
4	E	317	OLC	C8-C9-C10	3.61	152.46	124.73
4	D	303	OLC	C8-C9-C10	3.58	152.20	124.73
4	A	319	OLC	C8-C9-C10	3.52	151.73	124.73
4	B	306	OLC	C8-C9-C10	3.51	151.69	124.73
2	E	301	RET	C16-C1-C6	3.00	115.17	110.30
2	A	301	RET	C16-C1-C6	2.97	115.11	110.30
2	D	301	RET	C16-C1-C6	2.83	114.89	110.30
2	D	301	RET	C1-C6-C5	-2.82	118.64	122.61
2	D	301	RET	C18-C5-C4	-2.81	108.22	113.62
4	B	303	OLC	C8-C9-C10	2.81	153.41	131.07
2	C	301	RET	C16-C1-C6	2.75	114.76	110.30
2	B	301	RET	C16-C1-C6	2.74	114.74	110.30
2	E	301	RET	C1-C6-C5	-2.72	118.78	122.61
4	C	312	OLC	C8-C9-C10	2.72	152.69	131.07
2	C	301	RET	C1-C6-C5	-2.71	118.80	122.61
4	D	307	OLC	C8-C9-C10	2.71	152.59	131.07
4	D	305	OLC	C8-C9-C10	2.69	152.46	131.07
4	C	306	OLC	C8-C9-C10	2.69	152.43	131.07
2	A	301	RET	C1-C6-C7	2.57	123.05	115.78
2	C	301	RET	C18-C5-C4	-2.56	108.70	113.62
2	A	301	RET	C1-C6-C5	-2.55	119.02	122.61
2	B	301	RET	C1-C6-C5	-2.51	119.07	122.61
2	B	301	RET	C18-C5-C4	-2.50	108.82	113.62
2	A	301	RET	C18-C5-C4	-2.48	108.85	113.62

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	E	301	RET	C18-C5-C4	-2.46	108.88	113.62
2	A	301	RET	C16-C1-C2	-2.32	99.61	108.91
2	E	301	RET	C16-C1-C2	-2.31	99.65	108.91
2	C	301	RET	C16-C1-C2	-2.25	99.90	108.91
2	B	301	RET	C16-C1-C2	-2.24	99.94	108.91
2	D	301	RET	C16-C1-C2	-2.24	99.96	108.91
2	B	301	RET	C1-C6-C7	2.21	122.02	115.78
2	E	301	RET	C1-C6-C7	2.17	121.92	115.78
4	B	303	OLC	C21-C22-C24	-2.14	109.29	113.95
4	A	303	OLC	C21-C22-C24	-2.14	109.29	113.95
2	C	301	RET	C1-C6-C7	2.13	121.80	115.78
4	B	315	OLC	C21-C22-C24	-2.05	109.47	113.95
4	E	317	OLC	C21-C22-C24	-2.04	109.50	113.95
2	D	301	RET	C1-C6-C7	2.03	121.51	115.78
4	C	303	OLC	O20-C1-C2	2.01	120.80	110.26

There are no chirality outliers.

All (407) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	B	301	RET	C1-C6-C7-C8
2	B	301	RET	C7-C8-C9-C10
2	B	301	RET	C7-C8-C9-C19
2	C	301	RET	C1-C6-C7-C8
2	D	301	RET	C1-C6-C7-C8
4	A	304	OLC	C7-C8-C9-C10
4	A	311	OLC	C21-C22-C24-O25
4	A	311	OLC	O20-C21-C22-C24
4	B	303	OLC	C21-C22-C24-O25
4	B	312	OLC	C21-C22-C24-O25
4	C	303	OLC	C21-C22-C24-O25
4	C	304	OLC	O20-C21-C22-C24
4	C	305	OLC	O20-C21-C22-C24
4	C	305	OLC	O20-C21-C22-O23
4	C	312	OLC	C21-C22-C24-O25
4	C	312	OLC	O20-C21-C22-C24
4	C	315	OLC	O20-C21-C22-O23
4	D	308	OLC	O23-C22-C24-O25
5	E	312	LFA	C17-C18-C19-C20
4	B	307	OLC	C2-C1-O20-C21
4	A	306	OLC	C1-C2-C3-C4
4	A	306	OLC	O20-C21-C22-C24

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Mol	Chain	Res	Type	Atoms
4	A	311	OLC	O20-C21-C22-O23
4	C	304	OLC	O20-C21-C22-O23
4	C	312	OLC	O20-C21-C22-O23
4	A	307	OLC	C2-C1-O20-C21
4	B	315	OLC	C2-C1-O20-C21
4	C	303	OLC	C2-C1-O20-C21
4	C	312	OLC	C2-C1-O20-C21
4	E	306	OLC	C2-C1-O20-C21
4	D	304	OLC	C2-C3-C4-C5
4	E	317	OLC	C13-C14-C15-C16
4	E	319	OLC	C5-C6-C7-C8
4	B	315	OLC	C5-C6-C7-C8
4	B	315	OLC	C2-C3-C4-C5
4	A	308	OLC	C14-C15-C16-C17
4	C	316	OLC	C3-C4-C5-C6
4	D	303	OLC	C12-C13-C14-C15
4	C	316	OLC	O20-C1-C2-C3
4	C	303	OLC	C2-C3-C4-C5
4	B	307	OLC	O20-C21-C22-O23
4	A	319	OLC	C5-C6-C7-C8
4	D	307	OLC	O20-C21-C22-C24
4	A	308	OLC	C11-C12-C13-C14
2	C	301	RET	C7-C8-C9-C19
4	A	311	OLC	O23-C22-C24-O25
4	A	306	OLC	C6-C7-C8-C9
4	C	305	OLC	O20-C1-C2-C3
4	B	304	OLC	O20-C1-C2-C3
4	A	303	OLC	C5-C6-C7-C8
4	B	304	OLC	C1-C2-C3-C4
4	E	309	OLC	O20-C21-C22-C24
4	B	303	OLC	O20-C1-C2-C3
4	D	310	OLC	O20-C1-C2-C3
4	B	315	OLC	O20-C1-C2-C3
4	C	312	OLC	C3-C4-C5-C6
4	A	306	OLC	C10-C11-C12-C13
4	C	306	OLC	O20-C21-C22-O23
4	E	306	OLC	O20-C21-C22-O23
4	D	304	OLC	C22-C21-O20-C1
4	A	308	OLC	O20-C1-C2-C3
4	D	305	OLC	C6-C7-C8-C9
4	A	303	OLC	C2-C3-C4-C5
4	E	318	OLC	C12-C13-C14-C15

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Mol	Chain	Res	Type	Atoms
4	A	303	OLC	C13-C14-C15-C16
4	A	305	OLC	C2-C3-C4-C5
4	B	305	OLC	C5-C6-C7-C8
4	D	304	OLC	C12-C13-C14-C15
4	D	306	OLC	C3-C4-C5-C6
4	D	308	OLC	C3-C4-C5-C6
5	B	313	LFA	C3-C4-C5-C6
5	B	313	LFA	C5-C6-C7-C8
4	C	315	OLC	O20-C21-C22-C24
4	E	306	OLC	O20-C21-C22-C24
4	A	308	OLC	C12-C13-C14-C15
4	B	305	OLC	C2-C3-C4-C5
4	B	307	OLC	C2-C3-C4-C5
4	C	306	OLC	C5-C6-C7-C8
4	E	305	OLC	C5-C6-C7-C8
4	E	317	OLC	C4-C5-C6-C7
5	C	308	LFA	C15-C16-C17-C18
4	A	307	OLC	C2-C3-C4-C5
4	A	308	OLC	C3-C4-C5-C6
4	B	304	OLC	C2-C3-C4-C5
5	D	313	LFA	C5-C6-C7-C8
5	D	316	LFA	C15-C16-C17-C18
4	B	312	OLC	O20-C1-C2-C3
5	D	311	LFA	C7-C8-C9-C10
5	D	312	LFA	C14-C15-C16-C17
4	C	312	OLC	C5-C6-C7-C8
4	D	303	OLC	C3-C4-C5-C6
5	B	314	LFA	C11-C10-C9-C8
4	A	308	OLC	C5-C6-C7-C8
4	E	318	OLC	C5-C6-C7-C8
5	B	314	LFA	C5-C6-C7-C8
4	A	319	OLC	C4-C5-C6-C7
4	C	307	OLC	C5-C6-C7-C8
4	C	315	OLC	C5-C6-C7-C8
4	D	310	OLC	C5-C6-C7-C8
4	E	319	OLC	C12-C13-C14-C15
4	B	307	OLC	C3-C4-C5-C6
5	D	311	LFA	C16-C17-C18-C19
4	C	304	OLC	C21-C22-C24-O25
4	D	304	OLC	C21-C22-C24-O25
4	D	308	OLC	C21-C22-C24-O25
4	E	307	OLC	C21-C22-C24-O25

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Mol	Chain	Res	Type	Atoms
4	C	304	OLC	C3-C4-C5-C6
4	D	303	OLC	C13-C14-C15-C16
5	A	317	LFA	C11-C12-C13-C14
5	B	311	LFA	C15-C16-C17-C18
5	D	313	LFA	C3-C4-C5-C6
4	E	317	OLC	O20-C21-C22-C24
4	C	305	OLC	C6-C7-C8-C9
4	E	305	OLC	C6-C7-C8-C9
4	A	305	OLC	C11-C12-C13-C14
4	A	306	OLC	C11-C12-C13-C14
4	D	305	OLC	C2-C3-C4-C5
4	D	310	OLC	C4-C5-C6-C7
4	B	315	OLC	C1-C2-C3-C4
4	E	307	OLC	C1-C2-C3-C4
4	A	319	OLC	C13-C14-C15-C16
4	D	304	OLC	C11-C12-C13-C14
4	D	307	OLC	C5-C6-C7-C8
5	A	313	LFA	C4-C5-C6-C7
5	B	313	LFA	C4-C5-C6-C7
5	B	313	LFA	C6-C7-C8-C9
4	C	305	OLC	C3-C4-C5-C6
4	E	304	OLC	C3-C4-C5-C6
5	B	310	LFA	C5-C6-C7-C8
5	C	309	LFA	C16-C17-C18-C19
5	D	313	LFA	C6-C7-C8-C9
4	E	306	OLC	C10-C11-C12-C13
4	E	318	OLC	C13-C14-C15-C16
5	C	308	LFA	C16-C17-C18-C19
5	C	309	LFA	C6-C7-C8-C9
5	C	309	LFA	C13-C14-C15-C16
4	E	319	OLC	C1-C2-C3-C4
4	B	304	OLC	C3-C4-C5-C6
5	B	314	LFA	C6-C7-C8-C9
4	C	303	OLC	C1-C2-C3-C4
4	A	304	OLC	C11-C12-C13-C14
4	E	319	OLC	C13-C14-C15-C16
4	C	305	OLC	C4-C5-C6-C7
4	D	303	OLC	C14-C15-C16-C17
4	D	303	OLC	C2-C3-C4-C5
5	E	310	LFA	C16-C17-C18-C19
4	A	303	OLC	C3-C4-C5-C6
4	C	303	OLC	C5-C6-C7-C8

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Mol	Chain	Res	Type	Atoms
4	C	312	OLC	O20-C1-C2-C3
4	D	308	OLC	C2-C3-C4-C5
4	B	305	OLC	C3-C4-C5-C6
4	C	304	OLC	C5-C6-C7-C8
4	E	318	OLC	C2-C3-C4-C5
4	D	305	OLC	C2-C1-O20-C21
4	B	312	OLC	O23-C22-C24-O25
4	C	312	OLC	O23-C22-C24-O25
4	B	315	OLC	C3-C4-C5-C6
4	C	303	OLC	C4-C5-C6-C7
5	D	312	LFA	C11-C12-C13-C14
4	A	305	OLC	C6-C7-C8-C9
4	A	319	OLC	C10-C11-C12-C13
4	D	303	OLC	C10-C11-C12-C13
4	E	319	OLC	C10-C11-C12-C13
4	D	306	OLC	C14-C15-C16-C17
4	C	315	OLC	C3-C4-C5-C6
5	B	309	LFA	C2-C3-C4-C5
5	D	313	LFA	C7-C8-C9-C10
4	D	307	OLC	C1-C2-C3-C4
4	A	309	OLC	C4-C5-C6-C7
5	C	313	LFA	C2-C3-C4-C5
2	B	301	RET	C5-C6-C7-C8
2	C	301	RET	C5-C6-C7-C8
2	E	301	RET	C1-C6-C7-C8
4	D	305	OLC	C1-C2-C3-C4
4	C	305	OLC	C9-C10-C11-C12
4	D	309	OLC	C5-C6-C7-C8
4	E	308	OLC	C5-C6-C7-C8
4	B	312	OLC	C10-C11-C12-C13
4	B	312	OLC	C6-C7-C8-C9
4	C	303	OLC	C6-C7-C8-C9
4	C	304	OLC	C6-C7-C8-C9
4	C	316	OLC	C10-C11-C12-C13
4	D	306	OLC	C10-C11-C12-C13
4	E	317	OLC	C6-C7-C8-C9
4	A	305	OLC	C3-C4-C5-C6
4	A	306	OLC	O20-C1-C2-C3
4	D	306	OLC	C1-C2-C3-C4
4	B	304	OLC	C4-C5-C6-C7
4	E	305	OLC	C3-C4-C5-C6
4	A	311	OLC	C1-C2-C3-C4

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Mol	Chain	Res	Type	Atoms
4	B	307	OLC	C1-C2-C3-C4
4	C	305	OLC	C5-C6-C7-C8
4	C	316	OLC	C14-C15-C16-C17
5	D	312	LFA	C4-C5-C6-C7
4	A	303	OLC	C6-C7-C8-C9
4	E	317	OLC	C10-C11-C12-C13
4	A	310	OLC	C5-C6-C7-C8
4	E	309	OLC	C2-C3-C4-C5
4	A	309	OLC	C3-C4-C5-C6
4	E	306	OLC	C4-C5-C6-C7
4	A	306	OLC	C2-C3-C4-C5
4	C	303	OLC	C7-C8-C9-C10
4	C	305	OLC	C7-C8-C9-C10
4	C	316	OLC	C12-C13-C14-C15
4	A	306	OLC	C3-C4-C5-C6
4	C	304	OLC	O20-C1-C2-C3
4	C	307	OLC	C4-C5-C6-C7
4	C	304	OLC	C2-C3-C4-C5
5	D	311	LFA	C3-C4-C5-C6
4	A	309	OLC	C5-C6-C7-C8
4	D	304	OLC	C13-C14-C15-C16
4	E	319	OLC	O20-C1-C2-C3
4	C	305	OLC	C11-C12-C13-C14
4	C	305	OLC	C12-C13-C14-C15
4	D	306	OLC	C5-C6-C7-C8
4	A	308	OLC	C1-C2-C3-C4
4	B	312	OLC	C2-C3-C4-C5
4	C	315	OLC	C6-C7-C8-C9
5	B	308	LFA	C12-C13-C14-C15
4	A	310	OLC	C6-C7-C8-C9
4	A	307	OLC	C3-C4-C5-C6
5	D	313	LFA	C1-C2-C3-C4
4	A	303	OLC	C10-C11-C12-C13
4	A	308	OLC	C10-C11-C12-C13
4	B	315	OLC	C6-C7-C8-C9
4	D	307	OLC	C6-C7-C8-C9
4	C	303	OLC	C3-C4-C5-C6
4	B	304	OLC	C22-C21-O20-C1
4	A	305	OLC	C4-C5-C6-C7
5	A	312	LFA	C17-C18-C19-C20
5	A	317	LFA	C7-C8-C9-C10
5	D	316	LFA	C14-C15-C16-C17

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Mol	Chain	Res	Type	Atoms
5	A	317	LFA	C1-C2-C3-C4
4	A	309	OLC	C1-C2-C3-C4
4	E	317	OLC	C15-C16-C17-C18
4	C	307	OLC	C6-C7-C8-C9
5	A	318	LFA	C5-C6-C7-C8
4	A	307	OLC	O20-C1-C2-C3
4	B	306	OLC	C11-C12-C13-C14
4	D	305	OLC	C3-C4-C5-C6
4	E	304	OLC	C2-C3-C4-C5
4	E	307	OLC	O20-C1-C2-C3
4	C	315	OLC	C2-C3-C4-C5
4	C	315	OLC	O20-C1-C2-C3
4	E	304	OLC	C6-C7-C8-C9
5	C	309	LFA	C4-C5-C6-C7
5	C	310	LFA	C6-C7-C8-C9
2	C	301	RET	C7-C8-C9-C10
4	A	319	OLC	C15-C16-C17-C18
4	C	306	OLC	C3-C4-C5-C6
4	D	310	OLC	C22-C21-O20-C1
4	A	307	OLC	C1-C2-C3-C4
4	C	315	OLC	C1-C2-C3-C4
4	C	307	OLC	C3-C4-C5-C6
4	D	305	OLC	C7-C8-C9-C10
4	A	303	OLC	C1-C2-C3-C4
5	A	316	LFA	C2-C3-C4-C5
5	E	311	LFA	C14-C15-C16-C17
4	C	316	OLC	C4-C5-C6-C7
4	A	306	OLC	C15-C16-C17-C18
4	D	310	OLC	C11-C12-C13-C14
5	D	311	LFA	C13-C14-C15-C16
5	D	311	LFA	C17-C18-C19-C20
4	B	306	OLC	C2-C3-C4-C5
4	E	306	OLC	C2-C3-C4-C5
4	E	317	OLC	C5-C6-C7-C8
5	C	310	LFA	C7-C8-C9-C10
4	B	303	OLC	C3-C4-C5-C6
4	B	304	OLC	C11-C12-C13-C14
5	C	309	LFA	C3-C4-C5-C6
4	E	307	OLC	O23-C22-C24-O25
4	E	317	OLC	C3-C4-C5-C6
4	E	307	OLC	C3-C4-C5-C6
5	B	310	LFA	C7-C8-C9-C10

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Mol	Chain	Res	Type	Atoms
4	E	304	OLC	C5-C6-C7-C8
5	B	310	LFA	C1-C2-C3-C4
4	D	304	OLC	C4-C5-C6-C7
4	E	319	OLC	C2-C3-C4-C5
4	B	312	OLC	C5-C6-C7-C8
5	D	315	LFA	C15-C16-C17-C18
4	B	303	OLC	O20-C21-C22-C24
2	D	301	RET	C5-C6-C7-C8
5	C	308	LFA	C14-C15-C16-C17
4	E	305	OLC	C12-C13-C14-C15
4	E	307	OLC	O20-C21-C22-O23
4	D	308	OLC	C22-C21-O20-C1
4	A	306	OLC	C5-C6-C7-C8
4	E	318	OLC	C6-C7-C8-C9
5	D	311	LFA	C11-C12-C13-C14
4	D	309	OLC	C4-C5-C6-C7
4	A	308	OLC	O20-C21-C22-O23
4	C	316	OLC	C2-C1-O20-C21
4	D	308	OLC	C2-C1-O20-C21
5	D	311	LFA	C5-C6-C7-C8
4	E	318	OLC	C11-C12-C13-C14
5	E	316	LFA	C15-C16-C17-C18
5	A	312	LFA	C16-C17-C18-C19
4	B	303	OLC	C4-C5-C6-C7
4	A	319	OLC	O20-C1-C2-C3
5	D	312	LFA	C7-C8-C9-C10
4	A	307	OLC	O23-C22-C24-O25
4	D	304	OLC	C5-C6-C7-C8
4	A	311	OLC	C3-C4-C5-C6
4	D	303	OLC	C5-C6-C7-C8
4	C	316	OLC	C2-C3-C4-C5
4	E	318	OLC	C14-C15-C16-C17
4	E	318	OLC	C10-C11-C12-C13
4	D	304	OLC	C3-C4-C5-C6
5	D	311	LFA	C2-C3-C4-C5
4	A	303	OLC	C11-C12-C13-C14
5	B	308	LFA	C13-C14-C15-C16
4	E	309	OLC	C5-C6-C7-C8
4	D	309	OLC	C2-C3-C4-C5
4	D	310	OLC	C6-C7-C8-C9
4	A	303	OLC	C4-C5-C6-C7
4	B	303	OLC	C2-C1-O20-C21

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Mol	Chain	Res	Type	Atoms
4	C	316	OLC	C1-C2-C3-C4
5	D	313	LFA	C13-C14-C15-C16
4	C	312	OLC	C22-C21-O20-C1
4	C	305	OLC	C2-C1-O20-C21
4	A	303	OLC	C7-C8-C9-C10
5	E	310	LFA	C17-C18-C19-C20
4	E	308	OLC	C4-C5-C6-C7
4	D	307	OLC	C2-C3-C4-C5
4	A	306	OLC	C2-C1-O20-C21
4	A	311	OLC	C2-C1-O20-C21
4	A	319	OLC	C2-C1-O20-C21
4	E	317	OLC	C2-C1-O20-C21
4	A	311	OLC	C5-C6-C7-C8
4	E	307	OLC	C22-C21-O20-C1
4	D	307	OLC	C22-C21-O20-C1
4	C	303	OLC	C13-C14-C15-C16
5	C	308	LFA	C17-C18-C19-C20
4	A	308	OLC	C7-C8-C9-C10
4	B	312	OLC	C4-C5-C6-C7
4	E	307	OLC	C2-C1-O20-C21
4	C	304	OLC	C1-C2-C3-C4
5	E	316	LFA	C14-C15-C16-C17
4	E	319	OLC	C4-C5-C6-C7
5	D	315	LFA	C14-C15-C16-C17
4	A	305	OLC	C2-C1-O20-C21
4	C	316	OLC	C22-C21-O20-C1
4	E	309	OLC	C22-C21-O20-C1
4	A	319	OLC	C9-C10-C11-C12
4	E	309	OLC	C9-C10-C11-C12
4	E	319	OLC	C7-C8-C9-C10
4	A	308	OLC	C9-C10-C11-C12
2	D	301	RET	C9-C10-C11-C12
5	C	309	LFA	C12-C13-C14-C15
5	A	317	LFA	C10-C11-C12-C13
4	E	319	OLC	C3-C4-C5-C6
5	A	317	LFA	C2-C3-C4-C5
4	C	304	OLC	C10-C11-C12-C13
4	E	305	OLC	C14-C15-C16-C17
4	A	319	OLC	C1-C2-C3-C4
4	A	310	OLC	C4-C5-C6-C7
4	A	311	OLC	C6-C7-C8-C9
5	D	316	LFA	C16-C17-C18-C19

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Mol	Chain	Res	Type	Atoms
5	D	314	LFA	C15-C16-C17-C18
4	C	306	OLC	O20-C21-C22-C24
4	C	305	OLC	C10-C11-C12-C13
4	A	306	OLC	C9-C10-C11-C12
4	E	306	OLC	C9-C10-C11-C12
5	E	311	LFA	C15-C16-C17-C18
4	B	305	OLC	C9-C10-C11-C12
4	C	303	OLC	C11-C12-C13-C14
5	A	318	LFA	C4-C5-C6-C7
4	A	308	OLC	C13-C14-C15-C16
4	D	304	OLC	O20-C1-C2-C3
2	E	301	RET	C5-C6-C7-C8
4	E	317	OLC	C14-C15-C16-C17
4	D	303	OLC	C15-C16-C17-C18
4	E	305	OLC	C10-C11-C12-C13
4	D	304	OLC	C7-C8-C9-C10
5	D	312	LFA	C12-C13-C14-C15
5	A	316	LFA	C3-C4-C5-C6
4	A	305	OLC	C9-C10-C11-C12
4	D	307	OLC	C3-C4-C5-C6
4	C	303	OLC	C22-C21-O20-C1
4	B	304	OLC	C7-C8-C9-C10
4	E	309	OLC	C7-C8-C9-C10
4	C	315	OLC	C4-C5-C6-C7
4	A	306	OLC	C14-C15-C16-C17
4	B	303	OLC	C2-C3-C4-C5
4	B	306	OLC	C6-C7-C8-C9
4	D	303	OLC	C6-C7-C8-C9
4	D	310	OLC	C9-C10-C11-C12
4	A	305	OLC	C22-C21-O20-C1
4	A	319	OLC	C2-C3-C4-C5
4	D	303	OLC	C1-C2-C3-C4
5	E	316	LFA	C17-C18-C19-C20
4	B	306	OLC	C7-C8-C9-C10
4	B	315	OLC	C7-C8-C9-C10
4	A	307	OLC	C21-C22-C24-O25
4	B	307	OLC	C5-C6-C7-C8
4	A	304	OLC	C9-C10-C11-C12
4	D	306	OLC	C9-C10-C11-C12
2	A	301	RET	C1-C6-C7-C8
4	A	319	OLC	C21-C22-C24-O25
4	E	309	OLC	C21-C22-C24-O25

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Mol	Chain	Res	Type	Atoms
4	D	308	OLC	O20-C21-C22-C24
4	C	305	OLC	C1-C2-C3-C4
4	C	303	OLC	C9-C10-C11-C12
4	D	303	OLC	C7-C8-C9-C10
4	A	319	OLC	C14-C15-C16-C17
4	E	305	OLC	C7-C8-C9-C10
4	D	310	OLC	C13-C14-C15-C16

There are no ring outliers.

35 monomers are involved in 52 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	C	309	LFA	1	0
5	C	310	LFA	1	0
2	D	301	RET	2	0
4	D	303	OLC	1	0
2	B	301	RET	2	0
5	E	316	LFA	1	0
4	E	319	OLC	2	0
5	E	315	LFA	1	0
5	A	317	LFA	2	0
4	B	315	OLC	2	0
4	C	307	OLC	1	0
4	E	305	OLC	1	0
4	A	319	OLC	2	0
2	A	301	RET	1	0
4	D	304	OLC	2	0
4	D	305	OLC	1	0
2	E	301	RET	1	0
4	B	307	OLC	1	0
5	D	314	LFA	1	0
4	C	312	OLC	4	0
4	C	315	OLC	1	0
4	C	304	OLC	2	0
5	B	308	LFA	1	0
4	C	303	OLC	4	0
4	C	316	OLC	2	0
4	A	307	OLC	1	0
4	A	303	OLC	1	0
4	C	306	OLC	2	0
4	A	306	OLC	2	0
5	E	311	LFA	1	0

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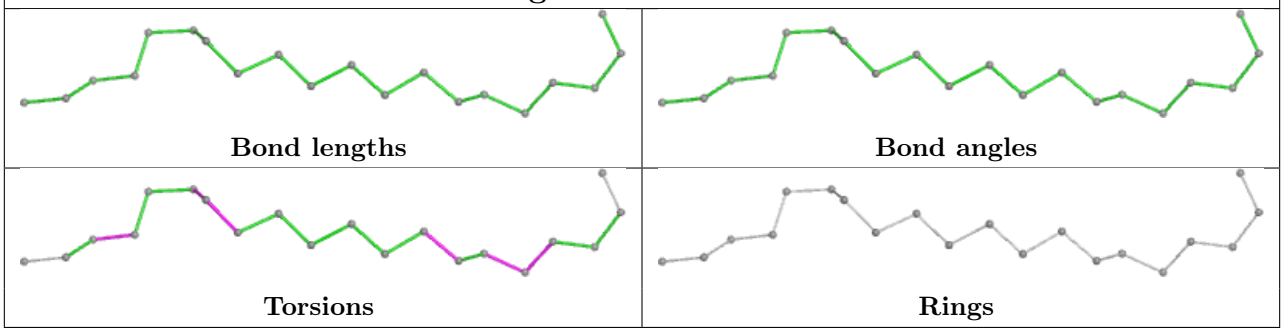
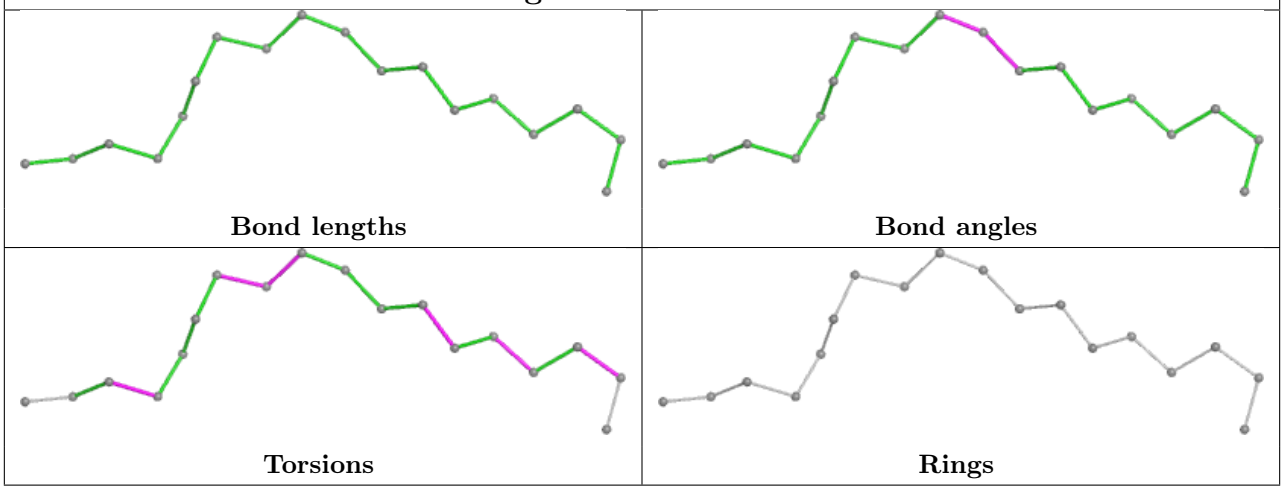
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	E	318	OLC	3	0
4	E	317	OLC	7	0
5	A	314	LFA	1	0
4	C	305	OLC	1	0
5	E	303	LFA	3	0

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

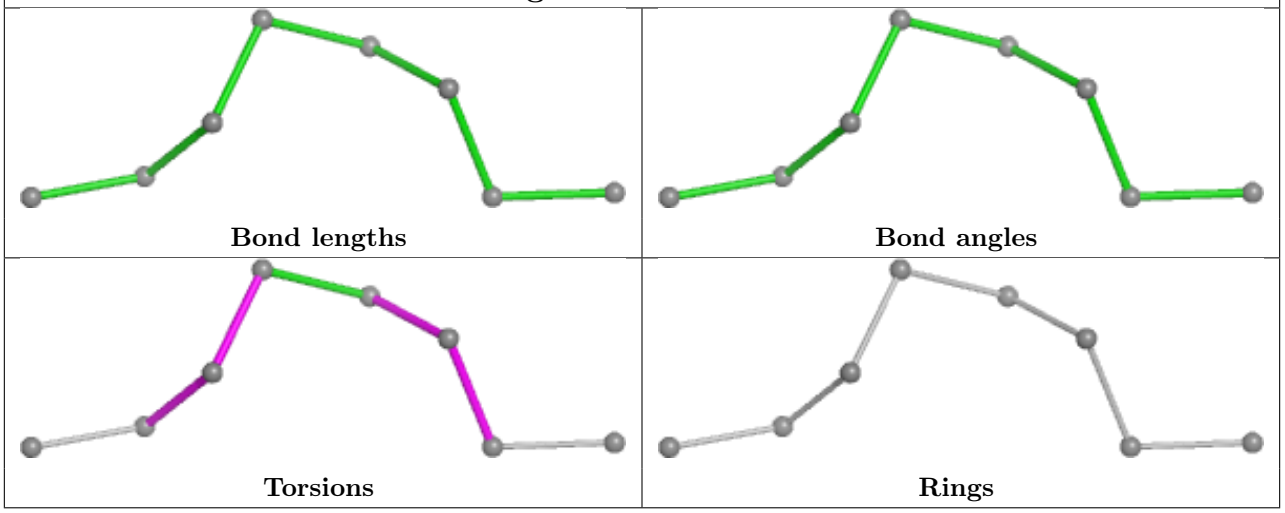
Ligand LFA C 309



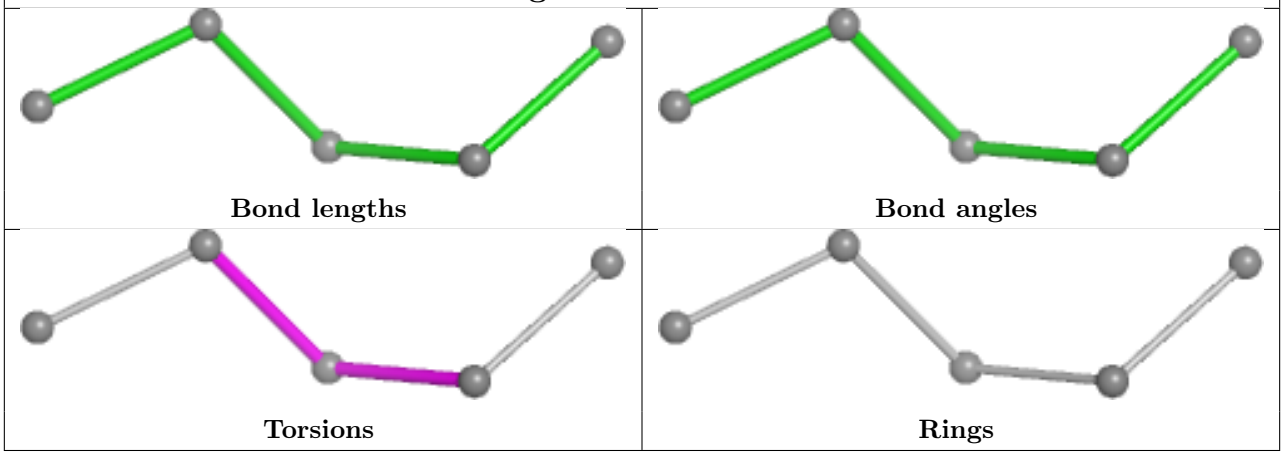
Ligand OLC D 306



Ligand OLC E 304



Ligand LFA C 310



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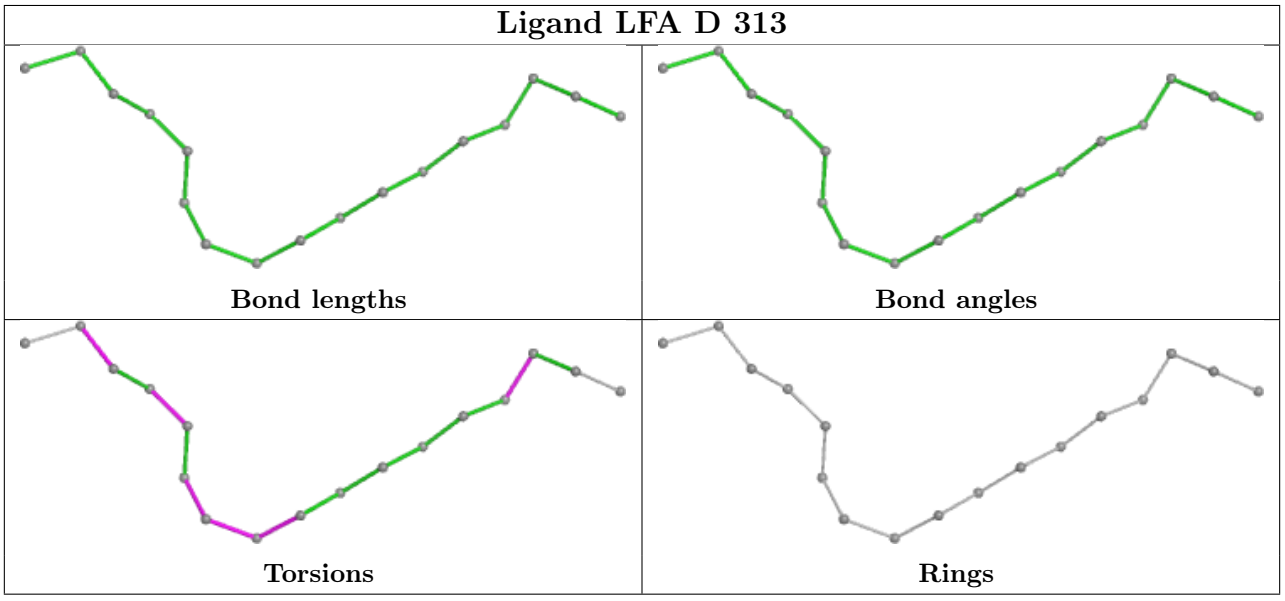
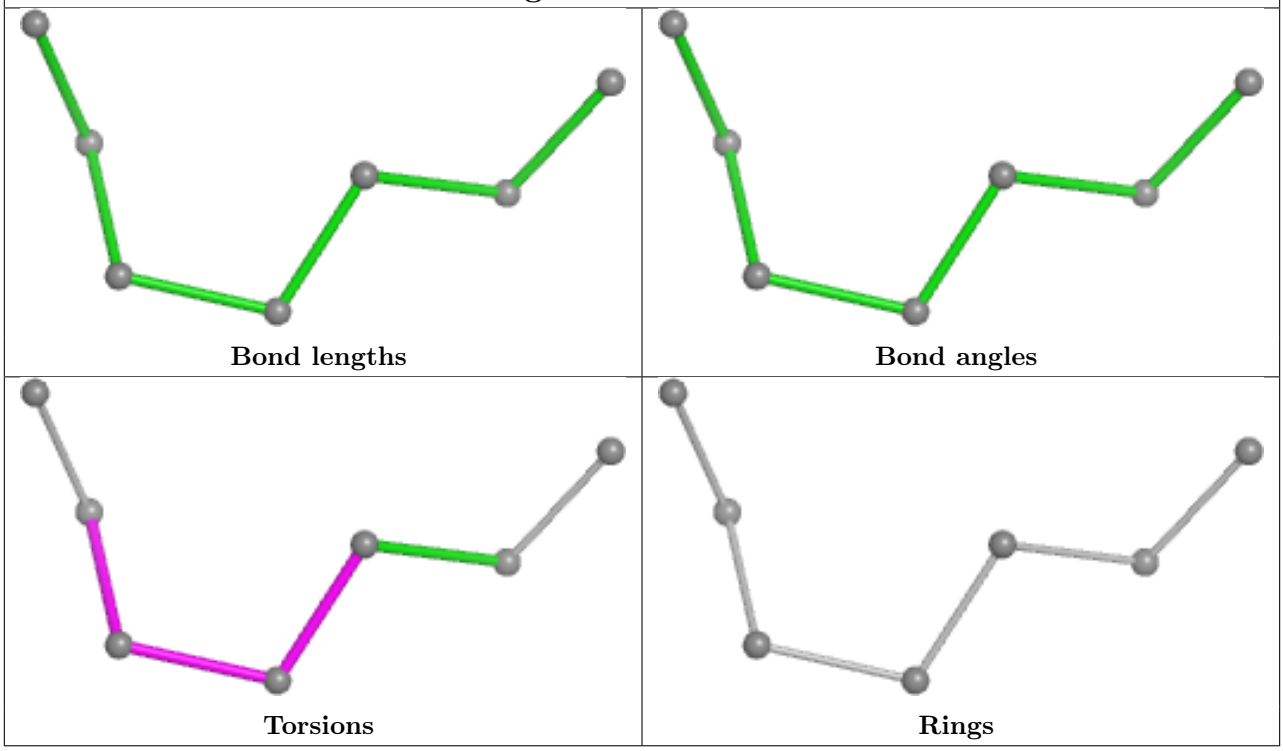
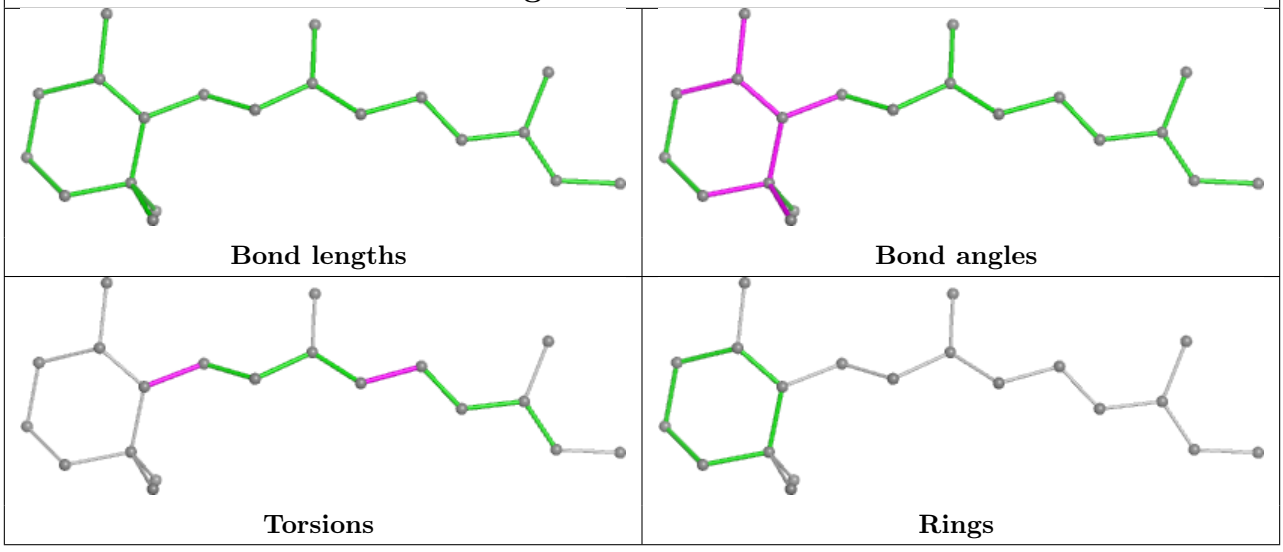
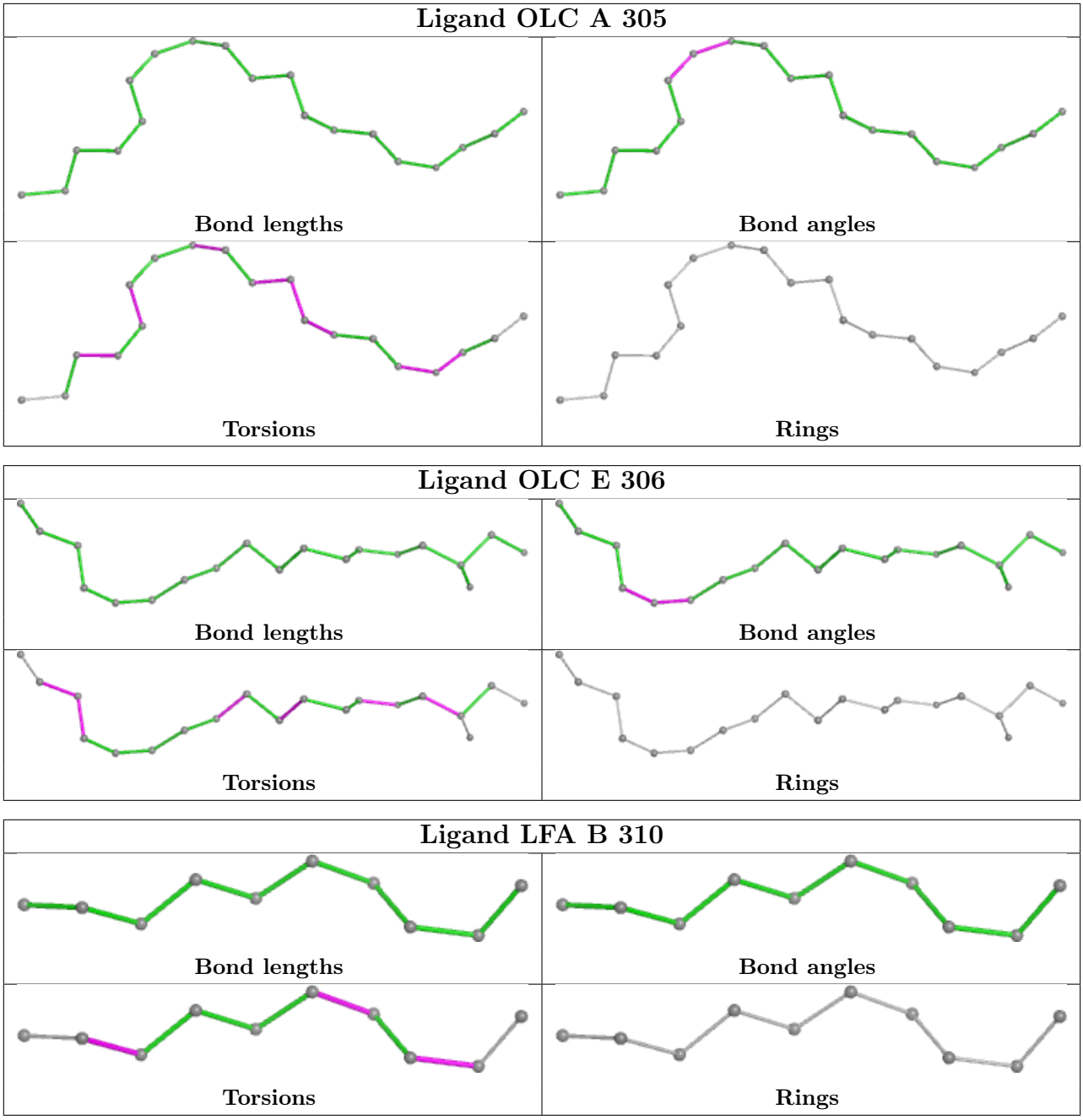


Ligand OLC A 310

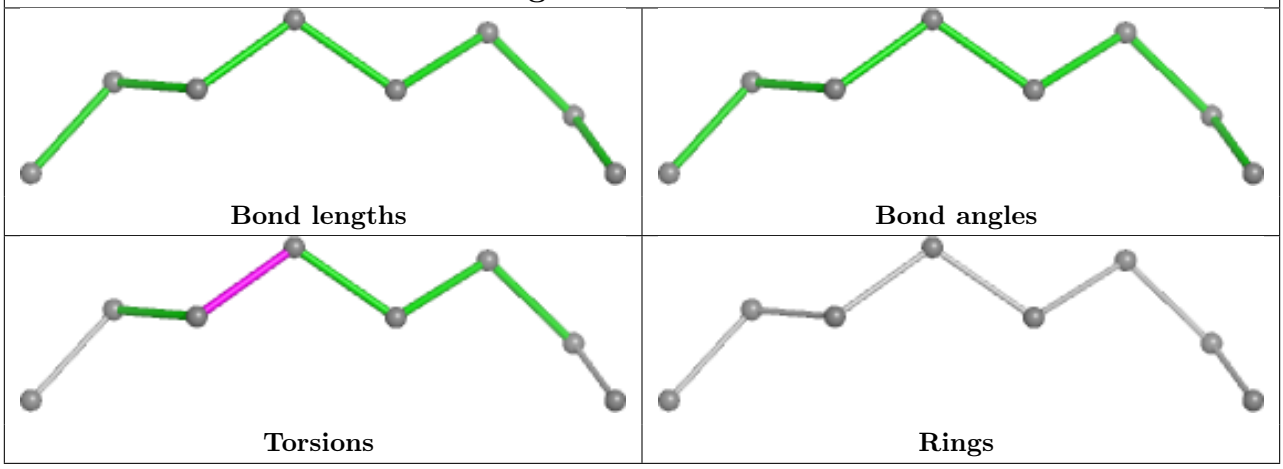


Ligand RET D 301

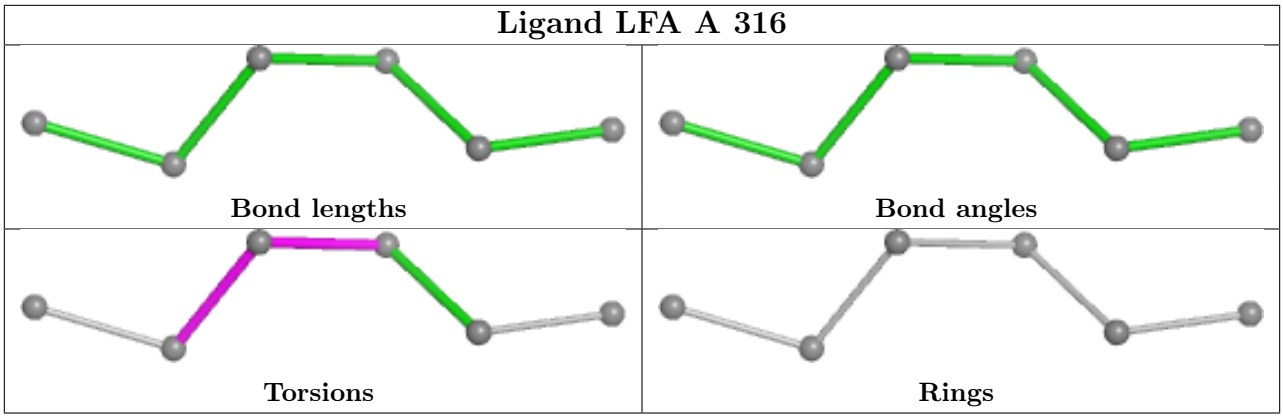



Ligand OLC A 305
Bond lengths
Bond angles
Torsions
Rings
Ligand OLC E 306
Bond lengths
Bond angles
Torsions
Rings
Ligand LFA B 310
Bond lengths
Bond angles
Torsions
Rings

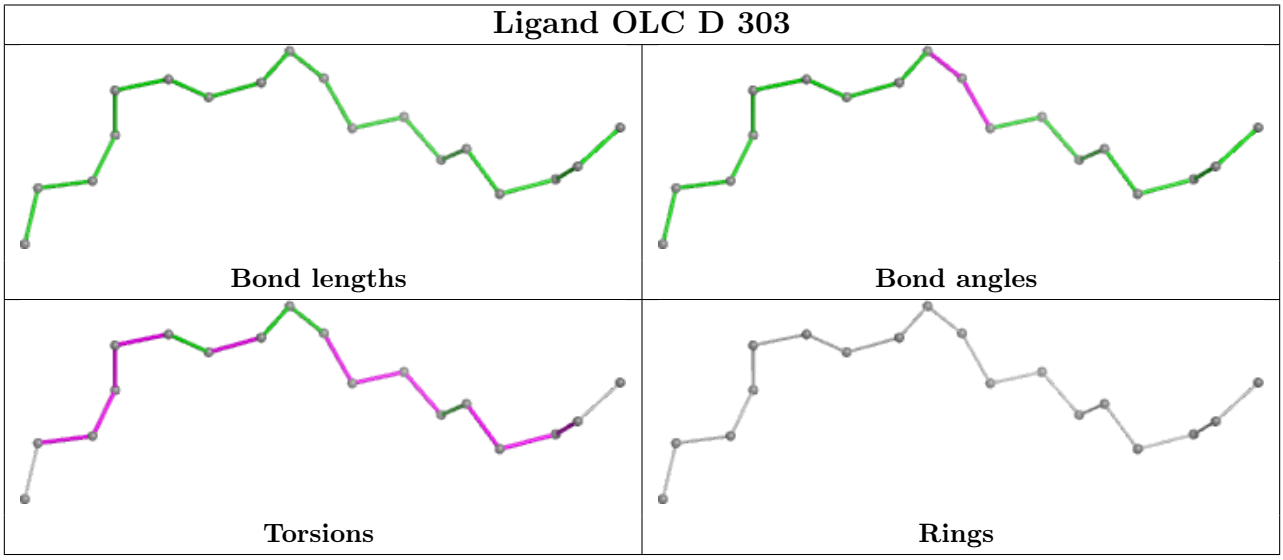
Ligand LFA A 313



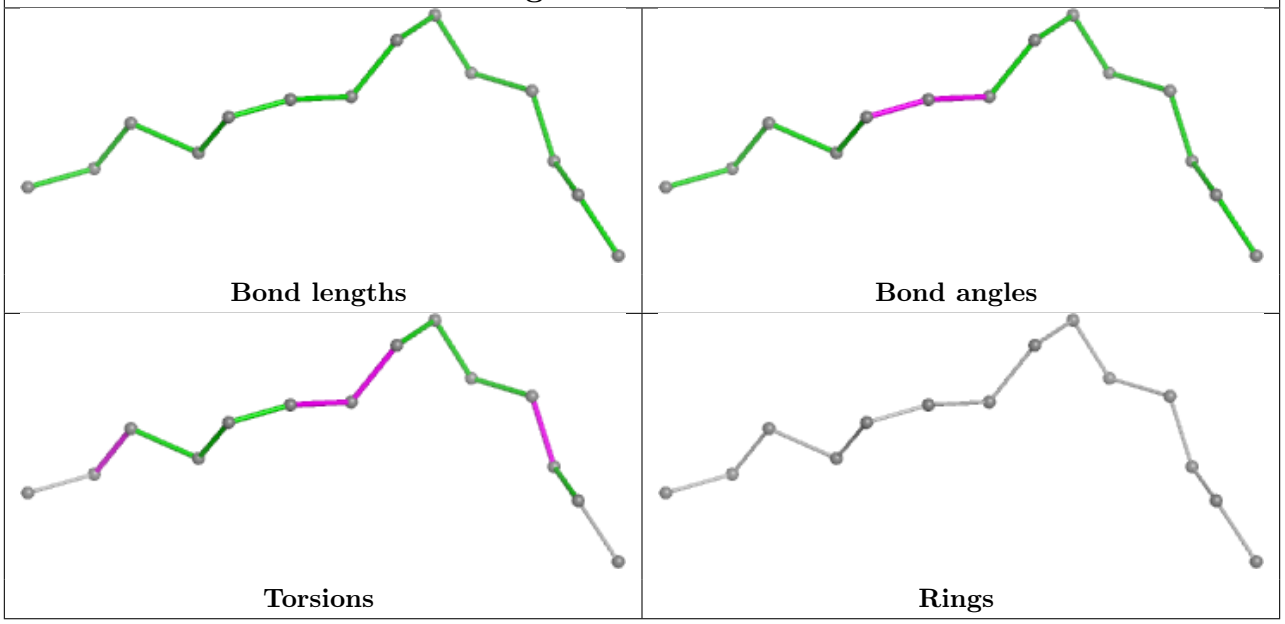
Ligand LFA A 316



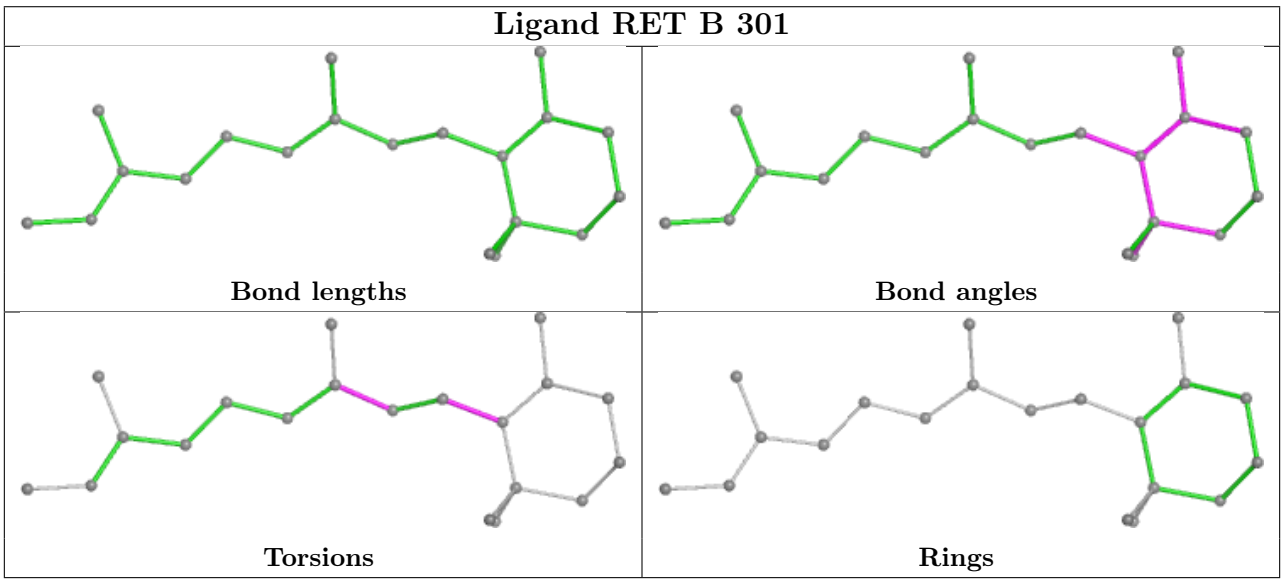
Ligand OLC D 303



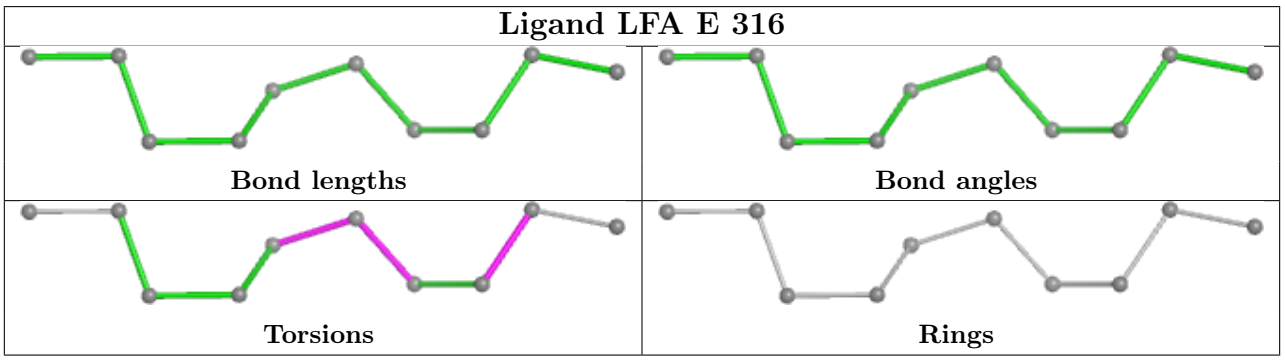
Ligand OLC B 306



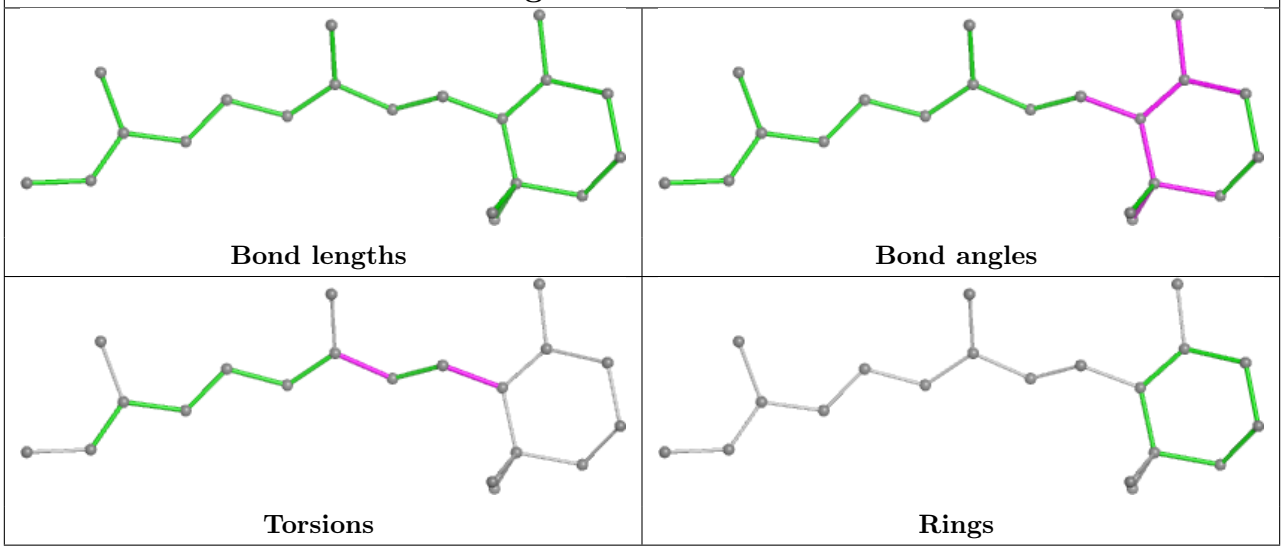
Ligand RET B 301



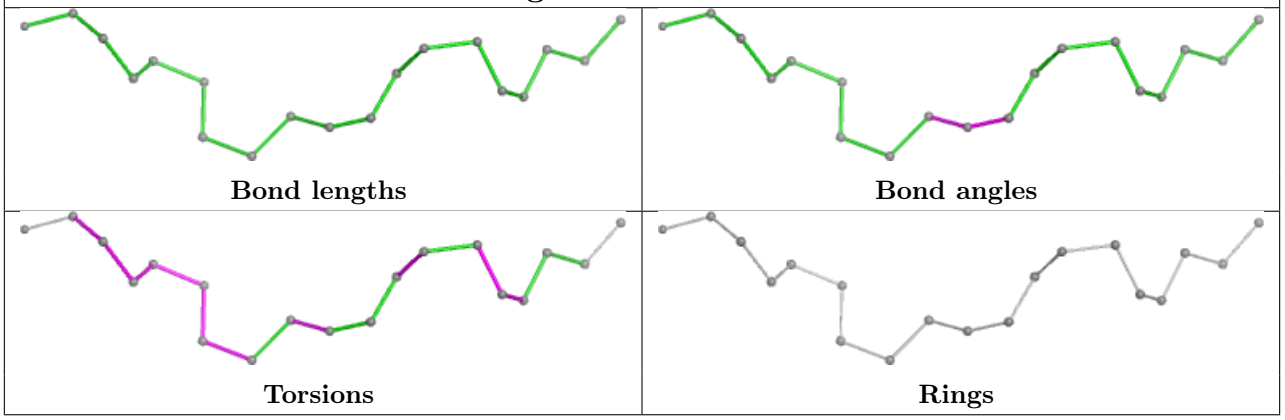
Ligand LFA E 316



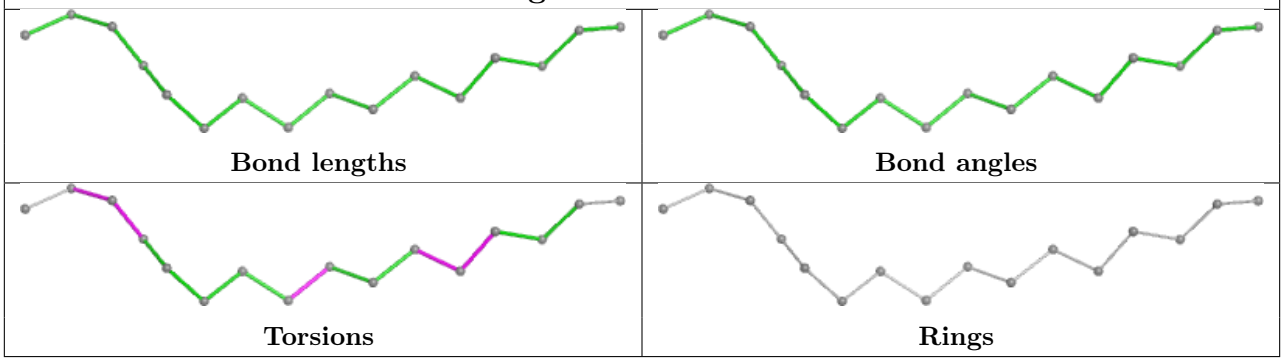
Ligand RET C 301



Ligand OLC E 319



Ligand LFA A 317



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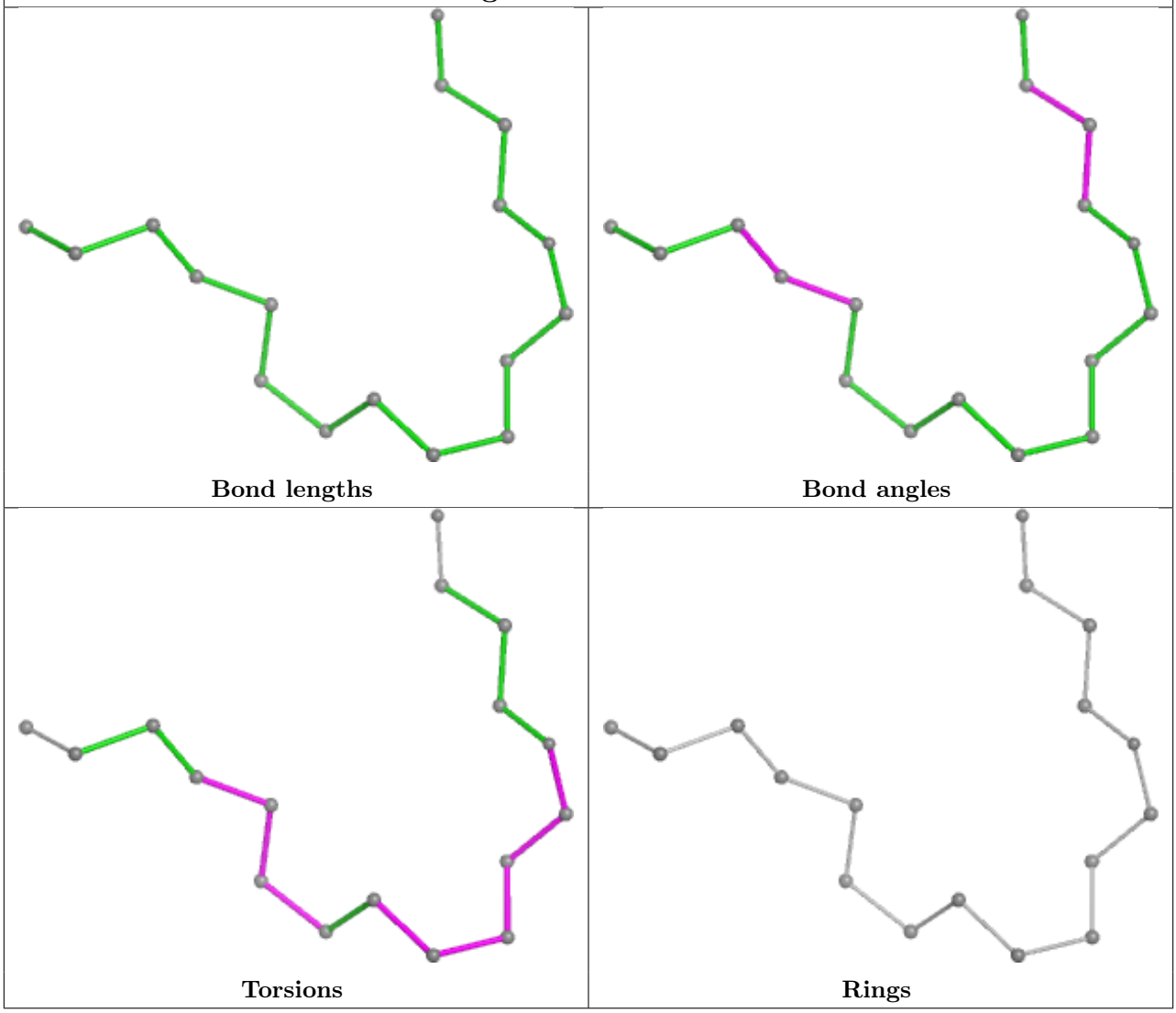

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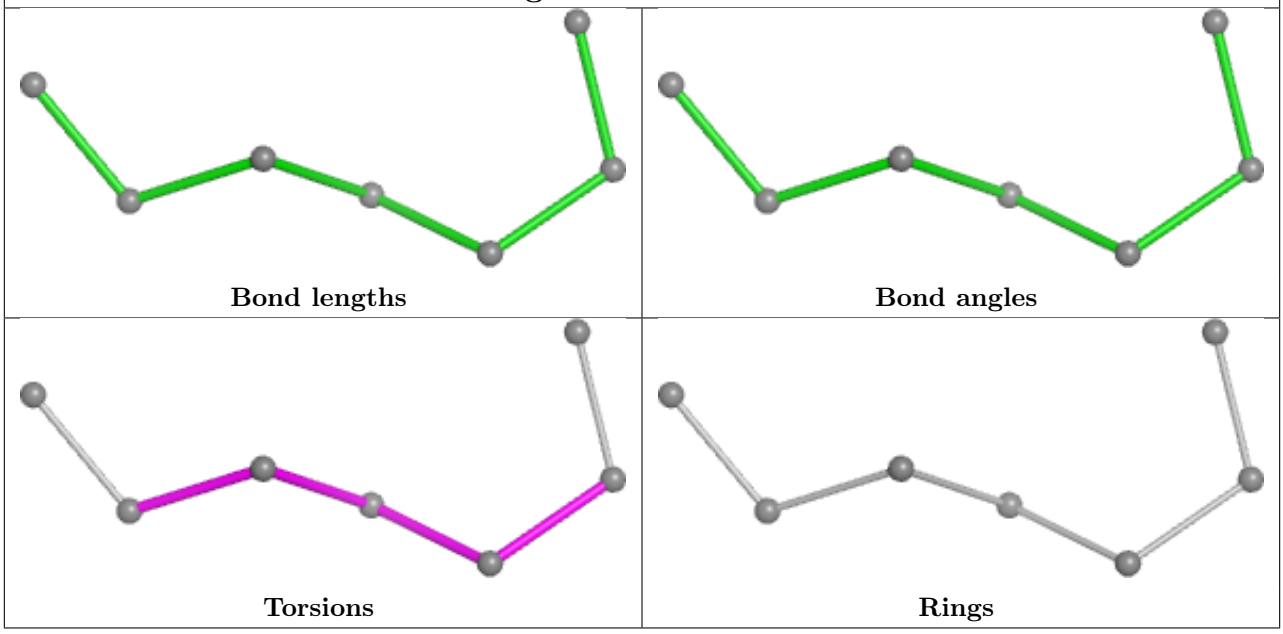

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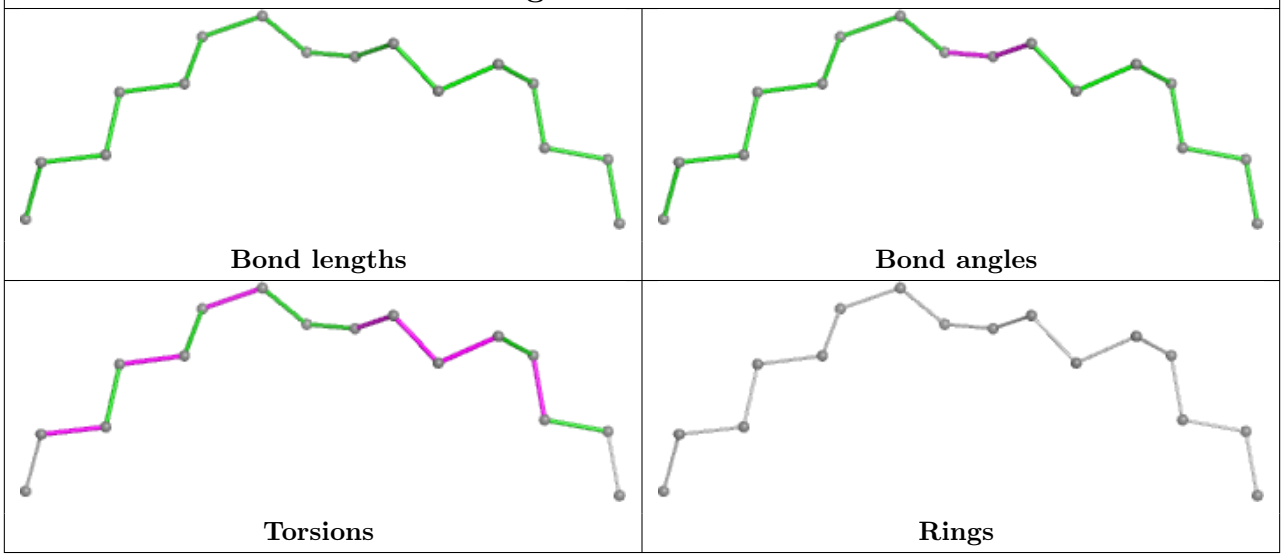
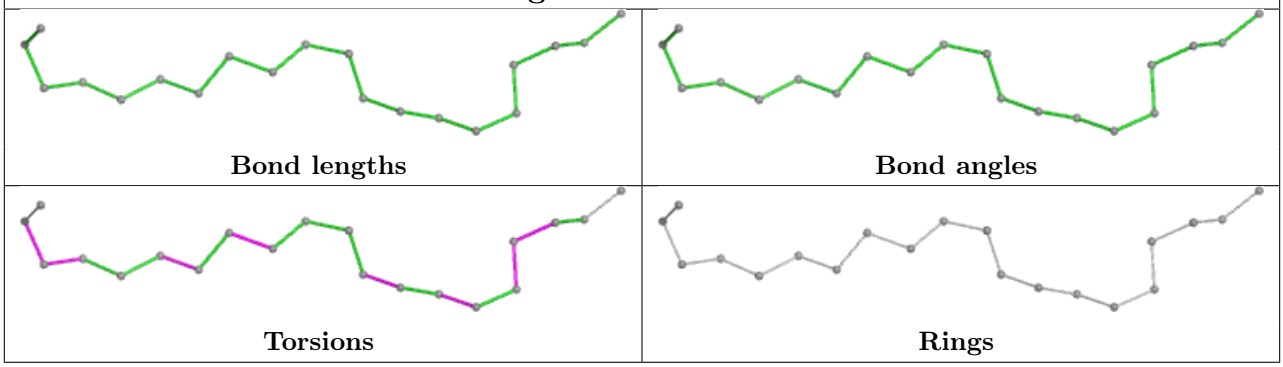


Ligand LFA D 311



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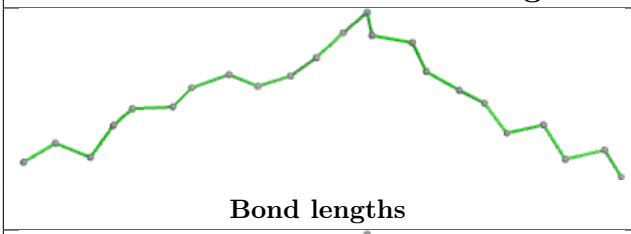
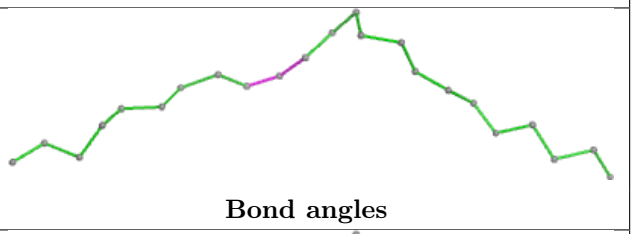
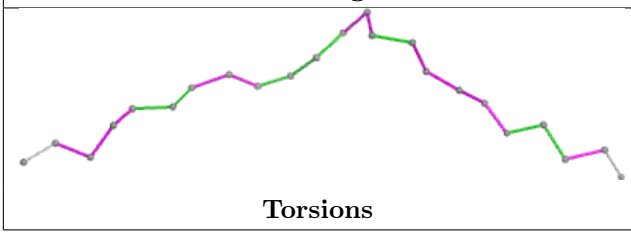
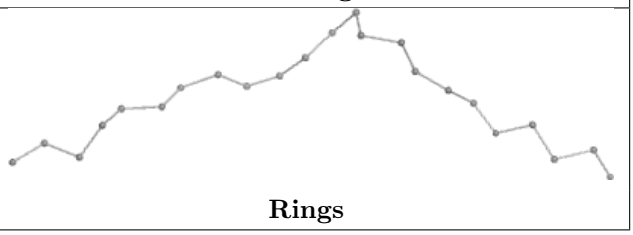
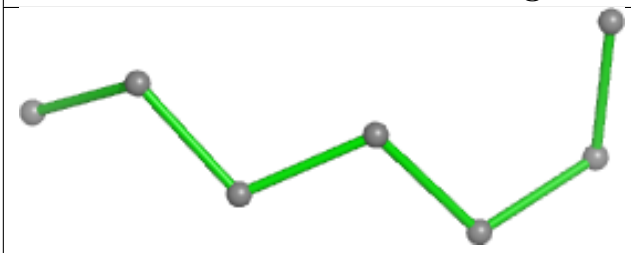

Bond lengths

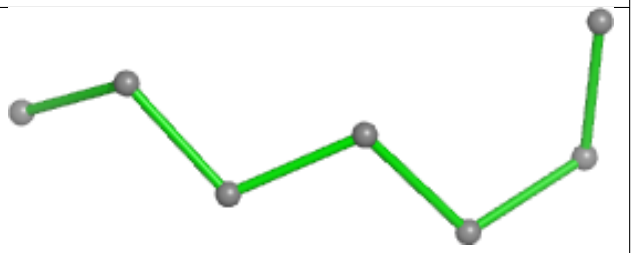

Bond angles

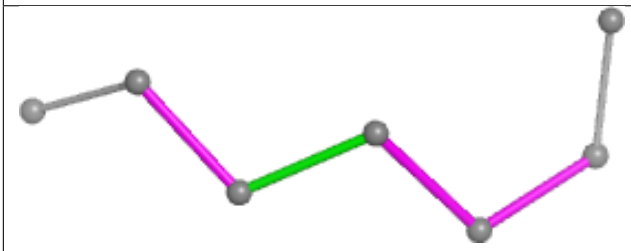

Torsions

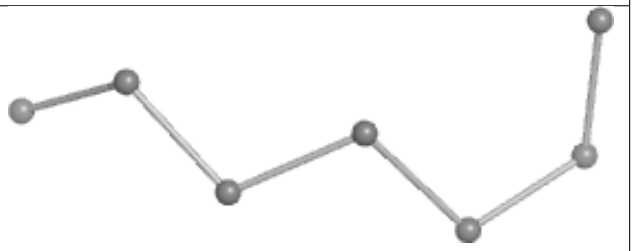

Rings

Ligand OLC D 309

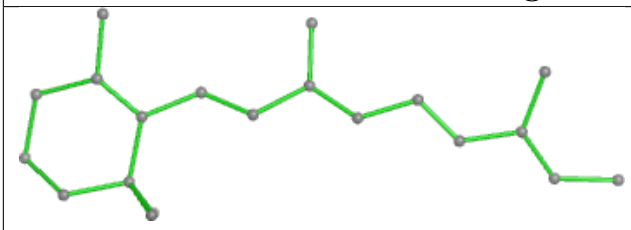

Bond lengths

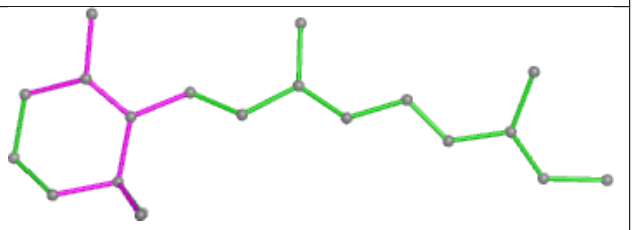

Bond angles

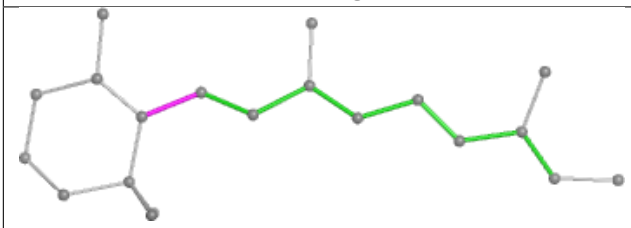

Torsions

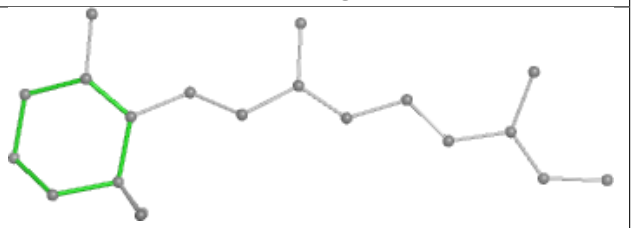

Rings

Ligand RET A 301

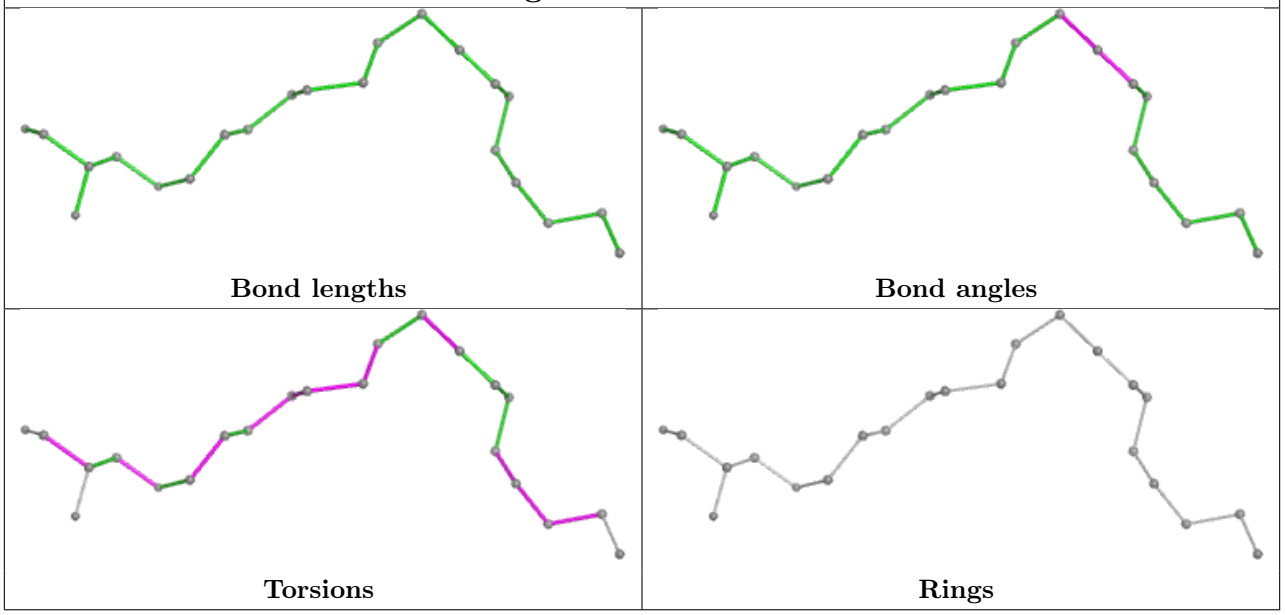

Bond lengths


Bond angles

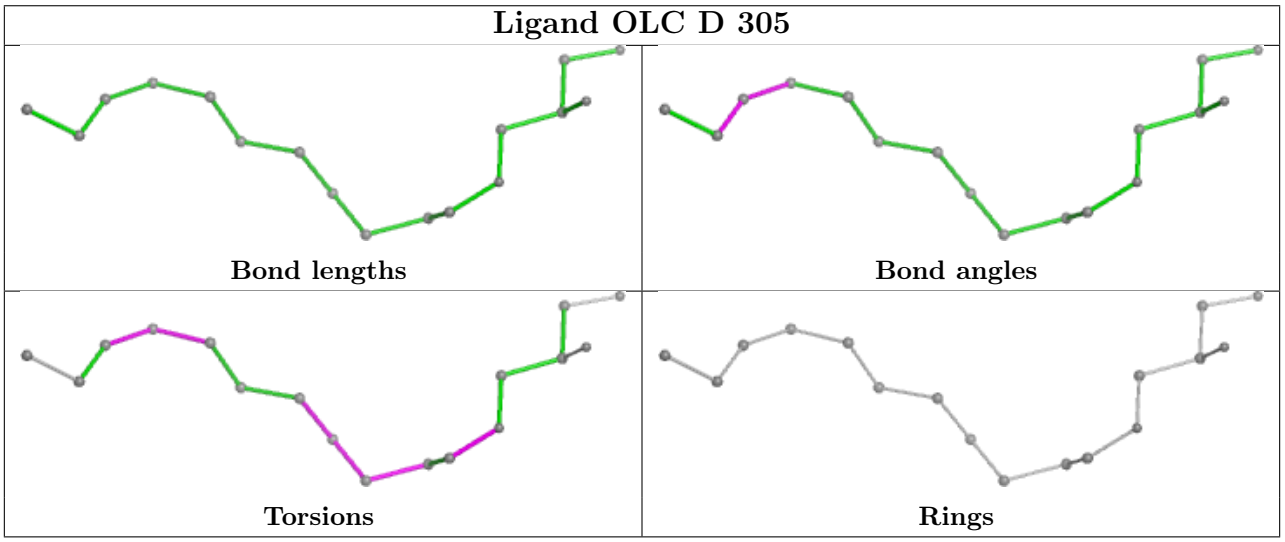

Torsions


Rings

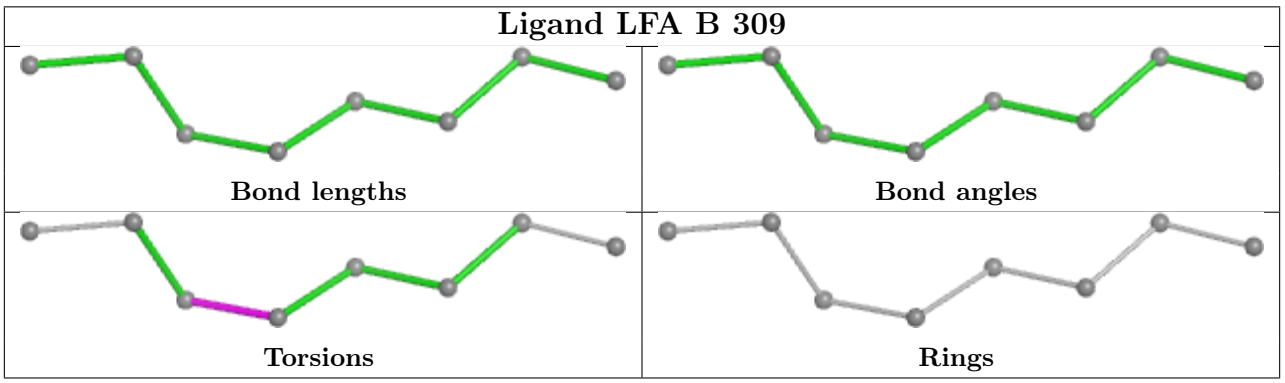
Ligand OLC D 304



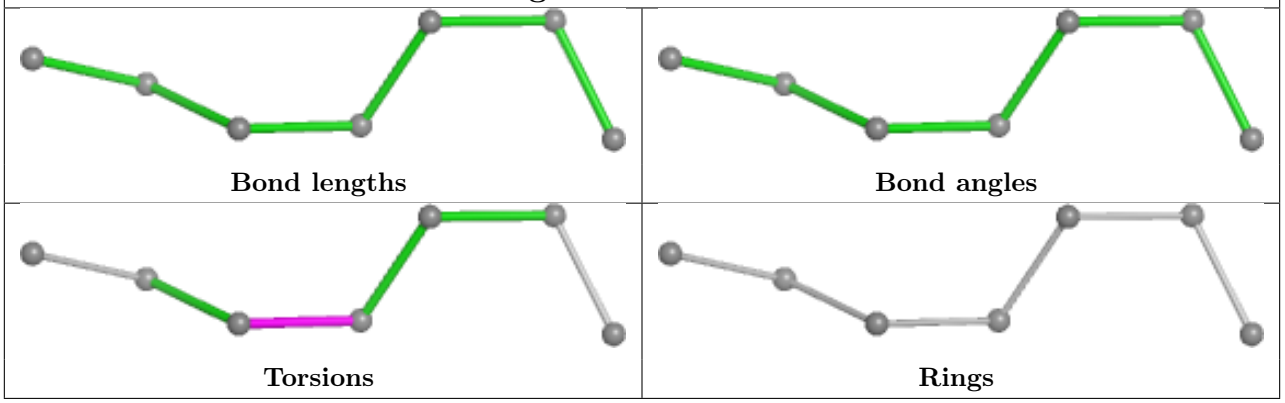
Ligand OLC D 305



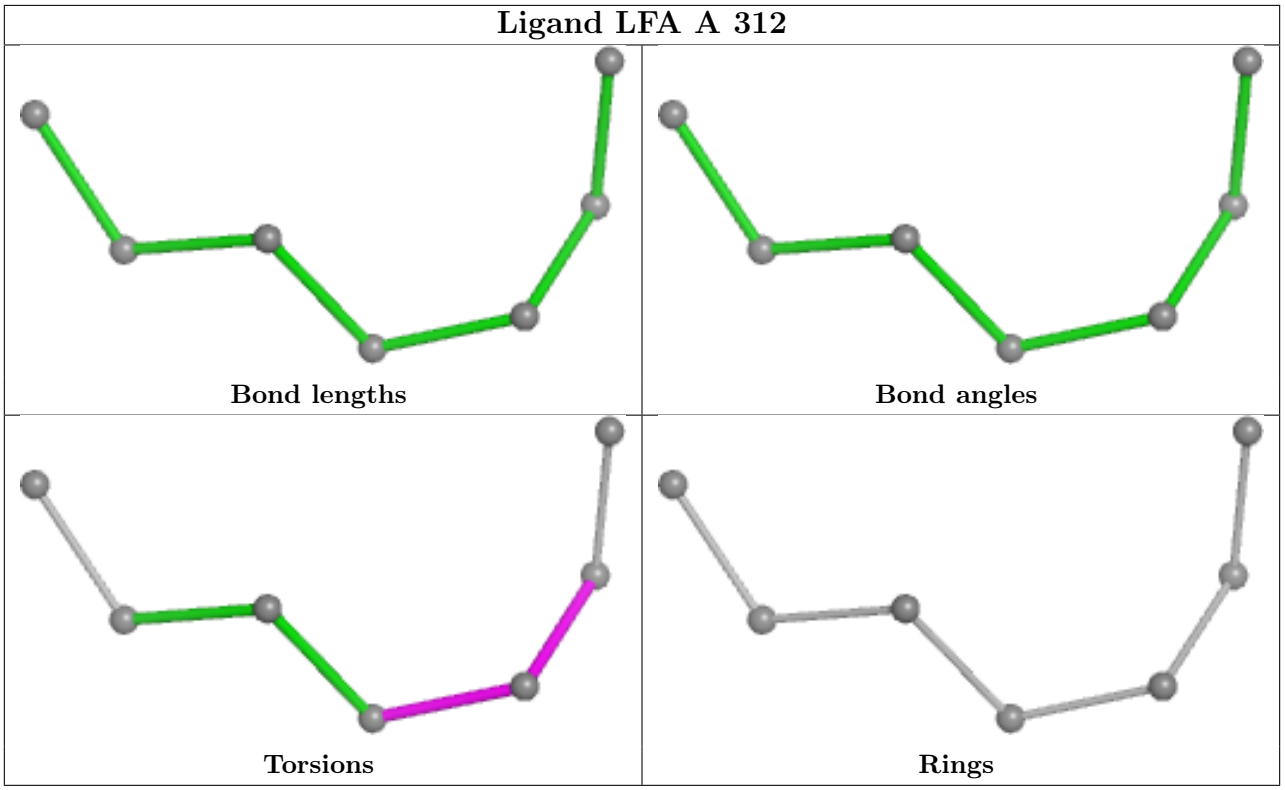
Ligand LFA B 309



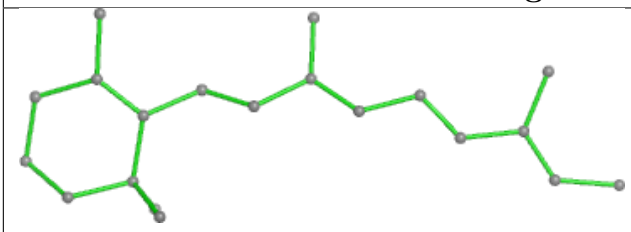
Ligand LFA B 311



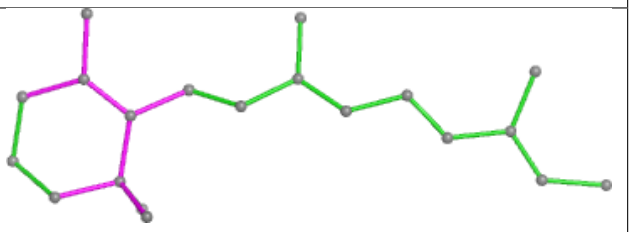
Ligand LFA A 312



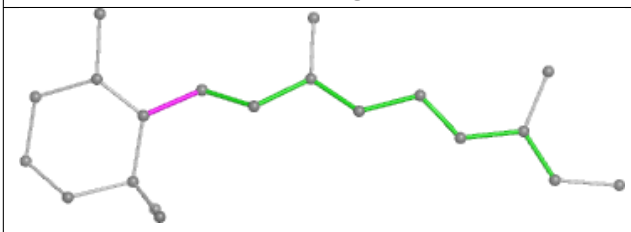
Ligand RET E 301



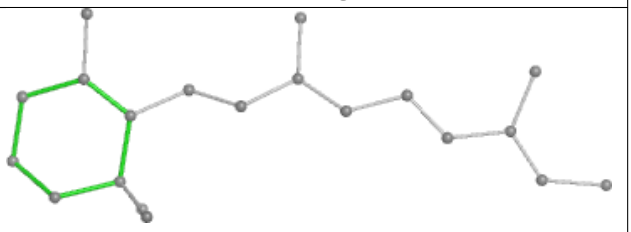
Bond lengths



Bond angles

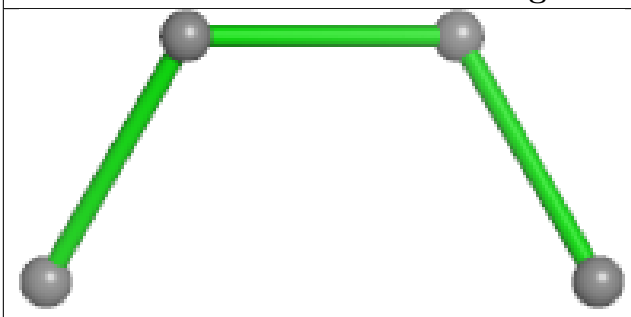


Torsions

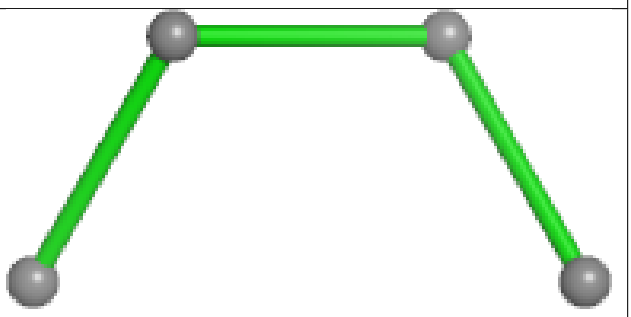


Rings

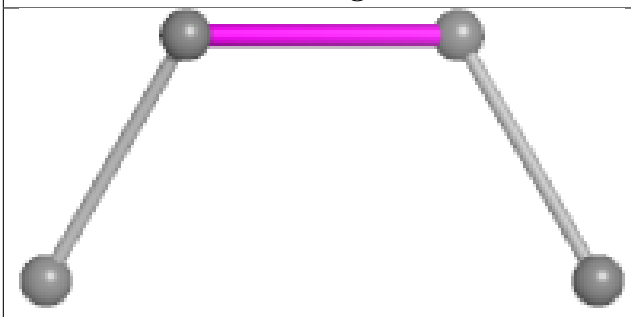
Ligand LFA E 312



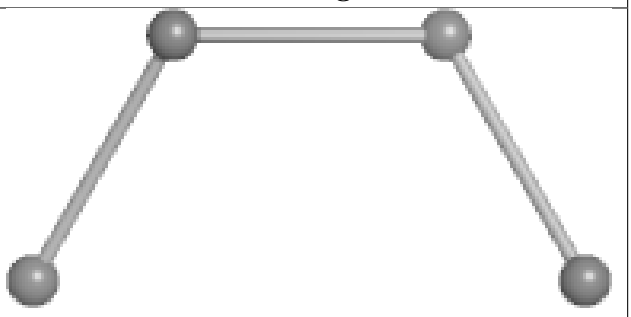
Bond lengths



Bond angles

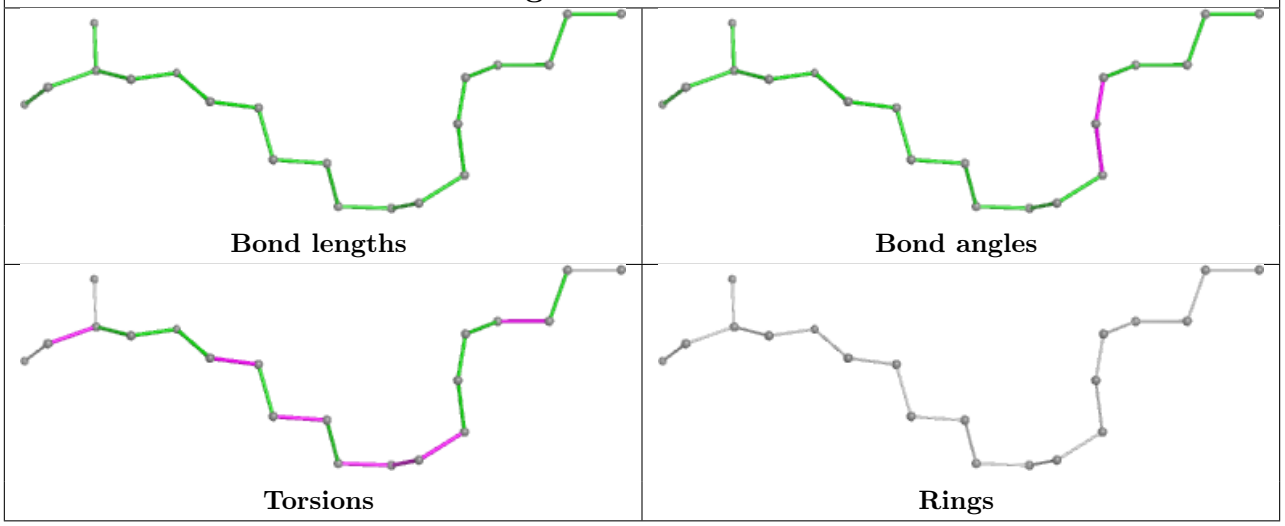


Torsions

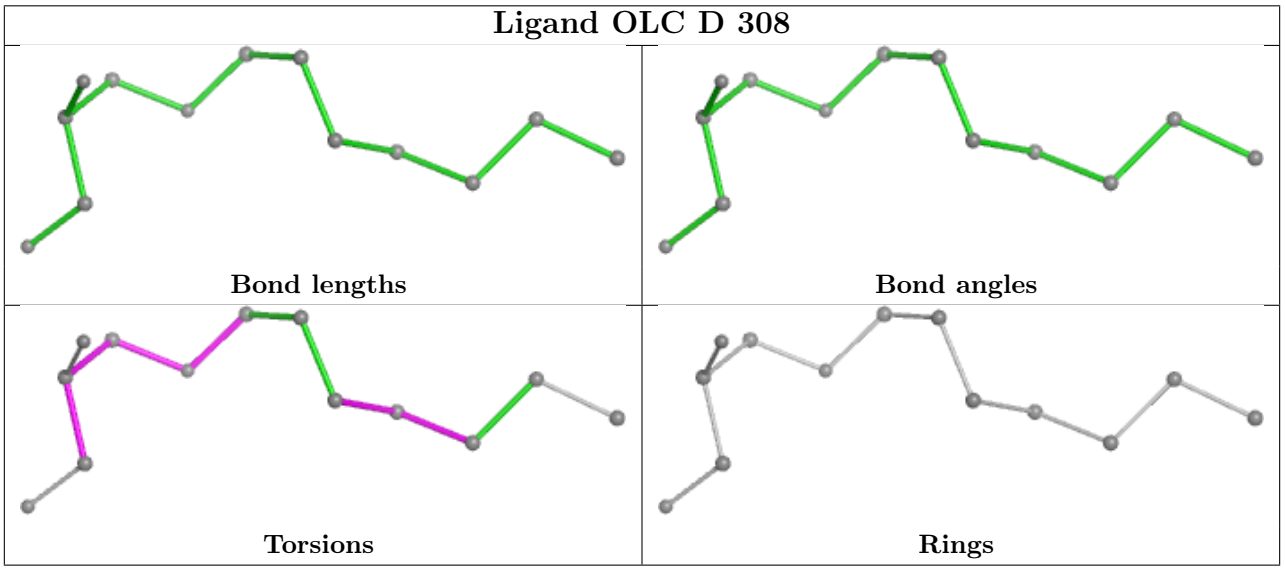


Rings

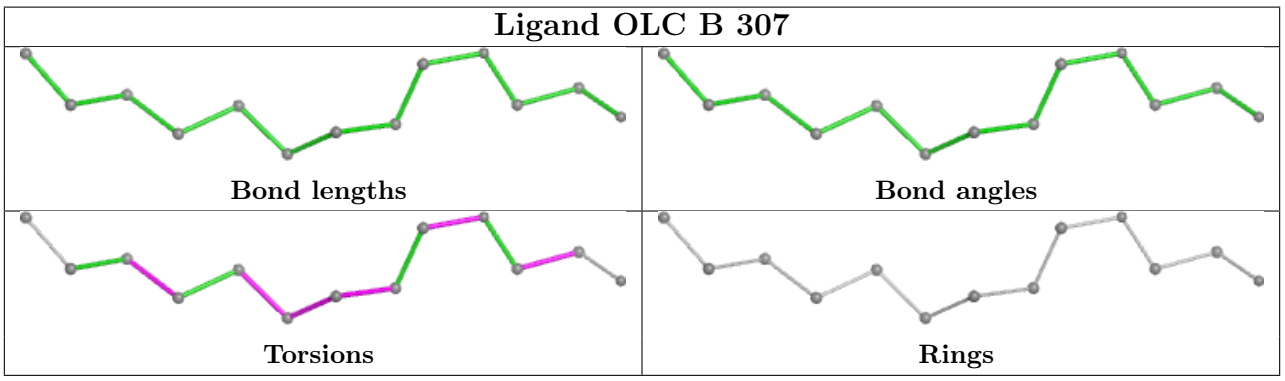
Ligand OLC B 312



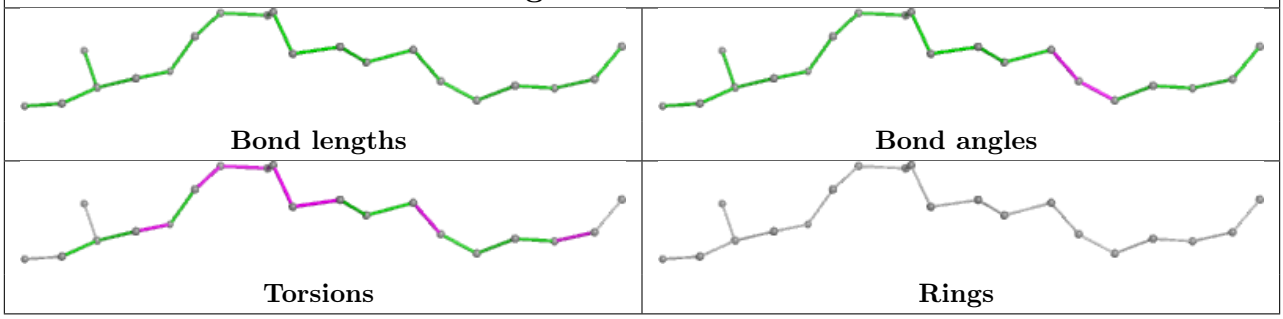
Ligand OLC D 308



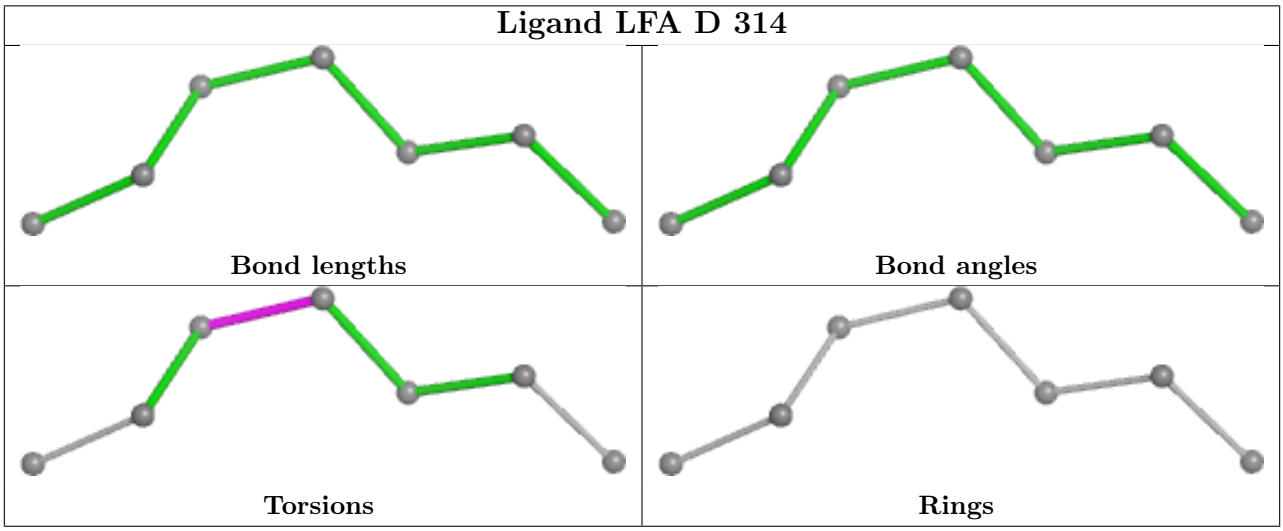
Ligand OLC B 307



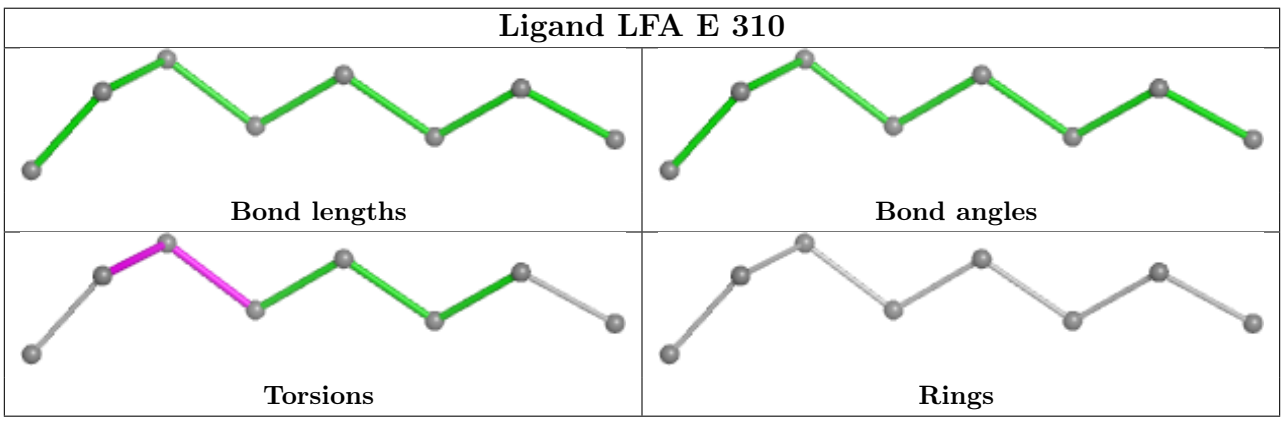
Ligand OLC B 304



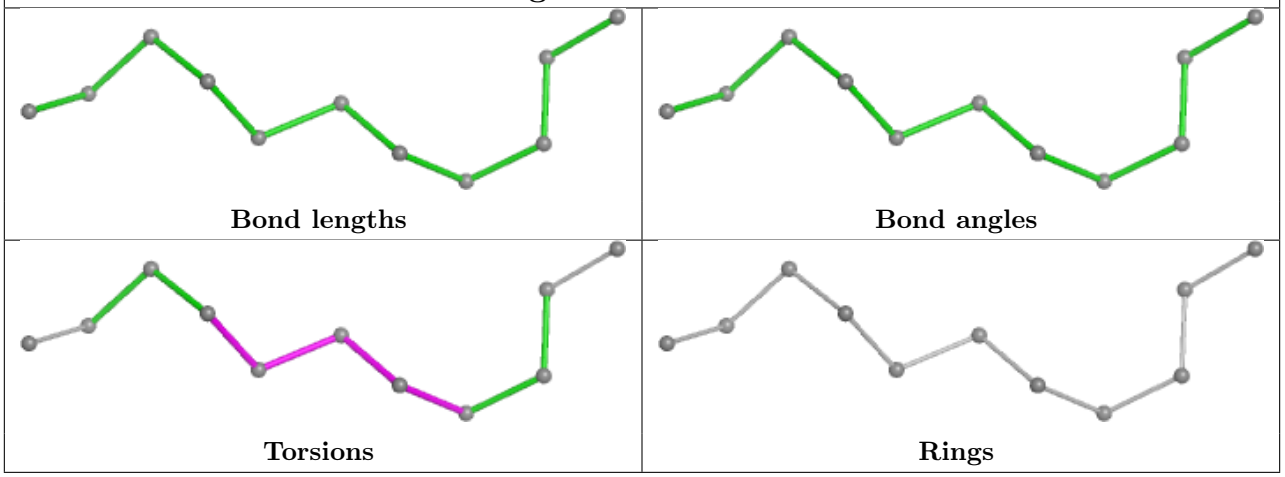
Ligand LFA D 314



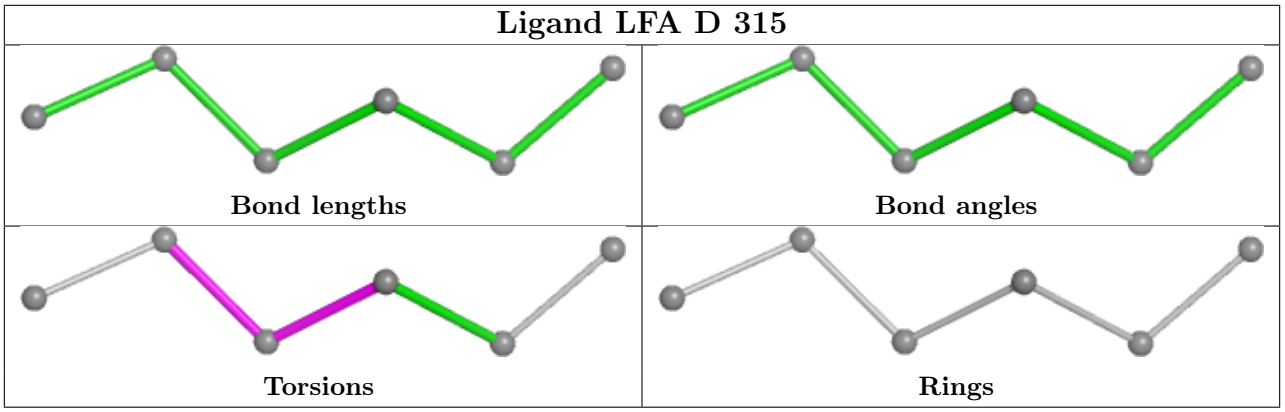
Ligand LFA E 310



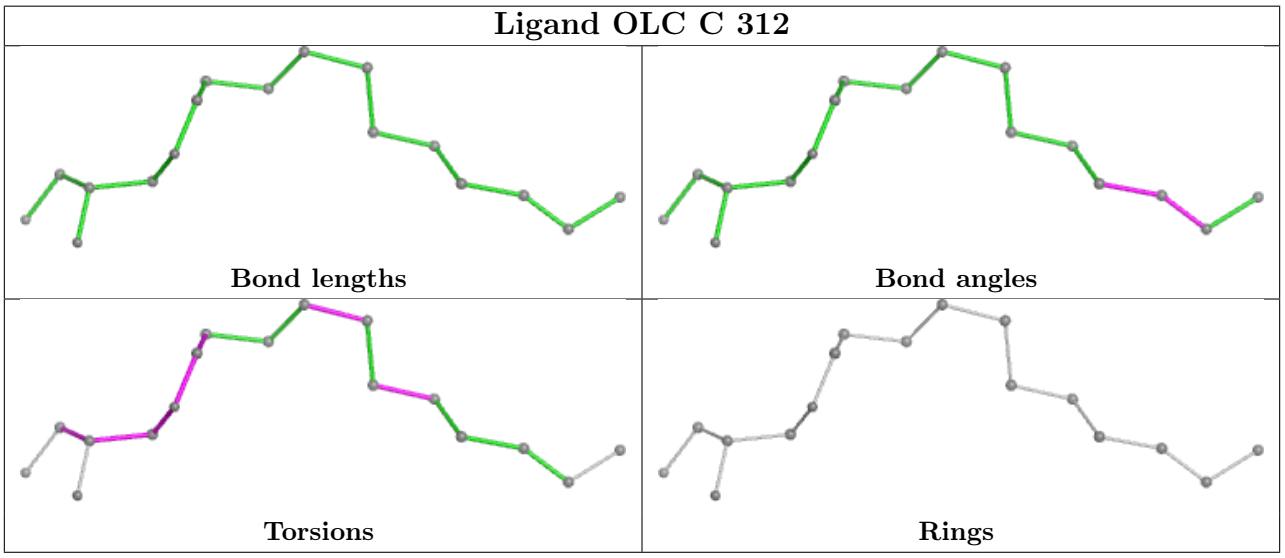
Ligand LFA B 313

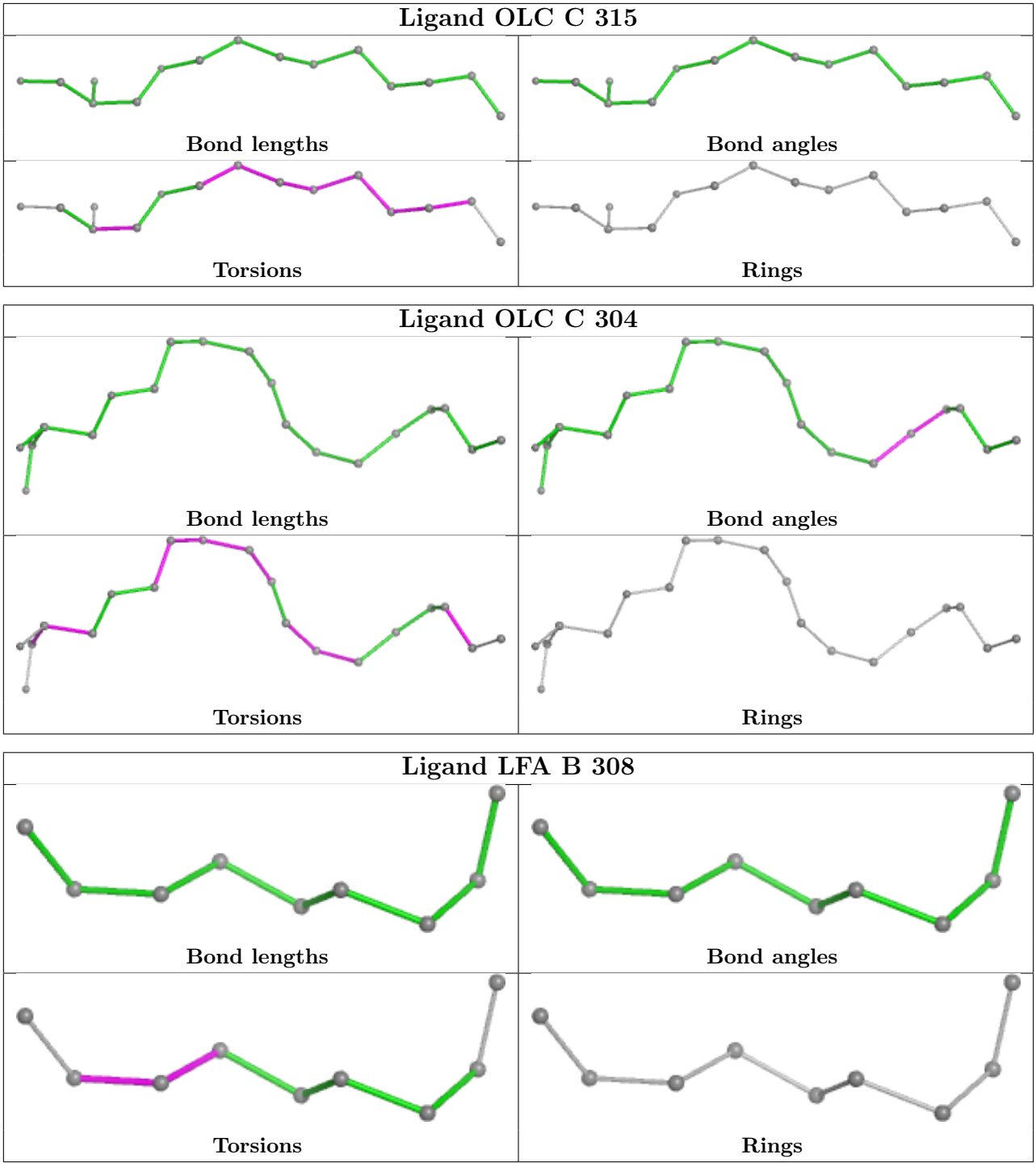


Ligand LFA D 315

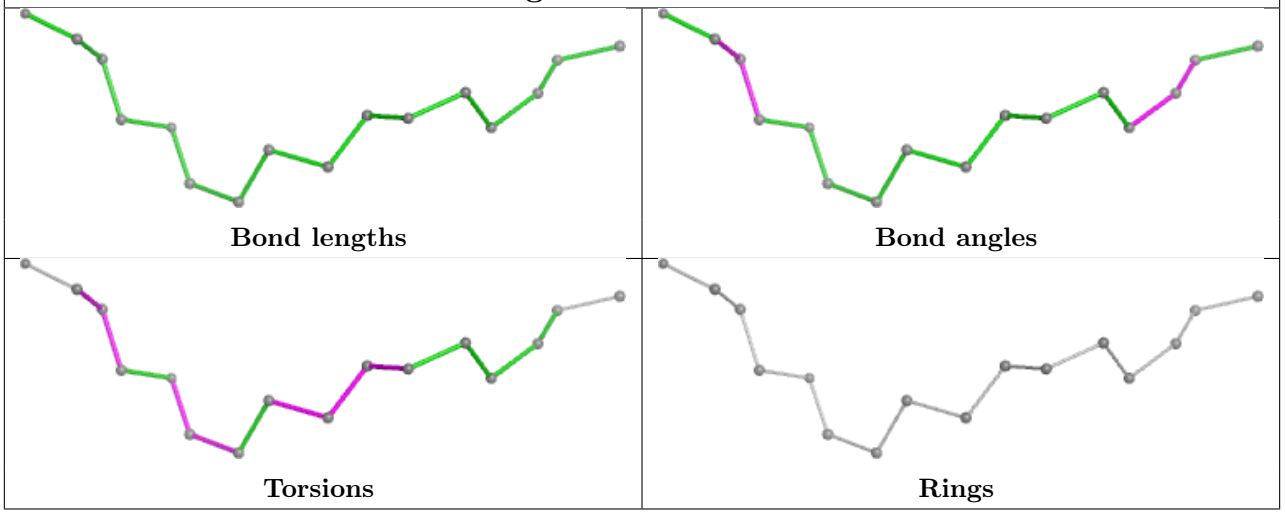


Ligand OLC C 312

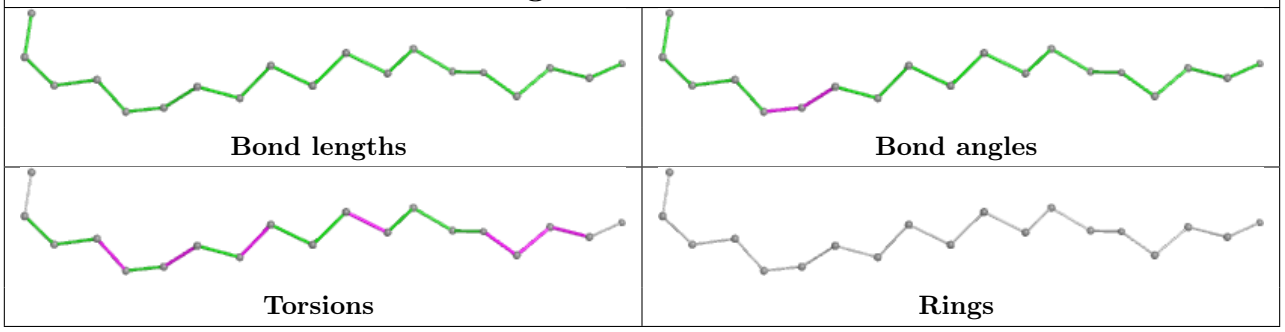



Ligand OLC C 315
Bond lengths
Bond angles
Torsions
Rings
Ligand OLC C 304
Bond lengths
Bond angles
Torsions
Rings
Ligand LFA B 308
Bond lengths
Bond angles
Torsions
Rings

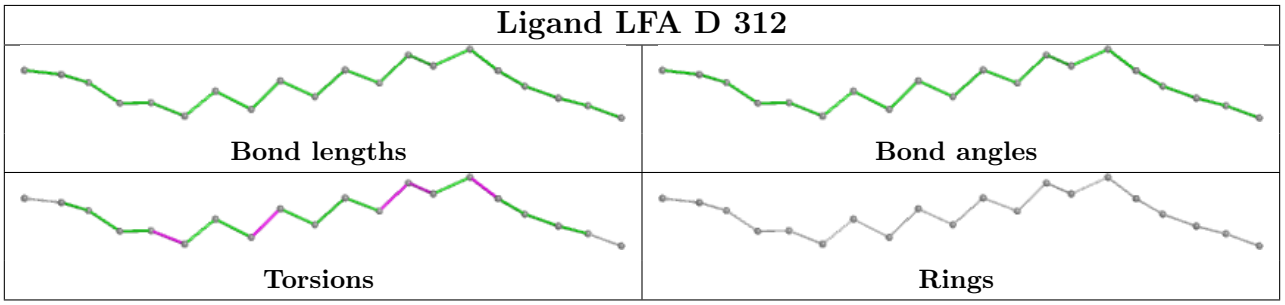
Ligand OLC B 303



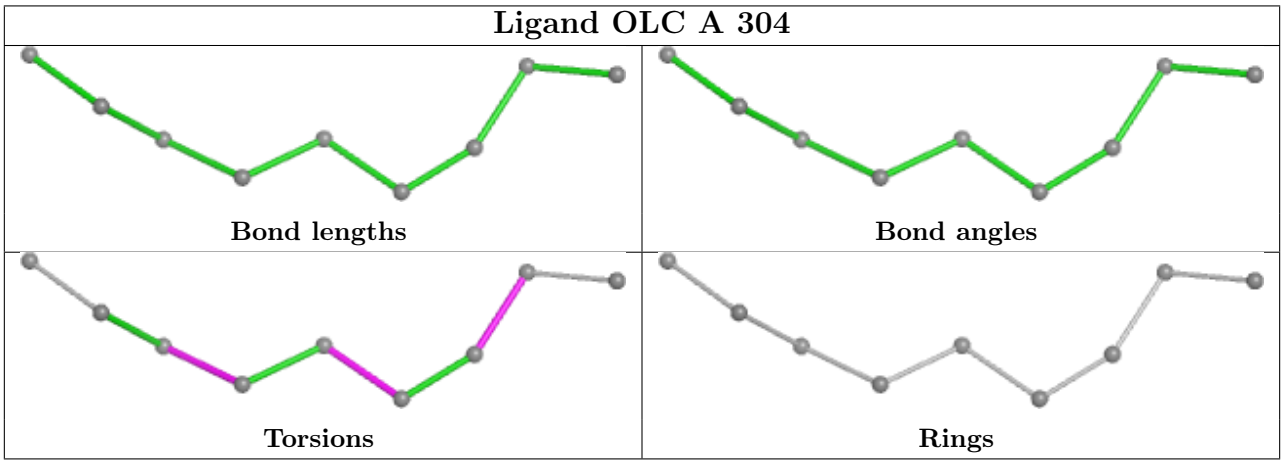
Ligand OLC E 309

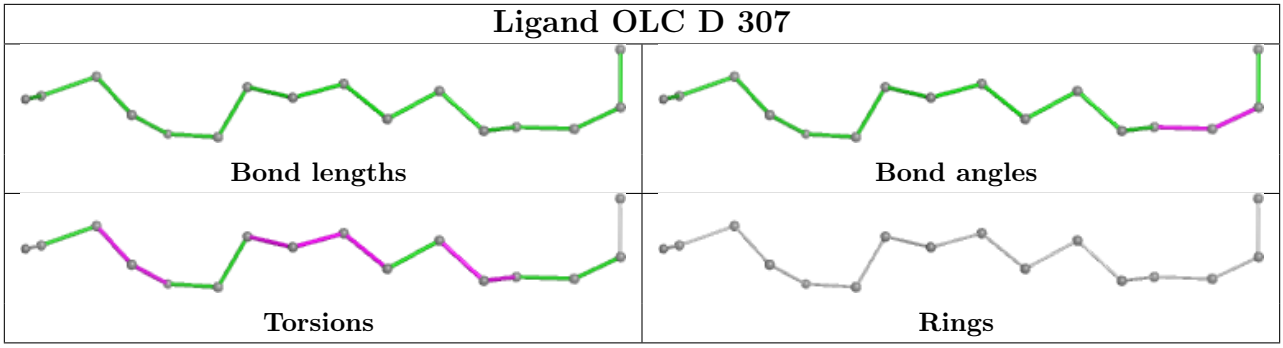


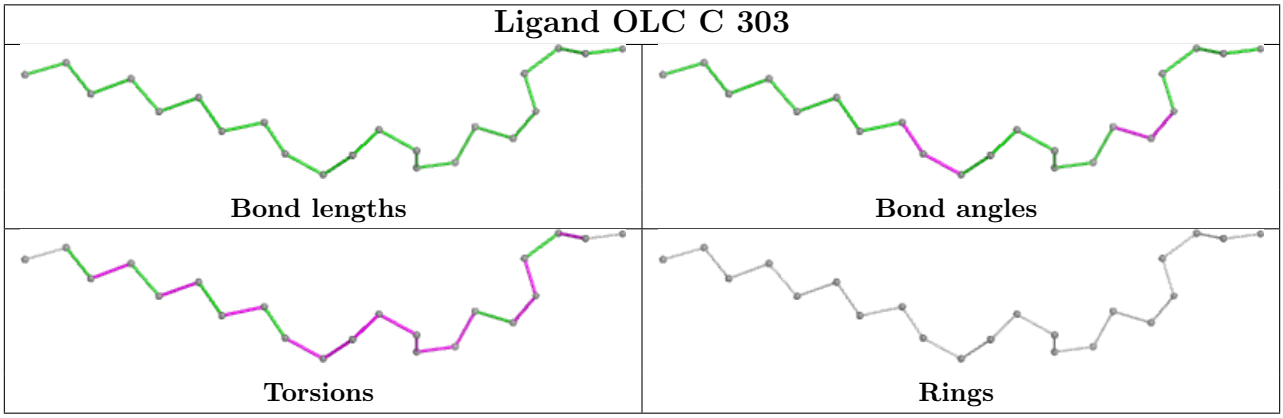
Ligand LFA D 312

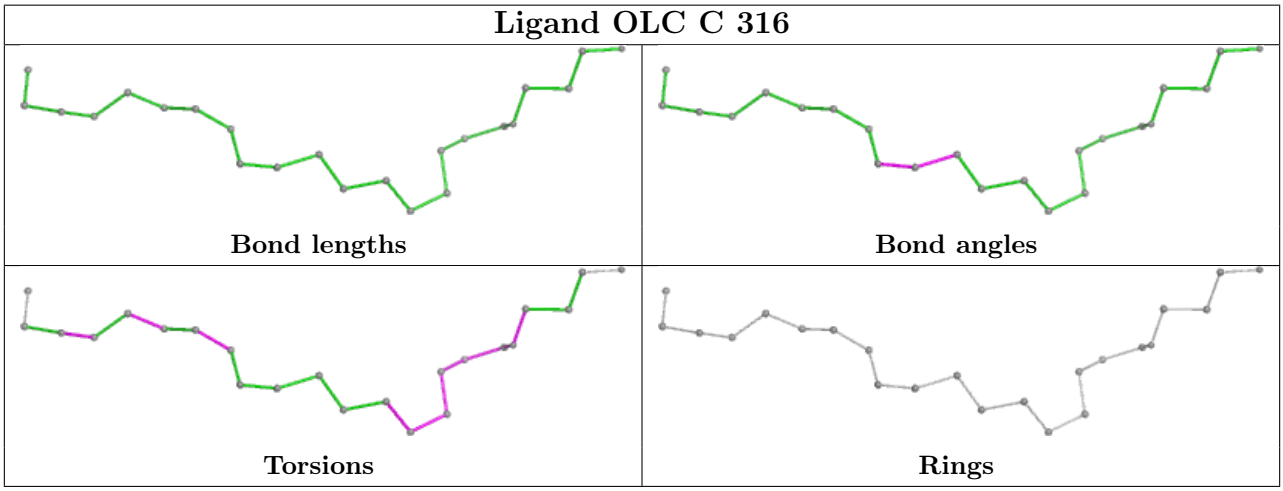


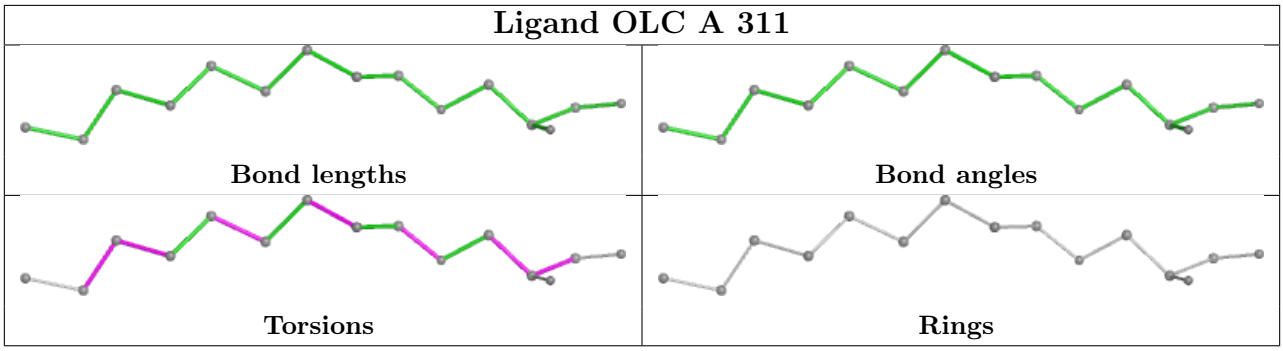
Ligand OLC A 304



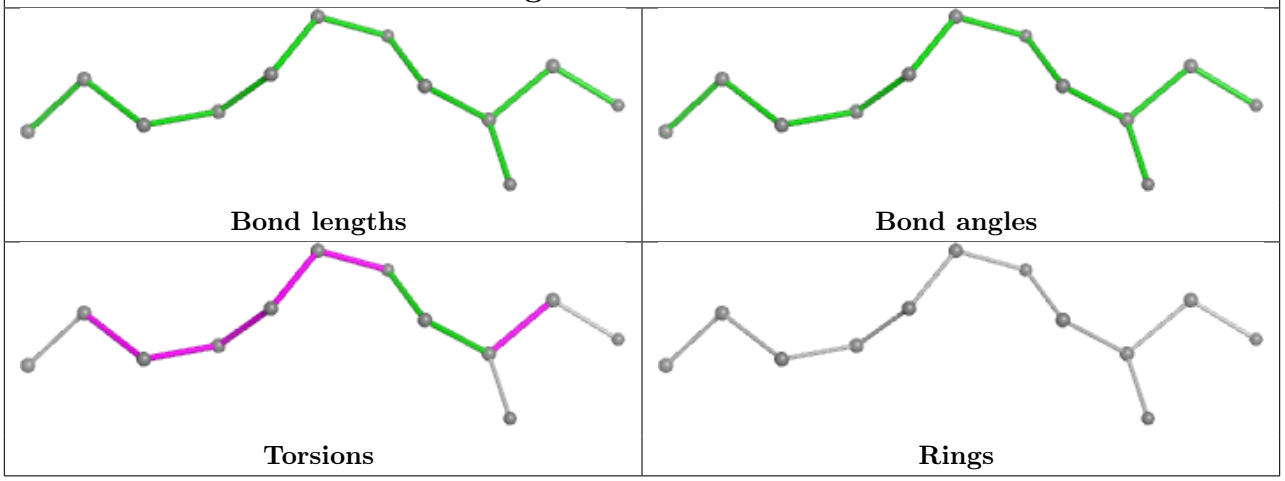

Ligand OLC D 307
Bond lengths
Bond angles
Torsions
Rings


Ligand OLC C 303
Bond lengths
Bond angles
Torsions
Rings

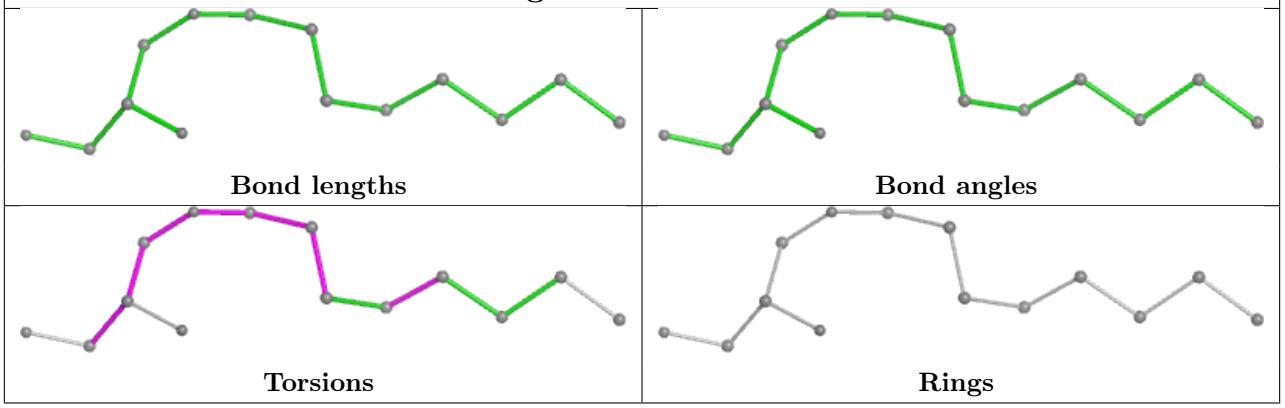

Ligand OLC C 316
Bond lengths
Bond angles
Torsions
Rings


Ligand OLC A 311
Bond lengths
Bond angles
Torsions
Rings

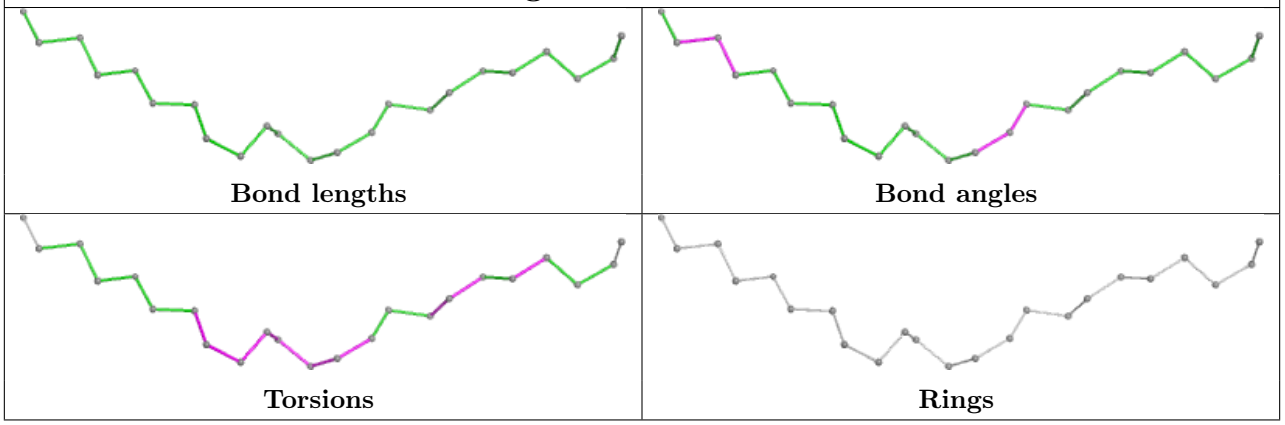
Ligand OLC A 307



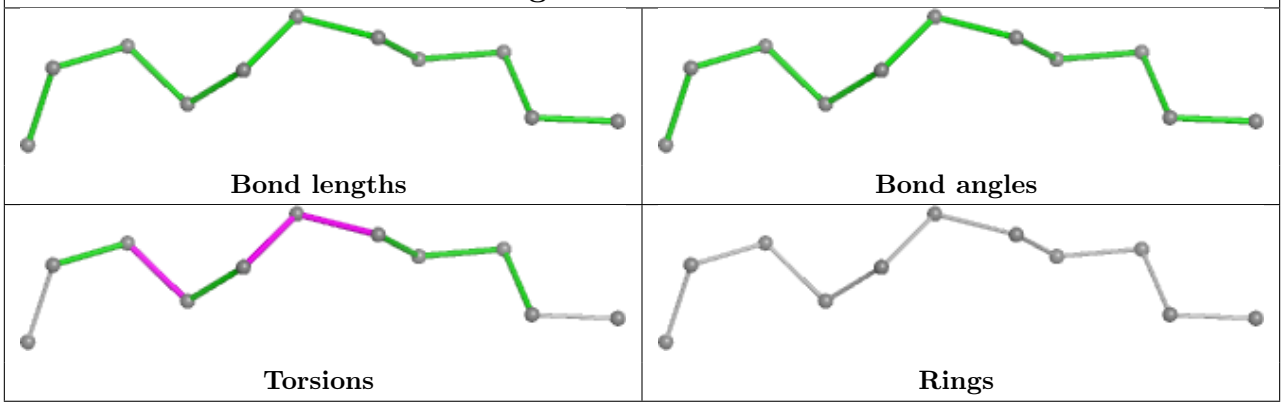
Ligand OLC E 307



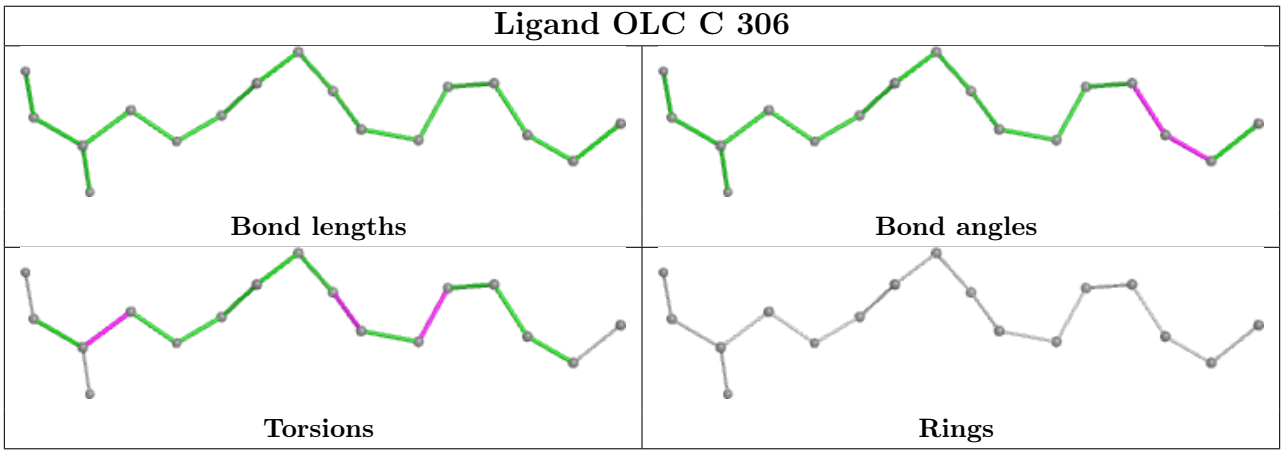
Ligand OLC A 303



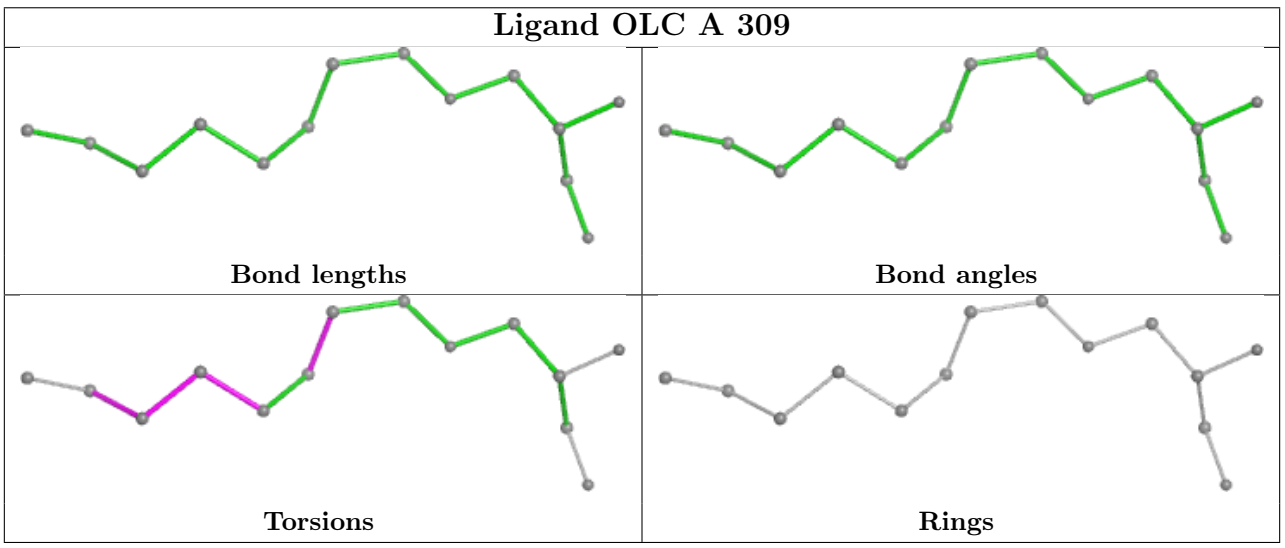
Ligand LFA B 314



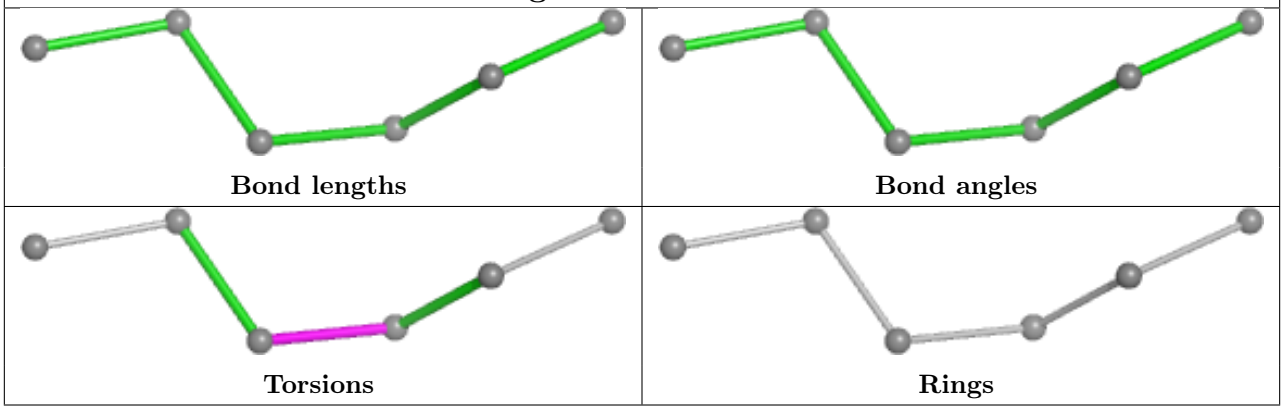
Ligand OLC C 306



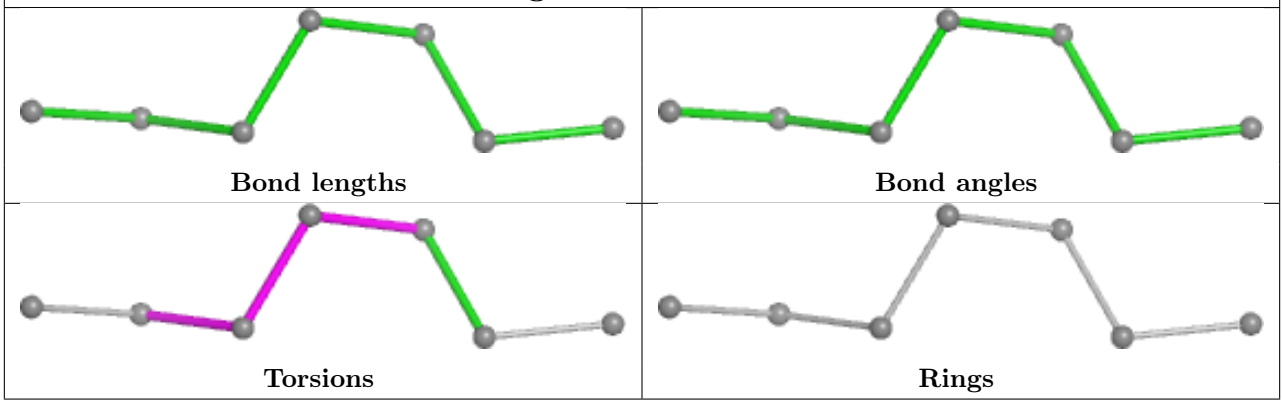
Ligand OLC A 309



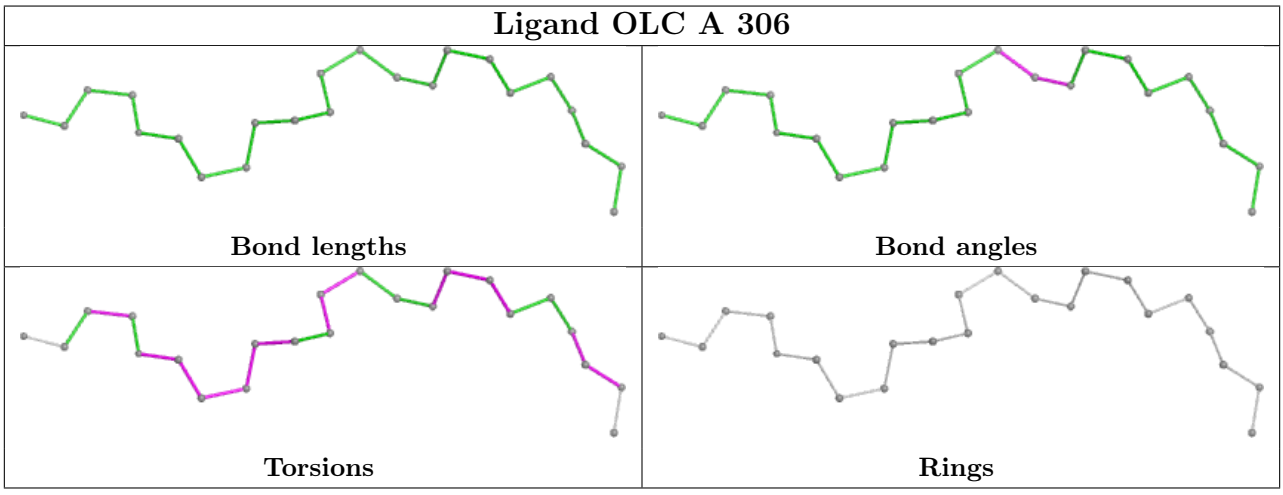
Ligand LFA C 313



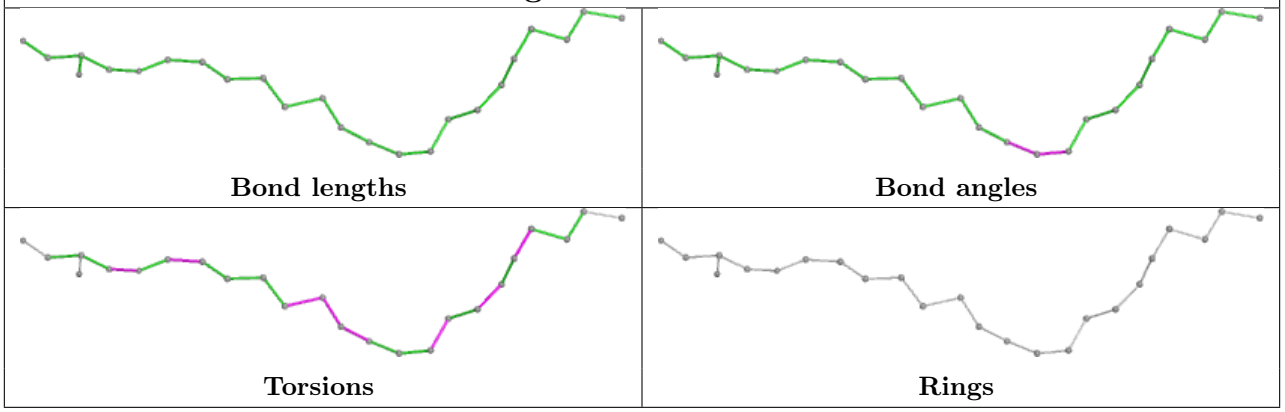
Ligand LFA D 316



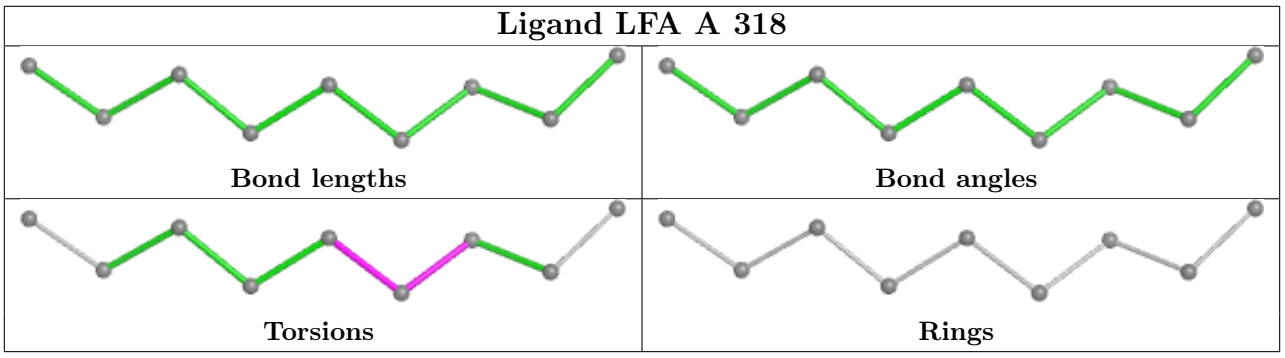
Ligand OLC A 306



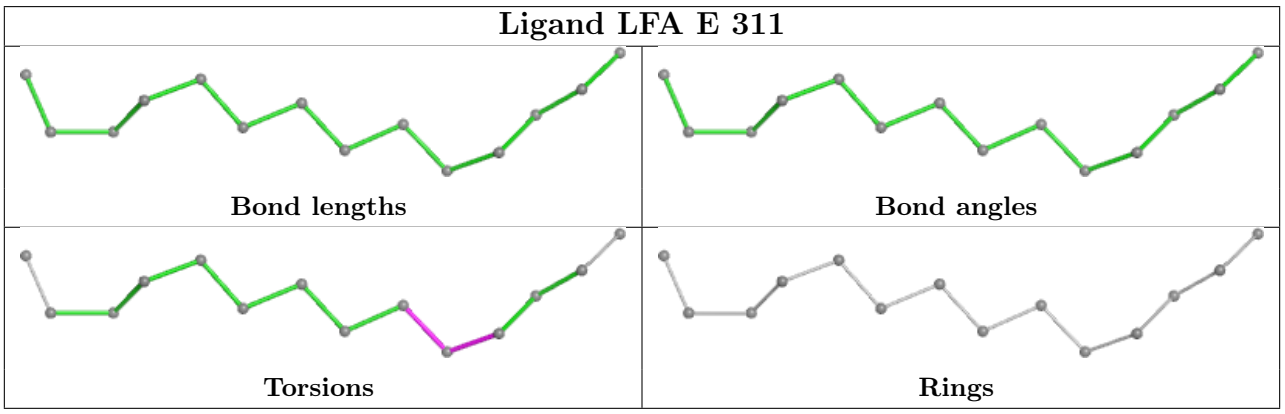
Ligand OLC D 310



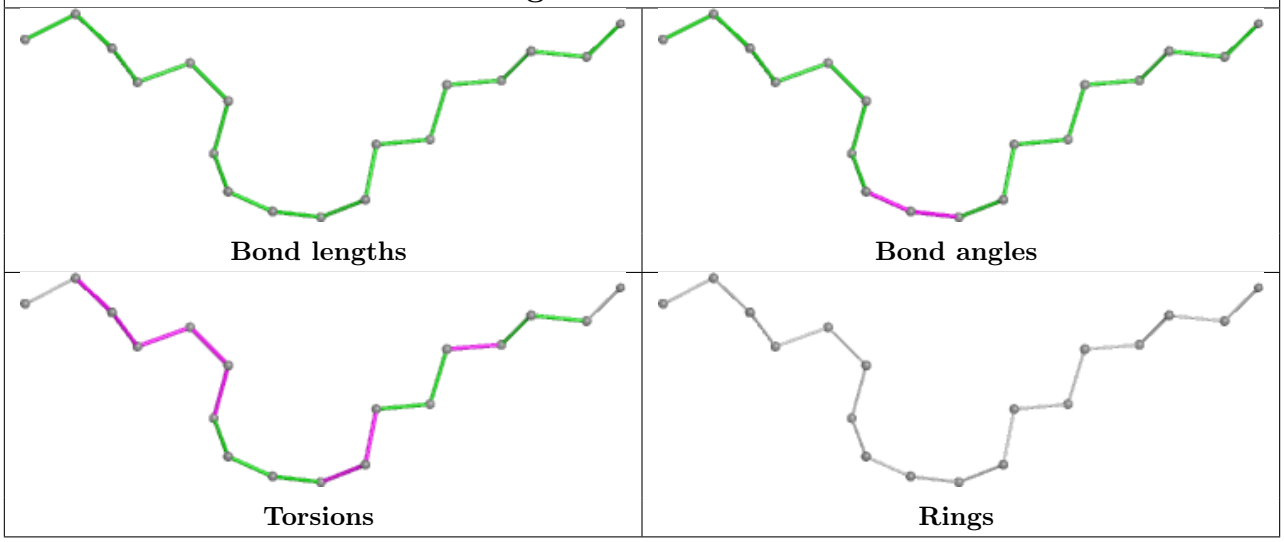
Ligand LFA A 318



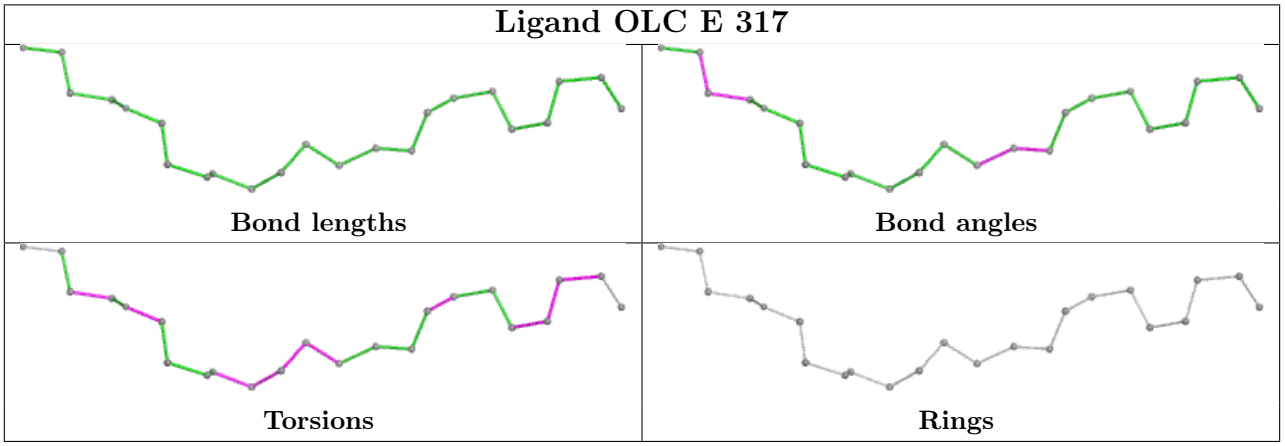
Ligand LFA E 311



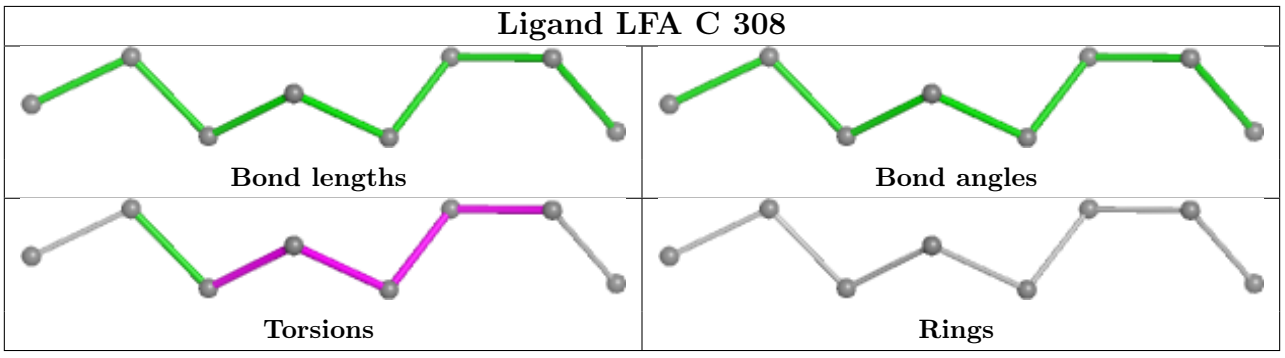
Ligand OLC E 318



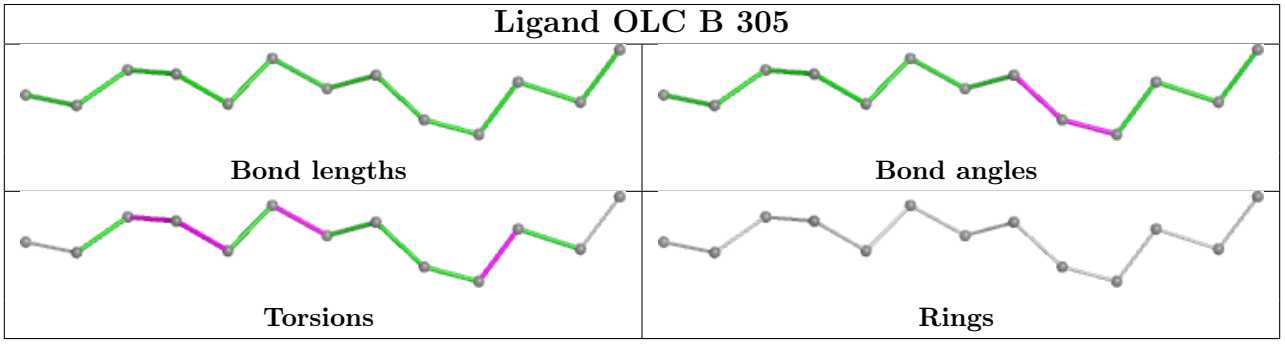
Ligand OLC E 317



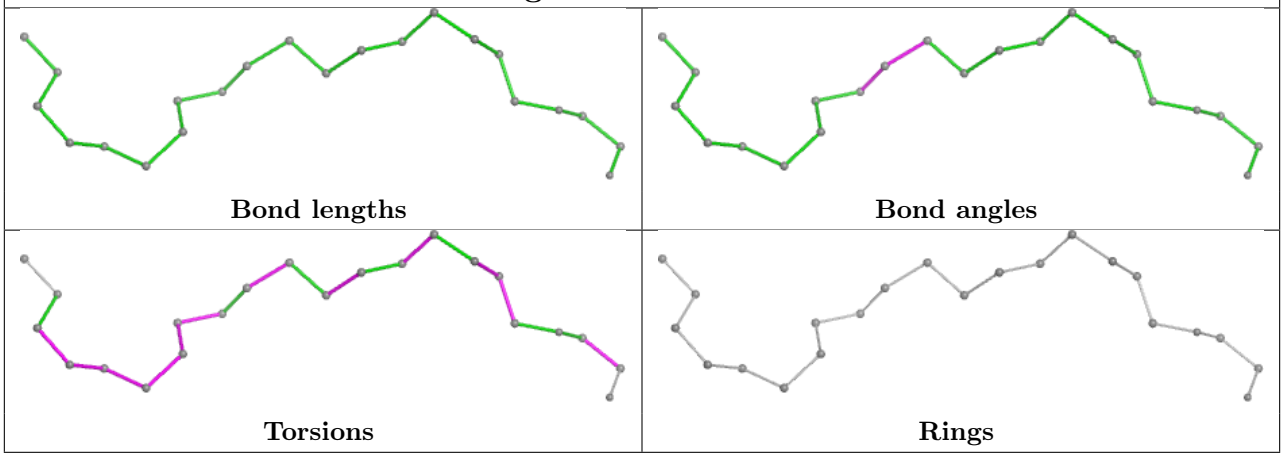
Ligand LFA C 308



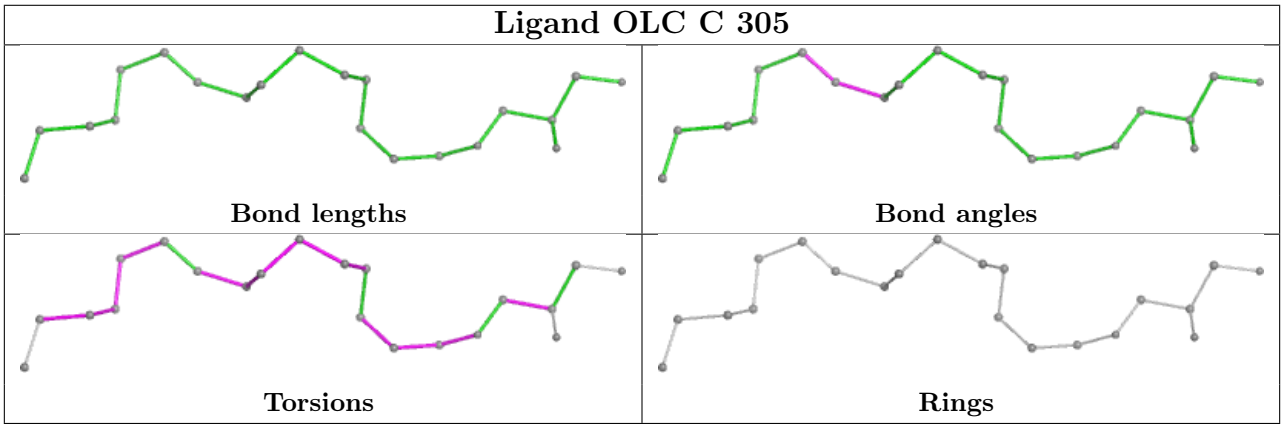
Ligand OLC B 305



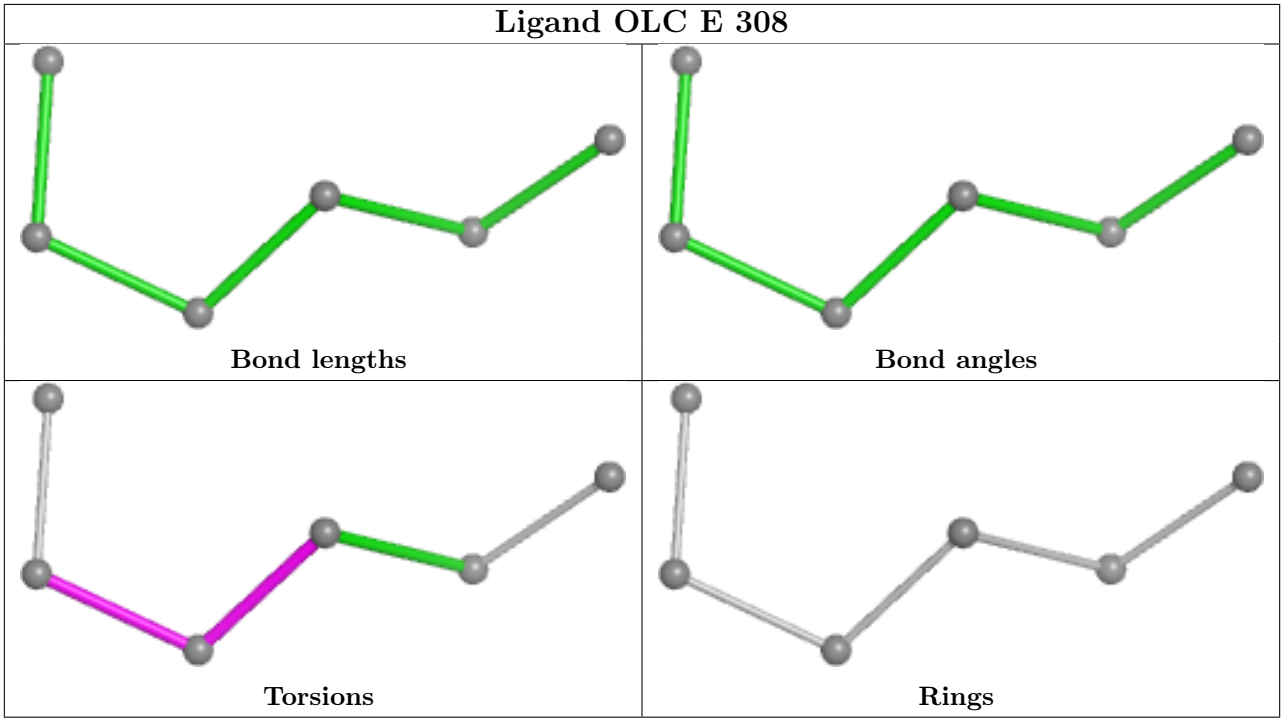
Ligand OLC A 308



Ligand OLC C 305



Ligand OLC E 308



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 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	A	269/273 (98%)	-0.60	1 (0%) 89 77	40, 50, 72, 90	0
1	B	269/273 (98%)	-0.65	0 100 100	38, 51, 68, 95	0
1	C	268/273 (98%)	-0.60	1 (0%) 89 77	40, 50, 68, 101	0
1	D	268/273 (98%)	-0.57	0 100 100	38, 52, 75, 90	0
1	E	269/273 (98%)	-0.65	0 100 100	41, 51, 70, 92	0
All	All	1343/1365 (98%)	-0.61	2 (0%) 92 88	38, 51, 71, 101	0

All (2) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	231	ASP	2.1
1	C	231	ASP	2.1

6.2 Non-standard residues in protein, DNA, RNA chains

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

6.3 Carbohydrates

There are no oligosaccharides in this entry.

6.4 Ligands

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
5	LFA	E	315	6/20	0.66	0.31	77,83,89,91	0
5	LFA	A	318	9/20	0.77	0.23	80,88,94,94	0
5	LFA	A	315	4/20	0.78	0.25	62,66,67,72	0
5	LFA	B	308	9/20	0.79	0.26	77,85,92,94	0
5	LFA	C	310	5/20	0.80	0.24	50,55,61,65	0
5	LFA	A	312	7/20	0.81	0.29	80,85,90,90	0
5	LFA	B	314	11/20	0.81	0.24	74,80,94,94	0
4	OLC	A	309	14/25	0.81	0.18	72,80,92,97	0
5	LFA	C	314	5/20	0.81	0.29	66,76,86,92	0
4	OLC	E	308	6/25	0.81	0.27	66,77,87,89	0
4	OLC	E	304	8/25	0.82	0.23	58,70,76,80	0
4	OLC	A	308	22/25	0.83	0.19	78,94,100,109	0
5	LFA	E	303	14/20	0.83	0.31	70,85,92,93	0
5	LFA	B	313	11/20	0.83	0.20	68,75,85,85	0
4	OLC	B	305	13/25	0.84	0.18	68,72,83,86	0
5	LFA	E	316	10/20	0.84	0.20	71,87,95,99	0
5	LFA	A	314	8/20	0.85	0.27	68,80,84,89	0
5	LFA	C	313	6/20	0.85	0.18	57,64,75,78	0
4	OLC	C	305	21/25	0.85	0.18	67,84,89,95	0
5	LFA	D	314	7/20	0.85	0.20	64,74,82,85	0
5	LFA	B	310	10/20	0.85	0.23	73,85,89,91	0
5	LFA	A	316	6/20	0.85	0.24	64,69,84,85	0
5	LFA	A	317	16/20	0.85	0.18	69,73,78,80	0
4	OLC	B	304	20/25	0.86	0.16	76,81,94,98	0
5	LFA	C	311	4/20	0.86	0.20	64,66,72,73	0
4	OLC	D	309	7/25	0.86	0.23	71,73,79,88	0
4	OLC	D	310	24/25	0.86	0.21	62,78,91,98	0
4	OLC	C	312	17/25	0.87	0.16	63,75,100,106	0
4	OLC	C	316	23/25	0.87	0.20	55,72,84,85	0
4	OLC	B	307	13/25	0.87	0.16	67,76,83,86	0
4	OLC	A	306	23/25	0.87	0.17	65,74,83,86	0
4	OLC	C	306	17/25	0.88	0.15	65,77,103,106	0
5	LFA	E	312	4/20	0.88	0.33	72,80,84,85	0
5	LFA	D	312	20/20	0.88	0.18	58,78,84,86	0
4	OLC	B	306	14/25	0.88	0.18	61,81,90,90	0
4	OLC	A	311	15/25	0.89	0.18	66,74,84,88	0
4	OLC	C	304	19/25	0.89	0.17	57,68,78,84	0
5	LFA	D	315	6/20	0.89	0.21	59,65,71,77	0
4	OLC	A	304	9/25	0.89	0.17	65,68,71,72	0
4	OLC	E	306	19/25	0.89	0.14	70,83,89,89	0
5	LFA	E	313	5/20	0.89	0.20	67,69,72,83	0
4	OLC	E	307	14/25	0.89	0.14	62,84,88,89	0
5	LFA	D	311	20/20	0.89	0.17	62,75,90,95	0

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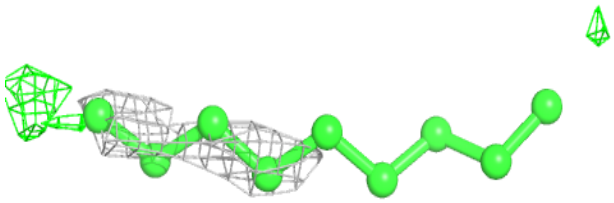
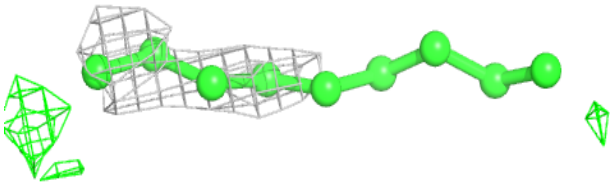
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
5	LFA	B	311	7/20	0.90	0.18	58,64,69,72	0
4	OLC	D	307	16/25	0.90	0.15	63,74,84,86	0
4	OLC	C	303	22/25	0.90	0.19	50,74,86,89	0
4	OLC	A	310	7/25	0.90	0.19	68,72,79,84	0
4	OLC	E	309	19/25	0.90	0.17	63,72,83,84	0
4	OLC	E	317	23/25	0.90	0.17	65,72,79,88	0
4	OLC	A	303	23/25	0.90	0.19	59,74,82,86	0
5	LFA	A	313	8/20	0.90	0.17	48,64,69,79	0
5	LFA	B	309	8/20	0.91	0.17	56,68,70,76	0
5	LFA	E	311	14/20	0.91	0.17	63,78,87,88	0
5	LFA	C	309	20/20	0.91	0.17	68,76,87,89	0
4	OLC	B	315	17/25	0.91	0.16	59,73,86,92	0
5	LFA	E	314	7/20	0.91	0.17	57,66,70,78	0
4	OLC	C	307	7/25	0.91	0.18	61,67,79,82	0
4	OLC	A	319	23/25	0.91	0.17	53,71,79,84	0
4	OLC	C	315	15/25	0.92	0.16	62,69,83,83	0
5	LFA	D	316	7/20	0.92	0.16	59,62,75,78	0
4	OLC	B	303	16/25	0.92	0.15	62,74,86,88	0
4	OLC	E	305	16/25	0.92	0.14	61,71,84,87	0
4	OLC	D	306	18/25	0.92	0.15	61,75,84,85	0
4	OLC	A	307	12/25	0.92	0.11	56,76,89,91	0
4	OLC	D	308	13/25	0.92	0.12	63,80,90,90	0
3	NA	D	302	1/1	0.92	0.10	38,38,38,38	0
5	LFA	C	308	8/20	0.92	0.18	57,73,79,81	0
4	OLC	A	305	19/25	0.93	0.14	38,58,71,76	0
4	OLC	D	303	18/25	0.93	0.16	56,67,87,88	0
4	OLC	D	304	22/25	0.93	0.14	52,64,81,83	0
4	OLC	D	305	17/25	0.93	0.14	65,74,87,96	0
4	OLC	E	319	19/25	0.93	0.14	60,71,80,88	0
5	LFA	E	310	8/20	0.93	0.14	59,70,72,73	0
4	OLC	E	318	18/25	0.94	0.13	48,61,65,71	0
2	RET	C	301	20/21	0.94	0.12	40,49,55,57	0
5	LFA	D	313	17/20	0.95	0.12	45,54,66,68	0
2	RET	E	301	20/21	0.95	0.11	36,48,56,57	0
3	NA	E	302	1/1	0.95	0.06	47,47,47,47	0
4	OLC	B	312	20/25	0.96	0.10	46,58,69,71	0
2	RET	D	301	20/21	0.96	0.11	42,52,61,63	0
2	RET	B	301	20/21	0.96	0.10	42,49,54,56	0
3	NA	A	302	1/1	0.96	0.06	48,48,48,48	0
2	RET	A	301	20/21	0.96	0.10	45,50,55,62	0
3	NA	C	302	1/1	0.97	0.05	49,49,49,49	0
3	NA	B	302	1/1	0.99	0.03	39,39,39,39	0

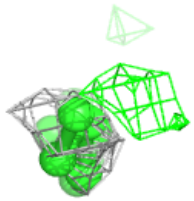
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around LFA A 318:

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

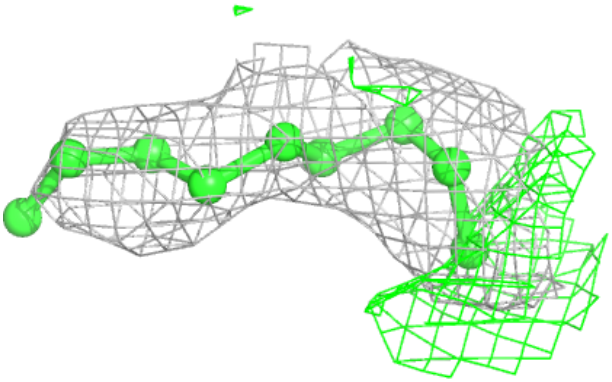


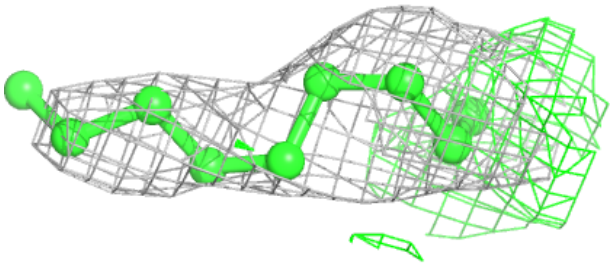


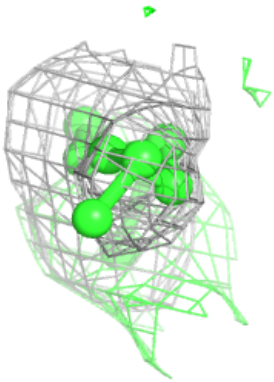


Electron density around LFA B 308:

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

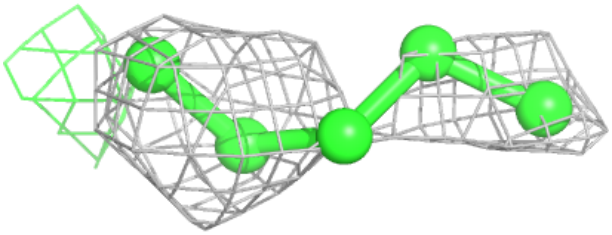


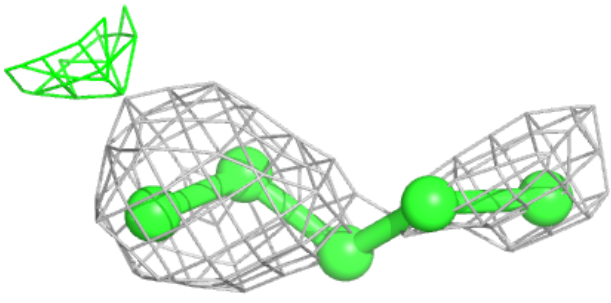


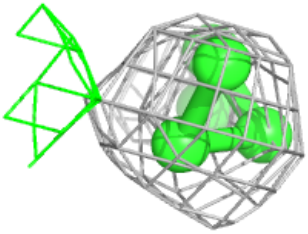


Electron density around LFA C 310:

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

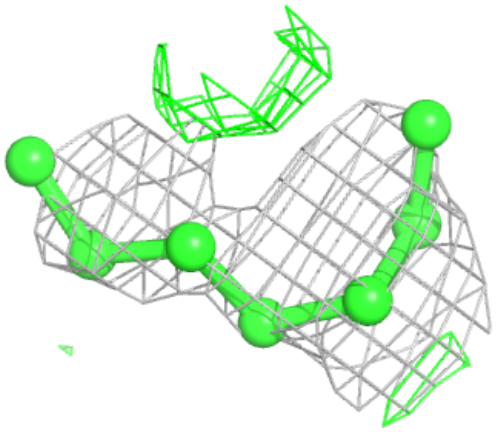


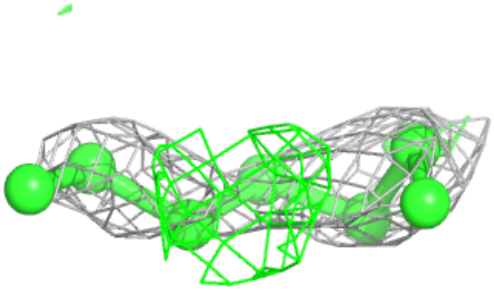


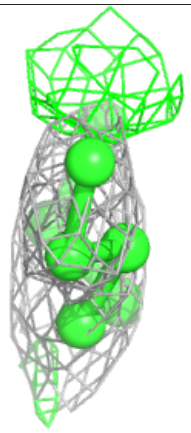


Electron density around LFA A 312:

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

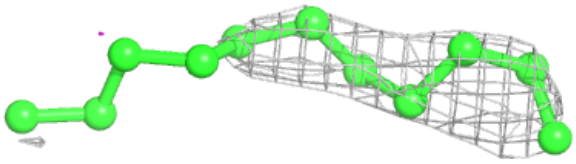


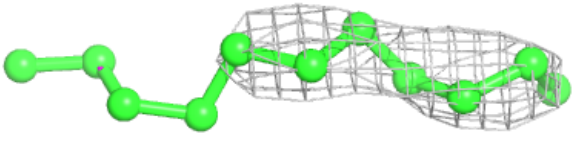


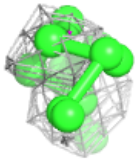


Electron density around LFA B 314:

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

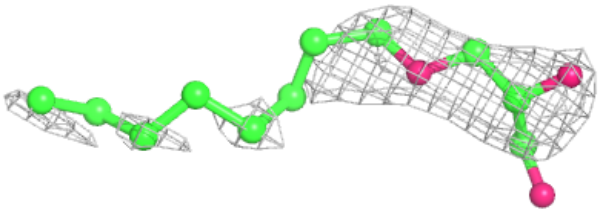


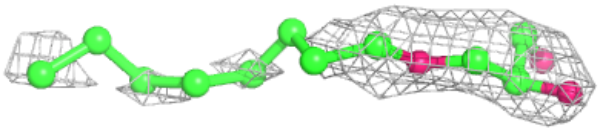




Electron density around OLC A 309:

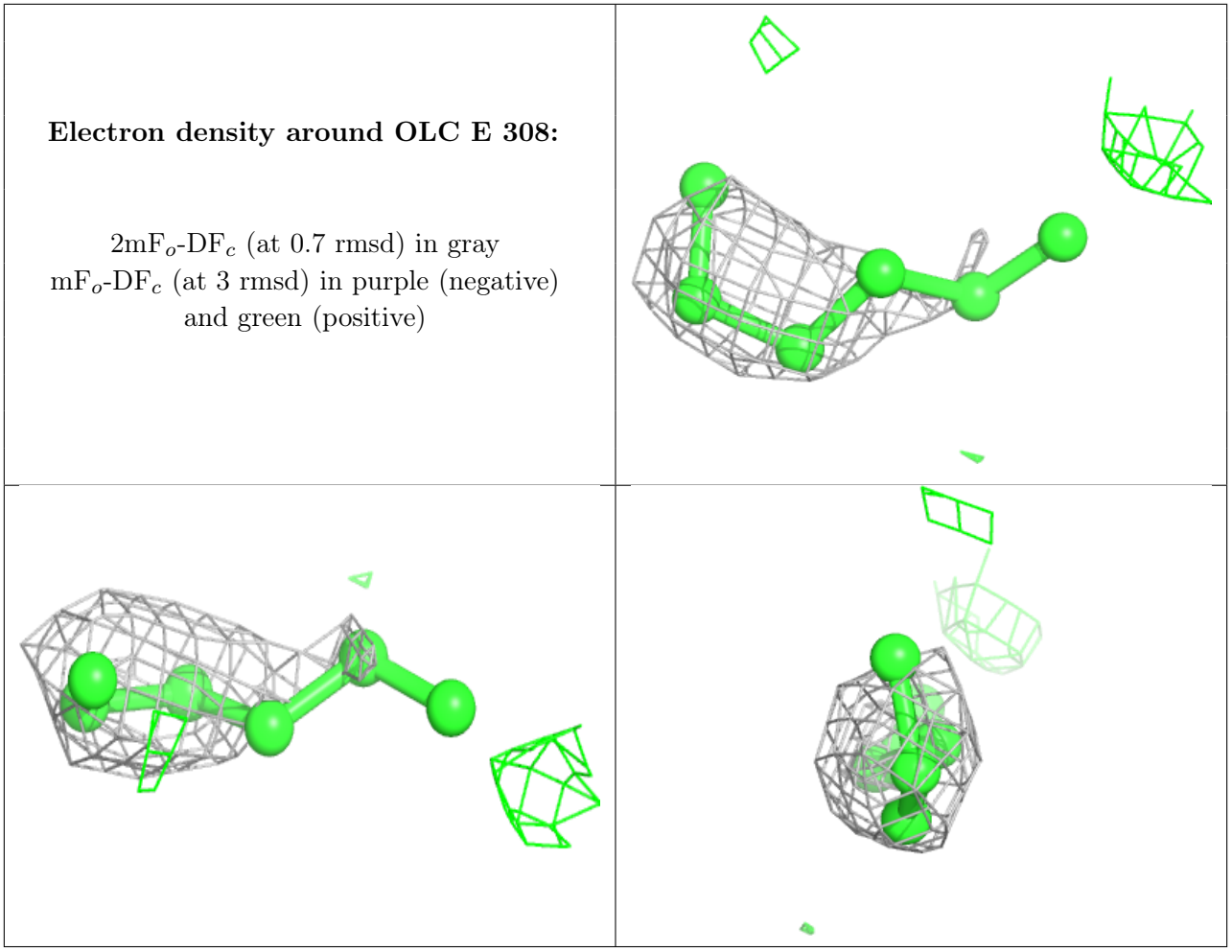
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)





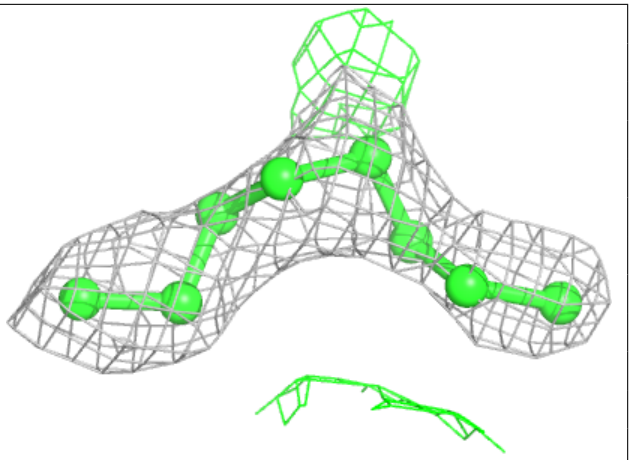
Electron density around OLC E 308:

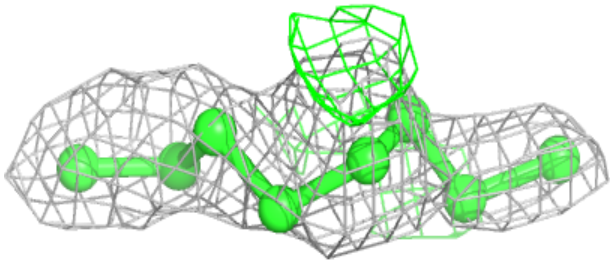
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

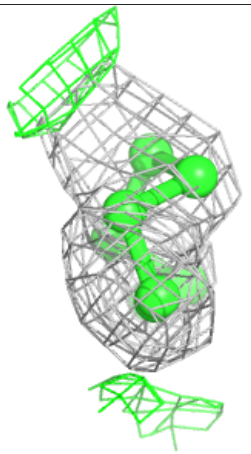


Electron density around OLC E 304:

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

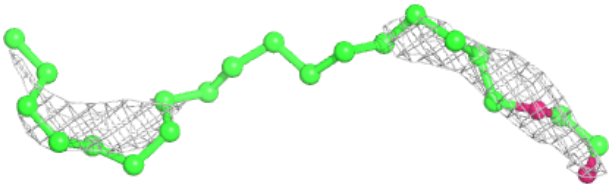


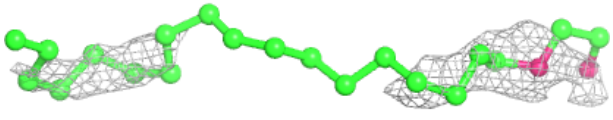


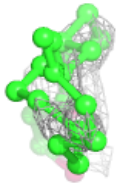


Electron density around OLC A 308:

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

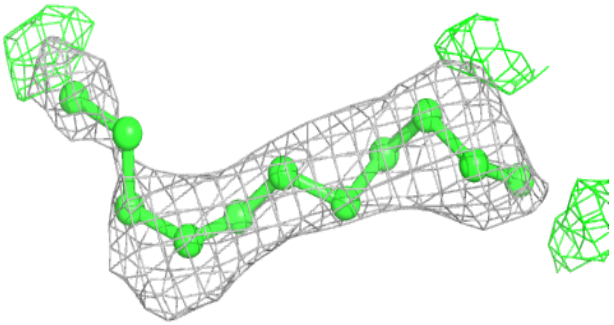


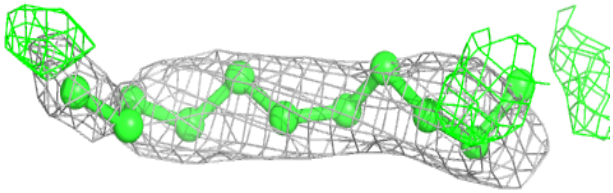


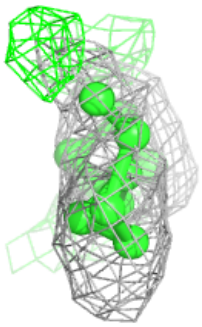


Electron density around LFA B 313:

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

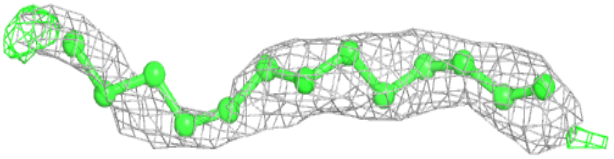


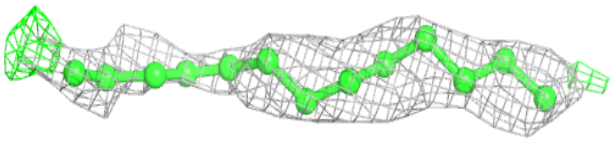


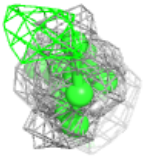


Electron density around OLC B 305:

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

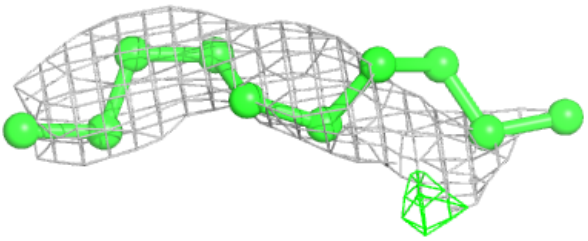


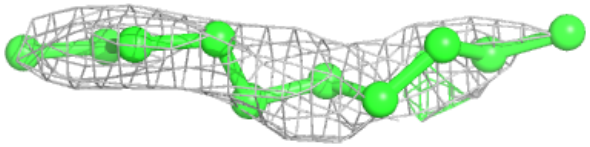


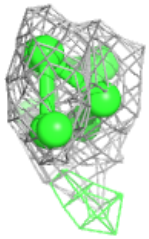


Electron density around LFA E 316:

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

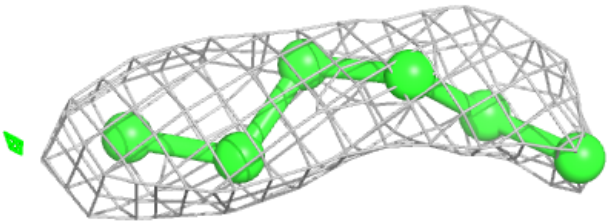


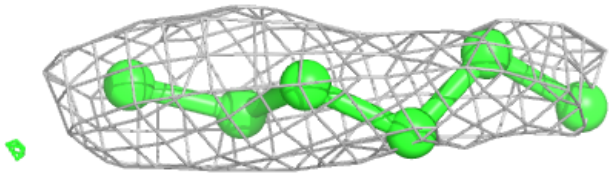


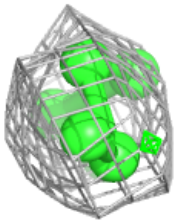


Electron density around LFA C 313:

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

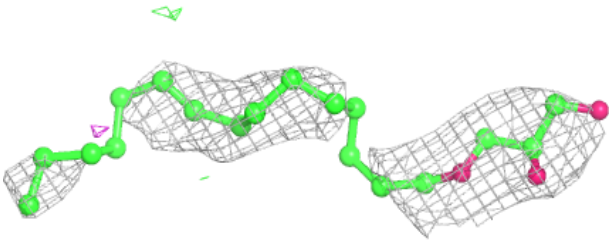


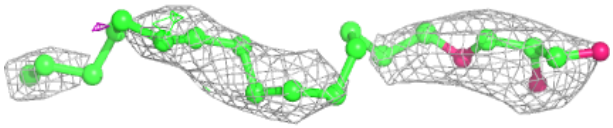


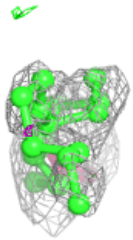


Electron density around OLC C 305:

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

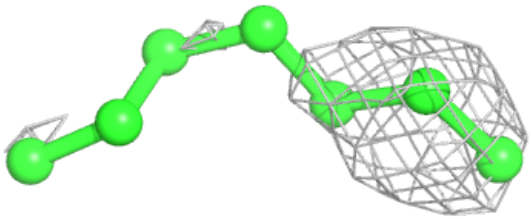


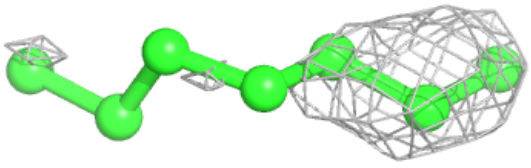


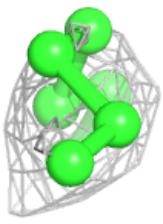


Electron density around LFA D 314:

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

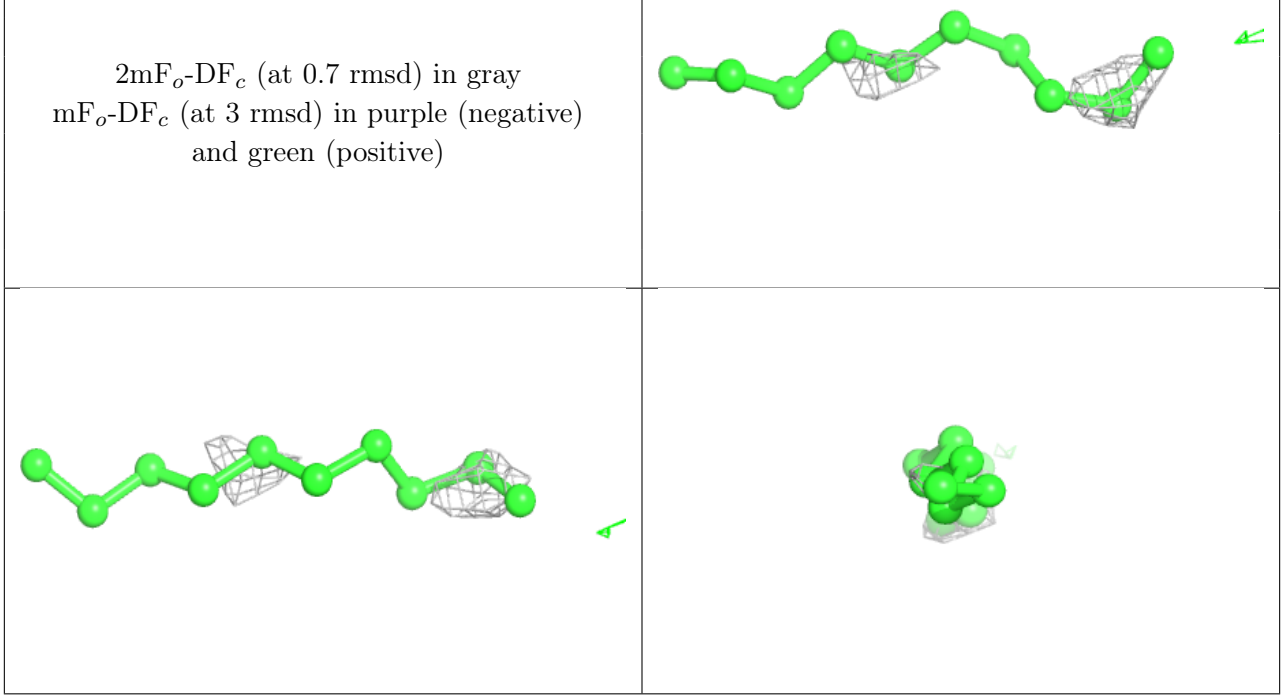






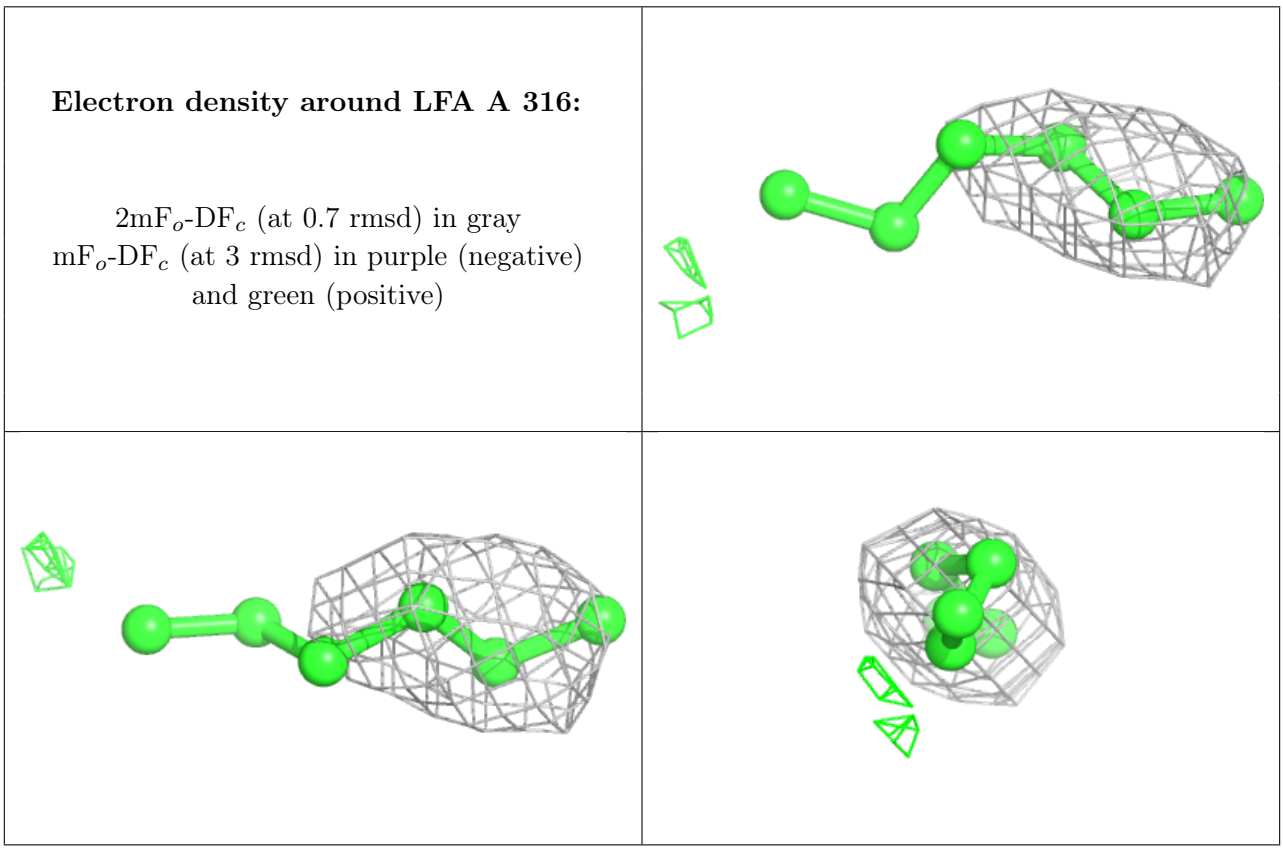
Electron density around LFA B 310:

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



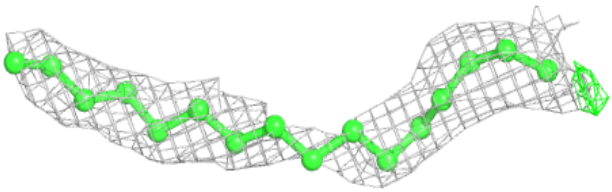
Electron density around LFA A 316:

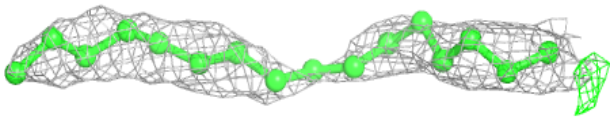
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

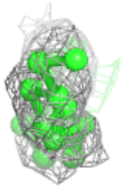


Electron density around LFA A 317:

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

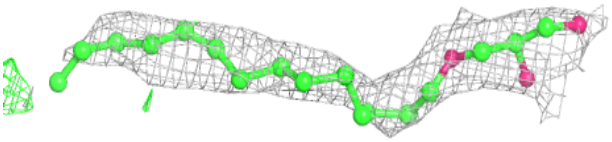


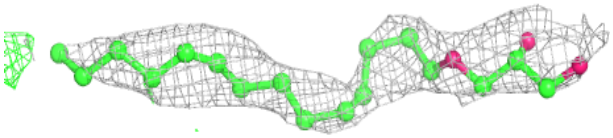


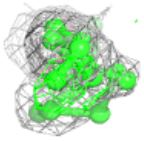


Electron density around OLC B 304:

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

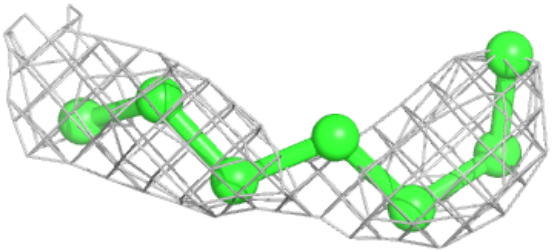


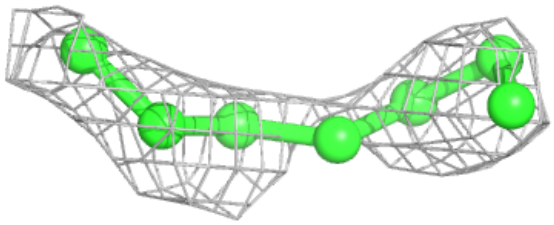


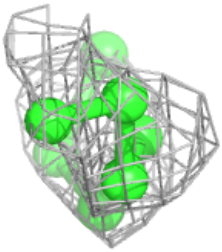


Electron density around OLC D 309:

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

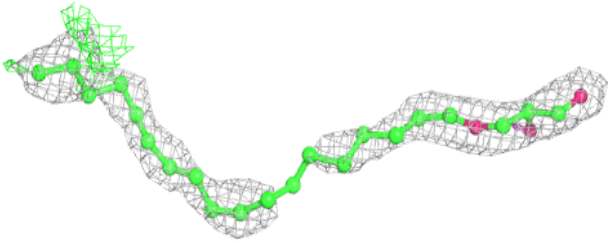


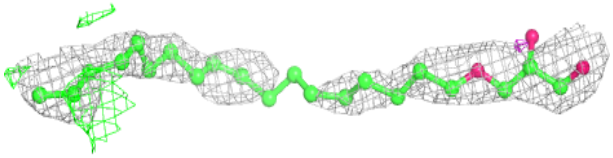


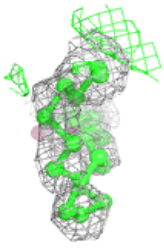


Electron density around OLC D 310:

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

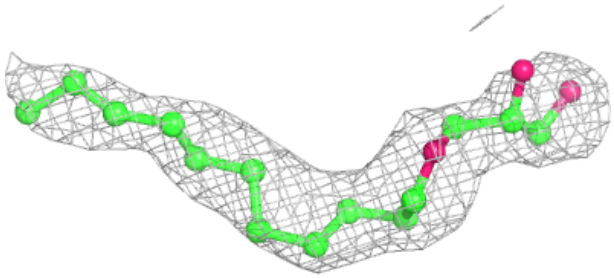


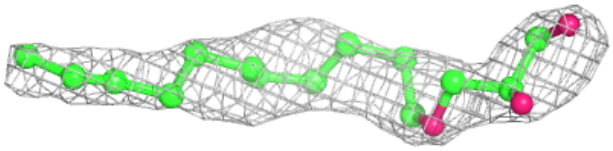


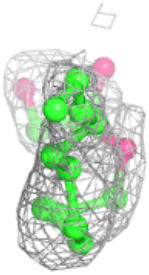


Electron density around OLC C 312:

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

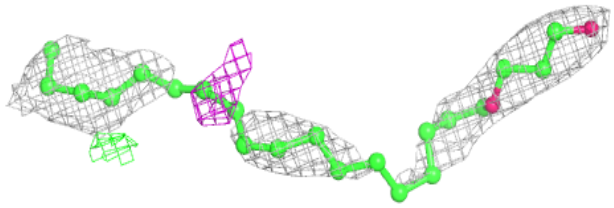


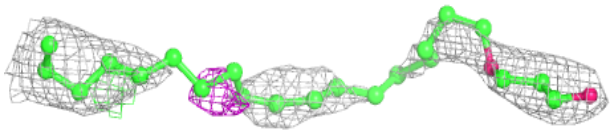


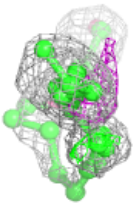


Electron density around OLC C 316:

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

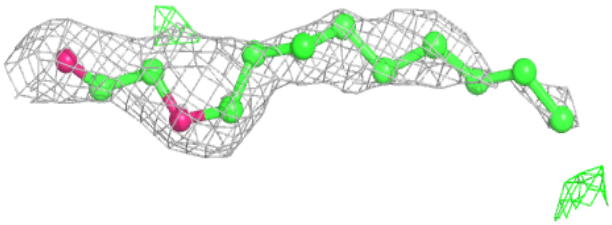


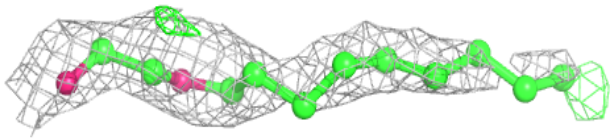


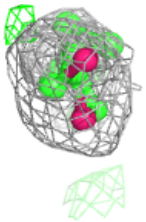


Electron density around OLC B 307:

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

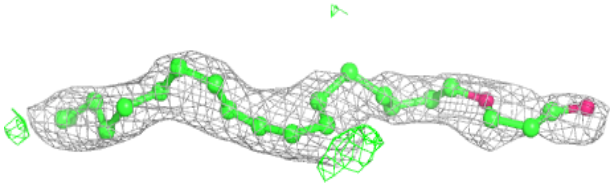


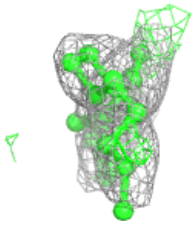




Electron density around OLC A 306:

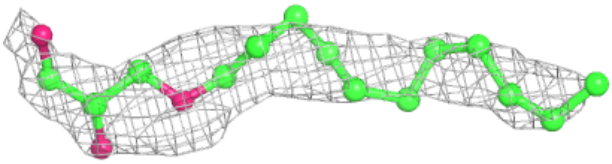
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

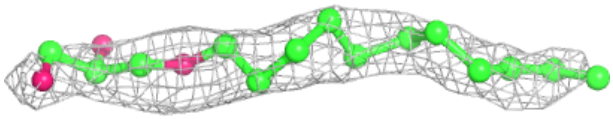


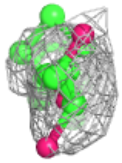


Electron density around OLC C 306:

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

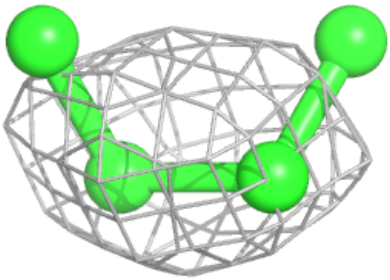


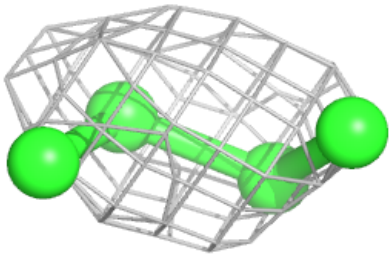


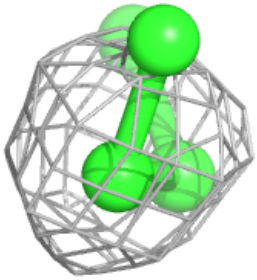


Electron density around LFA E 312:

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

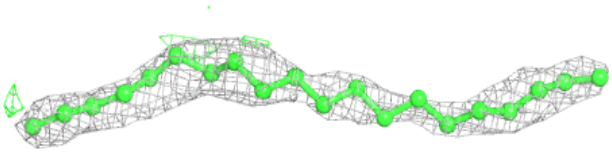


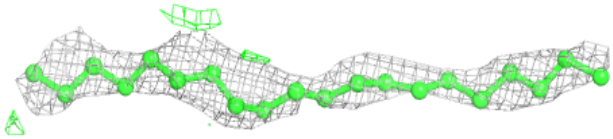


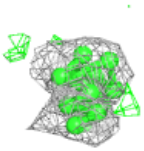


Electron density around LFA D 312:

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

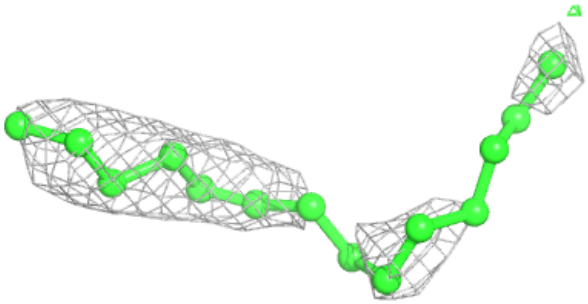


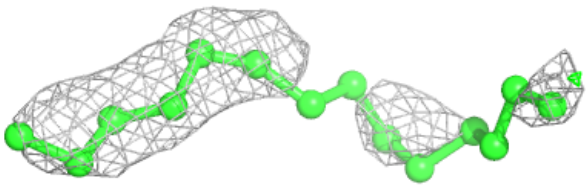


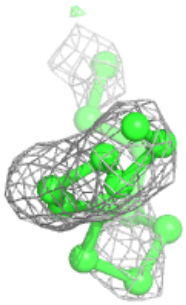


Electron density around OLC B 306:

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

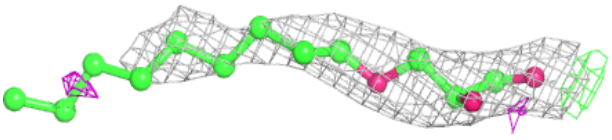


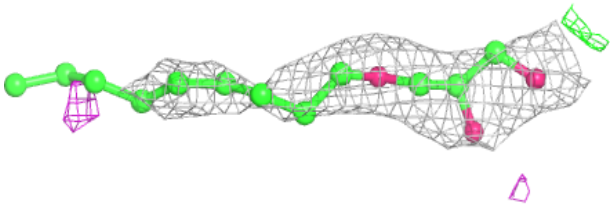


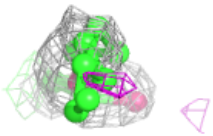


Electron density around OLC A 311:

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

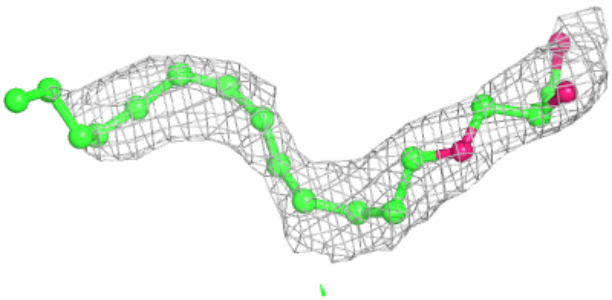


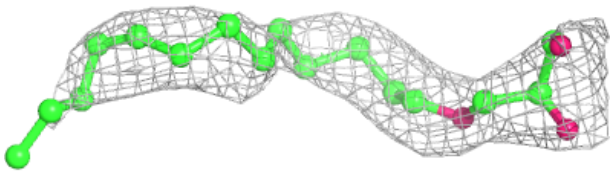


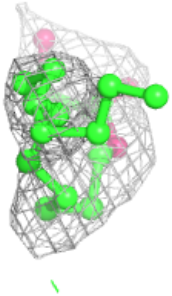


Electron density around OLC C 304:

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

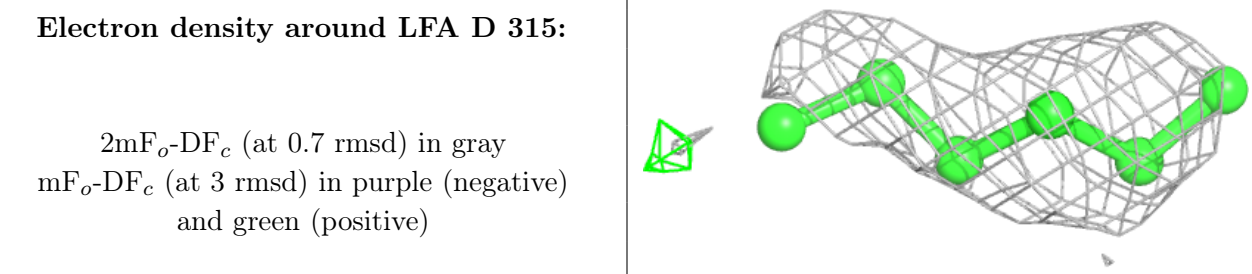


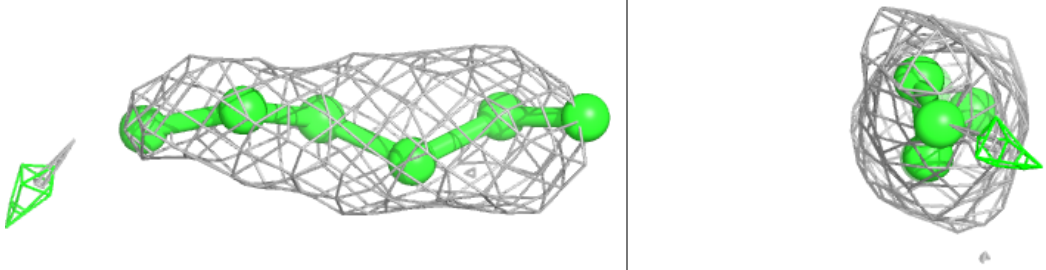




Electron density around LFA D 315:

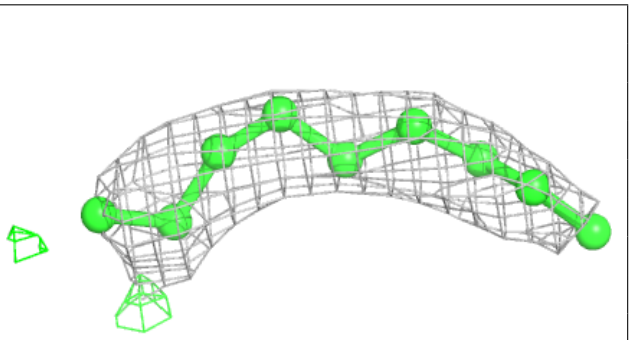
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

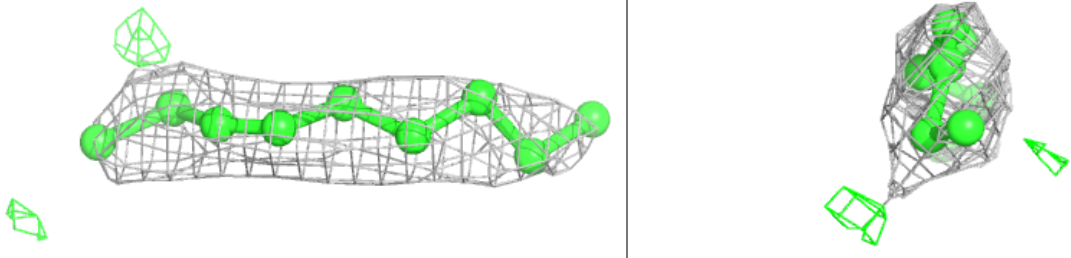




Electron density around OLC A 304:

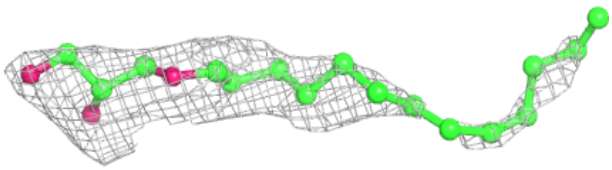
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

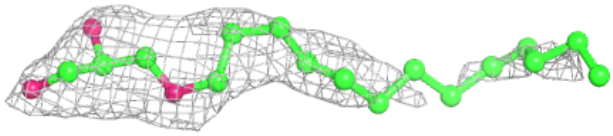


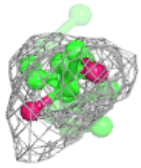


Electron density around OLC E 306:

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

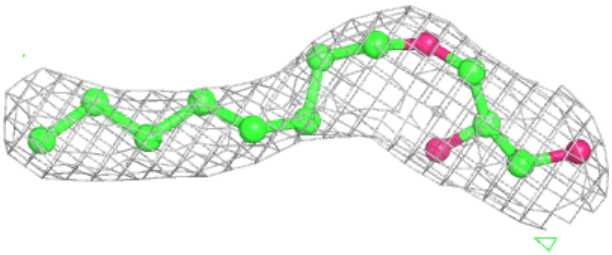


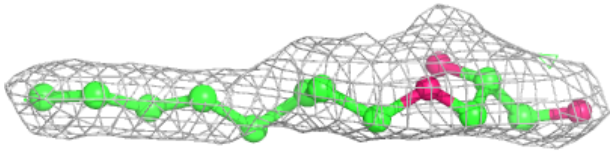


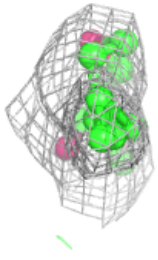


Electron density around OLC E 307:

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

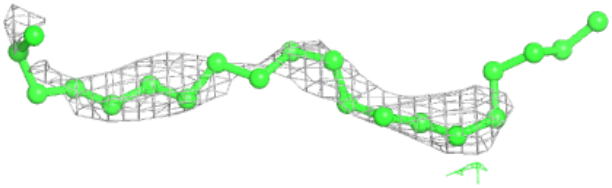


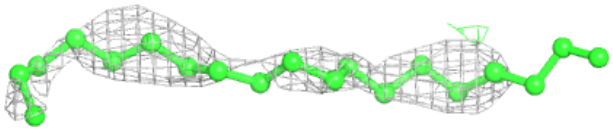


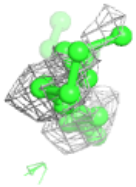


Electron density around LFA D 311:

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

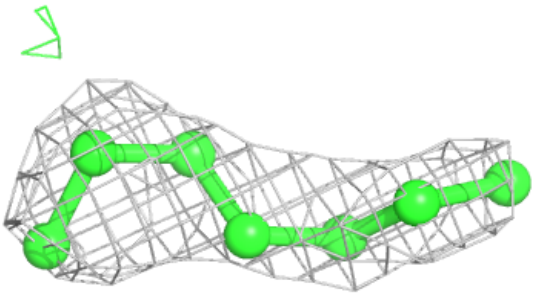


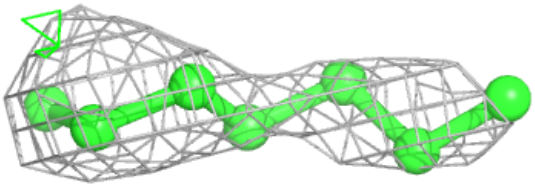


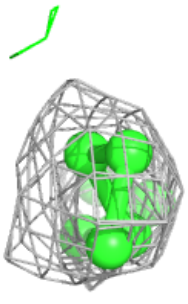


Electron density around LFA B 311:

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

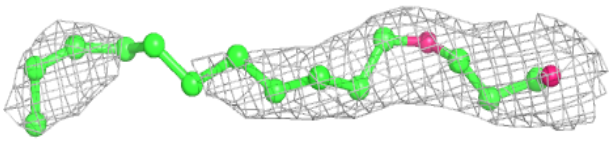


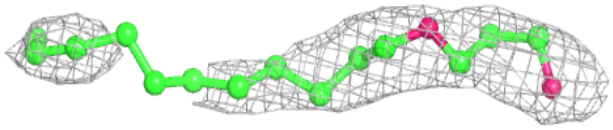


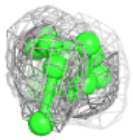


Electron density around OLC D 307:

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

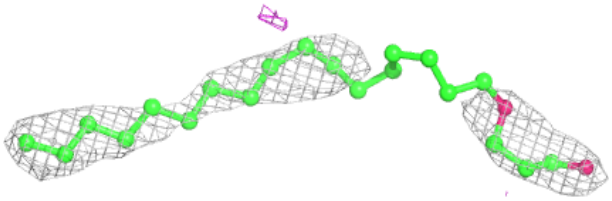


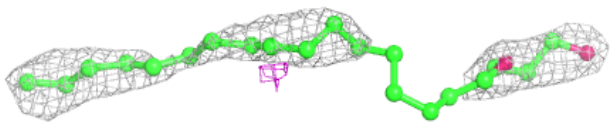


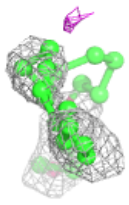


Electron density around OLC C 303:

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

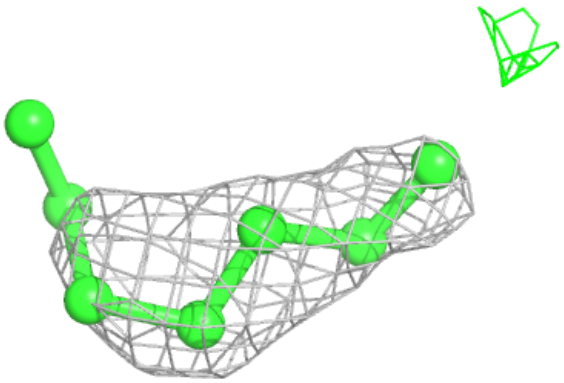


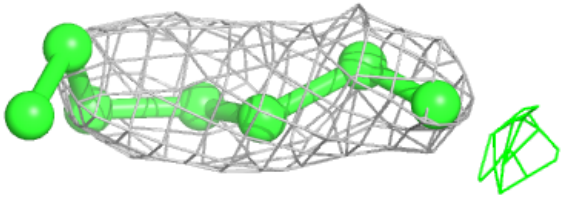


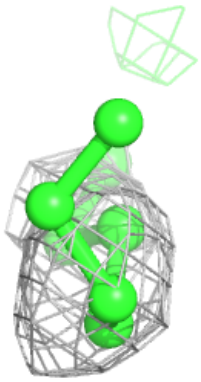


Electron density around OLC A 310:

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

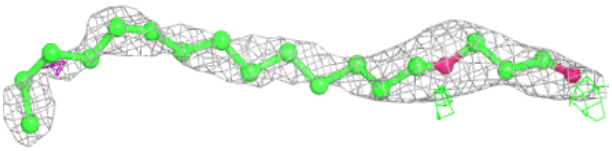


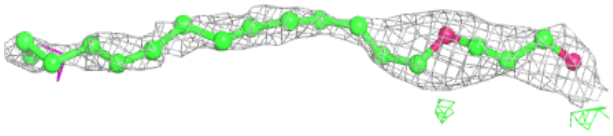


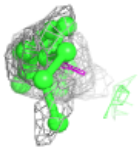


Electron density around OLC E 309:

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

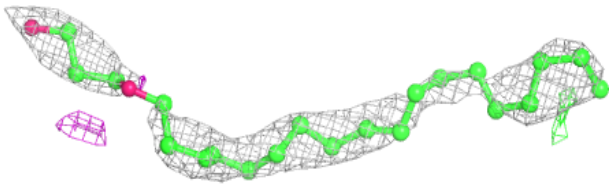


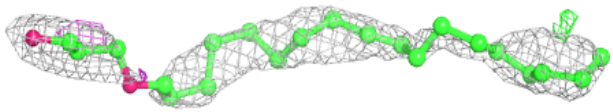


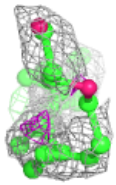


Electron density around OLC E 317:

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

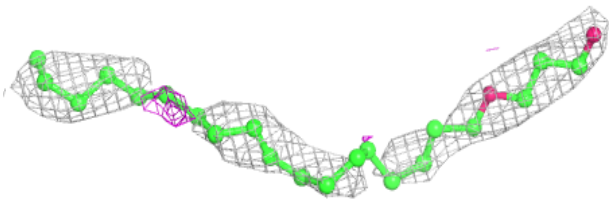


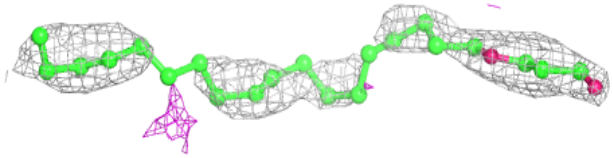


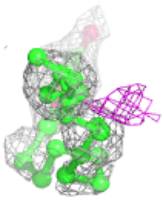


Electron density around OLC A 303:

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

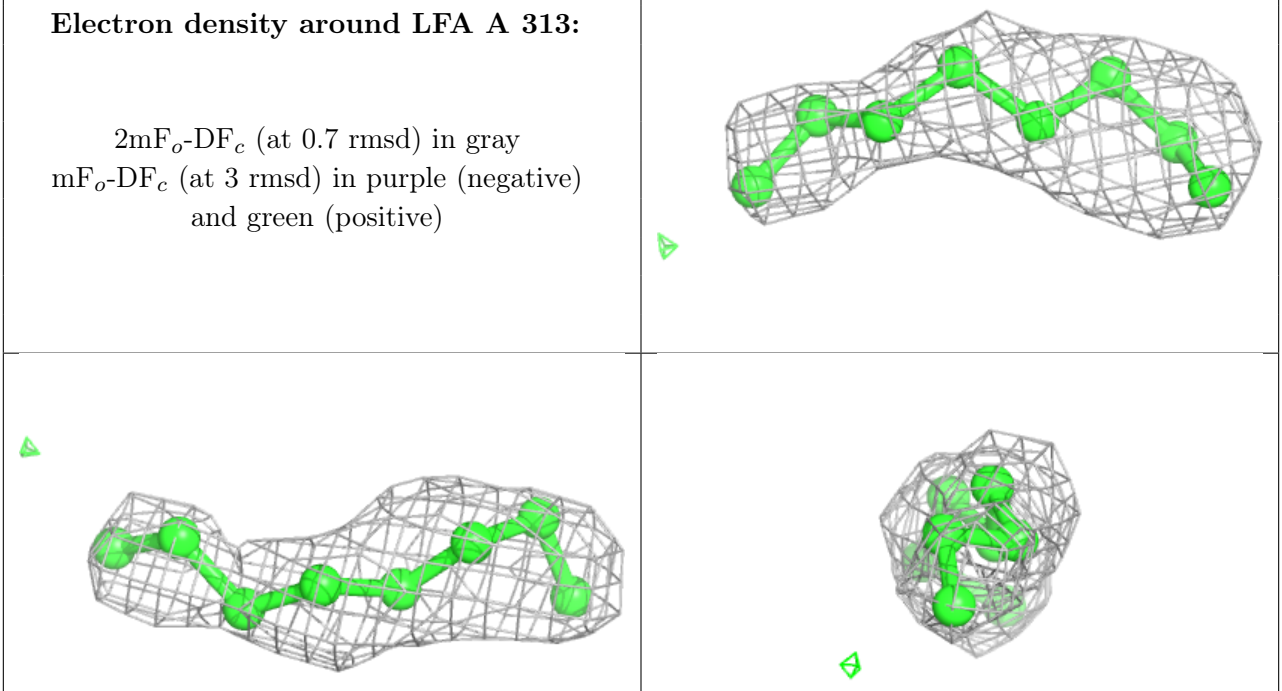






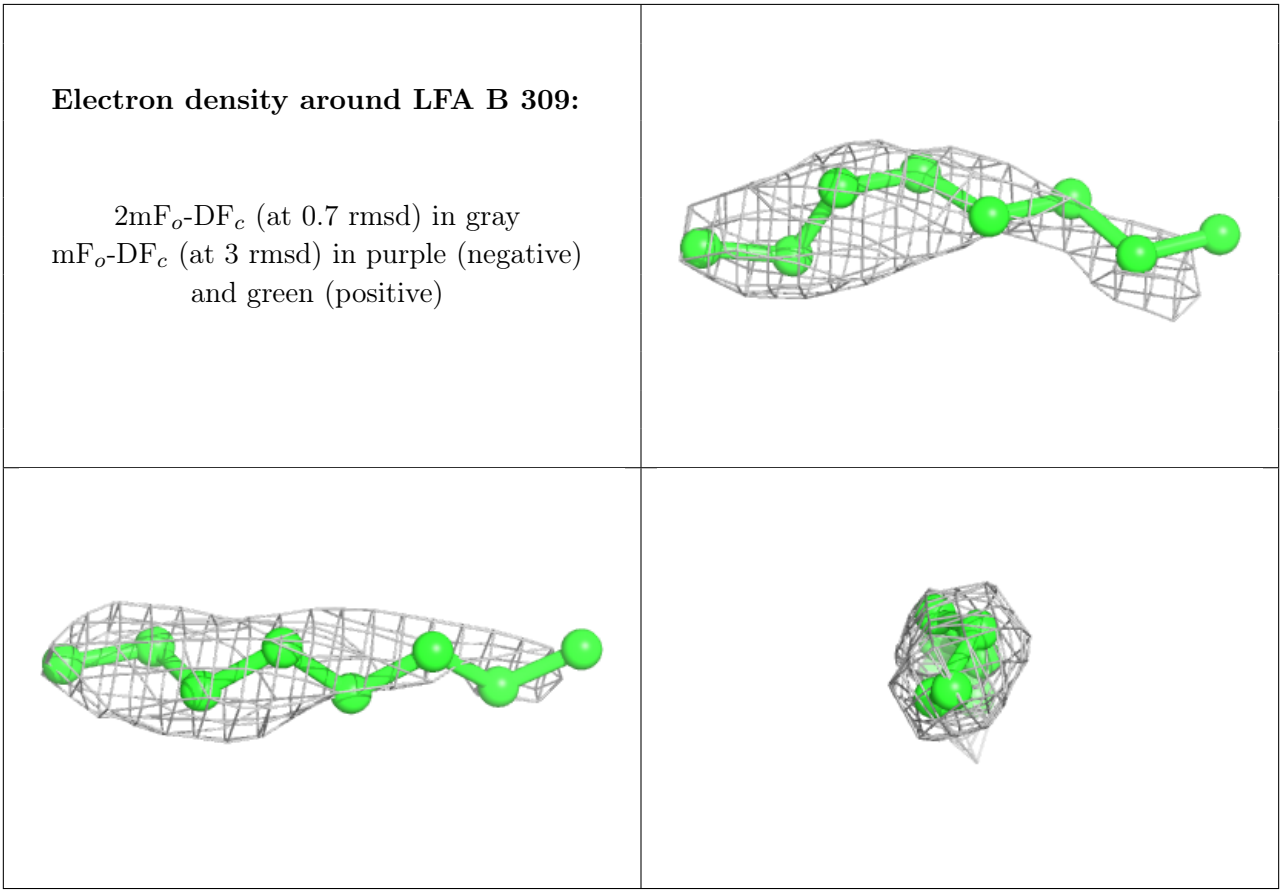
Electron density around LFA A 313:

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



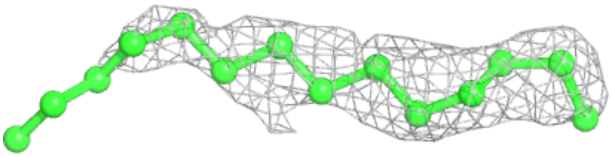
Electron density around LFA B 309:

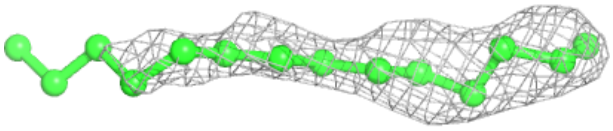
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

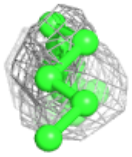


Electron density around LFA E 311:

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

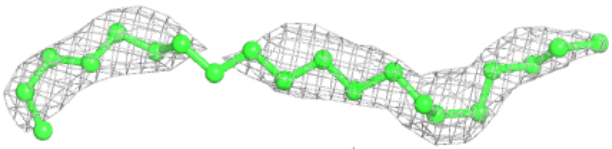


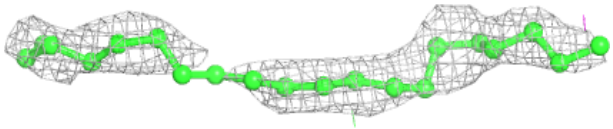


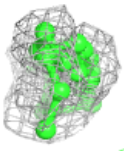


Electron density around LFA C 309:

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

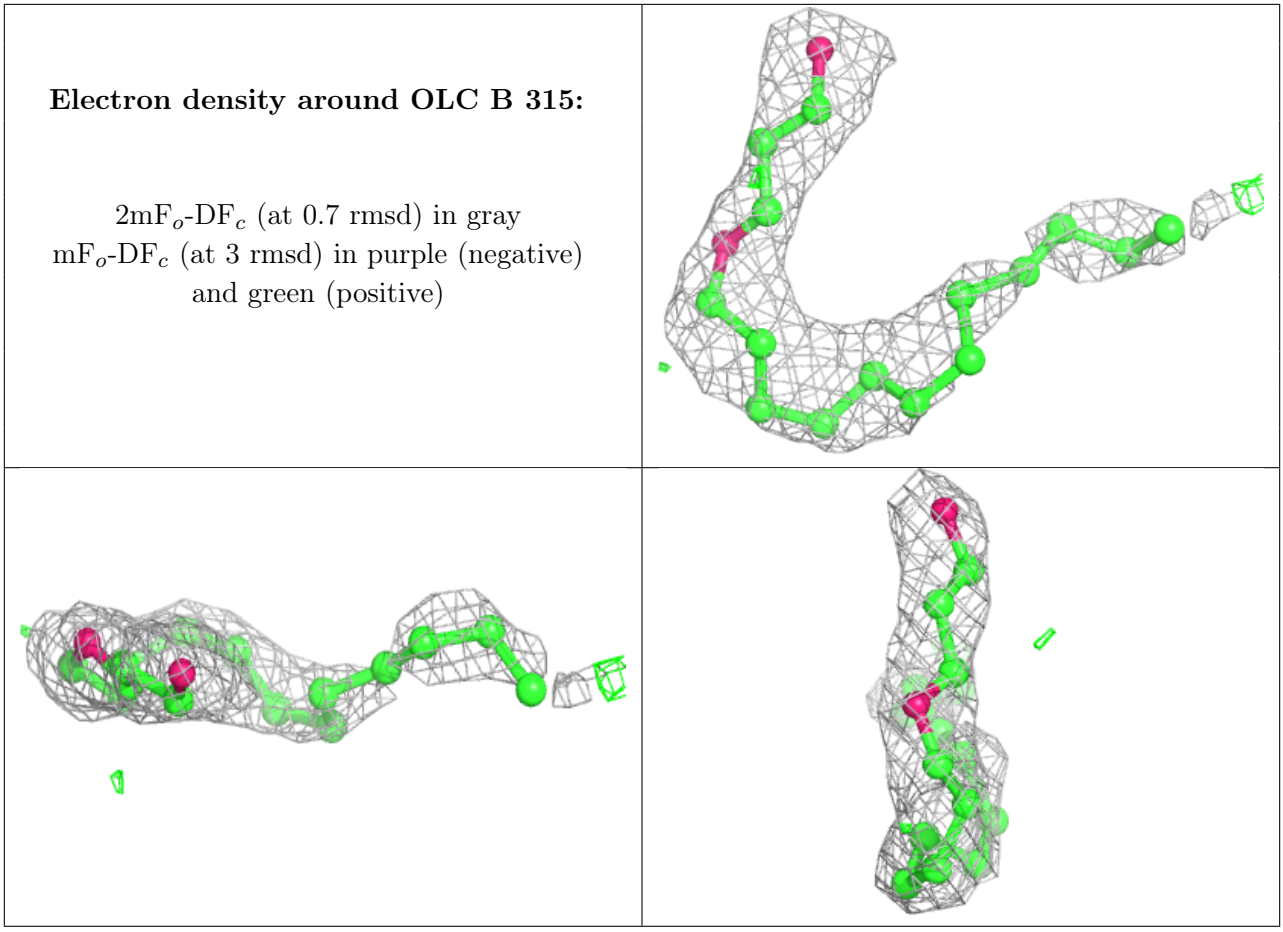






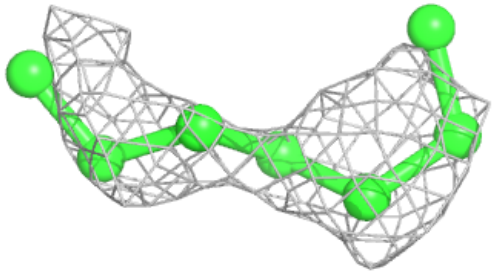
Electron density around OLC B 315:

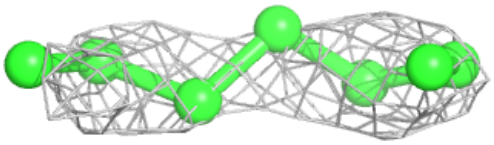
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

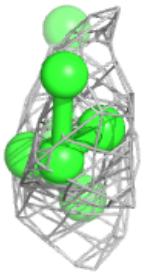


Electron density around OLC C 307:

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

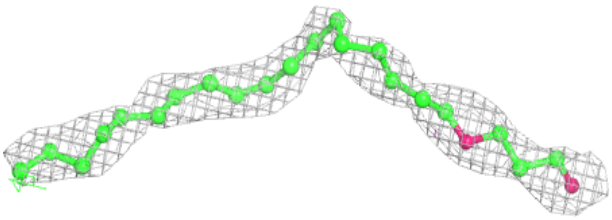


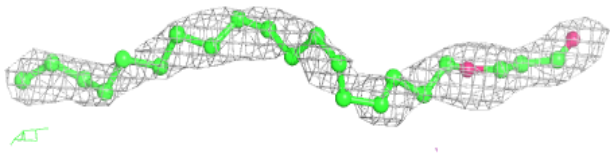


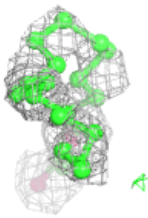


Electron density around OLC A 319:

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

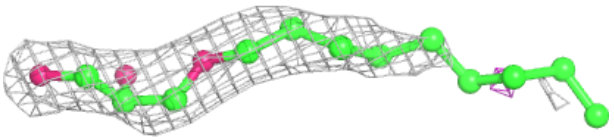


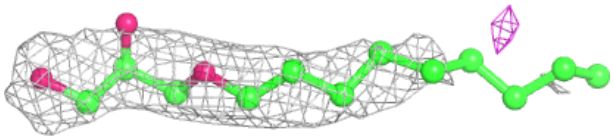


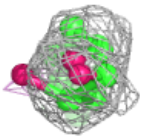


Electron density around OLC C 315:

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

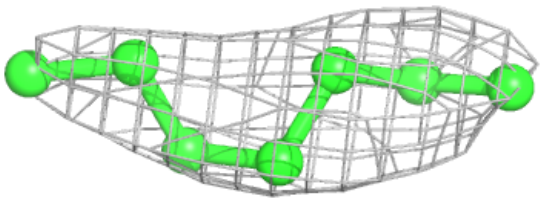


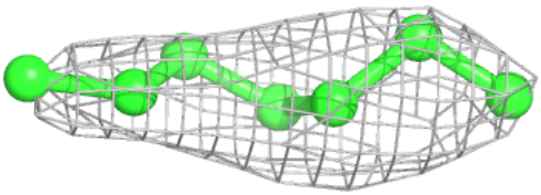


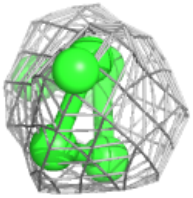


Electron density around LFA D 316:

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

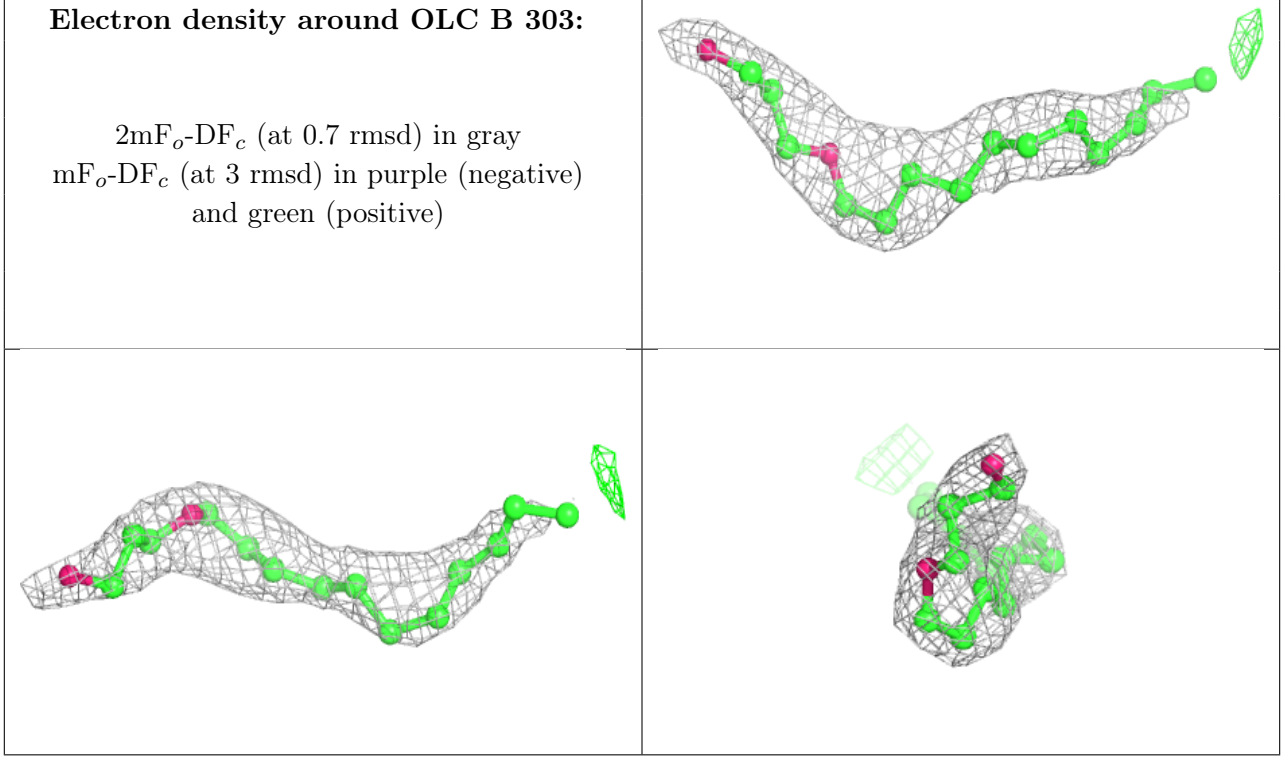






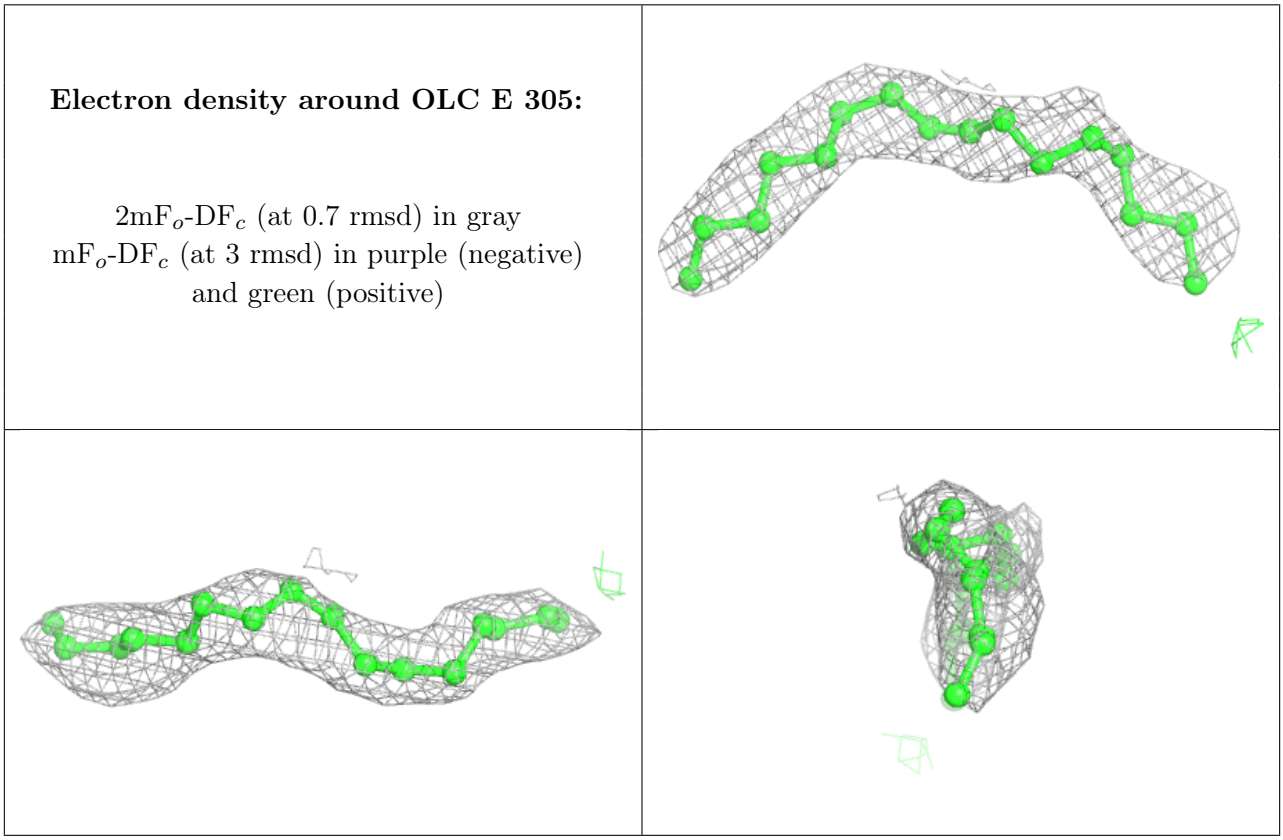
Electron density around OLC B 303:

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



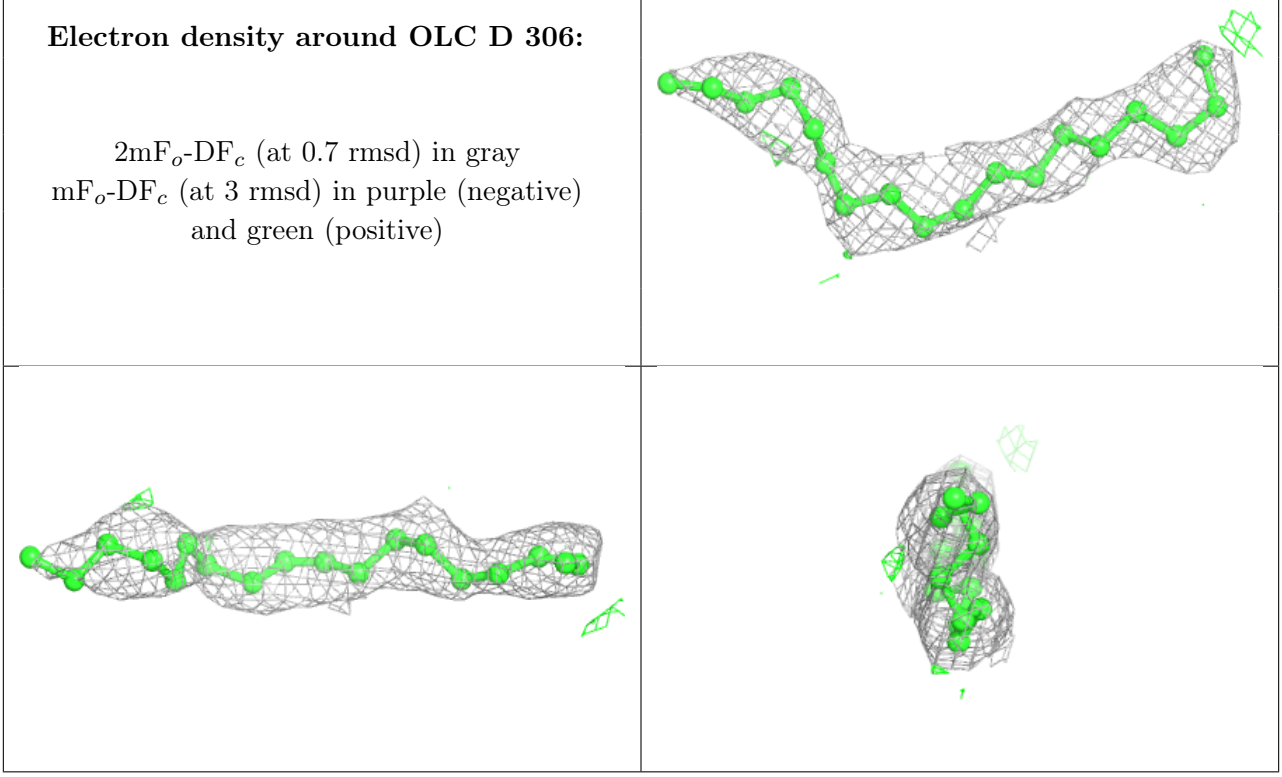
Electron density around OLC E 305:

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



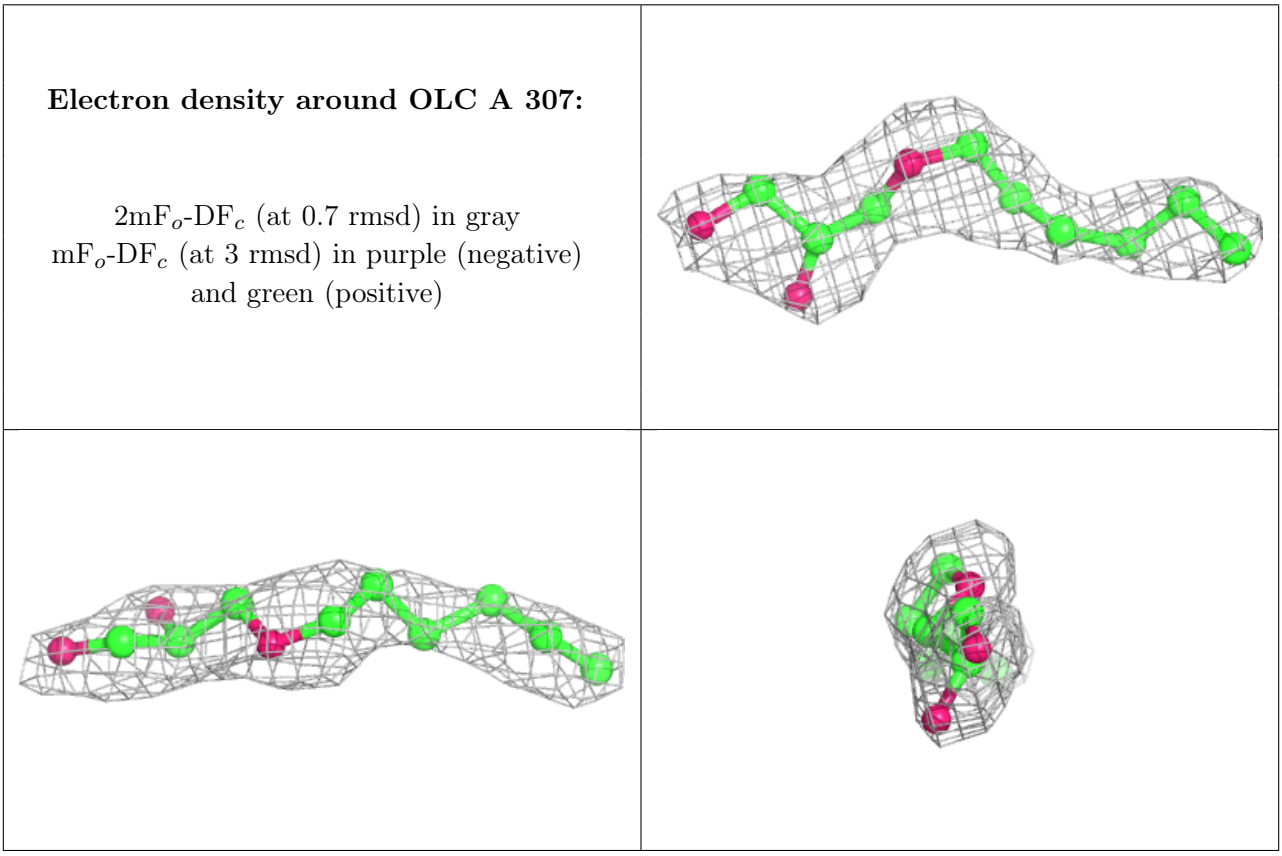
Electron density around OLC D 306:

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



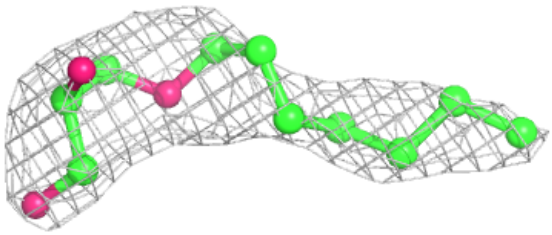
Electron density around OLC A 307:

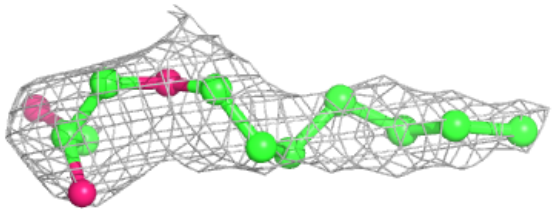
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

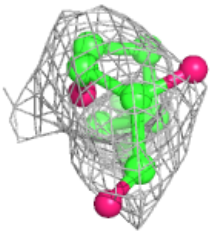


Electron density around OLC D 308:

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

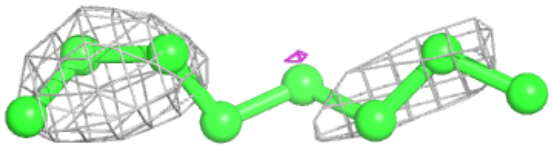


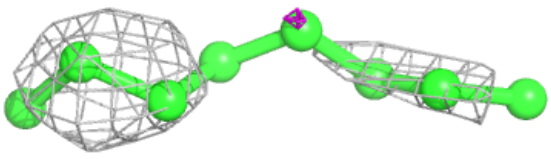


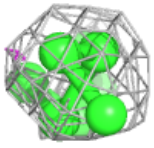


Electron density around LFA C 308:

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

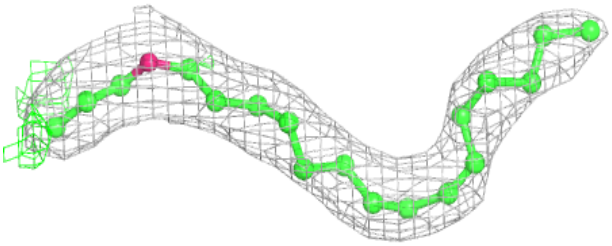


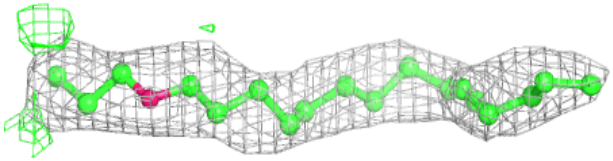


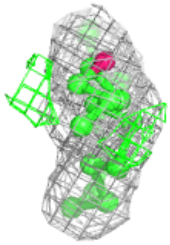


Electron density around OLC A 305:

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

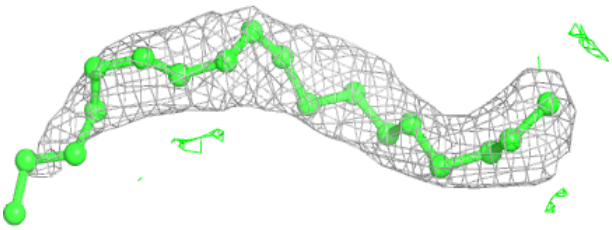


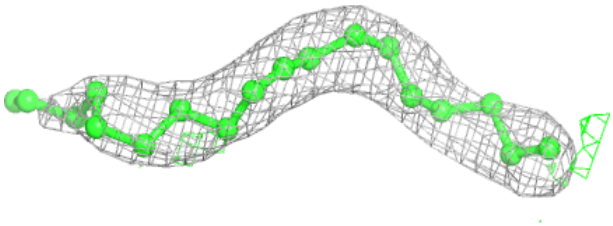


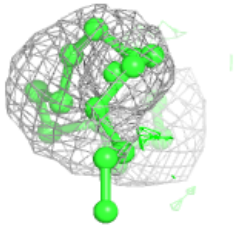


Electron density around OLC D 303:

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

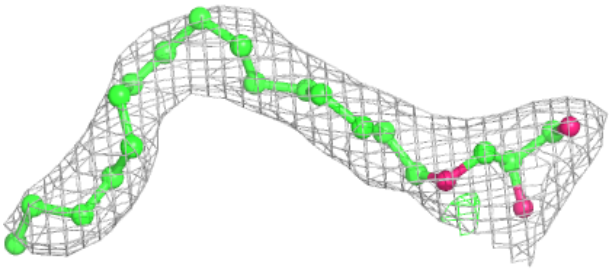


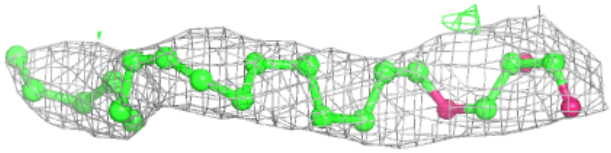


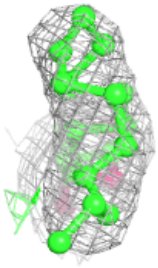


Electron density around OLC D 304:

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

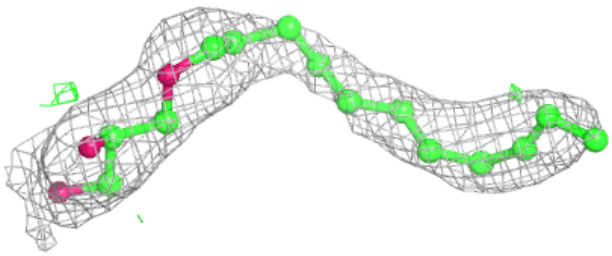


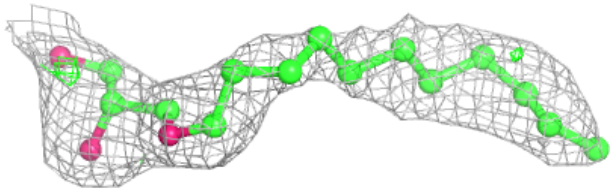


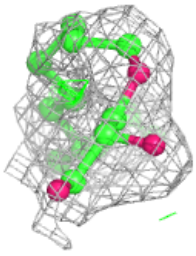


Electron density around OLC D 305:

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

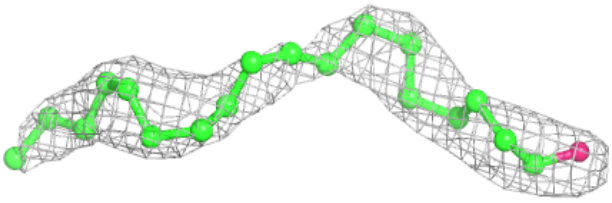


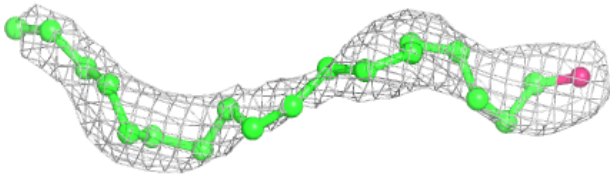


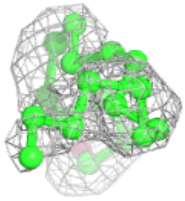


Electron density around OLC E 319:

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

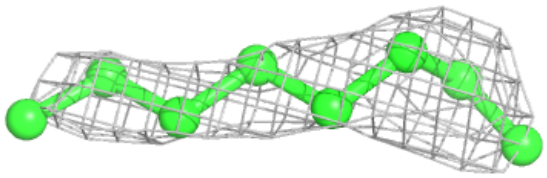


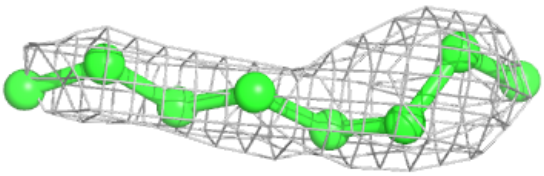


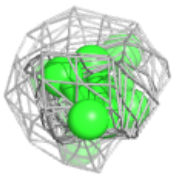


Electron density around LFA E 310:

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

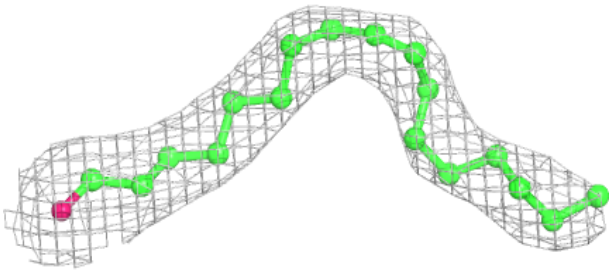


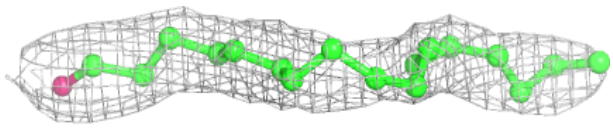


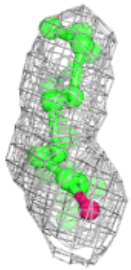


Electron density around OLC E 318:

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

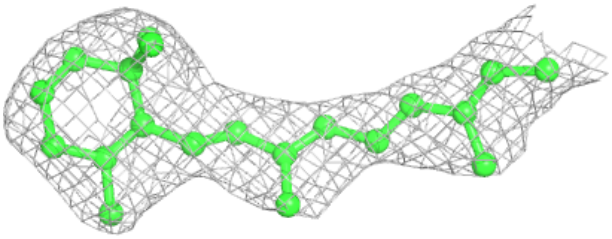


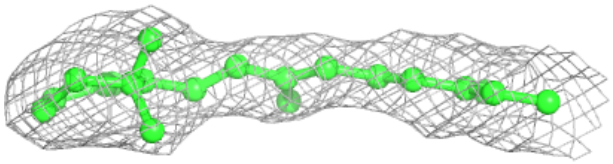


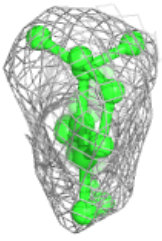


Electron density around RET C 301:

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

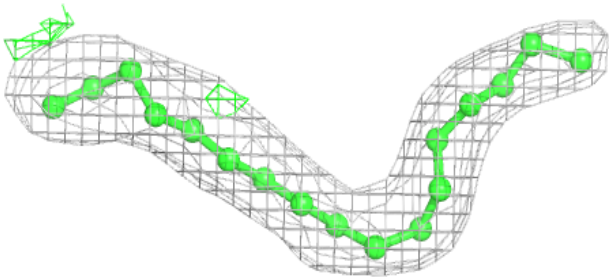


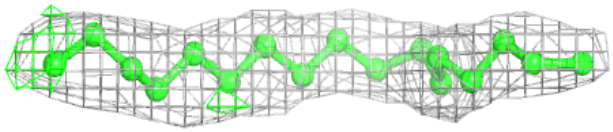


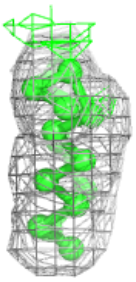


Electron density around LFA D 313:

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

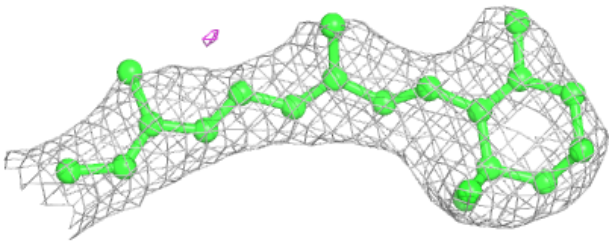


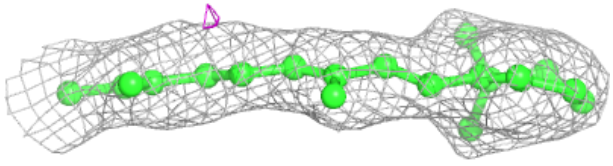


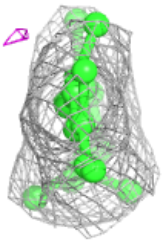


Electron density around RET E 301:

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

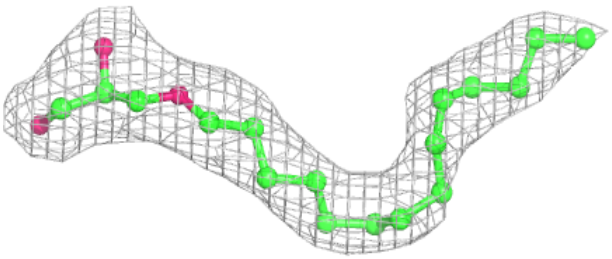


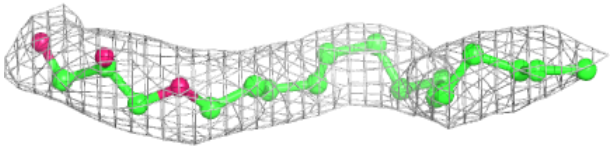


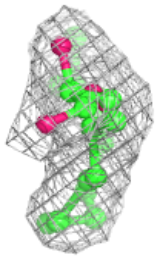


Electron density around OLC B 312:

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

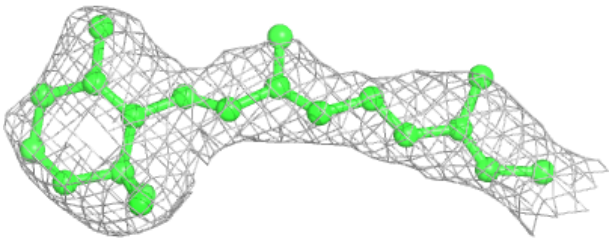


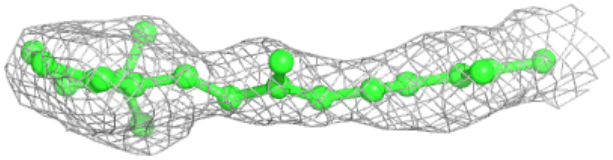


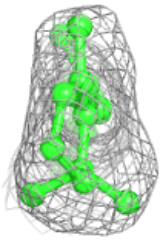


Electron density around RET D 301:

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

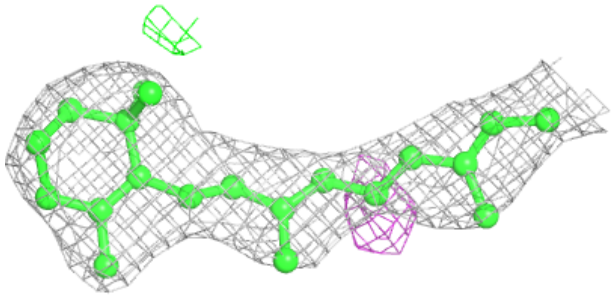


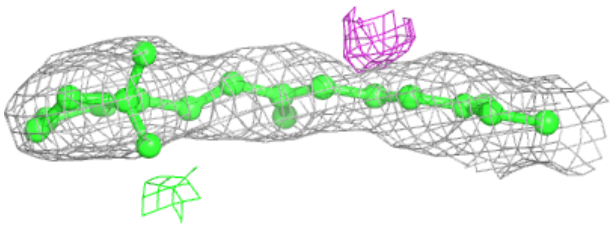


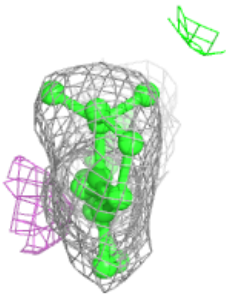


Electron density around RET B 301:

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

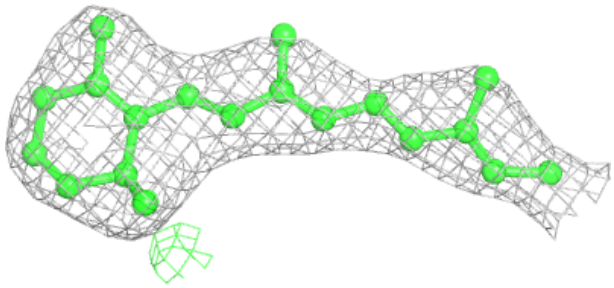


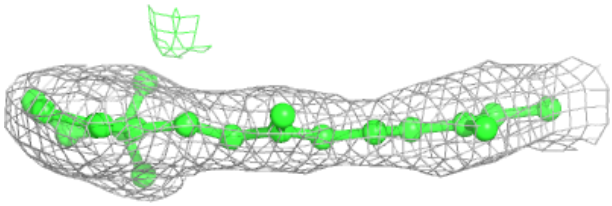


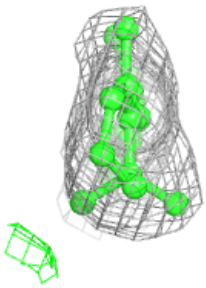


Electron density around RET A 301:

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







6.5 Other polymers (i)

There are no such residues in this entry.