wwPDB X-ray Structure Validation Summary Report (i)

Oct 8, 2024 – 12:16 PM JST

PDB ID	:	8XX8
Title	:	Structure of Glycilhalorhodopsin from Salinarimonas soli
Authors	:	Suzuki, K.; Ishizuka, T.; Konno, M.; Inoue, K.; Murata, T.
Deposited on	:	2024-01-17
Resolution	:	2.63 Å(reported)

This is a wwPDB X-ray Structure Validation Summary Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/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:

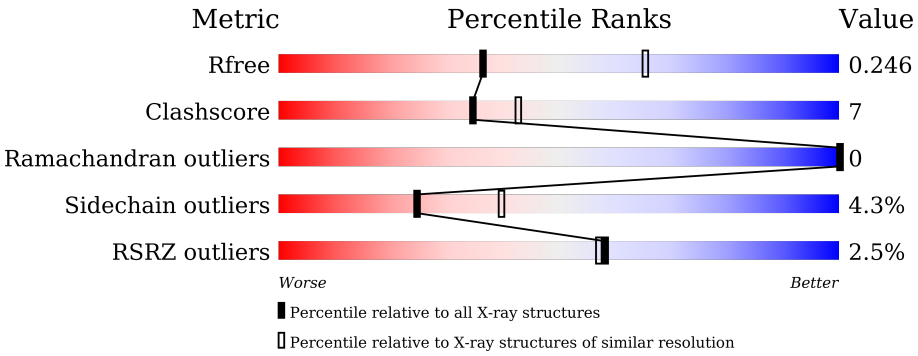
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.003 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

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 2.63 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	1851 (2.66-2.62)
Clashscore	180529	1953 (2.66-2.62)
Ramachandran outliers	177936	1929 (2.66-2.62)
Sidechain outliers	177891	1929 (2.66-2.62)
RSRZ outliers	164620	1850 (2.66-2.62)

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	263	2% 78% 18% ·
1	B	263	3% 80% 14% · ·
1	C	263	3% 79% 16% · ·
1	D	263	2% 78% 17% · ·
1	E	263	3% 80% 16% ·
1	F	263	3% 80% 15% · ·

2 Entry composition (i)

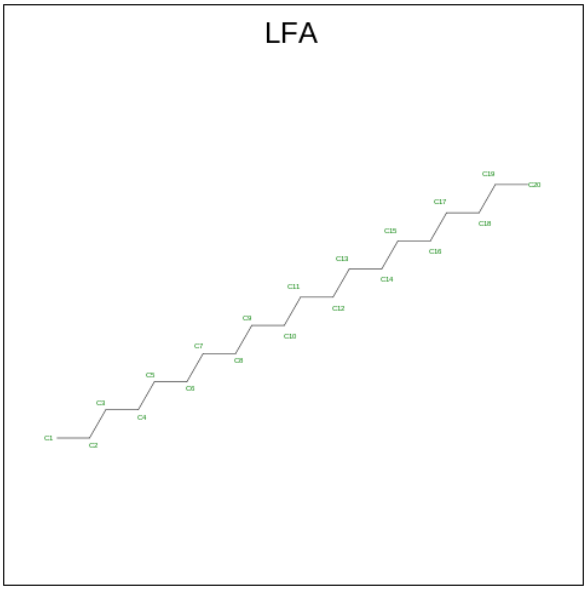
There are 6 unique types of molecules in this entry. The entry contains 12495 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Rhodopsin.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	253	Total	C	N	O	S	0	0	0
			1913	1253	321	333	6			
1	B	252	Total	C	N	O	S	0	2	0
			1927	1261	323	337	6			
1	D	254	Total	C	N	O	S	0	0	0
			1913	1254	319	334	6			
1	E	253	Total	C	N	O	S	0	0	0
			1917	1256	322	333	6			
1	F	253	Total	C	N	O	S	0	0	0
			1911	1254	318	333	6			
1	C	255	Total	C	N	O	S	0	0	0
			1924	1259	323	336	6			

- Molecule 2 is EICOSANE (three-letter code: LFA) (formula: $C_{20}H_{42}$).

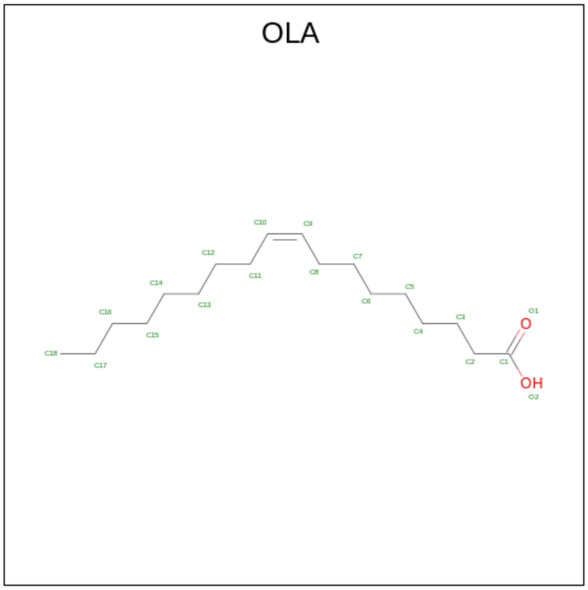


Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total C 8 8	0	0
2	B	1	Total C 7 7	0	0
2	D	1	Total C 8 8	0	0
2	D	1	Total C 12 12	0	0
2	D	1	Total C 7 7	0	0
2	D	1	Total C 6 6	0	0
2	E	1	Total C 7 7	0	0
2	F	1	Total C 15 15	0	0
2	F	1	Total C 7 7	0	0
2	F	1	Total C 11 11	0	0
2	F	1	Total C 11 11	0	0

- Molecule 3 is CHLORIDE ION (three-letter code: CL) (formula: Cl) (labeled as "Ligand of Interest" by depositor).

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

- Molecule 4 is OLEIC ACID (three-letter code: OLA) (formula: $C_{18}H_{34}O_2$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C O 20 18 2	0	0
4	A	1	Total C O 20 18 2	0	0
4	A	1	Total C O 20 18 2	0	0
4	A	1	Total C O 20 18 2	0	0
4	A	1	Total C O 20 18 2	0	0
4	A	1	Total C O 20 18 2	0	0
4	A	1	Total C O 20 18 2	0	0
4	A	1	Total C O 20 18 2	0	0
4	A	1	Total C O 20 18 2	0	0
4	B	1	Total C O 20 18 2	0	0
4	B	1	Total C O 20 18 2	0	0
4	B	1	Total C O 20 18 2	0	0
4	B	1	Total C O 20 18 2	0	0
4	D	1	Total C O 20 18 2	0	0

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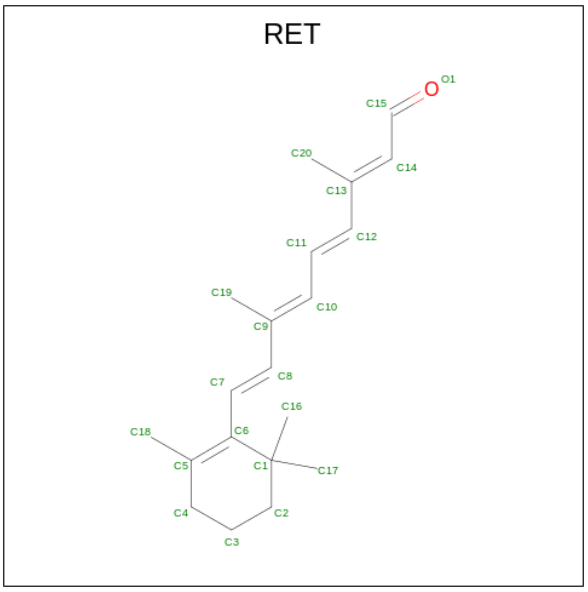
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	D	1	Total C O 20 18 2	0	0
4	D	1	Total C O 20 18 2	0	0
4	E	1	Total C O 20 18 2	0	0
4	E	1	Total C O 20 18 2	0	0
4	E	1	Total C O 20 18 2	0	0
4	E	1	Total C O 20 18 2	0	0
4	E	1	Total C O 20 18 2	0	0
4	E	1	Total C O 20 18 2	0	0
4	E	1	Total C O 20 18 2	0	0
4	F	1	Total C O 20 18 2	0	0
4	F	1	Total C O 20 18 2	0	0
4	F	1	Total C O 20 18 2	0	0
4	F	1	Total C O 20 18 2	0	0
4	C	1	Total C O 20 18 2	0	0
4	C	1	Total C O 20 18 2	0	0
4	C	1	Total C O 20 18 2	0	0
4	C	1	Total C O 20 18 2	0	0
4	C	1	Total C O 20 18 2	0	0
4	C	1	Total C O 20 18 2	0	0

- Molecule 5 is RETINAL (three-letter code: RET) (formula: $C_{20}H_{28}O$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C 20 20	0	0
5	B	1	Total C 20 20	0	0
5	D	1	Total C 20 20	0	0
5	E	1	Total C 20 20	0	0
5	F	1	Total C 20 20	0	0
5	C	1	Total C 20 20	0	0

- Molecule 6 is water.

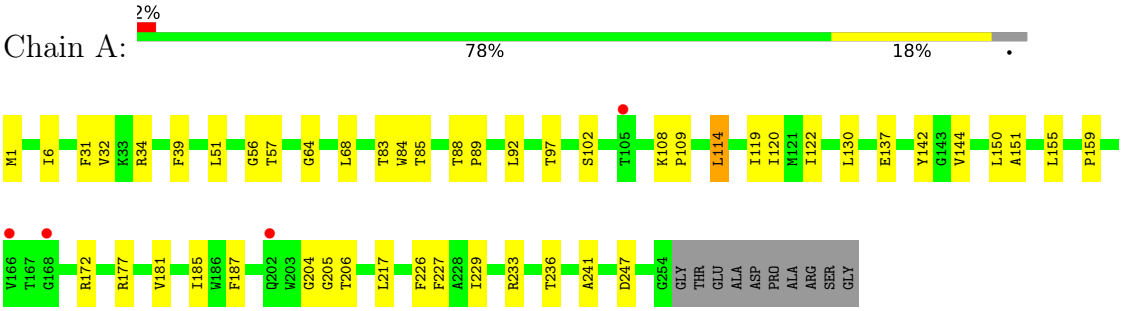
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	15	Total O 15 15	0	0
6	B	13	Total O 13 13	0	0
6	D	23	Total O 23 23	0	0
6	E	13	Total O 13 13	0	0
6	F	10	Total O 10 10	0	0
6	C	11	Total O 11 11	0	0

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.

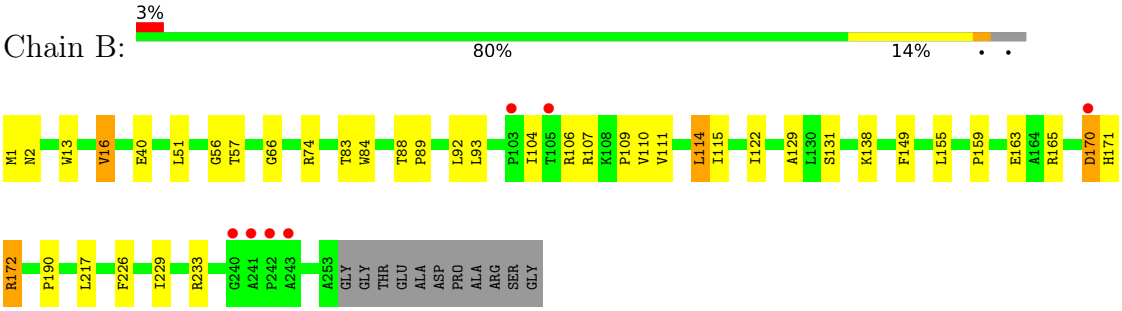
• Molecule 1: Rhodopsin

Chain A:



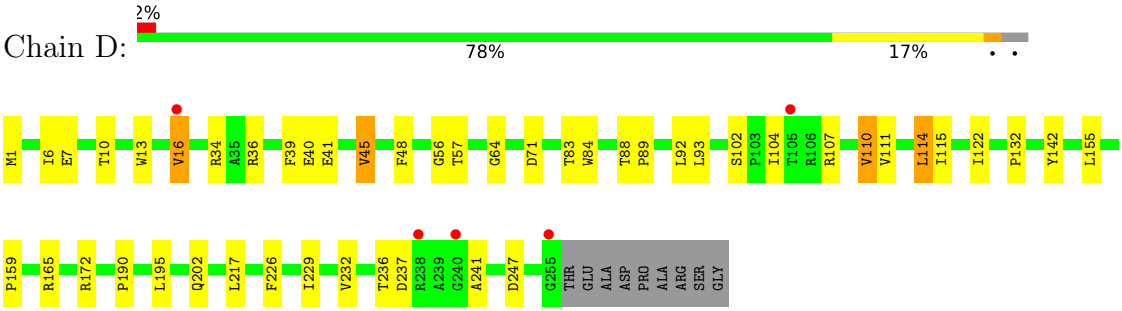
• Molecule 1: Rhodopsin

Chain B:



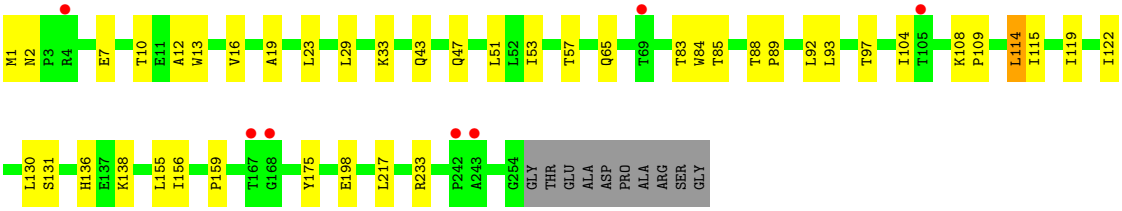
• Molecule 1: Rhodopsin

Chain D:

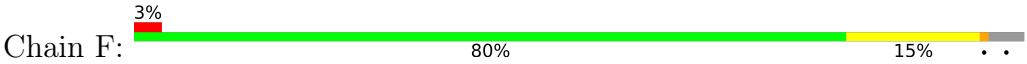


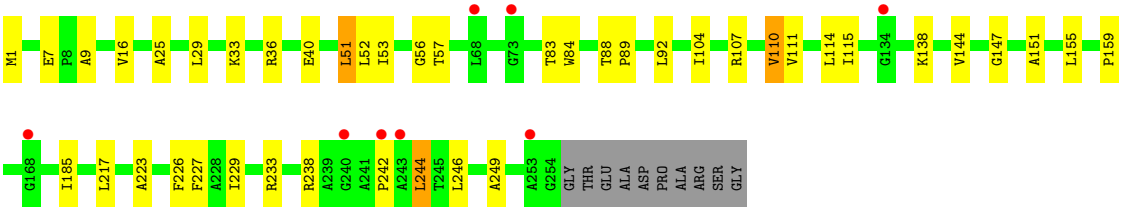
• Molecule 1: Rhodopsin

Chain E:

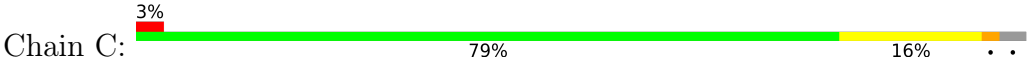


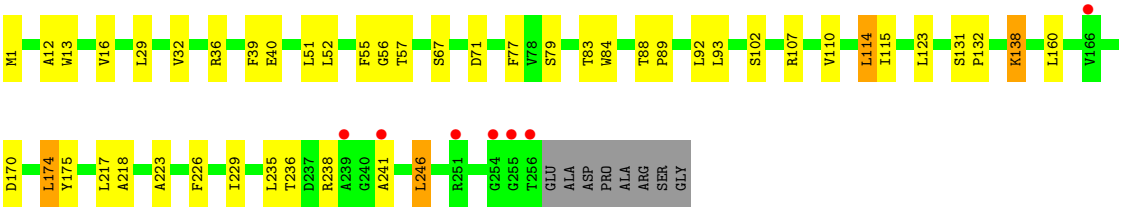
• Molecule 1: Rhodopsin





• Molecule 1: Rhodopsin





4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	90.22Å 126.18Å 97.61Å 90.00° 104.77° 90.00°	Depositor
Resolution (Å)	47.19 – 2.63 47.19 – 2.63	Depositor EDS
% Data completeness (in resolution range)	99.4 (47.19-2.63) 91.0 (47.19-2.63)	Depositor EDS
R_{merge}	0.17	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	0.82 (at 2.61Å)	Xtriage
Refinement program	PHENIX 1.18.2_3874	Depositor
R, R_{free}	0.209 , 0.246 0.209 , 0.246	Depositor DCC
R_{free} test set	61301 reflections (2.45%)	wwPDB-VP
Wilson B-factor (Å^2)	38.1	Xtriage
Anisotropy	0.762	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.33 , 51.2	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	12495	wwPDB-VP
Average B, all atoms (Å^2)	49.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.90% 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: OLA, LFA, CL, RET

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	0.24	0/1960	0.39	0/2679
1	B	0.24	0/1974	0.40	0/2697
1	C	0.24	0/1971	0.41	0/2694
1	D	0.24	0/1960	0.40	0/2679
1	E	0.24	0/1964	0.40	0/2683
1	F	0.24	0/1958	0.40	0/2676
All	All	0.24	0/11787	0.40	0/16108

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	1913	0	1957	35	0
1	B	1927	0	1972	27	0
1	C	1924	0	1966	30	0
1	D	1913	0	1952	34	0
1	E	1917	0	1968	30	0
1	F	1911	0	1953	29	0
2	A	8	0	15	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	B	7	0	13	1	0
2	D	33	0	59	4	0
2	E	7	0	13	4	0
2	F	44	0	84	3	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
3	F	1	0	0	0	0
4	A	180	0	297	21	0
4	B	80	0	132	4	0
4	C	140	0	231	10	0
4	D	60	0	99	7	0
4	E	140	0	231	10	0
4	F	80	0	132	6	0
5	A	20	0	27	1	0
5	B	20	0	27	3	0
5	C	20	0	27	1	0
5	D	20	0	27	1	0
5	E	20	0	27	2	0
5	F	20	0	27	1	0
6	A	15	0	0	1	0
6	B	13	0	0	1	0
6	C	11	0	0	1	0
6	D	23	0	0	1	0
6	E	13	0	0	2	0
6	F	10	0	0	1	0
All	All	12495	0	13236	190	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 7.

The worst 5 of 190 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:C:1:MET:N	6:C:401:HOH:O	2.21	0.73
1:D:236:THR:HG22	1:D:241:ALA:HB2	1.71	0.72
1:B:1:MET:N	6:B:401:HOH:O	2.22	0.72
1:D:1:MET:N	6:D:401:HOH:O	2.24	0.71
1:C:16:VAL:HG12	4:C:304:OLA:H132	1.73	0.70

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	251/263 (95%)	247 (98%)	4 (2%)	0	100	100
1	B	252/263 (96%)	249 (99%)	3 (1%)	0	100	100
1	C	253/263 (96%)	250 (99%)	3 (1%)	0	100	100
1	D	252/263 (96%)	250 (99%)	2 (1%)	0	100	100
1	E	251/263 (95%)	250 (100%)	1 (0%)	0	100	100
1	F	251/263 (95%)	248 (99%)	3 (1%)	0	100	100
All	All	1510/1578 (96%)	1494 (99%)	16 (1%)	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	190/197 (96%)	182 (96%)	8 (4%)	25	41
1	B	193/197 (98%)	185 (96%)	8 (4%)	26	42
1	C	191/197 (97%)	181 (95%)	10 (5%)	19	32
1	D	189/197 (96%)	183 (97%)	6 (3%)	34	52
1	E	191/197 (97%)	184 (96%)	7 (4%)	29	46
1	F	189/197 (96%)	178 (94%)	11 (6%)	17	27

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	1143/1182 (97%)	1093 (96%)	50 (4%)	25 39

5 of 50 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	E	233	ARG
1	F	138	LYS
1	C	246	LEU
1	F	7	GLU
1	F	92	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (2) such sidechains are listed below:

Mol	Chain	Res	Type
1	E	2	ASN
1	E	43	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 57 ligands modelled in this entry, 6 are monoatomic - leaving 51 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	$\#\|Z\| > 2$
4	OLA	A	307	-	19,19,19	0.80	1 (5%)	19,19,19	0.90	1 (5%)
4	OLA	D	307	-	19,19,19	0.78	1 (5%)	19,19,19	0.93	0
4	OLA	A	306	-	19,19,19	0.78	1 (5%)	19,19,19	0.93	1 (5%)
2	LFA	F	303	-	10,10,19	0.11	0	9,9,18	0.11	0
4	OLA	A	304	-	19,19,19	0.79	1 (5%)	19,19,19	0.86	0
4	OLA	C	302	-	19,19,19	0.80	1 (5%)	19,19,19	0.92	1 (5%)
4	OLA	C	303	-	19,19,19	0.80	1 (5%)	19,19,19	0.89	0
4	OLA	E	303	-	19,19,19	0.79	1 (5%)	19,19,19	0.93	0
2	LFA	D	304	-	5,5,19	0.13	0	4,4,18	0.08	0
4	OLA	C	306	-	19,19,19	0.80	1 (5%)	19,19,19	0.89	1 (5%)
2	LFA	E	301	-	6,6,19	0.13	0	5,5,18	0.04	0
4	OLA	A	308	-	19,19,19	0.80	1 (5%)	19,19,19	0.90	1 (5%)
4	OLA	A	311	-	19,19,19	0.79	1 (5%)	19,19,19	0.93	1 (5%)
4	OLA	E	305	-	19,19,19	0.77	1 (5%)	19,19,19	0.96	1 (5%)
5	RET	E	310	1	20,20,21	0.68	1 (5%)	27,27,28	0.36	0
4	OLA	C	308	-	19,19,19	0.79	1 (5%)	19,19,19	0.90	0
2	LFA	F	301	-	14,14,19	0.08	0	13,13,18	0.16	0
4	OLA	A	303	-	19,19,19	0.78	1 (5%)	19,19,19	0.94	0
5	RET	C	309	1	20,20,21	0.69	1 (5%)	27,27,28	0.38	0
4	OLA	F	308	-	19,19,19	0.78	1 (5%)	19,19,19	0.89	0
4	OLA	F	306	-	19,19,19	0.79	1 (5%)	19,19,19	0.96	1 (5%)
5	RET	B	307	1	20,20,21	0.69	1 (5%)	27,27,28	0.36	0
4	OLA	B	304	-	19,19,19	0.77	1 (5%)	19,19,19	0.85	0
2	LFA	F	302	-	6,6,19	0.12	0	5,5,18	0.10	0
4	OLA	C	305	-	19,19,19	0.78	1 (5%)	19,19,19	1.00	2 (10%)
4	OLA	D	306	-	19,19,19	0.79	1 (5%)	19,19,19	0.92	1 (5%)
4	OLA	F	307	-	19,19,19	0.77	1 (5%)	19,19,19	1.01	2 (10%)
4	OLA	E	309	-	19,19,19	0.80	1 (5%)	19,19,19	0.88	0
4	OLA	E	307	-	19,19,19	0.76	1 (5%)	19,19,19	0.93	1 (5%)
2	LFA	D	301	-	7,7,19	0.10	0	6,6,18	0.15	0
4	OLA	E	308	-	19,19,19	0.78	1 (5%)	19,19,19	0.92	1 (5%)
4	OLA	B	305	-	19,19,19	0.78	1 (5%)	19,19,19	0.92	0
4	OLA	F	309	-	19,19,19	0.76	1 (5%)	19,19,19	0.91	0
4	OLA	A	310	-	19,19,19	0.81	1 (5%)	19,19,19	0.91	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
2	LFA	D	303	-	6,6,19	0.11	0	5,5,18	0.09	0
4	OLA	B	303	-	19,19,19	0.78	1 (5%)	19,19,19	0.81	0
4	OLA	C	304	-	19,19,19	0.80	1 (5%)	19,19,19	0.90	1 (5%)
4	OLA	A	309	-	19,19,19	0.80	1 (5%)	19,19,19	0.90	1 (5%)
2	LFA	A	301	-	7,7,19	0.11	0	6,6,18	0.13	0
4	OLA	E	306	-	19,19,19	0.79	1 (5%)	19,19,19	0.91	1 (5%)
5	RET	A	312	1	20,20,21	0.70	1 (5%)	27,27,28	0.39	0
5	RET	F	310	1	20,20,21	0.71	1 (5%)	27,27,28	0.37	0
4	OLA	E	304	-	19,19,19	0.81	1 (5%)	19,19,19	0.86	1 (5%)
2	LFA	B	301	-	6,6,19	0.11	0	5,5,18	0.10	0
4	OLA	B	306	-	19,19,19	0.80	1 (5%)	19,19,19	0.89	0
4	OLA	A	305	-	19,19,19	0.79	1 (5%)	19,19,19	0.93	1 (5%)
4	OLA	C	307	-	19,19,19	0.80	1 (5%)	19,19,19	0.90	1 (5%)
4	OLA	D	308	-	19,19,19	0.79	1 (5%)	19,19,19	0.94	2 (10%)
2	LFA	D	302	-	11,11,19	0.10	0	10,10,18	0.07	0
2	LFA	F	304	-	10,10,19	0.10	0	9,9,18	0.12	0
5	RET	D	309	1	20,20,21	0.68	1 (5%)	27,27,28	0.36	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
4	OLA	A	307	-	-	9/17/17/17	-
4	OLA	D	307	-	-	11/17/17/17	-
4	OLA	A	306	-	-	8/17/17/17	-
2	LFA	F	303	-	-	1/8/8/17	-
4	OLA	A	304	-	-	11/17/17/17	-
4	OLA	C	302	-	-	9/17/17/17	-
4	OLA	C	303	-	-	9/17/17/17	-
4	OLA	E	303	-	-	7/17/17/17	-
2	LFA	D	304	-	-	0/3/3/17	-
4	OLA	C	306	-	-	9/17/17/17	-
2	LFA	E	301	-	-	0/4/4/17	-
4	OLA	A	308	-	-	6/17/17/17	-
4	OLA	A	311	-	-	9/17/17/17	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	OLA	E	305	-	-	9/17/17/17	-
5	RET	E	310	1	-	4/13/30/31	0/1/1/1
4	OLA	C	308	-	-	9/17/17/17	-
2	LFA	F	301	-	-	0/12/12/17	-
4	OLA	A	303	-	-	9/17/17/17	-
5	RET	C	309	1	-	4/13/30/31	0/1/1/1
4	OLA	F	308	-	-	9/17/17/17	-
4	OLA	F	306	-	-	9/17/17/17	-
5	RET	B	307	1	-	4/13/30/31	0/1/1/1
4	OLA	B	304	-	-	8/17/17/17	-
2	LFA	F	302	-	-	0/4/4/17	-
4	OLA	C	305	-	-	12/17/17/17	-
4	OLA	D	306	-	-	8/17/17/17	-
4	OLA	F	307	-	-	10/17/17/17	-
4	OLA	E	309	-	-	7/17/17/17	-
4	OLA	E	307	-	-	9/17/17/17	-
2	LFA	D	301	-	-	1/5/5/17	-
4	OLA	E	308	-	-	12/17/17/17	-
4	OLA	B	305	-	-	9/17/17/17	-
4	OLA	F	309	-	-	7/17/17/17	-
4	OLA	A	310	-	-	10/17/17/17	-
2	LFA	D	303	-	-	0/4/4/17	-
4	OLA	B	303	-	-	12/17/17/17	-
4	OLA	C	304	-	-	7/17/17/17	-
4	OLA	A	309	-	-	9/17/17/17	-
2	LFA	A	301	-	-	2/5/5/17	-
4	OLA	E	306	-	-	10/17/17/17	-
5	RET	A	312	1	-	4/13/30/31	0/1/1/1
5	RET	F	310	1	-	4/13/30/31	0/1/1/1
4	OLA	E	304	-	-	10/17/17/17	-
2	LFA	B	301	-	-	0/4/4/17	-
4	OLA	B	306	-	-	6/17/17/17	-
4	OLA	A	305	-	-	10/17/17/17	-
4	OLA	C	307	-	-	8/17/17/17	-
4	OLA	D	308	-	-	9/17/17/17	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	LFA	D	302	-	-	2/9/9/17	-
2	LFA	F	304	-	-	1/8/8/17	-
5	RET	D	309	1	-	4/13/30/31	0/1/1/1

The worst 5 of 40 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	F	310	RET	C14-C13	2.78	1.35	1.33
4	E	304	OLA	C10-C9	2.77	1.47	1.31
4	C	302	OLA	C10-C9	2.75	1.47	1.31
4	C	304	OLA	C10-C9	2.75	1.47	1.31
4	A	308	OLA	C10-C9	2.75	1.47	1.31

The worst 5 of 23 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	F	307	OLA	C3-C2-C1	-2.35	108.54	114.47
4	D	306	OLA	C3-C2-C1	-2.18	108.97	114.47
4	C	305	OLA	C3-C2-C1	-2.18	108.97	114.47
4	C	304	OLA	O2-C1-C2	2.15	120.93	114.03
4	D	308	OLA	O2-C1-C2	2.15	120.92	114.03

There are no chirality outliers.

5 of 337 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	309	OLA	C11-C10-C9-C8
4	A	310	OLA	C11-C10-C9-C8
4	B	303	OLA	C11-C10-C9-C8
4	B	304	OLA	C11-C10-C9-C8
4	D	306	OLA	C11-C10-C9-C8

There are no ring outliers.

39 monomers are involved in 77 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	307	OLA	1	0
4	D	307	OLA	2	0
2	F	303	LFA	1	0
4	A	304	OLA	1	0

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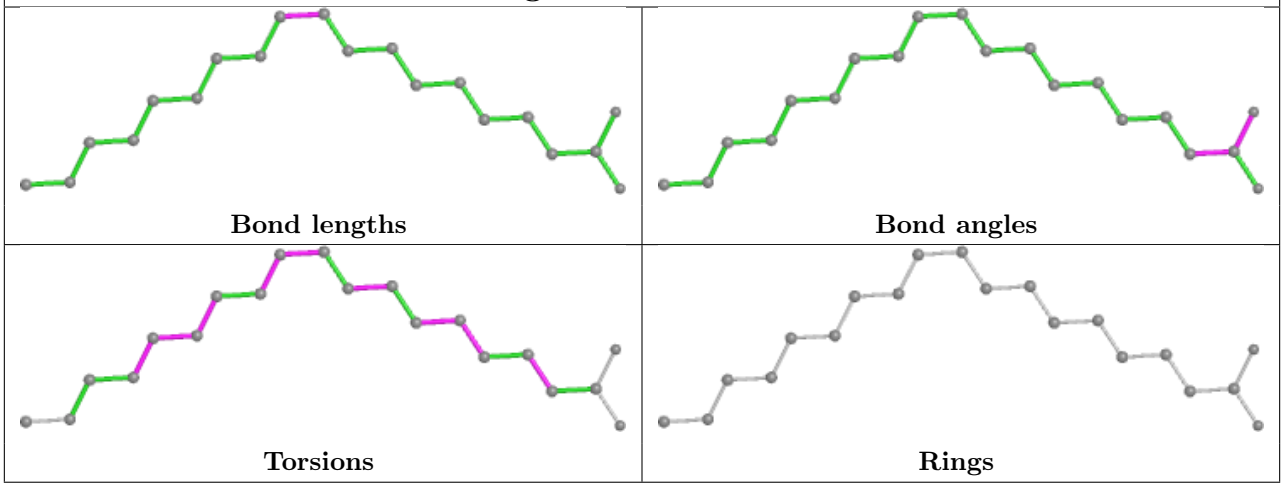
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	E	303	OLA	3	0
4	C	306	OLA	1	0
2	E	301	LFA	4	0
4	A	308	OLA	4	0
4	A	311	OLA	4	0
5	E	310	RET	2	0
4	C	308	OLA	1	0
4	A	303	OLA	2	0
5	C	309	RET	1	0
4	F	308	OLA	1	0
5	B	307	RET	3	0
2	F	302	LFA	1	0
4	C	305	OLA	8	0
4	F	307	OLA	4	0
4	E	309	OLA	2	0
4	E	307	OLA	3	0
2	D	301	LFA	1	0
4	E	308	OLA	2	0
4	B	305	OLA	3	0
4	F	309	OLA	1	0
4	A	310	OLA	5	0
2	D	303	LFA	2	0
4	B	303	OLA	1	0
4	C	304	OLA	1	0
4	A	309	OLA	5	0
2	A	301	LFA	1	0
5	A	312	RET	1	0
5	F	310	RET	1	0
4	E	304	OLA	1	0
2	B	301	LFA	1	0
4	A	305	OLA	1	0
4	D	308	OLA	5	0
2	D	302	LFA	1	0
2	F	304	LFA	1	0
5	D	309	RET	1	0

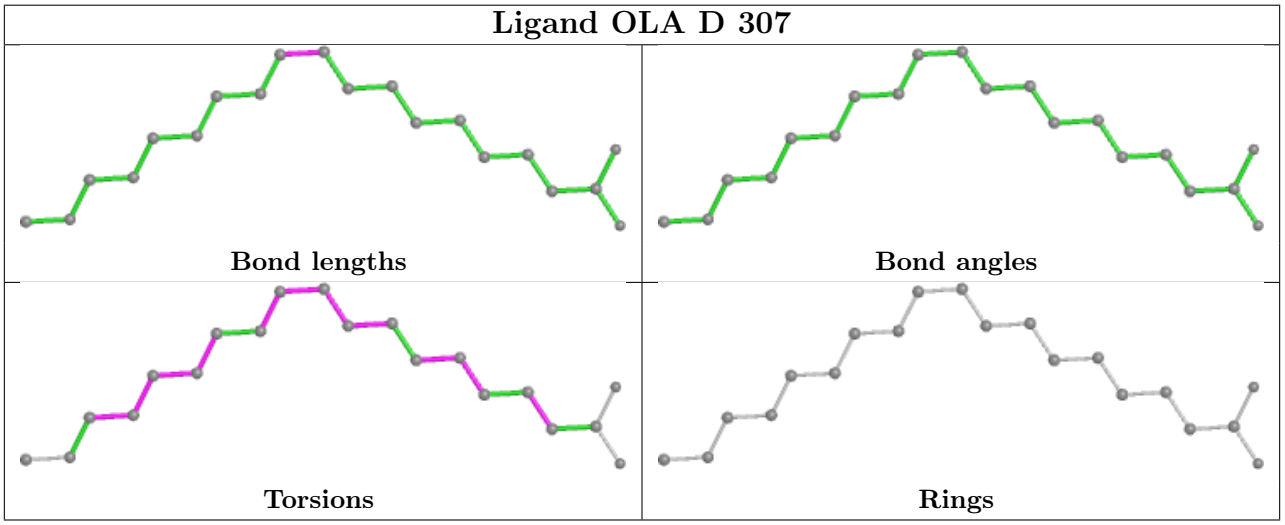
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less 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 OLA A 307



Ligand OLA D 307



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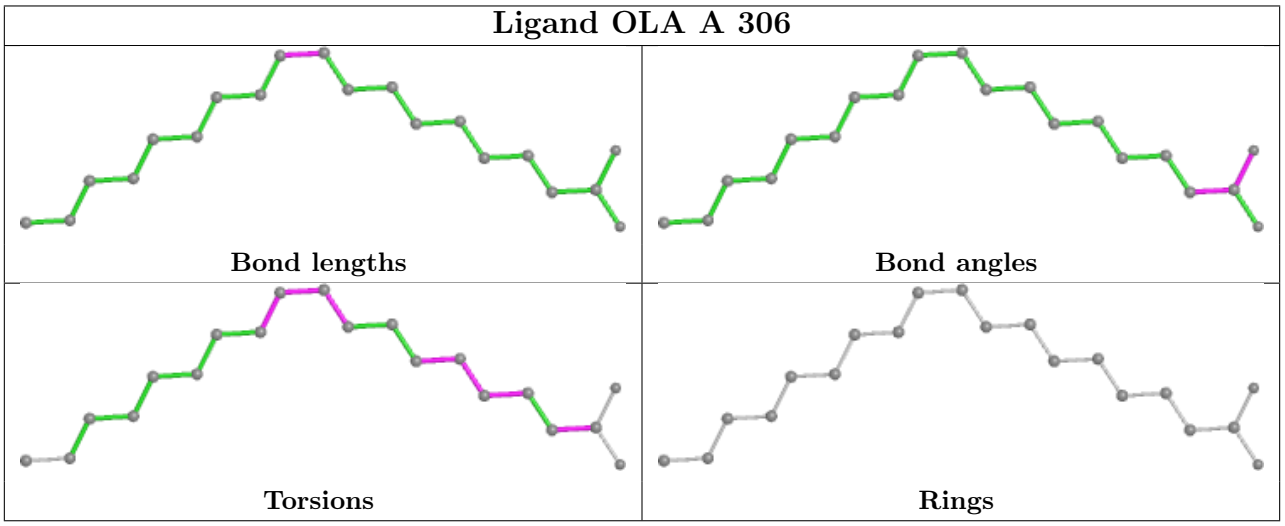

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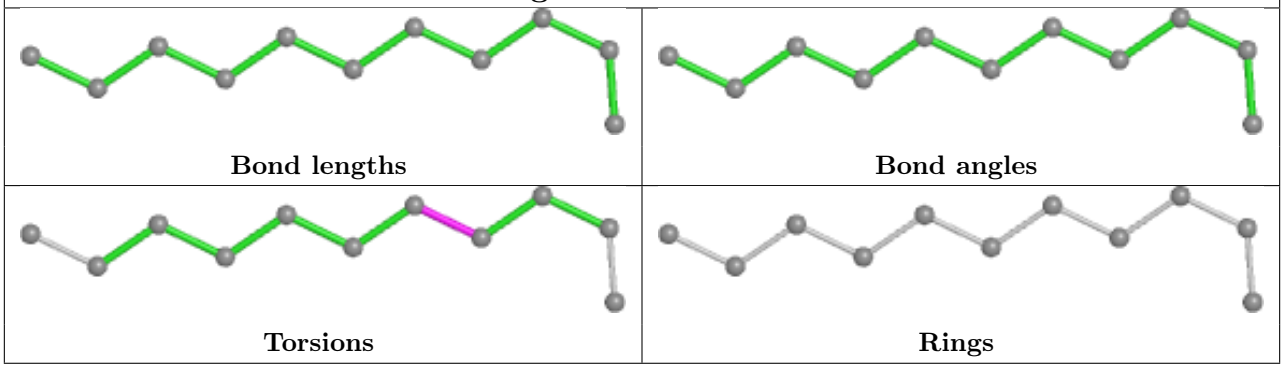

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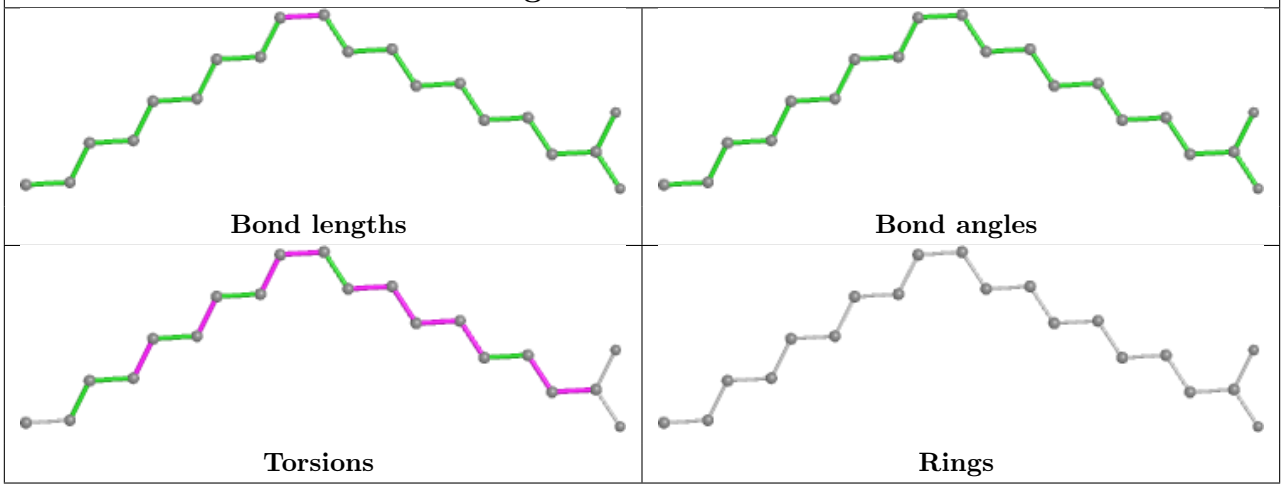

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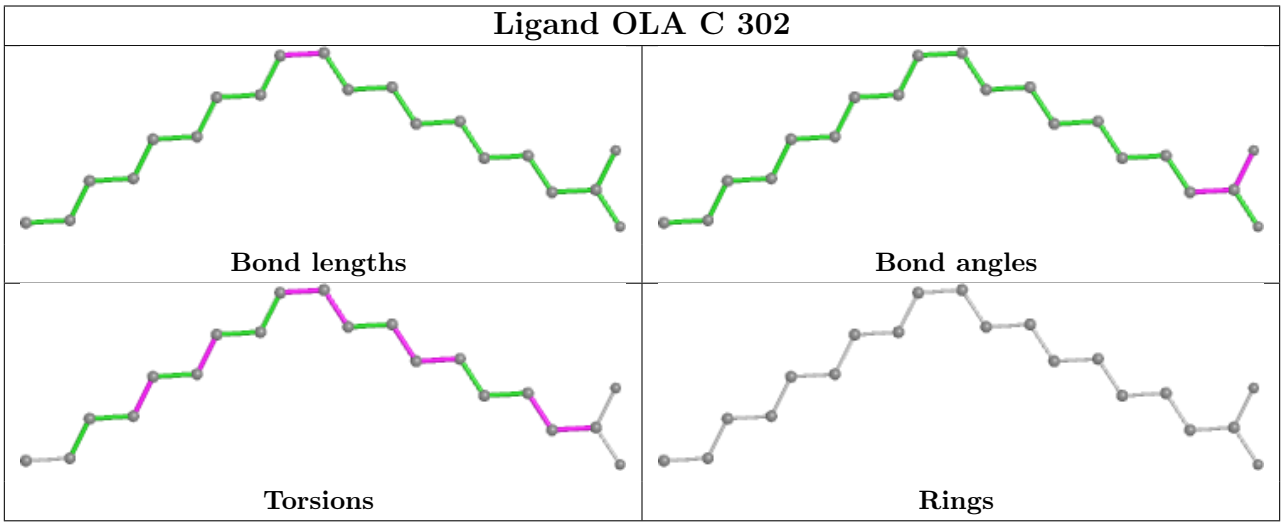

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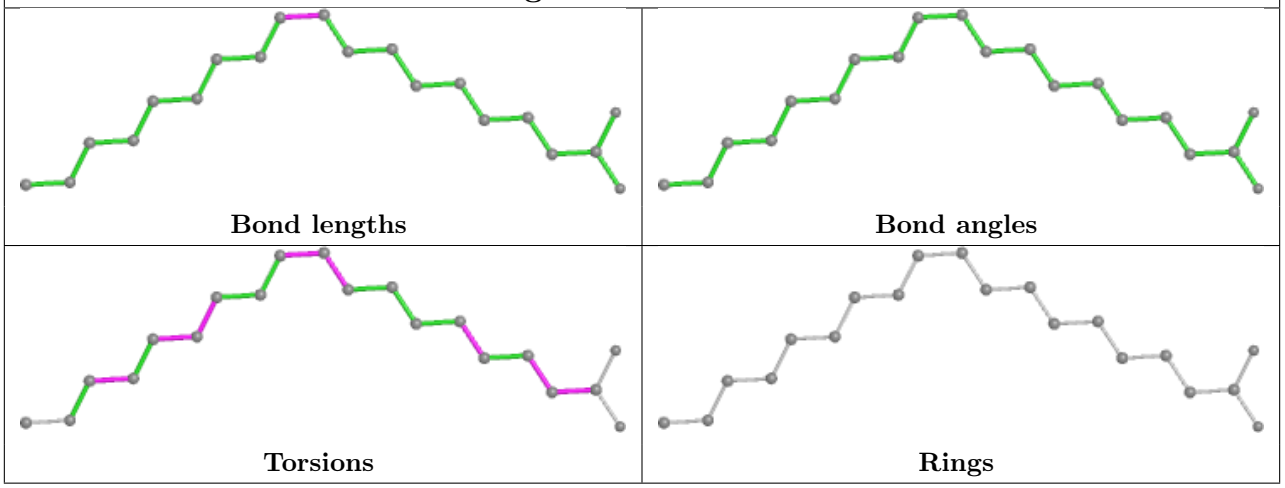

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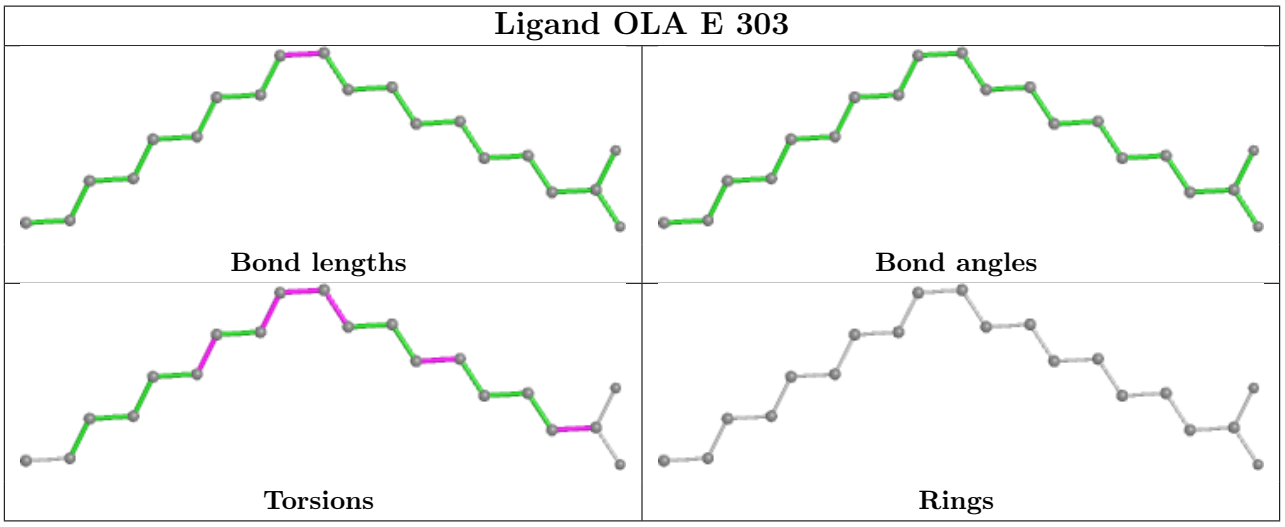

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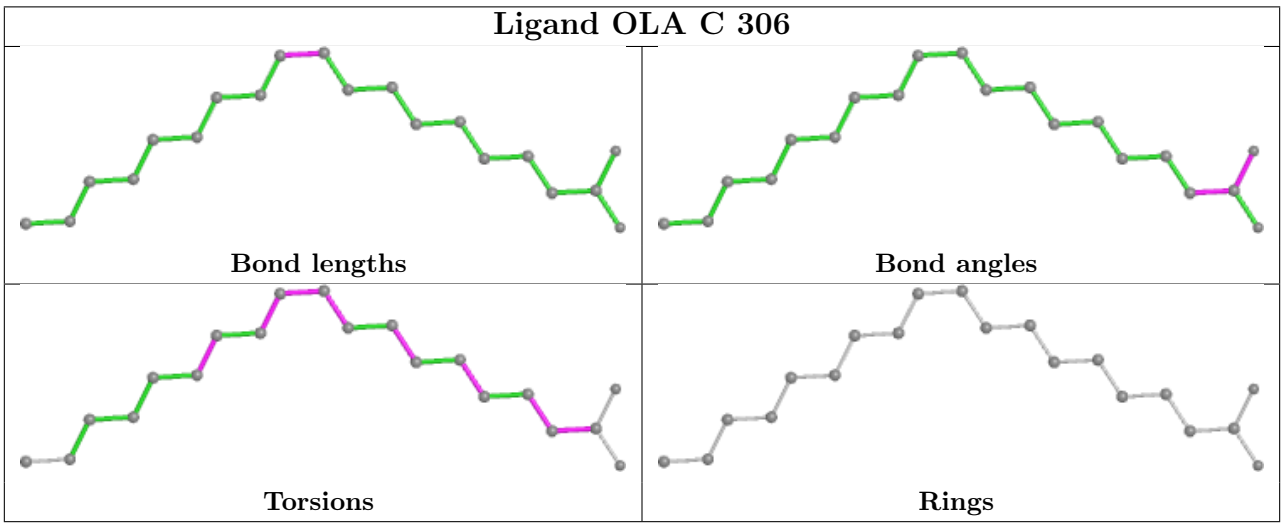

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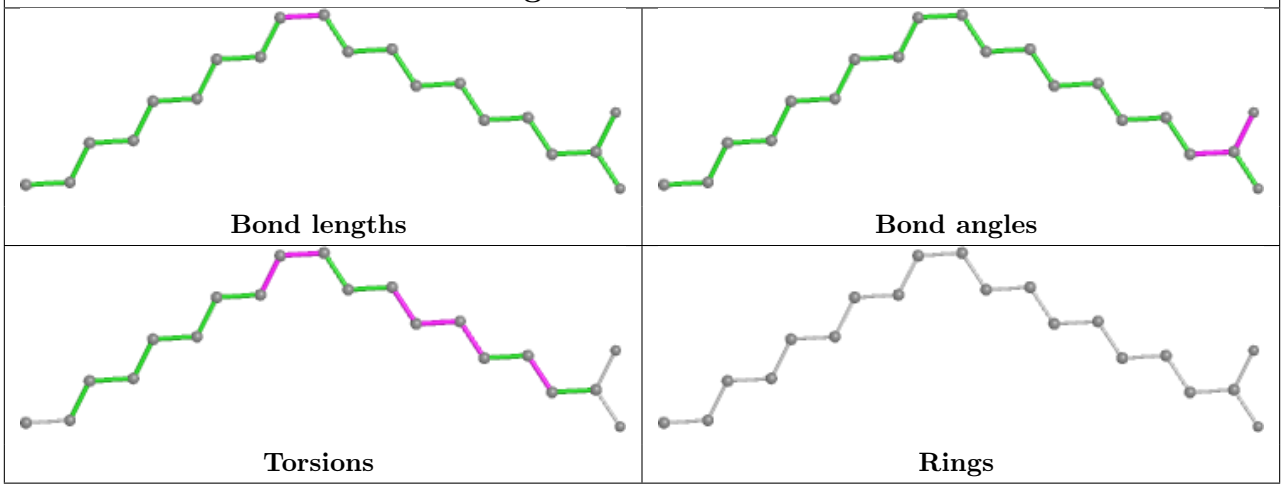

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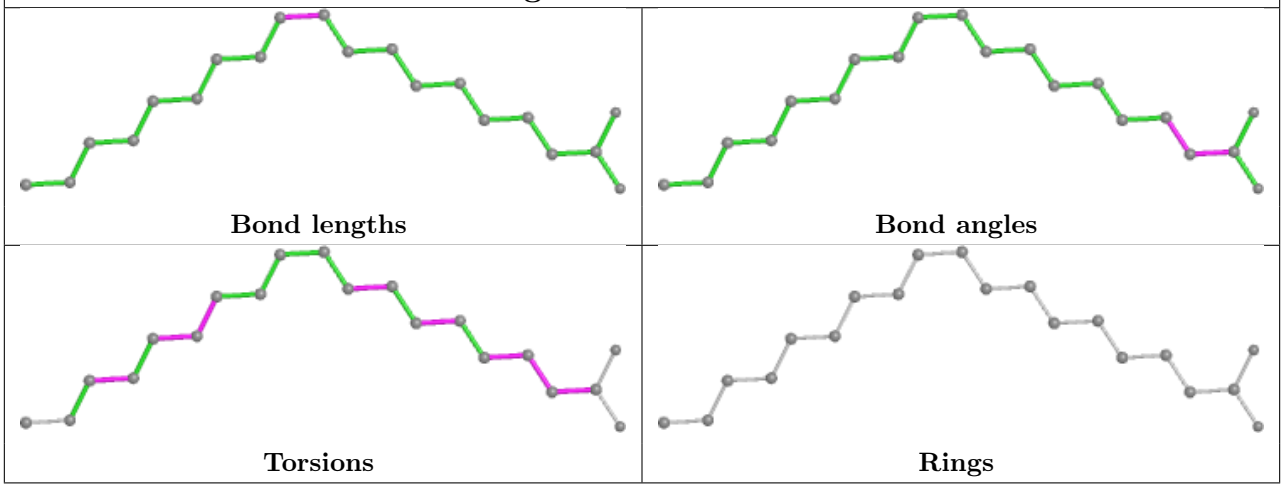

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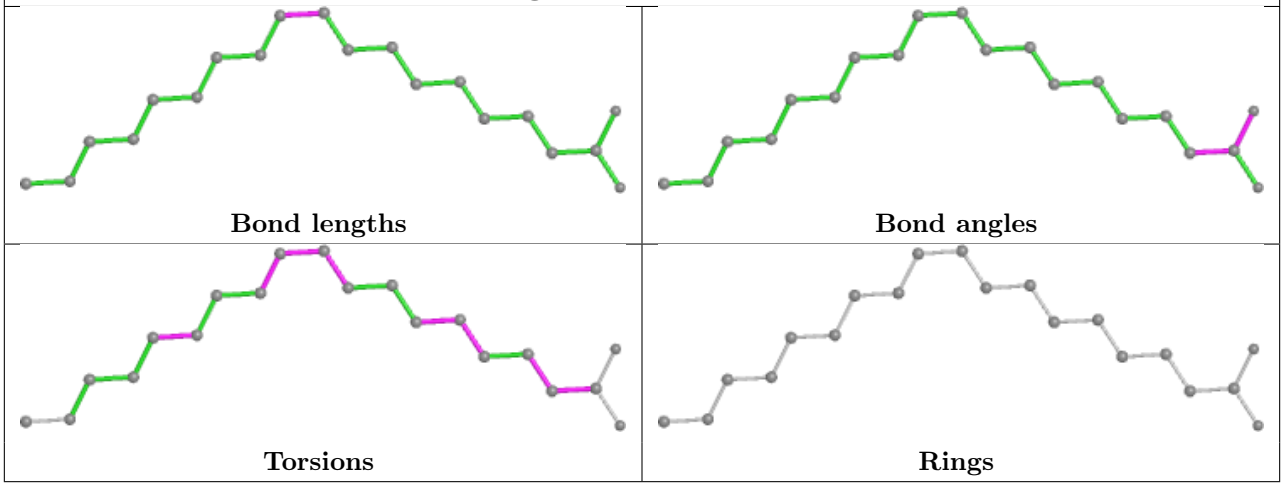

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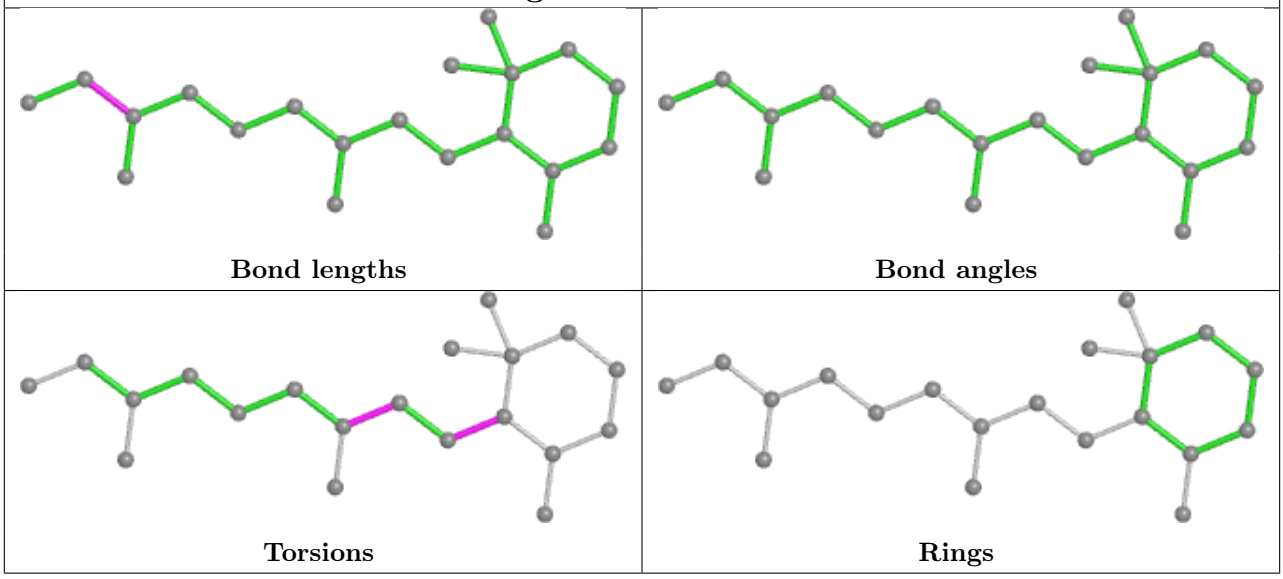

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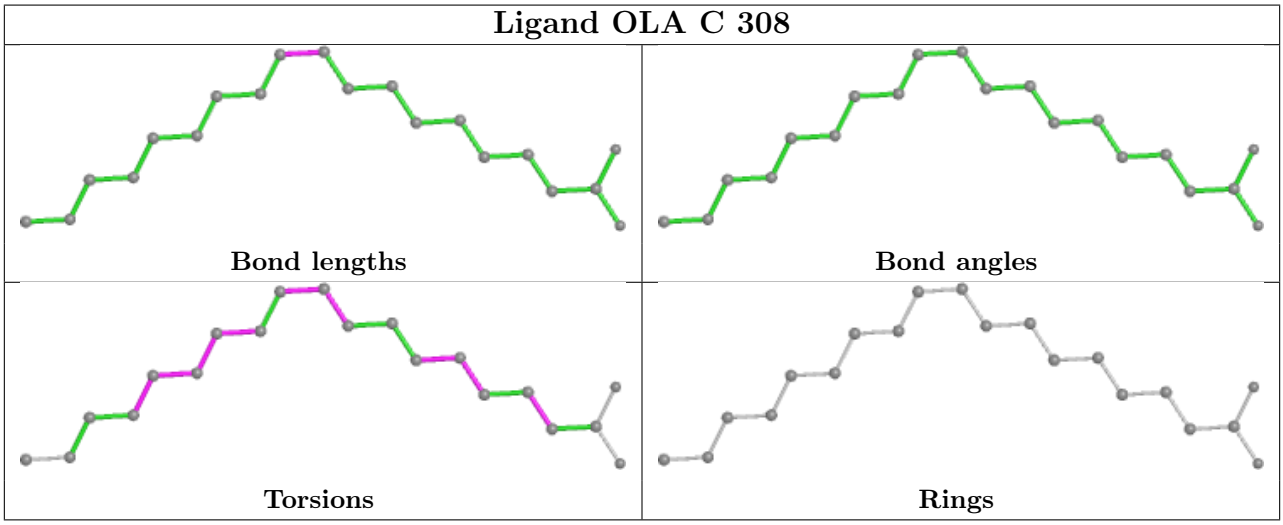

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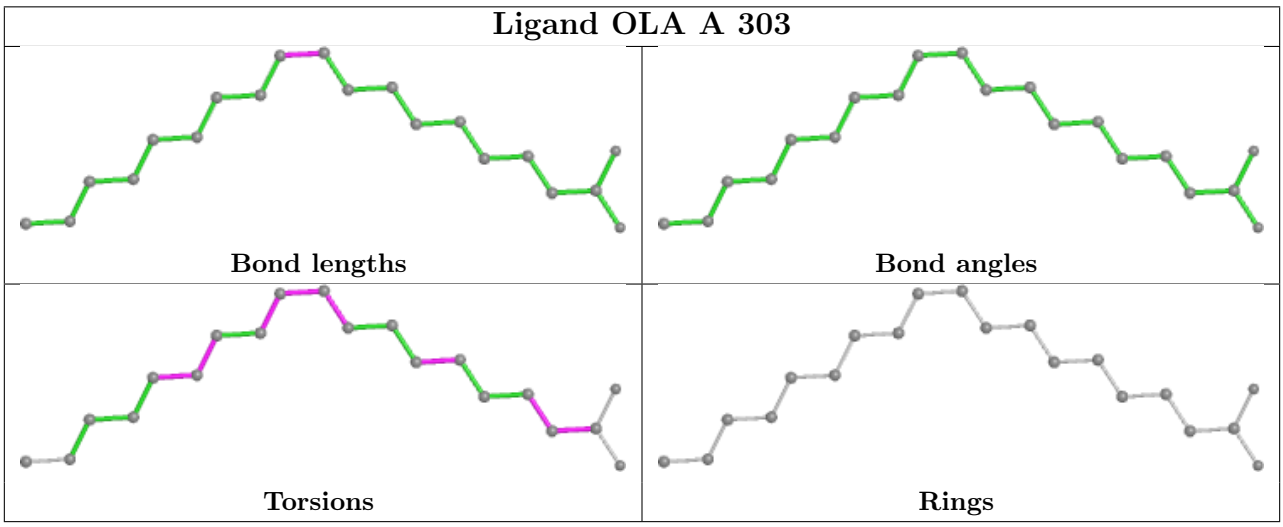

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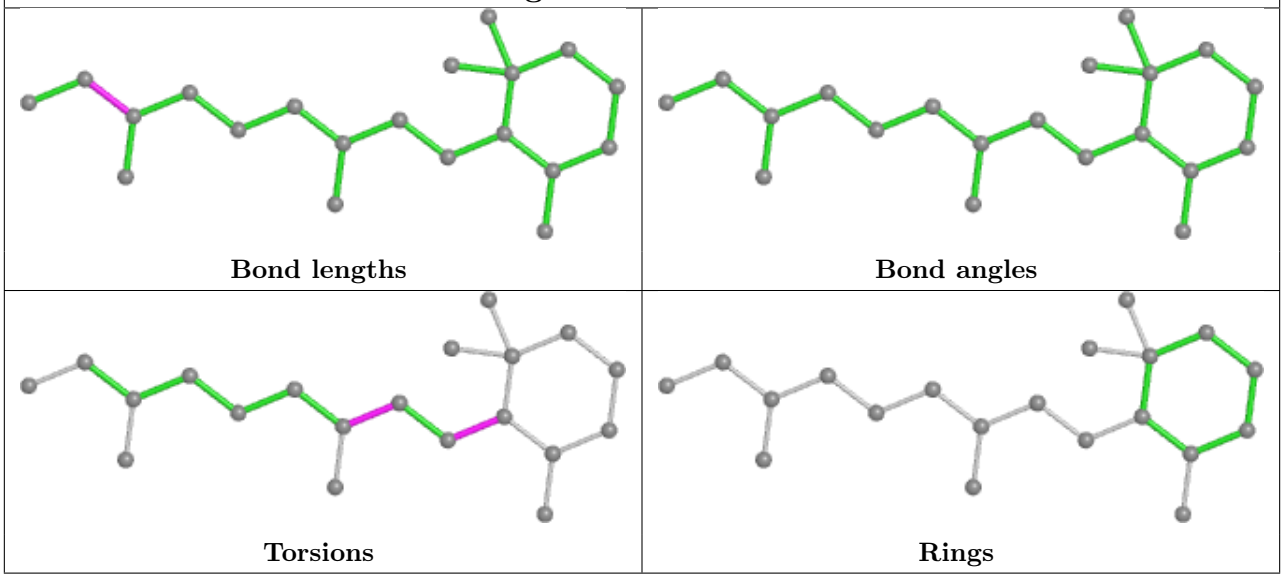

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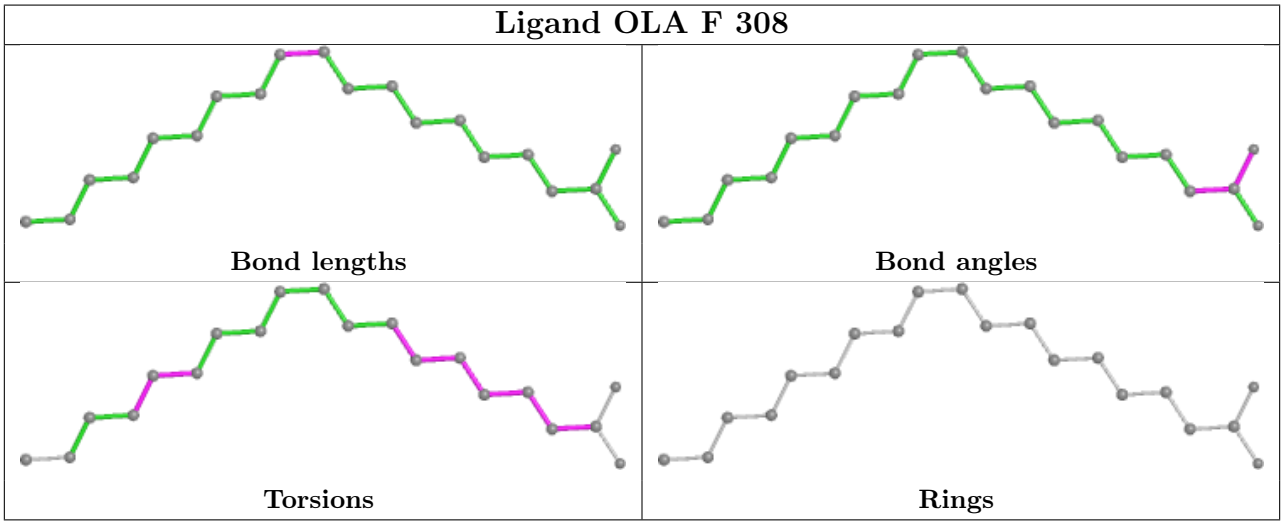

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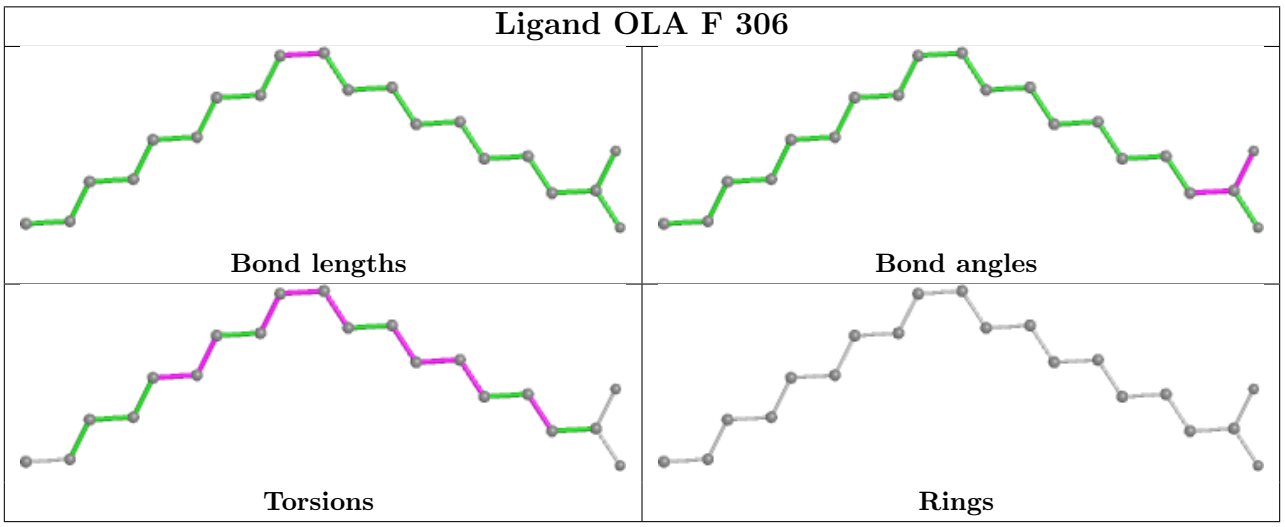

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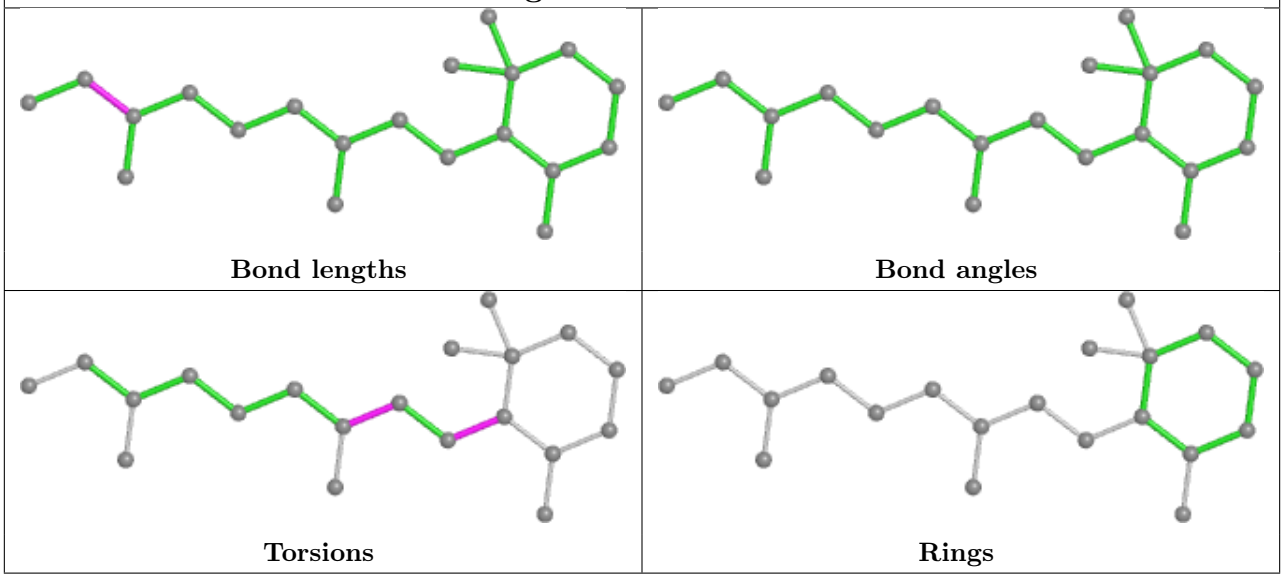

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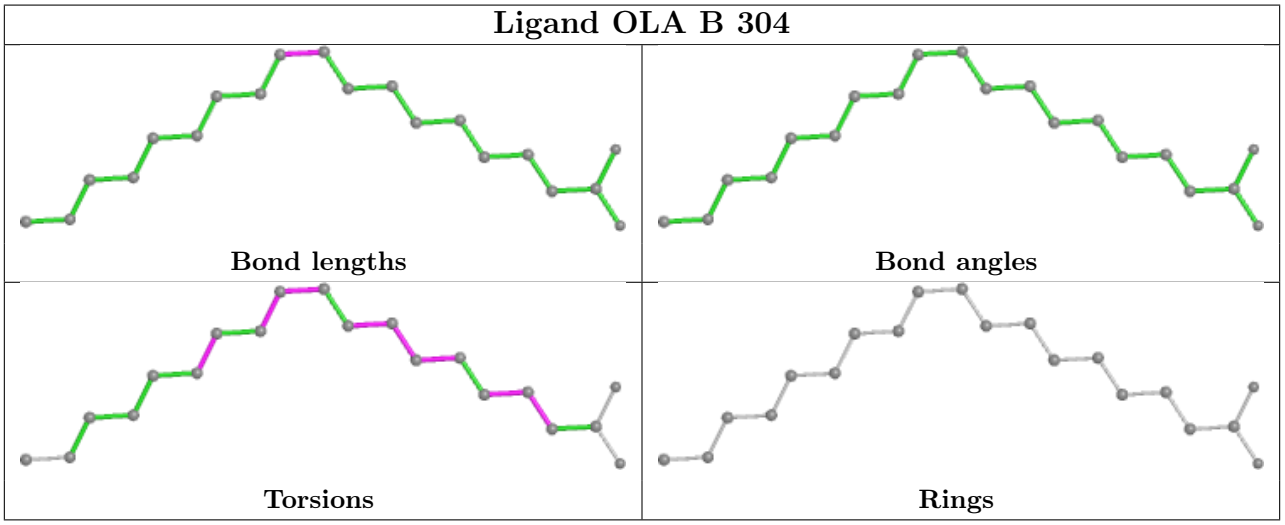

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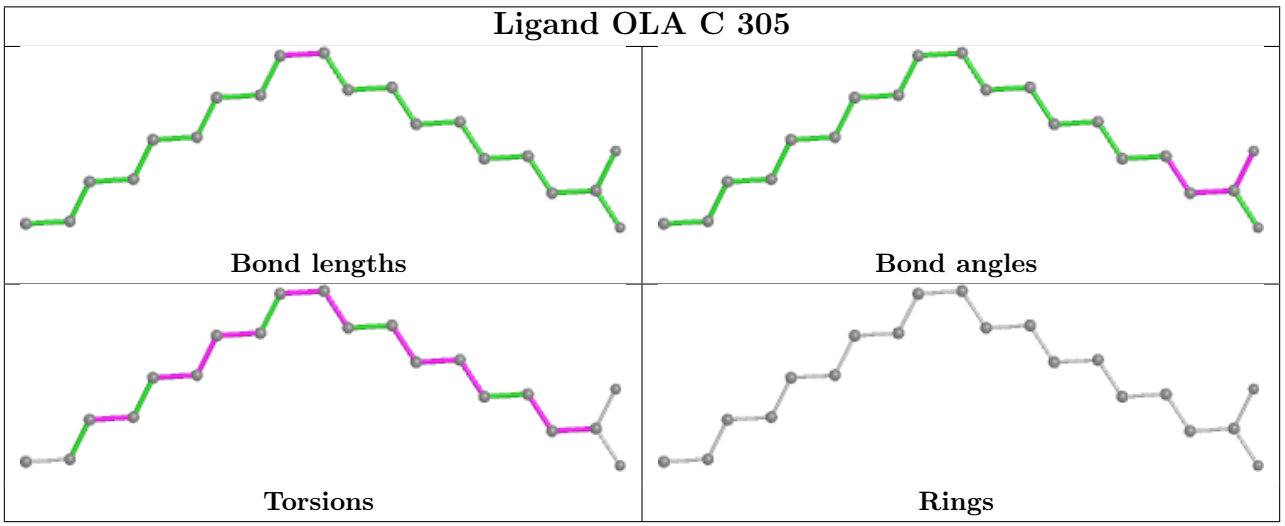

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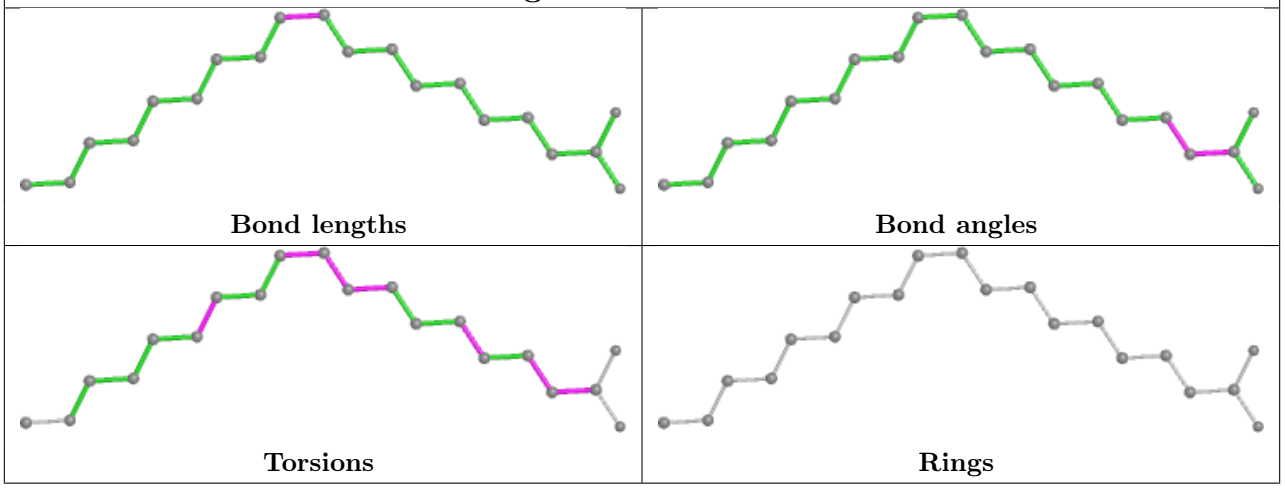

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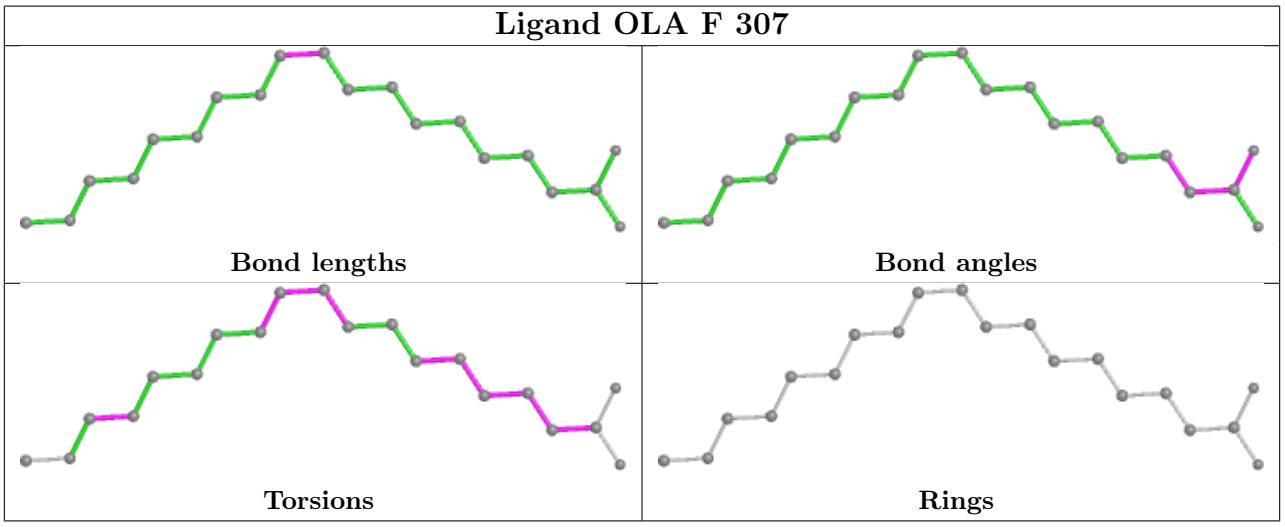

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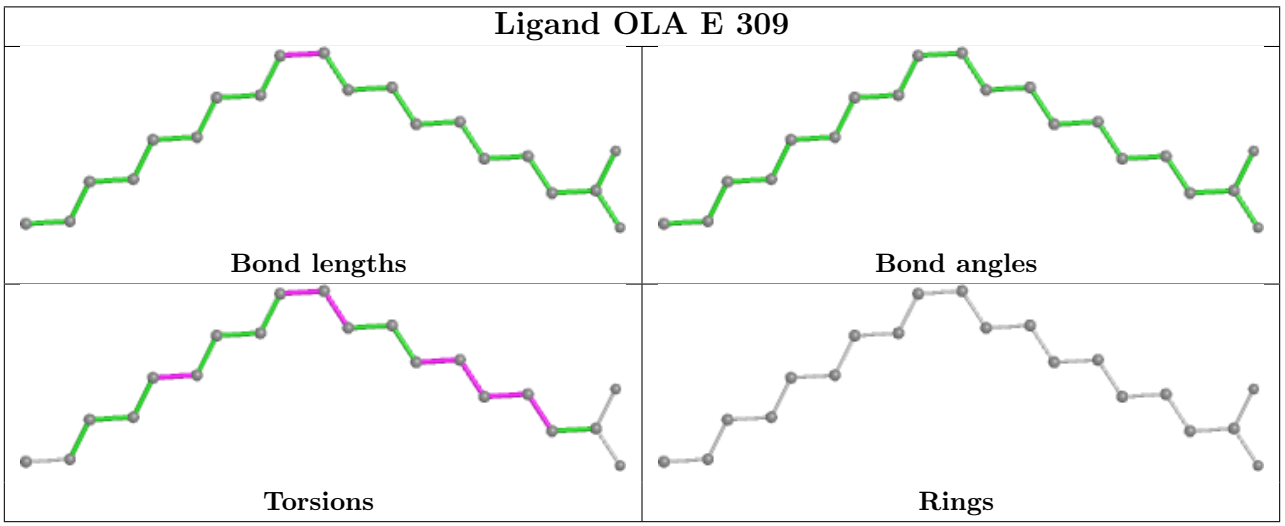

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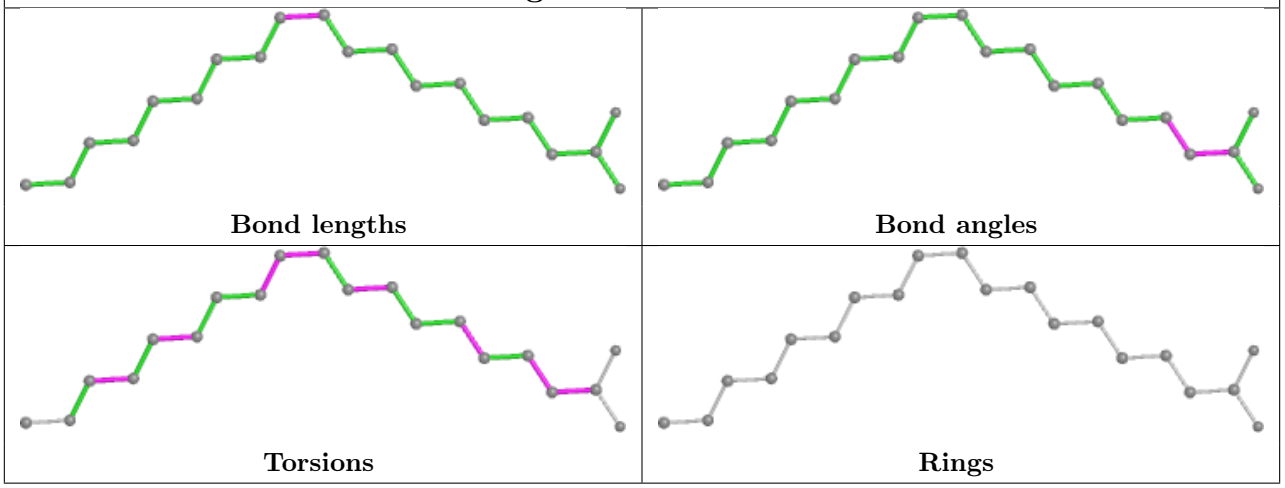

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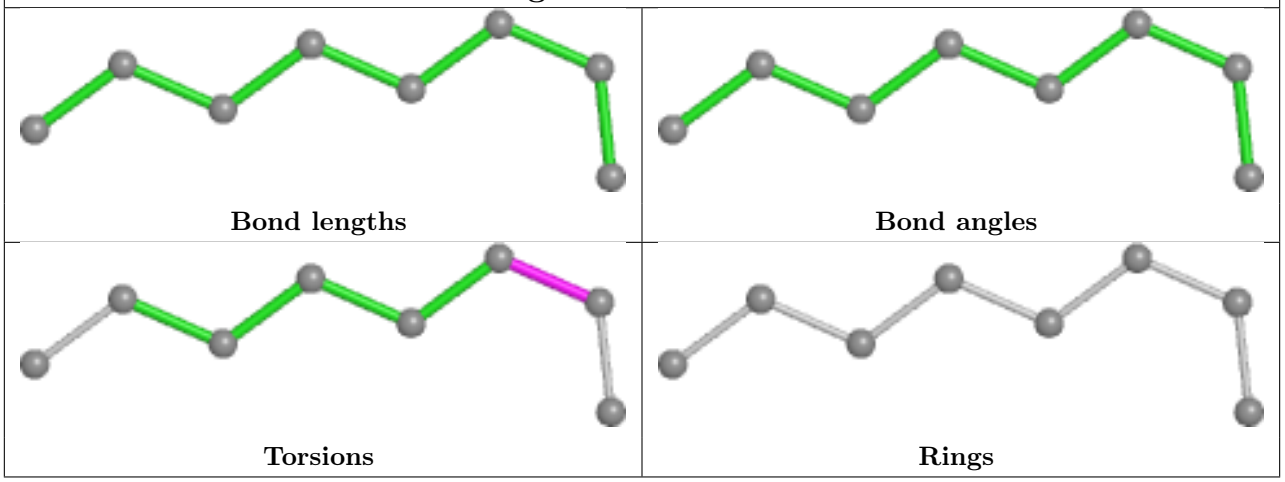

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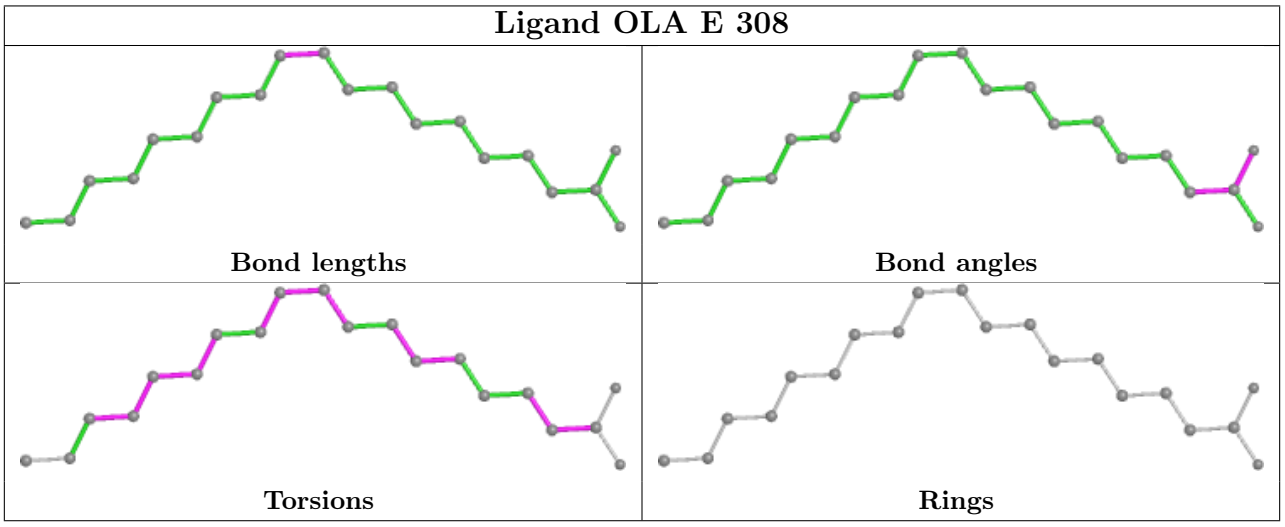

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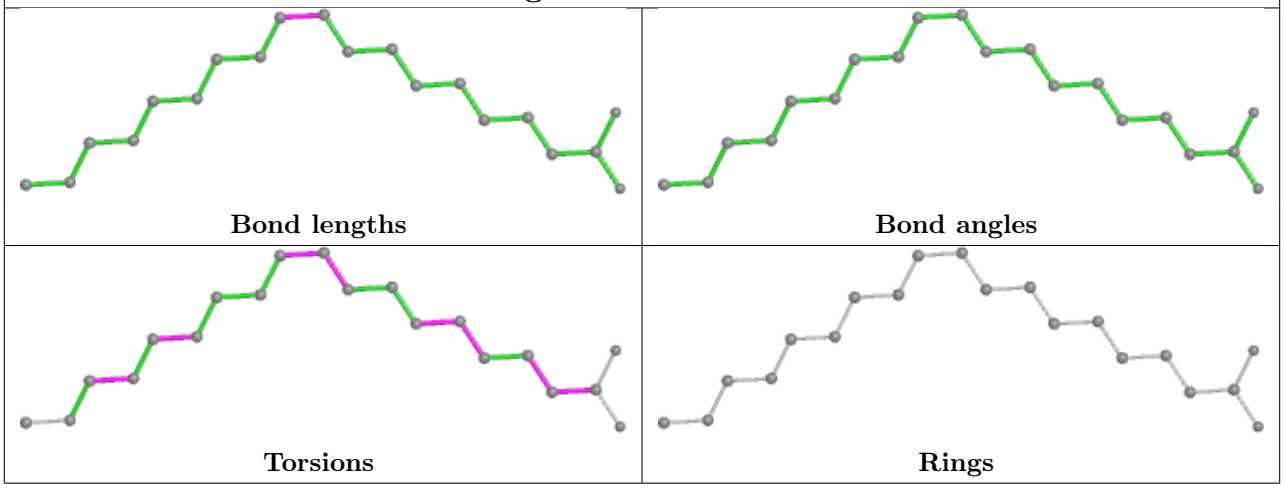

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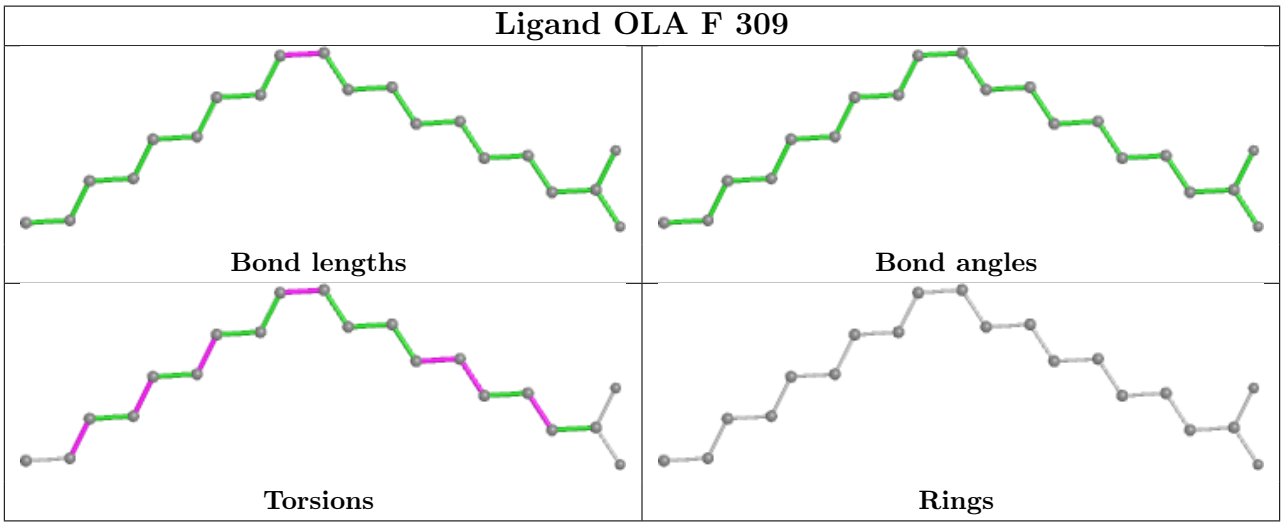
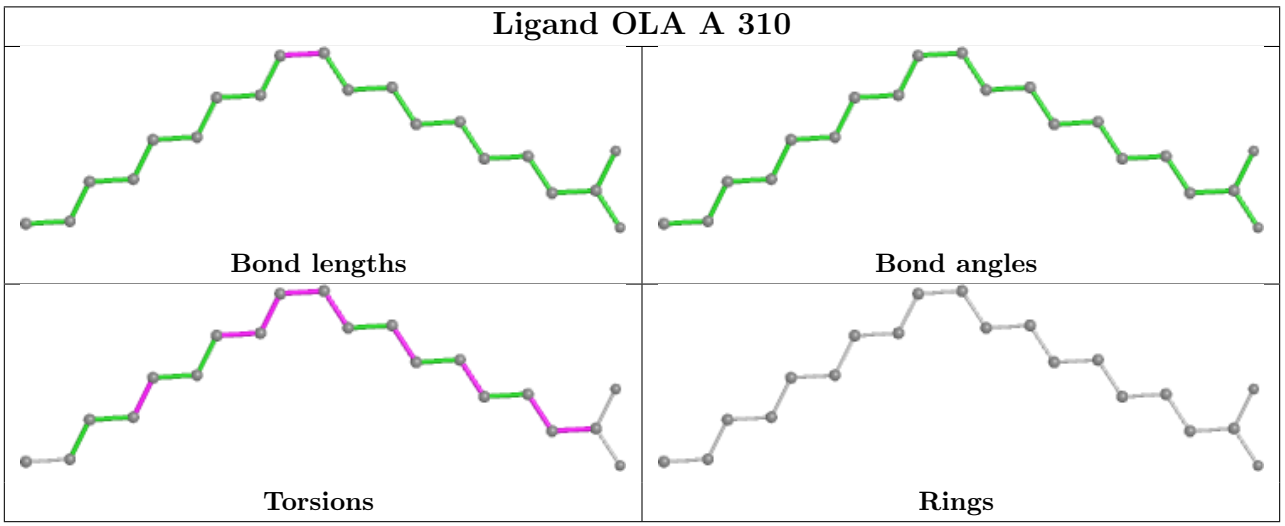
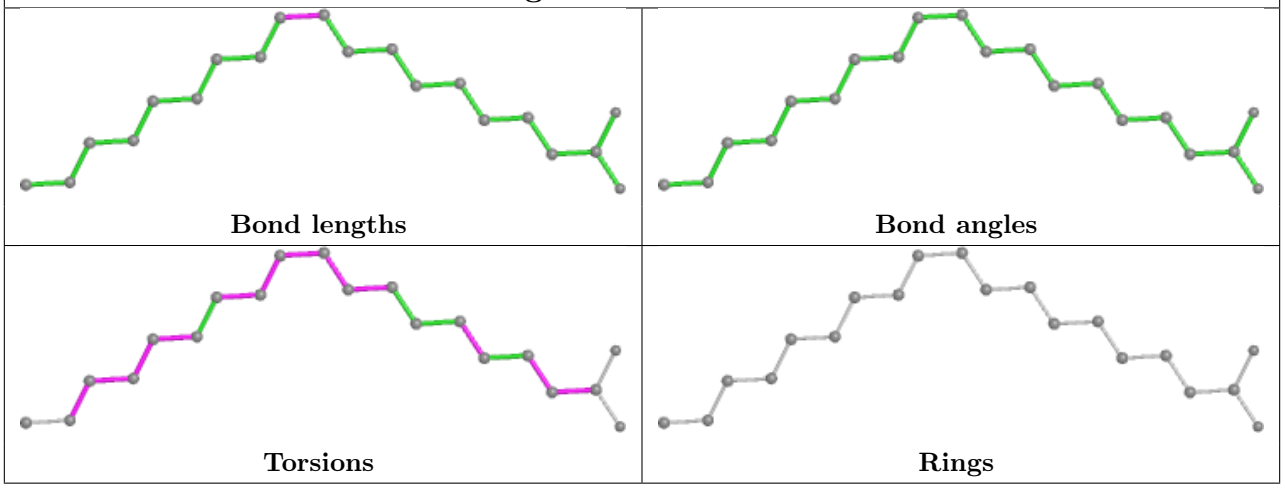


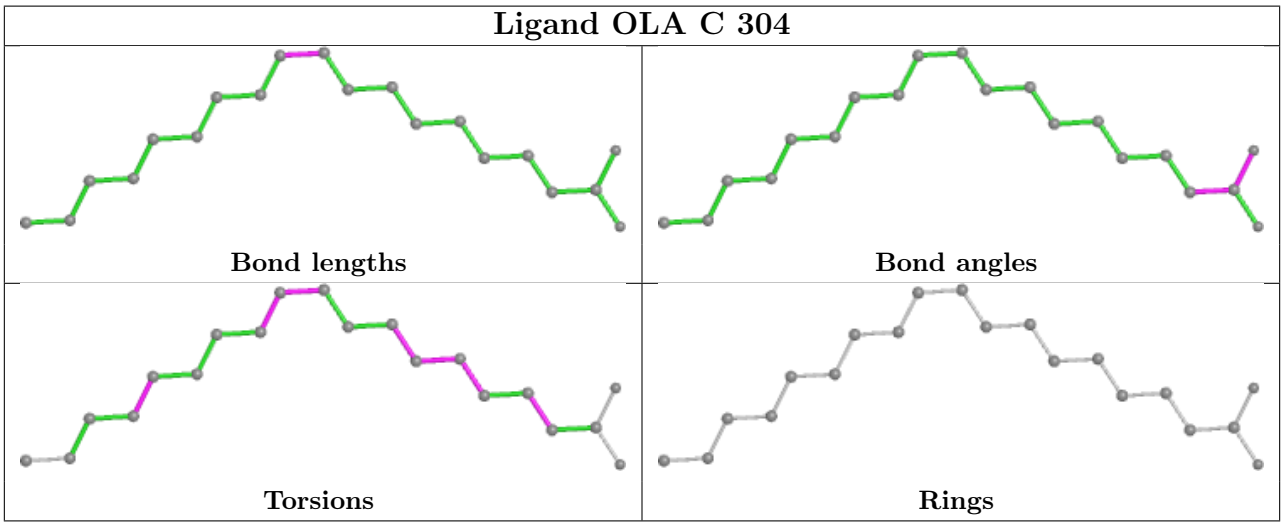
Ligand OLA A 310



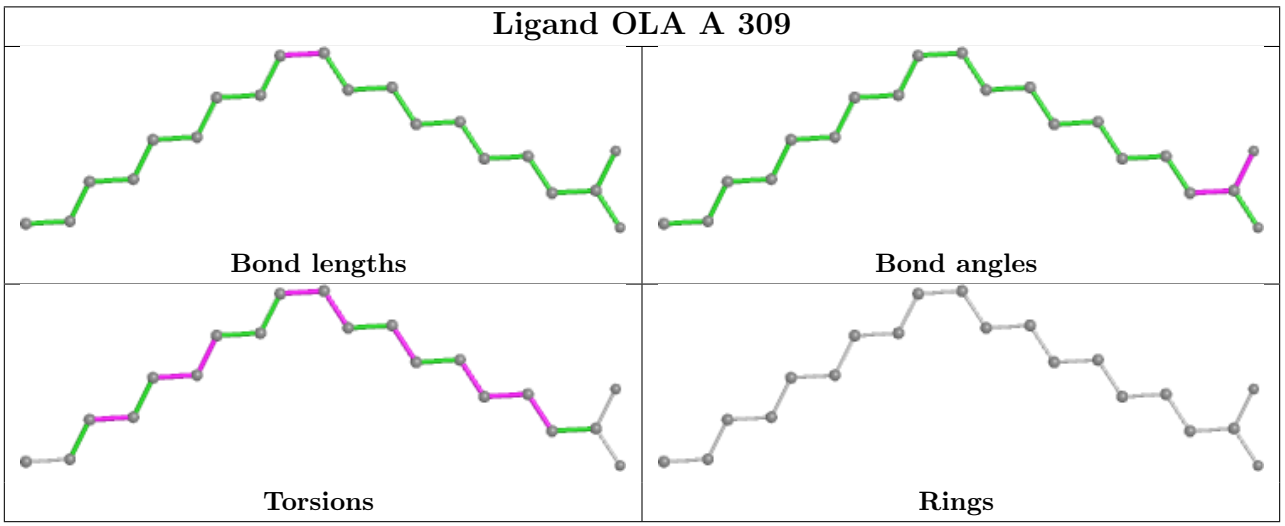
Ligand OLA B 303



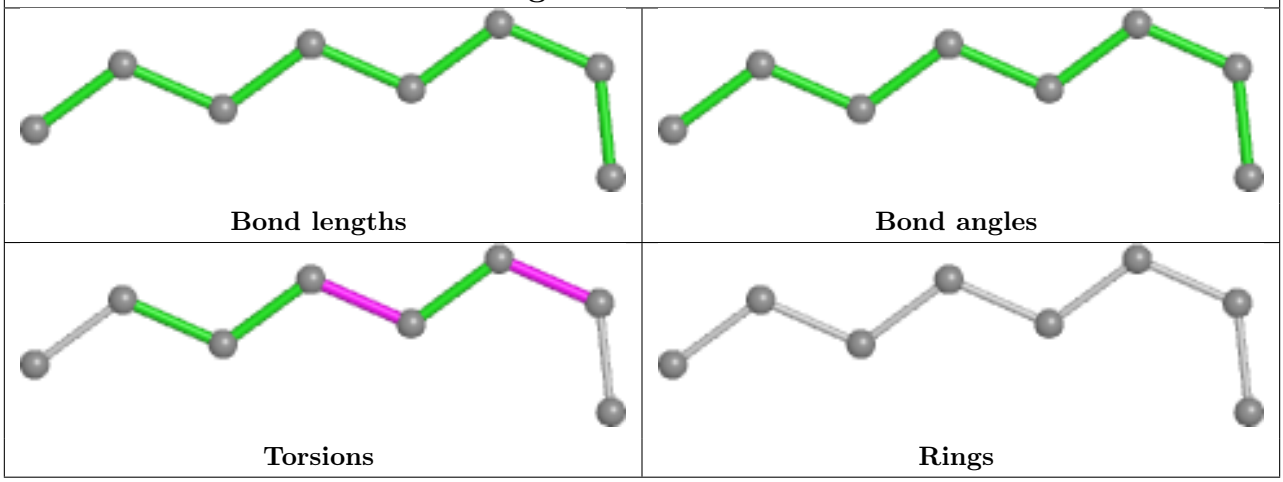
Ligand OLA C 304



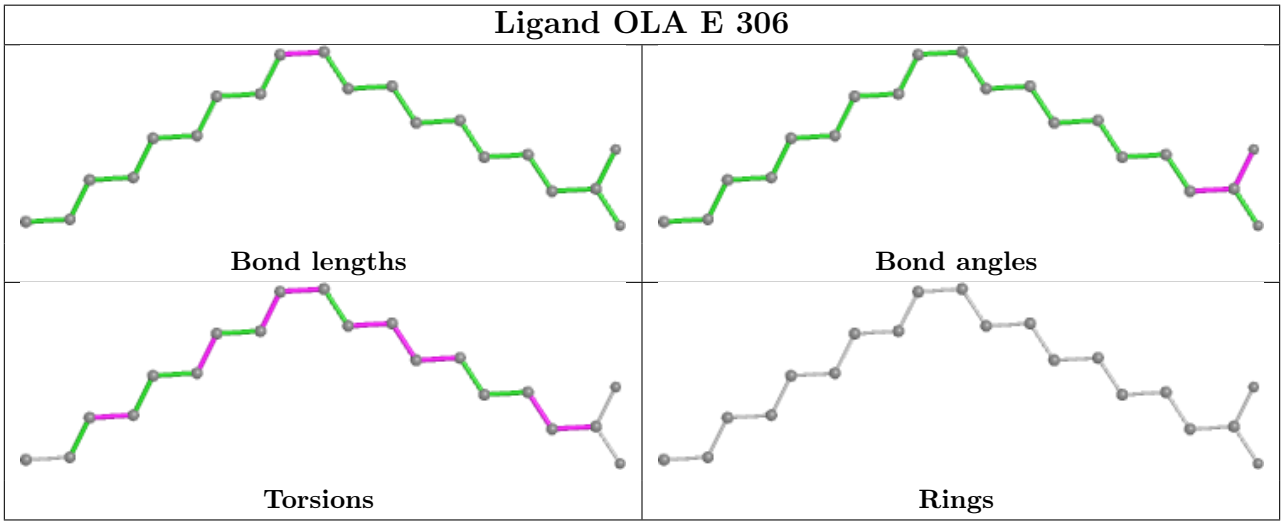
Ligand OLA A 309



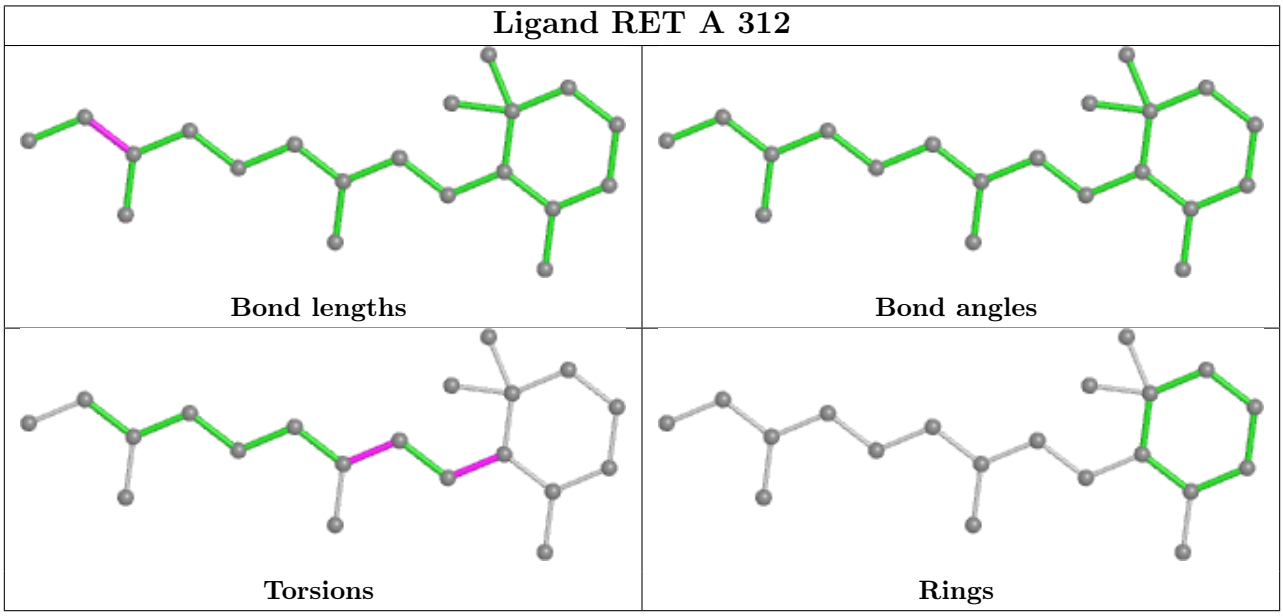
Ligand LFA A 301



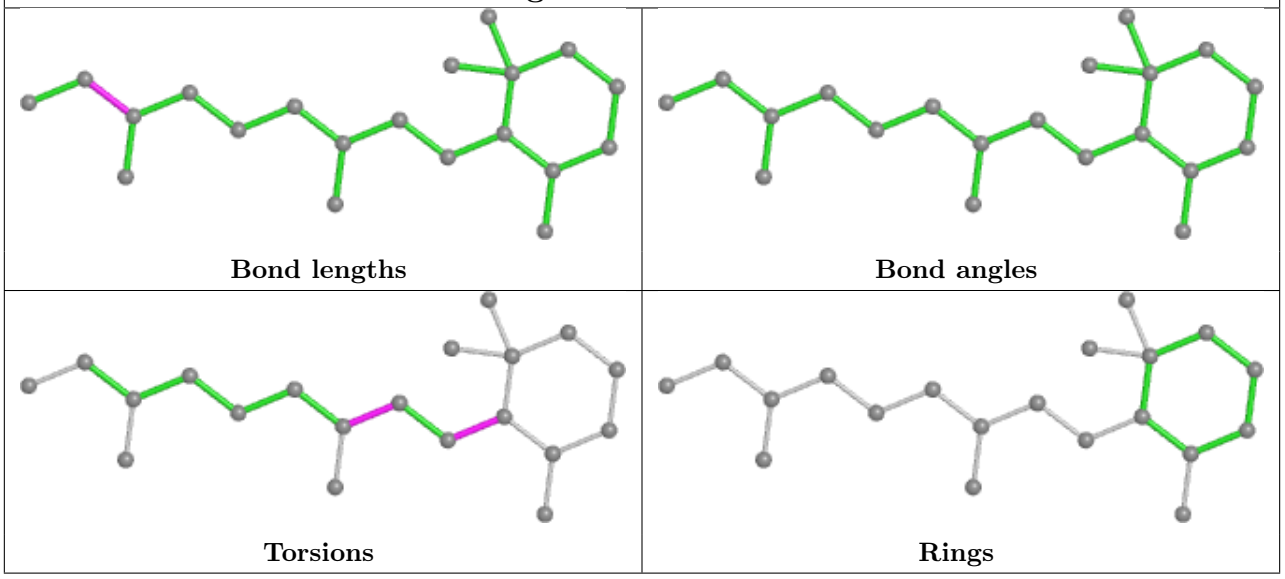
Ligand OLA E 306



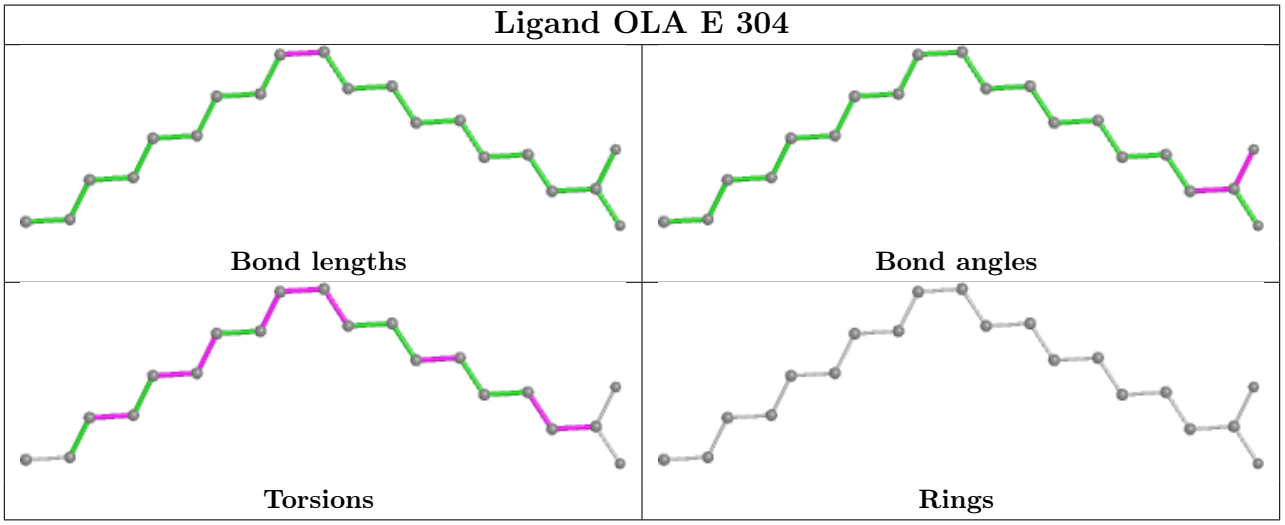
Ligand RET A 312



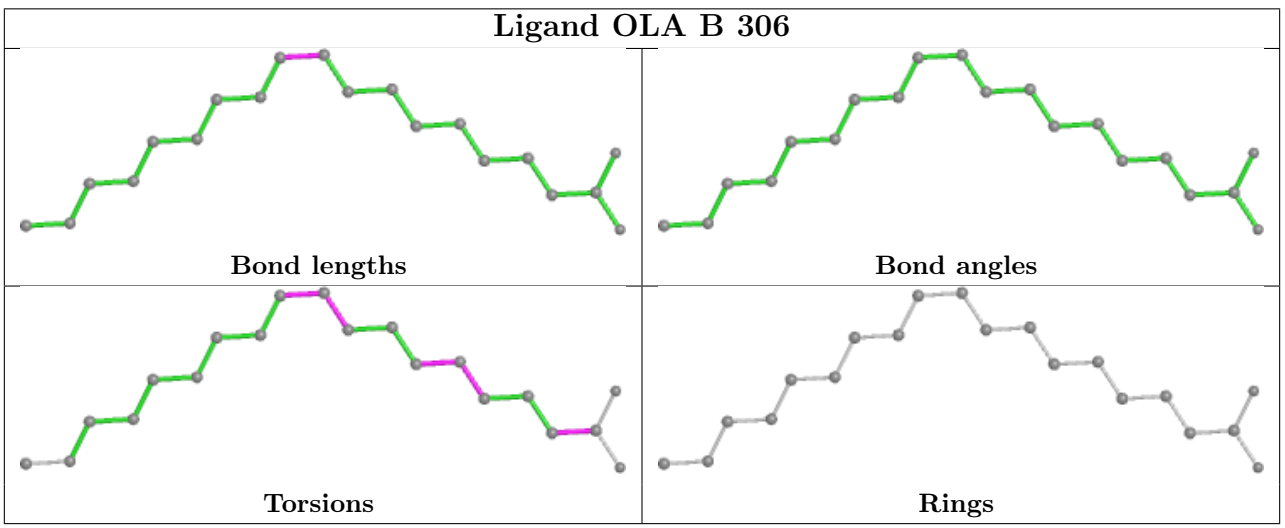
Ligand RET F 310



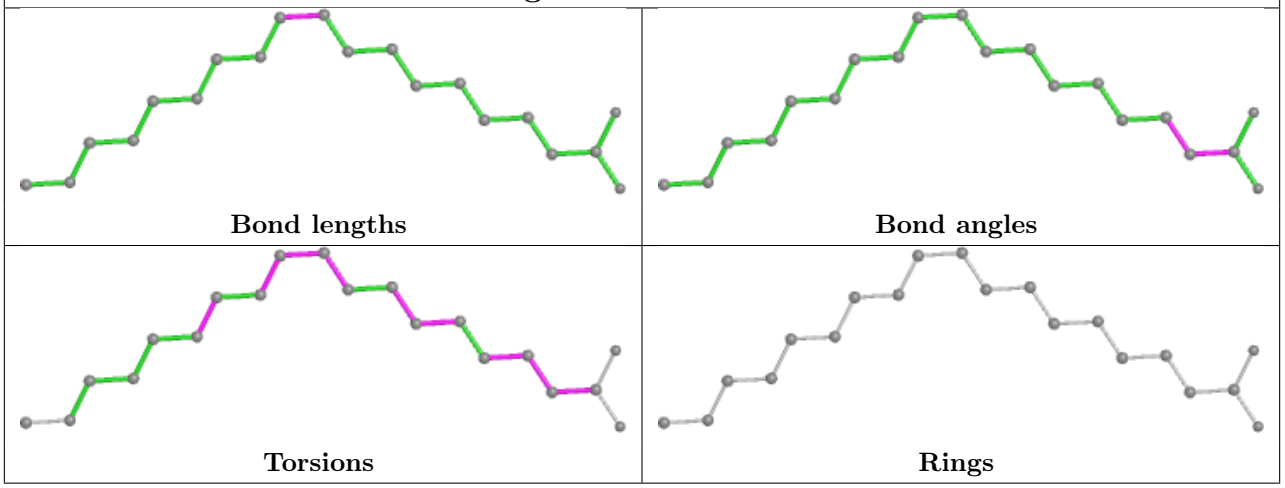
Ligand OLA E 304



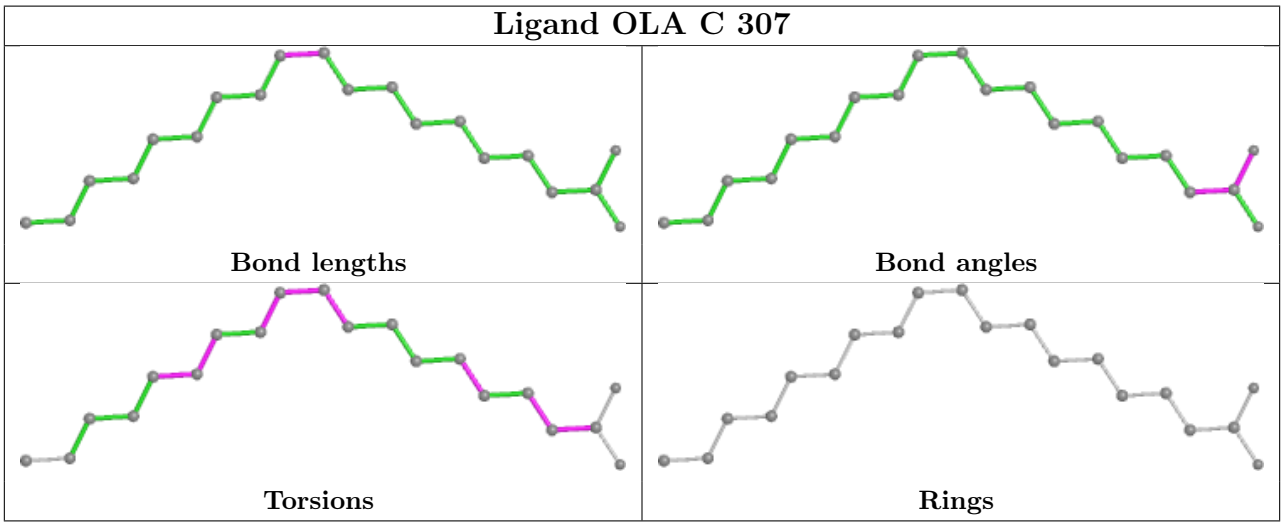
Ligand OLA B 306



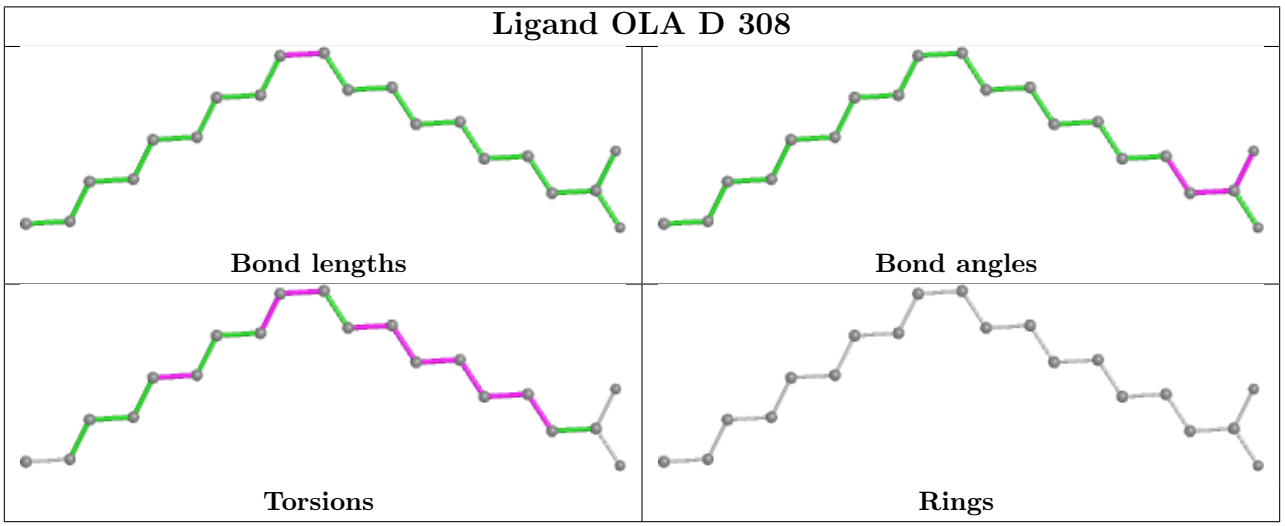
Ligand OLA A 305

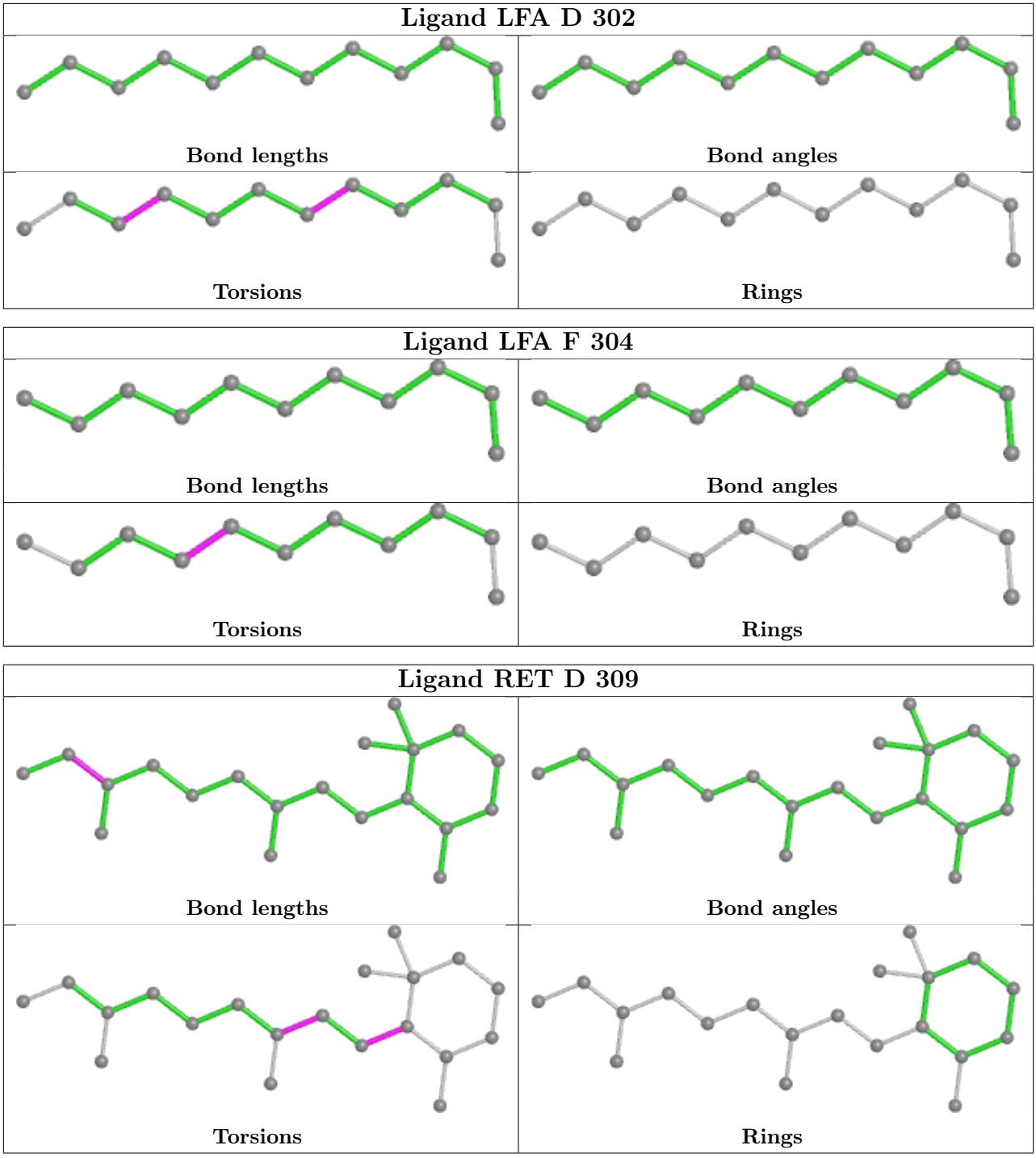


Ligand OLA C 307



Ligand OLA D 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	253/263 (96%)	0.11	4 (1%)	70	69	37, 46, 65, 78	0
1	B	252/263 (95%)	0.30	7 (2%)	55	54	22, 46, 68, 78	2 (0%)
1	C	255/263 (96%)	0.17	7 (2%)	56	55	37, 46, 67, 102	0
1	D	254/263 (96%)	0.10	5 (1%)	64	63	35, 46, 64, 83	0
1	E	253/263 (96%)	0.22	7 (2%)	55	54	38, 47, 69, 75	0
1	F	253/263 (96%)	0.23	8 (3%)	50	48	37, 47, 70, 84	0
All	All	1520/1578 (96%)	0.19	38 (2%)	58	57	22, 46, 68, 102	2 (0%)

The worst 5 of 38 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	256	THR	4.4
1	E	243	ALA	3.8
1	F	253	ALA	3.7
1	C	254	GLY	3.5
1	B	242	PRO	3.5

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 monosaccharides in this entry.

6.4 Ligands (i)

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
2	LFA	A	301	8/20	0.69	0.27	52,57,57,61	0
4	OLA	A	310	20/20	0.74	0.27	61,75,77,80	0
2	LFA	E	301	7/20	0.75	0.29	55,56,58,59	0
2	LFA	F	301	15/20	0.76	0.25	44,53,58,58	0
2	LFA	D	303	7/20	0.76	0.29	48,51,55,57	0
2	LFA	B	301	7/20	0.77	0.25	49,55,58,59	0
4	OLA	E	309	20/20	0.77	0.24	58,65,76,76	0
4	OLA	A	311	20/20	0.78	0.21	50,64,70,73	0
4	OLA	E	308	20/20	0.78	0.20	53,59,71,74	0
4	OLA	A	309	20/20	0.78	0.24	46,56,63,67	0
2	LFA	F	304	11/20	0.79	0.26	54,64,74,74	0
2	LFA	D	302	12/20	0.79	0.23	55,59,72,74	0
4	OLA	F	309	20/20	0.79	0.18	55,62,67,75	0
4	OLA	B	303	20/20	0.80	0.21	44,55,67,69	0
2	LFA	F	302	7/20	0.80	0.23	45,46,49,49	0
2	LFA	D	304	6/20	0.80	0.22	43,44,47,49	0
4	OLA	A	308	20/20	0.80	0.19	51,61,70,72	0
4	OLA	C	304	20/20	0.80	0.22	44,55,78,80	0
4	OLA	A	306	20/20	0.81	0.21	57,67,76,80	0
4	OLA	D	308	20/20	0.81	0.21	46,55,63,63	0
4	OLA	C	307	20/20	0.81	0.19	40,51,58,61	0
4	OLA	E	303	20/20	0.82	0.22	43,57,69,71	0
2	LFA	D	301	8/20	0.83	0.23	48,53,55,61	0
4	OLA	E	307	20/20	0.83	0.18	51,58,65,67	0
4	OLA	F	308	20/20	0.83	0.20	58,65,74,74	0
4	OLA	C	308	20/20	0.83	0.20	51,59,74,75	0
4	OLA	E	306	20/20	0.84	0.18	48,57,74,77	0
4	OLA	A	307	20/20	0.85	0.15	50,54,75,76	0
4	OLA	B	305	20/20	0.85	0.19	39,52,87,87	0
4	OLA	C	303	20/20	0.85	0.20	46,57,64,69	0
4	OLA	C	306	20/20	0.86	0.18	41,55,70,71	0
4	OLA	A	303	20/20	0.86	0.17	43,50,71,76	0
4	OLA	D	306	20/20	0.86	0.17	38,50,65,66	0
4	OLA	C	305	20/20	0.87	0.17	41,51,63,65	0
4	OLA	F	307	20/20	0.87	0.18	46,56,68,69	0
4	OLA	B	306	20/20	0.88	0.15	47,51,59,67	0
4	OLA	E	304	20/20	0.89	0.15	40,48,65,72	0

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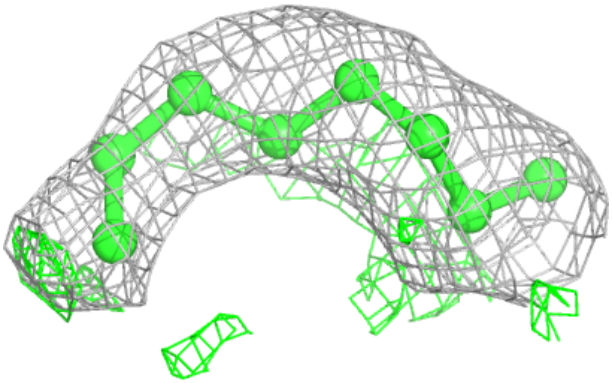
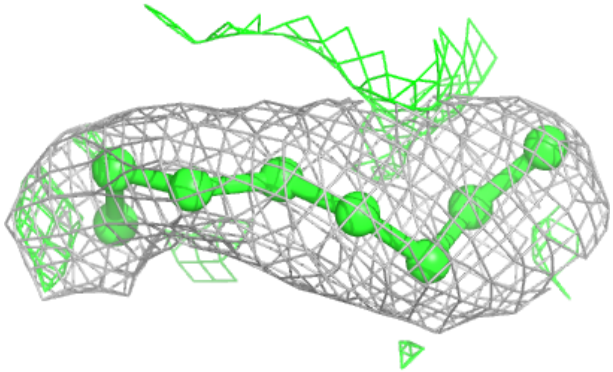
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	OLA	E	305	20/20	0.89	0.16	41,54,81,81	0
4	OLA	B	304	20/20	0.89	0.17	40,46,66,69	0
2	LFA	F	303	11/20	0.90	0.16	54,60,66,68	0
4	OLA	A	305	20/20	0.91	0.13	41,53,66,71	0
4	OLA	A	304	20/20	0.91	0.14	37,47,64,65	0
4	OLA	F	306	20/20	0.91	0.13	36,42,66,67	0
4	OLA	D	307	20/20	0.91	0.13	34,56,72,77	0
5	RET	B	307	20/21	0.92	0.12	36,42,48,49	0
5	RET	E	310	20/21	0.92	0.12	37,41,44,44	0
4	OLA	C	302	20/20	0.93	0.13	37,43,68,69	0
5	RET	F	310	20/21	0.93	0.11	40,43,49,49	0
5	RET	A	312	20/21	0.94	0.11	31,38,42,44	0
5	RET	D	309	20/21	0.94	0.10	31,37,41,44	0
5	RET	C	309	20/21	0.94	0.10	34,42,46,47	0
3	CL	C	301	1/1	0.96	0.06	43,43,43,43	0
3	CL	D	305	1/1	0.97	0.07	42,42,42,42	0
3	CL	B	302	1/1	0.97	0.05	43,43,43,43	0
3	CL	F	305	1/1	0.98	0.04	44,44,44,44	0
3	CL	A	302	1/1	0.98	0.07	40,40,40,40	0
3	CL	E	302	1/1	0.98	0.05	43,43,43,43	0

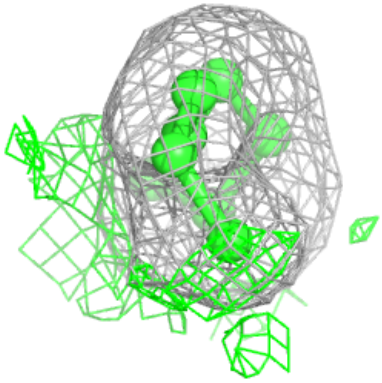
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around LFA A 301:

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

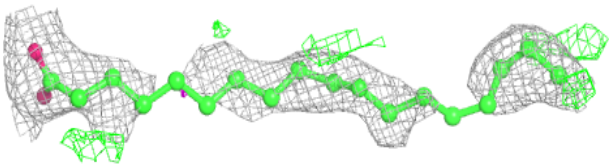


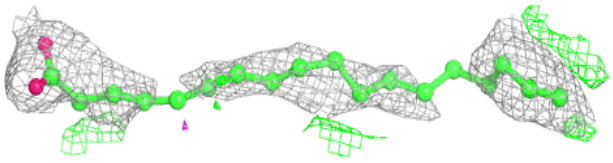


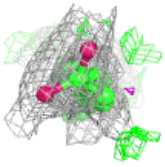


Electron density around OLA A 310:

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

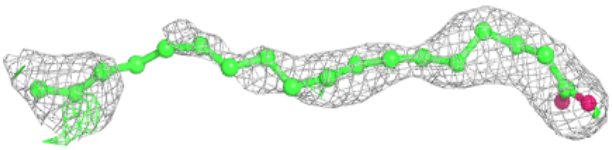


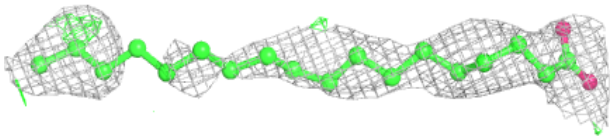


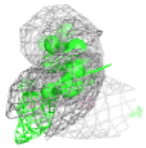


Electron density around OLA E 309:

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

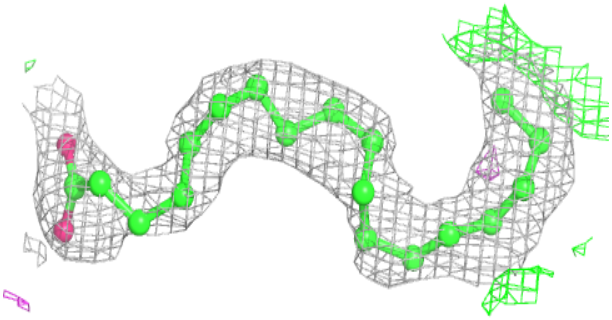


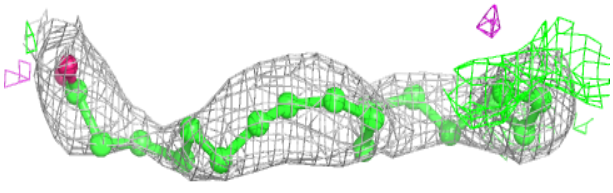


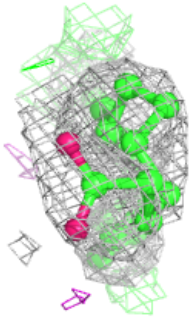


Electron density around OLA A 311:

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

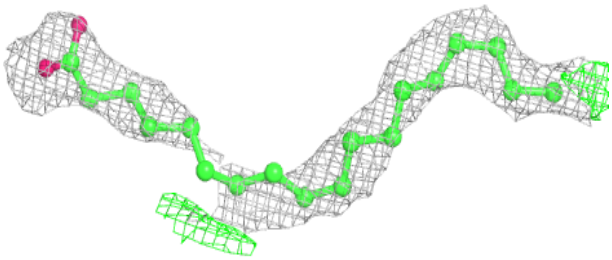


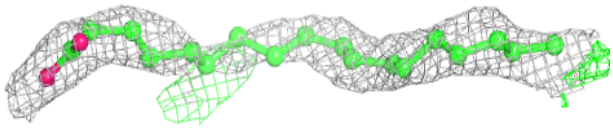


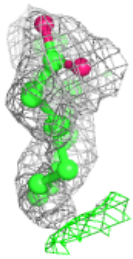


Electron density around OLA E 308:

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

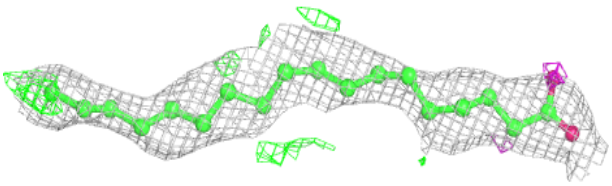


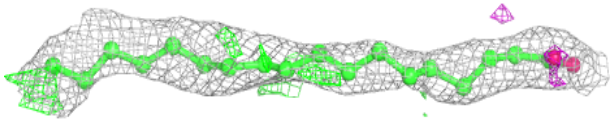


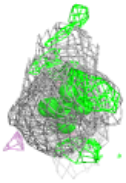


Electron density around OLA A 309:

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

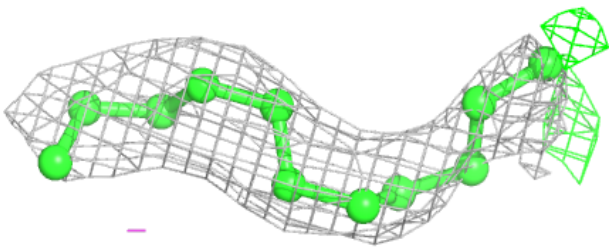


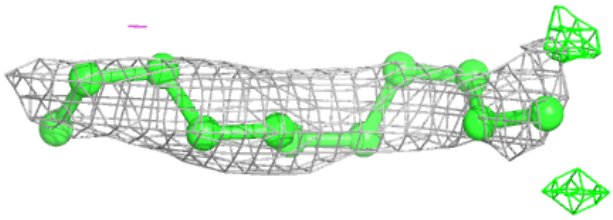


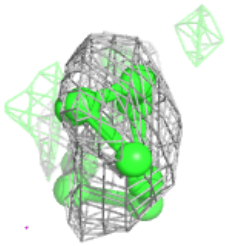


Electron density around LFA F 304:

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

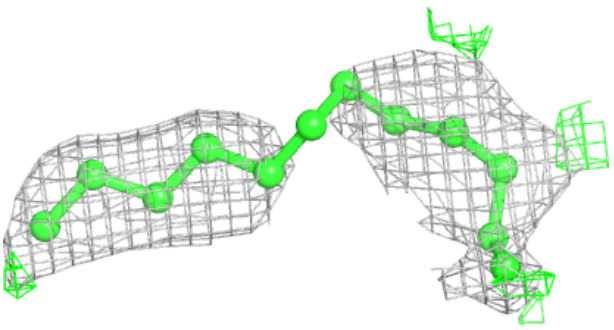


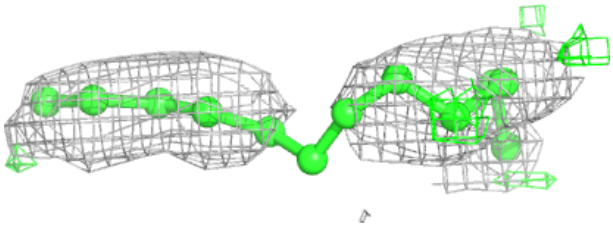


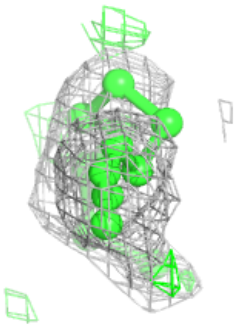


Electron density around LFA D 302:

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

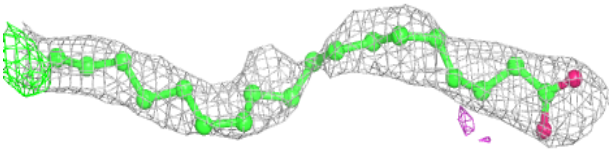


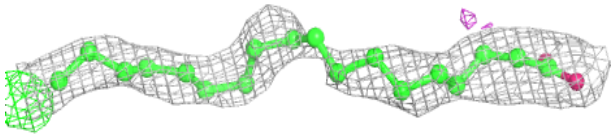


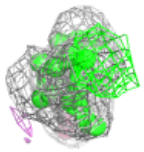


Electron density around OLA F 309:

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

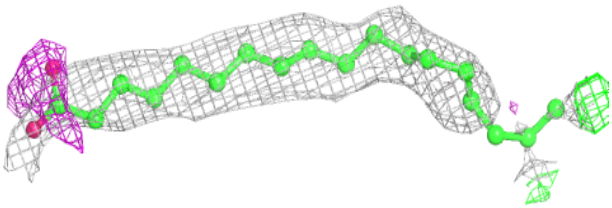


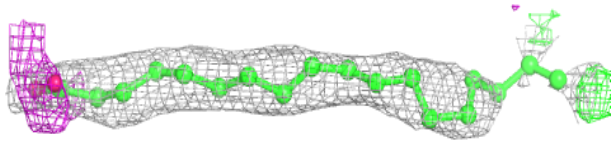


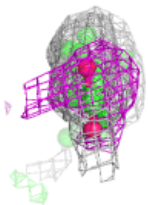


Electron density around OLA B 303:

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

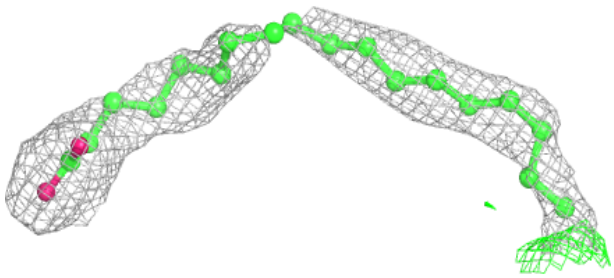


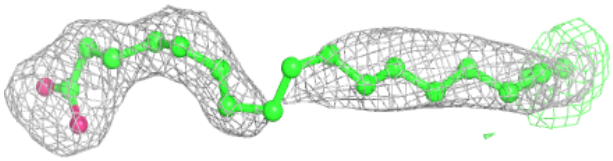


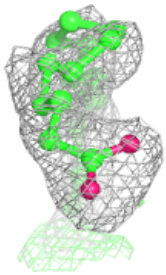


Electron density around OLA A 308:

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

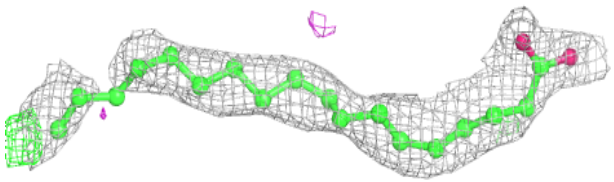


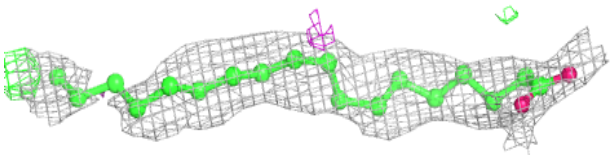


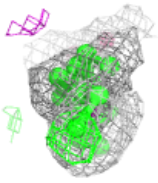


Electron density around OLA C 304:

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

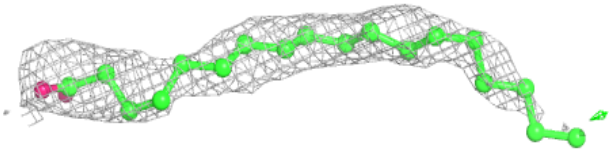


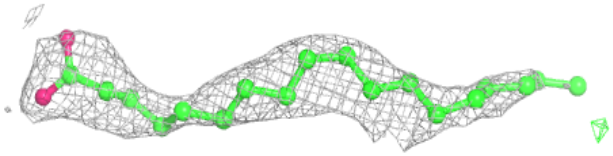


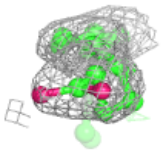


Electron density around OLA A 306:

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

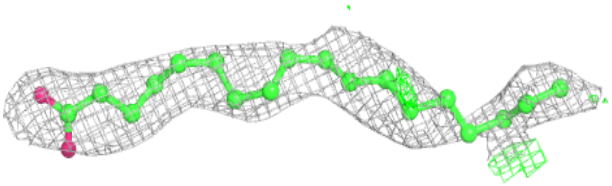


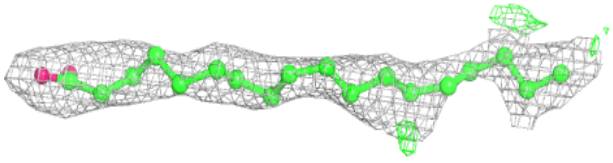


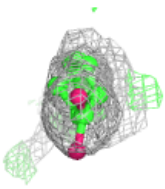


Electron density around OLA D 308:

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

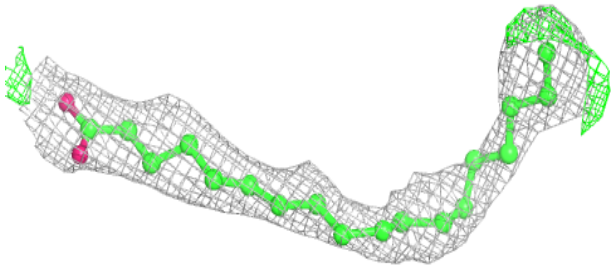


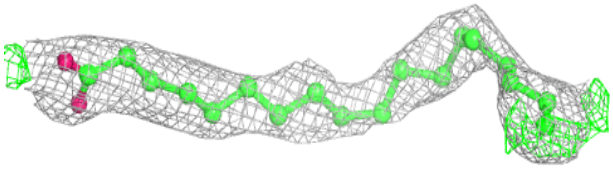


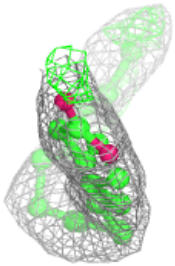


Electron density around OLA C 307:

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

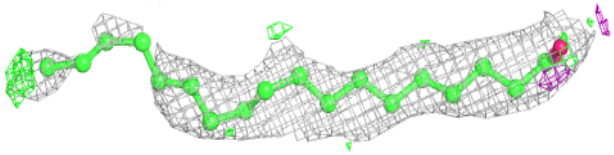


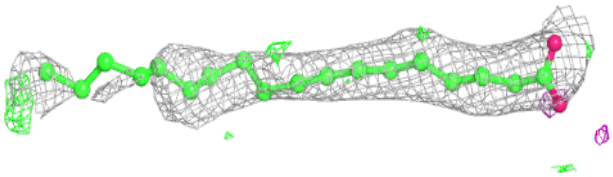


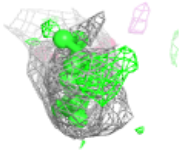


Electron density around OLA E 303:

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

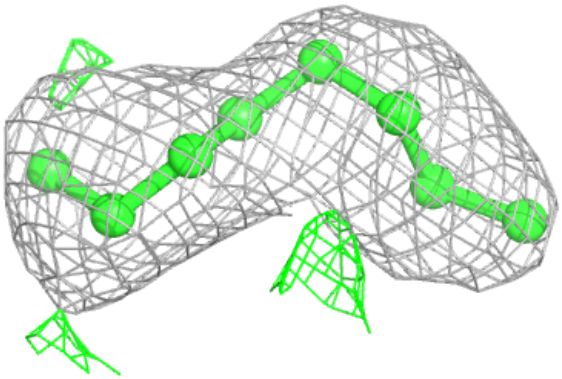


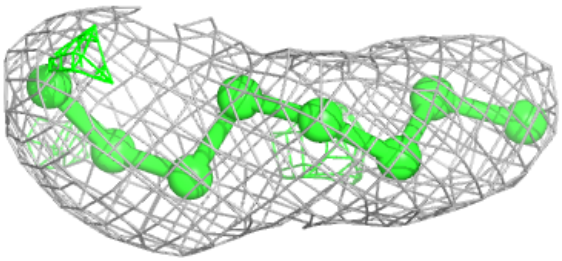


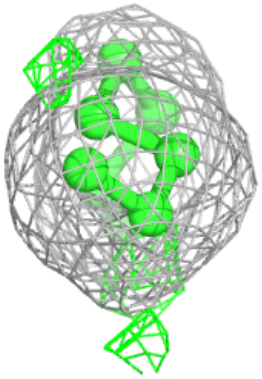


Electron density around LFA D 301:

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

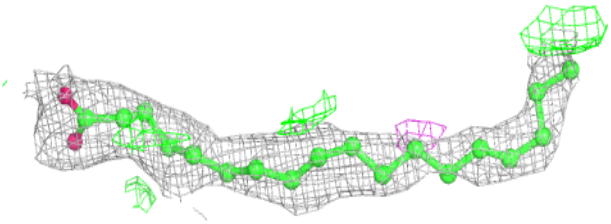


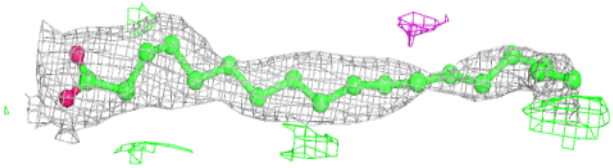


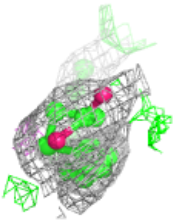


Electron density around OLA E 307:

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

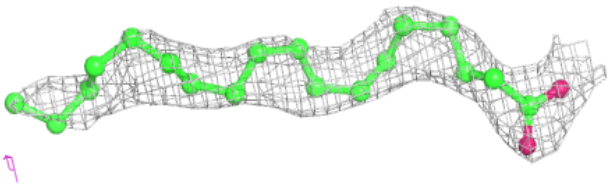


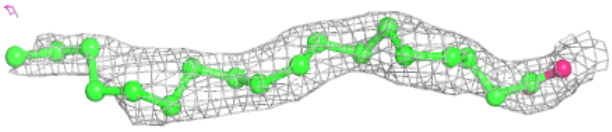


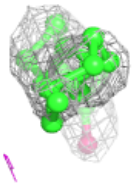


Electron density around OLA F 308:

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

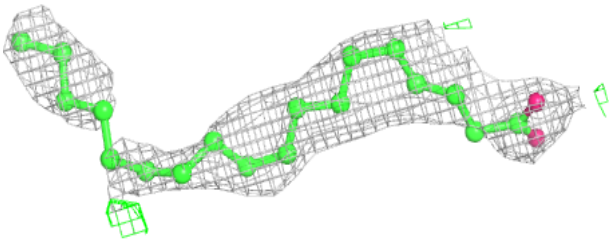


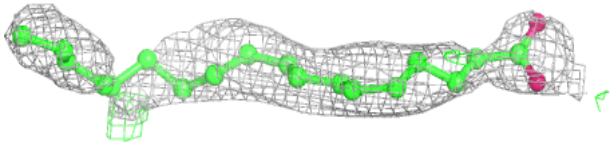


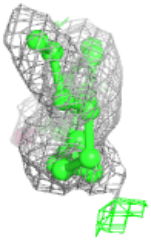


Electron density around OLA C 308:

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

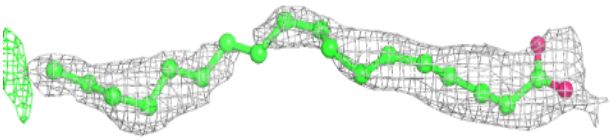


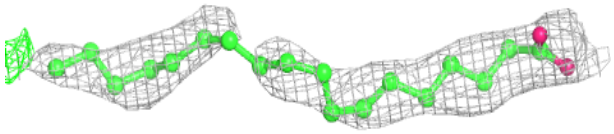


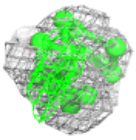


Electron density around OLA E 306:

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

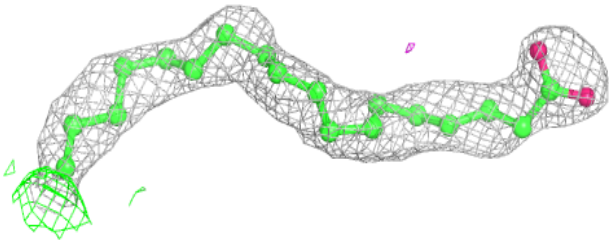


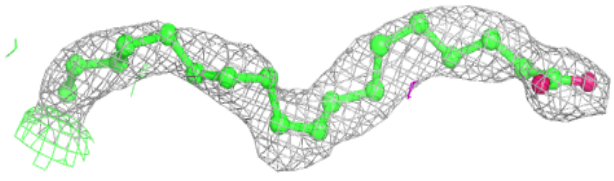


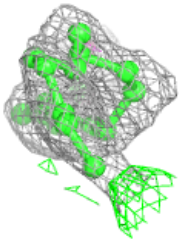


Electron density around OLA A 307:

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

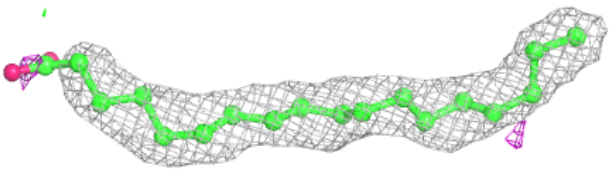


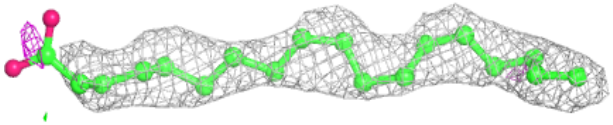


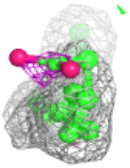


Electron density around OLA B 305:

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

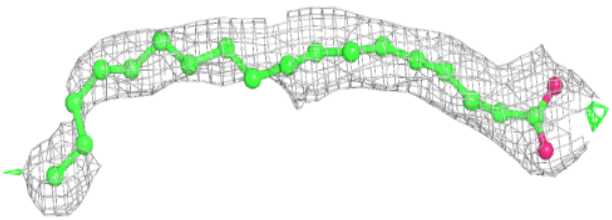


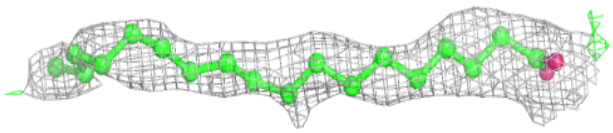


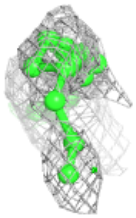


Electron density around OLA C 303:

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

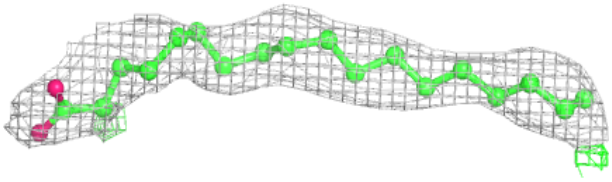


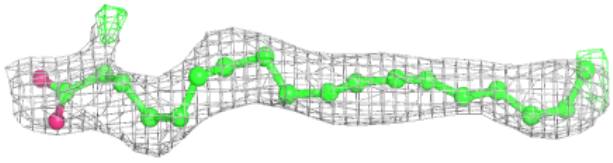


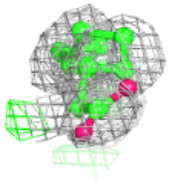


Electron density around OLA C 306:

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

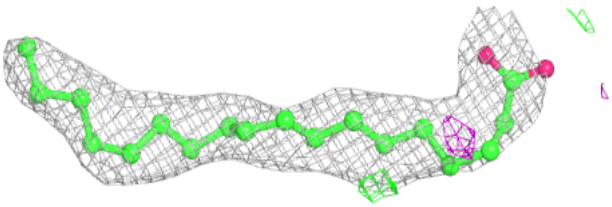


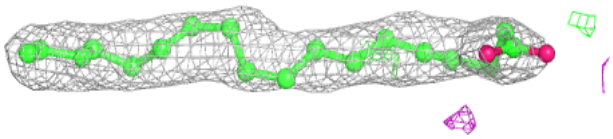


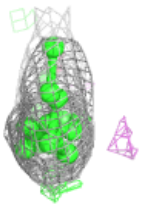


Electron density around OLA A 303:

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

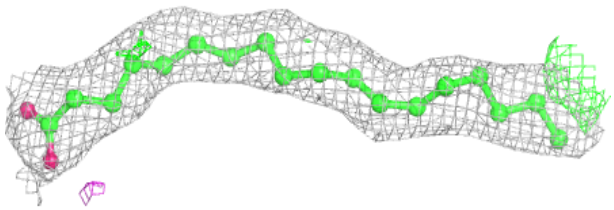


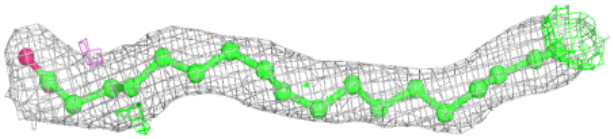


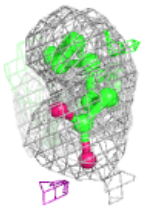


Electron density around OLA D 306:

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

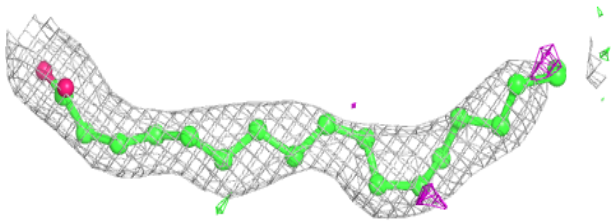


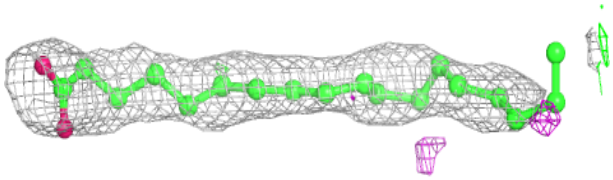


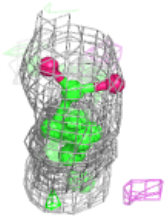


Electron density around OLA C 305:

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

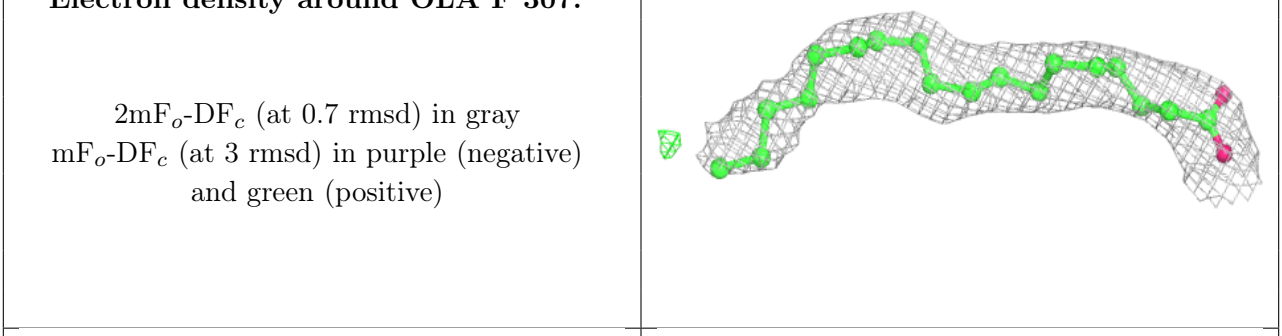


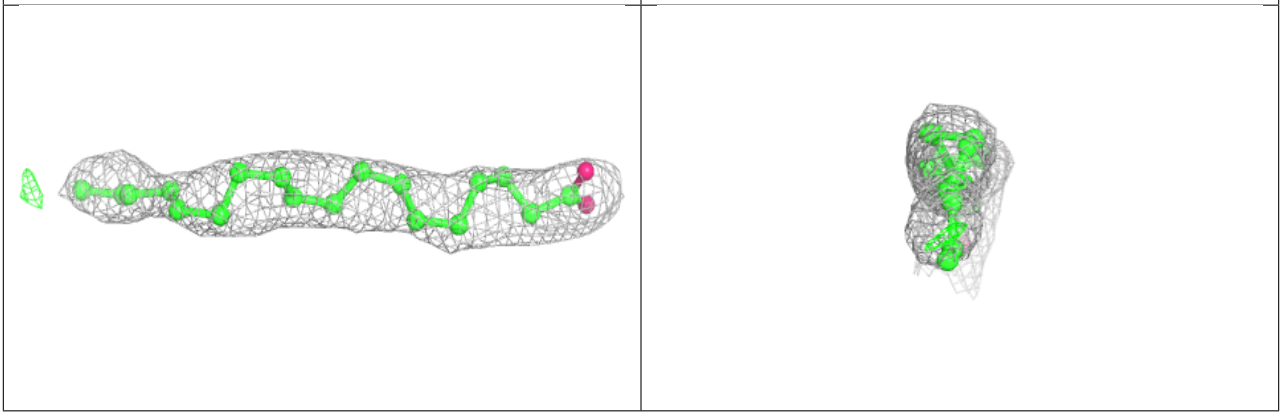




Electron density around OLA F 307:

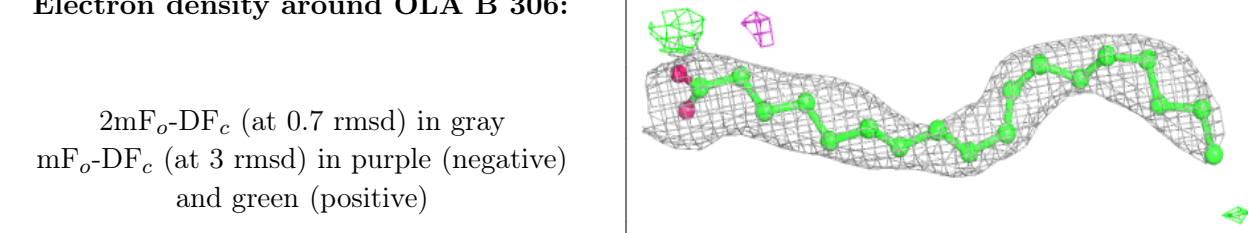
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

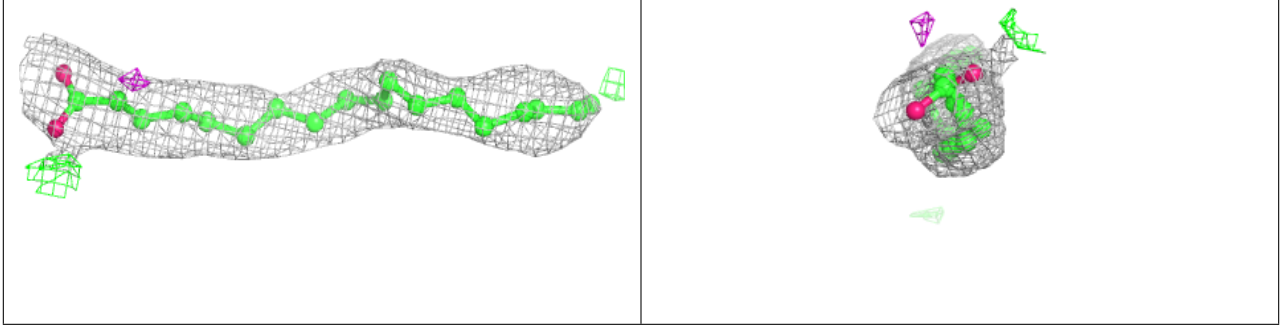




Electron density around OLA B 306:

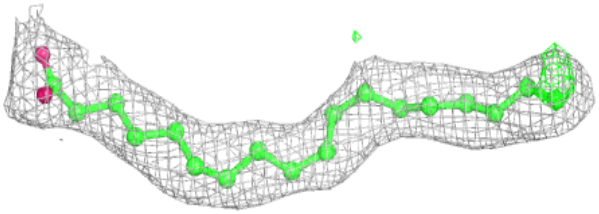
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

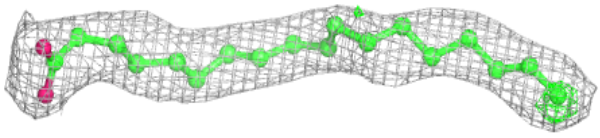


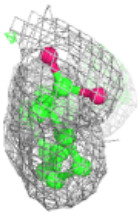


Electron density around OLA E 304:

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

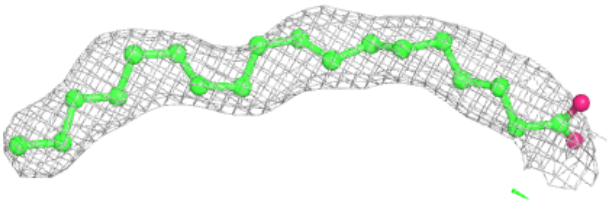


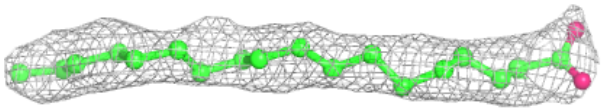


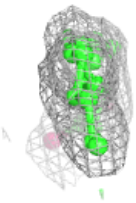


Electron density around OLA E 305:

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

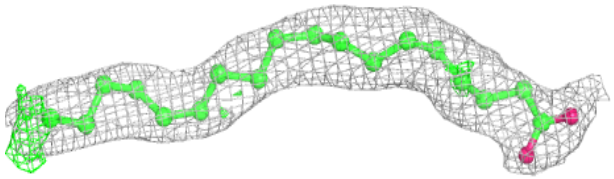


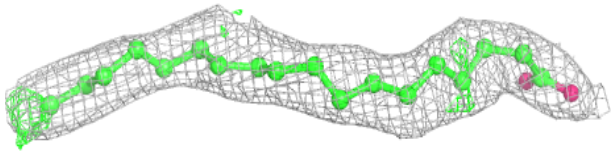


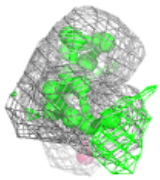


Electron density around OLA B 304:

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

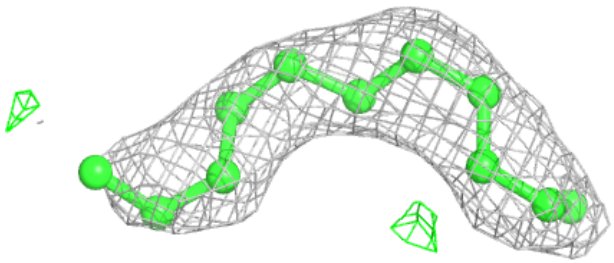


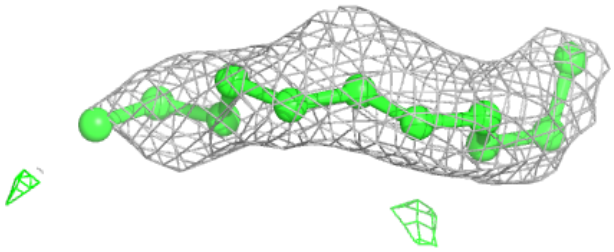


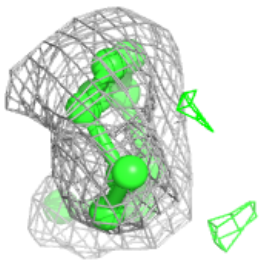


Electron density around LFA F 303:

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

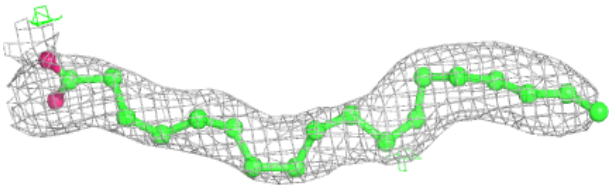


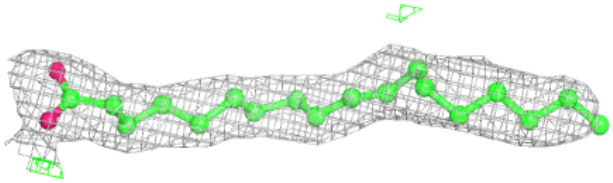


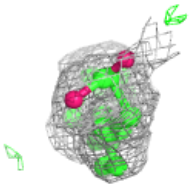


Electron density around OLA A 305:

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

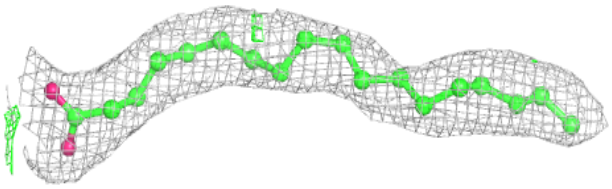


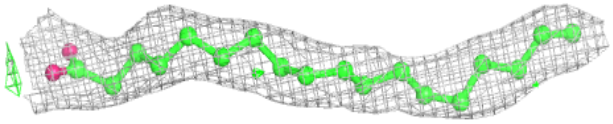


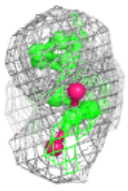


Electron density around OLA A 304:

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

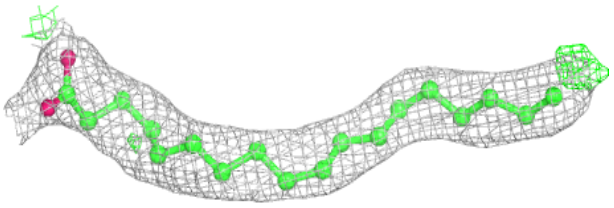


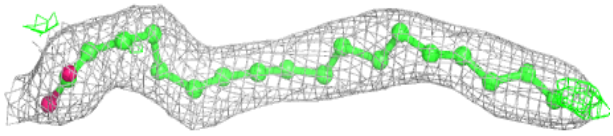


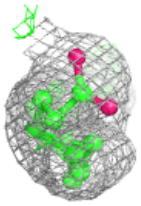


Electron density around OLA F 306:

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

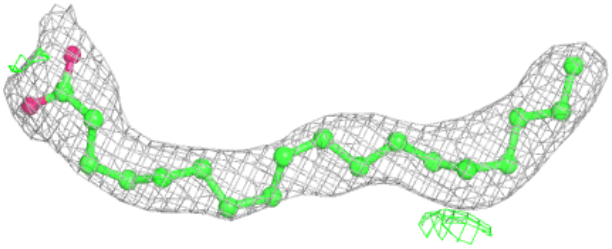


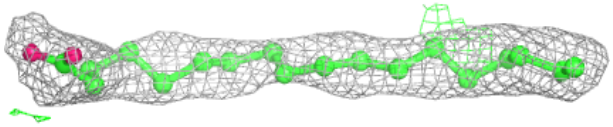


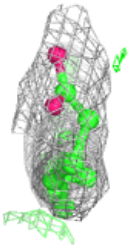


Electron density around OLA D 307:

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

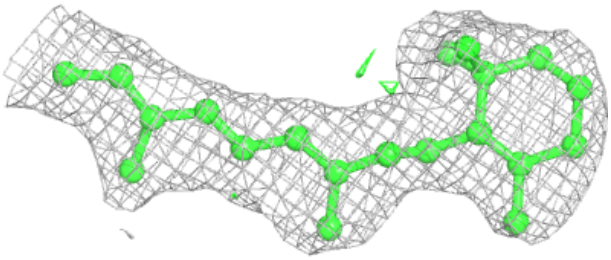


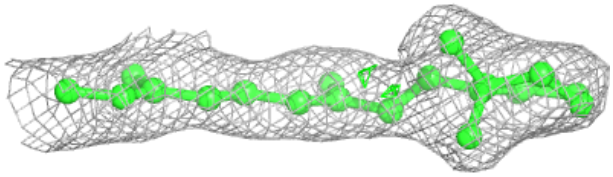


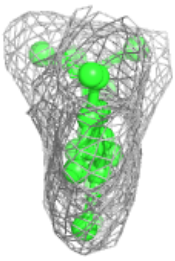


Electron density around RET B 307:

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

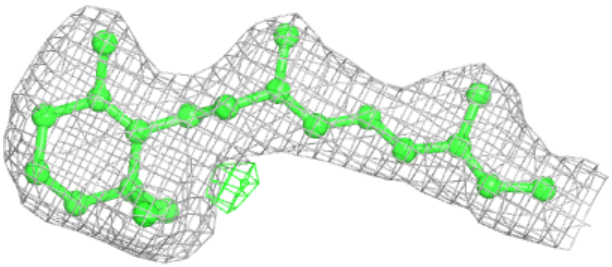


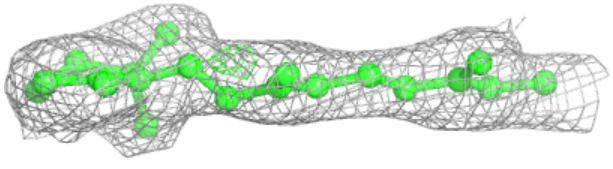


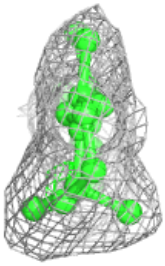


Electron density around RET E 310:

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

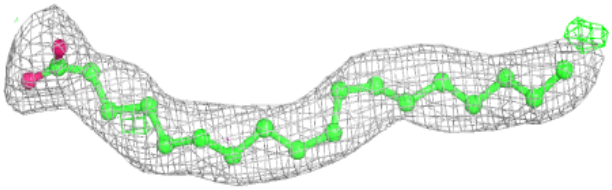


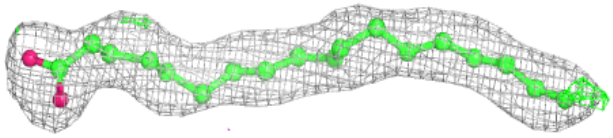


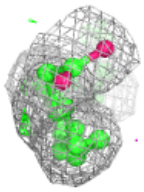


Electron density around OLA C 302:

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

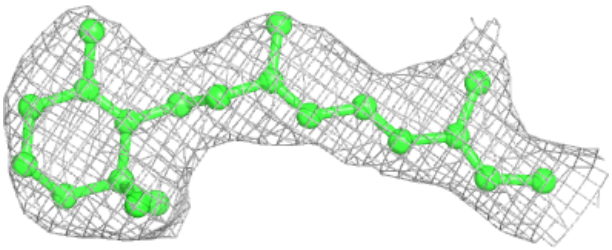


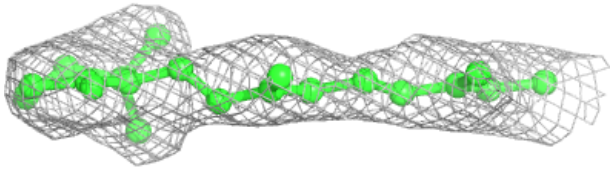


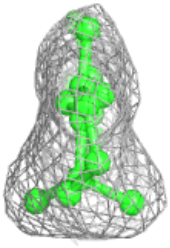


Electron density around RET F 310:

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

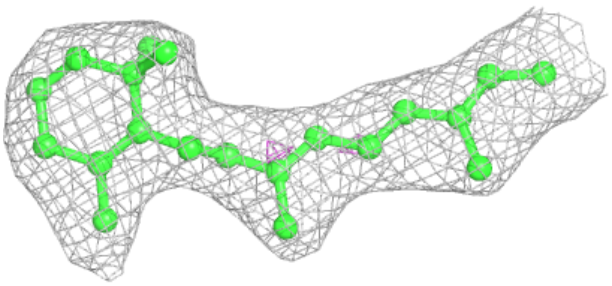


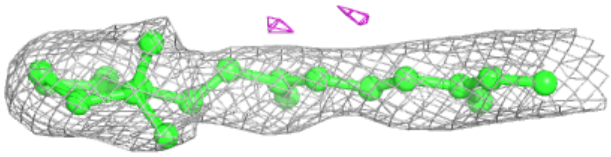


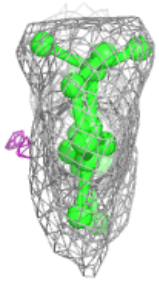


Electron density around RET A 312:

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

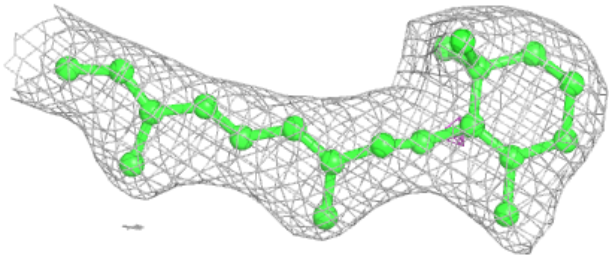


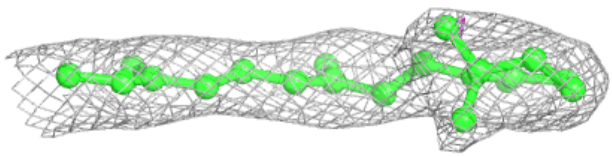


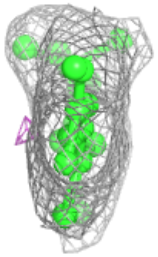


Electron density around RET D 309:

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

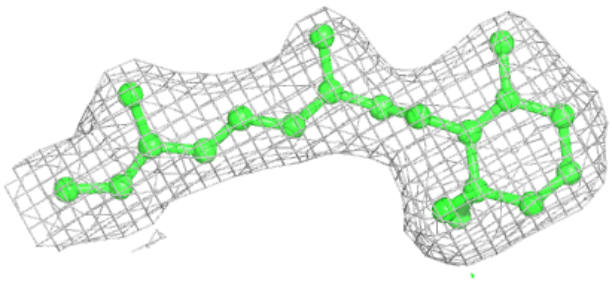


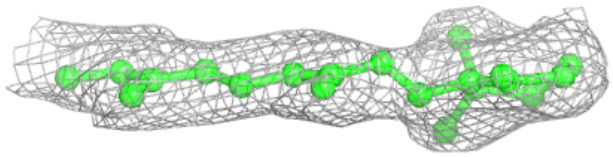


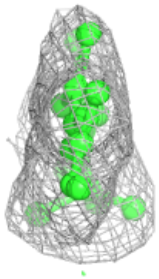


Electron density around RET C 309:

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

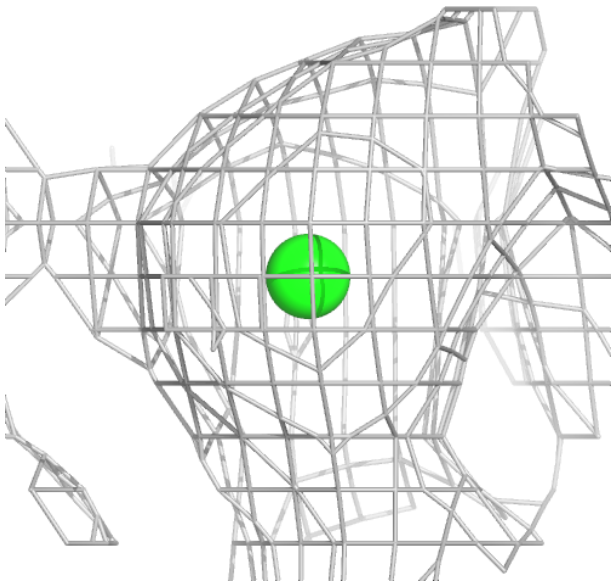


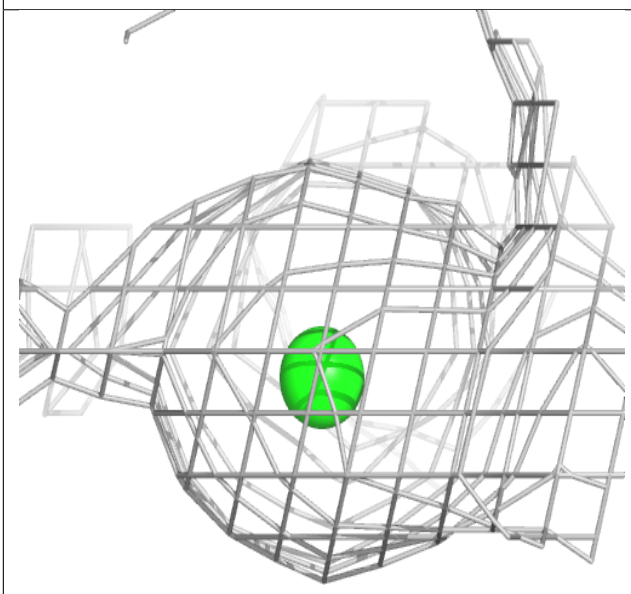


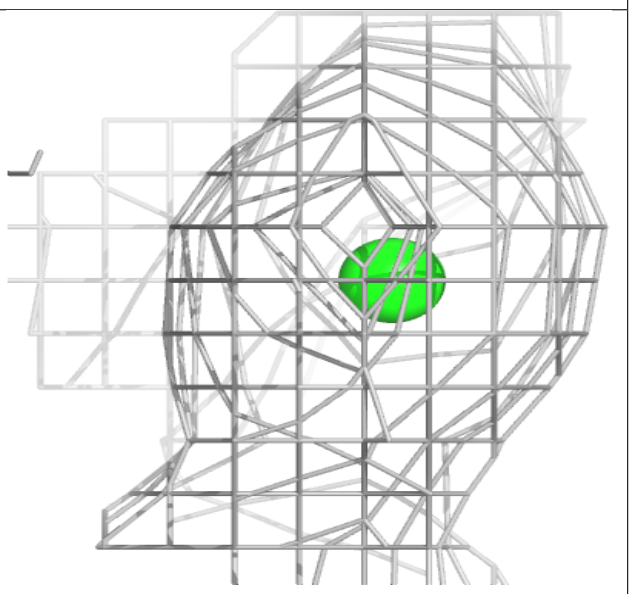


Electron density around CL C 301:

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

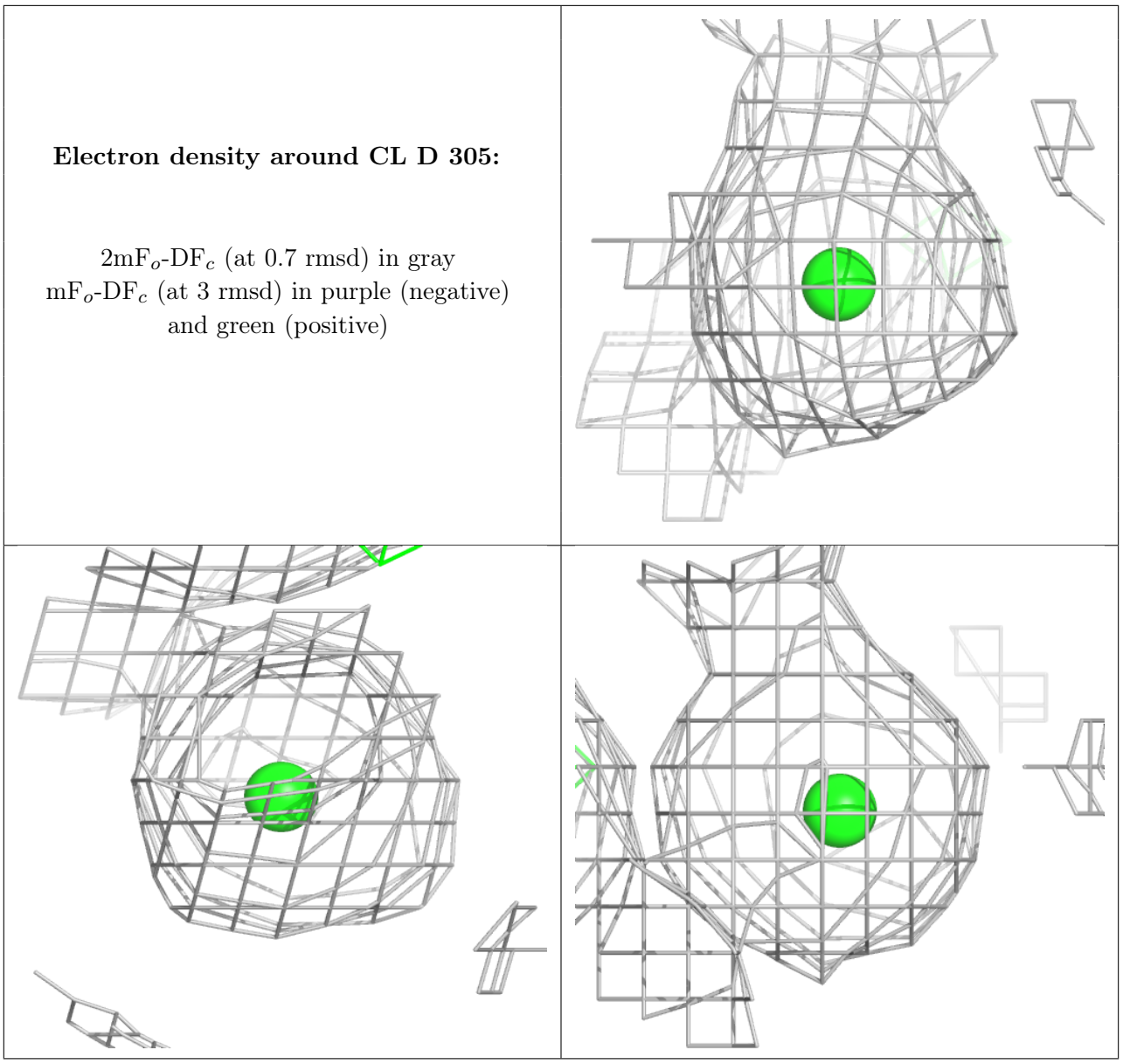






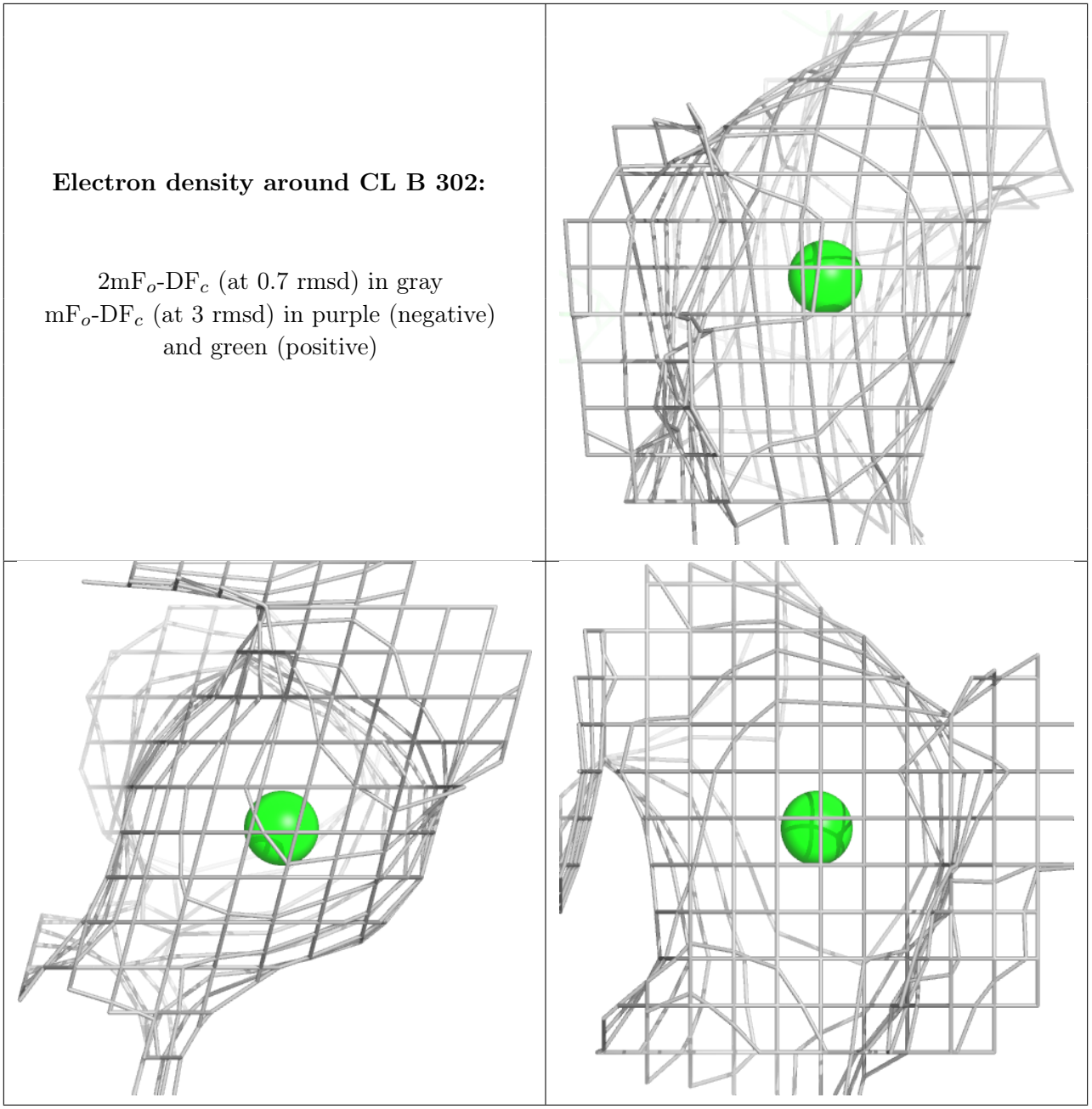
Electron density around CL D 305:

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



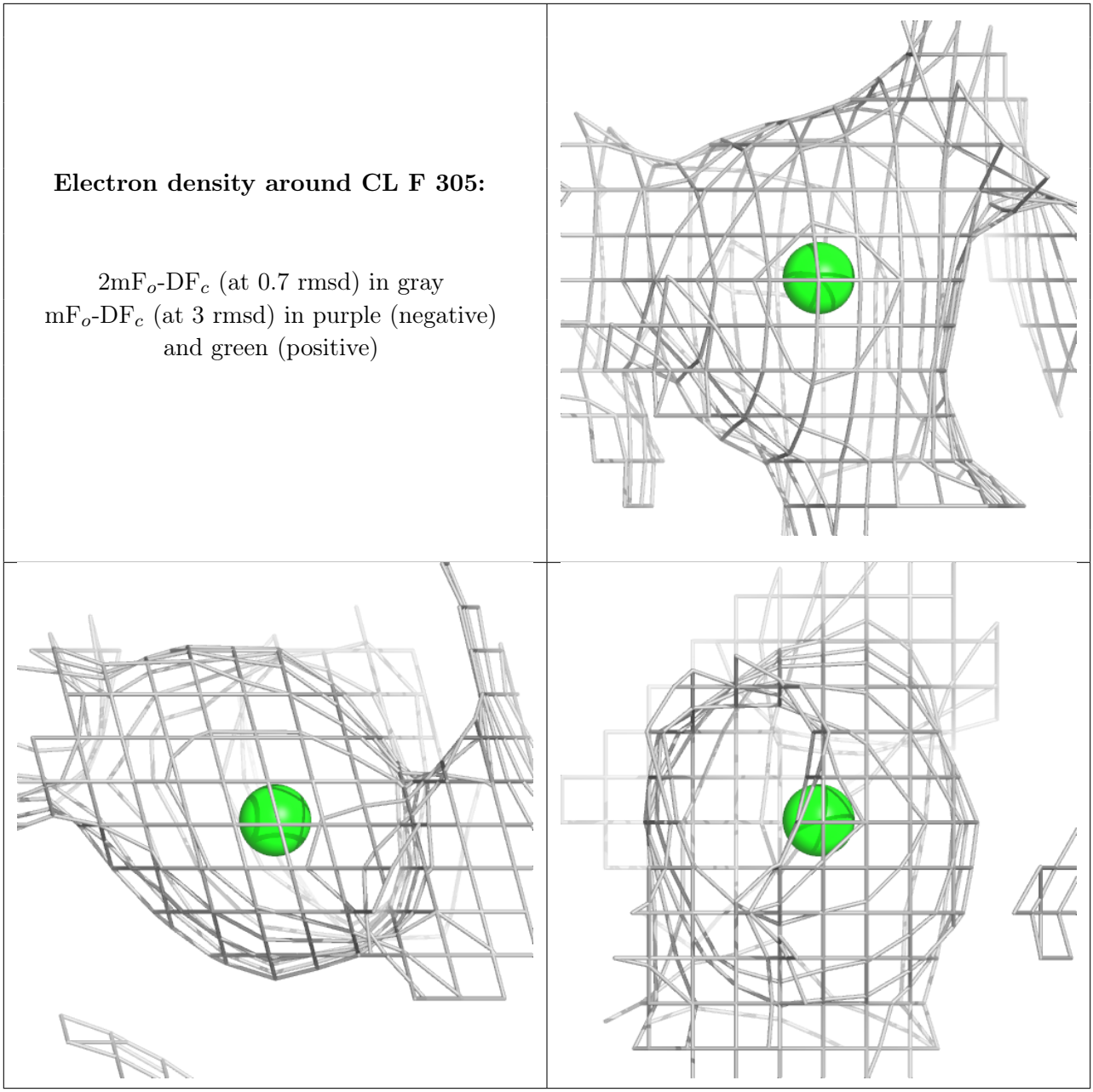
Electron density around CL B 302:

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



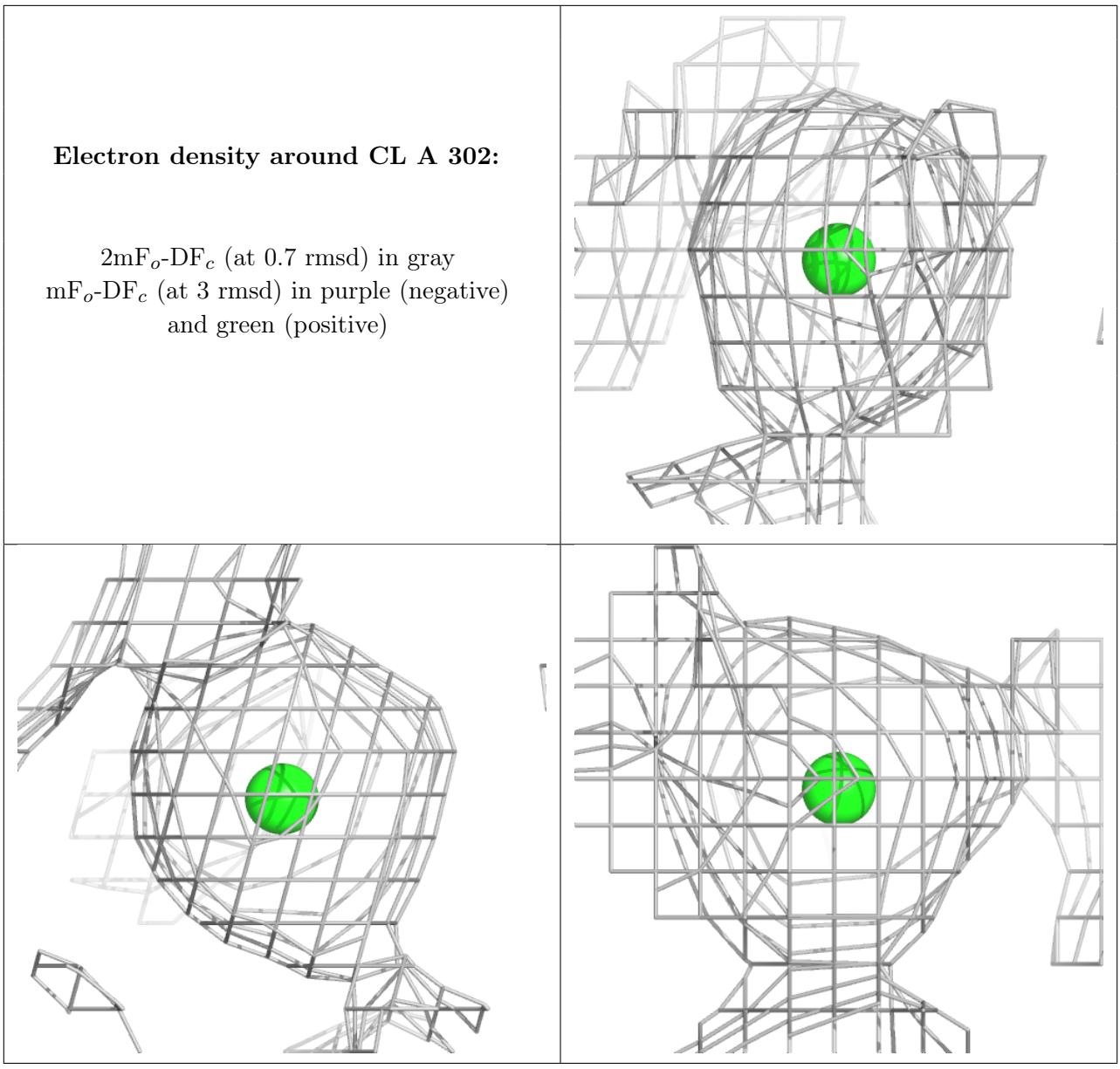
Electron density around CL F 305:

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



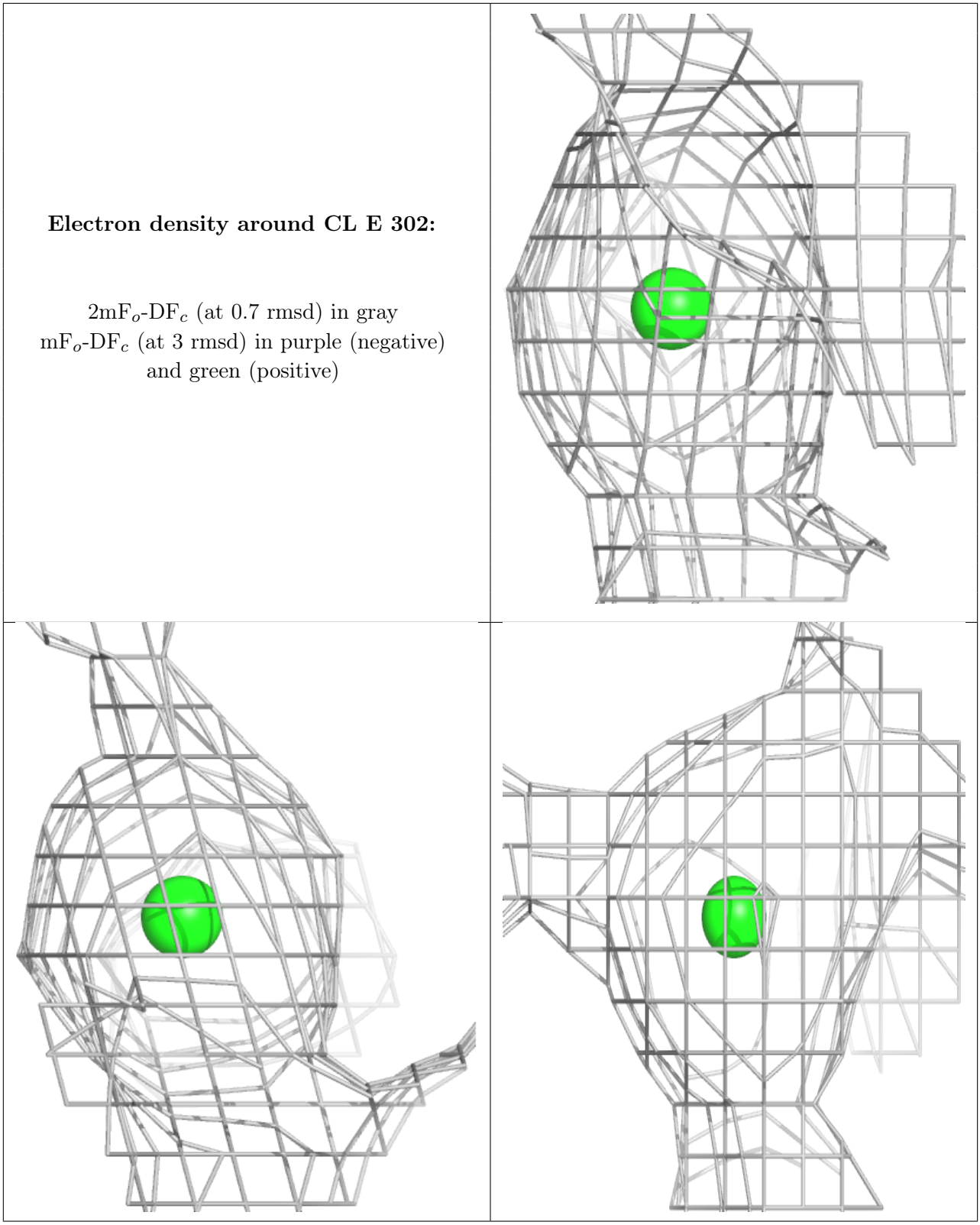
Electron density around CL A 302:

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



Electron density around CL E 302:

$2mF_o$-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

There are no such residues in this entry.