



wwPDB X-ray Structure Validation Summary Report ⓘ

Aug 17, 2022 – 06:09 PM EDT

PDB ID : 3WG7
Title : A 1.9 angstrom radiation damage free X-ray structure of large (420KDa) protein by femtosecond crystallography
Authors : Hirata, K.; Shinzawa-Itoh, K.; Yano, N.; Takemura, S.; Kato, K.; Hatanaka, M.; Muramoto, K.; Kawahara, T.; Tsukihara, T.; Yamashita, E.; Tono, K.; Ueno, G.; Hikima, T.; Murakami, H.; Inubushi, Y.; Yabashi, M.; Ishikawa, T.; Yamamoto, M.; Ogura, T.; Sugimoto, H.; Shen, J.R.; Yoshikawa, S.; Ago, H.
Deposited on : 2013-07-29
Resolution : 1.90 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 ⓘ 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](#) ①) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtrriage (Phenix) : 1.13
EDS : 2.29
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.29

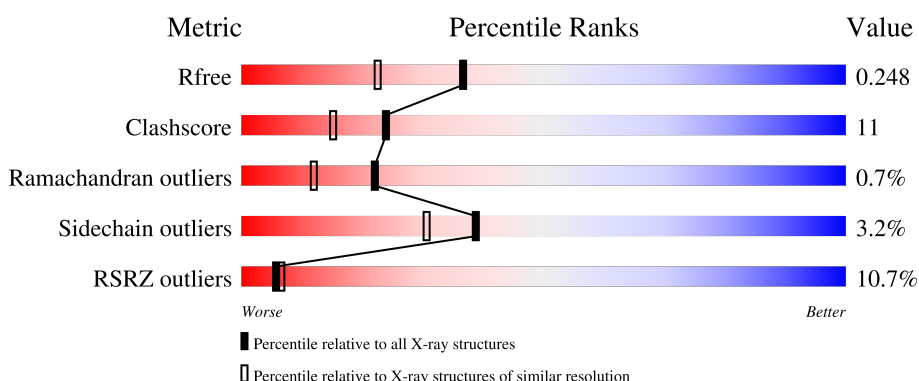
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.90 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.



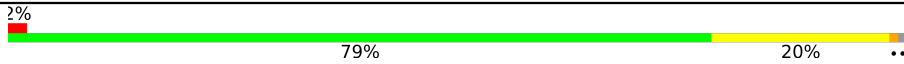

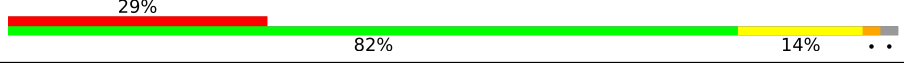
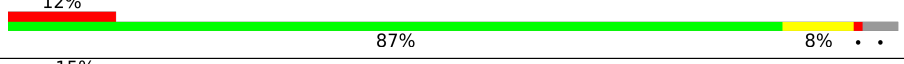

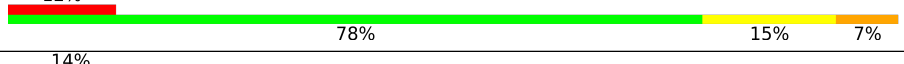


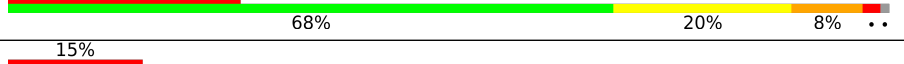


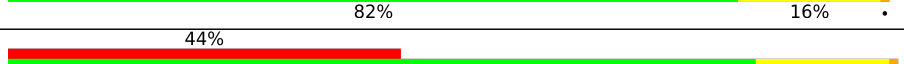

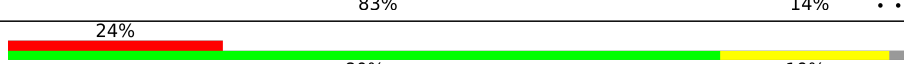
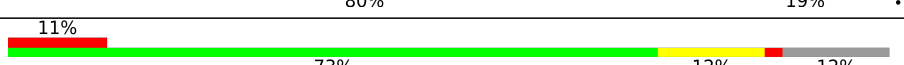
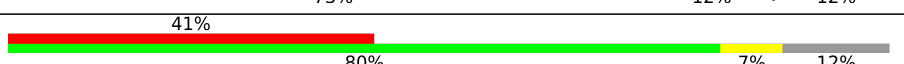
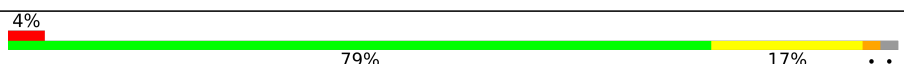
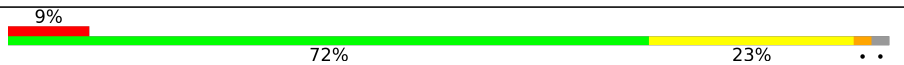
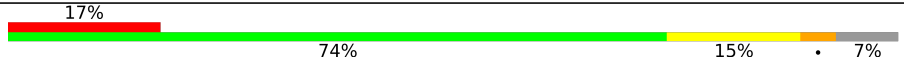


Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	6207 (1.90-1.90)
Clashscore	141614	6847 (1.90-1.90)
Ramachandran outliers	138981	6760 (1.90-1.90)
Sidechain outliers	138945	6760 (1.90-1.90)
RSRZ outliers	127900	6082 (1.90-1.90)

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 $\leq 5\%$. 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	514	<div style="display: flex; align-items: center;"> <div style="width: 3%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 84%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 16%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 1%; height: 10px; background-color: orange; margin-right: 5px;"></div> <div style="width: 1%; height: 10px; background-color: grey;"></div> </div> <p style="text-align: center;">3% 84% 16% •</p>
1	N	514	<div style="display: flex; align-items: center;"> <div style="width: 0%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 82%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 16%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 1%; height: 10px; background-color: orange; margin-right: 5px;"></div> <div style="width: 1%; height: 10px; background-color: grey;"></div> </div> <p style="text-align: center;">% 82% 16% •</p>
2	B	227	<div style="display: flex; align-items: center;"> <div style="width: 6%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 75%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 22%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 1%; height: 10px; background-color: orange; margin-right: 5px;"></div> <div style="width: 1%; height: 10px; background-color: grey;"></div> </div> <p style="text-align: center;">6% 75% 22% •</p>
2	O	227	<div style="display: flex; align-items: center;"> <div style="width: 10%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 74%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 25%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 1%; height: 10px; background-color: orange; margin-right: 5px;"></div> <div style="width: 1%; height: 10px; background-color: grey;"></div> </div> <p style="text-align: center;">10% 74% 25% •</p>
3	C	261	<div style="display: flex; align-items: center;"> <div style="width: 3%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 84%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 15%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 1%; height: 10px; background-color: orange; margin-right: 5px;"></div> <div style="width: 1%; height: 10px; background-color: grey;"></div> </div> <p style="text-align: center;">3% 84% 15% •</p>

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Mol	Chain	Length	Quality of chain
3	P	261	
4	D	147	
4	Q	147	
5	E	109	
5	R	109	
6	F	98	
6	S	98	
7	G	85	
7	T	85	
8	H	85	
8	U	85	
9	I	73	
9	V	73	
10	J	59	
10	W	59	
11	K	56	
11	X	56	
12	L	47	
12	Y	47	
13	M	46	
13	Z	46	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
14	HEA	A	601	X	-	-	-
14	HEA	A	602	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
14	HEA	N	601	X	-	-	-
14	HEA	N	602	X	-	-	-
2	FME	O	1	-	-	X	-
23	PSC	N	610	-	-	X	-
25	CDL	C	304	-	-	X	-
25	CDL	G	101	-	-	X	-
25	CDL	T	102	-	-	X	-
27	DMU	M	101	X	-	-	-
27	DMU	Z	101	X	-	-	-
7	TPO	G	11	-	-	-	X
9	SAC	I	1	-	-	-	X
9	SAC	V	1	-	X	-	X

2 Entry composition [i](#)

There are 28 unique types of molecules in this entry. The entry contains 33302 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 Cytochrome c oxidase subunit 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	514	4074	2725	629	684	36	0	6	0
1	N	514	4074	2725	629	684	36	0	6	0

- Molecule 2 is a protein called Cytochrome c oxidase subunit 2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	227	1832	1189	282	343	18	0	1	0
2	O	227	1824	1185	281	340	18	0	0	0

- Molecule 3 is a protein called Cytochrome c oxidase subunit 3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	C	259	2134	1427	339	353	15	0	3	0
3	P	259	2134	1427	339	353	15	0	3	0

- Molecule 4 is a protein called Cytochrome c oxidase subunit 4 isoform 1, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	D	144	1195	777	196	218	4	0	0	0
4	Q	144	1195	777	196	218	4	0	0	0

- Molecule 5 is a protein called Cytochrome c oxidase subunit 5A, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	105	Total	C	N	O	S	0	0	0
			852	544	144	162	2			
5	R	105	Total	C	N	O	S	0	0	0
			852	544	144	162	2			

- Molecule 6 is a protein called Cytochrome c oxidase subunit 5B, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	F	98	Total	C	N	O	S	0	0	0
			748	464	134	145	5			
6	S	98	Total	C	N	O	S	0	0	0
			748	464	134	145	5			

- Molecule 7 is a protein called Cytochrome c oxidase subunit 6A2, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
7	G	84	Total	C	N	O	P	S	0	0	0
			675	431	129	113	1	1			
7	T	84	Total	C	N	O	P	S	0	0	0
			675	431	129	113	1	1			

- Molecule 8 is a protein called Cytochrome c oxidase subunit 6B1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	H	79	Total	C	N	O	S	0	0	0
			662	417	121	119	5			
8	U	79	Total	C	N	O	S	0	0	0
			662	417	121	119	5			

- Molecule 9 is a protein called Cytochrome c oxidase subunit 6C.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	I	73	Total	C	N	O	S	0	0	0
			601	390	107	100	4			
9	V	73	Total	C	N	O	S	0	0	0
			601	390	107	100	4			

- Molecule 10 is a protein called Cytochrome c oxidase subunit 7A1, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	58	Total	C	N	O	S	0	0	0
			460	297	78	82	3			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	W	58	Total	C	N	O	S	0	0	0
			460	297	78	82	3			

- Molecule 11 is a protein called Cytochrome c oxidase subunit 7B, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	49	Total	C	N	O	S	0	0	0
			384	250	65	67	2			
11	X	49	Total	C	N	O	S	0	0	0
			384	250	65	67	2			

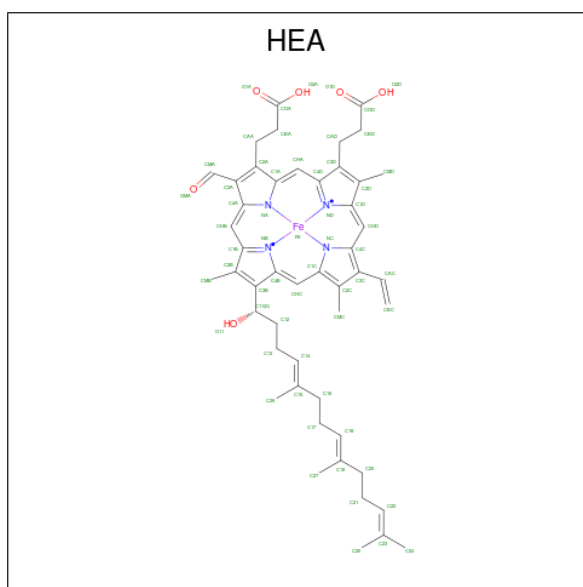
- Molecule 12 is a protein called Cytochrome c oxidase subunit 7C, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	L	46	Total	C	N	O	S	0	0	0
			380	254	64	60	2			
12	Y	46	Total	C	N	O	S	0	0	0
			380	254	64	60	2			

- Molecule 13 is a protein called Cytochrome c oxidase subunit 8B, mitochondrial.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
13	M	43	Total	C	N	O	0	0	0
			335	223	53	59			
13	Z	43	Total	C	N	O	0	0	0
			335	223	53	59			

- Molecule 14 is HEME-A (three-letter code: HEA) (formula: $C_{49}H_{56}FeN_4O_6$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	
14	A	1	Total	C	Fe	N	O	0	0
			60	49	1	4	6		
14	A	1	Total	C	Fe	N	O	0	0
			60	49	1	4	6		
14	N	1	Total	C	Fe	N	O	0	0
			60	49	1	4	6		
14	N	1	Total	C	Fe	N	O	0	0
			60	49	1	4	6		

- Molecule 15 is COPPER (II) ION (three-letter code: CU) (formula: Cu).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
15	A	1	Total	Cu	0	0
			1	1		
15	N	1	Total	Cu	0	0
			1	1		

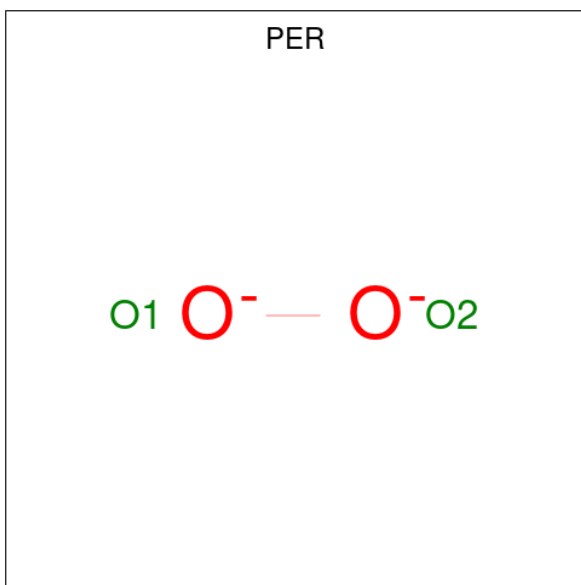
- Molecule 16 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
16	A	1	Total	Mg	0	0
			1	1		
16	N	1	Total	Mg	0	0
			1	1		

- Molecule 17 is SODIUM ION (three-letter code: NA) (formula: Na).

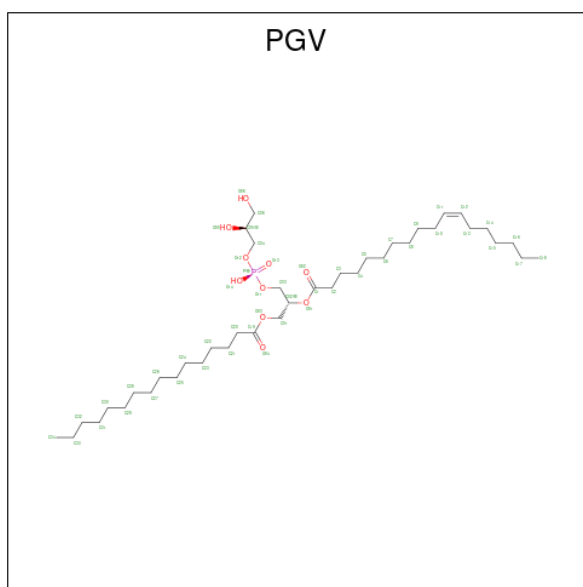
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
17	A	1	Total Na 1 1	0	0
17	C	1	Total Na 1 1	0	0
17	N	1	Total Na 1 1	0	0
17	P	1	Total Na 1 1	0	0

- Molecule 18 is PEROXIDE ION (three-letter code: PER) (formula: O₂).



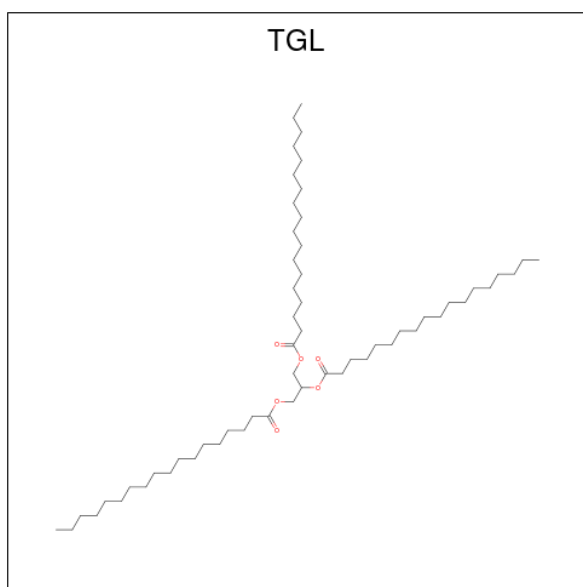
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
18	A	1	Total O 4 4	0	1
18	N	1	Total O 4 4	0	1

- Molecule 19 is (1R)-2-{{[(2S)-2,3-DIHYDROXYPROPYL]OXY}(HYDROXY)PHOSPHORYL]OXY}-1-[(PALMITOYLOXY)METHYL]ETHYL (11E)-OCTADEC-11-ENOATE (three-letter code: PGV) (formula: C₄₀H₇₇O₁₀P).



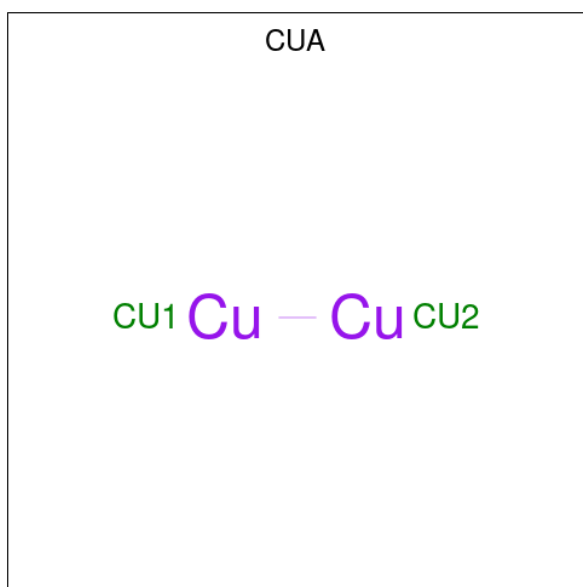
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	O	P		
19	A	1	51	40	10	1	0	0
19	A	1	51	40	10	1	0	0
19	C	1	51	40	10	1	0	0
19	C	1	51	40	10	1	0	0
19	N	1	51	40	10	1	0	0
19	N	1	51	40	10	1	0	0
19	P	1	51	40	10	1	0	0
19	P	1	51	40	10	1	0	0

- Molecule 20 is TRISTEAROYLGLYCEROL (three-letter code: TGL) (formula: $C_{57}H_{110}O_6$).



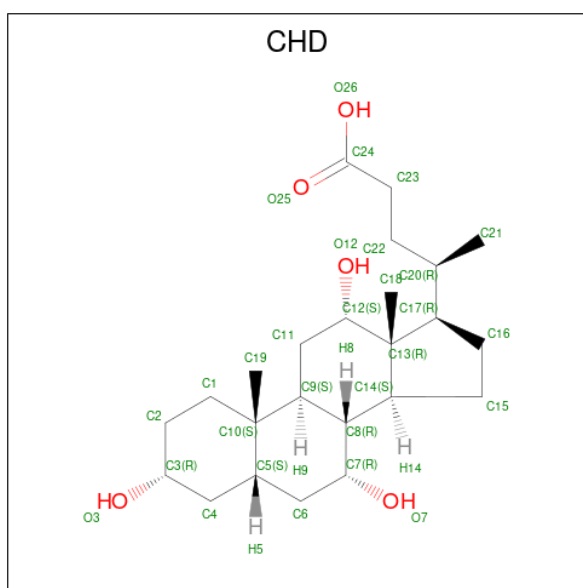
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
			Total	C	O		
20	B	1	63	57	6	0	0
20	D	1	63	57	6	0	0
20	L	1	63	57	6	0	0
20	N	1	63	57	6	0	0
20	Q	1	63	57	6	0	0
20	Y	1	63	57	6	0	0

- Molecule 21 is DINUCLEAR COPPER ION (three-letter code: CUA) (formula: Cu₂).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
21	B	1	Total Cu 2 2	0	0
21	O	1	Total Cu 2 2	0	0

- Molecule 22 is CHOLIC ACID (three-letter code: CHD) (formula: C₂₄H₄₀O₅).



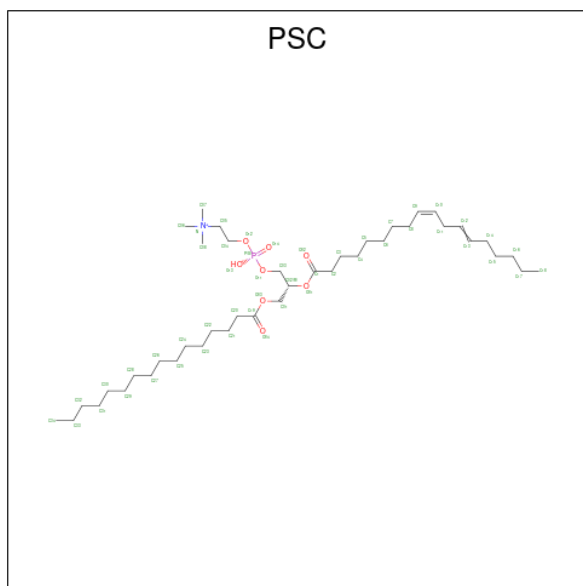
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
22	B	1	Total C O 29 24 5	0	0
22	C	1	Total C O 29 24 5	0	0

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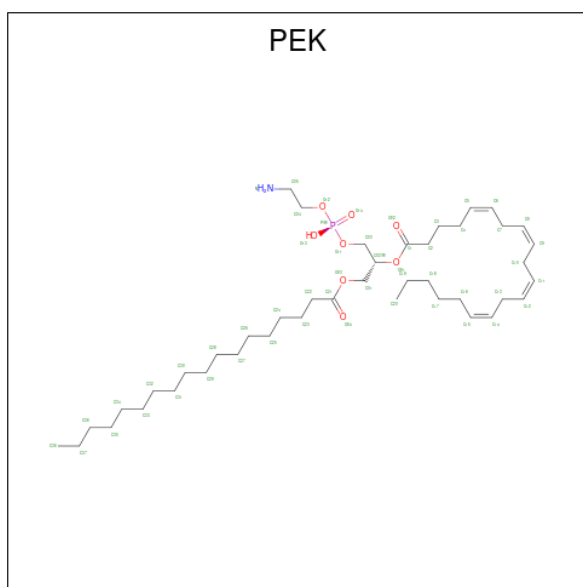
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
22	C	1	Total	C	O	0	0
			29	24	5		
22	G	1	Total	C	O	0	0
			29	24	5		
22	J	1	Total	C	O	0	0
			29	24	5		
22	P	1	Total	C	O	0	0
			29	24	5		
22	P	1	Total	C	O	0	0
			29	24	5		
22	W	1	Total	C	O	0	0
			29	24	5		

- Molecule 23 is (7R,17E,20E)-4-HYDROXY-N,N,N-TRIMETHYL-9-OXO-7-[(PALMITOYLOXY)METHYL]-3,5,8-TRIOXA-4-PHOSPHAHEXACOSA-17,20-DIEN-1-AMINIUM 4-OXIDE (three-letter code: PSC) (formula: C₄₂H₈₁NO₈P).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
23	B	1	Total	C	N	O	P	0	0
			52	42	1	8	1		
23	N	1	Total	C	N	O	P	0	0
			52	42	1	8	1		

- Molecule 24 is (1S)-2-[[[(2-AMINOETHOXY)(HYDROXY)PHOSPHORYL]OXY}-1-[(STEAROYLOXY)METHYL]ETHYL (5E,8E,11E,14E)-ICOSA-5,8,11,14-TETRAENOATE (three-letter code: PEK) (formula: C₄₃H₇₈NO₈P).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	P		
24	C	1	53	43	1	8	1	0	0
24	C	1	53	43	1	8	1	0	0
24	G	1	53	43	1	8	1	0	0
24	P	1	53	43	1	8	1	0	0
24	P	1	53	43	1	8	1	0	0
24	T	1	53	43	1	8	1	0	0

- Molecule 25 is CARDIOLIPIN (three-letter code: CDL) (formula: $C_{81}H_{156}O_{17}P_2$).

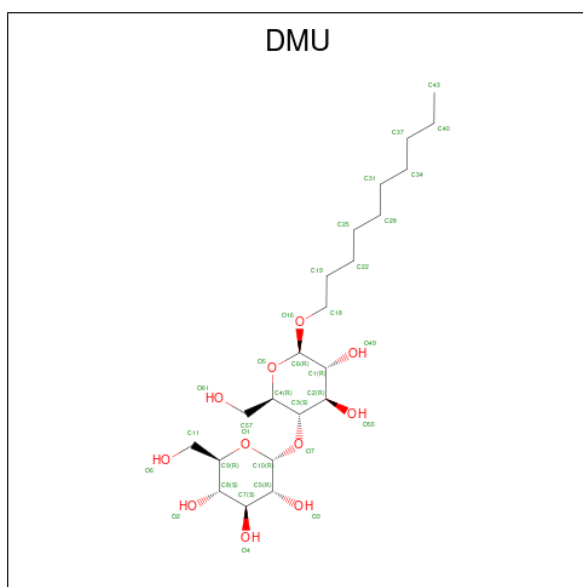


Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	O	P		
25	C	1	100	81	17	2	0	0
25	G	1	100	81	17	2	0	0
25	P	1	100	81	17	2	0	0
25	T	1	100	81	17	2	0	0

- Molecule 26 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	Zn		
26	F	1	1	1	0	0
26	S	1	1	1	0	0

- Molecule 27 is DECYL-BETA-D-MALTOPYRANOSIDE (three-letter code: DMU) (formula: C₂₂H₄₂O₁₁).



Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
27	M	1	Total	C O	0	0
			33	22 11		
27	Z	1	Total	C O	0	0
			33	22 11		

- Molecule 28 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
28	A	265	Total	O	0	0
			265	265		
28	B	194	Total	O	0	0
			194	194		
28	C	141	Total	O	0	0
			141	141		
28	D	160	Total	O	0	0
			160	160		
28	E	125	Total	O	0	0
			125	125		
28	F	112	Total	O	0	0
			112	112		
28	G	70	Total	O	0	0
			70	70		
28	H	70	Total	O	0	0
			70	70		
28	I	52	Total	O	0	0
			52	52		
28	J	31	Total	O	0	0
			31	31		

Continued on next page...

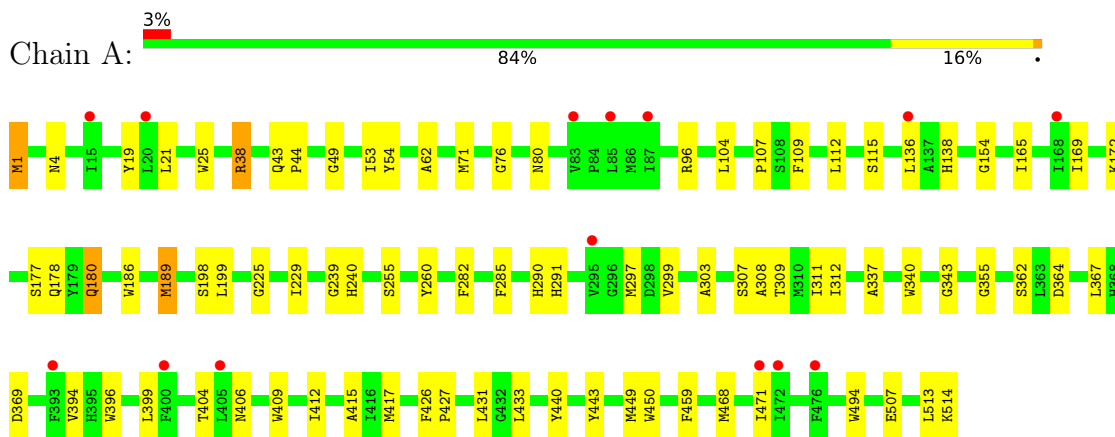
Continued from previous page...

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
28	K	40	Total O 40 40	0	0
28	L	31	Total O 31 31	0	0
28	M	31	Total O 31 31	0	0
28	N	259	Total O 259 259	0	0
28	O	157	Total O 157 157	0	0
28	P	143	Total O 143 143	0	0
28	Q	90	Total O 90 90	0	0
28	R	103	Total O 103 103	0	0
28	S	122	Total O 122 122	0	0
28	T	56	Total O 56 56	0	0
28	U	51	Total O 51 51	0	0
28	V	42	Total O 42 42	0	0
28	W	38	Total O 38 38	0	0
28	X	34	Total O 34 34	0	0
28	Y	37	Total O 37 37	0	0
28	Z	24	Total O 24 24	0	0

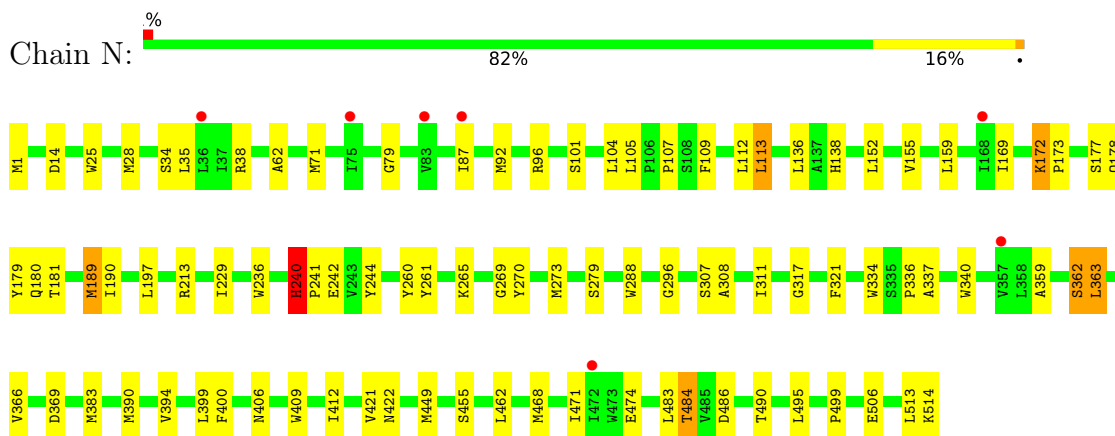
3 Residue-property plots [i](#)

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.

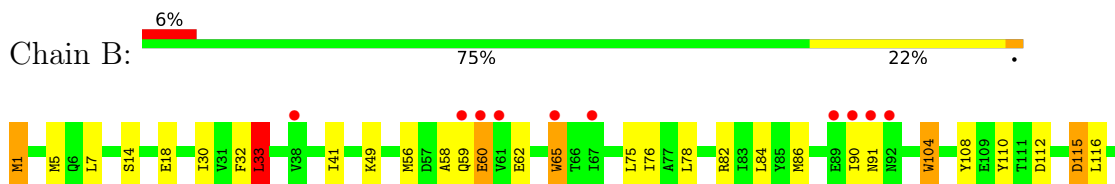
- Molecule 1: Cytochrome c oxidase subunit 1



- Molecule 1: Cytochrome c oxidase subunit 1

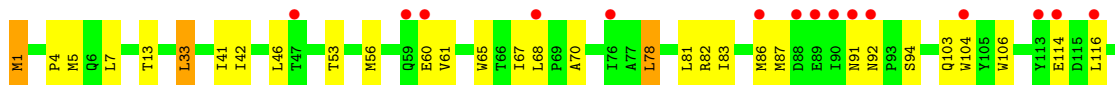
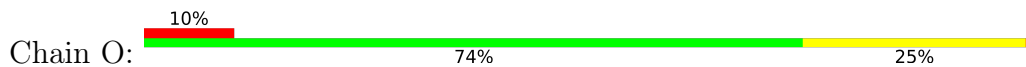


- Molecule 2: Cytochrome c oxidase subunit 2

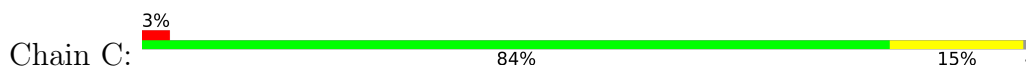




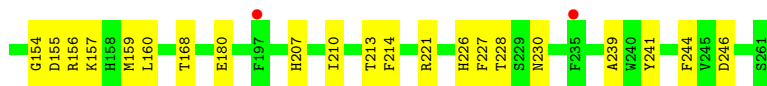
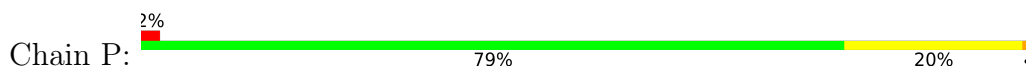
- Molecule 2: Cytochrome c oxidase subunit 2



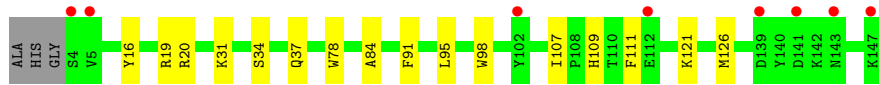
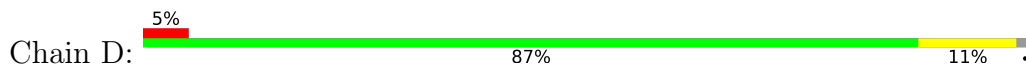
- Molecule 3: Cytochrome c oxidase subunit 3



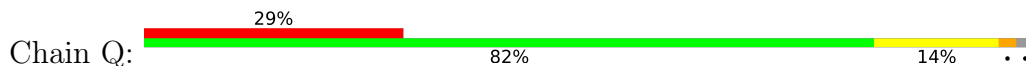
- Molecule 3: Cytochrome c oxidase subunit 3

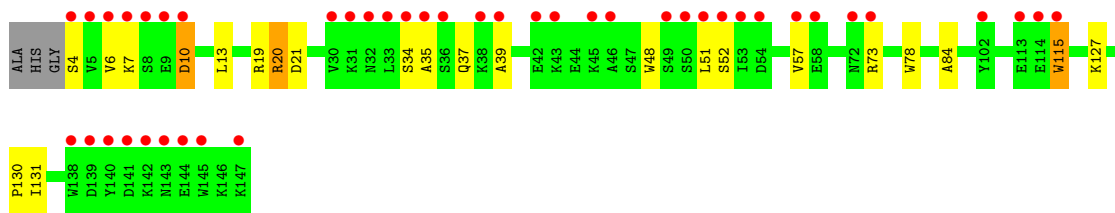


- Molecule 4: Cytochrome c oxidase subunit 4 isoform 1, mitochondrial

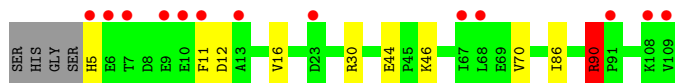
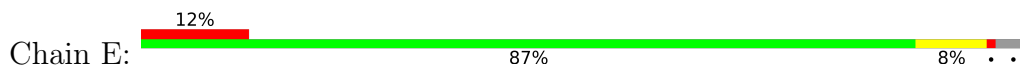


- Molecule 4: Cytochrome c oxidase subunit 4 isoform 1, mitochondrial

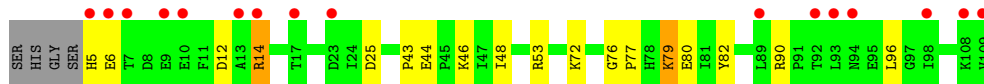
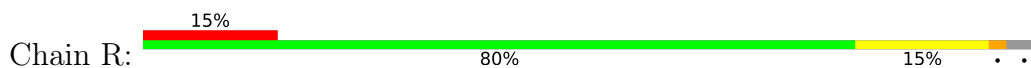




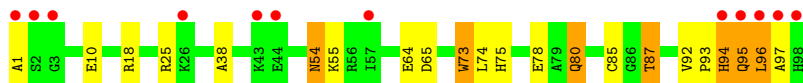
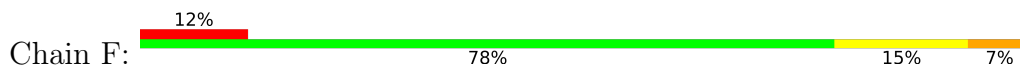
- Molecule 5: Cytochrome c oxidase subunit 5A, mitochondrial



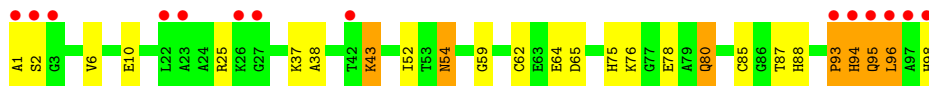
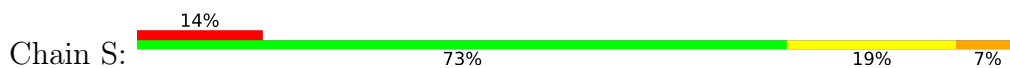
- Molecule 5: Cytochrome c oxidase subunit 5A, mitochondrial



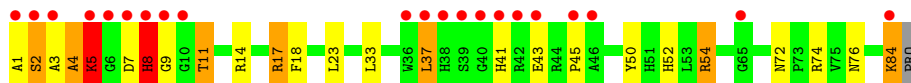
- Molecule 6: Cytochrome c oxidase subunit 5B, mitochondrial



- Molecule 6: Cytochrome c oxidase subunit 5B, mitochondrial

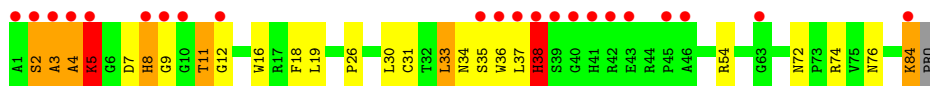


- Molecule 7: Cytochrome c oxidase subunit 6A2, mitochondrial

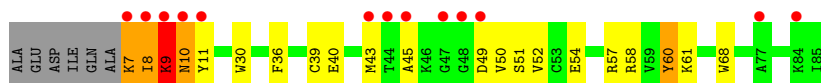


- Molecule 7: Cytochrome c oxidase subunit 6A2, mitochondrial

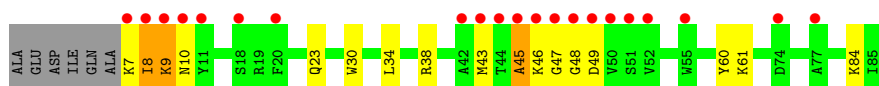
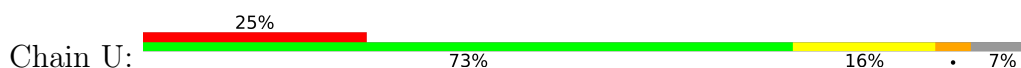




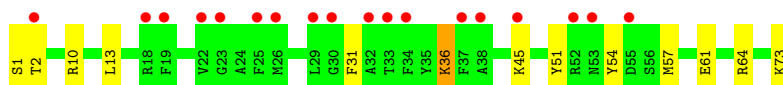
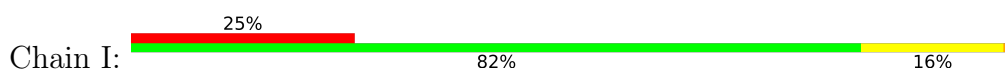
- Molecule 8: Cytochrome c oxidase subunit 6B1



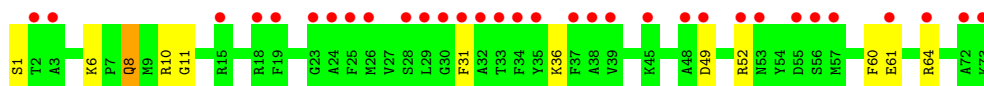
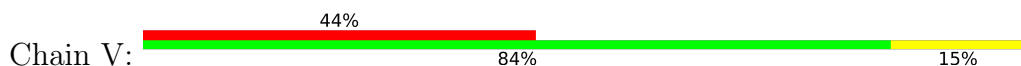
- Molecule 8: Cytochrome c oxidase subunit 6B1



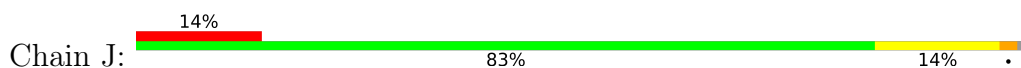
- Molecule 9: Cytochrome c oxidase subunit 6C



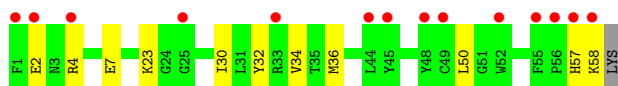
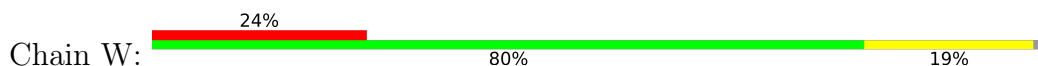
- Molecule 9: Cytochrome c oxidase subunit 6C



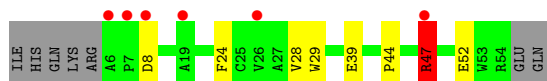
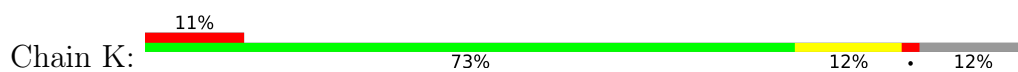
- Molecule 10: Cytochrome c oxidase subunit 7A1, mitochondrial



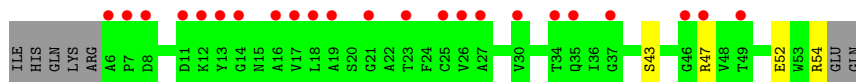
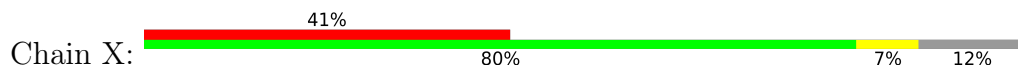
- Molecule 10: Cytochrome c oxidase subunit 7A1, mitochondrial



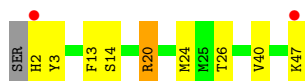
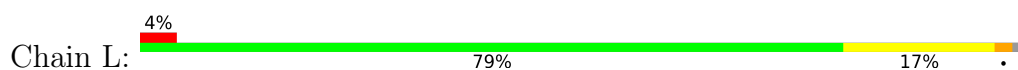
- Molecule 11: Cytochrome c oxidase subunit 7B, mitochondrial



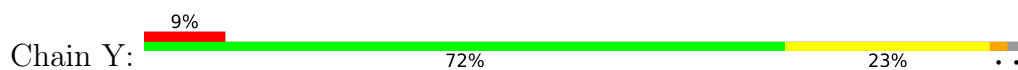
- Molecule 11: Cytochrome c oxidase subunit 7B, mitochondrial



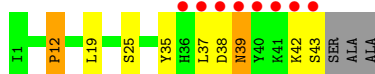
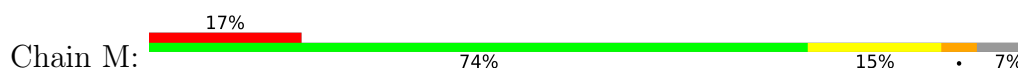
- Molecule 12: Cytochrome c oxidase subunit 7C, mitochondrial



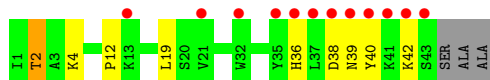
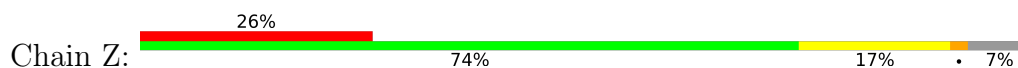
- Molecule 12: Cytochrome c oxidase subunit 7C, mitochondrial



- Molecule 13: Cytochrome c oxidase subunit 8B, mitochondrial



- Molecule 13: Cytochrome c oxidase subunit 8B, mitochondrial



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	182.60Å 204.51Å 178.29Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	40.00 – 1.90 27.31 – 1.89	Depositor EDS
% Data completeness (in resolution range)	96.0 (40.00-1.90) 95.3 (27.31-1.89)	Depositor EDS
R_{merge}	0.24	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.49 (at 1.89Å)	Xtrriage
Refinement program	REFMAC 5.8.0048	Depositor
R, R_{free}	0.195 , 0.230 0.218 , 0.248	Depositor DCC
R_{free} test set	25229 reflections (5.04%)	wwPDB-VP
Wilson B-factor (Å ²)	24.9	Xtrriage
Anisotropy	0.252	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.44 , 78.0	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	0.011 for l,-k,h	Xtrriage
F_o, F_c correlation	0.93	EDS
Total number of atoms	33302	wwPDB-VP
Average B, all atoms (Å ²)	24.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.91% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: CDL, SAC, FME, PGV, PER, TPO, HEA, DMU, ZN, MG, NA, PEK, CHD, PSC, TGL, CUA, CU

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	1.46	22/4203 (0.5%)	1.15	11/5742 (0.2%)
1	N	1.40	17/4203 (0.4%)	1.14	17/5742 (0.3%)
2	B	1.24	4/1868 (0.2%)	1.13	8/2545 (0.3%)
2	O	1.11	2/1860 (0.1%)	1.06	3/2534 (0.1%)
3	C	1.32	3/2221 (0.1%)	0.98	2/3035 (0.1%)
3	P	1.29	7/2221 (0.3%)	1.02	4/3035 (0.1%)
4	D	1.20	2/1229 (0.2%)	1.05	4/1658 (0.2%)
4	Q	0.99	1/1229 (0.1%)	0.90	1/1658 (0.1%)
5	E	1.18	1/871 (0.1%)	1.02	2/1182 (0.2%)
5	R	1.00	0/871	1.07	7/1182 (0.6%)
6	F	1.08	1/765 (0.1%)	1.07	2/1038 (0.2%)
6	S	1.18	1/765 (0.1%)	1.05	0/1038
7	G	1.16	0/690	1.04	5/937 (0.5%)
7	T	1.12	1/690 (0.1%)	1.01	3/937 (0.3%)
8	H	1.14	2/682 (0.3%)	0.95	1/921 (0.1%)
8	U	0.97	0/682	0.95	0/921
9	I	0.94	0/605	1.01	3/802 (0.4%)
9	V	0.87	0/605	0.93	0/802
10	J	0.96	0/471	1.01	1/636 (0.2%)
10	W	0.97	0/471	1.00	0/636
11	K	1.11	1/398 (0.3%)	1.04	1/546 (0.2%)
11	X	0.96	0/398	0.84	0/546
12	L	1.20	0/393	1.20	2/526 (0.4%)
12	Y	1.13	0/393	0.95	1/526 (0.2%)
13	M	1.21	1/345 (0.3%)	1.01	1/470 (0.2%)
13	Z	1.09	0/345	0.90	0/470
All	All	1.24	66/29474 (0.2%)	1.06	79/40065 (0.2%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected

by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	N	0	1
6	F	0	1
6	S	0	1
8	H	0	1
10	J	0	1
10	W	0	1
All	All	0	6

The worst 5 of 66 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	T	36	TRP	CB-CG	8.63	1.65	1.50
1	N	242	GLU	CD-OE1	8.41	1.34	1.25
1	A	154	GLY	N-CA	7.80	1.57	1.46
1	N	236	TRP	CE3-CZ3	7.54	1.51	1.38
1	N	260	TYR	CG-CD2	7.26	1.48	1.39

The worst 5 of 79 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	96	ARG	NE-CZ-NH2	-13.88	113.36	120.30
5	R	90	ARG	NE-CZ-NH2	-10.73	114.94	120.30
11	K	47	ARG	NE-CZ-NH1	10.01	125.31	120.30
12	L	20	ARG	NE-CZ-NH2	-9.56	115.52	120.30
4	D	20	ARG	NE-CZ-NH2	9.53	125.06	120.30

There are no chirality outliers.

5 of 6 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
6	F	93	PRO	Peptide
8	H	9	LYS	Peptide
10	J	57	HIS	Peptide
1	N	240	HIS	Sidechain
6	S	93	PRO	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	4074	0	4058	53	0
1	N	4074	0	4058	73	0
2	B	1832	0	1836	36	0
2	O	1824	0	1833	51	2
3	C	2134	0	2051	39	0
3	P	2134	0	2051	46	0
4	D	1195	0	1183	15	0
4	Q	1195	0	1183	30	0
5	E	852	0	845	7	0
5	R	852	0	845	10	2
6	F	748	0	728	16	1
6	S	748	0	728	36	7
7	G	675	0	643	29	0
7	T	675	0	643	34	0
8	H	662	0	623	19	0
8	U	662	0	623	11	0
9	I	601	0	613	8	2
9	V	601	0	613	8	0
10	J	460	0	459	8	0
10	W	460	0	459	8	0
11	K	384	0	366	7	0
11	X	384	0	366	4	0
12	L	380	0	380	14	0
12	Y	380	0	380	16	0
13	M	335	0	352	10	0
13	Z	335	0	352	9	0
14	A	120	0	108	10	0
14	N	120	0	108	6	0
15	A	1	0	0	0	0
15	N	1	0	0	0	0
16	A	1	0	0	0	0
16	N	1	0	0	0	0
17	A	1	0	0	0	0
17	C	1	0	0	1	0
17	N	1	0	0	0	0
17	P	1	0	0	0	0
18	A	4	0	0	1	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
18	N	4	0	0	1	0
19	A	102	0	152	10	0
19	C	102	0	152	5	0
19	N	102	0	152	16	0
19	P	102	0	152	10	0
20	B	63	0	110	3	0
20	D	63	0	110	13	0
20	L	63	0	110	12	0
20	N	63	0	110	4	0
20	Q	63	0	110	11	0
20	Y	63	0	110	16	0
21	B	2	0	0	0	0
21	O	2	0	0	0	0
22	B	29	0	39	1	0
22	C	58	0	78	4	0
22	G	29	0	39	0	0
22	J	29	0	39	5	0
22	P	58	0	78	5	0
22	W	29	0	38	5	0
23	B	52	0	80	13	0
23	N	52	0	80	21	0
24	C	106	0	154	23	0
24	G	53	0	77	6	0
24	P	106	0	154	22	0
24	T	53	0	77	12	0
25	C	100	0	156	23	0
25	G	100	0	156	37	0
25	P	100	0	156	17	0
25	T	100	0	156	29	0
26	F	1	0	0	0	0
26	S	1	0	0	0	0
27	M	33	0	42	1	0
27	Z	33	0	42	0	0
28	A	265	0	0	8	0
28	B	194	0	0	10	2
28	C	141	0	0	8	0
28	D	160	0	0	1	1
28	E	125	0	0	3	0
28	F	112	0	0	2	1
28	G	70	0	0	6	0
28	H	70	0	0	5	0
28	I	52	0	0	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
28	J	31	0	0	2	0
28	K	40	0	0	3	1
28	L	31	0	0	1	0
28	M	31	0	0	1	2
28	N	259	0	0	11	0
28	O	157	0	0	11	6
28	P	143	0	0	8	0
28	Q	90	0	0	5	0
28	R	103	0	0	3	0
28	S	122	0	0	7	1
28	T	56	0	0	2	0
28	U	51	0	0	2	0
28	V	42	0	0	5	0
28	W	38	0	0	2	0
28	X	34	0	0	3	0
28	Y	37	0	0	4	0
28	Z	24	0	0	1	0
All	All	33302	0	31396	691	14

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 11.

The worst 5 of 691 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)
6:S:76:LYS:CE	6:S:93:PRO:HG2	1.47	1.41
6:S:43:LYS:H	6:S:43:LYS:CD	1.28	1.39
6:S:43:LYS:HD3	6:S:43:LYS:N	1.33	1.29
6:S:76:LYS:HD3	28:S:271:HOH:O	1.36	1.25
18:A:606[A]:PER:O2	18:A:606[A]:PER:O1	1.55	1.22

The worst 5 of 14 symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:F:294:HOH:O	28:K:114:HOH:O[2_585]	1.63	0.57
9:I:2:THR:CG2	5:R:80:GLU:OE1[3_647]	1.83	0.37
28:B:586:HOH:O	28:M:2318:HOH:O[2_584]	1.90	0.30
2:O:126:SER:O	6:S:94:HIS:CB[2_684]	1.93	0.27
6:S:95:GLN:N	28:O:535:HOH:O[2_685]	1.95	0.25

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	518/514 (101%)	500 (96%)	18 (4%)	0	100	100
1	N	518/514 (101%)	501 (97%)	17 (3%)	0	100	100
2	B	226/227 (100%)	213 (94%)	13 (6%)	0	100	100
2	O	225/227 (99%)	214 (95%)	10 (4%)	1 (0%)	34	24
3	C	260/261 (100%)	254 (98%)	6 (2%)	0	100	100
3	P	260/261 (100%)	255 (98%)	5 (2%)	0	100	100
4	D	142/147 (97%)	138 (97%)	4 (3%)	0	100	100
4	Q	142/147 (97%)	136 (96%)	5 (4%)	1 (1%)	22	12
5	E	103/109 (94%)	102 (99%)	1 (1%)	0	100	100
5	R	103/109 (94%)	103 (100%)	0	0	100	100
6	F	96/98 (98%)	91 (95%)	2 (2%)	3 (3%)	4	0
6	S	96/98 (98%)	90 (94%)	3 (3%)	3 (3%)	4	0
7	G	81/85 (95%)	69 (85%)	7 (9%)	5 (6%)	1	0
7	T	81/85 (95%)	68 (84%)	8 (10%)	5 (6%)	1	0
8	H	77/85 (91%)	71 (92%)	3 (4%)	3 (4%)	3	0
8	U	77/85 (91%)	70 (91%)	4 (5%)	3 (4%)	3	0
9	I	71/73 (97%)	69 (97%)	2 (3%)	0	100	100
9	V	71/73 (97%)	70 (99%)	1 (1%)	0	100	100
10	J	56/59 (95%)	55 (98%)	1 (2%)	0	100	100
10	W	56/59 (95%)	55 (98%)	1 (2%)	0	100	100
11	K	47/56 (84%)	46 (98%)	1 (2%)	0	100	100
11	X	47/56 (84%)	46 (98%)	1 (2%)	0	100	100
12	L	44/47 (94%)	42 (96%)	2 (4%)	0	100	100
12	Y	44/47 (94%)	41 (93%)	3 (7%)	0	100	100
13	M	41/46 (89%)	38 (93%)	3 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
13	Z	41/46 (89%)	39 (95%)	2 (5%)	0	100	100
All	All	3523/3614 (98%)	3376 (96%)	123 (4%)	24 (1%)	22	12

5 of 24 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	F	94	HIS
6	F	96	LEU
7	G	4	ALA
7	G	8	HIS
8	H	8	ILE

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	432/426 (101%)	426 (99%)	6 (1%)	67	65
1	N	432/426 (101%)	424 (98%)	8 (2%)	57	53
2	B	211/210 (100%)	199 (94%)	12 (6%)	20	11
2	O	210/210 (100%)	202 (96%)	8 (4%)	33	24
3	C	227/226 (100%)	223 (98%)	4 (2%)	59	55
3	P	227/226 (100%)	221 (97%)	6 (3%)	46	39
4	D	128/129 (99%)	127 (99%)	1 (1%)	81	82
4	Q	128/129 (99%)	125 (98%)	3 (2%)	50	45
5	E	92/95 (97%)	89 (97%)	3 (3%)	38	29
5	R	92/95 (97%)	89 (97%)	3 (3%)	38	29
6	F	81/81 (100%)	76 (94%)	5 (6%)	18	9
6	S	81/81 (100%)	78 (96%)	3 (4%)	34	25
7	G	67/68 (98%)	62 (92%)	5 (8%)	13	5
7	T	67/68 (98%)	58 (87%)	9 (13%)	4	1
8	H	71/75 (95%)	66 (93%)	5 (7%)	15	7

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
8	U	71/75 (95%)	68 (96%)	3 (4%)	30	20
9	I	57/57 (100%)	56 (98%)	1 (2%)	59	55
9	V	57/57 (100%)	54 (95%)	3 (5%)	22	13
10	J	49/50 (98%)	49 (100%)	0	100	100
10	W	49/50 (98%)	48 (98%)	1 (2%)	55	51
11	K	39/46 (85%)	38 (97%)	1 (3%)	46	39
11	X	39/46 (85%)	39 (100%)	0	100	100
12	L	39/40 (98%)	38 (97%)	1 (3%)	46	39
12	Y	39/40 (98%)	36 (92%)	3 (8%)	13	5
13	M	37/38 (97%)	34 (92%)	3 (8%)	11	4
13	Z	37/38 (97%)	35 (95%)	2 (5%)	22	13
All	All	3059/3082 (99%)	2960 (97%)	99 (3%)	39	30

5 of 99 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	O	61	VAL
4	Q	20	ARG
2	O	68	LEU
3	P	159	MET
6	S	43	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 40 such sidechains are listed below:

Mol	Chain	Res	Type
3	P	68	GLN
6	S	80	GLN
3	P	76	GLN
4	Q	109	HIS
8	U	37	HIS

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

8 non-standard protein/DNA/RNA residues are modelled in this entry.

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
7	TPO	G	11	7	8,10,11	1.61	2 (25%)	10,14,16	1.48	1 (10%)
9	SAC	I	1	9	7,8,9	2.31	2 (28%)	8,9,11	1.43	2 (25%)
2	FME	O	1	2	8,9,10	0.95	0	7,9,11	1.90	2 (28%)
1	FME	N	1	1	8,9,10	0.92	0	7,9,11	1.64	2 (28%)
2	FME	B	1	2	8,9,10	1.68	1 (12%)	7,9,11	8.05	3 (42%)
9	SAC	V	1	9	7,8,9	2.25	2 (28%)	8,9,11	1.72	3 (37%)
1	FME	A	1	1	8,9,10	0.51	0	7,9,11	1.65	2 (28%)
7	TPO	T	11	7	8,10,11	1.70	1 (12%)	10,14,16	1.31	1 (10%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '2' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
7	TPO	G	11	7	-	6/9/11/13	-
9	SAC	I	1	9	-	1/7/8/10	-
2	FME	O	1	2	-	2/7/9/11	-
1	FME	N	1	1	-	2/7/9/11	-
2	FME	B	1	2	-	2/7/9/11	-
9	SAC	V	1	9	-	5/7/8/10	-
1	FME	A	1	1	-	3/7/9/11	-
7	TPO	T	11	7	-	3/9/11/13	-

The worst 5 of 8 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	I	1	SAC	OAC-C1A	5.09	1.34	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	V	1	SAC	OAC-C1A	4.82	1.34	1.23
2	B	1	FME	O1-CN	-3.58	1.12	1.22
7	T	11	TPO	P-O1P	3.34	1.61	1.50
9	V	1	SAC	CA-N	3.29	1.51	1.46

The worst 5 of 16 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	1	FME	CA-N-CN	-20.41	91.43	122.82
2	B	1	FME	O1-CN-N	4.65	137.52	125.27
7	T	11	TPO	CG2-CB-CA	3.19	119.47	113.16
2	O	1	FME	CG-CB-CA	-2.98	104.68	112.95
1	N	1	FME	C-CA-N	2.97	115.08	109.73

There are no chirality outliers.

5 of 24 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	1	FME	N-CA-CB-CG
2	B	1	FME	O1-CN-N-CA
7	G	11	TPO	N-CA-CB-CG2
7	G	11	TPO	N-CA-CB-OG1
7	G	11	TPO	C-CA-CB-CG2

There are no ring outliers.

5 monomers are involved in 17 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
7	G	11	TPO	1	0
2	O	1	FME	9	0
2	B	1	FME	2	0
1	A	1	FME	2	0
7	T	11	TPO	3	0

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 56 ligands modelled in this entry, 10 are monoatomic - leaving 46 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
23	PSC	N	610	-	51,51,51	1.24	3 (5%)	57,59,59	1.26	4 (7%)
24	PEK	G	102	-	52,52,52	1.12	2 (3%)	55,57,57	1.23	6 (10%)
25	CDL	G	101	-	99,99,99	1.37	12 (12%)	105,111,111	1.29	9 (8%)
14	HEA	A	601	1	57,67,67	1.57	13 (22%)	61,103,103	2.69	23 (37%)
20	TGL	B	301	-	62,62,62	1.30	6 (9%)	65,65,65	1.66	11 (16%)
18	PER	N	606[A]	15,14	0,1,1	-	-	-	-	-
19	PGV	N	607	-	50,50,50	1.03	2 (4%)	53,56,56	1.31	8 (15%)
19	PGV	P	301	-	50,50,50	1.06	2 (4%)	53,56,56	1.19	5 (9%)
19	PGV	C	308	-	50,50,50	1.18	2 (4%)	53,56,56	1.21	4 (7%)
19	PGV	P	304	-	50,50,50	0.97	2 (4%)	53,56,56	1.04	1 (1%)
27	DMU	Z	101	-	34,34,34	0.75	1 (2%)	45,45,45	1.84	11 (24%)
20	TGL	Y	101	-	62,62,62	1.38	6 (9%)	65,65,65	1.54	11 (16%)
14	HEA	N	602	18,1	57,67,67	1.72	10 (17%)	61,103,103	1.75	17 (27%)
25	CDL	T	102	-	99,99,99	1.35	12 (12%)	105,111,111	1.34	12 (11%)
14	HEA	A	602	18,1	57,67,67	1.88	17 (29%)	61,103,103	2.61	24 (39%)
21	CUA	O	301	2	0,1,1	-	-	-	-	-
22	CHD	P	306	-	32,32,32	0.88	1 (3%)	51,51,51	2.44	19 (37%)
24	PEK	C	302	-	52,52,52	1.00	2 (3%)	55,57,57	1.12	6 (10%)
22	CHD	P	307	-	32,32,32	1.32	4 (12%)	51,51,51	1.40	8 (15%)
24	PEK	P	303	-	52,52,52	1.08	3 (5%)	55,57,57	1.47	6 (10%)
21	CUA	B	302	2	0,1,1	-	-	-	-	-
22	CHD	W	101	-	32,32,32	0.82	0	51,51,51	3.04	17 (33%)
22	CHD	J	101	-	32,32,32	0.70	0	51,51,51	2.62	25 (49%)
22	CHD	C	305	-	32,32,32	0.79	0	51,51,51	2.00	18 (35%)
22	CHD	B	303	-	32,32,32	1.42	4 (12%)	51,51,51	1.92	13 (25%)
27	DMU	M	101	-	34,34,34	0.67	0	45,45,45	2.34	13 (28%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
25	CDL	P	305	-	99,99,99	1.40	15 (15%)	105,111,111	1.38	12 (11%)
22	CHD	G	103	-	32,32,32	1.52	5 (15%)	51,51,51	2.48	18 (35%)
20	TGL	N	609	-	62,62,62	1.34	6 (9%)	65,65,65	1.59	9 (13%)
22	CHD	C	306	-	32,32,32	1.18	3 (9%)	51,51,51	1.77	12 (23%)
14	HEA	N	601	1	57,67,67	1.53	10 (17%)	61,103,103	2.01	19 (31%)
18	PER	A	606[B]	15	0,1,1	-	-	-	-	-
19	PGV	C	303	-	50,50,50	0.95	2 (4%)	53,56,56	1.38	7 (13%)
19	PGV	N	608	-	50,50,50	1.04	2 (4%)	53,56,56	1.48	5 (9%)
23	PSC	B	304	-	51,51,51	1.20	3 (5%)	57,59,59	1.16	4 (7%)
24	PEK	P	308	-	52,52,52	1.14	2 (3%)	55,57,57	1.08	4 (7%)
20	TGL	D	201	-	62,62,62	1.55	7 (11%)	65,65,65	1.62	13 (20%)
24	PEK	T	101	-	52,52,52	1.05	2 (3%)	55,57,57	1.23	4 (7%)
18	PER	A	606[A]	15,14	0,1,1	-	-	-	-	-
25	CDL	C	304	-	99,99,99	1.44	14 (14%)	105,111,111	1.49	12 (11%)
24	PEK	C	307	-	52,52,52	1.10	2 (3%)	55,57,57	1.19	4 (7%)
20	TGL	Q	201	-	62,62,62	1.56	7 (11%)	65,65,65	1.31	11 (16%)
20	TGL	L	101	-	62,62,62	1.41	6 (9%)	65,65,65	1.47	10 (15%)
19	PGV	A	607	-	50,50,50	1.13	4 (8%)	53,56,56	1.29	5 (9%)
19	PGV	A	608	-	50,50,50	1.22	2 (4%)	53,56,56	1.43	6 (11%)
18	PER	N	606[B]	15	0,1,1	-	-	-	-	-

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
23	PSC	N	610	-	-	26/55/55/55	-
24	PEK	G	102	-	-	31/56/56/56	-
25	CDL	G	101	-	-	77/110/110/110	-
14	HEA	A	601	1	2/2/7/16	7/32/76/76	-
20	TGL	B	301	-	-	32/65/65/65	-
19	PGV	N	607	-	-	29/55/55/55	-
19	PGV	P	301	-	-	30/55/55/55	-
19	PGV	C	308	-	-	33/55/55/55	-
19	PGV	P	304	-	-	12/55/55/55	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
27	DMU	Z	101	-	2/2/10/10	7/19/59/59	0/2/2/2
20	TGL	Y	101	-	-	39/65/65/65	-
14	HEA	N	602	18,1	2/2/7/16	5/32/76/76	-
25	CDL	T	102	-	-	65/110/110/110	-
14	HEA	A	602	18,1	1/1/7/16	7/32/76/76	-
22	CHD	P	306	-	-	8/9/74/74	0/4/4/4
24	PEK	C	302	-	-	17/56/56/56	-
22	CHD	P	307	-	-	2/9/74/74	0/4/4/4
24	PEK	P	303	-	-	27/56/56/56	-
22	CHD	W	101	-	-	7/9/74/74	0/4/4/4
22	CHD	J	101	-	-	7/9/74/74	0/4/4/4
22	CHD	C	305	-	-	6/9/74/74	0/4/4/4
22	CHD	B	303	-	-	2/9/74/74	0/4/4/4
27	DMU	M	101	-	2/2/10/10	7/19/59/59	0/2/2/2
25	CDL	P	305	-	-	58/110/110/110	-
22	CHD	G	103	-	-	2/9/74/74	0/4/4/4
20	TGL	N	609	-	-	37/65/65/65	-
22	CHD	C	306	-	-	1/9/74/74	0/4/4/4
14	HEA	N	601	1	3/3/7/16	6/32/76/76	-
19	PGV	C	303	-	-	19/55/55/55	-
19	PGV	N	608	-	-	12/55/55/55	-
23	PSC	B	304	-	-	35/55/55/55	-
24	PEK	P	308	-	-	37/56/56/56	-
20	TGL	D	201	-	-	38/65/65/65	-
24	PEK	T	101	-	-	25/56/56/56	-
25	CDL	C	304	-	-	64/110/110/110	-
24	PEK	C	307	-	-	37/56/56/56	-
20	TGL	Q	201	-	-	41/65/65/65	-
20	TGL	L	101	-	-	33/65/65/65	-
19	PGV	A	607	-	-	8/55/55/55	-
19	PGV	A	608	-	-	33/55/55/55	-

The worst 5 of 196 bond length outliers are listed below:

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
20	L	101	TGL	OG2-CB1	6.00	1.51	1.34
20	D	201	TGL	OB1-CB1	5.46	1.38	1.22
20	Y	101	TGL	OG2-CB1	5.45	1.49	1.34
19	A	608	PGV	O03-C19	5.43	1.49	1.33
20	Q	201	TGL	OG2-CB1	5.42	1.49	1.34

The worst 5 of 426 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
14	A	601	HEA	C4A-CHB-C1B	11.47	137.69	122.56
22	G	103	CHD	C1-C2-C3	-9.84	97.84	110.47
22	W	101	CHD	C17-C13-C12	9.68	126.50	117.67
22	W	101	CHD	C13-C17-C20	8.74	129.93	119.50
14	A	602	HEA	C4A-CHB-C1B	8.70	134.04	122.56

5 of 12 chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
14	A	601	HEA	NB
14	A	601	HEA	ND
14	A	602	HEA	NB
14	N	601	HEA	NB
14	N	601	HEA	NA

5 of 969 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
14	A	601	HEA	C18-C19-C20-C21
14	A	601	HEA	C27-C19-C20-C21
19	A	608	PGV	C04-O12-P-O13
19	A	608	PGV	C04-O12-P-O14
19	A	608	PGV	C02-C03-O11-P

There are no ring outliers.

40 monomers are involved in 319 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
23	N	610	PSC	21	0
24	G	102	PEK	6	0
25	G	101	CDL	37	0

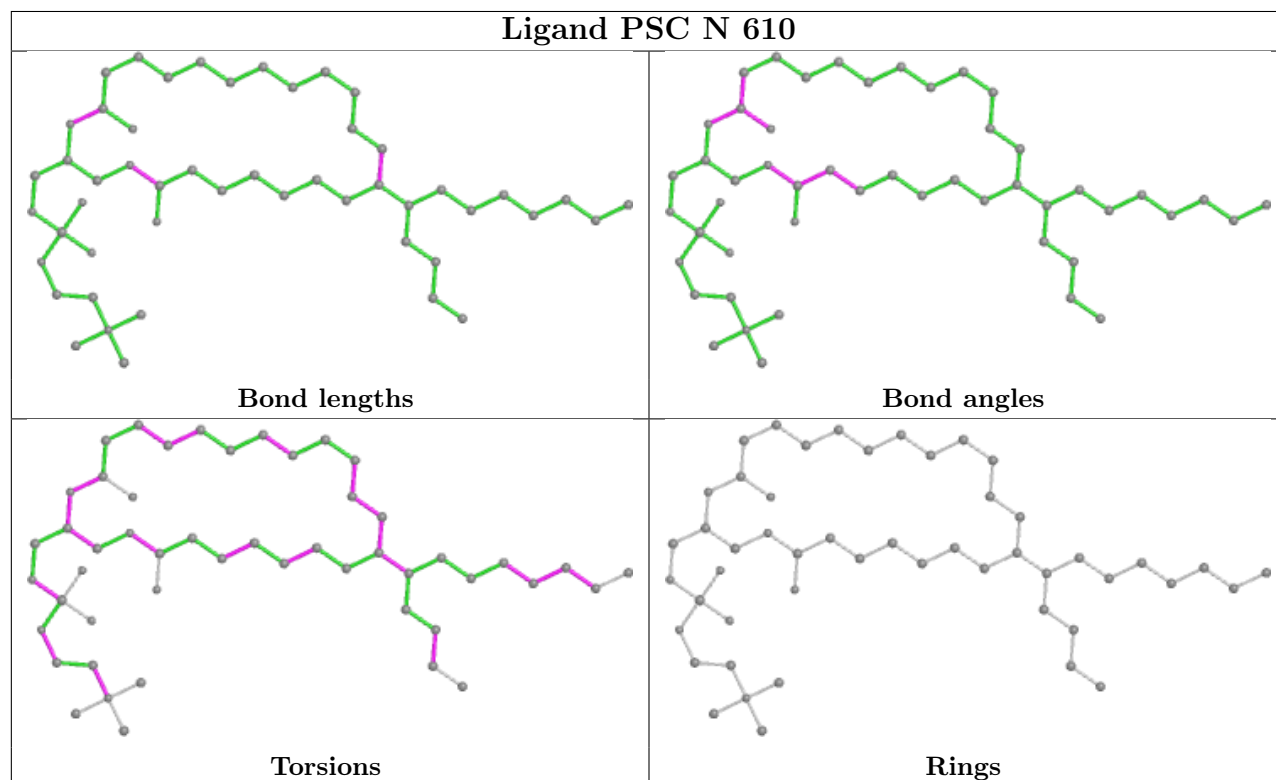
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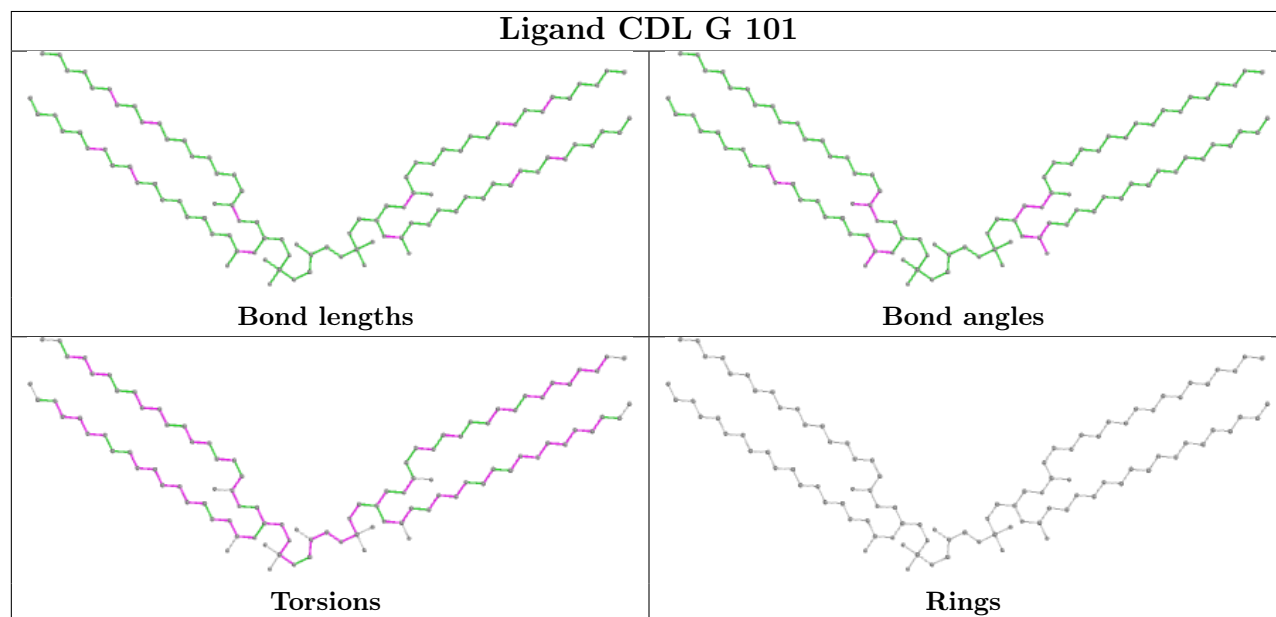
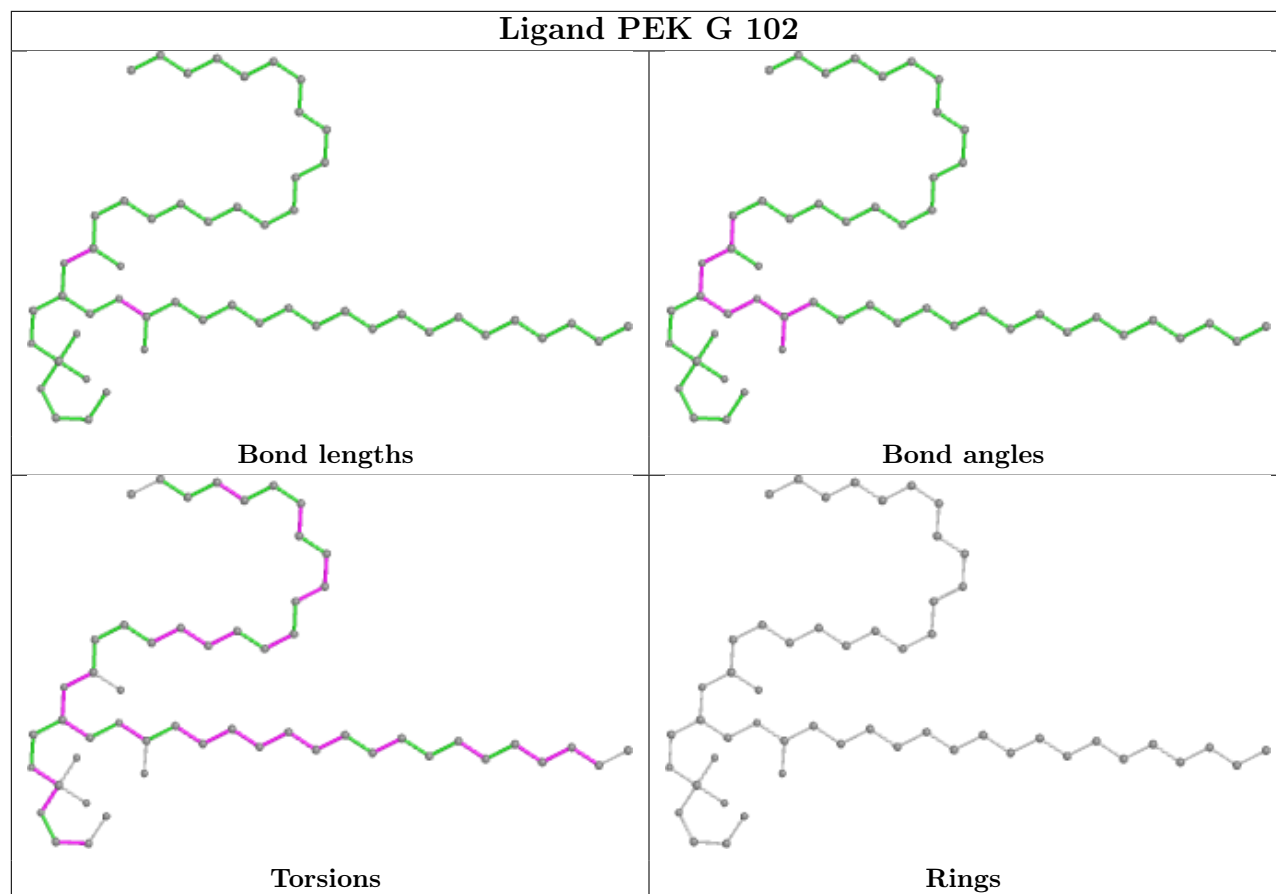
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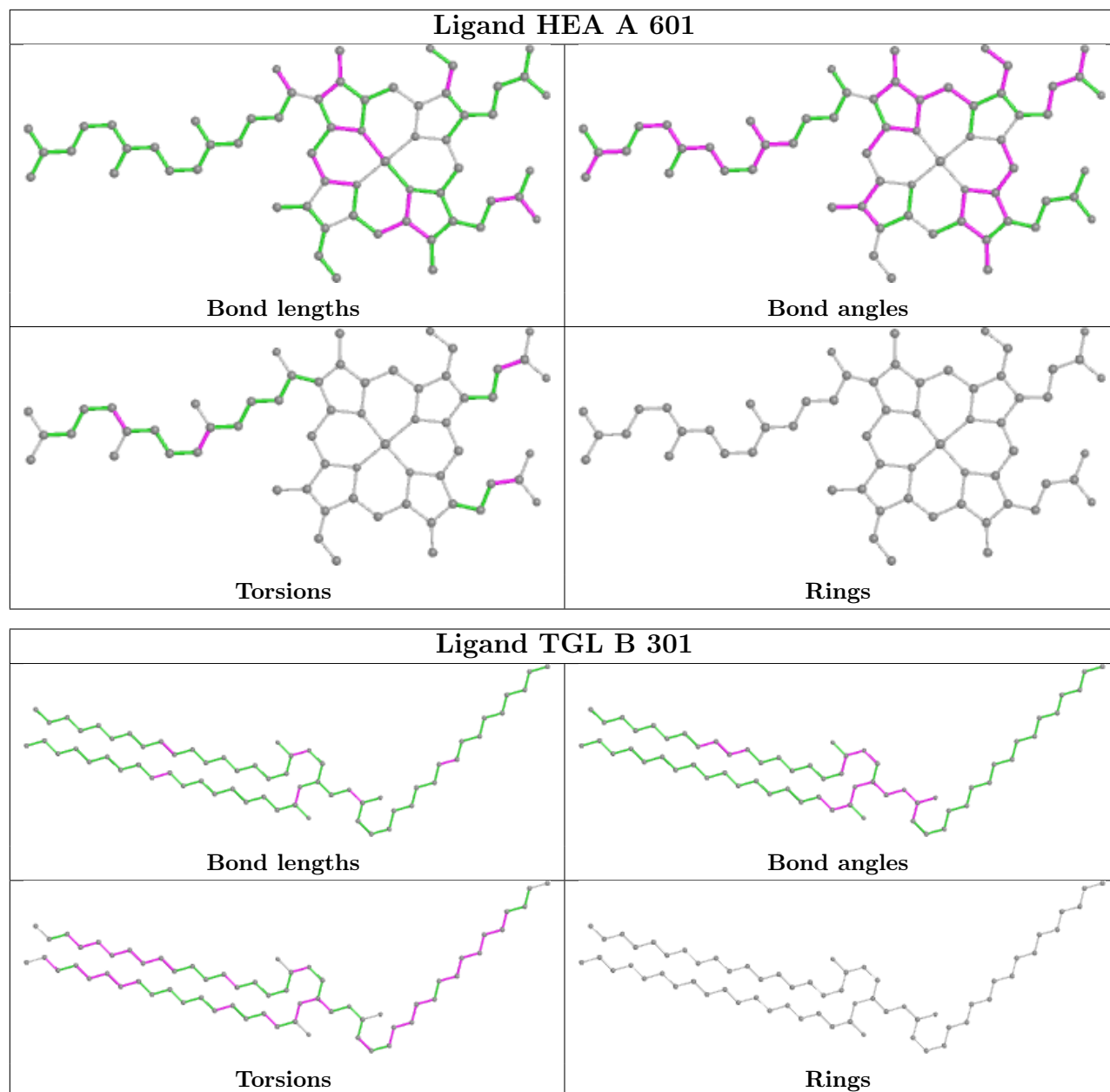
Mol	Chain	Res	Type	Clashes	Symm-Clashes
14	A	601	HEA	7	0
20	B	301	TGL	3	0
18	N	606[A]	PER	1	0
19	N	607	PGV	10	0
19	P	301	PGV	7	0
19	C	308	PGV	1	0
19	P	304	PGV	3	0
20	Y	101	TGL	16	0
14	N	602	HEA	1	0
25	T	102	CDL	29	0
14	A	602	HEA	3	0
22	P	306	CHD	2	0
24	C	302	PEK	6	0
22	P	307	CHD	3	0
24	P	303	PEK	9	0
22	W	101	CHD	5	0
22	J	101	CHD	5	0
22	C	305	CHD	3	0
22	B	303	CHD	1	0
27	M	101	DMU	1	0
25	P	305	CDL	17	0
20	N	609	TGL	4	0
22	C	306	CHD	1	0
14	N	601	HEA	5	0
19	C	303	PGV	4	0
19	N	608	PGV	6	0
23	B	304	PSC	13	0
24	P	308	PEK	13	0
20	D	201	TGL	13	0
24	T	101	PEK	12	0
18	A	606[A]	PER	1	0
25	C	304	CDL	23	0
24	C	307	PEK	17	0
20	Q	201	TGL	11	0
20	L	101	TGL	12	0
19	A	607	PGV	2	0
19	A	608	PGV	8	0

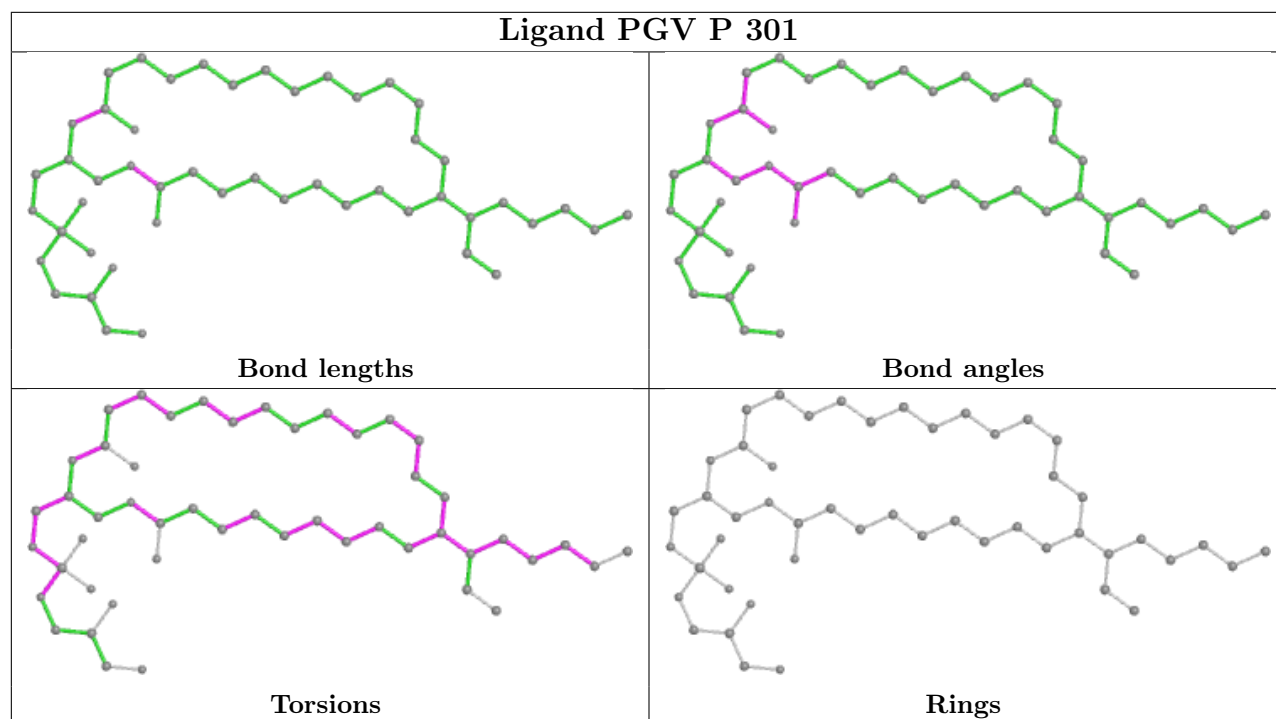
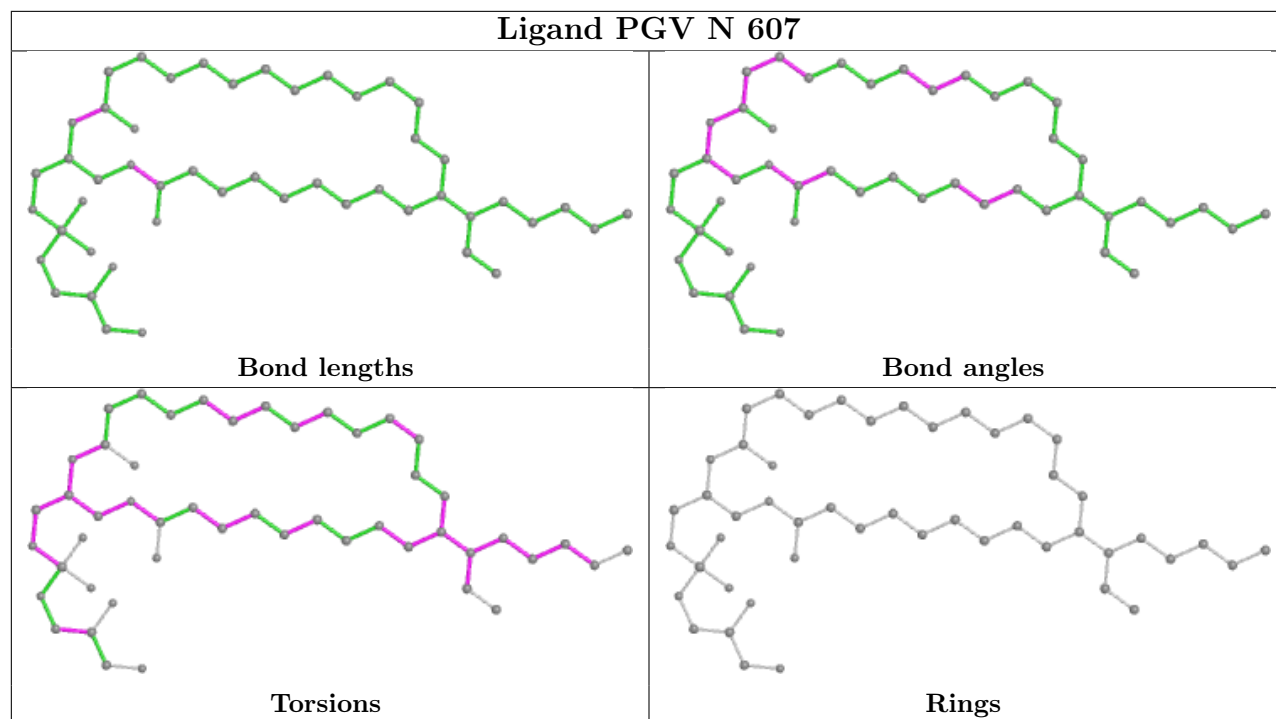
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

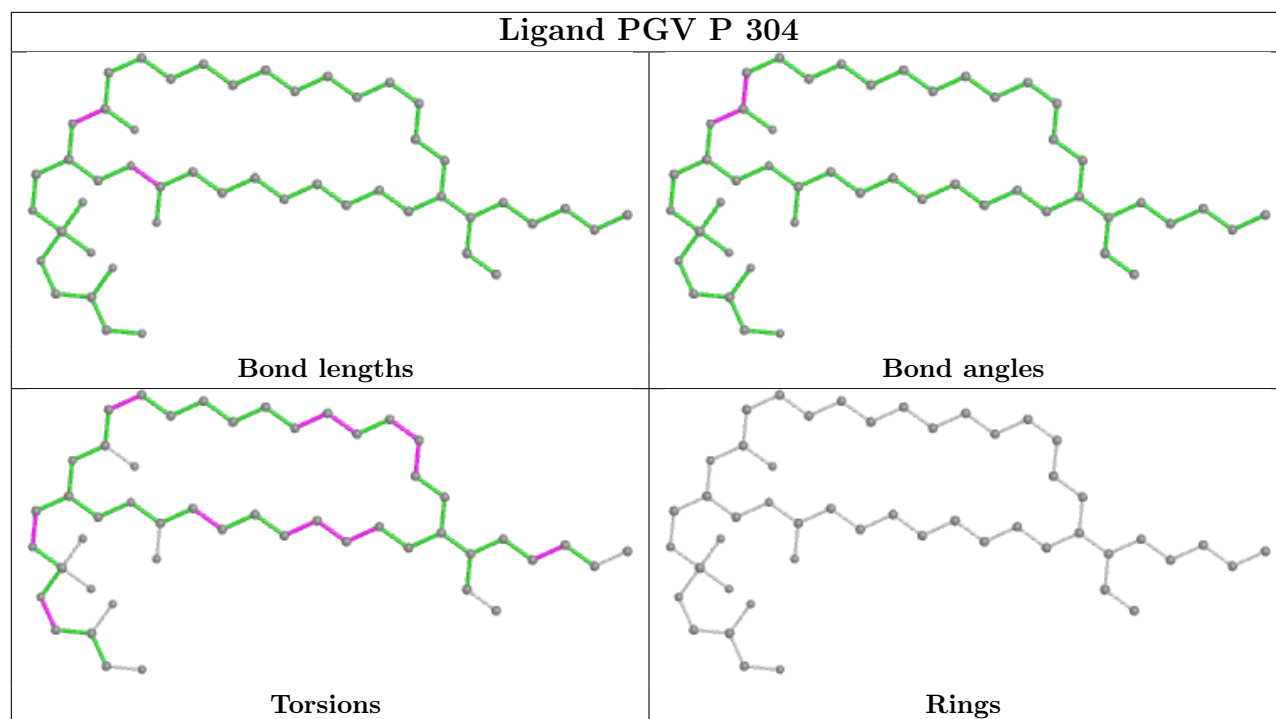
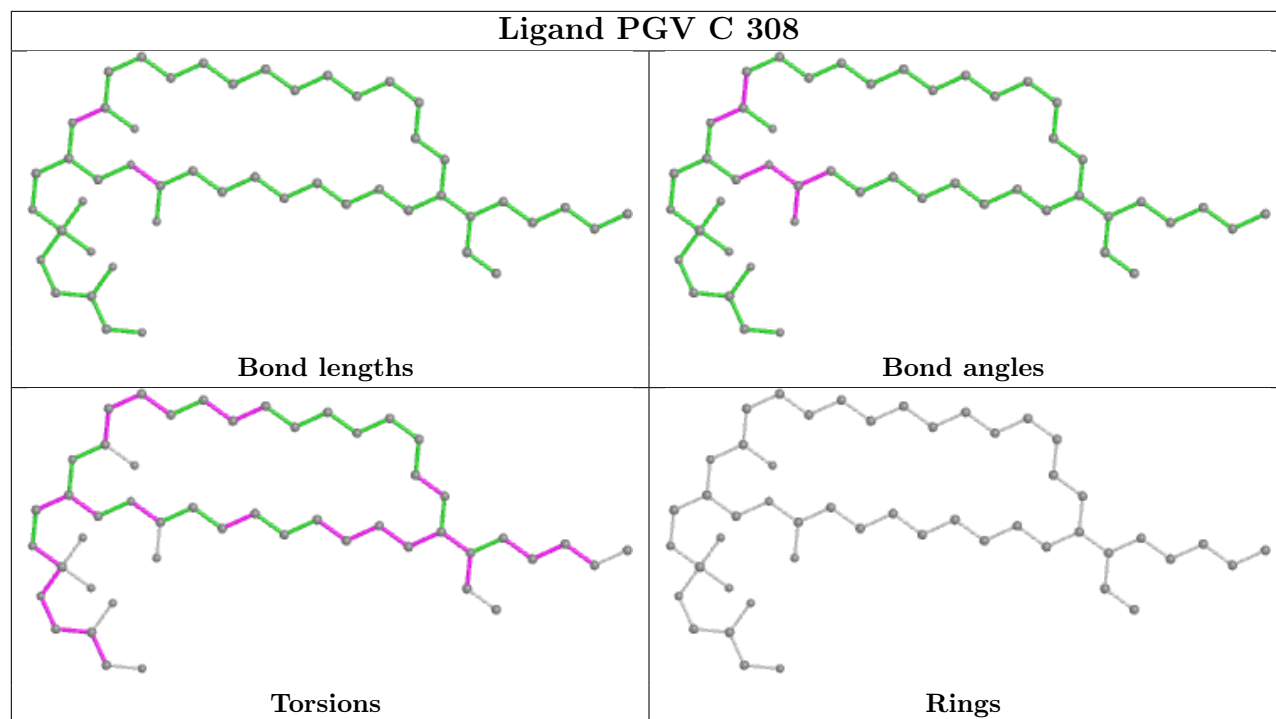
Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD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

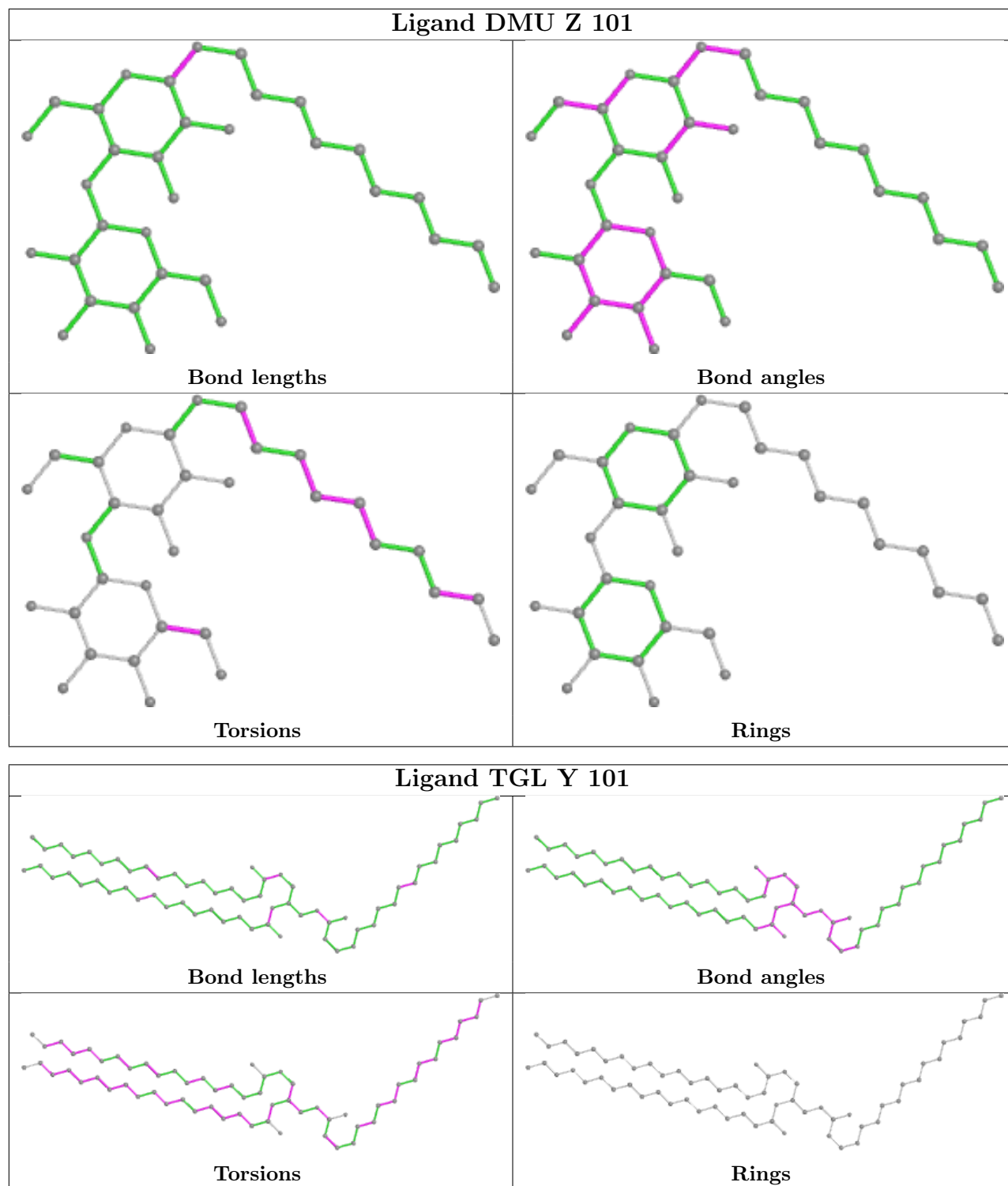


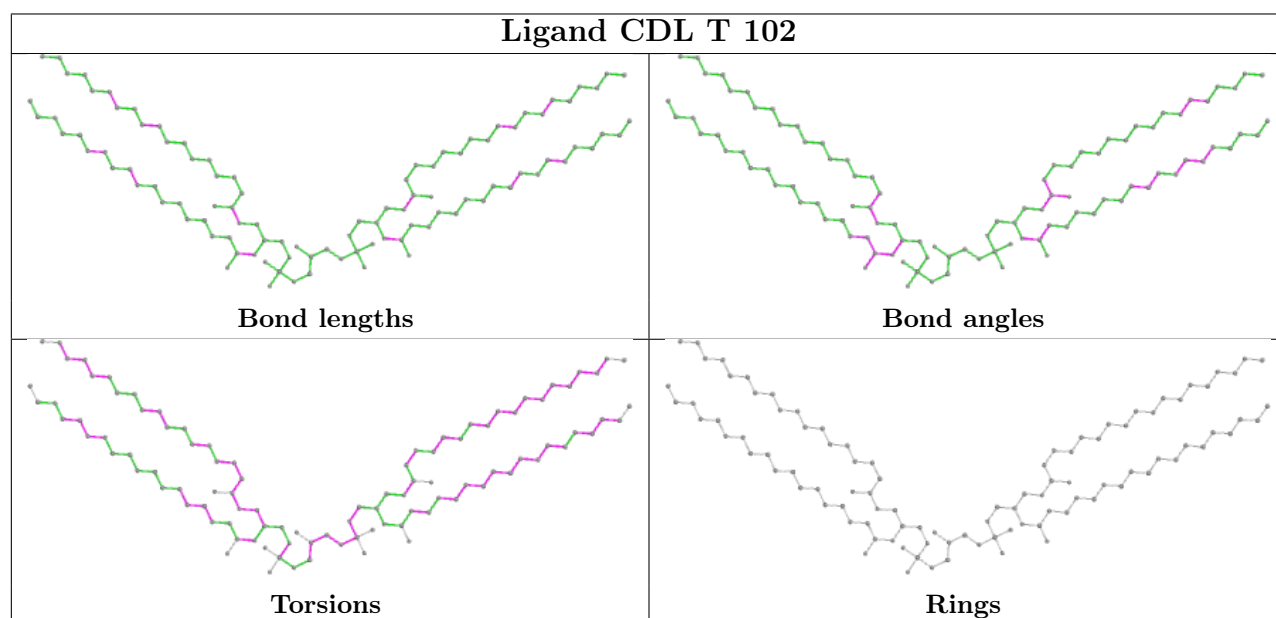
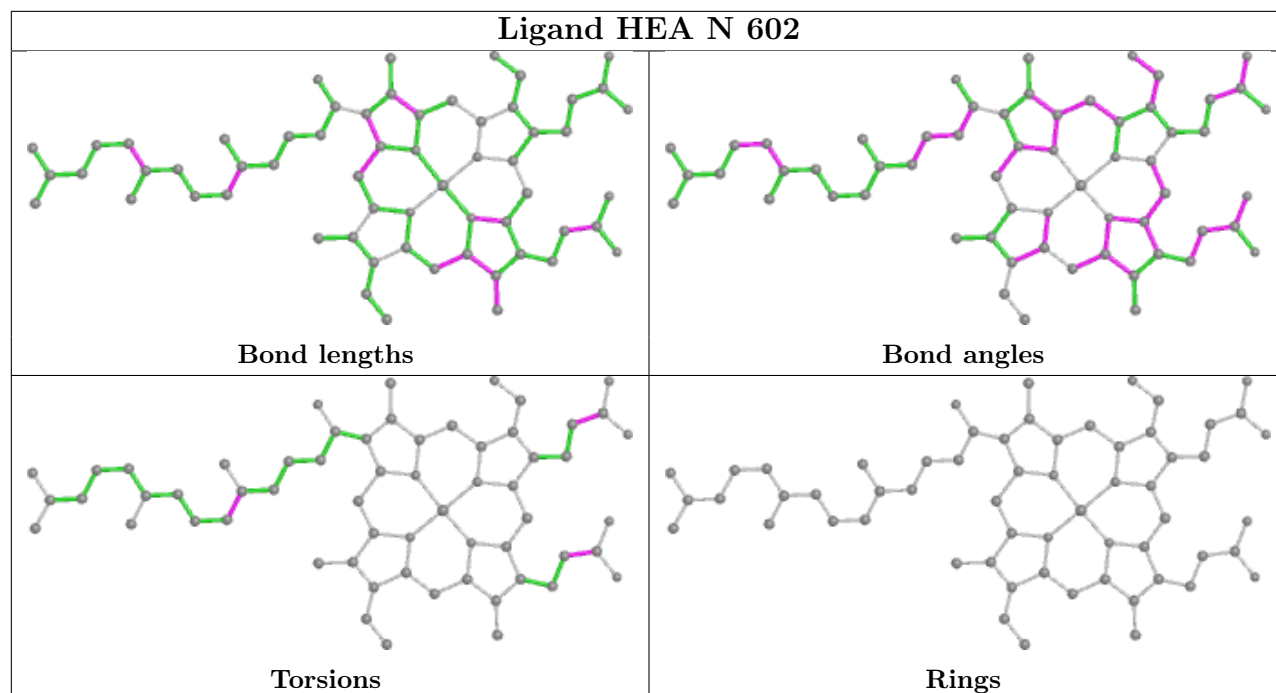


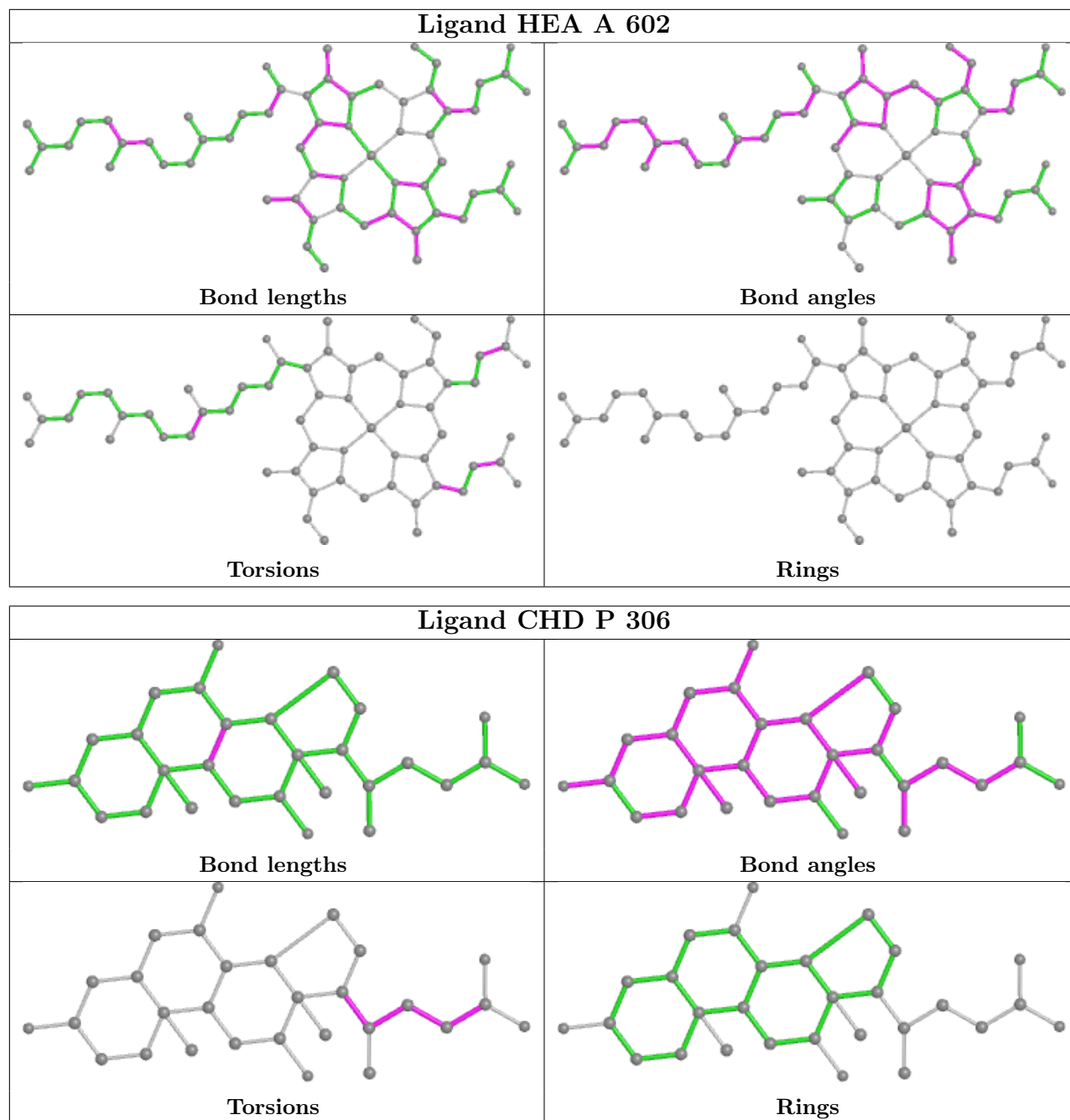


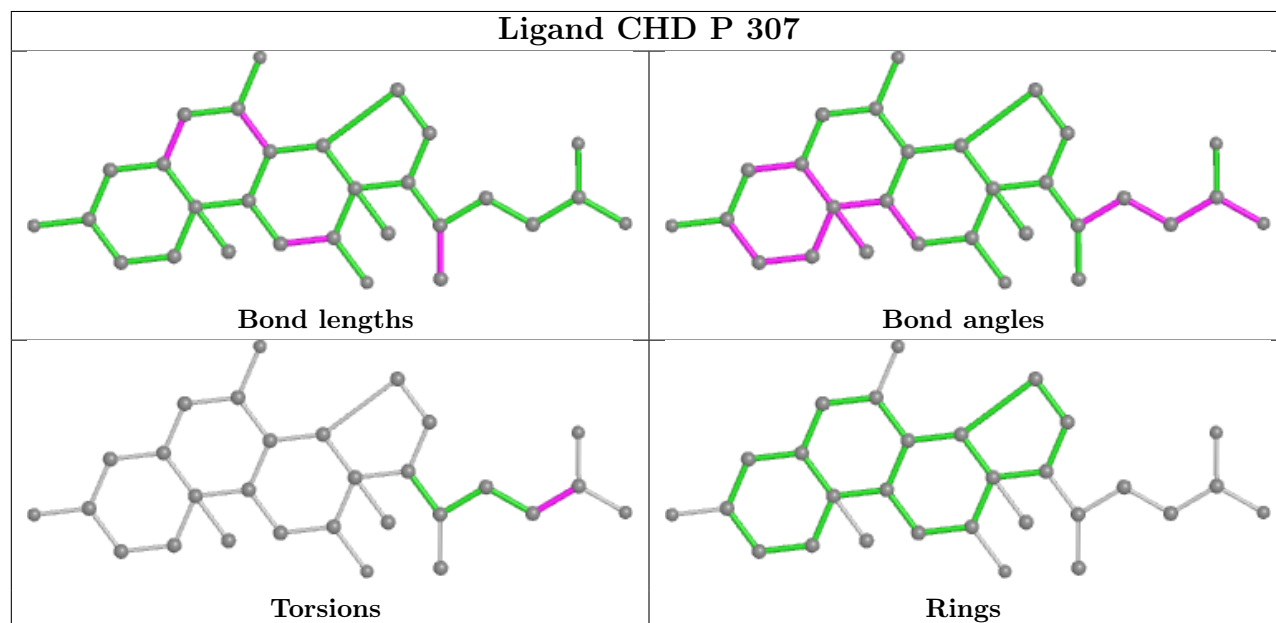
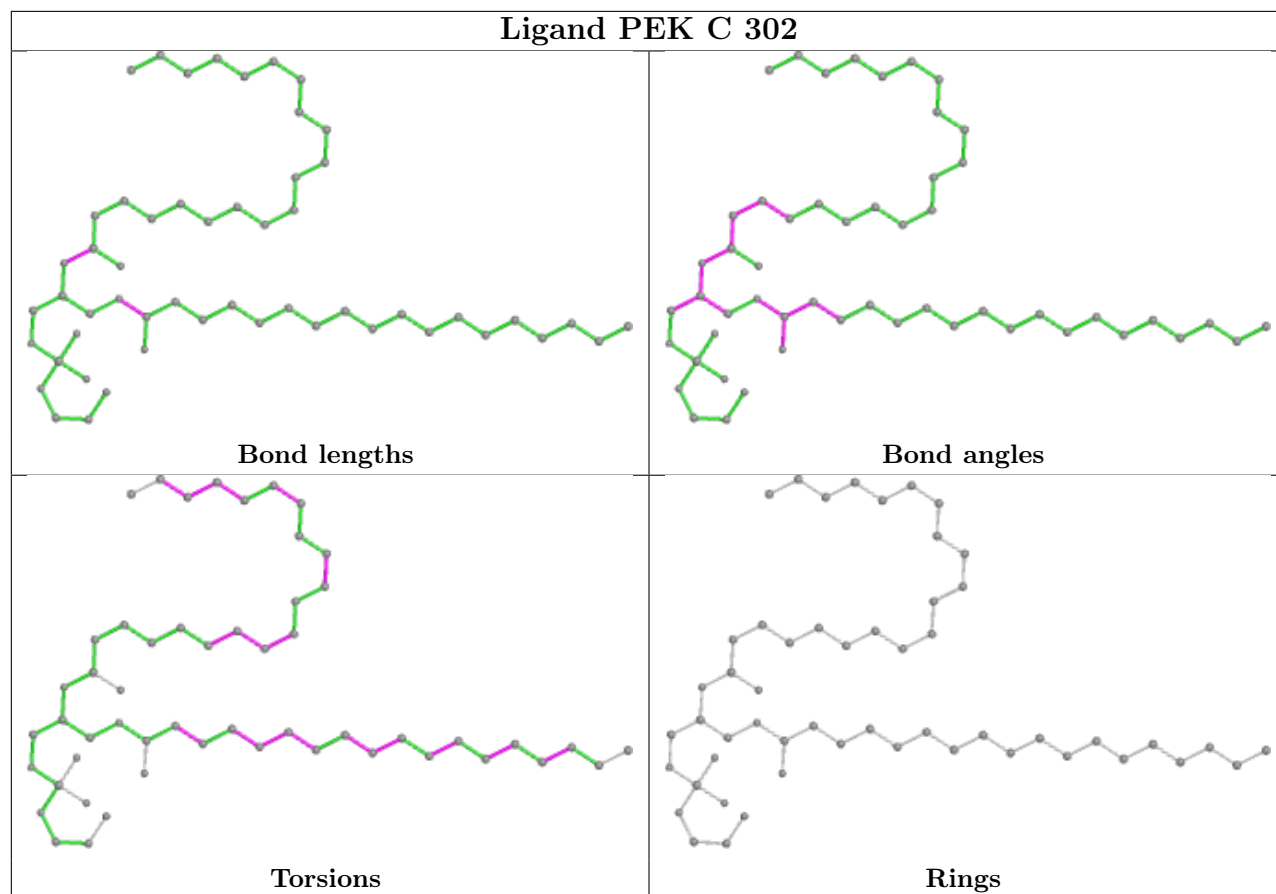


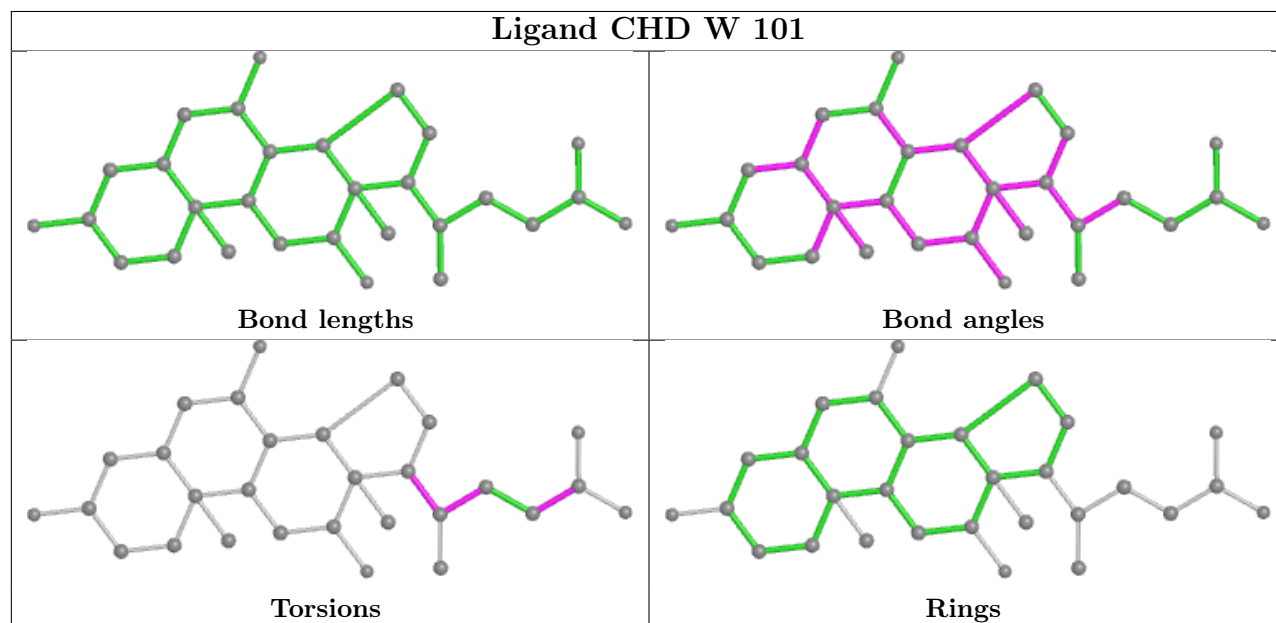
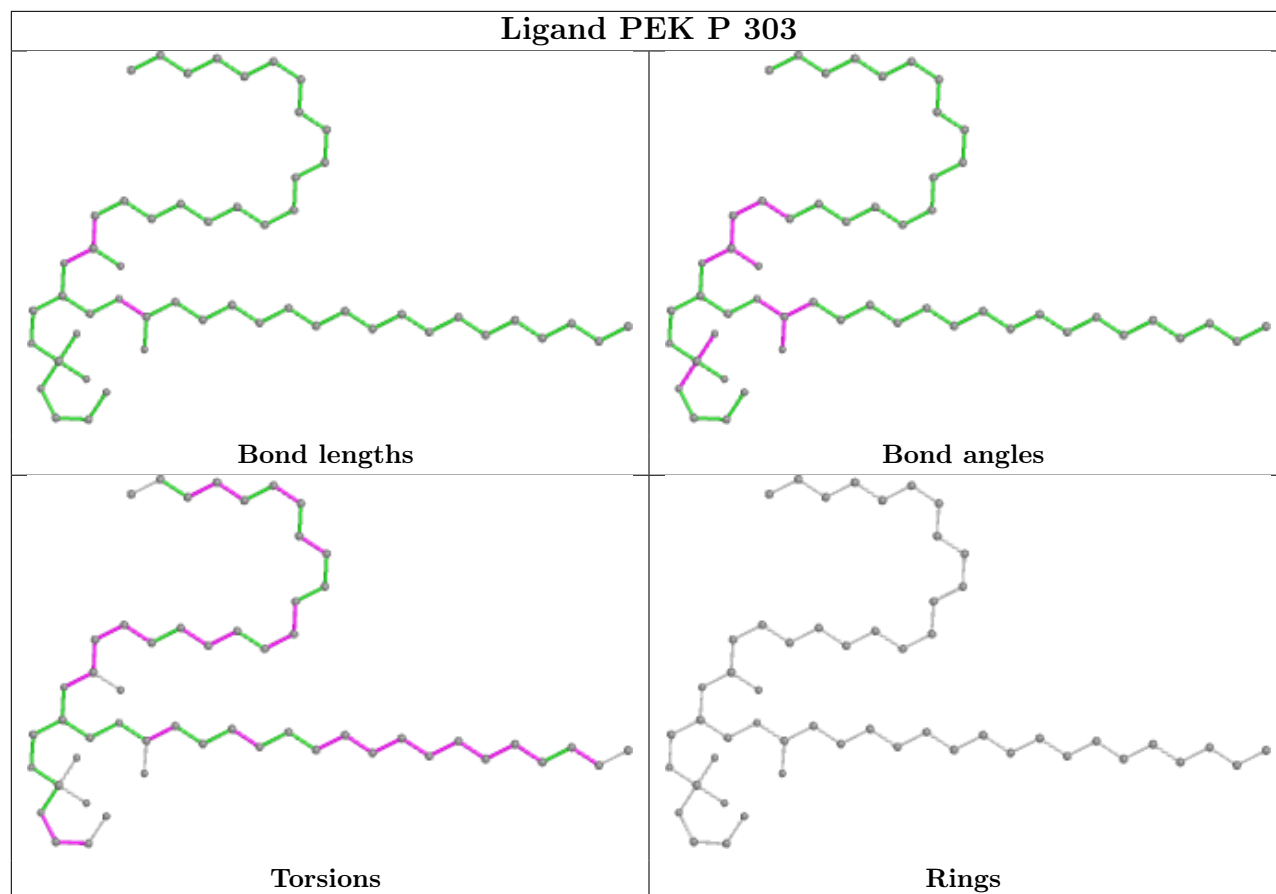


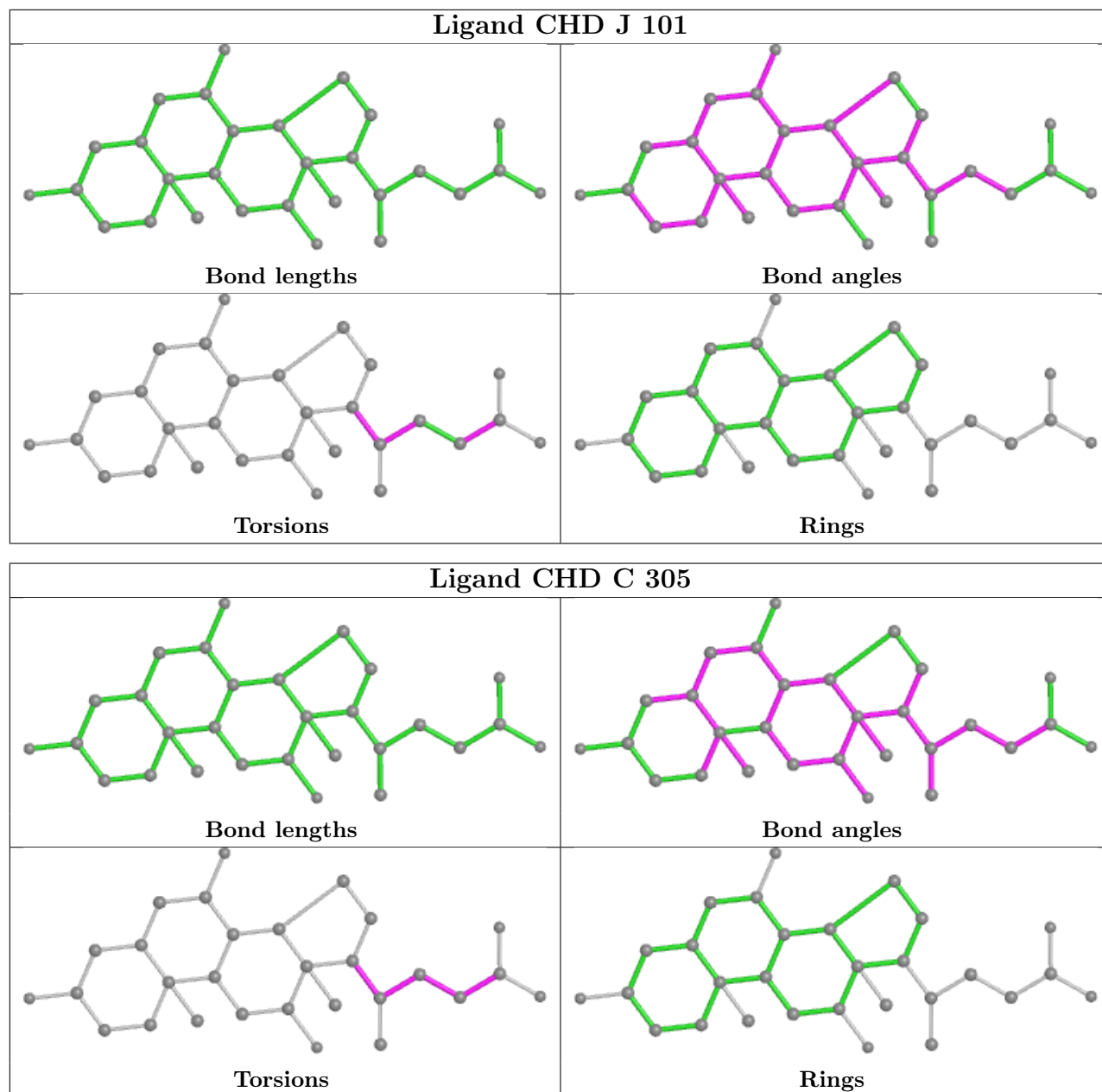


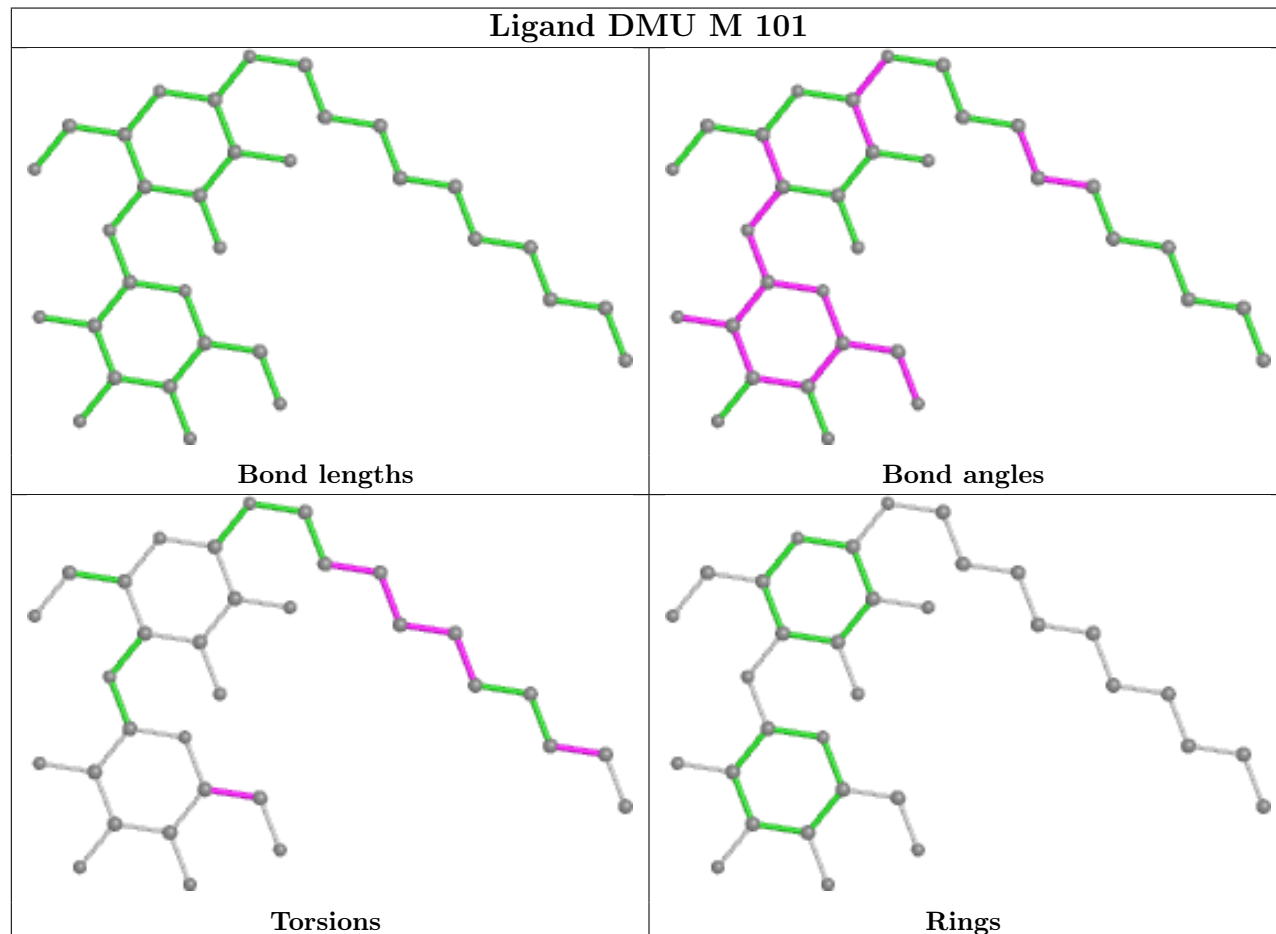
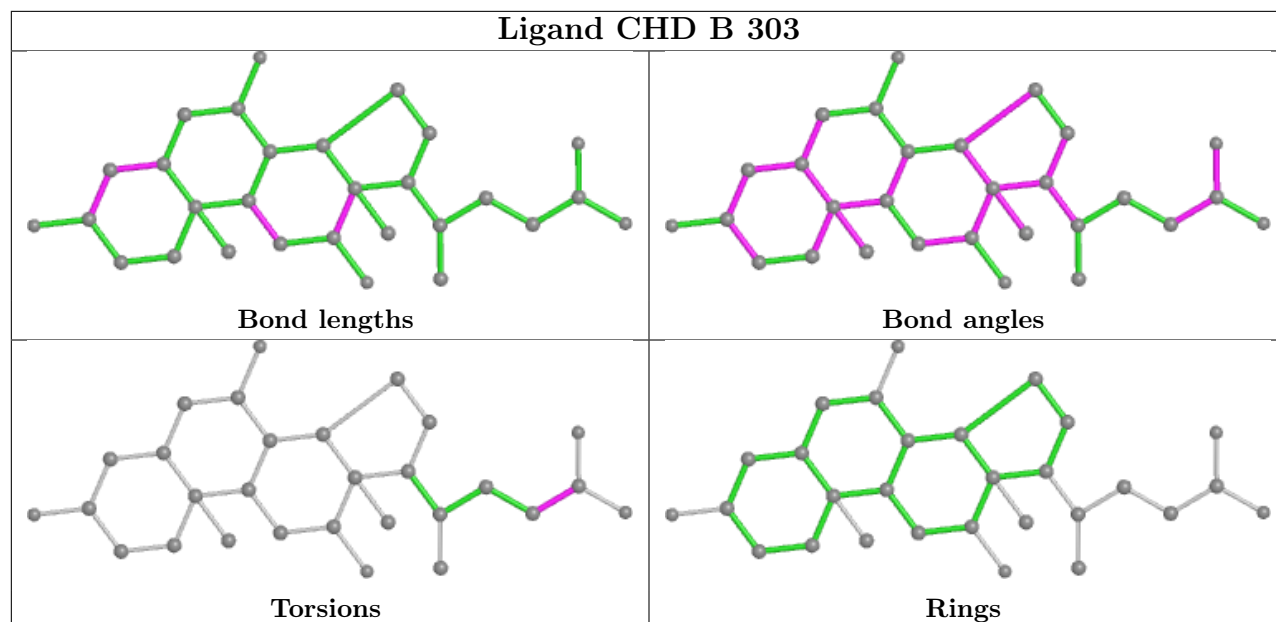


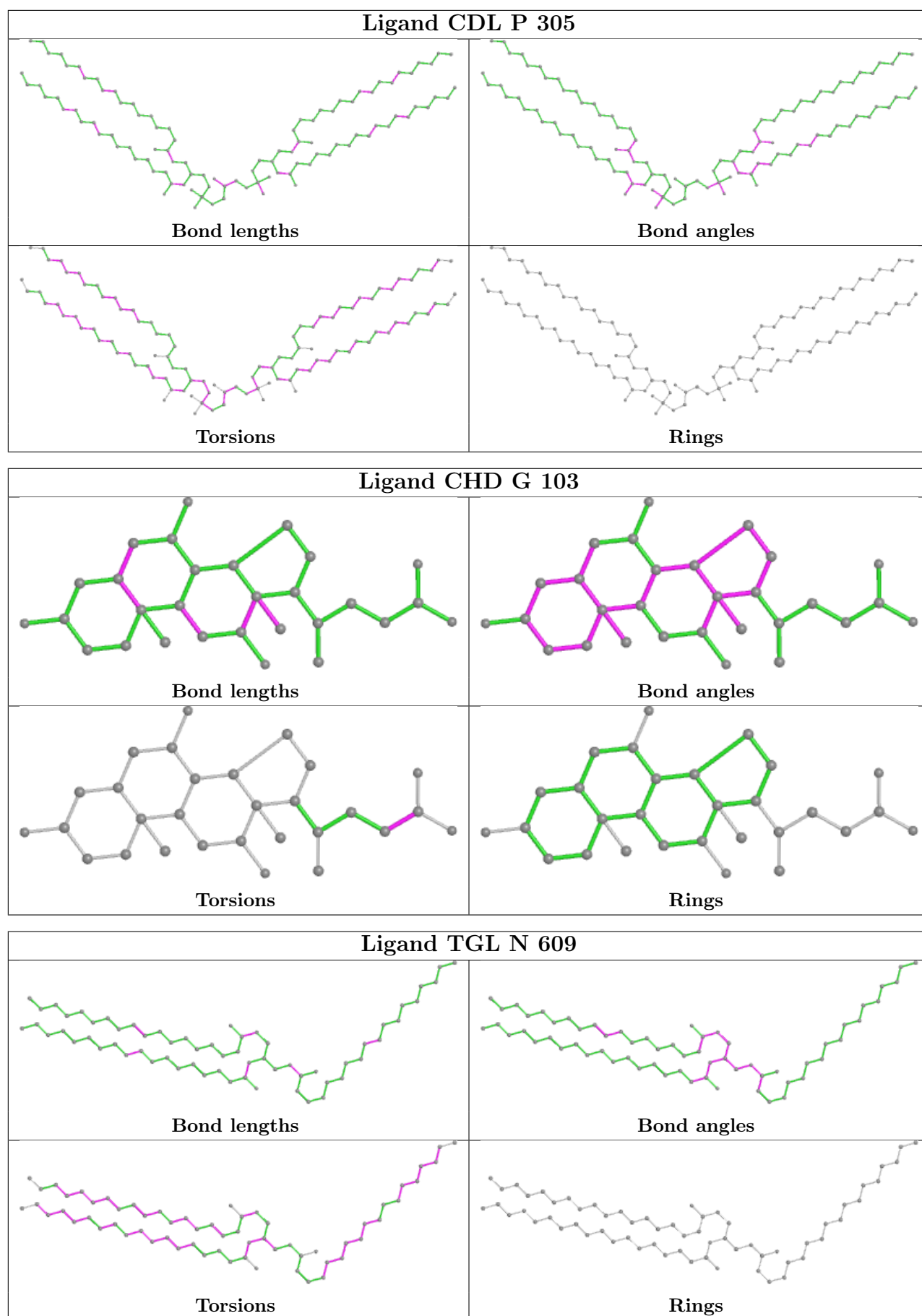


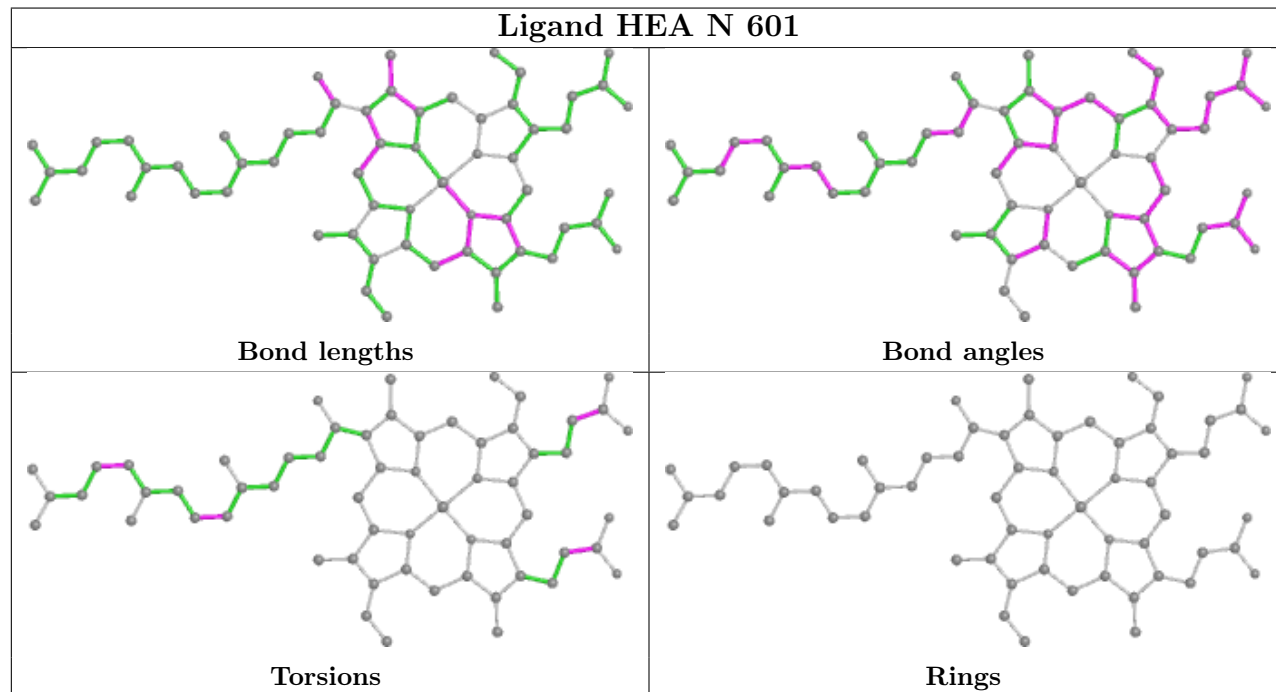
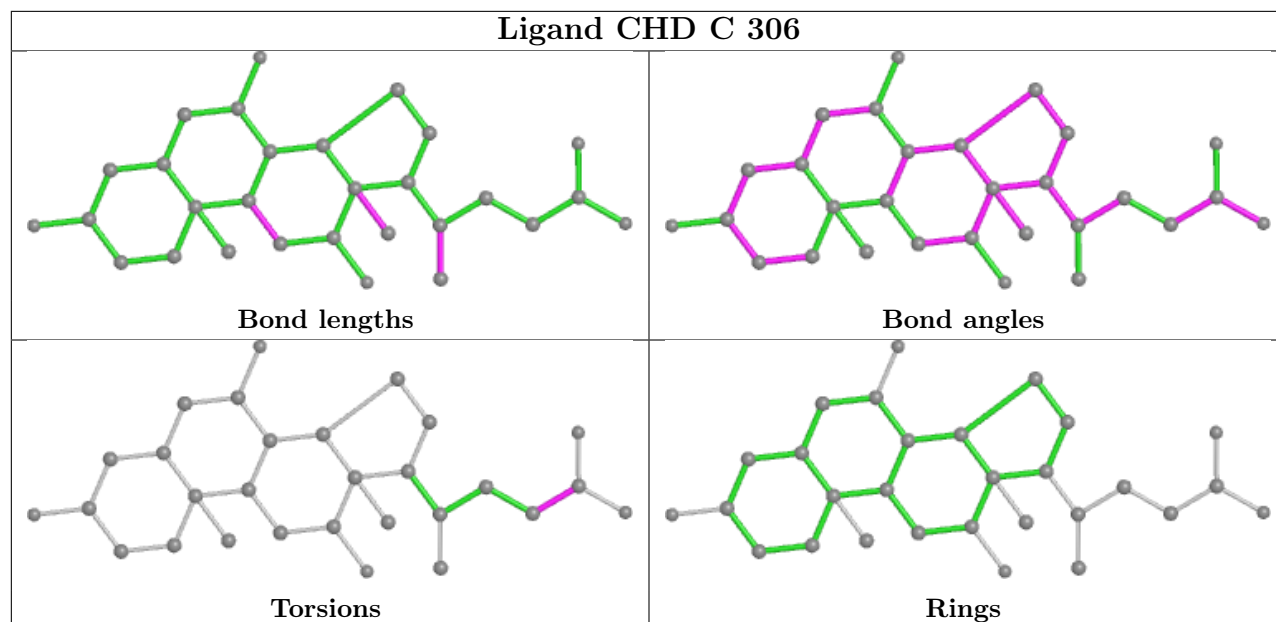


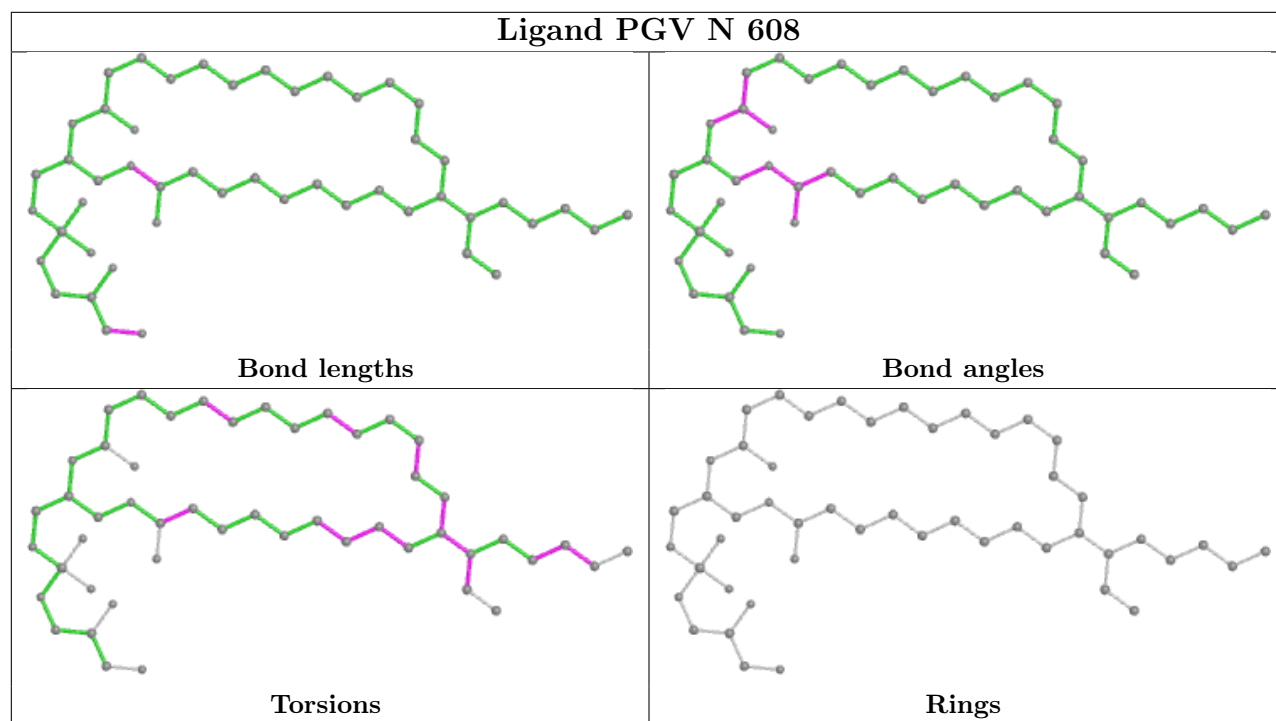
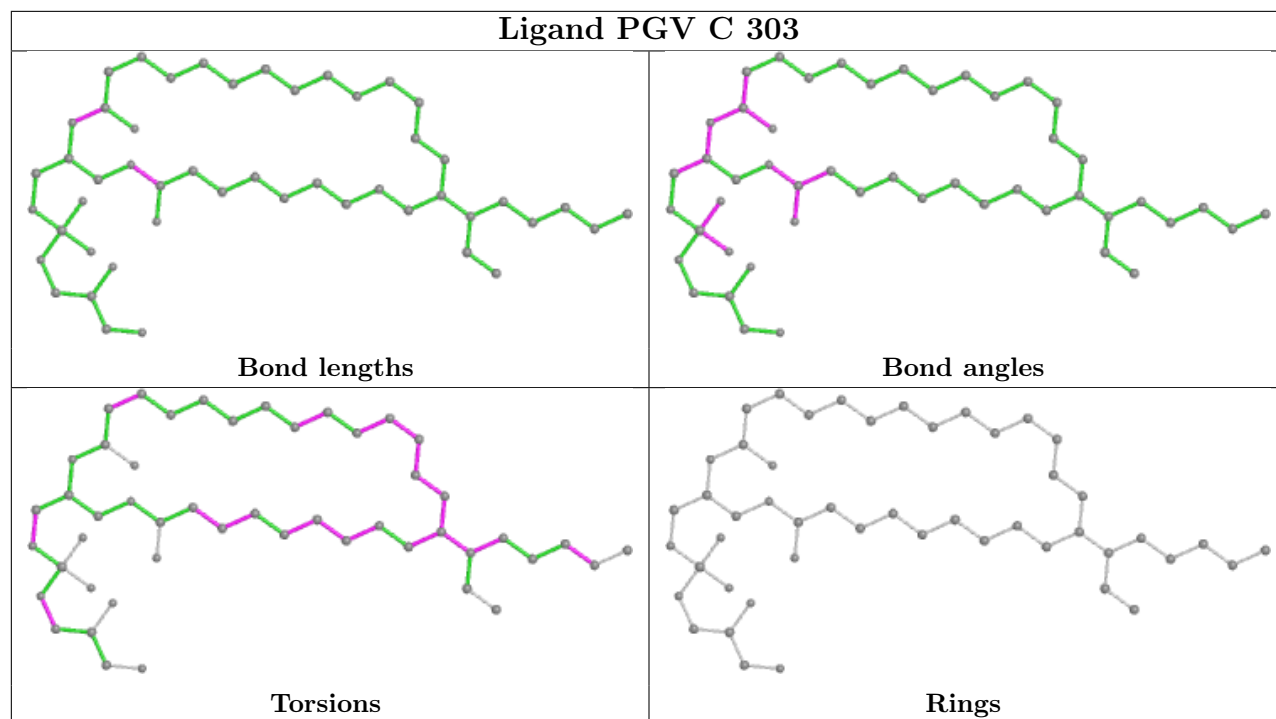


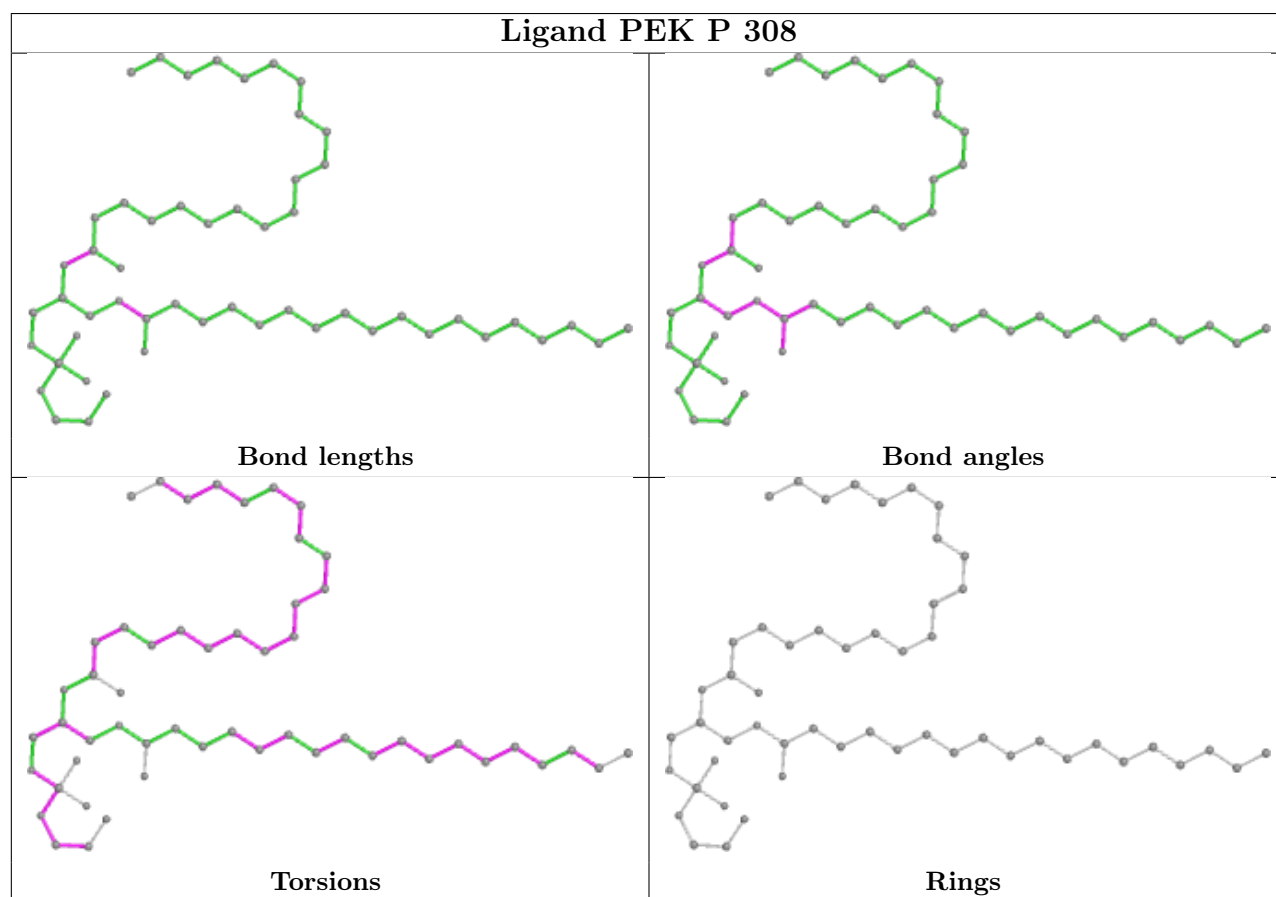
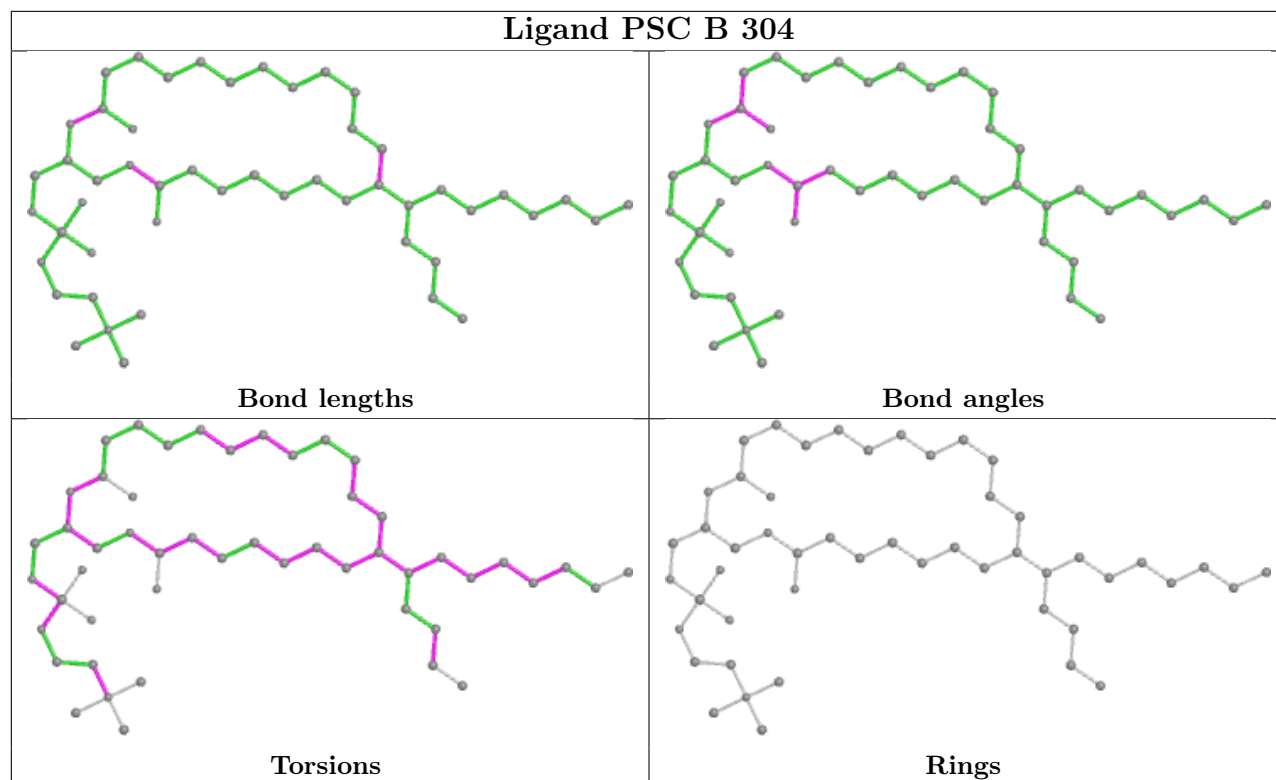


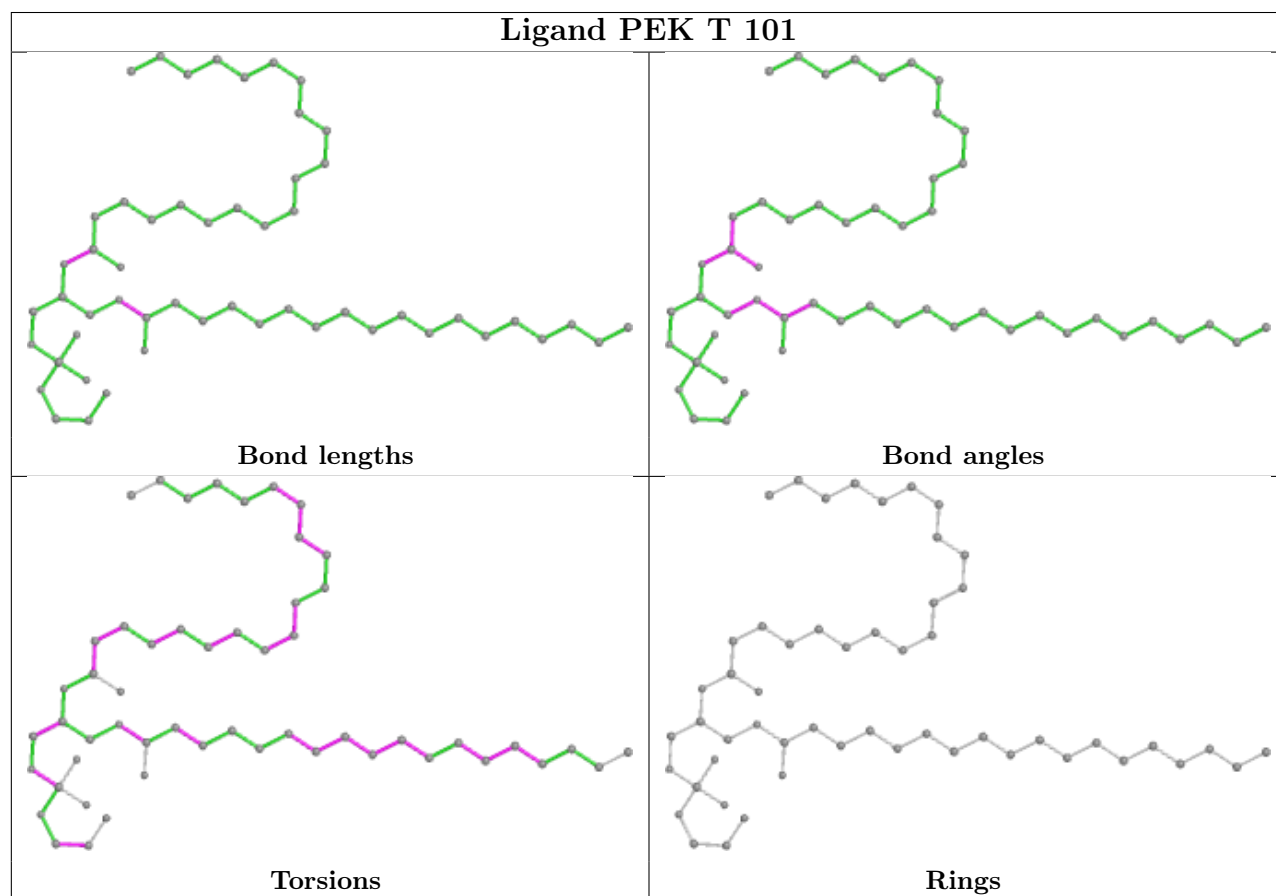
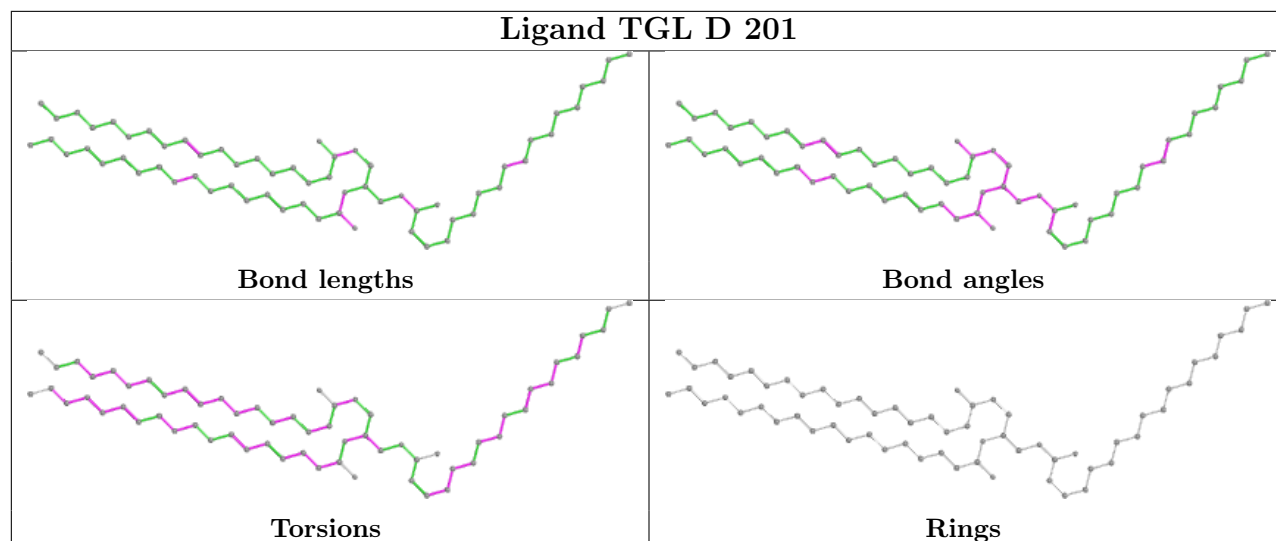


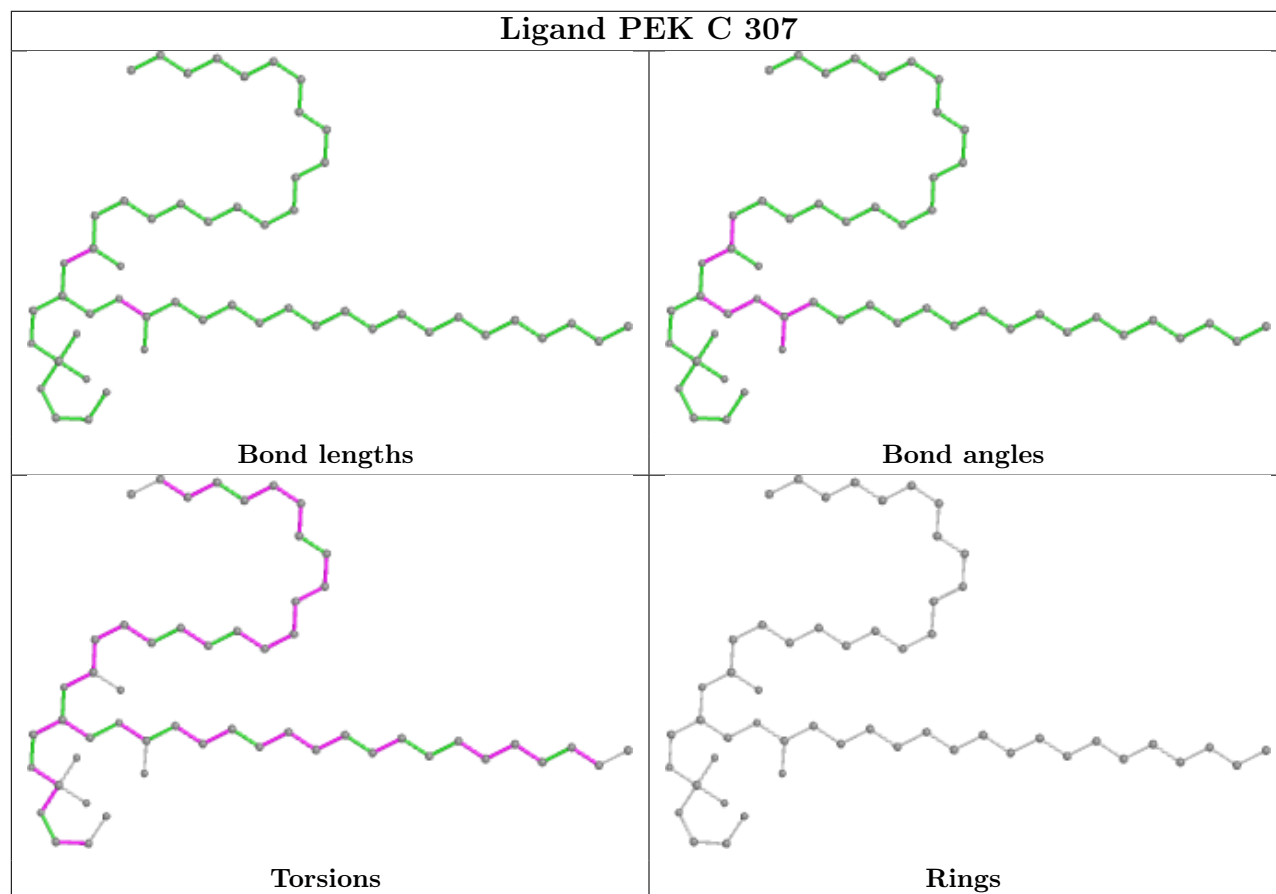
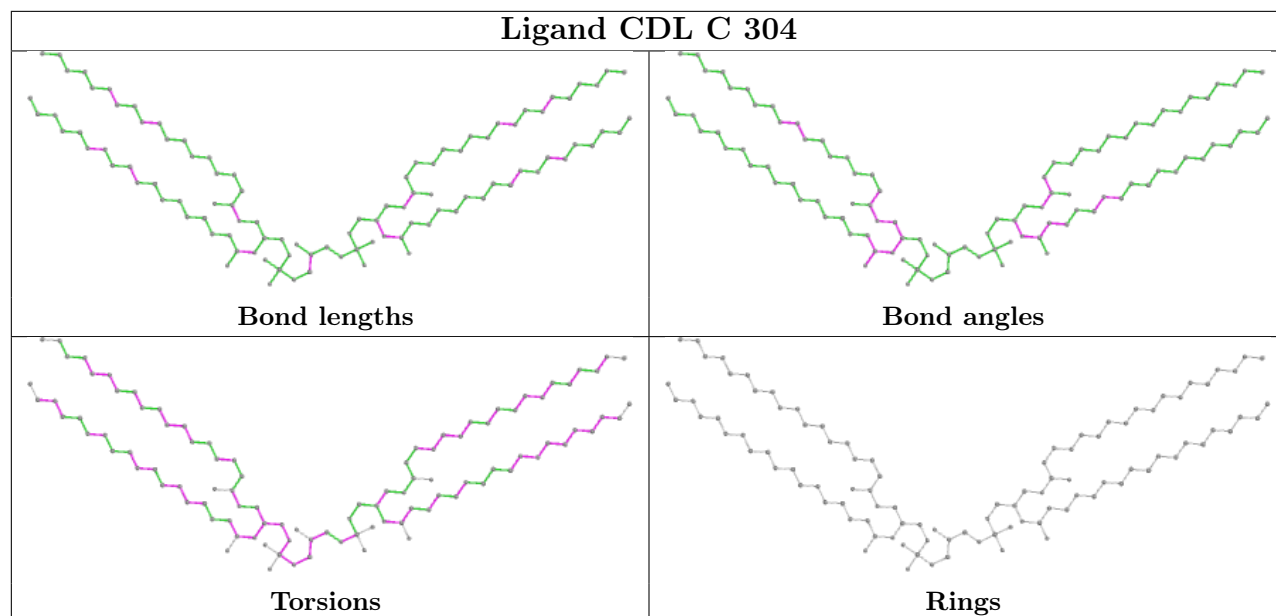


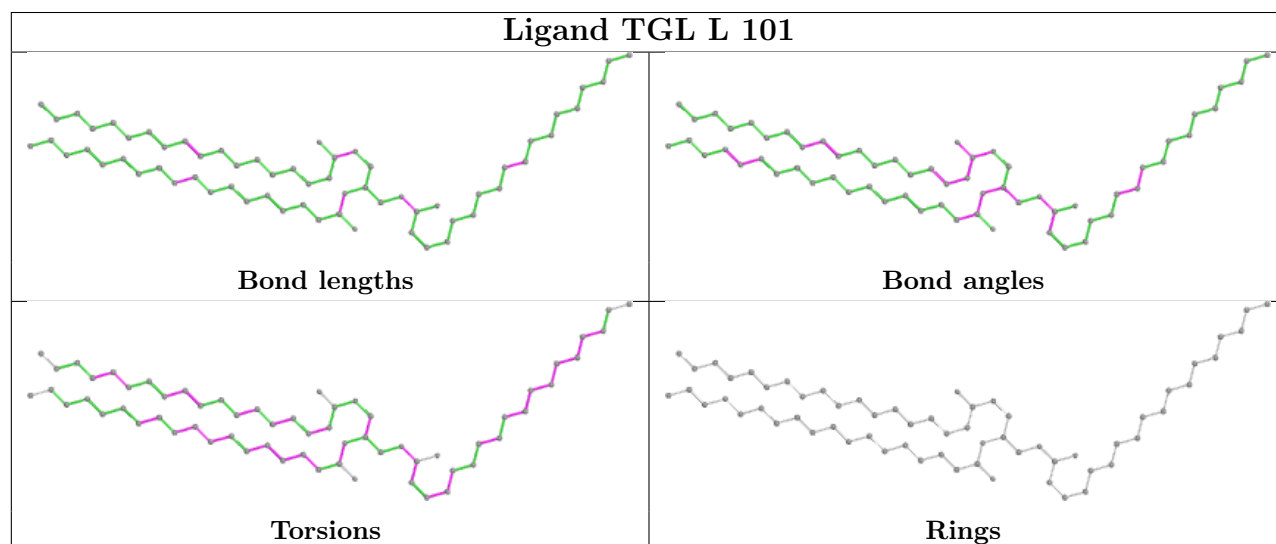
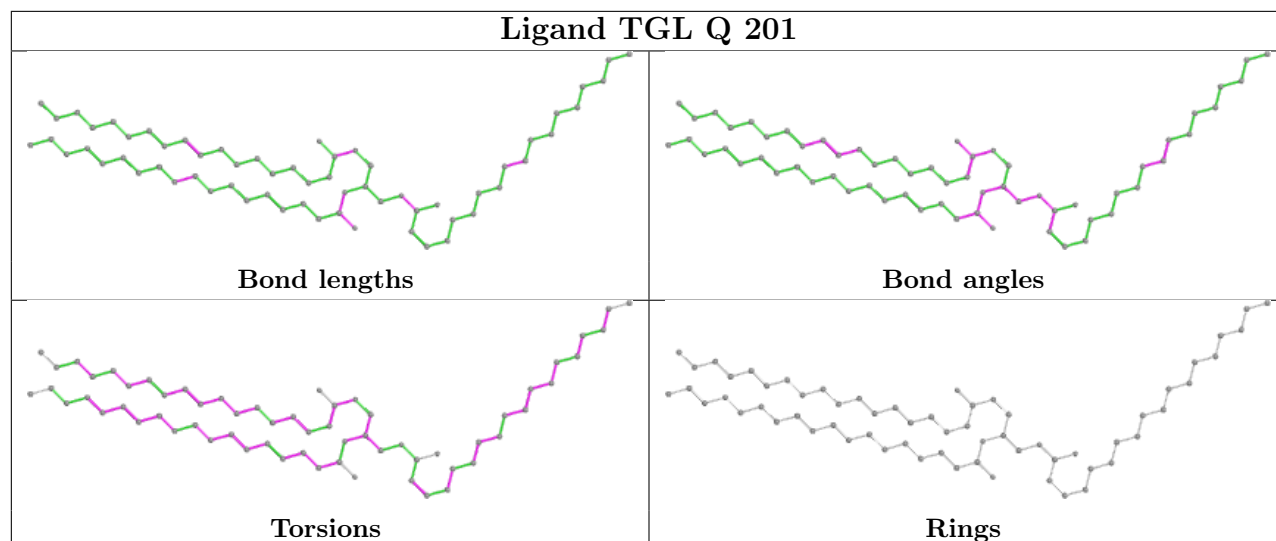


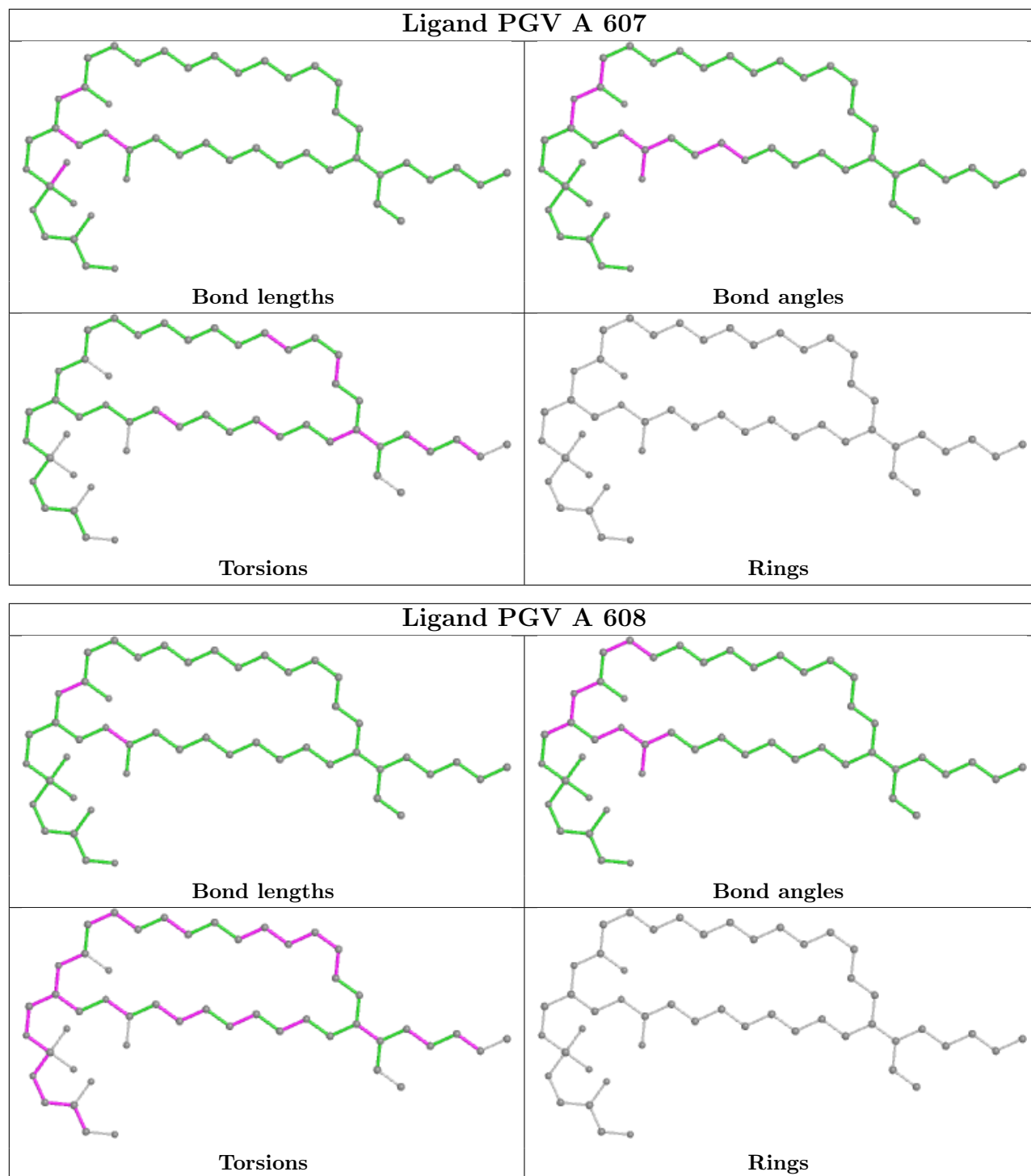












5.7 Other polymers [\(i\)](#)

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

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, 95th 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	513/514 (99%)	0.39	14 (2%) 54 57	12, 15, 22, 51	0
1	N	513/514 (99%)	0.08	7 (1%) 75 77	9, 14, 20, 51	0
2	B	226/227 (99%)	0.30	13 (5%) 23 25	9, 18, 39, 65	0
2	O	226/227 (99%)	0.52	22 (9%) 7 9	11, 17, 41, 62	0
3	C	259/261 (99%)	0.17	8 (3%) 49 51	11, 17, 26, 59	0
3	P	259/261 (99%)	0.12	5 (1%) 66 69	10, 16, 26, 46	0
4	D	144/147 (97%)	0.29	8 (5%) 24 27	12, 18, 35, 57	0
4	Q	144/147 (97%)	1.57	43 (29%) 0 0	13, 23, 48, 106	0
5	E	105/109 (96%)	0.57	13 (12%) 4 4	11, 17, 41, 88	0
5	R	105/109 (96%)	1.06	16 (15%) 2 2	13, 18, 36, 89	0
6	F	98/98 (100%)	0.94	12 (12%) 4 4	15, 23, 68, 118	0
6	S	98/98 (100%)	0.89	14 (14%) 2 2	13, 20, 61, 97	0
7	G	83/85 (97%)	1.19	21 (25%) 0 0	11, 20, 73, 90	0
7	T	83/85 (97%)	1.51	22 (26%) 0 0	10, 20, 77, 101	0
8	H	79/85 (92%)	0.98	13 (16%) 1 1	16, 24, 62, 76	0
8	U	79/85 (92%)	1.33	21 (26%) 0 0	14, 22, 63, 76	0
9	I	72/73 (98%)	1.16	18 (25%) 0 0	15, 26, 53, 63	0
9	V	72/73 (98%)	2.03	32 (44%) 0 0	13, 26, 47, 58	0
10	J	58/59 (98%)	0.73	8 (13%) 2 3	17, 25, 45, 86	0
10	W	58/59 (98%)	1.19	14 (24%) 0 0	13, 22, 51, 91	0
11	K	49/56 (87%)	0.95	6 (12%) 4 4	16, 22, 36, 42	0
11	X	49/56 (87%)	2.14	23 (46%) 0 0	16, 21, 37, 43	0
12	L	46/47 (97%)	0.32	2 (4%) 35 38	15, 19, 37, 64	0
12	Y	46/47 (97%)	0.66	4 (8%) 10 11	12, 19, 38, 70	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
13	M	43/46 (93%)	0.70	8 (18%) 1 1	14, 18, 44, 77	0
13	Z	43/46 (93%)	1.56	12 (27%) 0 0	12, 18, 48, 66	0
All	All	3550/3614 (98%)	0.61	379 (10%) 6 6	9, 17, 43, 118	0

The worst 5 of 379 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
4	Q	5	VAL	16.5
6	F	97	ALA	15.4
6	S	97	ALA	14.7
4	Q	6	VAL	13.8
7	G	10	GLY	12.3

6.2 Non-standard residues in protein, DNA, RNA chains [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, 95th 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
9	SAC	V	1	9/10	0.38	0.69	63,69,72,74	0
7	TPO	T	11	11/12	0.53	0.34	52,69,96,97	0
7	TPO	G	11	11/12	0.59	0.45	65,74,106,115	0
9	SAC	I	1	9/10	0.68	0.47	43,49,64,67	0
1	FME	N	1	10/11	0.93	0.21	18,28,48,58	0
1	FME	A	1	10/11	0.94	0.17	25,33,52,71	0
2	FME	B	1	10/11	0.96	0.15	15,16,24,33	0
2	FME	O	1	10/11	0.97	0.12	15,16,24,24	0

6.3 Carbohydrates [i](#)

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, 95th 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.

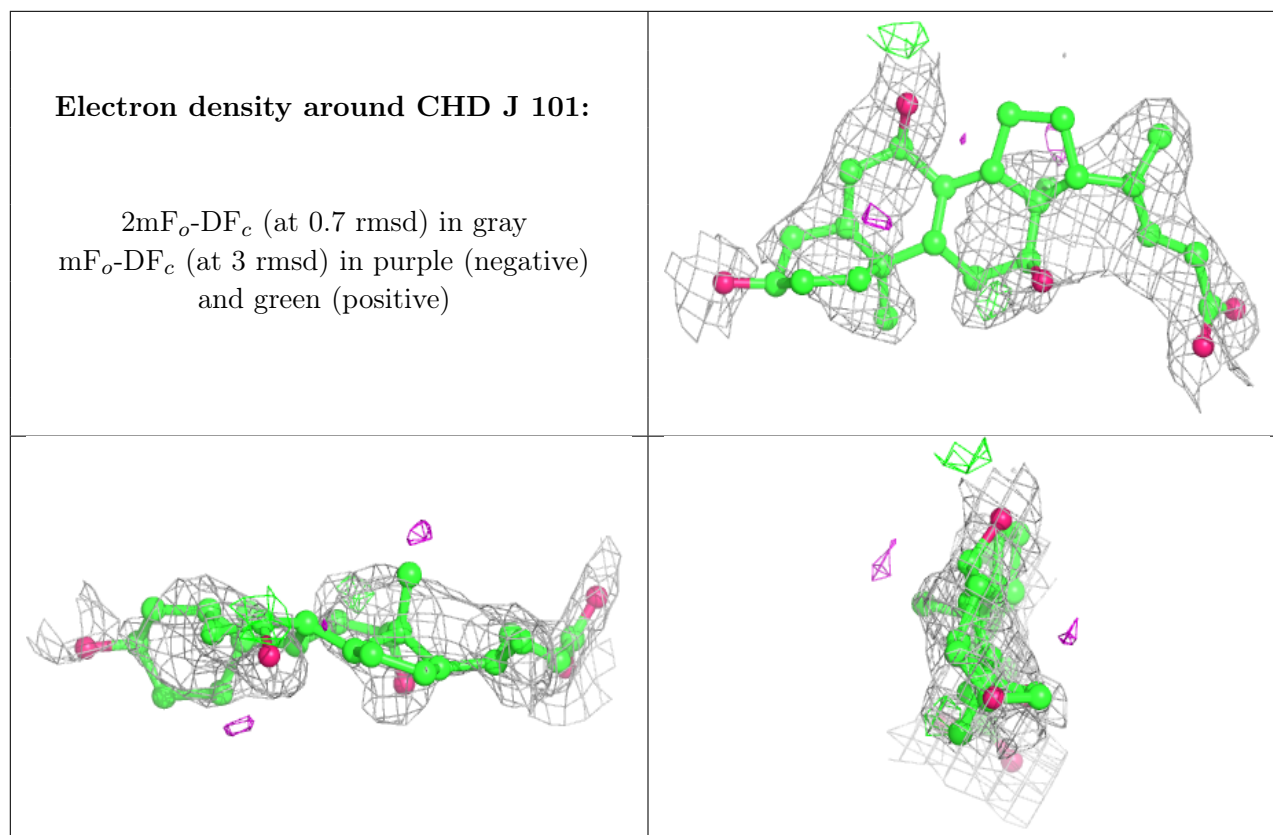
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
22	CHD	J	101	29/29	0.43	0.37	56,93,101,102	0
20	TGL	Y	101	63/63	0.46	0.33	33,49,76,81	0
23	PSC	B	304	52/52	0.48	0.36	36,84,130,137	0
24	PEK	P	308	53/53	0.50	0.27	25,55,100,118	0
20	TGL	L	101	63/63	0.53	0.31	28,44,70,80	0
24	PEK	T	101	53/53	0.54	0.32	36,76,114,118	0
24	PEK	C	307	53/53	0.56	0.24	34,59,94,103	0
24	PEK	G	102	53/53	0.57	0.29	37,71,111,121	0
25	CDL	T	102	100/100	0.57	0.29	31,67,118,128	0
19	PGV	N	607	51/51	0.58	0.29	27,49,103,114	0
22	CHD	W	101	29/29	0.58	0.39	52,82,95,101	0
20	TGL	Q	201	63/63	0.60	0.26	30,47,66,71	0
25	CDL	G	101	100/100	0.63	0.24	34,66,99,138	0
19	PGV	P	301	51/51	0.65	0.25	45,70,102,114	0
19	PGV	A	608	51/51	0.68	0.26	24,51,72,84	0
19	PGV	C	308	51/51	0.68	0.25	34,64,99,101	0
27	DMU	M	101	33/33	0.68	0.22	25,29,39,40	0
23	PSC	N	610	52/52	0.71	0.29	24,61,117,126	0
25	CDL	P	305	100/100	0.71	0.26	28,60,102,116	0
20	TGL	D	201	63/63	0.72	0.21	23,45,66,74	0
27	DMU	Z	101	33/33	0.73	0.27	18,31,34,39	0
25	CDL	C	304	100/100	0.74	0.23	26,59,88,108	0
20	TGL	N	609	63/63	0.74	0.20	31,54,73,76	0
20	TGL	B	301	63/63	0.76	0.20	28,51,75,84	0
22	CHD	C	305	29/29	0.77	0.29	41,47,53,59	0
22	CHD	P	306	29/29	0.82	0.20	34,44,49,56	0
16	MG	N	604	1/1	0.90	0.15	17,17,17,17	0
24	PEK	P	303	53/53	0.91	0.17	13,29,70,77	0
17	NA	P	302	1/1	0.92	0.10	29,29,29,29	0
24	PEK	C	302	53/53	0.93	0.21	13,33,60,65	0
19	PGV	P	304	51/51	0.93	0.24	12,27,51,54	0
17	NA	C	301	1/1	0.94	0.26	37,37,37,37	0
22	CHD	C	306	29/29	0.94	0.09	17,21,25,29	0
19	PGV	C	303	51/51	0.94	0.23	13,22,55,63	0
14	HEA	N	601	60/60	0.94	0.14	10,13,32,39	0
22	CHD	P	307	29/29	0.94	0.09	12,19,23,26	0
19	PGV	N	608	51/51	0.95	0.23	12,30,49,58	0
22	CHD	G	103	29/29	0.95	0.09	8,10,12,16	0
22	CHD	B	303	29/29	0.95	0.09	8,10,13,19	0
14	HEA	A	602	60/60	0.95	0.16	9,12,18,19	0
19	PGV	A	607	51/51	0.96	0.24	13,26,49,57	0
14	HEA	N	602	60/60	0.96	0.14	9,12,18,21	0

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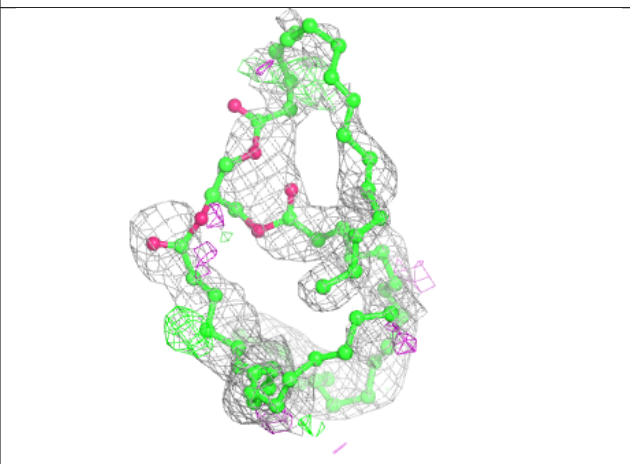
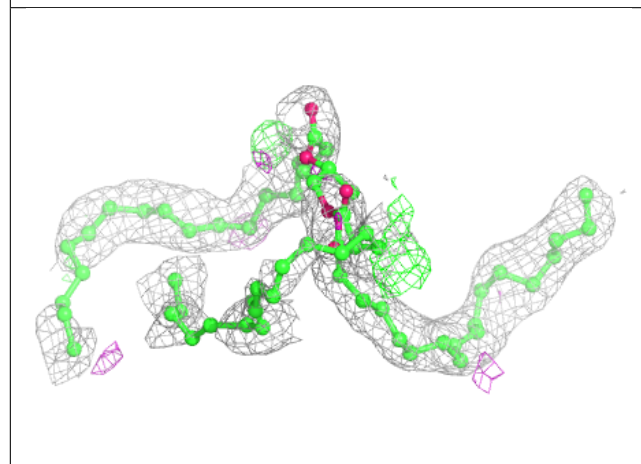
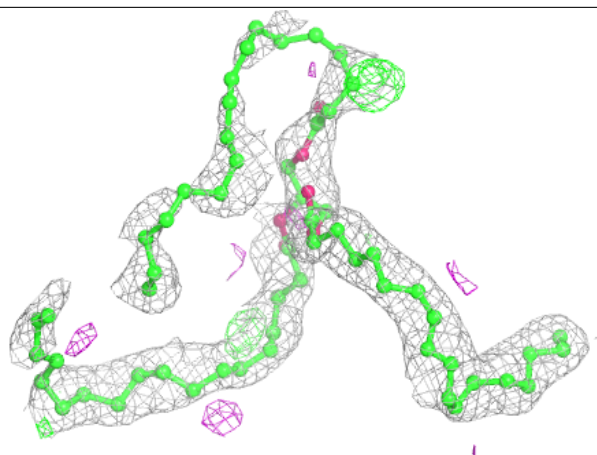
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
14	HEA	A	601	60/60	0.96	0.15	10,12,37,46	0
16	MG	A	604	1/1	0.97	0.11	14,14,14,14	0
17	NA	A	605	1/1	0.98	0.08	14,14,14,14	0
21	CUA	O	301	2/2	0.98	0.05	14,14,14,15	0
17	NA	N	605	1/1	0.98	0.05	12,12,12,12	0
18	PER	A	606[B]	2/2	0.99	0.17	11,11,11,11	2
21	CUA	B	302	2/2	0.99	0.04	14,14,14,15	0
18	PER	N	606[A]	2/2	0.99	0.12	10,10,10,12	0
26	ZN	S	101	1/1	0.99	0.04	18,18,18,18	0
18	PER	N	606[B]	2/2	0.99	0.12	11,11,11,11	2
18	PER	A	606[A]	2/2	0.99	0.17	10,10,10,12	0
15	CU	A	603	1/1	1.00	0.09	15,15,15,15	0
15	CU	N	603	1/1	1.00	0.07	14,14,14,14	0
26	ZN	F	101	1/1	1.00	0.02	19,19,19,19	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.

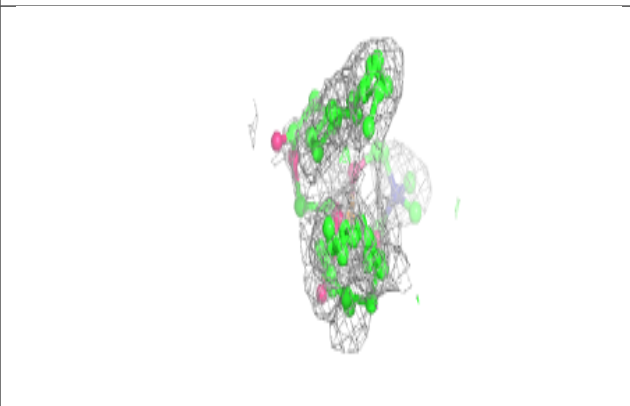
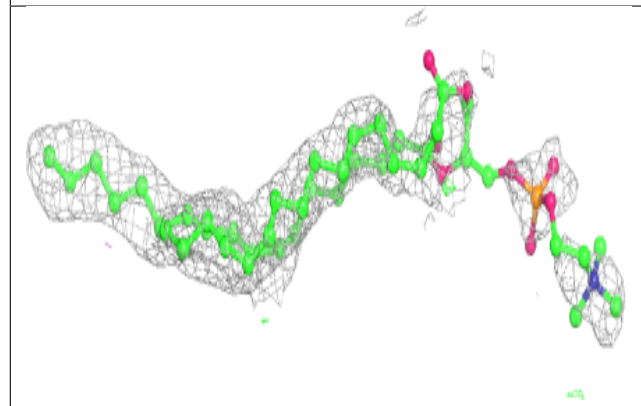
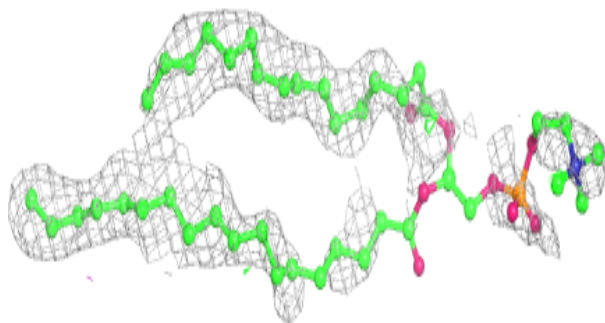


Electron density around TGL Y 101:

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

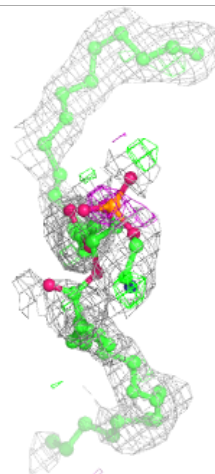
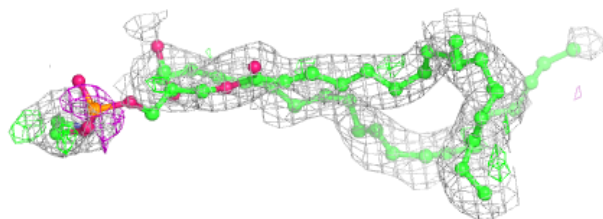
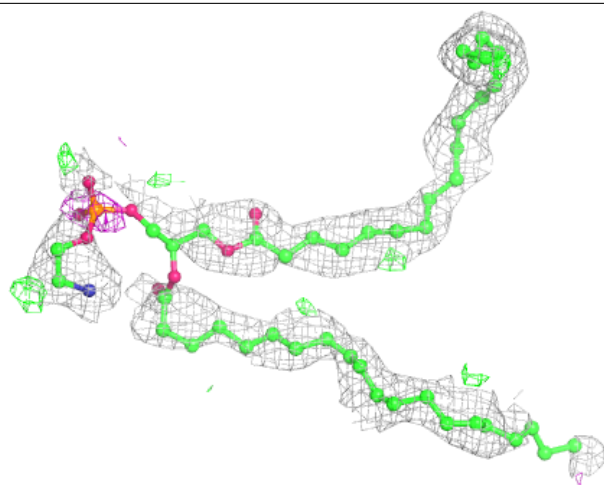
**Electron density around PSC B 304:**

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



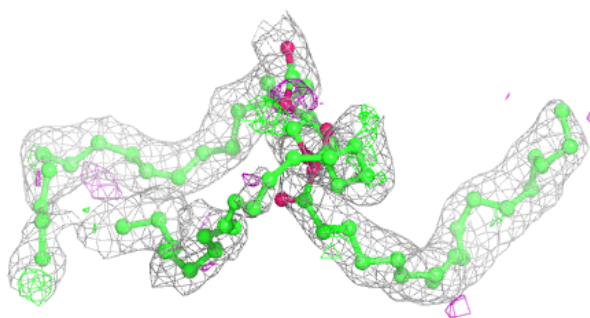
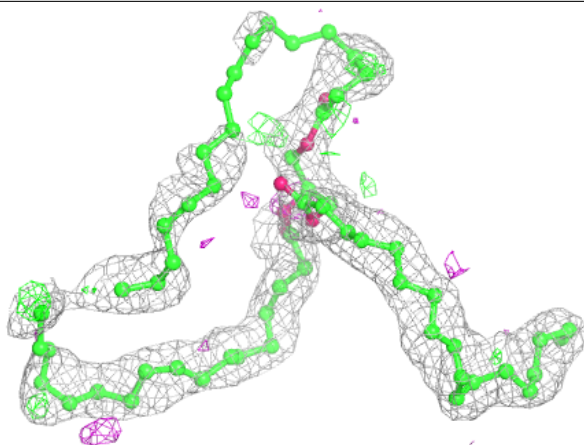
Electron density around PEK P 308:

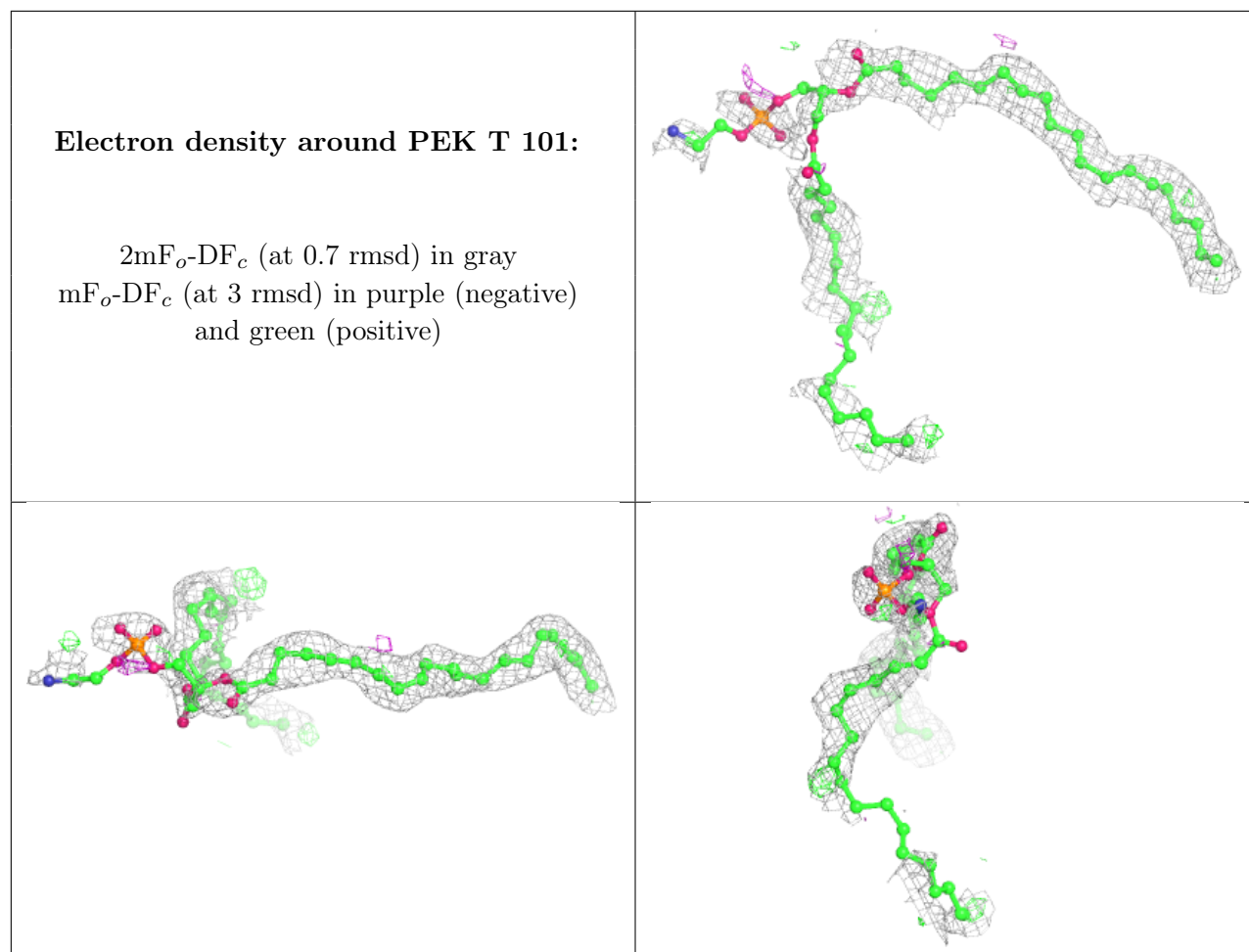
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

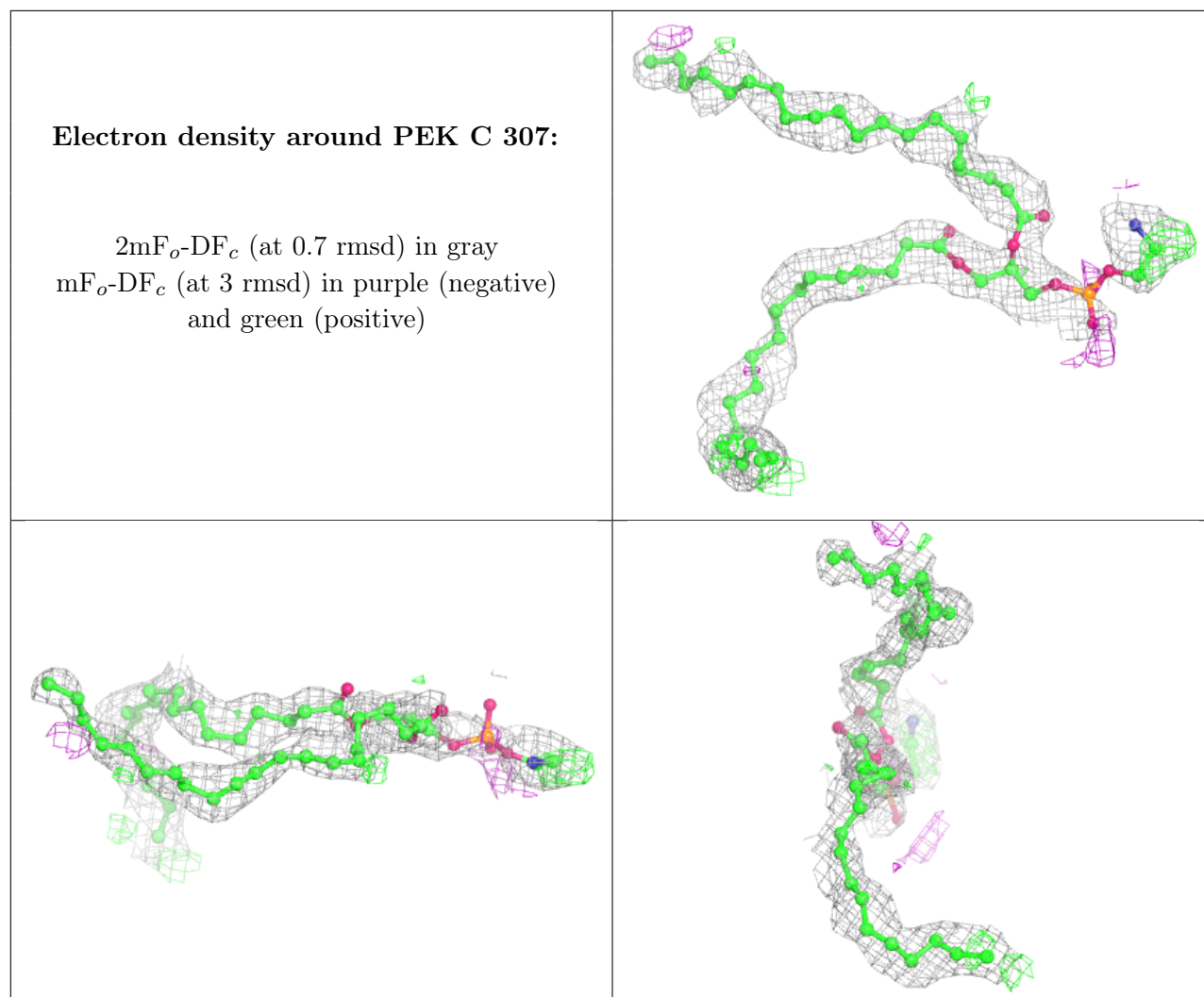


Electron density around TGL L 101:

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

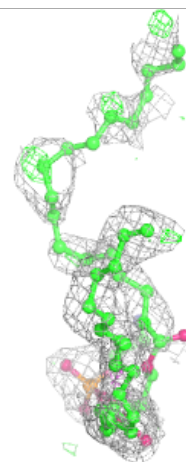
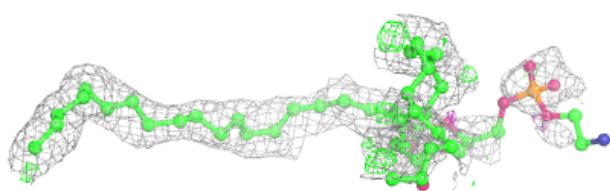
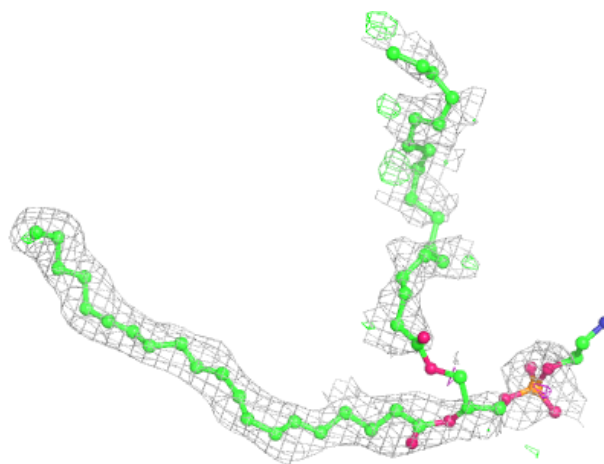






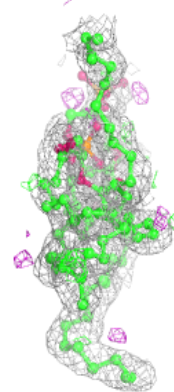
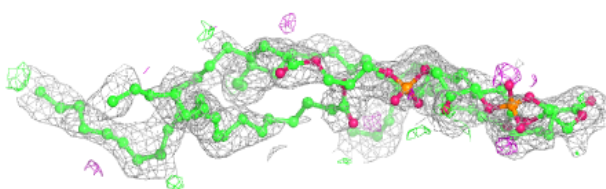
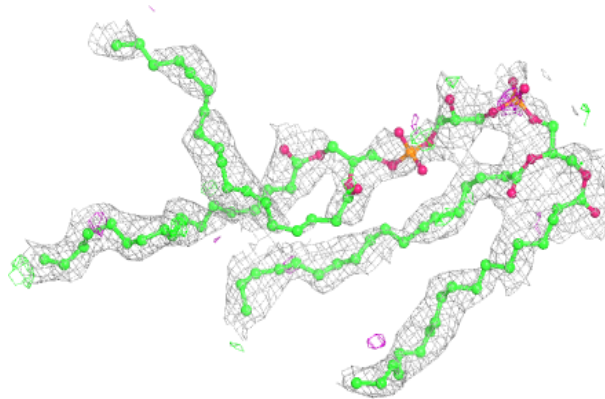
Electron density around PEK G 102:

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

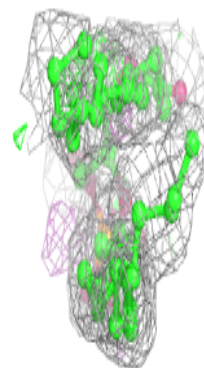
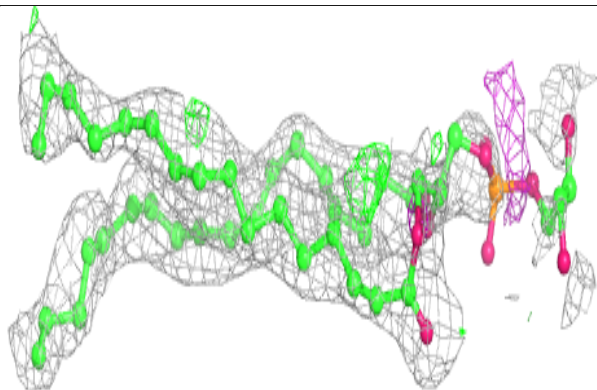
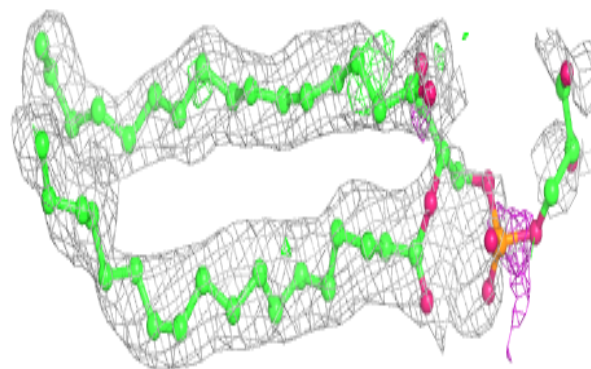


Electron density around CDL T 102:

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

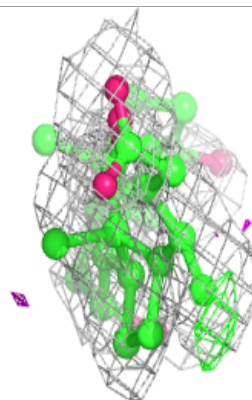
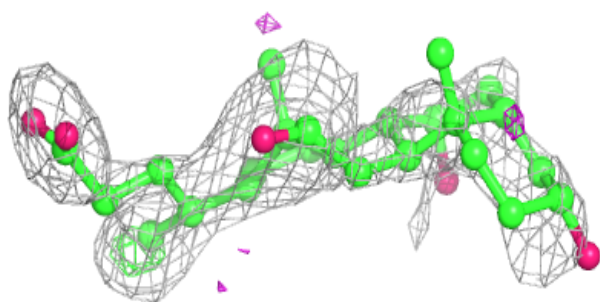
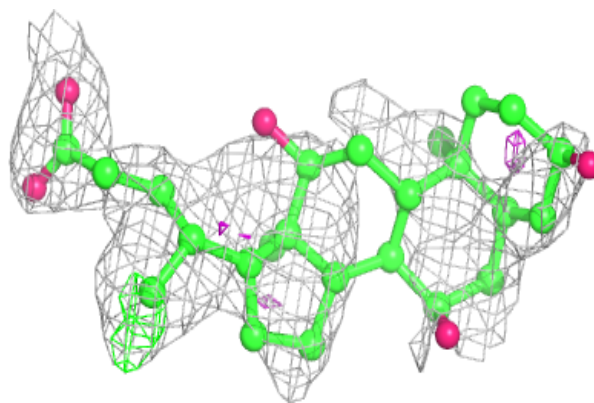
**Electron density around PGV N 607:**

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

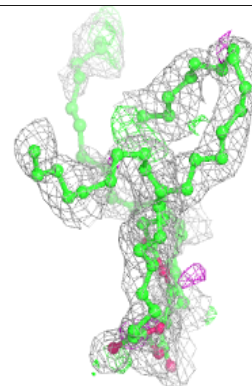
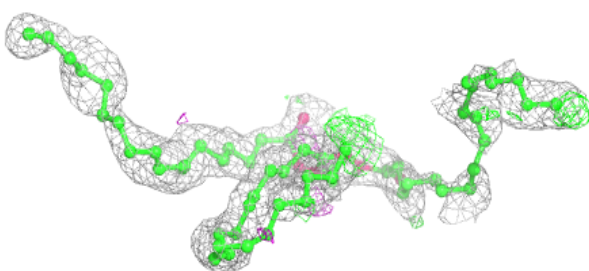
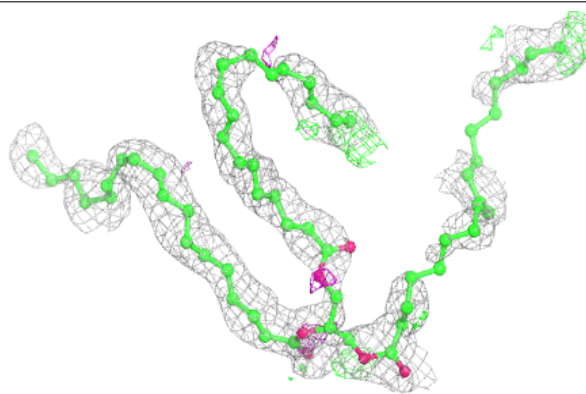


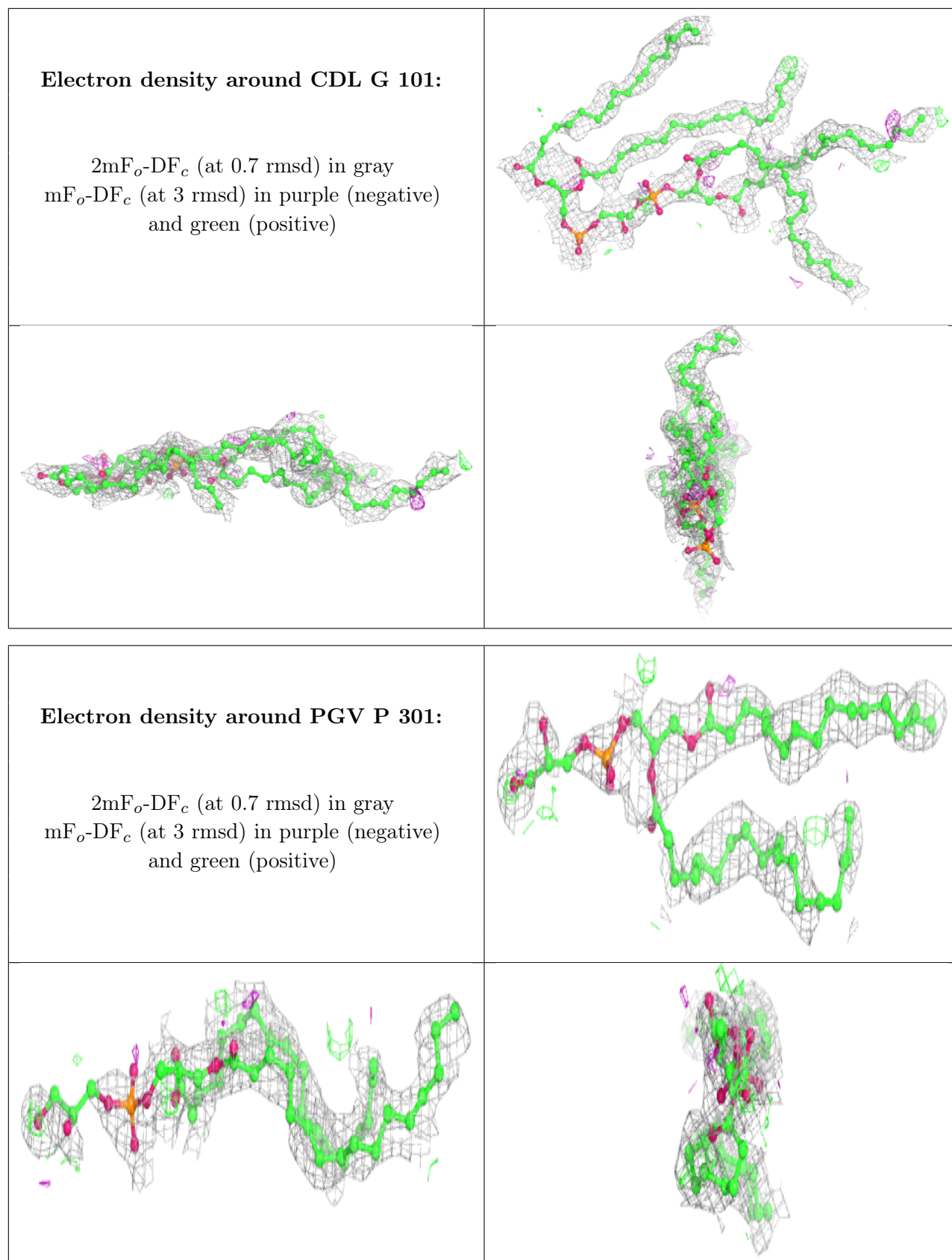
Electron density around CHD W 101:

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

**Electron density around TGL Q 201:**

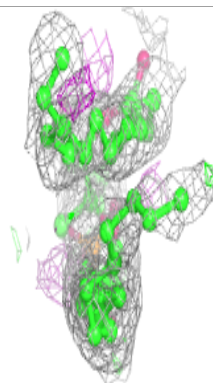
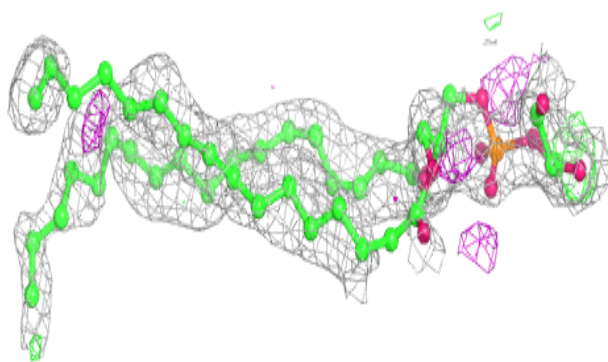
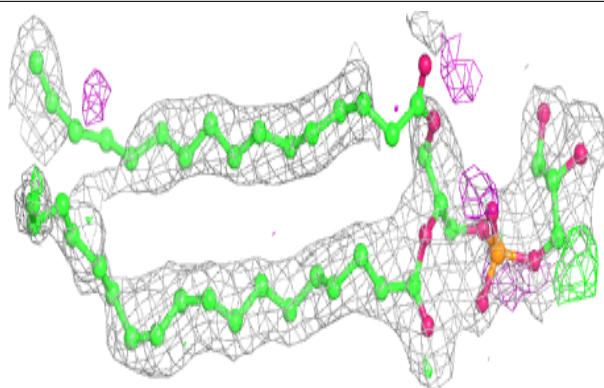
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



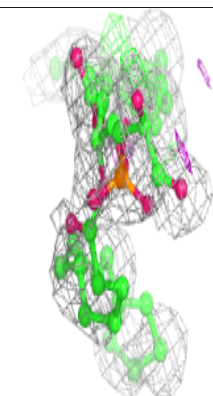
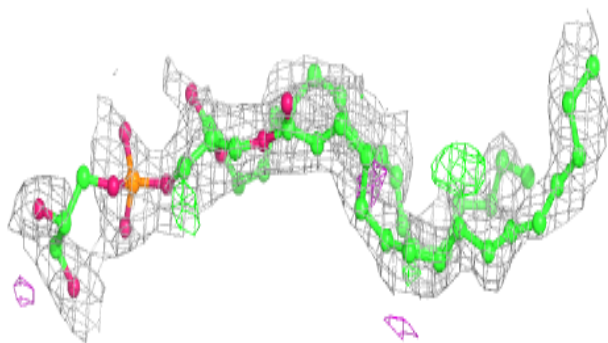
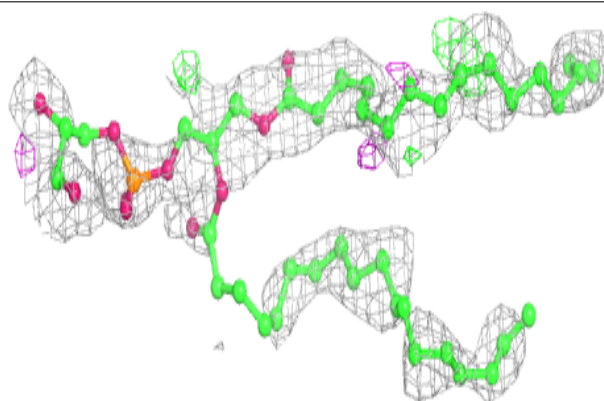


Electron density around PGV A 608:

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

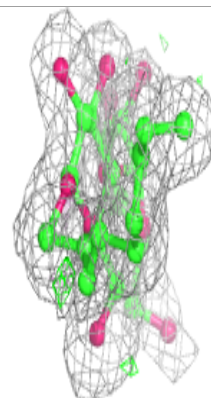
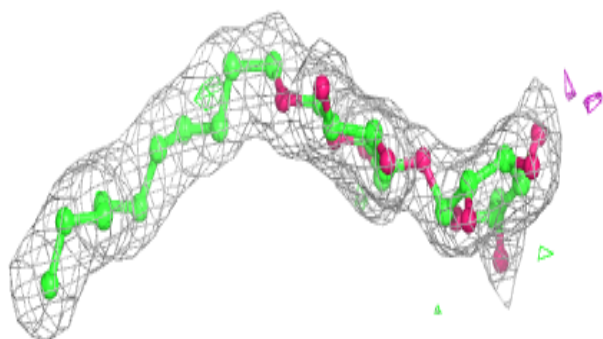
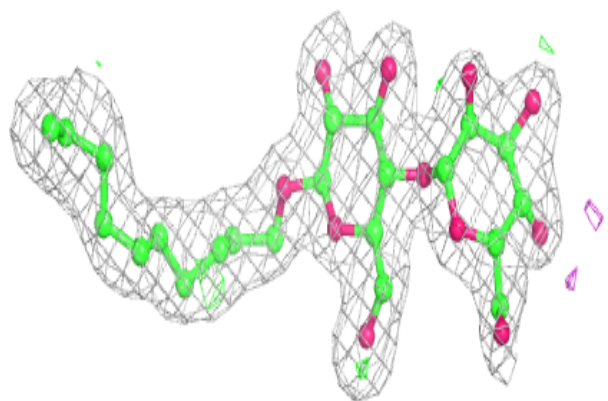
**Electron density around PGV C 308:**

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

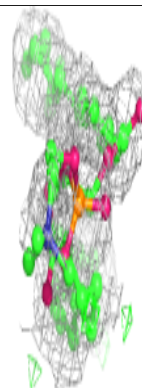
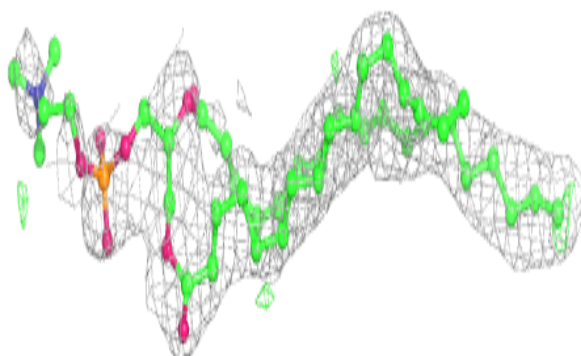
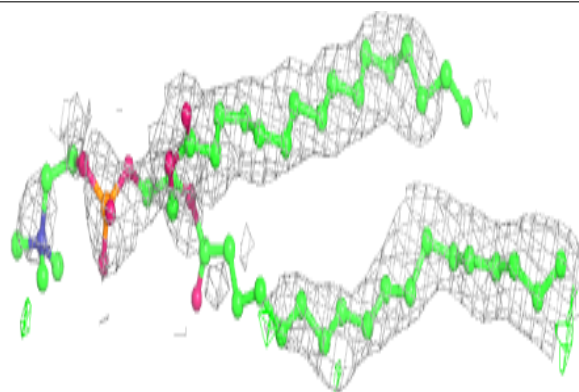


Electron density around DMU M 101:

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

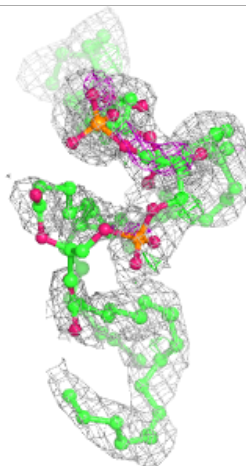
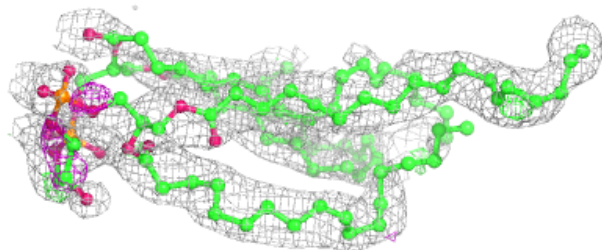
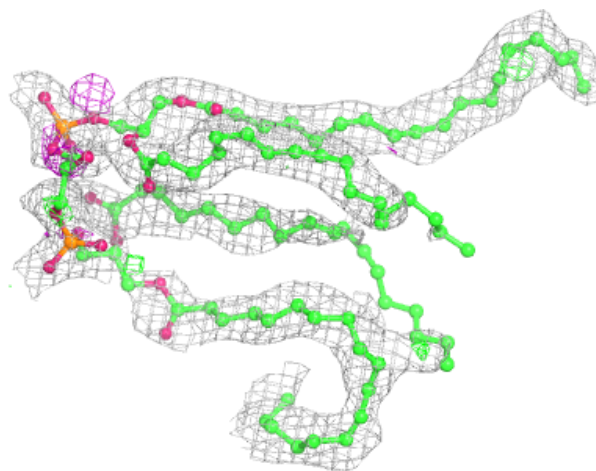
**Electron density around PSC N 610:**

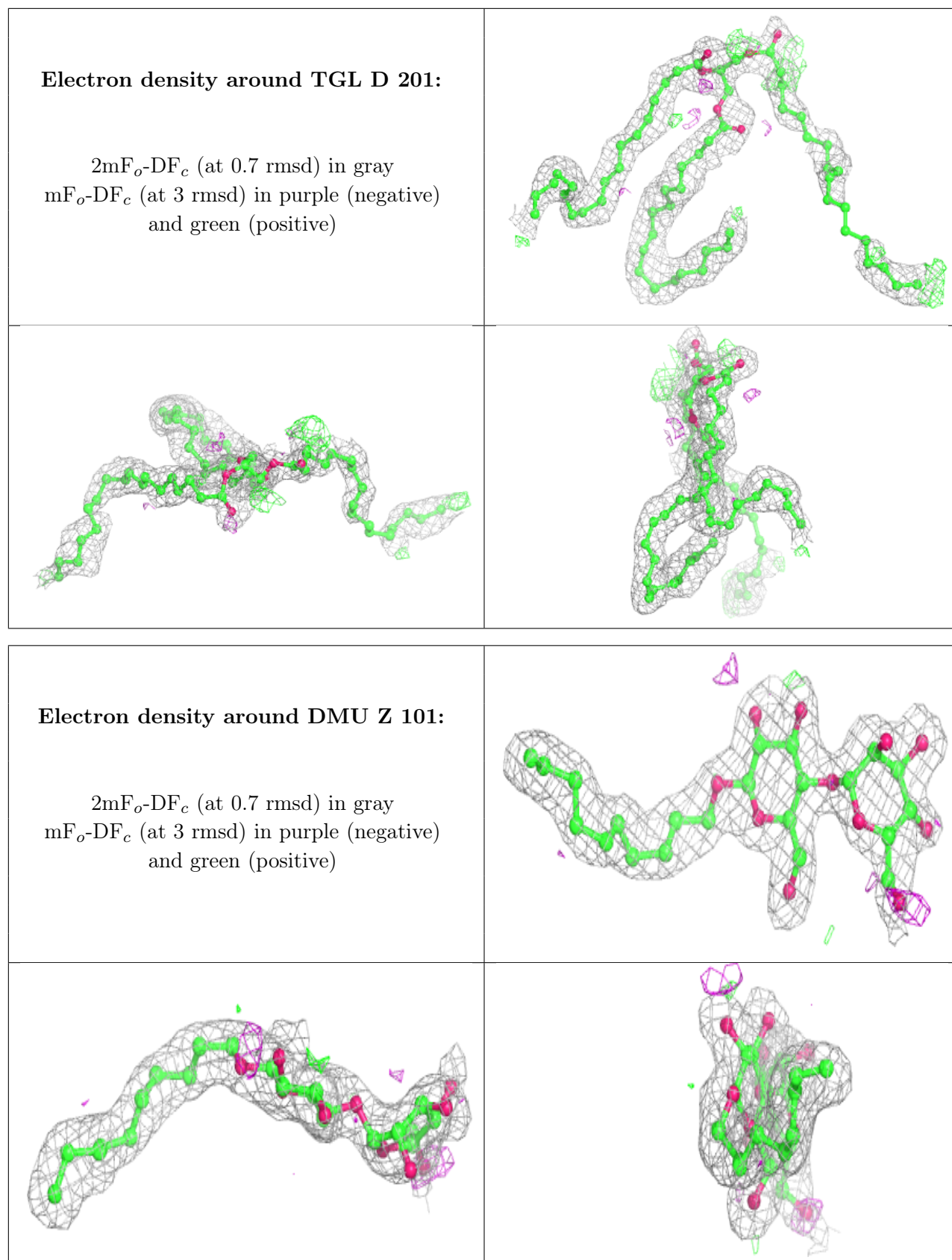
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around CDL P 305:

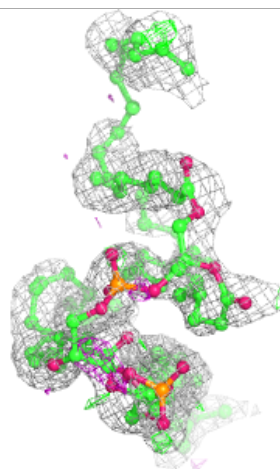
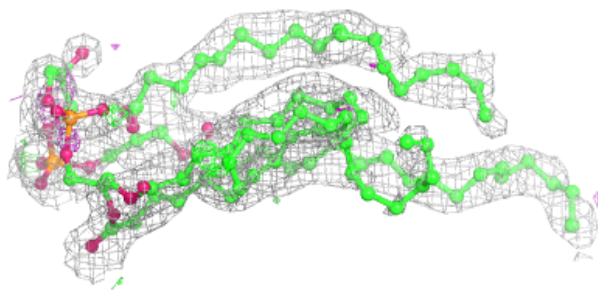
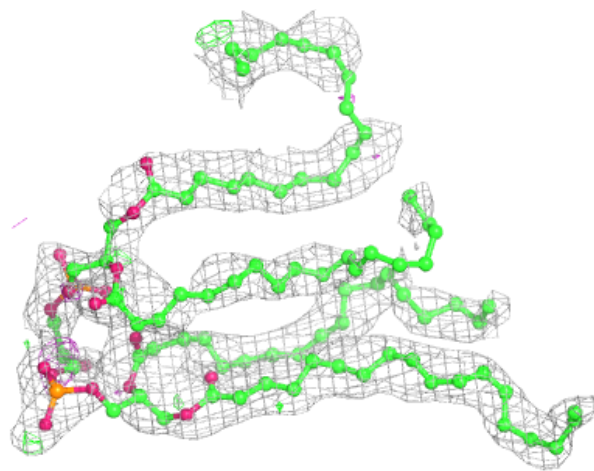
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)





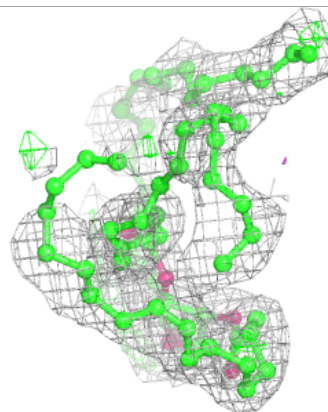
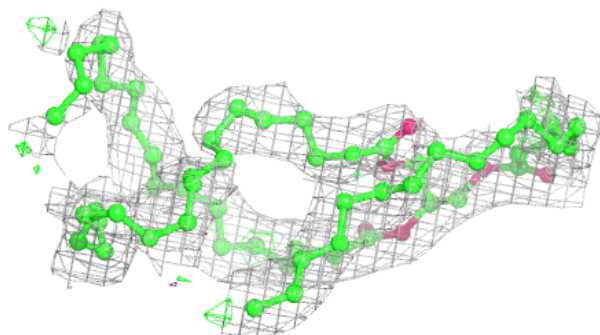
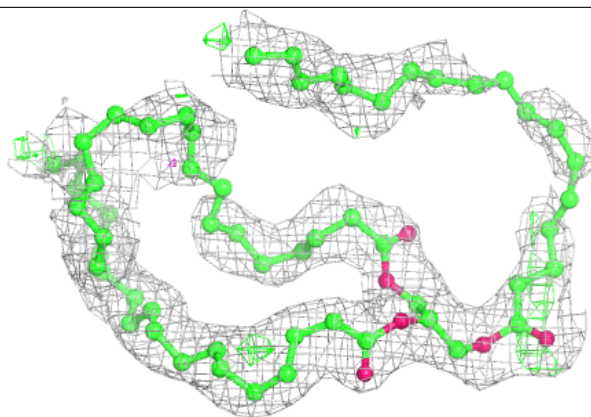
Electron density around CDL C 304:

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

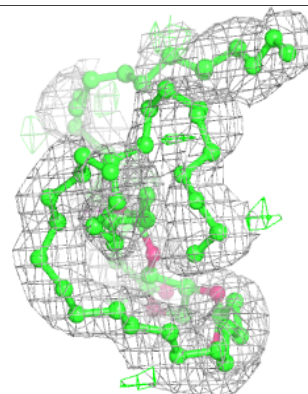
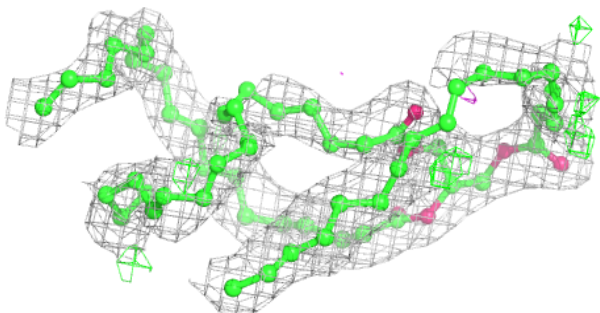
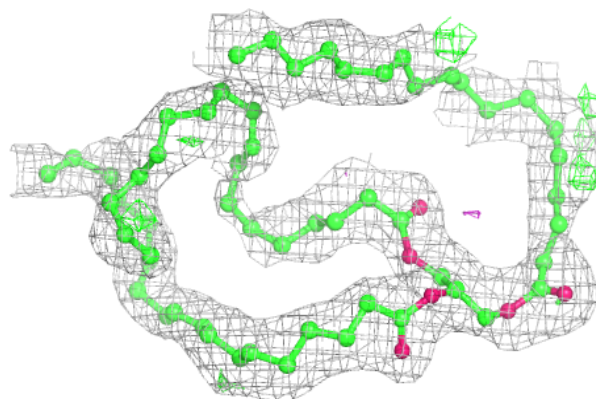


Electron density around TGL N 609:

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

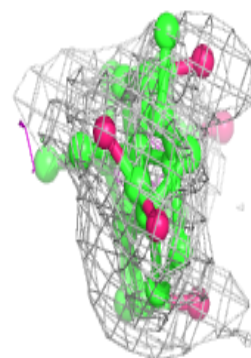
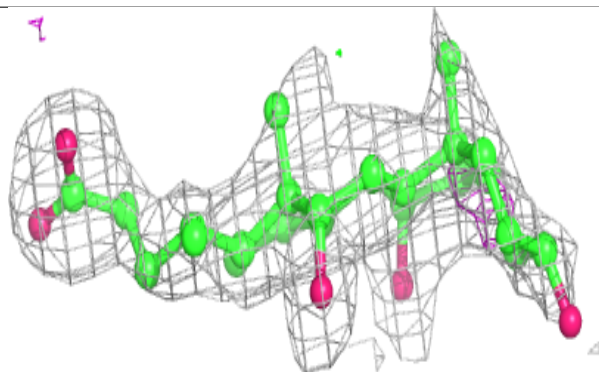
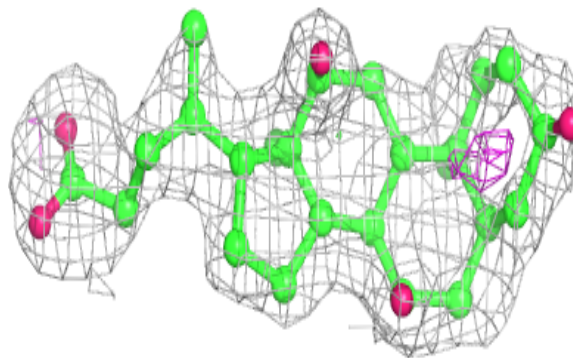
**Electron density around TGL B 301:**

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

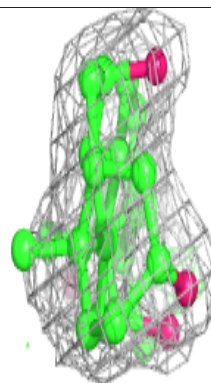
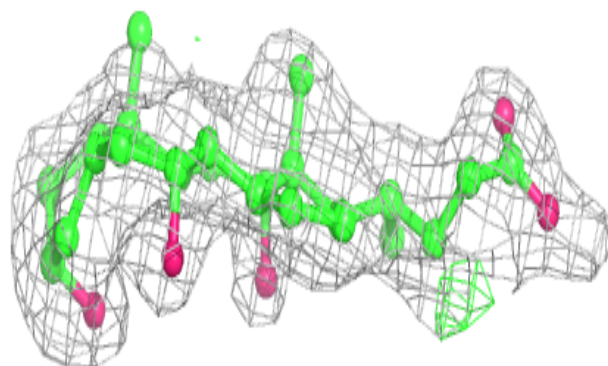
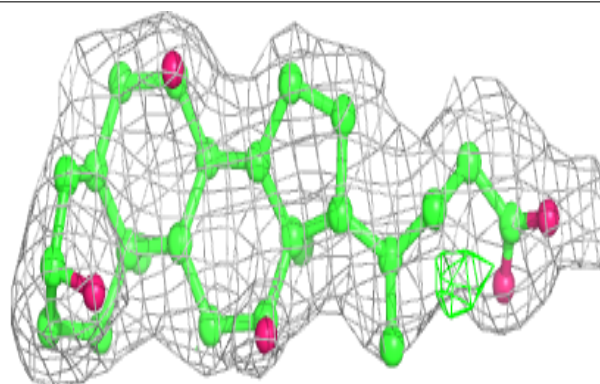


Electron density around CHD C 305:

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

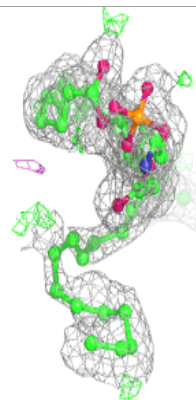
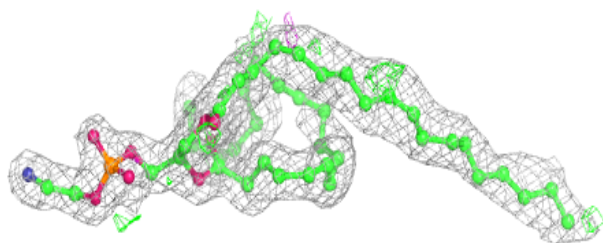
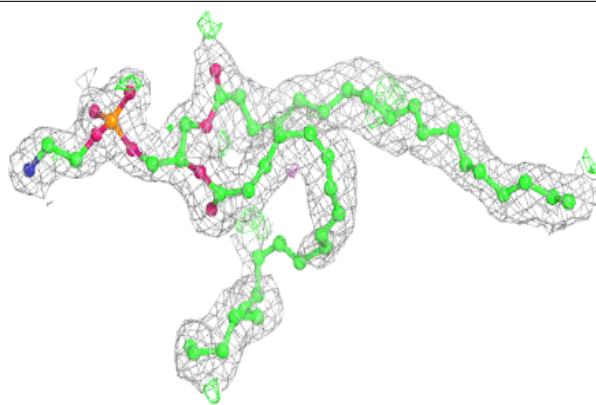
**Electron density around CHD P 306:**

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

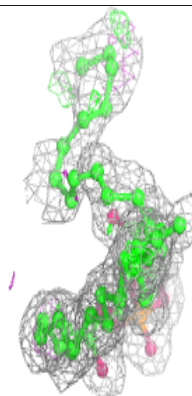
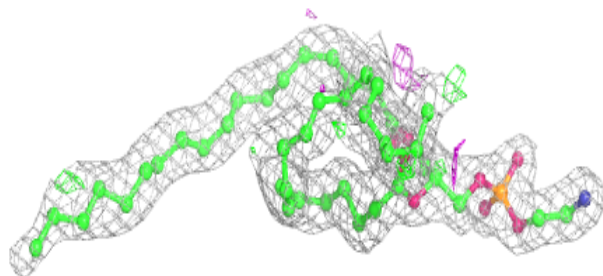
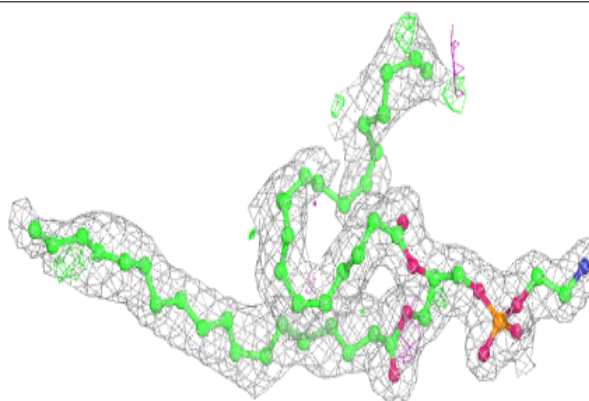


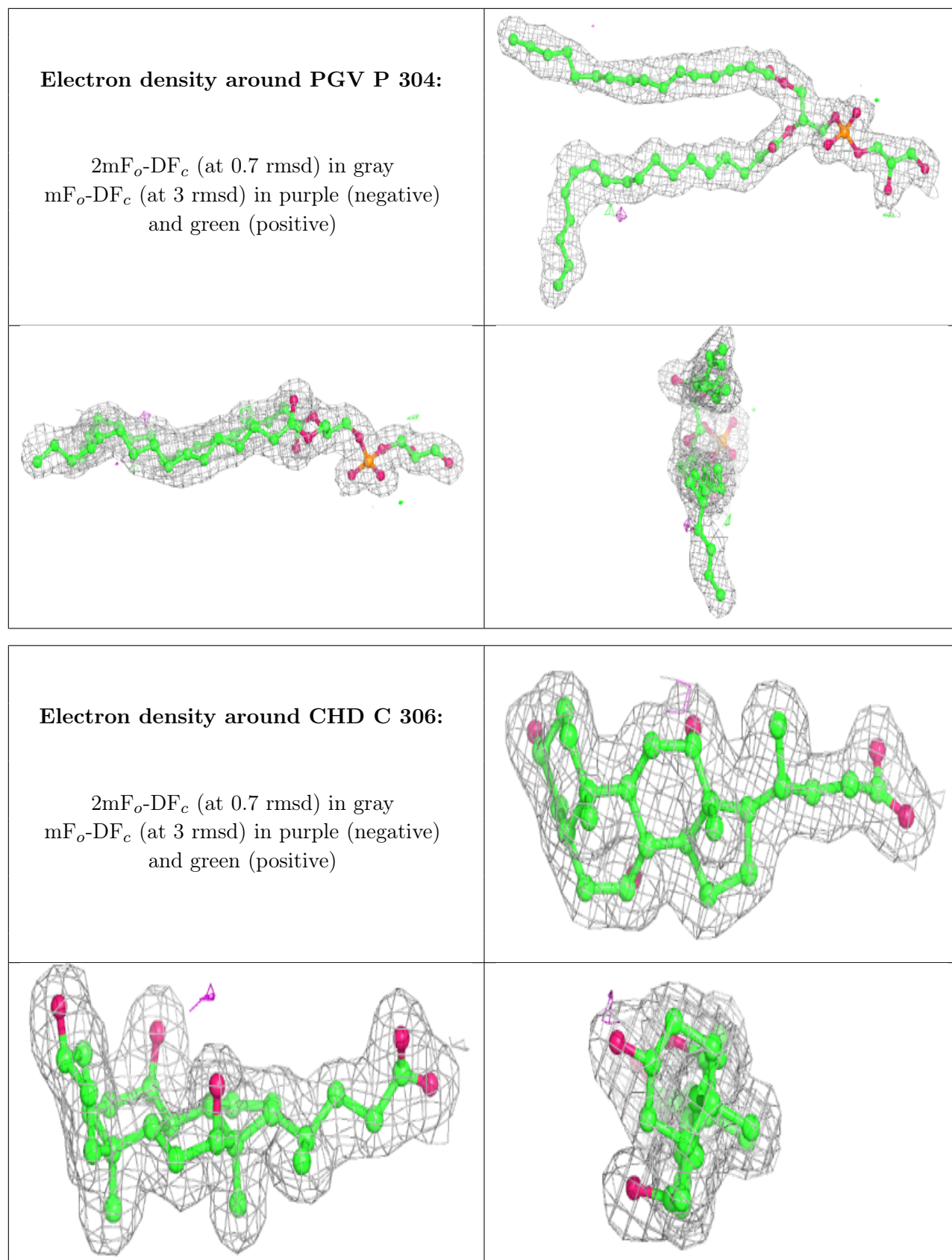
Electron density around PEK P 303:

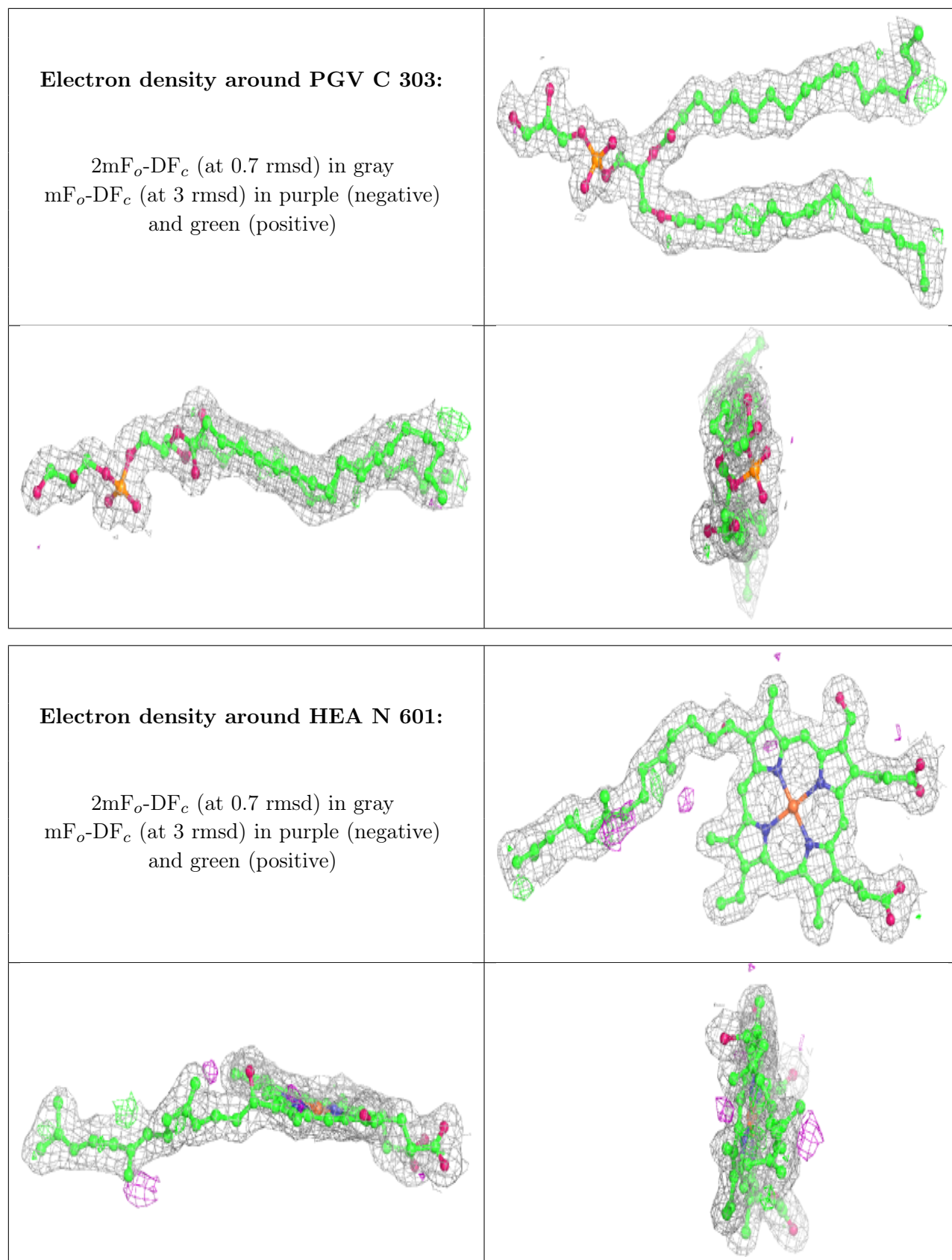
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

**Electron density around PEK 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)

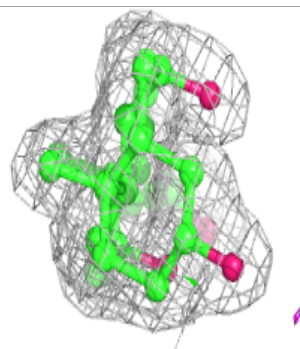
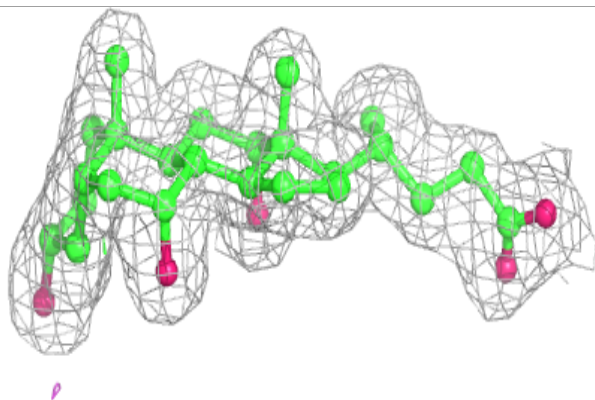
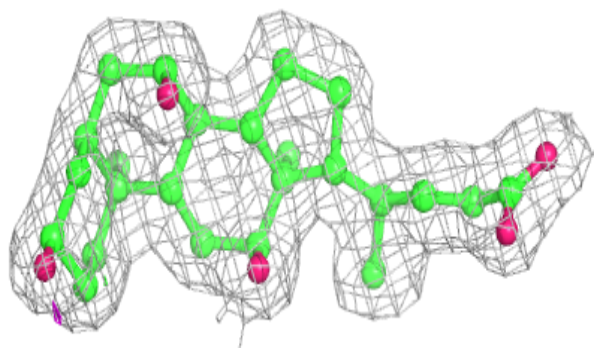




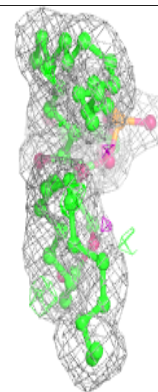
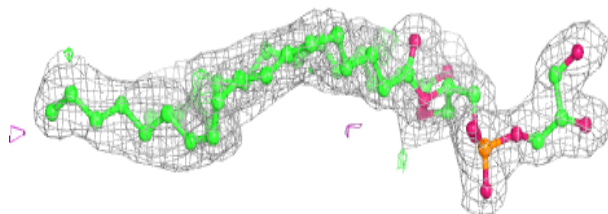
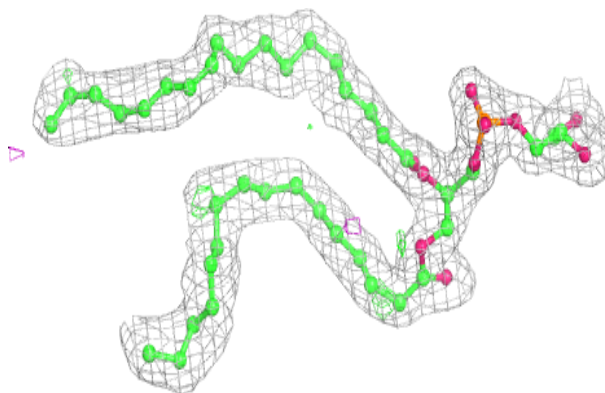


Electron density around CHD P 307:

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

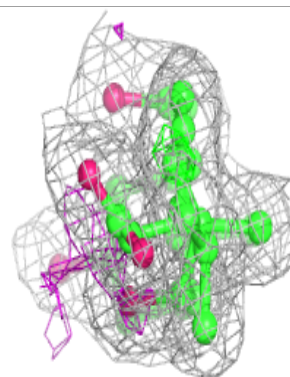
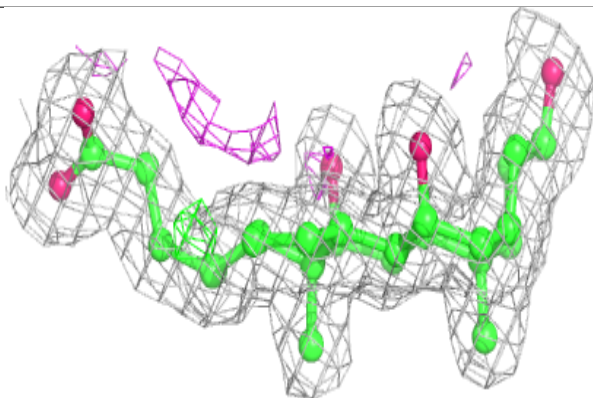
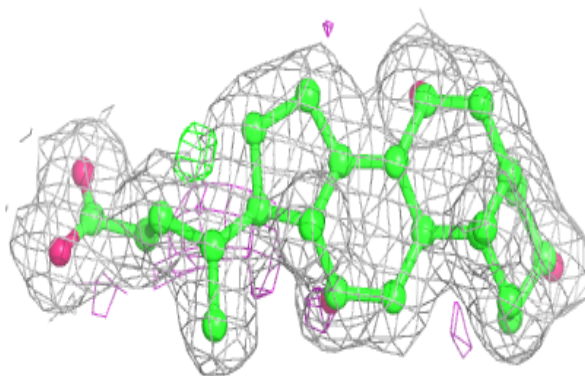
**Electron density around PGV N 608:**

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

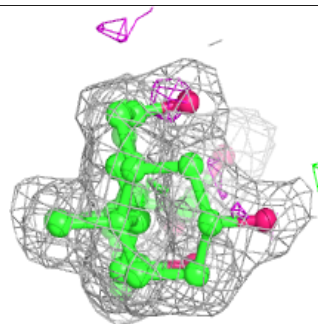
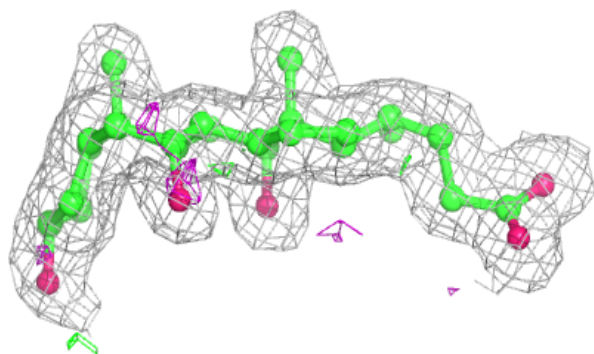
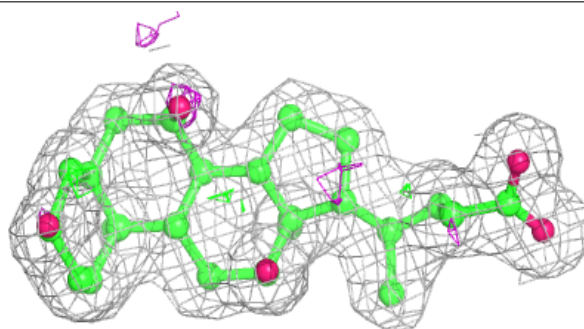


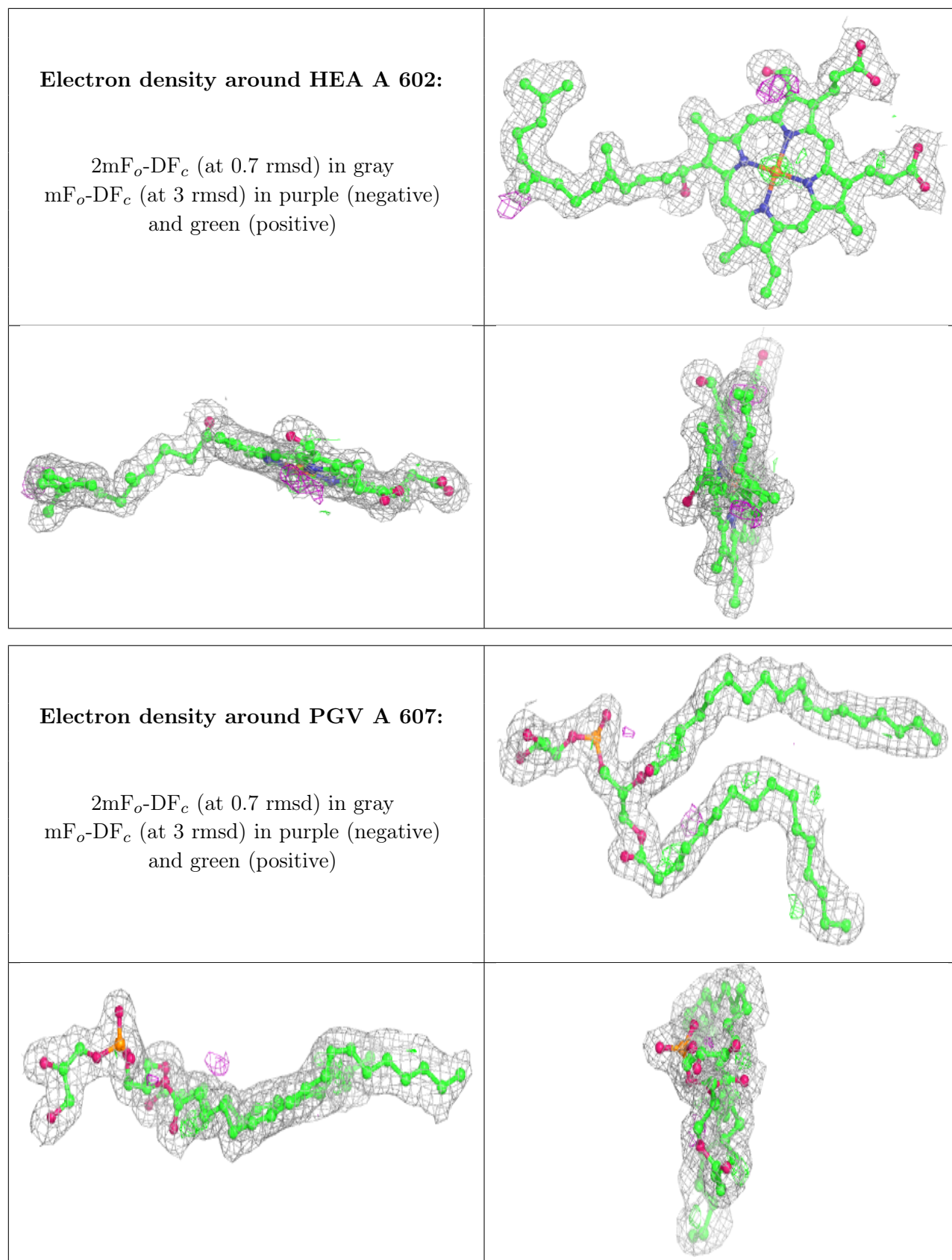
Electron density around CHD G 103:

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

**Electron density around CHD B 303:**

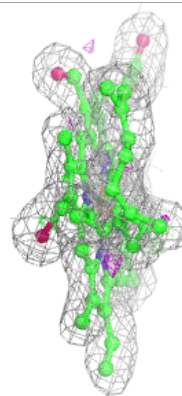
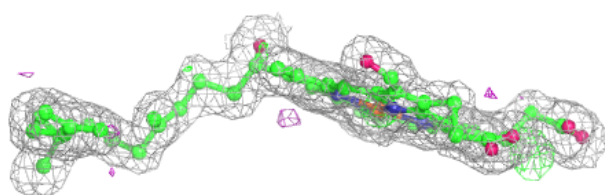
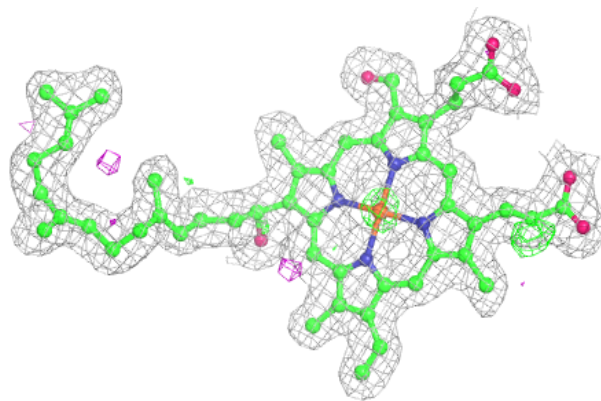
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



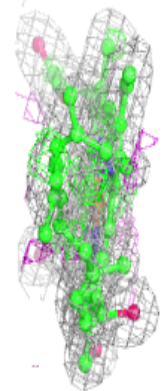
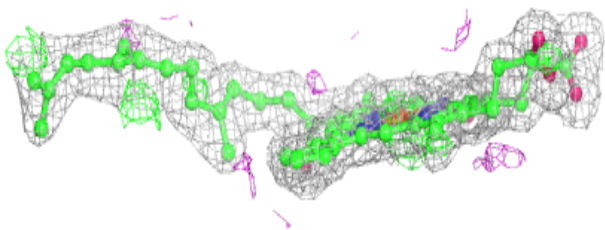
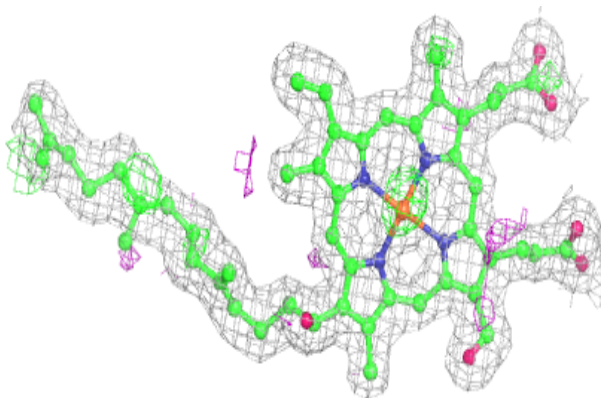


Electron density around HEA N 602:

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

**Electron density around HEA A 601:**

$2mF_o-DF_c$ (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.