



Full wwPDB X-ray Structure Validation Report ⓘ

Jan 15, 2024 – 12:10 PM JST

PDB ID : 8XN6
Title : The Crystal Structure of GSK3b from Biortus.
Authors : Wang, F.; Cheng, W.; Yuan, Z.; Qi, J.; Wu, B.
Deposited on : 2023-12-29
Resolution : 2.40 Å(reported)

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.36
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) : 2.36

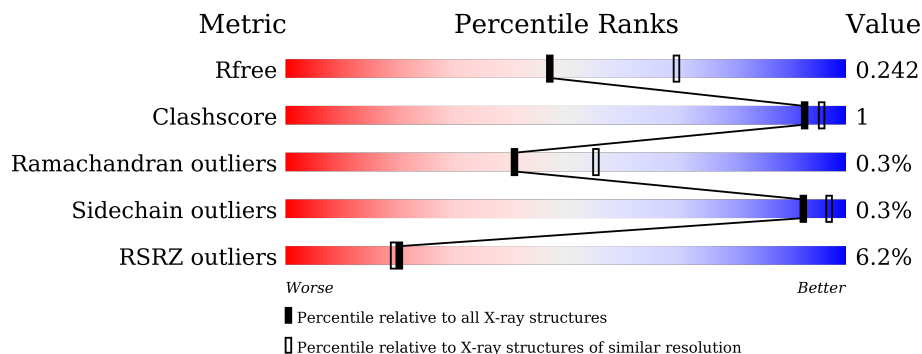
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

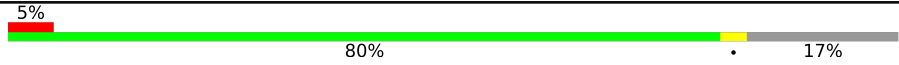

The reported resolution of this entry is 2.40 Å.

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	3907 (2.40-2.40)
Clashscore	141614	4398 (2.40-2.40)
Ramachandran outliers	138981	4318 (2.40-2.40)
Sidechain outliers	138945	4319 (2.40-2.40)
RSRZ outliers	127900	3811 (2.40-2.40)

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	421	
1	B	421	

2 Entry composition [i](#)

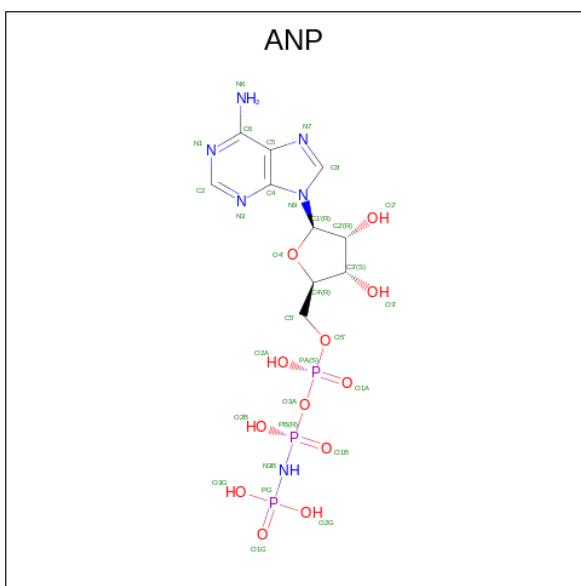
There are 6 unique types of molecules in this entry. The entry contains 6115 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Glycogen synthase kinase-3 beta.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	350	Total 2807	C 1806	N 481	O 509	S 11	0	1	0
1	B	359	Total 2872	C 1844	N 496	O 520	S 12	0	0	0

- Molecule 2 is PHOSPHOAMINOPHOSPHONIC ACID-ADENYLATE ESTER (three-letter code: ANP) (formula: $C_{10}H_{17}N_6O_{12}P_3$) (labeled as "Ligand of Interest" by depositor).

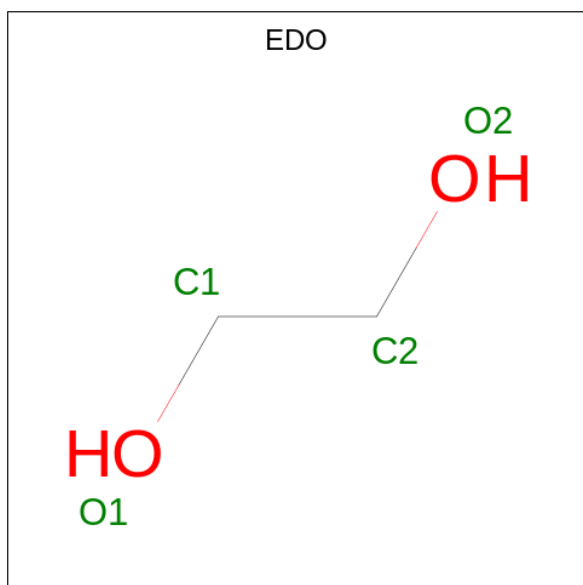


Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	P		
2	A	1	Total 31	C 10	N 6	O 12	P 3	0	0
2	B	1	Total 31	C 10	N 6	O 12	P 3	0	0

- Molecule 3 is MAGNESIUM ION (three-letter code: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total Mg 1 1	0	0
3	B	1	Total Mg 1 1	0	0

- Molecule 4 is 1,2-ETHANEDIOL (three-letter code: EDO) (formula: C₂H₆O₂) (labeled as "Ligand of Interest" by depositor).



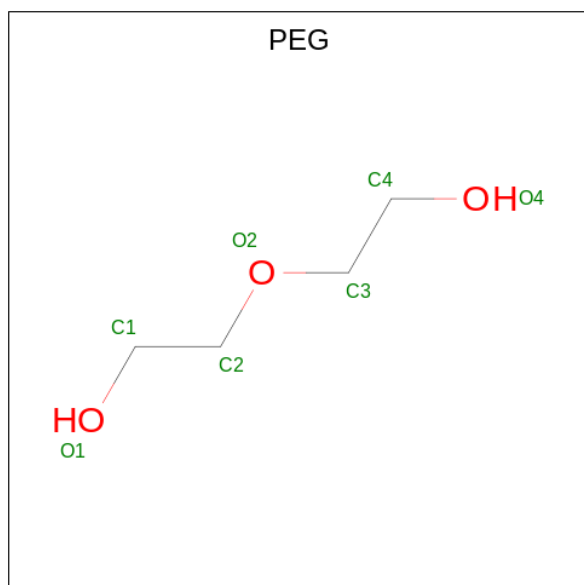
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C O 4 2 2	0	0
4	A	1	Total C O 4 2 2	0	0
4	A	1	Total C O 4 2 2	0	0
4	A	1	Total C O 4 2 2	0	0
4	A	1	Total C O 4 2 2	0	0
4	A	1	Total C O 4 2 2	0	0
4	A	1	Total C O 4 2 2	0	0
4	A	1	Total C O 4 2 2	0	0
4	A	1	Total C O 4 2 2	0	0

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

- Molecule 5 is DI(HYDROXYETHYL)ETHER (three-letter code: PEG) (formula: C₄H₁₀O₃) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	B	1	Total C O 7 4 3	0	0
5	B	1	Total C O 7 4 3	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	B	1	Total	C	O	0	0
			7	4	3		

- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	143	Total	O	0	0
			143	143		
6	B	136	Total	O	0	0
			136	136		

4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	82.69Å 85.43Å 178.09Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	42.75 – 2.40 42.71 – 2.40	Depositor EDS
% Data completeness (in resolution range)	99.8 (42.75-2.40) 99.8 (42.71-2.40)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.24 (at 2.39Å)	Xtrriage
Refinement program	REFMAC 5.8.0267	Depositor
R, R_{free}	0.192 , 0.242 0.196 , 0.242	Depositor DCC
R_{free} test set	2516 reflections (5.03%)	wwPDB-VP
Wilson B-factor (Å ²)	50.5	Xtrriage
Anisotropy	0.088	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.33 , 43.6	EDS
L-test for twinning ²	$\langle L \rangle = 0.51$, $\langle L^2 \rangle = 0.34$	Xtrriage
Estimated twinning fraction	0.014 for k,h,-l	Xtrriage
F_o, F_c correlation	0.96	EDS
Total number of atoms	6115	wwPDB-VP
Average B, all atoms (Å ²)	63.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.91% 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: MG, PEG, ANP, EDO

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.62	0/2881	0.70	0/3919
1	B	0.62	0/2942	0.70	0/3996
All	All	0.62	0/5823	0.70	0/7915

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2807	0	2838	9	0
1	B	2872	0	2905	10	0
2	A	31	0	13	0	0
2	B	31	0	13	0	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
4	A	44	0	66	0	0
4	B	28	0	42	0	0
5	B	21	0	30	0	0
6	A	143	0	0	0	0
6	B	136	0	0	0	0
All	All	6115	0	5907	17	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 1.

All (17) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:220:ARG:NH2	1:A:260:ASP:HA	1.83	0.94
1:A:220:ARG:HH21	1:A:260:ASP:HA	1.43	0.82
1:B:42:ALA:HB1	1:B:114:TYR:HB2	1.89	0.53
1:B:220:ARG:O	1:B:265:GLN:NE2	2.47	0.48
1:B:26:MET:HG2	1:B:38:THR:HG21	1.99	0.45
1:A:155:VAL:HG12	1:A:159:LYS:HE3	1.99	0.45
1:A:267:VAL:HG11	1:B:66:SER:HB3	1.99	0.44
1:A:100:ILE:O	1:A:104:LEU:HG	2.17	0.44
1:B:220:ARG:HA	1:B:223:ARG:HD3	1.99	0.44
1:A:220:ARG:O	1:A:265:GLN:NE2	2.51	0.43
1:B:323:TYR:O	1:B:325:PRO:HD3	2.20	0.41
1:A:42:ALA:HB1	1:A:114:TYR:HB3	2.02	0.41
1:A:220:ARG:HD3	1:B:220:ARG:HD3	2.01	0.41
1:B:38:THR:O	1:B:55:SER:HA	2.21	0.41
1:A:180:ARG:HG2	1:A:238:ILE:HD11	2.03	0.40
1:B:98:LEU:O	1:B:102:ARG:HG3	2.21	0.40
1:B:139:VAL:HG22	1:B:189:LEU:HD11	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	349/421 (83%)	338 (97%)	10 (3%)	1 (0%)	41 55
1	B	355/421 (84%)	339 (96%)	15 (4%)	1 (0%)	41 55
All	All	704/842 (84%)	677 (96%)	25 (4%)	2 (0%)	41 55

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	218	CYS
1	B	218	CYS

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	313/363 (86%)	312 (100%)	1 (0%)	92	97
1	B	319/363 (88%)	318 (100%)	1 (0%)	92	97
All	All	632/726 (87%)	630 (100%)	2 (0%)	92	97

All (2) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	293	PHE
1	B	114	TYR

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

Mol	Chain	Res	Type
1	B	89	GLN
1	B	347	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 25 ligands modelled in this entry, 2 are monoatomic - leaving 23 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
4	EDO	B	508	-	3,3,3	0.06	0	2,2,2	0.19	0
4	EDO	A	509	-	3,3,3	0.12	0	2,2,2	0.28	0
4	EDO	A	504	-	3,3,3	0.11	0	2,2,2	0.31	0
2	ANP	A	501	3	29,33,33	1.19	3 (10%)	31,52,52	1.18	3 (9%)
4	EDO	A	505	-	3,3,3	0.06	0	2,2,2	0.25	0
5	PEG	B	511	-	6,6,6	0.12	0	5,5,5	0.10	0
5	PEG	B	510	-	6,6,6	0.25	0	5,5,5	0.17	0
4	EDO	A	506	-	3,3,3	0.08	0	2,2,2	0.18	0
5	PEG	B	512	-	6,6,6	0.17	0	5,5,5	0.07	0
4	EDO	A	503	-	3,3,3	0.08	0	2,2,2	0.27	0
4	EDO	B	504	-	3,3,3	0.05	0	2,2,2	0.11	0
4	EDO	A	510	-	3,3,3	0.08	0	2,2,2	0.23	0
4	EDO	B	509	-	3,3,3	0.09	0	2,2,2	0.21	0
4	EDO	B	503	-	3,3,3	0.06	0	2,2,2	0.21	0
4	EDO	A	512	-	3,3,3	0.09	0	2,2,2	0.23	0
4	EDO	A	508	-	3,3,3	0.04	0	2,2,2	0.13	0
4	EDO	A	507	-	3,3,3	0.08	0	2,2,2	0.22	0
4	EDO	A	513	-	3,3,3	0.17	0	2,2,2	0.37	0
4	EDO	B	506	-	3,3,3	0.10	0	2,2,2	0.22	0
2	ANP	B	501	3	29,33,33	1.20	3 (10%)	31,52,52	1.27	3 (9%)
4	EDO	A	511	-	3,3,3	0.07	0	2,2,2	0.20	0
4	EDO	B	507	-	3,3,3	0.04	0	2,2,2	0.16	0
4	EDO	B	505	-	3,3,3	0.08	0	2,2,2	0.20	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns.

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	EDO	B	508	-	-	1/1/1/1	-
4	EDO	A	509	-	-	0/1/1/1	-
4	EDO	A	504	-	-	1/1/1/1	-
2	ANP	A	501	3	-	2/14/38/38	0/3/3/3
4	EDO	A	505	-	-	0/1/1/1	-
5	PEG	B	511	-	-	1/4/4/4	-
5	PEG	B	510	-	-	2/4/4/4	-
4	EDO	A	506	-	-	0/1/1/1	-
5	PEG	B	512	-	-	1/4/4/4	-
4	EDO	A	503	-	-	0/1/1/1	-
4	EDO	B	504	-	-	1/1/1/1	-
4	EDO	A	510	-	-	1/1/1/1	-
4	EDO	B	509	-	-	1/1/1/1	-
4	EDO	B	503	-	-	0/1/1/1	-
4	EDO	A	512	-	-	1/1/1/1	-
4	EDO	A	508	-	-	0/1/1/1	-
4	EDO	A	507	-	-	1/1/1/1	-
4	EDO	A	513	-	-	1/1/1/1	-
4	EDO	B	506	-	-	0/1/1/1	-
2	ANP	B	501	3	-	1/14/38/38	0/3/3/3
4	EDO	A	511	-	-	1/1/1/1	-
4	EDO	B	507	-	-	0/1/1/1	-
4	EDO	B	505	-	-	1/1/1/1	-

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	501	ANP	PG-O1G	3.57	1.51	1.46
2	A	501	ANP	PG-O1G	3.29	1.51	1.46
2	A	501	ANP	PB-O1B	2.97	1.50	1.46
2	B	501	ANP	PB-O1B	2.87	1.50	1.46
2	B	501	ANP	PB-O2B	-2.23	1.50	1.56
2	A	501	ANP	PB-O2B	-2.20	1.50	1.56

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	501	ANP	O2B-PB-O1B	4.31	118.97	109.92
2	A	501	ANP	O2B-PB-O1B	4.06	118.42	109.92
2	B	501	ANP	O3G-PG-O1G	-2.76	106.51	113.45
2	B	501	ANP	C5-C6-N6	2.46	124.09	120.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	501	ANP	O3G-PG-O1G	-2.38	107.48	113.45
2	A	501	ANP	C5-C6-N6	2.24	123.75	120.35

There are no chirality outliers.

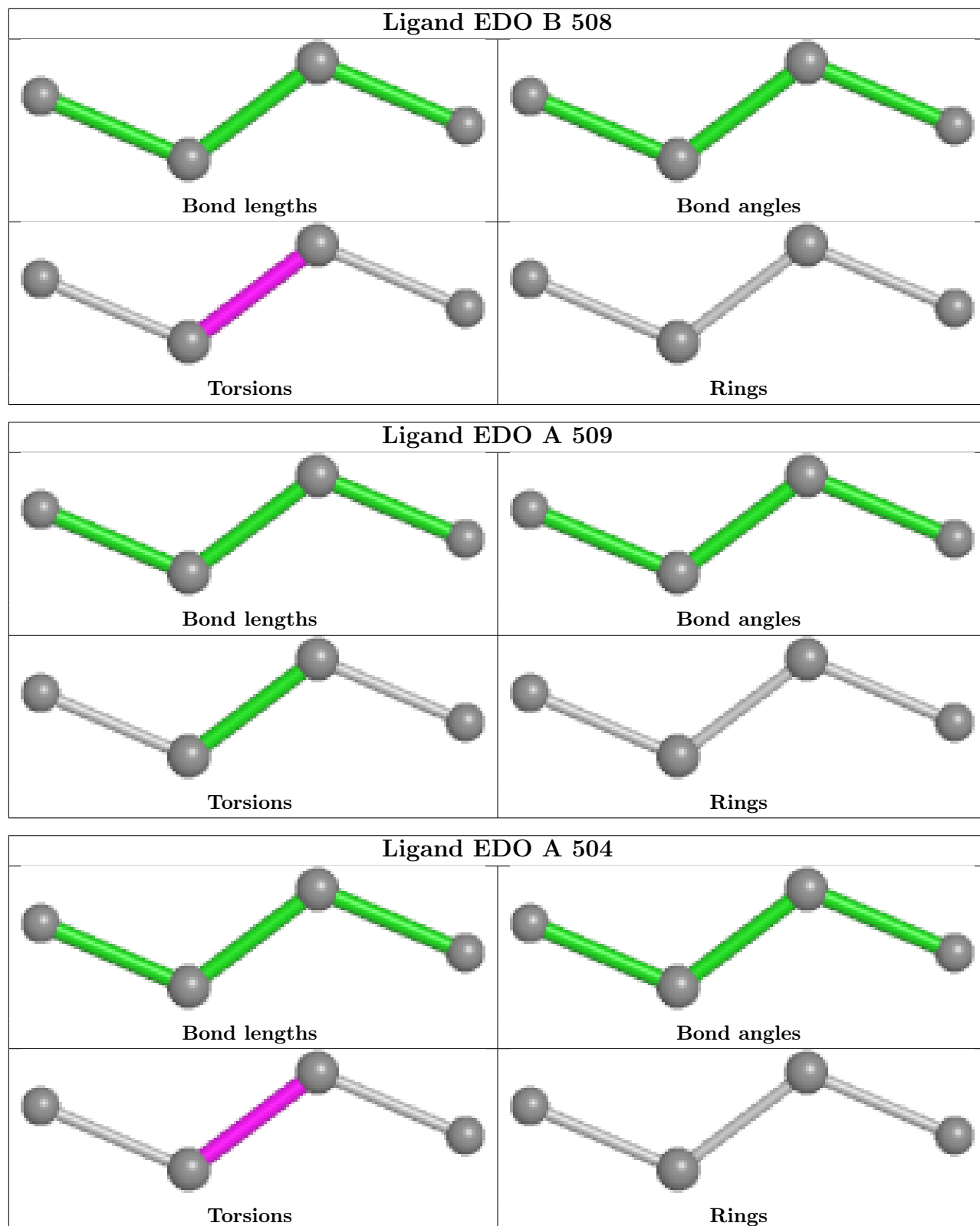
All (17) torsion outliers are listed below:

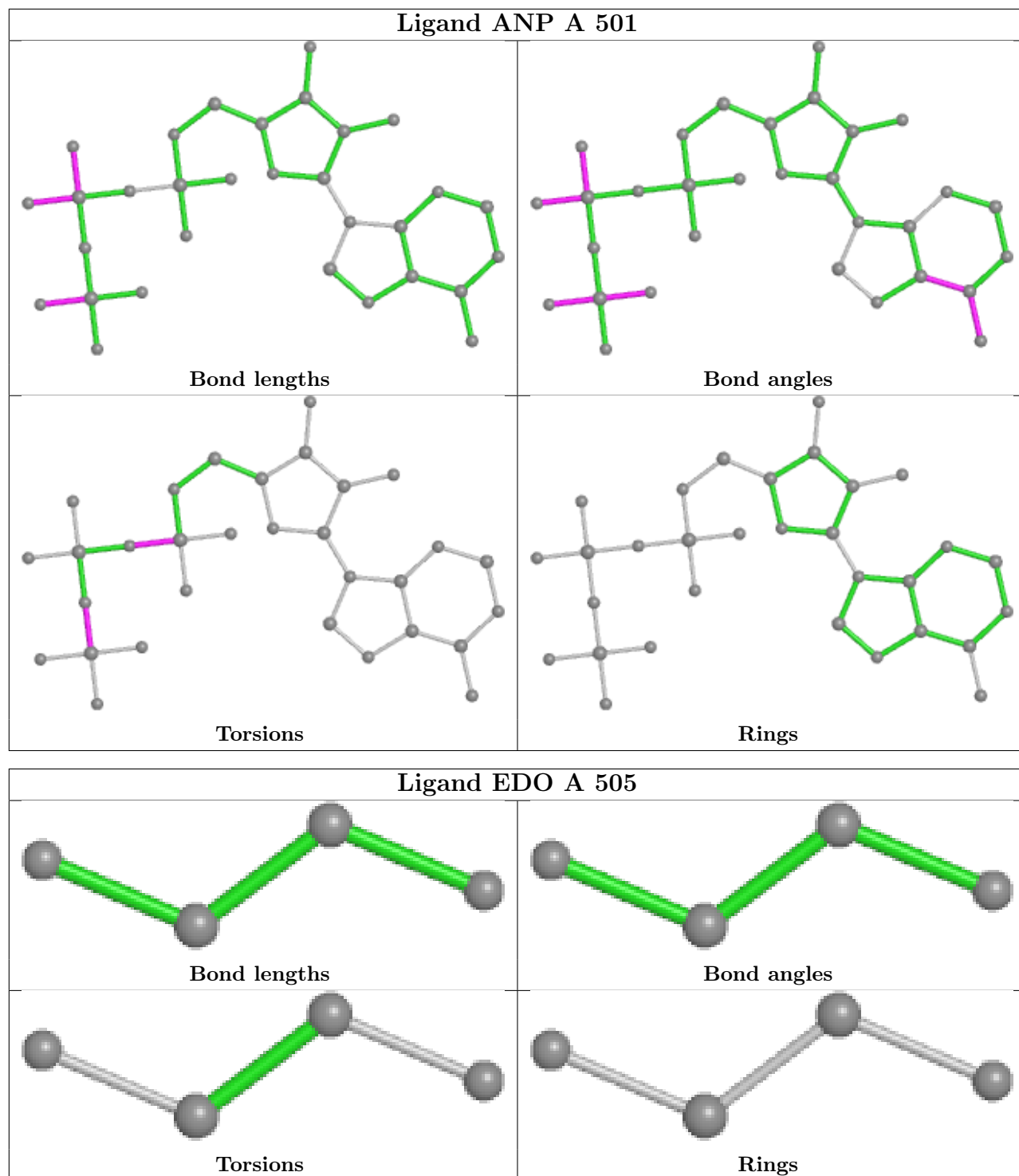
Mol	Chain	Res	Type	Atoms
2	A	501	ANP	PB-N3B-PG-O1G
5	B	510	PEG	O2-C3-C4-O4
5	B	512	PEG	O1-C1-C2-O2
5	B	511	PEG	O2-C3-C4-O4
4	A	512	EDO	O1-C1-C2-O2
4	A	513	EDO	O1-C1-C2-O2
5	B	510	PEG	O1-C1-C2-O2
4	A	507	EDO	O1-C1-C2-O2
4	B	509	EDO	O1-C1-C2-O2
4	A	510	EDO	O1-C1-C2-O2
2	A	501	ANP	PB-O3A-PA-O2A
2	B	501	ANP	PB-O3A-PA-O2A
4	A	504	EDO	O1-C1-C2-O2
4	B	508	EDO	O1-C1-C2-O2
4	B	504	EDO	O1-C1-C2-O2
4	B	505	EDO	O1-C1-C2-O2
4	A	511	EDO	O1-C1-C2-O2

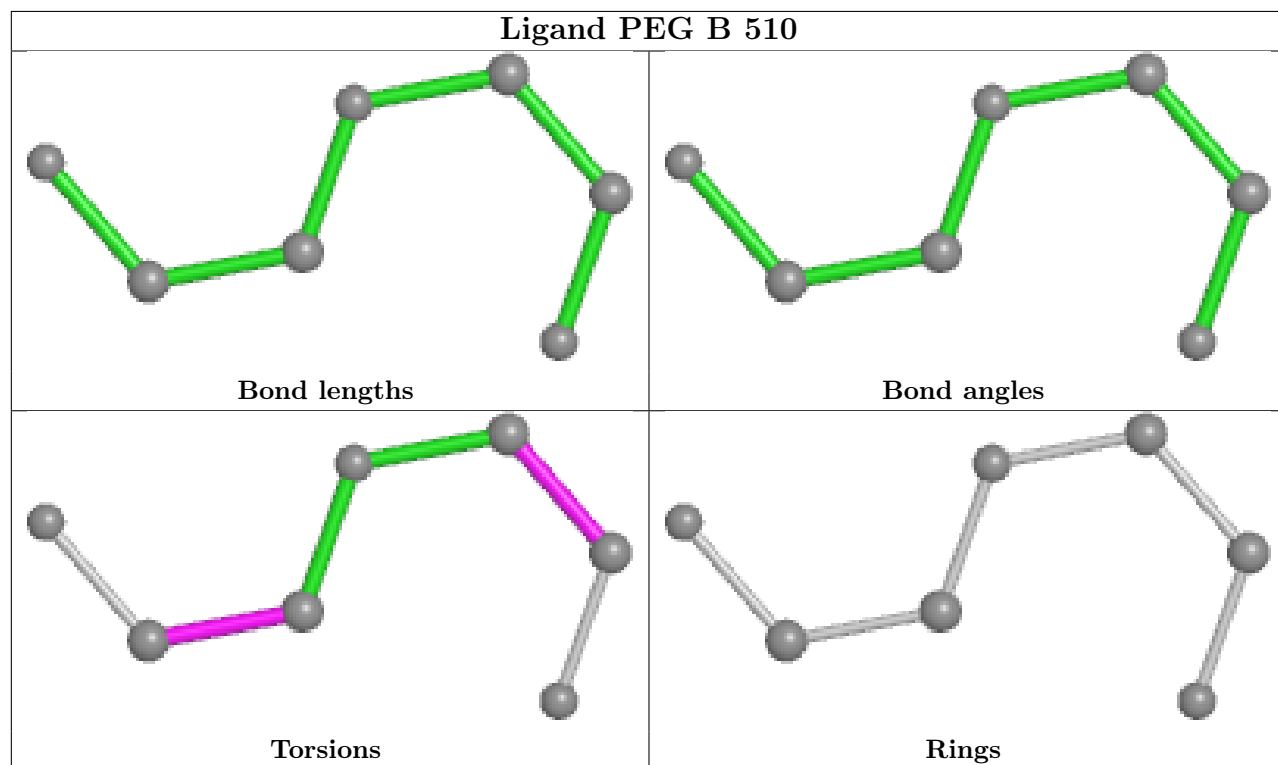
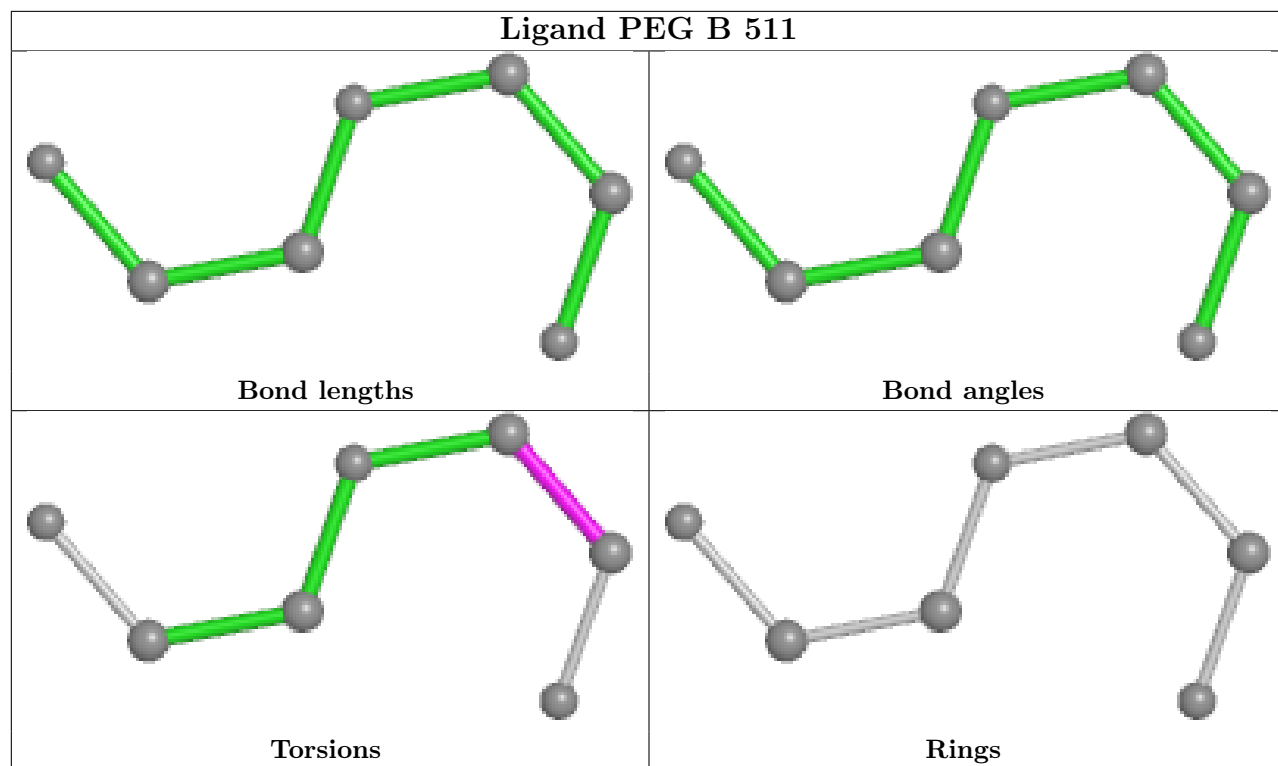
There are no ring outliers.

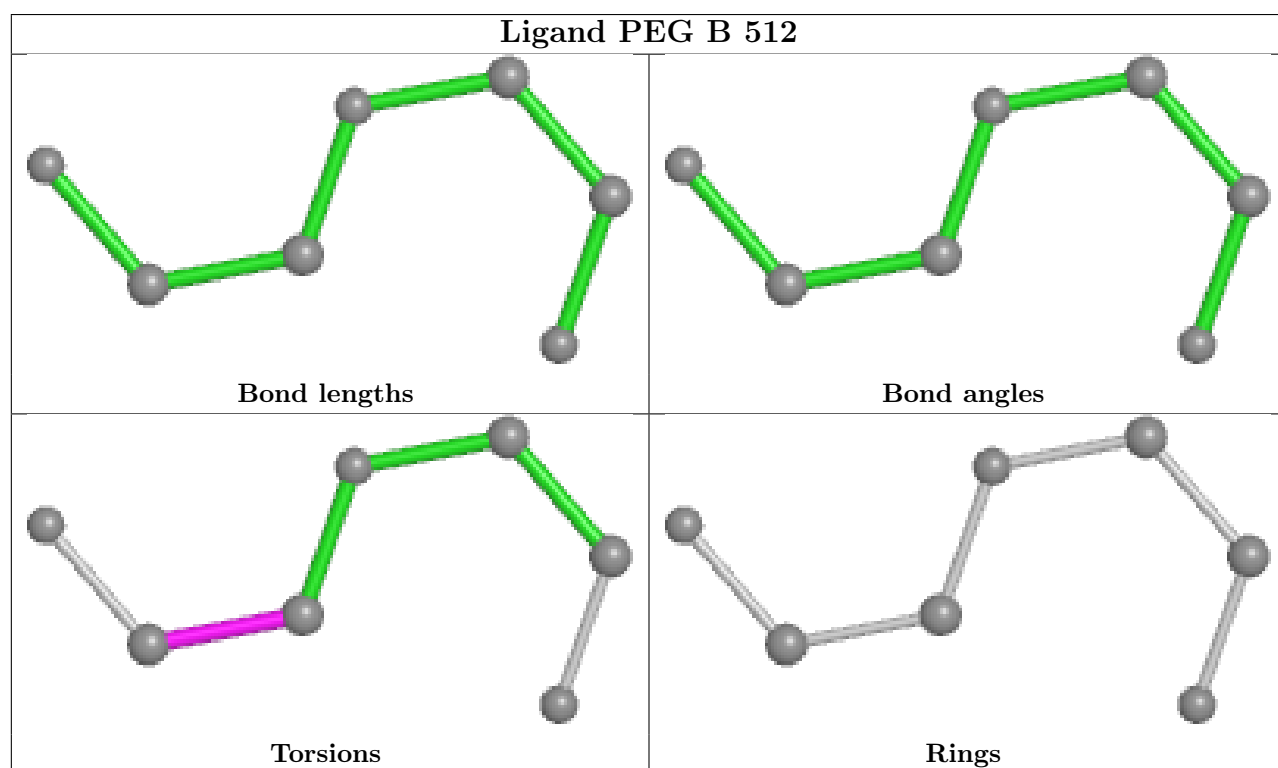
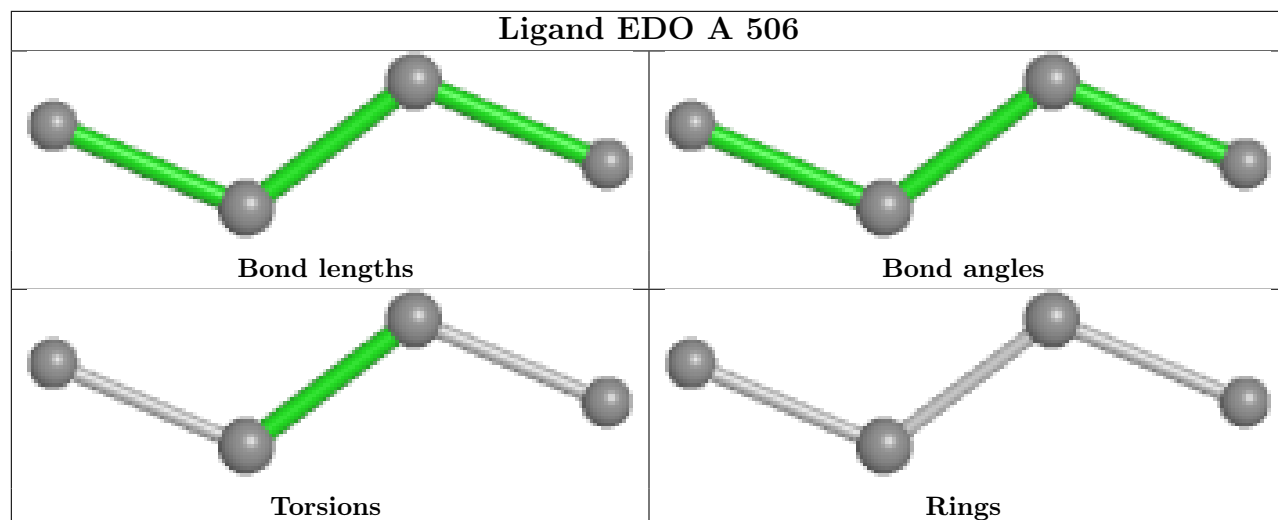
No monomer is involved in short contacts.

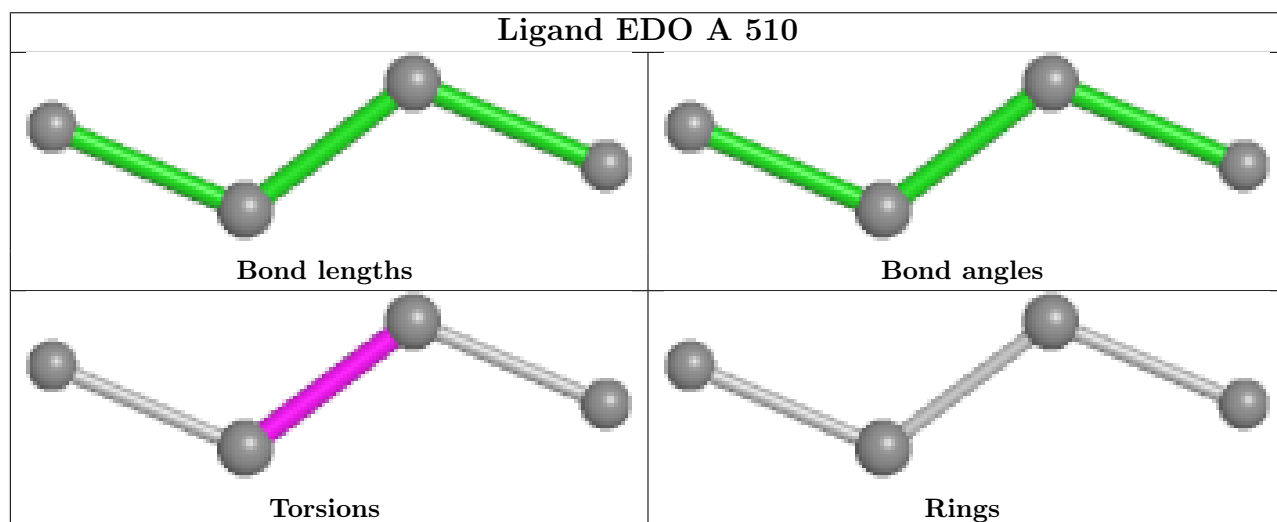
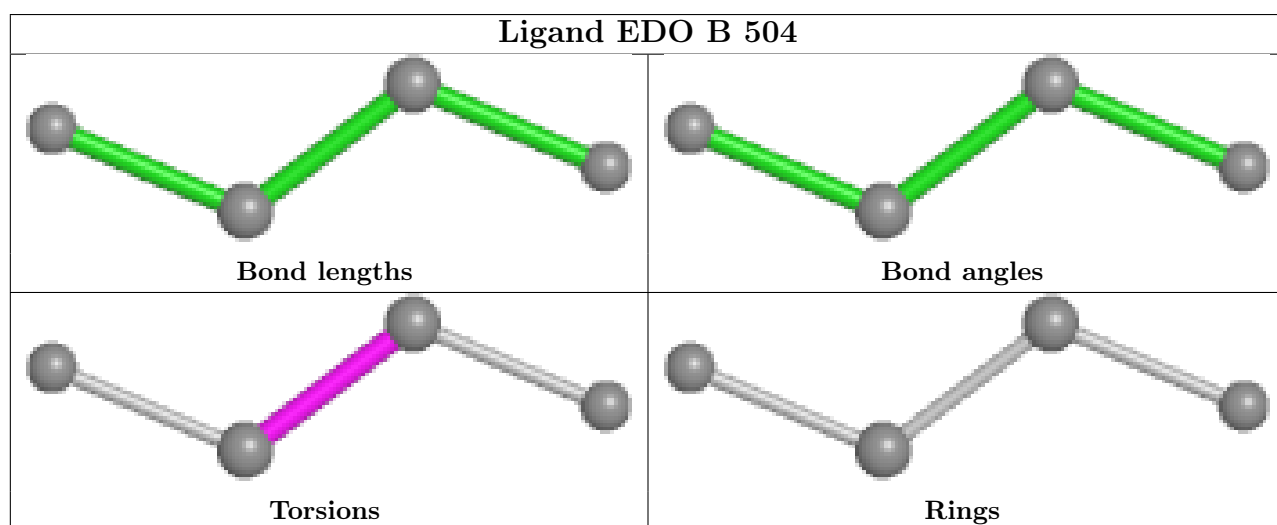
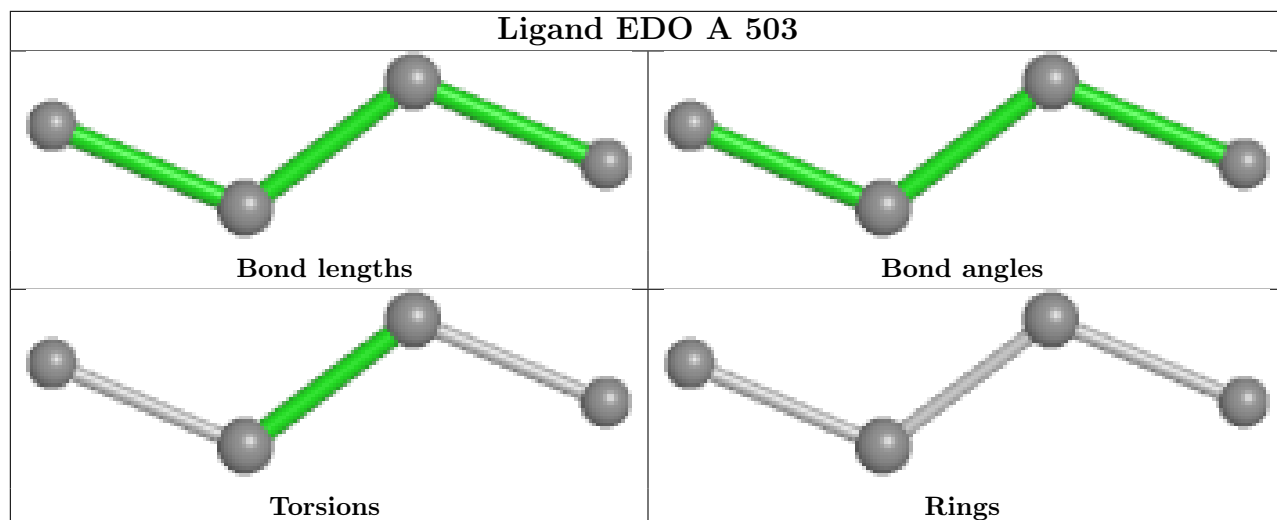
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

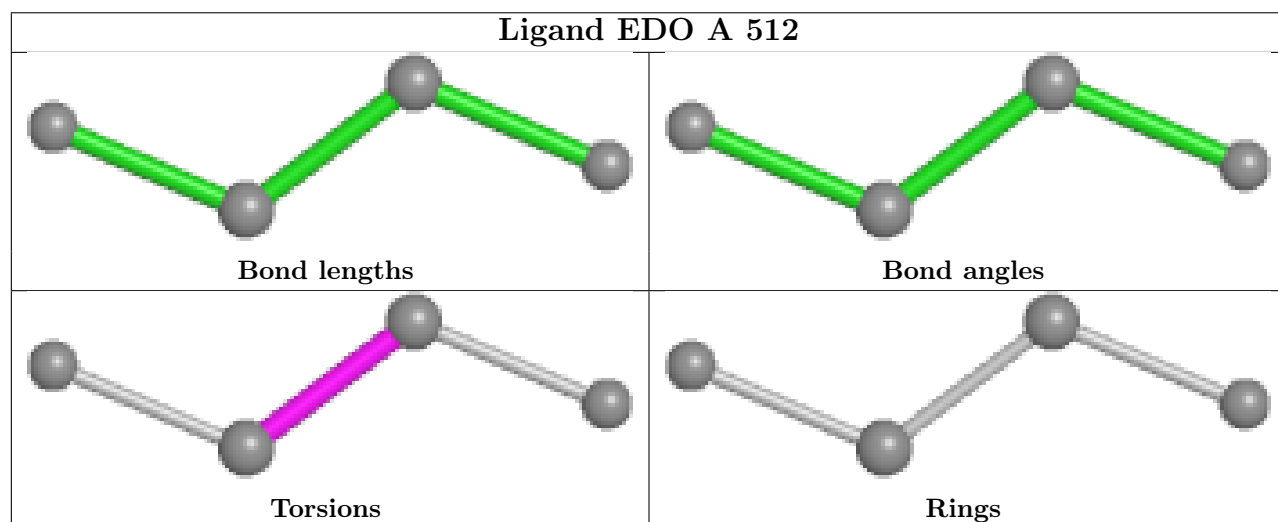
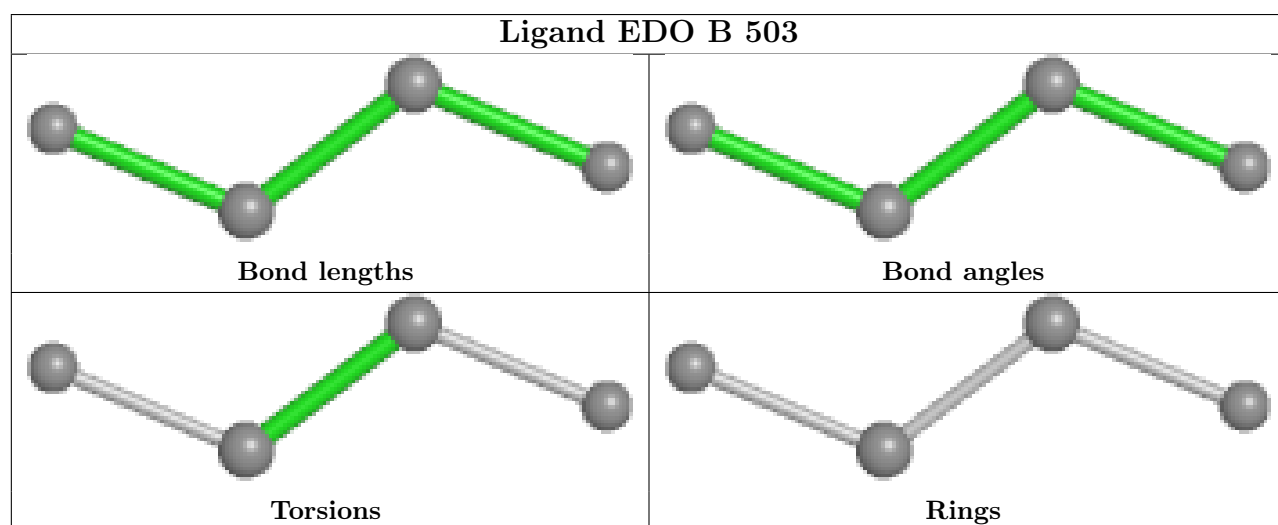
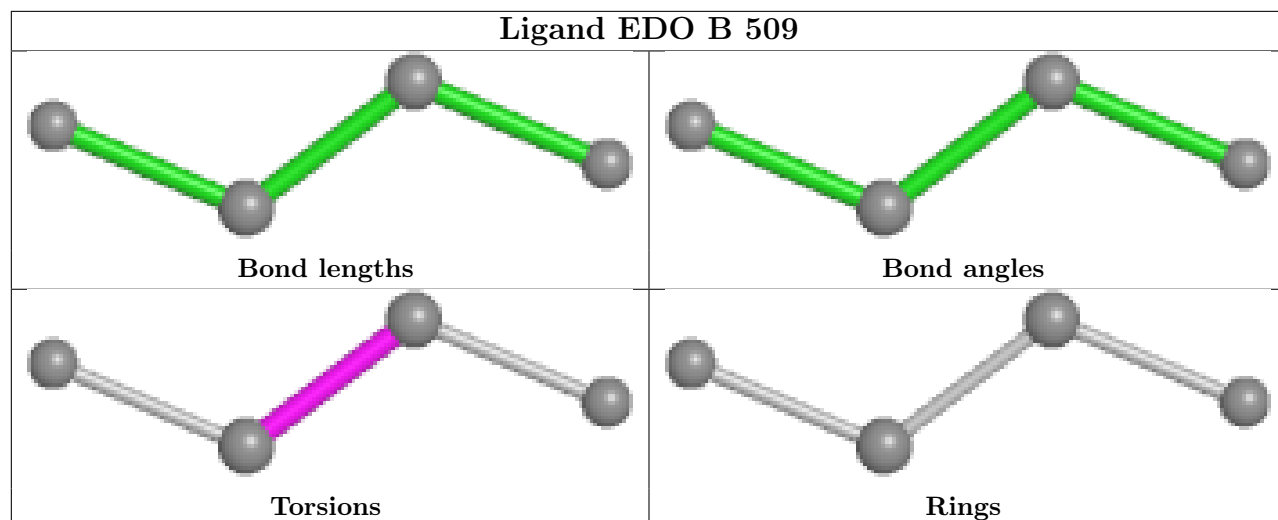


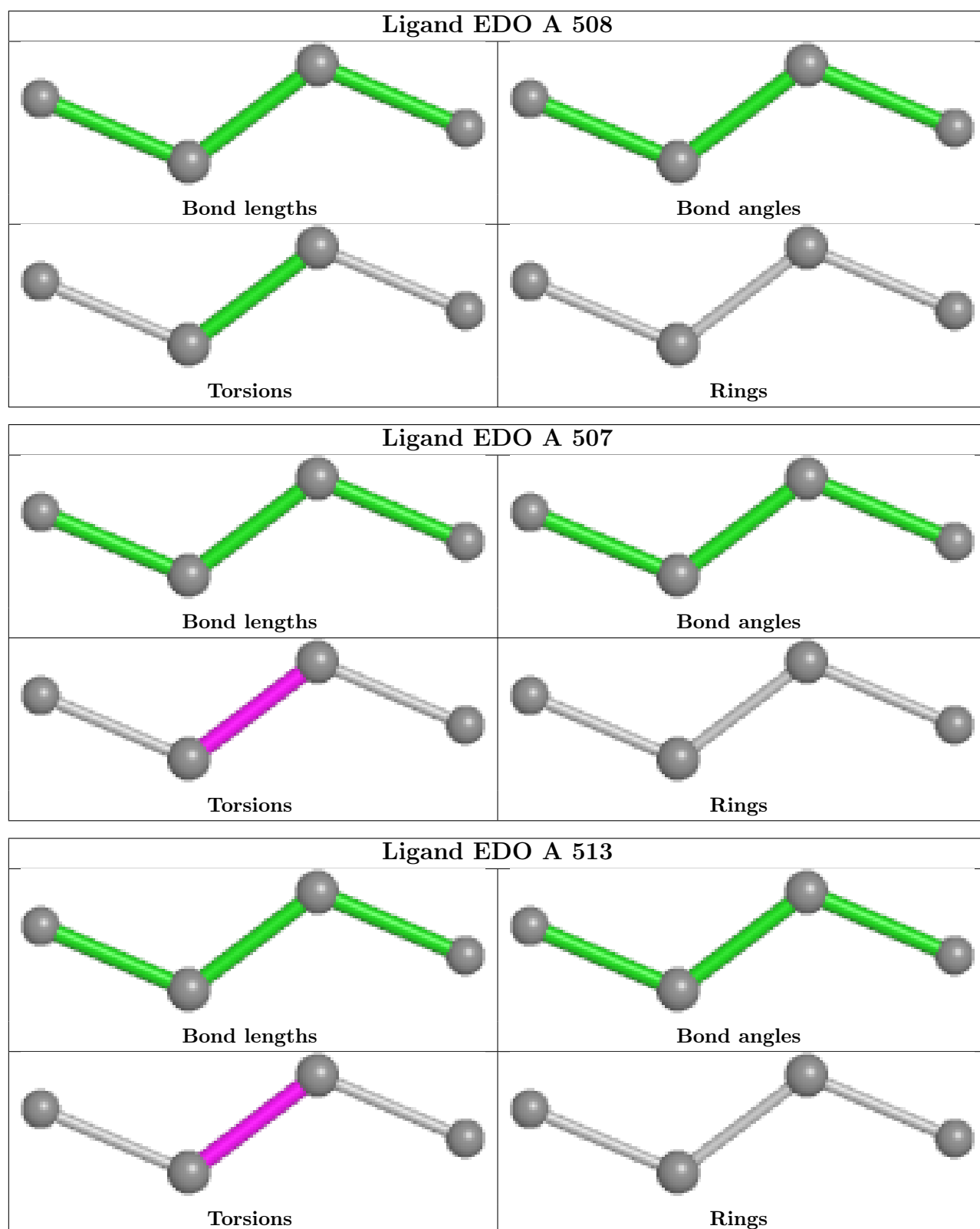


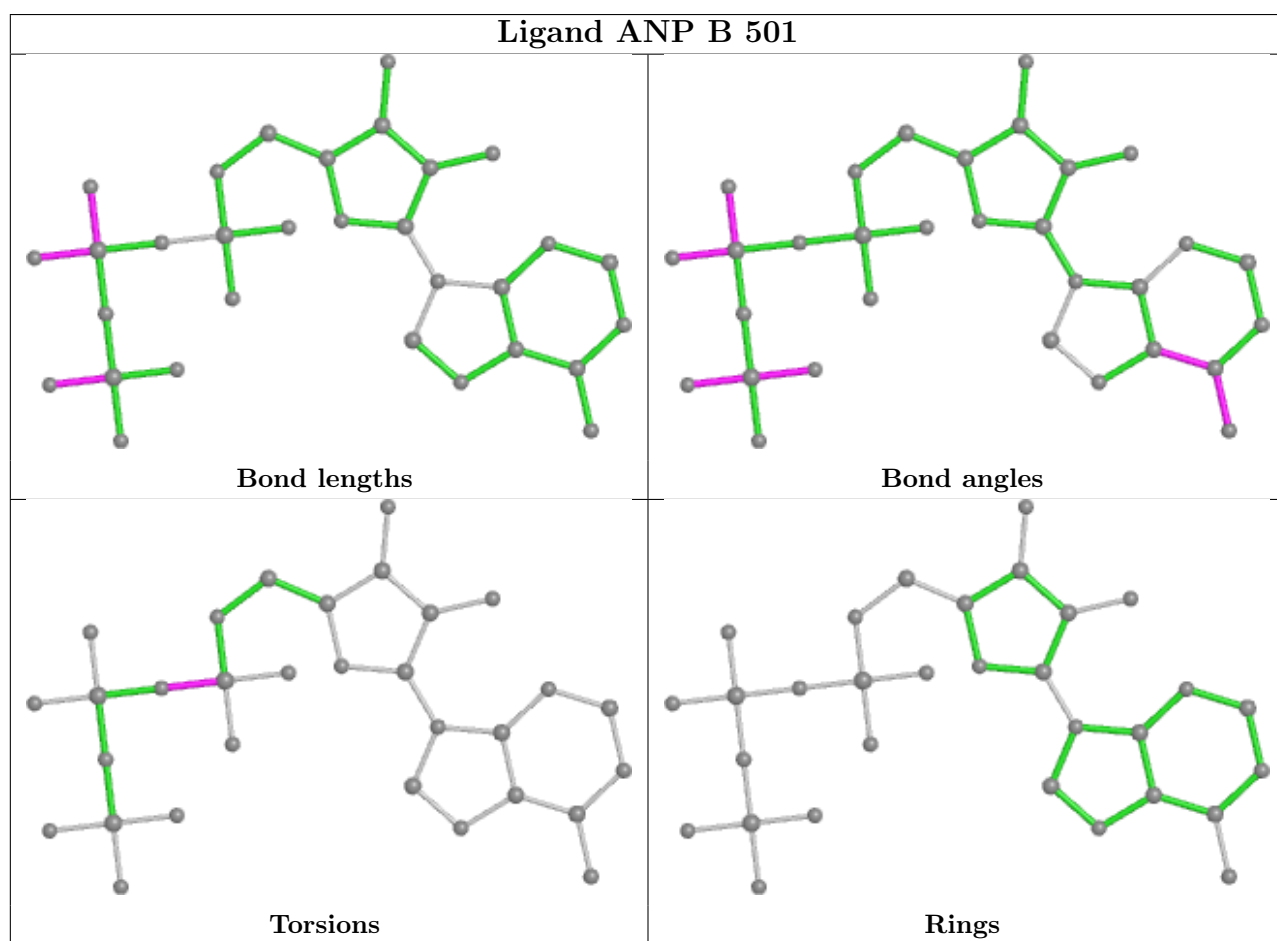
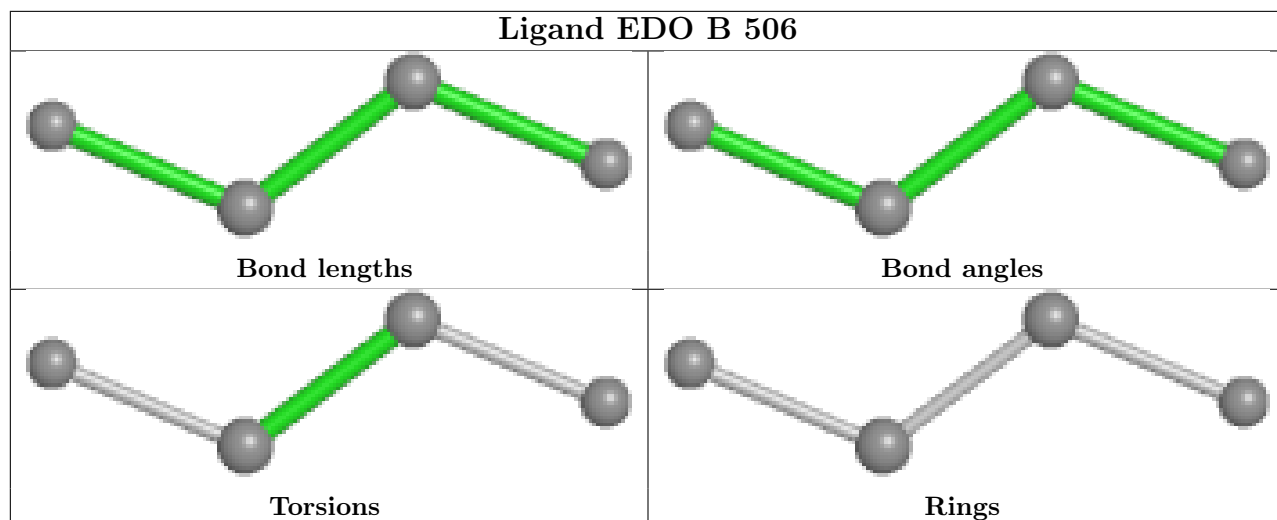


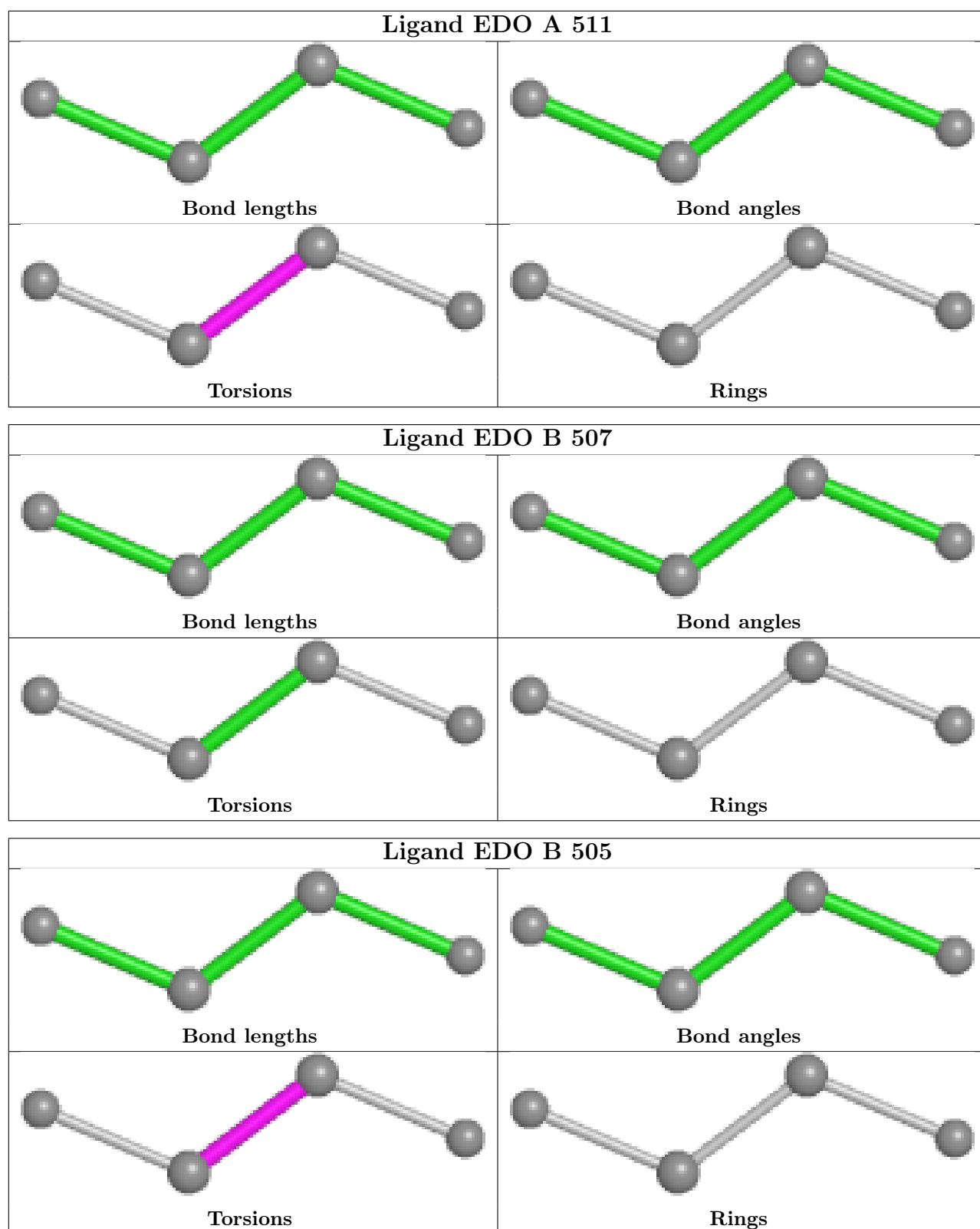












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 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	350/421 (83%)	0.05	20 (5%) 23 22	36, 54, 115, 143	0
1	B	359/421 (85%)	0.12	24 (6%) 17 16	37, 56, 116, 136	0
All	All	709/842 (84%)	0.08	44 (6%) 20 19	36, 55, 115, 143	0

All (44) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	26	MET	7.0
1	B	286	PRO	6.1
1	A	35	SER	5.4
1	B	93	PHE	5.2
1	B	386	ALA	5.2
1	A	290	GLU	4.9
1	A	286	PRO	4.7
1	B	124	ASP	4.2
1	B	120	GLY	4.0
1	B	295	GLN	4.0
1	A	122	LYS	3.9
1	B	121	GLU	3.7
1	B	34	GLY	3.6
1	A	289	THR	3.6
1	B	92	ARG	3.6
1	B	33	ASP	3.4
1	B	288	TYR	3.3
1	A	288	TYR	3.2
1	A	120	GLY	3.1
1	B	122	LYS	3.0
1	B	31	ASP	3.0
1	A	121	GLU	3.0
1	B	35	SER	2.9
1	B	278	ARG	2.9

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Mol	Chain	Res	Type	RSRZ
1	B	91	LYS	2.9
1	B	90	ASP	2.9
1	A	295	GLN	2.8
1	A	36	LYS	2.7
1	B	282	ARG	2.6
1	A	124	ASP	2.6
1	A	300	PRO	2.6
1	B	298	ALA	2.5
1	B	385	GLN	2.5
1	A	63	GLY	2.5
1	A	125	GLU	2.4
1	A	287	ASN	2.4
1	B	67	PHE	2.3
1	A	384	ILE	2.2
1	A	308	ARG	2.2
1	B	300	PRO	2.1
1	A	77	ASP	2.1
1	A	220	ARG	2.1
1	B	297	LYS	2.0
1	A	307	PRO	2.0

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

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

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
4	EDO	A	509	4/4	0.58	0.38	91,91,92,96	0
5	PEG	B	511	7/7	0.69	0.19	96,102,106,110	0
5	PEG	B	512	7/7	0.73	0.17	93,99,106,107	0

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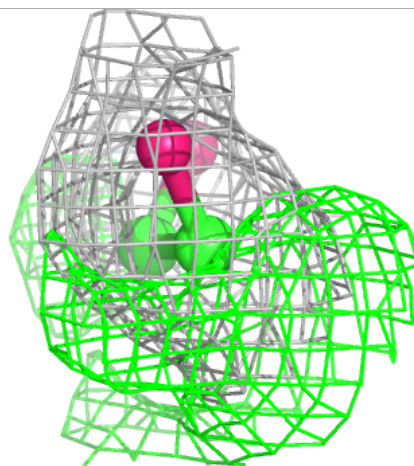
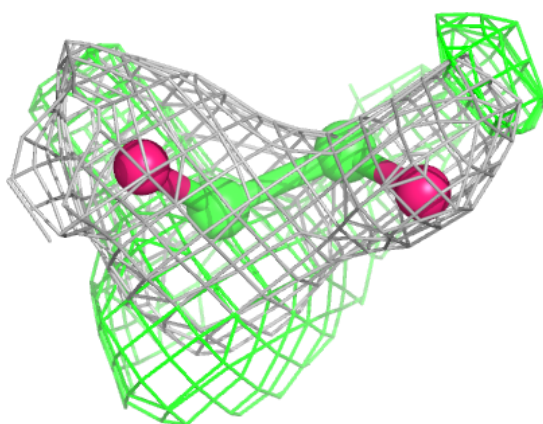
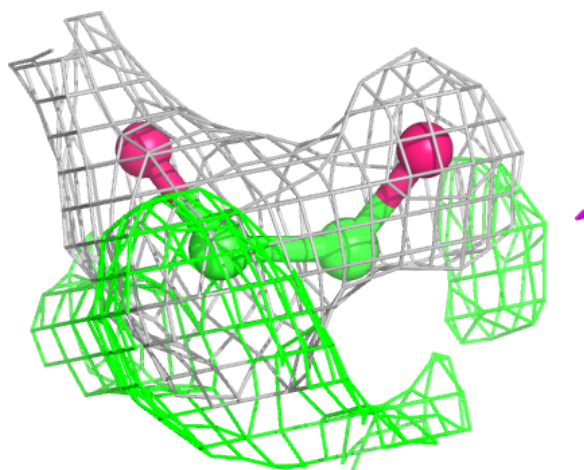
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
4	EDO	A	510	4/4	0.76	0.26	85,90,90,91	0
4	EDO	A	503	4/4	0.78	0.18	87,91,93,94	0
5	PEG	B	510	7/7	0.81	0.19	56,73,85,86	0
4	EDO	A	513	4/4	0.84	0.33	73,76,77,78	0
4	EDO	A	511	4/4	0.85	0.20	88,92,93,93	0
4	EDO	B	504	4/4	0.85	0.31	86,86,88,89	0
4	EDO	B	506	4/4	0.85	0.40	81,83,85,86	0
4	EDO	B	503	4/4	0.87	0.19	78,79,82,85	0
4	EDO	A	512	4/4	0.87	0.16	99,103,103,104	0
4	EDO	B	507	4/4	0.88	0.26	97,100,101,102	0
4	EDO	A	507	4/4	0.88	0.13	82,84,85,86	0
4	EDO	B	509	4/4	0.89	0.19	85,90,90,90	0
4	EDO	A	505	4/4	0.89	0.13	78,79,81,82	0
3	MG	A	502	1/1	0.90	0.10	74,74,74,74	0
3	MG	B	502	1/1	0.91	0.17	62,62,62,62	0
4	EDO	B	508	4/4	0.91	0.18	83,85,86,87	0
4	EDO	B	505	4/4	0.92	0.17	68,75,80,82	0
4	EDO	A	504	4/4	0.92	0.11	77,78,79,82	0
4	EDO	A	506	4/4	0.93	0.28	74,75,76,77	0
4	EDO	A	508	4/4	0.94	0.23	72,72,73,74	0
2	ANP	A	501	31/31	0.95	0.10	53,65,104,107	0
2	ANP	B	501	31/31	0.97	0.13	47,53,84,91	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.

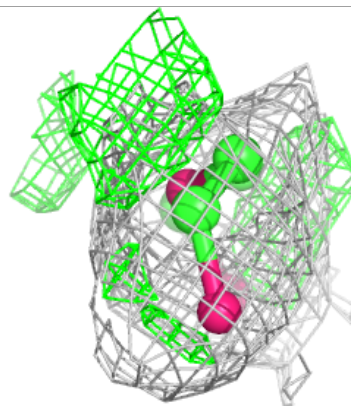
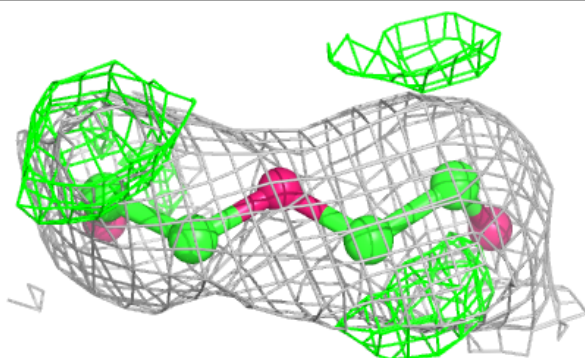
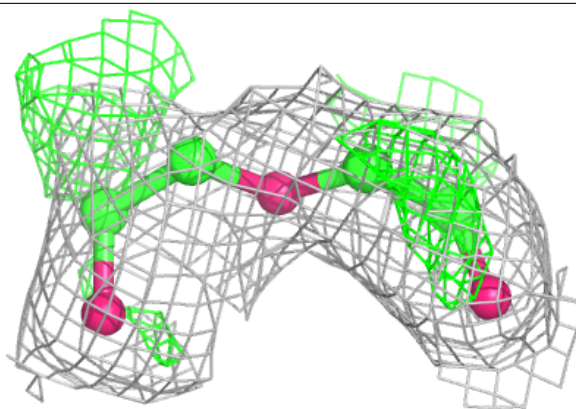
Electron density around EDO A 509:

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

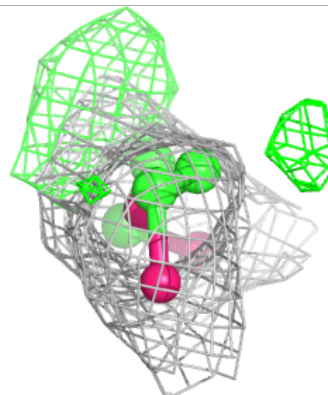
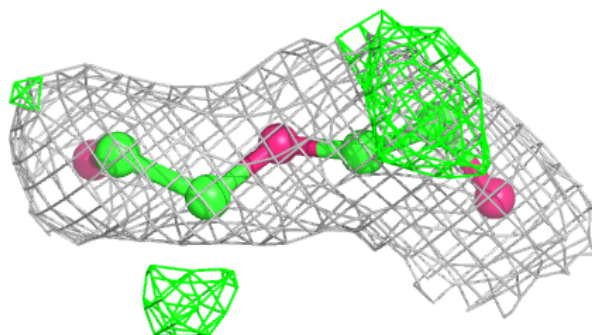
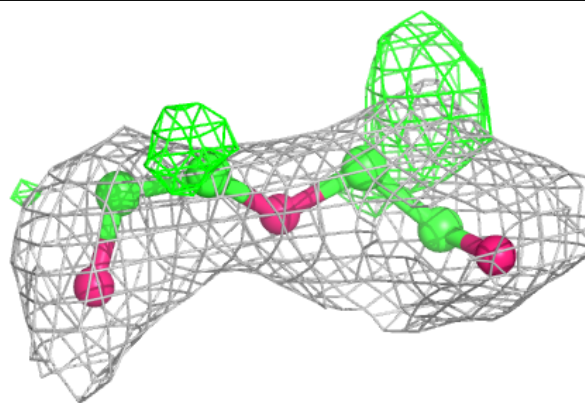


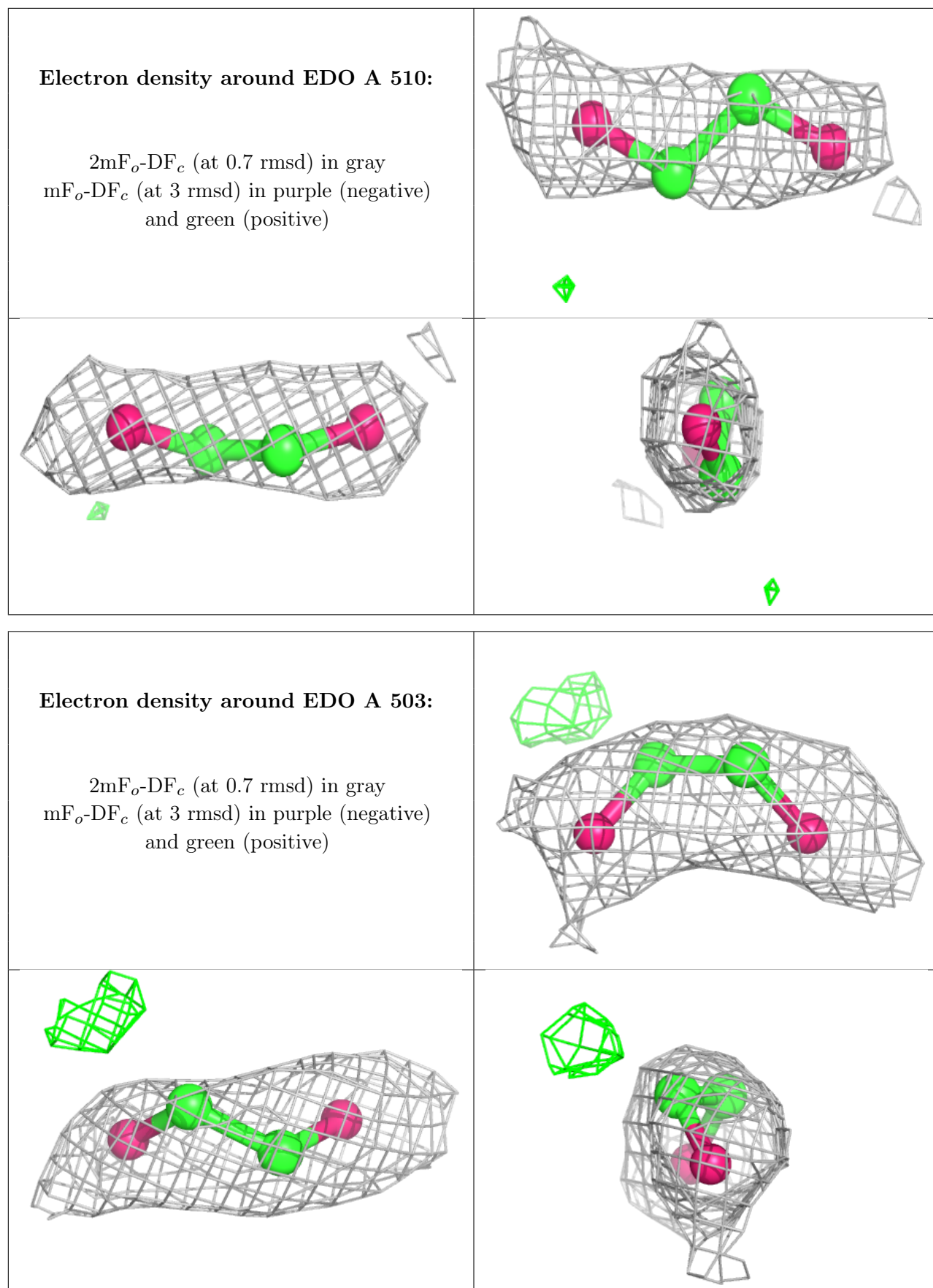
Electron density around PEG B 511:

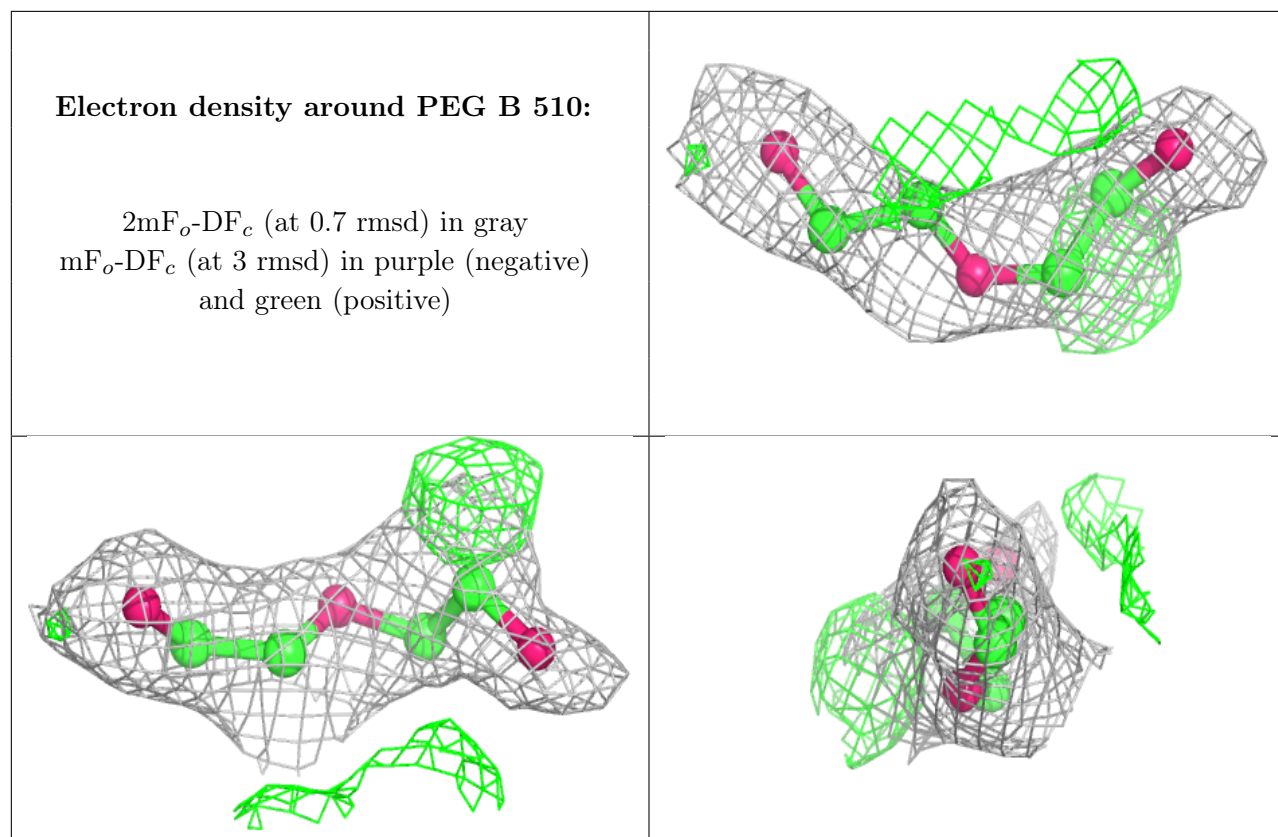
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

**Electron density around PEG B 512:**

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

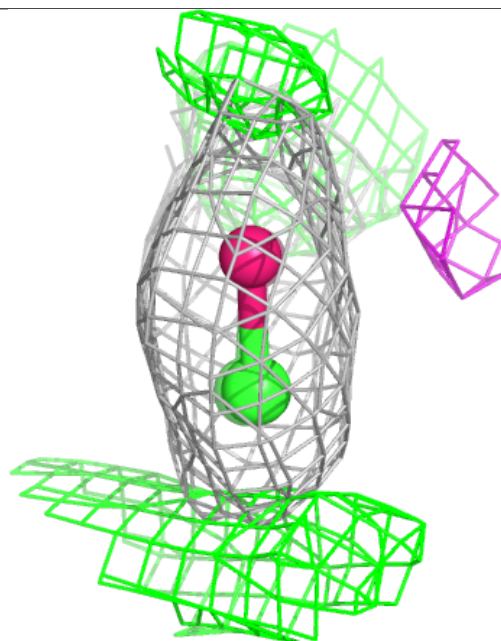
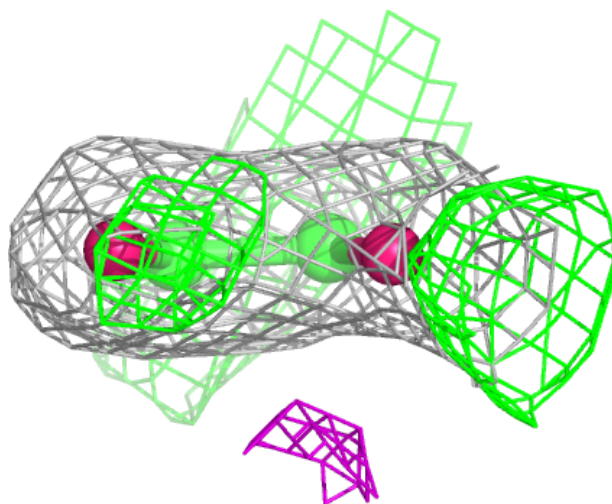
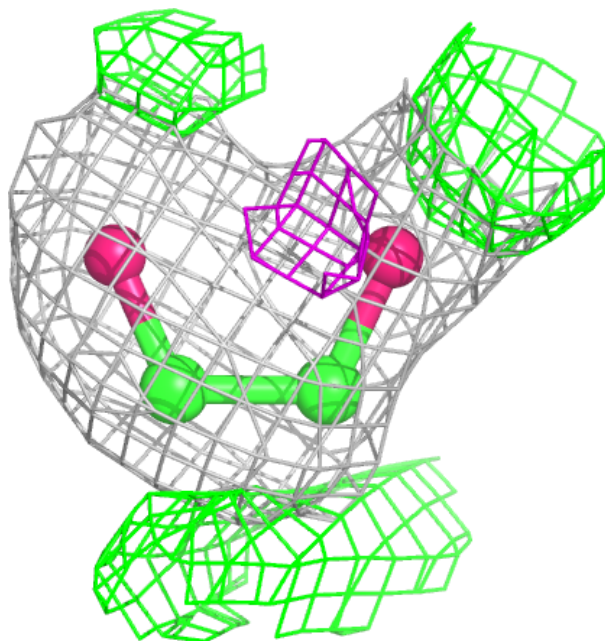






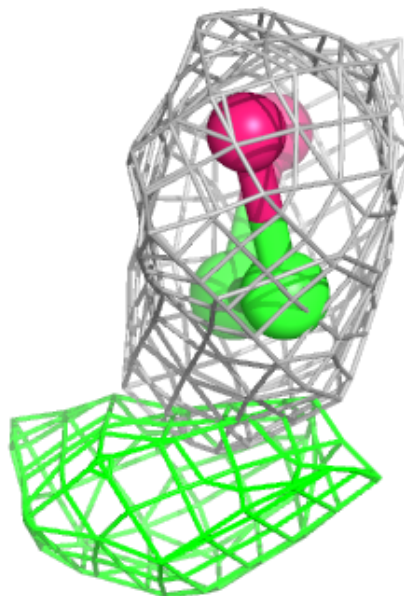
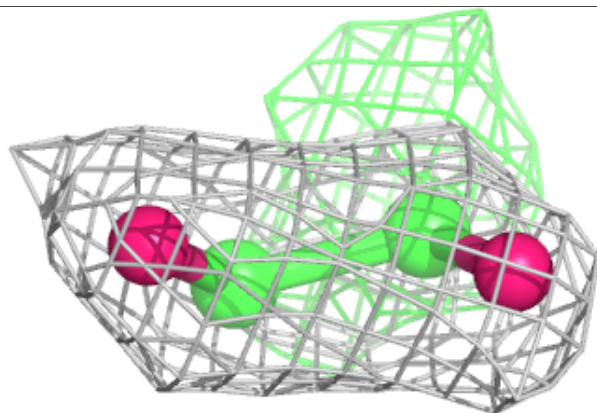
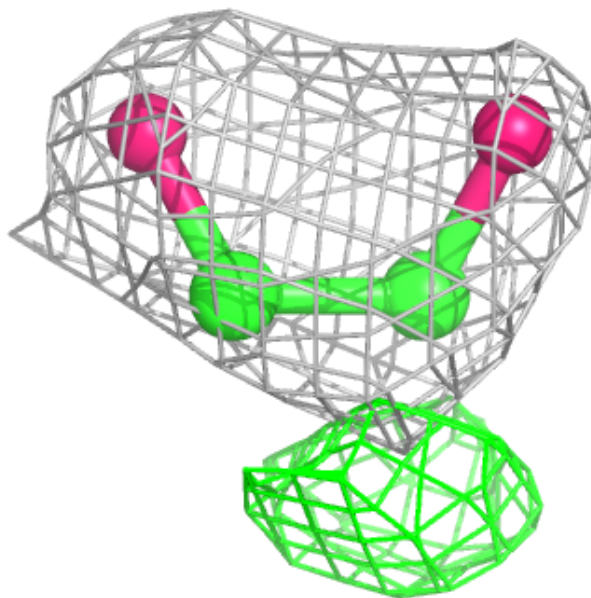
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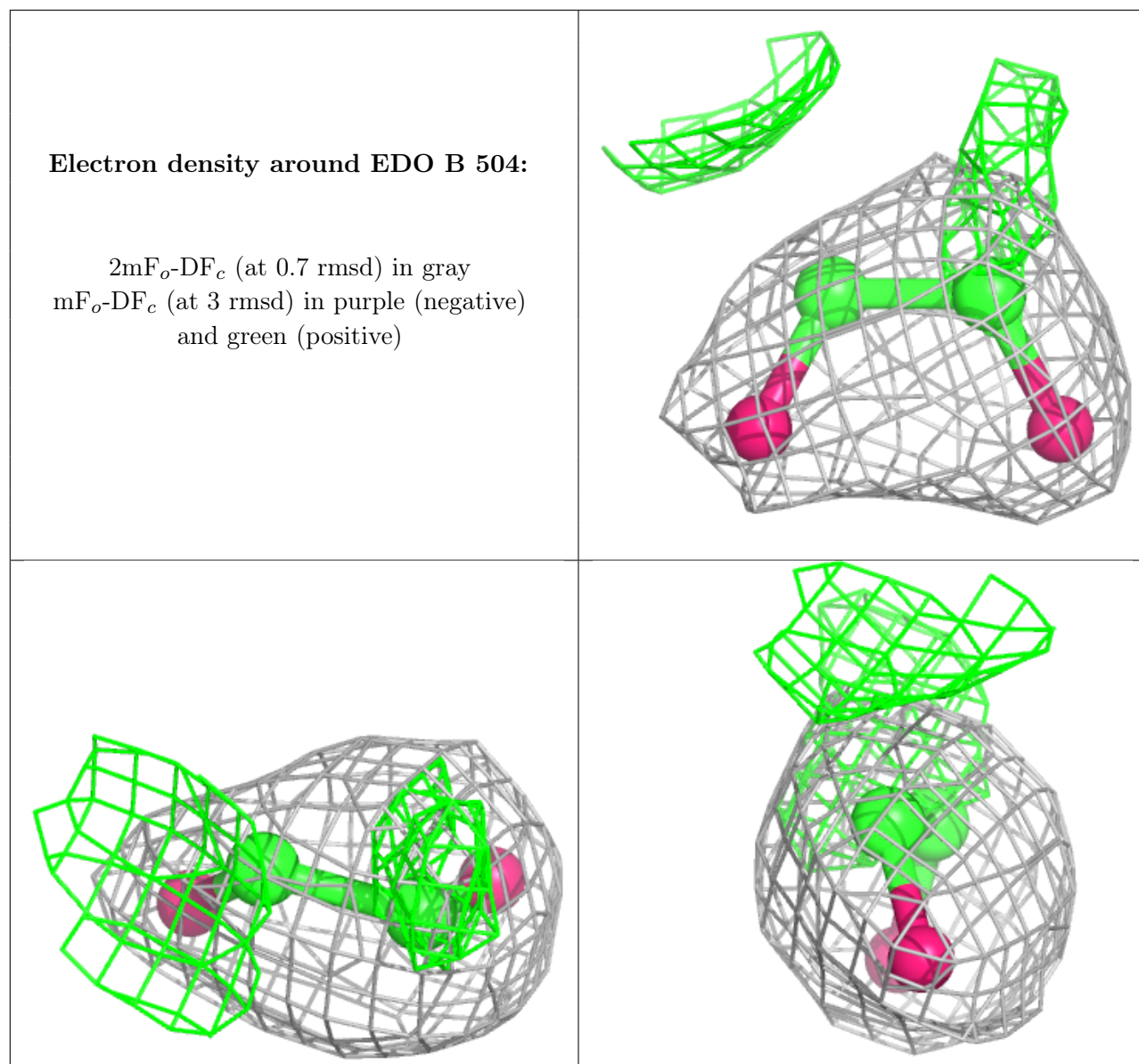
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around EDO A 511:

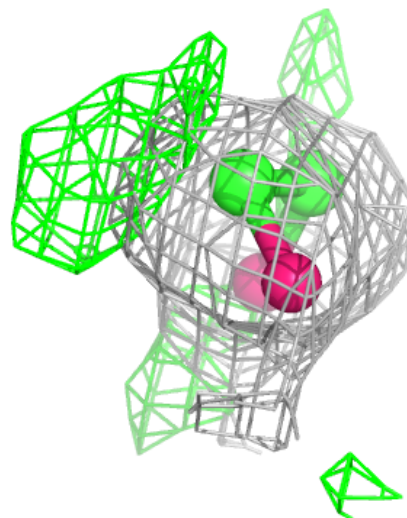
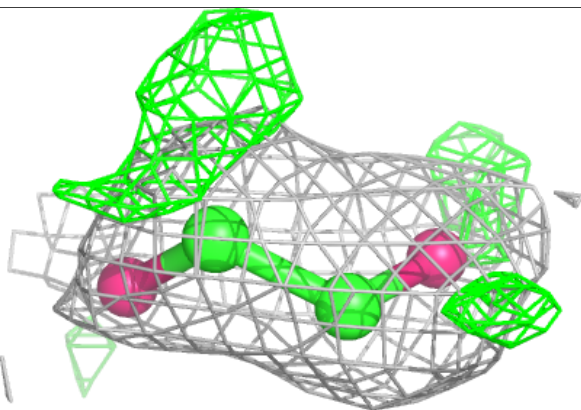
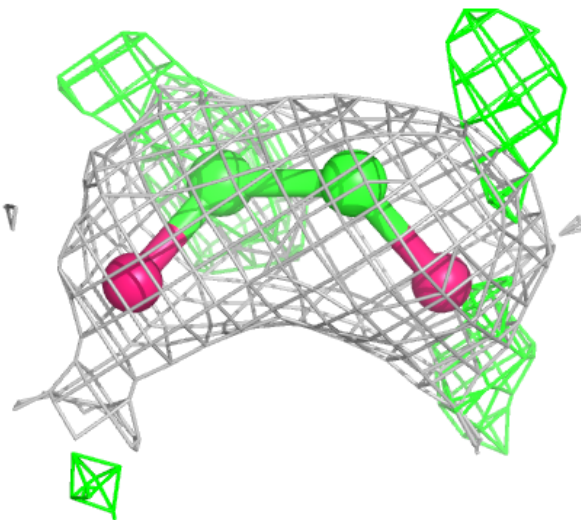
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)





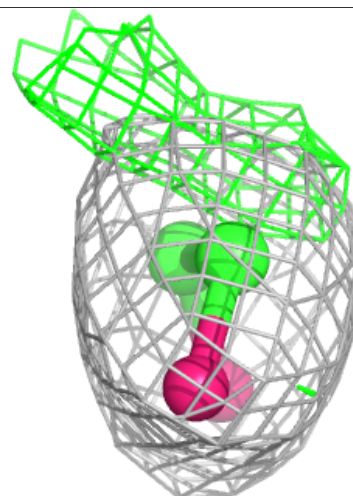
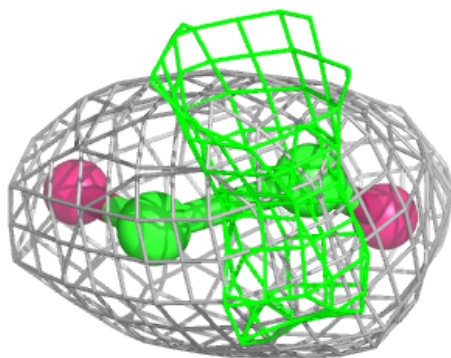
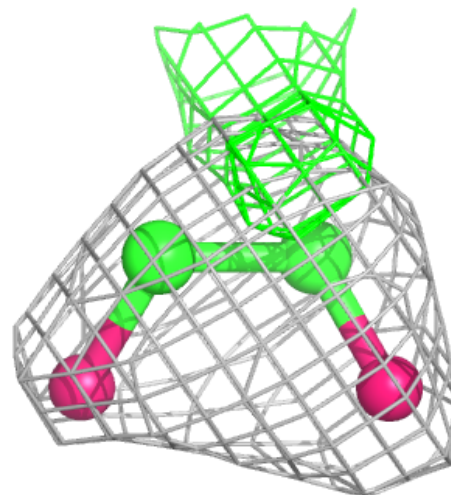
Electron density around EDO B 506:

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 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



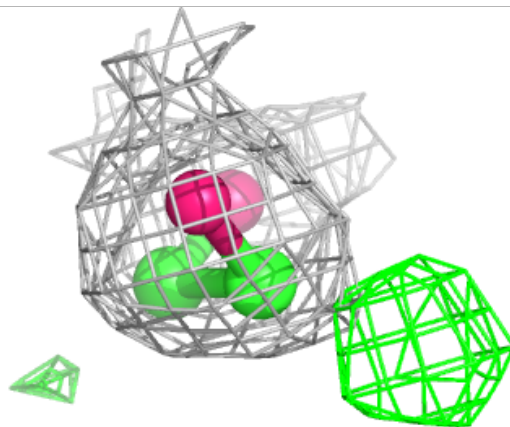
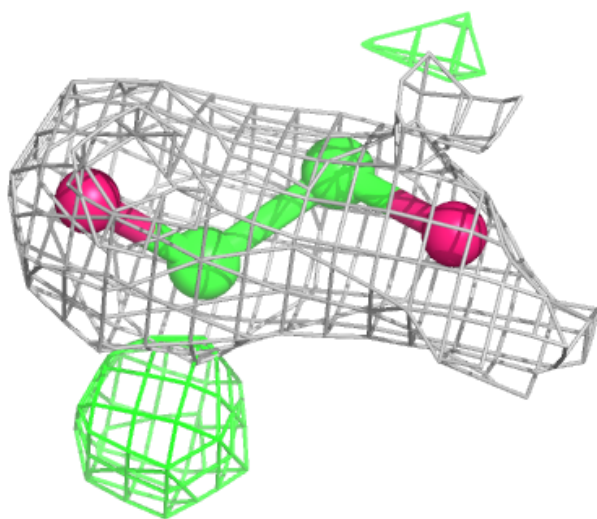
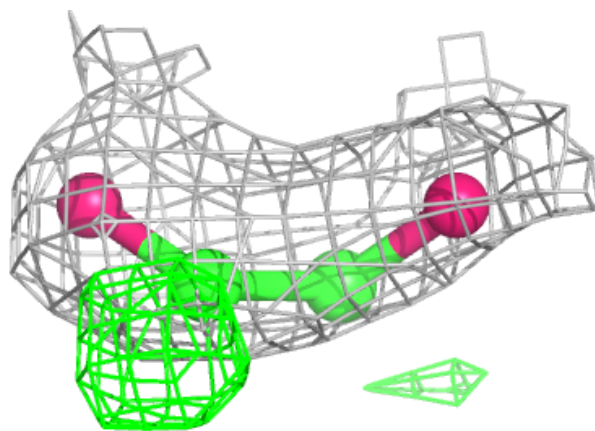
Electron density around EDO B 503:

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 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



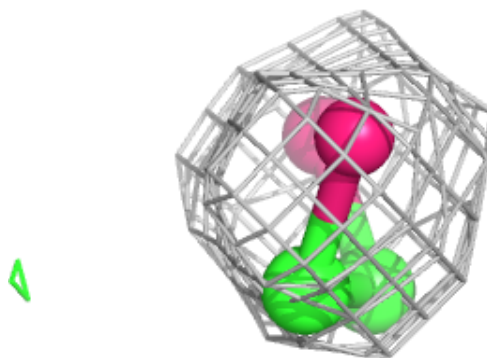
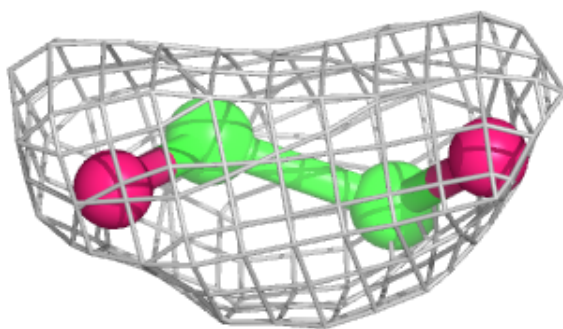
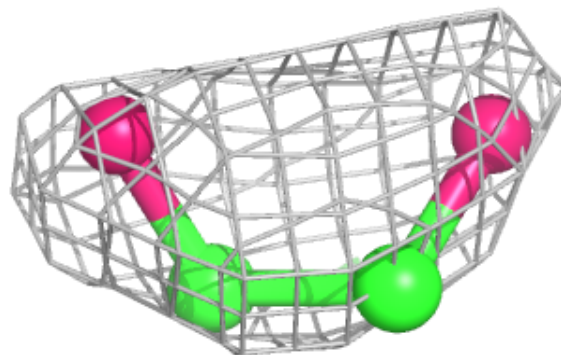
Electron density around EDO A 512:

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 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



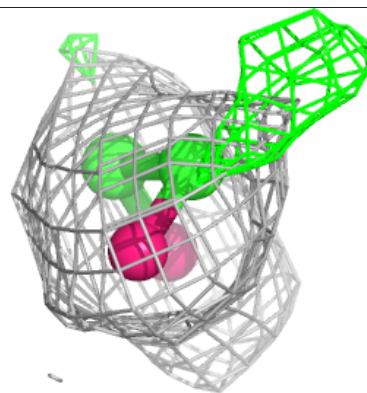
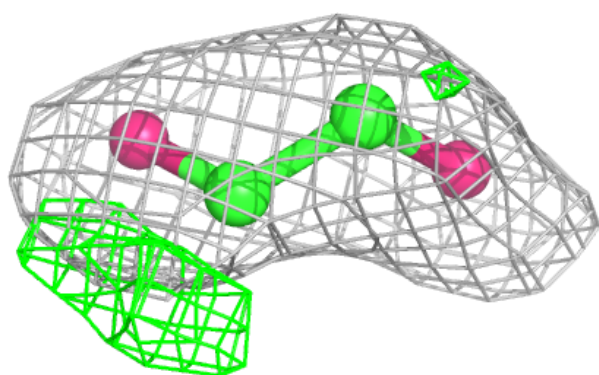
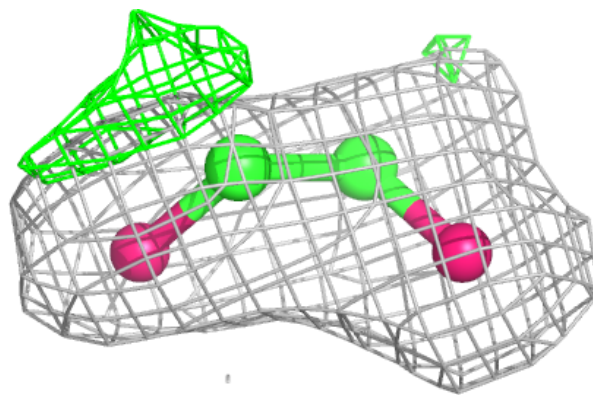
Electron density around EDO B 507:

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 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



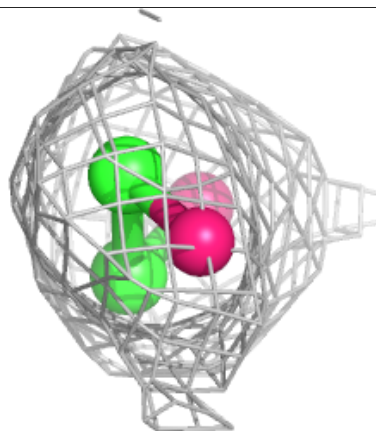
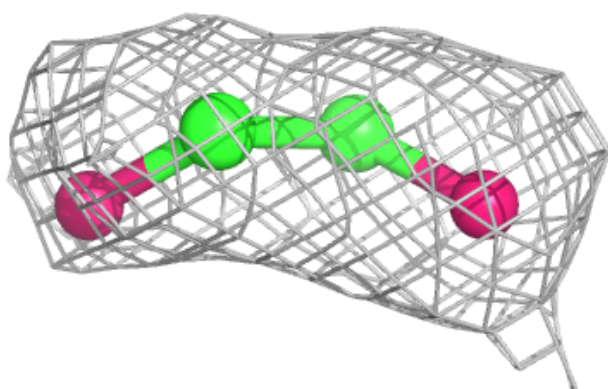
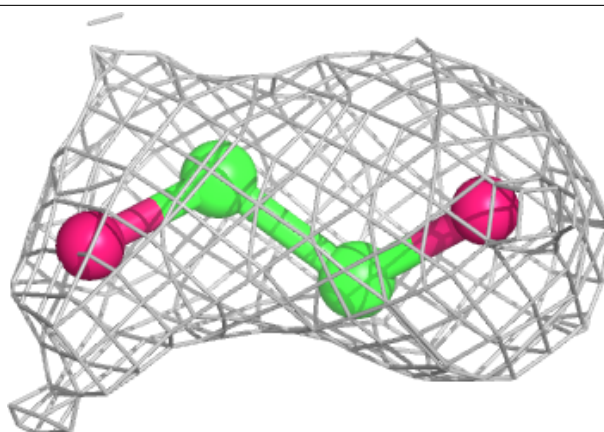
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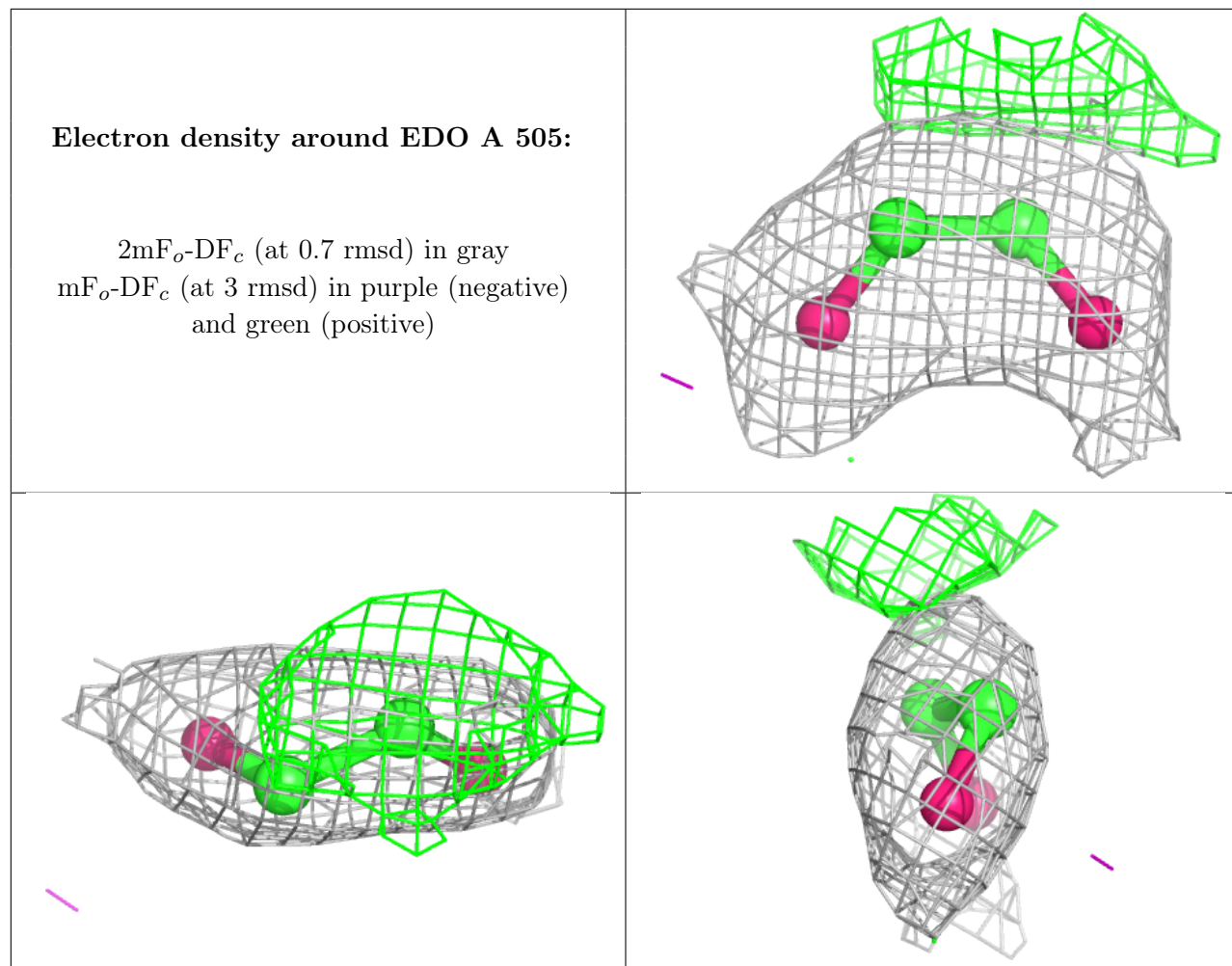
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and green (positive)



Electron density around EDO B 509:

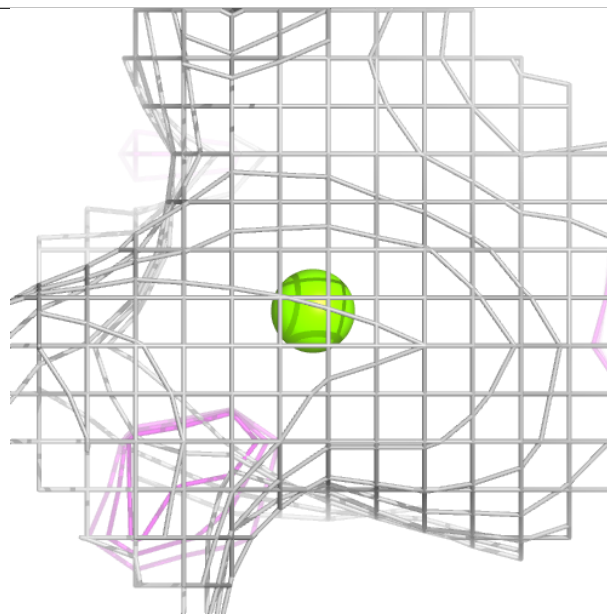
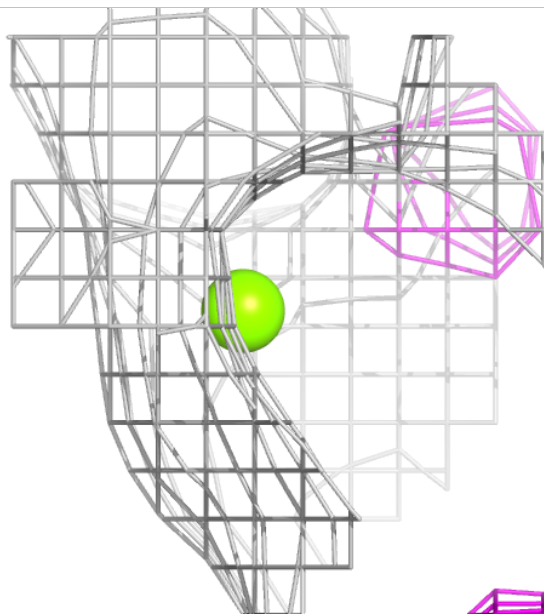
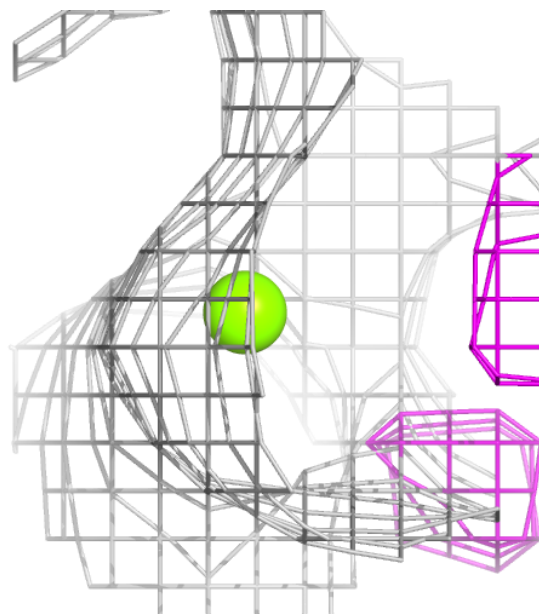
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 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)





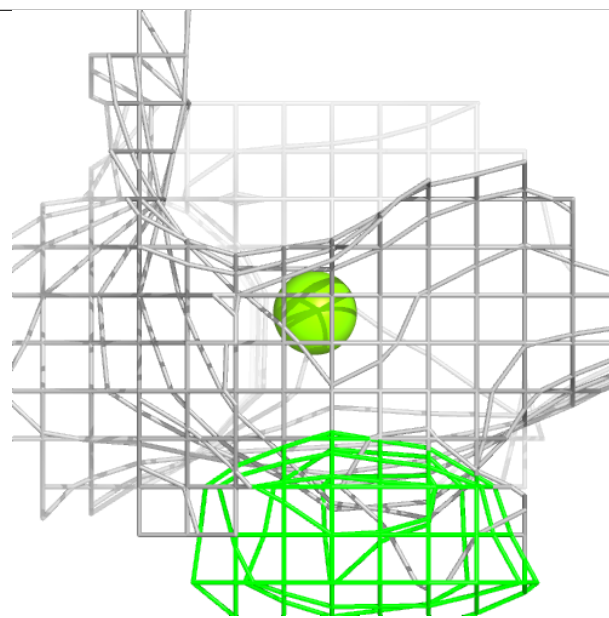
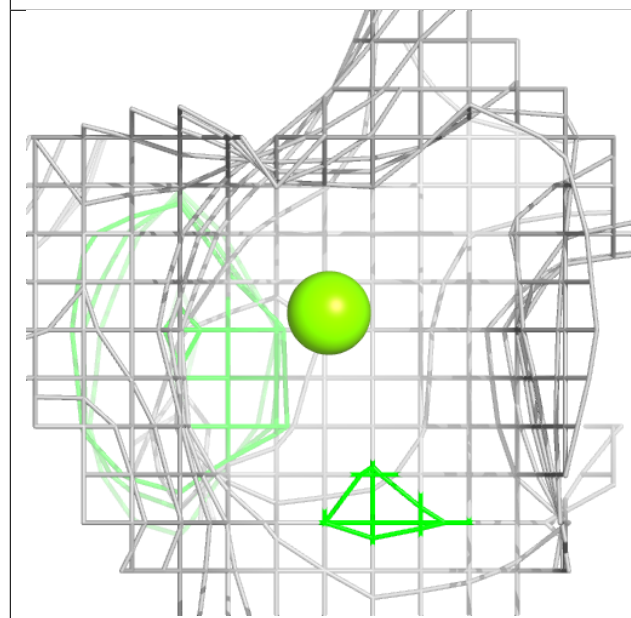
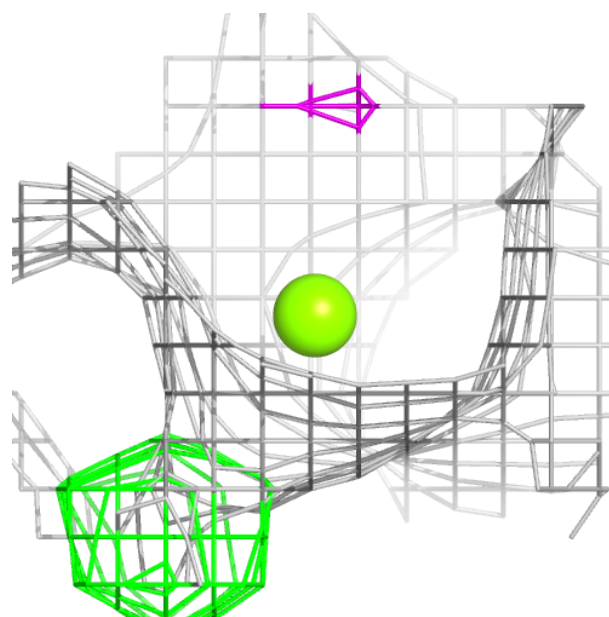
Electron density around MG A 502:

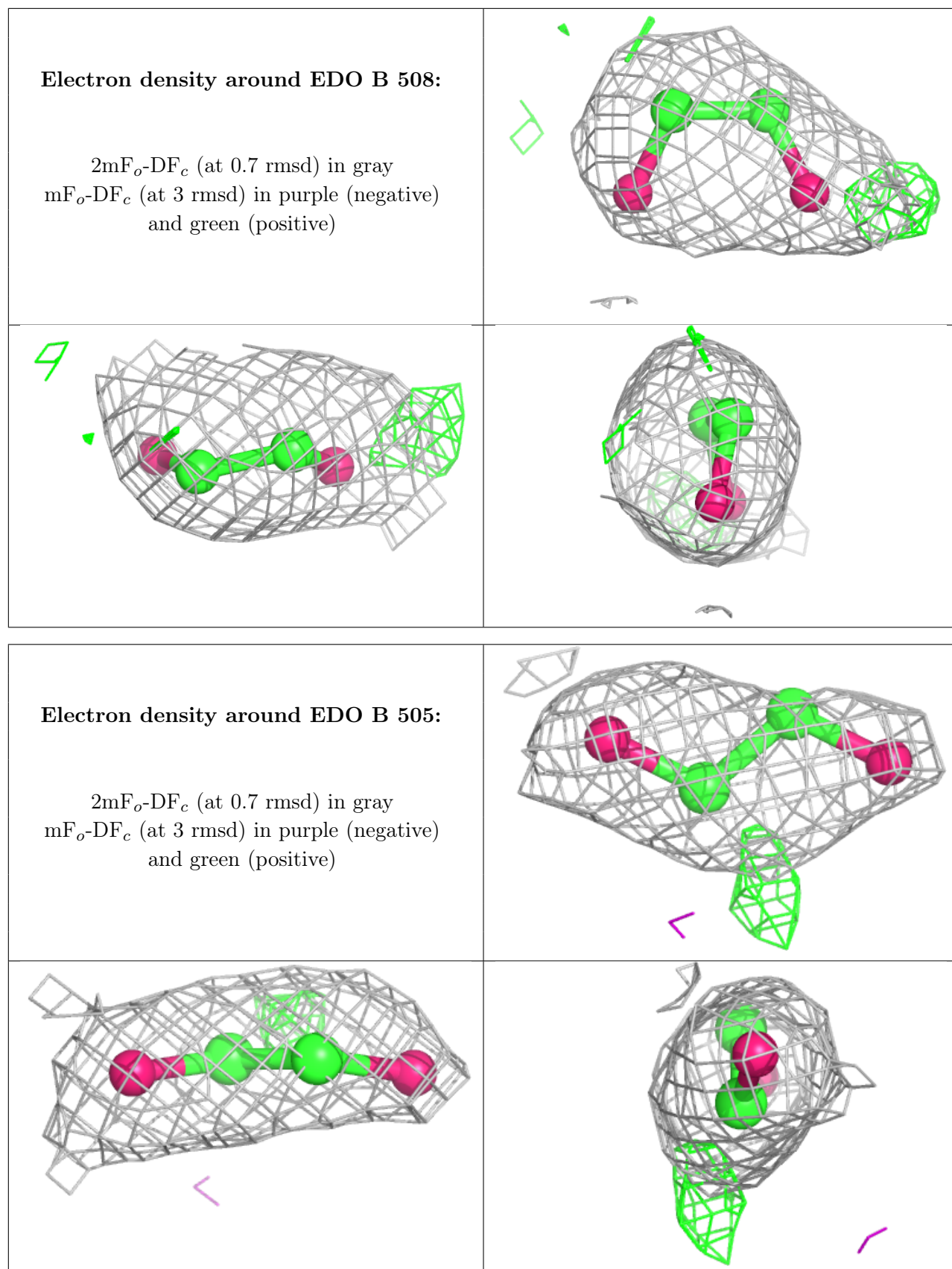
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around MG B 502:

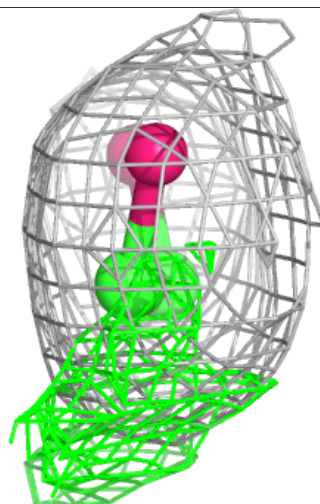
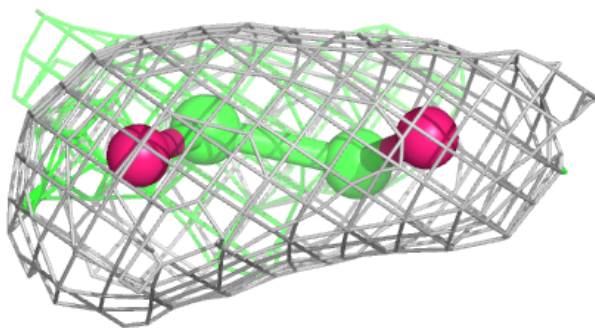
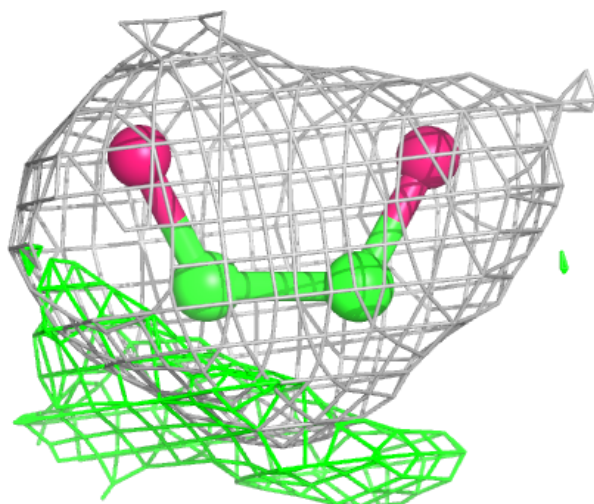
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)





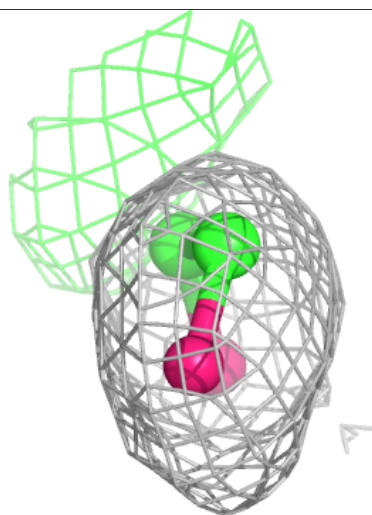
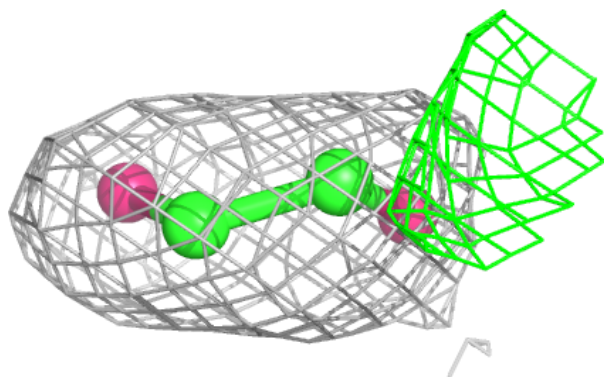
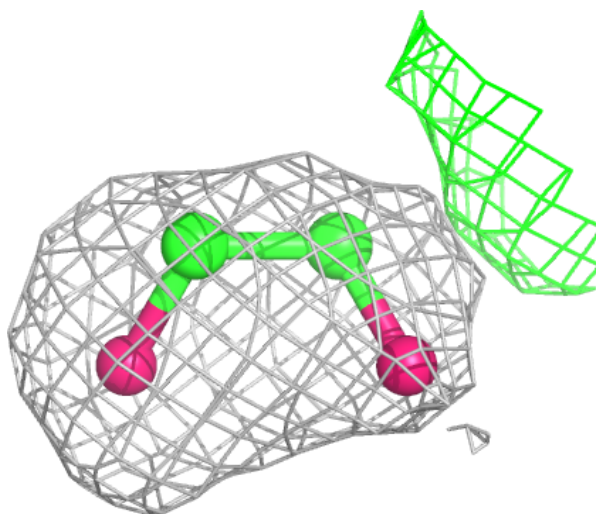
Electron density around EDO A 504:

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



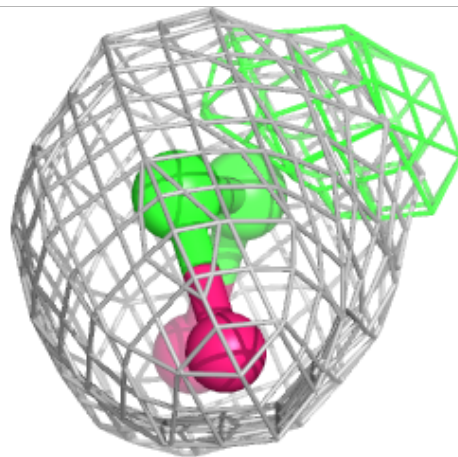
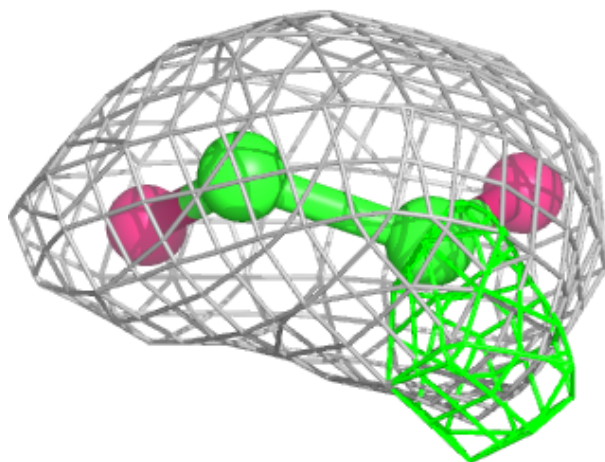
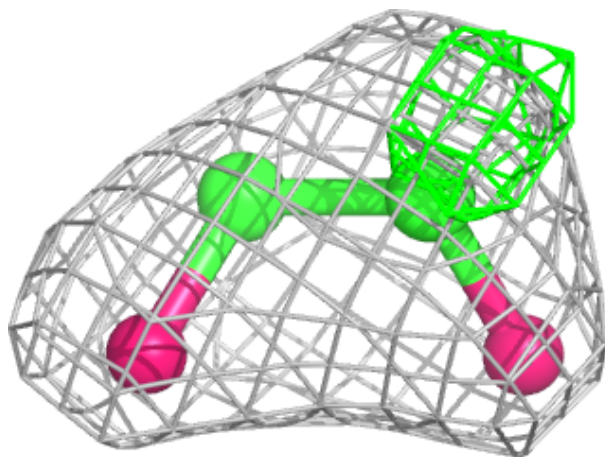
Electron density around EDO A 506:

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



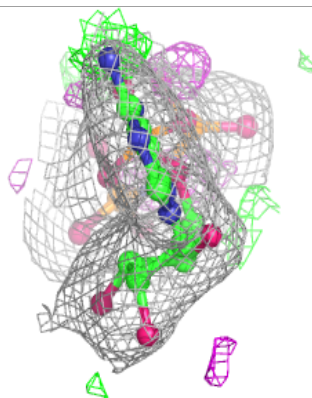
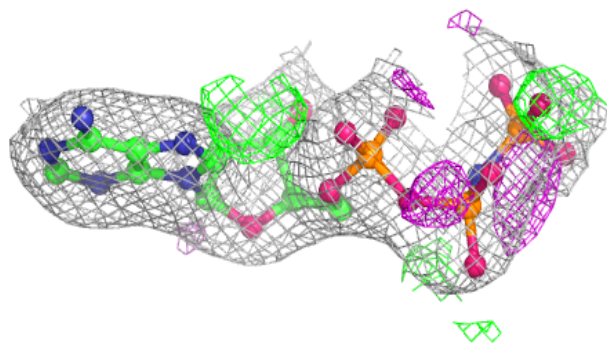
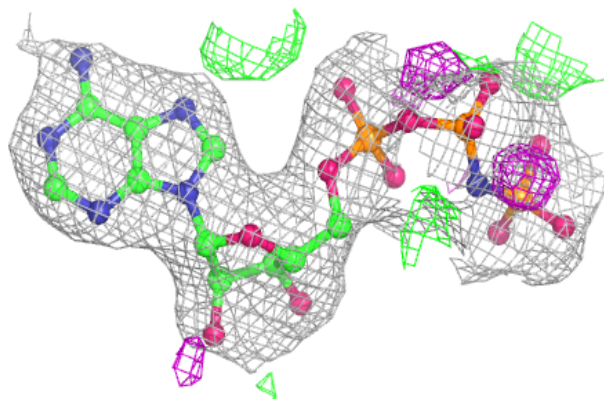
Electron density around EDO A 508:

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

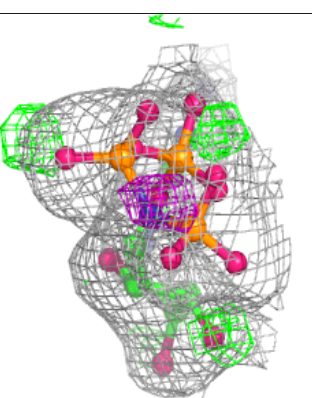
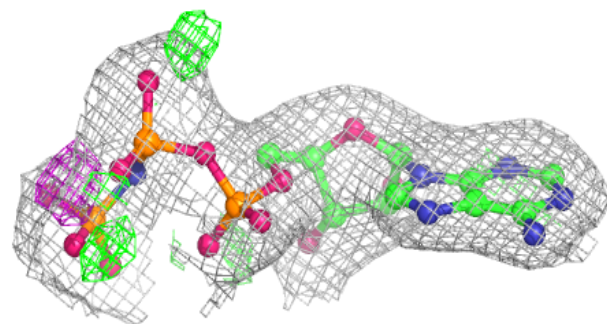
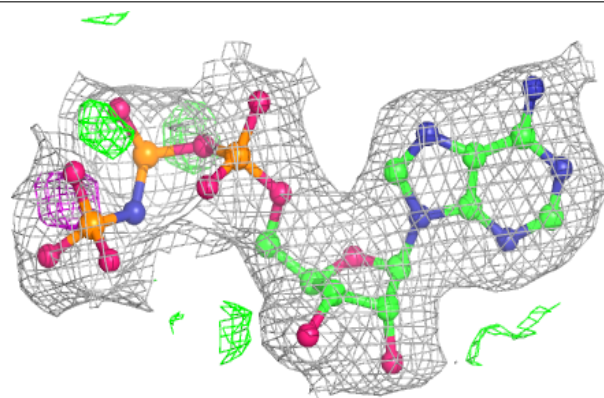


Electron density around ANP A 501:

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

**Electron density around ANP B 501:**

$2mF_o-DF_c$ (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.