WORLDWIDE PDB

PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report (i)

Nov 13, 2023 – 09:59 PM JST

PDB ID	:	5Y78
Title	:	Crystal structure of the triose-phosphate/phosphate translocator in complex with inorganic phosphate
Authors	:	Lee, Y.; Nishizawa, T.; Takemoto, M.; Kumazaki, K.; Yamashita, K.; Hirata, K.; Minoda, A.; Nagatoishi, S.; Tsumoto, K.; Ishitani, R.; Nureki, O.
Deposited on	:	2017-08-16
Resolution	:	2.10 Å(reported)

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

|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	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 2.10 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	Percentile Ranks	Value
Rfree		0.226
Clashscore		5
Ramachandran outliers		0
Sidechain outliers		1.4%
RSRZ outliers		4.1%

Worse   *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution
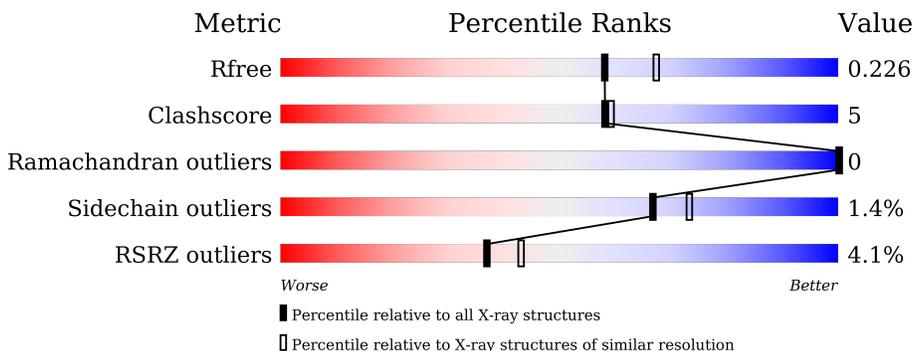
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	5197 (2.10-2.10)
Clashscore	141614	5710 (2.10-2.10)
Ramachandran outliers	138981	5647 (2.10-2.10)
Sidechain outliers	138945	5648 (2.10-2.10)
RSRZ outliers	127900	5083 (2.10-2.10)

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

Mol	Chain	Length	Quality of chain
1	A	329	5% ▮ 85% 8% 7%
1	B	329	3% ▮ 84% 9% 7%

2   Entry composition ⓘ

There are 4 unique types of molecules in this entry. The entry contains 5572 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 Putative hexose phosphate translocator.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	305	Total	C	N	O	S	0	0	0
			2358	1583	365	398	12			
1	B	305	Total	C	N	O	S	0	0	0
			2363	1588	365	398	12			

There are 18 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	90	MET	-	initiating methionine	UNP B5AJT1
A	411	GLY	-	expression tag	UNP B5AJT1
A	412	THR	-	expression tag	UNP B5AJT1
A	413	GLU	-	expression tag	UNP B5AJT1
A	414	ASN	-	expression tag	UNP B5AJT1
A	415	LEU	-	expression tag	UNP B5AJT1
A	416	TYR	-	expression tag	UNP B5AJT1
A	417	PHE	-	expression tag	UNP B5AJT1
A	418	GLN	-	expression tag	UNP B5AJT1
B	90	MET	-	initiating methionine	UNP B5AJT1
B	411	GLY	-	expression tag	UNP B5AJT1
B	412	THR	-	expression tag	UNP B5AJT1
B	413	GLU	-	expression tag	UNP B5AJT1
B	414	ASN	-	expression tag	UNP B5AJT1
B	415	LEU	-	expression tag	UNP B5AJT1
B	416	TYR	-	expression tag	UNP B5AJT1
B	417	PHE	-	expression tag	UNP B5AJT1
B	418	GLN	-	expression tag	UNP B5AJT1

- Molecule 2 is PHOSPHATE ION (three-letter code: PO4) (formula: O_4P) (labeled as "Ligand of Interest" by depositor).

PO4
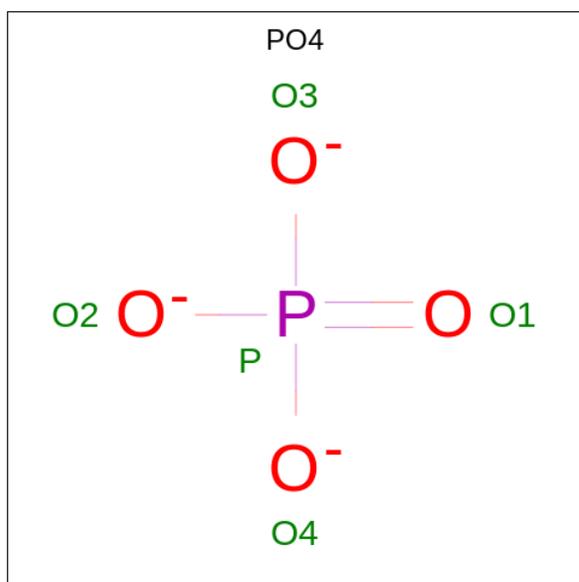
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total 5	O 4	P 1	0	0
2	B	1	Total 5	O 4	P 1	0	0

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

OLC

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total 25	C 21	O 4	0	0

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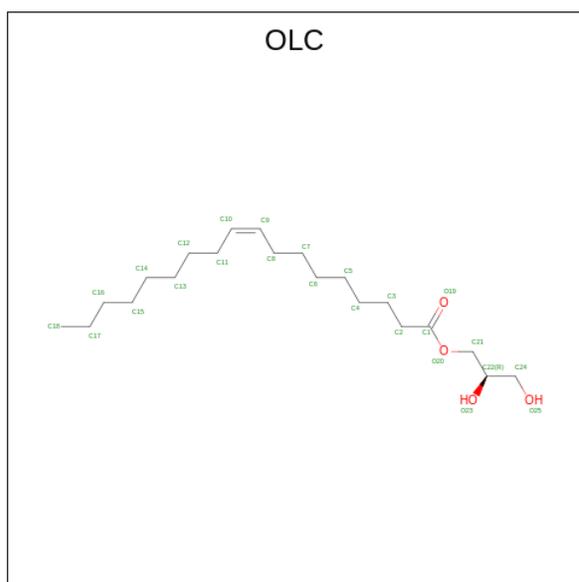
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C O 25 21 4	0	0
3	A	1	Total C 7 7	0	0
3	A	1	Total C 13 13	0	0
3	A	1	Total C 8 8	0	0
3	A	1	Total C 7 7	0	0
3	A	1	Total C O 25 21 4	0	0
3	A	1	Total C 13 13	0	0
3	A	1	Total C 8 8	0	0
3	A	1	Total C O 12 8 4	0	0
3	A	1	Total C 10 10	0	0
3	A	1	Total C 12 12	0	0
3	A	1	Total C 14 14	0	0
3	A	1	Total C 16 16	0	0
3	A	1	Total C 17 17	0	0
3	A	1	Total C 15 15	0	0
3	A	1	Total C 8 8	0	0
3	B	1	Total C O 25 21 4	0	0
3	B	1	Total C O 25 21 4	0	0
3	B	1	Total C 15 15	0	0
3	B	1	Total C 9 9	0	0
3	B	1	Total C 16 16	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	B	1	Total 16	C 16		0	0
3	B	1	Total 23	C 19	O 4	0	0
3	B	1	Total 20	C 18	O 2	0	0
3	B	1	Total 8	C 8		0	0
3	B	1	Total 9	C 9		0	0
3	B	1	Total 9	C 9		0	0
3	B	1	Total 15	C 15		0	0
3	B	1	Total 10	C 10		0	0
3	B	1	Total 9	C 9		0	0
3	B	1	Total 11	C 11		0	0
3	B	1	Total 10	C 10		0	0
3	B	1	Total 14	C 12	O 2	0	0
3	B	1	Total 11	C 9	O 2	0	0
3	B	1	Total 13	C 9	O 4	0	0
3	B	1	Total 9	C 9		0	0
3	B	1	Total 11	C 9	O 2	0	0
3	B	1	Total 10	C 8	O 2	0	0
3	B	1	Total 11	C 11		0	0
3	B	1	Total 6	C 6		0	0
3	B	1	Total 8	C 6	O 2	0	0

- Molecule 4 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	131	Total O 131 131	0	0
4	B	152	Total O 152 152	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: Putative hexose phosphate translocator

• Molecule 1: Putative hexose phosphate translocator

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, α, β, γ	106.55Å 164.97Å 41.42Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	48.87 – 2.10 48.87 – 2.10	Depositor EDS
% Data completeness (in resolution range)	99.7 (48.87-2.10) 99.8 (48.87-2.10)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.35 (at 2.10Å)	Xtriage
Refinement program	PHENIX (1.10_2155: ???)	Depositor
R, R_{free}	0.195 , 0.226 0.196 , 0.226	Depositor DCC
R_{free} test set	2183 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å^2)	22.4	Xtriage
Anisotropy	0.726	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.33 , 71.9	EDS
L-test for twinning[2]	$< |L| > = 0.49, < L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	5572	wwPDB-VP
Average B, all atoms (Å^2)	27.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 21.53 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 6.8795e-03. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

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

5   Model quality (i)

5.1   Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: PO4, OLC

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	0.25	0/2427	0.39	0/3317
1	B	0.24	0/2432	0.39	0/3324
All	All	0.25	0/4859	0.39	0/6641

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	2358	0	2387	20	0
1	B	2363	0	2403	23	0
2	A	5	0	0	0	0
2	B	5	0	0	0	0
3	A	235	0	377	14	0
3	B	323	0	499	20	0
4	A	131	0	0	0	0
4	B	152	0	0	0	0
All	All	5572	0	5666	53	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 5.

All (53) 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)
3:B:506:OLC:H4	3:B:517:OLC:H4A	1.63	0.80
1:A:218:VAL:HG11	1:A:272:PHE:HZ	1.51	0.74
1:B:218:VAL:HG11	1:B:272:PHE:HZ	1.54	0.73
1:A:258:ILE:HD11	3:A:515:OLC:H14A	1.76	0.66
1:B:176:TRP:HE1	3:B:519:OLC:H2A	1.59	0.66
1:A:153:THR:HG21	3:A:506:OLC:H3	1.83	0.60
3:A:510:OLC:H3	3:B:515:OLC:H2A	1.83	0.59
3:A:505:OLC:H9	3:A:518:OLC:H3A	1.83	0.59
3:A:503:OLC:H18	3:A:509:OLC:H18B	1.86	0.58
1:B:176:TRP:CD1	3:B:517:OLC:H3	2.39	0.57
3:B:502:OLC:H17A	3:B:503:OLC:H15A	1.87	0.56
1:B:218:VAL:HG11	1:B:272:PHE:CZ	2.38	0.56
1:A:232:VAL:HG22	3:B:503:OLC:H14	1.88	0.54
1:B:285:ALA:HB3	1:B:345:LEU:HD23	1.89	0.53
1:B:365:ILE:HD13	3:B:512:OLC:H8A	1.90	0.53
1:A:271:LYS:HG3	1:A:352:PRO:HG3	1.92	0.50
1:B:359:ASN:O	1:B:363:ARG:HG3	2.14	0.48
1:B:168:LYS:O	1:B:172:LYS:HG2	2.13	0.48
1:B:261:VAL:HG21	3:B:505:OLC:H18A	1.94	0.47
1:B:176:TRP:NE1	3:B:519:OLC:H2A	2.25	0.47
1:A:362:LYS:O	1:A:366:ILE:HG12	2.15	0.47
3:A:505:OLC:H7A	3:A:511:OLC:H22	1.96	0.46
1:B:250:TRP:CE2	3:B:503:OLC:H2	2.50	0.46
1:B:160:LEU:HD21	3:B:521:OLC:H7	1.98	0.46
3:B:513:OLC:H7A	3:B:525:OLC:H5A	1.98	0.46
1:A:209:VAL:HG11	3:A:502:OLC:H18	1.98	0.45
1:A:214:GLY:HA3	3:A:509:OLC:H12	1.99	0.45
1:A:182:THR:HG23	1:A:300:GLU:HB2	1.98	0.45
1:B:250:TRP:CD2	3:B:503:OLC:H2	2.51	0.44
1:A:161:ARG:NH1	3:A:511:OLC:H24	2.33	0.44
1:A:222:PHE:HB3	1:B:222:PHE:HB3	1.99	0.44
1:B:121:PHE:HE1	1:B:369:GLY:HA3	1.83	0.43
1:B:270:SER:O	1:B:274:MET:HG3	2.18	0.43
3:B:507:OLC:H11	3:B:507:OLC:H8	1.74	0.43
3:B:516:OLC:H17	3:B:516:OLC:H14A	1.81	0.43
1:A:248:PHE:CD1	3:A:502:OLC:H21A	2.54	0.43
3:B:506:OLC:H11	3:B:506:OLC:H8A	1.90	0.43
1:A:139:VAL:HG13	3:A:517:OLC:H18	2.00	0.42
1:A:244:THR:HG22	3:B:503:OLC:H24	2.01	0.42
1:B:242:ALA:HB3	3:B:502:OLC:H5	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:382:ASN:OD1	3:A:508:OLC:H22	2.19	0.42
3:B:523:OLC:H4	3:B:523:OLC:H7A	1.79	0.42
1:A:218:VAL:HG11	1:A:272:PHE:CZ	2.42	0.42
1:A:311:PRO:HA	1:A:312:PRO:HD3	1.98	0.42
3:A:508:OLC:H11A	3:A:508:OLC:H14A	1.89	0.41
1:B:149:ALA:O	1:B:153:THR:HG23	2.20	0.41
1:A:225:PRO:HB2	1:B:217:LEU:HD13	2.02	0.41
1:B:204:LYS:HE3	1:B:363:ARG:NH1	2.35	0.41
1:A:297:PHE:HE1	3:A:517:OLC:H14	1.86	0.41
1:B:172:LYS:HA	1:B:172:LYS:HD3	1.94	0.41
3:B:503:OLC:H18A	3:B:503:OLC:H15	1.92	0.40
1:A:222:PHE:HZ	1:B:404:PRO:HB2	1.86	0.40
1:B:115:LEU:HB2	1:B:342:VAL:HG11	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	303/329 (92%)	301 (99%)	2 (1%)	0	100	100
1	B	303/329 (92%)	302 (100%)	1 (0%)	0	100	100
All	All	606/658 (92%)	603 (100%)	3 (0%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	253/286 (88%)	251 (99%)	2 (1%)	81	86
1	B	255/286 (89%)	250 (98%)	5 (2%)	55	60
All	All	508/572 (89%)	501 (99%)	7 (1%)	67	73

All (7) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	168	LYS
1	A	339	TYR
1	B	135	LYS
1	B	168	LYS
1	B	306	LEU
1	B	339	TYR
1	B	383	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

44 ligands 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	#$|Z| > 2$
3	OLC	B	504	-	14,14,24	0.22	0	13,13,25	0.73	0
3	OLC	B	524	-	10,10,24	0.32	0	9,9,25	0.85	0
3	OLC	B	518	-	13,13,24	1.76	2 (15%)	12,13,25	1.16	0
3	OLC	A	515	-	15,15,24	0.22	0	14,14,25	0.73	0
3	OLC	B	508	-	22,22,24	0.72	1 (4%)	23,23,25	0.82	1 (4%)
3	OLC	B	503	-	24,24,24	0.68	1 (4%)	25,25,25	0.91	1 (4%)
3	OLC	A	502	-	24,24,24	0.68	1 (4%)	25,25,25	1.02	1 (4%)
3	OLC	A	518	-	7,7,24	0.13	0	6,6,25	0.70	0
3	OLC	A	512	-	9,9,24	0.37	0	8,8,25	0.90	0
2	PO4	A	501	-	4,4,4	0.93	0	6,6,6	0.46	0
3	OLC	A	506	-	7,7,24	0.13	0	6,6,25	0.70	0
3	OLC	A	517	-	14,14,24	0.22	0	13,13,25	0.77	0
3	OLC	B	515	-	8,8,24	0.12	0	7,7,25	0.73	0
3	OLC	B	511	-	8,8,24	0.12	0	7,7,25	0.76	0
3	OLC	B	525	-	5,5,24	0.15	0	4,4,25	0.56	0
3	OLC	B	519	-	10,10,24	0.99	1 (10%)	10,10,25	1.14	0
3	OLC	A	505	-	12,12,24	0.24	0	11,11,25	0.67	0
3	OLC	B	507	-	15,15,24	0.22	0	14,14,25	0.78	0
2	PO4	B	501	-	4,4,4	0.93	0	6,6,6	0.41	0
3	OLC	B	516	-	10,10,24	0.32	0	9,9,25	0.89	0
3	OLC	B	521	-	8,8,24	0.12	0	7,7,25	0.76	0
3	OLC	A	511	-	11,11,24	0.99	1 (9%)	12,12,25	1.02	1 (8%)
3	OLC	B	512	-	8,8,24	0.12	0	7,7,25	0.73	0
3	OLC	B	517	-	9,9,24	0.38	0	8,8,25	0.85	0
3	OLC	A	514	-	13,13,24	0.22	0	12,12,25	0.79	0
3	OLC	B	506	-	15,15,24	0.21	0	14,14,25	0.72	0
3	OLC	A	510	-	7,7,24	0.12	0	6,6,25	0.73	0
3	OLC	B	505	-	8,8,24	0.11	0	7,7,25	0.79	0
3	OLC	A	509	-	12,12,24	0.22	0	11,11,25	0.83	0
3	OLC	A	513	-	11,11,24	0.26	0	9,10,25	0.78	0
3	OLC	A	516	-	16,16,24	0.21	0	15,15,25	0.72	0
3	OLC	B	510	-	7,7,24	0.12	0	6,6,25	0.73	0
3	OLC	A	507	-	6,6,24	0.14	0	5,5,25	0.67	0
3	OLC	B	522	-	10,10,24	0.99	1 (10%)	10,10,25	1.25	1 (10%)
3	OLC	B	526	-	7,7,24	1.17	1 (14%)	7,7,25	1.35	2 (28%)
3	OLC	A	508	-	24,24,24	0.68	1 (4%)	25,25,25	0.94	1 (4%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
3	OLC	A	503	-	24,24,24	0.69	1 (4%)	25,25,25	0.93	1 (4%)
3	OLC	B	520	-	12,12,24	0.94	1 (8%)	13,13,25	1.18	1 (7%)
3	OLC	A	504	-	6,6,24	0.14	0	5,5,25	0.64	0
3	OLC	B	509	-	19,19,24	0.74	1 (5%)	19,19,25	0.96	0
3	OLC	B	513	-	14,14,24	0.22	0	13,13,25	0.73	0
3	OLC	B	514	-	9,9,24	0.29	0	7,8,25	0.64	0
3	OLC	B	502	-	24,24,24	0.67	1 (4%)	25,25,25	0.96	1 (4%)
3	OLC	B	523	-	9,9,24	1.03	1 (11%)	9,9,25	1.24	1 (11%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	OLC	B	504	-	-	6/12/12/24	-
3	OLC	B	524	-	-	3/8/8/24	-
3	OLC	B	518	-	-	4/11/11/24	-
3	OLC	A	515	-	-	7/13/13/24	-
3	OLC	B	508	-	-	8/22/22/24	-
3	OLC	B	503	-	-	5/24/24/24	-
3	OLC	A	502	-	-	13/24/24/24	-
3	OLC	A	518	-	-	2/5/5/24	-
3	OLC	A	512	-	-	2/7/7/24	-
3	OLC	A	506	-	-	2/5/5/24	-
3	OLC	A	517	-	-	7/12/12/24	-
3	OLC	B	515	-	-	4/6/6/24	-
3	OLC	B	511	-	-	4/6/6/24	-
3	OLC	B	525	-	-	1/3/3/24	-
3	OLC	B	519	-	-	4/8/8/24	-
3	OLC	A	505	-	-	8/10/10/24	-
3	OLC	B	507	-	-	5/13/13/24	-
3	OLC	B	516	-	-	3/8/8/24	-
3	OLC	B	521	-	-	4/6/6/24	-
3	OLC	A	511	-	-	6/11/11/24	-
3	OLC	B	512	-	-	2/6/6/24	-
3	OLC	B	517	-	-	3/7/7/24	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	OLC	A	514	-	-	2/11/11/24	-
3	OLC	B	506	-	-	5/13/13/24	-
3	OLC	A	510	-	-	3/5/5/24	-
3	OLC	B	505	-	-	2/6/6/24	-
3	OLC	A	509	-	-	4/10/10/24	-
3	OLC	A	513	-	-	7/9/9/24	-
3	OLC	A	516	-	-	9/14/14/24	-
3	OLC	B	510	-	-	1/5/5/24	-
3	OLC	A	507	-	-	2/4/4/24	-
3	OLC	B	522	-	-	2/8/8/24	-
3	OLC	B	526	-	-	3/5/5/24	-
3	OLC	A	508	-	-	10/24/24/24	-
3	OLC	A	503	-	-	8/24/24/24	-
3	OLC	B	520	-	-	3/12/12/24	-
3	OLC	A	504	-	-	3/4/4/24	-
3	OLC	B	509	-	-	7/17/17/24	-
3	OLC	B	513	-	-	8/12/12/24	-
3	OLC	B	514	-	-	2/7/7/24	-
3	OLC	B	502	-	-	10/24/24/24	-
3	OLC	B	523	-	-	3/7/7/24	-

All (15) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	518	OLC	O19-C1	5.70	1.41	1.22
3	B	509	OLC	O20-C1	3.07	1.41	1.30
3	B	522	OLC	O20-C1	3.07	1.41	1.30
3	B	519	OLC	O20-C1	3.07	1.41	1.30
3	B	526	OLC	O20-C1	3.03	1.40	1.30
3	B	523	OLC	O20-C1	3.03	1.40	1.30
3	A	503	OLC	O20-C1	2.69	1.41	1.33
3	B	503	OLC	O20-C1	2.68	1.41	1.33
3	B	520	OLC	O20-C1	2.67	1.41	1.33
3	A	511	OLC	O20-C1	2.63	1.41	1.33
3	B	508	OLC	O20-C1	2.62	1.41	1.33
3	B	518	OLC	O20-C1	-2.61	1.21	1.30
3	A	502	OLC	O20-C1	2.61	1.41	1.33
3	A	508	OLC	O20-C1	2.58	1.40	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	502	OLC	O20-C1	2.57	1.40	1.33

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	B	520	OLC	O20-C1-C2	2.78	120.64	111.91
3	A	502	OLC	O20-C1-C2	2.69	120.36	111.91
3	A	503	OLC	O20-C1-C2	2.66	120.26	111.91
3	A	508	OLC	O20-C1-C2	2.56	119.93	111.91
3	B	502	OLC	O20-C1-C2	2.49	119.72	111.91
3	B	503	OLC	O20-C1-C2	2.46	119.64	111.91
3	A	511	OLC	O20-C1-C2	2.44	119.58	111.91
3	B	508	OLC	O20-C1-C2	2.26	119.02	111.91
3	B	522	OLC	C3-C2-C1	-2.22	108.88	114.47
3	B	526	OLC	C3-C2-C1	-2.05	109.31	114.47
3	B	523	OLC	C3-C2-C1	-2.01	109.40	114.47
3	B	526	OLC	O20-C1-C2	2.00	120.46	114.03

There are no chirality outliers.

All (197) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	509	OLC	C6-C7-C8-C9
3	A	511	OLC	C21-C22-C24-O25
3	A	511	OLC	O23-C22-C24-O25
3	A	511	OLC	O19-C1-O20-C21
3	A	513	OLC	C9-C10-C11-C12
3	B	503	OLC	O20-C21-C22-C24
3	B	503	OLC	O20-C21-C22-O23
3	B	518	OLC	C9-C10-C11-C12
3	A	503	OLC	O19-C1-O20-C21
3	A	511	OLC	C2-C1-O20-C21
3	A	503	OLC	C2-C1-O20-C21
3	A	502	OLC	C2-C1-O20-C21
3	B	502	OLC	O20-C21-C22-C24
3	B	502	OLC	O20-C21-C22-O23
3	A	511	OLC	C1-C2-C3-C4
3	A	502	OLC	O19-C1-O20-C21
3	A	503	OLC	O20-C21-C22-O23
3	A	503	OLC	C1-C2-C3-C4
3	B	519	OLC	C1-C2-C3-C4
3	B	503	OLC	C6-C7-C8-C9

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Mol	Chain	Res	Type	Atoms
3	B	515	OLC	C2-C3-C4-C5
3	A	502	OLC	C5-C6-C7-C8
3	B	502	OLC	C2-C3-C4-C5
3	B	508	OLC	C11-C12-C13-C14
3	A	502	OLC	C14-C15-C16-C17
3	A	504	OLC	C3-C4-C5-C6
3	A	517	OLC	C11-C12-C13-C14
3	A	517	OLC	C14-C15-C16-C17
3	B	522	OLC	C4-C5-C6-C7
3	B	507	OLC	C14-C15-C16-C17
3	B	524	OLC	C12-C13-C14-C15
3	A	509	OLC	C12-C13-C14-C15
3	B	508	OLC	C5-C6-C7-C8
3	A	515	OLC	C5-C6-C7-C8
3	B	509	OLC	C11-C12-C13-C14
3	B	516	OLC	C11-C12-C13-C14
3	B	502	OLC	C21-C22-C24-O25
3	B	508	OLC	C21-C22-C24-O25
3	A	508	OLC	O20-C21-C22-O23
3	A	516	OLC	C6-C7-C8-C9
3	B	518	OLC	C6-C7-C8-C9
3	B	524	OLC	C10-C11-C12-C13
3	A	516	OLC	C11-C12-C13-C14
3	B	507	OLC	C12-C13-C14-C15
3	B	506	OLC	C4-C5-C6-C7
3	B	521	OLC	C2-C3-C4-C5
3	B	517	OLC	C2-C3-C4-C5
3	A	518	OLC	C4-C5-C6-C7
3	B	507	OLC	C11-C12-C13-C14
3	A	517	OLC	C12-C13-C14-C15
3	B	508	OLC	C4-C5-C6-C7
3	A	505	OLC	C12-C13-C14-C15
3	A	508	OLC	C4-C5-C6-C7
3	B	502	OLC	O23-C22-C24-O25
3	A	502	OLC	C10-C11-C12-C13
3	A	514	OLC	C6-C7-C8-C9
3	B	505	OLC	C13-C14-C15-C16
3	B	508	OLC	C3-C4-C5-C6
3	B	511	OLC	C5-C6-C7-C8
3	B	509	OLC	C12-C13-C14-C15
3	B	506	OLC	C5-C6-C7-C8
3	B	511	OLC	C3-C4-C5-C6

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Mol	Chain	Res	Type	Atoms
3	A	508	OLC	C6-C7-C8-C9
3	A	516	OLC	C10-C11-C12-C13
3	B	506	OLC	C6-C7-C8-C9
3	B	516	OLC	C10-C11-C12-C13
3	A	502	OLC	C11-C12-C13-C14
3	B	520	OLC	C2-C1-O20-C21
3	B	512	OLC	C4-C5-C6-C7
3	A	508	OLC	C5-C6-C7-C8
3	A	515	OLC	C6-C7-C8-C9
3	B	504	OLC	C6-C7-C8-C9
3	A	516	OLC	C4-C5-C6-C7
3	A	505	OLC	C5-C6-C7-C8
3	A	513	OLC	C5-C6-C7-C8
3	A	503	OLC	C3-C4-C5-C6
3	A	513	OLC	C2-C3-C4-C5
3	A	518	OLC	C5-C6-C7-C8
3	A	504	OLC	C2-C3-C4-C5
3	B	515	OLC	C6-C7-C8-C9
3	A	512	OLC	C5-C6-C7-C8
3	A	513	OLC	C1-C2-C3-C4
3	A	515	OLC	C13-C14-C15-C16
3	B	522	OLC	C6-C7-C8-C9
3	A	505	OLC	C4-C5-C6-C7
3	A	503	OLC	C10-C11-C12-C13
3	A	513	OLC	C6-C7-C8-C9
3	A	515	OLC	C10-C11-C12-C13
3	A	517	OLC	C10-C11-C12-C13
3	B	503	OLC	C10-C11-C12-C13
3	B	520	OLC	O19-C1-O20-C21
3	B	515	OLC	C4-C5-C6-C7
3	B	505	OLC	C15-C16-C17-C18
3	B	521	OLC	C4-C5-C6-C7
3	B	525	OLC	C2-C3-C4-C5
3	A	505	OLC	C6-C7-C8-C9
3	A	509	OLC	C10-C11-C12-C13
3	B	514	OLC	C6-C7-C8-C9
3	B	511	OLC	C1-C2-C3-C4
3	A	517	OLC	C4-C5-C6-C7
3	B	504	OLC	C2-C3-C4-C5
3	A	510	OLC	C2-C3-C4-C5
3	A	511	OLC	C2-C3-C4-C5
3	B	502	OLC	C5-C6-C7-C8

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Mol	Chain	Res	Type	Atoms
3	B	502	OLC	C1-C2-C3-C4
3	A	508	OLC	C2-C3-C4-C5
3	B	513	OLC	C4-C5-C6-C7
3	B	521	OLC	C5-C6-C7-C8
3	A	504	OLC	C5-C6-C7-C8
3	A	502	OLC	C4-C5-C6-C7
3	B	520	OLC	O20-C21-C22-O23
3	A	507	OLC	C5-C6-C7-C8
3	B	518	OLC	C1-C2-C3-C4
3	B	502	OLC	C3-C4-C5-C6
3	A	513	OLC	C3-C4-C5-C6
3	A	508	OLC	C12-C13-C14-C15
3	A	502	OLC	C1-C2-C3-C4
3	A	503	OLC	C2-C3-C4-C5
3	B	506	OLC	C3-C4-C5-C6
3	B	514	OLC	C9-C10-C11-C12
3	B	502	OLC	C15-C16-C17-C18
3	B	502	OLC	C13-C14-C15-C16
3	B	513	OLC	C10-C11-C12-C13
3	A	508	OLC	O23-C22-C24-O25
3	B	508	OLC	O23-C22-C24-O25
3	A	506	OLC	C2-C3-C4-C5
3	B	511	OLC	C6-C7-C8-C9
3	A	510	OLC	C5-C6-C7-C8
3	B	509	OLC	C6-C7-C8-C9
3	A	502	OLC	C3-C4-C5-C6
3	B	524	OLC	C13-C14-C15-C16
3	A	515	OLC	C11-C12-C13-C14
3	A	507	OLC	C4-C5-C6-C7
3	B	507	OLC	C6-C7-C8-C9
3	B	510	OLC	C11-C12-C13-C14
3	A	516	OLC	C13-C14-C15-C16
3	B	513	OLC	C15-C16-C17-C18
3	B	513	OLC	C5-C6-C7-C8
3	A	514	OLC	C13-C14-C15-C16
3	B	509	OLC	C4-C5-C6-C7
3	A	516	OLC	C15-C16-C17-C18
3	B	521	OLC	C3-C4-C5-C6
3	B	513	OLC	C11-C12-C13-C14
3	B	507	OLC	C3-C4-C5-C6
3	A	510	OLC	C6-C7-C8-C9
3	B	519	OLC	C3-C4-C5-C6

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Mol	Chain	Res	Type	Atoms
3	B	515	OLC	C5-C6-C7-C8
3	B	504	OLC	C3-C4-C5-C6
3	B	517	OLC	C3-C4-C5-C6
3	A	515	OLC	C4-C5-C6-C7
3	A	505	OLC	C10-C11-C12-C13
3	B	512	OLC	C6-C7-C8-C9
3	A	502	OLC	O20-C21-C22-C24
3	B	504	OLC	C4-C5-C6-C7
3	A	508	OLC	C14-C15-C16-C17
3	A	508	OLC	C9-C10-C11-C12
3	B	503	OLC	C7-C8-C9-C10
3	B	526	OLC	O19-C1-C2-C3
3	A	505	OLC	C13-C14-C15-C16
3	B	526	OLC	O20-C1-C2-C3
3	A	502	OLC	C13-C14-C15-C16
3	A	508	OLC	C21-C22-C24-O25
3	B	523	OLC	C2-C3-C4-C5
3	A	505	OLC	C11-C12-C13-C14
3	A	512	OLC	C7-C8-C9-C10
3	B	517	OLC	C7-C8-C9-C10
3	B	513	OLC	C7-C8-C9-C10
3	A	517	OLC	C13-C14-C15-C16
3	B	513	OLC	C13-C14-C15-C16
3	A	509	OLC	C7-C8-C9-C10
3	A	516	OLC	C7-C8-C9-C10
3	B	504	OLC	C9-C10-C11-C12
3	B	508	OLC	C7-C8-C9-C10
3	A	502	OLC	C9-C10-C11-C12
3	A	505	OLC	C9-C10-C11-C12
3	A	515	OLC	C7-C8-C9-C10
3	B	523	OLC	O20-C1-C2-C3
3	A	503	OLC	C9-C10-C11-C12
3	A	517	OLC	C7-C8-C9-C10
3	B	523	OLC	O19-C1-C2-C3
3	B	516	OLC	C13-C14-C15-C16
3	B	509	OLC	C5-C6-C7-C8
3	B	526	OLC	C1-C2-C3-C4
3	B	508	OLC	C6-C7-C8-C9
3	A	516	OLC	C3-C4-C5-C6
3	A	502	OLC	C7-C8-C9-C10
3	A	513	OLC	C7-C8-C9-C10
3	B	509	OLC	C7-C8-C9-C10

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Mol	Chain	Res	Type	Atoms
3	B	513	OLC	C14-C15-C16-C17
3	B	506	OLC	C9-C10-C11-C12
3	B	504	OLC	C7-C8-C9-C10
3	B	519	OLC	O20-C1-C2-C3
3	B	518	OLC	O19-C1-C2-C3
3	B	509	OLC	C10-C11-C12-C13
3	A	516	OLC	C9-C10-C11-C12
3	A	506	OLC	C5-C6-C7-C8
3	B	519	OLC	O19-C1-C2-C3

There are no ring outliers.

25 monomers are involved in 33 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	515	OLC	1	0
3	B	503	OLC	6	0
3	A	502	OLC	2	0
3	A	518	OLC	1	0
3	A	506	OLC	1	0
3	A	517	OLC	2	0
3	B	515	OLC	1	0
3	B	525	OLC	1	0
3	B	519	OLC	2	0
3	A	505	OLC	2	0
3	B	507	OLC	1	0
3	B	516	OLC	1	0
3	B	521	OLC	1	0
3	A	511	OLC	2	0
3	B	512	OLC	1	0
3	B	517	OLC	2	0
3	B	506	OLC	2	0
3	A	510	OLC	1	0
3	B	505	OLC	1	0
3	A	509	OLC	2	0
3	A	508	OLC	2	0
3	A	503	OLC	1	0
3	B	513	OLC	1	0
3	B	502	OLC	2	0
3	B	523	OLC	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In

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

Ligand OLC B 504
Bond lengths — Bond angles — Torsions — Rings

Ligand OLC B 524
Bond lengths — Bond angles — Torsions — Rings

Ligand OLC B 518
Bond lengths — Bond angles — Torsions — Rings

Ligand OLC A 515

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 508

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 503

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC A 502

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC A 518

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC A 512

Bond lengths

Bond angles

Torsions

Rings

Ligand PO4 A 501

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC A 506

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC A 517

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 515

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 511

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 525

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 519

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC A 505

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 507

Bond lengths

Bond angles

Torsions

Rings

Ligand PO4 B 501

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 516

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 521

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC A 511

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 512

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 517

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC A 514

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 506

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC A 510

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 505

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC A 509

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC A 513

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC A 516

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 510

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC A 507

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 522

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 526

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC A 508

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC A 503

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 520

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC A 504

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 509

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 513

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 514

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 502

Bond lengths

Bond angles

Torsions

Rings

Ligand OLC B 523

Bond lengths

Bond angles

Torsions

Rings

5.7   Other polymers ⓘ

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	305/329 (92%)	0.14	16 (5%) 27	32	13, 23, 44, 65	0
1	B	305/329 (92%)	-0.03	9 (2%) 50	56	14, 21, 42, 76	0
All	All	610/658 (92%)	0.05	25 (4%) 37	43	13, 22, 44, 76	0

All (25) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	279	ASN	4.7
1	B	101	PRO	4.6
1	B	383	PHE	4.0
1	A	404	PRO	4.0
1	B	100	SER	4.0
1	A	275	VAL	4.0
1	A	100	SER	3.7
1	A	218	VAL	3.5
1	B	318	ALA	3.4
1	A	102	THR	3.0
1	A	219	LEU	3.0
1	A	106	THR	2.7
1	B	404	PRO	2.6
1	B	218	VAL	2.6
1	A	282	THR	2.5
1	A	278	LYS	2.4
1	B	316	ALA	2.4
1	B	314	VAL	2.3
1	A	280	GLU	2.3
1	A	272	PHE	2.3
1	A	166	VAL	2.2
1	A	281	LYS	2.2
1	A	277	PHE	2.2
1	B	106	THR	2.1

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Mol	Chain	Res	Type	RSRZ
1	A	165	ASN	2.0

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

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

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

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
3	OLC	B	519	11/25	0.65	0.25	50,54,64,69	0
3	OLC	A	509	13/25	0.67	0.30	41,48,58,63	0
3	OLC	B	520	13/25	0.69	0.22	37,50,63,64	0
3	OLC	B	518	14/25	0.71	0.26	36,46,58,61	0
3	OLC	B	524	11/25	0.71	0.27	30,44,50,55	0
3	OLC	B	526	8/25	0.71	0.33	40,43,46,53	0
3	OLC	B	516	11/25	0.73	0.28	40,49,53,54	0
3	OLC	B	521	9/25	0.73	0.20	41,47,51,58	0
3	OLC	B	502	25/25	0.74	0.25	24,38,57,65	0
3	OLC	A	516	17/25	0.76	0.28	46,51,58,58	0
3	OLC	A	518	8/25	0.76	0.28	40,47,50,56	0
3	OLC	B	510	8/25	0.79	0.22	32,40,43,45	0
3	OLC	B	506	16/25	0.79	0.22	26,38,47,51	0
3	OLC	B	514	10/25	0.80	0.19	42,49,54,57	0
3	OLC	A	502	25/25	0.80	0.24	24,35,53,60	0
3	OLC	B	509	20/25	0.80	0.21	23,43,57,59	0
3	OLC	B	504	15/25	0.80	0.18	37,45,50,50	0
3	OLC	A	515	16/25	0.81	0.20	41,45,53,54	0
3	OLC	B	523	10/25	0.81	0.26	37,46,57,61	0
3	OLC	B	515	9/25	0.81	0.23	54,58,63,72	0
3	OLC	A	503	25/25	0.81	0.22	27,37,55,62	0
3	OLC	B	517	10/25	0.82	0.17	40,43,53,54	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\mathring{A}^2$)	Q<0.9
3	OLC	A	510	8/25	0.82	0.20	43,47,49,51	0
3	OLC	B	503	25/25	0.82	0.20	30,42,50,53	0
3	OLC	A	504	7/25	0.82	0.16	33,36,37,43	0
3	OLC	A	517	15/25	0.83	0.23	30,40,45,49	0
3	OLC	A	505	13/25	0.83	0.19	41,49,54,56	0
3	OLC	B	522	11/25	0.83	0.24	35,45,52,58	0
3	OLC	A	511	12/25	0.84	0.18	32,49,62,64	0
3	OLC	B	505	9/25	0.85	0.26	33,44,47,55	0
3	OLC	B	513	15/25	0.85	0.28	31,41,54,58	0
3	OLC	A	514	14/25	0.88	0.18	32,45,52,53	0
3	OLC	A	507	7/25	0.88	0.16	37,37,41,42	0
3	OLC	B	508	23/25	0.88	0.20	26,34,47,52	0
3	OLC	B	525	6/25	0.89	0.17	38,44,45,47	0
3	OLC	A	512	10/25	0.89	0.16	33,38,45,46	0
3	OLC	B	507	16/25	0.90	0.16	33,42,52,55	0
3	OLC	A	513	12/25	0.90	0.16	30,42,49,54	0
3	OLC	A	508	25/25	0.91	0.18	20,33,44,48	0
3	OLC	B	511	9/25	0.91	0.16	29,36,45,45	0
3	OLC	A	506	8/25	0.92	0.17	22,36,42,44	0
3	OLC	B	512	9/25	0.93	0.15	28,34,41,45	0
2	PO4	A	501	5/5	0.99	0.13	12,15,17,18	0
2	PO4	B	501	5/5	0.99	0.11	12,14,16,20	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 OLC B 519:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
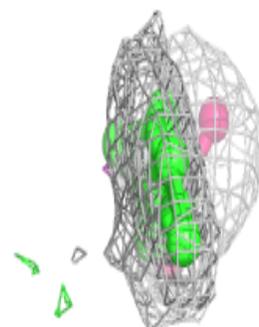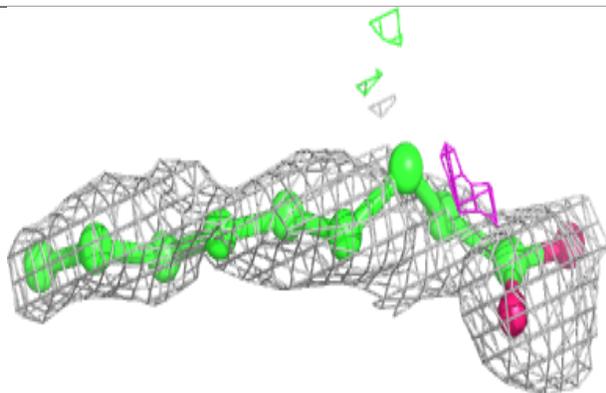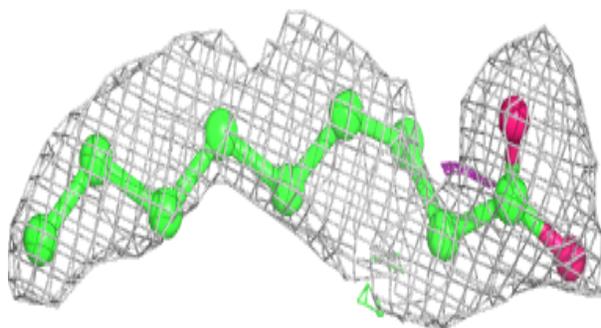
Electron density around OLC A 509:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
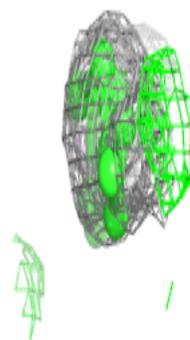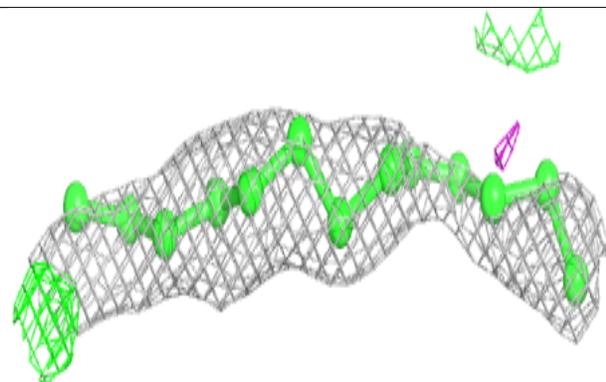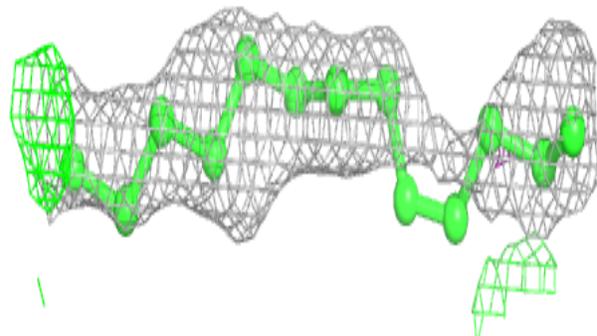
Electron density around OLC B 520:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
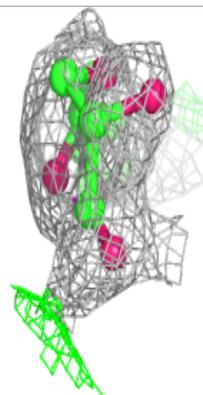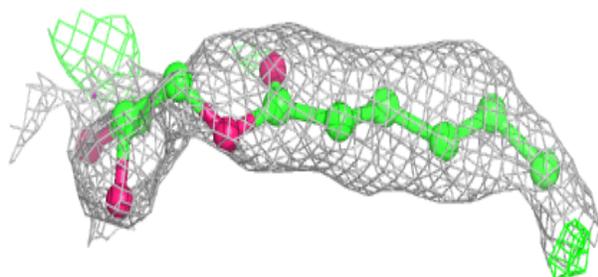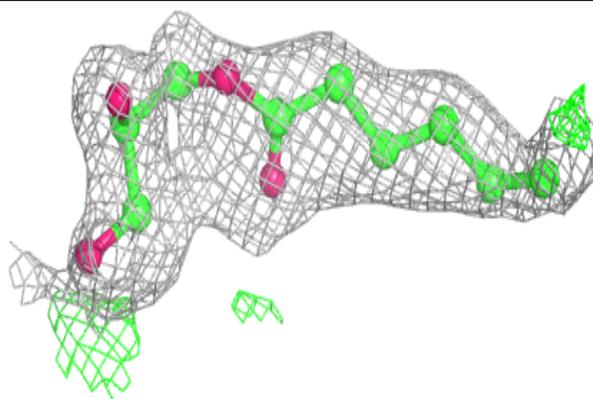
Electron density around OLC B 518:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
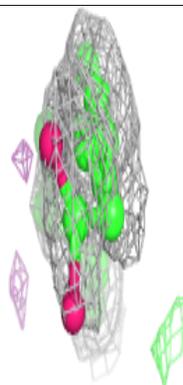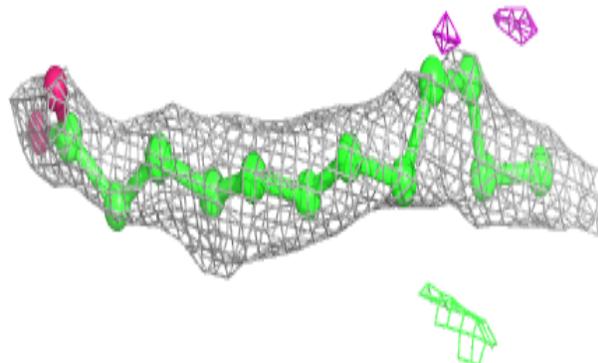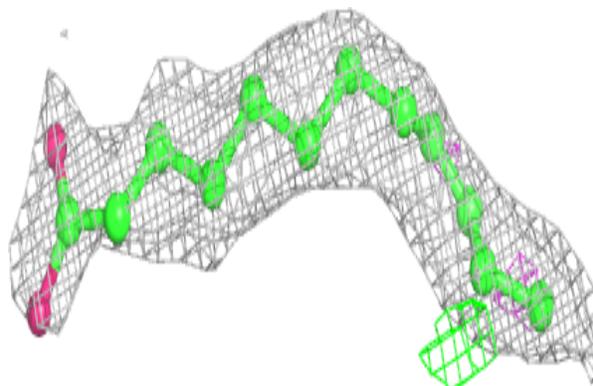
Electron density around OLC B 524:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
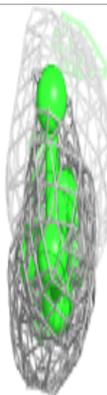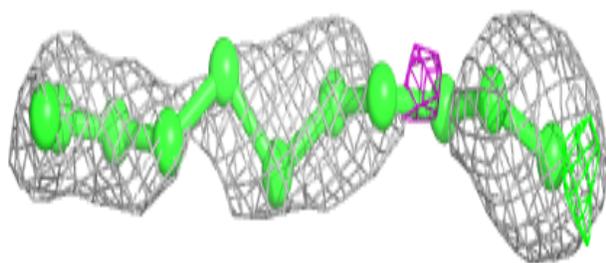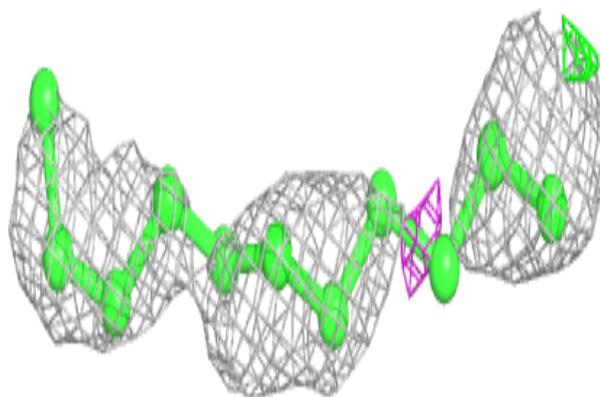
Electron density around OLC B 526:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
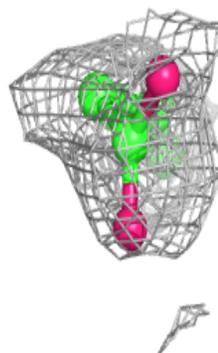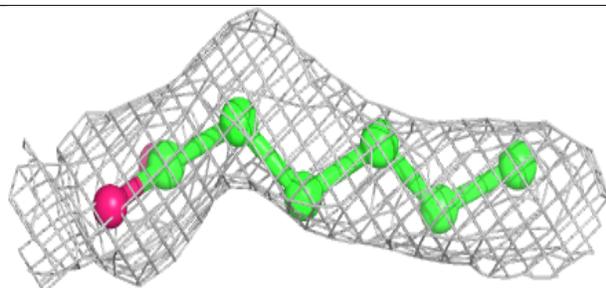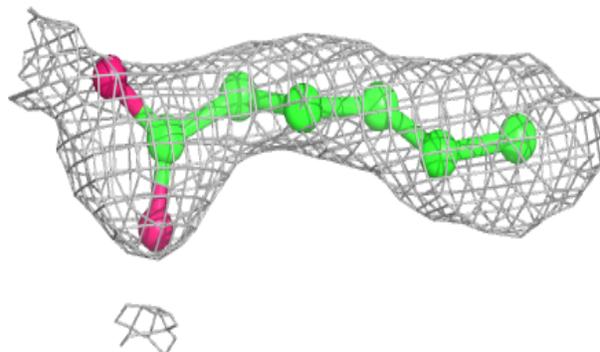
Electron density around OLC B 516:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
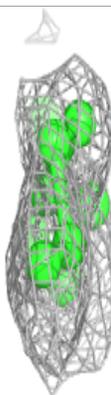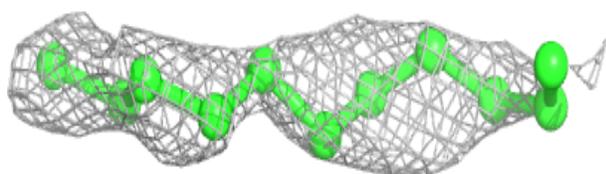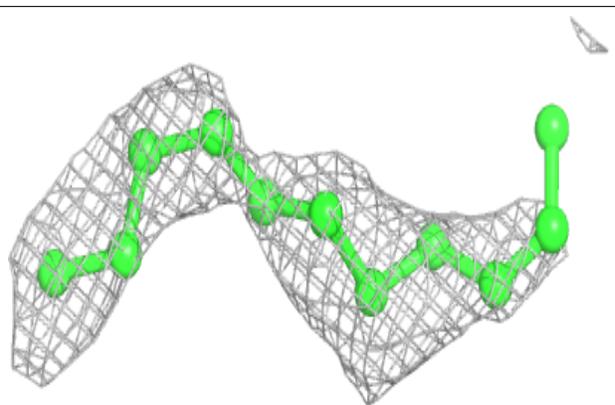
Electron density around OLC B 521:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
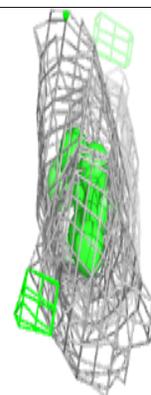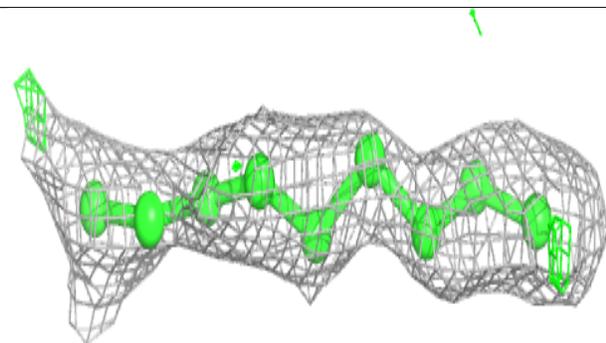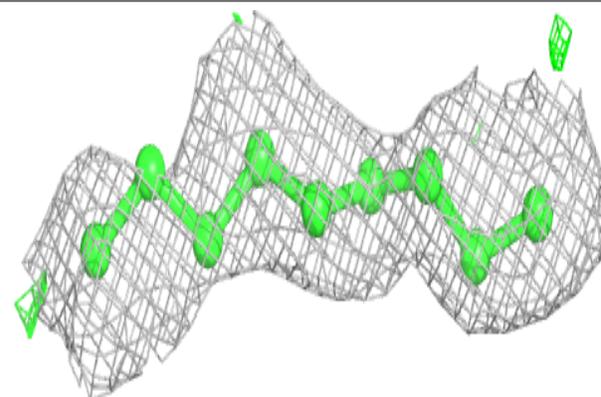
Electron density around OLC B 502:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
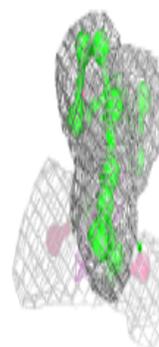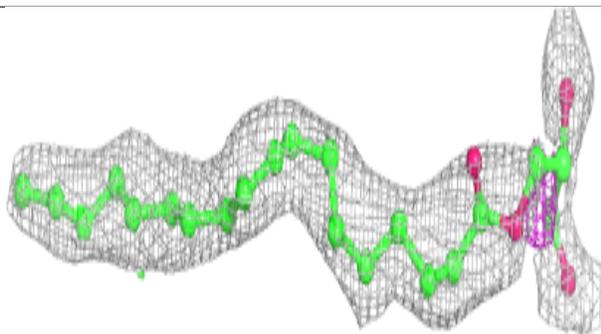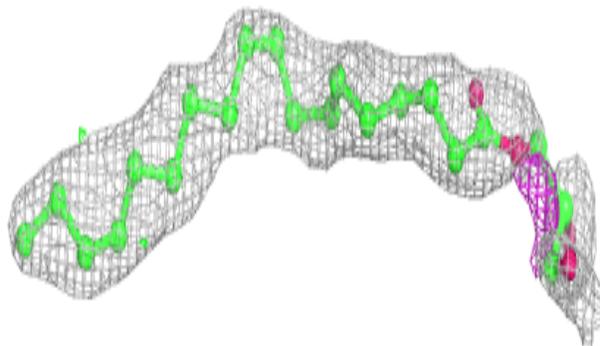
Electron density around OLC A 516:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)

Electron density around OLC A 518:

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

Electron density around OLC B 510:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
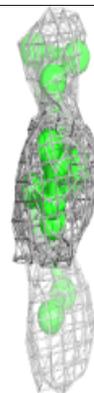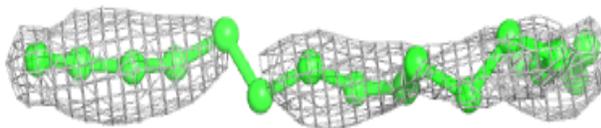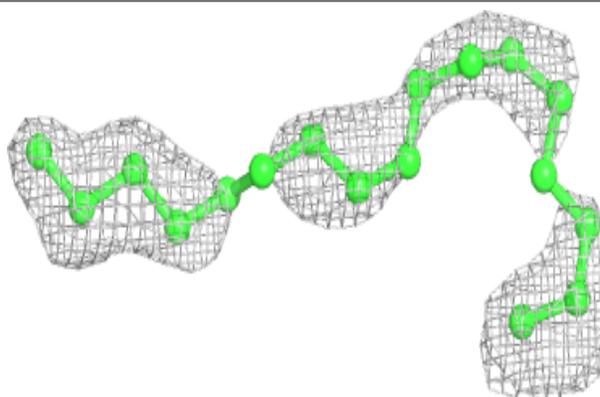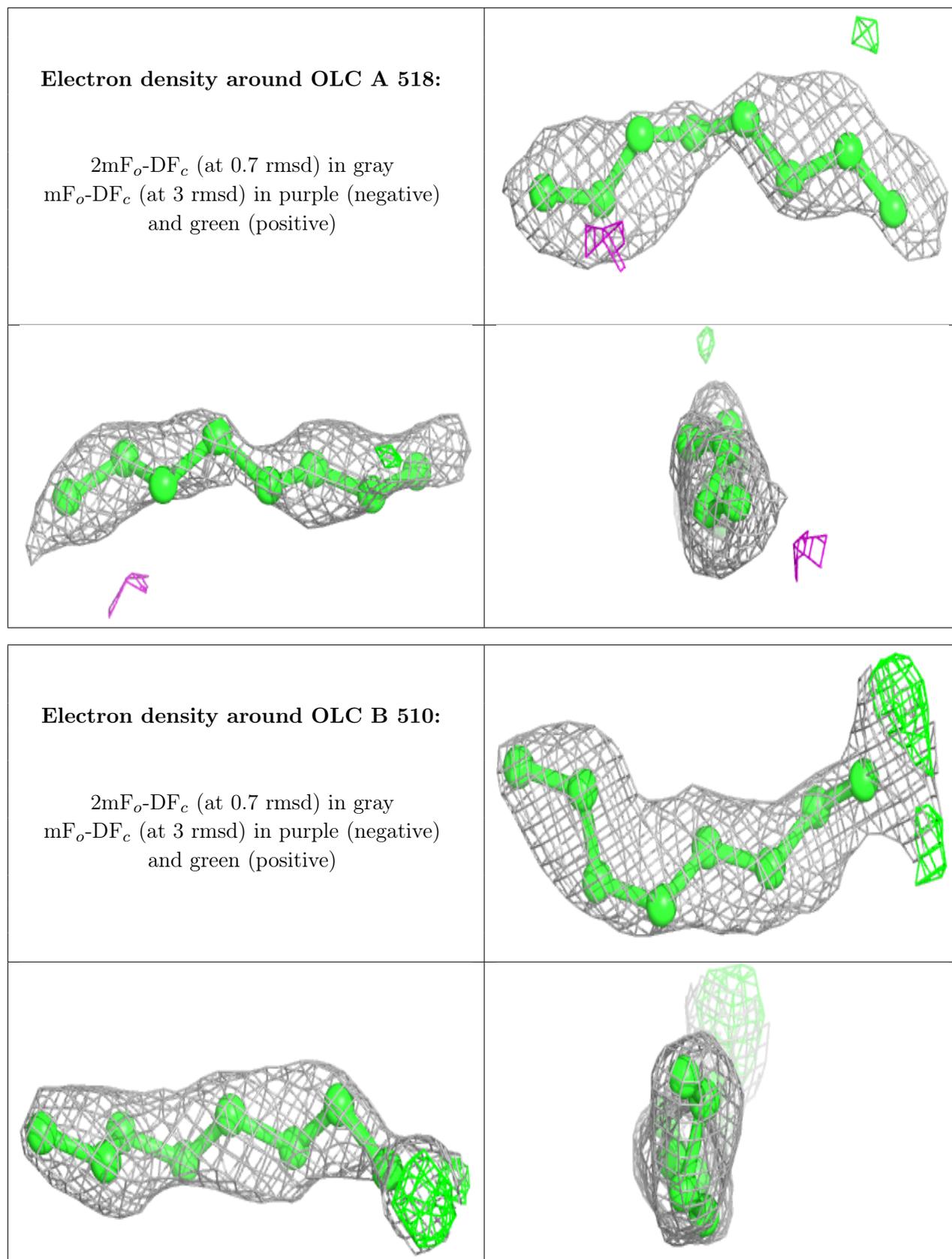
Electron density around OLC B 506:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
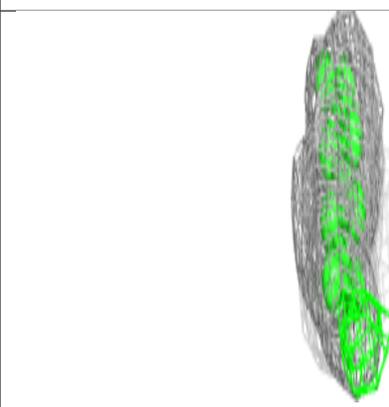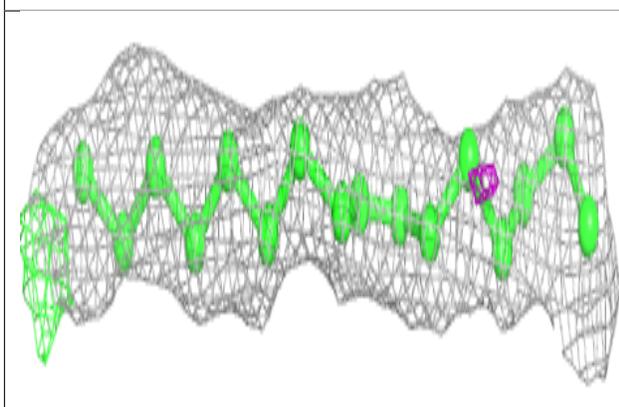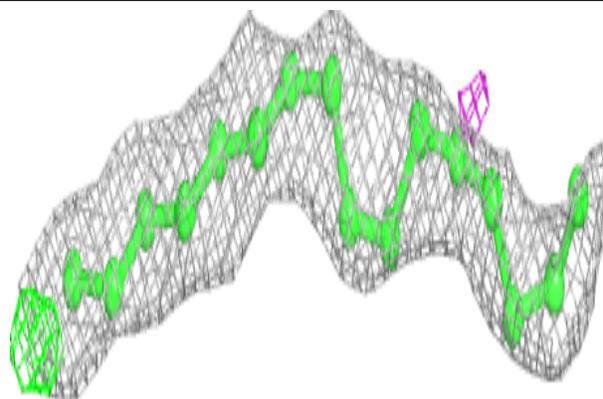
Electron density around OLC B 514:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
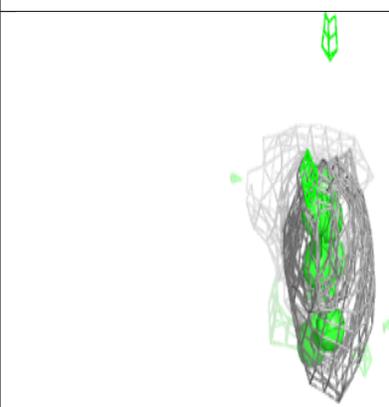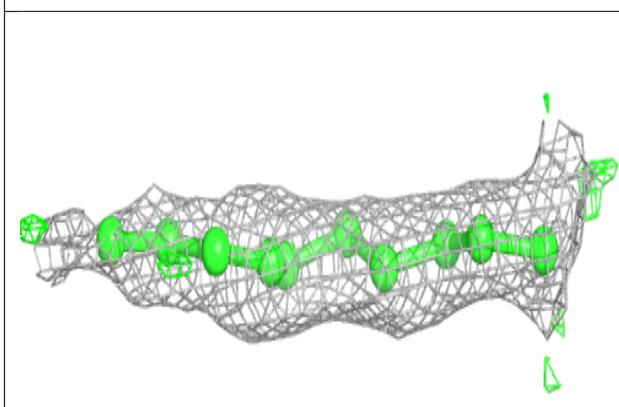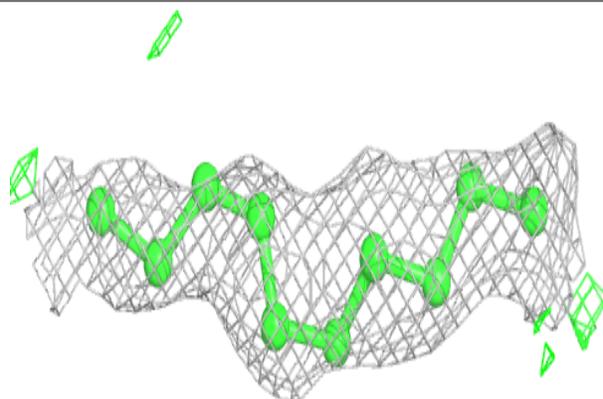
Electron density around OLC A 502:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
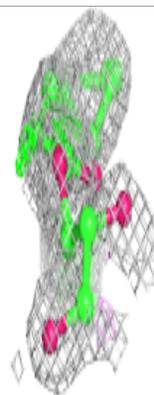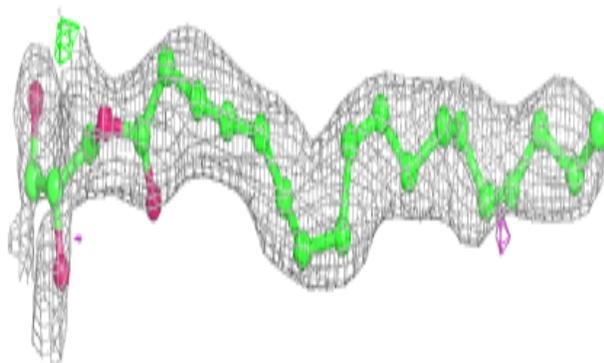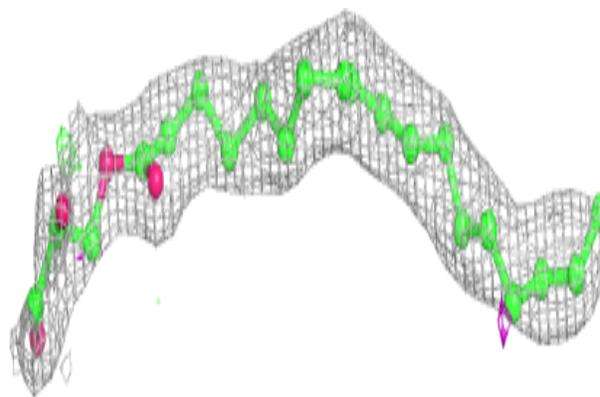
Electron density around OLC B 509:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
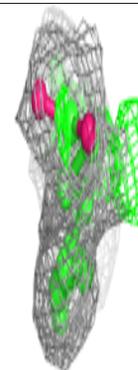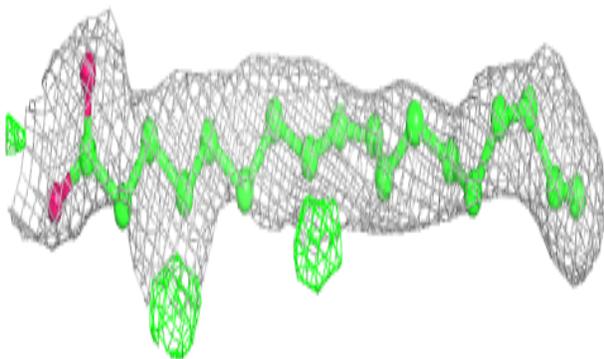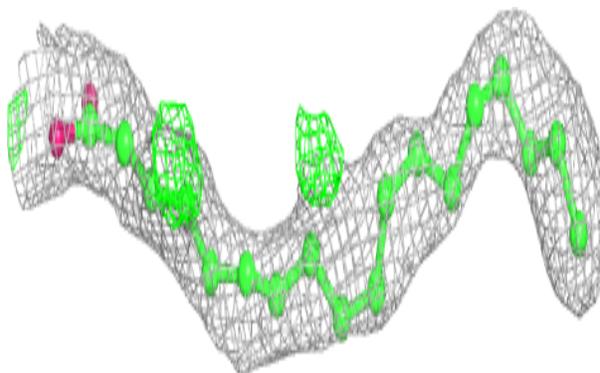
Electron density around OLC B 504:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
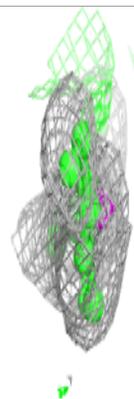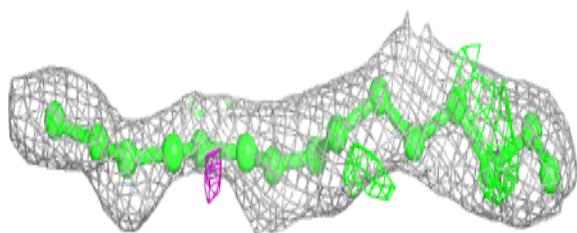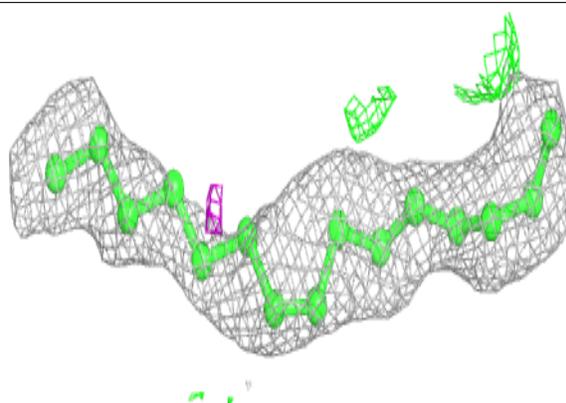
Electron density around OLC A 515:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
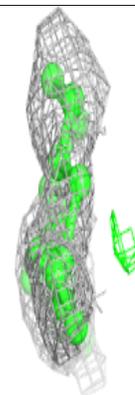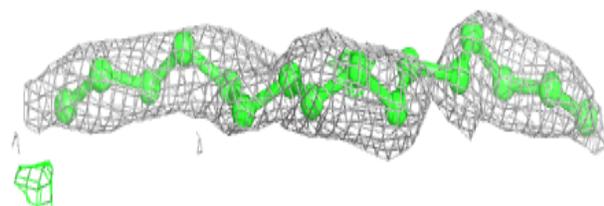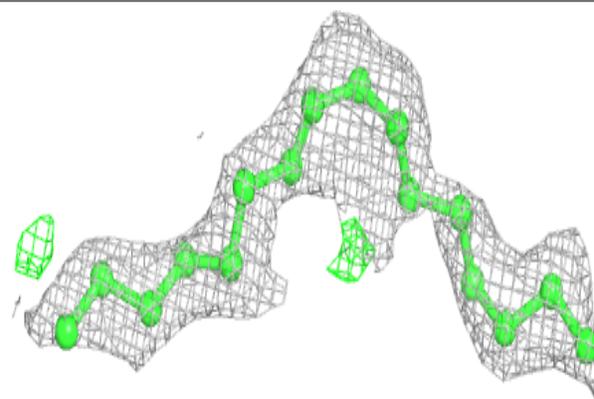
Electron density around OLC B 523:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
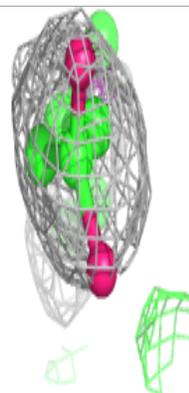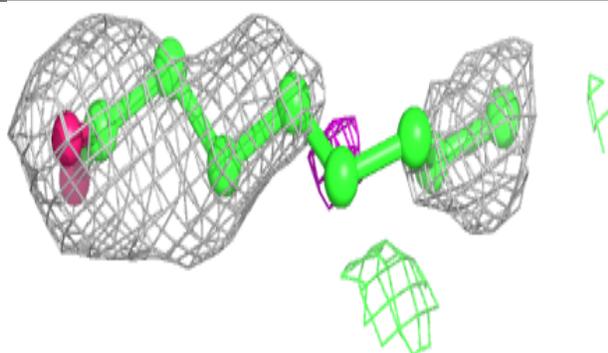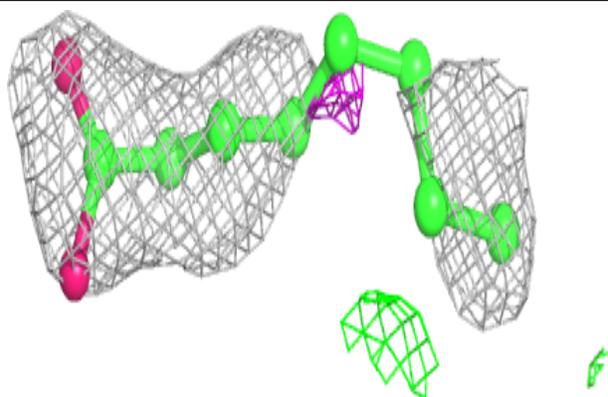
Electron density around OLC B 515:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
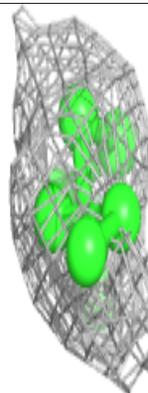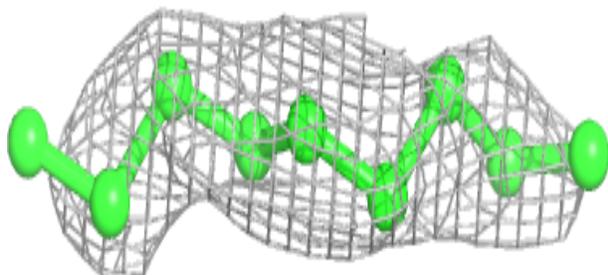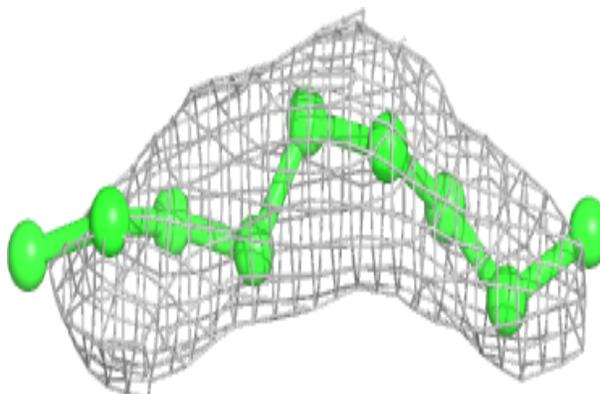
Electron density around OLC A 503:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
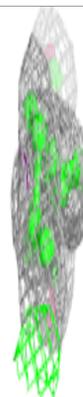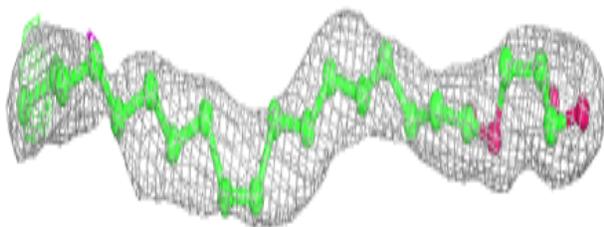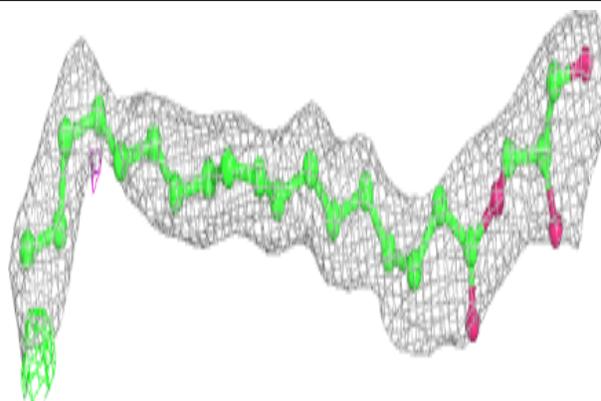
Electron density around OLC B 517:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
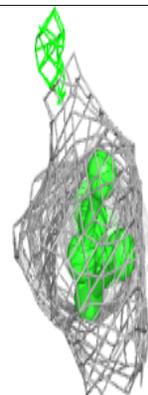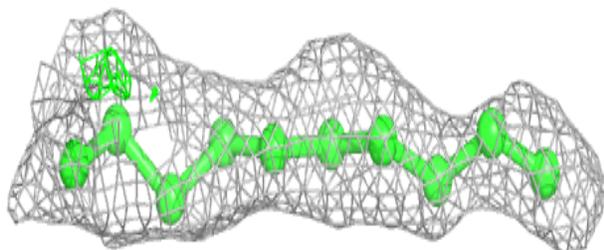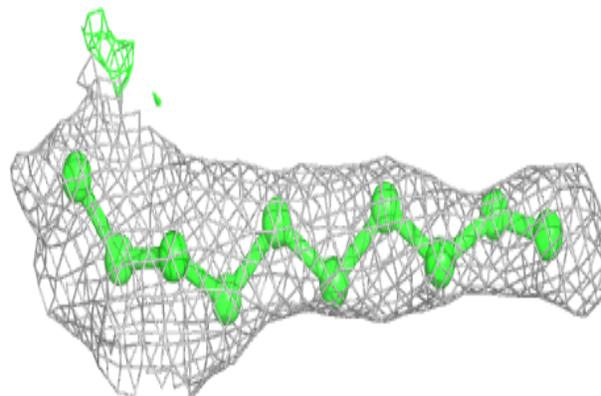
Electron density around OLC A 510:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
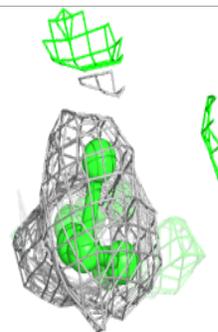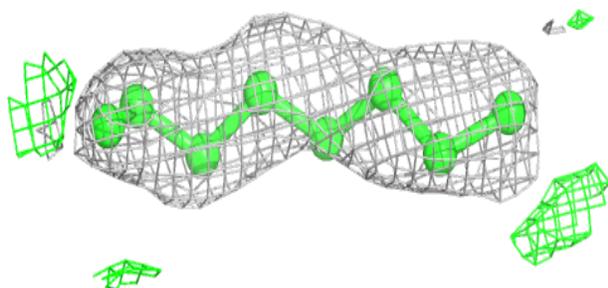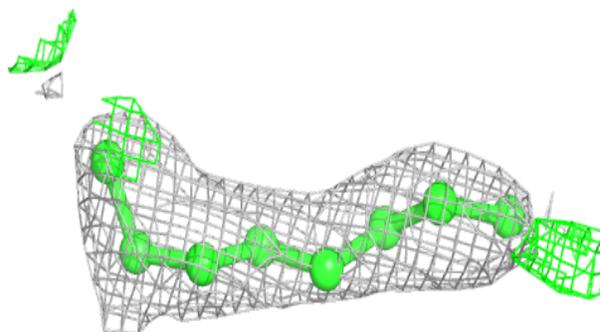
Electron density around OLC B 503:

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

Electron density around OLC A 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 OLC A 517:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
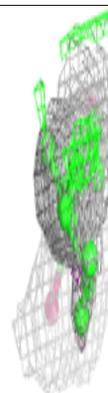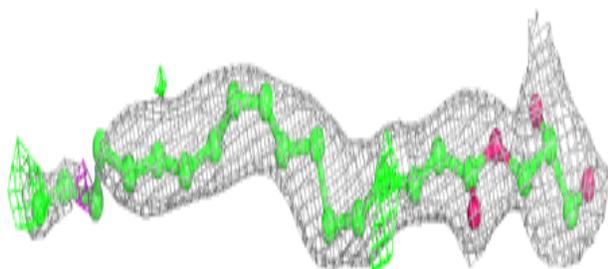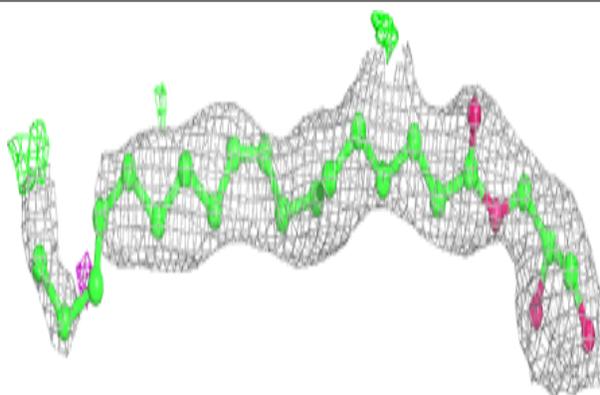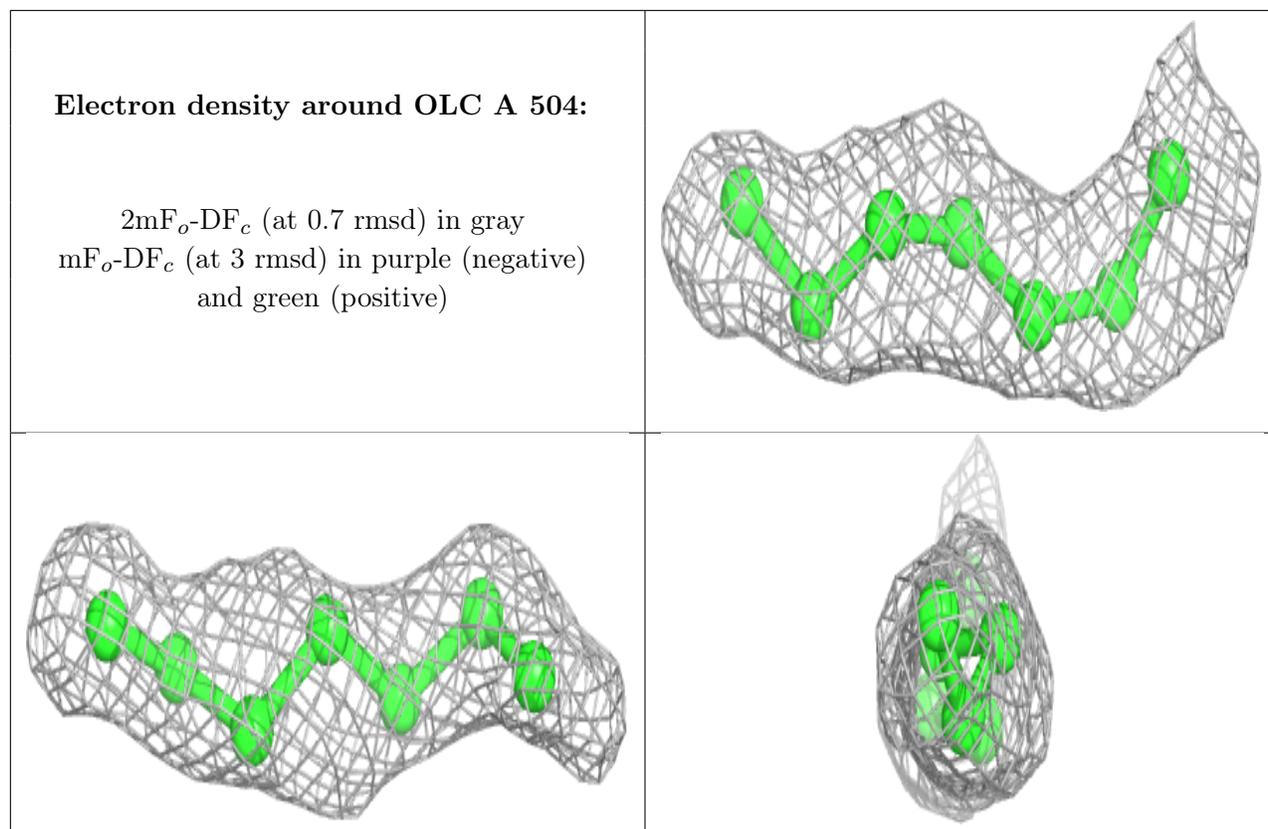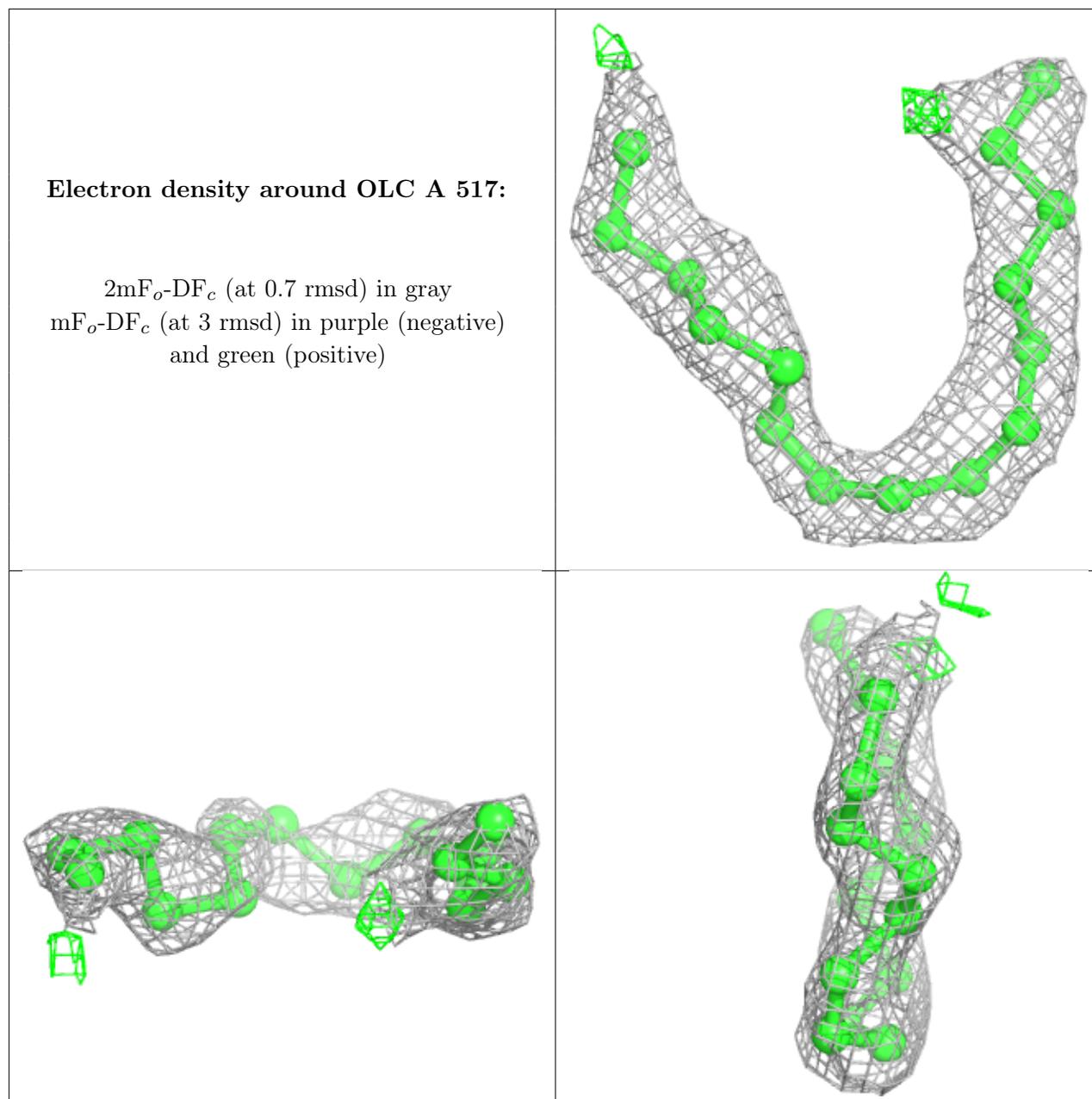
Electron density around OLC A 505:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
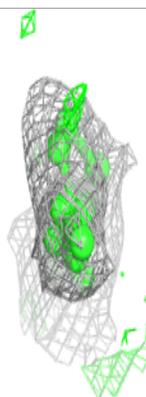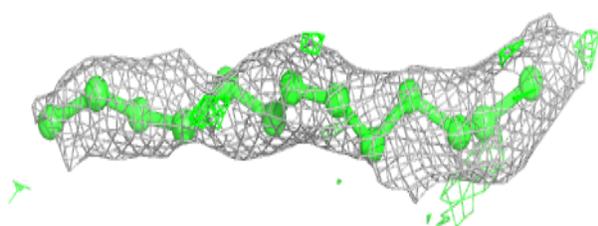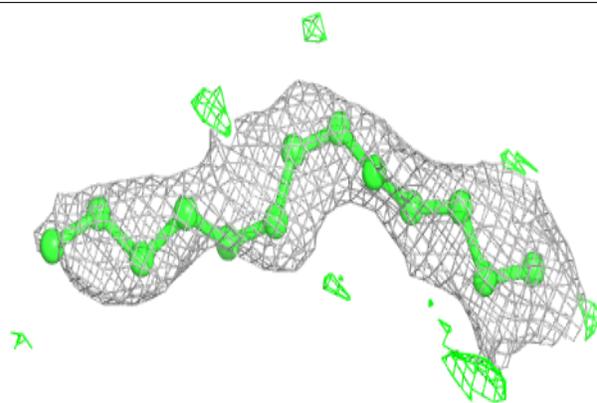
Electron density around OLC B 522:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
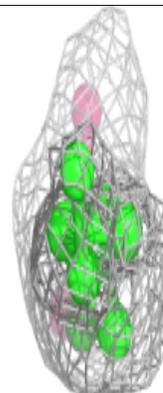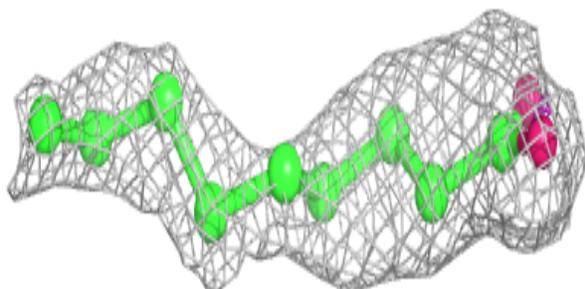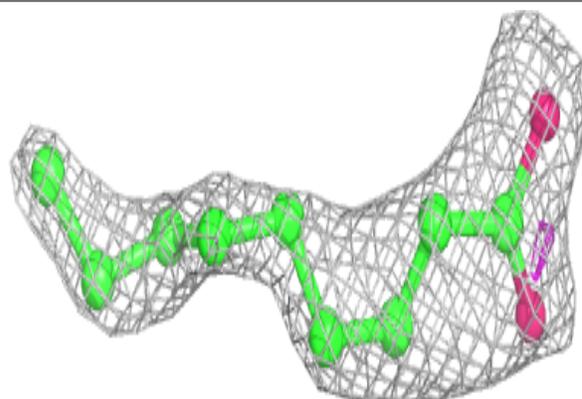
Electron density around OLC A 511:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
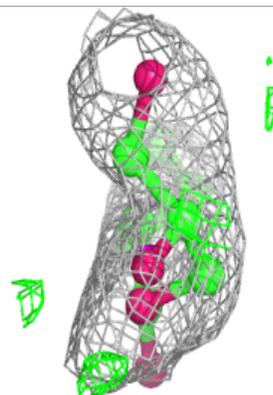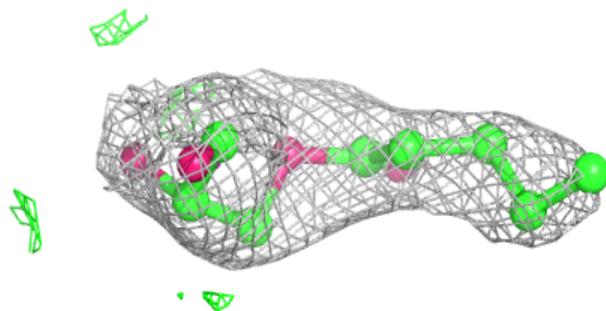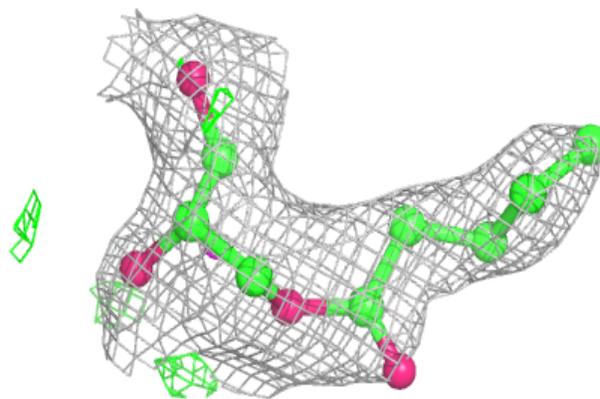
Electron density around OLC B 505:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
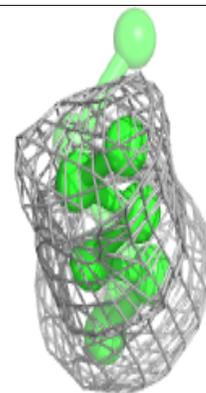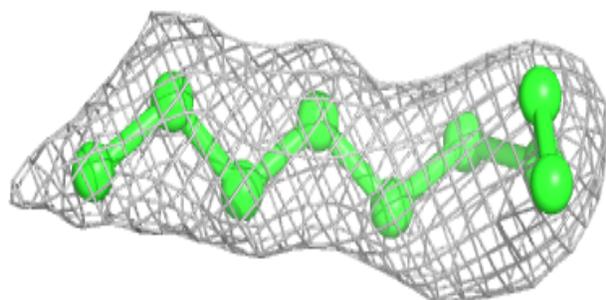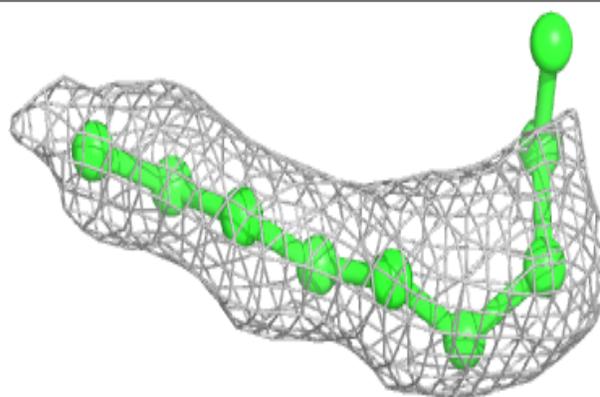
Electron density around OLC B 513:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
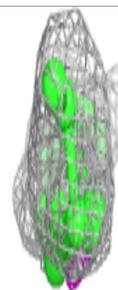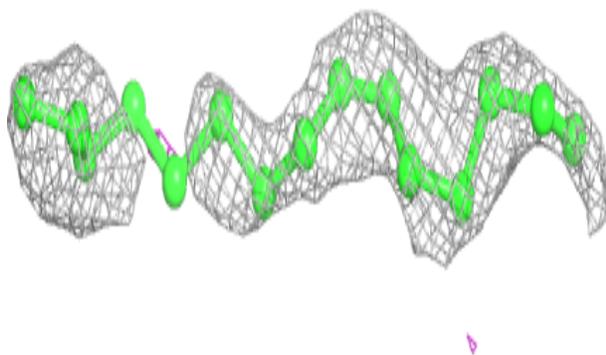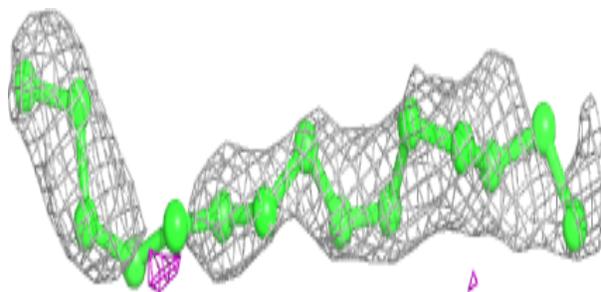
Electron density around OLC A 514:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
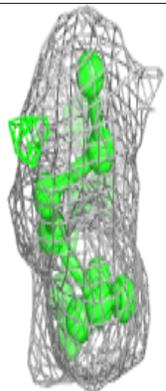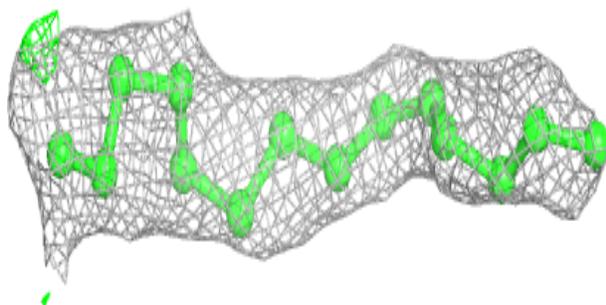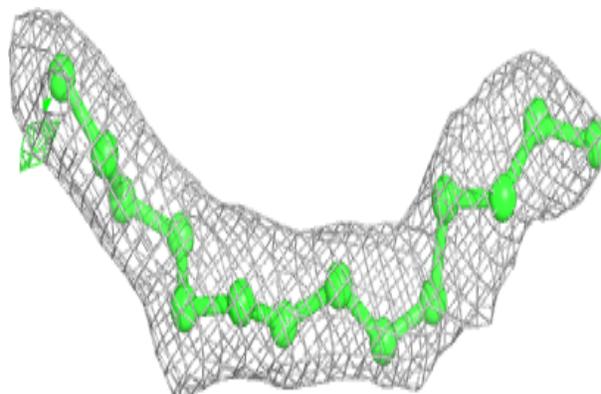
Electron density around OLC A 507:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
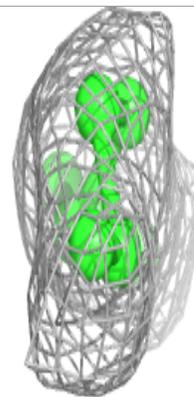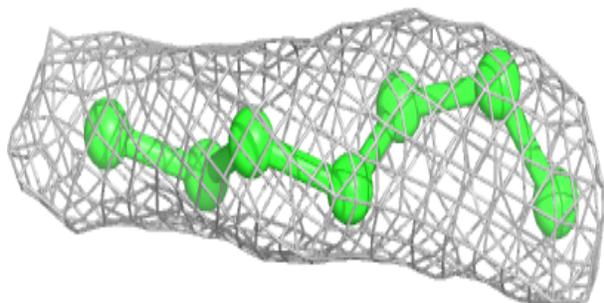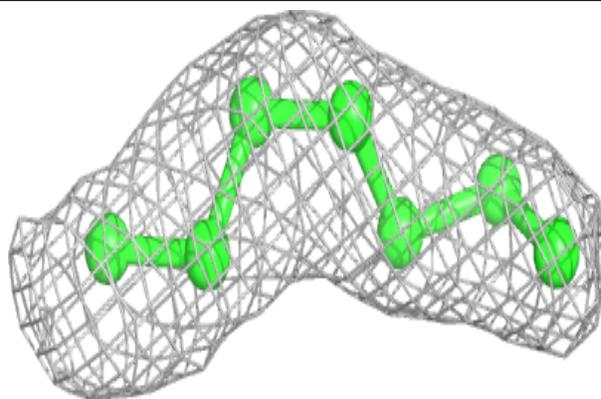
**Electron density around OLC B 508:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
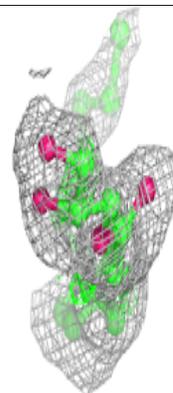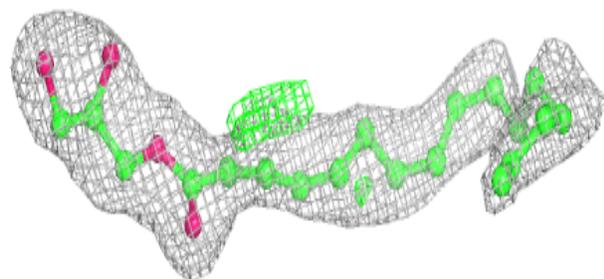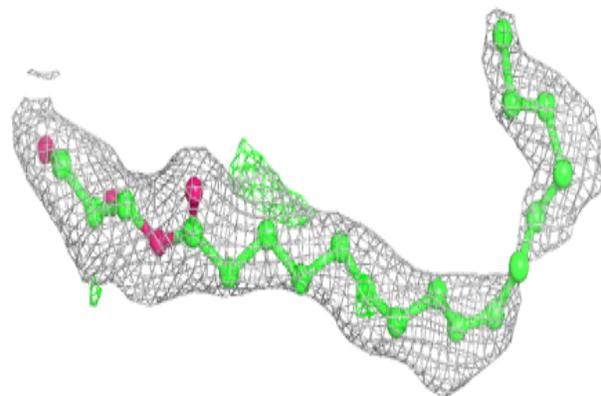
Electron density around OLC B 525:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
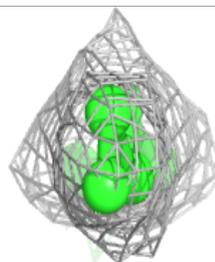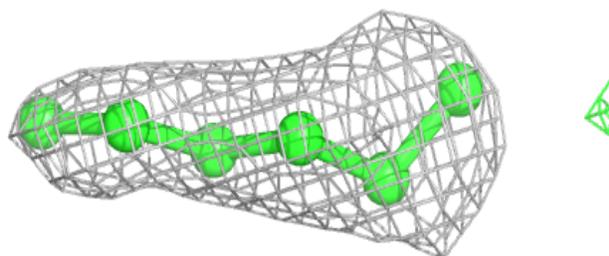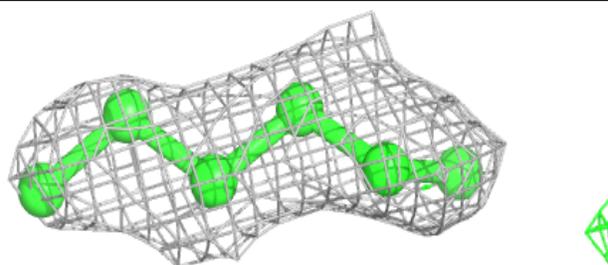
Electron density around OLC A 512:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
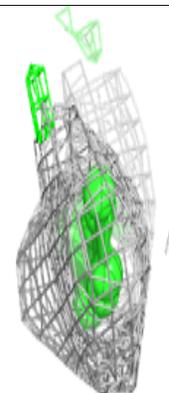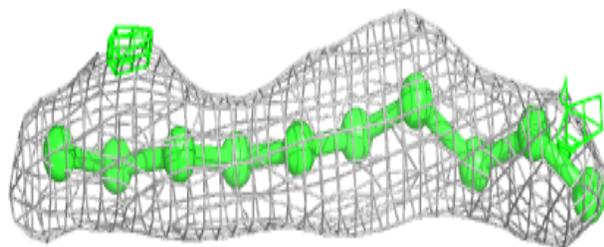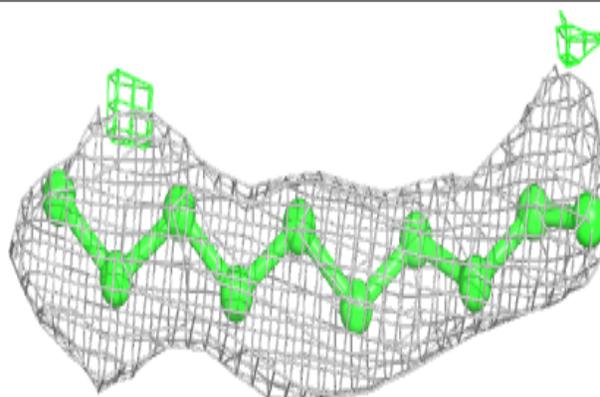
Electron density around OLC B 507:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
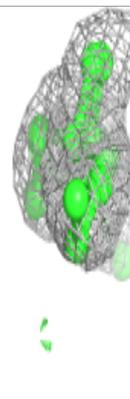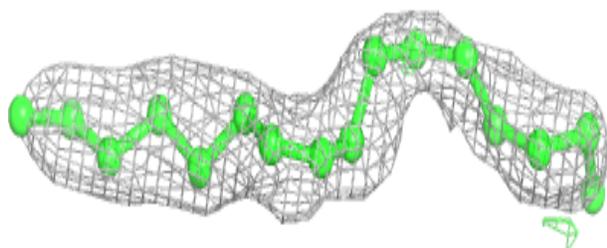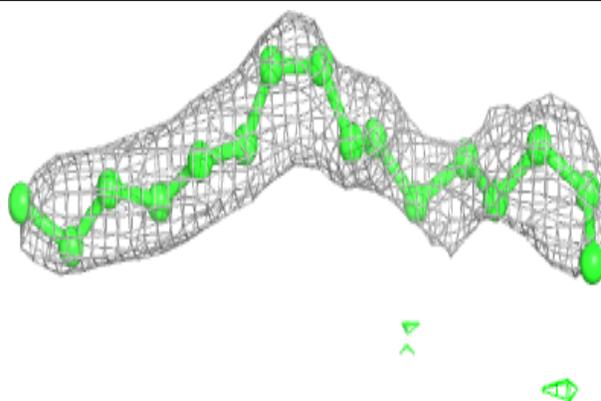
Electron density around OLC A 513:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
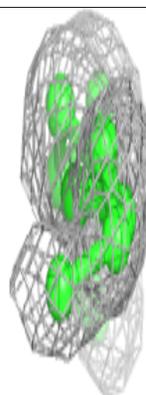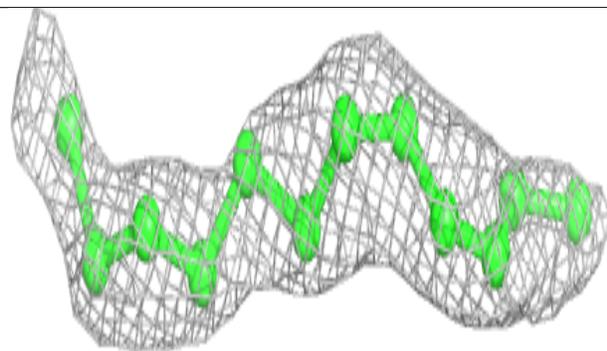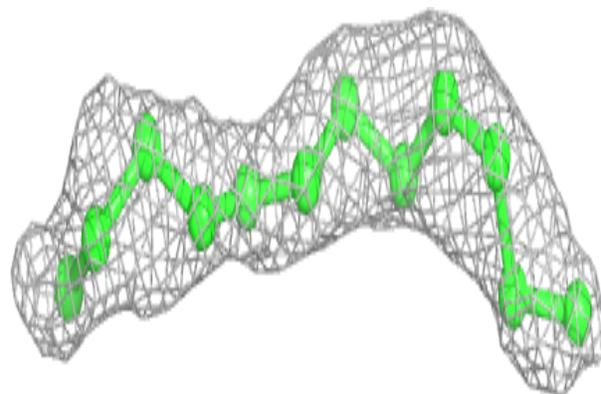
Electron density around OLC A 508:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
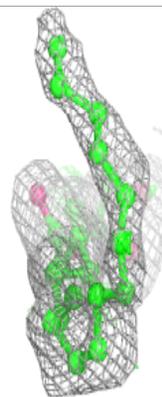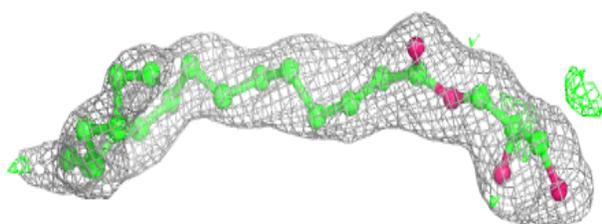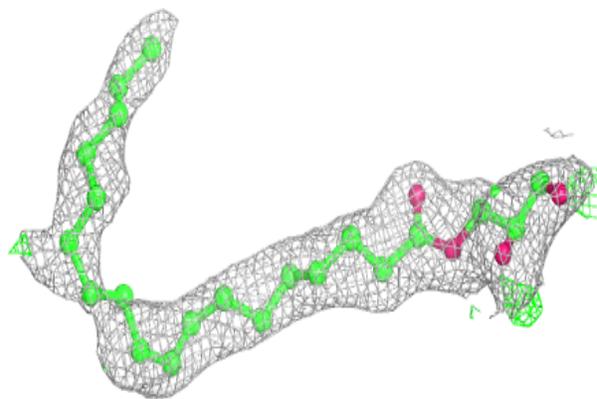
Electron density around OLC B 511:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
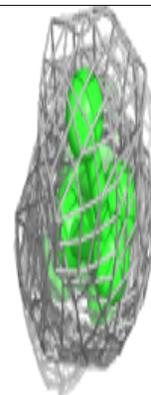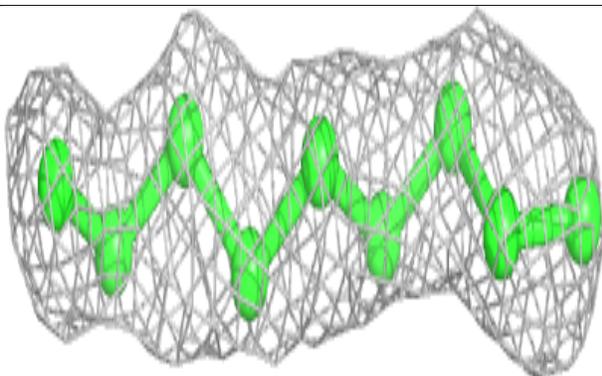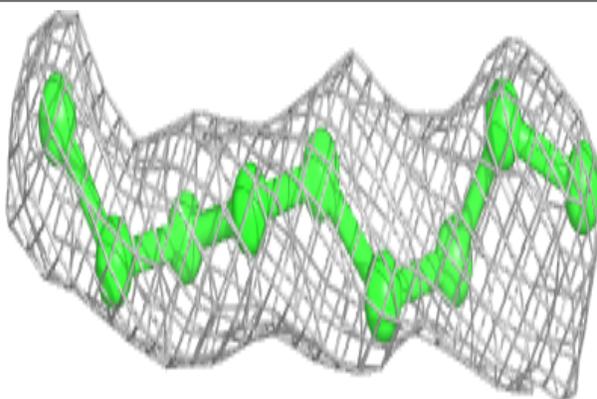
Electron density around OLC A 506:

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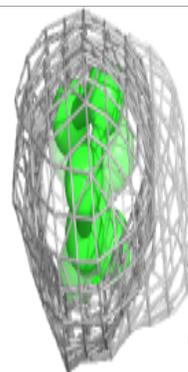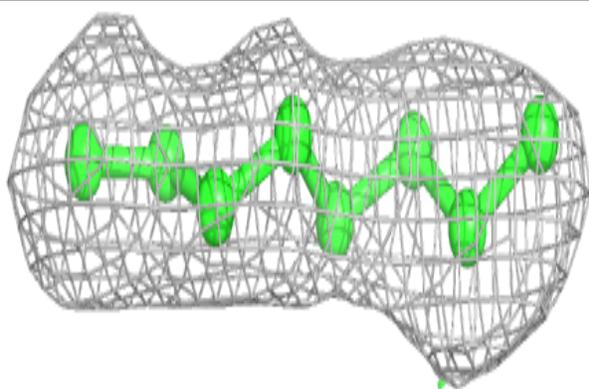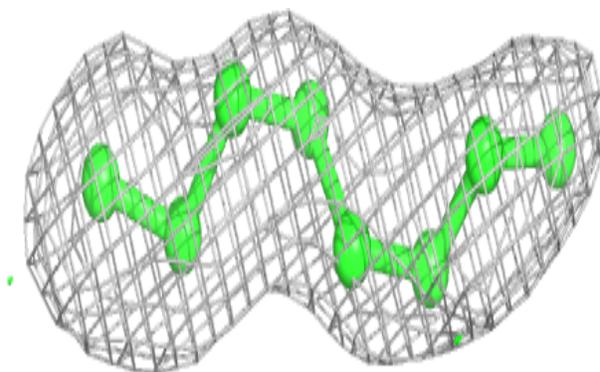

Electron density around OLC B 512:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
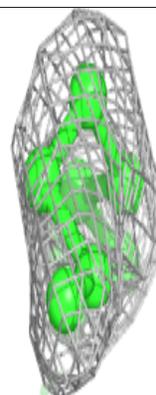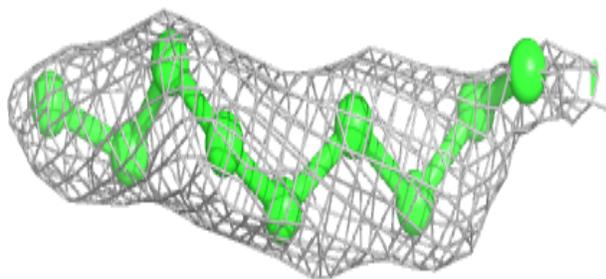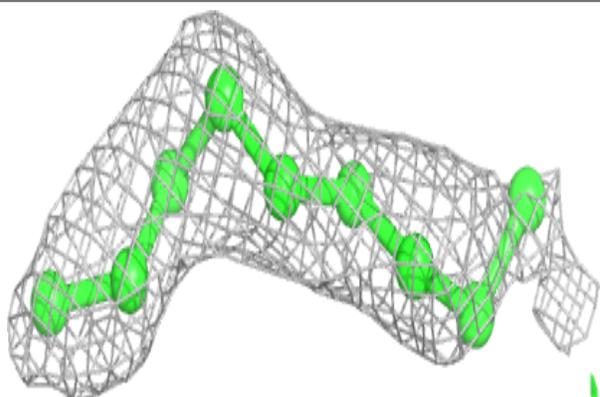
Electron density around PO4 A 501:

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

Electron density around PO4 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 ⓘ

There are no such residues in this entry.