Full wwPDB X-ray Structure Validation Report ⓘ

Mar 24, 2025 – 01:43 PM JST

PDB ID	:	8ZOJ
Title	:	The crystal structure of YegTK267A from the Nucleoside: H+ Symporter Family
Authors	:	Xiao, Q.J.; Deng, D.
Deposited on	:	2024-05-28
Resolution	:	2.91 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:

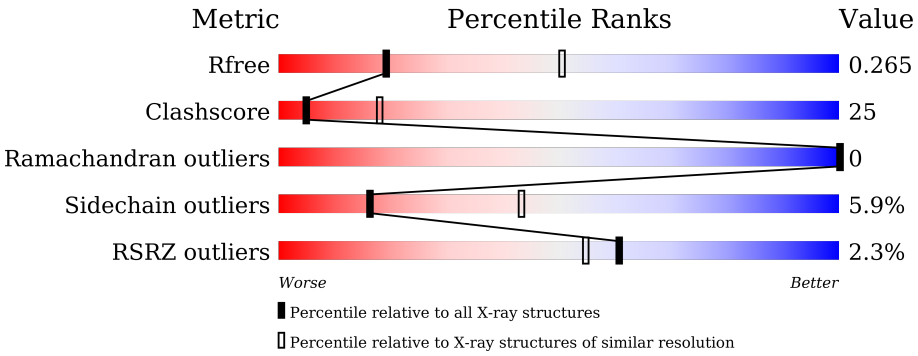
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.21
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.004 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.41.2

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.91 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	2797 (2.94-2.90)
Clashscore	180529	3049 (2.94-2.90)
Ramachandran outliers	177936	2981 (2.94-2.90)
Sidechain outliers	177891	2983 (2.94-2.90)
RSRZ outliers	164620	2799 (2.94-2.90)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=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	425	2% 56% 36% • 7%
1	B	425	3% 53% 38% • 6%

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 6364 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.

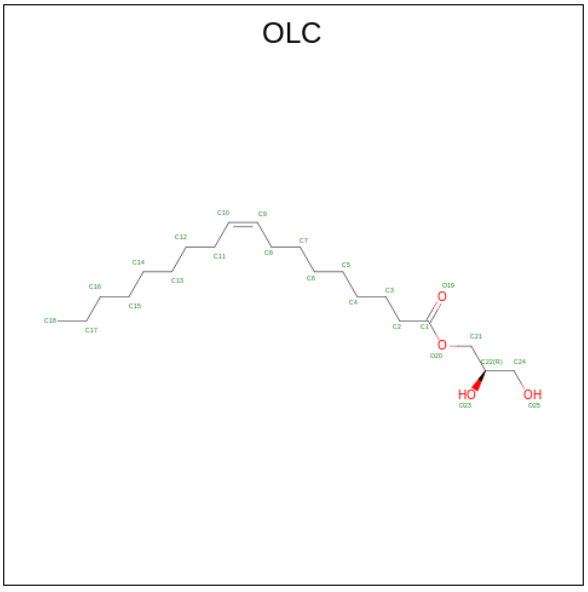
- Molecule 1 is a protein called Putative nucleoside transporter YegT.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	B	398	Total	C	N	O	S	0	0	0
			3097	2098	459	516	24			
1	A	397	Total	C	N	O	S	0	0	0
			3102	2104	459	515	24			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	267	ALA	LYS	engineered mutation	UNP P76417
A	267	ALA	LYS	engineered mutation	UNP P76417

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



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	B	1	Total	C	O	0	0
			25	21	4		

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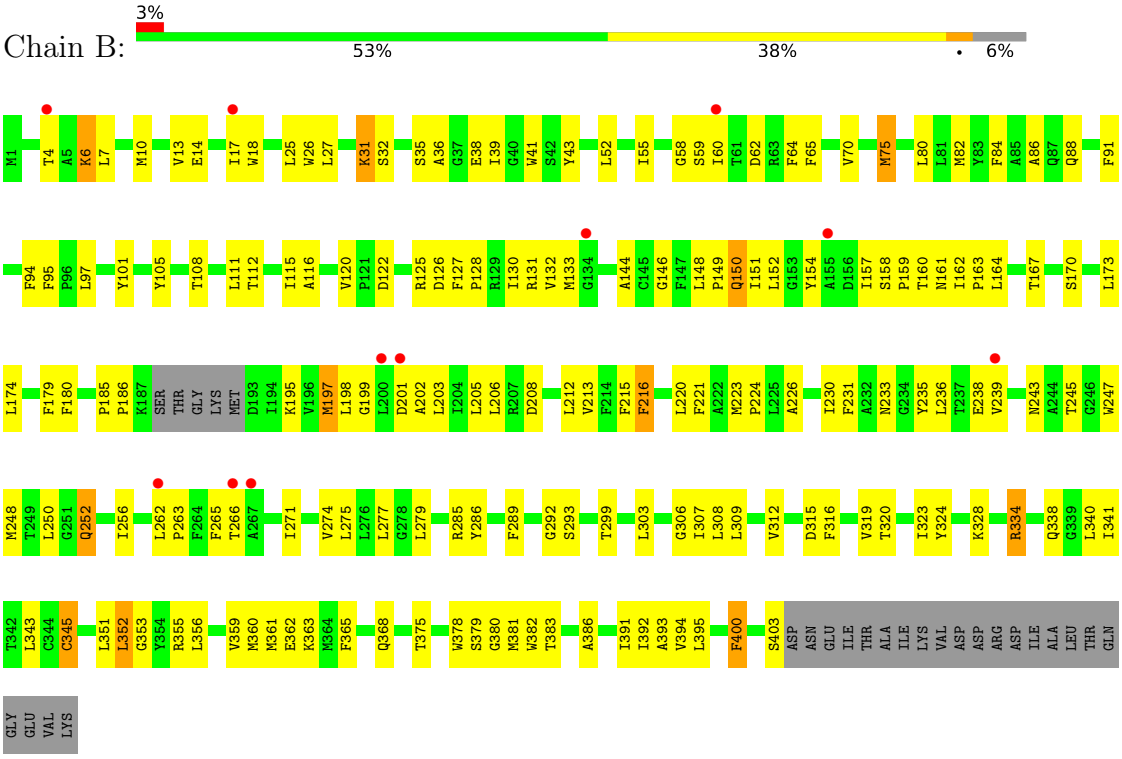
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	B	1	Total C 16 16	0	0
2	B	1	Total C 17 17	0	0
2	B	1	Total C 16 16	0	0
2	B	1	Total C 18 18	0	0
2	A	1	Total C O 25 21 4	0	0
2	A	1	Total C O 18 14 4	0	0
2	A	1	Total C 14 14	0	0
2	A	1	Total C 16 16	0	0

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.

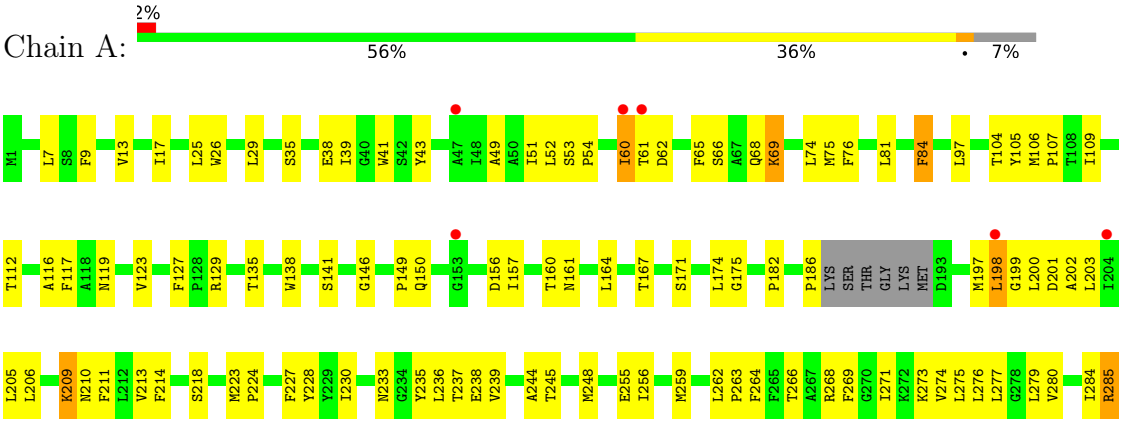
• Molecule 1: Putative nucleoside transporter YegT

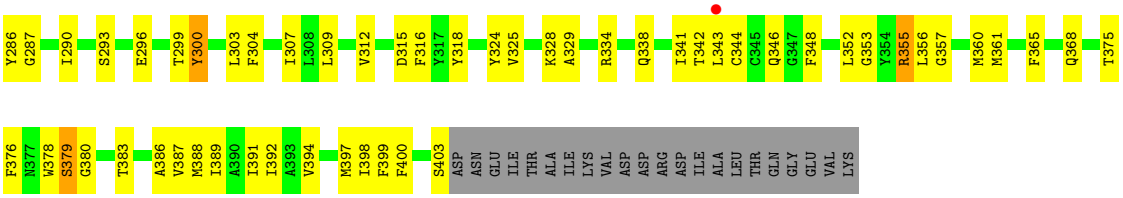
Chain B:



• Molecule 1: Putative nucleoside transporter YegT

Chain A:




Y286 G287 I290 S293 E296 T299 Y300 L303 F304 I307 L308 L309 V312 D315 F316 Y317 Y318 Y324 V325 K328 A329 R334 Q338 I341 T342 L343 C344 C345 Q346 G347 F348 L352 G353 Y354 R355 L356 G357 M360 M361 F365 Q368 T375
F376 N377 W378 S379 G380 T383 A386 V387 M388 I389 A390 I391 I392 A393 V394 M397 I398 F399 F400 S403 ASP ASN GLU ILE THR ALA ILE LYS VAL ASP ASP ARG ASP ILE ALA LEU THR GLN GLY GLU VAL LYS

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	42.77Å 58.21Å 105.08Å 77.85° 81.30° 68.46°	Depositor
Resolution (Å)	39.14 – 2.91 39.14 – 2.91	Depositor EDS
% Data completeness (in resolution range)	98.0 (39.14-2.91) 97.9 (39.14-2.91)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.40 (at 2.90Å)	Xtriage
Refinement program	PHENIX (1.14_3260: ???)	Depositor
R, R_{free}	0.241 , 0.262 0.244 , 0.265	Depositor DCC
R_{free} test set	18086 reflections (10.01%)	wwPDB-VP
Wilson B-factor (Å^2)	68.2	Xtriage
Anisotropy	0.528	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.32 , 83.9	EDS
L-test for twinning[2]	$< \|L\| > = 0.51$, $< L^2 > = 0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.92	EDS
Total number of atoms	6364	wwPDB-VP
Average B, all atoms (Å^2)	71.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 7.70% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: 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	0.54	0/3201	0.71	0/4356
1	B	0.53	0/3196	0.70	0/4351
All	All	0.54	0/6397	0.70	0/8707

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3102	0	3106	163	0
1	B	3097	0	3079	145	0
2	A	73	0	114	6	0
2	B	92	0	162	17	0
All	All	6364	0	6461	317	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 25.

All (317) 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:290:ILE:HD12	1:A:383:THR:CG2	1.68	1.23
1:A:290:ILE:HD12	1:A:383:THR:HG22	1.30	1.11
1:A:290:ILE:CD1	1:A:383:THR:CG2	2.40	0.99
1:A:290:ILE:HD12	1:A:383:THR:HG23	1.45	0.98
1:B:14:GLU:HG3	1:B:112:THR:HG21	1.59	0.85
1:A:239:VAL:HG13	1:A:293:SER:HA	1.56	0.85
1:A:290:ILE:CD1	1:A:383:THR:HG23	2.06	0.83
1:A:273:LYS:O	1:A:277:LEU:HG	1.81	0.81
1:A:290:ILE:CD1	1:A:383:THR:HG22	2.08	0.79
1:B:299:THR:O	1:B:303:LEU:HD13	1.84	0.78
1:A:146:GLY:HA3	1:A:245:THR:HG23	1.65	0.78
1:A:26:TRP:CE3	1:A:39:ILE:HG21	2.19	0.78
1:A:202:ALA:HA	1:A:205:LEU:HD12	1.67	0.77
1:B:58:GLY:O	1:B:62:ASP:HB2	1.85	0.77
1:A:293:SER:H	1:A:299:THR:HB	1.49	0.77
1:A:287:GLY:O	1:A:290:ILE:HG22	1.84	0.76
2:B:504:OLC:H14A	1:A:69:LYS:HE3	1.70	0.72
1:B:215:PHE:HE1	1:B:341:ILE:HA	1.55	0.72
1:B:213:VAL:HG11	1:B:400:PHE:HB2	1.72	0.72
1:A:7:LEU:HD22	1:A:116:ALA:HA	1.74	0.70
1:A:160:THR:OG1	1:A:161:ASN:N	2.24	0.69
1:A:276:LEU:HA	1:A:279:LEU:HD13	1.75	0.69
1:A:318:TYR:CE2	1:A:346:GLN:NE2	2.62	0.68
1:A:361:MET:HA	1:A:365:PHE:HB2	1.75	0.68
1:A:198:LEU:C	1:A:198:LEU:HD12	2.13	0.68
1:A:285:ARG:HG3	1:A:286:TYR:N	2.08	0.68
1:B:161:ASN:O	1:B:164:LEU:HB2	1.95	0.67
1:B:238:GLU:OE1	1:B:375:THR:HG22	1.95	0.67
1:A:119:ASN:HD22	1:A:182:PRO:HG2	1.59	0.67
1:A:394:VAL:HA	1:A:397:MET:HG3	1.76	0.67
1:A:239:VAL:CG1	1:A:293:SER:HA	2.25	0.66
1:A:293:SER:N	1:A:299:THR:HB	2.10	0.66
1:B:355:ARG:O	1:B:359:VAL:HG22	1.95	0.66
1:A:41:TRP:CD2	1:A:355:ARG:HD2	2.30	0.66
1:A:61:THR:HB	1:A:186:PRO:HB2	1.77	0.66
1:A:403:SER:O	1:A:403:SER:OG	2.09	0.66
1:A:84:PHE:HD2	1:A:97:LEU:HD11	1.60	0.66
1:B:70:VAL:HA	2:B:505:OLC:H17A	1.77	0.65
1:B:84:PHE:HD2	1:B:97:LEU:HD11	1.61	0.65
1:B:235:TYR:CE1	1:B:239:VAL:HG11	2.32	0.64
1:A:318:TYR:OH	1:A:346:GLN:NE2	2.30	0.64
1:B:84:PHE:CE1	2:B:504:OLC:H17	2.33	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:324:TYR:CZ	1:B:328:LYS:HD3	2.32	0.63
1:B:6:LYS:HD3	1:B:180:PHE:O	1.99	0.63
1:A:26:TRP:HE3	1:A:39:ILE:HG21	1.62	0.63
1:B:213:VAL:CG1	1:B:400:PHE:HB2	2.29	0.63
1:B:163:PRO:O	1:B:167:THR:HG22	1.99	0.62
1:A:75:MET:HE2	1:A:171:SER:HA	1.82	0.62
1:B:7:LEU:HD13	1:B:116:ALA:HA	1.82	0.62
1:A:41:TRP:NE1	2:A:502:OLC:O19	2.29	0.61
1:A:60:ILE:HG22	1:A:61:THR:HG22	1.83	0.61
1:B:82:MET:SD	1:B:164:LEU:HD13	2.41	0.61
1:A:228:TYR:CD2	1:A:285:ARG:NH1	2.69	0.60
1:B:293:SER:H	1:B:299:THR:HB	1.66	0.60
1:A:66:SER:H	1:A:69:LYS:HE2	1.67	0.60
1:A:398:ILE:HG13	1:A:399:PHE:CD1	2.35	0.60
1:A:237:THR:HG23	1:A:244:ALA:HB3	1.83	0.60
1:A:238:GLU:OE2	1:A:375:THR:HG22	2.00	0.60
1:B:158:SER:HB2	1:B:159:PRO:HD3	1.84	0.60
1:A:286:TYR:HB3	1:A:386:ALA:HB2	1.84	0.60
1:B:17:ILE:HD13	1:B:75:MET:HE3	1.83	0.59
1:B:55:ILE:CD1	1:B:195:LYS:HD3	2.32	0.59
1:A:318:TYR:HE2	1:A:346:GLN:NE2	1.98	0.59
2:B:505:OLC:H16A	1:A:84:PHE:CE1	2.37	0.59
1:A:41:TRP:CE3	1:A:355:ARG:HD2	2.38	0.59
1:B:150:GLN:NE2	1:B:243:ASN:HD21	2.00	0.58
1:B:17:ILE:HG22	1:B:170:SER:HB2	1.85	0.58
1:A:387:VAL:O	1:A:391:ILE:HG23	2.04	0.58
1:B:206:LEU:HD22	1:B:212:LEU:HD13	1.86	0.58
1:A:355:ARG:HG2	1:A:355:ARG:HH11	1.67	0.58
1:A:49:ALA:O	1:A:53:SER:HB2	2.04	0.58
1:A:324:TYR:CZ	1:A:328:LYS:HG3	2.39	0.58
1:A:255:GLU:HG3	1:A:315:ASP:OD1	2.03	0.58
1:A:293:SER:O	1:A:299:THR:HB	2.03	0.58
1:B:341:ILE:O	1:B:345:CYS:HB3	2.04	0.57
1:B:43:TYR:CD1	1:B:230:ILE:HG13	2.40	0.57
1:B:25:LEU:HD23	1:B:43:TYR:CE1	2.39	0.57
1:B:263:PRO:O	1:B:266:THR:HG22	2.04	0.57
1:A:61:THR:HB	1:A:186:PRO:CB	2.34	0.57
1:B:120:VAL:HG21	1:B:126:ASP:HB2	1.85	0.57
1:B:148:LEU:O	1:B:151:ILE:HB	2.05	0.57
1:B:7:LEU:O	1:B:10:MET:HG3	2.05	0.57
1:A:238:GLU:OE1	1:A:378:TRP:NE1	2.31	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:279:LEU:HD11	1:B:392:ILE:HD11	1.86	0.56
2:B:504:OLC:H12A	1:A:65:PHE:CE1	2.39	0.56
1:B:271:ILE:HG22	1:B:275:LEU:HD12	1.88	0.56
1:A:51:ILE:HG22	1:A:52:LEU:HD23	1.86	0.56
1:A:17:ILE:HG23	1:A:167:THR:HG23	1.87	0.56
1:A:60:ILE:HG22	1:A:61:THR:CG2	2.35	0.56
1:A:224:PRO:HG3	1:A:388:MET:SD	2.46	0.56
1:A:290:ILE:HD11	1:A:383:THR:CG2	2.35	0.56
1:B:351:LEU:HD23	1:B:351:LEU:O	2.06	0.55
1:B:271:ILE:HG22	1:B:275:LEU:CD1	2.36	0.55
1:A:274:VAL:HA	1:A:277:LEU:HD12	1.88	0.55
1:A:296:GLU:O	1:A:299:THR:OG1	2.24	0.55
1:B:198:LEU:HD23	1:B:198:LEU:H	1.72	0.55
1:A:84:PHE:HD2	1:A:97:LEU:CD1	2.19	0.55
1:A:271:ILE:HG23	1:A:275:LEU:HG	1.88	0.55
1:B:213:VAL:HG13	1:B:400:PHE:HD2	1.72	0.55
1:A:271:ILE:O	1:A:275:LEU:HG	2.06	0.55
2:B:505:OLC:H9	1:A:84:PHE:CE2	2.41	0.54
1:A:43:TYR:CD1	1:A:230:ILE:HG13	2.42	0.54
1:B:75:MET:HE2	1:B:174:LEU:HD23	1.88	0.54
1:A:355:ARG:HG2	1:A:355:ARG:NH1	2.23	0.54
1:B:197:MET:HE1	1:B:198:LEU:HB3	1.89	0.54
1:B:380:GLY:O	1:B:383:THR:OG1	2.20	0.54
1:B:379:SER:O	1:B:383:THR:HG23	2.07	0.54
1:B:309:LEU:HA	1:B:312:VAL:HB	1.90	0.54
2:A:502:OLC:H9	2:A:502:OLC:H2	1.90	0.54
1:B:391:ILE:O	1:B:395:LEU:HG	2.08	0.54
1:B:362:GLU:HG3	1:B:363:LYS:HD3	1.89	0.53
1:A:290:ILE:O	1:A:379:SER:OG	2.25	0.53
1:B:36:ALA:HB3	1:B:362:GLU:HB3	1.91	0.53
1:A:389:ILE:O	1:A:392:ILE:HG13	2.08	0.53
1:A:41:TRP:CE2	1:A:355:ARG:HD2	2.43	0.53
1:A:213:VAL:HG11	1:A:400:PHE:HB2	1.90	0.53
1:A:293:SER:O	1:A:299:THR:CB	2.57	0.53
1:A:123:VAL:O	1:A:127:PHE:HB2	2.08	0.53
1:A:259:MET:O	1:A:263:PRO:HD3	2.08	0.53
1:B:150:GLN:HA	1:B:154:TYR:O	2.09	0.53
1:B:197:MET:SD	1:B:198:LEU:N	2.82	0.53
1:B:334:ARG:O	1:B:338:GLN:HG2	2.08	0.53
1:A:161:ASN:O	1:A:164:LEU:N	2.34	0.53
1:B:150:GLN:NE2	1:B:243:ASN:ND2	2.57	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:315:ASP:O	1:B:319:VAL:HG22	2.09	0.52
1:A:9:PHE:O	1:A:13:VAL:HG22	2.09	0.52
1:B:111:LEU:O	1:B:115:ILE:HG13	2.09	0.52
1:B:26:TRP:CE3	1:B:39:ILE:HG21	2.44	0.52
1:A:361:MET:HE1	1:A:376:PHE:HB3	1.90	0.52
1:B:262:LEU:O	1:B:265:PHE:HB2	2.10	0.52
1:B:84:PHE:HD2	1:B:97:LEU:CD1	2.22	0.52
1:B:130:ILE:O	1:B:133:MET:HB2	2.10	0.52
1:B:400:PHE:CD1	1:B:400:PHE:C	2.84	0.52
1:B:157:ILE:CG2	1:B:162:ILE:HD12	2.40	0.51
1:B:120:VAL:CG2	1:B:126:ASP:HB2	2.41	0.51
1:B:250:LEU:HD13	1:B:308:LEU:HD21	1.91	0.51
1:B:238:GLU:OE2	1:B:378:TRP:NE1	2.32	0.51
1:B:198:LEU:HD12	1:B:343:LEU:HG	1.93	0.51
1:B:199:GLY:HA2	1:B:340:LEU:HD13	1.93	0.50
1:B:250:LEU:HB3	1:B:308:LEU:HD23	1.93	0.50
1:B:286:TYR:HB3	1:B:386:ALA:HB2	1.93	0.50
1:B:17:ILE:HG22	1:B:170:SER:CB	2.41	0.50
1:A:13:VAL:CG2	1:A:174:LEU:HD13	2.42	0.50
1:B:14:GLU:O	1:B:105:TYR:OH	2.28	0.50
1:B:233:ASN:HB2	1:B:248:MET:HE1	1.92	0.50
1:A:53:SER:N	1:A:54:PRO:HD2	2.27	0.50
2:B:504:OLC:H12A	1:A:65:PHE:HE1	1.77	0.50
1:B:202:ALA:HA	1:B:205:LEU:CD2	2.42	0.50
1:A:150:GLN:OE1	1:A:150:GLN:N	2.45	0.49
1:B:292:GLY:HA3	1:B:303:LEU:CD1	2.41	0.49
1:A:60:ILE:HG22	1:A:61:THR:N	2.28	0.49
1:B:41:TRP:HB3	1:B:95:PHE:HE2	1.76	0.49
1:B:235:TYR:CD1	1:B:378:TRP:CB	2.96	0.49
1:B:235:TYR:O	1:B:239:VAL:HG22	2.12	0.49
1:A:214:PHE:O	1:A:218:SER:OG	2.27	0.49
1:A:334:ARG:O	1:A:338:GLN:HG2	2.13	0.49
1:A:135:THR:OG1	1:A:256:ILE:HD11	2.13	0.49
1:A:277:LEU:HA	1:A:280:VAL:HG12	1.95	0.49
1:B:35:SER:O	1:B:39:ILE:HG13	2.13	0.49
1:A:13:VAL:HG21	1:A:174:LEU:HD13	1.95	0.49
1:A:202:ALA:CA	1:A:205:LEU:HD12	2.42	0.48
1:A:239:VAL:HG11	1:A:303:LEU:HD11	1.95	0.48
1:B:356:LEU:O	1:B:360:MET:HB3	2.13	0.48
1:B:391:ILE:HA	1:B:394:VAL:HG22	1.94	0.48
1:A:74:LEU:HD23	1:A:104:THR:HG23	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:105:TYR:HD2	1:A:106:MET:HG2	1.78	0.48
1:A:236:LEU:CD1	1:A:307:ILE:HD11	2.43	0.48
1:B:126:ASP:O	1:B:130:ILE:HG12	2.13	0.48
1:A:290:ILE:HG13	1:A:379:SER:O	2.14	0.48
1:B:216:PHE:O	1:B:220:LEU:HG	2.13	0.48
1:A:200:LEU:HA	1:A:203:LEU:HB2	1.95	0.48
2:B:505:OLC:H13A	2:B:505:OLC:H10	1.38	0.48
2:B:501:OLC:H9	2:B:501:OLC:C13	2.43	0.48
1:B:252:GLN:O	1:B:256:ILE:HG13	2.14	0.47
1:B:208:ASP:OD2	1:B:328:LYS:HE2	2.14	0.47
1:A:106:MET:HE3	1:A:109:ILE:HD12	1.96	0.47
1:B:179:PHE:N	1:B:179:PHE:CD1	2.82	0.47
1:B:202:ALA:HA	1:B:205:LEU:HD23	1.95	0.47
1:A:213:VAL:HG21	1:A:399:PHE:O	2.15	0.47
1:B:235:TYR:HB2	1:B:378:TRP:CD2	2.49	0.47
1:A:239:VAL:CG1	1:A:303:LEU:HD11	2.44	0.47
1:A:279:LEU:HD21	1:A:392:ILE:HD12	1.96	0.47
1:B:127:PHE:HB3	1:B:128:PRO:HD3	1.96	0.47
1:B:157:ILE:HG22	1:B:162:ILE:HD12	1.96	0.47
2:B:502:OLC:H13A	2:B:502:OLC:H10	1.63	0.47
1:A:202:ALA:O	1:A:205:LEU:HB2	2.15	0.47
1:A:394:VAL:O	1:A:397:MET:HB2	2.14	0.47
1:A:157:ILE:O	1:A:160:THR:HG22	2.15	0.47
1:A:398:ILE:HG13	1:A:399:PHE:HD1	1.80	0.47
1:B:235:TYR:CD1	1:B:378:TRP:HB3	2.50	0.47
2:B:501:OLC:H5A	2:B:501:OLC:H8	1.60	0.46
1:A:109:ILE:O	1:A:112:THR:HG22	2.15	0.46
1:A:375:THR:HG23	1:A:376:PHE:CD2	2.51	0.46
2:A:504:OLC:H13	2:A:504:OLC:H10	1.52	0.46
1:A:318:TYR:CZ	1:A:346:GLN:NE2	2.83	0.46
1:B:55:ILE:HD13	1:B:195:LYS:HD3	1.96	0.46
1:A:129:ARG:CZ	1:A:129:ARG:HB3	2.46	0.46
1:A:357:GLY:HA2	1:A:360:MET:HE2	1.97	0.46
1:B:128:PRO:O	1:B:132:VAL:HG13	2.15	0.46
1:A:81:LEU:HD23	1:A:81:LEU:HA	1.73	0.46
1:A:279:LEU:HD21	1:A:392:ILE:CD1	2.46	0.46
1:A:279:LEU:CD2	1:A:392:ILE:CD1	2.94	0.46
1:A:233:ASN:HA	1:A:248:MET:HE1	1.98	0.46
1:B:13:VAL:O	1:B:17:ILE:HG23	2.16	0.46
1:A:325:VAL:O	1:A:329:ALA:N	2.49	0.46
1:B:17:ILE:HG13	1:B:18:TRP:N	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:84:PHE:CD2	1:B:97:LEU:HD11	2.47	0.45
1:A:138:TRP:O	1:A:141:SER:OG	2.32	0.45
1:A:309:LEU:HD12	1:A:309:LEU:HA	1.61	0.45
1:A:198:LEU:HD12	1:A:198:LEU:O	2.17	0.45
1:A:309:LEU:HD12	1:A:312:VAL:HB	1.98	0.45
1:A:280:VAL:O	1:A:284:ILE:HG23	2.16	0.45
1:B:146:GLY:HA3	1:B:245:THR:HG23	1.98	0.45
1:A:264:PHE:O	1:A:268:ARG:HG3	2.16	0.45
1:B:319:VAL:O	1:B:323:ILE:HG13	2.17	0.45
1:A:352:LEU:O	1:A:356:LEU:CB	2.65	0.45
1:A:227:PHE:HB2	1:A:286:TYR:OH	2.16	0.45
1:B:27:LEU:HA	1:B:31:LYS:HZ1	1.82	0.45
1:B:41:TRP:HB3	1:B:95:PHE:CE2	2.51	0.45
1:A:285:ARG:HB3	1:A:309:LEU:HB3	1.98	0.45
2:B:501:OLC:H6	2:B:501:OLC:H3A	1.56	0.45
1:A:342:THR:HA	1:A:346:GLN:HB2	1.99	0.45
1:B:80:LEU:HA	1:A:76:PHE:HD2	1.82	0.45
1:B:160:THR:HG22	1:B:161:ASN:H	1.82	0.45
1:A:25:LEU:HD23	1:A:43:TYR:CE1	2.52	0.45
1:A:394:VAL:O	1:A:397:MET:N	2.50	0.45
2:A:501:OLC:H21	2:A:501:OLC:H2	1.73	0.44
1:B:26:TRP:CZ3	1:B:231:PHE:HE1	2.35	0.44
1:B:65:PHE:O	1:B:186:PRO:HG3	2.17	0.44
1:B:292:GLY:HA3	1:B:303:LEU:HD11	1.99	0.44
2:B:503:OLC:H15A	2:B:503:OLC:H12	1.56	0.44
1:B:60:ILE:HG23	1:B:70:VAL:HG11	1.99	0.44
1:B:324:TYR:OH	1:B:328:LYS:HD3	2.17	0.44
1:A:84:PHE:CD2	1:A:97:LEU:HD11	2.47	0.44
1:B:41:TRP:CD2	1:B:355:ARG:HD2	2.53	0.44
1:A:206:LEU:HD23	1:A:211:PHE:HD2	1.83	0.43
1:B:88:GLN:HG3	1:B:94:PHE:HA	1.99	0.43
1:B:120:VAL:HG21	1:B:126:ASP:CB	2.48	0.43
1:B:185:PRO:HA	1:B:186:PRO:HD3	1.89	0.43
1:B:215:PHE:CE1	1:B:341:ILE:HA	2.45	0.43
1:B:279:LEU:HG	1:B:393:ALA:HB2	2.00	0.43
1:A:300:TYR:HE1	1:A:304:PHE:HE1	1.66	0.43
1:A:26:TRP:CZ3	1:A:39:ILE:HG21	2.54	0.43
1:A:60:ILE:HD12	1:A:60:ILE:HA	1.90	0.43
1:A:76:PHE:CE1	1:A:175:GLY:HA3	2.53	0.43
1:B:274:VAL:HG11	1:B:320:THR:HG21	2.00	0.43
1:A:279:LEU:CD2	1:A:392:ILE:HD12	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:86:ALA:HB2	1:B:164:LEU:HB3	2.00	0.43
1:B:101:TYR:CD1	1:B:101:TYR:C	2.92	0.43
1:A:29:LEU:HD23	1:A:29:LEU:HA	1.87	0.43
1:A:209:LYS:HD2	1:A:210:ASN:N	2.33	0.43
1:A:149:PRO:HG3	2:A:504:OLC:H7A	2.01	0.43
1:A:290:ILE:O	1:A:290:ILE:HG12	2.18	0.43
1:A:35:SER:OG	1:A:38:GLU:HG3	2.18	0.43
1:A:315:ASP:O	1:A:316:PHE:C	2.57	0.43
1:B:173:LEU:HD13	2:B:503:OLC:H14A	2.01	0.43
1:B:84:PHE:HE2	2:B:504:OLC:H6	1.84	0.43
1:B:299:THR:O	1:B:303:LEU:CD1	2.61	0.43
1:B:235:TYR:HD1	1:B:378:TRP:CG	2.37	0.43
1:B:381:MET:SD	1:B:382:TRP:N	2.92	0.43
1:B:148:LEU:O	1:B:152:LEU:HD12	2.19	0.42
1:A:214:PHE:HE1	1:A:341:ILE:HD12	1.84	0.42
1:A:223:MET:HG2	1:A:353:GLY:N	2.35	0.42
1:A:380:GLY:O	1:A:383:THR:OG1	2.24	0.42
1:B:122:ASP:HB3	1:B:125:ARG:CB	2.48	0.42
1:B:144:ALA:O	1:B:149:PRO:HD3	2.18	0.42
1:B:162:ILE:HG23	2:B:503:OLC:H6A	2.01	0.42
1:B:355:ARG:HH11	1:B:355:ARG:HB3	1.84	0.42
2:B:502:OLC:H11	2:B:502:OLC:H8A	1.89	0.42
1:A:43:TYR:CG	1:A:230:ILE:HG13	2.54	0.42
1:B:108:THR:HA	1:B:111:LEU:HB2	2.01	0.42
1:A:199:GLY:O	1:A:202:ALA:N	2.52	0.42
1:B:27:LEU:HD12	1:B:27:LEU:H	1.84	0.42
1:B:4:THR:O	1:B:7:LEU:HB2	2.19	0.42
1:B:38:GLU:HG2	1:B:91:PHE:CG	2.54	0.42
1:A:324:TYR:O	1:A:328:LYS:HB2	2.19	0.42
1:A:117:PHE:CE2	1:A:123:VAL:HG21	2.54	0.42
1:B:223:MET:HB2	1:B:224:PRO:CD	2.50	0.42
1:B:368:GLN:H	1:B:368:GLN:CD	2.23	0.42
1:A:233:ASN:O	1:A:237:THR:OG1	2.37	0.42
1:B:17:ILE:HD11	1:B:105:TYR:CE1	2.54	0.42
1:B:203:LEU:HD23	1:B:203:LEU:HA	1.90	0.42
1:A:75:MET:HB3	1:A:171:SER:O	2.19	0.42
1:B:361:MET:HA	1:B:365:PHE:HD2	1.84	0.42
1:A:53:SER:OG	1:A:107:PRO:HD3	2.20	0.42
1:A:285:ARG:CZ	1:A:286:TYR:HE1	2.33	0.42
1:B:226:ALA:HB3	1:B:353:GLY:HA3	2.01	0.41
1:A:39:ILE:HG22	1:A:230:ILE:HD11	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:343:LEU:C	1:A:343:LEU:HD23	2.41	0.41
1:B:247:TRP:CE3	1:B:247:TRP:HA	2.56	0.41
1:A:199:GLY:O	1:A:203:LEU:N	2.52	0.41
1:A:263:PRO:HA	1:A:266:THR:HG22	2.01	0.41
1:B:75:MET:HG3	1:B:174:LEU:HB3	2.03	0.41
1:B:263:PRO:HA	1:B:266:THR:HG22	2.03	0.41
1:B:82:MET:O	1:B:82:MET:HG2	2.18	0.41
1:B:352:LEU:O	1:B:356:LEU:HB3	2.20	0.41
1:A:26:TRP:CE3	1:A:39:ILE:HD13	2.55	0.41
1:A:262:LEU:HD22	1:A:315:ASP:HB3	2.02	0.41
1:B:235:TYR:OH	1:B:289:PHE:O	2.24	0.41
1:B:274:VAL:CG1	1:B:320:THR:HG21	2.51	0.41
1:A:157:ILE:HA	1:A:160:THR:HG22	2.02	0.41
1:B:285:ARG:HG3	1:B:306:GLY:O	2.21	0.41
1:A:41:TRP:CZ3	1:A:355:ARG:HD2	2.56	0.41
1:A:235:TYR:CE1	1:A:239:VAL:HG21	2.56	0.41
1:A:361:MET:HE2	1:A:376:PHE:CD1	2.55	0.41
1:B:198:LEU:H	1:B:198:LEU:CD2	2.32	0.41
1:B:250:LEU:HB3	1:B:308:LEU:CD2	2.50	0.41
1:B:236:LEU:HD11	1:B:307:ILE:HD11	2.03	0.40
1:A:41:TRP:CZ2	2:A:502:OLC:H7A	2.56	0.40
1:A:352:LEU:HD23	1:A:352:LEU:HA	1.90	0.40
1:A:66:SER:HB3	1:A:68:GLN:NE2	2.37	0.40
1:A:361:MET:CE	1:A:376:PHE:HB3	2.51	0.40
1:B:235:TYR:HB2	1:B:378:TRP:CE3	2.55	0.40
1:B:359:VAL:HA	1:B:362:GLU:HG2	2.02	0.40
1:A:161:ASN:O	1:A:164:LEU:HB2	2.21	0.40
1:B:52:LEU:HD23	1:B:52:LEU:HA	1.89	0.40
1:A:106:MET:N	1:A:107:PRO:HD2	2.36	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	393/425 (92%)	377 (96%)	16 (4%)	0	100	100
1	B	394/425 (93%)	380 (96%)	14 (4%)	0	100	100
All	All	787/850 (93%)	757 (96%)	30 (4%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	315/344 (92%)	298 (95%)	17 (5%)	18	47
1	B	312/344 (91%)	292 (94%)	20 (6%)	14	40
All	All	627/688 (91%)	590 (94%)	37 (6%)	16	43

All (37) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	6	LYS
1	B	31	LYS
1	B	32	SER
1	B	59	SER
1	B	64	PHE
1	B	75	MET
1	B	131	ARG
1	B	150	GLN
1	B	197	MET
1	B	201	ASP
1	B	216	PHE
1	B	221	PHE
1	B	252	GLN
1	B	277	LEU
1	B	316	PHE
1	B	334	ARG
1	B	345	CYS
1	B	352	LEU

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Mol	Chain	Res	Type
1	B	400	PHE
1	B	403	SER
1	A	60	ILE
1	A	62	ASP
1	A	69	LYS
1	A	84	PHE
1	A	156	ASP
1	A	197	MET
1	A	198	LEU
1	A	201	ASP
1	A	209	LYS
1	A	269	PHE
1	A	285	ARG
1	A	300	TYR
1	A	344	CYS
1	A	348	PHE
1	A	355	ARG
1	A	368	GLN
1	A	379	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (4) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	150	GLN
1	B	243	ASN
1	A	119	ASN
1	A	346	GLN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

9 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	$\#\|Z\| > 2$
2	OLC	B	502	-	15,15,24	0.36	0	14,14,25	0.91	0
2	OLC	A	501	-	24,24,24	0.92	1 (4%)	25,25,25	0.97	1 (4%)
2	OLC	A	503	-	13,13,24	0.38	0	12,12,25	0.77	0
2	OLC	A	504	-	15,15,24	0.31	0	14,14,25	0.85	0
2	OLC	B	501	-	24,24,24	0.78	2 (8%)	25,25,25	1.11	1 (4%)
2	OLC	B	503	-	16,16,24	0.35	0	15,15,25	0.72	0
2	OLC	B	504	-	15,15,24	0.38	0	14,14,25	0.76	0
2	OLC	A	502	-	17,17,24	0.95	1 (5%)	18,18,25	1.35	2 (11%)
2	OLC	B	505	-	17,17,24	0.43	0	16,16,25	0.71	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
2	OLC	B	502	-	-	6/13/13/24	-
2	OLC	A	501	-	-	12/24/24/24	-
2	OLC	A	503	-	-	4/11/11/24	-
2	OLC	A	504	-	-	8/13/13/24	-
2	OLC	B	501	-	-	16/24/24/24	-
2	OLC	B	503	-	-	9/14/14/24	-
2	OLC	B	504	-	-	2/13/13/24	-
2	OLC	A	502	-	-	10/17/17/24	-
2	OLC	B	505	-	-	12/15/15/24	-

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	501	OLC	O20-C1	3.11	1.42	1.33
2	A	502	OLC	O20-C1	2.51	1.40	1.33
2	B	501	OLC	O20-C1	2.35	1.40	1.33
2	B	501	OLC	O20-C21	-2.02	1.40	1.45

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	502	OLC	O20-C1-C2	3.59	123.16	111.91
2	A	501	OLC	O20-C1-C2	3.10	121.64	111.91
2	A	502	OLC	O20-C1-O19	-2.65	116.91	123.59
2	B	501	OLC	O20-C1-C2	2.56	119.95	111.91

There are no chirality outliers.

All (79) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	B	501	OLC	C21-C22-C24-O25
2	A	501	OLC	C2-C1-O20-C21
2	A	501	OLC	O19-C1-O20-C21
2	A	502	OLC	C22-C21-O20-C1
2	B	501	OLC	O19-C1-O20-C21
2	B	501	OLC	C2-C1-O20-C21
2	A	502	OLC	O19-C1-O20-C21
2	A	502	OLC	C2-C1-O20-C21
2	B	503	OLC	C12-C13-C14-C15
2	B	503	OLC	C14-C15-C16-C17
2	B	501	OLC	O20-C21-C22-O23
2	A	501	OLC	O20-C21-C22-O23
2	B	501	OLC	C12-C13-C14-C15
2	B	505	OLC	C10-C11-C12-C13
2	B	501	OLC	O20-C21-C22-C24
2	A	502	OLC	C2-C3-C4-C5
2	A	501	OLC	C11-C12-C13-C14
2	A	501	OLC	C5-C6-C7-C8
2	A	502	OLC	C21-C22-C24-O25
2	B	503	OLC	C4-C5-C6-C7
2	A	501	OLC	C12-C13-C14-C15
2	B	501	OLC	C1-C2-C3-C4
2	B	501	OLC	O23-C22-C24-O25
2	B	502	OLC	C6-C7-C8-C9
2	B	501	OLC	C11-C12-C13-C14

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Mol	Chain	Res	Type	Atoms
2	B	502	OLC	C14-C15-C16-C17
2	B	501	OLC	C10-C11-C12-C13
2	B	505	OLC	C5-C6-C7-C8
2	A	501	OLC	C3-C4-C5-C6
2	B	505	OLC	C12-C13-C14-C15
2	A	501	OLC	C6-C7-C8-C9
2	A	502	OLC	C3-C4-C5-C6
2	B	501	OLC	C13-C14-C15-C16
2	A	503	OLC	C6-C7-C8-C9
2	B	503	OLC	C11-C12-C13-C14
2	A	504	OLC	C11-C12-C13-C14
2	B	501	OLC	C9-C10-C11-C12
2	A	504	OLC	C14-C15-C16-C17
2	B	501	OLC	C3-C4-C5-C6
2	A	502	OLC	O20-C21-C22-O23
2	B	505	OLC	C2-C3-C4-C5
2	B	501	OLC	C15-C16-C17-C18
2	B	504	OLC	C13-C14-C15-C16
2	A	504	OLC	C13-C14-C15-C16
2	B	503	OLC	C15-C16-C17-C18
2	B	505	OLC	C4-C5-C6-C7
2	A	504	OLC	C15-C16-C17-C18
2	B	505	OLC	C14-C15-C16-C17
2	B	505	OLC	C1-C2-C3-C4
2	B	503	OLC	C2-C3-C4-C5
2	A	503	OLC	C4-C5-C6-C7
2	A	502	OLC	O20-C21-C22-C24
2	A	503	OLC	C9-C10-C11-C12
2	B	501	OLC	C7-C8-C9-C10
2	B	502	OLC	C4-C5-C6-C7
2	B	505	OLC	C13-C14-C15-C16
2	B	504	OLC	C7-C8-C9-C10
2	A	502	OLC	O23-C22-C24-O25
2	A	504	OLC	C5-C6-C7-C8
2	A	504	OLC	C3-C4-C5-C6
2	A	503	OLC	C3-C4-C5-C6
2	B	502	OLC	C10-C11-C12-C13
2	A	501	OLC	O20-C21-C22-C24
2	B	505	OLC	C11-C12-C13-C14
2	B	502	OLC	C9-C10-C11-C12
2	B	505	OLC	C9-C10-C11-C12
2	B	505	OLC	C15-C16-C17-C18

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Mol	Chain	Res	Type	Atoms
2	B	502	OLC	C3-C4-C5-C6
2	A	504	OLC	C7-C8-C9-C10
2	A	501	OLC	O20-C1-C2-C3
2	B	503	OLC	C7-C8-C9-C10
2	B	503	OLC	C13-C14-C15-C16
2	B	505	OLC	C7-C8-C9-C10
2	A	501	OLC	C9-C10-C11-C12
2	B	501	OLC	C5-C6-C7-C8
2	A	501	OLC	O19-C1-C2-C3
2	A	502	OLC	C5-C6-C7-C8
2	A	504	OLC	C12-C13-C14-C15
2	B	503	OLC	C9-C10-C11-C12

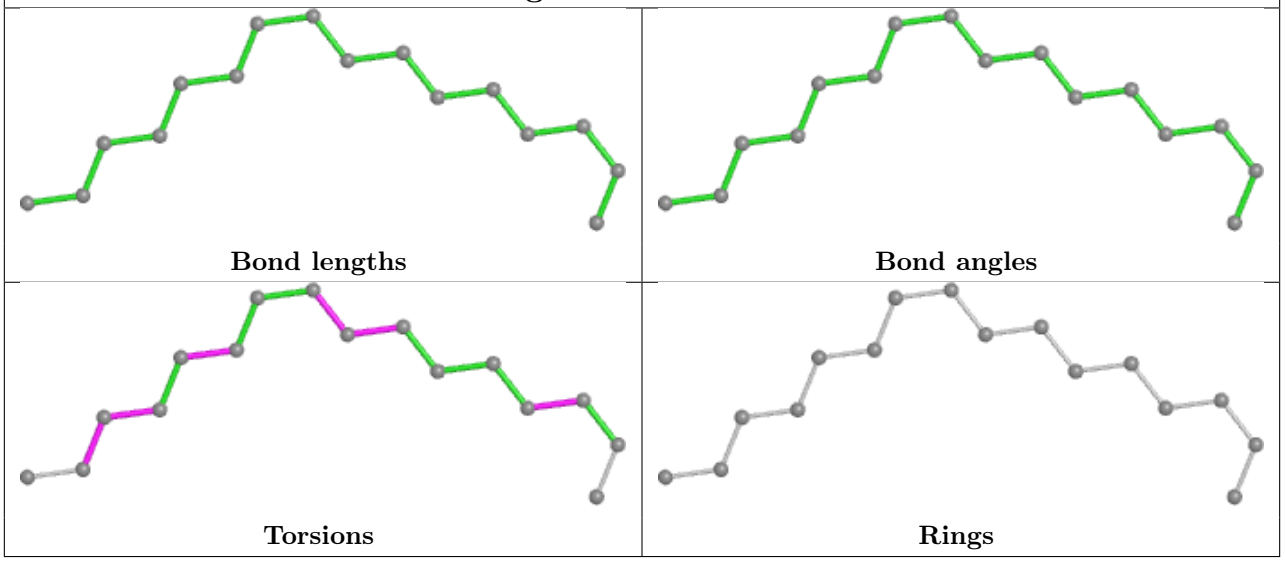
There are no ring outliers.

8 monomers are involved in 23 short contacts:

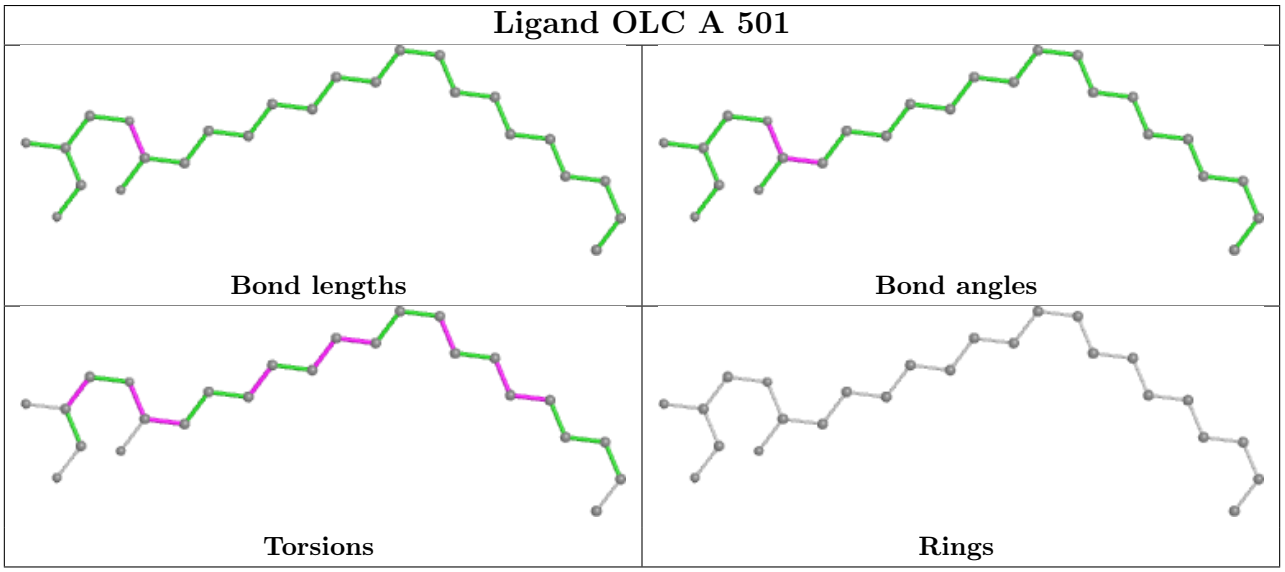
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	502	OLC	2	0
2	A	501	OLC	1	0
2	A	504	OLC	2	0
2	B	501	OLC	3	0
2	B	503	OLC	3	0
2	B	504	OLC	5	0
2	A	502	OLC	3	0
2	B	505	OLC	4	0

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.

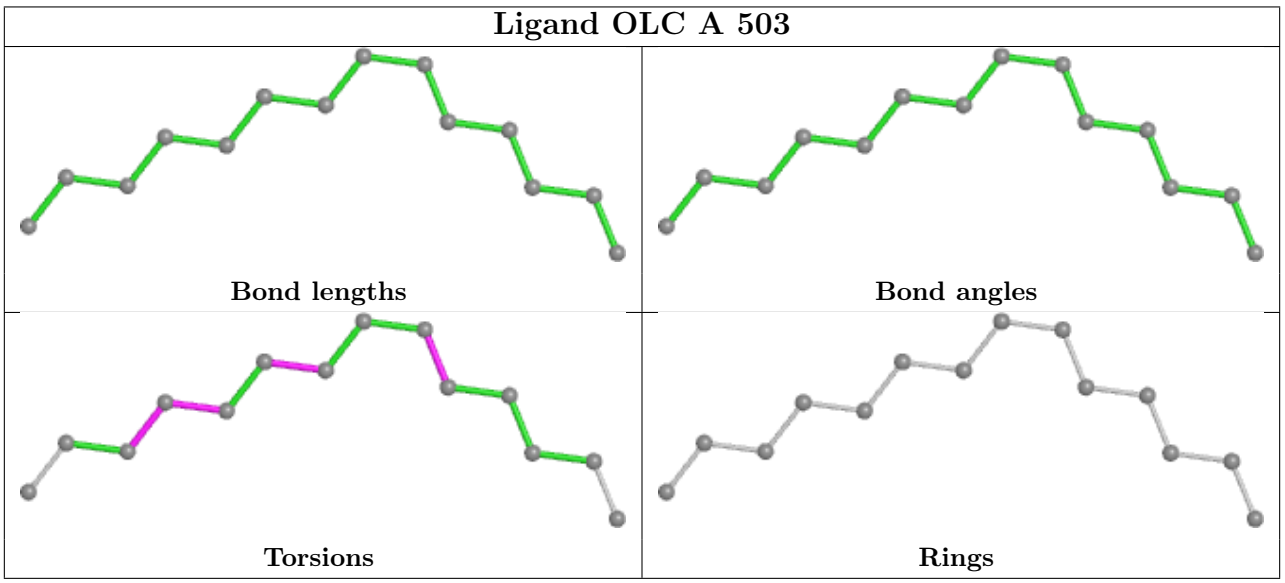
Ligand OLC B 502



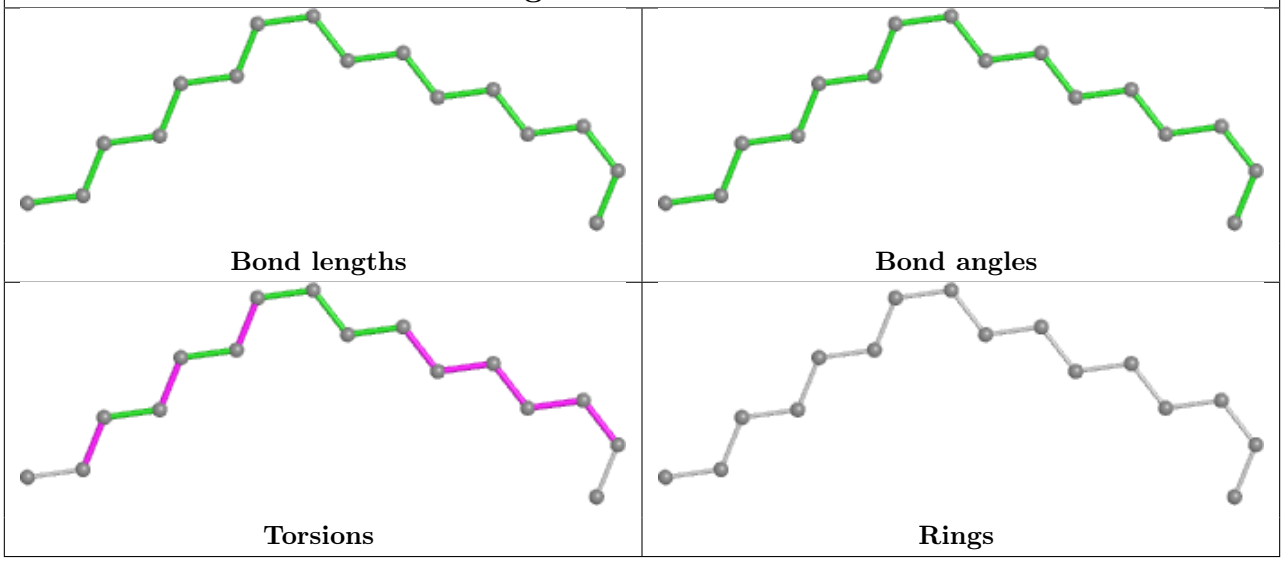
Ligand OLC A 501



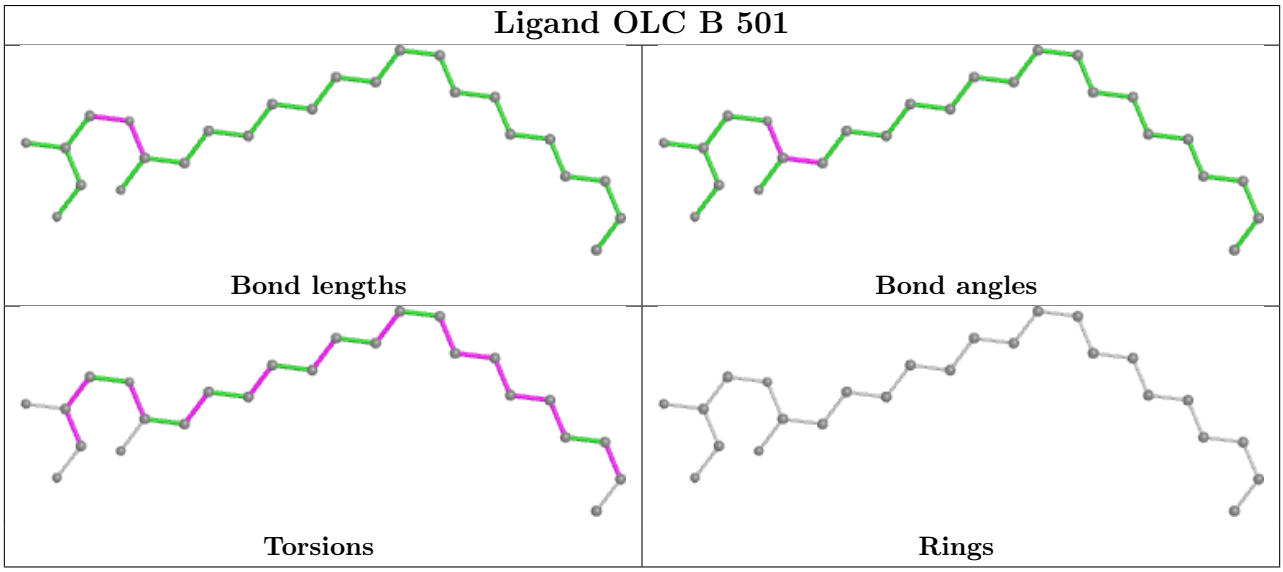
Ligand OLC A 503



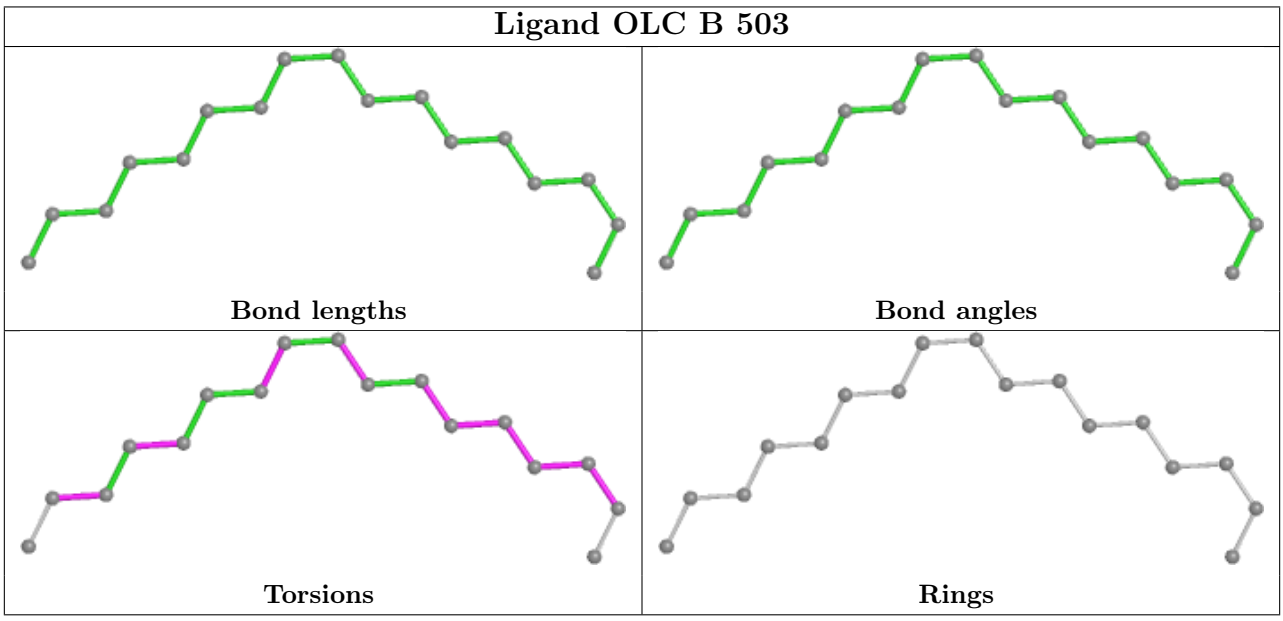
Ligand OLC A 504



Ligand OLC B 501



Ligand OLC B 503



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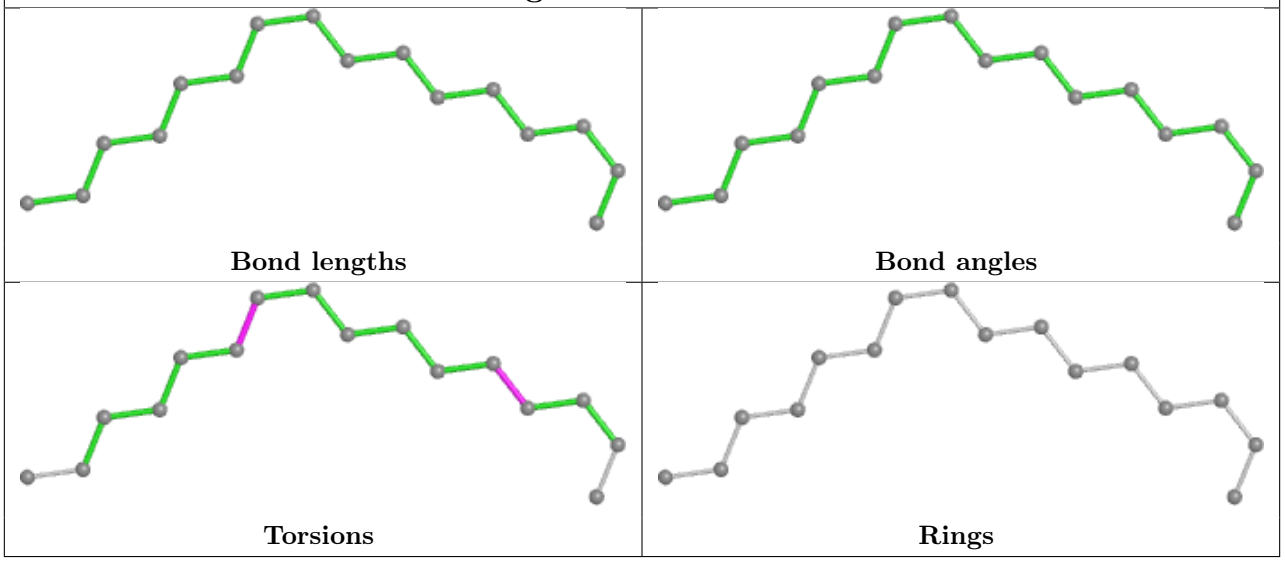
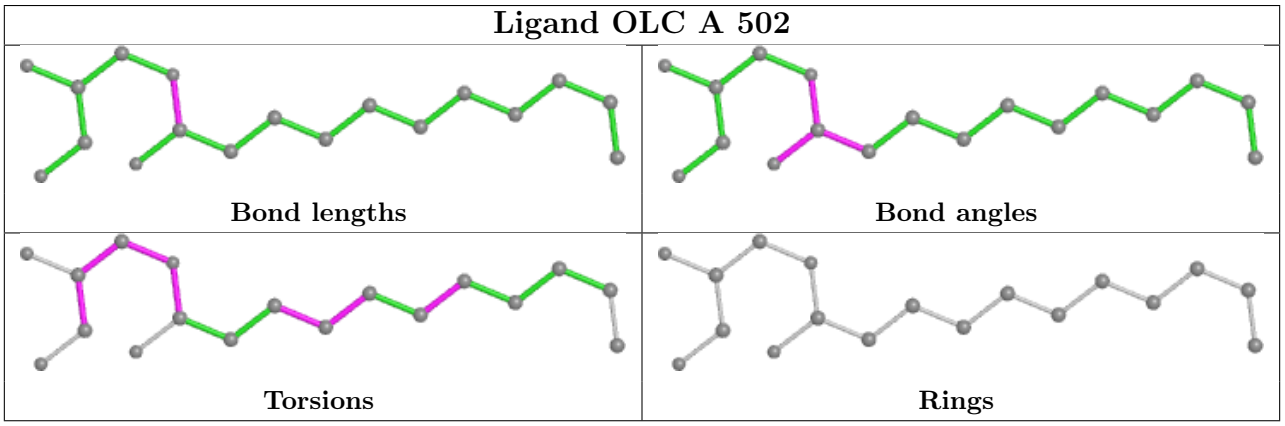
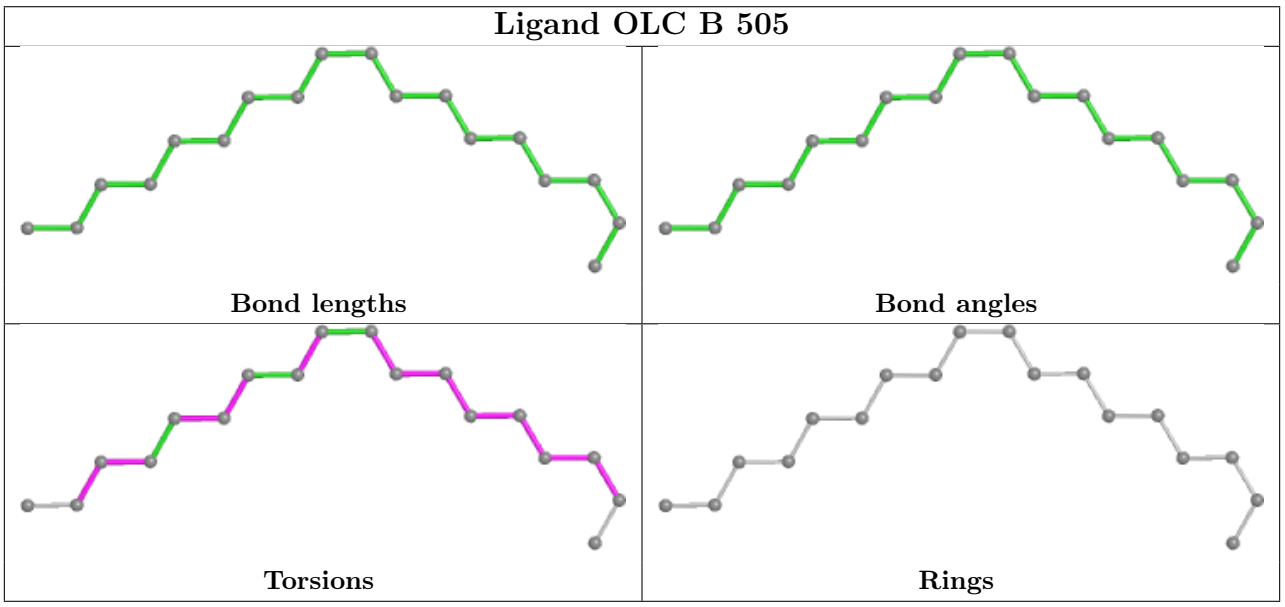


Ligand OLC A 502



Ligand OLC B 505



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	397/425 (93%)	0.23	7 (1%)	67	62	42, 68, 103, 122	0
1	B	398/425 (93%)	0.25	11 (2%)	55	49	38, 69, 104, 117	0
All	All	795/850 (93%)	0.24	18 (2%)	61	55	38, 69, 103, 122	0

All (18) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	267	ALA	4.9
1	B	155	ALA	3.2
1	B	60	ILE	3.1
1	A	198	LEU	2.8
1	B	239	VAL	2.7
1	A	61	THR	2.7
1	A	153	GLY	2.5
1	A	60	ILE	2.4
1	A	47	ALA	2.3
1	B	262	LEU	2.3
1	B	134	GLY	2.1
1	A	204	ILE	2.1
1	A	343	LEU	2.1
1	B	200	LEU	2.0
1	B	201	ASP	2.0
1	B	17	ILE	2.0
1	B	4	THR	2.0
1	B	266	THR	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 (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

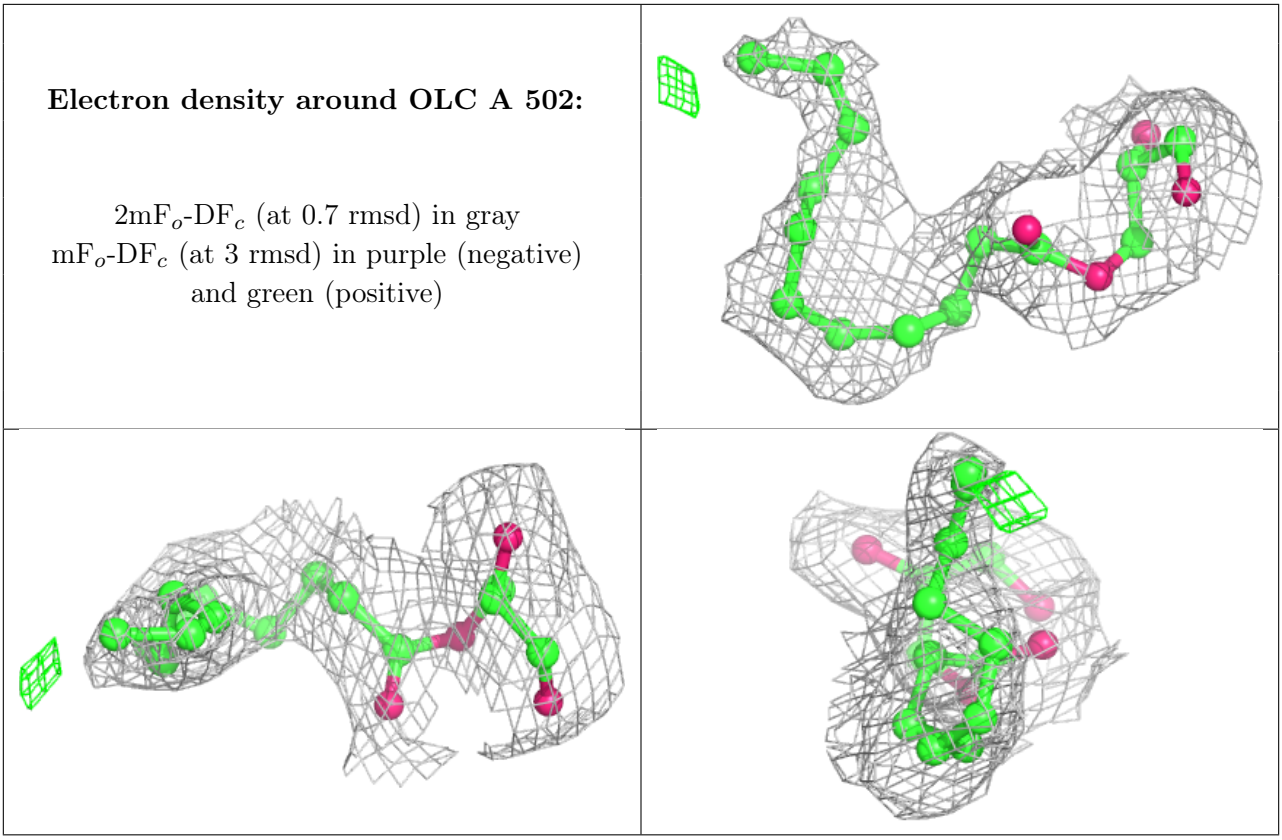
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	OLC	A	502	18/25	0.72	0.17	70,79,91,92	0
2	OLC	B	501	25/25	0.79	0.13	75,81,90,94	0
2	OLC	A	501	25/25	0.80	0.14	67,76,89,91	0
2	OLC	B	505	18/25	0.80	0.19	48,64,77,79	0
2	OLC	B	504	16/25	0.86	0.15	58,66,79,80	0
2	OLC	A	504	16/25	0.86	0.14	43,56,64,64	0
2	OLC	A	503	14/25	0.87	0.13	46,53,58,58	0
2	OLC	B	502	16/25	0.90	0.13	48,58,66,72	0
2	OLC	B	503	17/25	0.90	0.14	45,53,62,64	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.

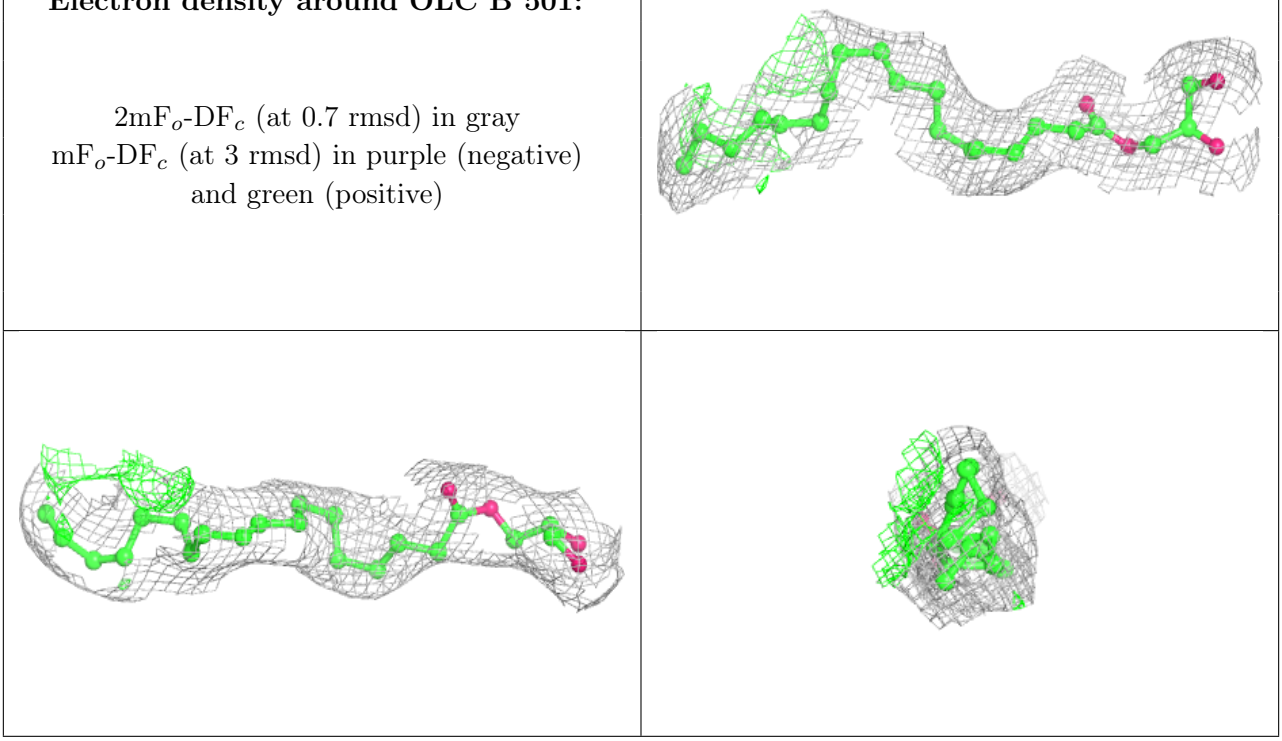
Electron density around OLC A 502:

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



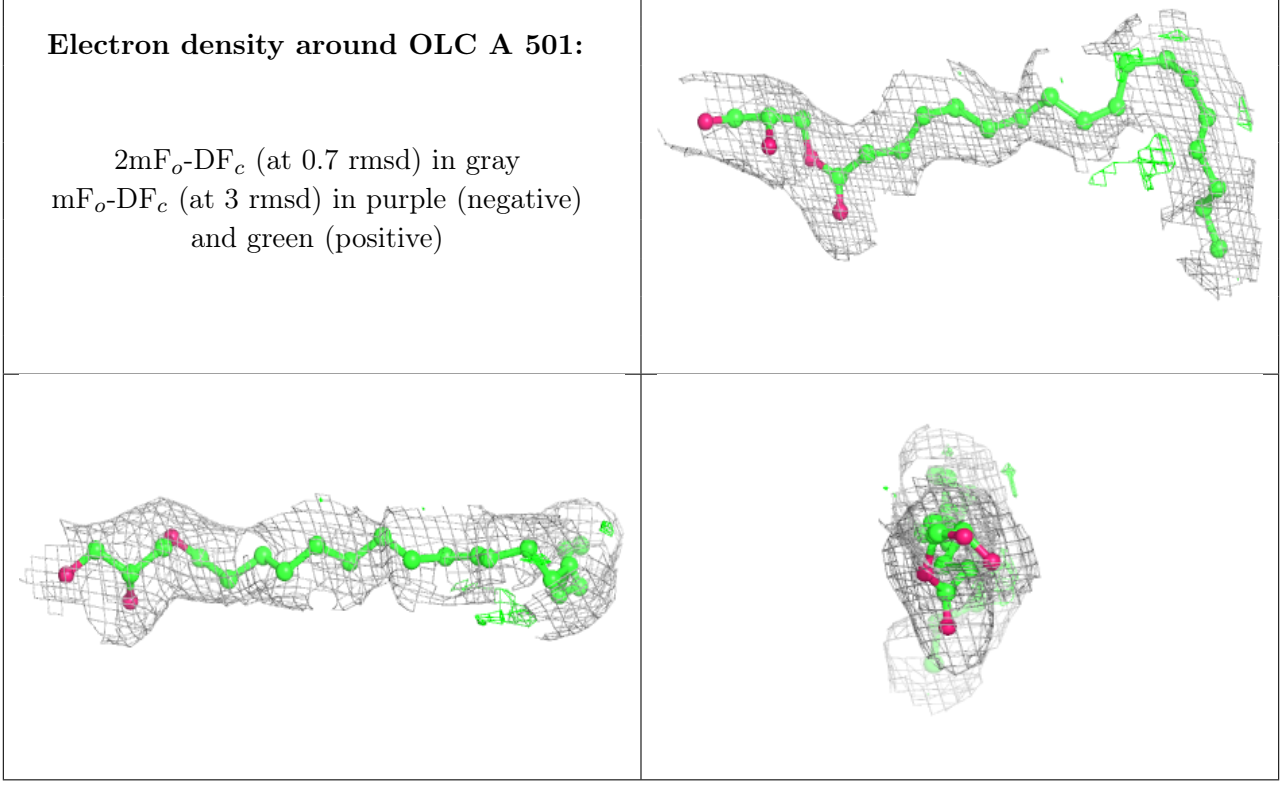
Electron density around OLC B 501:

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



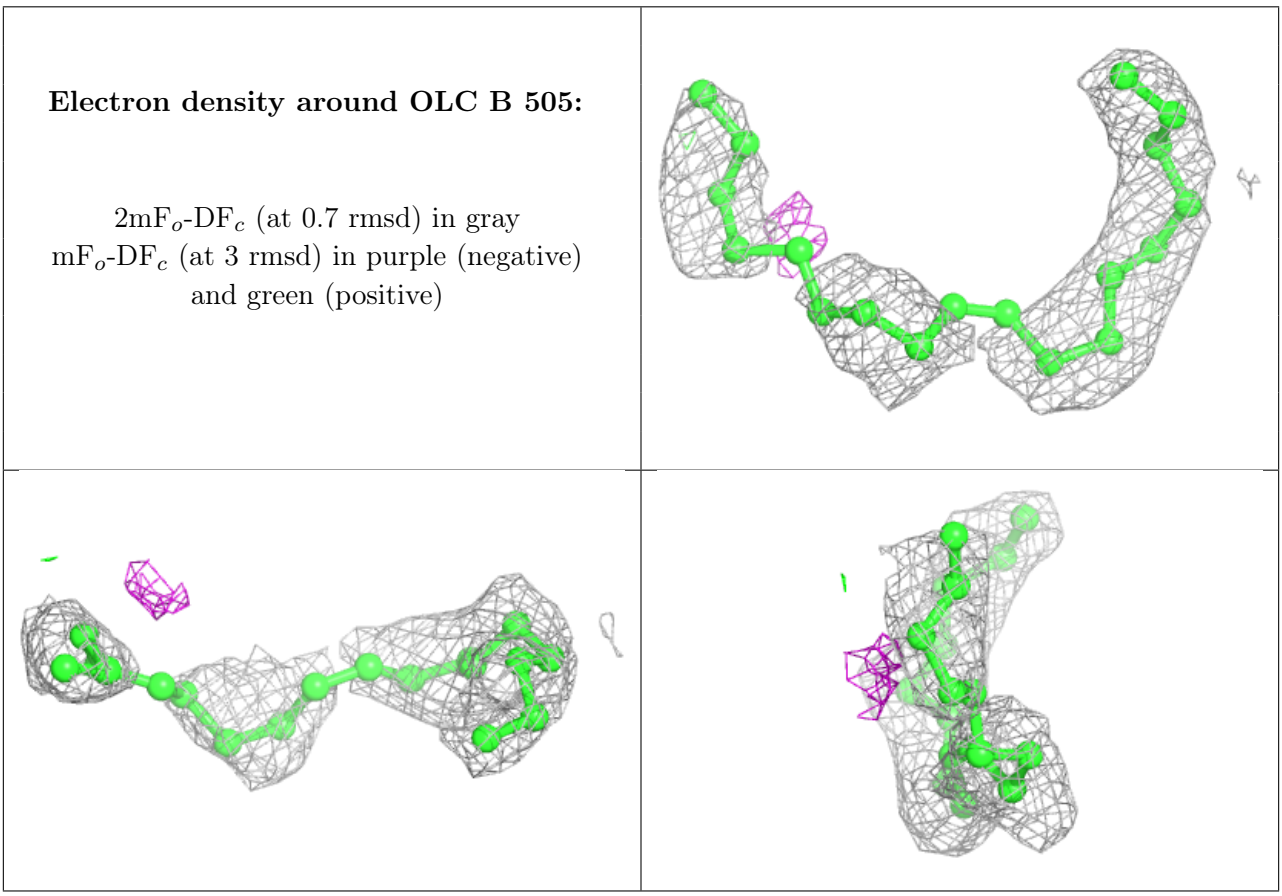
Electron density around OLC A 501:

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



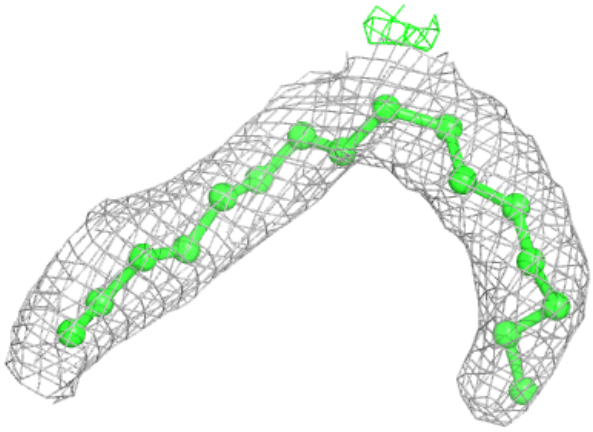
Electron density around OLC B 505:

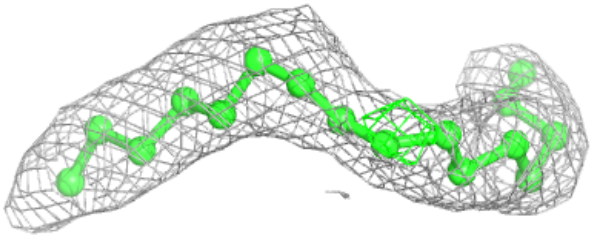
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

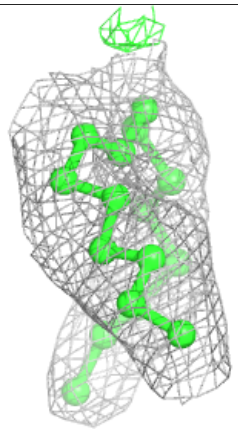


Electron density around OLC B 504:

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

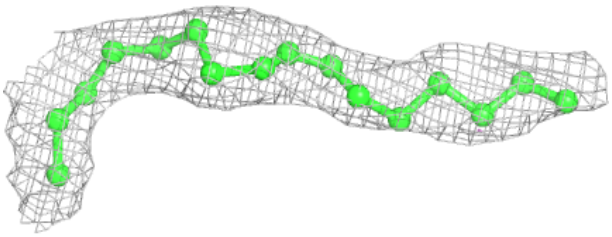


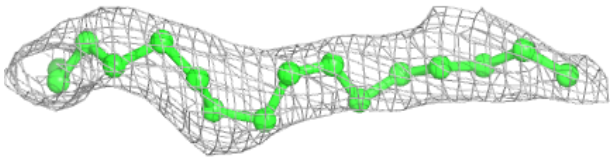


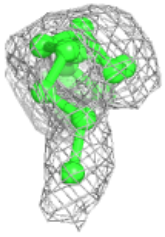


Electron density around OLC A 504:

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

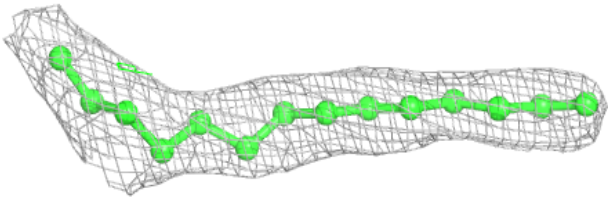


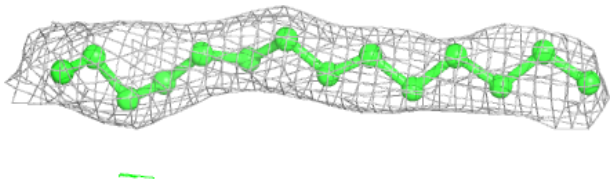


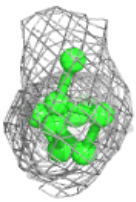


Electron density around OLC A 503:

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

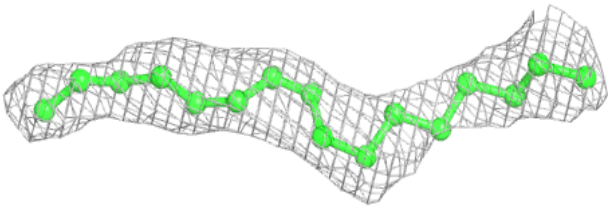


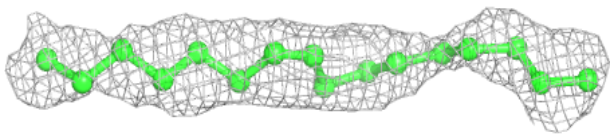


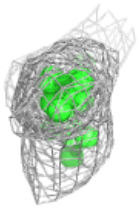


Electron density around OLC B 502:

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

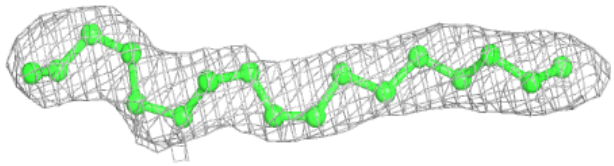


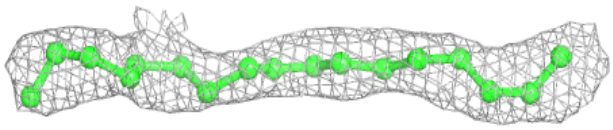


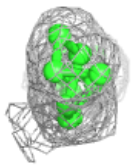


Electron density around OLC B 503:

$2mF_o$-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.