wwPDB X-ray Structure Validation Summary Report (i)

Jan 2, 2024 – 09:33 am GMT

PDB ID	:	5JJN
Title	:	Structure of the SRII/HtrII(G83F) Complex in P212121 space group ("V" shape)
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Deposited on	:	2016-04-24
Resolution	:	2.25 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

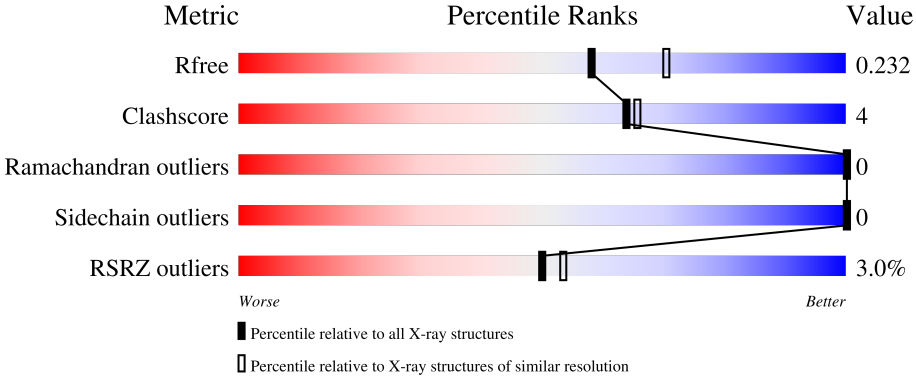
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.25 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1377 (2.26-2.26)
Clashscore	141614	1487 (2.26-2.26)
Ramachandran outliers	138981	1449 (2.26-2.26)
Sidechain outliers	138945	1450 (2.26-2.26)
RSRZ outliers	127900	1356 (2.26-2.26)

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	248	2%, 83%, 6%, 10%
1	C	248	2%, 80%, 7%, 13%
2	B	141	%, 39%, •, 57%
2	D	141	3%, 40%, •, 57%

2 Entry composition (i)

There are 6 unique types of molecules in this entry. The entry contains 4482 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 Sensory rhodopsin-2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	223	1687	1126	269	286	6	0	0	0
1	C	215	1624	1089	256	273	6	0	0	0

There are 20 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	240	GLU	-	expression tag	UNP P42196
A	241	ASN	-	expression tag	UNP P42196
A	242	SER	-	expression tag	UNP P42196
A	243	HIS	-	expression tag	UNP P42196
A	244	HIS	-	expression tag	UNP P42196
A	245	HIS	-	expression tag	UNP P42196
A	246	HIS	-	expression tag	UNP P42196
A	247	HIS	-	expression tag	UNP P42196
A	248	HIS	-	expression tag	UNP P42196
A	249	HIS	-	expression tag	UNP P42196
C	240	GLU	-	expression tag	UNP P42196
C	241	ASN	-	expression tag	UNP P42196
C	242	SER	-	expression tag	UNP P42196
C	243	HIS	-	expression tag	UNP P42196
C	244	HIS	-	expression tag	UNP P42196
C	245	HIS	-	expression tag	UNP P42196
C	246	HIS	-	expression tag	UNP P42196
C	247	HIS	-	expression tag	UNP P42196
C	248	HIS	-	expression tag	UNP P42196
C	249	HIS	-	expression tag	UNP P42196

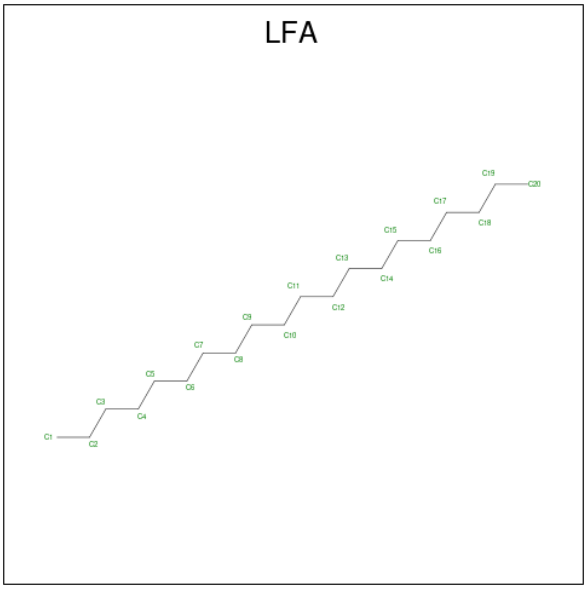
- Molecule 2 is a protein called Sensory rhodopsin II transducer.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
2	B	61	414	276	63	75	0	0	0
2	D	61	414	276	63	75	0	0	0

There are 18 discrepancies between the modelled and reference sequences:

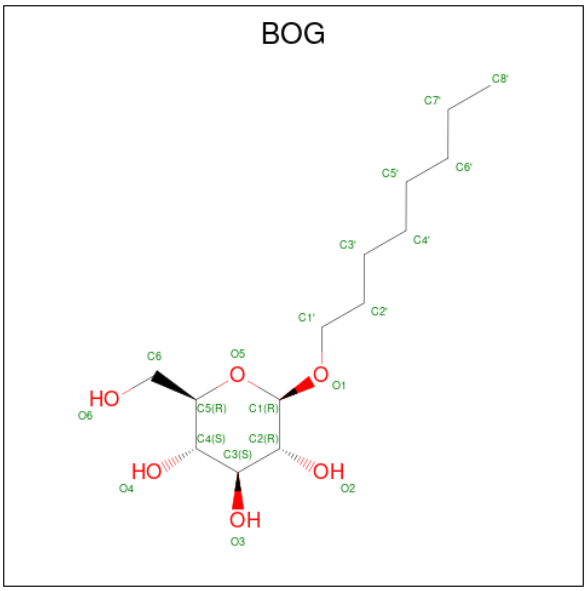
Chain	Residue	Modelled	Actual	Comment	Reference
B	4	ALA	-	expression tag	UNP P42259
B	83	PHE	GLY	engineered mutation	UNP P42259
B	138	HIS	-	expression tag	UNP P42259
B	139	HIS	-	expression tag	UNP P42259
B	140	HIS	-	expression tag	UNP P42259
B	141	HIS	-	expression tag	UNP P42259
B	142	HIS	-	expression tag	UNP P42259
B	143	HIS	-	expression tag	UNP P42259
B	144	HIS	-	expression tag	UNP P42259
D	4	ALA	-	expression tag	UNP P42259
D	83	PHE	GLY	engineered mutation	UNP P42259
D	138	HIS	-	expression tag	UNP P42259
D	139	HIS	-	expression tag	UNP P42259
D	140	HIS	-	expression tag	UNP P42259
D	141	HIS	-	expression tag	UNP P42259
D	142	HIS	-	expression tag	UNP P42259
D	143	HIS	-	expression tag	UNP P42259
D	144	HIS	-	expression tag	UNP P42259

- Molecule 3 is EICOSANE (three-letter code: LFA) (formula: $C_{20}H_{42}$).



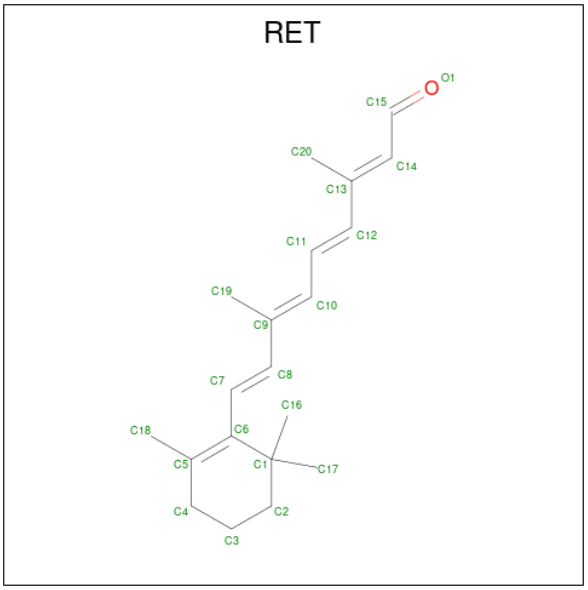
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	C		
3	A	1	10	10	0	0
			Total	C		
3	A	1	5	5	0	0
			Total	C		
3	A	1	10	10	0	0
			Total	C		
3	A	1	10	10	0	0
			Total	C		
3	A	1	10	10	0	0
			Total	C		
3	A	1	10	10	0	0
			Total	C		
3	A	1	10	10	0	0
			Total	C		
3	A	1	16	16	0	0
			Total	C		
3	A	1	16	16	0	0
			Total	C		
3	C	1	5	5	0	0
			Total	C		
3	C	1	16	16	0	0
			Total	C		
3	C	1	16	16	0	0
			Total	C		
3	C	1	10	10	0	0
			Total	C		
3	C	1	16	16	0	0
			Total	C		
3	D	1	10	10	0	0

- Molecule 4 is octyl beta-D-glucopyranoside (three-letter code: BOG) (formula: $C_{14}H_{28}O_6$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C O 20 14 6	0	0
4	C	1	Total C O 20 14 6	0	0

- Molecule 5 is RETINAL (three-letter code: RET) (formula: $C_{20}H_{28}O$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C 20 20	0	0
5	C	1	Total C 20 20	0	0

- Molecule 6 is water.

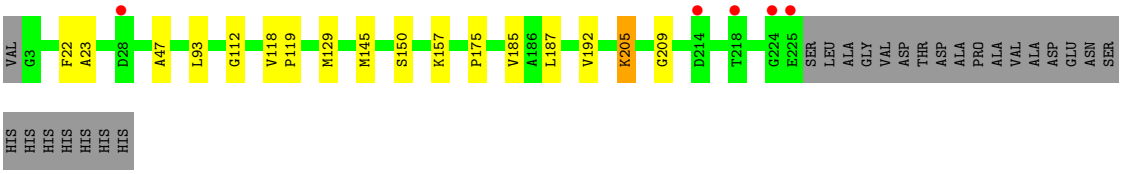
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	O		
6	A	48	48	48	0	0
			Total	O		
6	B	3	3	3	0	0
			Total	O		
6	C	40	40	40	0	0
			Total	O		
6	D	2	2	2	0	0

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.

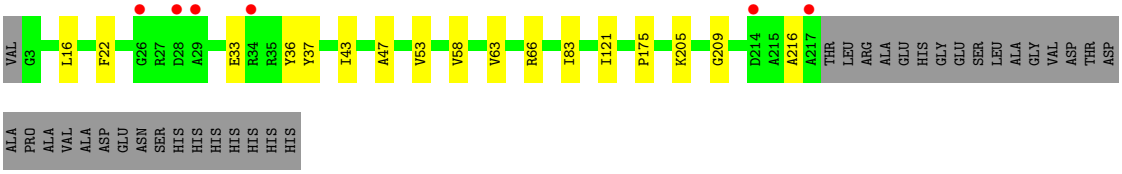
• Molecule 1: Sensory rhodopsin-2

Chain A:



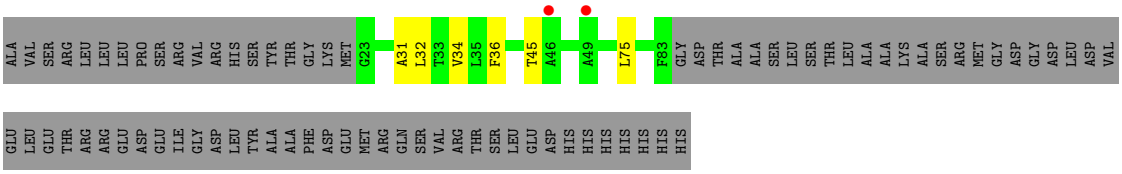
• Molecule 1: Sensory rhodopsin-2

Chain C:



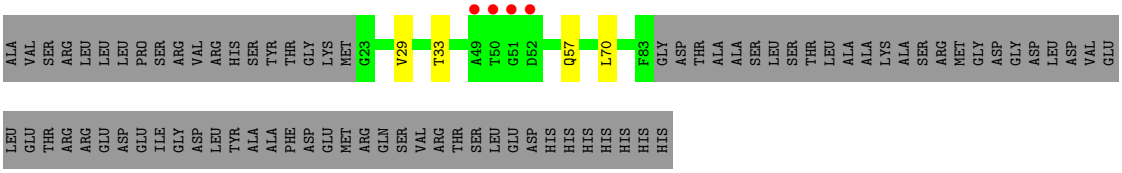
• Molecule 2: Sensory rhodopsin II transducer

Chain B:



• Molecule 2: Sensory rhodopsin II transducer

Chain D:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	47.13Å 109.10Å 121.82Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	38.05 – 2.25 43.27 – 2.25	Depositor EDS
% Data completeness (in resolution range)	99.5 (38.05-2.25) 99.6 (43.27-2.25)	Depositor EDS
R_{merge}	0.12	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	4.75 (at 2.24Å)	Xtriage
Refinement program	PHENIX 1.8.1_1168	Depositor
R, R_{free}	0.186 , 0.231 0.188 , 0.232	Depositor DCC
R_{free} test set	1523 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å^2)	31.0	Xtriage
Anisotropy	0.267	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.37 , 69.2	EDS
L-test for twinning[2]	$< \|L\| > = 0.51$, $< L^2 > = 0.35$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	4482	wwPDB-VP
Average B, all atoms (Å^2)	38.0	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 41.77 % 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 2.2482e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

[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: LFA, RET, BOG

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	0.27	0/1730	0.45	1/2367 (0.0%)
1	C	0.26	0/1666	0.44	0/2281
2	B	0.25	0/418	0.37	0/572
2	D	0.24	0/418	0.37	0/572
All	All	0.26	0/4232	0.43	1/5792 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	205	LYS	CD-CE-NZ	5.04	123.30	111.70

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	1687	0	1747	11	0
1	C	1624	0	1689	13	0
2	B	414	0	439	6	0
2	D	414	0	439	4	0
3	A	97	0	185	2	0
3	C	63	0	121	4	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	D	10	0	19	0	0
4	A	20	0	28	0	0
4	C	20	0	28	5	0
5	A	20	0	27	5	0
5	C	20	0	27	4	0
6	A	48	0	0	0	0
6	B	3	0	0	0	0
6	C	40	0	0	0	0
6	D	2	0	0	0	0
All	All	4482	0	4749	38	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 4.

The worst 5 of 38 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)
5:A:310:RET:H171	5:A:310:RET:H8	1.62	0.82
5:C:307:RET:H8	5:C:307:RET:H171	1.70	0.73
1:C:216:ALA:HB2	4:C:305:BOG:H6'2	1.78	0.66
2:B:45:THR:HG22	2:D:57:GLN:HE21	1.62	0.65
5:A:310:RET:H171	5:A:310:RET:C8	2.30	0.61

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	221/248 (89%)	219 (99%)	2 (1%)	0	100	100
1	C	213/248 (86%)	210 (99%)	3 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	B	59/141 (42%)	59 (100%)	0	0	100	100
2	D	59/141 (42%)	59 (100%)	0	0	100	100
All	All	552/778 (71%)	547 (99%)	5 (1%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	169/189 (89%)	169 (100%)	0	100	100
1	C	163/189 (86%)	163 (100%)	0	100	100
2	B	37/104 (36%)	37 (100%)	0	100	100
2	D	37/104 (36%)	37 (100%)	0	100	100
All	All	406/586 (69%)	406 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
2	D	57	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 monosaccharides in this entry.

5.6 Ligand geometry (i)

19 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	LFA	A	303	-	9,9,19	0.27	0	8,8,18	0.70	0
3	LFA	A	311	-	15,15,19	0.33	0	14,14,18	0.89	0
4	BOG	A	309	-	20,20,20	1.04	1 (5%)	25,25,25	1.26	3 (12%)
3	LFA	C	306	-	15,15,19	0.29	0	14,14,18	0.79	0
3	LFA	C	301	-	4,4,19	0.20	0	3,3,18	0.52	0
5	RET	A	310	1	20,20,21	7.02	10 (50%)	27,27,28	3.80	18 (66%)
3	LFA	A	306	-	9,9,19	0.31	0	8,8,18	0.81	0
3	LFA	A	307	-	9,9,19	0.28	0	8,8,18	0.74	0
3	LFA	C	304	-	9,9,19	0.29	0	8,8,18	0.77	0
3	LFA	A	304	-	9,9,19	0.28	0	8,8,18	0.75	0
3	LFA	C	303	-	15,15,19	0.30	0	14,14,18	0.82	0
4	BOG	C	305	-	20,20,20	1.09	2 (10%)	25,25,25	1.42	3 (12%)
3	LFA	D	201	-	9,9,19	0.26	0	8,8,18	0.72	0
3	LFA	A	301	-	9,9,19	0.29	0	8,8,18	0.74	0
3	LFA	A	305	-	9,9,19	0.27	0	8,8,18	0.75	0
3	LFA	A	308	-	15,15,19	0.32	0	14,14,18	0.82	0
5	RET	C	307	1	20,20,21	6.96	10 (50%)	27,27,28	3.90	18 (66%)
3	LFA	C	302	-	15,15,19	0.29	0	14,14,18	0.78	0
3	LFA	A	302	-	4,4,19	0.18	0	3,3,18	0.48	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
3	LFA	A	303	-	-	2/7/7/17	-
3	LFA	A	311	-	-	5/13/13/17	-
4	BOG	A	309	-	-	6/11/31/31	0/1/1/1
3	LFA	C	306	-	-	3/13/13/17	-
3	LFA	C	301	-	-	0/2/2/17	-
5	RET	A	310	1	-	0/13/30/31	0/1/1/1
3	LFA	A	306	-	-	0/7/7/17	-
3	LFA	A	307	-	-	2/7/7/17	-
3	LFA	C	304	-	-	0/7/7/17	-
3	LFA	A	304	-	-	3/7/7/17	-
3	LFA	C	303	-	-	4/13/13/17	-
4	BOG	C	305	-	-	10/11/31/31	0/1/1/1
3	LFA	D	201	-	-	1/7/7/17	-
3	LFA	A	301	-	-	2/7/7/17	-
3	LFA	A	305	-	-	0/7/7/17	-
3	LFA	A	308	-	-	4/13/13/17	-
5	RET	C	307	1	-	0/13/30/31	0/1/1/1
3	LFA	C	302	-	-	5/13/13/17	-
3	LFA	A	302	-	-	0/2/2/17	-

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

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	A	310	RET	C14-C13	23.99	1.52	1.33
5	C	307	RET	C14-C13	23.91	1.52	1.33
5	A	310	RET	C10-C9	11.44	1.51	1.35
5	C	307	RET	C10-C9	11.28	1.50	1.35
5	A	310	RET	C1-C6	-8.99	1.41	1.53

The worst 5 of 42 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	C	307	RET	C2-C1-C6	7.86	122.58	110.48
5	A	310	RET	C2-C1-C6	7.69	122.32	110.48
5	A	310	RET	C11-C10-C9	-7.05	117.24	127.31
5	C	307	RET	C11-C10-C9	-6.78	117.63	127.31
5	C	307	RET	C2-C3-C4	-6.26	97.39	111.38

There are no chirality outliers.

5 of 47 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	309	BOG	C2-C1-O1-C1'
4	A	309	BOG	O5-C1-O1-C1'
4	A	309	BOG	C2'-C1'-O1-C1
4	C	305	BOG	C4-C5-C6-O6
4	C	305	BOG	O5-C5-C6-O6

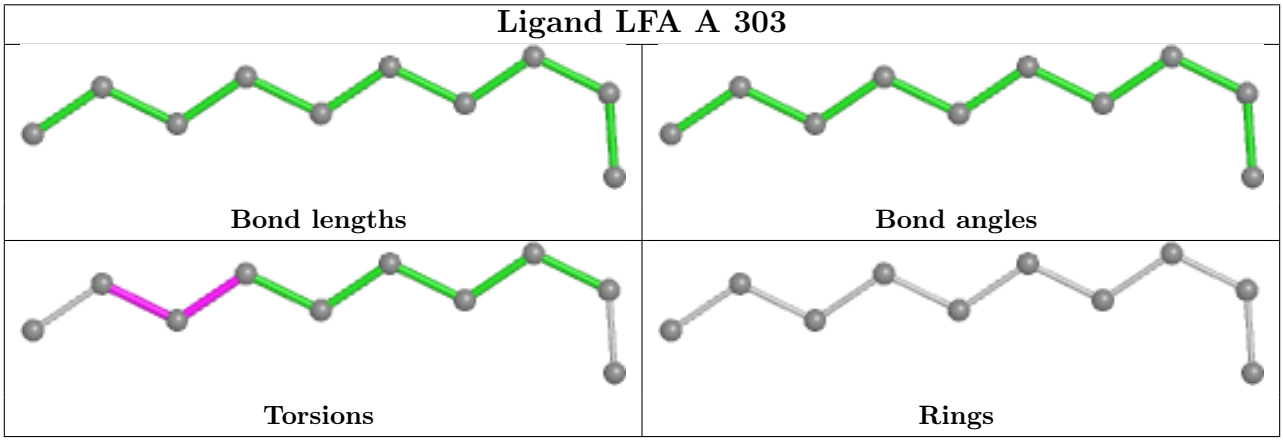
There are no ring outliers.

9 monomers are involved in 20 short contacts:

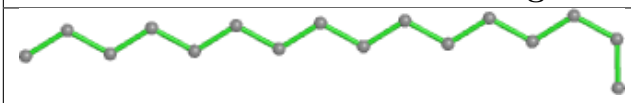
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	303	LFA	1	0
3	A	311	LFA	1	0
3	C	306	LFA	1	0
3	C	301	LFA	1	0
5	A	310	RET	5	0
3	C	303	LFA	1	0
4	C	305	BOG	5	0
5	C	307	RET	4	0
3	C	302	LFA	1	0

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.

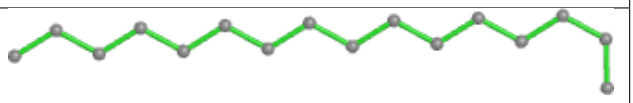
Ligand LFA A 303



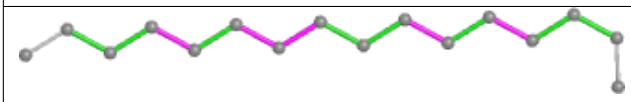
Ligand LFA A 311



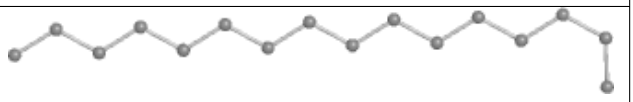
Bond lengths



Bond angles

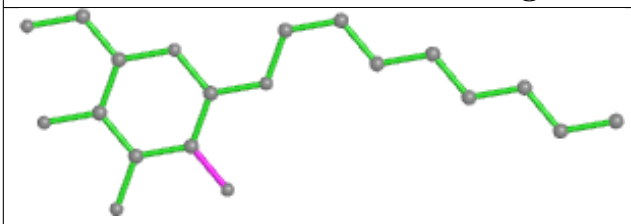


Torsions

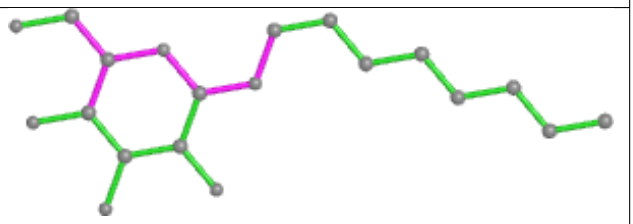


Rings

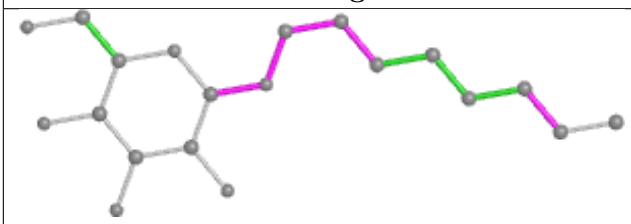
Ligand BOG A 309



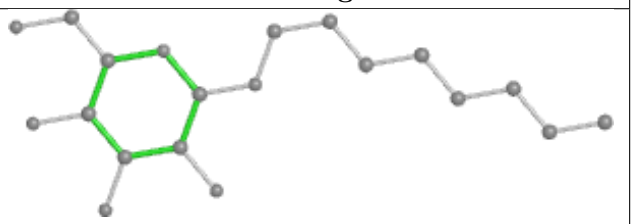
Bond lengths



Bond angles

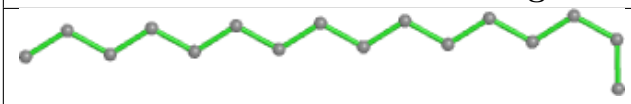


Torsions

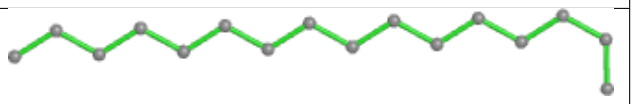


Rings

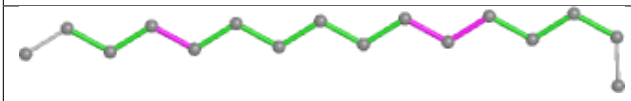
Ligand LFA C 306



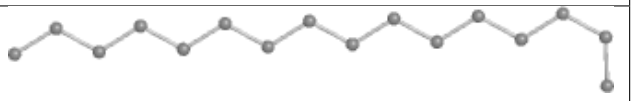
Bond lengths



Bond angles

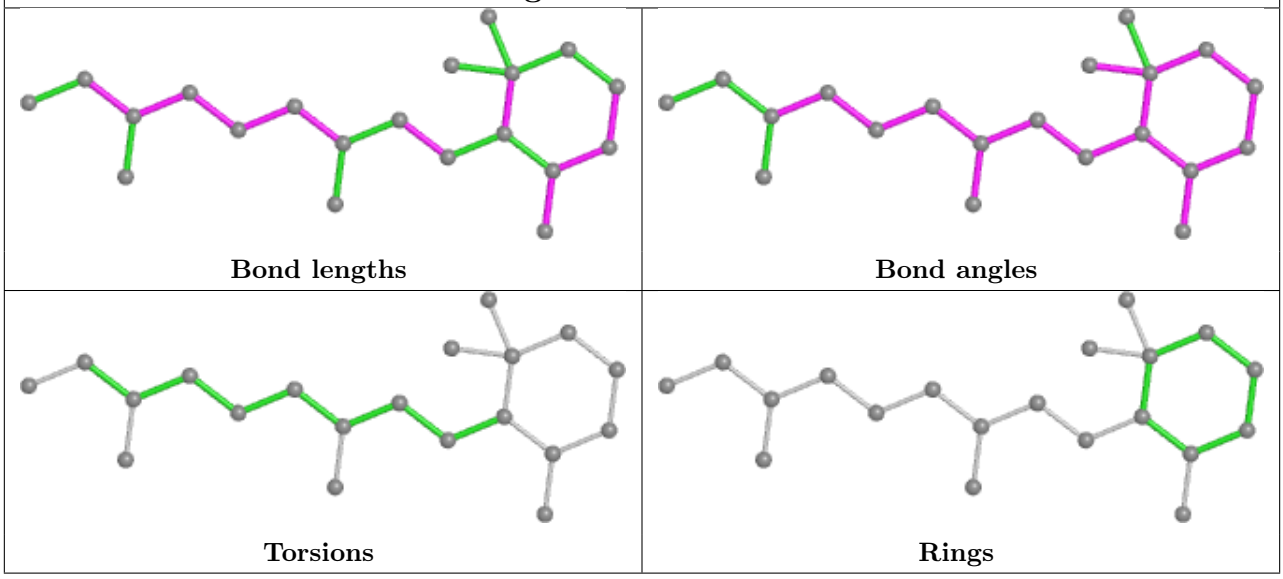


Torsions

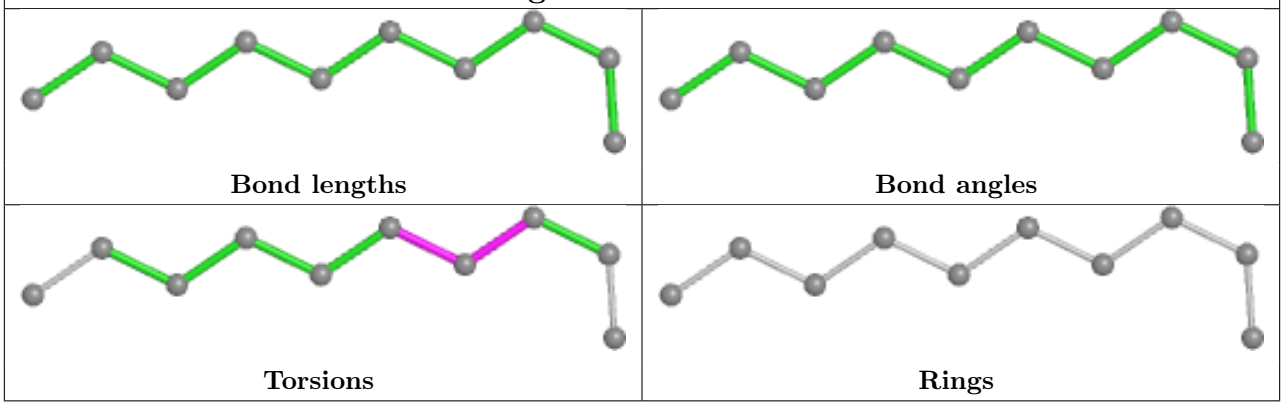


Rings

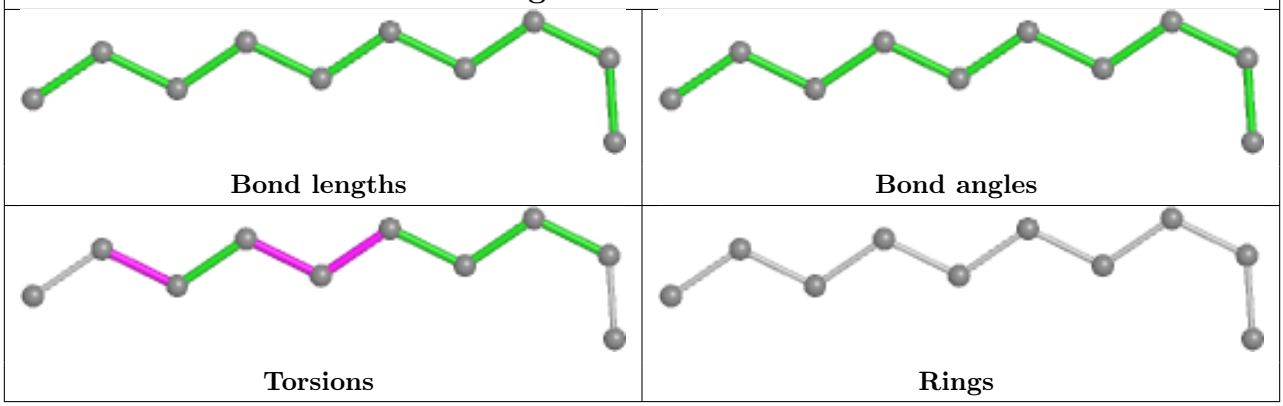
Ligand RET A 310



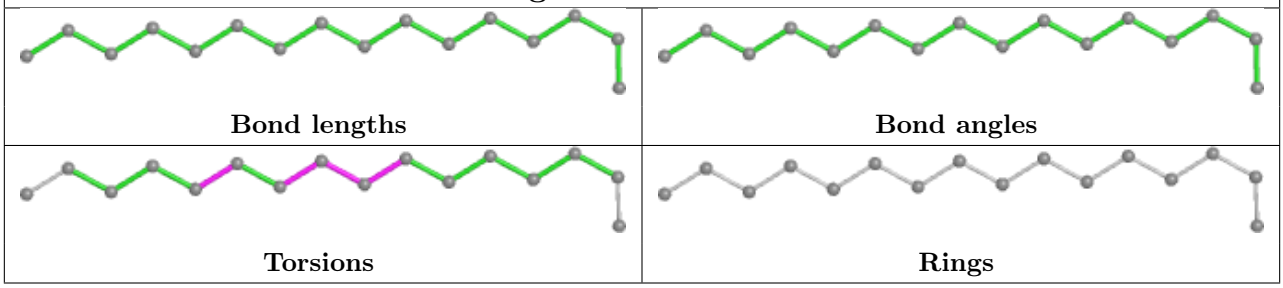
Ligand LFA A 307



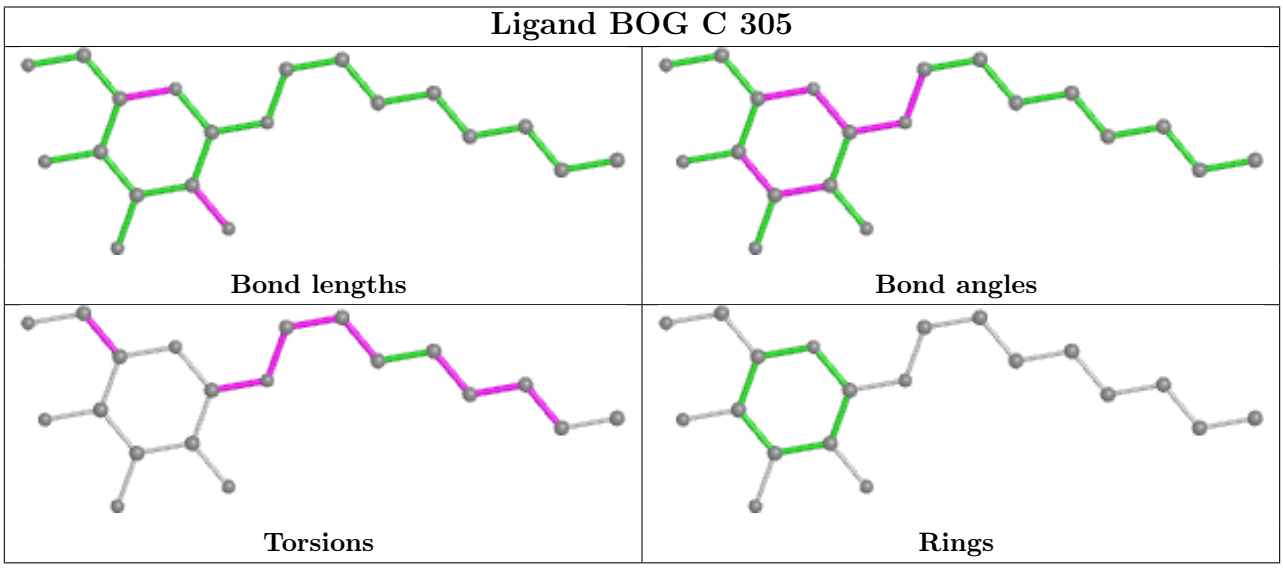
Ligand LFA A 304



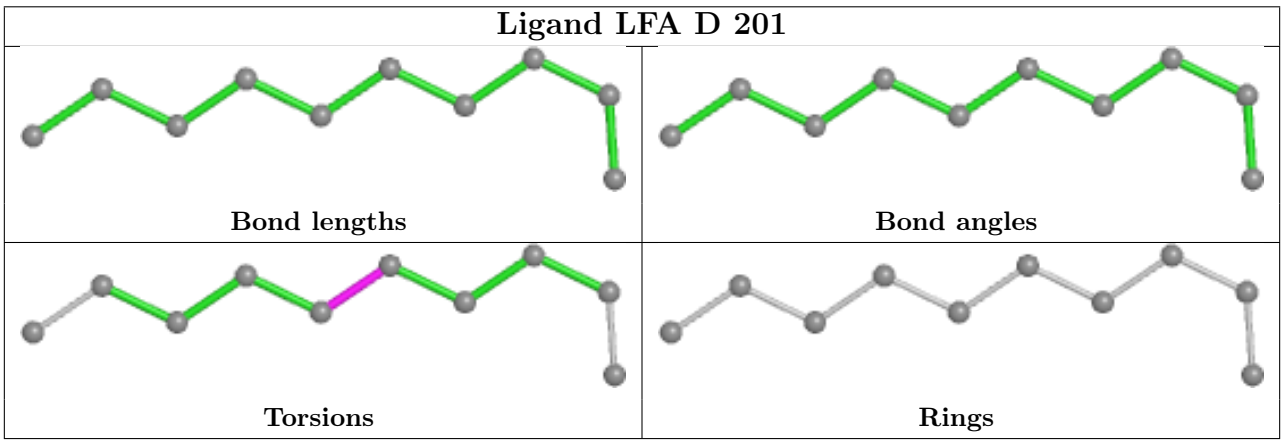
Ligand LFA C 303



Ligand BOG C 305



Ligand LFA D 201



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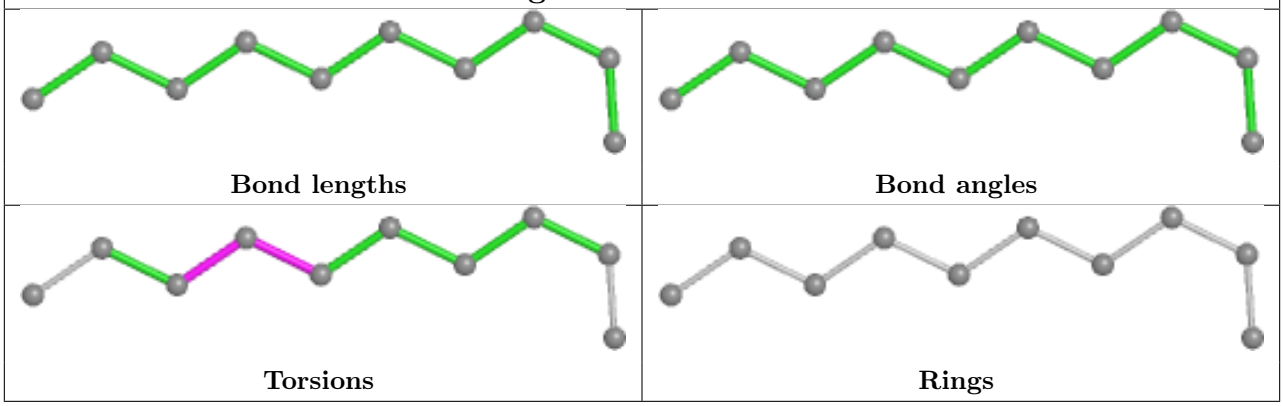

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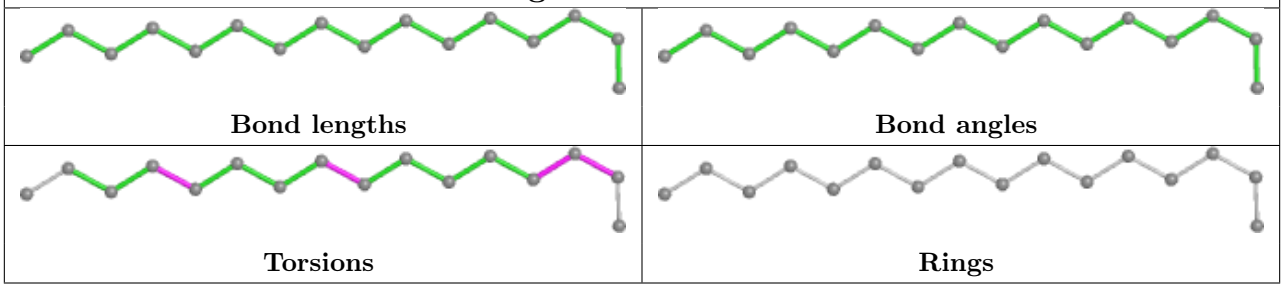
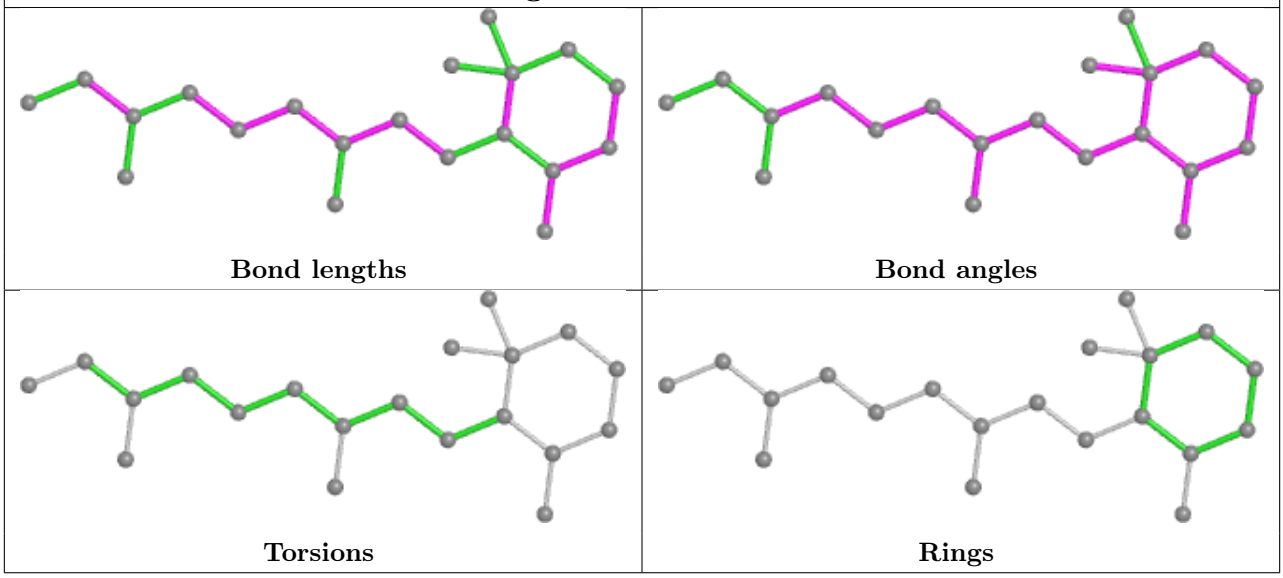


Ligand RET C 307



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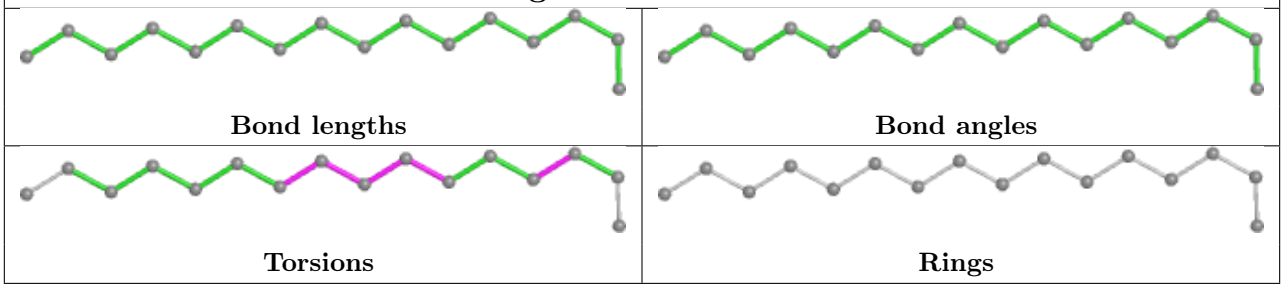


5.7 Other polymers (i)

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 (i)

6.1 Protein, DNA and RNA chains (i)

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	223/248 (89%)	-0.31	5 (2%)	62	65	23, 30, 59, 86	4 (1%)
1	C	215/248 (86%)	-0.24	6 (2%)	53	55	21, 32, 64, 88	3 (1%)
2	B	61/141 (43%)	-0.14	2 (3%)	46	48	28, 45, 65, 82	2 (3%)
2	D	61/141 (43%)	-0.12	4 (6%)	18	20	29, 47, 78, 88	1 (1%)
All	All	560/778 (71%)	-0.24	17 (3%)	50	53	21, 33, 65, 88	10 (1%)

The worst 5 of 17 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	224	GLY	3.7
2	B	49	ALA	3.6
1	C	217	ALA	3.2
1	C	28	ASP	3.0
1	C	26	GLY	2.9

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

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

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

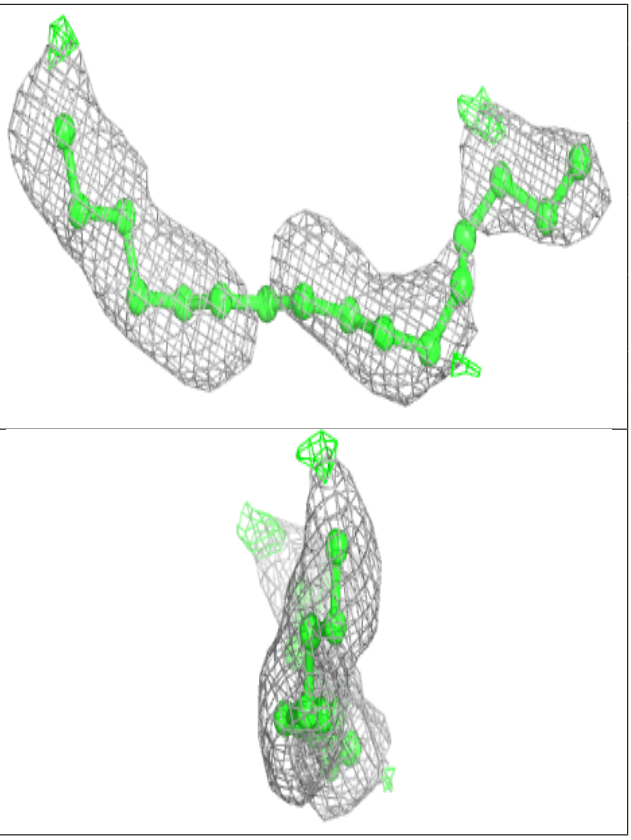
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists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

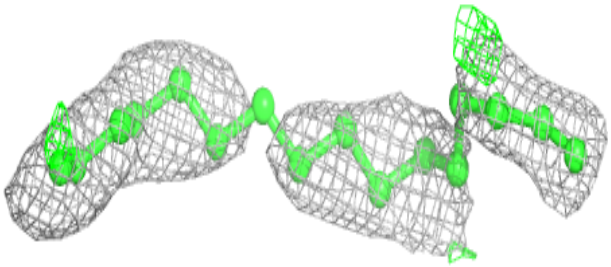
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	LFA	C	306	16/20	0.68	0.33	53,66,74,76	0
3	LFA	A	305	10/20	0.69	0.25	37,60,68,69	0
3	LFA	D	201	10/20	0.71	0.26	42,54,67,70	0
3	LFA	A	302	5/20	0.74	0.28	40,42,43,46	0
3	LFA	A	307	10/20	0.74	0.18	63,71,75,77	0
3	LFA	C	301	5/20	0.77	0.28	54,57,58,59	0
3	LFA	C	304	10/20	0.80	0.21	54,63,71,73	0
3	LFA	A	308	16/20	0.82	0.24	49,65,73,74	0
3	LFA	A	303	10/20	0.83	0.16	45,54,58,59	0
3	LFA	A	301	10/20	0.86	0.17	41,55,57,57	0
3	LFA	A	306	10/20	0.87	0.22	49,62,70,71	0
3	LFA	C	303	16/20	0.88	0.17	36,52,67,72	0
3	LFA	C	302	16/20	0.90	0.17	30,54,61,64	0
4	BOG	A	309	20/20	0.90	0.17	35,76,91,92	0
3	LFA	A	311	16/20	0.92	0.18	39,51,60,65	0
4	BOG	C	305	20/20	0.92	0.27	41,90,98,98	0
3	LFA	A	304	10/20	0.93	0.16	39,44,48,49	0
5	RET	C	307	20/21	0.93	0.18	12,24,29,34	0
5	RET	A	310	20/21	0.95	0.15	13,23,30,33	0

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

Electron density around LFA C 306:

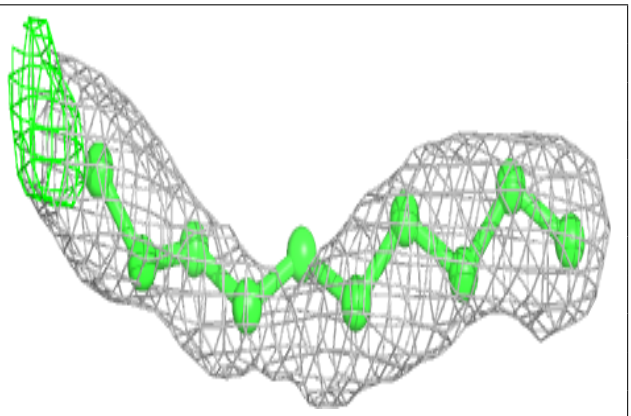
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

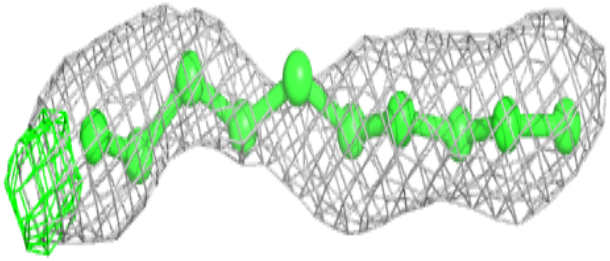


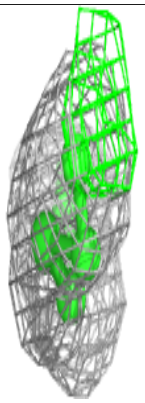


Electron density around LFA D 201:

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







Electron density around LFA A 307:

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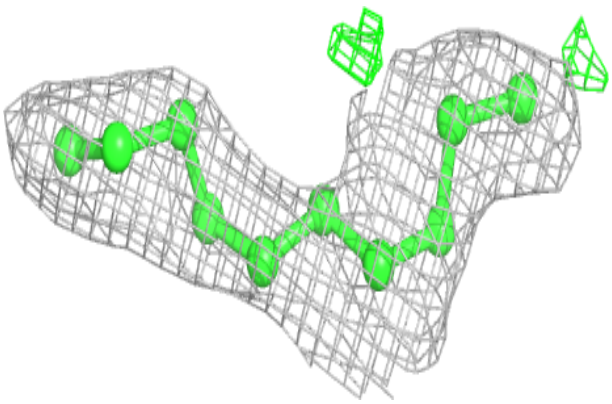
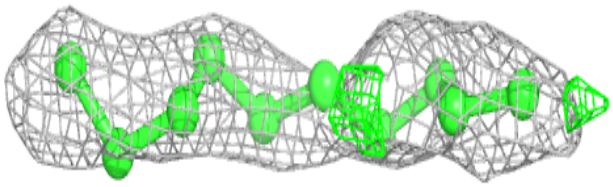
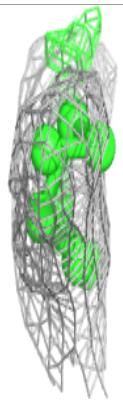
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)







Electron density around LFA A 308:

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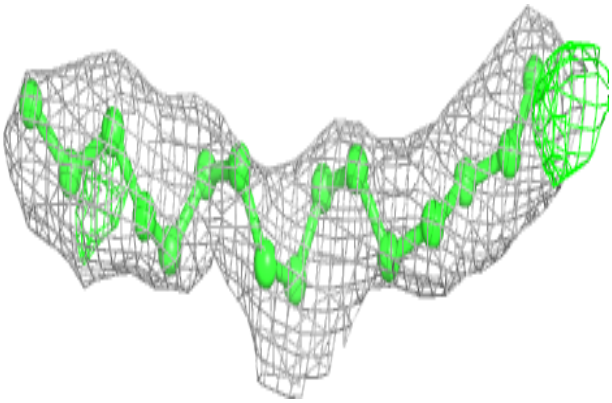
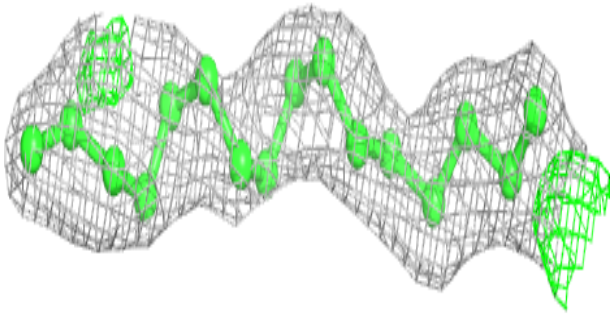
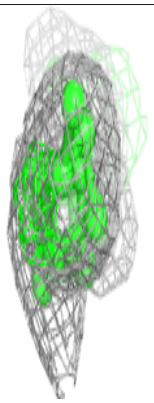
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)







Electron density around LFA A 303:

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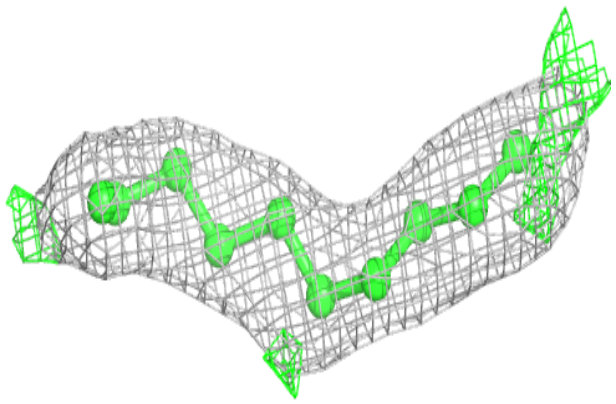
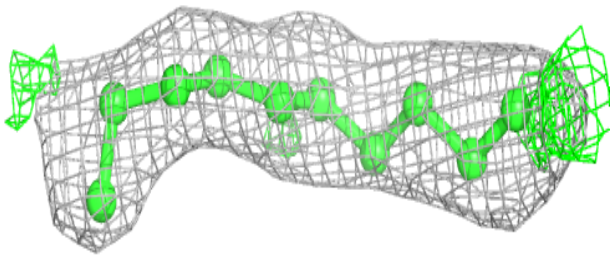
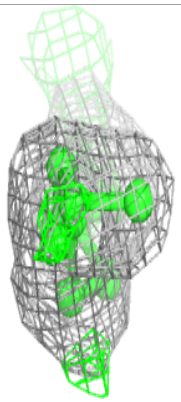
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)







Electron density around LFA A 301:

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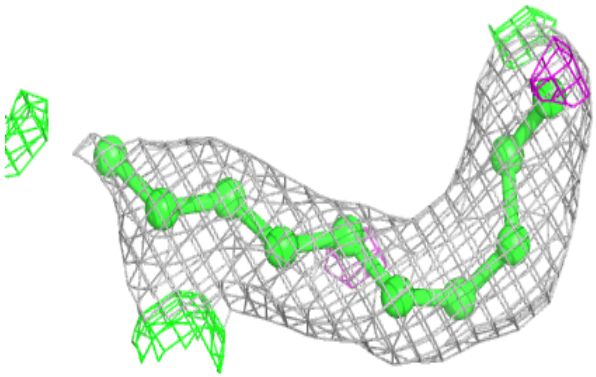
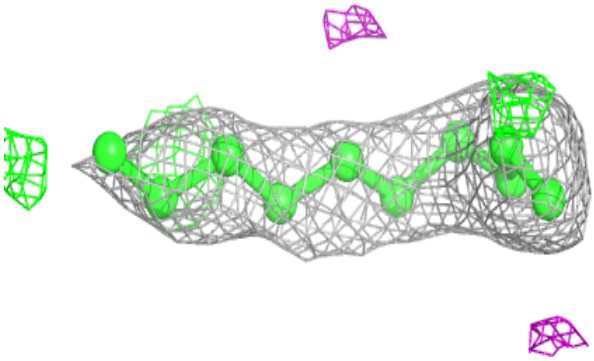
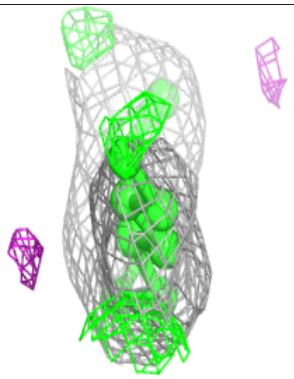
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

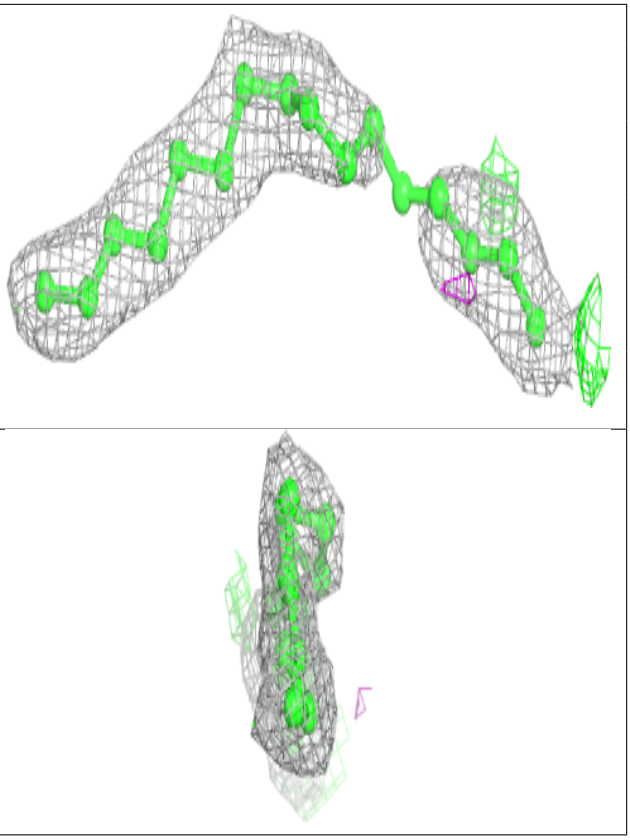






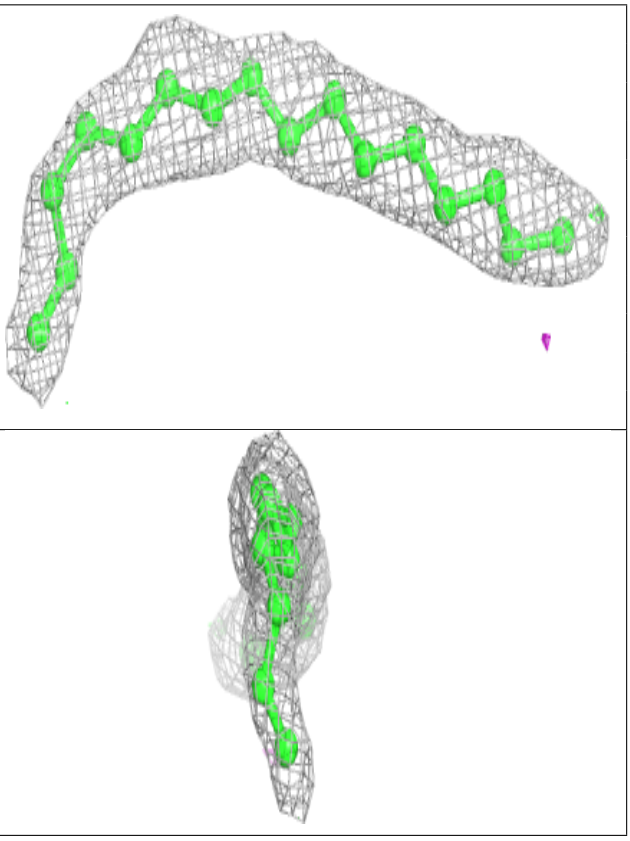
Electron density around LFA C 303:

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



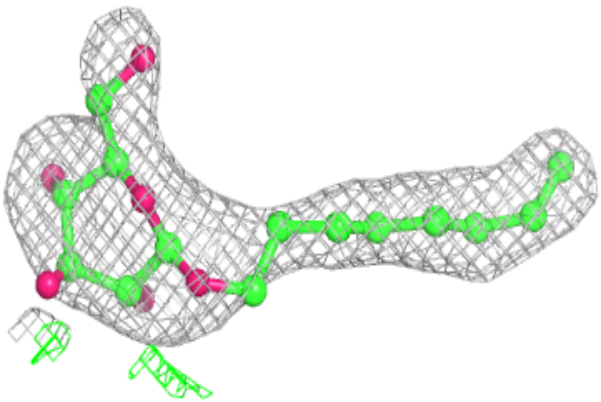
Electron density around LFA C 302:

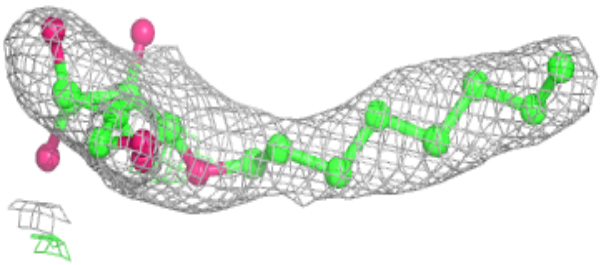
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

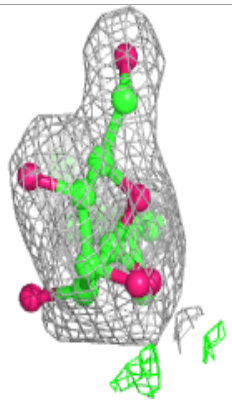


Electron density around BOG A 309:

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

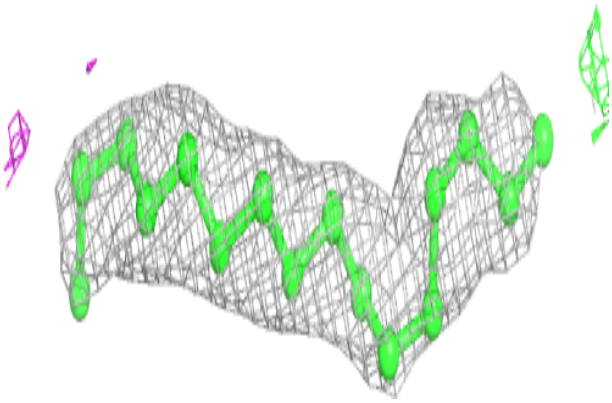


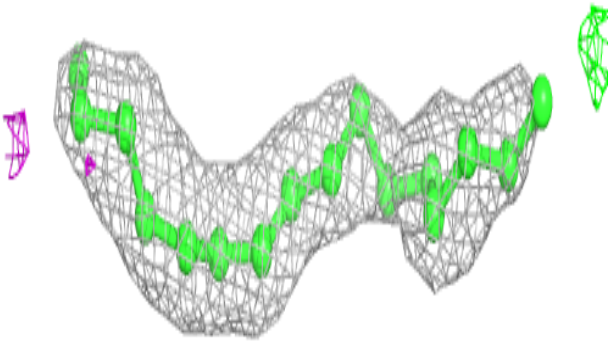


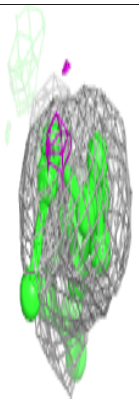


Electron density around LFA A 311:

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

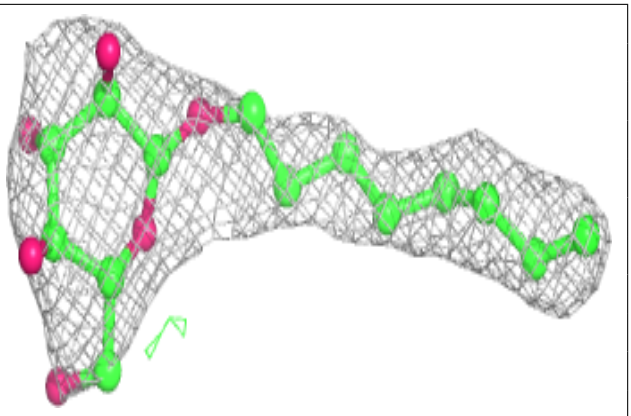


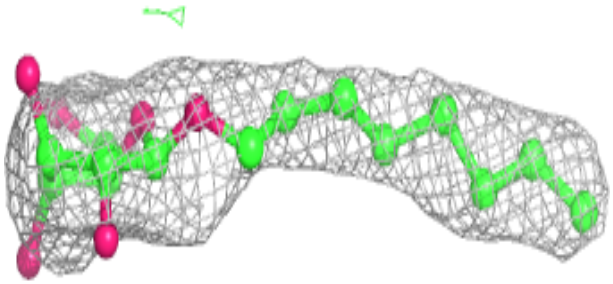


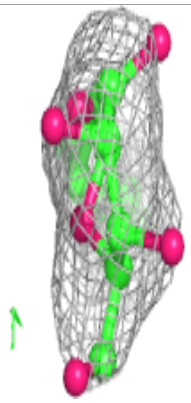


Electron density around BOG C 305:

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

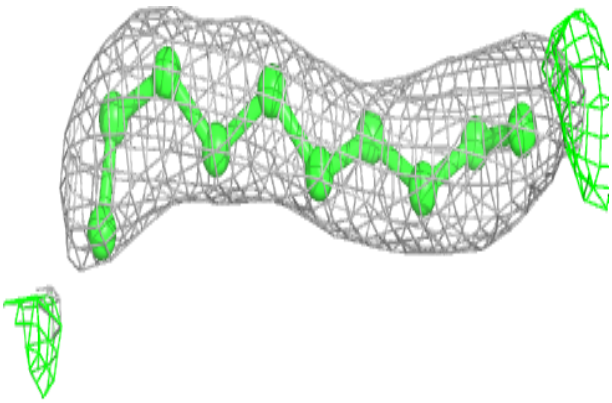


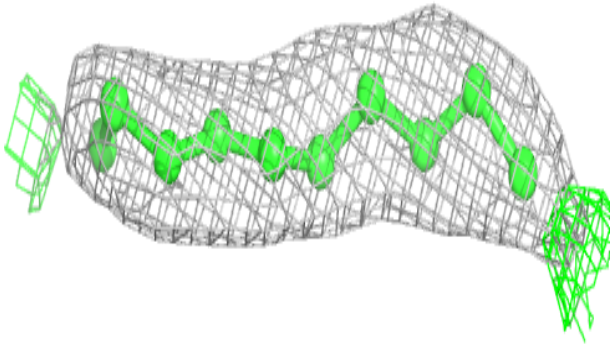


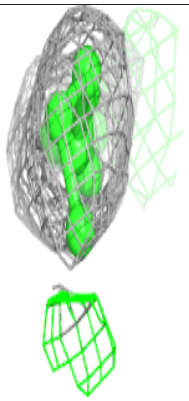


Electron density around LFA A 304:

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

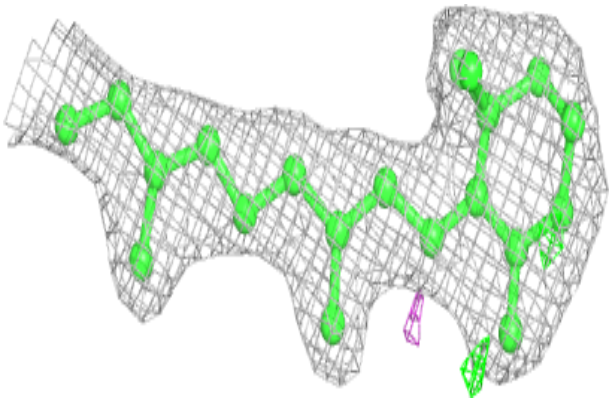


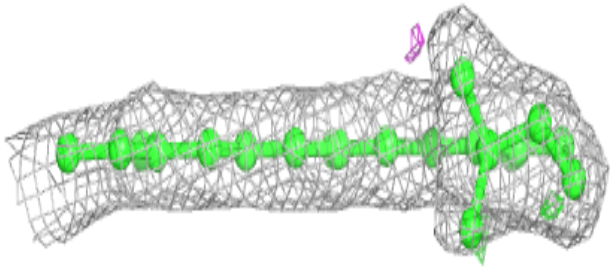


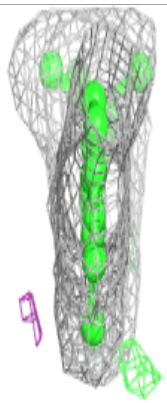


Electron density around RET C 307:

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

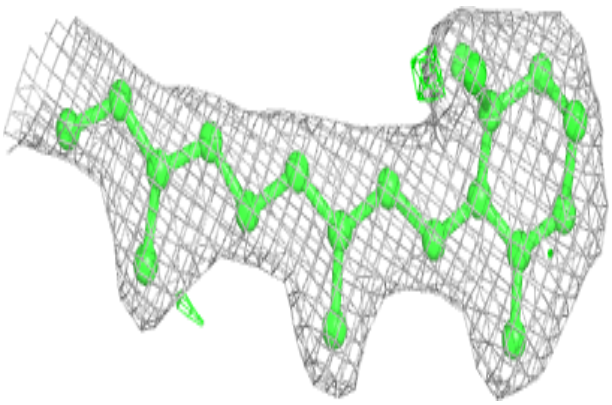


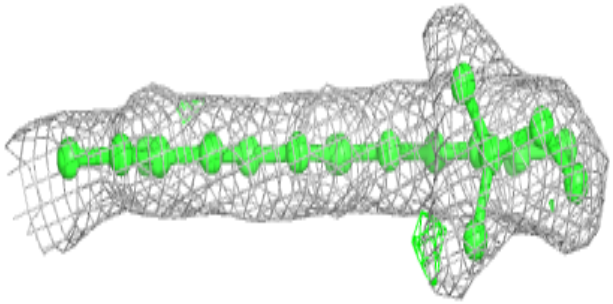


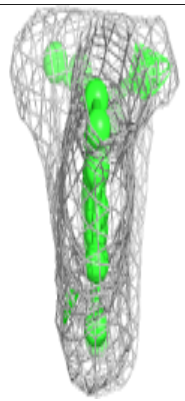


Electron density around RET A 310:

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







6.5 Other polymers (i)

There are no such residues in this entry.