Full wwPDB EM Validation Report ⓘ

Jun 17, 2024 – 11:42 AM EDT

PDB ID	:	9BRD
EMDB ID	:	EMD-44353
Title	:	Synaptic Vesicle V-ATPase with synaptophysin and SidK, State 3
Authors	:	Coupland, C.E.; Rubinstein, J.L.
Deposited on	:	2024-05-11
Resolution	:	3.50 Å(reported)

This is a Full wwPDB EM 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/EMValidationReportHelp
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:

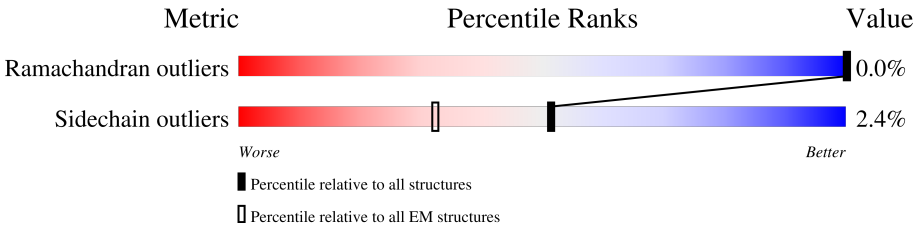
EMDB validation analysis	:	0.0.1.dev92
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.50 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)	EM structures (#Entries)
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the 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 EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	646	91% 7%
1	B	646	91% 7%
1	C	646	91% 7%
2	D	511	88% 10%
2	E	511	89% 10%
2	F	511	89% 10%
3	G	382	83% 96%
4	H	247	86% 13%
5	I	226	12% 98%

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Mol	Chain	Length	Quality of chain
5	J	226	12% 96%
5	K	226	22% 98%
6	L	119	10% 91% 8%
7	M	118	29% 93%
7	N	118	17% 91% 6%
7	O	118	46% 95%
8	P	463	19% 42% 56%
9	Q	573	5% 45% 54%
9	R	573	46% 53%
9	S	573	46% 54%
10	T	463	75% 93% 7%
11	U	307	69% 69% 30%
12	a	832	57% 89% 7%
13	b	205	24% 96%
14	d	351	28% 98%
15	e	81	75% 99%
16	f	86	87% 97%
17	g	155	21% 94%
17	h	155	48% 96%
17	i	155	74% 94%
17	j	155	77% 95%
17	k	155	68% 95%
17	l	155	63% 97%
17	m	155	68% 96%
17	n	155	56% 96%

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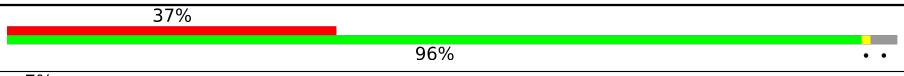
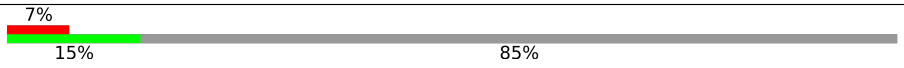
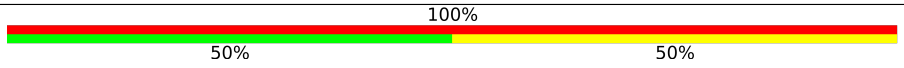
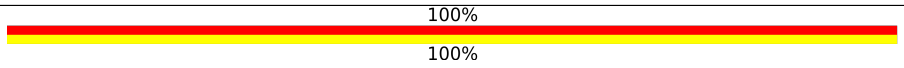
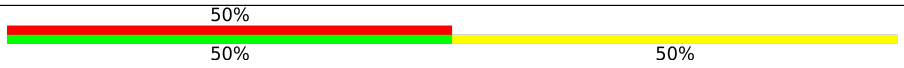
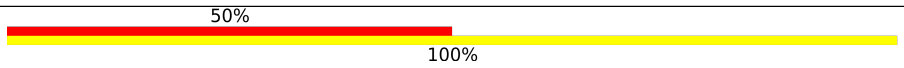
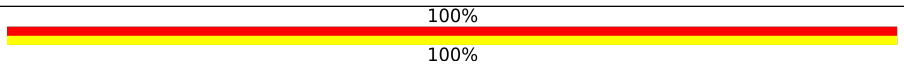
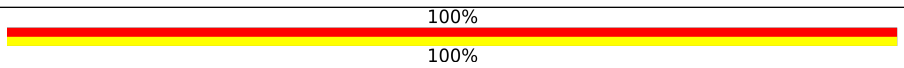
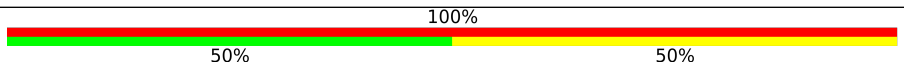
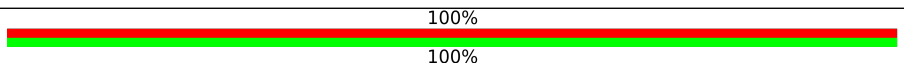
Mol	Chain	Length	Quality of chain
17	o	155	
18	p	350	
19	V	2	
19	W	2	
19	X	2	
19	Y	2	
19	Z	2	
19	c	2	
19	q	2	
19	r	2	
20	s	11	

2 Entry composition

There are 27 unique types of molecules in this entry. The entry contains 72445 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 H(+)-transporting two-sector ATPase.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	600	Total	C	N	O	S	0	0
			4651	2949	786	889	27		
1	B	600	Total	C	N	O	S	0	0
			4651	2949	786	889	27		
1	C	600	Total	C	N	O	S	0	0
			4651	2949	786	889	27		

- Molecule 2 is a protein called V-type proton ATPase subunit B, brain isoform.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	D	459	Total	C	N	O	S	0	0
			3595	2282	613	680	20		
2	E	459	Total	C	N	O	S	0	0
			3595	2282	613	680	20		
2	F	459	Total	C	N	O	S	0	0
			3595	2282	613	680	20		

- Molecule 3 is a protein called V-type proton ATPase subunit C 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
3	G	375	Total	C	N	O	0	0
			2155	1347	400	408		

- Molecule 4 is a protein called ATPase H+-transporting V1 subunit D.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	H	214	Total	C	N	O	S	0	0
			1726	1095	311	315	5		

- Molecule 5 is a protein called V-type proton ATPase subunit E 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	I	225	Total	C	N	O	S	0	0
			1778	1119	315	336	8		
5	J	223	Total	C	N	O	S	0	0
			1779	1120	315	334	10		
5	K	224	Total	C	N	O	S	0	0
			1657	1041	299	309	8		

- Molecule 6 is a protein called V-type proton ATPase subunit F.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	L	109	Total	C	N	O	S	0	0
			864	544	156	162	2		

- Molecule 7 is a protein called V-type proton ATPase subunit G.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	M	114	Total	C	N	O	S	0	0
			845	506	178	157	4		
7	N	114	Total	C	N	O	S	0	0
			916	548	190	173	5		
7	O	113	Total	C	N	O	S	0	0
			715	427	147	138	3		

- Molecule 8 is a protein called V-type proton ATPase subunit S1.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	P	204	Total	C	N	O	S	0	0
			1652	1087	259	297	9		

- Molecule 9 is a protein called Type IV secretion protein Dot.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	Q	264	Total	C	N	O	S	0	0
			2130	1352	358	410	10		
9	R	267	Total	C	N	O	S	0	0
			2155	1369	362	413	11		
9	S	263	Total	C	N	O	S	0	0
			2126	1350	357	409	10		

- Molecule 10 is a protein called V-type proton ATPase subunit H.

Mol	Chain	Residues	Atoms				AltConf	Trace
10	T	430	Total	C	N	O	0	0
			2136	1276	430	430		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
T	428	PHE	ILE	conflict	UNP A0A8I5ZQ24

- Molecule 11 is a protein called Synaptophysin.

Mol	Chain	Residues	Atoms				AltConf	Trace
11	U	214	Total	C	N	O	0	0
			1150	702	221	227		

- Molecule 12 is a protein called V-type proton ATPase 116 kDa subunit a 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	a	770	Total	C	N	O	S	0	0
			6212	4052	1046	1074	40		

- Molecule 13 is a protein called ATPase, H+ transporting, V0 subunit B (Predicted), isoform CRA_a.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	b	203	Total	C	N	O	S	0	0
			1503	996	237	259	11		

- Molecule 14 is a protein called V-type proton ATPase subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	d	350	Total	C	N	O	S	0	0
			2833	1829	460	530	14		

- Molecule 15 is a protein called V-type proton ATPase subunit e 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	e	80	Total	C	N	O	S	0	0
			644	443	100	98	3		

- Molecule 16 is a protein called Rnasek protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	f	86	Total	C	N	O	S	0	0
			666	440	103	116	7		

- Molecule 17 is a protein called V-type proton ATPase 16 kDa proteolipid subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	g	150	Total	C	N	O	S	0	0
			1068	699	171	190	8		
17	h	150	Total	C	N	O	S	0	0
			1068	699	171	190	8		
17	i	150	Total	C	N	O	S	0	0
			1068	699	171	190	8		
17	j	150	Total	C	N	O	S	0	0
			1068	699	171	190	8		
17	k	150	Total	C	N	O	S	0	0
			1068	699	171	190	8		
17	l	150	Total	C	N	O	S	0	0
			1068	699	171	190	8		
17	m	150	Total	C	N	O	S	0	0
			1068	699	171	190	8		
17	n	150	Total	C	N	O	S	0	0
			1068	699	171	190	8		
17	o	150	Total	C	N	O	S	0	0
			1068	699	171	190	8		

- Molecule 18 is a protein called Renin receptor.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	p	52	Total	C	N	O	S	0	0
			432	290	63	76	3		

- Molecule 19 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.

Mol	Chain	Residues	Atoms				AltConf	Trace
19	V	2	Total	C	N	O	0	0
			28	16	2	10		
19	W	2	Total	C	N	O	0	0
			28	16	2	10		

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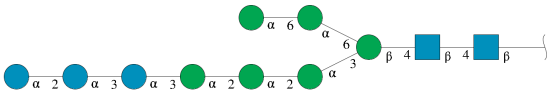
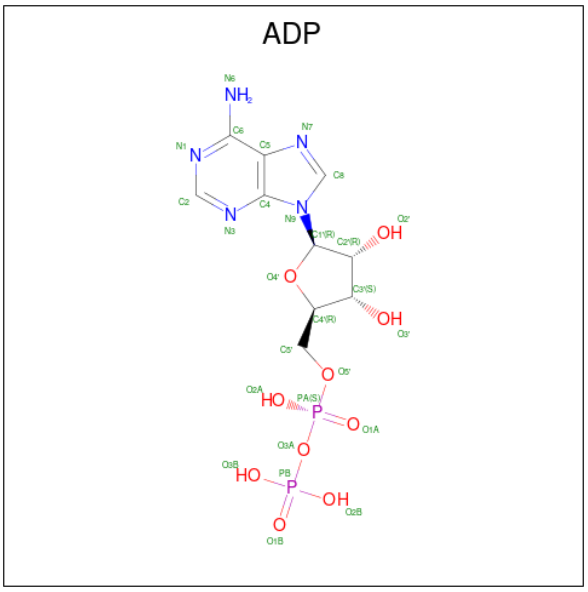
Mol	Chain	Residues	Atoms				AltConf	Trace
19	X	2	Total	C	N	O	0	0
			28	16	2	10		
19	Y	2	Total	C	N	O	0	0
			28	16	2	10		
19	Z	2	Total	C	N	O	0	0
			28	16	2	10		
19	c	2	Total	C	N	O	0	0
			28	16	2	10		
19	q	2	Total	C	N	O	0	0
			28	16	2	10		
19	r	2	Total	C	N	O	0	0
			28	16	2	10		

- Molecule 20 is an oligosaccharide called alpha-D-glucopyranose-(1-2)-alpha-D-glucopyranose-(1-3)-alpha-D-glucopyranose-(1-3)-alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)-alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



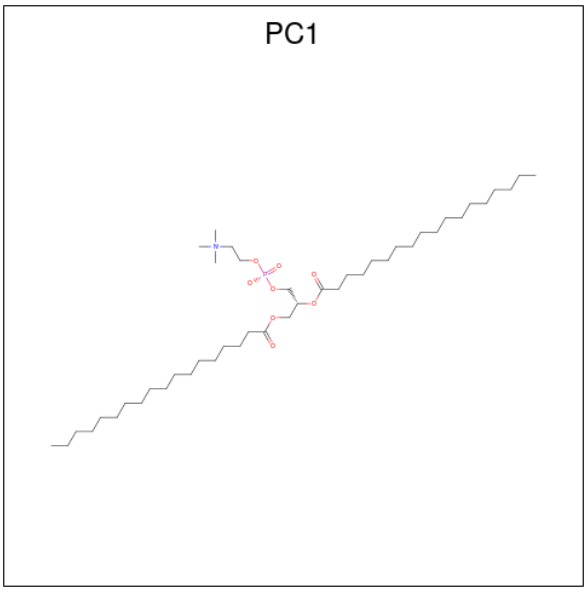
Mol	Chain	Residues	Atoms				AltConf	Trace
20	s	11	Total	C	N	O	0	0
			127	70	2	55		

- Molecule 21 is ADENOSINE-5'-DIPHOSPHATE (three-letter code: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$).



Mol	Chain	Residues	Atoms					AltConf
21	A	1	Total	C	N	O	P	0
			27	10	5	10	2	

- Molecule 22 is 1,2-DIACYL-SN-GLYCERO-3-PHOSPHOCHOLINE (three-letter code: PC1) (formula: $C_{44}H_{88}NO_8P$).



Mol	Chain	Residues	Atoms					AltConf
22	P	1	Total	C	N	O	P	0
			54	44	1	8	1	
22	P	1	Total	C	N	O	P	0
			54	44	1	8	1	

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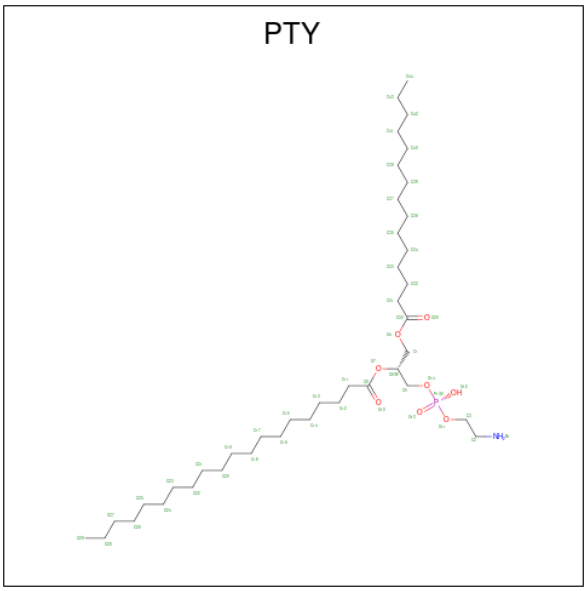
Mol	Chain	Residues	Atoms					AltConf
22	a	1	Total	C	N	O	P	0
			54	44	1	8	1	
22	b	1	Total	C	N	O	P	0
			54	44	1	8	1	
22	l	1	Total	C	N	O	P	0
			54	44	1	8	1	

- Molecule 23 is PHOSPHATIDYLETHANOLAMINE (three-letter code: PTY) (formula: $C_{40}H_{80}NO_8P$).



Mol	Chain	Residues	Atoms					AltConf
23	a	1	Total	C	N	O	P	0
			50	40	1	8	1	
23	a	1	Total	C	N	O	P	0
			50	40	1	8	1	
23	a	1	Total	C	N	O	P	0
			50	40	1	8	1	
23	b	1	Total	C	N	O	P	0
			50	40	1	8	1	
23	b	1	Total	C	N	O	P	0
			50	40	1	8	1	
23	p	1	Total	C	N	O	P	0
			50	40	1	8	1	
23	p	1	Total	C	N	O	P	0
			50	40	1	8	1	
23	p	1	Total	C	N	O	P	0
			50	40	1	8	1	

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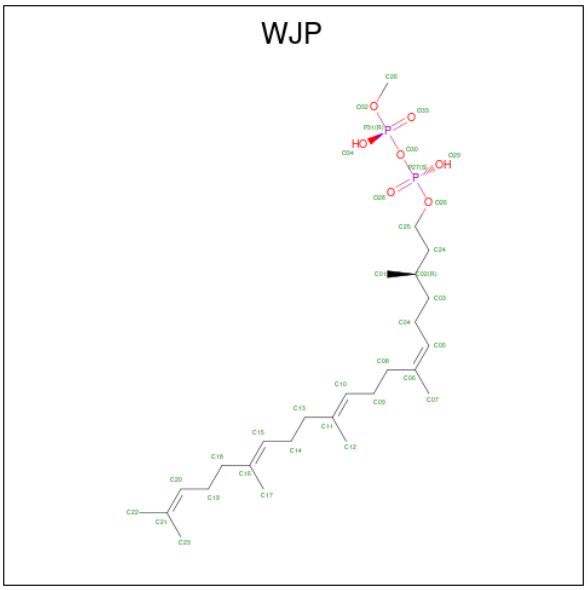
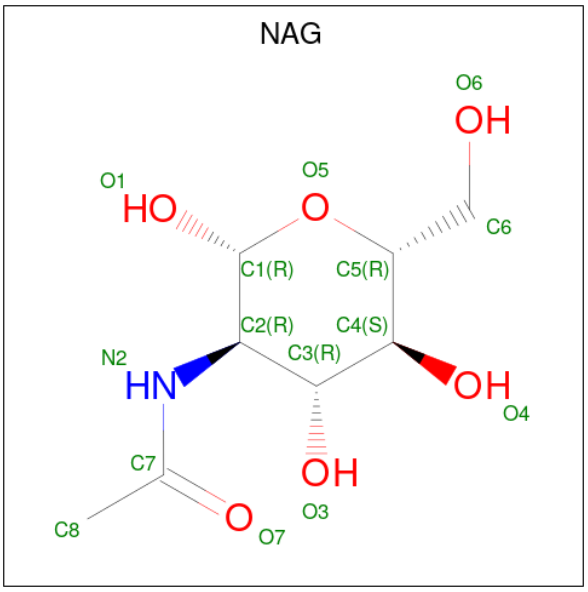
Mol	Chain	Residues	Atoms					AltConf
23	p	1	Total	C	N	O	P	0
			50	40	1	8	1	

- Molecule 24 is methyl (3R,6Z,10E,14E)-3,7,11,15,19-pentamethylicosa-6,10,14,18-tetraen-1-yl dihydrogen diphosphate (three-letter code: WJP) (formula: $C_{26}H_{48}O_7P_2$).



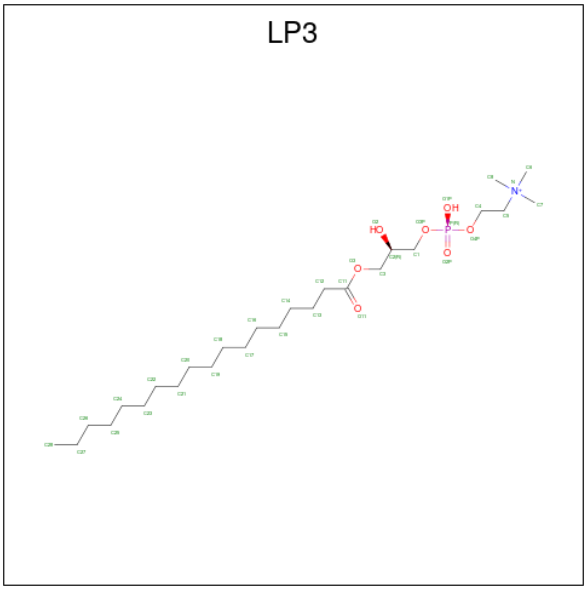
Mol	Chain	Residues	Atoms				AltConf
24	a	1	Total	C	O	P	0
			34	25	7	2	

- Molecule 25 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: $C_8H_{15}NO_6$).



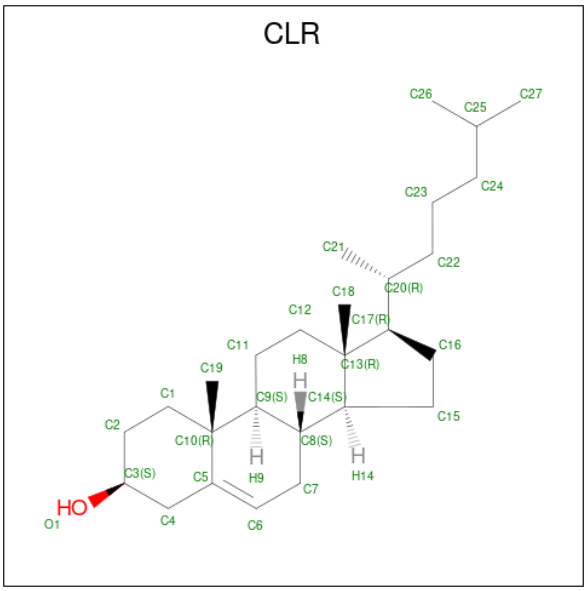
Mol	Chain	Residues	Atoms				AltConf
25	a	1	Total	C	N	O	0
			14	8	1	5	

- Molecule 26 is (7R)-4,7-DIHYDROXY-N,N,N-TRIMETHYL-10-OXO-3,5,9-TRIOXA-4-PHOSPHAHEPTACOSAN-1-AMINIUM 4-OXIDE (three-letter code: LP3) (formula: $C_{26}H_{55}NO_7P$).



Mol	Chain	Residues	Atoms					AltConf
26	a	1	Total	C	N	O	P	0
			35	26	1	7	1	

- Molecule 27 is CHOLESTEROL (three-letter code: CLR) (formula: $C_{27}H_{46}O$).



Mol	Chain	Residues	Atoms	AltConf
27	b	1	Total C O 28 27 1	0
27	h	1	Total C O 28 27 1	0
27	h	1	Total C O 28 27 1	0
27	i	1	Total C O 28 27 1	0
27	i	1	Total C O 28 27 1	0
27	i	1	Total C O 28 27 1	0
27	i	1	Total C O 28 27 1	0
27	j	1	Total C O 28 27 1	0
27	j	1	Total C O 28 27 1	0
27	j	1	Total C O 28 27 1	0
27	j	1	Total C O 28 27 1	0
27	k	1	Total C O 28 27 1	0
27	k	1	Total C O 28 27 1	0
27	k	1	Total C O 28 27 1	0

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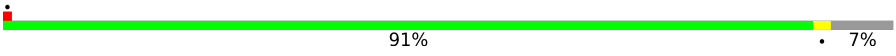
Mol	Chain	Residues	Atoms			AltConf
27	l	1	Total	C	O	0
			28	27	1	
27	l	1	Total	C	O	0
			28	27	1	
27	l	1	Total	C	O	0
			28	27	1	
27	l	1	Total	C	O	0
			28	27	1	
27	l	1	Total	C	O	0
			28	27	1	
27	m	1	Total	C	O	0
			28	27	1	
27	m	1	Total	C	O	0
			28	27	1	
27	m	1	Total	C	O	0
			28	27	1	
27	n	1	Total	C	O	0
			28	27	1	
27	n	1	Total	C	O	0
			28	27	1	
27	n	1	Total	C	O	0
			28	27	1	
27	n	1	Total	C	O	0
			28	27	1	
27	n	1	Total	C	O	0
			28	27	1	
27	o	1	Total	C	O	0
			28	27	1	
27	o	1	Total	C	O	0
			28	27	1	
27	o	1	Total	C	O	0
			28	27	1	

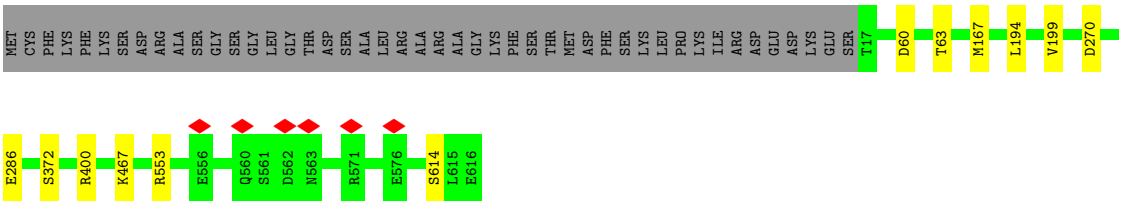
3 Residue-property plots (i)

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 atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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: H(+)-transporting two-sector ATPase

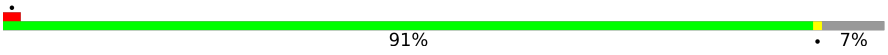
Chain A:

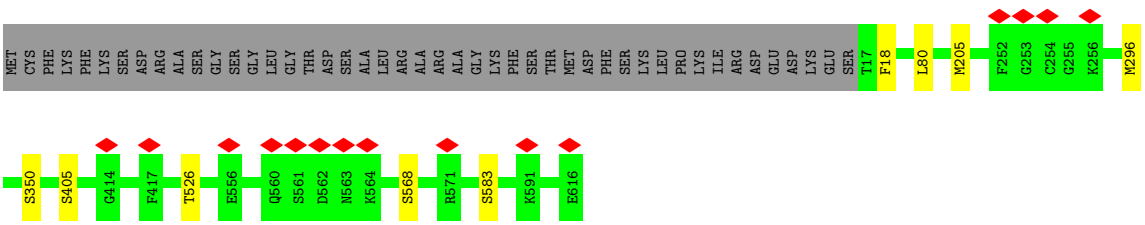




• Molecule 1: H(+)-transporting two-sector ATPase

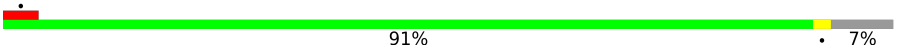
Chain B:

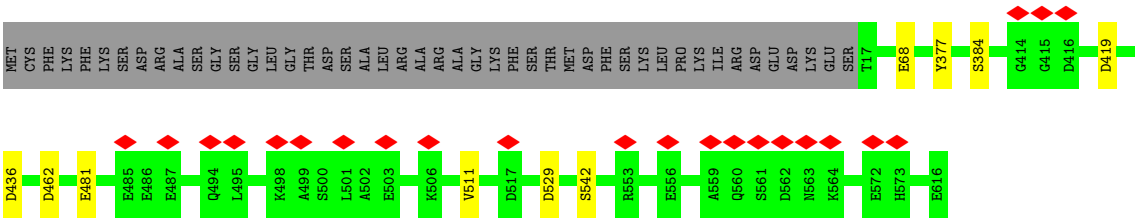




• Molecule 1: H(+)-transporting two-sector ATPase

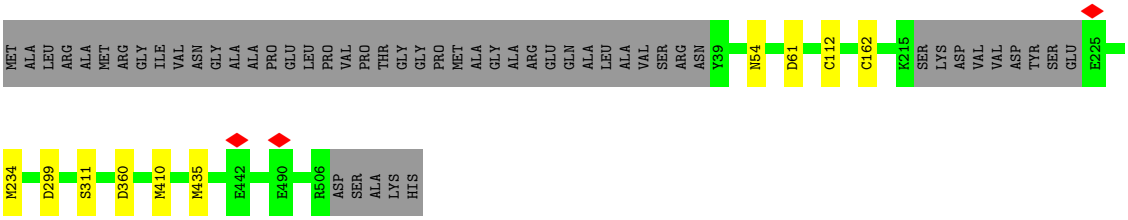
Chain C:





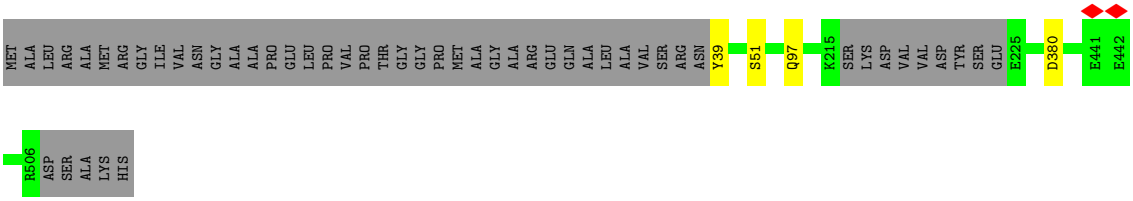
• Molecule 2: V-type proton ATPase subunit B, brain isoform

Chain D:



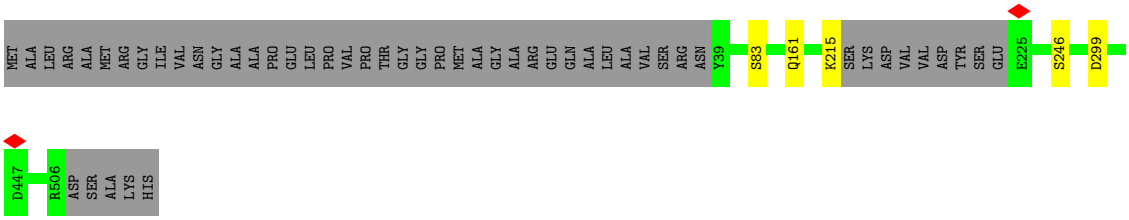
• Molecule 2: V-type proton ATPase subunit B, brain isoform

Chain E:



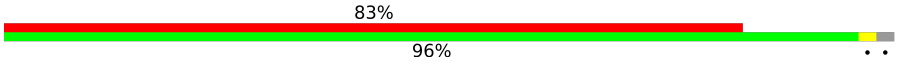
• Molecule 2: V-type proton ATPase subunit B, brain isoform

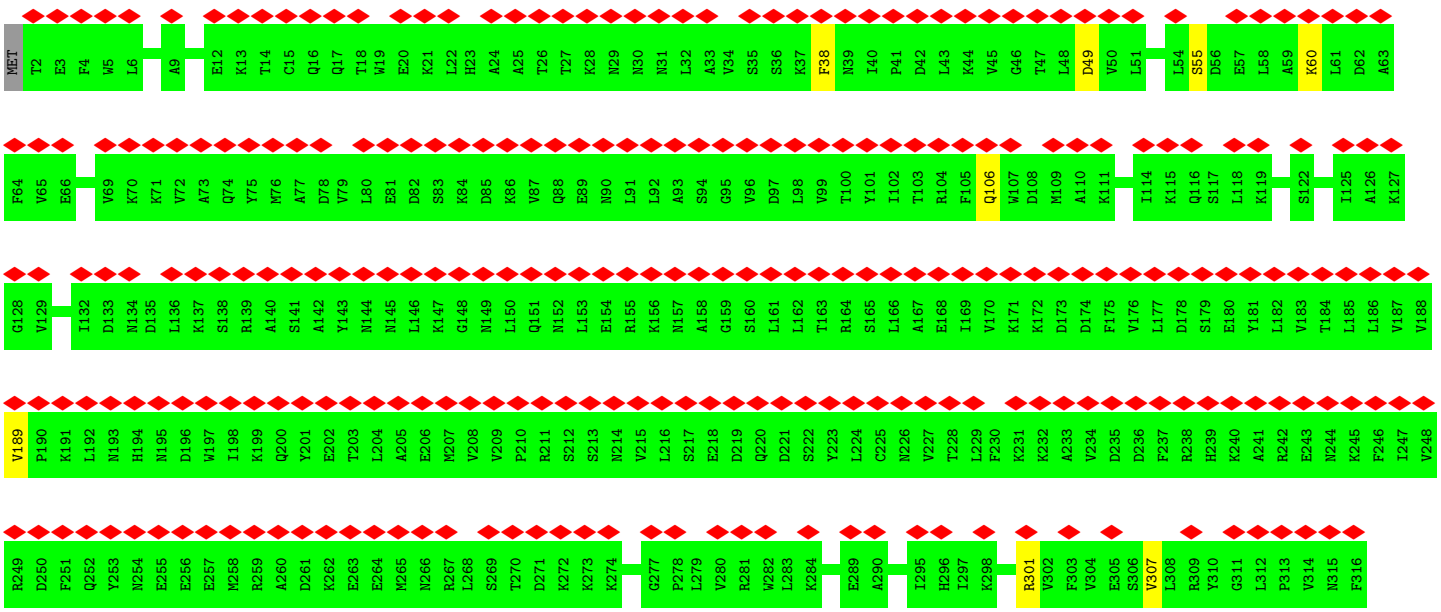
Chain F:

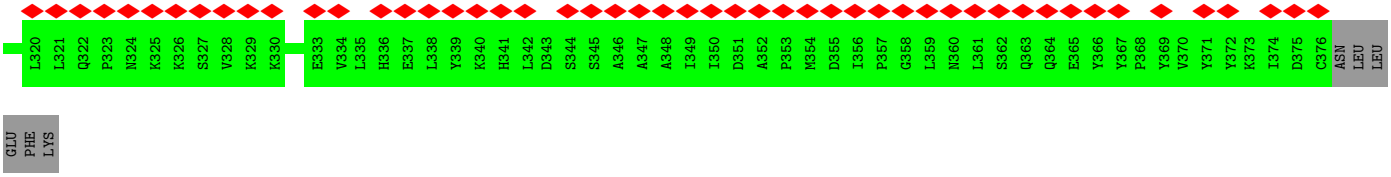


• Molecule 3: V-type proton ATPase subunit C 1

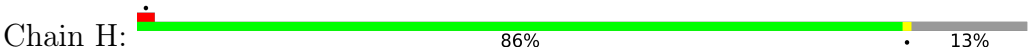
Chain G:

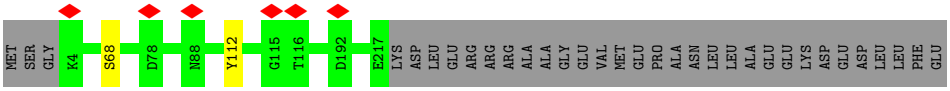




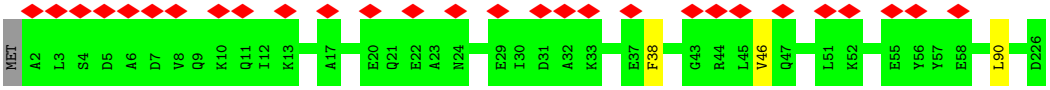


• Molecule 4: ATPase H+-transporting V1 subunit D

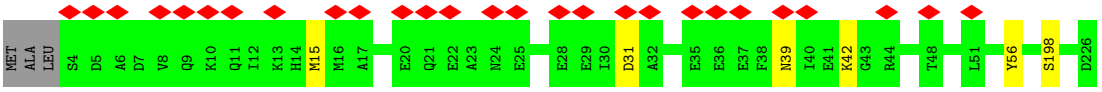




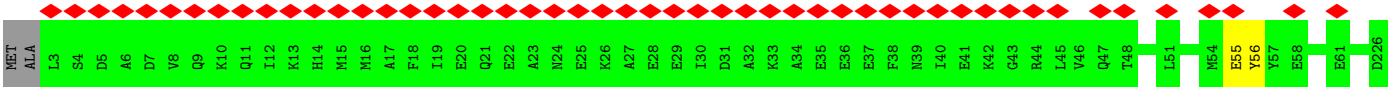
• Molecule 5: V-type proton ATPase subunit E 1



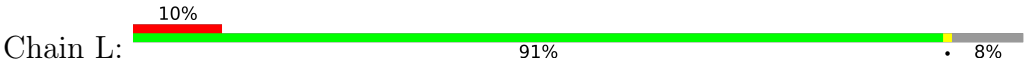
• Molecule 5: V-type proton ATPase subunit E 1

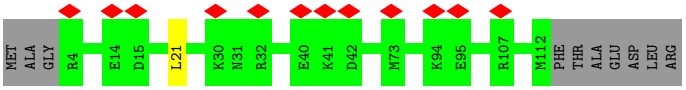


• Molecule 5: V-type proton ATPase subunit E 1

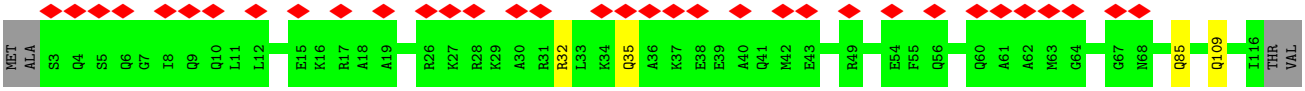


• Molecule 6: V-type proton ATPase subunit F

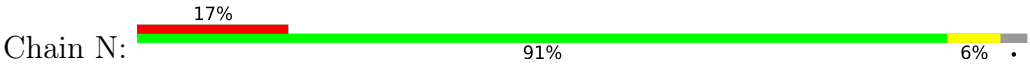


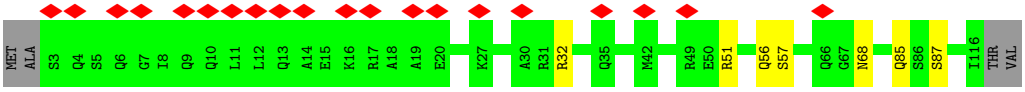


• Molecule 7: V-type proton ATPase subunit G

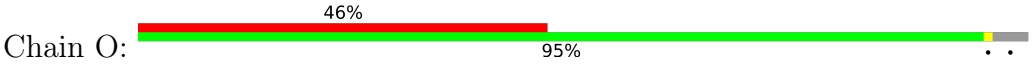


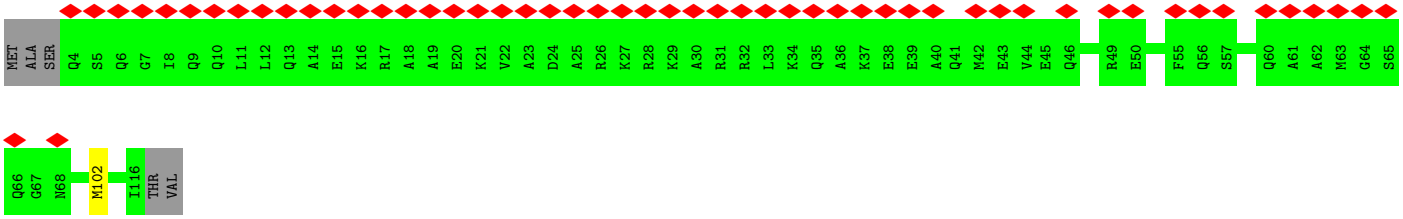
• Molecule 7: V-type proton ATPase subunit G



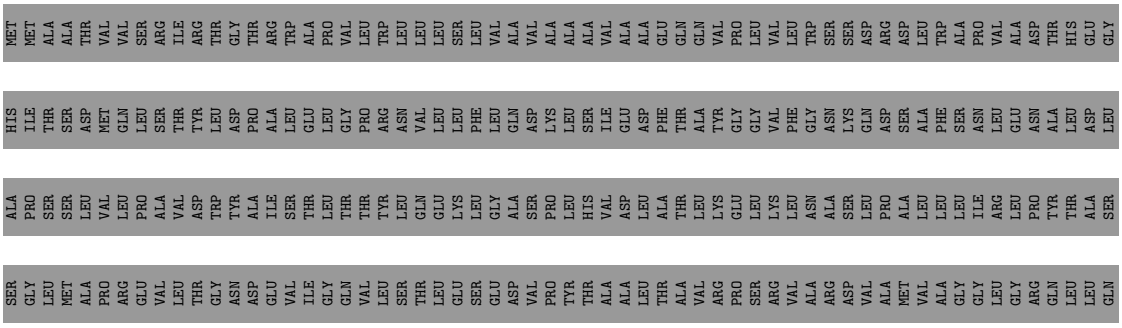


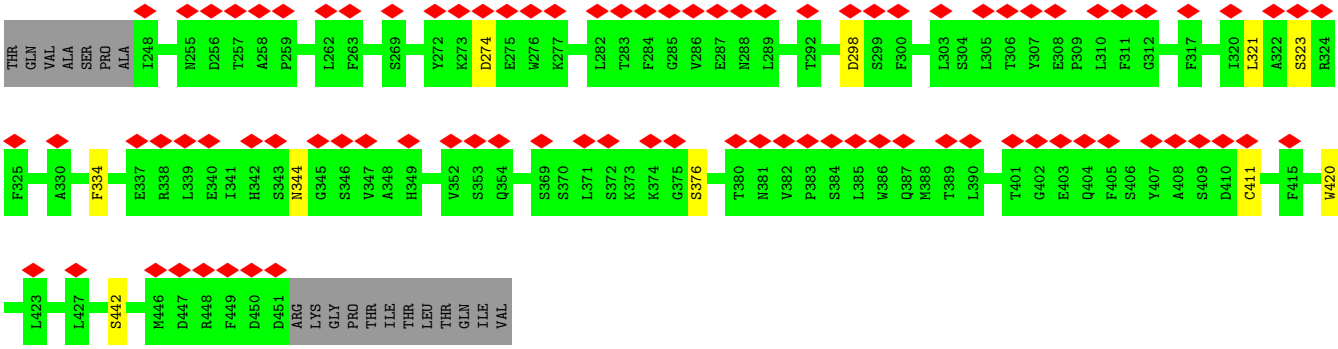
• Molecule 7: V-type proton ATPase subunit G



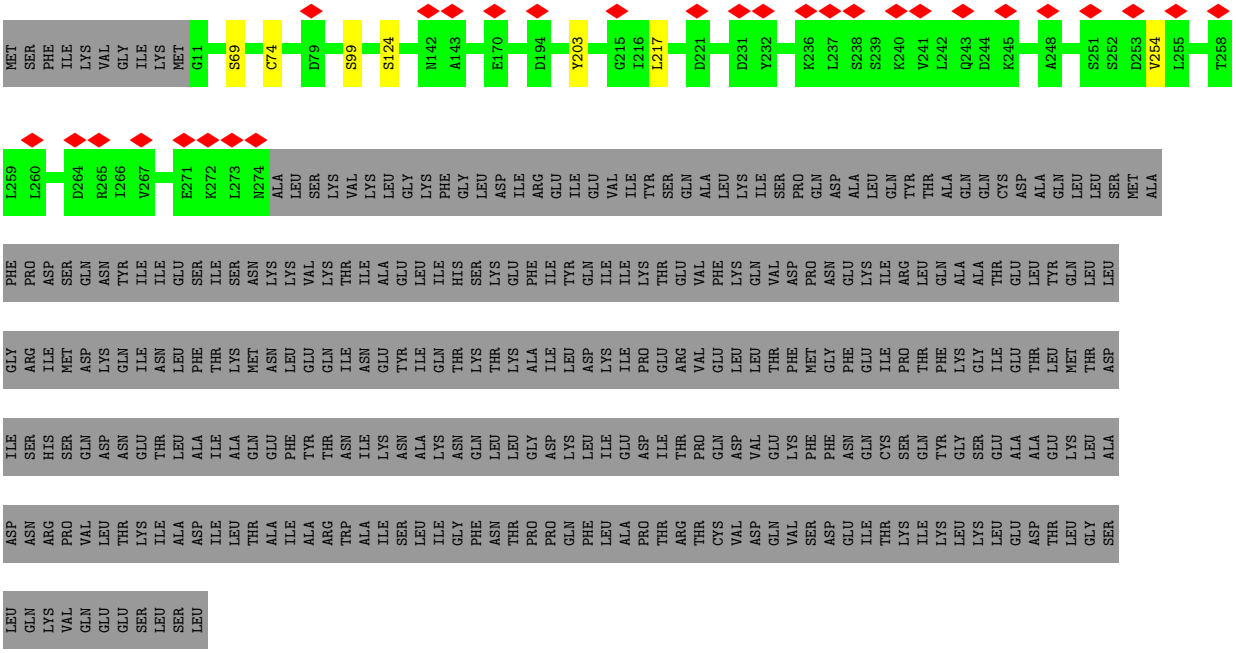


• Molecule 8: V-type proton ATPase subunit S1



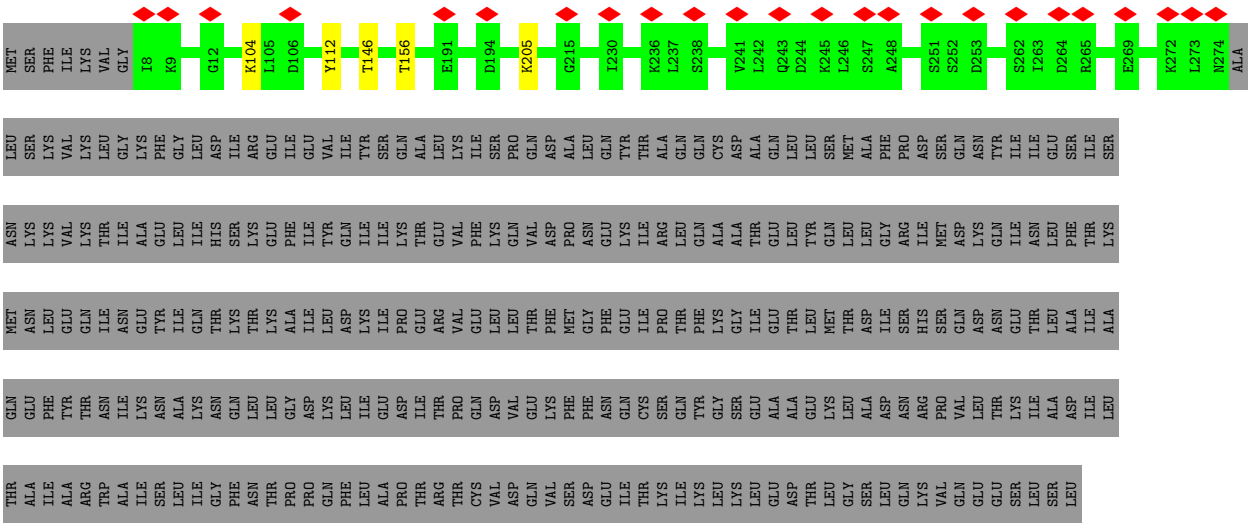


• Molecule 9: Type IV secretion protein Dot



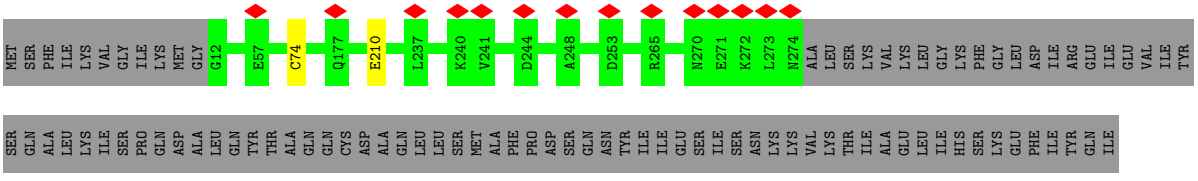
• Molecule 9: Type IV secretion protein Dot

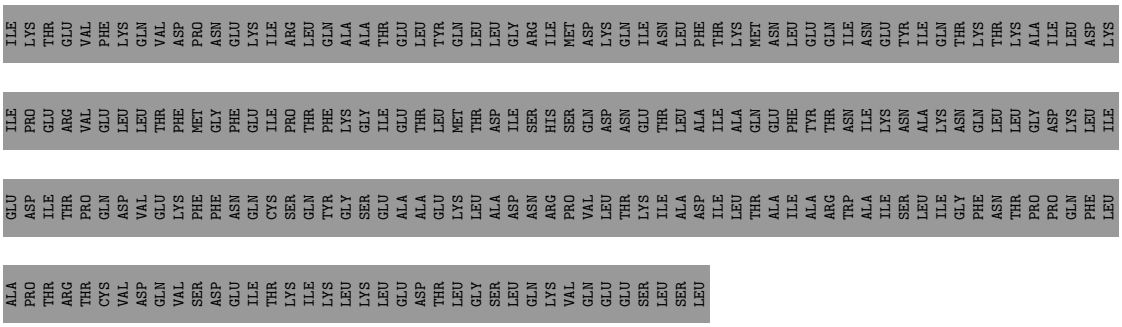
Chain R:



• Molecule 9: Type IV secretion protein Dot

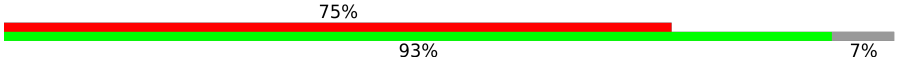
Chain S:

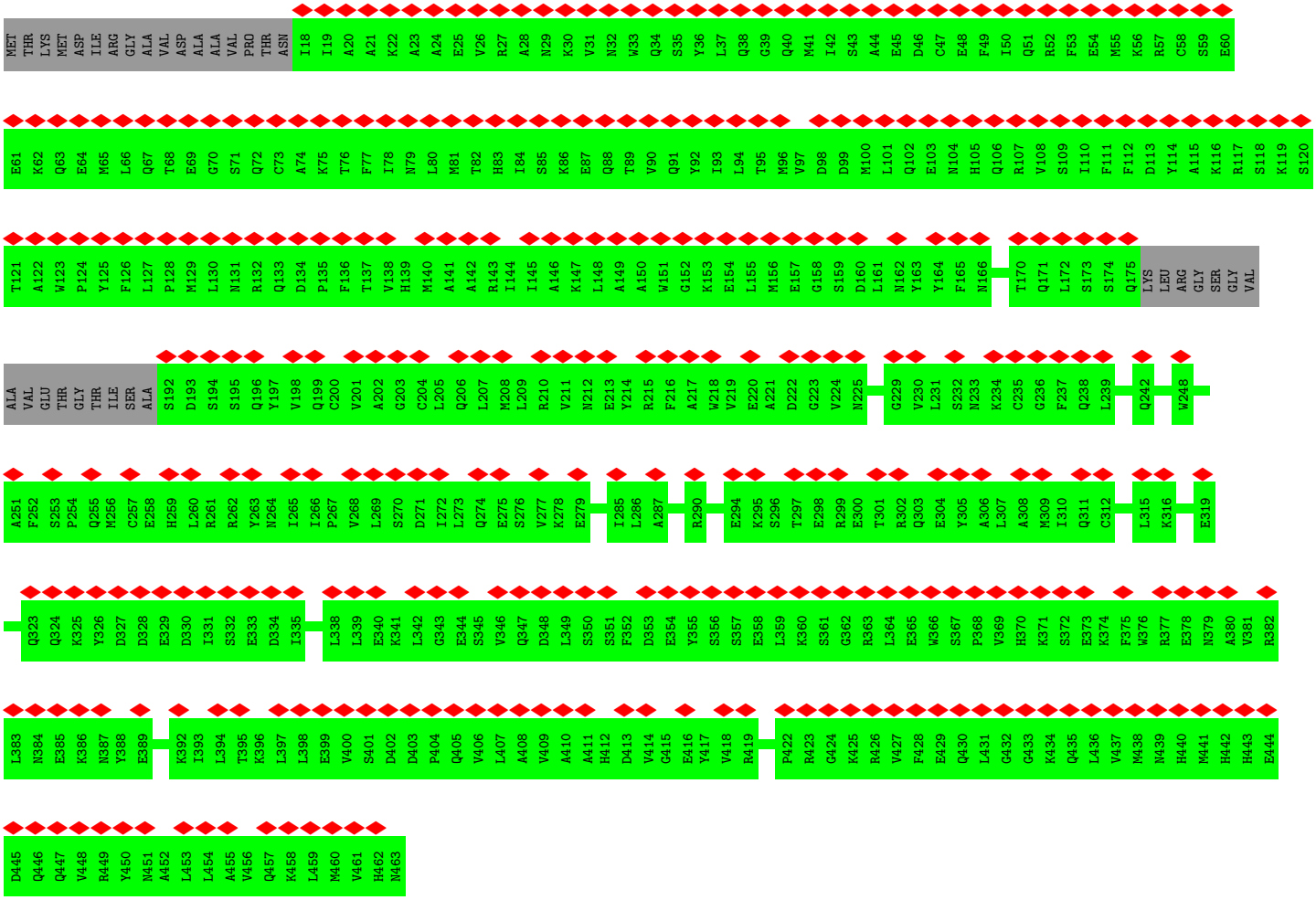




• Molecule 10: V-type proton ATPase subunit H

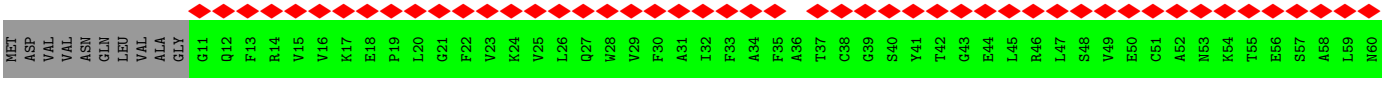
Chain T:

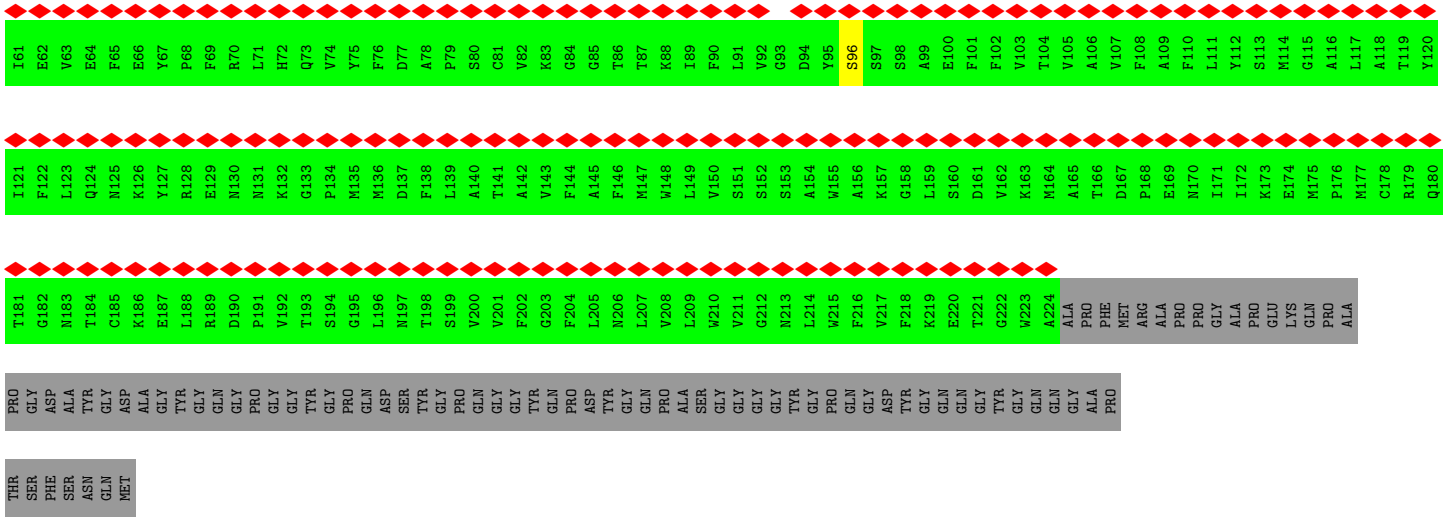




• Molecule 11: Synaptophysin

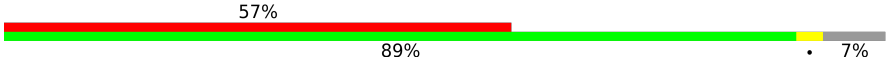
Chain U:

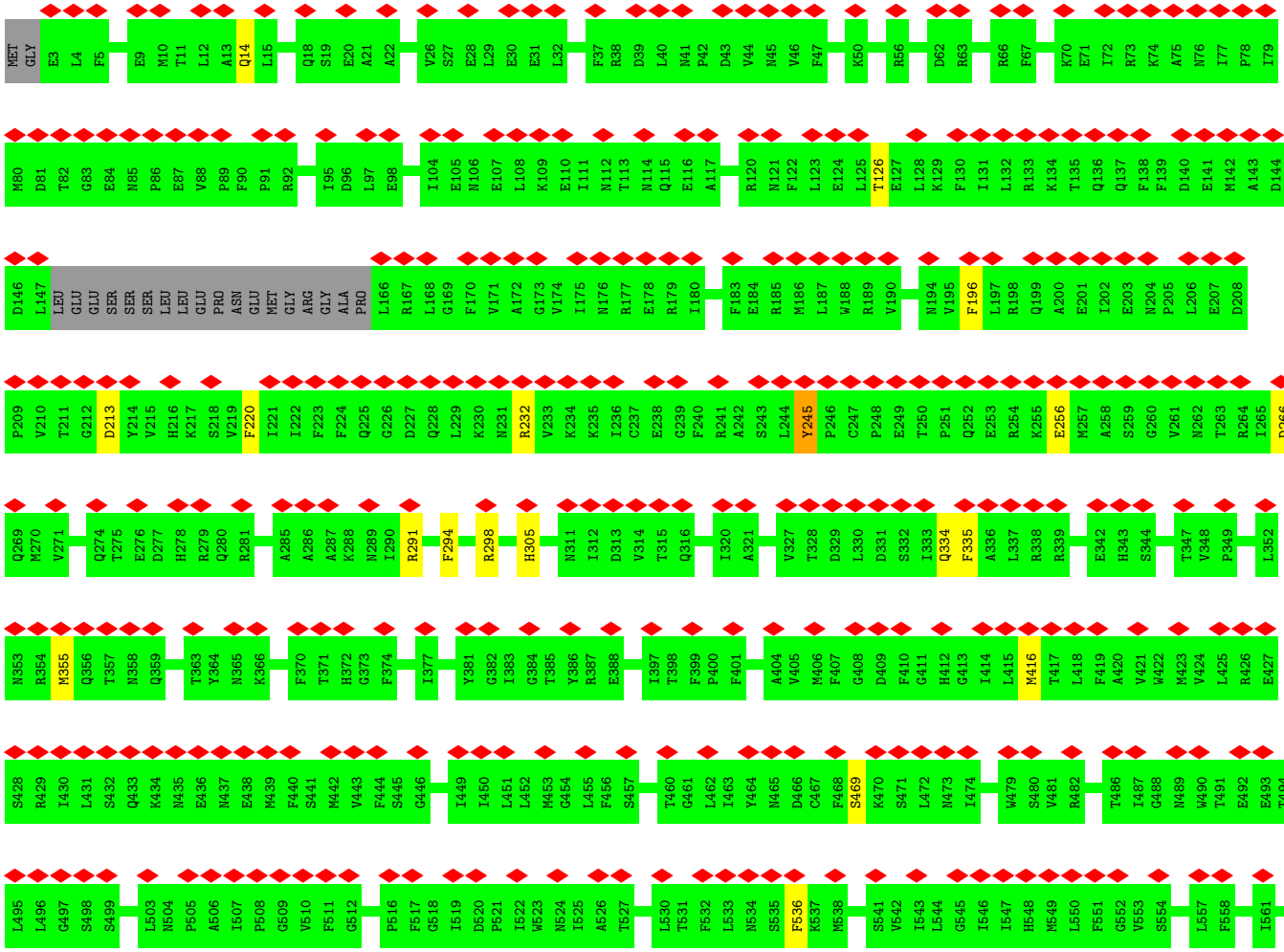


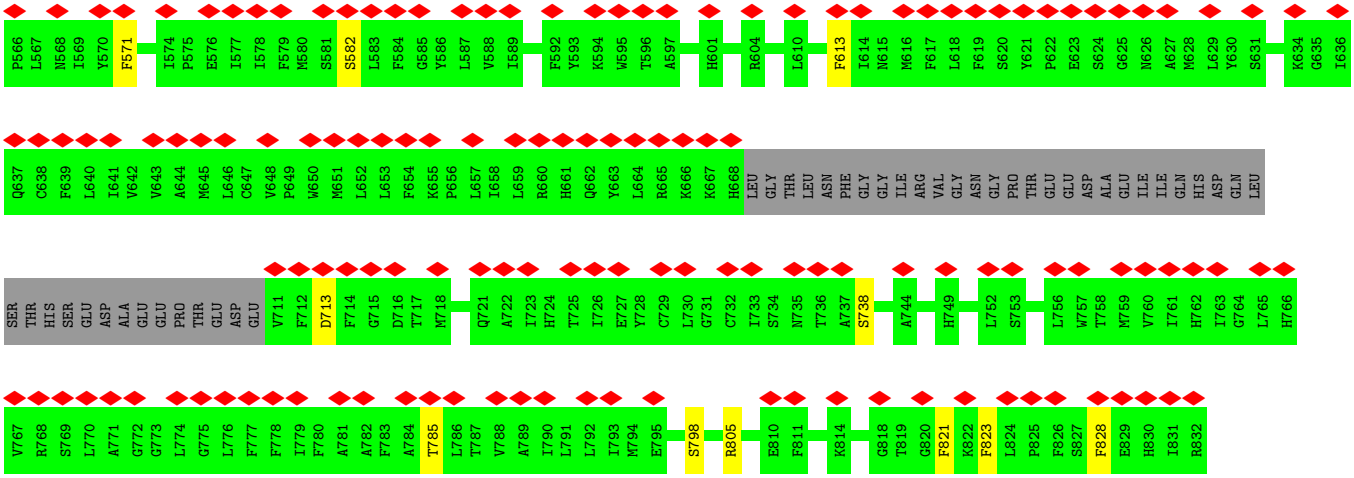


• Molecule 12: V-type proton ATPase 116 kDa subunit a 1

Chain a:

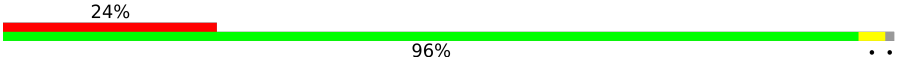


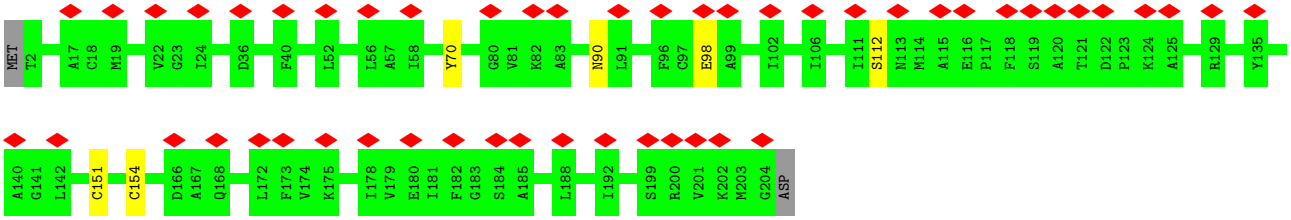




• Molecule 13: ATPase, H+ transporting, V0 subunit B (Predicted), isoform CRA_a

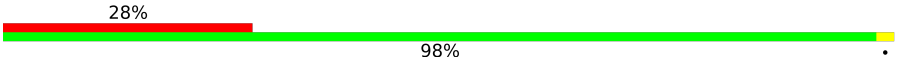
Chain b:

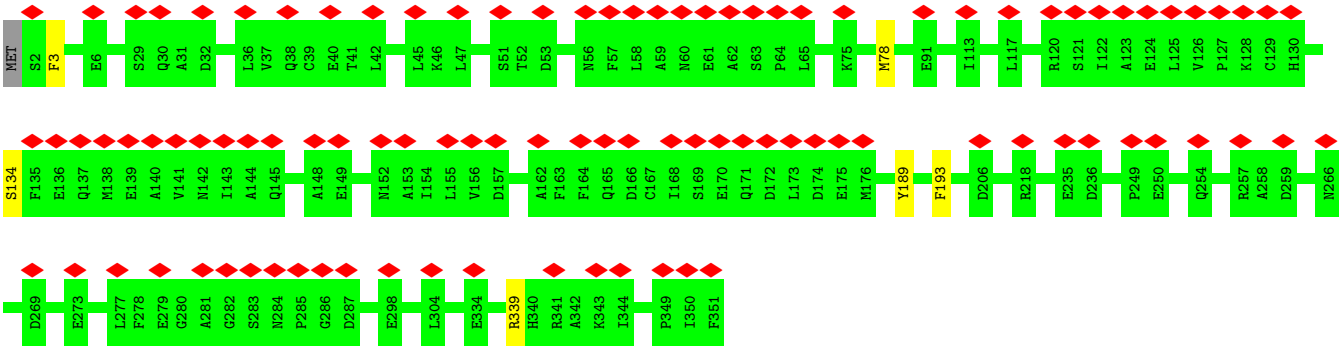




• Molecule 14: V-type proton ATPase subunit

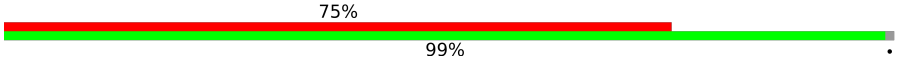
Chain d:

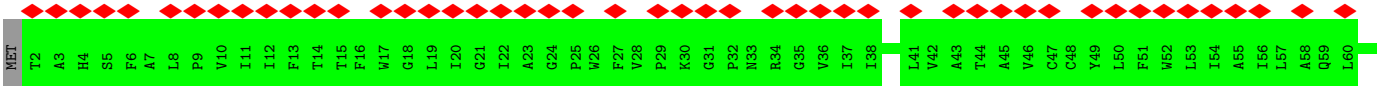


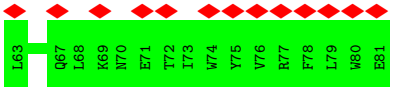


• Molecule 15: V-type proton ATPase subunit e 2

Chain e:

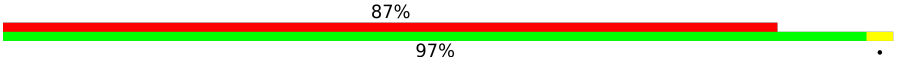


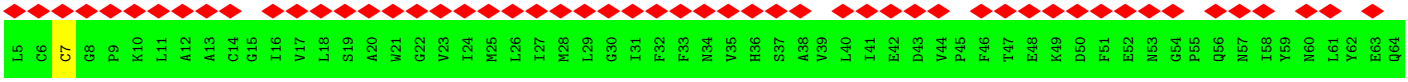


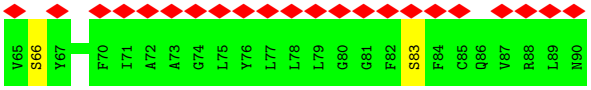


• Molecule 16: Rnasek protein

Chain f:

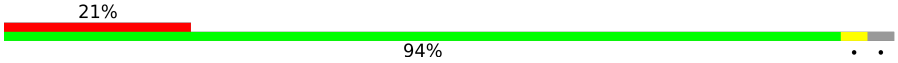


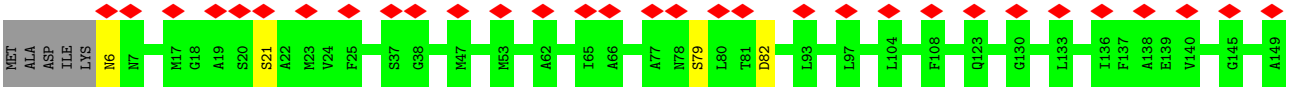




• Molecule 17: V-type proton ATPase 16 kDa proteolipid subunit

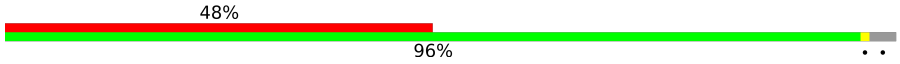
Chain g:

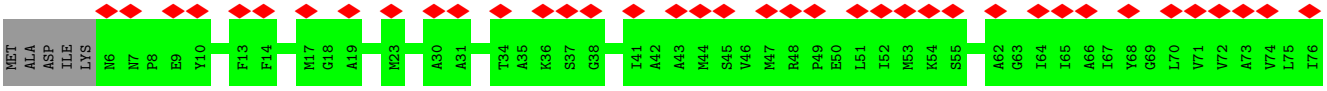


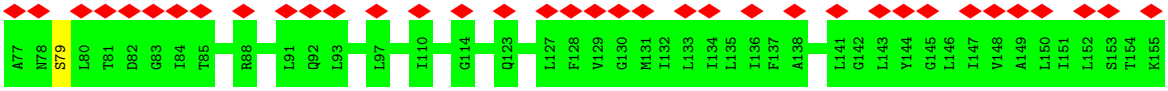


• Molecule 17: V-type proton ATPase 16 kDa proteolipid subunit

Chain h:

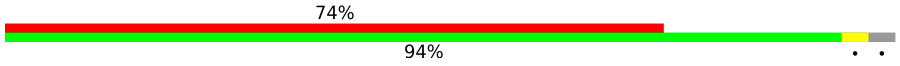


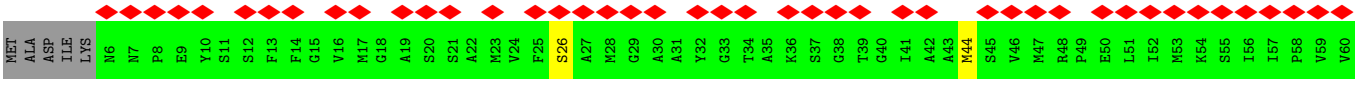


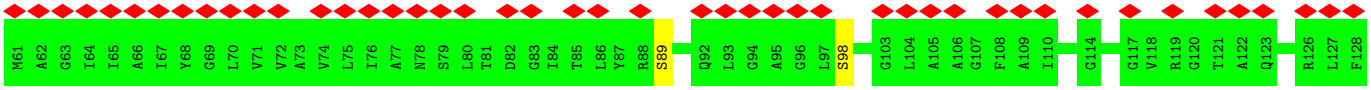


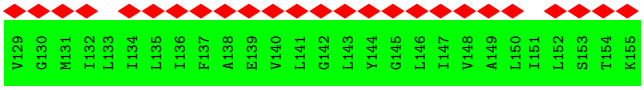
• Molecule 17: V-type proton ATPase 16 kDa proteolipid subunit

Chain i:



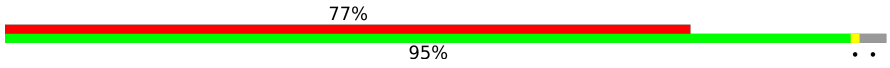


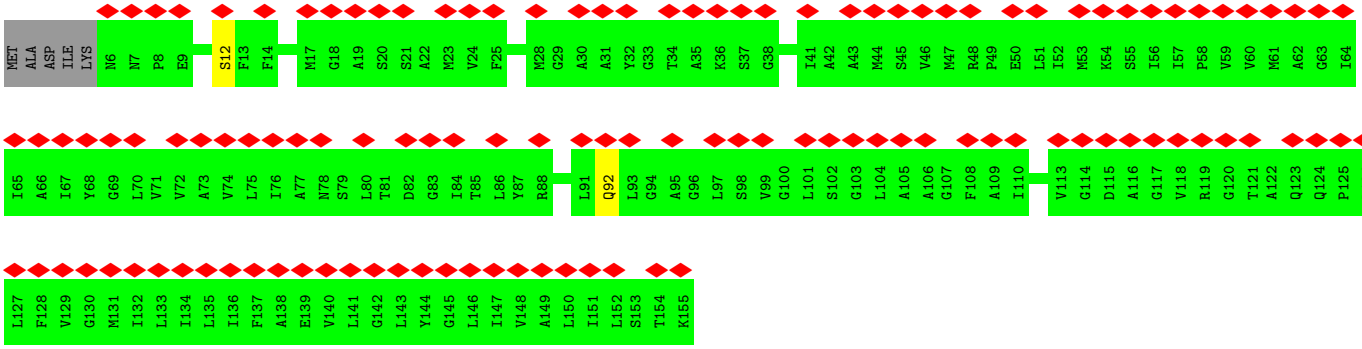




• Molecule 17: V-type proton ATPase 16 kDa proteolipid subunit

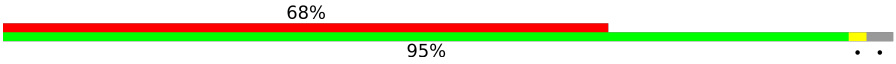
Chain j:

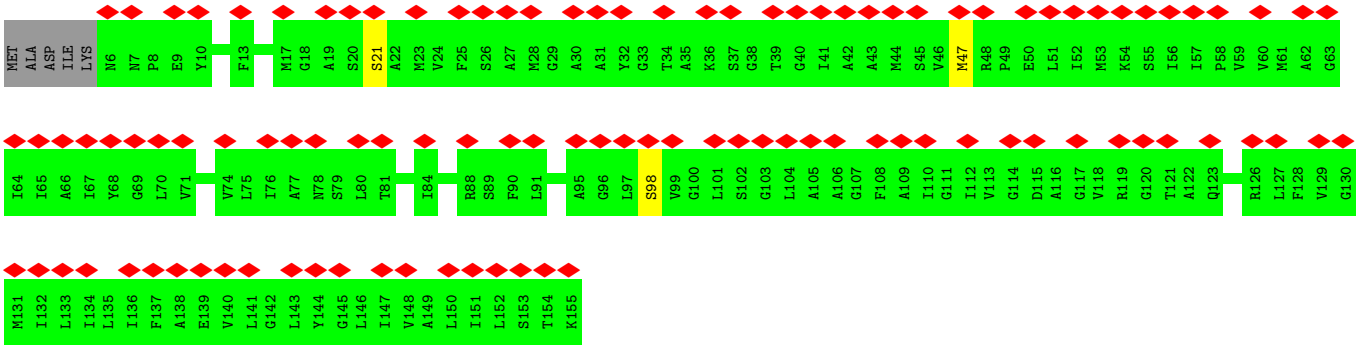




• Molecule 17: V-type proton ATPase 16 kDa proteolipid subunit

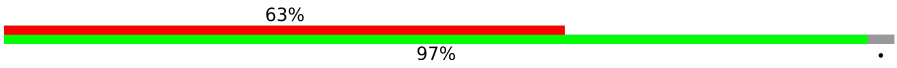
Chain k:

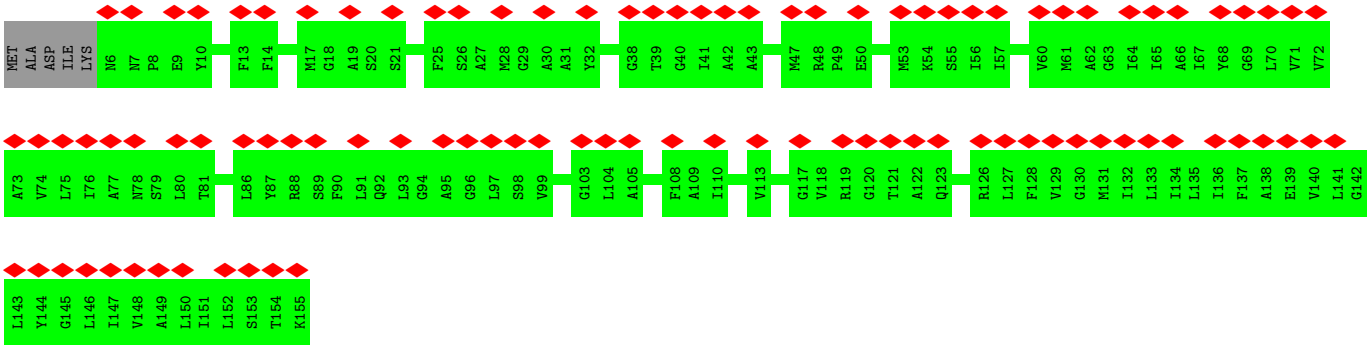




• Molecule 17: V-type proton ATPase 16 kDa proteolipid subunit

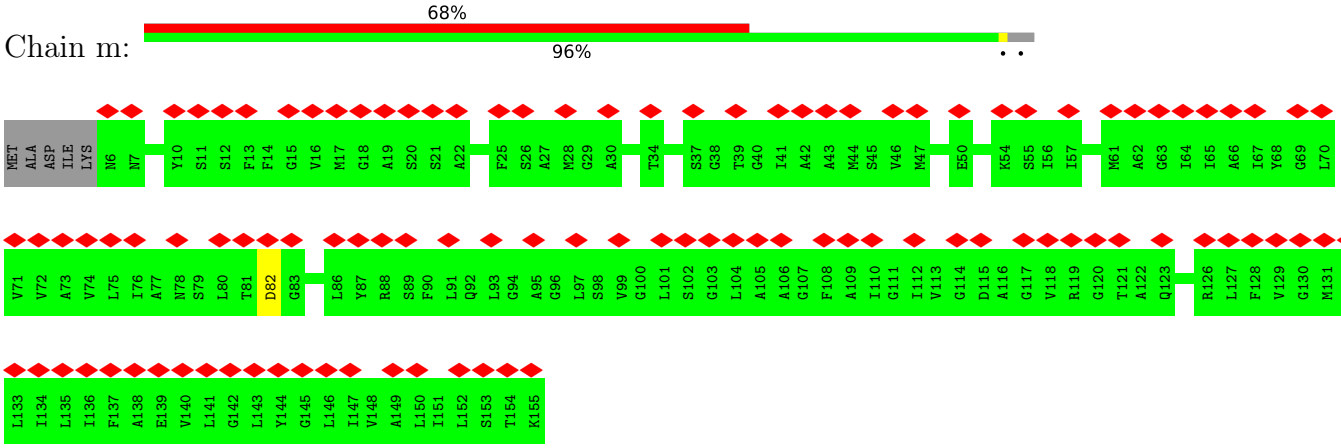
Chain l:





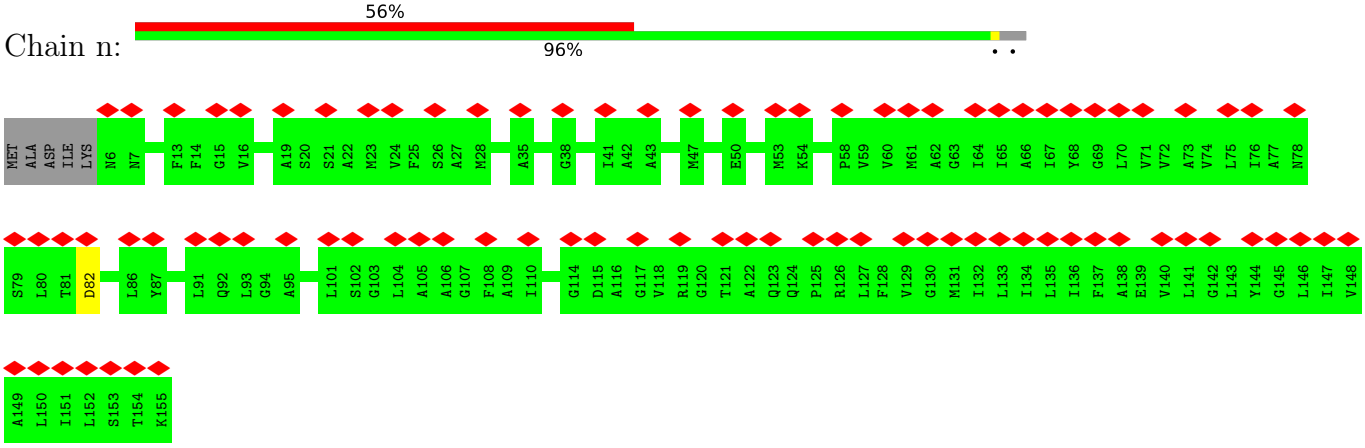
• Molecule 17: V-type proton ATPase 16 kDa proteolipid subunit

Chain m:



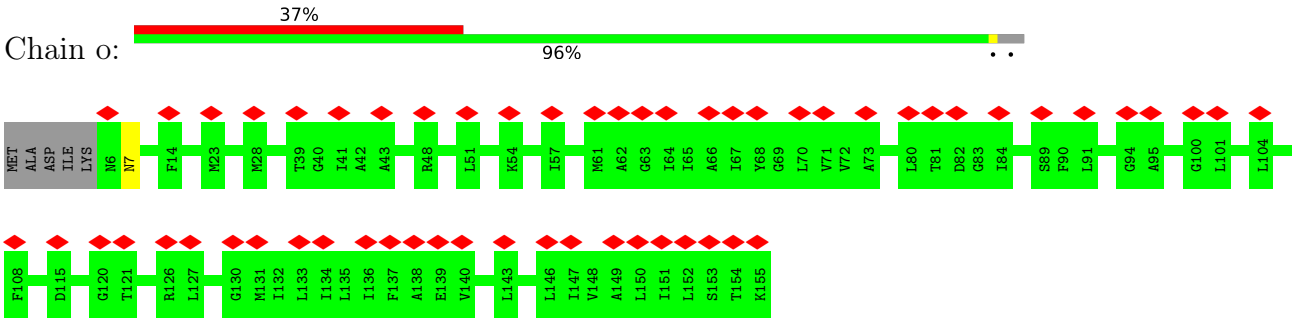
• Molecule 17: V-type proton ATPase 16 kDa proteolipid subunit

Chain n:



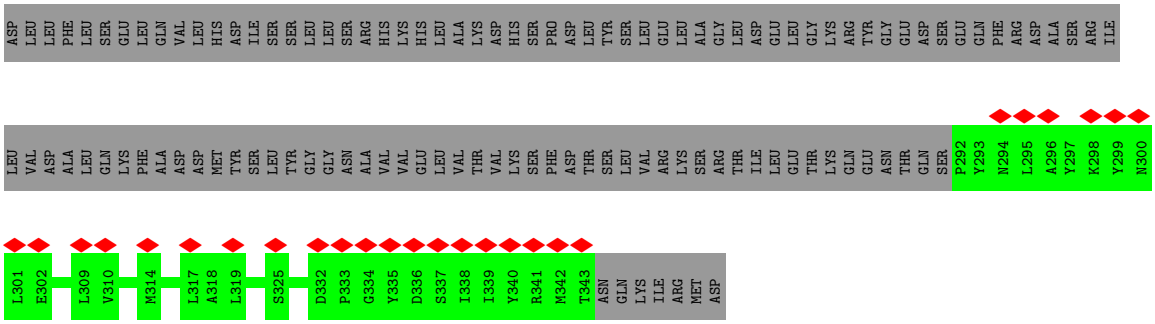
• Molecule 17: V-type proton ATPase 16 kDa proteolipid subunit

Chain o:



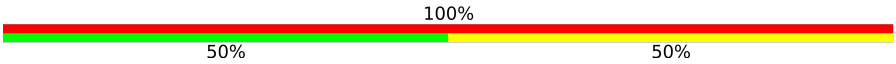
• Molecule 18: Renin receptor

Chain p:



• Molecule 19: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain V:



• Molecule 19: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

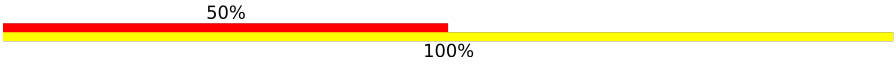
Chain W:

• Molecule 19: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain X:

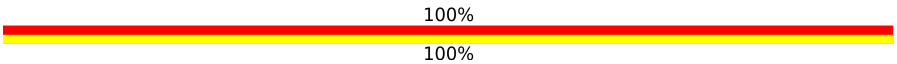
• Molecule 19: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain Y:



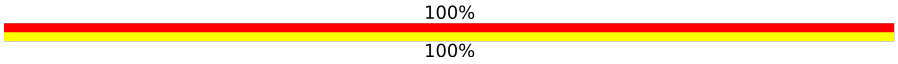
• Molecule 19: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain Z:



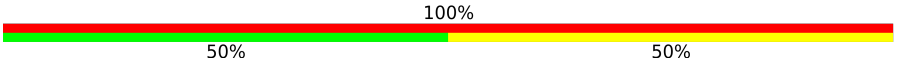
• Molecule 19: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain c:



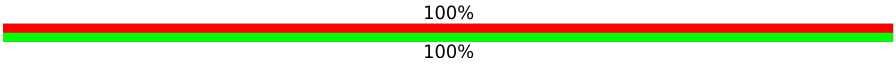
• Molecule 19: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain q:



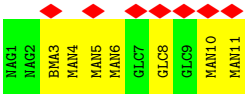
• Molecule 19: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain r:



• Molecule 20: alpha-D-glucopyranose-(1-2)-alpha-D-glucopyranose-(1-3)-alpha-D-glucopyranose-(1-3)-alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)-alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain s:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	198766	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	37.5	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	1900	Depositor
Magnification	Not provided	
Image detector	TFS FALCON 4i (4k x 4k)	Depositor
Maximum map value	1.587	Depositor
Minimum map value	-0.952	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.040	Depositor
Recommended contour level	0.185	Depositor
Map size (Å)	527.36, 527.36, 527.36	wwPDB
Map dimensions	384, 384, 384	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.3733333, 1.3733333, 1.3733333	Depositor

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: WJP, BMA, ADP, PC1, LP3, NAG, MAN, CLR, PTY, GLC

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	0/4746	0.50	0/6425
1	B	0.27	0/4746	0.49	0/6425
1	C	0.27	0/4746	0.49	0/6425
2	D	0.28	0/3666	0.50	0/4967
2	E	0.27	0/3666	0.50	0/4967
2	F	0.28	0/3666	0.50	0/4967
3	G	0.25	0/2177	0.43	0/3017
4	H	0.25	0/1744	0.51	0/2332
5	I	0.25	0/1794	0.47	0/2408
5	J	0.25	0/1796	0.48	0/2408
5	K	0.25	0/1671	0.48	0/2255
6	L	0.24	0/877	0.53	0/1183
7	M	0.26	0/850	0.56	0/1140
7	N	0.25	0/921	0.54	0/1226
7	O	0.25	0/718	0.49	0/981
8	P	0.29	0/1707	0.48	0/2324
9	Q	0.24	0/2164	0.42	0/2915
9	R	0.24	0/2189	0.43	0/2947
9	S	0.25	0/2160	0.42	0/2910
10	T	0.23	0/2134	0.36	0/2976
11	U	0.25	0/1158	0.41	0/1601
12	a	0.27	0/6367	0.49	0/8613
13	b	0.29	0/1537	0.45	0/2088
14	d	0.27	0/2899	0.46	0/3927
15	e	0.27	0/669	0.45	0/920
16	f	0.26	0/682	0.38	0/926
17	g	0.28	0/1083	0.46	0/1466
17	h	0.28	0/1083	0.46	0/1466
17	i	0.28	0/1083	0.47	0/1466
17	j	0.28	0/1083	0.46	0/1466
17	k	0.28	0/1083	0.45	0/1466
17	l	0.28	0/1083	0.45	0/1466

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
17	m	0.27	0/1083	0.46	0/1466
17	n	0.28	0/1083	0.46	0/1466
17	o	0.28	0/1083	0.48	0/1466
18	p	0.28	0/445	0.42	0/609
All	All	0.27	0/71642	0.47	0/97076

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
12	a	0	1

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
12	a	298	ARG	Sidechain

5.2 Too-close contacts (i)

Due to software issues we are unable to calculate clashes - this section is therefore empty.

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 PDB entries followed by that with respect to all EM entries.

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	598/646 (93%)	568 (95%)	30 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	B	598/646 (93%)	574 (96%)	24 (4%)	0	100	100
1	C	598/646 (93%)	574 (96%)	24 (4%)	0	100	100
2	D	455/511 (89%)	444 (98%)	11 (2%)	0	100	100
2	E	455/511 (89%)	440 (97%)	15 (3%)	0	100	100
2	F	455/511 (89%)	428 (94%)	27 (6%)	0	100	100
3	G	373/382 (98%)	352 (94%)	20 (5%)	1 (0%)	41	75
4	H	212/247 (86%)	209 (99%)	3 (1%)	0	100	100
5	I	223/226 (99%)	218 (98%)	5 (2%)	0	100	100
5	J	221/226 (98%)	217 (98%)	4 (2%)	0	100	100
5	K	222/226 (98%)	217 (98%)	5 (2%)	0	100	100
6	L	107/119 (90%)	102 (95%)	5 (5%)	0	100	100
7	M	112/118 (95%)	112 (100%)	0	0	100	100
7	N	112/118 (95%)	111 (99%)	1 (1%)	0	100	100
7	O	111/118 (94%)	108 (97%)	3 (3%)	0	100	100
8	P	202/463 (44%)	185 (92%)	17 (8%)	0	100	100
9	Q	262/573 (46%)	257 (98%)	5 (2%)	0	100	100
9	R	265/573 (46%)	258 (97%)	7 (3%)	0	100	100
9	S	261/573 (46%)	258 (99%)	3 (1%)	0	100	100
10	T	426/463 (92%)	419 (98%)	7 (2%)	0	100	100
11	U	212/307 (69%)	208 (98%)	4 (2%)	0	100	100
12	a	764/832 (92%)	725 (95%)	38 (5%)	1 (0%)	51	84
13	b	201/205 (98%)	196 (98%)	5 (2%)	0	100	100
14	d	348/351 (99%)	342 (98%)	6 (2%)	0	100	100
15	e	78/81 (96%)	74 (95%)	4 (5%)	0	100	100
16	f	84/86 (98%)	82 (98%)	2 (2%)	0	100	100
17	g	148/155 (96%)	146 (99%)	2 (1%)	0	100	100
17	h	148/155 (96%)	147 (99%)	1 (1%)	0	100	100
17	i	148/155 (96%)	147 (99%)	1 (1%)	0	100	100
17	j	148/155 (96%)	148 (100%)	0	0	100	100
17	k	148/155 (96%)	147 (99%)	1 (1%)	0	100	100
17	l	148/155 (96%)	148 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
17	m	148/155 (96%)	148 (100%)	0	0	100	100
17	n	148/155 (96%)	147 (99%)	1 (1%)	0	100	100
17	o	148/155 (96%)	148 (100%)	0	0	100	100
18	p	50/350 (14%)	49 (98%)	1 (2%)	0	100	100
All	All	9337/11503 (81%)	9053 (97%)	282 (3%)	2 (0%)	100	100

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	G	189	VAL
12	a	245	TYR

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 PDB entries followed by that with respect to all EM entries.

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	507/545 (93%)	495 (98%)	12 (2%)	49	76
1	B	507/545 (93%)	498 (98%)	9 (2%)	59	81
1	C	507/545 (93%)	497 (98%)	10 (2%)	55	79
2	D	393/431 (91%)	383 (98%)	10 (2%)	47	75
2	E	393/431 (91%)	389 (99%)	4 (1%)	76	88
2	F	393/431 (91%)	388 (99%)	5 (1%)	69	86
3	G	77/344 (22%)	70 (91%)	7 (9%)	9	36
4	H	185/212 (87%)	183 (99%)	2 (1%)	73	88
5	I	184/198 (93%)	181 (98%)	3 (2%)	62	83
5	J	187/198 (94%)	181 (97%)	6 (3%)	39	69
5	K	154/198 (78%)	152 (99%)	2 (1%)	69	86
6	L	93/100 (93%)	92 (99%)	1 (1%)	73	88
7	M	72/100 (72%)	68 (94%)	4 (6%)	21	54
7	N	93/100 (93%)	86 (92%)	7 (8%)	13	43

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
7	O	45/100 (45%)	44 (98%)	1 (2%)	52 78
8	P	182/395 (46%)	172 (94%)	10 (6%)	21 54
9	Q	241/519 (46%)	234 (97%)	7 (3%)	42 71
9	R	244/519 (47%)	239 (98%)	5 (2%)	55 79
9	S	241/519 (46%)	239 (99%)	2 (1%)	81 91
11	U	24/241 (10%)	23 (96%)	1 (4%)	30 63
12	a	667/738 (90%)	638 (96%)	29 (4%)	29 62
13	b	156/158 (99%)	150 (96%)	6 (4%)	33 65
14	d	305/306 (100%)	299 (98%)	6 (2%)	55 79
15	e	67/68 (98%)	67 (100%)	0	100 100
16	f	72/72 (100%)	69 (96%)	3 (4%)	30 63
17	g	109/113 (96%)	105 (96%)	4 (4%)	34 65
17	h	109/113 (96%)	108 (99%)	1 (1%)	78 90
17	i	109/113 (96%)	105 (96%)	4 (4%)	34 65
17	j	109/113 (96%)	107 (98%)	2 (2%)	59 81
17	k	109/113 (96%)	106 (97%)	3 (3%)	43 72
17	l	109/113 (96%)	109 (100%)	0	100 100
17	m	109/113 (96%)	108 (99%)	1 (1%)	78 90
17	n	109/113 (96%)	108 (99%)	1 (1%)	78 90
17	o	109/113 (96%)	108 (99%)	1 (1%)	78 90
18	p	47/313 (15%)	47 (100%)	0	100 100
All	All	7017/9343 (75%)	6848 (98%)	169 (2%)	51 76

All (169) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	60	ASP
1	A	63	THR
1	A	167	MET
1	A	194	LEU
1	A	199	VAL
1	A	270	ASP
1	A	286	GLU
1	A	372	SER
1	A	400	ARG

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Mol	Chain	Res	Type
1	A	467	LYS
1	A	553	ARG
1	A	614	SER
1	B	18	PHE
1	B	80	LEU
1	B	205	MET
1	B	296	MET
1	B	350	SER
1	B	405	SER
1	B	526	THR
1	B	568	SER
1	B	583	SER
1	C	68	GLU
1	C	377	TYR
1	C	384	SER
1	C	419	ASP
1	C	436	ASP
1	C	462	ASP
1	C	481	GLU
1	C	511	VAL
1	C	529	ASP
1	C	542	SER
2	D	54	ASN
2	D	61	ASP
2	D	112	CYS
2	D	162	CYS
2	D	234	MET
2	D	299	ASP
2	D	311	SER
2	D	360	ASP
2	D	410	MET
2	D	435	MET
2	E	39	TYR
2	E	51	SER
2	E	97	GLN
2	E	380	ASP
2	F	83	SER
2	F	161	GLN
2	F	215	LYS
2	F	246	SER
2	F	299	ASP
3	G	38	PHE

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Mol	Chain	Res	Type
3	G	49	ASP
3	G	55	SER
3	G	60	LYS
3	G	106	GLN
3	G	301	ARG
3	G	307	VAL
4	H	68	SER
4	H	112	TYR
5	I	38	PHE
5	I	46	VAL
5	I	90	LEU
5	J	15	MET
5	J	31	ASP
5	J	39	ASN
5	J	42	LYS
5	J	56	TYR
5	J	198	SER
5	K	55	GLU
5	K	56	TYR
6	L	21	LEU
7	M	32	ARG
7	M	35	GLN
7	M	85	GLN
7	M	109	GLN
7	N	32	ARG
7	N	51	ARG
7	N	56	GLN
7	N	57	SER
7	N	68	ASN
7	N	85	GLN
7	N	87	SER
7	O	102	MET
8	P	274	ASP
8	P	298	ASP
8	P	321	LEU
8	P	323	SER
8	P	334	PHE
8	P	344	ASN
8	P	376	SER
8	P	411	CYS
8	P	420	TRP
8	P	442	SER

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Mol	Chain	Res	Type
9	Q	69	SER
9	Q	74	CYS
9	Q	99	SER
9	Q	124	SER
9	Q	203	TYR
9	Q	217	LEU
9	Q	254	VAL
9	R	104	LYS
9	R	112	TYR
9	R	146	THR
9	R	156	THR
9	R	205	LYS
9	S	74	CYS
9	S	210	GLU
11	U	96	SER
12	a	14	GLN
12	a	126	THR
12	a	196	PHE
12	a	213	ASP
12	a	220	PHE
12	a	232	ARG
12	a	245	TYR
12	a	256	GLU
12	a	266	ASP
12	a	291	ARG
12	a	294	PHE
12	a	305	HIS
12	a	334	GLN
12	a	335	PHE
12	a	355	MET
12	a	416	MET
12	a	469	SER
12	a	536	PHE
12	a	571	PHE
12	a	582	SER
12	a	613	PHE
12	a	713	ASP
12	a	738	SER
12	a	785	THR
12	a	798	SER
12	a	805	ARG
12	a	821	PHE

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Mol	Chain	Res	Type
12	a	823	PHE
12	a	828	PHE
13	b	70	TYR
13	b	90	ASN
13	b	98	GLU
13	b	112	SER
13	b	151	CYS
13	b	154	CYS
14	d	3	PHE
14	d	78	MET
14	d	134	SER
14	d	189	TYR
14	d	193	PHE
14	d	339	ARG
16	f	7	CYS
16	f	66	SER
16	f	83	SER
17	g	6	ASN
17	g	21	SER
17	g	79	SER
17	g	82	ASP
17	h	79	SER
17	i	26	SER
17	i	44	MET
17	i	89	SER
17	i	98	SER
17	j	12	SER
17	j	92	GLN
17	k	21	SER
17	k	47	MET
17	k	98	SER
17	m	82	ASP
17	n	82	ASP
17	o	7	ASN

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

Mol	Chain	Res	Type
7	O	98	GLN
9	Q	17	GLN
12	a	14	GLN
12	a	353	ASN

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

27 monosaccharides 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	$\#\|Z\| > 2$
19	NAG	V	1	19	14,14,15	0.75	0	17,19,21	1.11	1 (5%)
19	NAG	V	2	19	14,14,15	0.71	0	17,19,21	0.88	0
19	NAG	W	1	8,19	14,14,15	0.71	0	17,19,21	1.21	1 (5%)
19	NAG	W	2	19	14,14,15	0.78	0	17,19,21	1.01	1 (5%)
19	NAG	X	1	8,19	14,14,15	0.60	0	17,19,21	1.16	2 (11%)
19	NAG	X	2	19	14,14,15	0.80	0	17,19,21	0.80	0
19	NAG	Y	1	8,19	14,14,15	0.82	0	17,19,21	1.58	4 (23%)
19	NAG	Y	2	19	14,14,15	0.71	0	17,19,21	1.04	1 (5%)
19	NAG	Z	1	8,19	14,14,15	0.75	0	17,19,21	1.34	2 (11%)
19	NAG	Z	2	19	14,14,15	0.72	0	17,19,21	1.33	2 (11%)
19	NAG	c	1	19	14,14,15	0.73	0	17,19,21	1.37	1 (5%)
19	NAG	c	2	19	14,14,15	0.68	0	17,19,21	1.11	1 (5%)
19	NAG	q	1	8,19	14,14,15	0.76	0	17,19,21	0.81	0
19	NAG	q	2	19	14,14,15	0.72	0	17,19,21	1.15	1 (5%)
19	NAG	r	1	19	14,14,15	0.76	0	17,19,21	0.76	0
19	NAG	r	2	19	14,14,15	0.71	0	17,19,21	0.86	0
20	NAG	s	1	20	14,14,15	0.79	0	17,19,21	0.83	0
20	MAN	s	10	20	11,11,12	0.71	0	15,15,17	1.20	1 (6%)
20	MAN	s	11	20	11,11,12	0.77	0	15,15,17	0.96	1 (6%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
20	NAG	s	2	20	14,14,15	0.76	0	17,19,21	0.81	0
20	BMA	s	3	20	11,11,12	0.80	0	15,15,17	2.18	3 (20%)
20	MAN	s	4	20	11,11,12	0.71	0	15,15,17	1.38	1 (6%)
20	MAN	s	5	20	11,11,12	0.75	0	15,15,17	1.29	1 (6%)
20	MAN	s	6	20	11,11,12	0.88	1 (9%)	15,15,17	0.97	0
20	GLC	s	7	20	11,11,12	0.66	0	15,15,17	0.61	0
20	GLC	s	8	20	11,11,12	0.62	0	15,15,17	0.97	1 (6%)
20	GLC	s	9	20	11,11,12	0.62	0	15,15,17	0.81	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
19	NAG	V	1	19	-	2/6/23/26	0/1/1/1
19	NAG	V	2	19	-	0/6/23/26	0/1/1/1
19	NAG	W	1	8,19	-	0/6/23/26	0/1/1/1
19	NAG	W	2	19	-	0/6/23/26	0/1/1/1
19	NAG	X	1	8,19	-	0/6/23/26	0/1/1/1
19	NAG	X	2	19	-	0/6/23/26	0/1/1/1
19	NAG	Y	1	8,19	-	0/6/23/26	0/1/1/1
19	NAG	Y	2	19	-	1/6/23/26	0/1/1/1
19	NAG	Z	1	8,19	-	2/6/23/26	0/1/1/1
19	NAG	Z	2	19	-	1/6/23/26	0/1/1/1
19	NAG	c	1	19	-	2/6/23/26	0/1/1/1
19	NAG	c	2	19	-	2/6/23/26	0/1/1/1
19	NAG	q	1	8,19	-	1/6/23/26	0/1/1/1
19	NAG	q	2	19	-	2/6/23/26	0/1/1/1
19	NAG	r	1	19	-	2/6/23/26	0/1/1/1
19	NAG	r	2	19	-	0/6/23/26	0/1/1/1
20	NAG	s	1	20	-	0/6/23/26	0/1/1/1
20	MAN	s	10	20	-	0/2/19/22	0/1/1/1
20	MAN	s	11	20	-	0/2/19/22	0/1/1/1
20	NAG	s	2	20	-	2/6/23/26	0/1/1/1
20	BMA	s	3	20	-	1/2/19/22	0/1/1/1
20	MAN	s	4	20	-	2/2/19/22	0/1/1/1
20	MAN	s	5	20	-	2/2/19/22	0/1/1/1
20	MAN	s	6	20	-	0/2/19/22	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
20	GLC	s	7	20	-	1/2/19/22	0/1/1/1
20	GLC	s	8	20	-	0/2/19/22	0/1/1/1
20	GLC	s	9	20	-	0/2/19/22	0/1/1/1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
20	s	6	MAN	O5-C1	-2.32	1.40	1.43

All (25) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
20	s	3	BMA	C1-O5-C5	6.25	120.66	112.19
20	s	4	MAN	C1-O5-C5	4.08	117.72	112.19
19	c	1	NAG	C2-N2-C7	3.92	128.49	122.90
19	Y	1	NAG	C1-O5-C5	3.80	117.34	112.19
19	Z	1	NAG	C2-N2-C7	3.54	127.95	122.90
19	Z	2	NAG	C2-N2-C7	3.51	127.90	122.90
20	s	5	MAN	C1-O5-C5	3.45	116.86	112.19
20	s	10	MAN	C1-O5-C5	3.43	116.84	112.19
19	q	2	NAG	C2-N2-C7	3.34	127.66	122.90
19	c	2	NAG	C2-N2-C7	3.19	127.44	122.90
20	s	3	BMA	C3-C4-C5	3.08	115.73	110.24
19	V	1	NAG	C2-N2-C7	3.04	127.24	122.90
19	X	1	NAG	O4-C4-C3	-2.94	103.56	110.35
19	Y	2	NAG	O5-C1-C2	-2.90	106.71	111.29
19	W	1	NAG	O4-C4-C3	-2.82	103.83	110.35
19	W	2	NAG	O5-C1-C2	-2.60	107.19	111.29
19	Y	1	NAG	C3-C4-C5	-2.45	105.87	110.24
20	s	8	GLC	O5-C1-C2	-2.43	107.02	110.77
19	Z	2	NAG	O5-C1-C2	-2.39	107.52	111.29
20	s	3	BMA	O4-C4-C3	-2.39	104.83	110.35
19	X	1	NAG	O5-C1-C2	-2.33	107.62	111.29
19	Z	1	NAG	O4-C4-C3	-2.31	105.00	110.35
19	Y	1	NAG	O5-C1-C2	2.27	114.88	111.29
20	s	11	MAN	C1-O5-C5	2.12	115.06	112.19
19	Y	1	NAG	O4-C4-C5	2.12	114.56	109.30

There are no chirality outliers.

All (23) torsion outliers are listed below:

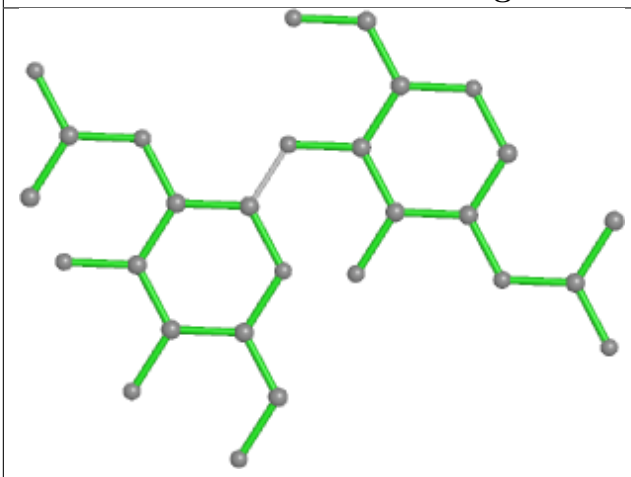
Mol	Chain	Res	Type	Atoms
19	V	1	NAG	C1-C2-N2-C7
19	Z	2	NAG	C3-C2-N2-C7
19	r	1	NAG	C3-C2-N2-C7
20	s	5	MAN	O5-C5-C6-O6
20	s	2	NAG	O5-C5-C6-O6
20	s	4	MAN	O5-C5-C6-O6
20	s	5	MAN	C4-C5-C6-O6
20	s	2	NAG	C4-C5-C6-O6
19	Z	1	NAG	C8-C7-N2-C2
19	Z	1	NAG	O7-C7-N2-C2
19	c	1	NAG	C8-C7-N2-C2
19	c	1	NAG	O7-C7-N2-C2
19	c	2	NAG	C8-C7-N2-C2
19	c	2	NAG	O7-C7-N2-C2
19	q	2	NAG	C8-C7-N2-C2
19	q	2	NAG	O7-C7-N2-C2
20	s	4	MAN	C4-C5-C6-O6
19	q	1	NAG	C1-C2-N2-C7
19	Y	2	NAG	C1-C2-N2-C7
19	V	1	NAG	O5-C5-C6-O6
20	s	7	GLC	O5-C5-C6-O6
19	r	1	NAG	C1-C2-N2-C7
20	s	3	BMA	O5-C5-C6-O6

There are no ring outliers.

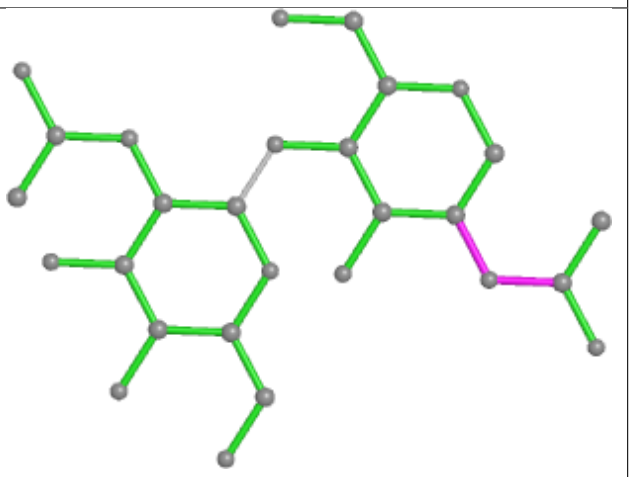
No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.

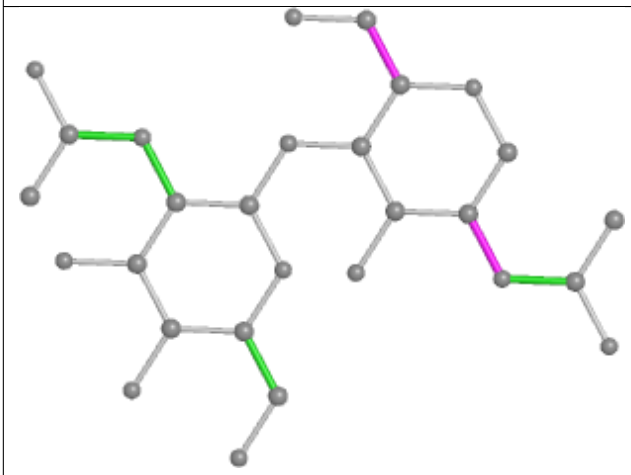
Oligosaccharide Chain V



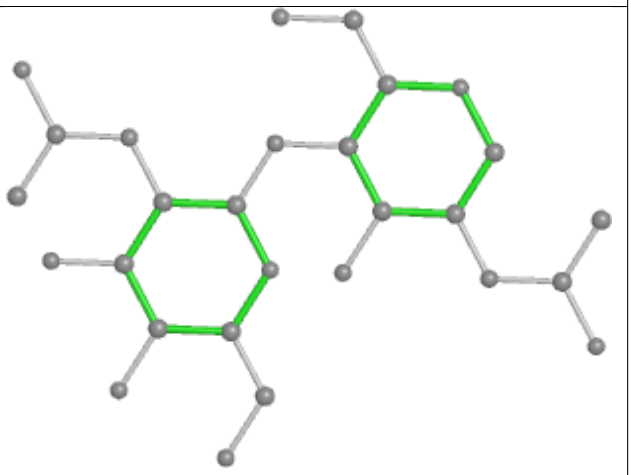
Bond lengths



Bond angles

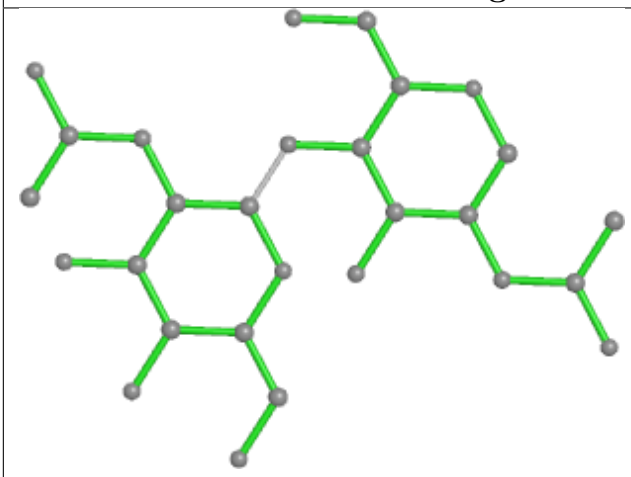


Torsions

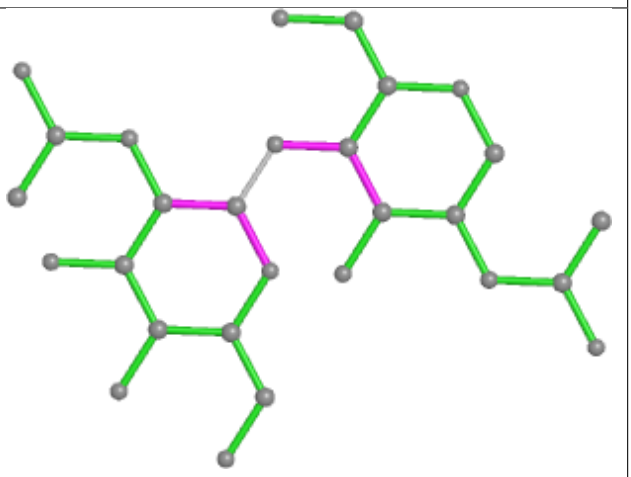


Rings

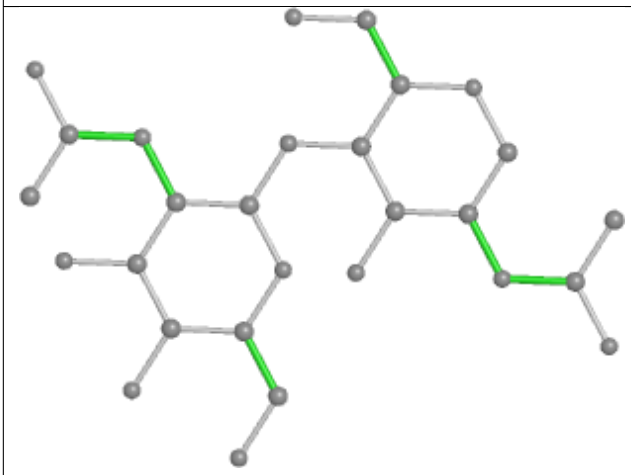
Oligosaccharide Chain W



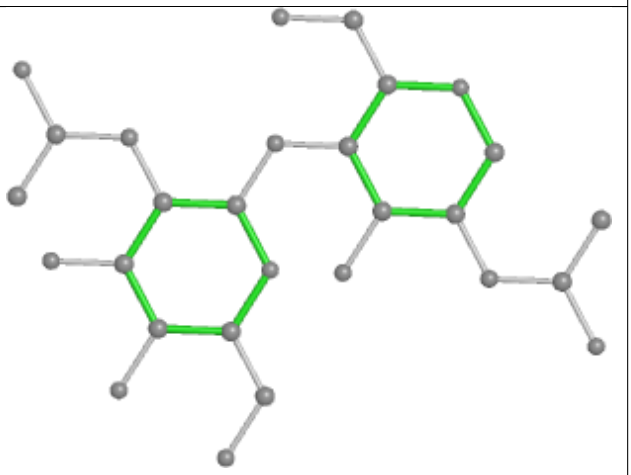
Bond lengths



Bond angles

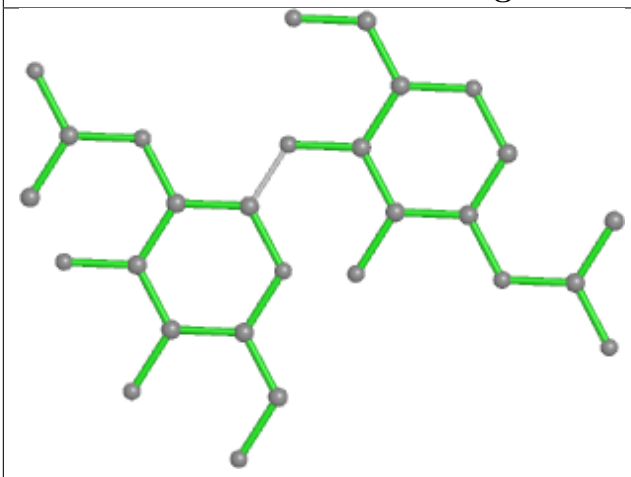


Torsions

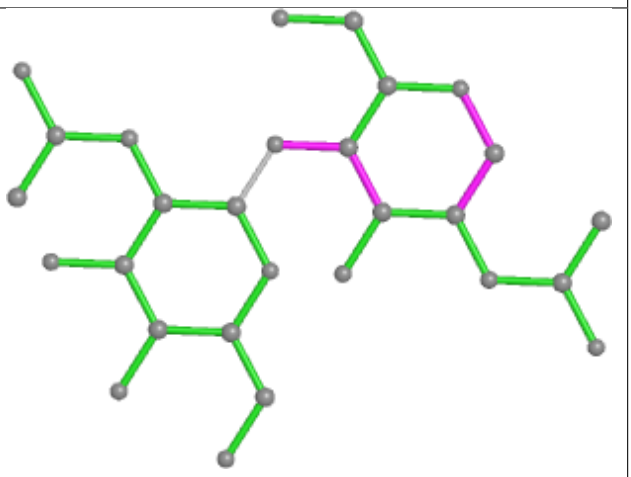


Rings

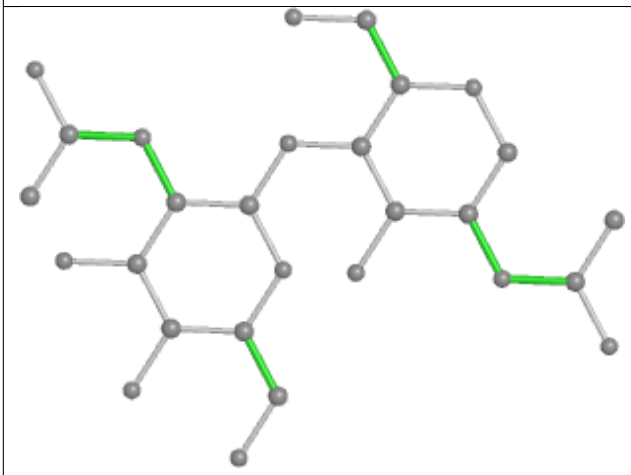
Oligosaccharide Chain X



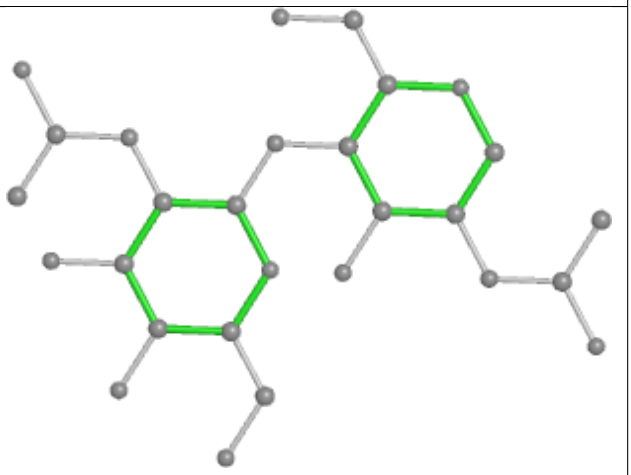
Bond lengths



Bond angles

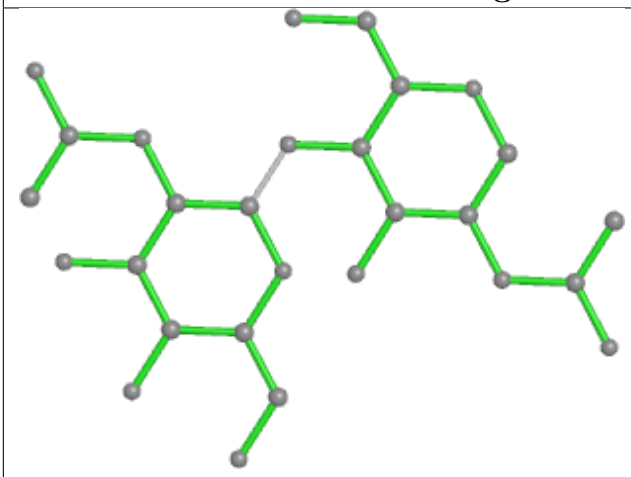


Torsions

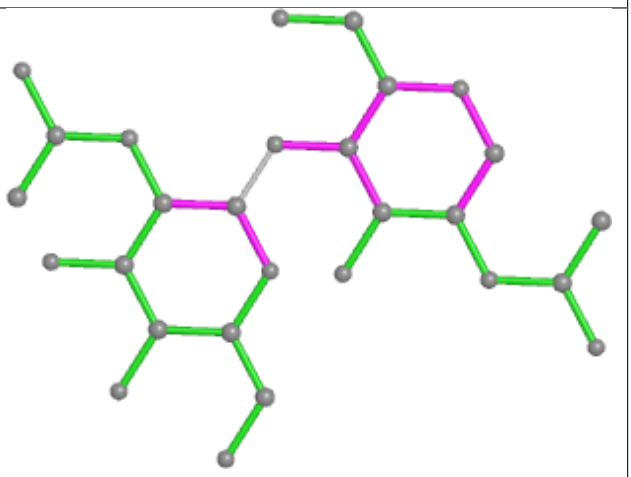


Rings

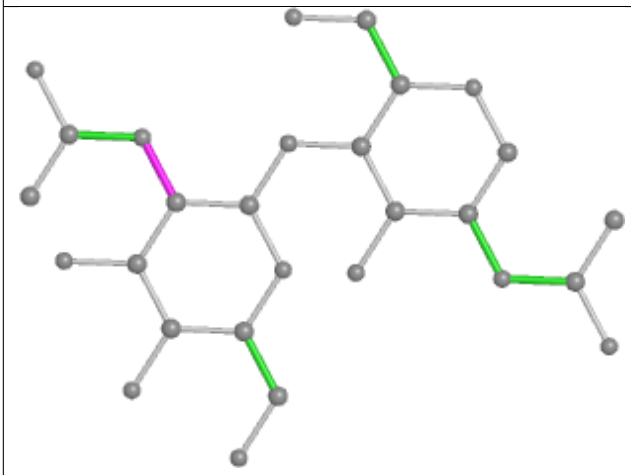
Oligosaccharide Chain Y



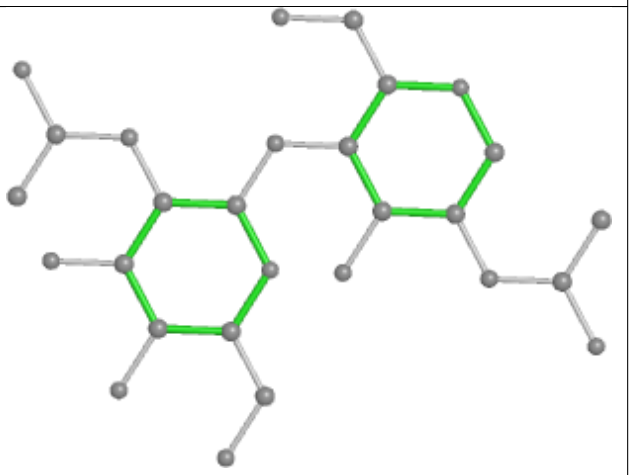
Bond lengths



Bond angles

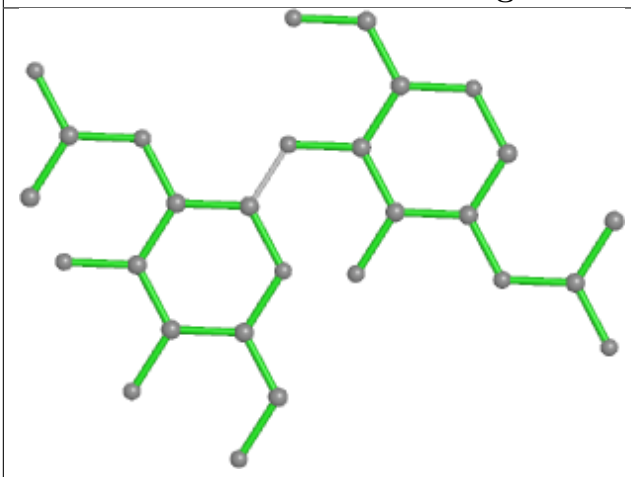


Torsions

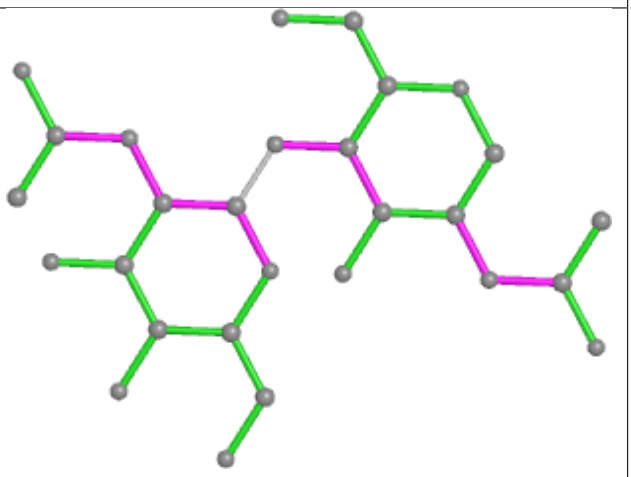


Rings

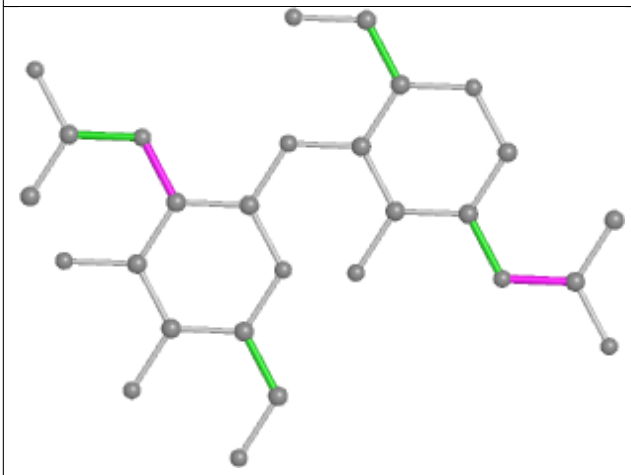
Oligosaccharide Chain Z



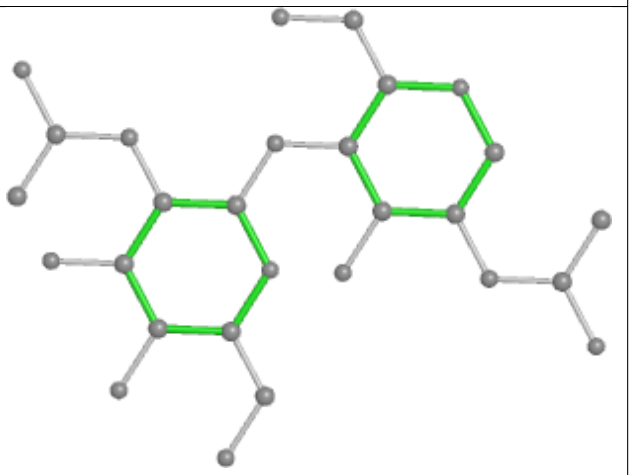
Bond lengths



Bond angles

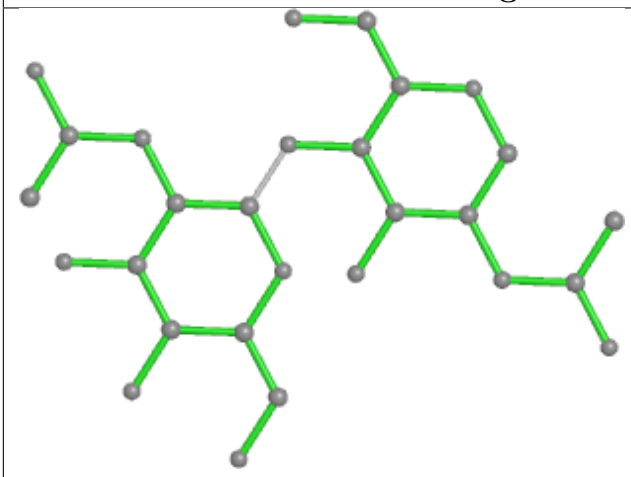


Torsions

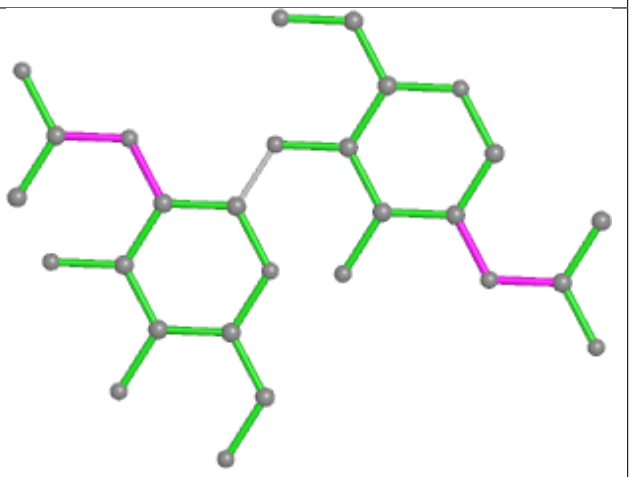


Rings

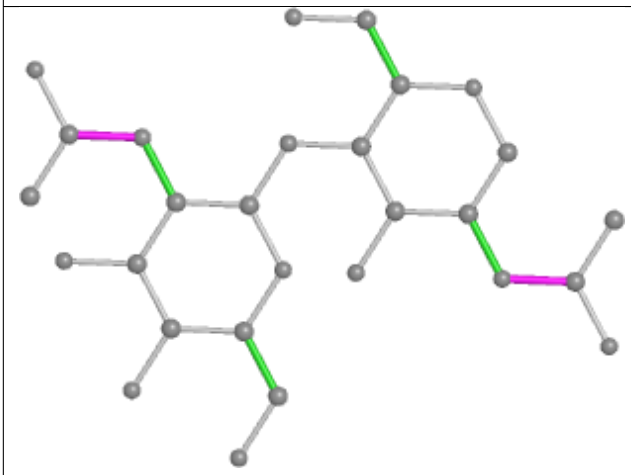
Oligosaccharide Chain c



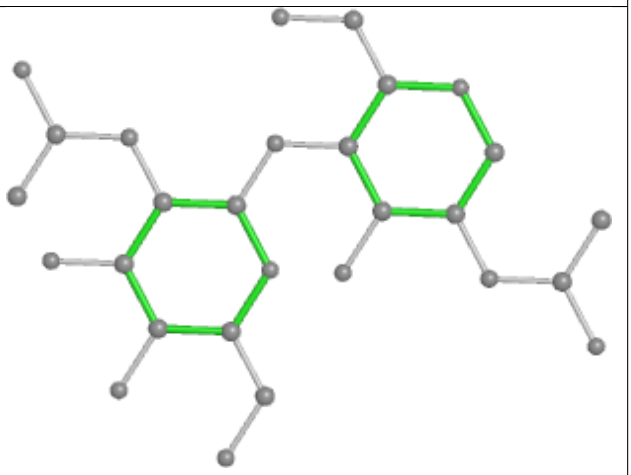
Bond lengths



Bond angles

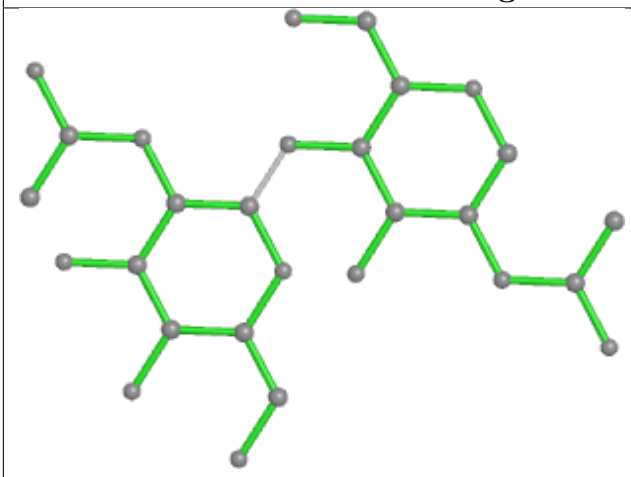


Torsions

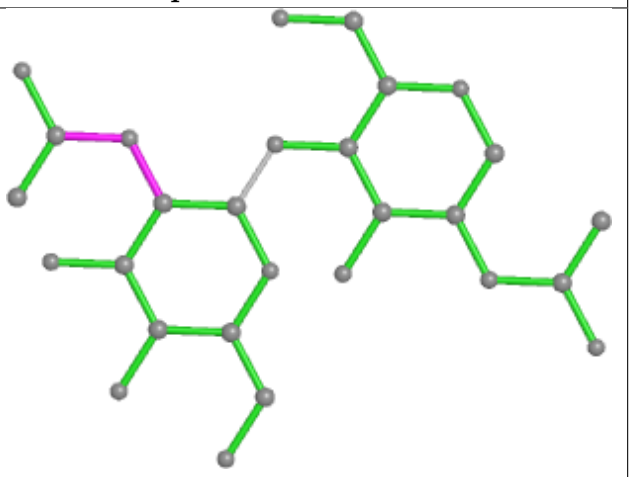


Rings

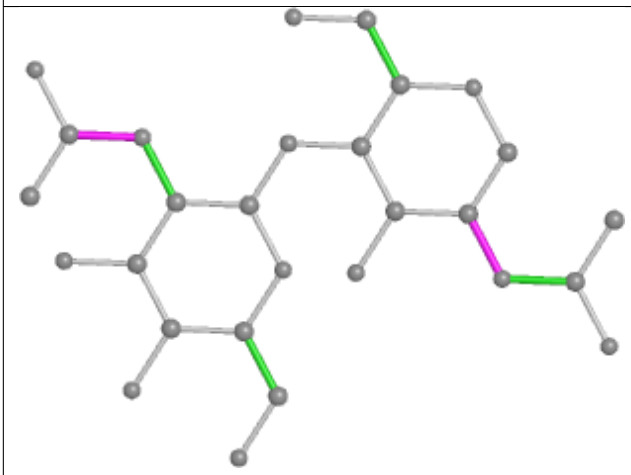
Oligosaccharide Chain q



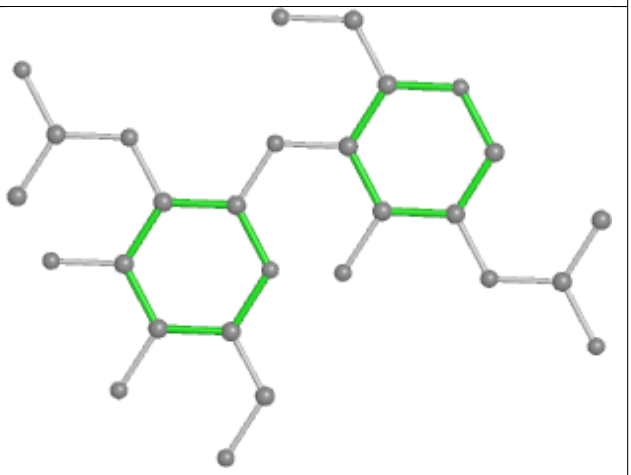
Bond lengths



Bond angles

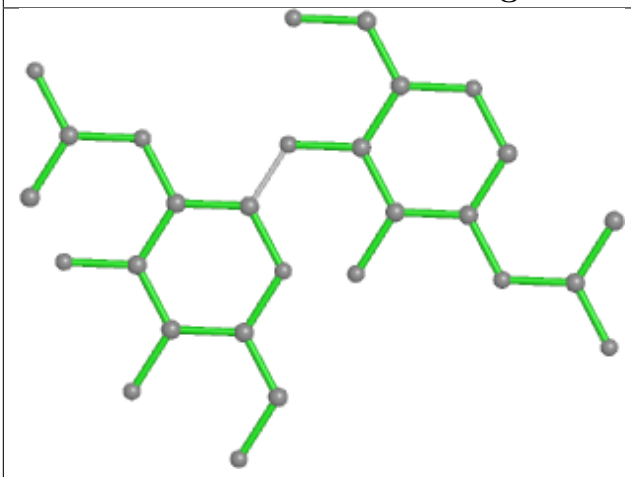


Torsions

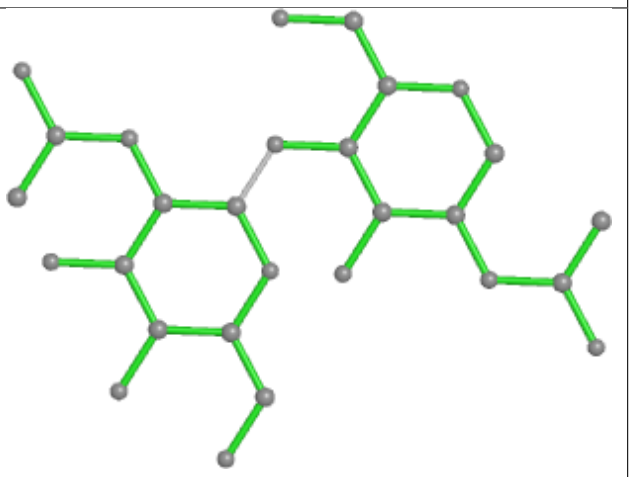


Rings

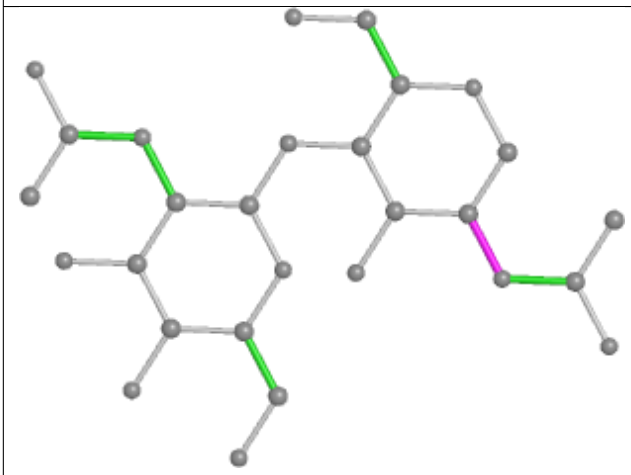
Oligosaccharide Chain r



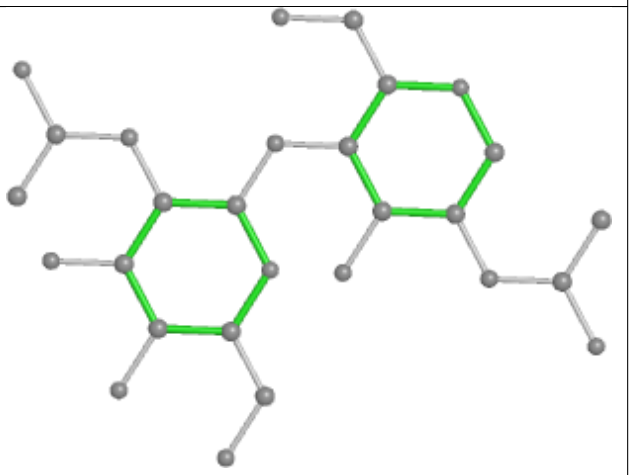
Bond lengths



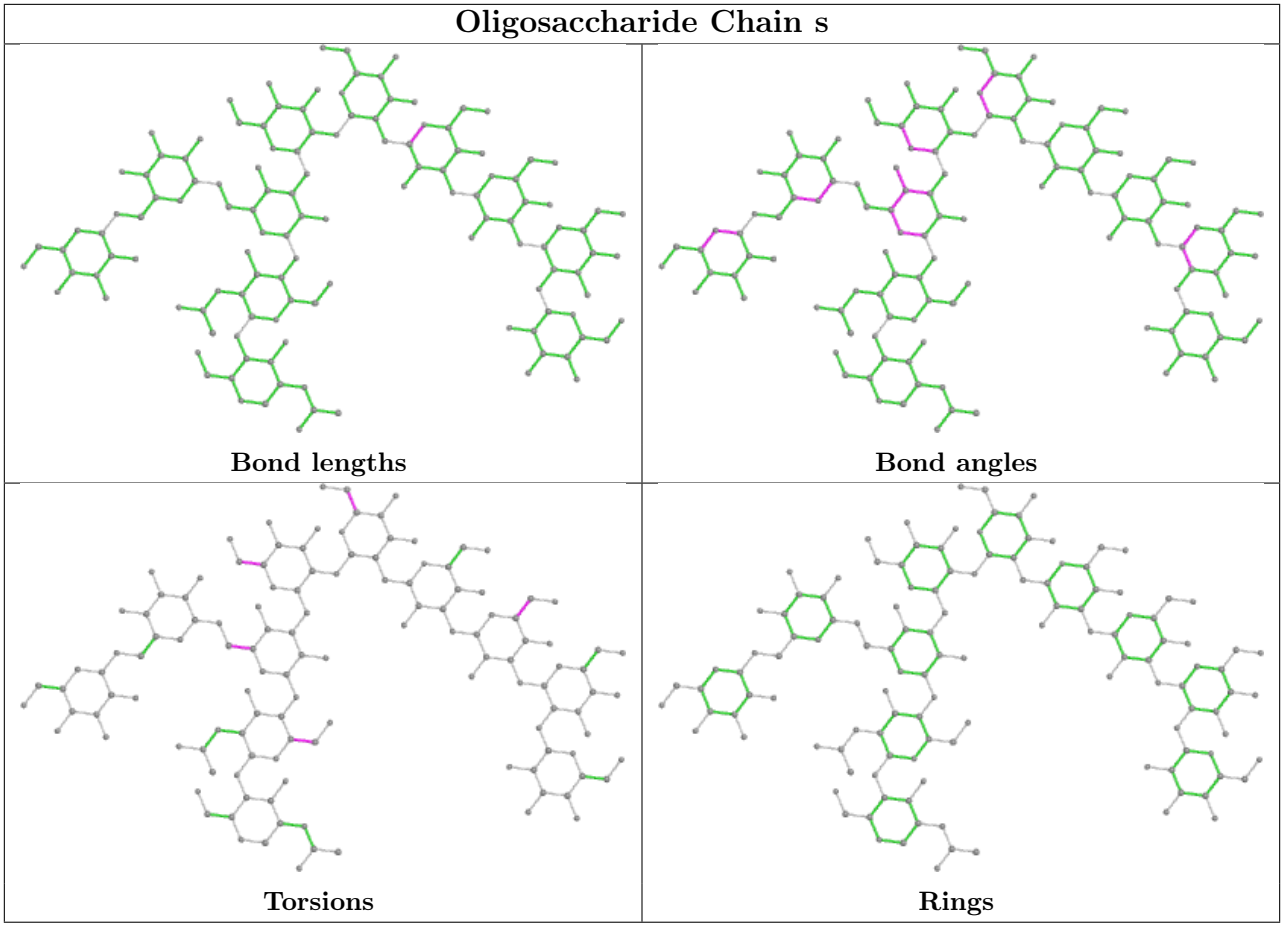
Bond angles



Torsions



Rings



5.6 Ligand geometry (i)

48 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	$\#\|Z\| > 2$
23	PTY	p	402	-	49,49,49	0.47	0	52,54,54	0.42	0
26	LP3	a	907	-	34,34,34	0.51	0	39,41,41	0.56	0
27	CLR	l	206	-	31,31,31	0.38	0	48,48,48	0.54	0
27	CLR	b	304	-	31,31,31	0.39	0	48,48,48	0.60	0
24	WJP	a	905	-	31,33,34	1.58	5 (16%)	39,43,44	7.00	9 (23%)
27	CLR	n	202	-	31,31,31	0.38	0	48,48,48	0.67	0
27	CLR	h	202	-	31,31,31	0.37	0	48,48,48	0.96	4 (8%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
23	PTY	p	401	-	49,49,49	0.47	0	52,54,54	0.43	0
27	CLR	h	201	-	31,31,31	0.38	0	48,48,48	0.74	0
22	PC1	P	501	-	53,53,53	0.49	0	59,61,61	0.52	1 (1%)
23	PTY	b	303	-	49,49,49	0.47	0	52,54,54	0.39	0
27	CLR	m	203	-	31,31,31	0.40	0	48,48,48	0.78	1 (2%)
23	PTY	p	404	-	49,49,49	0.46	0	52,54,54	0.39	0
23	PTY	p	403	-	49,49,49	0.46	0	52,54,54	0.44	0
27	CLR	n	205	-	31,31,31	0.36	0	48,48,48	0.57	0
27	CLR	j	203	-	31,31,31	0.43	0	48,48,48	0.73	1 (2%)
27	CLR	l	205	-	31,31,31	0.34	0	48,48,48	0.51	0
23	PTY	b	302	-	49,49,49	0.47	0	52,54,54	0.40	0
27	CLR	k	203	-	31,31,31	0.37	0	48,48,48	0.56	0
27	CLR	j	202	-	31,31,31	0.41	0	48,48,48	0.87	3 (6%)
27	CLR	o	203	-	31,31,31	0.36	0	48,48,48	0.67	0
22	PC1	P	502	-	53,53,53	0.50	0	59,61,61	0.47	1 (1%)
21	ADP	A	701	-	24,29,29	0.92	1 (4%)	29,45,45	1.52	4 (13%)
27	CLR	i	203	-	31,31,31	0.46	0	48,48,48	0.84	1 (2%)
27	CLR	j	201	-	31,31,31	0.38	0	48,48,48	0.66	0
27	CLR	j	204	-	31,31,31	0.37	0	48,48,48	0.70	0
23	PTY	a	903	-	49,49,49	0.46	0	52,54,54	0.40	0
27	CLR	l	203	-	31,31,31	0.36	0	48,48,48	0.62	0
27	CLR	k	201	-	31,31,31	0.35	0	48,48,48	0.65	0
27	CLR	n	201	-	31,31,31	0.35	0	48,48,48	0.81	2 (4%)
23	PTY	a	902	-	49,49,49	0.46	0	52,54,54	0.37	0
22	PC1	b	301	-	53,53,53	0.51	0	59,61,61	0.48	1 (1%)
27	CLR	m	201	-	31,31,31	0.40	0	48,48,48	0.66	0
27	CLR	i	204	-	31,31,31	0.37	0	48,48,48	0.62	0
27	CLR	l	202	-	31,31,31	0.35	0	48,48,48	0.73	0
27	CLR	o	201	-	31,31,31	0.39	0	48,48,48	0.87	1 (2%)
27	CLR	i	201	-	31,31,31	0.38	0	48,48,48	0.76	1 (2%)
27	CLR	n	203	-	31,31,31	0.36	0	48,48,48	0.66	0
27	CLR	m	202	-	31,31,31	0.35	0	48,48,48	0.67	0
27	CLR	l	204	-	31,31,31	0.38	0	48,48,48	0.71	0
27	CLR	k	202	-	31,31,31	0.35	0	48,48,48	0.48	0
27	CLR	o	202	-	31,31,31	0.44	0	48,48,48	0.98	3 (6%)
27	CLR	n	204	-	31,31,31	0.36	0	48,48,48	0.75	0
25	NAG	a	906	12	14,14,15	0.75	0	17,19,21	1.16	1 (5%)
22	PC1	a	901	-	53,53,53	0.50	0	59,61,61	0.47	1 (1%)
27	CLR	i	202	-	31,31,31	0.39	0	48,48,48	0.76	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
22	PC1	l	201	-	53,53,53	0.49	0	59,61,61	0.49	1 (1%)
23	PTY	a	904	-	49,49,49	0.47	0	52,54,54	0.37	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
23	PTY	p	402	-	-	25/53/53/53	-
26	LP3	a	907	-	-	14/36/36/36	-
27	CLR	l	206	-	-	4/10/68/68	0/4/4/4
27	CLR	b	304	-	-	4/10/68/68	0/4/4/4
24	WJP	a	905	-	-	16/37/37/40	-
27	CLR	n	202	-	-	1/10/68/68	0/4/4/4
27	CLR	h	202	-	-	7/10/68/68	0/4/4/4
23	PTY	p	401	-	-	16/53/53/53	-
27	CLR	h	201	-	-	3/10/68/68	0/4/4/4
22	PC1	P	501	-	-	25/57/57/57	-
23	PTY	b	303	-	-	23/53/53/53	-
27	CLR	m	203	-	-	5/10/68/68	0/4/4/4
23	PTY	p	404	-	-	23/53/53/53	-
23	PTY	p	403	-	-	25/53/53/53	-
27	CLR	n	205	-	-	4/10/68/68	0/4/4/4
27	CLR	j	203	-	-	6/10/68/68	0/4/4/4
27	CLR	l	205	-	-	5/10/68/68	0/4/4/4
23	PTY	b	302	-	-	23/53/53/53	-
27	CLR	k	203	-	-	2/10/68/68	0/4/4/4
27	CLR	j	202	-	-	7/10/68/68	0/4/4/4
27	CLR	o	203	-	-	3/10/68/68	0/4/4/4
22	PC1	P	502	-	-	19/57/57/57	-
21	ADP	A	701	-	-	3/12/32/32	0/3/3/3
27	CLR	i	203	-	-	5/10/68/68	0/4/4/4
27	CLR	j	201	-	-	4/10/68/68	0/4/4/4
27	CLR	j	204	-	-	4/10/68/68	0/4/4/4
23	PTY	a	903	-	-	19/53/53/53	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
27	CLR	l	203	-	-	4/10/68/68	0/4/4/4
27	CLR	k	201	-	-	3/10/68/68	0/4/4/4
27	CLR	n	201	-	-	1/10/68/68	0/4/4/4
23	PTY	a	902	-	-	19/53/53/53	-
22	PC1	b	301	-	-	23/57/57/57	-
27	CLR	m	201	-	-	4/10/68/68	0/4/4/4
27	CLR	i	204	-	-	6/10/68/68	0/4/4/4
27	CLR	l	202	-	-	4/10/68/68	0/4/4/4
27	CLR	o	201	-	-	6/10/68/68	0/4/4/4
27	CLR	i	201	-	-	3/10/68/68	0/4/4/4
27	CLR	n	203	-	-	2/10/68/68	0/4/4/4
27	CLR	m	202	-	-	1/10/68/68	0/4/4/4
27	CLR	l	204	-	-	2/10/68/68	0/4/4/4
27	CLR	k	202	-	-	2/10/68/68	0/4/4/4
27	CLR	o	202	-	-	6/10/68/68	0/4/4/4
27	CLR	n	204	-	-	3/10/68/68	0/4/4/4
25	NAG	a	906	12	-	2/6/23/26	0/1/1/1
22	PC1	a	901	-	-	23/57/57/57	-
27	CLR	i	202	-	-	4/10/68/68	0/4/4/4
22	PC1	l	201	-	-	23/57/57/57	-
23	PTY	a	904	-	-	22/53/53/53	-

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	a	905	WJP	C18-C16	3.73	1.59	1.51
24	a	905	WJP	C07-C06	2.97	1.58	1.50
24	a	905	WJP	P31-O32	2.95	1.66	1.54
24	a	905	WJP	C13-C11	2.63	1.56	1.51
24	a	905	WJP	C17-C16	2.62	1.57	1.50
21	A	701	ADP	C5-C4	2.29	1.47	1.40

All (36) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	a	905	WJP	C08-C06-C05	23.21	168.09	121.12
24	a	905	WJP	C17-C16-C18	-21.02	79.92	115.27
24	a	905	WJP	C17-C16-C15	17.18	167.76	123.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	a	905	WJP	C18-C16-C15	-16.28	88.18	121.12
24	a	905	WJP	C07-C06-C08	-16.19	88.04	115.27
24	a	905	WJP	C07-C06-C05	-8.13	102.82	123.68
21	A	701	ADP	PA-O3A-PB	-3.91	119.41	132.83
25	a	906	NAG	C2-N2-C7	3.52	127.92	122.90
21	A	701	ADP	C3'-C2'-C1'	3.34	106.01	100.98
21	A	701	ADP	N3-C2-N1	-3.33	123.47	128.68
27	h	202	CLR	C16-C17-C20	2.89	116.61	112.15
21	A	701	ADP	C4-C5-N7	-2.76	106.53	109.40
27	h	202	CLR	C22-C20-C17	2.75	115.97	110.28
27	j	202	CLR	C13-C17-C20	2.71	123.72	119.49
24	a	905	WJP	P27-O30-P31	-2.70	123.56	132.83
27	j	203	CLR	C21-C20-C17	2.67	117.00	112.92
27	j	202	CLR	C21-C20-C17	2.58	116.87	112.92
27	o	202	CLR	C16-C17-C20	2.56	116.10	112.15
27	m	203	CLR	C16-C17-C20	2.42	115.89	112.15
22	l	201	PC1	O12-P-O14	2.39	124.06	112.24
22	a	901	PC1	O12-P-O14	2.34	123.81	112.24
22	P	502	PC1	O12-P-O14	2.32	123.69	112.24
27	n	201	CLR	C13-C17-C20	2.31	123.10	119.49
22	P	501	PC1	O12-P-O14	2.31	123.64	112.24
27	h	202	CLR	C16-C17-C13	-2.28	101.10	103.84
27	o	202	CLR	C21-C20-C17	-2.27	109.44	112.92
27	o	202	CLR	C21-C20-C22	2.26	113.91	110.36
22	b	301	PC1	O12-P-O14	2.24	123.32	112.24
27	n	201	CLR	C13-C14-C8	2.23	117.68	114.38
27	i	203	CLR	C16-C17-C20	2.20	115.56	112.15
27	j	202	CLR	C12-C13-C14	-2.19	103.88	107.27
24	a	905	WJP	C14-C15-C16	-2.15	122.49	127.66
27	i	201	CLR	C22-C20-C17	2.11	114.64	110.28
27	o	201	CLR	C11-C9-C8	-2.09	108.75	111.75
24	a	905	WJP	C23-C21-C22	2.02	119.06	114.60
27	h	202	CLR	C21-C20-C22	-2.01	107.21	110.36

There are no chirality outliers.

All (458) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
21	A	701	ADP	C5'-O5'-PA-O1A
21	A	701	ADP	C5'-O5'-PA-O2A
21	A	701	ADP	C5'-O5'-PA-O3A
22	P	501	PC1	C22-C21-O21-C2

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Mol	Chain	Res	Type	Atoms
22	P	502	PC1	C11-O13-P-O12
22	P	502	PC1	C1-O11-P-O14
22	P	502	PC1	C1-O11-P-O13
22	P	502	PC1	O22-C21-O21-C2
22	a	901	PC1	C1-O11-P-O14
22	a	901	PC1	C22-C21-O21-C2
22	b	301	PC1	C11-O13-P-O12
22	b	301	PC1	O22-C21-O21-C2
22	b	301	PC1	C22-C21-O21-C2
22	l	201	PC1	C11-O13-P-O12
22	l	201	PC1	C11-O13-P-O14
22	l	201	PC1	C11-O13-P-O11
22	l	201	PC1	C2-C1-O11-P
22	l	201	PC1	C22-C21-O21-C2
23	a	902	PTY	C3-O11-P1-O13
23	a	902	PTY	C5-O14-P1-O12
23	a	903	PTY	O10-C8-O7-C6
23	a	904	PTY	C3-O11-P1-O13
23	a	904	PTY	C5-O14-P1-O12
23	b	302	PTY	N1-C2-C3-O11
23	b	302	PTY	C5-O14-P1-O13
23	b	303	PTY	N1-C2-C3-O11
23	b	303	PTY	C3-O11-P1-O12
23	b	303	PTY	C3-O11-P1-O13
23	b	303	PTY	C3-O11-P1-O14
23	b	303	PTY	C5-O14-P1-O12
23	p	401	PTY	C2-C3-O11-P1
23	p	401	PTY	C3-O11-P1-O12
23	p	401	PTY	C3-O11-P1-O13
23	p	401	PTY	C3-O11-P1-O14
23	p	402	PTY	N1-C2-C3-O11
23	p	402	PTY	C11-C8-O7-C6
23	p	402	PTY	C3-O11-P1-O13
23	p	403	PTY	C11-C8-O7-C6
23	p	403	PTY	C3-O11-P1-O13
23	p	404	PTY	C11-C8-O7-C6
23	p	404	PTY	C3-O11-P1-O13
24	a	905	WJP	C02-C03-C04-C05
24	a	905	WJP	P27-O30-P31-O32
26	a	907	LP3	O4P-C4-C5-N
26	a	907	LP3	C1-O3P-P-O2P
27	h	202	CLR	C13-C17-C20-C21

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Mol	Chain	Res	Type	Atoms
22	P	501	PC1	O32-C31-O31-C3
23	p	403	PTY	O30-C30-O4-C1
27	h	202	CLR	C16-C17-C20-C21
27	i	203	CLR	C13-C17-C20-C21
22	P	501	PC1	O22-C21-O21-C2
22	a	901	PC1	O22-C21-O21-C2
22	l	201	PC1	O22-C21-O21-C2
23	p	402	PTY	O10-C8-O7-C6
23	p	403	PTY	O10-C8-O7-C6
23	p	404	PTY	O10-C8-O7-C6
22	P	502	PC1	C22-C21-O21-C2
23	a	903	PTY	C11-C8-O7-C6
27	i	203	CLR	C16-C17-C20-C21
27	m	203	CLR	C16-C17-C20-C21
27	h	202	CLR	C16-C17-C20-C22
27	h	202	CLR	C13-C17-C20-C22
27	i	203	CLR	C13-C17-C20-C22
22	a	901	PC1	O32-C31-O31-C3
22	b	301	PC1	O32-C31-O31-C3
22	P	501	PC1	C32-C31-O31-C3
22	a	901	PC1	C32-C31-O31-C3
22	b	301	PC1	C32-C31-O31-C3
23	p	402	PTY	C31-C30-O4-C1
23	p	403	PTY	C31-C30-O4-C1
24	a	905	WJP	C04-C05-C06-C08
23	p	402	PTY	O30-C30-O4-C1
27	i	203	CLR	C16-C17-C20-C22
27	m	203	CLR	C13-C17-C20-C22
27	l	203	CLR	C17-C20-C22-C23
27	m	203	CLR	C13-C17-C20-C21
27	m	203	CLR	C16-C17-C20-C22
27	i	204	CLR	C17-C20-C22-C23
23	p	401	PTY	C40-C41-C42-C43
27	l	203	CLR	C21-C20-C22-C23
27	i	202	CLR	C13-C17-C20-C22
27	k	201	CLR	C17-C20-C22-C23
27	l	205	CLR	C17-C20-C22-C23
27	m	201	CLR	C17-C20-C22-C23
27	n	205	CLR	C17-C20-C22-C23
27	o	201	CLR	C17-C20-C22-C23
27	j	203	CLR	C13-C17-C20-C22
27	o	202	CLR	C13-C17-C20-C22

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Mol	Chain	Res	Type	Atoms
27	h	202	CLR	C17-C20-C22-C23
25	a	906	NAG	C8-C7-N2-C2
25	a	906	NAG	O7-C7-N2-C2
23	a	904	PTY	O14-C5-C6-O7
27	j	202	CLR	C20-C22-C23-C24
27	n	202	CLR	C22-C23-C24-C25
27	o	202	CLR	C20-C22-C23-C24
26	a	907	LP3	O3P-C1-C2-O2
27	i	204	CLR	C21-C20-C22-C23
27	l	205	CLR	C21-C20-C22-C23
27	n	205	CLR	C21-C20-C22-C23
27	o	201	CLR	C21-C20-C22-C23
27	o	202	CLR	C21-C20-C22-C23
23	b	302	PTY	C8-C11-C12-C13
27	j	202	CLR	C22-C23-C24-C25
27	j	201	CLR	C13-C17-C20-C22
27	j	202	CLR	C13-C17-C20-C22
27	b	304	CLR	C17-C20-C22-C23
27	k	202	CLR	C17-C20-C22-C23
27	h	202	CLR	C21-C20-C22-C23
24	a	905	WJP	C03-C02-C24-C25
27	k	203	CLR	C20-C22-C23-C24
27	m	202	CLR	C22-C23-C24-C25
27	o	201	CLR	C22-C23-C24-C25
27	j	202	CLR	C16-C17-C20-C22
22	a	901	PC1	C31-C32-C33-C34
23	p	401	PTY	C8-C11-C12-C13
23	p	402	PTY	C30-C31-C32-C33
23	p	403	PTY	C30-C31-C32-C33
26	a	907	LP3	C11-C12-C13-C14
27	b	304	CLR	C22-C23-C24-C25
27	i	201	CLR	C22-C23-C24-C25
27	j	204	CLR	C17-C20-C22-C23
27	b	304	CLR	C21-C20-C22-C23
27	k	201	CLR	C21-C20-C22-C23
27	m	203	CLR	C22-C23-C24-C25
23	b	303	PTY	C8-C11-C12-C13
27	n	201	CLR	C22-C23-C24-C25
27	n	205	CLR	C22-C23-C24-C25
27	i	202	CLR	C13-C17-C20-C21
27	j	201	CLR	C13-C17-C20-C21
27	o	202	CLR	C13-C17-C20-C21

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Mol	Chain	Res	Type	Atoms
27	j	203	CLR	C16-C17-C20-C22
27	h	201	CLR	C20-C22-C23-C24
27	l	206	CLR	C17-C20-C22-C23
27	j	204	CLR	C21-C20-C22-C23
24	a	905	WJP	C16-C18-C19-C20
27	k	203	CLR	C22-C23-C24-C25
27	i	202	CLR	C16-C17-C20-C21
27	o	202	CLR	C16-C17-C20-C21
22	P	502	PC1	C21-C22-C23-C24
22	b	301	PC1	C21-C22-C23-C24
27	l	204	CLR	C22-C23-C24-C25
27	j	202	CLR	C21-C20-C22-C23
22	P	501	PC1	C11-O13-P-O11
22	P	501	PC1	C1-O11-P-O13
22	P	502	PC1	C11-O13-P-O11
22	a	901	PC1	C11-O13-P-O11
23	a	902	PTY	C3-O11-P1-O14
23	a	902	PTY	C5-O14-P1-O11
23	a	903	PTY	C5-O14-P1-O11
23	a	904	PTY	C5-O14-P1-O11
23	b	302	PTY	C5-O14-P1-O11
23	p	404	PTY	C3-O11-P1-O14
26	a	907	LP3	C1-O3P-P-O4P
22	P	502	PC1	C32-C31-O31-C3
23	a	902	PTY	C31-C30-O4-C1
27	j	201	CLR	C16-C17-C20-C21
27	m	201	CLR	C21-C20-C22-C23
27	n	203	CLR	C23-C24-C25-C26
22	P	501	PC1	C39-C3A-C3B-C3C
27	k	202	CLR	C21-C20-C22-C23
22	P	501	PC1	C23-C24-C25-C26
23	a	904	PTY	C18-C19-C20-C21
23	b	302	PTY	C20-C21-C22-C23
23	p	402	PTY	C38-C39-C40-C41
22	P	501	PC1	C37-C38-C39-C3A
22	a	901	PC1	C2B-C2C-C2D-C2E
23	p	402	PTY	C33-C34-C35-C36
22	b	301	PC1	C2B-C2C-C2D-C2E
22	l	201	PC1	C36-C37-C38-C39
22	l	201	PC1	C3E-C3F-C3G-C3H
23	b	303	PTY	C24-C25-C26-C27
23	p	403	PTY	C34-C35-C36-C37

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Mol	Chain	Res	Type	Atoms
22	a	901	PC1	C3A-C3B-C3C-C3D
23	b	303	PTY	C16-C17-C18-C19
22	P	501	PC1	C2A-C2B-C2C-C2D
27	l	205	CLR	C23-C24-C25-C27
27	n	203	CLR	C23-C24-C25-C27
24	a	905	WJP	C07-C06-C08-C09
22	P	501	PC1	C26-C27-C28-C29
22	P	502	PC1	C25-C26-C27-C28
27	j	202	CLR	C16-C17-C20-C21
27	j	203	CLR	C16-C17-C20-C21
23	p	403	PTY	C37-C38-C39-C40
22	P	502	PC1	C28-C29-C2A-C2B
23	p	403	PTY	C39-C40-C41-C42
23	p	404	PTY	C15-C16-C17-C18
27	l	203	CLR	C20-C22-C23-C24
23	a	903	PTY	C34-C35-C36-C37
23	p	402	PTY	C17-C18-C19-C20
23	p	401	PTY	N1-C2-C3-O11
23	p	403	PTY	N1-C2-C3-O11
23	p	404	PTY	C13-C14-C15-C16
23	b	302	PTY	C30-C31-C32-C33
23	a	902	PTY	O30-C30-O4-C1
23	a	902	PTY	C22-C23-C24-C25
26	a	907	LP3	C12-C13-C14-C15
27	h	201	CLR	C21-C20-C22-C23
27	l	206	CLR	C21-C20-C22-C23
22	P	502	PC1	O32-C31-O31-C3
22	a	901	PC1	C35-C36-C37-C38
22	l	201	PC1	C39-C3A-C3B-C3C
23	p	404	PTY	C32-C33-C34-C35
23	p	401	PTY	C31-C32-C33-C34
23	b	302	PTY	C11-C8-O7-C6
22	a	901	PC1	C24-C25-C26-C27
22	b	301	PC1	C29-C2A-C2B-C2C
23	a	903	PTY	C12-C13-C14-C15
23	p	402	PTY	C15-C16-C17-C18
26	a	907	LP3	O3P-C1-C2-C3
22	b	301	PC1	C3A-C3B-C3C-C3D
23	p	404	PTY	C19-C20-C21-C22
23	p	401	PTY	C35-C36-C37-C38
23	p	403	PTY	C35-C36-C37-C38
23	p	404	PTY	C20-C21-C22-C23

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Mol	Chain	Res	Type	Atoms
27	l	206	CLR	C22-C23-C24-C25
23	p	402	PTY	C34-C35-C36-C37
22	l	201	PC1	C32-C31-O31-C3
23	b	303	PTY	C11-C8-O7-C6
22	b	301	PC1	C3E-C3F-C3G-C3H
22	P	502	PC1	C33-C34-C35-C36
22	b	301	PC1	C23-C24-C25-C26
23	b	302	PTY	O10-C8-O7-C6
22	a	901	PC1	C33-C34-C35-C36
22	b	301	PC1	C38-C39-C3A-C3B
23	b	303	PTY	C19-C20-C21-C22
22	l	201	PC1	C26-C27-C28-C29
27	l	205	CLR	C20-C22-C23-C24
27	n	205	CLR	C20-C22-C23-C24
23	a	903	PTY	C37-C38-C39-C40
23	a	904	PTY	C12-C13-C14-C15
23	a	903	PTY	C36-C37-C38-C39
27	h	201	CLR	C17-C20-C22-C23
22	P	502	PC1	C3C-C3D-C3E-C3F
27	l	206	CLR	C20-C22-C23-C24
27	l	202	CLR	C13-C17-C20-C22
23	p	403	PTY	C31-C32-C33-C34
23	p	403	PTY	C16-C17-C18-C19
27	l	205	CLR	C23-C24-C25-C26
27	n	204	CLR	C23-C24-C25-C27
23	b	303	PTY	O10-C8-O7-C6
23	b	302	PTY	C19-C20-C21-C22
23	b	303	PTY	C34-C35-C36-C37
23	p	401	PTY	C25-C26-C27-C28
27	j	201	CLR	C22-C23-C24-C25
22	b	301	PC1	C11-O13-P-O11
22	l	201	PC1	C1-O11-P-O13
23	b	303	PTY	C5-O14-P1-O11
23	a	904	PTY	O14-C5-C6-C1
23	p	403	PTY	C32-C33-C34-C35
23	p	402	PTY	C36-C37-C38-C39
23	p	403	PTY	C38-C39-C40-C41
23	p	404	PTY	C31-C32-C33-C34
22	l	201	PC1	O32-C31-O31-C3
27	o	203	CLR	C23-C24-C25-C27
23	a	904	PTY	O4-C1-C6-C5
22	P	501	PC1	C28-C29-C2A-C2B

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Mol	Chain	Res	Type	Atoms
27	i	204	CLR	C22-C23-C24-C25
27	o	202	CLR	C22-C23-C24-C25
23	p	404	PTY	C37-C38-C39-C40
23	a	902	PTY	C11-C8-O7-C6
22	P	501	PC1	C2C-C2D-C2E-C2F
23	b	302	PTY	C40-C41-C42-C43
23	b	303	PTY	C31-C30-O4-C1
23	a	904	PTY	C34-C35-C36-C37
22	b	301	PC1	C3-C2-O21-C21
22	l	201	PC1	C3-C2-O21-C21
27	o	203	CLR	C22-C23-C24-C25
22	l	201	PC1	C3F-C3G-C3H-C3I
23	b	303	PTY	O14-C5-C6-O7
23	p	402	PTY	O14-C5-C6-O7
27	n	204	CLR	C23-C24-C25-C26
23	b	302	PTY	C12-C13-C14-C15
22	l	201	PC1	C22-C23-C24-C25
27	o	203	CLR	C23-C24-C25-C26
23	a	902	PTY	C14-C15-C16-C17
23	p	404	PTY	C24-C25-C26-C27
27	l	202	CLR	C16-C17-C20-C21
27	l	202	CLR	C13-C17-C20-C21
24	a	905	WJP	C05-C06-C08-C09
22	l	201	PC1	C37-C38-C39-C3A
23	b	303	PTY	C20-C21-C22-C23
27	m	201	CLR	C23-C24-C25-C27
27	l	202	CLR	C16-C17-C20-C22
23	p	403	PTY	C23-C24-C25-C26
27	b	304	CLR	C20-C22-C23-C24
23	p	404	PTY	O14-C5-C6-C1
23	a	904	PTY	N1-C2-C3-O11
22	P	501	PC1	C2B-C2C-C2D-C2E
24	a	905	WJP	C12-C11-C13-C14
22	l	201	PC1	C3A-C3B-C3C-C3D
27	j	203	CLR	C20-C22-C23-C24
23	a	904	PTY	C31-C30-O4-C1
22	b	301	PC1	C2D-C2E-C2F-C2G
24	a	905	WJP	C10-C11-C13-C14
26	a	907	LP3	C15-C16-C17-C18
23	p	404	PTY	O14-C5-C6-O7
22	a	901	PC1	C2F-C2G-C2H-C2I
23	p	404	PTY	C23-C24-C25-C26

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Mol	Chain	Res	Type	Atoms
23	b	303	PTY	O30-C30-O4-C1
23	b	302	PTY	C24-C25-C26-C27
23	a	904	PTY	C19-C20-C21-C22
23	a	902	PTY	O10-C8-O7-C6
23	a	904	PTY	C31-C32-C33-C34
23	p	402	PTY	C20-C21-C22-C23
23	p	404	PTY	C33-C34-C35-C36
22	a	901	PC1	C2-C1-O11-P
23	a	904	PTY	C6-C5-O14-P1
27	i	204	CLR	C23-C24-C25-C26
24	a	905	WJP	P31-O30-P27-O26
23	b	303	PTY	C14-C15-C16-C17
23	p	403	PTY	O14-C5-C6-C1
22	a	901	PC1	C3E-C3F-C3G-C3H
27	m	201	CLR	C23-C24-C25-C26
26	a	907	LP3	C14-C15-C16-C17
23	p	404	PTY	C14-C15-C16-C17
27	i	203	CLR	C22-C23-C24-C25
27	i	202	CLR	C20-C22-C23-C24
26	a	907	LP3	C25-C26-C27-C28
23	p	402	PTY	O4-C1-C6-C5
23	a	904	PTY	O30-C30-O4-C1
23	p	403	PTY	O14-C5-C6-O7
23	p	401	PTY	C15-C16-C17-C18
22	b	301	PC1	C22-C23-C24-C25
27	j	202	CLR	C17-C20-C22-C23
23	a	904	PTY	O4-C1-C6-O7
27	i	201	CLR	C17-C20-C22-C23
23	a	904	PTY	C11-C8-O7-C6
23	a	904	PTY	O10-C8-O7-C6
23	b	302	PTY	C37-C38-C39-C40
22	P	502	PC1	C2E-C2F-C2G-C2H
22	a	901	PC1	C1-O11-P-O13
23	a	904	PTY	C3-O11-P1-O14
23	p	403	PTY	C5-O14-P1-O11
23	p	404	PTY	C25-C26-C27-C28
23	a	903	PTY	C6-C5-O14-P1
26	a	907	LP3	C2-C1-O3P-P
26	a	907	LP3	C24-C25-C26-C27
22	P	501	PC1	C11-O13-P-O14
22	P	501	PC1	C1-O11-P-O14
22	a	901	PC1	C11-O13-P-O14

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Mol	Chain	Res	Type	Atoms
22	b	301	PC1	C11-O13-P-O14
22	l	201	PC1	C1-O11-P-O12
23	a	902	PTY	C3-O11-P1-O12
23	a	903	PTY	C5-O14-P1-O13
23	b	303	PTY	C5-O14-P1-O13
26	a	907	LP3	C1-O3P-P-O1P
23	b	303	PTY	O14-C5-C6-C1
23	p	402	PTY	O14-C5-C6-C1
23	a	904	PTY	C30-C31-C32-C33
22	a	901	PC1	C21-C22-C23-C24
23	a	903	PTY	O14-C5-C6-O7
23	a	903	PTY	C41-C42-C43-C44
23	a	903	PTY	C16-C17-C18-C19
23	a	903	PTY	C24-C25-C26-C27
22	a	901	PC1	O13-C11-C12-N
22	b	301	PC1	O13-C11-C12-N
22	l	201	PC1	O13-C11-C12-N
24	a	905	WJP	C01-C02-C24-C25
23	p	402	PTY	O4-C1-C6-O7
23	a	904	PTY	C8-C11-C12-C13
23	a	902	PTY	C23-C24-C25-C26
22	P	501	PC1	C29-C2A-C2B-C2C
23	p	403	PTY	C20-C21-C22-C23
27	i	204	CLR	C23-C24-C25-C27
22	b	301	PC1	C32-C33-C34-C35
27	n	204	CLR	C22-C23-C24-C25
23	b	302	PTY	C34-C35-C36-C37
23	p	402	PTY	C35-C36-C37-C38
23	p	403	PTY	C15-C16-C17-C18
22	P	501	PC1	C3-C2-O21-C21
23	p	402	PTY	C25-C26-C27-C28
27	j	204	CLR	C20-C22-C23-C24
23	b	302	PTY	C3-O11-P1-O14
23	p	402	PTY	C3-O11-P1-O14
23	p	403	PTY	C3-O11-P1-O14
22	a	901	PC1	C38-C39-C3A-C3B
23	a	903	PTY	C39-C40-C41-C42
23	a	903	PTY	C38-C39-C40-C41
23	p	404	PTY	C35-C36-C37-C38
23	a	903	PTY	C15-C16-C17-C18
23	b	303	PTY	C23-C24-C25-C26
23	p	402	PTY	C24-C25-C26-C27

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Mol	Chain	Res	Type	Atoms
23	b	302	PTY	O4-C1-C6-O7
22	l	201	PC1	C2A-C2B-C2C-C2D
22	P	501	PC1	C32-C33-C34-C35
27	o	201	CLR	C16-C17-C20-C22
22	P	501	PC1	C35-C36-C37-C38
22	a	901	PC1	C32-C33-C34-C35
22	P	502	PC1	C3-C2-O21-C21
23	p	403	PTY	C5-C6-O7-C8
27	j	203	CLR	C22-C23-C24-C25
23	a	902	PTY	C18-C19-C20-C21
22	P	502	PC1	C3B-C3C-C3D-C3E
23	a	903	PTY	O14-C5-C6-C1
23	p	401	PTY	C24-C25-C26-C27
27	l	204	CLR	C20-C22-C23-C24
27	o	201	CLR	C13-C17-C20-C21
23	a	902	PTY	C17-C18-C19-C20
23	b	302	PTY	C35-C36-C37-C38
26	a	907	LP3	C2-C3-O3-C11
22	P	501	PC1	C3D-C3E-C3F-C3G
23	p	402	PTY	C11-C12-C13-C14
23	p	403	PTY	C13-C14-C15-C16
22	P	502	PC1	C37-C38-C39-C3A
27	k	201	CLR	C22-C23-C24-C25
22	b	301	PC1	C26-C27-C28-C29
23	a	902	PTY	C19-C20-C21-C22
24	a	905	WJP	C11-C13-C14-C15
22	P	501	PC1	C2D-C2E-C2F-C2G
22	b	301	PC1	C39-C3A-C3B-C3C
24	a	905	WJP	C14-C15-C16-C17
27	j	203	CLR	C23-C24-C25-C27
23	b	302	PTY	O4-C30-C31-C32
23	b	302	PTY	C21-C22-C23-C24
22	P	501	PC1	C3F-C3G-C3H-C3I
23	p	402	PTY	C14-C15-C16-C17
27	o	201	CLR	C13-C17-C20-C22
23	a	902	PTY	O4-C30-C31-C32
23	p	404	PTY	C12-C11-C8-O7
22	b	301	PC1	C25-C26-C27-C28
23	p	401	PTY	C26-C27-C28-C29
23	b	302	PTY	C32-C33-C34-C35
27	i	201	CLR	C21-C20-C22-C23
23	b	303	PTY	C17-C18-C19-C20

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Mol	Chain	Res	Type	Atoms
22	P	502	PC1	C31-C32-C33-C34
22	b	301	PC1	C3C-C3D-C3E-C3F
24	a	905	WJP	P27-O30-P31-O34
23	p	402	PTY	C26-C27-C28-C29
23	b	302	PTY	C41-C42-C43-C44
22	l	201	PC1	C32-C33-C34-C35
22	a	901	PC1	C3D-C3E-C3F-C3G
23	a	904	PTY	C25-C26-C27-C28
22	P	501	PC1	C34-C35-C36-C37
27	l	203	CLR	C23-C24-C25-C26
23	b	302	PTY	O30-C30-C31-C32
27	i	204	CLR	C13-C17-C20-C21
23	p	404	PTY	C12-C11-C8-O10
23	a	903	PTY	C12-C11-C8-O7
27	h	202	CLR	C20-C22-C23-C24
23	a	902	PTY	O30-C30-C31-C32
23	b	302	PTY	C3-O11-P1-O13
23	p	403	PTY	C3-O11-P1-O12
23	p	404	PTY	C5-O14-P1-O13
24	a	905	WJP	P27-O30-P31-O33
23	a	902	PTY	C12-C11-C8-O7
23	p	401	PTY	C19-C20-C21-C22
23	p	401	PTY	C22-C23-C24-C25
22	P	501	PC1	C12-C11-O13-P
22	a	901	PC1	C12-C11-O13-P
22	l	201	PC1	C12-C11-O13-P
23	p	401	PTY	C12-C11-C8-O7
23	b	303	PTY	C36-C37-C38-C39
22	P	502	PC1	C3D-C3E-C3F-C3G
23	a	903	PTY	C12-C11-C8-O10
24	a	905	WJP	C17-C16-C18-C19
23	a	902	PTY	C12-C11-C8-O10
27	j	204	CLR	C16-C17-C20-C22
23	p	404	PTY	O4-C30-C31-C32

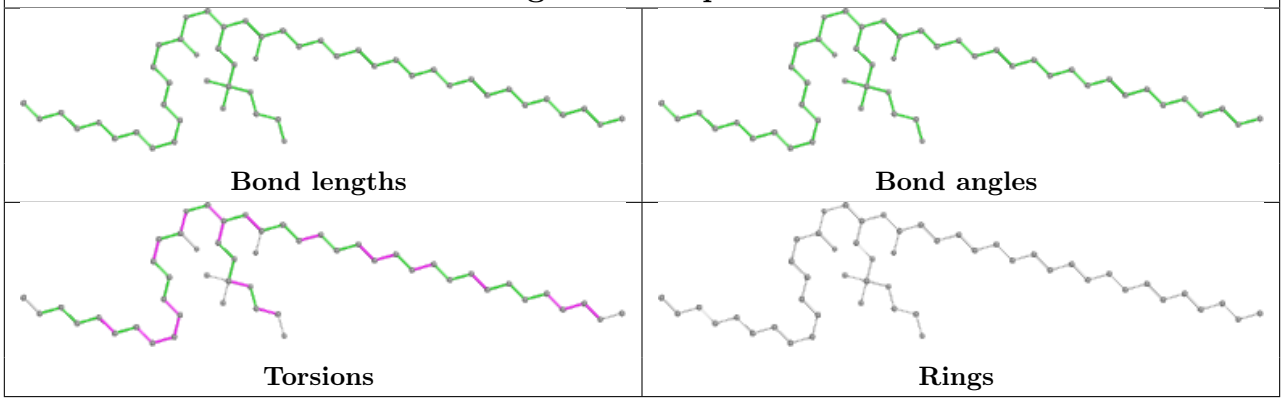
There are no ring outliers.

No monomer is involved in short contacts.

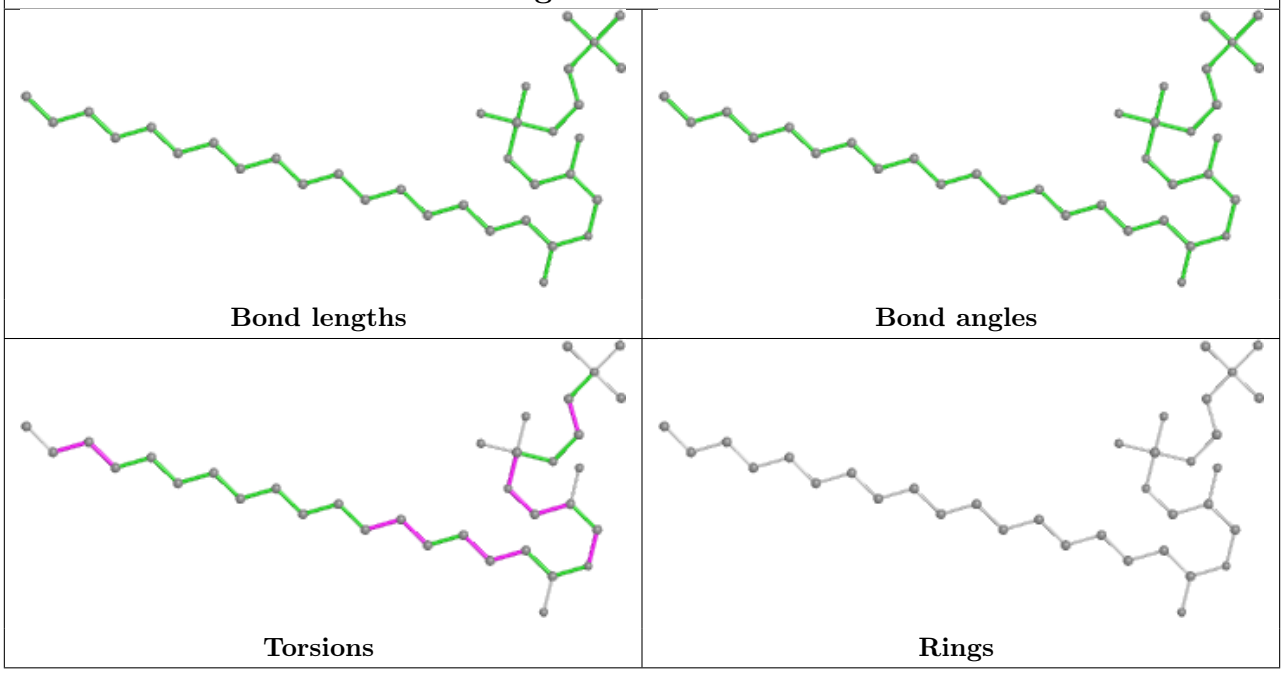
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less 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.

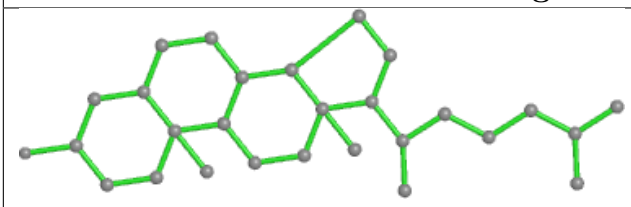
Ligand PTY p 402



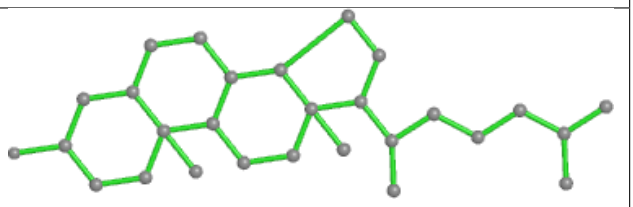
Ligand LP3 a 907



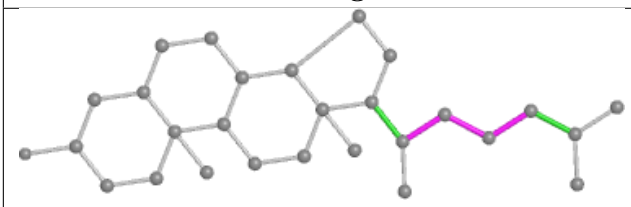
Ligand CLR l 206



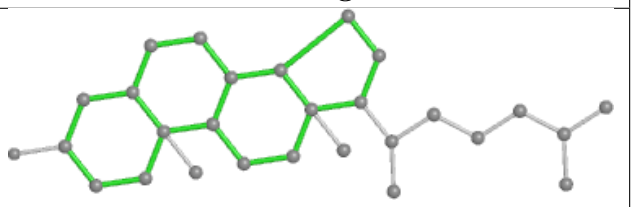
Bond lengths



Bond angles

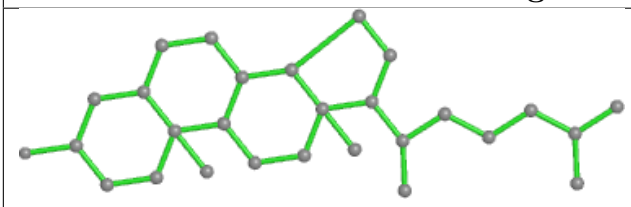


Torsions

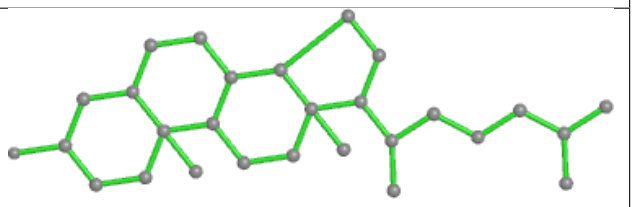


Rings

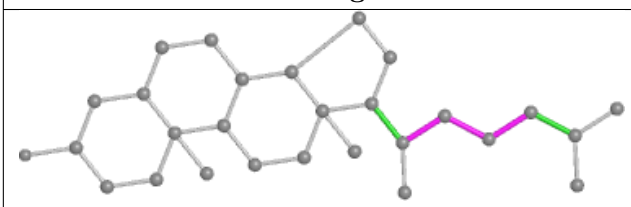
Ligand CLR b 304



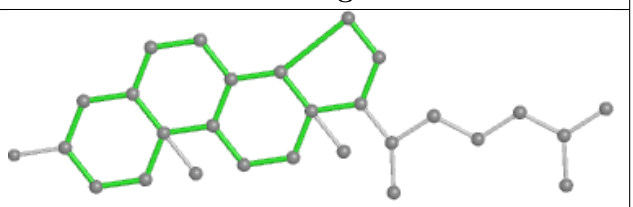
Bond lengths



Bond angles

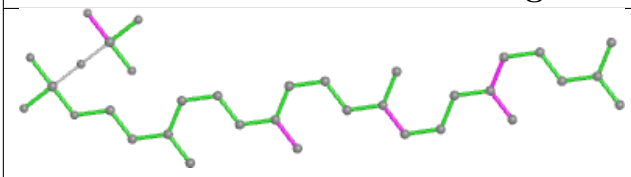


Torsions

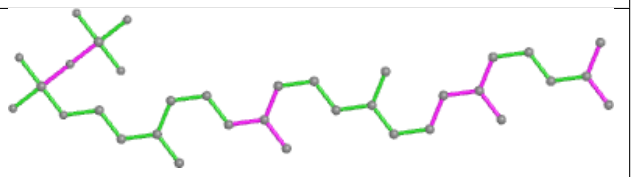


Rings

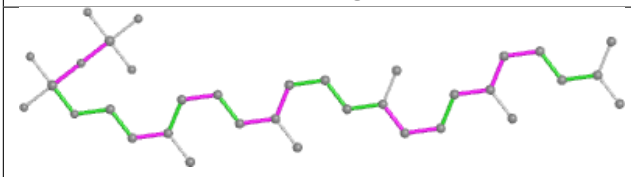
Ligand WJP a 905



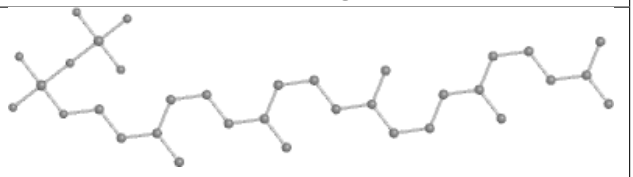
Bond lengths



Bond angles

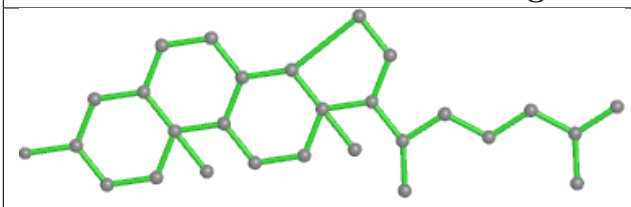


Torsions

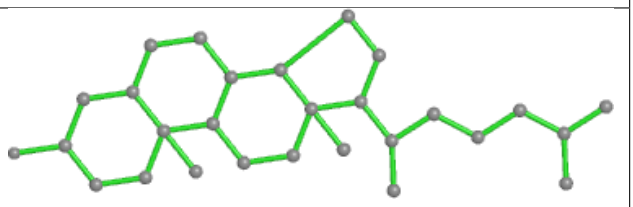


Rings

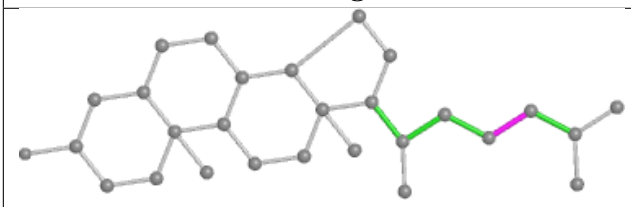
Ligand CLR n 202



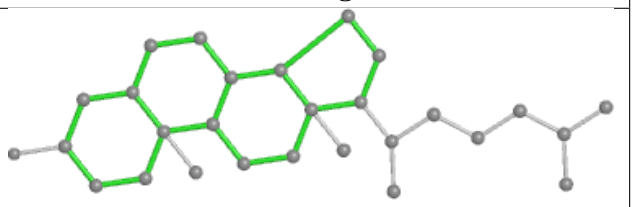
Bond lengths



Bond angles

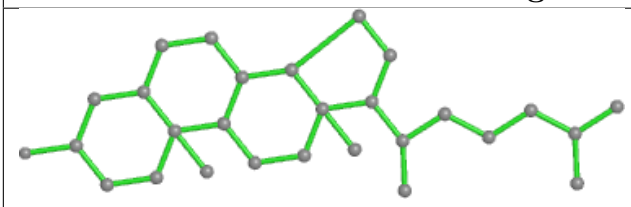


Torsions

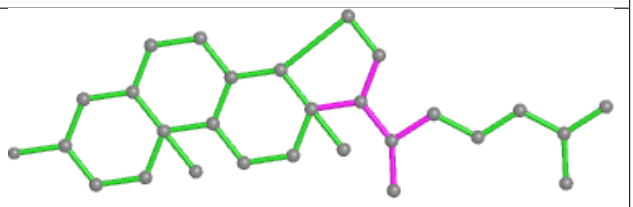


Rings

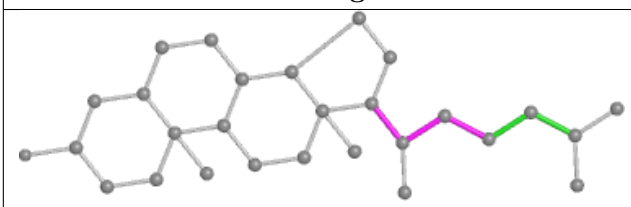
Ligand CLR h 202



Bond lengths



Bond angles



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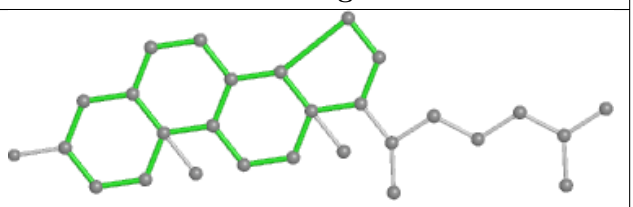
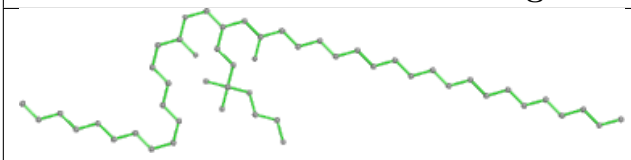
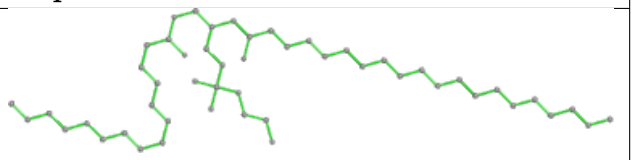


Rings

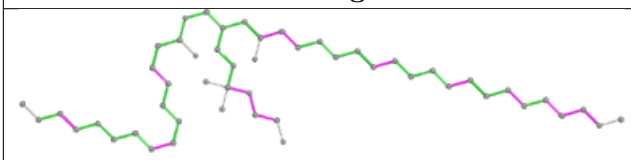
Ligand PTY p 401



Bond lengths



Bond angles



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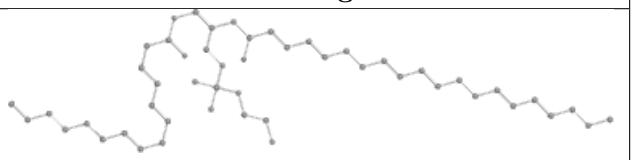
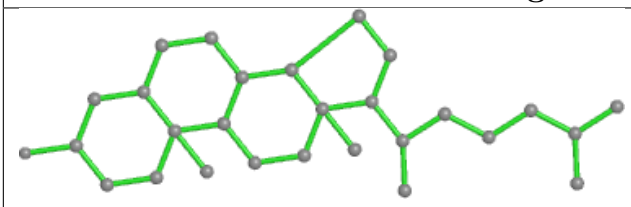


Rings

Ligand CLR h 201



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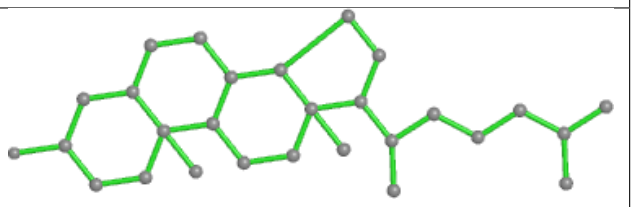
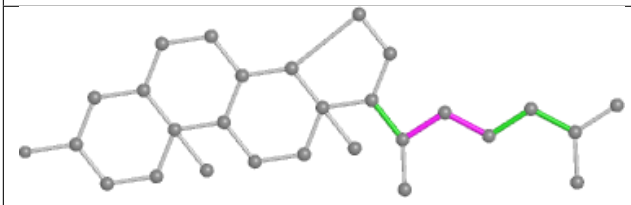
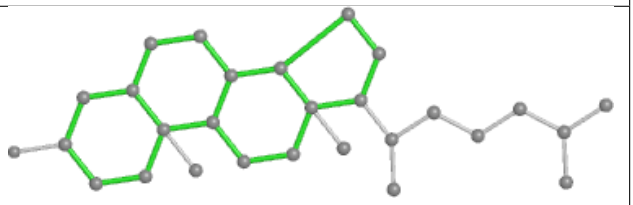


Bond angles

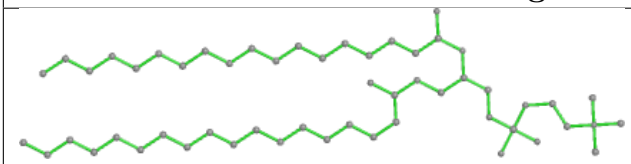


Torsions

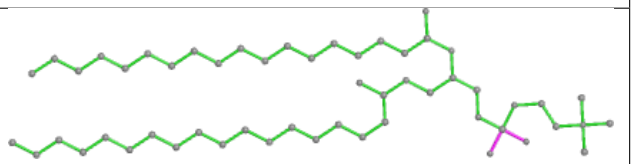


Rings

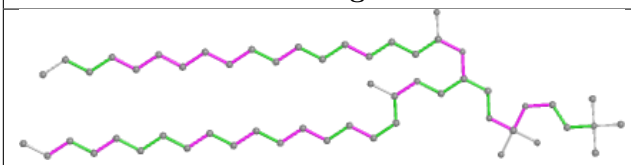
Ligand PC1 P 501



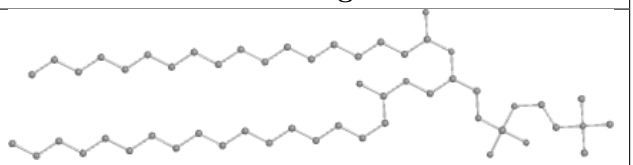
Bond lengths



Bond angles

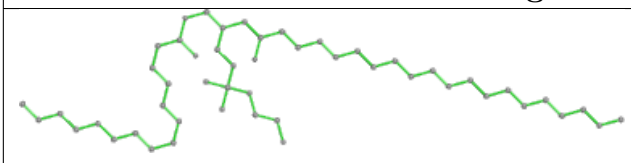


Torsions

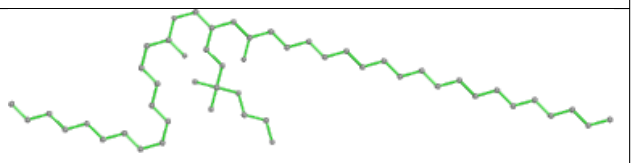


Rings

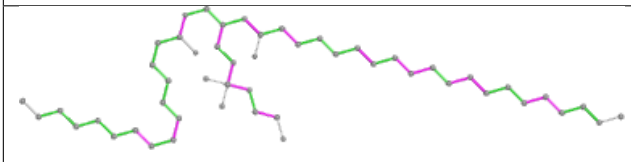
Ligand PTY b 303



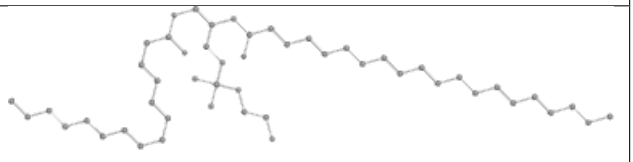
Bond lengths



Bond angles

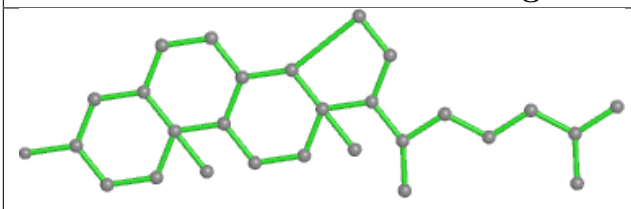


Torsions



Rings

Ligand CLR m 203



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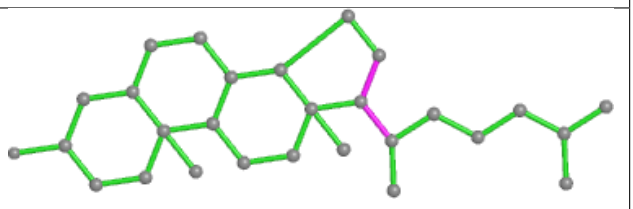
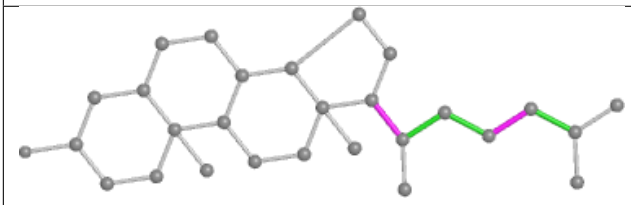
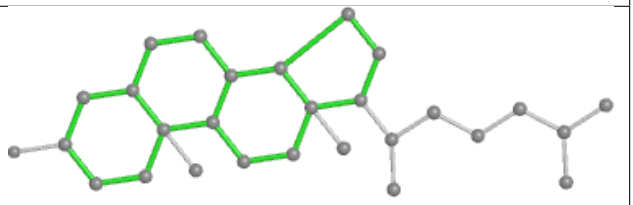


Bond angles

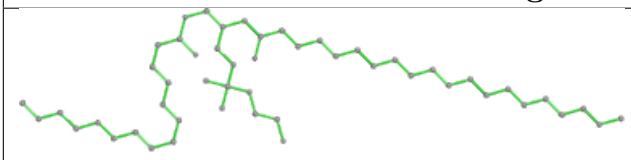


Torsions



Rings

Ligand PTY p 404



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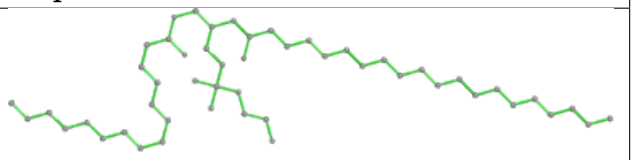
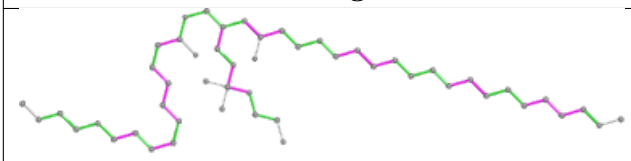
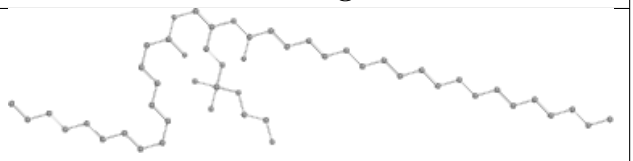


Bond angles

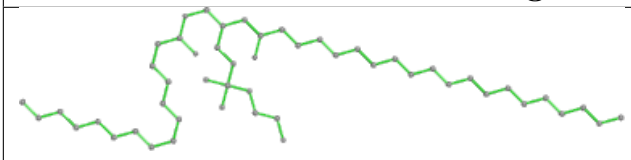


Torsions

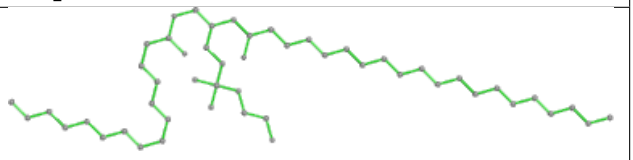


Rings

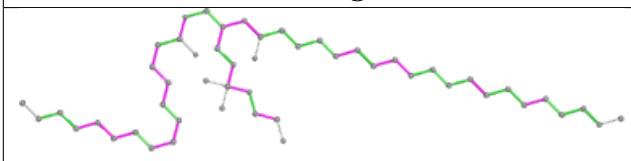
Ligand PTY p 403



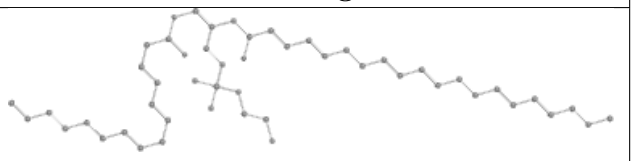
Bond lengths



Bond angles

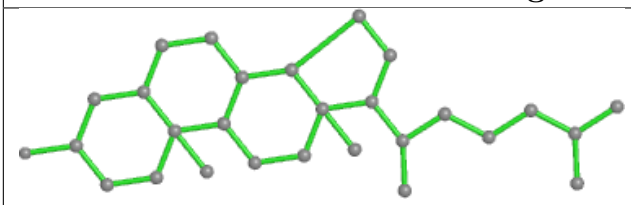


Torsions

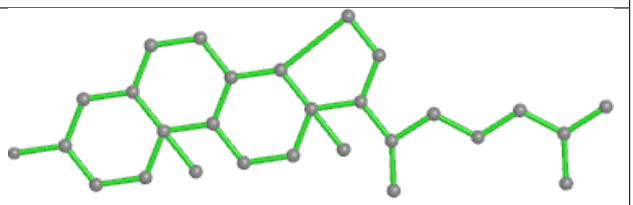


Rings

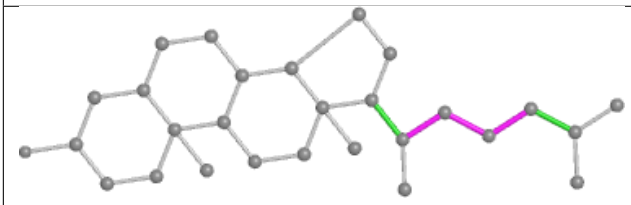
Ligand CLR n 205



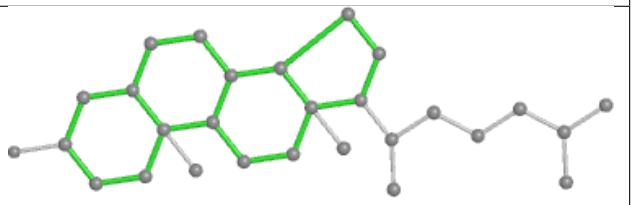
Bond lengths



Bond angles

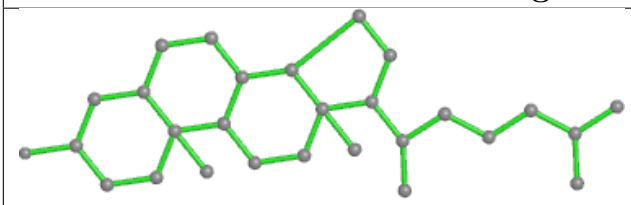


Torsions

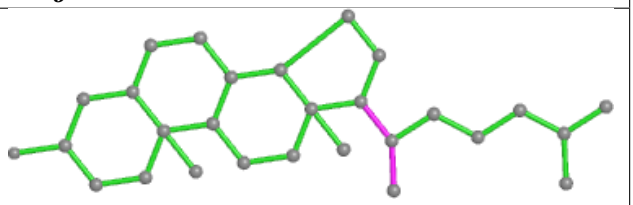


Rings

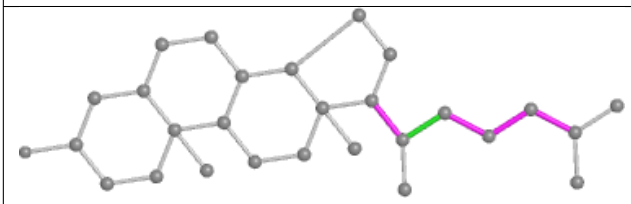
Ligand CLR j 203



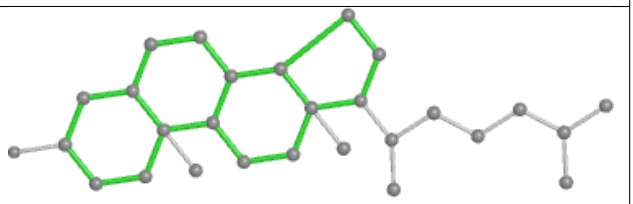
Bond lengths



Bond angles

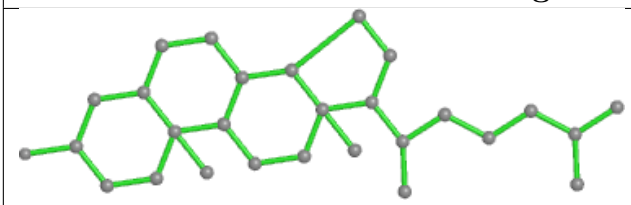


Torsions

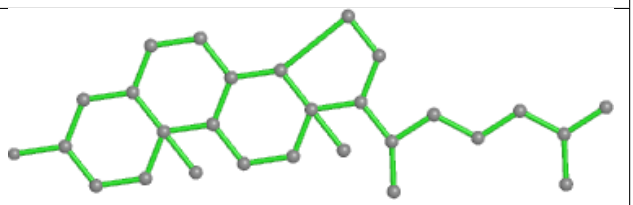


Rings

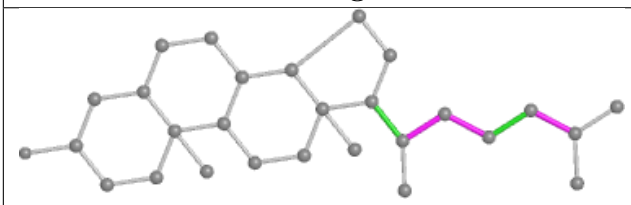
Ligand CLR l 205



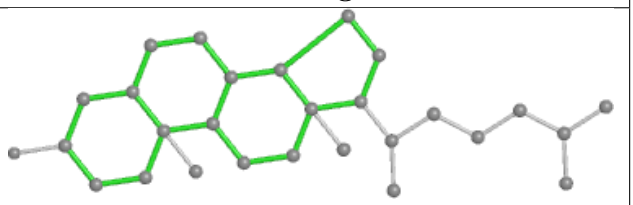
Bond lengths



Bond angles

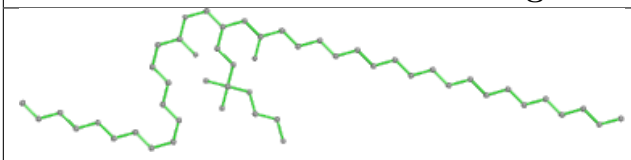


Torsions

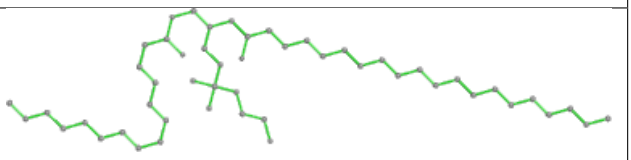


Rings

Ligand PTY b 302



Bond lengths



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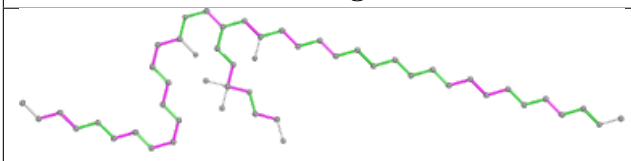

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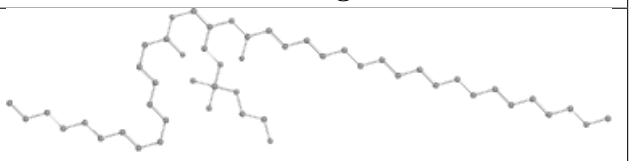
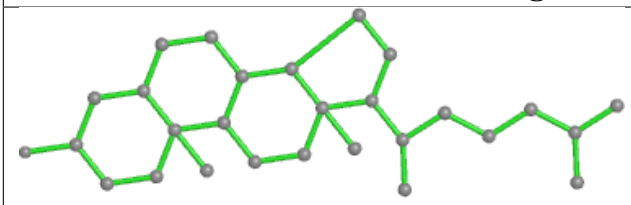


Rings

Ligand CLR k 203



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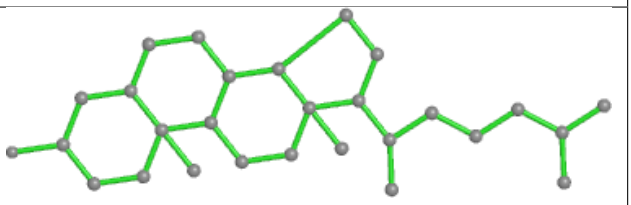

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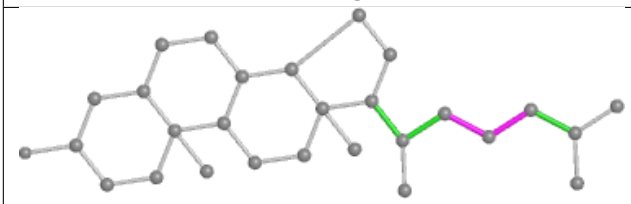

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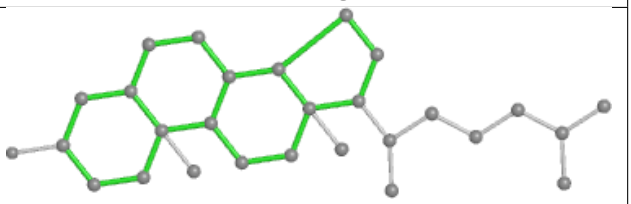
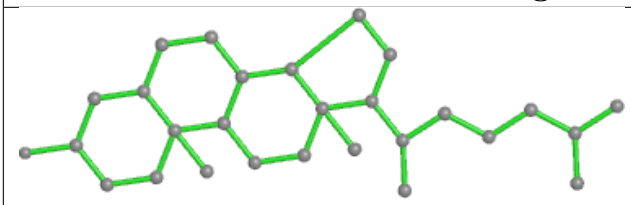


Rings

Ligand CLR j 202



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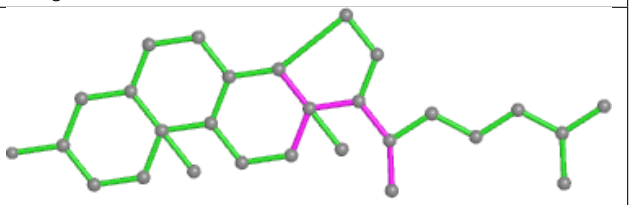
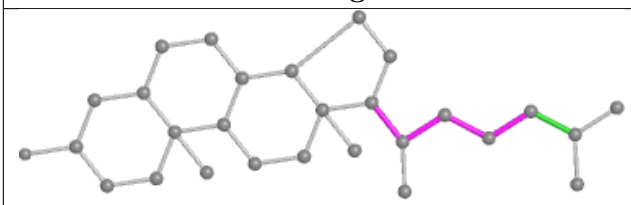


Bond angles



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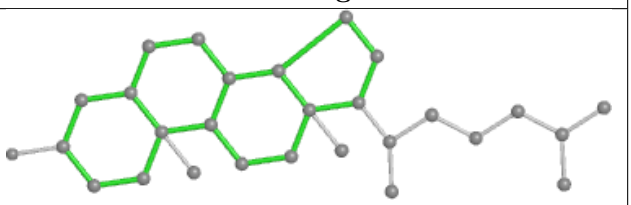
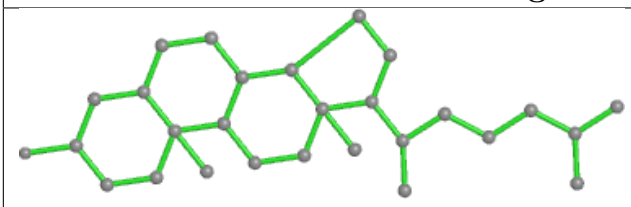


Rings

Ligand CLR o 203



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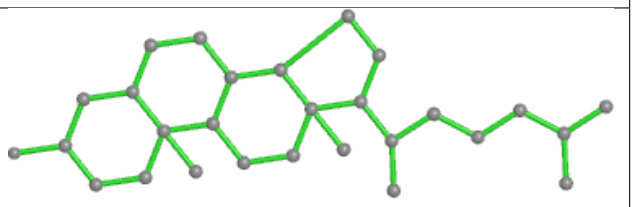

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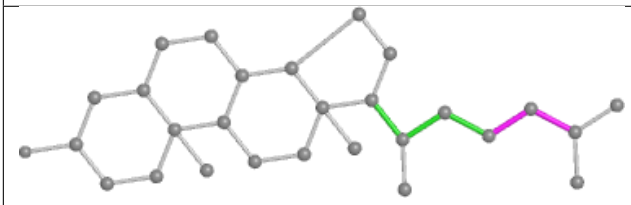

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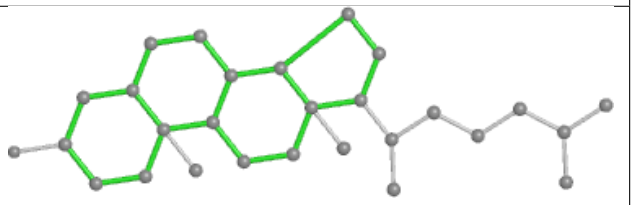
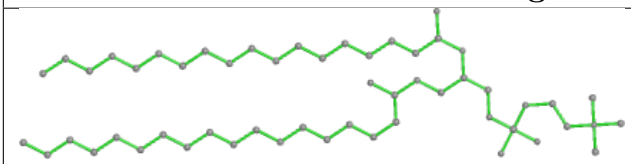


Rings

Ligand PC1 P 502



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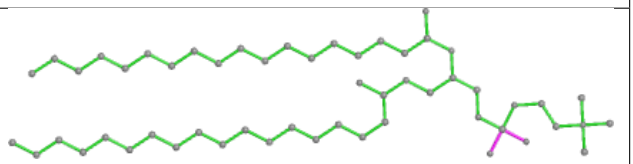
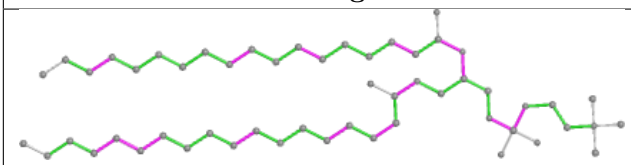


Bond angles



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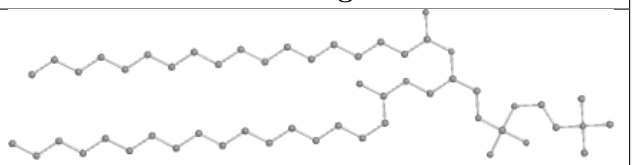
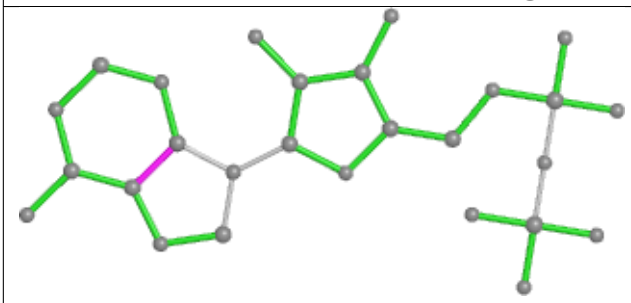


Rings

Ligand ADP A 701



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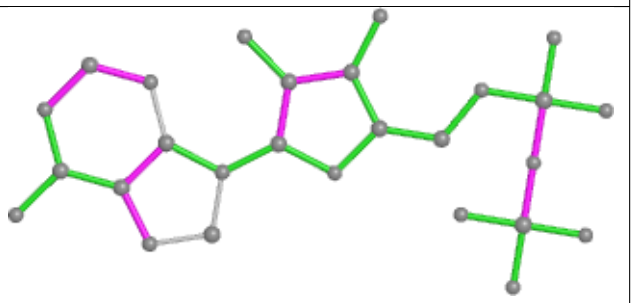
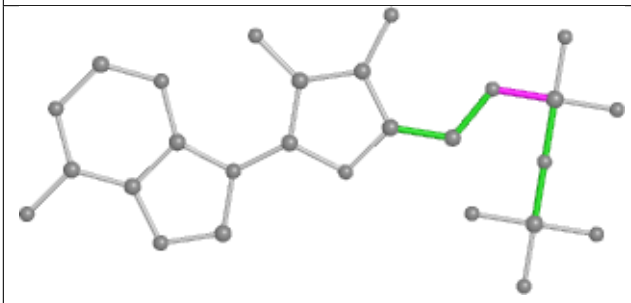


Bond angles



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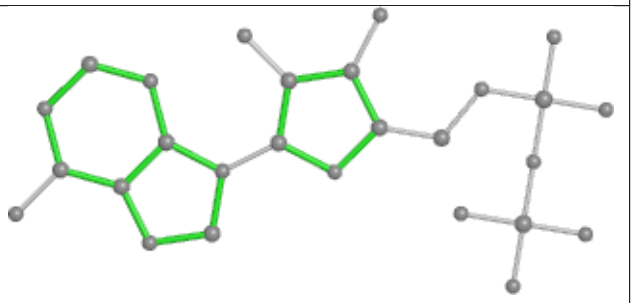
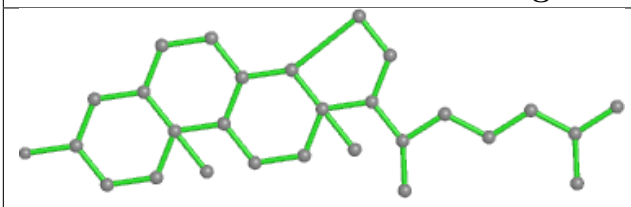


Rings

Ligand CLR i 203



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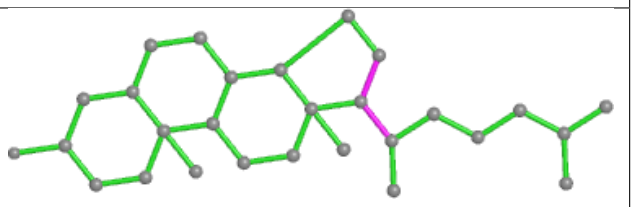

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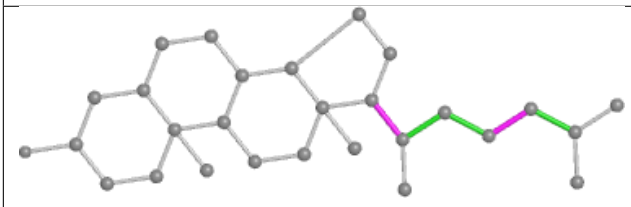

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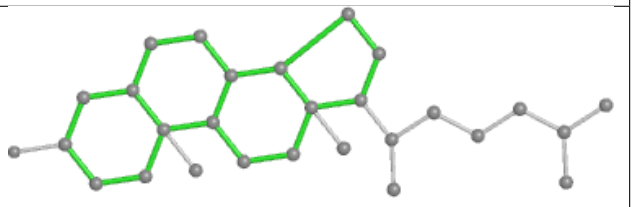
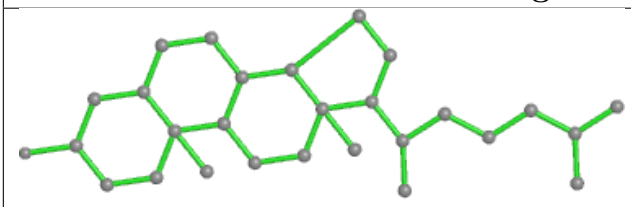


Rings

Ligand CLR j 201



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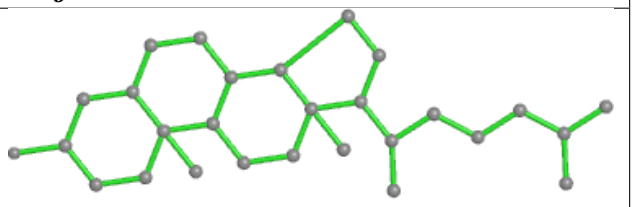
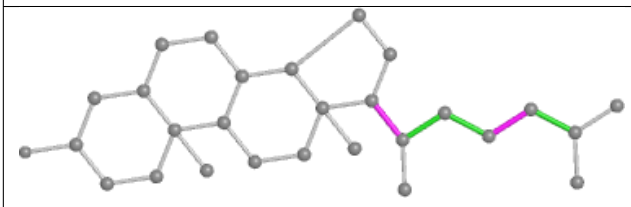


Bond angles



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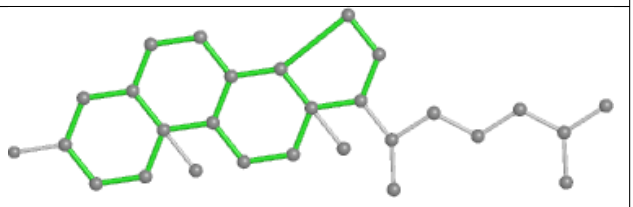
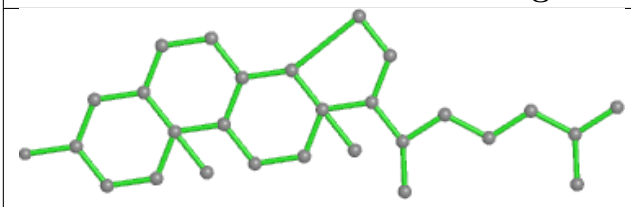
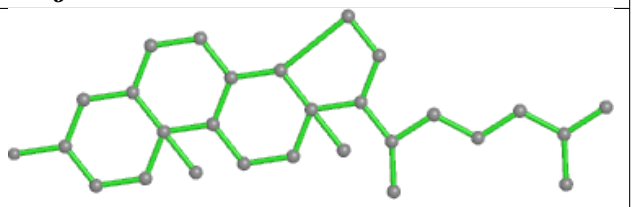


Rings

Ligand CLR j 204



Bond lengths



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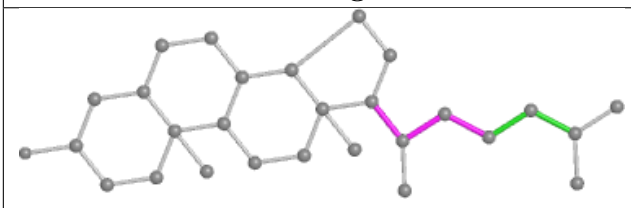
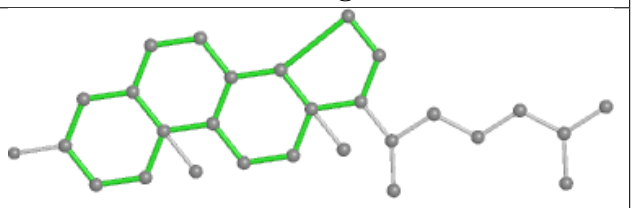
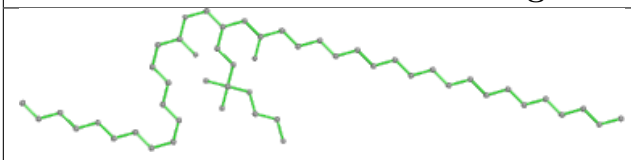


Torsions

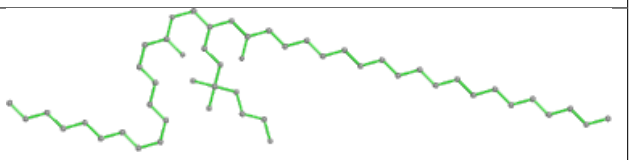


Rings

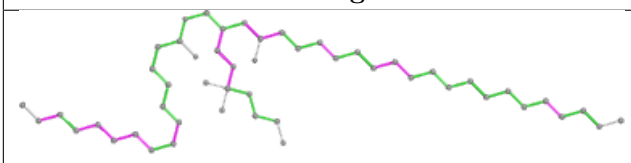
Ligand PTY a 903



Bond lengths



Bond angles



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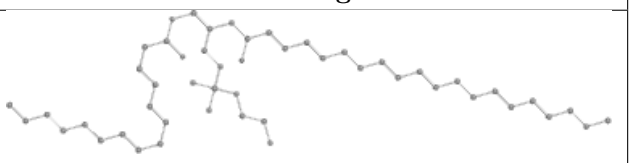
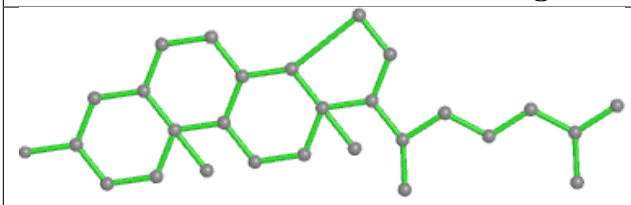
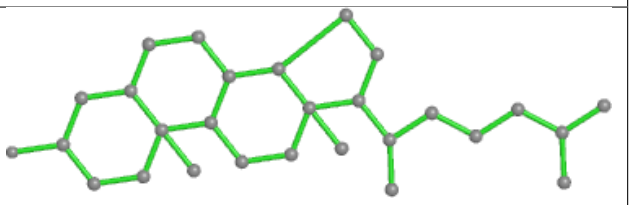


Rings

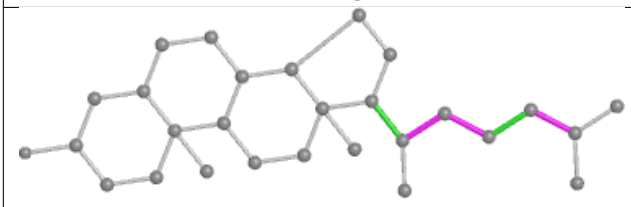
Ligand CLR l 203



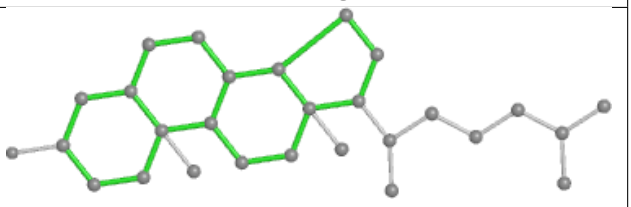
Bond lengths



Bond angles

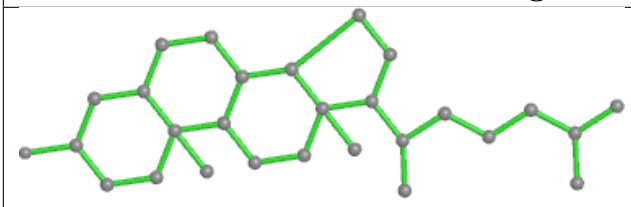


Torsions

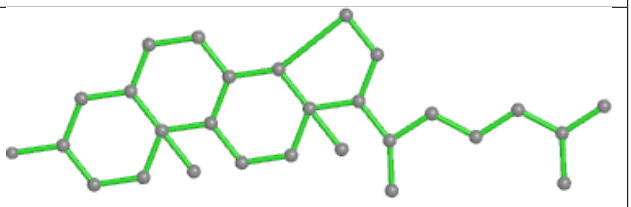


Rings

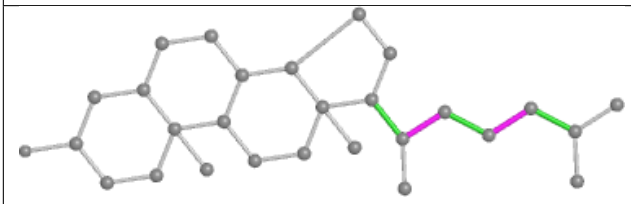
Ligand CLR k 201



Bond lengths



Bond angles



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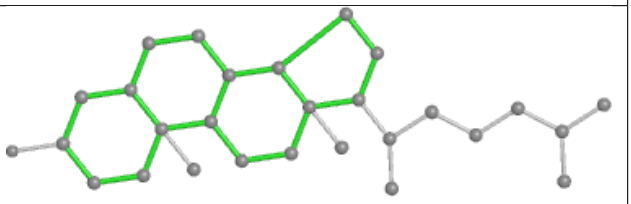
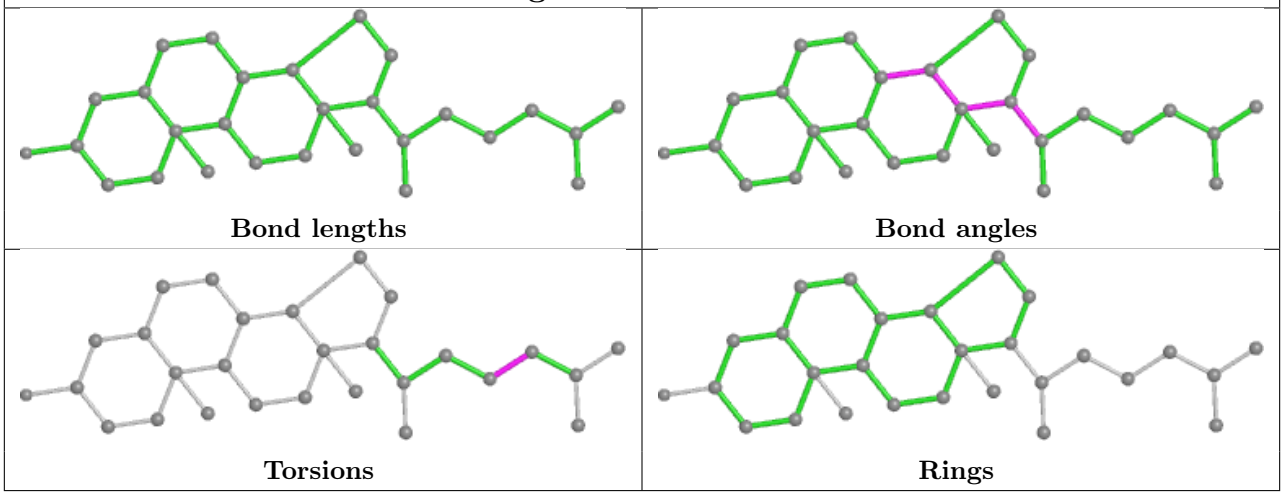
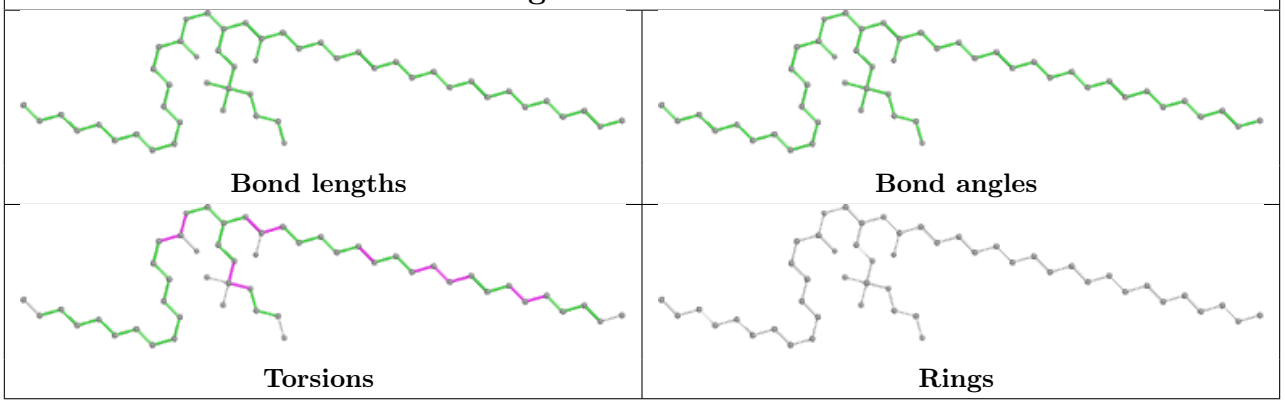


Rings

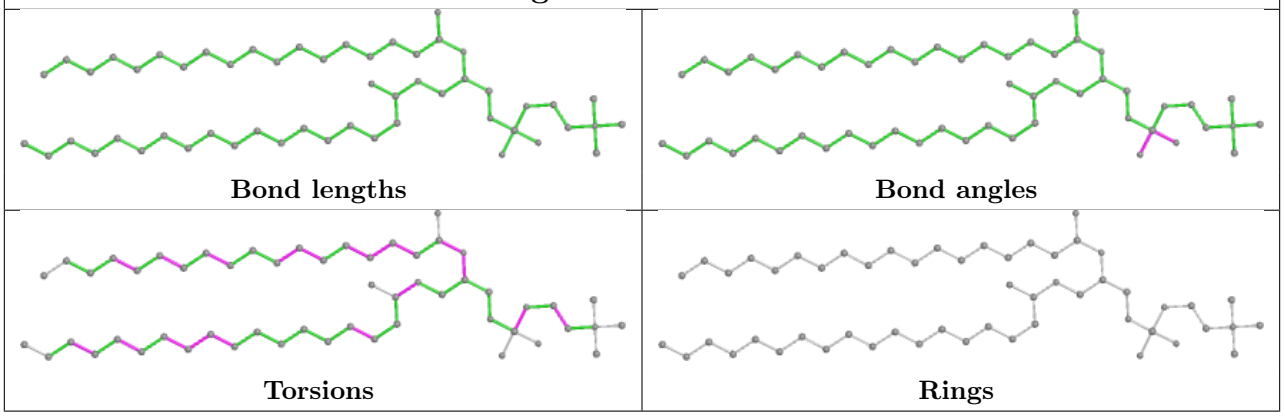
Ligand CLR n 201



Ligand PTY a 902



Ligand PC1 b 301



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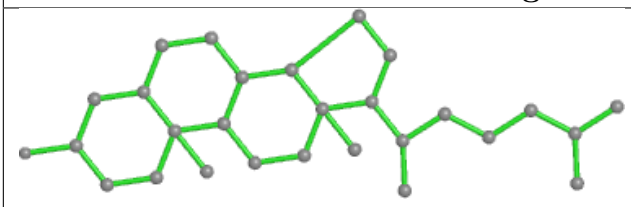
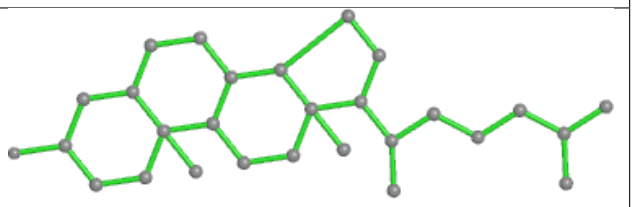
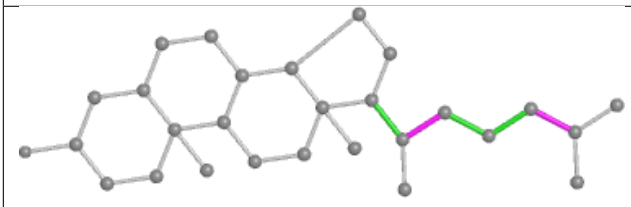


Bond lengths



Bond angles



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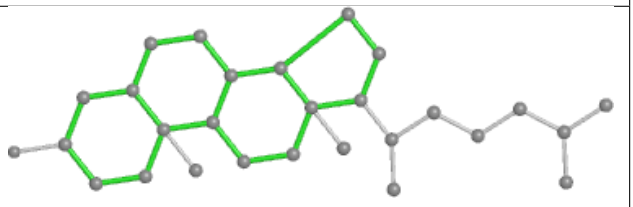
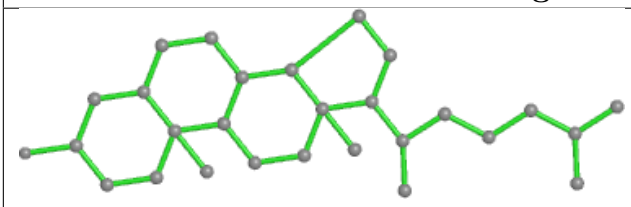
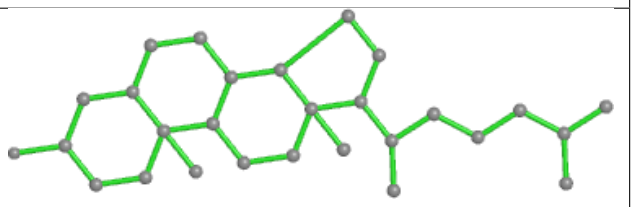


Rings

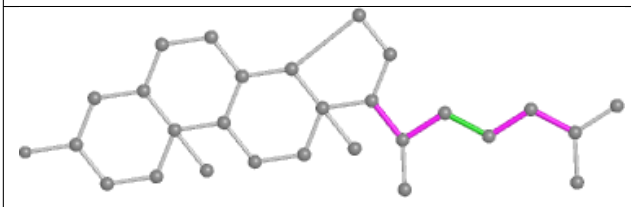
Ligand CLR i 204



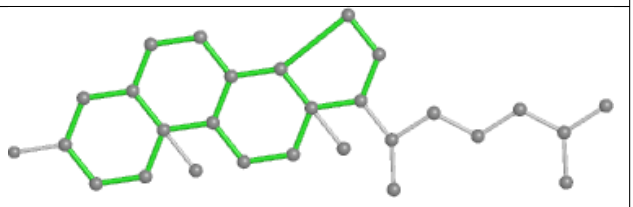
Bond lengths



Bond angles

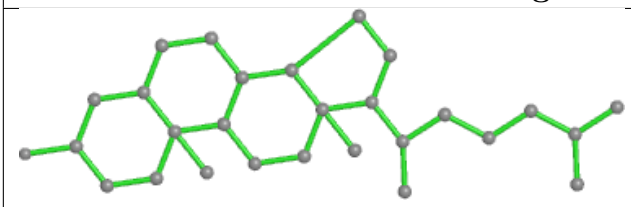


Torsions

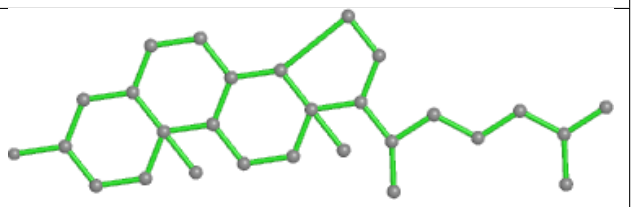


Rings

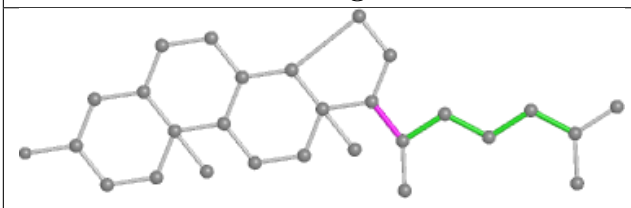
Ligand CLR l 202



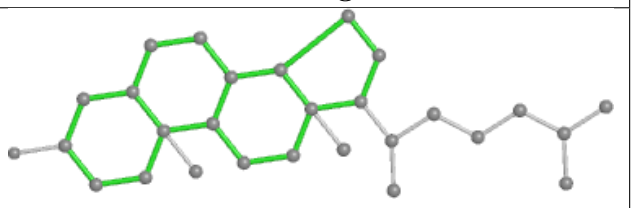
Bond lengths



Bond angles

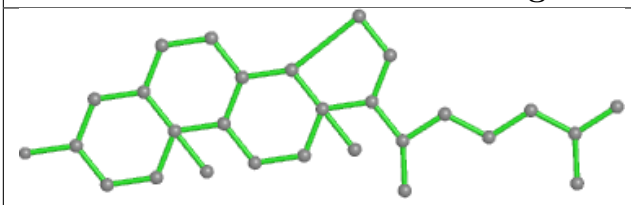


Torsions

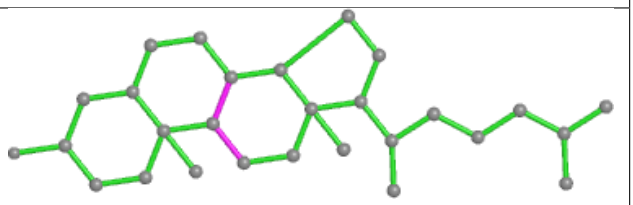


Rings

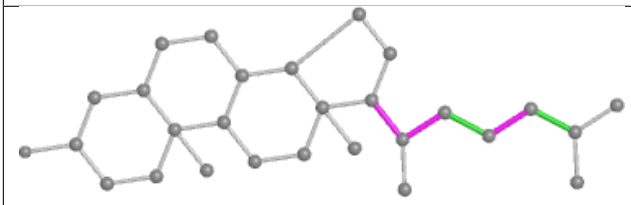
Ligand CLR o 201



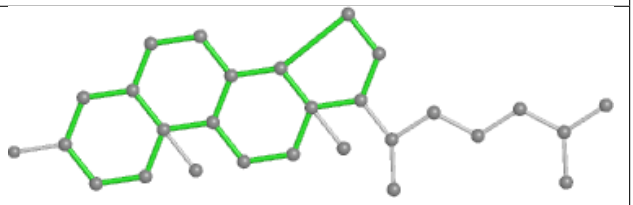
Bond lengths



Bond angles

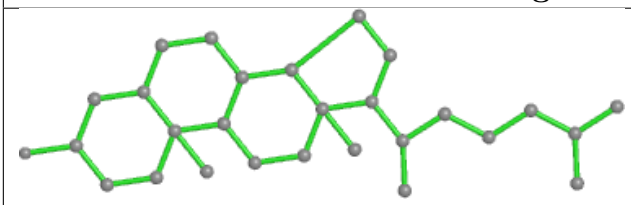


Torsions

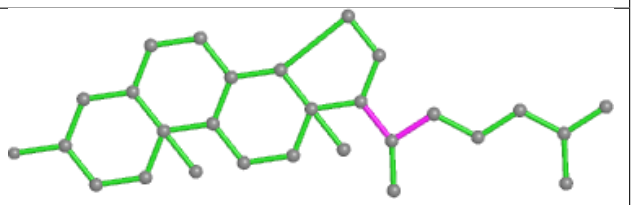


Rings

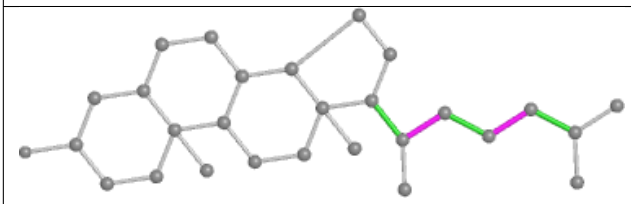
Ligand CLR i 201



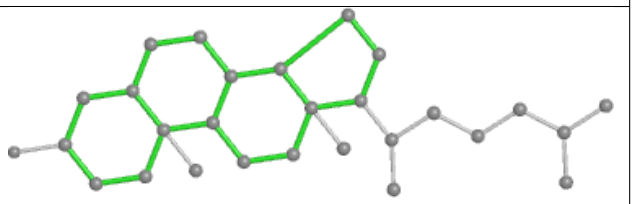
Bond lengths



Bond angles

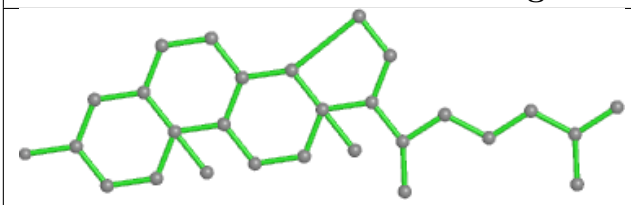


Torsions

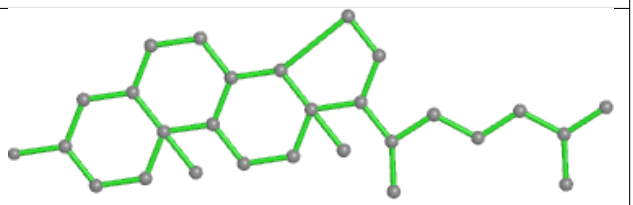


Rings

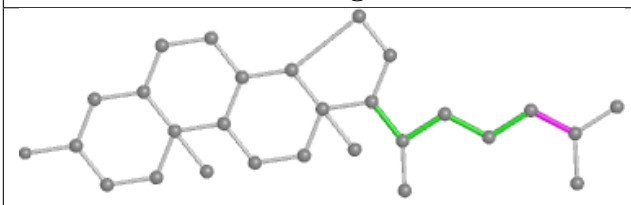
Ligand CLR n 203



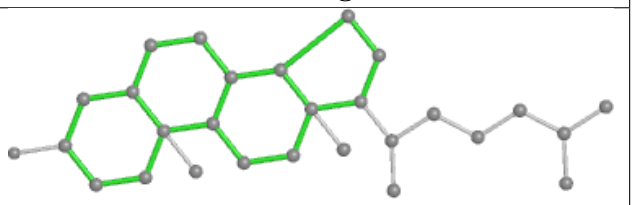
Bond lengths



Bond angles

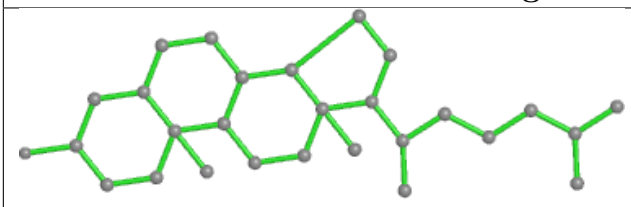


Torsions

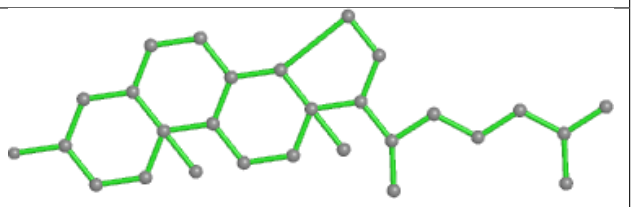


Rings

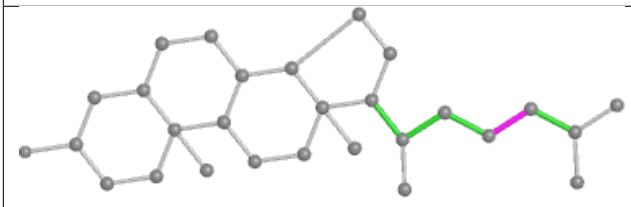
Ligand CLR m 202



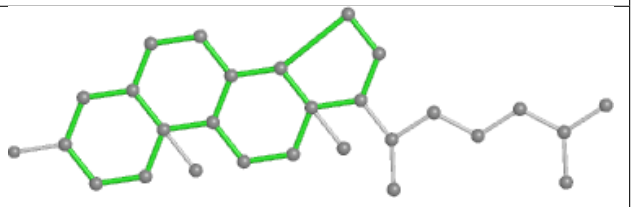
Bond lengths



Bond angles

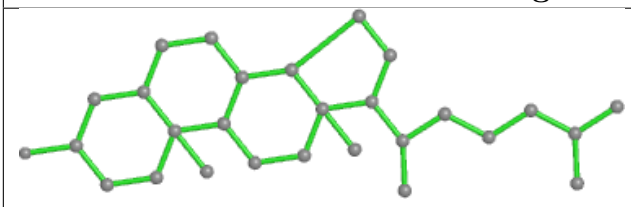


Torsions

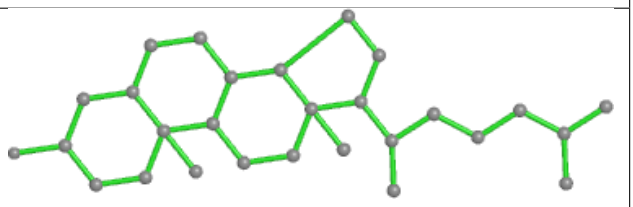


Rings

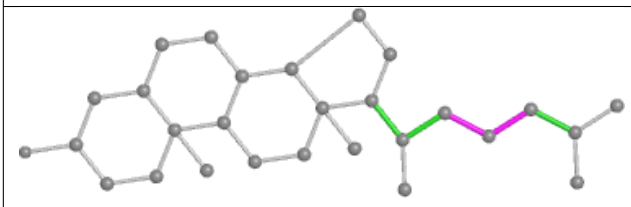
Ligand CLR l 204



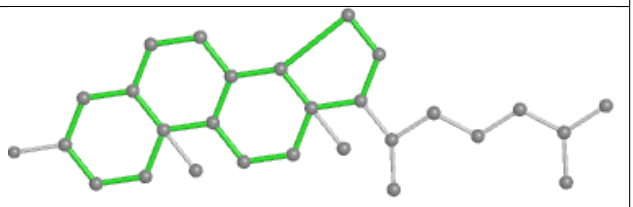
Bond lengths



Bond angles

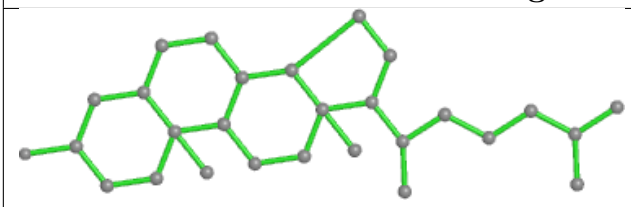


Torsions

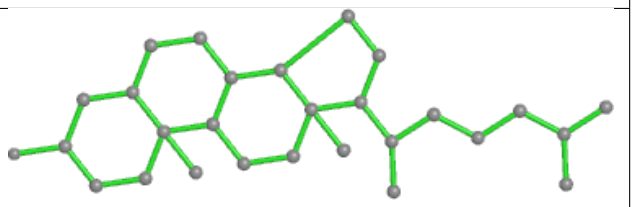


Rings

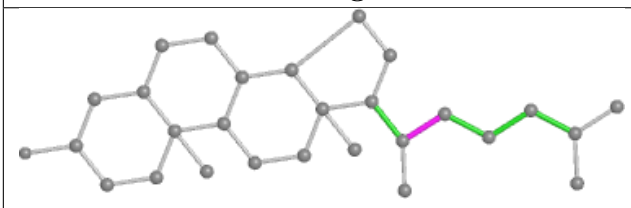
Ligand CLR k 202



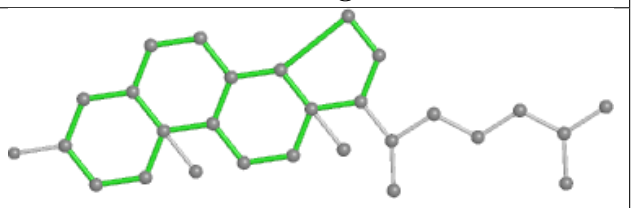
Bond lengths



Bond angles

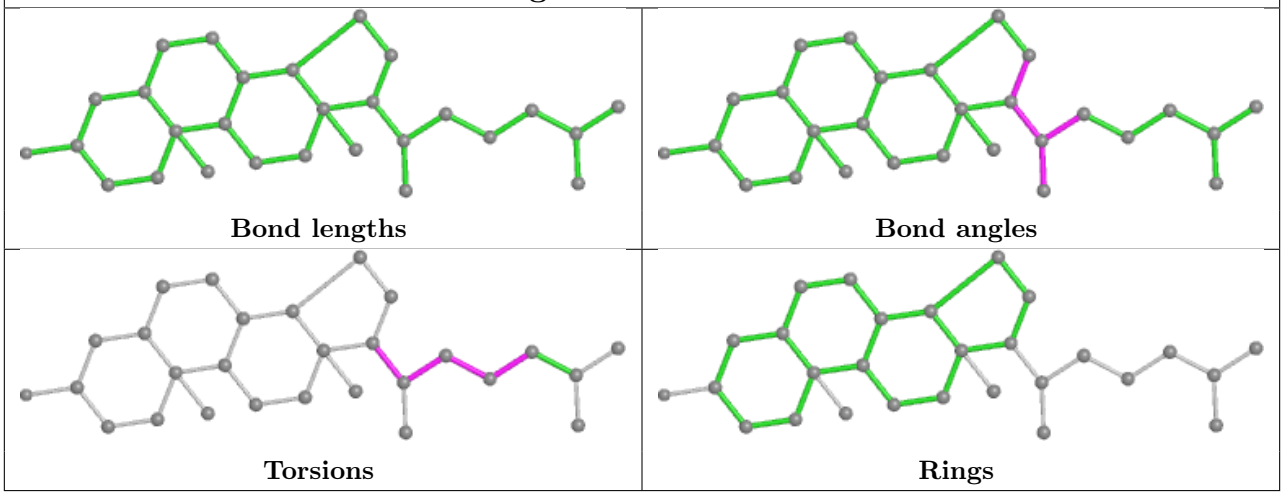


Torsions

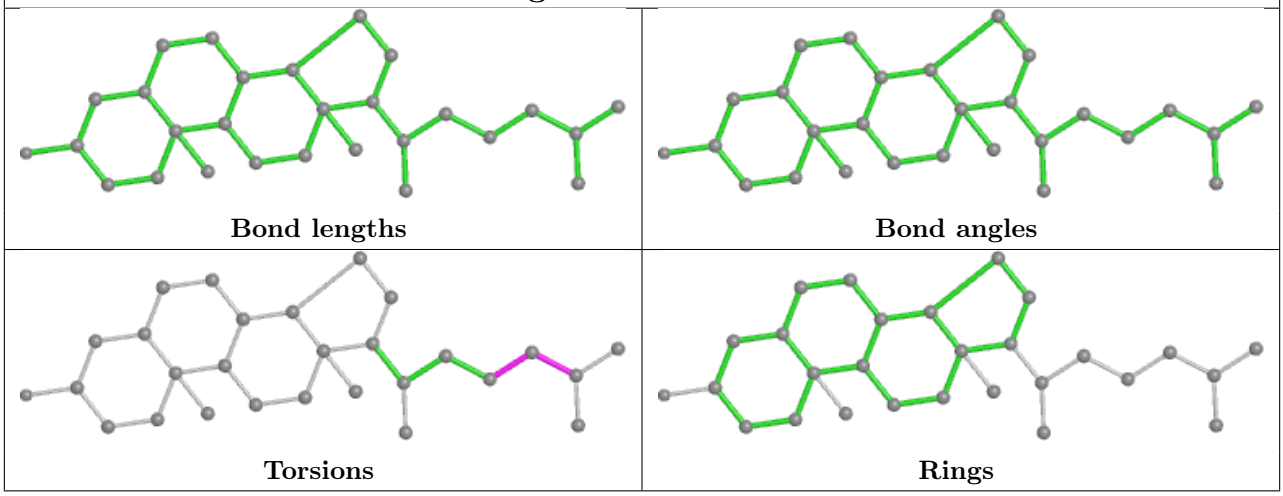


Rings

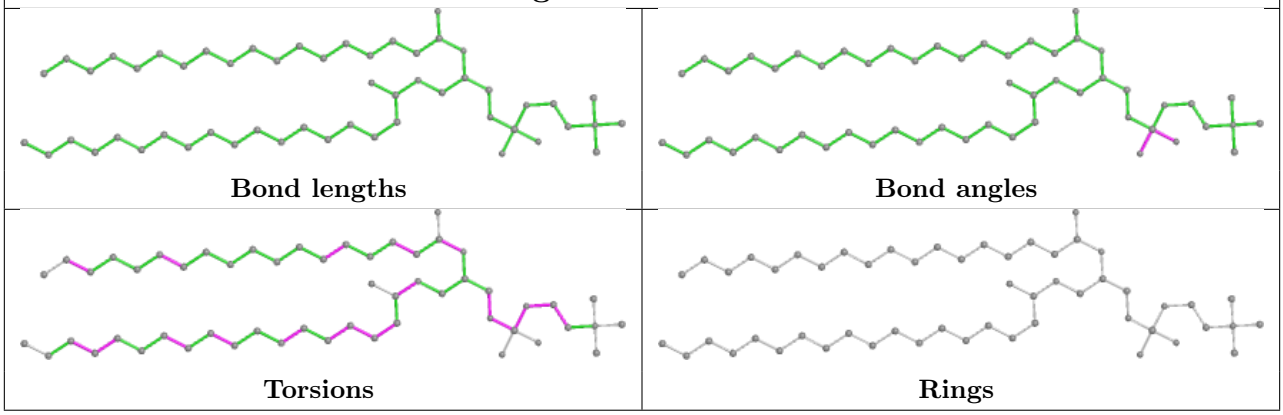
Ligand CLR o 202



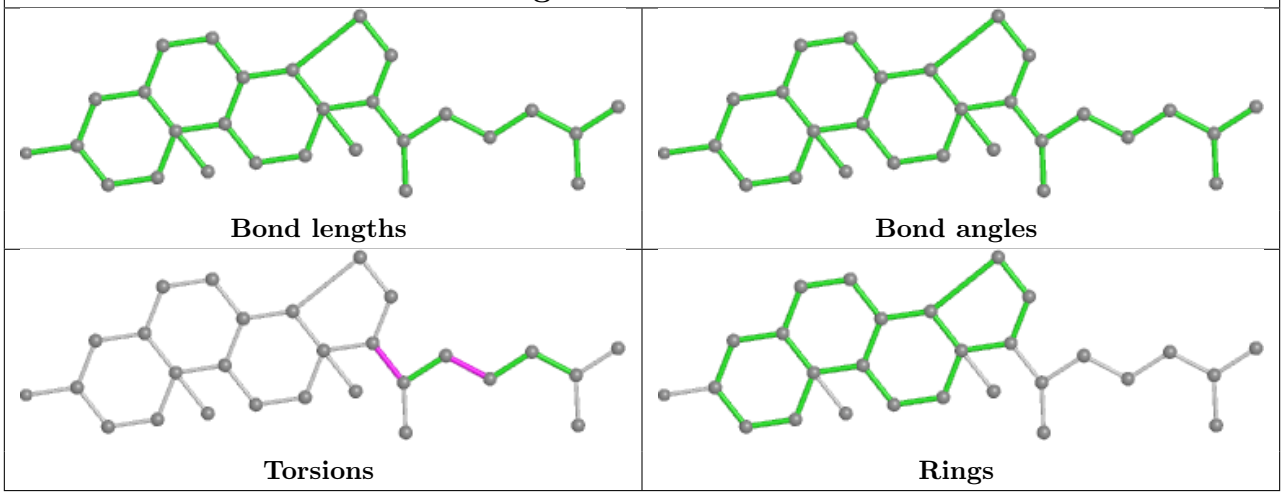
Ligand CLR n 204



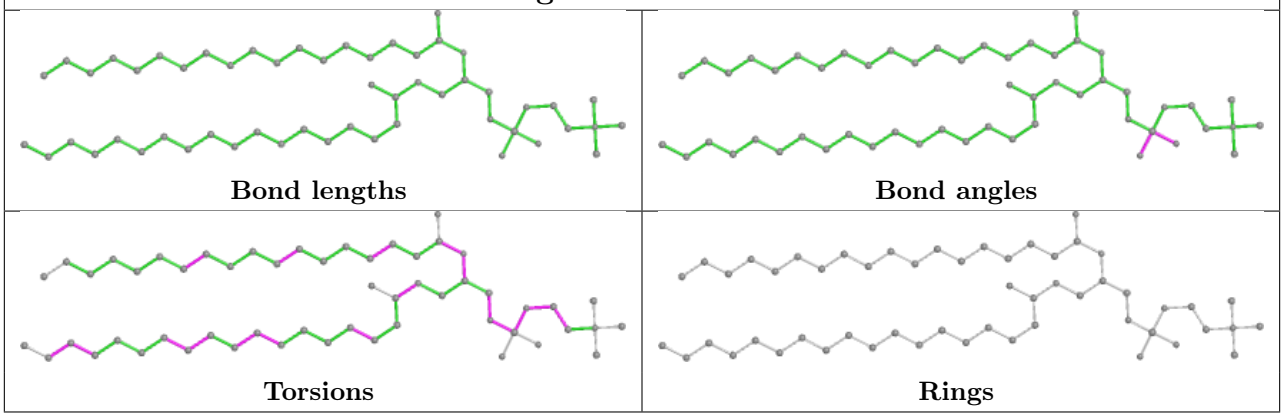
Ligand PC1 a 901



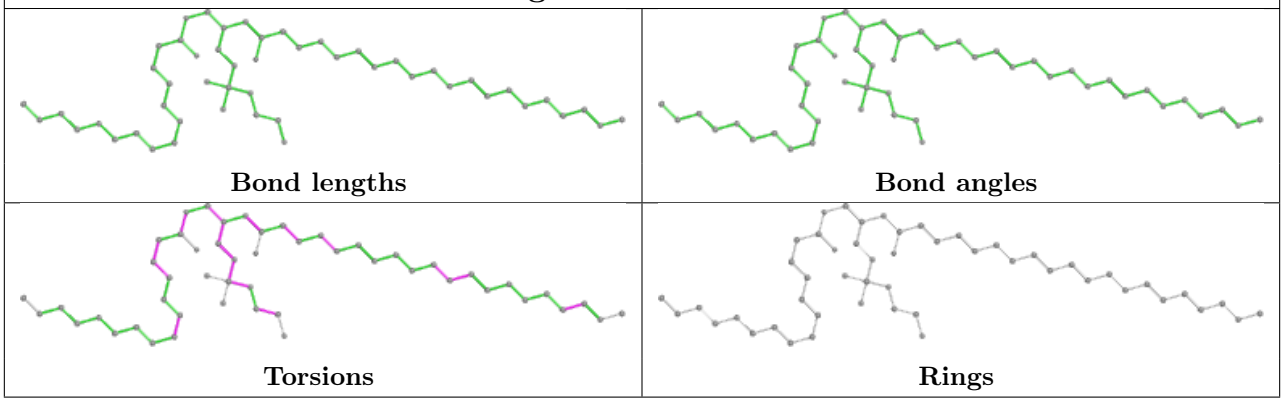
Ligand CLR i 202



Ligand PC1 l 201



Ligand PTY a 904



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.

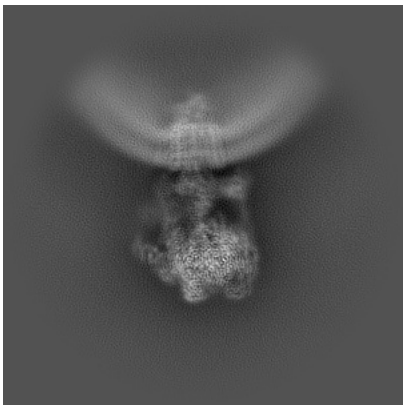
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-44353. These allow visual inspection of the internal detail of the map and identification of artifacts.

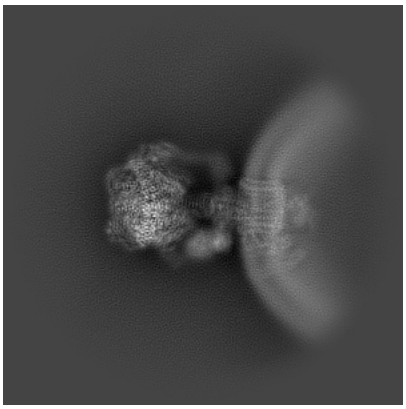
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

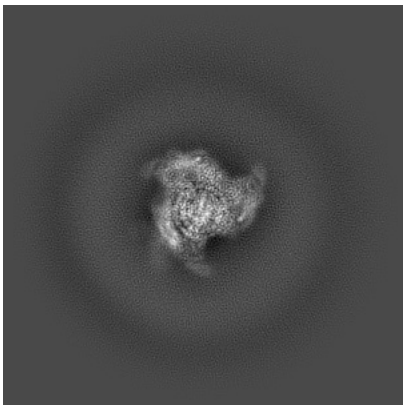
6.1.1 Primary map



X

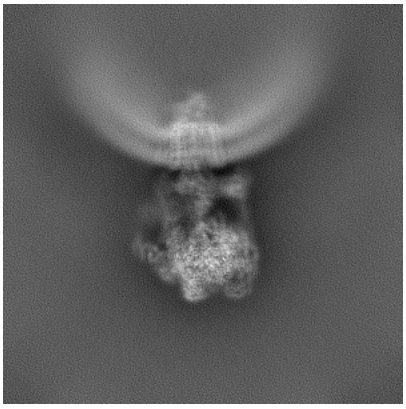


Y

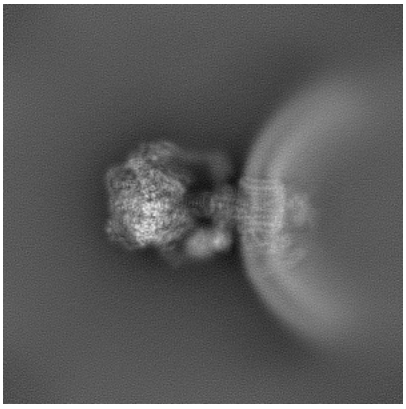


Z

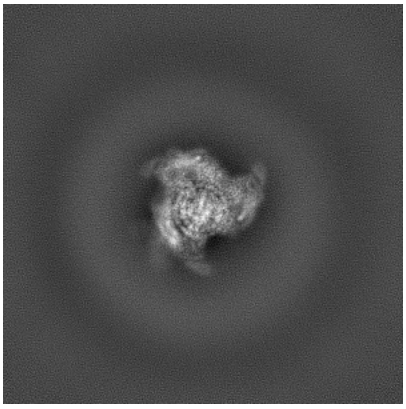
6.1.2 Raw map



X



Y

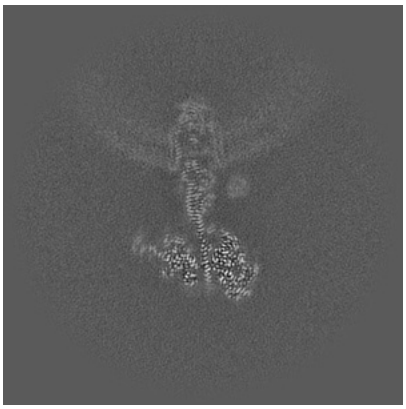


Z

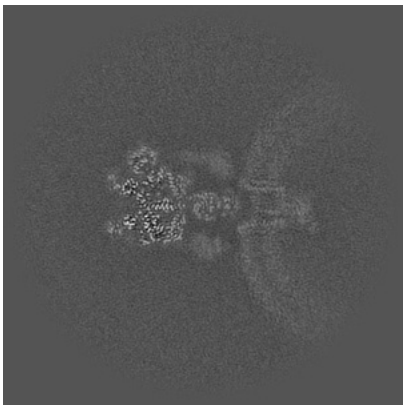
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

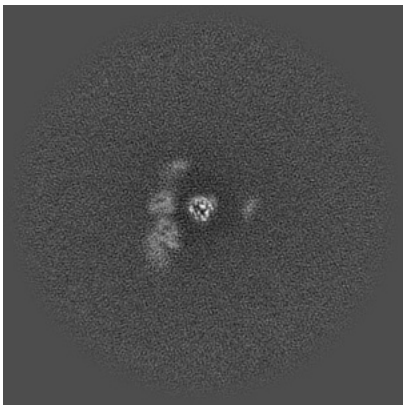
6.2.1 Primary map



X Index: 192

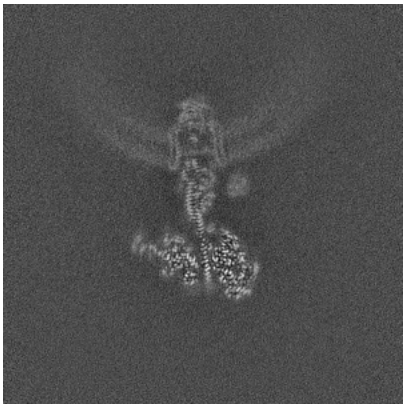


Y Index: 192

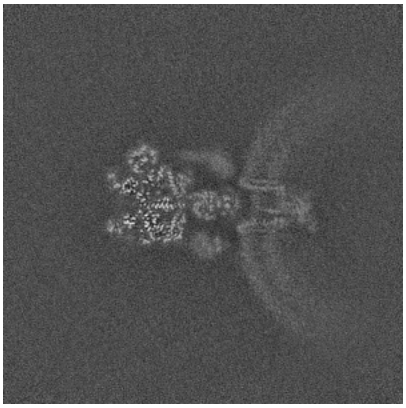


Z Index: 192

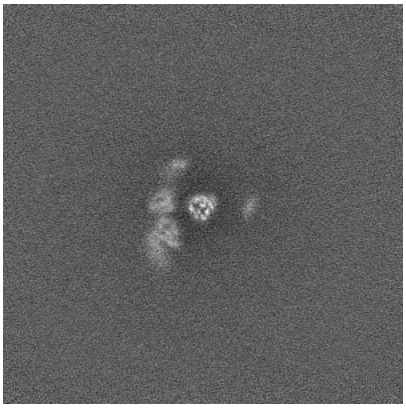
6.2.2 Raw map



X Index: 192



Y Index: 192



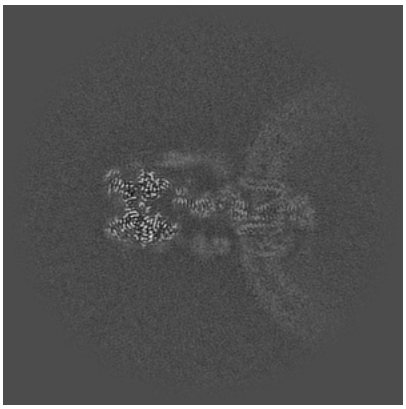
Z Index: 192

The images above show central slices of the map in three orthogonal directions.

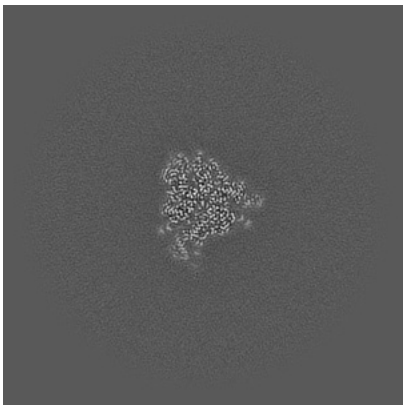
6.3 Largest variance slices (i)

6.3.1 Primary map

X Index: 191

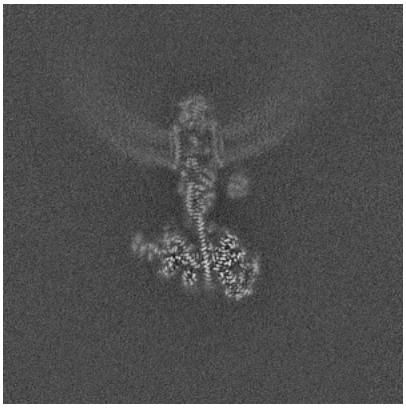


Y Index: 185

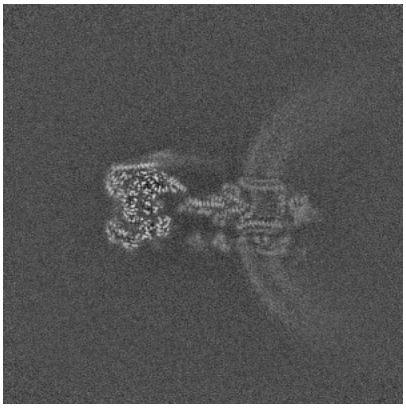


Z Index: 136

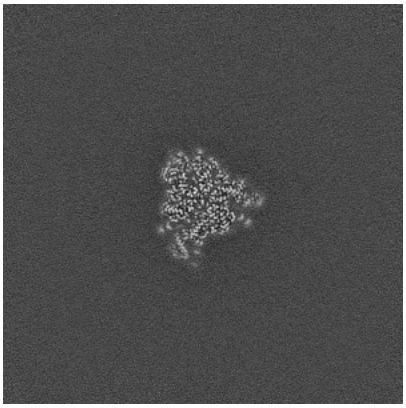
6.3.2 Raw map



X Index: 191



Y Index: 179

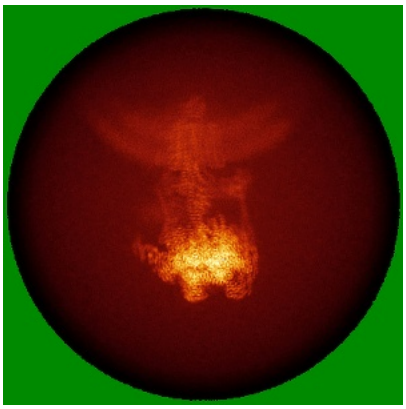


Z Index: 136

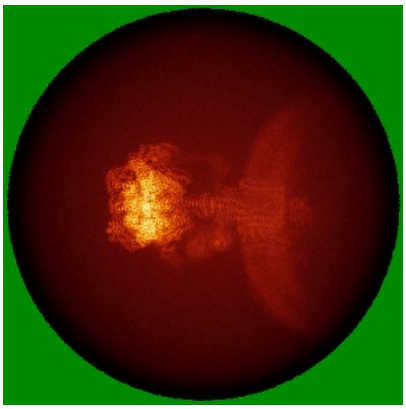
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

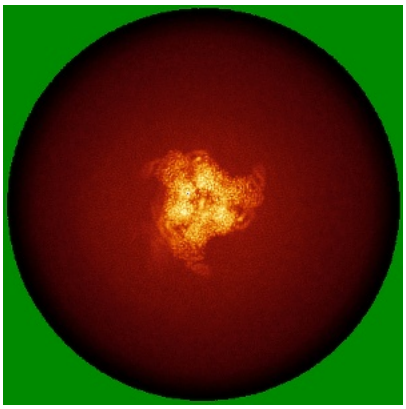
6.4.1 Primary map



X

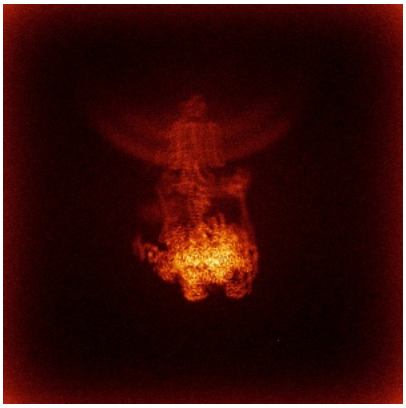


Y

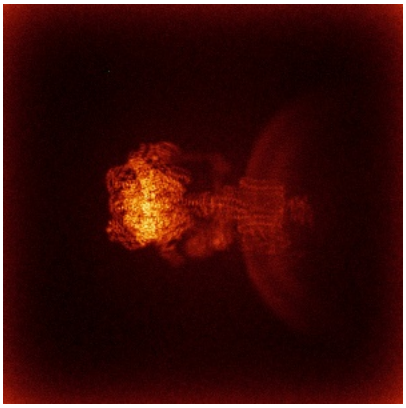


Z

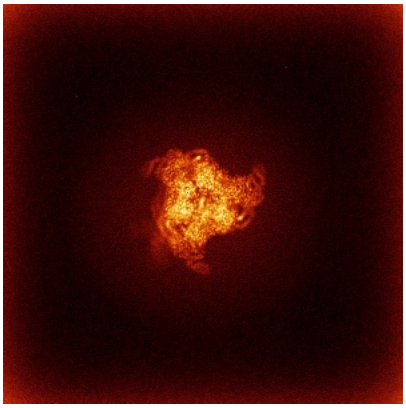
6.4.2 Raw map



X



Y



Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

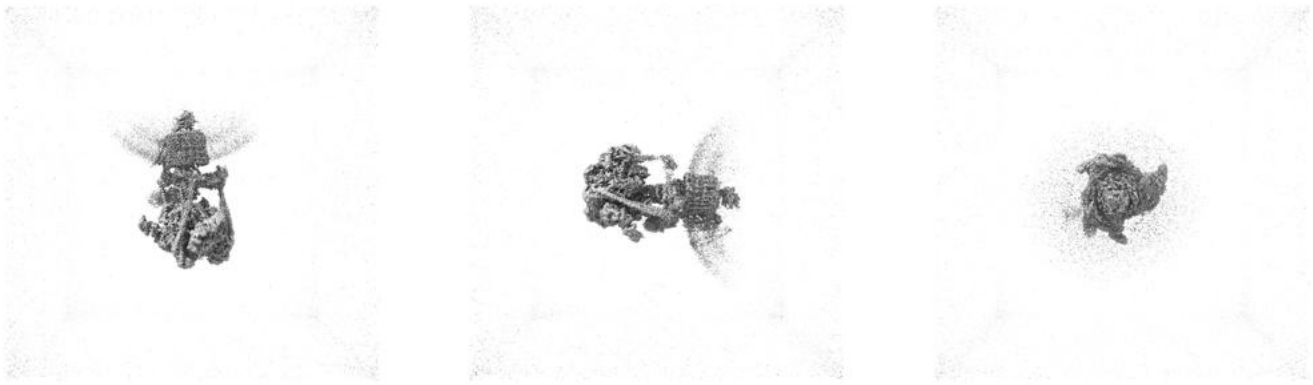
6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.185. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

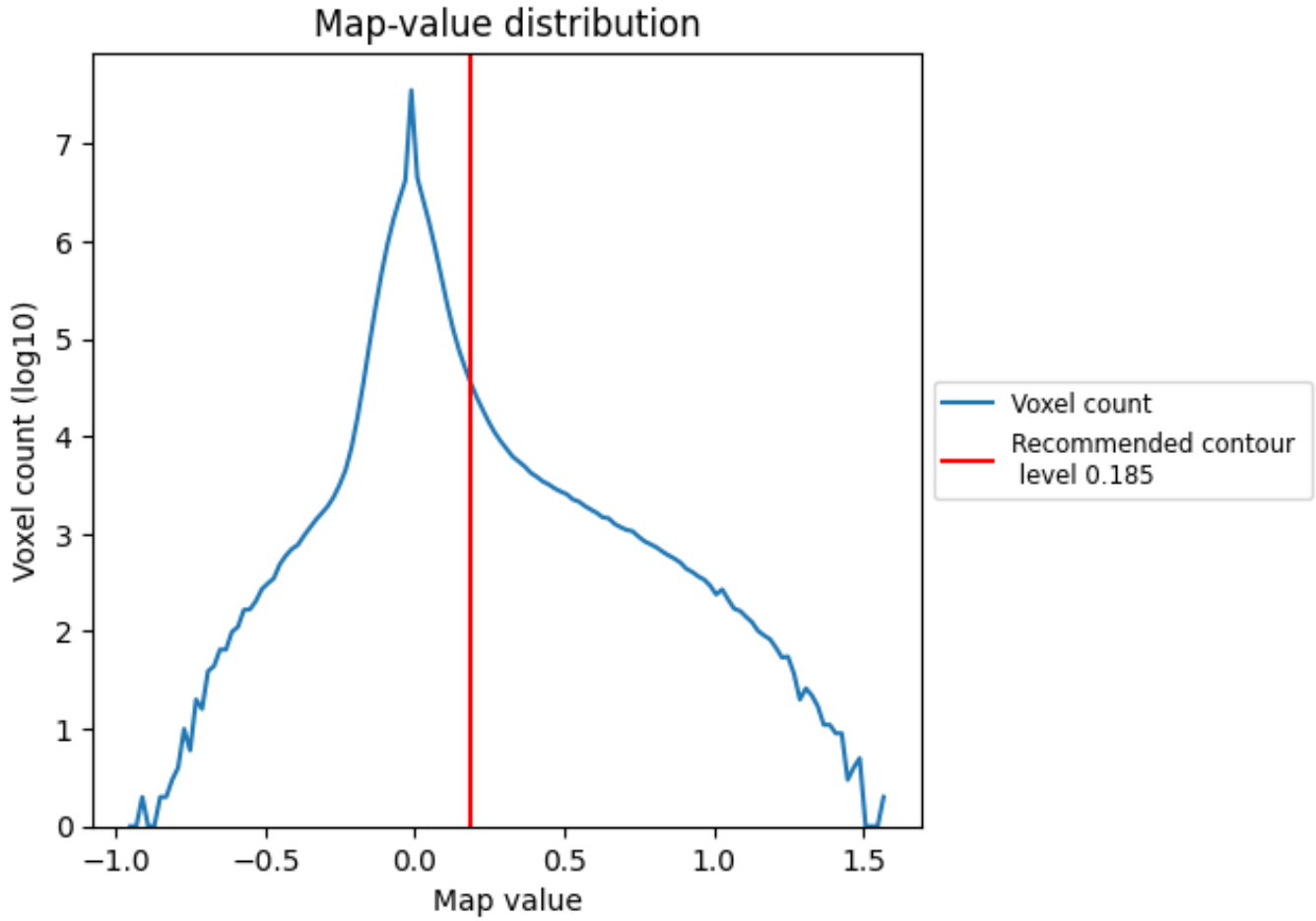
6.6 Mask visualisation (i)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis

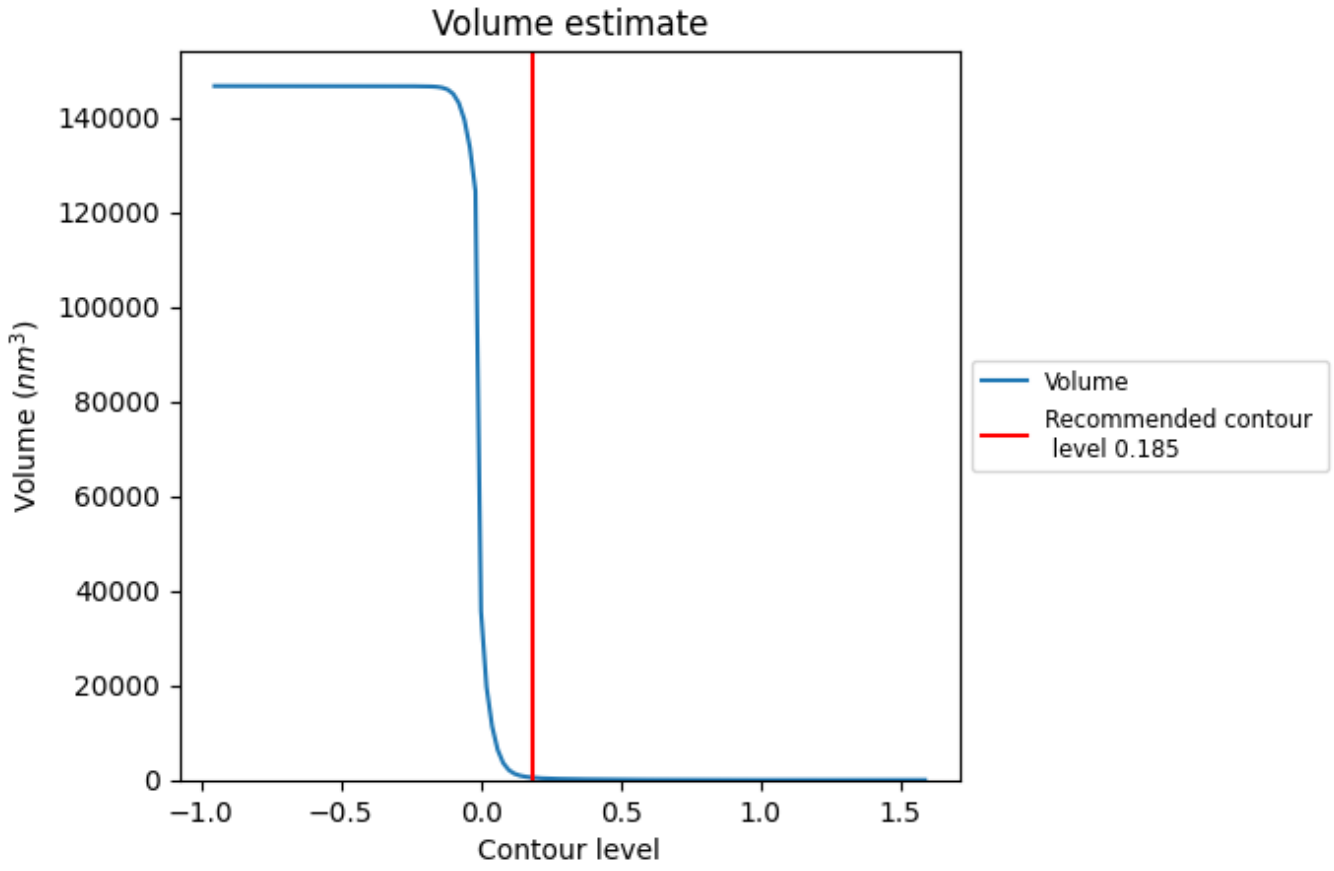
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

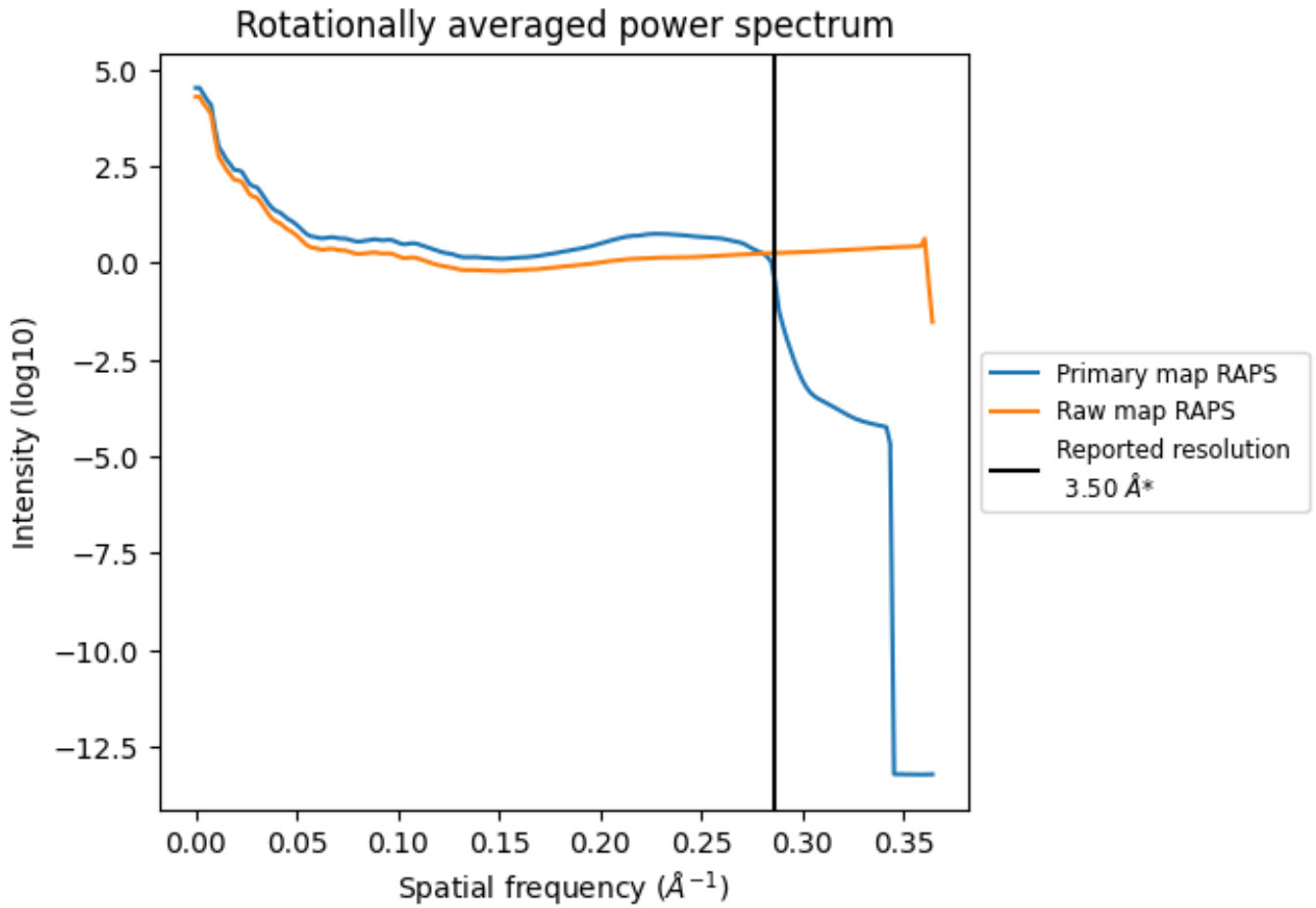
7.2 Volume estimate



The volume at the recommended contour level is 499 nm^3; this corresponds to an approximate mass of 450 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)

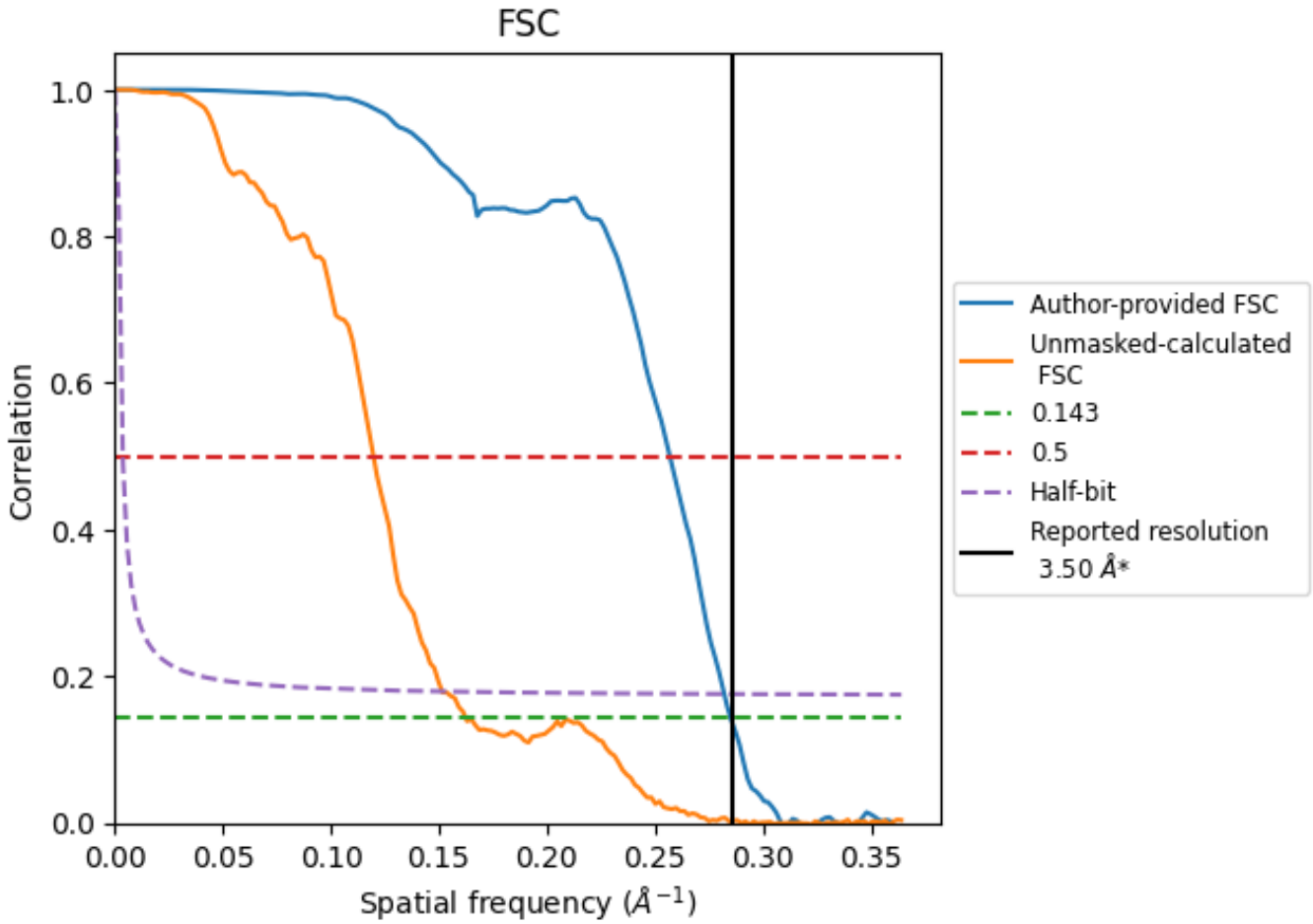


*Reported resolution corresponds to spatial frequency of 0.286 $Å^{-1}$

8 Fourier-Shell correlation

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.286 Å^{-1}

8.2 Resolution estimates (i)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.50	-	-
Author-provided FSC curve	3.51	3.89	3.54
Unmasked-calculated*	6.16	8.36	6.60

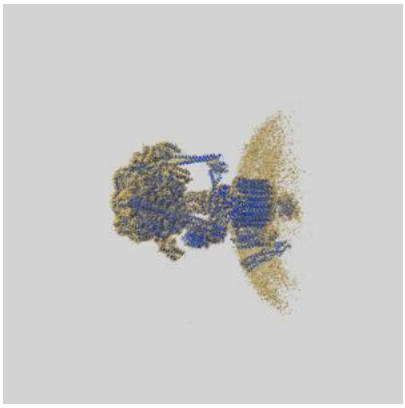
*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 6.16 differs from the reported value 3.5 by more than 10 %

9 Map-model fit

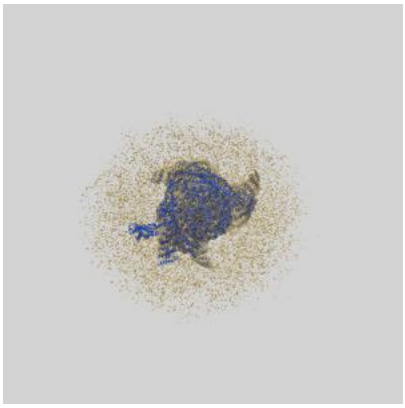
This section contains information regarding the fit between EMDB map EMD-44353 and PDB model 9BRD. Per-residue inclusion information can be found in section 3 on page 16.

9.1 Map-model overlay

X



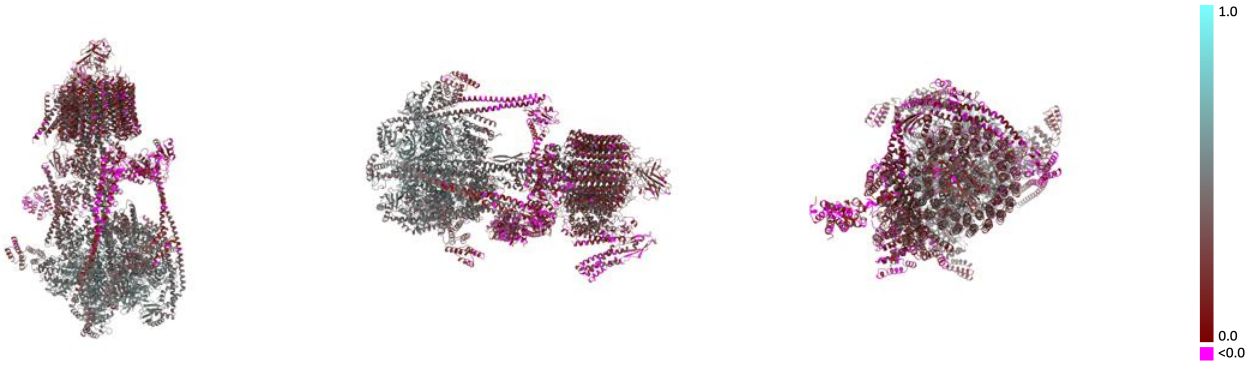
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.185 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

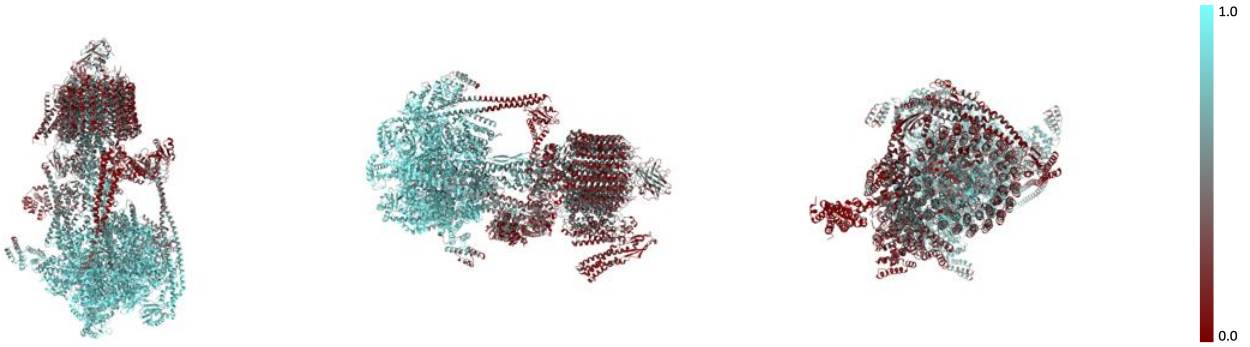
9.2 Q-score mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

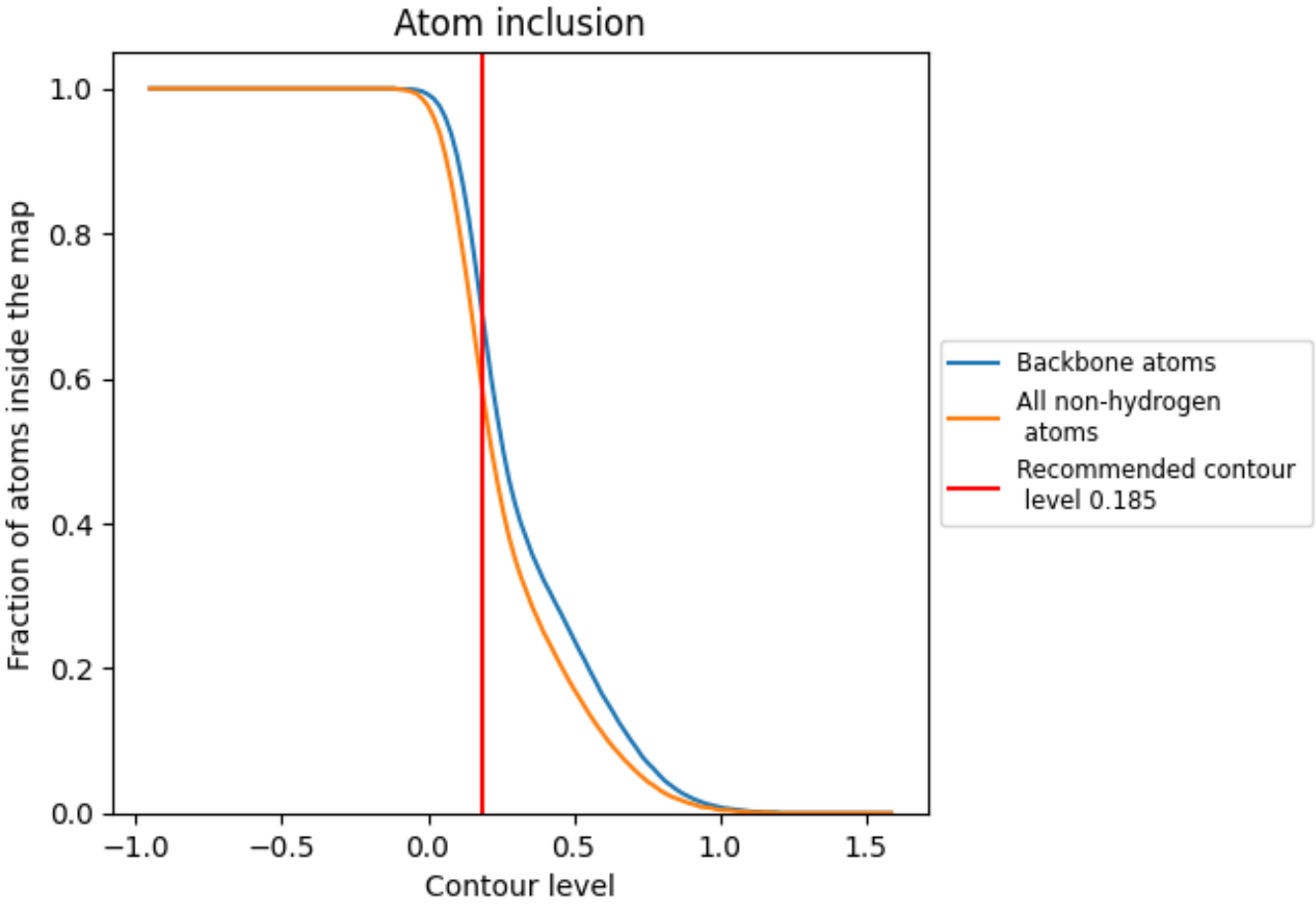
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.185).

9.4 Atom inclusion (i)



At the recommended contour level, 69% of all backbone atoms, 59% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.185) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.5880	0.3510
A	0.8430	0.4940
B	0.8120	0.4820
C	0.8080	0.4710
D	0.8530	0.5110
E	0.8690	0.5140
F	0.8690	0.5120
G	0.2150	0.0830
H	0.7390	0.4320
I	0.7180	0.4000
J	0.7200	0.3680
K	0.6980	0.3660
L	0.6570	0.3720
M	0.6310	0.3150
N	0.6620	0.3080
O	0.5510	0.2490
P	0.4210	0.2740
Q	0.7020	0.3570
R	0.7140	0.3500
S	0.7480	0.3820
T	0.2470	0.1220
U	0.0570	0.0590
V	0.1430	0.0320
W	0.0710	0.0100
X	0.2500	0.1750
Y	0.3930	0.3350
Z	0.2140	0.2230
a	0.3280	0.2100
b	0.4910	0.3580
c	0.3210	0.1100
d	0.5210	0.3490
e	0.2770	0.2280
f	0.2080	0.1400
g	0.5340	0.3640
h	0.3820	0.3030

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Chain	Atom inclusion	Q-score
i	0.2390	0.2180
j	0.2220	0.2160
k	0.2700	0.2060
l	0.2890	0.2180
m	0.2850	0.2180
n	0.3060	0.2520
o	0.4130	0.3080
p	0.2610	0.2900
q	0.1070	0.0340
r	0.1790	0.0680
s	0.3460	0.2230