wwPDB EM Validation Summary Report (i)

Nov 21, 2022 – 06:20 AM EST

PDB ID	:	7N61
EMDB ID	:	EMD-24191
Title	:	structure of C2 projections and MIPs
Authors	:	Han, L.; Zhang, K.
Deposited on	:	2021-06-07
Resolution	:	3.50 Å(reported)

This is a wwPDB EM Validation Summary Report for a publicly released PDB entry.

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

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

The following versions of software and data (see references (1)) were used in the production of this report:

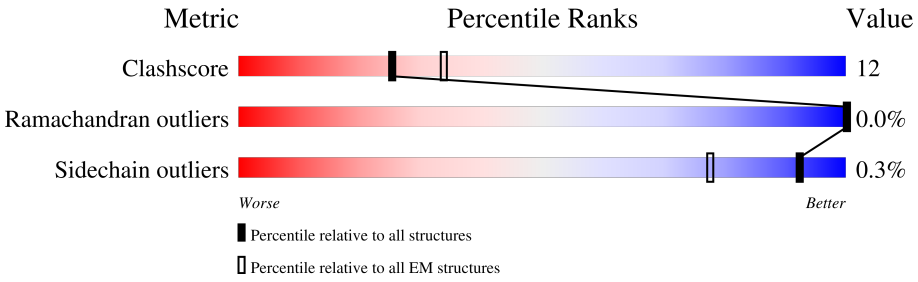
EMDB validation analysis	:	0.0.1.dev43
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	FAILED
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.3

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)
Clashscore	158937	4297
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%

Mol	Chain	Length	Quality of chain
1	0A	606	55% 22% 23%
1	0B	606	53% 24% 23%
1	0C	606	52% 26% 21%
1	0D	606	52% 26% 21%
2	0E	222	45% 13% 42%
2	0F	222	49% 9% 42%
2	0G	222	40% 18% 42%
2	0H	222	44% 14% 42%
3	0I	976	34% 12% 54%

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Mol	Chain	Length	Quality of chain
3	0J	976	32% 14% 54%
4	0K	528	25% 6% 69%
4	0L	528	25% 6% 69%
5	0M	758	55% 13% 32%
5	0N	758	56% 12% 32%
6	0O	201	82% 12% 6%
6	0P	201	84% 10% 6%
7	0Q	618	73% 26%
7	0S	618	74% 26%
8	0T	169	100%
9	0U	170	100%
10	0V	160	100%
11	0W	39	100%
12	0X	776	36% 18% 46%
12	0Y	776	38% 14% 48%
12	0Z	776	39% 15% 46%
12	1A	776	38% 14% 48%
13	1B	2257	19% 8% 72%
13	1C	2257	19% 9% 72%
14	1D	1074	47% 11% 42%
14	1E	1074	47% 11% 42%
14	1F	1074	45% 12% 43%
14	1G	1074	43% 14% 43%
15	1H	88	100%
16	1L	174	93% 7%

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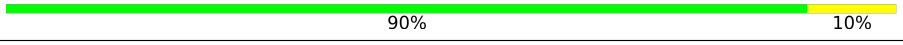
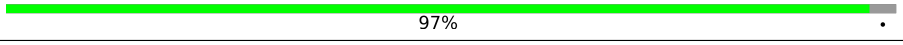
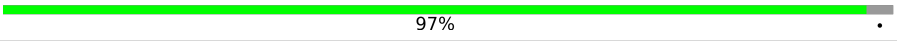
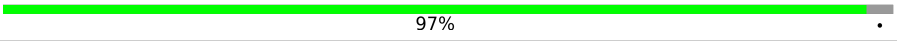
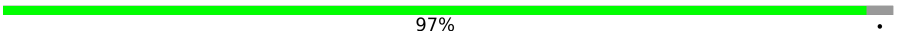
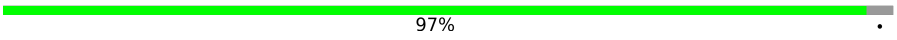
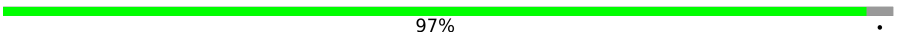
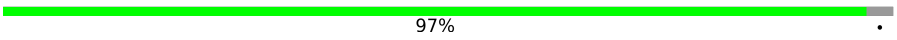
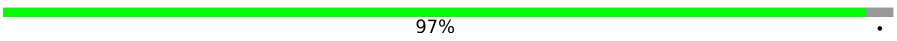
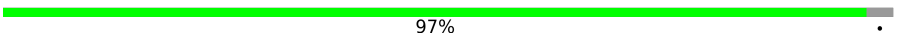
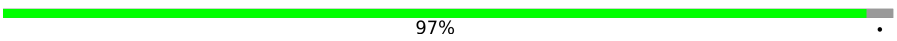
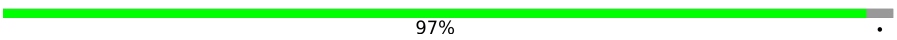
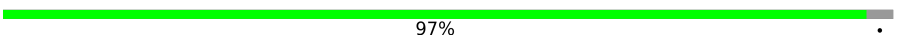
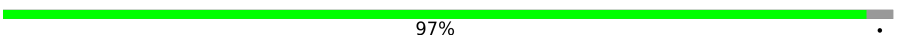
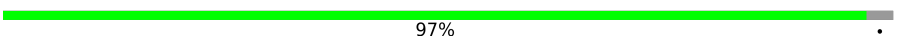
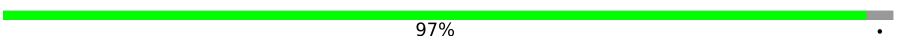
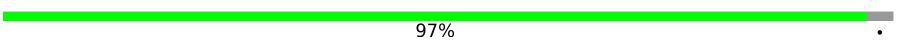
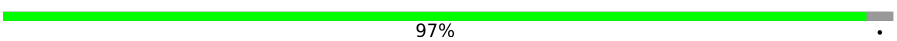
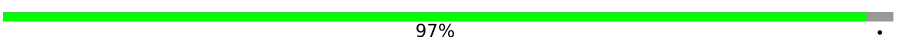
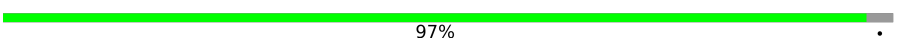
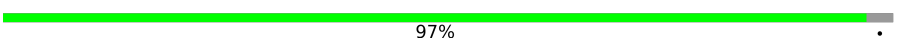
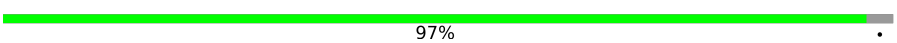
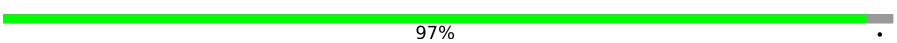
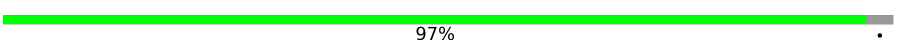
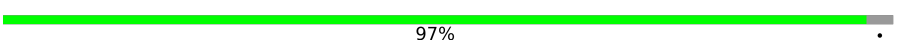
Mol	Chain	Length	Quality of chain
16	1M	174	
17	1a	443	
17	1c	443	
17	1e	443	
17	1g	443	
17	2a	443	
17	2c	443	
17	2e	443	
17	2g	443	
17	3a	443	
17	3c	443	
17	3e	443	
17	3g	443	
17	4a	443	
17	4c	443	
17	4e	443	
17	4g	443	
17	5a	443	
17	5c	443	
17	5e	443	
17	5g	443	
17	6a	443	
17	6c	443	
17	6e	443	
17	6g	443	

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Mol	Chain	Length	Quality of chain
17	7a	443	97%
17	7c	443	97%
17	7e	443	97%
17	7g	443	97%
17	8a	443	97%
17	8c	443	97%
17	8e	443	97%
17	8g	443	97%
17	9a	443	97%
17	9c	443	97%
17	9e	443	97%
17	9g	443	97%
17	Aa	443	97%
17	Ac	443	97%
17	Ae	443	97%
17	Ag	443	97%
17	Ba	443	97%
17	Bc	443	97%
17	Be	443	97%
17	Bg	443	97%
17	Ca	443	97%
17	Cc	443	97%
17	Ce	443	97%
17	Cg	443	97%
17	Da	443	97%

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Mol	Chain	Length	Quality of chain
17	Dc	443	97%
17	De	443	97%
17	Dg	443	97%
18	1b	451	95% 5%
18	1d	451	95% 5%
18	1f	451	95% 5%
18	1h	451	95% 5%
18	2b	451	95% 5%
18	2d	451	95% 5%
18	2f	451	95% 5%
18	2h	451	95% 5%
18	3b	451	95% 5%
18	3d	451	95% 5%
18	3f	451	95% 5%
18	3h	451	95% 5%
18	4b	451	95% 5%
18	4d	451	95% 5%
18	4f	451	95% 5%
18	4h	451	95% 5%
18	5b	451	95% 5%
18	5d	451	95% 5%
18	5f	451	94% 5%
18	5h	451	95% 5%
18	6b	451	95% 5%
18	6d	451	95% 5%

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Mol	Chain	Length	Quality of chain
18	6f	451	95% 5%
18	6h	451	95% 5%
18	7b	451	95% 5%
18	7d	451	95% 5%
18	7f	451	95% 5%
18	7h	451	95% 5%
18	8b	451	95% 5%
18	8d	451	95% 5%
18	8f	451	95% 5%
18	8h	451	95% 5%
18	9b	451	95% 5%
18	9d	451	95% 5%
18	9f	451	95% 5%
18	9h	451	95% 5%
18	Ab	451	95% 5%
18	Ad	451	95% 5%
18	Af	451	95% 5%
18	Ah	451	95% 5%
18	Bb	451	95% 5%
18	Bd	451	95% 5%
18	Bf	451	95% 5%
18	Bh	451	95% 5%
18	Cb	451	95% 5%
18	Cd	451	95% 5%
18	Cf	451	95% 5%

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Mol	Chain	Length	Quality of chain
18	Ch	451	95% 5%
18	Db	451	95% 5%
18	Dd	451	95% 5%
18	Df	451	95% 5%
18	Dh	451	95% 5%

2 Entry composition (i)

There are 21 unique types of molecules in this entry. The entry contains 443856 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 Flagellar WD repeat-containing protein Pf20.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	0A	467	Total	C	N	O	S	0	0
			3656	2298	650	685	23		
1	0B	467	Total	C	N	O	S	0	0
			3656	2298	650	685	23		
1	0C	476	Total	C	N	O	S	0	0
			3726	2343	664	696	23		
1	0D	476	Total	C	N	O	S	0	0
			3726	2343	664	696	23		

- Molecule 2 is a protein called FAP178.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	0E	128	Total	C	N	O	S	0	0
			1008	640	180	184	4		
2	0F	128	Total	C	N	O	S	0	0
			1008	640	180	184	4		
2	0G	128	Total	C	N	O	S	0	0
			1008	640	180	184	4		
2	0H	128	Total	C	N	O	S	0	0
			1008	640	180	184	4		

- Molecule 3 is a protein called FAP147.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	0I	448	Total	C	N	O	S	0	0
			3321	2062	633	616	10		
3	0J	448	Total	C	N	O	S	0	0
			3321	2062	633	616	10		

- Molecule 4 is a protein called FAP239.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	0K	166	Total	C	N	O	S	0	0
			1216	747	229	239	1		
4	0L	166	Total	C	N	O	S	0	0
			1216	747	229	239	1		

- Molecule 5 is a protein called FAP225.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	0M	515	Total	C	N	O	S	0	0
			4037	2487	769	768	13		
5	0N	515	Total	C	N	O	S	0	0
			4037	2487	769	768	13		

- Molecule 6 is a protein called FAP213.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	0O	188	Total	C	N	O	S	0	0
			1481	897	294	287	3		
6	0P	188	Total	C	N	O	S	0	0
			1481	897	294	287	3		

- Molecule 7 is a protein called FAP196.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	0Q	617	Total	C	N	O	S	0	0
			4537	2823	824	857	33		
7	0S	617	Total	C	N	O	S	0	0
			4537	2823	824	857	33		

- Molecule 8 is a protein called Unassigned protein-1.

Mol	Chain	Residues	Atoms				AltConf	Trace
8	0T	169	Total	C	N	O	0	0
			845	507	169	169		

- Molecule 9 is a protein called Unassigned protein-2.

Mol	Chain	Residues	Atoms				AltConf	Trace
9	0U	170	Total	C	N	O	0	0
			850	510	170	170		

- Molecule 10 is a protein called Unassigned protein-3.

Mol	Chain	Residues	Atoms				AltConf	Trace
10	0V	160	Total 800	C 480	N 160	O 160	0	0

- Molecule 11 is a protein called Unassigned protein-4.

Mol	Chain	Residues	Atoms				AltConf	Trace
11	0W	39	Total 195	C 117	N 39	O 39	0	0

- Molecule 12 is a protein called Kinesin-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	0X	420	Total 3098	C 1921	N 561	O 608	S 8	0	0
12	0Y	404	Total 2903	C 1800	N 527	O 569	S 7	0	0
12	0Z	420	Total 3098	C 1921	N 561	O 608	S 8	0	0
12	1A	404	Total 2903	C 1800	N 527	O 569	S 7	0	0

- Molecule 13 is a protein called FAP65.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	1B	630	Total 4771	C 3018	N 865	O 874	S 14	0	0
13	1C	630	Total 4771	C 3018	N 865	O 874	S 14	0	0

- Molecule 14 is a protein called FAP70.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	1D	623	Total 4079	C 2527	N 756	O 781	S 15	0	0
14	1E	623	Total 4079	C 2527	N 756	O 781	S 15	0	0
14	1F	614	Total 4370	C 2725	N 808	O 821	S 16	0	0
14	1G	614	Total 4370	C 2725	N 808	O 821	S 16	0	0

- Molecule 15 is a protein called Unassigned protein-5.

Mol	Chain	Residues	Atoms				AltConf	Trace
15	1H	88	Total 440	C 264	N 88	O 88	0	0

- Molecule 16 is a protein called Unassigned protein-6.

Mol	Chain	Residues	Atoms				AltConf	Trace
16	1M	174	Total 870	C 522	N 174	O 174	0	0
16	1L	174	Total 870	C 522	N 174	O 174	0	0

- Molecule 17 is a protein called Tubulin beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	1a	431	Total 3379	C 2121	N 579	O 649	S 30	0	0
17	1c	431	Total 3379	C 2121	N 579	O 649	S 30	0	0
17	1e	431	Total 3379	C 2121	N 579	O 649	S 30	0	0
17	1g	431	Total 3379	C 2121	N 579	O 649	S 30	0	0
17	2a	431	Total 3379	C 2121	N 579	O 649	S 30	0	0
17	2c	431	Total 3379	C 2121	N 579	O 649	S 30	0	0
17	2e	431	Total 3379	C 2121	N 579	O 649	S 30	0	0
17	2g	431	Total 3379	C 2121	N 579	O 649	S 30	0	0
17	3a	431	Total 3379	C 2121	N 579	O 649	S 30	0	0
17	3c	431	Total 3379	C 2121	N 579	O 649	S 30	0	0
17	3e	431	Total 3379	C 2121	N 579	O 649	S 30	0	0
17	3g	431	Total 3379	C 2121	N 579	O 649	S 30	0	0
17	4a	431	Total 3379	C 2121	N 579	O 649	S 30	0	0
17	4c	431	Total 3379	C 2121	N 579	O 649	S 30	0	0
17	4e	431	Total 3379	C 2121	N 579	O 649	S 30	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
17	4g	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	5a	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	5c	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	5e	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	5g	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	6a	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	6c	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	6e	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	6g	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	7a	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	7c	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	7e	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	7g	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	8a	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	8c	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	8e	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	8g	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	9a	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	9c	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	9e	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	9g	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		

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Mol	Chain	Residues	Atoms					AltConf	Trace
17	Aa	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	Ac	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	Ae	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	Ag	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	Ba	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	Bc	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	Be	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	Bg	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	Ca	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	Cc	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	Ce	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	Cg	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	Da	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	Dc	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	De	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		
17	Dg	431	Total	C	N	O	S	0	0
			3379	2121	579	649	30		

- Molecule 18 is a protein called Tubulin alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	1b	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	1d	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	1f	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		

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Mol	Chain	Residues	Atoms					AltConf	Trace
18	1h	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	2b	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	2d	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	2f	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	2h	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	3b	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	3d	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	3f	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	3h	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	4b	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	4d	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	4f	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	4h	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	5b	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	5d	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	5f	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	5h	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	6b	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	6d	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	6f	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	6h	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		

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Mol	Chain	Residues	Atoms					AltConf	Trace
18	7b	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	7d	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	7f	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	7h	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	8b	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	8d	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	8f	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	8h	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	9b	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	9d	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	9f	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	9h	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	Ab	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	Ad	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	Af	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	Ah	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	Bb	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	Bd	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	Bf	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	Bh	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	Cb	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		

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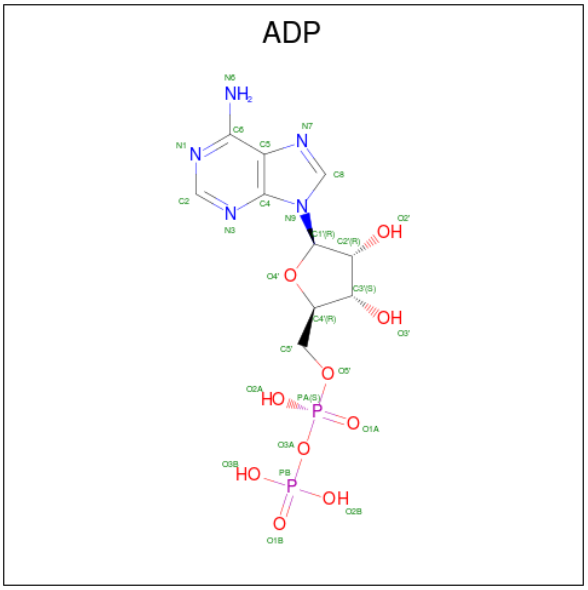
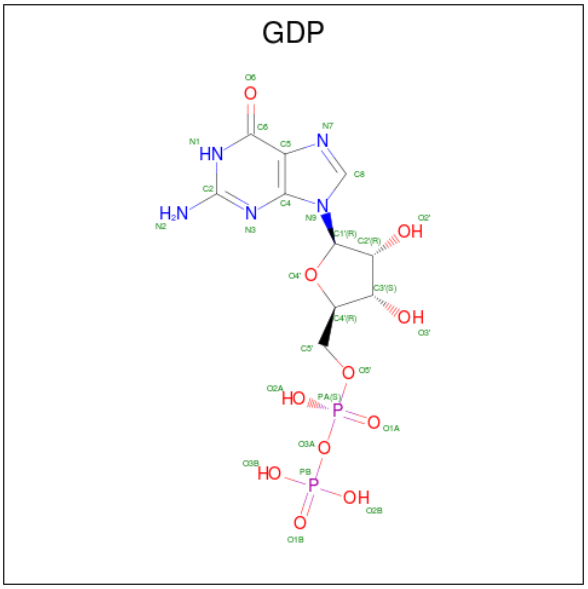
Mol	Chain	Residues	Atoms					AltConf	Trace
18	Cd	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	Cf	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	Ch	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	Db	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	Dd	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	Df	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		
18	Dh	430	Total	C	N	O	S	0	0
			3339	2115	568	634	22		

- Molecule 19 is ADENOSINE-5'-DIPHOSPHATE (three-letter code: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
19	0X	1	Total	C	N	O	P	0
			27	10	5	10	2	
19	0Y	1	Total	C	N	O	P	0
			27	10	5	10	2	
19	0Z	1	Total	C	N	O	P	0
			27	10	5	10	2	
19	1A	1	Total	C	N	O	P	0
			27	10	5	10	2	

- Molecule 20 is GUANOSINE-5'-DIPHOSPHATE (three-letter code: GDP) (formula: $C_{10}H_{15}N_5O_{11}P_2$).



Mol	Chain	Residues	Atoms					AltConf
20	1a	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	1c	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	1e	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	1g	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	2a	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	2c	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	2e	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	2g	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	3a	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	3c	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	3e	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	3g	1	Total	C	N	O	P	0
			28	10	5	11	2	

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Mol	Chain	Residues	Atoms					AltConf
20	4a	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	4c	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	4e	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	4g	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	5a	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	5c	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	5e	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	5g	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	6a	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	6c	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	6e	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	6g	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	7a	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	7c	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	7e	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	7g	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	8a	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	8c	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	8e	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	8g	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	9a	1	Total	C	N	O	P	0
			28	10	5	11	2	

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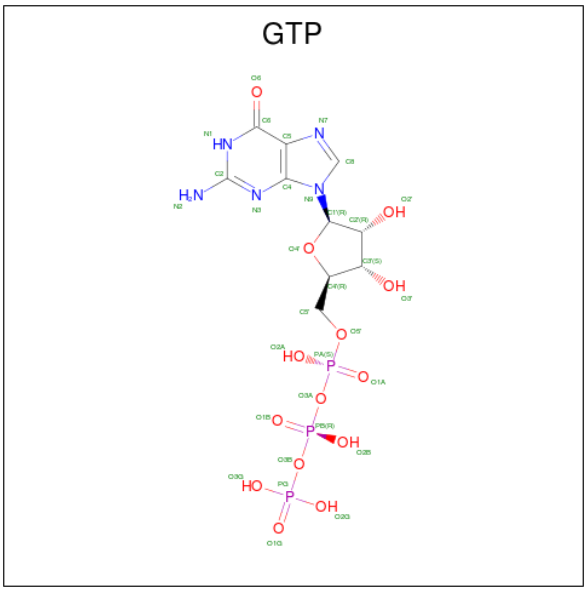
Mol	Chain	Residues	Atoms					AltConf
20	9c	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	9e	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	9g	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	Aa	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	Ac	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	Ae	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	Ag	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	Ba	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	Bc	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	Be	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	Bg	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	Ca	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	Cc	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	Ce	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	Cg	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	Da	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	Dc	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	De	1	Total	C	N	O	P	0
			28	10	5	11	2	
20	Dg	1	Total	C	N	O	P	0
			28	10	5	11	2	

- Molecule 21 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$).



Mol	Chain	Residues	Atoms					AltConf
21	1b	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	1d	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	1f	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	1h	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	2b	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	2d	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	2f	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	2h	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	3b	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	3d	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	3f	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	3h	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	4b	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	4d	1	Total	C	N	O	P	0
			32	10	5	14	3	

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Mol	Chain	Residues	Atoms					AltConf
21	4f	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	4h	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	5b	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	5d	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	5f	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	5h	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	6b	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	6d	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	6f	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	6h	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	7b	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	7d	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	7f	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	7h	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	8b	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	8d	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	8f	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	8h	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	9b	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	9d	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	9f	1	Total	C	N	O	P	0
			32	10	5	14	3	

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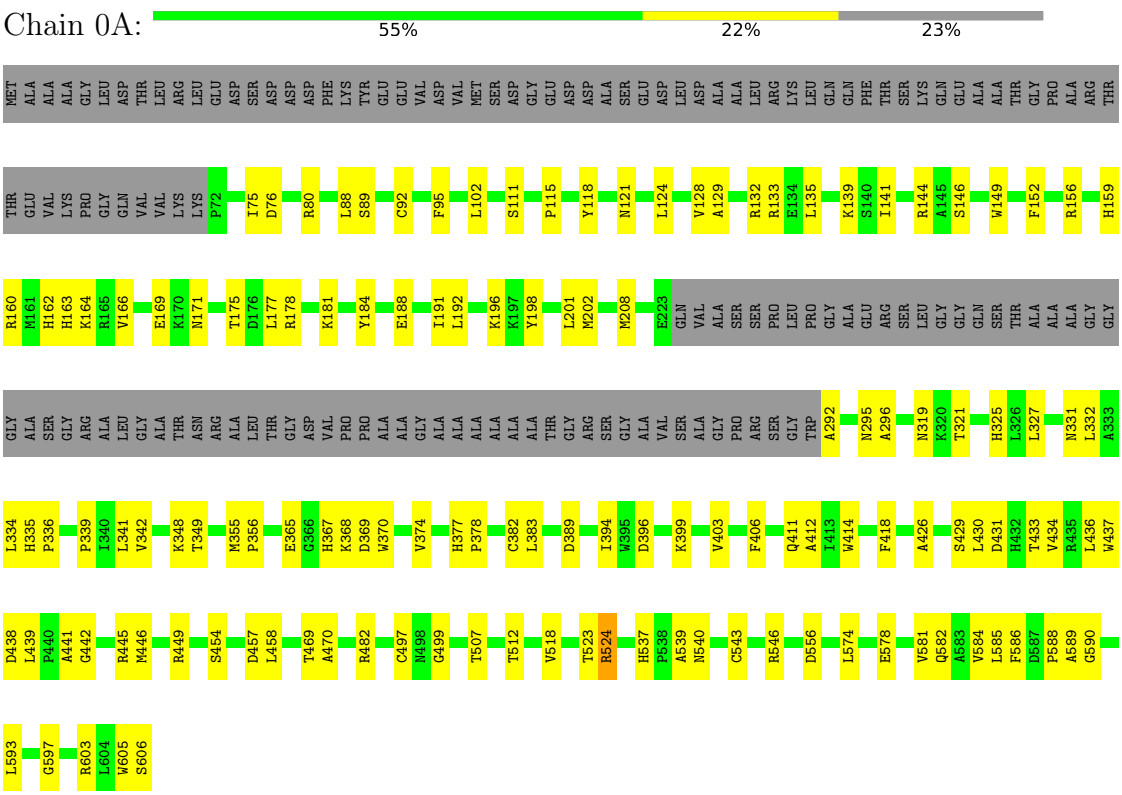
Mol	Chain	Residues	Atoms					AltConf
21	9h	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	Ab	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	Ad	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	Af	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	Ah	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	Bb	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	Bd	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	Bf	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	Bh	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	Cb	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	Cd	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	Cf	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	Ch	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	Db	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	Dd	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	Df	1	Total	C	N	O	P	0
			32	10	5	14	3	
21	Dh	1	Total	C	N	O	P	0
			32	10	5	14	3	

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. 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. 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.

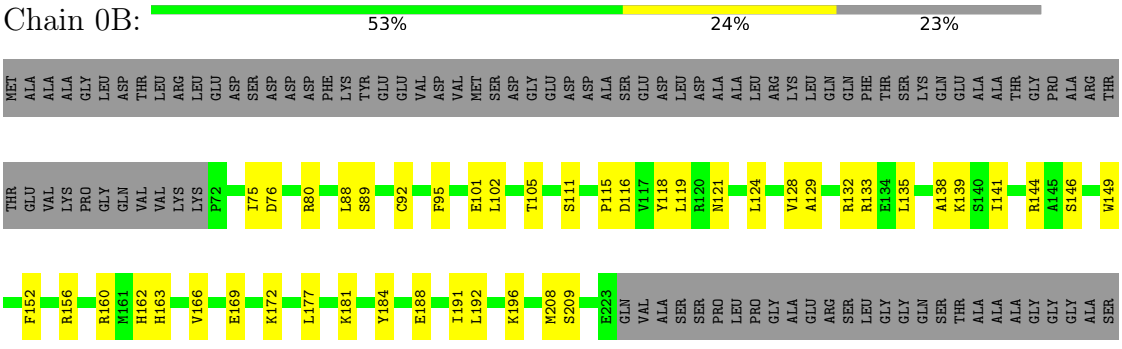
• Molecule 1: Flagellar WD repeat-containing protein Pf20

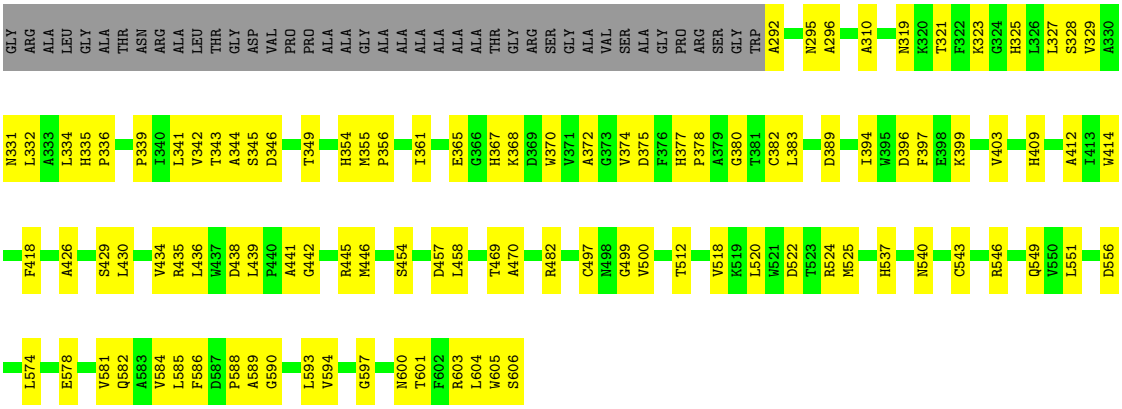
Chain 0A:



• Molecule 1: Flagellar WD repeat-containing protein Pf20

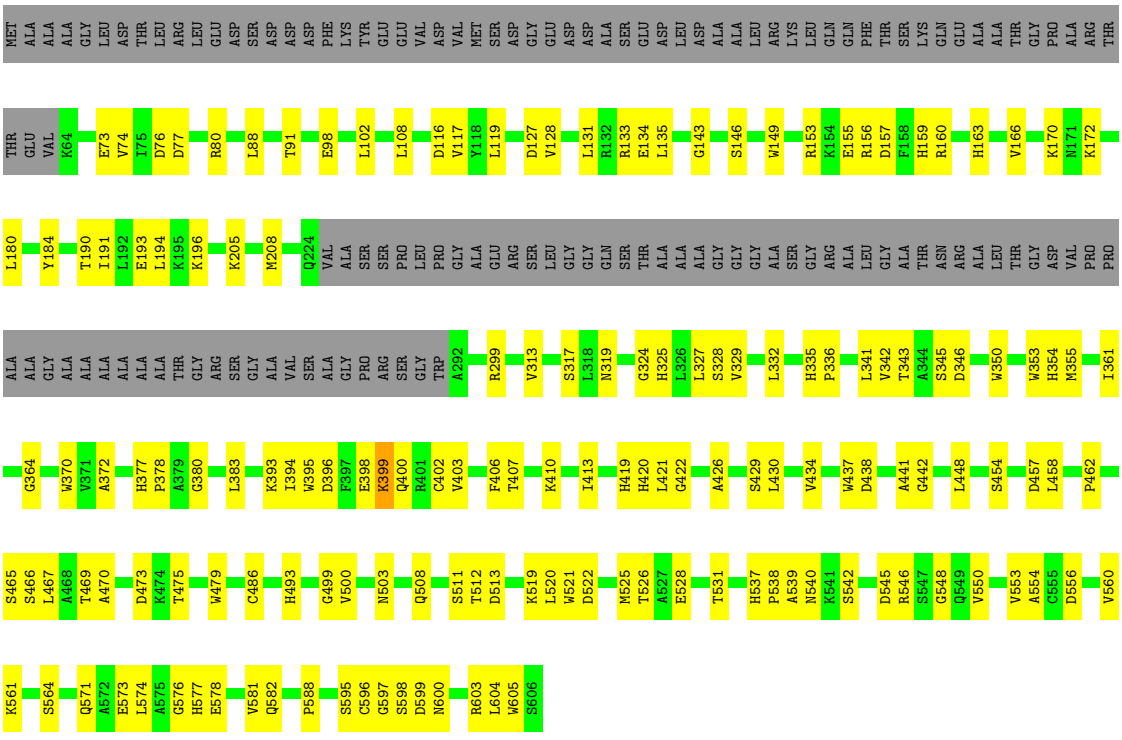
Chain 0B:





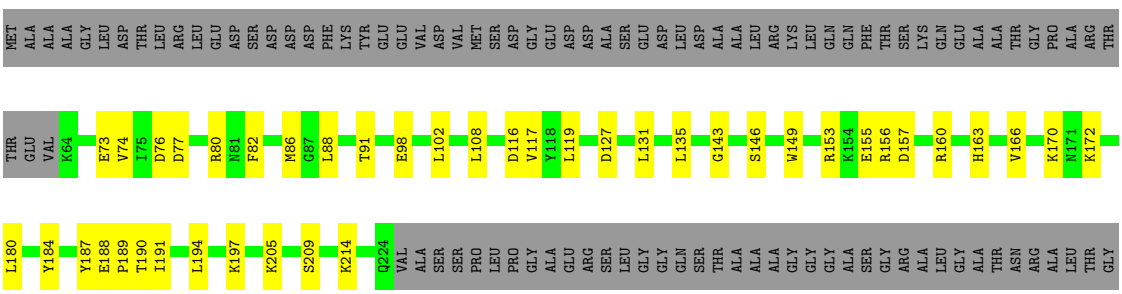
• Molecule 1: Flagellar WD repeat-containing protein Pf20

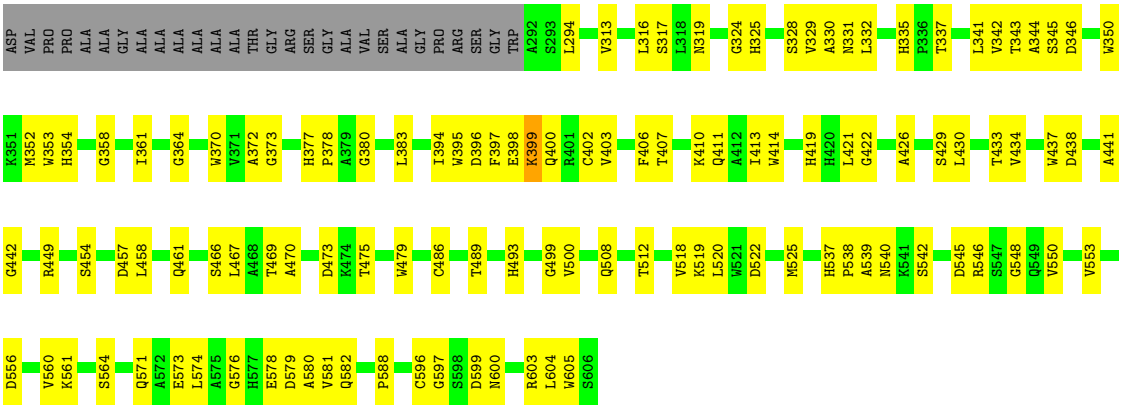
Chain 0C:



• Molecule 1: Flagellar WD repeat-containing protein Pf20

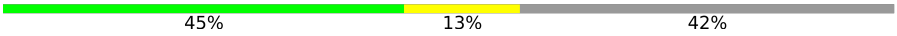
Chain 0D:

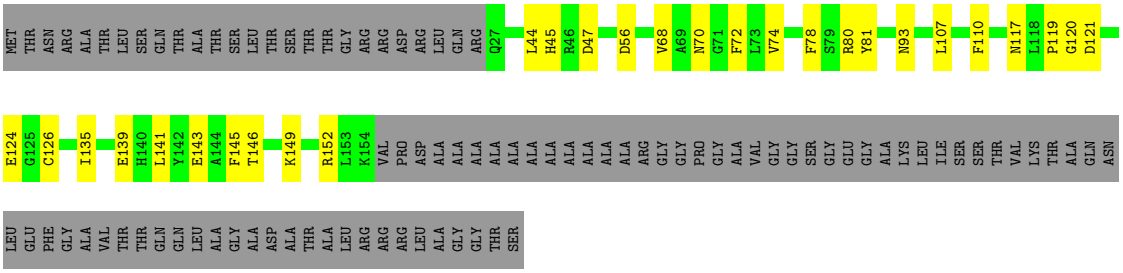




• Molecule 2: FAP178

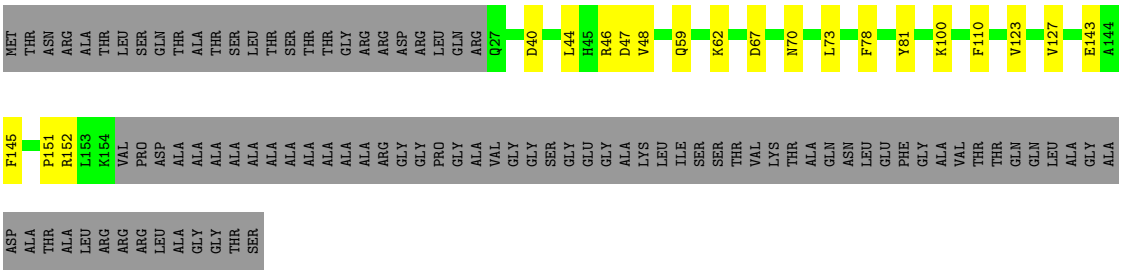
Chain 0E:





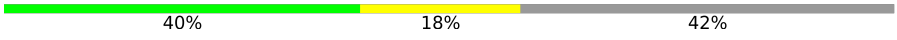
• Molecule 2: FAP178

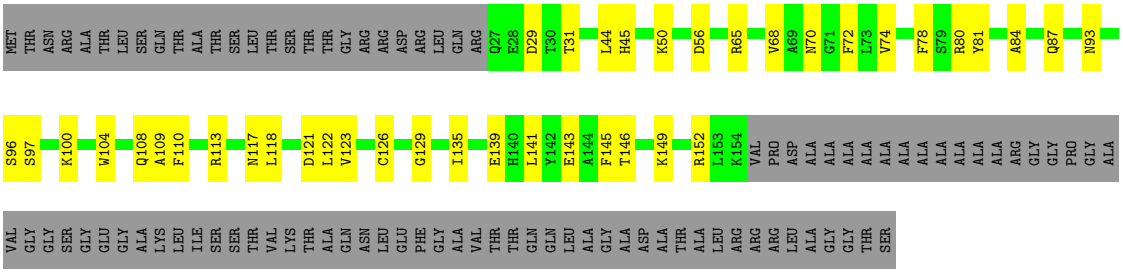
Chain 0F:



• Molecule 2: FAP178

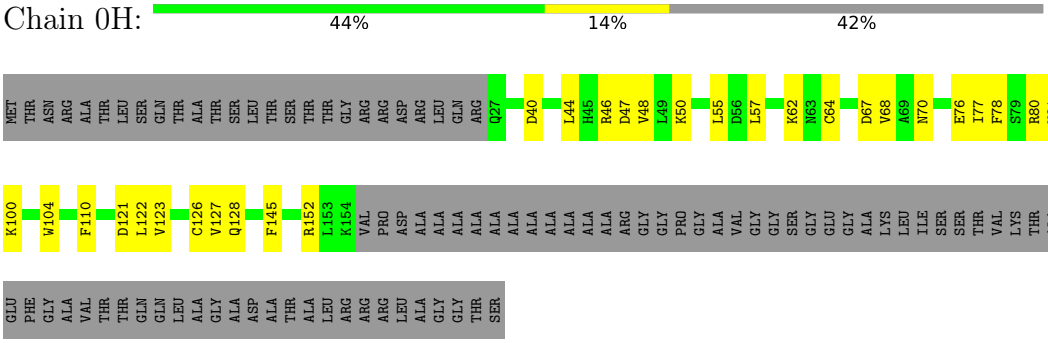
Chain 0G:





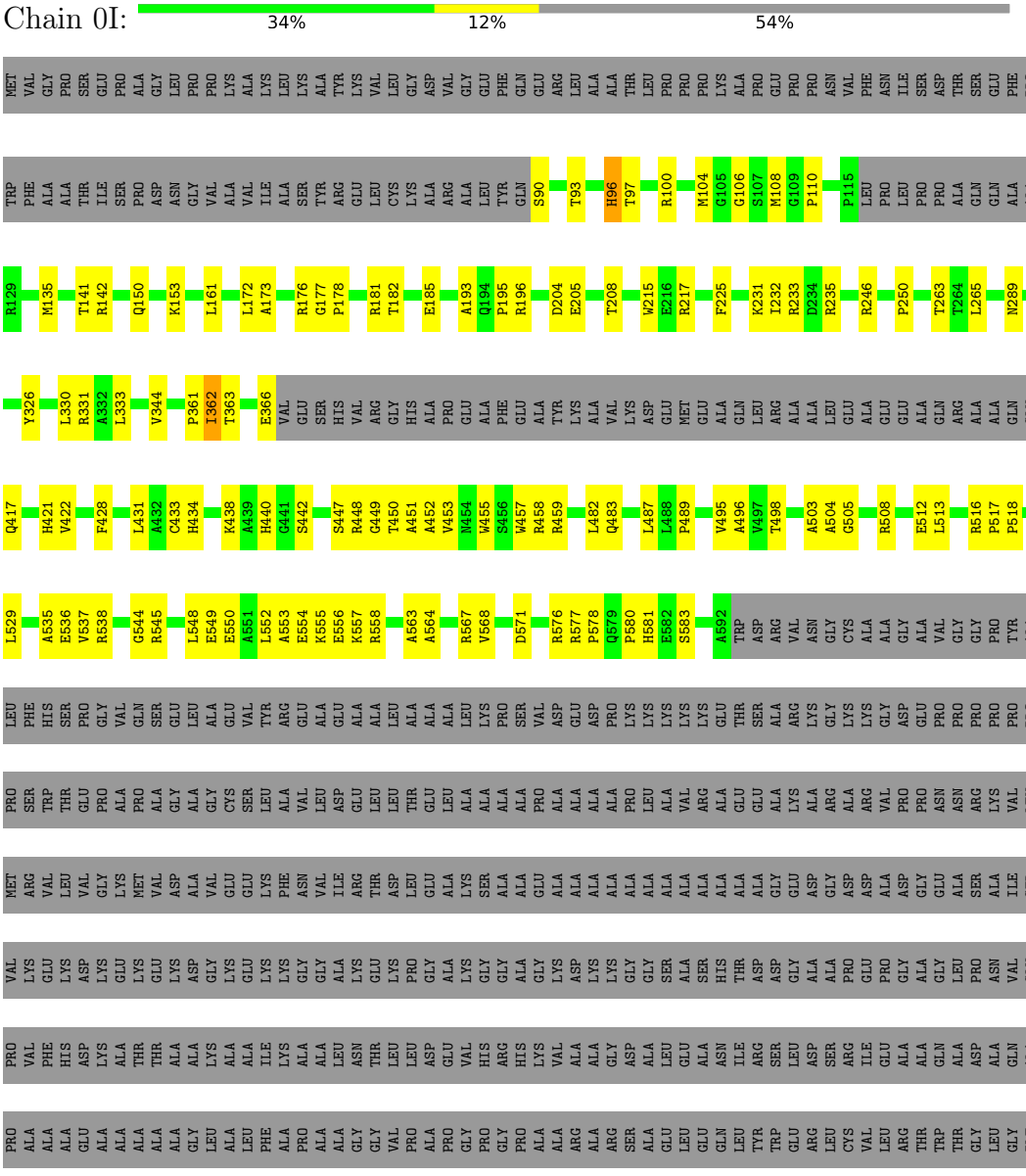
• Molecule 2: FAP178

Chain 0H:



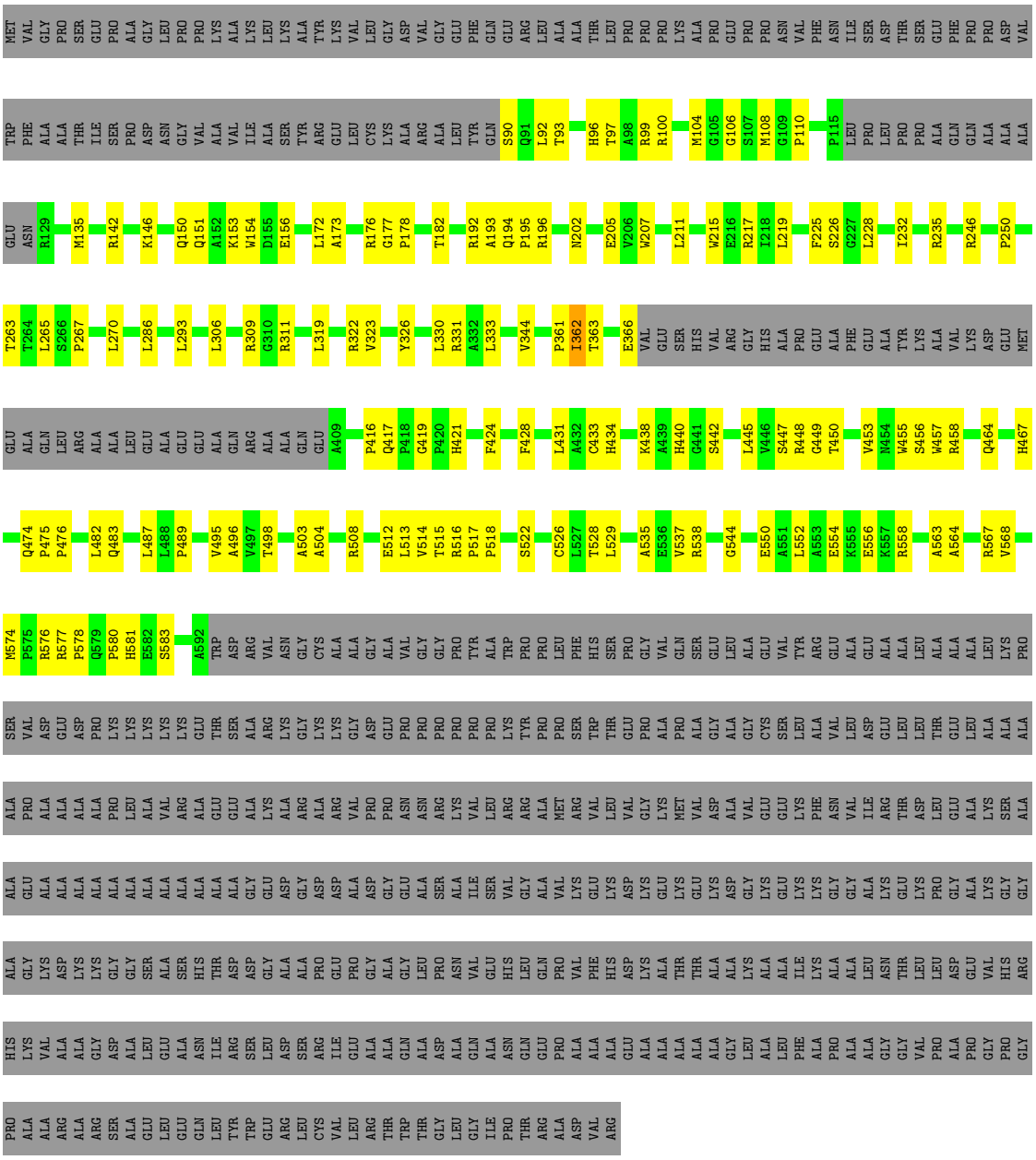
• Molecule 3: FAP147

Chain 0I:



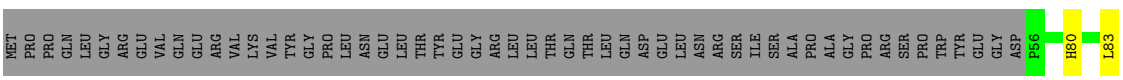
• Molecule 3: FAP147

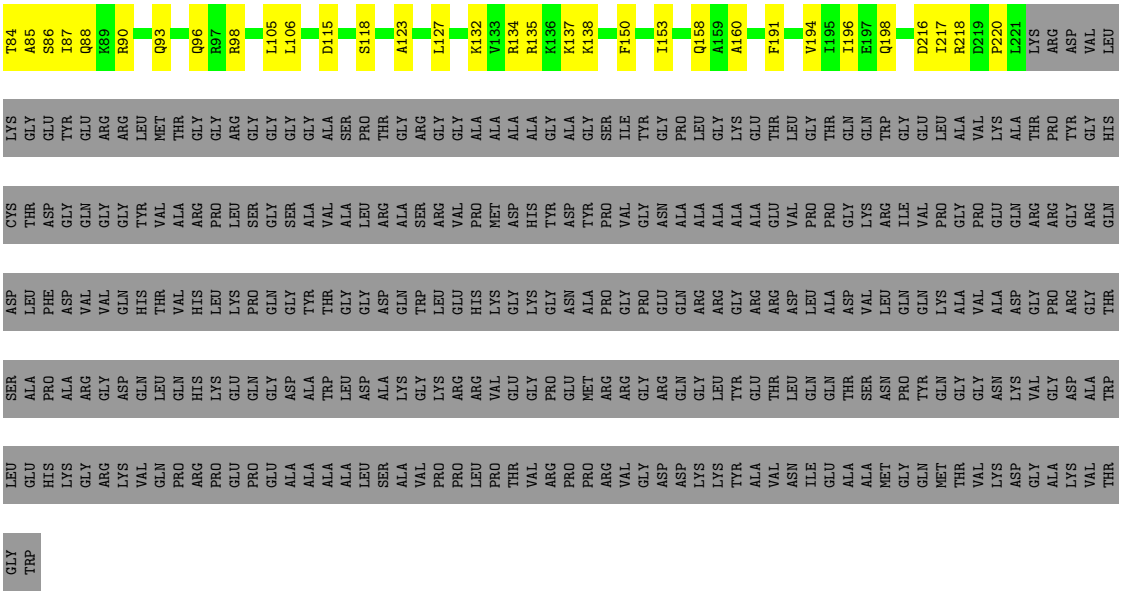
Chain 0J:



• Molecule 4: FAP239

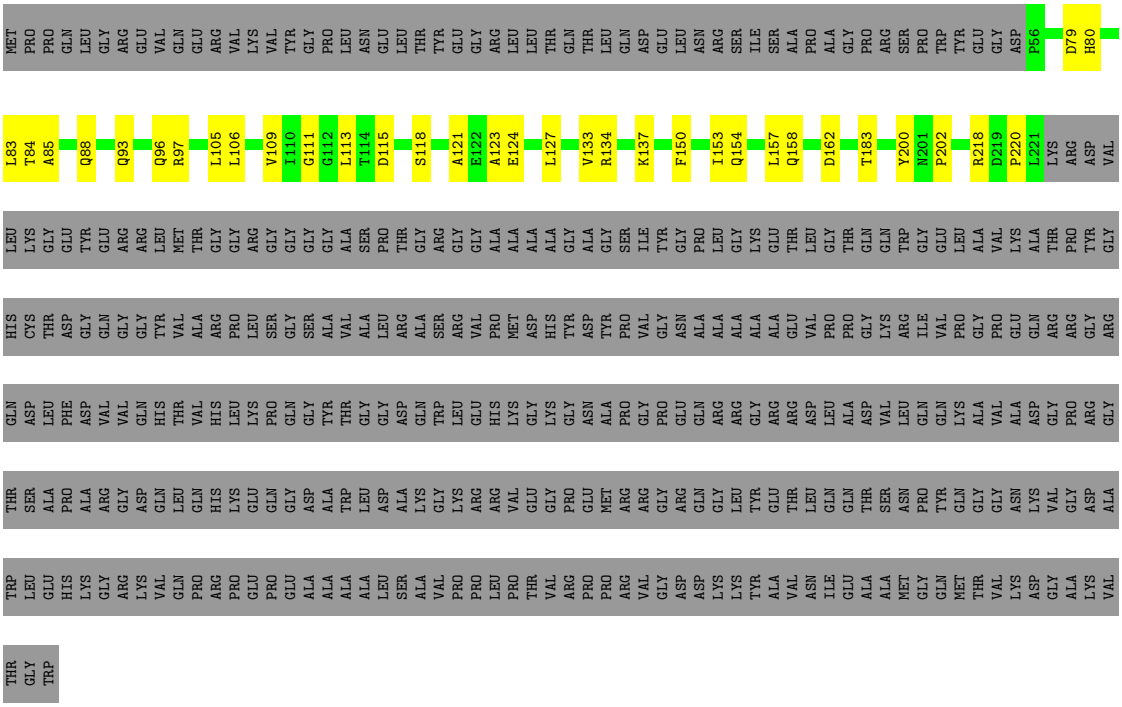
Chain 0K:





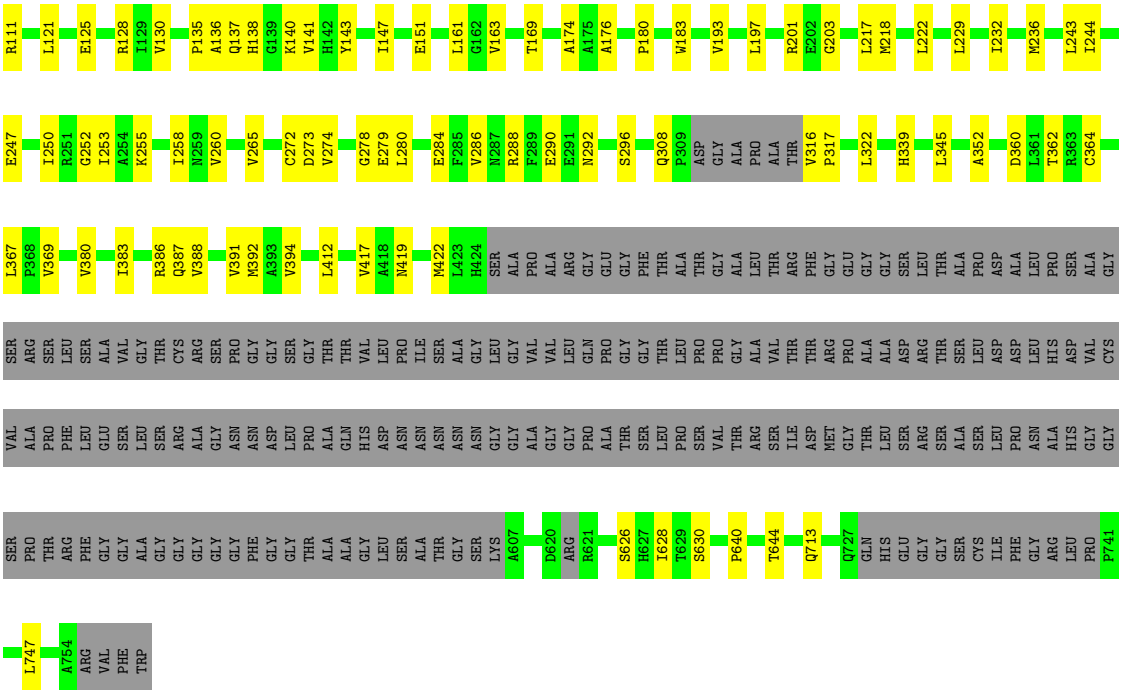
• Molecule 4: FAP239

Chain 0L:



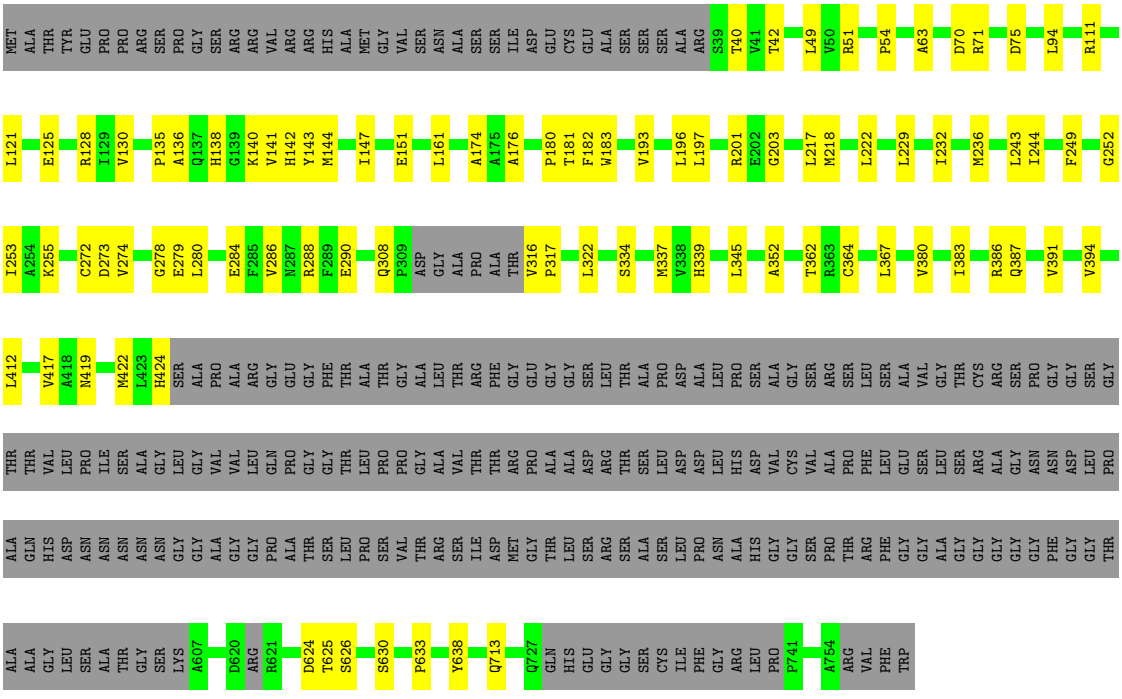
• Molecule 5: FAP225

Chain 0M:



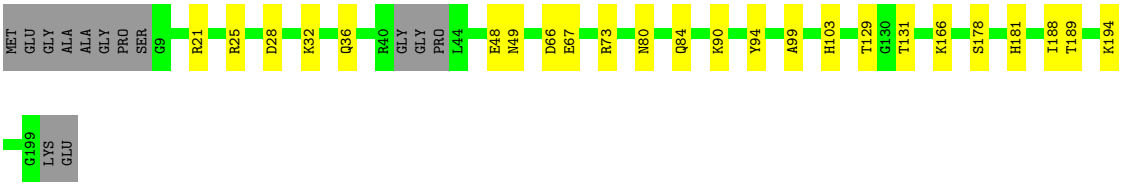
• Molecule 5: FAP225

Chain 0N:



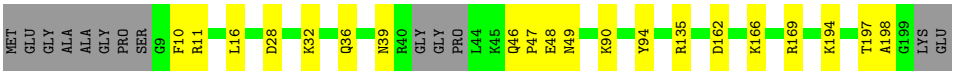
• Molecule 6: FAP213

Chain 0O:



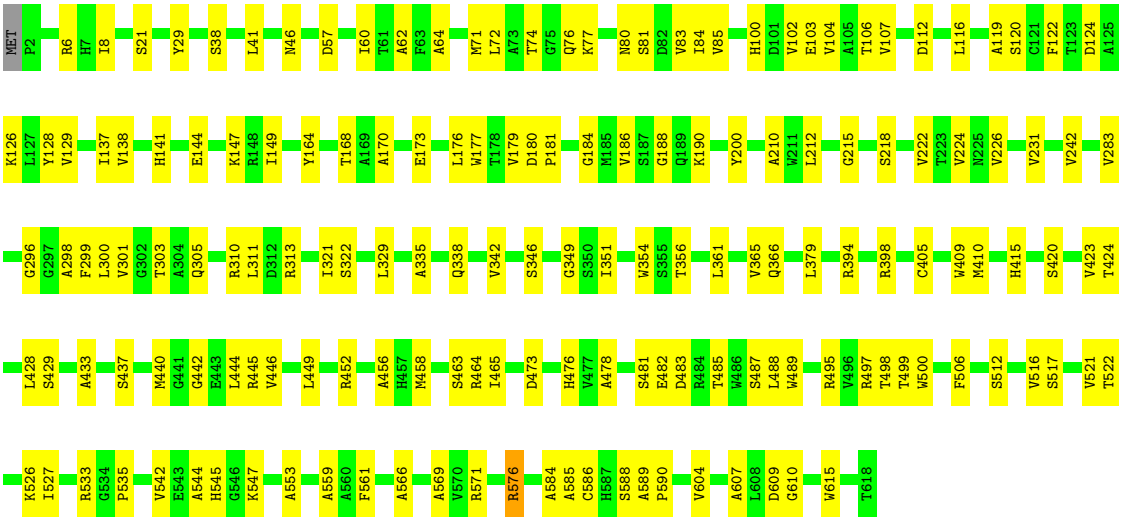
• Molecule 6: FAP213

Chain 0P:



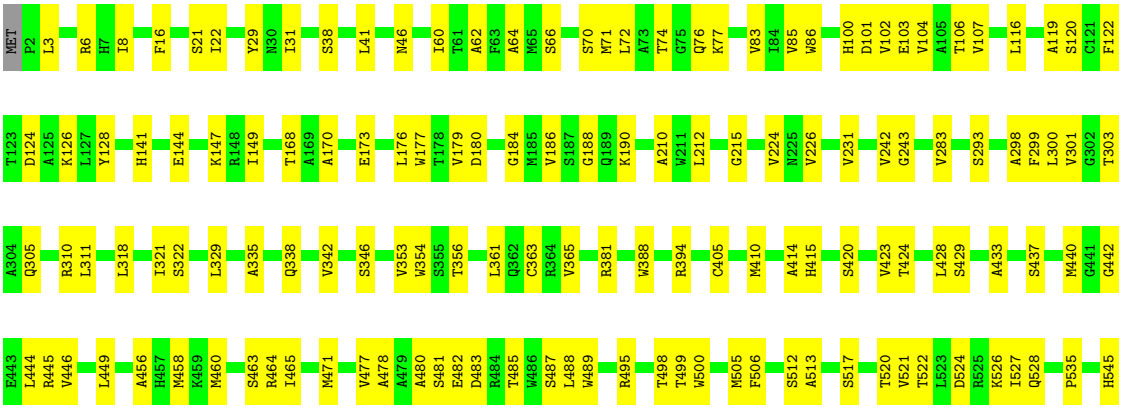
• Molecule 7: FAP196

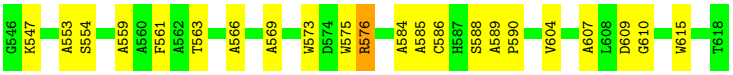
Chain 0Q:



• Molecule 7: FAP196

Chain 0S:





• Molecule 8: Unassigned protein-1

Chain 0T: 100%

There are no outlier residues recorded for this chain.

• Molecule 9: Unassigned protein-2

Chain 0U: 100%

There are no outlier residues recorded for this chain.

• Molecule 10: Unassigned protein-3

Chain 0V: 100%

There are no outlier residues recorded for this chain.

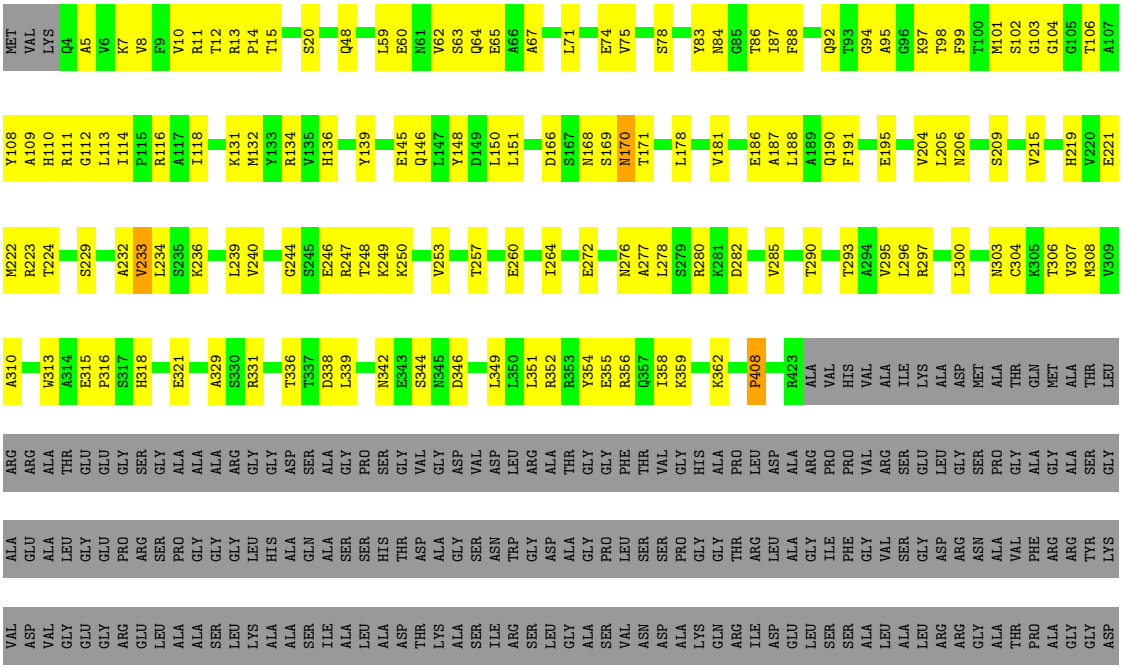
• Molecule 11: Unassigned protein-4

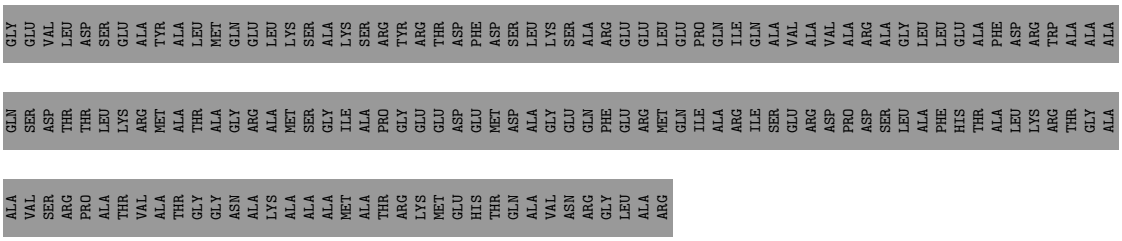
Chain 0W: 100%

There are no outlier residues recorded for this chain.

• Molecule 12: Kinesin-like protein

Chain 0X: 36% 18% 46%



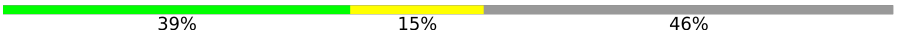


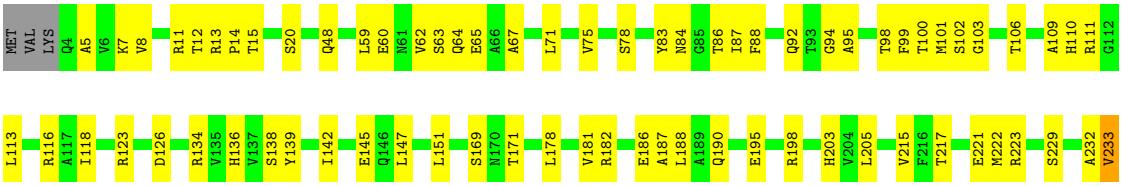
• Molecule 12: Kinesin-like protein

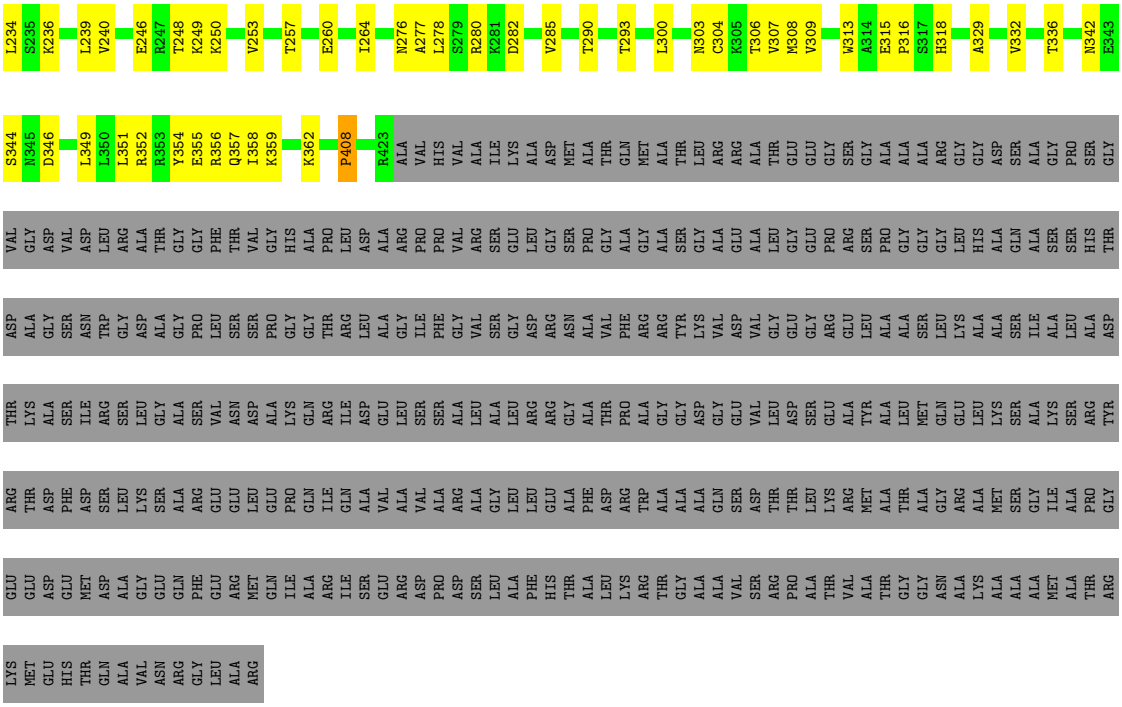
Chain 0Y:

• Molecule 12: Kinesin-like protein

Chain 0Z:

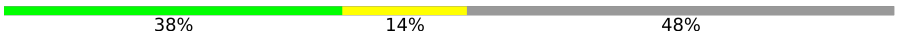


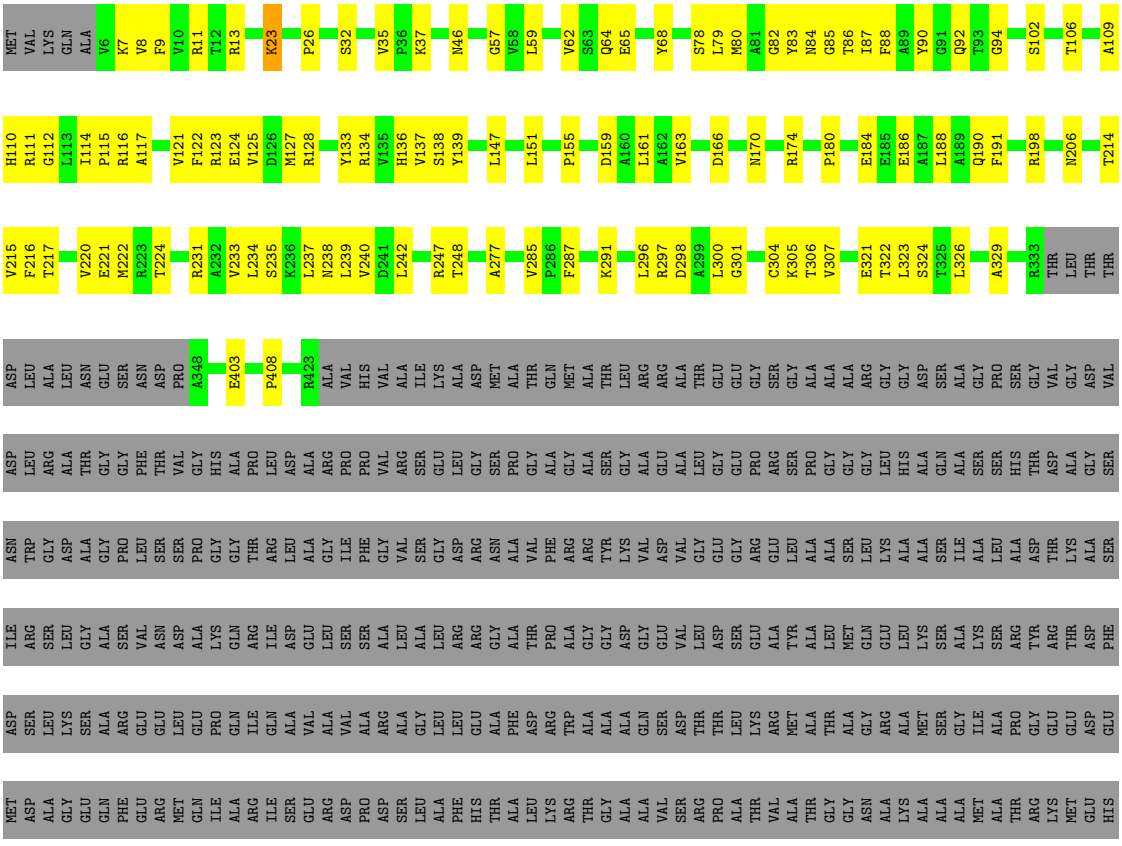




• Molecule 12: Kinesin-like protein

Chain 1A:





THR GLN ALA VAL ASN ARG GLY LEU ALA ARG

• Molecule 13: FAP65

Chain 1B: 19% 8% 72%

MET PRO ALA SER ASN GLY ALA ASP GLN GLY THR ALA PRO GLY GLY THR MET ALA TYR GLY VAL LEU SER ARG GLU GLN ARG LYS GLN MET PHE GLY LEU ASP CYS PRO GLU GLN LEU GLU TRP ARG HIS TRP ASN PRO GLY THR GLU TYR VAL LYS GLN LEU VAL LEU LYS ASN VAL SER

THR SER VAL LEU LYS ILE ARG PHE LYS GLN PRO THR SER LYS ALA PHE GLY MET ASP PHE PRO GLU PRO PHE LYS LEU ARG PRO GLY MET SER GLN PRO LEU LYS VAL VAL PHE ARG PRO LEU LYS GLN GLN HIS TYR SER ASP ASN VAL GLU LEU PHE VAL GLY ASN VAL SER CYS LEU

VAL PRO VAL HIS ALA TYR THR PRO VAL THR HIS ILE GLU VAL PRO PRO ALA LEU ASP PHE GLY PHE THR PRO THR LYS GLU THR VAL THR ALA GLN LEU PRO VAL ARG ASN THR GLY ASP VAL ARG VAL ASP VAL LEU TRP LYS LEU ASP ALA PRO PHE SER ILE SER PRO LEU PHE ALA

SER LEU ALA PRO GLY GLU VAL VAL ALA PHE THR ALA SER PHE THR PRO PRO GLU ALA CYS SER TYR THR ALA SER ALA ALA CYS GLN LEU GLU SER GLY ALA ALA ILE CYS LYS ILE SER GLY ILE GLY LYS PHE PRO TYR LEU SER VAL GLU GLN ALA GLY VAL ASP PHE GLY ALA

VAL VAL VAL GLY GLN ARG VAL GLU ARG LEU VAL ARG PHE GLY ASN HIS SER VAL VAL PRO ALA HIS PHE ALA VAL THR HIS ASP GLU ALA GLY PRO ASP ASP GLY VAL PHE THR VAL GLY PRO ALA ARG GLY THR LEU GLY PRO GLU GLU TYR SER MET LEU LYS LEU SER TYR THR PRO

ARG ALA THR GLY THR PHE SER SER GLU THR PHE HIS ILE GLY THR ALA GLY GLY ASN ARG VAL ALA LEU ASN LEU ARG GLY THR ALA VAL ALA PRO LEU VAL THR LEU SER THR ARG ALA PHE ASN PHE GLY ASN VAL ALA ALA GLY ALA THR ALA SER ARG VAL LEU TYR ILE ARG ASN

HIS SER ALA VAL PRO VAL PRO TYR ASP PHE GLN VAL ASP PRO LEU ASP VAL PHE ALA ILE SER ARG THR ARG GLY VAL LEU ALA PRO ASP SER THR ALA HIS VAL THR ILE THR PHE ARG PRO MET ALA GLY LEU ALA ALA ASN LEU TRP ARG ARG VAL THR LEU LEU LEU LYS ASP ALA

GLU PRO GLN GLY VAL ASP LEU VAL ALA THR ALA TYR THR ASP LYS SER ARG PRO PRO PRO LEU SER GLN ARG HIS VAL GLU ARG TYR MET ALA ARG VAL LEU SER GLY GLY PRO ALA VAL GLU GLU SER GLN LEU ASP SER LYS PRO PRO SER ALA ALA THR GLY ALA GLY GLY LEU ASP

GLY ALA SER GLU GLY GLY ALA GLY PRO LEU LEU ALA GLY GLY GLY PHE GLY SER LEU LEU PRO PRO LEU GLY ASP ALA ALA GLU GLY GLY GLU GLY ALA ALA SER LYS LEU LEU GLY PRO ASP GLY TRP SER LEU LEU PHE GLY GLY GLN ASP PRO ALA ALA ALA LEU THR VAL ASP SER

ASP ALA LEU ASP PHE GLY SER CYS SER ARG LEU SER ALA SER GLU TYR ARG SER VAL THR VAL THR ASN HIS THR PRO ALA LYS LEU THR ALA PHE VAL LEU VAL PRO GLU TRP ALA ASP PRO GLY ALA ALA PRO GLY ASP ALA PRO GLN ARG VAL PHE GLN VAL PHE PRO GLU SER ALA

ASP MET ARG PRO TYR GLY GLN ALA THR PHE LYS VAL ALA PHE ARG PRO PRO ARG ASP ALA ALA PHE PHE SER GLN GLN LEU ALA LEU VAL ALA HIS THR LYS SER GLN ARG ASN PHE ARG LEU VAL ALA GLU HIS GLN VAL LEU PRO ALA TRP CYS VAL PRO LEU ARG ALA THR GLY ASN

THR PHE LEU HIS SER ASN PRO GLU PHE GLY PRO LYS VAL GLU LEU SER SER ARG ALA VAL ALA PHE PRO PRO CYS ARG PRO GLY GLU ARG VAL HIS GLN THR LEU LEU ILE ALA ASN SER GLY ASP THR PRO VAL ALA PHE SER PHE GLY ALA ALA GLY ALA ALA LEU GLY PRO LEU PHE

SER ALA LYS PRO ALA ALA GLY VAL VAL PRO GLN GLY HIS VAL LEU VAL ALA LEU ARG PHE ALA PRO THR ASP THR ARG PRO ALA ALA ALA ASN ALA LEU VAL THR PHE ASN GLY VAL ALA SER ASN ALA VAL SER VAL SER LEU ARG GLY ALA ALA HIS THR PRO ARG LEU THR THR

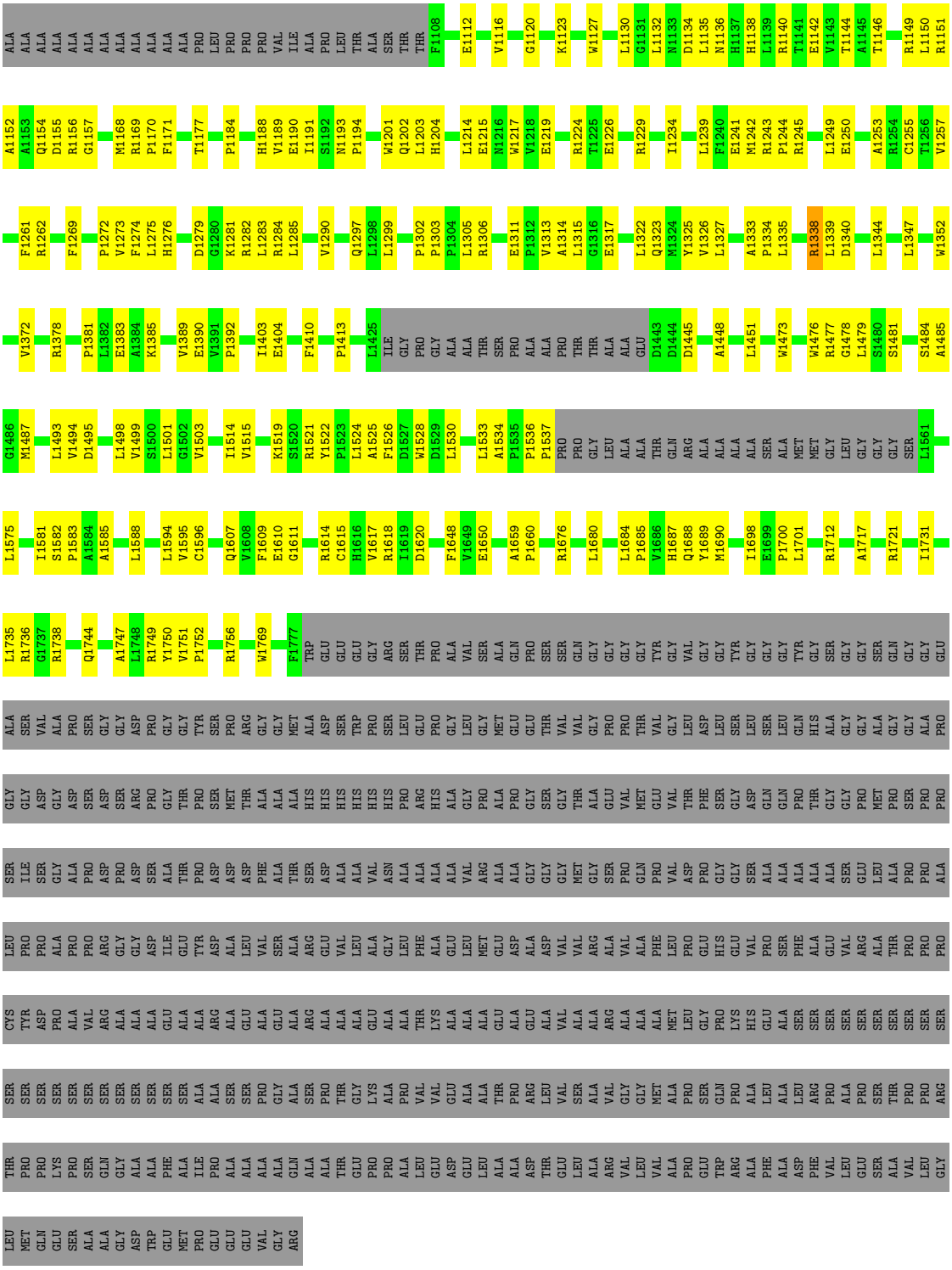
ASP LEU PRO SER SER THR LEU TYR PHE ARG PRO THR CYS VAL GLY ALA SER SER GLN ARG ALA VAL THR LEU HIS ASN PRO SER ARG VAL PRO VAL ALA PHE ARG TRP ARG LEU PRO ALA ARG LEU GLN GLY LEU VAL THR VAL SER PRO ALA ALA GLY ALA LEU ARG GLY ASN GLU SER

VAL GLN LEU GLN TRP SER PHE THR PRO ALA ALA GLN LYS LEU TYR GLU ALA ARG ALA ALA CYS LEU VAL MET SER PRO PRO GLU ALA ALA ASN GLY ASN ALA ALA GLY ALA THR ALA SER ALA ALA SER LEU PHE PRO GLY ALA GLY LEU ALA THR GLY ILE GLU TRP TYR GLU GLY ALA

GLY ALA THR ALA ALA LEU ALA GLY MET GLY GLU GLU ALA ALA ASP ALA VAL LEU LEU SER LEU VAL GLY GLU GLY THR GLN GLY ALA VAL ALA LEU GLU PRO PRO SER LEU GLU LEU GLY ASP LEU ARG VAL GLY HIS PRO VAL ARG ARG PRO LEU LEU LEU GLN ASN CYS SER ASP

GLY VAL LEU ARG TYR SER LEU GLU VAL GLY PRO ALA GLU ASP ASP GLN PRO PRO ALA GLY ASP ALA THR LEU VAL ASP PHE THR ALA GLY LEU ASP SER ALA ALA GLU GLY GLY VAL GLY GLY ALA GLY GLY ALA GLY GLY ALA ALA LEU GLU CYS TRP VAL ASP GLU PRO GLU GLY

ALA LEU PRO ALA ARG ALA SER LYS THR VAL MET VAL THR LEU PHE PRO ARG TYR ARG LYS ARG TYR SER LEU GLN VAL ARG CYS ARG SER SER THR VAL ALA PRO LEU LEU THR GLY PRO ASN ARG PRO PRO SER GLY GLY ALA GLY PRO ARG PRO LEU ASP ALA GLY SER GLU ALA ALA



• Molecule 13: FAP65

Chain 1C: 19% 9% 72%

THR SER VAL LEU LYS ILE ARG PHE LYS GLN PRO THR SER LYS ALA PHE GLY MET ASP PHE PRO GLU PRO PHE LYS LEU ARG PRO GLY MET SER GLN PRO LEU LYS VAL VAL PHE ARG PRO LEU LYS GLN GLN HIS TYR SER ASP ASN VAL GLU LEU PHE VAL GLY ASN VAL SER CYS LEU

VAL PRO VAL HIS ALA TYR THR PRO VAL THR HIS ILE GLU VAL PRO PRO ALA LEU ASP PHE GLY PHE THR PRO THR LYS GLU THR VAL THR ALA GLN LEU PRO VAL ARG ASN THR GLY ASP VAL ARG VAL ASP VAL LEU TRP LYS LEU ASP ALA PRO PHE SER ILE SER PRO LEU PHE ALA

SER LEU ALA PRO GLY GLU VAL VAL ALA PHE THR ALA SER PHE THR PRO PRO GLU ALA CYS SER TYR THR ALA SER ALA ALA CYS GLN LEU GLU SER GLY ALA ALA ALA ILE CYS LYS ILE SER GLY ILE GLY LYS PHE PRO TYR LEU SER VAL GLU GLN ALA GLY VAL ASP PHE GLY ALA

VAL VAL VAL GLY GLN ARG VAL GLU ARG LEU VAL ARG PHE GLY ASN HIS SER VAL VAL PRO ALA HIS PHE ALA VAL THR HIS ASP GLU ALA GLY PRO ASP ASP GLY VAL PHE THR VAL GLY PRO ALA ARG GLY THR LEU GLY PRO GLU GLU TYR SER MET LEU LYS LEU SER TYR THR PRO

ARG ALA THR GLY THR PHE SER SER GLU THR PHE HIS ILE GLY THR ALA GLY GLY ASN ARG VAL ALA LEU ASN LEU ARG GLY THR ALA VAL ALA PRO LEU VAL THR LEU SER THR ARG ALA PHE ASN PHE GLY ASN VAL ALA ALA GLY ALA THR ALA SER ARG VAL LEU TYR ILE ARG ASN

HIS SER ALA VAL PRO VAL PRO TYR ASP PHE GLN VAL ASP PRO LEU ASP VAL PHE ALA ILE SER ARG THR ARG GLY VAL LEU ALA PRO ASP SER THR ALA HIS VAL THR ILE THR PHE ARG PRO MET ALA GLY LEU ALA ALA ASN LEU TRP ARG ARG VAL THR LEU LEU LEU LYS ASP ALA

GLU PRO GLN GLY VAL ASP LEU VAL ALA THR ALA TYR THR ASP LYS SER ARG PRO PRO PRO LEU SER GLN ARG HIS VAL GLU ARG TYR MET ALA ARG VAL LEU SER GLY GLY PRO ALA VAL GLU GLU SER GLN LEU ASP SER LYS PRO PRO SER ALA ALA THR GLY ALA GLY GLY LEU ASP

GLY ALA SER GLU GLY GLY ALA GLY PRO LEU LEU ALA GLY GLY GLY PHE GLY SER LEU LEU PRO PRO LEU GLY ASP ALA ALA GLU GLY GLY GLU GLY ALA ALA SER LYS LEU LEU GLY PRO ASP GLY TRP SER LEU LEU PHE GLY GLY GLN ASP PRO ALA ALA ALA LEU THR VAL ASP SER

ASP ALA LEU ASP PHE GLY SER CYS SER ARG LEU SER ALA SER GLU TYR ARG SER VAL THR VAL THR ASN HIS THR PRO ALA LYS LEU THR ALA PHE VAL LEU VAL PRO GLU TRP ALA ASP PRO GLY ALA ALA PRO GLY ASP ALA PRO GLN ARG VAL PHE GLN VAL PHE PRO GLU SER ALA

ASP MET ARG PRO TYR GLY GLN ALA THR PHE LYS VAL ALA PHE ARG PRO PRO ARG ASP ALA ALA PHE PHE SER GLN GLN LEU ALA LEU VAL ALA HIS THR LYS SER GLN ARG ASN PHE ARG LEU VAL ALA GLU HIS GLN VAL LEU PRO ALA TRP CYS VAL PRO LEU ARG ALA THR GLY ASN

THR PHE LEU HIS SER ASN PRO GLU PHE GLY PRO LYS VAL GLU LEU SER SER ARG ALA VAL ALA PHE PRO PRO CYS ARG PRO GLY GLU ARG VAL HIS GLN THR LEU LEU ILE ALA ASN SER GLY ASP THR PRO VAL ALA PHE SER PHE GLY ALA ALA GLY ALA ALA LEU GLY PRO LEU PHE

SER ALA LYS PRO ALA ALA GLY VAL VAL PRO PRO GLN GLY HIS VAL LEU VAL ALA LEU ARG PHE ALA PRO THR ASP THR ARG PRO ALA ALA ALA ASN ALA LEU VAL THR PHE ASN GLY VAL ALA SER ASN ALA VAL SER VAL SER LEU ARG GLY ALA ALA HIS THR PRO ARG LEU THR THR

ASP LEU PRO SER SER THR LEU TYR PHE ARG PRO THR CYS VAL GLY ALA SER SER GLN ARG ALA VAL THR LEU HIS ASN PRO SER ARG VAL PRO VAL ALA PHE ARG TRP ARG LEU PRO ALA ARG LEU GLN GLY LEU VAL THR VAL SER PRO ALA ALA GLY ALA LEU ARG GLY ASN GLU SER

VAL GLN LEU GLN TRP SER PHE THR PRO ALA ALA GLN LYS LEU TYR GLU ALA ARG ALA ALA CYS LEU VAL MET SER PRO PRO GLU ALA ALA ASN GLY ASN ALA ALA GLY ALA THR ALA SER ALA ALA SER LEU PHE PRO GLY ALA GLY LEU ALA THR GLY ILE GLU TRP TYR GLU GLY ALA

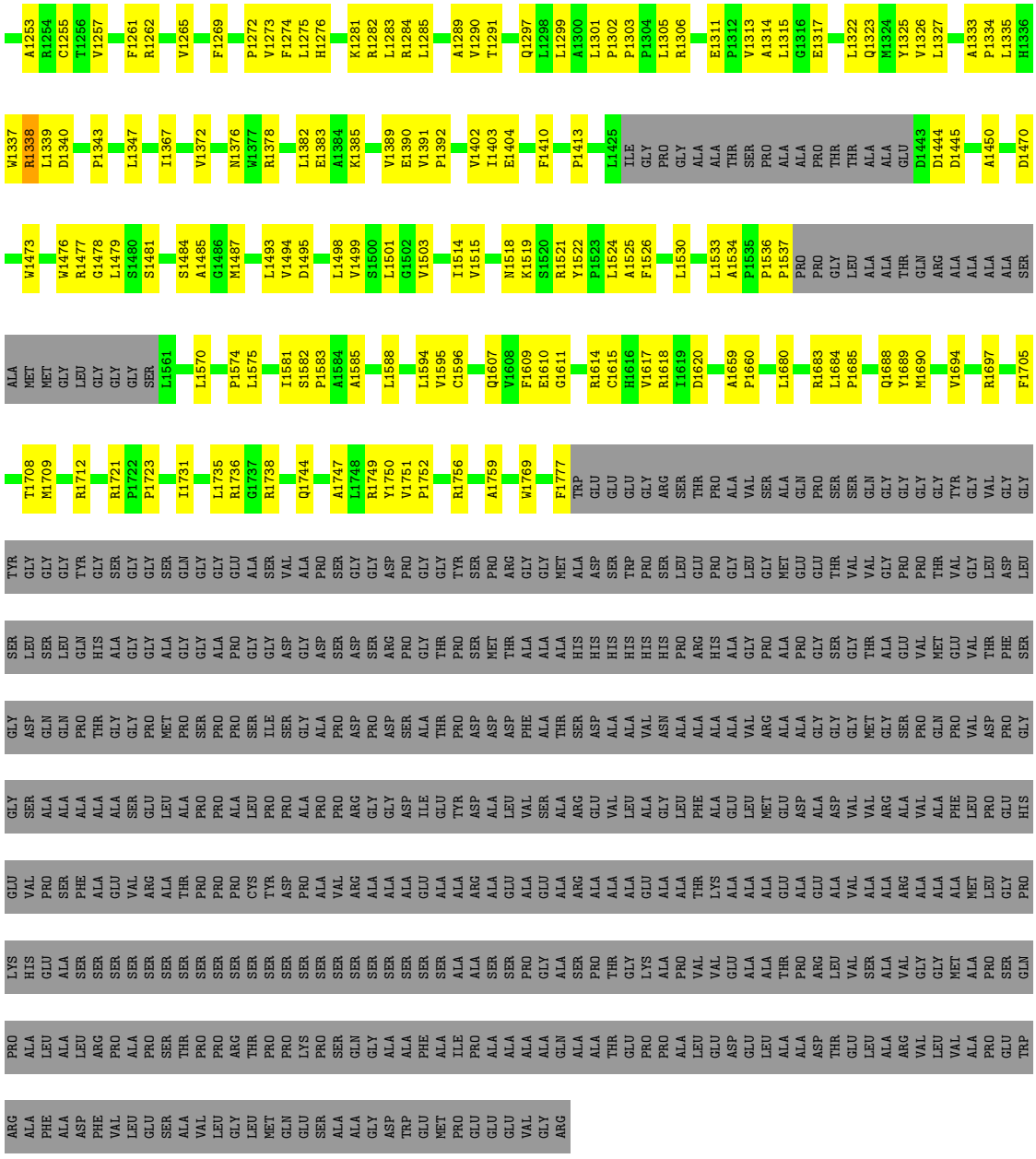
GLY ALA THR ALA ALA LEU ALA GLY MET GLY GLU GLU GLU ALA ALA ASP ALA VAL LEU LEU SER LEU VAL GLY GLU GLY THR GLN GLY ALA VAL ALA LEU GLU PRO PRO SER LEU GLU LEU GLY ASP LEU ARG VAL GLY HIS PRO VAL ARG ARG PRO LEU LEU LEU GLN ASN CYS SER ASP

GLY VAL LEU ARG TYR SER LEU GLU VAL GLY PRO ALA GLU ASP ASP GLN PRO PRO ALA GLY ASP ALA THR LEU VAL ASP PHE THR ALA GLY LEU ASP SER ALA ALA GLU GLY GLY VAL GLY GLY GLY ALA GLY GLY ALA GLY GLY ALA ALA LEU GLU CYS TRP VAL ASP GLU PRO GLU GLY

ALA LEU PRO ALA ARG ALA SER LYS THR VAL MET VAL THR LEU PHE PRO ARG TYR ARG LYS ARG TYR SER LEU GLN VAL ARG CYS ARG SER SER THR VAL ALA PRO LEU LEU THR GLY PRO ASN ARG PRO PRO SER GLY GLY ALA GLY PRO ARG PRO LEU ASP ALA GLY SER GLU ALA ALA

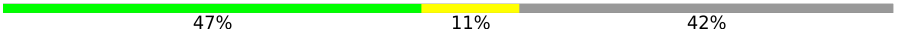
ALA ALA ALA ALA ALA ALA ALA ALA ALA ALA ALA ALA PRO LEU PRO PRO PRO VAL ILE ALA PRO LEU THR ALA SER THR THR F1108 E1112 V1116 Y1117 G1120 L1121 P1122 K1123 Q1124 L1125 L1126 W1127 Q1128 L1129 L1130 G1131 L1132 L1135 N1136 H1137 H1138 L1139 R1140 T1141 E1142 V1143 T1144 A1145 T1146

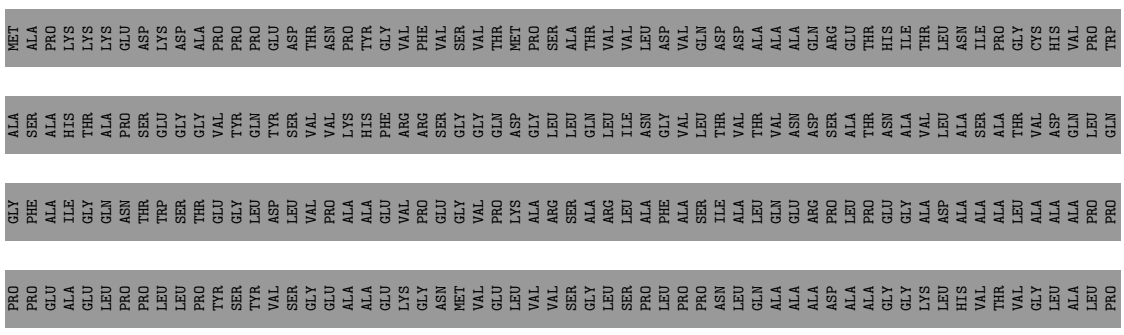
L1150 R1151 A1152 A1153 Q1154 D1155 R1156 G1157 A1164 A1167 M1168 R1169 F1175 G1176 T1177 P1184 H1188 V1189 E1190 N1193 P1194 W1201 Q1202 L1203 H1204 L1214 E1215 E1219 R1222 P1223 E1226 R1229 D1232 L1233 I1234 L1239 F1240 E1241 M1242 R1243 P1244 R1245 L1249 E1250

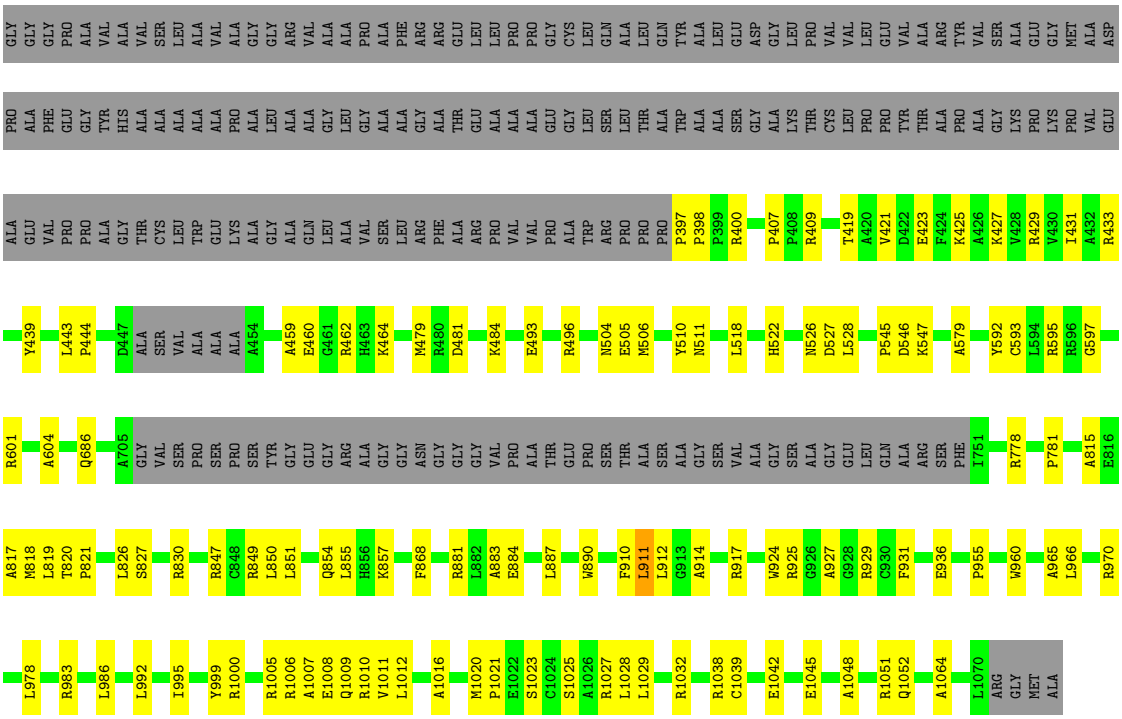


• Molecule 14: FAP70

Chain 1D:

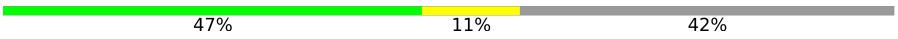


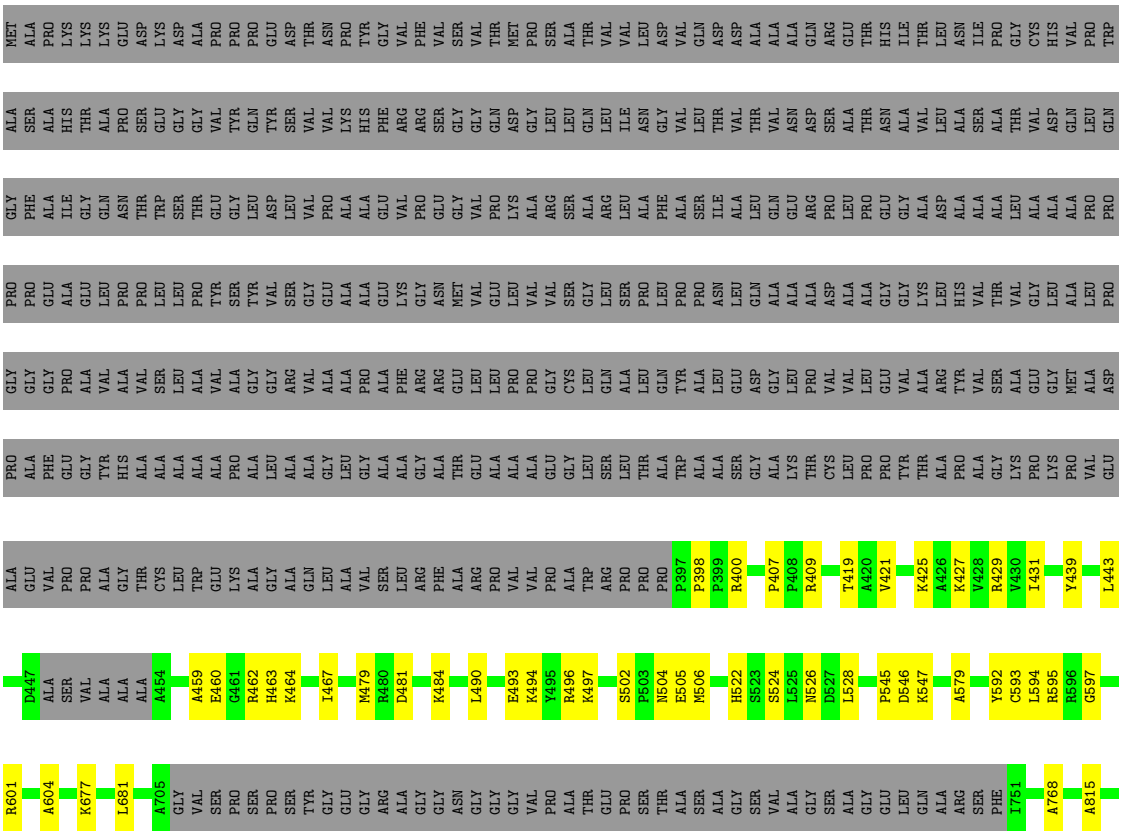


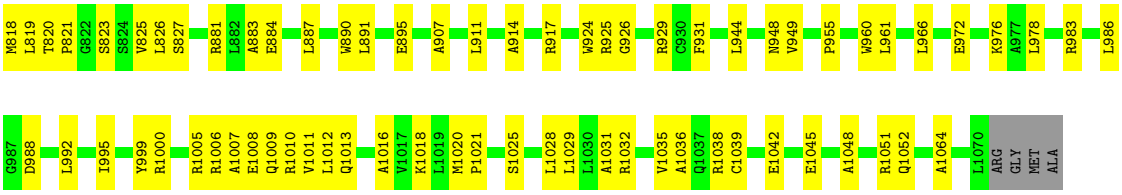


• Molecule 14: FAP70

Chain 1E:

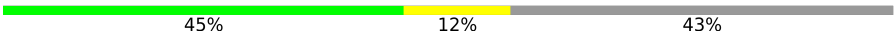


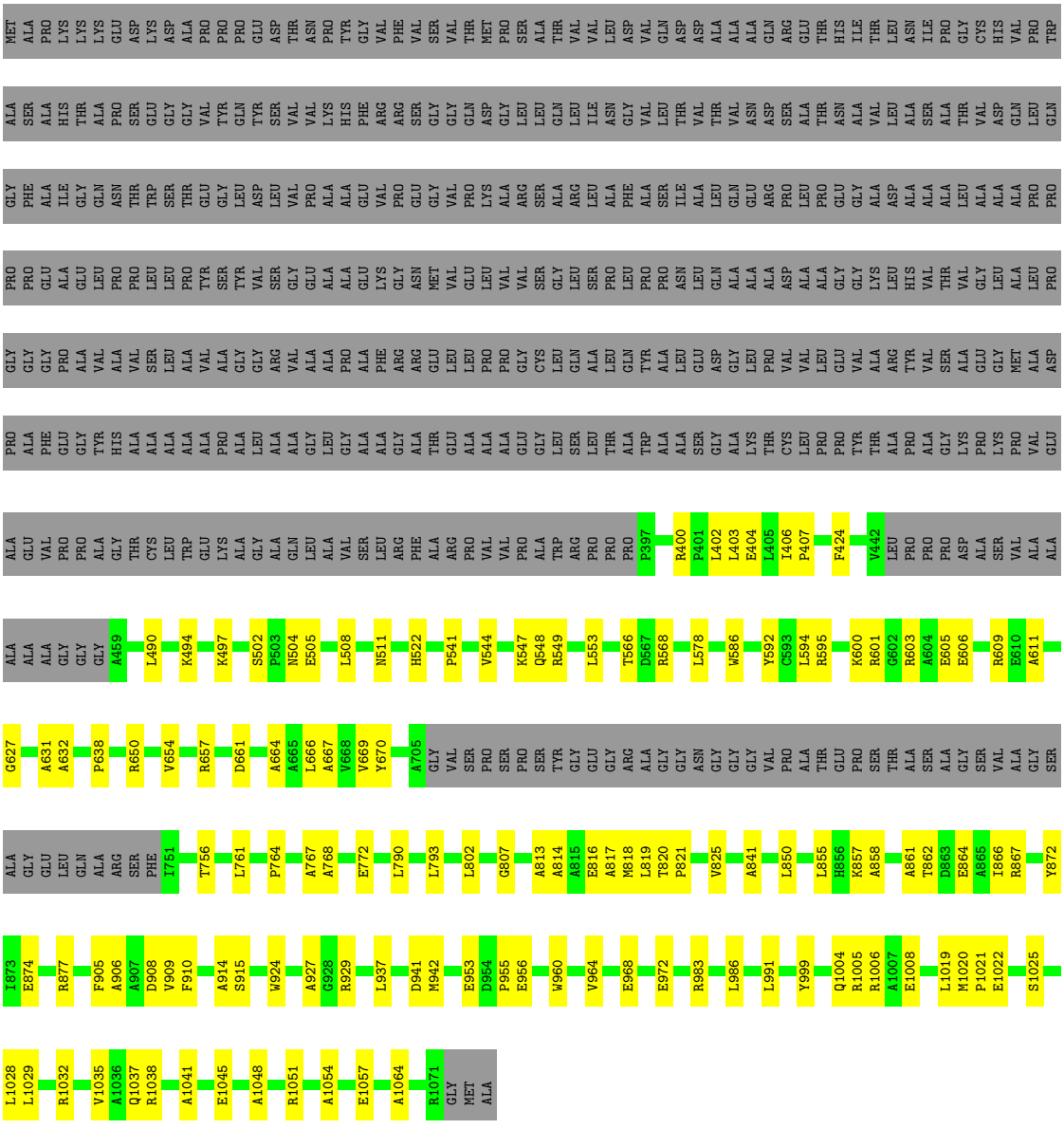




• Molecule 14: FAP70

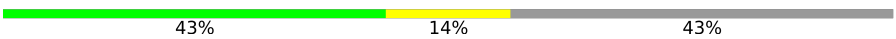
Chain 1F:

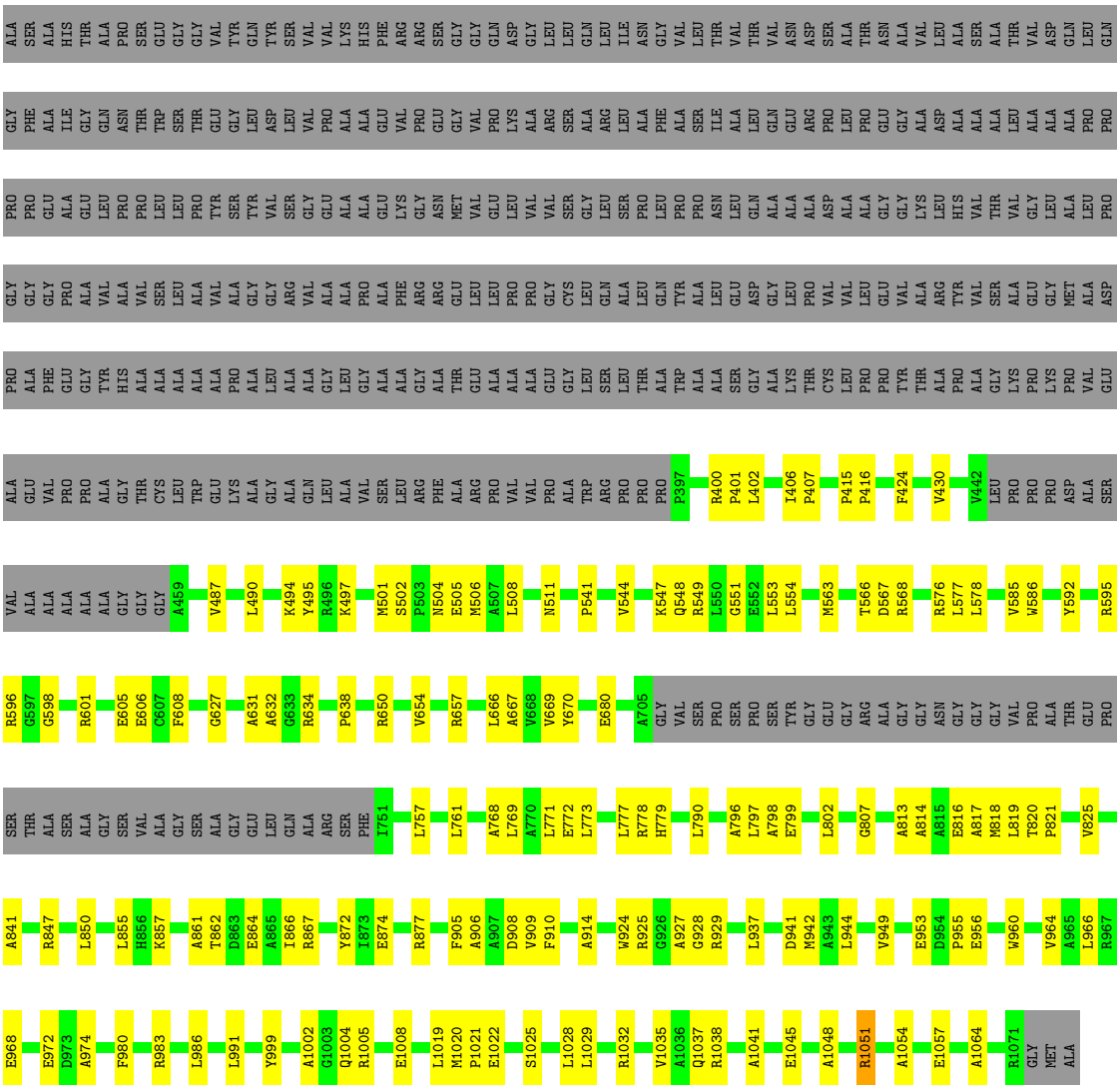




• Molecule 14: FAP70

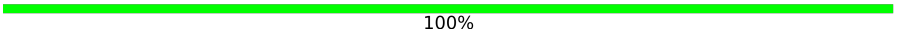
Chain 1G:





• Molecule 15: Unassigned protein-5

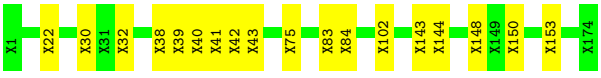
Chain 1H:



There are no outlier residues recorded for this chain.

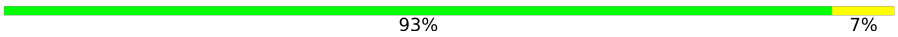
• Molecule 16: Unassigned protein-6

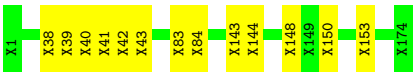
Chain 1M:



• Molecule 16: Unassigned protein-6

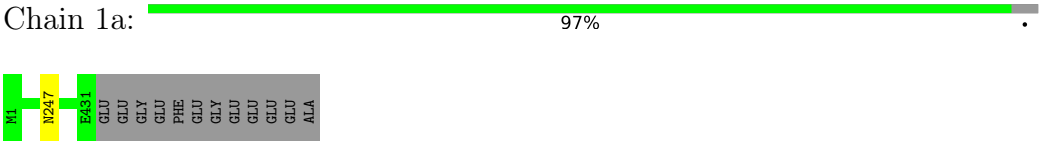
Chain 1L:





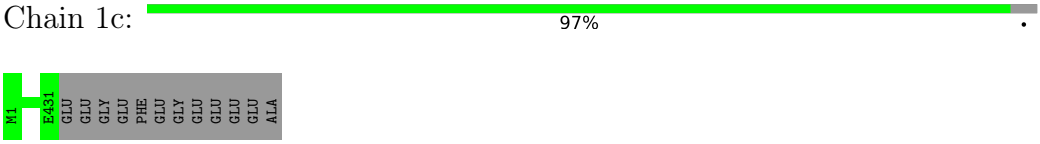
• Molecule 17: Tubulin beta

Chain 1a:



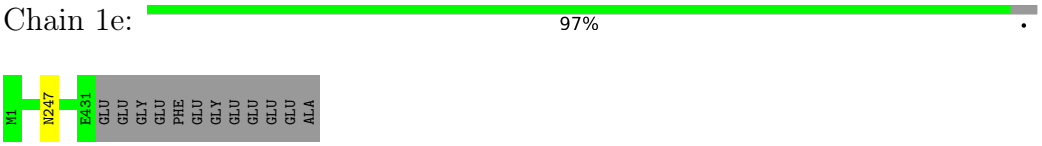
• Molecule 17: Tubulin beta

Chain 1c:



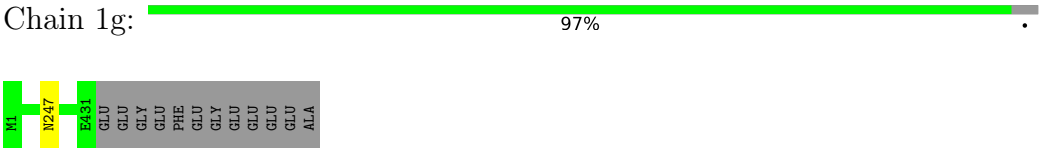
• Molecule 17: Tubulin beta

Chain 1e:



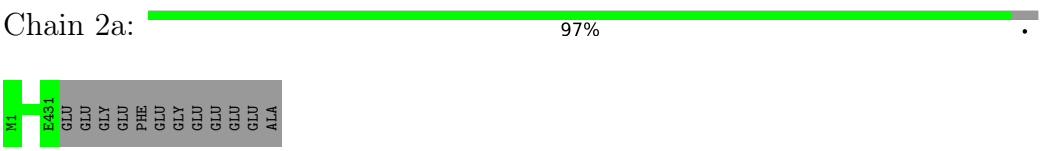
• Molecule 17: Tubulin beta

Chain 1g:



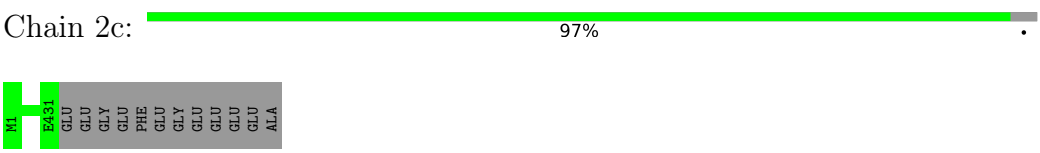
• Molecule 17: Tubulin beta

Chain 2a:



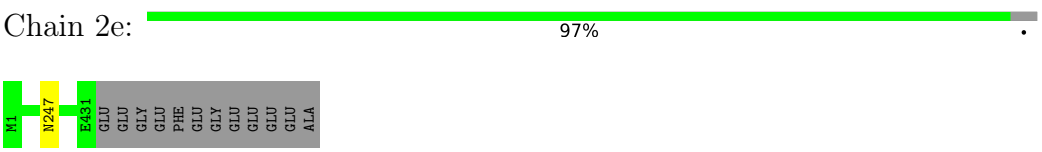
• Molecule 17: Tubulin beta

Chain 2c:



• Molecule 17: Tubulin beta

Chain 2e:



• Molecule 17: Tubulin beta

Chain 2g:

• Molecule 17: Tubulin beta

Chain 3a:

• Molecule 17: Tubulin beta

Chain 3c:

• Molecule 17: Tubulin beta

Chain 3e:

• Molecule 17: Tubulin beta

Chain 3g:

• Molecule 17: Tubulin beta

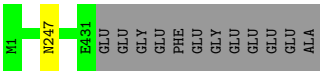
Chain 4a:

• Molecule 17: Tubulin beta

Chain 4c:

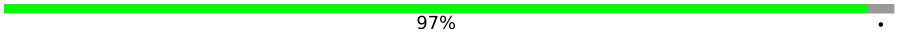
• Molecule 17: Tubulin beta

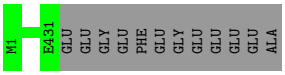
Chain 4e:



• Molecule 17: Tubulin beta

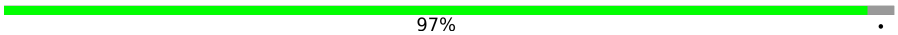
Chain 4g:

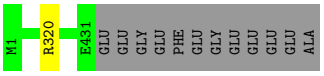




• Molecule 17: Tubulin beta

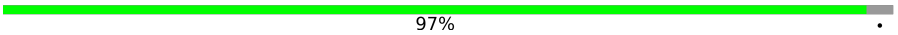
Chain 5a:

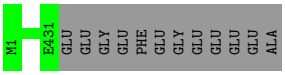




• Molecule 17: Tubulin beta

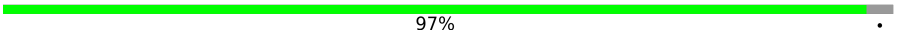
Chain 5c:

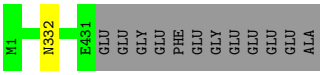




• Molecule 17: Tubulin beta

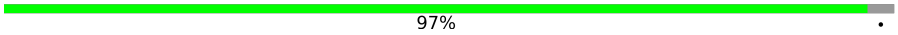
Chain 5e:

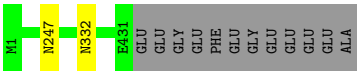




• Molecule 17: Tubulin beta

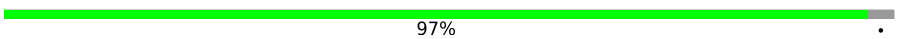
Chain 5g:





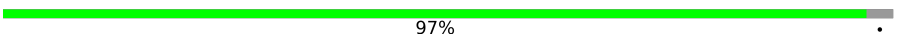
• Molecule 17: Tubulin beta

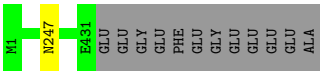
Chain 6a:



• Molecule 17: Tubulin beta

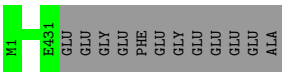
Chain 6c:





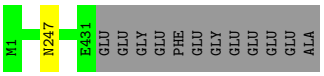
• Molecule 17: Tubulin beta

Chain 6e: 97%



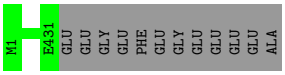
• Molecule 17: Tubulin beta

Chain 6g: 97%



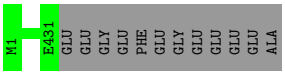
• Molecule 17: Tubulin beta

Chain 7a: 97%



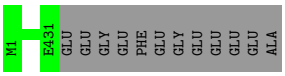
• Molecule 17: Tubulin beta

Chain 7c: 97%



• Molecule 17: Tubulin beta

Chain 7e: 97%

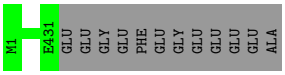


• Molecule 17: Tubulin beta

Chain 7g: 97%

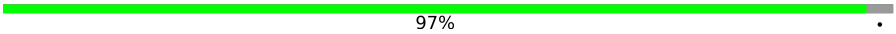
• Molecule 17: Tubulin beta

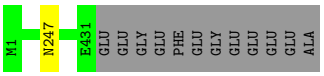
Chain 8a: 97%



• Molecule 17: Tubulin beta

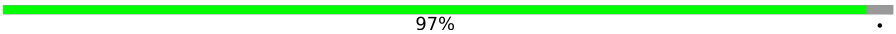
Chain 8c:

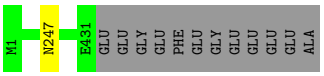




• Molecule 17: Tubulin beta

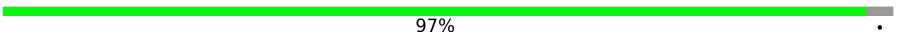
Chain 8e:

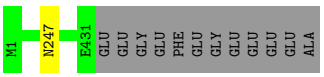




• Molecule 17: Tubulin beta

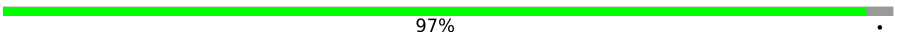
Chain 8g:

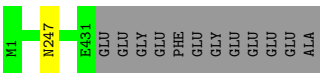




• Molecule 17: Tubulin beta

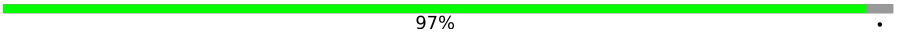
Chain 9a:

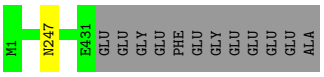




• Molecule 17: Tubulin beta

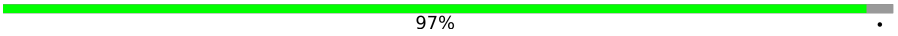
Chain 9c:

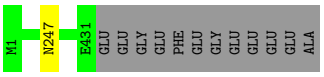




• Molecule 17: Tubulin beta

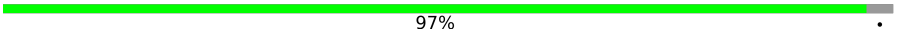
Chain 9e:

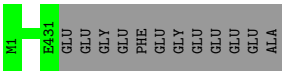




• Molecule 17: Tubulin beta

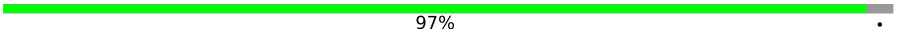
Chain 9g:

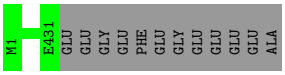




• Molecule 17: Tubulin beta

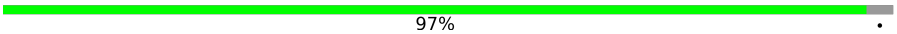
Chain Aa:

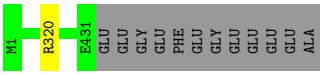




• Molecule 17: Tubulin beta

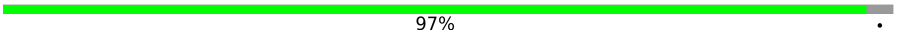
Chain Ac:

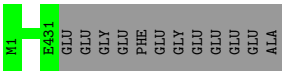




• Molecule 17: Tubulin beta

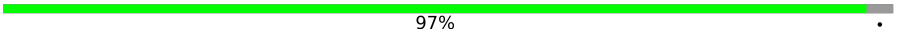
Chain Ae:





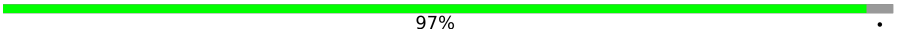
• Molecule 17: Tubulin beta

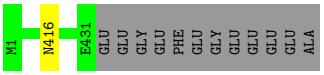
Chain Ag:



• Molecule 17: Tubulin beta

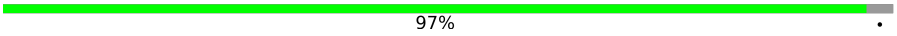
Chain Ba:

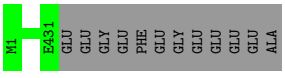




• Molecule 17: Tubulin beta

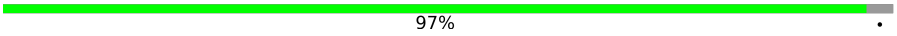
Chain Bc:

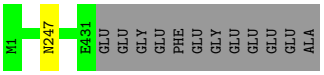




• Molecule 17: Tubulin beta

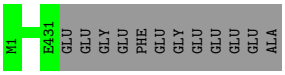
Chain Be:





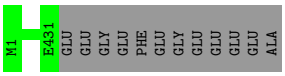
• Molecule 17: Tubulin beta

Chain Bg: 97%



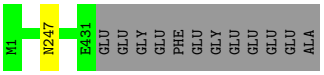
• Molecule 17: Tubulin beta

Chain Ca: 97%



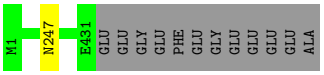
• Molecule 17: Tubulin beta

Chain Cc: 97%



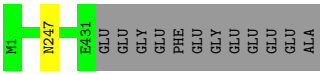
• Molecule 17: Tubulin beta

Chain Ce: 97%



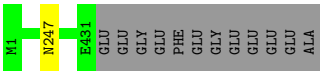
• Molecule 17: Tubulin beta

Chain Cg: 97%



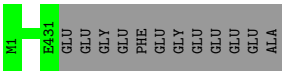
• Molecule 17: Tubulin beta

Chain Da: 97%



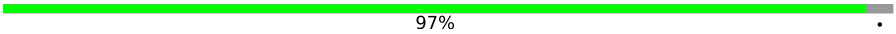
• Molecule 17: Tubulin beta

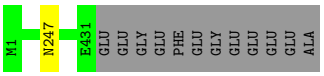
Chain Dc: 97%



• Molecule 17: Tubulin beta

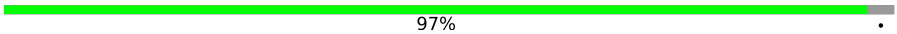
Chain De:

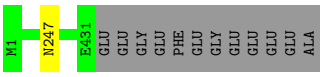




• Molecule 17: Tubulin beta

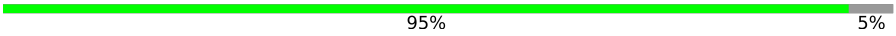
Chain Dg:

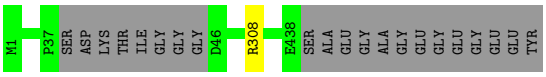




• Molecule 18: Tubulin alpha

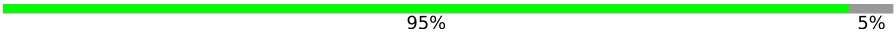
Chain 1b:

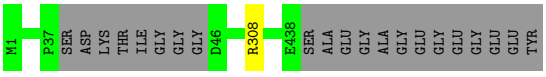




• Molecule 18: Tubulin alpha

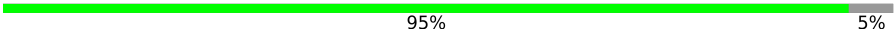
Chain 1d:

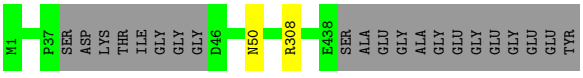




• Molecule 18: Tubulin alpha

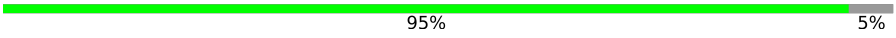
Chain 1f:





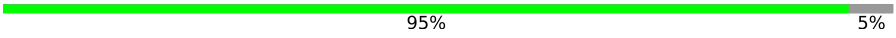
• Molecule 18: Tubulin alpha

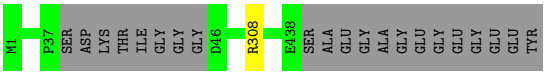
Chain 1h:



• Molecule 18: Tubulin alpha

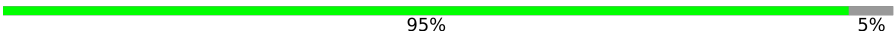
Chain 2b:

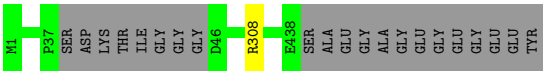




• Molecule 18: Tubulin alpha

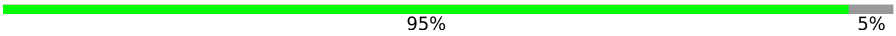
Chain 2d:

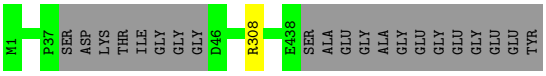




• Molecule 18: Tubulin alpha

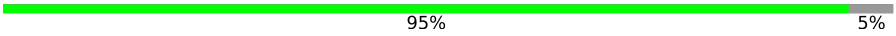
Chain 2f:

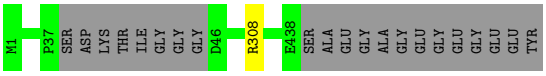




• Molecule 18: Tubulin alpha

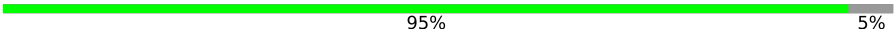
Chain 2h:

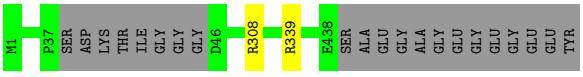




• Molecule 18: Tubulin alpha

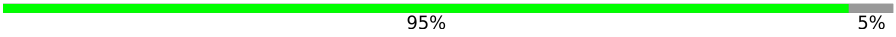
Chain 3b:





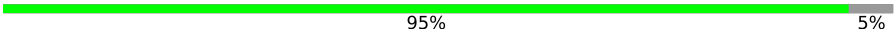
• Molecule 18: Tubulin alpha

Chain 3d:



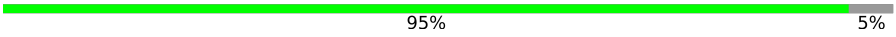
• Molecule 18: Tubulin alpha

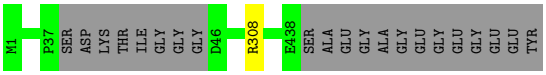
Chain 3f:



• Molecule 18: Tubulin alpha

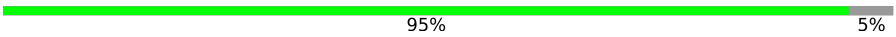
Chain 3h:

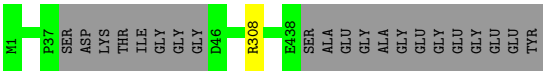




• Molecule 18: Tubulin alpha

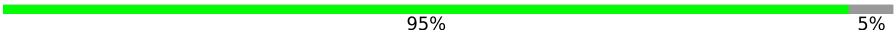
Chain 4b:

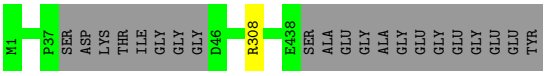




• Molecule 18: Tubulin alpha

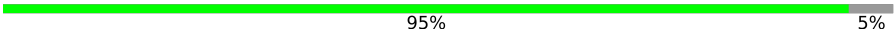
Chain 4d:

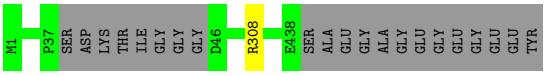




• Molecule 18: Tubulin alpha

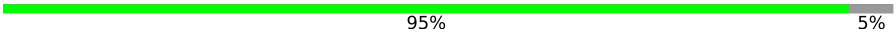
Chain 4f:

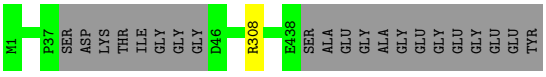




• Molecule 18: Tubulin alpha

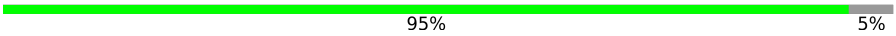
Chain 4h:

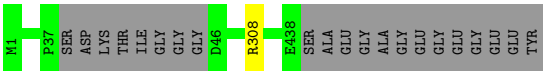




• Molecule 18: Tubulin alpha

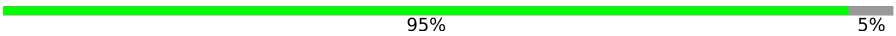
Chain 5b:





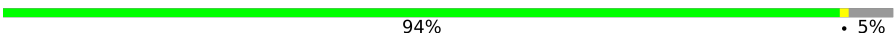
• Molecule 18: Tubulin alpha

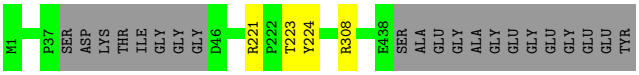
Chain 5d:



• Molecule 18: Tubulin alpha

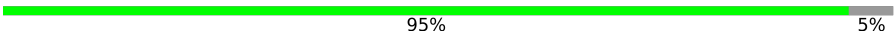
Chain 5f:

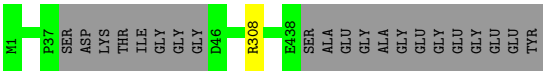




• Molecule 18: Tubulin alpha

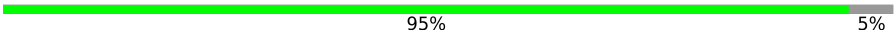
Chain 5h:

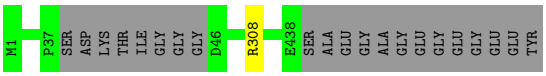




• Molecule 18: Tubulin alpha

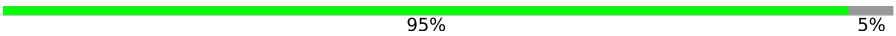
Chain 6b:

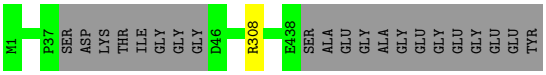




• Molecule 18: Tubulin alpha

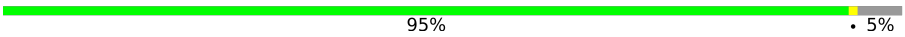
Chain 6d:





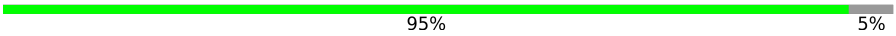
• Molecule 18: Tubulin alpha

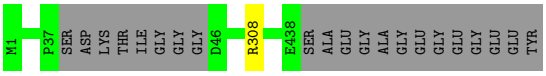
Chain 6f:



• Molecule 18: Tubulin alpha

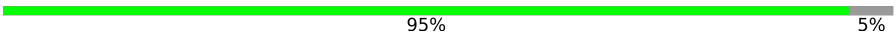
Chain 6h:





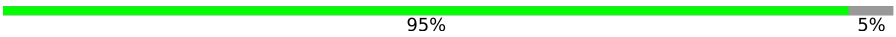
• Molecule 18: Tubulin alpha

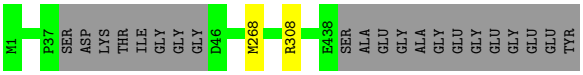
Chain 7b:



• Molecule 18: Tubulin alpha

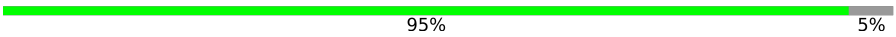
Chain 7d:

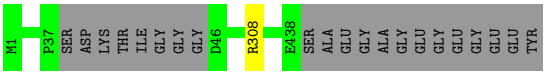




• Molecule 18: Tubulin alpha

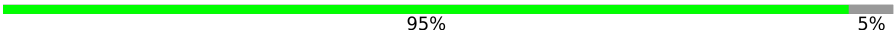
Chain 7f:

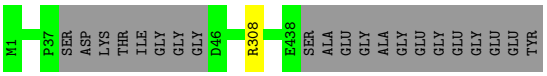




• Molecule 18: Tubulin alpha

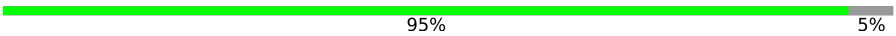
Chain 7h:

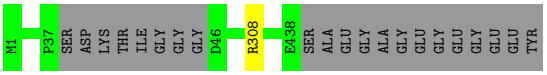




• Molecule 18: Tubulin alpha

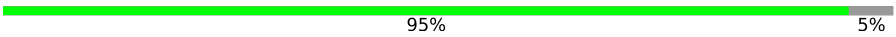
Chain 8b:

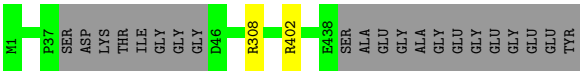




• Molecule 18: Tubulin alpha

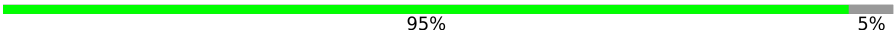
Chain 8d:

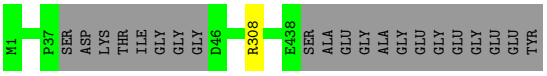




• Molecule 18: Tubulin alpha

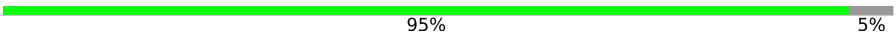
Chain 8f:





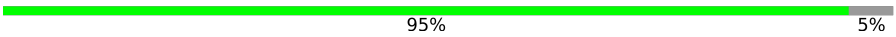
• Molecule 18: Tubulin alpha

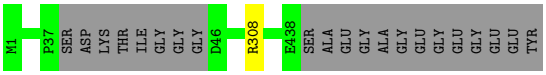
Chain 8h:



• Molecule 18: Tubulin alpha

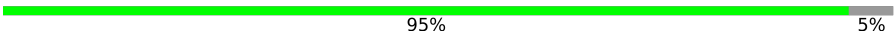
Chain 9b:

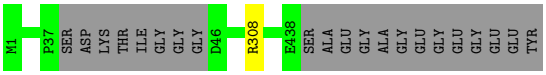




• Molecule 18: Tubulin alpha

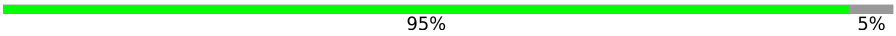
Chain 9d:

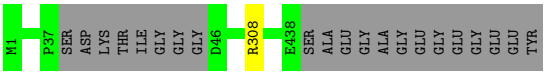




• Molecule 18: Tubulin alpha

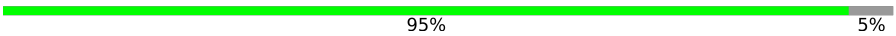
Chain 9f:

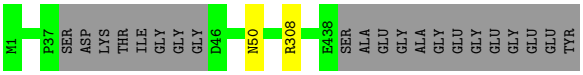




• Molecule 18: Tubulin alpha

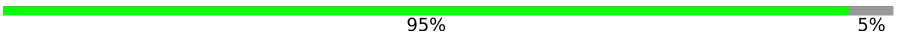
Chain 9h:

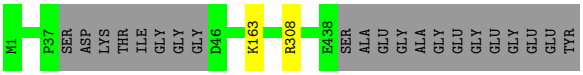




• Molecule 18: Tubulin alpha

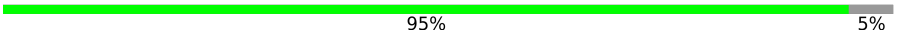
Chain Ab:

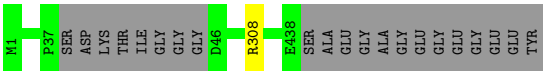




• Molecule 18: Tubulin alpha

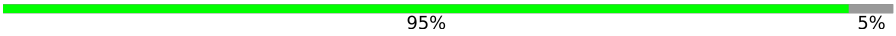
Chain Ad:

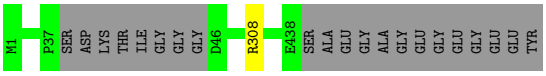




• Molecule 18: Tubulin alpha

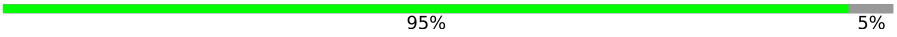
Chain Af:

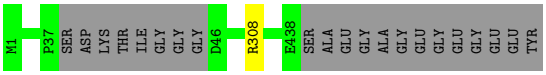




• Molecule 18: Tubulin alpha

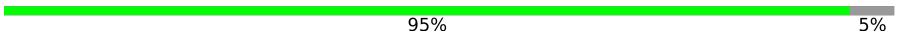
Chain Ah:

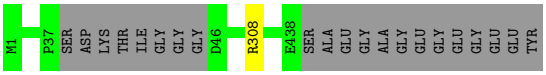




• Molecule 18: Tubulin alpha

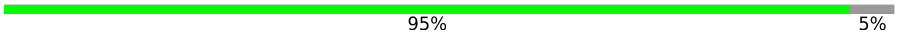
Chain Bb:

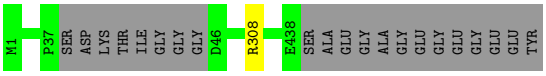




• Molecule 18: Tubulin alpha

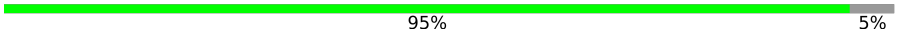
Chain Bd:

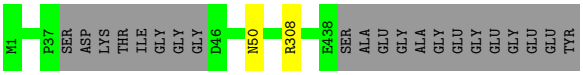




• Molecule 18: Tubulin alpha

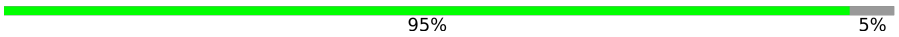
Chain Bf:

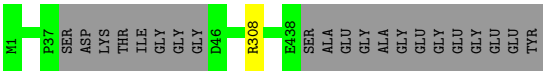




• Molecule 18: Tubulin alpha

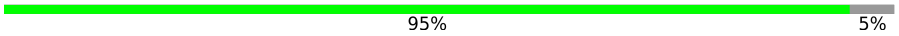
Chain Bh:

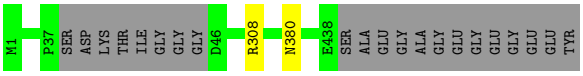




• Molecule 18: Tubulin alpha

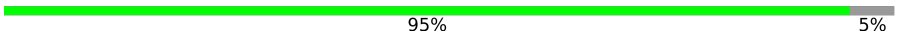
Chain Cb:





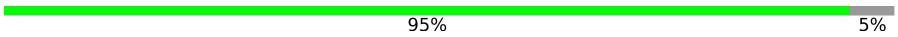
• Molecule 18: Tubulin alpha

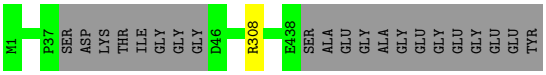
Chain Cd:



• Molecule 18: Tubulin alpha

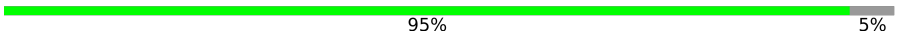
Chain Cf:

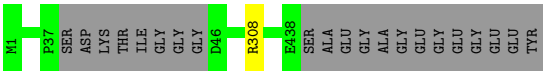




• Molecule 18: Tubulin alpha

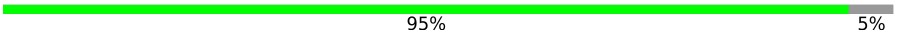
Chain Ch:

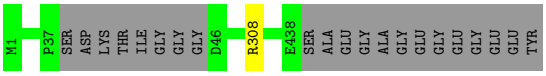




• Molecule 18: Tubulin alpha

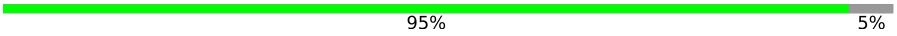
Chain Db:

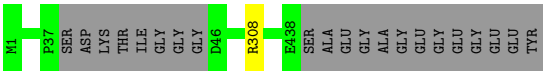




• Molecule 18: Tubulin alpha

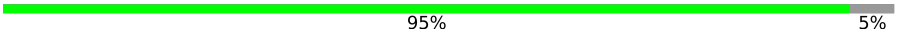
Chain Dd:

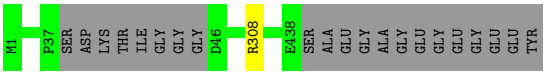




• Molecule 18: Tubulin alpha

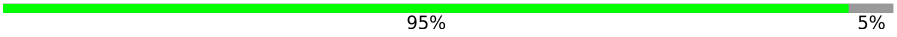
Chain Df:





• Molecule 18: Tubulin alpha

Chain Dh:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	192253	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	38.6	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K2 QUANTUM (4k x 4k)	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: GDP, GTP, ADP

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	0A	0.29	0/3738	0.52	0/5058
1	0B	0.27	0/3738	0.53	0/5058
1	0C	0.26	0/3809	0.51	0/5153
1	0D	0.26	0/3809	0.51	0/5153
2	0E	0.27	0/1033	0.48	0/1399
2	0F	0.28	0/1033	0.50	0/1399
2	0G	0.27	0/1033	0.50	0/1399
2	0H	0.29	0/1033	0.49	0/1399
3	0I	0.29	0/3391	0.56	0/4613
3	0J	0.30	0/3391	0.57	0/4613
4	0K	0.26	0/1231	0.52	1/1674 (0.1%)
4	0L	0.24	0/1231	0.50	1/1674 (0.1%)
5	0M	0.26	0/4111	0.52	0/5556
5	0N	0.26	0/4111	0.52	0/5556
6	0O	0.26	0/1501	0.50	0/2016
6	0P	0.27	0/1501	0.51	0/2016
7	0Q	0.27	0/4634	0.53	0/6298
7	0S	0.26	0/4634	0.53	0/6298
12	0X	0.28	0/3143	0.56	1/4267 (0.0%)
12	0Y	0.30	0/2945	0.55	0/4003
12	0Z	0.28	0/3143	0.56	1/4267 (0.0%)
12	1A	0.29	0/2945	0.54	0/4003
13	1B	0.27	0/4891	0.53	0/6694
13	1C	0.28	0/4891	0.53	0/6694
14	1D	0.27	0/4141	0.50	0/5670
14	1E	0.26	0/4141	0.48	0/5670
14	1F	0.26	0/4441	0.51	0/6044
14	1G	0.27	0/4441	0.53	0/6044
17	1a	0.28	0/3453	0.48	0/4673
17	1c	0.28	0/3453	0.48	0/4673
17	1e	0.30	0/3453	0.49	0/4673
17	1g	0.29	0/3453	0.49	0/4673

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
17	2a	0.29	0/3453	0.49	0/4673
17	2c	0.28	0/3453	0.49	0/4673
17	2e	0.28	0/3453	0.48	0/4673
17	2g	0.28	0/3453	0.48	0/4673
17	3a	0.27	0/3453	0.48	0/4673
17	3c	0.28	0/3453	0.48	0/4673
17	3e	0.28	0/3453	0.49	0/4673
17	3g	0.28	0/3453	0.49	0/4673
17	4a	0.27	0/3453	0.48	0/4673
17	4c	0.27	0/3453	0.48	0/4673
17	4e	0.27	0/3453	0.48	0/4673
17	4g	0.27	0/3453	0.48	0/4673
17	5a	0.26	0/3453	0.48	0/4673
17	5c	0.27	0/3453	0.48	0/4673
17	5e	0.27	0/3453	0.49	0/4673
17	5g	0.28	0/3453	0.48	0/4673
17	6a	0.26	0/3453	0.50	0/4673
17	6c	0.26	0/3453	0.49	0/4673
17	6e	0.27	0/3453	0.48	0/4673
17	6g	0.26	0/3453	0.48	0/4673
17	7a	0.26	0/3453	0.48	0/4673
17	7c	0.26	0/3453	0.48	0/4673
17	7e	0.26	0/3453	0.49	0/4673
17	7g	0.27	0/3453	0.49	0/4673
17	8a	0.27	0/3453	0.49	0/4673
17	8c	0.27	0/3453	0.49	0/4673
17	8e	0.27	0/3453	0.48	0/4673
17	8g	0.27	0/3453	0.49	0/4673
17	9a	0.33	0/3453	0.51	0/4673
17	9c	0.32	0/3453	0.50	0/4673
17	9e	0.32	0/3453	0.51	0/4673
17	9g	0.32	0/3453	0.51	0/4673
17	Aa	0.28	0/3453	0.50	0/4673
17	Ac	0.28	0/3453	0.49	0/4673
17	Ae	0.28	0/3453	0.48	0/4673
17	Ag	0.28	0/3453	0.49	0/4673
17	Ba	0.28	0/3453	0.51	0/4673
17	Bc	0.32	0/3453	0.52	0/4673
17	Be	0.29	0/3453	0.49	0/4673
17	Bg	0.32	0/3453	0.51	0/4673
17	Ca	0.27	0/3453	0.49	0/4673
17	Cc	0.30	0/3453	0.50	0/4673
17	Ce	0.30	0/3453	0.49	0/4673

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
17	Cg	0.29	0/3453	0.49	0/4673
17	Da	0.28	0/3453	0.49	0/4673
17	Dc	0.29	0/3453	0.48	0/4673
17	De	0.29	0/3453	0.49	0/4673
17	Dg	0.29	0/3453	0.49	0/4673
18	1b	0.27	0/3410	0.49	0/4623
18	1d	0.29	0/3410	0.49	0/4623
18	1f	0.29	0/3410	0.49	0/4623
18	1h	0.28	0/3410	0.49	0/4623
18	2b	0.27	0/3410	0.48	0/4623
18	2d	0.28	0/3410	0.49	0/4623
18	2f	0.28	0/3410	0.49	0/4623
18	2h	0.28	0/3410	0.48	0/4623
18	3b	0.28	0/3410	0.48	0/4623
18	3d	0.29	0/3410	0.49	0/4623
18	3f	0.27	0/3410	0.49	0/4623
18	3h	0.28	0/3410	0.49	0/4623
18	4b	0.27	0/3410	0.49	0/4623
18	4d	0.27	0/3410	0.49	0/4623
18	4f	0.27	0/3410	0.49	0/4623
18	4h	0.27	0/3410	0.49	0/4623
18	5b	0.27	0/3410	0.48	0/4623
18	5d	0.27	0/3410	0.49	0/4623
18	5f	0.29	0/3410	0.49	0/4623
18	5h	0.27	0/3410	0.49	0/4623
18	6b	0.26	0/3410	0.48	0/4623
18	6d	0.29	0/3410	0.49	0/4623
18	6f	0.28	0/3410	0.49	0/4623
18	6h	0.28	0/3410	0.49	0/4623
18	7b	0.26	0/3410	0.48	0/4623
18	7d	0.28	0/3410	0.49	0/4623
18	7f	0.27	0/3410	0.48	0/4623
18	7h	0.27	0/3410	0.49	0/4623
18	8b	0.27	0/3410	0.49	0/4623
18	8d	0.29	0/3410	0.49	0/4623
18	8f	0.29	0/3410	0.50	0/4623
18	8h	0.27	0/3410	0.48	0/4623
18	9b	0.32	0/3410	0.50	0/4623
18	9d	0.33	0/3410	0.53	0/4623
18	9f	0.32	0/3410	0.50	0/4623
18	9h	0.33	0/3410	0.52	0/4623
18	Ab	0.27	0/3410	0.48	0/4623
18	Ad	0.28	0/3410	0.50	0/4623

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
18	Af	0.28	0/3410	0.49	0/4623
18	Ah	0.28	0/3410	0.49	0/4623
18	Bb	0.28	0/3410	0.48	0/4623
18	Bd	0.31	0/3410	0.51	0/4623
18	Bf	0.30	0/3410	0.50	0/4623
18	Bh	0.31	0/3410	0.51	0/4623
18	Cb	0.28	0/3410	0.49	0/4623
18	Cd	0.29	0/3410	0.49	0/4623
18	Cf	0.29	0/3410	0.49	0/4623
18	Ch	0.29	0/3410	0.49	0/4623
18	Db	0.28	0/3410	0.49	0/4623
18	Dd	0.29	0/3410	0.50	0/4623
18	Df	0.29	0/3410	0.49	0/4623
18	Dh	0.28	0/3410	0.49	0/4623
All	All	0.28	0/444960	0.50	4/603080 (0.0%)

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	0X	408	PRO	N-CA-CB	6.46	111.06	103.30
12	0Z	408	PRO	N-CA-CB	6.45	111.04	103.30
4	0K	220	PRO	N-CA-CB	5.79	110.25	103.30
4	0L	220	PRO	N-CA-CB	5.77	110.22	103.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0A	3656	0	3589	107	0
1	0B	3656	0	3589	116	0
1	0C	3726	0	3671	128	0
1	0D	3726	0	3671	130	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	0E	1008	0	980	25	0
2	0F	1008	0	980	17	0
2	0G	1008	0	980	27	0
2	0H	1008	0	980	19	0
3	0I	3321	0	3319	99	0
3	0J	3321	0	3319	108	0
4	0K	1216	0	1136	29	0
4	0L	1216	0	1136	28	0
5	0M	4037	0	3964	56	0
5	0N	4037	0	3964	56	0
6	0O	1481	0	1456	15	0
6	0P	1481	0	1456	17	0
7	0Q	4537	0	4426	110	0
7	0S	4537	0	4426	114	0
8	0T	845	0	185	0	0
9	0U	850	0	188	0	0
10	0V	800	0	171	0	0
11	0W	195	0	42	0	0
12	0X	3098	0	2933	101	0
12	0Y	2903	0	2675	75	0
12	0Z	3098	0	2933	84	0
12	1A	2903	0	2675	72	0
13	1B	4771	0	4774	152	0
13	1C	4771	0	4774	157	0
14	1D	4079	0	3607	95	0
14	1E	4079	0	3607	83	0
14	1F	4370	0	4195	93	0
14	1G	4370	0	4195	122	0
15	1H	440	0	97	0	0
16	1L	870	0	195	9	0
16	1M	870	0	195	19	0
17	1a	3379	0	3265	0	0
17	1c	3379	0	3265	0	0
17	1e	3379	0	3265	0	0
17	1g	3379	0	3265	0	0
17	2a	3379	0	3265	0	0
17	2c	3379	0	3265	0	0
17	2e	3379	0	3265	0	0
17	2g	3379	0	3265	0	0
17	3a	3379	0	3265	0	0
17	3c	3379	0	3265	0	0
17	3e	3379	0	3265	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
17	3g	3379	0	3265	0	0
17	4a	3379	0	3265	0	0
17	4c	3379	0	3265	0	0
17	4e	3379	0	3265	0	0
17	4g	3379	0	3265	0	0
17	5a	3379	0	3265	0	0
17	5c	3379	0	3265	0	0
17	5e	3379	0	3265	0	0
17	5g	3379	0	3265	0	0
17	6a	3379	0	3265	0	0
17	6c	3379	0	3265	0	0
17	6e	3379	0	3265	0	0
17	6g	3379	0	3265	0	0
17	7a	3379	0	3265	0	0
17	7c	3379	0	3265	0	0
17	7e	3379	0	3265	0	0
17	7g	3379	0	3265	0	0
17	8a	3379	0	3265	0	0
17	8c	3379	0	3265	0	0
17	8e	3379	0	3265	0	0
17	8g	3379	0	3265	0	0
17	9a	3379	0	3265	0	0
17	9c	3379	0	3265	0	0
17	9e	3379	0	3265	0	0
17	9g	3379	0	3265	0	0
17	Aa	3379	0	3265	0	0
17	Ac	3379	0	3265	0	0
17	Ae	3379	0	3265	0	0
17	Ag	3379	0	3265	0	0
17	Ba	3379	0	3265	0	0
17	Bc	3379	0	3265	0	0
17	Be	3379	0	3265	0	0
17	Bg	3379	0	3265	0	0
17	Ca	3379	0	3265	0	0
17	Cc	3379	0	3265	0	0
17	Ce	3379	0	3265	0	0
17	Cg	3379	0	3265	0	0
17	Da	3379	0	3265	0	0
17	Dc	3379	0	3265	0	0
17	De	3379	0	3265	0	0
17	Dg	3379	0	3265	0	0
18	1b	3339	0	3277	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
18	1d	3339	0	3277	0	0
18	1f	3339	0	3277	0	0
18	1h	3339	0	3277	0	0
18	2b	3339	0	3277	0	0
18	2d	3339	0	3277	0	0
18	2f	3339	0	3277	0	0
18	2h	3339	0	3277	0	0
18	3b	3339	0	3277	0	0
18	3d	3339	0	3277	0	0
18	3f	3339	0	3277	0	0
18	3h	3339	0	3277	0	0
18	4b	3339	0	3277	0	0
18	4d	3339	0	3277	0	0
18	4f	3339	0	3277	0	0
18	4h	3339	0	3277	0	0
18	5b	3339	0	3277	0	0
18	5d	3339	0	3277	0	0
18	5f	3339	0	3277	0	0
18	5h	3339	0	3277	0	0
18	6b	3339	0	3277	0	0
18	6d	3339	0	3277	0	0
18	6f	3339	0	3277	0	0
18	6h	3339	0	3277	0	0
18	7b	3339	0	3277	0	0
18	7d	3339	0	3277	0	0
18	7f	3339	0	3277	0	0
18	7h	3339	0	3277	0	0
18	8b	3339	0	3277	0	0
18	8d	3339	0	3277	0	0
18	8f	3339	0	3277	0	0
18	8h	3339	0	3277	0	0
18	9b	3339	0	3277	0	0
18	9d	3339	0	3277	0	0
18	9f	3339	0	3277	0	0
18	9h	3339	0	3277	0	0
18	Ab	3339	0	3277	0	0
18	Ad	3339	0	3277	0	0
18	Af	3339	0	3277	0	0
18	Ah	3339	0	3277	0	0
18	Bb	3339	0	3277	0	0
18	Bd	3339	0	3277	0	0
18	Bf	3339	0	3277	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
18	Bh	3339	0	3277	0	0
18	Cb	3339	0	3277	0	0
18	Cd	3339	0	3277	0	0
18	Cf	3339	0	3277	0	0
18	Ch	3339	0	3277	0	0
18	Db	3339	0	3277	0	0
18	Dd	3339	0	3277	0	0
18	Df	3339	0	3277	0	0
18	Dh	3339	0	3277	0	0
19	0X	27	0	12	2	0
19	0Y	27	0	12	4	0
19	0Z	27	0	12	2	0
19	1A	27	0	12	1	0
20	1a	28	0	12	0	0
20	1c	28	0	12	0	0
20	1e	28	0	12	0	0
20	1g	28	0	12	0	0
20	2a	28	0	12	0	0
20	2c	28	0	12	0	0
20	2e	28	0	12	0	0
20	2g	28	0	12	0	0
20	3a	28	0	12	0	0
20	3c	28	0	12	0	0
20	3e	28	0	12	0	0
20	3g	28	0	12	0	0
20	4a	28	0	12	0	0
20	4c	28	0	12	0	0
20	4e	28	0	12	0	0
20	4g	28	0	12	0	0
20	5a	28	0	12	0	0
20	5c	28	0	12	0	0
20	5e	28	0	12	0	0
20	5g	28	0	12	0	0
20	6a	28	0	12	0	0
20	6c	28	0	12	0	0
20	6e	28	0	12	0	0
20	6g	28	0	12	0	0
20	7a	28	0	12	0	0
20	7c	28	0	12	0	0
20	7e	28	0	12	0	0
20	7g	28	0	12	0	0
20	8a	28	0	12	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
20	8c	28	0	12	0	0
20	8e	28	0	12	0	0
20	8g	28	0	12	0	0
20	9a	28	0	12	0	0
20	9c	28	0	12	0	0
20	9e	28	0	12	0	0
20	9g	28	0	12	0	0
20	Aa	28	0	12	0	0
20	Ac	28	0	12	0	0
20	Ae	28	0	12	0	0
20	Ag	28	0	12	0	0
20	Ba	28	0	12	0	0
20	Bc	28	0	12	0	0
20	Be	28	0	12	0	0
20	Bg	28	0	12	0	0
20	Ca	28	0	12	0	0
20	Cc	28	0	12	0	0
20	Ce	28	0	12	0	0
20	Cg	28	0	12	0	0
20	Da	28	0	12	0	0
20	Dc	28	0	12	0	0
20	De	28	0	12	0	0
20	Dg	28	0	12	0	0
21	1b	32	0	12	0	0
21	1d	32	0	12	0	0
21	1f	32	0	12	0	0
21	1h	32	0	12	0	0
21	2b	32	0	12	0	0
21	2d	32	0	12	0	0
21	2f	32	0	12	0	0
21	2h	32	0	12	0	0
21	3b	32	0	12	0	0
21	3d	32	0	12	0	0
21	3f	32	0	12	0	0
21	3h	32	0	12	0	0
21	4b	32	0	12	0	0
21	4d	32	0	12	0	0
21	4f	32	0	12	0	0
21	4h	32	0	12	0	0
21	5b	32	0	12	0	0
21	5d	32	0	12	0	0
21	5f	32	0	12	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
21	5h	32	0	12	0	0
21	6b	32	0	12	0	0
21	6d	32	0	12	0	0
21	6f	32	0	12	0	0
21	6h	32	0	12	0	0
21	7b	32	0	12	0	0
21	7d	32	0	12	0	0
21	7f	32	0	12	0	0
21	7h	32	0	12	0	0
21	8b	32	0	12	0	0
21	8d	32	0	12	0	0
21	8f	32	0	12	0	0
21	8h	32	0	12	0	0
21	9b	32	0	12	0	0
21	9d	32	0	12	0	0
21	9f	32	0	12	0	0
21	9h	32	0	12	0	0
21	Ab	32	0	12	0	0
21	Ad	32	0	12	0	0
21	Af	32	0	12	0	0
21	Ah	32	0	12	0	0
21	Bb	32	0	12	0	0
21	Bd	32	0	12	0	0
21	Bf	32	0	12	0	0
21	Bh	32	0	12	0	0
21	Cb	32	0	12	0	0
21	Cd	32	0	12	0	0
21	Cf	32	0	12	0	0
21	Ch	32	0	12	0	0
21	Db	32	0	12	0	0
21	Dd	32	0	12	0	0
21	Df	32	0	12	0	0
21	Dh	32	0	12	0	0
All	All	443856	0	425963	2096	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 12.

The worst 5 of 2096 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:1B:1659:ALA:HB2	16:1M:22:UNK:CB	1.25	1.57
13:1B:1659:ALA:CB	16:1M:22:UNK:CB	2.19	1.20
13:1B:1650:GLU:OE1	16:1M:30:UNK:O	1.69	1.10
7:0Q:488:LEU:HB3	7:0Q:498:THR:HG21	1.53	0.91
7:0S:460:MET:HE2	7:0S:495:ARG:HH12	1.33	0.91

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	0A	463/606 (76%)	447 (96%)	16 (4%)	0	100	100
1	0B	463/606 (76%)	449 (97%)	14 (3%)	0	100	100
1	0C	472/606 (78%)	454 (96%)	18 (4%)	0	100	100
1	0D	472/606 (78%)	458 (97%)	14 (3%)	0	100	100
2	0E	126/222 (57%)	122 (97%)	4 (3%)	0	100	100
2	0F	126/222 (57%)	121 (96%)	5 (4%)	0	100	100
2	0G	126/222 (57%)	122 (97%)	4 (3%)	0	100	100
2	0H	126/222 (57%)	121 (96%)	5 (4%)	0	100	100
3	0I	442/976 (45%)	424 (96%)	17 (4%)	1 (0%)	47	81
3	0J	442/976 (45%)	426 (96%)	15 (3%)	1 (0%)	47	81
4	0K	164/528 (31%)	162 (99%)	2 (1%)	0	100	100
4	0L	164/528 (31%)	161 (98%)	3 (2%)	0	100	100
5	0M	507/758 (67%)	488 (96%)	19 (4%)	0	100	100
5	0N	507/758 (67%)	491 (97%)	16 (3%)	0	100	100
6	0O	184/201 (92%)	180 (98%)	4 (2%)	0	100	100
6	0P	184/201 (92%)	180 (98%)	4 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	0Q	615/618 (100%)	564 (92%)	51 (8%)	0	100	100
7	0S	615/618 (100%)	566 (92%)	49 (8%)	0	100	100
12	0X	418/776 (54%)	390 (93%)	26 (6%)	2 (0%)	29	68
12	0Y	400/776 (52%)	371 (93%)	25 (6%)	4 (1%)	15	54
12	0Z	418/776 (54%)	390 (93%)	26 (6%)	2 (0%)	29	68
12	1A	400/776 (52%)	373 (93%)	24 (6%)	3 (1%)	19	58
13	1B	624/2257 (28%)	595 (95%)	29 (5%)	0	100	100
13	1C	624/2257 (28%)	595 (95%)	29 (5%)	0	100	100
14	1D	617/1074 (57%)	584 (95%)	33 (5%)	0	100	100
14	1E	617/1074 (57%)	584 (95%)	33 (5%)	0	100	100
14	1F	608/1074 (57%)	576 (95%)	32 (5%)	0	100	100
14	1G	608/1074 (57%)	573 (94%)	35 (6%)	0	100	100
17	1a	429/443 (97%)	420 (98%)	9 (2%)	0	100	100
17	1c	429/443 (97%)	420 (98%)	9 (2%)	0	100	100
17	1e	429/443 (97%)	421 (98%)	8 (2%)	0	100	100
17	1g	429/443 (97%)	419 (98%)	10 (2%)	0	100	100
17	2a	429/443 (97%)	418 (97%)	11 (3%)	0	100	100
17	2c	429/443 (97%)	420 (98%)	9 (2%)	0	100	100
17	2e	429/443 (97%)	418 (97%)	11 (3%)	0	100	100
17	2g	429/443 (97%)	420 (98%)	9 (2%)	0	100	100
17	3a	429/443 (97%)	422 (98%)	7 (2%)	0	100	100
17	3c	429/443 (97%)	420 (98%)	9 (2%)	0	100	100
17	3e	429/443 (97%)	421 (98%)	8 (2%)	0	100	100
17	3g	429/443 (97%)	422 (98%)	7 (2%)	0	100	100
17	4a	429/443 (97%)	419 (98%)	10 (2%)	0	100	100
17	4c	429/443 (97%)	420 (98%)	9 (2%)	0	100	100
17	4e	429/443 (97%)	420 (98%)	9 (2%)	0	100	100
17	4g	429/443 (97%)	418 (97%)	11 (3%)	0	100	100
17	5a	429/443 (97%)	419 (98%)	10 (2%)	0	100	100
17	5c	429/443 (97%)	421 (98%)	8 (2%)	0	100	100
17	5e	429/443 (97%)	418 (97%)	11 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
17	5g	429/443 (97%)	420 (98%)	9 (2%)	0	100	100
17	6a	429/443 (97%)	421 (98%)	8 (2%)	0	100	100
17	6c	429/443 (97%)	419 (98%)	10 (2%)	0	100	100
17	6e	429/443 (97%)	421 (98%)	8 (2%)	0	100	100
17	6g	429/443 (97%)	419 (98%)	10 (2%)	0	100	100
17	7a	429/443 (97%)	418 (97%)	11 (3%)	0	100	100
17	7c	429/443 (97%)	421 (98%)	8 (2%)	0	100	100
17	7e	429/443 (97%)	420 (98%)	9 (2%)	0	100	100
17	7g	429/443 (97%)	419 (98%)	10 (2%)	0	100	100
17	8a	429/443 (97%)	418 (97%)	11 (3%)	0	100	100
17	8c	429/443 (97%)	421 (98%)	8 (2%)	0	100	100
17	8e	429/443 (97%)	420 (98%)	9 (2%)	0	100	100
17	8g	429/443 (97%)	419 (98%)	10 (2%)	0	100	100
17	9a	429/443 (97%)	418 (97%)	11 (3%)	0	100	100
17	9c	429/443 (97%)	419 (98%)	10 (2%)	0	100	100
17	9e	429/443 (97%)	420 (98%)	9 (2%)	0	100	100
17	9g	429/443 (97%)	417 (97%)	12 (3%)	0	100	100
17	Aa	429/443 (97%)	419 (98%)	10 (2%)	0	100	100
17	Ac	429/443 (97%)	422 (98%)	7 (2%)	0	100	100
17	Ae	429/443 (97%)	422 (98%)	7 (2%)	0	100	100
17	Ag	429/443 (97%)	422 (98%)	7 (2%)	0	100	100
17	Ba	429/443 (97%)	419 (98%)	10 (2%)	0	100	100
17	Bc	429/443 (97%)	421 (98%)	8 (2%)	0	100	100
17	Be	429/443 (97%)	421 (98%)	8 (2%)	0	100	100
17	Bg	429/443 (97%)	420 (98%)	9 (2%)	0	100	100
17	Ca	429/443 (97%)	422 (98%)	7 (2%)	0	100	100
17	Cc	429/443 (97%)	418 (97%)	11 (3%)	0	100	100
17	Ce	429/443 (97%)	421 (98%)	8 (2%)	0	100	100
17	Cg	429/443 (97%)	414 (96%)	15 (4%)	0	100	100
17	Da	429/443 (97%)	421 (98%)	8 (2%)	0	100	100
17	Dc	429/443 (97%)	420 (98%)	9 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
17	De	429/443 (97%)	419 (98%)	10 (2%)	0	100	100
17	Dg	429/443 (97%)	418 (97%)	11 (3%)	0	100	100
18	1b	426/451 (94%)	414 (97%)	12 (3%)	0	100	100
18	1d	426/451 (94%)	416 (98%)	10 (2%)	0	100	100
18	1f	426/451 (94%)	414 (97%)	12 (3%)	0	100	100
18	1h	426/451 (94%)	415 (97%)	11 (3%)	0	100	100
18	2b	426/451 (94%)	414 (97%)	12 (3%)	0	100	100
18	2d	426/451 (94%)	415 (97%)	11 (3%)	0	100	100
18	2f	426/451 (94%)	411 (96%)	15 (4%)	0	100	100
18	2h	426/451 (94%)	416 (98%)	10 (2%)	0	100	100
18	3b	426/451 (94%)	415 (97%)	11 (3%)	0	100	100
18	3d	426/451 (94%)	413 (97%)	13 (3%)	0	100	100
18	3f	426/451 (94%)	417 (98%)	9 (2%)	0	100	100
18	3h	426/451 (94%)	415 (97%)	11 (3%)	0	100	100
18	4b	426/451 (94%)	414 (97%)	12 (3%)	0	100	100
18	4d	426/451 (94%)	414 (97%)	12 (3%)	0	100	100
18	4f	426/451 (94%)	416 (98%)	10 (2%)	0	100	100
18	4h	426/451 (94%)	411 (96%)	15 (4%)	0	100	100
18	5b	426/451 (94%)	416 (98%)	10 (2%)	0	100	100
18	5d	426/451 (94%)	416 (98%)	10 (2%)	0	100	100
18	5f	426/451 (94%)	420 (99%)	6 (1%)	0	100	100
18	5h	426/451 (94%)	411 (96%)	15 (4%)	0	100	100
18	6b	426/451 (94%)	417 (98%)	9 (2%)	0	100	100
18	6d	426/451 (94%)	413 (97%)	13 (3%)	0	100	100
18	6f	426/451 (94%)	416 (98%)	10 (2%)	0	100	100
18	6h	426/451 (94%)	416 (98%)	10 (2%)	0	100	100
18	7b	426/451 (94%)	417 (98%)	9 (2%)	0	100	100
18	7d	426/451 (94%)	417 (98%)	9 (2%)	0	100	100
18	7f	426/451 (94%)	412 (97%)	14 (3%)	0	100	100
18	7h	426/451 (94%)	415 (97%)	11 (3%)	0	100	100
18	8b	426/451 (94%)	416 (98%)	10 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
18	8d	426/451 (94%)	416 (98%)	10 (2%)	0	100	100
18	8f	426/451 (94%)	414 (97%)	12 (3%)	0	100	100
18	8h	426/451 (94%)	417 (98%)	9 (2%)	0	100	100
18	9b	426/451 (94%)	415 (97%)	11 (3%)	0	100	100
18	9d	426/451 (94%)	413 (97%)	13 (3%)	0	100	100
18	9f	426/451 (94%)	412 (97%)	14 (3%)	0	100	100
18	9h	426/451 (94%)	411 (96%)	15 (4%)	0	100	100
18	Ab	426/451 (94%)	417 (98%)	9 (2%)	0	100	100
18	Ad	426/451 (94%)	415 (97%)	11 (3%)	0	100	100
18	Af	426/451 (94%)	414 (97%)	12 (3%)	0	100	100
18	Ah	426/451 (94%)	415 (97%)	11 (3%)	0	100	100
18	Bb	426/451 (94%)	419 (98%)	7 (2%)	0	100	100
18	Bd	426/451 (94%)	414 (97%)	12 (3%)	0	100	100
18	Bf	426/451 (94%)	415 (97%)	11 (3%)	0	100	100
18	Bh	426/451 (94%)	414 (97%)	12 (3%)	0	100	100
18	Cb	426/451 (94%)	414 (97%)	12 (3%)	0	100	100
18	Cd	426/451 (94%)	418 (98%)	8 (2%)	0	100	100
18	Cf	426/451 (94%)	418 (98%)	8 (2%)	0	100	100
18	Ch	426/451 (94%)	412 (97%)	14 (3%)	0	100	100
18	Db	426/451 (94%)	419 (98%)	7 (2%)	0	100	100
18	Dd	426/451 (94%)	414 (97%)	12 (3%)	0	100	100
18	Df	426/451 (94%)	416 (98%)	10 (2%)	0	100	100
18	Dh	426/451 (94%)	415 (97%)	11 (3%)	0	100	100
All	All	55992/67876 (82%)	54371 (97%)	1608 (3%)	13 (0%)	100	100

5 of 13 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
12	0X	233	VAL
12	0X	408	PRO
12	0Y	408	PRO
12	0Z	233	VAL
12	0Z	408	PRO

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	0A	389/482 (81%)	387 (100%)	2 (0%)	88 94
1	0B	389/482 (81%)	389 (100%)	0	100 100
1	0C	397/482 (82%)	396 (100%)	1 (0%)	92 97
1	0D	397/482 (82%)	396 (100%)	1 (0%)	92 97
2	0E	106/166 (64%)	106 (100%)	0	100 100
2	0F	106/166 (64%)	106 (100%)	0	100 100
2	0G	106/166 (64%)	106 (100%)	0	100 100
2	0H	106/166 (64%)	105 (99%)	1 (1%)	78 90
3	0I	325/697 (47%)	322 (99%)	3 (1%)	78 90
3	0J	325/697 (47%)	325 (100%)	0	100 100
4	0K	113/410 (28%)	113 (100%)	0	100 100
4	0L	113/410 (28%)	113 (100%)	0	100 100
5	0M	426/598 (71%)	426 (100%)	0	100 100
5	0N	426/598 (71%)	426 (100%)	0	100 100
6	0O	152/159 (96%)	152 (100%)	0	100 100
6	0P	152/159 (96%)	152 (100%)	0	100 100
7	0Q	461/462 (100%)	460 (100%)	1 (0%)	93 98
7	0S	461/462 (100%)	460 (100%)	1 (0%)	93 98
12	0X	306/600 (51%)	305 (100%)	1 (0%)	92 97
12	0Y	274/600 (46%)	271 (99%)	3 (1%)	73 88
12	0Z	306/600 (51%)	306 (100%)	0	100 100
12	1A	274/600 (46%)	272 (99%)	2 (1%)	84 93
13	1B	487/1666 (29%)	485 (100%)	2 (0%)	91 96
13	1C	487/1666 (29%)	485 (100%)	2 (0%)	91 96
14	1D	291/753 (39%)	290 (100%)	1 (0%)	92 97
14	1E	291/753 (39%)	291 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
14	1F	373/753 (50%)	373 (100%)	0	100	100
14	1G	373/753 (50%)	372 (100%)	1 (0%)	92	97
17	1a	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	1c	370/379 (98%)	370 (100%)	0	100	100
17	1e	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	1g	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	2a	370/379 (98%)	370 (100%)	0	100	100
17	2c	370/379 (98%)	370 (100%)	0	100	100
17	2e	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	2g	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	3a	370/379 (98%)	368 (100%)	2 (0%)	88	94
17	3c	370/379 (98%)	370 (100%)	0	100	100
17	3e	370/379 (98%)	370 (100%)	0	100	100
17	3g	370/379 (98%)	370 (100%)	0	100	100
17	4a	370/379 (98%)	370 (100%)	0	100	100
17	4c	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	4e	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	4g	370/379 (98%)	370 (100%)	0	100	100
17	5a	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	5c	370/379 (98%)	370 (100%)	0	100	100
17	5e	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	5g	370/379 (98%)	368 (100%)	2 (0%)	88	94
17	6a	370/379 (98%)	370 (100%)	0	100	100
17	6c	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	6e	370/379 (98%)	370 (100%)	0	100	100
17	6g	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	7a	370/379 (98%)	370 (100%)	0	100	100
17	7c	370/379 (98%)	370 (100%)	0	100	100
17	7e	370/379 (98%)	370 (100%)	0	100	100
17	7g	370/379 (98%)	370 (100%)	0	100	100
17	8a	370/379 (98%)	370 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
17	8c	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	8e	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	8g	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	9a	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	9c	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	9e	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	9g	370/379 (98%)	370 (100%)	0	100	100
17	Aa	370/379 (98%)	370 (100%)	0	100	100
17	Ac	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	Ae	370/379 (98%)	370 (100%)	0	100	100
17	Ag	370/379 (98%)	370 (100%)	0	100	100
17	Ba	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	Bc	370/379 (98%)	370 (100%)	0	100	100
17	Be	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	Bg	370/379 (98%)	370 (100%)	0	100	100
17	Ca	370/379 (98%)	370 (100%)	0	100	100
17	Cc	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	Ce	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	Cg	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	Da	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	Dc	370/379 (98%)	370 (100%)	0	100	100
17	De	370/379 (98%)	369 (100%)	1 (0%)	92	97
17	Dg	370/379 (98%)	369 (100%)	1 (0%)	92	97
18	1b	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	1d	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	1f	361/374 (96%)	359 (99%)	2 (1%)	86	94
18	1h	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	2b	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	2d	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	2f	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	2h	361/374 (96%)	360 (100%)	1 (0%)	92	97

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
18	3b	361/374 (96%)	359 (99%)	2 (1%)	86	94
18	3d	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	3f	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	3h	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	4b	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	4d	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	4f	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	4h	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	5b	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	5d	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	5f	361/374 (96%)	357 (99%)	4 (1%)	73	88
18	5h	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	6b	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	6d	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	6f	361/374 (96%)	358 (99%)	3 (1%)	81	91
18	6h	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	7b	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	7d	361/374 (96%)	359 (99%)	2 (1%)	86	94
18	7f	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	7h	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	8b	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	8d	361/374 (96%)	359 (99%)	2 (1%)	86	94
18	8f	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	8h	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	9b	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	9d	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	9f	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	9h	361/374 (96%)	359 (99%)	2 (1%)	86	94
18	Ab	361/374 (96%)	359 (99%)	2 (1%)	86	94
18	Ad	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	Af	361/374 (96%)	360 (100%)	1 (0%)	92	97

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
18	Ah	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	Bb	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	Bd	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	Bf	361/374 (96%)	359 (99%)	2 (1%)	86	94
18	Bh	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	Cb	361/374 (96%)	359 (99%)	2 (1%)	86	94
18	Cd	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	Cf	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	Ch	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	Db	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	Dd	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	Df	361/374 (96%)	360 (100%)	1 (0%)	92	97
18	Dh	361/374 (96%)	360 (100%)	1 (0%)	92	97
All	All	46424/55144 (84%)	46307 (100%)	117 (0%)	92	97

5 of 117 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
17	5g	247	ASN
17	Da	247	ASN
18	7f	308	ARG
18	Ch	308	ARG
18	Bf	50	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 184 such sidechains are listed below:

Mol	Chain	Res	Type
18	8h	88	HIS
18	Ah	101	ASN
17	9a	347	ASN
18	9f	329	ASN
17	Bc	348	ASN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

108 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	$\#\|Z\| > 2$
21	GTP	Bd	501	-	26,34,34	1.21	2 (7%)	32,54,54	1.61	7 (21%)
20	GDP	Ag	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.35	4 (13%)
21	GTP	3d	501	-	26,34,34	1.18	2 (7%)	32,54,54	1.63	7 (21%)
20	GDP	9a	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.41	4 (13%)
21	GTP	8d	501	-	26,34,34	1.15	2 (7%)	32,54,54	1.63	7 (21%)
21	GTP	Ah	501	-	26,34,34	1.18	2 (7%)	32,54,54	1.61	7 (21%)
20	GDP	Ca	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.37	4 (13%)
20	GDP	4g	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.36	4 (13%)
21	GTP	5d	501	-	26,34,34	1.15	2 (7%)	32,54,54	1.58	7 (21%)
20	GDP	Bg	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.39	4 (13%)
20	GDP	6g	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.36	4 (13%)
20	GDP	6c	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.36	4 (13%)
21	GTP	3h	501	-	26,34,34	1.17	2 (7%)	32,54,54	1.63	7 (21%)
21	GTP	9b	501	-	26,34,34	1.22	2 (7%)	32,54,54	1.66	7 (21%)
20	GDP	5e	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.32	4 (13%)
21	GTP	3b	501	-	26,34,34	1.20	2 (7%)	32,54,54	1.64	7 (21%)
20	GDP	Ce	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.38	4 (13%)
20	GDP	3g	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.35	4 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
21	GTP	6d	501	-	26,34,34	1.16	2 (7%)	32,54,54	1.58	7 (21%)
20	GDP	4e	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.37	4 (13%)
19	ADP	0X	801	-	24,29,29	0.94	1 (4%)	29,45,45	1.41	4 (13%)
20	GDP	7g	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.36	4 (13%)
20	GDP	5c	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.34	4 (13%)
20	GDP	3a	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.38	4 (13%)
20	GDP	6a	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.37	4 (13%)
20	GDP	9g	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.42	4 (13%)
21	GTP	9f	501	-	26,34,34	1.22	2 (7%)	32,54,54	1.65	7 (21%)
21	GTP	Ad	501	-	26,34,34	1.17	2 (7%)	32,54,54	1.60	7 (21%)
20	GDP	1c	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.40	4 (13%)
21	GTP	5f	501	-	26,34,34	1.17	2 (7%)	32,54,54	1.60	7 (21%)
20	GDP	1a	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.37	4 (13%)
21	GTP	2b	501	-	26,34,34	1.19	2 (7%)	32,54,54	1.61	7 (21%)
20	GDP	2g	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.37	4 (13%)
21	GTP	8b	501	-	26,34,34	1.14	2 (7%)	32,54,54	1.63	6 (18%)
20	GDP	Ac	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.31	4 (13%)
21	GTP	Bb	501	-	26,34,34	1.19	2 (7%)	32,54,54	1.64	7 (21%)
21	GTP	Db	501	-	26,34,34	1.18	2 (7%)	32,54,54	1.62	7 (21%)
21	GTP	1f	501	-	26,34,34	1.18	2 (7%)	32,54,54	1.60	7 (21%)
21	GTP	Cd	501	-	26,34,34	1.18	2 (7%)	32,54,54	1.62	7 (21%)
20	GDP	4a	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.33	4 (13%)
20	GDP	Cc	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.40	4 (13%)
21	GTP	7f	501	-	26,34,34	1.16	2 (7%)	32,54,54	1.61	7 (21%)
21	GTP	Ab	501	-	26,34,34	1.17	2 (7%)	32,54,54	1.60	7 (21%)
20	GDP	Ba	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.31	4 (13%)
21	GTP	1d	501	-	26,34,34	1.20	2 (7%)	32,54,54	1.61	7 (21%)
21	GTP	4b	501	-	26,34,34	1.17	2 (7%)	32,54,54	1.61	7 (21%)
20	GDP	Dc	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.38	4 (13%)
20	GDP	8e	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.37	4 (13%)
21	GTP	Af	501	-	26,34,34	1.19	2 (7%)	32,54,54	1.63	7 (21%)
21	GTP	7d	501	-	26,34,34	1.18	2 (7%)	32,54,54	1.60	7 (21%)
20	GDP	2c	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.34	4 (13%)
20	GDP	3e	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.37	4 (13%)
20	GDP	6e	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.33	4 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
21	GTP	6b	501	-	26,34,34	1.15	2 (7%)	32,54,54	1.59	7 (21%)
20	GDP	Ae	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.33	4 (13%)
21	GTP	2d	501	-	26,34,34	1.18	2 (7%)	32,54,54	1.63	7 (21%)
21	GTP	Bh	501	-	26,34,34	1.20	2 (7%)	32,54,54	1.64	7 (21%)
20	GDP	5a	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.36	4 (13%)
20	GDP	9c	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.41	4 (13%)
20	GDP	7a	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.36	4 (13%)
20	GDP	7e	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.37	4 (13%)
21	GTP	8f	501	-	26,34,34	1.16	2 (7%)	32,54,54	1.59	7 (21%)
20	GDP	Cg	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.40	4 (13%)
20	GDP	3c	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.39	4 (13%)
21	GTP	9d	501	-	26,34,34	1.20	2 (7%)	32,54,54	1.63	7 (21%)
20	GDP	8a	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.34	4 (13%)
20	GDP	8c	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.39	4 (13%)
20	GDP	Bc	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.41	4 (13%)
20	GDP	8g	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.35	4 (13%)
21	GTP	Cf	501	-	26,34,34	1.18	2 (7%)	32,54,54	1.62	7 (21%)
21	GTP	4f	501	-	26,34,34	1.17	2 (7%)	32,54,54	1.62	7 (21%)
20	GDP	Be	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.34	4 (13%)
21	GTP	Ch	501	-	26,34,34	1.18	2 (7%)	32,54,54	1.64	7 (21%)
21	GTP	7b	501	-	26,34,34	1.16	2 (7%)	32,54,54	1.59	7 (21%)
21	GTP	8h	501	-	26,34,34	1.17	2 (7%)	32,54,54	1.61	7 (21%)
21	GTP	7h	501	-	26,34,34	1.17	2 (7%)	32,54,54	1.60	7 (21%)
20	GDP	9e	501	-	24,30,30	0.97	1 (4%)	30,47,47	1.43	5 (16%)
21	GTP	Cb	501	-	26,34,34	1.19	2 (7%)	32,54,54	1.61	7 (21%)
21	GTP	Dd	501	-	26,34,34	1.18	2 (7%)	32,54,54	1.61	7 (21%)
20	GDP	1g	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.35	4 (13%)
20	GDP	7c	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.35	4 (13%)
21	GTP	1b	501	-	26,34,34	1.17	2 (7%)	32,54,54	1.60	7 (21%)
21	GTP	6h	501	-	26,34,34	1.14	2 (7%)	32,54,54	1.59	6 (18%)
19	ADP	0Z	801	-	24,29,29	0.94	1 (4%)	29,45,45	1.40	4 (13%)
19	ADP	1A	801	-	24,29,29	0.94	1 (4%)	29,45,45	1.34	4 (13%)
21	GTP	6f	501	-	26,34,34	1.14	2 (7%)	32,54,54	1.58	6 (18%)
21	GTP	2h	501	-	26,34,34	1.19	2 (7%)	32,54,54	1.60	7 (21%)
21	GTP	Df	501	-	26,34,34	1.18	2 (7%)	32,54,54	1.64	7 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
19	ADP	0Y	801	-	24,29,29	0.94	1 (4%)	29,45,45	1.32	4 (13%)
20	GDP	5g	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.38	4 (13%)
21	GTP	2f	501	-	26,34,34	1.19	2 (7%)	32,54,54	1.61	7 (21%)
20	GDP	Dg	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.38	4 (13%)
20	GDP	2e	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.35	4 (13%)
20	GDP	2a	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.38	4 (13%)
20	GDP	Aa	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.38	4 (13%)
20	GDP	4c	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.35	4 (13%)
21	GTP	Dh	501	-	26,34,34	1.18	2 (7%)	32,54,54	1.64	7 (21%)
21	GTP	4h	501	-	26,34,34	1.16	2 (7%)	32,54,54	1.60	7 (21%)
20	GDP	Da	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.36	4 (13%)
21	GTP	4d	501	-	26,34,34	1.17	2 (7%)	32,54,54	1.63	7 (21%)
21	GTP	9h	501	-	26,34,34	1.21	2 (7%)	32,54,54	1.62	7 (21%)
21	GTP	1h	501	-	26,34,34	1.16	2 (7%)	32,54,54	1.58	6 (18%)
20	GDP	1e	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.40	4 (13%)
21	GTP	Bf	501	-	26,34,34	1.21	2 (7%)	32,54,54	1.61	7 (21%)
21	GTP	3f	501	-	26,34,34	1.18	2 (7%)	32,54,54	1.63	7 (21%)
20	GDP	De	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.36	4 (13%)
21	GTP	5h	501	-	26,34,34	1.15	2 (7%)	32,54,54	1.59	7 (21%)
21	GTP	5b	501	-	26,34,34	1.17	2 (7%)	32,54,54	1.60	7 (21%)

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
21	GTP	Bd	501	-	-	2/18/38/38	0/3/3/3
20	GDP	Ag	501	-	-	3/12/32/32	0/3/3/3
21	GTP	3d	501	-	-	3/18/38/38	0/3/3/3
20	GDP	9a	501	-	-	3/12/32/32	0/3/3/3
21	GTP	8d	501	-	-	3/18/38/38	0/3/3/3
21	GTP	Ah	501	-	-	2/18/38/38	0/3/3/3
20	GDP	Ca	501	-	-	3/12/32/32	0/3/3/3
20	GDP	4g	501	-	-	3/12/32/32	0/3/3/3
21	GTP	5d	501	-	-	3/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
20	GDP	Bg	501	-	-	3/12/32/32	0/3/3/3
20	GDP	6g	501	-	-	3/12/32/32	0/3/3/3
20	GDP	6c	501	-	-	3/12/32/32	0/3/3/3
21	GTP	3h	501	-	-	3/18/38/38	0/3/3/3
21	GTP	9b	501	-	-	3/18/38/38	0/3/3/3
20	GDP	5e	501	-	-	3/12/32/32	0/3/3/3
21	GTP	3b	501	-	-	2/18/38/38	0/3/3/3
20	GDP	Ce	501	-	-	3/12/32/32	0/3/3/3
20	GDP	3g	501	-	-	3/12/32/32	0/3/3/3
21	GTP	6d	501	-	-	3/18/38/38	0/3/3/3
20	GDP	4e	501	-	-	3/12/32/32	0/3/3/3
19	ADP	0X	801	-	-	3/12/32/32	0/3/3/3
20	GDP	7g	501	-	-	3/12/32/32	0/3/3/3
20	GDP	5c	501	-	-	3/12/32/32	0/3/3/3
20	GDP	3a	501	-	-	3/12/32/32	0/3/3/3
20	GDP	6a	501	-	-	3/12/32/32	0/3/3/3
20	GDP	9g	501	-	-	3/12/32/32	0/3/3/3
21	GTP	9f	501	-	-	3/18/38/38	0/3/3/3
21	GTP	Ad	501	-	-	3/18/38/38	0/3/3/3
20	GDP	1c	501	-	-	3/12/32/32	0/3/3/3
21	GTP	5f	501	-	-	3/18/38/38	0/3/3/3
20	GDP	1a	501	-	-	3/12/32/32	0/3/3/3
21	GTP	2b	501	-	-	2/18/38/38	0/3/3/3
20	GDP	2g	501	-	-	3/12/32/32	0/3/3/3
21	GTP	8b	501	-	-	3/18/38/38	0/3/3/3
20	GDP	Ac	501	-	-	3/12/32/32	0/3/3/3
21	GTP	Bb	501	-	-	3/18/38/38	0/3/3/3
21	GTP	Db	501	-	-	3/18/38/38	0/3/3/3
21	GTP	1f	501	-	-	2/18/38/38	0/3/3/3
21	GTP	Cd	501	-	-	2/18/38/38	0/3/3/3
20	GDP	4a	501	-	-	3/12/32/32	0/3/3/3
20	GDP	Cc	501	-	-	3/12/32/32	0/3/3/3
21	GTP	7f	501	-	-	2/18/38/38	0/3/3/3
21	GTP	Ab	501	-	-	3/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
20	GDP	Ba	501	-	-	3/12/32/32	0/3/3/3
21	GTP	1d	501	-	-	2/18/38/38	0/3/3/3
21	GTP	4b	501	-	-	3/18/38/38	0/3/3/3
20	GDP	Dc	501	-	-	3/12/32/32	0/3/3/3
20	GDP	8e	501	-	-	3/12/32/32	0/3/3/3
21	GTP	Af	501	-	-	3/18/38/38	0/3/3/3
21	GTP	7d	501	-	-	3/18/38/38	0/3/3/3
20	GDP	2c	501	-	-	3/12/32/32	0/3/3/3
20	GDP	3e	501	-	-	3/12/32/32	0/3/3/3
20	GDP	6e	501	-	-	3/12/32/32	0/3/3/3
21	GTP	6b	501	-	-	3/18/38/38	0/3/3/3
20	GDP	Ae	501	-	-	3/12/32/32	0/3/3/3
21	GTP	2d	501	-	-	3/18/38/38	0/3/3/3
21	GTP	Bh	501	-	-	3/18/38/38	0/3/3/3
20	GDP	5a	501	-	-	3/12/32/32	0/3/3/3
20	GDP	9c	501	-	-	3/12/32/32	0/3/3/3
20	GDP	7a	501	-	-	3/12/32/32	0/3/3/3
20	GDP	7e	501	-	-	3/12/32/32	0/3/3/3
21	GTP	8f	501	-	-	3/18/38/38	0/3/3/3
20	GDP	Cg	501	-	-	3/12/32/32	0/3/3/3
20	GDP	3c	501	-	-	3/12/32/32	0/3/3/3
21	GTP	9d	501	-	-	3/18/38/38	0/3/3/3
20	GDP	8a	501	-	-	3/12/32/32	0/3/3/3
20	GDP	8c	501	-	-	3/12/32/32	0/3/3/3
20	GDP	Bc	501	-	-	3/12/32/32	0/3/3/3
20	GDP	8g	501	-	-	3/12/32/32	0/3/3/3
21	GTP	Cf	501	-	-	3/18/38/38	0/3/3/3
21	GTP	4f	501	-	-	3/18/38/38	0/3/3/3
20	GDP	Be	501	-	-	3/12/32/32	0/3/3/3
21	GTP	Ch	501	-	-	3/18/38/38	0/3/3/3
21	GTP	7b	501	-	-	3/18/38/38	0/3/3/3
21	GTP	8h	501	-	-	3/18/38/38	0/3/3/3
21	GTP	7h	501	-	-	3/18/38/38	0/3/3/3
20	GDP	9e	501	-	-	3/12/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
21	GTP	Cb	501	-	-	3/18/38/38	0/3/3/3
21	GTP	Dd	501	-	-	2/18/38/38	0/3/3/3
20	GDP	1g	501	-	-	3/12/32/32	0/3/3/3
20	GDP	7c	501	-	-	3/12/32/32	0/3/3/3
21	GTP	1b	501	-	-	3/18/38/38	0/3/3/3
21	GTP	6h	501	-	-	3/18/38/38	0/3/3/3
19	ADP	0Z	801	-	-	4/12/32/32	0/3/3/3
19	ADP	1A	801	-	-	4/12/32/32	0/3/3/3
21	GTP	6f	501	-	-	3/18/38/38	0/3/3/3
21	GTP	2h	501	-	-	2/18/38/38	0/3/3/3
21	GTP	Df	501	-	-	3/18/38/38	0/3/3/3
19	ADP	0Y	801	-	-	5/12/32/32	0/3/3/3
20	GDP	5g	501	-	-	3/12/32/32	0/3/3/3
21	GTP	2f	501	-	-	3/18/38/38	0/3/3/3
20	GDP	Dg	501	-	-	3/12/32/32	0/3/3/3
20	GDP	2e	501	-	-	3/12/32/32	0/3/3/3
20	GDP	2a	501	-	-	3/12/32/32	0/3/3/3
20	GDP	Aa	501	-	-	3/12/32/32	0/3/3/3
20	GDP	4c	501	-	-	3/12/32/32	0/3/3/3
21	GTP	Dh	501	-	-	2/18/38/38	0/3/3/3
21	GTP	4h	501	-	-	2/18/38/38	0/3/3/3
20	GDP	Da	501	-	-	3/12/32/32	0/3/3/3
21	GTP	4d	501	-	-	3/18/38/38	0/3/3/3
21	GTP	9h	501	-	-	3/18/38/38	0/3/3/3
21	GTP	1h	501	-	-	2/18/38/38	0/3/3/3
20	GDP	1e	501	-	-	3/12/32/32	0/3/3/3
21	GTP	Bf	501	-	-	3/18/38/38	0/3/3/3
21	GTP	3f	501	-	-	3/18/38/38	0/3/3/3
20	GDP	De	501	-	-	3/12/32/32	0/3/3/3
21	GTP	5h	501	-	-	3/18/38/38	0/3/3/3
21	GTP	5b	501	-	-	3/18/38/38	0/3/3/3

The worst 5 of 160 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
21	9b	501	GTP	C5-C6	-4.33	1.38	1.47
21	9f	501	GTP	C5-C6	-4.29	1.38	1.47
21	Af	501	GTP	C5-C6	-4.28	1.38	1.47
21	9h	501	GTP	C5-C6	-4.27	1.38	1.47
21	Bf	501	GTP	C5-C6	-4.27	1.38	1.47

The worst 5 of 585 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
20	9a	501	GDP	PA-O3A-PB	-4.71	116.66	132.83
20	9g	501	GDP	PA-O3A-PB	-4.70	116.69	132.83
20	9c	501	GDP	PA-O3A-PB	-4.63	116.95	132.83
20	9e	501	GDP	PA-O3A-PB	-4.60	117.05	132.83
20	Cc	501	GDP	PA-O3A-PB	-4.58	117.10	132.83

There are no chirality outliers.

5 of 315 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
19	0X	801	ADP	C3'-C4'-C5'-O5'
19	0Y	801	ADP	PA-O3A-PB-O2B
19	0Y	801	ADP	PA-O3A-PB-O3B
19	1A	801	ADP	PA-O3A-PB-O2B
20	1a	501	GDP	C5'-O5'-PA-O1A

There are no ring outliers.

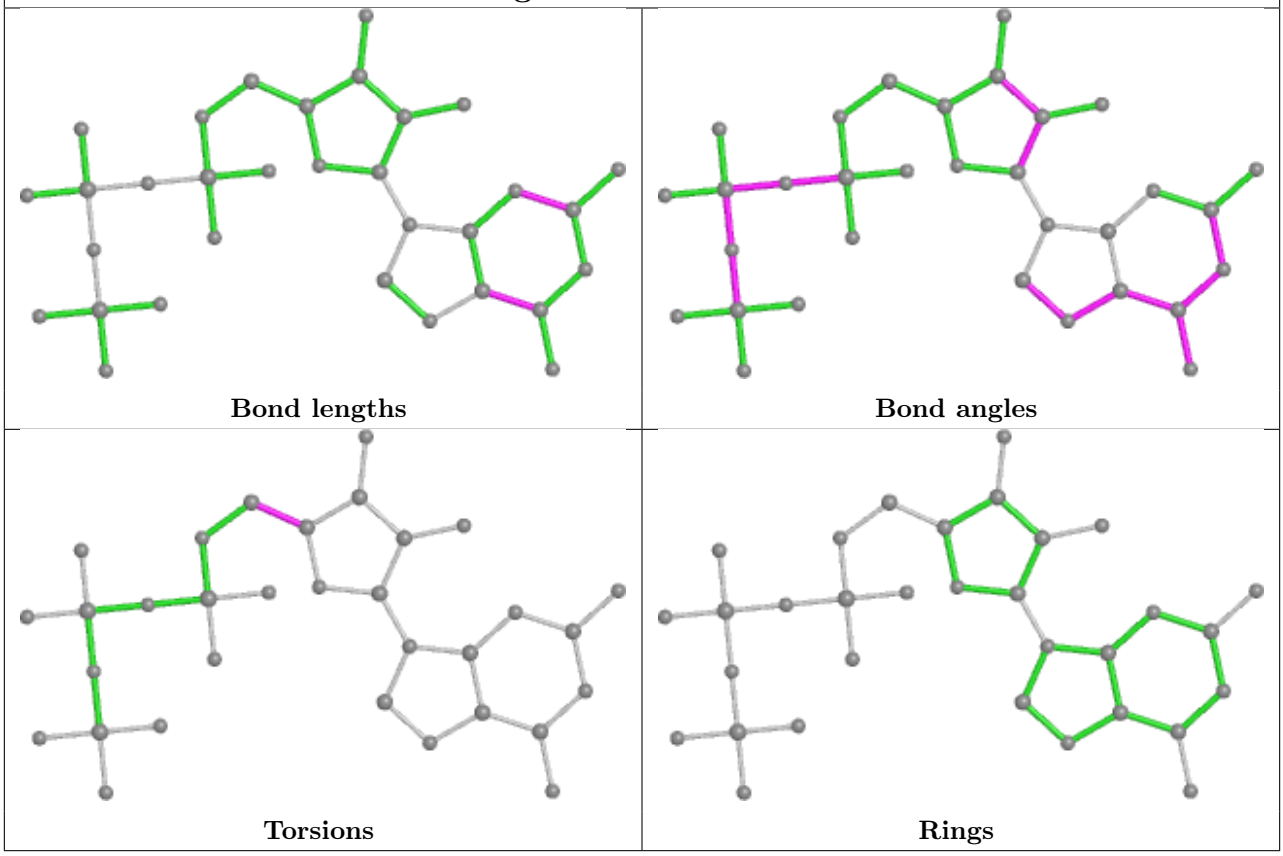
4 monomers are involved in 9 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
19	0X	801	ADP	2	0
19	0Z	801	ADP	2	0
19	1A	801	ADP	1	0
19	0Y	801	ADP	4	0

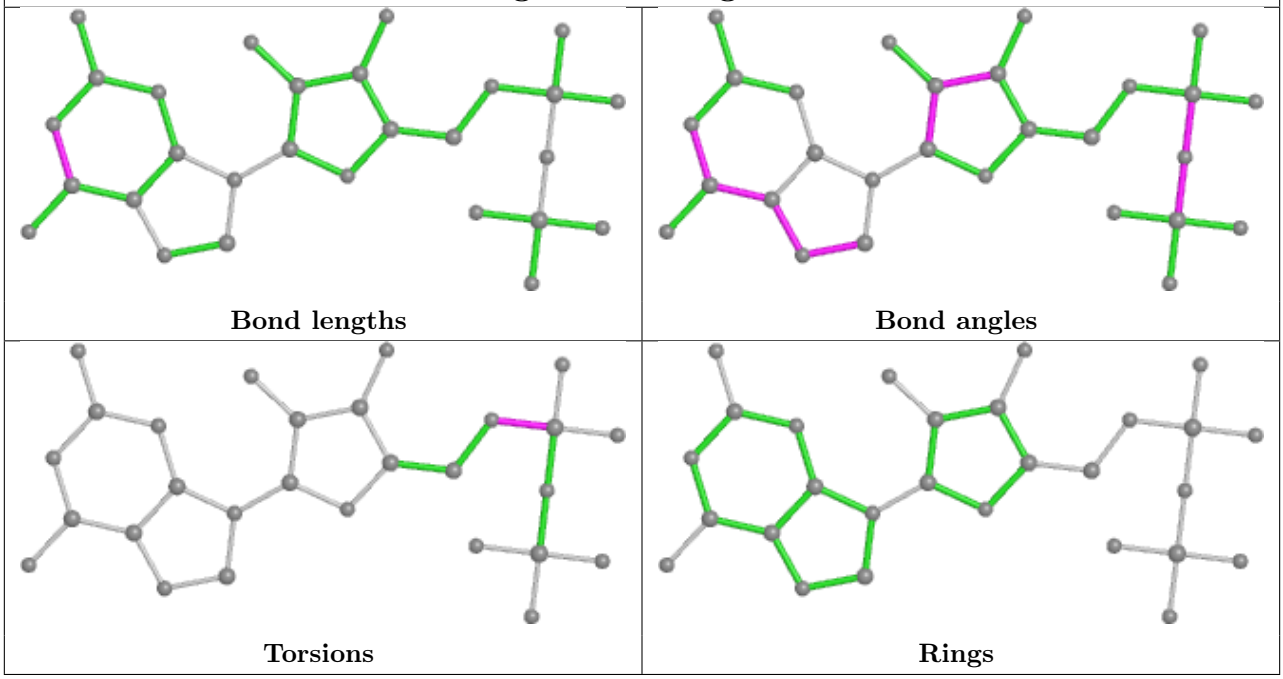
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and

any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

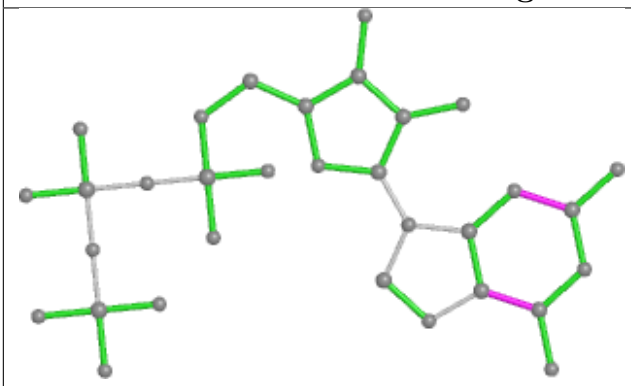
Ligand GTP Bd 501



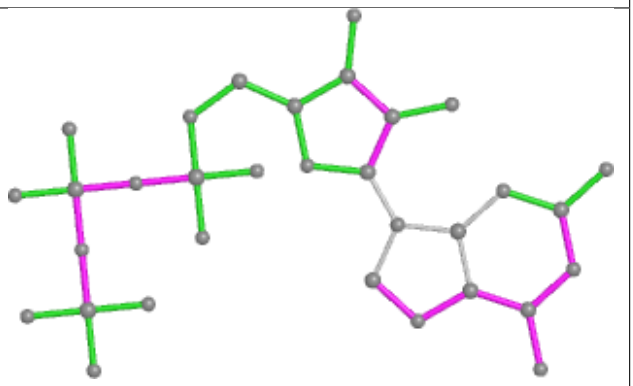
Ligand GDP Ag 501



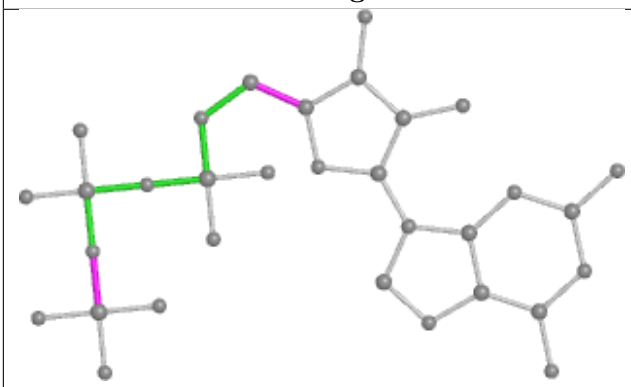
Ligand GTP 3d 501



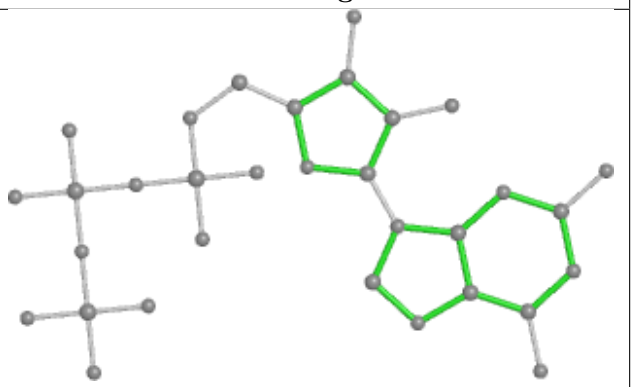
Bond lengths



Bond angles

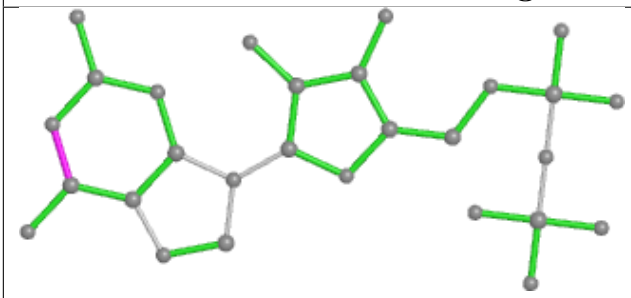


Torsions



Rings

Ligand GDP 9a 501



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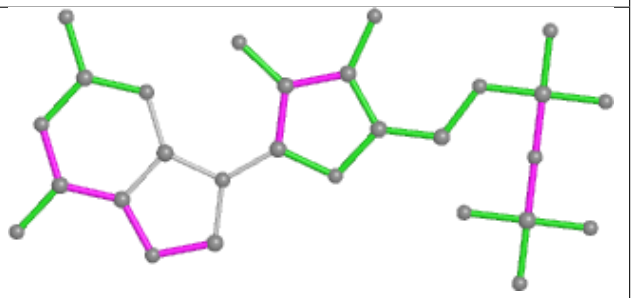
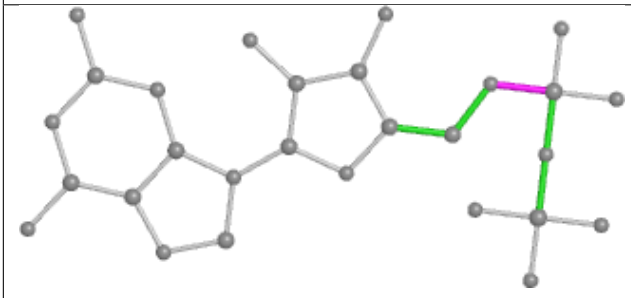
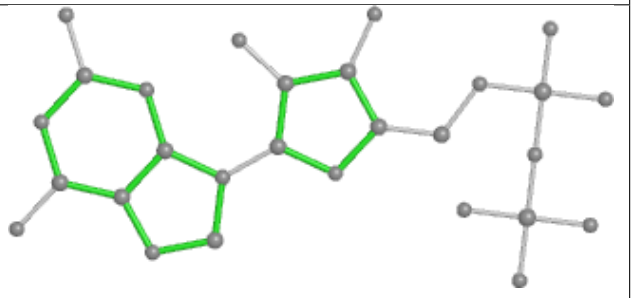


Bond angles

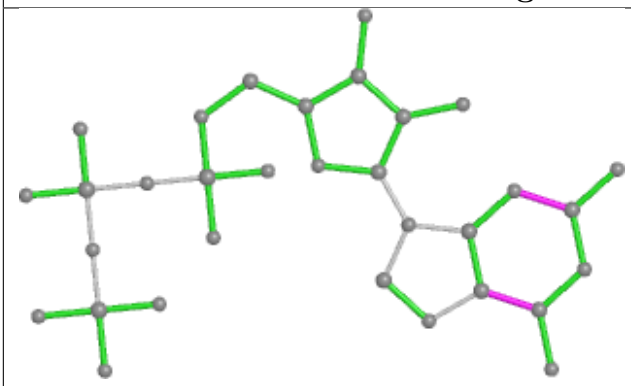


Torsions

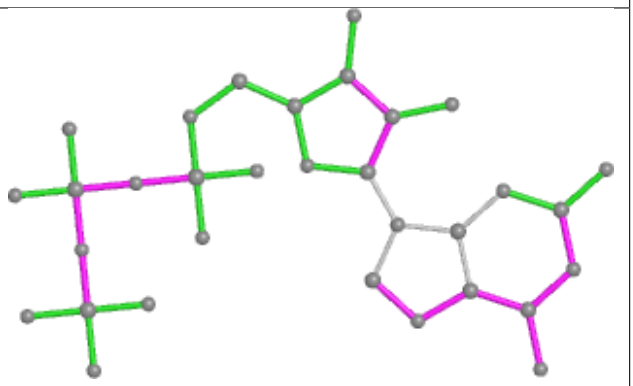


Rings

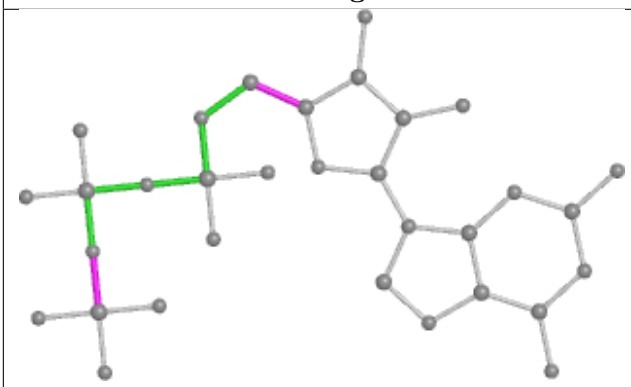
Ligand GTP 8d 501



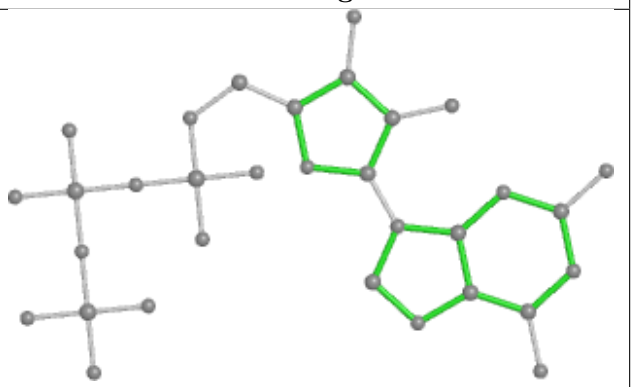
Bond lengths



Bond angles

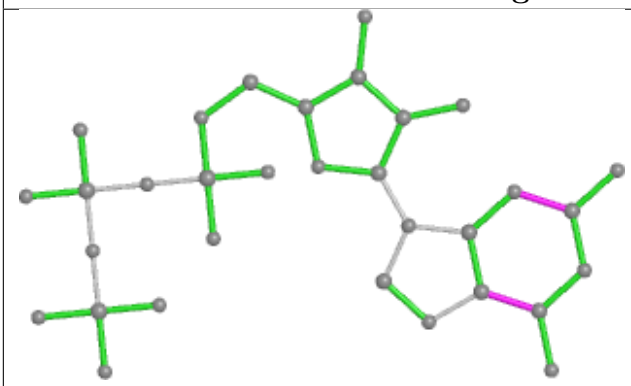


Torsions

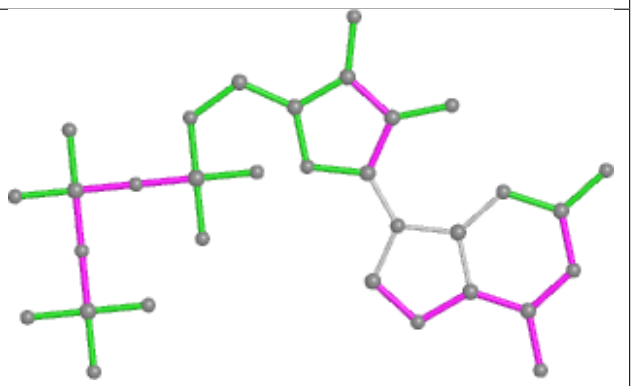


Rings

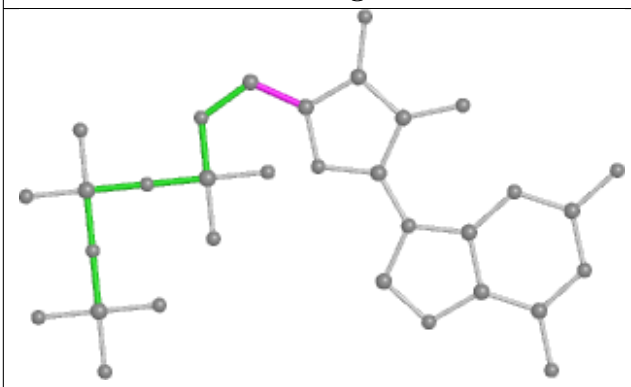
Ligand GTP Ah 501



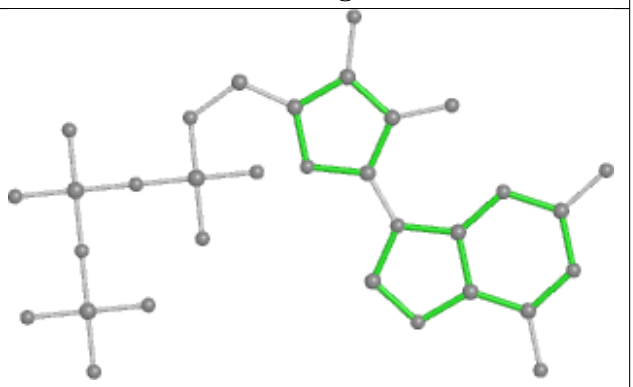
Bond lengths



Bond angles

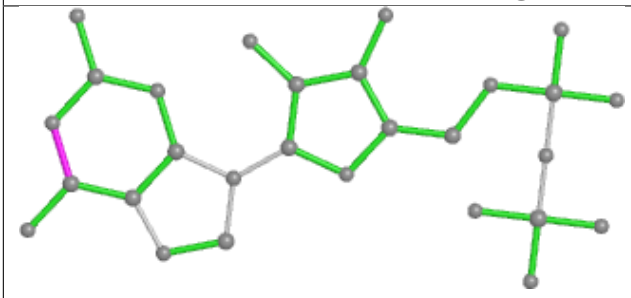


Torsions



Rings

Ligand GDP Ca 501



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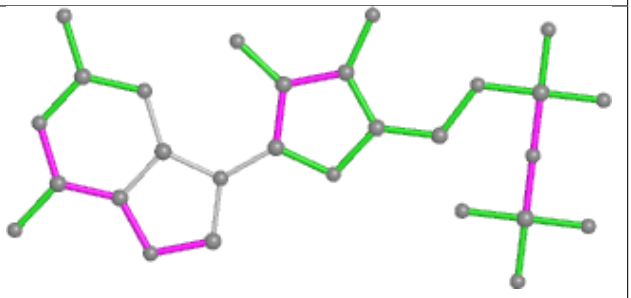

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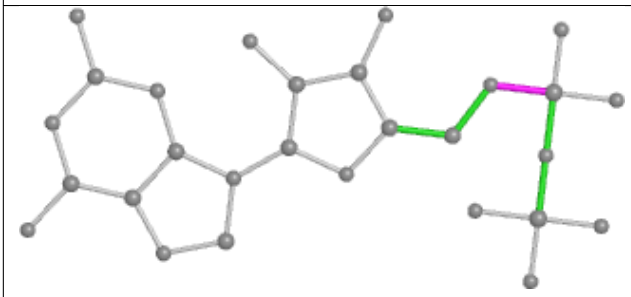

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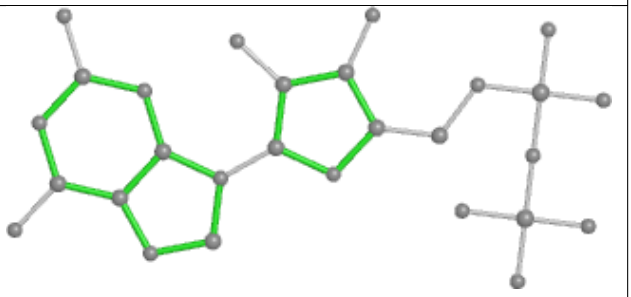
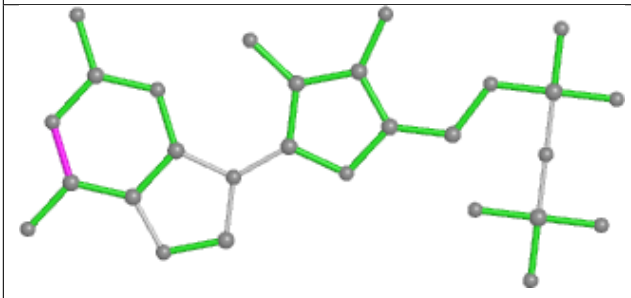
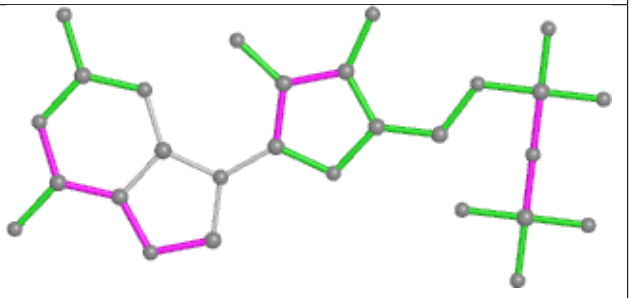


Rings

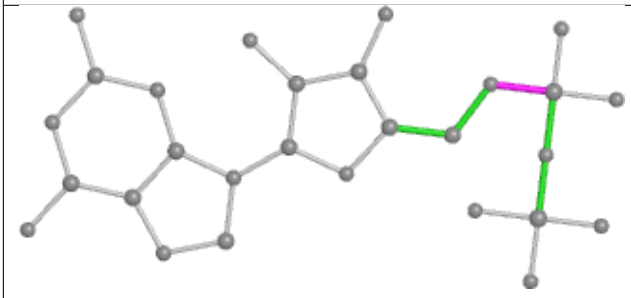
Ligand GDP 4g 501



Bond lengths



Bond angles



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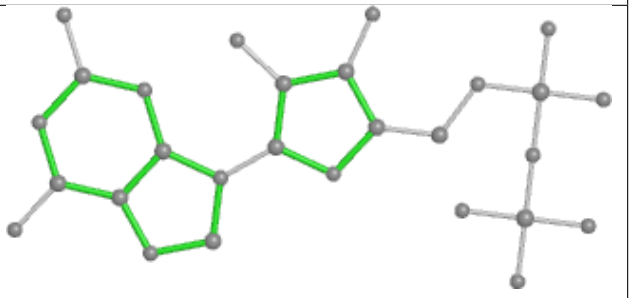

Rings

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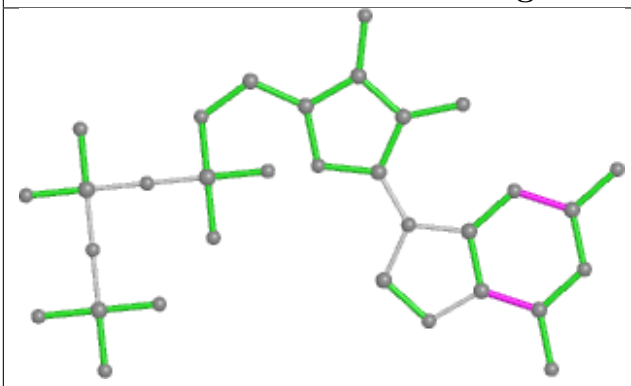

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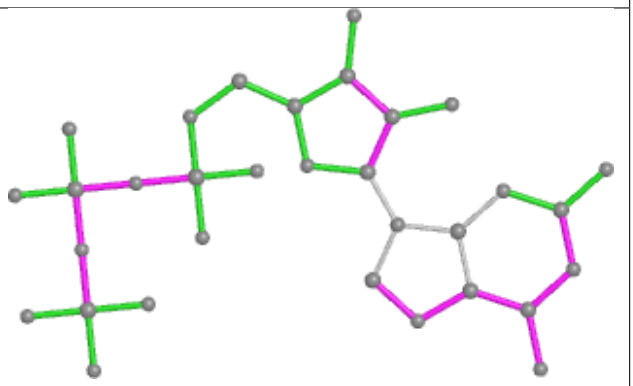
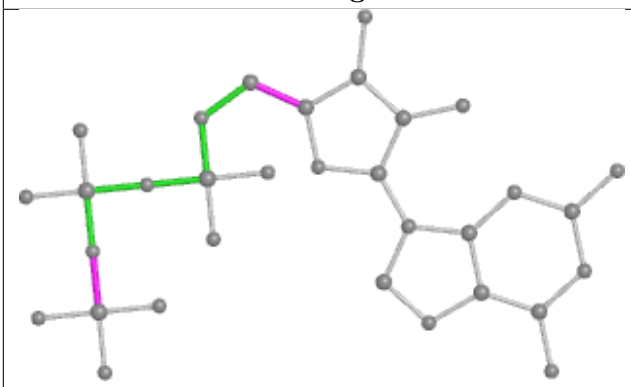


Bond angles



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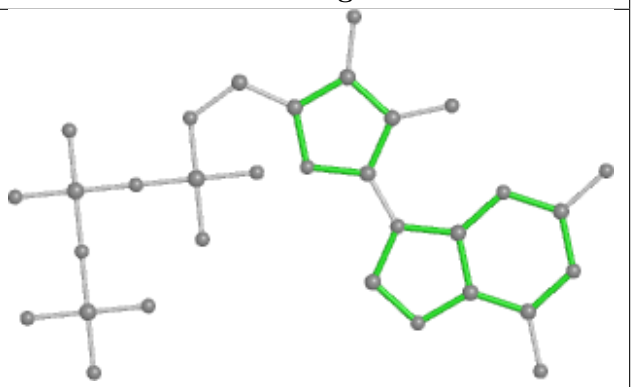
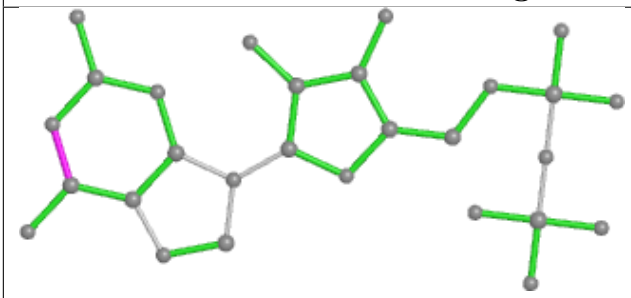


Rings

Ligand GDP Bg 501



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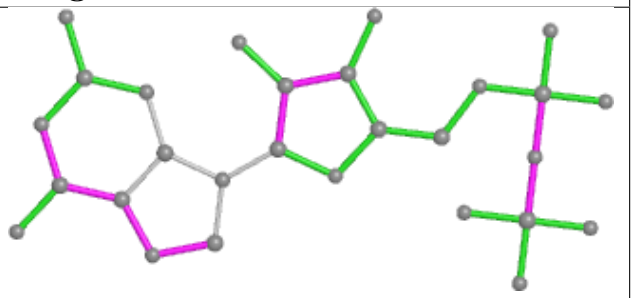
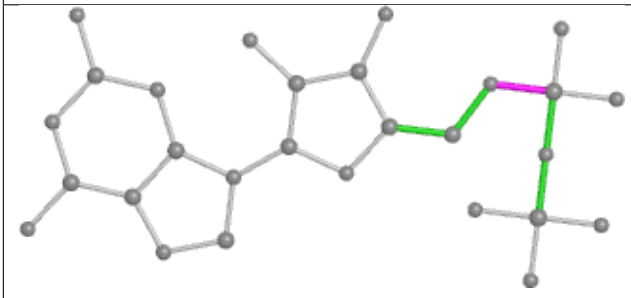


Bond angles



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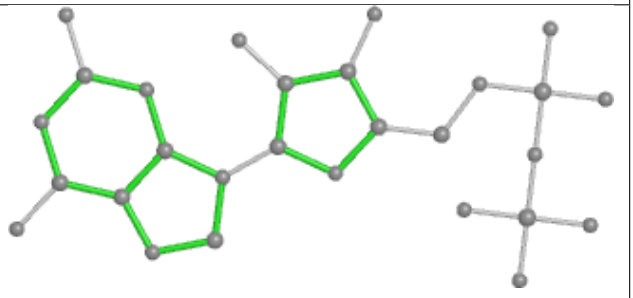

Rings

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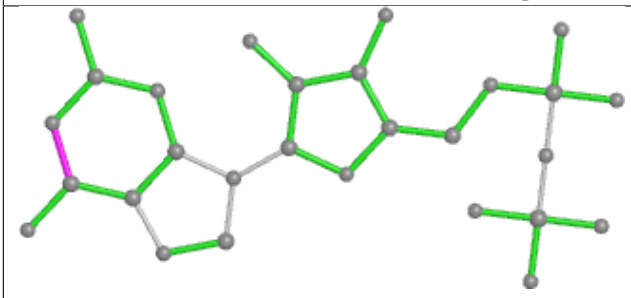
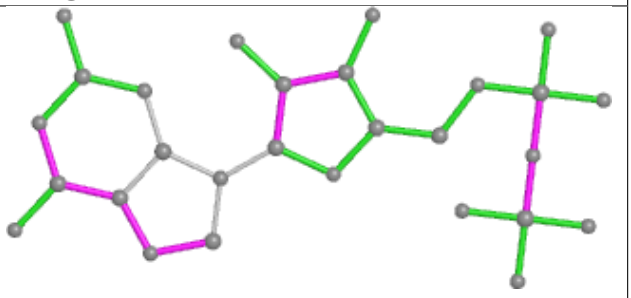
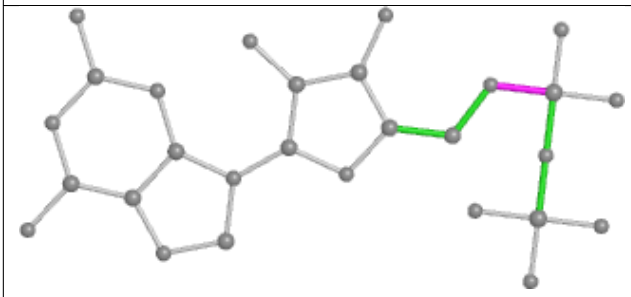
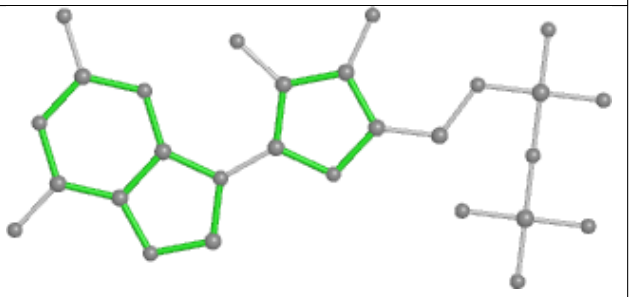
 Bond lengths	 Bond angles
 Torsions	 Rings

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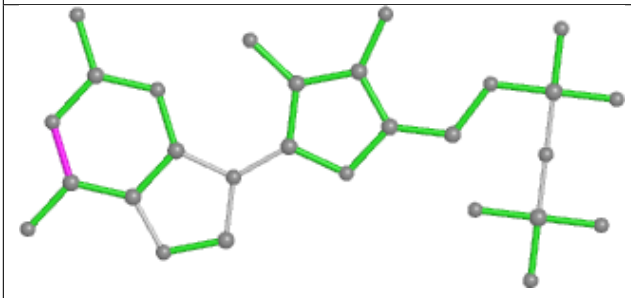
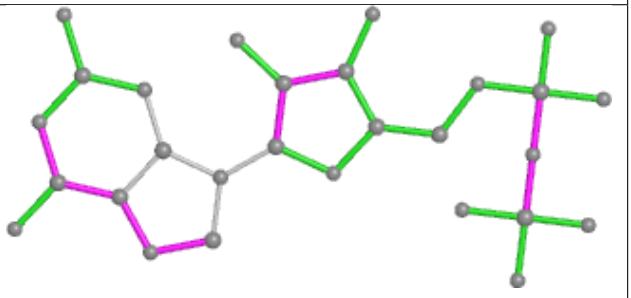
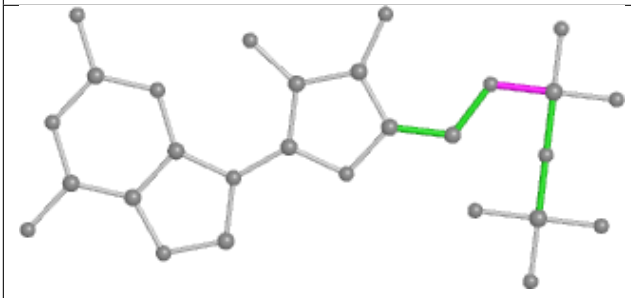
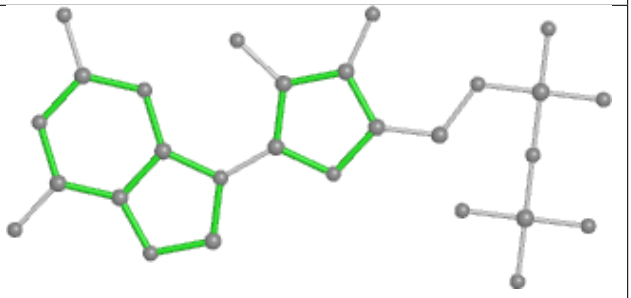
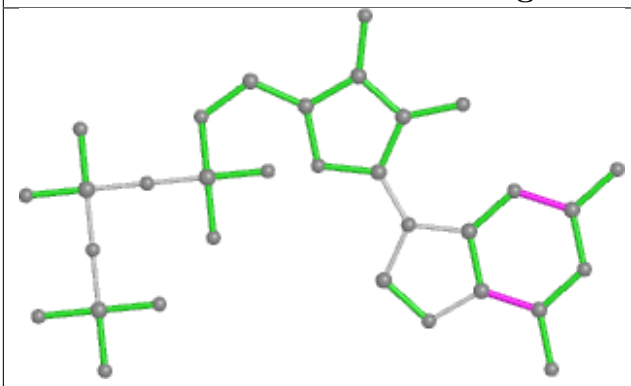
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand GTP 3h 501



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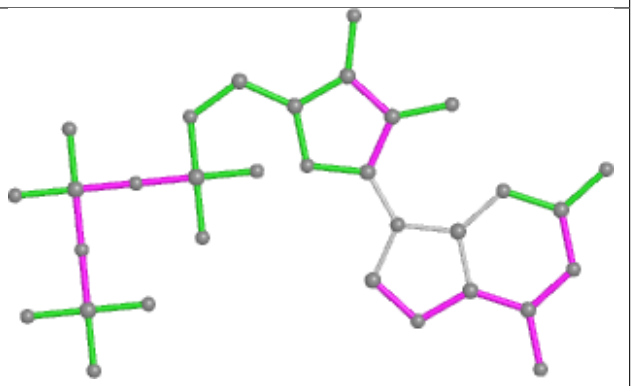

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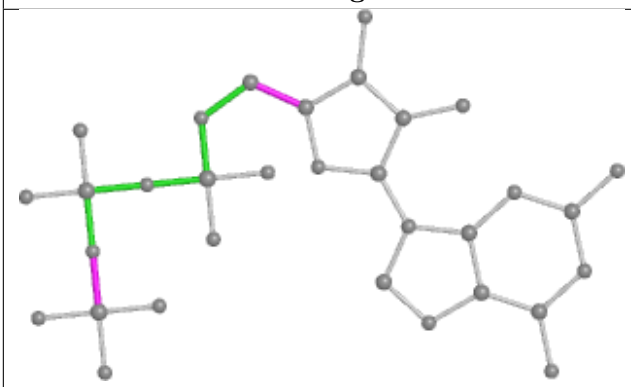

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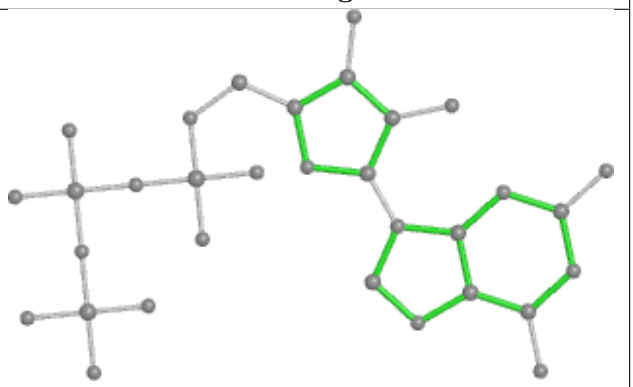
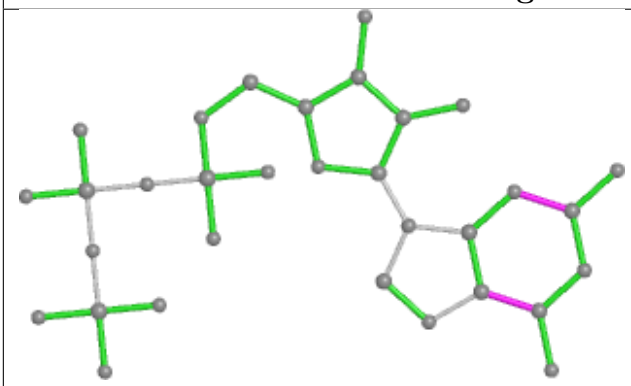


Rings

Ligand GTP 9b 501



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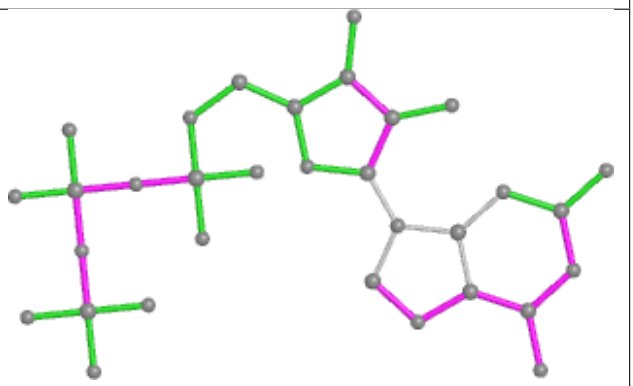

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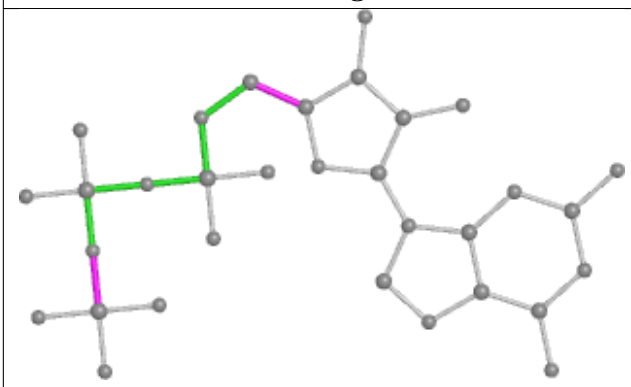

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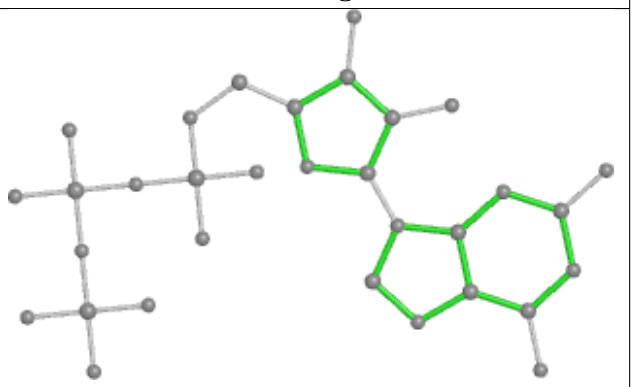

Rings

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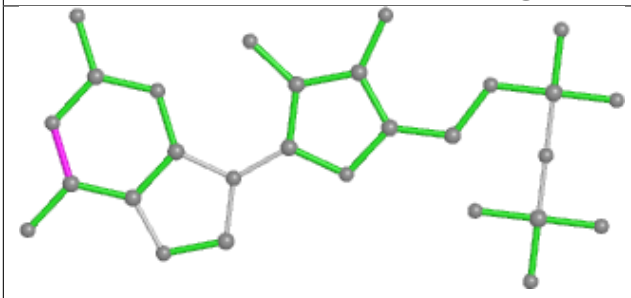

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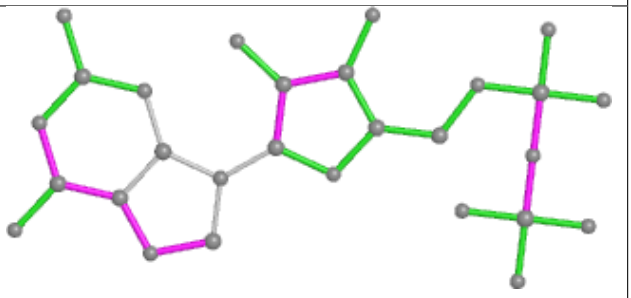

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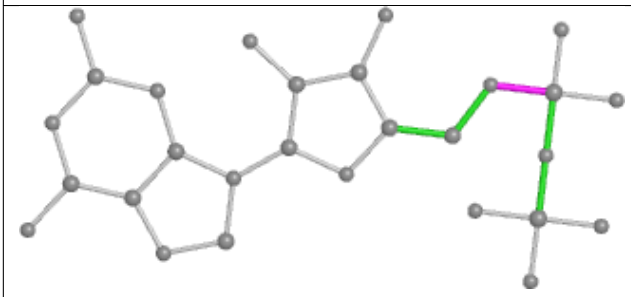

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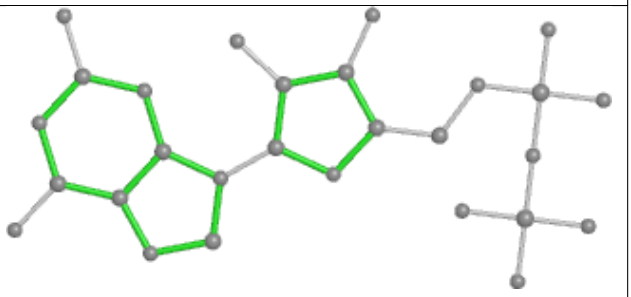
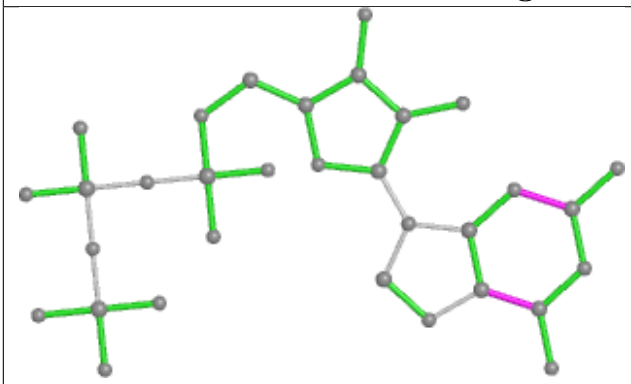


Rings

Ligand GTP 3b 501



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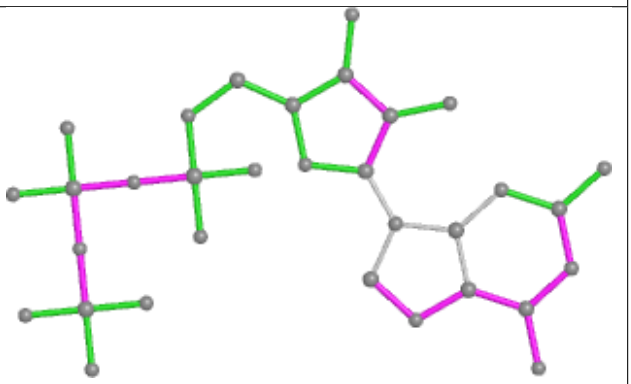

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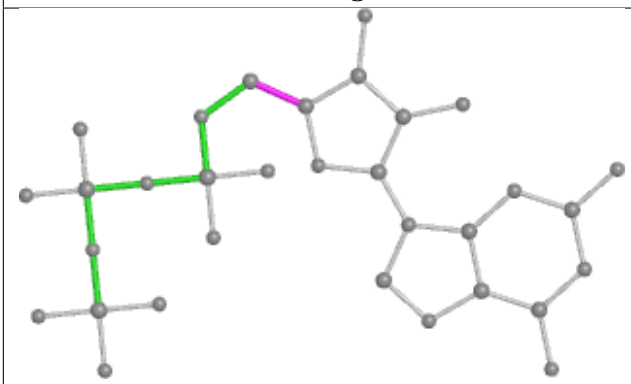

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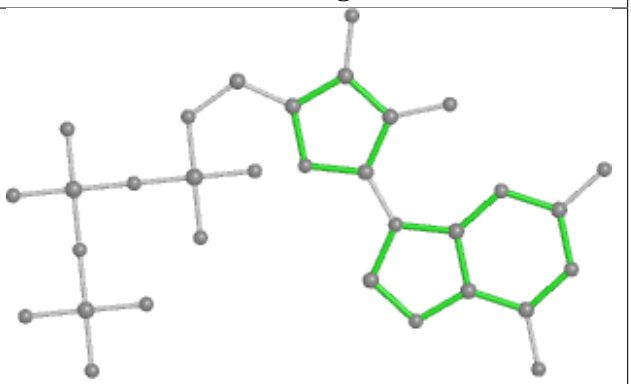

Rings

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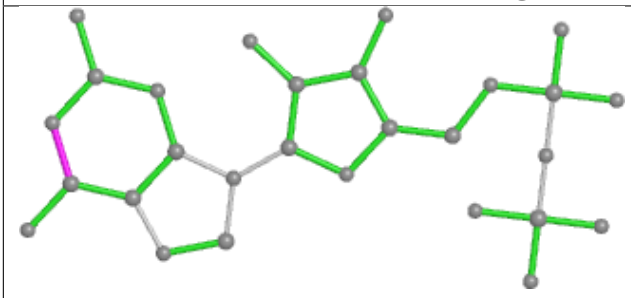
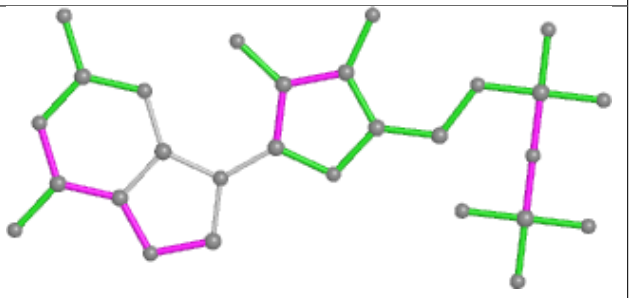
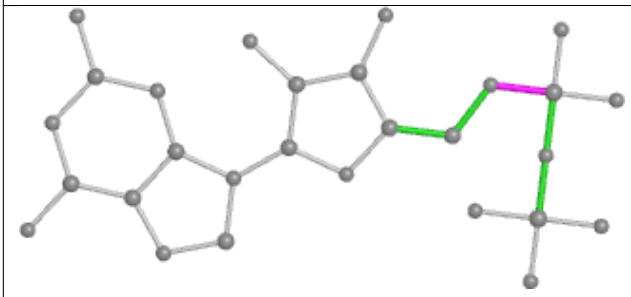
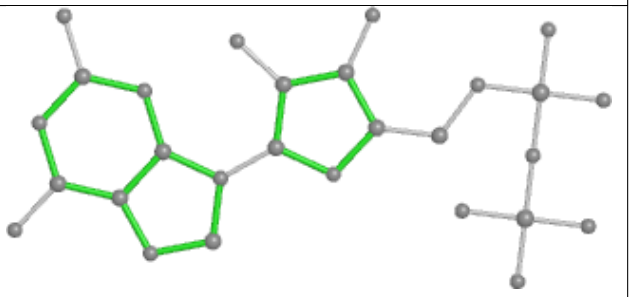
 Bond lengths	 Bond angles
 Torsions	 Rings

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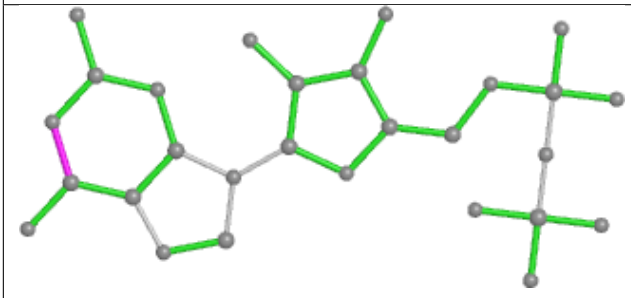
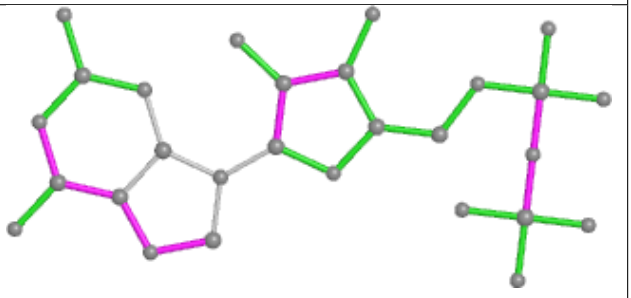
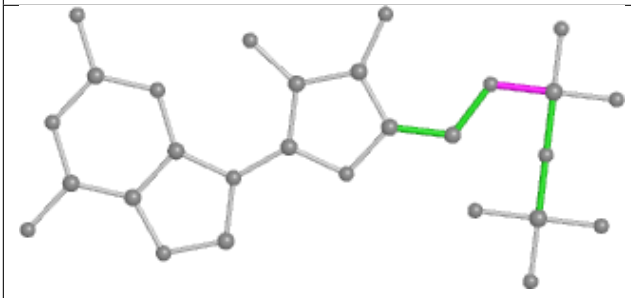
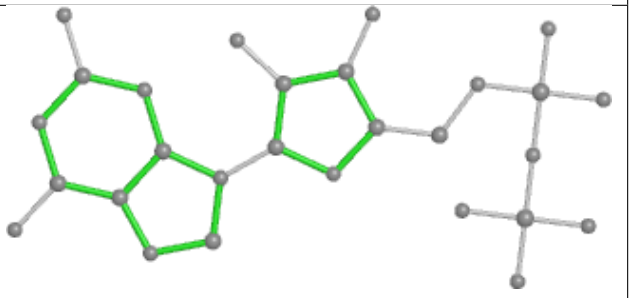
 Bond lengths	 Bond angles
 Torsions	 Rings

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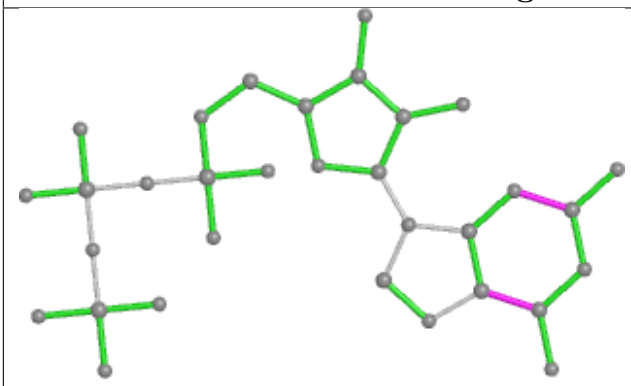

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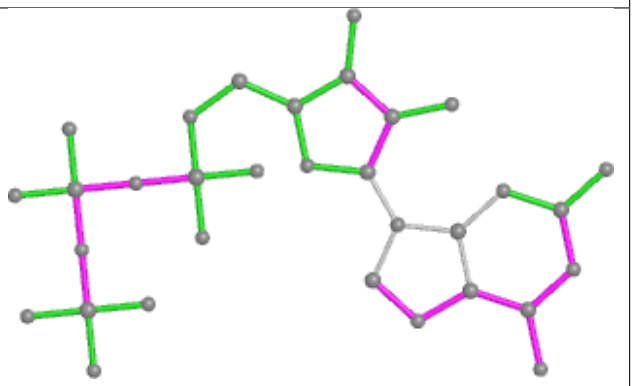

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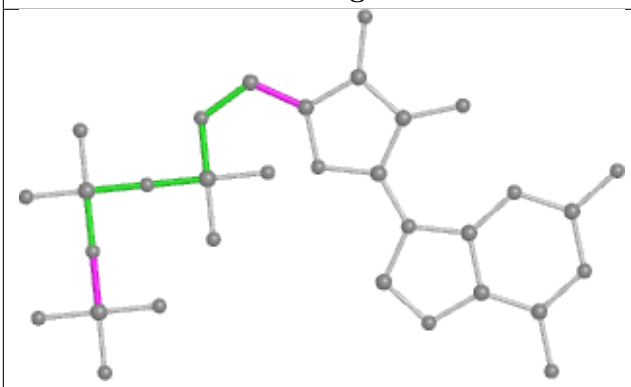

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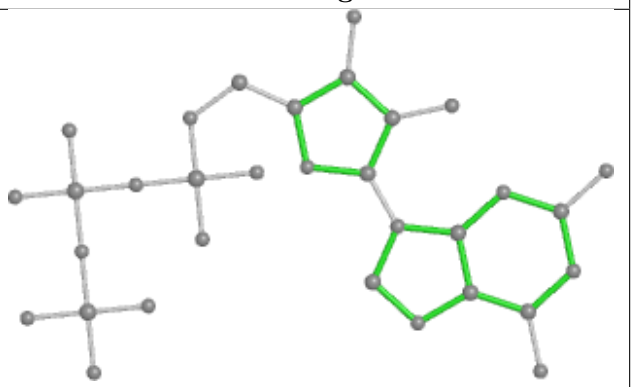

Rings

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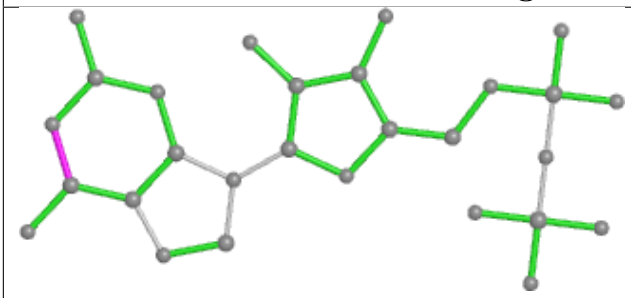

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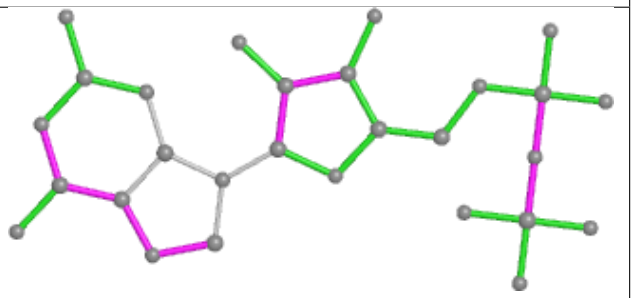

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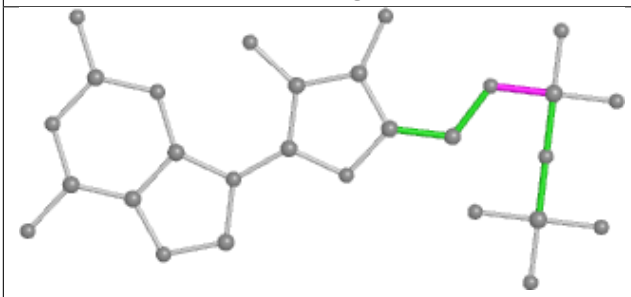

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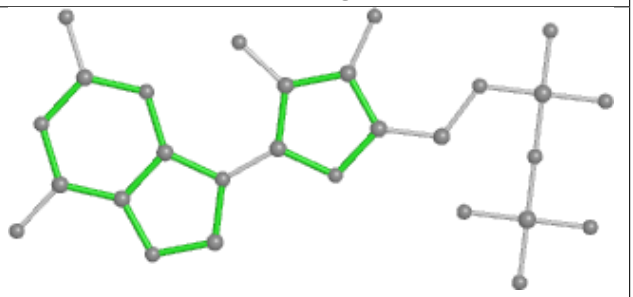

Rings

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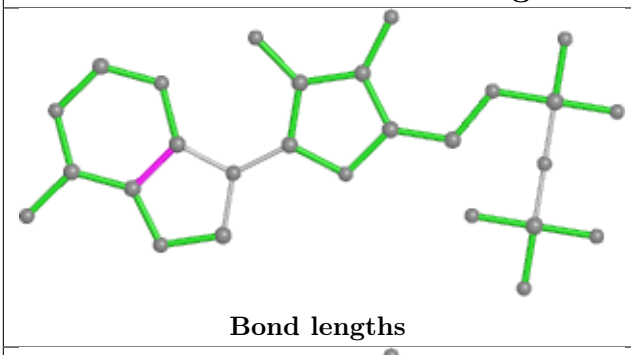

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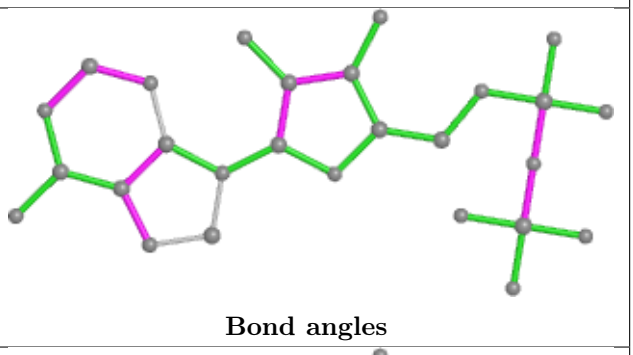

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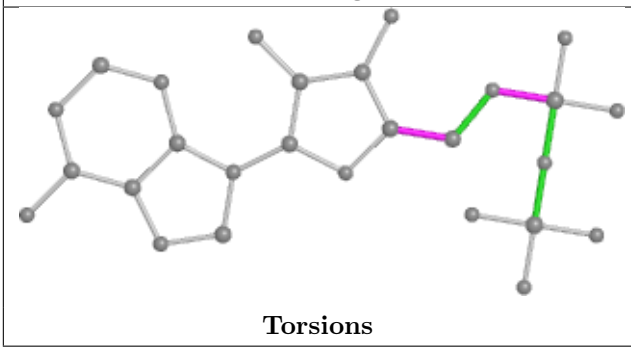

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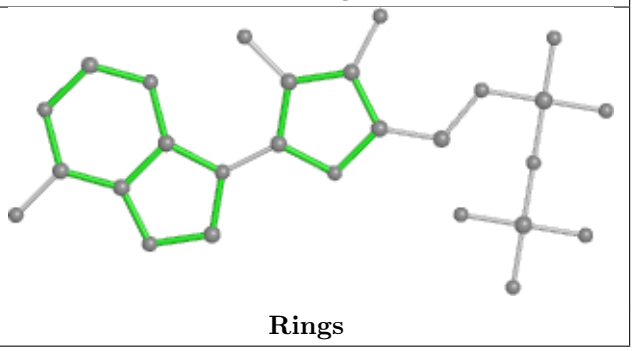
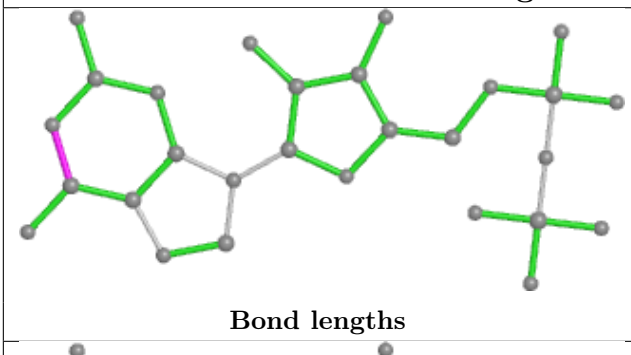


Rings

Ligand GDP 7g 501



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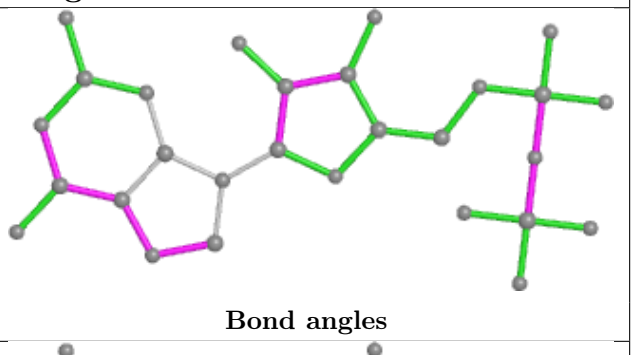

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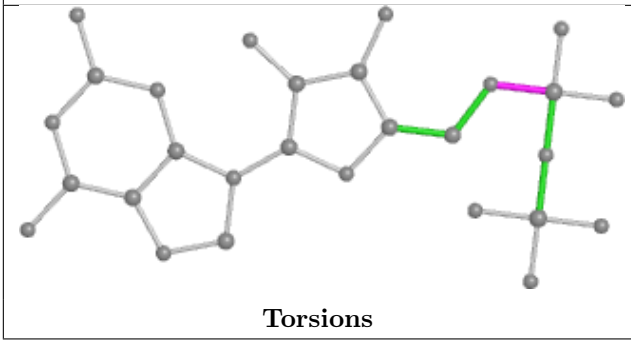

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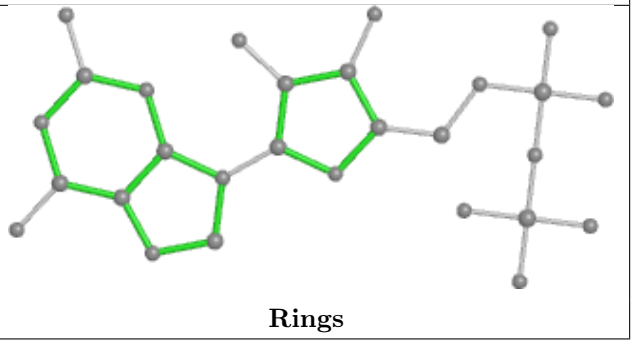

Rings

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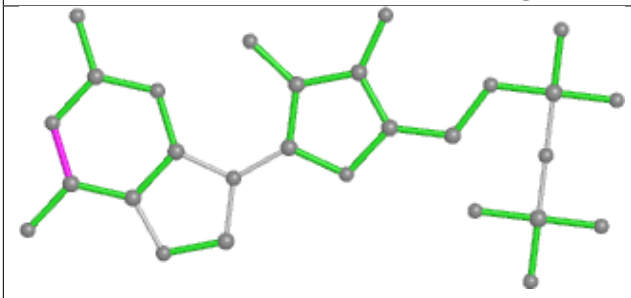
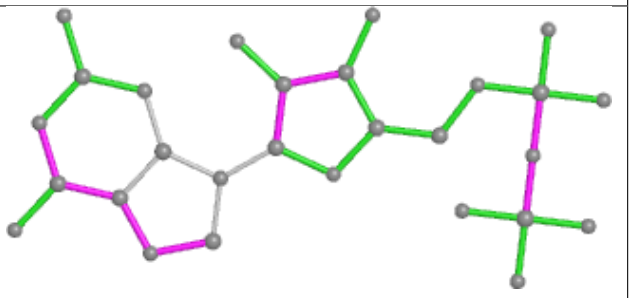
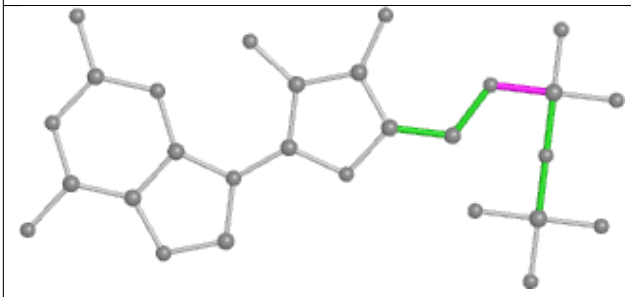
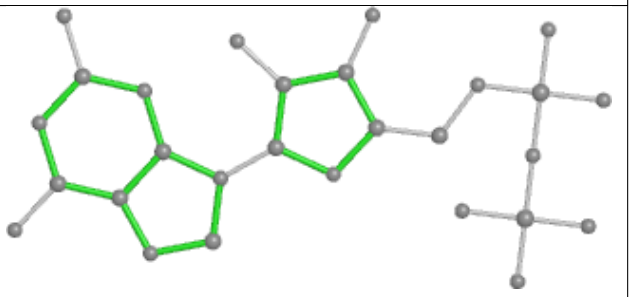
 Bond lengths	 Bond angles
 Torsions	 Rings

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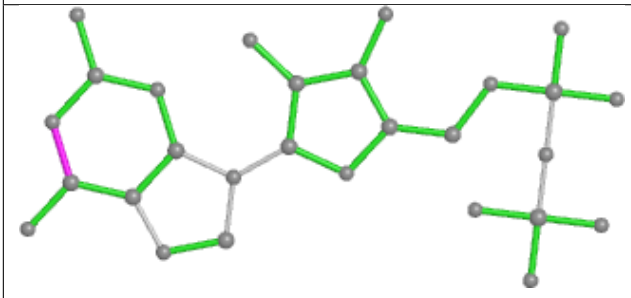
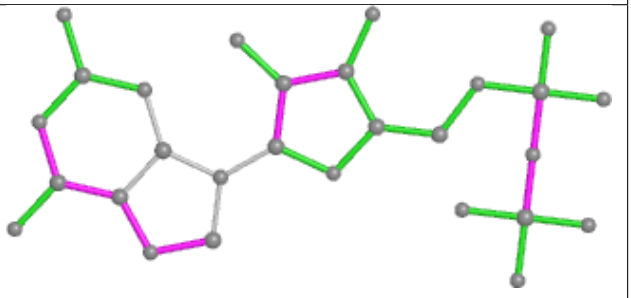
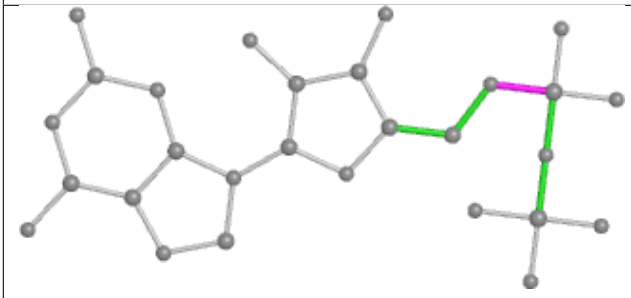
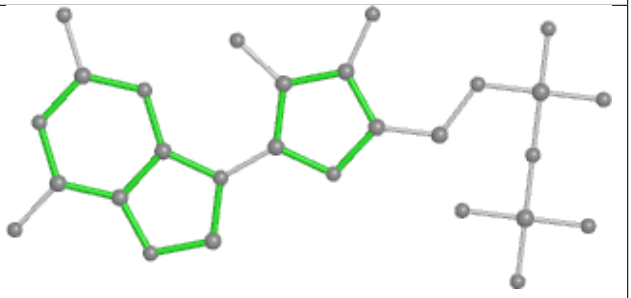
 Bond lengths	 Bond angles
 Torsions	 Rings

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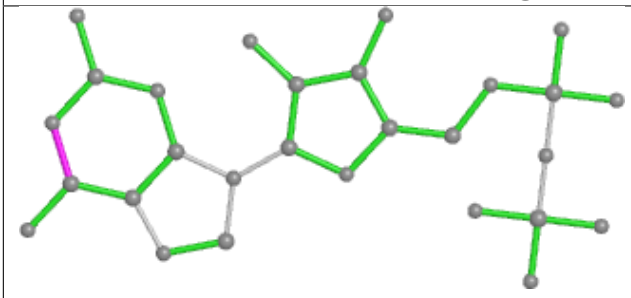
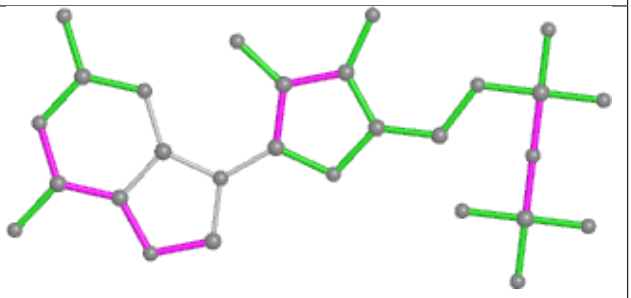
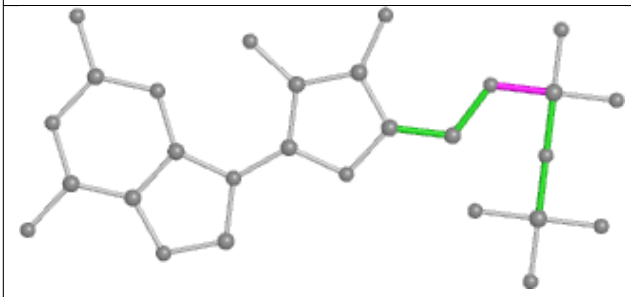
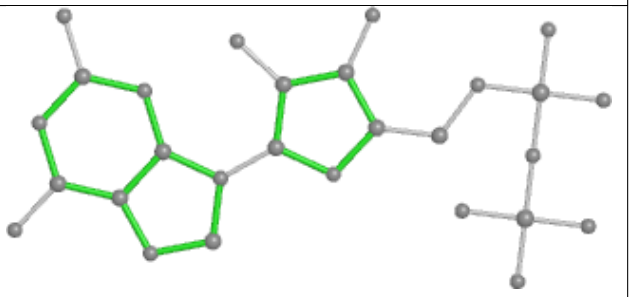
 Bond lengths	 Bond angles
 Torsions	 Rings

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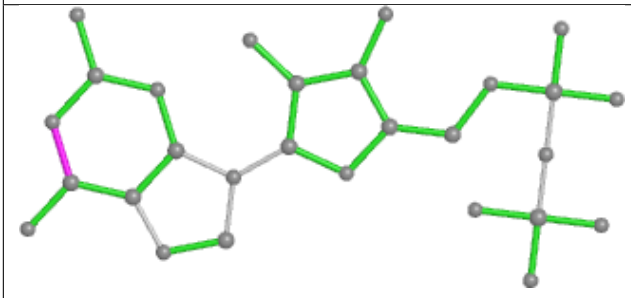
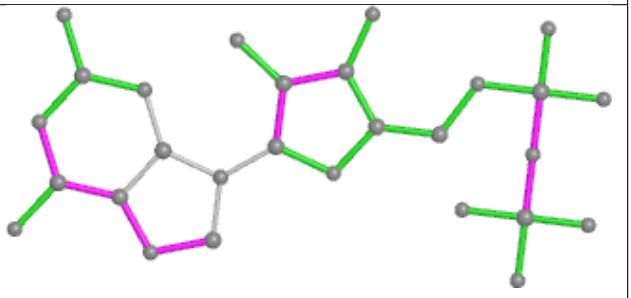
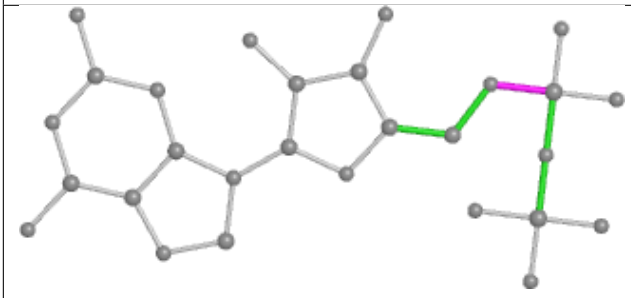
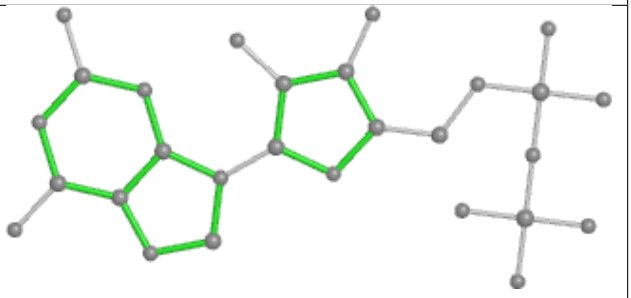
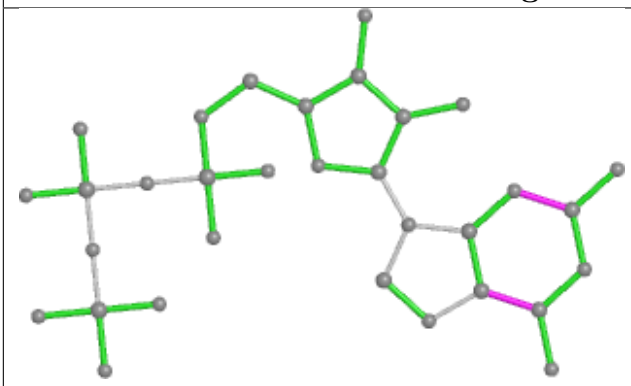
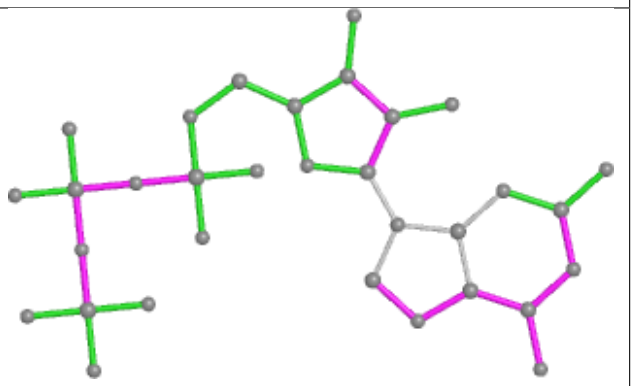
 Bond lengths	 Bond angles
 Torsions	 Rings

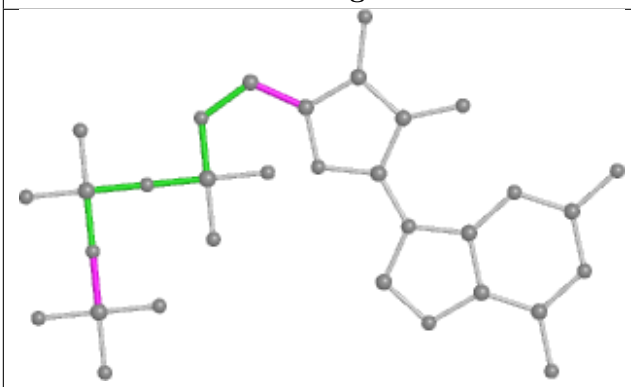
Ligand GTP 9f 501



Bond lengths



Bond angles



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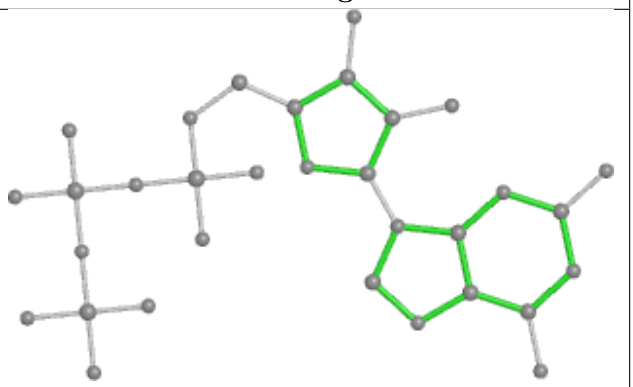
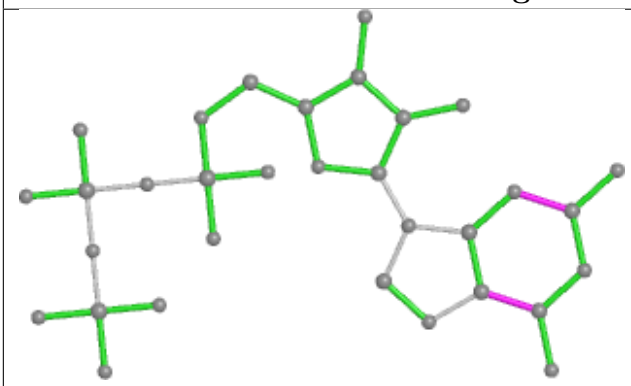


Rings

Ligand GTP Ad 501



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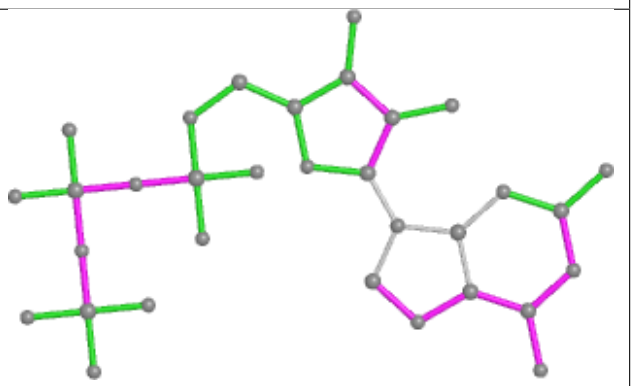

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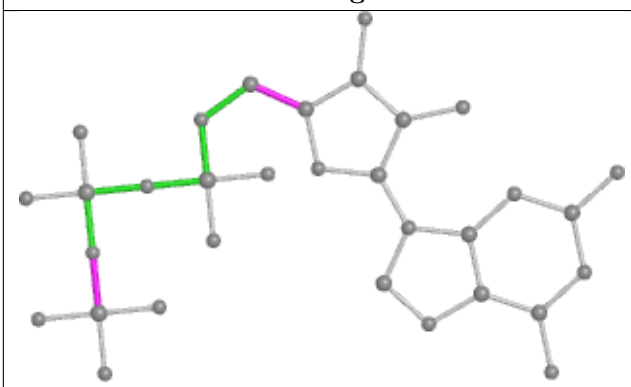

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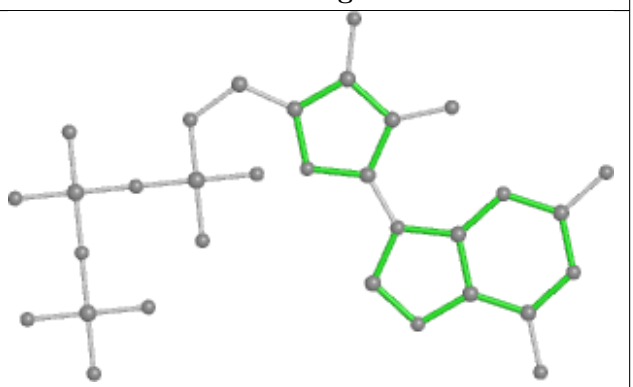
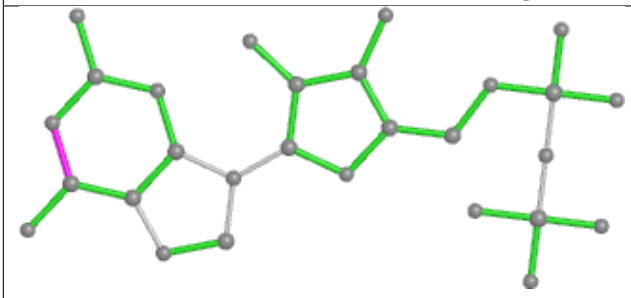


Rings

Ligand GDP 1c 501



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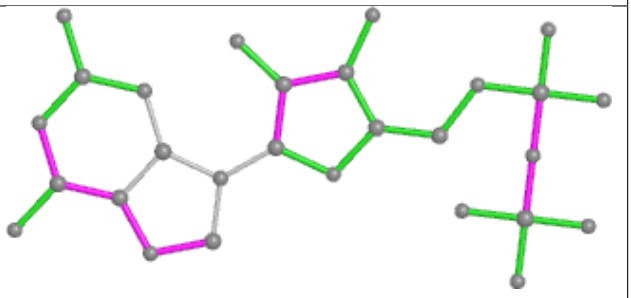

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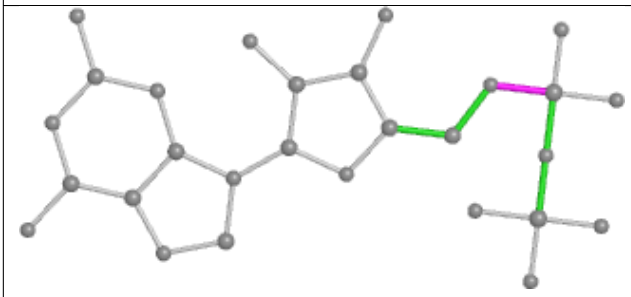

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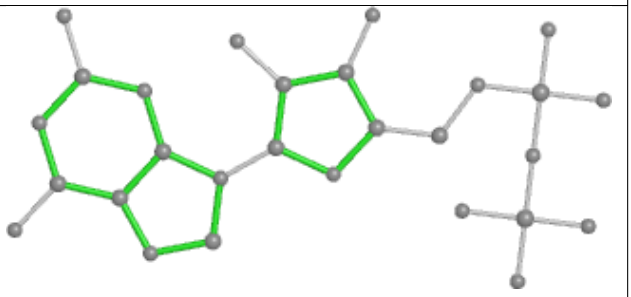

Rings

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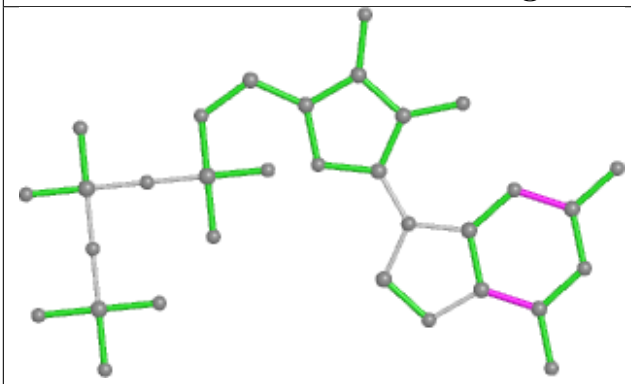

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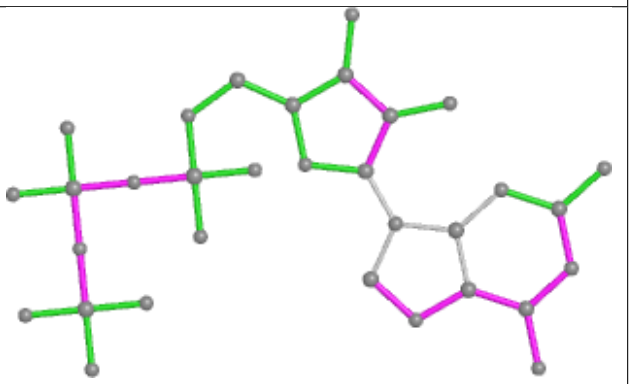

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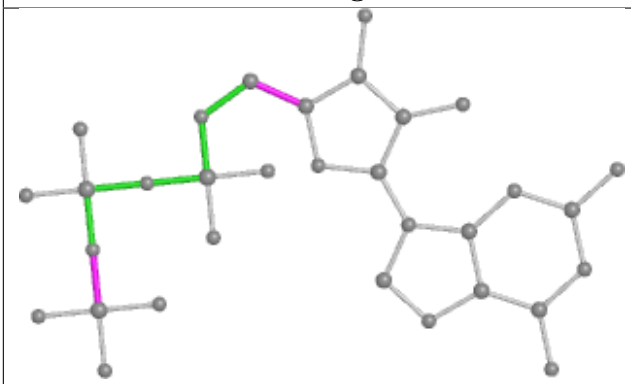

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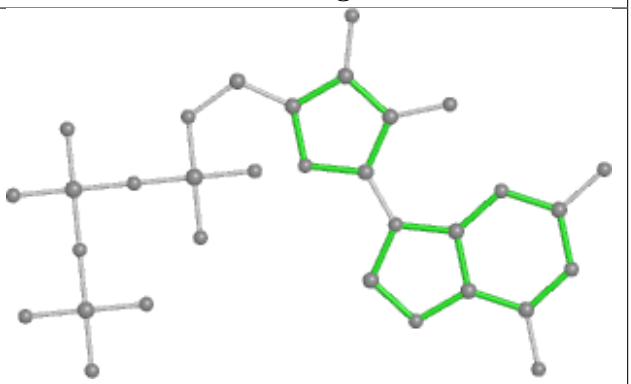

Rings

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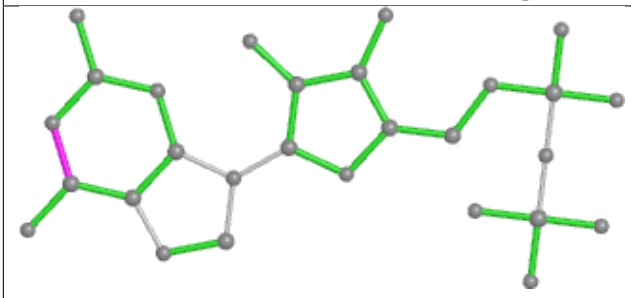

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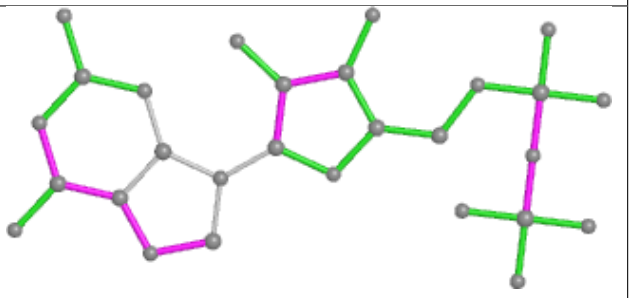

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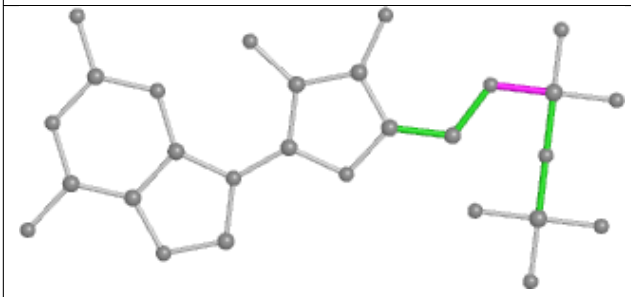

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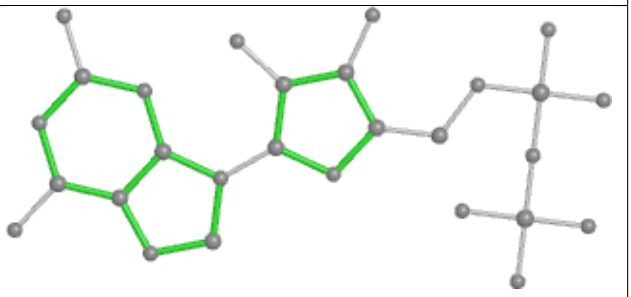

Rings

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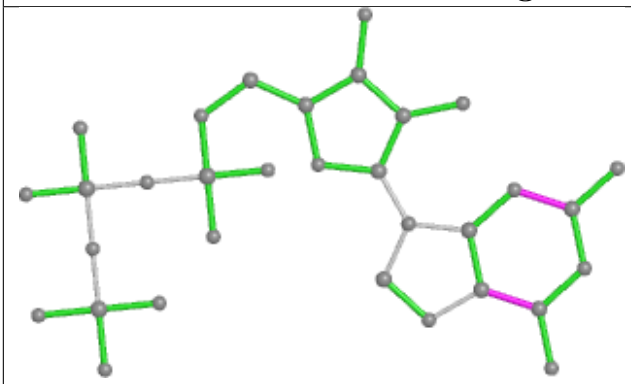

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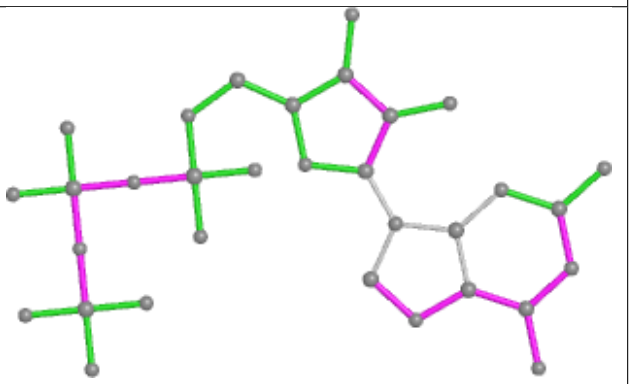

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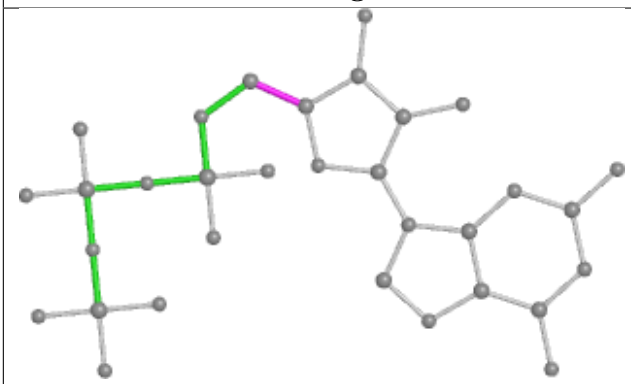

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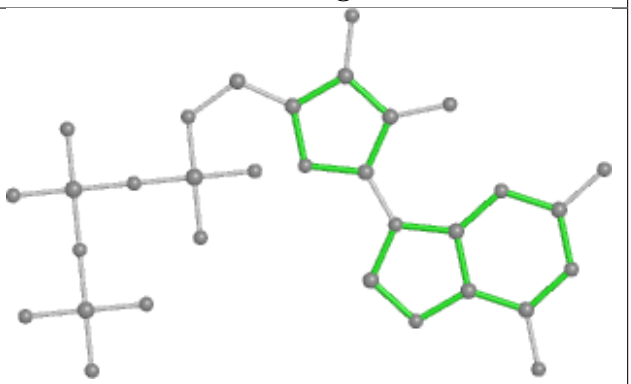
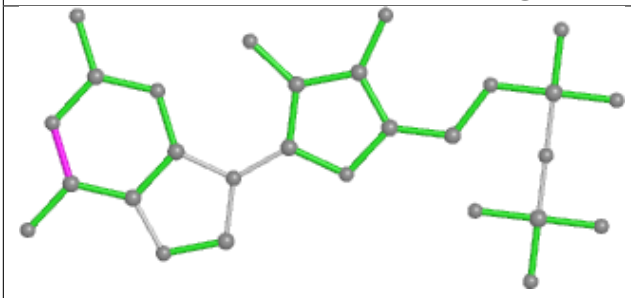


Rings

Ligand GDP 2g 501



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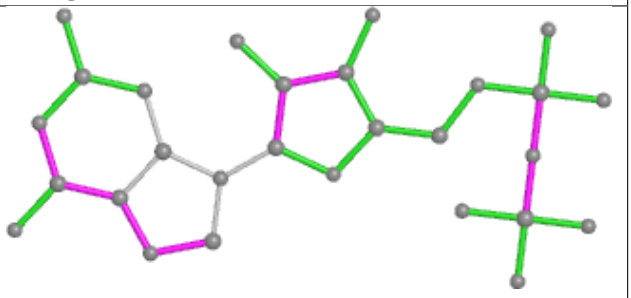

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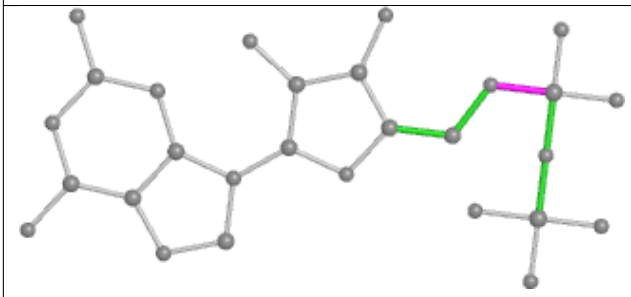

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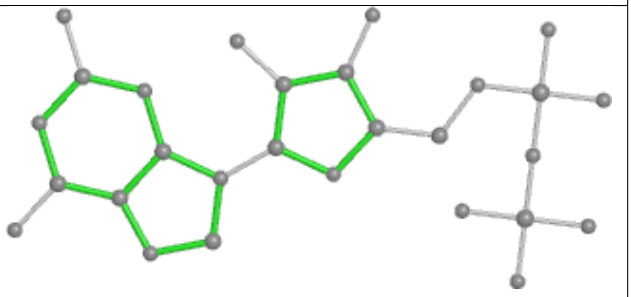

Rings

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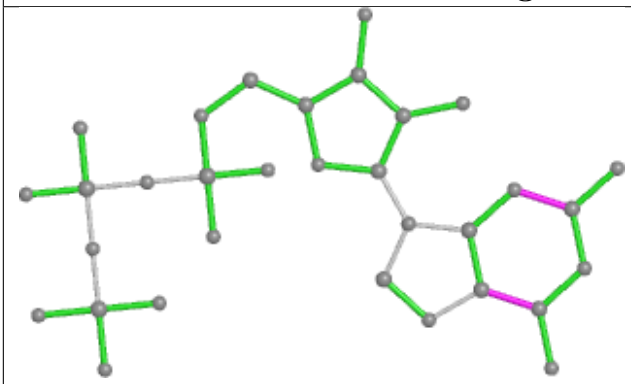

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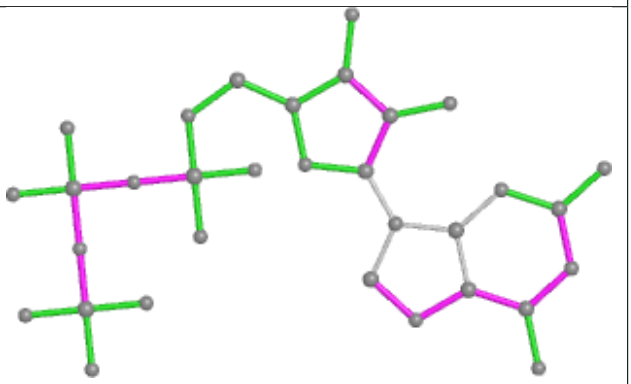

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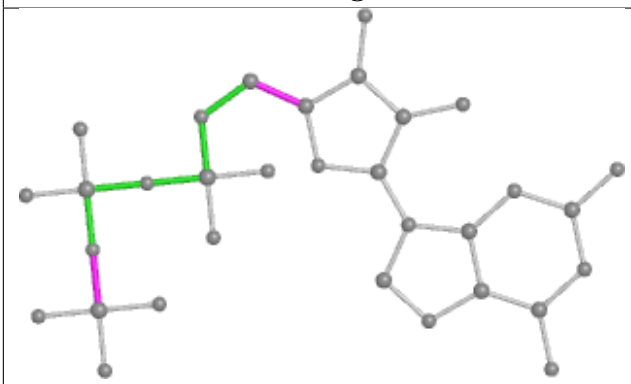

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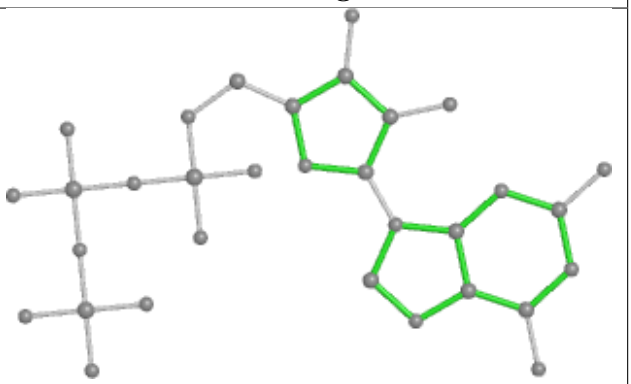
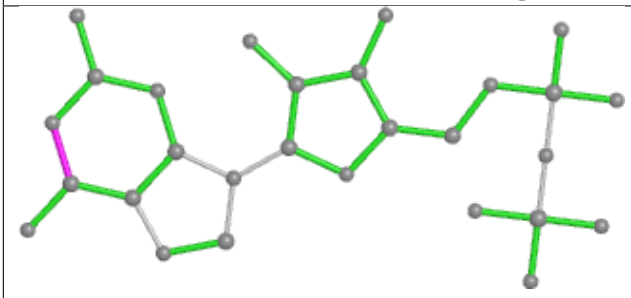


Rings

Ligand GDP Ac 501



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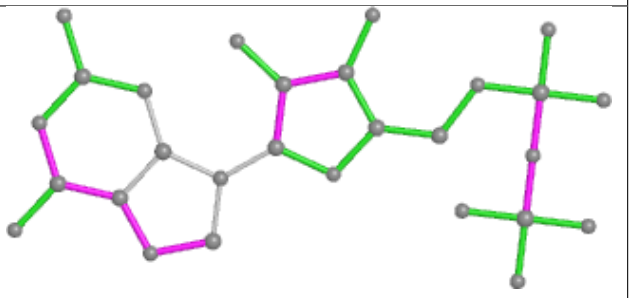

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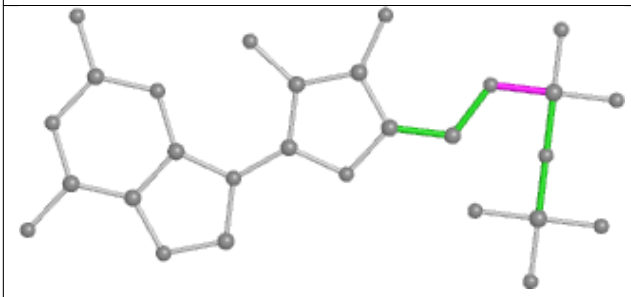

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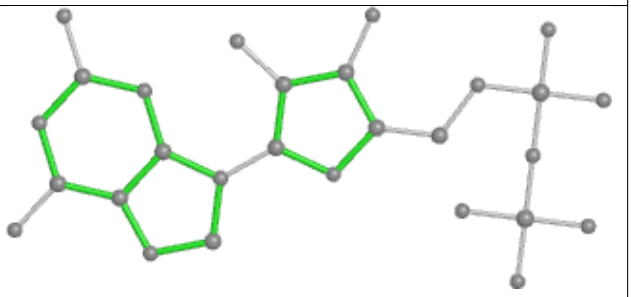

Rings

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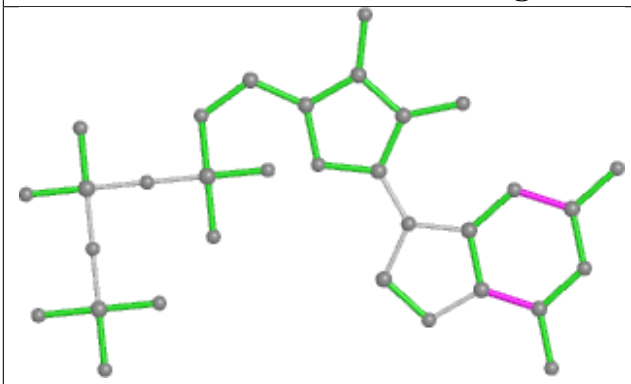

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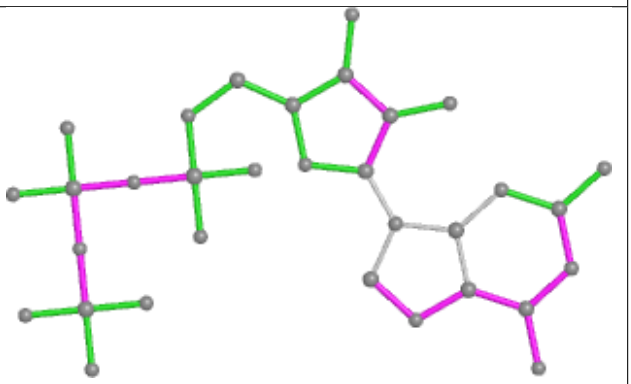

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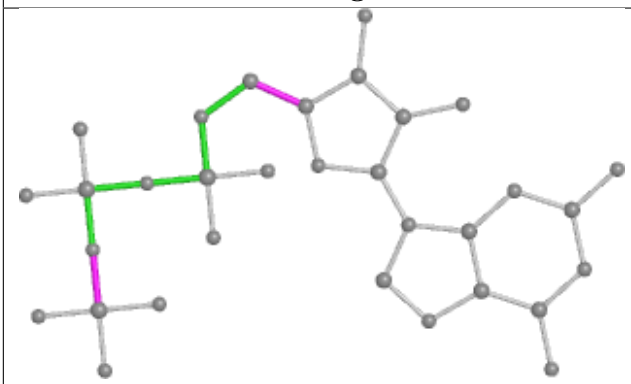

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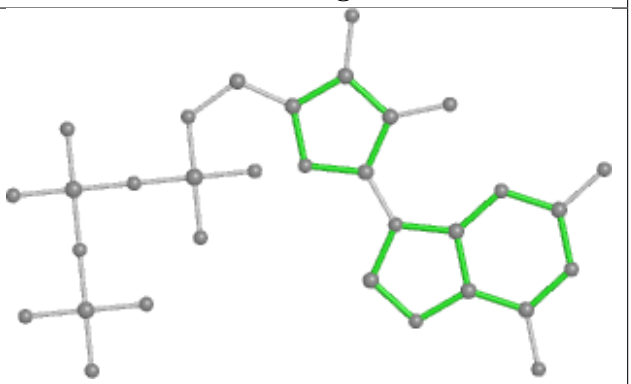
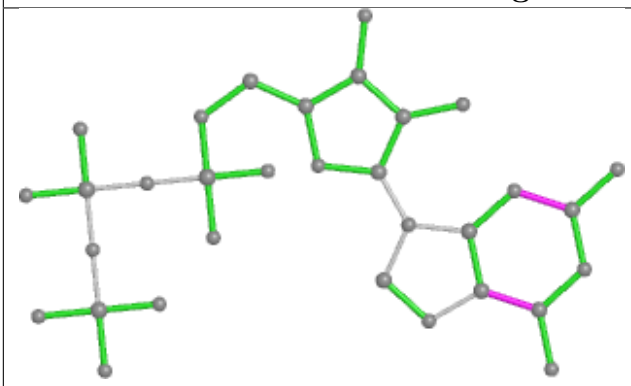


Rings

Ligand GTP Db 501



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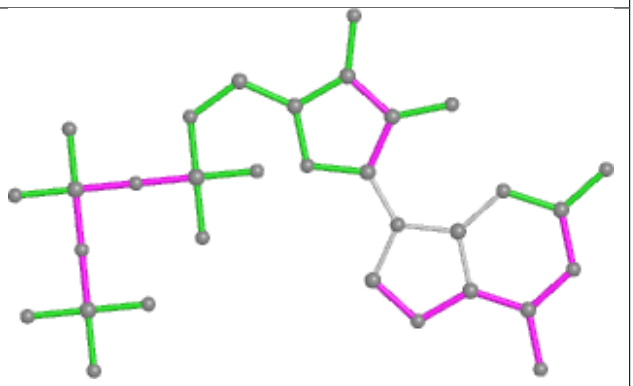

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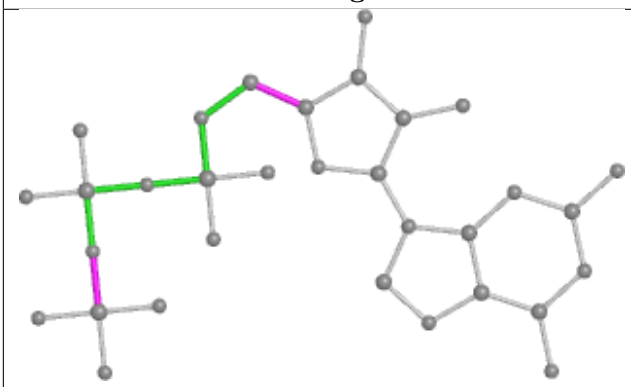

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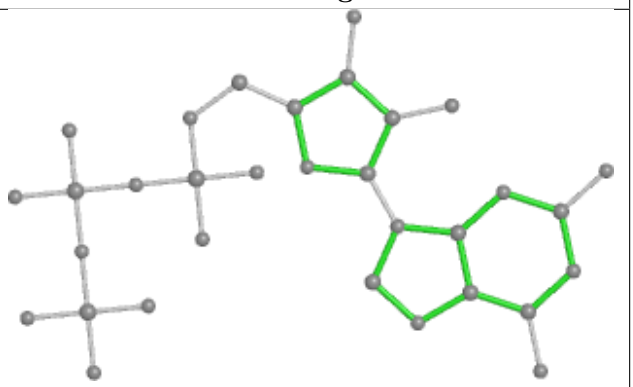
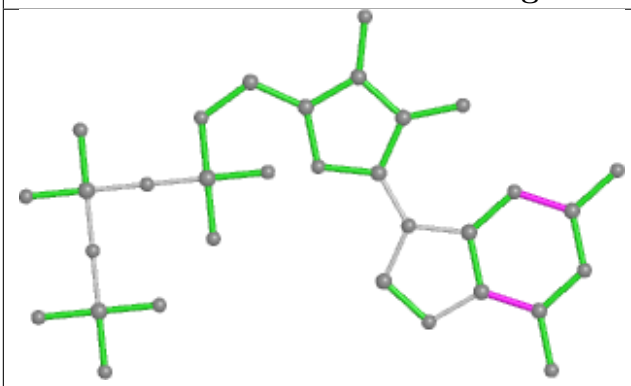


Rings

Ligand GTP 1f 501



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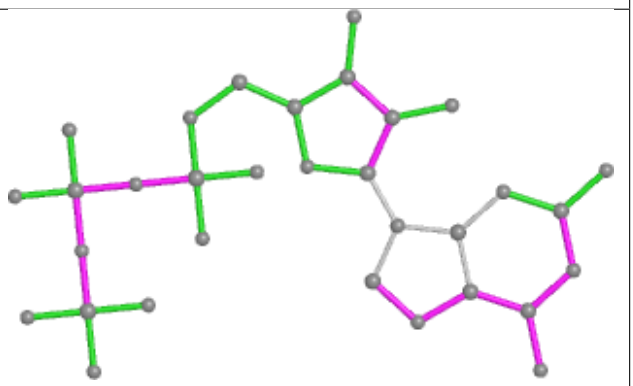

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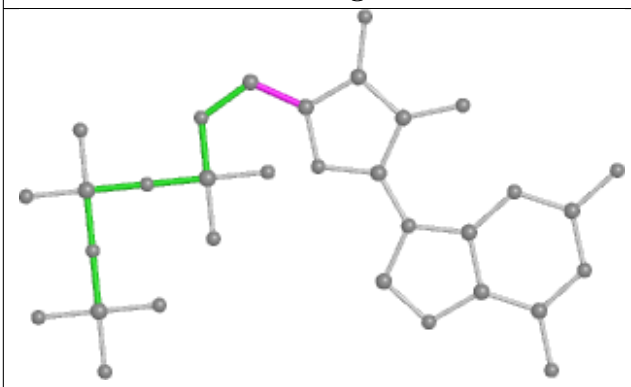

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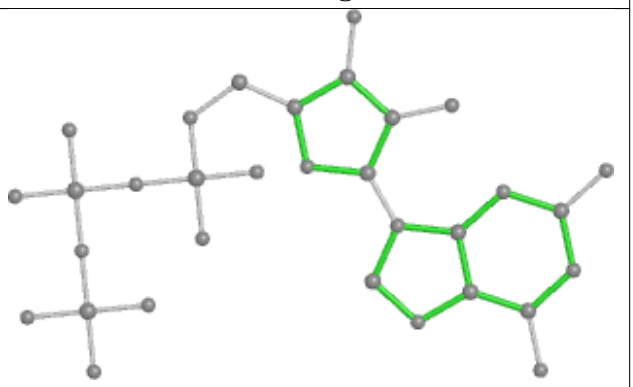
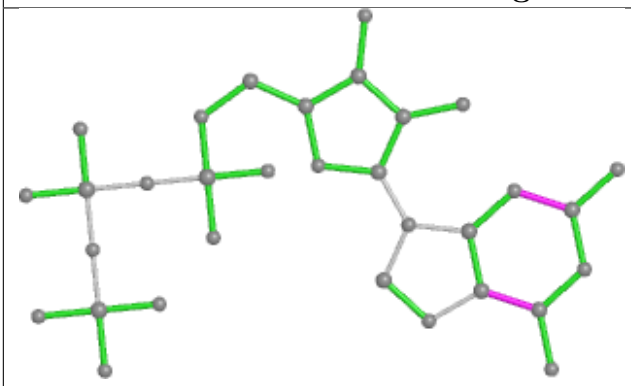


Rings

Ligand GTP Cd 501



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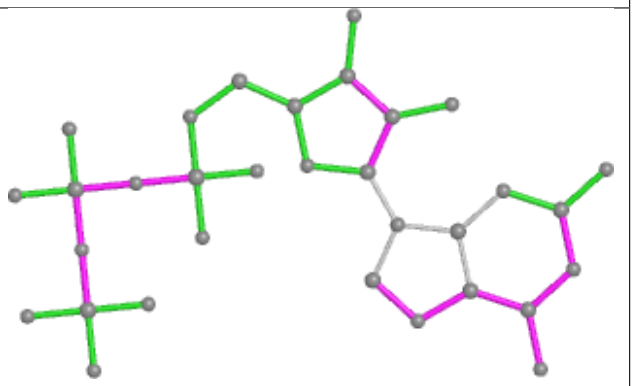

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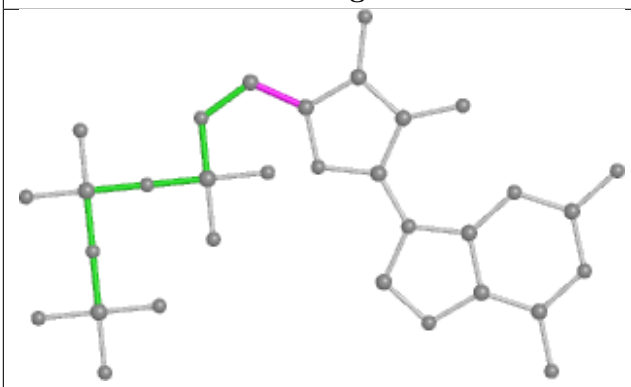

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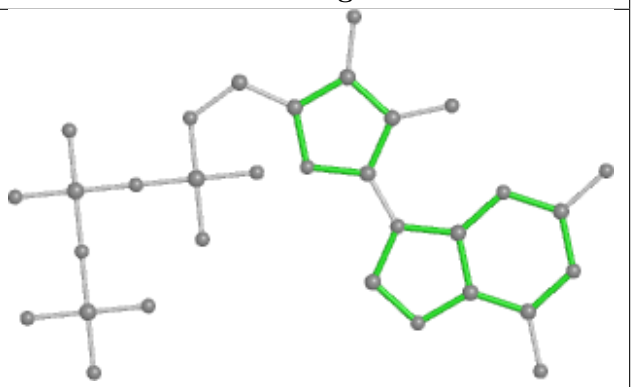
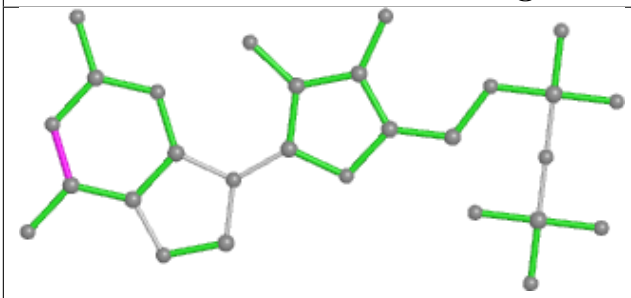


Rings

Ligand GDP 4a 501



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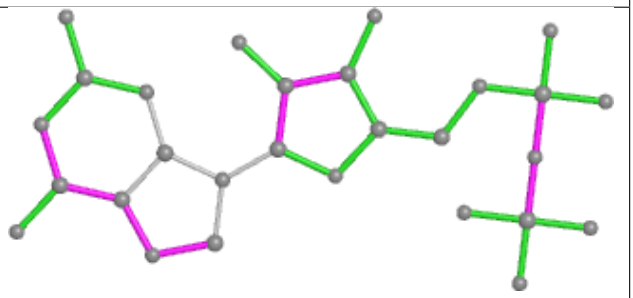

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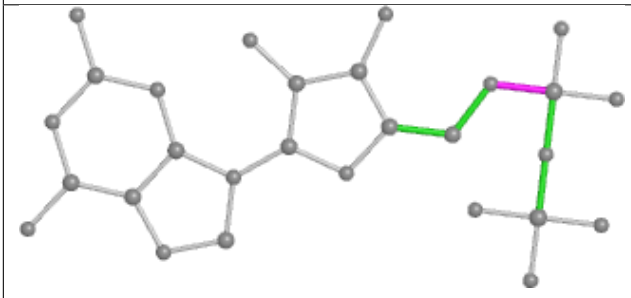

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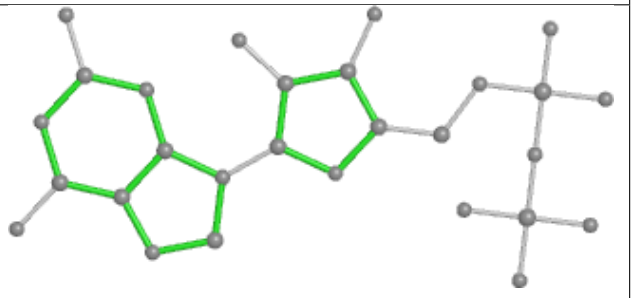
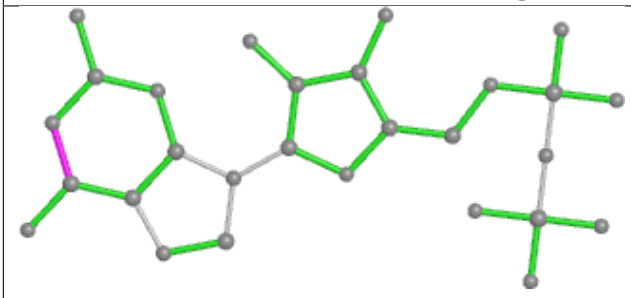


Rings

Ligand GDP Cc 501



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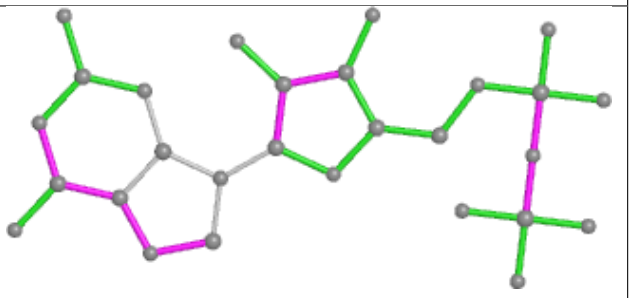
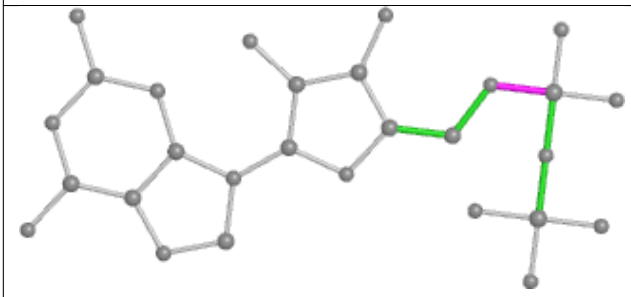
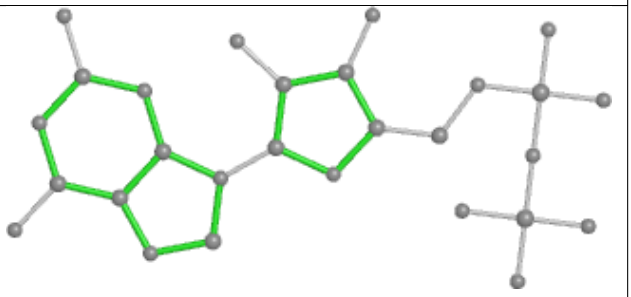


Bond angles

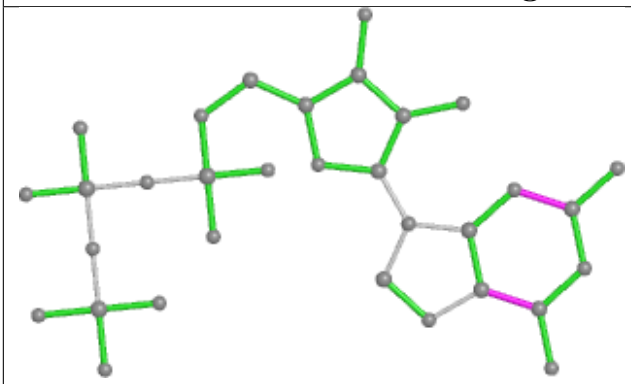


Torsions



Rings

Ligand GTP 7f 501



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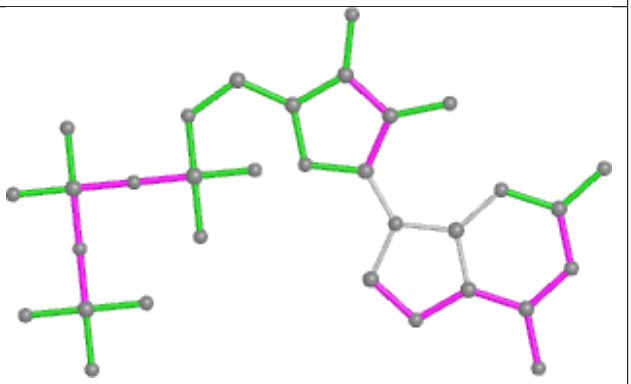
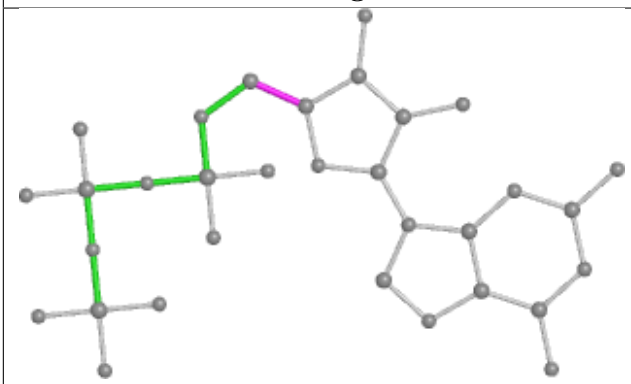


Bond angles



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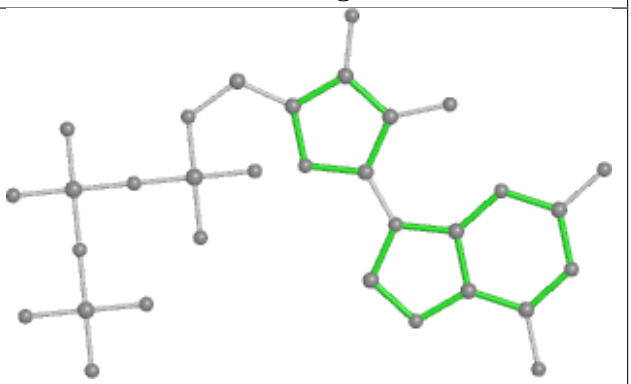
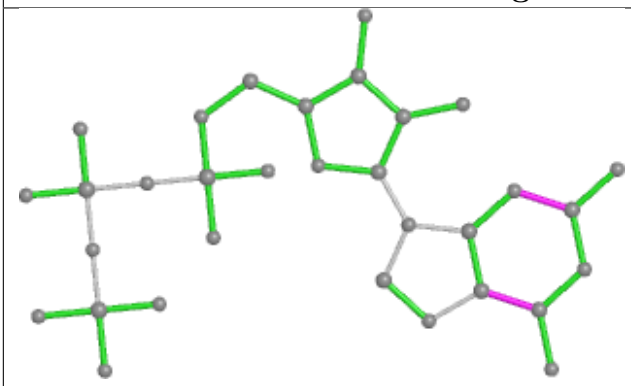


Rings

Ligand GTP Ab 501



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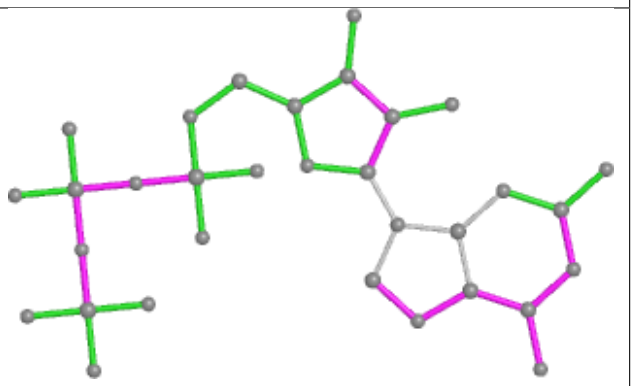

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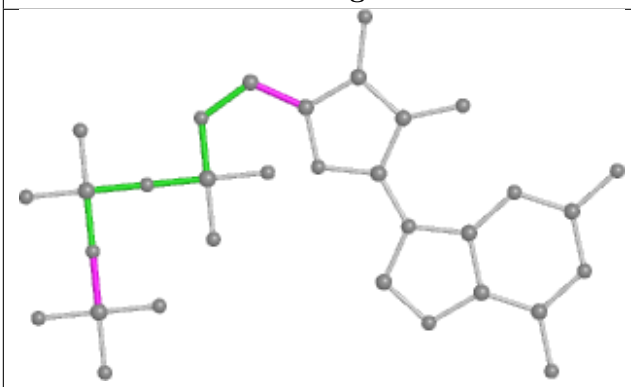

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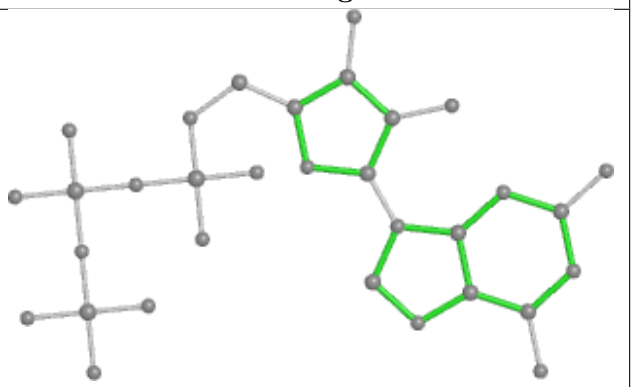
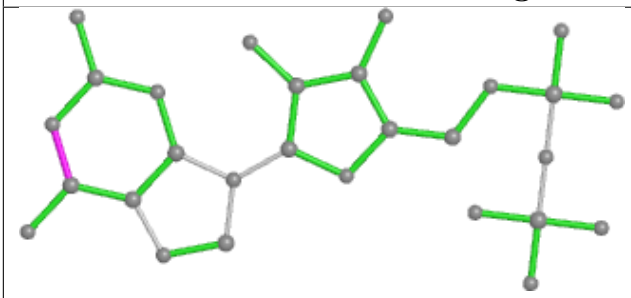


Rings

Ligand GDP Ba 501



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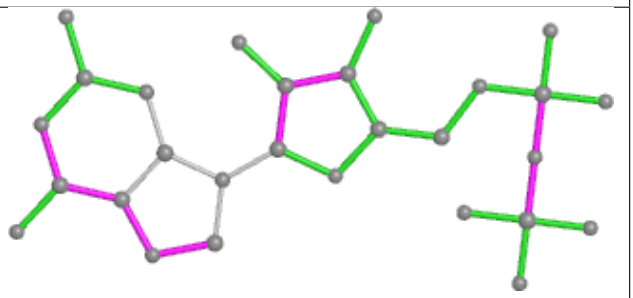

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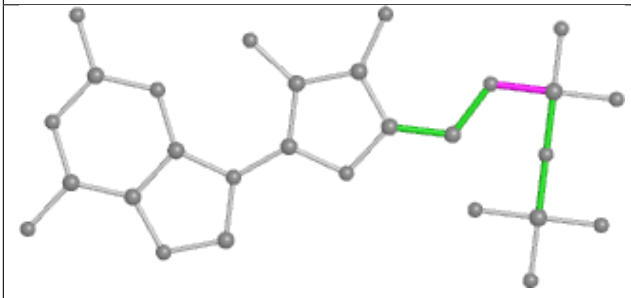

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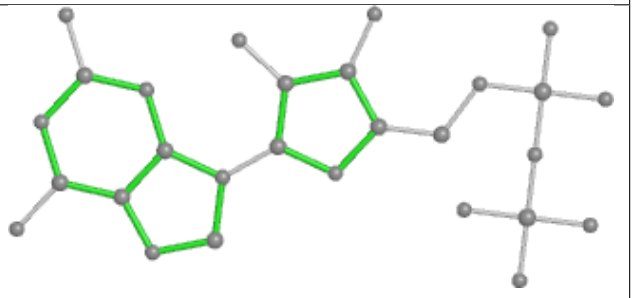
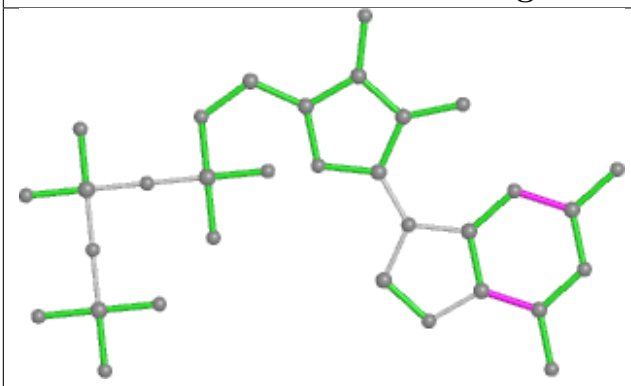


Rings

Ligand GTP 1d 501



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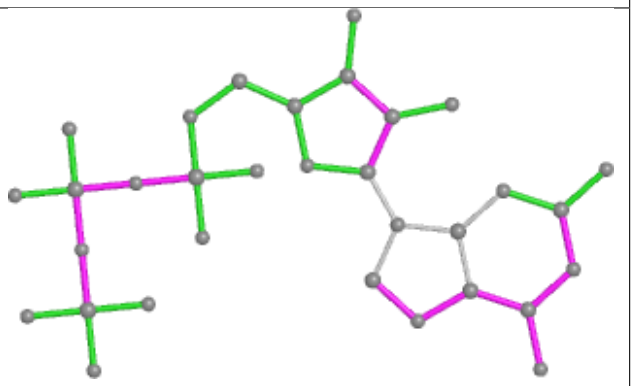

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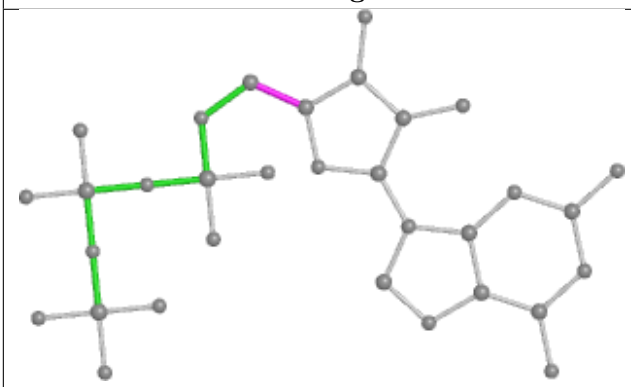

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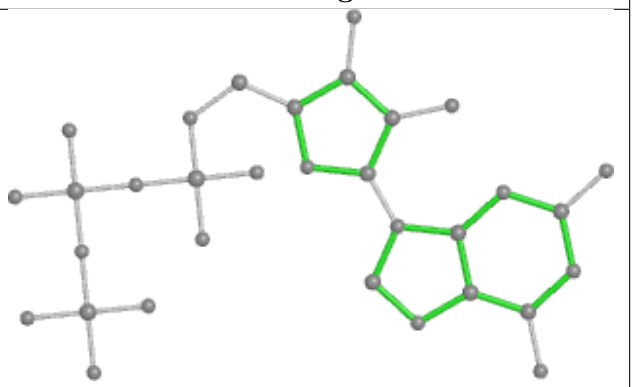
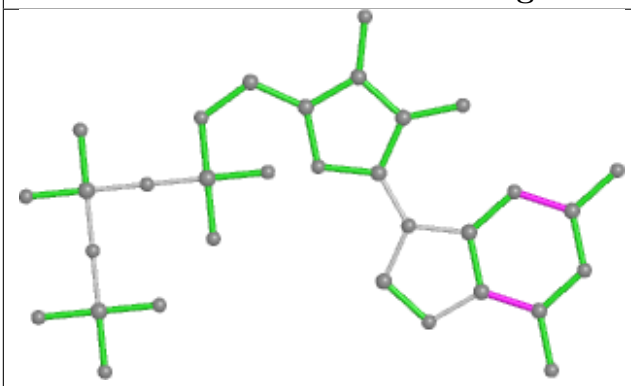


Rings

Ligand GTP 4b 501



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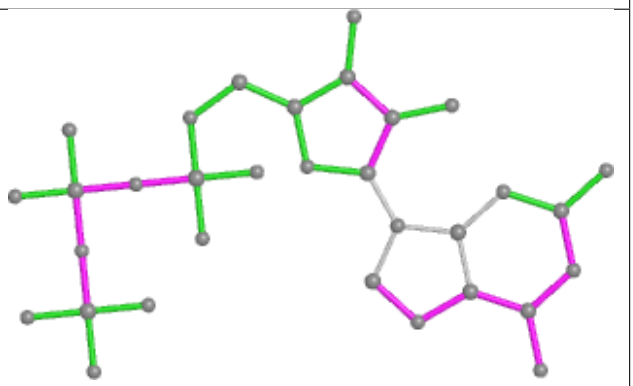

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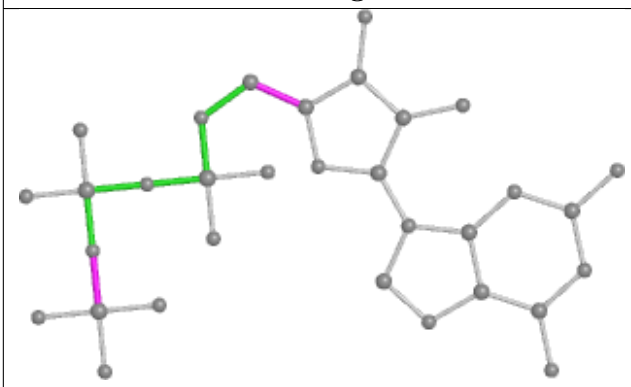

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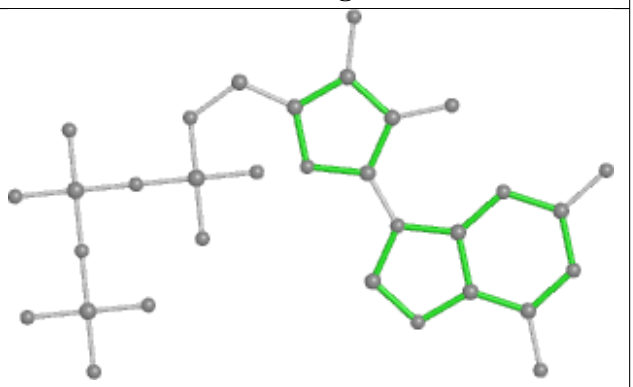
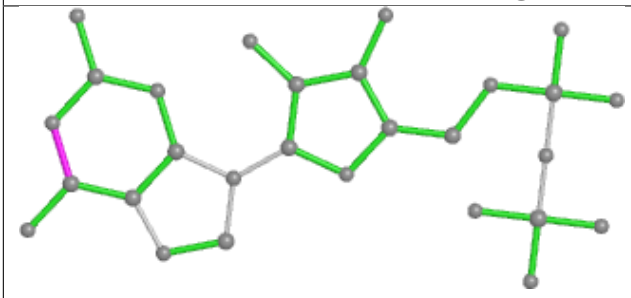
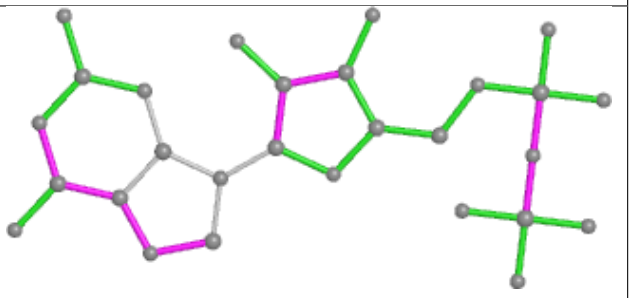
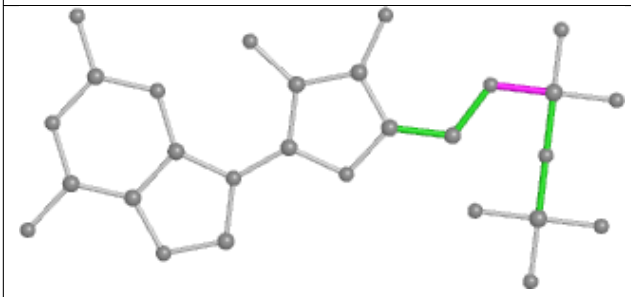
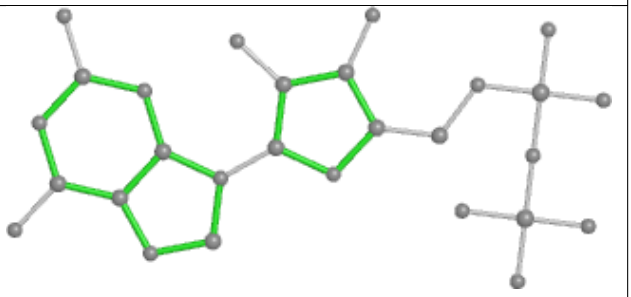
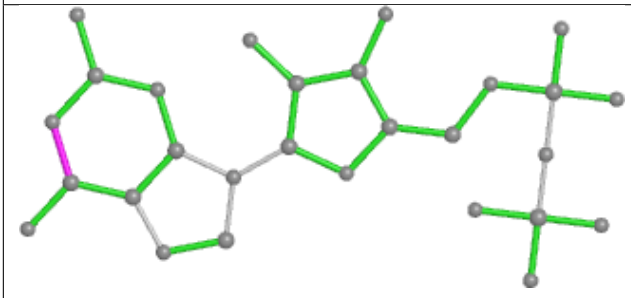
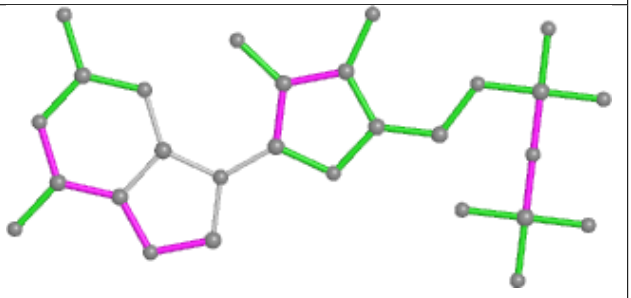
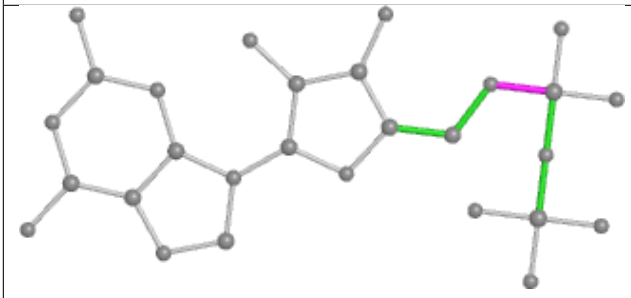
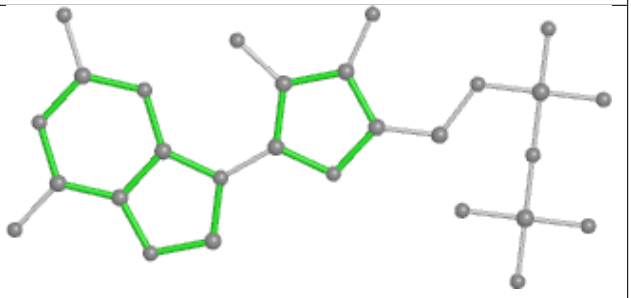
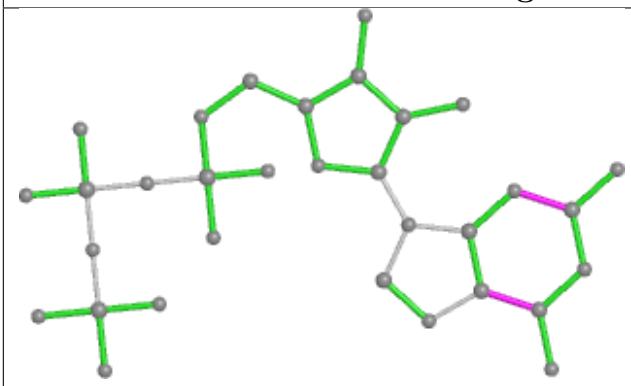


Rings

Ligand GDP Dc 501	
	
Bond lengths	Bond angles
	
Torsions	Rings

Ligand GDP 8e 501	
	
Bond lengths	Bond angles
	
Torsions	Rings

Ligand GTP Af 501



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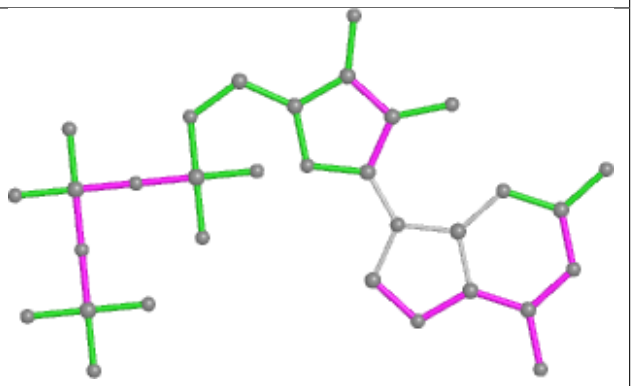

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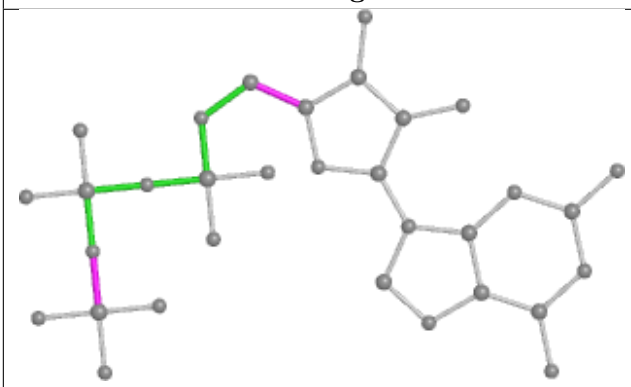

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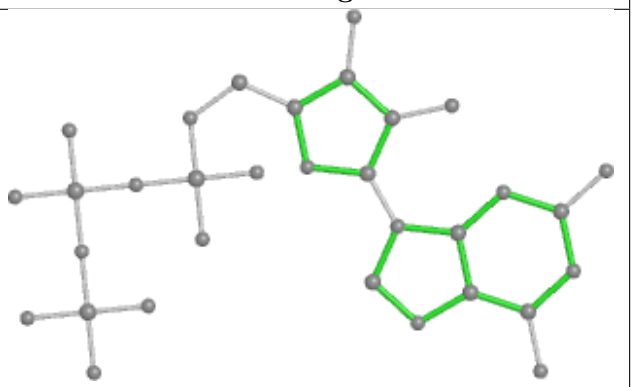
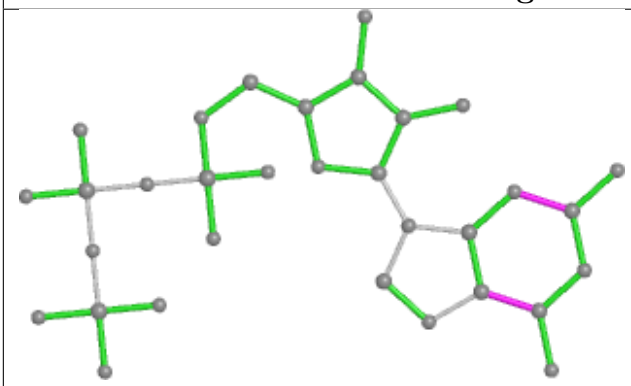


Rings

Ligand GTP 7d 501



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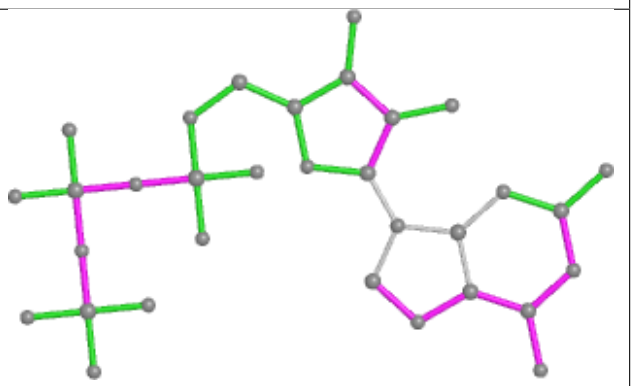

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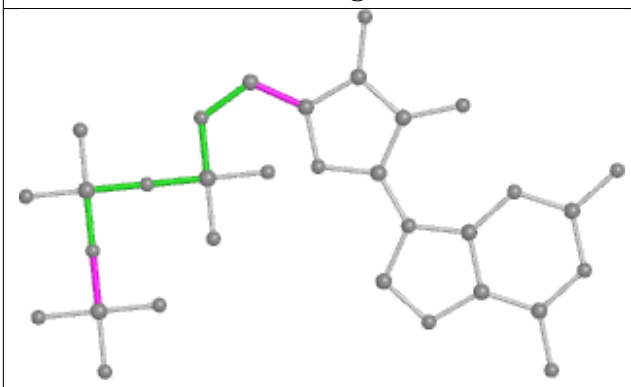

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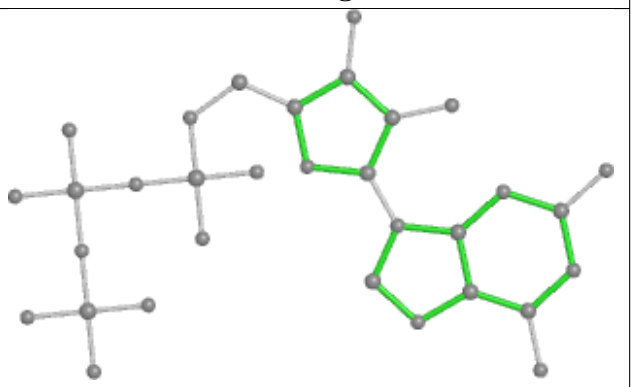
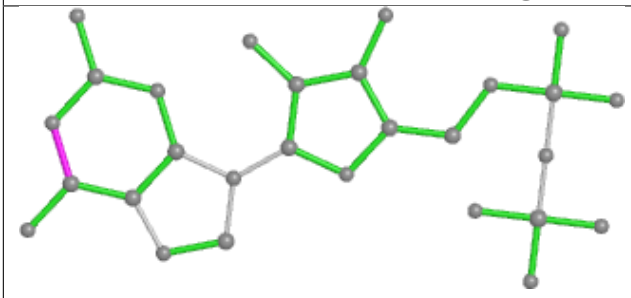
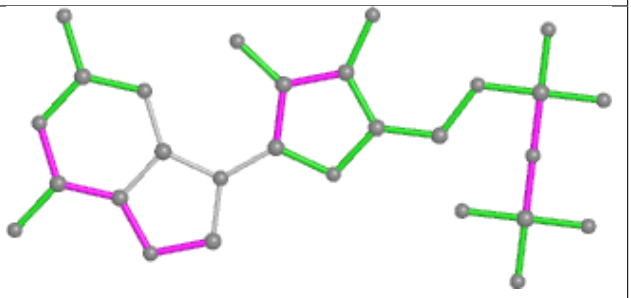
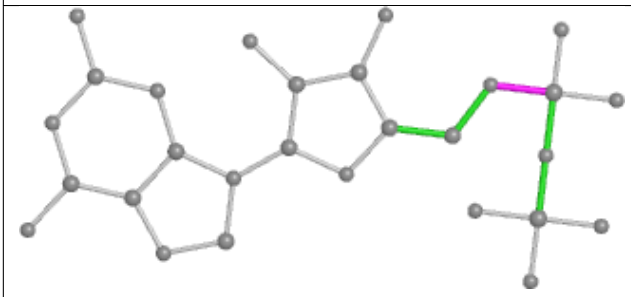
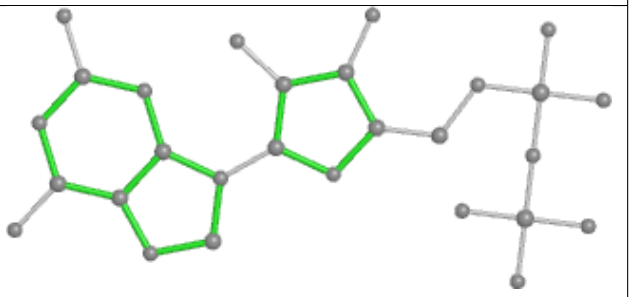
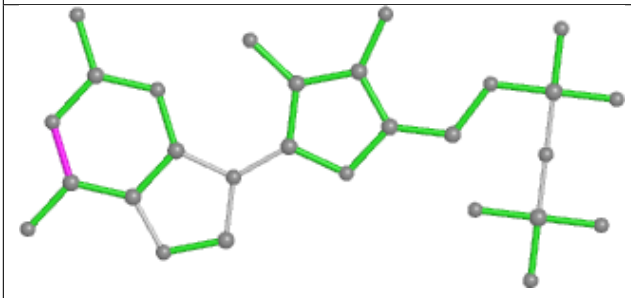
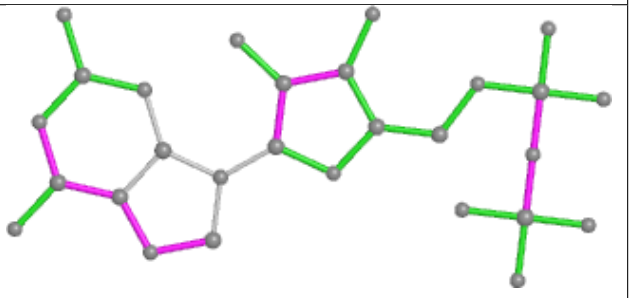
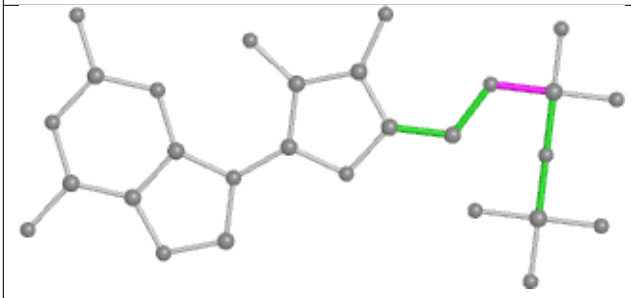
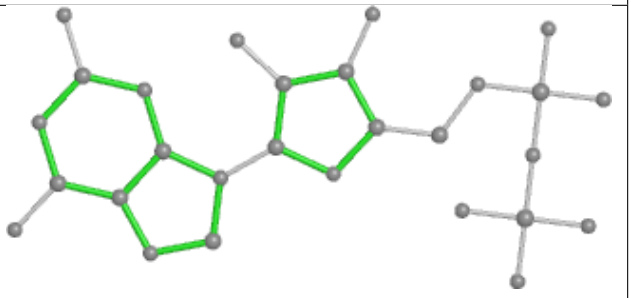
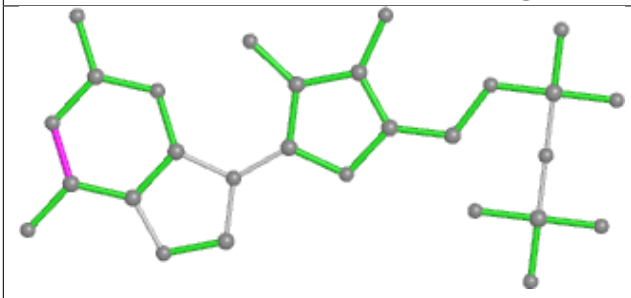


Rings

Ligand GDP 2c 501	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand GDP 3e 501	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand GDP 6e 501



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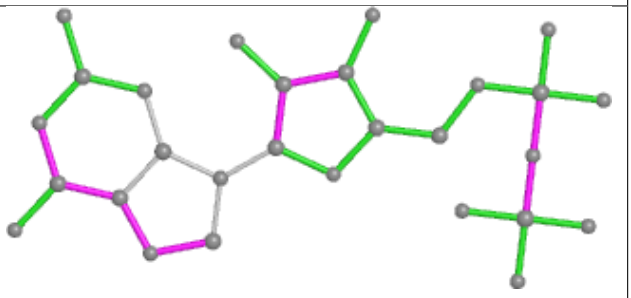
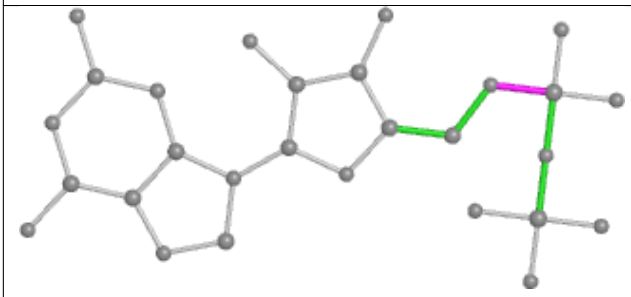


Bond angles



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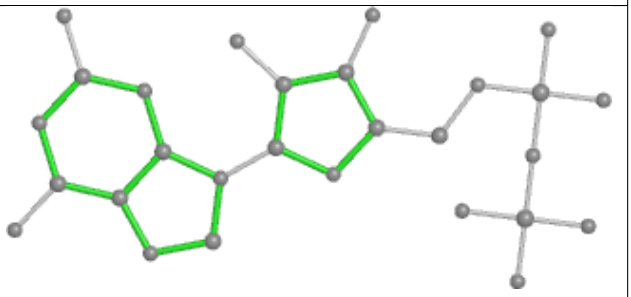
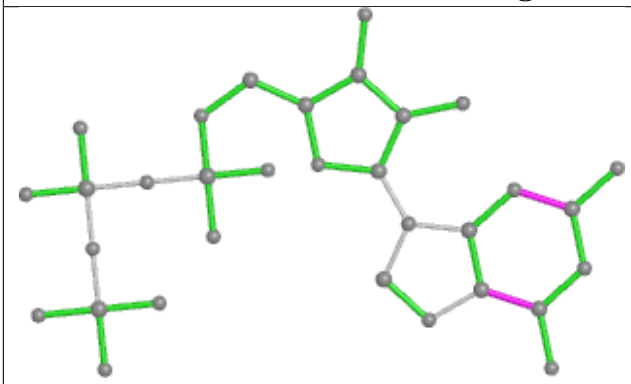
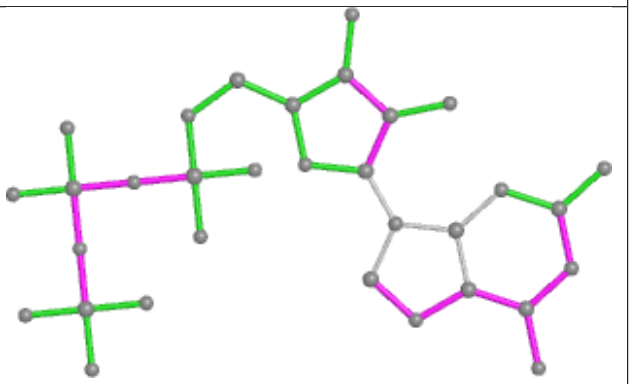


Rings

Ligand GTP 6b 501



Bond lengths



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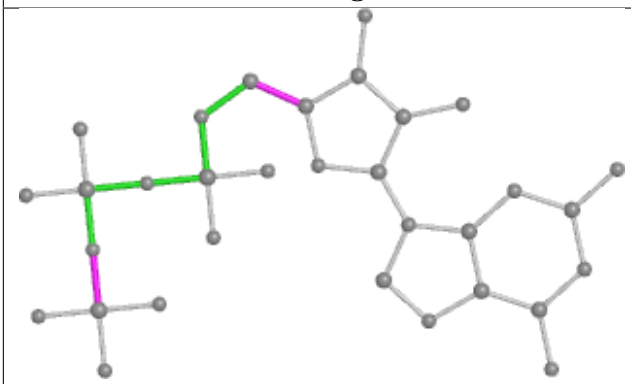

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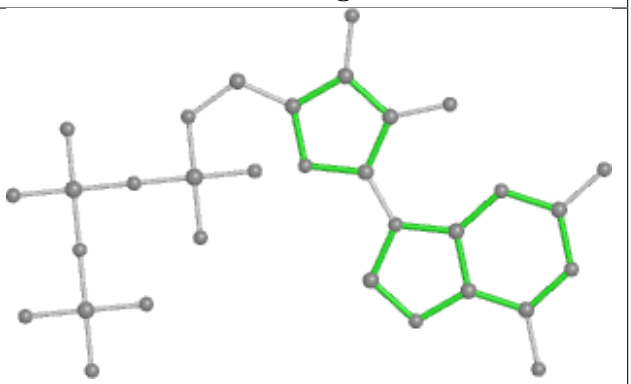
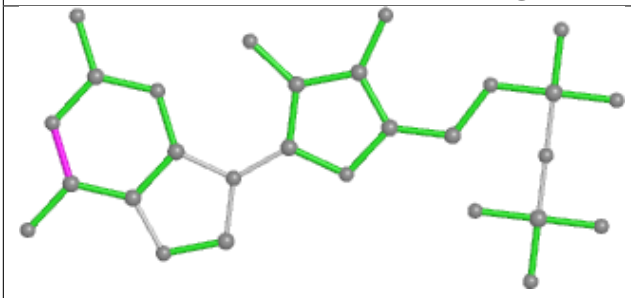


Rings

Ligand GDP Ae 501



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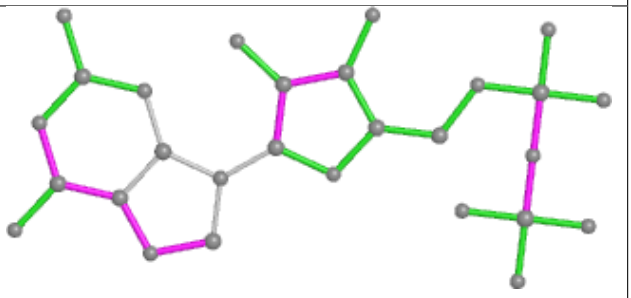
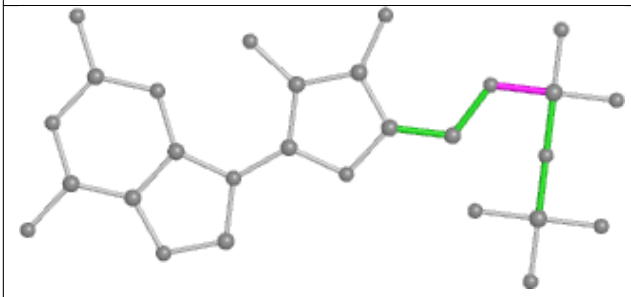


Bond angles



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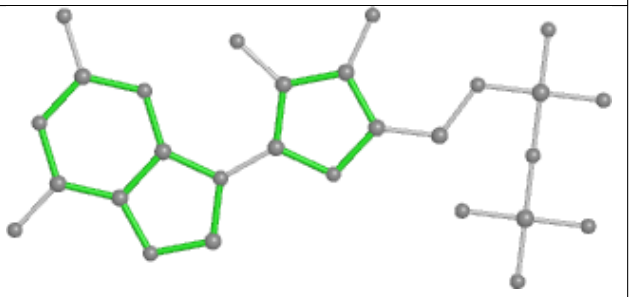
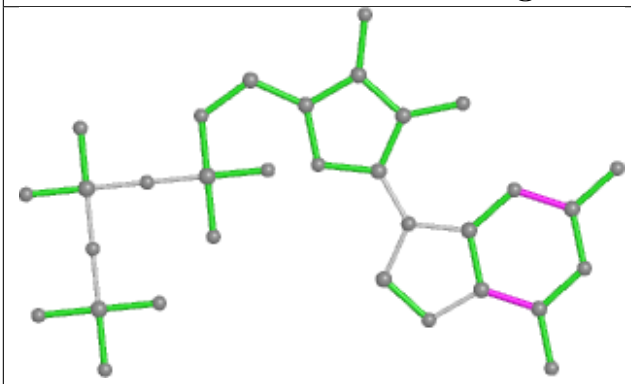
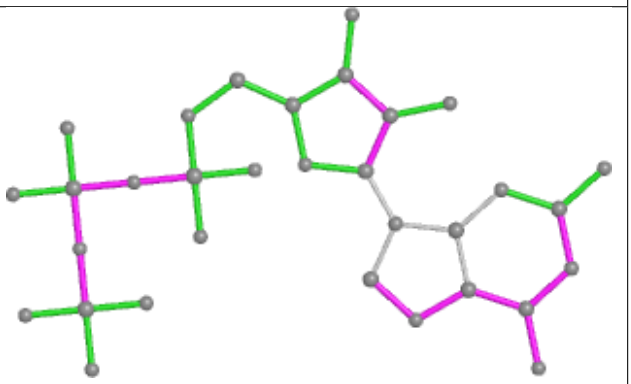


Rings

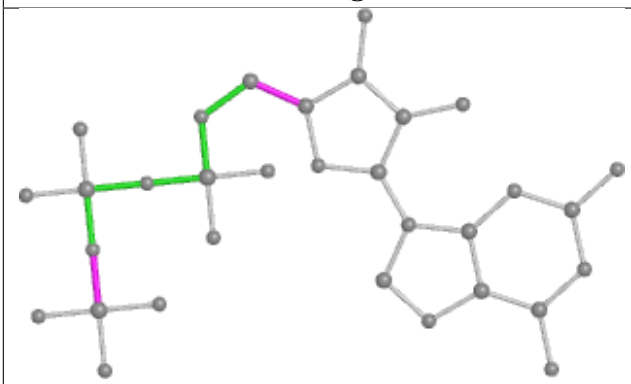
Ligand GTP 2d 501



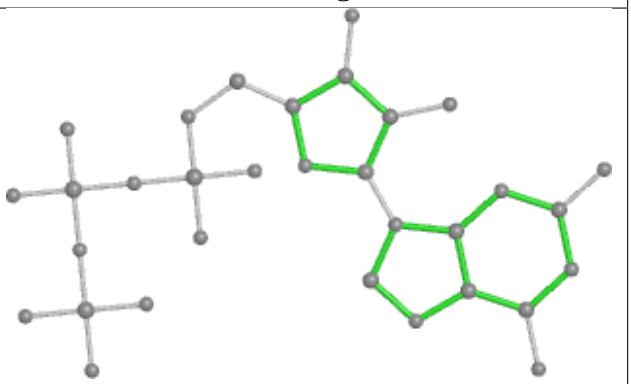
Bond lengths



Bond angles

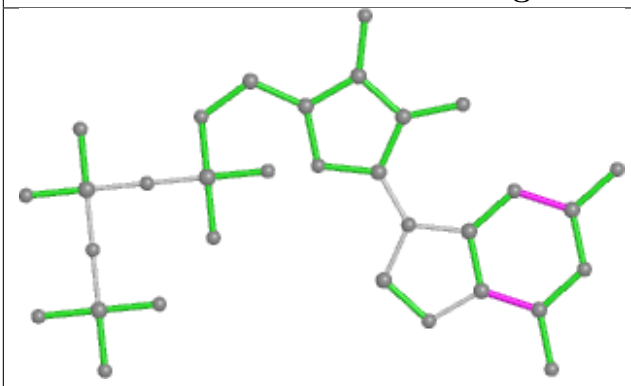


Torsions



Rings

Ligand GTP Bh 501



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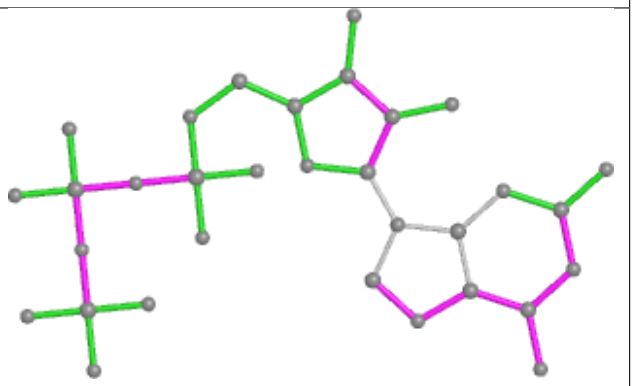

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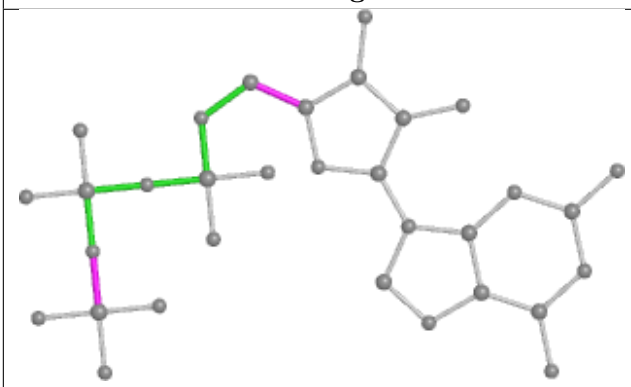

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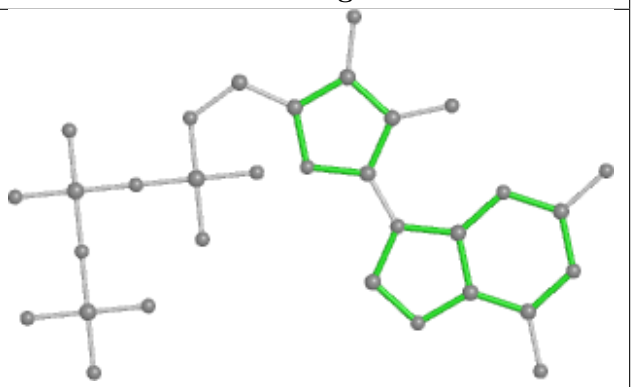
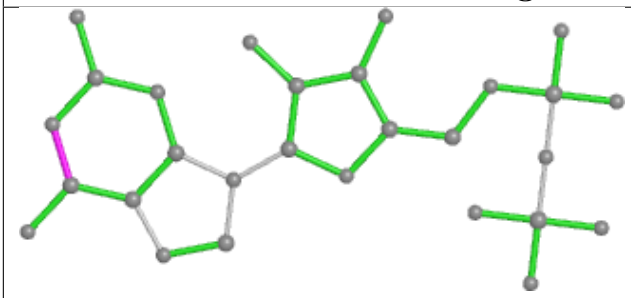


Rings

Ligand GDP 5a 501



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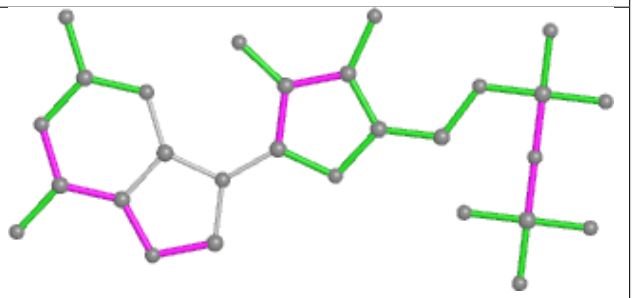

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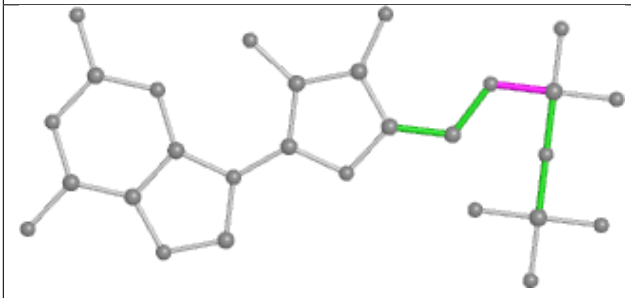

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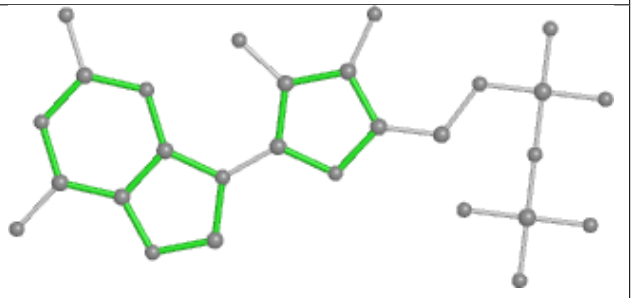
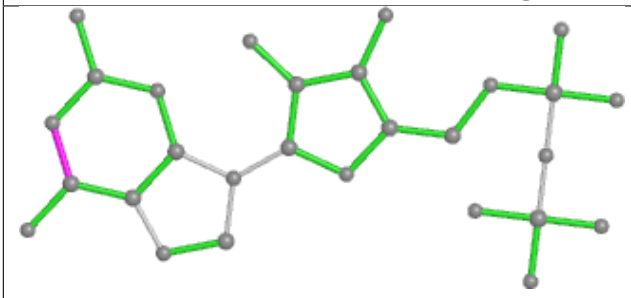
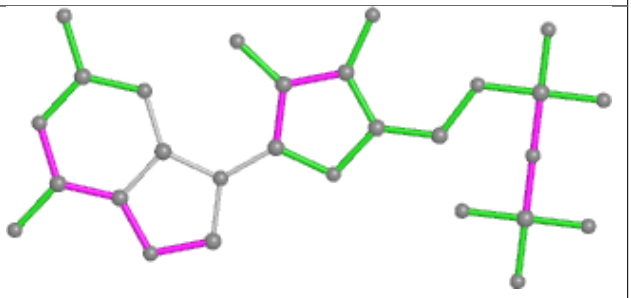
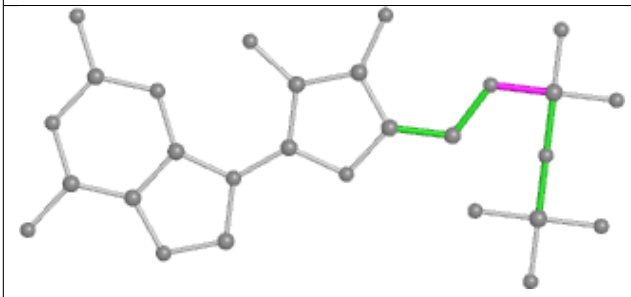
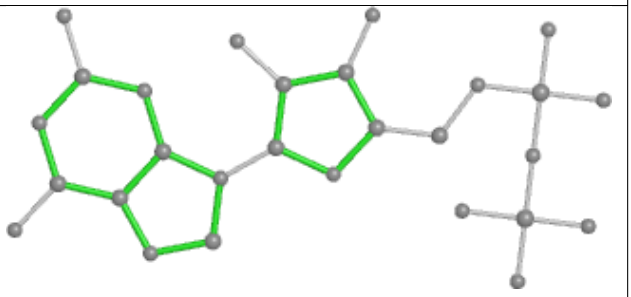
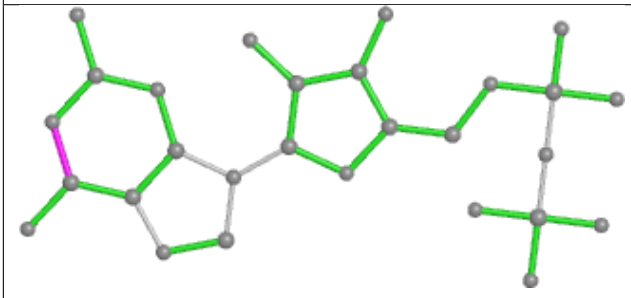
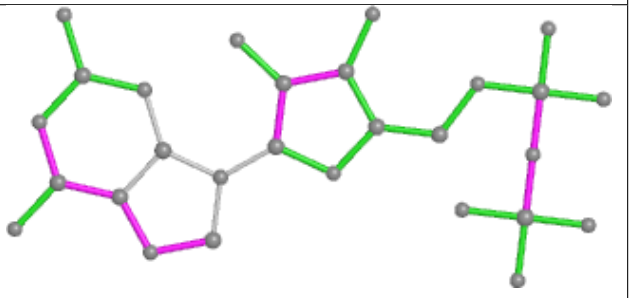
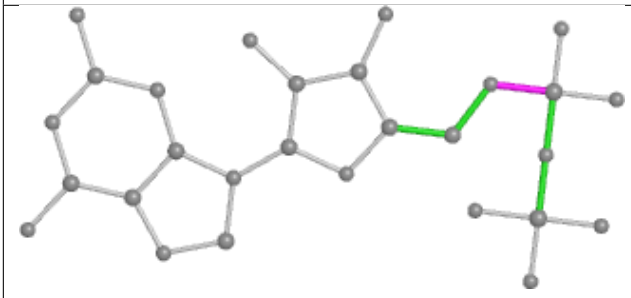
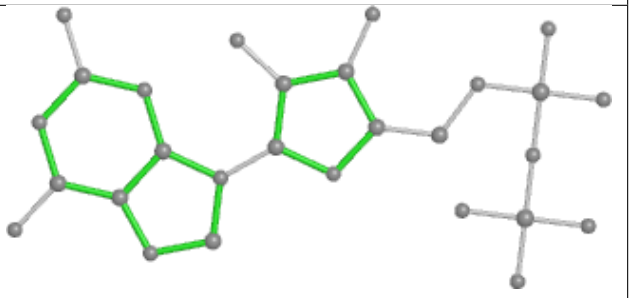
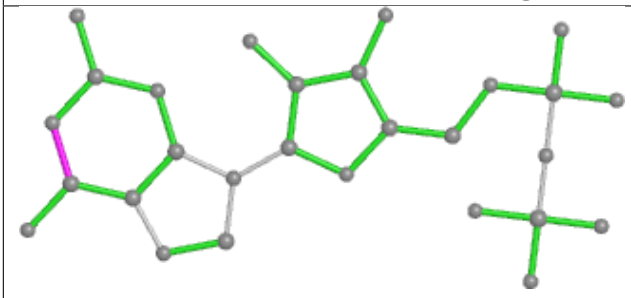


Rings

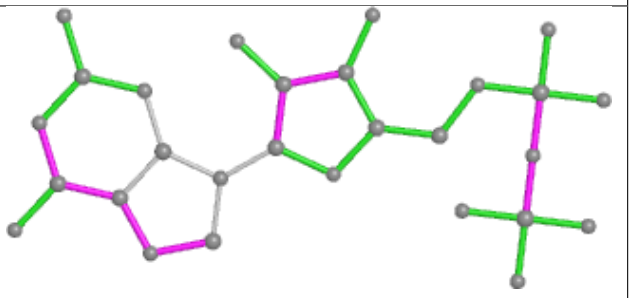
Ligand GDP 9c 501	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand GDP 7a 501	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand GDP 7e 501



Bond lengths



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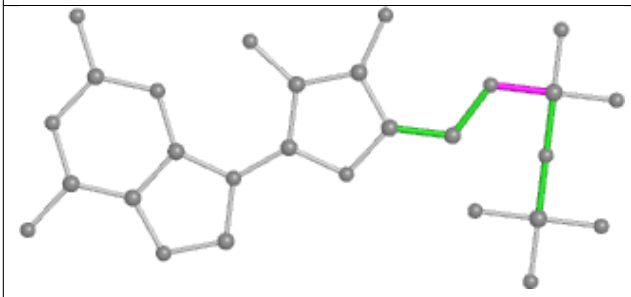

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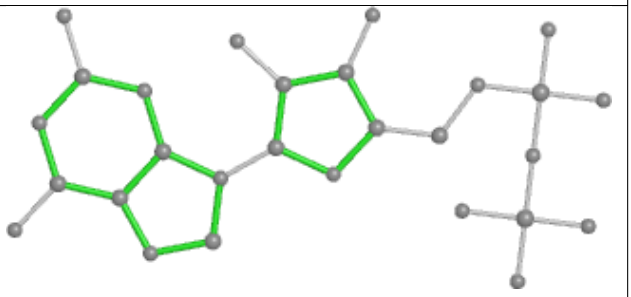
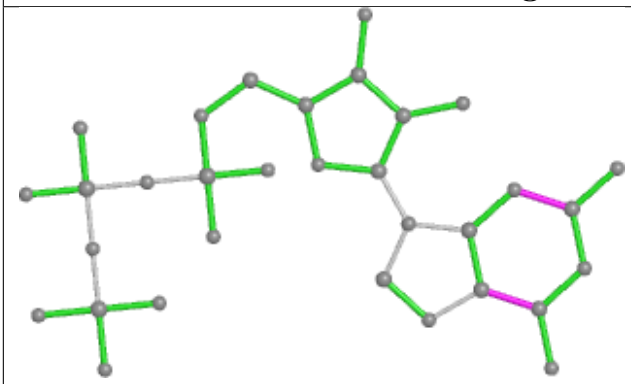


Rings

Ligand GTP 8f 501



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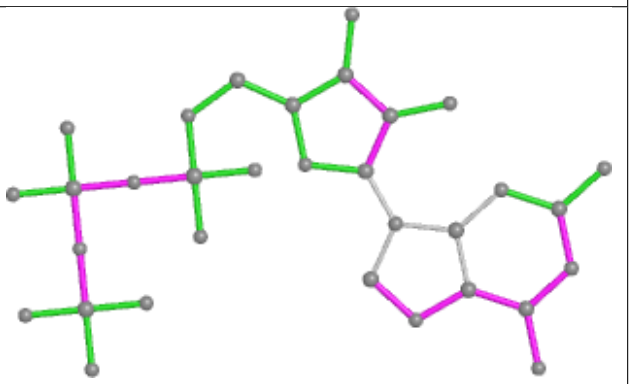

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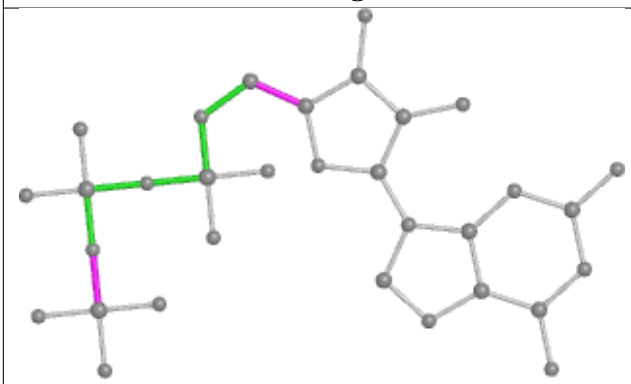

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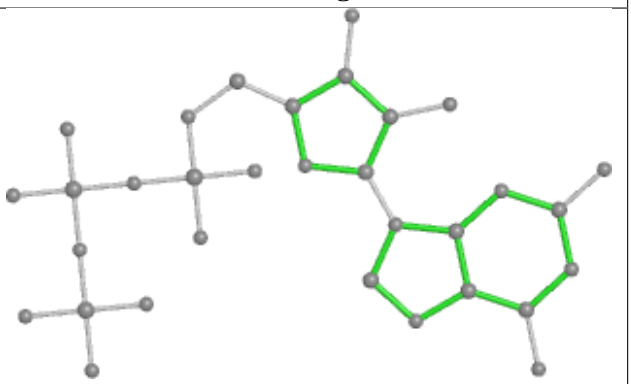
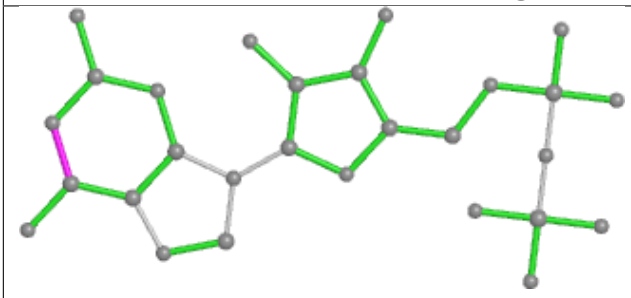


Rings

Ligand GDP Cg 501



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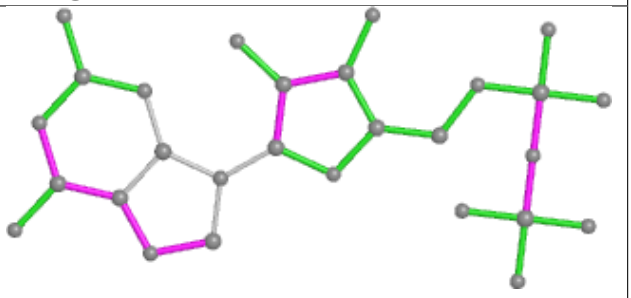

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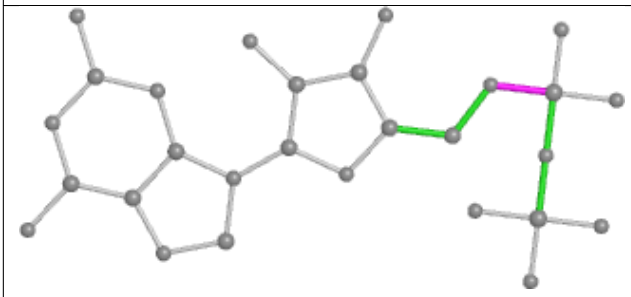

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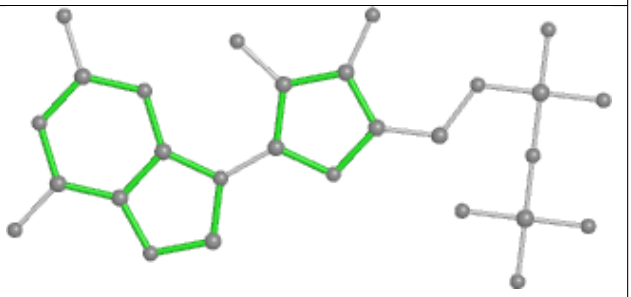
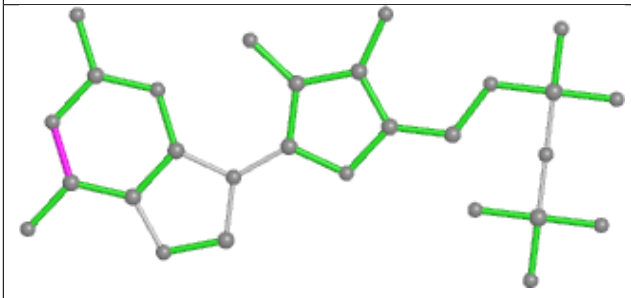


Rings

Ligand GDP 3c 501



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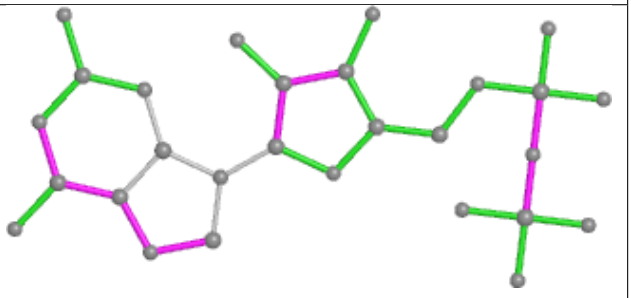

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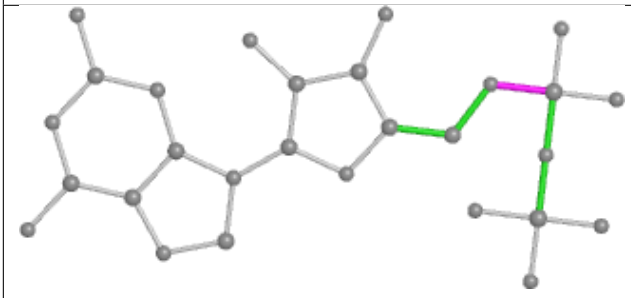

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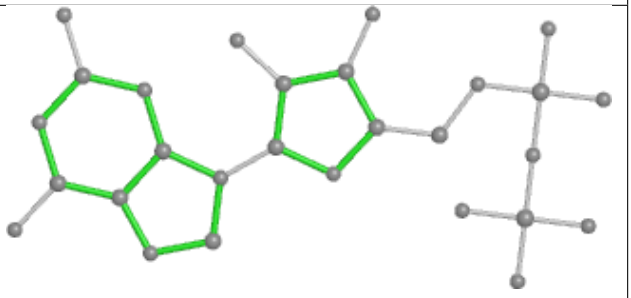
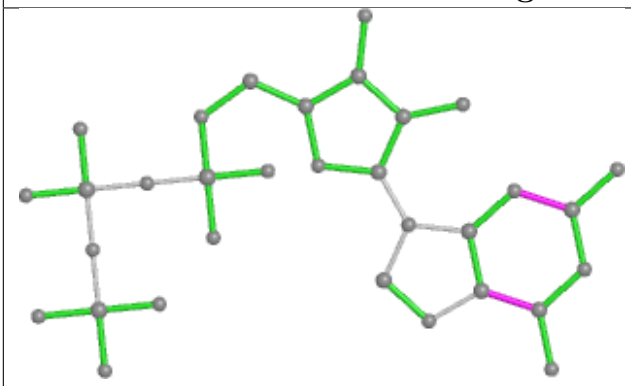


Rings

Ligand GTP 9d 501



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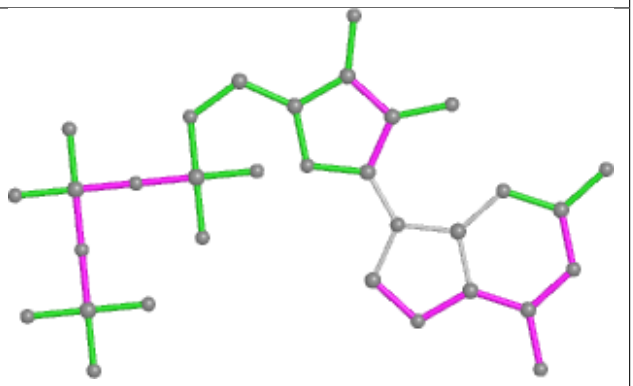
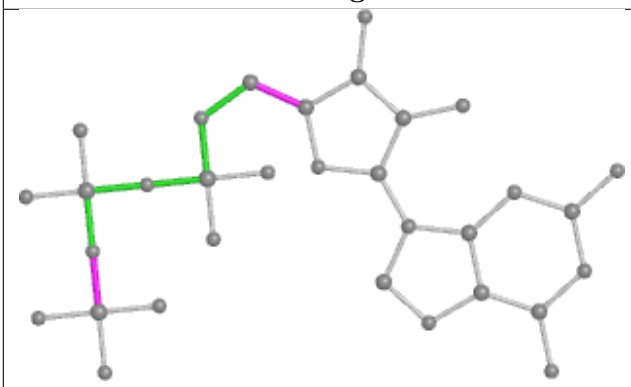


Bond angles



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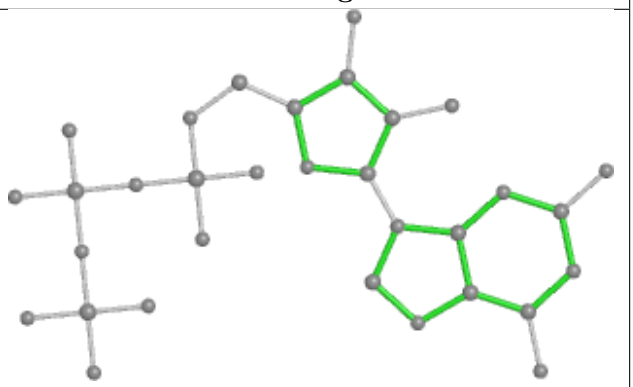
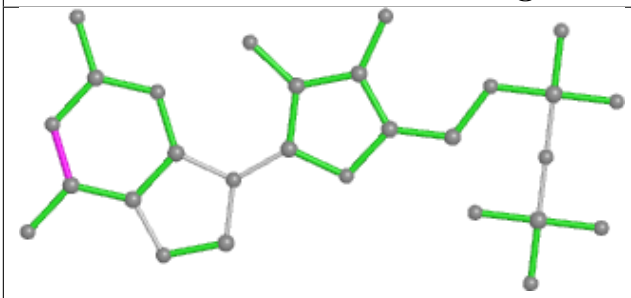


Rings

Ligand GDP 8a 501



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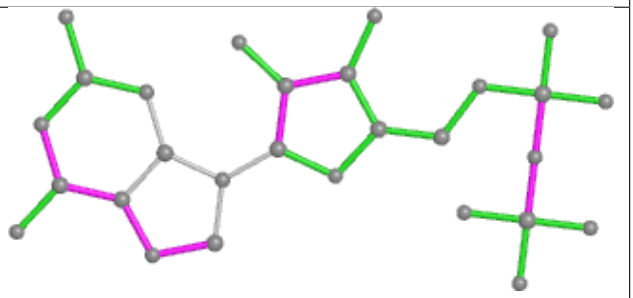

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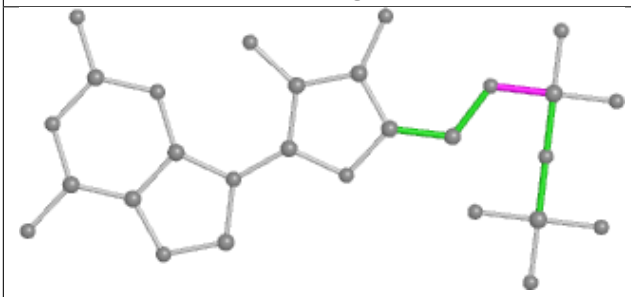

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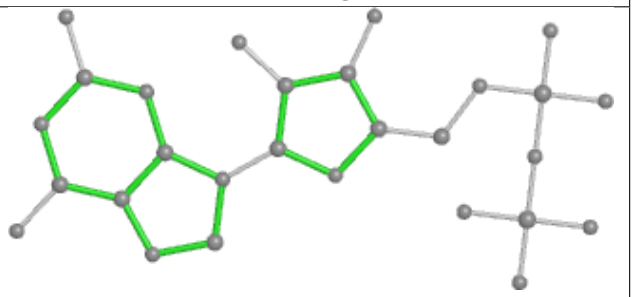
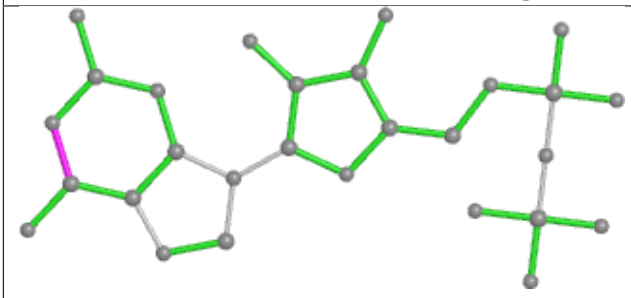
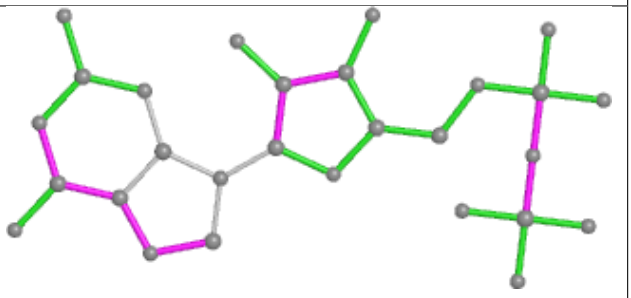
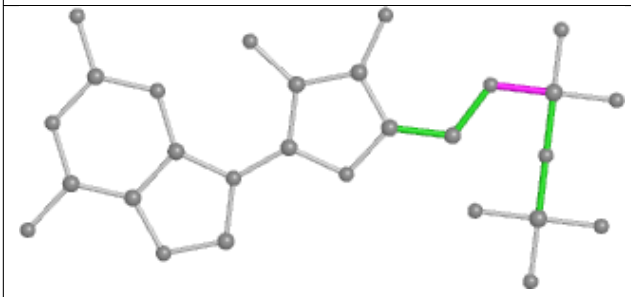
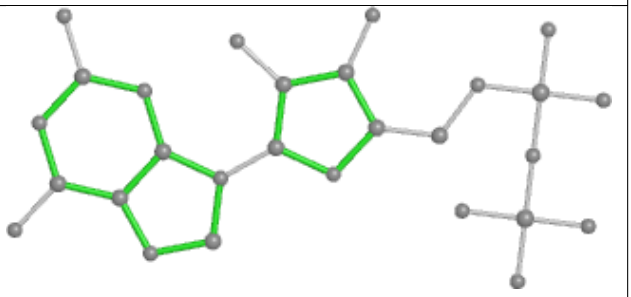
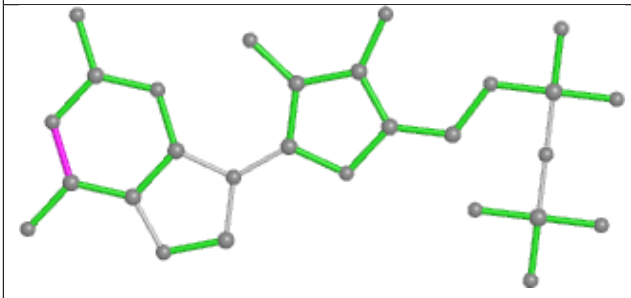
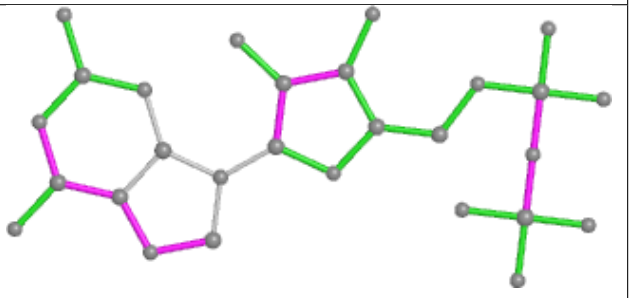
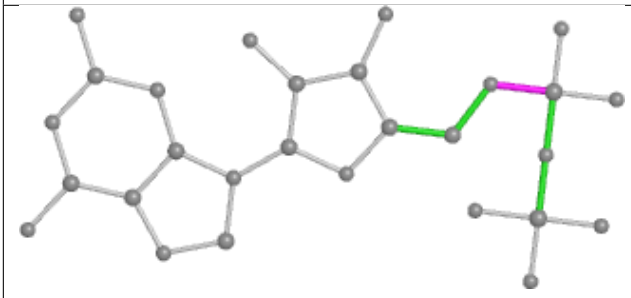
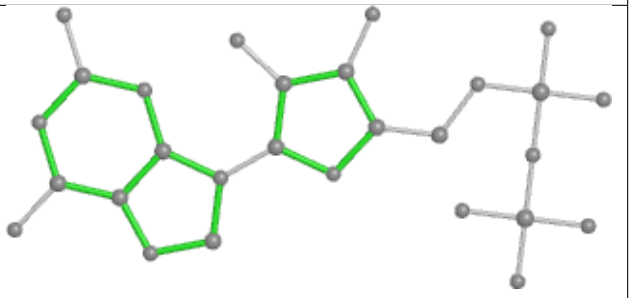
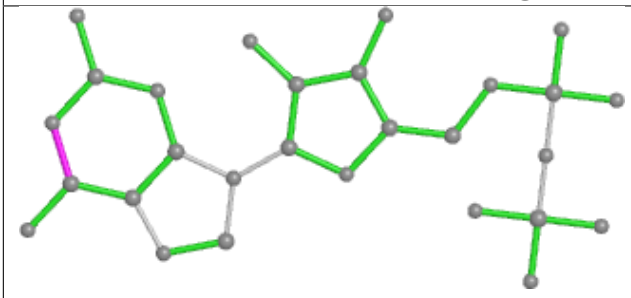


Rings

Ligand GDP 8c 501	
	
Bond lengths	Bond angles
	
Torsions	Rings

Ligand GDP Bc 501	
	
Bond lengths	Bond angles
	
Torsions	Rings

Ligand GDP 8g 501



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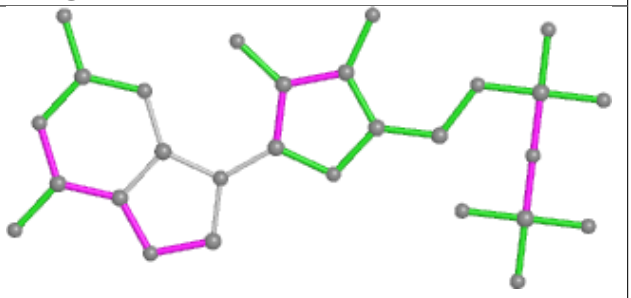
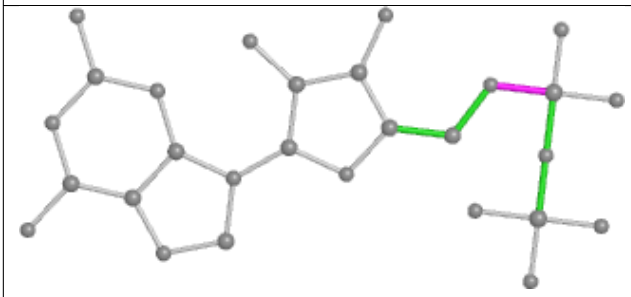
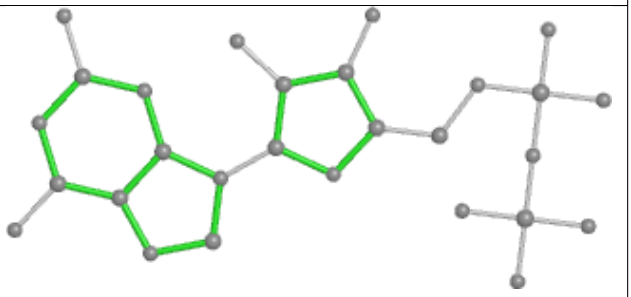


Bond angles

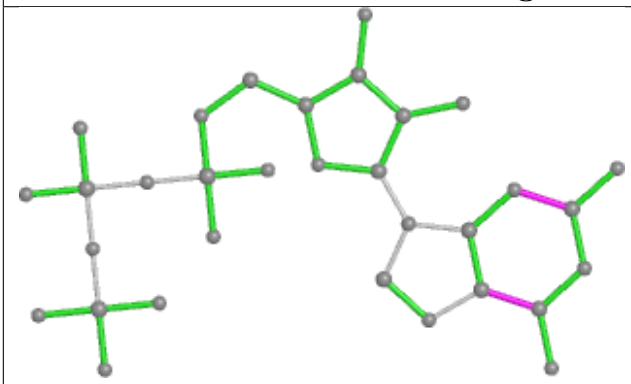


Torsions



Rings

Ligand GTP Cf 501



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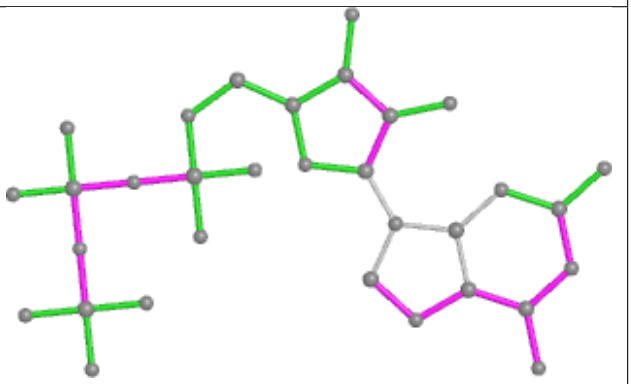
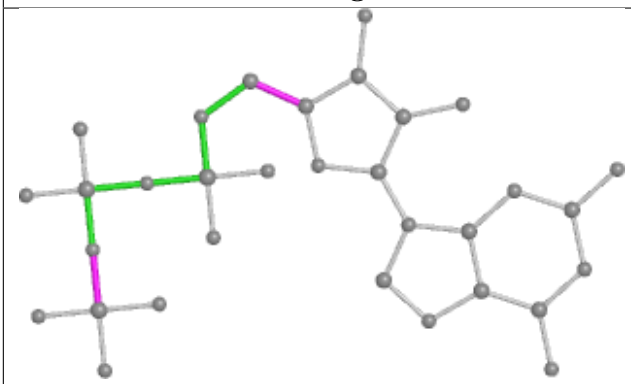


Bond angles



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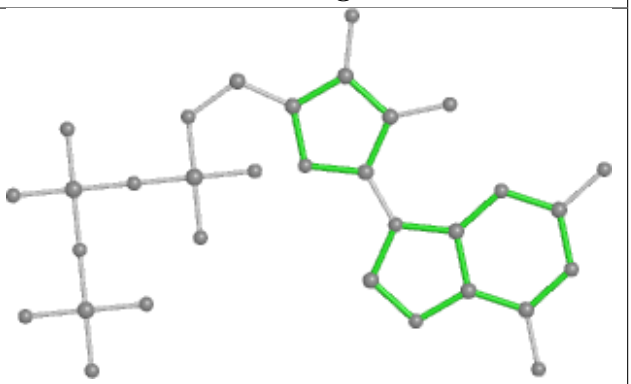
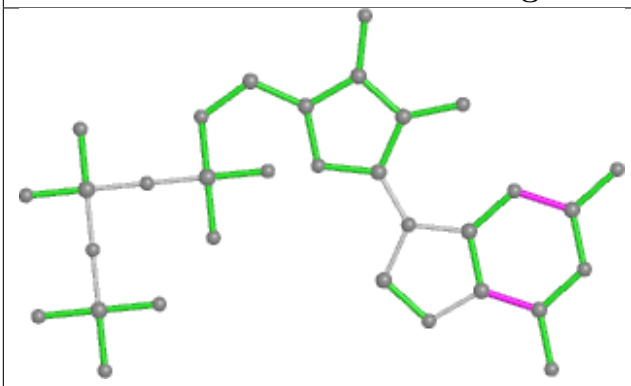


Rings

Ligand GTP 4f 501



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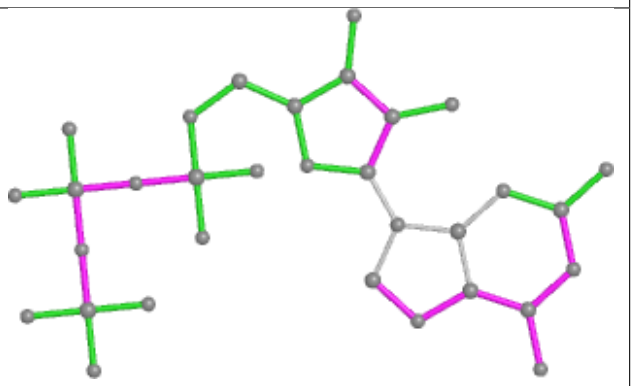

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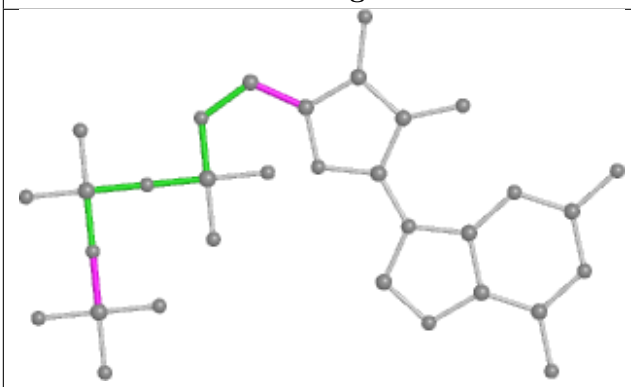
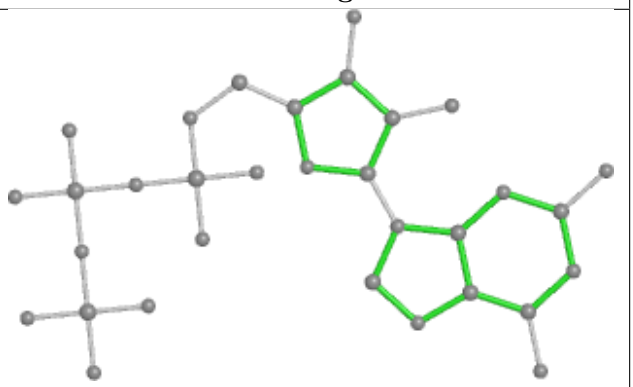
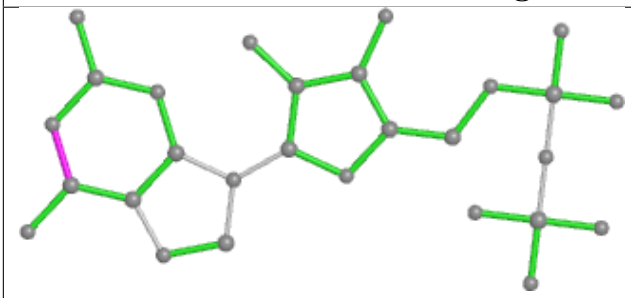


Torsions



Rings

Ligand GDP Be 501



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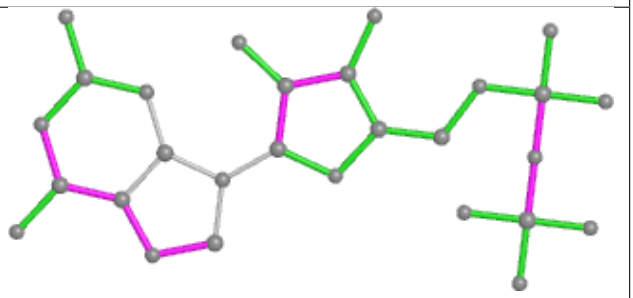

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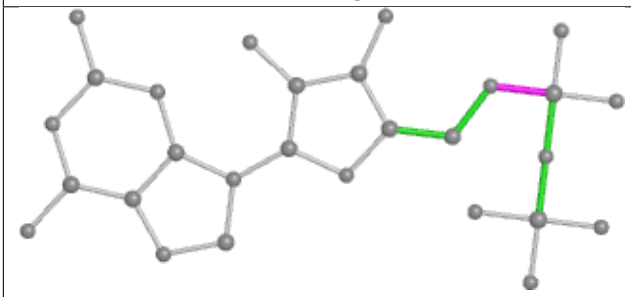

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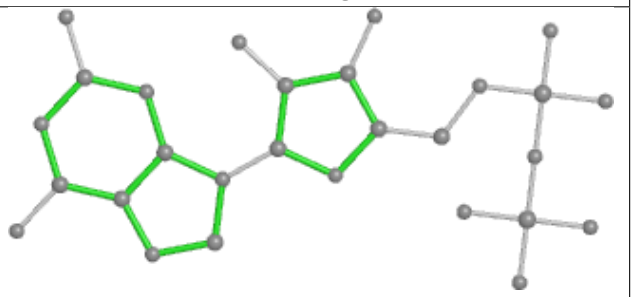
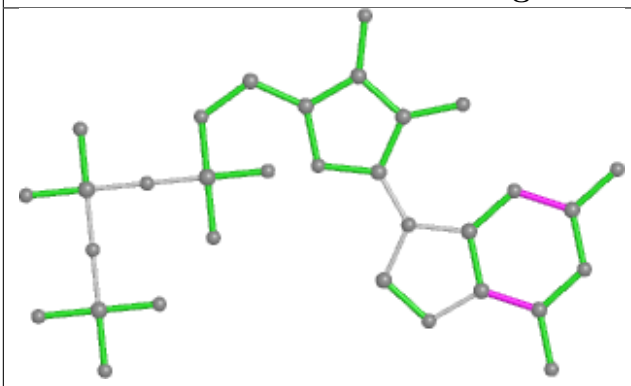


Rings

Ligand GTP Ch 501



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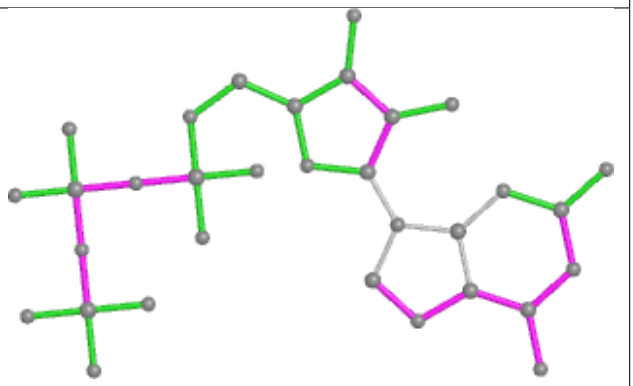

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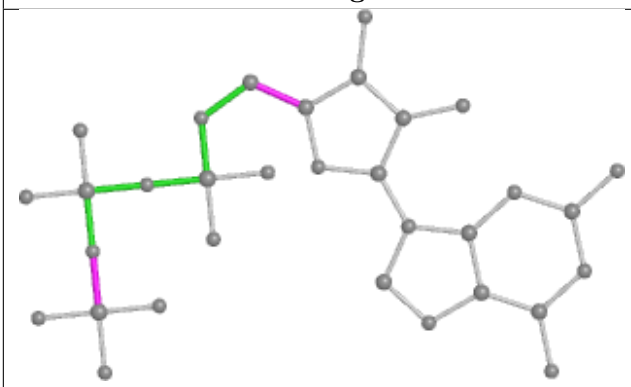

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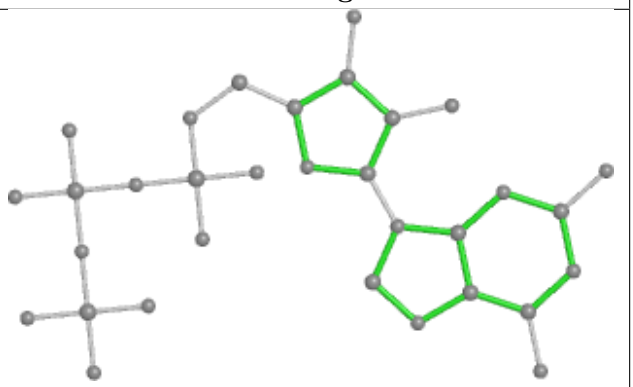
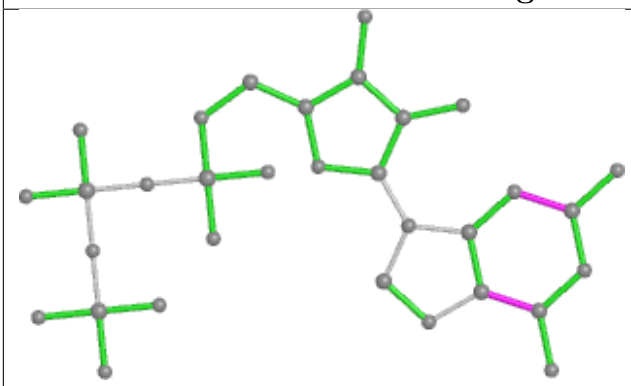


Rings

Ligand GTP 7b 501



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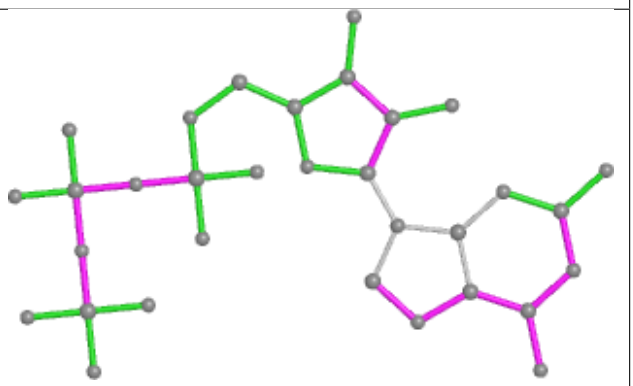

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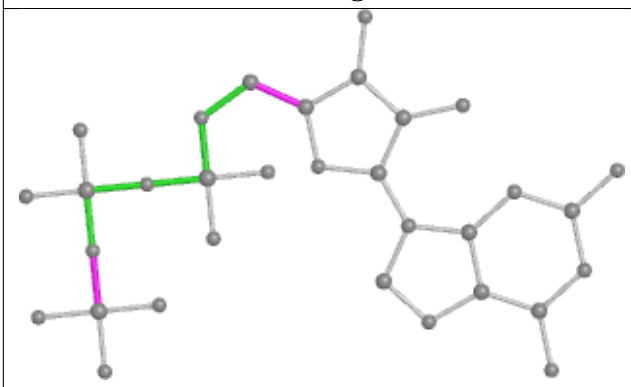

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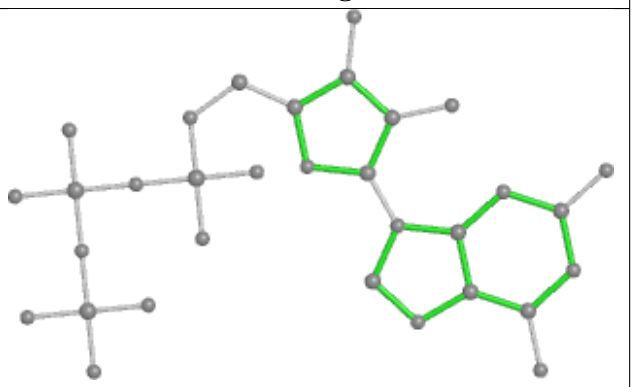
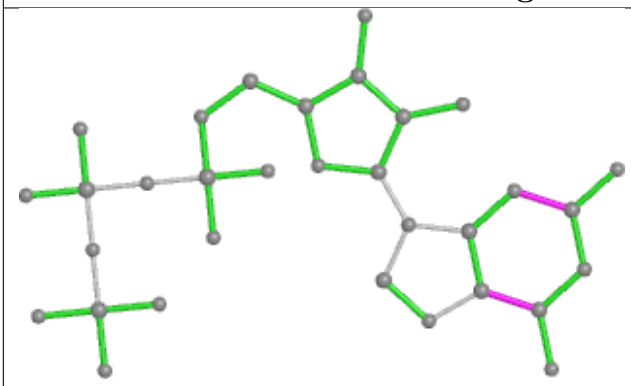


Rings

Ligand GTP 8h 501



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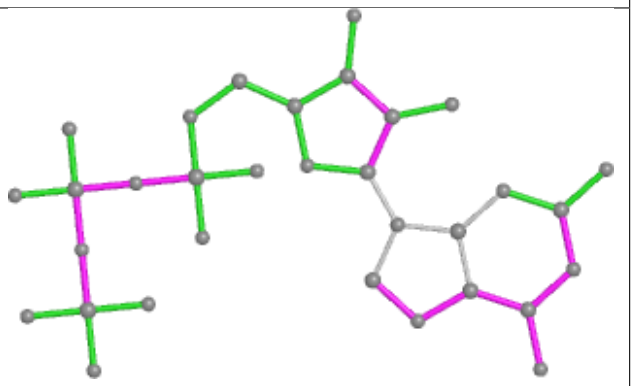

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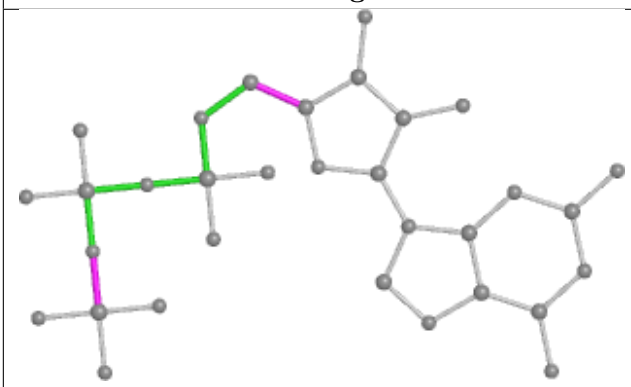

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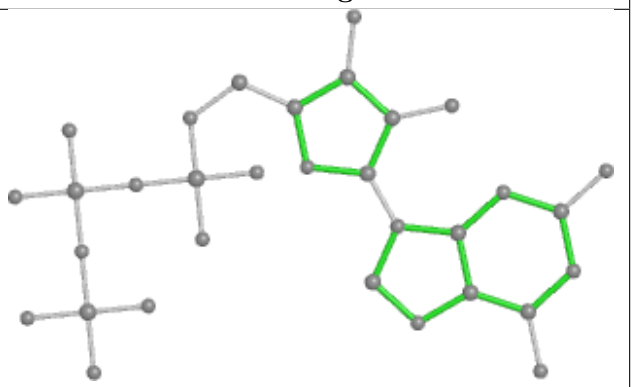
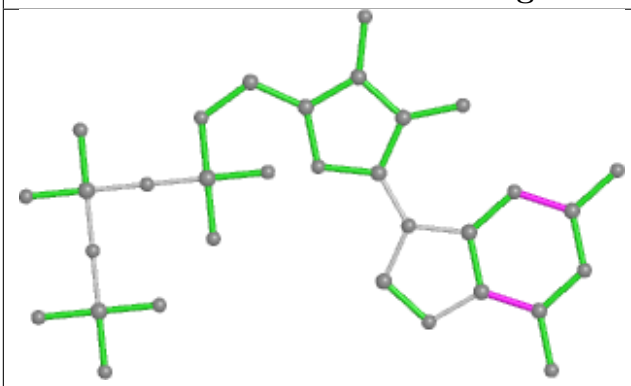


Rings

Ligand GTP 7h 501



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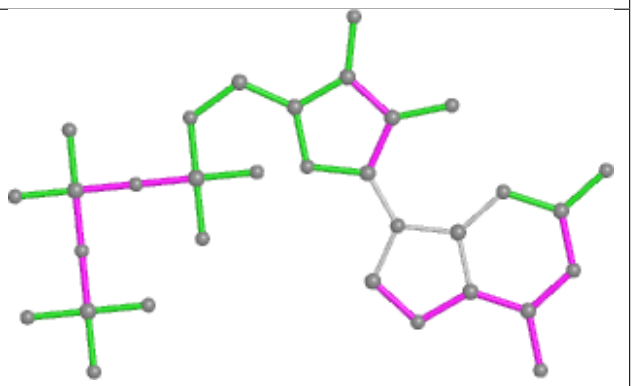

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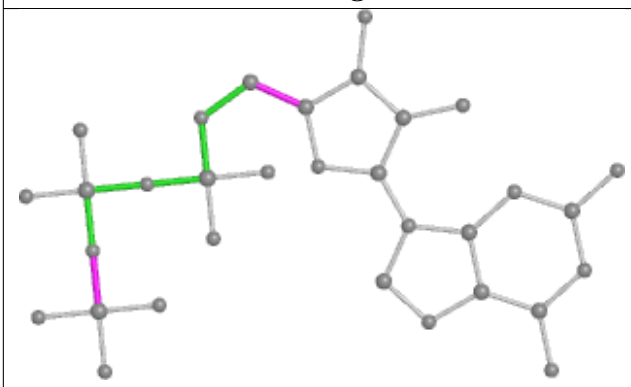

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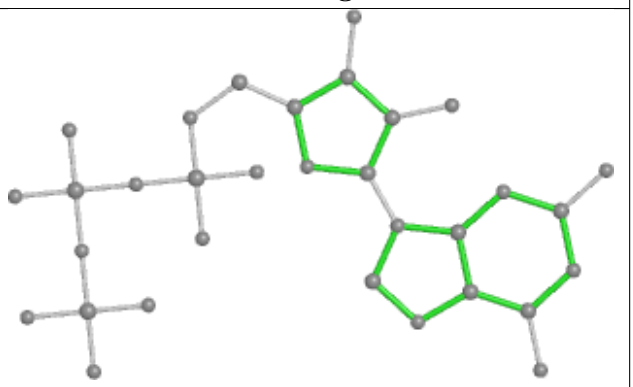
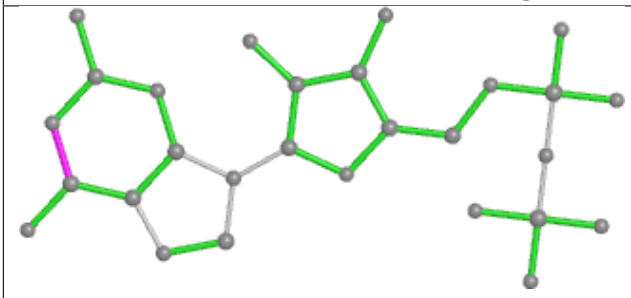


Rings

Ligand GDP 9e 501



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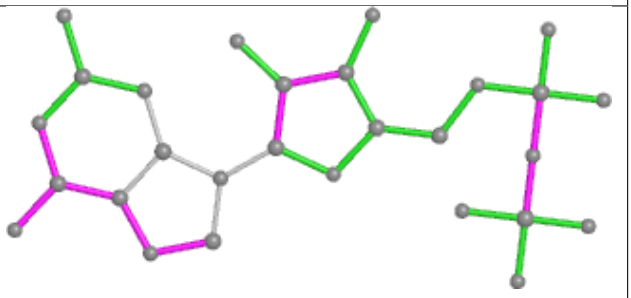

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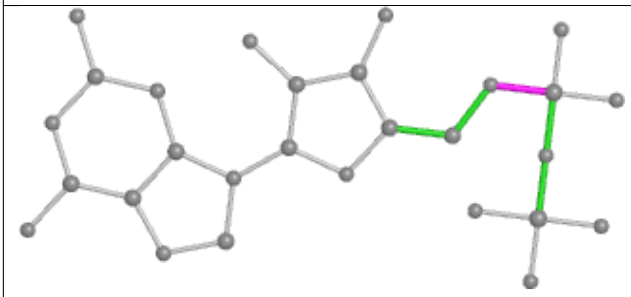

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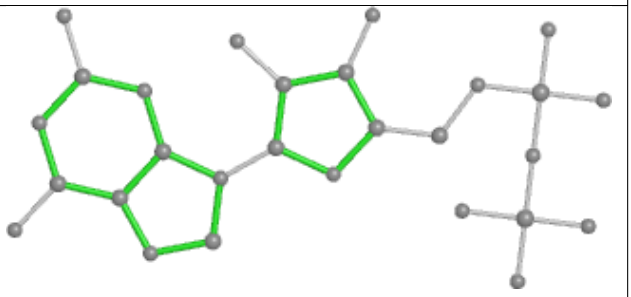

Rings

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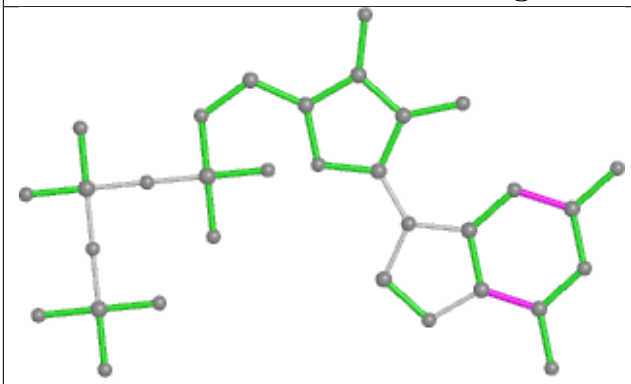

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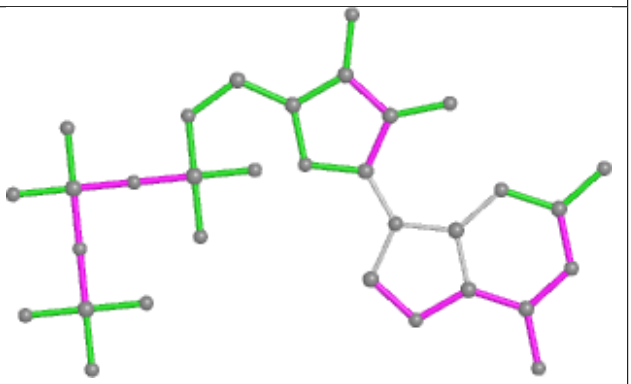

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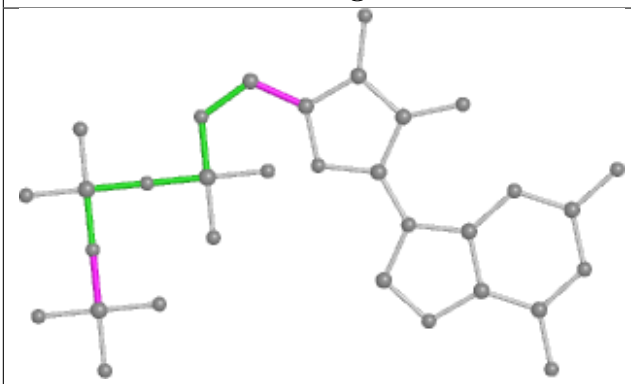

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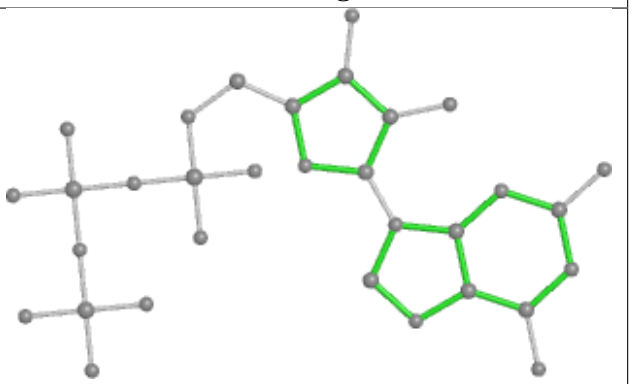

Rings

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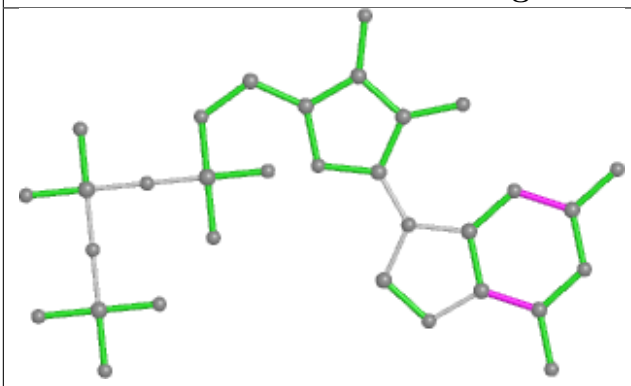

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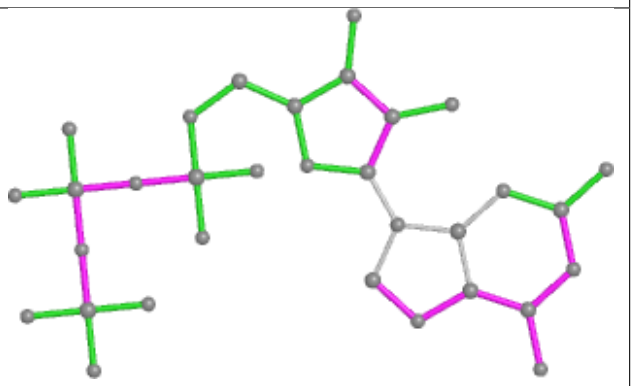

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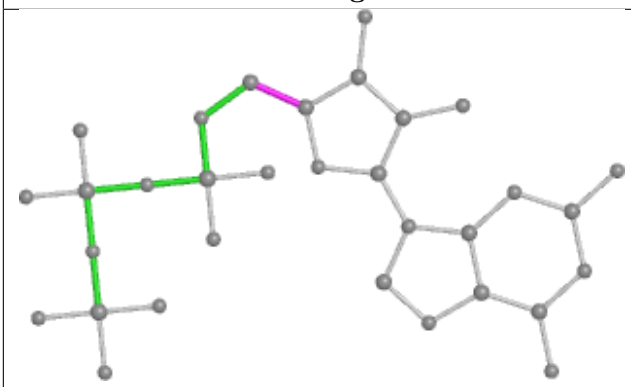

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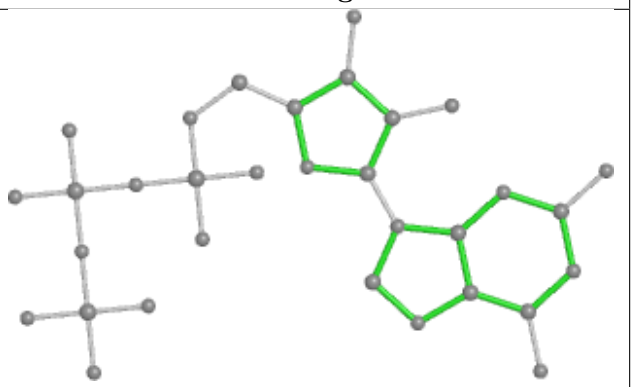

Rings

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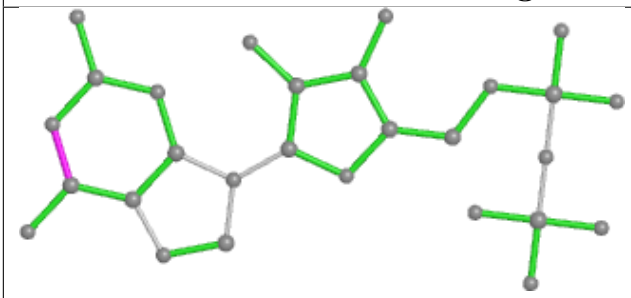

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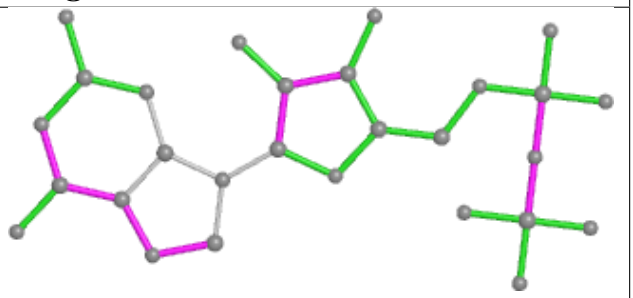

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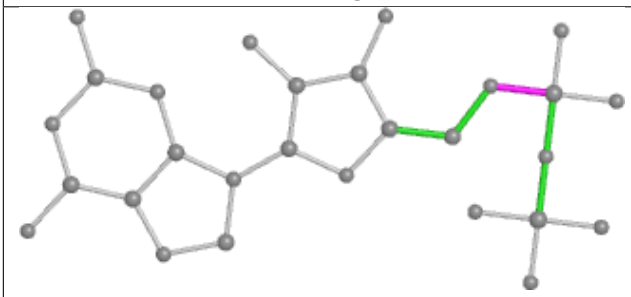

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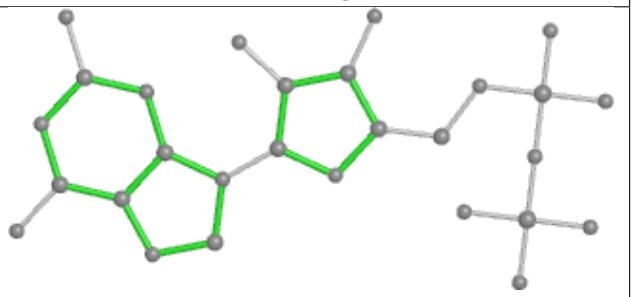

Rings

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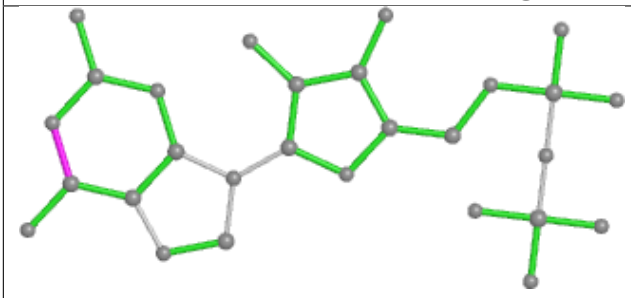

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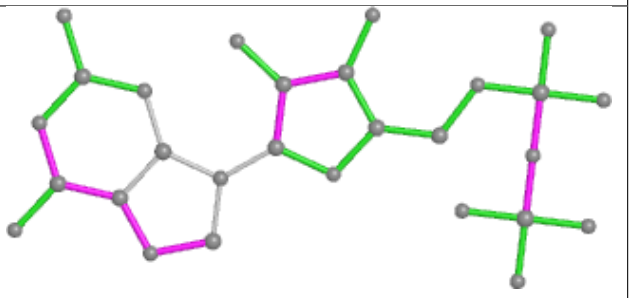

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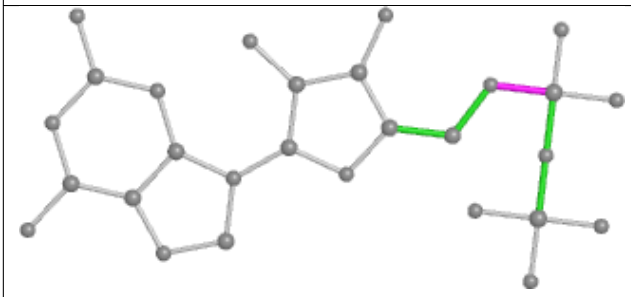

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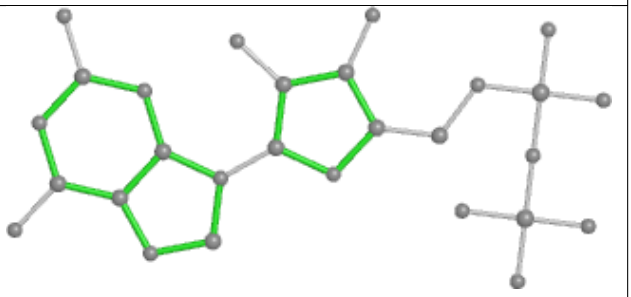

Rings

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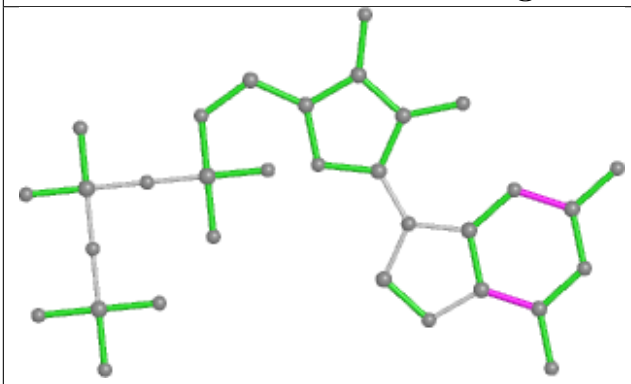

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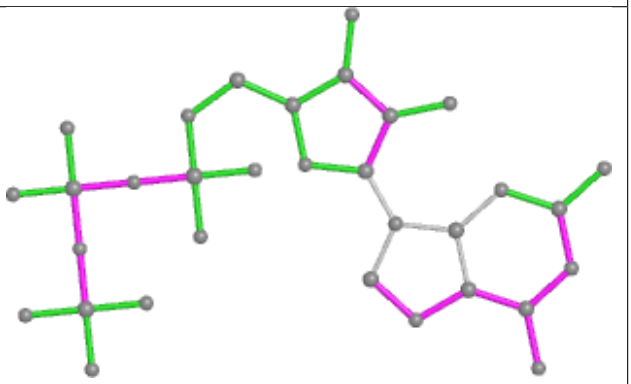

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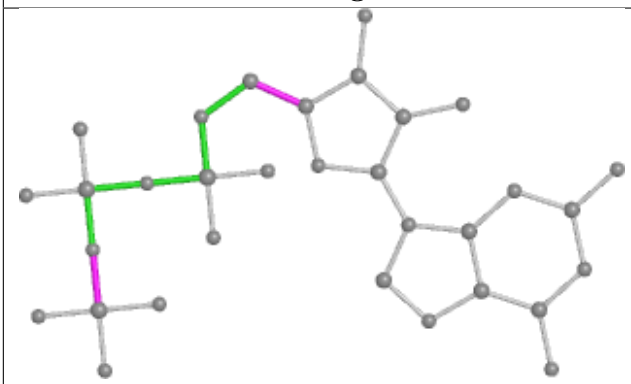

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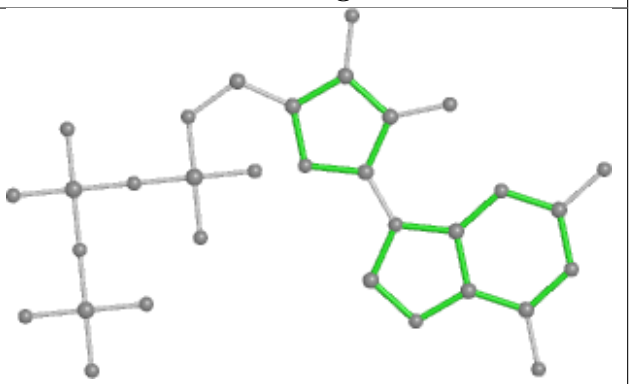
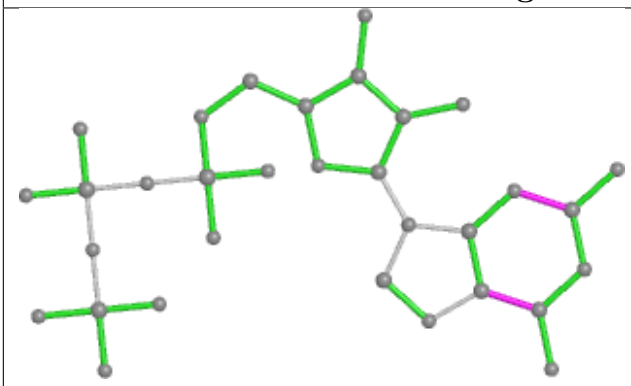


Rings

Ligand GTP 6h 501



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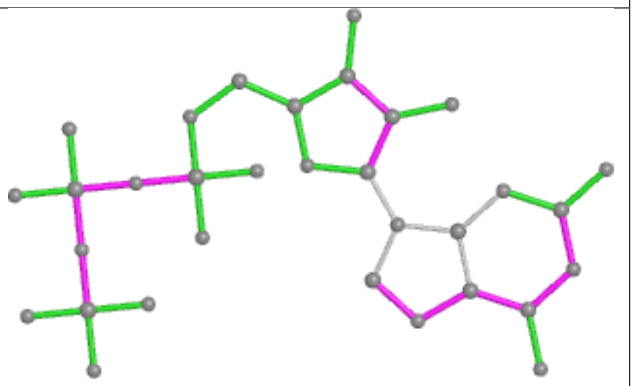

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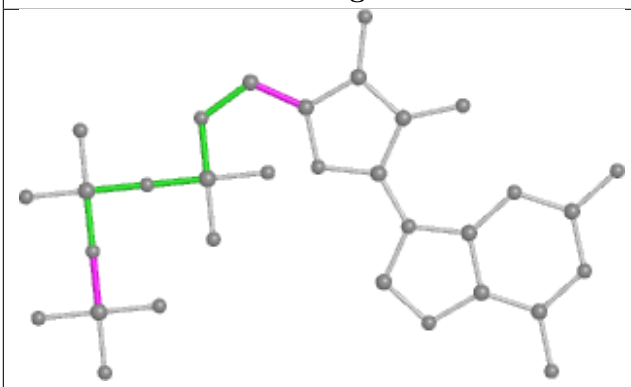

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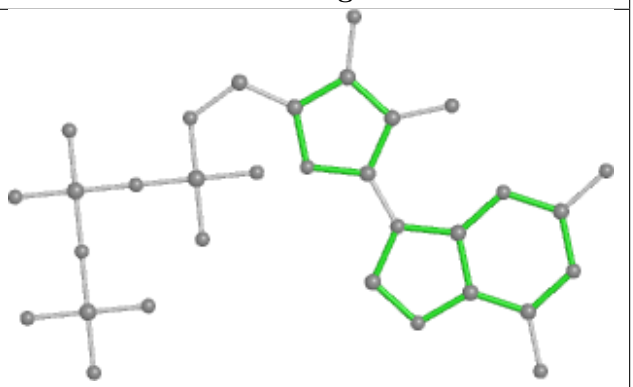
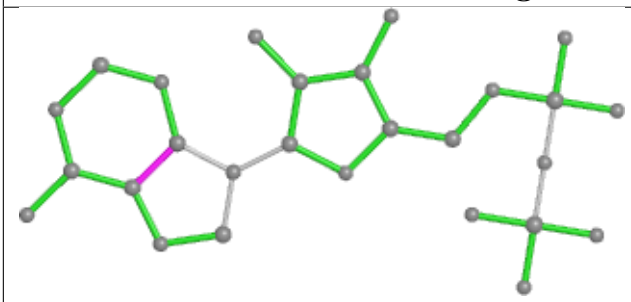


Rings

Ligand ADP 0Z 801



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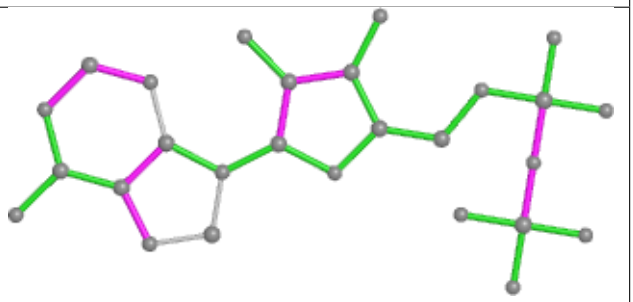
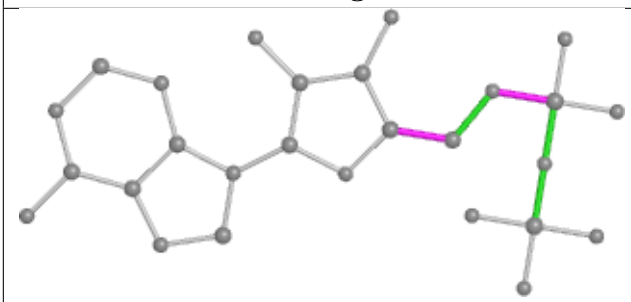


Bond angles



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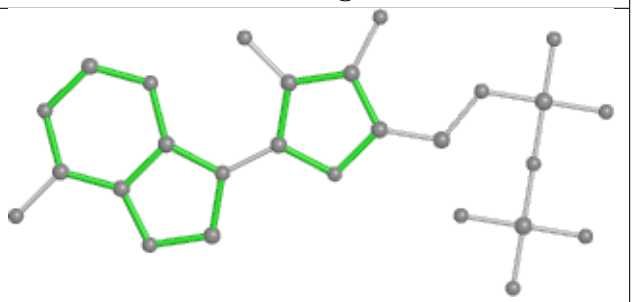
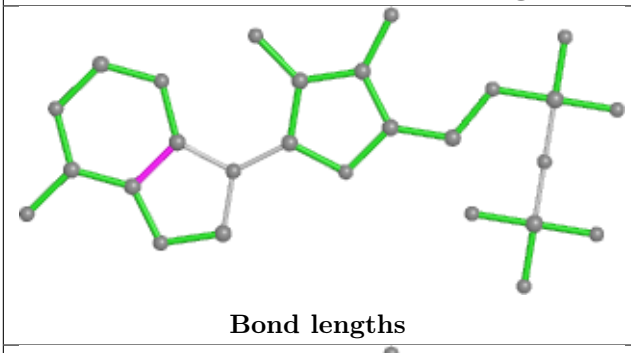


Rings

Ligand ADP 1A 801



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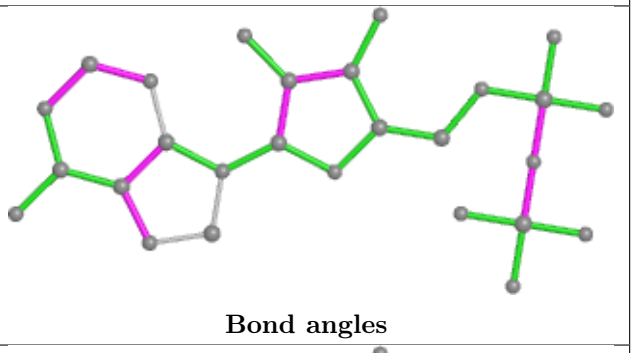
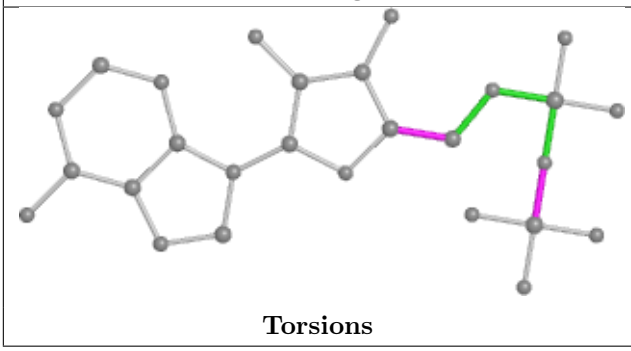


Bond angles



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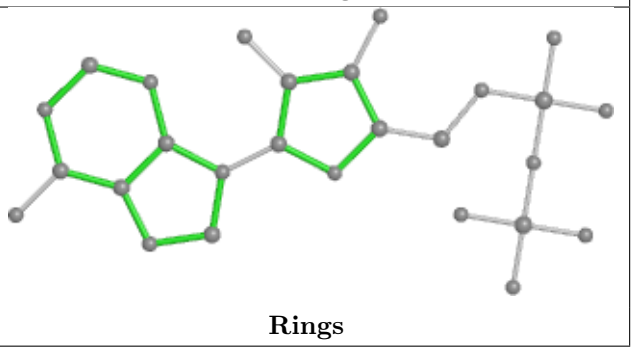
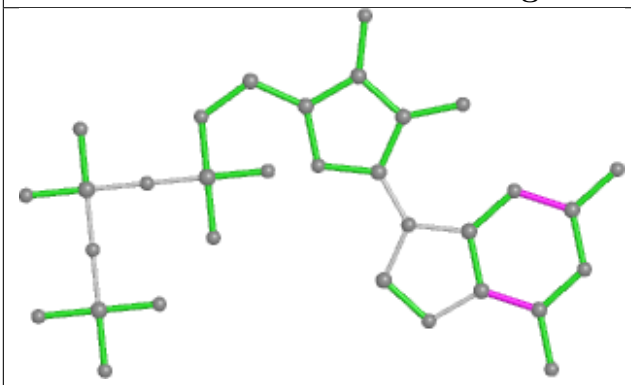


Rings

Ligand GTP 6f 501



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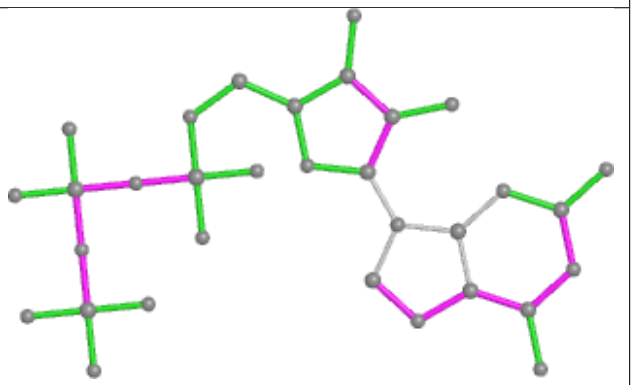

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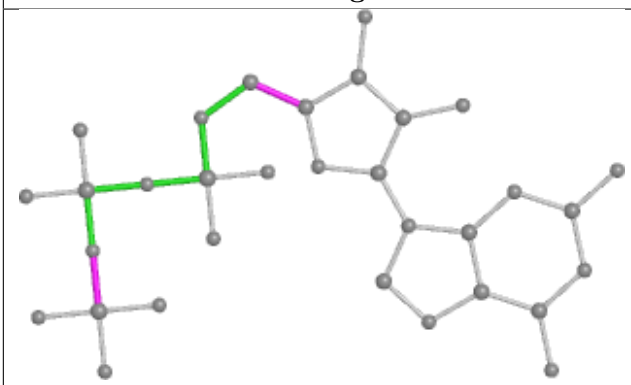
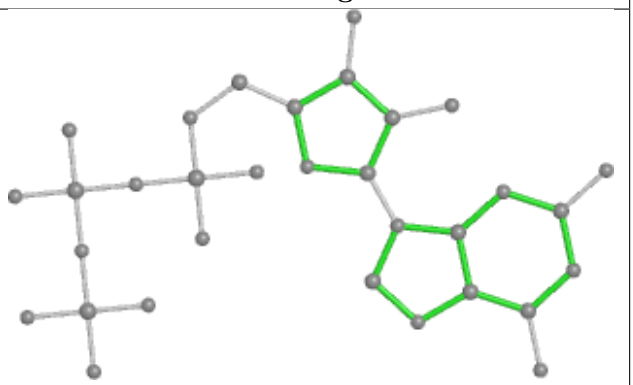
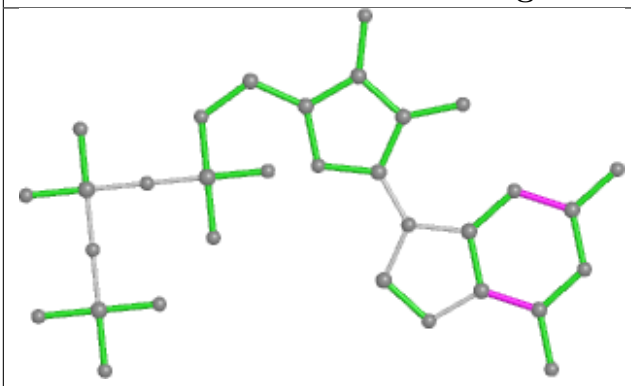


Torsions



Rings

Ligand GTP 2h 501



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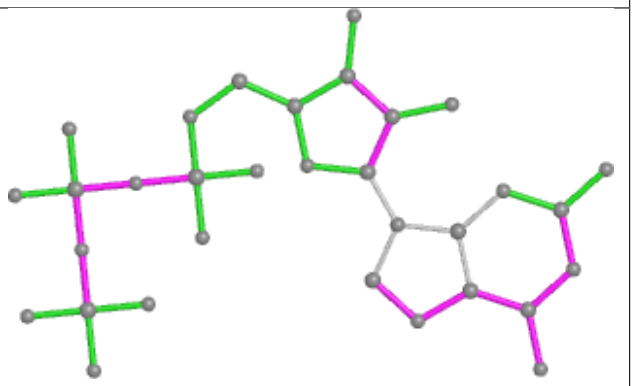

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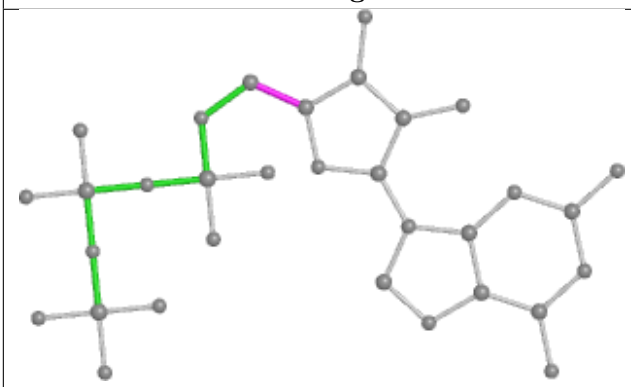

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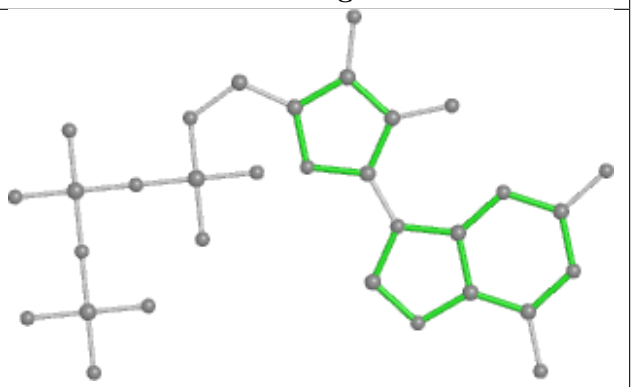
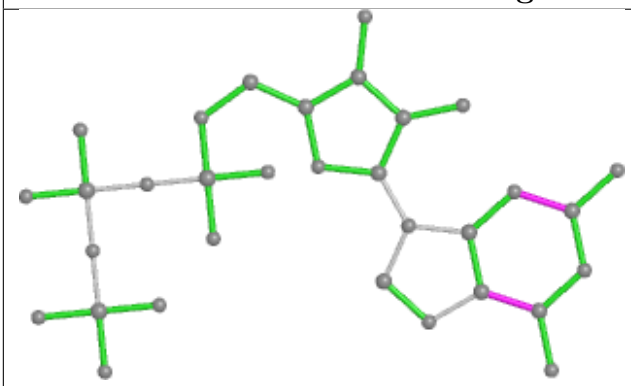


Rings

Ligand GTP Df 501



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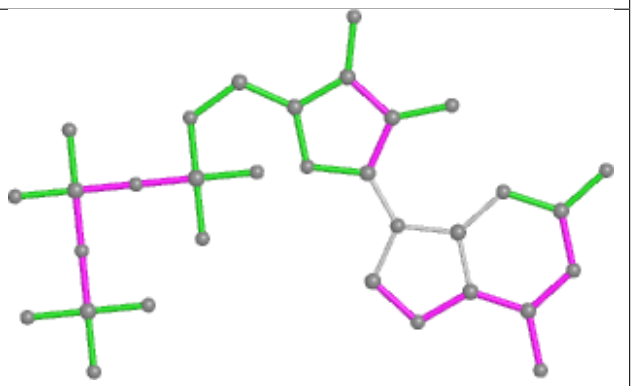

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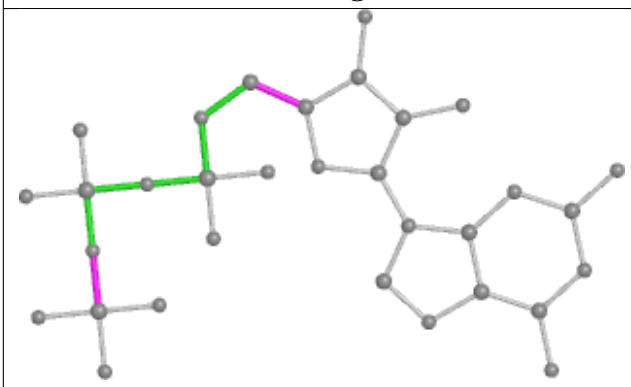

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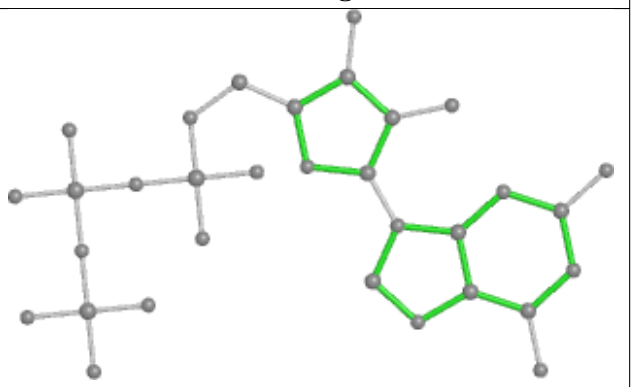
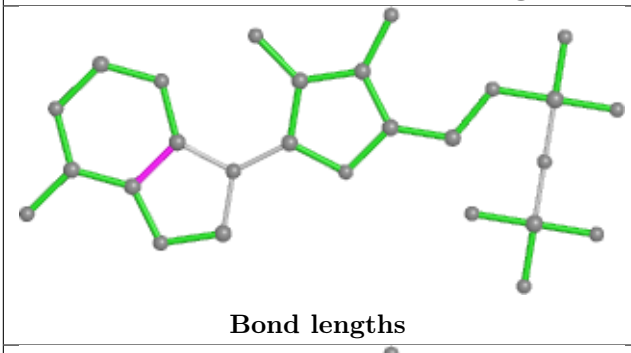


Rings

Ligand ADP 0Y 801



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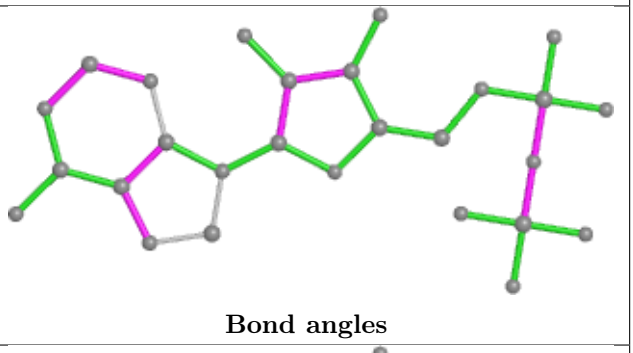

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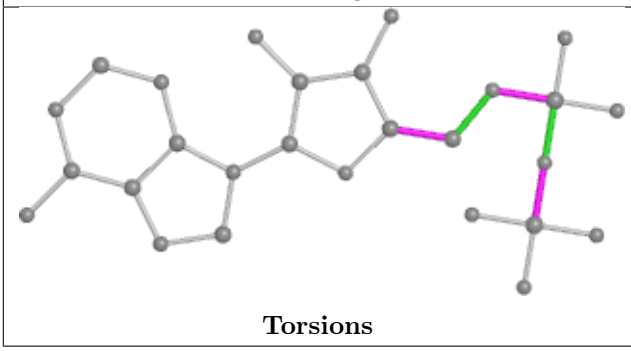

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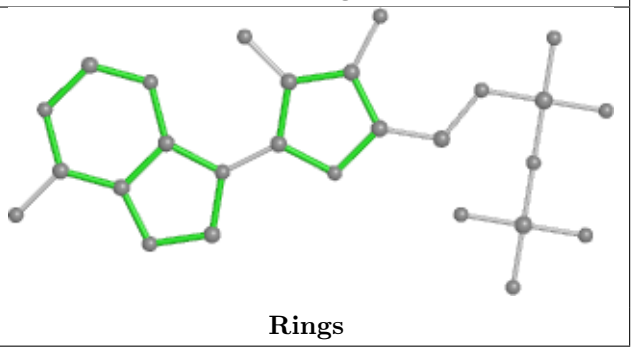
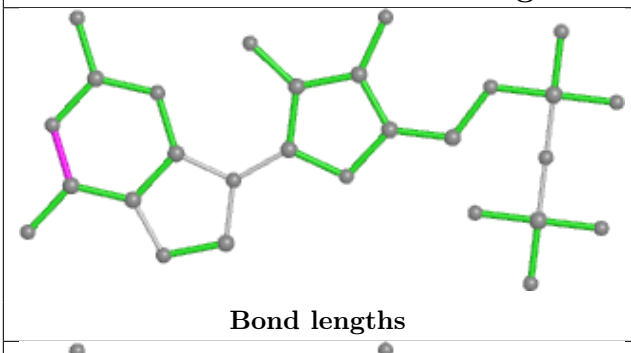


Rings

Ligand GDP 5g 501



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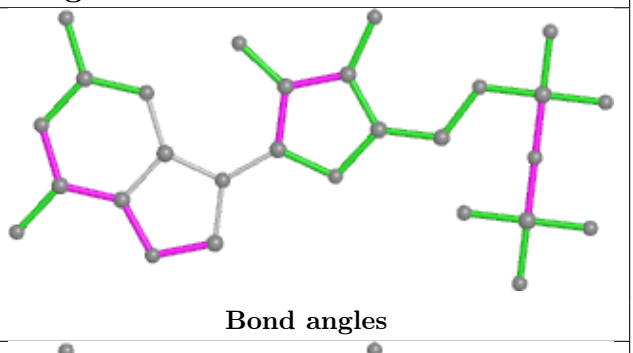

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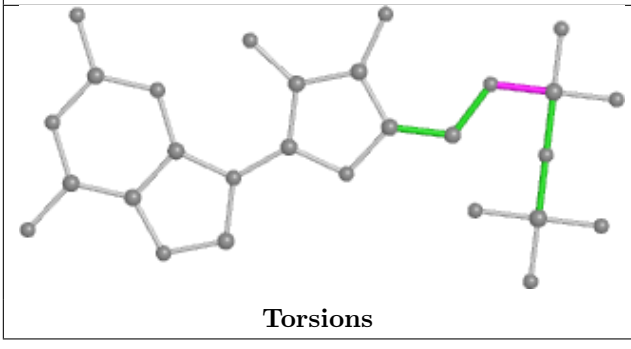

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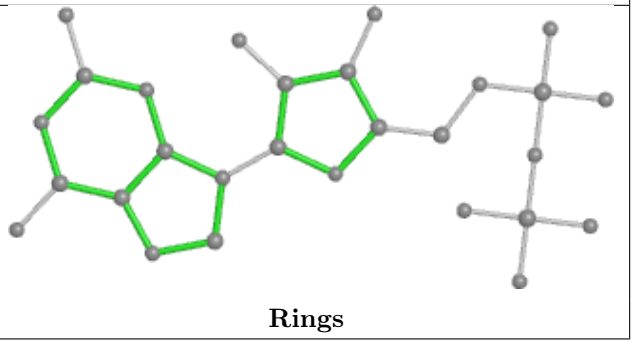

Rings

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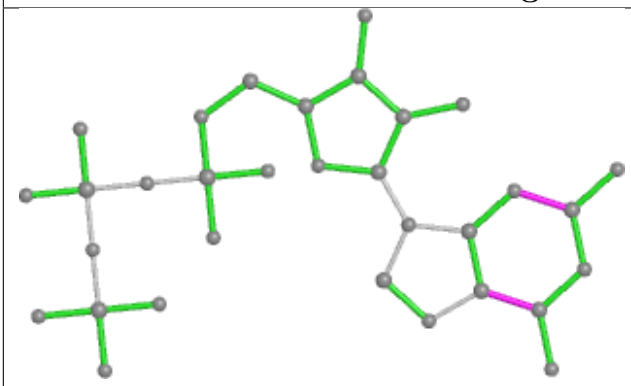

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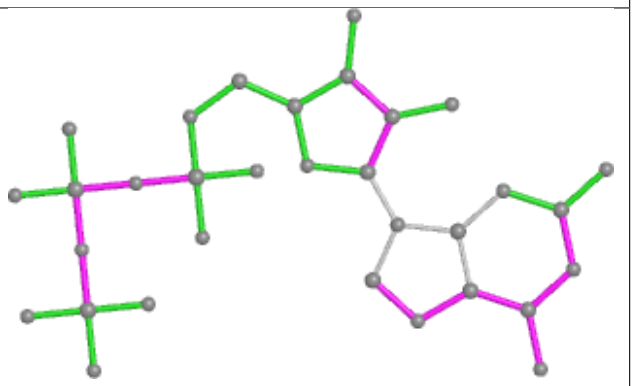

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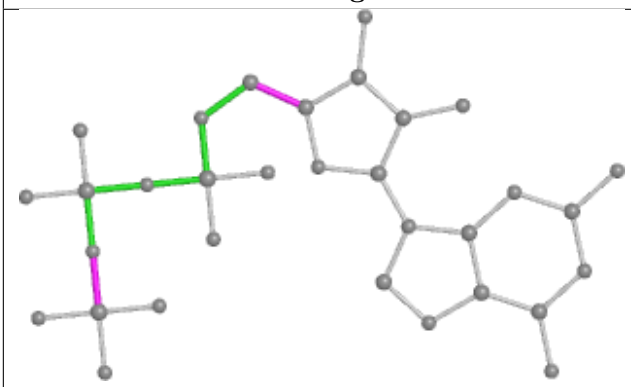

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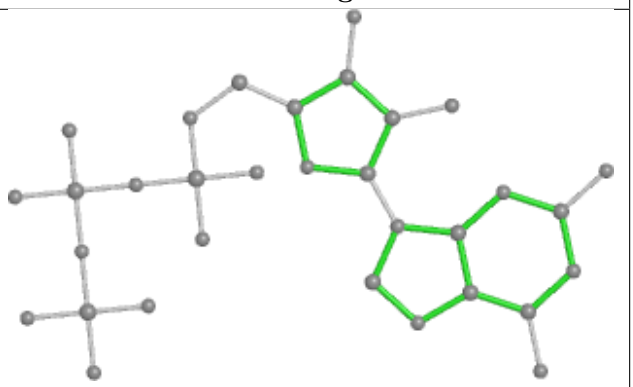

Rings

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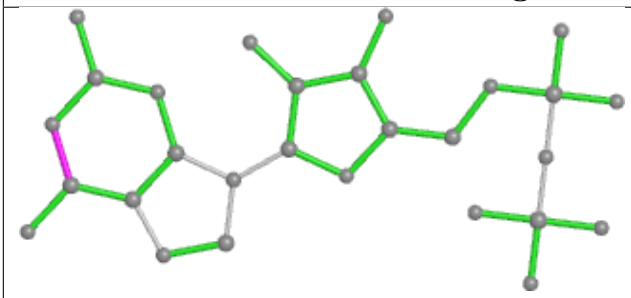

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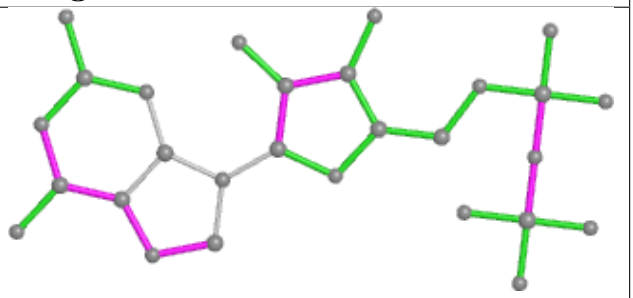

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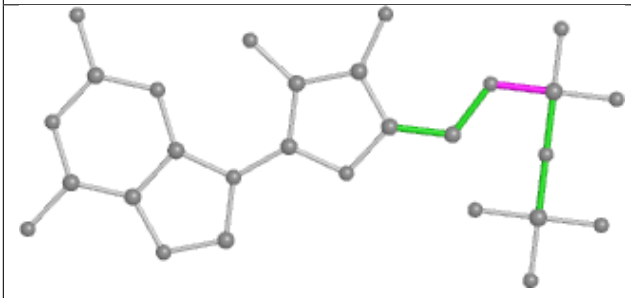

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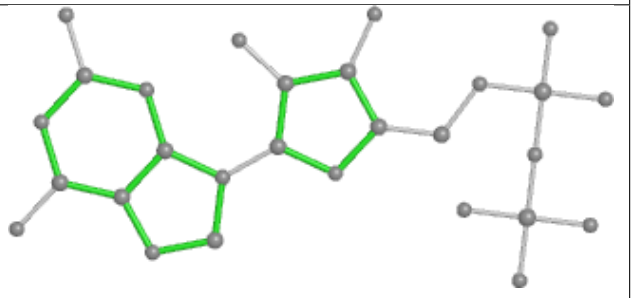

Rings

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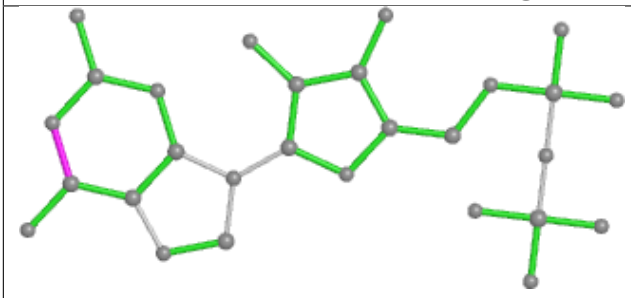

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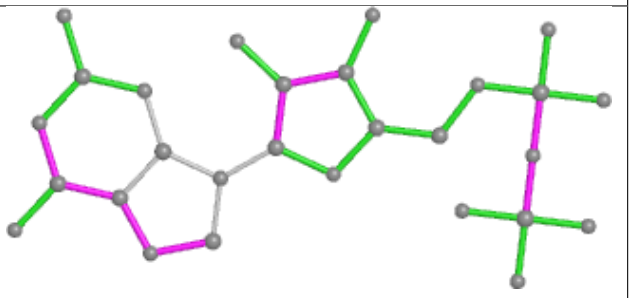

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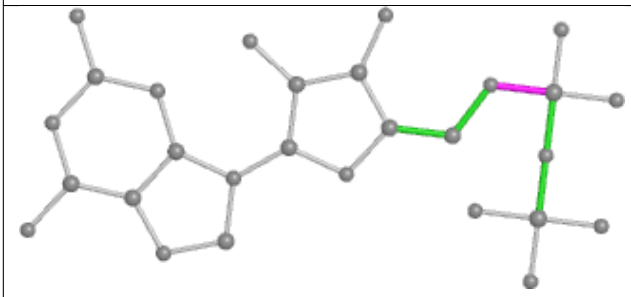

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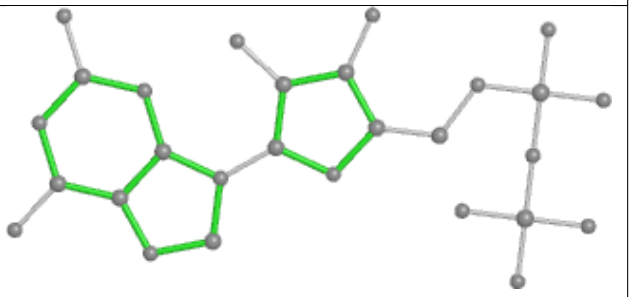

Rings

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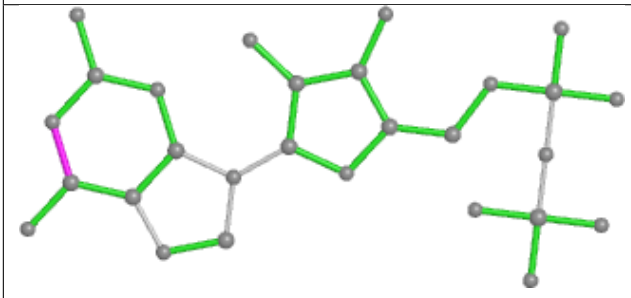

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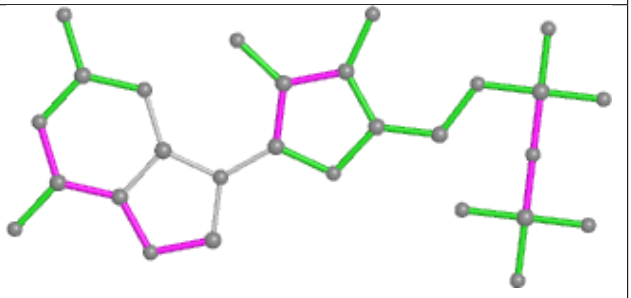

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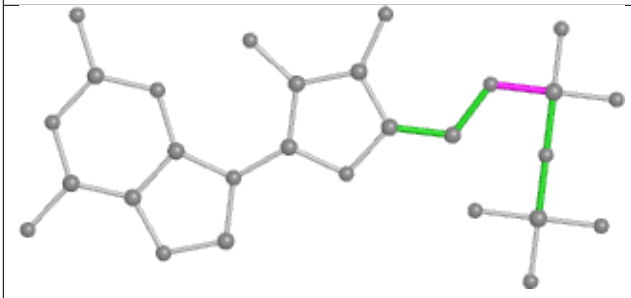

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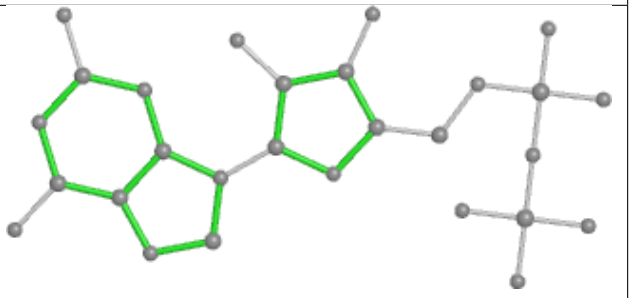
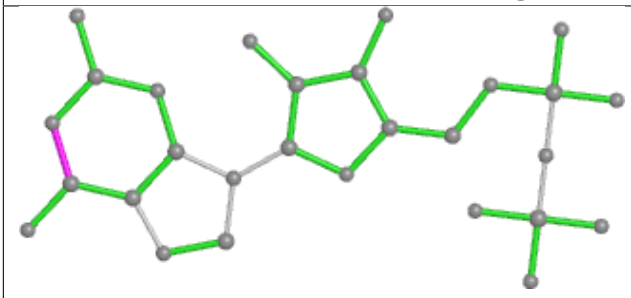
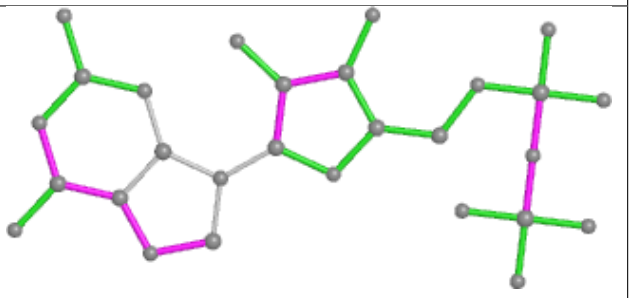
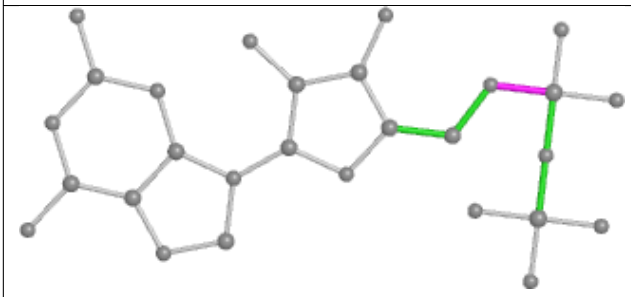
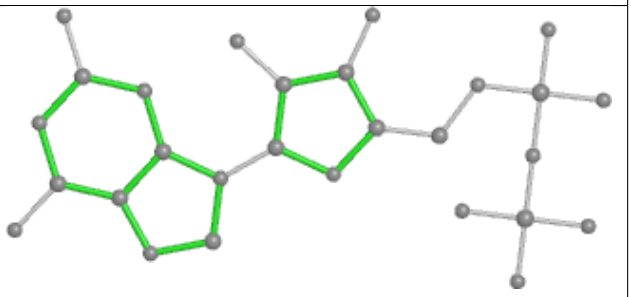
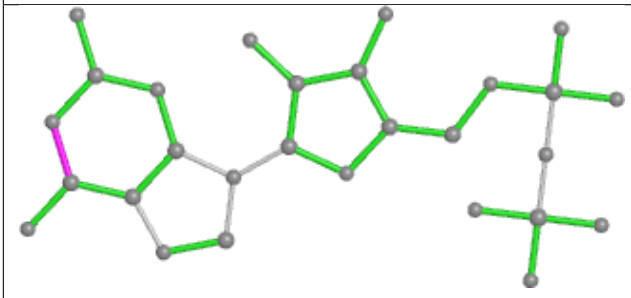
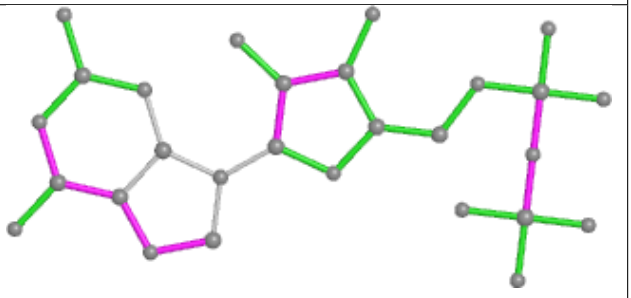
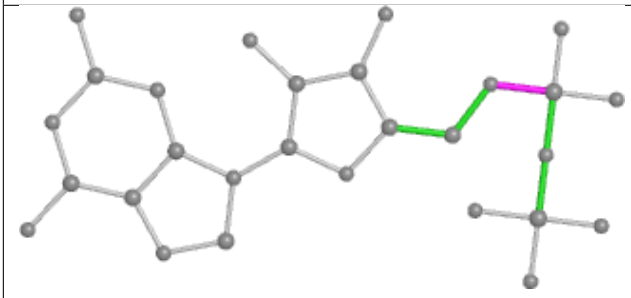
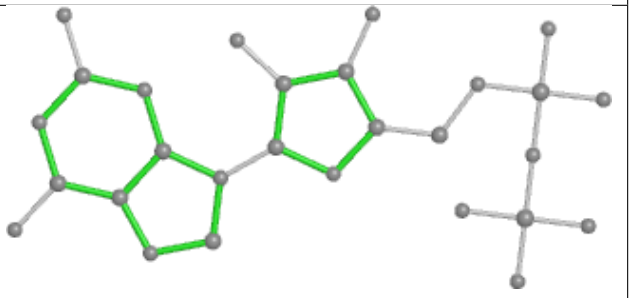
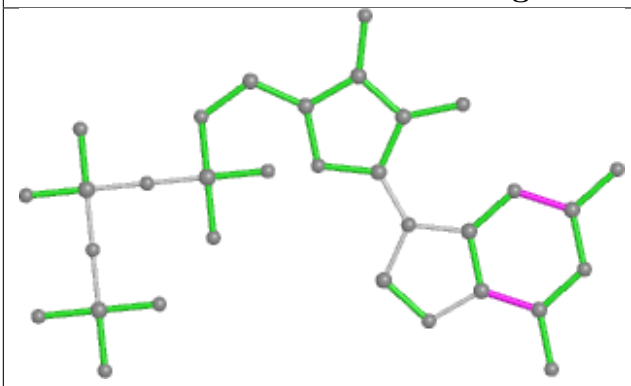


Rings

Ligand GDP Aa 501	
	
Bond lengths	Bond angles
	
Torsions	Rings

Ligand GDP 4c 501	
	
Bond lengths	Bond angles
	
Torsions	Rings

Ligand GTP Dh 501



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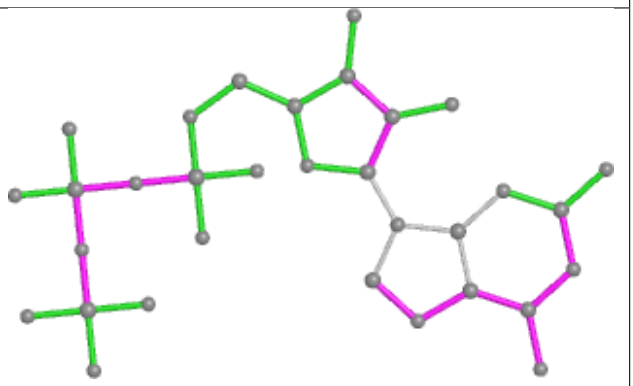

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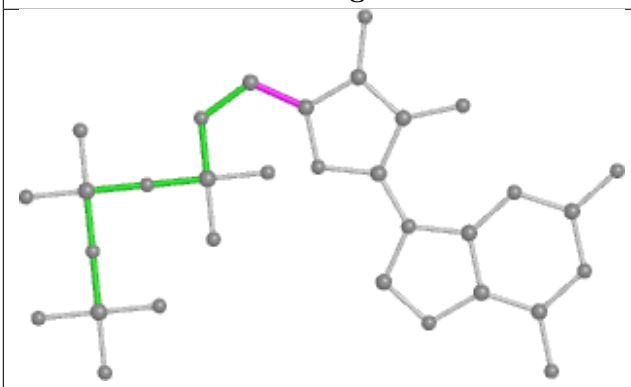

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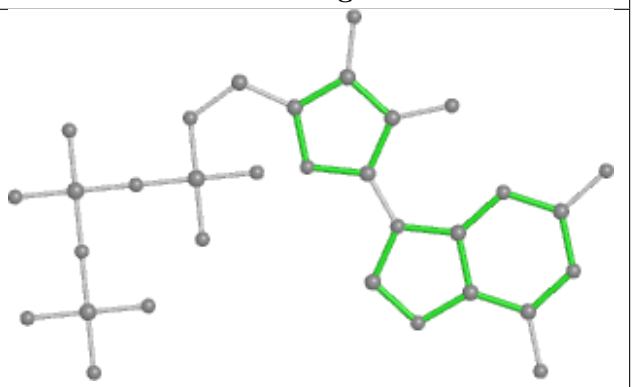
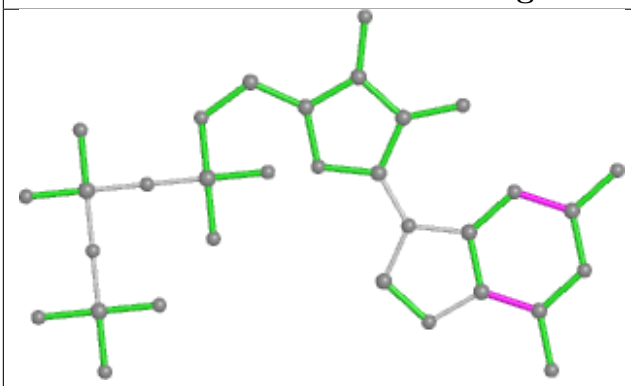


Rings

Ligand GTP 4h 501



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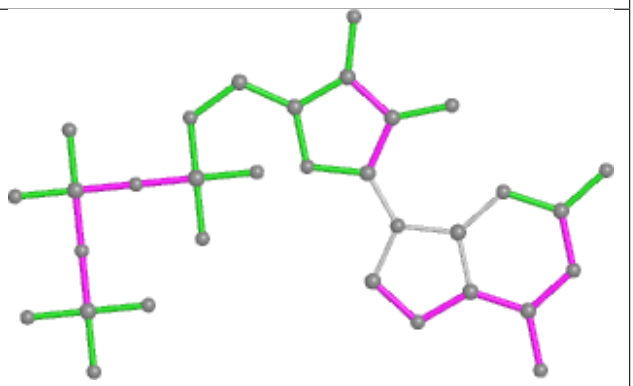

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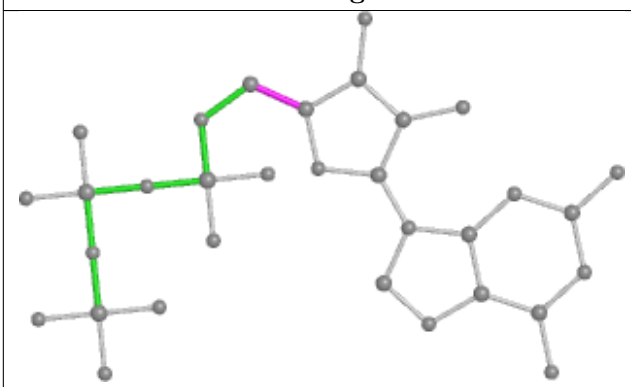

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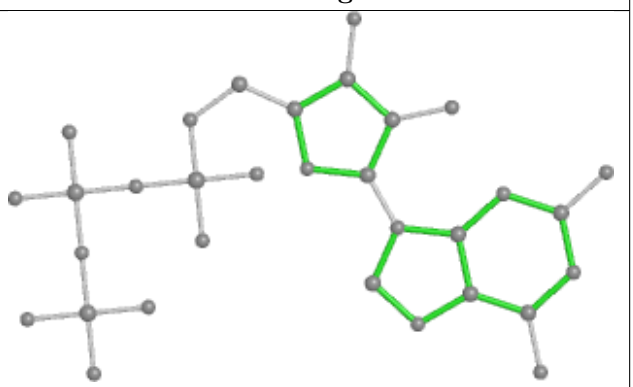
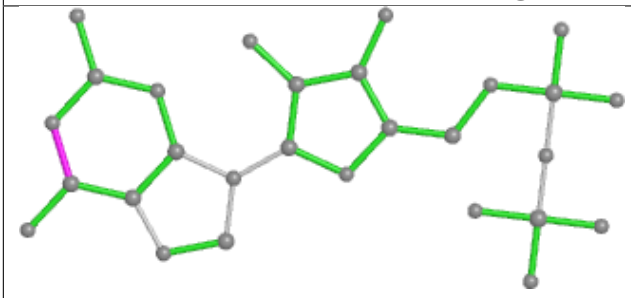


Rings

Ligand GDP Da 501



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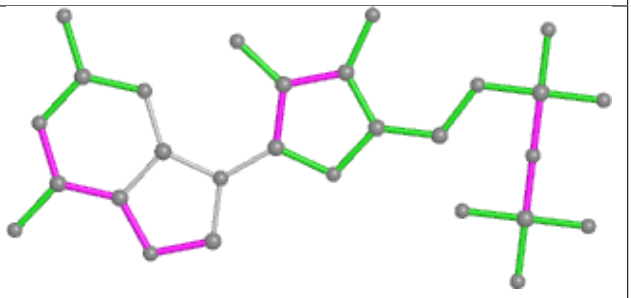
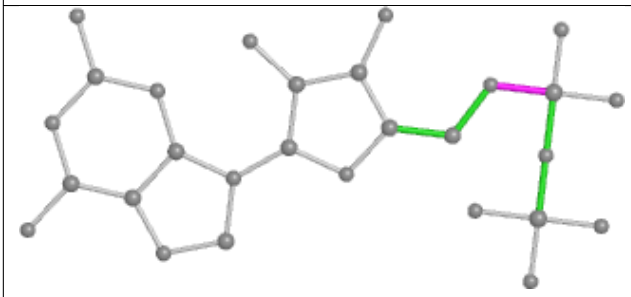


Bond angles



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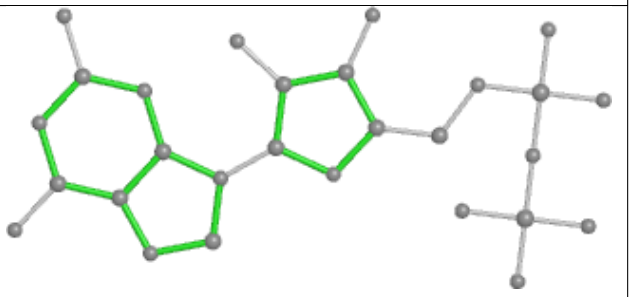
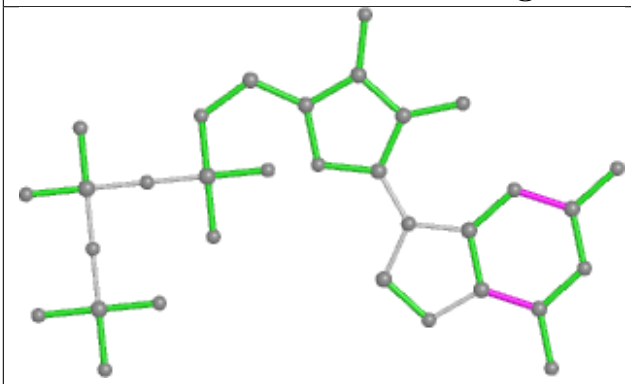


Rings

Ligand GTP 4d 501



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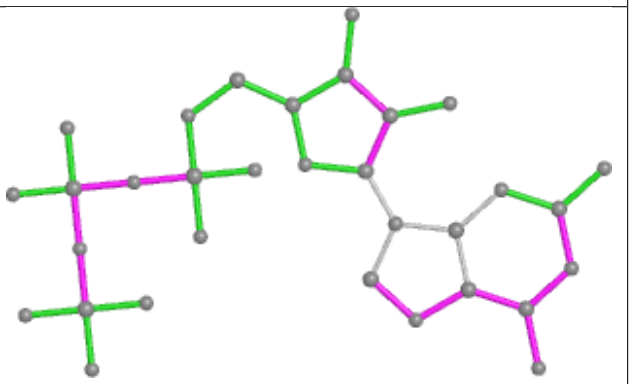
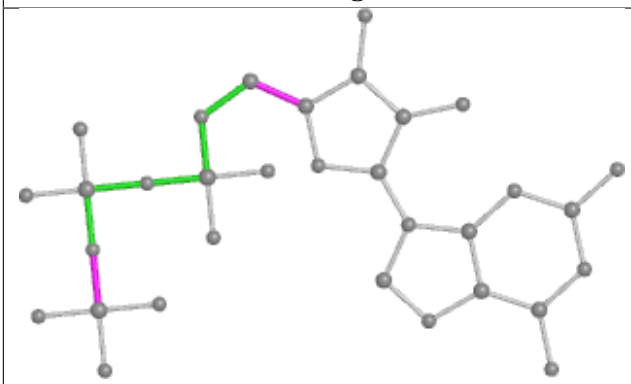


Bond angles



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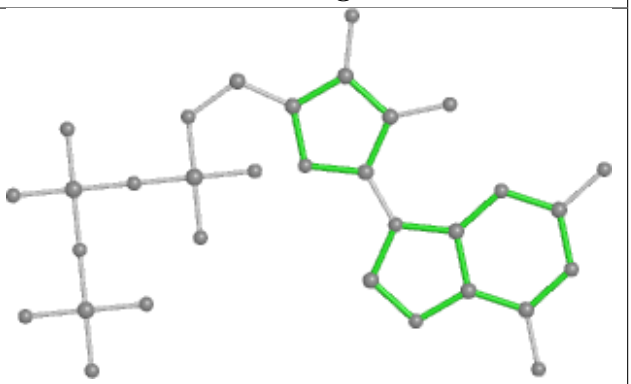
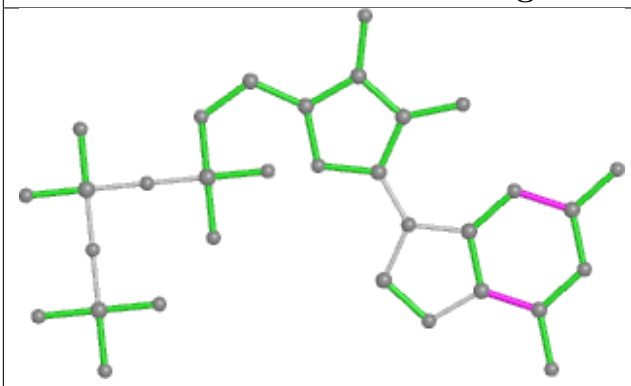
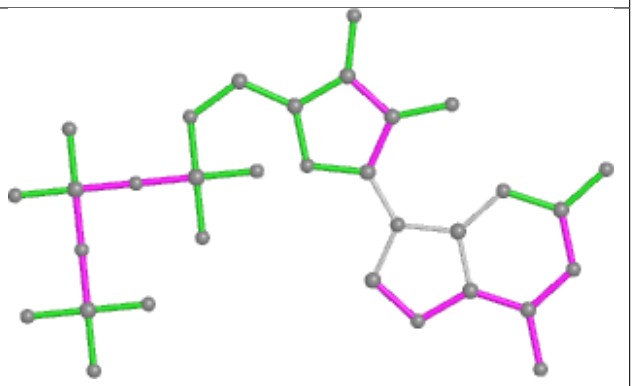


Rings

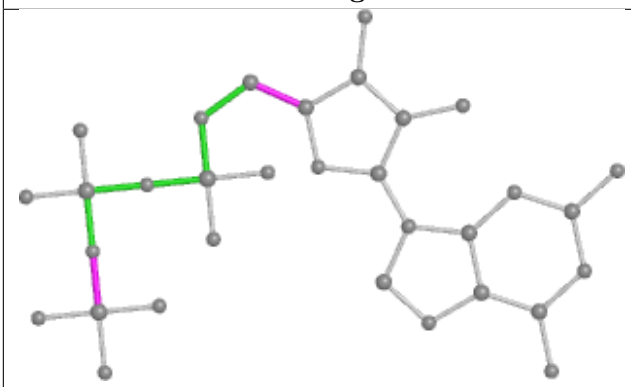
Ligand GTP 9h 501



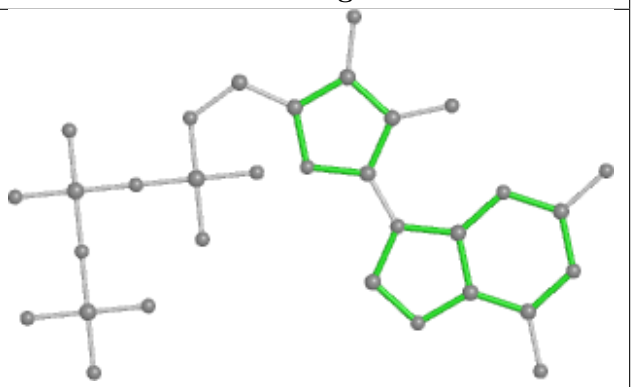
Bond lengths



Bond angles

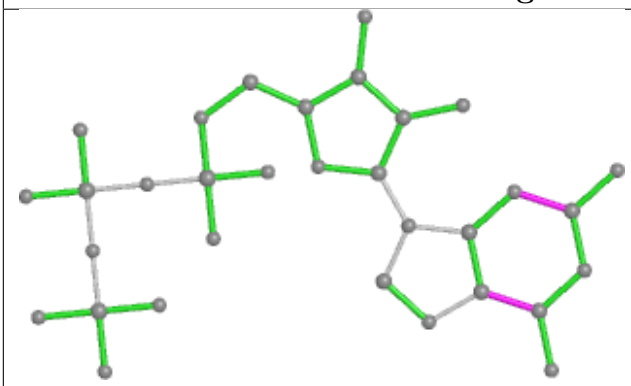


Torsions



Rings

Ligand GTP 1h 501



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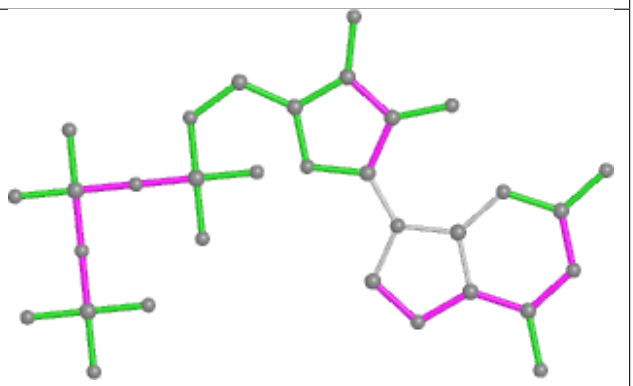
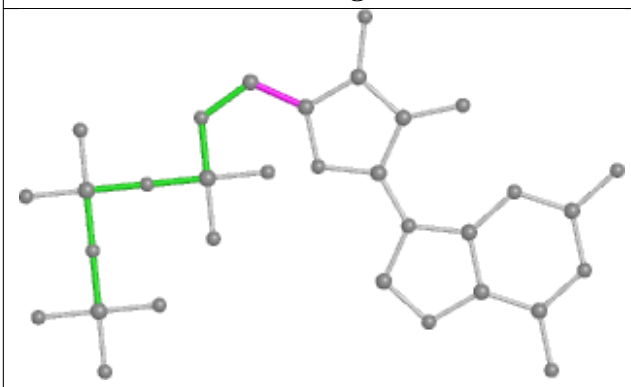


Bond angles



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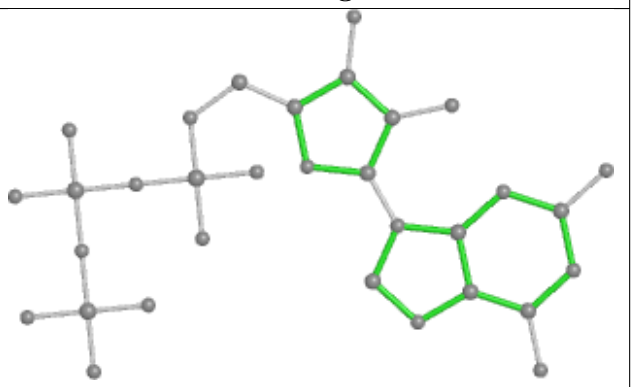
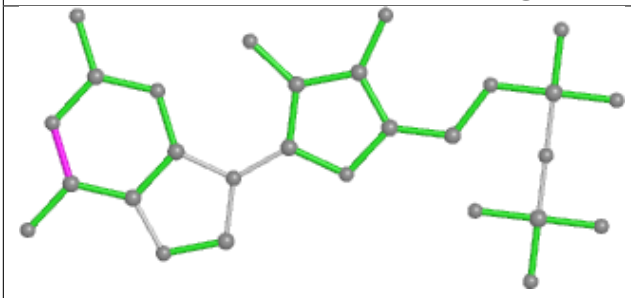


Rings

Ligand GDP 1e 501



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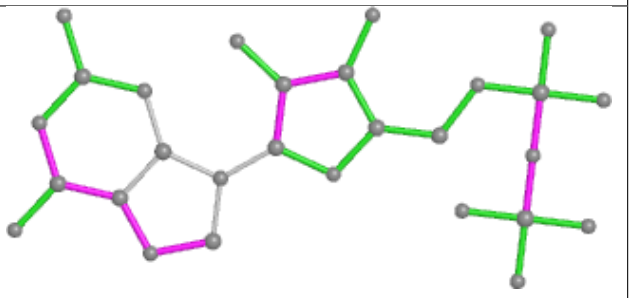
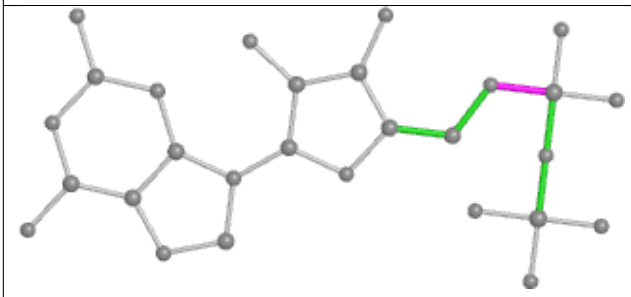


Bond angles



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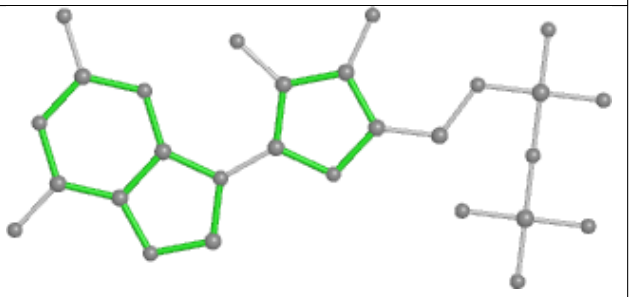
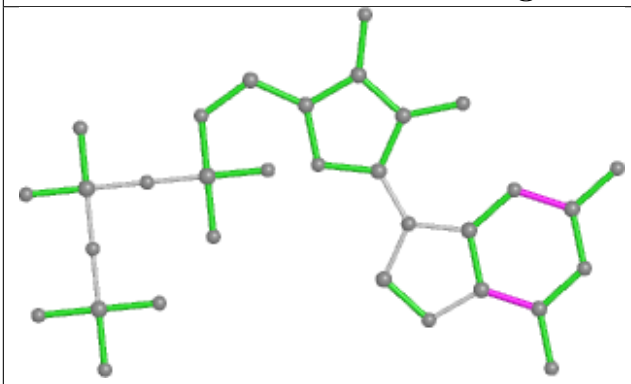
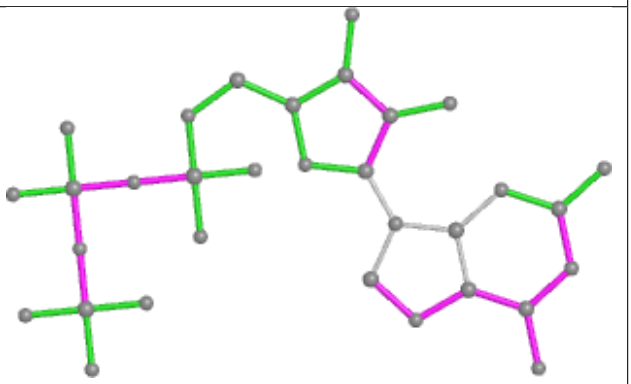


Rings

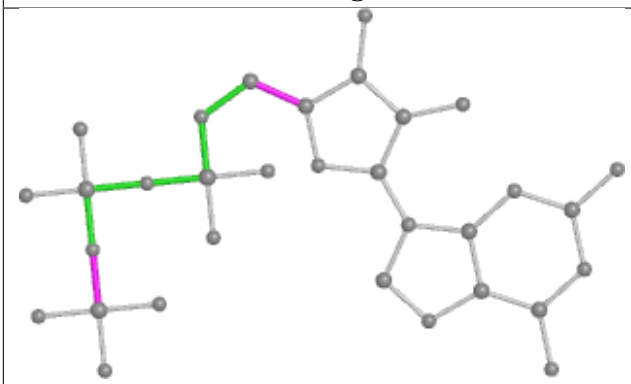
Ligand GTP Bf 501



Bond lengths



Bond angles



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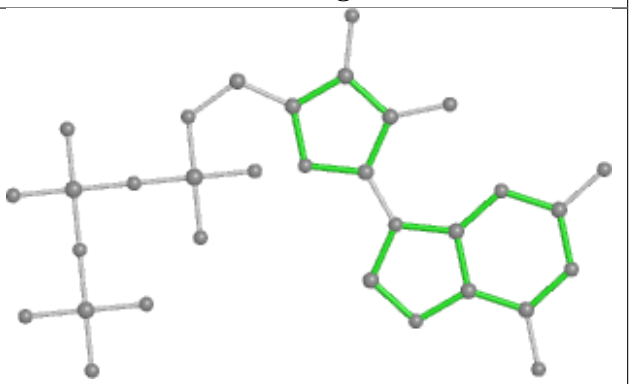
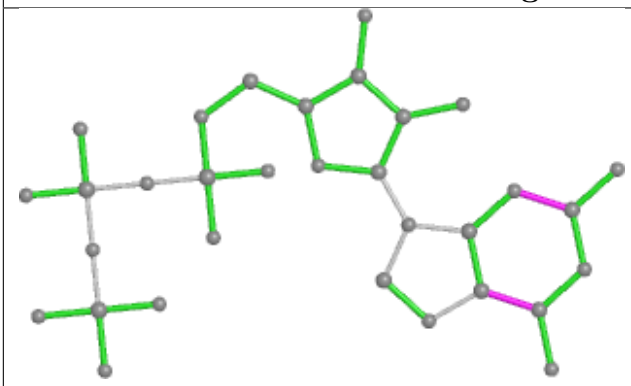


Rings

Ligand GTP 3f 501



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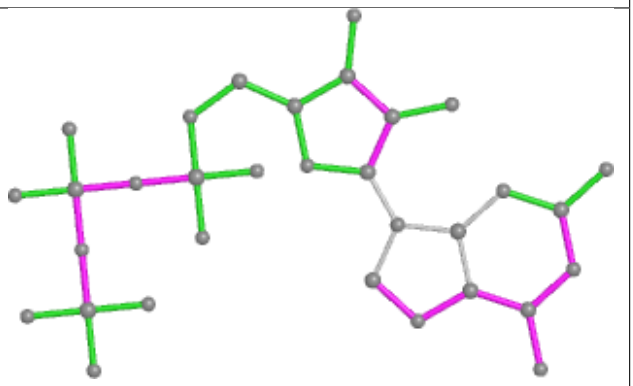
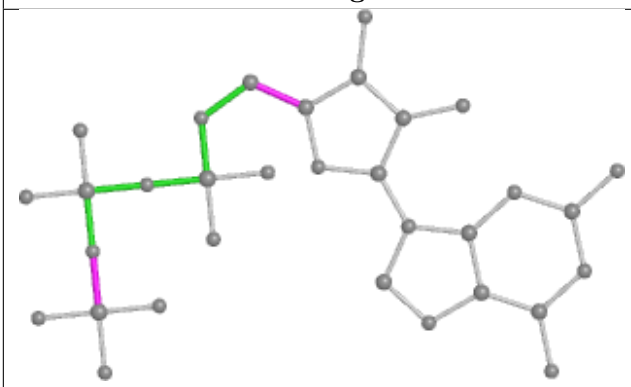


Bond angles



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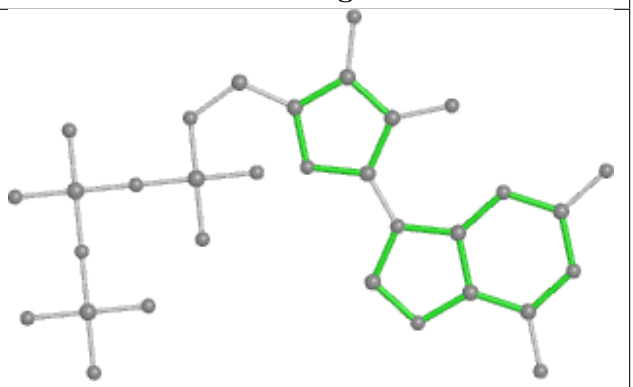
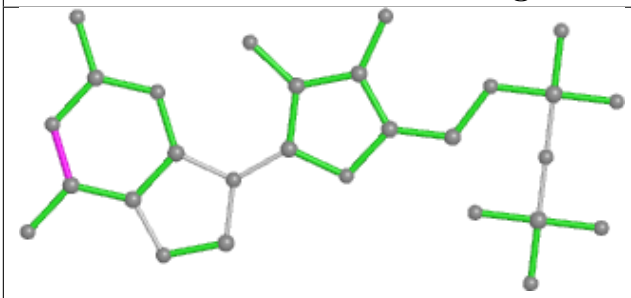


Rings

Ligand GDP De 501



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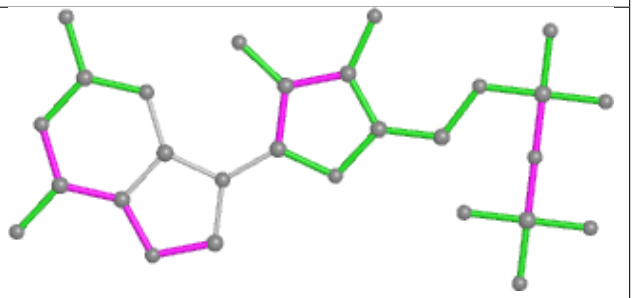

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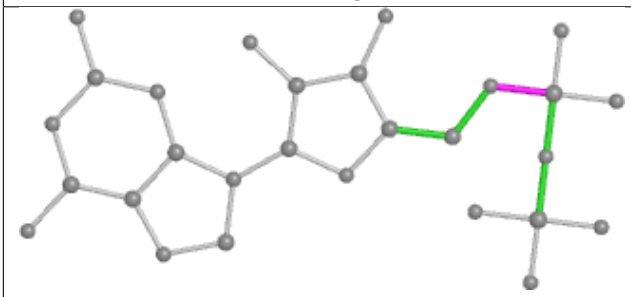

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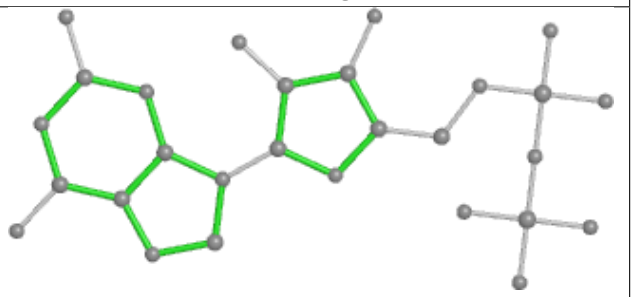
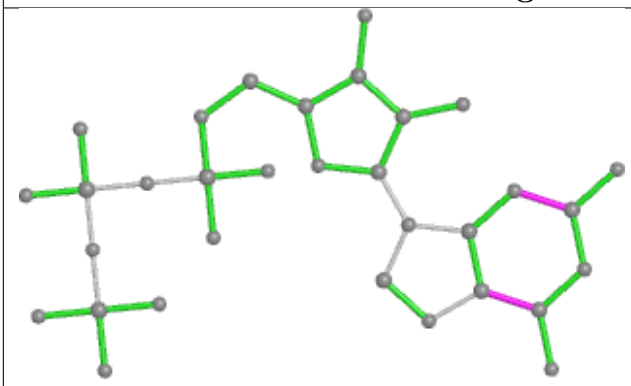


Rings

Ligand GTP 5h 501



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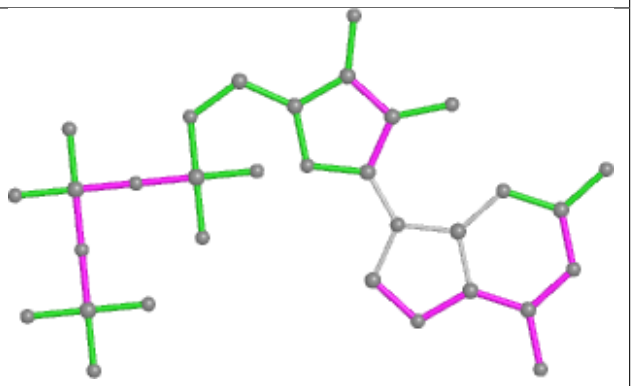
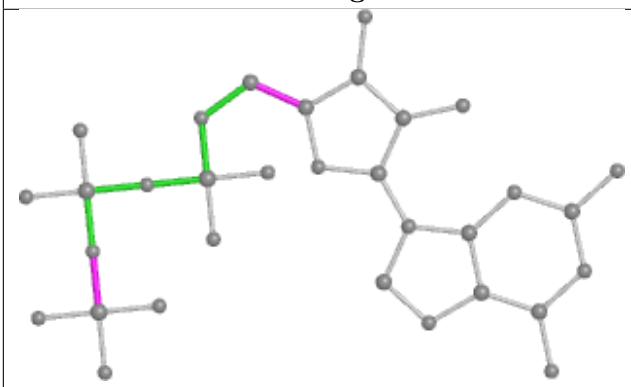


Bond angles



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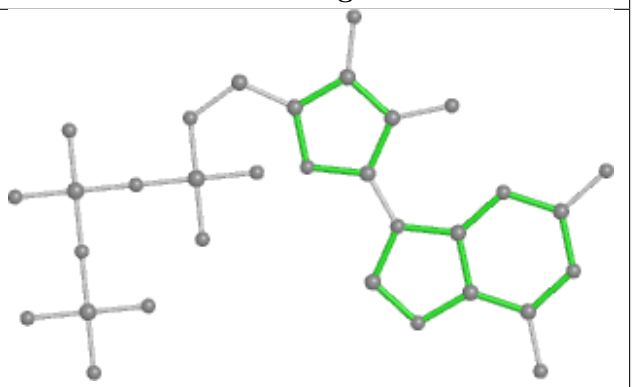
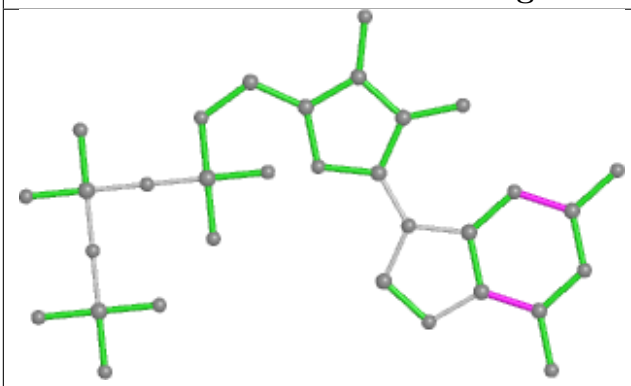


Rings

Ligand GTP 5b 501



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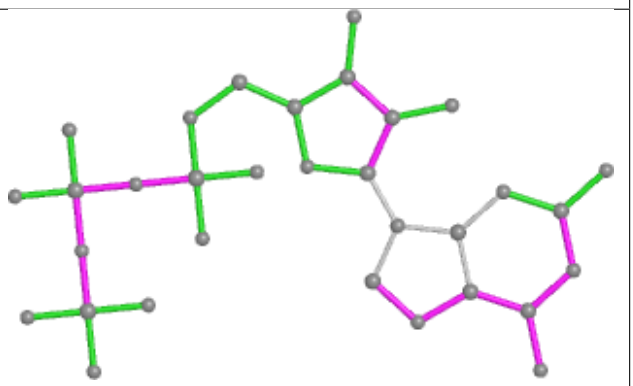
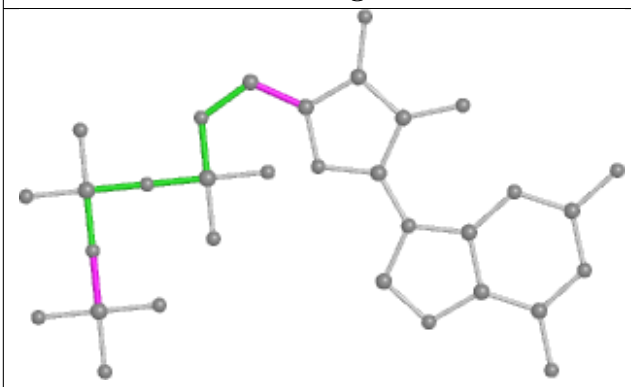


Bond angles



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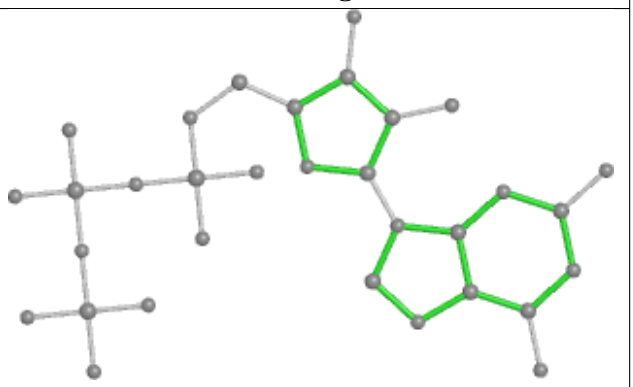

Rings

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Map visualisation

This section contains visualisations of the EMDB entry EMD-24191. These allow visual inspection of the internal detail of the map and identification of artifacts.

No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

This section was not generated.

6.2 Central slices

This section was not generated.

6.3 Largest variance slices

This section was not generated.

6.4 Orthogonal surface views

This section was not generated.

6.5 Mask visualisation

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

This section was not generated.

7.2 Volume estimate versus contour level

This section was not generated.

7.3 Rotationally averaged power spectrum

This section was not generated. The rotationally averaged power spectrum had issues being displayed.

8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit

This section was not generated.