



# wwPDB EM Validation Summary Report

Nov 25, 2022 – 09:00 AM EST

PDB ID : 7SQC  
EMDB ID : EMD-25381  
Title : Ciliary C1 central pair apparatus isolated from Chlamydomonas reinhardtii  
Authors : Gui, M.; Wang, X.; Dutcher, S.K.; Brown, A.; Zhang, R.  
Deposited on : 2021-11-05  
Resolution : 3.80 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](mailto:validation@mail.wwpdb.org)

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the  symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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The following versions of software and data (see [references](#) ) 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

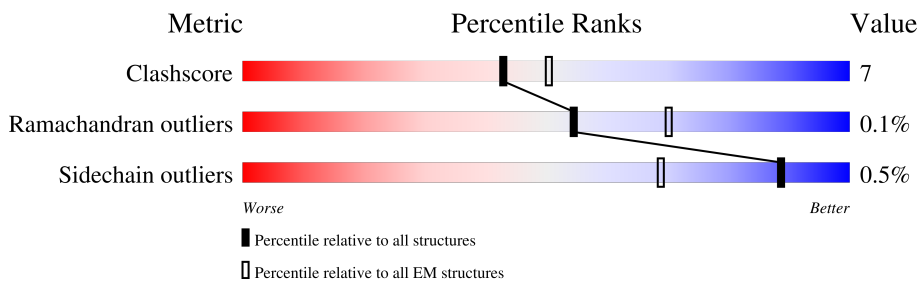
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 3.80 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  $\geq 3$ , 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  $\leq 5\%$ .

Mol	Chain	Length	Quality of chain
1	0A	93	
1	0B	93	
1	0C	93	
1	0D	93	
1	0E	93	
1	0F	93	
1	0G	93	
1	0H	93	
1	0I	93	









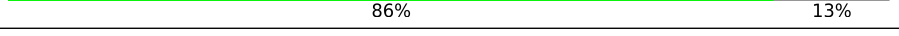

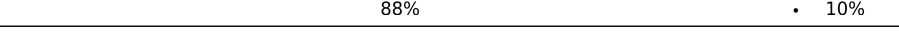
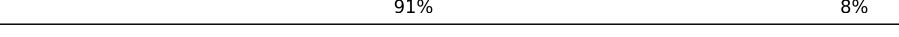

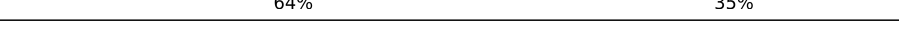


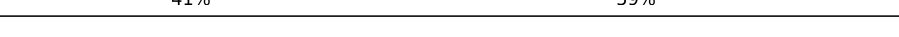

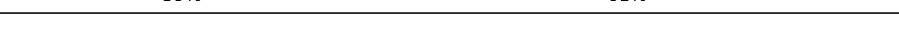






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Mol	Chain	Length	Quality of chain	
1	0J	93	60%	40%
1	0K	93	68%	32%
1	0L	93	58%	42%
2	1A	2540	55%	9%
2	1B	2540	57%	9%
2	1C	2540	57%	10%
2	1D	2540	56%	10%
3	1F	507	44%	56%
3	1G	507	32%	68%
3	1H	507	36%	64%
3	1I	507	20%	80%
3	1J	507	66%	33%
3	1K	507	68%	32%
3	1L	507	67%	33%
3	1M	507	68%	32%
3	1N	507	66%	33%
3	1O	507	68%	32%
3	1P	507	67%	33%
3	1Q	507	68%	32%
3	1R	507	66%	33%
3	1S	507	68%	32%
3	1T	507	67%	33%
3	1U	507	68%	32%
3	1V	507	43%	57%
3	1W	507	52%	48%

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Mol	Chain	Length	Quality of chain
3	1X	507	 45% 55%
3	1Y	507	 52% 48%
4	2A	2215	 31% 66%
4	2B	2215	 31% 66%
5	2E	739	 31% 69%
5	2F	739	 31% 68%
6	2H	945	 41% 57%
6	2I	945	 42% 57%
7	2K	286	 86% 13%
7	2L	286	 88% 10%
7	2M	286	 88% 10%
7	2N	286	 91% 8%
7	2O	286	 87% 12%
7	2P	286	 64% 35%
7	2Q	286	 14% 86%
8	3A	427	 40% 59%
8	3B	427	 41% 59%
8	3C	427	 40% 59%
8	3D	427	 39% 61%
9	3K	306	 83% 16%
9	3L	306	 76% 21%
9	3M	306	 81% 17%
9	3N	306	 79% 20%
9	3O	306	 83% 16%
9	3P	306	 82% 17%

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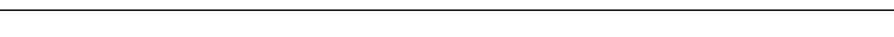
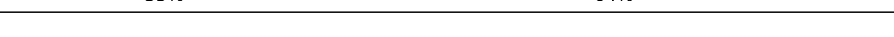
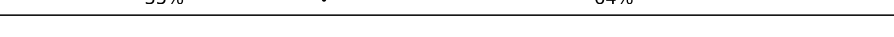



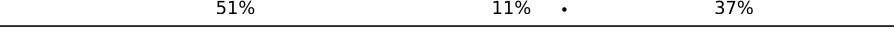







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Mol	Chain	Length	Quality of chain
10	4A	163	88% 12%
10	4B	163	87% 12%
10	4C	163	88% 12%
10	4D	163	88% 12%
10	4E	163	87% 12%
10	4F	163	88% 12%
10	4G	163	88% 12%
10	4H	163	87% 12%
10	4I	163	88% 12%
10	4J	163	88% 12%
10	4K	163	88% 12%
10	4L	163	88% 12%
11	5A	835	65% 34%
11	5B	835	65% 34%
11	5C	835	65% 34%
11	5D	835	65% 34%
12	6A	304	94% ..
12	6B	304	94% ..
12	6C	304	83% 17%
12	6D	304	83% 17%
13	7A	173	65% 31%
13	7B	173	75% 24%
13	7C	173	61% 7% 32%
13	7D	173	57% 41%
13	7E	173	61% 5% 35%


























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Mol	Chain	Length	Quality of chain
13	7F	173	 54% 5% 40%
13	7G	173	 65% 1% 31%
13	7H	173	 74% 1% 24%
13	7I	173	 64% 6% 31%
13	7J	173	 74% 1% 24%
13	7K	173	 64% 5% 31%
13	7L	173	 68% 32%
14	8A	287	 74% 12% 13%
14	8B	287	 40% 7% 53%
14	8C	287	 79% 15% 6%
14	8D	287	 40% 6% 53%
15	9A	2301	 35% 1% 64%
15	9B	2301	 35% 1% 64%
15	9C	2301	 35% 1% 64%
15	9D	2301	 35% 1% 64%
15	9E	2301	 29% 1% 70%
15	9F	2301	 29% 1% 70%
16	A0	276	 41% 7% 51%
16	A1	276	 51% 11% 37%
16	A2	276	 54% 8% 37%
16	A3	276	 53% 10% 37%
16	A4	276	 12% 1% 87%
17	B0	795	 26% 1% 70%
17	B1	795	 50% 9% 41%
17	B2	795	 25% 5% 69%

















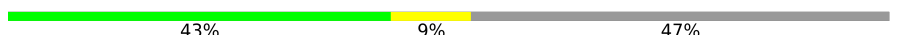
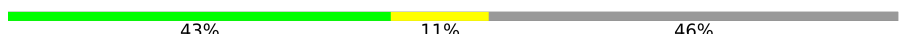
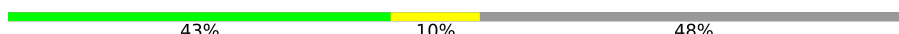
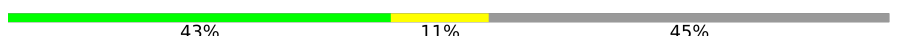





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Mol	Chain	Length	Quality of chain
18	C0	1929	 48% 13% 39%
18	C1	1929	 53% 14% 31%
18	C2	1929	 63% 15% 22%
18	C3	1929	 63% 14% 23%
18	C4	1929	 11% 85%
19	D0	512	 74% 16% 9%
19	D1	512	 69% 21% 9%
19	D2	512	 77% 14% 9%
19	D3	512	 70% 21% 9%
19	D4	512	 75% 15% 9%
19	D5	512	 72% 19% 9%
19	D6	512	 76% 15% 9%
19	D7	512	 70% 21% 9%
19	G0	512	 71% 19% 9%
19	G1	512	 68% 23% 9%
19	G2	512	 73% 18% 9%
19	G3	512	 70% 21% 9%
19	G4	512	 72% 19% 9%
19	G5	512	 72% 18% 9%
19	H0	512	 72% 18% 10%
19	H1	512	 69% 18% 13%
19	H2	512	 75% 14% 11%
19	H3	512	 73% 17% 10%
19	H4	512	 75% 16% 9%
19	H5	512	 70% 20% 10%

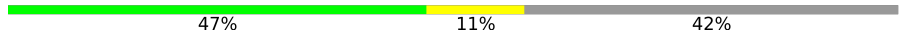







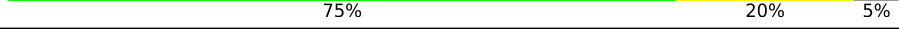

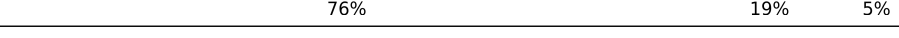
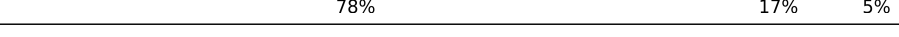

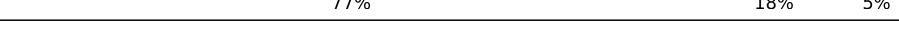


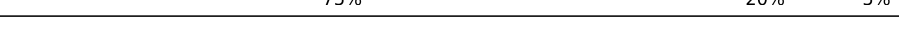

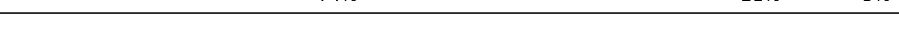






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Mol	Chain	Length	Quality of chain
19	H6	512	 71% 17% 11%
19	H7	512	 68% 21% 11%
19	I0	512	 70% 20% 10%
19	I1	512	 71% 19% 9%
19	J0	512	 66% 22% 12%
19	J1	512	 69% 22% 9%
19	J2	512	 71% 19% 9%
19	J3	512	 66% 23% 10%
19	K0	512	 71% 19% 9%
19	K1	512	 74% 16% 9%
19	K2	512	 70% 20% 9%
19	K3	512	 71% 18% 10%
19	L0	512	 69% 22% 9%
19	L1	512	 66% 23% 9%
19	L2	512	 69% 21% 9%
19	L3	512	 64% 26% 9%
20	E0	446	 43% 9% 47%
20	E1	446	 43% 11% 46%
20	E2	446	 43% 10% 48%
20	E3	446	 43% 11% 45%
21	F0	4929	 6% 94%
21	F1	4929	 9% 90%
21	F2	4929	 9% 90%
21	F3	4929	 9% 90%
22	M0	971	 18% 6% 76%

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Mol	Chain	Length	Quality of chain
22	M1	971	
23	N0	571	
23	N1	571	
23	N2	571	
23	N3	571	
24	NB	451	
24	ND	451	
24	NF	451	
24	NH	451	
24	NJ	451	
24	NL	451	
24	NN	451	
24	OD	451	
24	OF	451	
24	OH	451	
24	OJ	451	
24	OL	451	
24	ON	451	
24	OP	451	
24	PD	451	
24	PF	451	
24	PH	451	
24	PJ	451	
24	PL	451	
24	PN	451	

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Mol	Chain	Length	Quality of chain		
24	PP	451	72%	22%	• 5%
24	QD	451	77%	18%	5%
24	QF	451	76%	19%	5%
24	QH	451	77%	20%	•
24	QJ	451	75%	20%	5%
24	QL	451	77%	19%	5%
24	QN	451	79%	16%	5%
24	QP	451	80%	17%	•
24	RD	451	72%	23%	5%
24	RF	451	76%	18%	• 5%
24	RH	451	72%	23%	5%
24	RJ	451	76%	19%	5%
24	RL	451	71%	24%	5%
24	RN	451	78%	18%	5%
24	RP	451	75%	20%	5%
24	SB	451	80%	14%	• 5%
24	SD	451	75%	21%	5%
24	SF	451	74%	21%	• 5%
24	SH	451	79%	17%	•
24	SJ	451	79%	16%	5%
24	SL	451	79%	17%	5%
24	SN	451	73%	22%	5%
24	SP	451	75%	20%	•
24	TB	451	80%	15%	5%
24	TD	451	78%	17%	5%

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Mol	Chain	Length	Quality of chain		
24	TF	451	76%	19%	5%
24	TH	451	75%	21%	•
24	TJ	451	75%	20%	5%
24	TL	451	74%	21%	5%
24	TN	451	78%	17%	5%
24	TP	451	78%	18%	•
24	UB	451	85%	12%	•
24	UD	451	75%	21%	••
24	UF	451	78%	19%	•
24	UH	451	77%	18%	•
24	UJ	451	82%	16%	•
24	UL	451	74%	21%	•
24	UN	451	76%	21%	•
24	UP	451	76%	19%	•
24	VB	451	75%	20%	5%
24	VD	451	76%	19%	5%
24	VF	451	78%	17%	5%
24	VH	451	77%	19%	•
24	VJ	451	77%	18%	5%
24	VL	451	77%	19%	5%
24	VN	451	77%	18%	5%
24	VP	451	76%	19%	5%
24	WB	451	77%	20%	•
24	WD	451	74%	21%	5%
24	WF	451	80%	18%	•

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Mol	Chain	Length	Quality of chain	
24	WH	451	74%	22%
24	WJ	451	77%	19%
24	WL	451	74%	20%
24	WN	451	75%	22%
24	XB	451	75%	20%
24	XD	451	74%	21%
24	XF	451	76%	19%
24	XH	451	81%	13%
24	XJ	451	78%	17%
24	XL	451	78%	17%
24	XN	451	73%	22%
24	YB	451	81%	14%
24	YD	451	69%	26%
24	YF	451	80%	15%
24	YH	451	76%	19%
24	YJ	451	77%	18%
24	YL	451	72%	23%
24	YN	451	78%	16%
24	YP	451	79%	16%
24	ZB	451	75%	19%
24	ZD	451	75%	20%
24	ZF	451	75%	20%
24	ZH	451	81%	14%
24	ZJ	451	78%	17%
24	ZL	451	74%	21%

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Mol	Chain	Length	Quality of chain		
24	ZN	451	74%	21%	5%
24	ZP	451	78%	17%	5%
25	NC	443	79%	18%	.
25	NE	443	79%	17%	.
25	NG	443	75%	21%	.
25	NI	443	80%	16%	.
25	NK	443	75%	21%	.
25	NM	443	80%	16%	.
25	NO	443	73%	23%	.
25	OC	443	79%	17%	.
25	OE	443	74%	22%	.
25	OG	443	80%	16%	.
25	OI	443	70%	26%	..
25	OK	443	77%	19%	.
25	OM	443	76%	20%	.
25	OO	443	74%	22%	.
25	OQ	443	75%	22%	.
25	PC	443	77%	19%	.
25	PE	443	78%	19%	.
25	PG	443	77%	20%	.
25	PI	443	74%	22%	.
25	PK	443	75%	20%	..
25	PM	443	71%	26%	.
25	PO	443	72%	25%	.
25	PQ	443	75%	21%	.

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Mol	Chain	Length	Quality of chain	
25	QC	443	79%	18%
25	QE	443	80%	17%
25	QG	443	76%	20%
25	QI	443	69%	27%
25	QK	443	75%	21%
25	QM	443	72%	25%
25	QO	443	72%	23%
25	QQ	443	78%	18%
25	RC	443	77%	19%
25	RE	443	72%	24%
25	RG	443	74%	23%
25	RI	443	75%	21%
25	RK	443	71%	25%
25	RM	443	73%	23%
25	RO	443	73%	23%
25	SC	443	71%	25%
25	SE	443	76%	21%
25	SG	443	77%	20%
25	SI	443	75%	21%
25	SK	443	78%	18%
25	SM	443	78%	18%
25	SO	443	76%	21%
25	TC	443	77%	19%
25	TE	443	80%	16%
25	TG	443	76%	20%

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Mol	Chain	Length	Quality of chain	
25	TI	443	75%	21%
25	TK	443	75%	21%
25	TM	443	75%	21%
25	TO	443	75%	21%
25	UC	443	79%	18%
25	UE	443	74%	23%
25	UG	443	76%	20%
25	UI	443	79%	19%
25	UK	443	74%	23%
25	UM	443	76%	21%
25	UO	443	74%	22%
25	VC	443	78%	18%
25	VE	443	74%	23%
25	VG	443	78%	19%
25	VI	443	76%	21%
25	VK	443	74%	22%
25	VM	443	80%	17%
25	VO	443	75%	21%
25	WA	443	78%	19%
25	WC	443	76%	21%
25	WE	443	74%	23%
25	WG	443	72%	24%
25	WI	443	77%	20%
25	WK	443	78%	19%
25	WM	443	80%	17%

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Mol	Chain	Length	Quality of chain	
25	WO	443	77%	19%
25	XA	443	81%	16%
25	XC	443	74%	23%
25	XE	443	76%	20%
25	XG	443	77%	19%
25	XI	443	78%	19%
25	XK	443	71%	25%
25	XM	443	77%	20%
25	XO	443	76%	20%
25	YC	443	78%	19%
25	YE	443	80%	16%
25	YG	443	77%	19%
25	YI	443	72%	25%
25	YK	443	78%	19%
25	YM	443	77%	20%
25	YO	443	69%	27%
25	ZC	443	78%	19%
25	ZE	443	76%	21%
25	ZG	443	78%	18%
25	ZI	443	75%	21%
25	ZK	443	77%	19%
25	ZM	443	77%	19%
25	ZO	443	74%	22%
26	O0	1940	56%	41%
26	O1	1940	32%	65%

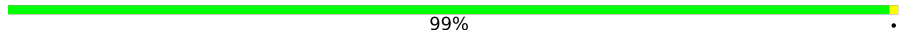
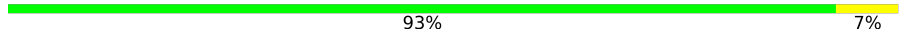
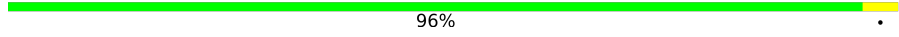
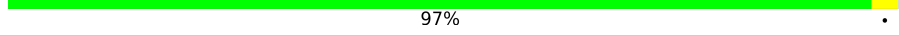
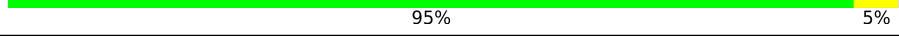
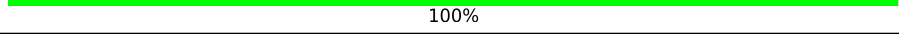


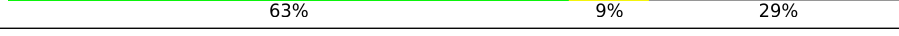


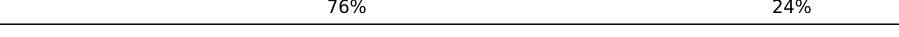

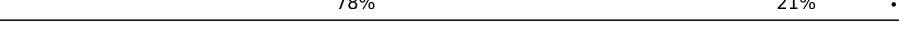


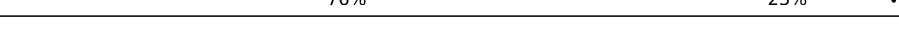

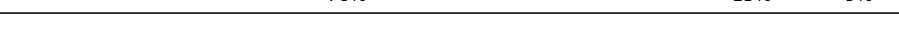



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Mol	Chain	Length	Quality of chain
26	O2	1940	5% • 93%
27	P0	1102	32% • 68%
27	P1	1102	65% • 34%
27	P2	1102	66% • 34%
27	P3	1102	66% • 34%
28	Q0	3225	62% 12% 26%
28	Q1	3225	62% 12% 26%
29	R0	2784	72% • 26%
29	R1	2784	73% • 25%
30	S0	168	83% 10% 7%
30	S1	168	86% 7% 7%
30	S2	168	78% 15% 7%
30	S3	168	81% 10% 9%
31	S5	38	97% •
32	T0	2939	17% • 82%
32	T1	2939	18% • 81%
32	T2	2939	17% • 81%
32	T3	2939	10% • 89%
33	U0	401	41% 9% 50%
33	U1	401	44% 6% 50%
34	V0	761	25% • 74%
34	V1	761	24% • 75%
35	W0	1638	64% • 36%
35	W1	1638	58% • 41%
36	W3	68	90% 10%

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Mol	Chain	Length	Quality of chain
36	W4	68	 99%
36	W5	68	 93% 7%
36	W6	68	 96%
37	W7	149	 97%
37	W9	149	 95% 5%
38	W8	51	 100%
39	X0	1138	 61% 10% 29%
39	X1	1138	 63% 8% 29%
39	X2	1138	 63% 9% 29%
39	X3	1138	 62% 9% 29%
40	Y0	477	 78% 22%
40	Y1	477	 76% 24%
40	Y2	477	 79% 21%
40	Y3	477	 78% 21%
40	Y4	477	 74% 25%
40	Y5	477	 76% 23%
40	Y6	477	 76% 23%
40	Y7	477	 79% 20%
41	Z0	651	 76% 15% 9%
41	Z1	651	 74% 17% 9%
41	Z2	651	 73% 18% 9%
41	Z3	651	 75% 16% 9%

## 2 Entry composition [i](#)

There are 46 unique types of molecules in this entry. The entry contains 1218816 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 associated protein.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
1	0A	58	287	171	58	58	0	0
1	0B	63	312	186	63	63	0	0
1	0C	58	287	171	58	58	0	0
1	0D	63	312	186	63	63	0	0
1	0E	58	287	171	58	58	0	0
1	0F	63	312	186	63	63	0	0
1	0G	58	287	171	58	58	0	0
1	0H	63	312	186	63	63	0	0
1	0I	62	308	184	62	62	0	0
1	0J	56	278	166	56	56	0	0
1	0K	63	312	186	63	63	0	0
1	0L	54	268	160	54	54	0	0

- Molecule 2 is a protein called FAP42.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	1A	1639	10474	6458	1958	2021	37	0	0
2	1B	1660	10580	6522	1979	2042	37	0	0
2	1C	1700	10775	6637	2019	2082	37	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	1D	1686	10707	6597	2005	2068	37	0	0

- Molecule 3 is a protein called FAP7.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
3	1F	224	1110	662	224	224	0	0
3	1G	162	800	476	162	162	0	0
3	1H	181	898	536	181	181	0	0
3	1I	99	489	291	99	99	0	0
3	1J	338	1673	997	338	338	0	0
3	1K	344	1704	1016	344	344	0	0
3	1L	338	1673	997	338	338	0	0
3	1M	344	1704	1016	344	344	0	0
3	1N	338	1673	997	338	338	0	0
3	1O	344	1704	1016	344	344	0	0
3	1P	338	1673	997	338	338	0	0
3	1Q	344	1704	1016	344	344	0	0
3	1R	338	1673	997	338	338	0	0
3	1S	344	1704	1016	344	344	0	0
3	1T	338	1673	997	338	338	0	0
3	1U	344	1704	1016	344	344	0	0
3	1V	218	1078	642	218	218	0	0
3	1W	266	1320	788	266	266	0	0

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Mol	Chain	Residues	Atoms				AltConf	Trace
3	1X	229	Total	C	N	O	0	0
			1133	675	229	229		
3	1Y	263	Total	C	N	O	0	0
			1305	779	263	263		

- Molecule 4 is a protein called FAP81.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	2A	744	Total	C	N	O	S	0	0
			4347	2640	859	838	10		
4	2B	754	Total	C	N	O	S	0	0
			4428	2692	874	852	10		

- Molecule 5 is a protein called FAP216.

Mol	Chain	Residues	Atoms				AltConf	Trace
5	2E	231	Total	C	N	O	0	0
			1144	682	231	231		
5	2F	233	Total	C	N	O	0	0
			1154	688	233	233		

- Molecule 6 is a protein called FAP297.

Mol	Chain	Residues	Atoms				AltConf	Trace
6	2H	408	Total	C	N	O	0	0
			2015	1199	408	408		
6	2I	408	Total	C	N	O	0	0
			2015	1199	408	408		

- Molecule 7 is a protein called FAP114.

Mol	Chain	Residues	Atoms				AltConf	Trace
7	2K	248	Total	C	N	O	0	0
			1232	736	248	248		
7	2L	257	Total	C	N	O	0	0
			1277	763	257	257		
7	2M	256	Total	C	N	O	0	0
			1272	760	256	256		
7	2N	262	Total	C	N	O	0	0
			1302	778	262	262		
7	2O	251	Total	C	N	O	0	0
			1247	745	251	251		

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Mol	Chain	Residues	Atoms				AltConf	Trace
7	2P	185	Total	C	N	O	0	0
			917	547	185	185		
7	2Q	40	Total	C	N	O	0	0
			200	120	40	40		

- Molecule 8 is a protein called FAP305.

Mol	Chain	Residues	Atoms				AltConf	Trace
8	3A	175	Total	C	N	O	0	0
			869	519	175	175		
8	3B	175	Total	C	N	O	0	0
			869	519	175	175		
8	3C	175	Total	C	N	O	0	0
			869	519	175	175		
8	3D	167	Total	C	N	O	0	0
			830	496	167	167		

- Molecule 9 is a protein called FAP119.

Mol	Chain	Residues	Atoms				AltConf	Trace
9	3K	256	Total	C	N	O	0	0
			1274	762	256	256		
9	3L	241	Total	C	N	O	0	0
			1199	717	241	241		
9	3M	254	Total	C	N	O	0	0
			1264	756	254	254		
9	3N	244	Total	C	N	O	0	0
			1214	726	244	244		
9	3O	258	Total	C	N	O	0	0
			1284	768	258	258		
9	3P	254	Total	C	N	O	0	0
			1264	756	254	254		

- Molecule 10 is a protein called Calmodulin.

Mol	Chain	Residues	Atoms				AltConf	Trace
10	4A	143	Total	C	N	O	0	0
			704	418	143	143		
10	4B	143	Total	C	N	O	0	0
			704	418	143	143		
10	4C	143	Total	C	N	O	0	0
			704	418	143	143		

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Mol	Chain	Residues	Atoms				AltConf	Trace
10	4D	143	Total 704	C 418	N 143	O 143	0	0
10	4E	143	Total 704	C 418	N 143	O 143	0	0
10	4F	143	Total 704	C 418	N 143	O 143	0	0
10	4G	143	Total 704	C 418	N 143	O 143	0	0
10	4H	143	Total 704	C 418	N 143	O 143	0	0
10	4I	143	Total 704	C 418	N 143	O 143	0	0
10	4J	143	Total 704	C 418	N 143	O 143	0	0
10	4K	143	Total 704	C 418	N 143	O 143	0	0
10	4L	143	Total 704	C 418	N 143	O 143	0	0

- Molecule 11 is a protein called FAP101.

Mol	Chain	Residues	Atoms				AltConf	Trace
11	5A	551	Total 2713	C 1610	N 551	O 552	0	0
11	5B	551	Total 2713	C 1610	N 551	O 552	0	0
11	5C	551	Total 2713	C 1610	N 551	O 552	0	0
11	5D	551	Total 2713	C 1610	N 551	O 552	0	0

- Molecule 12 is a protein called FAP15.

Mol	Chain	Residues	Atoms				AltConf	Trace
12	6A	291	Total 1435	C 853	N 291	O 291	0	0
12	6B	291	Total 1435	C 853	N 291	O 291	0	0
12	6C	253	Total 1250	C 744	N 253	O 253	0	0
12	6D	253	Total 1250	C 744	N 253	O 253	0	0

- Molecule 13 is a protein called FAP227.

Mol	Chain	Residues	Atoms				AltConf	Trace
13	7A	119	Total	C	N	O	0	0
			574	336	119	119		
13	7B	132	Total	C	N	O	0	0
			637	373	132	132		
13	7C	118	Total	C	N	O	0	0
			567	331	118	118		
13	7D	102	Total	C	N	O	0	0
			491	287	102	102		
13	7E	113	Total	C	N	O	0	0
			544	318	113	113		
13	7F	103	Total	C	N	O	0	0
			496	290	103	103		
13	7G	119	Total	C	N	O	0	0
			574	336	119	119		
13	7H	132	Total	C	N	O	0	0
			637	373	132	132		
13	7I	120	Total	C	N	O	0	0
			579	339	120	120		
13	7J	132	Total	C	N	O	0	0
			637	373	132	132		
13	7K	119	Total	C	N	O	0	0
			574	336	119	119		
13	7L	117	Total	C	N	O	0	0
			564	330	117	117		

- Molecule 14 is a protein called FAP105.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	8A	250	Total	C	N	O	S	0	0
			1945	1180	385	374	6		
14	8B	134	Total	C	N	O	S	0	0
			1010	614	195	196	5		
14	8C	270	Total	C	N	O	S	0	0
			2082	1262	411	401	8		
14	8D	134	Total	C	N	O	S	0	0
			1010	614	195	196	5		

- Molecule 15 is a protein called PF6.

Mol	Chain	Residues	Atoms				AltConf	Trace
15	9A	827	Total	C	N	O	0	0
			4075	2421	827	827		

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Mol	Chain	Residues	Atoms				AltConf	Trace
15	9B	827	Total	C	N	O	0	0
			4075	2421	827	827		
15	9C	827	Total	C	N	O	0	0
			4075	2421	827	827		
15	9D	827	Total	C	N	O	0	0
			4075	2421	827	827		
15	9E	681	Total	C	N	O	0	0
			3354	1992	681	681		
15	9F	679	Total	C	N	O	0	0
			3344	1986	679	679		

- Molecule 16 is a protein called FAP219.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	A0	135	Total	C	N	O	0	0	
			1004	613	194	197			
16	A1	173	Total	C	N	O	S	0	0
			1295	796	248	250	1		
16	A2	173	Total	C	N	O	S	0	0
			1295	796	248	250	1		
16	A3	173	Total	C	N	O	S	0	0
			1295	796	248	250	1		
16	A4	37	Total	C	N	O	S	0	0
			284	178	53	52	1		

- Molecule 17 is a protein called FAP99.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	B0	242	Total	C	N	O	S	0	0
			1932	1159	396	373	4		
17	B1	468	Total	C	N	O	S	0	0
			3751	2269	761	713	8		
17	B2	243	Total	C	N	O	S	0	0
			1933	1166	395	368	4		

- Molecule 18 is a protein called CPC1.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	C0	1184	Total	C	N	O	S	0	0
			9027	5645	1643	1704	35		
18	C1	1322	Total	C	N	O	S	0	0
			10128	6312	1863	1912	41		

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Mol	Chain	Residues	Atoms					AltConf	Trace
18	C2	1498	Total	C	N	O	S	0	0
			11519	7179	2117	2177	46		
18	C3	1485	Total	C	N	O	S	0	0
			11424	7121	2099	2158	46		
18	C4	281	Total	C	N	O	S	0	0
			2245	1385	425	425	10		

- Molecule 19 is a protein called PF16.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	D0	465	Total	C	N	O	S	0	0
			3315	2083	581	640	11		
19	D1	465	Total	C	N	O	S	0	0
			3312	2082	581	638	11		
19	D2	468	Total	C	N	O	S	0	0
			3330	2092	584	643	11		
19	D3	468	Total	C	N	O	S	0	0
			3327	2091	584	641	11		
19	D4	465	Total	C	N	O	S	0	0
			3315	2083	581	640	11		
19	D5	468	Total	C	N	O	S	0	0
			3327	2091	584	641	11		
19	D6	468	Total	C	N	O	S	0	0
			3330	2092	584	643	11		
19	D7	468	Total	C	N	O	S	0	0
			3327	2091	584	641	11		
19	G0	464	Total	C	N	O	S	0	0
			3309	2080	580	638	11		
19	G1	466	Total	C	N	O	S	0	0
			3317	2085	582	639	11		
19	G2	467	Total	C	N	O	S	0	0
			3324	2089	583	641	11		
19	G3	466	Total	C	N	O	S	0	0
			3317	2085	582	639	11		
19	G4	467	Total	C	N	O	S	0	0
			3324	2089	583	641	11		
19	G5	466	Total	C	N	O	S	0	0
			3317	2085	582	639	11		
19	H0	463	Total	C	N	O	S	0	0
			3301	2076	579	635	11		
19	H1	445	Total	C	N	O	S	0	0
			3204	2018	558	617	11		

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
19	H2	456	3232	2032	565	624	11	0	0
19	H3	461	3281	2064	574	632	11	0	0
19	H4	466	3316	2085	582	638	11	0	0
19	H5	462	3288	2069	575	633	11	0	0
19	H6	454	3214	2020	563	620	11	0	0
19	H7	455	3244	2041	567	625	11	0	0
19	I0	459	3274	2061	572	630	11	0	0
19	I1	466	3316	2085	582	638	11	0	0
19	J0	453	3253	2047	569	626	11	0	0
19	J1	466	3317	2085	582	639	11	0	0
19	J2	464	3306	2079	580	636	11	0	0
19	J3	461	3292	2070	577	634	11	0	0
19	K0	467	3322	2088	583	640	11	0	0
19	K1	467	3322	2088	583	640	11	0	0
19	K2	467	3322	2088	583	640	11	0	0
19	K3	461	3292	2071	577	633	11	0	0
19	L0	468	3531	2231	606	679	15	0	0
19	L1	465	3511	2219	602	675	15	0	0
19	L2	465	3511	2219	602	675	15	0	0
19	L3	468	3531	2231	606	679	15	0	0

- Molecule 20 is a protein called FAP108.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	E0	236	Total	C	N	O	S	0	0
			1864	1181	330	347	6		
20	E1	243	Total	C	N	O	S	0	0
			1903	1209	331	357	6		
20	E2	234	Total	C	N	O	S	0	0
			1842	1169	322	345	6		
20	E3	244	Total	C	N	O	S	0	0
			1910	1214	332	358	6		

- Molecule 21 is a protein called Hydin.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	F0	308	Total	C	N	O		0	0
			1524	908	308	308			
21	F1	482	Total	C	N	O	S	0	0
			2924	1794	554	571	5		
21	F2	482	Total	C	N	O	S	0	0
			2924	1794	554	571	5		
21	F3	482	Total	C	N	O	S	0	0
			2924	1794	554	571	5		

- Molecule 22 is a protein called FAP221.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	M0	231	Total	C	N	O	S	0	0
			1761	1105	308	342	6		
22	M1	564	Total	C	N	O	S	0	0
			4307	2709	769	811	18		

- Molecule 23 is a protein called FAP194.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	N0	495	Total	C	N	O	S	0	0
			2737	1656	525	548	8		
23	N1	507	Total	C	N	O	S	0	0
			2815	1705	538	564	8		
23	N2	495	Total	C	N	O	S	0	0
			2737	1656	525	548	8		
23	N3	509	Total	C	N	O	S	0	0
			2829	1714	540	567	8		

- Molecule 24 is a protein called Tubulin alpha.



Mol	Chain	Residues	Atoms					AltConf	Trace
24	NB	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	ND	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	NF	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	NH	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	NJ	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	NL	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	NN	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	OD	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	OF	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	OH	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	OJ	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	OL	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	ON	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	OP	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	PD	429	Total 3335	C 2113	N 567	O 633	S 22	0	0
24	PF	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	PH	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	PJ	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	PL	429	Total 3335	C 2113	N 567	O 633	S 22	0	0
24	PN	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	PP	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	QD	430	Total 3341	C 2116	N 568	O 635	S 22	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
24	QF	430	3341	2116	568	635	22	0	0
24	QH	439	3399	2149	578	650	22	0	0
24	QJ	430	3341	2116	568	635	22	0	0
24	QL	430	3341	2116	568	635	22	0	0
24	QN	429	3335	2113	567	633	22	0	0
24	QP	439	3399	2149	578	650	22	0	0
24	RD	430	3341	2116	568	635	22	0	0
24	RF	430	3341	2116	568	635	22	0	0
24	RH	430	3341	2116	568	635	22	0	0
24	RJ	430	3341	2116	568	635	22	0	0
24	RL	430	3341	2116	568	635	22	0	0
24	RN	430	3341	2116	568	635	22	0	0
24	RP	430	3341	2116	568	635	22	0	0
24	SB	430	3341	2116	568	635	22	0	0
24	SD	430	3341	2116	568	635	22	0	0
24	SF	430	3341	2116	568	635	22	0	0
24	SH	433	3363	2127	571	643	22	0	0
24	SJ	430	3341	2116	568	635	22	0	0
24	SL	430	3341	2116	568	635	22	0	0
24	SN	430	3341	2116	568	635	22	0	0
24	SP	433	3363	2127	571	643	22	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
24	TB	430	3341	2116	568	635	22	0	0
24	TD	430	3341	2116	568	635	22	0	0
24	TF	430	3341	2116	568	635	22	0	0
24	TH	433	3363	2127	571	643	22	0	0
24	TJ	430	3341	2116	568	635	22	0	0
24	TL	430	3341	2116	568	635	22	0	0
24	TN	430	3341	2116	568	635	22	0	0
24	TP	433	3363	2127	571	643	22	0	0
24	UB	438	3393	2146	577	648	22	0	0
24	UD	432	3355	2123	570	640	22	0	0
24	UF	439	3399	2149	578	650	22	0	0
24	UH	433	3359	2125	571	641	22	0	0
24	UJ	439	3399	2149	578	650	22	0	0
24	UL	432	3353	2122	570	639	22	0	0
24	UN	439	3399	2149	578	650	22	0	0
24	UP	431	3349	2120	569	638	22	0	0
24	VB	430	3341	2116	568	635	22	0	0
24	VD	430	3341	2116	568	635	22	0	0
24	VF	430	3341	2116	568	635	22	0	0
24	VH	433	3363	2127	571	643	22	0	0
24	VJ	430	3341	2116	568	635	22	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
24	VL	430	3341	2116	568	635	22	0	0
24	VN	430	3341	2116	568	635	22	0	0
24	VP	430	3341	2116	568	635	22	0	0
24	WB	439	3399	2149	578	650	22	0	0
24	WD	430	3343	2117	568	636	22	0	0
24	WF	439	3399	2149	578	650	22	0	0
24	WH	434	3367	2129	572	644	22	0	0
24	WJ	438	3393	2146	577	648	22	0	0
24	WL	431	3349	2120	569	638	22	0	0
24	WN	439	3399	2149	578	650	22	0	0
24	XB	430	3341	2116	568	635	22	0	0
24	XD	430	3341	2116	568	635	22	0	0
24	XF	430	3341	2116	568	635	22	0	0
24	XH	430	3341	2116	568	635	22	0	0
24	XJ	430	3341	2116	568	635	22	0	0
24	XL	430	3341	2116	568	635	22	0	0
24	XN	430	3341	2116	568	635	22	0	0
24	YB	430	3341	2116	568	635	22	0	0
24	YD	429	3335	2113	567	633	22	0	0
24	YF	430	3341	2116	568	635	22	0	0
24	YH	430	3341	2116	568	635	22	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
24	YJ	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	YL	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	YN	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	YP	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	ZB	429	Total 3333	C 2112	N 567	O 632	S 22	0	0
24	ZD	429	Total 3333	C 2112	N 567	O 632	S 22	0	0
24	ZF	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	ZH	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	ZJ	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	ZL	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	ZN	430	Total 3341	C 2116	N 568	O 635	S 22	0	0
24	ZP	430	Total 3341	C 2116	N 568	O 635	S 22	0	0

- Molecule 25 is a protein called Tubulin beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	NC	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	NE	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	NG	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	NI	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	NK	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	NM	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	NO	427	Total 3354	C 2107	N 575	O 642	S 30	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	OC	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	OE	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	OG	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	OI	429	Total 3365	C 2113	N 577	O 645	S 30	0	0
25	OK	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	OM	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	OO	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	OQ	429	Total 3365	C 2113	N 577	O 645	S 30	0	0
25	PC	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	PE	429	Total 3365	C 2113	N 577	O 645	S 30	0	0
25	PG	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	PI	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	PK	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	PM	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	PO	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	PQ	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	QC	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	QE	429	Total 3365	C 2113	N 577	O 645	S 30	0	0
25	QG	428	Total 3359	C 2110	N 576	O 643	S 30	0	0
25	QI	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	QK	427	Total 3354	C 2107	N 575	O 642	S 30	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	QM	429	Total 3365	C 2113	N 577	O 645	S 30	0	0
25	QO	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	QQ	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	RC	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	RE	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	RG	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	RI	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	RK	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	RM	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	RO	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	SC	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	SE	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	SG	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	SI	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	SK	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	SM	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	SO	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	TC	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	TE	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	TG	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	TI	427	Total 3354	C 2107	N 575	O 642	S 30	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	TK	427	3354	2107	575	642	30	0	0
25	TM	427	3354	2107	575	642	30	0	0
25	TO	427	3354	2107	575	642	30	0	0
25	UC	432	3388	2126	580	652	30	0	0
25	UE	427	3354	2107	575	642	30	0	0
25	UG	427	3354	2107	575	642	30	0	0
25	UI	431	3379	2121	579	649	30	0	0
25	UK	432	3388	2126	580	652	30	0	0
25	UM	427	3354	2107	575	642	30	0	0
25	UO	427	3354	2107	575	642	30	0	0
25	VC	427	3354	2107	575	642	30	0	0
25	VE	427	3354	2107	575	642	30	0	0
25	VG	427	3354	2107	575	642	30	0	0
25	VI	431	3379	2121	579	649	30	0	0
25	VK	427	3354	2107	575	642	30	0	0
25	VM	428	3359	2110	576	643	30	0	0
25	VO	427	3354	2107	575	642	30	0	0
25	WA	430	3370	2116	578	646	30	0	0
25	WC	427	3354	2107	575	642	30	0	0
25	WE	430	3370	2116	578	646	30	0	0
25	WG	427	3354	2107	575	642	30	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	WI	430	Total 3370	C 2116	N 578	O 646	S 30	0	0
25	WK	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	WM	430	Total 3370	C 2116	N 578	O 646	S 30	0	0
25	WO	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	XA	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	XC	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	XE	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	XG	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	XI	428	Total 3359	C 2110	N 576	O 643	S 30	0	0
25	XK	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	XM	428	Total 3359	C 2110	N 576	O 643	S 30	0	0
25	XO	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	YC	428	Total 3359	C 2110	N 576	O 643	S 30	0	0
25	YE	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	YG	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	YI	430	Total 3370	C 2116	N 578	O 646	S 30	0	0
25	YK	428	Total 3359	C 2110	N 576	O 643	S 30	0	0
25	YM	428	Total 3359	C 2110	N 576	O 643	S 30	0	0
25	YO	428	Total 3359	C 2110	N 576	O 643	S 30	0	0
25	ZC	427	Total 3354	C 2107	N 575	O 642	S 30	0	0
25	ZE	427	Total 3354	C 2107	N 575	O 642	S 30	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
25	ZG	427	Total	C	N	O	S	0	0
			3354	2107	575	642	30		
25	ZI	427	Total	C	N	O	S	0	0
			3354	2107	575	642	30		
25	ZK	427	Total	C	N	O	S	0	0
			3354	2107	575	642	30		
25	ZM	427	Total	C	N	O	S	0	0
			3354	2107	575	642	30		
25	ZO	427	Total	C	N	O	S	0	0
			3354	2107	575	642	30		

- Molecule 26 is a protein called FAP74.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	O0	1140	Total	C	N	O	S	0	0
			6206	3699	1262	1239	6		
26	O1	673	Total	C	N	O	S	0	0
			4290	2588	851	843	8		
26	O2	130	Total	C	N	O	S	0	0
			1002	615	185	200	2		

- Molecule 27 is a protein called FAP69.

Mol	Chain	Residues	Atoms				AltConf	Trace
27	P0	355	Total	C	N	O	0	0
			1751	1041	355	355		
27	P1	722	Total	C	N	O	0	0
			3561	2117	722	722		
27	P2	732	Total	C	N	O	0	0
			3610	2146	732	732		
27	P3	732	Total	C	N	O	0	0
			3610	2146	732	732		

- Molecule 28 is a protein called FAP54.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	Q0	2393	Total	C	N	O	S	0	0
			17935	11345	3284	3228	78		
28	Q1	2395	Total	C	N	O	S	0	0
			17945	11351	3286	3230	78		

- Molecule 29 is a protein called FAP46.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	R0	2070	Total	C	N	O	S	0	0
			10914	6558	2179	2171	6		
29	R1	2080	Total	C	N	O	S	0	0
			10963	6587	2189	2181	6		

- Molecule 30 is a protein called FAP275.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	S0	156	Total	C	N	O	S	0	0
			1191	736	229	222	4		
30	S1	156	Total	C	N	O	S	0	0
			1191	736	229	222	4		
30	S2	156	Total	C	N	O	S	0	0
			1191	736	229	222	4		
30	S3	153	Total	C	N	O	S	0	0
			1166	719	225	218	4		

- Molecule 31 is a protein called Unknown protein.

Mol	Chain	Residues	Atoms				AltConf	Trace
31	S5	38	Total	C	N	O	0	0
			190	114	38	38		

- Molecule 32 is a protein called FAP47.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	T0	542	Total	C	N	O	S	0	0
			3339	2041	634	653	11		
32	T1	562	Total	C	N	O	S	0	0
			3434	2096	654	673	11		
32	T2	545	Total	C	N	O	S	0	0
			3355	2051	637	656	11		
32	T3	313	Total	C	N	O	0	0	
			1541	915	313	313			

- Molecule 33 is a protein called FAP279.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	U0	201	Total	C	N	O	S	0	0
			1643	1048	289	300	6		
33	U1	201	Total	C	N	O	S	0	0
			1643	1048	289	300	6		

- Molecule 34 is a protein called FAP266.

Mol	Chain	Residues	Atoms				AltConf	Trace
34	V0	198	Total	C	N	O	0	0
			956	560	198	198		
34	V1	191	Total	C	N	O	0	0
			921	539	191	191		

- Molecule 35 is a protein called FAP76.

Mol	Chain	Residues	Atoms				AltConf	Trace
35	W0	1056	Total	C	N	O	0	0
			5224	3112	1056	1056		
35	W1	962	Total	C	N	O	0	0
			4758	2834	962	962		

- Molecule 36 is a protein called Unknown protein.

Mol	Chain	Residues	Atoms				AltConf	Trace
36	W3	68	Total	C	N	O	0	0
			340	204	68	68		
36	W4	68	Total	C	N	O	0	0
			340	204	68	68		
36	W5	68	Total	C	N	O	0	0
			340	204	68	68		
36	W6	68	Total	C	N	O	0	0
			340	204	68	68		

- Molecule 37 is a protein called Unknown protein.

Mol	Chain	Residues	Atoms				AltConf	Trace
37	W7	149	Total	C	N	O	0	0
			745	447	149	149		
37	W9	149	Total	C	N	O	0	0
			745	447	149	149		

- Molecule 38 is a protein called Unknown protein.

Mol	Chain	Residues	Atoms				AltConf	Trace
38	W8	51	Total	C	N	O	0	0
			255	153	51	51		

- Molecule 39 is a protein called FAP246.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	X0	813	Total	C	N	O	S	0	0
			5308	3304	1010	981	13		
39	X1	813	Total	C	N	O	S	0	0
			5308	3304	1010	981	13		
39	X2	813	Total	C	N	O	S	0	0
			5308	3304	1010	981	13		
39	X3	813	Total	C	N	O	S	0	0
			5308	3304	1010	981	13		

- Molecule 40 is a protein called Phosphopyruvate hydratase.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	Y0	476	Total	C	N	O	S	0	0
			3607	2262	615	708	22		
40	Y1	476	Total	C	N	O	S	0	0
			3607	2262	615	708	22		
40	Y2	476	Total	C	N	O	S	0	0
			3607	2262	615	708	22		
40	Y3	476	Total	C	N	O	S	0	0
			3607	2262	615	708	22		
40	Y4	476	Total	C	N	O	S	0	0
			3607	2262	615	708	22		
40	Y5	476	Total	C	N	O	S	0	0
			3607	2262	615	708	22		
40	Y6	476	Total	C	N	O	S	0	0
			3607	2262	615	708	22		
40	Y7	476	Total	C	N	O	S	0	0
			3607	2262	615	708	22		

- Molecule 41 is a protein called Heat shock protein 70A.

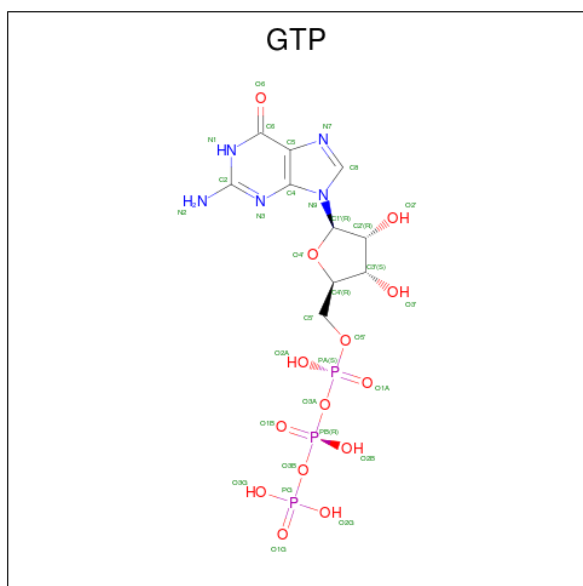
Mol	Chain	Residues	Atoms					AltConf	Trace
41	Z0	592	Total	C	N	O	S	0	0
			4599	2881	798	900	20		
41	Z1	592	Total	C	N	O	S	0	0
			4599	2881	798	900	20		
41	Z2	592	Total	C	N	O	S	0	0
			4599	2881	798	900	20		
41	Z3	592	Total	C	N	O	S	0	0
			4599	2881	798	900	20		

- Molecule 42 is ADENOSINE-5'-DIPHOSPHATE (three-letter code: ADP) (formula:  $C_{10}H_{15}N_5O_{10}P_2$ ).



Mol	Chain	Residues	Atoms					AltConf
43	1A	1	Total	C	N	O	P	0
			31	10	6	12	3	
43	1B	1	Total	C	N	O	P	0
			31	10	6	12	3	
43	1C	1	Total	C	N	O	P	0
			31	10	6	12	3	
43	1D	1	Total	C	N	O	P	0
			31	10	6	12	3	
43	C0	1	Total	C	N	O	P	0
			31	10	6	12	3	
43	C1	1	Total	C	N	O	P	0
			31	10	6	12	3	
43	C2	1	Total	C	N	O	P	0
			31	10	6	12	3	
43	C3	1	Total	C	N	O	P	0
			31	10	6	12	3	

- Molecule 44 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula:  $C_{10}H_{16}N_5O_{14}P_3$ ).



Mol	Chain	Residues	Atoms					AltConf
44	NB	1	Total	C	N	O	P	0
			32	10	5	14	3	
44	ND	1	Total	C	N	O	P	0
			32	10	5	14	3	
44	NF	1	Total	C	N	O	P	0
			32	10	5	14	3	

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
44	NH	1	32	10	5	14	3	0
44	NJ	1	32	10	5	14	3	0
44	NL	1	32	10	5	14	3	0
44	NN	1	32	10	5	14	3	0
44	OD	1	32	10	5	14	3	0
44	OF	1	32	10	5	14	3	0
44	OH	1	32	10	5	14	3	0
44	OJ	1	32	10	5	14	3	0
44	OL	1	32	10	5	14	3	0
44	ON	1	32	10	5	14	3	0
44	OP	1	32	10	5	14	3	0
44	PD	1	32	10	5	14	3	0
44	PF	1	32	10	5	14	3	0
44	PH	1	32	10	5	14	3	0
44	PJ	1	32	10	5	14	3	0
44	PL	1	32	10	5	14	3	0
44	PN	1	32	10	5	14	3	0
44	PP	1	32	10	5	14	3	0
44	QD	1	32	10	5	14	3	0
44	QF	1	32	10	5	14	3	0
44	QH	1	32	10	5	14	3	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
44	QJ	1	32	10	5	14	3	0
44	QL	1	32	10	5	14	3	0
44	QN	1	32	10	5	14	3	0
44	QP	1	32	10	5	14	3	0
44	RD	1	32	10	5	14	3	0
44	RF	1	32	10	5	14	3	0
44	RH	1	32	10	5	14	3	0
44	RJ	1	32	10	5	14	3	0
44	RL	1	32	10	5	14	3	0
44	RN	1	32	10	5	14	3	0
44	RP	1	32	10	5	14	3	0
44	SB	1	32	10	5	14	3	0
44	SD	1	32	10	5	14	3	0
44	SF	1	32	10	5	14	3	0
44	SH	1	32	10	5	14	3	0
44	SJ	1	32	10	5	14	3	0
44	SL	1	32	10	5	14	3	0
44	SN	1	32	10	5	14	3	0
44	SP	1	32	10	5	14	3	0
44	TB	1	32	10	5	14	3	0
44	TD	1	32	10	5	14	3	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
44	TF	1	Total 32	C 10	N 5	O 14	P 3	0
44	TH	1	Total 32	C 10	N 5	O 14	P 3	0
44	TJ	1	Total 32	C 10	N 5	O 14	P 3	0
44	TL	1	Total 32	C 10	N 5	O 14	P 3	0
44	TN	1	Total 32	C 10	N 5	O 14	P 3	0
44	TP	1	Total 32	C 10	N 5	O 14	P 3	0
44	UB	1	Total 32	C 10	N 5	O 14	P 3	0
44	UD	1	Total 32	C 10	N 5	O 14	P 3	0
44	UF	1	Total 32	C 10	N 5	O 14	P 3	0
44	UH	1	Total 32	C 10	N 5	O 14	P 3	0
44	UJ	1	Total 32	C 10	N 5	O 14	P 3	0
44	UL	1	Total 32	C 10	N 5	O 14	P 3	0
44	UN	1	Total 32	C 10	N 5	O 14	P 3	0
44	UP	1	Total 32	C 10	N 5	O 14	P 3	0
44	VB	1	Total 32	C 10	N 5	O 14	P 3	0
44	VD	1	Total 32	C 10	N 5	O 14	P 3	0
44	VF	1	Total 32	C 10	N 5	O 14	P 3	0
44	VH	1	Total 32	C 10	N 5	O 14	P 3	0
44	VJ	1	Total 32	C 10	N 5	O 14	P 3	0
44	VL	1	Total 32	C 10	N 5	O 14	P 3	0
44	VN	1	Total 32	C 10	N 5	O 14	P 3	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
44	VP	1	Total 32	C 10	N 5	O 14	P 3	0
44	WB	1	Total 32	C 10	N 5	O 14	P 3	0
44	WD	1	Total 32	C 10	N 5	O 14	P 3	0
44	WF	1	Total 32	C 10	N 5	O 14	P 3	0
44	WH	1	Total 32	C 10	N 5	O 14	P 3	0
44	WJ	1	Total 32	C 10	N 5	O 14	P 3	0
44	WL	1	Total 32	C 10	N 5	O 14	P 3	0
44	WN	1	Total 32	C 10	N 5	O 14	P 3	0
44	XB	1	Total 32	C 10	N 5	O 14	P 3	0
44	XD	1	Total 32	C 10	N 5	O 14	P 3	0
44	XF	1	Total 32	C 10	N 5	O 14	P 3	0
44	XH	1	Total 32	C 10	N 5	O 14	P 3	0
44	XJ	1	Total 32	C 10	N 5	O 14	P 3	0
44	XL	1	Total 32	C 10	N 5	O 14	P 3	0
44	XN	1	Total 32	C 10	N 5	O 14	P 3	0
44	YB	1	Total 32	C 10	N 5	O 14	P 3	0
44	YD	1	Total 32	C 10	N 5	O 14	P 3	0
44	YF	1	Total 32	C 10	N 5	O 14	P 3	0
44	YH	1	Total 32	C 10	N 5	O 14	P 3	0
44	YJ	1	Total 32	C 10	N 5	O 14	P 3	0
44	YL	1	Total 32	C 10	N 5	O 14	P 3	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
44	YN	1	32	10	5	14	3	0
44	YP	1	32	10	5	14	3	0
44	ZB	1	32	10	5	14	3	0
44	ZD	1	32	10	5	14	3	0
44	ZF	1	32	10	5	14	3	0
44	ZH	1	32	10	5	14	3	0
44	ZJ	1	32	10	5	14	3	0
44	ZL	1	32	10	5	14	3	0
44	ZN	1	32	10	5	14	3	0
44	ZP	1	32	10	5	14	3	0

- Molecule 45 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
45	NB	1	1	1	0
45	ND	1	1	1	0
45	NG	1	1	1	0
45	NH	1	1	1	0
45	NJ	1	1	1	0
45	NL	1	1	1	0
45	NN	1	1	1	0
45	OD	1	1	1	0
45	OF	1	1	1	0

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Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
45	OH	1	1	1	0
45	OJ	1	1	1	0
45	OL	1	1	1	0
45	ON	1	1	1	0
45	OP	1	1	1	0
45	PD	1	1	1	0
45	PF	1	1	1	0
45	PI	1	1	1	0
45	PJ	1	1	1	0
45	PL	1	1	1	0
45	PN	1	1	1	0
45	PP	1	1	1	0
45	QD	1	1	1	0
45	QF	1	1	1	0
45	QH	1	1	1	0
45	QJ	1	1	1	0
45	QL	1	1	1	0
45	QN	1	1	1	0
45	QP	1	1	1	0
45	RD	1	1	1	0
45	RF	1	1	1	0

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Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
45	RI	1	1	1	0
45	RJ	1	1	1	0
45	RL	1	1	1	0
45	RN	1	1	1	0
45	RP	1	1	1	0
45	SC	1	1	1	0
45	SD	1	1	1	0
45	SG	1	1	1	0
45	SH	1	1	1	0
45	SJ	1	1	1	0
45	SL	1	1	1	0
45	SO	1	1	1	0
45	SP	1	1	1	0
45	TB	1	1	1	0
45	TD	1	1	1	0
45	TG	1	1	1	0
45	TH	1	1	1	0
45	TJ	1	1	1	0
45	TM	1	1	1	0
45	TN	1	1	1	0
45	TP	1	1	1	0

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Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
45	UB	1	1	1	0
45	UD	1	1	1	0
45	UF	1	1	1	0
45	UH	1	1	1	0
45	UJ	1	1	1	0
45	UL	1	1	1	0
45	UN	1	1	1	0
45	UP	1	1	1	0
45	VB	1	1	1	0
45	VD	1	1	1	0
45	VF	1	1	1	0
45	VH	1	1	1	0
45	VJ	1	1	1	0
45	VL	1	1	1	0
45	VN	1	1	1	0
45	VP	1	1	1	0
45	WB	1	1	1	0
45	WD	1	1	1	0
45	WG	1	1	1	0
45	WH	1	1	1	0
45	WJ	1	1	1	0

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Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
45	WL	1	1	1	0
45	WN	1	1	1	0
45	XB	1	1	1	0
45	XD	1	1	1	0
45	XF	1	1	1	0
45	XH	1	1	1	0
45	XJ	1	1	1	0
45	XM	1	1	1	0
45	XN	1	1	1	0
45	YB	1	1	1	0
45	YD	1	1	1	0
45	YF	1	1	1	0
45	YH	1	1	1	0
45	YJ	1	1	1	0
45	YL	1	1	1	0
45	YN	1	1	1	0
45	YP	1	1	1	0
45	ZB	1	1	1	0
45	ZD	1	1	1	0
45	ZF	1	1	1	0
45	ZH	1	1	1	0

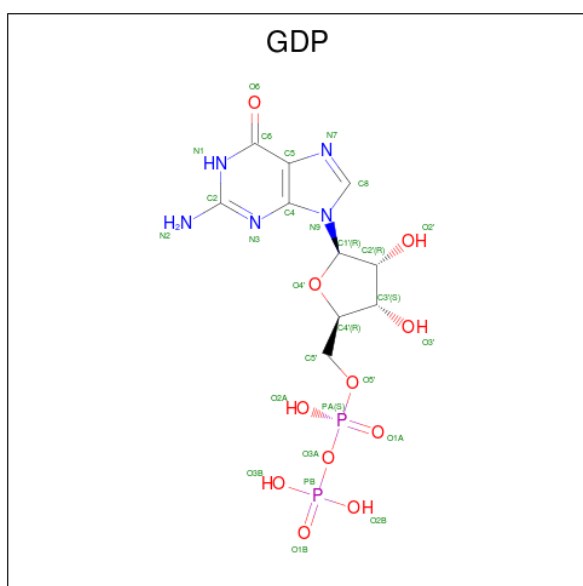
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Mol	Chain	Residues	Atoms		AltConf
45	ZJ	1	Total	Mg	0
			1	1	
45	ZL	1	Total	Mg	0
			1	1	
45	ZN	1	Total	Mg	0
			1	1	
45	ZP	1	Total	Mg	0
			1	1	

- Molecule 46 is GUANOSINE-5'-DIPHOSPHATE (three-letter code: GDP) (formula:  $C_{10}H_{15}N_5O_{11}P_2$ ).



Mol	Chain	Residues	Atoms				AltConf	
46	NC	1	Total	C	N	O	P	0
			28	10	5	11	2	
46	NE	1	Total	C	N	O	P	0
			28	10	5	11	2	
46	NG	1	Total	C	N	O	P	0
			28	10	5	11	2	
46	NI	1	Total	C	N	O	P	0
			28	10	5	11	2	
46	NK	1	Total	C	N	O	P	0
			28	10	5	11	2	
46	NM	1	Total	C	N	O	P	0
			28	10	5	11	2	
46	NO	1	Total	C	N	O	P	0
			28	10	5	11	2	

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
46	OC	1	28	10	5	11	2	0
46	OE	1	28	10	5	11	2	0
46	OG	1	28	10	5	11	2	0
46	OI	1	28	10	5	11	2	0
46	OK	1	28	10	5	11	2	0
46	OM	1	28	10	5	11	2	0
46	OO	1	28	10	5	11	2	0
46	OQ	1	28	10	5	11	2	0
46	PC	1	28	10	5	11	2	0
46	PE	1	28	10	5	11	2	0
46	PG	1	28	10	5	11	2	0
46	PI	1	28	10	5	11	2	0
46	PK	1	28	10	5	11	2	0
46	PM	1	28	10	5	11	2	0
46	PO	1	28	10	5	11	2	0
46	PQ	1	28	10	5	11	2	0
46	QC	1	28	10	5	11	2	0
46	QE	1	28	10	5	11	2	0
46	QG	1	28	10	5	11	2	0
46	QI	1	28	10	5	11	2	0
46	QK	1	28	10	5	11	2	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
46	QM	1	28	10	5	11	2	0
46	QO	1	28	10	5	11	2	0
46	QQ	1	28	10	5	11	2	0
46	RC	1	28	10	5	11	2	0
46	RE	1	28	10	5	11	2	0
46	RG	1	28	10	5	11	2	0
46	RI	1	28	10	5	11	2	0
46	RK	1	28	10	5	11	2	0
46	RM	1	28	10	5	11	2	0
46	RO	1	28	10	5	11	2	0
46	SC	1	28	10	5	11	2	0
46	SE	1	28	10	5	11	2	0
46	SG	1	28	10	5	11	2	0
46	SI	1	28	10	5	11	2	0
46	SK	1	28	10	5	11	2	0
46	SM	1	28	10	5	11	2	0
46	SO	1	28	10	5	11	2	0
46	TC	1	28	10	5	11	2	0
46	TE	1	28	10	5	11	2	0
46	TG	1	28	10	5	11	2	0
46	TI	1	28	10	5	11	2	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
46	TK	1	Total 28	C 10	N 5	O 11	P 2	0
46	TM	1	Total 28	C 10	N 5	O 11	P 2	0
46	TO	1	Total 28	C 10	N 5	O 11	P 2	0
46	UC	1	Total 28	C 10	N 5	O 11	P 2	0
46	UE	1	Total 28	C 10	N 5	O 11	P 2	0
46	UG	1	Total 28	C 10	N 5	O 11	P 2	0
46	UI	1	Total 28	C 10	N 5	O 11	P 2	0
46	UK	1	Total 28	C 10	N 5	O 11	P 2	0
46	UM	1	Total 28	C 10	N 5	O 11	P 2	0
46	UO	1	Total 28	C 10	N 5	O 11	P 2	0
46	VC	1	Total 28	C 10	N 5	O 11	P 2	0
46	VE	1	Total 28	C 10	N 5	O 11	P 2	0
46	VG	1	Total 28	C 10	N 5	O 11	P 2	0
46	VI	1	Total 28	C 10	N 5	O 11	P 2	0
46	VK	1	Total 28	C 10	N 5	O 11	P 2	0
46	VM	1	Total 28	C 10	N 5	O 11	P 2	0
46	VO	1	Total 28	C 10	N 5	O 11	P 2	0
46	WA	1	Total 28	C 10	N 5	O 11	P 2	0
46	WC	1	Total 28	C 10	N 5	O 11	P 2	0
46	WE	1	Total 28	C 10	N 5	O 11	P 2	0
46	WG	1	Total 28	C 10	N 5	O 11	P 2	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
46	WI	1	28	10	5	11	2	0
46	WK	1	28	10	5	11	2	0
46	WM	1	28	10	5	11	2	0
46	WO	1	28	10	5	11	2	0
46	XA	1	28	10	5	11	2	0
46	XC	1	28	10	5	11	2	0
46	XE	1	28	10	5	11	2	0
46	XG	1	28	10	5	11	2	0
46	XI	1	28	10	5	11	2	0
46	XK	1	28	10	5	11	2	0
46	XM	1	28	10	5	11	2	0
46	XO	1	28	10	5	11	2	0
46	YC	1	28	10	5	11	2	0
46	YE	1	28	10	5	11	2	0
46	YG	1	28	10	5	11	2	0
46	YI	1	28	10	5	11	2	0
46	YK	1	28	10	5	11	2	0
46	YM	1	28	10	5	11	2	0
46	YO	1	28	10	5	11	2	0
46	ZC	1	28	10	5	11	2	0
46	ZE	1	28	10	5	11	2	0

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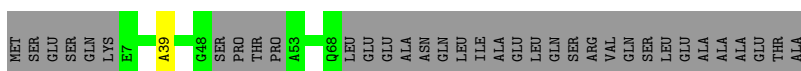
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
46	ZG	1	Total 28	10	5	11	2	0
46	ZI	1	Total 28	10	5	11	2	0
46	ZK	1	Total 28	10	5	11	2	0
46	ZM	1	Total 28	10	5	11	2	0
46	ZO	1	Total 28	10	5	11	2	0

### 3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. 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.

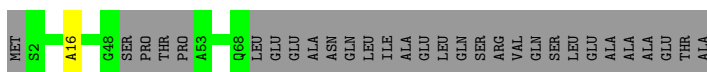
- Molecule 1: Flagellar associated protein

Chain 0A:  61% 38%



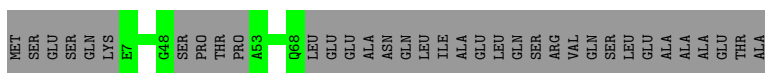
- Molecule 1: Flagellar associated protein

Chain 0B:  67% 32%



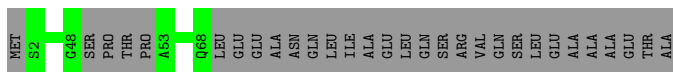
- Molecule 1: Flagellar associated protein

Chain 0C:  62% 38%



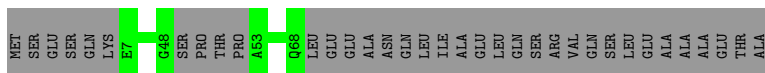
- Molecule 1: Flagellar associated protein

Chain 0D:  68% 32%



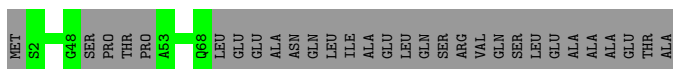
- Molecule 1: Flagellar associated protein

Chain 0E:  62% 38%

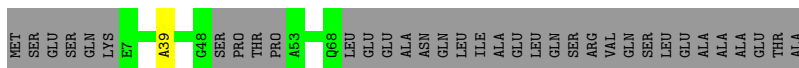


- Molecule 1: Flagellar associated protein

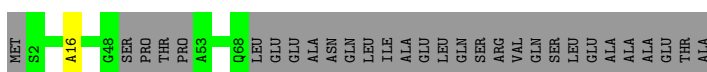
Chain 0F:  68% 32%



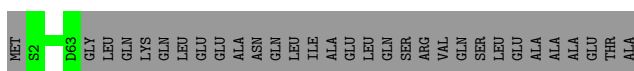
• Molecule 1: Flagellar associated protein



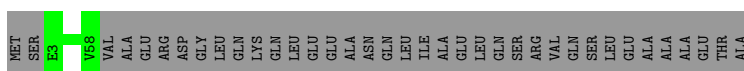
• Molecule 1: Flagellar associated protein



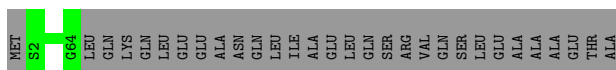
• Molecule 1: Flagellar associated protein



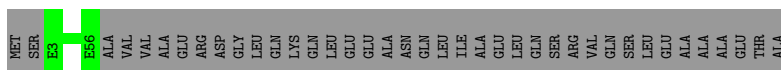
• Molecule 1: Flagellar associated protein



• Molecule 1: Flagellar associated protein



• Molecule 1: Flagellar associated protein



• Molecule 2: FAP42



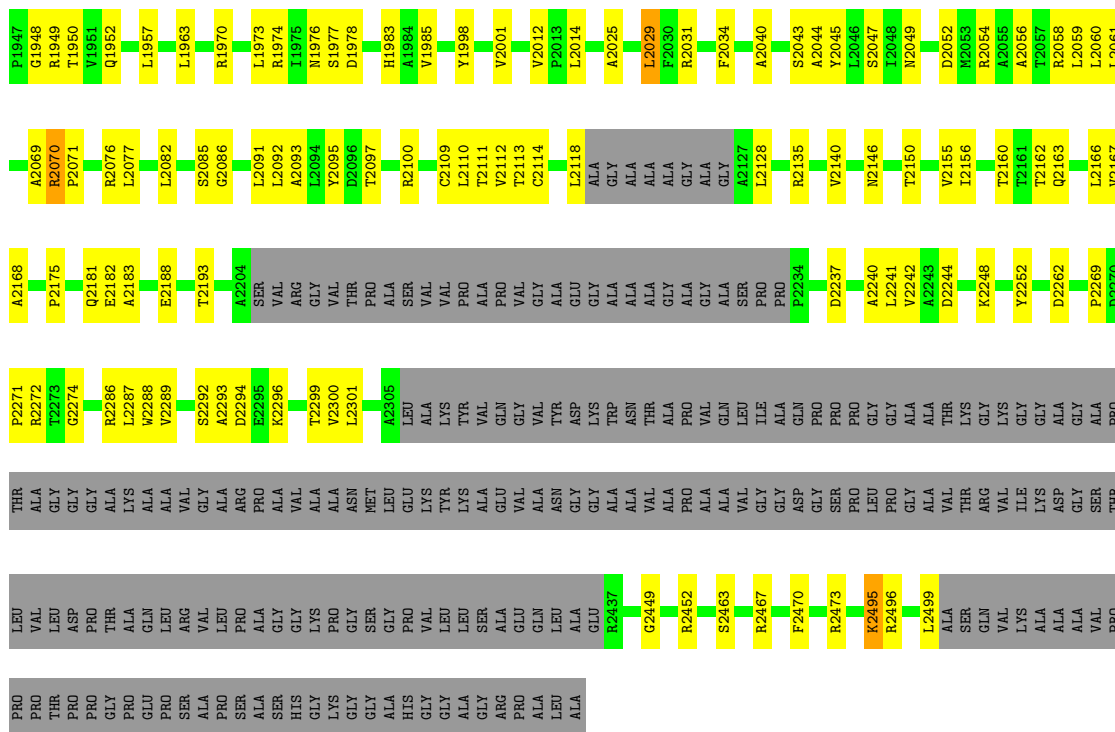




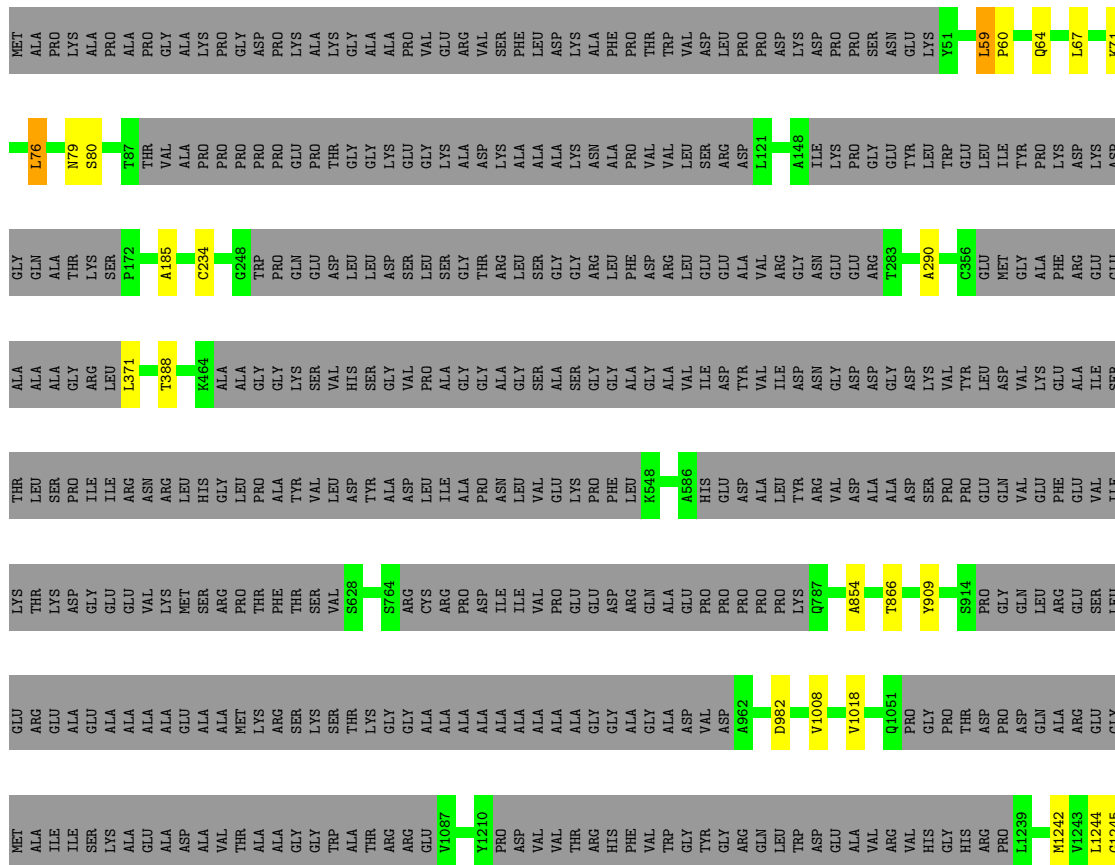








● Molecule 2: FAP42











PRO LEU PRO PRO ALA THR PRO ARG PRO GLY ILE ALA ALA LEU LEU ILE SER THR PRO PRO ALA SER SER PRO LEU THR ALA ALA ARG L251 D501 VAL ASN VAL THR GLU VAL

• Molecule 3: FAP7

Chain 1L:  67% 33%

MET PRO SER PRO LYS THR ARG PRO SER GLY LEU LEU VAL GLY SER PRO GLY ARG LEU ILE SER THR PRO PRO ALA SER GLN ALA ARG SER THR LEU THR THR VAL SER LEU LEU SER SER PRO GLY THR SER LEU ALA PHE MET ASN ILE HIS E39 R130 VAL ASP ILE PRO GLN VAL ALA GLN GLN ASP TYR LEU ARG THR VAL ASN ALA GLN GLN ASP VAL PRO ILE ALA ALA TYR ASN VAL ASN VAL MET TYR THR VAL

GLN GLN SER ILE VAL ASN GLY SER SER LEU ALA ARG SER GLY THR VAL SER SER THR SER THR HIS GLN MET GLY VAL ASN VAL ASP HIS L251 Y496 MET LEU THR VAL

• Molecule 3: FAP7

Chain 1M:  68% 32%

MET PRO SER PRO LYS THR ARG PRO SER GLY LEU LEU VAL GLY SER PRO GLY ARG LEU ILE SER THR PRO PRO ALA SER GLN ALA ARG SER THR LEU THR THR VAL SER SER LEU LEU SER SER PRO GLY THR SER LEU ALA PHE MET ASN ILE HIS F34 F126 ALA GLY ALA VAL ASP ILE PRO GLN VAL ALA GLN GLN ASP TYR LEU ARG THR VAL ASN ALA GLN GLN ASP VAL ILE ALA TYR THR VAL

PRO GLN ILE VAL ALA THR PRO SER GLY LEU LEU VAL GLY SER PRO GLY ARG LEU ILE SER THR PRO PRO ALA SER GLN ALA ARG SER THR LEU THR THR VAL SER SER LEU LEU SER SER PRO GLY THR SER LEU ALA PHE MET ASN ILE HIS F34 F126 ALA GLY ALA VAL ASP ILE PRO GLN VAL ALA GLN GLN ASP TYR LEU ARG THR VAL ASN ALA GLN GLN ASP VAL ILE ALA TYR THR VAL

• Molecule 3: FAP7

Chain 1N:  66% 33%

MET PRO SER PRO LYS THR ARG PRO SER GLY LEU LEU VAL GLY SER PRO GLY ARG LEU ILE SER THR PRO PRO ALA SER GLN ALA ARG SER THR LEU THR THR VAL SER SER LEU LEU SER SER PRO GLY THR SER LEU ALA PHE MET ASN ILE HIS E39 R130 VAL ASP ILE PRO GLN VAL ALA GLN GLN ASP TYR LEU ARG THR VAL ASN ALA GLN GLN ASP VAL ILE ALA TYR THR VAL

GLN PRO ILE VAL ASN GLY SER SER LEU ALA ARG SER THR LEU THR THR VAL SER SER LEU LEU SER SER PRO GLY THR SER LEU ALA PHE MET ASN ILE HIS E39 R130 VAL ASP ILE PRO GLN VAL ALA GLN GLN ASP TYR LEU ARG THR VAL ASN ALA GLN GLN ASP VAL ILE ALA TYR THR VAL

• Molecule 3: FAP7

Chain 1O:  68% 32%

MET PRO SER PRO LYS THR ARG PRO SER GLY LEU LEU VAL GLY SER PRO GLY ARG LEU ILE SER THR PRO PRO ALA SER GLN ALA ARG SER THR LEU THR THR VAL SER SER LEU LEU SER SER PRO GLY THR SER LEU ALA PHE MET ASN ILE HIS F34 F126 ALA GLY ALA VAL ASP ILE PRO GLN VAL ALA GLN GLN ASP TYR LEU ARG THR VAL ASN ALA GLN GLN ASP VAL ILE ALA TYR THR VAL

PRO GLN ILE VAL ALA THR PRO SER GLY LEU LEU VAL GLY SER PRO GLY ARG LEU ILE SER THR PRO PRO ALA SER GLN ALA ARG SER THR LEU THR THR VAL SER SER LEU LEU SER SER PRO GLY THR SER LEU ALA PHE MET ASN ILE HIS F34 F126 ALA GLY ALA VAL ASP ILE PRO GLN VAL ALA GLN GLN ASP TYR LEU ARG THR VAL ASN ALA GLN GLN ASP VAL ILE ALA TYR THR VAL

















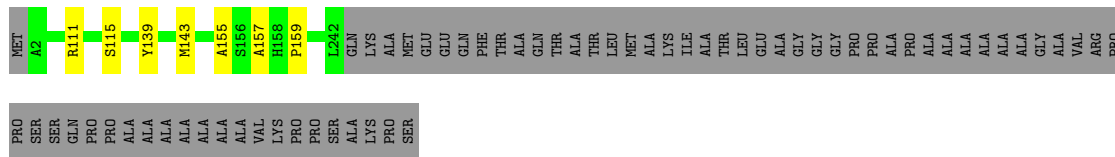
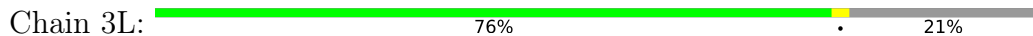




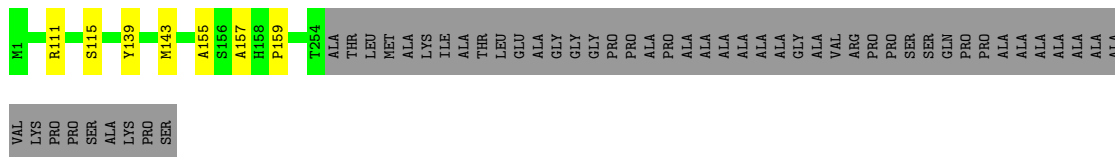
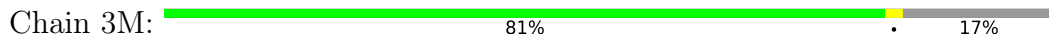




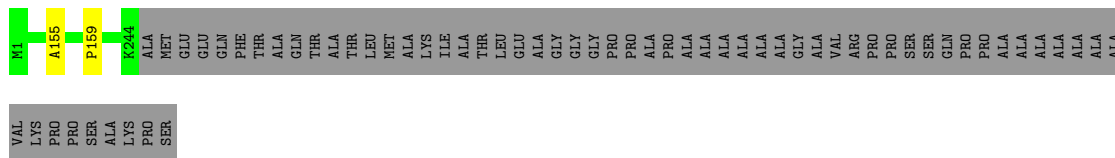
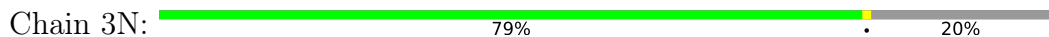
• Molecule 9: FAP119



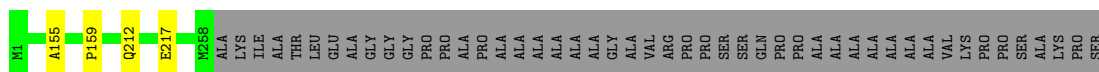
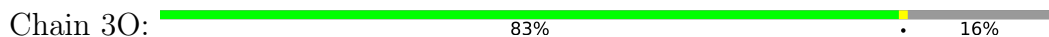
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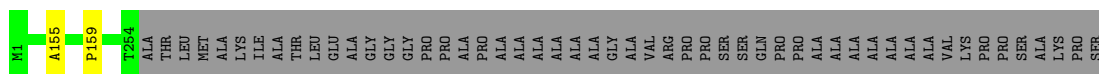
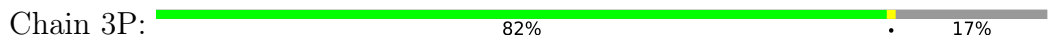
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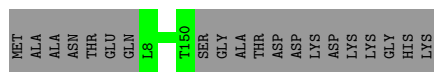
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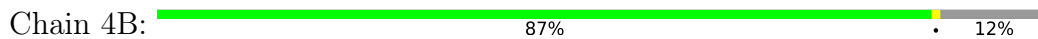
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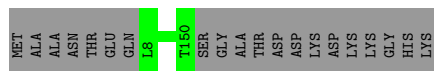
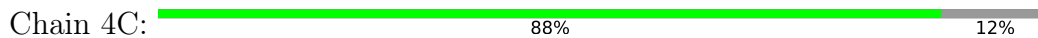
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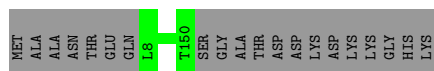
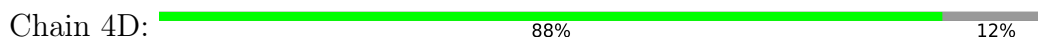
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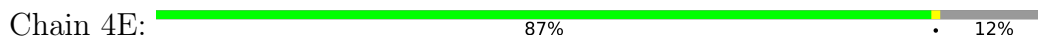
● Molecule 10: Calmodulin



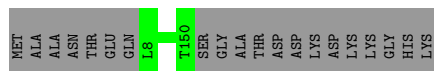
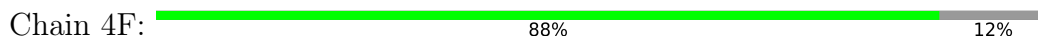
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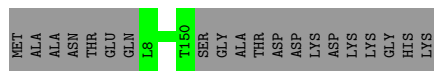
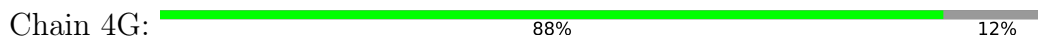
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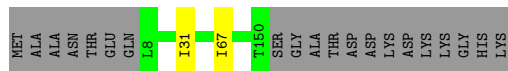
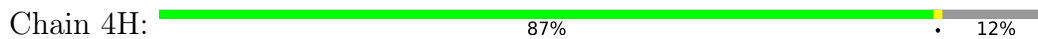
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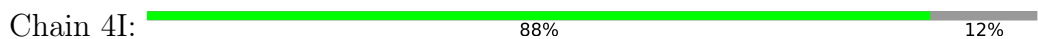
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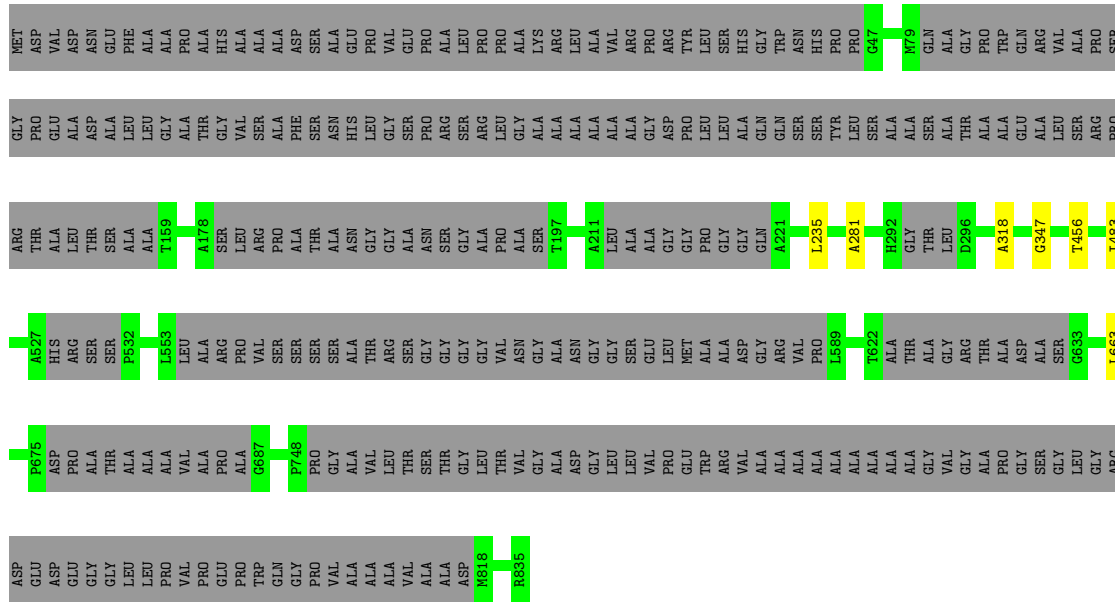
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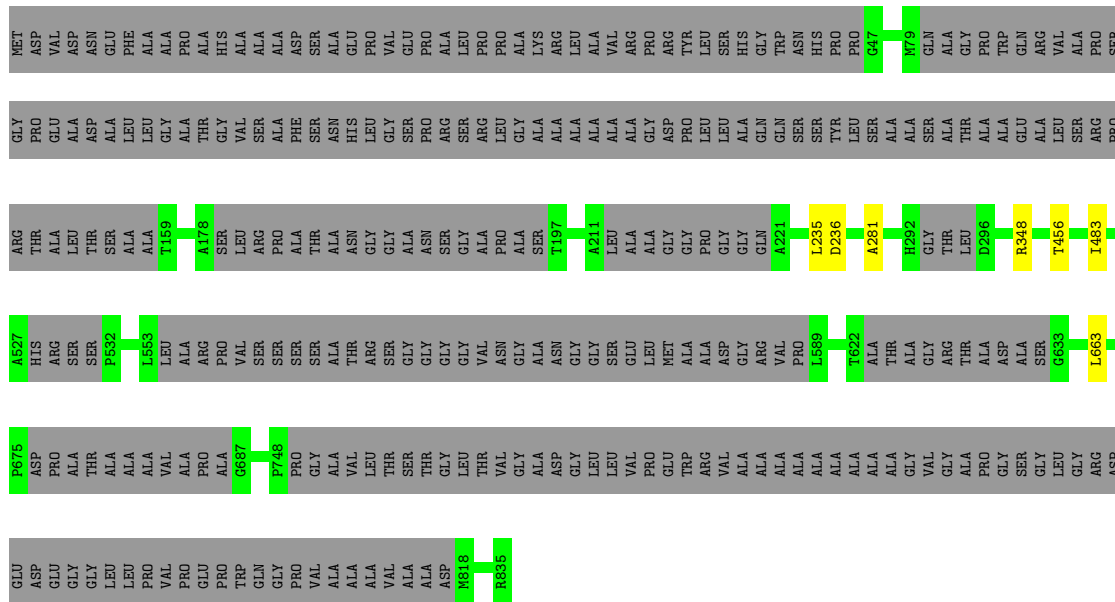
● Molecule 10: Calmodulin



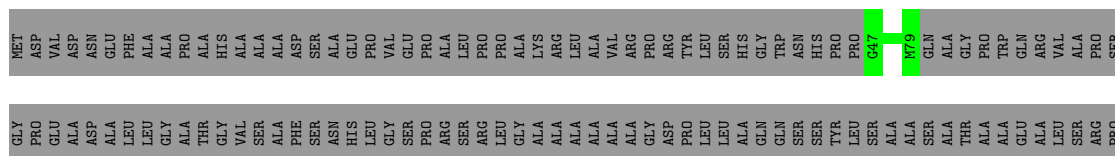




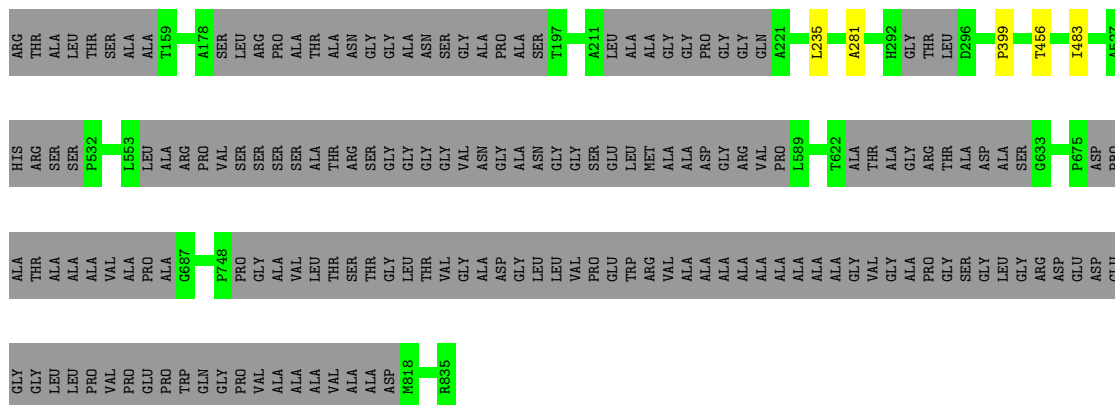
• Molecule 11: FAP101



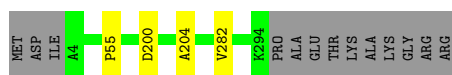
• Molecule 11: FAP101



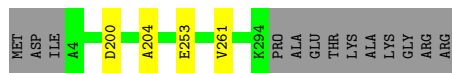




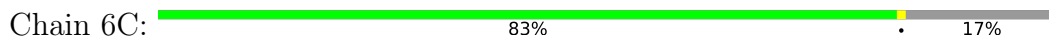
• Molecule 12: FAP15



• Molecule 12: FAP15

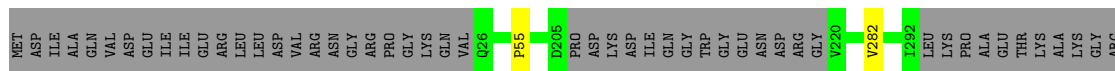
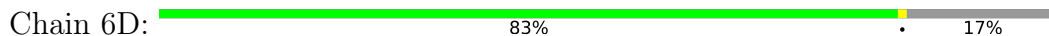


• Molecule 12: FAP15



ARG

• Molecule 12: FAP15



ARG

• Molecule 13: FAP227





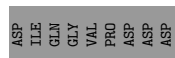
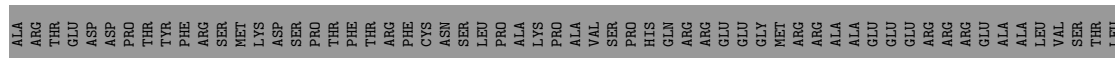
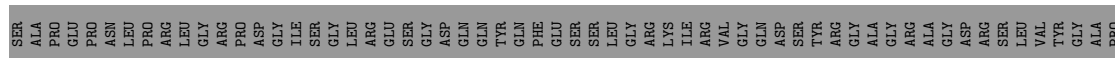
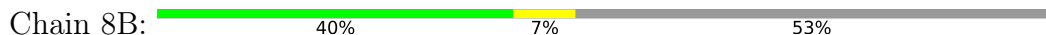




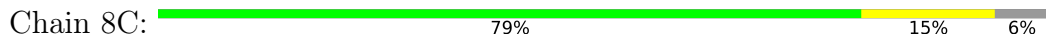
• Molecule 14: FAP105



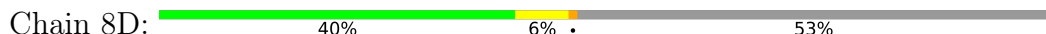
• Molecule 14: FAP105



• Molecule 14: FAP105



• Molecule 14: FAP105





























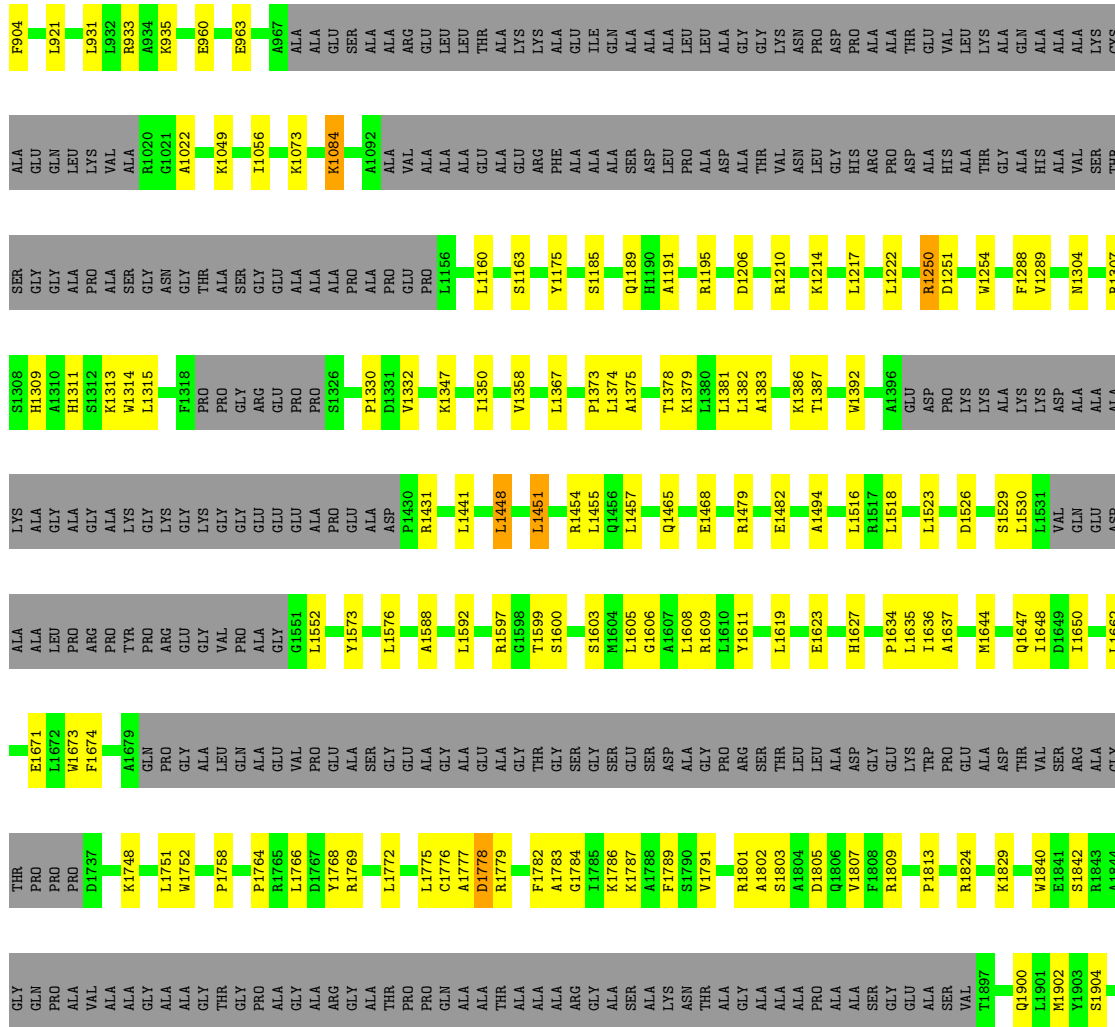




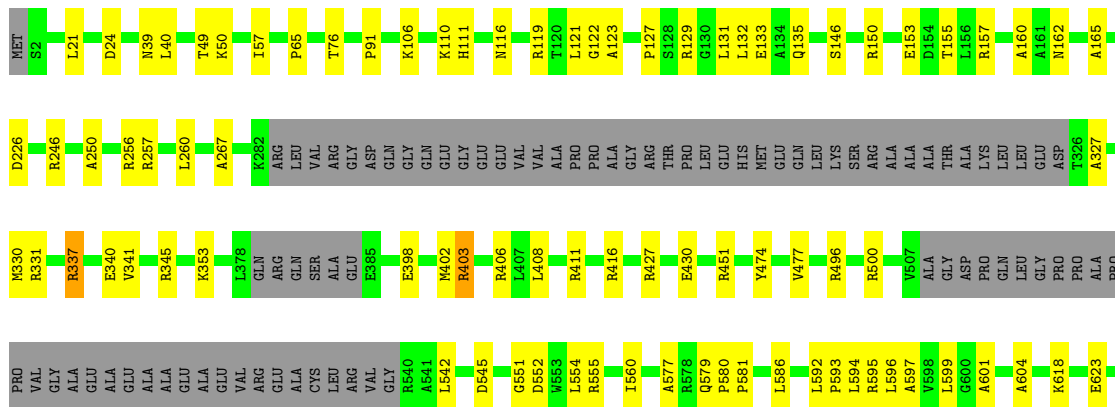








● Molecule 18: CPC1

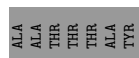
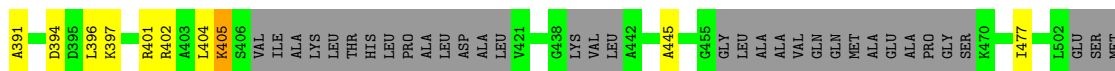




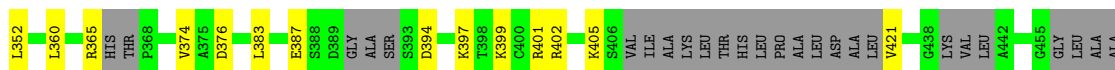
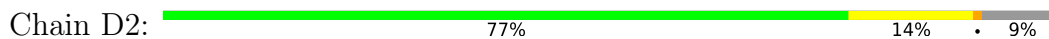




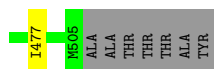
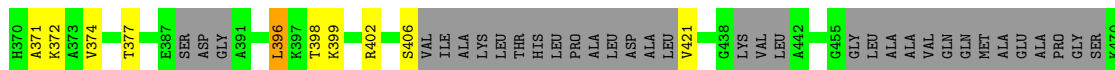




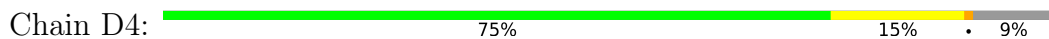
• Molecule 19: PF16



• Molecule 19: PF16



• Molecule 19: PF16



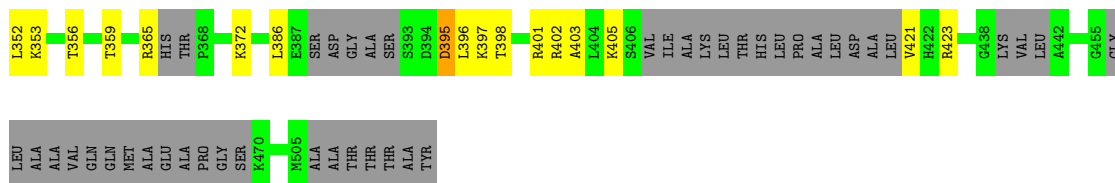




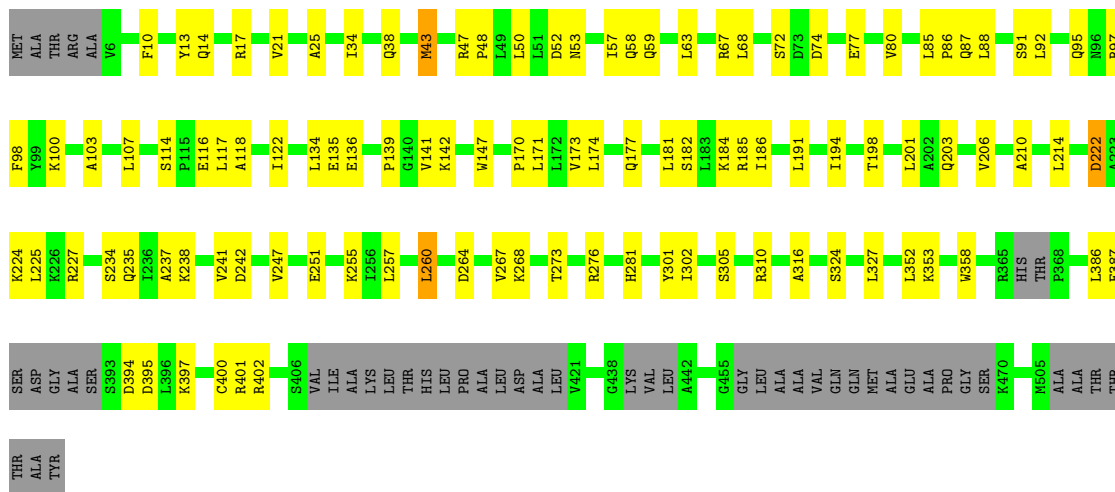




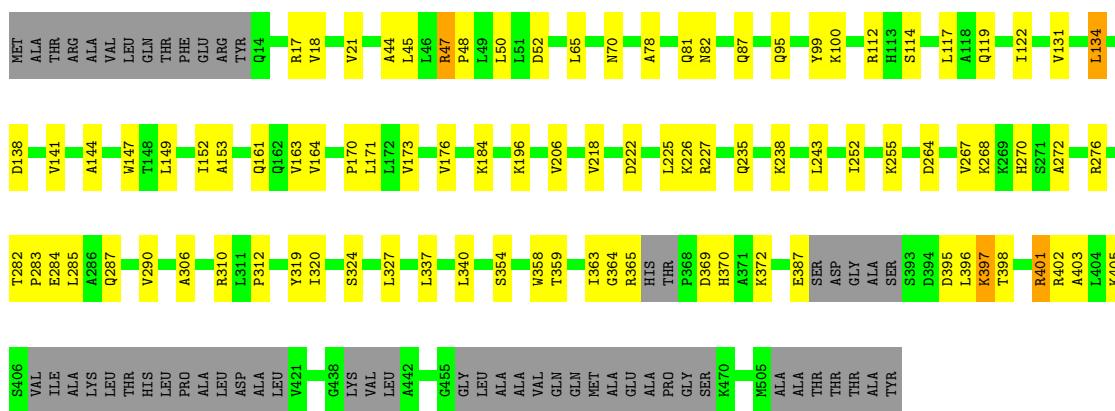




• Molecule 19: PF16

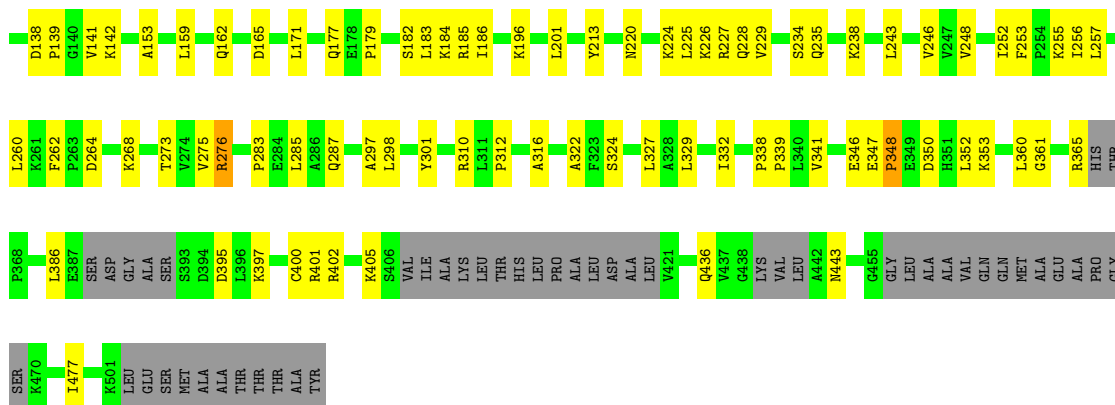


• Molecule 19: PF16

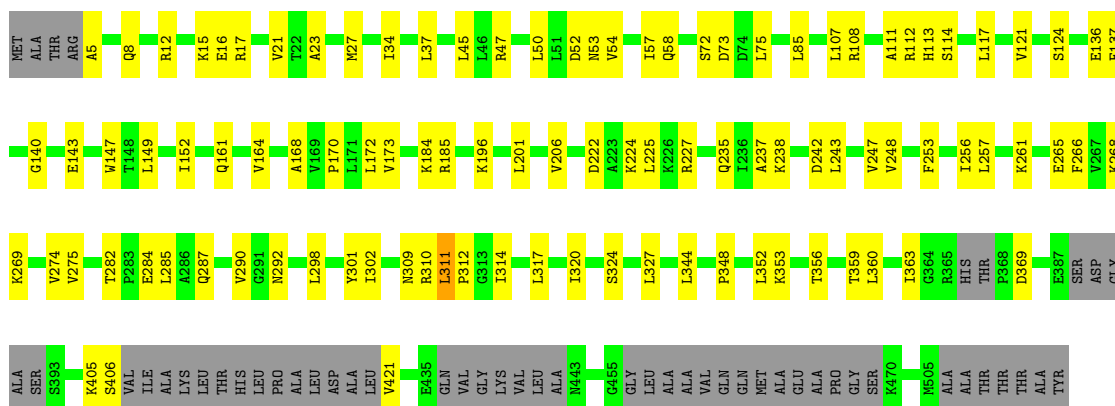


• Molecule 19: PF16

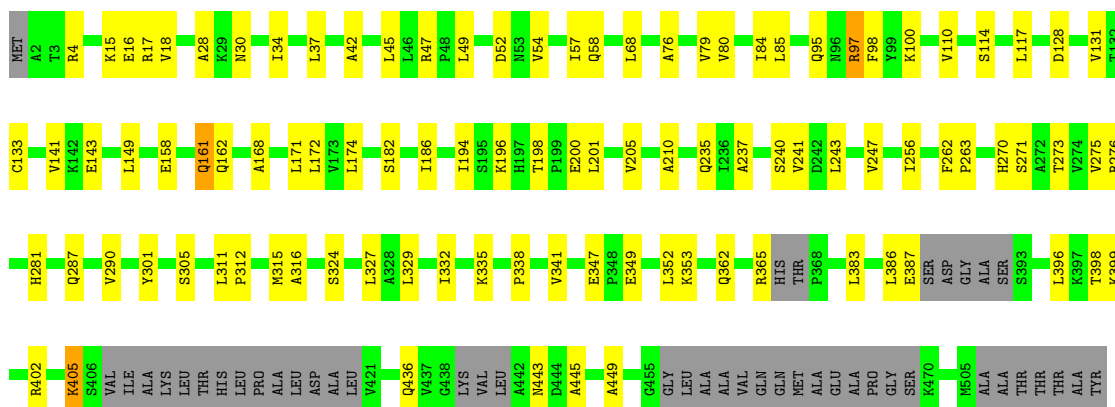




• Molecule 19: PF16



• Molecule 19: PF16



• Molecule 19: PF16

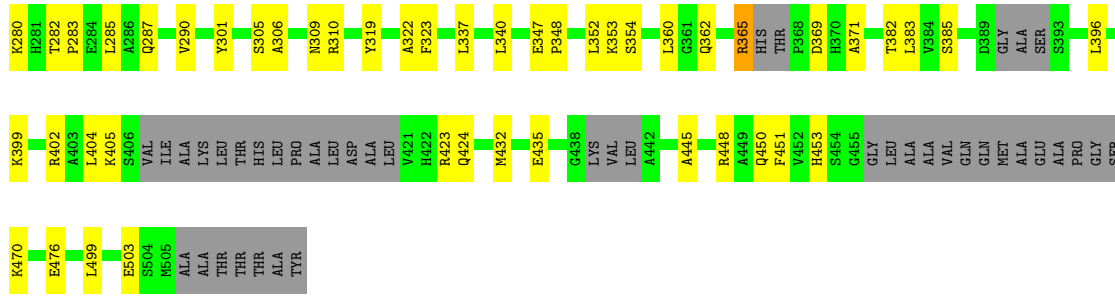




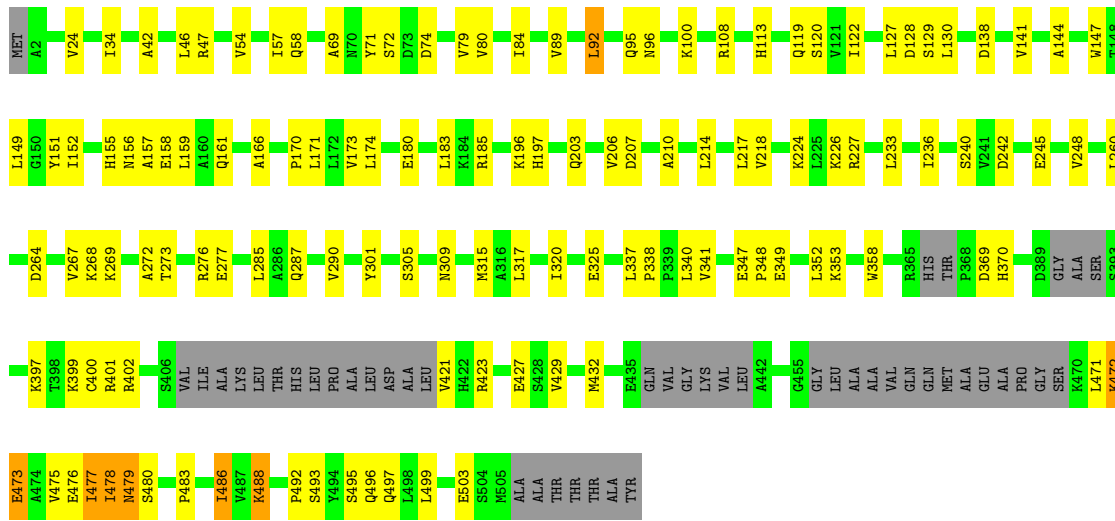




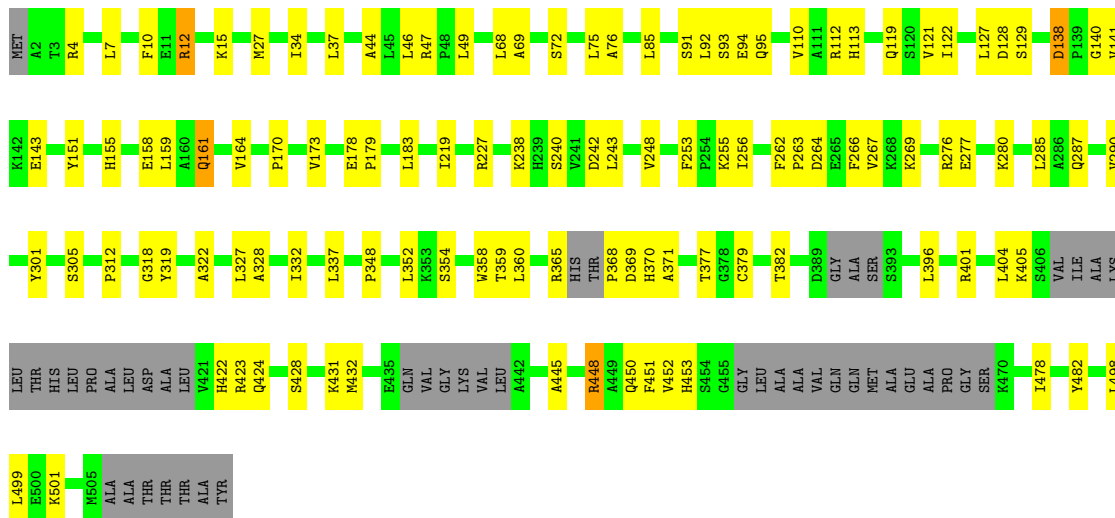




• Molecule 19: PF16



• Molecule 19: PF16



• Molecule 19: PF16

































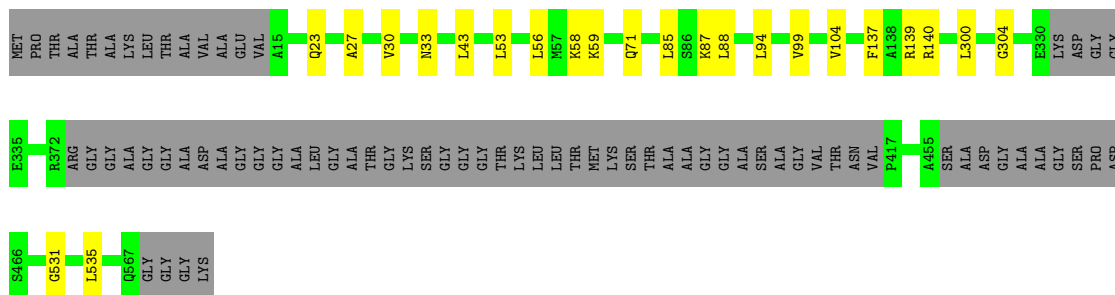






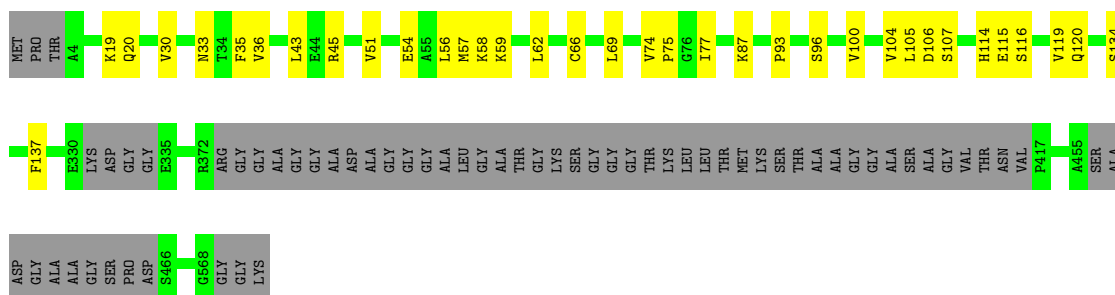






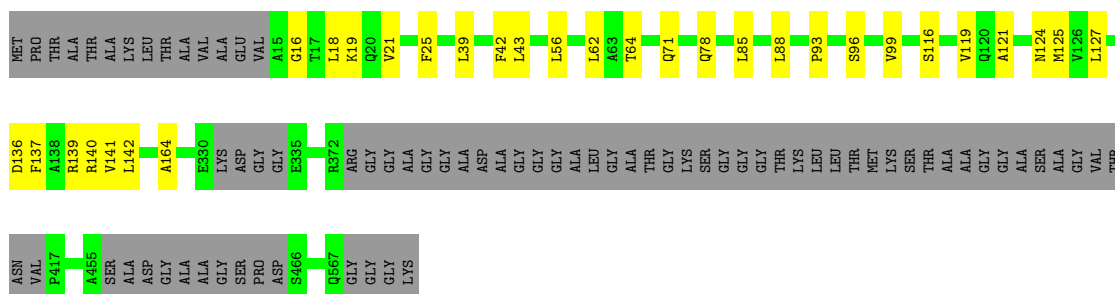
• Molecule 23: FAP194

Chain N1:



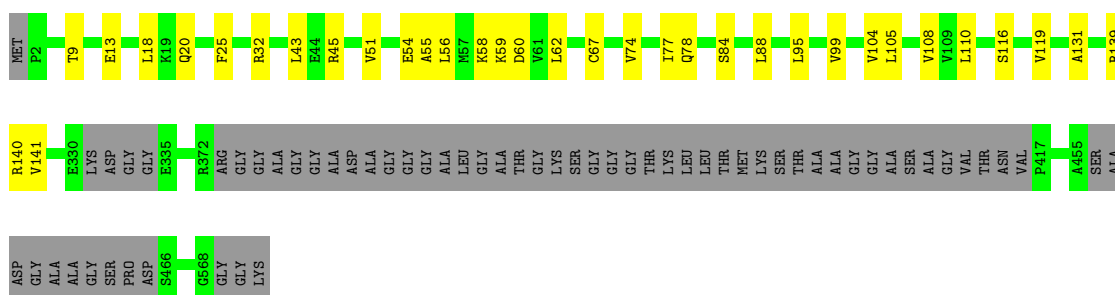
• Molecule 23: FAP194

Chain N2:



• Molecule 23: FAP194

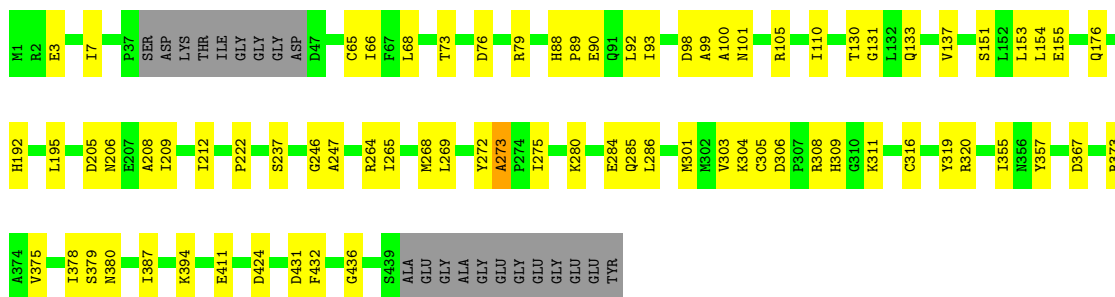
Chain N3:



• Molecule 24: Tubulin alpha

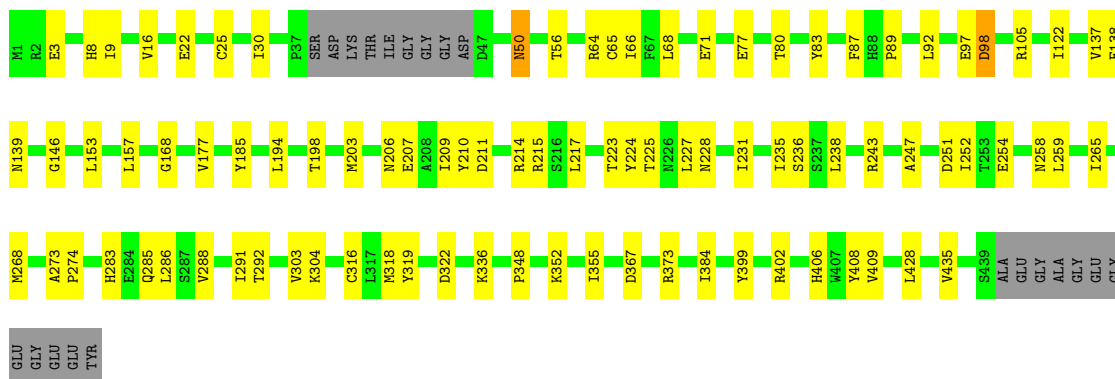


Chain NB:  78% 17% 5%



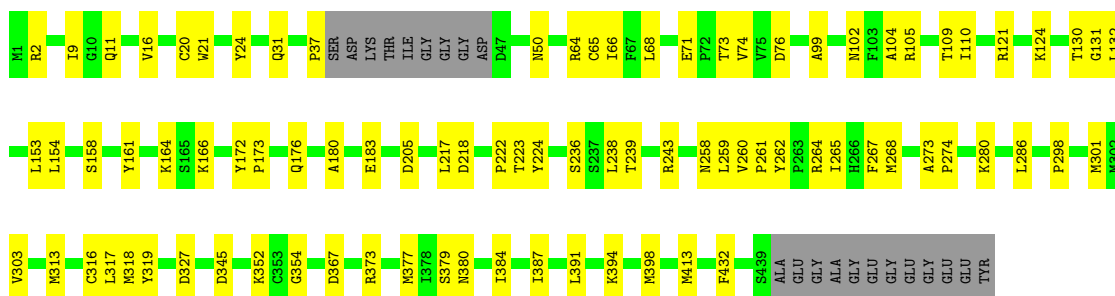
• Molecule 24: Tubulin alpha

Chain ND:  75% 20% 5%



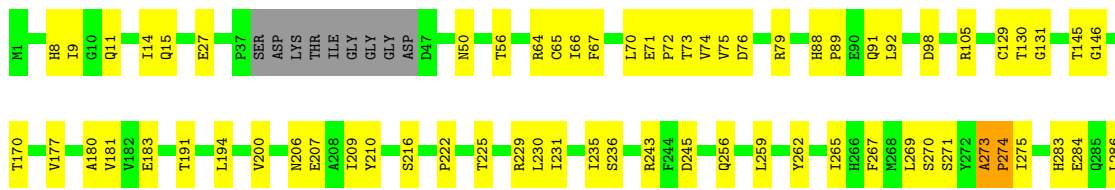
• Molecule 24: Tubulin alpha

Chain NF:  76% 19% 5%



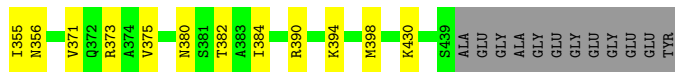
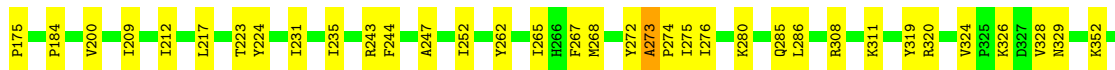
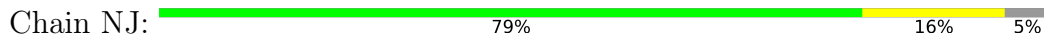
• Molecule 24: Tubulin alpha

Chain NH:  75% 20% 5%

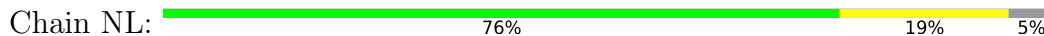




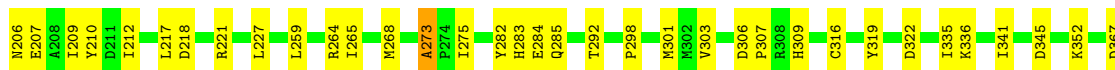
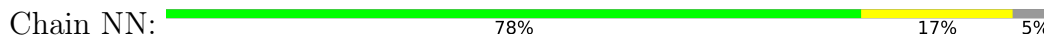
• Molecule 24: Tubulin alpha



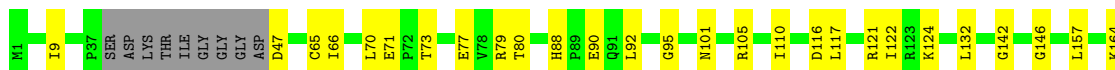
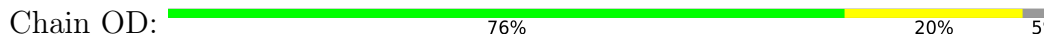
• Molecule 24: Tubulin alpha



• Molecule 24: Tubulin alpha



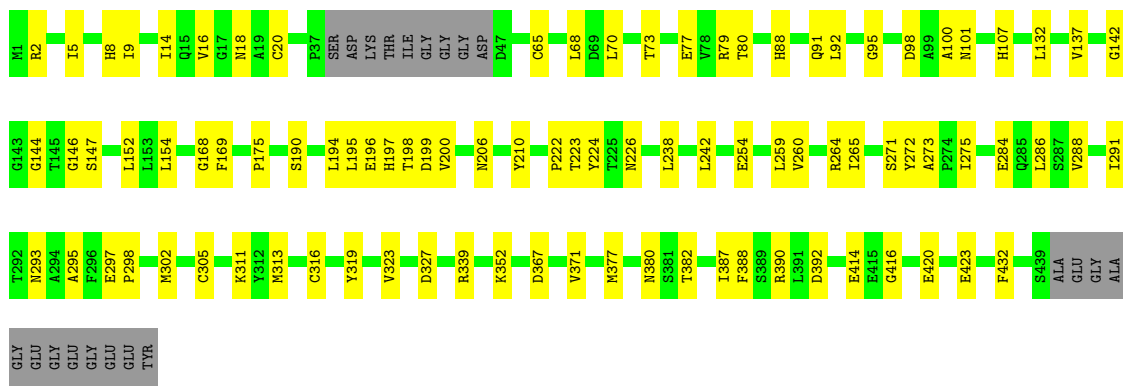
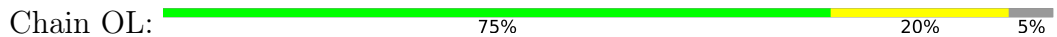
• Molecule 24: Tubulin alpha



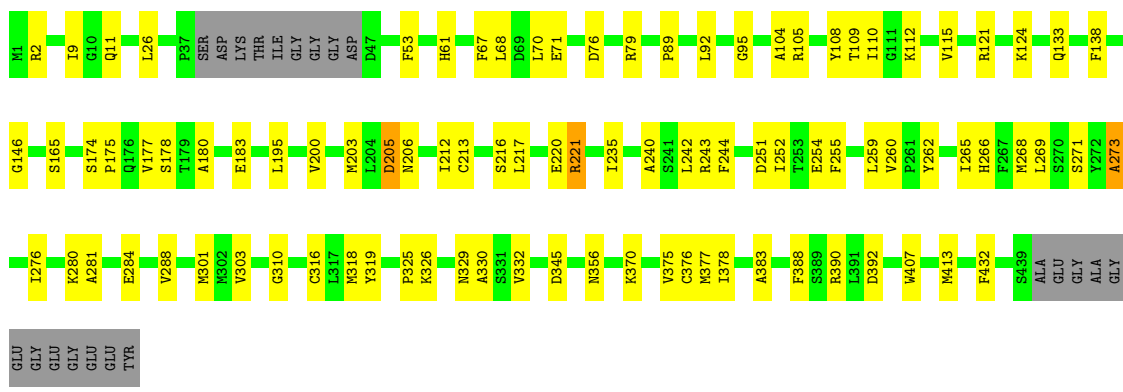
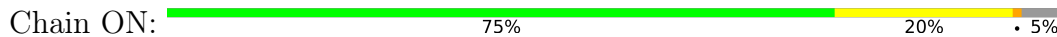




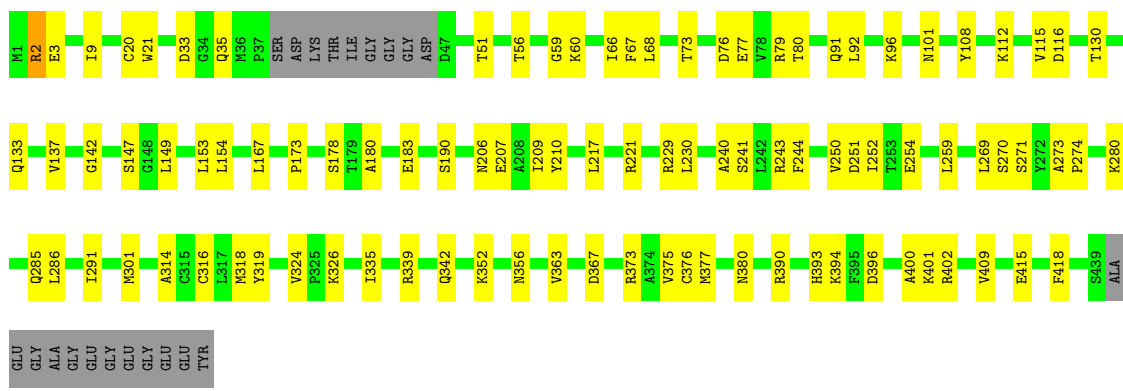
• Molecule 24: Tubulin alpha



• Molecule 24: Tubulin alpha

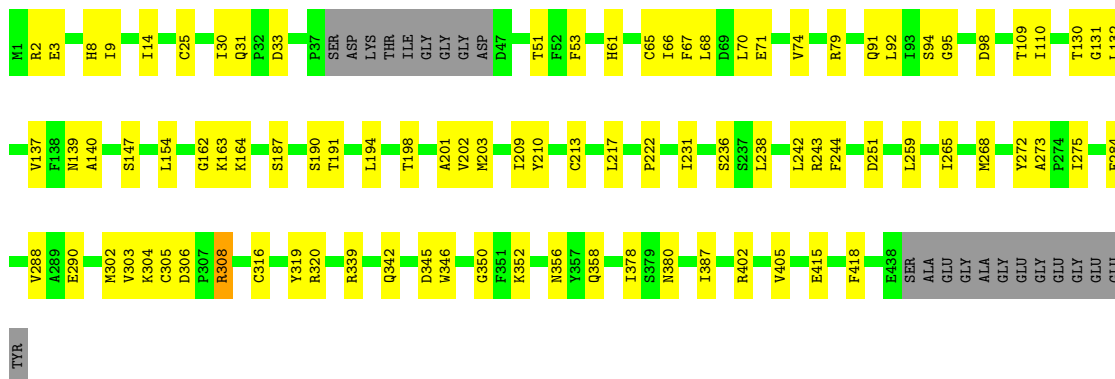


• Molecule 24: Tubulin alpha



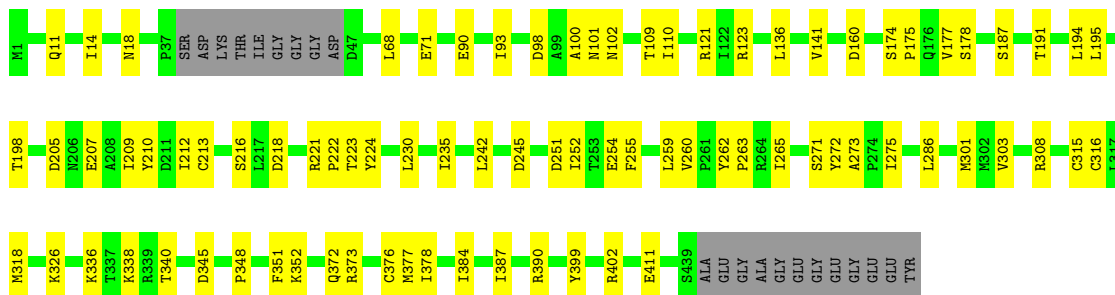
• Molecule 24: Tubulin alpha

Chain PD: 75% 20% 5%



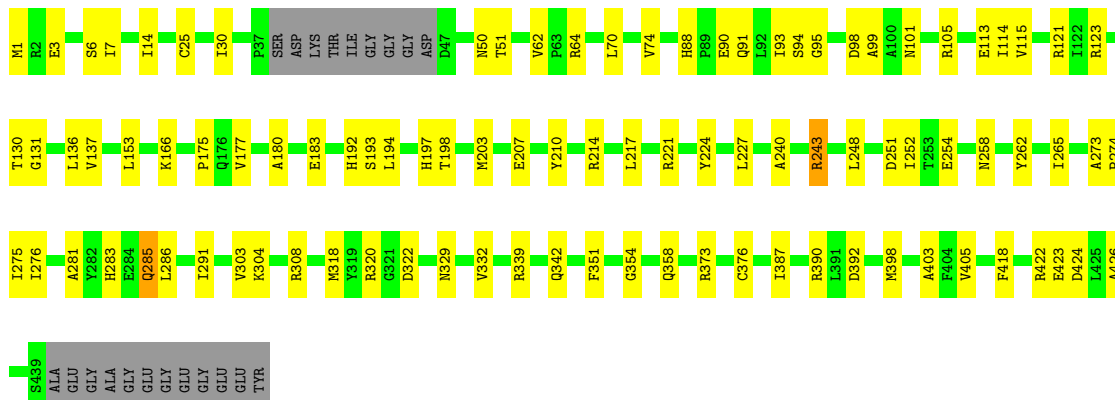
• Molecule 24: Tubulin alpha

Chain PF: 77% 18% 5%



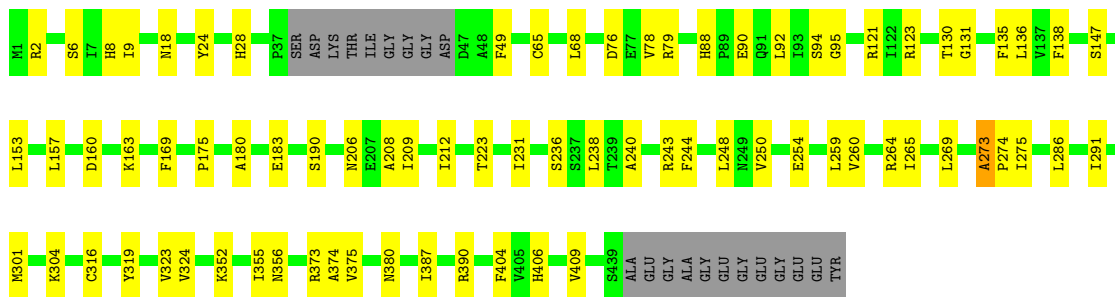
• Molecule 24: Tubulin alpha

Chain PH: 74% 21% 5%

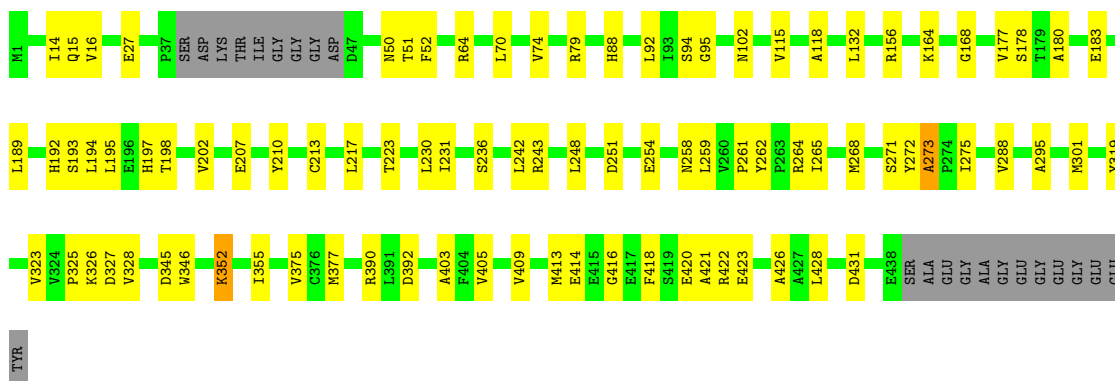
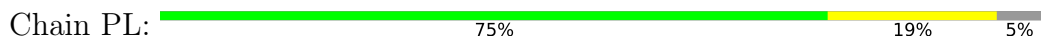


• Molecule 24: Tubulin alpha

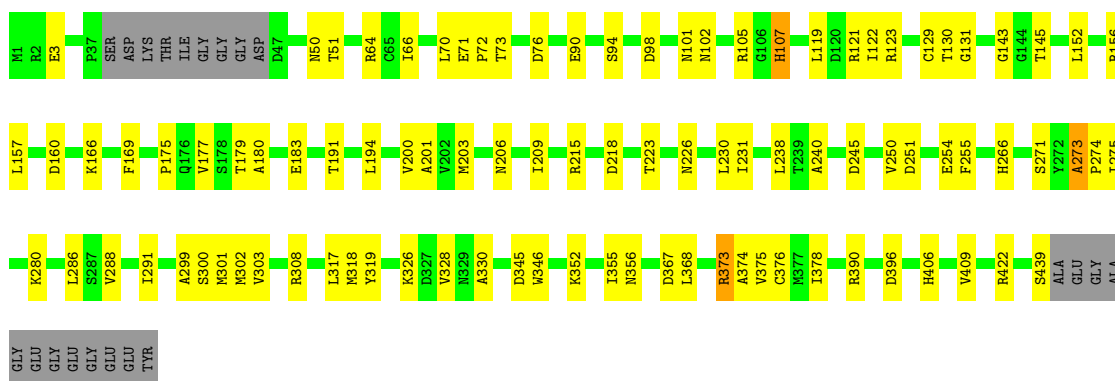
Chain PJ: 78% 17% 5%



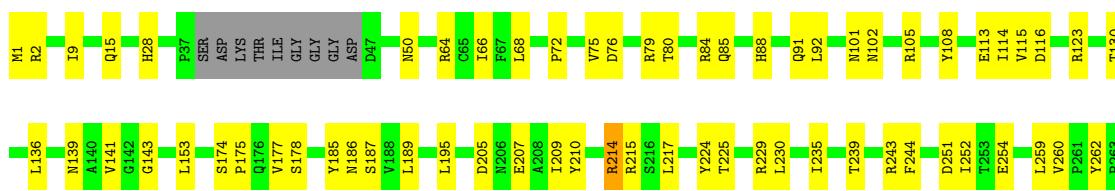
• Molecule 24: Tubulin alpha



• Molecule 24: Tubulin alpha



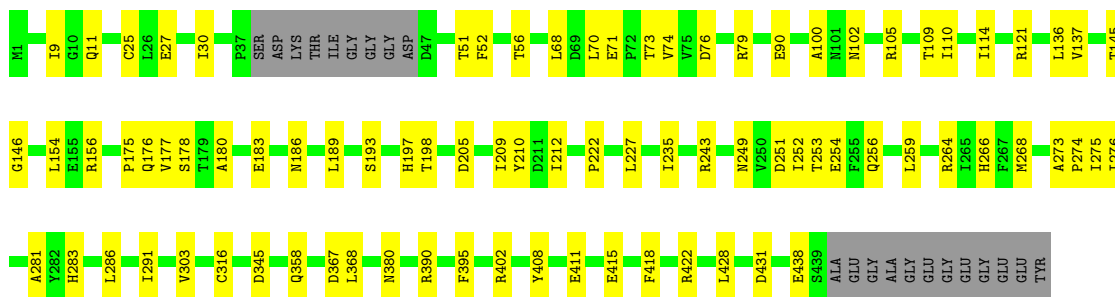
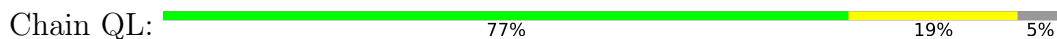
• Molecule 24: Tubulin alpha



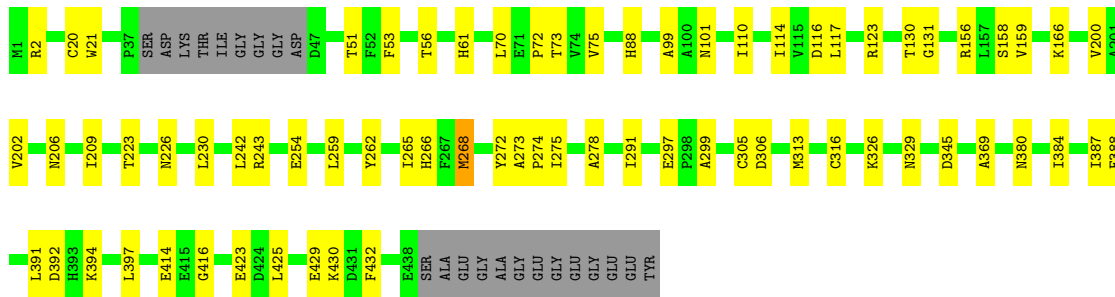
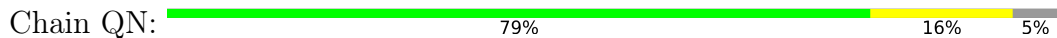




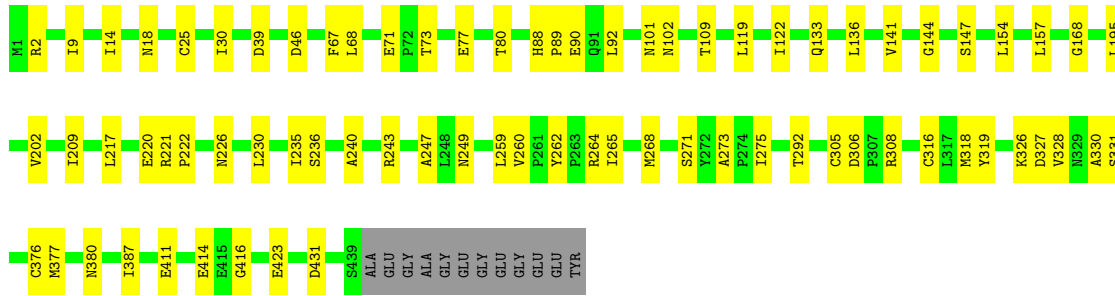
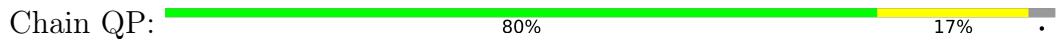
• Molecule 24: Tubulin alpha



• Molecule 24: Tubulin alpha



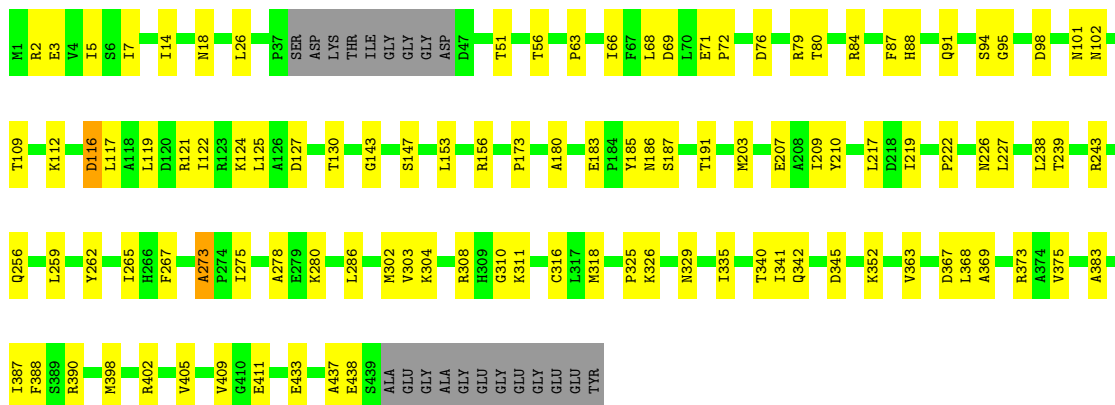
• Molecule 24: Tubulin alpha






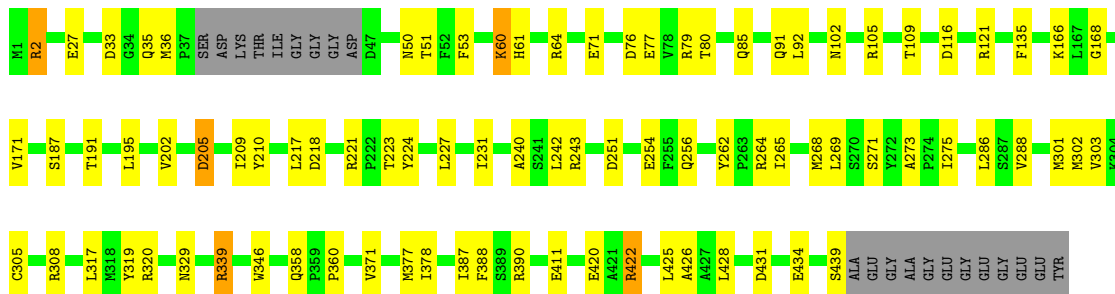
• Molecule 24: Tubulin alpha

Chain RD:  72% 23% 5%



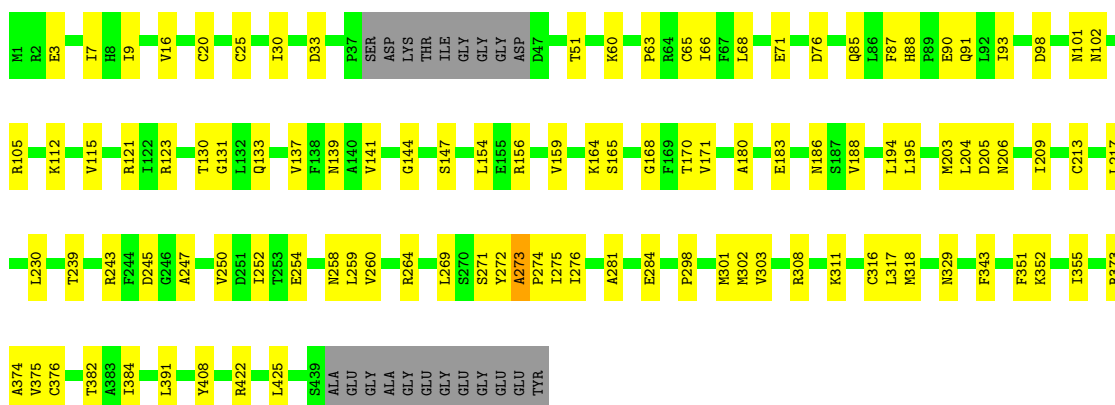
• Molecule 24: Tubulin alpha

Chain RF:  76% 18% 5%




• Molecule 24: Tubulin alpha

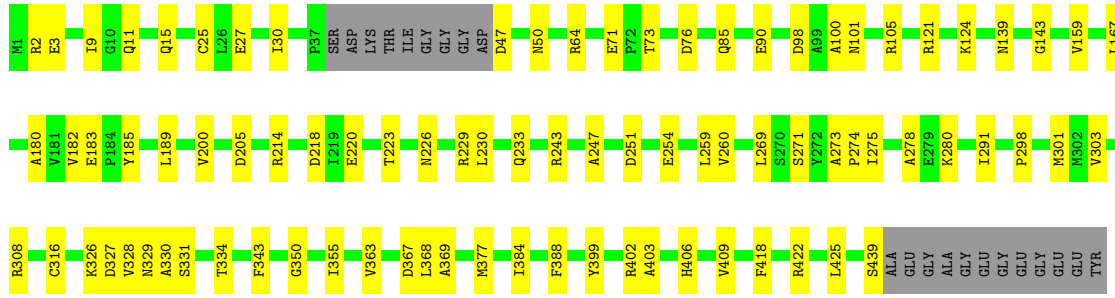
Chain RH:  72% 23% 5%



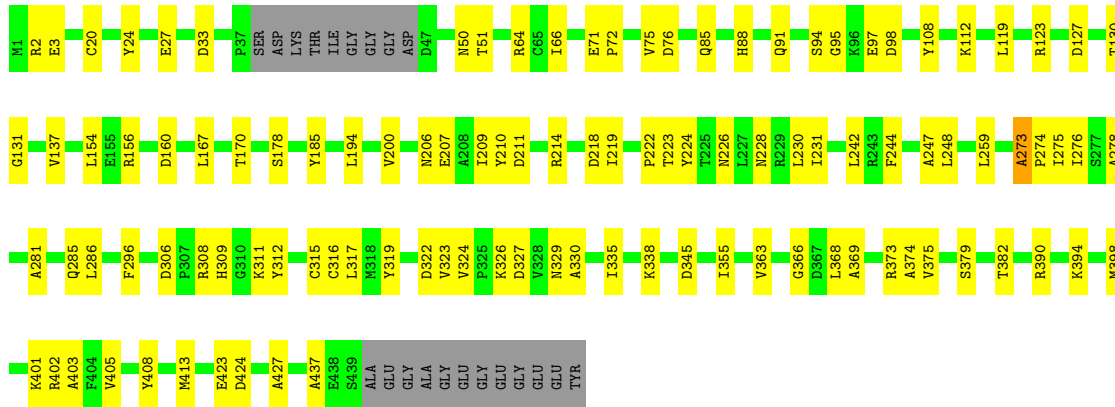
• Molecule 24: Tubulin alpha

Chain RJ:  76% 19% 5%

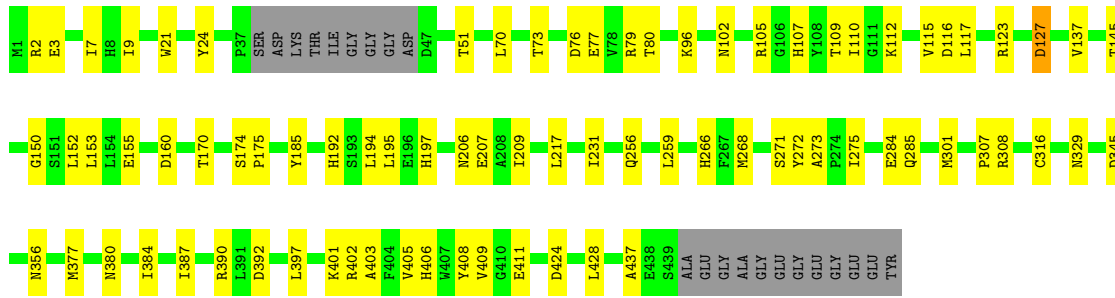
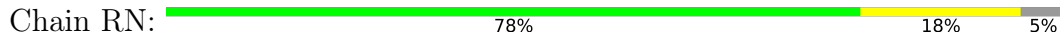




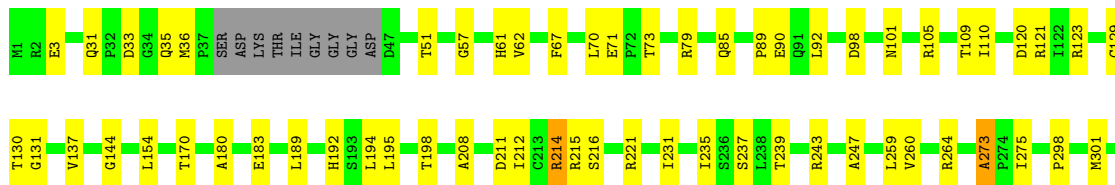
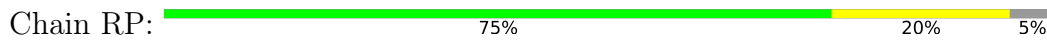
• Molecule 24: Tubulin alpha

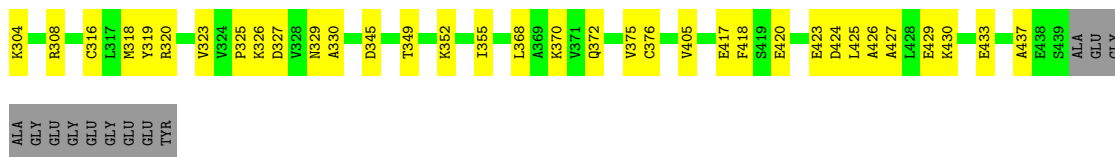


• Molecule 24: Tubulin alpha

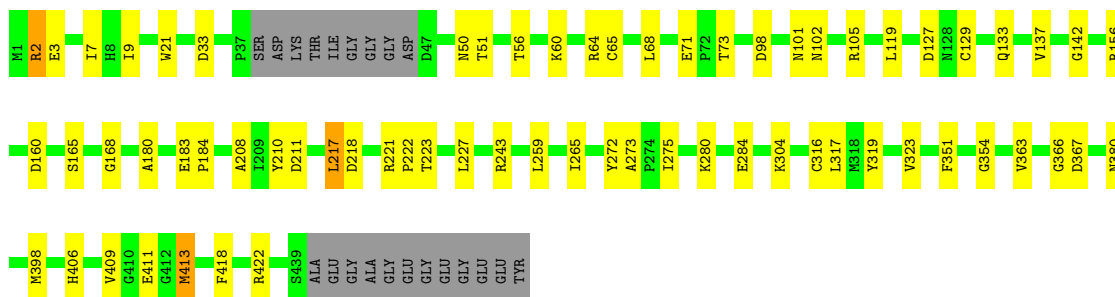
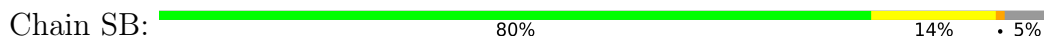


• Molecule 24: Tubulin alpha

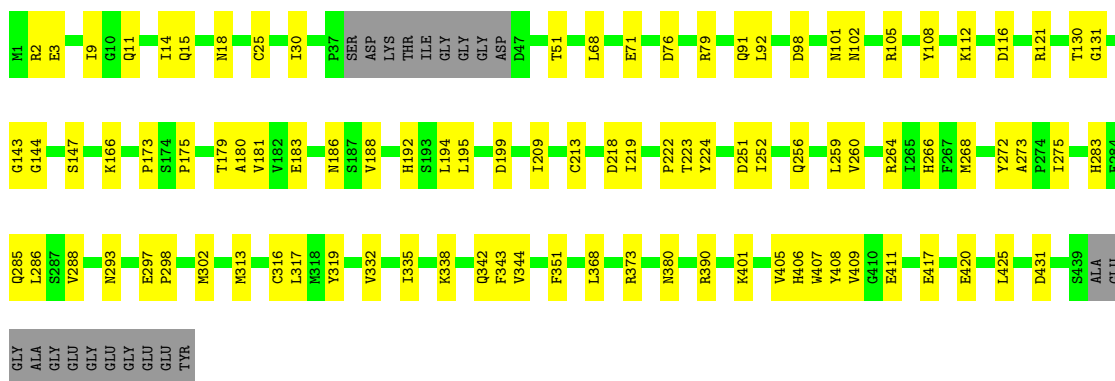




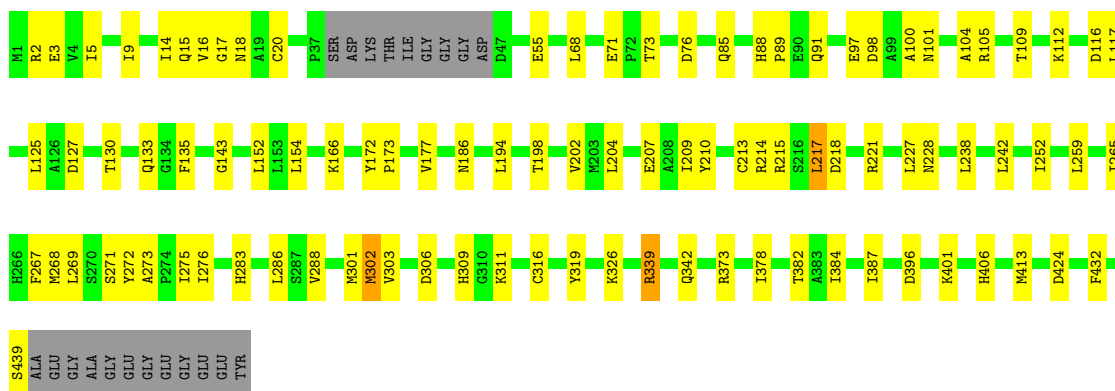
• Molecule 24: Tubulin alpha



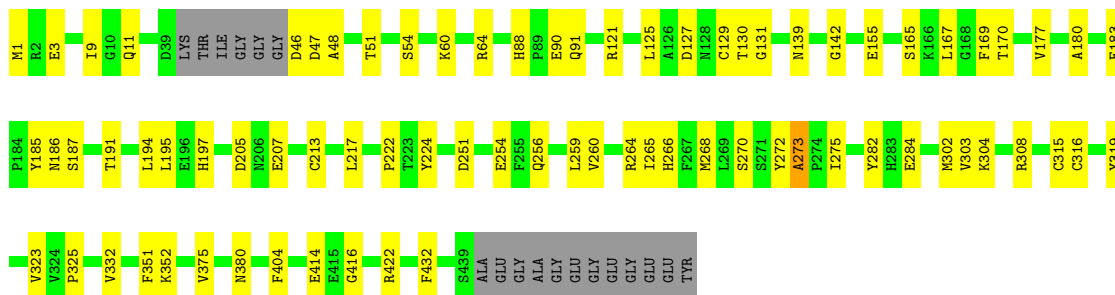
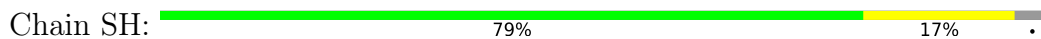
• Molecule 24: Tubulin alpha



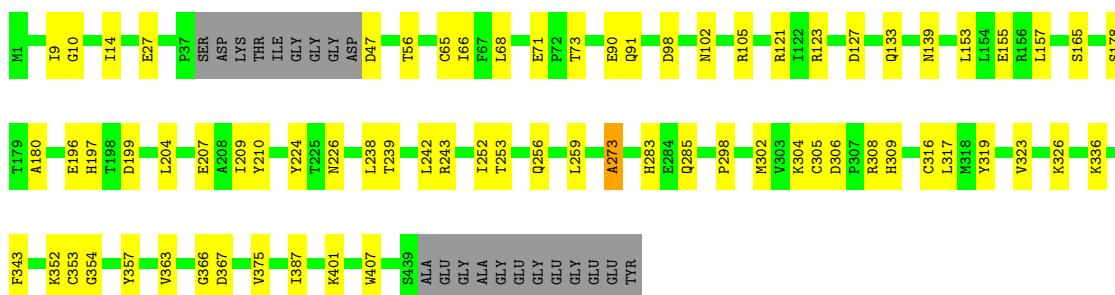
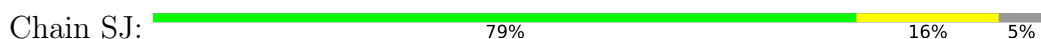
• Molecule 24: Tubulin alpha



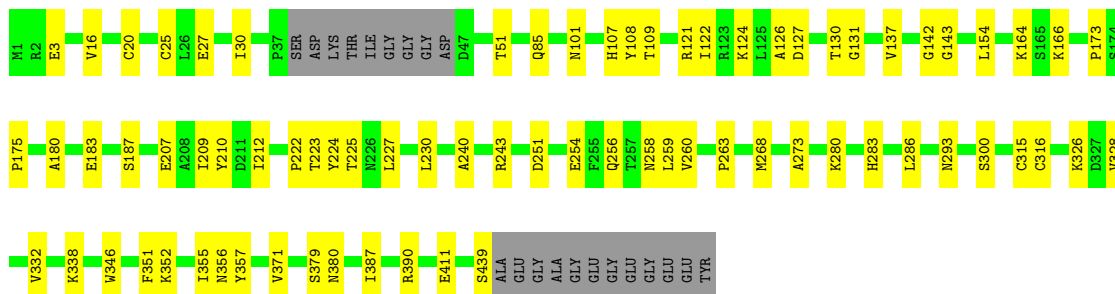
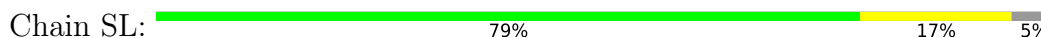
• Molecule 24: Tubulin alpha



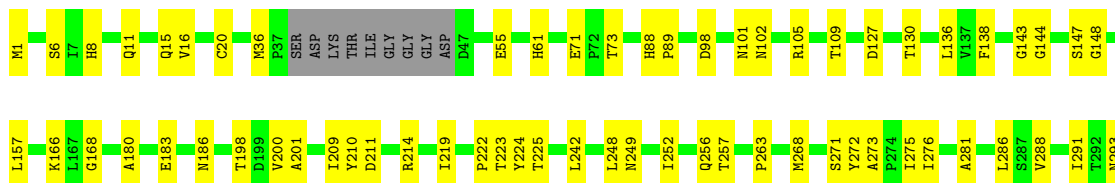
• Molecule 24: Tubulin alpha



• Molecule 24: Tubulin alpha



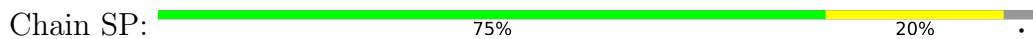
• Molecule 24: Tubulin alpha





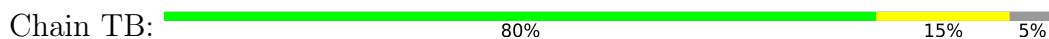
S439  
ALA  
GLU  
GLY  
GLY  
GLY  
GLY  
TYR

• Molecule 24: Tubulin alpha

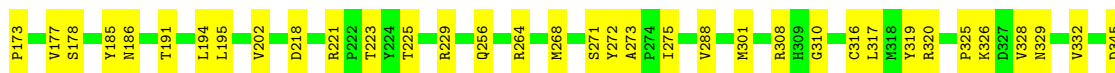
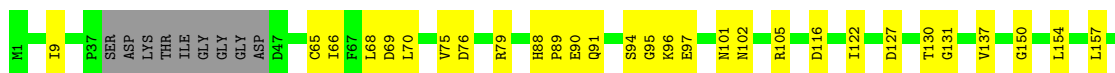
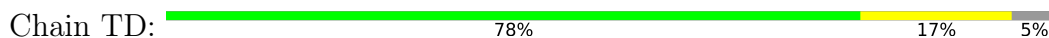


GLY  
GLU  
GLU  
GLU  
TYR

• Molecule 24: Tubulin alpha

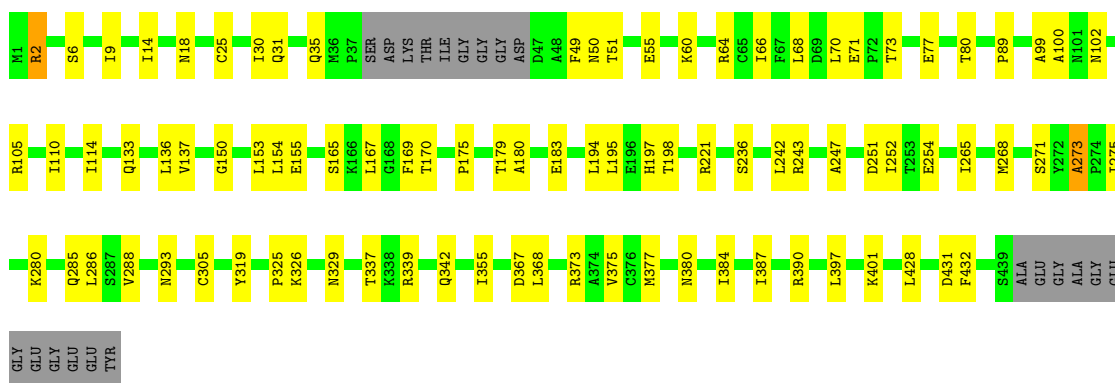


• Molecule 24: Tubulin alpha



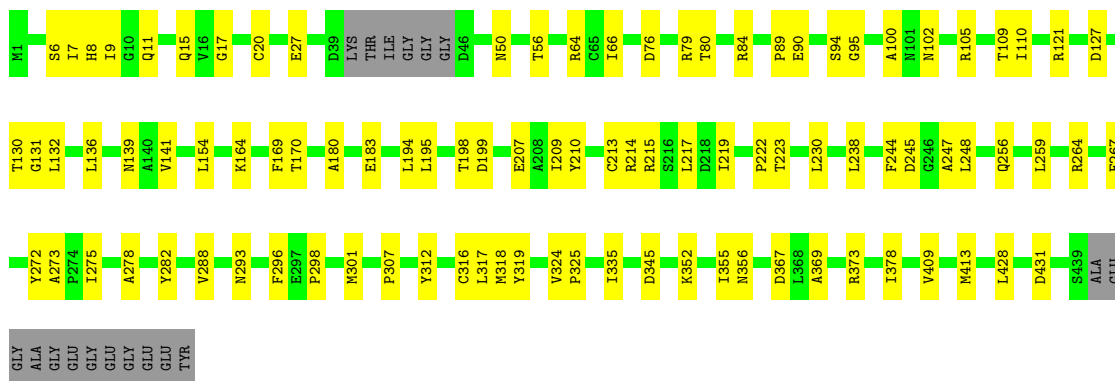
• Molecule 24: Tubulin alpha

Chain TF: 76% 19% 5%



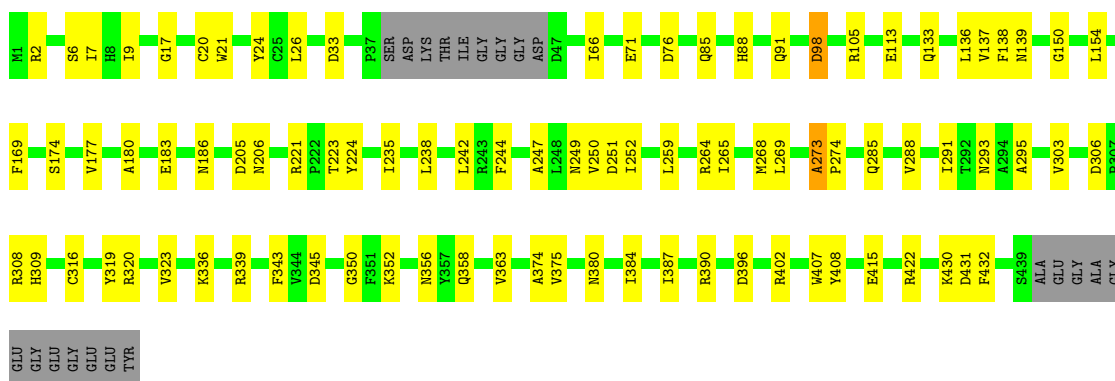
• Molecule 24: Tubulin alpha

Chain TH: 75% 21% .



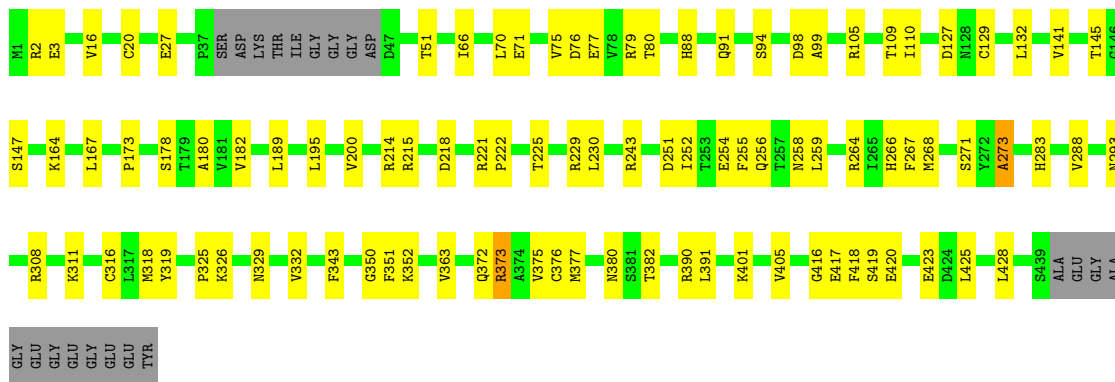
• Molecule 24: Tubulin alpha

Chain TJ: 75% 20% 5%

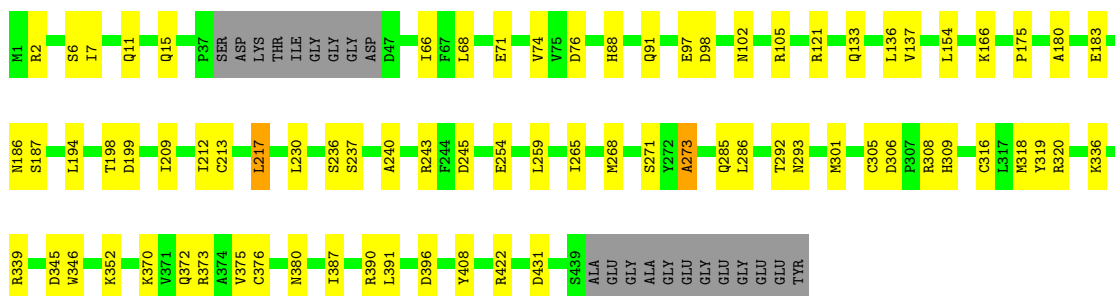
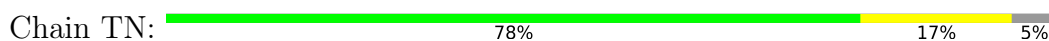


• Molecule 24: Tubulin alpha

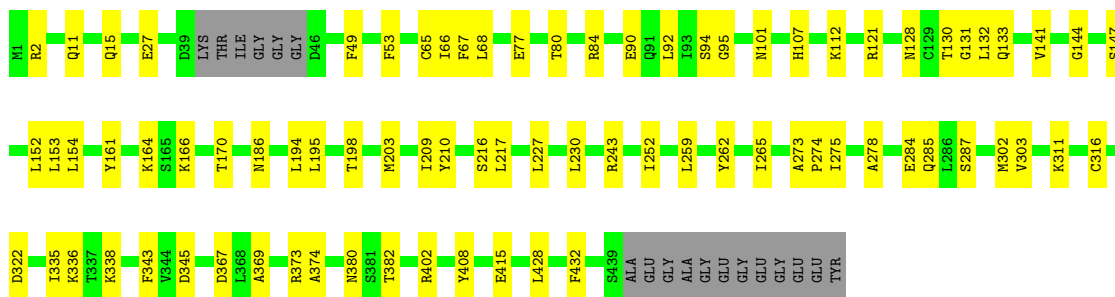
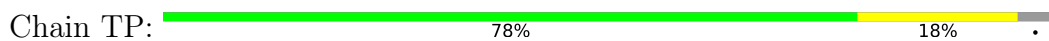
Chain TL: 74% 21% 5%



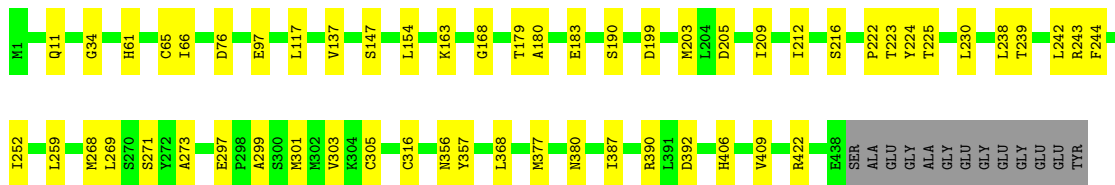
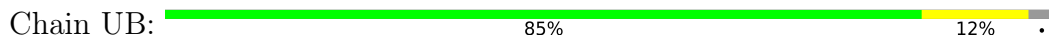
• Molecule 24: Tubulin alpha



• Molecule 24: Tubulin alpha



• Molecule 24: Tubulin alpha




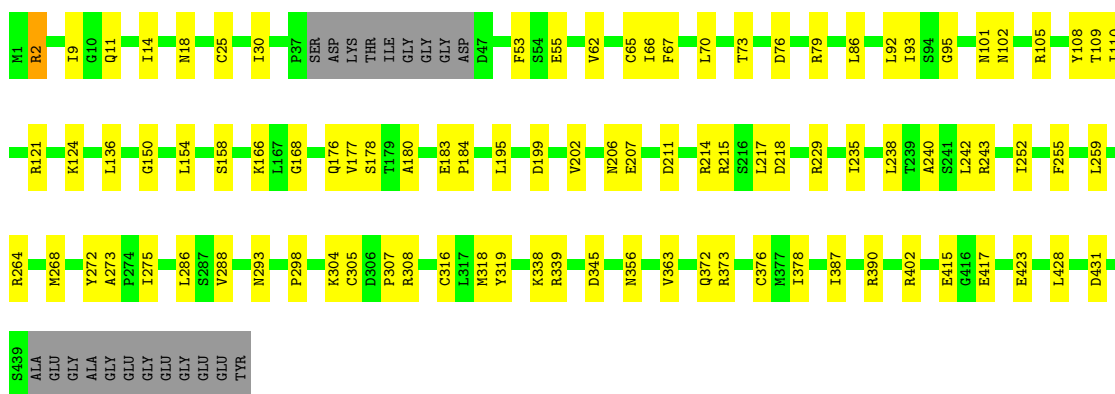
• Molecule 24: Tubulin alpha






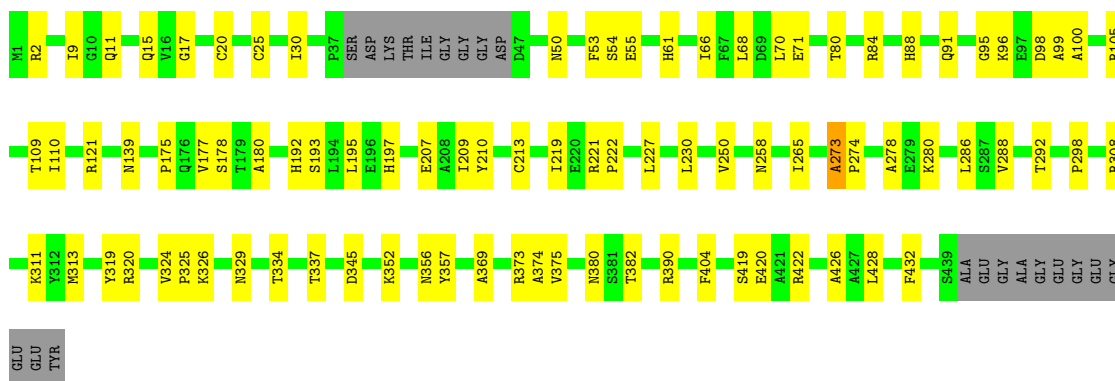


Chain VB:  75% 20% 5%




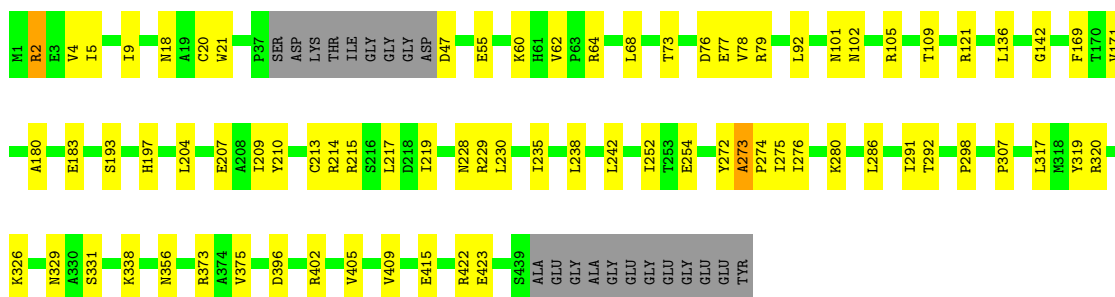
• Molecule 24: Tubulin alpha

Chain VD:  76% 19% 5%




• Molecule 24: Tubulin alpha

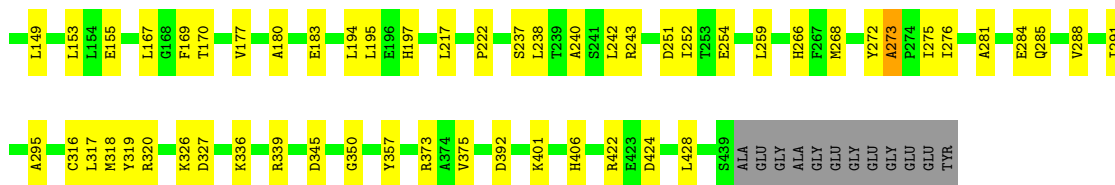
Chain VF:  78% 17% 5%



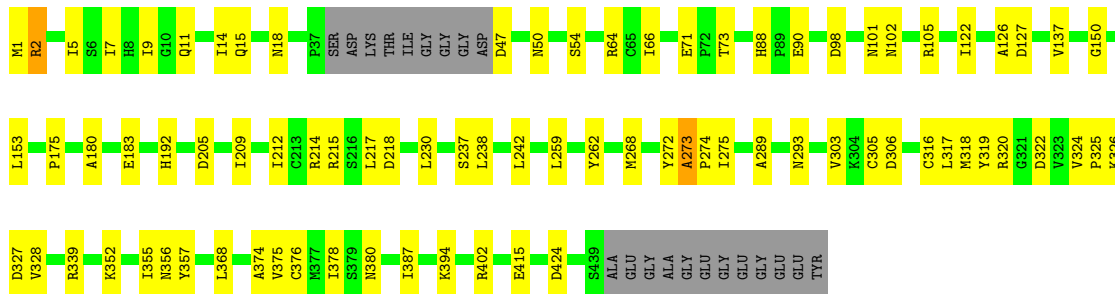
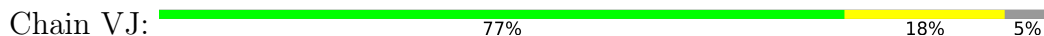
• Molecule 24: Tubulin alpha

Chain VH:  77% 19%

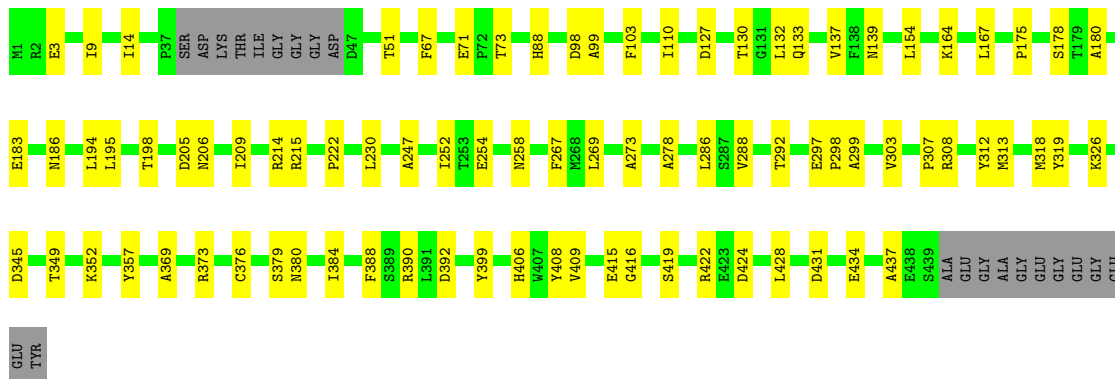
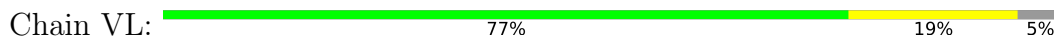




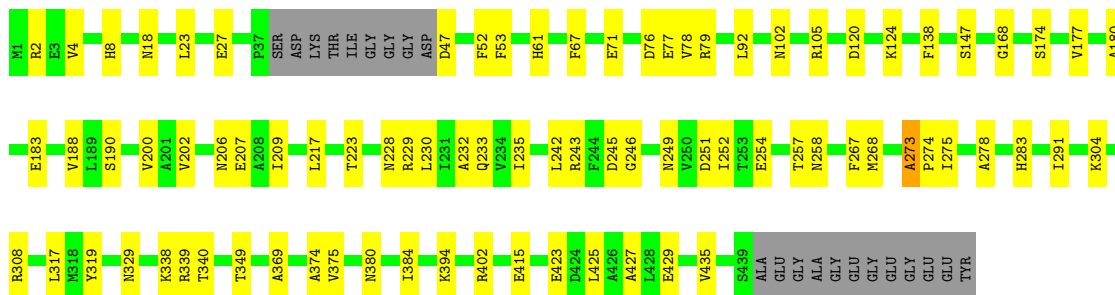
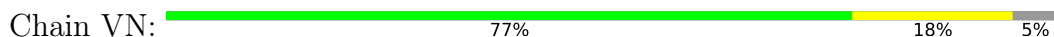
• Molecule 24: Tubulin alpha



• Molecule 24: Tubulin alpha

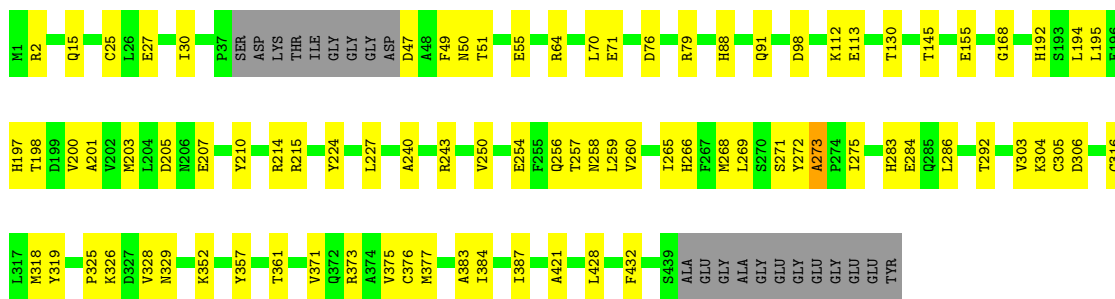


• Molecule 24: Tubulin alpha



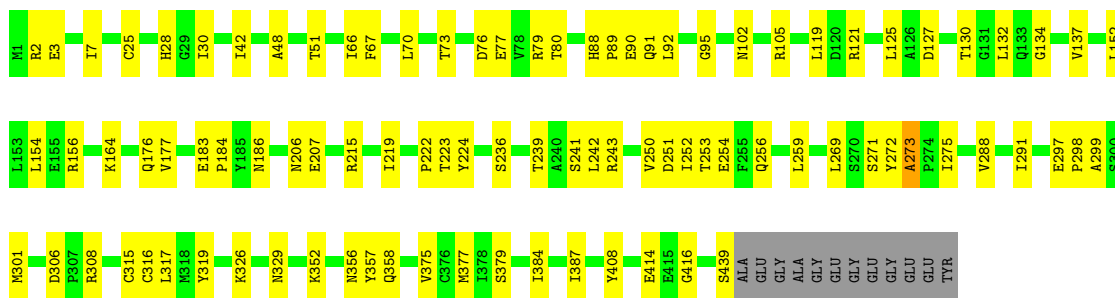
• Molecule 24: Tubulin alpha

Chain VP: 76% 19% 5%



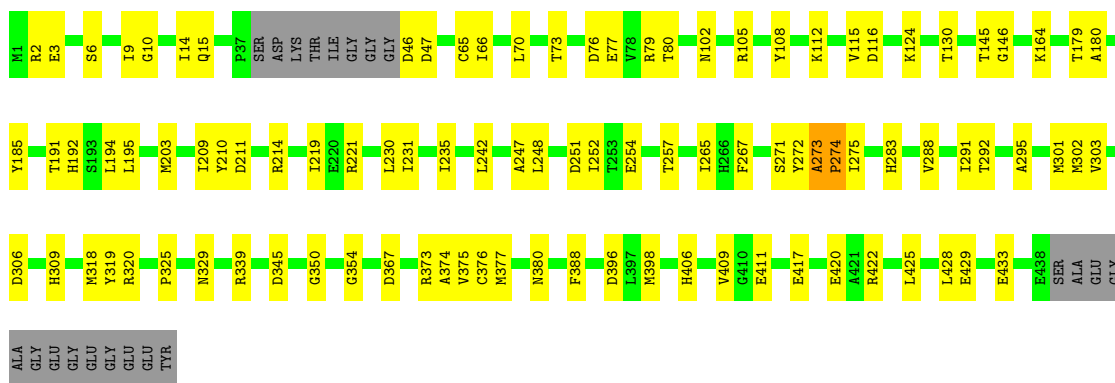
• Molecule 24: Tubulin alpha

Chain WB: 77% 20%



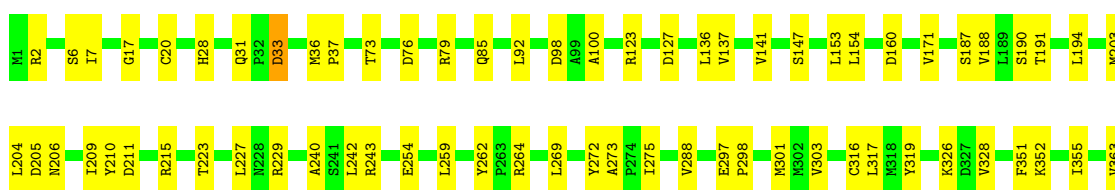
• Molecule 24: Tubulin alpha

Chain WD: 74% 21% 5%



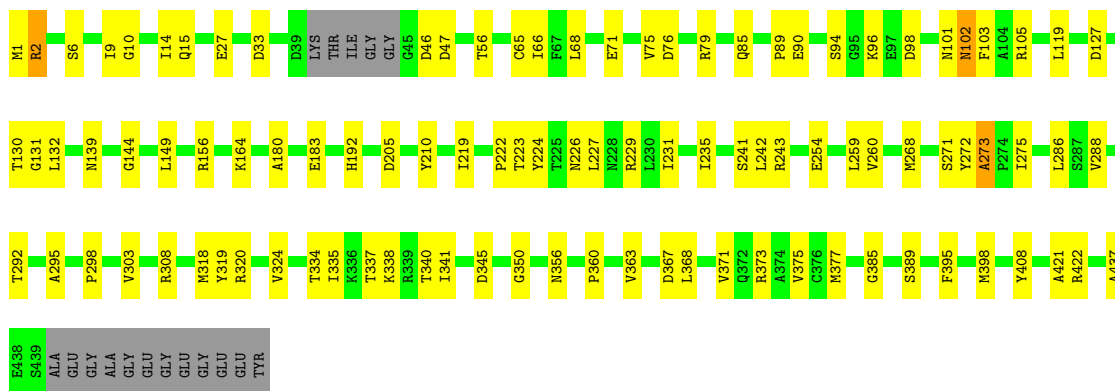
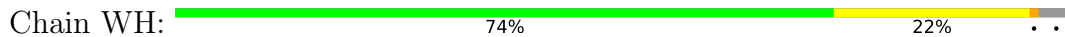
• Molecule 24: Tubulin alpha

Chain WF: 80% 18%

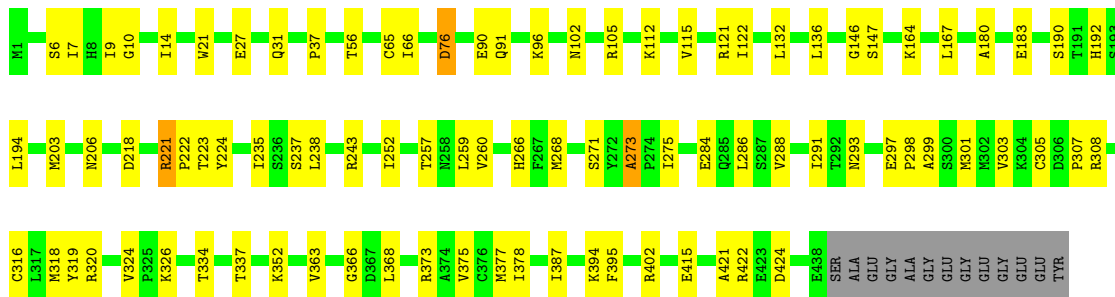
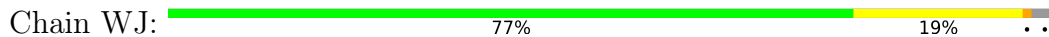




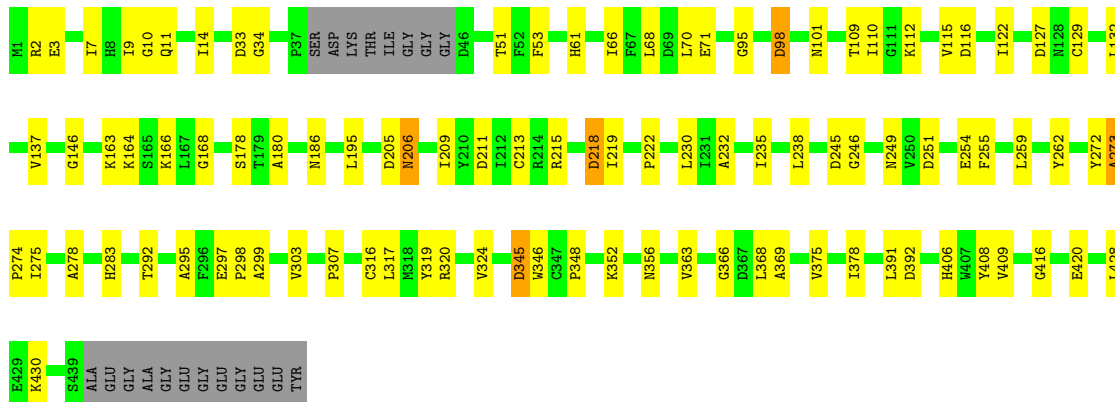
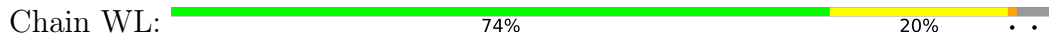
• Molecule 24: Tubulin alpha



• Molecule 24: Tubulin alpha

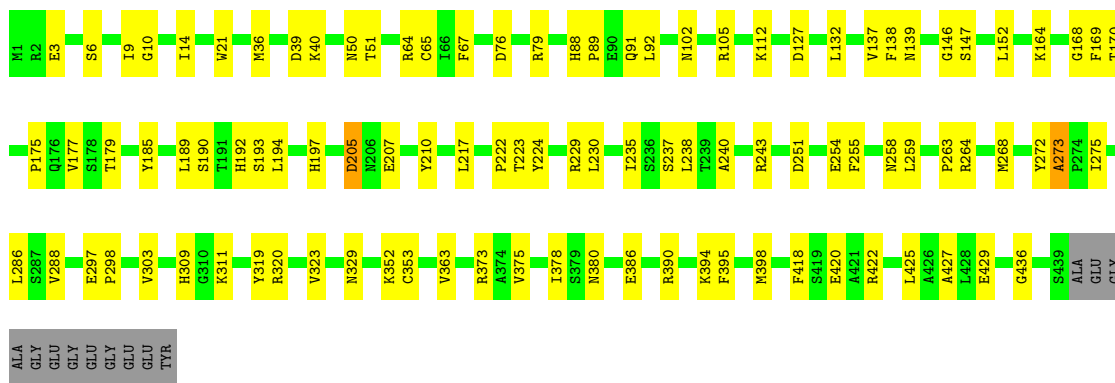


• Molecule 24: Tubulin alpha



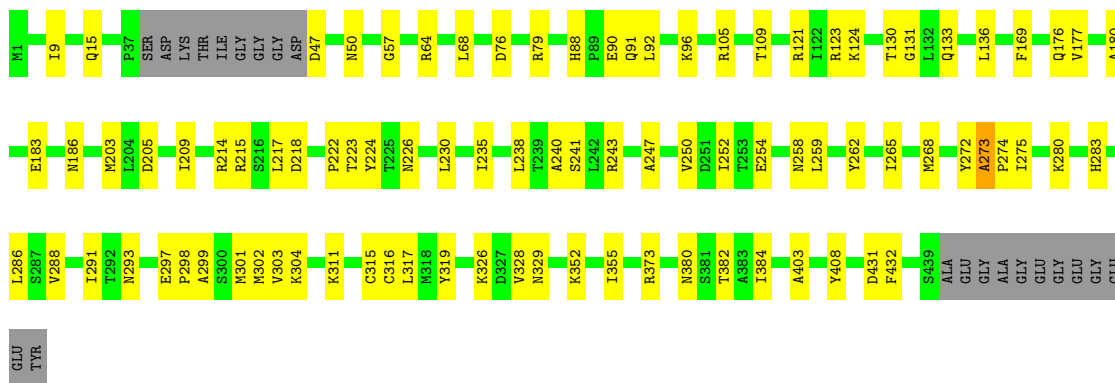
• Molecule 24: Tubulin alpha

Chain WN: 75% 22%



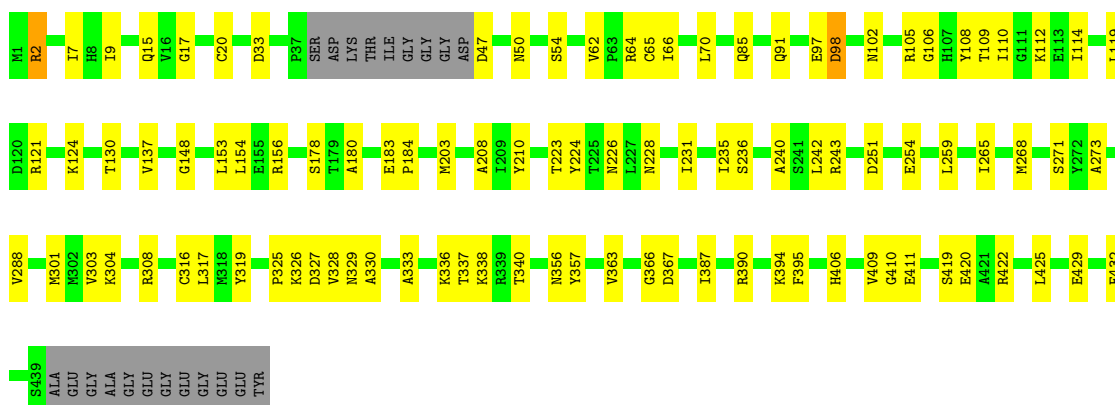
• Molecule 24: Tubulin alpha

Chain XB: 75% 20% 5%



• Molecule 24: Tubulin alpha

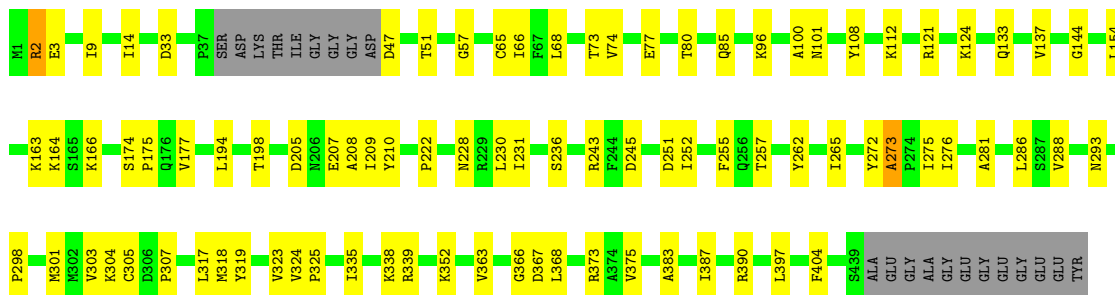
Chain XD: 74% 21% 5%



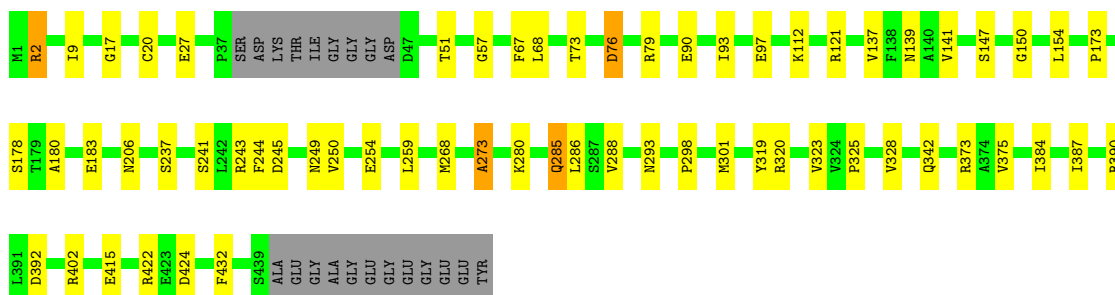
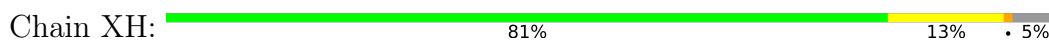
• Molecule 24: Tubulin alpha

Chain XF: 76% 19% 5%

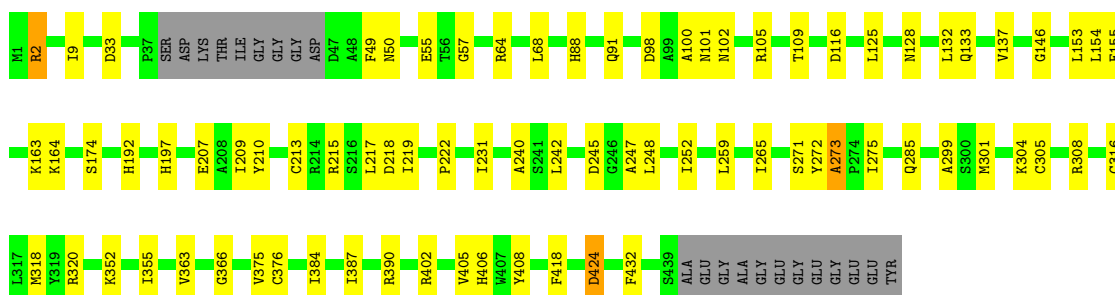
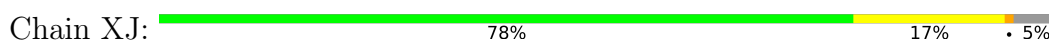




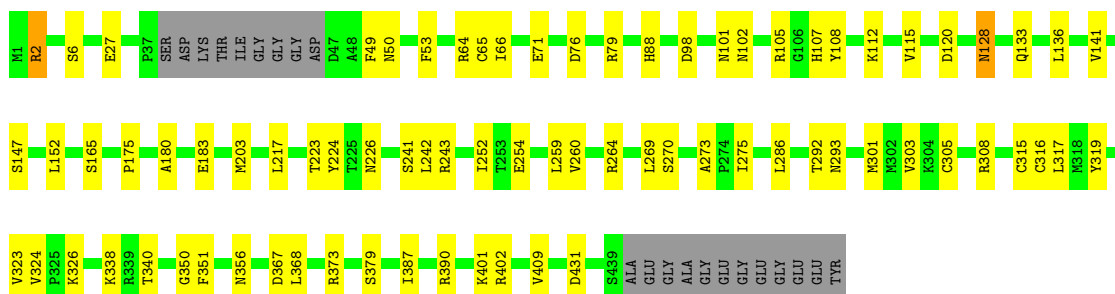
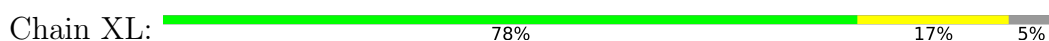
• Molecule 24: Tubulin alpha




• Molecule 24: Tubulin alpha

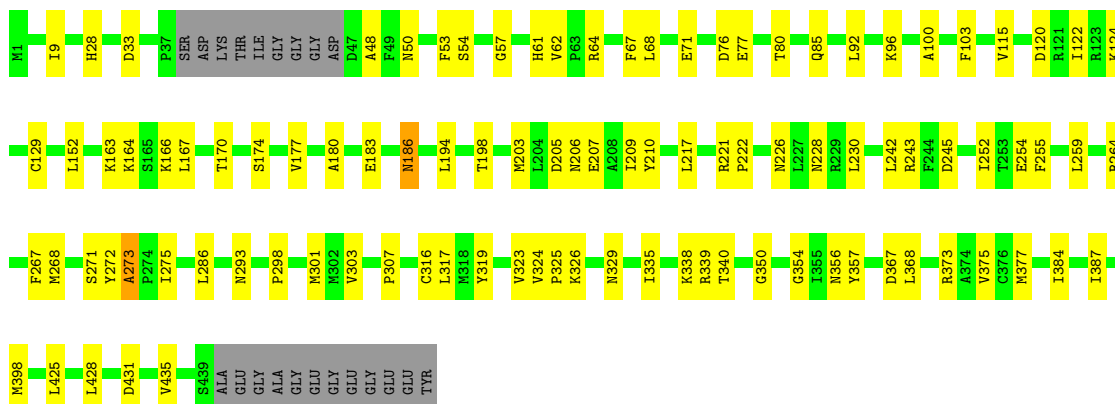


• Molecule 24: Tubulin alpha




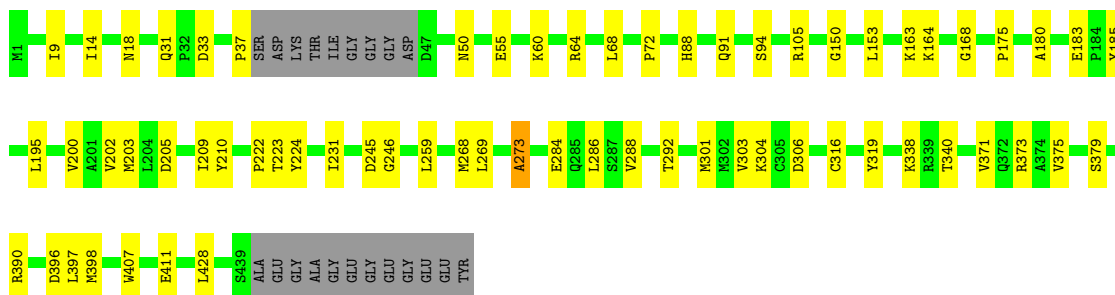
• Molecule 24: Tubulin alpha

Chain XN:  73% 22% 5%



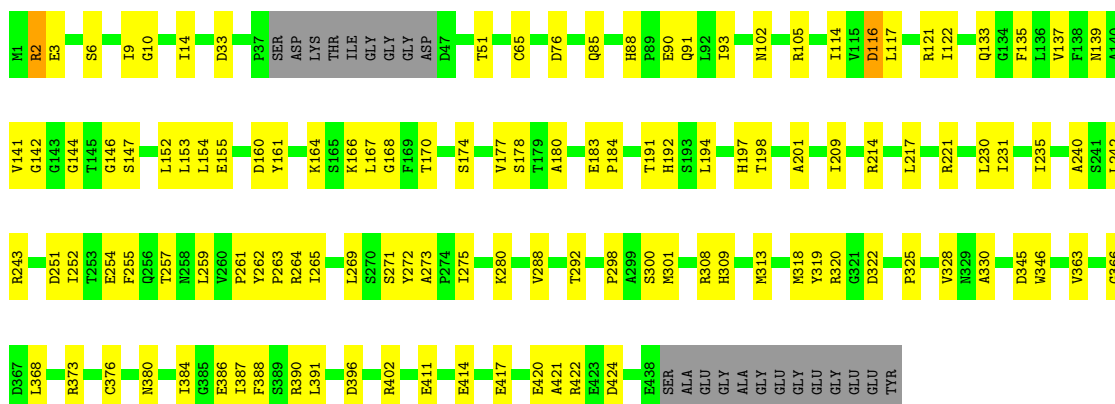
• Molecule 24: Tubulin alpha

Chain YB:  81% 14% 5%




• Molecule 24: Tubulin alpha

Chain YD:  69% 26% 5%

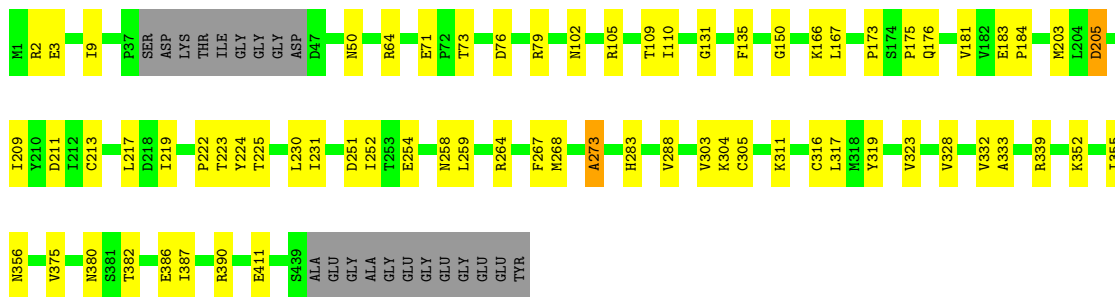


• Molecule 24: Tubulin alpha

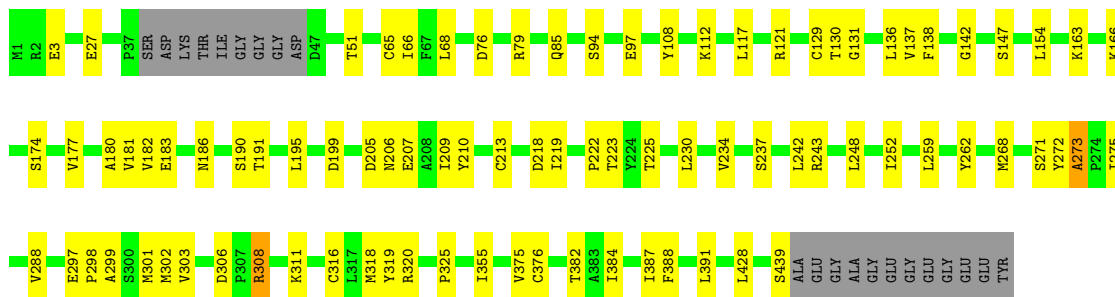
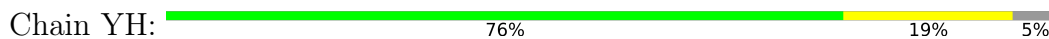
Chain YF:  80% 15% 5%



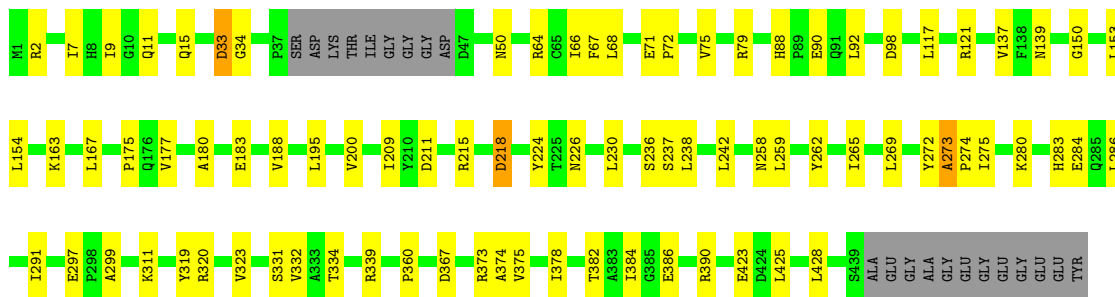
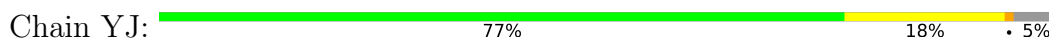




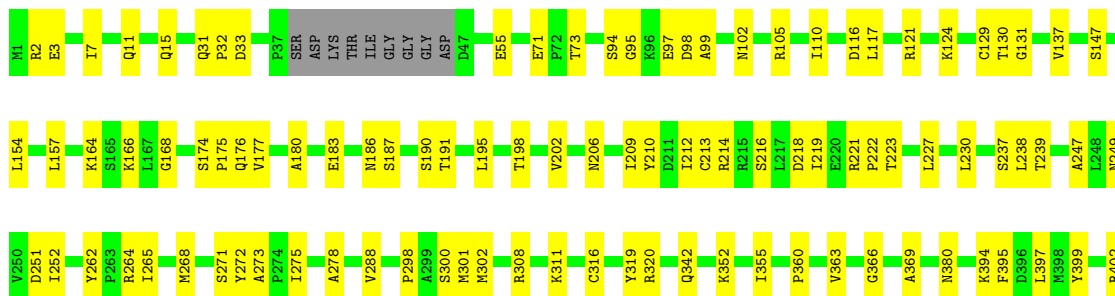
• Molecule 24: Tubulin alpha



• Molecule 24: Tubulin alpha

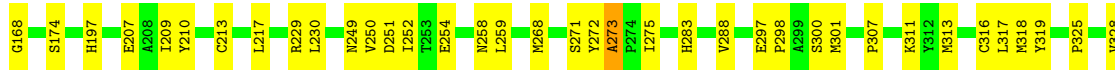
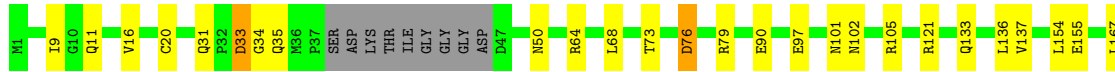
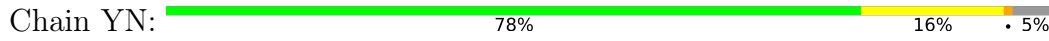


• Molecule 24: Tubulin alpha

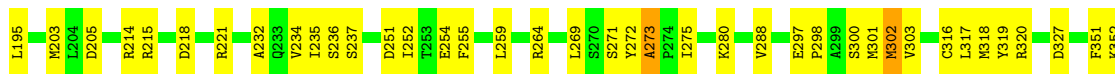
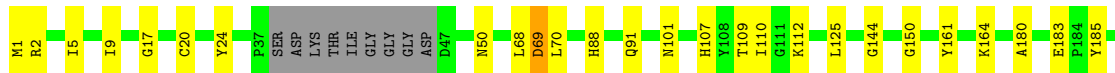
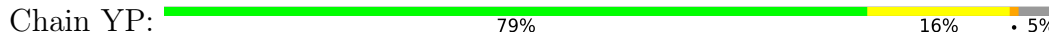




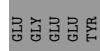
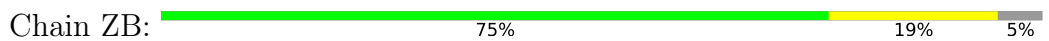
• Molecule 24: Tubulin alpha



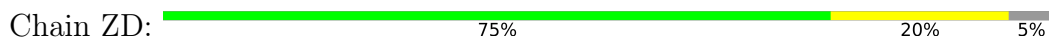
• Molecule 24: Tubulin alpha

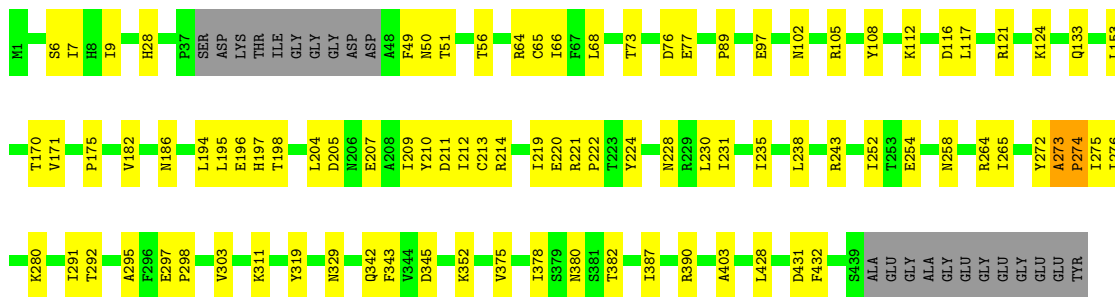


• Molecule 24: Tubulin alpha

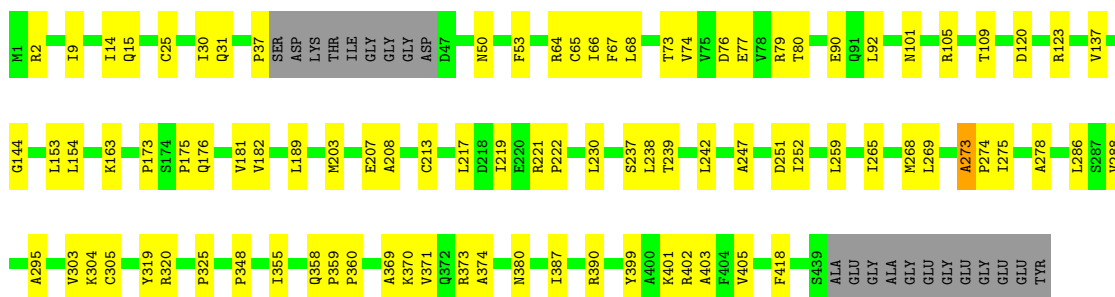
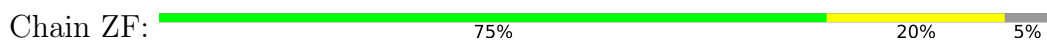


• Molecule 24: Tubulin alpha

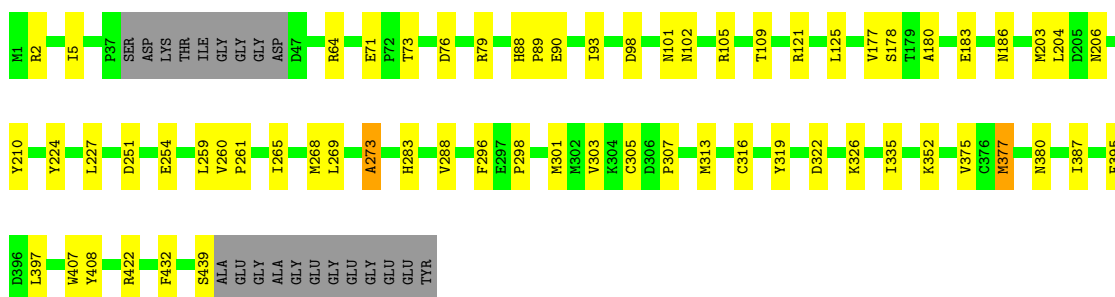
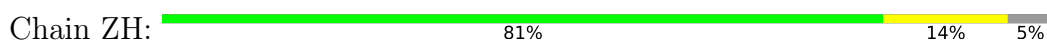




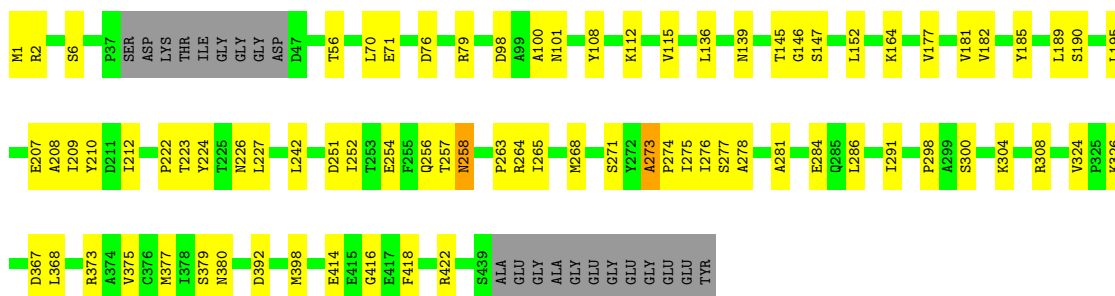
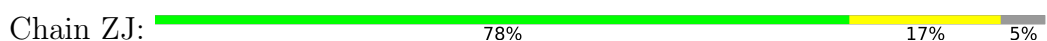
• Molecule 24: Tubulin alpha



• Molecule 24: Tubulin alpha

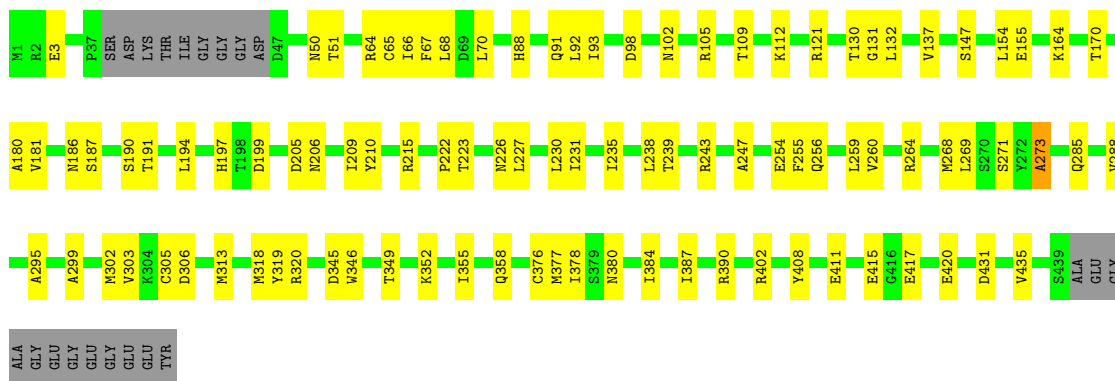


• Molecule 24: Tubulin alpha



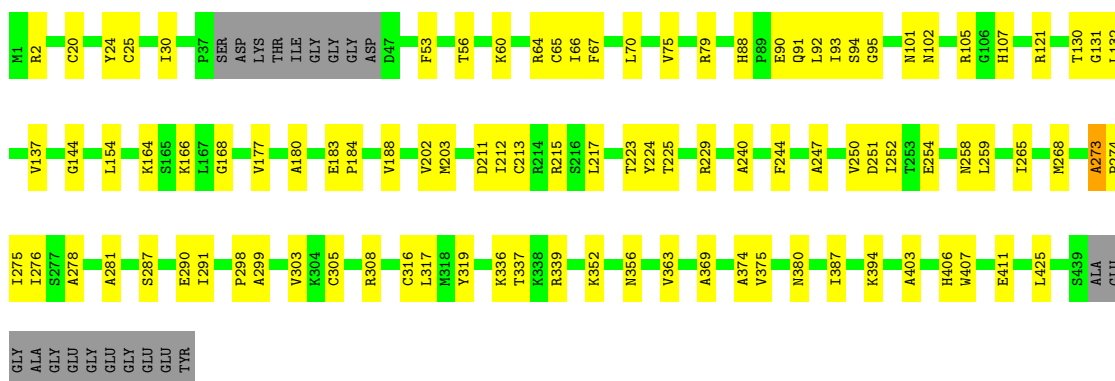
• Molecule 24: Tubulin alpha

Chain ZL:  74% 21% 5%




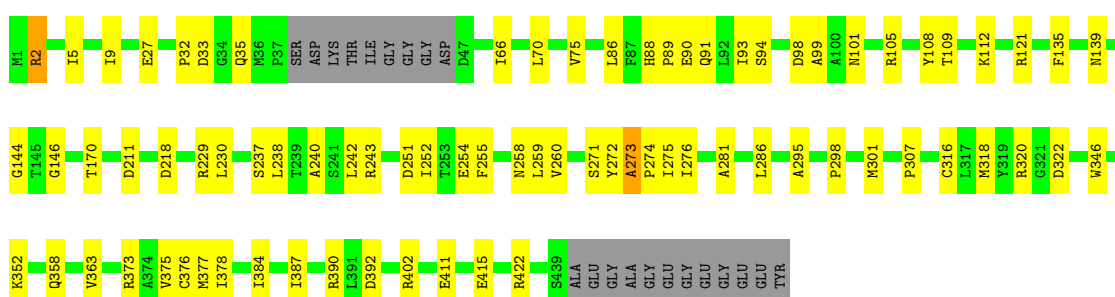
• Molecule 24: Tubulin alpha

Chain ZN:  74% 21% 5%




• Molecule 24: Tubulin alpha

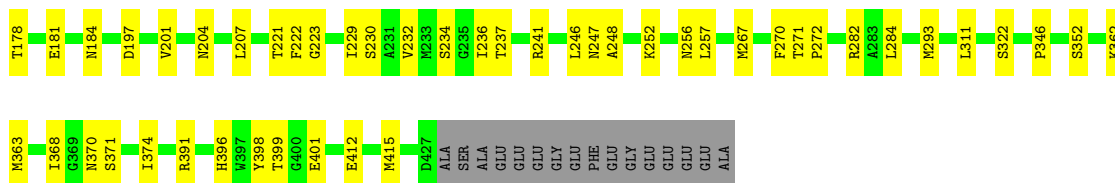
Chain ZP:  78% 17% 5%



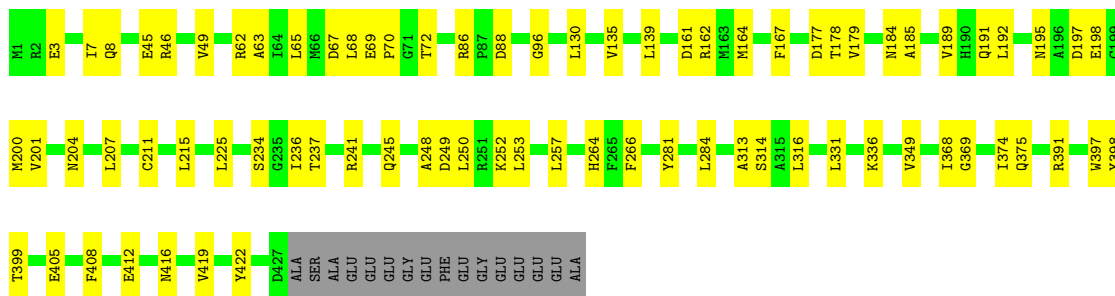
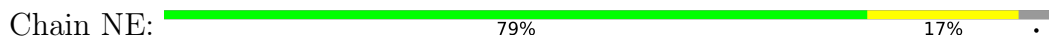
• Molecule 25: Tubulin beta

Chain NC:  79% 18% 3%

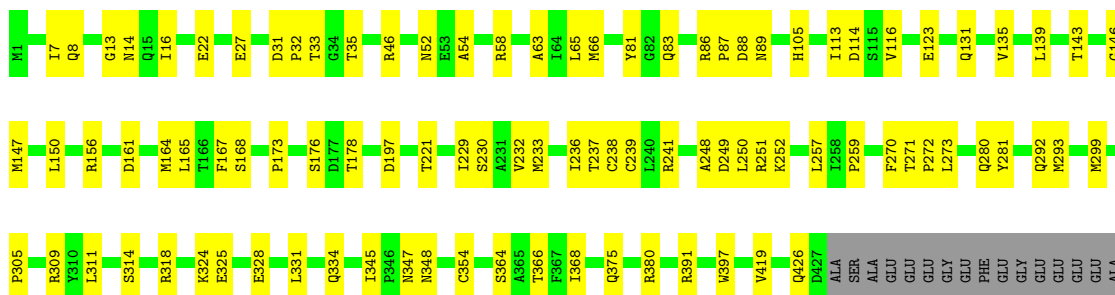
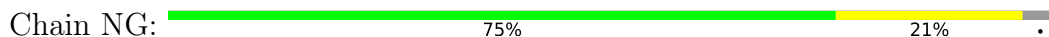




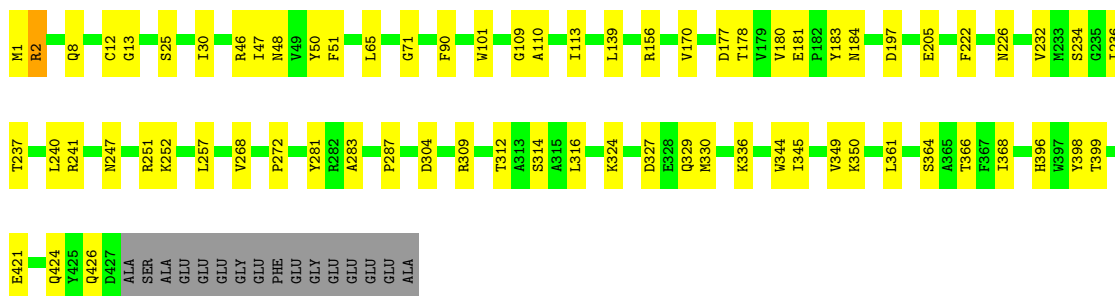
• Molecule 25: Tubulin beta



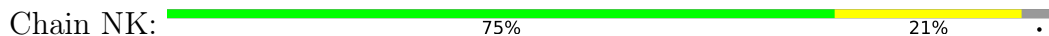
• Molecule 25: Tubulin beta

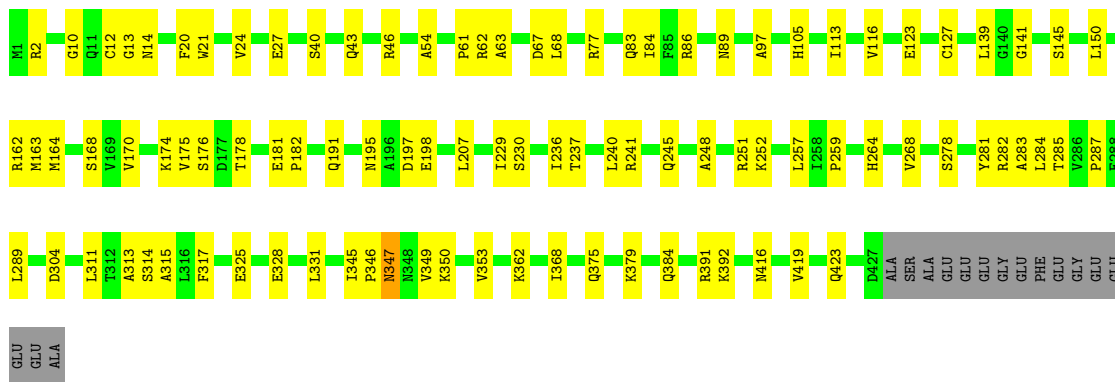


• Molecule 25: Tubulin beta

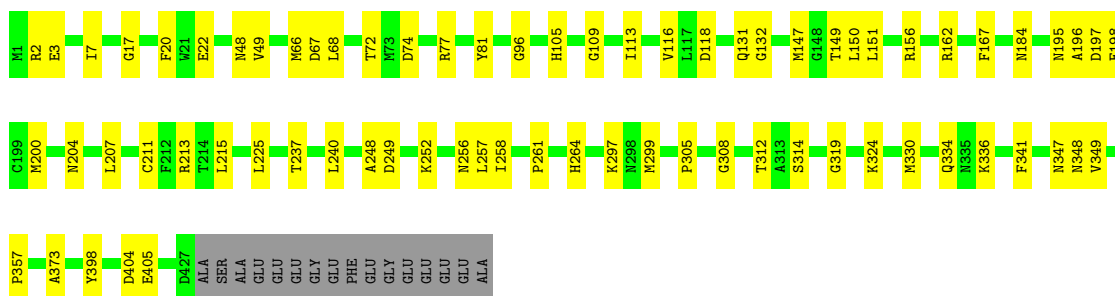
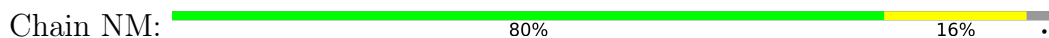


• Molecule 25: Tubulin beta

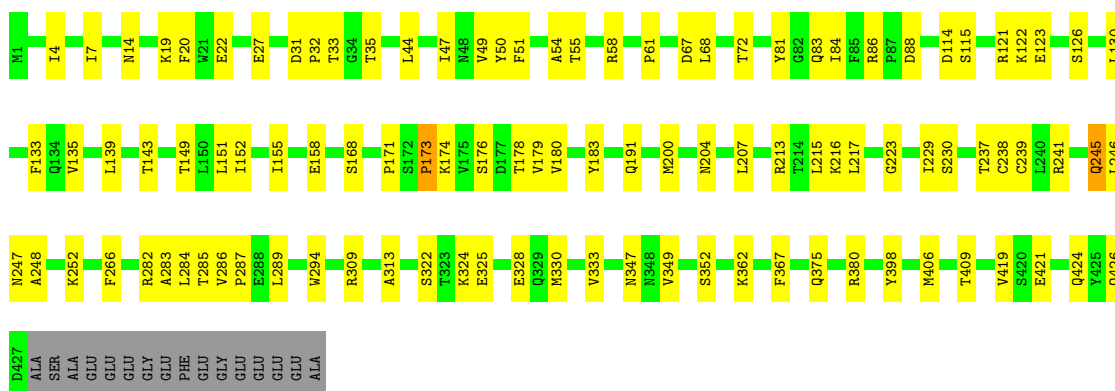
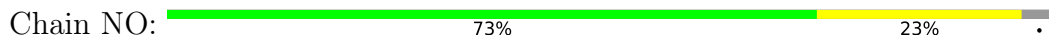




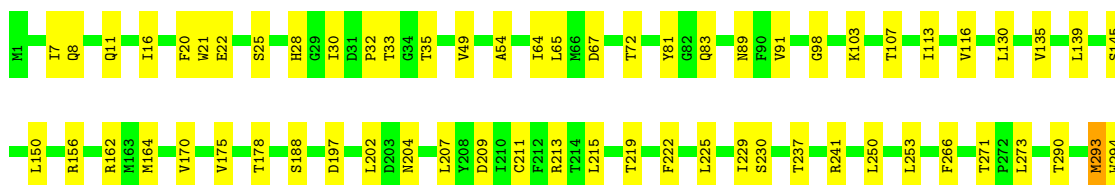
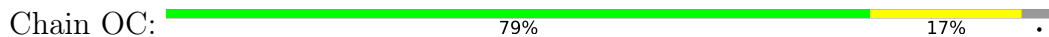
• Molecule 25: Tubulin beta

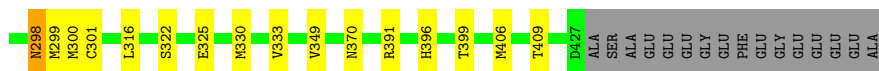


• Molecule 25: Tubulin beta

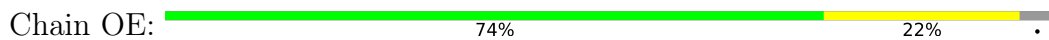


• Molecule 25: Tubulin beta

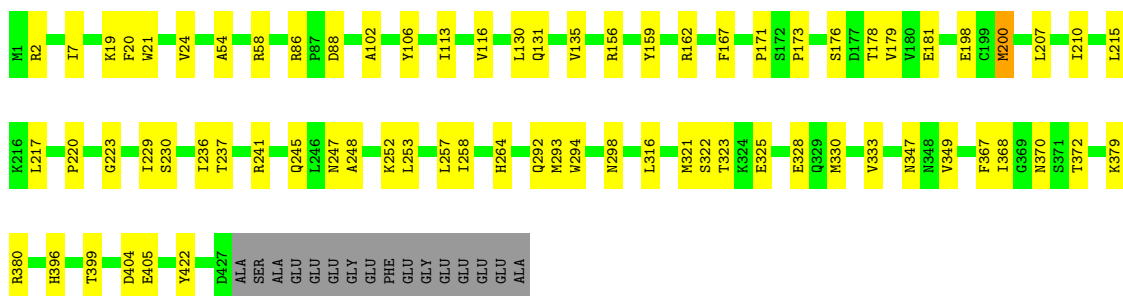
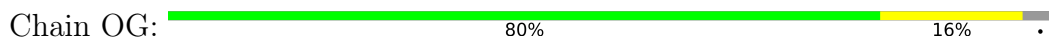




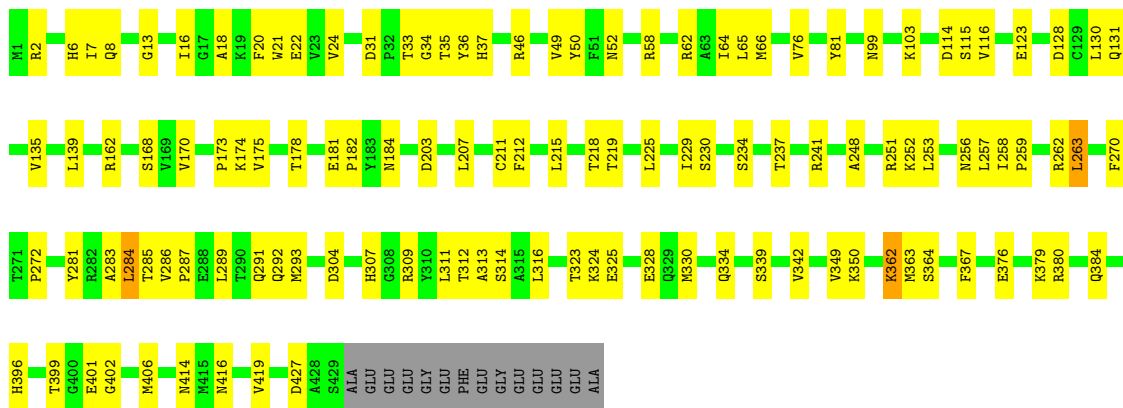
• Molecule 25: Tubulin beta



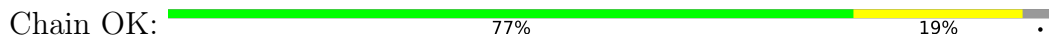
• Molecule 25: Tubulin beta

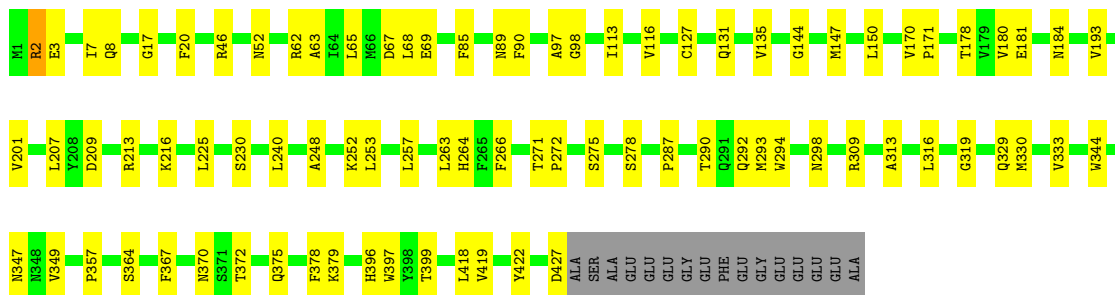


• Molecule 25: Tubulin beta

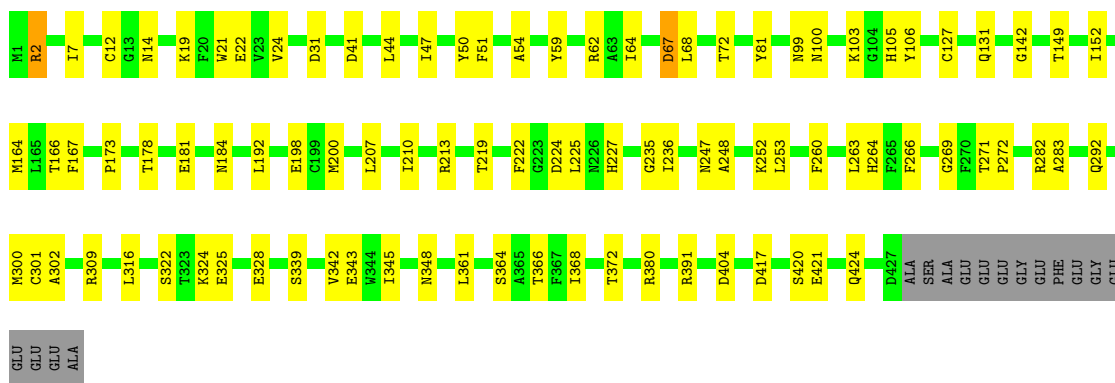
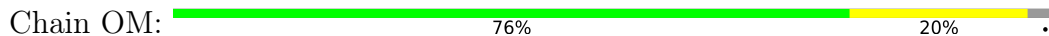


• Molecule 25: Tubulin beta

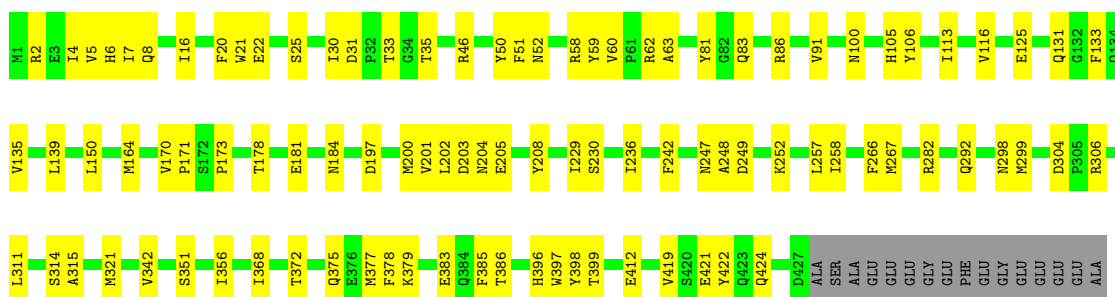
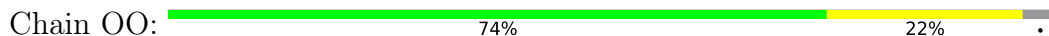




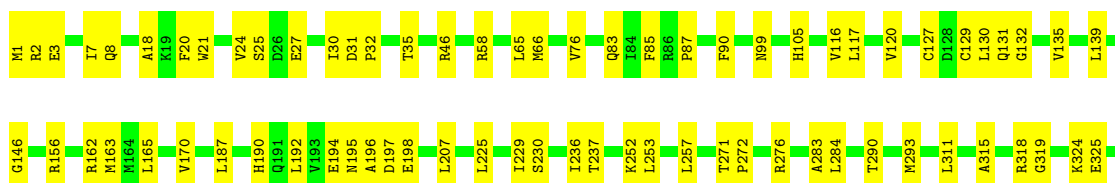
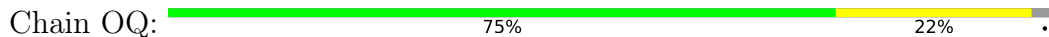
• Molecule 25: Tubulin beta



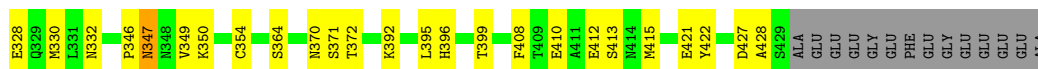
• Molecule 25: Tubulin beta



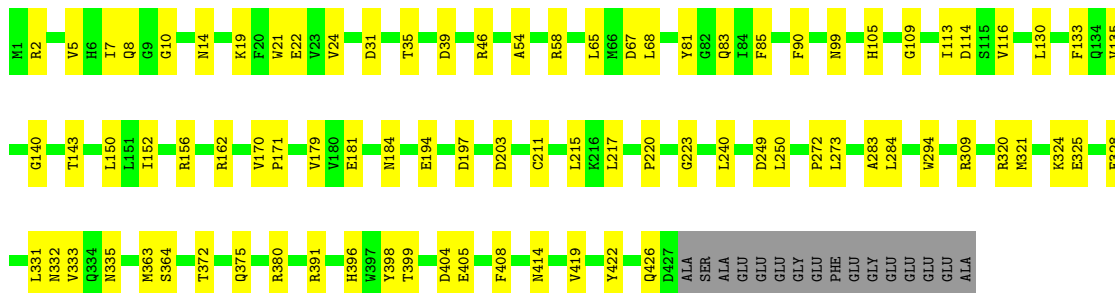
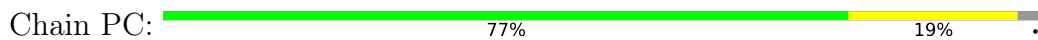
• Molecule 25: Tubulin beta



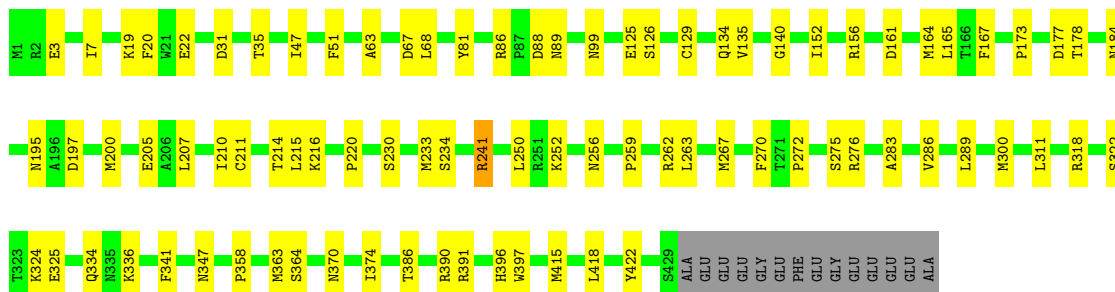
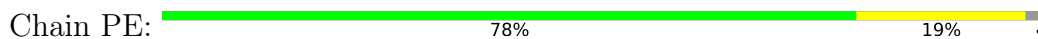




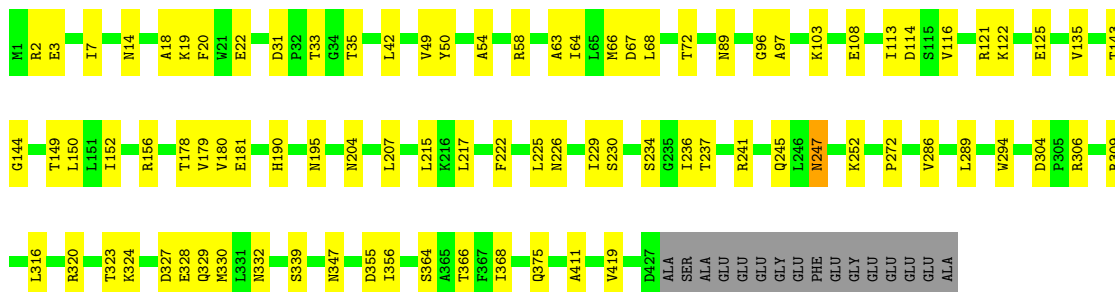
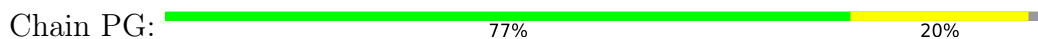
• Molecule 25: Tubulin beta



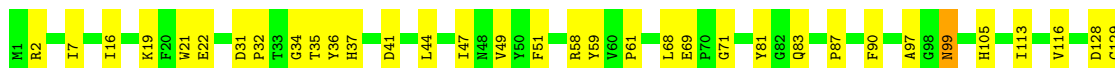
• Molecule 25: Tubulin beta

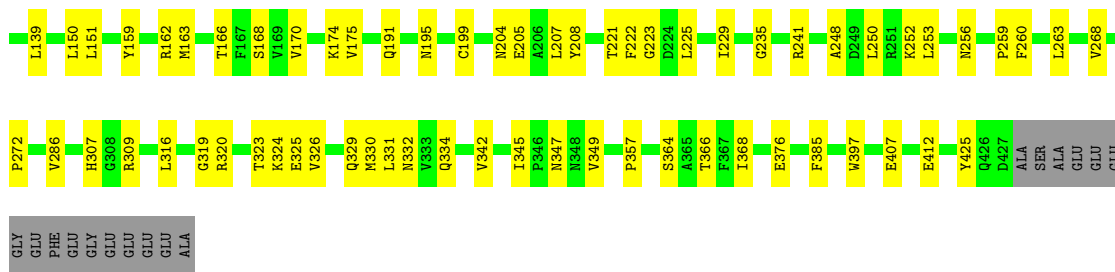


• Molecule 25: Tubulin beta

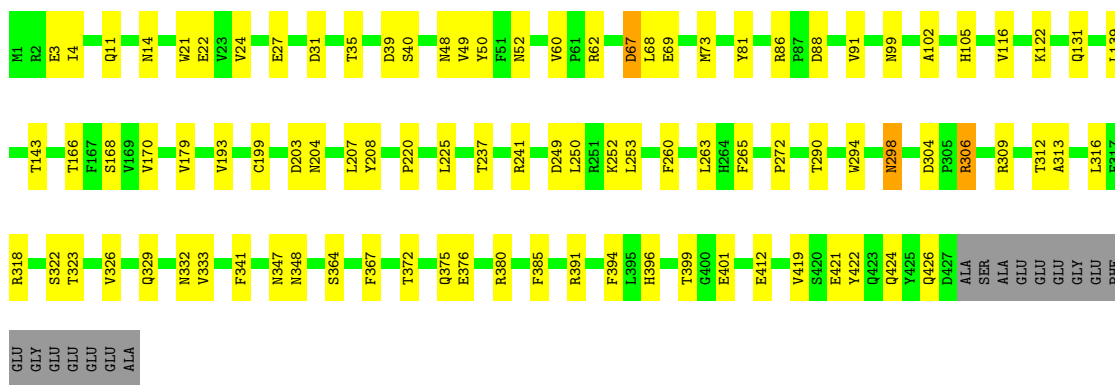


• Molecule 25: Tubulin beta





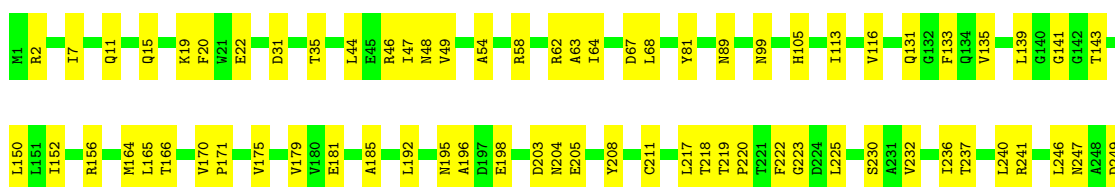
• Molecule 25: Tubulin beta

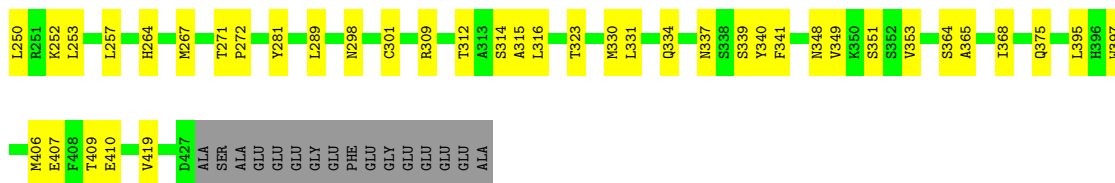


• Molecule 25: Tubulin beta

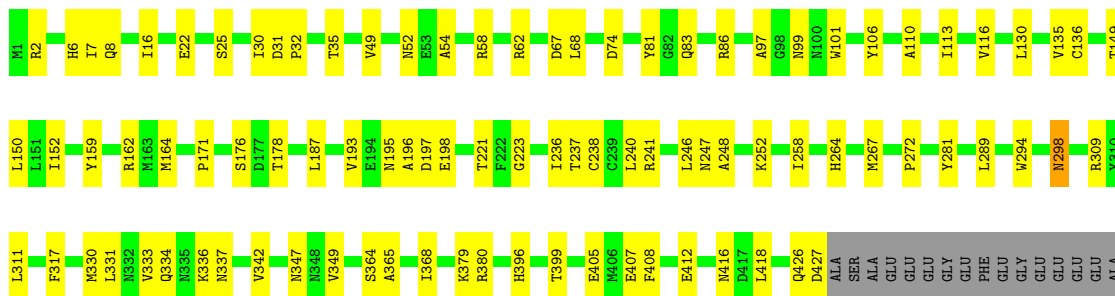
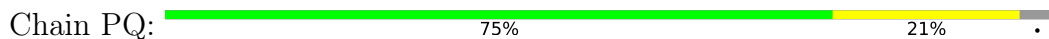


• Molecule 25: Tubulin beta

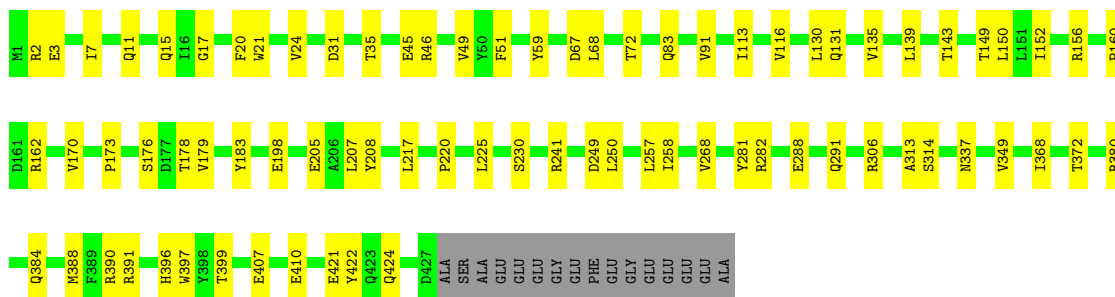
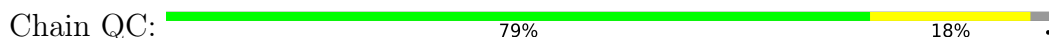




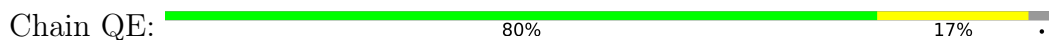
• Molecule 25: Tubulin beta



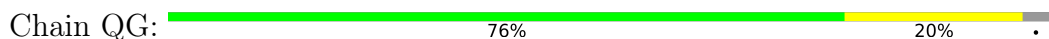
• Molecule 25: Tubulin beta

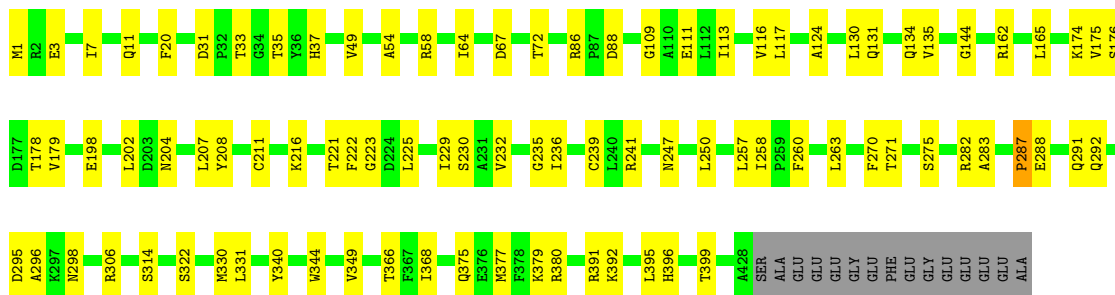


• Molecule 25: Tubulin beta

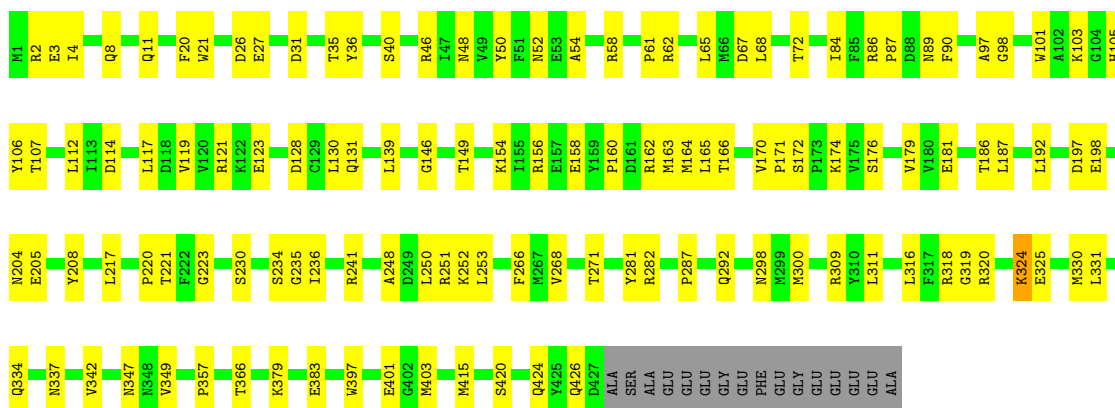


• Molecule 25: Tubulin beta

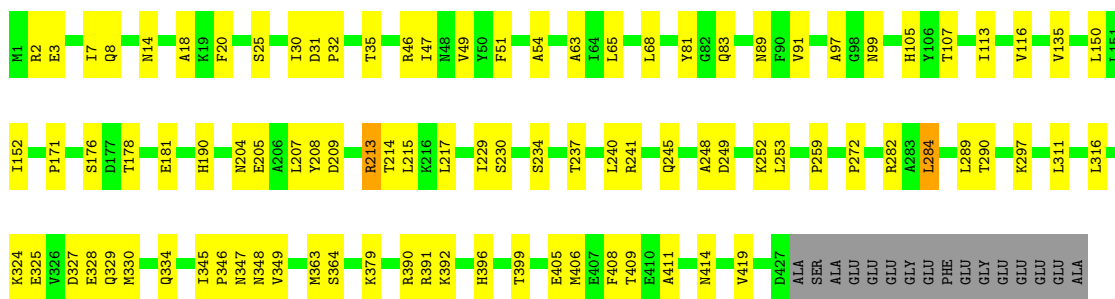
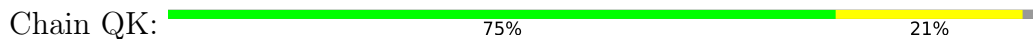




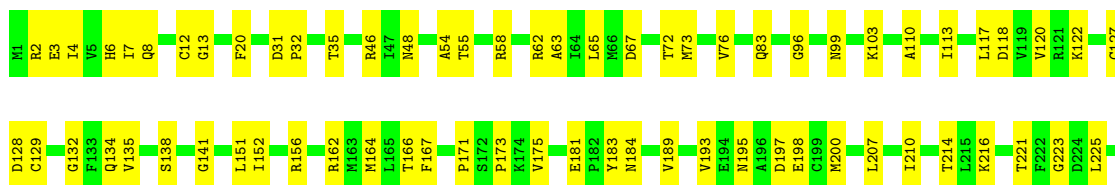
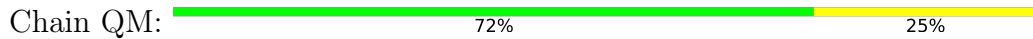
• Molecule 25: Tubulin beta

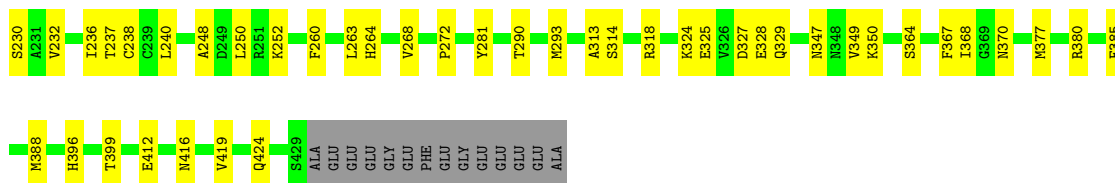


• Molecule 25: Tubulin beta



• Molecule 25: Tubulin beta

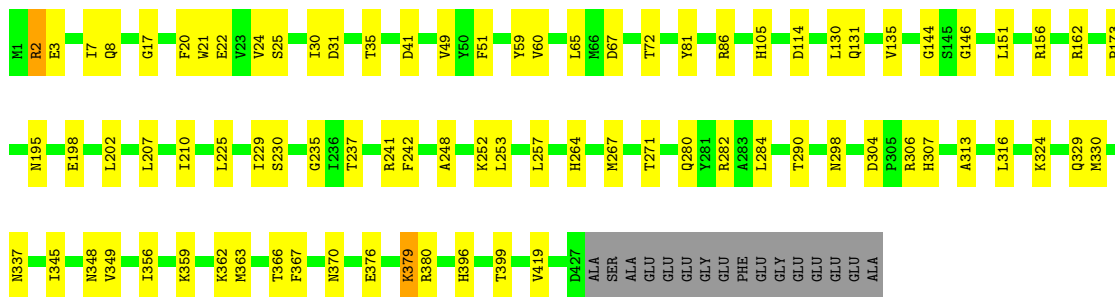
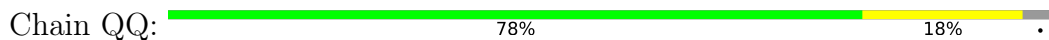




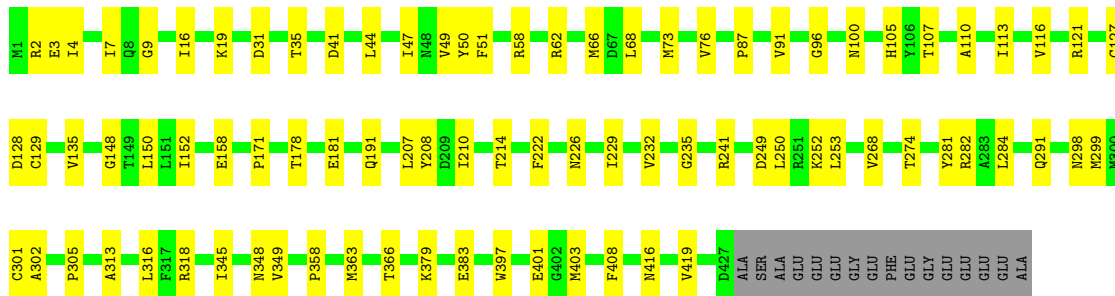
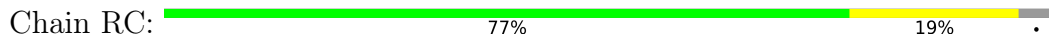
• Molecule 25: Tubulin beta




• Molecule 25: Tubulin beta



• Molecule 25: Tubulin beta




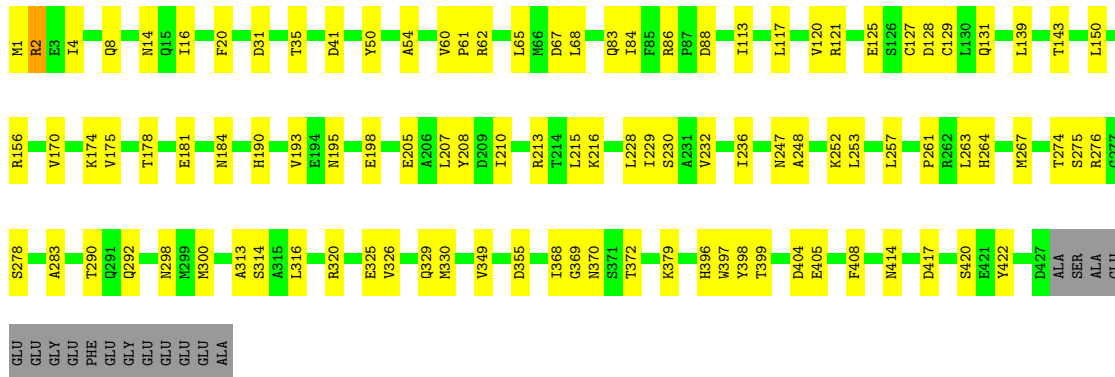
• Molecule 25: Tubulin beta

Chain RE:  72% 24%



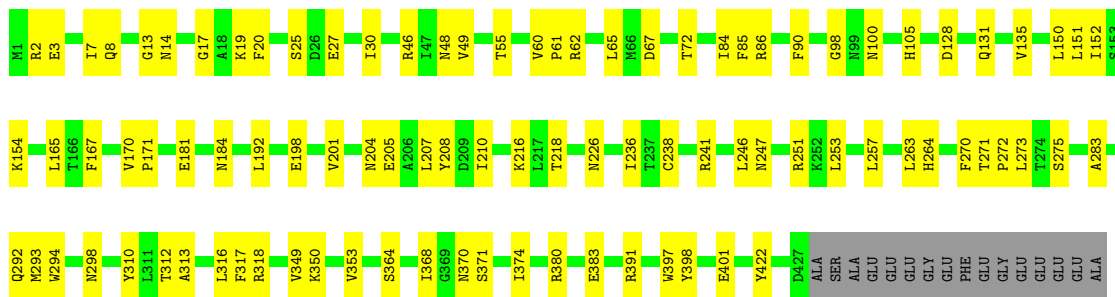
• Molecule 25: Tubulin beta

Chain RG:  74% 23%



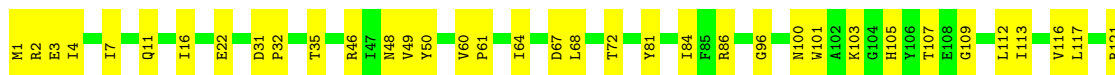
• Molecule 25: Tubulin beta

Chain RI:  75% 21%

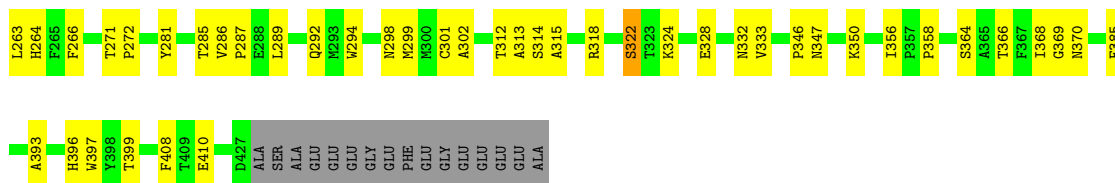


• Molecule 25: Tubulin beta

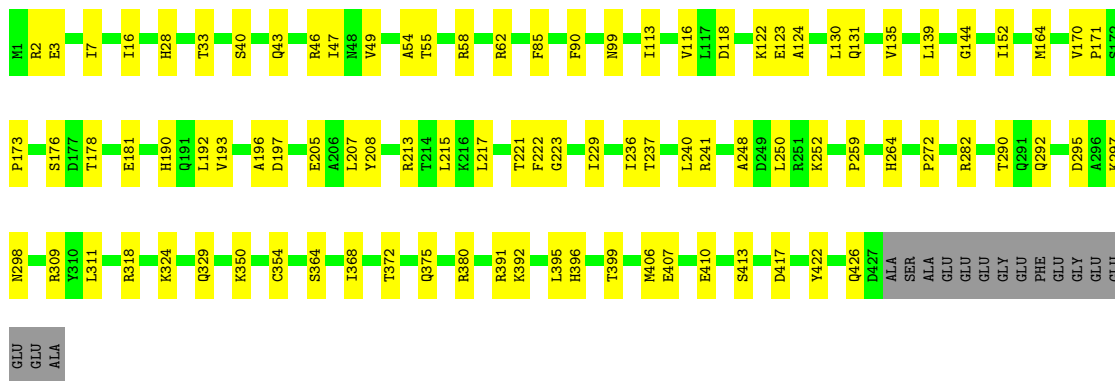
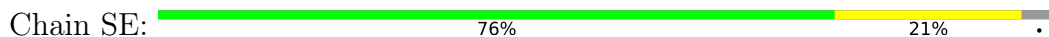
Chain RK:  71% 25%



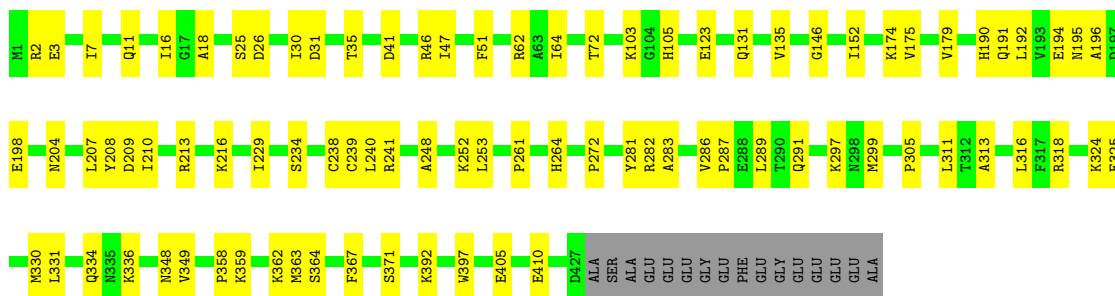
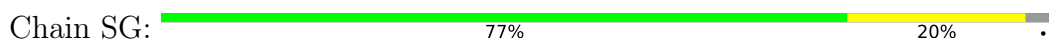




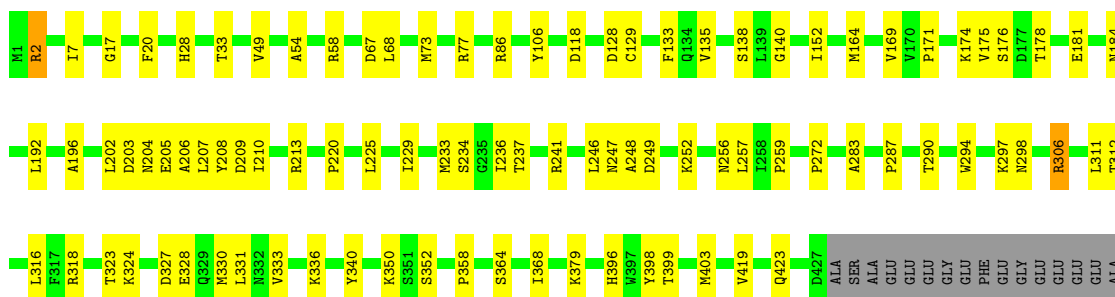
• Molecule 25: Tubulin beta



• Molecule 25: Tubulin beta



• Molecule 25: Tubulin beta



• Molecule 25: Tubulin beta



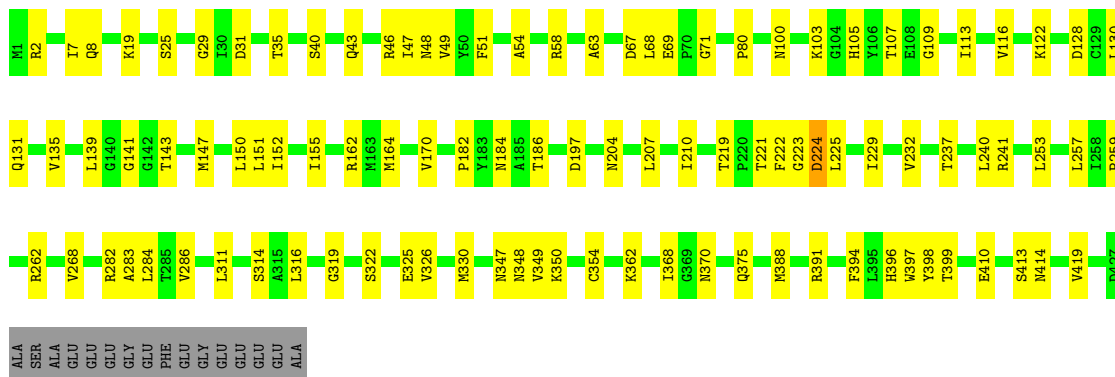






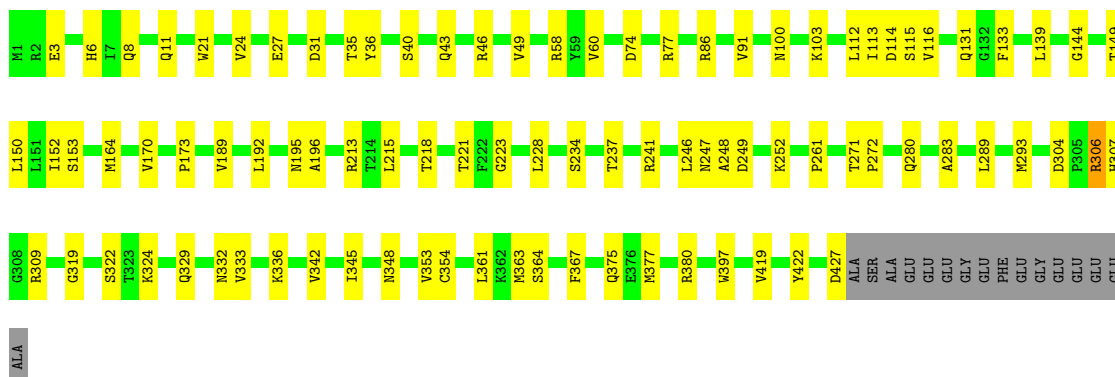
• Molecule 25: Tubulin beta

Chain UE: 74% 23%



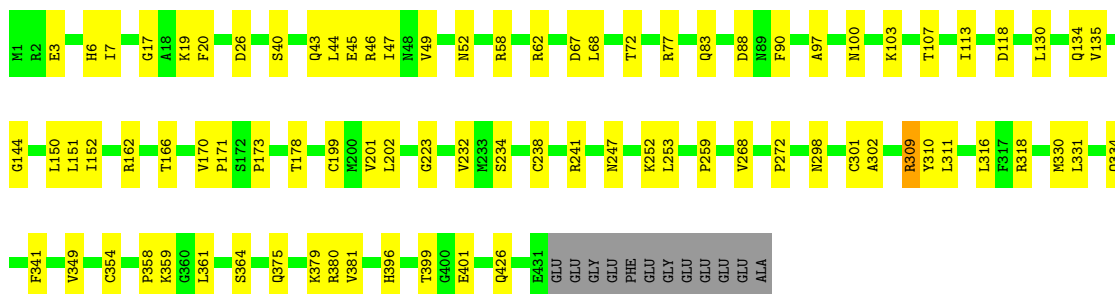
• Molecule 25: Tubulin beta

Chain UG: 76% 20%



• Molecule 25: Tubulin beta

Chain UI: 79% 19%




• Molecule 25: Tubulin beta

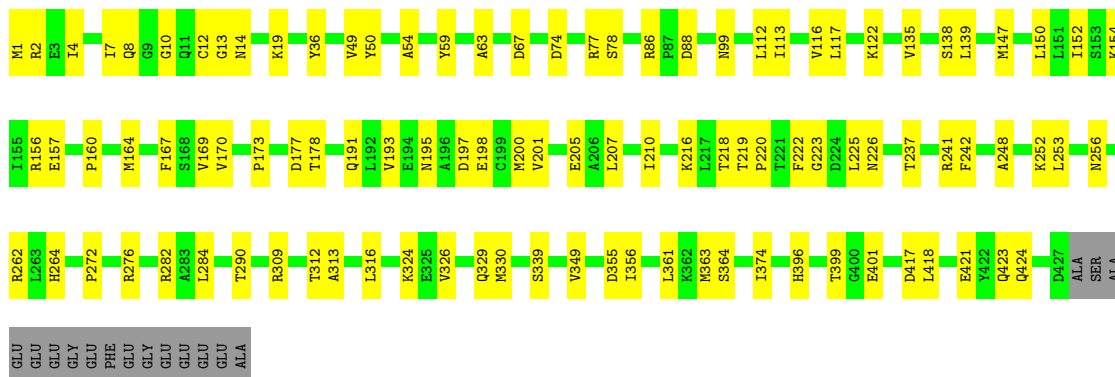
Chain UK: 74% 23%






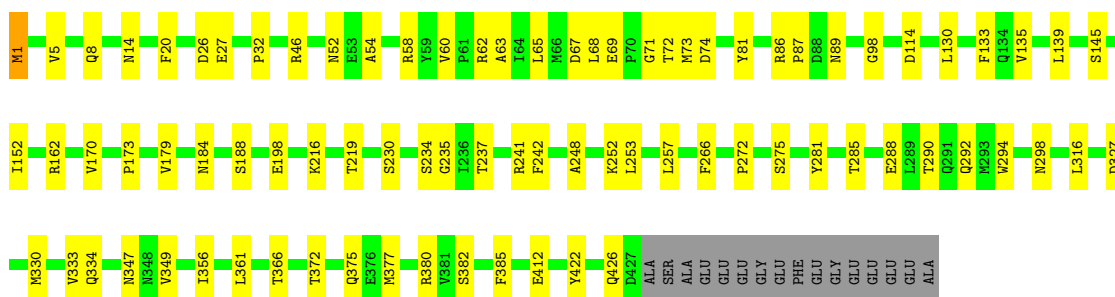
- Molecule 25: Tubulin beta

Chain VE:  74% 23%



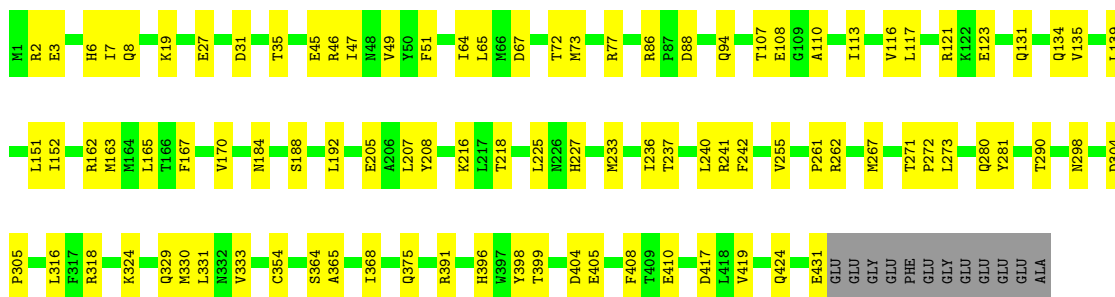
- Molecule 25: Tubulin beta

Chain VG:  78% 19%




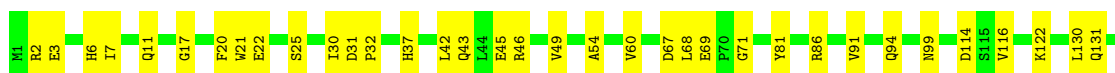
- Molecule 25: Tubulin beta

Chain VI:  76% 21%



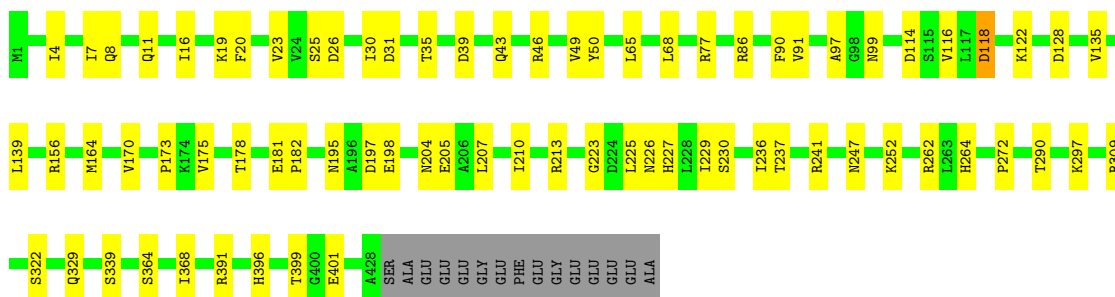
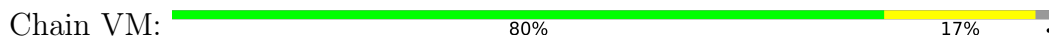
- Molecule 25: Tubulin beta

Chain VK:  74% 22%

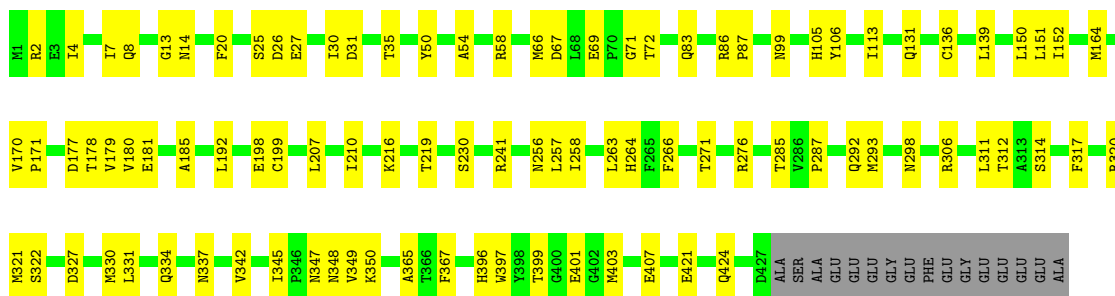
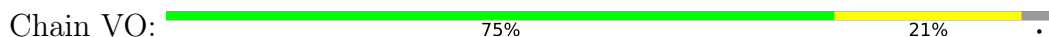




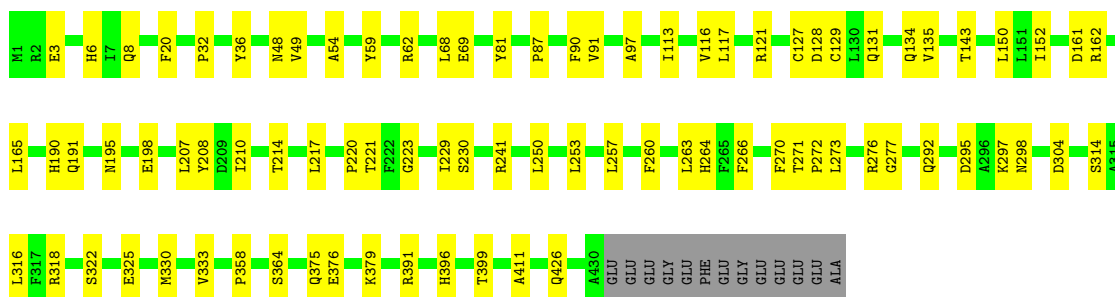
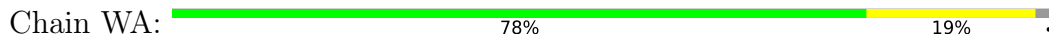
• Molecule 25: Tubulin beta



• Molecule 25: Tubulin beta



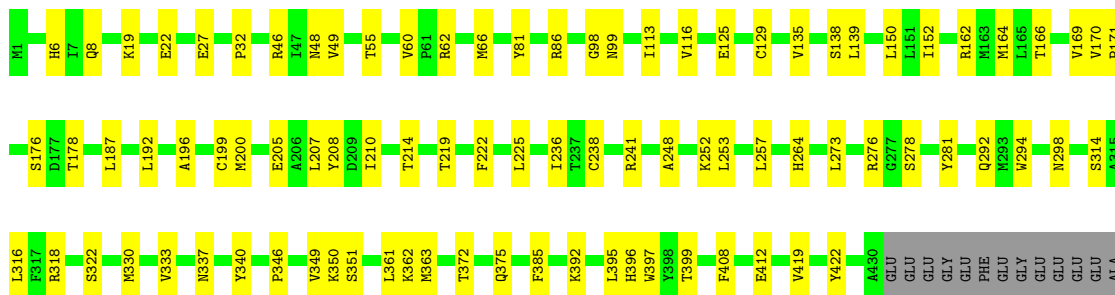
• Molecule 25: Tubulin beta



• Molecule 25: Tubulin beta

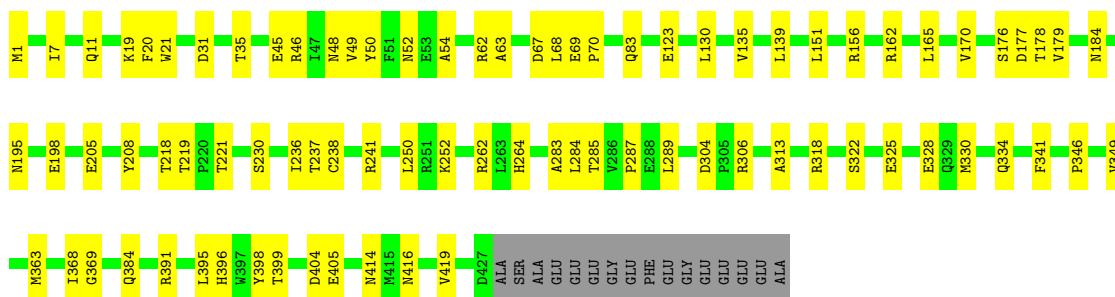






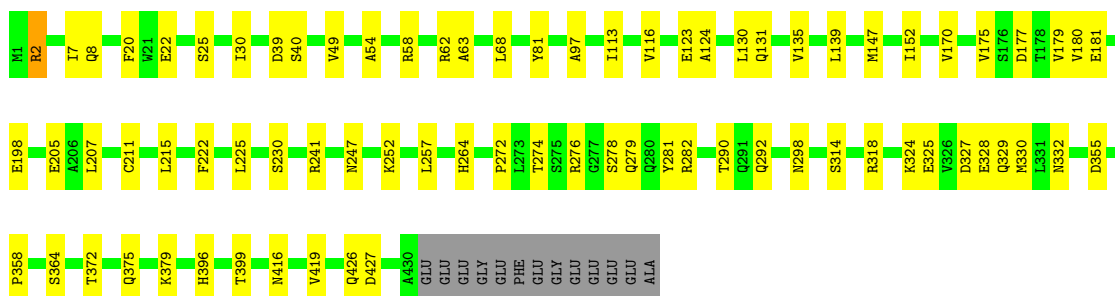
• Molecule 25: Tubulin beta

Chain WK: 78% 19%



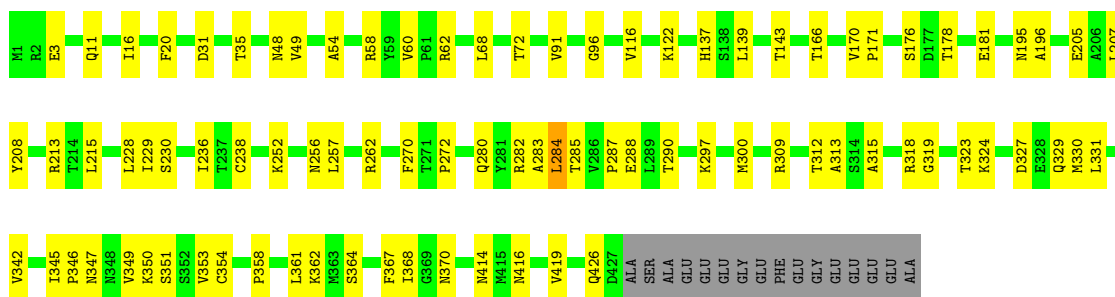
• Molecule 25: Tubulin beta

Chain WM: 80% 17%



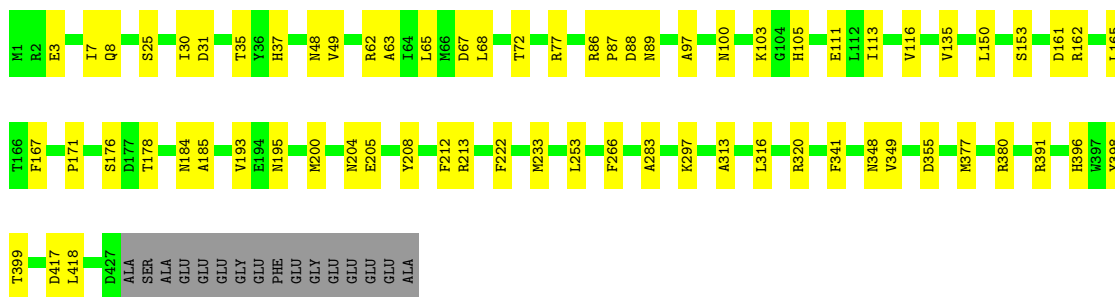
• Molecule 25: Tubulin beta

Chain WO: 77% 19%



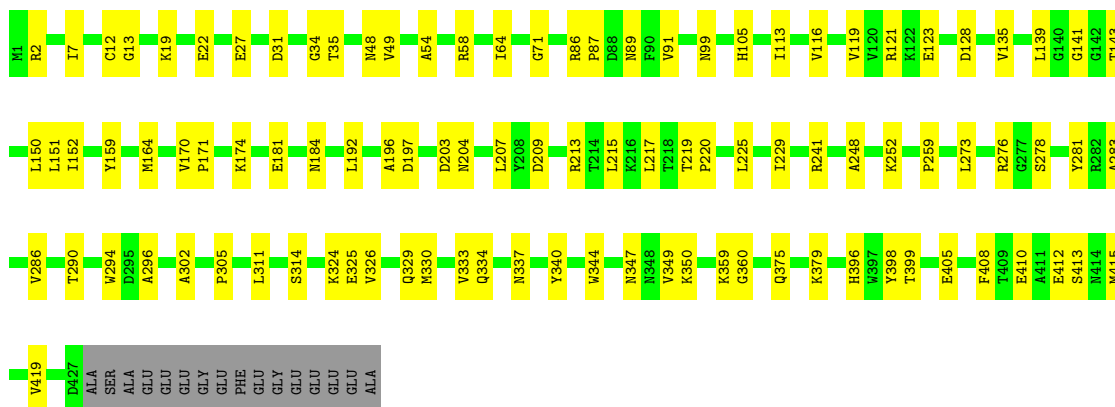
• Molecule 25: Tubulin beta

Chain XA: 81% 16%



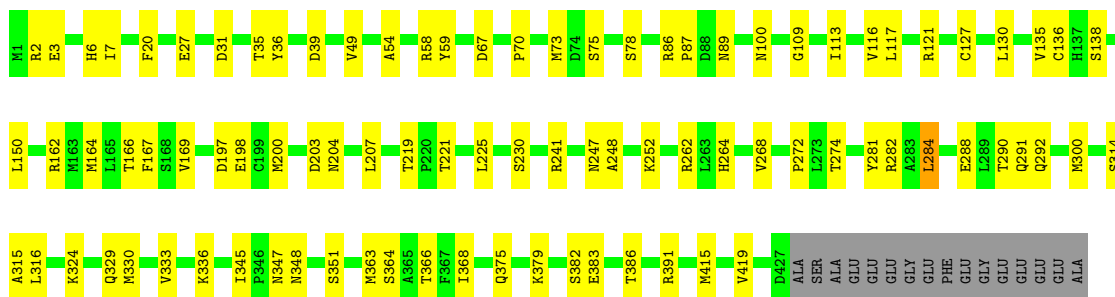
• Molecule 25: Tubulin beta

Chain XC: 74% 23%



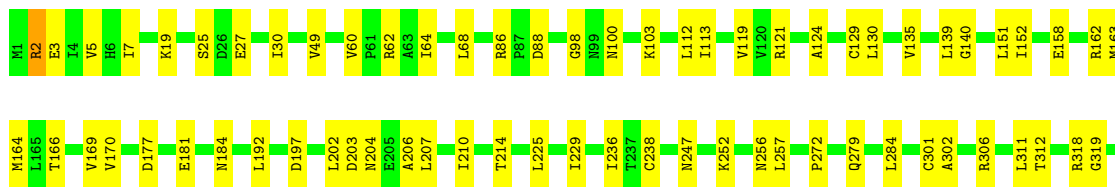
• Molecule 25: Tubulin beta

Chain XE: 76% 20%



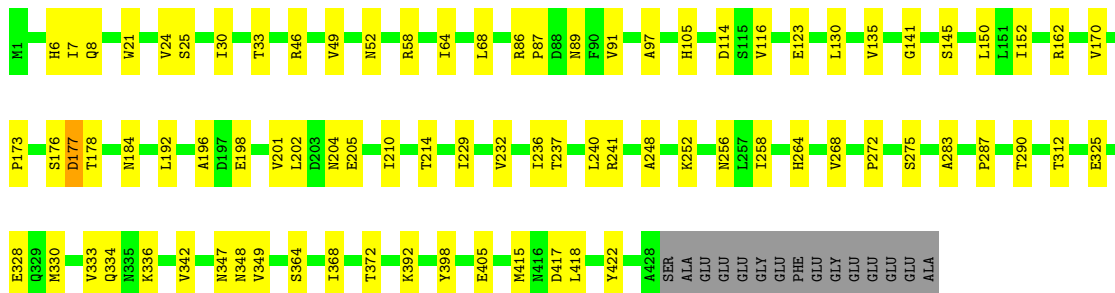
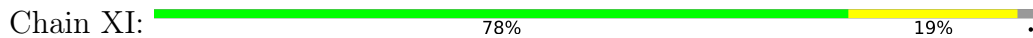
• Molecule 25: Tubulin beta

Chain XG: 77% 19%

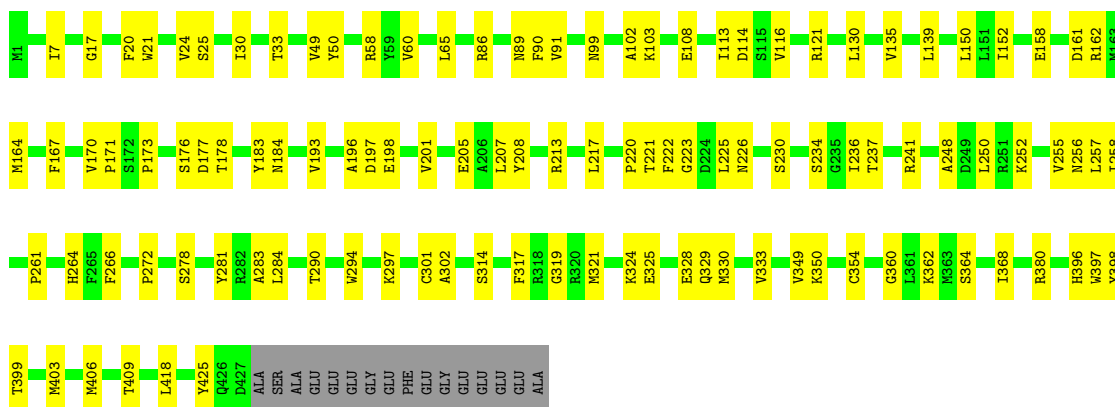




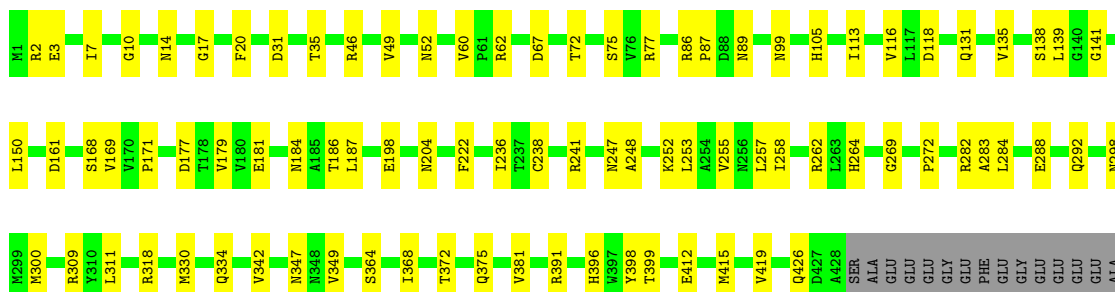
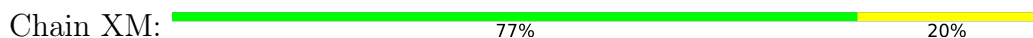
• Molecule 25: Tubulin beta



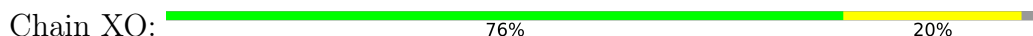
• Molecule 25: Tubulin beta



• Molecule 25: Tubulin beta



• Molecule 25: Tubulin beta



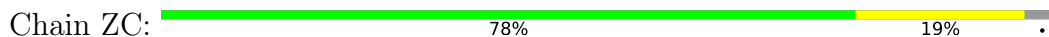


Chain YI:  72% 25%

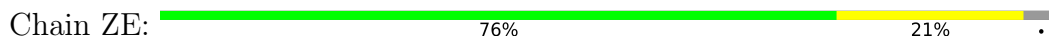




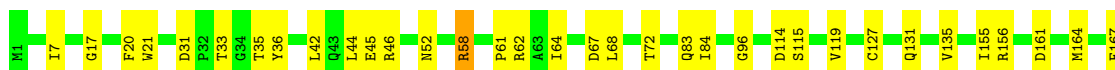
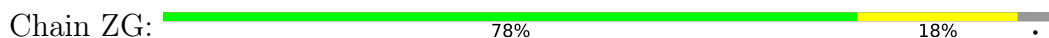
• Molecule 25: Tubulin beta



• Molecule 25: Tubulin beta



• Molecule 25: Tubulin beta



• Molecule 25: Tubulin beta























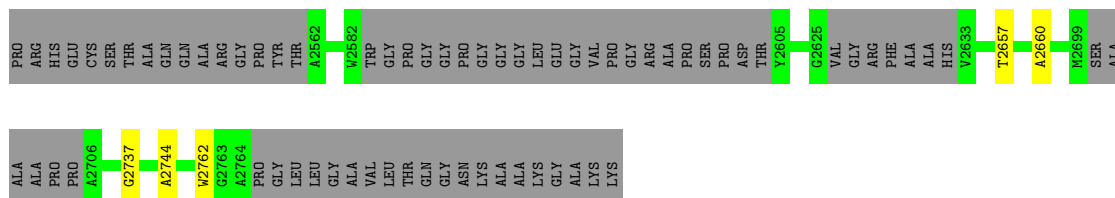




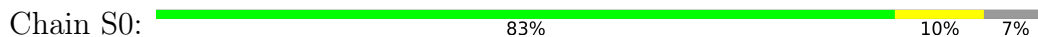




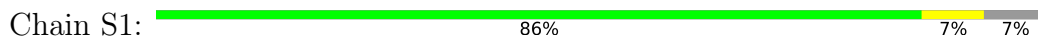




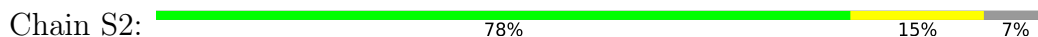
• Molecule 30: FAP275



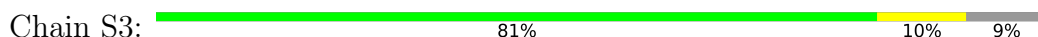
• Molecule 30: FAP275



• Molecule 30: FAP275



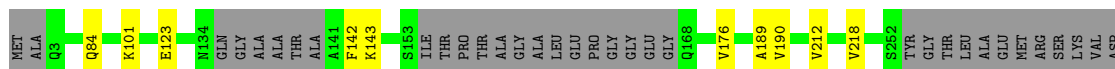
• Molecule 30: FAP275



• Molecule 31: Unknown protein



• Molecule 32: FAP47





















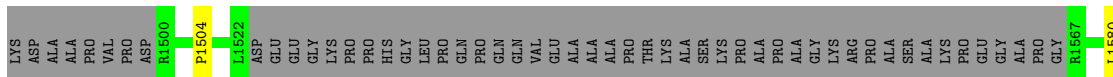
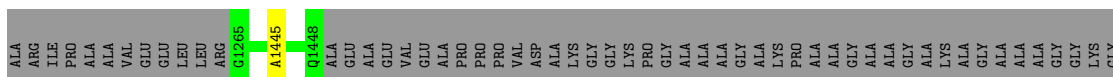












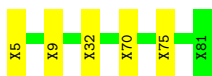
• Molecule 36: Unknown protein



• Molecule 36: Unknown protein



• Molecule 36: Unknown protein



• Molecule 36: Unknown protein



• Molecule 37: Unknown protein



• Molecule 37: Unknown protein



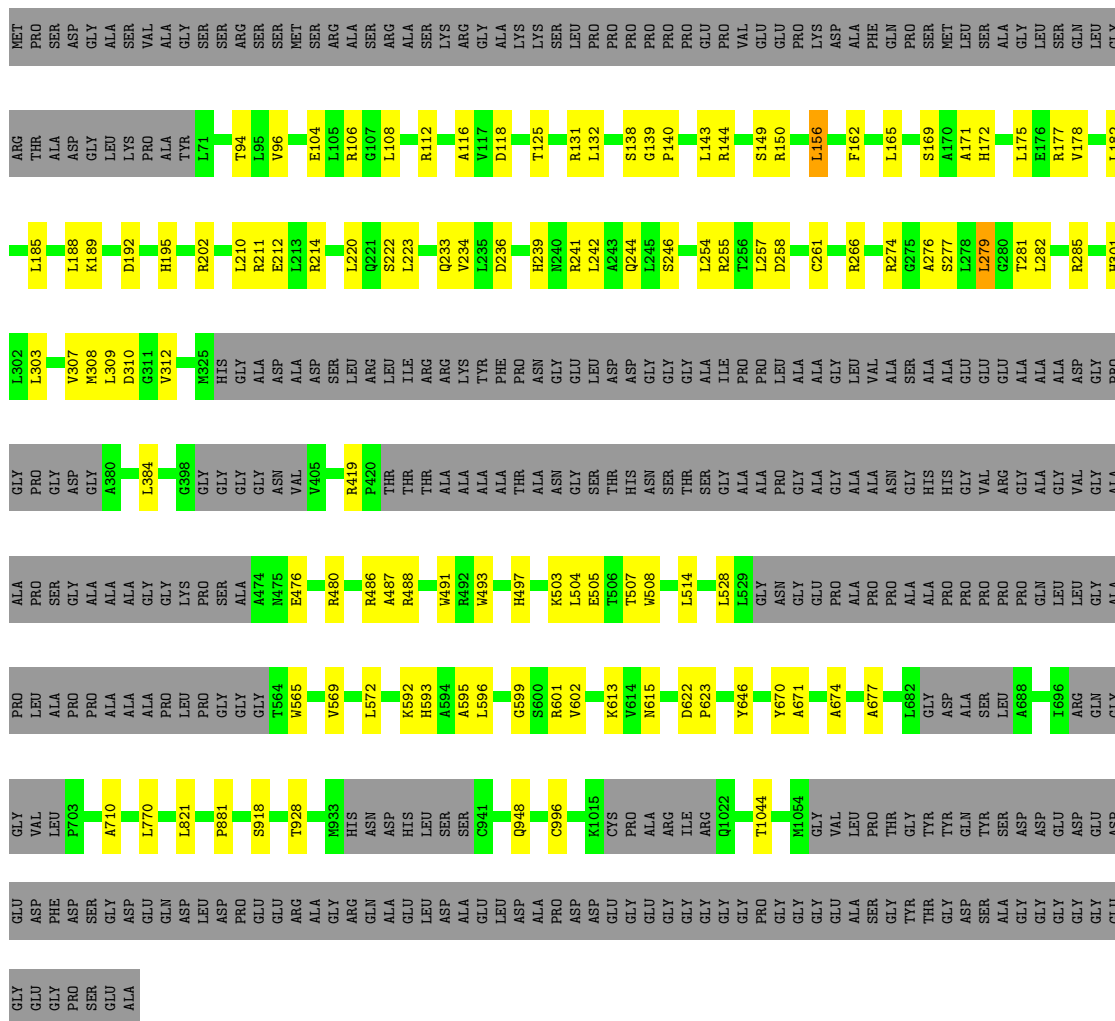


- Molecule 38: Unknown protein

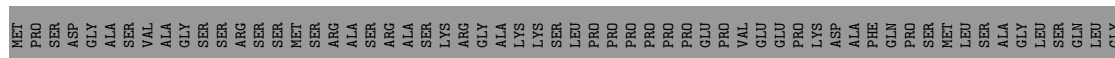


There are no outlier residues recorded for this chain.

- Molecule 39: FAP246



- Molecule 39: FAP246









W477

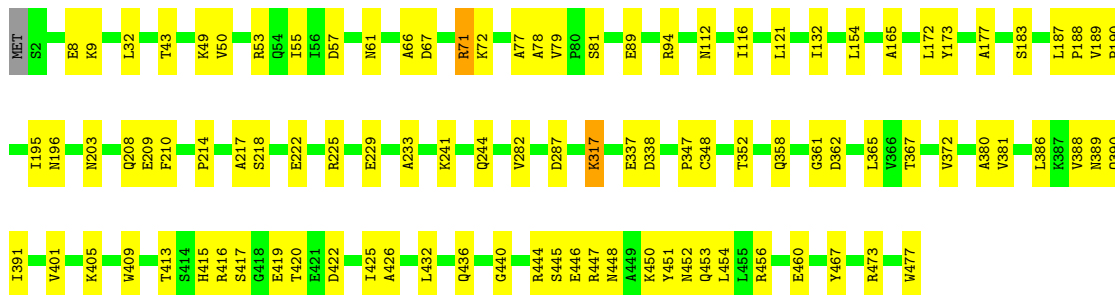
- Molecule 40: Phosphopyruvate hydratase

Chain Y1:  76% 24%




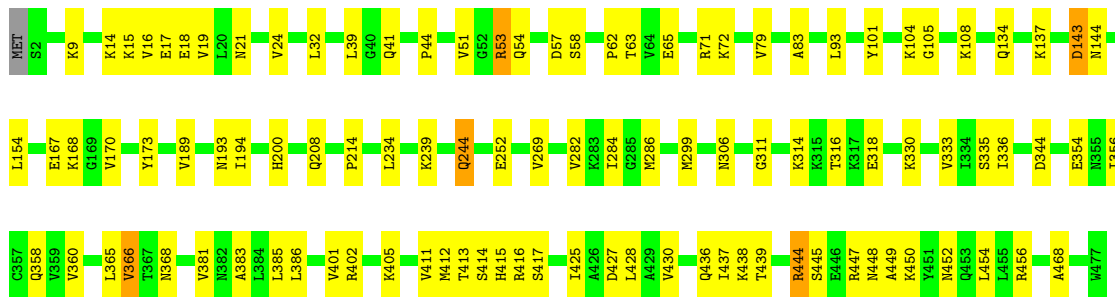
- Molecule 40: Phosphopyruvate hydratase

Chain Y2:  79% 21%




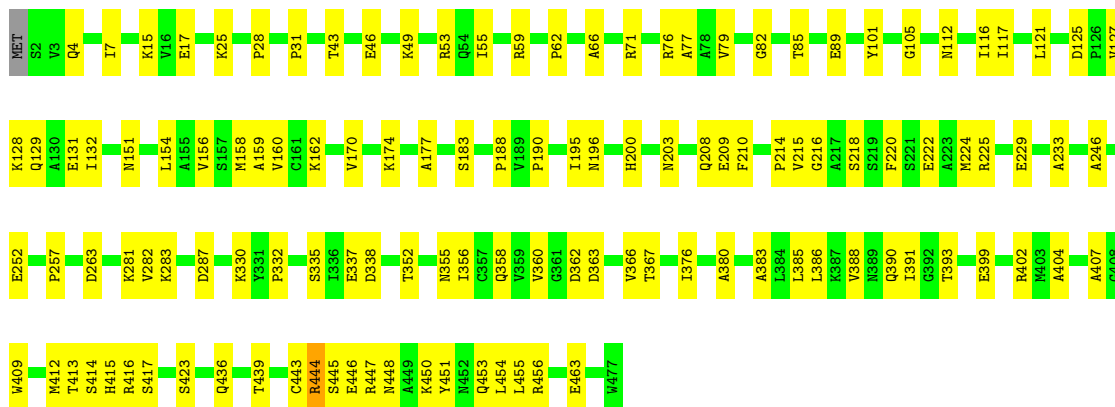
- Molecule 40: Phosphopyruvate hydratase

Chain Y3:  78% 21%



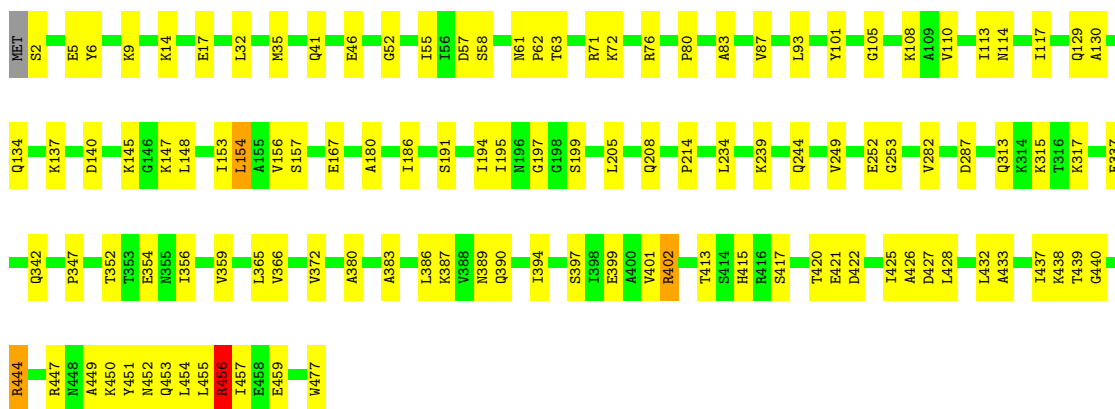
- Molecule 40: Phosphopyruvate hydratase

Chain Y4:  74% 25%



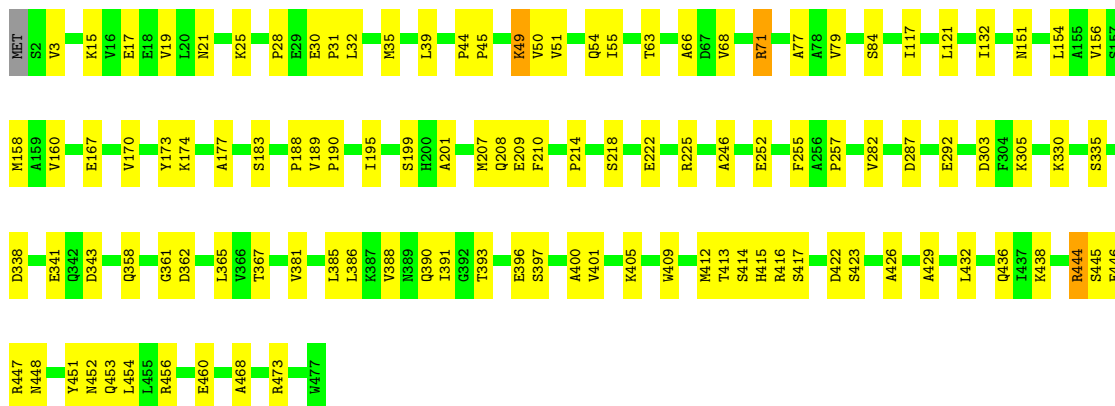
- Molecule 40: Phosphopyruvate hydratase

Chain Y5: 76% 23%



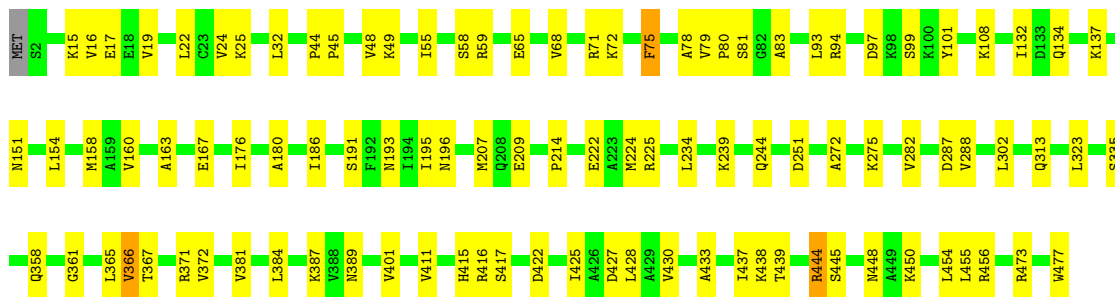
- Molecule 40: Phosphopyruvate hydratase

Chain Y6: 76% 23%

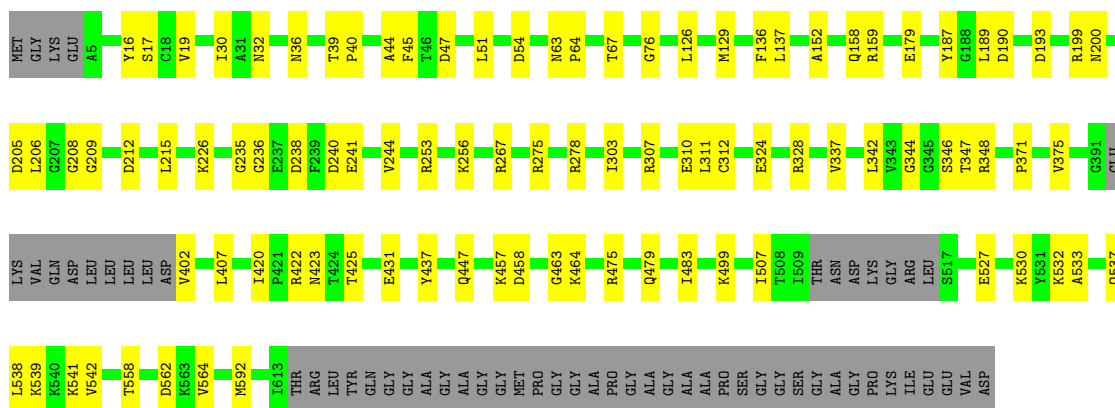
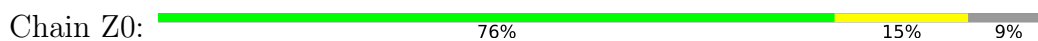


- Molecule 40: Phosphopyruvate hydratase

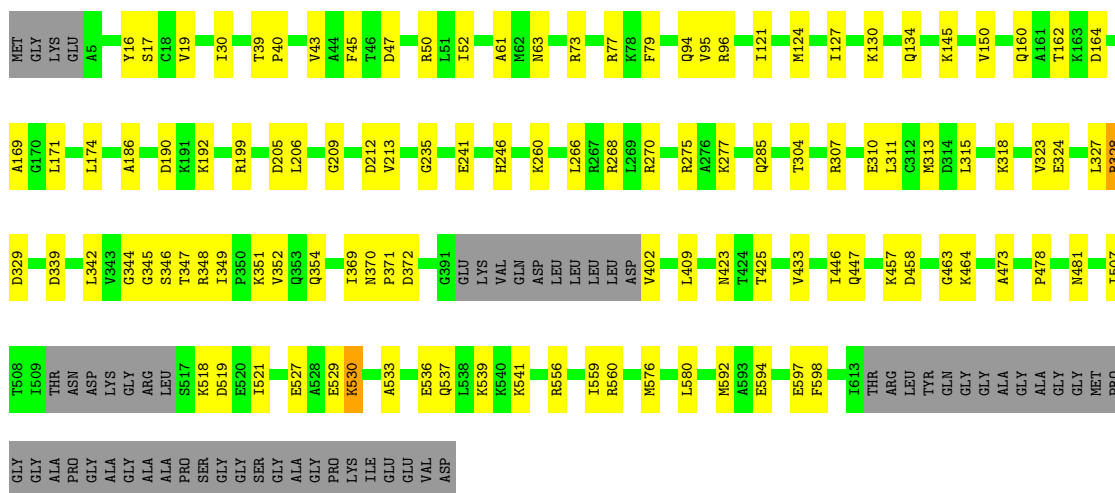
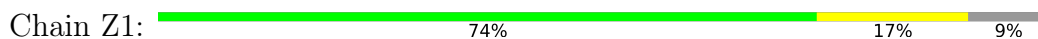
Chain Y7: 79% 20%



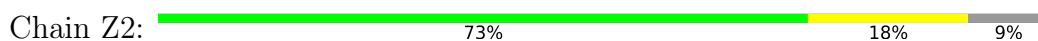
• Molecule 41: Heat shock protein 70A



• Molecule 41: Heat shock protein 70A



• Molecule 41: Heat shock protein 70A







## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	80007	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	39.6	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor

## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

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

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	0.23	0/285	0.31	0/394
1	0B	0.24	0/310	0.29	0/429
1	0C	0.23	0/285	0.30	0/394
1	0D	0.23	0/310	0.29	0/429
1	0E	0.24	0/285	0.31	0/394
1	0F	0.23	0/310	0.29	0/429
1	0G	0.23	0/285	0.30	0/394
1	0H	0.23	0/310	0.29	0/429
1	0I	0.23	0/307	0.30	0/427
1	0J	0.24	0/277	0.32	0/385
1	0K	0.23	0/311	0.31	0/432
1	0L	0.24	0/267	0.33	0/371
2	1A	0.30	0/10591	0.65	7/14505 (0.0%)
2	1B	0.29	0/10698	0.64	8/14657 (0.1%)
2	1C	0.29	0/10895	0.64	8/14933 (0.1%)
2	1D	0.29	0/10826	0.66	12/14836 (0.1%)
3	1F	0.26	0/1108	0.28	0/1542
3	1G	0.25	0/797	0.26	0/1105
3	1H	0.25	0/896	0.28	0/1247
3	1I	0.24	0/487	0.25	0/675
3	1J	0.26	0/1671	0.28	0/2326
3	1K	0.26	0/1702	0.27	0/2370
3	1L	0.25	0/1671	0.27	0/2326
3	1M	0.26	0/1702	0.26	0/2370
3	1N	0.26	0/1671	0.28	0/2326
3	1O	0.26	0/1702	0.27	0/2370
3	1P	0.25	0/1671	0.27	0/2326
3	1Q	0.26	0/1702	0.26	0/2370
3	1R	0.26	0/1671	0.28	0/2326
3	1S	0.26	0/1702	0.27	0/2370
3	1T	0.25	0/1671	0.26	0/2326
3	1U	0.26	0/1702	0.26	0/2370

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
3	1V	0.25	0/1075	0.27	0/1493
3	1W	0.25	0/1318	0.27	0/1836
3	1X	0.25	0/1130	0.26	0/1570
3	1Y	0.25	0/1303	0.26	0/1815
4	2A	0.28	0/4381	0.60	2/6013 (0.0%)
4	2B	0.27	0/4465	0.58	3/6127 (0.0%)
5	2E	0.23	0/1138	0.34	0/1577
5	2F	0.23	0/1148	0.33	0/1591
6	2H	0.25	0/2007	0.44	0/2782
6	2I	0.25	0/2007	0.45	0/2782
7	2K	0.24	0/1231	0.34	0/1717
7	2L	0.24	0/1276	0.33	0/1780
7	2M	0.24	0/1271	0.34	0/1773
7	2N	0.25	0/1301	0.34	0/1815
7	2O	0.24	0/1246	0.34	0/1738
7	2P	0.24	0/916	0.36	0/1276
7	2Q	0.24	0/199	0.30	0/277
8	3A	0.25	0/867	0.30	0/1207
8	3B	0.25	0/867	0.30	0/1207
8	3C	0.25	0/867	0.30	0/1207
8	3D	0.25	0/828	0.30	0/1153
9	3K	0.24	0/1273	0.35	0/1777
9	3L	0.24	0/1198	0.34	0/1672
9	3M	0.23	0/1263	0.34	0/1763
9	3N	0.24	0/1213	0.34	0/1693
9	3O	0.24	0/1283	0.34	0/1791
9	3P	0.24	0/1263	0.35	0/1763
10	4A	0.24	0/703	0.37	0/976
10	4B	0.24	0/703	0.37	0/976
10	4C	0.24	0/703	0.36	0/976
10	4D	0.24	0/703	0.37	0/976
10	4E	0.23	0/703	0.37	0/976
10	4F	0.24	0/703	0.38	0/976
10	4G	0.23	0/703	0.37	0/976
10	4H	0.24	0/703	0.37	0/976
10	4I	0.24	0/703	0.37	0/976
10	4J	0.24	0/703	0.37	0/976
10	4K	0.24	0/703	0.37	0/976
10	4L	0.24	0/703	0.37	0/976
11	5A	0.27	0/2703	0.38	0/3741
11	5B	0.24	0/2703	0.37	0/3741
11	5C	0.27	0/2703	0.39	0/3741
11	5D	0.25	0/2703	0.37	0/3741

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
12	6A	0.25	0/1434	0.44	0/1994
12	6B	0.24	0/1434	0.44	0/1994
12	6C	0.24	0/1248	0.45	0/1735
12	6D	0.25	0/1248	0.44	0/1735
13	7A	0.26	0/572	0.49	0/785
13	7B	0.26	0/635	0.49	0/872
13	7C	0.26	0/565	0.49	0/774
13	7D	0.26	0/490	0.50	0/673
13	7E	0.25	0/542	0.49	0/743
13	7F	0.26	0/495	0.50	0/680
13	7G	0.26	0/572	0.49	0/785
13	7H	0.26	0/635	0.49	0/872
13	7I	0.25	0/577	0.49	0/792
13	7J	0.26	0/635	0.49	0/872
13	7K	0.26	0/572	0.49	0/785
13	7L	0.26	0/562	0.50	0/771
14	8A	0.29	0/1996	0.72	3/2694 (0.1%)
14	8B	0.30	0/1037	0.65	0/1403
14	8C	0.31	0/2136	0.68	0/2886
14	8D	0.29	0/1037	0.69	1/1403 (0.1%)
15	9A	0.26	0/4060	0.41	0/5624
15	9B	0.26	0/4060	0.41	0/5624
15	9C	0.26	0/4060	0.40	0/5624
15	9D	0.26	0/4060	0.40	0/5624
15	9E	0.26	0/3336	0.42	0/4611
15	9F	0.26	0/3326	0.42	0/4597
16	A0	0.30	0/1024	0.74	3/1399 (0.2%)
16	A1	0.26	0/1320	0.65	1/1797 (0.1%)
16	A2	0.27	0/1320	0.65	0/1797
16	A3	0.30	0/1320	0.70	1/1797 (0.1%)
16	A4	0.30	0/287	0.65	0/383
17	B0	0.33	0/1940	0.74	2/2592 (0.1%)
17	B1	0.35	0/3778	0.76	1/5055 (0.0%)
17	B2	0.38	0/1952	0.87	3/2620 (0.1%)
18	C0	0.33	0/9180	0.72	9/12429 (0.1%)
18	C1	0.33	0/10289	0.75	19/13903 (0.1%)
18	C2	0.32	0/11707	0.73	10/15818 (0.1%)
18	C3	0.33	1/11612 (0.0%)	0.71	8/15691 (0.1%)
18	C4	0.36	0/2279	0.79	1/3058 (0.0%)
19	D0	0.30	0/3356	0.66	4/4570 (0.1%)
19	D1	0.31	0/3353	0.65	2/4566 (0.0%)
19	D2	0.32	0/3371	0.65	3/4591 (0.1%)
19	D3	0.31	0/3368	0.68	6/4587 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
19	D4	0.32	0/3356	0.71	5/4570 (0.1%)
19	D5	0.34	0/3368	0.71	4/4587 (0.1%)
19	D6	0.29	0/3371	0.63	1/4591 (0.0%)
19	D7	0.31	0/3368	0.67	2/4587 (0.0%)
19	G0	0.31	0/3350	0.66	3/4562 (0.1%)
19	G1	0.33	0/3358	0.65	1/4573 (0.0%)
19	G2	0.31	0/3365	0.64	1/4583 (0.0%)
19	G3	0.31	0/3358	0.62	2/4573 (0.0%)
19	G4	0.31	0/3365	0.66	0/4583
19	G5	0.31	0/3358	0.63	1/4573 (0.0%)
19	H0	0.28	0/3342	0.61	1/4551 (0.0%)
19	H1	0.30	0/3245	0.65	1/4416 (0.0%)
19	H2	0.28	0/3272	0.61	2/4457 (0.0%)
19	H3	0.31	0/3322	0.68	3/4524 (0.1%)
19	H4	0.28	0/3357	0.63	3/4572 (0.1%)
19	H5	0.30	0/3329	0.64	3/4534 (0.1%)
19	H6	0.30	0/3253	0.65	1/4431 (0.0%)
19	H7	0.31	0/3285	0.72	6/4473 (0.1%)
19	I0	0.32	0/3315	0.64	1/4515 (0.0%)
19	I1	0.31	0/3357	0.65	2/4572 (0.0%)
19	J0	0.31	0/3294	0.64	1/4484 (0.0%)
19	J1	0.30	0/3358	0.66	2/4573 (0.0%)
19	J2	0.29	0/3347	0.60	0/4558
19	J3	0.32	0/3333	0.68	4/4538 (0.1%)
19	K0	0.32	0/3363	0.69	2/4580 (0.0%)
19	K1	0.31	0/3363	0.65	3/4580 (0.1%)
19	K2	0.32	0/3363	0.68	2/4580 (0.0%)
19	K3	0.31	0/3333	0.68	2/4539 (0.0%)
19	L0	0.32	0/3582	0.71	2/4860 (0.0%)
19	L1	0.33	0/3562	0.70	2/4833 (0.0%)
19	L2	0.33	0/3562	0.71	4/4833 (0.1%)
19	L3	0.33	0/3582	0.72	5/4860 (0.1%)
20	E0	0.28	0/1913	0.63	1/2605 (0.0%)
20	E1	0.30	0/1955	0.67	2/2666 (0.1%)
20	E2	0.27	0/1891	0.64	0/2577
20	E3	0.30	0/1963	0.70	3/2678 (0.1%)
21	F0	0.26	0/1523	0.49	0/2114
21	F1	0.30	0/2963	0.62	0/4074
21	F2	0.28	0/2963	0.58	1/4074 (0.0%)
21	F3	0.30	0/2963	0.61	0/4074
22	M0	0.29	0/1806	0.64	0/2470
22	M1	0.30	0/4407	0.66	0/6008
23	N0	0.26	0/2744	0.48	0/3781

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
23	N1	0.28	0/2822	0.54	0/3888
23	N2	0.27	0/2744	0.52	1/3781 (0.0%)
23	N3	0.28	0/2837	0.50	0/3909
24	NB	0.29	0/3412	0.60	1/4625 (0.0%)
24	ND	0.30	0/3412	0.61	2/4625 (0.0%)
24	NF	0.29	0/3412	0.64	2/4625 (0.0%)
24	NH	0.29	0/3412	0.62	1/4625 (0.0%)
24	NJ	0.29	0/3412	0.60	1/4625 (0.0%)
24	NL	0.29	0/3412	0.61	0/4625
24	NN	0.30	0/3412	0.62	3/4625 (0.1%)
24	OD	0.30	0/3412	0.61	0/4625
24	OF	0.30	0/3412	0.64	2/4625 (0.0%)
24	OH	0.30	0/3412	0.62	1/4625 (0.0%)
24	OJ	0.29	0/3412	0.61	0/4625
24	OL	0.29	0/3412	0.63	3/4625 (0.1%)
24	ON	0.31	0/3412	0.62	1/4625 (0.0%)
24	OP	0.30	0/3412	0.62	3/4625 (0.1%)
24	PD	0.29	0/3406	0.59	0/4617
24	PF	0.30	0/3412	0.63	2/4625 (0.0%)
24	PH	0.31	0/3412	0.63	0/4625
24	PJ	0.29	0/3412	0.60	1/4625 (0.0%)
24	PL	0.30	0/3406	0.62	0/4617
24	PN	0.29	0/3412	0.61	1/4625 (0.0%)
24	PP	0.30	0/3412	0.63	1/4625 (0.0%)
24	QD	0.29	0/3412	0.60	1/4625 (0.0%)
24	QF	0.29	0/3412	0.59	1/4625 (0.0%)
24	QH	0.30	0/3471	0.61	3/4705 (0.1%)
24	QJ	0.29	0/3412	0.61	0/4625
24	QL	0.29	0/3412	0.61	4/4625 (0.1%)
24	QN	0.32	0/3406	0.66	2/4617 (0.0%)
24	QP	0.29	0/3471	0.64	2/4705 (0.0%)
24	RD	0.30	0/3412	0.63	2/4625 (0.0%)
24	RF	0.30	0/3412	0.63	3/4625 (0.1%)
24	RH	0.30	0/3412	0.61	0/4625
24	RJ	0.30	0/3412	0.62	2/4625 (0.0%)
24	RL	0.31	0/3412	0.64	2/4625 (0.0%)
24	RN	0.30	0/3412	0.63	3/4625 (0.1%)
24	RP	0.31	0/3412	0.65	2/4625 (0.0%)
24	SB	0.31	0/3412	0.63	3/4625 (0.1%)
24	SD	0.30	0/3412	0.62	3/4625 (0.1%)
24	SF	0.29	0/3412	0.62	4/4625 (0.1%)
24	SH	0.29	0/3434	0.59	0/4655
24	SJ	0.29	0/3412	0.62	2/4625 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
24	SL	0.28	0/3412	0.59	1/4625 (0.0%)
24	SN	0.29	0/3412	0.59	1/4625 (0.0%)
24	SP	0.29	0/3434	0.63	0/4655
24	TB	0.29	0/3412	0.58	1/4625 (0.0%)
24	TD	0.28	0/3412	0.59	1/4625 (0.0%)
24	TF	0.28	0/3412	0.61	1/4625 (0.0%)
24	TH	0.30	0/3434	0.62	2/4655 (0.0%)
24	TJ	0.29	0/3412	0.61	2/4625 (0.0%)
24	TL	0.29	0/3412	0.60	2/4625 (0.0%)
24	TN	0.30	0/3412	0.64	4/4625 (0.1%)
24	TP	0.29	0/3434	0.60	1/4655 (0.0%)
24	UB	0.29	0/3465	0.58	2/4697 (0.0%)
24	UD	0.32	0/3426	0.66	2/4644 (0.0%)
24	UF	0.29	0/3471	0.59	0/4705
24	UH	0.31	0/3430	0.61	0/4649
24	UJ	0.31	0/3471	0.63	2/4705 (0.0%)
24	UL	0.32	0/3424	0.65	2/4641 (0.0%)
24	UN	0.30	0/3471	0.63	2/4705 (0.0%)
24	UP	0.31	0/3420	0.64	3/4636 (0.1%)
24	VB	0.28	0/3412	0.59	1/4625 (0.0%)
24	VD	0.29	0/3412	0.58	0/4625
24	VF	0.29	0/3412	0.57	0/4625
24	VH	0.32	0/3434	0.66	2/4655 (0.0%)
24	VJ	0.30	0/3412	0.58	3/4625 (0.1%)
24	VL	0.29	0/3412	0.60	2/4625 (0.0%)
24	VN	0.29	0/3412	0.58	0/4625
24	VP	0.30	0/3412	0.60	1/4625 (0.0%)
24	WB	0.29	0/3471	0.60	1/4705 (0.0%)
24	WD	0.29	0/3414	0.63	2/4628 (0.0%)
24	WF	0.30	0/3471	0.63	4/4705 (0.1%)
24	WH	0.30	0/3438	0.59	0/4660
24	WJ	0.30	0/3465	0.61	2/4697 (0.0%)
24	WL	0.31	0/3420	0.65	5/4636 (0.1%)
24	WN	0.31	0/3471	0.64	3/4705 (0.1%)
24	XB	0.30	0/3412	0.63	4/4625 (0.1%)
24	XD	0.29	0/3412	0.60	1/4625 (0.0%)
24	XF	0.30	0/3412	0.61	2/4625 (0.0%)
24	XH	0.30	0/3412	0.59	1/4625 (0.0%)
24	XJ	0.30	0/3412	0.61	3/4625 (0.1%)
24	XL	0.30	0/3412	0.61	1/4625 (0.0%)
24	XN	0.30	0/3412	0.58	0/4625
24	YB	0.29	0/3412	0.59	2/4625 (0.0%)
24	YD	0.31	0/3406	0.68	2/4617 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
24	YF	0.28	0/3412	0.58	1/4625 (0.0%)
24	YH	0.30	0/3412	0.61	2/4625 (0.0%)
24	YJ	0.29	0/3412	0.62	4/4625 (0.1%)
24	YL	0.30	0/3412	0.62	3/4625 (0.1%)
24	YN	0.30	0/3412	0.61	3/4625 (0.1%)
24	YP	0.30	0/3412	0.65	5/4625 (0.1%)
24	ZB	0.30	0/3404	0.62	3/4614 (0.1%)
24	ZD	0.31	0/3404	0.68	3/4614 (0.1%)
24	ZF	0.30	0/3412	0.62	0/4625
24	ZH	0.29	0/3412	0.59	0/4625
24	ZJ	0.29	0/3412	0.61	0/4625
24	ZL	0.30	0/3412	0.63	1/4625 (0.0%)
24	ZN	0.28	0/3412	0.60	0/4625
24	ZP	0.30	0/3412	0.63	4/4625 (0.1%)
25	NC	0.29	0/3428	0.63	1/4639 (0.0%)
25	NE	0.29	0/3428	0.63	4/4639 (0.1%)
25	NG	0.29	0/3428	0.64	1/4639 (0.0%)
25	NI	0.29	0/3428	0.61	1/4639 (0.0%)
25	NK	0.29	0/3428	0.64	2/4639 (0.0%)
25	NM	0.30	0/3428	0.62	1/4639 (0.0%)
25	NO	0.29	0/3428	0.63	1/4639 (0.0%)
25	OC	0.30	0/3428	0.61	1/4639 (0.0%)
25	OE	0.30	0/3428	0.64	2/4639 (0.0%)
25	OG	0.30	0/3428	0.64	1/4639 (0.0%)
25	OI	0.30	0/3439	0.63	4/4654 (0.1%)
25	OK	0.29	0/3428	0.60	0/4639
25	OM	0.30	0/3428	0.68	4/4639 (0.1%)
25	OO	0.29	0/3428	0.65	1/4639 (0.0%)
25	OQ	0.29	0/3439	0.63	2/4654 (0.0%)
25	PC	0.29	0/3428	0.60	1/4639 (0.0%)
25	PE	0.28	0/3439	0.63	1/4654 (0.0%)
25	PG	0.30	0/3428	0.63	0/4639
25	PI	0.30	0/3428	0.62	1/4639 (0.0%)
25	PK	0.29	0/3428	0.60	3/4639 (0.1%)
25	PM	0.33	0/3428	0.66	1/4639 (0.0%)
25	PO	0.29	0/3428	0.61	1/4639 (0.0%)
25	PQ	0.30	0/3428	0.60	0/4639
25	QC	0.29	0/3428	0.61	0/4639
25	QE	0.29	0/3439	0.61	0/4654
25	QG	0.31	0/3433	0.65	2/4646 (0.0%)
25	QI	0.30	0/3428	0.62	3/4639 (0.1%)
25	QK	0.29	0/3428	0.62	1/4639 (0.0%)
25	QM	0.30	0/3439	0.64	2/4654 (0.0%)



Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
25	QO	0.30	0/3428	0.64	3/4639 (0.1%)
25	QQ	0.30	0/3428	0.62	1/4639 (0.0%)
25	RC	0.30	0/3428	0.62	0/4639
25	RE	0.30	0/3428	0.63	2/4639 (0.0%)
25	RG	0.30	0/3428	0.65	1/4639 (0.0%)
25	RI	0.29	0/3428	0.62	0/4639
25	RK	0.30	0/3428	0.63	2/4639 (0.0%)
25	RM	0.30	0/3428	0.61	0/4639
25	RO	0.30	0/3428	0.62	0/4639
25	SC	0.31	0/3428	0.66	1/4639 (0.0%)
25	SE	0.30	0/3428	0.64	2/4639 (0.0%)
25	SG	0.30	0/3428	0.61	0/4639
25	SI	0.29	0/3428	0.63	1/4639 (0.0%)
25	SK	0.29	0/3428	0.61	0/4639
25	SM	0.30	0/3428	0.66	2/4639 (0.0%)
25	SO	0.30	0/3428	0.62	3/4639 (0.1%)
25	TC	0.29	0/3428	0.61	2/4639 (0.0%)
25	TE	0.29	0/3428	0.63	2/4639 (0.0%)
25	TG	0.30	0/3428	0.64	1/4639 (0.0%)
25	TI	0.30	0/3428	0.62	2/4639 (0.0%)
25	TK	0.32	0/3428	0.67	3/4639 (0.1%)
25	TM	0.30	0/3428	0.62	0/4639
25	TO	0.29	0/3428	0.63	1/4639 (0.0%)
25	UC	0.29	0/3462	0.61	2/4685 (0.0%)
25	UE	0.29	0/3428	0.60	1/4639 (0.0%)
25	UG	0.31	0/3428	0.61	0/4639
25	UI	0.29	0/3453	0.61	2/4673 (0.0%)
25	UK	0.32	0/3462	0.66	1/4685 (0.0%)
25	UM	0.28	0/3428	0.59	1/4639 (0.0%)
25	UO	0.30	0/3428	0.62	1/4639 (0.0%)
25	VC	0.28	0/3428	0.62	2/4639 (0.0%)
25	VE	0.29	0/3428	0.62	1/4639 (0.0%)
25	VG	0.30	0/3428	0.59	2/4639 (0.0%)
25	VI	0.31	0/3453	0.64	2/4673 (0.0%)
25	VK	0.30	0/3428	0.60	1/4639 (0.0%)
25	VM	0.29	0/3433	0.62	2/4646 (0.0%)
25	VO	0.30	0/3428	0.62	3/4639 (0.1%)
25	WA	0.28	0/3444	0.61	2/4661 (0.0%)
25	WC	0.29	0/3428	0.59	1/4639 (0.0%)
25	WE	0.29	0/3444	0.60	0/4661
25	WG	0.29	0/3428	0.61	2/4639 (0.0%)
25	WI	0.29	0/3444	0.60	1/4661 (0.0%)
25	WK	0.29	0/3428	0.61	3/4639 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
25	WM	0.28	0/3444	0.60	2/4661 (0.0%)
25	WO	0.28	0/3428	0.60	1/4639 (0.0%)
25	XA	0.30	0/3428	0.61	0/4639
25	XC	0.29	0/3428	0.60	0/4639
25	XE	0.28	0/3428	0.60	1/4639 (0.0%)
25	XG	0.28	0/3428	0.59	1/4639 (0.0%)
25	XI	0.29	0/3433	0.59	1/4646 (0.0%)
25	XK	0.30	0/3428	0.61	0/4639
25	XM	0.29	0/3433	0.63	4/4646 (0.1%)
25	XO	0.29	0/3428	0.64	3/4639 (0.1%)
25	YC	0.29	0/3433	0.60	0/4646
25	YE	0.28	0/3428	0.59	1/4639 (0.0%)
25	YG	0.29	0/3428	0.59	2/4639 (0.0%)
25	YI	0.31	0/3444	0.63	0/4661
25	YK	0.30	0/3433	0.60	1/4646 (0.0%)
25	YM	0.31	0/3433	0.62	1/4646 (0.0%)
25	YO	0.32	0/3433	0.67	2/4646 (0.0%)
25	ZC	0.29	0/3428	0.61	1/4639 (0.0%)
25	ZE	0.30	0/3428	0.62	1/4639 (0.0%)
25	ZG	0.29	0/3428	0.62	1/4639 (0.0%)
25	ZI	0.28	0/3428	0.60	2/4639 (0.0%)
25	ZK	0.30	0/3428	0.65	1/4639 (0.0%)
25	ZM	0.29	0/3428	0.61	1/4639 (0.0%)
25	ZO	0.31	0/3428	0.67	2/4639 (0.0%)
26	O0	0.28	0/6204	0.56	1/8520 (0.0%)
26	O1	0.31	0/4301	0.62	0/5844
26	O2	0.41	0/1007	0.81	0/1356
27	P0	0.24	0/1746	0.35	0/2422
27	P1	0.24	0/3551	0.35	0/4926
27	P2	0.23	0/3601	0.34	0/4997
27	P3	0.24	0/3601	0.34	0/4997
28	Q0	0.30	0/18312	0.65	5/24965 (0.0%)
28	Q1	0.30	0/18322	0.66	13/24979 (0.1%)
29	R0	0.26	0/10920	0.42	2/15102 (0.0%)
29	R1	0.25	0/10970	0.42	3/15173 (0.0%)
30	S0	0.28	0/1218	0.56	0/1645
30	S1	0.25	0/1218	0.50	0/1645
30	S2	0.32	0/1218	0.73	1/1645 (0.1%)
30	S3	0.27	0/1191	0.55	0/1607
32	T0	0.28	0/3375	0.60	1/4623 (0.0%)
32	T1	0.28	0/3472	0.60	2/4759 (0.0%)
32	T2	0.31	1/3391 (0.0%)	0.62	1/4646 (0.0%)
32	T3	0.26	0/1538	0.48	0/2134

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
33	U0	0.29	0/1670	0.67	1/2244 (0.0%)
33	U1	0.28	0/1670	0.65	0/2244
34	V0	0.26	0/954	0.52	0/1312
34	V1	0.26	0/917	0.51	0/1257
35	W0	0.25	0/5213	0.30	0/7247
35	W1	0.25	0/4745	0.30	0/6591
39	X0	0.28	0/5381	0.64	4/7379 (0.1%)
39	X1	0.29	0/5381	0.65	6/7379 (0.1%)
39	X2	0.27	0/5381	0.64	4/7379 (0.1%)
39	X3	0.28	0/5381	0.67	4/7379 (0.1%)
40	Y0	0.29	0/3664	0.59	1/4941 (0.0%)
40	Y1	0.29	0/3664	0.60	0/4941
40	Y2	0.29	0/3664	0.59	0/4941
40	Y3	0.30	0/3664	0.65	3/4941 (0.1%)
40	Y4	0.29	0/3664	0.62	0/4941
40	Y5	0.29	0/3664	0.61	1/4941 (0.0%)
40	Y6	0.30	0/3664	0.61	2/4941 (0.0%)
40	Y7	0.32	0/3664	0.64	1/4941 (0.0%)
41	Z0	0.28	0/4665	0.60	1/6296 (0.0%)
41	Z1	0.28	0/4665	0.61	1/6296 (0.0%)
41	Z2	0.28	0/4665	0.62	2/6296 (0.0%)
41	Z3	0.31	0/4665	0.67	4/6296 (0.1%)
All	All	0.29	2/1228572 (0.0%)	0.60	555/1671880 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
2	1B	0	1
2	1C	0	1
2	1D	0	1
18	C0	0	1
18	C1	0	3
18	C2	0	1
18	C3	0	4
19	D2	0	1
19	D3	0	1
19	G0	0	2
19	G1	0	1
19	G4	0	2

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Mol	Chain	#Chirality outliers	#Planarity outliers
19	H0	0	1
19	H3	0	1
19	H6	0	1
19	K2	0	2
19	L0	0	2
19	L3	0	1
21	F0	0	1
21	F2	0	1
21	F3	0	1
22	M1	0	1
24	NB	0	1
24	ND	0	1
24	NF	0	1
24	NH	0	1
24	NJ	0	1
24	NL	0	1
24	NN	0	1
24	OD	0	1
24	OF	0	1
24	OH	0	1
24	OJ	0	1
24	OL	0	1
24	ON	0	1
24	OP	0	1
24	PD	0	1
24	PF	0	1
24	PH	0	1
24	PJ	0	1
24	PL	0	2
24	PN	0	1
24	PP	0	2
24	QD	0	1
24	QF	0	1
24	QH	0	1
24	QJ	0	1
24	QL	0	1
24	QN	0	1
24	QP	0	1
24	RD	0	1
24	RF	0	1
24	RH	0	1
24	RJ	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
24	RL	0	1
24	RN	0	1
24	RP	0	1
24	SB	0	1
24	SD	0	1
24	SF	0	1
24	SH	0	1
24	SJ	0	1
24	SL	0	1
24	SN	0	1
24	SP	0	1
24	TB	0	1
24	TD	0	1
24	TF	0	1
24	TH	0	1
24	TJ	0	1
24	TL	0	1
24	TN	0	1
24	TP	0	1
24	UB	0	1
24	UD	0	1
24	UF	0	1
24	UH	0	1
24	UJ	0	1
24	UL	0	1
24	UN	0	1
24	UP	0	1
24	VB	0	1
24	VD	0	1
24	VF	0	1
24	VH	0	1
24	VJ	0	1
24	VL	0	1
24	VN	0	1
24	VP	0	1
24	WB	0	1
24	WD	0	1
24	WF	0	1
24	WH	0	1
24	WJ	0	1
24	WL	0	1
24	WN	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
24	XB	0	1
24	XD	0	1
24	XF	0	1
24	XH	0	1
24	XJ	0	1
24	XL	0	1
24	XN	0	1
24	YB	0	1
24	YD	0	1
24	YF	0	1
24	YH	0	1
24	YJ	0	1
24	YL	0	1
24	YN	0	1
24	YP	0	1
24	ZB	0	1
24	ZD	0	1
24	ZF	0	1
24	ZH	0	2
24	ZJ	0	1
24	ZL	0	1
24	ZN	0	1
24	ZP	0	1
25	OE	0	1
25	OI	0	1
25	PE	0	1
25	QK	0	2
25	QQ	0	1
25	RG	0	1
25	RK	0	1
25	SC	0	1
25	TC	0	2
25	TG	0	1
25	YE	0	1
25	YG	0	1
25	ZG	0	1
28	Q0	0	1
28	Q1	0	2
40	Y5	0	1
40	Y7	0	1
All	All	0	151

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	T2	487	LYS	C-N	5.94	1.47	1.34
18	C3	916	PRO	CG-CD	-5.36	1.32	1.50

The worst 5 of 555 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	K1	225	LEU	CA-CB-CG	11.44	141.61	115.30
2	1D	1814	LEU	CA-CB-CG	11.10	140.83	115.30
39	X1	597	PRO	CA-N-CD	-10.29	97.10	111.50
19	J3	63	LEU	CA-CB-CG	10.20	138.75	115.30
18	C3	916	PRO	CA-N-CD	-9.97	97.55	111.50

There are no chirality outliers.

5 of 151 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	1B	2007	PRO	Peptide
2	1C	1922	TRP	Peptide
2	1D	1338	ARG	Sidechain
18	C0	1232	LEU	Peptide
18	C1	427	ARG	Sidechain

## 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	287	0	133	1	0
1	0B	312	0	143	1	0
1	0C	287	0	133	0	0
1	0D	312	0	143	0	0
1	0E	287	0	133	0	0
1	0F	312	0	143	0	0
1	0G	287	0	133	1	0
1	0H	312	0	143	1	0
1	0I	308	0	139	0	0
1	0J	278	0	124	0	0
1	0K	312	0	142	0	0
1	0L	268	0	117	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	1A	10474	0	8617	153	0
2	1B	10580	0	8660	155	0
2	1C	10775	0	8771	148	0
2	1D	10707	0	8728	163	0
3	1F	1110	0	591	0	0
3	1G	800	0	399	0	0
3	1H	898	0	478	0	0
3	1I	489	0	247	0	0
3	1J	1673	0	873	0	0
3	1K	1704	0	881	0	0
3	1L	1673	0	873	0	0
3	1M	1704	0	881	0	0
3	1N	1673	0	873	0	0
3	1O	1704	0	881	0	0
3	1P	1673	0	873	0	0
3	1Q	1704	0	881	0	0
3	1R	1673	0	873	0	0
3	1S	1704	0	881	0	0
3	1T	1673	0	873	0	0
3	1U	1704	0	881	0	0
3	1V	1078	0	557	0	0
3	1W	1320	0	683	0	0
3	1X	1133	0	579	0	0
3	1Y	1305	0	677	0	0
4	2A	4347	0	2974	44	0
4	2B	4428	0	3057	36	0
5	2E	1144	0	506	1	0
5	2F	1154	0	510	1	0
6	2H	2015	0	950	8	0
6	2I	2015	0	950	7	0
7	2K	1232	0	644	1	0
7	2L	1277	0	674	3	0
7	2M	1272	0	672	2	0
7	2N	1302	0	687	1	0
7	2O	1247	0	656	1	0
7	2P	917	0	465	1	0
7	2Q	200	0	105	0	0
8	3A	869	0	420	1	0
8	3B	869	0	420	1	0
8	3C	869	0	420	3	0
8	3D	830	0	405	1	0
9	3K	1274	0	594	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
9	3L	1199	0	558	4	0
9	3M	1264	0	593	4	0
9	3N	1214	0	567	1	0
9	3O	1284	0	604	2	0
9	3P	1264	0	593	1	0
10	4A	704	0	324	0	0
10	4B	704	0	324	1	0
10	4C	704	0	324	0	0
10	4D	704	0	324	0	0
10	4E	704	0	324	1	0
10	4F	704	0	324	0	0
10	4G	704	0	324	0	0
10	4H	704	0	324	1	0
10	4I	704	0	324	0	0
10	4J	704	0	324	0	0
10	4K	704	0	324	0	0
10	4L	704	0	324	0	0
11	5A	2713	0	1343	3	0
11	5B	2713	0	1343	3	0
11	5C	2713	0	1343	2	0
11	5D	2713	0	1343	2	0
12	6A	1435	0	630	2	0
12	6B	1435	0	630	2	0
12	6C	1250	0	546	1	0
12	6D	1250	0	547	1	0
13	7A	574	0	272	4	0
13	7B	637	0	297	1	0
13	7C	567	0	275	7	0
13	7D	491	0	238	2	0
13	7E	544	0	264	4	0
13	7F	496	0	240	6	0
13	7G	574	0	272	3	0
13	7H	637	0	297	2	0
13	7I	579	0	274	6	0
13	7J	637	0	297	2	0
13	7K	574	0	272	4	0
13	7L	564	0	268	0	0
14	8A	1945	0	1845	31	0
14	8B	1010	0	951	18	0
14	8C	2082	0	1979	43	0
14	8D	1010	0	951	21	0
15	9A	4075	0	2031	9	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
15	9B	4075	0	2031	9	0
15	9C	4075	0	2031	9	0
15	9D	4075	0	2031	9	0
15	9E	3354	0	1636	11	0
15	9F	3344	0	1632	6	0
16	A0	1004	0	996	17	0
16	A1	1295	0	1307	30	0
16	A2	1295	0	1307	20	0
16	A3	1295	0	1307	25	0
16	A4	284	0	303	2	0
17	B0	1932	0	1972	28	0
17	B1	3751	0	3840	61	0
17	B2	1933	0	1958	41	0
18	C0	9027	0	8982	170	0
18	C1	10128	0	10095	206	0
18	C2	11519	0	11477	181	0
18	C3	11424	0	11371	177	0
18	C4	2245	0	2237	48	0
19	D0	3315	0	3195	57	0
19	D1	3312	0	3196	72	0
19	D2	3330	0	3201	51	0
19	D3	3327	0	3202	66	0
19	D4	3315	0	3195	51	0
19	D5	3327	0	3202	62	0
19	D6	3330	0	3201	46	0
19	D7	3327	0	3202	64	0
19	G0	3309	0	3190	60	0
19	G1	3317	0	3198	77	0
19	G2	3324	0	3196	58	0
19	G3	3317	0	3198	72	0
19	G4	3324	0	3196	68	0
19	G5	3317	0	3198	59	0
19	H0	3301	0	3186	60	0
19	H1	3204	0	3135	59	0
19	H2	3232	0	3104	39	0
19	H3	3281	0	3153	57	0
19	H4	3316	0	3192	44	0
19	H5	3288	0	3162	66	0
19	H6	3214	0	3090	54	0
19	H7	3244	0	3126	67	0
19	I0	3274	0	3155	66	0
19	I1	3316	0	3192	63	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
19	J0	3253	0	3166	69	0
19	J1	3317	0	3195	78	0
19	J2	3306	0	3185	63	0
19	J3	3292	0	3186	88	0
19	K0	3322	0	3197	64	0
19	K1	3322	0	3197	55	0
19	K2	3322	0	3197	67	0
19	K3	3292	0	3178	57	0
19	L0	3531	0	3588	77	0
19	L1	3511	0	3568	73	0
19	L2	3511	0	3568	67	0
19	L3	3531	0	3588	87	0
20	E0	1864	0	1855	30	0
20	E1	1903	0	1895	36	0
20	E2	1842	0	1829	35	0
20	E3	1910	0	1902	38	0
21	F0	1524	0	721	8	0
21	F1	2924	0	2093	47	0
21	F2	2924	0	2093	33	0
21	F3	2924	0	2093	40	0
22	M0	1761	0	1708	50	0
22	M1	4307	0	4251	84	0
23	N0	2737	0	1885	16	0
23	N1	2815	0	1970	22	0
23	N2	2737	0	1885	20	0
23	N3	2829	0	1985	24	0
24	NB	3341	0	3282	51	0
24	ND	3341	0	3282	54	0
24	NF	3341	0	3282	53	0
24	NH	3341	0	3282	62	0
24	NJ	3341	0	3282	49	0
24	NL	3341	0	3282	60	0
24	NN	3341	0	3282	48	0
24	OD	3341	0	3282	59	0
24	OF	3341	0	3282	52	0
24	OH	3341	0	3282	80	0
24	OJ	3341	0	3282	57	0
24	OL	3341	0	3282	55	0
24	ON	3341	0	3282	62	0
24	OP	3341	0	3282	62	0
24	PD	3335	0	3277	57	0
24	PF	3341	0	3282	51	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
24	PH	3341	0	3282	60	0
24	PJ	3341	0	3282	47	0
24	PL	3335	0	3277	61	0
24	PN	3341	0	3282	66	0
24	PP	3341	0	3282	65	0
24	QD	3341	0	3282	59	0
24	QF	3341	0	3282	54	0
24	QH	3399	0	3336	67	0
24	QJ	3341	0	3282	63	0
24	QL	3341	0	3282	54	0
24	QN	3335	0	3277	42	0
24	QP	3399	0	3336	45	0
24	RD	3341	0	3282	68	0
24	RF	3341	0	3281	59	0
24	RH	3341	0	3282	71	0
24	RJ	3341	0	3282	55	0
24	RL	3341	0	3282	69	0
24	RN	3341	0	3282	52	0
24	RP	3341	0	3282	61	0
24	SB	3341	0	3282	46	0
24	SD	3341	0	3282	57	0
24	SF	3341	0	3282	66	0
24	SH	3363	0	3295	54	0
24	SJ	3341	0	3282	47	0
24	SL	3341	0	3282	52	0
24	SN	3341	0	3282	69	0
24	SP	3363	0	3295	63	0
24	TB	3341	0	3282	46	0
24	TD	3341	0	3282	52	0
24	TF	3341	0	3282	58	0
24	TH	3363	0	3295	65	0
24	TJ	3341	0	3282	56	0
24	TL	3341	0	3282	63	0
24	TN	3341	0	3282	47	0
24	TP	3363	0	3295	47	0
24	UB	3393	0	3331	36	0
24	UD	3355	0	3291	67	0
24	UF	3399	0	3336	57	0
24	UH	3359	0	3294	60	0
24	UJ	3399	0	3336	44	0
24	UL	3353	0	3289	65	0
24	UN	3399	0	3336	68	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
24	UP	3349	0	3286	59	0
24	VB	3341	0	3282	64	0
24	VD	3341	0	3282	52	0
24	VF	3341	0	3282	56	0
24	VH	3363	0	3295	66	0
24	VJ	3341	0	3282	53	0
24	VL	3341	0	3282	54	0
24	VN	3341	0	3282	63	0
24	VP	3341	0	3282	56	0
24	WB	3399	0	3336	61	0
24	WD	3343	0	3281	69	0
24	WF	3399	0	3336	51	0
24	WH	3367	0	3298	64	0
24	WJ	3393	0	3331	56	0
24	WL	3349	0	3286	69	0
24	WN	3399	0	3336	67	0
24	XB	3341	0	3282	62	0
24	XD	3341	0	3282	67	0
24	XF	3341	0	3282	59	0
24	XH	3341	0	3282	47	0
24	XJ	3341	0	3282	51	0
24	XL	3341	0	3282	56	0
24	XN	3341	0	3282	65	0
24	YB	3341	0	3282	41	0
24	YD	3335	0	3277	92	0
24	YF	3341	0	3282	50	0
24	YH	3341	0	3282	53	0
24	YJ	3341	0	3282	50	0
24	YL	3341	0	3282	67	0
24	YN	3341	0	3282	52	0
24	YP	3341	0	3282	42	0
24	ZB	3333	0	3278	55	0
24	ZD	3333	0	3278	56	0
24	ZF	3341	0	3282	55	0
24	ZH	3341	0	3282	45	0
24	ZJ	3341	0	3282	55	0
24	ZL	3341	0	3282	59	0
24	ZN	3341	0	3282	62	0
24	ZP	3341	0	3282	41	0
25	NC	3354	0	3244	52	0
25	NE	3354	0	3244	48	0
25	NG	3354	0	3244	65	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
25	NI	3354	0	3244	49	0
25	NK	3354	0	3244	63	0
25	NM	3354	0	3244	48	0
25	NO	3354	0	3244	68	0
25	OC	3354	0	3244	50	0
25	OE	3354	0	3244	65	0
25	OG	3354	0	3244	49	0
25	OI	3365	0	3254	83	0
25	OK	3354	0	3244	54	0
25	OM	3354	0	3244	62	0
25	OO	3354	0	3244	60	0
25	OQ	3365	0	3254	60	0
25	PC	3354	0	3244	55	0
25	PE	3365	0	3254	51	0
25	PG	3354	0	3244	55	0
25	PI	3354	0	3244	66	0
25	PK	3354	0	3244	56	0
25	PM	3354	0	3244	79	0
25	PO	3354	0	3244	72	0
25	PQ	3354	0	3244	59	0
25	QC	3354	0	3244	49	0
25	QE	3365	0	3254	51	0
25	QG	3359	0	3249	63	0
25	QI	3354	0	3244	86	0
25	QK	3354	0	3244	69	0
25	QM	3365	0	3254	66	0
25	QO	3354	0	3244	71	0
25	QQ	3354	0	3244	51	0
25	RC	3354	0	3244	52	0
25	RE	3354	0	3244	70	0
25	RG	3354	0	3244	61	0
25	RI	3354	0	3244	62	0
25	RK	3354	0	3244	74	0
25	RM	3354	0	3244	68	0
25	RO	3354	0	3244	71	0
25	SC	3354	0	3244	81	0
25	SE	3354	0	3244	57	0
25	SG	3354	0	3244	66	0
25	SI	3354	0	3244	59	0
25	SK	3354	0	3244	52	0
25	SM	3354	0	3244	55	0
25	SO	3354	0	3244	57	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
25	TC	3354	0	3244	60	0
25	TE	3354	0	3244	47	0
25	TG	3354	0	3243	59	0
25	TI	3354	0	3244	68	0
25	TK	3354	0	3244	60	0
25	TM	3354	0	3244	65	0
25	TO	3354	0	3244	59	0
25	UC	3388	0	3271	55	0
25	UE	3354	0	3244	66	0
25	UG	3354	0	3244	60	0
25	UI	3379	0	3265	52	0
25	UK	3388	0	3271	70	0
25	UM	3354	0	3244	60	0
25	UO	3354	0	3244	66	0
25	VC	3354	0	3244	53	0
25	VE	3354	0	3244	68	0
25	VG	3354	0	3244	54	0
25	VI	3379	0	3265	61	0
25	VK	3354	0	3244	64	0
25	VM	3359	0	3249	53	0
25	VO	3354	0	3244	62	0
25	WA	3370	0	3259	50	0
25	WC	3354	0	3244	56	0
25	WE	3370	0	3259	74	0
25	WG	3354	0	3244	67	0
25	WI	3370	0	3259	57	0
25	WK	3354	0	3244	55	0
25	WM	3370	0	3259	53	0
25	WO	3354	0	3244	55	0
25	XA	3354	0	3244	45	0
25	XC	3354	0	3244	70	0
25	XE	3354	0	3244	61	0
25	XG	3354	0	3244	58	0
25	XI	3359	0	3249	51	0
25	XK	3354	0	3244	78	0
25	XM	3359	0	3249	58	0
25	XO	3354	0	3244	56	0
25	YC	3359	0	3249	58	0
25	YE	3354	0	3244	46	0
25	YG	3354	0	3244	59	0
25	YI	3370	0	3259	74	0
25	YK	3359	0	3249	48	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
25	YM	3359	0	3249	59	0
25	YO	3359	0	3249	85	0
25	ZC	3354	0	3244	54	0
25	ZE	3354	0	3244	59	0
25	ZG	3354	0	3244	53	0
25	ZI	3354	0	3244	59	0
25	ZK	3354	0	3244	58	0
25	ZM	3354	0	3244	51	0
25	ZO	3354	0	3244	60	0
26	O0	6206	0	3787	33	0
26	O1	4290	0	3431	38	0
26	O2	1002	0	1006	15	0
27	P0	1751	0	861	2	0
27	P1	3561	0	1770	2	0
27	P2	3610	0	1804	1	0
27	P3	3610	0	1804	1	0
28	Q0	17935	0	18222	243	0
28	Q1	17945	0	18232	235	0
29	R0	10914	0	6788	43	0
29	R1	10963	0	6819	33	0
30	S0	1191	0	1152	20	0
30	S1	1191	0	1152	11	0
30	S2	1191	0	1152	23	0
30	S3	1166	0	1132	15	0
31	S5	190	0	44	1	0
32	T0	3339	0	2533	37	0
32	T1	3434	0	2593	27	0
32	T2	3355	0	2548	32	0
32	T3	1541	0	721	4	0
33	U0	1643	0	1691	28	0
33	U1	1643	0	1691	21	0
34	V0	956	0	452	5	0
34	V1	921	0	436	5	0
35	W0	5224	0	2718	4	0
35	W1	4758	0	2463	4	0
36	W3	340	0	77	7	0
36	W4	340	0	75	1	0
36	W5	340	0	76	5	0
36	W6	340	0	75	3	0
37	W7	745	0	163	4	0
37	W9	745	0	169	7	0
38	W8	255	0	55	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
39	X0	5308	0	4465	65	0
39	X1	5308	0	4465	56	0
39	X2	5308	0	4465	58	0
39	X3	5308	0	4465	60	0
40	Y0	3607	0	3611	66	0
40	Y1	3607	0	3611	75	0
40	Y2	3607	0	3611	66	0
40	Y3	3607	0	3611	73	0
40	Y4	3607	0	3611	87	0
40	Y5	3607	0	3611	75	0
40	Y6	3607	0	3611	73	0
40	Y7	3607	0	3611	66	0
41	Z0	4599	0	4615	55	0
41	Z1	4599	0	4615	62	0
41	Z2	4599	0	4615	65	0
41	Z3	4599	0	4615	57	0
42	1A	27	0	12	2	0
42	1B	27	0	12	2	0
42	1C	27	0	12	1	0
42	1D	27	0	12	1	0
43	1A	31	0	11	3	0
43	1B	31	0	11	4	0
43	1C	31	0	11	3	0
43	1D	31	0	11	5	0
43	C0	31	0	11	4	0
43	C1	31	0	11	2	0
43	C2	31	0	11	4	0
43	C3	31	0	10	3	0
44	NB	32	0	12	2	0
44	ND	32	0	12	0	0
44	NF	32	0	12	0	0
44	NH	32	0	12	0	0
44	NJ	32	0	12	0	0
44	NL	32	0	12	0	0
44	NN	32	0	12	4	0
44	OD	32	0	12	0	0
44	OF	32	0	12	1	0
44	OH	32	0	12	1	0
44	OJ	32	0	12	0	0
44	OL	32	0	12	3	0
44	ON	32	0	12	1	0
44	OP	32	0	12	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
44	PD	32	0	12	0	0
44	PF	32	0	12	2	0
44	PH	32	0	12	1	0
44	PJ	32	0	12	3	0
44	PL	32	0	12	0	0
44	PN	32	0	12	4	0
44	PP	32	0	12	0	0
44	QD	32	0	12	1	0
44	QF	32	0	12	0	0
44	QH	32	0	12	1	0
44	QJ	32	0	12	0	0
44	QL	32	0	12	1	0
44	QN	32	0	12	0	0
44	QP	32	0	12	1	0
44	RD	32	0	12	0	0
44	RF	32	0	12	1	0
44	RH	32	0	12	1	0
44	RJ	32	0	12	1	0
44	RL	32	0	12	2	0
44	RN	32	0	12	1	0
44	RP	32	0	12	0	0
44	SB	32	0	12	0	0
44	SD	32	0	12	1	0
44	SF	32	0	12	1	0
44	SH	32	0	12	0	0
44	SJ	32	0	12	0	0
44	SL	32	0	12	0	0
44	SN	32	0	12	0	0
44	SP	32	0	12	0	0
44	TB	32	0	12	1	0
44	TD	32	0	12	0	0
44	TF	32	0	12	0	0
44	TH	32	0	12	1	0
44	TJ	32	0	12	1	0
44	TL	32	0	12	1	0
44	TN	32	0	12	0	0
44	TP	32	0	12	0	0
44	UB	32	0	12	2	0
44	UD	32	0	12	2	0
44	UF	32	0	12	1	0
44	UH	32	0	12	2	0
44	UJ	32	0	12	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
44	UL	32	0	12	0	0
44	UN	32	0	12	0	0
44	UP	32	0	12	2	0
44	VB	32	0	12	1	0
44	VD	32	0	12	1	0
44	VF	32	0	12	1	0
44	VH	32	0	12	0	0
44	VJ	32	0	12	0	0
44	VL	32	0	12	1	0
44	VN	32	0	12	2	0
44	VP	32	0	12	1	0
44	WB	32	0	12	1	0
44	WD	32	0	12	2	0
44	WF	32	0	12	0	0
44	WH	32	0	12	1	0
44	WJ	32	0	12	2	0
44	WL	32	0	12	1	0
44	WN	32	0	12	2	0
44	XB	32	0	12	1	0
44	XD	32	0	12	1	0
44	XF	32	0	12	0	0
44	XH	32	0	12	2	0
44	XJ	32	0	12	0	0
44	XL	32	0	12	0	0
44	XN	32	0	12	2	0
44	YB	32	0	12	0	0
44	YD	32	0	12	0	0
44	YF	32	0	12	0	0
44	YH	32	0	12	1	0
44	YJ	32	0	12	0	0
44	YL	32	0	12	1	0
44	YN	32	0	12	0	0
44	YP	32	0	12	0	0
44	ZB	32	0	12	1	0
44	ZD	32	0	12	1	0
44	ZF	32	0	12	1	0
44	ZH	32	0	12	0	0
44	ZJ	32	0	12	0	0
44	ZL	32	0	12	0	0
44	ZN	32	0	12	0	0
44	ZP	32	0	12	0	0
45	NB	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
45	ND	1	0	0	0	0
45	NG	1	0	0	0	0
45	NH	1	0	0	0	0
45	NJ	1	0	0	0	0
45	NL	1	0	0	0	0
45	NN	1	0	0	0	0
45	OD	1	0	0	0	0
45	OF	1	0	0	0	0
45	OH	1	0	0	0	0
45	OJ	1	0	0	0	0
45	OL	1	0	0	0	0
45	ON	1	0	0	0	0
45	OP	1	0	0	0	0
45	PD	1	0	0	0	0
45	PF	1	0	0	0	0
45	PI	1	0	0	0	0
45	PJ	1	0	0	0	0
45	PL	1	0	0	0	0
45	PN	1	0	0	0	0
45	PP	1	0	0	0	0
45	QD	1	0	0	0	0
45	QF	1	0	0	0	0
45	QH	1	0	0	0	0
45	QJ	1	0	0	0	0
45	QL	1	0	0	0	0
45	QN	1	0	0	0	0
45	QP	1	0	0	0	0
45	RD	1	0	0	0	0
45	RF	1	0	0	0	0
45	RI	1	0	0	0	0
45	RJ	1	0	0	0	0
45	RL	1	0	0	0	0
45	RN	1	0	0	0	0
45	RP	1	0	0	0	0
45	SC	1	0	0	0	0
45	SD	1	0	0	0	0
45	SG	1	0	0	0	0
45	SH	1	0	0	0	0
45	SJ	1	0	0	0	0
45	SL	1	0	0	0	0
45	SO	1	0	0	0	0
45	SP	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
45	TB	1	0	0	0	0
45	TD	1	0	0	0	0
45	TG	1	0	0	0	0
45	TH	1	0	0	0	0
45	TJ	1	0	0	0	0
45	TM	1	0	0	0	0
45	TN	1	0	0	0	0
45	TP	1	0	0	0	0
45	UB	1	0	0	0	0
45	UD	1	0	0	0	0
45	UF	1	0	0	0	0
45	UH	1	0	0	0	0
45	UJ	1	0	0	0	0
45	UL	1	0	0	0	0
45	UN	1	0	0	0	0
45	UP	1	0	0	0	0
45	VB	1	0	0	0	0
45	VD	1	0	0	0	0
45	VF	1	0	0	0	0
45	VH	1	0	0	0	0
45	VJ	1	0	0	0	0
45	VL	1	0	0	0	0
45	VN	1	0	0	0	0
45	VP	1	0	0	0	0
45	WB	1	0	0	0	0
45	WD	1	0	0	0	0
45	WG	1	0	0	0	0
45	WH	1	0	0	0	0
45	WJ	1	0	0	0	0
45	WL	1	0	0	0	0
45	WN	1	0	0	0	0
45	XB	1	0	0	0	0
45	XD	1	0	0	0	0
45	XF	1	0	0	0	0
45	XH	1	0	0	0	0
45	XJ	1	0	0	0	0
45	XM	1	0	0	0	0
45	XN	1	0	0	0	0
45	YB	1	0	0	0	0
45	YD	1	0	0	0	0
45	YF	1	0	0	0	0
45	YH	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
45	YJ	1	0	0	0	0
45	YL	1	0	0	0	0
45	YN	1	0	0	0	0
45	YP	1	0	0	0	0
45	ZB	1	0	0	0	0
45	ZD	1	0	0	0	0
45	ZF	1	0	0	0	0
45	ZH	1	0	0	0	0
45	ZJ	1	0	0	0	0
45	ZL	1	0	0	0	0
45	ZN	1	0	0	0	0
45	ZP	1	0	0	0	0
46	NC	28	0	12	0	0
46	NE	28	0	12	1	0
46	NG	28	0	12	0	0
46	NI	28	0	12	1	0
46	NK	28	0	12	0	0
46	NM	28	0	12	1	0
46	NO	28	0	12	1	0
46	OC	28	0	12	1	0
46	OE	28	0	12	4	0
46	OG	28	0	12	0	0
46	OI	28	0	12	0	0
46	OK	28	0	12	1	0
46	OM	28	0	12	1	0
46	OO	28	0	12	1	0
46	OQ	28	0	12	0	0
46	PC	28	0	12	2	0
46	PE	28	0	12	0	0
46	PG	28	0	12	1	0
46	PI	28	0	12	1	0
46	PK	28	0	12	3	0
46	PM	28	0	12	0	0
46	PO	28	0	12	0	0
46	PQ	28	0	12	0	0
46	QC	28	0	12	0	0
46	QE	28	0	12	1	0
46	QG	28	0	12	2	0
46	QI	28	0	12	0	0
46	QK	28	0	12	0	0
46	QM	28	0	12	0	0
46	QO	28	0	12	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
46	QQ	28	0	12	1	0
46	RC	28	0	12	0	0
46	RE	28	0	12	0	0
46	RG	28	0	12	0	0
46	RI	28	0	12	0	0
46	RK	28	0	12	0	0
46	RM	28	0	12	0	0
46	RO	28	0	12	0	0
46	SC	28	0	12	0	0
46	SE	28	0	12	1	0
46	SG	28	0	12	0	0
46	SI	28	0	12	0	0
46	SK	28	0	12	0	0
46	SM	28	0	12	0	0
46	SO	28	0	12	1	0
46	TC	28	0	12	2	0
46	TE	28	0	12	2	0
46	TG	28	0	12	1	0
46	TI	28	0	12	0	0
46	TK	28	0	12	1	0
46	TM	28	0	12	3	0
46	TO	28	0	12	2	0
46	UC	28	0	12	0	0
46	UE	28	0	12	1	0
46	UG	28	0	12	1	0
46	UI	28	0	12	1	0
46	UK	28	0	12	0	0
46	UM	28	0	12	2	0
46	UO	28	0	12	0	0
46	VC	28	0	12	0	0
46	VE	28	0	12	1	0
46	VG	28	0	12	0	0
46	VI	28	0	12	0	0
46	VK	28	0	12	0	0
46	VM	28	0	12	2	0
46	VO	28	0	12	0	0
46	WA	28	0	12	0	0
46	WC	28	0	12	1	0
46	WE	28	0	12	2	0
46	WG	28	0	12	1	0
46	WI	28	0	12	0	0
46	WK	28	0	12	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
46	WM	28	0	12	0	0
46	WO	28	0	12	0	0
46	XA	28	0	12	0	0
46	XC	28	0	12	2	0
46	XE	28	0	12	1	0
46	XG	28	0	12	0	0
46	XI	28	0	12	1	0
46	XK	28	0	12	1	0
46	XM	28	0	12	1	0
46	XO	28	0	12	2	0
46	YC	28	0	12	2	0
46	YE	28	0	12	1	0
46	YG	28	0	12	1	0
46	YI	28	0	12	0	0
46	YK	28	0	12	0	0
46	YM	28	0	12	0	0
46	YO	28	0	12	2	0
46	ZC	28	0	12	0	0
46	ZE	28	0	12	1	0
46	ZG	28	0	12	1	0
46	ZI	28	0	12	2	0
46	ZK	28	0	12	0	0
46	ZM	28	0	12	1	0
46	ZO	28	0	12	0	0
All	All	1218816	0	1088559	16259	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 7.

The worst 5 of 16259 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)
12:6C:55:PRO:HA	12:6C:282:VAL:O	1.68	0.93
25:QM:166:THR:O	25:QM:200:MET:HB2	1.71	0.89
4:2A:822:GLN:HA	4:2A:843:MET:O	1.75	0.86
25:ZK:19:LYS:HZ1	25:ZK:227:HIS:HA	1.41	0.85
19:I1:168:ALA:O	19:I1:172:LEU:HB2	1.78	0.84

There are no symmetry-related clashes.



## 5.3 Torsion angles

### 5.3.1 Protein backbone

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	54/93 (58%)	54 (100%)	0	0	100	100
1	0B	59/93 (63%)	58 (98%)	1 (2%)	0	100	100
1	0C	54/93 (58%)	54 (100%)	0	0	100	100
1	0D	59/93 (63%)	58 (98%)	1 (2%)	0	100	100
1	0E	54/93 (58%)	54 (100%)	0	0	100	100
1	0F	59/93 (63%)	58 (98%)	1 (2%)	0	100	100
1	0G	54/93 (58%)	54 (100%)	0	0	100	100
1	0H	59/93 (63%)	58 (98%)	1 (2%)	0	100	100
1	0I	60/93 (64%)	59 (98%)	1 (2%)	0	100	100
1	0J	54/93 (58%)	50 (93%)	4 (7%)	0	100	100
1	0K	61/93 (66%)	60 (98%)	1 (2%)	0	100	100
1	0L	52/93 (56%)	51 (98%)	1 (2%)	0	100	100
2	1A	1595/2540 (63%)	1500 (94%)	88 (6%)	7 (0%)	34	70
2	1B	1618/2540 (64%)	1517 (94%)	93 (6%)	8 (0%)	29	66
2	1C	1662/2540 (65%)	1564 (94%)	90 (5%)	8 (0%)	29	66
2	1D	1646/2540 (65%)	1548 (94%)	90 (6%)	8 (0%)	29	66
3	1F	220/507 (43%)	218 (99%)	1 (0%)	1 (0%)	29	66
3	1G	156/507 (31%)	156 (100%)	0	0	100	100
3	1H	177/507 (35%)	176 (99%)	0	1 (1%)	25	62
3	1I	95/507 (19%)	95 (100%)	0	0	100	100
3	1J	334/507 (66%)	332 (99%)	1 (0%)	1 (0%)	41	74
3	1K	340/507 (67%)	339 (100%)	1 (0%)	0	100	100
3	1L	334/507 (66%)	332 (99%)	2 (1%)	0	100	100
3	1M	340/507 (67%)	339 (100%)	1 (0%)	0	100	100
3	1N	334/507 (66%)	333 (100%)	0	1 (0%)	41	74

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	1O	340/507 (67%)	339 (100%)	1 (0%)	0	100	100
3	1P	334/507 (66%)	334 (100%)	0	0	100	100
3	1Q	340/507 (67%)	339 (100%)	1 (0%)	0	100	100
3	1R	334/507 (66%)	333 (100%)	0	1 (0%)	41	74
3	1S	340/507 (67%)	339 (100%)	1 (0%)	0	100	100
3	1T	334/507 (66%)	333 (100%)	1 (0%)	0	100	100
3	1U	340/507 (67%)	339 (100%)	1 (0%)	0	100	100
3	1V	212/507 (42%)	212 (100%)	0	0	100	100
3	1W	262/507 (52%)	262 (100%)	0	0	100	100
3	1X	223/507 (44%)	223 (100%)	0	0	100	100
3	1Y	259/507 (51%)	259 (100%)	0	0	100	100
4	2A	726/2215 (33%)	694 (96%)	29 (4%)	3 (0%)	34	70
4	2B	736/2215 (33%)	707 (96%)	26 (4%)	3 (0%)	34	70
5	2E	219/739 (30%)	216 (99%)	3 (1%)	0	100	100
5	2F	221/739 (30%)	214 (97%)	7 (3%)	0	100	100
6	2H	392/945 (42%)	386 (98%)	6 (2%)	0	100	100
6	2I	392/945 (42%)	383 (98%)	9 (2%)	0	100	100
7	2K	246/286 (86%)	242 (98%)	4 (2%)	0	100	100
7	2L	255/286 (89%)	249 (98%)	6 (2%)	0	100	100
7	2M	254/286 (89%)	248 (98%)	5 (2%)	1 (0%)	34	70
7	2N	260/286 (91%)	254 (98%)	6 (2%)	0	100	100
7	2O	249/286 (87%)	246 (99%)	3 (1%)	0	100	100
7	2P	183/286 (64%)	179 (98%)	4 (2%)	0	100	100
7	2Q	38/286 (13%)	37 (97%)	1 (3%)	0	100	100
8	3A	171/427 (40%)	167 (98%)	3 (2%)	1 (1%)	25	62
8	3B	171/427 (40%)	167 (98%)	4 (2%)	0	100	100
8	3C	171/427 (40%)	169 (99%)	2 (1%)	0	100	100
8	3D	163/427 (38%)	162 (99%)	1 (1%)	0	100	100
9	3K	254/306 (83%)	245 (96%)	8 (3%)	1 (0%)	34	70
9	3L	239/306 (78%)	234 (98%)	4 (2%)	1 (0%)	34	70
9	3M	252/306 (82%)	247 (98%)	4 (2%)	1 (0%)	34	70

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
9	3N	242/306 (79%)	234 (97%)	7 (3%)	1 (0%)	34	70
9	3O	256/306 (84%)	247 (96%)	8 (3%)	1 (0%)	34	70
9	3P	252/306 (82%)	241 (96%)	10 (4%)	1 (0%)	34	70
10	4A	141/163 (86%)	139 (99%)	2 (1%)	0	100	100
10	4B	141/163 (86%)	138 (98%)	3 (2%)	0	100	100
10	4C	141/163 (86%)	138 (98%)	3 (2%)	0	100	100
10	4D	141/163 (86%)	139 (99%)	2 (1%)	0	100	100
10	4E	141/163 (86%)	138 (98%)	3 (2%)	0	100	100
10	4F	141/163 (86%)	139 (99%)	2 (1%)	0	100	100
10	4G	141/163 (86%)	139 (99%)	2 (1%)	0	100	100
10	4H	141/163 (86%)	138 (98%)	3 (2%)	0	100	100
10	4I	141/163 (86%)	139 (99%)	2 (1%)	0	100	100
10	4J	141/163 (86%)	139 (99%)	2 (1%)	0	100	100
10	4K	141/163 (86%)	139 (99%)	2 (1%)	0	100	100
10	4L	141/163 (86%)	140 (99%)	1 (1%)	0	100	100
11	5A	531/835 (64%)	514 (97%)	17 (3%)	0	100	100
11	5B	531/835 (64%)	514 (97%)	16 (3%)	1 (0%)	47	79
11	5C	531/835 (64%)	511 (96%)	17 (3%)	3 (1%)	25	62
11	5D	531/835 (64%)	515 (97%)	15 (3%)	1 (0%)	47	79
12	6A	289/304 (95%)	275 (95%)	14 (5%)	0	100	100
12	6B	289/304 (95%)	275 (95%)	14 (5%)	0	100	100
12	6C	249/304 (82%)	241 (97%)	8 (3%)	0	100	100
12	6D	249/304 (82%)	239 (96%)	10 (4%)	0	100	100
13	7A	115/173 (66%)	115 (100%)	0	0	100	100
13	7B	128/173 (74%)	126 (98%)	2 (2%)	0	100	100
13	7C	114/173 (66%)	113 (99%)	1 (1%)	0	100	100
13	7D	100/173 (58%)	99 (99%)	1 (1%)	0	100	100
13	7E	109/173 (63%)	109 (100%)	0	0	100	100
13	7F	101/173 (58%)	101 (100%)	0	0	100	100
13	7G	115/173 (66%)	115 (100%)	0	0	100	100
13	7H	128/173 (74%)	125 (98%)	3 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
13	7I	116/173 (67%)	116 (100%)	0	0	100	100
13	7J	128/173 (74%)	127 (99%)	1 (1%)	0	100	100
13	7K	115/173 (66%)	115 (100%)	0	0	100	100
13	7L	113/173 (65%)	111 (98%)	2 (2%)	0	100	100
14	8A	248/287 (86%)	234 (94%)	14 (6%)	0	100	100
14	8B	132/287 (46%)	125 (95%)	7 (5%)	0	100	100
14	8C	268/287 (93%)	255 (95%)	13 (5%)	0	100	100
14	8D	132/287 (46%)	123 (93%)	9 (7%)	0	100	100
15	9A	797/2301 (35%)	773 (97%)	21 (3%)	3 (0%)	34	70
15	9B	797/2301 (35%)	772 (97%)	22 (3%)	3 (0%)	34	70
15	9C	797/2301 (35%)	775 (97%)	19 (2%)	3 (0%)	34	70
15	9D	797/2301 (35%)	776 (97%)	18 (2%)	3 (0%)	34	70
15	9E	645/2301 (28%)	627 (97%)	15 (2%)	3 (0%)	29	66
15	9F	643/2301 (28%)	620 (96%)	20 (3%)	3 (0%)	29	66
16	A0	133/276 (48%)	129 (97%)	4 (3%)	0	100	100
16	A1	171/276 (62%)	166 (97%)	5 (3%)	0	100	100
16	A2	171/276 (62%)	163 (95%)	8 (5%)	0	100	100
16	A3	171/276 (62%)	165 (96%)	6 (4%)	0	100	100
16	A4	35/276 (13%)	35 (100%)	0	0	100	100
17	B0	238/795 (30%)	234 (98%)	4 (2%)	0	100	100
17	B1	460/795 (58%)	451 (98%)	9 (2%)	0	100	100
17	B2	239/795 (30%)	234 (98%)	5 (2%)	0	100	100
18	C0	1158/1929 (60%)	1101 (95%)	53 (5%)	4 (0%)	41	74
18	C1	1294/1929 (67%)	1235 (95%)	56 (4%)	3 (0%)	47	79
18	C2	1470/1929 (76%)	1398 (95%)	69 (5%)	3 (0%)	47	79
18	C3	1457/1929 (76%)	1393 (96%)	61 (4%)	3 (0%)	47	79
18	C4	279/1929 (14%)	264 (95%)	15 (5%)	0	100	100
19	D0	453/512 (88%)	431 (95%)	22 (5%)	0	100	100
19	D1	453/512 (88%)	438 (97%)	14 (3%)	1 (0%)	47	79
19	D2	456/512 (89%)	443 (97%)	12 (3%)	1 (0%)	47	79
19	D3	456/512 (89%)	438 (96%)	17 (4%)	1 (0%)	47	79

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
19	D4	453/512 (88%)	431 (95%)	22 (5%)	0	100	100
19	D5	456/512 (89%)	443 (97%)	12 (3%)	1 (0%)	47	79
19	D6	456/512 (89%)	440 (96%)	16 (4%)	0	100	100
19	D7	456/512 (89%)	433 (95%)	22 (5%)	1 (0%)	47	79
19	G0	452/512 (88%)	434 (96%)	17 (4%)	1 (0%)	47	79
19	G1	454/512 (89%)	437 (96%)	16 (4%)	1 (0%)	47	79
19	G2	455/512 (89%)	438 (96%)	17 (4%)	0	100	100
19	G3	454/512 (89%)	437 (96%)	16 (4%)	1 (0%)	47	79
19	G4	455/512 (89%)	434 (95%)	21 (5%)	0	100	100
19	G5	454/512 (89%)	438 (96%)	16 (4%)	0	100	100
19	H0	451/512 (88%)	439 (97%)	12 (3%)	0	100	100
19	H1	433/512 (85%)	420 (97%)	12 (3%)	1 (0%)	47	79
19	H2	444/512 (87%)	425 (96%)	18 (4%)	1 (0%)	47	79
19	H3	449/512 (88%)	429 (96%)	19 (4%)	1 (0%)	47	79
19	H4	454/512 (89%)	441 (97%)	13 (3%)	0	100	100
19	H5	450/512 (88%)	434 (96%)	16 (4%)	0	100	100
19	H6	442/512 (86%)	422 (96%)	20 (4%)	0	100	100
19	H7	443/512 (86%)	426 (96%)	15 (3%)	2 (0%)	29	66
19	I0	447/512 (87%)	428 (96%)	19 (4%)	0	100	100
19	I1	454/512 (89%)	440 (97%)	14 (3%)	0	100	100
19	J0	441/512 (86%)	427 (97%)	13 (3%)	1 (0%)	47	79
19	J1	454/512 (89%)	438 (96%)	16 (4%)	0	100	100
19	J2	452/512 (88%)	437 (97%)	15 (3%)	0	100	100
19	J3	449/512 (88%)	427 (95%)	22 (5%)	0	100	100
19	K0	455/512 (89%)	438 (96%)	16 (4%)	1 (0%)	47	79
19	K1	455/512 (89%)	434 (95%)	20 (4%)	1 (0%)	47	79
19	K2	455/512 (89%)	440 (97%)	15 (3%)	0	100	100
19	K3	449/512 (88%)	432 (96%)	16 (4%)	1 (0%)	47	79
19	L0	456/512 (89%)	442 (97%)	14 (3%)	0	100	100
19	L1	453/512 (88%)	436 (96%)	16 (4%)	1 (0%)	47	79
19	L2	453/512 (88%)	431 (95%)	22 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
19	L3	456/512 (89%)	436 (96%)	20 (4%)	0	100	100
20	E0	230/446 (52%)	216 (94%)	14 (6%)	0	100	100
20	E1	237/446 (53%)	221 (93%)	15 (6%)	1 (0%)	34	70
20	E2	228/446 (51%)	211 (92%)	17 (8%)	0	100	100
20	E3	238/446 (53%)	222 (93%)	15 (6%)	1 (0%)	34	70
21	F0	304/4929 (6%)	292 (96%)	12 (4%)	0	100	100
21	F1	478/4929 (10%)	447 (94%)	30 (6%)	1 (0%)	47	79
21	F2	478/4929 (10%)	446 (93%)	32 (7%)	0	100	100
21	F3	478/4929 (10%)	446 (93%)	32 (7%)	0	100	100
22	M0	227/971 (23%)	211 (93%)	15 (7%)	1 (0%)	34	70
22	M1	556/971 (57%)	528 (95%)	26 (5%)	2 (0%)	34	70
23	N0	487/571 (85%)	478 (98%)	9 (2%)	0	100	100
23	N1	499/571 (87%)	484 (97%)	14 (3%)	1 (0%)	47	79
23	N2	487/571 (85%)	472 (97%)	15 (3%)	0	100	100
23	N3	501/571 (88%)	488 (97%)	13 (3%)	0	100	100
24	NB	426/451 (94%)	411 (96%)	15 (4%)	0	100	100
24	ND	426/451 (94%)	413 (97%)	12 (3%)	1 (0%)	47	79
24	NF	426/451 (94%)	412 (97%)	13 (3%)	1 (0%)	47	79
24	NH	426/451 (94%)	410 (96%)	15 (4%)	1 (0%)	47	79
24	NJ	426/451 (94%)	408 (96%)	18 (4%)	0	100	100
24	NL	426/451 (94%)	413 (97%)	13 (3%)	0	100	100
24	NN	426/451 (94%)	413 (97%)	13 (3%)	0	100	100
24	OD	426/451 (94%)	413 (97%)	13 (3%)	0	100	100
24	OF	426/451 (94%)	416 (98%)	10 (2%)	0	100	100
24	OH	426/451 (94%)	411 (96%)	15 (4%)	0	100	100
24	OJ	426/451 (94%)	407 (96%)	19 (4%)	0	100	100
24	OL	426/451 (94%)	409 (96%)	17 (4%)	0	100	100
24	ON	426/451 (94%)	414 (97%)	12 (3%)	0	100	100
24	OP	426/451 (94%)	408 (96%)	18 (4%)	0	100	100
24	PD	425/451 (94%)	408 (96%)	17 (4%)	0	100	100
24	PF	426/451 (94%)	412 (97%)	14 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
24	PH	426/451 (94%)	410 (96%)	16 (4%)	0	100	100
24	PJ	426/451 (94%)	412 (97%)	14 (3%)	0	100	100
24	PL	425/451 (94%)	408 (96%)	17 (4%)	0	100	100
24	PN	426/451 (94%)	412 (97%)	14 (3%)	0	100	100
24	PP	426/451 (94%)	410 (96%)	16 (4%)	0	100	100
24	QD	426/451 (94%)	411 (96%)	15 (4%)	0	100	100
24	QF	426/451 (94%)	411 (96%)	15 (4%)	0	100	100
24	QH	437/451 (97%)	420 (96%)	17 (4%)	0	100	100
24	QJ	426/451 (94%)	409 (96%)	17 (4%)	0	100	100
24	QL	426/451 (94%)	411 (96%)	15 (4%)	0	100	100
24	QN	425/451 (94%)	408 (96%)	17 (4%)	0	100	100
24	QP	437/451 (97%)	420 (96%)	17 (4%)	0	100	100
24	RD	426/451 (94%)	406 (95%)	20 (5%)	0	100	100
24	RF	426/451 (94%)	412 (97%)	14 (3%)	0	100	100
24	RH	426/451 (94%)	406 (95%)	20 (5%)	0	100	100
24	RJ	426/451 (94%)	409 (96%)	17 (4%)	0	100	100
24	RL	426/451 (94%)	403 (95%)	23 (5%)	0	100	100
24	RN	426/451 (94%)	407 (96%)	19 (4%)	0	100	100
24	RP	426/451 (94%)	408 (96%)	18 (4%)	0	100	100
24	SB	426/451 (94%)	407 (96%)	19 (4%)	0	100	100
24	SD	426/451 (94%)	410 (96%)	16 (4%)	0	100	100
24	SF	426/451 (94%)	411 (96%)	15 (4%)	0	100	100
24	SH	429/451 (95%)	407 (95%)	22 (5%)	0	100	100
24	SJ	426/451 (94%)	412 (97%)	14 (3%)	0	100	100
24	SL	426/451 (94%)	415 (97%)	11 (3%)	0	100	100
24	SN	426/451 (94%)	408 (96%)	17 (4%)	1 (0%)	47	79
24	SP	429/451 (95%)	413 (96%)	16 (4%)	0	100	100
24	TB	426/451 (94%)	409 (96%)	17 (4%)	0	100	100
24	TD	426/451 (94%)	407 (96%)	19 (4%)	0	100	100
24	TF	426/451 (94%)	407 (96%)	19 (4%)	0	100	100
24	TH	429/451 (95%)	414 (96%)	15 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
24	TJ	426/451 (94%)	409 (96%)	17 (4%)	0	100	100
24	TL	426/451 (94%)	412 (97%)	14 (3%)	0	100	100
24	TN	426/451 (94%)	414 (97%)	12 (3%)	0	100	100
24	TP	429/451 (95%)	419 (98%)	10 (2%)	0	100	100
24	UB	436/451 (97%)	416 (95%)	20 (5%)	0	100	100
24	UD	428/451 (95%)	408 (95%)	20 (5%)	0	100	100
24	UF	437/451 (97%)	422 (97%)	15 (3%)	0	100	100
24	UH	429/451 (95%)	411 (96%)	18 (4%)	0	100	100
24	UJ	437/451 (97%)	422 (97%)	15 (3%)	0	100	100
24	UL	428/451 (95%)	412 (96%)	16 (4%)	0	100	100
24	UN	437/451 (97%)	420 (96%)	17 (4%)	0	100	100
24	UP	427/451 (95%)	416 (97%)	11 (3%)	0	100	100
24	VB	426/451 (94%)	409 (96%)	17 (4%)	0	100	100
24	VD	426/451 (94%)	406 (95%)	20 (5%)	0	100	100
24	VF	426/451 (94%)	413 (97%)	13 (3%)	0	100	100
24	VH	429/451 (95%)	407 (95%)	22 (5%)	0	100	100
24	VJ	426/451 (94%)	408 (96%)	18 (4%)	0	100	100
24	VL	426/451 (94%)	416 (98%)	10 (2%)	0	100	100
24	VN	426/451 (94%)	417 (98%)	9 (2%)	0	100	100
24	VP	426/451 (94%)	416 (98%)	10 (2%)	0	100	100
24	WB	437/451 (97%)	415 (95%)	21 (5%)	1 (0%)	47	79
24	WD	426/451 (94%)	413 (97%)	12 (3%)	1 (0%)	47	79
24	WF	437/451 (97%)	421 (96%)	16 (4%)	0	100	100
24	WH	430/451 (95%)	414 (96%)	16 (4%)	0	100	100
24	WJ	436/451 (97%)	415 (95%)	21 (5%)	0	100	100
24	WL	427/451 (95%)	405 (95%)	20 (5%)	2 (0%)	29	66
24	WN	437/451 (97%)	415 (95%)	22 (5%)	0	100	100
24	XB	426/451 (94%)	407 (96%)	19 (4%)	0	100	100
24	XD	426/451 (94%)	416 (98%)	10 (2%)	0	100	100
24	XF	426/451 (94%)	413 (97%)	13 (3%)	0	100	100
24	XH	426/451 (94%)	411 (96%)	15 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
24	XJ	426/451 (94%)	414 (97%)	12 (3%)	0	100	100
24	XL	426/451 (94%)	413 (97%)	13 (3%)	0	100	100
24	XN	426/451 (94%)	409 (96%)	17 (4%)	0	100	100
24	YB	426/451 (94%)	413 (97%)	13 (3%)	0	100	100
24	YD	425/451 (94%)	406 (96%)	19 (4%)	0	100	100
24	YF	426/451 (94%)	411 (96%)	15 (4%)	0	100	100
24	YH	426/451 (94%)	406 (95%)	20 (5%)	0	100	100
24	YJ	426/451 (94%)	412 (97%)	14 (3%)	0	100	100
24	YL	426/451 (94%)	412 (97%)	14 (3%)	0	100	100
24	YN	426/451 (94%)	413 (97%)	13 (3%)	0	100	100
24	YP	426/451 (94%)	412 (97%)	14 (3%)	0	100	100
24	ZB	425/451 (94%)	404 (95%)	21 (5%)	0	100	100
24	ZD	425/451 (94%)	410 (96%)	14 (3%)	1 (0%)	47	79
24	ZF	426/451 (94%)	408 (96%)	18 (4%)	0	100	100
24	ZH	426/451 (94%)	410 (96%)	16 (4%)	0	100	100
24	ZJ	426/451 (94%)	408 (96%)	18 (4%)	0	100	100
24	ZL	426/451 (94%)	410 (96%)	16 (4%)	0	100	100
24	ZN	426/451 (94%)	410 (96%)	16 (4%)	0	100	100
24	ZP	426/451 (94%)	411 (96%)	14 (3%)	1 (0%)	47	79
25	NC	425/443 (96%)	410 (96%)	15 (4%)	0	100	100
25	NE	425/443 (96%)	410 (96%)	15 (4%)	0	100	100
25	NG	425/443 (96%)	411 (97%)	14 (3%)	0	100	100
25	NI	425/443 (96%)	409 (96%)	16 (4%)	0	100	100
25	NK	425/443 (96%)	409 (96%)	16 (4%)	0	100	100
25	NM	425/443 (96%)	404 (95%)	21 (5%)	0	100	100
25	NO	425/443 (96%)	413 (97%)	12 (3%)	0	100	100
25	OC	425/443 (96%)	411 (97%)	14 (3%)	0	100	100
25	OE	425/443 (96%)	409 (96%)	16 (4%)	0	100	100
25	OG	425/443 (96%)	410 (96%)	15 (4%)	0	100	100
25	OI	427/443 (96%)	409 (96%)	18 (4%)	0	100	100
25	OK	425/443 (96%)	410 (96%)	15 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
25	OM	425/443 (96%)	410 (96%)	15 (4%)	0	100	100
25	OO	425/443 (96%)	411 (97%)	14 (3%)	0	100	100
25	OQ	427/443 (96%)	410 (96%)	17 (4%)	0	100	100
25	PC	425/443 (96%)	411 (97%)	14 (3%)	0	100	100
25	PE	427/443 (96%)	412 (96%)	15 (4%)	0	100	100
25	PG	425/443 (96%)	412 (97%)	13 (3%)	0	100	100
25	PI	425/443 (96%)	405 (95%)	20 (5%)	0	100	100
25	PK	425/443 (96%)	412 (97%)	13 (3%)	0	100	100
25	PM	425/443 (96%)	402 (95%)	23 (5%)	0	100	100
25	PO	425/443 (96%)	407 (96%)	18 (4%)	0	100	100
25	PQ	425/443 (96%)	406 (96%)	19 (4%)	0	100	100
25	QC	425/443 (96%)	411 (97%)	14 (3%)	0	100	100
25	QE	427/443 (96%)	413 (97%)	14 (3%)	0	100	100
25	QG	426/443 (96%)	415 (97%)	11 (3%)	0	100	100
25	QI	425/443 (96%)	405 (95%)	20 (5%)	0	100	100
25	QK	425/443 (96%)	402 (95%)	23 (5%)	0	100	100
25	QM	427/443 (96%)	410 (96%)	17 (4%)	0	100	100
25	QO	425/443 (96%)	410 (96%)	15 (4%)	0	100	100
25	QQ	425/443 (96%)	412 (97%)	13 (3%)	0	100	100
25	RC	425/443 (96%)	411 (97%)	14 (3%)	0	100	100
25	RE	425/443 (96%)	410 (96%)	15 (4%)	0	100	100
25	RG	425/443 (96%)	409 (96%)	16 (4%)	0	100	100
25	RI	425/443 (96%)	404 (95%)	21 (5%)	0	100	100
25	RK	425/443 (96%)	408 (96%)	17 (4%)	0	100	100
25	RM	425/443 (96%)	411 (97%)	14 (3%)	0	100	100
25	RO	425/443 (96%)	408 (96%)	17 (4%)	0	100	100
25	SC	425/443 (96%)	411 (97%)	14 (3%)	0	100	100
25	SE	425/443 (96%)	409 (96%)	16 (4%)	0	100	100
25	SG	425/443 (96%)	407 (96%)	18 (4%)	0	100	100
25	SI	425/443 (96%)	409 (96%)	16 (4%)	0	100	100
25	SK	425/443 (96%)	411 (97%)	14 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
25	SM	425/443 (96%)	414 (97%)	11 (3%)	0	100	100
25	SO	425/443 (96%)	406 (96%)	19 (4%)	0	100	100
25	TC	425/443 (96%)	413 (97%)	12 (3%)	0	100	100
25	TE	425/443 (96%)	414 (97%)	11 (3%)	0	100	100
25	TG	425/443 (96%)	410 (96%)	15 (4%)	0	100	100
25	TI	425/443 (96%)	407 (96%)	18 (4%)	0	100	100
25	TK	425/443 (96%)	404 (95%)	21 (5%)	0	100	100
25	TM	425/443 (96%)	411 (97%)	14 (3%)	0	100	100
25	TO	425/443 (96%)	410 (96%)	15 (4%)	0	100	100
25	UC	430/443 (97%)	415 (96%)	15 (4%)	0	100	100
25	UE	425/443 (96%)	417 (98%)	8 (2%)	0	100	100
25	UG	425/443 (96%)	413 (97%)	12 (3%)	0	100	100
25	UI	429/443 (97%)	417 (97%)	12 (3%)	0	100	100
25	UK	430/443 (97%)	414 (96%)	16 (4%)	0	100	100
25	UM	425/443 (96%)	414 (97%)	11 (3%)	0	100	100
25	UO	425/443 (96%)	413 (97%)	12 (3%)	0	100	100
25	VC	425/443 (96%)	415 (98%)	10 (2%)	0	100	100
25	VE	425/443 (96%)	413 (97%)	11 (3%)	1 (0%)	47	79
25	VG	425/443 (96%)	412 (97%)	13 (3%)	0	100	100
25	VI	429/443 (97%)	415 (97%)	14 (3%)	0	100	100
25	VK	425/443 (96%)	409 (96%)	16 (4%)	0	100	100
25	VM	426/443 (96%)	411 (96%)	15 (4%)	0	100	100
25	VO	425/443 (96%)	408 (96%)	17 (4%)	0	100	100
25	WA	428/443 (97%)	415 (97%)	13 (3%)	0	100	100
25	WC	425/443 (96%)	415 (98%)	10 (2%)	0	100	100
25	WE	428/443 (97%)	414 (97%)	14 (3%)	0	100	100
25	WG	425/443 (96%)	411 (97%)	14 (3%)	0	100	100
25	WI	428/443 (97%)	414 (97%)	14 (3%)	0	100	100
25	WK	425/443 (96%)	411 (97%)	14 (3%)	0	100	100
25	WM	428/443 (97%)	415 (97%)	13 (3%)	0	100	100
25	WO	425/443 (96%)	416 (98%)	9 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
25	XA	425/443 (96%)	411 (97%)	14 (3%)	0	100	100
25	XC	425/443 (96%)	411 (97%)	14 (3%)	0	100	100
25	XE	425/443 (96%)	414 (97%)	11 (3%)	0	100	100
25	XG	425/443 (96%)	410 (96%)	15 (4%)	0	100	100
25	XI	426/443 (96%)	411 (96%)	15 (4%)	0	100	100
25	XK	425/443 (96%)	411 (97%)	14 (3%)	0	100	100
25	XM	426/443 (96%)	412 (97%)	14 (3%)	0	100	100
25	XO	425/443 (96%)	411 (97%)	14 (3%)	0	100	100
25	YC	426/443 (96%)	412 (97%)	14 (3%)	0	100	100
25	YE	425/443 (96%)	417 (98%)	8 (2%)	0	100	100
25	YG	425/443 (96%)	411 (97%)	14 (3%)	0	100	100
25	YI	428/443 (97%)	413 (96%)	15 (4%)	0	100	100
25	YK	426/443 (96%)	414 (97%)	12 (3%)	0	100	100
25	YM	426/443 (96%)	411 (96%)	15 (4%)	0	100	100
25	YO	426/443 (96%)	412 (97%)	14 (3%)	0	100	100
25	ZC	425/443 (96%)	411 (97%)	14 (3%)	0	100	100
25	ZE	425/443 (96%)	412 (97%)	13 (3%)	0	100	100
25	ZG	425/443 (96%)	411 (97%)	14 (3%)	0	100	100
25	ZI	425/443 (96%)	412 (97%)	13 (3%)	0	100	100
25	ZK	425/443 (96%)	411 (97%)	14 (3%)	0	100	100
25	ZM	425/443 (96%)	415 (98%)	10 (2%)	0	100	100
25	ZO	425/443 (96%)	410 (96%)	15 (4%)	0	100	100
26	O0	1112/1940 (57%)	1083 (97%)	25 (2%)	4 (0%)	34	70
26	O1	655/1940 (34%)	633 (97%)	20 (3%)	2 (0%)	41	74
26	O2	126/1940 (6%)	126 (100%)	0	0	100	100
27	P0	345/1102 (31%)	331 (96%)	12 (4%)	2 (1%)	25	62
27	P1	702/1102 (64%)	685 (98%)	16 (2%)	1 (0%)	51	83
27	P2	714/1102 (65%)	700 (98%)	13 (2%)	1 (0%)	51	83
27	P3	714/1102 (65%)	696 (98%)	17 (2%)	1 (0%)	51	83
28	Q0	2357/3225 (73%)	2269 (96%)	86 (4%)	2 (0%)	51	83
28	Q1	2359/3225 (73%)	2272 (96%)	84 (4%)	3 (0%)	51	83

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
29	R0	2014/2784 (72%)	1963 (98%)	48 (2%)	3 (0%)	51	83
29	R1	2026/2784 (73%)	1975 (98%)	49 (2%)	2 (0%)	51	83
30	S0	152/168 (90%)	145 (95%)	7 (5%)	0	100	100
30	S1	152/168 (90%)	144 (95%)	8 (5%)	0	100	100
30	S2	152/168 (90%)	145 (95%)	7 (5%)	0	100	100
30	S3	149/168 (89%)	140 (94%)	9 (6%)	0	100	100
32	T0	534/2939 (18%)	506 (95%)	27 (5%)	1 (0%)	47	79
32	T1	558/2939 (19%)	528 (95%)	29 (5%)	1 (0%)	47	79
32	T2	537/2939 (18%)	506 (94%)	29 (5%)	2 (0%)	34	70
32	T3	307/2939 (10%)	295 (96%)	11 (4%)	1 (0%)	41	74
33	U0	195/401 (49%)	188 (96%)	7 (4%)	0	100	100
33	U1	195/401 (49%)	186 (95%)	9 (5%)	0	100	100
34	V0	194/761 (26%)	188 (97%)	6 (3%)	0	100	100
34	V1	183/761 (24%)	180 (98%)	3 (2%)	0	100	100
35	W0	1034/1638 (63%)	1029 (100%)	5 (0%)	0	100	100
35	W1	936/1638 (57%)	931 (100%)	5 (0%)	0	100	100
39	X0	795/1138 (70%)	742 (93%)	53 (7%)	0	100	100
39	X1	795/1138 (70%)	740 (93%)	55 (7%)	0	100	100
39	X2	795/1138 (70%)	740 (93%)	54 (7%)	1 (0%)	51	83
39	X3	795/1138 (70%)	750 (94%)	45 (6%)	0	100	100
40	Y0	474/477 (99%)	448 (94%)	25 (5%)	1 (0%)	47	79
40	Y1	474/477 (99%)	452 (95%)	20 (4%)	2 (0%)	34	70
40	Y2	474/477 (99%)	448 (94%)	25 (5%)	1 (0%)	47	79
40	Y3	474/477 (99%)	449 (95%)	23 (5%)	2 (0%)	34	70
40	Y4	474/477 (99%)	450 (95%)	23 (5%)	1 (0%)	47	79
40	Y5	474/477 (99%)	455 (96%)	17 (4%)	2 (0%)	34	70
40	Y6	474/477 (99%)	455 (96%)	18 (4%)	1 (0%)	47	79
40	Y7	474/477 (99%)	460 (97%)	12 (2%)	2 (0%)	34	70
41	Z0	586/651 (90%)	574 (98%)	12 (2%)	0	100	100
41	Z1	586/651 (90%)	568 (97%)	17 (3%)	1 (0%)	47	79
41	Z2	586/651 (90%)	572 (98%)	13 (2%)	1 (0%)	47	79

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
41	Z3	586/651 (90%)	569 (97%)	15 (3%)	2 (0%)	41	74
All	All	169703/253391 (67%)	163630 (96%)	5908 (4%)	165 (0%)	54	83

5 of 165 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	1A	1585	ALA
2	1A	2183	ALA
2	1A	2271	PRO
2	1B	1585	ALA
2	1B	2183	ALA

### 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	
2	1A	717/1940 (37%)	710 (99%)	7 (1%)	76	86
2	1B	717/1940 (37%)	711 (99%)	6 (1%)	81	89
2	1C	717/1940 (37%)	708 (99%)	9 (1%)	69	82
2	1D	717/1940 (37%)	711 (99%)	6 (1%)	81	89
4	2A	194/1698 (11%)	192 (99%)	2 (1%)	76	86
4	2B	203/1698 (12%)	199 (98%)	4 (2%)	55	75
14	8A	199/228 (87%)	197 (99%)	2 (1%)	76	86
14	8B	103/228 (45%)	103 (100%)	0	100	100
14	8C	214/228 (94%)	213 (100%)	1 (0%)	88	94
14	8D	103/228 (45%)	101 (98%)	2 (2%)	57	76
16	A0	107/215 (50%)	107 (100%)	0	100	100
16	A1	138/215 (64%)	137 (99%)	1 (1%)	84	91
16	A2	138/215 (64%)	138 (100%)	0	100	100
16	A3	138/215 (64%)	138 (100%)	0	100	100
16	A4	30/215 (14%)	30 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
17	B0	190/642 (30%)	189 (100%)	1 (0%)	88	94
17	B1	368/642 (57%)	361 (98%)	7 (2%)	57	76
17	B2	186/642 (29%)	184 (99%)	2 (1%)	73	85
18	C0	887/1408 (63%)	881 (99%)	6 (1%)	84	91
18	C1	996/1408 (71%)	990 (99%)	6 (1%)	86	92
18	C2	1148/1408 (82%)	1139 (99%)	9 (1%)	81	89
18	C3	1139/1408 (81%)	1133 (100%)	6 (0%)	88	94
18	C4	238/1408 (17%)	234 (98%)	4 (2%)	60	78
19	D0	318/408 (78%)	317 (100%)	1 (0%)	92	96
19	D1	317/408 (78%)	316 (100%)	1 (0%)	92	96
19	D2	318/408 (78%)	316 (99%)	2 (1%)	86	92
19	D3	317/408 (78%)	317 (100%)	0	100	100
19	D4	318/408 (78%)	316 (99%)	2 (1%)	86	92
19	D5	317/408 (78%)	314 (99%)	3 (1%)	78	88
19	D6	318/408 (78%)	316 (99%)	2 (1%)	86	92
19	D7	317/408 (78%)	317 (100%)	0	100	100
19	G0	317/408 (78%)	317 (100%)	0	100	100
19	G1	317/408 (78%)	312 (98%)	5 (2%)	62	79
19	G2	317/408 (78%)	316 (100%)	1 (0%)	92	96
19	G3	317/408 (78%)	313 (99%)	4 (1%)	69	82
19	G4	317/408 (78%)	317 (100%)	0	100	100
19	G5	317/408 (78%)	314 (99%)	3 (1%)	78	88
19	H0	316/408 (78%)	314 (99%)	2 (1%)	86	92
19	H1	315/408 (77%)	312 (99%)	3 (1%)	76	86
19	H2	308/408 (76%)	305 (99%)	3 (1%)	76	86
19	H3	313/408 (77%)	313 (100%)	0	100	100
19	H4	316/408 (78%)	312 (99%)	4 (1%)	69	82
19	H5	314/408 (77%)	310 (99%)	4 (1%)	69	82
19	H6	306/408 (75%)	302 (99%)	4 (1%)	69	82
19	H7	311/408 (76%)	309 (99%)	2 (1%)	86	92
19	I0	314/408 (77%)	312 (99%)	2 (1%)	86	92

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
19	I1	316/408 (78%)	313 (99%)	3 (1%)	78	88
19	J0	317/408 (78%)	310 (98%)	7 (2%)	52	72
19	J1	317/408 (78%)	315 (99%)	2 (1%)	86	92
19	J2	316/408 (78%)	314 (99%)	2 (1%)	86	92
19	J3	317/408 (78%)	314 (99%)	3 (1%)	78	88
19	K0	317/408 (78%)	313 (99%)	4 (1%)	69	82
19	K1	317/408 (78%)	314 (99%)	3 (1%)	78	88
19	K2	317/408 (78%)	315 (99%)	2 (1%)	86	92
19	K3	316/408 (78%)	314 (99%)	2 (1%)	86	92
19	L0	378/408 (93%)	375 (99%)	3 (1%)	81	89
19	L1	376/408 (92%)	361 (96%)	15 (4%)	31	59
19	L2	376/408 (92%)	373 (99%)	3 (1%)	81	89
19	L3	378/408 (93%)	377 (100%)	1 (0%)	92	96
20	E0	203/353 (58%)	203 (100%)	0	100	100
20	E1	209/353 (59%)	208 (100%)	1 (0%)	88	94
20	E2	201/353 (57%)	201 (100%)	0	100	100
20	E3	210/353 (60%)	210 (100%)	0	100	100
21	F0	5/4033 (0%)	5 (100%)	0	100	100
21	F1	162/4033 (4%)	162 (100%)	0	100	100
21	F2	162/4033 (4%)	162 (100%)	0	100	100
21	F3	162/4033 (4%)	160 (99%)	2 (1%)	71	84
22	M0	183/746 (24%)	183 (100%)	0	100	100
22	M1	448/746 (60%)	447 (100%)	1 (0%)	93	97
23	N0	104/415 (25%)	103 (99%)	1 (1%)	76	86
23	N1	111/415 (27%)	110 (99%)	1 (1%)	78	88
23	N2	104/415 (25%)	104 (100%)	0	100	100
23	N3	113/415 (27%)	112 (99%)	1 (1%)	78	88
24	NB	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	ND	362/374 (97%)	360 (99%)	2 (1%)	86	92
24	NF	362/374 (97%)	362 (100%)	0	100	100
24	NH	362/374 (97%)	362 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
24	NJ	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	NL	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	NN	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	OD	362/374 (97%)	360 (99%)	2 (1%)	86	92
24	OF	362/374 (97%)	362 (100%)	0	100	100
24	OH	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	OJ	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	OL	362/374 (97%)	362 (100%)	0	100	100
24	ON	362/374 (97%)	360 (99%)	2 (1%)	86	92
24	OP	362/374 (97%)	360 (99%)	2 (1%)	86	92
24	PD	361/374 (96%)	358 (99%)	3 (1%)	81	89
24	PF	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	PH	362/374 (97%)	358 (99%)	4 (1%)	73	85
24	PJ	362/374 (97%)	360 (99%)	2 (1%)	86	92
24	PL	361/374 (96%)	359 (99%)	2 (1%)	86	92
24	PN	362/374 (97%)	359 (99%)	3 (1%)	81	89
24	PP	362/374 (97%)	357 (99%)	5 (1%)	67	81
24	QD	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	QF	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	QH	368/374 (98%)	367 (100%)	1 (0%)	92	96
24	QJ	362/374 (97%)	359 (99%)	3 (1%)	81	89
24	QL	362/374 (97%)	362 (100%)	0	100	100
24	QN	361/374 (96%)	358 (99%)	3 (1%)	81	89
24	QP	368/374 (98%)	368 (100%)	0	100	100
24	RD	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	RF	362/374 (97%)	357 (99%)	5 (1%)	67	81
24	RH	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	RJ	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	RL	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	RN	362/374 (97%)	359 (99%)	3 (1%)	81	89
24	RP	362/374 (97%)	359 (99%)	3 (1%)	81	89

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
24	SB	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	SD	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	SF	362/374 (97%)	359 (99%)	3 (1%)	81	89
24	SH	365/374 (98%)	365 (100%)	0	100	100
24	SJ	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	SL	362/374 (97%)	362 (100%)	0	100	100
24	SN	362/374 (97%)	360 (99%)	2 (1%)	86	92
24	SP	365/374 (98%)	363 (100%)	2 (0%)	88	94
24	TB	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	TD	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	TF	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	TH	365/374 (98%)	365 (100%)	0	100	100
24	TJ	362/374 (97%)	360 (99%)	2 (1%)	86	92
24	TL	362/374 (97%)	359 (99%)	3 (1%)	81	89
24	TN	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	TP	365/374 (98%)	363 (100%)	2 (0%)	88	94
24	UB	367/374 (98%)	366 (100%)	1 (0%)	92	96
24	UD	364/374 (97%)	362 (100%)	2 (0%)	88	94
24	UF	368/374 (98%)	367 (100%)	1 (0%)	92	96
24	UH	364/374 (97%)	363 (100%)	1 (0%)	92	96
24	UJ	368/374 (98%)	368 (100%)	0	100	100
24	UL	363/374 (97%)	361 (99%)	2 (1%)	86	92
24	UN	368/374 (98%)	368 (100%)	0	100	100
24	UP	363/374 (97%)	362 (100%)	1 (0%)	92	96
24	VB	362/374 (97%)	360 (99%)	2 (1%)	86	92
24	VD	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	VF	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	VH	365/374 (98%)	363 (100%)	2 (0%)	88	94
24	VJ	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	VL	362/374 (97%)	362 (100%)	0	100	100
24	VN	362/374 (97%)	361 (100%)	1 (0%)	92	96

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
24	VP	362/374 (97%)	362 (100%)	0	100	100
24	WB	368/374 (98%)	367 (100%)	1 (0%)	92	96
24	WD	362/374 (97%)	362 (100%)	0	100	100
24	WF	368/374 (98%)	368 (100%)	0	100	100
24	WH	365/374 (98%)	363 (100%)	2 (0%)	88	94
24	WJ	367/374 (98%)	365 (100%)	2 (0%)	88	94
24	WL	363/374 (97%)	360 (99%)	3 (1%)	81	89
24	WN	368/374 (98%)	368 (100%)	0	100	100
24	XB	362/374 (97%)	362 (100%)	0	100	100
24	XD	362/374 (97%)	360 (99%)	2 (1%)	86	92
24	XF	362/374 (97%)	359 (99%)	3 (1%)	81	89
24	XH	362/374 (97%)	358 (99%)	4 (1%)	73	85
24	XJ	362/374 (97%)	358 (99%)	4 (1%)	73	85
24	XL	362/374 (97%)	359 (99%)	3 (1%)	81	89
24	XN	362/374 (97%)	357 (99%)	5 (1%)	67	81
24	YB	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	YD	361/374 (96%)	360 (100%)	1 (0%)	92	96
24	YF	362/374 (97%)	360 (99%)	2 (1%)	86	92
24	YH	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	YJ	362/374 (97%)	360 (99%)	2 (1%)	86	92
24	YL	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	YN	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	YP	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	ZB	361/374 (96%)	360 (100%)	1 (0%)	92	96
24	ZD	361/374 (96%)	360 (100%)	1 (0%)	92	96
24	ZF	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	ZH	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	ZJ	362/374 (97%)	361 (100%)	1 (0%)	92	96
24	ZL	362/374 (97%)	360 (99%)	2 (1%)	86	92
24	ZN	362/374 (97%)	360 (99%)	2 (1%)	86	92
24	ZP	362/374 (97%)	361 (100%)	1 (0%)	92	96

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
25	NC	368/379 (97%)	366 (100%)	2 (0%)	88	94
25	NE	368/379 (97%)	368 (100%)	0	100	100
25	NG	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	NI	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	NK	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	NM	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	NO	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	OC	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	OE	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	OG	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	OI	369/379 (97%)	368 (100%)	1 (0%)	92	96
25	OK	368/379 (97%)	366 (100%)	2 (0%)	88	94
25	OM	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	OO	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	OQ	369/379 (97%)	367 (100%)	2 (0%)	88	94
25	PC	368/379 (97%)	368 (100%)	0	100	100
25	PE	369/379 (97%)	365 (99%)	4 (1%)	73	85
25	PG	368/379 (97%)	366 (100%)	2 (0%)	88	94
25	PI	368/379 (97%)	366 (100%)	2 (0%)	88	94
25	PK	368/379 (97%)	364 (99%)	4 (1%)	73	85
25	PM	368/379 (97%)	368 (100%)	0	100	100
25	PO	368/379 (97%)	368 (100%)	0	100	100
25	PQ	368/379 (97%)	363 (99%)	5 (1%)	67	81
25	QC	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	QE	369/379 (97%)	368 (100%)	1 (0%)	92	96
25	QG	368/379 (97%)	368 (100%)	0	100	100
25	QI	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	QK	368/379 (97%)	368 (100%)	0	100	100
25	QM	369/379 (97%)	368 (100%)	1 (0%)	92	96
25	QO	368/379 (97%)	365 (99%)	3 (1%)	81	89
25	QQ	368/379 (97%)	365 (99%)	3 (1%)	81	89

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
25	RC	368/379 (97%)	366 (100%)	2 (0%)	88	94
25	RE	368/379 (97%)	368 (100%)	0	100	100
25	RG	368/379 (97%)	365 (99%)	3 (1%)	81	89
25	RI	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	RK	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	RM	368/379 (97%)	368 (100%)	0	100	100
25	RO	368/379 (97%)	366 (100%)	2 (0%)	88	94
25	SC	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	SE	368/379 (97%)	366 (100%)	2 (0%)	88	94
25	SG	368/379 (97%)	368 (100%)	0	100	100
25	SI	368/379 (97%)	366 (100%)	2 (0%)	88	94
25	SK	368/379 (97%)	364 (99%)	4 (1%)	73	85
25	SM	368/379 (97%)	366 (100%)	2 (0%)	88	94
25	SO	368/379 (97%)	368 (100%)	0	100	100
25	TC	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	TE	368/379 (97%)	366 (100%)	2 (0%)	88	94
25	TG	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	TI	368/379 (97%)	368 (100%)	0	100	100
25	TK	368/379 (97%)	365 (99%)	3 (1%)	81	89
25	TM	368/379 (97%)	365 (99%)	3 (1%)	81	89
25	TO	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	UC	371/379 (98%)	371 (100%)	0	100	100
25	UE	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	UG	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	UI	370/379 (98%)	368 (100%)	2 (0%)	88	94
25	UK	371/379 (98%)	369 (100%)	2 (0%)	88	94
25	UM	368/379 (97%)	368 (100%)	0	100	100
25	UO	368/379 (97%)	364 (99%)	4 (1%)	73	85
25	VC	368/379 (97%)	368 (100%)	0	100	100
25	VE	368/379 (97%)	366 (100%)	2 (0%)	88	94
25	VG	368/379 (97%)	367 (100%)	1 (0%)	92	96

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
25	VI	370/379 (98%)	368 (100%)	2 (0%)	88	94
25	VK	368/379 (97%)	368 (100%)	0	100	100
25	VM	368/379 (97%)	368 (100%)	0	100	100
25	VO	368/379 (97%)	366 (100%)	2 (0%)	88	94
25	WA	369/379 (97%)	369 (100%)	0	100	100
25	WC	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	WE	369/379 (97%)	367 (100%)	2 (0%)	88	94
25	WG	368/379 (97%)	368 (100%)	0	100	100
25	WI	369/379 (97%)	368 (100%)	1 (0%)	92	96
25	WK	368/379 (97%)	368 (100%)	0	100	100
25	WM	369/379 (97%)	368 (100%)	1 (0%)	92	96
25	WO	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	XA	368/379 (97%)	368 (100%)	0	100	100
25	XC	368/379 (97%)	366 (100%)	2 (0%)	88	94
25	XE	368/379 (97%)	366 (100%)	2 (0%)	88	94
25	XG	368/379 (97%)	365 (99%)	3 (1%)	81	89
25	XI	368/379 (97%)	368 (100%)	0	100	100
25	XK	368/379 (97%)	368 (100%)	0	100	100
25	XM	368/379 (97%)	368 (100%)	0	100	100
25	XO	368/379 (97%)	365 (99%)	3 (1%)	81	89
25	YC	368/379 (97%)	368 (100%)	0	100	100
25	YE	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	YG	368/379 (97%)	368 (100%)	0	100	100
25	YI	369/379 (97%)	367 (100%)	2 (0%)	88	94
25	YK	368/379 (97%)	368 (100%)	0	100	100
25	YM	368/379 (97%)	365 (99%)	3 (1%)	81	89
25	YO	368/379 (97%)	368 (100%)	0	100	100
25	ZC	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	ZE	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	ZG	368/379 (97%)	367 (100%)	1 (0%)	92	96
25	ZI	368/379 (97%)	368 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
25	ZK	368/379 (97%)	366 (100%)	2 (0%)	88	94
25	ZM	368/379 (97%)	365 (99%)	3 (1%)	81	89
25	ZO	368/379 (97%)	365 (99%)	3 (1%)	81	89
26	O0	154/1457 (11%)	150 (97%)	4 (3%)	46	69
26	O1	254/1457 (17%)	253 (100%)	1 (0%)	91	95
26	O2	97/1457 (7%)	96 (99%)	1 (1%)	76	86
28	Q0	1794/2270 (79%)	1787 (100%)	7 (0%)	91	95
28	Q1	1794/2270 (79%)	1787 (100%)	7 (0%)	91	95
29	R0	194/1962 (10%)	194 (100%)	0	100	100
29	R1	194/1962 (10%)	194 (100%)	0	100	100
30	S0	112/119 (94%)	112 (100%)	0	100	100
30	S1	112/119 (94%)	112 (100%)	0	100	100
30	S2	112/119 (94%)	111 (99%)	1 (1%)	78	88
30	S3	110/119 (92%)	110 (100%)	0	100	100
32	T0	197/2456 (8%)	197 (100%)	0	100	100
32	T1	197/2456 (8%)	197 (100%)	0	100	100
32	T2	197/2456 (8%)	194 (98%)	3 (2%)	65	81
33	U0	181/318 (57%)	180 (99%)	1 (1%)	86	92
33	U1	181/318 (57%)	180 (99%)	1 (1%)	86	92
39	X0	376/864 (44%)	374 (100%)	2 (0%)	88	94
39	X1	376/864 (44%)	375 (100%)	1 (0%)	92	96
39	X2	376/864 (44%)	374 (100%)	2 (0%)	88	94
39	X3	376/864 (44%)	370 (98%)	6 (2%)	62	79
40	Y0	383/384 (100%)	382 (100%)	1 (0%)	92	96
40	Y1	383/384 (100%)	380 (99%)	3 (1%)	81	89
40	Y2	383/384 (100%)	381 (100%)	2 (0%)	88	94
40	Y3	383/384 (100%)	375 (98%)	8 (2%)	53	74
40	Y4	383/384 (100%)	381 (100%)	2 (0%)	88	94
40	Y5	383/384 (100%)	380 (99%)	3 (1%)	81	89
40	Y6	383/384 (100%)	379 (99%)	4 (1%)	76	86
40	Y7	383/384 (100%)	382 (100%)	1 (0%)	92	96

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
41	Z0	496/533 (93%)	494 (100%)	2 (0%)	91	95
41	Z1	496/533 (93%)	491 (99%)	5 (1%)	76	86
41	Z2	496/533 (93%)	492 (99%)	4 (1%)	81	89
41	Z3	496/533 (93%)	494 (100%)	2 (0%)	91	95
All	All	106548/160130 (66%)	106019 (100%)	529 (0%)	89	94

5 of 529 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
40	Y3	53	ARG
40	Y6	71	ARG
40	Y3	14	LYS
25	ZM	298	ASN
25	NK	347	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 331 such sidechains are listed below:

Mol	Chain	Res	Type
25	VG	99	ASN
40	Y1	390	GLN
25	VM	247	ASN
24	WN	258	ASN
25	YE	334	GLN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.



## 5.6 Ligand geometry

Of 302 ligands modelled in this entry, 97 are monoatomic - leaving 205 for Mogul analysis.

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
44	GTP	OH	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.64	7 (21%)
46	GDP	ZO	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.28	4 (13%)
44	GTP	YL	501	45	26,34,34	1.18	1 (3%)	32,54,54	1.55	8 (25%)
46	GDP	RI	502	-	24,30,30	0.94	1 (4%)	30,47,47	1.31	4 (13%)
46	GDP	UC	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.24	5 (16%)
44	GTP	RP	501	45	26,34,34	1.13	2 (7%)	32,54,54	1.56	7 (21%)
44	GTP	VB	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.64	7 (21%)
46	GDP	RK	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.29	4 (13%)
46	GDP	QK	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.26	4 (13%)
44	GTP	OF	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.62	7 (21%)
44	GTP	NF	501	45	26,34,34	1.14	2 (7%)	32,54,54	1.71	7 (21%)
44	GTP	PF	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.65	7 (21%)
46	GDP	TC	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.36	4 (13%)
46	GDP	SK	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.31	4 (13%)
44	GTP	SB	501	45	26,34,34	1.14	2 (7%)	32,54,54	1.65	7 (21%)
46	GDP	UO	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.31	4 (13%)
44	GTP	XN	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.62	7 (21%)
46	GDP	TE	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.27	4 (13%)
46	GDP	PG	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.32	4 (13%)
46	GDP	XK	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.24	4 (13%)
44	GTP	ND	501	45	26,34,34	1.14	2 (7%)	32,54,54	1.70	7 (21%)
44	GTP	TD	501	45	26,34,34	1.14	2 (7%)	32,54,54	1.66	7 (21%)
46	GDP	VG	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.31	4 (13%)
44	GTP	UD	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.61	7 (21%)
44	GTP	XJ	501	45	26,34,34	1.18	2 (7%)	32,54,54	1.66	7 (21%)
44	GTP	WJ	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.59	7 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
46	GDP	VK	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.29	4 (13%)
44	GTP	QL	501	45	26,34,34	1.18	2 (7%)	32,54,54	1.70	7 (21%)
44	GTP	TL	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.69	7 (21%)
44	GTP	YB	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.65	7 (21%)
46	GDP	OC	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.31	4 (13%)
46	GDP	QC	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.28	4 (13%)
46	GDP	NM	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.27	4 (13%)
46	GDP	ZC	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.27	4 (13%)
44	GTP	OJ	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.74	7 (21%)
44	GTP	XH	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.60	7 (21%)
42	ADP	1A	2601	-	24,29,29	1.08	2 (8%)	29,45,45	2.13	7 (24%)
44	GTP	PD	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.69	7 (21%)
46	GDP	NI	501	-	24,30,30	0.92	1 (4%)	30,47,47	1.24	4 (13%)
44	GTP	YF	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.66	7 (21%)
44	GTP	UB	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.67	7 (21%)
46	GDP	PC	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.34	4 (13%)
44	GTP	QP	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.62	7 (21%)
46	GDP	SO	502	-	24,30,30	0.93	1 (4%)	30,47,47	1.24	3 (10%)
44	GTP	NJ	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.61	7 (21%)
44	GTP	XD	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.55	7 (21%)
44	GTP	OP	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.60	7 (21%)
44	GTP	TH	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.59	7 (21%)
44	GTP	YJ	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.57	7 (21%)
44	GTP	TB	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.64	7 (21%)
44	GTP	TJ	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.60	7 (21%)
46	GDP	VC	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.33	4 (13%)
44	GTP	PH	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.64	7 (21%)
46	GDP	OG	501	-	24,30,30	0.92	1 (4%)	30,47,47	1.27	4 (13%)
46	GDP	QQ	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.33	4 (13%)
46	GDP	ZK	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.31	4 (13%)
44	GTP	ZF	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.62	7 (21%)
46	GDP	YO	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.27	3 (10%)
46	GDP	QM	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.30	5 (16%)
44	GTP	TF	501	45	26,34,34	1.14	2 (7%)	32,54,54	1.68	7 (21%)
44	GTP	SD	501	45	26,34,34	1.14	2 (7%)	32,54,54	1.60	7 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
44	GTP	RJ	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.64	7 (21%)
44	GTP	PN	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.69	7 (21%)
46	GDP	UG	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.29	4 (13%)
42	ADP	1B	2601	-	24,29,29	1.06	2 (8%)	29,45,45	2.33	7 (24%)
46	GDP	SC	502	-	24,30,30	0.95	1 (4%)	30,47,47	1.28	4 (13%)
44	GTP	VL	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.58	8 (25%)
44	GTP	VF	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.66	7 (21%)
46	GDP	XO	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.32	4 (13%)
46	GDP	WI	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.19	3 (10%)
44	GTP	NN	501	45	26,34,34	1.14	2 (7%)	32,54,54	1.65	7 (21%)
44	GTP	UJ	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.61	7 (21%)
44	GTP	UN	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.64	8 (25%)
46	GDP	TK	501	-	24,30,30	0.97	1 (4%)	30,47,47	1.36	4 (13%)
44	GTP	YH	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.57	7 (21%)
46	GDP	SG	502	-	24,30,30	0.96	1 (4%)	30,47,47	1.23	3 (10%)
46	GDP	XM	502	-	24,30,30	0.98	1 (4%)	30,47,47	1.26	4 (13%)
44	GTP	NB	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.71	7 (21%)
44	GTP	PP	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.68	7 (21%)
46	GDP	PI	502	-	24,30,30	0.93	1 (4%)	30,47,47	1.30	4 (13%)
46	GDP	OI	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.35	4 (13%)
46	GDP	TG	502	-	24,30,30	0.97	1 (4%)	30,47,47	1.26	4 (13%)
44	GTP	ZH	501	45	26,34,34	1.14	2 (7%)	32,54,54	1.61	7 (21%)
44	GTP	PL	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.65	7 (21%)
43	ANP	1B	2602	-	29,33,33	1.02	3 (10%)	31,52,52	1.07	2 (6%)
42	ADP	1D	2601	-	24,29,29	1.06	2 (8%)	29,45,45	2.22	7 (24%)
44	GTP	SF	501	45	26,34,34	1.14	2 (7%)	32,54,54	1.68	7 (21%)
44	GTP	QN	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.61	7 (21%)
46	GDP	YM	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.27	4 (13%)
46	GDP	ZI	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.26	4 (13%)
46	GDP	TO	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.26	4 (13%)
46	GDP	XA	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.19	3 (10%)
46	GDP	VE	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.22	4 (13%)
46	GDP	RE	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.33	4 (13%)
46	GDP	YG	501	-	24,30,30	0.97	1 (4%)	30,47,47	1.33	4 (13%)
44	GTP	QH	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.67	7 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
42	ADP	1C	2601	-	24,29,29	1.07	2 (8%)	29,45,45	2.12	7 (24%)
43	ANP	1C	2602	-	29,33,33	1.09	4 (13%)	31,52,52	1.19	4 (12%)
46	GDP	RO	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.31	4 (13%)
44	GTP	SN	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.65	7 (21%)
44	GTP	QD	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.58	7 (21%)
44	GTP	UF	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.68	7 (21%)
44	GTP	ZD	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.63	8 (25%)
43	ANP	1D	2602	-	29,33,33	1.06	4 (13%)	31,52,52	1.17	2 (6%)
46	GDP	TM	502	-	24,30,30	0.95	1 (4%)	30,47,47	1.31	4 (13%)
44	GTP	VN	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.61	7 (21%)
46	GDP	TI	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.28	4 (13%)
44	GTP	TP	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.56	7 (21%)
46	GDP	PO	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.34	4 (13%)
46	GDP	UI	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.21	3 (10%)
46	GDP	NG	502	-	24,30,30	0.95	1 (4%)	30,47,47	1.33	4 (13%)
44	GTP	VP	501	45	26,34,34	1.18	2 (7%)	32,54,54	1.60	7 (21%)
43	ANP	C0	2001	-	29,33,33	1.10	4 (13%)	31,52,52	1.13	2 (6%)
44	GTP	ZL	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.66	7 (21%)
46	GDP	OE	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.32	4 (13%)
46	GDP	ZE	501	-	24,30,30	0.97	1 (4%)	30,47,47	1.28	4 (13%)
44	GTP	XL	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.63	7 (21%)
44	GTP	PJ	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.60	8 (25%)
44	GTP	SJ	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.69	7 (21%)
44	GTP	WL	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.60	7 (21%)
44	GTP	RF	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.55	8 (25%)
46	GDP	NK	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.31	4 (13%)
44	GTP	VJ	501	45	26,34,34	1.20	2 (7%)	32,54,54	1.61	8 (25%)
46	GDP	PQ	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.33	4 (13%)
46	GDP	QI	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.32	4 (13%)
44	GTP	QJ	501	45	26,34,34	1.18	2 (7%)	32,54,54	1.69	7 (21%)
46	GDP	OM	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.35	4 (13%)
46	GDP	QE	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.34	4 (13%)
43	ANP	1A	2602	-	29,33,33	1.04	3 (10%)	31,52,52	1.16	2 (6%)
44	GTP	RD	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.66	7 (21%)
46	GDP	VM	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.11	4 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
46	GDP	RC	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.35	4 (13%)
46	GDP	YC	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.36	4 (13%)
44	GTP	ON	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.61	7 (21%)
46	GDP	NO	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.31	4 (13%)
46	GDP	PK	501	-	24,30,30	0.97	1 (4%)	30,47,47	1.31	4 (13%)
44	GTP	WD	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.59	7 (21%)
44	GTP	YP	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.61	7 (21%)
46	GDP	YI	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.33	3 (10%)
44	GTP	XB	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.66	7 (21%)
46	GDP	XI	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.21	4 (13%)
44	GTP	RL	501	45	26,34,34	1.19	2 (7%)	32,54,54	1.63	7 (21%)
46	GDP	PE	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.32	4 (13%)
46	GDP	UE	501	-	24,30,30	0.98	1 (4%)	30,47,47	1.32	4 (13%)
44	GTP	SP	501	45	26,34,34	1.14	2 (7%)	32,54,54	1.60	7 (21%)
44	GTP	SH	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.64	8 (25%)
46	GDP	WM	501	-	24,30,30	0.97	1 (4%)	30,47,47	1.31	4 (13%)
44	GTP	WN	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.65	7 (21%)
44	GTP	TN	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.68	7 (21%)
44	GTP	NL	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.66	7 (21%)
44	GTP	UL	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.67	8 (25%)
46	GDP	QO	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.23	3 (10%)
46	GDP	SM	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.33	4 (13%)
46	GDP	OQ	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.33	4 (13%)
46	GDP	VO	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.31	4 (13%)
46	GDP	XG	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.28	4 (13%)
44	GTP	WF	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.68	7 (21%)
44	GTP	ZJ	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.69	7 (21%)
46	GDP	RG	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.29	4 (13%)
44	GTP	XF	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.54	8 (25%)
44	GTP	SL	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.66	7 (21%)
46	GDP	QG	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.32	4 (13%)
46	GDP	NC	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.25	4 (13%)
46	GDP	WK	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.23	4 (13%)
46	GDP	PM	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.24	3 (10%)
46	GDP	OK	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.30	4 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
46	GDP	RM	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.34	4 (13%)
46	GDP	XC	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.31	4 (13%)
44	GTP	ZN	501	45	26,34,34	1.14	2 (7%)	32,54,54	1.61	7 (21%)
44	GTP	VH	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.60	7 (21%)
46	GDP	SI	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.30	5 (16%)
44	GTP	YN	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.65	8 (25%)
46	GDP	OO	501	-	24,30,30	0.92	1 (4%)	30,47,47	1.34	5 (16%)
44	GTP	OL	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.59	8 (25%)
44	GTP	YD	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.60	8 (25%)
44	GTP	ZP	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.64	7 (21%)
44	GTP	WB	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.59	7 (21%)
46	GDP	YE	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.30	4 (13%)
44	GTP	NH	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.63	7 (21%)
44	GTP	RN	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.62	6 (18%)
46	GDP	ZM	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.27	4 (13%)
44	GTP	WH	501	45	26,34,34	1.18	2 (7%)	32,54,54	1.61	7 (21%)
43	ANP	C2	2001	-	29,33,33	1.09	4 (13%)	31,52,52	1.13	3 (9%)
44	GTP	ZB	501	45	26,34,34	1.16	2 (7%)	32,54,54	1.62	7 (21%)
46	GDP	VI	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.31	4 (13%)
46	GDP	WC	501	-	24,30,30	0.97	1 (4%)	30,47,47	1.28	4 (13%)
46	GDP	ZG	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.26	4 (13%)
44	GTP	VD	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.58	7 (21%)
43	ANP	C1	2001	-	29,33,33	1.10	3 (10%)	31,52,52	1.28	2 (6%)
44	GTP	RH	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.55	7 (21%)
46	GDP	NE	501	-	24,30,30	0.99	1 (4%)	30,47,47	1.24	4 (13%)
46	GDP	WE	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.31	3 (10%)
46	GDP	XE	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.27	4 (13%)
44	GTP	UH	501	45	26,34,34	1.17	2 (7%)	32,54,54	1.64	7 (21%)
44	GTP	QF	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.66	7 (21%)
44	GTP	UP	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.63	7 (21%)
46	GDP	UK	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.25	4 (13%)
46	GDP	WG	502	-	24,30,30	0.94	1 (4%)	30,47,47	1.28	4 (13%)
44	GTP	OD	501	45	26,34,34	1.15	2 (7%)	32,54,54	1.68	7 (21%)
46	GDP	UM	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.22	4 (13%)
46	GDP	WO	501	-	24,30,30	0.95	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
46	GDP	SE	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.30	4 (13%)
46	GDP	WA	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.28	3 (10%)
43	ANP	C3	2001	-	29,33,33	1.11	5 (17%)	31,52,52	1.25	2 (6%)
46	GDP	YK	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.28	4 (13%)

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
44	GTP	OH	501	45	-	4/18/38/38	0/3/3/3
46	GDP	ZO	501	-	-	2/12/32/32	0/3/3/3
44	GTP	YL	501	45	-	4/18/38/38	0/3/3/3
46	GDP	RI	502	-	-	0/12/32/32	0/3/3/3
46	GDP	UC	501	-	-	1/12/32/32	0/3/3/3
44	GTP	RP	501	45	-	5/18/38/38	0/3/3/3
44	GTP	VB	501	45	-	3/18/38/38	0/3/3/3
46	GDP	RK	501	-	-	1/12/32/32	0/3/3/3
46	GDP	QK	501	-	-	0/12/32/32	0/3/3/3
44	GTP	OF	501	45	-	2/18/38/38	0/3/3/3
44	GTP	NF	501	45	-	1/18/38/38	0/3/3/3
44	GTP	PF	501	45	-	5/18/38/38	0/3/3/3
46	GDP	TC	501	-	-	1/12/32/32	0/3/3/3
46	GDP	SK	501	-	-	1/12/32/32	0/3/3/3
44	GTP	SB	501	45	-	3/18/38/38	0/3/3/3
46	GDP	UO	501	-	-	2/12/32/32	0/3/3/3
44	GTP	XN	501	45	-	2/18/38/38	0/3/3/3
46	GDP	TE	501	-	-	1/12/32/32	0/3/3/3
46	GDP	PG	501	-	-	0/12/32/32	0/3/3/3
46	GDP	XK	501	-	-	1/12/32/32	0/3/3/3
44	GTP	ND	501	45	-	7/18/38/38	0/3/3/3
44	GTP	TD	501	45	-	3/18/38/38	0/3/3/3
46	GDP	VG	501	-	-	2/12/32/32	0/3/3/3
44	GTP	UD	501	45	-	4/18/38/38	0/3/3/3
44	GTP	XJ	501	45	-	1/18/38/38	0/3/3/3
44	GTP	WJ	501	45	-	7/18/38/38	0/3/3/3
46	GDP	VK	501	-	-	0/12/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
44	GTP	QL	501	45	-	4/18/38/38	0/3/3/3
44	GTP	TL	501	45	-	3/18/38/38	0/3/3/3
44	GTP	YB	501	45	-	7/18/38/38	0/3/3/3
46	GDP	OC	501	-	-	2/12/32/32	0/3/3/3
46	GDP	QC	501	-	-	0/12/32/32	0/3/3/3
46	GDP	NM	501	-	-	1/12/32/32	0/3/3/3
46	GDP	ZC	501	-	-	0/12/32/32	0/3/3/3
44	GTP	OJ	501	45	-	4/18/38/38	0/3/3/3
44	GTP	XH	501	45	-	6/18/38/38	0/3/3/3
42	ADP	1A	2601	-	-	7/12/32/32	0/3/3/3
44	GTP	PD	501	45	-	3/18/38/38	0/3/3/3
46	GDP	NI	501	-	-	1/12/32/32	0/3/3/3
44	GTP	YF	501	45	-	5/18/38/38	0/3/3/3
44	GTP	UB	501	45	-	2/18/38/38	0/3/3/3
46	GDP	PC	501	-	-	1/12/32/32	0/3/3/3
44	GTP	QP	501	45	-	7/18/38/38	0/3/3/3
46	GDP	SO	502	-	-	2/12/32/32	0/3/3/3
44	GTP	NJ	501	45	-	6/18/38/38	0/3/3/3
44	GTP	XD	501	45	-	0/18/38/38	0/3/3/3
44	GTP	OP	501	45	-	4/18/38/38	0/3/3/3
44	GTP	TH	501	45	-	5/18/38/38	0/3/3/3
44	GTP	YJ	501	45	-	5/18/38/38	0/3/3/3
44	GTP	TB	501	45	-	4/18/38/38	0/3/3/3
44	GTP	TJ	501	45	-	5/18/38/38	0/3/3/3
46	GDP	VC	501	-	-	0/12/32/32	0/3/3/3
44	GTP	PH	501	45	-	8/18/38/38	0/3/3/3
46	GDP	OG	501	-	-	0/12/32/32	0/3/3/3
46	GDP	QQ	501	-	-	1/12/32/32	0/3/3/3
46	GDP	ZK	501	-	-	1/12/32/32	0/3/3/3
44	GTP	ZF	501	45	-	4/18/38/38	0/3/3/3
46	GDP	YO	501	-	-	3/12/32/32	0/3/3/3
46	GDP	QM	501	-	-	2/12/32/32	0/3/3/3
44	GTP	TF	501	45	-	2/18/38/38	0/3/3/3
44	GTP	SD	501	45	-	7/18/38/38	0/3/3/3
44	GTP	RJ	501	45	-	7/18/38/38	0/3/3/3
44	GTP	PN	501	45	-	4/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
46	GDP	UG	501	-	-	0/12/32/32	0/3/3/3
42	ADP	1B	2601	-	-	7/12/32/32	0/3/3/3
46	GDP	SC	502	-	-	1/12/32/32	0/3/3/3
44	GTP	VL	501	45	-	4/18/38/38	0/3/3/3
44	GTP	VF	501	45	-	3/18/38/38	0/3/3/3
46	GDP	XO	501	-	-	2/12/32/32	0/3/3/3
46	GDP	WI	501	-	-	0/12/32/32	0/3/3/3
44	GTP	NN	501	45	-	4/18/38/38	0/3/3/3
44	GTP	UJ	501	45	-	3/18/38/38	0/3/3/3
44	GTP	UN	501	45	-	4/18/38/38	0/3/3/3
46	GDP	TK	501	-	-	3/12/32/32	0/3/3/3
44	GTP	YH	501	45	-	4/18/38/38	0/3/3/3
46	GDP	SG	502	-	-	2/12/32/32	0/3/3/3
46	GDP	XM	502	-	-	2/12/32/32	0/3/3/3
44	GTP	NB	501	45	-	6/18/38/38	0/3/3/3
44	GTP	PP	501	45	-	9/18/38/38	0/3/3/3
46	GDP	PI	502	-	-	0/12/32/32	0/3/3/3
46	GDP	OI	501	-	-	2/12/32/32	0/3/3/3
46	GDP	TG	502	-	-	0/12/32/32	0/3/3/3
44	GTP	ZH	501	45	-	4/18/38/38	0/3/3/3
44	GTP	PL	501	45	-	2/18/38/38	0/3/3/3
43	ANP	1B	2602	-	-	10/14/38/38	0/3/3/3
42	ADP	1D	2601	-	-	6/12/32/32	0/3/3/3
44	GTP	SF	501	45	-	5/18/38/38	0/3/3/3
44	GTP	QN	501	45	-	6/18/38/38	0/3/3/3
46	GDP	YM	501	-	-	2/12/32/32	0/3/3/3
46	GDP	ZI	501	-	-	0/12/32/32	0/3/3/3
46	GDP	TO	501	-	-	0/12/32/32	0/3/3/3
46	GDP	XA	501	-	-	1/12/32/32	0/3/3/3
46	GDP	VE	501	-	-	0/12/32/32	0/3/3/3
46	GDP	RE	501	-	-	3/12/32/32	0/3/3/3
46	GDP	YG	501	-	-	1/12/32/32	0/3/3/3
44	GTP	QH	501	45	-	5/18/38/38	0/3/3/3
42	ADP	1C	2601	-	-	7/12/32/32	0/3/3/3
43	ANP	1C	2602	-	-	9/14/38/38	0/3/3/3
46	GDP	RO	501	-	-	2/12/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
44	GTP	SN	501	45	-	3/18/38/38	0/3/3/3
44	GTP	QD	501	45	-	4/18/38/38	0/3/3/3
44	GTP	UF	501	45	-	3/18/38/38	0/3/3/3
44	GTP	ZD	501	45	-	4/18/38/38	0/3/3/3
43	ANP	1D	2602	-	-	11/14/38/38	0/3/3/3
46	GDP	TM	502	-	-	0/12/32/32	0/3/3/3
44	GTP	VN	501	45	-	1/18/38/38	0/3/3/3
46	GDP	TI	501	-	-	2/12/32/32	0/3/3/3
44	GTP	TP	501	45	-	4/18/38/38	0/3/3/3
46	GDP	PO	501	-	-	1/12/32/32	0/3/3/3
46	GDP	UI	501	-	-	0/12/32/32	0/3/3/3
46	GDP	NG	502	-	-	3/12/32/32	0/3/3/3
44	GTP	VP	501	45	-	3/18/38/38	0/3/3/3
43	ANP	C0	2001	-	-	2/14/38/38	0/3/3/3
44	GTP	ZL	501	45	-	1/18/38/38	0/3/3/3
46	GDP	OE	501	-	-	2/12/32/32	0/3/3/3
46	GDP	ZE	501	-	-	1/12/32/32	0/3/3/3
44	GTP	XL	501	45	-	6/18/38/38	0/3/3/3
44	GTP	PJ	501	45	-	4/18/38/38	0/3/3/3
44	GTP	SJ	501	45	-	0/18/38/38	0/3/3/3
44	GTP	WL	501	45	-	6/18/38/38	0/3/3/3
44	GTP	RF	501	45	-	4/18/38/38	0/3/3/3
46	GDP	NK	501	-	-	1/12/32/32	0/3/3/3
44	GTP	VJ	501	45	-	6/18/38/38	0/3/3/3
46	GDP	PQ	501	-	-	1/12/32/32	0/3/3/3
46	GDP	QI	501	-	-	1/12/32/32	0/3/3/3
44	GTP	QJ	501	45	-	1/18/38/38	0/3/3/3
46	GDP	OM	501	-	-	2/12/32/32	0/3/3/3
46	GDP	QE	501	-	-	2/12/32/32	0/3/3/3
43	ANP	1A	2602	-	-	10/14/38/38	0/3/3/3
44	GTP	RD	501	45	-	3/18/38/38	0/3/3/3
46	GDP	VM	501	-	-	4/12/32/32	0/3/3/3
46	GDP	RC	501	-	-	0/12/32/32	0/3/3/3
46	GDP	YC	501	-	-	3/12/32/32	0/3/3/3
44	GTP	ON	501	45	-	3/18/38/38	0/3/3/3
46	GDP	NO	501	-	-	1/12/32/32	0/3/3/3
46	GDP	PK	501	-	-	3/12/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
44	GTP	WD	501	45	-	5/18/38/38	0/3/3/3
44	GTP	YP	501	45	-	4/18/38/38	0/3/3/3
46	GDP	YI	501	-	-	3/12/32/32	0/3/3/3
44	GTP	XB	501	45	-	2/18/38/38	0/3/3/3
46	GDP	XI	501	-	-	1/12/32/32	0/3/3/3
44	GTP	RL	501	45	-	4/18/38/38	0/3/3/3
46	GDP	PE	501	-	-	2/12/32/32	0/3/3/3
46	GDP	UE	501	-	-	1/12/32/32	0/3/3/3
44	GTP	SP	501	45	-	2/18/38/38	0/3/3/3
44	GTP	SH	501	45	-	7/18/38/38	0/3/3/3
46	GDP	WM	501	-	-	0/12/32/32	0/3/3/3
44	GTP	WN	501	45	-	7/18/38/38	0/3/3/3
44	GTP	TN	501	45	-	2/18/38/38	0/3/3/3
44	GTP	NL	501	45	-	4/18/38/38	0/3/3/3
44	GTP	UL	501	45	-	7/18/38/38	0/3/3/3
46	GDP	QO	501	-	-	1/12/32/32	0/3/3/3
46	GDP	SM	501	-	-	0/12/32/32	0/3/3/3
46	GDP	OQ	501	-	-	1/12/32/32	0/3/3/3
46	GDP	VO	501	-	-	2/12/32/32	0/3/3/3
46	GDP	XG	501	-	-	3/12/32/32	0/3/3/3
44	GTP	WF	501	45	-	3/18/38/38	0/3/3/3
44	GTP	ZJ	501	45	-	4/18/38/38	0/3/3/3
46	GDP	RG	501	-	-	2/12/32/32	0/3/3/3
44	GTP	XF	501	45	-	4/18/38/38	0/3/3/3
44	GTP	SL	501	45	-	2/18/38/38	0/3/3/3
46	GDP	QG	501	-	-	1/12/32/32	0/3/3/3
46	GDP	NC	501	-	-	2/12/32/32	0/3/3/3
46	GDP	WK	501	-	-	0/12/32/32	0/3/3/3
46	GDP	PM	501	-	-	0/12/32/32	0/3/3/3
46	GDP	OK	501	-	-	2/12/32/32	0/3/3/3
46	GDP	RM	501	-	-	3/12/32/32	0/3/3/3
46	GDP	XC	501	-	-	2/12/32/32	0/3/3/3
44	GTP	ZN	501	45	-	6/18/38/38	0/3/3/3
44	GTP	VH	501	45	-	4/18/38/38	0/3/3/3
46	GDP	SI	501	-	-	0/12/32/32	0/3/3/3
44	GTP	YN	501	45	-	2/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
46	GDP	OO	501	-	-	2/12/32/32	0/3/3/3
44	GTP	OL	501	45	-	6/18/38/38	0/3/3/3
44	GTP	YD	501	45	-	1/18/38/38	0/3/3/3
44	GTP	ZP	501	45	-	4/18/38/38	0/3/3/3
44	GTP	WB	501	45	-	3/18/38/38	0/3/3/3
46	GDP	YE	501	-	-	2/12/32/32	0/3/3/3
44	GTP	NH	501	45	-	6/18/38/38	0/3/3/3
44	GTP	RN	501	45	-	4/18/38/38	0/3/3/3
46	GDP	ZM	501	-	-	2/12/32/32	0/3/3/3
44	GTP	WH	501	45	-	6/18/38/38	0/3/3/3
43	ANP	C2	2001	-	-	2/14/38/38	0/3/3/3
44	GTP	ZB	501	45	-	4/18/38/38	0/3/3/3
46	GDP	VI	501	-	-	4/12/32/32	0/3/3/3
46	GDP	WC	501	-	-	4/12/32/32	0/3/3/3
46	GDP	ZG	501	-	-	2/12/32/32	0/3/3/3
44	GTP	VD	501	45	-	3/18/38/38	0/3/3/3
43	ANP	C1	2001	-	-	3/14/38/38	0/3/3/3
44	GTP	RH	501	45	-	6/18/38/38	0/3/3/3
46	GDP	NE	501	-	-	1/12/32/32	0/3/3/3
46	GDP	WE	501	-	-	2/12/32/32	0/3/3/3
46	GDP	XE	501	-	-	1/12/32/32	0/3/3/3
44	GTP	UH	501	45	-	4/18/38/38	0/3/3/3
44	GTP	QF	501	45	-	3/18/38/38	0/3/3/3
44	GTP	UP	501	45	-	4/18/38/38	0/3/3/3
46	GDP	UK	501	-	-	1/12/32/32	0/3/3/3
46	GDP	WG	502	-	-	0/12/32/32	0/3/3/3
44	GTP	OD	501	45	-	8/18/38/38	0/3/3/3
46	GDP	UM	501	-	-	0/12/32/32	0/3/3/3
46	GDP	WO	501	-	-	0/12/32/32	0/3/3/3
46	GDP	SE	501	-	-	2/12/32/32	0/3/3/3
46	GDP	WA	501	-	-	2/12/32/32	0/3/3/3
43	ANP	C3	2001	-	-	5/14/38/38	0/3/3/3
46	GDP	YK	501	-	-	0/12/32/32	0/3/3/3

The worst 5 of 327 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	VP	501	GTP	C5-C6	-4.29	1.38	1.47
44	RL	501	GTP	C5-C6	-4.27	1.38	1.47
44	XJ	501	GTP	C5-C6	-4.23	1.38	1.47
44	ZL	501	GTP	C5-C6	-4.22	1.38	1.47
44	QL	501	GTP	C5-C6	-4.21	1.38	1.47

The worst 5 of 1115 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
42	1B	2601	ADP	C4-C5-N7	-7.36	101.73	109.40
42	1A	2601	ADP	C4-C5-N7	-6.96	102.15	109.40
42	1D	2601	ADP	C4-C5-N7	-6.95	102.15	109.40
42	1C	2601	ADP	C4-C5-N7	-6.93	102.18	109.40
42	1B	2601	ADP	C5-C6-N6	5.61	128.87	120.35

There are no chirality outliers.

5 of 603 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
42	1A	2601	ADP	C5'-O5'-PA-O3A
42	1B	2601	ADP	C5'-O5'-PA-O3A
42	1C	2601	ADP	C5'-O5'-PA-O3A
42	1D	2601	ADP	C5'-O5'-PA-O1A
42	1D	2601	ADP	C5'-O5'-PA-O3A

There are no ring outliers.

112 monomers are involved in 178 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
44	OH	501	GTP	1	0
44	YL	501	GTP	1	0
44	VB	501	GTP	1	0
44	OF	501	GTP	1	0
44	PF	501	GTP	2	0
46	TC	501	GDP	2	0
44	XN	501	GTP	2	0
46	TE	501	GDP	2	0
46	PG	501	GDP	1	0
46	XK	501	GDP	1	0
44	UD	501	GTP	2	0
44	WJ	501	GTP	2	0
44	QL	501	GTP	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
44	TL	501	GTP	1	0
46	OC	501	GDP	1	0
46	NM	501	GDP	1	0
44	XH	501	GTP	2	0
42	1A	2601	ADP	2	0
46	NI	501	GDP	1	0
44	UB	501	GTP	2	0
46	PC	501	GDP	2	0
44	QP	501	GTP	1	0
46	SO	502	GDP	1	0
44	XD	501	GTP	1	0
44	OP	501	GTP	2	0
44	TH	501	GTP	1	0
44	TB	501	GTP	1	0
44	TJ	501	GTP	1	0
44	PH	501	GTP	1	0
46	QQ	501	GDP	1	0
44	ZF	501	GTP	1	0
46	YO	501	GDP	2	0
44	SD	501	GTP	1	0
44	RJ	501	GTP	1	0
44	PN	501	GTP	4	0
46	UG	501	GDP	1	0
42	1B	2601	ADP	2	0
44	VL	501	GTP	1	0
44	VF	501	GTP	1	0
46	XO	501	GDP	2	0
44	NN	501	GTP	4	0
46	TK	501	GDP	1	0
44	YH	501	GTP	1	0
46	XM	502	GDP	1	0
44	NB	501	GTP	2	0
46	PI	502	GDP	1	0
46	TG	502	GDP	1	0
43	1B	2602	ANP	4	0
42	1D	2601	ADP	1	0
44	SF	501	GTP	1	0
46	ZI	501	GDP	2	0
46	TO	501	GDP	2	0
46	VE	501	GDP	1	0
46	YG	501	GDP	1	0
44	QH	501	GTP	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
42	1C	2601	ADP	1	0
43	1C	2602	ANP	3	0
44	QD	501	GTP	1	0
44	UF	501	GTP	1	0
44	ZD	501	GTP	1	0
43	1D	2602	ANP	5	0
46	TM	502	GDP	3	0
44	VN	501	GTP	2	0
46	UI	501	GDP	1	0
44	VP	501	GTP	1	0
43	C0	2001	ANP	4	0
46	OE	501	GDP	4	0
46	ZE	501	GDP	1	0
44	PJ	501	GTP	3	0
44	WL	501	GTP	1	0
44	RF	501	GTP	1	0
46	OM	501	GDP	1	0
46	QE	501	GDP	1	0
43	1A	2602	ANP	3	0
46	VM	501	GDP	2	0
46	YC	501	GDP	2	0
44	ON	501	GTP	1	0
46	NO	501	GDP	1	0
46	PK	501	GDP	3	0
44	WD	501	GTP	2	0
44	XB	501	GTP	1	0
46	XI	501	GDP	1	0
44	RL	501	GTP	2	0
46	UE	501	GDP	1	0
44	WN	501	GTP	2	0
46	QO	501	GDP	1	0
46	QG	501	GDP	2	0
46	OK	501	GDP	1	0
46	XC	501	GDP	2	0
46	OO	501	GDP	1	0
44	OL	501	GTP	3	0
44	WB	501	GTP	1	0
46	YE	501	GDP	1	0
44	RN	501	GTP	1	0
46	ZM	501	GDP	1	0
44	WH	501	GTP	1	0
43	C2	2001	ANP	4	0

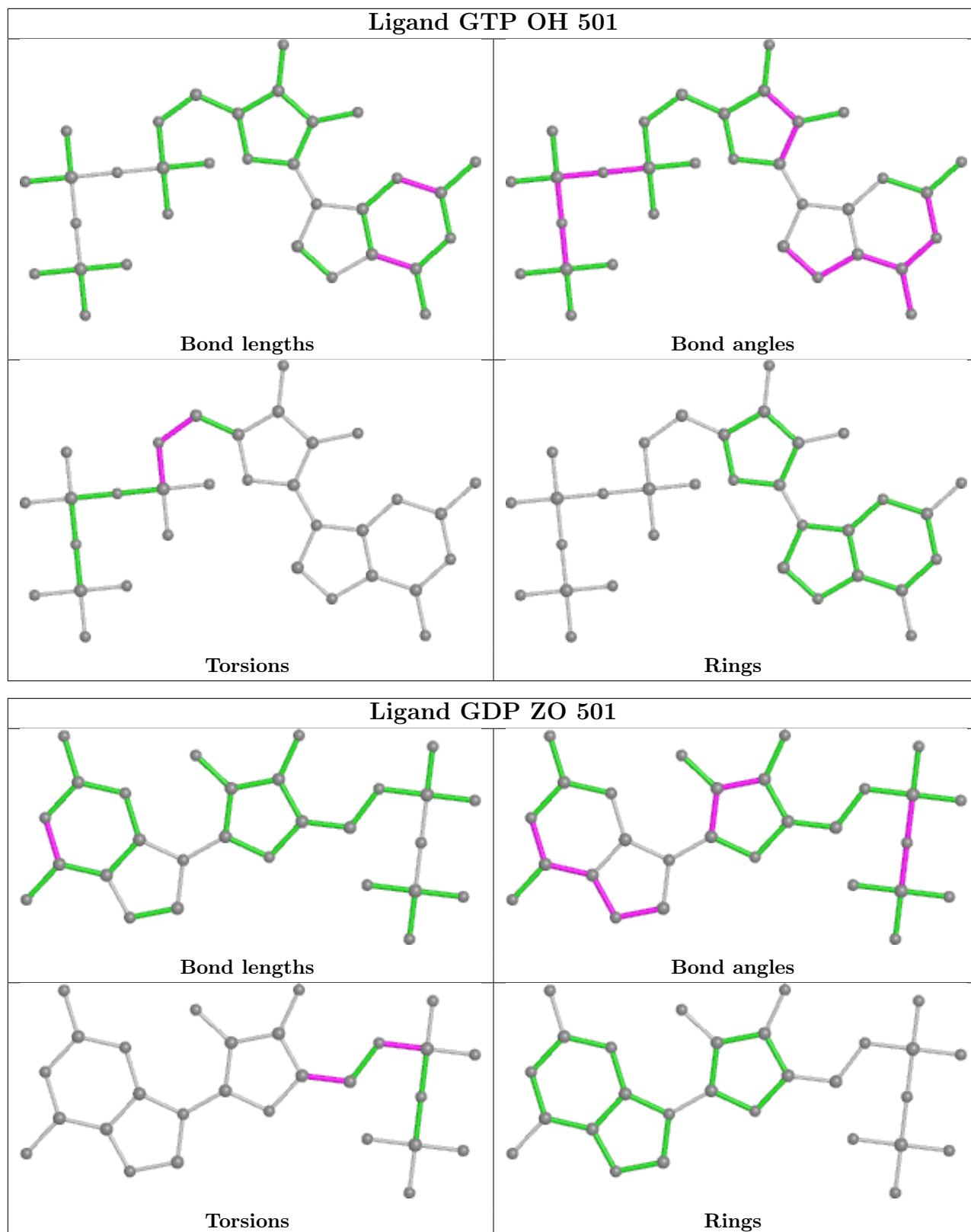
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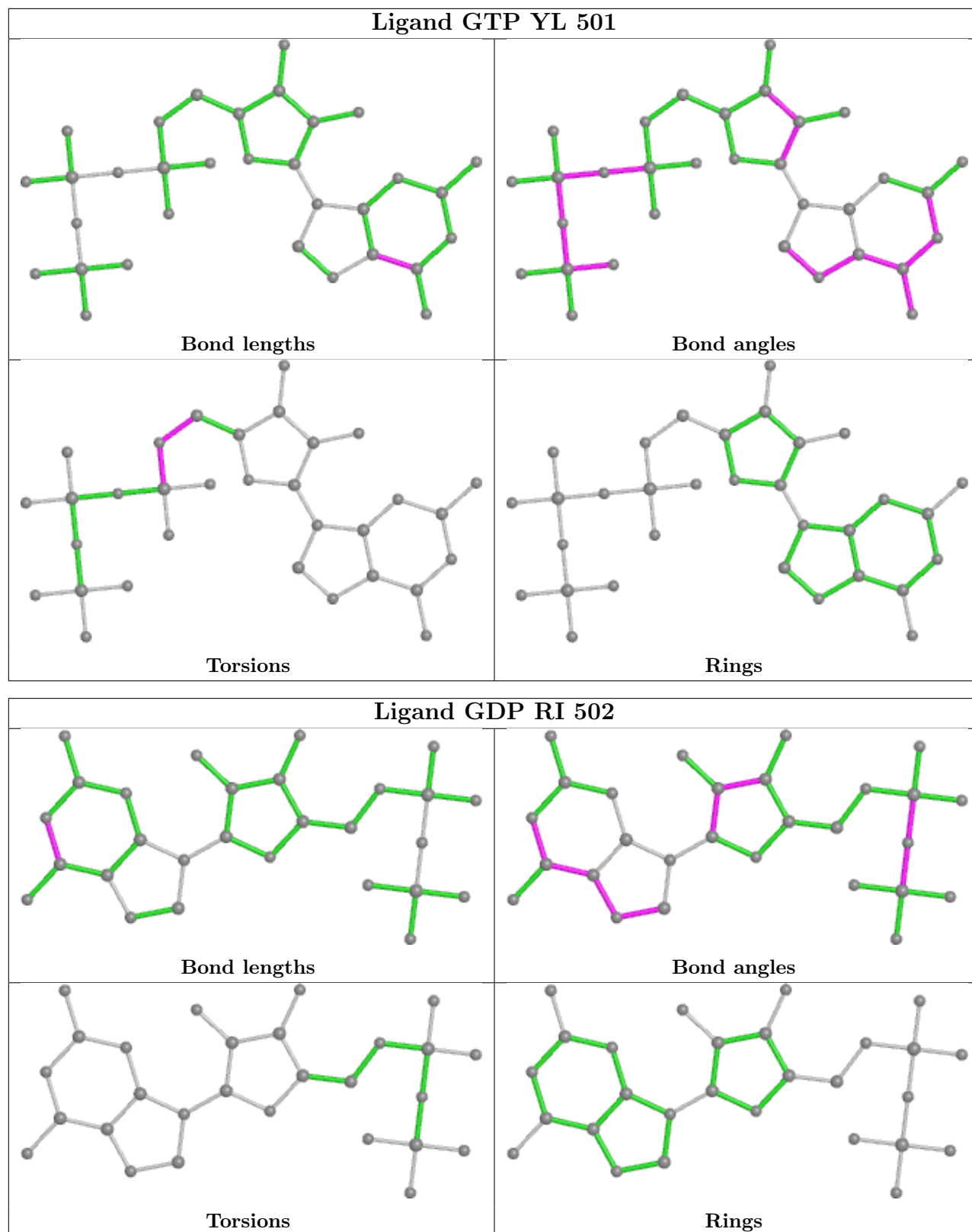
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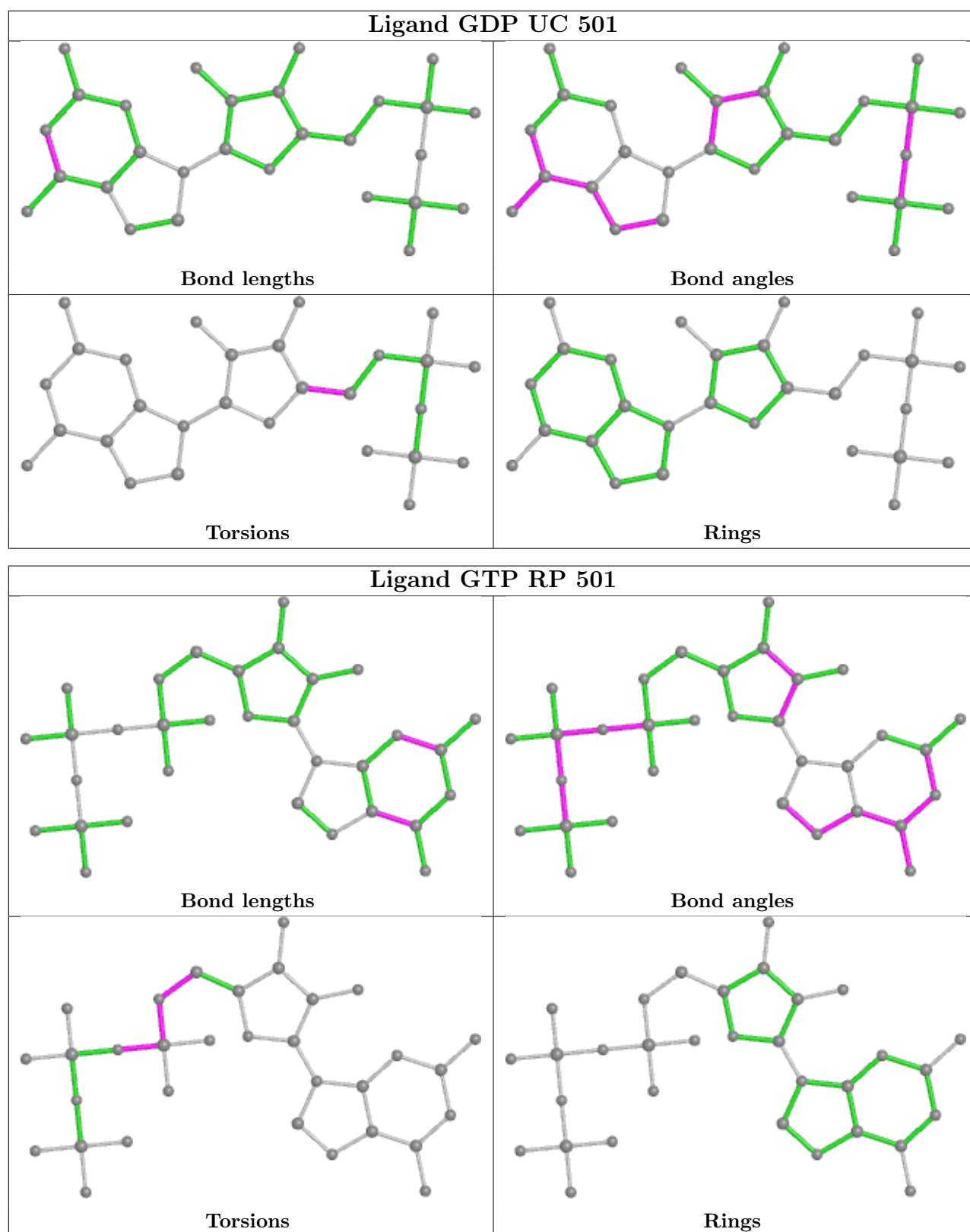
Mol	Chain	Res	Type	Clashes	Symm-Clashes
44	ZB	501	GTP	1	0
46	WC	501	GDP	1	0
46	ZG	501	GDP	1	0
44	VD	501	GTP	1	0
43	C1	2001	ANP	2	0
44	RH	501	GTP	1	0
46	NE	501	GDP	1	0
46	WE	501	GDP	2	0
46	XE	501	GDP	1	0
44	UH	501	GTP	2	0
44	UP	501	GTP	2	0
46	WG	502	GDP	1	0
46	UM	501	GDP	2	0
46	SE	501	GDP	1	0
43	C3	2001	ANP	3	0

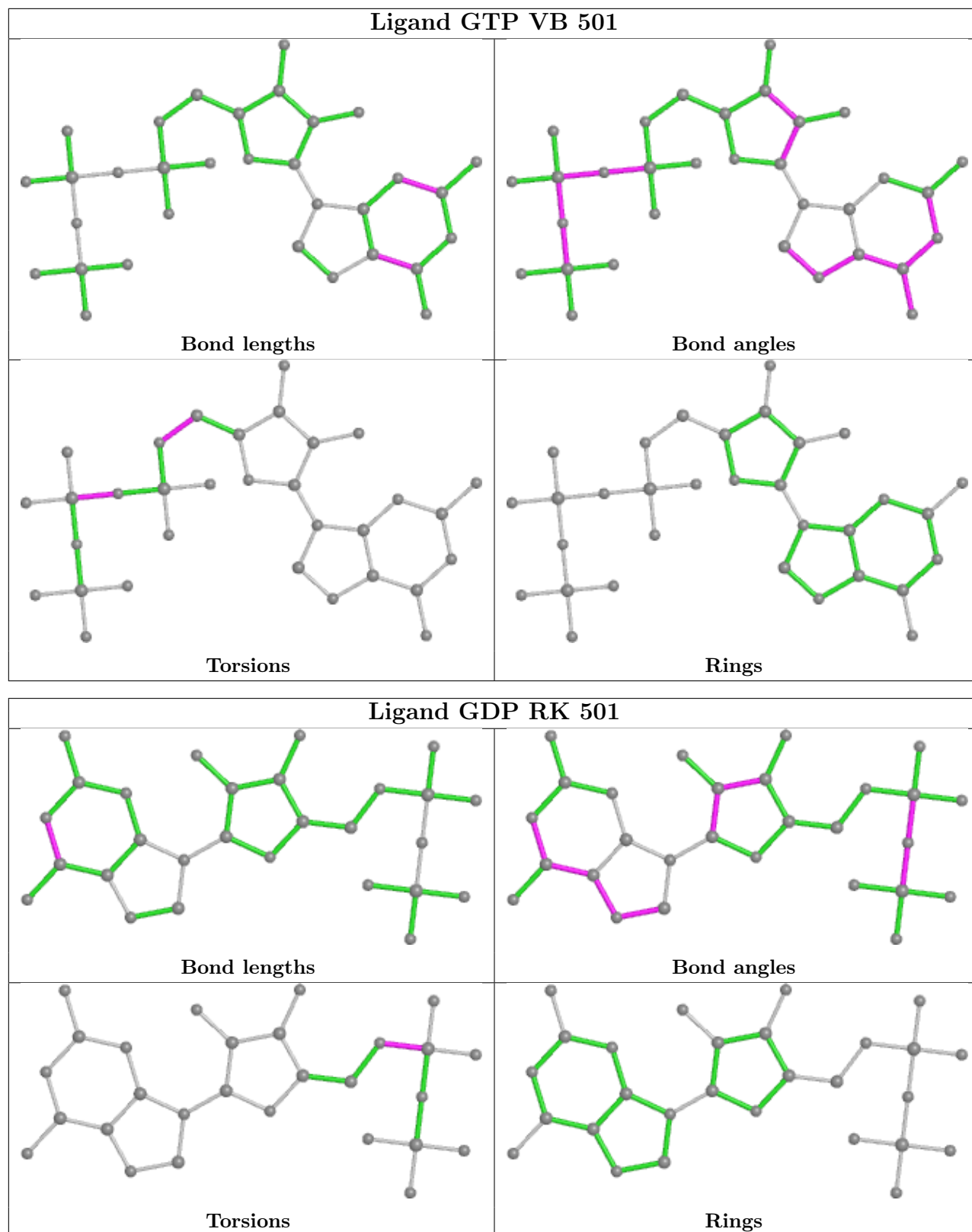
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

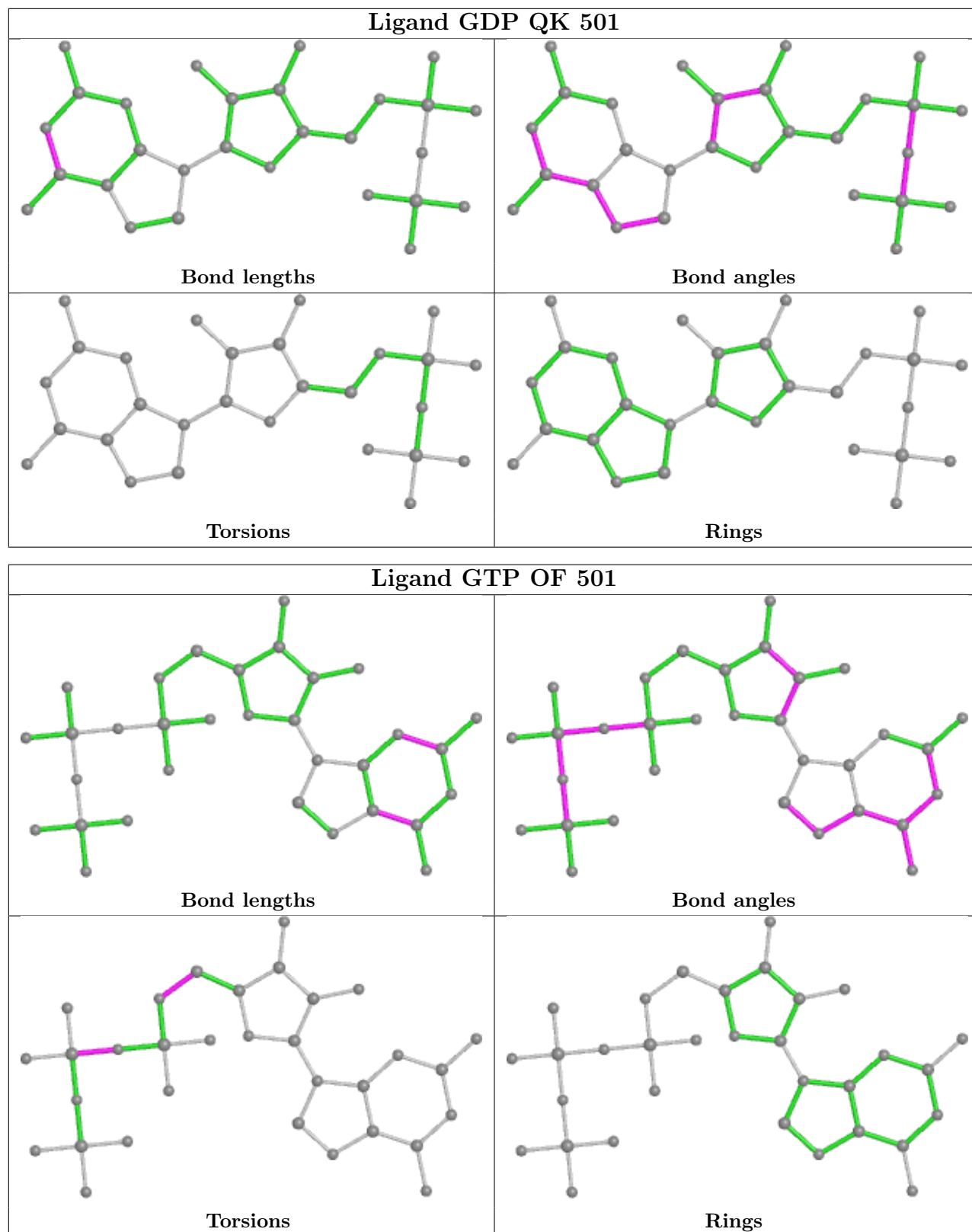


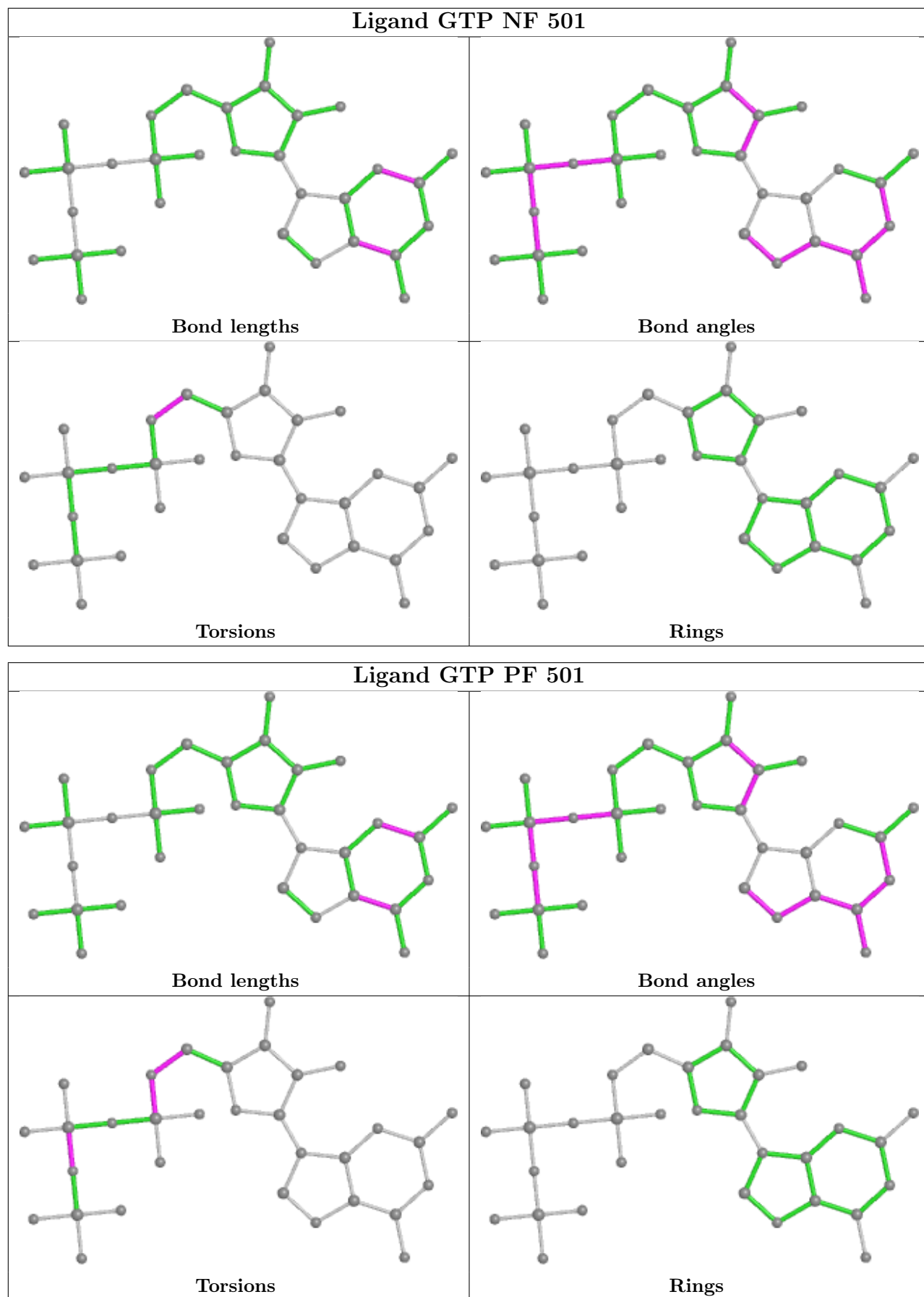


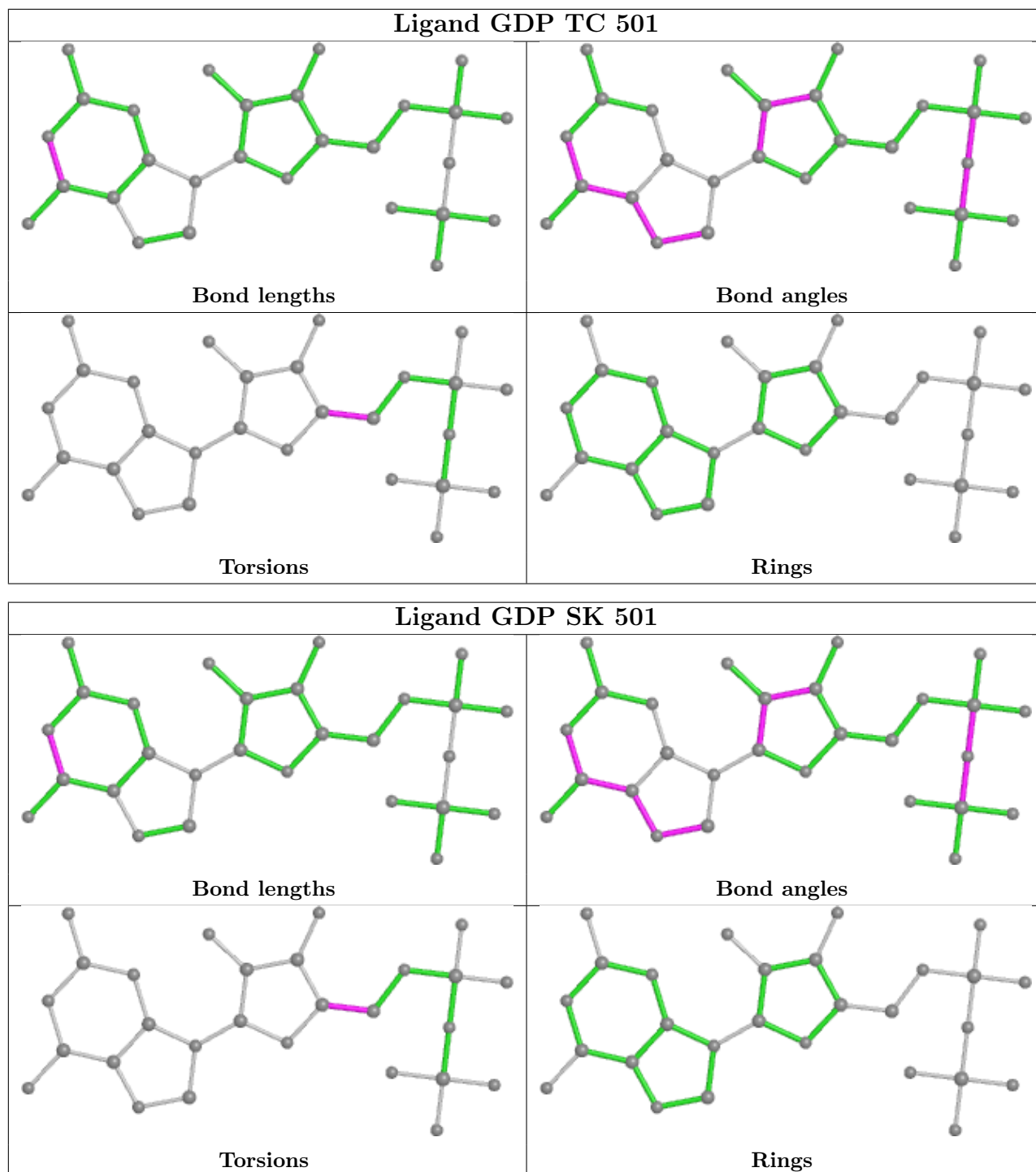


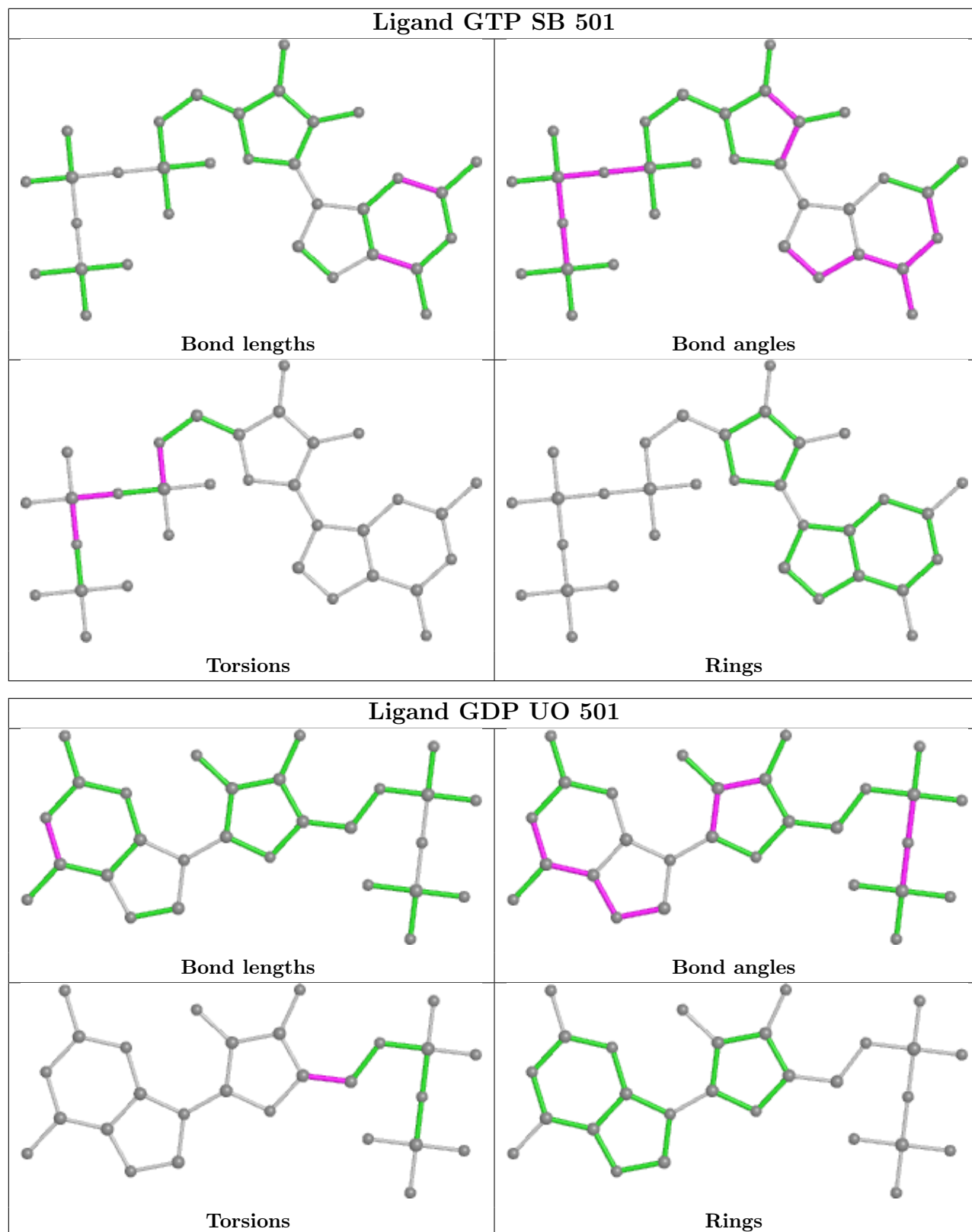




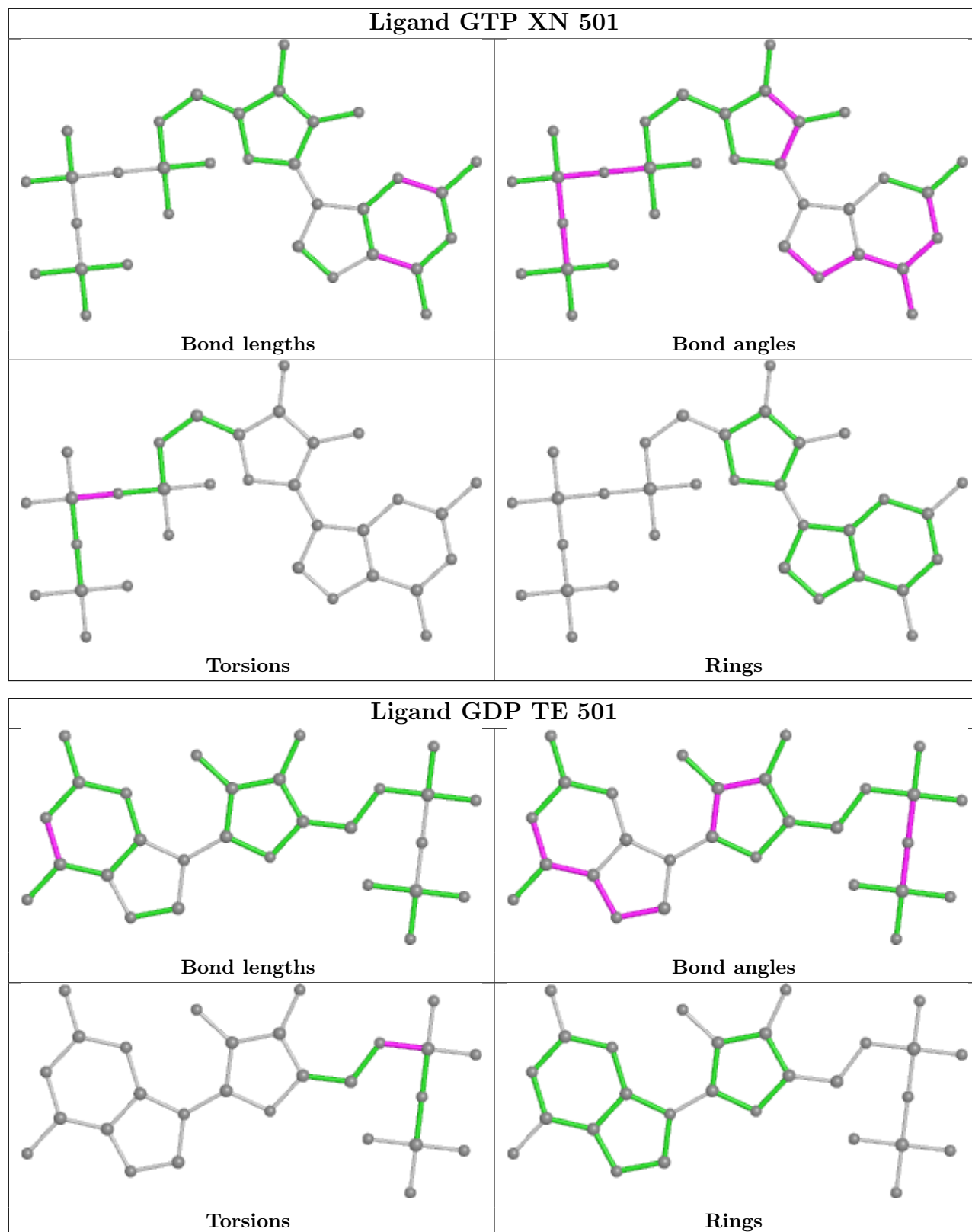


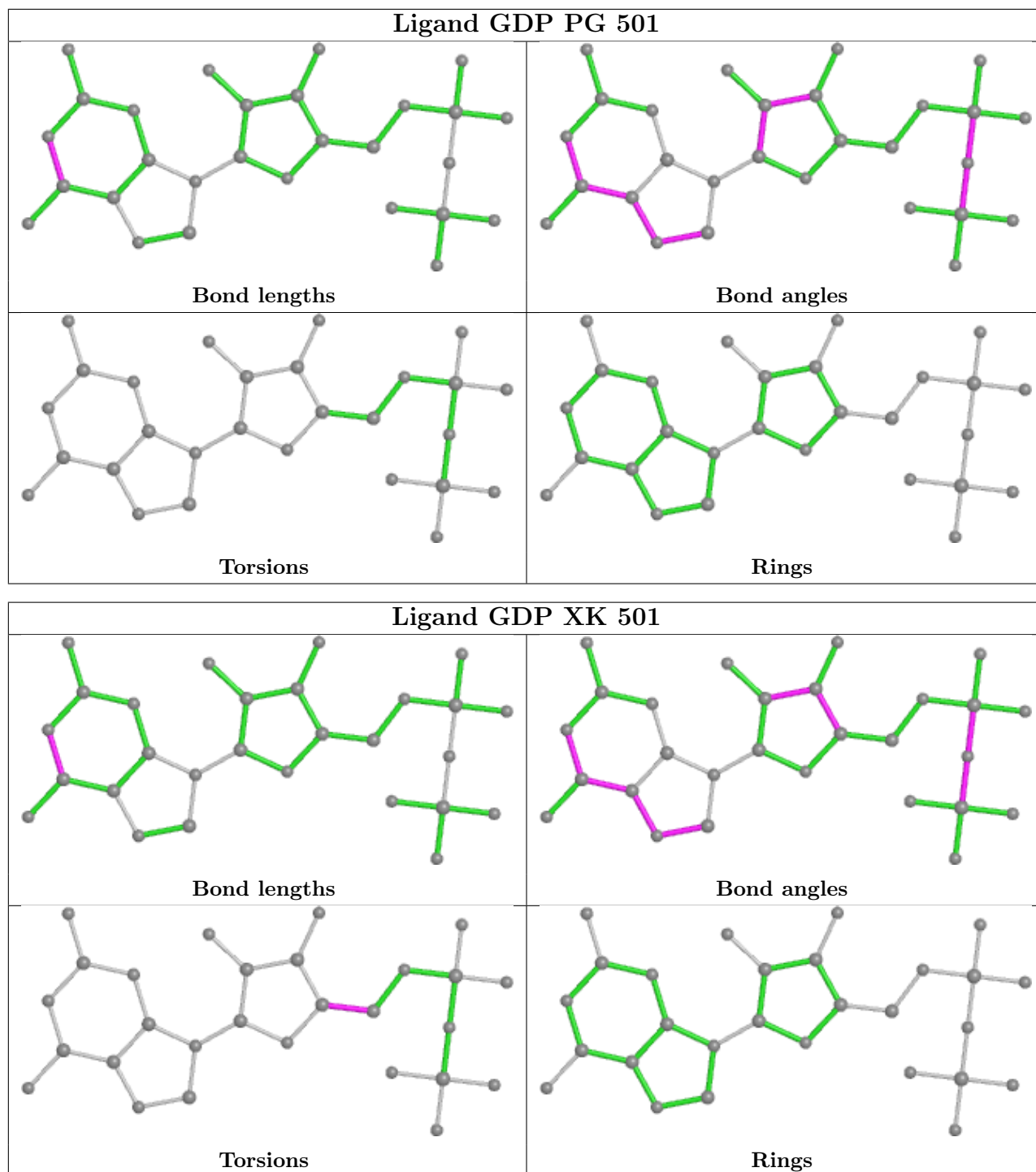


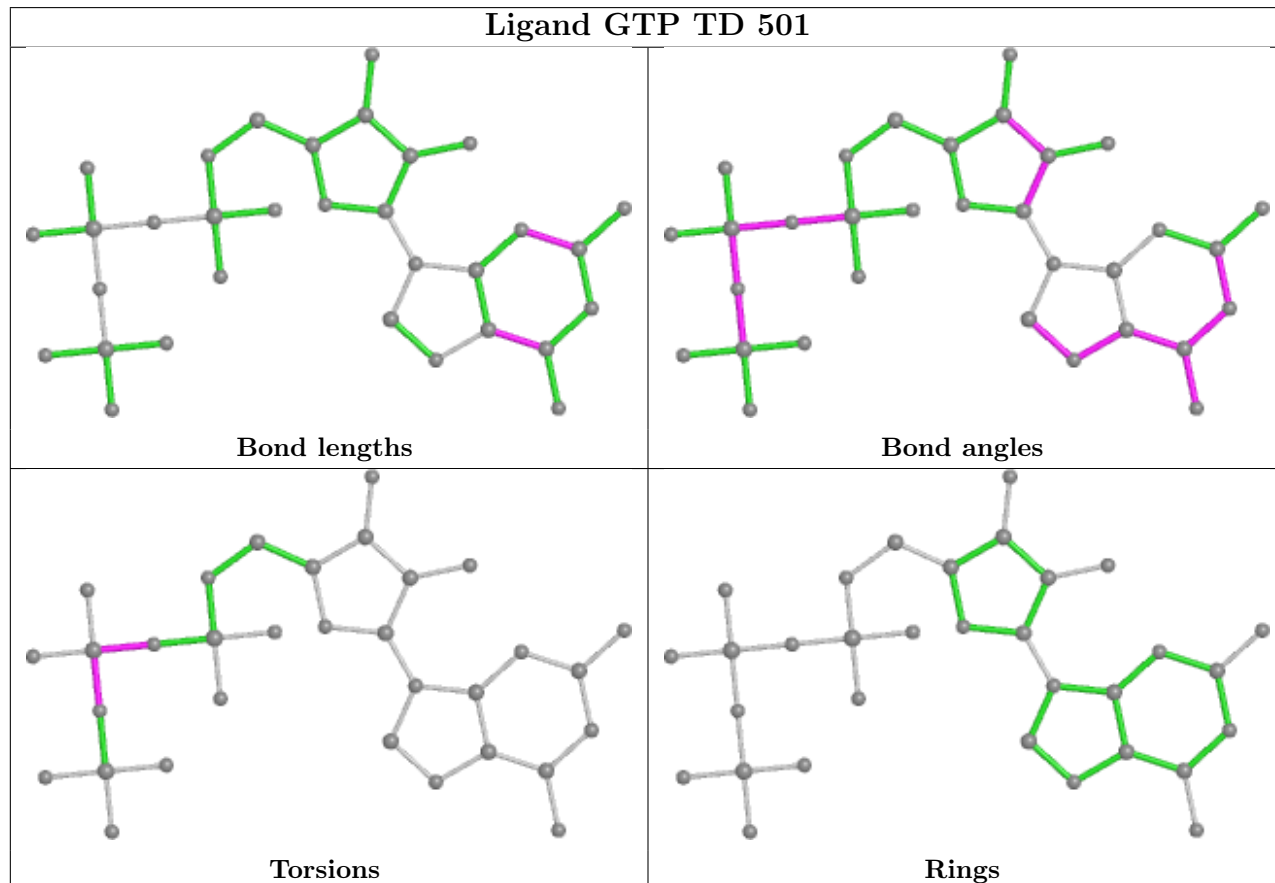
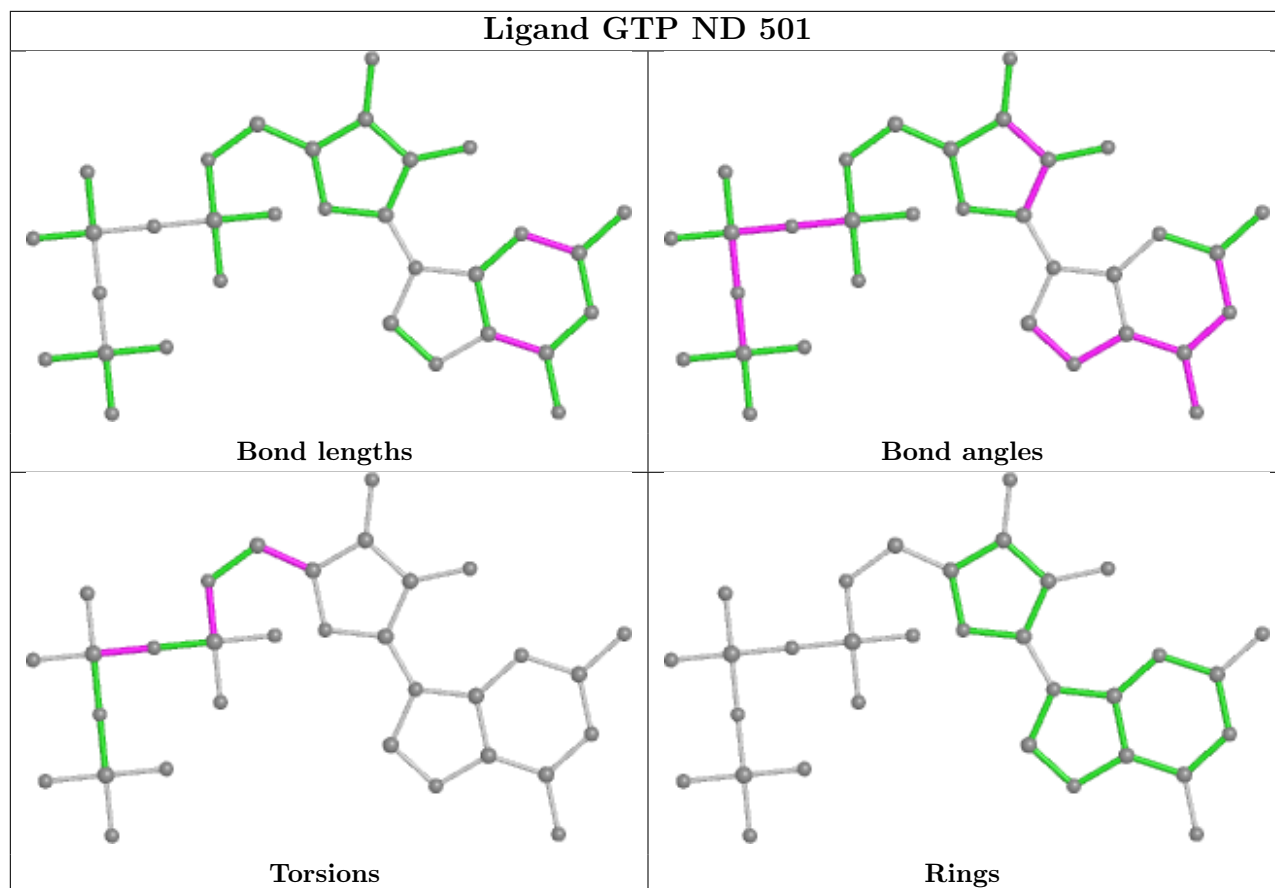


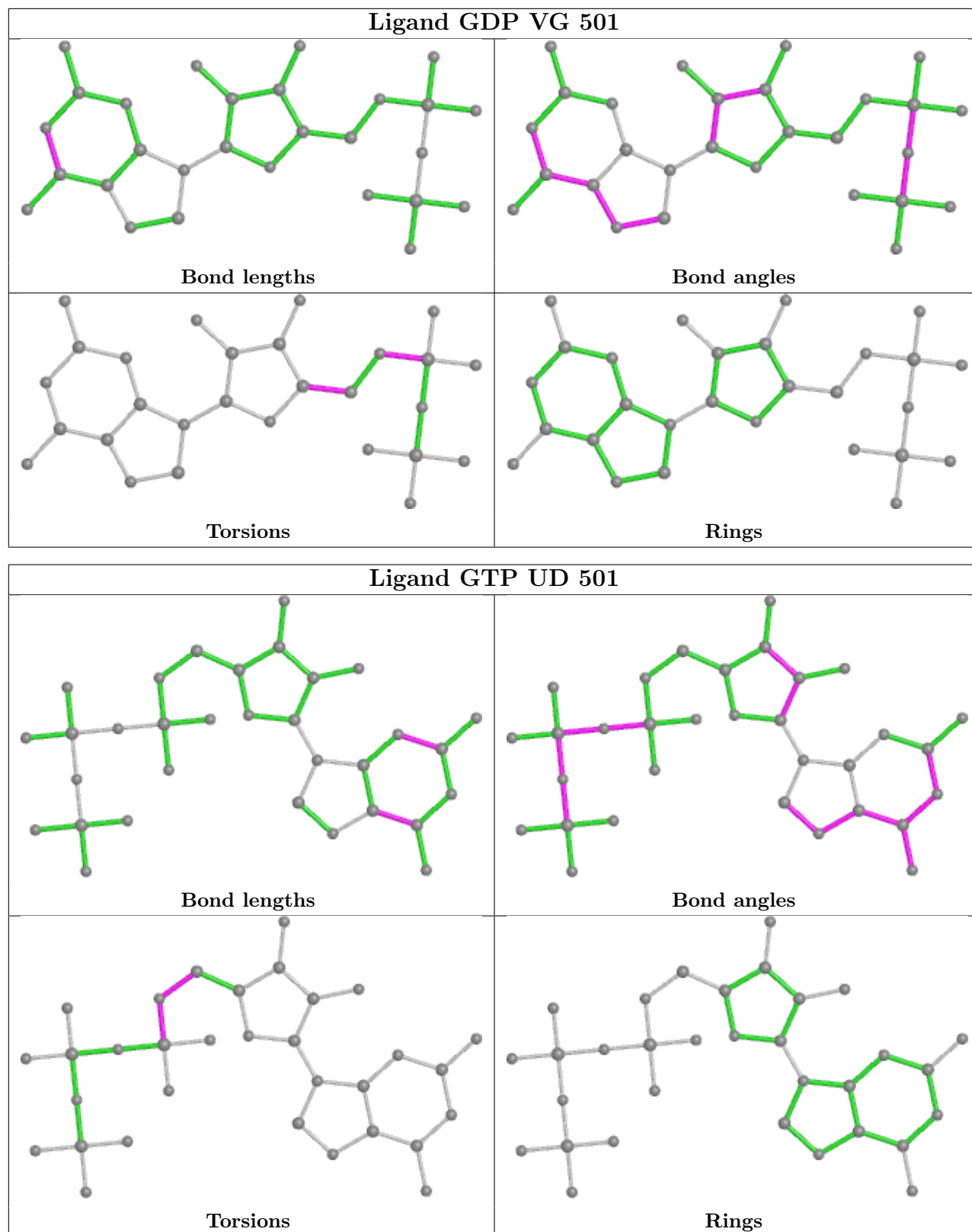


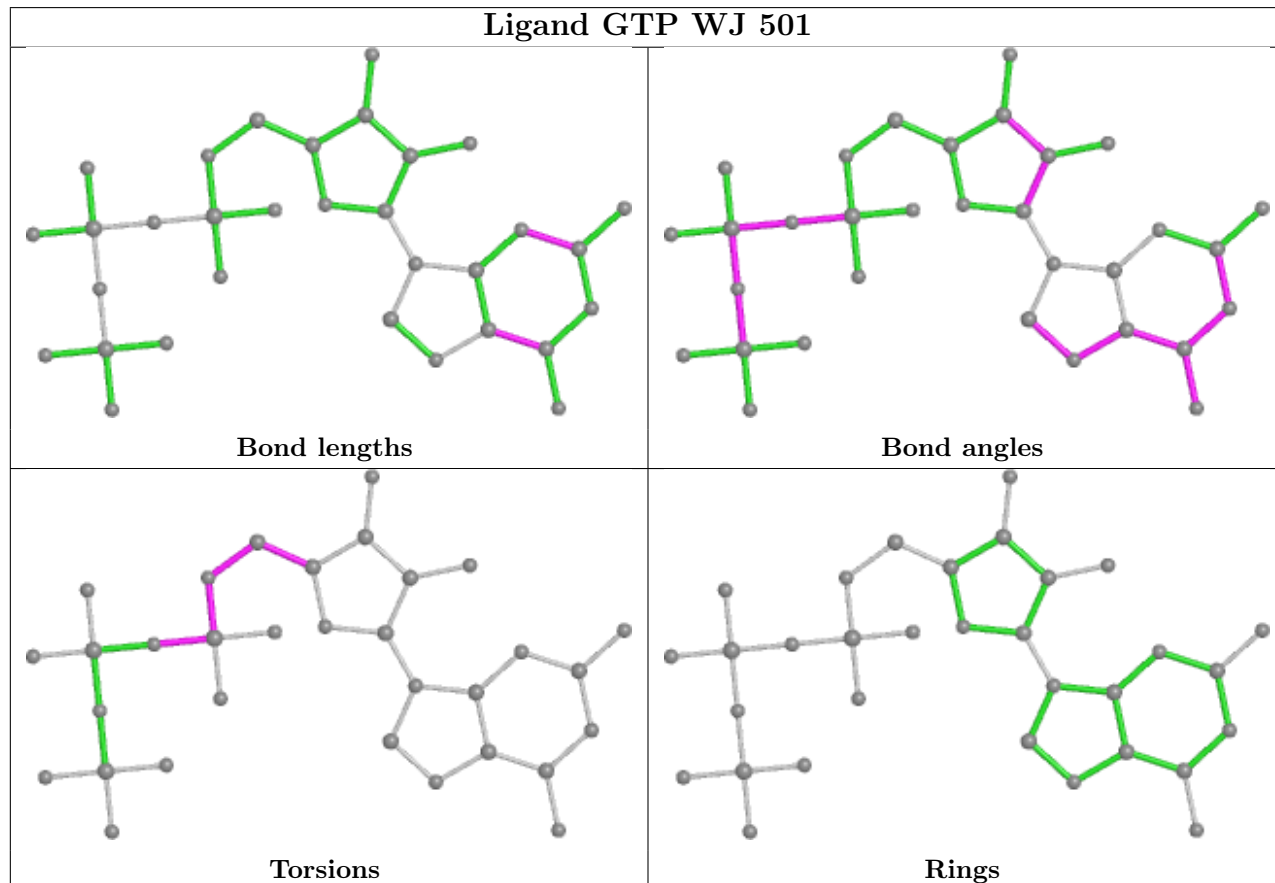
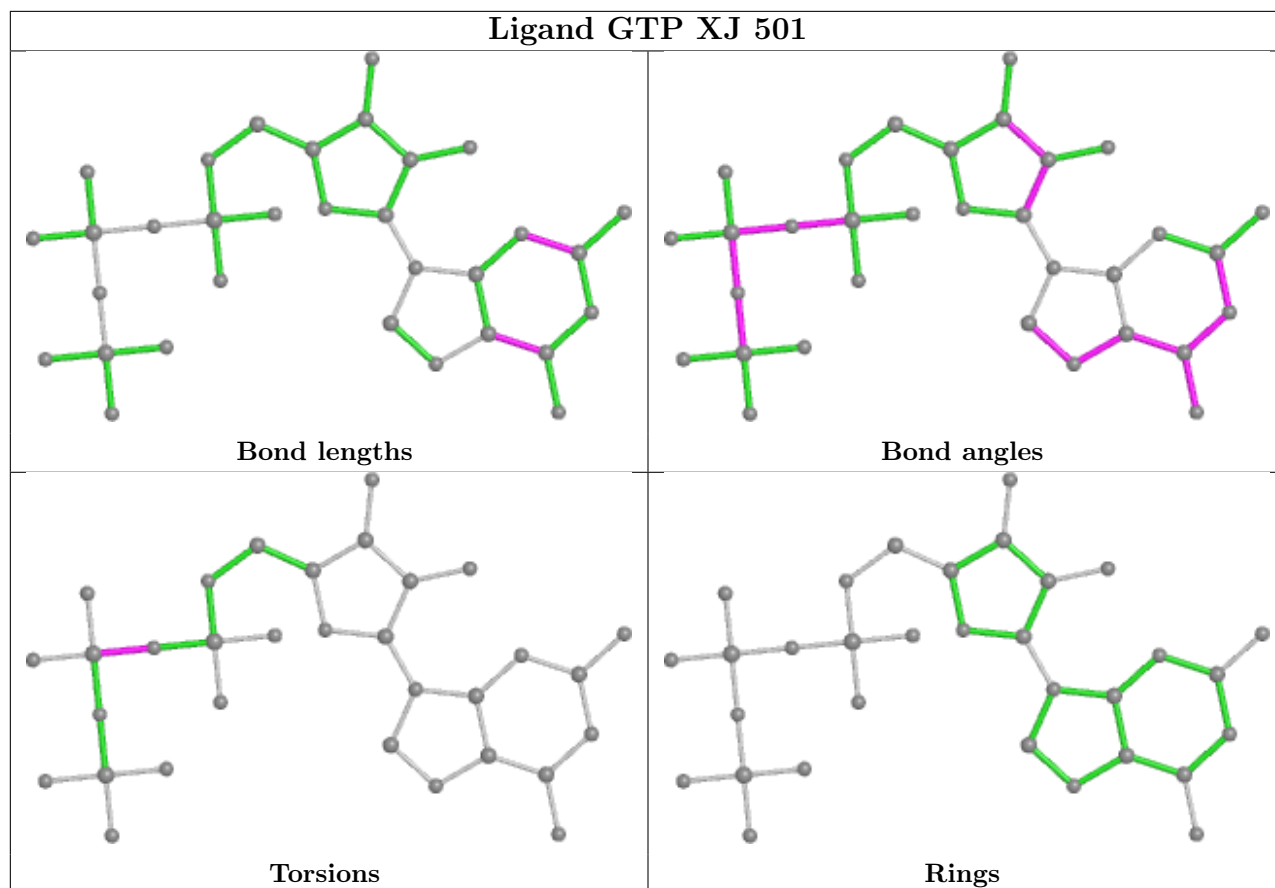


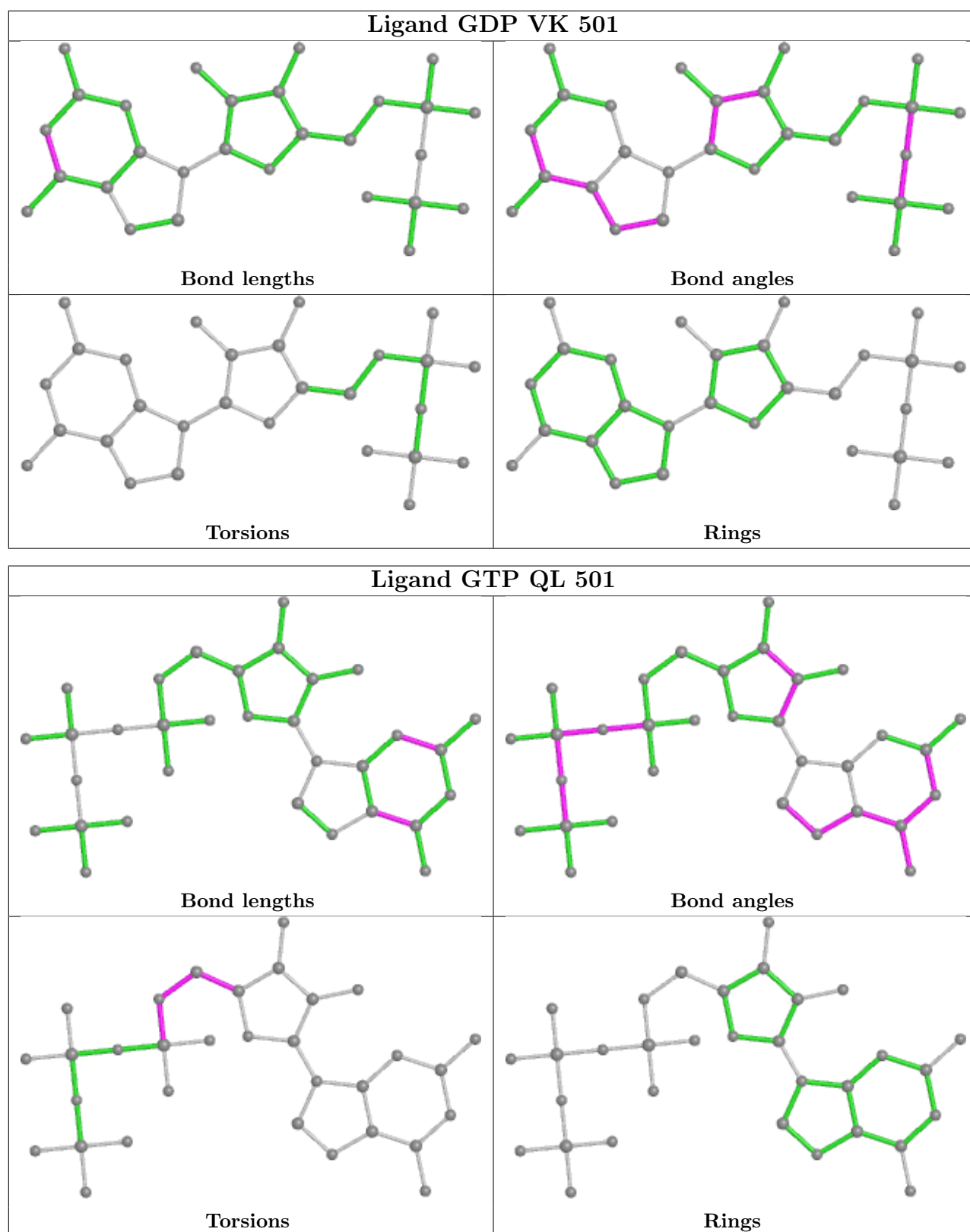


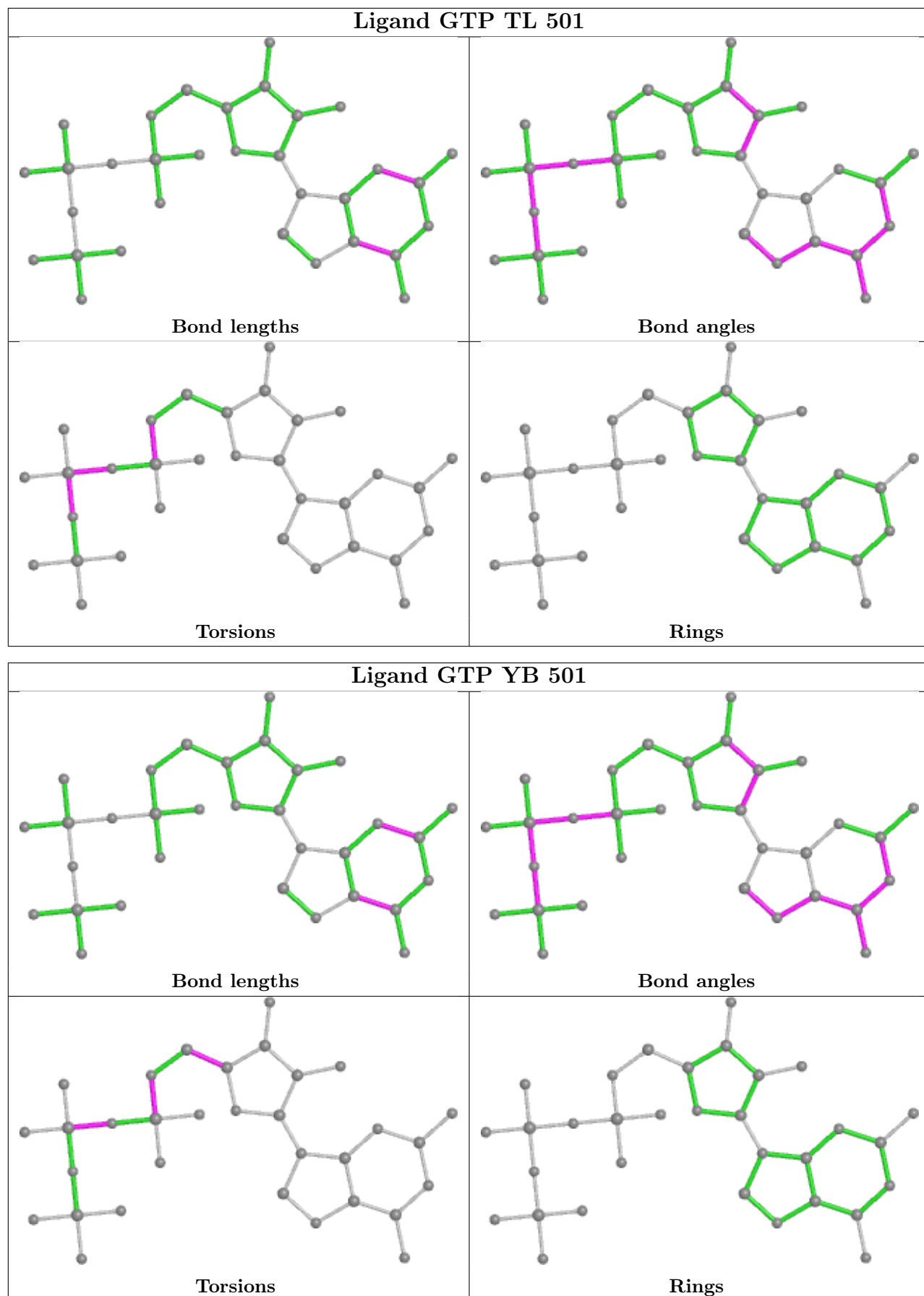


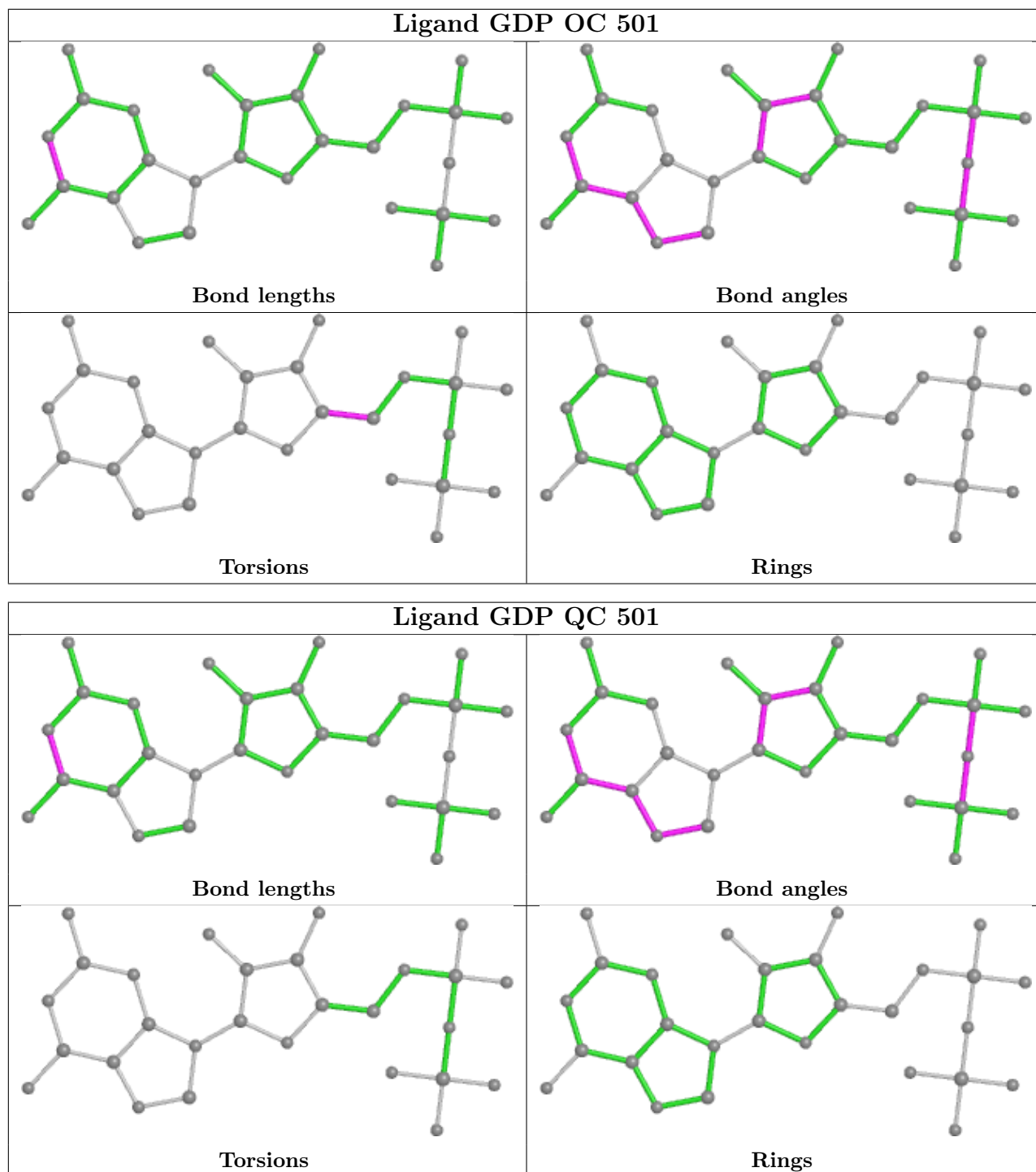




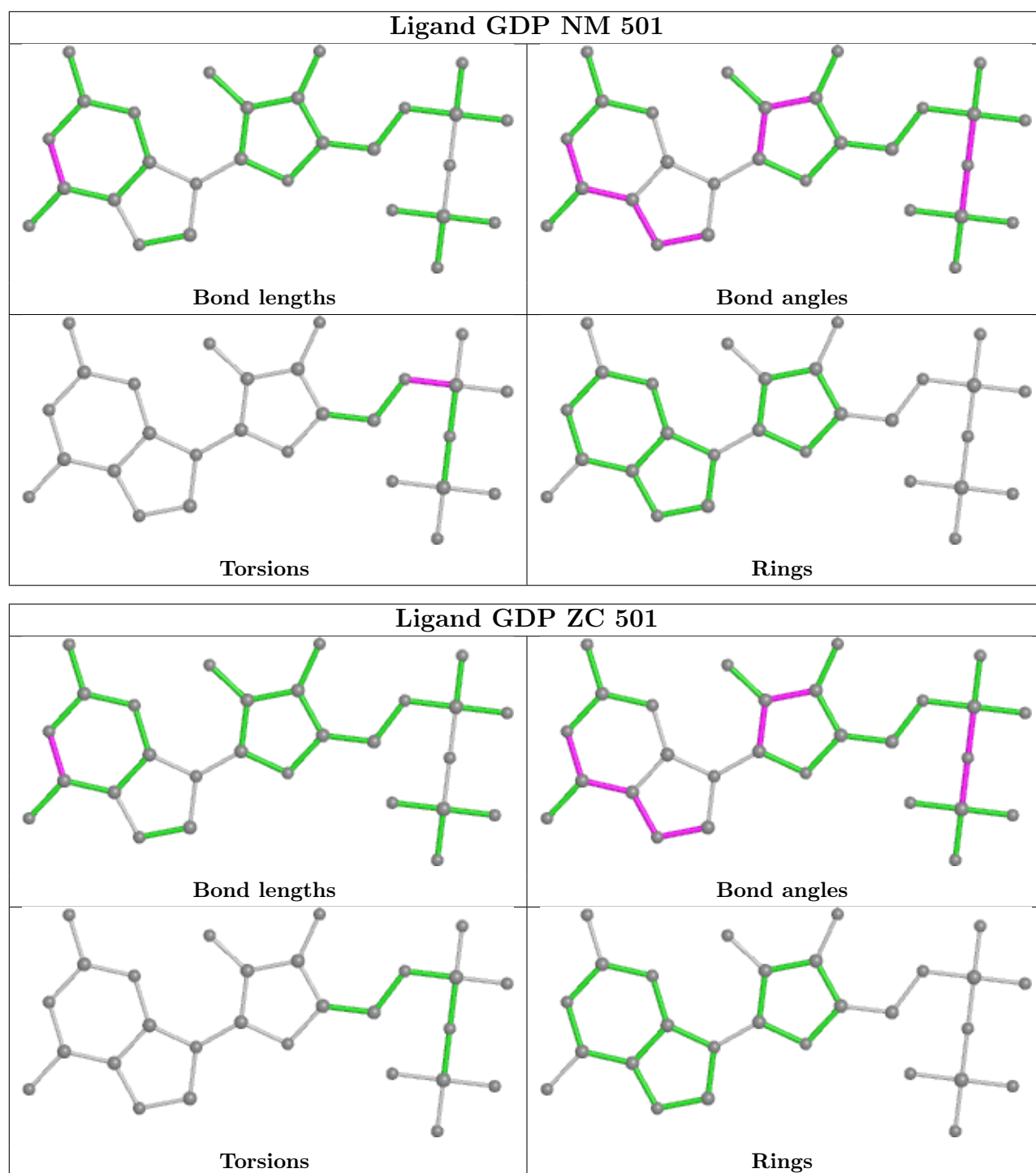


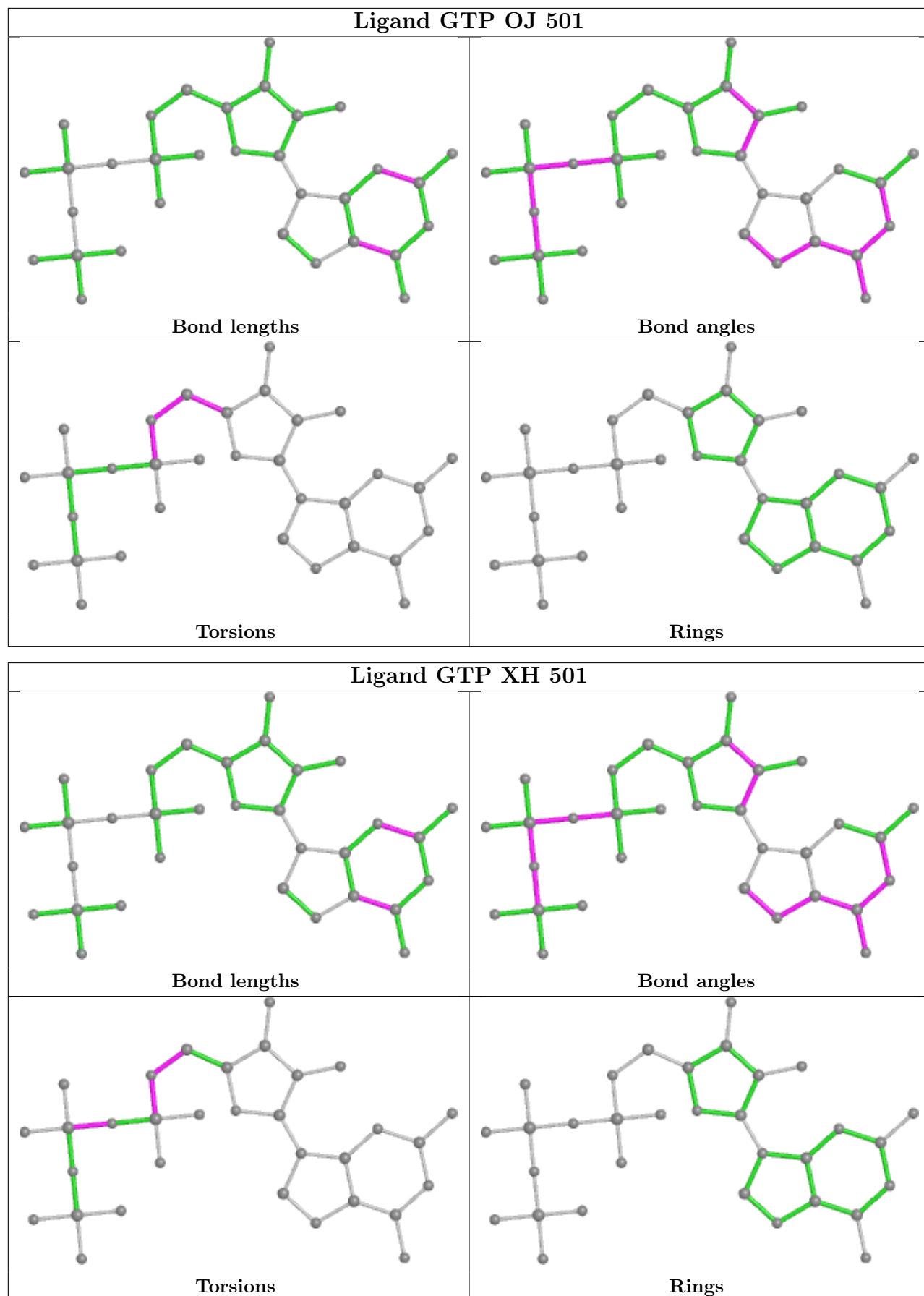


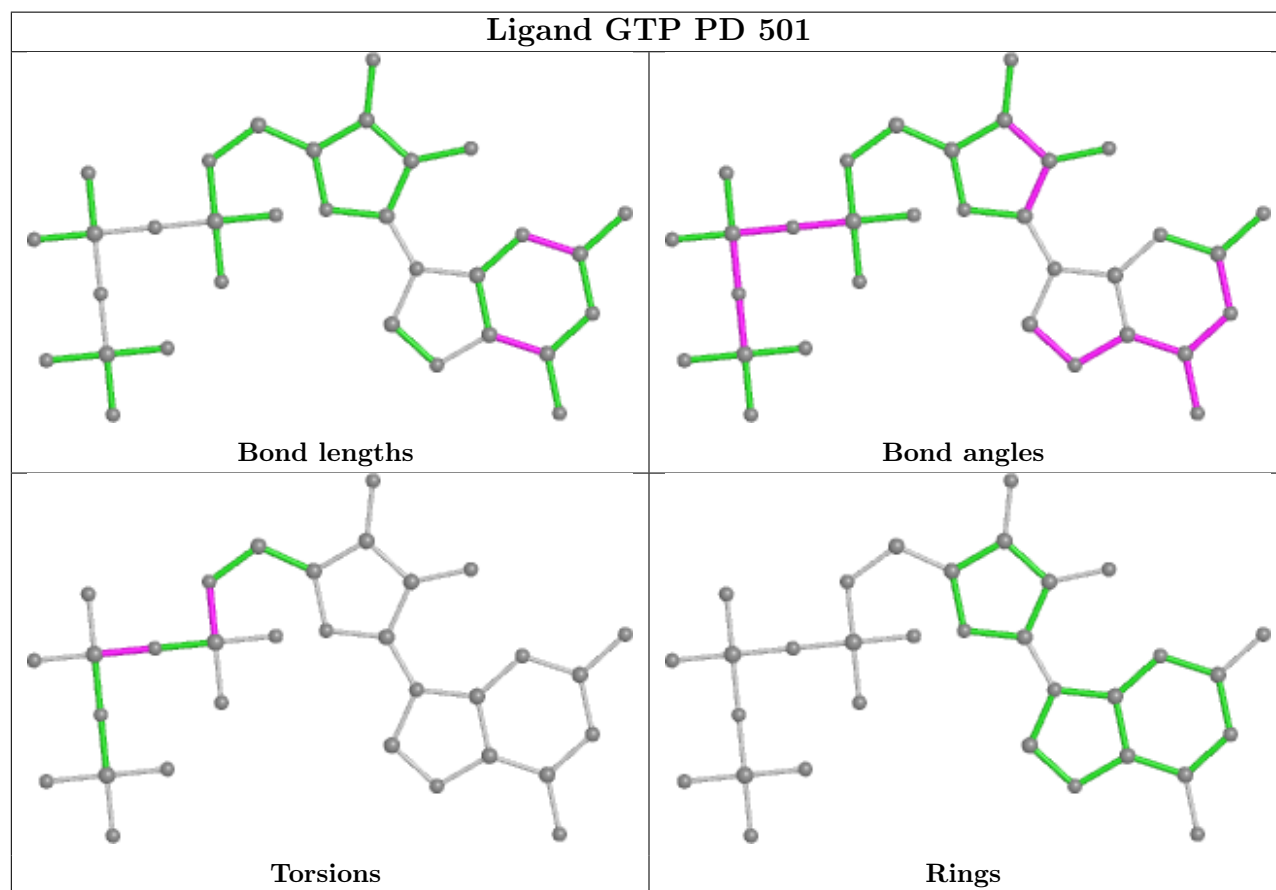
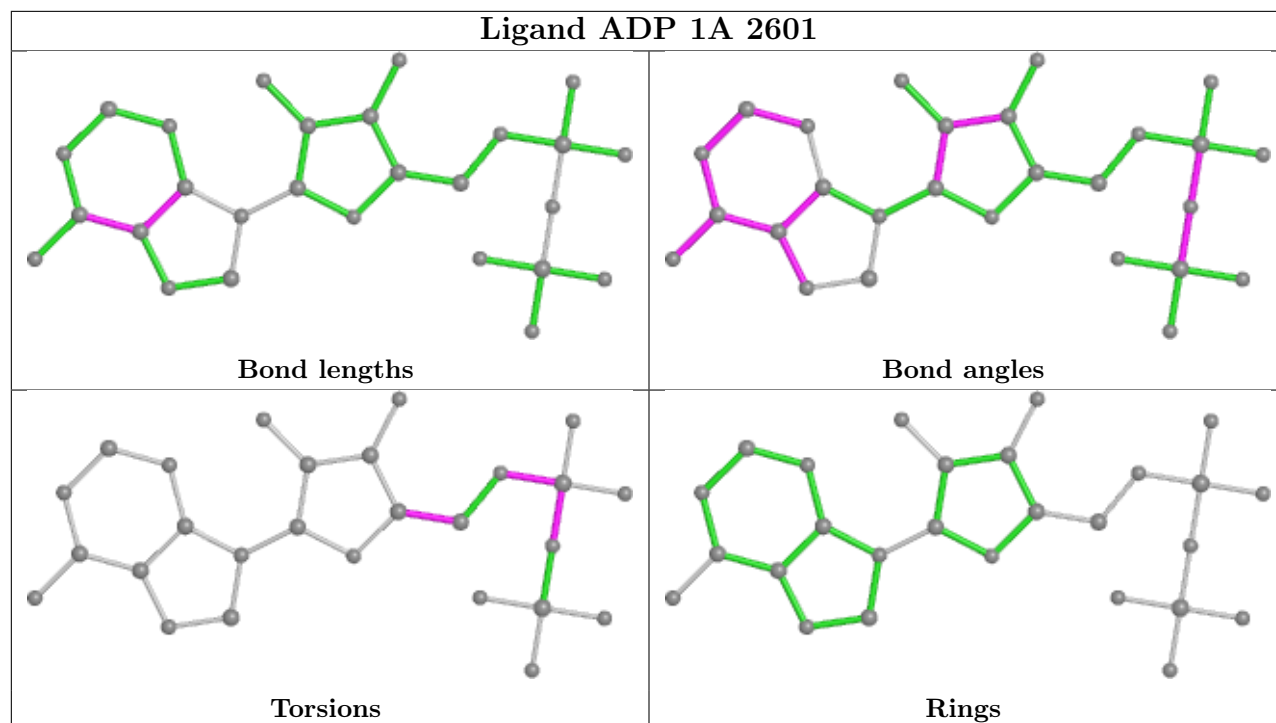


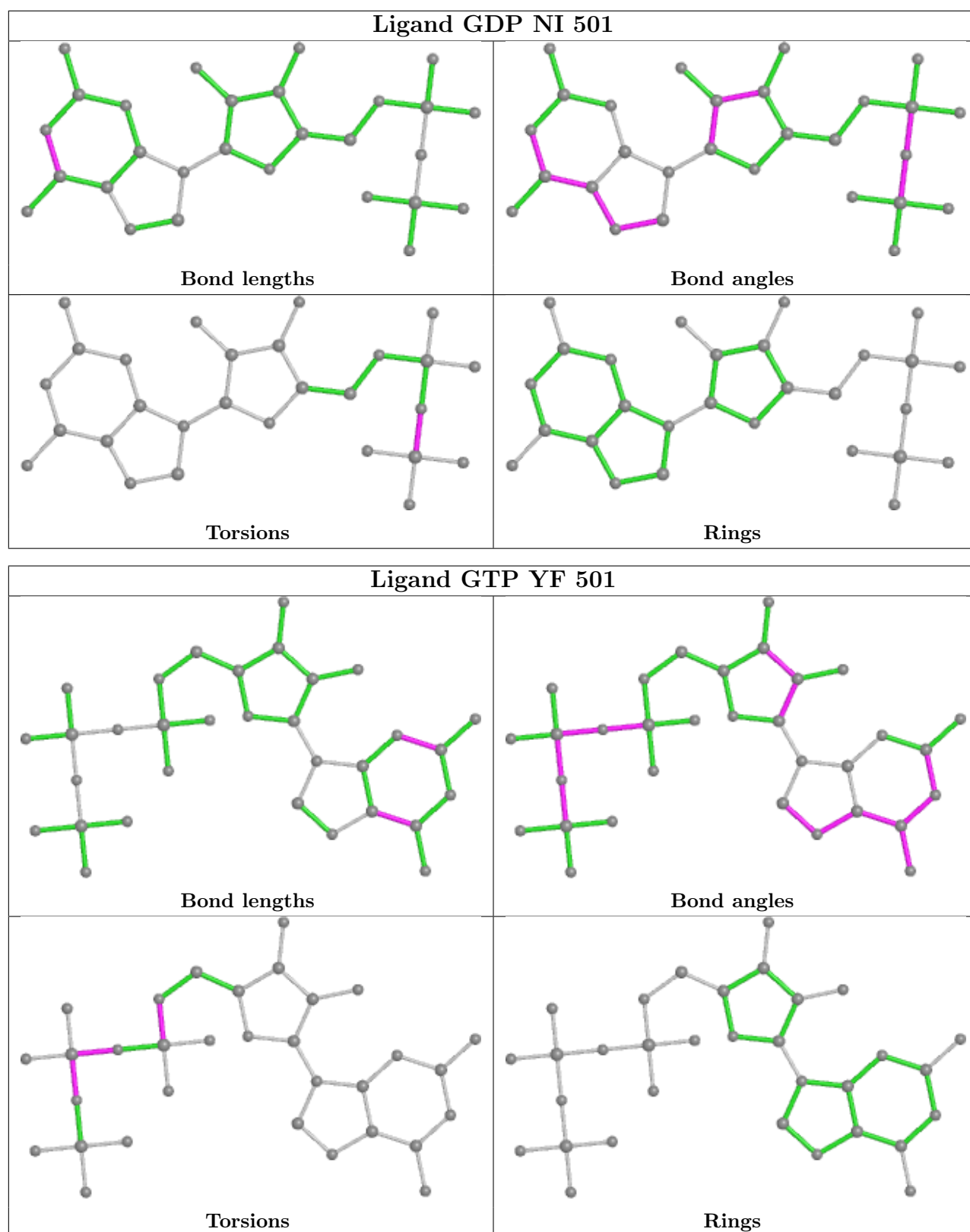


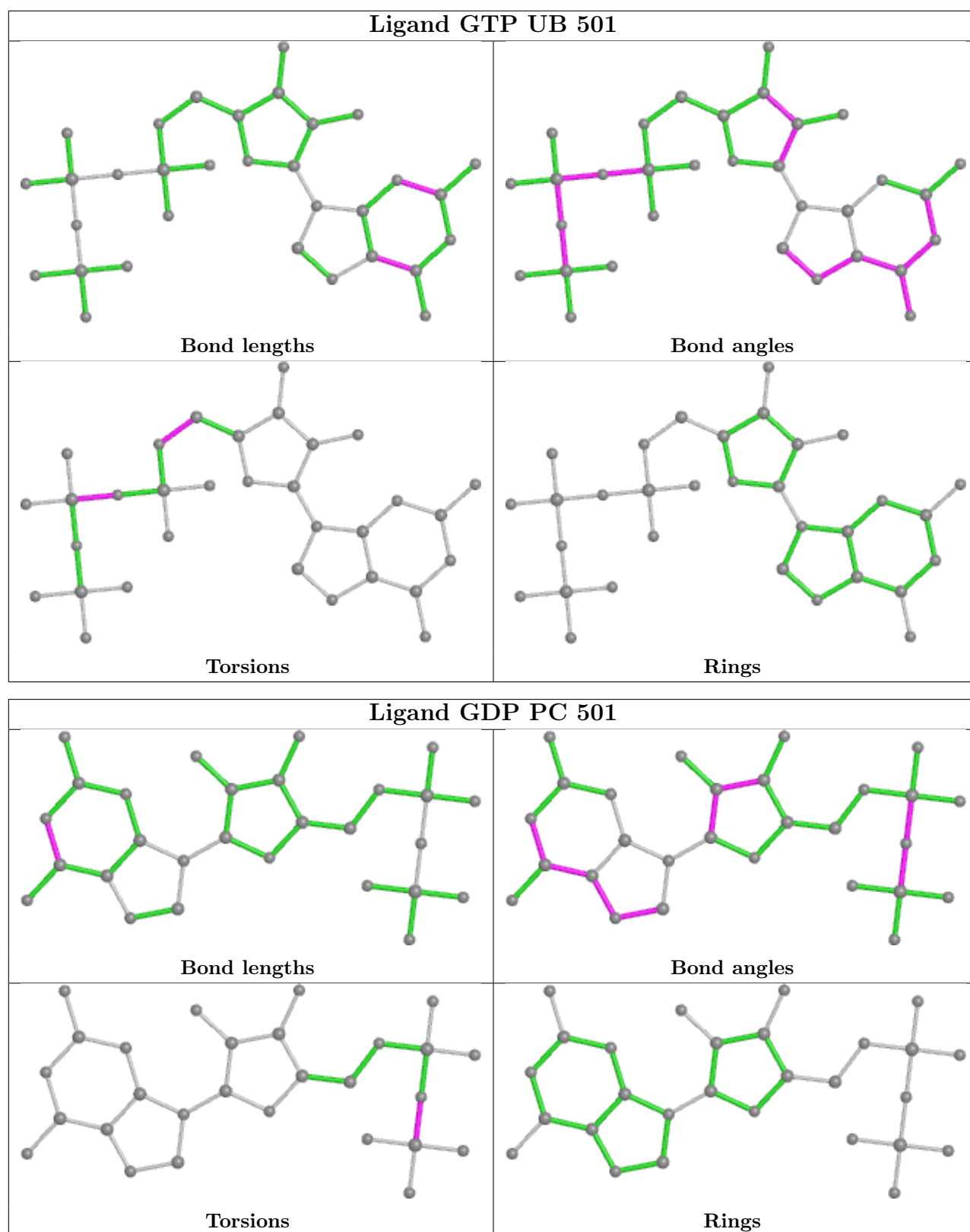


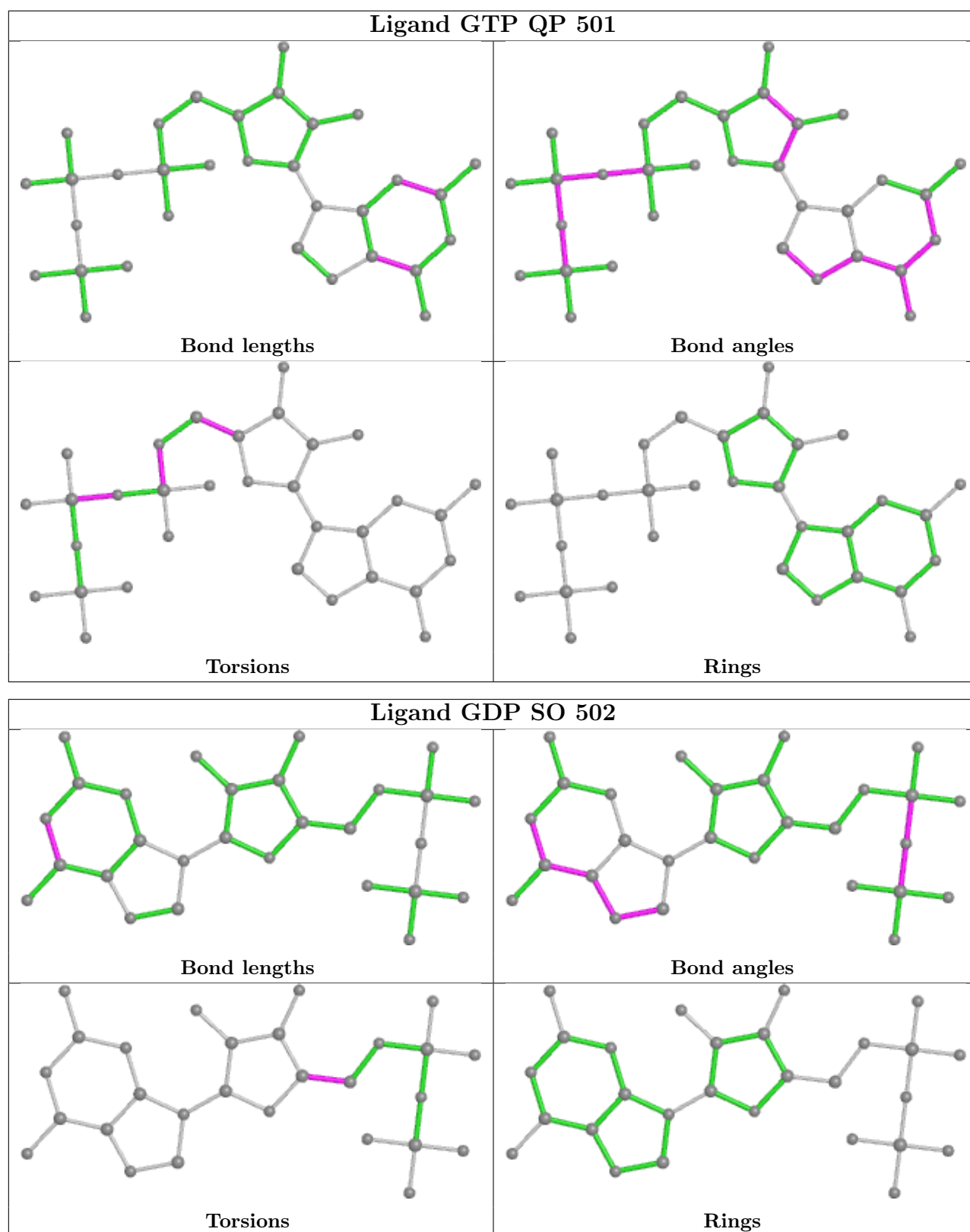


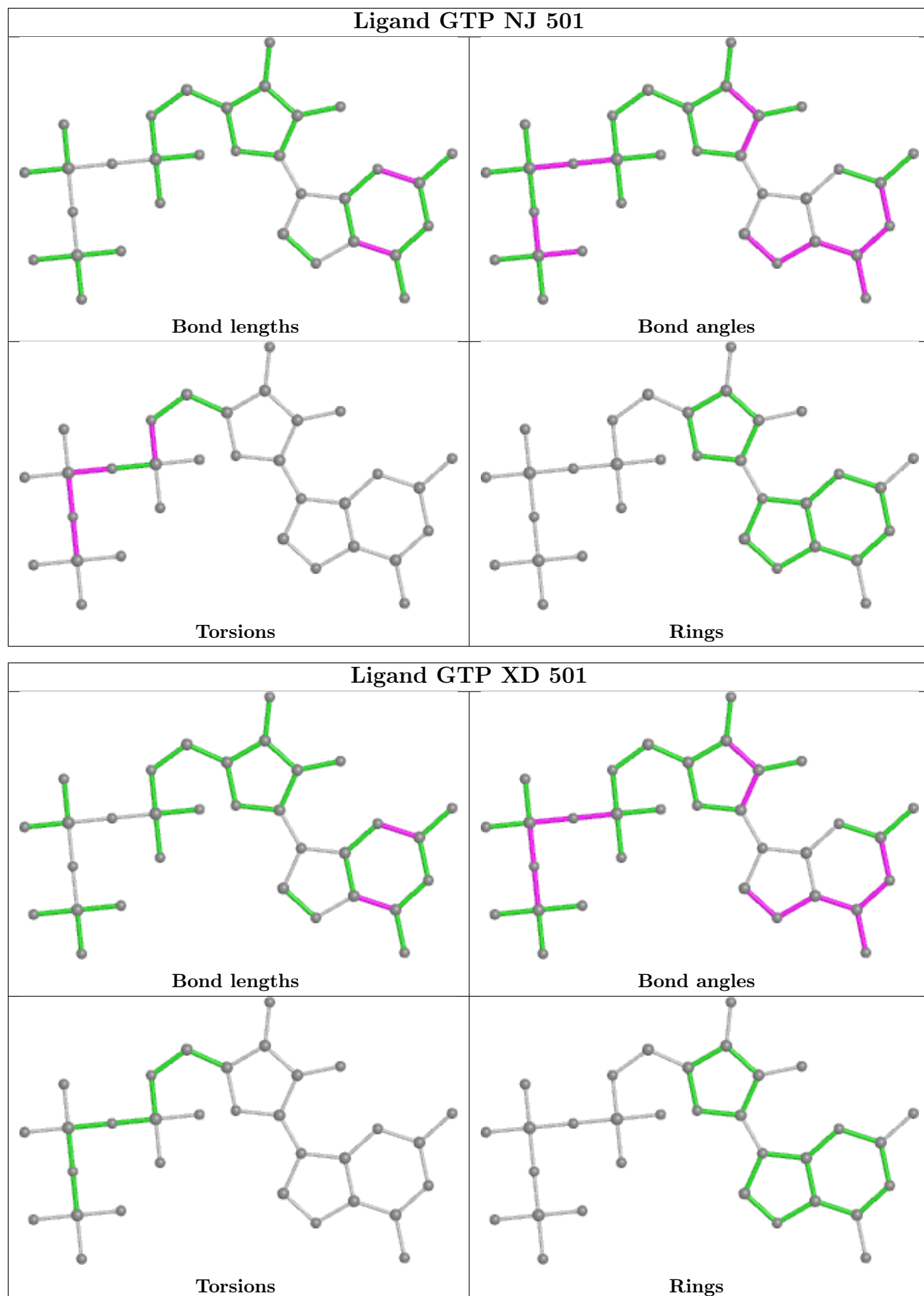


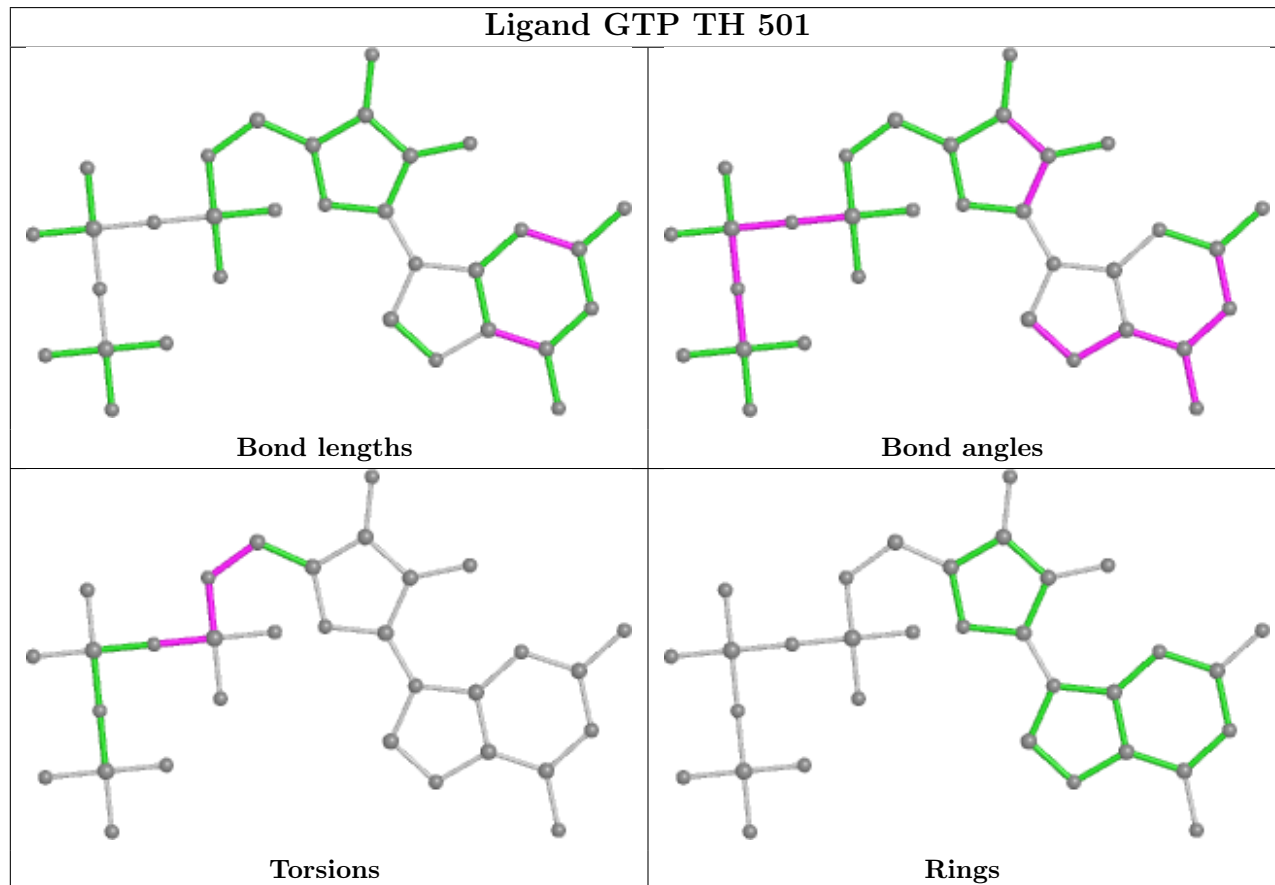
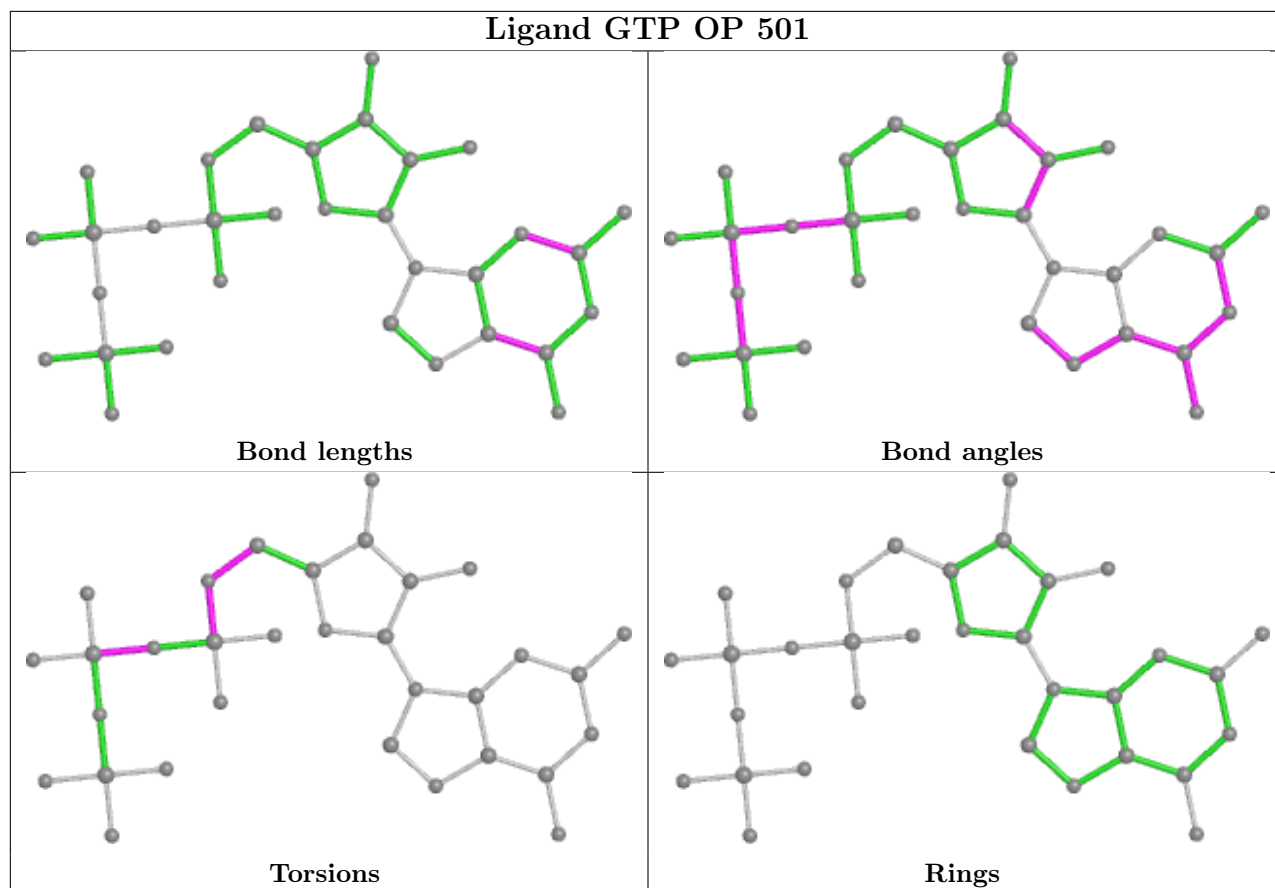




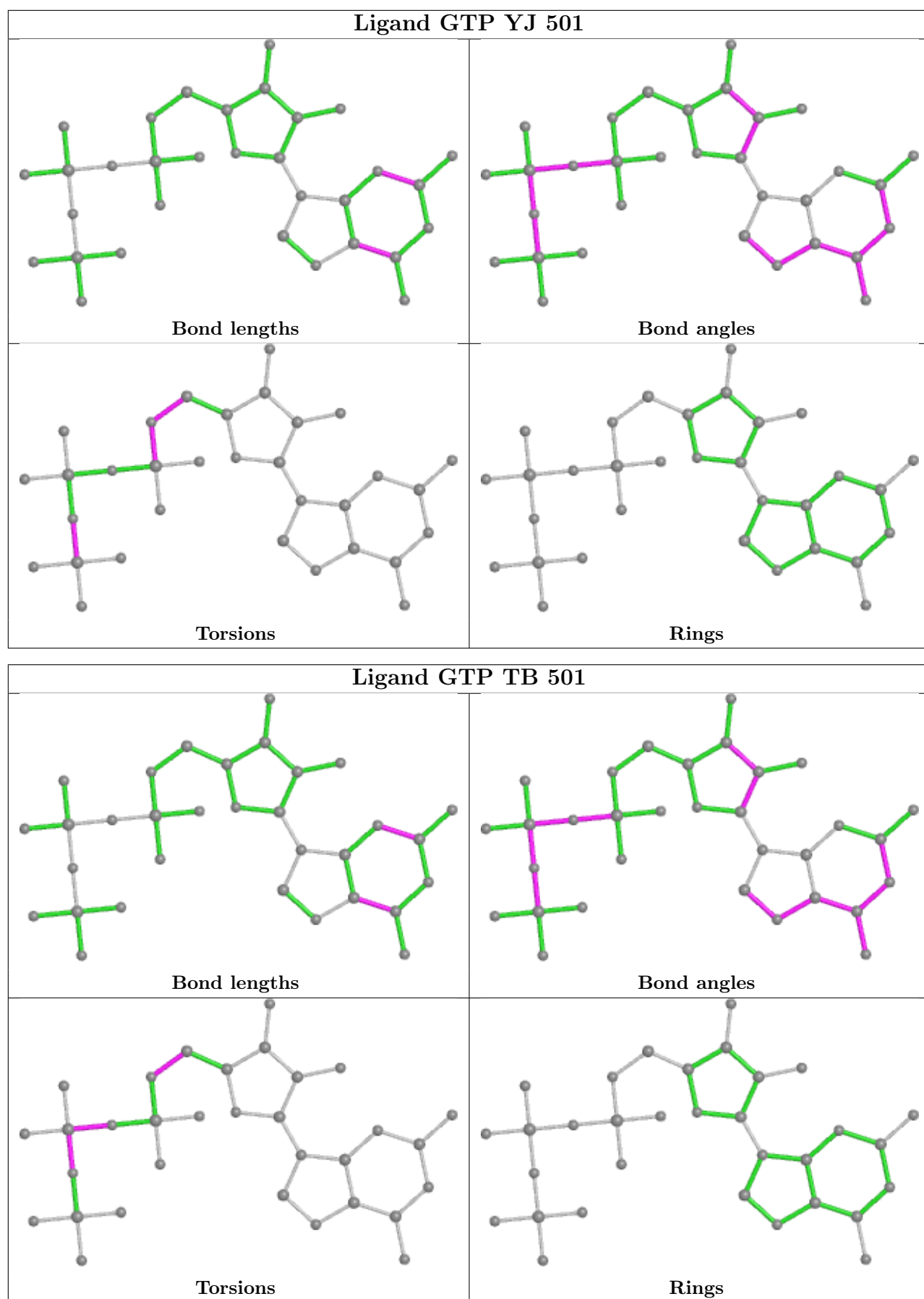


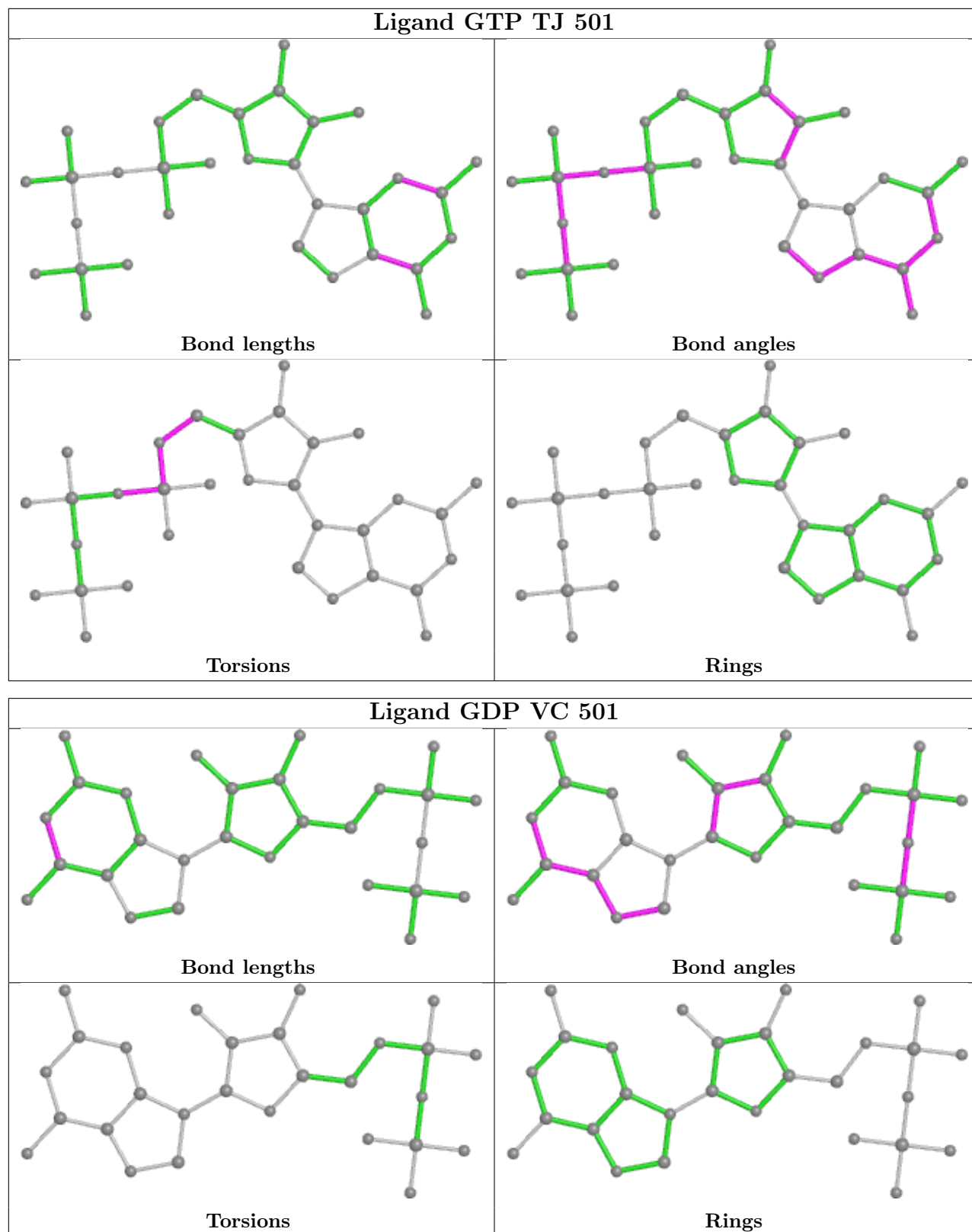


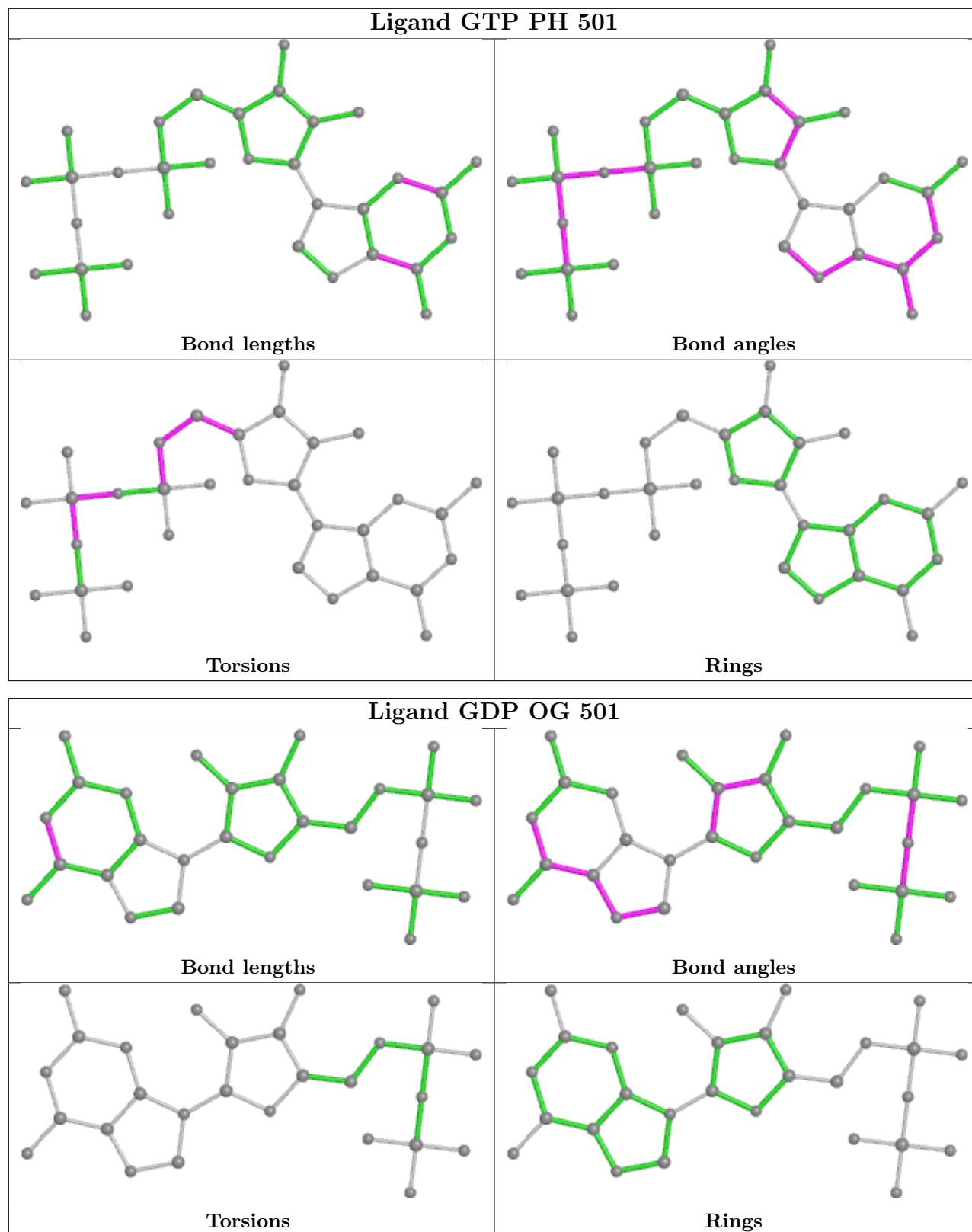


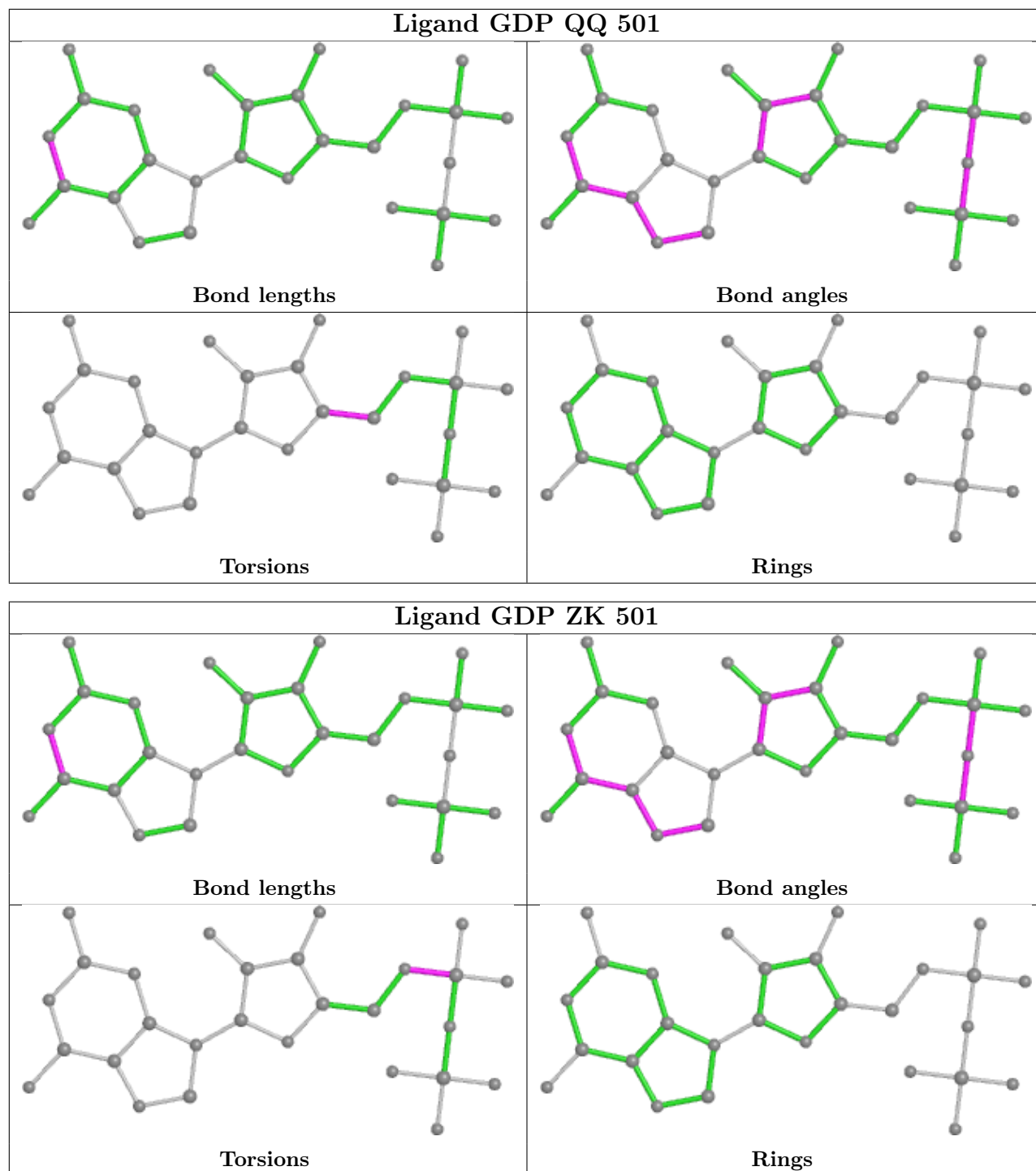


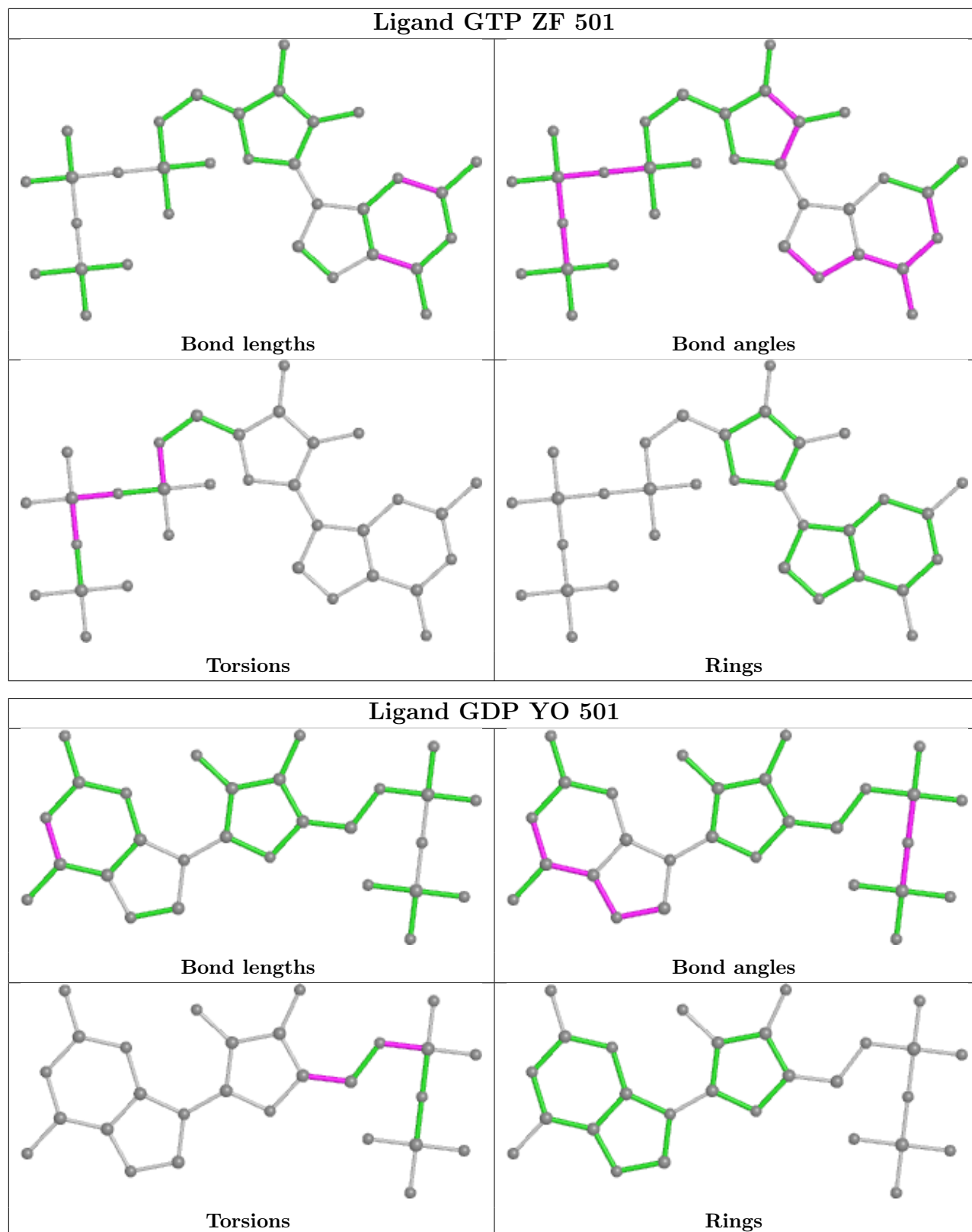


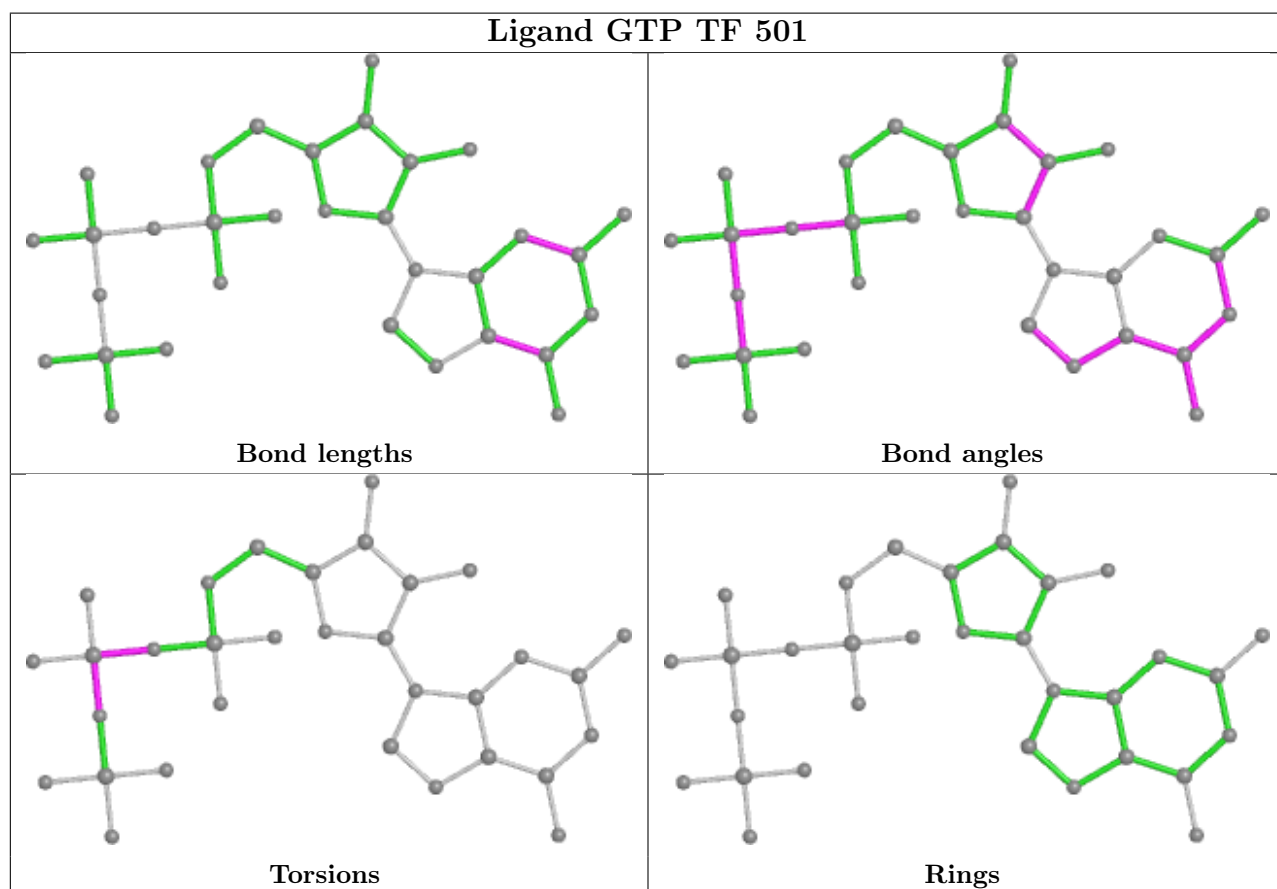
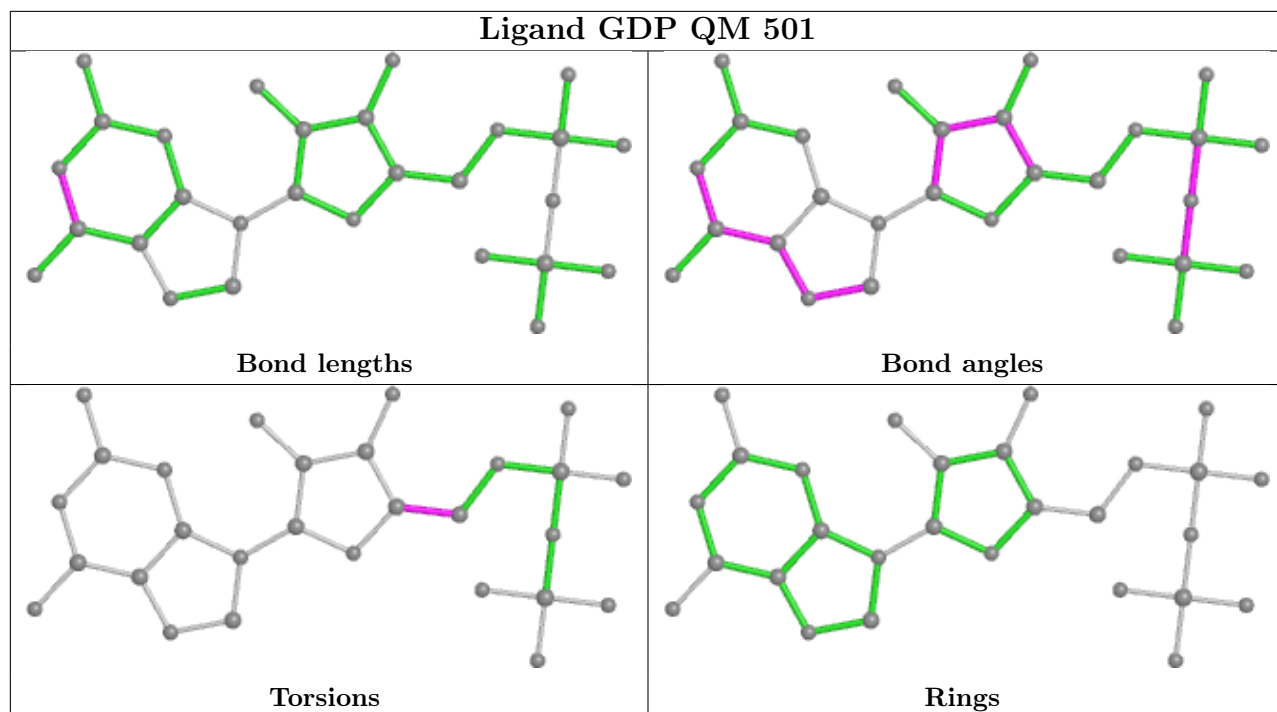


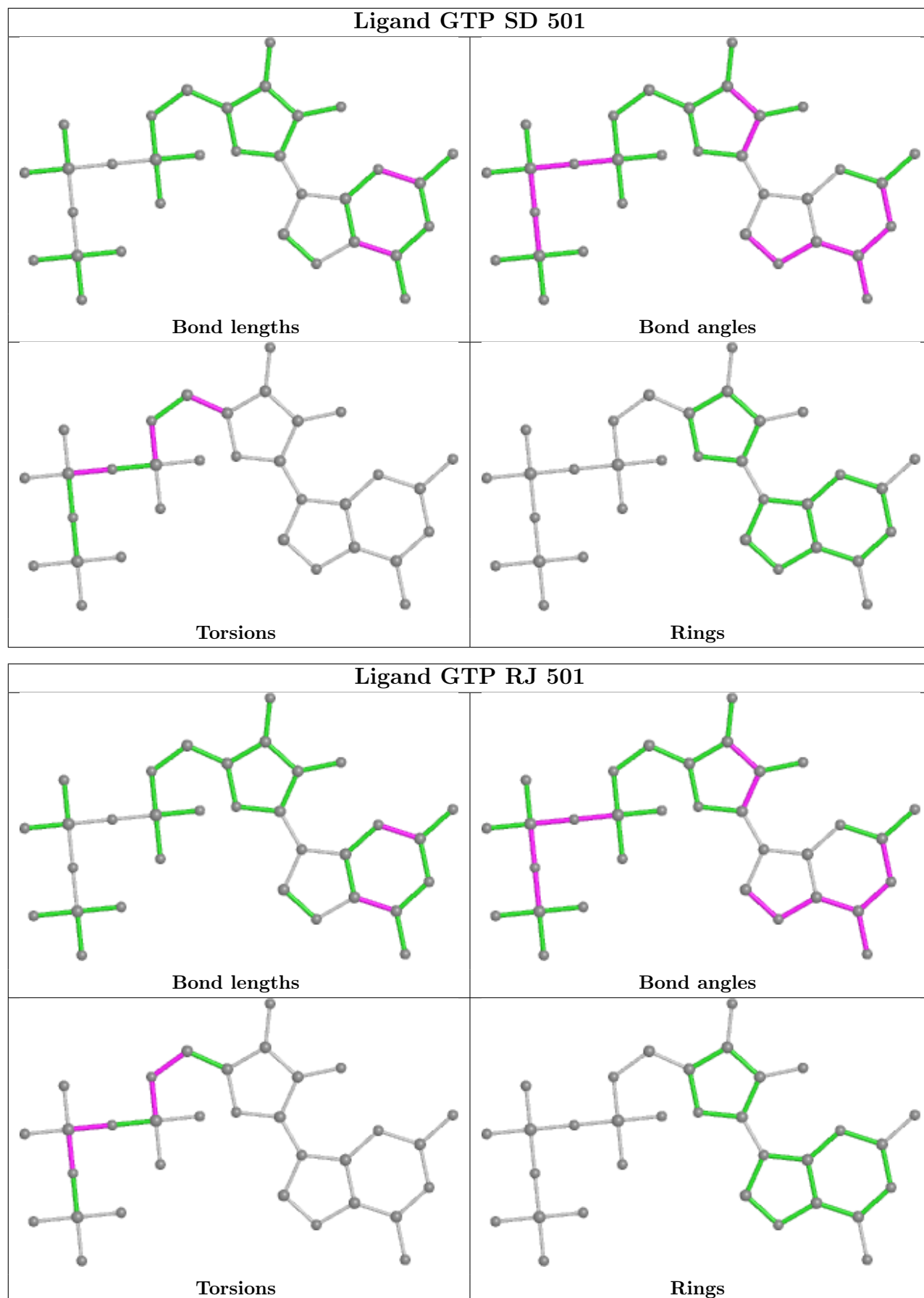


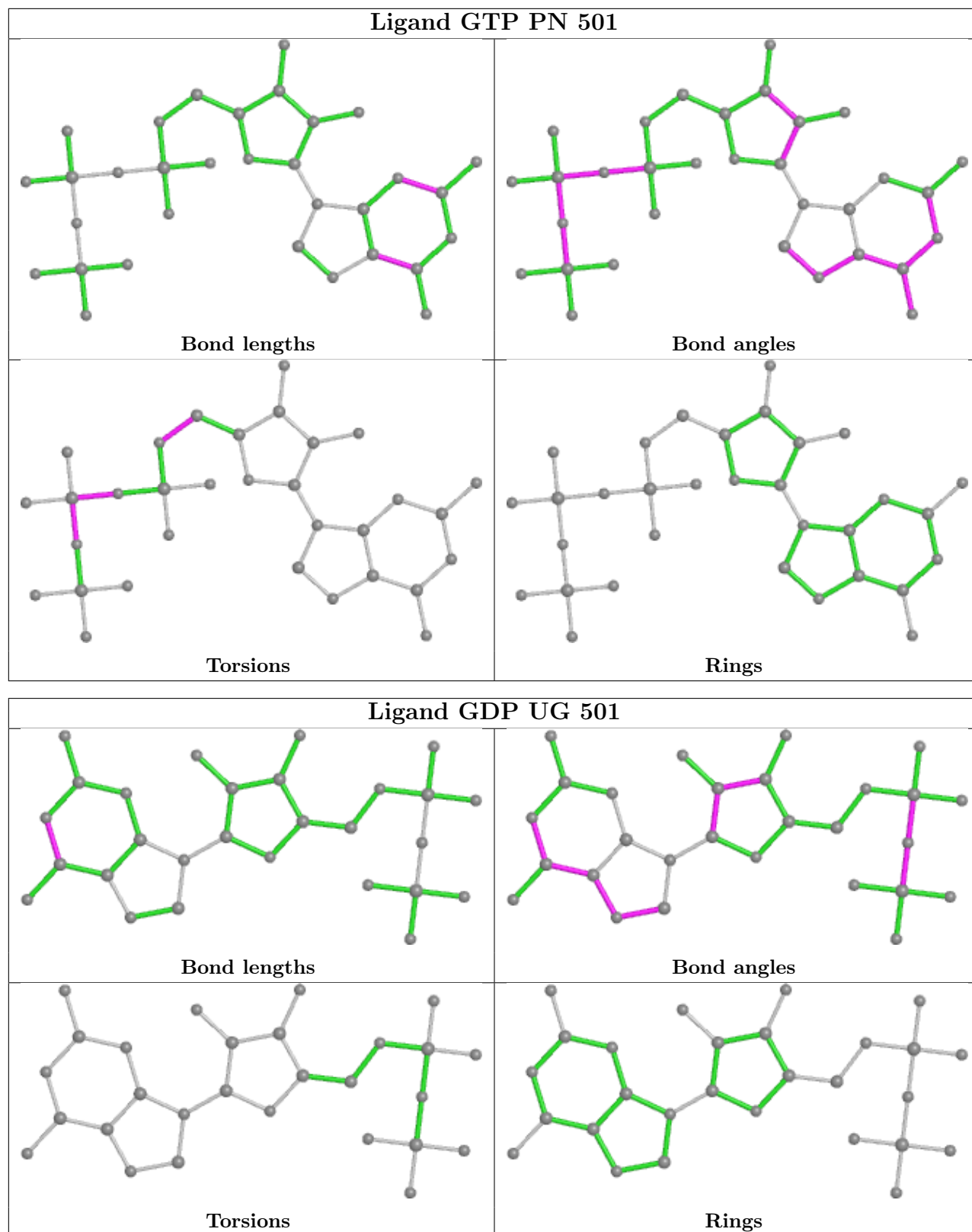




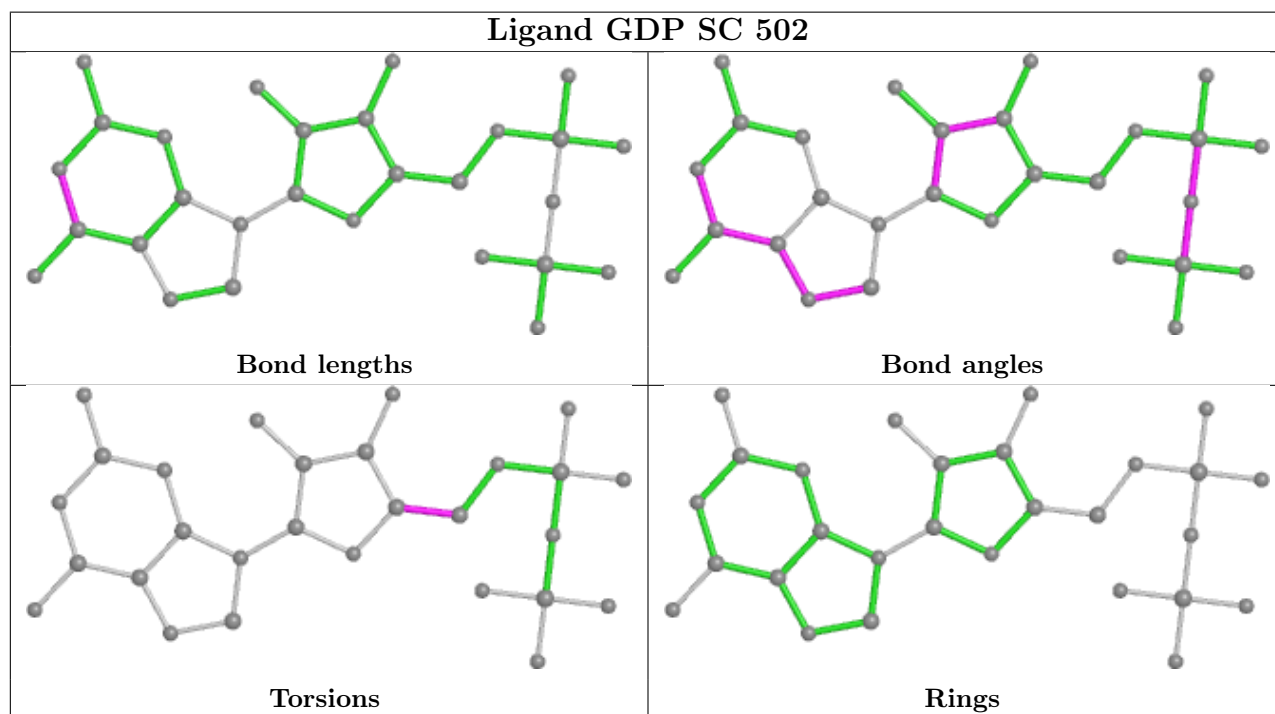
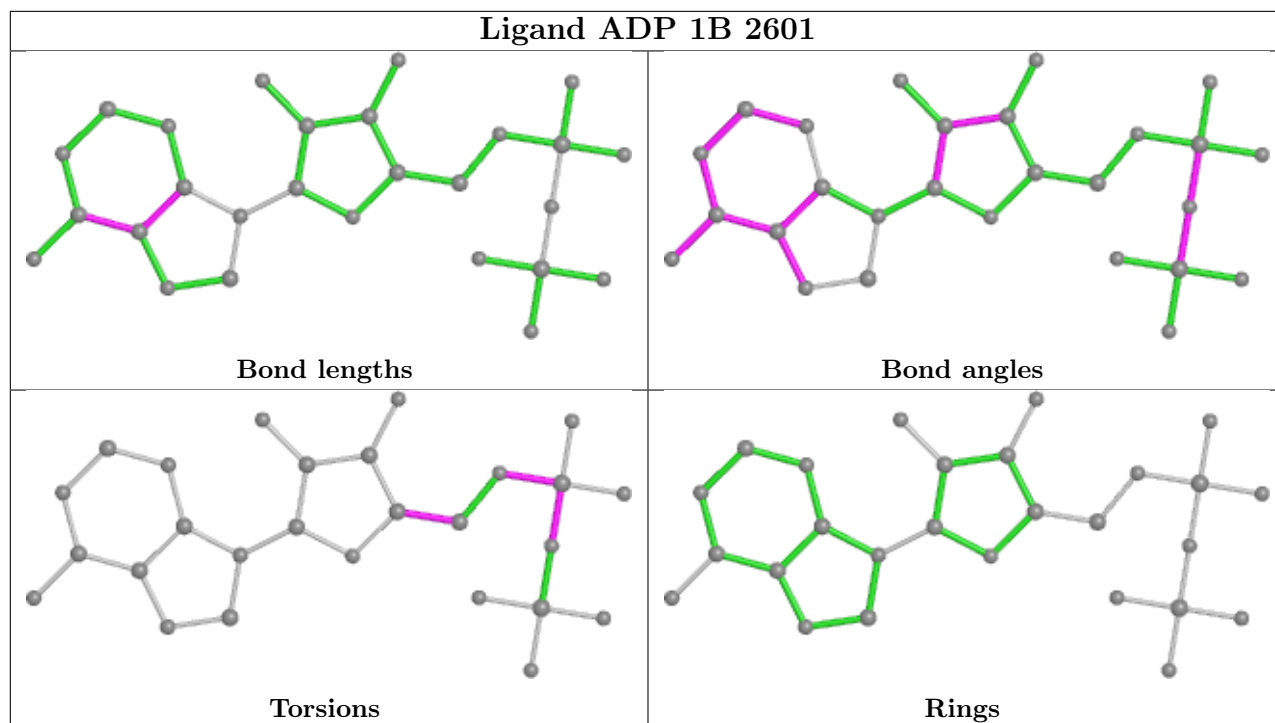


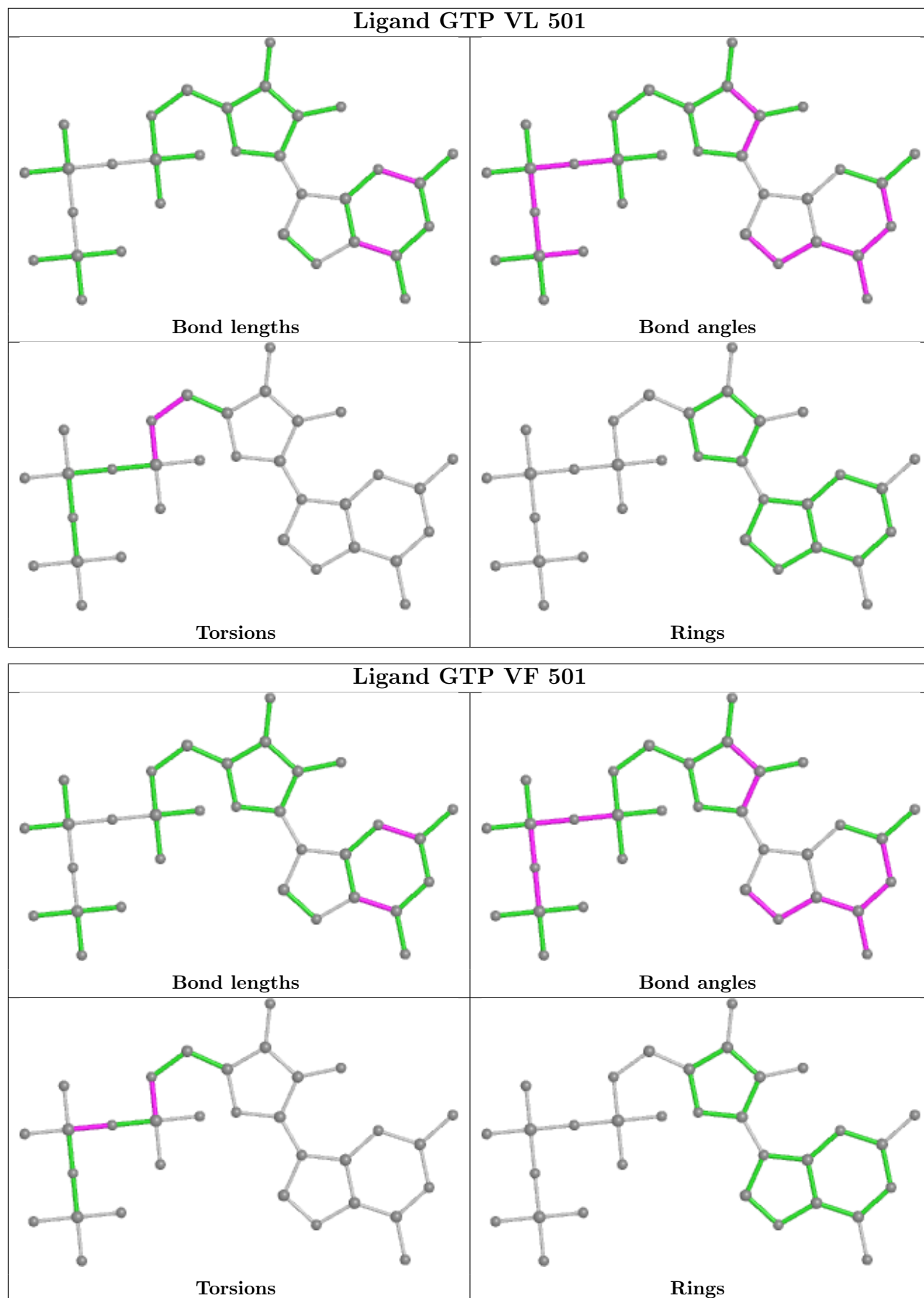


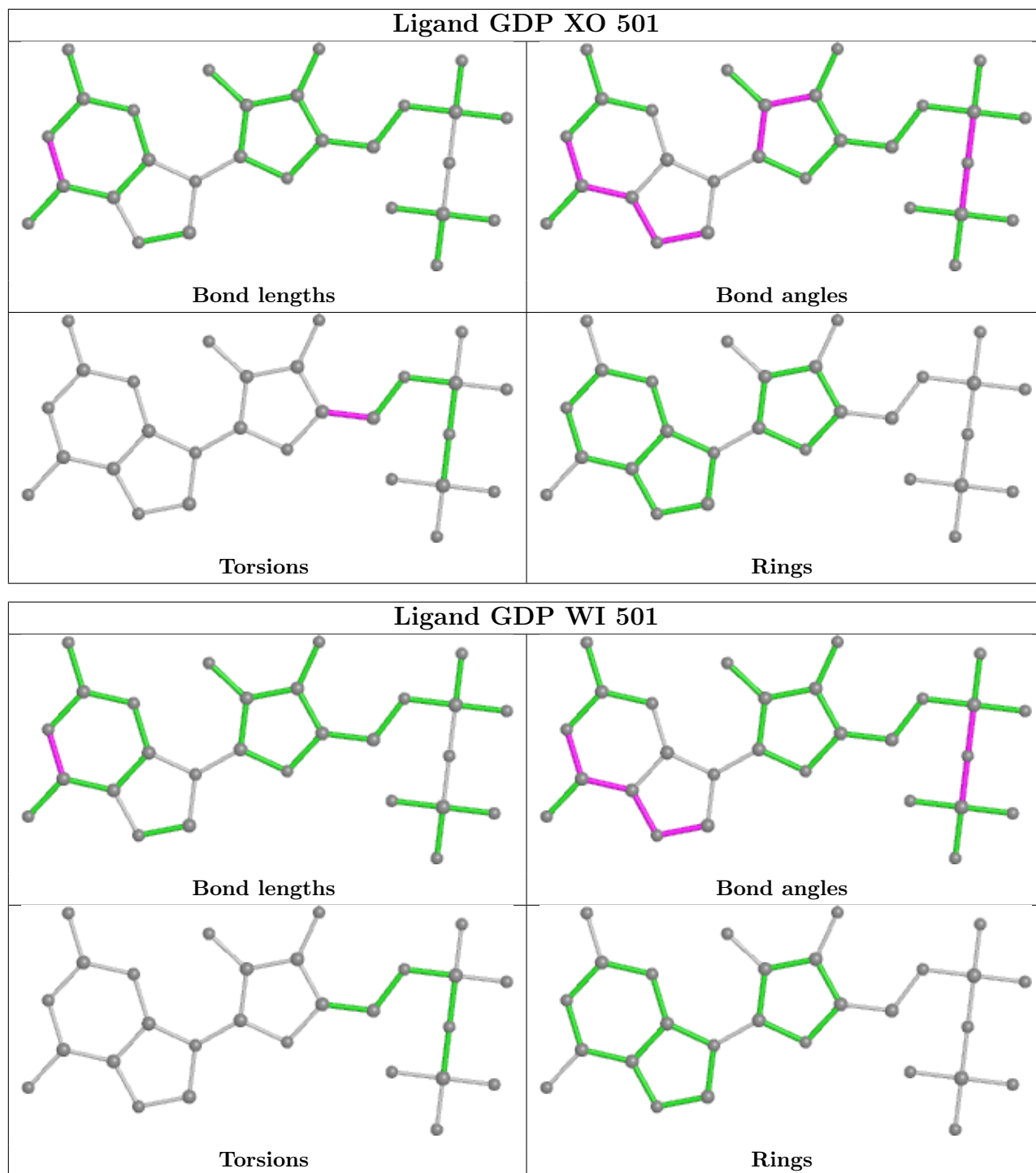


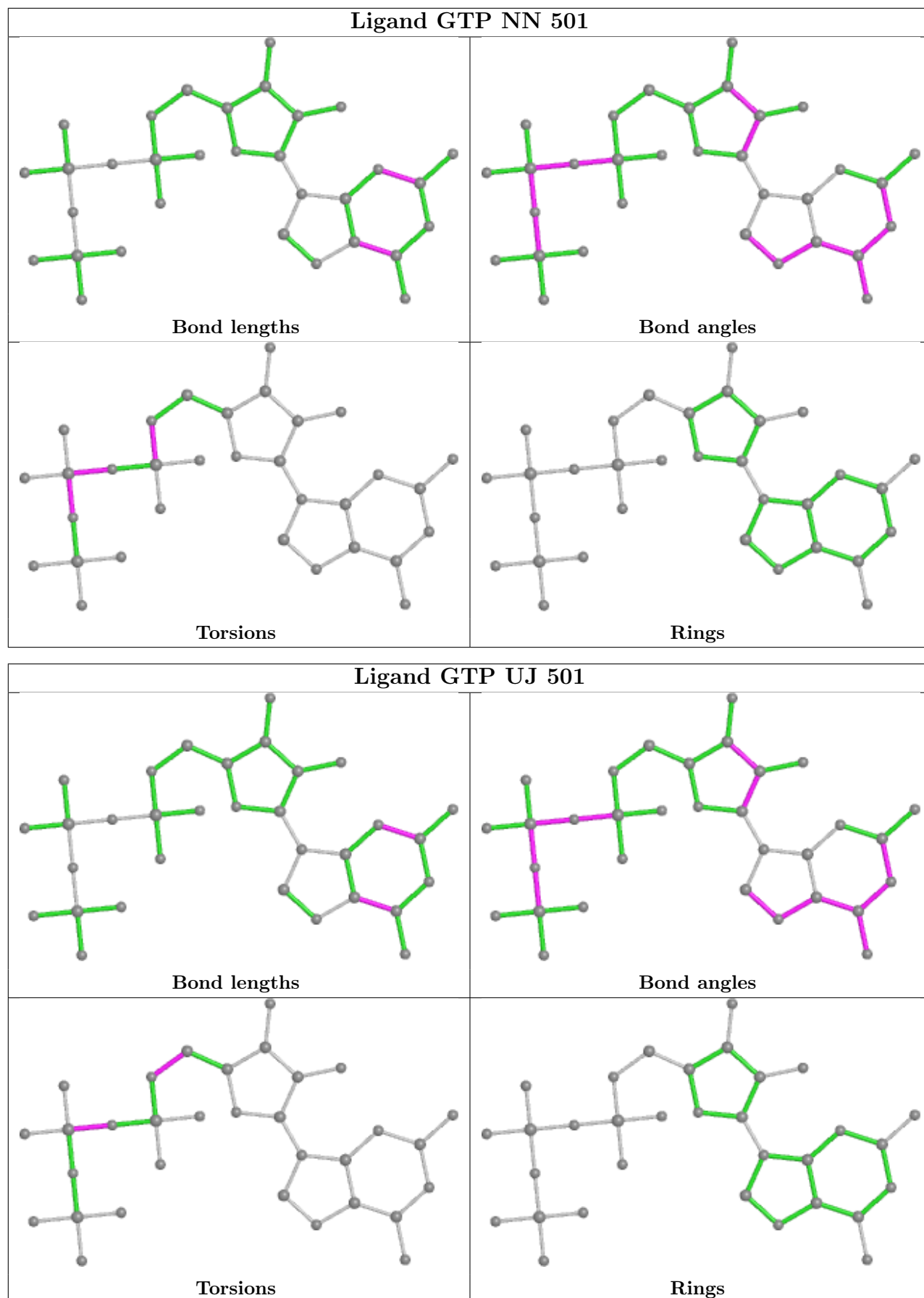


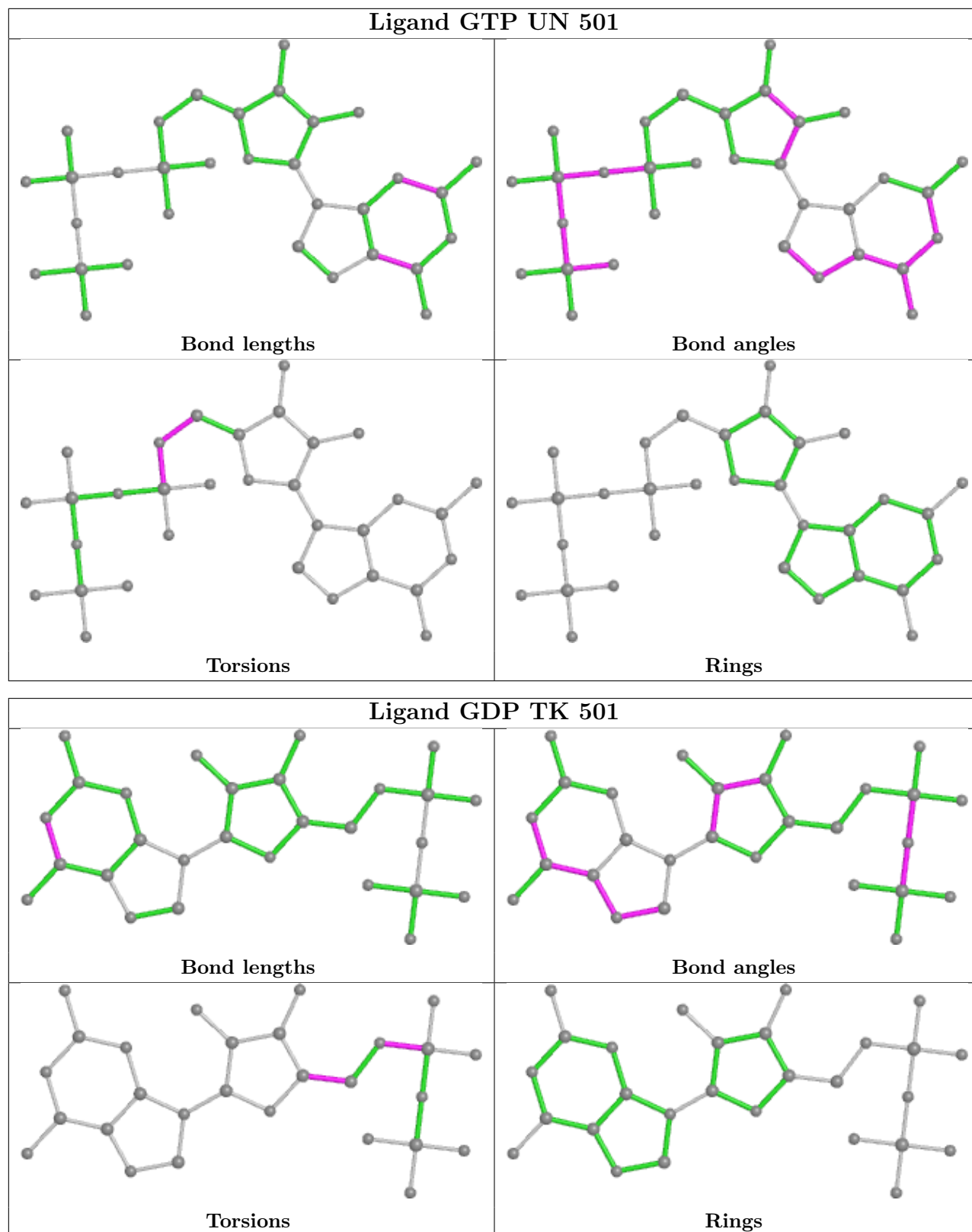


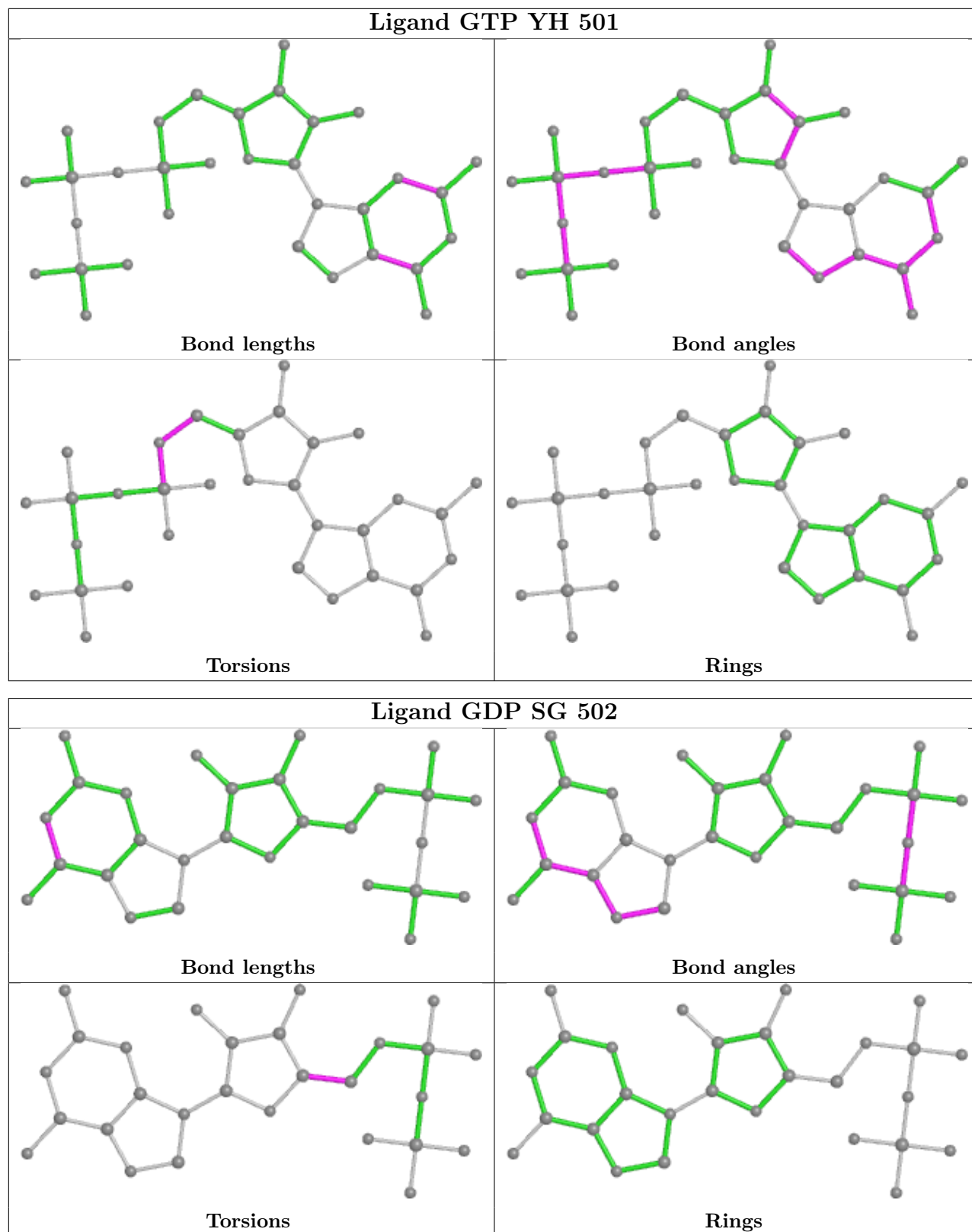


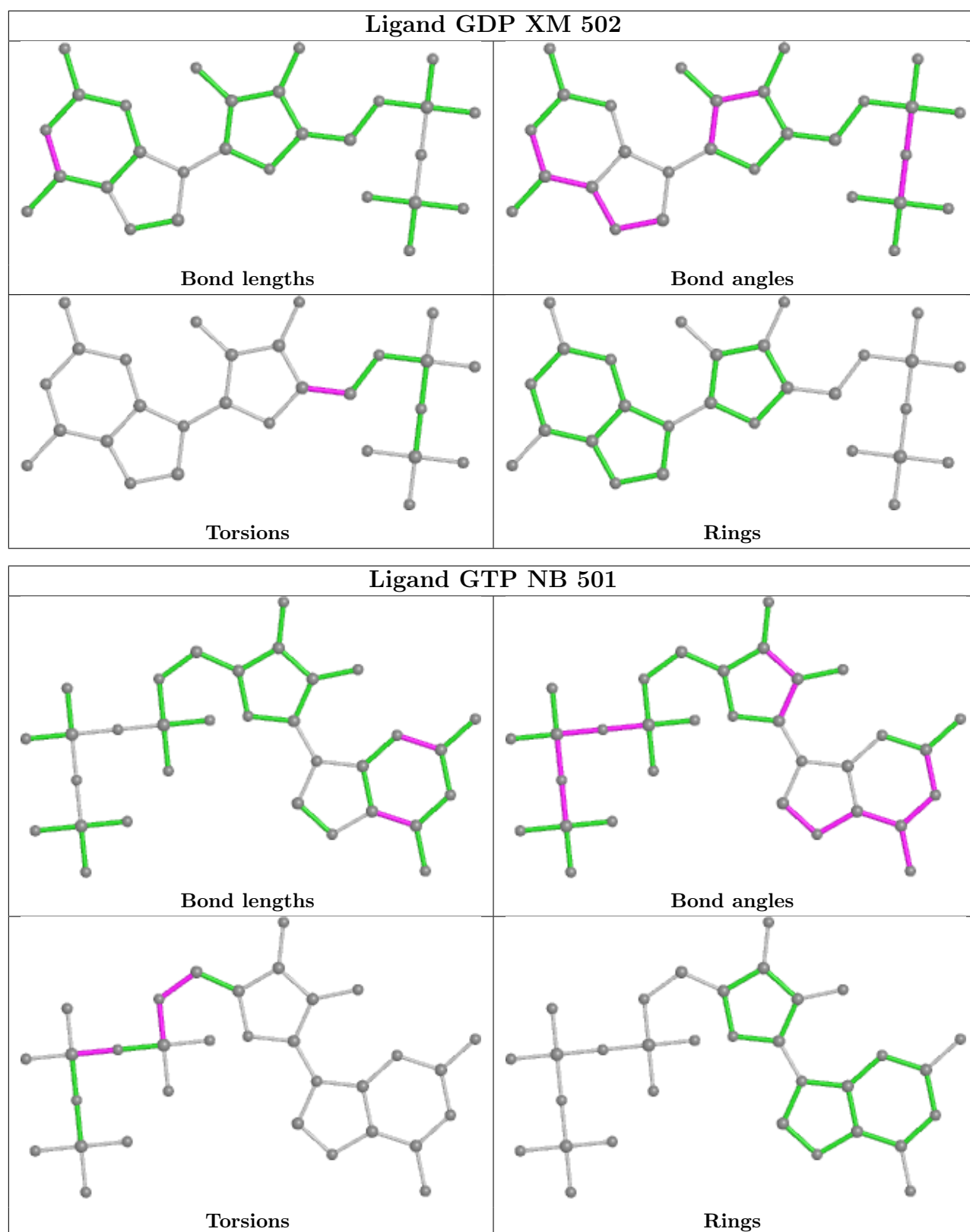


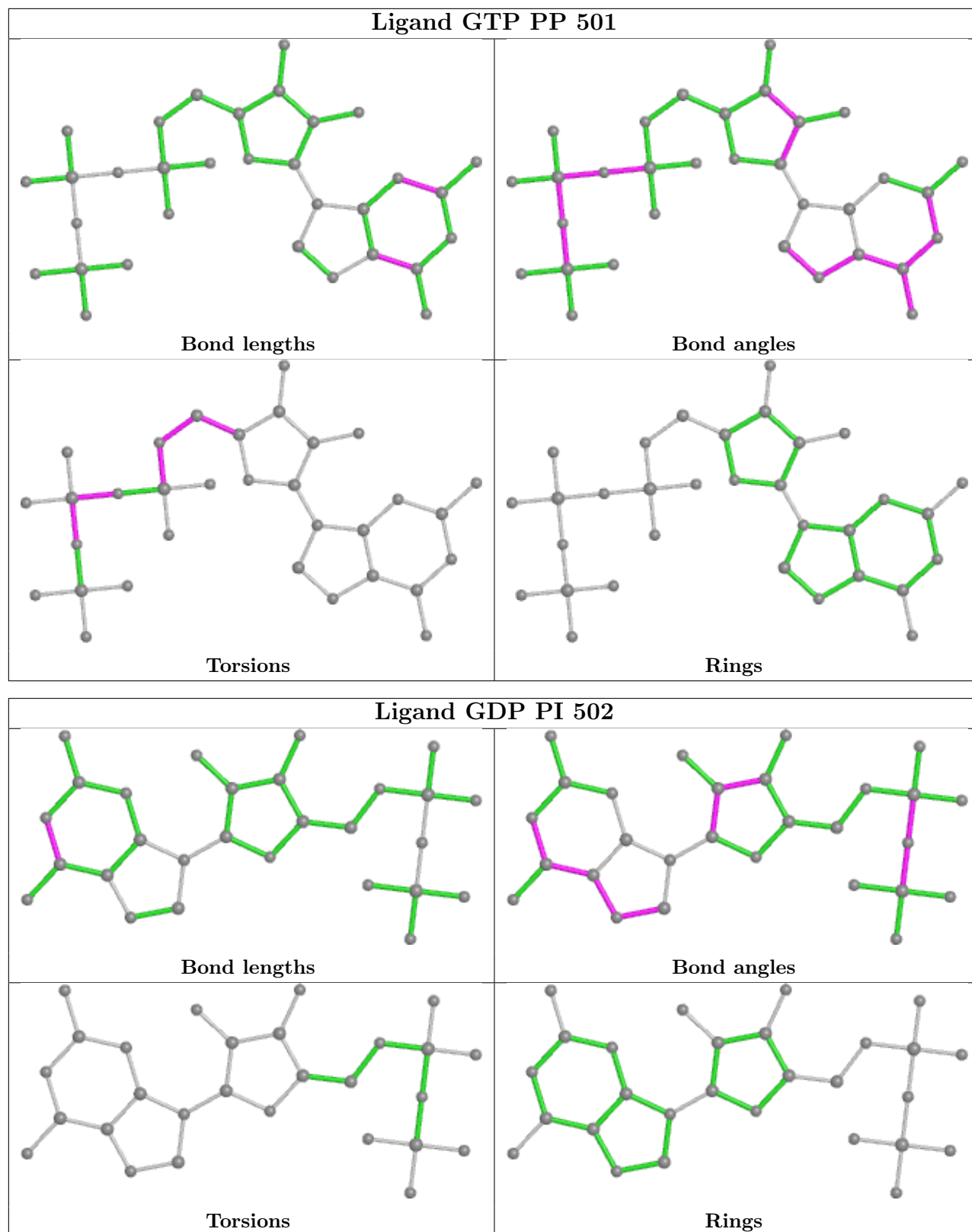




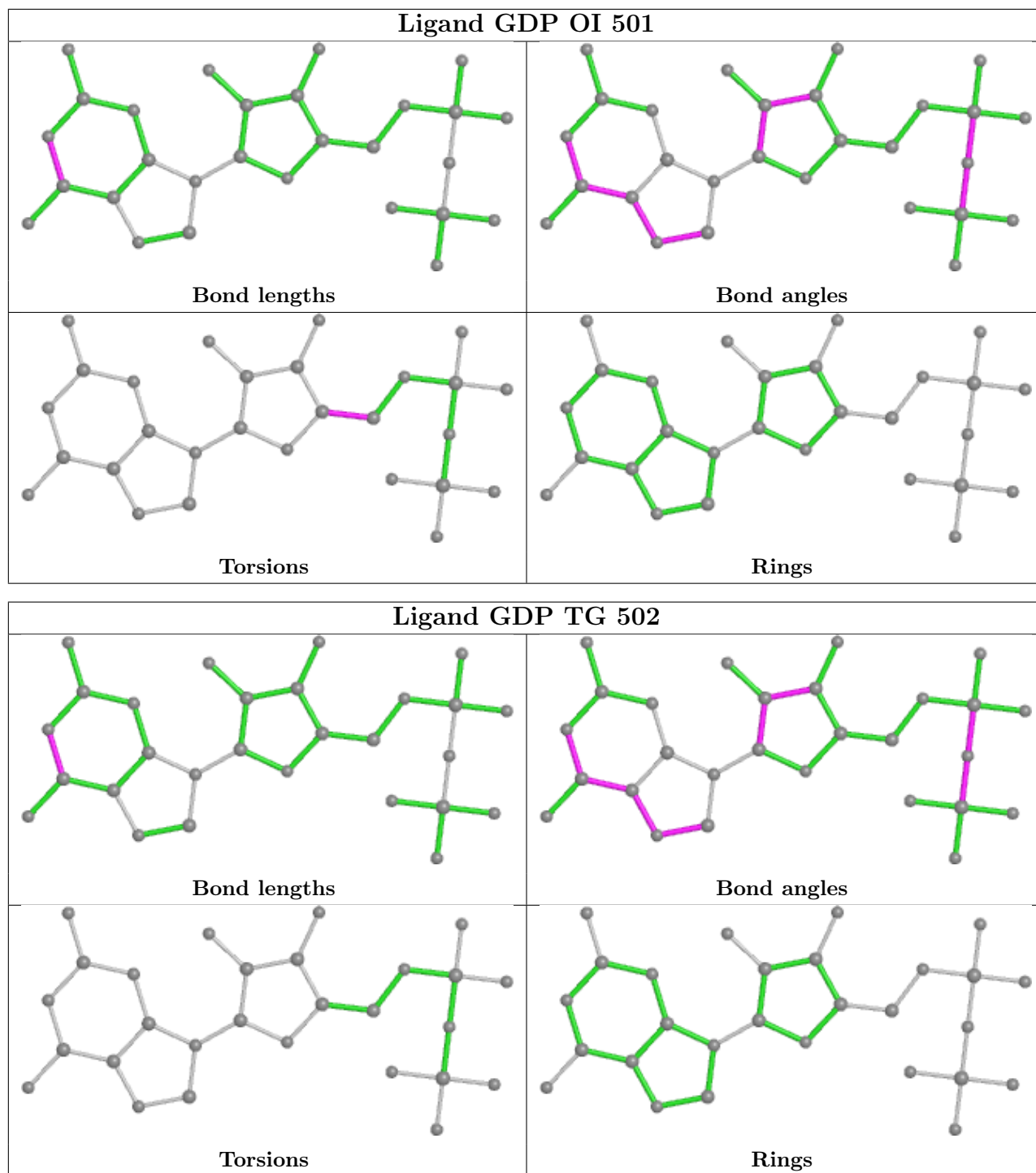


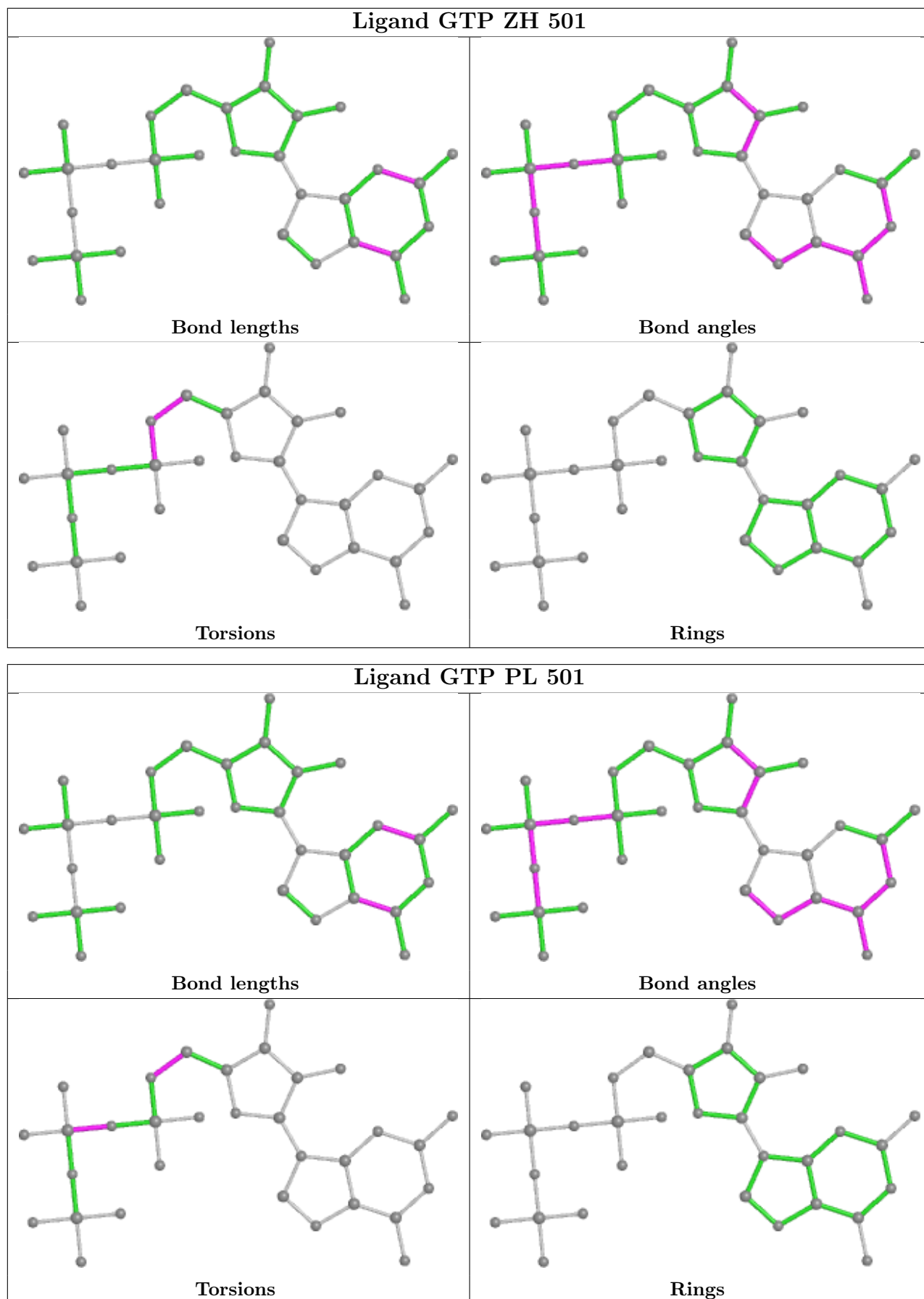


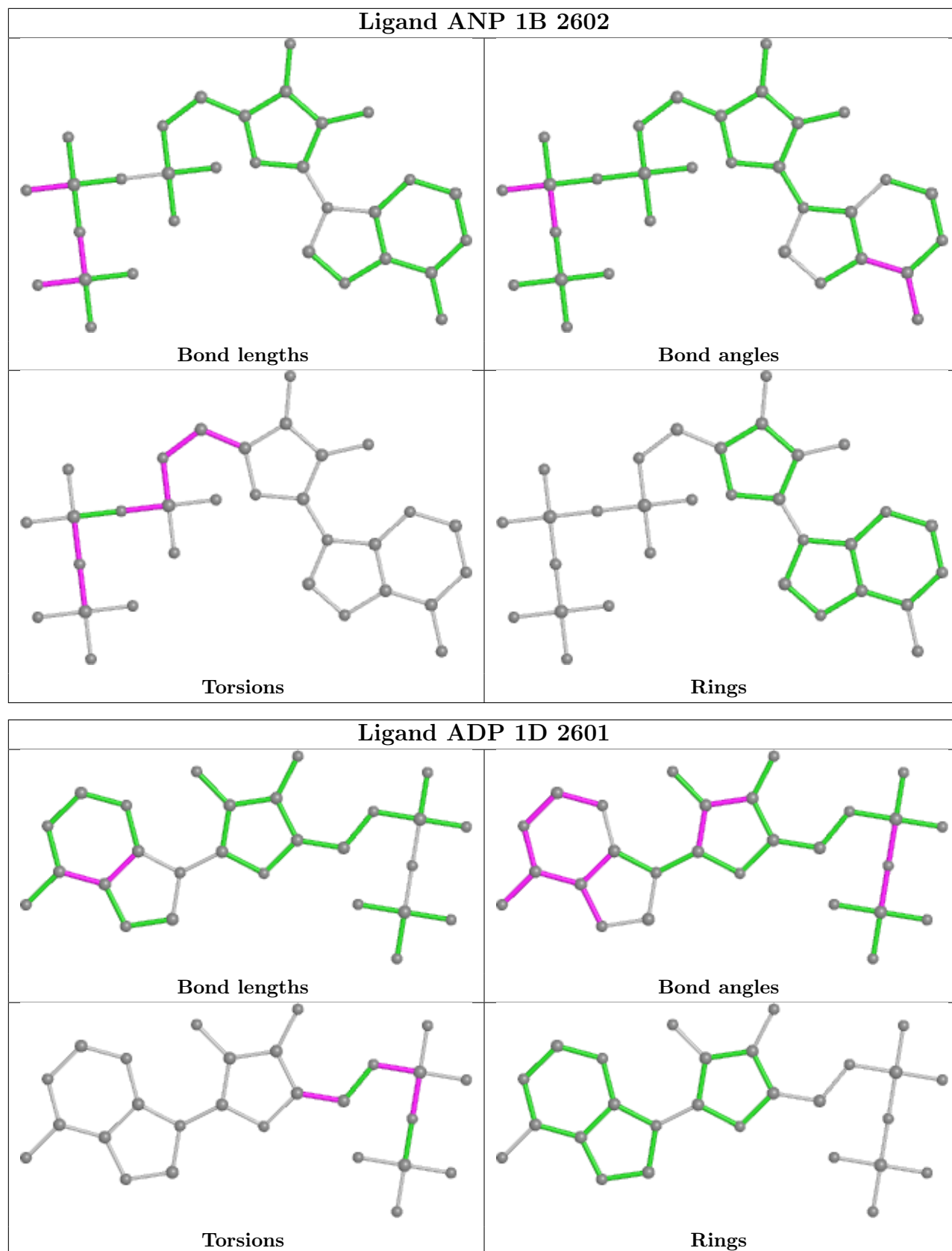


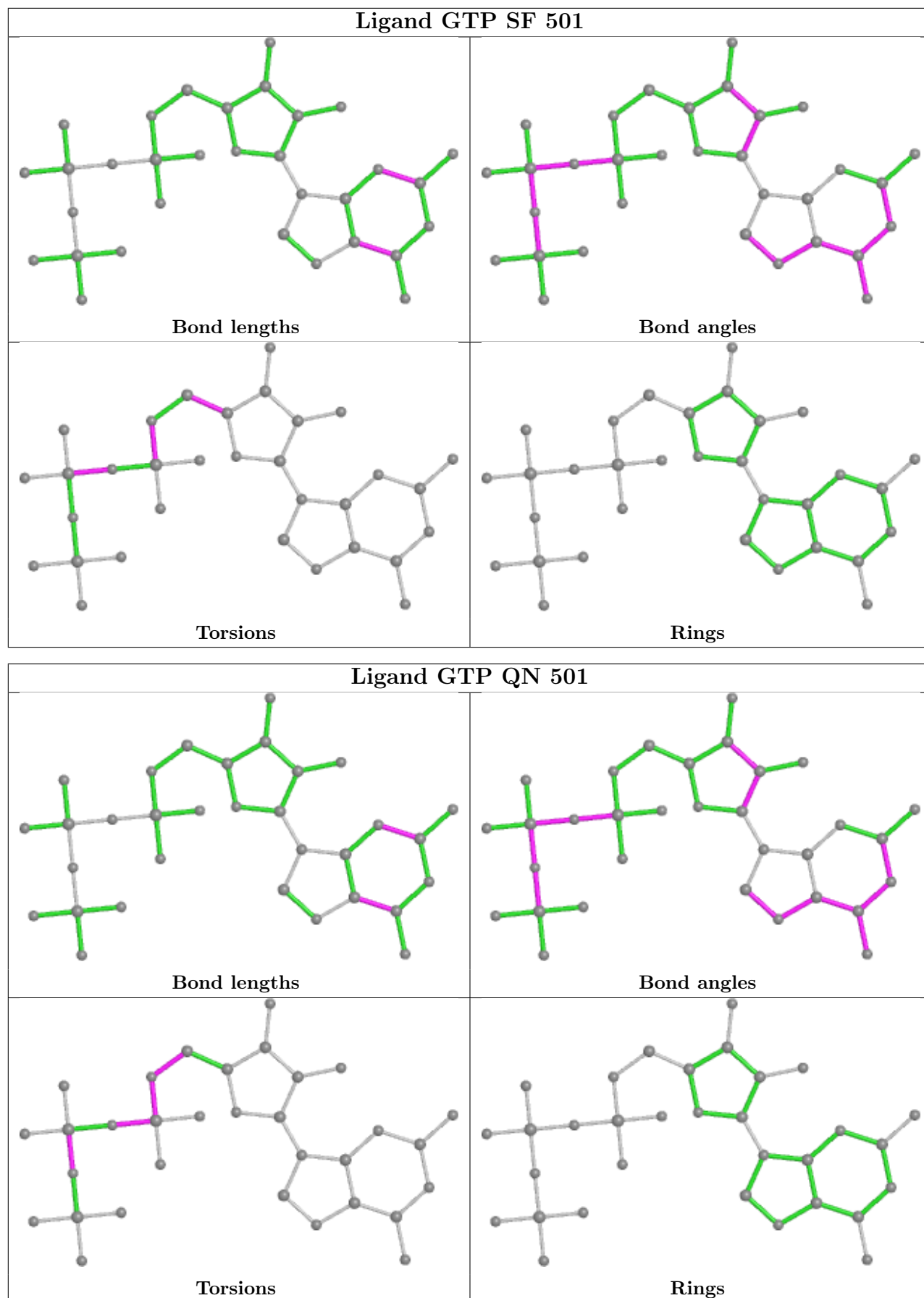


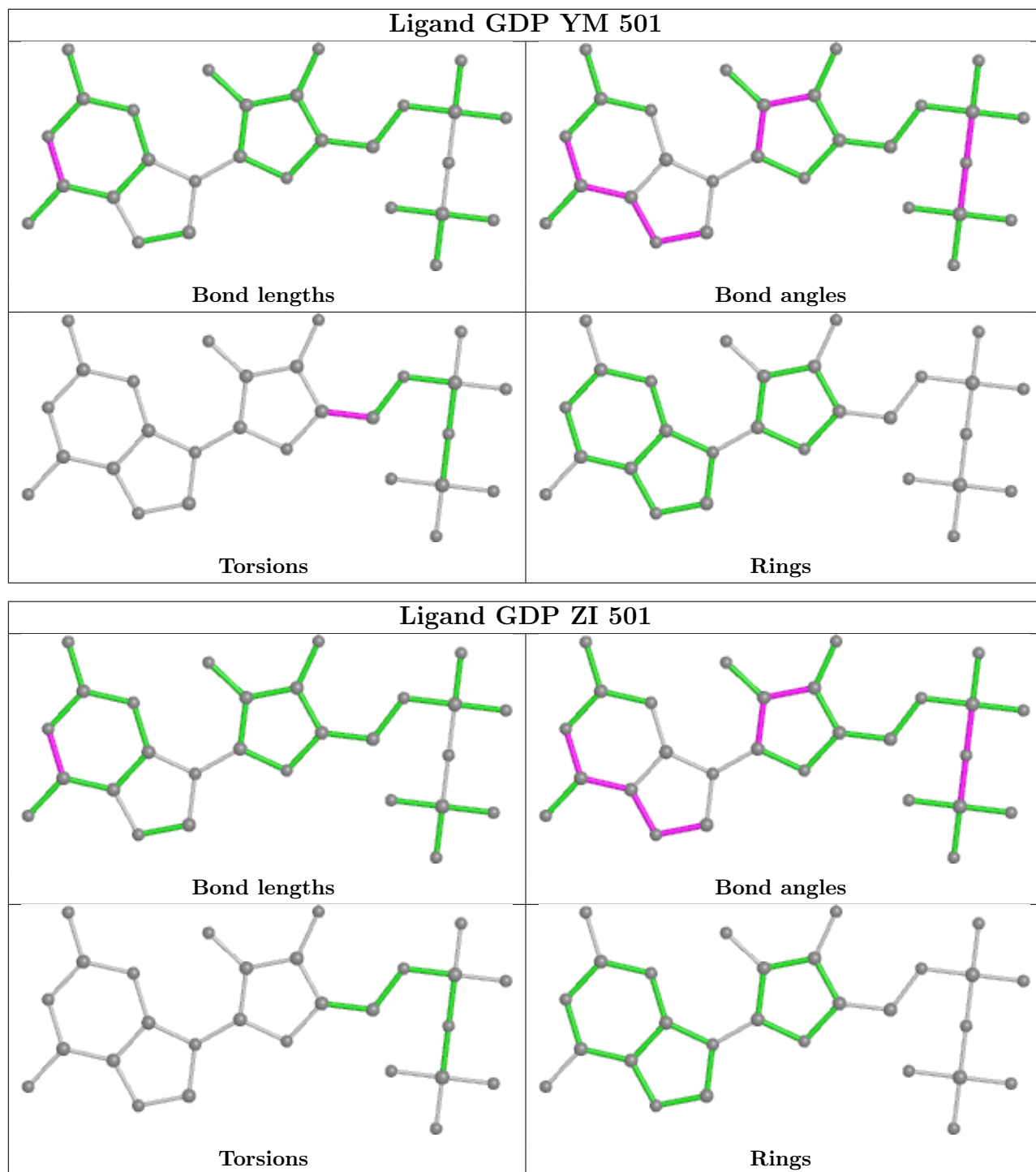


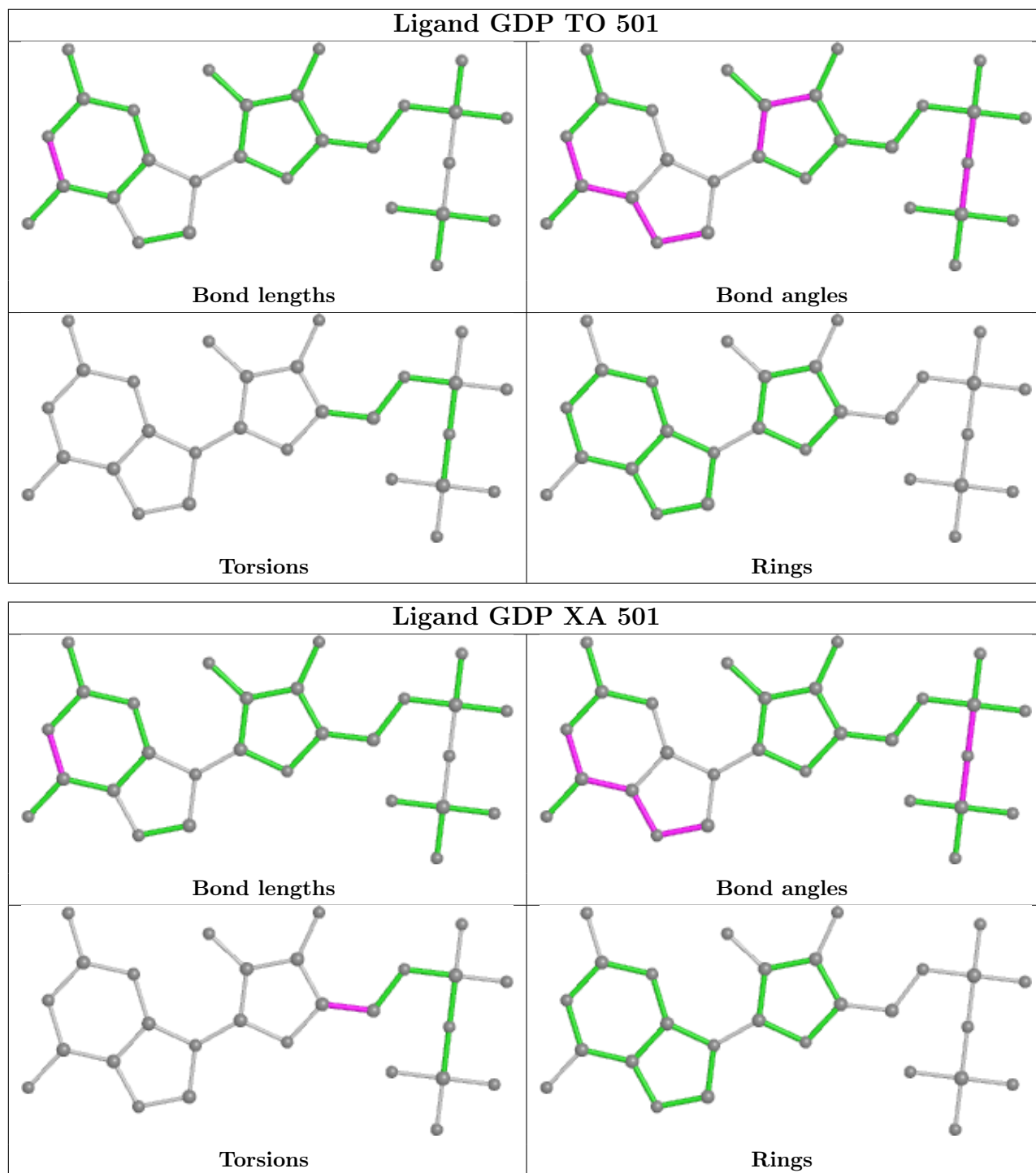


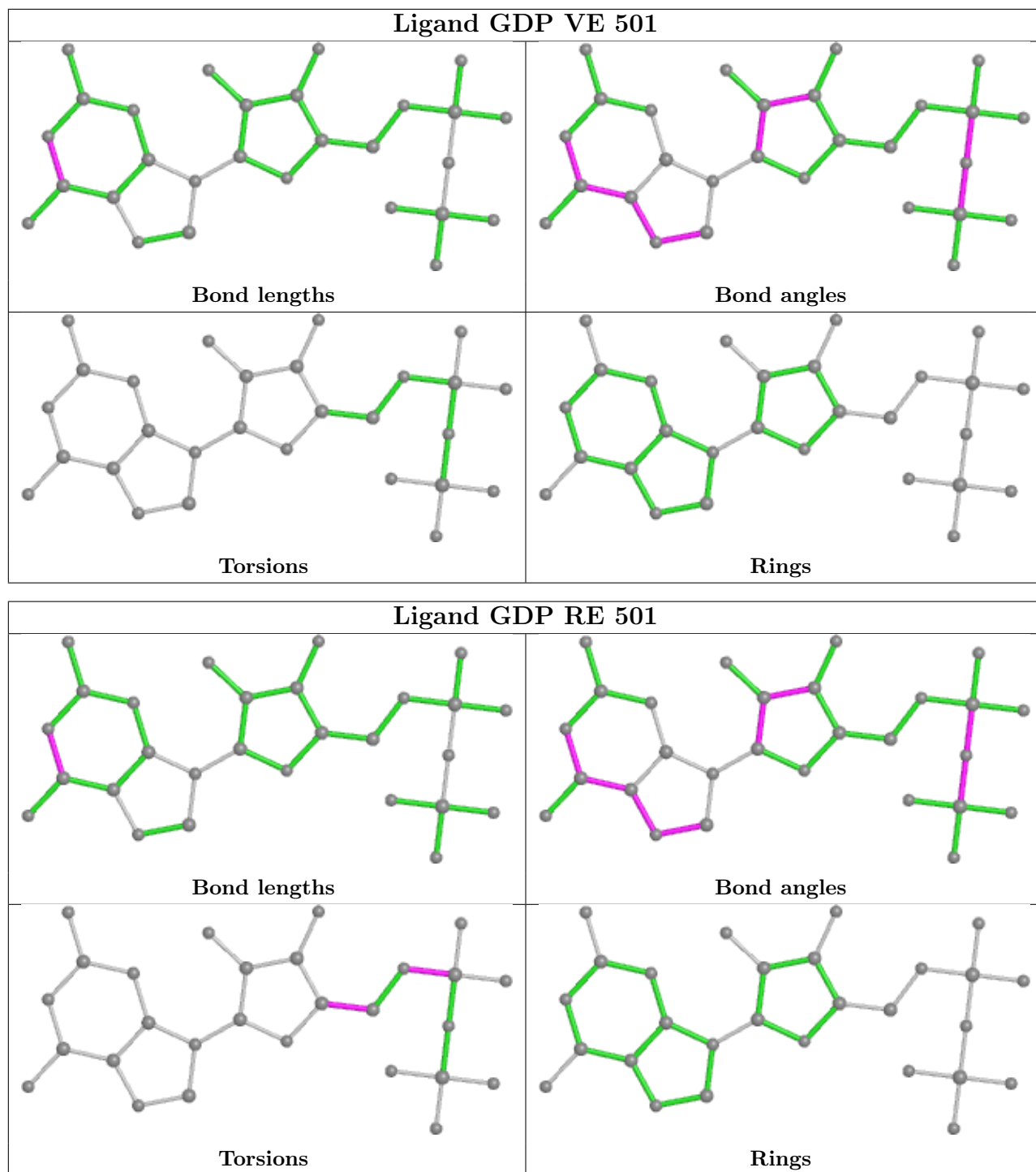


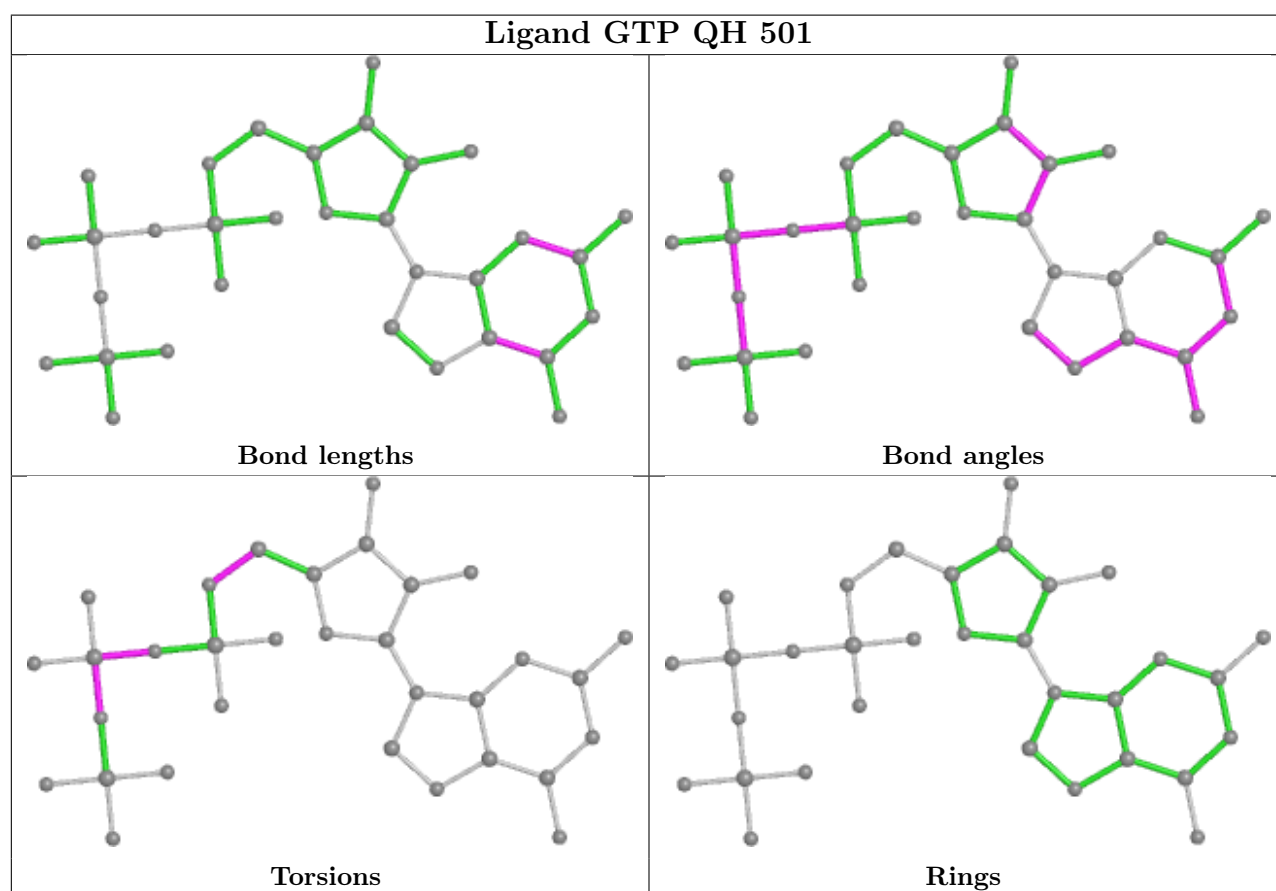
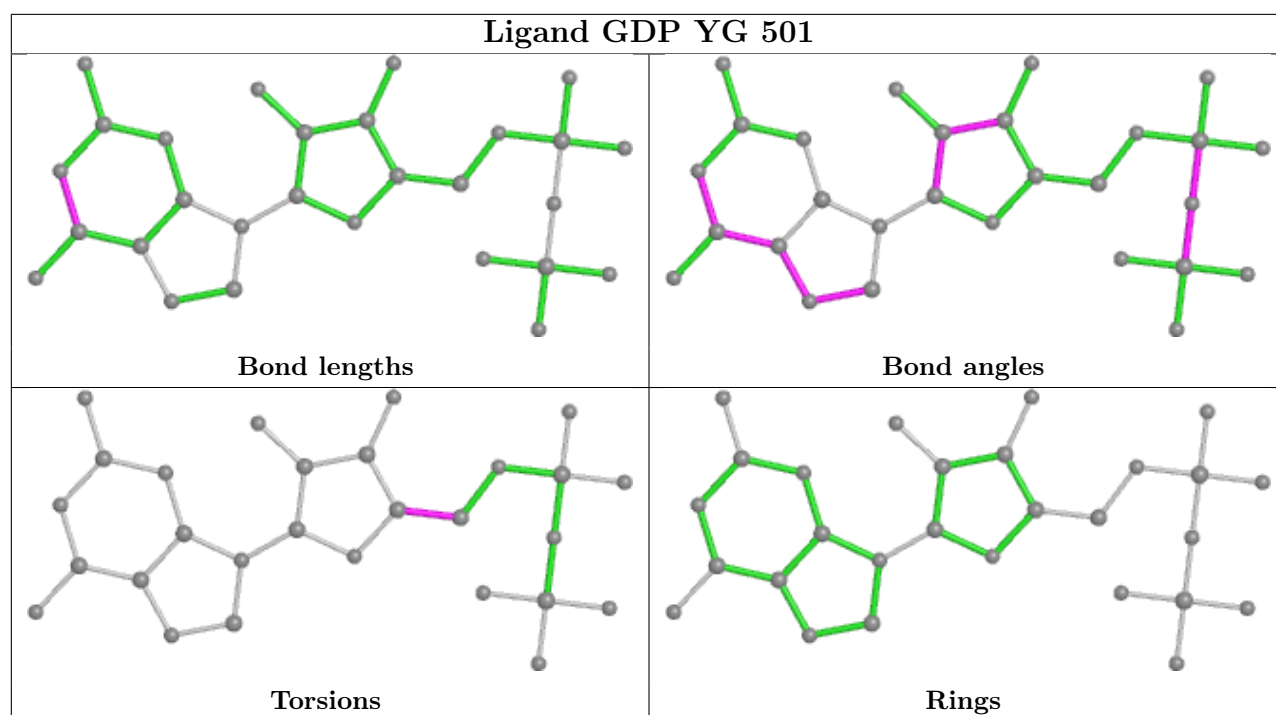




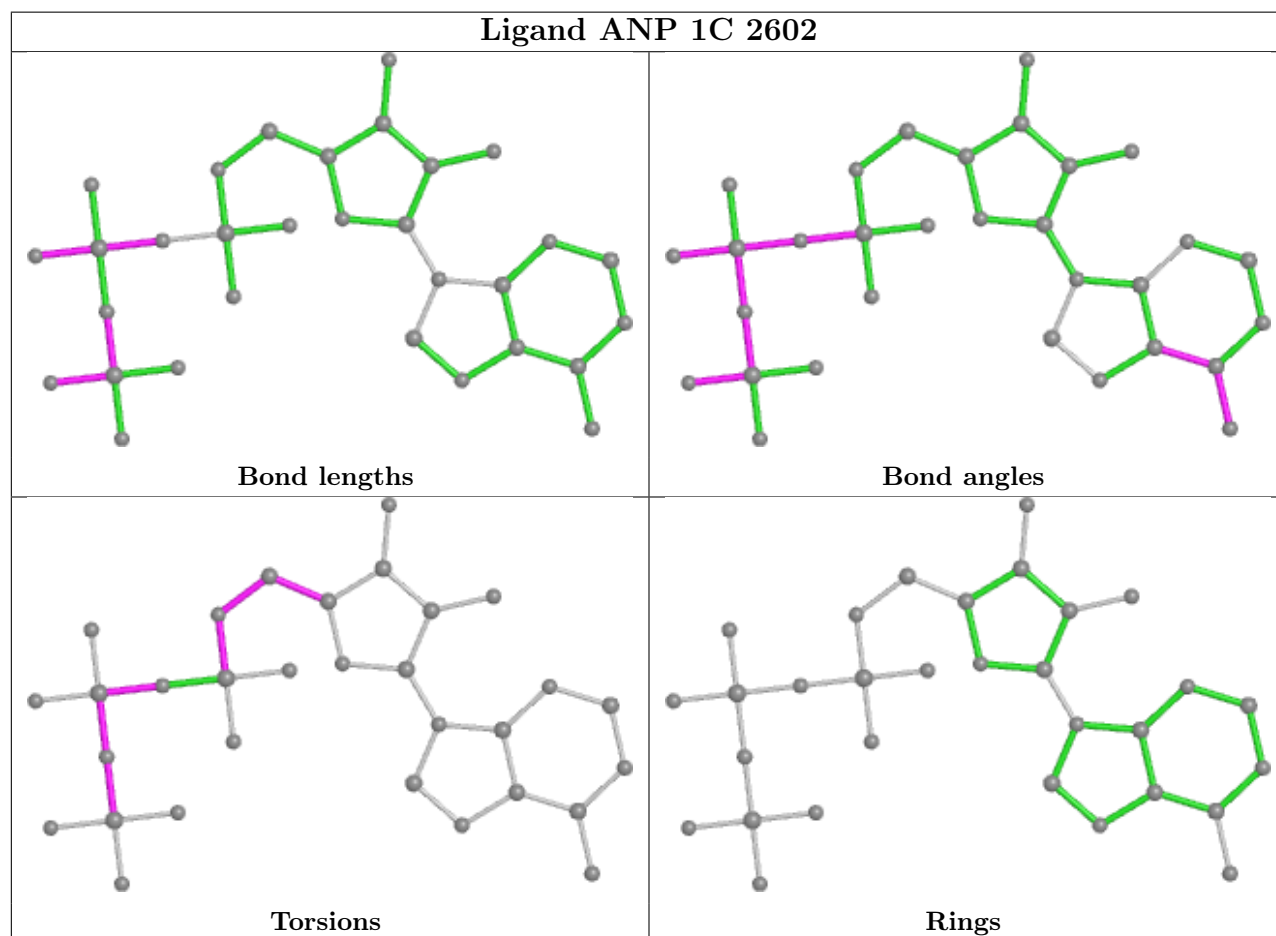
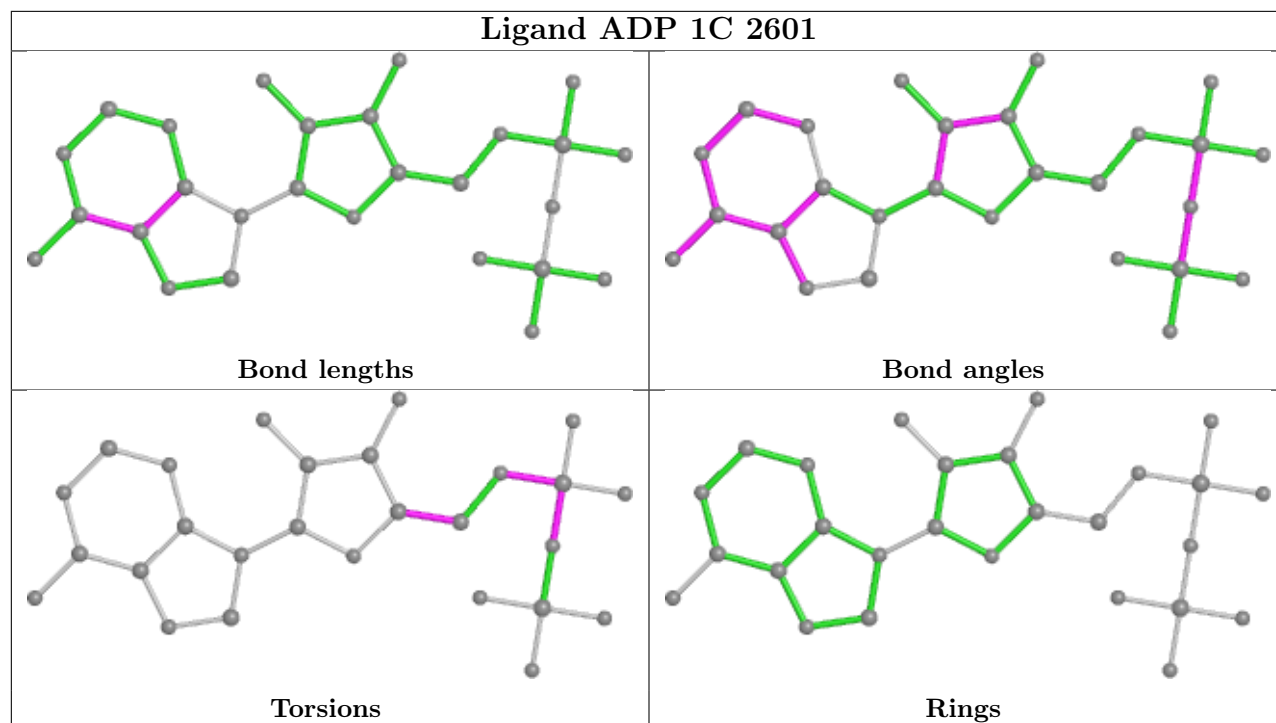


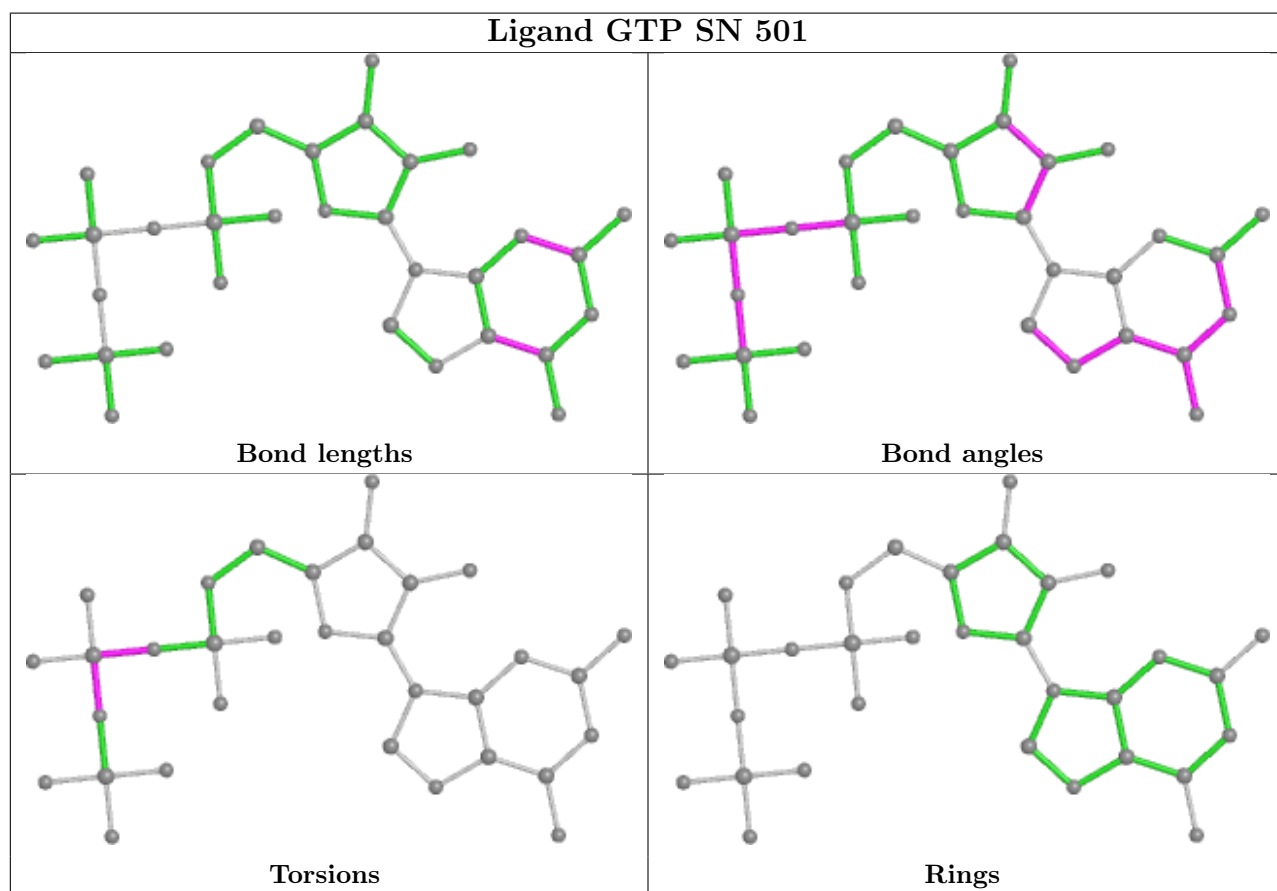
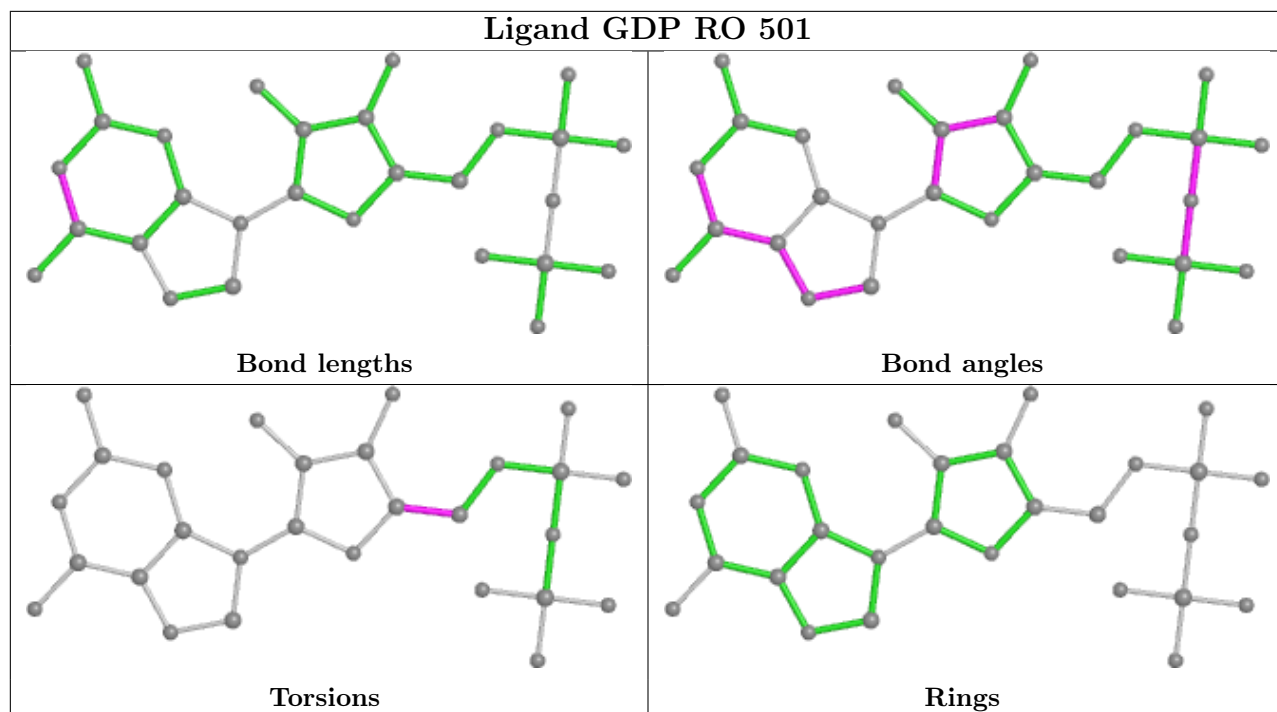


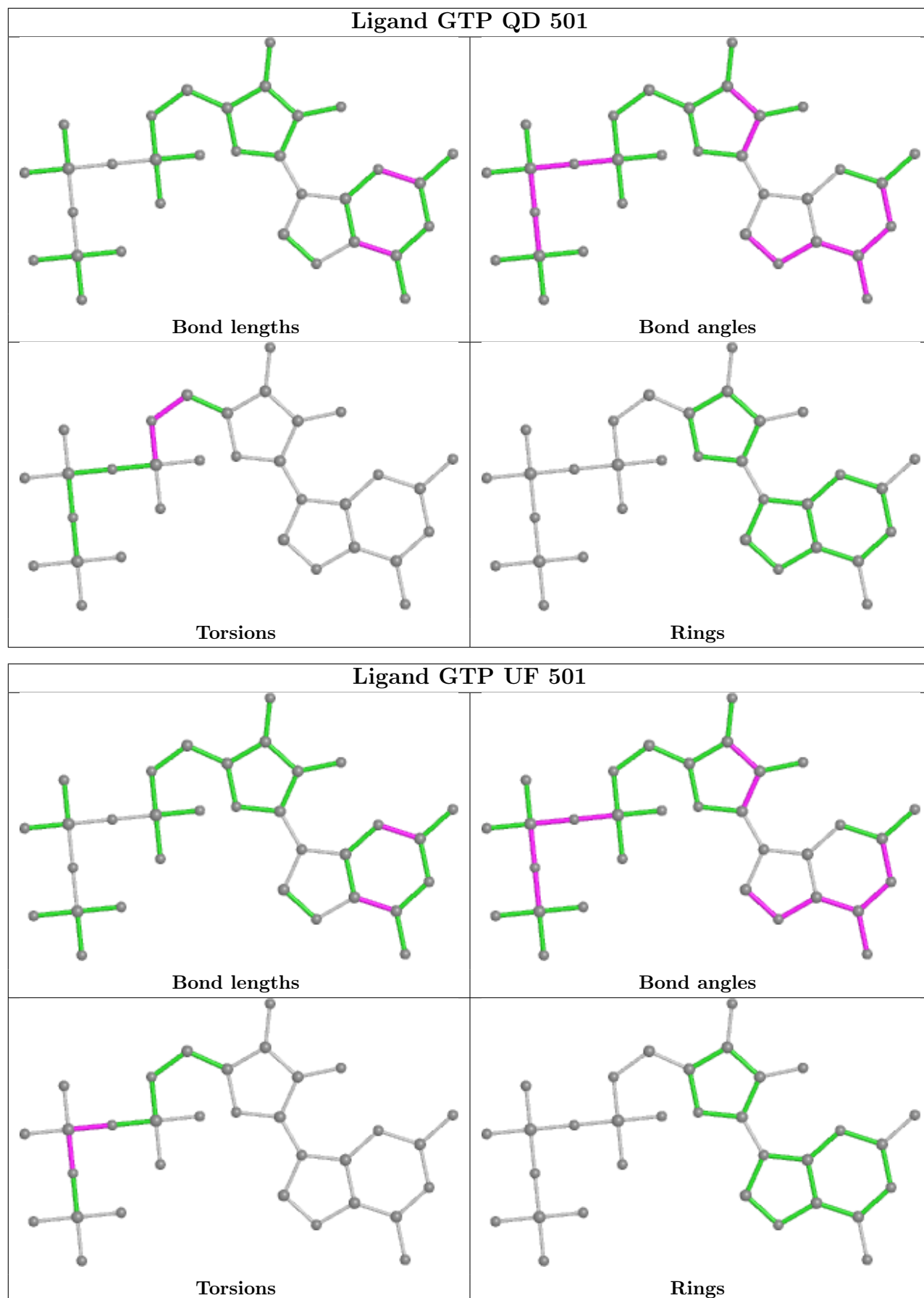


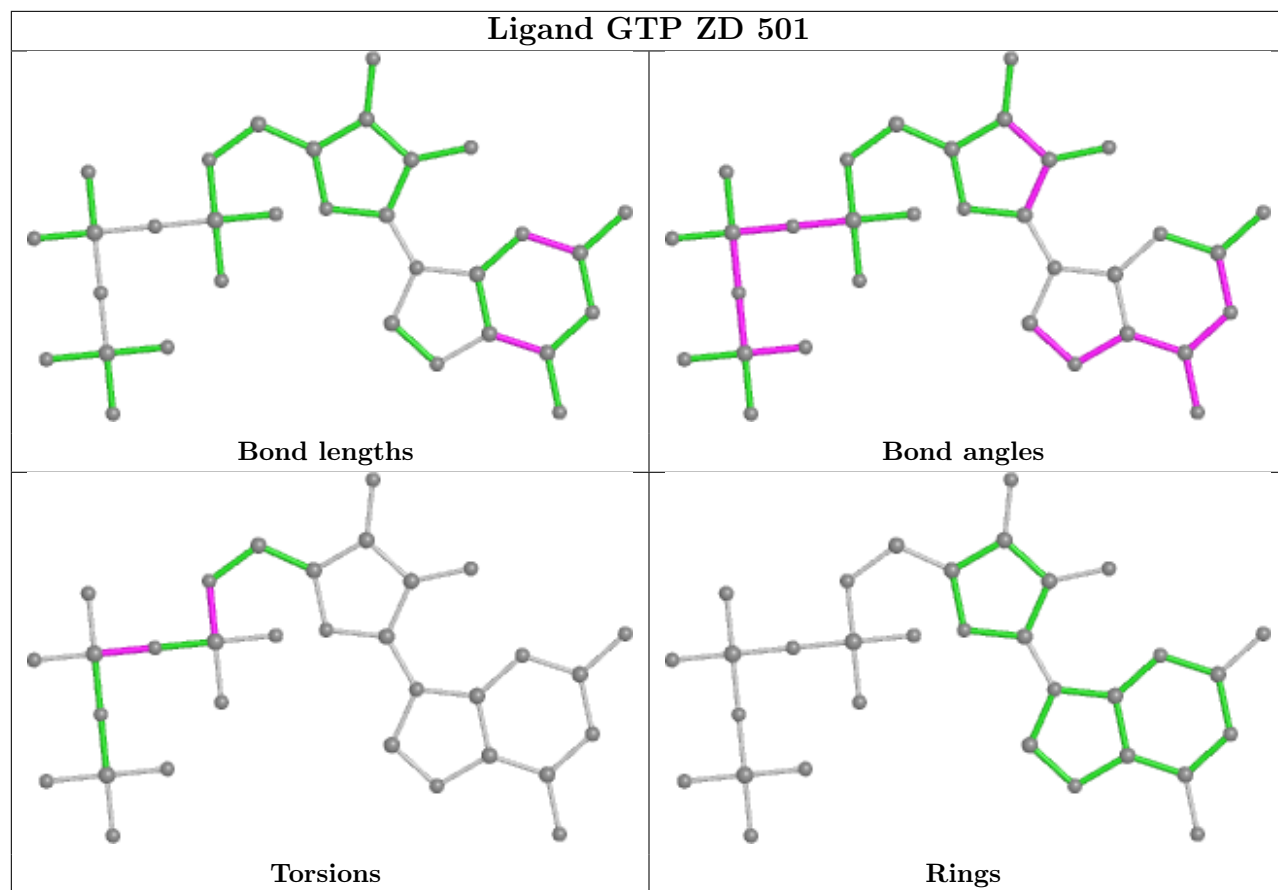


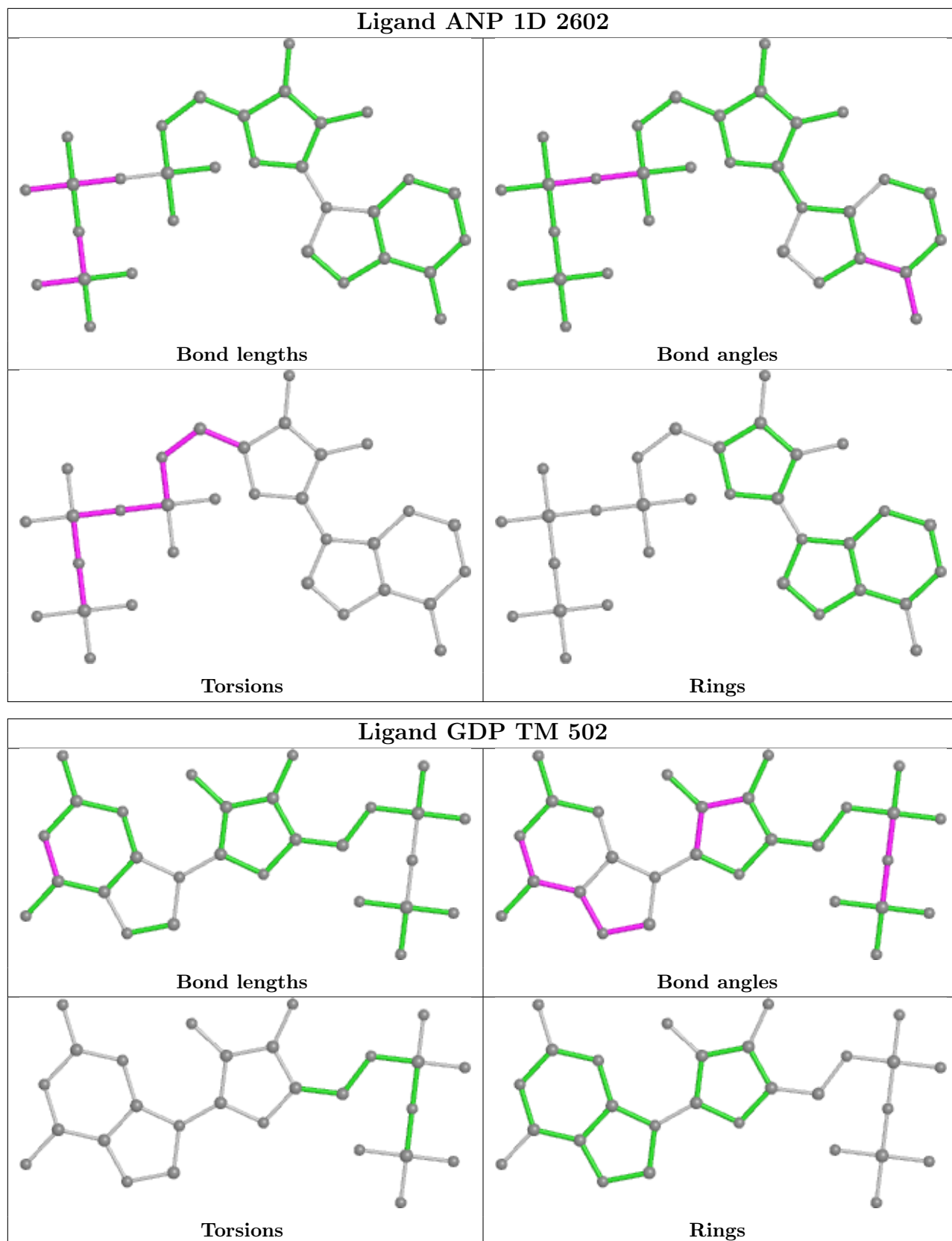


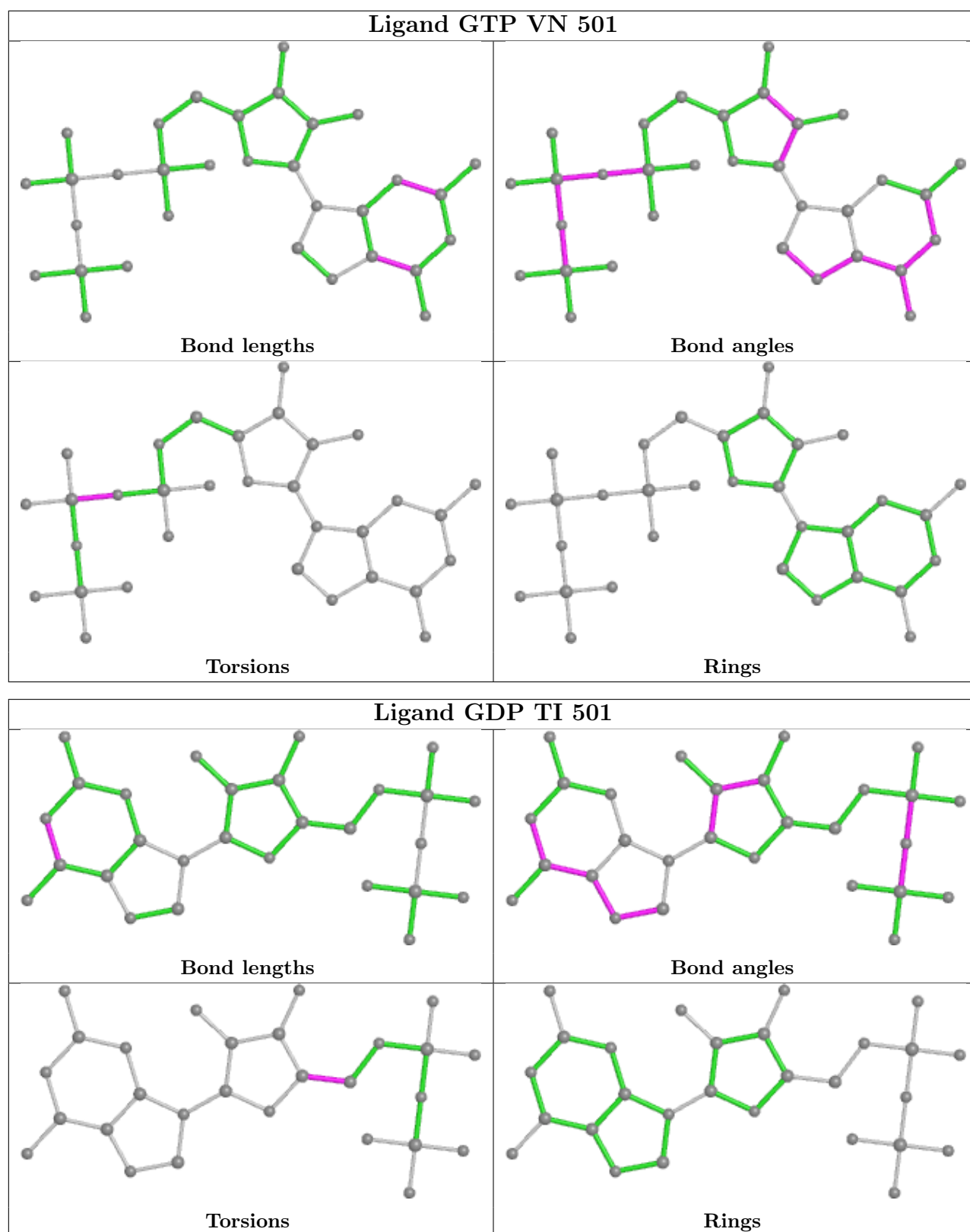


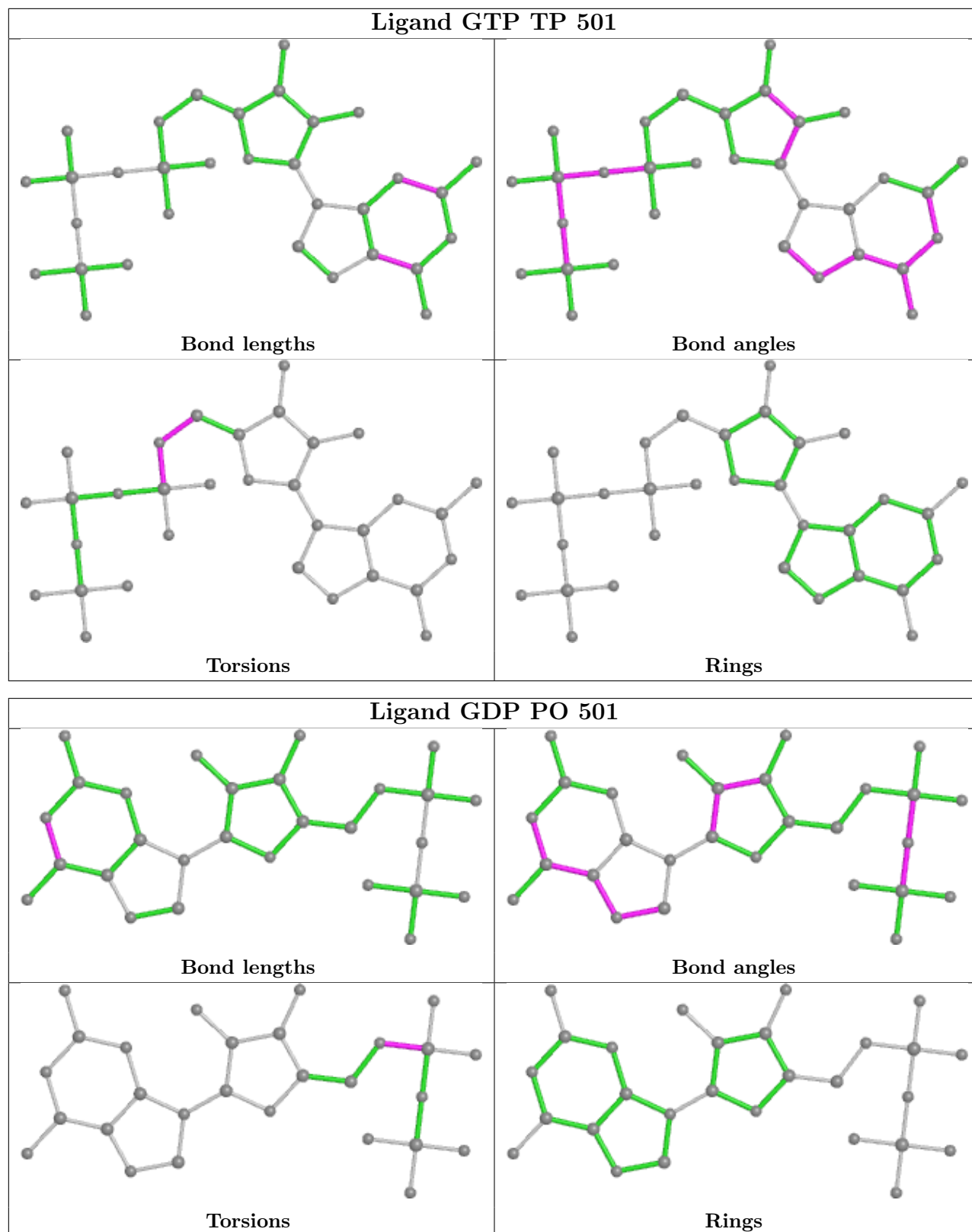


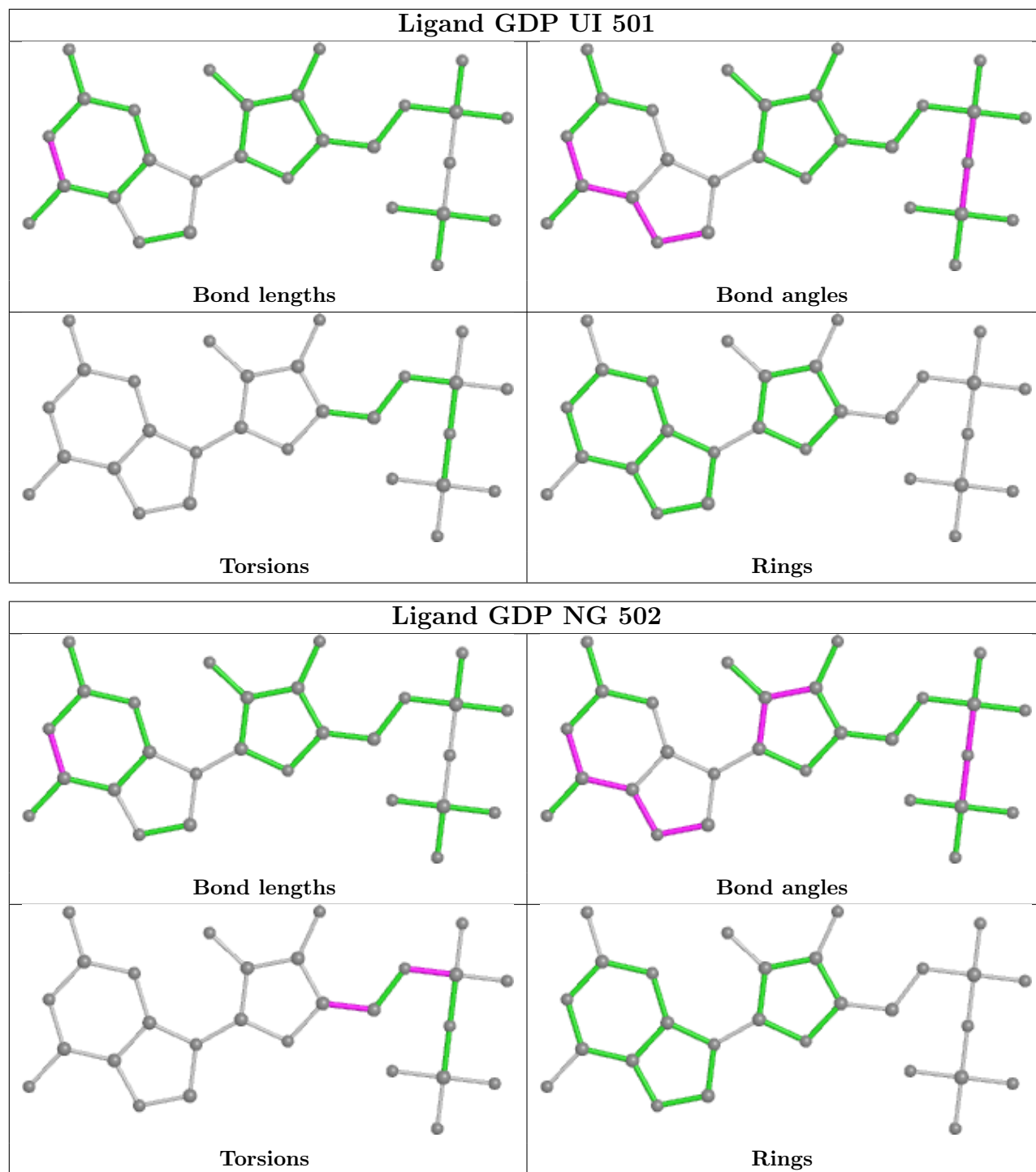




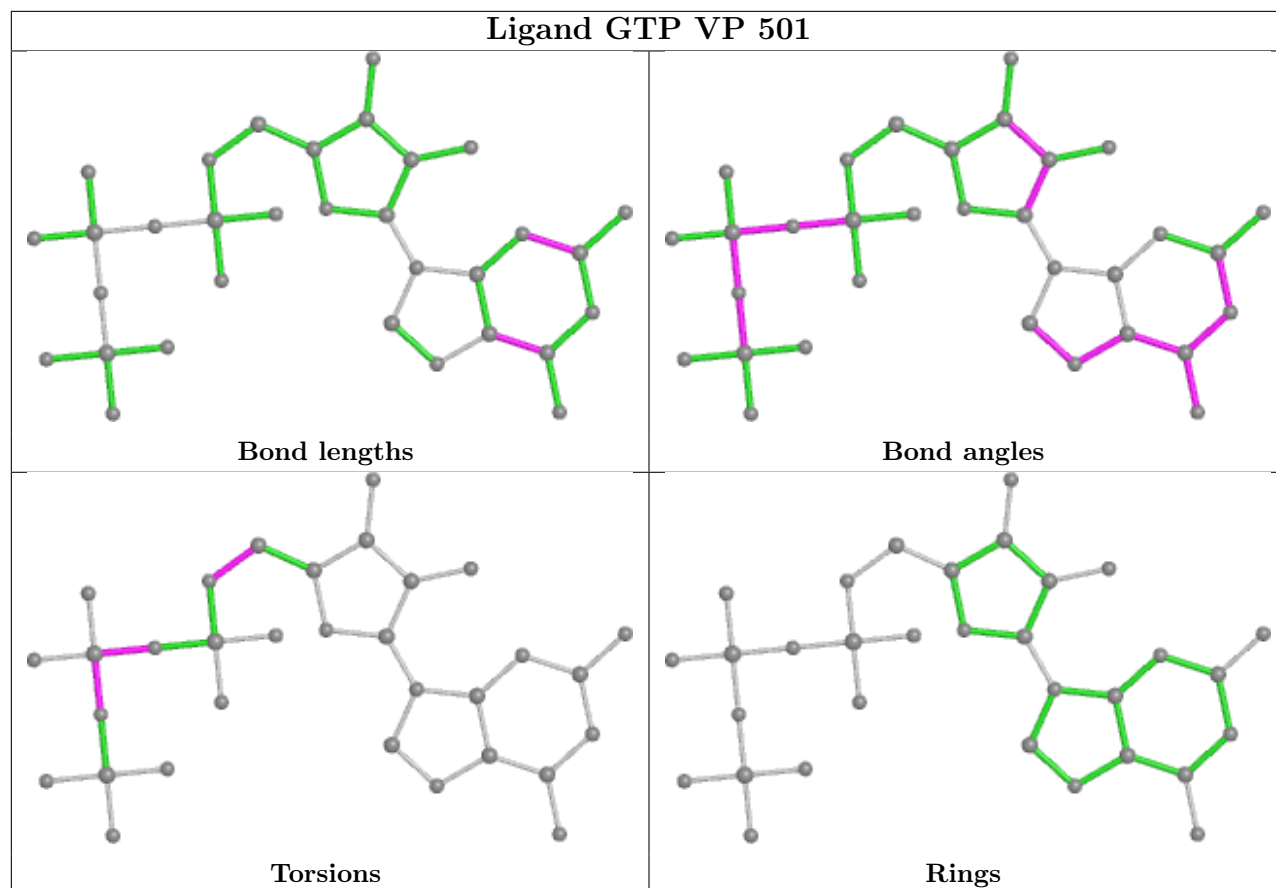


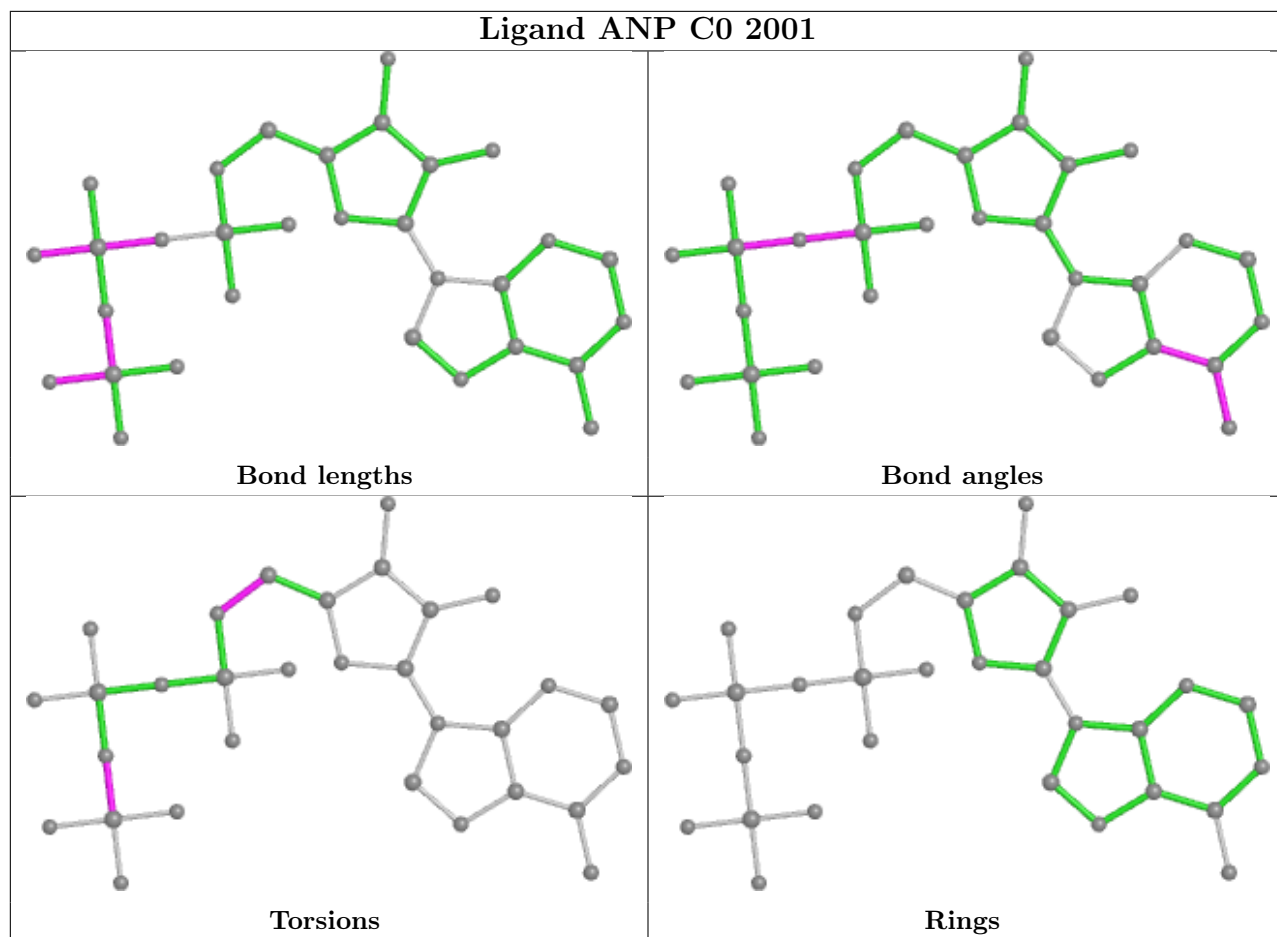


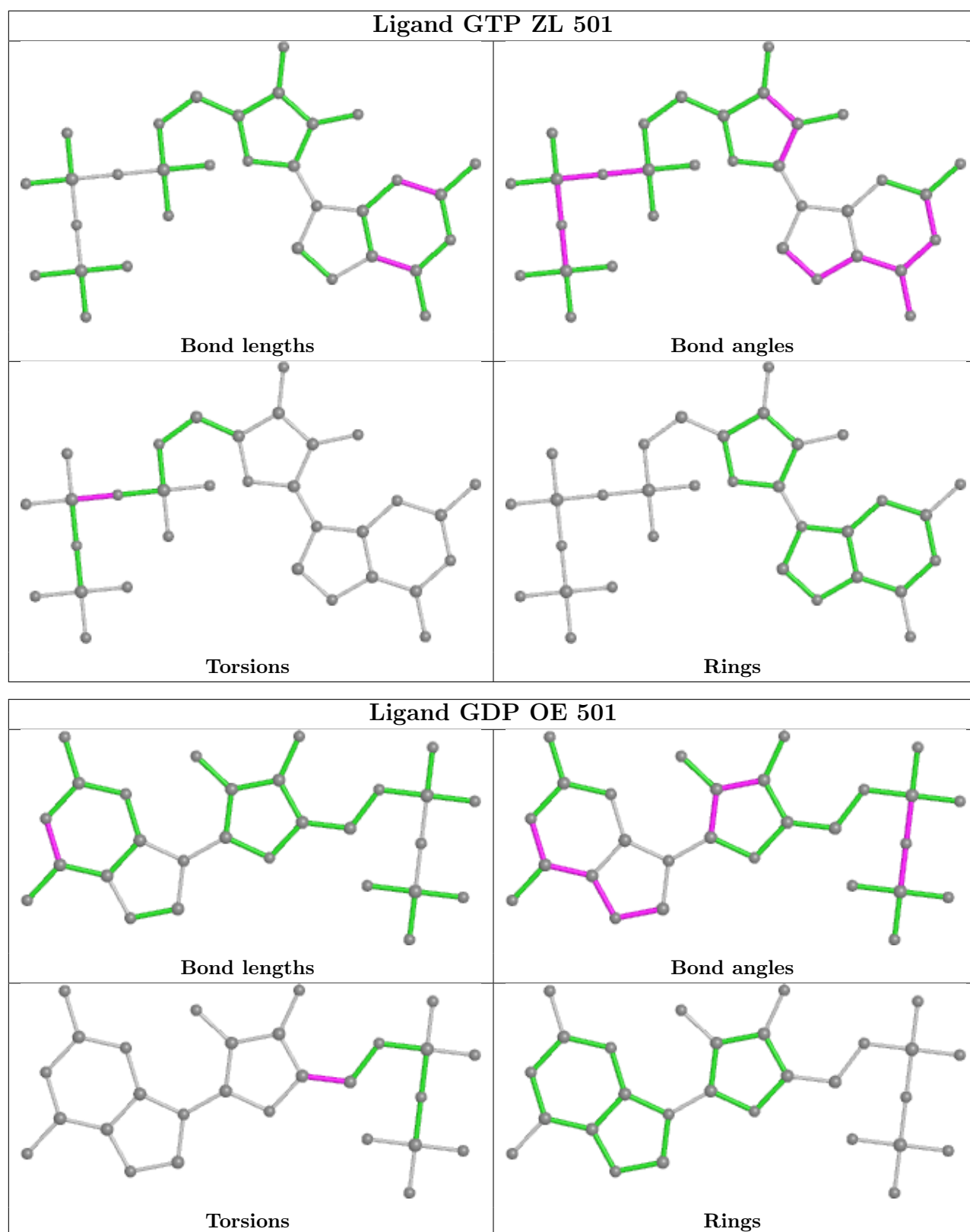


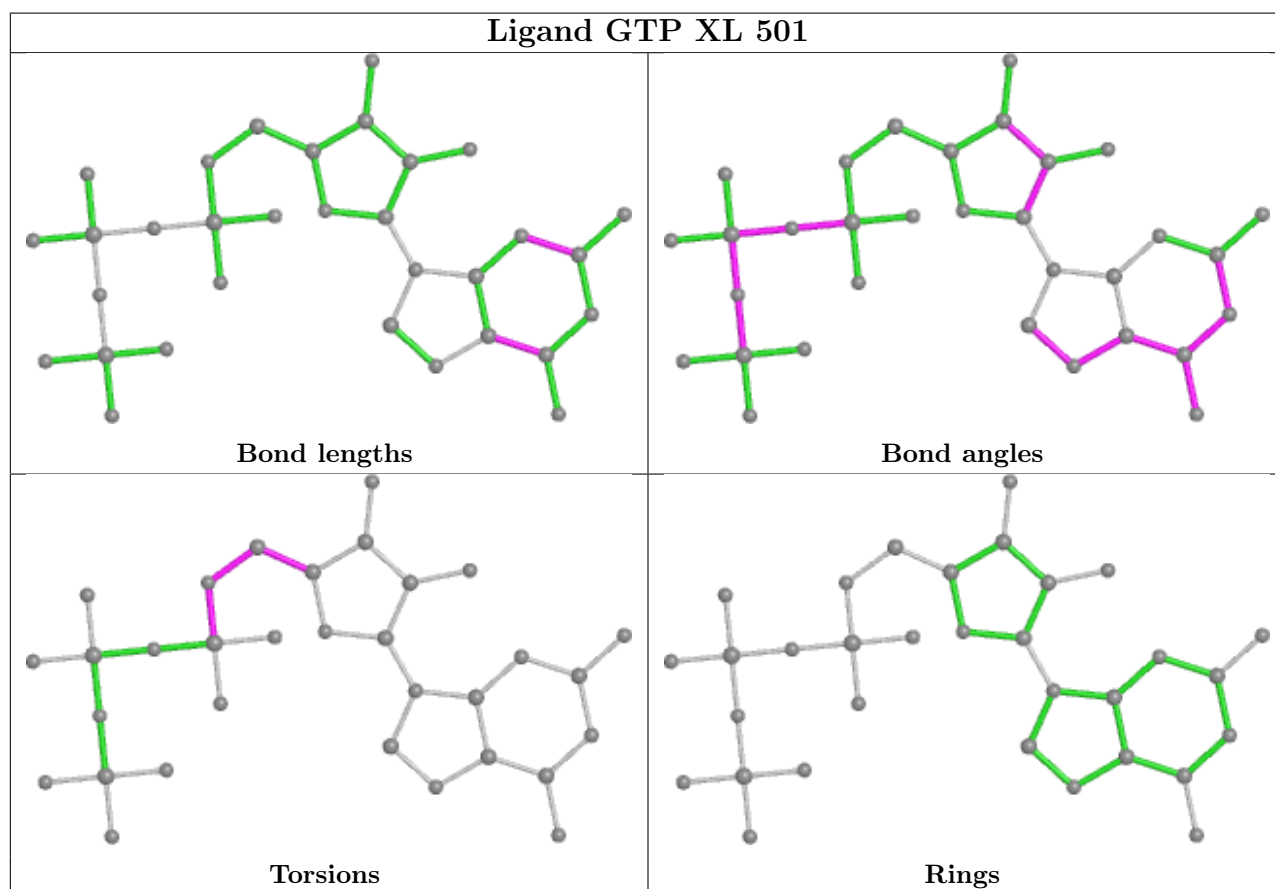
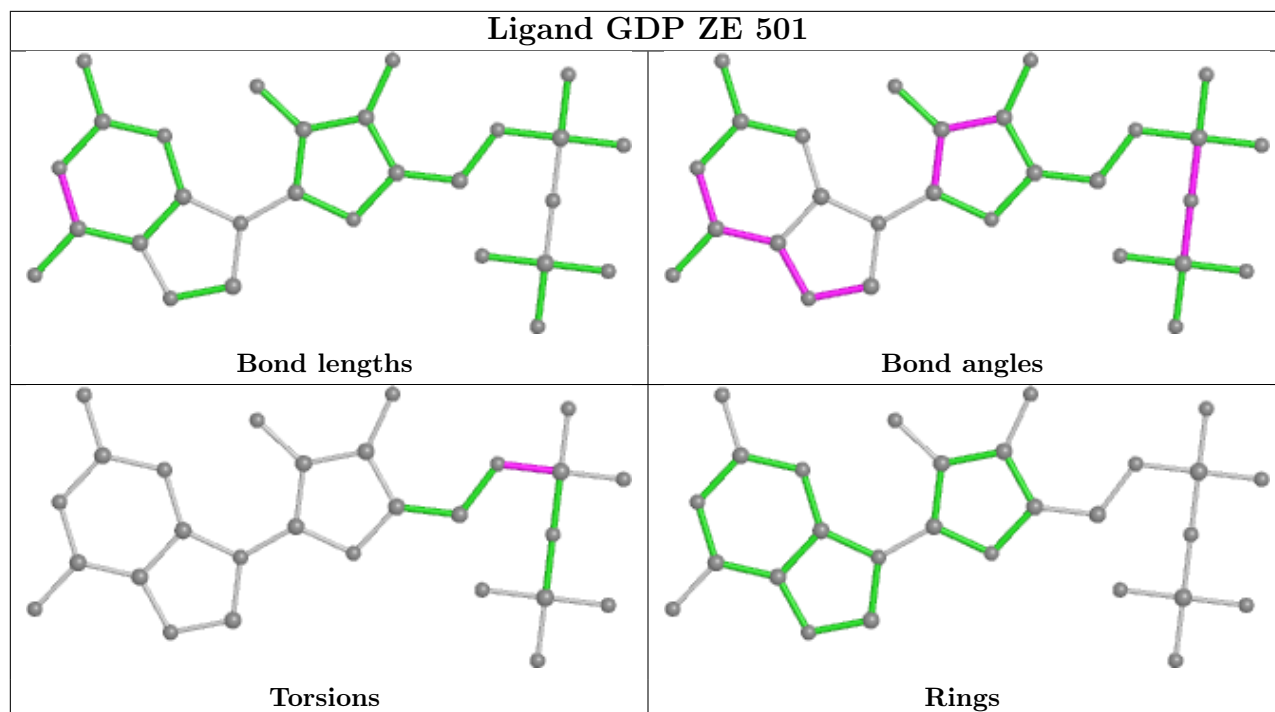


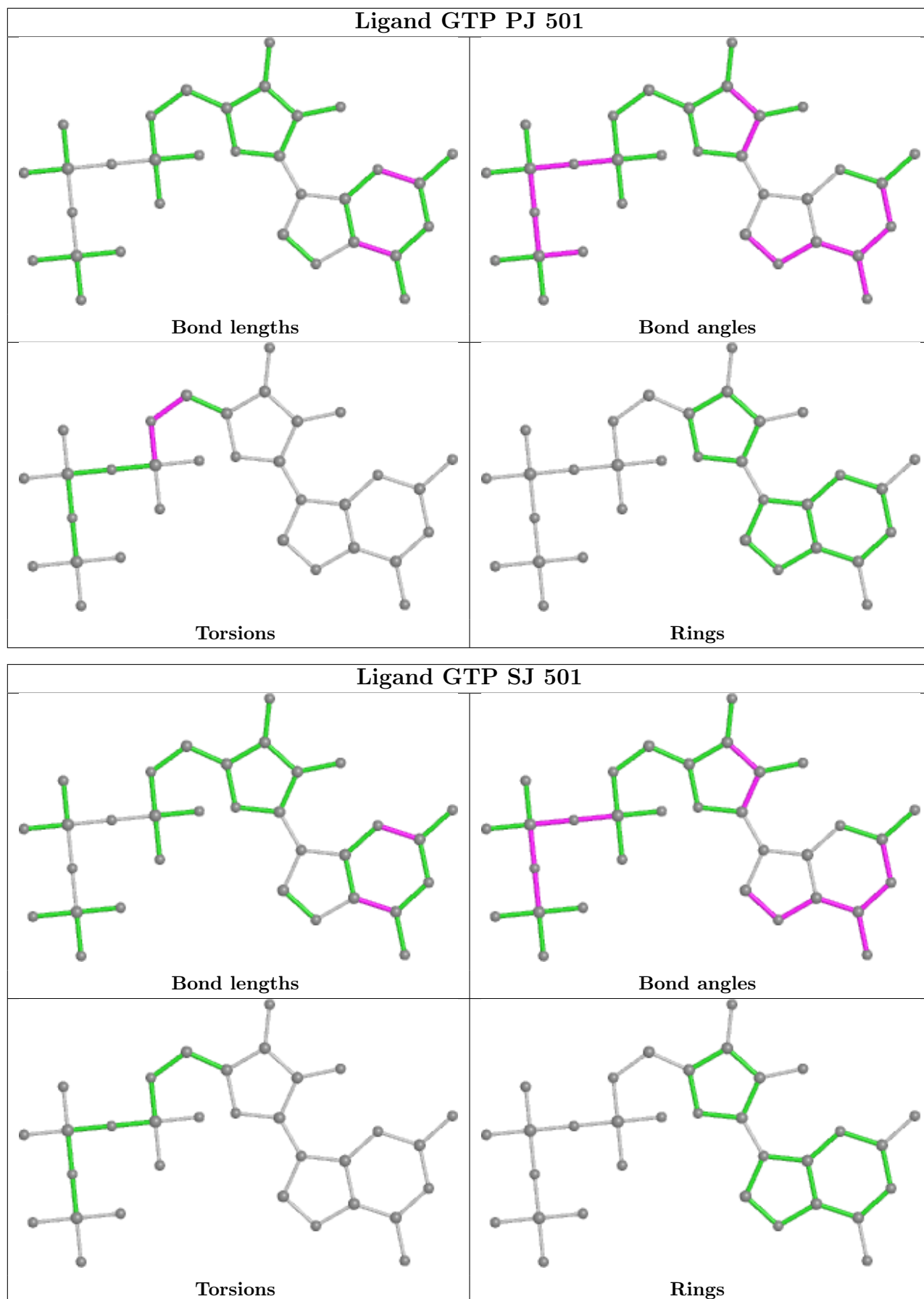


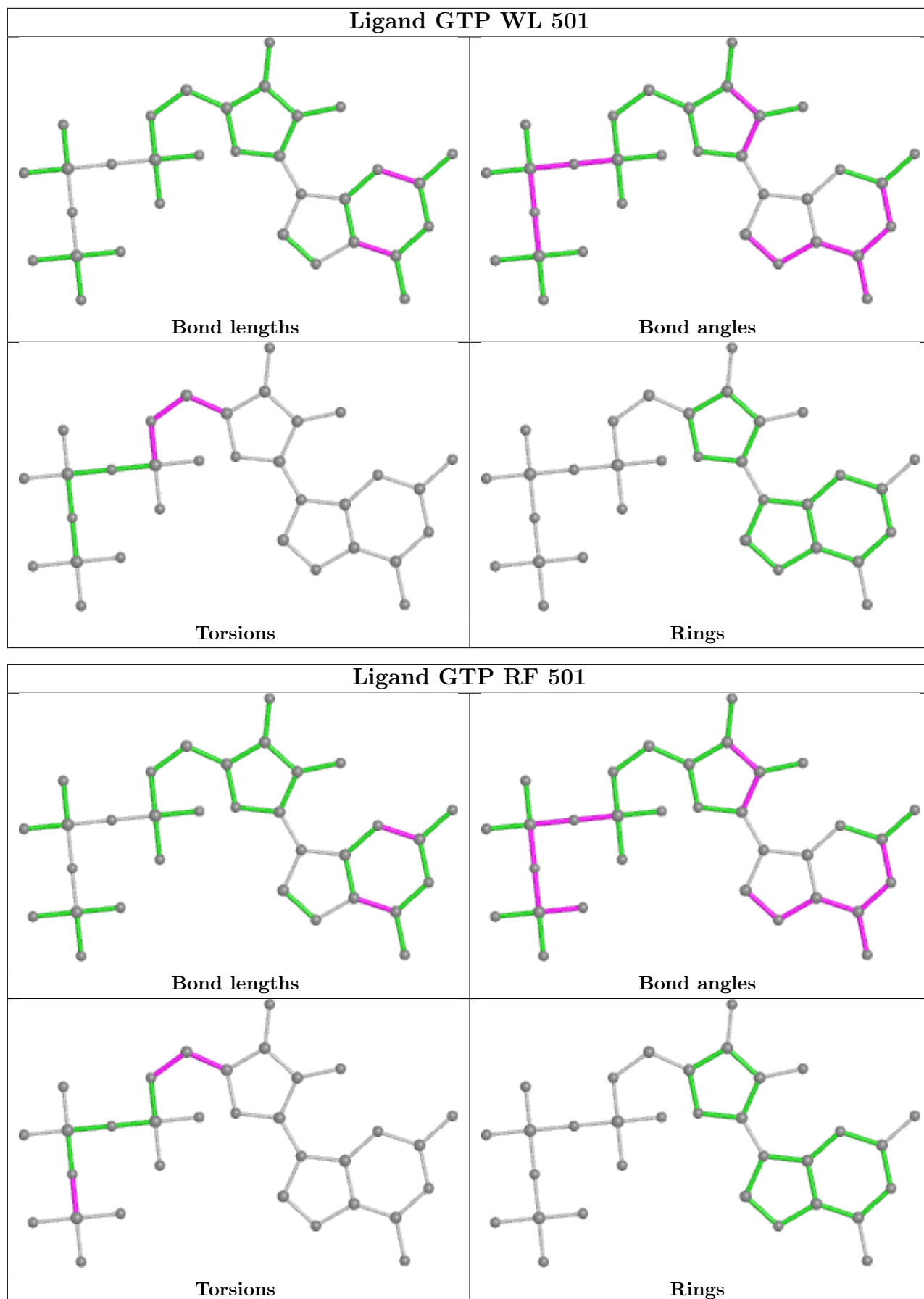


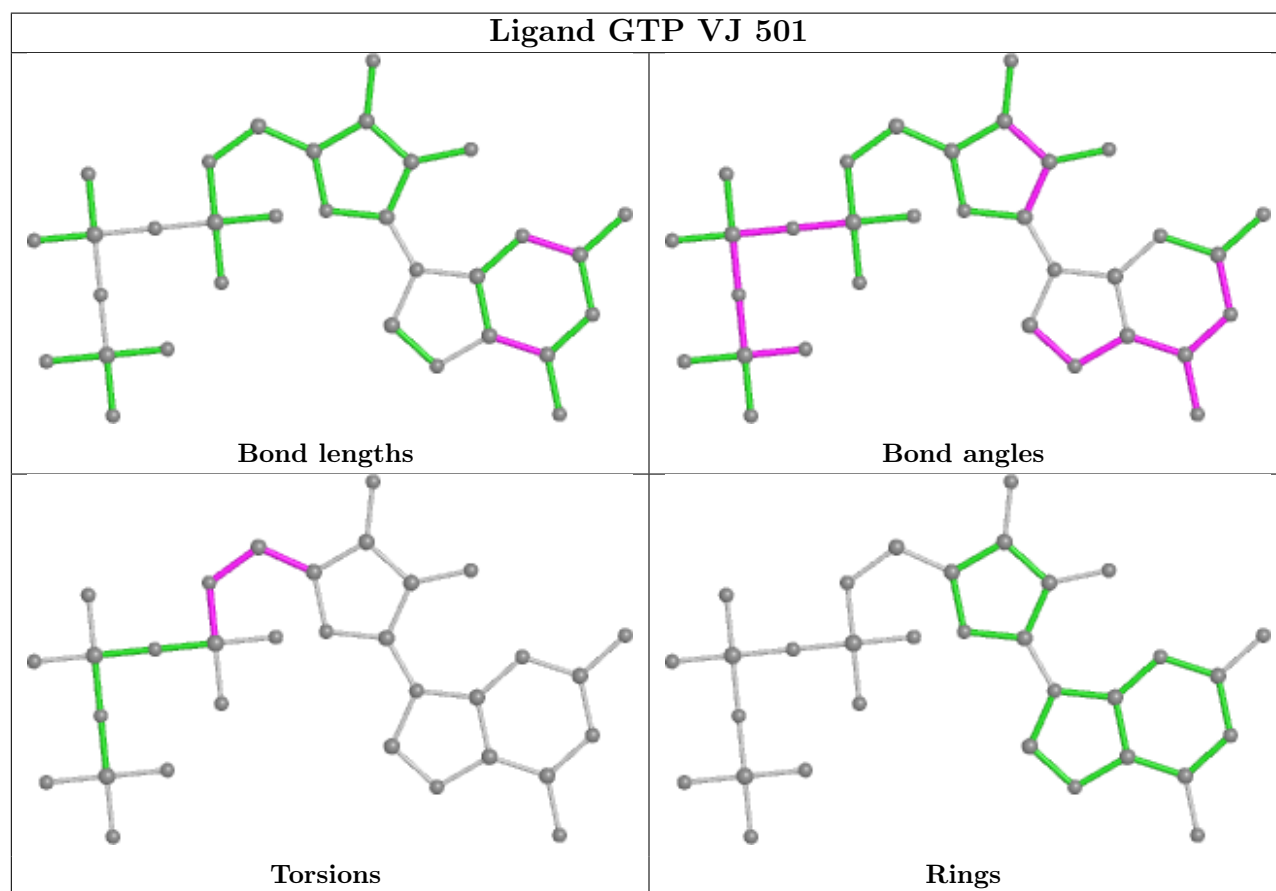
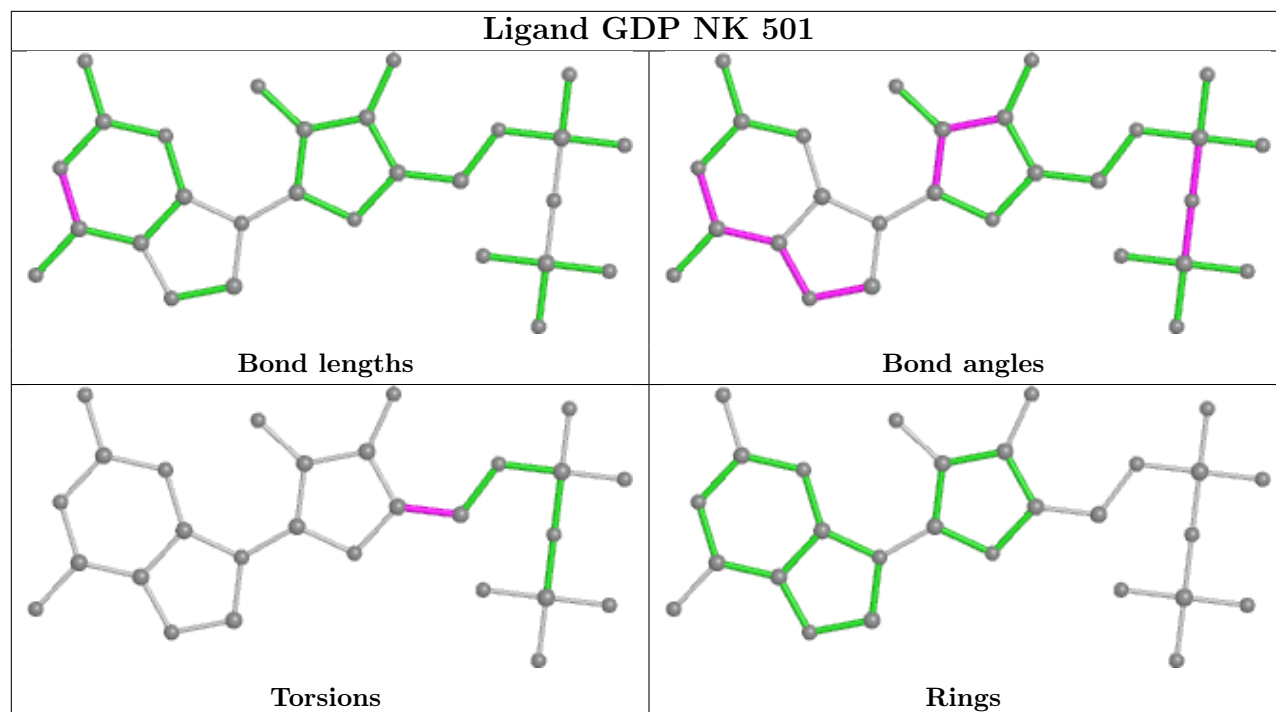


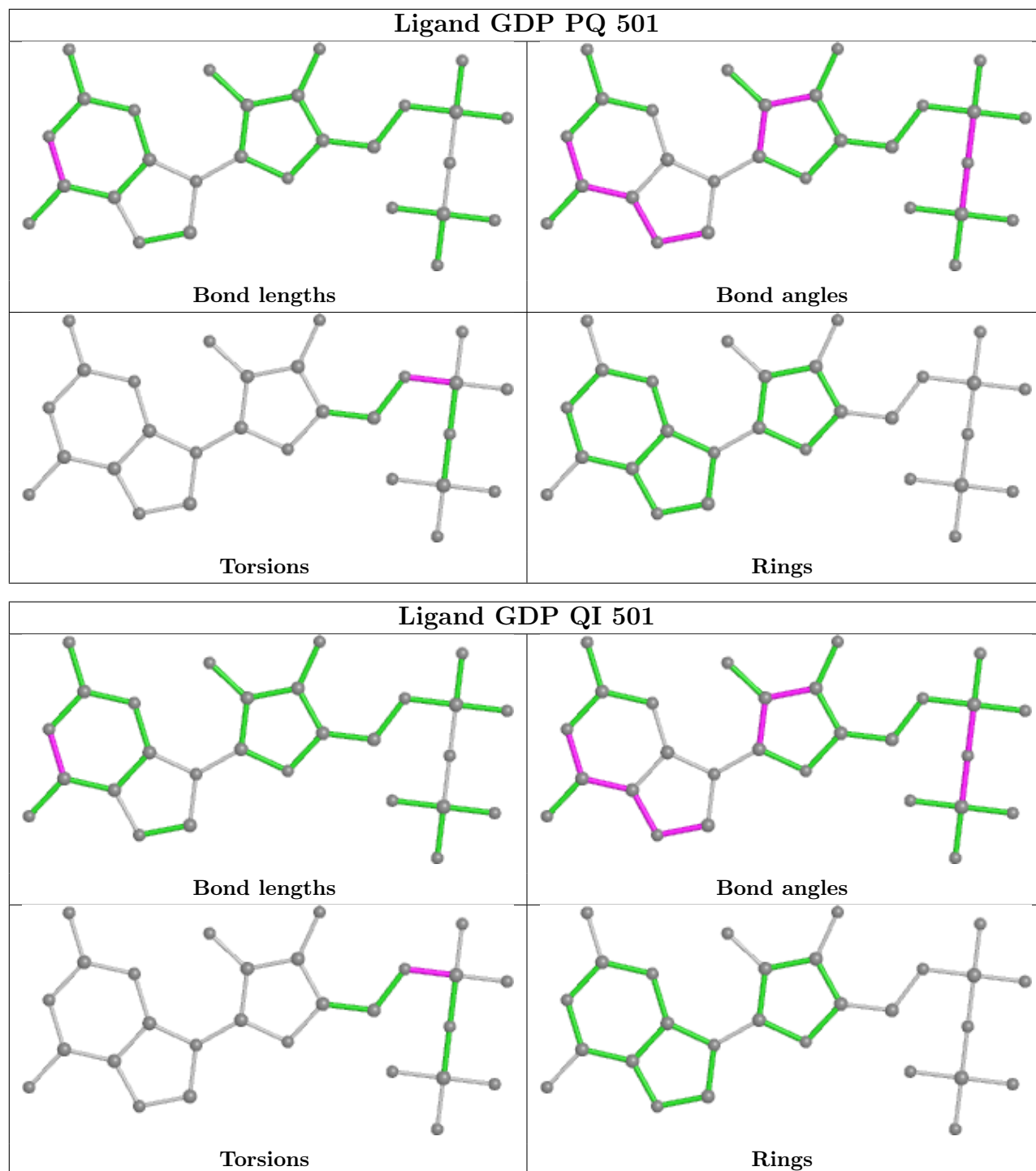




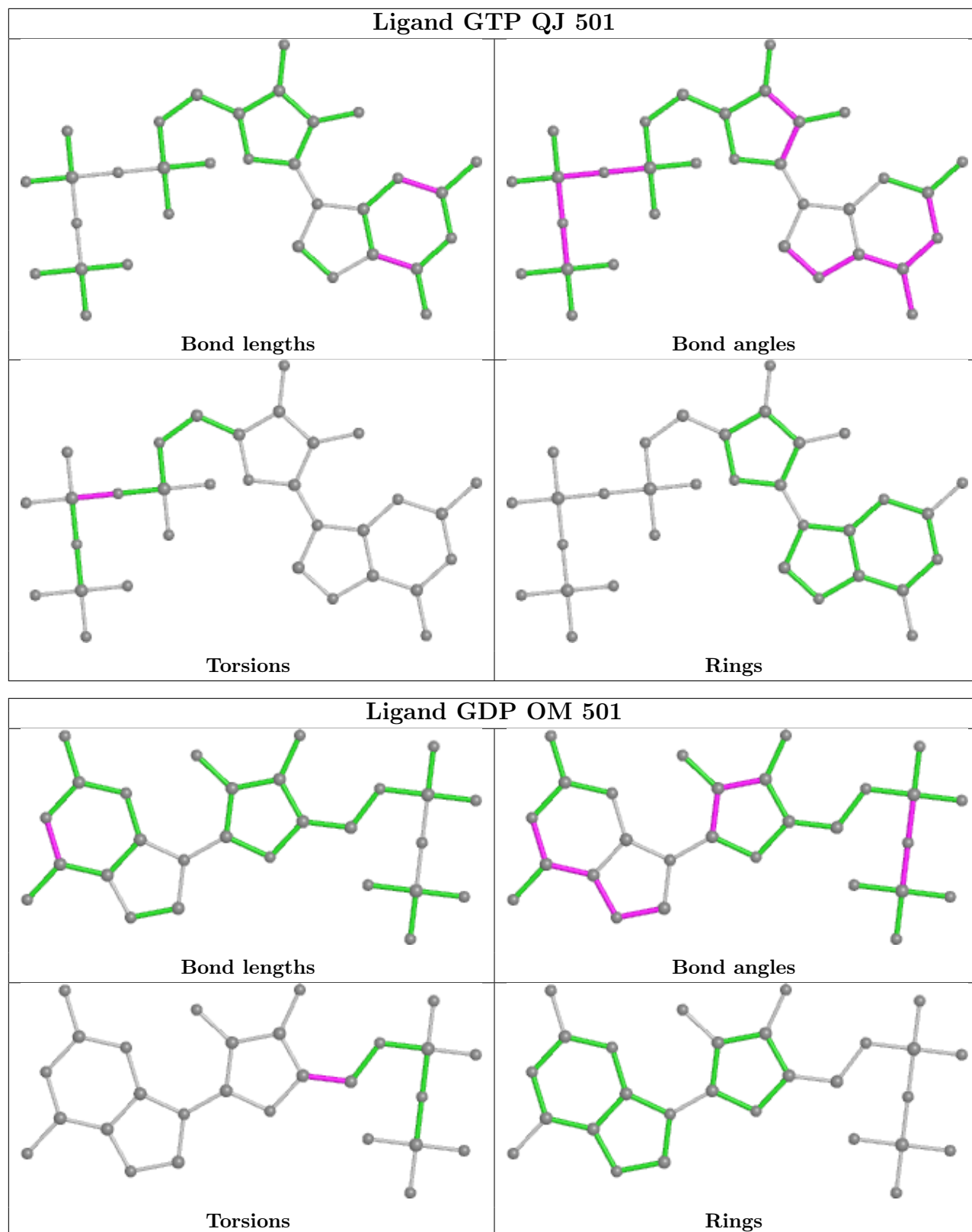


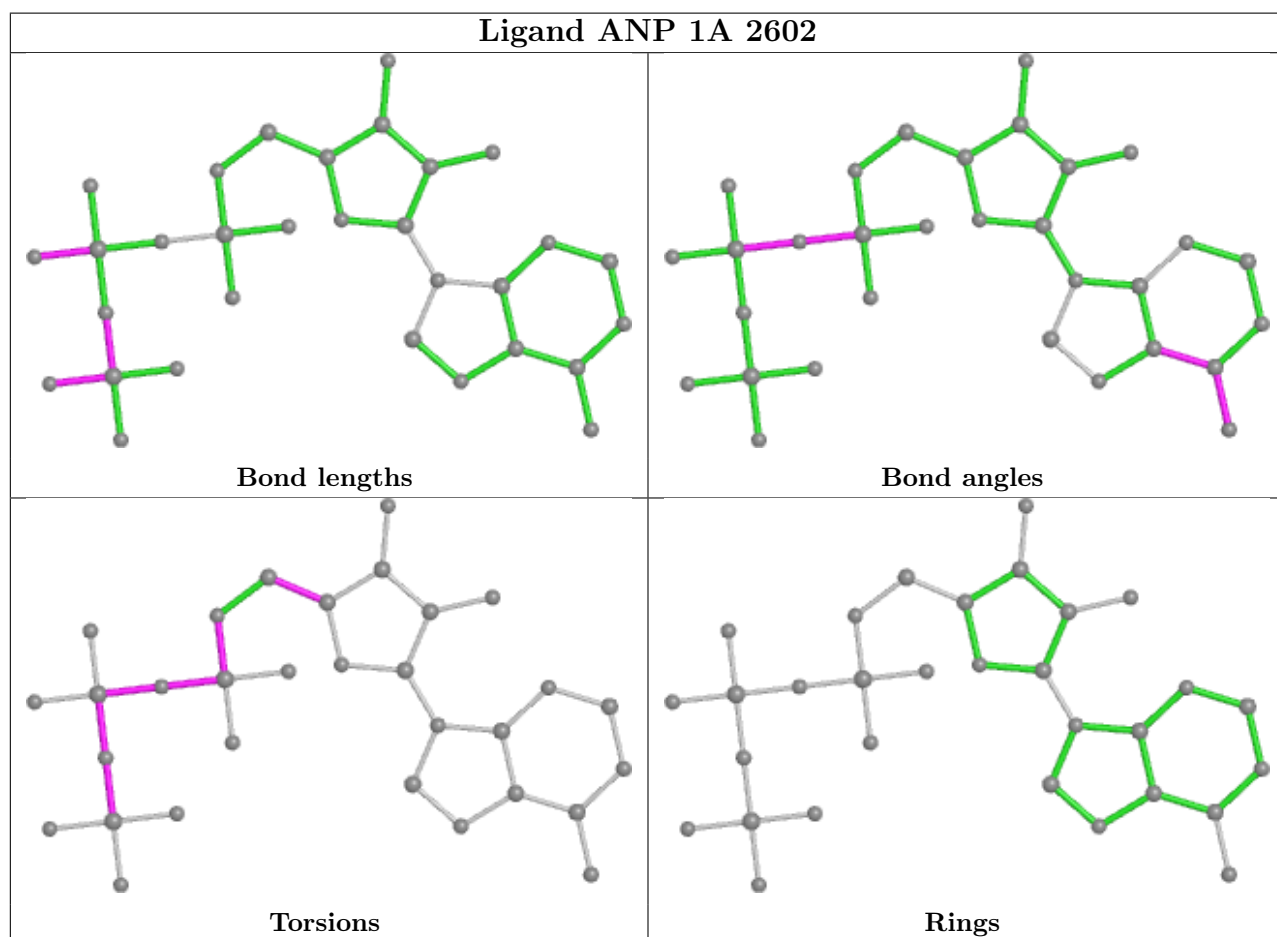
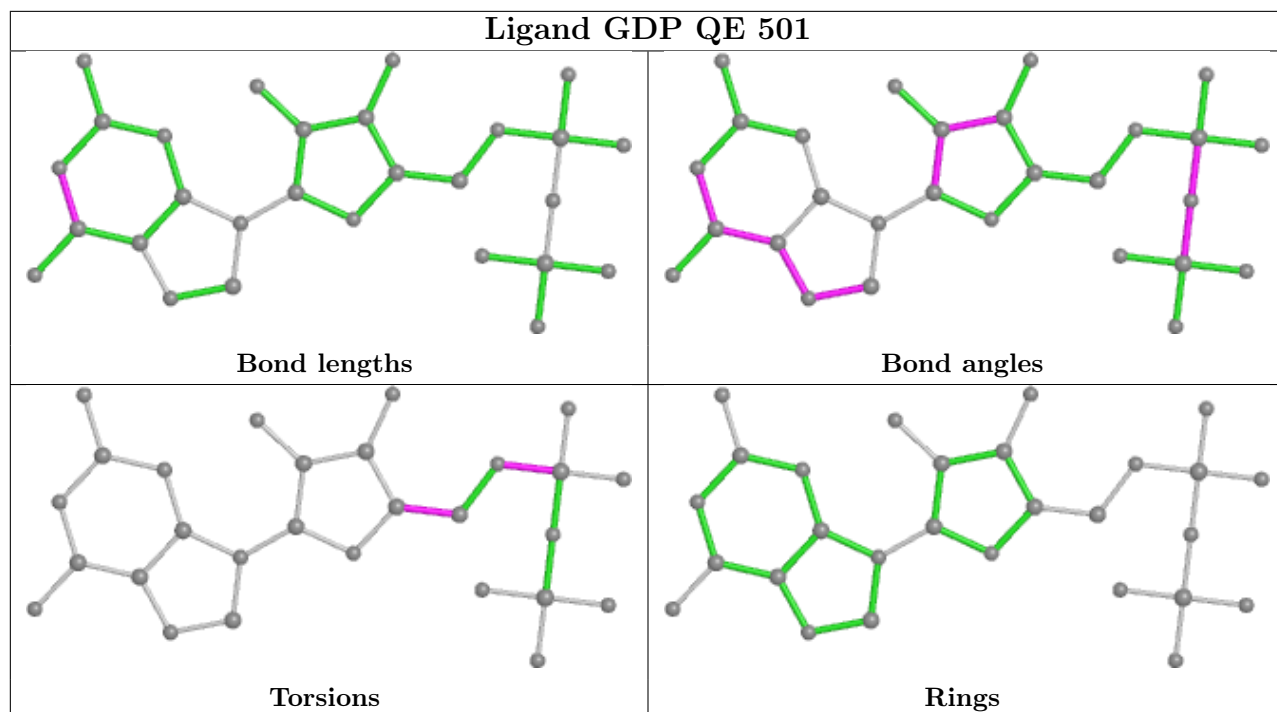


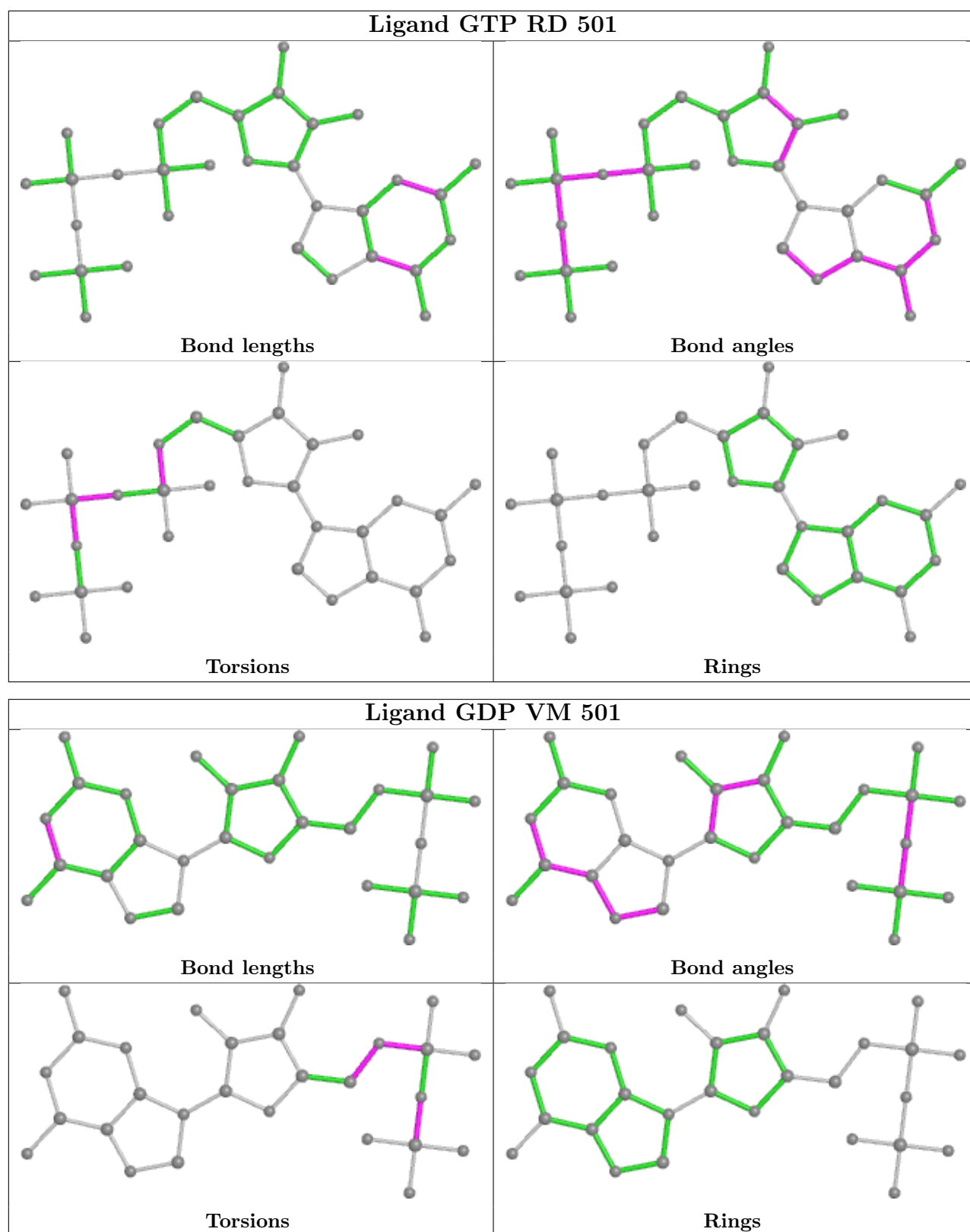


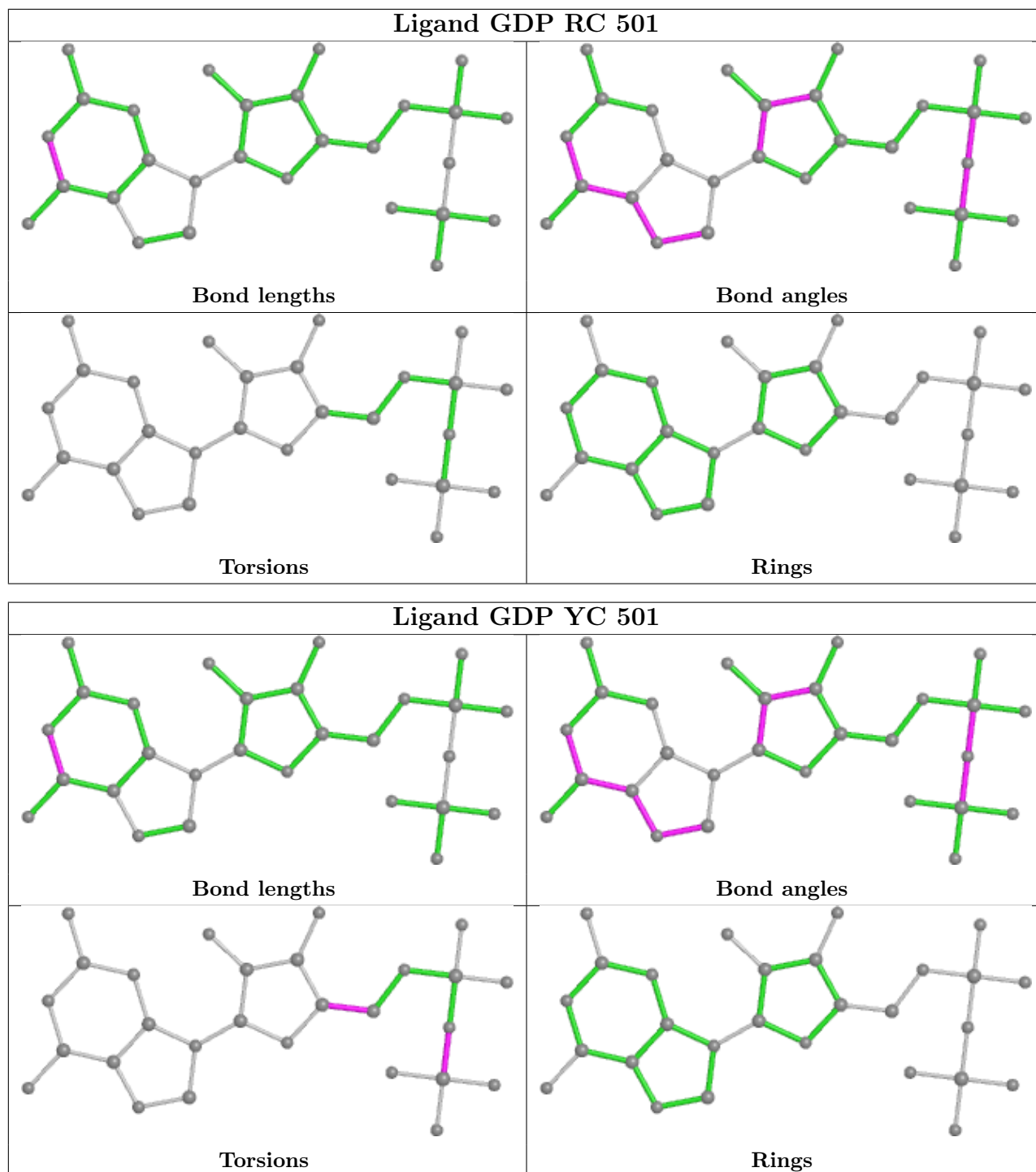


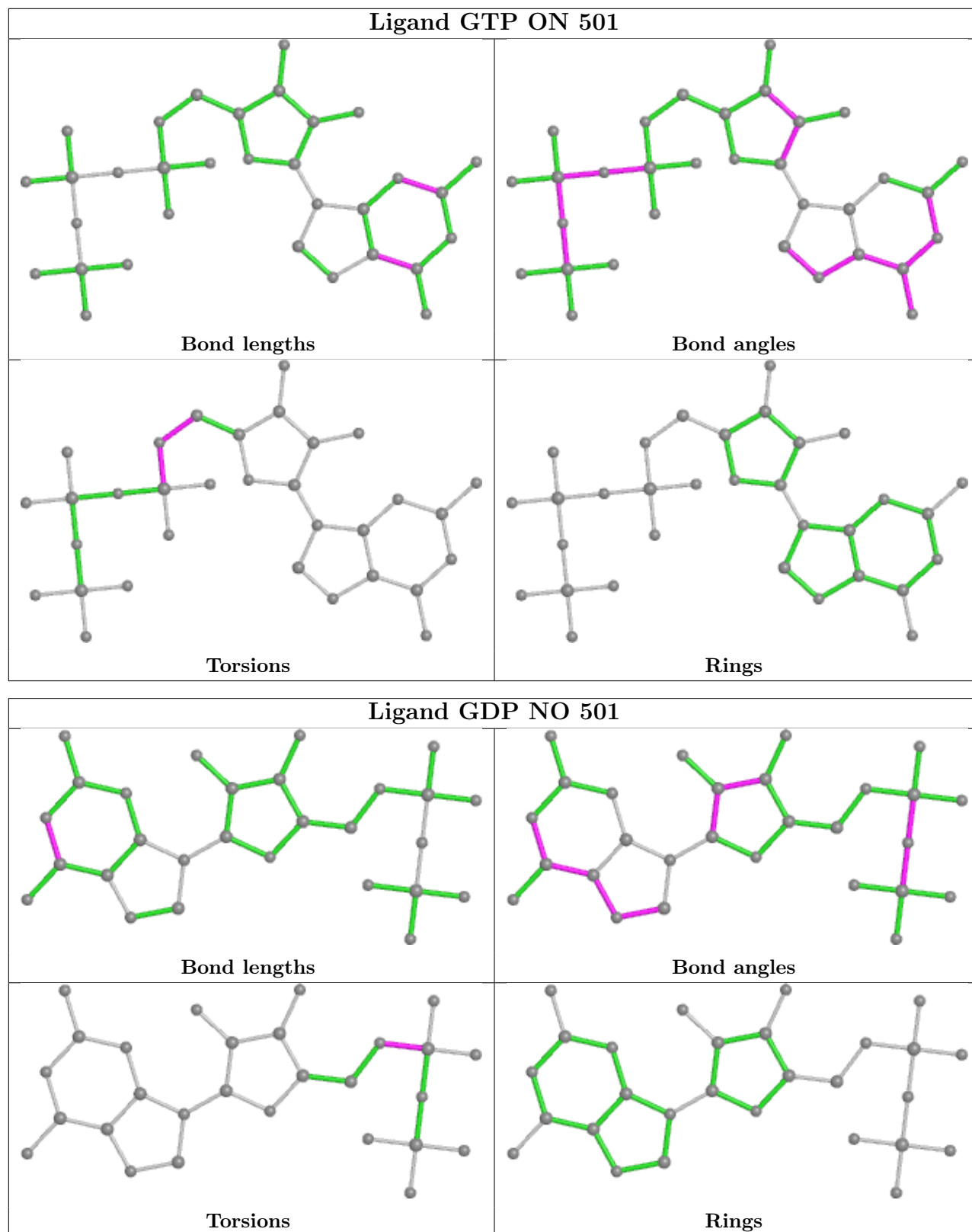


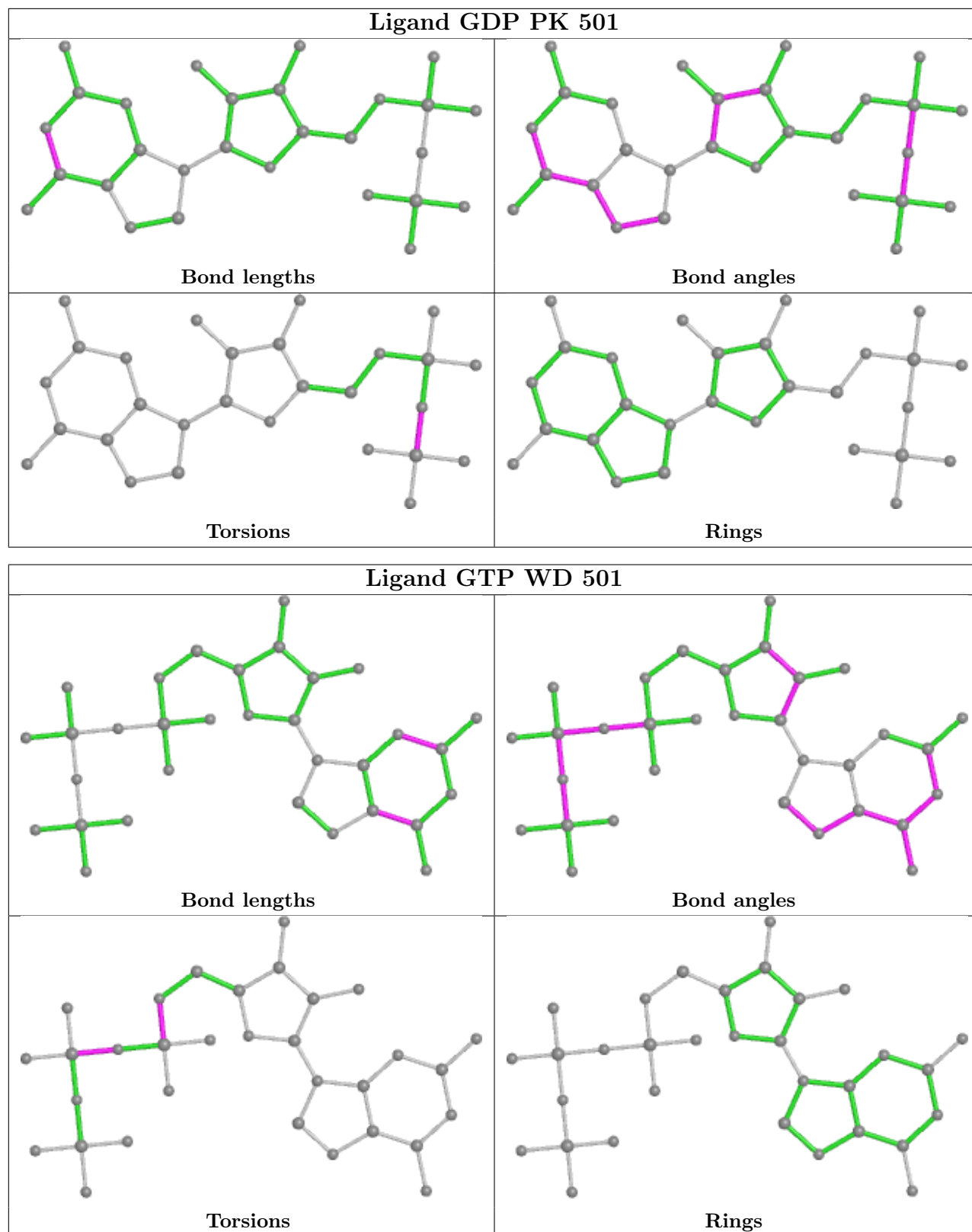


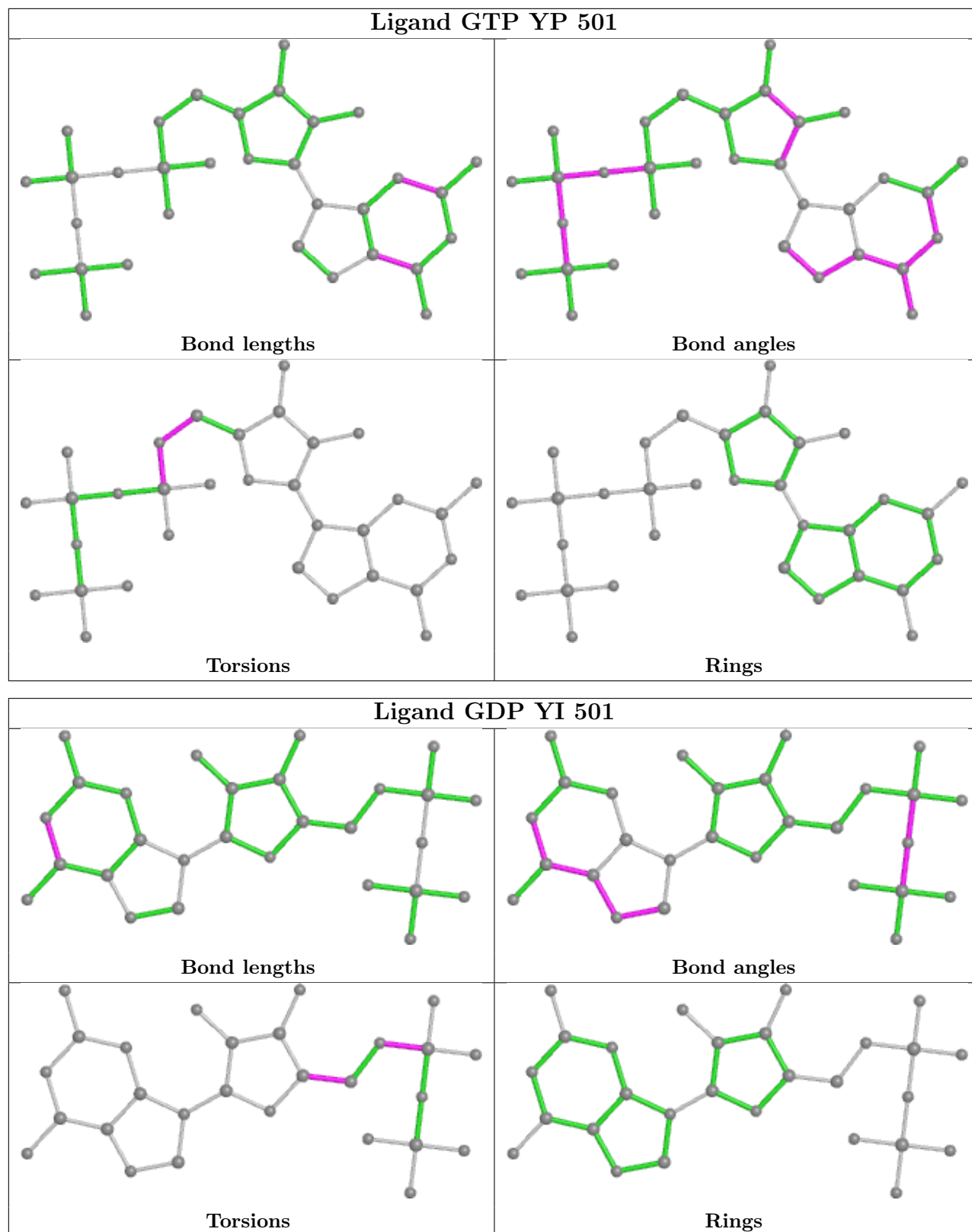


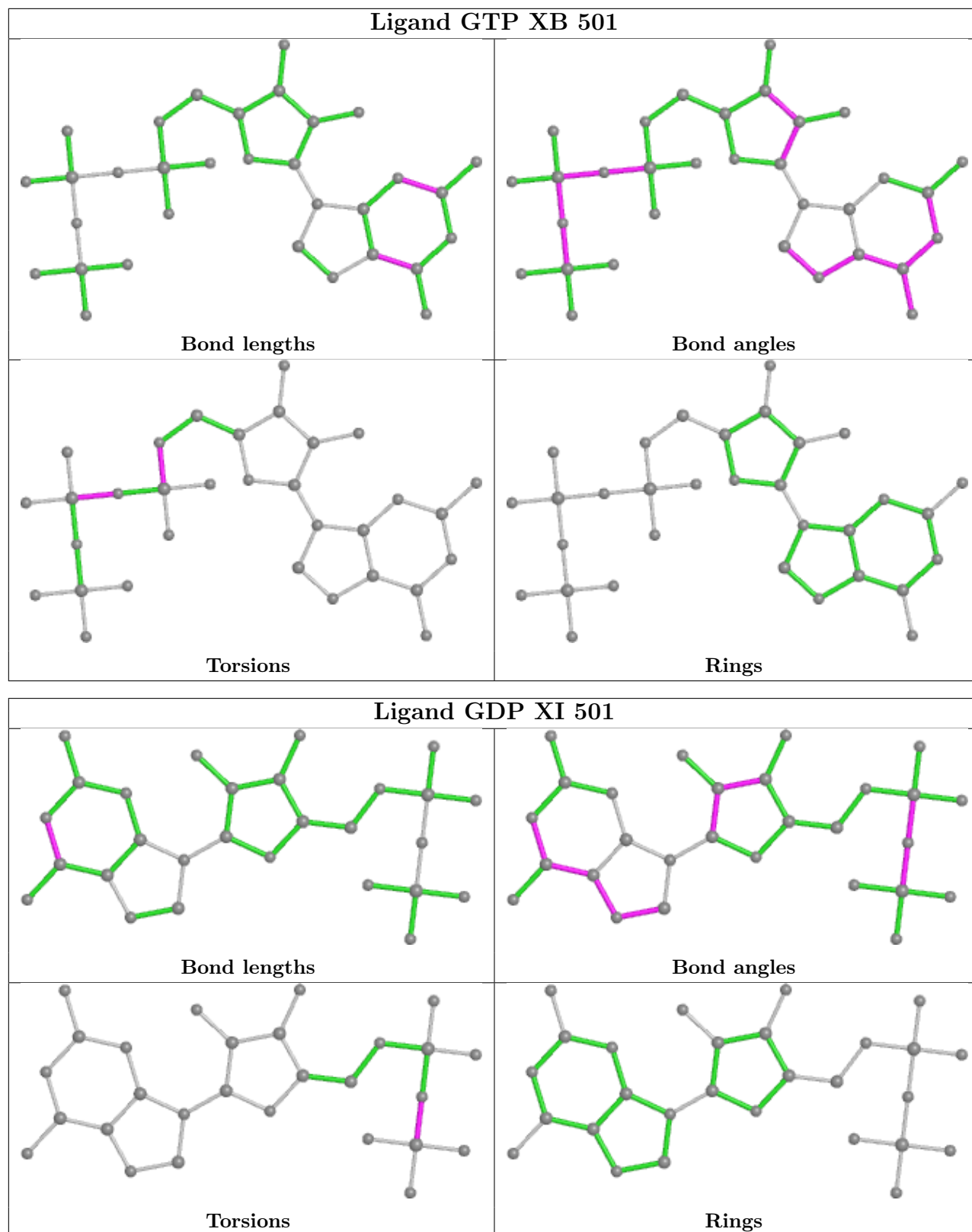




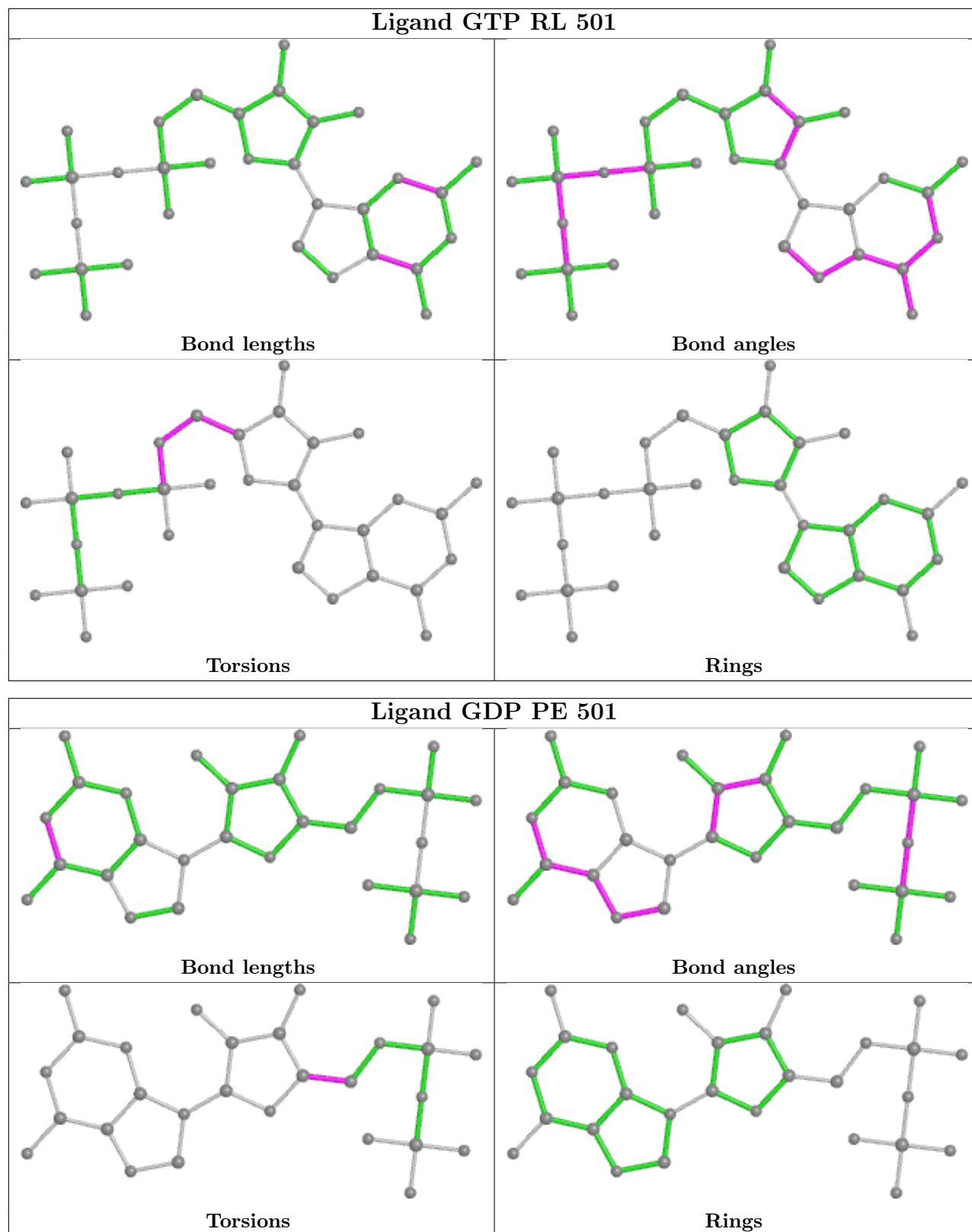


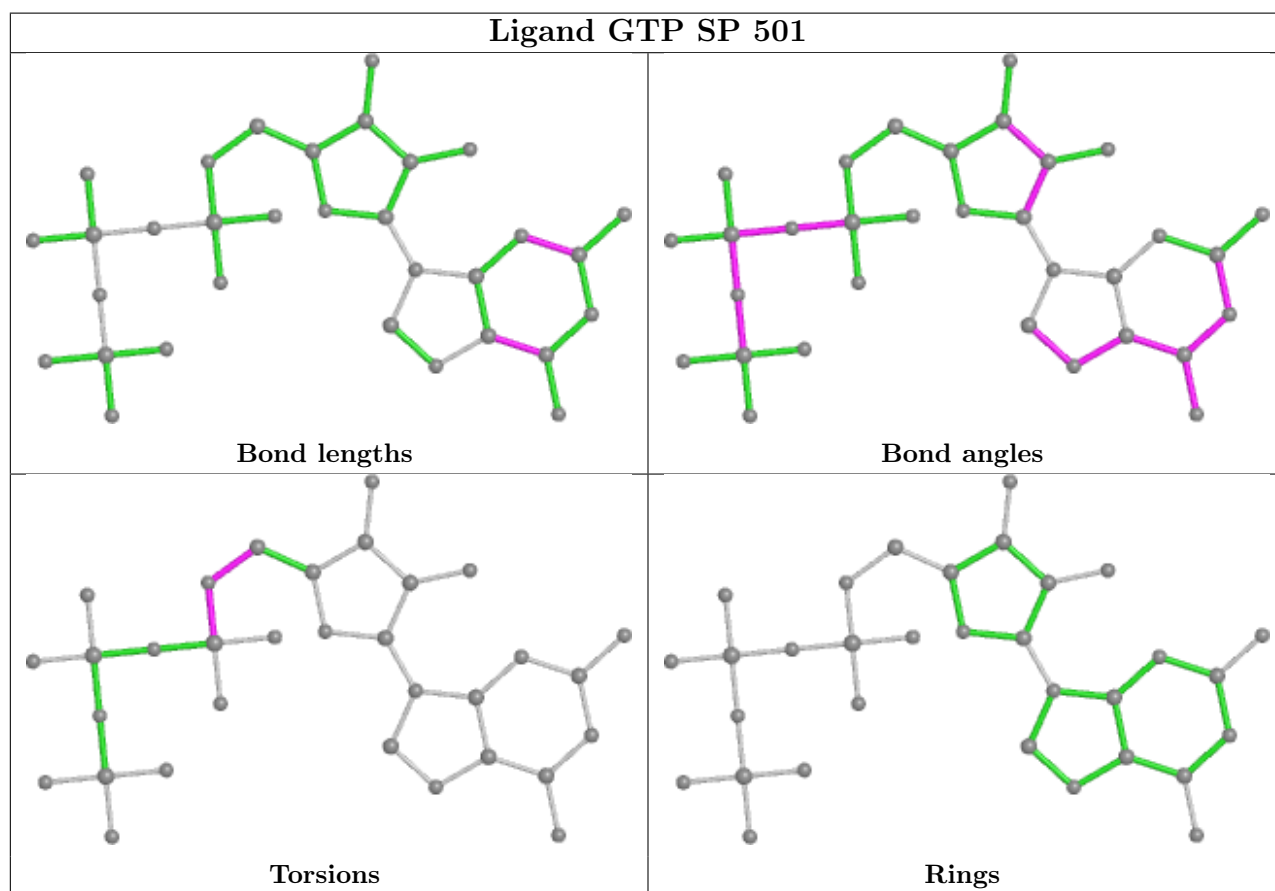
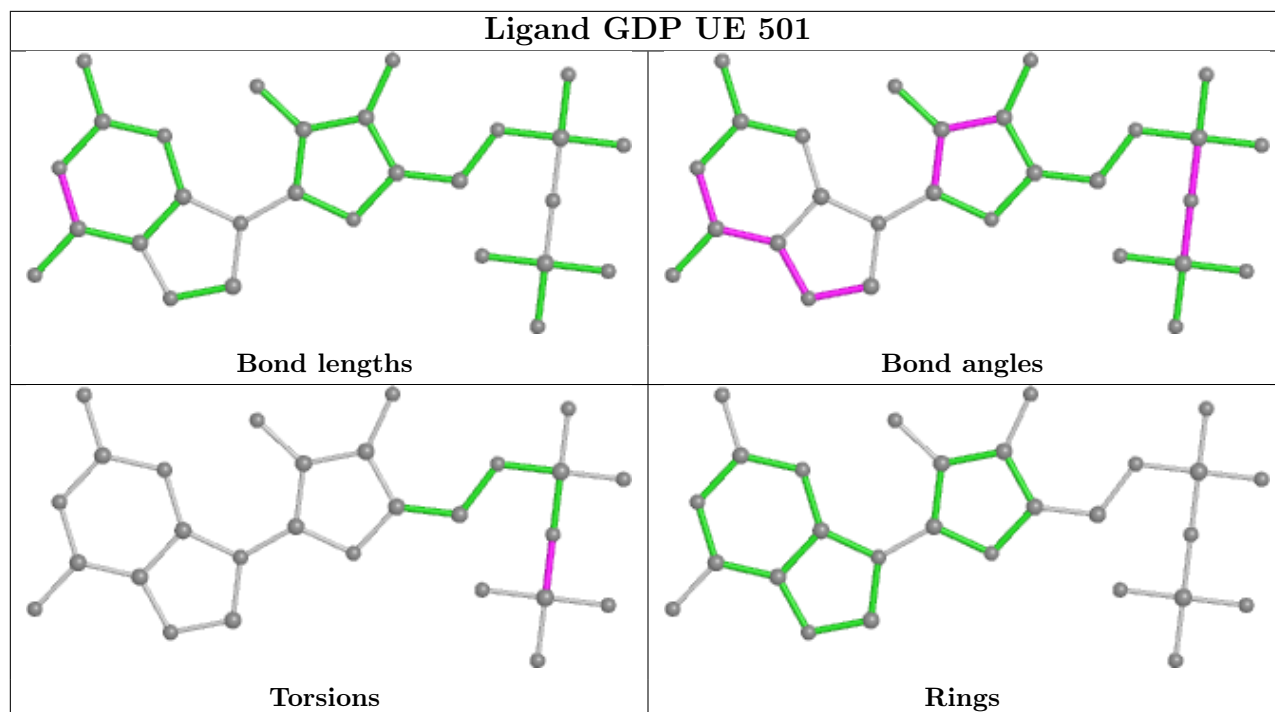


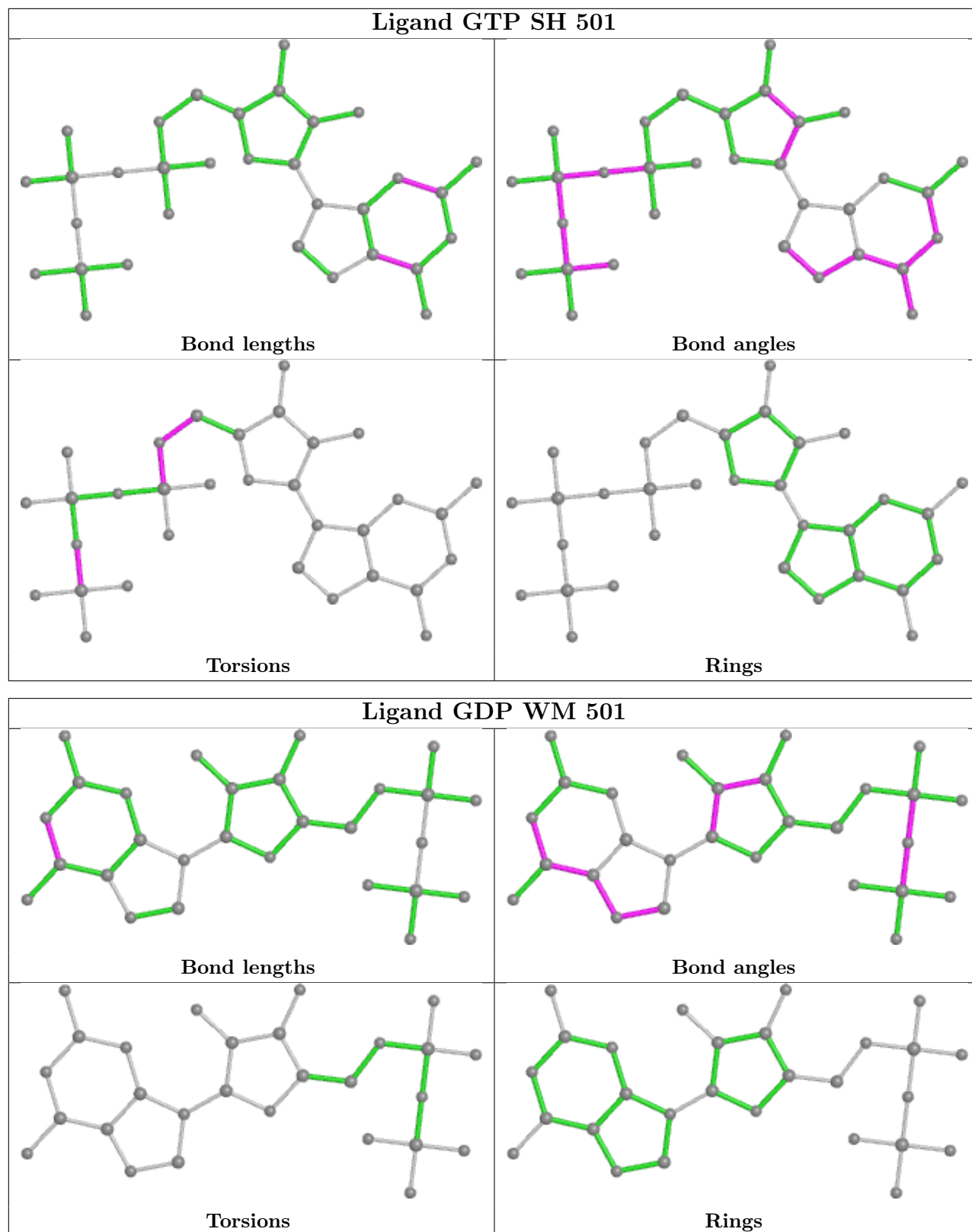


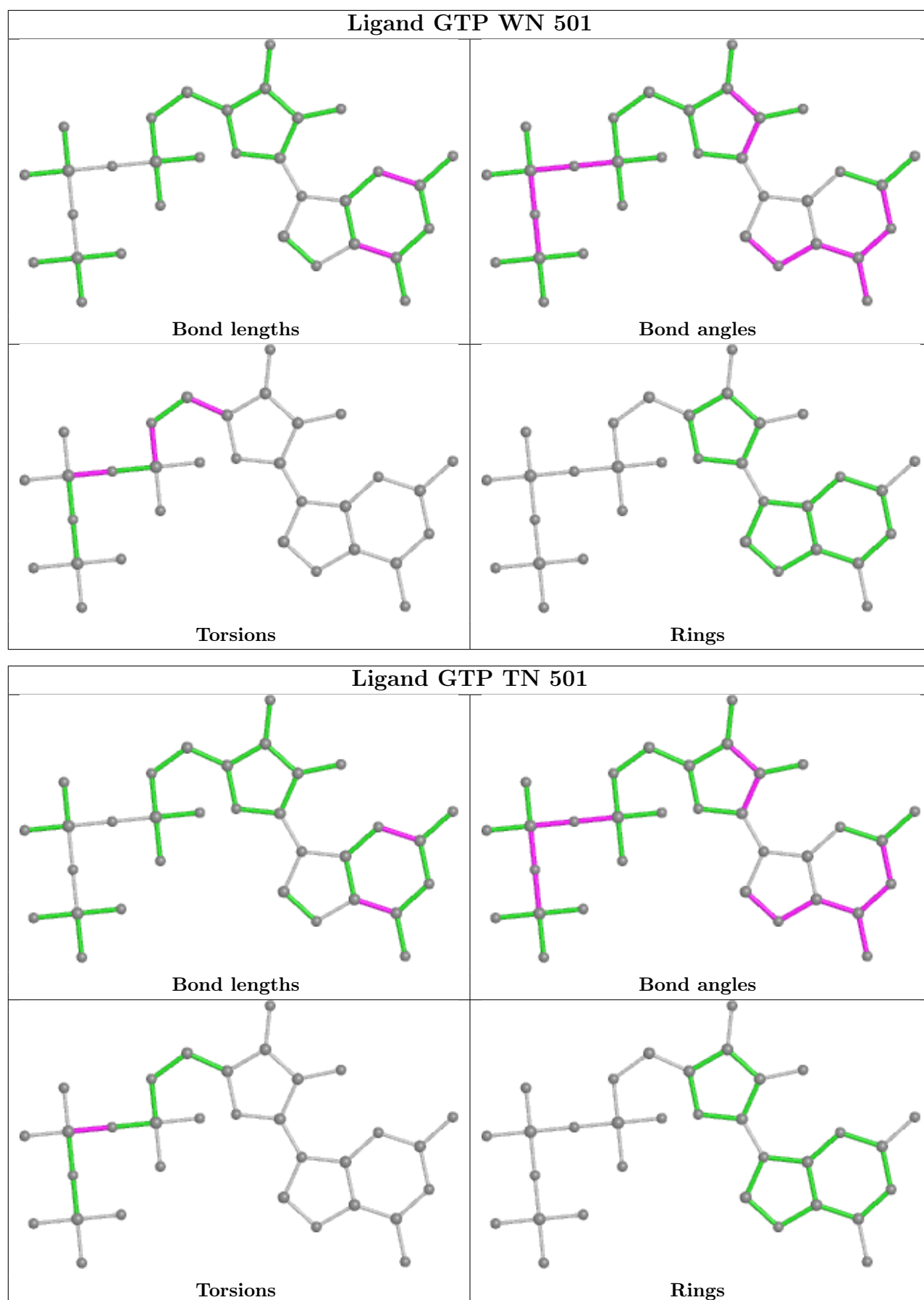


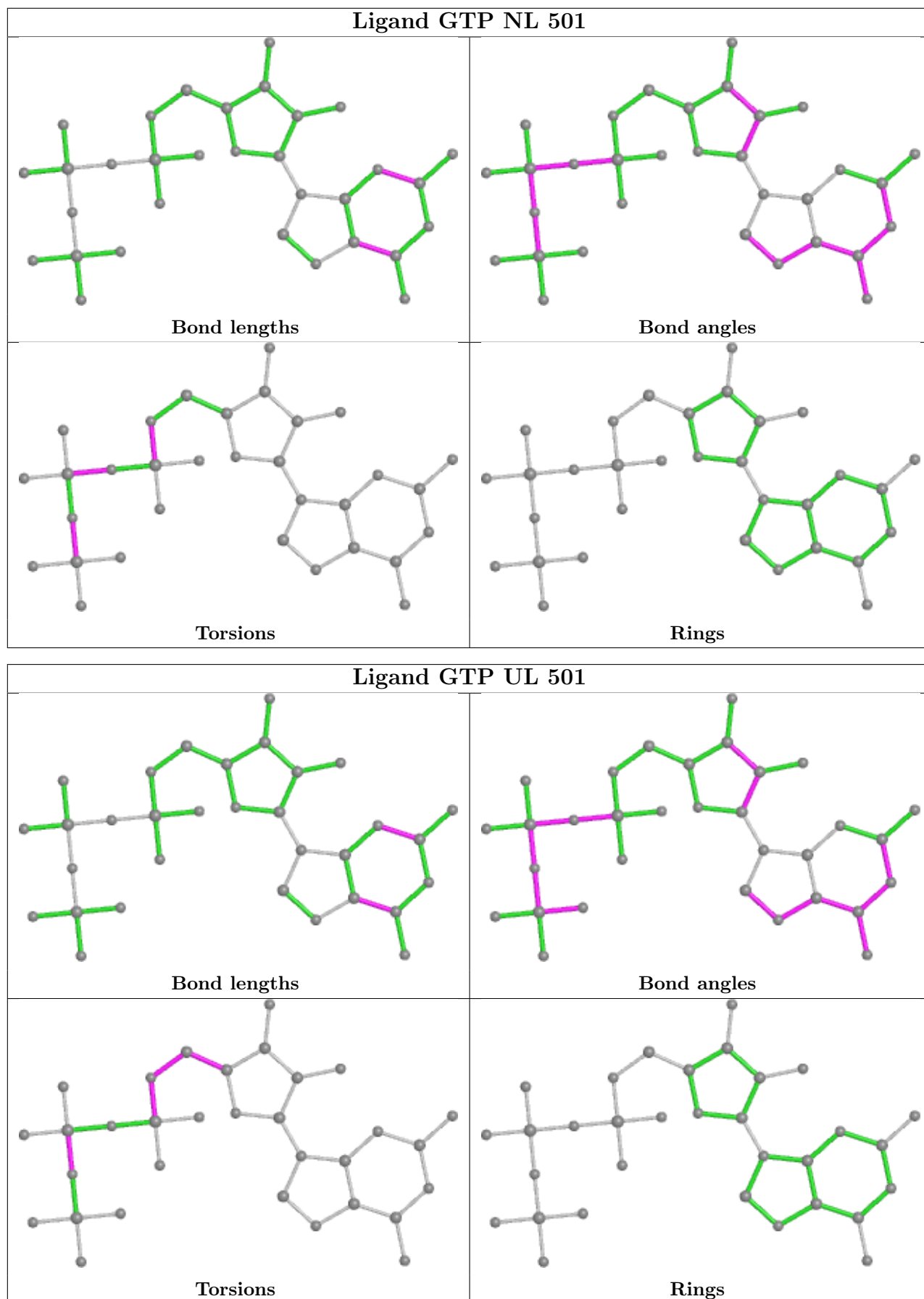


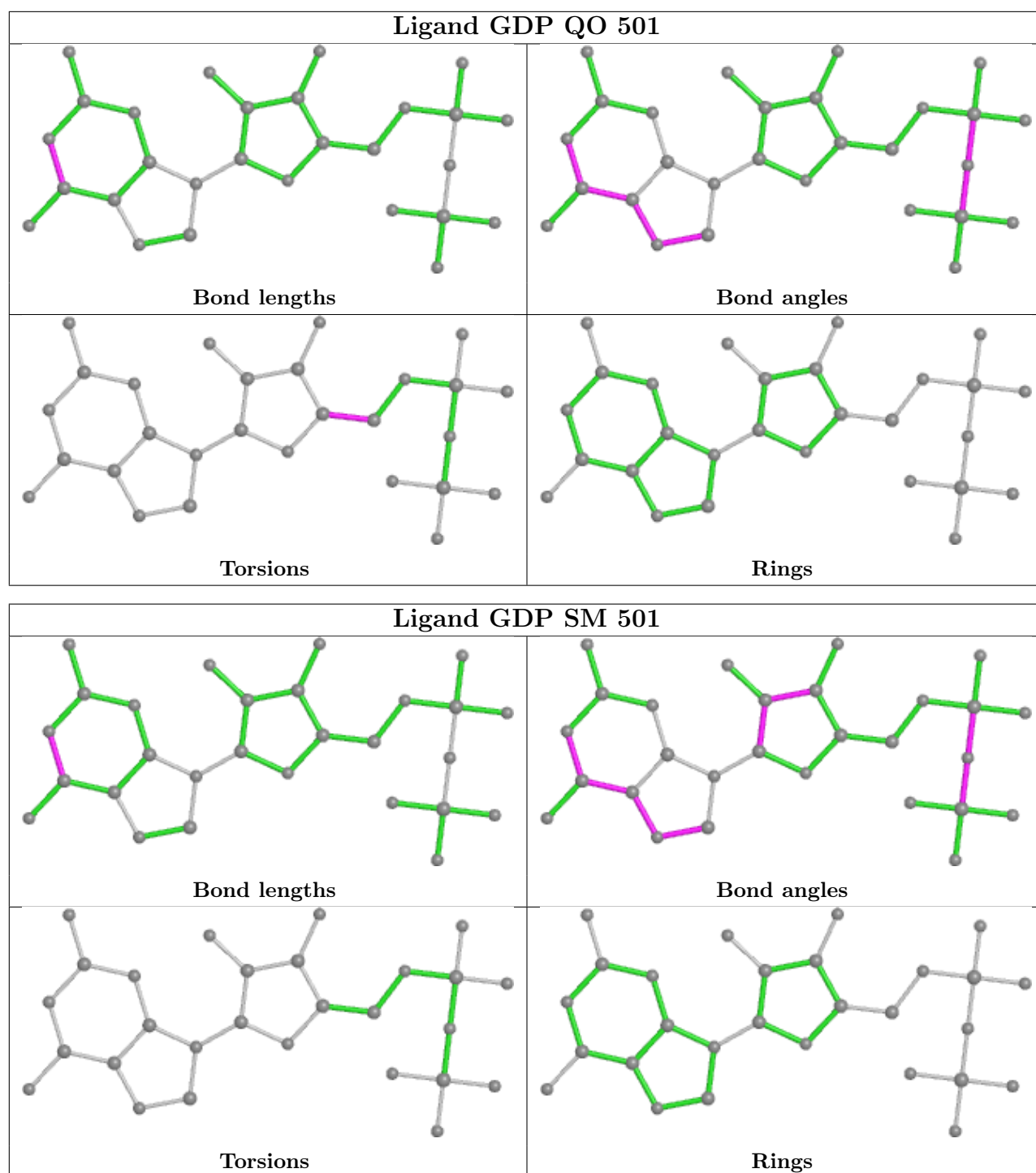


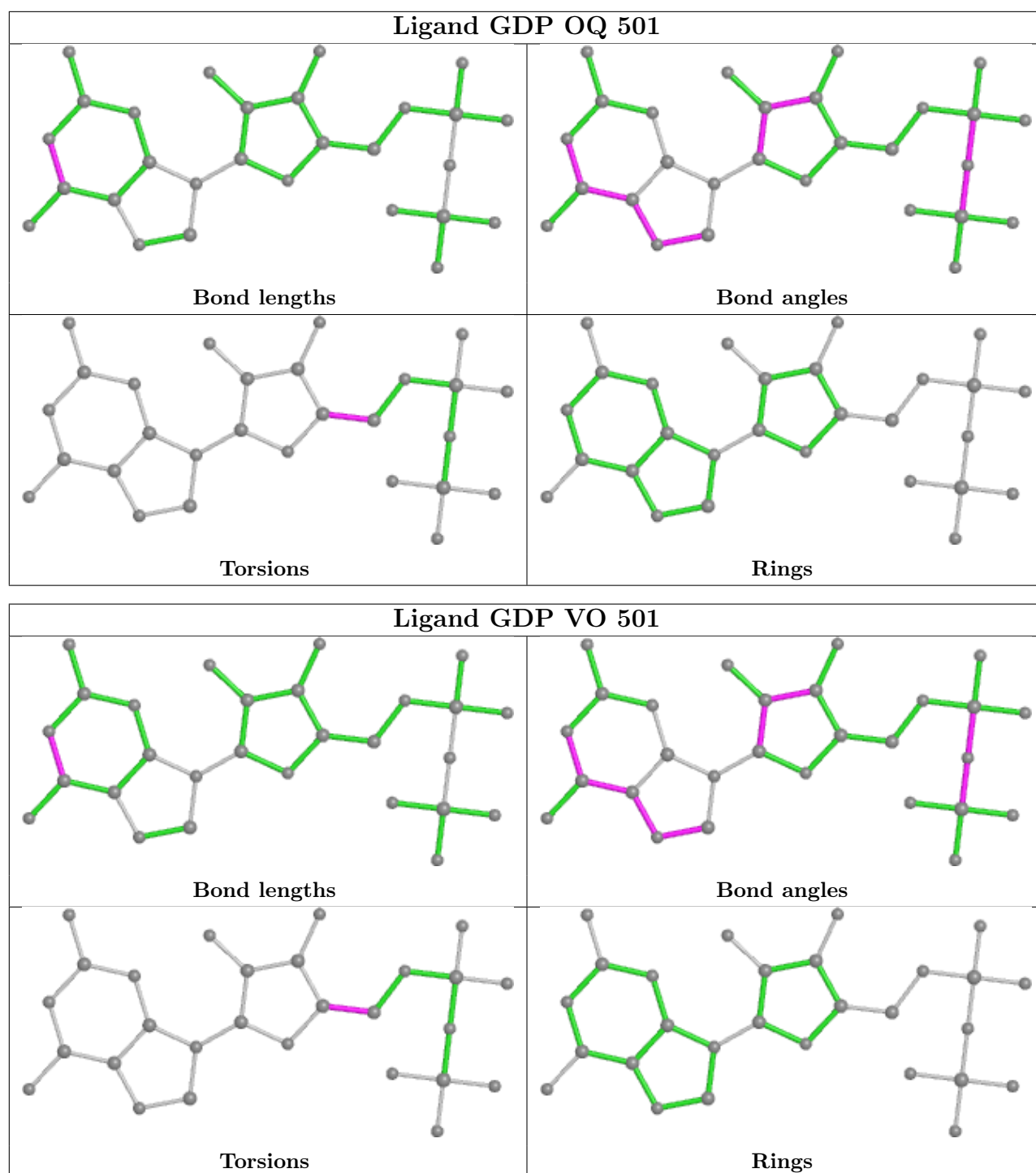


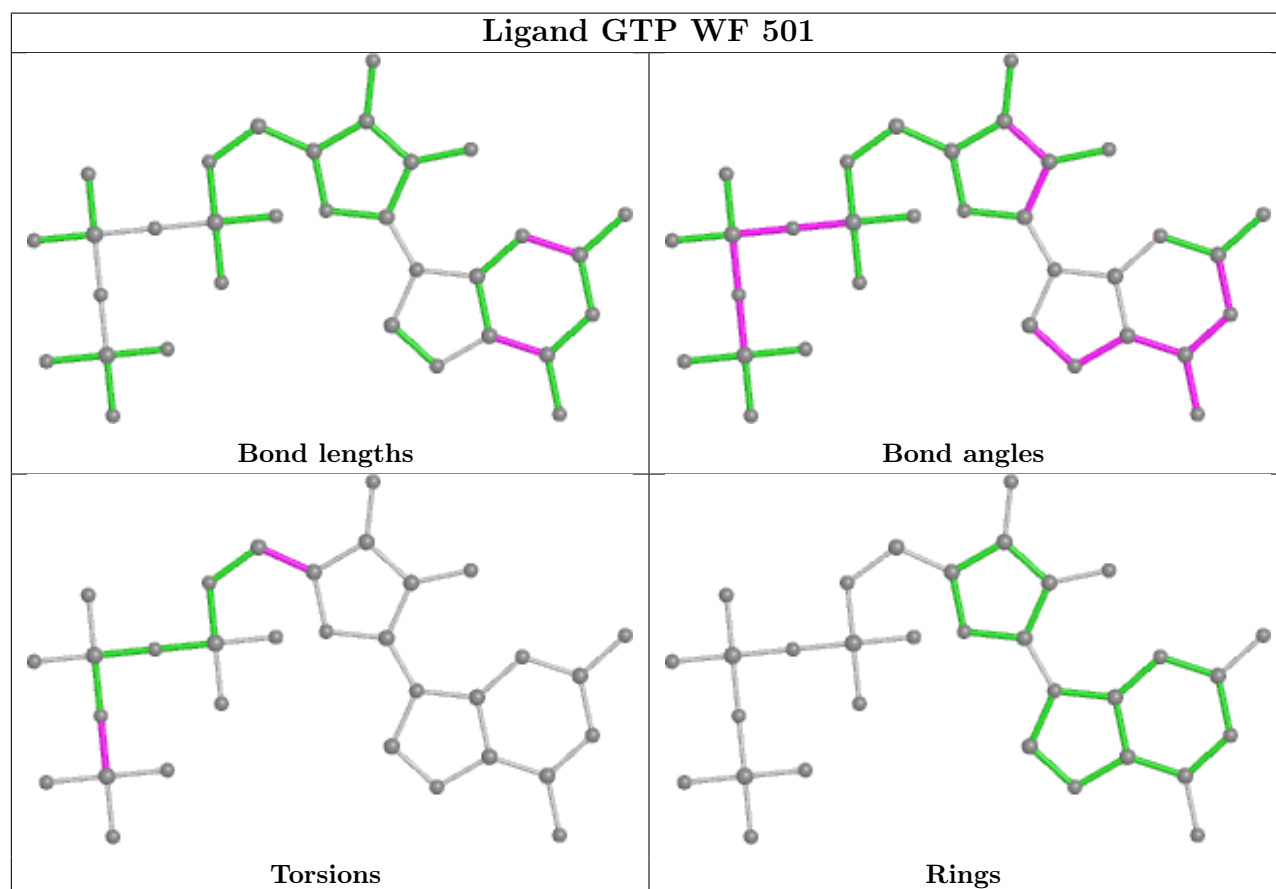
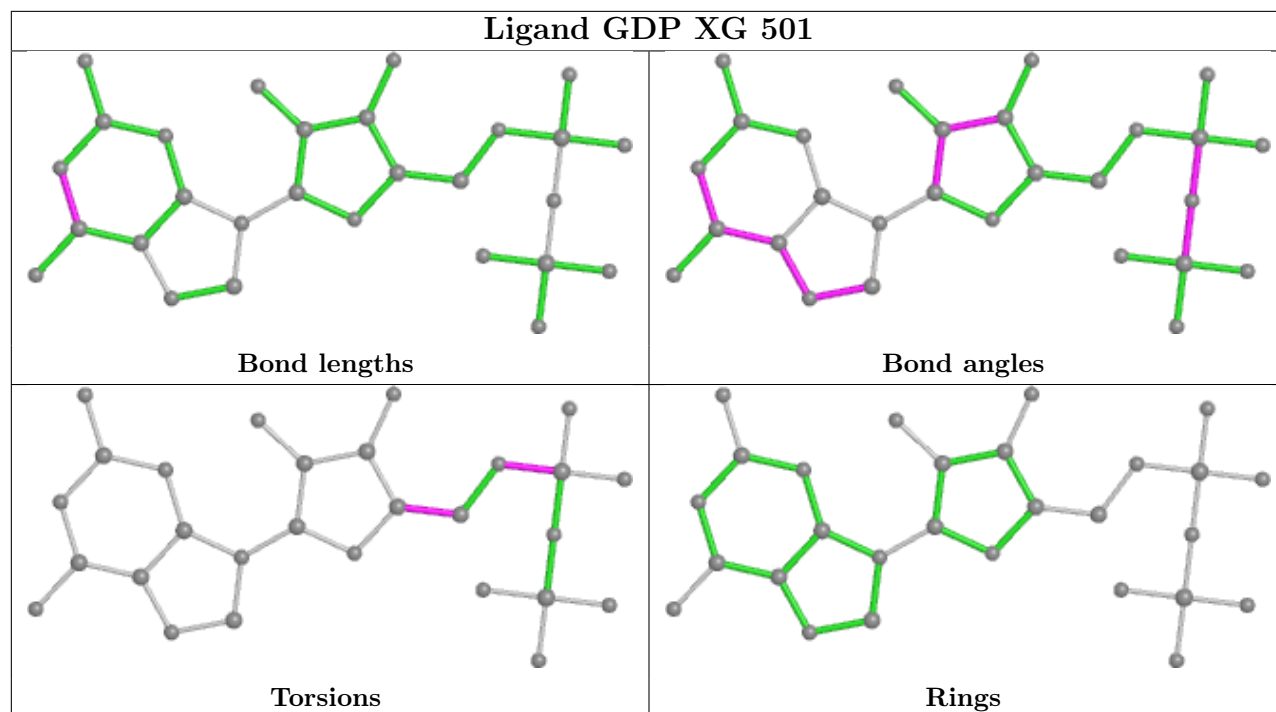




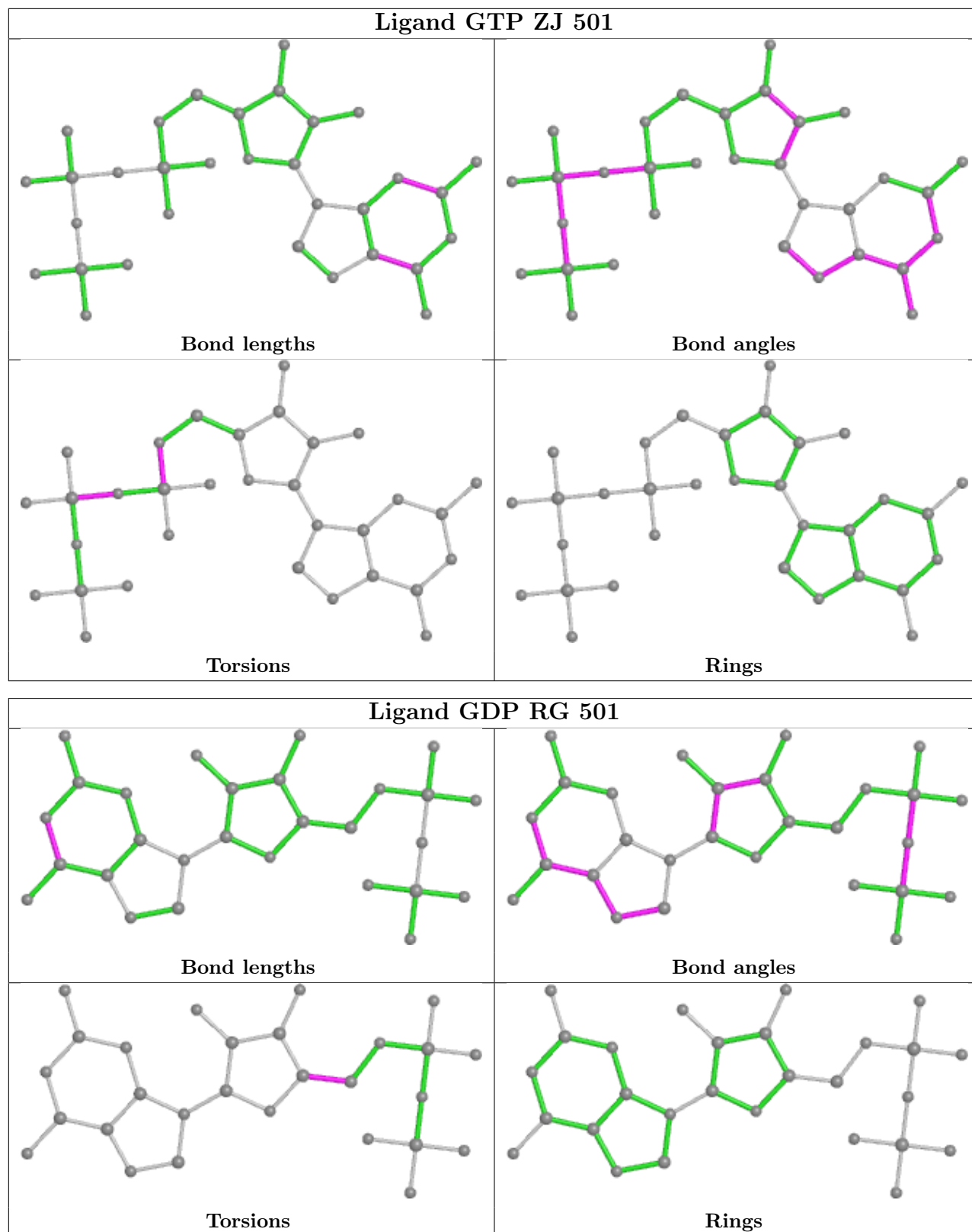


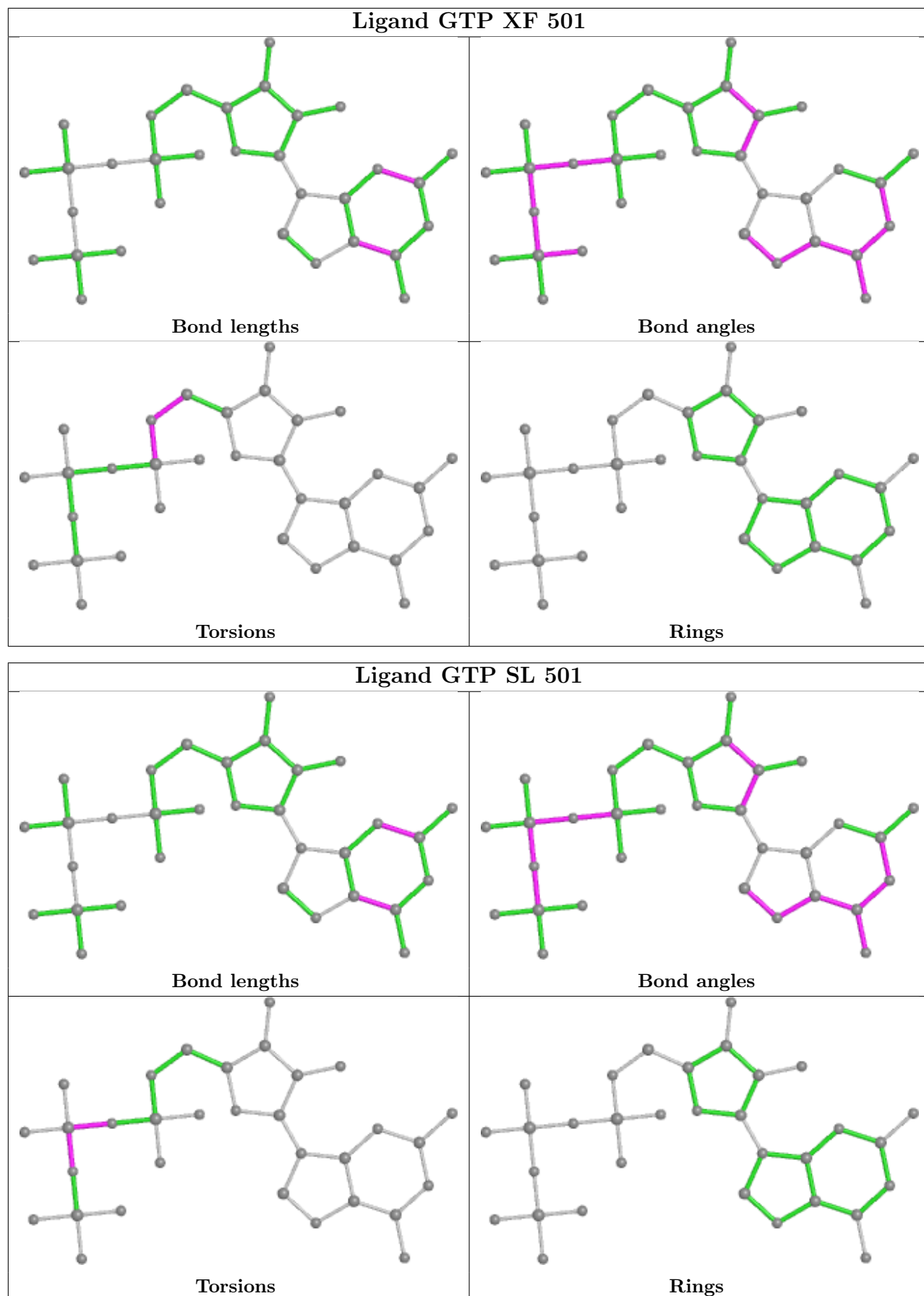


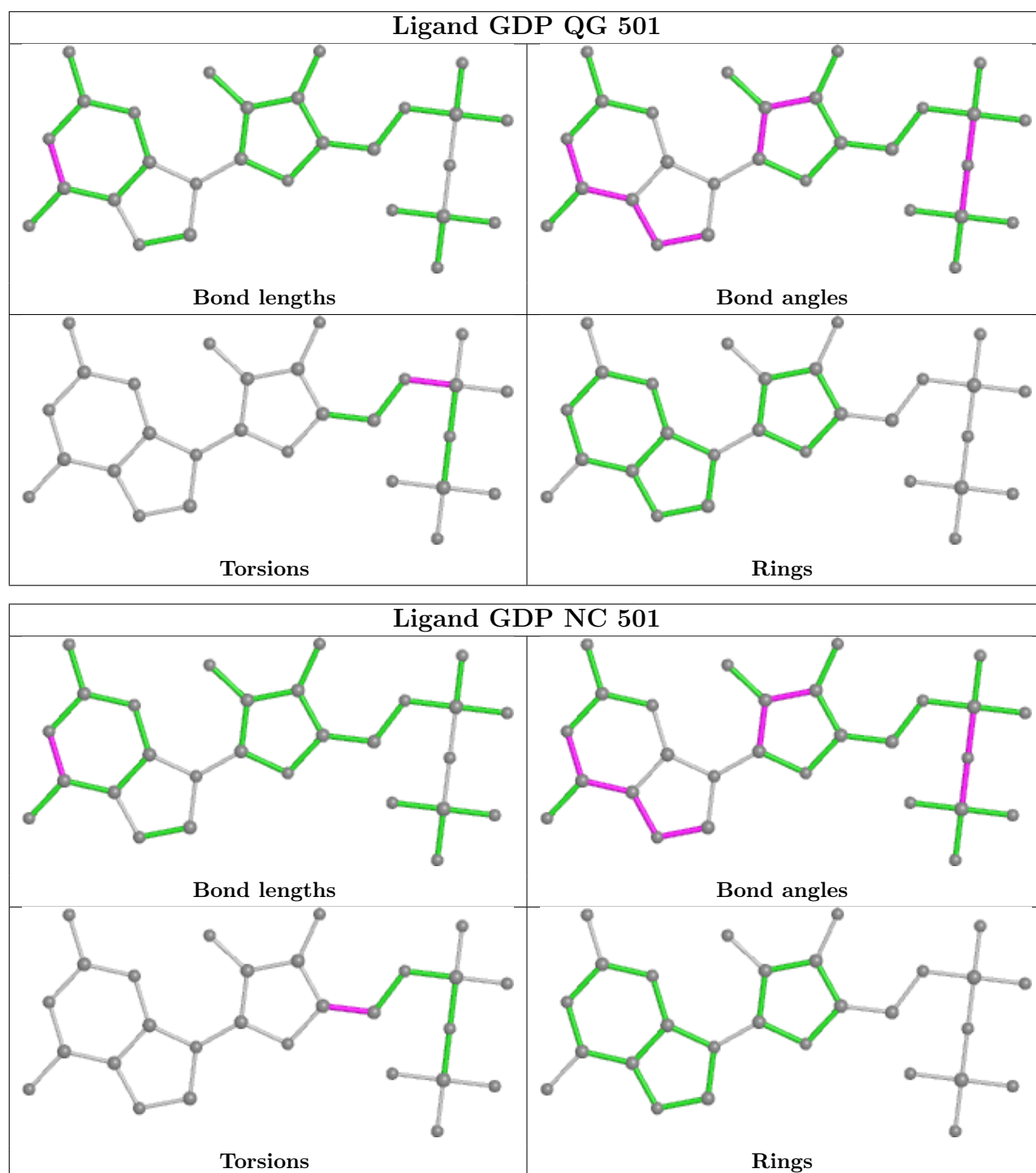


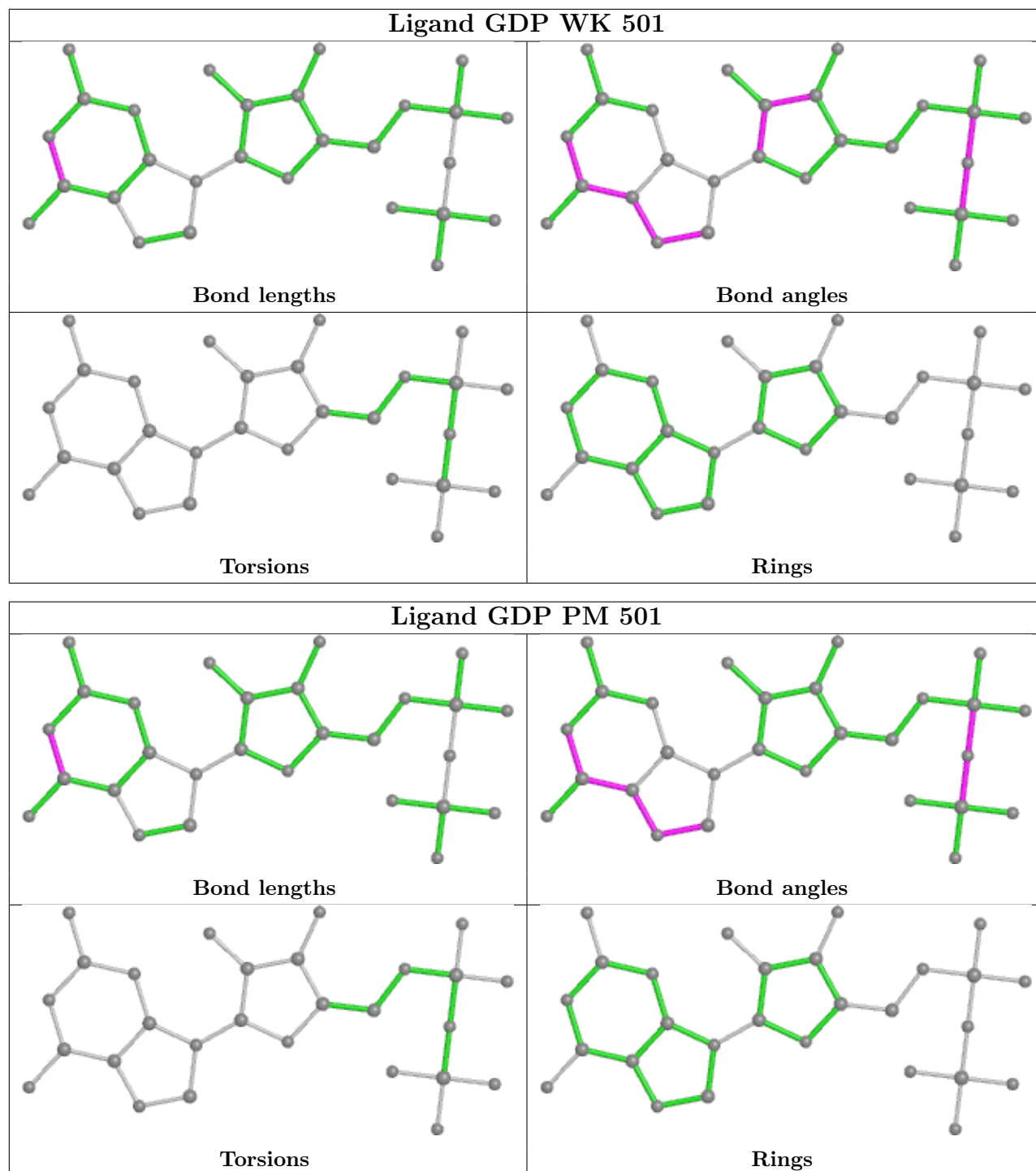


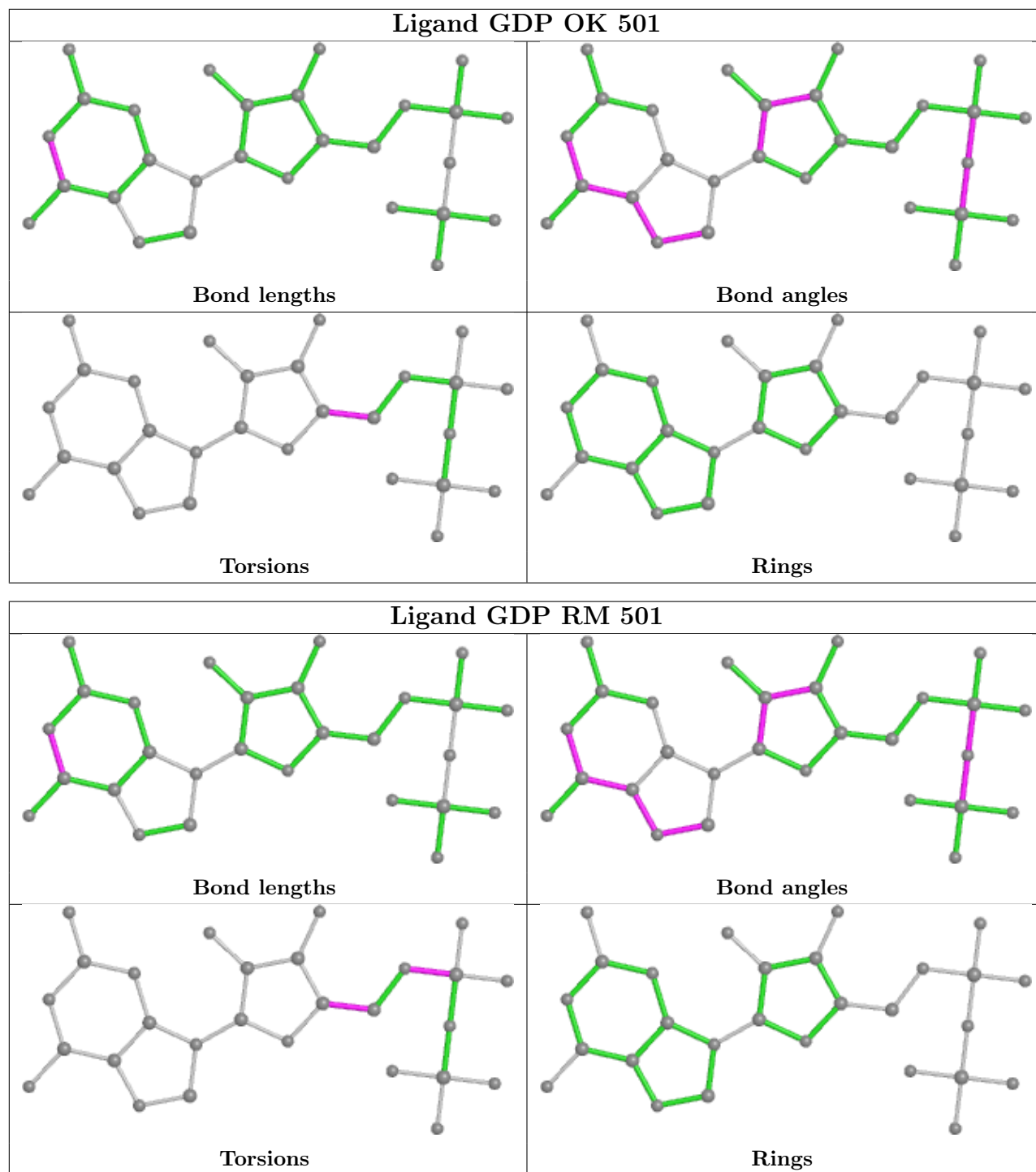


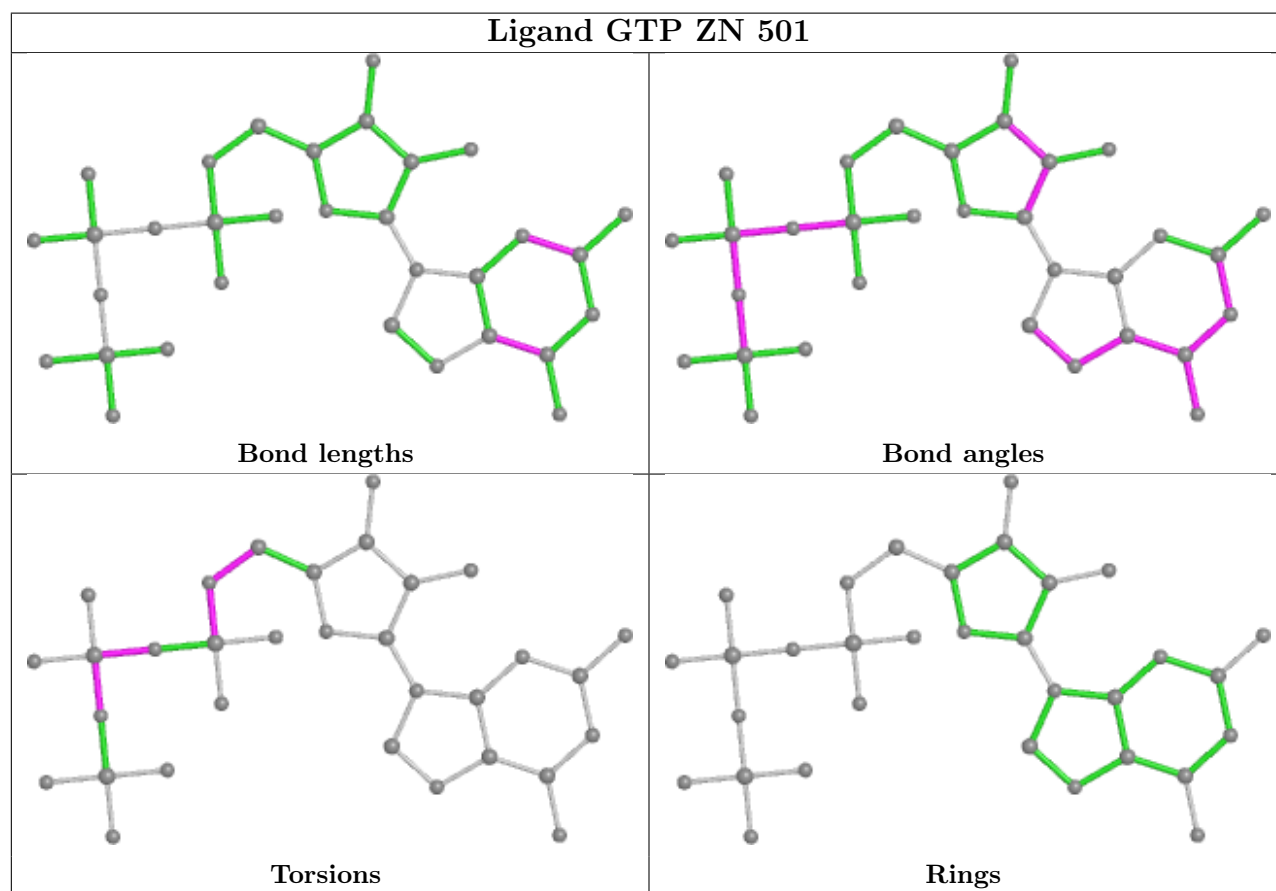
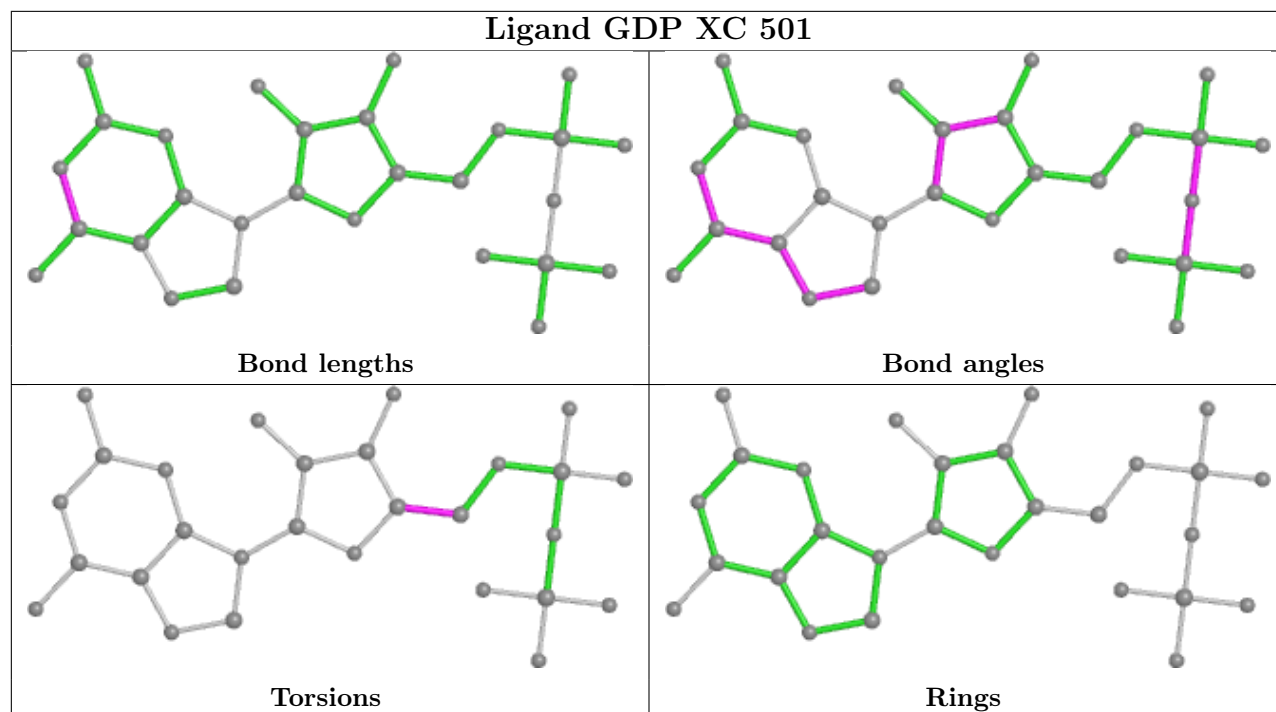


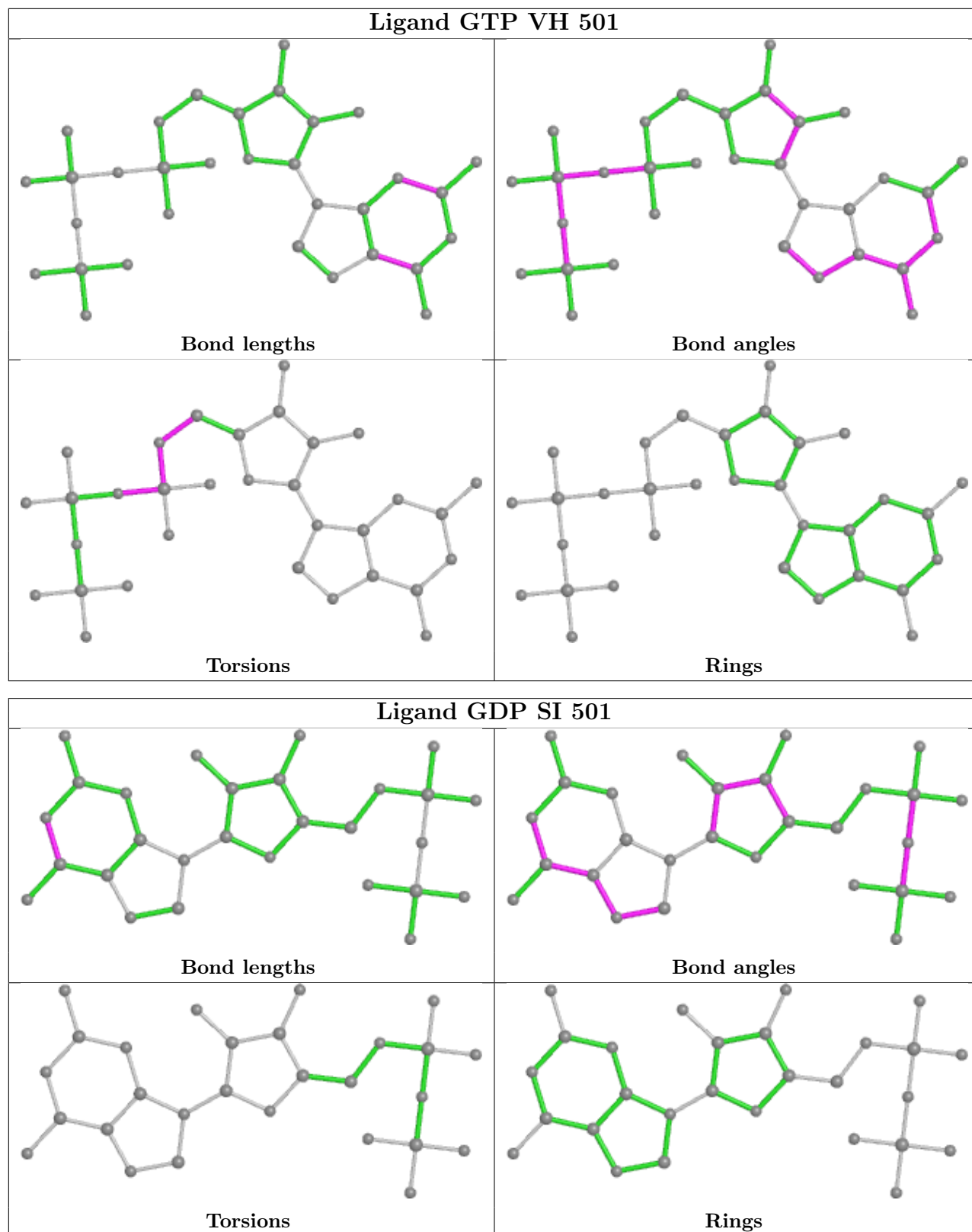


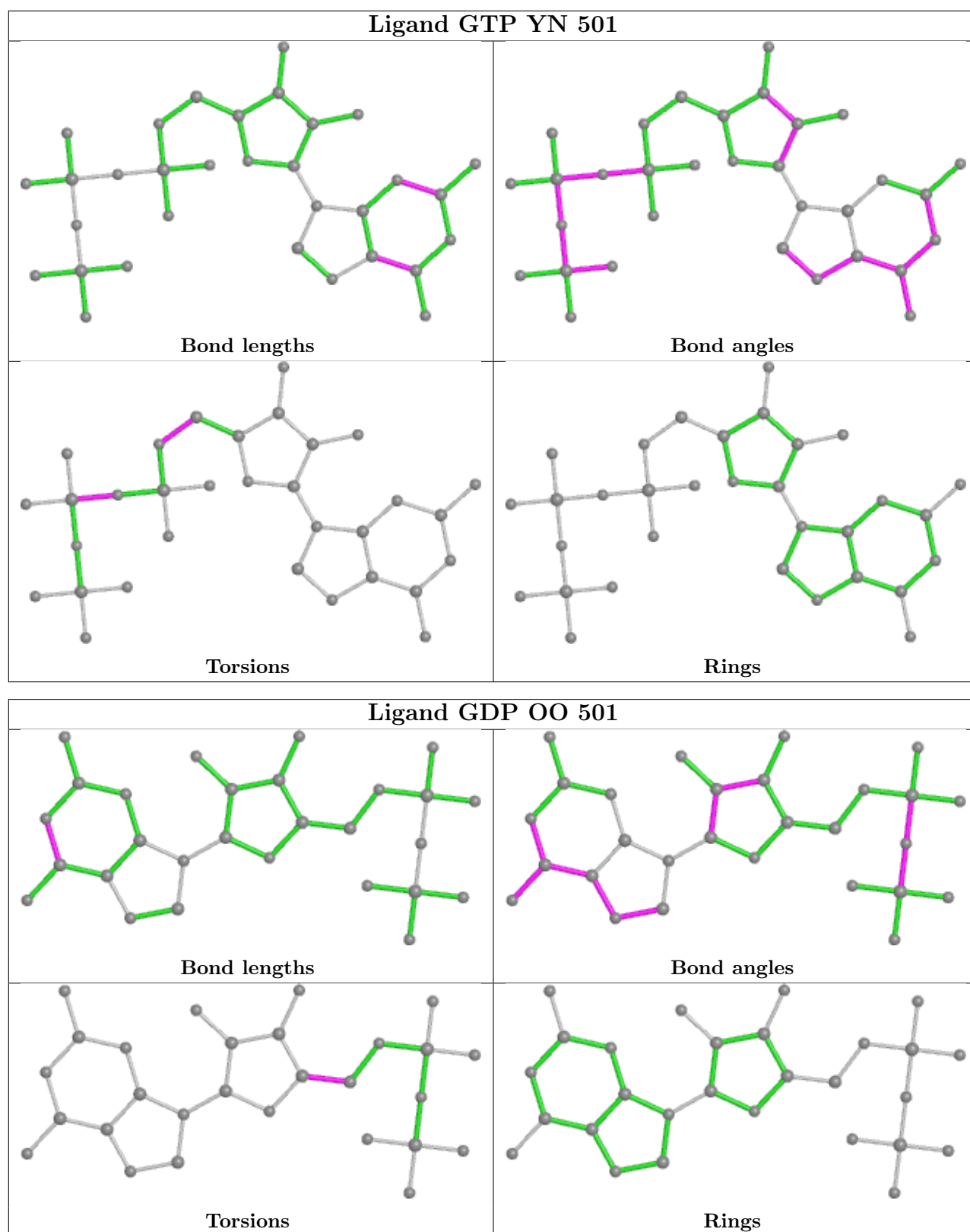




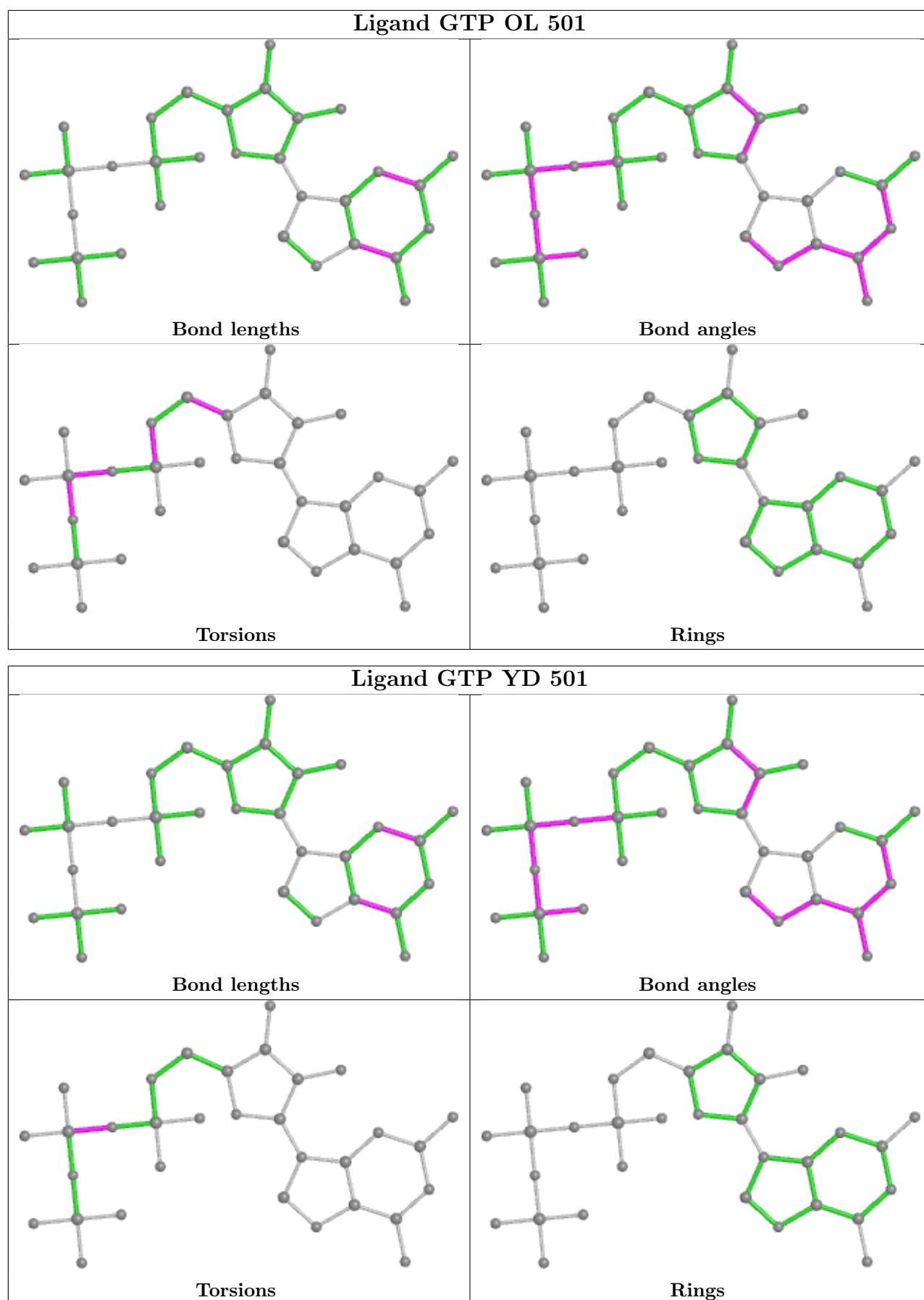


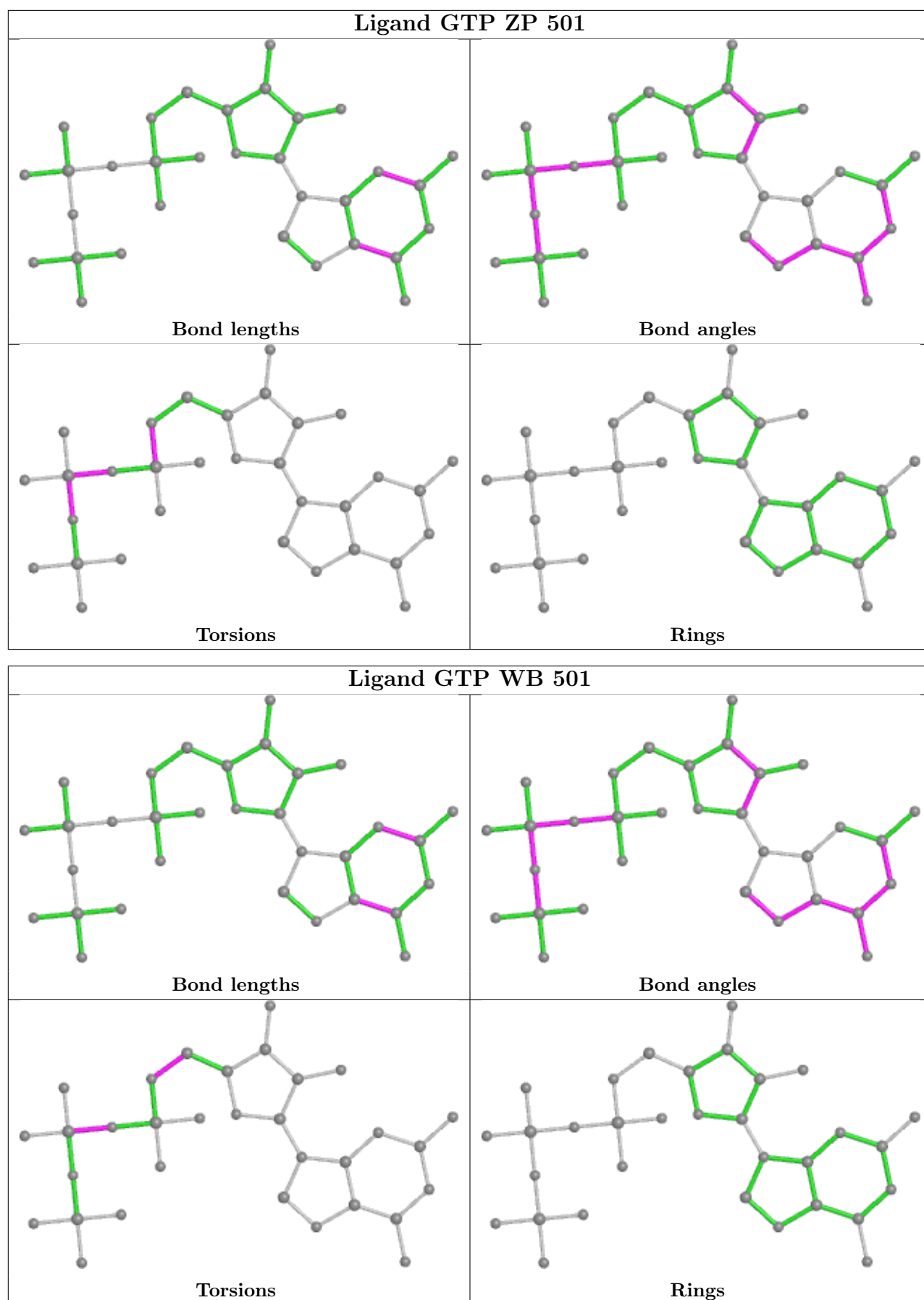


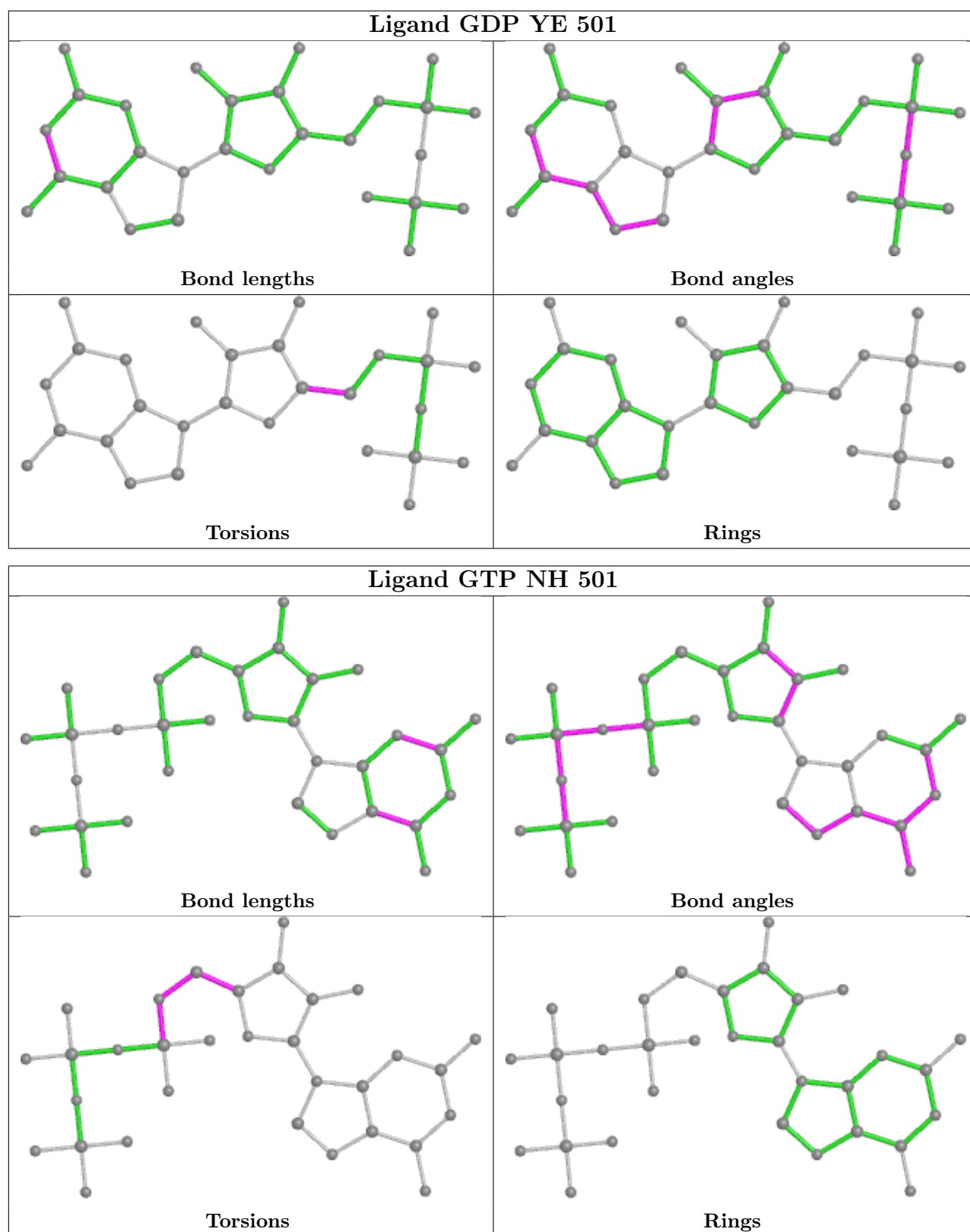


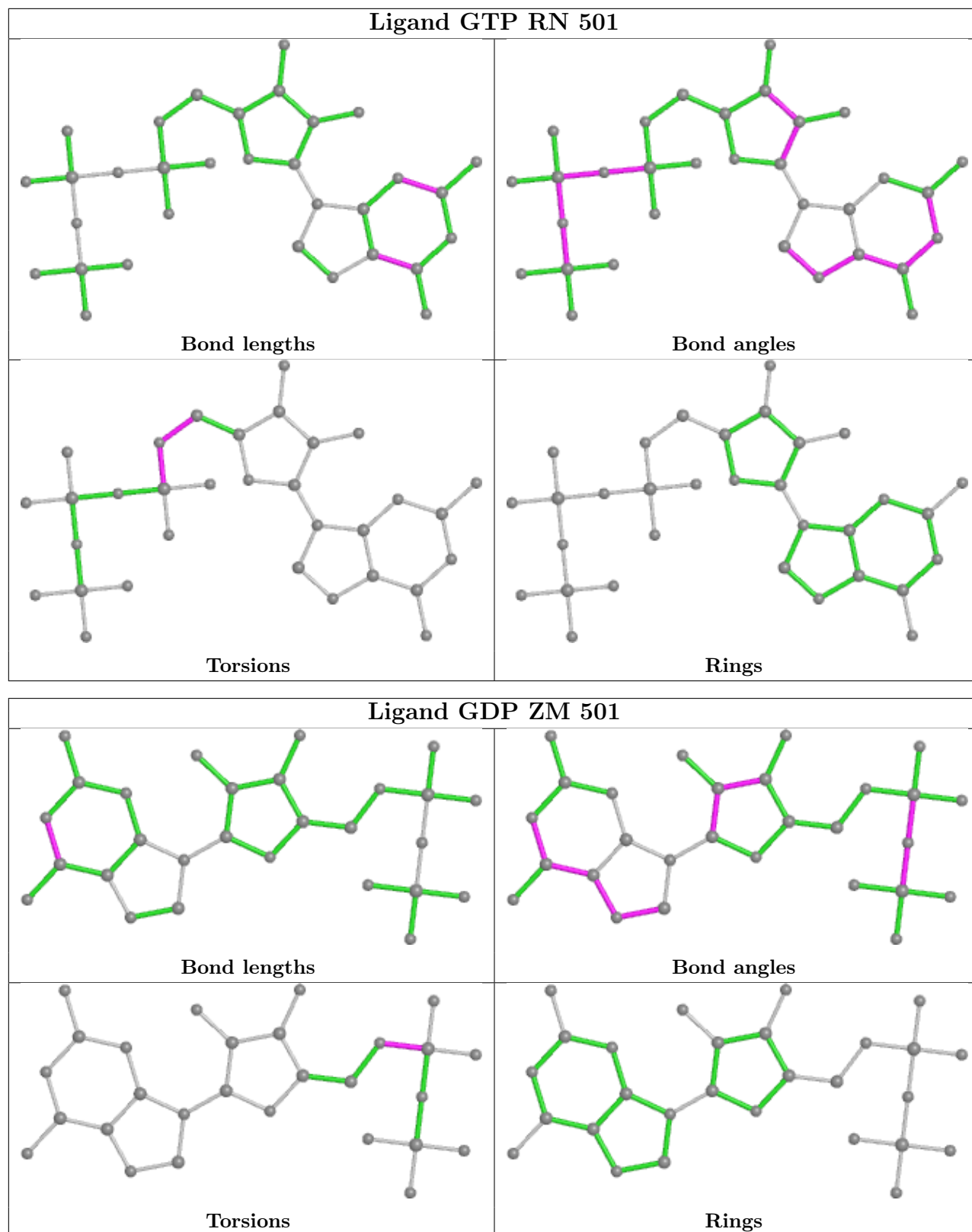


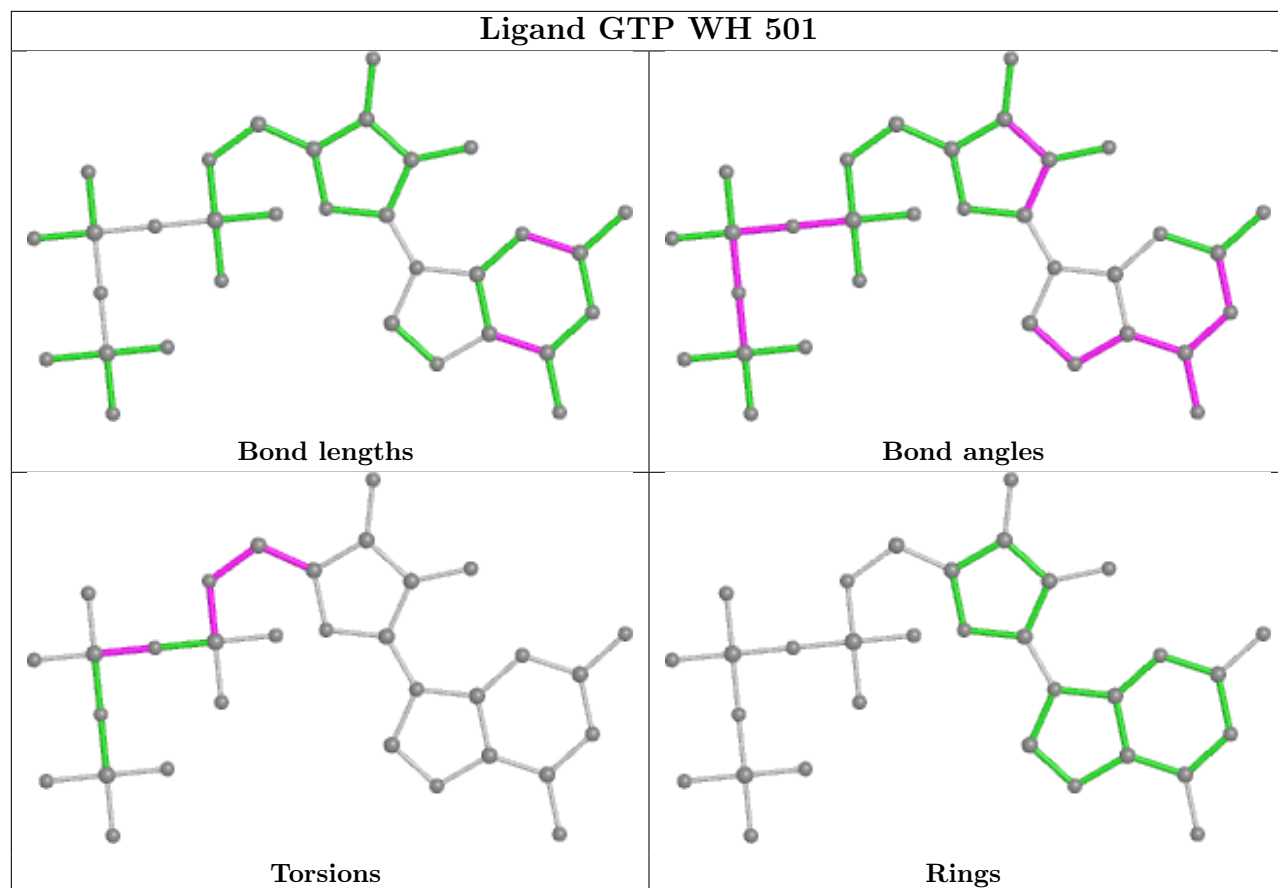


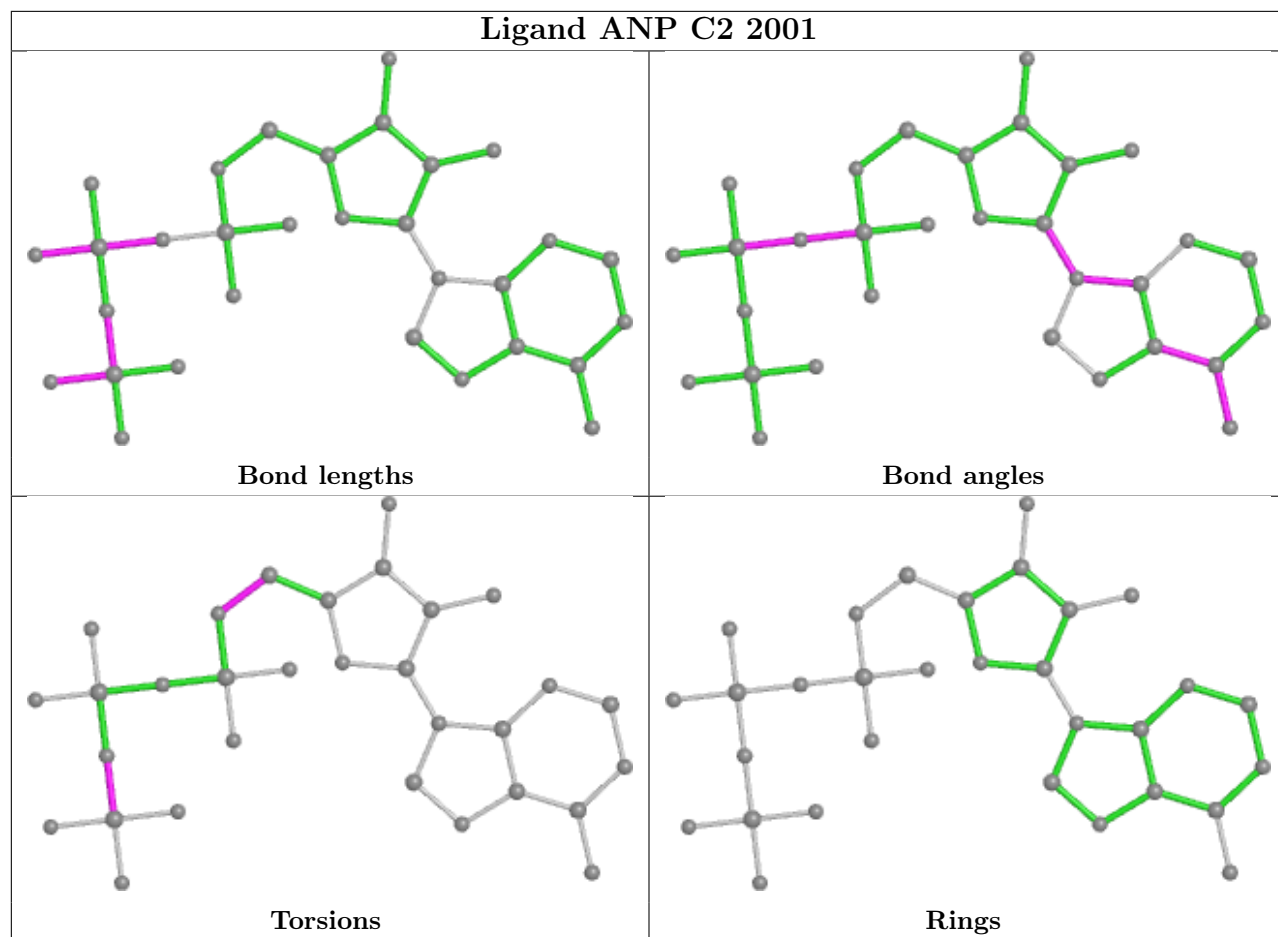


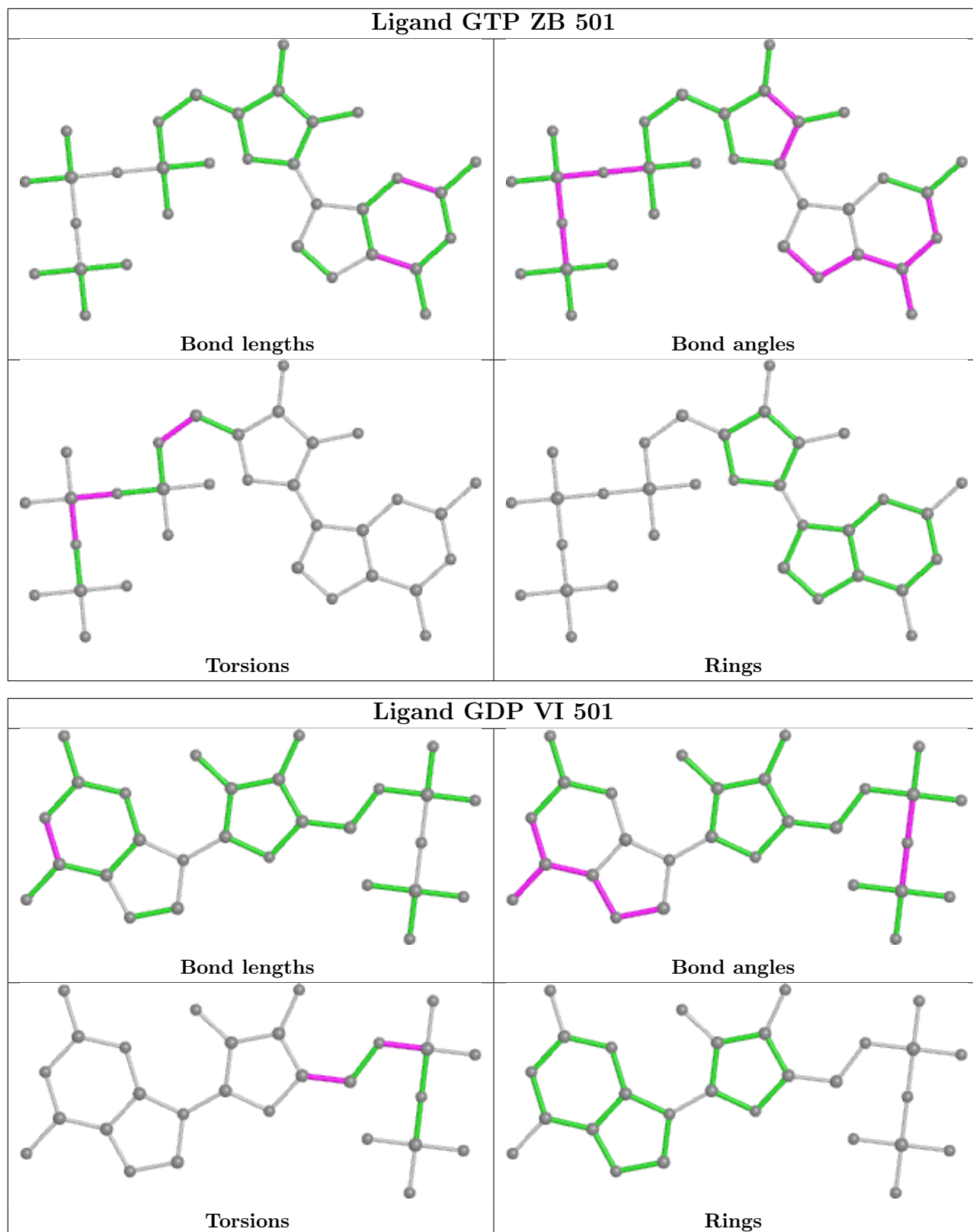


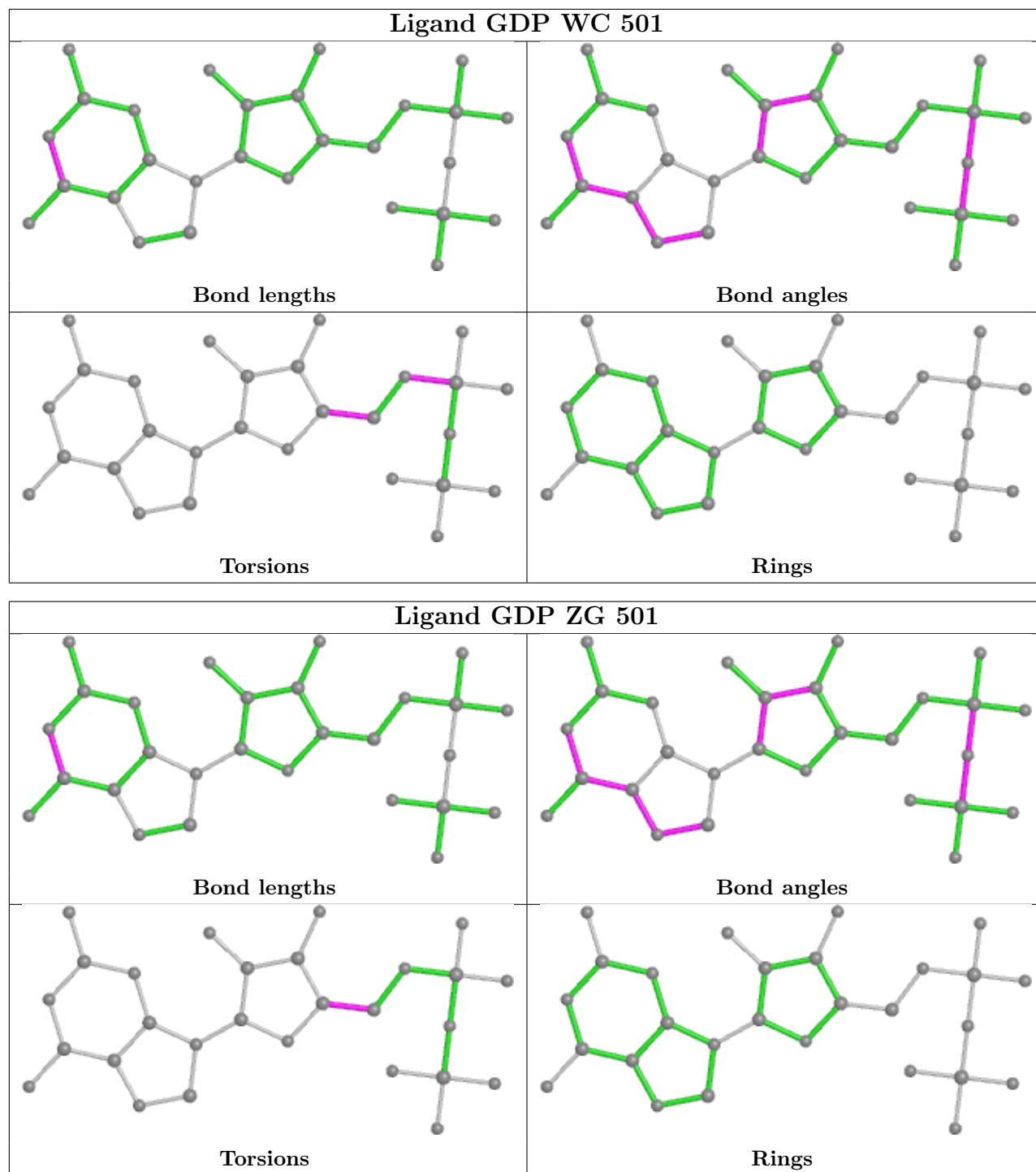




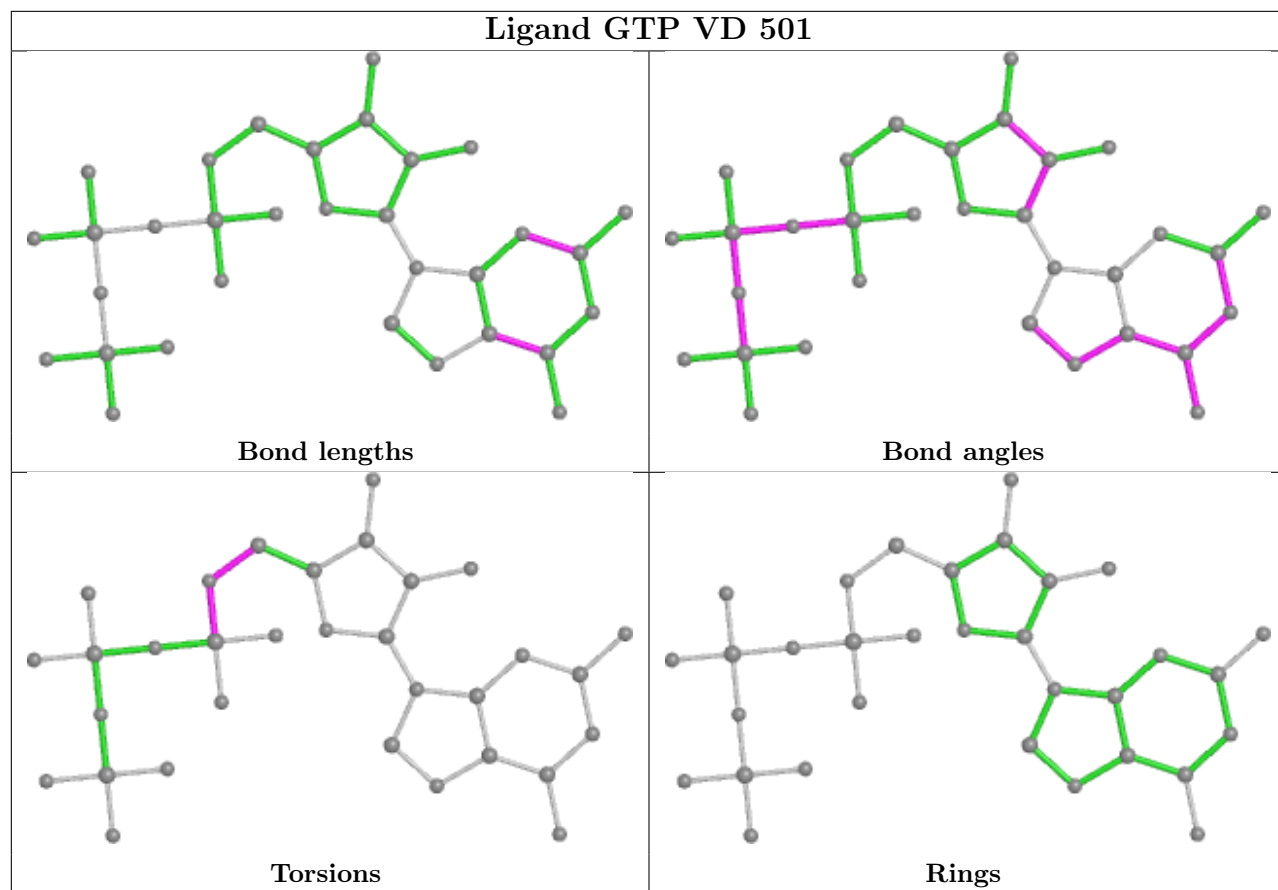


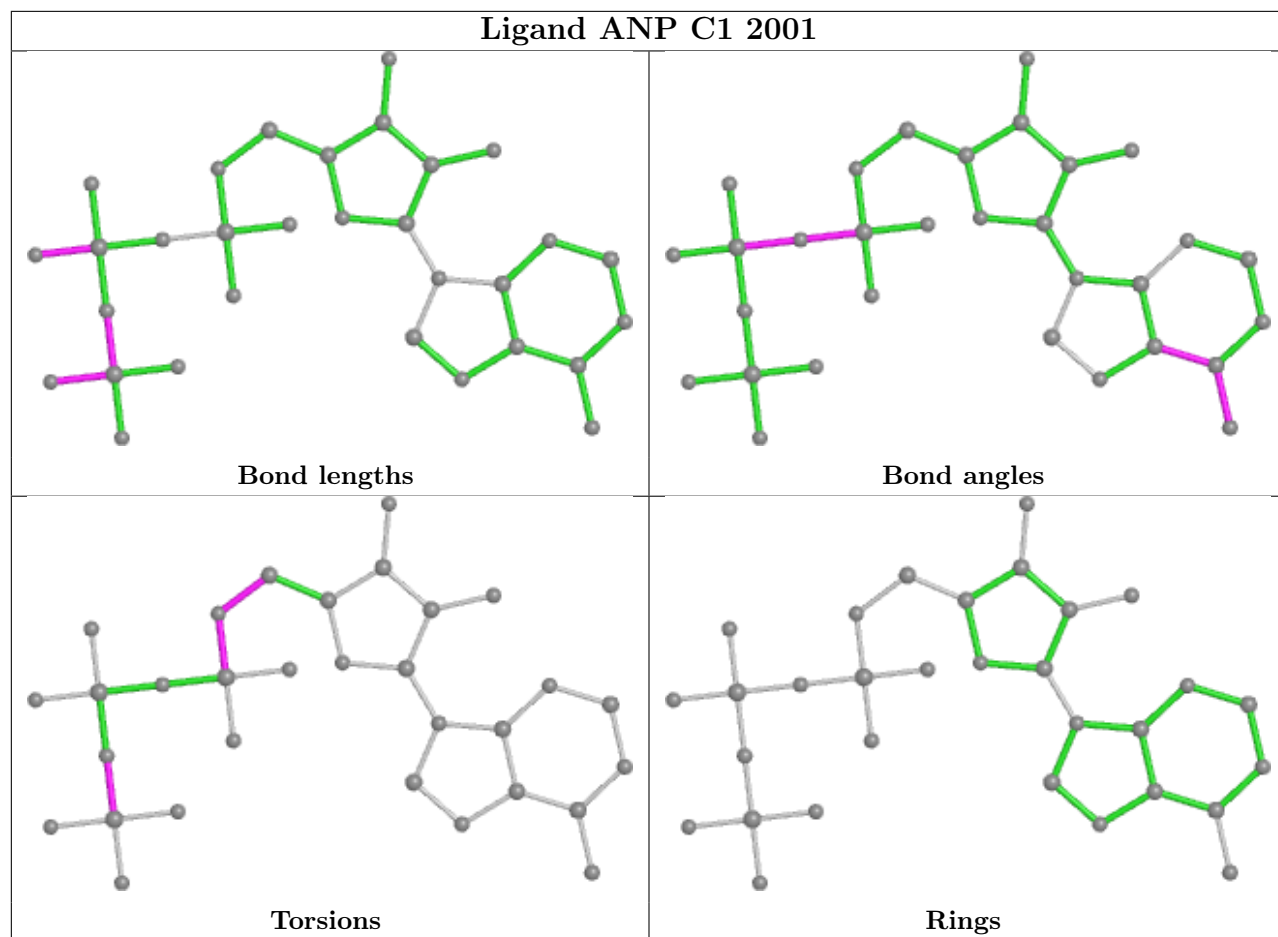


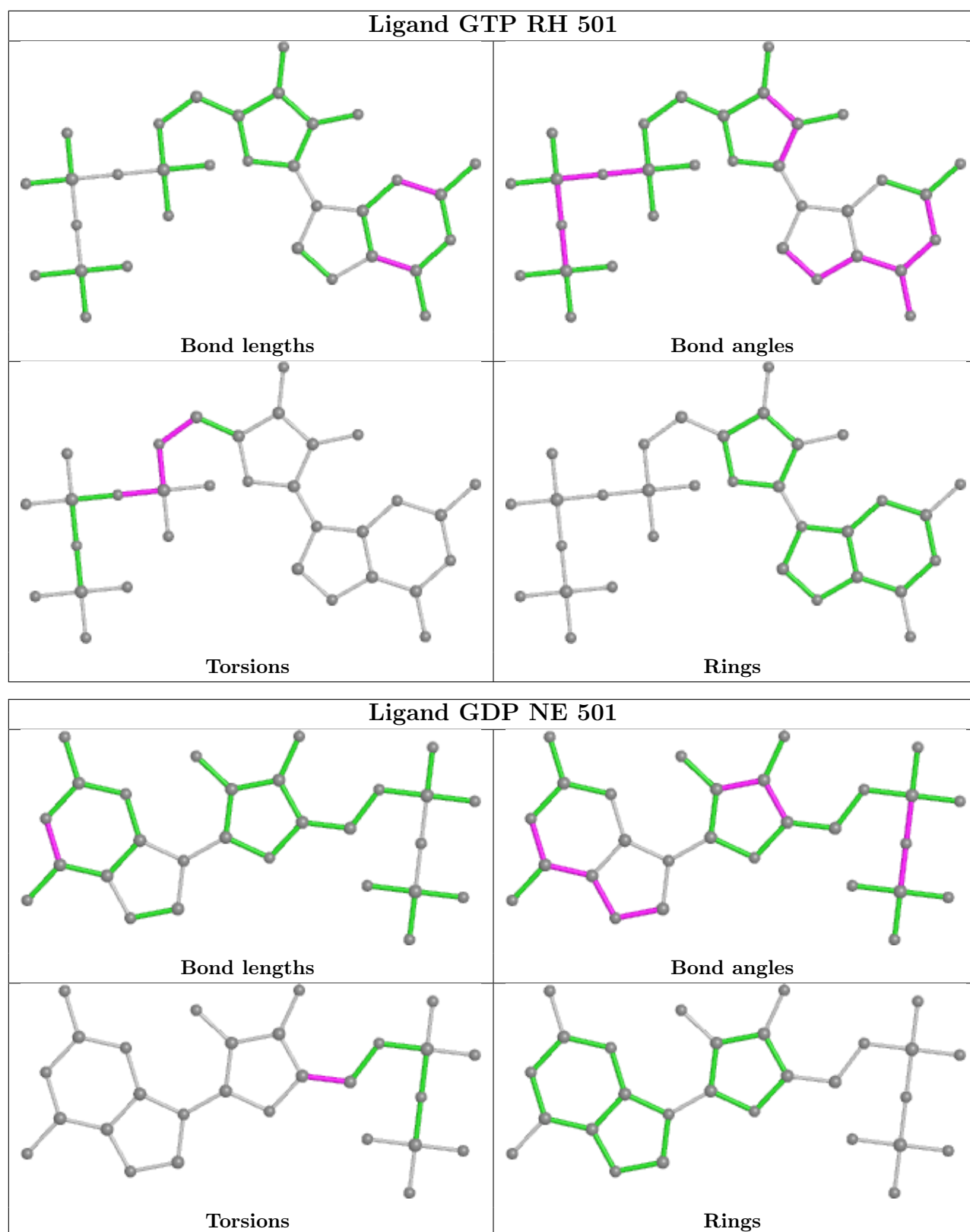


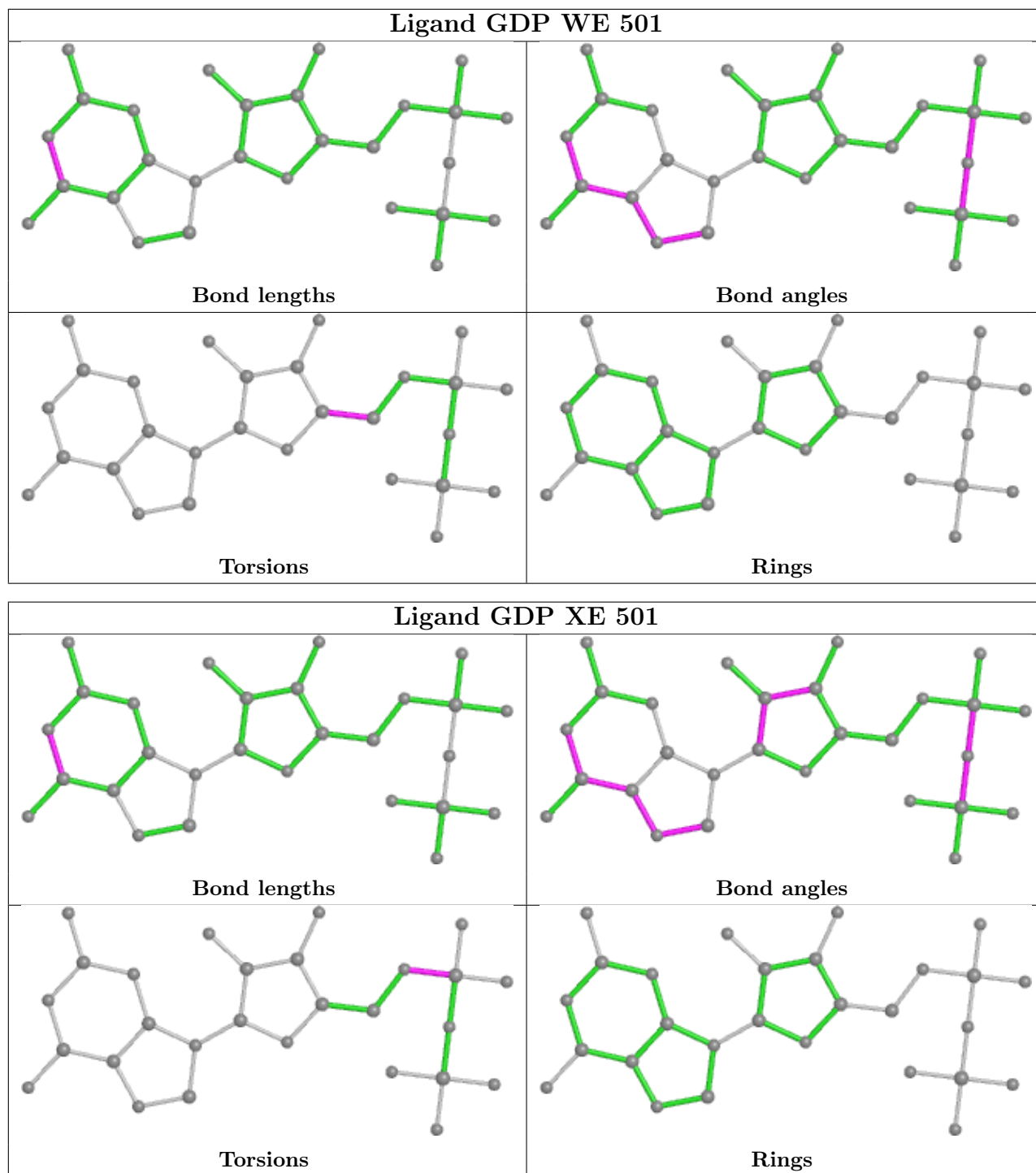


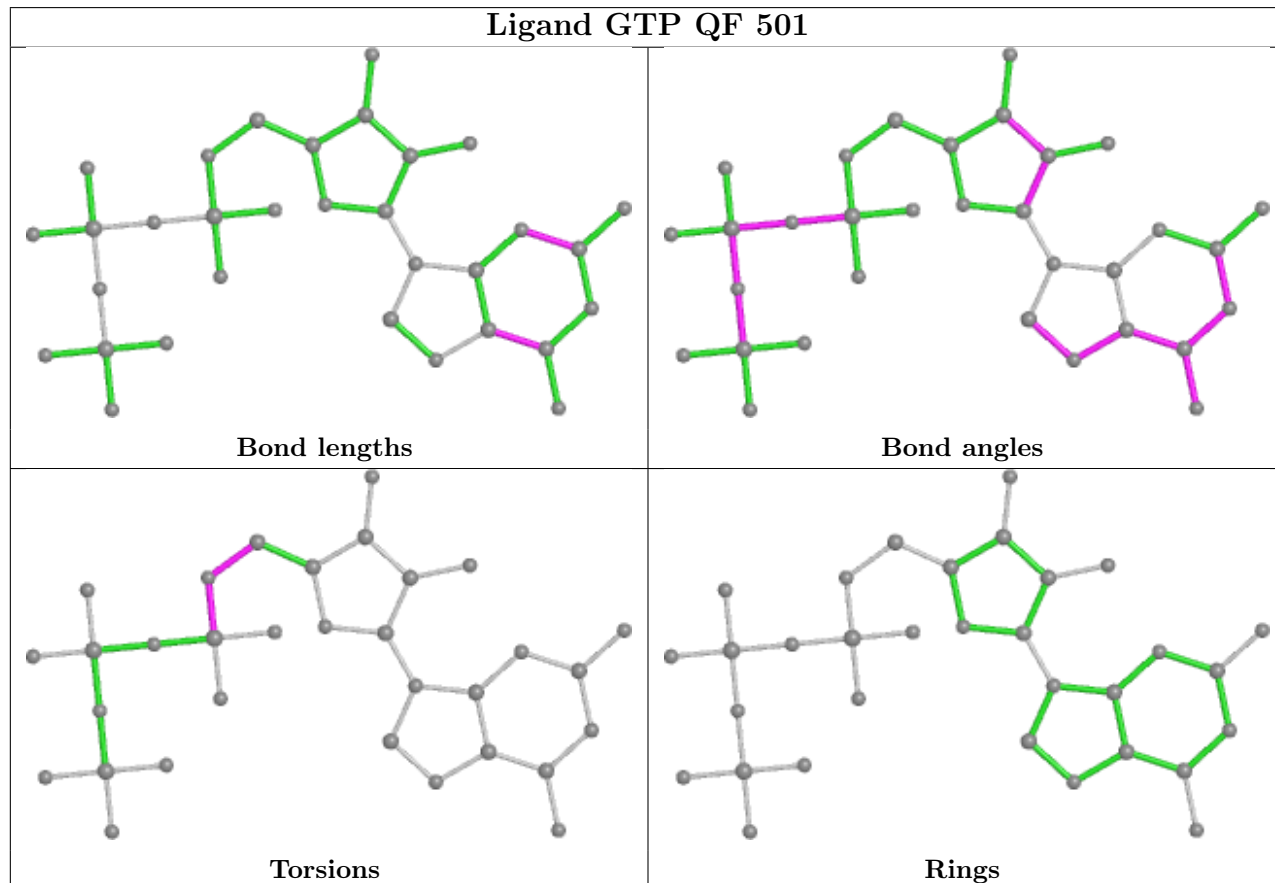
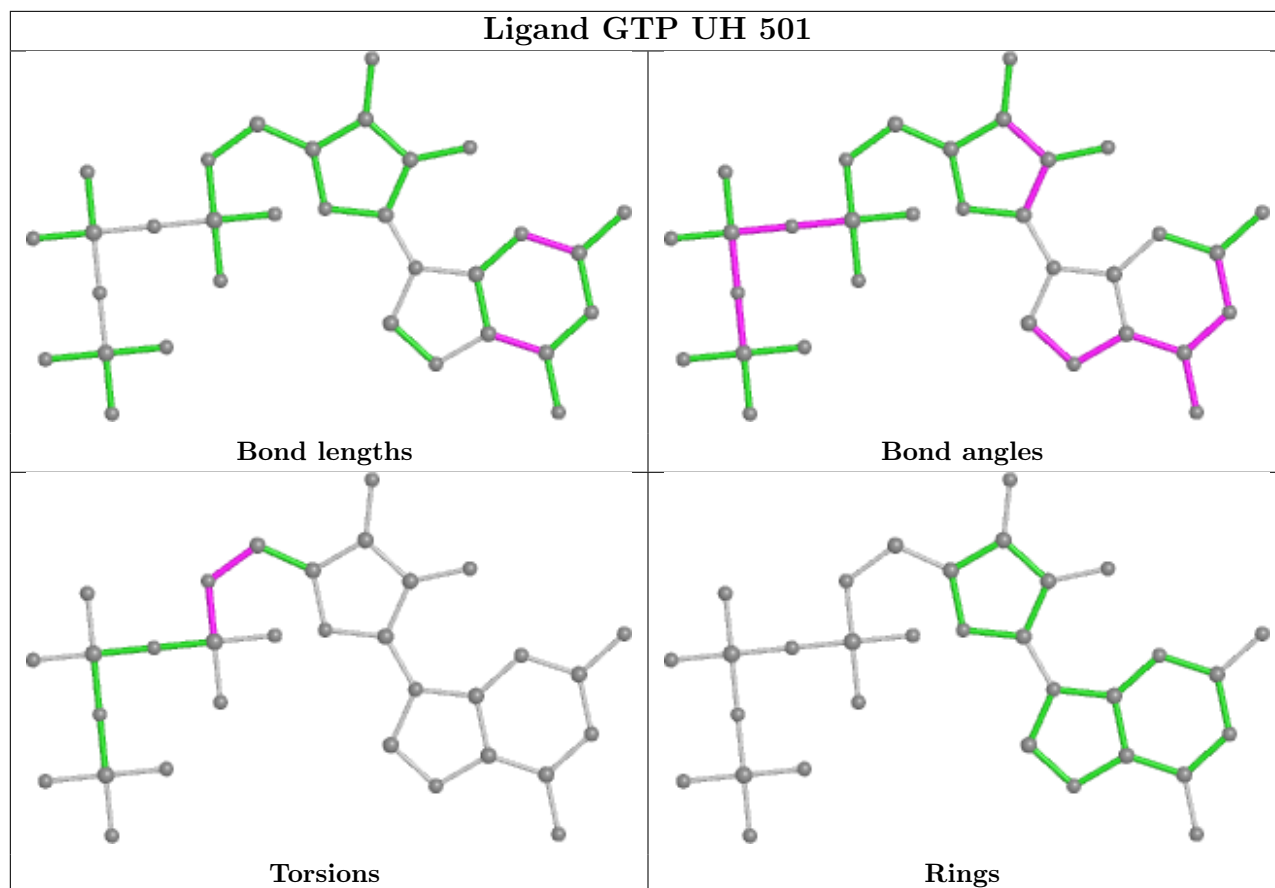


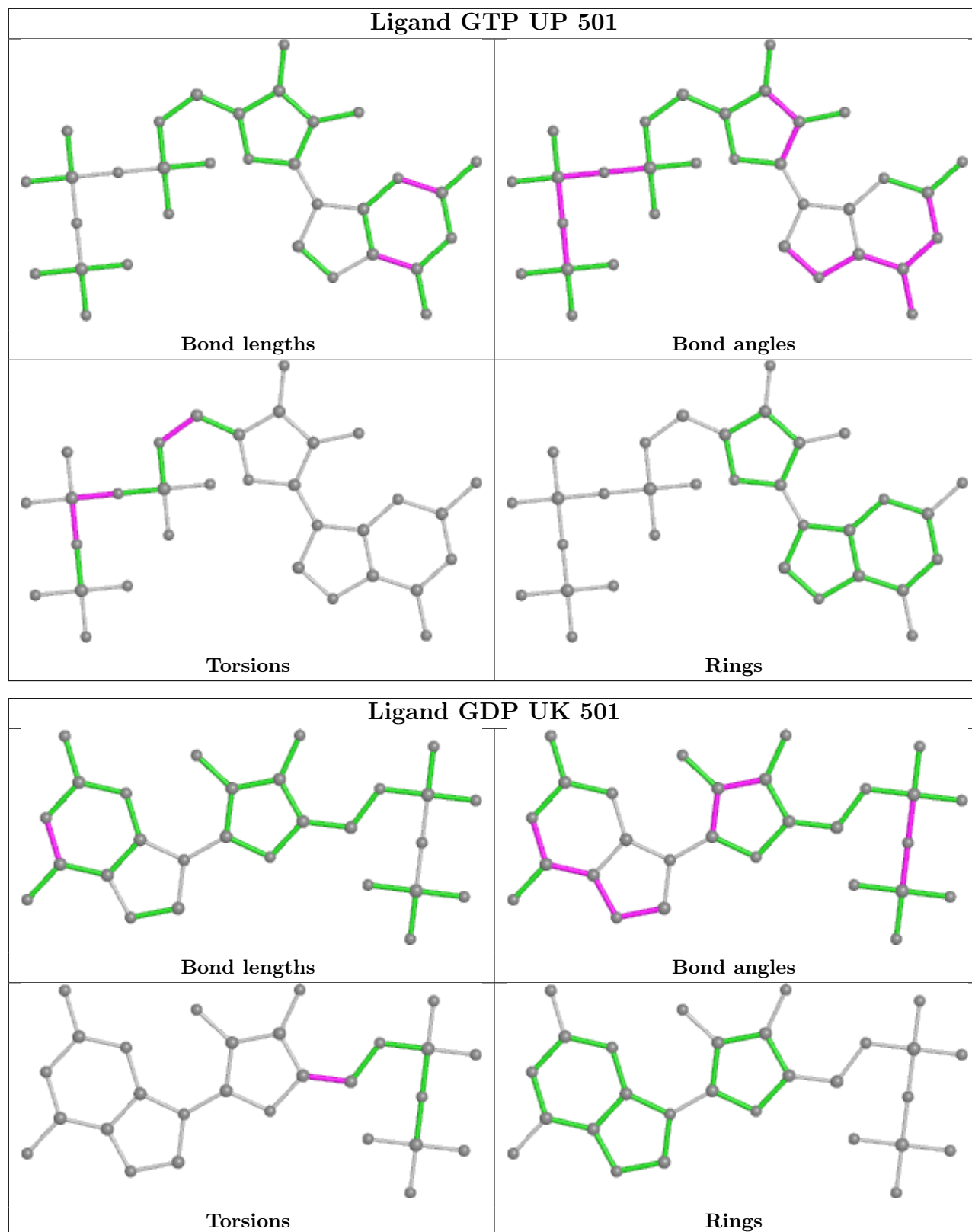


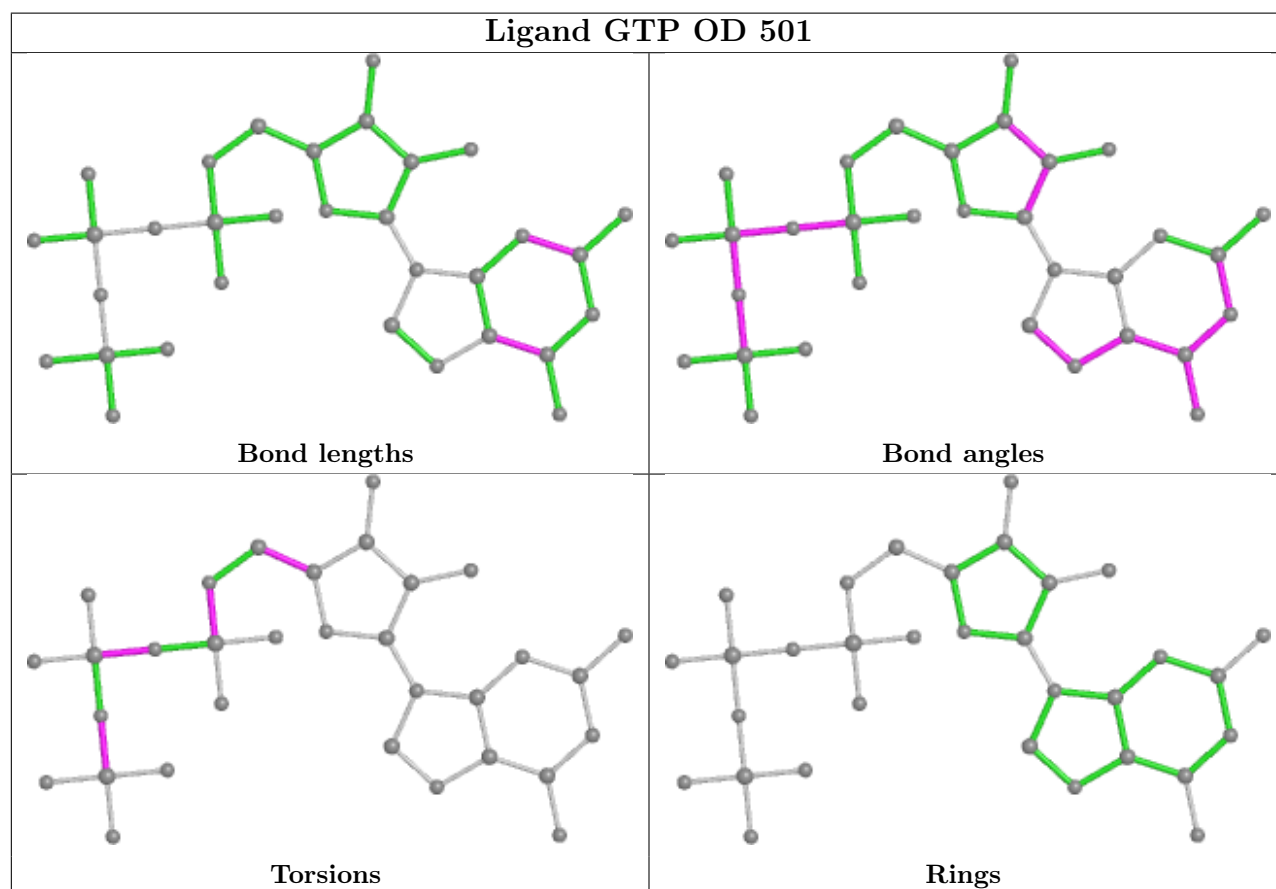
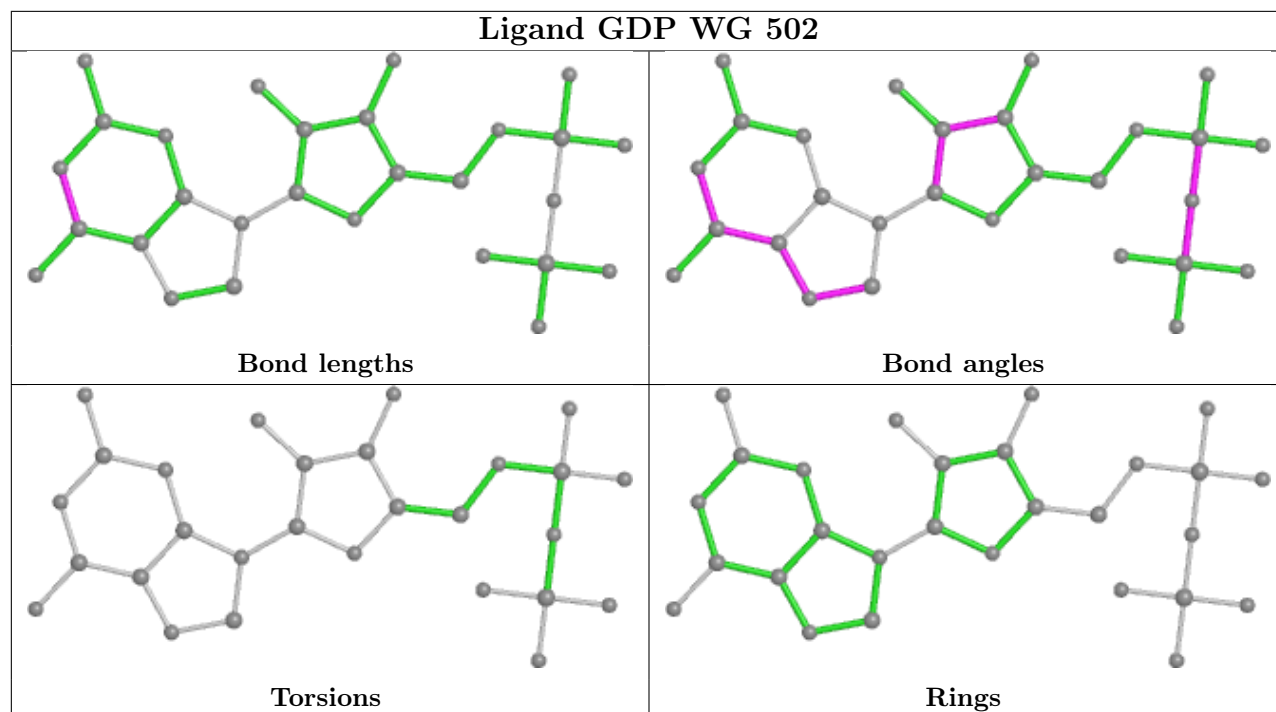


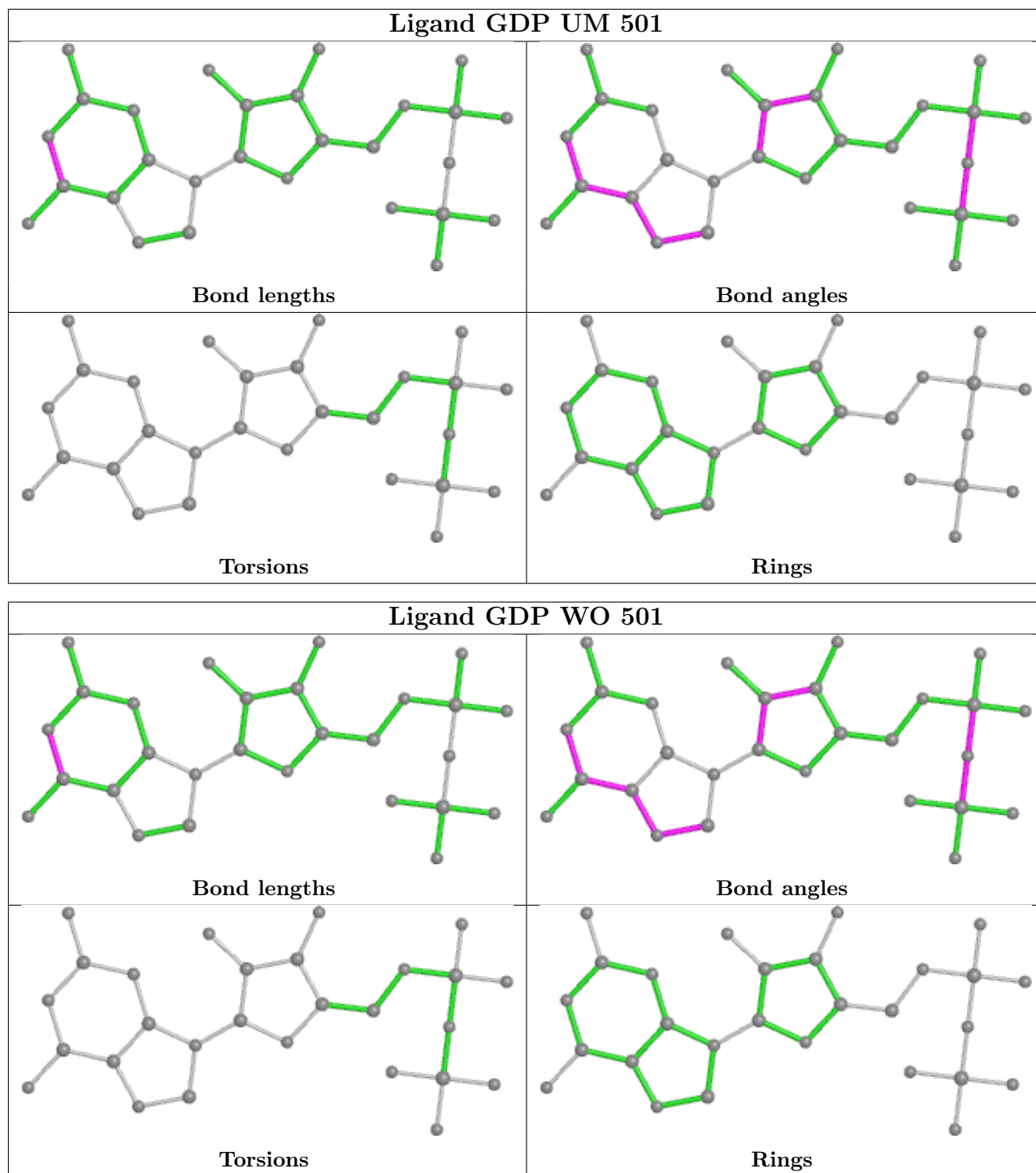




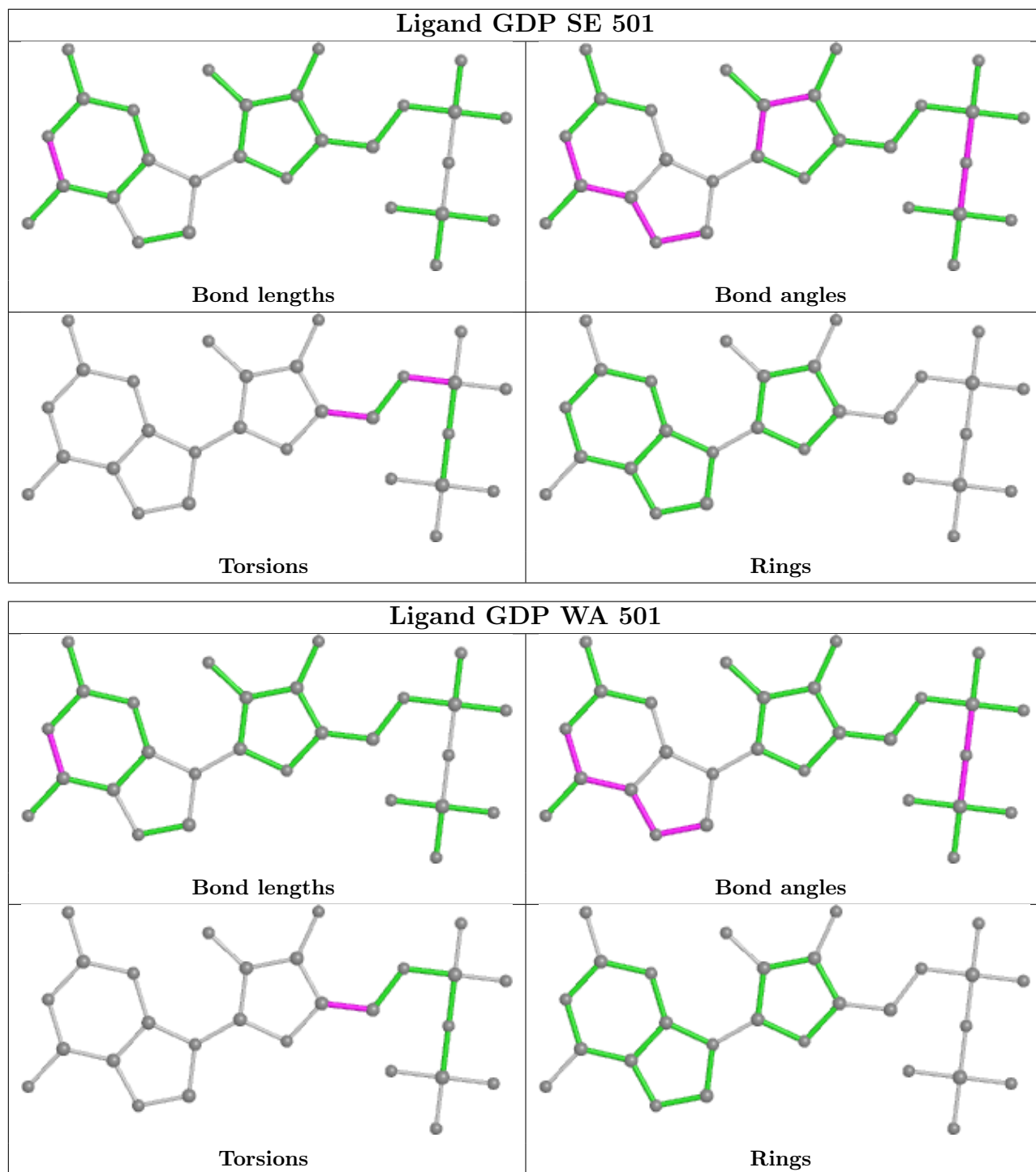


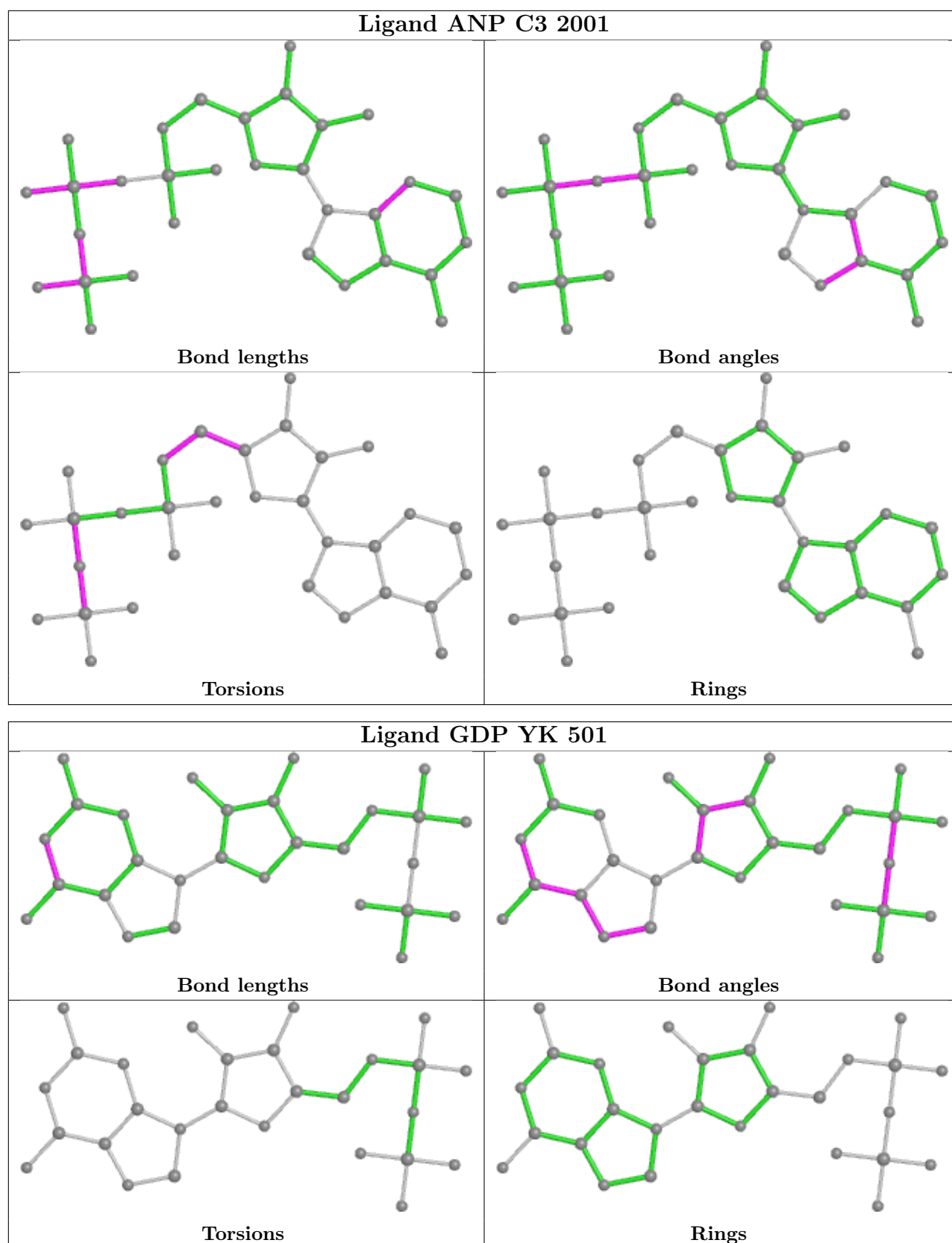












## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
36	W6	1
36	W4	1
36	W5	1
36	W3	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	W6	43:UNK	C	53:UNK	N	8.65
1	W4	43:UNK	C	53:UNK	N	8.49
1	W5	43:UNK	C	53:UNK	N	8.22
1	W3	43:UNK	C	53:UNK	N	7.05

## 6 Map visualisation

This section contains visualisations of the EMDB entry EMD-25381. 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.